

# FCC SAR Test Report

APPLICANT : Xiaomi Communications Co., Ltd.  
EQUIPMENT : Mobile Phone  
BRAND NAME : Redmi  
MODEL NAME : 2201116SG  
FCC ID : 2AFZZ16SG  
STANDARD : FCC 47 CFR Part 2 (2.1093)

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

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

*Tony Zhang*

Reviewed by: Tong Zhang / Supervisor

*Kat Yin*

Approved by: Kat Yin / Manager



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People's Republic of China



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### 1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Xiaomi Communications Co., Ltd., Mobile Phone, 2201116SG**, are as follows.

Highest 1g SAR Summary						
Equipment Class	Frequency Band		Head (Separation 0mm)	Hotspot (Separation 10mm)	Body-worn (Separation 10mm)	Highest Simultaneous Transmission 1g SAR (W/kg)
			1g SAR (W/kg)			
Licensed	GSM	GSM850	0.84	0.34	0.34	1.59
		GSM1900	1.00	0.65	0.65	
	WCDMA	Band II	1.01	<b>1.09</b>	<b>1.09</b>	
		Band IV	0.45	1.02	0.27	
		Band V	1.01	0.51	0.51	
	LTE	Band 2	0.60	0.81	0.43	
		Band 4	0.77	0.65	0.54	
		Band 7	0.79	0.62	0.40	
		Band 12/Band 17	0.41	0.27	0.27	
		Band 13	0.52	0.32	0.32	
		Band 26/Band 5	0.78	0.44	0.44	
		Band 66	0.47	0.74	0.38	
	5G NR	Band 41/Band 38	0.85	0.41	0.35	
		n5	0.74	0.41	0.41	
		n7	0.95	0.76	0.42	
		n41/ n38	<b>1.05</b>	0.70	0.48	
		n66	0.71	0.65	0.42	
		n77/ n78	0.79	0.73	0.73	
DTS	WLAN	2.4GHz WLAN	0.26	0.28	0.28	1.37
NII		5GHz WLAN	0.43	0.69	0.53	1.59
DSS	Bluetooth	2.4GHz Bluetooth	0.10	<0.10	<0.10	1.59



Highest 10g SAR Summary			
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)
NII	WLAN	5GHz WLAN	<b>1.40</b>
Date of Testing:		2021/11/23 ~ 2021/12/10	

**Remark:**

1. This device supports LTE B5 / B17 / B38 and B26 / B12 / B41. Since the supported frequency span for LTE B5 / B17 / B38 falls completely within the supports frequency span for LTE B26 / B12 / B41, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B26 / B12 / B41.
2. This device supports 5G NR n38/ n78 and 5G NR n41/ n77. Since the supported frequency span for 5G NR n38 / n78 falls completely within the supports frequency span for 5G NR n41/ n77, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for 5G NR n41/ n77.

**Declaration of Conformity:**

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

**Comments and Explanations:**

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

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

## **2. Administration Data**

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

<b>Testing Laboratory</b>			
<b>Test Firm</b>	Sporton International (Kunshan) Inc.		
<b>Test Site Location</b>	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		
<b>Test Site No.</b>	<b>Sporton Site No.</b>	<b>FCC Designation No.</b>	<b>FCC Test Firm Registration No.</b>
	SAR03-KS	CN1257	314309

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

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

## **3. Guidance Applied**

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

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

## **4. Equipment Under Test (EUT) Information**

### **4.1 General Information**

<b>Product Feature &amp; Specification</b>	
<b>Equipment Name</b>	Mobile Phone
<b>Brand Name</b>	Redmi
<b>Model Name</b>	2201116SG
<b>FCC ID</b>	2AFZZ16SG
<b>IMEI Code</b>	SIM1: 864451050056928 SIM2: 864451050056936
<b>Wireless Technology and Frequency Range</b>	GSM850: 824 MHz ~ 849 MHz GSM1900: 1850 MHz ~ 1910 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 66: 1710 MHz ~ 1780 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n77: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz 5G NR n78: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3800 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC: 13.56 MHz
<b>Mode</b>	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+(16QAM uplink is not supported) LTE: QPSK, 16QAM, 64QAM LTE: 256QAM(Downlink Only) 5G NR : CP-OFDM / DFT-s-OFDM, PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE NFC:ASK
<b>HW Version</b>	P1.1
<b>SW Version</b>	MIUI 13
<b>GSM / (E)GPRS Transfer mode</b>	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
<b>EUT Stage</b>	Identical Prototype



**Remark:**

1. This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
2. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
3. This device 2.4GHz WLAN/5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only).
4. This device does not support DTM operation and supports GPRS/EGPRS mode up to multi-slot class 12.
5. For dual SIM card mobile has two SIM slots and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active). After pre-scan two SIM cards power, we found test result of the SIM1 was the worse, so we chose SIM1 slot to perform all tests.
6. There are three types of EUT. The difference is that different memory capacity. According to the differences, we choose sample 1 to perform full test.
7. The device implements Proximity sensors/receiver detect mechanism/hotspot trigger reduced power for the power management for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity). The device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to appendix E. power table. Full power table and reduced power table (DSI 1: receiver on reduced power for head; DSI 4: P-sensor on for hotspot/ handheld; DSI 2: P-sensor off).
8. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
9. NSA and SA mode should perform SAR separately. For the maximum power of NSA mode is the same as SA total power level, so SA SAR can represent NSA mode SAR.
10. 5G NR NSA mode, the power level is the same as 5G NR SA mode, so 5G NR NSA mode and SA mode power table only show one time.
11. 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.
12. 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.
13. 5G NR n41/n77/n78 supports HPUE, HPUE power and SAR testing performed separately.
14. 5G NR n41/n77/n78 HPUE with higher power, n41/n77/n78 HPUE SAR can represent power class 3 level SAR.
15. For 5G NR EN-DC mode, standalone SAR performed for 5G NR band with the maximum power, EN-DC SAR summed 5G NR standalone SAR and LTE standalone SAR, the result of EN-DC SAR is more conservatively.
16. This device supports 5G NR FR1 bands as following table, including NSA mode and SA mode.

**<5G NR>**

Mode	Band	Duplex	SCS(KHz)	Bandwidths(BW)
NSA	n5	FDD	15	5, 10, 15, 20
	n7	FDD	15	5, 10, 15, 20
	n66	FDD	15	5, 10, 15, 20, 40
	n77	TDD	30	20, 30, 40, 50, 60, 80, 100
	n78	TDD	30	20, 30, 40, 50, 60, 80, 100
SA	n5	FDD	15	5, 10, 15, 20
	n7	FDD	15	5, 10, 15, 20
	n66	FDD	15	5, 10, 15, 20, 40
	n38	TDD	30	20, 30, 40
	n41	TDD	30	20, 30, 40, 60, 80, 100
	n77	TDD	30	20, 30, 40, 50, 60, 80, 100
	n78	TDD	30	20, 30, 40, 50, 60, 80, 100

**4.2 General LTE SAR Test and Reporting Considerations**

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																															
FCC ID	2AFZZ16SG																																																														
Equipment Name	Mobile Phone																																																														
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 66: 1710 MHz ~ 1780 MHz																																																														
Channel Bandwidth	LTE Band 2: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5: 1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12: 1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 26: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz																																																														
uplink modulations used	QPSK / 16QAM / 64QAM																																																														
LTE Voice / Data requirements	Voice and Data																																																														
LTE Release Version	R15, Cat13																																																														
CA Support	Supported, Uplink and Downlink																																																														
LTE MPR permanently built-in by design	<p><b>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</b></p> <table border="1"> <thead> <tr> <th rowspan="2">Modulation</th> <th colspan="6">Channel bandwidth / Transmission bandwidth (N<sub>RB</sub>)</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> </thead> <tbody> <tr> <td>QPSK</td> <td>&gt; 5</td> <td>&gt; 4</td> <td>&gt; 8</td> <td>&gt; 12</td> <td>&gt; 16</td> <td>&gt; 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>&gt; 5</td> <td>&gt; 4</td> <td>&gt; 8</td> <td>&gt; 12</td> <td>&gt; 16</td> <td>&gt; 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>&gt; 5</td> <td>&gt; 4</td> <td>&gt; 8</td> <td>&gt; 12</td> <td>&gt; 16</td> <td>&gt; 18</td> <td>≤ 3</td> </tr> <tr> <td>256 QAM</td> <td colspan="6">≥ 1</td> <td>≤ 5</td> </tr> </tbody> </table>	Modulation	Channel bandwidth / Transmission bandwidth (N <sub>RB</sub> )						MPR (dB)	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1	16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1	16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2	64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2	64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3	256 QAM	≥ 1						≤ 5
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256 QAM	≥ 1						≤ 5																																																								
LTE A-MPR	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)																																																														
Spectrum plots for RB configuration	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.																																																														
Power reduction applied to satisfy SAR compliance	Yes, head/body-worn/ hotspot/extremity will trigger reduced power for some LTE bands, the detail please referred to section 13.																																																														
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 13.																																																														
LTE Carrier Aggregation Additional Information	1. This device supports LTE Carrier Aggregation (CA) in the uplink for intra-band and inter-band with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance. 2. This device supports maximum of 3 carriers in the downlink and 2 carriers in the uplink.																																																														



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		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	20407	824.7	20415	825.5	20425	826.5	20450	829	20450	829	20450	829				
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5				
H	20643	848.3	20635	847.5	20625	846.5	20600	844	20600	844	20600	844				
LTE Band 7																
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 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	20775	2502.5	20800	2505	20825	2507.5	20850	2510	20850	2510	20850	2510				
M	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535				
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560	21350	2560	21350	2560				
LTE Band 12																
	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	23017	699.7	23025	700.5	23035	701.5	23060	704	23060	704	23060	704				
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5				
H	23173	715.3	23165	714.5	23155	713.5	23130	711	23130	711	23130	711				
LTE Band 13																
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 15 MHz				Bandwidth 20 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23205		779.5		23230		782		23230		782		23230		782	
M	23230		782		23230		782		23230		782		23230		782	
H	23255		784.5		23230		782		23230		782		23230		782	
LTE Band 17																
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 15 MHz				Bandwidth 20 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23755		706.5		23780		709		23780		709		23780		709	
M	23790		710		23790		710		23790		710		23790		710	
H	23825		713.5		23800		711		23800		711		23800		711	
LTE Band 26																
	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	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5	26765	821.5				
M	26865	831.5	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	26965	841.5				



LTE Band 38												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580				
M	38000	2595	38000	2595	38000	2595	38000	2595				
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610				
LTE Band 41												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506				
LM	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5				
M	40620	2593	40620	2593	40620	2593	40620	2593				
HM	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5				
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680				
LTE Band 66												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770

**4.3 General 5G NR SAR Test and Reporting Considerations**

5G NR Information	
Operating Frequency Range of each 5G NR transmission band	5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n77: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz 5G NR n78: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3800 MHz
Channel Bandwidth	5G NR n5: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n7: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n38: 20MHz, 30MHz, 40MHz 5G NR n41: 20MHz, 30MHz, 40MHz, 60MHz, 80MHz, 100MHz 5G NR n66: 5MHz, 10MHz, 15MHz, 20MHz, 40MHz 5G NR n77: 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 80MHz, 100MHz 5G NR n78: 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 80MHz, 100MHz
SCS	FDD: SCS15KHz, TDD: SCS30KHz
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM
A-MPR (Additional MPR) disabled for SAR Testing?	Yes
LTE Anchor Bands for n5	LTE B7
LTE Anchor Bands for n7	LTE B5/66
LTE Anchor Bands for n66	LTE B2/5/7/12
LTE Anchor Bands for n77	LTE B41
LTE Anchor Bands for n78	LTE B2/5/7/38/41/66

NR Band 5 SCS15KHz												
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz					
	Ch. #	Freq. (MHz)										
L	165300	826.5	165800	829	166300	831.5	166800	834				
M	167300	836.5	167300	836.5	167300	836.5	167300	836.5				
H	169300	846.5	168800	844	168300	841.5	167800	839				
NR Band 7 SCS15KHz												
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz					
	Ch. #	Freq. (MHz)										
L	500500	2502.5	501000	2505	501500	2507.5	502000	2510				
M	507000	2535	507000	2535	507000	2535	507000	2535				
H	513500	2567.5	513000	2565	512500	2562.5	512000	2560				
NR Band 66 SCS15KHz												
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz			
	Ch. #	Freq. (MHz)										
L	342500	1712.5	343000	1715	343500	1717.5	344000	1720	346000	1730		
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745		
H	355500	1777.5	355000	1775	354500	1772.5	354000	1770	352000	1760		
NR Band 38 SCS30KHz												
	Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz							
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)						
L	516000	2580	517002	2585.01	518004	2590.02						
M	519000	2595	519000	2595	519000	2595						
H	522000	2610	520998	2604.99	519996	2599.98						
NR Band 41 SCS30KHz												
	Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)								
L	501204	2506.02	502200	2511	503202	2516.01	505200	2526	507204	2536.02	509202	2546.01
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	535998	2679.99	534996	2674.98	534000	2670	531996	2659.98	529998	2649.99	528000	2640



<3700 MHz ~ 3980 MHz>

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

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

<3450 MHz ~ 3550 MHz>

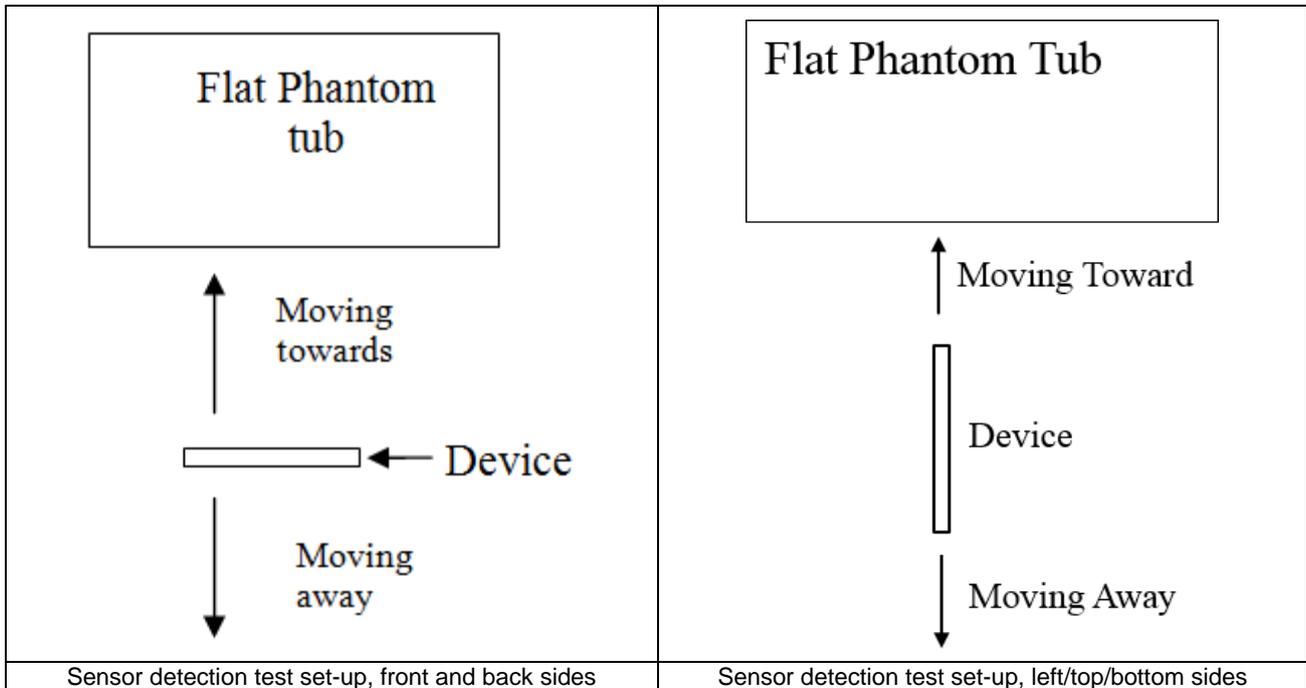
NR Band 77														
	Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)										
L	630668	3460.02	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632668	3490.02		
M	633334	3500.01	633334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

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

## 5. Proximity Sensor Triggering Test

### 5.1 Proximity sensor triggering distances(Per KDB616217§6.2)

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed.
2. Proximity sensor triggering distance testing was performed according and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (3980MHz) and lowest (1750MHz) frequency was used for proximity sensor triggering testing.
3. Capacitive proximity sensor placed coincident with antenna elements at the top/bottom end of the phone are utilized to determine when the device comes in proximity of the user's body or finger or hand at the front or back or bottom or left or right or top side of the device. There is no need to do sensor coverage testing for the proximity sensor is designed to support sufficient detection range and sensitivity to cover regions of the sensors in all applicable directions since the proximity sensor entirely covers the antenna.
4. The sensors can use to detect the proximity of the user's body or handheld states at the front or back or bottom or top or left side of the device use a detection threshold distance. When front/back/left/top/bottom sides of body or handheld condition is detected reduced power will be active. The trigger distance shown in the sections below.
5. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance -1mm was performed.



**<P-Sensor>**

**<Sensor pad1 for Ant0 >**

**(Declared by manufacturer)**

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Bottom Side		Left Side	
	Moving towards	Moving away						
Minimum	16	16	21	21	16	16	6	6

**<Sensor pad2 for Ant3/Ant4/ant5>**

**(Declared by manufacturer)**

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Top Side		Left Side	
	Moving towards	Moving away						
Minimum	16	16	21	21	16	16	6	6

## 6. RF Exposure Limits

### 6.1 Uncontrolled Environment

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

### 6.2 Controlled Environment

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

**Limits for Occupational/Controlled Exposure (W/kg)**

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

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

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

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

## 7. Specific Absorption Rate (SAR)

### 7.1 Introduction

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

### 7.2 SAR Definition

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

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

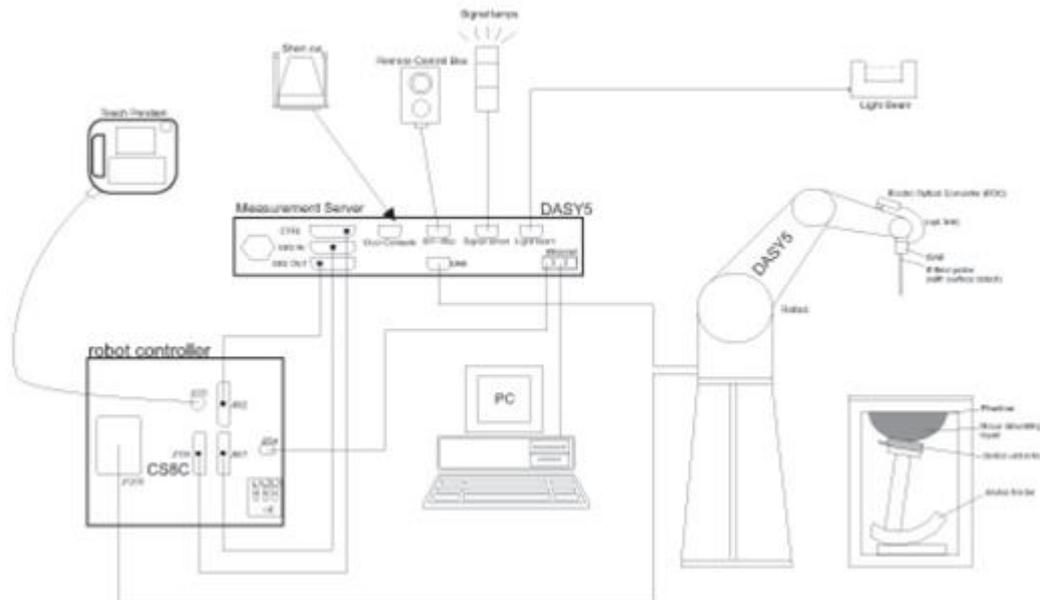
SAR is expressed in units of Watts per kilogram (W/kg)

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

Where:  $\sigma$  is the conductivity of the tissue,  $\rho$  is the mass density of the tissue and E is the RMS electrical field strength.

## **8. System Description and Setup**

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



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

**8.1 E-Field Probe**

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

**<EX3DV4 Probe>**

<b>Construction</b>	Symmetric design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
<b>Frequency</b>	10 MHz – >6 GHz Linearity: ±0.2 dB (30 MHz – 6 GHz)	
<b>Directivity</b>	±0.3 dB in TSL (rotation around probe axis) ±0.5 dB in TSL (rotation normal to probe axis)	
<b>Dynamic Range</b>	10 µW/g – >100 mW/g Linearity: ±0.2 dB (noise: typically <1 µW/g)	
<b>Dimensions</b>	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>**

<b>Shell Thickness</b>	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm	
<b>Filling Volume</b>	Approx. 25 liters	
<b>Dimensions</b>	Length: 1000 mm; Width: 500 mm; Height: adjustable feet	
<b>Measurement Areas</b>	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>**

<b>Shell Thickness</b>	2 ± 0.2 mm (sagging: <1%)	
<b>Filling Volume</b>	Approx. 30 liters	
<b>Dimensions</b>	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 from 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.

	$\leq 3$ GHz	$> 3$ GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	$5 \pm 1$ mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
Maximum area scan spatial resolution: $\Delta x_{Area}, \Delta y_{Area}$	$\leq 2$ GHz: $\leq 15$ mm $2 - 3$ GHz: $\leq 12$ mm	$3 - 4$ GHz: $\leq 12$ mm $4 - 6$ GHz: $\leq 10$ 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 $\leq$ 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 to 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 whose 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: $\Delta x_{Zoom}$ , $\Delta y_{Zoom}$			$\leq 2$ GHz: $\leq 8$ mm 2 – 3 GHz: $\leq 5$ mm*	3 – 4 GHz: $\leq 5$ mm* 4 – 6 GHz: $\leq 4$ mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		$\leq 5$ mm	3 – 4 GHz: $\leq 4$ mm 4 – 5 GHz: $\leq 3$ mm 5 – 6 GHz: $\leq 2$ mm
	graded grid	$\Delta z_{Zoom}(1)$ : between 1 <sup>st</sup> two points closest to phantom surface	$\leq 4$ mm	3 – 4 GHz: $\leq 3$ mm 4 – 5 GHz: $\leq 2.5$ mm 5 – 6 GHz: $\leq 2$ mm
		$\Delta z_{Zoom}(n>1)$ : between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		$\geq 30$ mm	3 – 4 GHz: $\geq 28$ mm 4 – 5 GHz: $\geq 25$ mm 5 – 6 GHz: $\geq 22$ mm
Note: $\delta$ 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 <i>reported</i> SAR from the <i>area scan based 1-g SAR estimation</i> procedures of KDB 447498 is $\leq 1.4$ W/kg, $\leq 8$ mm, $\leq 7$ mm and $\leq 5$ 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 to 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 DASYS measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drifts more than 5%, the SAR will be retested.



### 10. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1087	2019/3/27	2022/3/24
SPEAG	835MHz System Validation Kit	D835V2	4d258	2020/5/7	2023/5/6
SPEAG	1750MHz System Validation Kit	D1750V2	1090	2019/3/27	2022/3/25
SPEAG	1900MHz System Validation Kit	D1900V2	5d170	2019/3/26	2022/3/24
SPEAG	2450MHz System Validation Kit	D2450V2	908	2019/3/25	2022/3/23
SPEAG	2600MHz System Validation Kit	D2600V2	1061	2020/11/26	2023/11/25
SPEAG	3500MHz System Validation Kit	D3500V2	1037	2020/11/25	2023/11/24
SPEAG	3700MHz System Validation Kit	D3700V2	1008	2020/11/25	2023/11/24
SPEAG	3900MHz System Validation Kit	D3900V2	1048	2020/5/14	2023/5/13
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	2019/9/24	2022/9/22
SPEAG	Data Acquisition Electronics	DAE4	1303	2021/6/18	2022/6/17
SPEAG	Dosimetric E-Field Probe	EX3DV4	7684	2021/10/4	2022/10/3
SPEAG	SAM Twin Phantom	SAM Twin	TP-1697	NCR	NCR
Testo	Thermo-Hygrometer	608-H1	1241332088	2021/1/7	2022/1/6
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio Communication Analyzer	MT8821C	6201432831	2021/4/13	2022/4/12
Agilent	ENA Series Network Analyzer	E5071C	MY46106933	2021/7/31	2022/7/30
SPEAG	Dielectric Probe Kit	DAK-3.5	1138	2021/6/9	2022/6/8
Anritsu	Vector Signal Generator	MG3710A	6201682672	2021/1/7	2022/1/6
Rohde & Schwarz	Power Meter	NRVD	102081	2021/8/12	2022/8/11
Rohde & Schwarz	Power Sensor	NRV-Z5	100538	2021/8/12	2022/8/11
Rohde & Schwarz	Power Sensor	NRV-Z5	100539	2021/8/12	2022/8/11
R&S	CBT BLUETOOTH TESTER	CBT	101246	2021/4/12	2022/4/11
EXA	Spectrum Analyzer	FSV7	101632	2021/1/7	2022/1/6
FLUKE	DIGITAC THERMOMETER	51II	97240029	2021/8/13	2022/8/12
BONN	POWER AMPLIFIER	BLMA 0830-3	087193A	Note 1	
BONN	POWER AMPLIFIER	BLMA 2060-2	087193B	Note 1	
Agilent	Dual Directional Coupler	778D	20500	Note 1	
Agilent	Dual Directional Coupler	11691D	MY48151020	Note 1	
ARRA	Power Divider	A3200-2	N/A	Note 1	
MCL	Attenuation1	BW-S10W5+	N/A	Note 1	
MCL	Attenuation2	BW-S10W5+	N/A	Note 1	
MCL	Attenuation3	BW-S10W5+	N/A	Note 1	

**Note:**

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

## 11. System Verification

### 11.1 Tissue Simulating Liquids

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



Fig 11.1 Photo of Liquid Height for Head SAR



Fig 11.2 Photo of Liquid Height for Body SAR

**11.2 Tissue Verification**

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

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

**Simulating Liquid for 5GHz, Manufactured by SPEAG**

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

**<Tissue Dielectric Parameter Check Results>**

Frequency (MHz)	Head	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ε <sub>r</sub> )	Conductivity Target (σ)	Permittivity Target (ε <sub>r</sub> )	Delta (σ) (%)	Delta (ε <sub>r</sub> ) (%)	Limit (%)	Date
750	Head	22.6	0.914	41.907	0.89	41.90	2.70	0.02	±5	2021.11.23
835	Head	22.8	0.925	41.052	0.90	41.50	2.78	-1.08	±5	2021.11.24
1750	Head	22.9	1.409	40.669	1.37	40.10	2.85	1.42	±5	2021.11.25
1900	Head	22.6	1.432	39.776	1.40	40.00	2.29	-0.56	±5	2021.11.26
2450	Head	22.7	1.805	38.560	1.80	39.20	0.28	-1.63	±5	2021.11.27
2600	Head	22.6	1.924	38.253	1.96	39.00	-1.84	-1.92	±5	2021.11.27
3500	Head	22.9	2.808	39.002	2.91	37.90	-3.51	2.91	±5	2021.11.28
3700	Head	22.9	2.994	38.681	3.12	37.70	-4.04	2.60	±5	2021.11.28
3900	Head	22.9	3.194	38.385	3.32	37.50	-3.80	2.36	±5	2021.11.28
5250	Head	22.8	4.580	36.300	4.71	35.90	-2.76	1.11	±5	2021.11.29
5600	Head	22.7	4.947	35.740	5.07	35.50	-2.43	0.68	±5	2021.11.30
5750	Head	22.8	5.129	35.552	5.22	35.40	-1.74	0.43	±5	2021.12.1
750	Head	22.8	0.909	43.056	0.89	41.90	2.13	2.76	±5	2021.12.2
835	Head	22.6	0.931	41.366	0.90	41.50	3.44	-0.32	±5	2021.12.3
1750	Head	22.8	1.401	40.503	1.37	40.10	2.26	1.00	±5	2021.12.4
1900	Head	22.8	1.432	39.781	1.40	40.00	2.29	-0.55	±5	2021.12.4
2450	Head	22.6	1.867	40.817	1.80	39.20	3.72	4.12	±5	2021.12.5
2600	Head	22.6	1.975	40.599	1.96	39.00	0.77	4.10	±5	2021.12.5
3500	Head	22.7	2.784	38.966	2.91	37.90	-4.33	2.81	±5	2021.12.6
3700	Head	22.7	3.044	38.218	3.12	37.70	-2.44	1.37	±5	2021.12.6
3900	Head	22.9	3.247	37.817	3.32	37.50	-2.20	0.85	±5	2021.12.7
5250	Head	22.6	4.602	35.835	4.71	35.90	-2.29	-0.18	±5	2021.12.8
5600	Head	22.8	5.004	35.269	5.07	35.50	-1.30	-0.65	±5	2021.12.9
5750	Head	22.7	5.172	35.078	5.22	35.40	-0.92	-0.91	±5	2021.12.10

**11.3 System Performance Check Results**

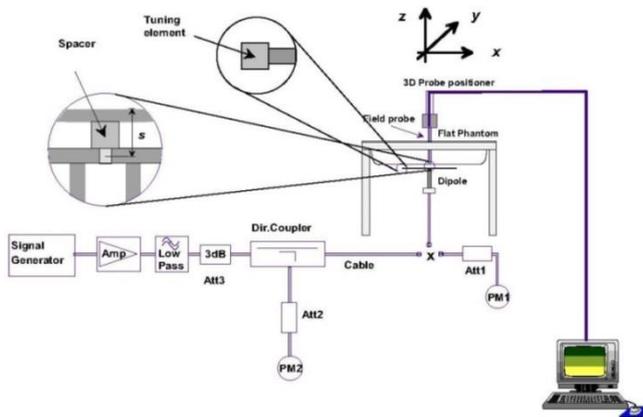
Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10 %. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the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

**<1g SAR>**

Date	Frequency (MHz)	Head	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2021.11.23	750	Head	50	1087	7684	1303	0.407	8.36	8.14	-2.63
2021.11.24	835	Head	50	4d258	7684	1303	0.478	9.44	9.56	1.27
2021.11.25	1750	Head	50	1090	7684	1303	1.930	36.40	38.6	6.04
2021.11.26	1900	Head	50	5d170	7684	1303	2.000	39.00	40	2.56
2021.11.27	2450	Head	50	908	7684	1303	2.430	52.80	48.6	-7.95
2021.11.27	2600	Head	50	1061	7684	1303	2.640	56.60	52.8	-6.71
2021.11.28	3500	Head	50	1037	7684	1303	3.250	68.00	65	-4.41
2021.11.28	3700	Head	50	1008	7684	1303	3.320	67.60	66.4	-1.78
2021.11.28	3900	Head	50	1048	7684	1303	3.230	70.20	64.6	-7.98
2021.11.29	5250	Head	50	1113	7684	1303	3.770	80.50	75.4	-6.34
2021.11.30	5600	Head	50	1113	7684	1303	4.040	83.40	80.8	-3.12
2021.12.1	5750	Head	50	1113	7684	1303	3.840	80.00	76.8	-4.00
2021.12.2	750	Head	50	1087	7684	1303	0.418	8.36	8.36	0.00
2021.12.3	835	Head	50	4d258	7684	1303	0.481	9.44	9.62	1.91
2021.12.4	1750	Head	50	1090	7684	1303	1.850	36.40	37	1.65
2021.12.4	1900	Head	50	5d170	7684	1303	2.000	39.00	40	2.56
2021.12.5	2450	Head	50	908	7684	1303	2.480	52.80	49.6	-6.06
2021.12.5	2600	Head	50	1061	7684	1303	2.690	56.60	53.8	-4.95
2021.12.6	3500	Head	50	1037	7684	1303	3.150	68.00	63	-7.35
2021.12.6	3700	Head	50	1008	7684	1303	3.300	67.60	66	-2.37
2021.12.7	3900	Head	50	1048	7684	1303	3.310	70.20	66.2	-5.70
2021.12.8	5250	Head	50	1113	7684	1303	3.790	80.50	75.8	-5.84
2021.12.9	5600	Head	50	1113	7684	1303	4.120	83.40	82.4	-1.20
2021.12.10	5750	Head	50	1113	7684	1303	3.740	80.00	74.8	-6.50

**<10g SAR>**

Date	Frequency (MHz)	Head	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2021.11.23	750	Head	50	1087	7684	1303	0.267	5.65	5.34	-5.49
2021.11.24	835	Head	50	4d258	7684	1303	0.314	6.13	6.28	2.45
2021.11.25	1750	Head	50	1090	7684	1303	1.010	19.20	20.2	5.21
2021.11.26	1900	Head	50	5d170	7684	1303	1.030	20.30	20.6	1.48
2021.11.27	2450	Head	50	908	7684	1303	1.120	24.20	22.4	-7.44
2021.11.27	2600	Head	50	1061	7684	1303	1.180	25.10	23.6	-5.98
2021.11.28	3500	Head	50	1037	7684	1303	1.250	25.40	25	-1.57
2021.11.28	3700	Head	50	1008	7684	1303	1.230	24.40	24.6	0.82
2021.11.28	3900	Head	50	1048	7684	1303	1.140	24.40	22.8	-6.56
2021.11.29	5250	Head	50	1113	7684	1303	1.080	23.10	21.6	-6.49
2021.11.30	5600	Head	50	1113	7684	1303	1.140	23.80	22.8	-4.20
2021.12.1	5750	Head	50	1113	7684	1303	1.090	22.80	21.8	-4.39
2021.12.2	750	Head	50	1087	7684	1303	0.273	5.65	5.46	-3.36
2021.12.3	835	Head	50	4d258	7684	1303	0.315	6.13	6.3	2.77
2021.12.4	1750	Head	50	1090	7684	1303	0.978	19.20	19.56	1.88
2021.12.4	1900	Head	50	5d170	7684	1303	1.030	20.30	20.6	1.48
2021.12.5	2450	Head	50	908	7684	1303	1.150	24.20	23	-4.96
2021.12.5	2600	Head	50	1061	7684	1303	1.190	25.10	23.8	-5.18
2021.12.6	3500	Head	50	1037	7684	1303	1.190	25.40	23.8	-6.30
2021.12.6	3700	Head	50	1008	7684	1303	1.230	24.40	24.6	0.82
2021.12.7	3900	Head	50	1048	7684	1303	1.180	24.40	23.6	-3.28
2021.12.8	5250	Head	50	1113	7684	1303	1.070	23.10	21.4	-7.36
2021.12.9	5600	Head	50	1113	7684	1303	1.160	23.80	23.2	-2.52
2021.12.10	5750	Head	50	1113	7684	1303	1.060	22.80	21.2	-7.02



**Fig 11.3.1 System Performance Check Setup**



**Fig 11.3.2 Setup Photo**

## 12. RF Exposure Positions

### 12.1 Ear and handset reference point

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

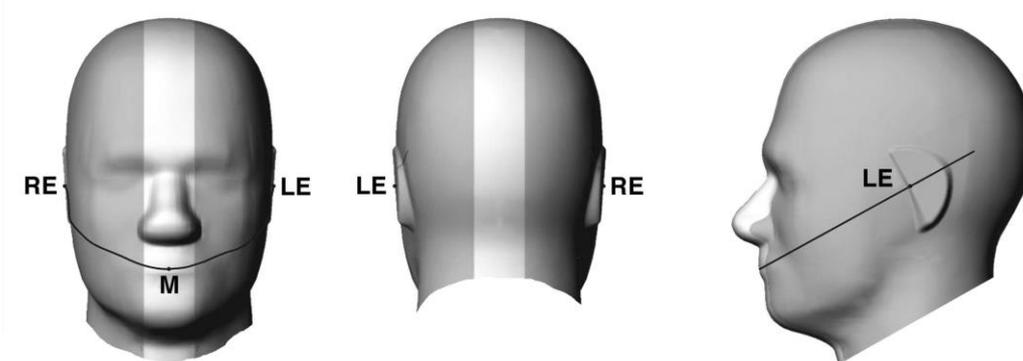


Fig 12.1.1 Front, back, and side views of SAM twin phantom

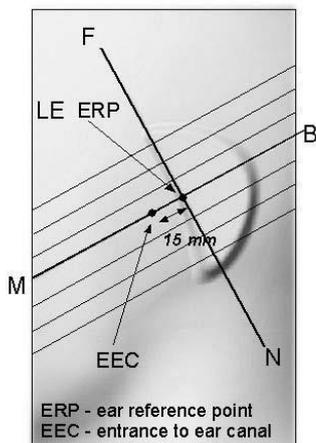


Fig 12.1.2 Close-up side view of phantom showing the ear region.

