

FCC SAR Test Report

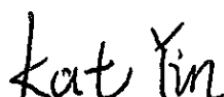
APPLICANT : Xiaomi Communications Co., Ltd.
EQUIPMENT : Mobile Phone
BRAND NAME : XIAOMI
MODEL NAME : 2107113SG
FCC ID : 2AFZZ113SG
STANDARD : FCC 47 CFR Part 2 (2.1093)

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

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



Reviewed by: Nick Hu / Supervisor



Approved by: Kat Yin / Manager



Sporton International (Kunshan) Inc.

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

Table of Contents

1. Statement of Compliance	4
2. Administration Data	6
3. Guidance Applied	6
4. Equipment Under Test (EUT) Information	7
4.1 General Information.....	7
4.2 General LTE SAR Test and Reporting Considerations	9
4.3 General 5G NR SAR Test and Reporting Considerations	12
5. Proximity Sensor Triggering Test.....	14
5.1 Proximity sensor triggering distances(Per KDB616217§6.2).....	14
6. RF Exposure Limits.....	16
6.1 Uncontrolled Environment.....	16
6.2 Controlled Environment.....	16
7. Specific Absorption Rate (SAR).....	17
7.1 Introduction	17
7.2 SAR Definition	17
8. System Description and Setup.....	18
8.1 E-Field Probe	19
8.2 Data Acquisition Electronics (DAE)	19
8.3 Phantom.....	20
8.4 Device Holder.....	21
9. Measurement Procedures.....	22
9.1 Spatial Peak SAR Evaluation	22
9.2 Power Reference Measurement.....	23
9.3 Area Scan.....	23
9.4 Zoom Scan.....	24
9.5 Volume Scan Procedures.....	24
9.6 Power Drift Monitoring.....	24
10. Test Equipment List	25
11. System Verification	26
11.1 Tissue Simulating Liquids	26
11.2 Tissue Verification.....	27
11.3 System Performance Check Results	28
12. RF Exposure Positions	30
12.1 Ear and handset reference point	30
12.2 Definition of the cheek position	31
12.3 Definition of the tilt position	32
12.4 Body Worn Accessory	33
12.5 Product Specific 10g SAR Exposure	34
12.6 Wireless Router.....	34
13. Conducted RF Output Power (Unit: dBm).....	35
14. Antenna Location	51
15. SAR Test Results	52
15.1 Head SAR	55
15.2 Hotspot SAR	67
15.3 Body Worn Accessory SAR.....	79
15.4 Product specific 10g SAR.....	85
15.5 Repeated SAR Measurement	86
16. Simultaneous Transmission Analysis	87
16.1 Head Exposure Conditions.....	88
16.2 Hotspot Exposure Conditions.....	90
16.3 Body-Worn Accessory Exposure Conditions.....	92
16.4 Product specific 10g SAR Exposure Conditions.....	93
17. Uncertainty Assessment.....	94
18. References.....	95
Appendix A. Plots of System Performance Check	
Appendix B. Plots of High SAR Measurement	
Appendix C. DASY Calibration Certificate	
Appendix D. Test Setup Photos	
Appendix E. Conducted RF Output Power Table	



Report No. : FA151502

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, 2107113SG**, 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	0.76	0.63	0.24	1.57
		GSM1900	0.96	0.44	0.13	
	WCDMA	Band II	0.89	0.95	0.54	
		Band IV	0.84	1.09	0.47	
		Band V	0.94	0.73	0.38	
	LTE	Band 2	0.48	0.58	0.55	
		Band 4 ANT4	1.02	0.39	0.28	
		Band 7	0.49	0.58	0.50	
		Band 12/Band 17	0.68	0.66	0.30	
		Band 13	0.87	0.76	0.31	
		Band 26/ Band 5	0.33	0.41	0.34	
		Band 66/ Band 4	0.51	0.54	0.51	
		Band 41/Band 38	0.46	0.39	0.32	
		Band 42	1.08	0.33	0.50	
	5G NR	n5	0.47	0.42	0.49	
		n7	0.45	0.26	0.50	
		n66	0.46	0.35	0.48	
		n41/n38	0.44	0.46	0.39	
n77		1.07	0.87	0.89		
n78		0.60	0.64	0.45		
DTS	WLAN	2.4GHz WLAN	1.00	0.38	0.18	1.53
NII		5GHz WLAN	1.08	0.46	0.64	1.57
DSS	Bluetooth	2.4GHz Bluetooth	0.25	0.23	<0.10	1.52
Highest 10g SAR Summary						
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)			Highest Simultaneous Transmission 10g SAR (W/kg)
Licensed	WCDMA	Band IV	1.91			2.90
	LTE	Band 2	2.32			
NII	WLAN	5GHz WLAN	1.96			2.90
Date of Testing:			2021/6/6 ~ 2021/6/29			

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. For LTE band 4 performed SAR testing separately for antenna 4 without was covered by LTE band66.
2. This device supports 5GNR n38 and 5GNR n41. Since the supported frequency span for 5GNR n38 falls completely within the supports frequency span for 5GNR n41, both 5GNR bands have the same target power, and both 5GNR bands share the same transmission path; therefore, SAR was only assessed for 5GNR 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 (Kunshan) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

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

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

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

3. Guidance Applied

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

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

4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Phone
Brand Name	XIAOMI
Model Name	2107113SG
FCC ID	2AFZZ113SG
IMEI Code	SIM1: 868253050073341 SIM2: 868253050073358
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 ~ 3550 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 LTE: 256QAM(Downlink Only) 5G NR : CP-OFDM / DFT-s-OFDM, PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 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	MIUI12.5

GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	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 differences between the sample 1/2/3 could refer the product equality declaration exhibit submitted. 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 (DS1 1: receiver on reduced power for head; DS1 3: handheld on reduced power for extremity; DS1 4: sensor on power for body worn; DS1 5: hotspot on reduced power for hotspot). 8. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission. 9. 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. 10. 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. 11. 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. 12. 5GNR n78 supports HPUE, HPUE power and SAR testing performed separately, 5GNR n78 HUPE with higher power, 5GNR n78 HUPE SAR can represent power class 3 level SAR. 13. For 5G NR NSA 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. 14. NSA and SA mode should perform SAR separately. For the maximum power of SA mode is the same as NSA total power level, so SA standalone total power level SAR can represent NSA mode SAR. 15. This device supports 5GNR FR1 bands as following table, including NSA mode and SA mode. NSA and SA mode performed SAR separately.	

<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
	n41	TDD	30	20, 30, 40, 50, 60, 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
	n66	FDD	15	5, 10, 15, 20, 30, 40
	n38	TDD	30	20, 30, 40
	n41	TDD	30	20, 30, 40, 50, 60, 80, 90, 100
	n77	TDD	30	20, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	30	20, 30, 40, 50, 60, 70, 80, 90, 100

4.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																																													
FCC ID	2AFZZ113SG																																																																												
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 ~ 3550 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 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz																																																																												
uplink modulations used	QPSK / 16QAM / 64QAM																																																																												
LTE Voice / Data requirements	Voice and Data																																																																												
LTE Release Version	R15, Cat13																																																																												
CA Support	Supported, Uplink and Downlink																																																																												
LTE MPR permanently built-in by design	<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
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																																																																						
LTE A-MPR	In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)																																																																												
Spectrum plots for RB configuration	A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.																																																																												
Power reduction applied to satisfy SAR compliance	Yes, head/body-worn/ hotspot/extremity will trigger reduced power for some LTE bands, the detail please referred to section 14.																																																																												
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 14.																																																																												
LTE Carrier Aggregation Additional Information	1. This device supports LTE Carrier Aggregation (CA) in the uplink for 7C/38C with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance. 2. This device supports maximum of 4 carriers in the downlink and 2 carriers in the uplink.																																																																												



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)	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 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 66												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770

4.3 General 5G NR SAR Test and Reporting Considerations

5G NR Information																
Operating Frequency Range of each 5G NR transmission band				5G NR n5: 824 MHz ~ 849 MHz												
				5G NR n7: 2500 MHz ~ 2570 MHz												
				5G NR n38 : 2570 MHz ~ 2620 MHz												
				5G NR n41: 2496 MHz ~ 2690 MHz												
				5G NR n66 : 1710 MHz ~ 1780 MHz												
				5G NR n77: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz												
				5G NR n78: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3800 MHz												
Channel Bandwidth				5G NR n5: 5MHz, 10MHz, 15MHz, 20MHz												
				5G NR n7: 5MHz, 10MHz, 15MHz, 20MHz, 25MHz, 30MHz, 40MHz												
				5G NR n38: 20MHz, 30MHz, 40MHz												
				5G NR n41: 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 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												
A-MPR (Additional MPR) disabled for SAR Testing?				CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM												
LTE Anchor Bands for n5				Yes												
LTE Anchor Bands for n7				LTE B7												
LTE Anchor Bands for n41				LTE B5												
LTE Anchor Bands for n66				LTE B5												
LTE Anchor Bands for n78				LTE B7												
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			
	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		
M	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		
NR Band 38																
	Bandwidth 20MHz				Bandwidth 30MHz				Bandwidth 40MHz							
	Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)	
L	516000		2580		517002		2585.01		518004		2590.02		519000		2595	
M	519000		2595		519000		2595		519000		2595		519000		2595	
H	522000		2610		520998		2604.99		519996		2599.98		519996		2599.98	
NR Band 41																
	Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 40MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	501204	2506.02	502200	2511	503202	2516.01	504204	2521.02	505200	2526	507204	2536.02	508200	2541	509202	2546.01
M	518598	2592.99	518598	2592.99	518598	2595.99	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	529998	2649.99	528996	2644.98	528000	2640



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	344500	1722.5	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	353500	1767.5	353000	1765	352000	1760

<3700 MHz ~ 3980 MHz>

NR Band 77 SCS30KHz																		
	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 SCS30KHz																		
	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>

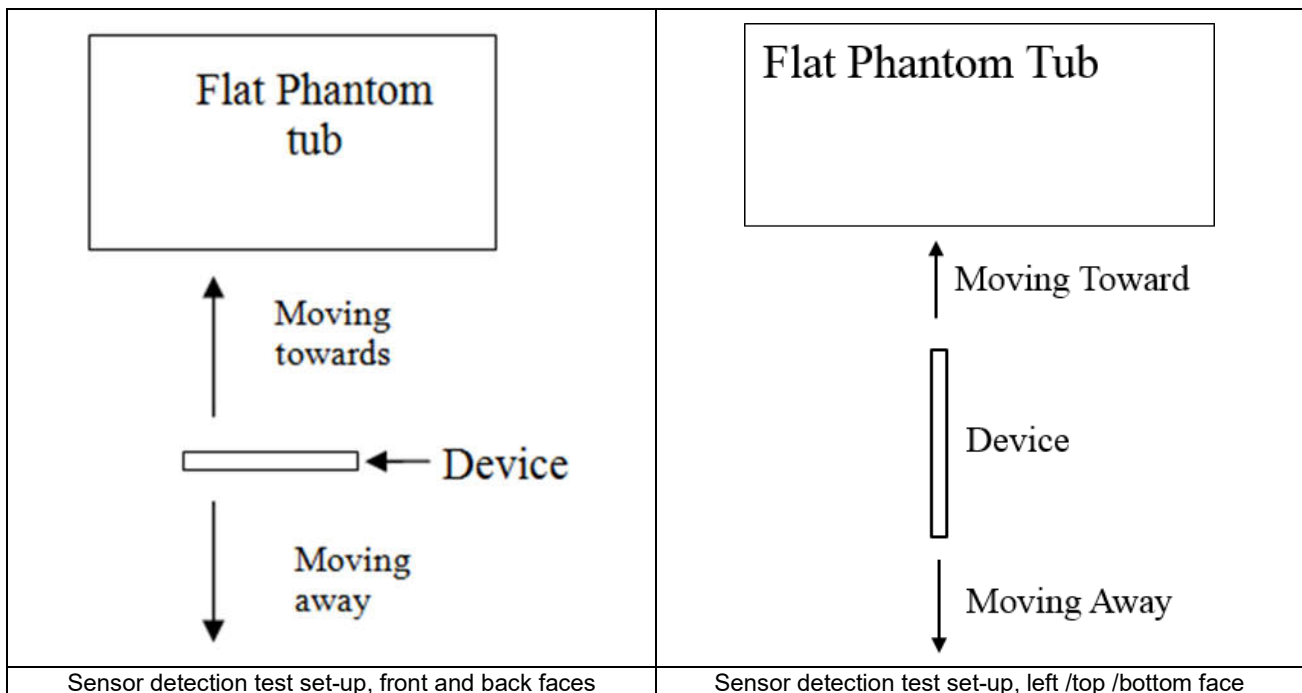
NR Band 77 SCS30KHz																		
	Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	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	3534.99	635332	3529.98	635000	3525	634668	3519.99	634332	3514.98	634000	3510	633668	3504.99		

NR Band 78 SCS30KHz																		
	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	3534.99	635332	3529.98	635000	3525	634668	3519.99	634332	3514.98	634000	3510	633668	3504.99		

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. In the preliminary triggering distance testing, the tissue-equivalent medium for different frequency bands were used for verification; no other frequency bands tissue-equivalent medium was found to result in shortest triggering distance than that for 1900MHz, and the tissue-equivalent medium for 1900MHz was used for formal proximity sensor triggering testing.
3. Capacitive proximity sensor placed coincident with antenna elements at the top/bottom end of the phone are utilized to determine when the device comes in proximity of the user's body at the front or back or bottom or left or top side surface of the device. There is no need to do sensor coverage testing for the proximity sensor is designed to support sufficient detection range and sensitivity to cover regions of the sensors in all applicable directions since the proximity sensor entirely covers the antenna.
4. The proximity sensors used to detect the proximity of the user's body at the front or back or bottom or left or top side surface of the device use a detection threshold distance. The data shown in the sections below shows the distance(s).



