

FCC SAR Test Report

APPLICANT : Xiaomi Communications Co., Ltd.
EQUIPMENT : Mobile Phone
BRAND NAME : Xiaomi
MODEL NAME : 2203129G
FCC ID : 2AFZZ3129G
STANDARD : FCC 47 CFR Part 2 (2.1093)

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

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

Tony Zhang

Reviewed by: Tong Zhang / Supervisor

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Approved by: Kat Yin / Manager



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Report No. : FA211306

Revision History

[illegible]

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Xiaomi Communications Co., Ltd., Mobile Phone, 2203129G**, are as follows.

Highest 1g SAR Summary						
Equipment Class	Frequency Band		Head (Separation 0mm)	Hotspot (Separation 10mm)	Body-worn (Separation 15mm)	Highest Simultaneous Transmission 1g SAR (W/kg)
			1g SAR (W/kg)			
Licensed	GSM	GSM850	0.86	0.61	0.38	1.59
		GSM1900	0.92	0.58	0.23	
	WCDMA	Band II	1.05	0.94	0.59	
		Band IV	0.92	1.09	0.55	
		Band V	0.76	0.76	0.42	
	LTE	Band 2	0.86	0.57	0.48	
		Band 26/Band 5	0.98	0.90	0.73	
		Band 7	1.05	0.29	0.59	
		Band 12/Band 17	0.94	0.58	0.55	
		Band 13	0.52	0.77	0.27	
		Band 66/ Band 4	0.72	0.55	0.47	
		Band 41/Band 38	1.04	0.36	0.34	
		Band 42	0.99	0.63	0.40	
		Band 48	1.06	0.50	0.17	
	5G NR	n5	0.57	0.73	0.52	
		n7	0.78	0.43	0.50	
		n66	0.72	0.67	0.52	
		n41/ n38	1.06	0.55	0.40	
		n77	0.88	0.32	0.51	
		n78	1.09	0.41	0.52	
DTS	WLAN	2.4GHz WLAN	0.45	0.42	<0.10	1.58
NII		5GHz WLAN	0.71	1.07	0.59	1.59
DSS	Bluetooth	2.4GHz Bluetooth	0.71	0.20	<0.10	1.59

Highest 10g SAR Summary				
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)	Highest Simultaneous Transmission 10g SAR (W/kg)
Licensed	WCDMA	Band II	2.43	3.98
		Band IV	2.59	
	LTE	Band 2	2.50	
		Band 26/Band 5	1.43	
		Band 12/Band 17	1.27	
		Band 66/ Band 4	2.54	
NII	WLAN	5GHz WLAN	2.66	3.98
Date of Testing:			2022/2/14 ~ 2022/2/25	

Remark:

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

Declaration of Conformity:

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

Comments and Explanations:

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

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

2. Administration Data

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

Testing Laboratory			
Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	SAR04-KS	CN1257	314309

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

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

3. Guidance Applied

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

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

4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Phone
Brand Name	Xiaomi
Model Name	2203129G
FCC ID	2AFZZ3129G
IMEI Code	SIM1: 868214060089024 SIM2: 868214060089032
Wireless Technology and Frequency Range	GSM850: 824 MHz ~ 849 MHz GSM1900: 1850 MHz ~ 1910 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~ 3550MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n77: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz 5G NR n78: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3800 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC: 13.56 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+(16QAM uplink is not supported) LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR : CP-OFDM / DFT-s-OFDM, PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 2.4GHz 802.11ax HE20/HE40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80/VHT160 WLAN 5GHz 802.11ax HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE NFC:ASK
HW Version	P2
SW Version	MIUI 13

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

Remark:

1. 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 33.
5. For dual SIM card mobile has two SIM slots and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active). After pre-scan two SIM cards power, we found test result of the SIM1 was the worse, so we chose SIM1 slot to perform all tests.
6. There are three types of EUT. The sample 1 is 6+128GB capacity + Battery 1, the sample 2 is 8+256GB capacity + Battery 2 and the sample 3 is 8+128GB capacity + Battery 1. 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 5: hotspot on power; DSI 3: P-sensor on for handheld; DSI 4: receiver off/P-sensor off).
8. For WLAN/BT when transmit simultaneous with WWAN, power reduction will be activated to head, hotspot, body.
9. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
10. NSA and SA mode should perform SAR separately. For the maximum power of NSA mode is the same as SA total power level, so SA SAR can represent NSA mode SAR.
11. 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. 5G NR n78 supports HPUE, HPUE power and SAR testing performed separately.
15. 5G NR n78 HPUE with higher power, n78 HPUE SAR can represent power class 3 level SAR.
16. 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.
17. 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, 25, 30, 40
	n66	FDD	15	5, 10, 15, 20, 30, 40
	n77	TDD	30	20, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	30	20, 30, 40, 50, 60, 70, 80, 90, 100
SA	n5	FDD	15	5, 10, 15, 20
	n7	FDD	15	5, 10, 15, 20, 25, 30, 40, 50
	n66	FDD	15	5, 10, 15, 20, 30, 40
	n38	TDD	30	20, 30, 40
	n41	TDD	30	20, 30, 40, 50, 60, 70, 80, 90, 100
	n77	TDD	30	20, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	30	20, 30, 40, 50, 60, 70, 80, 90, 100

4.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																																													
FCC ID	2AFZZ3129G																																																																												
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 42: 3450 MHz ~ 3550MHz LTE Band 48: 3550 MHz ~ 3700 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 42: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 48: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz																																																																												
uplink modulations used	QPSK / 16QAM / 64QAM /256QAM																																																																												
LTE Voice / Data requirements	Voice and Data																																																																												
LTE Release Version	R15, Cat18																																																																												
CA Support	Supported, Uplink and Downlink																																																																												
LTE MPR permanently built-in by design	<table><tr><th colspan="8">Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</th></tr><tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th><th rowspan="2">MPR (dB)</th></tr><tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr><tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 3</td></tr><tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr></table>							Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3								Modulation	Channel bandwidth / Transmission bandwidth (N _{RB})						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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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																																																																						
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, when operating in Proximity sensors/receiver detect mechanism/hotspot, head/body-worn/ hotspot/extremity will trigger reduced power for some bands applied to satisfy SAR compliance, 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 4 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					
	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				
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5				
H	20643	848.3	20635	847.5	20625	846.5	20600	844				
LTE Band 7												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510				
M	21100	2535	21100	2535	21100	2535	21100	2535				
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560				
LTE Band 12												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704				
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5				
H	23173	715.3	23165	714.5	23155	713.5	23130	711				
LTE Band 13												
	Bandwidth 5 MHz					Bandwidth 10 MHz						
	Channel #		Freq.(MHz)			Channel #		Freq.(MHz)				
L	23205		779.5			23230		782				
M	23230		782									
H	23255		784.5									
LTE Band 17												
	Bandwidth 5 MHz					Bandwidth 10 MHz						
	Channel #		Freq.(MHz)			Channel #		Freq. (MHz)				
L	23755		706.5			23780		709				
M	23790		710			23790		710				
H	23825		713.5			23800		711				
LTE Band 26												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz			
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5		
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5		
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5		

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

LTE Band 42								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	42115	3452.5	42140	3455	42165	3457.5	42190	3460
M	42590	3500	42590	3500	42590	3500	42590	3500
H	43065	3547.5	43040	3545	43015	3542.5	42990	3540
LTE Band 48								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	55265	3552.5	55290	3555	55315	3557.5	55340	3560
LM	55810	3607	55815	3607.5	55820	3608	55830	3609
MH	56170	3643	56165	3642.5	56160	3642	56150	3641
H	56715	3697.5	56690	3695	56665	3692.5	56640	3690

4.3 General 5G NR SAR Test and Reporting Considerations

5G NR Information	
Operating Frequency Range of each 5G NR transmission band	5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n77: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz 5G NR n78: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3800 MHz
Channel Bandwidth	5G NR n5: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n7: 5MHz, 10MHz, 15MHz, 20MHz, 25MHz, 30MHz, 40MHz, 50MHz 5G NR n38: 20MHz, 30MHz, 40MHz 5G NR n41: 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz 5G NR n66: 5MHz, 10MHz, 15MHz, 20MHz, 30MHz, 40MHz 5G NR n77: 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz 5G NR n78: 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz
SCS	FDD: SCS15KHz, TDD: SCS30KHz
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM
A-MPR (Additional MPR) disabled for SAR Testing?	Yes
LTE Anchor Bands for n5	LTE B7/66
LTE Anchor Bands for n7	LTE B2/5/66
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								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	165300	826.5	165800	829	166300	831.5	166800	834
M	167300	836.5	167300	836.5	167300	836.5	167300	836.5
H	169300	846.5	168800	844	168300	841.5	167800	839

NR Band 7																
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500500	2502.5	501000	2505	501500	2507.5	502000	2510	502500	2512.5	503000	2515	504000	2520	505000	2525
M	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535
H	513500	2567.5	513000	2565	512500	2562.5	512000	2560	511500	2557.5	511000	2555	510000	2550	509000	2545

NR Band 66													
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	
L	342500	1712.5	343000	1715	343500	1717.5	344000	1720	345000	1725	346000	1730	
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	
H	355500	1777.5	355000	1775	354500	1772.5	354000	1770	353000	1765	352000	1760	

NR Band 38						
	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																
	Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	501204	2506.02	502200	2511	503202	2516.01	504204	2521.02	505200	2526	506202	2531.01	507204	2536.02	508200	2541	509202	2546.01
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	535998	2679.99	534996	2674.98	534000	2670	532998	2664.99	531996	2659.98	531000	2655	529998	2649.99	528996	2644.98	528000	2640



<3700 MHz ~ 3980 MHz>

NR Band 77																	
Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02	650000	3750
M 656000	3840	656000	3840	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	663000	3945	662668	3940.02	662334	3935.01	662000	3930

NR Band 78																	
Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02		
M 650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750
H 652668	3790.02	652334	3785.01	652000	3780	651668	3775.02	651334	3770.01	651000	3765	650668	3760.02	650334	3755.01		

<3450 MHz ~ 3550 MHz>

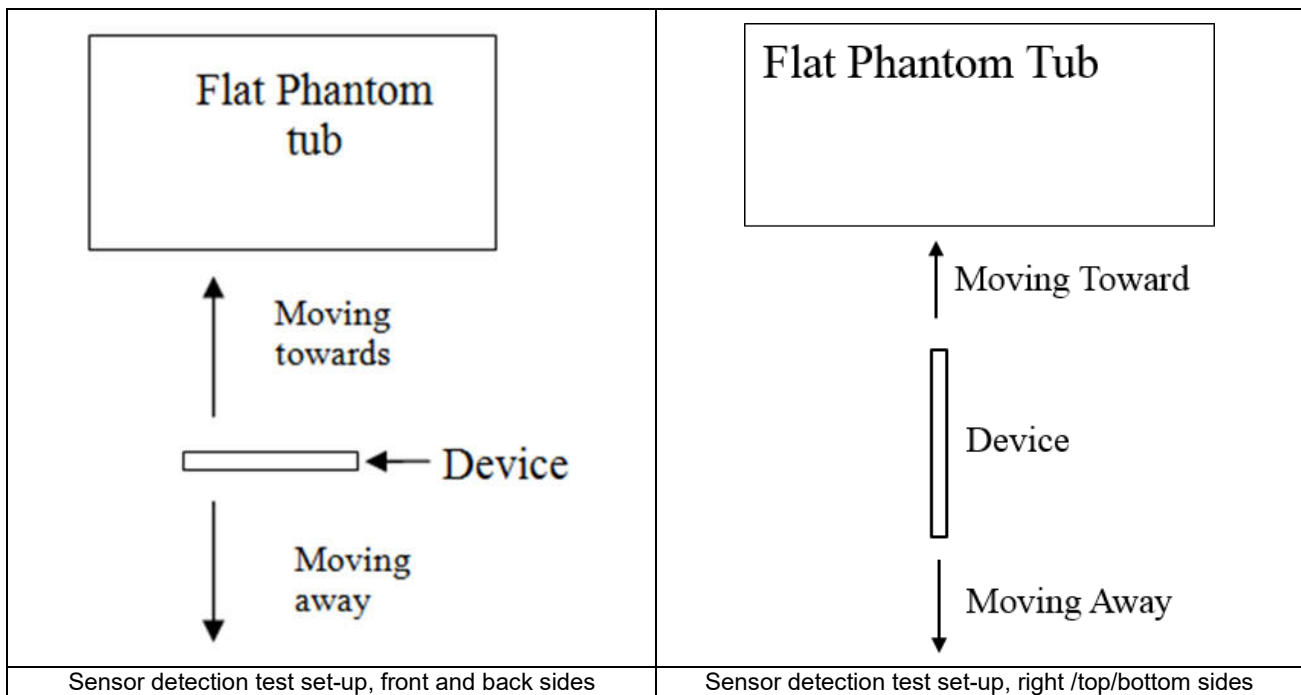
NR Band 77																	
Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 630668	3460.02	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495		
M 633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01
H 636000	3540	635668	3535.02	635334	3530.01	635000	3525	634668	3520.02	634334	3515.01	634000	3510	633668	3505.02		

NR Band 78																	
Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 630668	3460.02	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495		
M 633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01
H 636000	3540	635668	3535.02	635334	3530.01	635000	3525	634668	3520.02	634334	3515.01	634000	3510	633668	3505.02		

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 (5850MHz) and lowest (835MHz) frequency was used for proximity sensor triggering testing.
3. Capacitive proximity sensor placed coincident with antenna elements at the top/bottom end of the phone are utilized to determine when the device comes in proximity of the user's body or finger or hand at the front or back or bottom or left or right or top side of the device. There is no need to do sensor coverage testing for the proximity sensor is designed to support sufficient detection range and sensitivity to cover regions of the sensors in all applicable directions since the proximity sensor entirely covers the antenna.
4. The sensors can use to detect the proximity of the user's body or handheld states at the front or back or bottom or top or right side of the device use a detection threshold distance. When front/back/ right /top/bottom sides of body or handheld condition is detected reduced power will be active. The trigger distance shown in the sections below. The verification test and more details please refer to sensor operation description.
5. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance -1mm was performed.



<P-Sensor>

<Sensor on for Ant0/3 >

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

<Sensor on for Ant5/10/11 >

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

6. RF Exposure Limits

6.1 Uncontrolled Environment

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

6.2 Controlled Environment

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

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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

7. Specific Absorption Rate (SAR)

7.1 Introduction

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

7.2 SAR Definition

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

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

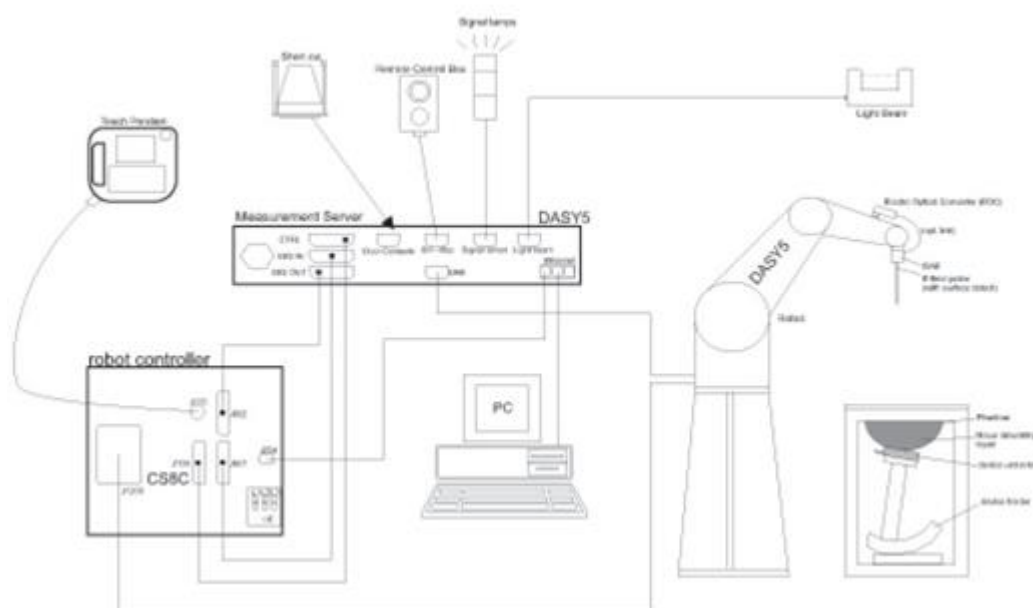
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

8. System Description and Setup

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



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

8.1 E-Field Probe

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

<EX3DV4 Probe>

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

8.2 Data Acquisition Electronics (DAE)

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

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



Photo of DAE

8.3 Phantom

<SAM Twin Phantom>

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

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

<ELI Phantom>

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

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

8.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

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



Mounting Device for Hand-Held Transmitters



Mounting Device Adaptor for Wide-Phones

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

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



Mounting Device for Laptops

9. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

9.1 *Spatial Peak SAR Evaluation*

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

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

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

- (a) Extraction of the measured data (grid and values) from the Zoom Scan
- (b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
- (c) Generation of a high-resolution mesh within the measured volume
- (d) Interpolation of all measured values 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.

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 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: $\Delta x_{\text{Area}}, \Delta y_{\text{Area}}$	≤ 2 GHz: ≤ 15 mm $2 - 3$ GHz: ≤ 12 mm	$3 - 4$ GHz: ≤ 12 mm $4 - 6$ GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be $\leq$ 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: $\Delta x_{\text{Zoom}}, \Delta y_{\text{Zoom}}$			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm *	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{\text{Zoom}}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{\text{Zoom}}(1)$: between 1 st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{\text{Zoom}}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{\text{Zoom}}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.				
* When zoom scan is required and the <u>reported</u> SAR from the <i>area scan based 1-g SAR estimation</i> procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

9.5 Volume Scan Procedures

The volume scan is used 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 DASY measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drifts more than 5%, the SAR will be retested.

10. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1087	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	1241332126	2022/1/6	2023/1/5
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Rohde & Schwarz	Signal Generator	SMB100A	178155	2021/4/13	2022/4/12
Keysight	Preamplifier	83017A	MY57280111	2021/7/12	2022/7/11
Anritsu	Radio Communication Analyzer	MT8821C	6201432831	2021/4/13	2022/4/12
Agilent	ENA Series Network Analyzer	E5071C	MY46106933	2021/7/31	2022/7/30
SPEAG	Dielectric Probe Kit	DAK-3.5	1138	2021/6/9	2022/6/8
Anritsu	Vector Signal Generator	MG3710A	6201682672	2022/1/6	2023/1/5
Rohde & Schwarz	Power Meter	NRVD	102081	2021/8/12	2022/8/11
Rohde & Schwarz	Power Sensor	NRV-Z5	100538	2021/8/12	2022/8/11
Rohde & Schwarz	Power Sensor	NRV-Z5	100539	2021/8/12	2022/8/11
Rohde & Schwarz	Power Sensor	NRP50S	101385	2021/3/15	2022/3/14
R&S	CBT BLUETOOTH TESTER	CBT	101246	2021/4/12	2022/4/11
EXA	Spectrum Analyzer	FSV7	101631	2021/10/14	2022/10/13
FLUKE	DIGITAC THERMOMETER	51II	97240029	2021/8/13	2022/8/12
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.

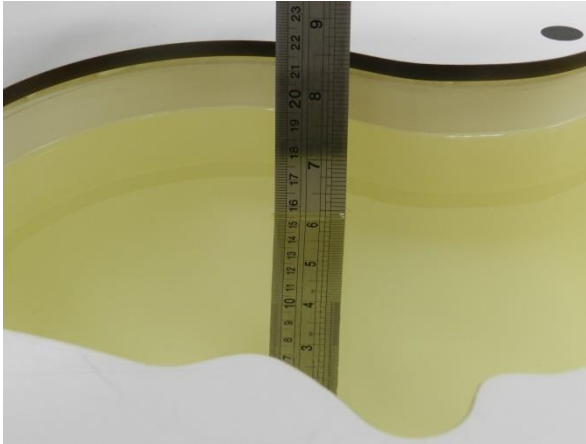


Fig 11.1 Photo of Liquid Height for Head SAR

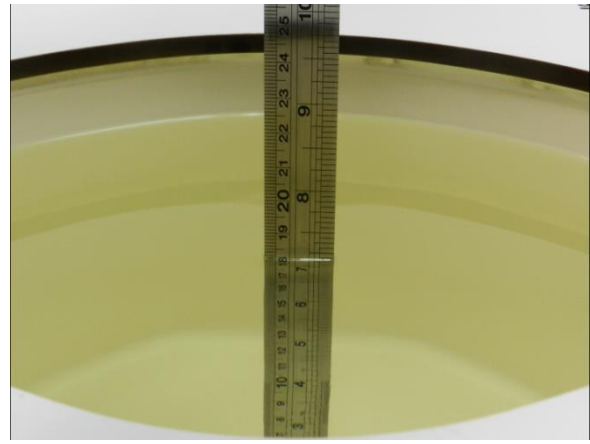


Fig 11.2 Photo of Liquid Height for Body SAR

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_r)
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_r)	Conductivity Target (σ)	Permittivity Target (ϵ_r)	Delta (σ) (%)	Delta (ϵ_r) (%)	Limit (%)	Date
750	Head	22.7	0.872	41.171	0.89	41.90	-2.02	-1.74	±5	2022/2/14
835	Head	22.8	0.911	42.719	0.90	41.50	1.22	2.94	±5	2022/2/14
1750	Head	22.7	1.343	38.540	1.37	40.10	-1.97	-3.89	±5	2022/2/15
1900	Head	22.6	1.398	41.444	1.40	40.00	-0.14	3.61	±5	2022/2/15
2450	Head	22.9	1.810	38.621	1.80	39.20	0.56	-1.48	±5	2022/2/16
2600	Head	22.6	1.927	38.323	1.96	39.00	-1.68	-1.74	±5	2022/2/16
3500	Head	22.8	2.785	38.965	2.91	37.90	-4.30	2.81	±5	2022/2/17
3700	Head	22.6	3.078	38.038	3.12	37.70	-1.35	0.90	±5	2022/2/18
3900	Head	22.7	3.282	37.613	3.32	37.50	-1.14	0.30	±5	2022/2/18
5250	Head	22.7	4.579	36.302	4.71	35.90	-2.78	1.12	±5	2022/2/19
5600	Head	22.9	4.947	35.742	5.07	35.50	-2.43	0.68	±5	2022/2/19
5750	Head	22.6	5.128	35.554	5.22	35.40	-1.76	0.44	±5	2022/2/19
750	Head	22.7	0.900	41.192	0.89	41.90	1.12	-1.69	±5	2022/2/20
835	Head	22.6	0.902	41.240	0.90	41.50	0.22	-0.63	±5	2022/2/20
1750	Head	22.9	1.409	40.669	1.37	40.10	2.85	1.42	±5	2022/2/21
1900	Head	22.8	1.397	39.035	1.40	40.00	-0.21	-2.41	±5	2022/2/21
2450	Head	22.8	1.806	38.605	1.80	39.20	0.33	-1.52	±5	2022/2/22
2600	Head	22.7	1.926	38.230	1.96	39.00	-1.73	-1.97	±5	2022/2/22
3500	Head	22.6	2.784	38.912	2.91	37.90	-4.33	2.67	±5	2022/2/23
3700	Head	22.7	2.994	38.681	3.12	37.70	-4.04	2.60	±5	2022/2/24
3900	Head	22.9	3.194	38.385	3.32	37.50	-3.80	2.36	±5	2022/2/24
5250	Head	22.8	4.553	36.114	4.71	35.90	-3.33	0.60	±5	2022/2/25
5600	Head	22.6	4.924	35.585	5.07	35.50	-2.88	0.24	±5	2022/2/25
5750	Head	22.7	5.100	35.396	5.22	35.40	-2.30	-0.01	±5	2022/2/25

11.3 System Performance Check Results

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

<1g SAR>

Date	Frequency (MHz)	Head	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2022/2/14	750	Head	50	1087	7684	1303	0.436	8.36	8.72	4.31
2022/2/14	835	Head	50	4d258	7684	1303	0.439	9.44	8.78	-6.99
2022/2/15	1750	Head	50	1090	7684	1303	1.920	36.40	38.4	5.49
2022/2/15	1900	Head	50	5d170	7684	1303	2.090	39.00	41.8	7.18
2022/2/16	2450	Head	50	908	7684	1303	2.660	52.80	53.2	0.76
2022/2/16	2600	Head	50	1061	7684	1303	2.760	56.60	55.2	-2.47
2022/2/17	3500	Head	50	1037	7684	1303	3.360	68.00	67.2	-1.18
2022/2/18	3700	Head	50	1008	7684	1303	3.560	67.60	71.2	5.33
2022/2/18	3900	Head	50	1048	7684	1303	3.280	70.20	65.6	-6.55
2022/2/19	5250	Head	50	1113	7684	1303	3.720	80.50	74.4	-7.58
2022/2/19	5600	Head	50	1113	7684	1303	4.070	83.40	81.4	-2.40
2022/2/19	5750	Head	50	1113	7684	1303	3.710	80.00	74.2	-7.25
2022/2/20	750	Head	50	1087	7684	1303	0.450	8.36	9	7.66
2022/2/20	835	Head	50	4d258	7684	1303	0.463	9.44	9.26	-1.91
2022/2/21	1750	Head	50	1090	7684	1303	1.960	36.40	39.2	7.69
2022/2/21	1900	Head	50	5d170	7684	1303	2.100	39.00	42	7.69
2022/2/22	2450	Head	50	908	7684	1303	2.650	52.80	53	0.38
2022/2/22	2600	Head	50	1061	7684	1303	2.760	56.60	55.2	-2.47
2022/2/23	3500	Head	50	1037	7684	1303	3.360	68.00	67.2	-1.18
2022/2/24	3700	Head	50	1008	7684	1303	3.460	67.60	69.2	2.37
2022/2/24	3900	Head	50	1048	7684	1303	3.260	70.20	65.2	-7.12
2022/2/25	5250	Head	50	1113	7684	1303	3.810	80.50	76.2	-5.34
2022/2/25	5600	Head	50	1113	7684	1303	3.860	83.40	77.2	-7.43
2022/2/25	5750	Head	50	1113	7684	1303	3.680	80.00	73.6	-8.00

<10g SAR>

Date	Frequency (MHz)	Head	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2022/2/14	750	Head	50	1087	7684	1303	0.289	5.65	5.78	2.30
2022/2/14	835	Head	50	4d258	7684	1303	0.291	6.13	5.82	-5.06
2022/2/15	1750	Head	50	1090	7684	1303	1.020	19.20	20.4	6.25
2022/2/15	1900	Head	50	5d170	7684	1303	1.080	20.30	21.6	6.40
2022/2/16	2450	Head	50	908	7684	1303	1.250	24.20	25	3.31
2022/2/16	2600	Head	50	1061	7684	1303	1.250	25.10	25	-0.40
2022/2/17	3500	Head	50	1037	7684	1303	1.320	25.40	26.4	3.94
2022/2/18	3700	Head	50	1008	7684	1303	1.290	24.40	25.8	5.74
2022/2/18	3900	Head	50	1048	7684	1303	1.160	24.40	23.2	-4.92
2022/2/19	5250	Head	50	1113	7684	1303	1.230	23.10	24.6	6.49
2022/2/19	5600	Head	50	1113	7684	1303	1.150	23.80	23	-3.36
2022/2/19	5750	Head	50	1113	7684	1303	1.050	22.80	21	-7.89
2022/2/20	750	Head	50	1087	7684	1303	0.299	5.65	5.98	5.84
2022/2/20	835	Head	50	4d258	7684	1303	0.301	6.13	6.02	-1.79
2022/2/21	1750	Head	50	1090	7684	1303	1.020	19.20	20.4	6.25
2022/2/21	1900	Head	50	5d170	7684	1303	1.070	20.30	21.4	5.42
2022/2/22	2450	Head	50	908	7684	1303	1.250	24.20	25	3.31
2022/2/22	2600	Head	50	1061	7684	1303	1.250	25.10	25	-0.40
2022/2/23	3500	Head	50	1037	7684	1303	1.320	25.40	26.4	3.94
2022/2/24	3700	Head	50	1008	7684	1303	1.290	24.40	25.8	5.74
2022/2/24	3900	Head	50	1048	7684	1303	1.230	24.40	24.6	0.82
2022/2/25	5250	Head	50	1113	7684	1303	1.160	23.10	23.2	0.43
2022/2/25	5600	Head	50	1113	7684	1303	1.150	23.80	23	-3.36
2022/2/25	5750	Head	50	1113	7684	1303	1.210	22.80	24.2	6.14

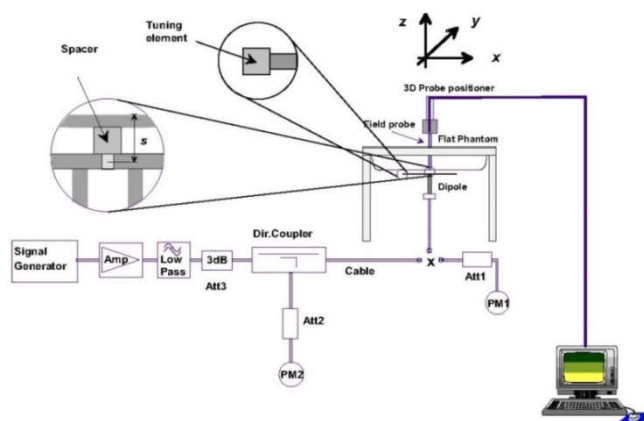


Fig 11.3.1 System Performance Check Setup



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.

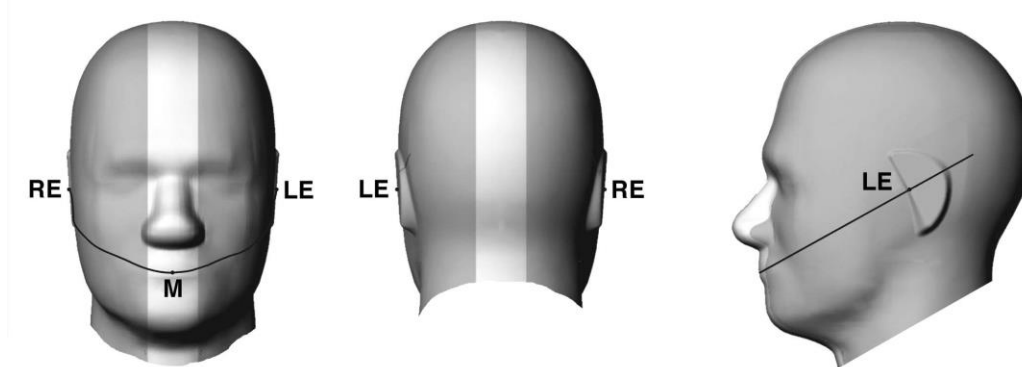


Fig 12.1.1 Front, back, and side views of SAM twin phantom

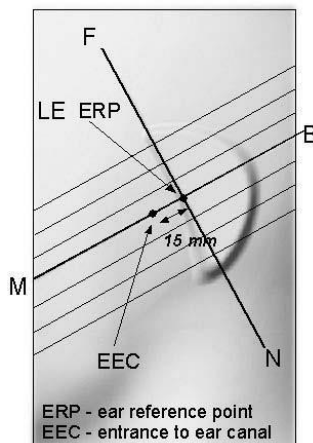


Fig 12.1.2 Close-up side view of phantom showing the ear region.

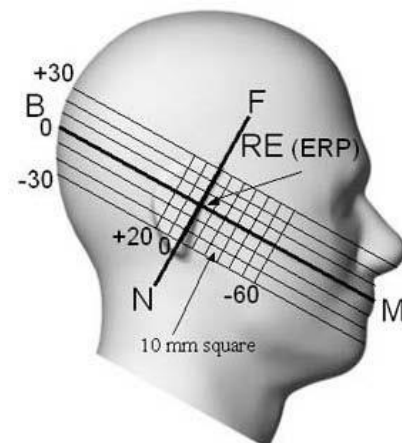


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

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 handset. 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.

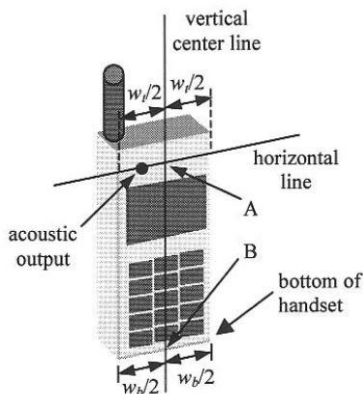


Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case"

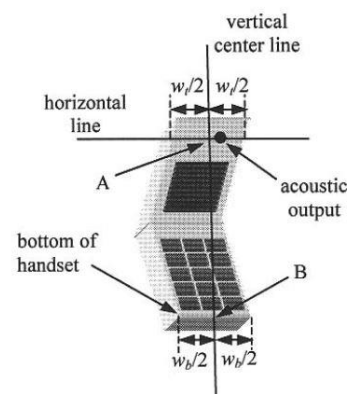


Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

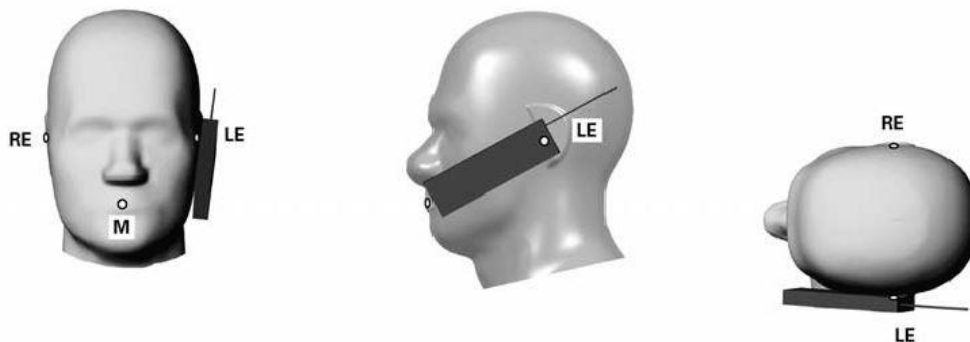


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

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

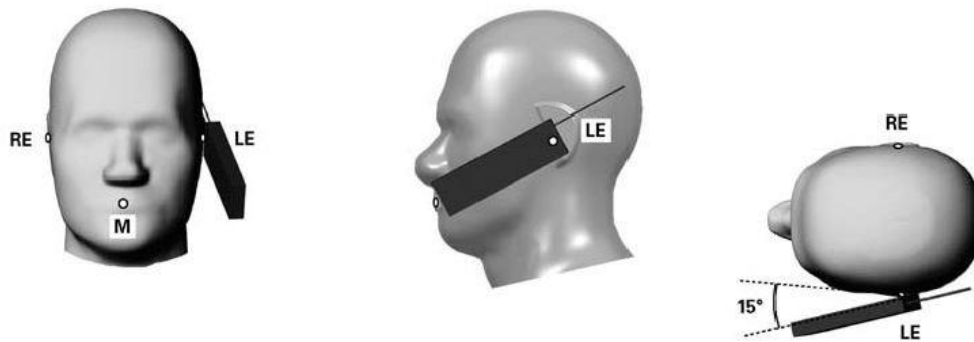


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

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 $> 1.2 \text{ W/kg}$, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a handset attached to the handset.

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

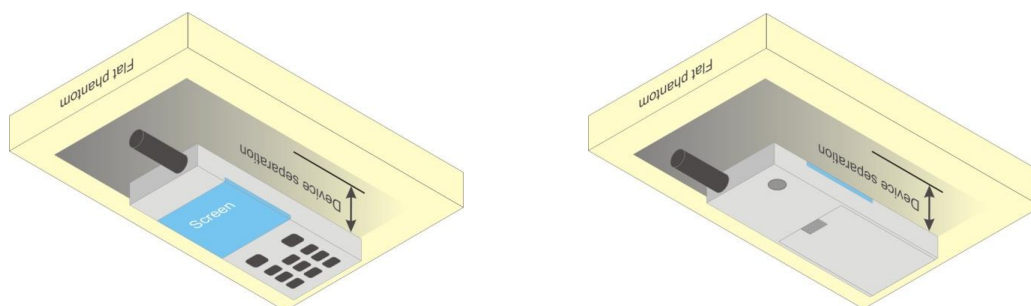


Fig 12.4 Body Worn Position

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 ≤ 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 (β_c and β_d) and parameters were set according to each
 - ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
 - iii. Set RMC 12.2Kbps + HSDPA mode.
 - iv. Set Cell Power = -86 dBm
 - v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
 - vi. Select HSDPA Uplink Parameters
 - vii. Set Delta ACK, Delta NACK and Delta CQI = 8
 - viii. Set Ack-Nack Repetition Factor to 3
 - ix. Set CQI Feedback Cycle (k) to 4 ms
 - x. Set CQI Repetition Factor to 2
 - xi. Power Ctrl Mode = All Up bits
- d. The transmitted maximum output power was recorded.

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

Sub-test	β_c	β_d	β_d (SF)	β_o/β_d	β_{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: Δ_{ACK}, Δ_{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, Δ_{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 DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases. Note 4: For subtest 2 the β_o/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 11/15$ and $\beta_d = 15/15$.							

Setup Configuration

HSUPA Setup Configuration:

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note 1)	β_{ec}	β_{ed} (Note 4) (Note 5)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/25	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	β_{ed1} : 47/15 β_{ed2} : 47/15	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4, Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$. For sub-test 5, Δ_{ACK} , Δ_{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 β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 10/15$ 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: β_{ed} can not be set directly; it is set by Absolute Grant Value.

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

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

- a. The EUT was connected to Base Station referred to the Setup Configuration below
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
 - i. Set RMC 12.2Kbps + HSDPA mode.
 - ii. Set Cell Power = -25 dBm
 - iii. Set HS-DSCH Configuration Type to FRC (H-set 12, QPSK)
 - iv. Select HSDPA Uplink Parameters
 - v. Set Gain Factors (β_c and β_d) and parameters were set according to each Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
 - a). Subtest 1: $\beta_c/\beta_d=2/15$
 - 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.		

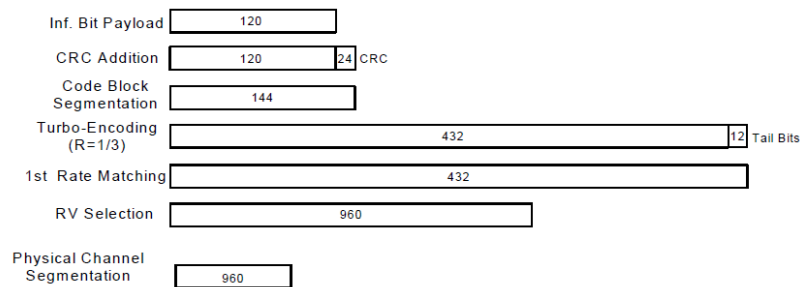


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration

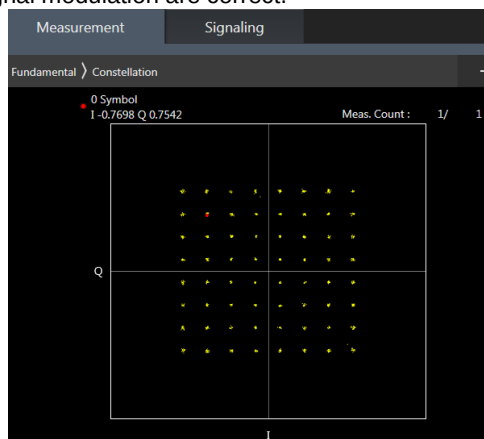
<WCDMA Conducted Power>**General Note:**

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 ≤ 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.

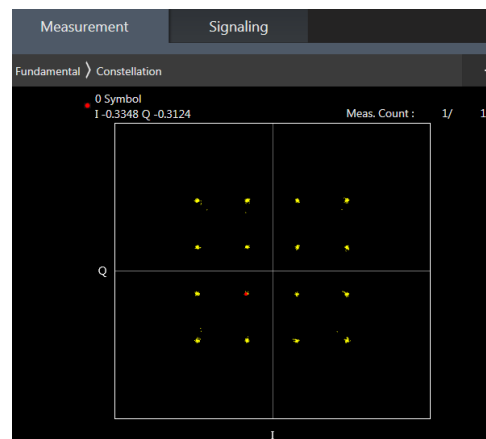
<LTE Conducted Power>

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 ≤ 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 ≤ 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 ≤ 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 B4 / B5 / B17 / B38 SAR test was covered by B66 / B26 / B12 / B41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. the maximum output power, including tolerance, for the smaller band is $\leq$ 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.

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

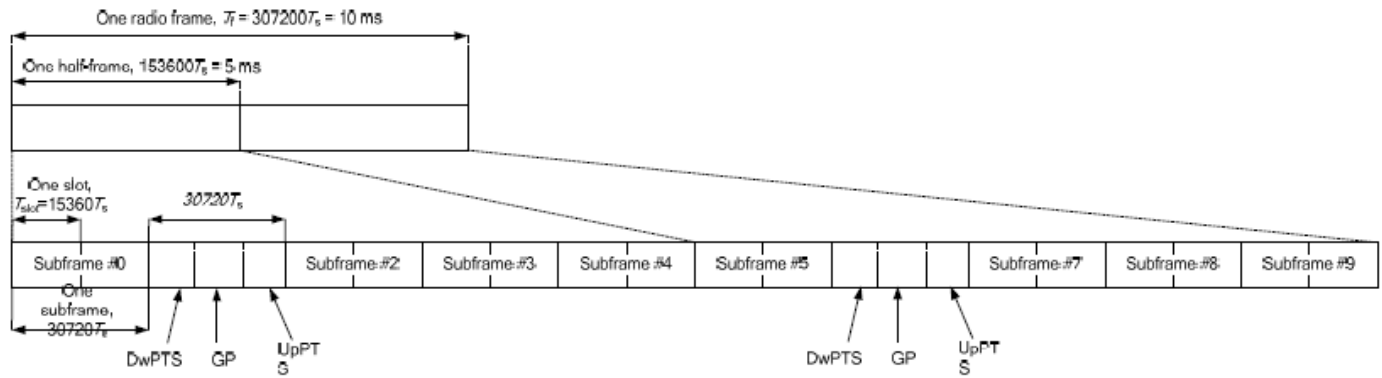


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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

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

The highest duty factor is resulted from:

- Uplink-downlink configuration: 0. In a half-frame consisted of 5 subframes, uplink operation is in 3 uplink subframes and 1 special subframe.
- special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
- for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is:
 $(3+0.167)/5 = 63.3\%$
- for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is:
 $(3+0.143)/5 = 62.9\%$
- For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix $63.3\%/62.9\% = 1.006$ is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.