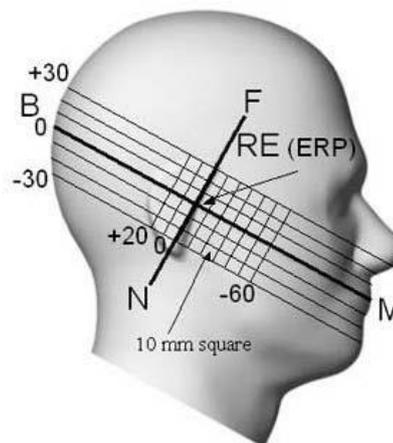
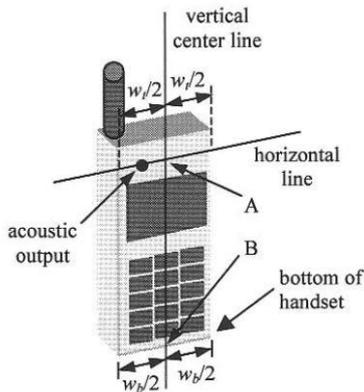


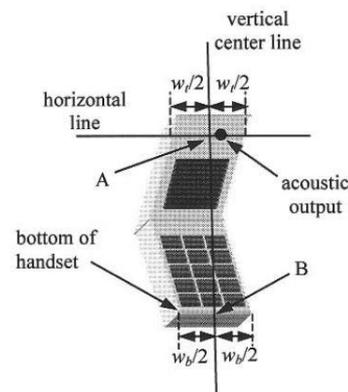
Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

**12.2 Definition of the cheek position**

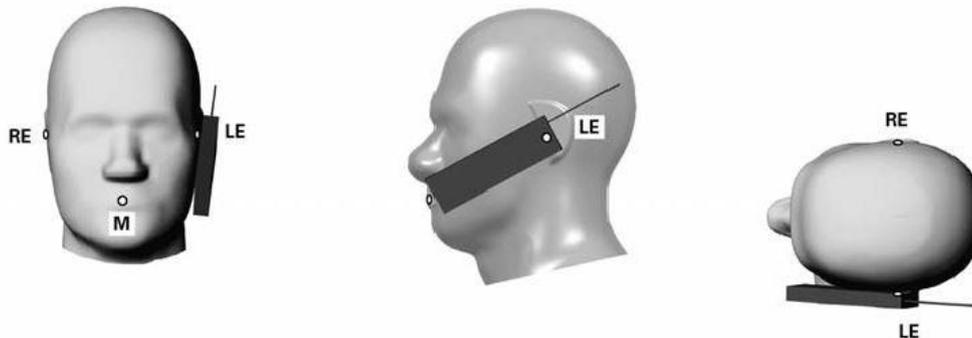
1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. Define two imaginary lines on the handset—the vertical centerline and the horizontal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



**Fig 12.2.1 Handset vertical and horizontal reference lines—“fixed case”**



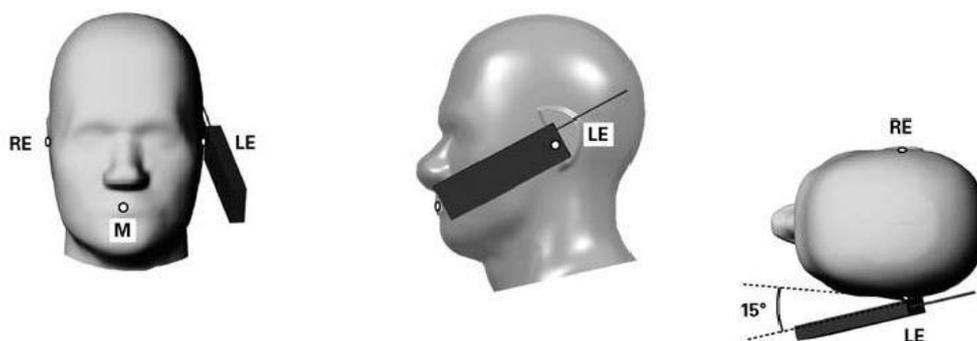
**Fig 12.2.2 Handset vertical and horizontal reference lines—“clam-shell case”**



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

### 12.3 Definition of the tilt position

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



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

## 12.4 Body Worn Accessory

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 12.4). Per KDB648474 D04v01r03, body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for body-worn accessory, measured without a headset connected to the handset is  $> 1.2$  W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset 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. 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 tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

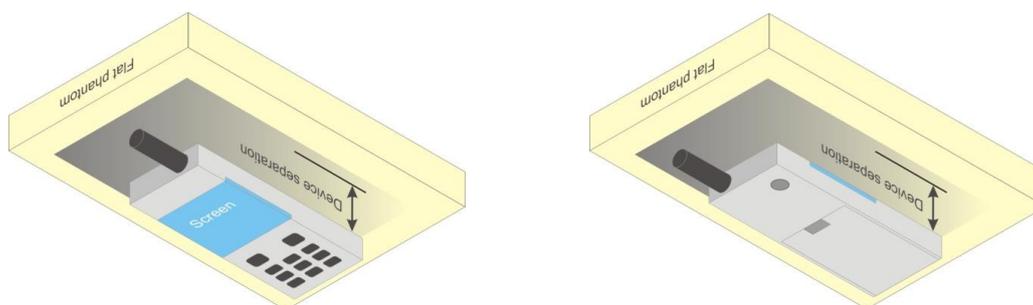


Fig 12.4 Body Worn Position



## **12.5 Product Specific 10g SAR Exposure**

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

1. The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.
2. The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at  $\leq 25$  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 ( $L \times W \geq 9$  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 from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

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

### **13. Conducted RF Output Power (Unit: dBm)**

The detailed conducted power table can refer to Appendix E.

#### **<GSM Conducted Power>**

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

#### **<WCDMA Conducted Power>**

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

A summary of these settings are illustrated below:

#### **HSDPA Setup Configuration:**

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
  - i. Set Gain Factors ( $\beta_c$  and  $\beta_d$ ) 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:  $\beta$  values for transmitter characteristics tests with HS-DPCCH**

Sub-test	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_o/\beta_d$	$\beta_{HS}$ (Note 1, 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:  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 30/15$  with  $\beta_{HS} = 30/15 * \beta_c$ .

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,  $\Delta_{ACK}$  and  $\Delta_{NACK} = 30/15$  with  $\beta_{HS} = 30/15 * \beta_c$ , and  $\Delta_{CQI} = 24/15$  with  $\beta_{HS} = 24/15 * \beta_c$ .

Note 3: CM = 1 for  $\beta_o/\beta_d = 12/15$ ,  $\beta_{HS}/\beta_c = 24/15$ . For all other combinations of DPDCCH, 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  $\beta_o/\beta_d$  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  $\beta_c = 11/15$  and  $\beta_d = 15/15$ .

**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 ( $\beta_c$  and  $\beta_d$ ) 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:  $\beta$  values for transmitter characteristics tests with HS-DPCCH and E-DCH**

Sub-test	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{HS}$ (Note1)	$\beta_{ec}$	$\beta_{ed}$ (Note 4) (Note 5)	$\beta_{ed}$ (SF)	$\beta_{ed}$ (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	209/25	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	$\beta_{ed1}$ : 47/15 $\beta_{ed2}$ : 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,  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 30/15$  with  $\beta_{hs} = 30/15 * \beta_c$ . For sub-test 5,  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 5/15$  with  $\beta_{hs} = 5/15 * \beta_c$ .

Note 2: CM = 1 for  $\beta_c/\beta_d = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ . 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  $\beta_c/\beta_d$  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, TF0) to  $\beta_c = 10/15$  and  $\beta_d = 15/15$ .

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:  $\beta_{ed}$  can not be set directly; it is set by Absolute Grant Value.

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

**Setup Configuration**

**DC-HSDPA 3GPP release 8 Setup Configuration:**

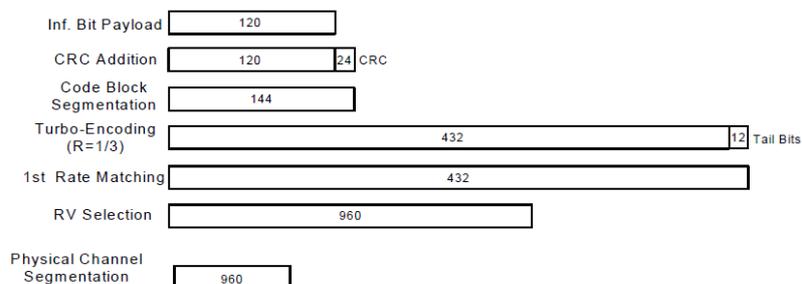
- a. The EUT was connected to Base Station referred to the Setup Configuration below
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
  - i. Set RMC 12.2Kbps + HSDPA mode.
  - ii. Set Cell Power = -25 dBm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

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

**C.8.1.12 Fixed Reference Channel Definition H-Set 12**

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

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



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

**Setup Configuration**



**<WCDMA Conducted Power>**

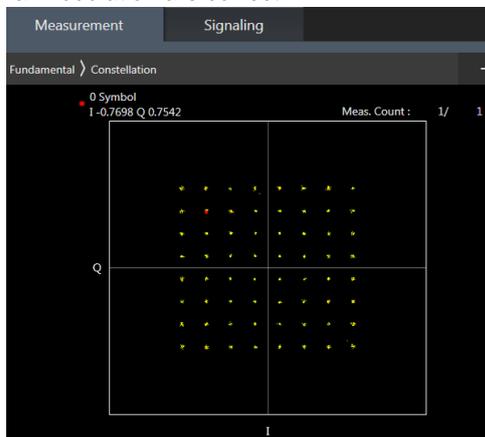
**General Note:**

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is  $\leq \frac{1}{4}$  dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA) are less than  $\frac{1}{4}$  dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

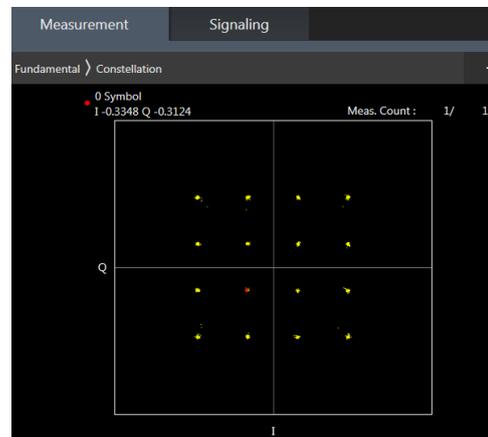
**<LTE Conducted Power>**

**General Note:**

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

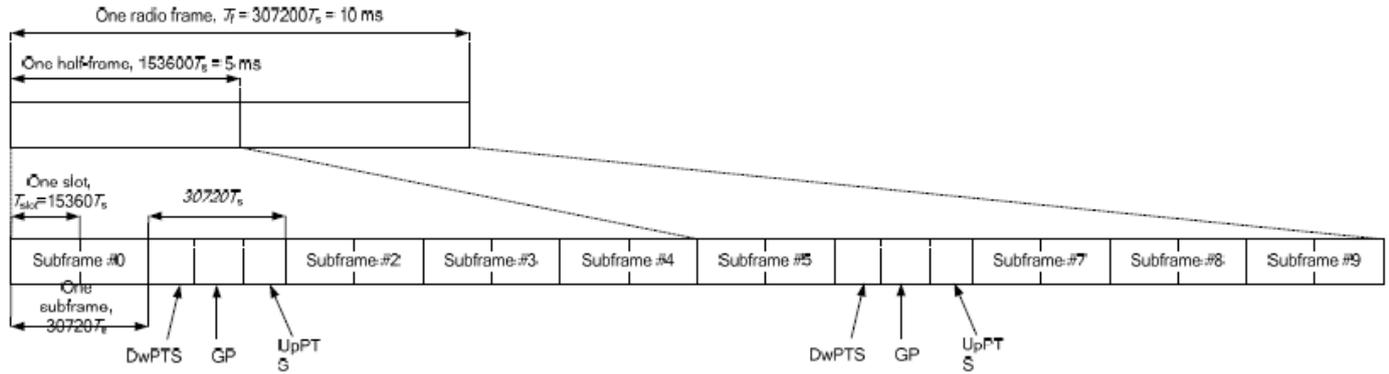


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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	$26336 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$			$20480 \cdot T_s$		
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 <sub>s</sub> ): 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 <sub>s</sub> ): 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 subframes, uplink operation is in 3 uplink subframes and 1 special subframe.
- ii. special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
- iii. for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is:  $(3+0.167)/5 = 63.3\%$
- iv. for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is:  $(3+0.143)/5 = 62.9\%$
- v. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix  $63.3\%/62.9\% = 1.006$  is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)\* Tune-up Scaling Factor\* scaling factor for extended cyclic prefix.

**<LTE Carrier Aggregation>**

**General Note:**

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

2CC Downlink Carrier Aggregation		3CC Downlink Carrier Aggregation	
Number	Combination	Number	Combination
1	CA_12A-66A	1	CA_12A-66A-66A
2	CA_2A-12A	2	CA_2A-12A-66A
3	CA_2A-4A	3	CA_2A-4A-12A
4	CA_2A-5A	4	CA_2A-4A-5A
5	CA_2A-66A	5	CA_2A-4A-7A
6	CA_2A-7A	6	CA_2A-7A-7A
7	CA_2C	7	CA_2A-7C
8	CA_38C	8	CA_41A-41A-41A
9	CA_41A-41A	9	CA_41D
10	CA_41C	10	CA_4A-7C
11	CA_4A-12A	11	CA_5A-66A-66A
12	CA_4A-17A	12	CA_5A-7A-66A
13	CA_4A-5A	13	CA_5A-7A-7A
14	CA_4A-7A	14	CA_5A-7C
15	CA_5A-41A	15	CA_7A-66A-66A
16	CA_5A-66A	16	CA_7C-66A
17	CA_5A-7A		
18	CA_66A-66A		
19	CA_7A-26A		
20	CA_7A-66A		
21	CA_7A-7A		
22	CA_7C		
23	CA_66B		
24	CA_66C		

**LTE Carrier Aggregation Conducted Power (Downlink)**

- i. According to KDB941225 D05A v01r02, Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.
- ii. Uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.
- iii. The device supports downlink four carrier aggregation. For power measurement were control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.
- iv. Selected highest measured power when downlink carrier aggregation is inactive for conducted power comparison with downlink carrier aggregation is active, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.
- v. For inter-band CA, the SCC selected highest bandwidth and near the middle of its transmission band. For SCC DL RB size and offset will base on the PCC corresponding RB allocation.
- vi. For non-contiguous intra-band CA, the SCC selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band.
- vii. For Intra-band, contiguous CA, the downlink channels selected to perform the uplink power measurement must satisfy 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements.

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

**LTE 4x4 MIMO (Downlink)**

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

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

4X4 MIMO	WWAN Band
	LTE Band: B4/B7/B38/B41/B66

**LTE Carrier Aggregation Conducted Power (Uplink)**

**<Intra-band>**

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

**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. According TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
- v. Additional SAR measurement for LTE UL CA whit other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active.

**<Inter-band uplink carrier aggregation consideration>**

LTE Uplink CA	2CC Uplink Carrier Aggregation	
Combination	Band&Ant No.	Band&Ant No.
2A-4A	LTE B2: Ant0/Ant4	LTE B4: Ant0/Ant4
4A-7A	LTE B4: Ant0/Ant4	LTE B7: Ant0/Ant4

**General Note:**

The single carrier of inter band CA uplink power level is the same as Non-CA standalone LTE power level. For Inter-band CA co-located SAR analysis is performed using standalone SAR summed together and they are more conservatively for inter band CA.

**5G NR Output Power (Unit: dBm)**

**General Note:**

1. 5G NR n5, n7, n66, n38, n41, n77, n78 supports SA operation.
2. 5G NR n5, n7, n66, n77, n78 supports NSA.
3. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
  - a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-QPSK and the reported SAR for the DFT-QPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.
  - b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, for 16QAM/64 QAM/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the 16QAM/64QAM/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.
  - c. SAR testing start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel
  - d. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
  - e. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested
  - f. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK /16QAM/64QAM/256QAM AM SAR testing are not required.
  - g. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
4. Due to test setup limitations, SAR testing for NR was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission.
5. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for the CP-OFDM mode will not higher than DFT-s-OFDM mode, therefore, CP-OFDM measurement is unnecessary.
6. NSA and SA mode should perform SAR separately. For the maximum power of NSA mode is the same as SA total power level, so SA SAR can represent NSA mode SAR.
7. 5G NR NSA mode, the power level is the same as 5G NR SA mode, so 5G NR NSA mode and SA mode power table only show one time.
8. 5G NR supports CP-OFDM and DFT-s-OFDM modulation, for DFT-s-OFDM power is higher than CP-OFDM, so only show DFT-s-OFDM power table and chose DFT-s-OFDM to perform SAR testing.
9. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for the CP-OFDM mode will not higher than DFT-s-OFDM mode, therefore, CP-OFDM measurement is unnecessary.
10. 5G NR n41/n77/n78 supports HPUE, HPUE power and SAR testing performed separately.
11. 5G NR n41/n77/n78 HPUE with higher power, n41/n77/n78 HPUE SAR can represent power class 3 level SAR.
12. For 5G NR EN-DC mode, standalone SAR performed for 5G NR band with the maximum power, EN-DC SAR summed 5G NR 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	$\leq 3.5^1$	$\leq 1.2^1$	$\leq 0.2^1$
		$\leq 0.5^2$	$\leq 0.5^2$	0 <sup>2</sup>
	QPSK		$\leq 1$	0
	16 QAM		$\leq 2$	$\leq 1$
	64 QAM			
CP-OFDM	256 QAM		$\leq 2.5$	
	QPSK		$\leq 3$	$\leq 1.5$
	16 QAM		$\leq 3$	$\leq 2$
	64 QAM		$\leq 3.5$	
	256 QAM		$\leq 6.5$	

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	$\leq 3.5$	$\leq 0.5$	0
	QPSK	$\leq 3.5$	$\leq 1$	0
	16 QAM	$\leq 3.5$	$\leq 2$	$\leq 1$
	64 QAM	$\leq 3.5$		$\leq 2.5$
	256 QAM		$\leq 4.5$	
CP-OFDM	QPSK	$\leq 3.5$	$\leq 3$	$\leq 1.5$
	16 QAM	$\leq 3.5$	$\leq 3$	$\leq 2$
	64 QAM		$\leq 3.5$	
	256 QAM		$\leq 6.5$	

ENDC List	LTE Ant No.	NR Ant No.
DC_7A_n5A	Ant4	Ant0
DC_5A_n7A	Ant0	Ant4
DC_66A_n7A	Ant0	Ant4
DC_7A_n66A	Ant4	Ant0
DC_2A_n66A	Ant0	Ant4
DC_5A_n66A	Ant0	Ant4
DC_12A_n66A	Ant0	Ant4
DC_41A_n77A	Ant0&4	Ant3&5
DC_2A_n78A	Ant0&4	Ant3&5
DC_5A_n78A	Ant0&4	Ant3&5
DC_7A_n78A	Ant0&4	Ant3&5
DC_38A_n78A	Ant0&4	Ant3&5
DC_41A_n78A	Ant0&4	Ant3&5
DC_66A_n78A	Ant0&4	Ant3&5

**<WLAN Conducted Power>**

**General Note:**

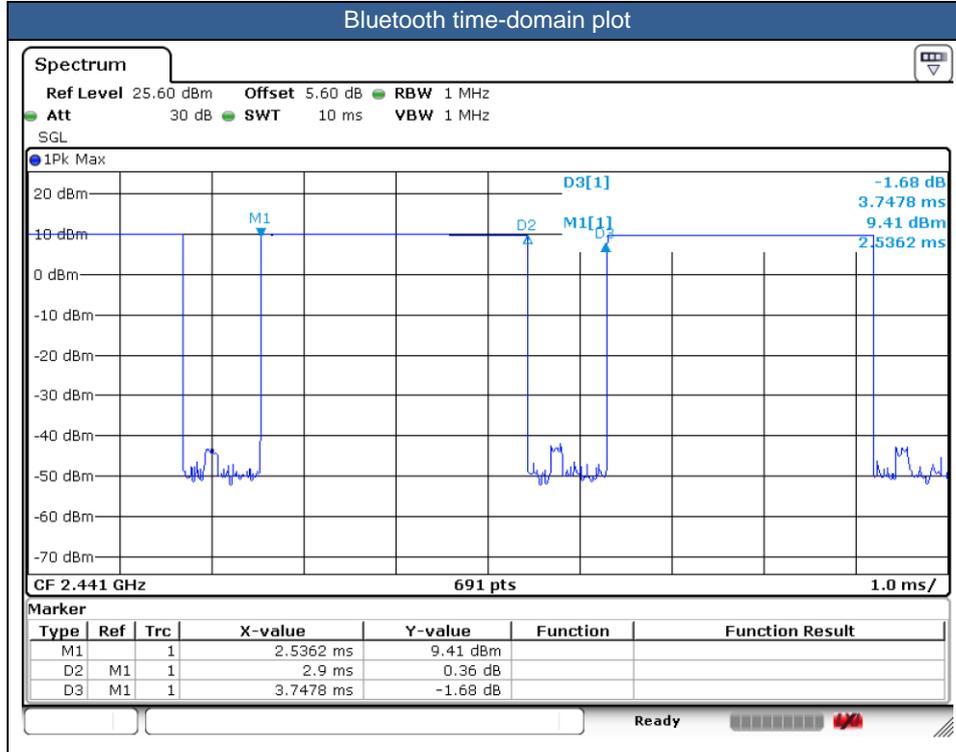
1. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
2. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
3. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
4. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures.18 The initial test position procedure is described in the following:
  - a. When the reported SAR of the initial test position is  $\leq 0.4$  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  $\leq 0.8$  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  $\leq 1.2$  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 77.38 % as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the maximum duty cycle is 100%, therefore the actual duty cycle will be scaled up to 100% for Bluetooth reported SAR calculation





## **14. Antenna Location**

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

## 15. SAR Test Results

### General Note:

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

**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  $\leq$  ¼ dB higher than the primary mode, SAR measurement is not required for the secondary mode.

**WCDMA Note:**

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

**LTE Note:**

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

**5G NR Note:**

1. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
  - a. SAR testing start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
  - b. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
  - c. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.
  - d. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not  $\frac{1}{2}$  dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK/16QAM /64QAM/256QAM SAR testing are not required.
  - e. Smaller bandwidth output power for each RB allocation configuration for this device will not  $\frac{1}{2}$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg, smaller bandwidth SAR testing is not required for this device.
  - f. For 5G FR1 n38/n41/n77/n78 the maximum bandwidth does not support three non-overlapping channels, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

**WLAN Note:**

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is  $\leq 1.2$  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  $\leq 1.2$  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  $\leq 0.8$  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  $\leq 1.2$  W/kg or all required channels are tested.
5. During SAR testing the WLAN transmission was verified using a spectrum analyzer.
6. Based on WLAN2.4GHz and Bluetooth share the same, so Bluetooth RF exposure evaluation chose the worst position of WLAN 2.4GHz to perform Bluetooth SAR test, and used this Bluetooth SAR value conservatively represent other position do co-located analysis with WWAN.



15.1 Head SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	
<b>750MHz</b>																			
	LTE Band 12	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 1	23095	707.5	24.69	25.50	1.205	-0.04	0.107	0.129	
	LTE Band 12	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 0	DSI 1	23095	707.5	23.89	24.50	1.151	0.09	0.088	0.101	
	LTE Band 12	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 1	23095	707.5	24.69	25.50	1.205	-0.03	0.066	0.080	
	LTE Band 12	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 0	DSI 1	23095	707.5	23.89	24.50	1.151	0.07	0.054	0.062	
	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 1	23095	707.5	24.69	25.50	1.205	0.08	0.104	0.125	
	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 0	DSI 1	23095	707.5	23.89	24.50	1.151	-0.11	0.084	0.097	
	LTE Band 12	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 1	23095	707.5	24.69	25.50	1.205	-0.05	0.064	0.077	
	LTE Band 12	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 0	DSI 1	23095	707.5	23.89	24.50	1.151	0.05	0.050	0.058	
	LTE Band 12	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	23095	707.5	24.76	25.50	1.186	0.05	0.265	0.314	
	LTE Band 12	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 4	DSI 1	23095	707.5	23.78	24.50	1.180	0.09	0.224	0.264	
01	LTE Band 12	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	23095	707.5	24.76	25.50	1.186	-0.16	0.349	0.414	
	LTE Band 12	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 4	DSI 1	23095	707.5	23.78	24.50	1.180	-0.03	0.238	0.281	
	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 1	23095	707.5	24.76	25.50	1.186	-0.14	0.249	0.295	
	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 4	DSI 1	23095	707.5	23.78	24.50	1.180	-0.09	0.213	0.251	
	LTE Band 12	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	23095	707.5	24.76	25.50	1.186	0.07	0.221	0.262	
	LTE Band 12	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 4	DSI 1	23095	707.5	23.78	24.50	1.180	0.09	0.186	0.220	
	LTE Band 13	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 1	23230	782	24.55	25.50	1.245	-0.09	0.087	0.108	
	LTE Band 13	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 0	DSI 1	23230	782	23.65	24.50	1.216	0.03	0.081	0.099	
	LTE Band 13	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 1	23230	782	24.55	25.50	1.245	0.13	0.049	0.061	
	LTE Band 13	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 0	DSI 1	23230	782	23.65	24.50	1.216	-0.06	0.044	0.054	
	LTE Band 13	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 1	23230	782	24.55	25.50	1.245	0.05	0.085	0.106	
	LTE Band 13	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 0	DSI 1	23230	782	23.65	24.50	1.216	-0.07	0.075	0.091	
	LTE Band 13	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 1	23230	782	24.55	25.50	1.245	0.03	0.047	0.058	
	LTE Band 13	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 0	DSI 1	23230	782	23.65	24.50	1.216	0.09	0.044	0.054	
02	LTE Band 13	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	23230	782	24.68	25.50	1.208	0.1	0.428	0.517	
	LTE Band 13	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 4	DSI 1	23230	782	23.62	24.50	1.225	0.07	0.341	0.418	
	LTE Band 13	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	23230	782	24.68	25.50	1.208	0.04	0.333	0.402	
	LTE Band 13	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 4	DSI 1	23230	782	23.62	24.50	1.225	0.08	0.277	0.339	
	LTE Band 13	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 1	23230	782	24.68	25.50	1.208	0.09	0.398	0.481	
	LTE Band 13	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 4	DSI 1	23230	782	23.62	24.50	1.225	-0.18	0.312	0.382	
	LTE Band 13	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	23230	782	24.68	25.50	1.208	0.08	0.341	0.412	
	LTE Band 13	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 4	DSI 1	23230	782	23.62	24.50	1.225	-0.13	0.274	0.336	
<b>835MHz</b>																			
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 0	DSI 1	189	836.4	26.32	27.50	1.312	0.11	0.174	0.228	
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 0	DSI 1	189	836.4	26.32	27.50	1.312	-0.18	0.072	0.094	
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 0	DSI 1	189	836.4	26.32	27.50	1.312	0.06	0.116	0.152	
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 0	DSI 1	189	836.4	26.32	27.50	1.312	0.06	0.063	0.083	
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 4	DSI 1	189	836.4	26.54	27.50	1.247	0.02	0.641	0.800	
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 4	DSI 1	128	824.2	26.48	27.50	1.265	0.02	0.586	0.741	
03	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 4	DSI 1	251	848.8	26.45	27.50	1.274	0.05	0.656	0.835	
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 4	DSI 1	189	836.4	26.54	27.50	1.247	0.07	0.478	0.596	
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 4	DSI 1	189	836.4	26.54	27.50	1.247	-0.1	0.572	0.714	
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 4	DSI 1	189	836.4	26.54	27.50	1.247	0.03	0.556	0.694	
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 1	4182	836.4	24.78	25.50	1.180	-0.1	0.235	0.277	
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	DSI 1	4182	836.4	24.78	25.50	1.180	0.09	0.115	0.136	
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 1	4182	836.4	24.78	25.50	1.180	-0.06	0.239	0.282	
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	DSI 1	4182	836.4	24.78	25.50	1.180	0.03	0.115	0.136	
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 4	DSI 1	4182	836.4	23.27	24.50	1.327	0.01	0.734	0.974	
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 4	DSI 1	4132	826.4	23.19	24.50	1.352	-0.1	0.700	0.946	
04	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 4	DSI 1	4233	846.6	23.16	24.50	1.361	0.05	0.739	1.006	



**FCC SAR Test Report**

**Report No. : FA1N1013**

	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 4	DSI 1	4182	836.4	23.27	24.50	1.327	0.07	0.598	0.794
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 4	DSI 1	4182	836.4	23.27	24.50	1.327	0.04	0.697	0.925
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 4	DSI 1	4132	826.4	23.19	24.50	1.352	-0.11	0.673	0.910
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 4	DSI 1	4233	846.6	23.16	24.50	1.361	0.02	0.707	0.963
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 1	4182	836.4	23.27	24.50	1.327	0.07	0.623	0.827
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 1	4132	826.4	23.19	24.50	1.352	0.07	0.594	0.803
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 1	4233	846.6	23.16	24.50	1.361	0.03	0.623	0.848
	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 1	26865	831.5	24.44	25.50	1.276	-0.13	0.174	0.222
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 0	DSI 1	26865	831.5	23.50	24.50	1.259	-0.09	0.138	0.174
	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 1	26865	831.5	24.44	25.50	1.276	0.11	0.091	0.116
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 0	DSI 1	26865	831.5	23.50	24.50	1.259	0.04	0.078	0.098
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 1	26865	831.5	24.44	25.50	1.276	0.01	0.171	0.218
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 0	DSI 1	26865	831.5	23.50	24.50	1.259	-0.07	0.137	0.172
	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 1	26865	831.5	24.44	25.50	1.276	0.06	0.087	0.111
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 0	DSI 1	26865	831.5	23.50	24.50	1.259	0.06	0.070	0.088
05	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	26865	831.5	24.48	25.50	1.265	0.09	0.617	0.780
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 4	DSI 1	26865	831.5	23.54	24.50	1.247	-0.05	0.494	0.616
	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	26865	831.5	24.48	25.50	1.265	0.08	0.434	0.549
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 4	DSI 1	26865	831.5	23.54	24.50	1.247	-0.02	0.366	0.457
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 1	26865	831.5	24.48	25.50	1.265	-0.08	0.612	0.774
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 4	DSI 1	26865	831.5	23.54	24.50	1.247	0.05	0.483	0.602
	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	26865	831.5	24.48	25.50	1.265	0.18	0.526	0.665
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 4	DSI 1	26865	831.5	23.54	24.50	1.247	0.04	0.419	0.523
ENDC																		
	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	26865	831.5	21.59	22.50	1.233	0.05	0.325	0.401
	FR1 n5	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 0	DSI 1	167300	836.5	25.26	25.50	1.057	0.14	0.175	0.185
	FR1 n5	20M	QPSK	50	28	DFT-15	Right Cheek	0mm	Ant 0	DSI 1	167300	836.5	25.26	25.50	1.057	0.07	0.172	0.182
	FR1 n5	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 0	DSI 1	167300	836.5	25.26	25.50	1.057	-0.15	0.103	0.109
	FR1 n5	20M	QPSK	50	28	DFT-15	Right Tilted	0mm	Ant 0	DSI 1	167300	836.5	25.26	25.50	1.057	-0.13	0.089	0.094
	FR1 n5	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 0	DSI 1	167300	836.5	25.26	25.50	1.057	-0.01	0.176	0.186
	FR1 n5	20M	QPSK	50	28	DFT-15	Left Cheek	0mm	Ant 0	DSI 1	167300	836.5	25.26	25.50	1.057	0.18	0.174	0.184
	FR1 n5	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 0	DSI 1	167300	836.5	25.26	25.50	1.057	0.14	0.096	0.101
	FR1 n5	20M	QPSK	50	28	DFT-15	Left Tilted	0mm	Ant 0	DSI 1	167300	836.5	25.26	25.50	1.057	0.06	0.091	0.096
06	FR1 n5	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 4	DSI 1	167300	836.5	23.96	24.50	1.132	0.14	0.655	0.742
	FR1 n5	20M	QPSK	50	28	DFT-15	Right Cheek	0mm	Ant 4	DSI 1	167300	836.5	23.84	24.50	1.164	-0.19	0.622	0.724
	FR1 n5	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 4	DSI 1	167300	836.5	23.96	24.50	1.132	0.04	0.497	0.563
	FR1 n5	20M	QPSK	50	28	DFT-15	Right Tilted	0mm	Ant 4	DSI 1	167300	836.5	23.84	24.50	1.164	0.01	0.476	0.554
	FR1 n5	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 4	DSI 1	167300	836.5	23.96	24.50	1.132	0.14	0.619	0.701
	FR1 n5	20M	QPSK	50	28	DFT-15	Left Cheek	0mm	Ant 4	DSI 1	167300	836.5	23.84	24.50	1.164	0.05	0.605	0.704
	FR1 n5	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 4	DSI 1	167300	836.5	23.96	24.50	1.132	-0.16	0.538	0.609
	FR1 n5	20M	QPSK	50	28	DFT-15	Left Tilted	0mm	Ant 4	DSI 1	167300	836.5	23.84	24.50	1.164	0.08	0.520	0.605
1750MHz																		
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 1	1413	1732.6	24.88	25.50	1.153	-0.01	0.116	0.134
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	DSI 1	1413	1732.6	24.88	25.50	1.153	0.05	0.076	0.088
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 1	1413	1732.6	24.88	25.50	1.153	-0.03	0.103	0.119
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	DSI 1	1413	1732.6	24.88	25.50	1.153	0.09	0.092	0.106
07	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 4	DSI 1	1413	1732.6	20.90	21.50	1.148	-0.12	0.395	0.454
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 4	DSI 1	1413	1732.6	20.90	21.50	1.148	-0.08	0.330	0.379
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 4	DSI 1	1413	1732.6	20.90	21.50	1.148	0.09	0.273	0.313
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 1	1413	1732.6	20.90	21.50	1.148	0.06	0.363	0.417
	LTE Band 4	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 1	20175	1732.5	24.25	25.50	1.334	0.15	0.091	0.121
	LTE Band 4	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DSI 1	20175	1732.5	23.20	24.50	1.349	-0.19	0.074	0.100
	LTE Band 4	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 1	20175	1732.5	24.25	25.50	1.334	0.09	0.061	0.081
	LTE Band 4	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DSI 1	20175	1732.5	23.20	24.50	1.349	0.02	0.047	0.063
	LTE Band 4	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 1	20175	1732.5	24.25	25.50	1.334	0.09	0.071	0.095
	LTE Band 4	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DSI 1	20175	1732.5	23.20	24.50	1.349	-0.18	0.056	0.076