<P-Sensor>
<Sensor1 for Ant1/Ant2>
(Declared by manufacturer)

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

< Sensor2 pad1 for Ant5/Ant6/Ant11/Ant13>
(Declared by manufacturer)

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

< Sensor2 pad2 for Ant4/Ant12>
(Declared by manufacturer)

Proximity Sensor Triggering Distance (mm)			
Position	Front	Back	Left Side
Minimum	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:

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

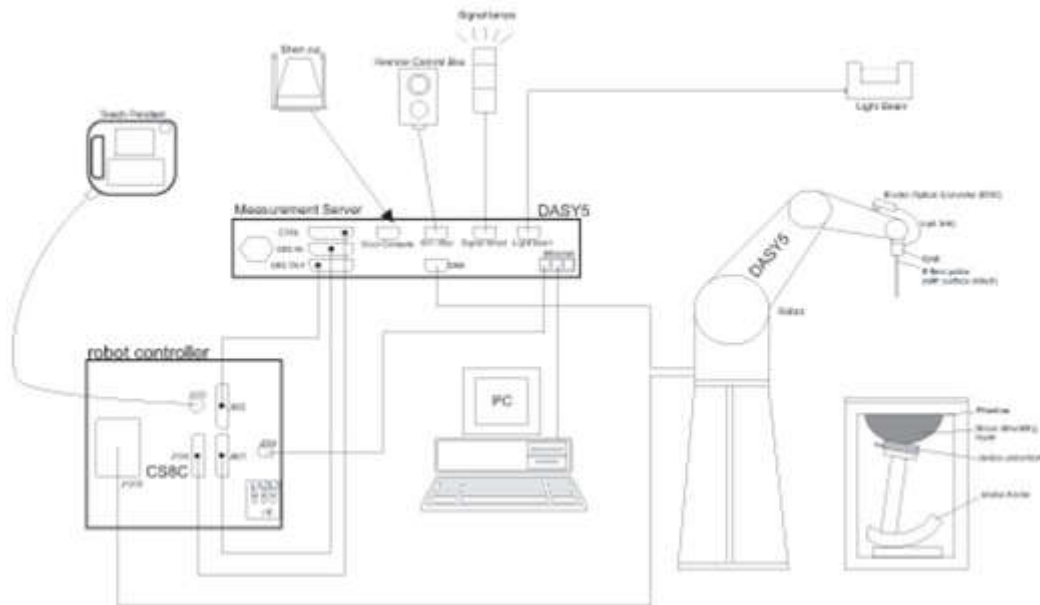
SAR is expressed in units of Watts per kilogram (W/kg)

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

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.

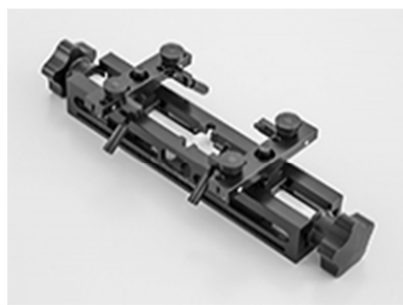
8.4 Device Holder

<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 head, 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 dB) 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 <i>reported</i> 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	2021/11/25
SPEAG	3500MHz System Validation Kit	D3500V2	1037	2020/11/25	2021/11/24
SPEAG	3700MHz System Validation Kit	D3700V2	1008	2020/11/25	2021/11/24
SPEAG	3900MHz System Validation Kit	D3900V2	1048	2020/5/14	2023/5/13
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	2019/9/24	2022/9/23
SPEAG	Data Acquisition Electronics	DAE4	799	2021/3/26	2022/3/25
SPEAG	Data Acquisition Electronics	DAE4	1358	2021/4/26	2022/4/25
SPEAG	Dosimetric E-Field Probe	EX3DV4	3843	2020/9/23	2021/9/22
SPEAG	Dosimetric E-Field Probe	EX3DV4	3935	2021/4/29	2022/4/28
SPEAG	SAM Twin Phantom	SAM Twin	TP-1754	NCR	NCR
SPEAG	SAM Twin Phantom	SAM Twin	TP-1644	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio Communication Analyzer	MT8821C	6201432831	2021/4/13	2022/4/12
Agilent	ENA Series Network Analyzer	E5071C	MY46106933	2020/8/1	2021/7/31
SPEAG	Dielectric Probe Kit	DAK-3.5	1144	2020/12/2	2021/12/1
Anritsu	Vector Signal Generator	MG3710A	6201682672	2021/1/7	2022/1/6
Rohde & Schwarz	Power Meter	NRVD	102081	2020/8/13	2021/8/12
Rohde & Schwarz	Power Sensor	NRV-Z5	100538	2020/8/13	2021/8/12
Rohde & Schwarz	Power Sensor	NRV-Z5	100539	2020/8/13	2021/8/12
R&S	CBT BLUETOOTH TESTER	CBT	101246	2021/4/12	2022/4/11
EXA	Spectrum Analyzer	FSV7	101632	2021/1/7	2022/1/6
FLUKE	DIGITAC THERMOMETER	51II	97240029	2020/8/14	2021/8/13
Testo	Hygrometer	608-H1	1241332126	2021/1/7	2022/1/6
ARRA	Power Divider	A3200-2	N/A	Note 1	
MCL	Attenuation1	BW-S10W5+	N/A	Note 1	
MCL	Attenuation2	BW-S10W5+	N/A	Note 1	
MCL	Attenuation3	BW-S10W5+	N/A	Note 1	
BONN	POWER AMPLIFIER	BLMA 0830-3	087193A	Note 1	
BONN	POWER AMPLIFIER	BLMA 2060-2	087193B	Note 1	
Agilent	Dual Directional Coupler	778D	20500	Note 1	
Agilent	Dual Directional Coupler	11691D	MY48151020	Note 1	

Note:

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

11. System Verification

11.1 Tissue Simulating Liquids

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

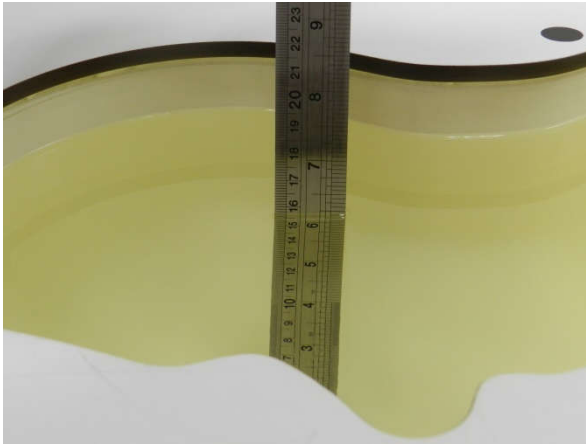


Fig 11.1 Photo of Liquid Height for Head SAR



Fig 11.2 Photo of Liquid Height for Body SAR

11.2 Tissue Verification

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

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (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)	Tissue Type	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	0.917	42.769	0.89	41.90	3.03	2.07	±5	2021/6/6
835	Head	22.6	0.936	42.535	0.90	41.50	4.00	2.49	±5	2021/6/7
1750	Head	22.8	1.353	39.045	1.37	40.10	-1.24	-2.63	±5	2021/6/8
1900	Head	22.6	1.431	38.637	1.40	40.00	2.21	-3.41	±5	2021/6/9
2450	Head	22.9	1.802	40.581	1.80	39.20	0.11	3.52	±5	2021/6/10
2600	Head	22.7	2.012	40.557	1.96	39.00	2.65	3.99	±5	2021/6/11
3500	Head	22.6	2.833	39.056	2.91	37.90	-2.65	3.05	±5	2021/6/12
3700	Head	22.8	3.024	38.720	3.12	37.70	-3.08	2.71	±5	2021/6/12
3900	Head	22.7	3.227	38.419	3.32	37.50	-2.80	2.45	±5	2021/6/13
4100	Head	22.7	3.446	38.091	3.53	37.28	-2.38	2.18	±5	2021/6/13
5250	Head	22.7	4.597	35.936	4.71	35.90	-2.40	0.10	±5	2021/6/14
5600	Head	22.6	4.997	35.371	5.07	35.50	-1.44	-0.36	±5	2021/6/15
5750	Head	22.9	5.160	35.206	5.22	35.40	-1.15	-0.55	±5	2021/6/16
750	Head	22.6	0.919	43.629	0.89	41.90	3.26	4.13	±5	2021/6/17
835	Head	22.8	0.942	43.369	0.90	41.50	4.67	4.50	±5	2021/6/18
1750	Head	22.6	1.345	40.533	1.37	40.10	-1.82	1.08	±5	2021/6/19
1900	Head	22.7	1.440	40.287	1.40	40.00	2.86	0.72	±5	2021/6/20
2450	Head	22.9	1.872	40.832	1.80	39.20	4.00	4.16	±5	2021/6/21
2600	Head	22.9	1.979	40.629	1.96	39.00	0.97	4.18	±5	2021/6/22
3500	Head	22.6	2.768	39.132	2.91	37.90	-4.88	3.25	±5	2021/6/23
3700	Head	22.8	2.978	38.621	3.12	37.70	-4.55	2.44	±5	2021/6/24
3900	Head	22.7	3.169	38.630	3.32	37.50	-4.55	3.01	±5	2021/6/25
4100	Head	22.9	3.373	38.332	3.53	37.28	-4.45	2.82	±5	2021/6/26
5250	Head	22.9	4.586	36.276	4.71	35.90	-2.63	1.05	±5	2021/6/27
5600	Head	22.6	4.965	35.757	5.07	35.50	-2.07	0.72	±5	2021/6/28
5750	Head	22.7	5.138	35.562	5.22	35.40	-1.57	0.46	±5	2021/6/29

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)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2021/6/6	750	Head	50	1087	3843	799	0.452	8.36	9.04	8.13
2021/6/7	835	Head	50	4d258	3843	799	0.508	9.44	10.16	7.63
2021/6/8	1750	Head	50	1090	3843	799	1.990	36.40	39.8	9.34
2021/6/9	1900	Head	50	5d170	3843	799	2.140	39.00	42.8	9.74
2021/6/10	2450	Head	50	908	3935	1358	2.810	52.80	56.2	6.44
2021/6/11	2600	Head	50	1061	3843	799	2.940	56.60	58.8	3.89
2021/6/12	3500	Head	50	1037	3935	1358	3.450	68.00	69	1.47
2021/6/12	3700	Head	50	1008	3935	1358	3.490	67.60	69.8	3.25
2021/6/13	3900	Head	50	1048	3935	1358	3.420	70.20	68.4	-2.56
2021/6/13	4100	Head	50	1048	3935	1358	3.240	68.90	64.8	-5.95
2021/6/14	5250	Head	50	1113	3935	1358	4.310	80.50	86.2	7.08
2021/6/15	5600	Head	50	1113	3935	1358	4.490	83.40	89.8	7.67
2021/6/16	5750	Head	50	1113	3935	1358	4.230	80.00	84.6	5.75
2021/6/17	750	Head	50	1087	3935	1358	0.413	8.36	8.26	-1.20
2021/6/18	835	Head	50	4d258	3935	1358	0.459	9.44	9.18	-2.75
2021/6/19	1750	Head	50	1090	3935	1358	1.830	36.40	36.6	0.55
2021/6/20	1900	Head	50	5d170	3935	1358	2.080	39.00	41.6	6.67
2021/6/21	2450	Head	50	908	3935	1358	2.800	52.80	56	6.06
2021/6/22	2600	Head	50	1061	3935	1358	2.790	56.60	55.8	-1.41
2021/6/23	3500	Head	50	1037	3935	1358	3.380	68.00	67.6	-0.59
2021/6/24	3700	Head	50	1008	3935	1358	3.440	67.60	68.8	1.78
2021/6/25	3900	Head	50	1048	3935	1358	3.470	70.20	69.4	-1.14
2021/6/26	4100	Head	50	1048	3935	1358	3.170	68.90	63.4	-7.98
2021/6/27	5250	Head	50	1113	3935	1358	4.420	80.50	88.4	9.81
2021/6/28	5600	Head	50	1113	3935	1358	4.580	83.40	91.6	9.83
2021/6/29	5750	Head	50	1113	3935	1358	4.250	80.00	85	6.25

<10g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2021/6/6	750	Head	50	1087	3843	799	0.304	5.65	6.08	7.61
2021/6/7	835	Head	50	4d258	3843	799	0.335	6.13	6.7	9.30
2021/6/8	1750	Head	50	1090	3843	799	1.050	19.20	21	9.38
2021/6/9	1900	Head	50	5d170	3843	799	1.100	20.30	22	8.37
2021/6/10	2450	Head	50	908	3935	1358	1.300	24.20	26	7.44
2021/6/11	2600	Head	50	1061	3843	799	1.340	25.10	26.8	6.77
2021/6/12	3500	Head	50	1037	3935	1358	1.310	25.40	26.2	3.15
2021/6/12	3700	Head	50	1008	3935	1358	1.290	24.40	25.8	5.74
2021/6/13	3900	Head	50	1048	3935	1358	1.210	24.40	24.2	-0.82
2021/6/13	4100	Head	50	1048	3935	1358	1.130	23.70	22.6	-4.64
2021/6/14	5250	Head	50	1113	3935	1358	1.230	23.10	24.6	6.49
2021/6/15	5600	Head	50	1113	3935	1358	1.270	23.80	25.4	6.72
2021/6/16	5750	Head	50	1113	3935	1358	1.210	22.80	24.2	6.14
2021/6/17	750	Head	50	1087	3935	1358	0.268	5.65	5.36	-5.13
2021/6/18	835	Head	50	4d258	3935	1358	0.296	6.13	5.92	-3.43
2021/6/19	1750	Head	50	1090	3935	1358	0.958	19.20	19.16	-0.21
2021/6/20	1900	Head	50	5d170	3935	1358	1.060	20.30	21.2	4.43
2021/6/21	2450	Head	50	908	3935	1358	1.290	24.20	25.8	6.61
2021/6/22	2600	Head	50	1061	3935	1358	1.240	25.10	24.8	-1.20
2021/6/23	3500	Head	50	1037	3935	1358	1.280	25.40	25.6	0.79
2021/6/24	3700	Head	50	1008	3935	1358	1.270	24.40	25.4	4.10
2021/6/25	3900	Head	50	1048	3935	1358	1.230	24.40	24.6	0.82
2021/6/26	4100	Head	50	1048	3935	1358	1.100	23.70	22	-7.17
2021/6/27	5250	Head	50	1113	3935	1358	1.270	23.10	25.4	9.96
2021/6/28	5600	Head	50	1113	3935	1358	1.300	23.80	26	9.24
2021/6/29	5750	Head	50	1113	3935	1358	1.220	22.80	24.4	7.02

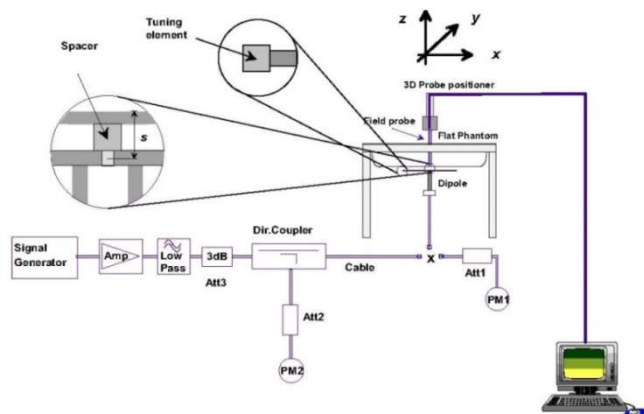


Fig 11.3.1 System Performance Check Setup



Fig 11.3.2 Setup Photo

12. RF Exposure Positions

12.1 Ear and handset reference point

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

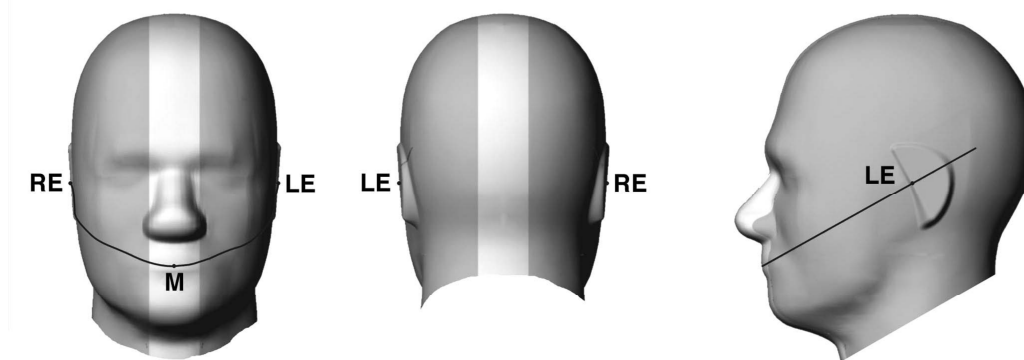


Fig 12.1.1 Front, back, and side views of SAM twin phantom

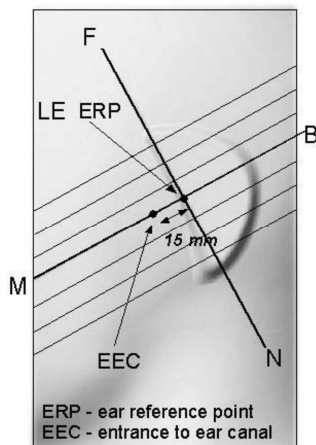


Fig 12.1.2 Close-up side view of phantom showing the ear region.