<LTE Carrier Aggregation>
General Note:

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

2CC Downlink Carrier Aggregation		3CC Downlink Carrier Aggregation		4CC Downlink Carrier Aggregation	
Number	Combination	Number	Combination	Number	Combination
1	CA_2A-4A	1	CA_2A-4A-5A	1	CA_2A-4A-7C
2	CA_2A-5A	2	CA_2A-4A-7A	2	CA_5A-7C-66A
3	CA_2A-7A	3	CA_2A-4A-12A	3	CA_5A-7A-66A-66A
4	CA_2A-12A	4	CA_2A-7A-7A	4	CA_7C-66A-66A
5	CA_2A-66A	5	CA_2A-7C	5	CA_41C-42C
6	CA_2C	6	CA_2A-12A-66A	6	CA_41D-42A
7	CA_4A-5A	7	CA_4A-7C		
8	CA_4A-7A	8	CA_5A-7A-7A		
9	CA_4A-12A	9	CA_5A-7A-66A		
10	CA_4A-17A	10	CA_5A-7C		
11	CA_4A-48A	11	CA_5A-66A-66A		
12	CA_5A-7A	12	CA_7A-66A-66A		
13	CA_5A-41A	13	CA_7C-66A		
14	CA_5A-48A	14	CA_12A-66A-66A		
15	CA_5A-66A	15	CA_41A-41A-41A		
16	CA_7A-7A	16	CA_41A-42C		
17	CA_7A-26A	17	CA_41C-42A		
18	CA_7A-42A	18	CA_41D		
19	CA_7A-66A				
20	CA_7C				
21	CA_12A-48A				
22	CA_12A-66A				
23	CA_38C				
24	CA_41A-41A				
25	CA_41A-42A				
26	CA_41A-48A				
27	CA_41C				
28	CA_42C				
29	CA_48A-48A				
30	CA_48A-66A				
31	CA_66A-66A				
32	CA_66B				
33	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 4/7/38/41/42/48/66 only. Uplink transmission is limited to a single output stream. Power measurements were performed with downlink 4x4 MIMO active for the configuration with highest measured maximum conducted power with 4x4 downlink MIMO inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.

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

4X4 MIMO	WWAN Band
	LTE Band: B4/B7/B38/B41/B42/B48/B66

LTE Carrier Aggregation Conducted Power (Uplink)
<Intra-band>

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

General Note:

- The device supports intra-band uplink carrier aggregation for LTE B7/B38 with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.
- 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.
- 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.
- 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.
- Additional SAR measurement for LTE UL CA with other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active.

<Inter-band uplink carrier aggregation consideration>

LTE Uplink CA	2CC Uplink Carrier Aggregation	
Combination	Band&Ant No.	Band&Ant No.
4A-7A	LTE B4: Ant0/3/4/5	LTE B7: Ant0/3/4/5

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. 5GNR NSA mode, the power level is the same as 5GNR SA mode, so 5GNR NSA mode and SA mode power table only show one time.
8. 5G NR supports CP-OFDM and DFT-s-OFDM modulation, for DFT-s-OFDM power is higher than CP-OFDM, so only show DFT-s-OFDM power table and chose DFT-s-OFDM to perform SAR testing.
9. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for the CP-OFDM mode will not higher than DFT-s-OFDM mode, therefore, CP-OFDM measurement is unnecessary.
10. 5G NR n78 supports HPUE, HPUE power and SAR testing performed separately.
11. 5G NR n78 HPUE with higher power, n78 HPUE SAR can represent power class 3 level SAR.
12. For 5G NR EN-DC mode, standalone SAR performed for 5GNR band with the maximum power, EN-DC SAR summed 5GNR standalone SAR and LTE standalone SAR, the result of EN-DC SAR is more conservatively.

<3GPP 38.101 MPR for EN-DC>
Table 6.2.2-1 Maximum power reduction (MPR) for power class 3

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

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

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

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

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

ENDC List	5G Ant	4G Ant
DC_5A_n7A	Ant0/3/4/5	Ant0/1
DC_2A_n66A	Ant0/5	Ant3/4
DC_5A_n66A	Ant0/3/4/5	Ant0/1
DC_12A_n66A	Ant0/3/4/5	Ant0/1
DC_2A_n78A	Ant0/9/10/11	Ant3/4
DC_5A_n78A	Ant0/9/10/11	Ant0/1
DC_7A_n78A	Ant0/9/10/11	Ant0/3/4/5
DC_38A_n78A	Ant0/9/10/11	Ant3/4
DC_41A_n78A	Ant0/9/10/11	Ant3/4
DC_66A_n78A	Ant0/9/10/11	Ant0/3/4/5
DC_66A_n7A	Ant0/5	Ant3/4
DC_2A_n7A	Ant0/5	Ant3/4
DC_41A_n77A	Ant0/9/10/11	Ant3/4
DC_7A_n5A	Ant0/1	Ant0/3/4/5
DC_7A_n66A	Ant3/4	Ant0/5
DC_66A_n5A	Ant0/1	Ant0/3/4/5

<WLAN Conducted Power>

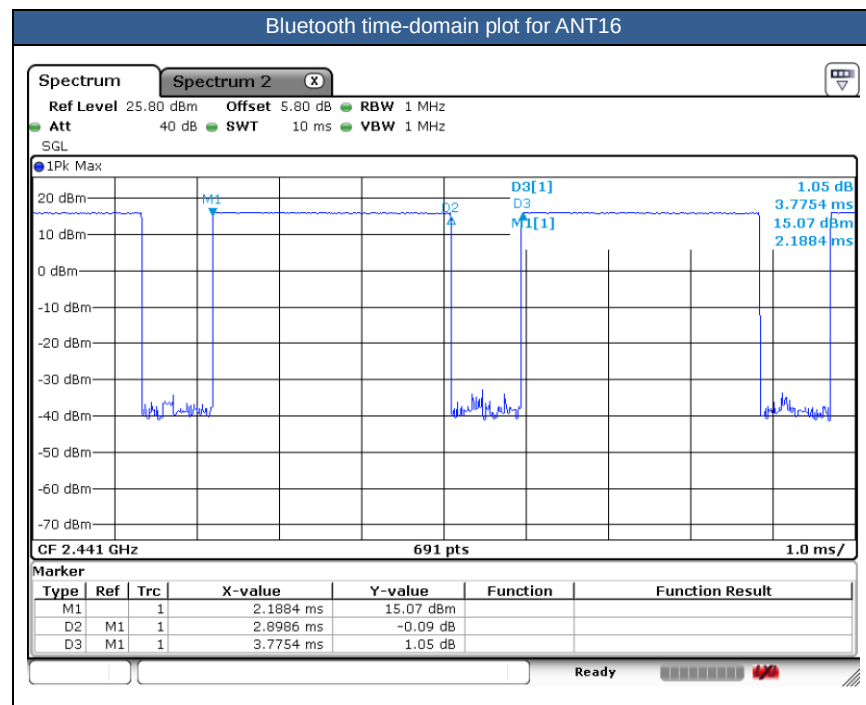
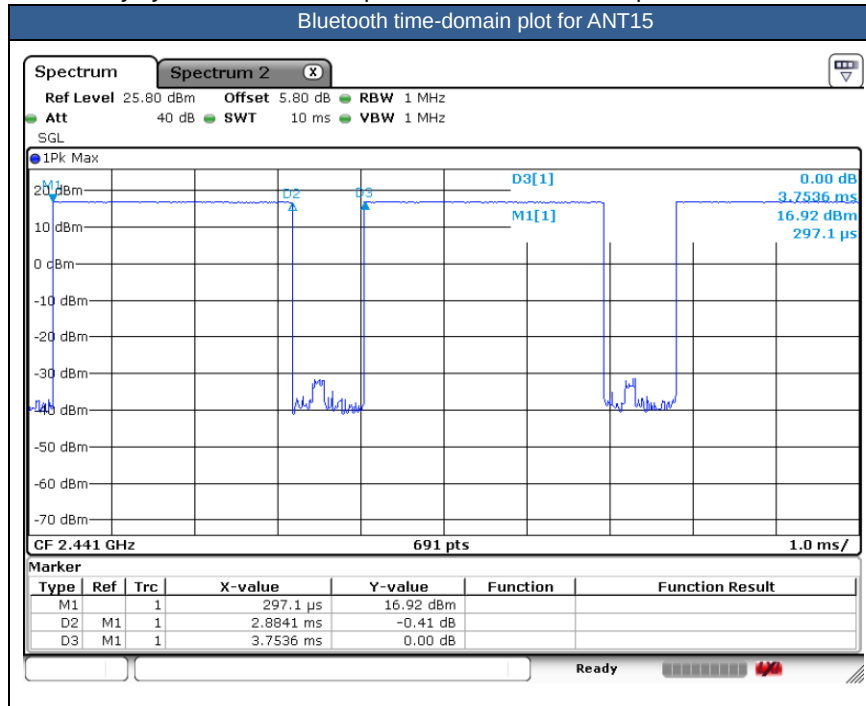
General Note:

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 ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
 - b. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
 - c. For all positions/configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. 802.11ax full tone and partial tone supported for WLAN2.4GHz/WLAN5GHz, partial tone power level is far less than full tone power level including tune up power, we chose full tone power to perform SAR testing.

<2.4GHz Bluetooth>

General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle is 76.84 % for ANT15, and 76.78 % for ANT16 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:
 - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
 - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
 - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is ≥ 0.8 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 5: hotspot on power; DSI 3: P-sensor on for handheld; DSI 4: receiver off/P-sensor off).
6. For WLAN/BT when transmit simultaneous with WWAN, power reduction will be activated to head, hotspot, body.
7. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
8. 5G NR n78 supports HPUE, HPUE power and SAR testing performed separately.
9. 5G NR n78 HPUE with higher power, n78 HPUE SAR can represent power class 3 level SAR.
10. 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.
11. NSA and SA mode should perform SAR separately. For the maximum power of NSA mode is the same as SA total power level, so SA SAR can represent NSA mode SAR.
12. 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.
13. 5G NR supports CP-OFDM and DFT-s-OFDM modulation, for DFT-s-OFDM power is higher than CP-OFDM, so only show DFT-s-OFDM power table and chose DFT-s-OFDM to perform SAR testing.
14. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for the CP-OFDM mode will not higher than DFT-s-OFDM mode, therefore, CP-OFDM measurement is unnecessary.
15. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold,
 - a. WCDMA B2/B4, LTE B4/B5 /B12 /B17/B66/B26 are required to be tested.
 - b. WLAN 5.3/5.5GHz tested the product specific 10g SAR since it has no hotspot mode.
 - c. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test



reduction and exclusion should be multiplied by 2.5.

16. The LTE B4 at ant 0, LTE B66 at ant 0/3/4, LTE B7 at ant 0/3/4/5 and 5G NR n66 at ant 3/4 support different PAs, the maximum power of Main PA is higher than and very close to the other PA, for RF exposure, after verification all PAs in a same position, we choose the main PA to perform full SAR tested to ensure the RF exposure is compliance.
17. The LTE B4/B66 at ant 5 and 5G NR n41 at ant3/4 support different PAs, after verification all PAs in a same position, we choose the main PA to perform full SAR tested to ensure the RF exposure is compliance and other PA verify the worst case.
18. For Some WWAN bands, full power level higher than receiver off reduced power level, so front/back full power SAR can represent Body-worn receiver off SAR conservatively.

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 B4 / B5 / B17 / B38 SAR test was covered by B66 / B26 / B12 / B41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. the maximum output power, including tolerance, for the smaller band is $\leq$ 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 ≤ 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 ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device.
 - f. For 5G FR1 n38/n41/n77/n78 the maximum bandwidth does not support three non-overlapping channels, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

WLAN Note:

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



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)
750MHz																		
	LTE Band 12	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI1	23095	707.5	24.38	25.50	1.294	0.02	0.151	0.195
	LTE Band 12	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 0	DSI1	23095	707.5	23.52	24.50	1.253	0.11	0.122	0.153
	LTE Band 12	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI1	23095	707.5	24.38	25.50	1.294	0.02	0.098	0.127
	LTE Band 12	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 0	DSI1	23095	707.5	23.52	24.50	1.253	-0.1	0.082	0.103
	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI1	23095	707.5	24.38	25.50	1.294	-0.01	0.150	0.194
	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 0	DSI1	23095	707.5	23.52	24.50	1.253	-0.1	0.128	0.160
	LTE Band 12	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI1	23095	707.5	24.38	25.50	1.294	0.13	0.080	0.104
	LTE Band 12	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 0	DSI1	23095	707.5	23.52	24.50	1.253	-0.04	0.065	0.081
	LTE Band 12	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI1	23095	707.5	21.32	22.50	1.312	0.01	0.441	0.579
	LTE Band 12	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 1	DSI1	23095	707.5	21.26	22.50	1.330	0.01	0.440	0.585
	LTE Band 12	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI1	23095	707.5	21.32	22.50	1.312	-0.06	0.085	0.112
	LTE Band 12	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 1	DSI1	23095	707.5	21.26	22.50	1.330	-0.08	0.087	0.116
	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI1	23095	707.5	21.32	22.50	1.312	-0.08	0.682	0.895
	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI1	23060	704	21.29	22.50	1.321	0.03	0.677	0.895
	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI1	23130	711	21.24	22.50	1.337	0.02	0.652	0.871
	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 1	DSI1	23095	707.5	21.26	22.50	1.330	0.07	0.697	0.927
	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 1	DSI1	23060	704	21.15	22.50	1.365	0.05	0.673	0.918
	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 1	DSI1	23130	711	21.04	22.50	1.400	0.07	0.672	0.941
01	LTE Band 12	10M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	DSI1	23095	707.5	21.19	22.50	1.352	-0.14	0.698	0.944
	LTE Band 12	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI1	23095	707.5	21.32	22.50	1.312	0.05	0.110	0.144
	LTE Band 12	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 1	DSI1	23095	707.5	21.26	22.50	1.330	0.08	0.109	0.145
	LTE Band 12 ENDC	10M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	DSI1	23095	707.5	18.17	19.50	1.358	0.04	0.350	0.475
	LTE Band 13	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI1	23230	782	23.36	24.50	1.300	-0.1	0.097	0.126
	LTE Band 13	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 0	DSI1	23230	782	22.50	23.50	1.259	0.11	0.077	0.097
	LTE Band 13	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI1	23230	782	23.36	24.50	1.300	0.04	0.065	0.085
	LTE Band 13	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 0	DSI1	23230	782	22.50	23.50	1.259	-0.02	0.051	0.064
	LTE Band 13	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI1	23230	782	23.36	24.50	1.300	-0.03	0.105	0.137
	LTE Band 13	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 0	DSI1	23230	782	22.50	23.50	1.259	-0.11	0.081	0.102
	LTE Band 13	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI1	23230	782	23.36	24.50	1.300	0.02	0.058	0.075
	LTE Band 13	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 0	DSI1	23230	782	22.50	23.50	1.259	0.07	0.046	0.058
	LTE Band 13	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI1	23230	782	23.51	24.50	1.256	-0.01	0.223	0.280
	LTE Band 13	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 1	DSI1	23230	782	22.61	23.50	1.227	-0.02	0.222	0.272
	LTE Band 13	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI1	23230	782	23.51	24.50	1.256	0.05	0.045	0.057
	LTE Band 13	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 1	DSI1	23230	782	22.61	23.50	1.227	-0.04	0.048	0.059
	LTE Band 13	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI1	23230	782	23.51	24.50	1.256	0.05	0.391	0.491
02	LTE Band 13	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 1	DSI1	23230	782	22.61	23.50	1.227	-0.07	0.423	0.519
	LTE Band 13	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI1	23230	782	23.51	24.50	1.256	0.05	0.063	0.079
	LTE Band 13	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 1	DSI1	23230	782	22.61	23.50	1.227	0.11	0.058	0.071
835MHz																		
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 0	DSI1	189	836.4	25.74	27.50	1.500	-0.02	0.154	0.231
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 0	DSI1	189	836.4	25.74	27.50	1.500	0.13	0.105	0.157
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 0	DSI1	189	836.4	25.74	27.50	1.500	0.03	0.166	0.249
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 0	DSI1	189	836.4	25.74	27.50	1.500	0.01	0.095	0.142
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 1	DSI1	189	836.4	24.50	26.00	1.413	0.06	0.349	0.493
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 1	DSI1	189	836.4	24.50	26.00	1.413	0.1	0.067	0.095
03	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 1	DSI1	189	836.4	24.50	26.00	1.413	-0.08	0.610	0.862
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 1	DSI1	128	824.2	24.83	26.00	1.309	-0.02	0.602	0.841
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 1	DSI1	251	848.8	24.60	26.00	1.380	0.03	0.591	0.835
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 1	DSI1	189	836.4	24.50	26.00	1.413	-0.01	0.079	0.112
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI1	4182	836.4	24.45	25.50	1.274	0.11	0.218	0.278
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	DSI1	4182	836.4	24.45	25.50	1.274	0.05	0.144	0.183



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	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI1	4182	836.4	24.45	25.50	1.274	-0.01	0.280	0.357
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	DSI1	4182	836.4	24.45	25.50	1.274	0.02	0.130	0.166
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI1	4182	836.4	20.71	21.50	1.199	0.04	0.343	0.411
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI1	4182	836.4	20.71	21.50	1.199	0.11	0.074	0.089
04	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI1	4182	836.4	20.71	21.50	1.199	-0.02	0.631	0.757
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI1	4182	836.4	20.71	21.50	1.199	-0.03	0.092	0.110
	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI1	26865	831.5	24.41	25.50	1.285	0.03	0.123	0.158
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 0	DSI1	26865	831.5	23.57	24.50	1.239	0.12	0.097	0.120
	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI1	26865	831.5	24.41	25.50	1.285	0.13	0.085	0.109
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 0	DSI1	26865	831.5	23.57	24.50	1.239	0.12	0.066	0.082
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI1	26865	831.5	24.41	25.50	1.285	0.02	0.154	0.198
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 0	DSI1	26865	831.5	23.57	24.50	1.239	0.09	0.128	0.159
	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI1	26865	831.5	24.41	25.50	1.285	0.05	0.066	0.085
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 0	DSI1	26865	831.5	23.57	24.50	1.239	0.12	0.053	0.066
	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI1	26865	831.5	21.33	22.50	1.309	-0.05	0.406	0.532
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 1	DSI1	26865	831.5	21.26	22.50	1.330	0.11	0.411	0.547
	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI1	26865	831.5	21.33	22.50	1.309	-0.08	0.082	0.107
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 1	DSI1	26865	831.5	21.26	22.50	1.330	0.04	0.081	0.108
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI1	26865	831.5	21.33	22.50	1.309	0.11	0.720	0.943
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI1	26765	821.5	21.25	22.50	1.334	0.05	0.712	0.949
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI1	26965	841.5	21.25	22.50	1.334	0.03	0.705	0.940
05	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 1	DSI1	26865	831.5	21.26	22.50	1.330	-0.09	0.736	0.979
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 1	DSI1	26765	821.5	21.12	22.50	1.374	0.07	0.706	0.970
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 1	DSI1	26965	841.5	21.11	22.50	1.377	0.01	0.708	0.975
	LTE Band 26	15M	QPSK	75	0	-	Left Cheek	0mm	Ant 1	DSI1	26865	831.5	21.25	22.50	1.334	-0.03	0.732	0.976
	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI1	26865	831.5	21.33	22.50	1.309	-0.06	0.103	0.135
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 1	DSI1	26865	831.5	21.26	22.50	1.330	-0.09	0.098	0.130
	LTE Band 26 ENDC	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 1	DSI1	26865	831.5	18.30	19.50	1.318	-0.04	0.373	0.492
	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 0	DSI1	167300	836.5	24.64	25.50	1.219	0.1	0.230	0.280
	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 0	DSI1	167300	836.5	23.67	25.50	1.524	0.01	0.243	0.370
	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 0	DSI1	167300	836.5	24.64	25.50	1.219	0.07	0.160	0.195
	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Right Tilted	0mm	Ant 0	DSI1	167300	836.5	23.67	25.50	1.524	0.06	0.166	0.253
	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 0	DSI1	167300	836.5	24.64	25.50	1.219	0.13	0.273	0.333
	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Left Cheek	0mm	Ant 0	DSI1	167300	836.5	23.67	25.50	1.524	-0.07	0.296	0.451
	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 0	DSI1	167300	836.5	24.64	25.50	1.219	0.02	0.129	0.157
	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Left Tilted	0mm	Ant 0	DSI1	167300	836.5	23.67	25.50	1.524	-0.09	0.132	0.201
	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	DSI1	167300	836.5	20.21	20.50	1.069	0.01	0.305	0.326
	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	DSI1	167300	836.5	20.17	20.50	1.079	0.11	0.300	0.324
	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI1	167300	836.5	20.21	20.50	1.069	-0.04	0.062	0.066
	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI1	167300	836.5	20.17	20.50	1.079	-0.08	0.061	0.066
	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	DSI1	167300	836.5	20.21	20.50	1.069	0.05	0.522	0.558
06	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	DSI1	167300	836.5	20.17	20.50	1.079	-0.03	0.524	0.565
	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	DSI1	167300	836.5	20.21	20.50	1.069	0.02	0.078	0.083
	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	DSI1	167300	836.5	20.17	20.50	1.079	0.03	0.073	0.079



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
1750MHz																		
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 3	DS11	1413	1732.6	24.54	25.50	1.247	0.1	0.170	0.212
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 3	DS11	1413	1732.6	24.54	25.50	1.247	0.03	0.089	0.111
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 3	DS11	1413	1732.6	24.54	25.50	1.247	-0.08	0.148	0.185
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 3	DS11	1413	1732.6	24.54	25.50	1.247	0.14	0.108	0.135
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 5	DS11	1413	1732.6	17.62	18.50	1.225	0.08	0.705	0.863
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 5	DS11	1312	1712.4	17.46	18.50	1.271	-0.05	0.605	0.769
07	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 5	DS11	1513	1752.6	17.58	18.50	1.236	-0.07	0.743	0.918
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 5	DS11	1413	1732.6	17.62	18.50	1.225	0.12	0.685	0.839
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 5	DS11	1312	1712.4	17.46	18.50	1.271	0.12	0.598	0.760
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 5	DS11	1513	1752.6	17.58	18.50	1.236	-0.09	0.702	0.868
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 5	DS11	1413	1732.6	17.62	18.50	1.225	0.05	0.327	0.400
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 5	DS11	1413	1732.6	17.62	18.50	1.225	0.08	0.414	0.507
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DS11	132322	1745	21.89	23.50	1.449	-0.07	0.000	0.000
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DS11	132322	1745	20.94	22.50	1.432	0.09	0.000	0.000
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DS11	132322	1745	21.89	23.50	1.449	-0.01	0.000	0.000
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DS11	132322	1745	20.94	22.50	1.432	-0.09	0.000	0.000
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DS11	132322	1745	21.89	23.50	1.449	0.03	0.048	0.070
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DS11	132322	1745	20.94	22.50	1.432	-0.09	0.000	0.000
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DS11	132322	1745	21.89	23.50	1.449	0.13	0.000	0.000
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DS11	132322	1745	20.94	22.50	1.432	0.08	0.000	0.000
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DS11	132322	1745	24.68	25.50	1.208	0.13	0.142	0.172
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DS11	132322	1745	23.83	24.50	1.167	-0.07	0.116	0.135
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DS11	132322	1745	24.68	25.50	1.208	0.08	0.088	0.106
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 3	DS11	132322	1745	23.83	24.50	1.167	-0.04	0.073	0.085
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	DS11	132322	1745	24.68	25.50	1.208	0.03	0.201	0.243
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 3	DS11	132322	1745	23.83	24.50	1.167	0.01	0.155	0.181
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 3	DS11	132322	1745	24.68	25.50	1.208	0.07	0.102	0.123
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 3	DS11	132322	1745	23.83	24.50	1.167	-0.06	0.084	0.098
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DS11	132322	1745	15.45	17.00	1.429	0.01	0.434	0.620
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DS11	132322	1745	15.42	17.00	1.439	-0.04	0.447	0.643
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DS11	132322	1745	15.45	17.00	1.429	0.12	0.138	0.197
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DS11	132322	1745	15.42	17.00	1.439	-0.09	0.147	0.212
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DS11	132322	1745	15.45	17.00	1.429	0.12	0.140	0.200
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DS11	132322	1745	15.42	17.00	1.439	0.02	0.150	0.216
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DS11	132322	1745	15.45	17.00	1.429	0.03	0.078	0.111
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DS11	132322	1745	15.42	17.00	1.439	0.12	0.083	0.119
	LTE Band 66 ENDC	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DS11	132322	1745	14.53	16.00	1.403	0.02	0.372	0.522
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DS11	132322	1745	16.27	17.50	1.327	0.03	0.534	0.709
08	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DS11	132322	1745	16.21	17.50	1.346	-0.05	0.536	0.721
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 5	DS11	132322	1745	16.27	17.50	1.327	0.08	0.471	0.625
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 5	DS11	132322	1745	16.21	17.50	1.346	0.09	0.491	0.661
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 5	DS11	132322	1745	16.27	17.50	1.327	0.08	0.331	0.439
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 5	DS11	132322	1745	16.21	17.50	1.346	0.03	0.328	0.441
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 5	DS11	132322	1745	16.27	17.50	1.327	-0.09	0.361	0.479
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 5	DS11	132322	1745	16.21	17.50	1.346	-0.09	0.368	0.495
	LTE Band 66 ENDC&Other PA	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DS11	132322	1745	15.35	16.50	1.303	-0.01	0.404	0.526
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 0	DS11	349000	1745	22.74	24.50	1.500	0.08	0.000	0.000
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 0	DS11	349000	1745	22.66	24.50	1.528	-0.03	0.000	0.000
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 0	DS11	349000	1745	22.74	24.50	1.500	0.03	0.000	0.000
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Tilted	0mm	Ant 0	DS11	349000	1745	22.66	24.50	1.528	-0.05	0.000	0.000
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 0	DS11	349000	1745	22.74	24.50	1.500	0.01	0.029	0.043
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Cheek	0mm	Ant 0	DS11	349000	1745	22.66	24.50	1.528	-0.03	0.028	0.043



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	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 0	DS11	349000	1745	22.74	24.50	1.500	0.12	0.000	0.000
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Tilted	0mm	Ant 0	DS11	349000	1745	22.66	24.50	1.528	-0.03	0.000	0.000
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 3	DS11	349000	1745	24.61	25.50	1.227	-0.04	0.127	0.156
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 3	DS11	349000	1745	24.42	25.50	1.282	-0.09	0.131	0.168
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 3	DS11	349000	1745	24.61	25.50	1.227	0.09	0.083	0.102
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Tilted	0mm	Ant 3	DS11	349000	1745	24.42	25.50	1.282	-0.04	0.087	0.112
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 3	DS11	349000	1745	24.61	25.50	1.227	0.09	0.158	0.194
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Cheek	0mm	Ant 3	DS11	349000	1745	24.42	25.50	1.282	0.09	0.150	0.192
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 3	DS11	349000	1745	24.61	25.50	1.227	-0.04	0.086	0.106
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Tilted	0mm	Ant 3	DS11	349000	1745	24.42	25.50	1.282	0.04	0.090	0.115
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DS11	349000	1745	19.91	20.00	1.021	-0.12	0.632	0.645
09	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DS11	349000	1745	19.89	20.00	1.026	0.09	0.699	0.717
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	DS11	349000	1745	19.91	20.00	1.021	-0.09	0.200	0.204
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	DS11	349000	1745	19.89	20.00	1.026	0.13	0.224	0.230
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 4	DS11	349000	1745	19.91	20.00	1.021	0.12	0.190	0.194
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Cheek	0mm	Ant 4	DS11	349000	1745	19.89	20.00	1.026	0.07	0.211	0.216
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 4	DS11	349000	1745	19.91	20.00	1.021	0.04	0.113	0.115
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Tilted	0mm	Ant 4	DS11	349000	1745	19.89	20.00	1.026	-0.09	0.116	0.119
	FR1 n66 ENDC	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DS11	349000	1745	17.80	18.00	1.047	0.04	0.456	0.477
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 5	DS11	349000	1745	15.96	17.00	1.271	-0.16	0.498	0.633
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 5	DS11	349000	1745	15.94	17.00	1.276	-0.08	0.549	0.701
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 5	DS11	349000	1745	15.96	17.00	1.271	0.06	0.498	0.633
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Tilted	0mm	Ant 5	DS11	349000	1745	15.94	17.00	1.276	0.01	0.531	0.678
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 5	DS11	349000	1745	15.96	17.00	1.271	0.13	0.241	0.306
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Cheek	0mm	Ant 5	DS11	349000	1745	15.94	17.00	1.276	-0.01	0.263	0.336
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 5	DS11	349000	1745	15.96	17.00	1.271	0.03	0.306	0.389
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Tilted	0mm	Ant 5	DS11	349000	1745	15.94	17.00	1.276	0.03	0.332	0.424
	FR1 n66 ENDC	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 5	DS11	349000	1745	14.90	16.00	1.288	-0.08	0.388	0.500
1900MHz																		
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 3	DS11	661	1880	23.89	25.00	1.291	0.05	0.066	0.085
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 3	DS11	661	1880	23.89	25.00	1.291	-0.06	0.045	0.058
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 3	DS11	661	1880	23.89	25.00	1.291	-0.09	0.060	0.077
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 3	DS11	661	1880	23.89	25.00	1.291	0.05	0.042	0.054
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 5	DS11	661	1880	22.76	24.00	1.330	-0.03	0.647	0.861
10	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 5	DS11	512	1850.2	23.01	24.00	1.256	0.01	0.732	0.919
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 5	DS11	810	1909.8	22.70	24.00	1.349	-0.06	0.622	0.839
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 5	DS11	661	1880	22.76	24.00	1.330	-0.02	0.510	0.679
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 5	DS11	661	1880	22.76	24.00	1.330	0.01	0.305	0.406
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 5	DS11	661	1880	22.76	24.00	1.330	0.08	0.327	0.435
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 3	DS11	9400	1880	24.47	25.50	1.268	0.06	0.207	0.262
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 3	DS11	9400	1880	24.47	25.50	1.268	-0.08	0.139	0.176
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 3	DS11	9400	1880	24.47	25.50	1.268	0.13	0.193	0.245
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 3	DS11	9400	1880	24.47	25.50	1.268	0.12	0.127	0.161
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 5	DS11	9400	1880	18.50	19.50	1.259	0.02	0.816	1.027
11	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 5	DS11	9262	1852.4	18.49	19.50	1.262	-0.08	0.833	1.051
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 5	DS11	9538	1907.6	18.47	19.50	1.268	0.01	0.735	0.932
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 5	DS11	9400	1880	18.50	19.50	1.259	-0.08	0.773	0.973
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 5	DS11	9262	1852.4	18.49	19.50	1.262	-0.03	0.790	0.997
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 5	DS11	9538	1907.6	18.47	19.50	1.268	-0.01	0.717	0.909
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 5	DS11	9400	1880	18.50	19.50	1.259	-0.04	0.477	0.601
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 5	DS11	9400	1880	18.50	19.50	1.259	0.11	0.491	0.618
	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DS11	18900	1880	24.63	25.50	1.222	0.07	0.150	0.183
	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DS11	18900	1880	23.76	24.50	1.186	-0.01	0.147	0.174
	LTE Band 2	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DS11	18900	1880	24.63	25.50	1.222	0.03	0.101	0.123
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 3	DS11	18900	1880	23.76	24.50	1.186	0.08	0.080	0.095
	LTE Band 2	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	DS11	18900	1880	24.63	25.50	1.222	0.01	0.153	0.187

Sporton International Inc. (Kunshan)

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	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 3	DS11	18900	1880	23.76	24.50	1.186	0.12	0.122	0.145
	LTE Band 2	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 3	DS11	18900	1880	24.63	25.50	1.222	0.06	0.100	0.122
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 3	DS11	18900	1880	23.76	24.50	1.186	0.03	0.084	0.100
	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DS11	18900	1880	15.82	17.00	1.312	-0.05	0.627	0.823
	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DS11	18700	1860	15.65	17.00	1.365	0.03	0.605	0.826
	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DS11	19100	1900	15.66	17.00	1.361	0.02	0.611	0.832
12	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DS11	18900	1880	15.77	17.00	1.327	-0.09	0.649	0.861
	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DS11	18700	1860	15.61	17.00	1.377	0.07	0.621	0.855
	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DS11	19100	1900	15.50	17.00	1.413	0.01	0.603	0.852
	LTE Band 2	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 4	DS11	18900	1880	15.70	17.00	1.349	-0.02	0.600	0.809
	LTE Band 2	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DS11	18900	1880	15.82	17.00	1.312	0.04	0.207	0.272
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DS11	18900	1880	15.77	17.00	1.327	-0.05	0.209	0.277
	LTE Band 2	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DS11	18900	1880	15.82	17.00	1.312	-0.04	0.197	0.259
	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DS11	18900	1880	15.77	17.00	1.327	-0.01	0.205	0.272
	LTE Band 2	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DS11	18900	1880	15.82	17.00	1.312	0.07	0.087	0.114
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DS11	18900	1880	15.77	17.00	1.327	-0.01	0.093	0.123
	LTE Band 2 ENDC	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DS11	18900	1880	13.85	15.00	1.303	-0.01	0.403	0.525

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
2600MHz																				
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DS11	21100	2535	22.11	23.50	1.377	-	-	0.02	0.147	0.202
	LTE Band 7C	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DS11	21100+21298	2535+2554.8	22.03	23.50	1.403	-	-	0.02	0.132	0.185
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DS11	21100	2535	21.11	22.50	1.377	-	-	-0.02	0.122	0.168
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DS11	21100	2535	22.11	23.50	1.377	-	-	-0.06	0.046	0.063
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DS11	21100	2535	21.11	22.50	1.377	-	-	0.14	0.000	0.000
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DS11	21100	2535	22.11	23.50	1.377	-	-	0.06	0.097	0.134
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DS11	21100	2535	21.11	22.50	1.377	-	-	-0.04	0.078	0.107
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DS11	21100	2535	22.11	23.50	1.377	-	-	0.05	0.084	0.116
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DS11	21100	2535	21.11	22.50	1.377	-	-	0.09	0.071	0.098
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DS11	21100	2535	24.66	25.50	1.213	-	-	-0.07	0.181	0.220
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DS11	21100	2535	23.93	24.50	1.140	-	-	0.02	0.144	0.164
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DS11	21100	2535	24.66	25.50	1.213	-	-	0.13	0.151	0.183
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 3	DS11	21100	2535	23.93	24.50	1.140	-	-	-0.03	0.121	0.138
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	DS11	21100	2535	24.66	25.50	1.213	-	-	0.08	0.334	0.405
	LTE Band 7C	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	DS11	21100+21298	2535+2554.8	24.57	25.50	1.239	-	-	0.02	0.313	0.388
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 3	DS11	21100	2535	23.93	24.50	1.140	-	-	-0.01	0.277	0.316
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 3	DS11	21100	2535	24.66	25.50	1.213	-	-	0.02	0.136	0.165
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 3	DS11	21100	2535	23.93	24.50	1.140	-	-	-0.04	0.113	0.129
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DS11	21100	2535	16.62	17.00	1.091	-	-	0.14	0.867	0.946
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DS11	20850	2510	16.55	17.00	1.109	-	-	-0.03	0.786	0.872
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DS11	21350	2560	16.58	17.00	1.102	-	-	-0.08	0.887	0.977
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DS11	21100	2535	16.53	17.00	1.114	-	-	0.02	0.905	1.008
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DS11	20850	2510	16.44	17.00	1.138	-	-	0.11	0.833	0.948
13	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DS11	21350	2560	16.49	17.00	1.125	-	-	-0.06	0.936	1.053
	LTE Band 7C	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DS11	21350+21152	2560+2540.2	16.37	17.00	1.156	-	-	0.02	0.910	1.052
	LTE Band 7	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 4	DS11	21100	2535	16.50	17.00	1.122	-	-	0.07	0.933	1.047
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DS11	21100	2535	16.62	17.00	1.091	-	-	0.05	0.348	0.380
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DS11	21100	2535	16.53	17.00	1.114	-	-	-0.01	0.358	0.399
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DS11	21100	2535	16.62	17.00	1.091	-	-	0.03	0.246	0.268
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DS11	21100	2535	16.53	17.00	1.114	-	-	-0.09	0.252	0.281
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DS11	21100	2535	16.62	17.00	1.091	-	-	-0.09	0.147	0.160
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DS11	21100	2535	16.53	17.00	1.114	-	-	-0.02	0.147	0.164
	LTE Band 7 ENDC	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DS11	21350	2560	13.54	14.00	1.112	-	-	-0.05	0.472	0.525

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	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DS11	21100	2535	17.52	18.00	1.117	-	-	0.03	0.746	0.833
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DS11	20850	2510	17.48	18.00	1.127	-	-	0.04	0.713	0.804
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DS11	21350	2560	17.36	18.00	1.159	-	-	0.06	0.722	0.837
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DS11	21100	2535	17.48	18.00	1.127	-	-	0.01	0.768	0.866
	LTE Band 7C	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DS11	21100+ 21298	2535+ 2554.8	17.40	18.00	1.148	-	-	0.02	0.712	0.817
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DS11	20850	2510	17.43	18.00	1.140	-	-	0.05	0.751	0.856
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DS11	21350	2560	17.18	18.00	1.208	-	-	0.08	0.732	0.884
	LTE Band 7	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 5	DS11	21100	2535	17.40	18.00	1.148	-	-	0.04	0.722	0.829
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 5	DS11	21100	2535	17.52	18.00	1.117	-	-	0.11	0.656	0.733
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 5	DS11	21100	2535	17.48	18.00	1.127	-	-	0.12	0.673	0.759
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 5	DS11	21100	2535	17.52	18.00	1.117	-	-	0.11	0.370	0.413
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 5	DS11	21100	2535	17.48	18.00	1.127	-	-	0.03	0.387	0.436
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 5	DS11	21100	2535	17.52	18.00	1.117	-	-	0.11	0.384	0.429
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 5	DS11	21100	2535	17.48	18.00	1.127	-	-	-0.03	0.392	0.442
	LTE Band 7 ENDC&UL CA	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DS11	21350	2560	14.63	15.00	1.089	-	-	0.02	0.412	0.449
	LTE Band 38	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DS11	38000	2595	19.43	20.00	1.140	62.9	1.006	0.03	0.589	0.676
14	LTE Band 38	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DS11	38000	2595	19.34	20.00	1.164	62.9	1.006	-0.01	0.742	0.869
	LTE Band 38C	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DS11	38000+ 38198	2595+ 2614.8	19.28	20.00	1.180	62.9	1.006	0.02	0.722	0.857
	LTE Band 38	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DS11	37850	2580	19.14	20.00	1.219	62.9	1.006	0.03	0.708	0.868
	LTE Band 38	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DS11	38150	2610	19.04	20.00	1.247	62.9	1.006	0.05	0.615	0.772
	LTE Band 38	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 4	DS11	38000	2595	19.29	20.00	1.178	62.9	1.006	0.08	0.614	0.727
	LTE Band 38	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DS11	38000	2595	19.43	20.00	1.140	62.9	1.006	0.04	0.242	0.278
	LTE Band 38	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DS11	38000	2595	19.34	20.00	1.164	62.9	1.006	0.06	0.249	0.292
	LTE Band 38	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DS11	38000	2595	19.43	20.00	1.140	62.9	1.006	-0.05	0.170	0.195
	LTE Band 38	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DS11	38000	2595	19.34	20.00	1.164	62.9	1.006	-0.05	0.169	0.198
	LTE Band 38	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DS11	38000	2595	19.43	20.00	1.140	62.9	1.006	-0.1	0.097	0.111
	LTE Band 38	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DS11	38000	2595	19.34	20.00	1.164	62.9	1.006	-0.01	0.102	0.119
	LTE Band 38 ENDC	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DS11	38000	2595	16.84	17.50	1.164	62.9	1.006	0.1	0.444	0.520
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DS11	40620	2593	21.77	23.00	1.327	62.9	1.006	0.04	0.071	0.095
	LTE Band 38C	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DS11	38000+ 38198	2595+ 2614.8	21.50	23.00	1.413	62.9	1.006	0.01	0.065	0.092
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DS11	40620	2593	20.89	22.00	1.291	62.9	1.006	0.15	0.057	0.074
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DS11	40620	2593	21.77	23.00	1.327	62.9	1.006	-0.02	0.000	0.000
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DS11	40620	2593	20.89	22.00	1.291	62.9	1.006	0.15	0.000	0.000
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DS11	40620	2593	21.77	23.00	1.327	62.9	1.006	0.01	0.058	0.077
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DS11	40620	2593	20.89	22.00	1.291	62.9	1.006	0.14	0.046	0.060
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DS11	40620	2593	21.77	23.00	1.327	62.9	1.006	0.03	0.000	0.000
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DS11	40620	2593	20.89	22.00	1.291	62.9	1.006	-0.07	0.000	0.000
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DS11	40620	2593	24.26	25.50	1.330	62.9	1.006	0.06	0.120	0.161
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DS11	40620	2593	23.35	24.50	1.303	62.9	1.006	0.06	0.118	0.155
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DS11	40620	2593	24.26	25.50	1.330	62.9	1.006	-0.05	0.101	0.135
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 3	DS11	40620	2593	23.35	24.50	1.303	62.9	1.006	0.05	0.083	0.109
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	DS11	40620	2593	24.26	25.50	1.330	62.9	1.006	0.11	0.267	0.357
	LTE Band 38C	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	DS11	38000+ 38198	2595+ 2614.8	24.20	25.50	1.349	62.9	1.006	0.02	0.254	0.345
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 3	DS11	40620	2593	23.35	24.50	1.303	62.9	1.006	0.1	0.217	0.284
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 3	DS11	40620	2593	24.26	25.50	1.330	62.9	1.006	-0.02	0.067	0.090
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 3	DS11	40620	2593	23.35	24.50	1.303	62.9	1.006	-0.09	0.053	0.069
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DS11	40620	2593	16.44	17.00	1.138	62.9	1.006	-0.03	0.532	0.609
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DS11	40620	2593	16.39	17.00	1.151	62.9	1.006	-0.04	0.545	0.631
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DS11	40620	2593	16.44	17.00	1.138	62.9	1.006	0.1	0.213	0.244
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DS11	40620	2593	16.39	17.00	1.151	62.9	1.006	0.13	0.221	0.256
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DS11	40620	2593	16.44	17.00	1.138	62.9	1.006	-0.01	0.146	0.167
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DS11	40620	2593	16.39	17.00	1.151	62.9	1.006	0.05	0.153	0.177
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DS11	40620	2593	16.44	17.00	1.138	62.9	1.006	-0.05	0.091	0.104
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DS11	40620	2593	16.39	17.00	1.151	62.9	1.006	0.1	0.081	0.094