**Sporton International (Kunshan) Inc.**

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FCC ID : 2AFZZ16SG

Issued Date : Jan. 04, 2022

Form version. : 200414



**FCC SAR Test Report**

**Report No. : FA1N1013**

	LTE Band 4	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 1	20175	1732.5	24.25	25.50	1.334	0.04	0.055	0.073
	LTE Band 4	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DSI 1	20175	1732.5	23.20	24.50	1.349	0.16	0.045	0.061
	LTE Band 4	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	20175	1732.5	18.46	19.50	1.271	-0.18	0.562	0.714
08	LTE Band 4	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	20175	1732.5	18.39	19.50	1.291	0.01	0.593	<b>0.766</b>
	LTE Band 4	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	20175	1732.5	18.46	19.50	1.271	0.08	0.480	0.610
	LTE Band 4	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	20175	1732.5	18.39	19.50	1.291	-0.16	0.522	0.674
	LTE Band 4	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 1	20175	1732.5	18.46	19.50	1.271	-0.06	0.380	0.483
	LTE Band 4	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 1	20175	1732.5	18.39	19.50	1.291	-0.11	0.404	0.522
	LTE Band 4	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	20175	1732.5	18.46	19.50	1.271	0.03	0.541	0.687
	LTE Band 4	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 1	20175	1732.5	18.39	19.50	1.291	0.08	0.572	0.739
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 1	132322	1745	23.35	24.50	1.303	0.1	0.070	0.091
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DSI 1	132322	1745	22.51	23.50	1.256	-0.04	0.058	0.073
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 1	132322	1745	23.35	24.50	1.303	0.11	0.049	0.064
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DSI 1	132322	1745	22.51	23.50	1.256	-0.04	0.041	0.051
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 1	132322	1745	23.35	24.50	1.303	-0.13	0.050	0.065
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DSI 1	132322	1745	22.51	23.50	1.256	-0.16	0.052	0.065
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 1	132322	1745	23.35	24.50	1.303	0.05	0.058	0.076
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DSI 1	132322	1745	22.51	23.50	1.256	0.17	0.048	0.060
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	132322	1745	20.80	21.50	1.175	0.04	0.382	0.449
09	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	132322	1745	20.73	21.50	1.194	-0.11	0.391	<b>0.467</b>
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	132322	1745	20.80	21.50	1.175	-0.14	0.328	0.385
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	132322	1745	20.73	21.50	1.194	0.07	0.347	0.414
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 1	132322	1745	20.80	21.50	1.175	0.03	0.277	0.325
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 1	132322	1745	20.73	21.50	1.194	0.04	0.294	0.351
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	132322	1745	20.80	21.50	1.175	0.03	0.357	0.419
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 1	132322	1745	20.73	21.50	1.194	0.04	0.377	0.450
ENDC																		
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	132322	1745	17.68	18.50	1.208	0.02	0.215	0.260
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 0	DSI 1	349000	1745	24.26	25.50	1.330	0.08	0.096	0.128
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 0	DSI 1	349000	1745	24.16	25.50	1.361	-0.12	0.071	0.097
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 0	DSI 1	349000	1745	24.26	25.50	1.330	-0.03	0.057	0.076
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 0	DSI 1	349000	1745	24.16	25.50	1.361	0.09	0.050	0.068
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 0	DSI 1	349000	1745	24.26	25.50	1.330	0.01	0.053	0.071
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 0	DSI 1	349000	1745	24.16	25.50	1.361	-0.1	0.071	0.097
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 0	DSI 1	349000	1745	24.26	25.50	1.330	0.06	0.075	0.100
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 0	DSI 1	349000	1745	24.16	25.50	1.361	0.1	0.043	0.059
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 4	DSI 1	349000	1745	23.44	24.50	1.276	-0.16	0.485	0.619
10	FR1 n66	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 4	DSI 1	349000	1745	23.35	24.50	1.303	0.03	0.541	<b>0.705</b>
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 4	DSI 1	349000	1745	23.44	24.50	1.276	-0.11	0.405	0.517
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 4	DSI 1	349000	1745	23.35	24.50	1.303	0.04	0.502	0.654
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 4	DSI 1	349000	1745	23.44	24.50	1.276	0.07	0.315	0.402
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 4	DSI 1	349000	1745	23.35	24.50	1.303	0.05	0.374	0.487
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 4	DSI 1	349000	1745	23.44	24.50	1.276	0.02	0.427	0.545
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 4	DSI 1	349000	1745	23.35	24.50	1.303	0.09	0.492	0.641
1900MHz																		
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 0	DSI 1	661	1880	23.52	24.50	1.253	0.13	0.065	0.081
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 0	DSI 1	661	1880	23.52	24.50	1.253	0.03	0.059	0.074
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 0	DSI 1	661	1880	23.52	24.50	1.253	0.11	0.069	0.086
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 0	DSI 1	661	1880	23.52	24.50	1.253	-0.04	0.063	0.079
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 4	DSI 1	661	1880	23.10	24.50	1.380	-0.17	0.633	0.874
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 4	DSI 1	512	1850.2	22.87	24.50	1.455	-0.16	0.605	0.881
11	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 4	DSI 1	810	1909.8	22.81	24.50	1.476	-0.06	0.676	<b>0.998</b>
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 4	DSI 1	661	1880	23.10	24.50	1.380	-0.12	0.550	0.759
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 4	DSI 1	661	1880	23.10	24.50	1.380	0.18	0.422	0.583
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 4	DSI 1	661	1880	23.10	24.50	1.380	0.09	0.538	0.743
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 1	9400	1880	24.43	25.50	1.279	0.08	0.104	0.133

**Sporton International (Kunshan) Inc.**

TEL : 86-512-57900158 / FAX : 86-512-57900958

FCC ID : 2AFZZ16SG

Issued Date : Jan. 04, 2022

Form version. : 200414



# FCC SAR Test Report

Report No. : FA1N1013

	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	DSI 1	9400	1880	24.43	25.50	1.279	-0.16	0.088	0.113	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 1	9400	1880	24.43	25.50	1.279	0.05	0.113	0.145	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	DSI 1	9400	1880	24.43	25.50	1.279	0.16	0.108	0.138	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 4	DSI 1	9400	1880	19.57	20.50	1.239	0.11	0.639	0.792	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 4	DSI 1	9400	1880	19.57	20.50	1.239	-0.06	0.655	0.811	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 4	DSI 1	9262	1852.4	19.51	20.50	1.256	0.18	0.454	0.570	
12	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 4	DSI 1	9538	1907.6	19.42	20.50	1.282	-0.07	0.785	1.007	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 4	DSI 1	9400	1880	19.57	20.50	1.239	0.03	0.478	0.592	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 1	9400	1880	19.57	20.50	1.239	0.05	0.623	0.772	
	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 1	18900	1880	23.31	24.50	1.315	0.08	0.084	0.110	
	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DSI 1	18900	1880	22.29	23.50	1.321	0.08	0.068	0.090	
	LTE Band 2	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 1	18900	1880	23.31	24.50	1.315	0.15	0.071	0.093	
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DSI 1	18900	1880	22.29	23.50	1.321	0.06	0.056	0.074	
	LTE Band 2	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 1	18900	1880	23.31	24.50	1.315	0.05	0.093	0.122	
	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DSI 1	18900	1880	22.29	23.50	1.321	0.17	0.075	0.099	
	LTE Band 2	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 1	18900	1880	23.31	24.50	1.315	0.05	0.091	0.120	
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DSI 1	18900	1880	22.29	23.50	1.321	-0.06	0.071	0.094	
	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	18900	1880	18.68	19.50	1.208	0.08	0.481	0.581	
13	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	18900	1880	18.62	19.50	1.225	0.07	0.491	0.601	
	LTE Band 2	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	18900	1880	18.68	19.50	1.208	0.1	0.424	0.512	
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	18900	1880	18.62	19.50	1.225	0.11	0.434	0.531	
	LTE Band 2	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 1	18900	1880	18.68	19.50	1.208	-0.18	0.349	0.422	
	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 1	18900	1880	18.62	19.50	1.225	-0.04	0.349	0.427	
	LTE Band 2	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	18900	1880	18.68	19.50	1.208	0.18	0.442	0.534	
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 1	18900	1880	18.62	19.50	1.225	0.06	0.448	0.549	
ENDC																			
	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	18900	1880	15.46	16.50	1.271	0.16	0.244	0.310	



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
<b>2600MHz</b>																				
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 1	21100	2535	24.39	25.50	1.291	-	-	0.02	0.052	0.067
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DSI 1	21100	2535	23.56	24.50	1.242	-	-	-0.15	0.046	0.057
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 1	21100	2535	24.39	25.50	1.291	-	-	0.07	0.037	0.048
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DSI 1	21100	2535	23.56	24.50	1.242	-	-	-0.19	0.029	0.036
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 1	21100	2535	24.39	25.50	1.291	-	-	0.05	0.113	0.146
	LTE Band 7C	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 1	21100+21298	2535+2554.8	24.27	25.50	1.327	-	-	0.03	0.109	0.145
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DSI 1	21100	2535	23.56	24.50	1.242	-	-	-0.01	0.073	0.091
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 1	21100	2535	24.39	25.50	1.291	-	-	0.14	0.058	0.075
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DSI 1	21100	2535	23.56	24.50	1.242	-	-	-0.15	0.046	0.057
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	21100	2535	18.30	19.00	1.175	-	-	0.05	0.644	0.757
14	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	21100	2535	18.22	19.00	1.197	-	-	-0.06	0.657	<b>0.786</b>
	LTE Band 7C	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	21100+21298	2535+2554.8	18.22	19.00	1.197	-	-	0.08	0.527	0.631
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	21100	2535	18.30	19.00	1.175	-	-	-0.09	0.587	0.690
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	21100	2535	18.22	19.00	1.197	-	-	0.19	0.612	0.732
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 1	21100	2535	18.30	19.00	1.175	-	-	-0.07	0.434	0.510
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 1	21100	2535	18.22	19.00	1.197	-	-	0.01	0.439	0.525
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	21100	2535	18.30	19.00	1.175	-	-	-0.18	0.503	0.591
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 1	21100	2535	18.22	19.00	1.197	-	-	0.17	0.528	0.632
<b>ENDC</b>																				
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	21100	2535	15.58	16.00	1.102	-	-	0.04	0.312	0.344
	FR1 n7	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 0	DSI 1	507000	2535	24.65	25.50	1.216	-	-	0.08	0.089	0.108
	FR1 n7	20M	QPSK	50	28	DFT-15	Right Cheek	0mm	Ant 0	DSI 1	507000	2535	24.64	25.50	1.219	-	-	0.09	0.074	0.090
	FR1 n7	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 0	DSI 1	507000	2535	24.65	25.50	1.216	-	-	-0.1	0.098	0.119
	FR1 n7	20M	QPSK	50	28	DFT-15	Right Tilted	0mm	Ant 0	DSI 1	507000	2535	24.64	25.50	1.219	-	-	-0.15	0.000	0.000
	FR1 n7	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 0	DSI 1	507000	2535	24.65	25.50	1.216	-	-	0.07	0.085	0.103
	FR1 n7	20M	QPSK	50	28	DFT-15	Left Cheek	0mm	Ant 0	DSI 1	507000	2535	24.64	25.50	1.219	-	-	-0.01	0.102	0.124
	FR1 n7	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 0	DSI 1	507000	2535	24.65	25.50	1.216	-	-	-0.15	0.060	0.073
	FR1 n7	20M	QPSK	50	28	DFT-15	Left Tilted	0mm	Ant 0	DSI 1	507000	2535	24.64	25.50	1.219	-	-	0.17	0.060	0.073
	FR1 n7	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 4	DSI 1	507000	2535	18.82	20.00	1.312	-	-	0.03	0.665	0.873
15	FR1 n7	20M	QPSK	50	28	DFT-15	Right Cheek	0mm	Ant 4	DSI 1	507000	2535	18.66	20.00	1.361	-	-	0.05	0.698	<b>0.950</b>
	FR1 n7	20M	QPSK	100	0	DFT-15	Right Cheek	0mm	Ant 4	DSI 1	507000	2535	18.68	20.00	1.355	-	-	0.03	0.675	0.915
	FR1 n7	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 4	DSI 1	507000	2535	18.82	20.00	1.312	-	-	0.02	0.608	0.798
	FR1 n7	20M	QPSK	50	28	DFT-15	Right Tilted	0mm	Ant 4	DSI 1	507000	2535	18.66	20.00	1.361	-	-	-0.11	0.654	0.890
	FR1 n7	20M	QPSK	100	0	DFT-15	Right Tilted	0mm	Ant 4	DSI 1	507000	2535	18.68	20.00	1.355	-	-	0.03	0.621	0.842
	FR1 n7	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 4	DSI 1	507000	2535	18.82	20.00	1.312	-	-	-0.12	0.439	0.576
	FR1 n7	20M	QPSK	50	28	DFT-15	Left Cheek	0mm	Ant 4	DSI 1	507000	2535	18.66	20.00	1.361	-	-	0.14	0.464	0.632
	FR1 n7	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 4	DSI 1	507000	2535	18.82	20.00	1.312	-	-	0.07	0.538	0.706
	FR1 n7	20M	QPSK	50	28	DFT-15	Left Tilted	0mm	Ant 4	DSI 1	507000	2535	18.66	20.00	1.361	-	-	-0.16	0.566	0.771
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 1	40620	2593	24.68	25.50	1.208	62.9	1.006	0.11	0.025	0.030
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DSI 1	40620	2593	23.81	24.50	1.172	62.9	1.006	0.01	0.021	0.025
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 1	40620	2593	24.68	25.50	1.208	62.9	1.006	-0.07	0.020	0.024
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DSI 1	40620	2593	23.81	24.50	1.172	62.9	1.006	0.09	0.000	0.000
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 1	40620	2593	24.68	25.50	1.208	62.9	1.006	0.09	0.092	0.112
	LTE Band 41C	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 1	40620+40818	2593+2612.8	24.65	25.50	1.216	62.9	1.006	0.03	0.078	0.095
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DSI 1	40620	2593	23.81	24.50	1.172	62.9	1.006	-0.16	0.036	0.042
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 1	40620	2593	24.68	25.50	1.208	62.9	1.006	0.07	0.022	0.027
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DSI 1	40620	2593	23.81	24.50	1.172	62.9	1.006	0.04	0.015	0.018
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	40620	2593	20.92	21.50	1.143	62.9	1.006	0.07	0.641	0.737
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	39750	2506	20.58	21.50	1.236	62.9	1.006	0.02	0.629	0.782
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	40185	2549.5	20.61	21.50	1.227	62.9	1.006	0.13	0.663	0.819



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	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	41055	2636.5	20.73	21.50	1.194	62.9	1.006	-0.18	0.513	0.616
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 1	41490	2680	20.80	21.50	1.175	62.9	1.006	0.01	0.443	0.524
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	40620	2593	20.90	21.50	1.148	62.9	1.006	0.06	0.633	0.731
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	39750	2506	20.72	21.50	1.197	62.9	1.006	-0.03	0.669	0.805
16	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	40185	2549.5	20.77	21.50	1.183	62.9	1.006	-0.18	0.711	0.846
	LTE Band 41C	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	40185+40383	2549.5+2569.3	20.72	21.50	1.197	62.9	1.006	0.02	0.685	0.825
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	41055	2636.5	20.80	21.50	1.175	62.9	1.006	0.06	0.505	0.597
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	41490	2680	20.83	21.50	1.167	62.9	1.006	0.02	0.438	0.514
	LTE Band 41	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 4	DSI 1	40620	2593	20.88	21.50	1.153	62.9	1.006	0.08	0.606	0.703
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	40620	2593	20.92	21.50	1.143	62.9	1.006	-0.18	0.557	0.640
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	39750	2506	20.58	21.50	1.236	62.9	1.006	-0.18	0.576	0.716
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	40185	2549.5	20.61	21.50	1.227	62.9	1.006	0.05	0.634	0.783
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	41055	2636.5	20.73	21.50	1.194	62.9	1.006	-0.11	0.477	0.573
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 1	41490	2680	20.80	21.50	1.175	62.9	1.006	-0.02	0.415	0.491
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	40620	2593	20.90	21.50	1.148	62.9	1.006	0.07	0.576	0.665
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	39750	2506	20.72	21.50	1.197	62.9	1.006	0.08	0.610	0.734
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	40185	2549.5	20.77	21.50	1.183	62.9	1.006	-0.16	0.637	0.758
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	41055	2636.5	20.80	21.50	1.175	62.9	1.006	0.08	0.471	0.557
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 1	41490	2680	20.83	21.50	1.167	62.9	1.006	0.04	0.408	0.479
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 1	40620	2593	20.92	21.50	1.143	62.9	1.006	-0.03	0.427	0.491
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 1	40620	2593	20.90	21.50	1.148	62.9	1.006	0.02	0.417	0.482
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 1	40620	2593	20.92	21.50	1.143	62.9	1.006	0.03	0.470	0.540
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 1	40620	2593	20.90	21.50	1.148	62.9	1.006	0.05	0.467	0.539
ENDC																				
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 1	40620	2593	17.93	18.50	1.140	62.9	1.006	0.09	0.344	0.395
	FR1 n41	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 0	DSI 1	518598	2592.99	26.24	27.00	1.191	-	-	0.02	0.084	0.100
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 0	DSI 1	518598	2592.99	25.78	27.00	1.324	-	-	0.05	0.081	0.107
	FR1 n41	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 0	DSI 1	518598	2592.99	26.24	27.00	1.191	-	-	-0.15	0.055	0.066
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 0	DSI 1	518598	2592.99	25.78	27.00	1.324	-	-	0.16	0.075	0.099
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 0	DSI 1	518598	2592.99	26.24	27.00	1.191	-	-	0.02	0.161	0.192
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 0	DSI 1	518598	2592.99	25.78	27.00	1.324	-	-	-0.01	0.169	0.224
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 0	DSI 1	518598	2592.99	26.24	27.00	1.191	-	-	0.09	0.095	0.113
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 0	DSI 1	518598	2592.99	25.78	27.00	1.324	-	-	0.09	0.076	0.101
17	FR1 n41	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 4	DSI 1	518598	2592.99	18.37	20.00	1.455	-	-	-0.11	0.722	1.051
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 4	DSI 1	518598	2592.99	18.35	20.00	1.462	-	-	0.03	0.624	0.912
	FR1 n41	100M	QPSK	270	0	DFT-30	Right Cheek	0mm	Ant 4	DSI 1	518598	2592.99	18.26	20.00	1.493	-	-	-0.12	0.595	0.888
	FR1 n41	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 4	DSI 1	518598	2592.99	18.37	20.00	1.455	-	-	-0.13	0.651	0.948
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 4	DSI 1	518598	2592.99	18.35	20.00	1.462	-	-	-0.12	0.568	0.831
	FR1 n41	100M	QPSK	270	0	DFT-30	Right Tilted	0mm	Ant 4	DSI 1	518598	2592.99	18.26	20.00	1.493	-	-	0.08	0.525	0.784
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 4	DSI 1	518598	2592.99	18.37	20.00	1.455	-	-	0.07	0.483	0.703
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 4	DSI 1	518598	2592.99	18.35	20.00	1.462	-	-	0.1	0.368	0.538
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 4	DSI 1	518598	2592.99	18.37	20.00	1.455	-	-	0.02	0.581	0.846
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 4	DSI 1	518598	2592.99	18.35	20.00	1.462	-	-	0.15	0.459	0.671
	FR1 n41	100M	QPSK	270	0	DFT-30	Left Tilted	0mm	Ant 4	DSI 1	518598	2592.99	18.26	20.00	1.493	-	-	0.04	0.448	0.669



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)	
<b>3500MHz</b>																			
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 3	DSI 1	656000	3840	16.87	17.00	1.030	0.05	0.588	0.606	
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 3	DSI 1	656000	3840	16.75	17.00	1.059	0.02	0.571	0.605	
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 3	DSI 1	656000	3840	16.87	17.00	1.030	-0.1	0.318	0.328	
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 3	DSI 1	656000	3840	16.75	17.00	1.059	0.03	0.320	0.339	
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 3	DSI 1	656000	3840	16.87	17.00	1.030	-0.13	0.160	0.165	
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 3	DSI 1	656000	3840	16.75	17.00	1.059	0.12	0.156	0.165	
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 3	DSI 1	656000	3840	16.87	17.00	1.030	-0.04	0.130	0.134	
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 3	DSI 1	656000	3840	16.75	17.00	1.059	-0.11	0.135	0.143	
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 3	DSI 1	633334	3500.01	16.77	17.00	1.054	0.02	0.703	0.741	
18	FR1 n77	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 3	DSI 1	633334	3500.01	16.68	17.00	1.076	-0.05	0.732	<b>0.788</b>	
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 3	DSI 1	633334	3500.01	16.77	17.00	1.054	-0.16	0.393	0.414	
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 3	DSI 1	633334	3500.01	16.68	17.00	1.076	0.14	0.395	0.425	
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 3	DSI 1	633334	3500.01	16.77	17.00	1.054	-0.17	0.216	0.228	
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 3	DSI 1	633334	3500.01	16.68	17.00	1.076	-0.18	0.214	0.230	
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 3	DSI 1	633334	3500.01	16.77	17.00	1.054	0.12	0.181	0.191	
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 3	DSI 1	633334	3500.01	16.68	17.00	1.076	0.04	0.182	0.196	
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 5	DSI 1	656000	3840	15.95	17.00	1.274	-0.16	0.229	0.291	
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 5	DSI 1	656000	3840	15.86	17.00	1.300	0.04	0.253	0.329	
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 5	DSI 1	656000	3840	15.95	17.00	1.274	0.02	0.279	0.355	
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 5	DSI 1	656000	3840	15.86	17.00	1.300	0.18	0.304	0.395	
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 5	DSI 1	656000	3840	15.95	17.00	1.274	-0.02	0.418	0.533	
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 5	DSI 1	656000	3840	15.86	17.00	1.300	0.04	0.471	0.613	
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 5	DSI 1	656000	3840	15.95	17.00	1.274	-0.13	0.434	0.553	
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 5	DSI 1	656000	3840	15.86	17.00	1.300	0.05	0.512	0.666	
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 5	DSI 1	633334	3500.01	15.90	17.00	1.288	0.04	0.162	0.209	
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 5	DSI 1	633334	3500.01	15.87	17.00	1.297	0.02	0.164	0.212	
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 5	DSI 1	633334	3500.01	15.90	17.00	1.288	-0.19	0.167	0.215	
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 5	DSI 1	633334	3500.01	15.87	17.00	1.297	-0.04	0.169	0.220	
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 5	DSI 1	633334	3500.01	15.90	17.00	1.288	0.09	0.365	0.470	
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 5	DSI 1	633334	3500.01	15.87	17.00	1.297	-0.16	0.333	0.432	
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 5	DSI 1	633334	3500.01	15.90	17.00	1.288	0.09	0.326	0.420	
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 5	DSI 1	633334	3500.01	15.87	17.00	1.297	0.02	0.311	0.403	



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
<b>2450MHz</b>																
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 6	Reduced	6	2437	12.73	14.00	1.340	99.3	1.007	-0.09	0.064	0.086
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 6	Reduced	6	2437	12.73	14.00	1.340	99.3	1.007	-0.16	0.050	0.067
19	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6	Reduced	6	2437	12.73	14.00	1.340	99.3	1.007	0.04	0.195	<b>0.263</b>
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 6	Reduced	6	2437	12.73	14.00	1.340	99.3	1.007	0.1	0.139	0.187
20	Bluetooth	1Mbps	Left Cheek	0mm	Ant 6	Full	39	2441	9.81	11.00	1.315	77.38	1.292	-0.02	0.056	<b>0.095</b>
<b>5000MHz</b>																
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 6	Reduced	58	5290	11.35	12.50	1.303	90.1	1.110	0.04	0.121	0.175
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 6	Reduced	58	5290	11.35	12.50	1.303	90.1	1.110	-0.03	0.147	0.213
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 6	Reduced	58	5290	11.35	12.50	1.303	90.1	1.110	0.04	0.264	0.382
21	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 6	Reduced	58	5290	11.35	12.50	1.303	90.1	1.110	0.06	0.292	<b>0.422</b>
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 6	Reduced	122	5610	11.08	12.00	1.236	90.1	1.110	0.08	0.158	0.217
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 6	Reduced	122	5610	11.08	12.00	1.236	90.1	1.110	-0.19	0.190	0.261
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 6	Reduced	122	5610	11.08	12.00	1.236	90.1	1.110	-0.19	0.296	0.406
22	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 6	Reduced	122	5610	11.08	12.00	1.236	90.1	1.110	0.05	0.313	<b>0.429</b>
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 6	Reduced	155	5775	10.35	11.50	1.303	90.1	1.110	0.06	0.110	0.159
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 6	Reduced	155	5775	10.35	11.50	1.303	90.1	1.110	0.08	0.133	0.192
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 6	Reduced	155	5775	10.35	11.50	1.303	90.1	1.110	-0.06	0.168	0.243
23	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 6	Reduced	155	5775	10.35	11.50	1.303	90.1	1.110	0.06	0.207	<b>0.299</b>



15.2 Hotspot SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
<b>750MHz</b>																		
	LTE Band 12	10M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 4	23095	707.5	24.69	25.50	1.205	0.15	0.136	0.164
	LTE Band 12	10M	QPSK	25	0	-	Front	10mm	Ant 0	DSI 4	23095	707.5	23.89	24.50	1.151	-0.09	0.113	0.130
24	LTE Band 12	10M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 4	23095	707.5	24.69	25.50	1.205	-0.01	0.226	<b>0.272</b>
	LTE Band 12	10M	QPSK	25	0	-	Back	10mm	Ant 0	DSI 4	23095	707.5	23.89	24.50	1.151	0.16	0.180	0.207
	LTE Band 12	10M	QPSK	1	0	-	Left Side	10mm	Ant 0	DSI 2	23095	707.5	24.69	25.50	1.205	-0.02	0.130	0.157
	LTE Band 12	10M	QPSK	25	0	-	Left Side	10mm	Ant 0	DSI 2	23095	707.5	23.89	24.50	1.151	0.08	0.109	0.125
	LTE Band 12	10M	QPSK	1	0	-	Right Side	10mm	Ant 0	DSI 2	23095	707.5	24.69	25.50	1.205	-0.16	0.217	0.261
	LTE Band 12	10M	QPSK	25	0	-	Right Side	10mm	Ant 0	DSI 2	23095	707.5	23.89	24.50	1.151	-0.17	0.174	0.200
	LTE Band 12	10M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 4	23095	707.5	24.69	25.50	1.205	0.08	0.166	0.200
	LTE Band 12	10M	QPSK	25	0	-	Bottom Side	10mm	Ant 0	DSI 4	23095	707.5	23.89	24.50	1.151	0.07	0.134	0.154
	LTE Band 12	10M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 4	23095	707.5	24.76	25.50	1.186	-0.01	0.087	0.103
	LTE Band 12	10M	QPSK	25	0	-	Front	10mm	Ant 4	DSI 4	23095	707.5	23.78	24.50	1.180	0.03	0.077	0.091
	LTE Band 12	10M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 4	23095	707.5	24.76	25.50	1.186	-0.19	0.164	0.194
	LTE Band 12	10M	QPSK	25	0	-	Back	10mm	Ant 4	DSI 4	23095	707.5	23.78	24.50	1.180	-0.19	0.126	0.149
	LTE Band 12	10M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI 2	23095	707.5	24.76	25.50	1.186	-0.10	0.119	0.141
	LTE Band 12	10M	QPSK	25	0	-	Left Side	10mm	Ant 4	DSI 2	23095	707.5	23.78	24.50	1.180	-0.17	0.104	0.123
	LTE Band 12	10M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI 4	23095	707.5	24.76	25.50	1.186	0.06	0.067	0.079
	LTE Band 12	10M	QPSK	25	0	-	Top Side	10mm	Ant 4	DSI 4	23095	707.5	23.78	24.50	1.180	0.05	0.058	0.068
	LTE Band 13	10M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 4	23230	782	24.55	25.50	1.245	0.01	0.146	0.182
	LTE Band 13	10M	QPSK	25	0	-	Front	10mm	Ant 0	DSI 4	23230	782	23.65	24.50	1.216	0.05	0.120	0.146
25	LTE Band 13	10M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 4	23230	782	24.55	25.50	1.245	-0.04	0.260	<b>0.324</b>
	LTE Band 13	10M	QPSK	25	0	-	Back	10mm	Ant 0	DSI 4	23230	782	23.65	24.50	1.216	-0.05	0.218	0.265
	LTE Band 13	10M	QPSK	1	0	-	Left Side	10mm	Ant 0	DSI 2	23230	782	24.55	25.50	1.245	-0.19	0.090	0.112
	LTE Band 13	10M	QPSK	25	0	-	Left Side	10mm	Ant 0	DSI 2	23230	782	23.65	24.50	1.216	-0.13	0.074	0.090
	LTE Band 13	10M	QPSK	1	0	-	Right Side	10mm	Ant 0	DSI 2	23230	782	24.55	25.50	1.245	0.02	0.000	0.000
	LTE Band 13	10M	QPSK	25	0	-	Right Side	10mm	Ant 0	DSI 2	23230	782	23.65	24.50	1.216	-0.13	0.159	0.193
	LTE Band 13	10M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 4	23230	782	24.55	25.50	1.245	0.06	0.247	0.307
	LTE Band 13	10M	QPSK	25	0	-	Bottom Side	10mm	Ant 0	DSI 4	23230	782	23.65	24.50	1.216	0.10	0.193	0.235
	LTE Band 13	10M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 4	23230	782	24.68	25.50	1.208	0.12	0.128	0.155
	LTE Band 13	10M	QPSK	25	0	-	Front	10mm	Ant 4	DSI 4	23230	782	23.62	24.50	1.225	0.03	0.105	0.129
	LTE Band 13	10M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 4	23230	782	24.68	25.50	1.208	-0.09	0.202	0.244
	LTE Band 13	10M	QPSK	25	0	-	Back	10mm	Ant 4	DSI 4	23230	782	23.62	24.50	1.225	0.09	0.162	0.198
	LTE Band 13	10M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI 2	23230	782	24.68	25.50	1.208	0.02	0.143	0.173
	LTE Band 13	10M	QPSK	25	0	-	Left Side	10mm	Ant 4	DSI 2	23230	782	23.62	24.50	1.225	-0.15	0.115	0.141
	LTE Band 13	10M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI 4	23230	782	24.68	25.50	1.208	0.09	0.125	0.151
	LTE Band 13	10M	QPSK	25	0	-	Top Side	10mm	Ant 4	DSI 4	23230	782	23.62	24.50	1.225	0.10	0.101	0.124
<b>835MHz</b>																		
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 0	DSI 4	189	836.4	26.32	27.50	1.312	-0.01	0.182	0.239
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 0	DSI 4	189	836.4	26.32	27.50	1.312	-0.11	0.248	0.325
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Side	10mm	Ant 0	DSI 2	189	836.4	26.32	27.50	1.312	-0.19	0.093	0.122
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Side	10mm	Ant 0	DSI 2	189	836.4	26.32	27.50	1.312	0.08	0.206	0.270
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	10mm	Ant 0	DSI 4	189	836.4	26.32	27.50	1.312	-0.16	0.246	0.323
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 4	DSI 4	189	836.4	26.54	27.50	1.247	-0.03	0.160	0.200
26	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 4	DSI 4	189	836.4	26.54	27.50	1.247	-0.02	0.276	<b>0.344</b>
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Side	10mm	Ant 4	DSI 2	189	836.4	26.54	27.50	1.247	0.13	0.061	0.076
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Top Side	10mm	Ant 4	DSI 4	189	836.4	26.54	27.50	1.247	0.09	0.135	0.168
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 0	DSI 4	4182	836.4	24.78	25.50	1.180	0.09	0.263	0.310
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 0	DSI 4	4182	836.4	24.78	25.50	1.180	-0.05	0.427	0.504
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 0	DSI 2	4182	836.4	24.78	25.50	1.180	0.15	0.134	0.158
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Side	10mm	Ant 0	DSI 2	4182	836.4	24.78	25.50	1.180	-0.02	0.277	0.327