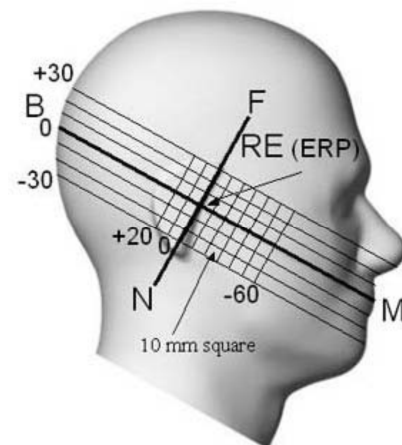


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

12.2 Definition of the cheek position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. Define two imaginary lines on the handset—the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset—the midpoint of the width w_t of the handset at the level of the acoustic output (point A in Figure 12.2.1 and Figure 12.2.2), and the midpoint of the width w_b of the bottom of the handset (point B). The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output (see Figure 12.2.1). The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the 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.

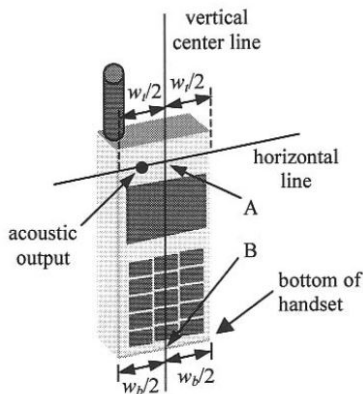


Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case"

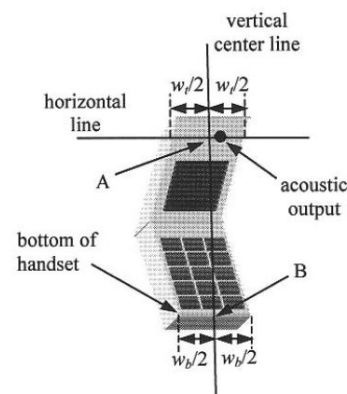


Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

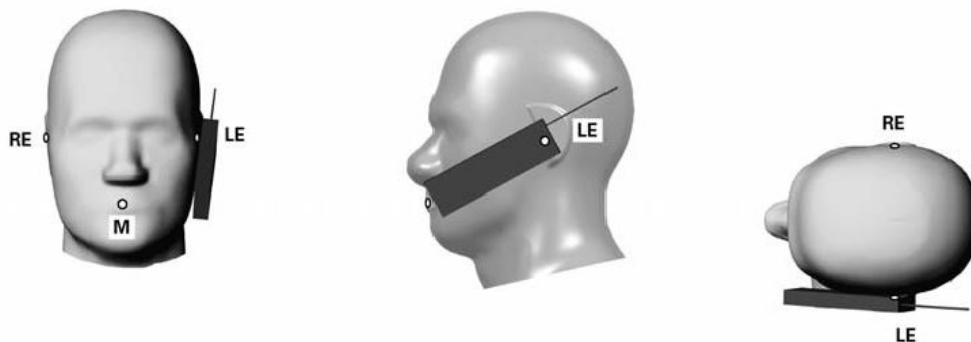


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

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

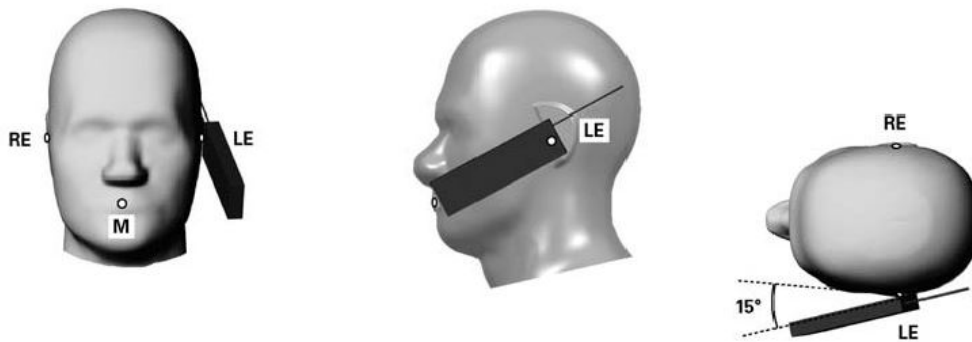


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

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 tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

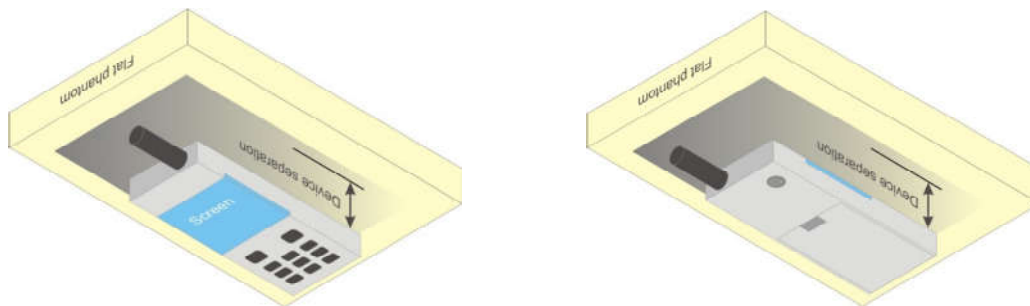


Fig 12.4 Body Worn Position

12.5 Product Specific 10g SAR Exposure

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

1. The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.
2. The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 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. Therefore, the GPRS 4Tx slots for GSM850, GPRS 1Tx slots for GSM1900 are considered as the primary mode.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ 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:

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (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.		

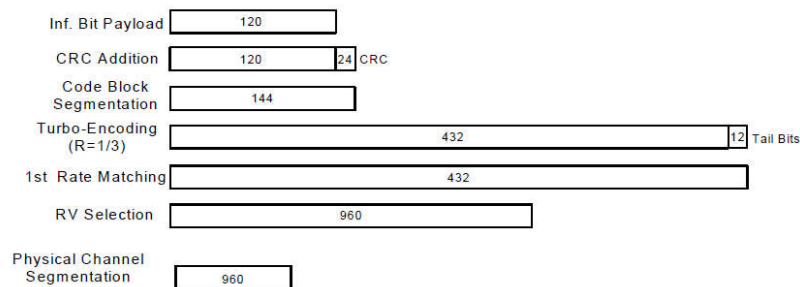


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration

<WCDMA Conducted Power>

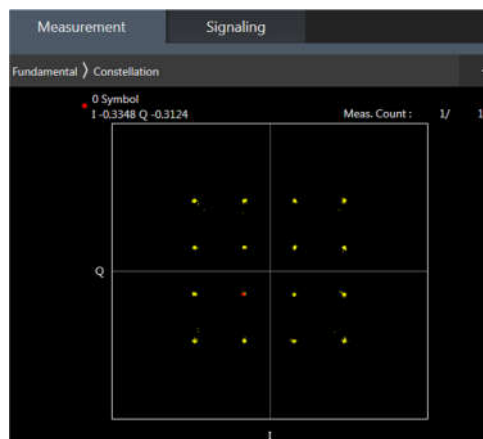
General Note:

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.

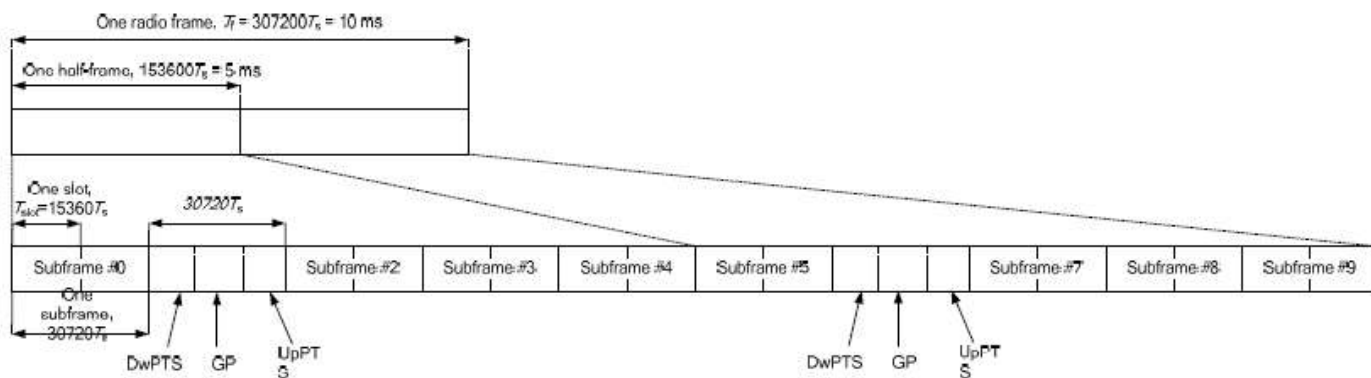


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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.

2CC Downlink Carrier Aggregation			3CC Downlink Carrier Aggregation		
Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset
2CC #1	CA_2C		3CC #1	CA_2A-4A-5A	
2CC #2	CA_2A-4A	3CC #1	3CC #2	CA_2A-4A-7A	4CC #1
2CC #3	CA_2A-5A	3CC #1	3CC #3	CA_2A-7A-7A	
2CC #4	CA_2A-7A	3CC #3	3CC #4	CA_2A-7C	4CC #1
2CC #5	CA_4A-5A	3CC #1	3CC #5	CA_4A-7C	4CC #1
2CC #6	CA_4A-7A	4CC #1	3CC #6	CA_5A-7A-7A	
2CC #7	CA_5A-7A	3CC #6	3CC #7	CA_5A-7C	4CC #2
2CC #8	CA_5A-66A	4CC #2	3CC #8	CA_5A-7A-66A	4CC #3
2CC #9	CA_7A-7A	3CC #3	3CC #9	CA_5A-66A-66A	4CC #3
2CC #10	CA_7C	4CC #1	3CC #10	CA_7A-66A-66A	4CC #3
2CC #11	CA_7A-42A		3CC #11	CA_12A-66A-66A	
2CC #12	CA_12A-66A	3CC #11	3CC #12	CA_7C-66A	4CC #2
2CC #13	CA_38C				
2CC #14	CA_41A-41A				
2CC #15	CA_41C				
2CC #16	CA_66A-66A	4CC #3			
2CC #17	CA_7A-66A	4CC #3			
2CC #18	CA_2A-66A				

4CC Downlink Carrier Aggregation		
Number	Combination	Covered by Measurement Superset
4CC #1	CA_2A-4A-7C	
4CC #2	CA_5A-7C-66A	
4CC #3	CA_5A-7A-66A-66A	
4CC #4	CA_7C-66A-66A	

LTE Carrier Aggregation Conducted Power (Downlink)

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

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

LTE 4x4 MIMO (Downlink)

This device supports downlink 4x4 MIMO operations for LTE Bands 4/7/66/38/41/42 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 / B66

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

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

General Note:

- i. The device supports intra-band uplink carrier aggregation for LTE B7/B38 with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.
- ii. The device supports uplink carrier aggregation with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre the 3GPP requirement.
- iii. According TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
- iv. According TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
- v. Additional SAR measurement for LTE UL CA 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>

2CC Uplink Carrier Aggregation	
Number	Combination
3	4A-7A

General Note:

1. According to October 2018 TCB workshop, uplink CA SAR test guidance as follows:
 - a. Provide the single uplink SAR values you have obtained for the relevant SAR configuration and frequency bands that employ inter-band uplink carrier aggregation.
 - b. If the single uplink 1g SAR values for each band are both less than 0.8W/kg and the algebraic summation of the 1g SAR values are less than 1.45W/kg no additional measurements need to be performed.
 - c. If one of the single uplink 1g SAR values is greater than 0.8W/kg, instead of algebraically summing the 1g SAR values, sum up the SAR distributions, similar to the enlarged zoom scan (volume scan) procedures found in FCC KDB publication 865664 D01 SAR measurement 100MHz to 6GHz V01r04
 - d. If the algebraic sum of the 1g SAR values is > 1.45W/kg additional measurements may have to be made. Submit a KDB inquiry for additional guidance.
2. The single uplink 1g SAR values for each band are both less than 0.8W/kg and the algebraic summation of the 1g SAR value are less than 1.45W/kg, additional measurements are not required

5G NR Output Power (Unit: dBm)

General Note:

1. 5G NR n5, n7, n66, n41, n78 supports NSA operations, and n5, n7, n66, n38, n41, n77, n78 supports SA operations.
2. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
 - a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-QPSK and the reported SAR for the DFT-QPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.
 - b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, for 16QAM/64QMA/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the 16QAM/64QMA/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.
 - c. SAR testing start with the largest channel bandwidth and measure SAR for 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 SAR testing are not required.
 - g. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
3. Due to test setup limitations, SAR testing for NR was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission.
4. 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.
5. NSA and SA mode should perform SAR separately. For the maximum power of SA mode is the same as NSA total power level, so SA standalone total power level SAR can represent NSA mode SAR.
6. 5GNR NSA mode, the power level is the same as 5GNR SA mode, so 5GNR NSA mode and SA mode power table only show one time.
7. 5GNR n78 supports HPUE, HPUE power and SAR testing performed separately, 5GNR n78 HUPE with higher power, 5GNR n78 HUPE SAR can represent power class 3 level SAR.
8. For 5G NR NSA 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.
9. 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.