Sporton International Inc. (Kunshan)

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	LTE Band 41 ENDC	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DS11	40620	2593	15.41	16.00	1.146	62.9	1.006	-0.01	0.438	0.505
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DS11	40620	2593	19.03	20.00	1.250	62.9	1.006	-0.08	0.682	0.858
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DS11	39750	2506	18.92	20.00	1.282	62.9	1.006	-0.08	0.773	0.997
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DS11	40185	2549.5	18.98	20.00	1.265	62.9	1.006	0.01	0.751	0.956
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DS11	41055	2636.5	18.92	20.00	1.282	62.9	1.006	-0.09	0.691	0.891
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DS11	41490	2680	18.93	20.00	1.279	62.9	1.006	0.07	0.617	0.794
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DS11	40620	2593	19.00	20.00	1.259	62.9	1.006	0.09	0.684	0.866
15	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DS11	39750	2506	18.90	20.00	1.288	62.9	1.006	0.01	0.799	1.035
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DS11	40185	2549.5	18.99	20.00	1.262	62.9	1.006	0.01	0.784	0.995
	LTE Band 38C	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DS11	37850+38048	2580+2599.8	18.58	20.00	1.387	62.9	1.006	0.02	0.740	1.032
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DS11	41055	2636.5	18.79	20.00	1.321	62.9	1.006	-0.09	0.684	0.909
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DS11	41490	2680	18.81	20.00	1.315	62.9	1.006	-0.09	0.622	0.823
	LTE Band 41	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 5	DS11	40620	2593	18.90	20.00	1.288	62.9	1.006	-0.06	0.677	0.877
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 5	DS11	40620	2593	19.03	20.00	1.250	62.9	1.006	0.14	0.599	0.753
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 5	DS11	40620	2593	19.00	20.00	1.259	62.9	1.006	-0.06	0.603	0.764
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 5	DS11	40620	2593	19.03	20.00	1.250	62.9	1.006	0.12	0.348	0.438
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 5	DS11	40620	2593	19.00	20.00	1.259	62.9	1.006	0.01	0.353	0.447
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 5	DS11	40620	2593	19.03	20.00	1.250	62.9	1.006	0.07	0.365	0.459
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 5	DS11	40620	2593	19.00	20.00	1.259	62.9	1.006	-0.03	0.368	0.466
	LTE Band 41 ENDC	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DS11	39750	2506	15.90	17.00	1.288	62.9	1.006	0.02	0.403	0.522
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 0	DS11	507000	2535	22.28	24.00	1.486	-	-	-0.06	0.130	0.193
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Right Cheek	0mm	Ant 0	DS11	507000	2535	22.17	24.00	1.524	-	-	0.06	0.125	0.191
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 0	DS11	507000	2535	22.28	24.00	1.486	-	-	0.01	0.040	0.059
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Right Tilted	0mm	Ant 0	DS11	507000	2535	22.17	24.00	1.524	-	-	-0.07	0.041	0.062
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 0	DS11	507000	2535	22.28	24.00	1.486	-	-	0.1	0.077	0.114
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Left Cheek	0mm	Ant 0	DS11	507000	2535	22.17	24.00	1.524	-	-	0.04	0.068	0.104
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 0	DS11	507000	2535	22.28	24.00	1.486	-	-	-0.06	0.064	0.095
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Left Tilted	0mm	Ant 0	DS11	507000	2535	22.17	24.00	1.524	-	-	-0.06	0.062	0.094
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 3	DS11	507000	2535	22.68	24.00	1.355	-	-	0.05	0.087	0.118
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Right Cheek	0mm	Ant 3	DS11	507000	2535	22.28	24.00	1.486	-	-	0.1	0.097	0.144
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 3	DS11	507000	2535	22.68	24.00	1.355	-	-	0.06	0.072	0.098
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Right Tilted	0mm	Ant 3	DS11	507000	2535	22.28	24.00	1.486	-	-	-0.08	0.091	0.135
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 3	DS11	507000	2535	22.68	24.00	1.355	-	-	0.03	0.166	0.225
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Left Cheek	0mm	Ant 3	DS11	507000	2535	22.28	24.00	1.486	-	-	0.03	0.207	0.308
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 3	DS11	507000	2535	22.68	24.00	1.355	-	-	-0.02	0.068	0.092
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Left Tilted	0mm	Ant 3	DS11	507000	2535	22.28	24.00	1.486	-	-	0.01	0.075	0.111
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DS11	507000	2535	17.97	19.00	1.268	-	-	0.04	0.522	0.662
16	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DS11	507000	2535	17.94	19.00	1.276	-	-	-0.1	0.610	0.779
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	DS11	507000	2535	17.97	19.00	1.268	-	-	0.13	0.175	0.222
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	DS11	507000	2535	17.94	19.00	1.276	-	-	0.14	0.221	0.282
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 4	DS11	507000	2535	17.97	19.00	1.268	-	-	0.07	0.118	0.150
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Left Cheek	0mm	Ant 4	DS11	507000	2535	17.94	19.00	1.276	-	-	-0.04	0.142	0.181
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 4	DS11	507000	2535	17.97	19.00	1.268	-	-	0.01	0.064	0.081
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Left Tilted	0mm	Ant 4	DS11	507000	2535	17.94	19.00	1.276	-	-	-0.08	0.079	0.101
	FR1 n7 ENDC	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DS11	507000	2535	15.84	17.00	1.306	-	-	-0.03	0.404	0.528
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 5	DS11	507000	2535	16.02	16.50	1.117	-	-	0.03	0.527	0.589
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Right Cheek	0mm	Ant 5	DS11	507000	2535	15.91	16.50	1.146	-	-	-0.14	0.528	0.605
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 5	DS11	507000	2535	16.02	16.50	1.117	-	-	0.11	0.522	0.583
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Right Tilted	0mm	Ant 5	DS11	507000	2535	15.91	16.50	1.146	-	-	0.1	0.508	0.582
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 5	DS11	507000	2535	16.02	16.50	1.117	-	-	-0.02	0.244	0.273
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Left Cheek	0mm	Ant 5	DS11	507000	2535	15.91	16.50	1.146	-	-	0.02	0.246	0.282
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 5	DS11	507000	2535	16.02	16.50	1.117	-	-	-0.01	0.252	0.281
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Left Tilted	0mm	Ant 5	DS11	507000	2535	15.91	16.50	1.146	-	-	-0.07	0.263	0.301
	FR1 n7 ENDC	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 5	DS11	507000	2535	14.97	15.50	1.130	-	-	-0.14	0.421	0.476
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	DS11	518598	2592.99	22.13	23.50	1.371	-	-	-0.06	0.115	0.158
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	DS11	518598	2592.99	22.07	23.50	1.390	-	-	0.04	0.131	0.182

Sporton International Inc. (Kunshan)

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	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	DS1	518598	2592.99	22.13	23.50	1.371	-	-	0.02	0.034	0.047
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	DS1	518598	2592.99	22.07	23.50	1.390	-	-	-0.04	0.034	0.047
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	DS1	518598	2592.99	22.13	23.50	1.371	-	-	0.08	0.067	0.092
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	DS1	518598	2592.99	22.07	23.50	1.390	-	-	0.09	0.079	0.110
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	DS1	518598	2592.99	22.13	23.50	1.371	-	-	0.08	0.069	0.095
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	DS1	518598	2592.99	22.07	23.50	1.390	-	-	-0.06	0.061	0.085
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DS1	518598	2592.99	22.85	24.00	1.303	-	-	-0.09	0.086	0.112
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DS1	518598	2592.99	22.67	24.00	1.358	-	-	-0.02	0.098	0.133
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	DS1	518598	2592.99	22.85	24.00	1.303	-	-	0.08	0.077	0.100
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	DS1	518598	2592.99	22.67	24.00	1.358	-	-	0.03	0.091	0.124
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	DS1	518598	2592.99	22.85	24.00	1.303	-	-	-0.02	0.142	0.185
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	DS1	518598	2592.99	22.67	24.00	1.358	-	-	0.07	0.181	0.246
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DS1	518598	2592.99	22.85	24.00	1.303	-	-	0.14	0.073	0.095
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DS1	518598	2592.99	22.67	24.00	1.358	-	-	0.07	0.050	0.068
	FR1 n41 Other PA	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	DS1	518598	2592.99	24.37	25.00	1.156	-	-	0.07	0.180	0.208
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DS1	518598	2592.99	17.19	18.50	1.352	-	-	0.12	0.611	0.826
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DS1	518598	2592.99	17.11	18.50	1.377	-	-	0.09	0.742	1.022
17	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DS1	518598	2592.99	17.01	18.50	1.409	-	-	0.03	0.750	1.057
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DS1	518598	2592.99	17.19	18.50	1.352	-	-	0.12	0.220	0.297
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DS1	518598	2592.99	17.11	18.50	1.377	-	-	0.06	0.288	0.397
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DS1	518598	2592.99	17.19	18.50	1.352	-	-	0.1	0.141	0.191
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DS1	518598	2592.99	17.11	18.50	1.377	-	-	-0.08	0.181	0.249
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DS1	518598	2592.99	17.19	18.50	1.352	-	-	-0.06	0.082	0.111
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DS1	518598	2592.99	17.11	18.50	1.377	-	-	0.08	0.110	0.151
	FR1 n41 ENDC&Other PA	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DS1	518598	2592.99	15.45	16.50	1.274	-	-	0.03	0.387	0.493
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 5	DS1	518598	2592.99	18.19	18.50	1.074	-	-	-0.12	0.830	0.891
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 5	DS1	518598	2592.99	18.15	18.50	1.084	-	-	-0.02	0.819	0.888
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 5	DS1	518598	2592.99	18.17	18.50	1.079	-	-	0.06	0.820	0.885
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 5	DS1	518598	2592.99	18.19	18.50	1.074	-	-	-0.06	0.824	0.885
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 5	DS1	518598	2592.99	18.15	18.50	1.084	-	-	0.09	0.786	0.852
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Right Tilted	0mm	Ant 5	DS1	518598	2592.99	18.17	18.50	1.079	-	-	-0.12	0.801	0.864
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DS1	518598	2592.99	18.19	18.50	1.074	-	-	0.07	0.412	0.442
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DS1	518598	2592.99	18.15	18.50	1.084	-	-	-0.05	0.427	0.463
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	DS1	518598	2592.99	18.19	18.50	1.074	-	-	0.14	0.440	0.473
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	DS1	518598	2592.99	18.15	18.50	1.084	-	-	0.06	0.461	0.500
	FR1 n41 ENDC	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 5	DS1	518598	2592.99	15.23	15.50	1.064	-	-	-0.02	0.423	0.450



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
3500MHz																				
	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DS11	42590	3500	21.78	23.00	1.324	62.9	1.006	0.09	0.055	0.073
	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DS11	42590	3500	20.86	22.00	1.300	62.9	1.006	0.12	0.000	0.000
	LTE Band 42	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DS11	42590	3500	21.78	23.00	1.324	62.9	1.006	0.03	0.000	0.000
	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DS11	42590	3500	20.86	22.00	1.300	62.9	1.006	0.03	0.055	0.072
	LTE Band 42	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DS11	42590	3500	21.78	23.00	1.324	62.9	1.006	-0.12	0.000	0.000
	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DS11	42590	3500	20.86	22.00	1.300	62.9	1.006	0.03	0.077	0.101
	LTE Band 42	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DS11	42590	3500	21.78	23.00	1.324	62.9	1.006	-0.01	0.000	0.000
	LTE Band 42	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DS11	42590	3500	20.86	22.00	1.300	62.9	1.006	-0.02	0.037	0.048
	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 9	DS11	42590	3500	16.82	18.50	1.472	62.9	1.006	0.12	0.607	0.899
	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 9	DS11	42190	3460	16.78	18.50	1.486	62.9	1.006	0.12	0.514	0.768
	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 9	DS11	42990	3540	16.58	18.50	1.556	62.9	1.006	0.12	0.509	0.797
	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 9	DS11	42590	3500	16.74	18.50	1.500	62.9	1.006	0.15	0.636	0.960
	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 9	DS11	42190	3460	16.55	18.50	1.567	62.9	1.006	-0.05	0.584	0.920
	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 9	DS11	42990	3540	16.58	18.50	1.556	62.9	1.006	0.02	0.579	0.906
	LTE Band 42	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 9	DS11	42590	3500	16.68	18.50	1.521	62.9	1.006	0.06	0.612	0.936
	LTE Band 42	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 9	DS11	42590	3500	16.82	18.50	1.472	62.9	1.006	0.13	0.493	0.730
	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 9	DS11	42590	3500	16.74	18.50	1.500	62.9	1.006	0.03	0.514	0.775
	LTE Band 42	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 9	DS11	42590	3500	16.82	18.50	1.472	62.9	1.006	0.11	0.157	0.233
	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 9	DS11	42590	3500	16.74	18.50	1.500	62.9	1.006	0.02	0.162	0.244
	LTE Band 42	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 9	DS11	42590	3500	16.82	18.50	1.472	62.9	1.006	0.1	0.143	0.212
	LTE Band 42	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 9	DS11	42590	3500	16.74	18.50	1.500	62.9	1.006	-0.03	0.143	0.216
	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 10	DS11	42590	3500	18.47	19.70	1.327	62.9	1.006	-0.06	0.637	0.851
	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 10	DS11	42190	3460	18.43	19.70	1.340	62.9	1.006	0.03	0.601	0.810
	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 10	DS11	42990	3540	18.10	19.70	1.445	62.9	1.006	0.07	0.600	0.872
	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 10	DS11	42590	3500	18.46	19.70	1.330	62.9	1.006	0.09	0.646	0.865
	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 10	DS11	42190	3460	18.23	19.70	1.403	62.9	1.006	0.06	0.631	0.890
	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 10	DS11	42990	3540	18.06	19.70	1.459	62.9	1.006	0.01	0.601	0.882
	LTE Band 42	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 10	DS11	42590	3500	18.39	19.70	1.352	62.9	1.006	0.06	0.620	0.843
	LTE Band 42	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 10	DS11	42590	3500	18.47	19.70	1.327	62.9	1.006	-0.08	0.715	0.955
	LTE Band 42	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 10	DS11	42190	3460	18.43	19.70	1.340	62.9	1.006	0.05	0.710	0.957
	LTE Band 42	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 10	DS11	42990	3540	18.10	19.70	1.445	62.9	1.006	0.02	0.675	0.982
18	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 10	DS11	42590	3500	18.46	19.70	1.330	62.9	1.006	-0.05	0.737	0.986
	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 10	DS11	42190	3460	18.23	19.70	1.403	62.9	1.006	0.03	0.695	0.981
	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 10	DS11	42990	3540	18.06	19.70	1.459	62.9	1.006	0.01	0.666	0.977
	LTE Band 42	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 10	DS11	42590	3500	18.39	19.70	1.352	62.9	1.006	0.06	0.712	0.968
	LTE Band 42	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 10	DS11	42590	3500	18.47	19.70	1.327	62.9	1.006	-0.05	0.250	0.334
	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 10	DS11	42590	3500	18.46	19.70	1.330	62.9	1.006	0.07	0.266	0.356
	LTE Band 42	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 10	DS11	42590	3500	18.47	19.70	1.327	62.9	1.006	0.08	0.348	0.465
	LTE Band 42	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 10	DS11	42590	3500	18.46	19.70	1.330	62.9	1.006	-0.08	0.357	0.478
	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 11	DS11	42590	3500	20.84	22.50	1.466	62.9	1.006	0.09	0.435	0.641
	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 11	DS11	42590	3500	20.76	22.50	1.493	62.9	1.006	0.09	0.446	0.670
	LTE Band 42	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 11	DS11	42590	3500	20.84	22.50	1.466	62.9	1.006	-0.04	0.477	0.703
	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 11	DS11	42590	3500	20.76	22.50	1.493	62.9	1.006	-0.02	0.494	0.742
	LTE Band 42	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 11	DS11	42590	3500	20.84	22.50	1.466	62.9	1.006	-0.03	0.534	0.787
	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 11	DS11	42590	3500	20.76	22.50	1.493	62.9	1.006	0.15	0.553	0.830
	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 11	DS11	42190	3460	20.62	22.50	1.542	62.9	1.006	0.02	0.532	0.825
	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 11	DS11	42990	3540	20.54	22.50	1.570	62.9	1.006	0.06	0.512	0.809
	LTE Band 42	20M	QPSK	100	0	-	Left Cheek	0mm	Ant 11	DS11	42590	3500	20.76	22.50	1.493	62.9	1.006	0.15	0.516	0.775
	LTE Band 42	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 11	DS11	42590	3500	20.84	22.50	1.466	62.9	1.006	0.12	0.591	0.871
	LTE Band 42	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 11	DS11	42190	3460	20.58	22.50	1.556	62.9	1.006	0.04	0.510	0.798
	LTE Band 42	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 11	DS11	42990	3540	20.68	22.50	1.521	62.9	1.006	-0.02	0.516	0.789



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	LTE Band 42	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 11	DS11	42590	3500	20.76	22.50	1.493	62.9	1.006	0.03	0.608	0.913
	LTE Band 42	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 11	DS11	42190	3460	20.62	22.50	1.542	62.9	1.006	0.04	0.584	0.906
	LTE Band 42	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 11	DS11	42990	3540	20.54	22.50	1.570	62.9	1.006	0.03	0.591	0.934
	LTE Band 42	20M	QPSK	100	0	-	Left Tilted	0mm	Ant 11	DS11	42590	3500	20.71	22.50	1.510	62.9	1.006	0.05	0.582	0.884
	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DS11	55830	3609	21.49	23.00	1.416	62.9	1.006	0.03	0.073	0.104
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DS11	55830	3609	20.62	22.00	1.374	62.9	1.006	-0.08	0.062	0.086
	LTE Band 48	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DS11	55830	3609	21.49	23.00	1.416	62.9	1.006	-0.05	0.057	0.081
	LTE Band 48	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DS11	55830	3609	20.62	22.00	1.374	62.9	1.006	0.09	0.054	0.075
	LTE Band 48	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DS11	55830	3609	21.49	23.00	1.416	62.9	1.006	0.13	0.025	0.036
	LTE Band 48	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DS11	55830	3609	20.62	22.00	1.374	62.9	1.006	0.05	0.027	0.037
	LTE Band 48	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DS11	55830	3609	21.49	23.00	1.416	62.9	1.006	0.14	0.034	0.048
	LTE Band 48	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DS11	55830	3609	20.62	22.00	1.374	62.9	1.006	-0.1	0.000	0.000
	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 9	DS11	55830	3609	18.33	19.50	1.309	62.9	1.006	0.06	0.667	0.878
	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 9	DS11	55340	3560	18.18	19.50	1.355	62.9	1.006	0.03	0.624	0.851
	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 9	DS11	56150	3641	18.22	19.50	1.343	62.9	1.006	0.05	0.615	0.831
	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 9	DS11	56640	3690	18.11	19.50	1.377	62.9	1.006	-0.02	0.631	0.874
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 9	DS11	55830	3609	18.29	19.50	1.321	62.9	1.006	0.03	0.676	0.899
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 9	DS11	55340	3560	18.25	19.50	1.334	62.9	1.006	0.03	0.635	0.852
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 9	DS11	56150	3641	18.19	19.50	1.352	62.9	1.006	0.05	0.625	0.850
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 9	DS11	55830	3609	18.28	19.50	1.324	62.9	1.006	-0.02	0.618	0.823
	LTE Band 48	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 9	DS11	56640	3690	18.22	19.50	1.343	62.9	1.006	-0.02	0.605	0.817
	LTE Band 48	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 9	DS11	55830	3609	18.33	19.50	1.309	62.9	1.006	0.01	0.524	0.690
	LTE Band 48	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 9	DS11	55830	3609	18.29	19.50	1.321	62.9	1.006	0.06	0.529	0.703
	LTE Band 48	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 9	DS11	55830	3609	18.33	19.50	1.309	62.9	1.006	-0.05	0.169	0.223
	LTE Band 48	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 9	DS11	55830	3609	18.29	19.50	1.321	62.9	1.006	0.07	0.169	0.225
	LTE Band 48	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 9	DS11	55830	3609	18.33	19.50	1.309	62.9	1.006	0.08	0.143	0.188
	LTE Band 48	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 9	DS11	55830	3609	18.29	19.50	1.321	62.9	1.006	0.05	0.152	0.202
	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 10	DS11	55830	3609	18.16	19.70	1.426	62.9	1.006	0.11	0.618	0.886
	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 10	DS11	55340	3560	17.88	19.70	1.521	62.9	1.006	0.03	0.594	0.909
	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 10	DS11	56150	3641	17.91	19.70	1.510	62.9	1.006	0.05	0.592	0.899
	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 10	DS11	56640	3690	17.89	19.70	1.517	62.9	1.006	-0.02	0.584	0.891
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 10	DS11	55830	3609	18.12	19.70	1.439	62.9	1.006	0.02	0.656	0.950
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 10	DS11	55340	3560	17.97	19.70	1.489	62.9	1.006	0.03	0.625	0.936
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 10	DS11	56150	3641	17.92	19.70	1.507	62.9	1.006	0.05	0.614	0.931
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 10	DS11	56640	3690	17.89	19.70	1.517	62.9	1.006	-0.02	0.603	0.920
	LTE Band 48	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 10	DS11	55830	3609	18.10	19.70	1.445	62.9	1.006	-0.02	0.605	0.880
	LTE Band 48	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 10	DS11	55830	3609	18.16	19.70	1.426	62.9	1.006	0.1	0.688	0.987
	LTE Band 48	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 10	DS11	55340	3560	17.88	19.70	1.521	62.9	1.006	0.05	0.621	0.950
	LTE Band 48	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 10	DS11	56150	3641	17.91	19.70	1.510	62.9	1.006	0.01	0.614	0.933
	LTE Band 48	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 10	DS11	56640	3690	17.89	19.70	1.517	62.9	1.006	-0.06	0.601	0.917
19	LTE Band 48	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 10	DS11	55830	3609	18.12	19.70	1.439	62.9	1.006	-0.09	0.729	1.055
	LTE Band 48	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 10	DS11	55340	3560	17.97	19.70	1.489	62.9	1.006	0.03	0.675	1.011
	LTE Band 48	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 10	DS11	56150	3641	17.92	19.70	1.507	62.9	1.006	0.05	0.651	0.987
	LTE Band 48	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 10	DS11	56640	3690	17.89	19.70	1.517	62.9	1.006	-0.02	0.682	1.041
	LTE Band 48	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 10	DS11	55830	3609	18.10	19.70	1.445	62.9	1.006	-0.06	0.694	1.009
	LTE Band 48	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 10	DS11	55830	3609	18.16	19.70	1.426	62.9	1.006	0.05	0.250	0.359
	LTE Band 48	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 10	DS11	55830	3609	18.12	19.70	1.439	62.9	1.006	0.07	0.255	0.369
	LTE Band 48	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 10	DS11	55830	3609	18.16	19.70	1.426	62.9	1.006	0.02	0.334	0.479
	LTE Band 48	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 10	DS11	55830	3609	18.12	19.70	1.439	62.9	1.006	0.01	0.350	0.507
	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 11	DS11	55830	3609	19.84	21.50	1.466	62.9	1.006	0.02	0.363	0.535
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 11	DS11	55830	3609	19.80	21.50	1.479	62.9	1.006	0.07	0.371	0.552
	LTE Band 48	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 11	DS11	55830	3609	19.84	21.50	1.466	62.9	1.006	0.05	0.403	0.594
	LTE Band 48	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 11	DS11	55830	3609	19.80	21.50	1.479	62.9	1.006	0.03	0.411	0.612
	LTE Band 48	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 11	DS11	55830	3609	19.84	21.50	1.466	62.9	1.006	0.02	0.448	0.661
	LTE Band 48	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 11	DS11	55830	3609	19.80	21.50	1.479	62.9	1.006	-0.03	0.460	0.684
	LTE Band 48	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 11	DS11	55830	3609	19.84	21.50	1.466	62.9	1.006	0.07	0.485	0.715

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	LTE Band 48	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 11	DS11	55830	3609	19.80	21.50	1.479	62.9	1.006	0.1	0.500	0.744
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	DS11	656000	3840	21.89	23.50	1.449	-	-	-0.02	0.061	0.088
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	DS11	656000	3840	21.80	23.50	1.479	-	-	0.02	0.070	0.104
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	DS11	656000	3840	21.89	23.50	1.449	-	-	0.02	0.032	0.046
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	DS11	656000	3840	21.80	23.50	1.479	-	-	0.14	0.030	0.044
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	DS11	656000	3840	21.89	23.50	1.449	-	-	0.06	0.046	0.067
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	DS11	656000	3840	21.80	23.50	1.479	-	-	0.08	0.044	0.065
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	DS11	656000	3840	21.89	23.50	1.449	-	-	0.11	0.051	0.074
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	DS11	656000	3840	21.80	23.50	1.479	-	-	0.01	0.052	0.077
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	DS11	633334	3500.01	22.04	23.50	1.400	-	-	0.01	0.040	0.056
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	DS11	633334	3500.01	22.00	23.50	1.413	-	-	0.11	0.035	0.049
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	DS11	633334	3500.01	22.04	23.50	1.400	-	-	-0.04	0.029	0.041
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	DS11	633334	3500.01	22.00	23.50	1.413	-	-	0.01	0.058	0.082
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	DS11	633334	3500.01	22.04	23.50	1.400	-	-	-0.08	0.034	0.048
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	DS11	633334	3500.01	22.00	23.50	1.413	-	-	-0.04	0.035	0.049
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	DS11	633334	3500.01	22.04	23.50	1.400	-	-	-0.07	0.040	0.056
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	DS11	633334	3500.01	22.00	23.50	1.413	-	-	-0.05	0.031	0.044
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	DS11	656000	3840	13.70	15.50	1.514	-	-	0.04	0.339	0.513
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	DS11	656000	3840	13.69	15.50	1.517	-	-	-0.01	0.328	0.498
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 9	DS11	656000	3840	13.70	15.50	1.514	-	-	-0.02	0.278	0.421
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 9	DS11	656000	3840	13.69	15.50	1.517	-	-	-0.01	0.273	0.414
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 9	DS11	656000	3840	13.70	15.50	1.514	-	-	0.04	0.085	0.129
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 9	DS11	656000	3840	13.69	15.50	1.517	-	-	-0.04	0.084	0.127
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 9	DS11	656000	3840	13.70	15.50	1.514	-	-	0.09	0.083	0.126
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 9	DS11	656000	3840	13.69	15.50	1.517	-	-	-0.06	0.081	0.123
	FR1 n77 ENDC	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	DS11	656000	3840	11.77	13.50	1.489	-	-	0.05	0.232	0.346
20	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	DS11	633334	3500.01	13.63	15.50	1.538	-	-	0.08	0.574	0.883
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	DS11	633334	3500.01	13.60	15.50	1.549	-	-	0.06	0.565	0.875
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	DS11	633334	3500.01	13.54	15.50	1.570	-	-	0.01	0.555	0.872
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 9	DS11	633334	3500.01	13.63	15.50	1.538	-	-	-0.06	0.485	0.746
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 9	DS11	633334	3500.01	13.60	15.50	1.549	-	-	0.08	0.468	0.725
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 9	DS11	633334	3500.01	13.63	15.50	1.538	-	-	-0.01	0.142	0.218
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 9	DS11	633334	3500.01	13.60	15.50	1.549	-	-	0.03	0.136	0.211
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 9	DS11	633334	3500.01	13.63	15.50	1.538	-	-	0.04	0.137	0.211
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 9	DS11	633334	3500.01	13.60	15.50	1.549	-	-	-0.03	0.130	0.201
	FR1 n77 ENDC	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	DS11	633334	3500.01	11.73	13.50	1.503	-	-	0.04	0.368	0.553
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 10	DS11	656000	3840	14.42	15.50	1.282	-	-	0.04	0.433	0.555
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 10	DS11	656000	3840	14.37	15.50	1.297	-	-	-0.06	0.460	0.597
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 10	DS11	656000	3840	14.42	15.50	1.282	-	-	0.05	0.483	0.619
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 10	DS11	656000	3840	14.37	15.50	1.297	-	-	0.02	0.489	0.634
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 10	DS11	656000	3840	14.42	15.50	1.282	-	-	0.11	0.192	0.246
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 10	DS11	656000	3840	14.37	15.50	1.297	-	-	-0.06	0.204	0.265
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 10	DS11	656000	3840	14.42	15.50	1.282	-	-	-0.08	0.235	0.301
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 10	DS11	656000	3840	14.37	15.50	1.297	-	-	0.02	0.254	0.329
	FR1 n77 ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 10	DS11	656000	3840	13.37	14.50	1.297	-	-	0.05	0.373	0.484
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 10	DS11	633334	3500.01	14.37	15.50	1.297	-	-	-0.03	0.275	0.357
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 10	DS11	633334	3500.01	14.31	15.50	1.315	-	-	-0.06	0.272	0.358
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 10	DS11	633334	3500.01	14.37	15.50	1.297	-	-	0.03	0.321	0.416
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 10	DS11	633334	3500.01	14.31	15.50	1.315	-	-	0.05	0.315	0.414
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 10	DS11	633334	3500.01	14.37	15.50	1.297	-	-	0.09	0.128	0.166
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 10	DS11	633334	3500.01	14.31	15.50	1.315	-	-	0.04	0.123	0.162
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 10	DS11	633334	3500.01	14.37	15.50	1.297	-	-	0.12	0.163	0.211
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 10	DS11	633334	3500.01	14.31	15.50	1.315	-	-	0.16	0.163	0.214
	FR1 n77 ENDC	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 10	DS11	633334	3500.01	13.37	14.50	1.297	-	-	-0.08	0.274	0.355
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 11	DS11	656000	3840	17.22	18.50	1.343	-	-	0.01	0.333	0.447
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 11	DS11	656000	3840	17.17	18.50	1.358	-	-	0.01	0.317	0.431



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	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 11	DS11	656000	3840	17.22	18.50	1.343	-	-	0.06	0.379	0.509
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 11	DS11	656000	3840	17.17	18.50	1.358	-	-	-0.07	0.364	0.494
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DS11	656000	3840	17.22	18.50	1.343	-	-	-0.06	0.428	0.575
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DS11	656000	3840	17.17	18.50	1.358	-	-	0.07	0.432	0.587
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 11	DS11	656000	3840	17.22	18.50	1.343	-	-	0.08	0.497	0.667
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 11	DS11	656000	3840	17.17	18.50	1.358	-	-	0.06	0.484	0.657
	FR1 n77 ENDC	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 11	DS11	656000	3840	16.35	17.50	1.303	-	-	0.01	0.395	0.515
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 11	DS11	633334	3500.01	17.19	18.50	1.352	-	-	-0.08	0.218	0.295
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 11	DS11	633334	3500.01	17.10	18.50	1.380	-	-	0.02	0.243	0.335
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 11	DS11	633334	3500.01	17.19	18.50	1.352	-	-	0.07	0.294	0.398
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 11	DS11	633334	3500.01	17.10	18.50	1.380	-	-	0.14	0.311	0.429
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DS11	633334	3500.01	17.19	18.50	1.352	-	-	0.03	0.267	0.361
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DS11	633334	3500.01	17.10	18.50	1.380	-	-	0.1	0.304	0.420
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 11	DS11	633334	3500.01	17.19	18.50	1.352	-	-	0.12	0.346	0.468
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 11	DS11	633334	3500.01	17.10	18.50	1.380	-	-	-0.01	0.381	0.526
	FR1 n77 ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 11	DS11	633334	3500.01	16.16	17.50	1.361	-	-	0.02	0.312	0.425
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	DS11	650000	3750	23.46	25.00	1.426	-	-	0.02	0.068	0.097
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	DS11	650000	3750	23.05	25.00	1.567	-	-	0.04	0.067	0.105
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	DS11	650000	3750	23.46	25.00	1.426	-	-	-0.03	0.025	0.036
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	DS11	650000	3750	23.05	25.00	1.567	-	-	0.02	0.000	0.000
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	DS11	650000	3750	23.46	25.00	1.426	-	-	0.07	0.055	0.078
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	DS11	650000	3750	23.05	25.00	1.567	-	-	0.09	0.048	0.075
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	DS11	650000	3750	23.46	25.00	1.426	-	-	0.03	0.075	0.107
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	DS11	650000	3750	23.05	25.00	1.567	-	-	0.01	0.065	0.102
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	DS11	633334	3500.01	23.30	25.00	1.479	-	-	0.09	0.028	0.041
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	DS11	633334	3500.01	23.19	25.00	1.517	-	-	0.07	0.000	0.000
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	DS11	633334	3500.01	23.30	25.00	1.479	-	-	0.11	0.024	0.035
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	DS11	633334	3500.01	23.19	25.00	1.517	-	-	-0.01	0.020	0.030
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	DS11	633334	3500.01	23.30	25.00	1.479	-	-	-0.03	0.000	0.000
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	DS11	633334	3500.01	23.19	25.00	1.517	-	-	0.11	0.000	0.000
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	DS11	633334	3500.01	23.30	25.00	1.479	-	-	0.11	0.022	0.033
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	DS11	633334	3500.01	23.19	25.00	1.517	-	-	0.04	0.000	0.000
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	DS11	650000	3750	15.59	17.00	1.384	-	-	0.04	0.610	0.844
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	DS11	650000	3750	15.55	17.00	1.396	-	-	0.15	0.520	0.726
	FR1 n78 PC2	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	DS11	650000	3750	15.52	17.00	1.406	-	-	0.02	0.537	0.755
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 9	DS11	650000	3750	15.59	17.00	1.384	-	-	-0.02	0.486	0.672
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 9	DS11	650000	3750	15.55	17.00	1.396	-	-	-0.08	0.426	0.595
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 9	DS11	650000	3750	15.59	17.00	1.384	-	-	-0.02	0.143	0.198
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 9	DS11	650000	3750	15.55	17.00	1.396	-	-	0.15	0.134	0.187
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 9	DS11	650000	3750	15.59	17.00	1.384	-	-	0.04	0.138	0.191
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 9	DS11	650000	3750	15.55	17.00	1.396	-	-	-0.03	0.126	0.176
	FR1 n78 ENDC&UL_CA	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	DS11	650000	3750	12.64	14.00	1.368	-	-	0.03	0.318	0.435
21	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	DS11	633334	3500.01	15.53	17.00	1.403	-	-	-0.12	0.778	1.091
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	DS11	633334	3500.01	15.51	17.00	1.409	-	-	0.06	0.746	1.051
	FR1 n78 PC2	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	DS11	633334	3500.01	15.47	17.00	1.422	-	-	0.03	0.750	1.067
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 9	DS11	633334	3500.01	15.53	17.00	1.403	-	-	0.01	0.642	0.901
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 9	DS11	633334	3500.01	15.51	17.00	1.409	-	-	0.04	0.620	0.874
	FR1 n78 PC2	100M	QPSK	270	0	DFT-SCS-30KHz	Right Tilted	0mm	Ant 9	DS11	633334	3500.01	15.47	17.00	1.422	-	-	0.01	0.633	0.900
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 9	DS11	633334	3500.01	15.53	17.00	1.403	-	-	0.05	0.196	0.275
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 9	DS11	633334	3500.01	15.51	17.00	1.409	-	-	-0.07	0.181	0.255
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 9	DS11	633334	3500.01	15.53	17.00	1.403	-	-	0.09	0.184	0.258
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 9	DS11	633334	3500.01	15.51	17.00	1.409	-	-	0.1	0.171	0.241
	FR1 n78 ENDC&UL_CA	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	DS11	633334	3500.01	12.63	14.00	1.371	-	-	-0.02	0.412	0.565
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 10	DS11	650000	3750	16.50	17.00	1.122	-	-	0.04	0.732	0.821
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 10	DS11	650000	3750	16.42	17.00	1.143	-	-	0.05	0.760	0.869
	FR1 n78 PC2	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 10	DS11	650000	3750	16.25	17.00	1.189	-	-	0.04	0.745	0.885



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FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 10	DS11	650000	3750	16.50	17.00	1.122	-	-	-0.05	0.812	0.911
FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 10	DS11	650000	3750	16.42	17.00	1.143	-	-	-0.01	0.840	0.960
FR1 n78 PC2	100M	QPSK	270	0	DFT-SCS-30KHz	Right Tilted	0mm	Ant 10	DS11	650000	3750	16.25	17.00	1.189	-	-	0.02	0.800	0.951
FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 10	DS11	650000	3750	16.50	17.00	1.122	-	-	-0.09	0.337	0.378
FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 10	DS11	650000	3750	16.42	17.00	1.143	-	-	-0.06	0.341	0.390
FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 10	DS11	650000	3750	16.50	17.00	1.122	-	-	0.02	0.411	0.461
FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 10	DS11	650000	3750	16.42	17.00	1.143	-	-	-0.06	0.421	0.481
FR1 n78 ENDC&UL_CA	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 10	DS11	650000	3750	13.51	14.00	1.119	-	-	-0.01	0.426	0.477
FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 10	DS11	633334	3500.01	16.41	17.00	1.146	-	-	-0.01	0.398	0.456
FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 10	DS11	633334	3500.01	16.34	17.00	1.164	-	-	0.06	0.401	0.467
FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 10	DS11	633334	3500.01	16.41	17.00	1.146	-	-	0.05	0.466	0.534
FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 10	DS11	633334	3500.01	16.34	17.00	1.164	-	-	0.07	0.458	0.533
FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 10	DS11	633334	3500.01	16.41	17.00	1.146	-	-	0.08	0.172	0.197
FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 10	DS11	633334	3500.01	16.34	17.00	1.164	-	-	-0.08	0.176	0.205
FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 10	DS11	633334	3500.01	16.41	17.00	1.146	-	-	-0.08	0.226	0.259
FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 10	DS11	633334	3500.01	16.34	17.00	1.164	-	-	-0.07	0.217	0.253
FR1 n78 ENDC&UL_CA	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 10	DS11	633334	3500.01	13.53	14.00	1.114	-	-	0.05	0.243	0.271
FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 11	DS11	650000	3750	16.72	18.00	1.343	-	-	-0.08	0.281	0.377
FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 11	DS11	650000	3750	16.66	18.00	1.361	-	-	0.15	0.279	0.380
FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 11	DS11	650000	3750	16.72	18.00	1.343	-	-	-0.04	0.330	0.443
FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 11	DS11	650000	3750	16.66	18.00	1.361	-	-	0.01	0.328	0.447
FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DS11	650000	3750	16.72	18.00	1.343	-	-	-0.04	0.376	0.505
FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DS11	650000	3750	16.66	18.00	1.361	-	-	-0.04	0.385	0.524
FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 11	DS11	650000	3750	16.72	18.00	1.343	-	-	0.08	0.412	0.553
FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 11	DS11	650000	3750	16.66	18.00	1.361	-	-	0.02	0.401	0.546
FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 11	DS11	633334	3500.01	16.65	18.00	1.365	-	-	-0.02	0.201	0.274
FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 11	DS11	633334	3500.01	16.56	18.00	1.393	-	-	-0.04	0.235	0.327
FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 11	DS11	633334	3500.01	16.65	18.00	1.365	-	-	0.12	0.248	0.338
FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 11	DS11	633334	3500.01	16.56	18.00	1.393	-	-	-0.04	0.295	0.411
FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DS11	633334	3500.01	16.65	18.00	1.365	-	-	-0.03	0.250	0.341
FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DS11	633334	3500.01	16.56	18.00	1.393	-	-	0.14	0.288	0.401
FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 11	DS11	633334	3500.01	16.65	18.00	1.365	-	-	0.08	0.318	0.434
FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 11	DS11	633334	3500.01	16.56	18.00	1.393	-	-	-0.04	0.368	0.513