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	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 0	DSI 4	4182	836.4	24.78	25.50	1.180	-0.16	0.406	0.479
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 4	DSI 4	4182	836.4	24.73	25.50	1.194	0.08	0.216	0.258
27	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 4	DSI 4	4182	836.4	24.73	25.50	1.194	-0.05	0.357	<b>0.510</b>
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 4	DSI 2	4182	836.4	24.73	25.50	1.194	0.04	0.125	0.149
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 4	DSI 4	4182	836.4	24.73	25.50	1.194	0.08	0.199	0.238
	LTE Band 26	15M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 4	26865	831.5	24.44	25.50	1.276	0.12	0.263	0.336
	LTE Band 26	15M	QPSK	36	0	-	Front	10mm	Ant 0	DSI 4	26865	831.5	23.50	24.50	1.259	0.07	0.206	0.259
28	LTE Band 26	15M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 4	26865	831.5	24.44	25.50	1.276	-0.03	0.342	<b>0.437</b>
	LTE Band 26	15M	QPSK	36	0	-	Back	10mm	Ant 0	DSI 4	26865	831.5	23.50	24.50	1.259	0.03	0.339	0.427
	LTE Band 26	15M	QPSK	1	0	-	Left Side	10mm	Ant 0	DSI 2	26865	831.5	24.44	25.50	1.276	0.08	0.112	0.143
	LTE Band 26	15M	QPSK	36	0	-	Left Side	10mm	Ant 0	DSI 2	26865	831.5	23.50	24.50	1.259	-0.09	0.092	0.116
	LTE Band 26	15M	QPSK	1	0	-	Right Side	10mm	Ant 0	DSI 2	26865	831.5	24.44	25.50	1.276	0.04	0.189	0.241
	LTE Band 26	15M	QPSK	36	0	-	Right Side	10mm	Ant 0	DSI 2	26865	831.5	23.50	24.50	1.259	0.13	0.158	0.199
	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 4	26865	831.5	24.44	25.50	1.276	0.06	0.341	0.435
	LTE Band 26	15M	QPSK	36	0	-	Bottom Side	10mm	Ant 0	DSI 4	26865	831.5	23.50	24.50	1.259	0.18	0.310	0.390
	LTE Band 26	15M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 4	26865	831.5	24.48	25.50	1.265	-0.12	0.226	0.286
	LTE Band 26	15M	QPSK	36	0	-	Front	10mm	Ant 4	DSI 4	26865	831.5	23.54	24.50	1.247	0.03	0.187	0.233
	LTE Band 26	15M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 4	26865	831.5	24.48	25.50	1.265	-0.06	0.345	0.436
	LTE Band 26	15M	QPSK	36	0	-	Back	10mm	Ant 4	DSI 4	26865	831.5	23.54	24.50	1.247	0.05	0.326	0.407
	LTE Band 26	15M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI 2	26865	831.5	24.48	25.50	1.265	0.08	0.103	0.130
	LTE Band 26	15M	QPSK	36	0	-	Left Side	10mm	Ant 4	DSI 2	26865	831.5	23.54	24.50	1.247	-0.06	0.084	0.105
	LTE Band 26	15M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI 4	26865	831.5	24.48	25.50	1.265	-0.15	0.226	0.286
	LTE Band 26	15M	QPSK	36	0	-	Top Side	10mm	Ant 4	DSI 4	26865	831.5	23.54	24.50	1.247	0.07	0.186	0.232
	FR1 n5	20M	QPSK	1	1	DFT-15	Front	10mm	Ant 0	DSI 4	167300	836.5	25.26	25.50	1.057	0.05	0.234	0.247
	FR1 n5	20M	QPSK	50	28	DFT-15	Front	10mm	Ant 0	DSI 4	167300	836.5	25.26	25.50	1.057	0.02	0.234	0.247
	FR1 n5	20M	QPSK	1	1	DFT-15	Back	10mm	Ant 0	DSI 4	167300	836.5	25.26	25.50	1.057	-0.03	0.389	0.411
29	FR1 n5	20M	QPSK	50	28	DFT-15	Back	10mm	Ant 0	DSI 4	167300	836.5	25.26	25.50	1.057	-0.16	0.391	<b>0.413</b>
	FR1 n5	20M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 0	DSI 2	167300	836.5	25.26	25.50	1.057	-0.05	0.125	0.132
	FR1 n5	20M	QPSK	50	28	DFT-15	Left Side	10mm	Ant 0	DSI 2	167300	836.5	25.26	25.50	1.057	-0.12	0.114	0.120
	FR1 n5	20M	QPSK	1	1	DFT-15	Right Side	10mm	Ant 0	DSI 2	167300	836.5	25.26	25.50	1.057	0.04	0.195	0.206
	FR1 n5	20M	QPSK	50	28	DFT-15	Right Side	10mm	Ant 0	DSI 2	167300	836.5	25.26	25.50	1.057	-0.04	0.200	0.211
	FR1 n5	20M	QPSK	1	1	DFT-15	Bottom Side	10mm	Ant 0	DSI 4	167300	836.5	25.26	25.50	1.057	-0.12	0.349	0.369
	FR1 n5	20M	QPSK	50	28	DFT-15	Bottom Side	10mm	Ant 0	DSI 4	167300	836.5	25.26	25.50	1.057	-0.11	0.320	0.338
	FR1 n5	20M	QPSK	1	1	DFT-15	Front	10mm	Ant 4	DSI 4	167300	836.5	24.97	25.50	1.130	-0.1	0.190	0.215
	FR1 n5	20M	QPSK	50	28	DFT-15	Front	10mm	Ant 4	DSI 4	167300	836.5	24.87	25.50	1.156	0.03	0.203	0.235
	FR1 n5	20M	QPSK	1	1	DFT-15	Back	10mm	Ant 4	DSI 4	167300	836.5	24.97	25.50	1.130	0.09	0.307	0.347
	FR1 n5	20M	QPSK	50	28	DFT-15	Back	10mm	Ant 4	DSI 4	167300	836.5	24.87	25.50	1.156	-0.02	0.350	0.405
	FR1 n5	20M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 4	DSI 2	167300	836.5	24.97	25.50	1.130	-0.06	0.078	0.088
	FR1 n5	20M	QPSK	50	28	DFT-15	Left Side	10mm	Ant 4	DSI 2	167300	836.5	24.87	25.50	1.156	0.02	0.082	0.095
	FR1 n5	20M	QPSK	1	1	DFT-15	Top Side	10mm	Ant 4	DSI 4	167300	836.5	24.97	25.50	1.130	0.06	0.205	0.232
	FR1 n5	20M	QPSK	50	28	DFT-15	Top Side	10mm	Ant 4	DSI 4	167300	836.5	24.87	25.50	1.156	0.08	0.237	0.274



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)	
<b>1750MHz</b>																			
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 0	DSI 4	1413	1732.6	22.65	23.50	1.216	-0.04	0.112	0.136	
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 0	DSI 4	1413	1732.6	22.65	23.50	1.216	0.09	0.203	0.247	
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 0	DSI 2	1413	1732.6	24.88	25.50	1.153	-0.16	0.124	0.143	
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Side	10mm	Ant 0	DSI 2	1413	1732.6	24.88	25.50	1.153	-0.12	0.124	0.143	
30	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 0	DSI 4	1413	1732.6	22.65	23.50	1.216	-0.13	0.837	1.018	
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 0	DSI 4	1312	1712.4	22.49	23.50	1.262	0.03	0.801	1.011	
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 0	DSI 4	1513	1752.6	22.63	23.50	1.222	0.04	0.816	0.997	
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 0	DSI 2	1413	1732.6	24.88	25.50	1.153	0.02	0.232	0.268	
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 0	DSI 2	1413	1732.6	24.88	25.50	1.153	0.05	0.095	0.110	
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	15mm	Ant 0	DSI 2	1413	1732.6	24.88	25.50	1.153	0.01	0.621	0.716	
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 4	DSI 4	1413	1732.6	22.51	23.50	1.256	0.16	0.145	0.182	
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 4	DSI 4	1413	1732.6	22.51	23.50	1.256	-0.07	0.173	0.217	
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 4	DSI 2	1413	1732.6	23.83	24.50	1.167	0.17	0.141	0.165	
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 4	DSI 4	1413	1732.6	22.51	23.50	1.256	-0.06	0.264	0.332	
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 4	DSI 2	1413	1732.6	23.83	24.50	1.167	0.11	0.126	0.147	
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 4	DSI 2	1413	1732.6	23.83	24.50	1.167	0.09	0.111	0.130	
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	15mm	Ant 4	DSI 2	1413	1732.6	23.83	24.50	1.167	0.01	0.176	0.205	
	LTE Band 4	20M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 4	20175	1732.5	21.69	22.50	1.205	-0.1	0.144	0.174	
	LTE Band 4	20M	QPSK	50	0	-	Front	10mm	Ant 0	DSI 4	20175	1732.5	21.32	22.50	1.312	0.18	0.148	0.194	
	LTE Band 4	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 4	20175	1732.5	21.69	22.50	1.205	0.09	0.409	0.493	
	LTE Band 4	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI 4	20175	1732.5	21.32	22.50	1.312	0.05	0.411	0.539	
	LTE Band 4	20M	QPSK	1	0	-	Left Side	10mm	Ant 0	DSI 2	20175	1732.5	24.25	25.50	1.334	0.08	0.087	0.116	
	LTE Band 4	20M	QPSK	50	0	-	Left Side	10mm	Ant 0	DSI 2	20175	1732.5	23.20	24.50	1.349	-0.11	0.075	0.101	
	LTE Band 4	20M	QPSK	1	0	-	Right Side	10mm	Ant 0	DSI 2	20175	1732.5	24.25	25.50	1.334	0.02	0.100	0.133	
	LTE Band 4	20M	QPSK	50	0	-	Right Side	10mm	Ant 0	DSI 2	20175	1732.5	23.20	24.50	1.349	-0.18	0.072	0.097	
	LTE Band 4	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 4	20175	1732.5	21.69	22.50	1.205	0.04	0.428	0.516	
	LTE Band 4	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 0	DSI 4	20175	1732.5	21.32	22.50	1.312	0.01	0.435	0.571	
	LTE Band 4	20M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 2	20175	1732.5	24.25	25.50	1.334	0.17	0.152	0.203	
	LTE Band 4	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 2	20175	1732.5	24.25	25.50	1.334	-0.05	0.379	0.505	
31	LTE Band 4	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI 2	20175	1732.5	24.25	25.50	1.334	-0.06	0.484	0.645	
	LTE Band 4	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 4	20175	1732.5	22.32	23.50	1.312	0.08	0.097	0.127	
	LTE Band 4	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI 4	20175	1732.5	22.27	23.50	1.327	0.05	0.102	0.135	
	LTE Band 4	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 4	20175	1732.5	22.32	23.50	1.312	0.14	0.122	0.160	
	LTE Band 4	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 4	20175	1732.5	22.27	23.50	1.327	-0.01	0.127	0.169	
	LTE Band 4	20M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI 2	20175	1732.5	23.46	24.50	1.271	0.08	0.107	0.136	
	LTE Band 4	20M	QPSK	50	0	-	Left Side	10mm	Ant 4	DSI 2	20175	1732.5	22.39	23.50	1.291	-0.01	0.084	0.108	
	LTE Band 4	20M	QPSK	1	0	-	Right Side	10mm	Ant 4	DSI 2	20175	1732.5	23.46	24.50	1.271	0.07	0.041	0.052	
	LTE Band 4	20M	QPSK	50	0	-	Right Side	10mm	Ant 4	DSI 2	20175	1732.5	22.39	23.50	1.291	0.04	0.000	0.000	
	LTE Band 4	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI 4	20175	1732.5	22.32	23.50	1.312	0.19	0.185	0.243	
	LTE Band 4	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI 4	20175	1732.5	22.27	23.50	1.327	0.02	0.204	0.271	
	LTE Band 4	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI 2	20175	1732.5	23.46	24.50	1.271	0.18	0.071	0.090	
	LTE Band 4	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI 2	20175	1732.5	23.46	24.50	1.271	0.09	0.059	0.075	
	LTE Band 4	20M	QPSK	1	0	-	Top Side	15mm	Ant 4	DSI 2	20175	1732.5	23.46	24.50	1.271	0.13	0.067	0.085	
	LTE Band 66	20M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 4	132322	1745	19.64	20.50	1.219	-0.17	0.111	0.135	
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant 0	DSI 4	132322	1745	19.35	20.50	1.303	0.06	0.109	0.142	
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 4	132322	1745	19.64	20.50	1.219	-0.04	0.292	0.356	
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI 4	132322	1745	19.35	20.50	1.303	-0.15	0.293	0.382	
	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant 0	DSI 2	132322	1745	23.35	24.50	1.303	0.09	0.095	0.124	
	LTE Band 66	20M	QPSK	50	0	-	Left Side	10mm	Ant 0	DSI 2	132322	1745	22.51	23.50	1.256	0.03	0.076	0.095	
	LTE Band 66	20M	QPSK	1	0	-	Right Side	10mm	Ant 0	DSI 2	132322	1745	23.35	24.50	1.303	0.05	0.080	0.104	
	LTE Band 66	20M	QPSK	50	0	-	Right Side	10mm	Ant 0	DSI 2	132322	1745	22.51	23.50	1.256	0.05	0.062	0.078	
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 4	132322	1745	19.64	20.50	1.219	-0.06	0.379	0.462	



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	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 0	DSI 4	132322	1745	19.35	20.50	1.303	0.12	0.378	0.493
	LTE Band 66	20M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 2	132322	1745	23.35	24.50	1.303	0.06	0.144	0.188
	LTE Band 66	20M	QPSK	1	0	-	Back	20mm	Ant 0	DSI 2	132322	1745	23.35	24.50	1.303	-0.16	0.182	0.237
32	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI 2	132322	1745	23.35	24.50	1.303	-0.09	0.564	<b>0.735</b>
	LTE Band 66	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 4	132322	1745	21.80	22.50	1.175	0.03	0.096	0.113
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI 4	132322	1745	21.72	22.50	1.197	-0.02	0.096	0.115
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 4	132322	1745	21.80	22.50	1.175	-0.13	0.114	0.134
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 4	132322	1745	21.72	22.50	1.197	0.02	0.111	0.133
	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI 2	132322	1745	22.55	23.50	1.245	-0.09	0.116	0.144
	LTE Band 66	20M	QPSK	50	0	-	Left Side	10mm	Ant 4	DSI 2	132322	1745	21.70	22.50	1.202	0.02	0.095	0.114
	LTE Band 66	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI 4	132322	1745	21.80	22.50	1.175	0.03	0.198	0.233
	LTE Band 66	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI 4	132322	1745	21.72	22.50	1.197	0.05	0.204	0.244
	LTE Band 66	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI 2	132322	1745	22.55	23.50	1.245	0.06	0.100	0.124
	LTE Band 66	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI 2	132322	1745	22.55	23.50	1.245	-0.04	0.094	0.117
	LTE Band 66	20M	QPSK	1	0	-	Top Side	15mm	Ant 4	DSI 2	132322	1745	22.55	23.50	1.245	0.07	0.161	0.200
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	10mm	Ant 0	DSI 4	349000	1745	20.38	21.50	1.294	0.01	0.111	0.144
	FR1 n66	40M	QPSK	108	54	DFT-15	Front	10mm	Ant 0	DSI 4	349000	1745	20.25	21.50	1.334	-0.03	0.113	0.151
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	10mm	Ant 0	DSI 4	349000	1745	20.38	21.50	1.294	-0.03	0.322	0.417
	FR1 n66	40M	QPSK	108	54	DFT-15	Back	10mm	Ant 0	DSI 4	349000	1745	20.25	21.50	1.334	-0.14	0.304	0.405
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 0	DSI 2	349000	1745	24.26	25.50	1.330	0.11	0.041	0.055
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Side	10mm	Ant 0	DSI 2	349000	1745	24.16	25.50	1.361	0.04	0.046	0.063
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Side	10mm	Ant 0	DSI 2	349000	1745	24.26	25.50	1.330	-0.16	0.000	0.000
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Side	10mm	Ant 0	DSI 2	349000	1745	24.16	25.50	1.361	0.03	0.000	0.000
33	FR1 n66	40M	QPSK	1	1	DFT-15	Bottom Side	10mm	Ant 0	DSI 4	349000	1745	20.38	21.50	1.294	-0.19	0.499	<b>0.646</b>
	FR1 n66	40M	QPSK	108	54	DFT-15	Bottom Side	10mm	Ant 0	DSI 4	349000	1745	20.25	21.50	1.334	0.11	0.479	0.639
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	15mm	Ant 0	DSI 2	349000	1745	24.26	25.50	1.330	0.03	0.069	0.092
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	15mm	Ant 0	DSI 2	349000	1745	24.26	25.50	1.330	0.04	0.172	0.229
	FR1 n66	40M	QPSK	1	1	DFT-15	Bottom Side	15mm	Ant 0	DSI 2	349000	1745	24.26	25.50	1.330	-0.07	0.223	0.297
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	10mm	Ant 4	DSI 4	349000	1745	22.41	23.50	1.285	0.08	0.089	0.114
	FR1 n66	40M	QPSK	108	54	DFT-15	Front	10mm	Ant 4	DSI 4	349000	1745	22.27	23.50	1.327	-0.02	0.096	0.127
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	10mm	Ant 4	DSI 4	349000	1745	22.41	23.50	1.285	-0.16	0.119	0.153
	FR1 n66	40M	QPSK	108	54	DFT-15	Back	10mm	Ant 4	DSI 4	349000	1745	22.27	23.50	1.327	-0.02	0.126	0.167
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 4	DSI 2	349000	1745	23.44	24.50	1.276	0.11	0.079	0.101
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Side	10mm	Ant 4	DSI 2	349000	1745	23.35	24.50	1.303	0.08	0.085	0.111
	FR1 n66	40M	QPSK	1	1	DFT-15	Top Side	10mm	Ant 4	DSI 4	349000	1745	22.41	23.50	1.285	0.13	0.207	0.266
	FR1 n66	40M	QPSK	108	54	DFT-15	Top Side	10mm	Ant 4	DSI 4	349000	1745	22.27	23.50	1.327	0.02	0.219	0.291
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	15mm	Ant 4	DSI 2	349000	1745	23.44	24.50	1.276	0.06	0.064	0.082
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	15mm	Ant 4	DSI 2	349000	1745	23.44	24.50	1.276	0.01	0.059	0.075
	FR1 n66	40M	QPSK	1	1	DFT-15	Top Side	15mm	Ant 4	DSI 2	349000	1745	23.44	24.50	1.276	0.02	0.087	0.111
<b>1900MHz</b>																		
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 0	DSI 4	661	1880	23.15	24.50	1.365	0.15	0.164	0.224
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 0	DSI 4	661	1880	23.15	24.50	1.365	-0.08	0.473	0.645
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	10mm	Ant 0	DSI 2	661	1880	23.52	24.50	1.253	0.1	0.058	0.073
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Side	10mm	Ant 0	DSI 2	661	1880	23.52	24.50	1.253	0.05	0.055	0.069
34	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	10mm	Ant 0	DSI 4	661	1880	23.15	24.50	1.365	-0.06	0.477	<b>0.651</b>
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 4	DSI 4	661	1880	23.17	24.50	1.358	-0.06	0.186	0.253
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 4	DSI 4	661	1880	23.17	24.50	1.358	0.10	0.238	0.323
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	10mm	Ant 4	DSI 2	661	1880	23.10	24.50	1.380	0.05	0.129	0.178
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Top Side	10mm	Ant 4	DSI 4	661	1880	23.17	24.50	1.358	0.06	0.264	0.359
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 0	DSI 4	9400	1880	21.33	22.50	1.309	0.12	0.269	0.352
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 0	DSI 4	9400	1880	21.33	22.50	1.309	-0.08	0.554	0.725
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 0	DSI 2	9400	1880	24.43	25.50	1.279	-0.19	0.200	0.256
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Side	10mm	Ant 0	DSI 2	9400	1880	24.43	25.50	1.279	0.12	0.111	0.142
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 0	DSI 4	9400	1880	21.33	22.50	1.309	-0.06	0.712	0.932
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 0	DSI 2	9400	1880	24.43	25.50	1.279	0.03	0.335	0.429
35	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 0	DSI 2	9400	1880	24.43	25.50	1.279	-0.16	0.848	<b>1.085</b>

**Sporton International (Kunshan) Inc.**

TEL : 86-512-57900158 / FAX : 86-512-57900958

FCC ID : 2AFZZ16SG

Issued Date : Jan. 04, 2022

Form version. : 200414



**FCC SAR Test Report**

**Report No. : FA1N1013**

	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 0	DSI 2	9262	1852.4	24.40	25.50	1.288	-0.16	0.815	1.050
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 0	DSI 2	9538	1907.6	24.36	25.50	1.300	-0.16	0.812	1.056
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	15mm	Ant 0	DSI 2	9400	1880	24.43	25.50	1.279	-0.19	0.729	0.933
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 4	DSI 4	9400	1880	21.42	22.50	1.282	0.06	0.221	0.283
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 4	DSI 4	9400	1880	21.42	22.50	1.282	0.03	0.289	0.371
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 4	DSI 2	9400	1880	23.36	24.50	1.300	0.01	0.268	0.348
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 4	DSI 4	9400	1880	21.42	22.50	1.282	0.04	0.317	0.406
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 4	DSI 2	9400	1880	23.36	24.50	1.300	-0.14	0.198	0.257
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 4	DSI 2	9400	1880	23.36	24.50	1.300	-0.14	0.234	0.304
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	15mm	Ant 4	DSI 2	9400	1880	23.36	24.50	1.300	0.15	0.201	0.261
	LTE Band 2	20M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 4	18900	1880	19.66	20.50	1.213	0.17	0.176	0.214
	LTE Band 2	20M	QPSK	50	0	-	Front	10mm	Ant 0	DSI 4	18900	1880	19.46	20.50	1.271	0.08	0.175	0.222
	LTE Band 2	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 4	18900	1880	19.66	20.50	1.213	0.02	0.354	0.430
	LTE Band 2	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI 4	18900	1880	19.46	20.50	1.271	0.05	0.342	0.435
	LTE Band 2	20M	QPSK	1	0	-	Left Side	10mm	Ant 0	DSI 2	18900	1880	23.31	24.50	1.315	0.03	0.178	0.234
	LTE Band 2	20M	QPSK	50	0	-	Left Side	10mm	Ant 0	DSI 2	18900	1880	22.29	23.50	1.321	-0.01	0.144	0.190
	LTE Band 2	20M	QPSK	1	0	-	Right Side	10mm	Ant 0	DSI 2	18900	1880	23.31	24.50	1.315	-0.16	0.080	0.105
	LTE Band 2	20M	QPSK	50	0	-	Right Side	10mm	Ant 0	DSI 2	18900	1880	22.29	23.50	1.321	-0.03	0.062	0.082
	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 4	18900	1880	19.66	20.50	1.213	0.05	0.480	0.582
	LTE Band 2	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 0	DSI 4	18900	1880	19.46	20.50	1.271	-0.06	0.481	0.611
	LTE Band 2	20M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 2	18900	1880	23.31	24.50	1.315	-0.07	0.240	0.316
	LTE Band 2	20M	QPSK	1	0	-	Back	20mm	Ant 0	DSI 2	18900	1880	23.31	24.50	1.315	-0.18	0.226	0.297
36	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI 2	18900	1880	23.31	24.50	1.315	0.04	0.613	0.806
	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI 2	18700	1860	23.02	24.50	1.406	0.04	0.569	0.800
	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI 2	19100	1900	23.08	24.50	1.387	-0.01	0.572	0.793
	LTE Band 2	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 4	18900	1880	20.22	21.00	1.197	-0.11	0.162	0.194
	LTE Band 2	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI 4	18900	1880	20.19	21.00	1.205	-0.18	0.164	0.198
	LTE Band 2	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 4	18900	1880	20.22	21.00	1.197	-0.03	0.209	0.250
	LTE Band 2	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 4	18900	1880	20.19	21.00	1.205	0.13	0.203	0.245
	LTE Band 2	20M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI 2	18900	1880	22.53	23.50	1.250	0.06	0.217	0.271
	LTE Band 2	20M	QPSK	50	0	-	Left Side	10mm	Ant 4	DSI 2	18900	1880	21.38	22.50	1.294	0.01	0.173	0.224
	LTE Band 2	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI 4	18900	1880	20.22	21.00	1.197	0.07	0.248	0.297
	LTE Band 2	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI 4	18900	1880	20.19	21.00	1.205	0.09	0.254	0.306
	LTE Band 2	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI 2	18900	1880	22.53	23.50	1.250	-0.14	0.174	0.218
	LTE Band 2	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI 2	18900	1880	22.53	23.50	1.250	-0.17	0.197	0.246
	LTE Band 2	20M	QPSK	1	0	-	Top Side	15mm	Ant 4	DSI 2	18900	1880	22.53	23.50	1.250	-0.13	0.239	0.299



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
<b>2600MHz</b>																				
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 4	21100	2535	20.19	21.00	1.205	-	-	0.12	0.151	0.182
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 0	DSI 4	21100	2535	20.17	21.00	1.211	-	-	0.08	0.152	0.184
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 4	21100	2535	20.19	21.00	1.205	-	-	0.02	0.302	0.364
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI 4	21100	2535	20.17	21.00	1.211	-	-	-0.05	0.307	0.372
	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant 0	DSI 2	21100	2535	24.39	25.50	1.291	-	-	0.15	0.120	0.155
	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant 0	DSI 2	21100	2535	23.56	24.50	1.242	-	-	0.15	0.121	0.150
	LTE Band 7	20M	QPSK	1	0	-	Right Side	10mm	Ant 0	DSI 2	21100	2535	24.39	25.50	1.291	-	-	0.08	0.101	0.130
	LTE Band 7	20M	QPSK	50	0	-	Right Side	10mm	Ant 0	DSI 2	21100	2535	23.56	24.50	1.242	-	-	0.09	0.086	0.107
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 4	21100	2535	20.19	21.00	1.205	-	-	0.07	0.240	0.289
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 0	DSI 4	21100	2535	20.17	21.00	1.211	-	-	0.01	0.222	0.269
	LTE Band 7	20M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 2	21100	2535	24.39	25.50	1.291	-	-	-0.17	0.203	0.262
	LTE Band 7	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 2	21100	2535	24.39	25.50	1.291	-	-	0.09	0.233	0.301
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI 2	21100	2535	24.39	25.50	1.291	-	-	0.01	0.316	0.408
	LTE Band 7C	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI 2	21100+21298	2535+2554.8	24.27	25.50	1.327	-	-	0.03	0.311	0.413
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 4	21100	2535	19.77	20.50	1.183	-	-	-0.05	0.234	0.277
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI 4	21100	2535	19.74	20.50	1.191	-	-	-0.07	0.242	0.288
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 4	21100	2535	19.77	20.50	1.183	-	-	0.08	0.327	0.387
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 4	21100	2535	19.74	20.50	1.191	-	-	-0.18	0.337	0.401
	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI 2	21100	2535	22.67	23.50	1.211	-	-	-0.07	0.390	0.472
	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant 4	DSI 2	21100	2535	21.65	22.50	1.216	-	-	0.07	0.324	0.394
	LTE Band 7	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI 4	21100	2535	19.77	20.50	1.183	-	-	0.17	0.487	0.576
	LTE Band 7	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI 4	21100	2535	19.74	20.50	1.191	-	-	0.07	0.497	0.592
	LTE Band 7	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI 2	21100	2535	22.67	23.50	1.211	-	-	0.09	0.221	0.268
	LTE Band 7	20M	QPSK	1	0	-	Back	20mm	Ant 4	DSI 2	21100	2535	22.67	23.50	1.211	-	-	-0.14	0.150	0.182
37	LTE Band 7	20M	QPSK	1	0	-	Top Side	15mm	Ant 4	DSI 2	21100	2535	22.67	23.50	1.211	-	-	-0.07	0.511	<b>0.619</b>
	LTE Band 7C	20M	QPSK	1	0	-	Top Side	15mm	Ant 4	DSI 2	21100+21298	2535+2554.8	22.58	23.50	1.236	-	-	0.16	0.498	0.616
<b>ENDC</b>																				
	LTE Band 7	20M	QPSK	1	0	-	Top Side	15mm	Ant 4	DSI 2	21100	2535	19.87	20.50	1.156	-	-	-0.01	0.244	0.282
	FR1 n7	20M	QPSK	1	1	DFT-15	Front	10mm	Ant 0	DSI 4	507000	2535	18.66	19.50	1.213	-	-	0.08	0.088	0.107
	FR1 n7	20M	QPSK	50	28	DFT-15	Front	10mm	Ant 0	DSI 4	507000	2535	18.48	19.50	1.265	-	-	0.07	0.092	0.116
	FR1 n7	20M	QPSK	1	1	DFT-15	Back	10mm	Ant 0	DSI 4	507000	2535	18.66	19.50	1.213	-	-	-0.16	0.187	0.227
	FR1 n7	20M	QPSK	50	28	DFT-15	Back	10mm	Ant 0	DSI 4	507000	2535	18.48	19.50	1.265	-	-	-0.11	0.178	0.225
	FR1 n7	20M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 0	DSI 2	507000	2535	24.65	25.50	1.216	-	-	0.11	0.042	0.051
	FR1 n7	20M	QPSK	50	28	DFT-15	Left Side	10mm	Ant 0	DSI 2	507000	2535	24.64	25.50	1.219	-	-	-0.16	0.039	0.048
	FR1 n7	20M	QPSK	1	1	DFT-15	Right Side	10mm	Ant 0	DSI 2	507000	2535	24.65	25.50	1.216	-	-	0.11	0.000	0.000
	FR1 n7	20M	QPSK	50	28	DFT-15	Right Side	10mm	Ant 0	DSI 2	507000	2535	24.64	25.50	1.219	-	-	0.03	0.036	0.044
	FR1 n7	20M	QPSK	1	1	DFT-15	Bottom Side	10mm	Ant 0	DSI 4	507000	2535	18.66	19.50	1.213	-	-	-0.17	0.142	0.172
	FR1 n7	20M	QPSK	50	28	DFT-15	Bottom Side	10mm	Ant 0	DSI 4	507000	2535	18.48	19.50	1.265	-	-	0.15	0.145	0.183
	FR1 n7	20M	QPSK	1	1	DFT-15	Front	15mm	Ant 0	DSI 2	507000	2535	24.65	25.50	1.216	-	-	-0.09	0.051	0.062
	FR1 n7	20M	QPSK	1	1	DFT-15	Back	15mm	Ant 0	DSI 2	507000	2535	24.65	25.50	1.216	-	-	0.08	0.081	0.099
	FR1 n7	20M	QPSK	1	1	DFT-15	Bottom Side	15mm	Ant 0	DSI 2	507000	2535	24.65	25.50	1.216	-	-	0.03	0.086	0.105
	FR1 n7	20M	QPSK	1	1	DFT-15	Front	10mm	Ant 4	DSI 4	507000	2535	19.68	21.00	1.355	-	-	-0.15	0.182	0.247
	FR1 n7	20M	QPSK	50	28	DFT-15	Front	10mm	Ant 4	DSI 4	507000	2535	19.50	21.00	1.413	-	-	-0.11	0.186	0.263
	FR1 n7	20M	QPSK	1	1	DFT-15	Back	10mm	Ant 4	DSI 4	507000	2535	19.68	21.00	1.355	-	-	0.07	0.279	0.378
	FR1 n7	20M	QPSK	50	28	DFT-15	Back	10mm	Ant 4	DSI 4	507000	2535	19.50	21.00	1.413	-	-	-0.11	0.295	0.417
	FR1 n7	20M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 4	DSI 2	507000	2535	23.14	24.50	1.368	-	-	0.02	0.208	0.284
	FR1 n7	20M	QPSK	50	28	DFT-15	Left Side	10mm	Ant 4	DSI 2	507000	2535	22.96	24.50	1.426	-	-	0.08	0.215	0.307
	FR1 n7	20M	QPSK	1	1	DFT-15	Top Side	10mm	Ant 4	DSI 4	507000	2535	19.68	21.00	1.355	-	-	0.08	0.503	0.682
	FR1 n7	20M	QPSK	1	1	DFT-15	Top Side	10mm	Ant 4	DSI 4	502000	2510	19.50	21.00	1.413	-	-	0.17	0.522	0.737
	FR1 n7	20M	QPSK	1	1	DFT-15	Top Side	10mm	Ant 4	DSI 4	512000	2560	19.63	21.00	1.371	-	-	-0.19	0.489	0.670



**FCC SAR Test Report**

**Report No. : FA1N1013**

38	FR1 n7	20M	QPSK	50	28	DFT-15	Top Side	10mm	Ant 4	DSI 4	507000	2535	19.50	21.00	1.413	-	-	0.02	0.535	<b>0.756</b>
	FR1 n7	20M	QPSK	1	1	DFT-15	Front	15mm	Ant 4	DSI 2	507000	2535	23.14	24.50	1.368	-	-	0.01	0.113	0.155
	FR1 n7	20M	QPSK	1	1	DFT-15	Back	15mm	Ant 4	DSI 2	507000	2535	23.14	24.50	1.368	-	-	0.14	0.175	0.239
	FR1 n7	20M	QPSK	1	1	DFT-15	Top Side	15mm	Ant 4	DSI 2	507000	2535	23.14	24.50	1.368	-	-	0.08	0.309	0.423
	LTE Band 41	20M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 4	40620	2593	22.15	23.00	1.216	62.9	1.006	0.05	0.128	0.157
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant 0	DSI 4	40620	2593	22.01	23.00	1.256	62.9	1.006	-0.08	0.135	0.171
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 4	40620	2593	22.15	23.00	1.216	62.9	1.006	0.05	0.265	0.324
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI 4	40620	2593	22.01	23.00	1.256	62.9	1.006	-0.17	0.278	0.351
	LTE Band 41C	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 4	40620+40818	2593+2612.8	22.14	23.00	1.219	62.9	1.006	0.15	0.268	0.329
	LTE Band 41	20M	QPSK	1	0	-	Left Side	10mm	Ant 0	DSI 2	40620	2593	24.68	25.50	1.208	62.9	1.006	0.02	0.065	0.079
	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant 0	DSI 2	40620	2593	23.81	24.50	1.172	62.9	1.006	0.07	0.053	0.062
	LTE Band 41	20M	QPSK	1	0	-	Right Side	10mm	Ant 0	DSI 2	40620	2593	24.68	25.50	1.208	62.9	1.006	0.13	0.046	0.056
	LTE Band 41	20M	QPSK	50	0	-	Right Side	10mm	Ant 0	DSI 2	40620	2593	23.81	24.50	1.172	62.9	1.006	0.02	0.038	0.045
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 4	40620	2593	22.15	23.00	1.216	62.9	1.006	0.15	0.215	0.263
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 0	DSI 4	40620	2593	22.01	23.00	1.256	62.9	1.006	0.04	0.225	0.284
	LTE Band 41	20M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 2	40620	2593	24.68	25.50	1.208	62.9	1.006	0.02	0.133	0.162
	LTE Band 41	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 2	40620	2593	24.68	25.50	1.208	62.9	1.006	-0.18	0.220	0.267
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 0	DSI 2	40620	2593	24.68	25.50	1.208	62.9	1.006	-0.03	0.212	0.258
	LTE Band 41	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 4	40620	2593	21.62	22.00	1.091	62.9	1.006	-0.12	0.130	0.143
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI 4	40620	2593	20.68	22.00	1.355	62.9	1.006	0.07	0.113	0.154
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 4	40620	2593	21.62	22.00	1.091	62.9	1.006	0.05	0.204	0.224
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 4	40620	2593	20.68	22.00	1.355	62.9	1.006	-0.09	0.157	0.214
	LTE Band 41	20M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI 2	40620	2593	22.89	23.50	1.151	62.9	1.006	0.09	0.021	0.024
	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant 4	DSI 2	40620	2593	21.88	22.50	1.153	62.9	1.006	0.16	0.163	0.189
39	LTE Band 41	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI 4	40620	2593	21.62	22.00	1.091	62.9	1.006	-0.19	0.375	<b>0.412</b>
	LTE Band 41C	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI 4	40620+40818	2593+2612.8	21.44	22.00	1.138	62.9	1.006	0.11	0.358	0.410
	LTE Band 41	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI 4	40620	2593	20.68	22.00	1.355	62.9	1.006	-0.18	0.301	0.410
	LTE Band 41	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI 2	40620	2593	22.89	23.50	1.151	62.9	1.006	0.06	0.101	0.117
	LTE Band 41	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI 2	40620	2593	22.89	23.50	1.151	62.9	1.006	-0.05	0.149	0.172
	LTE Band 41	20M	QPSK	1	0	-	Top Side	15mm	Ant 4	DSI 2	40620	2593	22.89	23.50	1.151	62.9	1.006	0.12	0.258	0.299
	FR1 n41	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 0	DSI 4	518598	2592.99	18.69	19.50	1.205	-	-	0.01	0.110	0.133
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 0	DSI 4	518598	2592.99	18.53	19.50	1.250	-	-	0.18	0.104	0.130
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 0	DSI 4	518598	2592.99	18.69	19.50	1.205	-	-	-0.18	0.244	0.294
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 0	DSI 4	518598	2592.99	18.53	19.50	1.250	-	-	-0.05	0.246	0.308
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 0	DSI 2	518598	2592.99	26.24	27.00	1.191	-	-	0.14	0.167	0.199
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 0	DSI 2	518598	2592.99	25.78	27.00	1.324	-	-	0.06	0.160	0.212
	FR1 n41	100M	QPSK	1	1	DFT-30	Right Side	10mm	Ant 0	DSI 2	518598	2592.99	26.24	27.00	1.191	-	-	0.15	0.106	0.126
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Side	10mm	Ant 0	DSI 2	518598	2592.99	25.78	27.00	1.324	-	-	0.07	0.087	0.115
	FR1 n41	100M	QPSK	1	1	DFT-30	Bottom Side	10mm	Ant 0	DSI 4	518598	2592.99	18.69	19.50	1.205	-	-	0.09	0.190	0.229
	FR1 n41	100M	QPSK	135	69	DFT-30	Bottom Side	10mm	Ant 0	DSI 4	518598	2592.99	18.53	19.50	1.250	-	-	0.14	0.168	0.210
	FR1 n41	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 0	DSI 2	518598	2592.99	26.24	27.00	1.191	-	-	0.12	0.206	0.245
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 0	DSI 2	518598	2592.99	26.24	27.00	1.191	-	-	-0.09	0.403	0.480
	FR1 n41	100M	QPSK	1	1	DFT-30	Bottom Side	15mm	Ant 0	DSI 2	518598	2592.99	26.24	27.00	1.191	-	-	-0.02	0.383	0.456
	FR1 n41	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 4	DSI 4	518598	2592.99	19.48	21.00	1.419	-	-	0.03	0.207	0.294
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 4	DSI 4	518598	2592.99	19.30	21.00	1.479	-	-	0.03	0.179	0.265
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 4	DSI 4	518598	2592.99	19.48	21.00	1.419	-	-	-0.05	0.299	0.424
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 4	DSI 4	518598	2592.99	19.30	21.00	1.479	-	-	0.13	0.266	0.393
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 4	DSI 2	518598	2592.99	24.43	26.00	1.435	-	-	-0.07	0.302	0.434
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 4	DSI 2	518598	2592.99	24.27	26.00	1.489	-	-	0.07	0.284	0.423
40	FR1 n41	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 4	DSI 4	518598	2592.99	19.48	21.00	1.419	-	-	-0.01	0.495	<b>0.702</b>
	FR1 n41	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 4	DSI 4	518598	2592.99	19.30	21.00	1.479	-	-	0.01	0.455	0.673
	FR1 n41	100M	QPSK	270	0	DFT-30	Top Side	10mm	Ant 4	DSI 4	518598	2592.99	19.42	21.00	1.439	-	-	0.03	0.398	0.573
	FR1 n41	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 4	DSI 2	518598	2592.99	24.43	26.00	1.435	-	-	0.06	0.182	0.261
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 4	DSI 2	518598	2592.99	24.43	26.00	1.435	-	-	-0.07	0.269	0.386
	FR1 n41	100M	QPSK	1	1	DFT-30	Top Side	15mm	Ant 4	DSI 2	518598	2592.99	24.43	26.00	1.435	-	-	0.16	0.437	0.627