<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		

EN-DC	LTE TX	NR TX
DC_2A_n78A	ANT2	ANT13 / ANT12 / ANT6 / ANT11
	ANT8	ANT13 / ANT12 / ANT6 / ANT11
DC_7A_n78A	ANT2	ANT13 / ANT12 / ANT6 / ANT11
	ANT4	ANT13 / ANT12 / ANT6 / ANT11
	ANT5	ANT13 / ANT12 / ANT6 / ANT11
	ANT8	ANT13 / ANT12 / ANT6 / ANT11
DC_38A_n78A	ANT2	ANT13 / ANT12 / ANT6 / ANT11
	ANT4	ANT13 / ANT12 / ANT6 / ANT11
	ANT5	ANT13 / ANT12 / ANT6 / ANT11
	ANT8	ANT13 / ANT12 / ANT6 / ANT11
DC_41A_n78A	ANT2	ANT13 / ANT12 / ANT6 / ANT11
	ANT4	ANT13 / ANT12 / ANT6 / ANT11
	ANT5	ANT13 / ANT12 / ANT6 / ANT11
	ANT8	ANT13 / ANT12 / ANT6 / ANT11
DC_66A_n78A	ANT2	ANT13 / ANT12 / ANT6 / ANT11
	ANT4	ANT13 / ANT12 / ANT6 / ANT11
	ANT5	ANT13 / ANT12 / ANT6 / ANT11
	ANT8	ANT13 / ANT12 / ANT6 / ANT11
DC_5A_n78A	ANT1	ANT13 / ANT12 / ANT6 / ANT11
	ANT3	ANT13 / ANT12 / ANT6 / ANT11
DC_5A_n7A	ANT1	ANT5 / ANT4 / ANT2 / ANT8
	ANT3	ANT5 / ANT4 / ANT2 / ANT8
DC_7A_n5A	ANT2	ANT1 / ANT3
	ANT4	ANT1 / ANT3
	ANT5	ANT1 / ANT3
	ANT8	ANT1 / ANT3
DC_7A_n66A	ANT4	ANT2 / ANT8
	ANT5	ANT2 / ANT8
DC_5A_n41A	ANT1	ANT5 / ANT4 / ANT2 / ANT8
	ANT3	ANT5 / ANT4 / ANT2 / ANT8

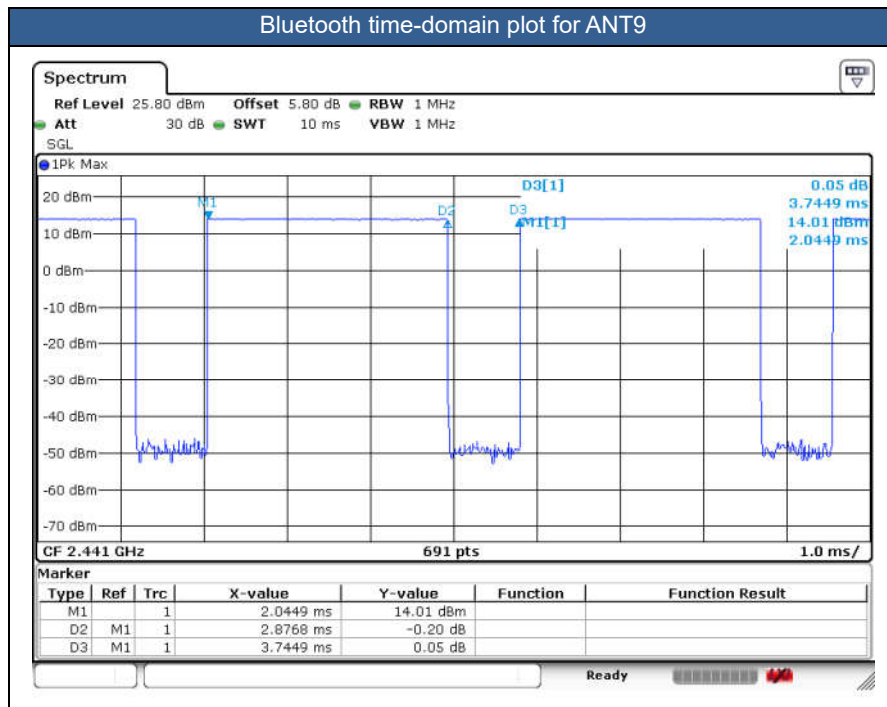
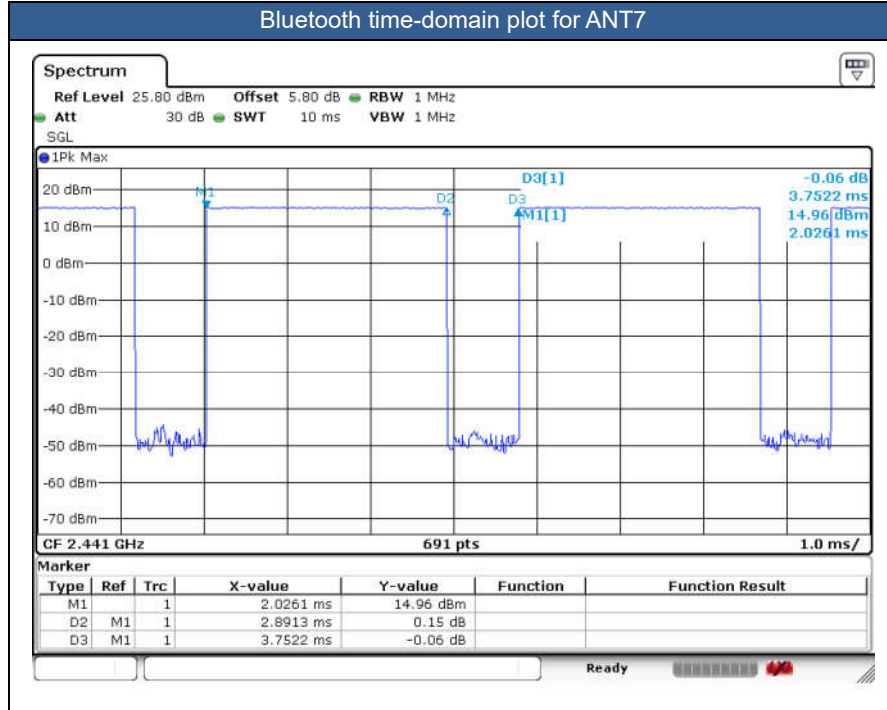
<WLAN Conducted Power>**General Note:**

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

<2.4GHz Bluetooth>

General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth ANT7 duty cycle is 77.09 %, and ANT9 duty cycle is 76.82% as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the maximum duty cycle is 100%, therefore the actual duty cycle will be scaled up to100% for Bluetooth reported SAR calculation





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 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. There are three types of EUT, The differences between the sample 1/2/3 could refer the product equality declaration exhibit submitted. According to the differences, we choose sample 1 to perform full test.
6. The device implements Proximity sensors/receiver detect mechanism/hotspot trigger reduced power for the power management for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity). The device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to appendix E. power table. Full power table and reduced power table (DSI 1: receiver on reduced power for head; DSI 3: handheld on reduced power for extremity; DSI 4: sensor on power for body worn; DSI 5: hotspot on reduced power for hotspot).
7. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
8. 5GNR n78 supports HPUE, HPUE power and SAR testing performed separately, 5GNR n78 HUPE with higher power, 5GNR n78 HUPE SAR can represent power class 3 level SAR.
9. For 5G NR NSA 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.
10. NSA and SA mode should perform SAR separately. For the maximum power of SA mode is the same as NSA total power level, so SA standalone total power level SAR can represent NSA mode SAR.
11. 5GNR NSA mode, the power level is the same as 5GNR SA mode, so 5GNR NSA mode and SA mode power table only show one time.
12. 5G NR supports CP-OFDM and DFT-s-OFDM modulation, for DFT-s-OFDM power is higher than CP-OFDM, so only show DFT-s-OFDM power table and chose DFT-s-OFDM to perform SAR testing.
13. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for the CP-OFDM mode will not higher than DFT-s-OFDM mode, therefore, CP-OFDM measurement is unnecessary.
14. 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. For this device SAR for WWAN transmitter scaled to maximum output power mode for product specific 10g SAR is higher than 1.2 W/kg of WCDMA Band IV, LTE Band 2, therefore product specific 10g SAR is necessary.
 - b. WLAN 5.3/5.5GHz tested the product specific 10g SAR since it has no hotspot mode.
 - c. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test reduction and exclusion should be multiplied by 2.5.

GSM Note:

1. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS 4Tx slots for GSM850, GPRS 1Tx slots for GSM1900 are considered as the primary mode.
2. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ 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 $\leq \frac{1}{4}$ 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 Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM/64QAM output power for each RB allocation configuration is $> \text{not } \frac{1}{2}$ 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.
5. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is $> \text{not } \frac{1}{2}$ 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.
6. For LTE B4 / B5 / B12 / B17 / B26 / B38 and 5GNR n77 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE B4 / 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 n5/n66/n77 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/Bluetooth Note:

2. 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.
3. 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.
4. 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.
5. 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.
6. During SAR testing the WLAN transmission was verified using a spectrum analyzer.
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.
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 SISO antenna respectively to calculate sum of the power for MIMO mode.
9. 802.11ax full tone size and partial tone size, for full tone size with higher power level, So only chose full tone size to perform SAR testing
10. Only chose MIMO power to perform SAR testing.

Power Reduction description :

Condition	Scenes
DBS	WLAN 2.4GHz + WLAN 5GHz
Simultaneous_2TX	WWAN + WLAN 2.4GHz or WLAN 5GHz/BT
Simultaneous_3TX	WWAN + WLAN 2.4GHz + WLAN 5GHz/BT



15.1 Head SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 1	DSI 1	189	836.4	26.03	27.50	1.403	0.09	0.144	0.202
	GSM850	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 1	DSI 1	189	836.4	26.03	27.50	1.403	-0.14	0.081	0.114
	GSM850	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 1	DSI 1	189	836.4	26.03	27.50	1.403	-0.18	0.148	0.208
	GSM850	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 1	DSI 1	189	836.4	26.03	27.50	1.403	-0.03	0.065	0.091
	GSM850	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 3	DSI 1	189	836.4	24.21	26.00	1.510	0.18	0.252	0.381
	GSM850	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 3	DSI 1	189	836.4	24.21	26.00	1.510	0.02	0.046	0.069
01	GSM850	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 3	DSI 1	189	836.4	24.21	26.00	1.510	-0.04	0.500	0.755
	GSM850	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 3	DSI 1	189	836.4	24.21	26.00	1.510	-0.09	0.053	0.080
	GSM1900	GPRS (1 Tx slot)	Right Cheek	0mm	Ant 2	DSI 1	661	1880	30.76	31.00	1.057	0.06	0.068	0.072
	GSM1900	GPRS (1 Tx slot)	Right Tilted	0mm	Ant 2	DSI 1	661	1880	30.76	31.00	1.057	0.07	0.026	0.027
	GSM1900	GPRS (1 Tx slot)	Left Cheek	0mm	Ant 2	DSI 1	661	1880	30.76	31.00	1.057	0.01	0.048	0.051
	GSM1900	GPRS (1 Tx slot)	Left Tilted	0mm	Ant 2	DSI 1	661	1880	30.76	31.00	1.057	0.05	0.036	0.038
02	GSM1900	GPRS (1 Tx slot)	Right Cheek	0mm	Ant 5	DSI 1	661	1880	28.42	29.50	1.282	0.04	0.746	0.957
	GSM1900	GPRS (1 Tx slot)	Right Tilted	0mm	Ant 5	DSI 1	661	1880	28.42	29.50	1.282	0.05	0.667	0.855
	GSM1900	GPRS (1 Tx slot)	Left Cheek	0mm	Ant 5	DSI 1	661	1880	28.42	29.50	1.282	0.06	0.458	0.587
	GSM1900	GPRS (1 Tx slot)	Left Tilted	0mm	Ant 5	DSI 1	661	1880	28.42	29.50	1.282	0.07	0.567	0.727
	GSM1900	GPRS (1 Tx slot)	Right Cheek	0mm	Ant 5	DSI 1	512	1850.2	28.37	29.50	1.297	0.05	0.735	0.953
	GSM1900	GPRS (1 Tx slot)	Right Cheek	0mm	Ant 5	DSI 1	810	1909.8	28.25	29.50	1.334	0.09	0.703	0.937
	GSM1900	GPRS (1 Tx slot)	Right Tilted	0mm	Ant 5	DSI 1	512	1850.2	28.37	29.50	1.297	0.01	0.651	0.844
	GSM1900	GPRS (1 Tx slot)	Right Tilted	0mm	Ant 5	DSI 1	810	1909.8	28.25	29.50	1.334	-0.09	0.627	0.836

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	DSI 1	9400	1880	24.88	25.50	1.153	-0.13	0.227	0.262
	WCDMA II	RMC 12.2Kbps	Right Tilted	0mm	Ant 2	DSI 1	9400	1880	24.88	25.50	1.153	-0.18	0.088	0.102
	WCDMA II	RMC 12.2Kbps	Left Cheek	0mm	Ant 2	DSI 1	9400	1880	24.88	25.50	1.153	-0.01	0.232	0.268
	WCDMA II	RMC 12.2Kbps	Left Tilted	0mm	Ant 2	DSI 1	9400	1880	24.88	25.50	1.153	0.06	0.155	0.179
03	WCDMA II	RMC 12.2Kbps	Right Cheek	0mm	Ant 5	DSI 1	9400	1880	18.78	19.50	1.180	0.07	0.756	0.892
	WCDMA II	RMC 12.2Kbps	Right Tilted	0mm	Ant 5	DSI 1	9400	1880	18.78	19.50	1.180	0.03	0.730	0.862
	WCDMA II	RMC 12.2Kbps	Left Cheek	0mm	Ant 5	DSI 1	9400	1880	18.78	19.50	1.180	0.16	0.408	0.482
	WCDMA II	RMC 12.2Kbps	Left Tilted	0mm	Ant 5	DSI 1	9400	1880	18.78	19.50	1.180	0.05	0.554	0.654
	WCDMA II	RMC 12.2Kbps	Right Cheek	0mm	Ant 5	DSI 1	9262	1852.4	18.77	19.50	1.183	0.07	0.745	0.881
	WCDMA II	RMC 12.2Kbps	Right Cheek	0mm	Ant 5	DSI 1	9538	1907.6	18.76	19.50	1.186	0.07	0.731	0.867
	WCDMA II	RMC 12.2Kbps	Right Tilted	0mm	Ant 5	DSI 1	9262	1852.4	18.77	19.50	1.183	0.07	0.724	0.857
	WCDMA II	RMC 12.2Kbps	Right Tilted	0mm	Ant 5	DSI 1	9538	1907.6	18.76	19.50	1.186	0.07	0.720	0.854
	WCDMA IV	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	DSI 1	1513	1752.6	24.84	25.50	1.164	0.06	0.223	0.260
	WCDMA IV	RMC 12.2Kbps	Right Tilted	0mm	Ant 2	DSI 1	1513	1752.6	24.84	25.50	1.164	0.04	0.081	0.094
	WCDMA IV	RMC 12.2Kbps	Left Cheek	0mm	Ant 2	DSI 1	1513	1752.6	24.84	25.50	1.164	0.08	0.191	0.222
	WCDMA IV	RMC 12.2Kbps	Left Tilted	0mm	Ant 2	DSI 1	1513	1752.6	24.84	25.50	1.164	0.02	0.146	0.170
	WCDMA IV	RMC 12.2Kbps	Right Cheek	0mm	Ant 5	DSI 1	1413	1732.6	18.95	19.50	1.135	0.04	0.720	0.817
	WCDMA IV	RMC 12.2Kbps	Right Cheek	0mm	Ant 5	DSI 1	1312	1712.4	18.85	19.50	1.161	0.09	0.711	0.826
04	WCDMA IV	RMC 12.2Kbps	Right Cheek	0mm	Ant 5	DSI 1	1513	1752.6	18.88	19.50	1.153	0.01	0.732	0.844
	WCDMA IV	RMC 12.2Kbps	Right Tilted	0mm	Ant 5	DSI 1	1413	1732.6	18.95	19.50	1.135	0.01	0.666	0.756
	WCDMA IV	RMC 12.2Kbps	Right Tilted	0mm	Ant 5	DSI 1	1312	1712.4	18.85	19.50	1.161	0.05	0.658	0.764
	WCDMA IV	RMC 12.2Kbps	Right Tilted	0mm	Ant 5	DSI 1	1513	1752.6	18.88	19.50	1.153	0.01	0.706	0.814
	WCDMA IV	RMC 12.2Kbps	Left Cheek	0mm	Ant 5	DSI 1	1413	1732.6	18.95	19.50	1.135	0.04	0.357	0.405
	WCDMA IV	RMC 12.2Kbps	Left Tilted	0mm	Ant 5	DSI 1	1413	1732.6	18.95	19.50	1.135	0.07	0.445	0.505
	WCDMA V	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 1	4182	836.4	24.90	25.50	1.148	0.05	0.268	0.308