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
2450MHz																
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 15+16	Standalone	6	2437	17.34	18.50	1.306	98.29	1.017	0.03	0.117	0.155
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 15+16	Standalone	6	2437	17.34	18.50	1.306	98.29	1.017	0.02	0.136	0.181
22	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 15+16	Standalone	6	2437	17.34	18.50	1.306	98.29	1.017	0.02	0.337	0.448
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 15+16	Standalone	6	2437	17.34	18.50	1.306	98.29	1.017	0.01	0.210	0.279
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 15	Standalone	39	2441	16.56	17.00	1.106	76.84	1.301	0.07	0.231	0.332
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 15	Standalone	39	2441	16.56	17.00	1.106	76.84	1.301	0.02	0.298	0.429
	Bluetooth	1Mbps	Left Cheek	0mm	Ant 15	Standalone	39	2441	16.56	17.00	1.106	76.84	1.301	0.01	0.413	0.594
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 15	Standalone	39	2441	16.56	17.00	1.106	76.84	1.301	0.19	0.447	0.643
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 15	Simultaneous	39	2441	10.07	11.00	1.239	76.84	1.301	0.04	0.120	0.193
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 16	Standalone	39	2441	16.66	17.00	1.082	76.78	1.302	-0.03	0.371	0.523
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 16	Standalone	39	2441	16.66	17.00	1.082	76.78	1.302	-0.02	0.196	0.276
23	Bluetooth	1Mbps	Left Cheek	0mm	Ant 16	Standalone	39	2441	16.66	17.00	1.082	76.78	1.302	0.03	0.505	0.711
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 16	Standalone	39	2441	16.66	17.00	1.082	76.78	1.302	0.1	0.240	0.338
	Bluetooth	1Mbps	Left Cheek	0mm	Ant 16	Simultaneous	39	2441	10.11	11.00	1.227	76.78	1.302	0.01	0.139	0.222
5000MHz																
	5.3GHz WLAN	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 15+16	Standalone	58	5290	15.28	17.00	1.486	100	1.000	0.05	0.215	0.319
	5.3GHz WLAN	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 15+16	Standalone	58	5290	15.28	17.00	1.486	100	1.000	-0.09	0.258	0.383

Sporton International Inc. (Kunshan)

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	5.3GHz WLAN	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 15+16	Standalone	58	5290	15.28	17.00	1.486	100	1.000	0.04	0.451	0.670
24	5.3GHz WLAN	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 15+16	Standalone	58	5290	15.28	17.00	1.486	100	1.000	-0.15	0.480	0.713
	5.3GHz WLAN	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 15+16	Simultaneous	58	5290	12.23	14.00	1.503	100	1.000	0.03	0.179	0.269
	5.5GHz WLAN	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 15+16	Standalone	122	5610	15.79	17.50	1.483	100	1.000	0.01	0.117	0.173
	5.5GHz WLAN	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 15+16	Standalone	122	5610	15.79	17.50	1.483	100	1.000	0.07	0.133	0.197
25	5.5GHz WLAN	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 15+16	Standalone	122	5610	15.79	17.50	1.483	100	1.000	0.03	0.353	0.523
	5.5GHz WLAN	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 15+16	Standalone	122	5610	15.79	17.50	1.483	100	1.000	-0.03	0.295	0.437
	5.5GHz WLAN	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 15+16	Simultaneous	122	5610	12.76	14.50	1.493	100	1.000	0.01	0.155	0.231
	5.8GHz WLAN	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 15+16	Standalone	155	5775	15.85	17.50	1.462	100	1.000	0.05	0.119	0.174
	5.8GHz WLAN	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 15+16	Standalone	155	5775	15.85	17.50	1.462	100	1.000	0.07	0.117	0.171
26	5.8GHz WLAN	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 15+16	Standalone	155	5775	15.85	17.50	1.462	100	1.000	-0.08	0.434	0.635
	5.8GHz WLAN	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 15+16	Standalone	155	5775	15.85	17.50	1.462	100	1.000	0.01	0.270	0.395
	5.8GHz WLAN	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 15+16	Simultaneous	155	5775	12.94	14.50	1.432	100	1.000	-0.02	0.194	0.278



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)
750MHz																		
	LTE Band 12	10M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 5	23095	707.5	24.38	25.50	1.294	-0.03	0.200	0.259
	LTE Band 12	10M	QPSK	25	0	-	Front	10mm	Ant 0	DSI 5	23095	707.5	23.52	24.50	1.253	0.03	0.164	0.206
	LTE Band 12	10M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 5	23095	707.5	24.38	25.50	1.294	-0.04	0.290	0.375
	LTE Band 12	10M	QPSK	25	0	-	Back	10mm	Ant 0	DSI 5	23095	707.5	23.52	24.50	1.253	0.09	0.233	0.292
	LTE Band 12	10M	QPSK	1	0	-	Right Side	10mm	Ant 0	DSI 5	23095	707.5	24.38	25.50	1.294	0.03	0.321	0.415
	LTE Band 12	10M	QPSK	25	0	-	Right Side	10mm	Ant 0	DSI 5	23095	707.5	23.52	24.50	1.253	0.09	0.257	0.322
	LTE Band 12	10M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 5	23095	707.5	24.38	25.50	1.294	0.14	0.072	0.093
	LTE Band 12	10M	QPSK	25	0	-	Bottom Side	10mm	Ant 0	DSI 5	23095	707.5	23.52	24.50	1.253	0.08	0.059	0.074
	LTE Band 12	10M	QPSK	1	0	-	Front	10mm	Ant 1	DSI 5	23095	707.5	20.41	21.50	1.285	0.14	0.181	0.233
	LTE Band 12	10M	QPSK	25	0	-	Front	10mm	Ant 1	DSI 5	23095	707.5	20.30	21.50	1.318	0.11	0.202	0.266
	LTE Band 12	10M	QPSK	1	0	-	Back	10mm	Ant 1	DSI 5	23095	707.5	20.41	21.50	1.285	-0.05	0.248	0.319
	LTE Band 12	10M	QPSK	25	0	-	Back	10mm	Ant 1	DSI 5	23095	707.5	20.30	21.50	1.318	-0.04	0.255	0.336
	LTE Band 12	10M	QPSK	1	0	-	Left Side	10mm	Ant 1	DSI 5	23095	707.5	20.41	21.50	1.285	-0.05	0.404	0.519
27	LTE Band 12	10M	QPSK	25	0	-	Left Side	10mm	Ant 1	DSI 5	23095	707.5	20.30	21.50	1.318	-0.07	0.441	0.581
	LTE Band 13	10M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 5	23230	782	23.36	24.50	1.300	-0.03	0.201	0.261
	LTE Band 13	10M	QPSK	25	0	-	Front	10mm	Ant 0	DSI 5	23230	782	22.50	23.50	1.259	0.11	0.150	0.189
	LTE Band 13	10M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 5	23230	782	23.36	24.50	1.300	0.06	0.232	0.302
	LTE Band 13	10M	QPSK	25	0	-	Back	10mm	Ant 0	DSI 5	23230	782	22.50	23.50	1.259	0.01	0.186	0.234
	LTE Band 13	10M	QPSK	1	0	-	Right Side	10mm	Ant 0	DSI 5	23230	782	23.36	24.50	1.300	0.04	0.296	0.385
	LTE Band 13	10M	QPSK	25	0	-	Right Side	10mm	Ant 0	DSI 5	23230	782	22.50	23.50	1.259	0.1	0.247	0.311
	LTE Band 13	10M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 5	23230	782	23.36	24.50	1.300	0.09	0.099	0.129
	LTE Band 13	10M	QPSK	25	0	-	Bottom Side	10mm	Ant 0	DSI 5	23230	782	22.50	23.50	1.259	-0.06	0.080	0.101
	LTE Band 13	10M	QPSK	1	0	-	Front	10mm	Ant 1	DSI 5	23230	782	22.27	23.50	1.327	-0.01	0.220	0.292
	LTE Band 13	10M	QPSK	25	0	-	Front	10mm	Ant 1	DSI 5	23230	782	22.10	23.50	1.380	0.01	0.207	0.286
	LTE Band 13	10M	QPSK	1	0	-	Back	10mm	Ant 1	DSI 5	23230	782	22.27	23.50	1.327	0.13	0.301	0.400
	LTE Band 13	10M	QPSK	25	0	-	Back	10mm	Ant 1	DSI 5	23230	782	22.10	23.50	1.380	0.13	0.317	0.438
28	LTE Band 13	10M	QPSK	1	0	-	Left Side	10mm	Ant 1	DSI 5	23230	782	22.27	23.50	1.327	-0.03	0.581	0.771
	LTE Band 13	10M	QPSK	25	0	-	Left Side	10mm	Ant 1	DSI 5	23230	782	22.10	23.50	1.380	0.02	0.553	0.763
835MHz																		
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 0	DSI 5	189	836.4	25.74	27.50	1.500	0.13	0.227	0.340
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 0	DSI 5	189	836.4	25.74	27.50	1.500	0.05	0.338	0.507
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Side	10mm	Ant 0	DSI 5	189	836.4	25.74	27.50	1.500	0.11	0.244	0.366
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	10mm	Ant 0	DSI 5	189	836.4	25.74	27.50	1.500	-0.01	0.153	0.229
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 1	DSI 5	189	836.4	24.12	25.50	1.374	-0.01	0.146	0.201
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 1	DSI 5	189	836.4	24.12	25.50	1.374	0.14	0.196	0.269
29	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Side	10mm	Ant 1	DSI 5	189	836.4	24.12	25.50	1.374	-0.04	0.445	0.611
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Side	10mm	Ant 1	DSI 5	128	824.2	24.43	25.50	1.279	0.03	0.442	0.565
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Side	10mm	Ant 1	DSI 5	251	848.8	24.10	25.50	1.380	0.02	0.440	0.607
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 0	DSI 5	4182	836.4	24.45	25.50	1.274	0.11	0.416	0.530
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 0	DSI 5	4182	836.4	24.45	25.50	1.274	0.02	0.483	0.615
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Side	10mm	Ant 0	DSI 5	4182	836.4	24.45	25.50	1.274	-0.02	0.297	0.378
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 0	DSI 5	4182	836.4	24.45	25.50	1.274	-0.04	0.223	0.284
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 1	DSI 5	4182	836.4	20.71	21.50	1.199	0.12	0.251	0.301
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 1	DSI 5	4182	836.4	20.71	21.50	1.199	0.04	0.389	0.467
30	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 1	DSI 5	4182	836.4	20.71	21.50	1.199	-0.06	0.630	0.756
	LTE Band 26	15M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 5	26865	831.5	24.41	25.50	1.285	0.06	0.339	0.436
	LTE Band 26	15M	QPSK	36	0	-	Front	10mm	Ant 0	DSI 5	26865	831.5	23.57	24.50	1.239	0.04	0.281	0.348
	LTE Band 26	15M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 5	26865	831.5	24.41	25.50	1.285	-0.07	0.467	0.600
	LTE Band 26	15M	QPSK	36	0	-	Back	10mm	Ant 0	DSI 5	26865	831.5	23.57	24.50	1.239	-0.01	0.388	0.481
	LTE Band 26	15M	QPSK	1	0	-	Right Side	10mm	Ant 0	DSI 5	26865	831.5	24.41	25.50	1.285	0.1	0.370	0.476



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	LTE Band 26	15M	QPSK	36	0	-	Right Side	10mm	Ant 0	DSI 5	26865	831.5	23.57	24.50	1.239	-0.03	0.302	0.374
	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 5	26865	831.5	24.41	25.50	1.285	0.02	0.208	0.267
	LTE Band 26	15M	QPSK	36	0	-	Bottom Side	10mm	Ant 0	DSI 5	26865	831.5	23.57	24.50	1.239	-0.07	0.176	0.218
	LTE Band 26	15M	QPSK	1	0	-	Front	10mm	Ant 1	DSI 5	26865	831.5	21.33	22.50	1.309	0.08	0.270	0.353
	LTE Band 26	15M	QPSK	36	0	-	Front	10mm	Ant 1	DSI 5	26865	831.5	21.26	22.50	1.330	0.01	0.290	0.386
	LTE Band 26	15M	QPSK	1	0	-	Back	10mm	Ant 1	DSI 5	26865	831.5	21.33	22.50	1.309	0.05	0.390	0.511
	LTE Band 26	15M	QPSK	36	0	-	Back	10mm	Ant 1	DSI 5	26865	831.5	21.26	22.50	1.330	0.05	0.381	0.507
	LTE Band 26	15M	QPSK	1	0	-	Left Side	10mm	Ant 1	DSI 5	26865	831.5	21.33	22.50	1.309	0.12	0.649	0.850
	LTE Band 26	15M	QPSK	1	0	-	Left Side	10mm	Ant 1	DSI 5	26765	821.5	21.25	22.50	1.334	0.03	0.649	0.865
	LTE Band 26	15M	QPSK	1	0	-	Left Side	10mm	Ant 1	DSI 5	26965	841.5	21.25	22.50	1.334	0.05	0.649	0.865
31	LTE Band 26	15M	QPSK	36	0	-	Left Side	10mm	Ant 1	DSI 5	26865	831.5	21.26	22.50	1.330	-0.03	0.678	0.902
	LTE Band 26	15M	QPSK	36	0	-	Left Side	10mm	Ant 1	DSI 5	26765	821.5	21.12	22.50	1.374	0.07	0.649	0.892
	LTE Band 26	15M	QPSK	36	0	-	Left Side	10mm	Ant 1	DSI 5	26965	841.5	21.11	22.50	1.377	0.02	0.649	0.894
	LTE Band 26	15M	QPSK	75	0	-	Left Side	10mm	Ant 1	DSI 5	26865	831.5	21.25	22.50	1.334	0.01	0.649	0.865
	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Front	10mm	Ant 0	DSI 5	167300	836.5	24.64	25.50	1.219	0.08	0.394	0.480
	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Front	10mm	Ant 0	DSI 5	167300	836.5	23.67	25.50	1.524	0.07	0.394	0.600
	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Back	10mm	Ant 0	DSI 5	167300	836.5	24.64	25.50	1.219	-0.08	0.452	0.551
32	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Back	10mm	Ant 0	DSI 5	167300	836.5	23.67	25.50	1.524	-0.01	0.479	0.730
	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Right Side	10mm	Ant 0	DSI 5	167300	836.5	24.64	25.50	1.219	0.13	0.263	0.321
	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Right Side	10mm	Ant 0	DSI 5	167300	836.5	23.67	25.50	1.524	-0.01	0.255	0.389
	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	10mm	Ant 0	DSI 5	167300	836.5	24.64	25.50	1.219	-0.07	0.218	0.266
	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Bottom Side	10mm	Ant 0	DSI 5	167300	836.5	23.67	25.50	1.524	0.08	0.215	0.328
	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Front	10mm	Ant 1	DSI 5	167300	836.5	20.21	20.50	1.069	-0.02	0.213	0.228
	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Front	10mm	Ant 1	DSI 5	167300	836.5	20.17	20.50	1.079	0.12	0.234	0.252
	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Back	10mm	Ant 1	DSI 5	167300	836.5	20.21	20.50	1.069	-0.07	0.354	0.378
	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Back	10mm	Ant 1	DSI 5	167300	836.5	20.17	20.50	1.079	0.06	0.359	0.387
	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	10mm	Ant 1	DSI 5	167300	836.5	20.21	20.50	1.069	0.03	0.402	0.430
	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	10mm	Ant 1	DSI 5	167300	836.5	20.17	20.50	1.079	-0.01	0.408	0.440

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
1750MHz																		
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 3	DSI 5	1413	1732.6	22.63	23.50	1.222	0.15	0.460	0.562
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 3	DSI 5	1413	1732.6	22.63	23.50	1.222	-0.05	0.540	0.660
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 3	DSI 5	1413	1732.6	22.63	23.50	1.222	-0.06	0.231	0.282
33	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 3	DSI 5	1413	1732.6	22.63	23.50	1.222	-0.03	0.895	1.094
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 3	DSI 5	1312	1712.4	22.61	23.50	1.227	-0.04	0.856	1.051
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 3	DSI 5	1513	1752.6	22.58	23.50	1.236	-0.02	0.871	1.077
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 5	DSI 5	1413	1732.6	17.62	18.50	1.225	-0.03	0.117	0.143
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 5	DSI 5	1413	1732.6	17.62	18.50	1.225	0.09	0.195	0.239
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 5	DSI 5	1413	1732.6	17.62	18.50	1.225	-0.05	0.083	0.102
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 5	DSI 5	1413	1732.6	17.62	18.50	1.225	0.05	0.184	0.225
	LTE Band 66	20M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 5	132322	1745	21.89	23.50	1.449	-0.02	0.295	0.427
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant 0	DSI 5	132322	1745	20.94	22.50	1.432	-0.04	0.243	0.348
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 5	132322	1745	21.89	23.50	1.449	0.02	0.369	0.535
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI 5	132322	1745	20.94	22.50	1.432	0.04	0.305	0.437
	LTE Band 66	20M	QPSK	1	0	-	Right Side	10mm	Ant 0	DSI 5	132322	1745	21.89	23.50	1.449	0.08	0.333	0.482
	LTE Band 66	20M	QPSK	50	0	-	Right Side	10mm	Ant 0	DSI 5	132322	1745	20.94	22.50	1.432	0.05	0.268	0.384
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 5	132322	1745	21.89	23.50	1.449	-0.01	0.185	0.268
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 0	DSI 5	132322	1745	20.94	22.50	1.432	0.13	0.154	0.221
	LTE Band 66	20M	QPSK	1	0	-	Front	10mm	Ant 3	DSI 5	132322	1745	20.75	21.50	1.189	0.15	0.208	0.247
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant 3	DSI 5	132322	1745	20.70	21.50	1.202	0.07	0.216	0.260
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 3	DSI 5	132322	1745	20.75	21.50	1.189	-0.04	0.331	0.393
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 3	DSI 5	132322	1745	20.70	21.50	1.202	-0.02	0.350	0.421
	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant 3	DSI 5	132322	1745	20.75	21.50	1.189	0.12	0.133	0.158
	LTE Band 66	20M	QPSK	50	0	-	Left Side	10mm	Ant 3	DSI 5	132322	1745	20.70	21.50	1.202	-0.03	0.137	0.165

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	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 3	DSI 5	132322	1745	20.75	21.50	1.189	0.03	0.449	0.534
34	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 3	DSI 5	132322	1745	20.70	21.50	1.202	-0.03	0.461	0.554
	LTE Band 66	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 5	132322	1745	15.45	17.00	1.429	0.11	0.052	0.074
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI 5	132322	1745	15.42	17.00	1.439	-0.04	0.050	0.072
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 5	132322	1745	15.45	17.00	1.429	0.03	0.079	0.113
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 5	132322	1745	15.42	17.00	1.439	-0.08	0.092	0.132
	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI 5	132322	1745	15.45	17.00	1.429	-0.05	0.133	0.190
	LTE Band 66	20M	QPSK	50	0	-	Left Side	10mm	Ant 4	DSI 5	132322	1745	15.42	17.00	1.439	-0.03	0.138	0.199
	LTE Band 66	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI 5	132322	1745	15.45	17.00	1.429	0.04	0.027	0.039
	LTE Band 66	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI 5	132322	1745	15.42	17.00	1.439	-0.08	0.027	0.039
	LTE Band 66	20M	QPSK	1	0	-	Front	10mm	Ant 5	DSI 5	132322	1745	16.27	17.50	1.327	-0.04	0.127	0.169
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant 5	DSI 5	132322	1745	16.21	17.50	1.346	0.13	0.130	0.175
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 5	DSI 5	132322	1745	16.27	17.50	1.327	0.11	0.173	0.230
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 5	DSI 5	132322	1745	16.21	17.50	1.346	-0.04	0.177	0.238
	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant 5	DSI 5	132322	1745	16.27	17.50	1.327	-0.02	0.053	0.070
	LTE Band 66	20M	QPSK	50	0	-	Left Side	10mm	Ant 5	DSI 5	132322	1745	16.21	17.50	1.346	0.13	0.055	0.074
	LTE Band 66	20M	QPSK	1	0	-	Top Side	10mm	Ant 5	DSI 5	132322	1745	16.27	17.50	1.327	0.07	0.185	0.246
	LTE Band 66	20M	QPSK	50	0	-	Top Side	10mm	Ant 5	DSI 5	132322	1745	16.21	17.50	1.346	-0.06	0.195	0.262
	LTE Band 66 Other PA	20M	QPSK	50	0	-	Top Side	10mm	Ant 5	DSI 5	132322	1745	17.52	18.50	1.253	0.05	0.130	0.163
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	10mm	Ant 0	DSI 5	349000	1745	20.74	22.50	1.500	0.04	0.179	0.268
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	10mm	Ant 0	DSI 5	349000	1745	20.70	22.50	1.514	0.12	0.183	0.277
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	10mm	Ant 0	DSI 5	349000	1745	20.74	22.50	1.500	-0.09	0.227	0.340
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	10mm	Ant 0	DSI 5	349000	1745	20.70	22.50	1.514	0.02	0.149	0.226
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Side	10mm	Ant 0	DSI 5	349000	1745	20.74	22.50	1.500	-0.04	0.159	0.238
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Side	10mm	Ant 0	DSI 5	349000	1745	20.70	22.50	1.514	0.05	0.176	0.266
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	10mm	Ant 0	DSI 5	349000	1745	20.74	22.50	1.500	-0.07	0.121	0.181
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	10mm	Ant 0	DSI 5	349000	1745	20.70	22.50	1.514	0.02	0.127	0.192
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	10mm	Ant 3	DSI 5	349000	1745	22.75	23.50	1.189	0.15	0.321	0.382
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	10mm	Ant 3	DSI 5	349000	1745	22.67	23.50	1.211	-0.01	0.304	0.368
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	10mm	Ant 3	DSI 5	349000	1745	22.75	23.50	1.189	-0.04	0.467	0.555
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	10mm	Ant 3	DSI 5	349000	1745	22.67	23.50	1.211	-0.07	0.454	0.550
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	10mm	Ant 3	DSI 5	349000	1745	22.75	23.50	1.189	-0.08	0.185	0.220
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	10mm	Ant 3	DSI 5	349000	1745	22.67	23.50	1.211	-0.02	0.236	0.286
35	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	10mm	Ant 3	DSI 5	349000	1745	22.75	23.50	1.189	-0.03	0.565	0.672
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	10mm	Ant 3	DSI 5	349000	1745	22.67	23.50	1.211	-0.04	0.545	0.660
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	10mm	Ant 4	DSI 5	349000	1745	19.91	20.00	1.021	0.15	0.050	0.051
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	10mm	Ant 4	DSI 5	349000	1745	19.89	20.00	1.026	0.03	0.051	0.052
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	10mm	Ant 4	DSI 5	349000	1745	19.91	20.00	1.021	0.04	0.062	0.063
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	10mm	Ant 4	DSI 5	349000	1745	19.89	20.00	1.026	-0.08	0.069	0.071
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	10mm	Ant 4	DSI 5	349000	1745	19.91	20.00	1.021	-0.03	0.117	0.119
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	10mm	Ant 4	DSI 5	349000	1745	19.89	20.00	1.026	0.1	0.139	0.143
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	10mm	Ant 4	DSI 5	349000	1745	19.91	20.00	1.021	-0.08	0.020	0.020
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Top Side	10mm	Ant 4	DSI 5	349000	1745	19.89	20.00	1.026	0.06	0.021	0.022
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	10mm	Ant 5	DSI 5	349000	1745	15.96	17.00	1.271	-0.07	0.108	0.137
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	10mm	Ant 5	DSI 5	349000	1745	15.94	17.00	1.276	-0.08	0.110	0.140
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	10mm	Ant 5	DSI 5	349000	1745	15.96	17.00	1.271	-0.03	0.132	0.168
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	10mm	Ant 5	DSI 5	349000	1745	15.94	17.00	1.276	0.08	0.158	0.202
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	10mm	Ant 5	DSI 5	349000	1745	15.96	17.00	1.271	-0.03	0.050	0.064
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	10mm	Ant 5	DSI 5	349000	1745	15.94	17.00	1.276	-0.03	0.076	0.097
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	10mm	Ant 5	DSI 5	349000	1745	15.96	17.00	1.271	-0.05	0.201	0.255
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Top Side	10mm	Ant 5	DSI 5	349000	1745	15.94	17.00	1.276	0.06	0.205	0.262
1900MHz																		
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 3	DSI 5	661	1880	23.89	25.00	1.291	0.1	0.210	0.271
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 3	DSI 5	661	1880	23.89	25.00	1.291	-0.06	0.428	0.553
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	10mm	Ant 3	DSI 5	661	1880	23.89	25.00	1.291	-0.06	0.413	0.533
36	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	10mm	Ant 3	DSI 5	661	1880	23.89	25.00	1.291	-0.08	0.452	0.584

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	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 5	DSI 5	661	1880	22.76	24.00	1.330	0.08	0.133	0.177
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 5	DSI 5	661	1880	22.76	24.00	1.330	0.01	0.138	0.184
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	10mm	Ant 5	DSI 5	661	1880	22.76	24.00	1.330	-0.06	0.062	0.082
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Top Side	10mm	Ant 5	DSI 5	661	1880	22.76	24.00	1.330	0.06	0.301	0.400
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 3	DSI 5	9400	1880	22.06	23.00	1.242	-0.01	0.427	0.530
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 3	DSI 5	9400	1880	22.06	23.00	1.242	-0.01	0.692	0.859
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 3	DSI 5	9262	1852.4	21.96	23.00	1.271	0.03	0.712	0.905
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 3	DSI 5	9538	1907.6	22.02	23.00	1.253	0.02	0.654	0.820
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 3	DSI 5	9400	1880	22.06	23.00	1.242	-0.04	0.216	0.268
37	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 3	DSI 5	9400	1880	22.06	23.00	1.242	-0.06	0.757	0.940
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 3	DSI 5	9262	1852.4	21.96	23.00	1.271	0.08	0.730	0.928
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 3	DSI 5	9538	1907.6	22.02	23.00	1.253	0.12	0.729	0.914
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 5	DSI 5	9400	1880	18.50	19.50	1.259	0.12	0.132	0.166
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 5	DSI 5	9400	1880	18.50	19.50	1.259	0.01	0.195	0.245
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 5	DSI 5	9400	1880	18.50	19.50	1.259	0.06	0.063	0.079
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 5	DSI 5	9400	1880	18.50	19.50	1.259	0.04	0.225	0.283
	LTE Band 2	20M	QPSK	1	0	-	Front	10mm	Ant 3	DSI 5	18900	1880	21.73	22.50	1.194	0.13	0.232	0.277
	LTE Band 2	20M	QPSK	50	0	-	Front	10mm	Ant 3	DSI 5	18900	1880	21.71	22.50	1.199	0.05	0.240	0.288
	LTE Band 2	20M	QPSK	1	0	-	Back	10mm	Ant 3	DSI 5	18900	1880	21.73	22.50	1.194	-0.01	0.330	0.394
	LTE Band 2	20M	QPSK	50	0	-	Back	10mm	Ant 3	DSI 5	18900	1880	21.71	22.50	1.199	-0.01	0.346	0.415
	LTE Band 2	20M	QPSK	1	0	-	Left Side	10mm	Ant 3	DSI 5	18900	1880	21.73	22.50	1.194	0.06	0.155	0.185
	LTE Band 2	20M	QPSK	50	0	-	Left Side	10mm	Ant 3	DSI 5	18900	1880	21.71	22.50	1.199	0.11	0.161	0.193
	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 3	DSI 5	18900	1880	21.73	22.50	1.194	-0.02	0.458	0.547
38	LTE Band 2	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 3	DSI 5	18900	1880	21.71	22.50	1.199	0.08	0.478	0.573
	LTE Band 2	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 5	18900	1880	15.82	17.00	1.312	0.08	0.067	0.088
	LTE Band 2	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI 5	18900	1880	15.77	17.00	1.327	-0.02	0.069	0.092
	LTE Band 2	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 5	18900	1880	15.82	17.00	1.312	0.03	0.117	0.154
	LTE Band 2	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 5	18900	1880	15.77	17.00	1.327	0.14	0.114	0.151
	LTE Band 2	20M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI 5	18900	1880	15.82	17.00	1.312	-0.02	0.176	0.231
	LTE Band 2	20M	QPSK	50	0	-	Left Side	10mm	Ant 4	DSI 5	18900	1880	15.77	17.00	1.327	-0.09	0.187	0.248
	LTE Band 2	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI 5	18900	1880	15.82	17.00	1.312	0.06	0.034	0.045
	LTE Band 2	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI 5	18900	1880	15.77	17.00	1.327	-0.05	0.038	0.050

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
2600MHz																				
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 5	21100	2535	22.11	23.50	1.377	-	-	0.12	0.152	0.209
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 0	DSI 5	21100	2535	21.11	22.50	1.377	-	-	-0.09	0.126	0.174
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 5	21100	2535	22.11	23.50	1.377	-	-	0.07	0.179	0.247
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI 5	21100	2535	21.11	22.50	1.377	-	-	0.05	0.150	0.207
	LTE Band 7	20M	QPSK	1	0	-	Right Side	10mm	Ant 0	DSI 5	21100	2535	22.11	23.50	1.377	-	-	-0.03	0.195	0.269
	LTE Band 7	20M	QPSK	50	0	-	Right Side	10mm	Ant 0	DSI 5	21100	2535	21.11	22.50	1.377	-	-	0.09	0.179	0.247
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 5	21100	2535	22.11	23.50	1.377	-	-	0.05	0.206	0.284
	LTE Band 7C	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 5	21100+21298	2535+2554.8	22.03	23.50	1.403	-	-	0.02	0.167	0.234
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 0	DSI 5	21100	2535	21.11	22.50	1.377	-	-	0.06	0.184	0.253
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant 3	DSI 5	21100	2535	18.70	19.50	1.202	-	-	0.05	0.142	0.171
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 3	DSI 5	21100	2535	18.68	19.50	1.208	-	-	-0.08	0.150	0.181
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 3	DSI 5	21100	2535	18.70	19.50	1.202	-	-	0.05	0.195	0.234
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 3	DSI 5	21100	2535	18.68	19.50	1.208	-	-	0.02	0.202	0.244
	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant 3	DSI 5	21100	2535	18.70	19.50	1.202	-	-	-0.03	0.092	0.111
	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant 3	DSI 5	21100	2535	18.68	19.50	1.208	-	-	0.15	0.099	0.120
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 3	DSI 5	21100	2535	18.70	19.50	1.202	-	-	0.14	0.208	0.250
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 3	DSI 5	21100	2535	18.68	19.50	1.208	-	-	-0.07	0.219	0.265
	LTE Band 7C	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 3	DSI 5	21100+21298	2535+2554.8	18.51	19.50	1.256	-	-	0.02	0.210	0.264
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 5	21100	2535	16.62	17.00	1.091	-	-	0.03	0.101	0.110

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	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI 5	21100	2535	16.53	17.00	1.114	-	-	0.04	0.108	0.120
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 5	21100	2535	16.62	17.00	1.091	-	-	0.09	0.164	0.179
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 5	21100	2535	16.53	17.00	1.114	-	-	-0.08	0.190	0.212
	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI 5	21100	2535	16.62	17.00	1.091	-	-	0.07	0.244	0.266
39	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant 4	DSI 5	21100	2535	16.53	17.00	1.114	-	-	-0.01	0.261	0.291
	LTE Band 7C	20M	QPSK	50	0	-	Left Side	10mm	Ant 4	DSI 5	21100+21298	2535+2554.8	16.50	17.00	1.122	-	-	0.01	0.231	0.259
	LTE Band 7	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI 5	21100	2535	16.62	17.00	1.091	-	-	0.1	0.052	0.057
	LTE Band 7	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI 5	21100	2535	16.53	17.00	1.114	-	-	-0.02	0.052	0.058
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant 5	DSI 5	21100	2535	17.52	18.00	1.117	-	-	0.15	0.117	0.131
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 5	DSI 5	21100	2535	17.52	18.00	1.117	-	-	0.09	0.119	0.133
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 5	DSI 5	21100	2535	17.52	18.00	1.117	-	-	-0.08	0.175	0.195
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 5	DSI 5	21100	2535	17.52	18.00	1.117	-	-	0.09	0.181	0.202
	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant 5	DSI 5	21100	2535	17.52	18.00	1.117	-	-	0.08	0.074	0.083
	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant 5	DSI 5	21100	2535	17.52	18.00	1.117	-	-	0.01	0.073	0.082
	LTE Band 7	20M	QPSK	1	0	-	Top Side	10mm	Ant 5	DSI 5	21100	2535	17.52	18.00	1.117	-	-	0.08	0.181	0.202
	LTE Band 7	20M	QPSK	50	0	-	Top Side	10mm	Ant 5	DSI 5	21100	2535	17.52	18.00	1.117	-	-	-0.01	0.187	0.209
	LTE Band 7C	20M	QPSK	50	0	-	Top Side	10mm	Ant 5	DSI 5	21100+21298	2535+2554.8	17.40	18.00	1.148	-	-	0.02	0.181	0.208
	LTE Band 38	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 5	38000	2595	19.43	20.00	1.140	62.9	1.006	-0.02	0.119	0.137
	LTE Band 38	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI 5	38000	2595	19.43	20.00	1.140	62.9	1.006	-0.05	0.124	0.142
	LTE Band 38	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 5	38000	2595	19.43	20.00	1.140	62.9	1.006	-0.01	0.225	0.258
	LTE Band 38	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 5	38000	2595	19.43	20.00	1.140	62.9	1.006	0.02	0.234	0.268
	LTE Band 38	20M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI 5	38000	2595	19.43	20.00	1.140	62.9	1.006	0.05	0.235	0.270
40	LTE Band 38	20M	QPSK	50	0	-	Left Side	10mm	Ant 4	DSI 5	38000	2595	19.43	20.00	1.140	62.9	1.006	-0.09	0.245	0.281
	LTE Band 38C	20M	QPSK	50	0	-	Left Side	10mm	Ant 4	DSI 5	38000+38198	2595+2614.8	19.28	20.00	1.180	62.9	1.006	0.02	0.223	0.265
	LTE Band 38	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI 5	38000	2595	19.43	20.00	1.140	62.9	1.006	0.04	0.046	0.053
	LTE Band 38	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI 5	38000	2595	19.43	20.00	1.140	62.9	1.006	0.03	0.048	0.055
	LTE Band 41	20M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 5	40620	2593	21.77	23.00	1.327	62.9	1.006	-0.05	0.099	0.132
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant 0	DSI 5	40620	2593	20.89	22.00	1.291	62.9	1.006	0.15	0.081	0.105
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 5	40620	2593	21.77	23.00	1.327	62.9	1.006	0.01	0.149	0.199
	LTE Band 38C	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 5	38000+38198	2595+2614.8	21.50	23.00	1.413	62.9	1.006	-0.02	0.103	0.146
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI 5	40620	2593	20.89	22.00	1.291	62.9	1.006	0.11	0.125	0.162
	LTE Band 41	20M	QPSK	1	0	-	Right Side	10mm	Ant 0	DSI 5	40620	2593	21.77	23.00	1.327	62.9	1.006	-0.06	0.147	0.196
	LTE Band 41	20M	QPSK	50	0	-	Right Side	10mm	Ant 0	DSI 5	40620	2593	20.89	22.00	1.291	62.9	1.006	0.08	0.123	0.160
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 5	40620	2593	21.77	23.00	1.327	62.9	1.006	-0.04	0.127	0.170
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 0	DSI 5	40620	2593	20.89	22.00	1.291	62.9	1.006	-0.08	0.105	0.136
	LTE Band 41	20M	QPSK	1	0	-	Front	10mm	Ant 3	DSI 5	40620	2593	21.40	22.50	1.288	62.9	1.006	-0.07	0.164	0.213
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant 3	DSI 5	40620	2593	21.30	22.50	1.318	62.9	1.006	0.12	0.166	0.220
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 3	DSI 5	40620	2593	21.40	22.50	1.288	62.9	1.006	0.09	0.260	0.337
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 3	DSI 5	40620	2593	21.30	22.50	1.318	62.9	1.006	0.08	0.263	0.349
	LTE Band 41	20M	QPSK	1	0	-	Left Side	10mm	Ant 3	DSI 5	40620	2593	21.40	22.50	1.288	62.9	1.006	0.01	0.111	0.144
	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant 3	DSI 5	40620	2593	21.30	22.50	1.318	62.9	1.006	0.08	0.112	0.149
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 3	DSI 5	40620	2593	21.40	22.50	1.288	62.9	1.006	-0.08	0.267	0.346
41	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 3	DSI 5	40620	2593	21.30	22.50	1.318	62.9	1.006	-0.04	0.270	0.358
	LTE Band 38C	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 3	DSI 5	38000+38198	2595+2614.8	21.15	22.50	1.365	62.9	1.006	0.01	0.223	0.306
	LTE Band 41	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 5	40620	2593	16.44	17.00	1.138	62.9	1.006	0.12	0.071	0.081
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI 5	40620	2593	16.39	17.00	1.151	62.9	1.006	0.11	0.071	0.082
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 5	40620	2593	16.44	17.00	1.138	62.9	1.006	0.06	0.116	0.133
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 5	40620	2593	16.39	17.00	1.151	62.9	1.006	-0.02	0.123	0.142
	LTE Band 41	20M	QPSK	1	0	-	Left Side	10mm	Ant 4	DSI 5	40620	2593	16.44	17.00	1.138	62.9	1.006	-0.05	0.157	0.180
	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant 4	DSI 5	40620	2593	16.39	17.00	1.151	62.9	1.006	-0.01	0.159	0.184
	LTE Band 41	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI 5	40620	2593	16.44	17.00	1.138	62.9	1.006	0.03	0.029	0.033
	LTE Band 41	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI 5	40620	2593	16.39	17.00	1.151	62.9	1.006	0.06	0.027	0.031
	LTE Band 41	20M	QPSK	1	0	-	Front	10mm	Ant 5	DSI 5	40620	2593	19.03	20.00	1.250	62.9	1.006	0.08	0.108	0.136
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant 5	DSI 5	40620	2593	19.00	20.00	1.259	62.9	1.006	0.14	0.109	0.138
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 5	DSI 5	40620	2593	19.03	20.00	1.250	62.9	1.006	0.04	0.137	0.172
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 5	DSI 5	40620	2593	19.00	20.00	1.259	62.9	1.006	-0.01	0.138	0.175

Sporton International Inc. (Kunshan)

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	LTE Band 41	20M	QPSK	1	0	-	Left Side	10mm	Ant 5	DSI 5	40620	2593	19.03	20.00	1.250	62.9	1.006	0.03	0.062	0.078
	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant 5	DSI 5	40620	2593	19.00	20.00	1.259	62.9	1.006	-0.02	0.059	0.075
	LTE Band 41	20M	QPSK	1	0	-	Top Side	10mm	Ant 5	DSI 5	40620	2593	19.03	20.00	1.250	62.9	1.006	0.01	0.156	0.196
	LTE Band 38C	20M	QPSK	1	0	-	Top Side	10mm	Ant 5	DSI 5	38000+38198	2595+2614.8	18.83	20.00	1.309	62.9	1.006	0.01	0.123	0.162
	LTE Band 41	20M	QPSK	50	0	-	Top Side	10mm	Ant 5	DSI 5	40620	2593	19.00	20.00	1.259	62.9	1.006	0.01	0.153	0.194
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Front	10mm	Ant 0	DSI 5	507000	2535	22.28	24.00	1.486	-	-	-0.04	0.118	0.175
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Front	10mm	Ant 0	DSI 5	507000	2535	22.17	24.00	1.524	-	-	0.06	0.165	0.251
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Back	10mm	Ant 0	DSI 5	507000	2535	22.28	24.00	1.486	-	-	0.12	0.147	0.218
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Back	10mm	Ant 0	DSI 5	507000	2535	22.17	24.00	1.524	-	-	-0.08	0.142	0.216
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Right Side	10mm	Ant 0	DSI 5	507000	2535	22.28	24.00	1.486	-	-	0.01	0.175	0.260
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Right Side	10mm	Ant 0	DSI 5	507000	2535	22.17	24.00	1.524	-	-	-0.11	0.217	0.331
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	10mm	Ant 0	DSI 5	507000	2535	22.28	24.00	1.486	-	-	0.14	0.195	0.290
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Bottom Side	10mm	Ant 0	DSI 5	507000	2535	22.17	24.00	1.524	-	-	-0.04	0.207	0.315
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Front	10mm	Ant 3	DSI 5	507000	2535	19.80	21.00	1.318	-	-	0.06	0.254	0.335
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Front	10mm	Ant 3	DSI 5	507000	2535	19.78	21.00	1.324	-	-	-0.02	0.280	0.371
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Back	10mm	Ant 3	DSI 5	507000	2535	19.80	21.00	1.318	-	-	0.14	0.260	0.343
42	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Back	10mm	Ant 3	DSI 5	507000	2535	19.78	21.00	1.324	-	-	-0.04	0.321	0.425
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Left Side	10mm	Ant 3	DSI 5	507000	2535	19.80	21.00	1.318	-	-	0.01	0.110	0.145
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Left Side	10mm	Ant 3	DSI 5	507000	2535	19.78	21.00	1.324	-	-	0.09	0.103	0.136
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	10mm	Ant 3	DSI 5	507000	2535	19.80	21.00	1.318	-	-	0.09	0.232	0.306
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Bottom Side	10mm	Ant 3	DSI 5	507000	2535	19.78	21.00	1.324	-	-	0.03	0.245	0.324
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Front	10mm	Ant 4	DSI 5	507000	2535	17.97	19.00	1.268	-	-	0.07	0.080	0.101
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Front	10mm	Ant 4	DSI 5	507000	2535	17.94	19.00	1.276	-	-	-0.09	0.099	0.126
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Back	10mm	Ant 4	DSI 5	507000	2535	17.97	19.00	1.268	-	-	-0.09	0.142	0.180
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Back	10mm	Ant 4	DSI 5	507000	2535	17.94	19.00	1.276	-	-	0.04	0.193	0.246
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Left Side	10mm	Ant 4	DSI 5	507000	2535	17.97	19.00	1.268	-	-	0.03	0.178	0.226
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Left Side	10mm	Ant 4	DSI 5	507000	2535	17.94	19.00	1.276	-	-	-0.03	0.217	0.277
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Top Side	10mm	Ant 4	DSI 5	507000	2535	17.97	19.00	1.268	-	-	-0.06	0.000	0.000
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Top Side	10mm	Ant 4	DSI 5	507000	2535	17.94	19.00	1.276	-	-	-0.02	0.000	0.000
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Front	10mm	Ant 5	DSI 5	507000	2535	16.02	16.50	1.117	-	-	0.13	0.083	0.093
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Front	10mm	Ant 5	DSI 5	507000	2535	15.91	16.50	1.146	-	-	-0.02	0.082	0.094
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Back	10mm	Ant 5	DSI 5	507000	2535	16.02	16.50	1.117	-	-	0.11	0.126	0.141
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Back	10mm	Ant 5	DSI 5	507000	2535	15.91	16.50	1.146	-	-	-0.09	0.122	0.140
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Left Side	10mm	Ant 5	DSI 5	507000	2535	16.02	16.50	1.117	-	-	0.07	0.050	0.056
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Left Side	10mm	Ant 5	DSI 5	507000	2535	15.91	16.50	1.146	-	-	0.02	0.061	0.070
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Top Side	10mm	Ant 5	DSI 5	507000	2535	16.02	16.50	1.117	-	-	0.11	0.121	0.135
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Top Side	10mm	Ant 5	DSI 5	507000	2535	15.91	16.50	1.146	-	-	-0.05	0.114	0.131
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 0	DSI 5	518598	2592.99	22.13	23.50	1.371	-	-	-0.07	0.178	0.244
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 0	DSI 5	518598	2592.99	22.07	23.50	1.390	-	-	0.14	0.219	0.304
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 0	DSI 5	518598	2592.99	22.13	23.50	1.371	-	-	0.14	0.262	0.359
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 0	DSI 5	518598	2592.99	22.07	23.50	1.390	-	-	-0.05	0.345	0.480
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	10mm	Ant 0	DSI 5	518598	2592.99	22.13	23.50	1.371	-	-	0.13	0.293	0.402
43	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 0	DSI 5	518598	2592.99	22.07	23.50	1.390	-	-	-0.09	0.394	0.548
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	10mm	Ant 0	DSI 5	518598	2592.99	22.13	23.50	1.371	-	-	0.11	0.299	0.410
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 0	DSI 5	518598	2592.99	22.07	23.50	1.390	-	-	0.02	0.354	0.492
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 3	DSI 5	518598	2592.99	19.82	21.00	1.312	-	-	-0.03	0.285	0.374
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 3	DSI 5	518598	2592.99	19.66	21.00	1.361	-	-	0.15	0.323	0.440
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 3	DSI 5	518598	2592.99	19.82	21.00	1.312	-	-	-0.07	0.298	0.391
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 3	DSI 5	518598	2592.99	19.66	21.00	1.361	-	-	-0.12	0.324	0.441
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 3	DSI 5	518598	2592.99	19.82	21.00	1.312	-	-	0.07	0.108	0.142
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 3	DSI 5	518598	2592.99	19.66	21.00	1.361	-	-	0.06	0.107	0.146
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	10mm	Ant 3	DSI 5	518598	2592.99	19.82	21.00	1.312	-	-	0.11	0.306	0.402
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 3	DSI 5	518598	2592.99	19.66	21.00	1.361	-	-	0.05	0.266	0.362
	FR1 n41 Other PA	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 3	DSI 5	518598	2592.99	18.25	19.00	1.189	-	-	0.01	0.155	0.184
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 5	518598	2592.99	17.19	18.50	1.352	-	-	-0.08	0.063	0.085
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 5	518598	2592.99	17.11	18.50	1.377	-	-	0.09	0.076	0.105