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)	
<b>3500MHz</b>																			
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 3	DSI 4	656000	3840	16.72	17.00	1.067	0.08	0.118	0.126	
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 3	DSI 4	656000	3840	16.66	17.00	1.081	0.13	0.117	0.127	
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 3	DSI 4	656000	3840	16.72	17.00	1.067	-0.07	0.172	0.183	
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 3	DSI 4	656000	3840	16.66	17.00	1.081	0.06	0.158	0.171	
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 3	DSI 2	656000	3840	16.72	17.00	1.067	-0.18	0.175	0.187	
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 3	DSI 2	656000	3840	16.66	17.00	1.081	-0.05	0.176	0.190	
	FR1 n77	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 3	DSI 2	656000	3840	16.72	17.00	1.067	0.09	0.058	0.062	
	FR1 n77	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 3	DSI 2	656000	3840	16.66	17.00	1.081	0.06	0.055	0.059	
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 3	DSI 4	633334	3500.01	16.58	17.00	1.102	0.05	0.150	0.165	
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 3	DSI 4	633334	3500.01	16.48	17.00	1.127	0.07	0.148	0.167	
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 3	DSI 4	633334	3500.01	16.58	17.00	1.102	0.07	0.196	0.216	
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 3	DSI 4	633334	3500.01	16.48	17.00	1.127	0.03	0.199	0.224	
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 3	DSI 2	633334	3500.01	16.58	17.00	1.102	-0.03	0.250	0.275	
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 3	DSI 2	633334	3500.01	16.48	17.00	1.127	-0.17	0.218	0.246	
	FR1 n77	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 3	DSI 2	633334	3500.01	16.58	17.00	1.102	0.15	0.087	0.096	
	FR1 n77	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 3	DSI 2	633334	3500.01	16.48	17.00	1.127	0.02	0.109	0.123	
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 5	DSI 4	656000	3840	15.89	17.00	1.291	-0.16	0.121	0.156	
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 5	DSI 4	656000	3840	15.76	17.00	1.330	0.1	0.133	0.177	
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 5	DSI 4	656000	3840	15.89	17.00	1.291	0.02	0.202	0.261	
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 5	DSI 4	656000	3840	15.76	17.00	1.330	0.09	0.217	0.289	
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Side	10mm	Ant 5	DSI 2	656000	3840	22.89	24.00	1.291	0.090	0.312	0.403	
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Side	10mm	Ant 5	DSI 2	656000	3840	22.85	24.00	1.303	-0.090	0.353	0.460	
	FR1 n77	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 5	DSI 4	656000	3840	15.89	17.00	1.291	-0.180	0.202	0.261	
	FR1 n77	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 5	DSI 4	656000	3840	15.76	17.00	1.330	-0.070	0.207	0.275	
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 5	DSI 2	656000	3840	22.89	24.00	1.291	-0.120	0.274	0.354	
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	20mm	Ant 5	DSI 2	656000	3840	22.89	24.00	1.291	0.010	0.330	0.426	
	FR1 n77	100M	QPSK	1	1	DFT-30	Top Side	15mm	Ant 5	DSI 2	656000	3840	22.89	24.00	1.291	0.050	0.435	0.562	
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 5	DSI 4	633334	3500.01	15.36	17.00	1.459	0.03	0.094	0.137	
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 5	DSI 4	633334	3500.01	15.35	17.00	1.462	0.08	0.106	0.155	
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 5	DSI 4	633334	3500.01	15.36	17.00	1.459	-0.10	0.405	0.591	
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 5	DSI 4	633334	3500.01	15.35	17.00	1.462	0.06	0.409	0.598	
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Side	10mm	Ant 5	DSI 2	633334	3500.01	22.36	24.00	1.459	0.06	0.299	0.436	
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Side	10mm	Ant 5	DSI 2	633334	3500.01	22.35	24.00	1.462	-0.05	0.306	0.447	
	FR1 n77	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 5	DSI 4	633334	3500.01	15.36	17.00	1.459	-0.05	0.106	0.155	
	FR1 n77	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 5	DSI 4	633334	3500.01	15.35	17.00	1.462	0.13	0.111	0.162	
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 5	DSI 2	633334	3500.01	22.36	24.00	1.459	0.07	0.196	0.286	
41	FR1 n77	100M	QPSK	1	1	DFT-30	Back	20mm	Ant 5	DSI 2	633334	3500.01	22.36	24.00	1.459	0.03	0.500	0.729	
	FR1 n77	100M	QPSK	1	1	DFT-30	Top Side	15mm	Ant 5	DSI 2	633334	3500.01	22.36	24.00	1.459	0.18	0.226	0.330	



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
<b>2450MHz</b>																
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	ANT 6	Full	6	2437	19.09	20.50	1.384	99.3	1.007	0.08	0.159	0.222
42	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	ANT 6	Full	6	2437	19.09	20.50	1.384	99.3	1.007	0.02	0.203	<b>0.283</b>
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	ANT 6	Full	6	2437	19.09	20.50	1.384	99.3	1.007	0.17	0.195	0.272
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	ANT 6	Full	6	2437	19.09	20.50	1.384	99.3	1.007	0.09	0.135	0.188
43	Bluetooth	1Mbps	Back	10mm	ANT 6	Full	39	2441	9.81	11.00	1.315	77.38	1.292	0.08	0.013	<b>0.022</b>
<b>5000MHz</b>																
	WLAN5.2GHz	802.11a 6Mbps	Front	10mm	ANT 6	Full	48	5240	18.11	18.50	1.094	97.6	1.025	0.08	0.224	0.251
44	WLAN5.2GHz	802.11a 6Mbps	Back	10mm	ANT 6	Full	48	5240	18.11	18.50	1.094	97.6	1.025	-0.03	0.394	<b>0.442</b>
	WLAN5.2GHz	802.11a 6Mbps	Right Side	10mm	ANT 6	Full	48	5240	18.11	18.50	1.094	97.6	1.025	0.03	0.147	0.165
	WLAN5.2GHz	802.11a 6Mbps	Top Side	10mm	ANT 6	Full	48	5240	18.11	18.50	1.094	97.6	1.025	0.16	0.350	0.392
	WLAN5.2GHz	802.11a 6Mbps	Top Side	10mm	ANT 6	Full	48	5240	18.11	18.50	1.094	97.6	1.025	-0.13	0.342	0.383
	WLAN5.2GHz	802.11a 6Mbps	Top Side	10mm	ANT 6	Full	48	5240	18.11	18.50	1.094	97.6	1.025	0.14	0.350	0.392
	WLAN5.8GHz	802.11a 6Mbps	Front	10mm	ANT 6	Full	149	5745	16.51	18.00	1.409	97.6	1.025	-0.07	0.256	0.370
	WLAN5.8GHz	802.11a 6Mbps	Back	10mm	ANT 6	Full	149	5745	16.51	18.00	1.409	97.6	1.025	-0.09	0.364	0.526
	WLAN5.8GHz	802.11a 6Mbps	Right Side	10mm	ANT 6	Full	149	5745	16.51	18.00	1.409	97.6	1.025	-0.15	0.222	0.321
45	WLAN5.8GHz	802.11a 6Mbps	Top Side	10mm	ANT 6	Full	149	5745	16.51	18.00	1.409	97.6	1.025	0.06	0.476	<b>0.688</b>



15.3 Body Worn Accessory SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	
<b>750MHz</b>																			
	LTE Band 12	10M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 4	23095	707.5	24.69	25.50	1.205	0.15	0.136	0.164	
	LTE Band 12	10M	QPSK	25	0	-	Front	10mm	Ant 0	DSI 4	23095	707.5	23.89	24.50	1.151	-0.09	0.113	0.130	
46	LTE Band 12	10M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 4	23095	707.5	24.69	25.50	1.205	-0.01	0.226	<b>0.272</b>	
	LTE Band 12	10M	QPSK	25	0	-	Back	10mm	Ant 0	DSI 4	23095	707.5	23.89	24.50	1.151	0.16	0.180	0.207	
	LTE Band 12	10M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 4	23095	707.5	24.76	25.50	1.186	-0.01	0.087	0.103	
	LTE Band 12	10M	QPSK	25	0	-	Front	10mm	Ant 4	DSI 4	23095	707.5	23.78	24.50	1.180	0.03	0.077	0.091	
	LTE Band 12	10M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 4	23095	707.5	24.76	25.50	1.186	-0.19	0.164	0.194	
	LTE Band 12	10M	QPSK	25	0	-	Back	10mm	Ant 4	DSI 4	23095	707.5	23.78	24.50	1.180	-0.19	0.126	0.149	
	LTE Band 13	10M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 4	23230	782	24.55	25.50	1.245	0.01	0.146	0.182	
	LTE Band 13	10M	QPSK	25	0	-	Front	10mm	Ant 0	DSI 4	23230	782	23.65	24.50	1.216	0.05	0.120	0.146	
47	LTE Band 13	10M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 4	23230	782	24.55	25.50	1.245	-0.04	0.260	<b>0.324</b>	
	LTE Band 13	10M	QPSK	25	0	-	Back	10mm	Ant 0	DSI 4	23230	782	23.65	24.50	1.216	-0.05	0.218	0.265	
	LTE Band 13	10M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 4	23230	782	24.68	25.50	1.208	0.12	0.128	0.155	
	LTE Band 13	10M	QPSK	25	0	-	Front	10mm	Ant 4	DSI 4	23230	782	23.62	24.50	1.225	0.03	0.105	0.129	
	LTE Band 13	10M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 4	23230	782	24.68	25.50	1.208	-0.09	0.202	0.244	
	LTE Band 13	10M	QPSK	25	0	-	Back	10mm	Ant 4	DSI 4	23230	782	23.62	24.50	1.225	0.09	0.162	0.198	
<b>835MHz</b>																			
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 0	DSI 4	189	836.4	26.32	27.50	1.312	-0.01	0.182	0.239	
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 0	DSI 4	189	836.4	26.32	27.50	1.312	-0.11	0.248	0.325	
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 4	DSI 4	189	836.4	26.54	27.50	1.247	-0.03	0.160	0.200	
48	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 4	DSI 4	189	836.4	26.54	27.50	1.247	-0.02	0.276	<b>0.344</b>	
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 0	DSI 4	4182	836.4	24.78	25.50	1.180	0.09	0.263	0.310	
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 0	DSI 4	4182	836.4	24.78	25.50	1.180	-0.05	0.427	0.504	
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 4	DSI 4	4182	836.4	24.73	25.50	1.194	0.08	0.216	0.258	
49	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 4	DSI 4	4182	836.4	24.73	25.50	1.194	-0.05	0.357	<b>0.510</b>	
	LTE Band 26	15M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 4	26865	831.5	24.44	25.50	1.276	0.12	0.263	0.336	
	LTE Band 26	15M	QPSK	36	0	-	Front	10mm	Ant 0	DSI 4	26865	831.5	23.50	24.50	1.259	0.07	0.206	0.259	
50	LTE Band 26	15M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 4	26865	831.5	24.44	25.50	1.276	-0.03	0.342	<b>0.437</b>	
	LTE Band 26	15M	QPSK	36	0	-	Back	10mm	Ant 0	DSI 4	26865	831.5	23.50	24.50	1.259	0.03	0.339	0.427	
	LTE Band 26	15M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 4	26865	831.5	24.48	25.50	1.265	-0.12	0.226	0.286	
	LTE Band 26	15M	QPSK	36	0	-	Front	10mm	Ant 4	DSI 4	26865	831.5	23.54	24.50	1.247	0.03	0.187	0.233	
	LTE Band 26	15M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 4	26865	831.5	24.48	25.50	1.265	-0.06	0.345	0.436	
	LTE Band 26	15M	QPSK	36	0	-	Back	10mm	Ant 4	DSI 4	26865	831.5	23.54	24.50	1.247	0.05	0.326	0.407	
	FR1 n5	20M	QPSK	1	1	DFT-15	Front	10mm	Ant 0	DSI 4	167300	836.5	25.26	25.50	1.057	0.05	0.234	0.247	
	FR1 n5	20M	QPSK	50	28	DFT-15	Front	10mm	Ant 0	DSI 4	167300	836.5	25.26	25.50	1.057	0.02	0.234	0.247	
	FR1 n5	20M	QPSK	1	1	DFT-15	Back	10mm	Ant 0	DSI 4	167300	836.5	25.26	25.50	1.057	-0.03	0.389	0.411	
51	FR1 n5	20M	QPSK	50	28	DFT-15	Back	10mm	Ant 0	DSI 4	167300	836.5	25.26	25.50	1.057	-0.16	0.391	<b>0.413</b>	
	FR1 n5	20M	QPSK	1	1	DFT-15	Front	10mm	Ant 4	DSI 4	167300	836.5	24.97	25.50	1.130	-0.1	0.190	0.215	
	FR1 n5	20M	QPSK	50	28	DFT-15	Front	10mm	Ant 4	DSI 4	167300	836.5	24.87	25.50	1.156	0.03	0.203	0.235	
	FR1 n5	20M	QPSK	1	1	DFT-15	Back	10mm	Ant 4	DSI 4	167300	836.5	24.97	25.50	1.130	0.09	0.307	0.347	
	FR1 n5	20M	QPSK	50	28	DFT-15	Back	10mm	Ant 4	DSI 4	167300	836.5	24.87	25.50	1.156	-0.02	0.350	0.405	
<b>1750MHz</b>																			
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 0	DSI 4	1413	1732.6	22.65	23.50	1.216	-0.04	0.112	0.136	
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 0	DSI 4	1413	1732.6	22.65	23.50	1.216	0.09	0.203	0.247	
52	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 0	DSI 2	1413	1732.6	24.88	25.50	1.153	0.02	0.232	<b>0.268</b>	
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 0	DSI 2	1413	1732.6	24.88	25.50	1.153	0.05	0.095	0.110	
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 4	DSI 4	1413	1732.6	22.51	23.50	1.256	0.16	0.145	0.182	
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 4	DSI 4	1413	1732.6	22.51	23.50	1.256	-0.07	0.173	0.217	
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 4	DSI 2	1413	1732.6	23.83	24.50	1.167	0.11	0.126	0.147	



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	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 4	DSI 2	1413	1732.6	23.83	24.50	1.167	0.09	0.111	0.130	
	LTE Band 4	20M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 4	20175	1732.5	21.69	22.50	1.205	-0.1	0.144	0.174	
	LTE Band 4	20M	QPSK	50	0	-	Front	10mm	Ant 0	DSI 4	20175	1732.5	21.32	22.50	1.312	0.18	0.148	0.194	
	LTE Band 4	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 4	20175	1732.5	21.69	22.50	1.205	0.09	0.409	0.493	
53	LTE Band 4	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI 4	20175	1732.5	21.32	22.50	1.312	0.05	0.411	<b>0.539</b>	
	LTE Band 4	20M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 2	20175	1732.5	24.25	25.50	1.334	0.17	0.152	0.203	
	LTE Band 4	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 2	20175	1732.5	24.25	25.50	1.334	-0.05	0.379	0.505	
	LTE Band 4	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 4	20175	1732.5	22.32	23.50	1.312	0.08	0.097	0.127	
	LTE Band 4	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI 4	20175	1732.5	22.27	23.50	1.327	0.05	0.102	0.135	
	LTE Band 4	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 4	20175	1732.5	22.32	23.50	1.312	0.14	0.122	0.160	
	LTE Band 4	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 4	20175	1732.5	22.27	23.50	1.327	-0.01	0.127	0.169	
	LTE Band 4	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI 2	20175	1732.5	23.46	24.50	1.271	0.18	0.071	0.090	
	LTE Band 4	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI 2	20175	1732.5	23.46	24.50	1.271	0.09	0.059	0.075	
	LTE Band 66	20M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 4	132322	1745	19.64	20.50	1.219	-0.17	0.111	0.135	
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant 0	DSI 4	132322	1745	19.35	20.50	1.303	0.06	0.109	0.142	
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 4	132322	1745	19.64	20.50	1.219	-0.04	0.292	0.356	
54	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI 4	132322	1745	19.35	20.50	1.303	-0.15	0.293	<b>0.382</b>	
	LTE Band 66	20M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 2	132322	1745	23.35	24.50	1.303	0.06	0.144	0.188	
	LTE Band 66	20M	QPSK	1	0	-	Back	20mm	Ant 0	DSI 2	132322	1745	23.35	24.50	1.303	-0.16	0.182	0.237	
	LTE Band 66	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 4	132322	1745	21.80	22.50	1.175	0.03	0.096	0.113	
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI 4	132322	1745	21.72	22.50	1.197	-0.02	0.096	0.115	
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 4	132322	1745	21.80	22.50	1.175	-0.13	0.114	0.134	
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 4	132322	1745	21.72	22.50	1.197	0.02	0.111	0.133	
	LTE Band 66	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI 2	132322	1745	22.55	23.50	1.245	0.06	0.100	0.124	
	LTE Band 66	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI 2	132322	1745	22.55	23.50	1.245	-0.04	0.094	0.117	
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	10mm	Ant 0	DSI 4	349000	1745	20.38	21.50	1.294	0.01	0.111	0.144	
	FR1 n66	40M	QPSK	108	54	DFT-15	Front	10mm	Ant 0	DSI 4	349000	1745	20.25	21.50	1.334	-0.03	0.113	0.151	
55	FR1 n66	40M	QPSK	1	1	DFT-15	Back	10mm	Ant 0	DSI 4	349000	1745	20.38	21.50	1.294	-0.03	0.322	<b>0.417</b>	
	FR1 n66	40M	QPSK	108	54	DFT-15	Back	10mm	Ant 0	DSI 4	349000	1745	20.25	21.50	1.334	-0.14	0.304	0.405	
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	15mm	Ant 0	DSI 2	349000	1745	24.26	25.50	1.330	0.03	0.069	0.092	
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	15mm	Ant 0	DSI 2	349000	1745	24.26	25.50	1.330	0.04	0.172	0.229	
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	10mm	Ant 4	DSI 4	349000	1745	22.41	23.50	1.285	0.08	0.089	0.114	
	FR1 n66	40M	QPSK	108	54	DFT-15	Front	10mm	Ant 4	DSI 4	349000	1745	22.27	23.50	1.327	-0.02	0.096	0.127	
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	10mm	Ant 4	DSI 4	349000	1745	22.41	23.50	1.285	-0.16	0.119	0.153	
	FR1 n66	40M	QPSK	108	54	DFT-15	Back	10mm	Ant 4	DSI 4	349000	1745	22.27	23.50	1.327	-0.02	0.126	0.167	
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	15mm	Ant 4	DSI 2	349000	1745	23.44	24.50	1.276	0.06	0.064	0.082	
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	15mm	Ant 4	DSI 2	349000	1745	23.44	24.50	1.276	0.01	0.059	0.075	
<b>1900MHz</b>																			
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 0	DSI 4	661	1880	23.15	24.50	1.365	0.15	0.164	0.224	
56	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 0	DSI 4	661	1880	23.15	24.50	1.365	-0.08	0.473	<b>0.645</b>	
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 4	DSI 4	661	1880	23.17	24.50	1.358	-0.06	0.186	0.253	
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 4	DSI 4	661	1880	23.17	24.50	1.358	0.10	0.238	0.323	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 0	DSI 4	9400	1880	21.33	22.50	1.309	0.12	0.269	0.352	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 0	DSI 4	9400	1880	21.33	22.50	1.309	-0.08	0.554	0.725	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 0	DSI 2	9400	1880	24.43	25.50	1.279	0.03	0.335	0.429	
57	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 0	DSI 2	9400	1880	24.43	25.50	1.279	-0.16	0.848	<b>1.085</b>	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 0	DSI 2	9262	1852.4	24.40	25.50	1.288	-0.16	0.815	1.050	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 0	DSI 2	9538	1907.6	24.36	25.50	1.300	-0.16	0.812	1.056	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 4	DSI 4	9400	1880	21.42	22.50	1.282	0.06	0.221	0.283	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 4	DSI 4	9400	1880	21.42	22.50	1.282	0.03	0.289	0.371	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 4	DSI 2	9400	1880	23.36	24.50	1.300	-0.14	0.198	0.257	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 4	DSI 2	9400	1880	23.36	24.50	1.300	-0.14	0.234	0.304	
	LTE Band 2	20M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 4	18900	1880	19.66	20.50	1.213	0.17	0.176	0.214	
	LTE Band 2	20M	QPSK	50	0	-	Front	10mm	Ant 0	DSI 4	18900	1880	19.46	20.50	1.271	0.08	0.175	0.222	
58	LTE Band 2	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 4	18900	1880	19.66	20.50	1.213	0.02	0.354	<b>0.430</b>	
	LTE Band 2	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI 4	18900	1880	19.46	20.50	1.271	0.05	0.332	0.422	

**Sporton International (Kunshan) Inc.**

TEL : 86-512-57900158 / FAX : 86-512-57900958

FCC ID : 2AFZZ16SG

Issued Date : Jan. 04, 2022

Form version. : 200414



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LTE Band 2	20M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 2	18900	1880	23.31	24.50	1.315	-0.07	0.240	0.316
LTE Band 2	20M	QPSK	1	0	-	Back	20mm	Ant 0	DSI 2	18900	1880	23.31	24.50	1.315	-0.18	0.226	0.297
LTE Band 2	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 4	18900	1880	20.22	21.00	1.197	-0.11	0.162	0.194
LTE Band 2	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI 4	18900	1880	20.19	21.00	1.205	-0.18	0.164	0.198
LTE Band 2	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 4	18900	1880	20.22	21.00	1.197	-0.03	0.209	0.250
LTE Band 2	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 4	18900	1880	20.19	21.00	1.205	0.13	0.203	0.245
LTE Band 2	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI 2	18900	1880	22.53	23.50	1.250	-0.14	0.174	0.218
LTE Band 2	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI 2	18900	1880	22.53	23.50	1.250	-0.17	0.197	0.246

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
<b>2600MHz</b>																				
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 4	21100	2535	20.19	21.00	1.205	-	-	0.12	0.151	0.182
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 0	DSI 4	21100	2535	20.17	21.00	1.211	-	-	0.08	0.152	0.184
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 4	21100	2535	20.19	21.00	1.205	-	-	0.02	0.302	0.364
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI 4	21100	2535	20.17	21.00	1.211	-	-	-0.05	0.307	0.372
	LTE Band 7C	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI 4	21100+21298	2535+2554.8	20.01	21.00	1.256	-	-	0.01	0.295	0.371
	LTE Band 7	20M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 2	21100	2535	24.39	25.50	1.291	-	-	-0.17	0.203	0.262
	LTE Band 7	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 2	21100	2535	24.39	25.50	1.291	-	-	0.09	0.233	0.301
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 4	21100	2535	19.77	20.50	1.183	-	-	-0.05	0.234	0.277
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI 4	21100	2535	19.74	20.50	1.191	-	-	-0.07	0.242	0.288
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 4	21100	2535	19.77	20.50	1.183	-	-	0.08	0.327	0.387
59	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 4	21100	2535	19.74	20.50	1.191	-	-	-0.18	0.337	<b>0.401</b>
	LTE Band 7C	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 4	21100+21298	2535+2554.8	19.67	20.50	1.211	-	-	0.09	0.319	0.386
	LTE Band 7	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI 2	21100	2535	22.67	23.50	1.211	-	-	0.09	0.221	0.268
	LTE Band 7	20M	QPSK	1	0	-	Back	20mm	Ant 4	DSI 2	21100	2535	22.67	23.50	1.211	-	-	-0.14	0.150	0.182
	FR1 n7	20M	QPSK	1	1	DFT-15	Front	10mm	Ant 0	DSI 4	507000	2535	18.66	19.50	1.213	-	-	0.08	0.088	0.107
	FR1 n7	20M	QPSK	50	28	DFT-15	Front	10mm	Ant 0	DSI 4	507000	2535	18.48	19.50	1.265	-	-	0.07	0.092	0.116
	FR1 n7	20M	QPSK	1	1	DFT-15	Back	10mm	Ant 0	DSI 4	507000	2535	18.66	19.50	1.213	-	-	-0.16	0.187	0.227
	FR1 n7	20M	QPSK	50	28	DFT-15	Back	10mm	Ant 0	DSI 4	507000	2535	18.48	19.50	1.265	-	-	-0.11	0.178	0.225
	FR1 n7	20M	QPSK	1	1	DFT-15	Front	15mm	Ant 0	DSI 2	507000	2535	24.65	25.50	1.216	-	-	-0.09	0.051	0.062
	FR1 n7	20M	QPSK	1	1	DFT-15	Back	15mm	Ant 0	DSI 2	507000	2535	24.65	25.50	1.216	-	-	0.08	0.081	0.099
	FR1 n7	20M	QPSK	1	1	DFT-15	Front	10mm	Ant 4	DSI 4	507000	2535	19.68	21.00	1.355	-	-	-0.15	0.182	0.247
	FR1 n7	20M	QPSK	50	28	DFT-15	Front	10mm	Ant 4	DSI 4	507000	2535	19.50	21.00	1.413	-	-	-0.11	0.186	0.263
	FR1 n7	20M	QPSK	1	1	DFT-15	Back	10mm	Ant 4	DSI 4	507000	2535	19.68	21.00	1.355	-	-	0.07	0.279	0.378
60	FR1 n7	20M	QPSK	50	28	DFT-15	Back	10mm	Ant 4	DSI 4	507000	2535	19.50	21.00	1.413	-	-	-0.11	0.295	<b>0.417</b>
	FR1 n7	20M	QPSK	1	1	DFT-15	Front	15mm	Ant 4	DSI 2	507000	2535	23.14	24.50	1.368	-	-	0.01	0.113	0.155
	FR1 n7	20M	QPSK	1	1	DFT-15	Back	15mm	Ant 4	DSI 2	507000	2535	23.14	24.50	1.368	-	-	0.14	0.175	0.239
	LTE Band 41	20M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 4	40620	2593	22.15	23.00	1.216	62.9	1.006	0.05	0.128	0.157
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant 0	DSI 4	40620	2593	22.01	23.00	1.256	62.9	1.006	-0.08	0.135	0.171
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 4	40620	2593	22.15	23.00	1.216	62.9	1.006	0.05	0.265	0.324
61	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI 4	40620	2593	22.01	23.00	1.256	62.9	1.006	-0.17	0.278	<b>0.351</b>
	LTE Band 41C	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI 4	40620+40818	2593+2612.8	21.89	23.00	1.291	62.9	1.006	0.15	0.268	0.348
	LTE Band 41	20M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 2	40620	2593	24.68	25.50	1.208	62.9	1.006	0.02	0.133	0.162
	LTE Band 41	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 2	40620	2593	24.68	25.50	1.208	62.9	1.006	-0.18	0.220	0.267
	LTE Band 41	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 4	40620	2593	21.62	22.00	1.091	62.9	1.006	-0.12	0.130	0.143
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI 4	40620	2593	20.68	22.00	1.355	62.9	1.006	0.07	0.113	0.154
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 4	40620	2593	21.62	22.00	1.091	62.9	1.006	0.05	0.204	0.224
	LTE Band 41C	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 4	40620+40818	2593+2612.8	21.44	22.00	1.138	62.9	1.006	0.02	0.195	0.223
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 4	40620	2593	20.68	22.00	1.355	62.9	1.006	-0.09	0.157	0.214
	LTE Band 41	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI 2	40620	2593	22.89	23.50	1.151	62.9	1.006	0.06	0.101	0.117
	LTE Band 41	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI 2	40620	2593	22.89	23.50	1.151	62.9	1.006	-0.05	0.149	0.172
	FR1 n41	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 0	DSI 4	518598	2592.99	18.69	19.50	1.205	-	-	0.01	0.110	0.133

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Form version. : 200414



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	FR1 n41	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 0	DSI 4	518598	2592.99	18.53	19.50	1.250	-	-	0.18	0.104	0.130
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 0	DSI 4	518598	2592.99	18.69	19.50	1.205	-	-	-0.18	0.244	0.294
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 0	DSI 4	518598	2592.99	18.53	19.50	1.250	-	-	-0.05	0.246	0.308
	FR1 n41	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 0	DSI 2	518598	2592.99	26.24	27.00	1.191	-	-	0.12	0.206	0.245
62	FR1 n41	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 0	DSI 2	518598	2592.99	26.24	27.00	1.191	-	-	-0.09	0.403	0.480
	FR1 n41	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 4	DSI 4	518598	2592.99	19.48	21.00	1.419	-	-	0.03	0.207	0.294
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 4	DSI 4	518598	2592.99	19.30	21.00	1.479	-	-	0.03	0.179	0.265
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 4	DSI 4	518598	2592.99	19.48	21.00	1.419	-	-	-0.05	0.299	0.424
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 4	DSI 4	518598	2592.99	19.30	21.00	1.479	-	-	0.13	0.266	0.393
	FR1 n41	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 4	DSI 2	518598	2592.99	24.43	26.00	1.435	-	-	0.06	0.182	0.261
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 4	DSI 2	518598	2592.99	24.43	26.00	1.435	-	-	-0.07	0.269	0.386

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)	
<b>3500MHz</b>																			
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 3	DSI 4	656000	3840	16.72	17.00	1.067	0.08	0.118	0.126	
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 3	DSI 4	656000	3840	16.66	17.00	1.081	0.13	0.117	0.127	
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 3	DSI 4	656000	3840	16.72	17.00	1.067	-0.07	0.172	0.183	
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 3	DSI 4	656000	3840	16.66	17.00	1.081	0.06	0.158	0.171	
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 3	DSI 4	633334	3500.01	16.58	17.00	1.102	0.05	0.150	0.165	
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 3	DSI 4	633334	3500.01	16.48	17.00	1.127	0.07	0.148	0.167	
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 3	DSI 4	633334	3500.01	16.58	17.00	1.102	0.07	0.196	0.216	
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 3	DSI 4	633334	3500.01	16.48	17.00	1.127	0.03	0.199	0.224	
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 5	DSI 4	656000	3840	15.89	17.00	1.291	-0.16	0.121	0.156	
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 5	DSI 4	656000	3840	15.76	17.00	1.330	0.1	0.133	0.177	
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 5	DSI 4	656000	3840	15.89	17.00	1.291	0.02	0.202	0.261	
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 5	DSI 4	656000	3840	15.76	17.00	1.330	0.09	0.217	0.289	
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 5	DSI 2	656000	3840	22.89	24.00	1.291	-0.120	0.274	0.354	
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	20mm	Ant 5	DSI 2	656000	3840	22.89	24.00	1.291	0.010	0.330	0.426	
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 5	DSI 4	633334	3500.01	15.36	17.00	1.459	0.03	0.094	0.137	
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 5	DSI 4	633334	3500.01	15.35	17.00	1.462	0.08	0.106	0.155	
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 5	DSI 4	633334	3500.01	15.36	17.00	1.459	-0.10	0.405	0.591	
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 5	DSI 4	633334	3500.01	15.35	17.00	1.462	0.06	0.409	0.598	
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 5	DSI 2	633334	3500.01	22.36	24.00	1.459	0.07	0.196	0.286	
63	FR1 n77	100M	QPSK	1	1	DFT-30	Back	20mm	Ant 5	DSI 2	633334	3500.01	22.36	24.00	1.459	0.03	0.500	0.729	