FCC SAR Test Report

Report No. : FA151502

	WCDMA V	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 1	4182	836.4	24.90	25.50	1.148	0.1	0.194	0.223
	WCDMA V	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI 1	4182	836.4	24.90	25.50	1.148	-0.04	0.282	0.324
	WCDMA V	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI 1	4182	836.4	24.90	25.50	1.148	-0.18	0.203	0.233
	WCDMA V	RMC 12.2Kbps	Right Cheek	0mm	Ant 3	DSI 1	4132	826.4	22.16	22.50	1.081	0.06	0.022	0.024
	WCDMA V	RMC 12.2Kbps	Right Tilted	0mm	Ant 3	DSI 1	4132	826.4	22.16	22.50	1.081	-0.14	0.130	0.141
	WCDMA V	RMC 12.2Kbps	Left Cheek	0mm	Ant 3	DSI 1	4132	826.4	22.16	22.50	1.081	0.1	0.798	0.863
	WCDMA V	RMC 12.2Kbps	Left Tilted	0mm	Ant 3	DSI 1	4132	826.4	22.16	22.50	1.081	-0.14	0.135	0.146
05	WCDMA V	RMC 12.2Kbps	Left Cheek	0mm	Ant 3	DSI 1	4182	836.4	22.14	22.50	1.086	0.05	0.866	0.941
	WCDMA V	RMC 12.2Kbps	Left Cheek	0mm	Ant 3	DSI 1	4233	846.6	22.10	22.50	1.096	-0.03	0.805	0.883

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 2	20M	QPSK	1	0	Right Cheek	0mm	Ant 2	DSI 1	18900	1880	24.27	25.00	1.183	-0.02	0.222	0.263
	LTE Band 2	20M	QPSK	50	0	Right Cheek	0mm	Ant 2	DSI 1	18900	1880	23.40	24.50	1.288	0.03	0.220	0.283
	LTE Band 2	20M	QPSK	1	0	Right Tilted	0mm	Ant 2	DSI 1	18900	1880	24.27	25.00	1.183	0.01	0.111	0.131
	LTE Band 2	20M	QPSK	50	0	Right Tilted	0mm	Ant 2	DSI 1	18900	1880	23.40	24.50	1.288	0.04	0.094	0.121
	LTE Band 2	20M	QPSK	1	0	Left Cheek	0mm	Ant 2	DSI 1	18900	1880	24.27	25.00	1.183	-0.06	0.144	0.170
	LTE Band 2	20M	QPSK	50	0	Left Cheek	0mm	Ant 2	DSI 1	18900	1880	23.40	24.50	1.288	-0.1	0.123	0.158
	LTE Band 2	20M	QPSK	1	0	Left Tilted	0mm	Ant 2	DSI 1	18900	1880	24.27	25.00	1.183	-0.03	0.114	0.135
	LTE Band 2	20M	QPSK	50	0	Left Tilted	0mm	Ant 2	DSI 1	18900	1880	23.40	24.50	1.288	0.03	0.094	0.121
	LTE Band 2	20M	QPSK	1	0	Right Cheek	0mm	Ant 8	DSI 1	18900	1880	15.52	16.00	1.117	-0.17	0.118	0.132
	LTE Band 2	20M	QPSK	50	0	Right Cheek	0mm	Ant 8	DSI 1	18900	1880	15.50	16.00	1.122	-0.03	0.114	0.128
	LTE Band 2	20M	QPSK	1	0	Right Tilted	0mm	Ant 8	DSI 1	18900	1880	15.52	16.00	1.117	0.06	0.061	0.068
	LTE Band 2	20M	QPSK	50	0	Right Tilted	0mm	Ant 8	DSI 1	18900	1880	15.50	16.00	1.122	0.08	0.058	0.065
	LTE Band 2	20M	QPSK	1	0	Left Cheek	0mm	Ant 8	DSI 1	18900	1880	15.52	16.00	1.117	0.04	0.419	0.468
06	LTE Band 2	20M	QPSK	50	0	Left Cheek	0mm	Ant 8	DSI 1	18900	1880	15.50	16.00	1.122	0.04	0.427	0.479
	LTE Band 2	20M	QPSK	1	0	Left Tilted	0mm	Ant 8	DSI 1	18900	1880	15.52	16.00	1.117	-0.06	0.149	0.166
	LTE Band 2	20M	QPSK	50	0	Left Tilted	0mm	Ant 8	DSI 1	18900	1880	15.50	16.00	1.122	-0.04	0.147	0.165
	LTE Band 4	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 1	20175	1732.5	22.58	23.00	1.102	0.12	0.904	0.996
07	LTE Band 4	20M	QPSK	50	0	Right Cheek	0mm	Ant 4	DSI 1	20175	1732.5	22.57	23.00	1.104	-0.09	0.927	1.023
	LTE Band 4	20M	QPSK	100	0	Right Cheek	0mm	Ant 4	DSI 1	20175	1732.5	22.55	23.00	1.109	0.02	0.855	0.948
	LTE Band 4	20M	QPSK	1	0	Right Tilted	0mm	Ant 4	DSI 1	20175	1732.5	22.58	23.00	1.102	0.1	0.425	0.468
	LTE Band 4	20M	QPSK	50	0	Right Tilted	0mm	Ant 4	DSI 1	20175	1732.5	22.57	23.00	1.104	0.08	0.432	0.477
	LTE Band 4	20M	QPSK	1	0	Left Cheek	0mm	Ant 4	DSI 1	20175	1732.5	22.58	23.00	1.102	0.17	0.356	0.392
	LTE Band 4	20M	QPSK	50	0	Left Cheek	0mm	Ant 4	DSI 1	20175	1732.5	22.57	23.00	1.104	0.05	0.373	0.412
	LTE Band 4	20M	QPSK	1	0	Left Tilted	0mm	Ant 4	DSI 1	20175	1732.5	22.58	23.00	1.102	0.08	0.119	0.131
	LTE Band 4	20M	QPSK	50	0	Left Tilted	0mm	Ant 4	DSI 1	20175	1732.5	22.57	23.00	1.104	0.02	0.117	0.129
	LTE Band 7	20M	QPSK	1	0	Right Cheek	0mm	Ant 2	DSI 1	21100	2535	24.78	25.50	1.180	0.04	0.122	0.144
	LTE Band 7	20M	QPSK	50	0	Right Cheek	0mm	Ant 2	DSI 1	21100	2535	23.83	24.50	1.167	0.06	0.103	0.120
	LTE Band 7	20M	QPSK	1	0	Right Tilted	0mm	Ant 2	DSI 1	21100	2535	24.78	25.50	1.180	0.14	0.107	0.126
	LTE Band 7	20M	QPSK	50	0	Right Tilted	0mm	Ant 2	DSI 1	21100	2535	23.83	24.50	1.167	0.06	0.074	0.086
	LTE Band 7	20M	QPSK	1	0	Left Cheek	0mm	Ant 2	DSI 1	21100	2535	24.78	25.50	1.180	-0.14	0.233	0.275
	LTE Band 7C	20M	QPSK	1	0	Left Cheek	0mm	Ant 2	DSI 1	21100+21298	2535+2554.8	24.73	25.50	1.194	0.03	0.215	0.257
	LTE Band 7	20M	QPSK	50	0	Left Cheek	0mm	Ant 2	DSI 1	21100	2535	23.83	24.50	1.167	0.05	0.135	0.158
	LTE Band 7	20M	QPSK	1	0	Left Tilted	0mm	Ant 2	DSI 1	21100	2535	24.78	25.50	1.180	0.03	0.073	0.086
	LTE Band 7	20M	QPSK	50	0	Left Tilted	0mm	Ant 2	DSI 1	21100	2535	23.83	24.50	1.167	-0.05	0.053	0.062
	LTE Band 7	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 1	21100	2535	15.45	15.50	1.012	-0.08	0.466	0.471
	LTE Band 7C	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 1	21100+21298	2535+2554.8	15.33	15.50	1.040	0.06	0.425	0.442
	LTE Band 7	20M	QPSK	50	0	Right Cheek	0mm	Ant 4	DSI 1	21100	2535	15.39	15.50	1.026	0.06	0.458	0.470
	LTE Band 7	20M	QPSK	1	0	Right Tilted	0mm	Ant 4	DSI 1	21100	2535	15.45	15.50	1.012	0.16	0.228	0.231
	LTE Band 7	20M	QPSK	50	0	Right Tilted	0mm	Ant 4	DSI 1	21100	2535	15.39	15.50	1.026	0.06	0.225	0.231
	LTE Band 7	20M	QPSK	1	0	Left Cheek	0mm	Ant 4	DSI 1	21100	2535	15.45	15.50	1.012	-0.03	0.209	0.211
	LTE Band 7	20M	QPSK	50	0	Left Cheek	0mm	Ant 4	DSI 1	21100	2535	15.39	15.50	1.026	0.09	0.215	0.221
	LTE Band 7	20M	QPSK	1	0	Left Tilted	0mm	Ant 4	DSI 1	21100	2535	15.45	15.50	1.012	0.04	0.086	0.087

Sporton International (Kunshan) Inc.