Sporton International Inc. (Kunshan)

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	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 5	518598	2592.99	17.19	18.50	1.352	-	-	-0.05	0.123	0.166
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 5	518598	2592.99	17.11	18.50	1.377	-	-	0.03	0.141	0.194
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 5	518598	2592.99	17.19	18.50	1.352	-	-	-0.08	0.145	0.196
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 5	518598	2592.99	17.11	18.50	1.377	-	-	0.13	0.085	0.117
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI 5	518598	2592.99	17.19	18.50	1.352	-	-	-0.05	0.019	0.026
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI 5	518598	2592.99	17.11	18.50	1.377	-	-	0.15	0.018	0.025
	FR1 n41 Other PA	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 5	518598	2592.99	15.59	16.50	1.233	-	-	-0.05	0.085	0.105
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 5	DSI 5	518598	2592.99	18.19	18.50	1.074	-	-	-0.01	0.113	0.121
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 5	DSI 5	518598	2592.99	18.15	18.50	1.084	-	-	0.08	0.103	0.112
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 5	DSI 5	518598	2592.99	18.19	18.50	1.074	-	-	0.01	0.164	0.176
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 5	DSI 5	518598	2592.99	18.15	18.50	1.084	-	-	0.12	0.166	0.180
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 5	DSI 5	518598	2592.99	18.19	18.50	1.074	-	-	-0.01	0.115	0.124
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 5	DSI 5	518598	2592.99	18.15	18.50	1.084	-	-	-0.07	0.111	0.120
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 5	DSI 5	518598	2592.99	18.19	18.50	1.074	-	-	-0.09	0.193	0.207
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 5	DSI 5	518598	2592.99	18.15	18.50	1.084	-	-	0.13	0.176	0.191

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
3500MHz																				
	LTE Band 42	20M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 5	42590	3500	21.78	23.00	1.324	62.9	1.006	0.09	0.192	0.256
	LTE Band 42	20M	QPSK	50	0	-	Front	10mm	Ant 0	DSI 5	42590	3500	20.86	22.00	1.300	62.9	1.006	0.13	0.153	0.200
	LTE Band 42	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 5	42590	3500	21.78	23.00	1.324	62.9	1.006	0.08	0.397	0.529
	LTE Band 42	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI 5	42590	3500	20.86	22.00	1.300	62.9	1.006	0.11	0.354	0.463
	LTE Band 42	20M	QPSK	1	0	-	Right Side	10mm	Ant 0	DSI 5	42590	3500	21.78	23.00	1.324	62.9	1.006	-0.07	0.273	0.364
	LTE Band 42	20M	QPSK	50	0	-	Right Side	10mm	Ant 0	DSI 5	42590	3500	20.86	22.00	1.300	62.9	1.006	0.12	0.223	0.292
44	LTE Band 42	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 5	42590	3500	21.78	23.00	1.324	62.9	1.006	-0.09	0.472	0.629
	LTE Band 42	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 0	DSI 5	42590	3500	20.86	22.00	1.300	62.9	1.006	0.11	0.388	0.507
	LTE Band 42	20M	QPSK	1	0	-	Front	10mm	Ant 9	DSI 5	42590	3500	16.22	18.00	1.507	62.9	1.006	0.07	0.092	0.139
	LTE Band 42	20M	QPSK	50	0	-	Front	10mm	Ant 9	DSI 5	42590	3500	16.19	18.00	1.517	62.9	1.006	0.01	0.096	0.147
	LTE Band 42	20M	QPSK	1	0	-	Back	10mm	Ant 9	DSI 5	42590	3500	16.22	18.00	1.507	62.9	1.006	0.02	0.164	0.249
	LTE Band 42	20M	QPSK	50	0	-	Back	10mm	Ant 9	DSI 5	42590	3500	16.19	18.00	1.517	62.9	1.006	0.07	0.160	0.244
	LTE Band 42	20M	QPSK	1	0	-	Left Side	10mm	Ant 9	DSI 5	42590	3500	16.22	18.00	1.507	62.9	1.006	0.09	0.238	0.361
	LTE Band 42	20M	QPSK	50	0	-	Left Side	10mm	Ant 9	DSI 5	42590	3500	16.19	18.00	1.517	62.9	1.006	-0.07	0.272	0.415
	LTE Band 42	20M	QPSK	1	0	-	Top Side	10mm	Ant 9	DSI 5	42590	3500	16.22	18.00	1.507	62.9	1.006	-0.03	0.222	0.336
	LTE Band 42	20M	QPSK	50	0	-	Top Side	10mm	Ant 9	DSI 5	42590	3500	16.19	18.00	1.517	62.9	1.006	-0.06	0.230	0.351
	LTE Band 42	20M	QPSK	1	0	-	Front	10mm	Ant 10	DSI 5	42590	3500	18.47	19.70	1.327	62.9	1.006	0.08	0.060	0.080
	LTE Band 42	20M	QPSK	50	0	-	Front	10mm	Ant 10	DSI 5	42590	3500	18.46	19.70	1.330	62.9	1.006	0.05	0.063	0.084
	LTE Band 42	20M	QPSK	1	0	-	Back	10mm	Ant 10	DSI 5	42590	3500	18.47	19.70	1.327	62.9	1.006	-0.03	0.122	0.163
	LTE Band 42	20M	QPSK	50	0	-	Back	10mm	Ant 10	DSI 5	42590	3500	18.46	19.70	1.330	62.9	1.006	0.04	0.128	0.171
	LTE Band 42	20M	QPSK	1	0	-	Left Side	10mm	Ant 10	DSI 5	42590	3500	18.47	19.70	1.327	62.9	1.006	-0.05	0.032	0.043
	LTE Band 42	20M	QPSK	50	0	-	Left Side	10mm	Ant 10	DSI 5	42590	3500	18.46	19.70	1.330	62.9	1.006	-0.02	0.032	0.043
	LTE Band 42	20M	QPSK	1	0	-	Top Side	10mm	Ant 10	DSI 5	42590	3500	18.47	19.70	1.327	62.9	1.006	-0.02	0.132	0.176
	LTE Band 42	20M	QPSK	50	0	-	Top Side	10mm	Ant 10	DSI 5	42590	3500	18.46	19.70	1.330	62.9	1.006	0.02	0.136	0.182
	LTE Band 42	20M	QPSK	1	0	-	Front	10mm	Ant 11	DSI 5	42590	3500	20.84	22.50	1.466	62.9	1.006	0.12	0.069	0.102
	LTE Band 42	20M	QPSK	50	0	-	Front	10mm	Ant 11	DSI 5	42590	3500	20.76	22.50	1.493	62.9	1.006	0.05	0.074	0.111
	LTE Band 42	20M	QPSK	1	0	-	Back	10mm	Ant 11	DSI 5	42590	3500	20.84	22.50	1.466	62.9	1.006	0.14	0.150	0.221
	LTE Band 42	20M	QPSK	50	0	-	Back	10mm	Ant 11	DSI 5	42590	3500	20.76	22.50	1.493	62.9	1.006	0.13	0.154	0.231
	LTE Band 42	20M	QPSK	1	0	-	Left Side	10mm	Ant 11	DSI 5	42590	3500	20.84	22.50	1.466	62.9	1.006	-0.04	0.022	0.032
	LTE Band 42	20M	QPSK	50	0	-	Left Side	10mm	Ant 11	DSI 5	42590	3500	20.76	22.50	1.493	62.9	1.006	0.04	0.022	0.033
	LTE Band 42	20M	QPSK	1	0	-	Right Side	10mm	Ant 11	DSI 5	42590	3500	20.84	22.50	1.466	62.9	1.006	0.11	0.024	0.035
	LTE Band 42	20M	QPSK	50	0	-	Right Side	10mm	Ant 11	DSI 5	42590	3500	20.76	22.50	1.493	62.9	1.006	0.04	0.024	0.036
	LTE Band 42	20M	QPSK	1	0	-	Top Side	10mm	Ant 11	DSI 5	42590	3500	20.84	22.50	1.466	62.9	1.006	-0.05	0.166	0.245
	LTE Band 42	20M	QPSK	50	0	-	Top Side	10mm	Ant 11	DSI 5	42590	3500	20.76	22.50	1.493	62.9	1.006	0.05	0.172	0.258
	LTE Band 48	20M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 5	55830	3609	21.49	23.00	1.416	62.9	1.006	0.02	0.162	0.231
	LTE Band 48	20M	QPSK	50	0	-	Front	10mm	Ant 0	DSI 5	55830	3609	20.62	22.00	1.374	62.9	1.006	0.05	0.132	0.182

Sporton International Inc. (Kunshan)

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	LTE Band 48	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 5	55830	3609	21.49	23.00	1.416	62.9	1.006	0.05	0.285	0.406
	LTE Band 48	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI 5	55830	3609	20.62	22.00	1.374	62.9	1.006	0.07	0.228	0.315
	LTE Band 48	20M	QPSK	1	0	-	Right Side	10mm	Ant 0	DSI 5	55830	3609	21.49	23.00	1.416	62.9	1.006	-0.02	0.249	0.355
	LTE Band 48	20M	QPSK	50	0	-	Right Side	10mm	Ant 0	DSI 5	55830	3609	20.62	22.00	1.374	62.9	1.006	0.05	0.182	0.252
45	LTE Band 48	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 0	DSI 5	55830	3609	21.49	23.00	1.416	62.9	1.006	-0.12	0.350	0.499
	LTE Band 48	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 0	DSI 5	55830	3609	20.62	22.00	1.374	62.9	1.006	0.13	0.283	0.391
	LTE Band 48	20M	QPSK	1	0	-	Front	10mm	Ant 9	DSI 5	55830	3609	18.33	19.50	1.309	62.9	1.006	-0.06	0.058	0.076
	LTE Band 48	20M	QPSK	50	0	-	Front	10mm	Ant 9	DSI 5	55830	3609	18.29	19.50	1.321	62.9	1.006	-0.05	0.058	0.077
	LTE Band 48	20M	QPSK	1	0	-	Back	10mm	Ant 9	DSI 5	55830	3609	18.33	19.50	1.309	62.9	1.006	-0.07	0.109	0.144
	LTE Band 48	20M	QPSK	50	0	-	Back	10mm	Ant 9	DSI 5	55830	3609	18.29	19.50	1.321	62.9	1.006	0.03	0.113	0.150
	LTE Band 48	20M	QPSK	1	0	-	Left Side	10mm	Ant 9	DSI 5	55830	3609	18.33	19.50	1.309	62.9	1.006	0.1	0.137	0.180
	LTE Band 48	20M	QPSK	50	0	-	Left Side	10mm	Ant 9	DSI 5	55830	3609	18.29	19.50	1.321	62.9	1.006	-0.13	0.144	0.191
	LTE Band 48	20M	QPSK	1	0	-	Top Side	10mm	Ant 9	DSI 5	55830	3609	18.33	19.50	1.309	62.9	1.006	0.04	0.069	0.091
	LTE Band 48	20M	QPSK	50	0	-	Top Side	10mm	Ant 9	DSI 5	55830	3609	18.29	19.50	1.321	62.9	1.006	0.09	0.069	0.092
	LTE Band 48	20M	QPSK	1	0	-	Front	10mm	Ant 10	DSI 5	55830	3609	18.16	19.70	1.426	62.9	1.006	-0.06	0.072	0.103
	LTE Band 48	20M	QPSK	50	0	-	Front	10mm	Ant 10	DSI 5	55830	3609	18.12	19.70	1.439	62.9	1.006	0.05	0.075	0.109
	LTE Band 48	20M	QPSK	1	0	-	Back	10mm	Ant 10	DSI 5	55830	3609	18.16	19.70	1.426	62.9	1.006	0.05	0.206	0.295
	LTE Band 48	20M	QPSK	50	0	-	Back	10mm	Ant 10	DSI 5	55830	3609	18.12	19.70	1.439	62.9	1.006	0.03	0.219	0.317
	LTE Band 48	20M	QPSK	1	0	-	Left Side	10mm	Ant 10	DSI 5	55830	3609	18.16	19.70	1.426	62.9	1.006	-0.06	0.042	0.060
	LTE Band 48	20M	QPSK	50	0	-	Left Side	10mm	Ant 10	DSI 5	55830	3609	18.12	19.70	1.439	62.9	1.006	0.11	0.046	0.067
	LTE Band 48	20M	QPSK	1	0	-	Top Side	10mm	Ant 10	DSI 5	55830	3609	18.16	19.70	1.426	62.9	1.006	0.07	0.198	0.284
	LTE Band 48	20M	QPSK	50	0	-	Top Side	10mm	Ant 10	DSI 5	55830	3609	18.12	19.70	1.439	62.9	1.006	0.01	0.206	0.298
	LTE Band 48	20M	QPSK	1	0	-	Front	10mm	Ant 11	DSI 5	55830	3609	19.84	21.50	1.466	62.9	1.006	0.09	0.088	0.130
	LTE Band 48	20M	QPSK	50	0	-	Front	10mm	Ant 11	DSI 5	55830	3609	19.80	21.50	1.479	62.9	1.006	0.08	0.091	0.135
	LTE Band 48	20M	QPSK	1	0	-	Back	10mm	Ant 11	DSI 5	55830	3609	19.84	21.50	1.466	62.9	1.006	-0.14	0.217	0.320
	LTE Band 48	20M	QPSK	50	0	-	Back	10mm	Ant 11	DSI 5	55830	3609	19.80	21.50	1.479	62.9	1.006	0.03	0.224	0.333
	LTE Band 48	20M	QPSK	1	0	-	Left Side	10mm	Ant 11	DSI 5	55830	3609	19.84	21.50	1.466	62.9	1.006	-0.11	0.023	0.034
	LTE Band 48	20M	QPSK	50	0	-	Left Side	10mm	Ant 11	DSI 5	55830	3609	19.80	21.50	1.479	62.9	1.006	0.03	0.035	0.052
	LTE Band 48	20M	QPSK	1	0	-	Right Side	10mm	Ant 11	DSI 5	55830	3609	19.84	21.50	1.466	62.9	1.006	0.08	0.032	0.047
	LTE Band 48	20M	QPSK	50	0	-	Right Side	10mm	Ant 11	DSI 5	55830	3609	19.80	21.50	1.479	62.9	1.006	-0.11	0.039	0.058
	LTE Band 48	20M	QPSK	1	0	-	Top Side	10mm	Ant 11	DSI 5	55830	3609	19.84	21.50	1.466	62.9	1.006	-0.13	0.170	0.251
	LTE Band 48	20M	QPSK	50	0	-	Top Side	10mm	Ant 11	DSI 5	55830	3609	19.80	21.50	1.479	62.9	1.006	0.04	0.184	0.274
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 0	DSI 5	656000	3840	21.89	23.50	1.449	-	-	-0.16	0.177	0.256
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 0	DSI 5	656000	3840	21.80	23.50	1.479	-	-	0.19	0.212	0.314
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 0	DSI 5	656000	3840	21.89	23.50	1.449	-	-	-0.12	0.149	0.216
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 0	DSI 5	656000	3840	21.80	23.50	1.479	-	-	0.02	0.175	0.259
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	10mm	Ant 0	DSI 5	656000	3840	21.89	23.50	1.449	-	-	0.01	0.047	0.068
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 0	DSI 5	656000	3840	21.80	23.50	1.479	-	-	-0.04	0.069	0.102
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	10mm	Ant 0	DSI 5	656000	3840	21.89	23.50	1.449	-	-	0.12	0.050	0.072
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 0	DSI 5	656000	3840	21.80	23.50	1.479	-	-	-0.04	0.065	0.096
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 0	DSI 5	633334	3500.01	22.04	23.50	1.400	-	-	0.06	0.125	0.175
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 0	DSI 5	633334	3500.01	22.00	23.50	1.413	-	-	0.03	0.165	0.233
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 0	DSI 5	633334	3500.01	22.04	23.50	1.400	-	-	0.02	0.101	0.141
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 0	DSI 5	633334	3500.01	22.00	23.50	1.413	-	-	0.14	0.121	0.171
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	10mm	Ant 0	DSI 5	633334	3500.01	22.04	23.50	1.400	-	-	0.05	0.050	0.070
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 0	DSI 5	633334	3500.01	22.00	23.50	1.413	-	-	0.01	0.065	0.092
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	10mm	Ant 0	DSI 5	633334	3500.01	22.04	23.50	1.400	-	-	-0.01	0.038	0.053
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 0	DSI 5	633334	3500.01	22.00	23.50	1.413	-	-	0.06	0.054	0.076
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 9	DSI 5	656000	3840	13.70	15.50	1.514	-	-	0.14	0.061	0.092
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 9	DSI 5	656000	3840	13.69	15.50	1.517	-	-	-0.05	0.061	0.093
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 9	DSI 5	656000	3840	13.70	15.50	1.514	-	-	0.14	0.072	0.109
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 9	DSI 5	656000	3840	13.69	15.50	1.517	-	-	0.02	0.088	0.134
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 9	DSI 5	656000	3840	13.70	15.50	1.514	-	-	0.03	0.119	0.180
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 9	DSI 5	656000	3840	13.69	15.50	1.517	-	-	-0.08	0.113	0.171
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 9	DSI 5	656000	3840	13.70	15.50	1.514	-	-	-0.02	0.080	0.121
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 9	DSI 5	656000	3840	13.69	15.50	1.517	-	-	-0.03	0.072	0.109

Sporton International Inc. (Kunshan)

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	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 9	DSI 5	633334	3500.01	13.63	15.50	1.538	-	-	0.13	0.087	0.134
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 9	DSI 5	633334	3500.01	13.60	15.50	1.549	-	-	-0.08	0.079	0.122
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 9	DSI 5	633334	3500.01	13.63	15.50	1.538	-	-	0.06	0.134	0.206
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 9	DSI 5	633334	3500.01	13.60	15.50	1.549	-	-	0.06	0.130	0.201
46	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 9	DSI 5	633334	3500.01	13.63	15.50	1.538	-	-	-0.03	0.206	0.317
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 9	DSI 5	633334	3500.01	13.60	15.50	1.549	-	-	-0.02	0.200	0.310
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 9	DSI 5	633334	3500.01	13.63	15.50	1.538	-	-	0.04	0.147	0.226
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 9	DSI 5	633334	3500.01	13.60	15.50	1.549	-	-	-0.02	0.140	0.217
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 10	DSI 5	656000	3840	14.42	15.50	1.282	-	-	0.03	0.084	0.108
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 10	DSI 5	656000	3840	14.37	15.50	1.297	-	-	0.03	0.077	0.100
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 10	DSI 5	656000	3840	14.42	15.50	1.282	-	-	0.12	0.137	0.176
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 10	DSI 5	656000	3840	14.37	15.50	1.297	-	-	0.09	0.140	0.182
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 10	DSI 5	656000	3840	14.42	15.50	1.282	-	-	0.08	0.047	0.060
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 10	DSI 5	656000	3840	14.37	15.50	1.297	-	-	-0.06	0.053	0.069
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 10	DSI 5	656000	3840	14.42	15.50	1.282	-	-	0.02	0.182	0.233
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 10	DSI 5	656000	3840	14.37	15.50	1.297	-	-	0.07	0.184	0.239
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 10	DSI 5	633334	3500.01	14.37	15.50	1.297	-	-	0.05	0.061	0.079
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 10	DSI 5	633334	3500.01	14.31	15.50	1.315	-	-	0.09	0.048	0.063
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 10	DSI 5	633334	3500.01	14.37	15.50	1.297	-	-	-0.07	0.111	0.144
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 10	DSI 5	633334	3500.01	14.31	15.50	1.315	-	-	-0.04	0.094	0.124
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 10	DSI 5	633334	3500.01	14.37	15.50	1.297	-	-	-0.04	0.029	0.038
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 10	DSI 5	633334	3500.01	14.31	15.50	1.315	-	-	-0.02	0.022	0.029
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 10	DSI 5	633334	3500.01	14.37	15.50	1.297	-	-	-0.07	0.150	0.195
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 10	DSI 5	633334	3500.01	14.31	15.50	1.315	-	-	0.05	0.125	0.164
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 5	656000	3840	17.22	18.50	1.343	-	-	0.15	0.074	0.099
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 5	656000	3840	17.17	18.50	1.358	-	-	0.18	0.078	0.106
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 5	656000	3840	17.22	18.50	1.343	-	-	0.03	0.106	0.142
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 5	656000	3840	17.17	18.50	1.358	-	-	-0.14	0.086	0.117
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 11	DSI 5	656000	3840	17.22	18.50	1.343	-	-	0.07	0.036	0.048
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 11	DSI 5	656000	3840	17.17	18.50	1.358	-	-	0.11	0.039	0.053
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	10mm	Ant 11	DSI 5	656000	3840	17.22	18.50	1.343	-	-	0.07	0.039	0.052
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 11	DSI 5	656000	3840	17.17	18.50	1.358	-	-	0.06	0.031	0.042
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 11	DSI 5	656000	3840	17.22	18.50	1.343	-	-	0.03	0.121	0.162
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 11	DSI 5	656000	3840	17.17	18.50	1.358	-	-	0.07	0.118	0.160
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 5	633334	3500.01	17.19	18.50	1.352	-	-	-0.11	0.049	0.066
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 5	633334	3500.01	17.10	18.50	1.380	-	-	0.05	0.058	0.080
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 5	633334	3500.01	17.19	18.50	1.352	-	-	0.13	0.084	0.114
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 5	633334	3500.01	17.10	18.50	1.380	-	-	0.15	0.102	0.141
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 11	DSI 5	633334	3500.01	17.19	18.50	1.352	-	-	0.08	0.025	0.034
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 11	DSI 5	633334	3500.01	17.10	18.50	1.380	-	-	0.03	0.024	0.033
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	10mm	Ant 11	DSI 5	633334	3500.01	17.19	18.50	1.352	-	-	-0.1	0.024	0.032
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 11	DSI 5	633334	3500.01	17.10	18.50	1.380	-	-	0.06	0.027	0.037
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 11	DSI 5	633334	3500.01	17.19	18.50	1.352	-	-	-0.07	0.139	0.188
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 11	DSI 5	633334	3500.01	17.10	18.50	1.380	-	-	-0.09	0.159	0.219
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 0	DSI 5	650000	3750	23.46	25.00	1.426	-	-	-0.12	0.259	0.369
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 0	DSI 5	650000	3750	23.05	25.00	1.567	-	-	0.05	0.223	0.349
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 0	DSI 5	650000	3750	23.46	25.00	1.426	-	-	-0.05	0.206	0.294
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 0	DSI 5	650000	3750	23.05	25.00	1.567	-	-	-0.08	0.176	0.276
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	10mm	Ant 0	DSI 5	650000	3750	23.46	25.00	1.426	-	-	0.14	0.055	0.078
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 0	DSI 5	650000	3750	23.05	25.00	1.567	-	-	0.01	0.060	0.094
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	10mm	Ant 0	DSI 5	650000	3750	23.46	25.00	1.426	-	-	0.02	0.085	0.121
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 0	DSI 5	650000	3750	23.05	25.00	1.567	-	-	-0.13	0.065	0.102
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 0	DSI 5	633334	3500.01	23.30	25.00	1.479	-	-	0.09	0.194	0.287
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 0	DSI 5	633334	3500.01	23.19	25.00	1.517	-	-	-0.05	0.243	0.369
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 0	DSI 5	633334	3500.01	23.30	25.00	1.479	-	-	-0.12	0.187	0.277
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 0	DSI 5	633334	3500.01	23.19	25.00	1.517	-	-	0.05	0.207	0.314

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	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	10mm	Ant 0	DSI 5	633334	3500.01	23.30	25.00	1.479	-	-	0.12	0.080	0.118
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 0	DSI 5	633334	3500.01	23.19	25.00	1.517	-	-	0.07	0.128	0.194
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	10mm	Ant 0	DSI 5	633334	3500.01	23.30	25.00	1.479	-	-	0.03	0.036	0.053
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 0	DSI 5	633334	3500.01	23.19	25.00	1.517	-	-	0.03	0.097	0.147
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 9	DSI 5	650000	3750	15.59	17.00	1.384	-	-	-0.11	0.074	0.102
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 9	DSI 5	650000	3750	15.55	17.00	1.396	-	-	0.04	0.063	0.088
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 9	DSI 5	650000	3750	15.59	17.00	1.384	-	-	0.08	0.124	0.172
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 9	DSI 5	650000	3750	15.55	17.00	1.396	-	-	0.09	0.102	0.142
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 9	DSI 5	650000	3750	15.59	17.00	1.384	-	-	0.05	0.181	0.250
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 9	DSI 5	650000	3750	15.55	17.00	1.396	-	-	0.06	0.162	0.226
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 9	DSI 5	650000	3750	15.59	17.00	1.384	-	-	0.04	0.104	0.144
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 9	DSI 5	650000	3750	15.55	17.00	1.396	-	-	-0.04	0.107	0.149
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 9	DSI 5	633334	3500.01	15.53	17.00	1.403	-	-	-0.08	0.117	0.164
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 9	DSI 5	633334	3500.01	15.51	17.00	1.409	-	-	-0.07	0.109	0.154
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 9	DSI 5	633334	3500.01	15.53	17.00	1.403	-	-	-0.08	0.179	0.251
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 9	DSI 5	633334	3500.01	15.51	17.00	1.409	-	-	0.16	0.175	0.247
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 9	DSI 5	633334	3500.01	15.53	17.00	1.403	-	-	0.01	0.255	0.358
47	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 9	DSI 5	633334	3500.01	15.51	17.00	1.409	-	-	-0.08	0.291	0.410
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 9	DSI 5	633334	3500.01	15.53	17.00	1.403	-	-	0.02	0.208	0.292
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 9	DSI 5	633334	3500.01	15.51	17.00	1.409	-	-	0.17	0.192	0.271
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 10	DSI 5	650000	3750	16.50	17.00	1.122	-	-	0.13	0.096	0.108
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 10	DSI 5	650000	3750	16.42	17.00	1.143	-	-	-0.04	0.098	0.112
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 10	DSI 5	650000	3750	16.50	17.00	1.122	-	-	-0.06	0.140	0.157
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 10	DSI 5	650000	3750	16.42	17.00	1.143	-	-	0.11	0.176	0.201
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 10	DSI 5	650000	3750	16.50	17.00	1.122	-	-	-0.1	0.054	0.061
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 10	DSI 5	650000	3750	16.42	17.00	1.143	-	-	0.15	0.054	0.062
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 10	DSI 5	650000	3750	16.50	17.00	1.122	-	-	-0.13	0.221	0.248
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 10	DSI 5	650000	3750	16.42	17.00	1.143	-	-	0.07	0.251	0.287
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 10	DSI 5	633334	3500.01	16.41	17.00	1.146	-	-	-0.17	0.075	0.086
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 10	DSI 5	633334	3500.01	16.34	17.00	1.164	-	-	0.19	0.072	0.084
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 10	DSI 5	633334	3500.01	16.41	17.00	1.146	-	-	0.05	0.138	0.158
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 10	DSI 5	633334	3500.01	16.34	17.00	1.164	-	-	-0.03	0.139	0.162
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 10	DSI 5	633334	3500.01	16.41	17.00	1.146	-	-	0.11	0.036	0.041
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 10	DSI 5	633334	3500.01	16.34	17.00	1.164	-	-	0.03	0.035	0.041
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 10	DSI 5	633334	3500.01	16.41	17.00	1.146	-	-	-0.02	0.176	0.202
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 10	DSI 5	633334	3500.01	16.34	17.00	1.164	-	-	-0.07	0.116	0.135
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 5	650000	3750	16.72	18.00	1.343	-	-	0.09	0.059	0.079
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 5	650000	3750	16.66	18.00	1.361	-	-	0.05	0.067	0.091
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 5	650000	3750	16.72	18.00	1.343	-	-	0.13	0.083	0.111
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 5	650000	3750	16.66	18.00	1.361	-	-	-0.02	0.087	0.118
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 11	DSI 5	650000	3750	16.72	18.00	1.343	-	-	0.16	0.029	0.039
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 11	DSI 5	650000	3750	16.66	18.00	1.361	-	-	0.05	0.032	0.044
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	10mm	Ant 11	DSI 5	650000	3750	16.72	18.00	1.343	-	-	0.19	0.028	0.038
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 11	DSI 5	650000	3750	16.66	18.00	1.361	-	-	0.05	0.030	0.041
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 11	DSI 5	650000	3750	16.72	18.00	1.343	-	-	0.06	0.100	0.134
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 11	DSI 5	650000	3750	16.66	18.00	1.361	-	-	0.04	0.105	0.143
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 5	633334	3500.01	16.65	18.00	1.365	-	-	-0.15	0.035	0.048
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 5	633334	3500.01	16.56	18.00	1.393	-	-	-0.19	0.061	0.085
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 5	633334	3500.01	16.65	18.00	1.365	-	-	-0.06	0.081	0.111
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 5	633334	3500.01	16.56	18.00	1.393	-	-	-0.05	0.107	0.149
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 11	DSI 5	633334	3500.01	16.65	18.00	1.365	-	-	0.05	0.026	0.035
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 11	DSI 5	633334	3500.01	16.56	18.00	1.393	-	-	-0.05	0.032	0.045
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	10mm	Ant 11	DSI 5	633334	3500.01	16.65	18.00	1.365	-	-	-0.17	0.000	0.000
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 11	DSI 5	633334	3500.01	16.56	18.00	1.393	-	-	0.08	0.036	0.050
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 11	DSI 5	633334	3500.01	16.65	18.00	1.365	-	-	0.15	0.142	0.194
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 11	DSI 5	633334	3500.01	16.56	18.00	1.393	-	-	-0.01	0.148	0.206

Sporton International Inc. (Kunshan)

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

FCC ID : 2AFZZ3129G

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Issued Date : Mar. 21, 2022

Form version. : 200414



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
2450MHz																
48	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 15+16	Standalone	6	2437	20.25	21.50	1.334	98.29	1.017	0.03	0.170	0.231
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 15+16	Standalone	6	2437	20.25	21.50	1.334	98.29	1.017	-0.1	0.311	0.422
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 15+16	Standalone	6	2437	20.25	21.50	1.334	98.29	1.017	0.04	0.302	0.410
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 15+16	Standalone	6	2437	20.25	21.50	1.334	98.29	1.017	-0.04	0.197	0.267
	Bluetooth	1Mbps	Front	10mm	Ant 15	Standalone	39	2441	16.56	17.00	1.106	76.84	1.301	0.07	0.081	0.117
	Bluetooth	1Mbps	Back	10mm	Ant 15	Standalone	39	2441	16.56	17.00	1.106	76.84	1.301	0.1	0.081	0.117
	Bluetooth	1Mbps	Right Side	10mm	Ant 15	Standalone	39	2441	16.56	17.00	1.106	76.84	1.301	0.07	0.026	0.037
	Bluetooth	1Mbps	Top Side	10mm	Ant 15	Standalone	39	2441	16.56	17.00	1.106	76.84	1.301	0.06	0.100	0.144
	Bluetooth	1Mbps	Front	10mm	Ant 16	Standalone	39	2441	16.66	17.00	1.082	76.78	1.302	-0.08	0.072	0.101
	Bluetooth	1Mbps	Back	10mm	Ant 16	Standalone	39	2441	16.66	17.00	1.082	76.78	1.302	-0.07	0.086	0.121
49	Bluetooth	1Mbps	Right Side	10mm	Ant 16	Standalone	39	2441	16.66	17.00	1.082	76.78	1.302	-0.13	0.145	0.204
	Bluetooth	1Mbps	Top Side	10mm	Ant 16	Standalone	39	2441	16.66	17.00	1.082	76.78	1.302	-0.1	0.033	0.046
5000MHz																
50	5.2GHz WLAN	802.11a 6Mbps	Front	10mm	Ant 15+16	Standalone	40	5200	21.68	23.00	1.355	100	1.000	0.08	0.208	0.282
	5.2GHz WLAN	802.11a 6Mbps	Back	10mm	Ant 15+16	Standalone	40	5200	21.68	23.00	1.355	100	1.000	0.18	0.476	0.645
	5.2GHz WLAN	802.11a 6Mbps	Right Side	10mm	Ant 15+16	Standalone	40	5200	21.68	23.00	1.355	100	1.000	-0.11	0.788	1.068
	5.2GHz WLAN	802.11a 6Mbps	Top Side	10mm	Ant 15+16	Standalone	40	5200	21.68	23.00	1.355	100	1.000	-0.12	0.350	0.474
	5.2GHz WLAN	802.11a 6Mbps	Right Side	10mm	Ant 15+16	Standalone	48	5240	21.56	23.00	1.393	100	1.000	0.03	0.713	0.993
	5.2GHz WLAN	802.11ac-VHT80 MCS0	Right Side	10mm	Ant 15+16	Simultaneous	42	5210	14.42	16.00	1.439	100	1.000	0.03	0.187	0.269
51	5.8GHz WLAN	802.11n-HT40 MCS0	Front	10mm	Ant 15+16	Standalone	151	5755	19.52	21.00	1.406	100	1.000	-0.11	0.205	0.288
	5.8GHz WLAN	802.11n-HT40 MCS0	Back	10mm	Ant 15+16	Standalone	151	5755	19.52	21.00	1.406	100	1.000	-0.03	0.614	0.863
	5.8GHz WLAN	802.11n-HT40 MCS0	Right Side	10mm	Ant 15+16	Standalone	151	5755	19.52	21.00	1.406	100	1.000	0.03	0.723	1.017
	5.8GHz WLAN	802.11n-HT40 MCS0	Top Side	10mm	Ant 15+16	Standalone	151	5755	19.52	21.00	1.406	100	1.000	-0.04	0.260	0.366
	5.8GHz WLAN	802.11n-HT40 MCS0	Right Side	10mm	Ant 15+16	Standalone	159	5795	19.38	21.00	1.452	100	1.000	0.03	0.687	0.998
	5.8GHz WLAN	802.11ac-VHT80 MCS0	Right Side	10mm	Ant 15+16	Simultaneous	155	5775	13.77	15.50	1.489	100	1.000	-0.03	0.204	0.304



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)
750MHz																		
	LTE Band 12	10M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 4	23095	707.5	24.38	25.50	1.294	-0.12	0.215	0.278
	LTE Band 12	10M	QPSK	25	0	-	Front	15mm	Ant 0	DSI 4	23095	707.5	23.52	24.50	1.253	0.09	0.174	0.218
	LTE Band 12	10M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 4	23095	707.5	24.38	25.50	1.294	0.02	0.268	0.347
	LTE Band 12	10M	QPSK	25	0	-	Back	15mm	Ant 0	DSI 4	23095	707.5	23.52	24.50	1.253	-0.1	0.215	0.269
	LTE Band 12	10M	QPSK	1	0	-	Front	15mm	Ant 1	DSI 4	23095	707.5	24.28	25.50	1.324	-0.02	0.296	0.392
	LTE Band 12	10M	QPSK	25	0	-	Front	15mm	Ant 1	DSI 4	23095	707.5	23.21	24.50	1.346	-0.06	0.270	0.363
52	LTE Band 12	10M	QPSK	1	0	-	Back	15mm	Ant 1	DSI 4	23095	707.5	24.28	25.50	1.324	-0.02	0.414	0.548
	LTE Band 12	10M	QPSK	25	0	-	Back	15mm	Ant 1	DSI 4	23095	707.5	23.21	24.50	1.346	0.08	0.346	0.466
	LTE Band 13	10M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 4	23230	782	23.36	24.50	1.300	0.08	0.150	0.195
	LTE Band 13	10M	QPSK	25	0	-	Front	15mm	Ant 0	DSI 4	23230	782	22.50	23.50	1.259	-0.04	0.121	0.152
	LTE Band 13	10M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 4	23230	782	23.36	24.50	1.300	-0.01	0.177	0.230
	LTE Band 13	10M	QPSK	25	0	-	Back	15mm	Ant 0	DSI 4	23230	782	22.50	23.50	1.259	0.07	0.142	0.179
	LTE Band 13	10M	QPSK	1	0	-	Front	15mm	Ant 1	DSI 4	23230	782	23.31	24.50	1.315	0.02	0.155	0.204
	LTE Band 13	10M	QPSK	25	0	-	Front	15mm	Ant 1	DSI 4	23230	782	22.41	23.50	1.285	0.08	0.120	0.154
53	LTE Band 13	10M	QPSK	1	0	-	Back	15mm	Ant 1	DSI 4	23230	782	23.31	24.50	1.315	-0.06	0.204	0.268
	LTE Band 13	10M	QPSK	25	0	-	Back	15mm	Ant 1	DSI 4	23230	782	22.41	23.50	1.285	0.04	0.154	0.198
835MHz																		
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	15mm	Ant 0	DSI 4	189	836.4	25.74	27.50	1.500	0.07	0.194	0.291
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	15mm	Ant 0	DSI 4	189	836.4	25.74	27.50	1.500	-0.01	0.225	0.337
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	15mm	Ant 1	DSI 4	189	836.4	26.30	27.50	1.318	0.18	0.180	0.237
54	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	15mm	Ant 1	DSI 4	189	836.4	26.30	27.50	1.318	0.08	0.287	0.378
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 0	DSI 4	4182	836.4	24.45	25.50	1.274	0.06	0.275	0.350
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 0	DSI 4	4182	836.4	24.45	25.50	1.274	-0.01	0.321	0.409
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 1	DSI 4	4182	836.4	21.61	22.50	1.227	0.07	0.217	0.266
55	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 1	DSI 4	4182	836.4	21.61	22.50	1.227	-0.03	0.340	0.417
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 1	DSI 4	4132	826.4	21.55	22.50	1.245	-0.06	0.333	0.414
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 1	DSI 4	4233	846.6	21.56	22.50	1.242	-0.17	0.330	0.410
	LTE Band 26	15M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 4	26865	831.5	24.41	25.50	1.285	0.04	0.222	0.285
	LTE Band 26	15M	QPSK	36	0	-	Front	15mm	Ant 0	DSI 4	26865	831.5	23.57	24.50	1.239	0.04	0.184	0.228
	LTE Band 26	15M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 4	26865	831.5	24.41	25.50	1.285	-0.09	0.267	0.343
	LTE Band 26	15M	QPSK	36	0	-	Back	15mm	Ant 0	DSI 4	26865	831.5	23.57	24.50	1.239	0.04	0.218	0.270
	LTE Band 26	15M	QPSK	1	0	-	Front	15mm	Ant 1	DSI 4	26865	831.5	24.24	25.50	1.337	-0.09	0.333	0.445
	LTE Band 26	15M	QPSK	36	0	-	Front	15mm	Ant 1	DSI 4	26865	831.5	23.43	24.50	1.279	-0.16	0.287	0.367
56	LTE Band 26	15M	QPSK	1	0	-	Back	15mm	Ant 1	DSI 4	26865	831.5	24.24	25.50	1.337	0.04	0.543	0.726
	LTE Band 26	15M	QPSK	36	0	-	Back	15mm	Ant 1	DSI 4	26865	831.5	23.43	24.50	1.279	0.08	0.488	0.624
	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Front	15mm	Ant 0	DSI 4	167300	836.5	24.64	25.50	1.219	0.05	0.295	0.360
	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Front	15mm	Ant 0	DSI 4	167300	836.5	23.67	25.50	1.524	0.18	0.301	0.459
	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Back	15mm	Ant 0	DSI 4	167300	836.5	24.64	25.50	1.219	0.05	0.322	0.393
57	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Back	15mm	Ant 0	DSI 4	167300	836.5	23.67	25.50	1.524	0.04	0.341	0.520
	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Front	15mm	Ant 1	DSI 4	167300	836.5	22.66	23.00	1.081	0.05	0.271	0.293
	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Front	15mm	Ant 1	DSI 4	167300	836.5	22.65	23.00	1.084	0.13	0.271	0.294
	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Back	15mm	Ant 1	DSI 4	167300	836.5	22.66	23.00	1.081	0.03	0.395	0.427
	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Back	15mm	Ant 1	DSI 4	167300	836.5	22.65	23.00	1.084	0.02	0.417	0.452
1750MHz																		
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 3	DSI 4	1413	1732.6	24.54	25.50	1.247	0.18	0.347	0.433
58	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 3	DSI 4	1413	1732.6	24.54	25.50	1.247	0.01	0.444	0.554
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 5	DSI 4	1413	1732.6	23.54	24.50	1.247	-0.05	0.259	0.323
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 5	DSI 4	1413	1732.6	23.54	24.50	1.247	0.1	0.381	0.475
	LTE Band 66	20M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 4	132322	1745	21.89	23.50	1.449	0.13	0.099	0.143