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
<b>2450MHz</b>																
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	ANT 6	Full	6	2437	19.09	20.50	1.384	99.3	1.007	0.08	0.159	0.222
64	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	ANT 6	Full	6	2437	19.09	20.50	1.384	99.3	1.007	0.02	0.203	<b>0.283</b>
65	Bluetooth	1Mbps	Back	10mm	ANT 6	Full	39	2441	9.81	11.00	1.315	77.38	1.292	0.08	0.013	<b>0.022</b>
<b>5000MHz</b>																
	WLAN5.3GHz	802.11a 6Mbps	Front	10mm	ANT 6	Full	64	5320	18.21	18.50	1.069	97.6	1.025	0.02	0.352	0.386
66	WLAN5.3GHz	802.11a 6Mbps	Back	10mm	ANT 6	Full	64	5320	18.21	18.50	1.069	97.6	1.025	-0.01	0.472	<b>0.517</b>
	WLAN5.5GHz	802.11a 6Mbps	Front	10mm	ANT 6	Full	124	5620	18.15	18.50	1.084	97.6	1.025	0.03	0.364	0.404
67	WLAN5.5GHz	802.11a 6Mbps	Back	10mm	ANT 6	Full	124	5620	18.15	18.50	1.084	97.6	1.025	-0.03	0.480	<b>0.533</b>
	WLAN5.8GHz	802.11a 6Mbps	Front	10mm	ANT 6	Full	149	5745	16.51	18.00	1.409	97.6	1.025	-0.07	0.256	0.370
68	WLAN5.8GHz	802.11a 6Mbps	Back	10mm	ANT 6	Full	149	5745	16.51	18.00	1.409	97.6	1.025	-0.09	0.364	<b>0.526</b>



15.4 Product Specific SAR

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
<b>5000MHz</b>																
	WLAN5.3GHz	802.11a 6Mbps	Front	0mm	ANT 6	Full	64	5320	18.21	18.50	1.069	97.6	1.025	0.03	0.661	0.724
	WLAN5.3GHz	802.11a 6Mbps	Back	0mm	ANT 6	Full	64	5320	18.21	18.50	1.069	97.6	1.025	0.05	0.618	0.677
	WLAN5.3GHz	802.11a 6Mbps	Right Side	0mm	ANT 6	Full	64	5320	18.21	18.50	1.069	97.6	1.025	0.03	0.558	0.611
69	WLAN5.3GHz	802.11a 6Mbps	Top Side	0mm	ANT 6	Full	64	5320	18.21	18.50	1.069	97.6	1.025	-0.05	1.240	<b>1.359</b>
	WLAN5.5GHz	802.11a 6Mbps	Front	0mm	ANT 6	Full	124	5620	18.15	18.50	1.084	97.6	1.025	-0.13	0.553	0.614
	WLAN5.5GHz	802.11a 6Mbps	Back	0mm	ANT 6	Full	124	5620	18.15	18.50	1.084	97.6	1.025	0.17	0.521	0.579
	WLAN5.5GHz	802.11a 6Mbps	Right Side	0mm	ANT 6	Full	124	5620	18.15	18.50	1.084	97.6	1.025	0.11	0.462	0.513
70	WLAN5.5GHz	802.11a 6Mbps	Top Side	0mm	ANT 6	Full	124	5620	18.15	18.50	1.084	97.6	1.025	-0.04	1.260	<b>1.400</b>



15.5 Repeated SAR Measurement

<1g>

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)	Ratio	Reported 1g SAR (W/kg)
1st	WCDMA IV	RMC 12.2Kbps	Bottom Side	10mm	Ant 0	DSI 4	1413	1732.6	22.65	23.50	1.216	-0.13	0.837	1	1.018
2nd	WCDMA IV	RMC 12.2Kbps	Bottom Side	10mm	Ant 0	DSI 4	1413	1732.6	22.65	23.50	1.216	0.07	0.812	1.031	0.988
1st	WCDMA II	RMC 12.2Kbps	Back	15mm	Ant 0	DSI 2	9400	1880	24.43	25.50	1.279	-0.16	0.848	1	1.085
2nd	WCDMA II	RMC 12.2Kbps	Back	15mm	Ant 0	DSI 2	9400	1880	24.43	25.50	1.279	-0.11	0.822	1.032	1.052

General Note:

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

## 16. Simultaneous Transmission Analysis

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

**General Note:**

1. This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP) and LTE supports VoLTE operation.
2. WWAN above includes 5G NR bands.
3. EN-DC SAR summed the standalone 5G NR SAR and LTE standalone SAR more conservatively.
4. EUT will choose each GSM, WCDMA, LTE and 5G NR according to the network signal condition; therefore, they will not operate simultaneously at any moment.
5. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
6. This device 2.4GHz WLAN/ 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WLAN Direct (GC/GO), and 5.3GHz / 5.5GHz supports WLAN Direct (GC only).
7. WLAN2.4GHz and Bluetooth share the same antenna, so can't transmit simultaneously.
8. According to the characteristic of EUT, WLAN5GHz and Bluetooth can transmit simultaneously.
9. According to the EUT character, WLAN 2.4GHz and WLAN 5GHz cannot transmit simultaneously.
10. For simultaneously analysis, since the SAR summation of 3 transmitters can cover others combination of 2 transmitters, therefore in this section did not additional to evaluate 2TX combination of simultaneously transmission.
11. The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
12. Chose the worst zoom scan SAR of WLAN correspondingly for co-located with WWAN analysis.
13. The reported SAR summation is calculated based on the same configuration and test position.
14. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
  - i) 1g Scalar SAR summation < 1.6W/kg and 10g Scalar SAR summation < 4.0W/kg.
  - ii)  $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$ , 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  $SPLSR \leq 0.04$  for 1g SAR and  $SPLSR \leq 0.10$  for 10g SAR, simultaneously transmission SAR measurement is not necessary.
  - iv) Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.
  - v) The SPLSR calculated results please refer to section 16.4.



16.1 Head Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+2 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)
		WWAN	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6		
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
WWAN All Bands	Right Cheek	1.051	0.086	0.217	0.095	1.14	1.36
	Right Tilted	1.007	0.067	0.261	0.095	1.07	1.36
	Left Cheek	0.963	0.263	0.406	0.095	1.23	1.46
	Left Tilted	0.848	0.187	0.429	0.095	1.04	1.37

<Inter-Band UL CA>

WWAN Band	WWAN Band	Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+2+4+5 Summed 1g SAR (W/kg)
			WWAN	WWAN	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6		
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
LTE Band 2 Ant 0	LTE Band 4 Ant 4	Right Cheek	0.110	0.766	0.086	0.217	0.095	0.96	1.19
		Right Tilted	0.093	0.674	0.067	0.261	0.095	0.83	1.12
		Left Cheek	0.122	0.522	0.263	0.406	0.095	0.91	1.15
		Left Tilted	0.120	0.739	0.187	0.429	0.095	1.05	1.38
LTE Band 2 Ant 4	LTE Band 4 Ant 0	Right Cheek	0.601	0.121	0.086	0.217	0.095	0.81	1.03
		Right Tilted	0.531	0.081	0.067	0.261	0.095	0.68	0.97
		Left Cheek	0.427	0.095	0.263	0.406	0.095	0.79	1.02
		Left Tilted	0.549	0.073	0.187	0.429	0.095	0.81	1.15
LTE Band 4 Ant 0	LTE Band 7 Ant 4	Right Cheek	0.121	0.786	0.086	0.217	0.095	0.99	1.22
		Right Tilted	0.081	0.732	0.067	0.261	0.095	0.88	1.17
		Left Cheek	0.095	0.525	0.263	0.406	0.095	0.88	1.12
		Left Tilted	0.073	0.632	0.187	0.429	0.095	0.89	1.23
LTE Band 4 Ant 4	LTE Band 7 Ant 0	Right Cheek	0.766	0.067	0.086	0.217	0.095	0.92	1.15
		Right Tilted	0.674	0.048	0.067	0.261	0.095	0.79	1.08
		Left Cheek	0.522	0.146	0.263	0.406	0.095	0.93	1.17
		Left Tilted	0.739	0.075	0.187	0.429	0.095	1.00	1.34

<5G NR ENDC>

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+2+4+5 Summed 1g SAR (W/kg)
			WWAN	FR1	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6		
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
LTE Band 7 Ant 4	FR1 n5 Ant 0	Right Cheek	0.344	0.185	0.086	0.217	0.095	0.62	0.84
		Right Tilted	0.344	0.109	0.067	0.261	0.095	0.52	0.81
		Left Cheek	0.344	0.186	0.263	0.406	0.095	0.79	1.03
		Left Tilted	0.344	0.101	0.187	0.429	0.095	0.63	0.97
LTE Band 26 Ant 0	FR1 n7 Ant 4	Right Cheek	0.222	0.950	0.086	0.217	0.095	1.26	1.48
		Right Tilted	0.116	0.890	0.067	0.261	0.095	1.07	1.36
		Left Cheek	0.218	0.632	0.263	0.406	0.095	1.11	1.35
		Left Tilted	0.111	0.771	0.187	0.429	0.095	1.07	1.41
LTE Band 66 Ant 0	FR1 n7 Ant 4	Right Cheek	0.091	0.950	0.086	0.217	0.095	1.13	1.35
		Right Tilted	0.064	0.890	0.067	0.261	0.095	1.02	1.31
		Left Cheek	0.065	0.632	0.263	0.406	0.095	0.96	1.20
		Left Tilted	0.076	0.771	0.187	0.429	0.095	1.03	1.37
LTE Band 7 Ant 4	FR1 n66 Ant 0	Right Cheek	0.344	0.128	0.086	0.217	0.095	0.56	0.78
		Right Tilted	0.344	0.076	0.067	0.261	0.095	0.49	0.78
		Left Cheek	0.344	0.097	0.263	0.406	0.095	0.70	0.94
		Left Tilted	0.344	0.100	0.187	0.429	0.095	0.63	0.97
LTE Band 2 Ant 0	FR1 n66 Ant 4	Right Cheek	0.110	0.705	0.086	0.217	0.095	0.90	1.13
		Right Tilted	0.093	0.654	0.067	0.261	0.095	0.81	1.10



		Left Cheek	0.122	0.487	0.263	0.406	0.095	0.87	1.11
		Left Tilted	0.120	0.641	0.187	0.429	0.095	0.95	1.29
LTE Band 26 Ant 0	FR1 n66 Ant 4	Right Cheek	0.222	0.705	0.086	0.217	0.095	1.01	1.24
		Right Tilted	0.116	0.654	0.067	0.261	0.095	0.84	1.13
		Left Cheek	0.218	0.487	0.263	0.406	0.095	0.97	1.21
		Left Tilted	0.111	0.641	0.187	0.429	0.095	0.94	1.28
LTE Band 12 Ant 0	FR1 n66 Ant 4	Right Cheek	0.129	0.705	0.086	0.217	0.095	0.92	1.15
		Right Tilted	0.080	0.654	0.067	0.261	0.095	0.80	1.09
		Left Cheek	0.125	0.487	0.263	0.406	0.095	0.88	1.11
		Left Tilted	0.077	0.641	0.187	0.429	0.095	0.91	1.24
LTE Band 2 Ant 0	FR1 n77 Ant 3	Right Cheek	0.110	0.788	0.086	0.217	0.095	0.98	1.21
		Right Tilted	0.093	0.425	0.067	0.261	0.095	0.59	0.87
		Left Cheek	0.122	0.230	0.263	0.406	0.095	0.62	0.85
		Left Tilted	0.120	0.196	0.187	0.429	0.095	0.50	0.84
LTE Band 2 Ant 4	FR1 n77 Ant 3	Right Cheek	0.310	0.788	0.086	0.217	0.095	1.18	1.41
		Right Tilted	0.310	0.425	0.067	0.261	0.095	0.80	1.09
		Left Cheek	0.310	0.230	0.263	0.406	0.095	0.80	1.04
		Left Tilted	0.310	0.196	0.187	0.429	0.095	0.69	1.03
LTE Band 26 Ant 0	FR1 n77 Ant 3	Right Cheek	0.222	0.788	0.086	0.217	0.095	1.10	1.32
		Right Tilted	0.116	0.425	0.067	0.261	0.095	0.61	0.90
		Left Cheek	0.218	0.230	0.263	0.406	0.095	0.71	0.95
		Left Tilted	0.111	0.196	0.187	0.429	0.095	0.49	0.83
LTE Band 26 Ant 4	FR1 n77 Ant 3	Right Cheek	0.401	0.788	0.086	0.217	0.095	1.28	1.50
		Right Tilted	0.401	0.425	0.067	0.261	0.095	0.89	1.18
		Left Cheek	0.401	0.230	0.263	0.406	0.095	0.89	1.13
		Left Tilted	0.401	0.196	0.187	0.429	0.095	0.78	1.12
LTE Band 7 Ant 0	FR1 n77 Ant 3	Right Cheek	0.067	0.788	0.086	0.217	0.095	0.94	1.17
		Right Tilted	0.048	0.425	0.067	0.261	0.095	0.54	0.83
		Left Cheek	0.146	0.230	0.263	0.406	0.095	0.64	0.88
		Left Tilted	0.075	0.196	0.187	0.429	0.095	0.46	0.80
LTE Band 7 Ant 4	FR1 n77 Ant 3	Right Cheek	0.344	0.788	0.086	0.217	0.095	1.22	1.44
		Right Tilted	0.344	0.425	0.067	0.261	0.095	0.84	1.13
		Left Cheek	0.344	0.230	0.263	0.406	0.095	0.84	1.08
		Left Tilted	0.344	0.196	0.187	0.429	0.095	0.73	1.06
LTE Band 41 Ant 0	FR1 n77 Ant 3	Right Cheek	0.030	0.788	0.086	0.217	0.095	0.90	1.13
		Right Tilted	0.024	0.425	0.067	0.261	0.095	0.52	0.81
		Left Cheek	0.112	0.230	0.263	0.406	0.095	0.61	0.84
		Left Tilted	0.027	0.196	0.187	0.429	0.095	0.41	0.75
LTE Band 41 Ant 4	FR1 n77 Ant 3	Right Cheek	0.395	0.788	0.086	0.217	0.095	1.27	1.50
		Right Tilted	0.395	0.425	0.067	0.261	0.095	0.89	1.18
		Left Cheek	0.395	0.230	0.263	0.406	0.095	0.89	1.13
		Left Tilted	0.395	0.196	0.187	0.429	0.095	0.78	1.12
LTE Band 66 Ant 0	FR1 n77 Ant 3	Right Cheek	0.091	0.788	0.086	0.217	0.095	0.97	1.19
		Right Tilted	0.064	0.425	0.067	0.261	0.095	0.56	0.85
		Left Cheek	0.065	0.230	0.263	0.406	0.095	0.56	0.80
		Left Tilted	0.076	0.196	0.187	0.429	0.095	0.46	0.80
LTE Band 66 Ant 4	FR1 n77 Ant 3	Right Cheek	0.260	0.788	0.086	0.217	0.095	1.13	1.36
		Right Tilted	0.260	0.425	0.067	0.261	0.095	0.75	1.04
		Left Cheek	0.260	0.230	0.263	0.406	0.095	0.75	0.99
		Left Tilted	0.260	0.196	0.187	0.429	0.095	0.64	0.98



WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+2+4+5 Summed 1g SAR (W/kg)
			WWAN	FR1	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6		
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
LTE Band 2 Ant 0	FR1 n77 Ant 5	Right Cheek at 0mm	0.110	0.329	0.086	0.217	0.095	0.53	0.75
		Right Tilted at 0mm	0.093	0.395	0.067	0.261	0.095	0.56	0.84
		Left Cheek at 0mm	0.122	0.613	0.263	0.406	0.095	1.00	1.24
		Left Tilted at 0mm	0.120	0.666	0.187	0.429	0.095	0.97	1.31
LTE Band 2 Ant 4	FR1 n77 Ant 5	Right Cheek at 0mm	0.310	0.329	0.086	0.217	0.095	0.73	0.95
		Right Tilted at 0mm	0.310	0.395	0.067	0.261	0.095	0.77	1.06
		Left Cheek at 0mm	0.310	0.613	0.263	0.406	0.095	1.19	1.42
		Left Tilted at 0mm	0.310	0.666	0.187	0.429	0.095	1.16	1.50
LTE Band 26 Ant 0	FR1 n77 Ant 5	Right Cheek at 0mm	0.222	0.329	0.086	0.217	0.095	0.64	0.86
		Right Tilted at 0mm	0.116	0.395	0.067	0.261	0.095	0.58	0.87
		Left Cheek at 0mm	0.218	0.613	0.263	0.406	0.095	1.09	1.33
		Left Tilted at 0mm	0.111	0.666	0.187	0.429	0.095	0.96	1.30
LTE Band 26 Ant 4	FR1 n77 Ant 5	Right Cheek at 0mm	0.401	0.329	0.086	0.217	0.095	0.82	1.04
		Right Tilted at 0mm	0.401	0.395	0.067	0.261	0.095	0.86	1.15
		Left Cheek at 0mm	0.401	0.613	0.263	0.406	0.095	1.28	1.52
		Left Tilted at 0mm	0.401	0.666	0.187	0.429	0.095	1.25	1.59
LTE Band 7 Ant 0	FR1 n77 Ant 5	Right Cheek at 0mm	0.067	0.329	0.086	0.217	0.095	0.48	0.71
		Right Tilted at 0mm	0.048	0.395	0.067	0.261	0.095	0.51	0.80
		Left Cheek at 0mm	0.146	0.613	0.263	0.406	0.095	1.02	1.26
		Left Tilted at 0mm	0.075	0.666	0.187	0.429	0.095	0.93	1.27
LTE Band 7 Ant 4	FR1 n77 Ant 5	Right Cheek at 0mm	0.344	0.329	0.086	0.217	0.095	0.76	0.99
		Right Tilted at 0mm	0.344	0.395	0.067	0.261	0.095	0.81	1.10
		Left Cheek at 0mm	0.344	0.613	0.263	0.406	0.095	1.22	1.46
		Left Tilted at 0mm	0.344	0.666	0.187	0.429	0.095	1.20	1.53
LTE Band 41 Ant 0	FR1 n77 Ant 5	Right Cheek at 0mm	0.030	0.329	0.086	0.217	0.095	0.45	0.67
		Right Tilted at 0mm	0.024	0.395	0.067	0.261	0.095	0.49	0.78
		Left Cheek at 0mm	0.112	0.613	0.263	0.406	0.095	0.99	1.23
		Left Tilted at 0mm	0.027	0.666	0.187	0.429	0.095	0.88	1.22
LTE Band 41 Ant 4	FR1 n77 Ant 5	Right Cheek at 0mm	0.395	0.329	0.086	0.217	0.095	0.81	1.04
		Right Tilted at 0mm	0.395	0.395	0.067	0.261	0.095	0.86	1.15
		Left Cheek at 0mm	0.395	0.613	0.263	0.406	0.095	1.27	1.51
		Left Tilted at 0mm	0.395	0.666	0.187	0.429	0.095	1.25	1.59
LTE Band 66 Ant 0	FR1 n77 Ant 5	Right Cheek at 0mm	0.091	0.329	0.086	0.217	0.095	0.51	0.73
		Right Tilted at 0mm	0.064	0.395	0.067	0.261	0.095	0.53	0.82
		Left Cheek at 0mm	0.065	0.613	0.263	0.406	0.095	0.94	1.18
		Left Tilted at 0mm	0.076	0.666	0.187	0.429	0.095	0.93	1.27
LTE Band 66 Ant 4	FR1 n77 Ant 5	Right Cheek at 0mm	0.260	0.329	0.086	0.217	0.095	0.68	0.90
		Right Tilted at 0mm	0.260	0.395	0.067	0.261	0.095	0.72	1.01
		Left Cheek at 0mm	0.260	0.613	0.263	0.406	0.095	1.14	1.37
		Left Tilted at 0mm	0.260	0.666	0.187	0.429	0.095	1.11	1.45



16.2 Hotspot Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+2 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)
		WWAN	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6		
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
WWAN All Band	Front	0.352	0.222	0.370	0.022	0.57	0.74
	Back	0.725	0.283	0.526	0.022	1.01	1.27
	Left side	0.472			0.022	0.47	0.49
	Right side	0.460	0.272	0.321	0.022	0.60	0.67
	Top side	0.756	0.188	0.688	0.022	0.94	1.47
	Bottom side	1.018			0.022	1.02	1.04

<Inter-Band UL CA>

WWAN Band	WWAN Band	Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+2+4+5 Summed 1g SAR (W/kg)
			WWAN	WWAN	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6		
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
LTE Band 2 Ant 0	LTE Band 4 Ant 4	Front	0.222	0.135	0.222	0.370	0.022	0.58	0.75
		Back	0.435	0.169	0.283	0.526	0.022	0.89	1.15
		Left side	0.234	0.136			0.022	0.37	0.39
		Right side	0.105	0.052	0.272	0.321	0.022	0.43	0.50
		Top side		0.271	0.188	0.688	0.022	0.46	0.98
		Bottom side	0.611				0.022	0.61	0.63
LTE Band 2 Ant 4	LTE Band 4 Ant 0	Front	0.198	0.194	0.222	0.370	0.022	0.61	0.78
		Back	0.250	0.539	0.283	0.526	0.022	1.07	1.34
		Left side	0.271	0.116			0.022	0.39	0.41
		Right side		0.133	0.272	0.321	0.022	0.41	0.48
		Top side	0.306		0.188	0.688	0.022	0.49	1.02
		Bottom side		0.571			0.022	0.57	0.59
LTE Band 4 Ant 0	LTE Band 7 Ant 0	Front	0.194	0.184	0.222	0.370	0.022	0.60	0.77
		Back	0.539	0.372	0.283	0.526	0.022	1.19	1.46
		Left side	0.116	0.155			0.022	0.27	0.29
		Right side	0.133	0.130	0.272	0.321	0.022	0.54	0.61
		Top side			0.188	0.688	0.022	0.19	0.71
		Bottom side	0.571	0.289			0.022	0.86	0.88
LTE Band 4 Ant 4	LTE Band 7 Ant 4	Front	0.135	0.288	0.222	0.370	0.022	0.65	0.82
		Back	0.169	0.401	0.283	0.526	0.022	0.85	1.12
		Left side	0.136	0.472			0.022	0.61	0.63
		Right side	0.052		0.272	0.321	0.022	0.32	0.40
		Top side	0.271	0.592	0.188	0.688	0.022	1.05	1.57
		Bottom side					0.022	0.00	0.02

<5G NR ENDC>

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+2+4+5 Summed 1g SAR (W/kg)
			WWAN	FR1	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6		
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
LTE Band 7 Ant 4	FR1 n5 Ant 0	Front	0.288	0.247	0.222	0.370	0.022	0.76	0.93
		Back	0.401	0.413	0.283	0.526	0.022	1.10	1.36
		Left side	0.472	0.132			0.022	0.60	0.63
		Right side		0.211	0.272	0.321	0.022	0.48	0.55
		Top side	0.592		0.188	0.688	0.022	0.78	1.30
		Bottom side		0.369			0.022	0.37	0.39
LTE Band 26 Ant 0	FR1 n7 Ant 4	Front	0.336	0.263	0.222	0.370	0.022	0.82	0.99
		Back	0.437	0.417	0.283	0.526	0.022	1.14	1.40
		Left side	0.143	0.307			0.022	0.45	0.47



		Right side	0.241		0.272	0.321	0.022	0.51	0.58
		Top side		0.756	0.188	0.688	0.022	0.94	1.47
		Bottom side	0.435				0.022	0.44	0.46
LTE Band 66 Ant 0	FR1 n7 Ant 4	Front	0.142	0.263	0.222	0.370	0.022	0.63	0.80
		Back	0.382	0.417	0.283	0.526	0.022	1.08	1.35
		Left side	0.124	0.307			0.022	0.43	0.45
		Right side	0.104		0.272	0.321	0.022	0.38	0.45
		Top side		0.756	0.188	0.688	0.022	0.94	1.47
		Bottom side	0.493				0.022	0.49	0.52
LTE Band 7 Ant 4	FR1 n66 Ant 0	Front	0.288	0.151	0.222	0.370	0.022	0.66	0.83
		Back	0.401	0.417	0.283	0.526	0.022	1.10	1.37
		Left side	0.472	0.063			0.022	0.54	0.56
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side	0.592		0.188	0.688	0.022	0.78	1.30
		Bottom side		0.646			0.022	0.65	0.67
LTE Band 2 Ant 0	FR1 n66 Ant 4	Front	0.222	0.127	0.222	0.370	0.022	0.57	0.74
		Back	0.435	0.167	0.283	0.526	0.022	0.89	1.15
		Left side	0.234	0.111			0.022	0.35	0.37
		Right side	0.105		0.272	0.321	0.022	0.38	0.45
		Top side		0.291	0.188	0.688	0.022	0.48	1.00
		Bottom side	0.611				0.022	0.61	0.63
LTE Band 26 Ant 0	FR1 n66 Ant 4	Front	0.336	0.127	0.222	0.370	0.022	0.69	0.86
		Back	0.437	0.167	0.283	0.526	0.022	0.89	1.15
		Left side	0.143	0.111			0.022	0.25	0.28
		Right side	0.241		0.272	0.321	0.022	0.51	0.58
		Top side		0.291	0.188	0.688	0.022	0.48	1.00
		Bottom side	0.435				0.022	0.44	0.46
LTE Band 12 Ant 0	FR1 n66 Ant 4	Front	0.164	0.127	0.222	0.370	0.022	0.51	0.68
		Back	0.272	0.167	0.283	0.526	0.022	0.72	0.99
		Left side	0.157	0.111			0.022	0.27	0.29
		Right side	0.261		0.272	0.321	0.022	0.53	0.60
		Top side		0.291	0.188	0.688	0.022	0.48	1.00
		Bottom side	0.200				0.022	0.20	0.22
LTE Band 2 Ant 0	FR1 n77 Ant 3	Front	0.222	0.167	0.222	0.370	0.022	0.61	0.78
		Back	0.435	0.224	0.283	0.526	0.022	0.94	1.21
		Left side	0.234	0.275			0.022	0.51	0.53
		Right side	0.105		0.272	0.321	0.022	0.38	0.45
		Top side		0.123	0.188	0.688	0.022	0.31	0.83
		Bottom side	0.611				0.022	0.61	0.63
LTE Band 2 Ant 4	FR1 n77 Ant 3	Front	0.198	0.167	0.222	0.370	0.022	0.59	0.76
		Back	0.250	0.224	0.283	0.526	0.022	0.76	1.02
		Left side	0.271	0.275			0.022	0.55	0.57
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side	0.306	0.123	0.188	0.688	0.022	0.62	1.14
		Bottom side					0.022	0.00	0.02
LTE Band 26 Ant 0	FR1 n77 Ant 3	Front	0.336	0.167	0.222	0.370	0.022	0.73	0.90
		Back	0.437	0.224	0.283	0.526	0.022	0.94	1.21
		Left side	0.143	0.275			0.022	0.42	0.44
		Right side	0.241		0.272	0.321	0.022	0.51	0.58
		Top side		0.123	0.188	0.688	0.022	0.31	0.83
		Bottom side	0.435				0.022	0.44	0.46
LTE Band 26 Ant 4	FR1 n77 Ant 3	Front	0.286	0.167	0.222	0.370	0.022	0.68	0.85
		Back	0.436	0.224	0.283	0.526	0.022	0.94	1.21
		Left side	0.130	0.275			0.022	0.41	0.43
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side	0.286	0.123	0.188	0.688	0.022	0.60	1.12



LTE Band 7 Ant 0	FR1 n77 Ant 3	Bottom side					0.022	0.00	0.02
		Front	0.184	0.167	0.222	0.370	0.022	0.57	0.74
		Back	0.372	0.224	0.283	0.526	0.022	0.88	1.14
		Left side	0.155	0.275			0.022	0.43	0.45
		Right side	0.130		0.272	0.321	0.022	0.40	0.47
		Top side		0.123	0.188	0.688	0.022	0.31	0.83
LTE Band 7 Ant 4	FR1 n77 Ant 3	Bottom side	0.289				0.022	0.29	0.31
		Front	0.288	0.167	0.222	0.370	0.022	0.68	0.85
		Back	0.401	0.224	0.283	0.526	0.022	0.91	1.17
		Left side	0.472	0.275			0.022	0.75	0.77
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side	0.592	0.123	0.188	0.688	0.022	0.90	1.43
LTE Band 41 Ant 0	FR1 n77 Ant 3	Bottom side					0.022	0.00	0.02
		Front	0.171	0.167	0.222	0.370	0.022	0.56	0.73
		Back	0.351	0.224	0.283	0.526	0.022	0.86	1.12
		Left side	0.079	0.275			0.022	0.35	0.38
		Right side	0.056		0.272	0.321	0.022	0.33	0.40
		Top side		0.123	0.188	0.688	0.022	0.31	0.83
LTE Band 41 Ant 4	FR1 n77 Ant 3	Bottom side	0.284				0.022	0.28	0.31
		Front	0.154	0.167	0.222	0.370	0.022	0.54	0.71
		Back	0.224	0.224	0.283	0.526	0.022	0.73	1.00
		Left side	0.189	0.275			0.022	0.46	0.49
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side	0.412	0.123	0.188	0.688	0.022	0.72	1.25
LTE Band 66 Ant 0	FR1 n77 Ant 3	Bottom side					0.022	0.00	0.02
		Front	0.142	0.167	0.222	0.370	0.022	0.53	0.70
		Back	0.382	0.224	0.283	0.526	0.022	0.89	1.15
		Left side	0.124	0.275			0.022	0.40	0.42
		Right side	0.104		0.272	0.321	0.022	0.38	0.45
		Top side		0.123	0.188	0.688	0.022	0.31	0.83
LTE Band 66 Ant 4	FR1 n77 Ant 3	Bottom side	0.493				0.022	0.49	0.52
		Front	0.115	0.167	0.222	0.370	0.022	0.50	0.67
		Back	0.134	0.224	0.283	0.526	0.022	0.64	0.91
		Left side	0.144	0.275			0.022	0.42	0.44
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side	0.244	0.123	0.188	0.688	0.022	0.56	1.08

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+2+4+5 Summed 1g SAR (W/kg)
			WWAN	FR1	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6		
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
LTE Band 2 Ant 0	FR1 n77 Ant 5	Front	0.222	0.177	0.222	0.370	0.022	0.62	0.79
		Back	0.435	0.598	0.283	0.526	0.022	1.32	1.58
		Left side	0.234				0.022	0.23	0.26
		Right side	0.105	0.460	0.272	0.321	0.022	0.84	0.91
		Top side		0.275	0.188	0.688	0.022	0.46	0.99
		Bottom side	0.611				0.022	0.61	0.63
LTE Band 2 Ant 4	FR1 n77 Ant 5	Front	0.198	0.177	0.222	0.370	0.022	0.60	0.77
		Back	0.250	0.598	0.283	0.526	0.022	1.13	1.40
		Left side	0.271				0.022	0.27	0.29
		Right side		0.460	0.272	0.321	0.022	0.73	0.80
		Top side	0.306	0.275	0.188	0.688	0.022	0.77	1.29
		Bottom side					0.022	0.00	0.02
LTE Band 26 Ant 0	FR1 n77 Ant 5	Front	0.336	0.177	0.222	0.370	0.022	0.74	0.91
		Back	0.437	0.598	0.283	0.526	0.022	1.32	1.58



		Left side	0.143				0.022	0.14	0.17
		Right side	0.241	0.460	0.272	0.321	0.022	0.97	1.04
		Top side		0.275	0.188	0.688	0.022	0.46	0.99
		Bottom side	0.435				0.022	0.44	0.46
LTE Band 26 Ant 4	FR1 n77 Ant 5	Front	0.286	0.177	0.222	0.370	0.022	0.69	0.86
		Back	0.436	0.598	0.283	0.526	0.022	1.32	1.58
		Left side	0.130				0.022	0.13	0.15
		Right side		0.460	0.272	0.321	0.022	0.73	0.80
		Top side	0.286	0.275	0.188	0.688	0.022	0.75	1.27
		Bottom side					0.022	0.00	0.02
		Front	0.184	0.177	0.222	0.370	0.022	0.58	0.75
		Back	0.372	0.598	0.283	0.526	0.022	1.25	1.52
LTE Band 7 Ant 0	FR1 n77 Ant 5	Left side	0.155				0.022	0.16	0.18
		Right side	0.130	0.460	0.272	0.321	0.022	0.86	0.93
		Top side		0.275	0.188	0.688	0.022	0.46	0.99
		Bottom side	0.289				0.022	0.29	0.31
LTE Band 7 Ant 4	FR1 n77 Ant 5	Front	0.288	0.177	0.222	0.370	0.022	0.69	0.86
		Back	0.401	0.598	0.283	0.526	0.022	1.28	1.55
		Left side	0.472				0.022	0.47	0.49
		Right side		0.460	0.272	0.321	0.022	0.73	0.80
		Top side	0.592	0.275	0.188	0.688	0.022	1.06	1.58
		Bottom side					0.022	0.00	0.02
		Front	0.171	0.177	0.222	0.370	0.022	0.57	0.74
		Back	0.351	0.598	0.283	0.526	0.022	1.23	1.50
LTE Band 41 Ant 0	FR1 n77 Ant 5	Left side	0.079				0.022	0.08	0.10
		Right side	0.056	0.460	0.272	0.321	0.022	0.79	0.86
		Top side		0.275	0.188	0.688	0.022	0.46	0.99
		Bottom side	0.284				0.022	0.28	0.31
LTE Band 41 Ant 4	FR1 n77 Ant 5	Front	0.154	0.177	0.222	0.370	0.022	0.55	0.72
		Back	0.224	0.598	0.283	0.526	0.022	1.11	1.37
		Left side	0.189				0.022	0.19	0.21
		Right side		0.460	0.272	0.321	0.022	0.73	0.80
		Top side	0.412	0.275	0.188	0.688	0.022	0.88	1.40
		Bottom side					0.022	0.00	0.02
		Front	0.142	0.177	0.222	0.370	0.022	0.54	0.71
		Back	0.382	0.598	0.283	0.526	0.022	1.26	1.53
LTE Band 66 Ant 0	FR1 n77 Ant 5	Left side	0.124				0.022	0.12	0.15
		Right side	0.104	0.460	0.272	0.321	0.022	0.84	0.91
		Top side		0.275	0.188	0.688	0.022	0.46	0.99
		Bottom side	0.493				0.022	0.49	0.52
LTE Band 66 Ant 4	FR1 n77 Ant 5	Front	0.115	0.177	0.222	0.370	0.022	0.51	0.68
		Back	0.134	0.598	0.283	0.526	0.022	1.02	1.28
		Left side	0.144				0.022	0.14	0.17
		Right side		0.460	0.272	0.321	0.022	0.73	0.80
		Top side	0.244	0.275	0.188	0.688	0.022	0.71	1.23
		Bottom side					0.022	0.00	0.02



Sensor off:

WWAN Band	Exposure Position	1	2	3	4	1+2 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)	Case No
		WWAN	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6			
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
WWAN All Band	Front	0.429	0.222	0.370	0.022	0.65	0.82	
	Back	1.085	0.283	0.526	0.022	1.37	1.63	Case 01
	Left side				0.022	0.00	0.02	
	Right side		0.272	0.321	0.022	0.27	0.34	
	Top side	0.627	0.188	0.688	0.022	0.82	1.34	
	Bottom side	0.933			0.022	0.93	0.96	

<Inter-Band UL CA>

WWAN Band	WWAN Band	Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+2+4+5 Summed 1g SAR (W/kg)
			WWAN	WWAN	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6		
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
LTE Band 2 Ant 0	LTE Band 4 Ant 4	Front	0.316	0.090	0.222	0.370	0.022	0.63	0.80
		Back	0.297	0.075	0.283	0.526	0.022	0.66	0.92
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side		0.085	0.188	0.688	0.022	0.27	0.80
		Bottom side	0.806				0.022	0.81	0.83
LTE Band 2 Ant 4	LTE Band 4 Ant 0	Front	0.218	0.203	0.222	0.370	0.022	0.64	0.81
		Back	0.246	0.505	0.283	0.526	0.022	1.03	1.30
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side	0.299		0.188	0.688	0.022	0.49	1.01
		Bottom side		0.645			0.022	0.65	0.67
LTE Band 4 Ant 0	LTE Band 7 Ant 0	Front	0.203	0.262	0.222	0.370	0.022	0.69	0.86
		Back	0.505	0.301	0.283	0.526	0.022	1.09	1.35
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side			0.188	0.688	0.022	0.19	0.71
		Bottom side	0.645	0.413			0.022	1.06	1.08
LTE Band 4 Ant 4	LTE Band 7 Ant 4	Front	0.090	0.268	0.222	0.370	0.022	0.58	0.75
		Back	0.075	0.182	0.283	0.526	0.022	0.54	0.81
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side	0.085	0.619	0.188	0.688	0.022	0.89	1.41
		Bottom side					0.022	0.00	0.02

<5G NR ENDC>

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+2+4+5 Summed 1g SAR (W/kg)
			WWAN	FR1	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6		
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
LTE Band 7 Ant 4	FR1 n5 Ant 0	Front	0.268		0.222	0.370	0.022	0.49	0.66
		Back	0.182		0.283	0.526	0.022	0.47	0.73
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side	0.619		0.188	0.688	0.022	0.81	1.33
		Bottom side					0.022	0.00	0.02
LTE Band 26 Ant 0	FR1 n7 Ant 4	Front		0.155	0.222	0.370	0.022	0.38	0.55
		Back		0.239	0.283	0.526	0.022	0.52	0.79
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34



		Top side		0.423	0.188	0.688	0.022	0.61	1.13
		Bottom side					0.022	0.00	0.02
LTE Band 66 Ant 0	FR1 n7 Ant 4	Front	0.188	0.155	0.222	0.370	0.022	0.57	0.74
		Back	0.237	0.239	0.283	0.526	0.022	0.76	1.02
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side		0.423	0.188	0.688	0.022	0.61	1.13
		Bottom side	0.735				0.022	0.74	0.76
LTE Band 7 Ant 4	FR1 n66 Ant 0	Front	0.268	0.092	0.222	0.370	0.022	0.58	0.75
		Back		0.229	0.283	0.526	0.022	0.51	0.78
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side	0.619		0.188	0.688	0.022	0.81	1.33
		Bottom side		0.297			0.022	0.30	0.32
LTE Band 2 Ant 0	FR1 n66 Ant 4	Front	0.316	0.082	0.222	0.370	0.022	0.62	0.79
		Back	0.297	0.075	0.283	0.526	0.022	0.66	0.92
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side		0.111	0.188	0.688	0.022	0.30	0.82
		Bottom side	0.806				0.022	0.81	0.83
LTE Band 26 Ant 0	FR1 n66 Ant 4	Front		0.082	0.222	0.370	0.022	0.30	0.47
		Back		0.075	0.283	0.526	0.022	0.36	0.62
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side		0.111	0.188	0.688	0.022	0.30	0.82
		Bottom side					0.022	0.00	0.02
LTE Band 12 Ant 0	FR1 n66 Ant 4	Front		0.082	0.222	0.370	0.022	0.30	0.47
		Back		0.075	0.283	0.526	0.022	0.36	0.62
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side		0.111	0.188	0.688	0.022	0.30	0.82
		Bottom side					0.022	0.00	0.02
LTE Band 2 Ant 0	FR1 n77 Ant 3	Front	0.316		0.222	0.370	0.022	0.54	0.71
		Back			0.283	0.526	0.022	0.28	0.55
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side			0.188	0.688	0.022	0.19	0.71
		Bottom side	0.806				0.022	0.81	0.83
LTE Band 2 Ant 4	FR1 n77 Ant 3	Front	0.218		0.222	0.370	0.022	0.44	0.61
		Back	0.246		0.283	0.526	0.022	0.53	0.79
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side	0.299		0.188	0.688	0.022	0.49	1.01
		Bottom side					0.022	0.00	0.02
LTE Band 26 Ant 0	FR1 n77 Ant 3	Front			0.222	0.370	0.022	0.22	0.39
		Back			0.283	0.526	0.022	0.28	0.55
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side			0.188	0.688	0.022	0.19	0.71
		Bottom side					0.022	0.00	0.02
LTE Band 26 Ant 4	FR1 n77 Ant 3	Front			0.222	0.370	0.022	0.22	0.39
		Back			0.283	0.526	0.022	0.28	0.55
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side			0.188	0.688	0.022	0.19	0.71
		Bottom side					0.022	0.00	0.02



LTE Band 7 Ant 0	FR1 n77 Ant 3	Front	0.262		0.222	0.370	0.022	0.48	0.65
		Back	0.301		0.283	0.526	0.022	0.58	0.85
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side			0.188	0.688	0.022	0.19	0.71
		Bottom side	0.413				0.022	0.41	0.44
LTE Band 7 Ant 4	FR1 n77 Ant 3	Front	0.268		0.222	0.370	0.022	0.49	0.66
		Back			0.283	0.526	0.022	0.28	0.55
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side	0.619		0.188	0.688	0.022	0.81	1.33
		Bottom side					0.022	0.00	0.02
LTE Band 41 Ant 0	FR1 n77 Ant 3	Front	0.162		0.222	0.370	0.022	0.38	0.55
		Back	0.267		0.283	0.526	0.022	0.55	0.82
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side			0.188	0.688	0.022	0.19	0.71
		Bottom side	0.258				0.022	0.26	0.28
LTE Band 41 Ant 4	FR1 n77 Ant 3	Front	0.117		0.222	0.370	0.022	0.34	0.51
		Back	0.172		0.283	0.526	0.022	0.46	0.72
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side	0.299		0.188	0.688	0.022	0.49	1.01
		Bottom side					0.022	0.00	0.02
LTE Band 66 Ant 0	FR1 n77 Ant 3	Front	0.188		0.222	0.370	0.022	0.41	0.58
		Back	0.237		0.283	0.526	0.022	0.52	0.79
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side			0.188	0.688	0.022	0.19	0.71
		Bottom side	0.735				0.022	0.74	0.76
LTE Band 66 Ant 4	FR1 n77 Ant 3	Front	0.124		0.222	0.370	0.022	0.35	0.52
		Back	0.117		0.283	0.526	0.022	0.40	0.67
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side	0.200		0.188	0.688	0.022	0.39	0.91
		Bottom side					0.022	0.00	0.02

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+2+4+5 Summed 1g SAR (W/kg)
			WWAN	FR1	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6		
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
LTE Band 2 Ant 0	FR1 n77 Ant 5	Front	0.316	0.354	0.222	0.370	0.022	0.89	1.06
		Back	0.297	0.729	0.283	0.526	0.022	1.31	1.57
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side		0.562	0.188	0.688	0.022	0.75	1.27
		Bottom side	0.806				0.022	0.81	0.83
LTE Band 2 Ant 4	FR1 n77 Ant 5	Front	0.218	0.354	0.222	0.370	0.022	0.79	0.96
		Back	0.246	0.729	0.283	0.526	0.022	1.26	1.52
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side	0.299	0.562	0.188	0.688	0.022	1.05	1.57
		Bottom side					0.022	0.00	0.02
LTE Band 26 Ant 0	FR1 n77 Ant 5	Front		0.354	0.222	0.370	0.022	0.58	0.75
		Back		0.729	0.283	0.526	0.022	1.01	1.28
		Left side					0.022	0.00	0.02



		Right side			0.272	0.321	0.022	0.27	0.34
		Top side		0.562	0.188	0.688	0.022	0.75	1.27
		Bottom side					0.022	0.00	0.02
LTE Band 26 Ant 4	FR1 n77 Ant 5	Front		0.354	0.222	0.370	0.022	0.58	0.75
		Back		0.729	0.283	0.526	0.022	1.01	1.28
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side		0.562	0.188	0.688	0.022	0.75	1.27
		Bottom side					0.022	0.00	0.02
LTE Band 7 Ant 0	FR1 n77 Ant 5	Front	0.262	0.354	0.222	0.370	0.022	0.84	1.01
		Back	0.301	0.729	0.283	0.526	0.022	1.31	1.58
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side		0.562	0.188	0.688	0.022	0.75	1.27
		Bottom side	0.413				0.022	0.41	0.44
LTE Band 7 Ant 4	FR1 n77 Ant 5	Front	0.268	0.354	0.222	0.370	0.022	0.84	1.01
		Back	0.182	0.729	0.283	0.526	0.022	1.19	1.46
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side	0.282	0.562	0.188	0.688	0.022	1.03	1.55
		Bottom side					0.022	0.00	0.02
LTE Band 41 Ant 0	FR1 n77 Ant 5	Front	0.162	0.354	0.222	0.370	0.022	0.74	0.91
		Back	0.267	0.729	0.283	0.526	0.022	1.28	1.54
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side		0.562	0.188	0.688	0.022	0.75	1.27
		Bottom side	0.258				0.022	0.26	0.28
LTE Band 41 Ant 4	FR1 n77 Ant 5	Front	0.117	0.354	0.222	0.370	0.022	0.69	0.86
		Back	0.172	0.729	0.283	0.526	0.022	1.18	1.45
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side	0.299	0.562	0.188	0.688	0.022	1.05	1.57
		Bottom side					0.022	0.00	0.02
LTE Band 66 Ant 0	FR1 n77 Ant 5	Front	0.188	0.354	0.222	0.370	0.022	0.76	0.93
		Back	0.237	0.729	0.283	0.526	0.022	1.25	1.51
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side		0.562	0.188	0.688	0.022	0.75	1.27
		Bottom side	0.735				0.022	0.74	0.76
LTE Band 66 Ant 4	FR1 n77 Ant 5	Front	0.124	0.354	0.222	0.370	0.022	0.70	0.87
		Back	0.117	0.729	0.283	0.526	0.022	1.13	1.39
		Left side					0.022	0.00	0.02
		Right side			0.272	0.321	0.022	0.27	0.34
		Top side	0.200	0.562	0.188	0.688	0.022	0.95	1.47
		Bottom side					0.022	0.00	0.02



16.3 Body-Worn Accessory Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+2 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)
		WWAN	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6		
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
WWAN All Bands	Front	0.352	0.222	0.404	0.022	0.57	0.78
	Back	0.725	0.283	0.533	0.022	1.01	1.28

<Inter-Band UL CA>

WWAN Band	WWAN Band	Exposure Position	1	2	3	4	5	1+2+3	1+2+4+5
			WWAN	WWAN	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE Band 2 Ant 0	LTE Band 4 Ant 4	Front	0.222	0.135	0.222	0.404	0.022	0.58	0.78
		Back	0.430	0.169	0.283	0.533	0.022	0.88	1.15
LTE Band 2 Ant 4	LTE Band 4 Ant 0	Front	0.198	0.194	0.222	0.404	0.022	0.61	0.82
		Back	0.250	0.539	0.283	0.533	0.022	1.07	1.34
LTE Band 4 Ant 0	LTE Band 7 Ant 0	Front	0.194	0.184	0.222	0.404	0.022	0.60	0.80
		Back	0.539	0.372	0.283	0.533	0.022	1.19	1.47
LTE Band 4 Ant 4	LTE Band 7 Ant 4	Front	0.135	0.288	0.222	0.404	0.022	0.65	0.85
		Back	0.169	0.401	0.283	0.533	0.022	0.85	1.13

<5G NR ENDC>

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+2+4+5 Summed 1g SAR (W/kg)
			WWAN	FR1	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6		
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
LTE Band 7 Ant 4	FR1 n5 Ant 0	Front	0.288	0.247	0.222	0.404	0.022	0.76	0.96
		Back	0.401	0.413	0.283	0.533	0.022	1.10	1.37
LTE Band 26 Ant 0	FR1 n7 Ant 4	Front	0.336	0.263	0.222	0.404	0.022	0.82	1.03
		Back	0.437	0.417	0.283	0.533	0.022	1.14	1.41
LTE Band 66 Ant 0	FR1 n7 Ant 4	Front	0.142	0.263	0.222	0.404	0.022	0.63	0.83
		Back	0.382	0.417	0.283	0.533	0.022	1.08	1.35
LTE Band 7 Ant 4	FR1 n66 Ant 0	Front	0.288	0.151	0.222	0.404	0.022	0.66	0.87
		Back	0.401	0.417	0.283	0.533	0.022	1.10	1.37
LTE Band 2 Ant 0	FR1 n66 Ant 4	Front	0.222	0.127	0.222	0.404	0.022	0.57	0.78
		Back	0.430	0.167	0.283	0.533	0.022	0.88	1.15
LTE Band 26 Ant 0	FR1 n66 Ant 4	Front	0.336	0.127	0.222	0.404	0.022	0.69	0.89
		Back	0.437	0.167	0.283	0.533	0.022	0.89	1.16
LTE Band 12 Ant 0	FR1 n66 Ant 4	Front	0.164	0.127	0.222	0.404	0.022	0.51	0.72
		Back	0.272	0.167	0.283	0.533	0.022	0.72	0.99
LTE Band 2 Ant 0	FR1 n77 Ant 3	Front	0.222	0.167	0.222	0.404	0.022	0.61	0.82
		Back	0.430	0.224	0.283	0.533	0.022	0.94	1.21
LTE Band 2 Ant 4	FR1 n77 Ant 3	Front	0.198	0.167	0.222	0.404	0.022	0.59	0.79
		Back	0.250	0.224	0.283	0.533	0.022	0.76	1.03
LTE Band 26 Ant 0	FR1 n77 Ant 3	Front	0.336	0.167	0.222	0.404	0.022	0.73	0.93
		Back	0.437	0.224	0.283	0.533	0.022	0.94	1.22
LTE Band 26 Ant 4	FR1 n77 Ant 3	Front	0.286	0.167	0.222	0.404	0.022	0.68	0.88
		Back	0.436	0.224	0.283	0.533	0.022	0.94	1.22
LTE Band 7 Ant 0	FR1 n77 Ant 3	Front	0.184	0.167	0.222	0.404	0.022	0.57	0.78
		Back	0.372	0.224	0.283	0.533	0.022	0.88	1.15
LTE Band 7 Ant 4	FR1 n77 Ant 3	Front	0.288	0.167	0.222	0.404	0.022	0.68	0.88
		Back	0.401	0.224	0.283	0.533	0.022	0.91	1.18
LTE Band 41 Ant 0	FR1 n77 Ant 3	Front	0.171	0.167	0.222	0.404	0.022	0.56	0.76
		Back	0.351	0.224	0.283	0.533	0.022	0.86	1.13
LTE Band 41 Ant 4	FR1 n77 Ant 3	Front	0.154	0.167	0.222	0.404	0.022	0.54	0.75



LTE Band 66 Ant 0	FR1 n77 Ant 3	Back	0.224	0.224	0.283	0.533	0.022	0.73	1.00
		Front	0.142	0.167	0.222	0.404	0.022	0.53	0.74
LTE Band 66 Ant 4	FR1 n77 Ant 3	Back	0.382	0.224	0.283	0.533	0.022	0.89	1.16
		Front	0.115	0.167	0.222	0.404	0.022	0.50	0.71
		Back	0.134	0.224	0.283	0.533	0.022	0.64	0.91

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+2+4+5 Summed 1g SAR (W/kg)
			WWAN	FR1	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6		
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
LTE Band 2 Ant 0	FR1 n77 Ant 5	Front	0.222	0.177	0.222	0.404	0.022	0.62	0.83
		Back	0.430	0.598	0.283	0.533	0.022	1.31	1.58
LTE Band 2 Ant 4	FR1 n77 Ant 5	Front	0.198	0.177	0.222	0.404	0.022	0.60	0.80
		Back	0.250	0.598	0.283	0.533	0.022	1.13	1.40
LTE Band 26 Ant 0	FR1 n77 Ant 5	Front	0.336	0.177	0.222	0.404	0.022	0.74	0.94
		Back	0.437	0.598	0.283	0.533	0.022	1.32	1.59
LTE Band 26 Ant 4	FR1 n77 Ant 5	Front	0.286	0.177	0.222	0.404	0.022	0.69	0.89
		Back	0.436	0.598	0.283	0.533	0.022	1.32	1.59
LTE Band 7 Ant 0	FR1 n77 Ant 5	Front	0.184	0.177	0.222	0.404	0.022	0.58	0.79
		Back	0.372	0.598	0.283	0.533	0.022	1.25	1.53
LTE Band 7 Ant 4	FR1 n77 Ant 5	Front	0.288	0.177	0.222	0.404	0.022	0.69	0.89
		Back	0.401	0.598	0.283	0.533	0.022	1.28	1.55
LTE Band 41 Ant 0	FR1 n77 Ant 5	Front	0.171	0.177	0.222	0.404	0.022	0.57	0.77
		Back	0.351	0.598	0.283	0.533	0.022	1.23	1.50
LTE Band 41 Ant 4	FR1 n77 Ant 5	Front	0.154	0.177	0.222	0.404	0.022	0.55	0.76
		Back	0.224	0.598	0.283	0.533	0.022	1.11	1.38
LTE Band 66 Ant 0	FR1 n77 Ant 5	Front	0.142	0.177	0.222	0.404	0.022	0.54	0.75
		Back	0.382	0.598	0.283	0.533	0.022	1.26	1.54
LTE Band 66 Ant 4	FR1 n77 Ant 5	Front	0.115	0.177	0.222	0.404	0.022	0.51	0.72
		Back	0.134	0.598	0.283	0.533	0.022	1.02	1.29



Sensor off:

WWAN Band	Exposure Position	1	2	3	4	1+2 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)	Case No
		WWAN	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6			
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
WCDMA II Ant 0	Front	0.429	0.222	0.404	0.022	0.65	0.86	
	Back	1.085	0.283	0.533	0.022	1.37	1.64	Case 02
WCDMA II Ant 4	Front	0.257	0.222	0.404	0.022	0.48	0.68	
	Back	0.304	0.283	0.533	0.022	0.59	0.86	
WCDMA IV Ant 0	Front	0.268	0.222	0.404	0.022	0.49	0.69	
	Back	0.110	0.283	0.533	0.022	0.39	0.67	
WCDMA IV Ant 4	Front	0.147	0.222	0.404	0.022	0.37	0.57	
	Back	0.130	0.283	0.533	0.022	0.41	0.69	
LTE Band 2 Ant 0	Front	0.316	0.222	0.404	0.022	0.54	0.74	
	Back	0.297	0.283	0.533	0.022	0.58	0.85	
LTE Band 2 Ant 4	Front	0.218	0.222	0.404	0.022	0.44	0.64	
	Back	0.246	0.283	0.533	0.022	0.53	0.80	
LTE Band 4 Ant 0	Front	0.203	0.222	0.404	0.022	0.43	0.63	
	Back	0.505	0.283	0.533	0.022	0.79	1.06	
LTE Band 4 Ant 4	Front	0.090	0.222	0.404	0.022	0.31	0.52	
	Back	0.075	0.283	0.533	0.022	0.36	0.63	
LTE Band 7 Ant 0	Front	0.262	0.222	0.404	0.022	0.48	0.69	
	Back	0.301	0.283	0.533	0.022	0.58	0.86	
LTE Band 7 Ant 4	Front	0.268	0.222	0.404	0.022	0.49	0.69	
	Back	0.182	0.283	0.533	0.022	0.47	0.74	
LTE Band 41 Ant 0	Front	0.162	0.222	0.404	0.022	0.38	0.59	
	Back	0.267	0.283	0.533	0.022	0.55	0.82	
LTE Band 41 Ant 4	Front	0.117	0.222	0.404	0.022	0.34	0.54	
	Back	0.172	0.283	0.533	0.022	0.46	0.73	
LTE Band 66 Ant 0	Front	0.188	0.222	0.404	0.022	0.41	0.61	
	Back	0.237	0.283	0.533	0.022	0.52	0.79	
LTE Band 66 Ant 4	Front	0.124	0.222	0.404	0.022	0.35	0.55	
	Back	0.117	0.283	0.533	0.022	0.40	0.67	

<Inter-Band UL CA>

WWAN Band	WWAN Band	Exposure Position	1	2	3	4	5	1+2+3	1+2+4+5
			WWAN	WWAN	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE Band 2 Ant 0	LTE Band 4 Ant 4	Front	0.316	0.090	0.222	0.404	0.022	0.63	0.83
		Back	0.297	0.075	0.283	0.533	0.022	0.65	0.93
LTE Band 2 Ant 4	LTE Band 4 Ant 0	Front	0.218	0.203	0.222	0.404	0.022	0.64	0.85
		Back	0.246	0.505	0.283	0.533	0.022	1.03	1.31
LTE Band 4 Ant 0	LTE Band 7 Ant 0	Front	0.203	0.262	0.222	0.404	0.022	0.69	0.89
		Back	0.505	0.301	0.283	0.533	0.022	1.08	1.36
LTE Band 4 Ant 4	LTE Band 7 Ant 4	Front	0.090	0.268	0.222	0.404	0.022	0.58	0.78
		Back	0.075	0.182	0.283	0.533	0.022	0.53	0.81



<5G NR ENDC>

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+2+4+5 Summed 1g SAR (W/kg)
			WWAN	FR1	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6		
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
LTE Band 7 Ant 4	FR1 n5 Ant 0	Front	0.268		0.222	0.404	0.022	0.49	0.69
		Back	0.182		0.283	0.533	0.022	0.47	0.74
LTE Band 26 Ant 0	FR1 n7 Ant 4	Front		0.155	0.222	0.404	0.022	0.38	0.58
		Back		0.239	0.283	0.533	0.022	0.52	0.79
LTE Band 66 Ant 0	FR1 n7 Ant 4	Front	0.188	0.155	0.222	0.404	0.022	0.57	0.77
		Back	0.237	0.239	0.283	0.533	0.022	0.76	1.03
LTE Band 7 Ant 4	FR1 n66 Ant 0	Front	0.268	0.092	0.222	0.404	0.022	0.58	0.79
		Back	0.182	0.229	0.283	0.533	0.022	0.69	0.97
LTE Band 2 Ant 0	FR1 n66 Ant 4	Front	0.316	0.082	0.222	0.404	0.022	0.62	0.82
		Back	0.297	0.075	0.283	0.533	0.022	0.66	0.93
LTE Band 26 Ant 0	FR1 n66 Ant 4	Front		0.082	0.222	0.404	0.022	0.30	0.51
		Back		0.075	0.283	0.533	0.022	0.36	0.63
LTE Band 12 Ant 0	FR1 n66 Ant 4	Front		0.082	0.222	0.404	0.022	0.30	0.51
		Back		0.075	0.283	0.533	0.022	0.36	0.63
LTE Band 2 Ant 0	FR1 n77 Ant 3	Front	0.316		0.222	0.404	0.022	0.54	0.74
		Back	0.297		0.283	0.533	0.022	0.58	0.85
LTE Band 2 Ant 4	FR1 n77 Ant 3	Front	0.218		0.222	0.404	0.022	0.44	0.64
		Back	0.246		0.283	0.533	0.022	0.53	0.80
LTE Band 26 Ant 0	FR1 n77 Ant 3	Front			0.222	0.404	0.022	0.22	0.43
		Back			0.283	0.533	0.022	0.28	0.56
LTE Band 26 Ant 4	FR1 n77 Ant 3	Front			0.222	0.404	0.022	0.22	0.43
		Back			0.283	0.533	0.022	0.28	0.56
LTE Band 7 Ant 0	FR1 n77 Ant 3	Front	0.262		0.222	0.404	0.022	0.48	0.69
		Back	0.301		0.283	0.533	0.022	0.58	0.86
LTE Band 7 Ant 4	FR1 n77 Ant 3	Front	0.268		0.222	0.404	0.022	0.49	0.69
		Back	0.182		0.283	0.533	0.022	0.47	0.74
LTE Band 41 Ant 0	FR1 n77 Ant 3	Front	0.162		0.222	0.404	0.022	0.38	0.59
		Back	0.267		0.283	0.533	0.022	0.55	0.82
LTE Band 41 Ant 4	FR1 n77 Ant 3	Front	0.117		0.222	0.404	0.022	0.34	0.54
		Back	0.172		0.283	0.533	0.022	0.46	0.73
LTE Band 66 Ant 0	FR1 n77 Ant 3	Front	0.188		0.222	0.404	0.022	0.41	0.61
		Back	0.237		0.283	0.533	0.022	0.52	0.79
LTE Band 66 Ant 4	FR1 n77 Ant 3	Front	0.124		0.222	0.404	0.022	0.35	0.55
		Back	0.117		0.283	0.533	0.022	0.40	0.67

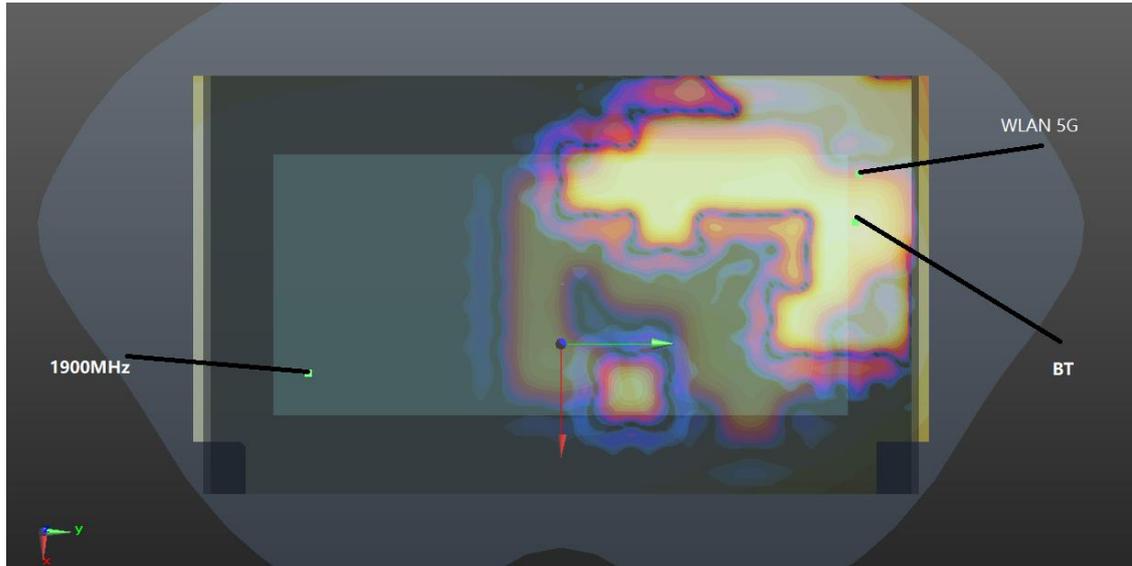


WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3 Summed 1g SAR (W/kg)	1+2+4+5 Summed 1g SAR (W/kg)
			WWAN	FR1	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Bluetooth Ant 6		
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
LTE Band 2 Ant 0	FR1 n77 Ant 5	Front	0.316	0.354	0.222	0.404	0.022	0.89	1.10
		Back	0.297	0.729	0.283	0.533	0.022	1.31	1.58
LTE Band 2 Ant 4	FR1 n77 Ant 5	Front	0.218	0.354	0.222	0.404	0.022	0.79	1.00
		Back	0.246	0.729	0.283	0.533	0.022	1.26	1.53
LTE Band 26 Ant 0	FR1 n77 Ant 5	Front		0.354	0.222	0.404	0.022	0.58	0.78
		Back		0.729	0.283	0.533	0.022	1.01	1.28
LTE Band 26 Ant 4	FR1 n77 Ant 5	Front		0.354	0.222	0.404	0.022	0.58	0.78
		Back		0.729	0.283	0.533	0.022	1.01	1.28
LTE Band 7 Ant 0	FR1 n77 Ant 5	Front	0.262	0.354	0.222	0.404	0.022	0.84	1.04
		Back	0.301	0.729	0.283	0.533	0.022	1.31	1.59
LTE Band 7 Ant 4	FR1 n77 Ant 5	Front	0.268	0.354	0.222	0.404	0.022	0.84	1.05
		Back	0.182	0.729	0.283	0.533	0.022	1.19	1.47
LTE Band 41 Ant 0	FR1 n77 Ant 5	Front	0.162	0.354	0.222	0.404	0.022	0.74	0.94
		Back	0.267	0.729	0.283	0.533	0.022	1.28	1.55
LTE Band 41 Ant 4	FR1 n77 Ant 5	Front	0.117	0.354	0.222	0.404	0.022	0.69	0.90
		Back	0.172	0.729	0.283	0.533	0.022	1.18	1.46
LTE Band 66 Ant 0	FR1 n77 Ant 5	Front	0.188	0.354	0.222	0.404	0.022	0.76	0.97
		Back	0.237	0.729	0.283	0.533	0.022	1.25	1.52
LTE Band 66 Ant 4	FR1 n77 Ant 5	Front	0.124	0.354	0.222	0.404	0.022	0.70	0.90
		Back	0.117	0.729	0.283	0.533	0.022	1.13	1.40

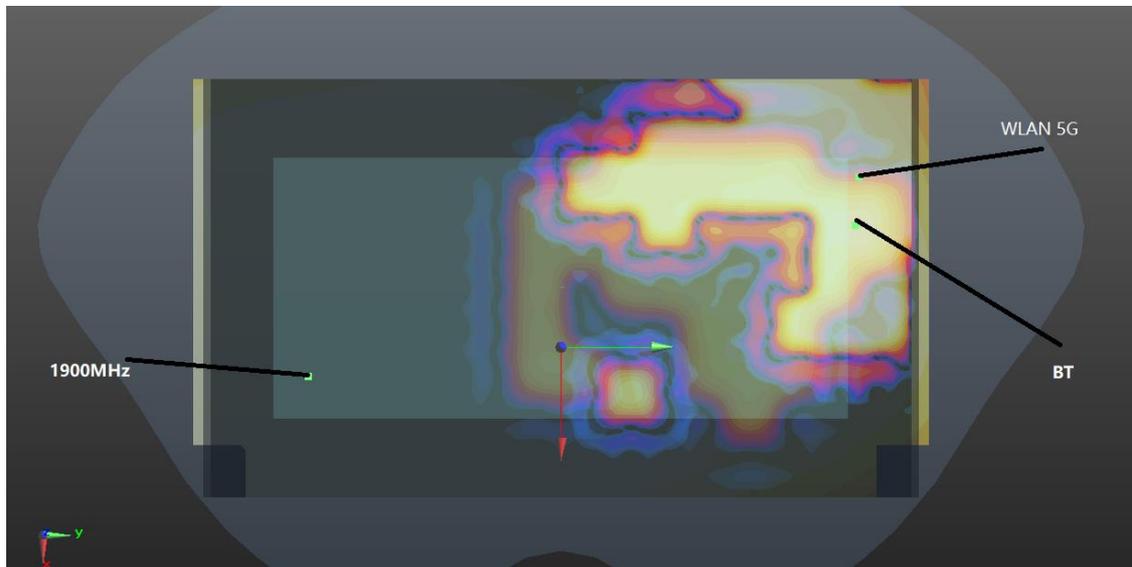
**16.4 SPLSR Evaluation and Analysis**

**General Note:**

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



**WWAN + WLAN5GHz+ BT for Hotspot**



**WWAN+ WLAN5GHz+ BT for Body-worn**



For Hotspot											
Case 01	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Plot No					X	Y	Z				
1	WCDMA II Ant 0	Back	1.085	15mm	22.3	-76.8	-3.41	171.4	1.61	0.01	Not required
2	WLAN5GHz		0.526	15mm	-32	85.8	-3.67				
1	WCDMA II Ant 0	Back	1.085	15mm	22.3	-76.8	-3.41	173.5	1.11	0.01	Not required
3	Bluetooth		0.022	15mm	-18	92	-3.57				
For Body-worn											
Case 02	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Plot No					X	Y	Z				
1	WCDMA II Ant 0	Back	1.085	15mm	22.3	-76.8	-3.41	171.4	1.62	0.01	Not required
4	WLAN5GHz		0.533	15mm	-32.1	85.7	-3.66				
1	WCDMA II Ant 0	Back	1.085	15mm	22.3	-76.8	-3.41	173.5	1.11	0.01	Not required
3	Bluetooth		0.022	15mm	-18	92	-3.57				

**Test Engineer : Bruce Li, Martin Li, Ricky Gu**



## **17. Uncertainty Assessment**

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



## **18. References**

- [1] FCC 47 CFR Part 2 “Frequency Allocations and Radio Treaty Matters; General Rules and Regulations”
- [2] ANSI/IEEE Std. C95.1-1992, “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz”, September 1992
- [3] IEEE Std. 1528-2013, “IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”, Sep 2013
- [4] SPEAG DASY System Handbook
- [5] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.
- [6] FCC KDB 865664 D02 v01r02, “RF Exposure Compliance Reporting and Documentation Considerations” Oct 2015.
- [7] FCC KDB 447498 D01 v06, “Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies”, Oct 2015
- [8] FCC KDB 648474 D04 v01r03, “SAR Evaluation Considerations for Wireless Handsets”, Oct 2015.
- [9] FCC KDB 248227 D01 v02r02, “SAR Guidance for IEEE 802.11 (WiFi) Transmitters”, Oct 2015.
- [10] FCC KDB 616217 D04 v01r02, “SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers”, Oct 2015
- [11] FCC KDB 941225 D01 v03r01, “3G SAR MEAUREMENT PROCEDURES”, Oct 2015
- [12] FCC KDB 941225 D05 v02r05, “SAR Evaluation Considerations for LTE Devices”, Dec 2015
- [13] FCC KDB 941225 D05A v01r02, “Rel. 10 LTE SAR Test Guidance and KDB Inquiries”, Oct 2015
- [14] FCC KDB 941225 D06 v02r01, "SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities", Oct 2015.

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



## **Appendix A. Plots of System Performance Check**

The plots are shown as follows.