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

FCC ID : 2AFZZ113SG

Page 56 of 95

Issued Date : Jul. 19, 2021

Form version. : 200414



FCC SAR Test Report

Report No. : FA151502

	LTE Band 7	20M	QPSK	50	0	Left Tilted	0mm	Ant 4	DSI 1	21100	2535	15.39	15.50	1.026	0.06	0.079	0.081
	LTE Band 7	20M	QPSK	1	0	Right Cheek	0mm	Ant 5	DSI 1	21100	2535	12.85	13.00	1.035	0.06	0.362	0.375
	LTE Band 7	20M	QPSK	50	0	Right Cheek	0mm	Ant 5	DSI 1	21100	2535	12.63	13.00	1.089	0.05	0.371	0.404
	LTE Band 7	20M	QPSK	1	0	Right Tilted	0mm	Ant 5	DSI 1	21100	2535	12.85	13.00	1.035	0.16	0.386	0.400
	LTE Band 7	20M	QPSK	50	0	Right Tilted	0mm	Ant 5	DSI 1	21100	2535	12.63	13.00	1.089	0.01	0.396	0.431
	LTE Band 7C	20M	QPSK	50	0	Right Tilted	0mm	Ant 5	DSI 1	21100+21298	2535+2554.8	12.65	13.00	1.084	0.03	0.365	0.396
	LTE Band 7	20M	QPSK	1	0	Left Cheek	0mm	Ant 5	DSI 1	21100	2535	12.85	13.00	1.035	0.08	0.148	0.153
	LTE Band 7	20M	QPSK	50	0	Left Cheek	0mm	Ant 5	DSI 1	21100	2535	12.63	13.00	1.089	0.11	0.151	0.164
	LTE Band 7	20M	QPSK	1	0	Left Tilted	0mm	Ant 5	DSI 1	21100	2535	12.85	13.00	1.035	-0.14	0.184	0.190
	LTE Band 7	20M	QPSK	50	0	Left Tilted	0mm	Ant 5	DSI 1	21100	2535	12.63	13.00	1.089	0.17	0.206	0.224
	LTE Band 7	20M	QPSK	1	0	Right Cheek	0mm	Ant 8	DSI 1	21100	2535	13.88	14.00	1.028	0.17	0.119	0.122
	LTE Band 7	20M	QPSK	50	0	Right Cheek	0mm	Ant 8	DSI 1	21100	2535	13.85	14.00	1.035	0.13	0.122	0.126
	LTE Band 7	20M	QPSK	1	0	Right Tilted	0mm	Ant 8	DSI 1	21100	2535	13.88	14.00	1.028	0.06	0.066	0.068
	LTE Band 7	20M	QPSK	50	0	Right Tilted	0mm	Ant 8	DSI 1	21100	2535	13.85	14.00	1.035	0.06	0.073	0.076
	LTE Band 7	20M	QPSK	1	0	Left Cheek	0mm	Ant 8	DSI 1	21100	2535	13.88	14.00	1.028	0.03	0.468	0.481
08	LTE Band 7	20M	QPSK	50	0	Left Cheek	0mm	Ant 8	DSI 1	21100	2535	13.85	14.00	1.035	0.1	0.474	0.491
	LTE Band 7C	20M	QPSK	50	0	Left Cheek	0mm	Ant 8	DSI 1	21100+21298	2535+2554.8	13.85	14.00	1.035	-0.03	0.468	0.484
	LTE Band 7	20M	QPSK	1	0	Left Tilted	0mm	Ant 8	DSI 1	21100	2535	13.88	14.00	1.028	0.06	0.205	0.211
	LTE Band 7	20M	QPSK	50	0	Left Tilted	0mm	Ant 8	DSI 1	21100	2535	13.85	14.00	1.035	0.11	0.191	0.198
	LTE Band 12	10M	QPSK	1	0	Right Cheek	0mm	Ant 1	DSI 1	23095	707.5	24.53	25.50	1.250	-0.07	0.124	0.155
	LTE Band 12	10M	QPSK	25	0	Right Cheek	0mm	Ant 1	DSI 1	23095	707.5	23.42	24.50	1.282	0.13	0.106	0.136
	LTE Band 12	10M	QPSK	1	0	Right Tilted	0mm	Ant 1	DSI 1	23095	707.5	24.53	25.50	1.250	0.15	0.107	0.134
	LTE Band 12	10M	QPSK	25	0	Right Tilted	0mm	Ant 1	DSI 1	23095	707.5	23.42	24.50	1.282	-0.02	0.093	0.119
	LTE Band 12	10M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 1	23095	707.5	24.53	25.50	1.250	0.18	0.115	0.144
	LTE Band 12	10M	QPSK	25	0	Left Cheek	0mm	Ant 1	DSI 1	23095	707.5	23.42	24.50	1.282	0.09	0.099	0.127
	LTE Band 12	10M	QPSK	1	0	Left Tilted	0mm	Ant 1	DSI 1	23095	707.5	24.53	25.50	1.250	-0.08	0.074	0.093
	LTE Band 12	10M	QPSK	25	0	Left Tilted	0mm	Ant 1	DSI 1	23095	707.5	23.42	24.50	1.282	0.15	0.064	0.082
	LTE Band 12	10M	QPSK	1	0	Right Cheek	0mm	Ant 3	DSI 1	23095	707.5	24.45	25.00	1.135	-0.14	0.361	0.410
	LTE Band 12	10M	QPSK	25	0	Right Cheek	0mm	Ant 3	DSI 1	23095	707.5	23.38	24.00	1.153	0.15	0.304	0.351
	LTE Band 12	10M	QPSK	1	0	Right Tilted	0mm	Ant 3	DSI 1	23095	707.5	24.45	25.00	1.135	0.02	0.087	0.099
	LTE Band 12	10M	QPSK	25	0	Right Tilted	0mm	Ant 3	DSI 1	23095	707.5	23.38	24.00	1.153	0.04	0.073	0.084
09	LTE Band 12	10M	QPSK	1	0	Left Cheek	0mm	Ant 3	DSI 1	23095	707.5	24.45	25.00	1.135	-0.09	0.596	0.676
	LTE Band 12	10M	QPSK	25	0	Left Cheek	0mm	Ant 3	DSI 1	23095	707.5	23.38	24.00	1.153	-0.04	0.500	0.577
	LTE Band 12	10M	QPSK	1	0	Left Tilted	0mm	Ant 3	DSI 1	23095	707.5	24.45	25.00	1.135	0.01	0.080	0.091
	LTE Band 12	10M	QPSK	25	0	Left Tilted	0mm	Ant 3	DSI 1	23095	707.5	23.38	24.00	1.153	0.07	0.066	0.076
	LTE Band 13	10M	QPSK	1	0	Right Cheek	0mm	Ant 1	DSI 1	23230	782	24.00	25.00	1.259	0.13	0.134	0.169
	LTE Band 13	10M	QPSK	25	0	Right Cheek	0mm	Ant 1	DSI 1	23230	782	23.07	24.00	1.239	0.14	0.108	0.134
	LTE Band 13	10M	QPSK	1	0	Right Tilted	0mm	Ant 1	DSI 1	23230	782	24.00	25.00	1.259	0.08	0.107	0.135
	LTE Band 13	10M	QPSK	25	0	Right Tilted	0mm	Ant 1	DSI 1	23230	782	23.07	24.00	1.239	0.14	0.093	0.115
	LTE Band 13	10M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 1	23230	782	24.00	25.00	1.259	0.15	0.139	0.175
	LTE Band 13	10M	QPSK	25	0	Left Cheek	0mm	Ant 1	DSI 1	23230	782	23.07	24.00	1.239	0.03	0.113	0.140
	LTE Band 13	10M	QPSK	1	0	Left Tilted	0mm	Ant 1	DSI 1	23230	782	24.00	25.00	1.259	0.03	0.095	0.120
	LTE Band 13	10M	QPSK	25	0	Left Tilted	0mm	Ant 1	DSI 1	23230	782	23.07	24.00	1.239	0.03	0.079	0.098
	LTE Band 13	10M	QPSK	1	0	Right Cheek	0mm	Ant 3	DSI 1	23230	782	22.97	23.50	1.130	-0.19	0.499	0.564
	LTE Band 13	10M	QPSK	25	0	Right Cheek	0mm	Ant 3	DSI 1	23230	782	22.93	23.50	1.140	-0.04	0.523	0.596
	LTE Band 13	10M	QPSK	1	0	Right Tilted	0mm	Ant 3	DSI 1	23230	782	22.97	23.50	1.130	0.06	0.130	0.147
	LTE Band 13	10M	QPSK	25	0	Right Tilted	0mm	Ant 3	DSI 1	23230	782	22.93	23.50	1.140	0.03	0.132	0.151
	LTE Band 13	10M	QPSK	1	0	Left Cheek	0mm	Ant 3	DSI 1	23230	782	22.97	23.50	1.130	-0.14	0.703	0.794
10	LTE Band 13	10M	QPSK	25	0	Left Cheek	0mm	Ant 3	DSI 1	23230	782	22.93	23.50	1.140	0.09	0.763	0.870
	LTE Band 13	10M	QPSK	50	0	Left Cheek	0mm	Ant 3	DSI 1	23230	782	22.90	23.50	1.148	0.02	0.695	0.798
	LTE Band 13	10M	QPSK	1	0	Left Tilted	0mm	Ant 3	DSI 1	23230	782	22.97	23.50	1.130	0.07	0.138	0.156
	LTE Band 13	10M	QPSK	25	0	Left Tilted	0mm	Ant 3	DSI 1	23230	782	22.93	23.50	1.140	-0.01	0.143	0.163
11	LTE Band 26	15M	QPSK	1	0	Right Cheek	0mm	Ant 1	DSI 1	26865	831.5	24.51	25.50	1.256	-0.03	0.261	0.328
	LTE Band 26	15M	QPSK	36	0	Right Cheek	0mm	Ant 1	DSI 1	26865	831.5	23.58	24.50	1.236	-0.18	0.187	0.231
	LTE Band 26	15M	QPSK	1	0	Right Tilted	0mm	Ant 1	DSI 1	26865	831.5	24.51	25.50	1.256	0.06	0.204	0.256
	LTE Band 26	15M	QPSK	36	0	Right Tilted	0mm	Ant 1	DSI 1	26865	831.5	23.58	24.50	1.236	0.08	0.161	0.199

Sporton International (Kunshan) Inc.

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

FCC ID : 2AFZZ113SG

Page 57 of 95

Issued Date : Jul. 19, 2021

Form version. : 200414



FCC SAR Test Report

Report No. : FA151502

	LTE Band 26	15M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 1	26865	831.5	24.51	25.50	1.256	0.05	0.247	0.310
	LTE Band 26	15M	QPSK	36	0	Left Cheek	0mm	Ant 1	DSI 1	26865	831.5	23.58	24.50	1.236	-0.04	0.189	0.234
	LTE Band 26	15M	QPSK	1	0	Left Tilted	0mm	Ant 1	DSI 1	26865	831.5	24.51	25.50	1.256	0.06	0.135	0.170
	LTE Band 26	15M	QPSK	36	0	Left Tilted	0mm	Ant 1	DSI 1	26865	831.5	23.58	24.50	1.236	0.1	0.101	0.125
	LTE Band 26	15M	QPSK	1	0	Right Cheek	0mm	Ant 3	DSI 1	26865	831.5	19.10	19.50	1.096	-0.13	0.122	0.134
	LTE Band 26	15M	QPSK	36	0	Right Cheek	0mm	Ant 3	DSI 1	26865	831.5	19.06	19.50	1.107	-0.16	0.116	0.128
	LTE Band 26	15M	QPSK	1	0	Right Tilted	0mm	Ant 3	DSI 1	26865	831.5	19.10	19.50	1.096	0.02	0.031	0.034
	LTE Band 26	15M	QPSK	36	0	Right Tilted	0mm	Ant 3	DSI 1	26865	831.5	19.06	19.50	1.107	-0.15	0.028	0.031
	LTE Band 26	15M	QPSK	1	0	Left Cheek	0mm	Ant 3	DSI 1	26865	831.5	19.10	19.50	1.096	-0.17	0.174	0.191
	LTE Band 26	15M	QPSK	36	0	Left Cheek	0mm	Ant 3	DSI 1	26865	831.5	19.06	19.50	1.107	0.04	0.166	0.184
	LTE Band 26	15M	QPSK	1	0	Left Tilted	0mm	Ant 3	DSI 1	26865	831.5	19.10	19.50	1.096	0.1	0.031	0.034
	LTE Band 26	15M	QPSK	36	0	Left Tilted	0mm	Ant 3	DSI 1	26865	831.5	19.06	19.50	1.107	-0.06	0.029	0.032
	LTE Band 66	20M	QPSK	1	0	Right Cheek	0mm	Ant 2	DSI 1	132322	1745	24.74	23.50	0.752	-0.01	0.148	0.111
	LTE Band 66	20M	QPSK	50	0	Right Cheek	0mm	Ant 2	DSI 1	132322	1745	24.69	23.50	0.760	0.08	0.119	0.090
	LTE Band 66	20M	QPSK	1	0	Right Tilted	0mm	Ant 2	DSI 1	132322	1745	24.74	23.50	0.752	0.02	0.053	0.040
	LTE Band 66	20M	QPSK	50	0	Right Tilted	0mm	Ant 2	DSI 1	132322	1745	24.69	23.50	0.760	0.05	0.044	0.033
	LTE Band 66	20M	QPSK	1	0	Left Cheek	0mm	Ant 2	DSI 1	132322	1745	24.74	23.50	0.752	-0.03	0.110	0.083
	LTE Band 66	20M	QPSK	50	0	Left Cheek	0mm	Ant 2	DSI 1	132322	1745	24.69	23.50	0.760	0.04	0.089	0.068
	LTE Band 66	20M	QPSK	1	0	Left Tilted	0mm	Ant 2	DSI 1	132322	1745	24.74	23.50	0.752	0.02	0.075	0.056
	LTE Band 66	20M	QPSK	50	0	Left Tilted	0mm	Ant 2	DSI 1	132322	1745	24.69	23.50	0.760	-0.14	0.062	0.047
	LTE Band 66	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 1	132322	1745	18.58	19.00	1.102	0.12	0.297	0.327
	LTE Band 66	20M	QPSK	50	0	Right Cheek	0mm	Ant 4	DSI 1	132322	1745	18.57	19.00	1.104	-0.07	0.305	0.337
	LTE Band 66	20M	QPSK	1	0	Right Tilted	0mm	Ant 4	DSI 1	132322	1745	18.58	19.00	1.102	0.1	0.140	0.154
	LTE Band 66	20M	QPSK	50	0	Right Tilted	0mm	Ant 4	DSI 1	132322	1745	18.57	19.00	1.104	0.08	0.142	0.157
	LTE Band 66	20M	QPSK	1	0	Left Cheek	0mm	Ant 4	DSI 1	132322	1745	18.58	19.00	1.102	0.17	0.117	0.129
	LTE Band 66	20M	QPSK	50	0	Left Cheek	0mm	Ant 4	DSI 1	132322	1745	18.57	19.00	1.104	0.05	0.123	0.136
	LTE Band 66	20M	QPSK	1	0	Left Tilted	0mm	Ant 4	DSI 1	132322	1745	18.58	19.00	1.102	0.08	0.039	0.043
	LTE Band 66	20M	QPSK	50	0	Left Tilted	0mm	Ant 4	DSI 1	132322	1745	18.57	19.00	1.104	0.02	0.038	0.042
12	LTE Band 66	20M	QPSK	1	0	Right Cheek	0mm	Ant 5	DSI 1	132572	1770	15.65	17.00	1.365	-0.05	0.370	0.505
	LTE Band 66	20M	QPSK	50	0	Right Cheek	0mm	Ant 5	DSI 1	132572	1770	15.46	17.00	1.426	0.03	0.353	0.503
	LTE Band 66	20M	QPSK	1	0	Right Tilted	0mm	Ant 5	DSI 1	132572	1770	15.65	17.00	1.365	-0.15	0.339	0.463
	LTE Band 66	20M	QPSK	50	0	Right Tilted	0mm	Ant 5	DSI 1	132572	1770	15.46	17.00	1.426	0.15	0.351	0.500
	LTE Band 66	20M	QPSK	1	0	Left Cheek	0mm	Ant 5	DSI 1	132572	1770	15.65	17.00	1.365	0.16	0.209	0.285
	LTE Band 66	20M	QPSK	50	0	Left Cheek	0mm	Ant 5	DSI 1	132572	1770	15.46	17.00	1.426	0.17	0.212	0.302
	LTE Band 66	20M	QPSK	1	0	Left Tilted	0mm	Ant 5	DSI 1	132572	1770	15.65	17.00	1.365	0.02	0.245	0.334
	LTE Band 66	20M	QPSK	50	0	Left Tilted	0mm	Ant 5	DSI 1	132572	1770	15.46	17.00	1.426	0.03	0.243	0.346
	LTE Band 66	20M	QPSK	1	0	Right Cheek	0mm	Ant 8	DSI 1	132322	1745	14.05	15.50	1.396	0.15	0.092	0.128
	LTE Band 66	20M	QPSK	50	0	Right Cheek	0mm	Ant 8	DSI 1	132322	1745	14.01	15.50	1.409	-0.07	0.095	0.134
	LTE Band 66	20M	QPSK	1	0	Right Tilted	0mm	Ant 8	DSI 1	132322	1745	14.05	15.50	1.396	0.08	0.052	0.073
	LTE Band 66	20M	QPSK	50	0	Right Tilted	0mm	Ant 8	DSI 1	132322	1745	14.01	15.50	1.409	0.12	0.055	0.078
	LTE Band 66	20M	QPSK	1	0	Left Cheek	0mm	Ant 8	DSI 1	132322	1745	14.05	15.50	1.396	-0.14	0.348	0.486
	LTE Band 66	20M	QPSK	50	0	Left Cheek	0mm	Ant 8	DSI 1	132322	1745	14.01	15.50	1.409	0.07	0.351	0.495
	LTE Band 66	20M	QPSK	1	0	Left Tilted	0mm	Ant 8	DSI 1	132322	1745	14.05	15.50	1.396	-0.17	0.131	0.183
	LTE Band 66	20M	QPSK	50	0	Left Tilted	0mm	Ant 8	DSI 1	132322	1745	14.01	15.50	1.409	-0.06	0.134	0.189