FCC SAR Test Report

Report No. : FA211306

	LTE Band 66	20M	QPSK	50	0	-	Front	15mm	Ant 0	DSI 4	132322	1745	20.94	22.50	1.432	0.08	0.100	0.143
	LTE Band 66	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 4	132322	1745	21.89	23.50	1.449	-0.17	0.201	0.291
	LTE Band 66	20M	QPSK	50	0	-	Back	15mm	Ant 0	DSI 4	132322	1745	20.94	22.50	1.432	-0.16	0.164	0.235
	LTE Band 66	20M	QPSK	1	0	-	Front	15mm	Ant 3	DSI 4	132322	1745	24.68	25.50	1.208	-0.16	0.304	0.367
	LTE Band 66	20M	QPSK	50	0	-	Front	15mm	Ant 3	DSI 4	132322	1745	23.83	24.50	1.167	0.01	0.240	0.280
	LTE Band 66	20M	QPSK	1	0	-	Back	15mm	Ant 3	DSI 4	132322	1745	24.68	25.50	1.208	-0.04	0.380	0.459
	LTE Band 66	20M	QPSK	50	0	-	Back	15mm	Ant 3	DSI 4	132322	1745	23.83	24.50	1.167	-0.03	0.301	0.351
	LTE Band 66	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI 4	132322	1745	23.38	25.00	1.452	0.17	0.141	0.205
	LTE Band 66	20M	QPSK	50	0	-	Front	15mm	Ant 4	DSI 4	132322	1745	22.48	24.00	1.419	-0.01	0.118	0.167
	LTE Band 66	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI 4	132322	1745	23.38	25.00	1.452	-0.16	0.256	0.372
	LTE Band 66	20M	QPSK	50	0	-	Back	15mm	Ant 4	DSI 4	132322	1745	22.48	24.00	1.419	0.05	0.208	0.295
	LTE Band 66	20M	QPSK	1	0	-	Front	15mm	Ant 5	DSI 4	132322	1745	23.16	24.50	1.361	0.01	0.250	0.340
	LTE Band 66	20M	QPSK	50	0	-	Front	15mm	Ant 5	DSI 4	132322	1745	22.19	23.50	1.352	0.09	0.205	0.277
59	LTE Band 66	20M	QPSK	1	0	-	Back	15mm	Ant 5	DSI 4	132322	1745	23.16	24.50	1.361	0.11	0.342	0.466
	LTE Band 66	20M	QPSK	50	0	-	Back	15mm	Ant 5	DSI 4	132322	1745	22.19	23.50	1.352	-0.02	0.281	0.380
	LTE Band 66 Other PA	20M	QPSK	1	0	-	Back	15mm	Ant 5	DSI 4	132322	1745	24.52	25.50	1.253	0.04	0.339	0.425
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	15mm	Ant 0	DSI 4	349000	1745	22.74	24.50	1.500	-0.12	0.106	0.159
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	15mm	Ant 0	DSI 4	349000	1745	22.66	24.50	1.528	-0.03	0.124	0.189
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	15mm	Ant 0	DSI 4	349000	1745	22.74	24.50	1.500	0.09	0.100	0.150
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	15mm	Ant 0	DSI 4	349000	1745	22.66	24.50	1.528	0.16	0.102	0.156
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	15mm	Ant 3	DSI 4	349000	1745	24.61	25.50	1.227	0.11	0.393	0.482
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	15mm	Ant 3	DSI 4	349000	1745	24.42	25.50	1.282	0.03	0.347	0.445
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	15mm	Ant 3	DSI 4	349000	1745	24.61	25.50	1.227	0.1	0.404	0.496
60	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	15mm	Ant 3	DSI 4	349000	1745	24.42	25.50	1.282	0.09	0.405	0.519
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	15mm	Ant 4	DSI 4	349000	1745	23.85	24.00	1.035	0.11	0.115	0.119
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	15mm	Ant 4	DSI 4	349000	1745	23.78	24.00	1.052	0.06	0.124	0.130
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	15mm	Ant 4	DSI 4	349000	1745	23.85	24.00	1.035	-0.03	0.159	0.165
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	15mm	Ant 4	DSI 4	349000	1745	23.78	24.00	1.052	-0.05	0.163	0.171
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	15mm	Ant 5	DSI 4	349000	1745	22.60	23.50	1.230	0.05	0.198	0.244
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	15mm	Ant 5	DSI 4	349000	1745	22.58	23.50	1.236	0.07	0.213	0.263
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	15mm	Ant 5	DSI 4	349000	1745	22.60	23.50	1.230	-0.18	0.203	0.250
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	15mm	Ant 5	DSI 4	349000	1745	22.58	23.50	1.236	0.06	0.234	0.289



FCC SAR Test Report

Report No. : FA211306

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)
1900MHz																				
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	15mm	Ant 3	DSI 4	661	1880	23.89	25.00	1.291	-	-	0.04	0.133	0.172
61	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	15mm	Ant 3	DSI 4	661	1880	23.89	25.00	1.291	-	-	0.05	0.181	0.234
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	15mm	Ant 5	DSI 4	661	1880	22.76	24.00	1.330	-	-	0.05	0.060	0.080
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	15mm	Ant 5	DSI 4	661	1880	22.76	24.00	1.330	-	-	0.04	0.076	0.101
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 3	DSI 4	9400	1880	24.47	25.50	1.268	-	-	0.03	0.320	0.406
62	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 3	DSI 4	9400	1880	24.47	25.50	1.268	-	-	-0.02	0.462	0.586
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 5	DSI 4	9400	1880	23.45	24.50	1.274	-	-	0.09	0.190	0.242
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 5	DSI 4	9400	1880	23.45	24.50	1.274	-	-	0.04	0.263	0.335
	LTE Band 2	20M	QPSK	1	0	-	Front	15mm	Ant 3	DSI 4	18900	1880	24.63	25.50	1.222	-	-	0.09	0.306	0.374
	LTE Band 2	20M	QPSK	50	0	-	Front	15mm	Ant 3	DSI 4	18900	1880	23.76	24.50	1.186	-	-	-0.04	0.253	0.300
63	LTE Band 2	20M	QPSK	1	0	-	Back	15mm	Ant 3	DSI 4	18900	1880	24.63	25.50	1.222	-	-	-0.03	0.395	0.483
	LTE Band 2	20M	QPSK	50	0	-	Back	15mm	Ant 3	DSI 4	18900	1880	23.76	24.50	1.186	-	-	0.03	0.327	0.388
	LTE Band 2	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI 4	18900	1880	23.77	25.00	1.327	-	-	0.06	0.154	0.204
	LTE Band 2	20M	QPSK	50	0	-	Front	15mm	Ant 4	DSI 4	18900	1880	22.78	24.00	1.324	-	-	0.04	0.124	0.164
	LTE Band 2	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI 4	18900	1880	23.77	25.00	1.327	-	-	0.02	0.316	0.419
	LTE Band 2	20M	QPSK	50	0	-	Back	15mm	Ant 4	DSI 4	18900	1880	22.78	24.00	1.324	-	-	-0.12	0.259	0.343
2600MHz																				
	LTE Band 7	20M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 4	21100	2535	22.11	23.50	1.377	-	-	0.07	0.058	0.080
	LTE Band 7	20M	QPSK	50	0	-	Front	15mm	Ant 0	DSI 4	21100	2535	21.11	22.50	1.377	-	-	0.05	0.049	0.067
	LTE Band 7	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 4	21100	2535	22.11	23.50	1.377	-	-	0.03	0.088	0.121
	LTE Band 7C	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 4	21100+21298	2535+2554.8	22.03	23.50	1.403	-	-	0.01	0.076	0.107
	LTE Band 7	20M	QPSK	50	0	-	Back	15mm	Ant 0	DSI 4	21100	2535	21.11	22.50	1.377	-	-	-0.1	0.073	0.101
	LTE Band 7	20M	QPSK	1	0	-	Front	15mm	Ant 3	DSI 4	21100	2535	24.66	25.50	1.213	-	-	-0.06	0.350	0.425
	LTE Band 7	20M	QPSK	50	0	-	Front	15mm	Ant 3	DSI 4	21100	2535	23.93	24.50	1.140	-	-	-0.13	0.294	0.335
	LTE Band 7	20M	QPSK	1	0	-	Back	15mm	Ant 3	DSI 4	21100	2535	24.66	25.50	1.213	-	-	0.13	0.421	0.511
	LTE Band 7C	20M	QPSK	1	0	-	Back	15mm	Ant 3	DSI 4	21100+21298	2535+2554.8	24.57	25.50	1.239	-	-	0.02	0.401	0.497
	LTE Band 7	20M	QPSK	50	0	-	Back	15mm	Ant 3	DSI 4	21100	2535	23.93	24.50	1.140	-	-	0.02	0.355	0.405
	LTE Band 7	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI 4	21100	2535	19.65	20.00	1.084	-	-	-0.16	0.066	0.072
	LTE Band 7	20M	QPSK	50	0	-	Front	15mm	Ant 4	DSI 4	21100	2535	19.54	20.00	1.112	-	-	0.07	0.069	0.077
	LTE Band 7	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI 4	21100	2535	19.65	20.00	1.084	-	-	0.07	0.160	0.173
	LTE Band 7	20M	QPSK	50	0	-	Back	15mm	Ant 4	DSI 4	21100	2535	19.54	20.00	1.112	-	-	0.12	0.172	0.191
	LTE Band 7C	20M	QPSK	50	0	-	Back	15mm	Ant 4	DSI 4	21100+21298	2535+2554.8	19.43	20.00	1.140	-	-	0.02	0.154	0.176
	LTE Band 7	20M	QPSK	1	0	-	Front	15mm	Ant 5	DSI 4	21100	2535	24.53	25.00	1.114	-	-	0.04	0.375	0.418
	LTE Band 7	20M	QPSK	50	0	-	Front	15mm	Ant 5	DSI 4	21100	2535	23.66	24.00	1.081	-	-	0.06	0.300	0.324
64	LTE Band 7	20M	QPSK	1	0	-	Back	15mm	Ant 5	DSI 4	21100	2535	24.53	25.00	1.114	-	-	-0.13	0.526	0.586
	LTE Band 7C	20M	QPSK	1	0	-	Back	15mm	Ant 5	DSI 4	21100+21298	2535+2554.8	24.48	25.00	1.127	-	-	0.04	0.502	0.566
	LTE Band 7	20M	QPSK	50	0	-	Back	15mm	Ant 5	DSI 4	21100	2535	23.66	24.00	1.081	-	-	0.1	0.413	0.447
	LTE Band 41	20M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 4	40620	2593	21.77	23.00	1.327	62.9	1.006	0.03	0.036	0.048
	LTE Band 41	20M	QPSK	50	0	-	Front	15mm	Ant 0	DSI 4	40620	2593	20.89	22.00	1.291	62.9	1.006	0.02	0.031	0.040
	LTE Band 41	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 4	40620	2593	21.77	23.00	1.327	62.9	1.006	0.06	0.061	0.081
	LTE Band 38C	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 4	38000+38198	2595+2614.8	21.50	23.00	1.413	62.9	1.006	0.03	0.048	0.068
	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant 0	DSI 4	40620	2593	20.89	22.00	1.291	62.9	1.006	0.09	0.050	0.065
	LTE Band 41	20M	QPSK	1	0	-	Front	15mm	Ant 3	DSI 4	40620	2593	24.26	25.50	1.330	62.9	1.006	-0.15	0.207	0.277
	LTE Band 41	20M	QPSK	50	0	-	Front	15mm	Ant 3	DSI 4	40620	2593	23.35	24.50	1.303	62.9	1.006	0.15	0.163	0.214
	LTE Band 41	20M	QPSK	1	0	-	Back	15mm	Ant 3	DSI 4	40620	2593	24.26	25.50	1.330	62.9	1.006	-0.16	0.232	0.311
	LTE Band 38C	20M	QPSK	1	0	-	Back	15mm	Ant 3	DSI 4	38000+38198	2595+2614.8	24.20	25.50	1.349	62.9	1.006	0.02	0.210	0.285
	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant 3	DSI 4	40620	2593	23.35	24.50	1.303	62.9	1.006	-0.13	0.187	0.245
	LTE Band 41	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI 4	40620	2593	22.42	23.00	1.143	62.9	1.006	0.05	0.100	0.115
	LTE Band 41	20M	QPSK	50	0	-	Front	15mm	Ant 4	DSI 4	40620	2593	22.37	23.00	1.156	62.9	1.006	0.11	0.102	0.119
	LTE Band 41	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI 4	40620	2593	22.42	23.00	1.143	62.9	1.006	0.08	0.259	0.298

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FCC SAR Test Report

Report No. : FA211306

	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant 4	DSI 4	40620	2593	22.37	23.00	1.156	62.9	1.006	0.05	0.268	0.312
	LTE Band 38C	20M	QPSK	50	0	-	Back	15mm	Ant 4	DSI 4	38000+ 38198	2595+ 2614.8	22.22	23.00	1.197	62.9	1.006	0.01	0.246	0.296
	LTE Band 41	20M	QPSK	1	0	-	Front	15mm	Ant 5	DSI 4	40620	2593	23.97	25.00	1.268	62.9	1.006	0.07	0.181	0.231
	LTE Band 41	20M	QPSK	50	0	-	Front	15mm	Ant 5	DSI 4	40620	2593	22.96	24.00	1.271	62.9	1.006	0.11	0.146	0.187
65	LTE Band 41	20M	QPSK	1	0	-	Back	15mm	Ant 5	DSI 4	40620	2593	23.97	25.00	1.268	62.9	1.006	0.06	0.263	0.335
	LTE Band 38C	20M	QPSK	1	0	-	Back	15mm	Ant 5	DSI 4	38000+ 38198	2595+ 2614.8	23.92	25.00	1.282	62.9	1.006	0.02	0.245	0.316
	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant 5	DSI 4	40620	2593	22.96	24.00	1.271	62.9	1.006	-0.12	0.211	0.270
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Front	15mm	Ant 0	DSI 4	507000	2535	22.28	24.00	1.486	-	-	0.08	0.105	0.156
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Front	15mm	Ant 0	DSI 4	507000	2535	22.17	24.00	1.524	-	-	-0.09	0.104	0.159
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Back	15mm	Ant 0	DSI 4	507000	2535	22.28	24.00	1.486	-	-	-0.05	0.119	0.177
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Back	15mm	Ant 0	DSI 4	507000	2535	22.17	24.00	1.524	-	-	0.08	0.115	0.175
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Front	15mm	Ant 3	DSI 4	507000	2535	22.68	24.00	1.355	-	-	-0.15	0.173	0.234
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Front	15mm	Ant 3	DSI 4	507000	2535	22.28	24.00	1.486	-	-	0.14	0.202	0.300
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Back	15mm	Ant 3	DSI 4	507000	2535	22.68	24.00	1.355	-	-	0.18	0.239	0.324
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Back	15mm	Ant 3	DSI 4	507000	2535	22.28	24.00	1.486	-	-	0.05	0.266	0.395
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Front	15mm	Ant 4	DSI 4	507000	2535	20.46	21.50	1.271	-	-	0.04	0.062	0.079
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Front	15mm	Ant 4	DSI 4	507000	2535	20.35	21.50	1.303	-	-	-0.12	0.070	0.091
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Back	15mm	Ant 4	DSI 4	507000	2535	20.46	21.50	1.271	-	-	-0.08	0.089	0.113
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Back	15mm	Ant 4	DSI 4	507000	2535	20.35	21.50	1.303	-	-	-0.01	0.120	0.156
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Front	15mm	Ant 5	DSI 4	507000	2535	23.92	24.50	1.143	-	-	0.07	0.324	0.370
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Front	15mm	Ant 5	DSI 4	507000	2535	23.83	24.50	1.167	-	-	0.04	0.370	0.432
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Back	15mm	Ant 5	DSI 4	507000	2535	23.92	24.50	1.143	-	-	0.05	0.334	0.382
66	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Back	15mm	Ant 5	DSI 4	507000	2535	23.83	24.50	1.167	-	-	-0.08	0.424	0.495
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 0	DSI 4	518598	2592.99	22.13	23.50	1.371	-	-	-0.18	0.073	0.100
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 0	DSI 4	518598	2592.99	22.07	23.50	1.390	-	-	0.01	0.093	0.129
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI 4	518598	2592.99	22.13	23.50	1.371	-	-	0.09	0.104	0.143
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI 4	518598	2592.99	22.07	23.50	1.390	-	-	0.05	0.137	0.190
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 3	DSI 4	518598	2592.99	22.85	24.00	1.303	-	-	0.13	0.202	0.263
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 3	DSI 4	518598	2592.99	22.67	24.00	1.358	-	-	0.19	0.216	0.293
67	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 3	DSI 4	518598	2592.99	22.85	24.00	1.303	-	-	-0.03	0.308	0.401
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 3	DSI 4	518598	2592.99	22.67	24.00	1.358	-	-	0.06	0.286	0.388
	FR1 n41 Other PA	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 3	DSI 4	518598	2592.99	24.41	25.00	1.146	-	-	0.07	0.289	0.331
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 4	DSI 4	518598	2592.99	19.36	20.50	1.300	-	-	0.08	0.043	0.056
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 4	DSI 4	518598	2592.99	19.35	20.50	1.303	-	-	0.04	0.060	0.078
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI 4	518598	2592.99	19.36	20.50	1.300	-	-	0.07	0.096	0.125
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI 4	518598	2592.99	19.35	20.50	1.303	-	-	-0.02	0.148	0.193
	FR1 n41 Other PA	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI 4	518598	2592.99	20.10	21.50	1.380	-	-	0.09	0.103	0.142
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 5	DSI 4	518598	2592.99	24.10	24.50	1.096	-	-	0.07	0.229	0.251
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 5	DSI 4	518598	2592.99	23.87	24.50	1.156	-	-	0.15	0.216	0.250
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 5	DSI 4	518598	2592.99	24.10	24.50	1.096	-	-	-0.08	0.354	0.388
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 5	DSI 4	518598	2592.99	23.87	24.50	1.156	-	-	0.02	0.314	0.363



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
3500MHz																				
	LTE Band 42	20M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 4	42590	3500	21.78	23.00	1.324	62.9	1.006	-0.01	0.049	0.065
	LTE Band 42	20M	QPSK	50	0	-	Front	15mm	Ant 0	DSI 4	42590	3500	20.86	22.00	1.300	62.9	1.006	0.04	0.041	0.054
	LTE Band 42	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 4	42590	3500	21.78	23.00	1.324	62.9	1.006	-0.04	0.145	0.193
	LTE Band 42	20M	QPSK	50	0	-	Back	15mm	Ant 0	DSI 4	42590	3500	20.86	22.00	1.300	62.9	1.006	-0.07	0.122	0.160
	LTE Band 42	20M	QPSK	1	0	-	Front	15mm	Ant 9	DSI 4	42590	3500	18.37	20.00	1.455	62.9	1.006	0.06	0.056	0.082
	LTE Band 42	20M	QPSK	50	0	-	Front	15mm	Ant 9	DSI 4	42590	3500	18.33	20.00	1.469	62.9	1.006	-0.06	0.059	0.087
	LTE Band 42	20M	QPSK	1	0	-	Back	15mm	Ant 9	DSI 4	42590	3500	18.37	20.00	1.455	62.9	1.006	0.01	0.174	0.255
	LTE Band 42	20M	QPSK	50	0	-	Back	15mm	Ant 9	DSI 4	42590	3500	18.33	20.00	1.469	62.9	1.006	0.05	0.178	0.263
	LTE Band 42	20M	QPSK	1	0	-	Front	15mm	Ant 10	DSI 4	42590	3500	24.47	25.70	1.327	62.9	1.006	-0.13	0.125	0.167
	LTE Band 42	20M	QPSK	50	0	-	Front	15mm	Ant 10	DSI 4	42590	3500	23.57	24.70	1.297	62.9	1.006	0.15	0.104	0.136
68	LTE Band 42	20M	QPSK	1	0	-	Back	15mm	Ant 10	DSI 4	42590	3500	24.47	25.70	1.327	62.9	1.006	-0.09	0.296	0.395
	LTE Band 42	20M	QPSK	50	0	-	Back	15mm	Ant 10	DSI 4	42590	3500	23.57	24.70	1.297	62.9	1.006	0.05	0.176	0.230
	LTE Band 42	20M	QPSK	1	0	-	Front	15mm	Ant 11	DSI 4	42590	3500	21.72	23.50	1.507	62.9	1.006	0.08	0.006	0.009
	LTE Band 42	20M	QPSK	50	0	-	Front	15mm	Ant 11	DSI 4	42590	3500	20.79	22.50	1.483	62.9	1.006	0.01	0.048	0.072
	LTE Band 42	20M	QPSK	1	0	-	Back	15mm	Ant 11	DSI 4	42590	3500	21.72	23.50	1.507	62.9	1.006	0.15	0.012	0.018
	LTE Band 42	20M	QPSK	50	0	-	Back	15mm	Ant 11	DSI 4	42590	3500	20.79	22.50	1.483	62.9	1.006	-0.05	0.010	0.015
	LTE Band 48	20M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 4	55830	3609	21.49	23.00	1.416	62.9	1.006	0.01	0.076	0.108
	LTE Band 48	20M	QPSK	50	0	-	Front	15mm	Ant 0	DSI 4	55830	3609	20.62	22.00	1.374	62.9	1.006	-0.02	0.055	0.076
69	LTE Band 48	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 4	55830	3609	21.49	23.00	1.416	62.9	1.006	-0.05	0.119	0.169
	LTE Band 48	20M	QPSK	50	0	-	Back	15mm	Ant 0	DSI 4	55830	3609	20.62	22.00	1.374	62.9	1.006	0.05	0.097	0.134
	LTE Band 48	20M	QPSK	1	0	-	Front	15mm	Ant 9	DSI 4	55830	3609	19.82	21.00	1.312	62.9	1.006	0.09	0.034	0.045
	LTE Band 48	20M	QPSK	50	0	-	Front	15mm	Ant 9	DSI 4	55830	3609	18.92	20.00	1.282	62.9	1.006	-0.14	0.036	0.046
	LTE Band 48	20M	QPSK	1	0	-	Back	15mm	Ant 9	DSI 4	55830	3609	19.82	21.00	1.312	62.9	1.006	-0.13	0.063	0.083
	LTE Band 48	20M	QPSK	50	0	-	Back	15mm	Ant 9	DSI 4	55830	3609	18.92	20.00	1.282	62.9	1.006	0.02	0.065	0.084
	LTE Band 48	20M	QPSK	1	0	-	Front	15mm	Ant 10	DSI 4	55830	3609	24.04	25.70	1.466	62.9	1.006	-0.13	0.038	0.056
	LTE Band 48	20M	QPSK	50	0	-	Front	15mm	Ant 10	DSI 4	55830	3609	23.05	24.70	1.462	62.9	1.006	-0.18	0.038	0.056
	LTE Band 48	20M	QPSK	1	0	-	Back	15mm	Ant 10	DSI 4	55830	3609	24.04	25.70	1.466	62.9	1.006	-0.11	0.088	0.130
	LTE Band 48	20M	QPSK	50	0	-	Back	15mm	Ant 10	DSI 4	55830	3609	23.05	24.70	1.462	62.9	1.006	-0.1	0.087	0.128
	LTE Band 48	20M	QPSK	1	0	-	Front	15mm	Ant 11	DSI 4	55830	3609	21.79	23.50	1.483	62.9	1.006	0.01	0.044	0.066
	LTE Band 48	20M	QPSK	50	0	-	Front	15mm	Ant 11	DSI 4	55830	3609	20.88	22.50	1.452	62.9	1.006	0.09	0.045	0.066
	LTE Band 48	20M	QPSK	1	0	-	Back	15mm	Ant 11	DSI 4	55830	3609	21.79	23.50	1.483	62.9	1.006	-0.06	0.088	0.131
	LTE Band 48	20M	QPSK	50	0	-	Back	15mm	Ant 11	DSI 4	55830	3609	20.88	22.50	1.452	62.9	1.006	0.08	0.091	0.133
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 0	DSI 4	656000	3840	21.89	23.50	1.449	-	-	-0.07	0.074	0.107
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 0	DSI 4	656000	3840	21.80	23.50	1.479	-	-	0.06	0.111	0.164
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI 4	656000	3840	21.89	23.50	1.449	-	-	0.13	0.096	0.139
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI 4	656000	3840	21.80	23.50	1.479	-	-	0.07	0.124	0.183
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 0	DSI 4	633334	3500.01	22.04	23.50	1.400	-	-	0.08	0.059	0.083
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 0	DSI 4	633334	3500.01	22.00	23.50	1.413	-	-	-0.17	0.059	0.083
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI 4	633334	3500.01	22.04	23.50	1.400	-	-	0.09	0.045	0.063
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI 4	633334	3500.01	22.00	23.50	1.413	-	-	-0.01	0.066	0.093
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 9	DSI 4	656000	3840	15.76	17.50	1.493	-	-	0.05	0.057	0.085
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 9	DSI 4	656000	3840	15.66	17.50	1.528	-	-	0.02	0.050	0.076
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 9	DSI 4	656000	3840	15.76	17.50	1.493	-	-	0.08	0.093	0.139
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 9	DSI 4	656000	3840	15.66	17.50	1.528	-	-	0.16	0.114	0.174
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 9	DSI 4	633334	3500.01	15.76	17.50	1.493	-	-	-0.11	0.078	0.116
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 9	DSI 4	633334	3500.01	15.66	17.50	1.528	-	-	0.07	0.070	0.107
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 9	DSI 4	633334	3500.01	15.76	17.50	1.493	-	-	0.01	0.123	0.184
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 9	DSI 4	633334	3500.01	15.66	17.50	1.528	-	-	0.08	0.138	0.211
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 10	DSI 4	656000	3840	21.34	22.50	1.306	-	-	0.08	0.190	0.248
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 10	DSI 4	656000	3840	21.28	22.50	1.324	-	-	-0.17	0.206	0.273
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 10	DSI 4	656000	3840	21.34	22.50	1.306	-	-	0.07	0.387	0.505



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70	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 10	DSI 4	656000	3840	21.28	22.50	1.324	-	-	0.07	0.388	0.514
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 10	DSI 4	633334	3500.01	21.29	22.50	1.321	-	-	0.08	0.093	0.123
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 10	DSI 4	633334	3500.01	21.14	22.50	1.368	-	-	0.06	0.085	0.116
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 10	DSI 4	633334	3500.01	21.29	22.50	1.321	-	-	0.04	0.223	0.295
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 10	DSI 4	633334	3500.01	21.14	22.50	1.368	-	-	0.05	0.192	0.263
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 11	DSI 4	656000	3840	22.21	23.50	1.346	-	-	0.04	0.172	0.231
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 11	DSI 4	656000	3840	21.78	23.50	1.486	-	-	0.09	0.131	0.195
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 11	DSI 4	656000	3840	22.21	23.50	1.346	-	-	0.03	0.238	0.320
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 11	DSI 4	656000	3840	21.78	23.50	1.486	-	-	0.08	0.193	0.287
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 11	DSI 4	633334	3500.01	22.17	23.50	1.358	-	-	0.04	0.079	0.107
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 11	DSI 4	633334	3500.01	22.10	23.50	1.380	-	-	0.01	0.103	0.142
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 11	DSI 4	633334	3500.01	22.17	23.50	1.358	-	-	-0.14	0.168	0.228
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 11	DSI 4	633334	3500.01	22.10	23.50	1.380	-	-	-0.15	0.198	0.273
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 0	DSI 4	650000	3750	23.46	25.00	1.426	-	-	-0.05	0.226	0.322
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 0	DSI 4	650000	3750	23.05	25.00	1.567	-	-	0.02	0.180	0.282
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI 4	650000	3750	23.46	25.00	1.426	-	-	-0.05	0.201	0.287
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI 4	650000	3750	23.05	25.00	1.567	-	-	0.05	0.152	0.238
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 0	DSI 4	633334	3500.01	23.30	25.00	1.479	-	-	0.13	0.192	0.284
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 0	DSI 4	633334	3500.01	23.19	25.00	1.517	-	-	0.12	0.258	0.391
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI 4	633334	3500.01	23.30	25.00	1.479	-	-	-0.03	0.211	0.312
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI 4	633334	3500.01	23.19	25.00	1.517	-	-	-0.08	0.259	0.393
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 9	DSI 4	650000	3750	15.59	17.00	1.384	-	-	0.05	0.063	0.087
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 9	DSI 4	650000	3750	15.55	17.00	1.396	-	-	0.1	0.049	0.068
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 9	DSI 4	650000	3750	15.59	17.00	1.384	-	-	-0.07	0.086	0.119
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 9	DSI 4	650000	3750	15.55	17.00	1.396	-	-	0.15	0.113	0.158
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 9	DSI 4	633334	3500.01	15.53	17.00	1.403	-	-	-0.15	0.103	0.144
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 9	DSI 4	633334	3500.01	15.51	17.00	1.409	-	-	0.01	0.110	0.155
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 9	DSI 4	633334	3500.01	15.53	17.00	1.403	-	-	0.18	0.171	0.240
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 9	DSI 4	633334	3500.01	15.51	17.00	1.409	-	-	0.09	0.213	0.300
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 10	DSI 4	650000	3750	22.35	23.00	1.161	-	-	0.02	0.203	0.236
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 10	DSI 4	650000	3750	22.28	23.00	1.180	-	-	0.06	0.199	0.235
71	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 10	DSI 4	650000	3750	22.35	23.00	1.161	-	-	-0.19	0.445	0.517
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 10	DSI 4	650000	3750	22.28	23.00	1.180	-	-	0.06	0.403	0.476
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 10	DSI 4	633334	3500.01	22.24	23.00	1.191	-	-	-0.03	0.143	0.170
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 10	DSI 4	633334	3500.01	22.21	23.00	1.199	-	-	-0.15	0.165	0.198
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 10	DSI 4	633334	3500.01	22.24	23.00	1.191	-	-	0.01	0.283	0.337
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 10	DSI 4	633334	3500.01	22.21	23.00	1.199	-	-	-0.15	0.270	0.324
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 11	DSI 4	650000	3750	23.74	25.00	1.337	-	-	-0.14	0.164	0.219
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 11	DSI 4	650000	3750	23.66	25.00	1.361	-	-	-0.17	0.168	0.229
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 11	DSI 4	650000	3750	23.74	25.00	1.337	-	-	-0.07	0.297	0.397
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 11	DSI 4	650000	3750	23.66	25.00	1.361	-	-	-0.1	0.203	0.276
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 11	DSI 4	633334	3500.01	23.57	25.00	1.390	-	-	-0.18	0.140	0.195
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 11	DSI 4	633334	3500.01	23.50	25.00	1.413	-	-	-0.11	0.188	0.266
	FR1 n78 PC2	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 11	DSI 4	633334	3500.01	23.57	25.00	1.390	-	-	0.07	0.233	0.324
	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 11	DSI 4	633334	3500.01	23.50	25.00	1.413	-	-	0.16	0.290	0.410



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
2450MHz																
	WLAN2.4GHz	802.11b 1Mbps	Front	15mm	Ant 15+16	Standalone	6	2437	17.34	18.50	1.306	98.29	1.017	-0.11	0.028	0.037
72	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Ant 15+16	Standalone	6	2437	17.34	18.50	1.306	98.29	1.017	0.01	0.042	0.056
	Bluetooth	1Mbps	Front	15mm	Ant 15	Standalone	39	2441	16.56	17.00	1.106	76.84	1.301	0.05	0.050	0.072
73	Bluetooth	1Mbps	Back	15mm	Ant 15	Standalone	39	2441	16.56	17.00	1.106	76.84	1.301	0.05	0.052	0.075
	Bluetooth	1Mbps	Front	15mm	Ant 16	Standalone	39	2441	16.66	17.00	1.082	76.78	1.302	0.03	0.041	0.058
	Bluetooth	1Mbps	Back	15mm	Ant 16	Standalone	39	2441	16.66	17.00	1.082	76.78	1.302	0.08	0.048	0.068
5000MHz																
	5.2GHz WLAN	802.11n-HT40 MCS0	Front	15mm	Ant 15+16	Standalone	46	5230	19.85	21.00	1.303	100	1.000	0.03	0.117	0.152
74	5.2GHz WLAN	802.11n-HT40 MCS0	Back	15mm	Ant 15+16	Standalone	46	5230	19.85	21.00	1.303	100	1.000	-0.03	0.259	0.338
	5.2GHz WLAN	802.11ac-VHT80 MCS0	Back	15mm	Ant 15+16	Simultaneous	42	5210	17.68	19.00	1.355	100	1.000	0.01	0.158	0.214
	5.5GHz WLAN	802.11ac-VHT80 MCS0	Front	15mm	Ant 15+16	Standalone	122	5610	18.60	20.50	1.550	100	1.000	-0.03	0.117	0.181
75	5.5GHz WLAN	802.11ac-VHT80 MCS0	Back	15mm	Ant 15+16	Standalone	122	5610	18.60	20.50	1.550	100	1.000	-0.06	0.379	0.588
	5.5GHz WLAN	802.11ac-VHT80 MCS0	Back	15mm	Ant 15+16	Simultaneous	122	5610	15.60	17.50	1.550	100	1.000	0.03	0.169	0.262
	5.8GHz WLAN	802.11ac-VHT80 MCS0	Front	15mm	Ant 15+16	Standalone	155	5775	18.64	20.50	1.535	100	1.000	0.02	0.106	0.163
76	5.8GHz WLAN	802.11ac-VHT80 MCS0	Back	15mm	Ant 15+16	Standalone	155	5775	18.64	20.50	1.535	100	1.000	-0.03	0.378	0.580
	5.8GHz WLAN	802.11ac-VHT80 MCS0	Back	15mm	Ant 15+16	Simultaneous	155	5775	15.84	17.50	1.466	100	1.000	-0.03	0.172	0.252



15.4 Product Specific 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	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
750MHz																				
77	LTE Band 12	10M	QPSK	1	0	-	Left Side	0mm	Ant 1	DSI 3	23095	707.5	24.28	25.50	1.324	-	-	0.01	0.962	1.274
	LTE Band 12	10M	QPSK	25	0	-	Left Side	0mm	Ant 1	DSI 3	23095	707.5	23.21	24.50	1.346	-	-	0.02	0.864	1.163
835MHz																				
78	LTE Band 26	15M	QPSK	1	0	-	Left Side	0mm	Ant 1	DSI 3	26865	831.5	24.24	25.50	1.337	-	-	0.01	1.07	1.430
	LTE Band 26	15M	QPSK	36	0	-	Left Side	0mm	Ant 1	DSI 3	26865	831.5	23.43	24.50	1.279	-	-	-0.02	1.02	1.305
1750MHz																				
79	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 3	DSI 3	1413	1732.6	22.63	23.50	1.222	-	-	0.02	2.12	2.590
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 3	DSI 3	1312	1712.4	22.61	23.50	1.227	-	-	0.05	1.91	2.344
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 3	DSI 3	1513	1752.6	22.58	23.50	1.236	-	-	0.08	1.85	2.287
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	15mm	Ant 3	DSI 4	1413	1732.6	24.54	25.50	1.247	-	-	0.01	0.328	0.409
80	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 3	DSI 3	132322	1745	24.20	25.00	1.202	-	-	0.01	2.11	2.537
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 3	DSI 3	132072	1720	24.14	25.00	1.219	-	-	0.06	1.93	2.353
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 3	DSI 3	132572	1770	24.10	25.00	1.230	-	-	-0.09	1.95	2.399
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 3	DSI 3	132322	1745	23.77	24.50	1.183	-	-	0.02	1.86	2.200
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 3	DSI 3	132072	1720	23.67	24.50	1.211	-	-	-0.03	1.81	2.191
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 3	DSI 3	132572	1770	23.67	24.50	1.211	-	-	0.04	1.75	2.119
	LTE Band 66	20M	QPSK	100	0	-	Bottom Side	0mm	Ant 3	DSI 3	132322	1745	23.71	24.50	1.199	-	-	-0.18	1.79	2.147
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	15mm	Ant 3	DSI 4	132322	1745	24.68	25.50	1.208	-	-	0.06	0.312	0.377
	LTE Band 66	20M	QPSK	1	0	-	Left Side	0mm	Ant 4	DSI 3	132322	1745	22.93	24.50	1.435	-	-	0.01	1.76	2.526
	LTE Band 66	20M	QPSK	1	0	-	Left Side	0mm	Ant 4	DSI 3	132072	1720	22.90	24.50	1.445	-	-	0.03	1.57	2.268
	LTE Band 66	20M	QPSK	1	0	-	Left Side	0mm	Ant 4	DSI 3	132572	1770	22.85	24.50	1.462	-	-	0.06	1.66	2.427
	LTE Band 66	20M	QPSK	50	0	-	Left Side	0mm	Ant 4	DSI 3	132322	1745	22.38	24.00	1.452	-	-	0.06	1.58	2.294
	LTE Band 66	20M	QPSK	50	0	-	Left Side	0mm	Ant 4	DSI 3	132072	1720	22.31	24.00	1.476	-	-	-0.02	1.57	2.317
	LTE Band 66	20M	QPSK	50	0	-	Left Side	0mm	Ant 4	DSI 3	132572	1770	22.32	24.00	1.472	-	-	-0.04	1.66	2.444
	LTE Band 66	20M	QPSK	100	0	-	Left Side	0mm	Ant 4	DSI 3	132322	1745	22.38	24.00	1.452	-	-	-0.15	1.54	2.236
	LTE Band 66	20M	QPSK	1	0	-	Top Side	0mm	Ant 5	DSI 3	132322	1745	20.25	21.50	1.334	-	-	0.02	1.21	1.614
	LTE Band 66	20M	QPSK	50	0	-	Top Side	0mm	Ant 5	DSI 3	132322	1745	20.21	21.50	1.346	-	-	0.03	1.14	1.534
	LTE Band 66	20M	QPSK	1	0	-	Top Side	5mm	Ant 5	DSI 4	132322	1745	23.16	24.50	1.361	-	-	-0.03	0.921	1.254
1900MHz																				
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 3	DSI 3	9262	1852.4	21.96	23.00	1.271	-	-	-0.18	1.49	1.893
81	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 3	DSI 3	9400	1880	22.06	23.00	1.242	-	-	-0.01	1.96	2.434
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 3	DSI 3	9262	1852.4	21.96	23.00	1.271	-	-	-0.01	1.77	2.249
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 3	DSI 3	9538	1907.6	22.02	23.00	1.253	-	-	0.06	1.85	2.318
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	15mm	Ant 3	DSI 4	9400	1880	24.47	25.50	1.268	-	-	0.05	0.373	0.473
82	LTE Band 2	20M	QPSK	1	0	-	Left Side	0mm	Ant 4	DSI 3	18900	1880	20.85	22.00	1.303	-	-	-0.01	1.92	2.502
	LTE Band 2	20M	QPSK	1	0	-	Left Side	0mm	Ant 4	DSI 3	18700	1860	20.66	22.00	1.361	-	-	0.09	1.81	2.464
	LTE Band 2	20M	QPSK	1	0	-	Left Side	0mm	Ant 4	DSI 3	19100	1900	20.74	22.00	1.337	-	-	-0.02	1.78	2.379
	LTE Band 2	20M	QPSK	50	0	-	Left Side	0mm	Ant 4	DSI 3	18900	1880	20.79	22.00	1.321	-	-	0.02	1.76	2.325
	LTE Band 2	20M	QPSK	50	0	-	Left Side	0mm	Ant 4	DSI 3	18700	1860	20.63	22.00	1.371	-	-	-0.04	1.72	2.358
	LTE Band 2	20M	QPSK	50	0	-	Left Side	0mm	Ant 4	DSI 3	19100	1900	20.65	22.00	1.365	-	-	0.06	1.68	2.292
	LTE Band 2	20M	QPSK	100	0	-	Left Side	0mm	Ant 4	DSI 3	18900	1880	20.84	22.00	1.306	-	-	0.05	1.82	2.377
5000MHz																				
	5.3GHz WLAN	-	-	-	-	802.11a 6Mbps	Front	0mm	Ant 15+16	Standalone	60	5300	21.22	22.50	1.343	100	1.000	-0.08	0.930	1.249
	5.3GHz WLAN	-	-	-	-	802.11a 6Mbps	Back	0mm	Ant 15+16	Standalone	60	5300	21.22	22.50	1.343	100	1.000	0.08	0.791	1.062
	5.3GHz WLAN	-	-	-	-	802.11a 6Mbps	Right Side	0mm	Ant 15+16	Standalone	60	5300	21.22	22.50	1.343	100	1.000	-0.13	1.55	2.081
	5.3GHz WLAN	-	-	-	-	802.11a 6Mbps	Right Side	0mm	Ant 15+16	Standalone	56	5280	21.15	22.50	1.365	100	1.000	0.04	1.42	1.938
83	5.3GHz WLAN	-	-	-	-	802.11a 6Mbps	Top Side	0mm	Ant 15+16	Standalone	60	5300	21.22	22.50	1.343	100	1.000	0.03	1.76	2.363
	5.3GHz WLAN	-	-	-	-	802.11a 6Mbps	Top Side	0mm	Ant 15+16	Standalone	56	5280	21.15	22.50	1.365	100	1.000	0.02	1.57	2.142



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	5.5GHz WLAN	-	-	-	-	802.11a 6Mbps	Front	0mm	Ant 15+16	Standalone	144	5720	20.92	22.50	1.439	100	1.000	0.04	0.981	1.411
	5.5GHz WLAN	-	-	-	-	802.11a 6Mbps	Back	0mm	Ant 15+16	Standalone	144	5720	20.92	22.50	1.439	100	1.000	0.04	1.000	1.439
84	5.5GHz WLAN	-	-	-	-	802.11a 6Mbps	Right Side	0mm	Ant 15+16	Standalone	144	5720	20.92	22.50	1.439	100	1.000	0.09	1.62	2.331
	5.5GHz WLAN	-	-	-	-	802.11a 6Mbps	Right Side	0mm	Ant 15+16	Standalone	140	5700	20.79	22.50	1.483	100	1.000	0.09	1.49	2.209
	5.5GHz WLAN	-	-	-	-	802.11a 6Mbps	Top Side	0mm	Ant 15+16	Standalone	144	5720	20.92	22.50	1.439	100	1.000	0.09	1.24	1.784
	5.8GHz WLAN	-	-	-	-	802.11a 6Mbps	Back	0mm	Ant 15+16	Standalone	157	5785	21.98	23.50	1.420	100	1.000	0.06	1.36	1.932
85	5.8GHz WLAN	-	-	-	-	802.11a 6Mbps	Right Side	0mm	Ant 15+16	Standalone	157	5785	21.98	23.50	1.420	100	1.000	-0.01	1.87	2.656
	5.8GHz WLAN	-	-	-	-	802.11a 6Mbps	Right Side	0mm	Ant 15+16	Standalone	149	5745	21.90	23.50	1.444	100	1.000	-0.03	1.71	2.473



15.5 Repeated SAR Measurement

<1g>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 5	DSI1	9262	1852.4	18.49	19.50	1.262	-	-	-0.08	0.833	1	1.051
2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 5	DSI1	9262	1852.4	18.49	19.50	1.262	-	-	0.04	0.803	1.037	1.013
1st	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI1	21350	2560	16.49	17.00	1.125	-	-	-0.06	0.936	1	1.053
2nd	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI1	21350	2560	16.49	17.00	1.125	-	-	0.03	0.912	1.026	1.026
1st	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 10	DSI1	650000	3750	16.42	17.00	1.143	-	-	-0.01	0.840	1	0.960
2nd	FR1 n78 PC2	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 10	DSI1	650000	3750	16.42	17.00	1.143	-	-	0.02	0.812	1.034	0.928
1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 3	DSI 5	1413	1732.6	22.63	23.50	1.222	-	-	-0.03	0.895	1	1.094
2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 3	DSI 5	1413	1732.6	22.63	23.50	1.222	-	-	-0.04	0.812	1.102	0.992

<10g>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 3	DSI 3	1413	1732.6	22.63	23.50	1.222	-	-	0.02	2.12	1	2.590
2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 3	DSI 3	1413	1732.6	22.63	23.50	1.222	-	-	0.02	2.09	1.014	2.554

General Note:

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

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:

- This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP) and LTE supports VoLTE operation.
- WWAN above includes 5G NR bands.
- EN-DC SAR summed the standalone 5G NR SAR and LTE standalone SAR more conservatively.
- 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.
- This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
- 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).
- WLAN2.4GHz and Bluetooth share the same antenna, so can't transmit simultaneously.
- According to the characteristic of EUT, WLAN5GHz and Bluetooth can transmit simultaneously.
- According to the EUT character, WLAN 2.4GHz and WLAN 5GHz cannot transmit simultaneously.
- 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.
- The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
- Chose the worst zoom scan SAR of WLAN correspondingly for co-located with WWAN analysis.
- The reported SAR summation is calculated based on the same configuration and test position.
- Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - 1g Scalar SAR summation < 1.6W/kg and 10g Scalar SAR summation < 4.0W/kg.
 - $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$, 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.
 - If $SPLSR \leq 0.04$ for 1g SAR and $SPLSR \leq 0.10$ for 10g SAR, simultaneously transmission SAR measurement is not necessary.
 - Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.