### System Check\_Head\_750MHz

**DUT: D750V3 - SN:1087**

Communication System: UID 0, CW (0); Frequency: 750 MHz; Duty Cycle: 1:1

Medium: HSL\_750 Medium parameters used:  $f = 750$  MHz;  $\sigma = 0.914$  S/m;  $\epsilon_r = 41.907$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.3 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7684; ConvF(10.74, 10.74, 10.74); Calibrated: 2021/10/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021/6/18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Pin=50mW/Area Scan (61x61x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 0.548 W/kg

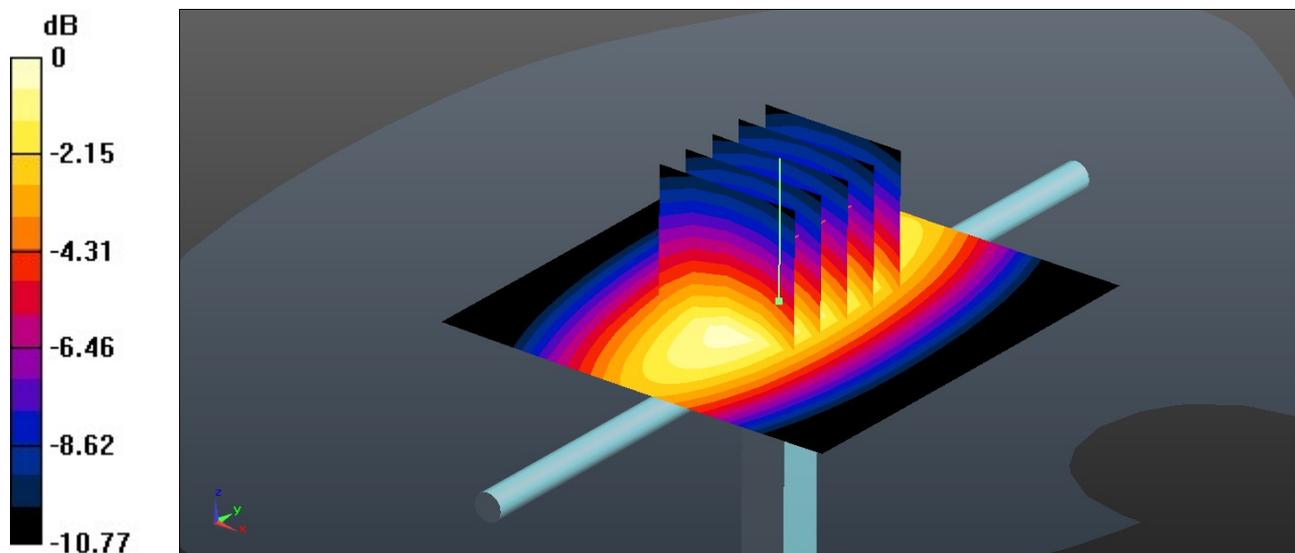
**Pin=50mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.38 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.623 W/kg

**SAR(1 g) = 0.407 W/kg; SAR(10 g) = 0.267 W/kg**

Maximum value of SAR (measured) = 0.547 W/kg



0 dB = 0.547 W/kg = -2.62 dBW/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 Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.925 \text{ S/m}$ ;  $\epsilon_r = 41.052$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature : 23.2 °C; Liquid Temperature : 22.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7684; ConvF(10.5, 10.5, 10.5); Calibrated: 2021/10/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021/6/18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Pin=50mW/Area Scan (61x61x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$   
Maximum value of SAR (interpolated) = 0.677 W/kg

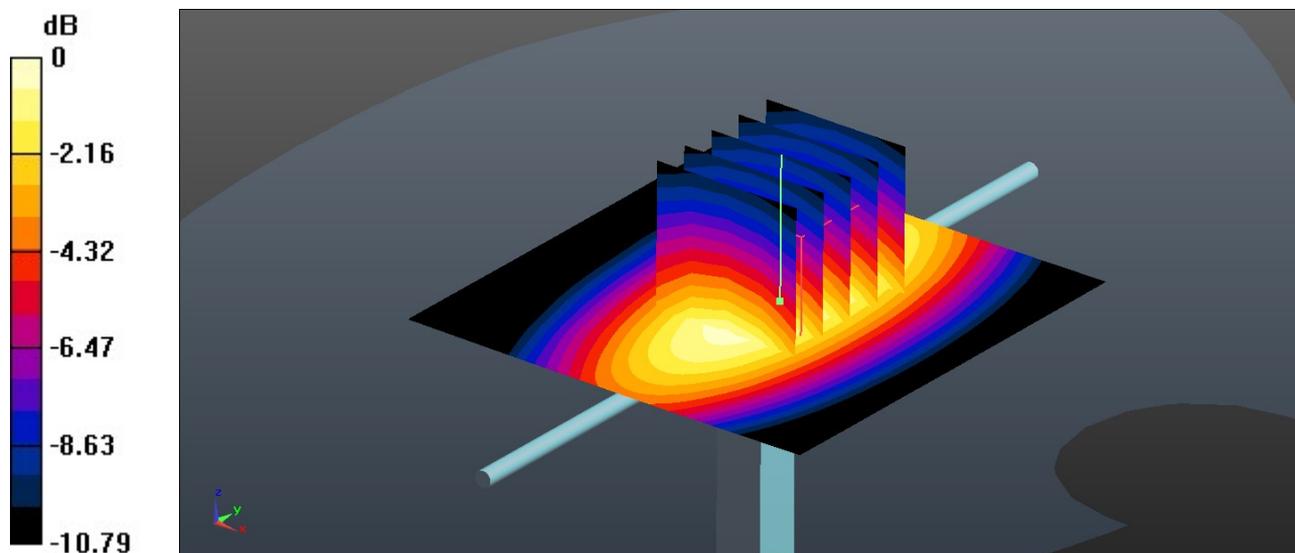
**Pin=50mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 27.65 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.746 W/kg

**SAR(1 g) = 0.478 W/kg; SAR(10 g) = 0.314 W/kg**

Maximum value of SAR (measured) = 0.648 W/kg



0 dB = 0.648 W/kg = -1.88 dBW/kg

### System Check\_Head\_1750MHz

**DUT: D1750V2 - SN:1090**

Communication System: UID 0, CW (0); Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: HSL\_1750 Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.409$  S/m;  $\epsilon_r = 40.669$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.1 °C; Liquid Temperature : 22.9 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7684; ConvF(9.15, 9.15, 9.15); Calibrated: 2021/10/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021/6/18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Pin=50mW/Area Scan (61x61x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
 Maximum value of SAR (interpolated) = 3.16 W/kg

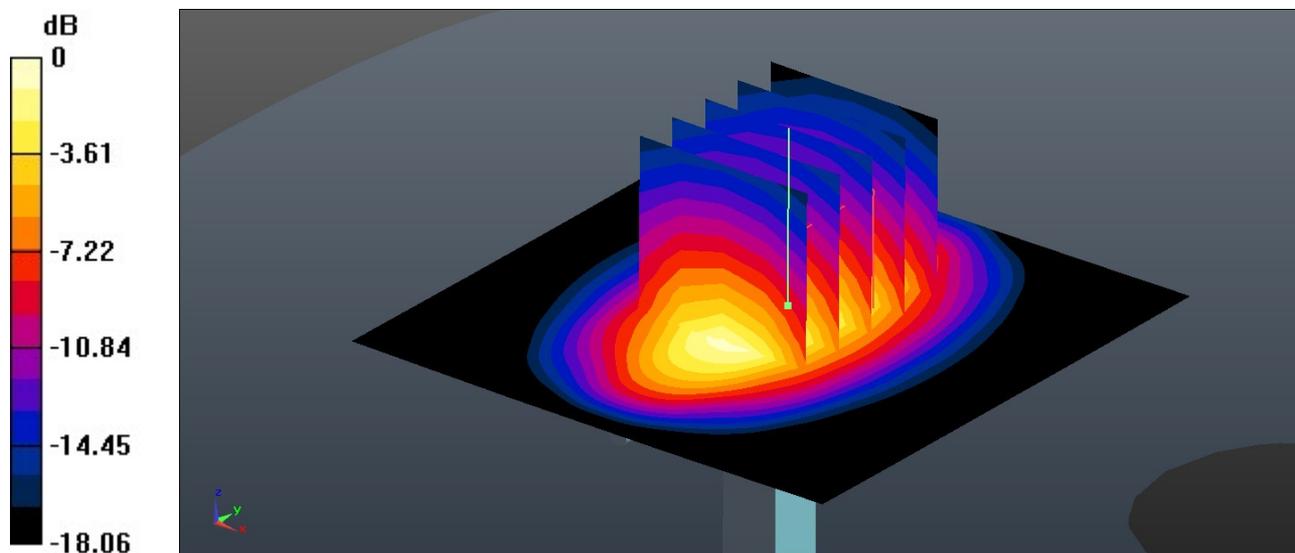
**Pin=50mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 47.51 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 3.71 W/kg

**SAR(1 g) = 1.93 W/kg; SAR(10 g) = 1.01 W/kg**

Maximum value of SAR (measured) = 3.00 W/kg



0 dB = 3.00 W/kg = 4.77 dBW/kg

### System Check\_Head\_1900MHz

**DUT: D1900V2 - SN:5d170**

Communication System: UID 0, CW (0); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL\_1900 Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.432$  S/m;  $\epsilon_r = 39.776$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.4 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7684; ConvF(8.73, 8.73, 8.73); Calibrated: 2021/10/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021/6/18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Pin=50mW/Area Scan (61x61x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 3.16 W/kg

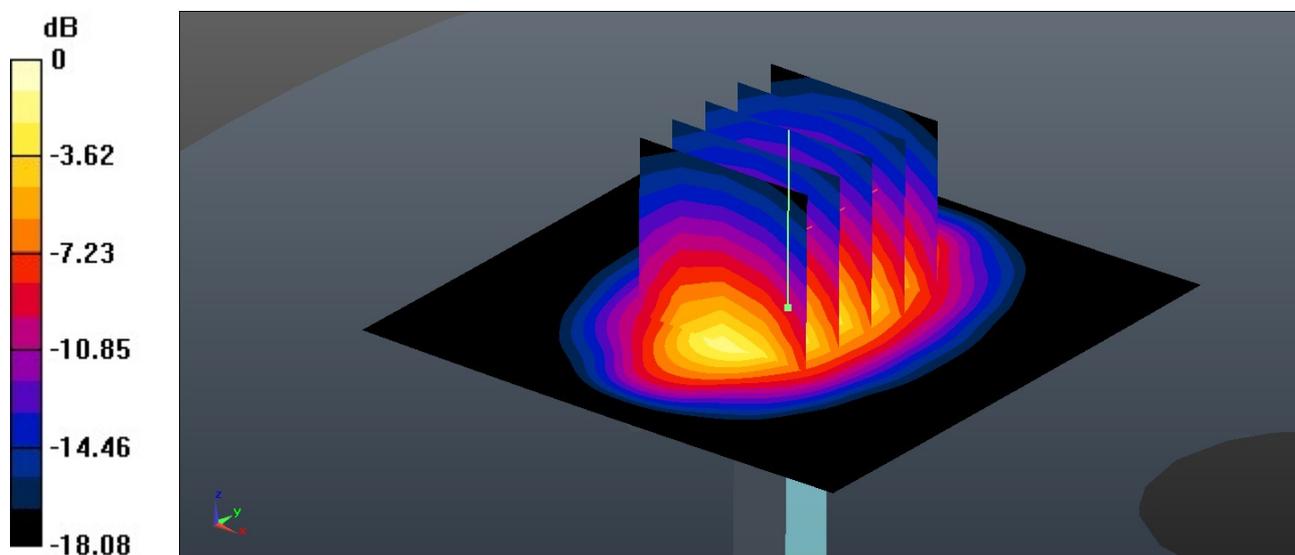
**Pin=50mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 48.63 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 3.79 W/kg

**SAR(1 g) = 2 W/kg; SAR(10 g) = 1.03 W/kg**

Maximum value of SAR (measured) = 3.17 W/kg



0 dB = 3.17 W/kg = 5.01 dBW/kg

### System Check\_Head\_2450MHz

**DUT: D2450V2 - SN:908**

Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1  
Medium: HSL\_2450 Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.805$  S/m;  $\epsilon_r = 38.56$ ;  $\rho = 1000$  kg/m<sup>3</sup>

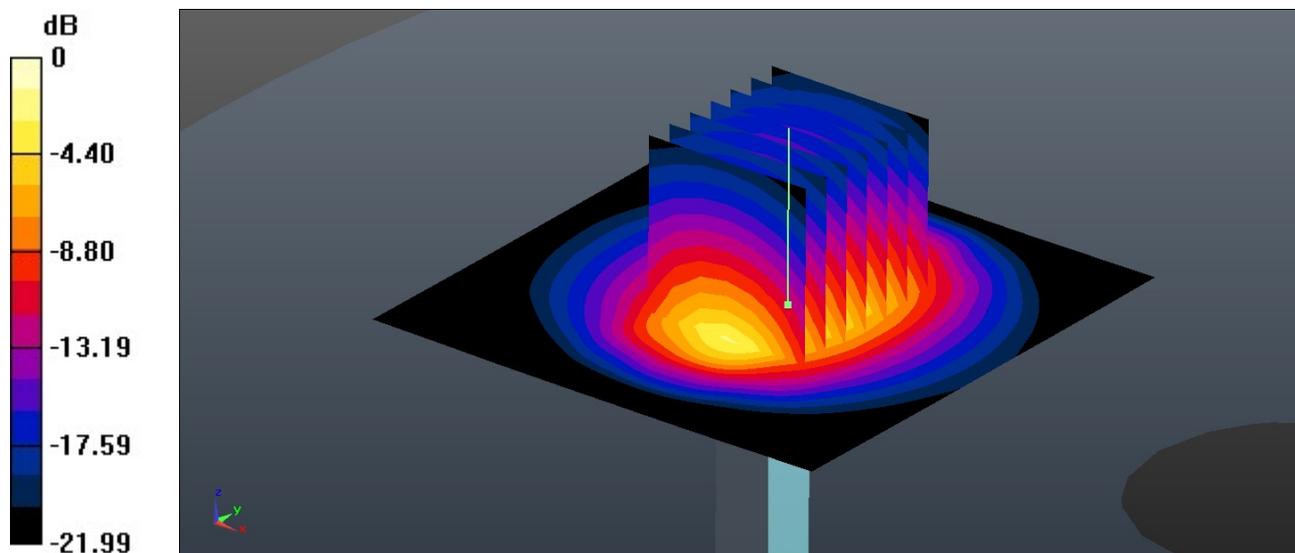
Ambient Temperature : 23.2 °C; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN7684; ConvF(8.28, 8.28, 8.28); Calibrated: 2021/10/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021/6/18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Pin=50mW/Area Scan (71x71x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm  
Maximum value of SAR (interpolated) = 4.16 W/kg

**Pin=50mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 47.31 V/m; Power Drift = -0.06 dB  
Peak SAR (extrapolated) = 5.17 W/kg  
**SAR(1 g) = 2.43 W/kg; SAR(10 g) = 1.12 W/kg**  
Maximum value of SAR (measured) = 4.12 W/kg



0 dB = 4.12 W/kg = 6.15 dBW/kg

### System Check\_Head\_2600MHz

**DUT: D2600V2 - SN:1061**

Communication System: UID 0, CW (0); Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: HSL\_2600 Medium parameters used:  $f = 2600$  MHz;  $\sigma = 1.924$  S/m;  $\epsilon_r = 38.253$ ;  $\rho = 1000$  kg/m<sup>3</sup>

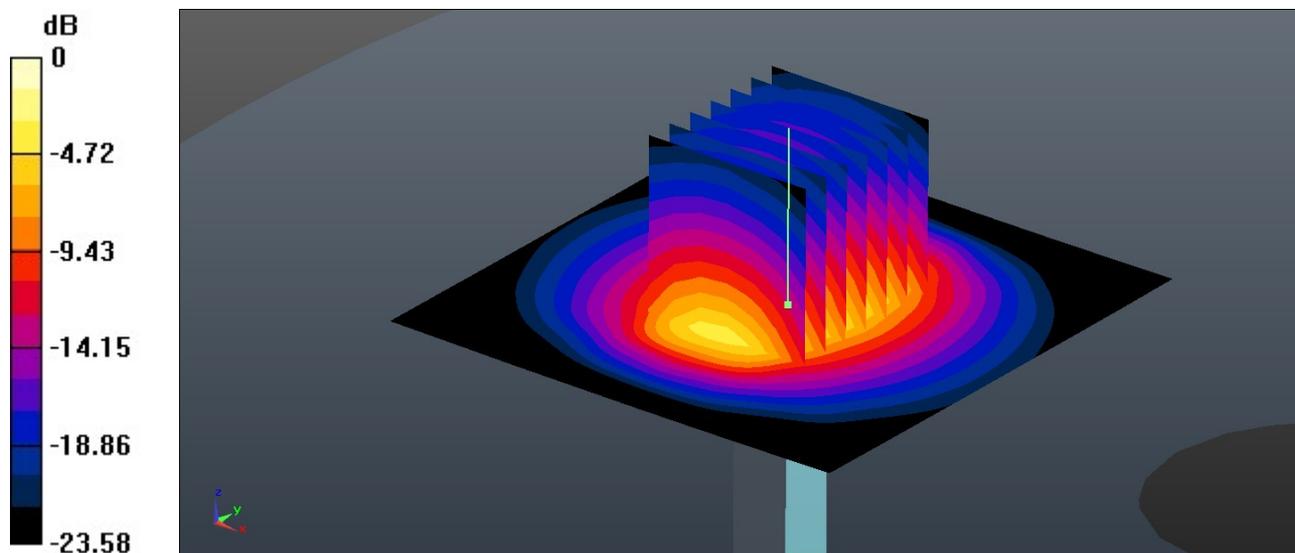
Ambient Temperature : 23.2 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7684; ConvF(8.14, 8.14, 8.14); Calibrated: 2021/10/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021/6/18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Pin=50mW/Area Scan (71x71x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm  
Maximum value of SAR (interpolated) = 4.50 W/kg

**Pin=50mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 50.05 V/m; Power Drift = -0.02 dB  
Peak SAR (extrapolated) = 5.91 W/kg  
**SAR(1 g) = 2.64 W/kg; SAR(10 g) = 1.18 W/kg**  
Maximum value of SAR (measured) = 4.62 W/kg



0 dB = 4.62 W/kg = 6.65 dBW/kg

### System Check\_Head\_3500MHz

**DUT: D3500V2 - SN:1037**

Communication System: UID 0, CW (0); Frequency: 3500 MHz; Duty Cycle: 1:1

Medium: HSL\_3500 Medium parameters used:  $f = 3500$  MHz;  $\sigma = 2.808$  S/m;  $\epsilon_r = 39.002$ ;  $\rho = 1000$  kg/m<sup>3</sup>

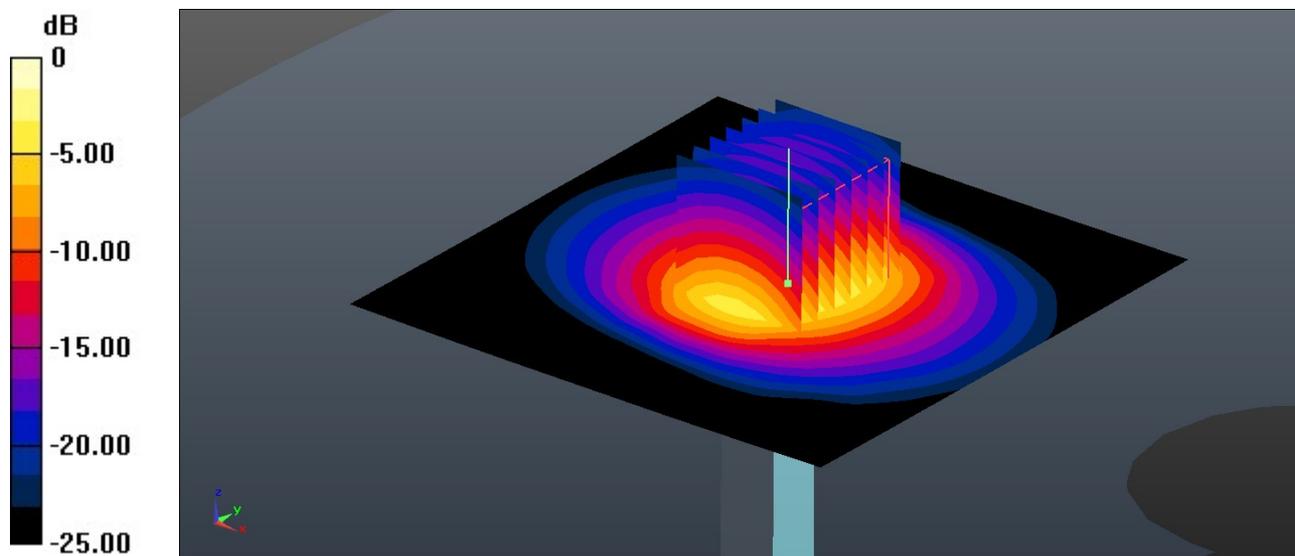
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.9 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7684; ConvF(7.37, 7.37, 7.37); Calibrated: 2021/10/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021/6/18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Pin=50mW/Area Scan (91x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm  
Maximum value of SAR (interpolated) = 5.94 W/kg

**Pin=50mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm  
Reference Value = 46.99 V/m; Power Drift = -0.02 dB  
Peak SAR (extrapolated) = 8.00 W/kg  
**SAR(1 g) = 3.25 W/kg; SAR(10 g) = 1.25 W/kg**  
Maximum value of SAR (measured) = 5.97 W/kg



0 dB = 5.97 W/kg = 7.76 dBW/kg

### System Check\_Head\_3700MHz

**DUT: D3700V2 - SN:1008**

Communication System: UID 0, CW (0); Frequency: 3700 MHz; Duty Cycle: 1:1  
Medium: HSL\_3700 Medium parameters used:  $f = 3700$  MHz;  $\sigma = 2.994$  S/m;  $\epsilon_r = 38.681$ ;  $\rho = 1000$  kg/m<sup>3</sup>

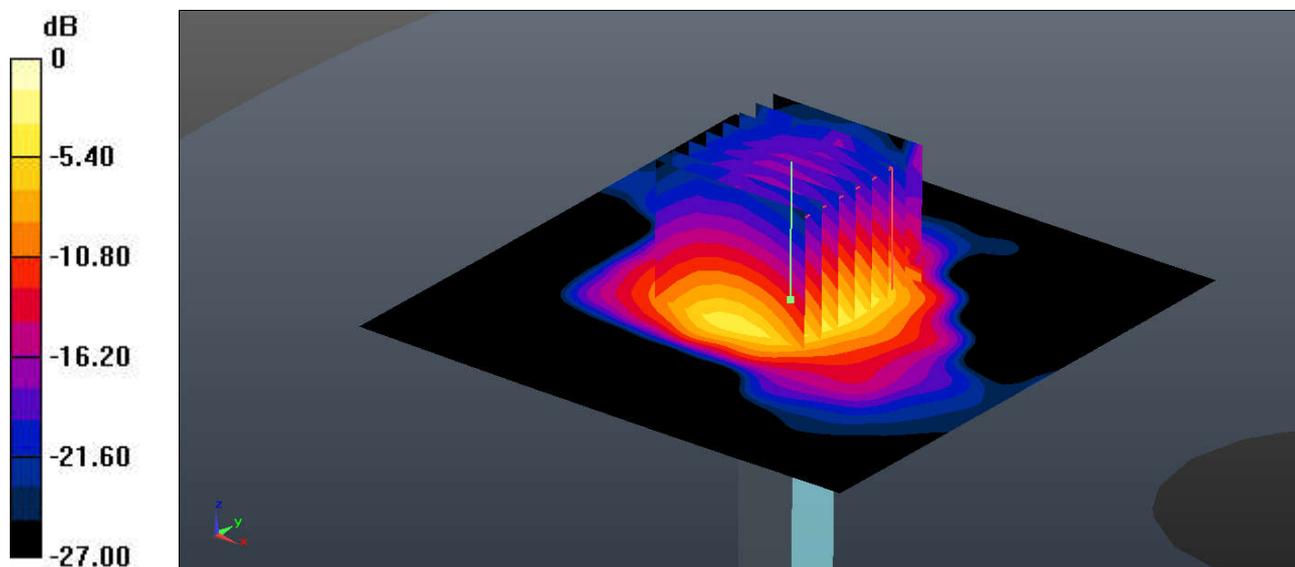
Ambient Temperature : 23.2 °C; Liquid Temperature : 22.9 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN7684; ConvF(7.27, 7.27, 7.27); Calibrated: 2021/10/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021/6/18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Pin=50mW/Area Scan (91x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm  
Maximum value of SAR (interpolated) = 6.39 W/kg

**Pin=50mW/Zoom Scan (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm  
Reference Value = 47.87 V/m; Power Drift = 0.03 dB  
Peak SAR (extrapolated) = 8.65 W/kg  
**SAR(1 g) = 3.32 W/kg; SAR(10 g) = 1.23 W/kg**  
Maximum value of SAR (measured) = 6.49 W/kg



0 dB = 6.49 W/kg = 8.12 dBW/kg

### System Check\_Head\_3900MHz

**DUT: D3900V2 - SN:1048**

Communication System: UID 0, CW (0); Frequency: 3900 MHz; Duty Cycle: 1:1

Medium: HSL\_3900 Medium parameters used:  $f = 3900$  MHz;  $\sigma = 3.194$  S/m;  $\epsilon_r = 38.385$ ;  $\rho = 1000$  kg/m<sup>3</sup>

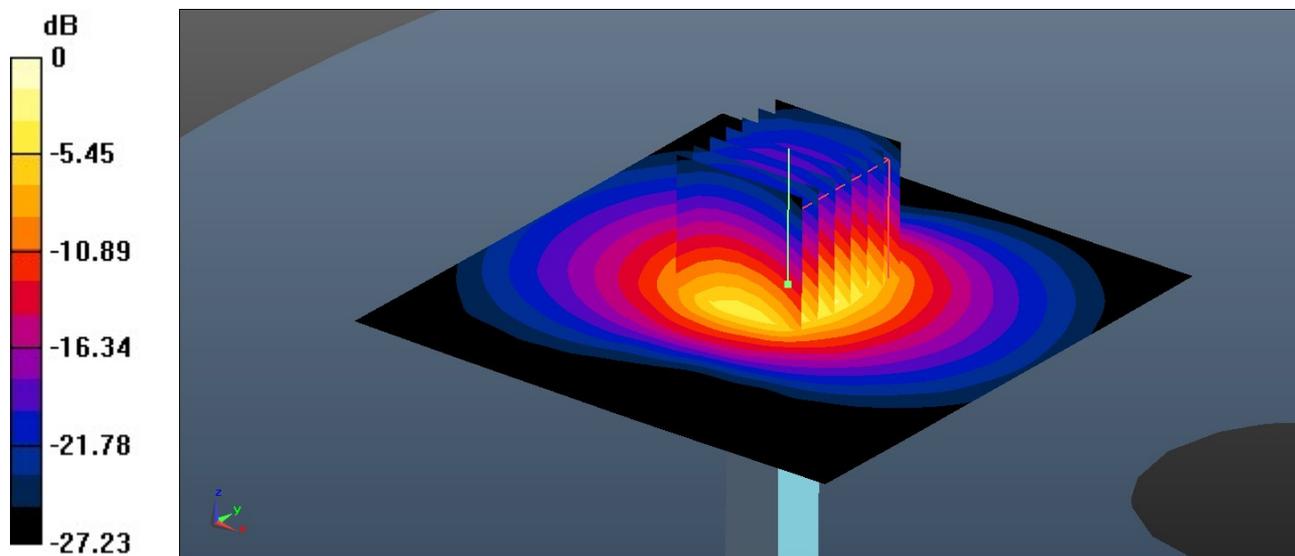
Ambient Temperature : 23.2 °C; Liquid Temperature : 22.9 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7684; ConvF(6.83, 6.83, 6.83); Calibrated: 2021/10/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021/6/18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Pin=50mW/Area Scan (91x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm  
 Maximum value of SAR (interpolated) = 6.30 W/kg

**Pin=50mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm  
 Reference Value = 44.18 V/m; Power Drift = 0.05 dB  
 Peak SAR (extrapolated) = 8.57 W/kg  
**SAR(1 g) = 3.23 W/kg; SAR(10 g) = 1.14 W/kg**  
 Maximum value of SAR (measured) = 6.48 W/kg



0 dB = 6.48 W/kg = 8.12 dBW/kg

### System Check\_Head\_5250MHz

**DUT: D5GHzV2 - SN:1113**

Communication System: UID 0, CW (0); Frequency: 5250 MHz; Duty Cycle: 1:1  
Medium: HSL\_5000 Medium parameters used:  $f = 5250$  MHz;  $\sigma = 4.58$  S/m;  $\epsilon_r = 36.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

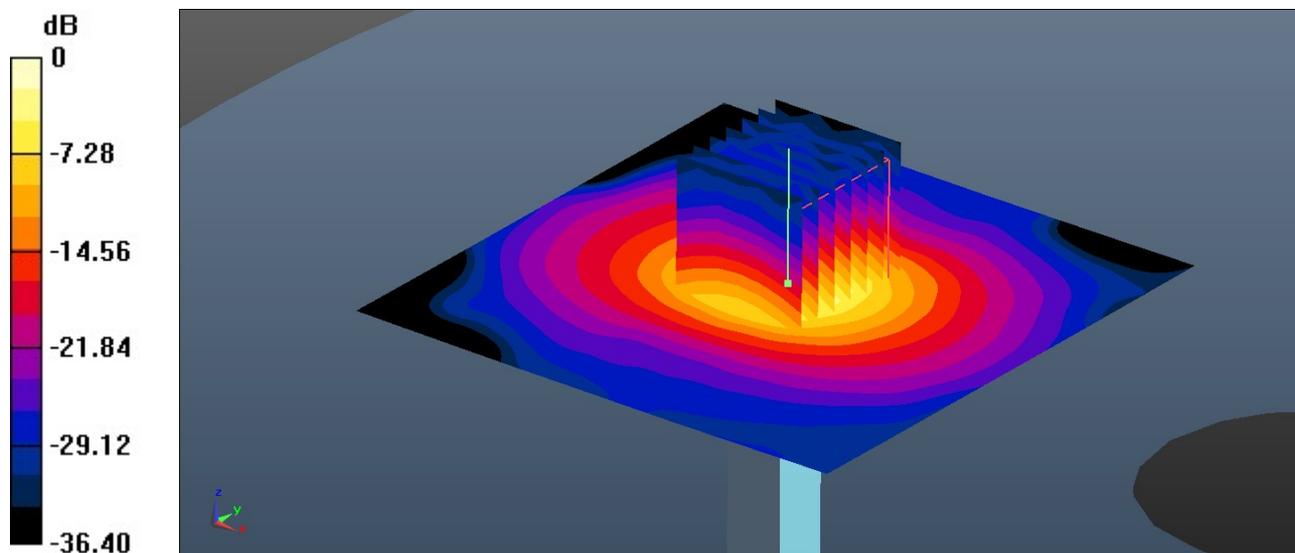
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.8 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN7684; ConvF(5.85, 5.85, 5.85); Calibrated: 2021/10/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021/6/18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Pin=50mW/Area Scan (91x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm  
Maximum value of SAR (interpolated) = 7.90 W/kg

**Pin=50mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm  
Reference Value = 46.18 V/m; Power Drift = -0.16 dB  
Peak SAR (extrapolated) = 14.0 W/kg  
**SAR(1 g) = 3.77 W/kg; SAR(10 g) = 1.08 W/kg**  
Maximum value of SAR (measured) = 8.87 W/kg



0 dB = 8.87 W/kg = 9.48 dBW/kg

### System Check\_Head\_5600MHz

**DUT: D5GHzV2 - SN:1113**

Communication System: UID 0, CW (0); Frequency: 5600 MHz; Duty Cycle: 1:1  
Medium: HSL\_5000 Medium parameters used:  $f = 5600$  MHz;  $\sigma = 4.947$  S/m;  $\epsilon_r = 35.74$ ;  $\rho = 1000$  kg/m<sup>3</sup>

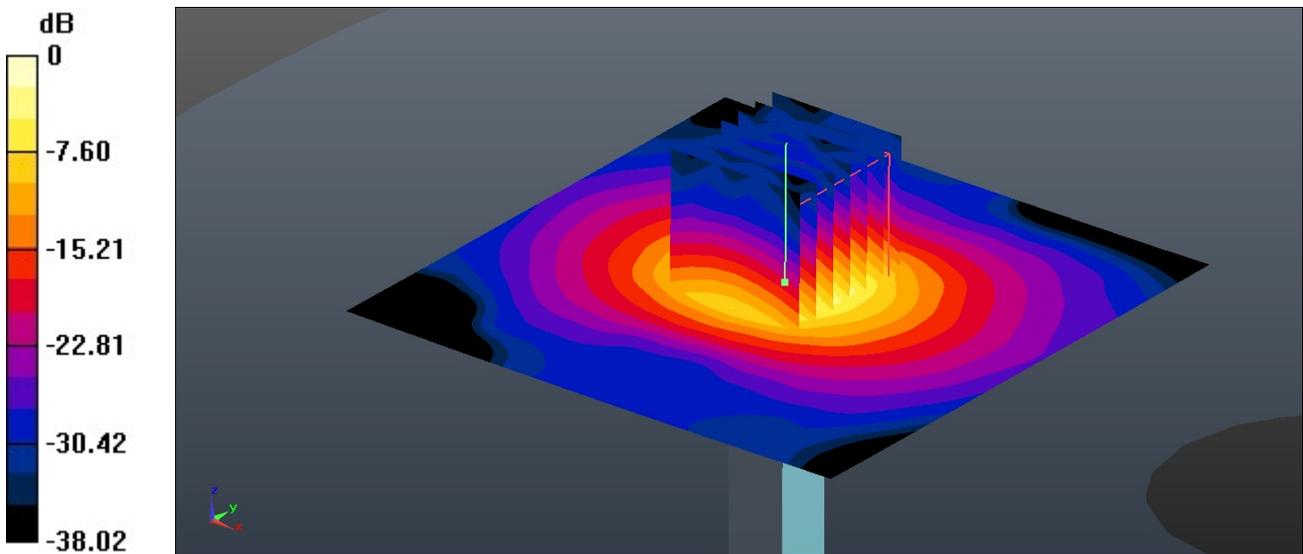
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN7684; ConvF(5.05, 5.05, 5.05); Calibrated: 2021/10/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021/6/18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Pin=50mW/Area Scan (91x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm  
Maximum value of SAR (interpolated) = 9.51 W/kg

**Pin=50mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm  
Reference Value = 47.67 V/m; Power Drift = 0.10 dB  
Peak SAR (extrapolated) = 17.5 W/kg  
**SAR(1 g) = 4.04 W/kg; SAR(10 g) = 1.14 W/kg**  
Maximum value of SAR (measured) = 10.4 W/kg



0 dB = 10.4 W/kg = 10.17 dBW/kg