<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20M	QPSK	1	0	Right Cheek	0mm	Ant 2	DSI 1	40620	2593	24.79	25.50	1.178	62.9	1.006	0.04	0.120	0.142
	LTE Band 41	20M	QPSK	50	0	Right Cheek	0mm	Ant 2	DSI 1	40620	2593	23.83	24.50	1.167	62.9	1.006	-0.17	0.098	0.115
	LTE Band 41	20M	QPSK	1	0	Right Tilted	0mm	Ant 2	DSI 1	40620	2593	24.79	25.50	1.178	62.9	1.006	0.04	0.065	0.077
	LTE Band 41	20M	QPSK	50	0	Right Tilted	0mm	Ant 2	DSI 1	40620	2593	23.83	24.50	1.167	62.9	1.006	0.08	0.063	0.074
	LTE Band 41	20M	QPSK	1	0	Left Cheek	0mm	Ant 2	DSI 1	40620	2593	24.79	25.50	1.178	62.9	1.006	0.05	0.188	0.223
	LTE Band 38C	20M	QPSK	1	0	Left Cheek	0mm	Ant 2	DSI 1	3800+38198	2595+2554.8	24.51	25.50	1.256	62.9	1.006	0.04	0.162	0.205
	LTE Band 41	20M	QPSK	50	0	Left Cheek	0mm	Ant 2	DSI 1	40620	2593	23.83	24.50	1.167	62.9	1.006	0.02	0.159	0.187
	LTE Band 41	20M	QPSK	1	0	Left Tilted	0mm	Ant 2	DSI 1	40620	2593	24.79	25.50	1.178	62.9	1.006	0.14	0.060	0.071
	LTE Band 41	20M	QPSK	50	0	Left Tilted	0mm	Ant 2	DSI 1	40620	2593	23.83	24.50	1.167	62.9	1.006	0.07	0.047	0.055
	LTE Band 41	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 1	40620	2593	16.84	17.00	1.038	62.9	1.006	-0.1	0.375	0.391
	LTE Band 41	20M	QPSK	50	0	Right Cheek	0mm	Ant 4	DSI 1	40620	2593	16.82	17.00	1.042	62.9	1.006	-0.01	0.379	0.397
	LTE Band 38C	20M	QPSK	50	0	Right Cheek	0mm	Ant 4	DSI 1	3800+38198	2595+2554.8	16.77	17.00	1.054	62.9	1.006	0.02	0.361	0.383
	LTE Band 41	20M	QPSK	1	0	Right Tilted	0mm	Ant 4	DSI 1	40620	2593	16.84	17.00	1.038	62.9	1.006	-0.05	0.209	0.218
	LTE Band 41	20M	QPSK	50	0	Right Tilted	0mm	Ant 4	DSI 1	40620	2593	16.82	17.00	1.042	62.9	1.006	0.02	0.212	0.222
	LTE Band 41	20M	QPSK	1	0	Left Cheek	0mm	Ant 4	DSI 1	40620	2593	16.84	17.00	1.038	62.9	1.006	0.02	0.135	0.141
	LTE Band 41	20M	QPSK	50	0	Left Cheek	0mm	Ant 4	DSI 1	40620	2593	16.82	17.00	1.042	62.9	1.006	0.17	0.142	0.149
	LTE Band 41	20M	QPSK	1	0	Left Tilted	0mm	Ant 4	DSI 1	40620	2593	16.84	17.00	1.038	62.9	1.006	-0.11	0.054	0.056
	LTE Band 41	20M	QPSK	50	0	Left Tilted	0mm	Ant 4	DSI 1	40620	2593	16.82	17.00	1.042	62.9	1.006	-0.06	0.059	0.062
	LTE Band 41	20M	QPSK	1	0	Right Cheek	0mm	Ant 5	DSI 1	40620	2593	15.88	16.00	1.028	62.9	1.006	0.14	0.267	0.276
	LTE Band 41	20M	QPSK	50	0	Right Cheek	0mm	Ant 5	DSI 1	40620	2593	15.79	16.00	1.050	62.9	1.006	-0.05	0.267	0.282
	LTE Band 41	20M	QPSK	1	0	Right Tilted	0mm	Ant 5	DSI 1	40620	2593	15.88	16.00	1.028	62.9	1.006	0.18	0.290	0.300
13	LTE Band 41	20M	QPSK	50	0	Right Tilted	0mm	Ant 5	DSI 1	40620	2593	15.79	16.00	1.050	62.9	1.006	-0.06	0.435	0.459
	LTE Band 38C	20M	QPSK	50	0	Right Tilted	0mm	Ant 5	DSI 1	3800+38198	2595+2554.8	15.61	16.00	1.094	62.9	1.006	0.08	0.412	0.453
	LTE Band 41	20M	QPSK	1	0	Left Cheek	0mm	Ant 5	DSI 1	40620	2593	15.88	16.00	1.028	62.9	1.006	0.03	0.222	0.230
	LTE Band 41	20M	QPSK	50	0	Left Cheek	0mm	Ant 5	DSI 1	40620	2593	15.79	16.00	1.050	62.9	1.006	0.1	0.230	0.243
	LTE Band 41	20M	QPSK	1	0	Left Tilted	0mm	Ant 5	DSI 1	40620	2593	15.88	16.00	1.028	62.9	1.006	-0.02	0.231	0.239
	LTE Band 41	20M	QPSK	50	0	Left Tilted	0mm	Ant 5	DSI 1	40620	2593	15.79	16.00	1.050	62.9	1.006	0.04	0.241	0.254
	LTE Band 41	20M	QPSK	1	0	Right Cheek	0mm	Ant 8	DSI 1	40620	2593	16.96	17.00	1.009	62.9	1.006	0.17	0.085	0.086
	LTE Band 41	20M	QPSK	50	0	Right Cheek	0mm	Ant 8	DSI 1	40620	2593	16.89	17.00	1.026	62.9	1.006	0.17	0.083	0.086
	LTE Band 41	20M	QPSK	1	0	Right Tilted	0mm	Ant 8	DSI 1	40620	2593	16.96	17.00	1.009	62.9	1.006	0.09	0.076	0.077
	LTE Band 41	20M	QPSK	50	0	Right Tilted	0mm	Ant 8	DSI 1	40620	2593	16.89	17.00	1.026	62.9	1.006	-0.18	0.075	0.077
	LTE Band 41	20M	QPSK	1	0	Left Cheek	0mm	Ant 8	DSI 1	40620	2593	16.96	17.00	1.009	62.9	1.006	0.02	0.393	0.399
	LTE Band 41	20M	QPSK	50	0	Left Cheek	0mm	Ant 8	DSI 1	40620	2593	16.89	17.00	1.026	62.9	1.006	0.04	0.405	0.418
	LTE Band 38C	20M	QPSK	50	0	Left Cheek	0mm	Ant 8	DSI 1	3800+38198	2595+2554.8	16.62	17.00	1.091	62.9	1.006	0.02	0.399	0.438
	LTE Band 41	20M	QPSK	1	0	Left Tilted	0mm	Ant 8	DSI 1	40620	2593	16.96	17.00	1.009	62.9	1.006	0.03	0.168	0.171
	LTE Band 41	20M	QPSK	50	0	Left Tilted	0mm	Ant 8	DSI 1	40620	2593	16.89	17.00	1.026	62.9	1.006	-0.12	0.180	0.186
	LTE Band 42	20M	QPSK	1	0	Right Cheek	0mm	Ant 6	DSI 1	42590	3500	18.94	20.00	1.276	62.9	1.006	0.04	0.500	0.642
	LTE Band 42	20M	QPSK	50	0	Right Cheek	0mm	Ant 6	DSI 1	42590	3500	18.93	20.00	1.279	62.9	1.006	-0.16	0.373	0.480
	LTE Band 42	20M	QPSK	1	0	Right Tilted	0mm	Ant 6	DSI 1	42590	3500	18.94	20.00	1.276	62.9	1.006	-0.19	0.549	0.705
	LTE Band 42	20M	QPSK	50	0	Right Tilted	0mm	Ant 6	DSI 1	42590	3500	18.93	20.00	1.279	62.9	1.006	-0.09	0.450	0.579
	LTE Band 42	20M	QPSK	1	0	Left Cheek	0mm	Ant 6	DSI 1	42590	3500	18.94	20.00	1.276	62.9	1.006	-0.15	0.490	0.629
	LTE Band 42	20M	QPSK	50	0	Left Cheek	0mm	Ant 6	DSI 1	42590	3500	18.93	20.00	1.279	62.9	1.006	-0.04	0.407	0.524
	LTE Band 42	20M	QPSK	1	0	Left Tilted	0mm	Ant 6	DSI 1	42590	3500	18.94	20.00	1.276	62.9	1.006	-0.02	0.636	0.817
	LTE Band 42	20M	QPSK	1	0	Left Tilted	0mm	Ant 6	DSI 1	42190	3460	18.47	20.00	1.422	62.9	1.006	-0.18	0.515	0.737
14	LTE Band 42	20M	QPSK	1	0	Left Tilted	0mm	Ant 6	DSI 1	42990	3540	18.94	20.00	1.276	62.9	1.006	-0.08	0.841	1.080
	LTE Band 42	20M	QPSK	50	0	Left Tilted	0mm	Ant 6	DSI 1	42590	3500	18.93	20.00	1.279	62.9	1.006	0.01	0.534	0.687
	LTE Band 42	20M	QPSK	100	0	Left Tilted	0mm	Ant 6	DSI 1	42590	3500	18.84	20.00	1.306	62.9	1.006	0.08	0.602	0.791
	LTE Band 42	20M	QPSK	1	0	Right Cheek	0mm	Ant 11	DSI 1	42590	3500	23.70	24.00	1.072	62.9	1.006	-0.15	0.576	0.621



FCC SAR Test Report

Report No. : FA151502

LTE Band 42	20M	QPSK	50	0	Right Cheek	0mm	Ant 11	DSI 1	42590	3500	22.78	23.00	1.052	62.9	1.006	-0.07	0.499	0.528
LTE Band 42	20M	QPSK	1	0	Right Tilted	0mm	Ant 11	DSI 1	42590	3500	23.70	24.00	1.072	62.9	1.006	-0.05	0.580	0.625
LTE Band 42	20M	QPSK	50	0	Right Tilted	0mm	Ant 11	DSI 1	42590	3500	22.78	23.00	1.052	62.9	1.006	-0.03	0.604	0.639
LTE Band 42	20M	QPSK	1	0	Left Cheek	0mm	Ant 11	DSI 1	42590	3500	23.70	24.00	1.072	62.9	1.006	0.14	0.316	0.341
LTE Band 42	20M	QPSK	50	0	Left Cheek	0mm	Ant 11	DSI 1	42590	3500	22.78	23.00	1.052	62.9	1.006	0.1	0.265	0.280
LTE Band 42	20M	QPSK	1	0	Left Tilted	0mm	Ant 11	DSI 1	42590	3500	23.70	24.00	1.072	62.9	1.006	-0.17	0.431	0.465
LTE Band 42	20M	QPSK	50	0	Left Tilted	0mm	Ant 11	DSI 1	42590	3500	22.78	23.00	1.052	62.9	1.006	0.02	0.328	0.347
LTE Band 42	20M	QPSK	1	0	Right Cheek	0mm	Ant 12	DSI 1	42590	3500	19.81	20.00	1.045	62.9	1.006	0.01	0.615	0.646
LTE Band 42	20M	QPSK	50	0	Right Cheek	0mm	Ant 12	DSI 1	42590	3500	19.70	20.00	1.072	62.9	1.006	0.01	0.610	0.658
LTE Band 42	20M	QPSK	1	0	Right Tilted	0mm	Ant 12	DSI 1	42590	3500	19.81	20.00	1.045	62.9	1.006	0.04	0.467	0.491
LTE Band 42	20M	QPSK	50	0	Right Tilted	0mm	Ant 12	DSI 1	42590	3500	19.70	20.00	1.072	62.9	1.006	0.01	0.443	0.478
LTE Band 42	20M	QPSK	1	0	Left Cheek	0mm	Ant 12	DSI 1	42590	3500	19.81	20.00	1.045	62.9	1.006	-0.01	0.143	0.150
LTE Band 42	20M	QPSK	50	0	Left Cheek	0mm	Ant 12	DSI 1	42590	3500	19.70	20.00	1.072	62.9	1.006	-0.13	0.144	0.155
LTE Band 42	20M	QPSK	1	0	Left Tilted	0mm	Ant 12	DSI 1	42590	3500	19.81	20.00	1.045	62.9	1.006	-0.12	0.118	0.124
LTE Band 42	20M	QPSK	50	0	Left Tilted	0mm	Ant 12	DSI 1	42590	3500	19.70	20.00	1.072	62.9	1.006	-0.04	0.111	0.120
LTE Band 42	20M	QPSK	1	0	Right Cheek	0mm	Ant 13	DSI 1	42590	3500	18.26	18.50	1.057	62.9	1.006	0.05	0.508	0.540
LTE Band 42	20M	QPSK	50	0	Right Cheek	0mm	Ant 13	DSI 1	42590	3500	18.17	18.50	1.079	62.9	1.006	-0.16	0.519	0.563
LTE Band 42	20M	QPSK	1	0	Right Tilted	0mm	Ant 13	DSI 1	42590	3500	18.26	18.50	1.057	62.9	1.006	0.09	0.588	0.625
LTE Band 42	20M	QPSK	50	0	Right Tilted	0mm	Ant 13	DSI 1	42590	3500	18.17	18.50	1.079	62.9	1.006	0.07	0.596	0.647
LTE Band 42	20M	QPSK	1	0	Left Cheek	0mm	Ant 13	DSI 1	42590	3500	18.26	18.50	1.057	62.9	1.006	0.03	0.199	0.212
LTE Band 42	20M	QPSK	50	0	Left Cheek	0mm	Ant 13	DSI 1	42590	3500	18.17	18.50	1.079	62.9	1.006	0.07	0.203	0.220
LTE Band 42	20M	QPSK	1	0	Left Tilted	0mm	Ant 13	DSI 1	42590	3500	18.26	18.50	1.057	62.9	1.006	0.02	0.290	0.308
LTE Band 42	20M	QPSK	50	0	Left Tilted	0mm	Ant 13	DSI 1	42590	3500	18.17	18.50	1.079	62.9	1.006	0.06	0.293	0.318

<5G NR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n5	20M	QPSK	1	53	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant 1	DSI 1	167300	836.5	24.58	25.50	1.236	-0.14	0.265	0.328
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant 1	DSI 1	167300	836.5	24.51	25.50	1.256	0.08	0.262	0.329
	FR1 n5	20M	QPSK	1	53	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant 1	DSI 1	167300	836.5	24.58	25.50	1.236	0.02	0.168	0.208
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant 1	DSI 1	167300	836.5	24.51	25.50	1.256	0.02	0.152	0.191
	FR1 n5	20M	QPSK	1	53	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant 1	DSI 1	167300	836.5	24.58	25.50	1.236	-0.07	0.265	0.328
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant 1	DSI 1	167300	836.5	24.51	25.50	1.256	-0.05	0.291	0.366
	FR1 n5	20M	QPSK	1	53	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant 1	DSI 1	167300	836.5	24.58	25.50	1.236	-0.17	0.146	0.180
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant 1	DSI 1	167300	836.5	24.51	25.50	1.256	-0.18	0.139	0.175
	FR1 n5	20M	QPSK	1	53	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant 3	DSI 1	167300	836.5	19.03	19.50	1.114	-0.06	0.320	0.357
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant 3	DSI 1	167300	836.5	18.97	19.50	1.130	0.09	0.279	0.315
	FR1 n5	20M	QPSK	1	53	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant 3	DSI 1	167300	836.5	19.03	19.50	1.114	-0.11	0.057	0.064
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant 3	DSI 1	167300	836.5	18.97	19.50	1.130	0.08	0.054	0.061
15	FR1 n5	20M	QPSK	1	53	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant 3	DSI 1	167300	836.5	19.03	19.50	1.114	-0.05	0.423	0.471
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant 3	DSI 1	167300	836.5	18.97	19.50	1.130	-0.05	0.405	0.458
	FR1 n5	20M	QPSK	1	53	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant 3	DSI 1	167300	836.5	19.03	19.50	1.114	0.08	0.062	0.069
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant 3	DSI 1	167300	836.5	18.97	19.50	1.130	0.05	0.064	0.072
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant 2	DSI 1	507000	2535	24.42	24.50	1.019	-0.04	0.151	0.154
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant 2	DSI 1	507000	2535	24.41	24.50	1.021	-0.08	0.123	0.126
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant 2	DSI 1	507000	2535	24.42	24.50	1.019	-0.07	0.085	0.087
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant 2	DSI 1	507000	2535	24.41	24.50	1.021	-0.12	0.048	0.049
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant 2	DSI 1	507000	2535	24.42	24.50	1.019	-0.01	0.245	0.250
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant 2	DSI 1	507000	2535	24.41	24.50	1.021	0.18	0.238	0.243
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant 2	DSI 1	507000	2535	24.42	24.50	1.019	0.03	0.052	0.053
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant 2	DSI 1	507000	2535	24.41	24.50	1.021	0.02	0.059	0.060
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant 4	DSI 1	507000	2535	13.22	13.50	1.067	0.04	0.348	0.371
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant 4	DSI 1	507000	2535	13.19	13.50	1.074	-0.07	0.390	0.419
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant 4	DSI 1	507000	2535	13.22	13.50	1.067	0.06	0.160	0.171
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant 4	DSI 1	507000	2535	13.19	13.50	1.074	-0.08	0.162	0.174

Sporton International (Kunshan) Inc.