16.1 Head Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	5	1+2	1+3+4	1+3+5
		WWAN	WLAN2.4GHz Ant 15+16	WLAN5GHz Ant 15+16	Bluetooth Ant 15	Bluetooth Ant 16	Summed	Summed	Summed
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
WWAN All Bands	Right Cheek	1.091	0.155	0.278	0.193	0.222	1.25	1.56	1.59
	Right Tilted	1.055	0.181	0.278	0.193	0.222	1.24	1.53	1.56
	Left Cheek	0.979	0.448	0.278	0.193	0.222	1.43	1.45	1.48
	Left Tilted	0.913	0.279	0.278	0.193	0.222	1.19	1.38	1.41

<Inter UL CA Mode>

WWAN Band	WWAN Band	Exposure Position	1	2	3	4	5	6	1+2+3	1+2+4+5	1+2+4+6
			WWAN	WWAN	WLAN2.4GHz Ant 15+16	WLAN5GHz Ant 15+16	Bluetooth Ant 15	Bluetooth Ant 16	Summed	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE Band66 Ant3	LTE Band7 Ant0	Right Cheek	0.172	0.202	0.155	0.278	0.193	0.222	0.53	0.85	0.87
		Right Tilted	0.106	0.063	0.181	0.278	0.193	0.222	0.35	0.64	0.67
		Left Cheek	0.243	0.134	0.448	0.278	0.193	0.222	0.83	0.85	0.88
		Left Tilted	0.123	0.116	0.279	0.278	0.193	0.222	0.52	0.71	0.74
LTE Band66 Ant3	LTE Band7 Ant5	Right Cheek	0.172	0.449	0.155	0.278	0.193	0.222	0.78	1.09	1.12
		Right Tilted	0.106	0.449	0.181	0.278	0.193	0.222	0.74	1.03	1.06
		Left Cheek	0.243	0.449	0.448	0.278	0.193	0.222	1.14	1.16	1.19
		Left Tilted	0.123	0.449	0.279	0.278	0.193	0.222	0.85	1.04	1.07
LTE Band66 Ant4	LTE Band7 Ant0	Right Cheek	0.643	0.202	0.155	0.278	0.193	0.222	1.00	1.32	1.35
		Right Tilted	0.212	0.063	0.181	0.278	0.193	0.222	0.46	0.75	0.78
		Left Cheek	0.216	0.134	0.448	0.278	0.193	0.222	0.80	0.82	0.85
		Left Tilted	0.119	0.116	0.279	0.278	0.193	0.222	0.51	0.71	0.74
LTE Band66 Ant4	LTE Band7 Ant5	Right Cheek	0.643	0.449	0.155	0.278	0.193	0.222	1.25	1.56	1.59
		Right Tilted	0.212	0.449	0.181	0.278	0.193	0.222	0.84	1.13	1.16
		Left Cheek	0.216	0.449	0.448	0.278	0.193	0.222	1.11	1.14	1.17
		Left Tilted	0.119	0.449	0.279	0.278	0.193	0.222	0.85	1.04	1.07

<5G NR EN-DC Mode>

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	6	1+2+3	1+2+4+5	1+2+4+6
			WWAN	FR1	WLAN2.4GHz Ant 15+16	WLAN5GHz Ant 15+16	Bluetooth Ant 15	Bluetooth Ant 16	Summed	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE All Bands Ant0	FR1 All Bands Ant1	Right Cheek	0.202	0.326	0.155	0.278	0.193	0.222	0.68	1.00	1.03
		Right Tilted	0.127	0.066	0.181	0.278	0.193	0.222	0.37	0.66	0.69
		Left Cheek	0.198	0.565	0.448	0.278	0.193	0.222	1.21	1.23	1.26
		Left Tilted	0.116	0.083	0.279	0.278	0.193	0.222	0.48	0.67	0.70
LTE All Bands Ant0	FR1 All Bands Ant3	Right Cheek	0.202	0.168	0.155	0.278	0.193	0.222	0.53	0.84	0.87
		Right Tilted	0.127	0.135	0.181	0.278	0.193	0.222	0.44	0.73	0.76
		Left Cheek	0.198	0.308	0.448	0.278	0.193	0.222	0.95	0.98	1.01
		Left Tilted	0.116	0.115	0.279	0.278	0.193	0.222	0.51	0.70	0.73
LTE All Bands Ant0	FR1 All Bands Ant4	Right Cheek	0.202	0.528	0.155	0.278	0.193	0.222	0.89	1.20	1.23
		Right Tilted	0.127	0.528	0.181	0.278	0.193	0.222	0.84	1.13	1.16
		Left Cheek	0.198	0.528	0.448	0.278	0.193	0.222	1.17	1.20	1.23
		Left Tilted	0.116	0.528	0.279	0.278	0.193	0.222	0.92	1.12	1.14
LTE All Bands Ant0	FR1 All Bands Ant5	Right Cheek	0.202	0.500	0.155	0.278	0.193	0.222	0.86	1.17	1.20
		Right Tilted	0.127	0.500	0.181	0.278	0.193	0.222	0.81	1.10	1.13
		Left Cheek	0.198	0.500	0.448	0.278	0.193	0.222	1.15	1.17	1.20
		Left Tilted	0.116	0.500	0.279	0.278	0.193	0.222	0.90	1.09	1.12
LTE All	FR1	Right Cheek	0.202	0.565	0.155	0.278	0.193	0.222	0.92	1.24	1.27



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Bands Ant0	All Bands Ant9	Right Tilted	0.127	0.565	0.181	0.278	0.193	0.222	0.87	1.16	1.19
		Left Cheek	0.198	0.565	0.448	0.278	0.193	0.222	1.21	1.23	1.26
		Left Tilted	0.116	0.565	0.279	0.278	0.193	0.222	0.96	1.15	1.18
LTE All Bands Ant0	FR1 All Bands Ant10	Right Cheek	0.202	0.484	0.155	0.278	0.193	0.222	0.84	1.16	1.19
		Right Tilted	0.127	0.484	0.181	0.278	0.193	0.222	0.79	1.08	1.11
		Left Cheek	0.198	0.484	0.448	0.278	0.193	0.222	1.13	1.15	1.18
		Left Tilted	0.116	0.484	0.279	0.278	0.193	0.222	0.88	1.07	1.10
LTE All Bands Ant0	FR1 All Bands Ant11	Right Cheek	0.202	0.553	0.155	0.278	0.193	0.222	0.91	1.23	1.26
		Right Tilted	0.127	0.553	0.181	0.278	0.193	0.222	0.86	1.15	1.18
		Left Cheek	0.198	0.553	0.448	0.278	0.193	0.222	1.20	1.22	1.25
		Left Tilted	0.116	0.553	0.279	0.278	0.193	0.222	0.95	1.14	1.17
LTE All Bands Ant1	FR1 All Bands Ant0	Right Cheek	0.519	0.370	0.155	0.278	0.193	0.222	1.04	1.36	1.39
		Right Tilted	0.519	0.253	0.181	0.278	0.193	0.222	0.95	1.24	1.27
		Left Cheek	0.519	0.451	0.448	0.278	0.193	0.222	1.42	1.44	1.47
		Left Tilted	0.519	0.201	0.279	0.278	0.193	0.222	1.00	1.19	1.22
LTE All Bands Ant1	FR1 All Bands Ant3	Right Cheek	0.519	0.168	0.155	0.278	0.193	0.222	0.84	1.16	1.19
		Right Tilted	0.519	0.135	0.181	0.278	0.193	0.222	0.84	1.13	1.15
		Left Cheek	0.519	0.308	0.448	0.278	0.193	0.222	1.28	1.30	1.33
		Left Tilted	0.519	0.115	0.279	0.278	0.193	0.222	0.91	1.11	1.13
LTE All Bands Ant1	FR1 All Bands Ant4	Right Cheek	0.519	0.528	0.155	0.278	0.193	0.222	1.20	1.52	1.55
		Right Tilted	0.519	0.528	0.181	0.278	0.193	0.222	1.23	1.52	1.55
		Left Cheek	0.519	0.528	0.448	0.278	0.193	0.222	1.50	1.52	1.55
		Left Tilted	0.519	0.528	0.279	0.278	0.193	0.222	1.33	1.52	1.55
LTE All Bands Ant1	FR1 All Bands Ant5	Right Cheek	0.519	0.500	0.155	0.278	0.193	0.222	1.17	1.49	1.52
		Right Tilted	0.519	0.500	0.181	0.278	0.193	0.222	1.20	1.49	1.52
		Left Cheek	0.519	0.500	0.448	0.278	0.193	0.222	1.47	1.49	1.52
		Left Tilted	0.519	0.500	0.279	0.278	0.193	0.222	1.30	1.49	1.52
LTE All Bands Ant1	FR1 All Bands Ant9	Right Cheek	0.519	0.565	0.155	0.278	0.193	0.222	1.24	1.56	1.58
		Right Tilted	0.519	0.565	0.181	0.278	0.193	0.222	1.27	1.56	1.58
		Left Cheek	0.519	0.565	0.448	0.278	0.193	0.222	1.53	1.56	1.58
		Left Tilted	0.519	0.565	0.279	0.278	0.193	0.222	1.36	1.56	1.58
LTE All Bands Ant1	FR1 All Bands Ant10	Right Cheek	0.519	0.484	0.155	0.278	0.193	0.222	1.16	1.47	1.50
		Right Tilted	0.519	0.484	0.181	0.278	0.193	0.222	1.18	1.47	1.50
		Left Cheek	0.519	0.484	0.448	0.278	0.193	0.222	1.45	1.47	1.50
		Left Tilted	0.519	0.484	0.279	0.278	0.193	0.222	1.28	1.47	1.50
LTE All Bands Ant1	FR1 All Bands Ant11	Right Cheek	0.519	0.553	0.155	0.278	0.193	0.222	1.23	1.54	1.57
		Right Tilted	0.519	0.553	0.181	0.278	0.193	0.222	1.25	1.54	1.57
		Left Cheek	0.519	0.553	0.448	0.278	0.193	0.222	1.52	1.54	1.57
		Left Tilted	0.519	0.553	0.279	0.278	0.193	0.222	1.35	1.54	1.57
LTE All Bands Ant3	FR1 All Bands Ant0	Right Cheek	0.220	0.370	0.155	0.278	0.193	0.222	0.75	1.06	1.09
		Right Tilted	0.183	0.253	0.181	0.278	0.193	0.222	0.62	0.91	0.94
		Left Cheek	0.405	0.451	0.448	0.278	0.193	0.222	1.30	1.33	1.36
		Left Tilted	0.165	0.201	0.279	0.278	0.193	0.222	0.65	0.84	0.87
LTE All Bands Ant3	FR1 All Bands Ant1	Right Cheek	0.220	0.326	0.155	0.278	0.193	0.222	0.70	1.02	1.05
		Right Tilted	0.183	0.066	0.181	0.278	0.193	0.222	0.43	0.72	0.75
		Left Cheek	0.405	0.565	0.448	0.278	0.193	0.222	1.42	1.44	1.47
		Left Tilted	0.165	0.083	0.279	0.278	0.193	0.222	0.53	0.72	0.75
LTE All Bands Ant3	FR1 All Bands Ant4	Right Cheek	0.220	0.528	0.155	0.278	0.193	0.222	0.90	1.22	1.25
		Right Tilted	0.183	0.528	0.181	0.278	0.193	0.222	0.89	1.18	1.21
		Left Cheek	0.405	0.528	0.448	0.278	0.193	0.222	1.38	1.40	1.43
		Left Tilted	0.165	0.528	0.279	0.278	0.193	0.222	0.97	1.16	1.19
LTE All Bands Ant3	FR1 All Bands Ant5	Right Cheek	0.220	0.500	0.155	0.278	0.193	0.222	0.88	1.19	1.22
		Right Tilted	0.183	0.500	0.181	0.278	0.193	0.222	0.86	1.15	1.18
		Left Cheek	0.405	0.500	0.448	0.278	0.193	0.222	1.35	1.38	1.41
		Left Tilted	0.165	0.500	0.279	0.278	0.193	0.222	0.94	1.14	1.17
LTE All	FR1	Right Cheek	0.220	0.565	0.155	0.278	0.193	0.222	0.94	1.26	1.29

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Bands Ant3	All Bands Ant9	Right Tilted	0.183	0.565	0.181	0.278	0.193	0.222	0.93	1.22	1.25
		Left Cheek	0.405	0.565	0.448	0.278	0.193	0.222	1.42	1.44	1.47
		Left Tilted	0.165	0.565	0.279	0.278	0.193	0.222	1.01	1.20	1.23
LTE All Bands Ant3	FR1 All Bands Ant10	Right Cheek	0.220	0.484	0.155	0.278	0.193	0.222	0.86	1.18	1.20
		Right Tilted	0.183	0.484	0.181	0.278	0.193	0.222	0.85	1.14	1.17
		Left Cheek	0.405	0.484	0.448	0.278	0.193	0.222	1.34	1.36	1.39
		Left Tilted	0.165	0.484	0.279	0.278	0.193	0.222	0.93	1.12	1.15
LTE All Bands Ant3	FR1 All Bands Ant11	Right Cheek	0.220	0.553	0.155	0.278	0.193	0.222	0.93	1.24	1.27
		Right Tilted	0.183	0.553	0.181	0.278	0.193	0.222	0.92	1.21	1.24
		Left Cheek	0.405	0.553	0.448	0.278	0.193	0.222	1.41	1.43	1.46
		Left Tilted	0.165	0.553	0.279	0.278	0.193	0.222	1.00	1.19	1.22
LTE All Bands Ant4	FR1 All Bands Ant0	Right Cheek	0.525	0.370	0.155	0.278	0.193	0.222	1.05	1.37	1.40
		Right Tilted	0.525	0.253	0.181	0.278	0.193	0.222	0.96	1.25	1.28
		Left Cheek	0.525	0.451	0.448	0.278	0.193	0.222	1.42	1.45	1.48
		Left Tilted	0.525	0.201	0.279	0.278	0.193	0.222	1.01	1.20	1.23
LTE All Bands Ant4	FR1 All Bands Ant1	Right Cheek	0.525	0.326	0.155	0.278	0.193	0.222	1.01	1.32	1.35
		Right Tilted	0.525	0.066	0.181	0.278	0.193	0.222	0.77	1.06	1.09
		Left Cheek	0.525	0.565	0.448	0.278	0.193	0.222	1.54	1.56	1.59
		Left Tilted	0.525	0.083	0.279	0.278	0.193	0.222	0.89	1.08	1.11
LTE All Bands Ant4	FR1 All Bands Ant3	Right Cheek	0.525	0.168	0.155	0.278	0.193	0.222	0.85	1.16	1.19
		Right Tilted	0.525	0.135	0.181	0.278	0.193	0.222	0.84	1.13	1.16
		Left Cheek	0.525	0.308	0.448	0.278	0.193	0.222	1.28	1.30	1.33
		Left Tilted	0.525	0.115	0.279	0.278	0.193	0.222	0.92	1.11	1.14
LTE All Bands Ant4	FR1 All Bands Ant5	Right Cheek	0.525	0.500	0.155	0.278	0.193	0.222	1.18	1.50	1.53
		Right Tilted	0.525	0.500	0.181	0.278	0.193	0.222	1.21	1.50	1.53
		Left Cheek	0.525	0.500	0.448	0.278	0.193	0.222	1.47	1.50	1.53
		Left Tilted	0.525	0.500	0.279	0.278	0.193	0.222	1.30	1.50	1.53
LTE All Bands Ant4	FR1 All Bands Ant9	Right Cheek	0.525	0.565	0.155	0.278	0.193	0.222	1.25	1.56	1.59
		Right Tilted	0.525	0.565	0.181	0.278	0.193	0.222	1.27	1.56	1.59
		Left Cheek	0.525	0.565	0.448	0.278	0.193	0.222	1.54	1.56	1.59
		Left Tilted	0.525	0.565	0.279	0.278	0.193	0.222	1.37	1.56	1.59
LTE All Bands Ant4	FR1 All Bands Ant10	Right Cheek	0.525	0.484	0.155	0.278	0.193	0.222	1.16	1.48	1.51
		Right Tilted	0.525	0.484	0.181	0.278	0.193	0.222	1.19	1.48	1.51
		Left Cheek	0.525	0.484	0.448	0.278	0.193	0.222	1.46	1.48	1.51
		Left Tilted	0.525	0.484	0.279	0.278	0.193	0.222	1.29	1.48	1.51
LTE All Bands Ant4	FR1 All Bands Ant11	Right Cheek	0.525	0.553	0.155	0.278	0.193	0.222	1.23	1.55	1.58
		Right Tilted	0.525	0.553	0.181	0.278	0.193	0.222	1.26	1.55	1.58
		Left Cheek	0.525	0.553	0.448	0.278	0.193	0.222	1.53	1.55	1.58
		Left Tilted	0.525	0.553	0.279	0.278	0.193	0.222	1.36	1.55	1.58

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	6	1+2+3 Summed 1g SAR (W/kg)	1+2+4+5 Summed 1g SAR (W/kg)	1+2+4+6 Summed 1g SAR (W/kg)
			WWAN	FR1	WLAN2.4GHz Ant 15+16	WLAN5GHz Ant 15+16	Bluetooth Ant 15	Bluetooth Ant 16			
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
LTE All Bands Ant5	FR1 All Bands Ant0	Right Cheek	0.526	0.370	0.155	0.278	0.193	0.222	1.05	1.37	1.40
		Right Tilted	0.526	0.253	0.181	0.278	0.193	0.222	0.96	1.25	1.28
		Left Cheek	0.526	0.451	0.448	0.278	0.193	0.222	1.43	1.45	1.48
		Left Tilted	0.526	0.201	0.279	0.278	0.193	0.222	1.01	1.20	1.23
LTE All Bands Ant5	FR1 All Bands Ant1	Right Cheek	0.526	0.326	0.155	0.278	0.193	0.222	1.01	1.32	1.35
		Right Tilted	0.526	0.066	0.181	0.278	0.193	0.222	0.77	1.06	1.09
		Left Cheek	0.526	0.565	0.448	0.278	0.193	0.222	1.54	1.56	1.59
		Left Tilted	0.526	0.083	0.279	0.278	0.193	0.222	0.89	1.08	1.11
LTE All Bands Ant5	FR1 All Bands Ant3	Right Cheek	0.526	0.168	0.155	0.278	0.193	0.222	0.85	1.17	1.19
		Right Tilted	0.526	0.135	0.181	0.278	0.193	0.222	0.84	1.13	1.16
		Left Cheek	0.526	0.308	0.448	0.278	0.193	0.222	1.28	1.31	1.33

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LTE All Bands Ant5	FR1 All Bands Ant4	Left Tilted	0.526	0.115	0.279	0.278	0.193	0.222	0.92	1.11	1.14
		Right Cheek	0.526	0.528	0.155	0.278	0.193	0.222	1.21	1.53	1.55
		Right Tilted	0.526	0.528	0.181	0.278	0.193	0.222	1.24	1.53	1.55
		Left Cheek	0.526	0.528	0.448	0.278	0.193	0.222	1.50	1.53	1.55
		Left Tilted	0.526	0.528	0.279	0.278	0.193	0.222	1.33	1.53	1.55
LTE All Bands Ant5	FR1 All Bands Ant9	Right Cheek	0.526	0.565	0.155	0.278	0.193	0.222	1.25	1.56	1.59
		Right Tilted	0.526	0.565	0.181	0.278	0.193	0.222	1.27	1.56	1.59
		Left Cheek	0.526	0.565	0.448	0.278	0.193	0.222	1.54	1.56	1.59
		Left Tilted	0.526	0.565	0.279	0.278	0.193	0.222	1.37	1.56	1.59
LTE All Bands Ant5	FR1 All Bands Ant10	Right Cheek	0.526	0.484	0.155	0.278	0.193	0.222	1.17	1.48	1.51
		Right Tilted	0.526	0.484	0.181	0.278	0.193	0.222	1.19	1.48	1.51
		Left Cheek	0.526	0.484	0.448	0.278	0.193	0.222	1.46	1.48	1.51
		Left Tilted	0.526	0.484	0.279	0.278	0.193	0.222	1.29	1.48	1.51
LTE All Bands Ant5	FR1 All Bands Ant11	Right Cheek	0.526	0.553	0.155	0.278	0.193	0.222	1.23	1.55	1.58
		Right Tilted	0.526	0.553	0.181	0.278	0.193	0.222	1.26	1.55	1.58
		Left Cheek	0.526	0.553	0.448	0.278	0.193	0.222	1.53	1.55	1.58
		Left Tilted	0.526	0.553	0.279	0.278	0.193	0.222	1.36	1.55	1.58



16.2 Hotspot Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	5	1+2	1+3+4	1+3+5
		WWAN 1g SAR (W/kg)	WLAN2.4GHz Ant 15+16 1g SAR (W/kg)	WLAN5GHz Ant 15+16 1g SAR (W/kg)	Bluetooth Ant 15 1g SAR (W/kg)	Bluetooth Ant 16 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)
WWAN All Bands	Front	0.600	0.231	0.304	0.117	0.101	0.83	1.02	1.01
	Back	0.905	0.422	0.304	0.117	0.121	1.33	1.33	1.33
	Left side	0.902					0.90	0.90	0.90
	Right side	0.548	0.410	0.304	0.037	0.204	0.96	0.89	1.06
	Top side	0.400	0.267	0.304	0.144	0.046	0.67	0.85	0.75
	Bottom side	1.094					1.09	1.09	1.09

<Inter UL CA Mode>

WWAN Band	WWAN Band	Exposure Position	1	2	3	4	5	6	1+2+3	1+2+4+5	1+2+4+6
			WWAN 1g SAR (W/kg)	WWAN 1g SAR (W/kg)	WLAN2.4GHz Ant 15+16 1g SAR (W/kg)	WLAN5GHz Ant 15+16 1g SAR (W/kg)	Bluetooth Ant 15 1g SAR (W/kg)	Bluetooth Ant 16 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)
LTE Band66 Ant3	LTE Band7 Ant0	Front	0.260	0.209	0.231	0.304	0.117	0.101	0.70	0.89	0.87
		Back	0.421	0.247	0.422	0.304	0.117	0.121	1.09	1.09	1.09
		Left side	0.165						0.17	0.17	0.17
		Right side		0.269	0.410	0.304	0.037	0.204	0.68	0.61	0.78
		Top side			0.267	0.304	0.144	0.046	0.27	0.45	0.35
		Bottom side	0.554	0.284					0.84	0.84	0.84
LTE Band66 Ant3	LTE Band7 Ant5	Front	0.260	0.133	0.231	0.304	0.117	0.101	0.62	0.81	0.80
		Back	0.421	0.202	0.422	0.304	0.117	0.121	1.05	1.04	1.05
		Left side	0.165	0.083					0.25	0.25	0.25
		Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
		Top side		0.209	0.267	0.304	0.144	0.046	0.48	0.66	0.56
		Bottom side	0.554						0.55	0.55	0.55
LTE Band66 Ant4	LTE Band7 Ant0	Front	0.074	0.209	0.231	0.304	0.117	0.101	0.51	0.70	0.69
		Back	0.132	0.247	0.422	0.304	0.117	0.121	0.80	0.80	0.80
		Left side	0.199						0.20	0.20	0.20
		Right side		0.269	0.410	0.304	0.037	0.204	0.68	0.61	0.78
		Top side	0.039		0.267	0.304	0.144	0.046	0.31	0.49	0.39
		Bottom side		0.284					0.28	0.28	0.28
LTE Band66 Ant4	LTE Band7 Ant5	Front	0.074	0.133	0.231	0.304	0.117	0.101	0.44	0.63	0.61
		Back	0.132	0.202	0.422	0.304	0.117	0.121	0.76	0.76	0.76
		Left side	0.199	0.083					0.28	0.28	0.28
		Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
		Top side	0.039	0.209	0.267	0.304	0.144	0.046	0.52	0.70	0.60
		Bottom side							0.00	0.00	0.00



<5G NR EN-DC Mode>

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	6	1+2+3 Summed 1g SAR (W/kg)	1+2+4+5 Summed 1g SAR (W/kg)	1+2+4+6 Summed 1g SAR (W/kg)
			WWAN 1g SAR (W/kg)	FR1 1g SAR (W/kg)	WLAN2.4GHz Ant 15+16 1g SAR (W/kg)	WLAN5GHz Ant 15+16 1g SAR (W/kg)	Bluetooth Ant 15 1g SAR (W/kg)	Bluetooth Ant 16 1g SAR (W/kg)			
LTE All Bands Ant0	FR1 All Bands Ant1	Front	0.436	0.258	0.231	0.304	0.117	0.101	0.93	1.12	1.10
		Back	0.600	0.396	0.422	0.304	0.117	0.121	1.42	1.42	1.42
		Left side		0.450					0.45	0.45	0.45
		Right side	0.482		0.410	0.304	0.037	0.204	0.89	0.82	0.99
		Top side			0.267	0.304	0.144	0.046	0.27	0.45	0.35
		Bottom side	0.629						0.63	0.63	0.63
LTE All Bands Ant0	FR1 All Bands Ant3	Front	0.436	0.440	0.231	0.304	0.117	0.101	1.11	1.30	1.28
		Back	0.600	0.555	0.422	0.304	0.117	0.121	1.58	1.58	1.58
		Left side		0.286					0.29	0.29	0.29
		Right side	0.482		0.410	0.304	0.037	0.204	0.89	0.82	0.99
		Top side			0.267	0.304	0.144	0.046	0.27	0.45	0.35
		Bottom side	0.629	0.672					1.30	1.30	1.30
LTE All Bands Ant0	FR1 All Bands Ant4	Front	0.436	0.126	0.231	0.304	0.117	0.101	0.79	0.98	0.97
		Back	0.600	0.246	0.422	0.304	0.117	0.121	1.27	1.27	1.27
		Left side		0.277					0.28	0.28	0.28
		Right side	0.482		0.410	0.304	0.037	0.204	0.89	0.82	0.99
		Top side		0.026	0.267	0.304	0.144	0.046	0.29	0.47	0.38
		Bottom side	0.629						0.63	0.63	0.63
LTE All Bands Ant0	FR1 All Bands Ant5	Front	0.436	0.121	0.231	0.304	0.117	0.101	0.79	0.98	0.96
		Back	0.600	0.180	0.422	0.304	0.117	0.121	1.20	1.20	1.21
		Left side		0.124					0.12	0.12	0.12
		Right side	0.482		0.410	0.304	0.037	0.204	0.89	0.82	0.99
		Top side		0.207	0.267	0.304	0.144	0.046	0.47	0.66	0.56
		Bottom side	0.629						0.63	0.63	0.63
LTE All Bands Ant0	FR1 All Bands Ant9	Front	0.436	0.164	0.231	0.304	0.117	0.101	0.83	1.02	1.01
		Back	0.600	0.251	0.422	0.304	0.117	0.121	1.27	1.27	1.28
		Left side		0.410					0.41	0.41	0.41
		Right side	0.482		0.410	0.304	0.037	0.204	0.89	0.82	0.99
		Top side		0.292	0.267	0.304	0.144	0.046	0.56	0.74	0.64
		Bottom side	0.629						0.63	0.63	0.63
LTE All Bands Ant0	FR1 All Bands Ant10	Front	0.436	0.112	0.231	0.304	0.117	0.101	0.78	0.97	0.95
		Back	0.600	0.201	0.422	0.304	0.117	0.121	1.22	1.22	1.23
		Left side		0.069					0.07	0.07	0.07
		Right side	0.482		0.410	0.304	0.037	0.204	0.89	0.82	0.99
		Top side		0.287	0.267	0.304	0.144	0.046	0.55	0.74	0.64
		Bottom side	0.629						0.63	0.63	0.63
LTE All Bands Ant0	FR1 All Bands Ant11	Front	0.436	0.106	0.231	0.304	0.117	0.101	0.77	0.96	0.95
		Back	0.600	0.149	0.422	0.304	0.117	0.121	1.17	1.17	1.17
		Left side		0.053					0.05	0.05	0.05
		Right side	0.482	0.052	0.410	0.304	0.037	0.204	0.94	0.88	1.04
		Top side		0.219	0.267	0.304	0.144	0.046	0.49	0.67	0.57
		Bottom side	0.629						0.63	0.63	0.63
LTE All Bands Ant1	FR1 All Bands Ant3	Front	0.386	0.440	0.231	0.304	0.117	0.101	1.06	1.25	1.23
		Back	0.511	0.555	0.422	0.304	0.117	0.121	1.49	1.49	1.49
		Left side	0.902	0.286					1.19	1.19	1.19
		Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
		Top side			0.267	0.304	0.144	0.046	0.27	0.45	0.35
		Bottom side		0.672					0.67	0.67	0.67
LTE All	FR1 All	Front	0.386	0.126	0.231	0.304	0.117	0.101	0.74	0.93	0.92



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Bands Ant1	Bands Ant4	Back	0.511	0.246	0.422	0.304	0.117	0.121	1.18	1.18	1.18
		Left side	0.902	0.277					1.18	1.18	1.18
		Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
		Top side		0.026	0.267	0.304	0.144	0.046	0.29	0.47	0.38
		Bottom side							0.00	0.00	0.00
LTE All Bands Ant1	FR1 All Bands Ant5	Front	0.386	0.121	0.231	0.304	0.117	0.101	0.74	0.93	0.91
		Back	0.511	0.180	0.422	0.304	0.117	0.121	1.11	1.11	1.12
		Left side	0.902	0.124					1.03	1.03	1.03
		Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
		Top side		0.207	0.267	0.304	0.144	0.046	0.47	0.66	0.56
LTE All Bands Ant1	FR1 All Bands Ant9	Bottom side							0.00	0.00	0.00
		Front	0.386	0.164	0.231	0.304	0.117	0.101	0.78	0.97	0.96
		Back	0.511	0.251	0.422	0.304	0.117	0.121	1.18	1.18	1.19
		Left side	0.902	0.410					1.31	1.31	1.31
		Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
LTE All Bands Ant1	FR1 All Bands Ant10	Top side		0.292	0.267	0.304	0.144	0.046	0.56	0.74	0.64
		Bottom side							0.00	0.00	0.00
		Front	0.386	0.112	0.231	0.304	0.117	0.101	0.73	0.92	0.90
		Back	0.511	0.201	0.422	0.304	0.117	0.121	1.13	1.13	1.14
		Left side	0.902	0.069					0.97	0.97	0.97
LTE All Bands Ant1	FR1 All Bands Ant11	Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
		Top side		0.287	0.267	0.304	0.144	0.046	0.55	0.74	0.64
		Bottom side							0.00	0.00	0.00
		Front	0.386	0.106	0.231	0.304	0.117	0.101	0.72	0.91	0.90
		Back	0.511	0.149	0.422	0.304	0.117	0.121	1.08	1.08	1.09
LTE All Bands Ant1	FR1 All Bands Ant11	Left side	0.902	0.053					0.96	0.96	0.96
		Right side		0.052	0.410	0.304	0.037	0.204	0.46	0.39	0.56
		Top side		0.219	0.267	0.304	0.144	0.046	0.49	0.67	0.57
		Bottom side							0.00	0.00	0.00
		Front	0.288	0.600	0.231	0.304	0.117	0.101	1.12	1.31	1.29
LTE All Bands Ant3	FR1 All Bands Ant0	Back	0.421	0.730	0.422	0.304	0.117	0.121	1.57	1.57	1.58
		Left side	0.193						0.19	0.19	0.19
		Right side		0.548	0.410	0.304	0.037	0.204	0.96	0.89	1.06
		Top side			0.267	0.304	0.144	0.046	0.27	0.45	0.35
		Bottom side	0.573	0.512					1.09	1.09	1.09
LTE All Bands Ant3	FR1 All Bands Ant1	Front	0.288	0.258	0.231	0.304	0.117	0.101	0.78	0.97	0.95
		Back	0.421	0.396	0.422	0.304	0.117	0.121	1.24	1.24	1.24
		Left side	0.193	0.450					0.64	0.64	0.64
		Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
		Top side			0.267	0.304	0.144	0.046	0.27	0.45	0.35
LTE All Bands Ant3	FR1 All Bands Ant4	Bottom side	0.573						0.57	0.57	0.57
		Front	0.288	0.126	0.231	0.304	0.117	0.101	0.65	0.84	0.82
		Back	0.421	0.246	0.422	0.304	0.117	0.121	1.09	1.09	1.09
		Left side	0.193	0.277					0.47	0.47	0.47
		Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
LTE All Bands Ant3	FR1 All Bands Ant5	Top side		0.026	0.267	0.304	0.144	0.046	0.29	0.47	0.38
		Bottom side	0.573						0.57	0.57	0.57
		Front	0.288	0.121	0.231	0.304	0.117	0.101	0.64	0.83	0.81
		Back	0.421	0.180	0.422	0.304	0.117	0.121	1.02	1.02	1.03
		Left side	0.193	0.124					0.32	0.32	0.32
LTE All Bands Ant3	FR1 All Bands Ant9	Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
		Top side		0.207	0.267	0.304	0.144	0.046	0.47	0.66	0.56
		Bottom side	0.573						0.57	0.57	0.57
		Front	0.288	0.164	0.231	0.304	0.117	0.101	0.68	0.87	0.86
		Back	0.421	0.251	0.422	0.304	0.117	0.121	1.09	1.09	1.10
LTE All Bands Ant3	FR1 All Bands Ant9	Left side	0.193	0.410					0.60	0.60	0.60



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		Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
		Top side		0.292	0.267	0.304	0.144	0.046	0.56	0.74	0.64
		Bottom side	0.573						0.57	0.57	0.57
LTE All Bands Ant3	FR1 All Bands Ant10	Front	0.288	0.112	0.231	0.304	0.117	0.101	0.63	0.82	0.81
		Back	0.421	0.201	0.422	0.304	0.117	0.121	1.04	1.04	1.05
		Left side	0.193	0.069					0.26	0.26	0.26
		Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
		Top side		0.287	0.267	0.304	0.144	0.046	0.55	0.74	0.64
		Bottom side	0.573						0.57	0.57	0.57
LTE All Bands Ant3	FR1 All Bands Ant11	Front	0.288	0.106	0.231	0.304	0.117	0.101	0.63	0.82	0.80
		Back	0.421	0.149	0.422	0.304	0.117	0.121	0.99	0.99	1.00
		Left side	0.193	0.053					0.25	0.25	0.25
		Right side		0.052	0.410	0.304	0.037	0.204	0.46	0.39	0.56
		Top side		0.219	0.267	0.304	0.144	0.046	0.49	0.67	0.57
		Bottom side	0.573						0.57	0.57	0.57
LTE All Bands Ant4	FR1 All Bands Ant0	Front	0.142	0.600	0.231	0.304	0.117	0.101	0.97	1.16	1.15
		Back	0.268	0.730	0.422	0.304	0.117	0.121	1.42	1.42	1.42
		Left side	0.291						0.29	0.29	0.29
		Right side		0.548	0.410	0.304	0.037	0.204	0.96	0.89	1.06
		Top side	0.058		0.267	0.304	0.144	0.046	0.33	0.51	0.41
		Bottom side		0.512					0.51	0.51	0.51
LTE All Bands Ant4	FR1 All Bands Ant1	Front	0.142	0.258	0.231	0.304	0.117	0.101	0.63	0.82	0.81
		Back	0.268	0.396	0.422	0.304	0.117	0.121	1.09	1.09	1.09
		Left side	0.291	0.450					0.74	0.74	0.74
		Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
		Top side	0.058		0.267	0.304	0.144	0.046	0.33	0.51	0.41
		Bottom side							0.00	0.00	0.00
LTE All Bands Ant4	FR1 All Bands Ant3	Front	0.142	0.440	0.231	0.304	0.117	0.101	0.81	1.00	0.99
		Back	0.268	0.555	0.422	0.304	0.117	0.121	1.25	1.24	1.25
		Left side	0.291	0.286					0.58	0.58	0.58
		Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
		Top side	0.058		0.267	0.304	0.144	0.046	0.33	0.51	0.41
		Bottom side		0.672					0.67	0.67	0.67
LTE All Bands Ant4	FR1 All Bands Ant5	Front	0.142	0.121	0.231	0.304	0.117	0.101	0.49	0.68	0.67
		Back	0.268	0.180	0.422	0.304	0.117	0.121	0.87	0.87	0.87
		Left side	0.291	0.124					0.42	0.42	0.42
		Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
		Top side	0.058	0.207	0.267	0.304	0.144	0.046	0.53	0.71	0.62
		Bottom side							0.00	0.00	0.00
LTE All Bands Ant4	FR1 All Bands Ant9	Front	0.142	0.164	0.231	0.304	0.117	0.101	0.54	0.73	0.71
		Back	0.268	0.251	0.422	0.304	0.117	0.121	0.94	0.94	0.94
		Left side	0.291	0.410					0.70	0.70	0.70
		Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
		Top side	0.058	0.292	0.267	0.304	0.144	0.046	0.62	0.80	0.70
		Bottom side							0.00	0.00	0.00
LTE All Bands Ant4	FR1 All Bands Ant10	Front	0.142	0.112	0.231	0.304	0.117	0.101	0.49	0.68	0.66
		Back	0.268	0.201	0.422	0.304	0.117	0.121	0.89	0.89	0.89
		Left side	0.291	0.069					0.36	0.36	0.36
		Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
		Top side	0.058	0.287	0.267	0.304	0.144	0.046	0.61	0.79	0.70
		Bottom side							0.00	0.00	0.00
LTE All Bands Ant4	FR1 All Bands Ant11	Front	0.142	0.106	0.231	0.304	0.117	0.101	0.48	0.67	0.65
		Back	0.268	0.149	0.422	0.304	0.117	0.121	0.84	0.84	0.84
		Left side	0.291	0.053					0.34	0.34	0.34
		Right side		0.052	0.410	0.304	0.037	0.204	0.46	0.39	0.56
		Top side	0.058	0.219	0.267	0.304	0.144	0.046	0.54	0.73	0.63



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		Bottom side							0.00	0.00	0.00
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WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	6	1+2+3 Summed 1g SAR (W/kg)	1+2+4+5 Summed 1g SAR (W/kg)	1+2+4+6 Summed 1g SAR (W/kg)
			WWAN	FR1	WLAN2.4GHz Ant 15+16	WLAN5GHz Ant 15+16	Bluetooth Ant 15	Bluetooth Ant 16			
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
LTE All Bands Ant5	FR1 All Bands Ant0	Front	0.175	0.600	0.231	0.304	0.117	0.101	1.01	1.20	1.18
		Back	0.238	0.730	0.422	0.304	0.117	0.121	1.39	1.39	1.39
		Left side	0.083						0.08	0.08	0.08
		Right side		0.548	0.410	0.304	0.037	0.204	0.96	0.89	1.06
		Top side	0.262		0.267	0.304	0.144	0.046	0.53	0.71	0.61
		Bottom side		0.512					0.51	0.51	0.51
LTE All Bands Ant5	FR1 All Bands Ant1	Front	0.175	0.258	0.231	0.304	0.117	0.101	0.66	0.85	0.84
		Back	0.238	0.396	0.422	0.304	0.117	0.121	1.06	1.06	1.06
		Left side	0.083	0.450					0.53	0.53	0.53
		Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
		Top side	0.262		0.267	0.304	0.144	0.046	0.53	0.71	0.61
		Bottom side							0.00	0.00	0.00
LTE All Bands Ant5	FR1 All Bands Ant3	Front	0.175	0.440	0.231	0.304	0.117	0.101	0.85	1.04	1.02
		Back	0.238	0.555	0.422	0.304	0.117	0.121	1.22	1.21	1.22
		Left side	0.083	0.286					0.37	0.37	0.37
		Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
		Top side	0.262		0.267	0.304	0.144	0.046	0.53	0.71	0.61
		Bottom side		0.672					0.67	0.67	0.67
LTE All Bands Ant5	FR1 All Bands Ant4	Front	0.175	0.126	0.231	0.304	0.117	0.101	0.53	0.72	0.71
		Back	0.238	0.246	0.422	0.304	0.117	0.121	0.91	0.91	0.91
		Left side	0.083	0.277					0.36	0.36	0.36
		Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
		Top side	0.262	0.026	0.267	0.304	0.144	0.046	0.56	0.74	0.64
		Bottom side							0.00	0.00	0.00
LTE All Bands Ant5	FR1 All Bands Ant9	Front	0.175	0.164	0.231	0.304	0.117	0.101	0.57	0.76	0.74
		Back	0.238	0.251	0.422	0.304	0.117	0.121	0.91	0.91	0.91
		Left side	0.083	0.410					0.49	0.49	0.49
		Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
		Top side	0.262	0.292	0.267	0.304	0.144	0.046	0.82	1.00	0.90
		Bottom side							0.00	0.00	0.00
LTE All Bands Ant5	FR1 All Bands Ant10	Front	0.175	0.112	0.231	0.304	0.117	0.101	0.52	0.71	0.69
		Back	0.238	0.201	0.422	0.304	0.117	0.121	0.86	0.86	0.86
		Left side	0.083	0.069					0.15	0.15	0.15
		Right side			0.410	0.304	0.037	0.204	0.41	0.34	0.51
		Top side	0.262	0.287	0.267	0.304	0.144	0.046	0.82	1.00	0.90
		Bottom side							0.00	0.00	0.00
LTE All Bands Ant5	FR1 All Bands Ant11	Front	0.175	0.106	0.231	0.304	0.117	0.101	0.51	0.70	0.69
		Back	0.238	0.149	0.422	0.304	0.117	0.121	0.81	0.81	0.81
		Left side	0.083	0.053					0.14	0.14	0.14
		Right side		0.052	0.410	0.304	0.037	0.204	0.46	0.39	0.56
		Top side	0.262	0.219	0.267	0.304	0.144	0.046	0.75	0.93	0.83
		Bottom side							0.00	0.00	0.00

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	6	1+2+3 Summed 1g SAR (W/kg)	1+2+4+5 Summed 1g SAR (W/kg)	1+2+4+6 Summed 1g SAR (W/kg)
			WWAN	FR1	WLAN2.4GHz Ant 15+16	WLAN5GHz Ant 15+16	Bluetooth Ant 15	Bluetooth Ant 16			
			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 Band5 Ant1	FR1 Band7 Ant0	Front	0.386	0.251	0.231	0.304	0.117	0.101	0.87	1.06	1.04
		Back	0.511	0.218	0.422	0.304	0.117	0.121	1.15	1.15	1.15
		Left side	0.902						0.90	0.90	0.90
		Right side		0.331	0.410	0.304	0.037	0.204	0.74	0.67	0.84
		Top side			0.267	0.304	0.144	0.046	0.27	0.45	0.35
		Bottom side		0.315					0.32	0.32	0.32
LTE Band5 Ant1	FR1 Band66 Ant0	Front	0.386	0.277	0.231	0.304	0.117	0.101	0.89	1.08	1.07
		Back	0.511	0.340	0.422	0.304	0.117	0.121	1.27	1.27	1.28
		Left side	0.902						0.90	0.90	0.90
		Right side		0.266	0.410	0.304	0.037	0.204	0.68	0.61	0.77
		Top side			0.267	0.304	0.144	0.046	0.27	0.45	0.35
		Bottom side		0.192					0.19	0.19	0.19
LTE Band12 Ant1	FR1 Band66 Ant0	Front	0.266	0.277	0.231	0.304	0.117	0.101	0.77	0.96	0.95
		Back	0.336	0.340	0.422	0.304	0.117	0.121	1.10	1.10	1.10
		Left side	0.581						0.58	0.58	0.58
		Right side		0.266	0.410	0.304	0.037	0.204	0.68	0.61	0.77
		Top side			0.267	0.304	0.144	0.046	0.27	0.45	0.35
		Bottom side		0.192					0.19	0.19	0.19
LTE Band5 Ant1	FR1 Band78 Ant0	Front	0.386	0.369	0.231	0.304	0.117	0.101	0.99	1.18	1.16
		Back	0.511	0.314	0.422	0.304	0.117	0.121	1.25	1.25	1.25
		Left side	0.902						0.90	0.90	0.90
		Right side		0.194	0.410	0.304	0.037	0.204	0.60	0.54	0.70
		Top side			0.267	0.304	0.144	0.046	0.27	0.45	0.35
		Bottom side		0.147					0.15	0.15	0.15

16.3 Body-Worn Accessory Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	5	1+2	1+3+4	1+3+5
		WWAN	WLAN2.4GHz Ant 15+16	WLAN5GHz Ant 15+16	Bluetooth Ant 15	Bluetooth Ant 16	Summed	Summed	Summed
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
WWAN All Bands	Front	0.482	0.037	0.262	0.072	0.058	0.52	0.82	0.80
	Back	0.726	0.056	0.262	0.075	0.068	0.78	1.06	1.06

<Inter UL CA Mode>

WWAN Band	WWAN Band	Exposure Position	1	2	3	4	5	6	1+2+3	1+2+4+5	1+2+4+6
			WWAN	FR1	WLAN2.4GHz Ant 15+16	WLAN5GHz Ant 15+16	Bluetooth Ant 15	Bluetooth Ant 16	Summed	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE Band66 Ant3	LTE Band7 Ant0	Front	0.367	0.080	0.037	0.262	0.072	0.058	0.48	0.78	0.77
		Back	0.459	0.121	0.056	0.262	0.075	0.068	0.64	0.92	0.91
LTE Band66 Ant3	LTE Band7 Ant5	Front	0.367	0.418	0.037	0.262	0.072	0.058	0.82	1.12	1.11
		Back	0.459	0.586	0.056	0.262	0.075	0.068	1.10	1.38	1.38
LTE Band66 Ant4	LTE Band7 Ant0	Front	0.205	0.080	0.037	0.262	0.072	0.058	0.32	0.62	0.61
		Back	0.372	0.121	0.056	0.262	0.075	0.068	0.55	0.83	0.82
LTE Band66 Ant4	LTE Band7 Ant5	Front	0.205	0.418	0.037	0.262	0.072	0.058	0.66	0.96	0.94
		Back	0.372	0.586	0.056	0.262	0.075	0.068	1.01	1.30	1.29

<5G NR EN-DC Mode>

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	6	1+2+3	1+2+4+5	1+2+4+6
			WWAN	FR1	WLAN2.4GHz Ant 15+16	WLAN5GHz Ant 15+16	Bluetooth Ant 15	Bluetooth Ant 16	Summed	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE All Bands Ant0	FR1 All Bands Ant1	Front	0.285	0.294	0.037	0.262	0.072	0.058	0.62	0.91	0.90
		Back	0.347	0.452	0.056	0.262	0.075	0.068	0.86	1.14	1.13
LTE All Bands Ant0	FR1 All Bands Ant3	Front	0.285	0.482	0.037	0.262	0.072	0.058	0.80	1.10	1.09
		Back	0.347	0.519	0.056	0.262	0.075	0.068	0.92	1.20	1.20
LTE All Bands Ant0	FR1 All Bands Ant4	Front	0.285	0.130	0.037	0.262	0.072	0.058	0.45	0.75	0.74
		Back	0.347	0.171	0.056	0.262	0.075	0.068	0.57	0.86	0.85
LTE All Bands Ant0	FR1 All Bands Ant5	Front	0.285	0.432	0.037	0.262	0.072	0.058	0.75	1.05	1.04
		Back	0.347	0.495	0.056	0.262	0.075	0.068	0.90	1.18	1.17
LTE All Bands Ant0	FR1 All Bands Ant9	Front	0.285	0.155	0.037	0.262	0.072	0.058	0.48	0.77	0.76
		Back	0.347	0.300	0.056	0.262	0.075	0.068	0.70	0.98	0.98
LTE All Bands Ant0	FR1 All Bands Ant10	Front	0.285	0.273	0.037	0.262	0.072	0.058	0.60	0.89	0.88
		Back	0.347	0.517	0.056	0.262	0.075	0.068	0.92	1.20	1.19
LTE All Bands Ant0	FR1 All Bands Ant11	Front	0.285	0.266	0.037	0.262	0.072	0.058	0.59	0.89	0.87
		Back	0.347	0.410	0.056	0.262	0.075	0.068	0.81	1.09	1.09
LTE All Bands Ant1	FR1 All Bands Ant0	Front	0.445	0.459	0.037	0.262	0.072	0.058	0.94	1.24	1.22
		Back	0.726	0.520	0.056	0.262	0.075	0.068	1.30	1.58	1.58
LTE All Bands Ant1	FR1 All Bands Ant3	Front	0.445	0.482	0.037	0.262	0.072	0.058	0.96	1.26	1.25
		Back	0.726	0.519	0.056	0.262	0.075	0.068	1.30	1.58	1.58
LTE All Bands Ant1	FR1 All Bands Ant4	Front	0.445	0.130	0.037	0.262	0.072	0.058	0.61	0.91	0.90
		Back	0.726	0.171	0.056	0.262	0.075	0.068	0.95	1.23	1.23
LTE All Bands Ant1	FR1 All Bands Ant5	Front	0.445	0.432	0.037	0.262	0.072	0.058	0.91	1.21	1.20
		Back	0.726	0.495	0.056	0.262	0.075	0.068	1.28	1.56	1.55
LTE All Bands Ant1	FR1 All Bands Ant9	Front	0.445	0.155	0.037	0.262	0.072	0.058	0.64	0.93	0.92
		Back	0.726	0.300	0.056	0.262	0.075	0.068	1.08	1.36	1.36
LTE All Bands Ant1	FR1 All Bands Ant10	Front	0.445	0.273	0.037	0.262	0.072	0.058	0.76	1.05	1.04
		Back	0.726	0.517	0.056	0.262	0.075	0.068	1.30	1.58	1.57



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LTE All Bands Ant1	FR1 All Bands Ant11	Front	0.445	0.266	0.037	0.262	0.072	0.058	0.75	1.05	1.03
		Back	0.726	0.410	0.056	0.262	0.075	0.068	1.19	1.47	1.47
LTE All Bands Ant3	FR1 All Bands Ant0	Front	0.425	0.459	0.037	0.262	0.072	0.058	0.92	1.22	1.20
		Back	0.511	0.520	0.056	0.262	0.075	0.068	1.09	1.37	1.36
LTE All Bands Ant3	FR1 All Bands Ant1	Front	0.425	0.294	0.037	0.262	0.072	0.058	0.76	1.05	1.04
		Back	0.511	0.452	0.056	0.262	0.075	0.068	1.02	1.30	1.29
LTE All Bands Ant3	FR1 All Bands Ant4	Front	0.425	0.130	0.037	0.262	0.072	0.058	0.59	0.89	0.88
		Back	0.511	0.171	0.056	0.262	0.075	0.068	0.74	1.02	1.01
LTE All Bands Ant3	FR1 All Bands Ant5	Front	0.425	0.432	0.037	0.262	0.072	0.058	0.89	1.19	1.18
		Back	0.511	0.495	0.056	0.262	0.075	0.068	1.06	1.34	1.34
LTE All Bands Ant3	FR1 All Bands Ant9	Front	0.425	0.155	0.037	0.262	0.072	0.058	0.62	0.91	0.90
		Back	0.511	0.300	0.056	0.262	0.075	0.068	0.87	1.15	1.14
LTE All Bands Ant3	FR1 All Bands Ant10	Front	0.425	0.273	0.037	0.262	0.072	0.058	0.74	1.03	1.02
		Back	0.511	0.517	0.056	0.262	0.075	0.068	1.08	1.37	1.36
LTE All Bands Ant3	FR1 All Bands Ant11	Front	0.425	0.266	0.037	0.262	0.072	0.058	0.73	1.03	1.01
		Back	0.511	0.410	0.056	0.262	0.075	0.068	0.98	1.26	1.25
LTE All Bands Ant4	FR1 All Bands Ant0	Front	0.205	0.459	0.037	0.262	0.072	0.058	0.70	1.00	0.98
		Back	0.419	0.520	0.056	0.262	0.075	0.068	1.00	1.28	1.27
LTE All Bands Ant4	FR1 All Bands Ant1	Front	0.205	0.294	0.037	0.262	0.072	0.058	0.54	0.83	0.82
		Back	0.419	0.452	0.056	0.262	0.075	0.068	0.93	1.21	1.20
LTE All Bands Ant4	FR1 All Bands Ant3	Front	0.205	0.482	0.037	0.262	0.072	0.058	0.72	1.02	1.01
		Back	0.419	0.519	0.056	0.262	0.075	0.068	0.99	1.28	1.27
LTE All Bands Ant4	FR1 All Bands Ant5	Front	0.205	0.432	0.037	0.262	0.072	0.058	0.67	0.97	0.96
		Back	0.419	0.495	0.056	0.262	0.075	0.068	0.97	1.25	1.24
LTE All Bands Ant4	FR1 All Bands Ant9	Front	0.205	0.155	0.037	0.262	0.072	0.058	0.40	0.69	0.68
		Back	0.419	0.300	0.056	0.262	0.075	0.068	0.78	1.06	1.05
LTE All Bands Ant4	FR1 All Bands Ant10	Front	0.205	0.273	0.037	0.262	0.072	0.058	0.52	0.81	0.80
		Back	0.419	0.517	0.056	0.262	0.075	0.068	0.99	1.27	1.27
LTE All Bands Ant4	FR1 All Bands Ant11	Front	0.205	0.266	0.037	0.262	0.072	0.058	0.51	0.81	0.79
		Back	0.419	0.410	0.056	0.262	0.075	0.068	0.89	1.17	1.16

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	6	1+2+3	1+2+4+5	1+2+4+6
			WWAN	FR1	WLAN2.4GHz Ant 15+16	WLAN5GHz Ant 15+16	Bluetooth Ant 15	Bluetooth Ant 16	Summed	Summed	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE All Bands Ant5	FR1 All Bands Ant0	Front	0.418	0.459	0.037	0.262	0.072	0.058	0.91	1.21	1.20
		Back	0.586	0.520	0.056	0.262	0.075	0.068	1.16	1.44	1.44
LTE All Bands Ant5	FR1 All Bands Ant1	Front	0.418	0.294	0.037	0.262	0.072	0.058	0.75	1.05	1.03
		Back	0.586	0.452	0.056	0.262	0.075	0.068	1.09	1.38	1.37
LTE All Bands Ant5	FR1 All Bands Ant3	Front	0.418	0.482	0.037	0.262	0.072	0.058	0.94	1.23	1.22
		Back	0.586	0.519	0.056	0.262	0.075	0.068	1.16	1.44	1.44
LTE All Bands Ant5	FR1 All Bands Ant4	Front	0.418	0.130	0.037	0.262	0.072	0.058	0.59	0.88	0.87
		Back	0.586	0.171	0.056	0.262	0.075	0.068	0.81	1.09	1.09
LTE All Bands Ant5	FR1 All Bands Ant9	Front	0.418	0.155	0.037	0.262	0.072	0.058	0.61	0.91	0.89
		Back	0.586	0.300	0.056	0.262	0.075	0.068	0.94	1.22	1.22
LTE All Bands Ant5	FR1 All Bands Ant10	Front	0.418	0.273	0.037	0.262	0.072	0.058	0.73	1.03	1.01
		Back	0.586	0.517	0.056	0.262	0.075	0.068	1.16	1.44	1.43
LTE All Bands Ant5	FR1 All Bands Ant11	Front	0.418	0.266	0.037	0.262	0.072	0.058	0.72	1.02	1.00
		Back	0.586	0.410	0.056	0.262	0.075	0.068	1.05	1.33	1.33

16.4 Product specific 10g SAR Exposure Conditions

Remark:

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

WWAN Band	Exposure Position	1	2	1+2 Summed 10g SAR (W/kg)
		WWAN	WLAN5GHz Ant 15+16	
		10g SAR (W/kg)	10g SAR (W/kg)	
WWAN All Bands	Front		1.411	1.41
	Back	1.893	1.932	3.83
	Left side	2.526		2.53
	Right side		2.656	2.66
	Top side	1.614	2.363	3.98
	Bottom side	2.590		2.59

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; $\sigma = 0.872$ S/m; $\epsilon_r = 41.171$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.2 °C; Liquid Temperature : 22.7 °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) = 0.588 W/kg

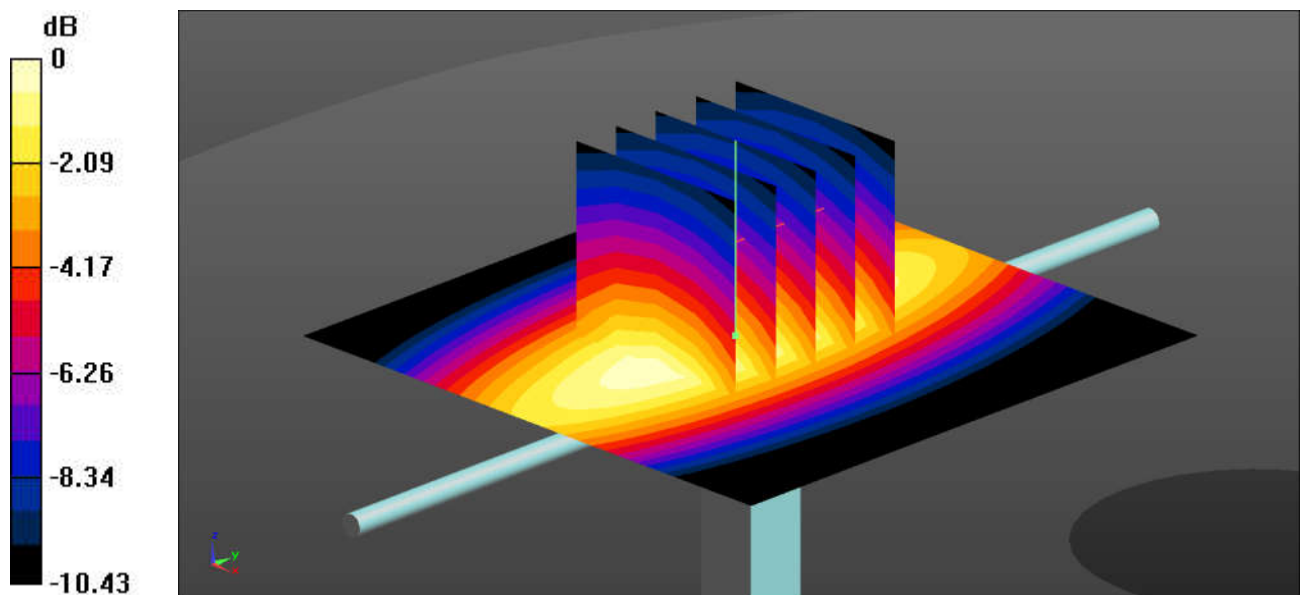
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 26.97 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.658 W/kg

SAR(1 g) = 0.436 W/kg; SAR(10 g) = 0.289 W/kg

Maximum value of SAR (measured) = 0.582 W/kg



0 dB = 0.582 W/kg = -2.35 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: $f = 835$ MHz; $\sigma = 0.911$ S/m; $\epsilon_r = 42.719$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.1 °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 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.432 W/kg

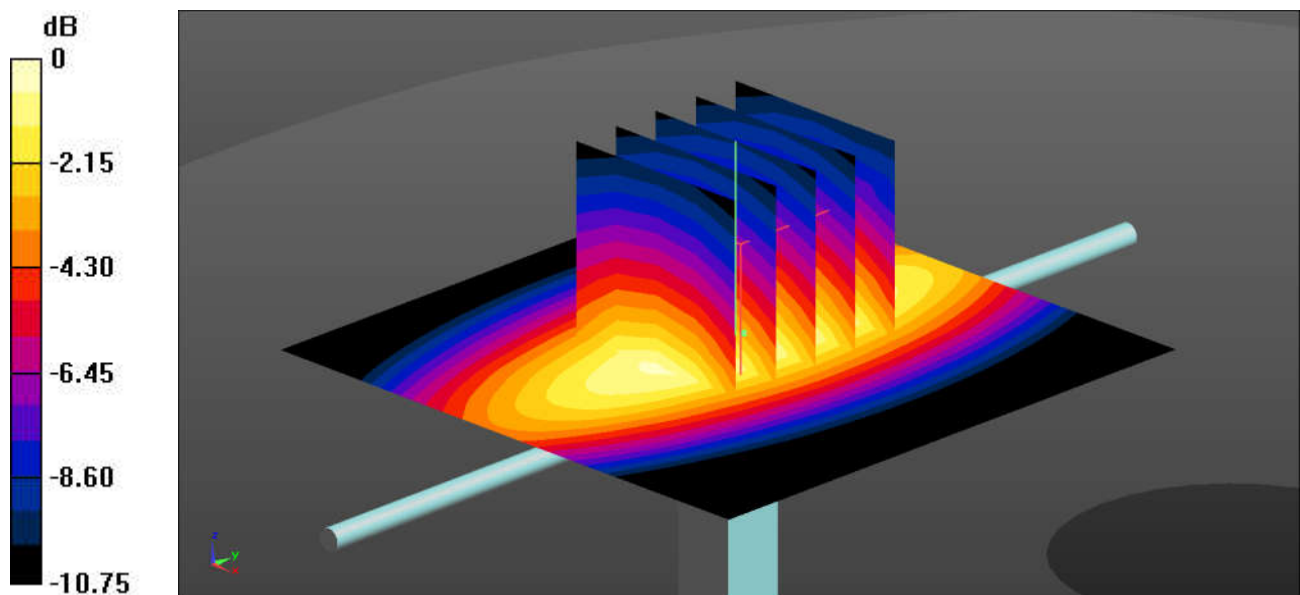
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 21.92 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.504 W/kg

SAR(1 g) = 0.439 W/kg; SAR(10 g) = 0.291 W/kg

Maximum value of SAR (measured) = 0.442 W/kg



0 dB = 0.442 W/kg = -3.55 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; $\sigma = 1.343$ S/m; $\epsilon_r = 38.54$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.2 °C; Liquid Temperature : 22.7 °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) = 2.98 W/kg

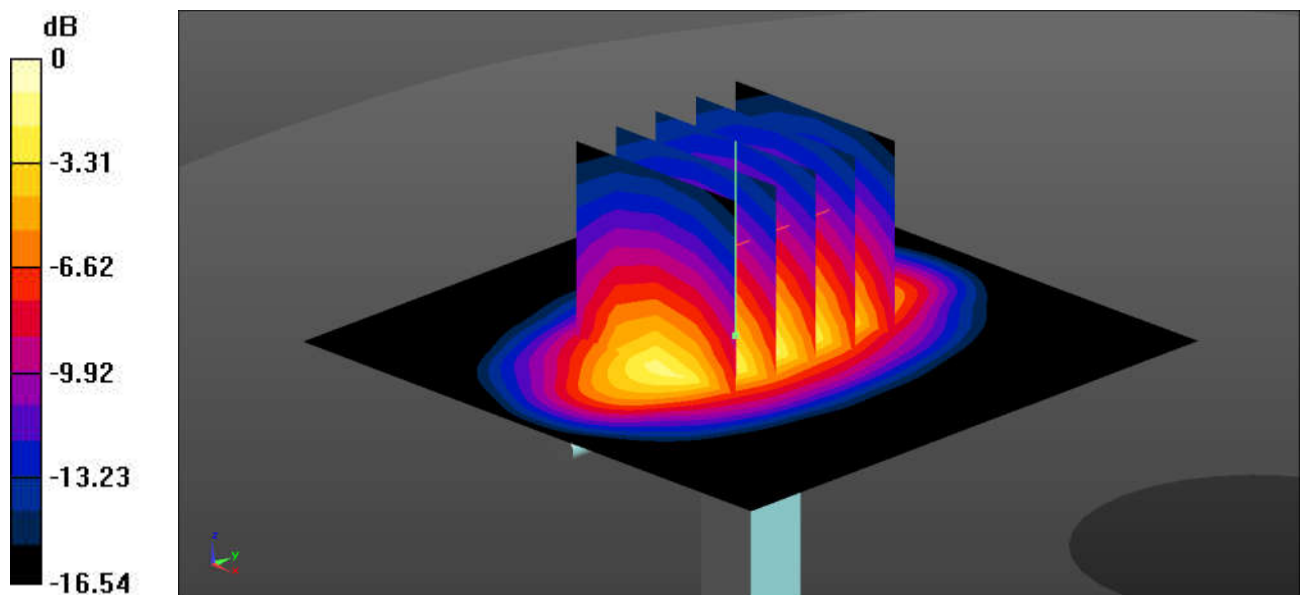
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 47.88 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 3.55 W/kg

SAR(1 g) = 1.92 W/kg; SAR(10 g) = 1.02 W/kg

Maximum value of SAR (measured) = 3.02 W/kg



0 dB = 3.02 W/kg = 4.80 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; $\sigma = 1.398$ S/m; $\epsilon_r = 41.444$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.2 °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) = 3.45 W/kg

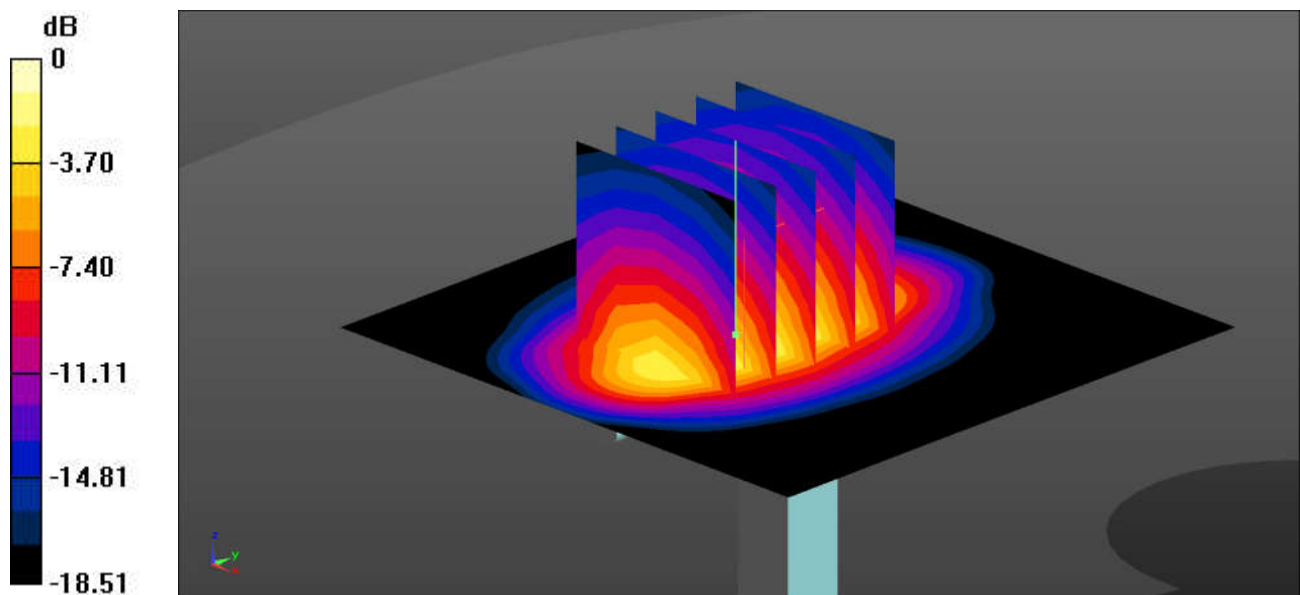
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 46.77 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 4.10 W/kg

SAR(1 g) = 2.09 W/kg; SAR(10 g) = 1.08 W/kg

Maximum value of SAR (measured) = 3.39 W/kg



0 dB = 3.39 W/kg = 5.30 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; $\sigma = 1.81$ S/m; $\epsilon_r = 38.621$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.2 °C; Liquid Temperature : 22.9 °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) = 4.42 W/kg

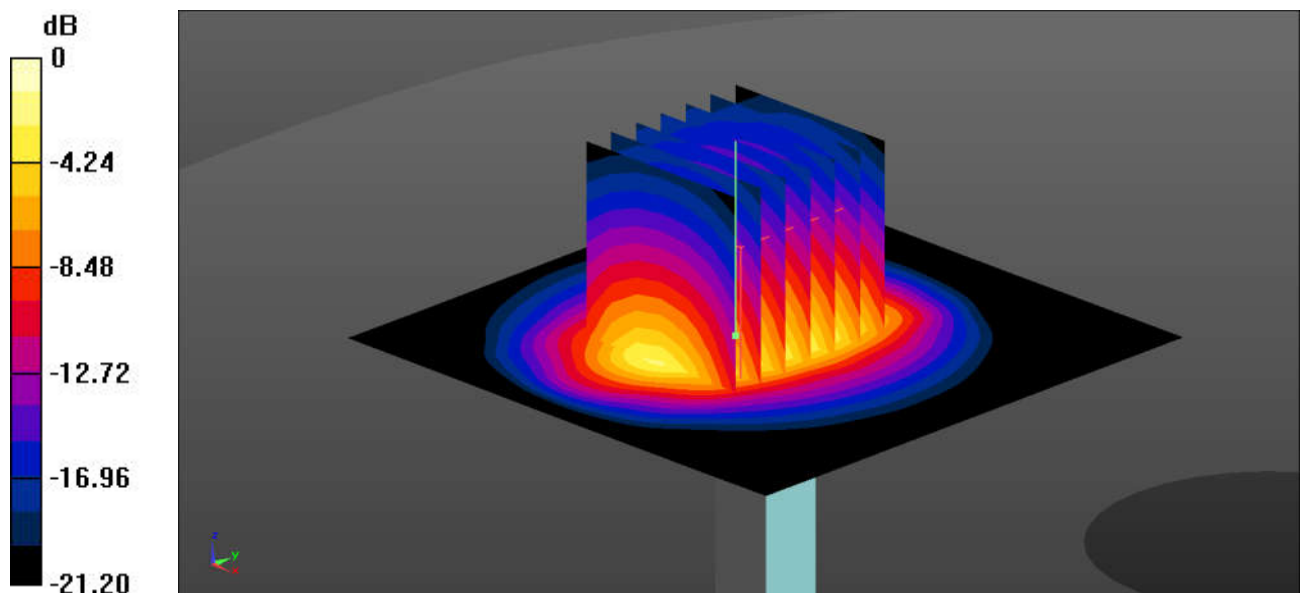
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 49.17 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 5.42 W/kg

SAR(1 g) = 2.66 W/kg; SAR(10 g) = 1.25 W/kg

Maximum value of SAR (measured) = 4.40 W/kg



0 dB = 4.40 W/kg = 6.43 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; $\sigma = 1.927$ S/m; $\epsilon_r = 38.323$; $\rho = 1000$ kg/m³

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) = 4.59 W/kg

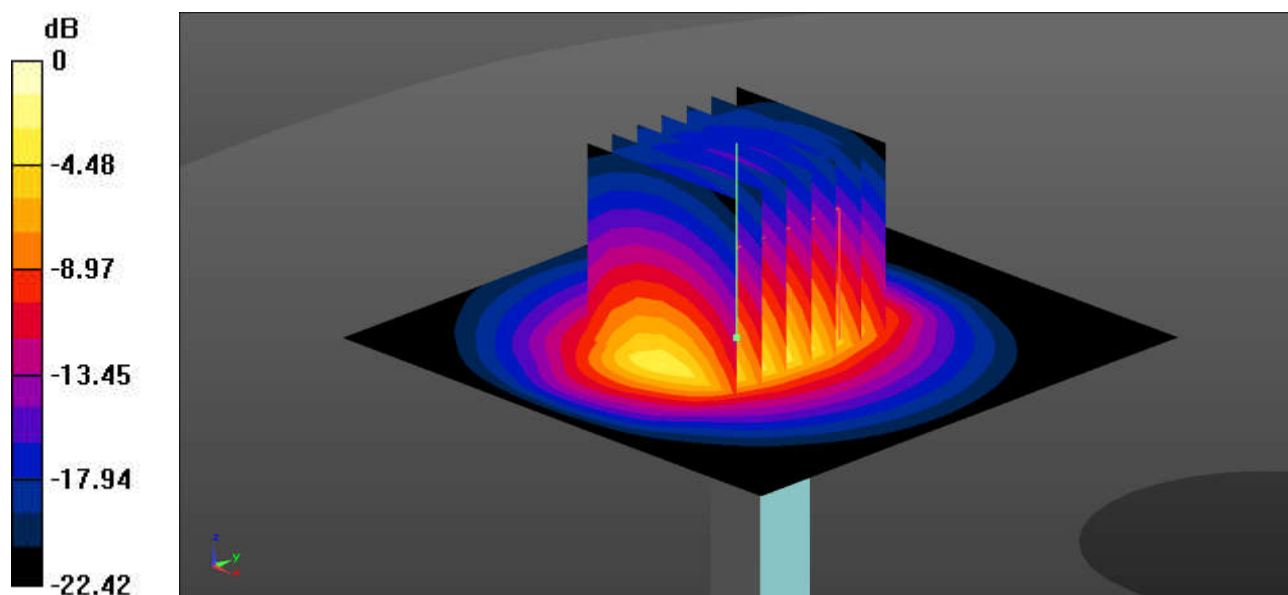
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 49.10 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 5.79 W/kg

SAR(1 g) = 2.76 W/kg; SAR(10 g) = 1.25 W/kg

Maximum value of SAR (measured) = 4.68 W/kg



0 dB = 4.68 W/kg = 6.70 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; $\sigma = 2.785$ S/m; $\epsilon_r = 38.965$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.2 °C; Liquid Temperature : 22.8 °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) = 6.33 W/kg

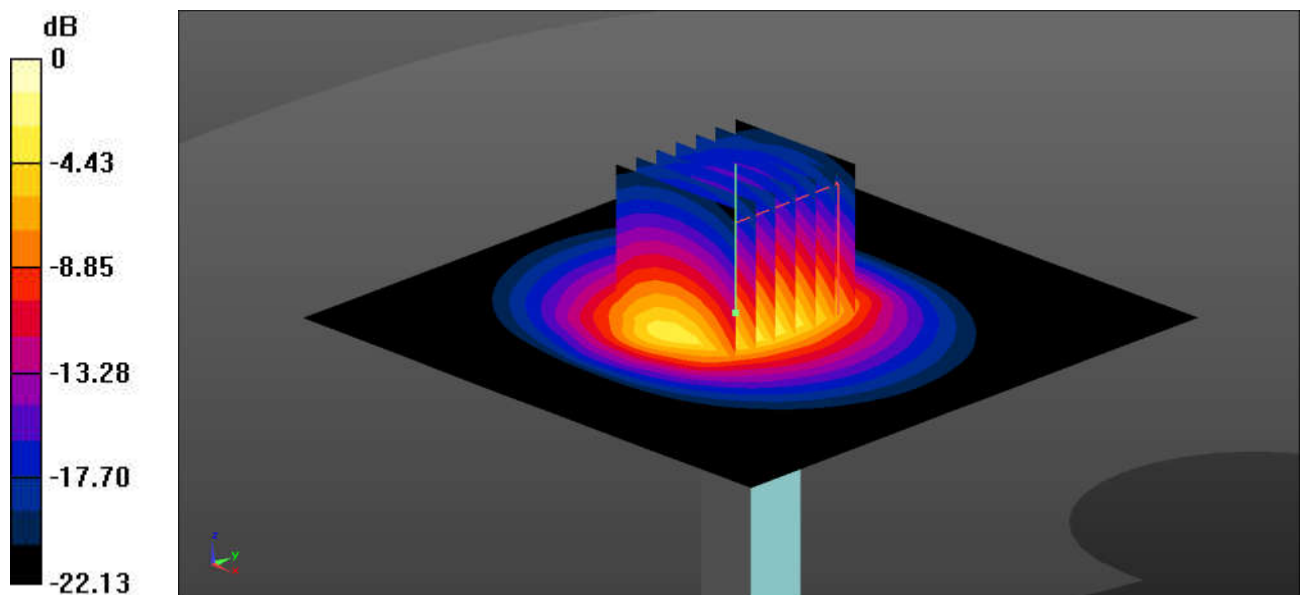
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 47.70 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 8.09 W/kg

SAR(1 g) = 3.36 W/kg; SAR(10 g) = 1.32 W/kg

Maximum value of SAR (measured) = 6.29 W/kg



0 dB = 6.29 W/kg = 7.99 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; $\sigma = 3.078$ S/m; $\epsilon_r = 38.038$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.1 °C; Liquid Temperature : 22.6 °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) = 6.98 W/kg

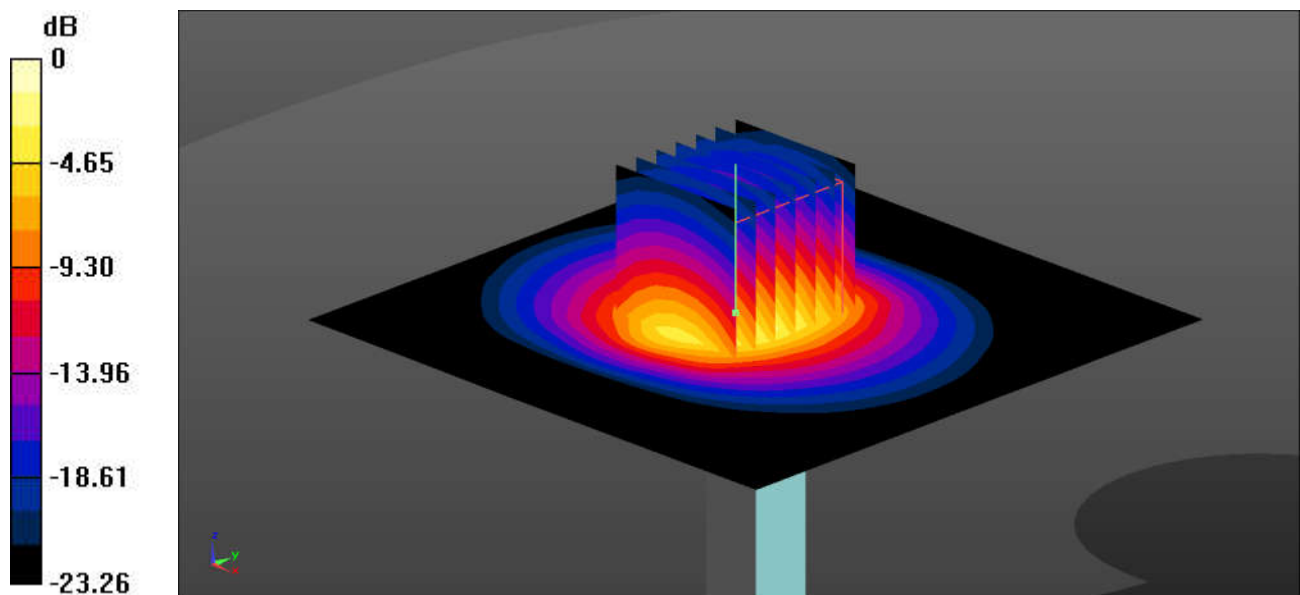
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 46.96 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 9.08 W/kg

SAR(1 g) = 3.56 W/kg; SAR(10 g) = 1.29 W/kg

Maximum value of SAR (measured) = 6.94 W/kg



0 dB = 6.94 W/kg = 8.41 dBW/kg