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

FCC ID : 2AFZZ113SG

Page 60 of 95

Issued Date : Jul. 19, 2021

Form version. : 200414



FCC SAR Test Report

Report No. : FA151502

	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant 4	DSI 1	507000	2535	13.22	13.50	1.067	-0.06	0.103	0.110
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant 4	DSI 1	507000	2535	13.19	13.50	1.074	0.02	0.117	0.126
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant 4	DSI 1	507000	2535	13.22	13.50	1.067	0.1	0.075	0.080
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant 4	DSI 1	507000	2535	13.19	13.50	1.074	-0.04	0.072	0.077
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant 5	DSI 1	507000	2535	11.66	12.00	1.081	-0.14	0.365	0.395
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant 5	DSI 1	507000	2535	11.61	12.00	1.094	-0.09	0.379	0.415
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant 5	DSI 1	507000	2535	11.66	12.00	1.081	0.17	0.316	0.342
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant 5	DSI 1	507000	2535	11.61	12.00	1.094	0.01	0.297	0.325
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant 5	DSI 1	507000	2535	11.66	12.00	1.081	0.11	0.121	0.131
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant 5	DSI 1	507000	2535	11.61	12.00	1.094	0.11	0.133	0.145
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant 5	DSI 1	507000	2535	11.66	12.00	1.081	-0.19	0.195	0.211
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant 5	DSI 1	507000	2535	11.61	12.00	1.094	0.07	0.206	0.225
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant 8	DSI 1	507000	2535	13.44	13.50	1.014	0.07	0.132	0.134
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant 8	DSI 1	507000	2535	13.39	13.50	1.026	0.08	0.143	0.147
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant 8	DSI 1	507000	2535	13.44	13.50	1.014	-0.15	0.077	0.078
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant 8	DSI 1	507000	2535	13.39	13.50	1.026	0.03	0.071	0.073
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant 8	DSI 1	507000	2535	13.44	13.50	1.014	-0.07	0.423	0.429
16	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant 8	DSI 1	507000	2535	13.39	13.50	1.026	0.07	0.436	0.447
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant 8	DSI 1	507000	2535	13.44	13.50	1.014	0.08	0.217	0.220
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant 8	DSI 1	507000	2535	13.39	13.50	1.026	0.06	0.195	0.200
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant 2	DSI 1	349000	1745	24.47	24.50	1.007	0.17	0.221	0.223
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant 2	DSI 1	349000	1745	24.42	24.50	1.019	0.02	0.163	0.166
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant 2	DSI 1	349000	1745	24.47	24.50	1.007	0.12	0.064	0.064
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant 2	DSI 1	349000	1745	24.42	24.50	1.019	-0.09	0.052	0.053
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant 2	DSI 1	349000	1745	24.47	24.50	1.007	0.02	0.171	0.172
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant 2	DSI 1	349000	1745	24.42	24.50	1.019	-0.17	0.152	0.155
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant 2	DSI 1	349000	1745	24.47	24.50	1.007	-0.09	0.105	0.106
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant 2	DSI 1	349000	1745	24.42	24.50	1.019	0.06	0.088	0.090
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant 4	DSI 1	349000	1745	15.36	16.00	1.159	-0.03	0.385	0.446
17	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant 4	DSI 1	349000	1745	15.30	16.00	1.175	-0.09	0.392	0.461
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant 4	DSI 1	349000	1745	15.36	16.00	1.159	0.03	0.112	0.130
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant 4	DSI 1	349000	1745	15.30	16.00	1.175	0.04	0.092	0.108
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant 4	DSI 1	349000	1745	15.36	16.00	1.159	-0.16	0.172	0.199
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant 4	DSI 1	349000	1745	15.30	16.00	1.175	-0.15	0.178	0.209
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant 4	DSI 1	349000	1745	15.36	16.00	1.159	0.06	0.048	0.056
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant 4	DSI 1	349000	1745	15.30	16.00	1.175	-0.13	0.055	0.065
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant 5	DSI 1	349000	1745	15.23	16.50	1.340	-0.01	0.314	0.421
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant 5	DSI 1	349000	1745	15.17	16.50	1.358	-0.08	0.333	0.452
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant 5	DSI 1	349000	1745	15.23	16.50	1.340	-0.15	0.309	0.414
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant 5	DSI 1	349000	1745	15.17	16.50	1.358	0.05	0.319	0.433
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant 5	DSI 1	349000	1745	15.23	16.50	1.340	-0.02	0.153	0.205
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant 5	DSI 1	349000	1745	15.17	16.50	1.358	0.07	0.159	0.216
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant 5	DSI 1	349000	1745	15.23	16.50	1.340	0.04	0.229	0.307
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant 5	DSI 1	349000	1745	15.17	16.50	1.358	0.05	0.232	0.315
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant 8	DSI 1	349000	1745	13.75	14.00	1.059	0.09	0.102	0.108
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Cheek	0mm	Ant 8	DSI 1	349000	1745	13.57	14.00	1.104	0.05	0.107	0.118
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant 8	DSI 1	349000	1745	13.75	14.00	1.059	0.03	0.033	0.035
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Tilted	0mm	Ant 8	DSI 1	349000	1745	13.57	14.00	1.104	0.08	0.032	0.035
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant 8	DSI 1	349000	1745	13.75	14.00	1.059	0.08	0.403	0.427
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Cheek	0mm	Ant 8	DSI 1	349000	1745	13.57	14.00	1.104	0.06	0.392	0.433
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant 8	DSI 1	349000	1745	13.75	14.00	1.059	0.13	0.127	0.135
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Tilted	0mm	Ant 8	DSI 1	349000	1745	13.57	14.00	1.104	0.02	0.141	0.156
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 2	DSI 1	518598	2592.99	24.35	25.00	1.161	0.05	0.065	0.075
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 2	DSI 1	518598	2592.99	24.23	25.00	1.194	0.15	0.059	0.070
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 2	DSI 1	518598	2592.99	24.35	25.00	1.161	0.08	0.051	0.059
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 2	DSI 1	518598	2592.99	24.23	25.00	1.194	0.04	0.019	0.023

Sporton International (Kunshan) Inc.

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

FCC ID : 2AFZZ113SG

Page 61 of 95

Issued Date : Jul. 19, 2021

Form version. : 200414



FCC SAR Test Report

Report No. : FA151502

	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 2	DSI 1	518598	2592.99	24.35	25.00	1.161	-0.06	0.110	0.128
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 2	DSI 1	518598	2592.99	24.23	25.00	1.194	0.04	0.102	0.122
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 2	DSI 1	518598	2592.99	24.35	25.00	1.161	-0.01	0.027	0.031
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 2	DSI 1	518598	2592.99	24.23	25.00	1.194	-0.03	0.027	0.032
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 4	DSI 1	518598	2592.99	13.23	14.00	1.194	0.02	0.357	0.426
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 4	DSI 1	518598	2592.99	13.12	14.00	1.225	-0.04	0.353	0.432
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 4	DSI 1	518598	2592.99	13.23	14.00	1.194	0.05	0.199	0.238
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 4	DSI 1	518598	2592.99	13.12	14.00	1.225	0.07	0.213	0.261
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 4	DSI 1	518598	2592.99	13.23	14.00	1.194	0.11	0.096	0.115
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 4	DSI 1	518598	2592.99	13.12	14.00	1.225	-0.09	0.102	0.125
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 4	DSI 1	518598	2592.99	13.23	14.00	1.194	0.17	0.056	0.067
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 4	DSI 1	518598	2592.99	13.12	14.00	1.225	0.05	0.068	0.083
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 5	DSI 1	518598	2592.99	12.72	13.00	1.067	-0.12	0.383	0.409
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 5	DSI 1	518598	2592.99	12.55	13.00	1.109	-0.14	0.362	0.402
18	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 5	DSI 1	518598	2592.99	12.72	13.00	1.067	0.07	0.416	0.444
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 5	DSI 1	518598	2592.99	12.55	13.00	1.109	-0.03	0.373	0.414
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 5	DSI 1	518598	2592.99	12.72	13.00	1.067	-0.15	0.188	0.201
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 5	DSI 1	518598	2592.99	12.55	13.00	1.109	0.04	0.213	0.236
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 5	DSI 1	518598	2592.99	12.72	13.00	1.067	0.06	0.223	0.238
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 5	DSI 1	518598	2592.99	12.55	13.00	1.109	-0.05	0.237	0.263
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 8	DSI 1	518598	2592.99	13.31	13.50	1.045	0.18	0.091	0.095
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 8	DSI 1	518598	2592.99	13.29	13.50	1.050	-0.05	0.081	0.085
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 8	DSI 1	518598	2592.99	13.31	13.50	1.045	0.14	0.053	0.055
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 8	DSI 1	518598	2592.99	13.29	13.50	1.050	0.01	0.063	0.066
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 8	DSI 1	518598	2592.99	13.31	13.50	1.045	0.12	0.418	0.437
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 8	DSI 1	518598	2592.99	13.29	13.50	1.050	0.04	0.389	0.408
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 8	DSI 1	518598	2592.99	13.31	13.50	1.045	-0.16	0.158	0.165
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 8	DSI 1	518598	2592.99	13.29	13.50	1.050	0.18	0.153	0.161
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 6	DSI 1	656000	3840	16.15	17.50	1.365	0.14	0.598	0.816
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 6	DSI 1	656000	3840	16.14	17.50	1.368	0.03	0.505	0.691
	FR1 n77	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 6	DSI 1	656000	3840	16.08	17.50	1.387	0.02	0.508	0.704
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 6	DSI 1	656000	3840	16.15	17.50	1.365	0.06	0.752	1.026
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 6	DSI 1	656000	3840	16.14	17.50	1.368	0.14	0.617	0.844
	FR1 n77	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 6	DSI 1	656000	3840	16.08	17.50	1.387	0.03	0.625	0.867
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 6	DSI 1	656000	3840	16.15	17.50	1.365	0.01	0.459	0.626
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 6	DSI 1	656000	3840	16.14	17.50	1.368	-0.02	0.655	0.896
	FR1 n77	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 6	DSI 1	656000	3840	16.15	17.50	1.365	0.03	0.659	0.899
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 6	DSI 1	656000	3840	16.15	17.50	1.365	0.1	0.439	0.599
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 6	DSI 1	656000	3840	16.14	17.50	1.368	-0.04	0.758	1.037
	FR1 n77	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 6	DSI 1	656000	3840	16.15	17.50	1.365	0.12	0.698	0.952
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 6	DSI 1	633334	3500.01	16.00	17.50	1.413	0.03	0.236	0.333
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 6	DSI 1	633334	3500.01	15.89	17.50	1.449	-0.07	0.225	0.326
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 6	DSI 1	633334	3500.01	16.00	17.50	1.413	0.04	0.321	0.453
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 6	DSI 1	633334	3500.01	15.89	17.50	1.449	0.07	0.309	0.448
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 6	DSI 1	633334	3500.01	16.00	17.50	1.413	0.16	0.325	0.459
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 6	DSI 1	633334	3500.01	15.89	17.50	1.449	0.01	0.297	0.430
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 6	DSI 1	633334	3500.01	16.00	17.50	1.413	-0.01	0.433	0.612
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 6	DSI 1	633334	3500.01	15.89	17.50	1.449	0.15	0.396	0.574
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 11	DSI 1	656000	3840	21.49	21.50	1.002	0.09	0.480	0.481
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 11	DSI 1	656000	3840	21.42	21.50	1.019	0.08	0.413	0.421
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 11	DSI 1	656000	3840	21.49	21.50	1.002	0.1	0.540	0.541
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 11	DSI 1	656000	3840	21.42	21.50	1.019	0.04	0.466	0.475
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 11	DSI 1	656000	3840	21.49	21.50	1.002	-0.15	0.322	0.323
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 11	DSI 1	656000	3840	21.42	21.50	1.019	-0.02	0.326	0.332
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 11	DSI 1	656000	3840	21.49	21.50	1.002	0.02	0.433	0.434
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 11	DSI 1	656000	3840	21.42	21.50	1.019	0.01	0.420	0.428



FCC SAR Test Report

Report No. : FA151502

	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 11	DSI 1	633334	3500.01	21.42	21.50	1.019	0.18	0.451	0.459
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 11	DSI 1	633334	3500.01	21.28	21.50	1.052	-0.05	0.414	0.436
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 11	DSI 1	633334	3500.01	21.42	21.50	1.019	-0.01	0.642	0.654
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 11	DSI 1	633334	3500.01	21.28	21.50	1.052	-0.09	0.604	0.635
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 11	DSI 1	633334	3500.01	21.42	21.50	1.019	0.02	0.226	0.230
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 11	DSI 1	633334	3500.01	21.28	21.50	1.052	0.05	0.207	0.218
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 11	DSI 1	633334	3500.01	21.42	21.50	1.019	-0.02	0.290	0.295
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 11	DSI 1	633334	3500.01	21.28	21.50	1.052	0.15	0.289	0.304
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 12	DSI 1	656000	3840	16.41	17.50	1.285	-0.09	0.641	0.824
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 12	DSI 1	656000	3750	16.30	17.50	1.318	0.16	0.621	0.819
	FR1 n77	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 12	DSI 1	656000	3840	16.30	17.50	1.318	0.03	0.615	0.811
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 12	DSI 1	656000	3840	16.41	17.50	1.285	0.04	0.308	0.396
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 12	DSI 1	656000	3840	16.30	17.50	1.318	-0.12	0.214	0.282
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 12	DSI 1	656000	3840	16.41	17.50	1.285	-0.11	0.098	0.126
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 12	DSI 1	656000	3840	16.30	17.50	1.318	0.01	0.089	0.117
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 12	DSI 1	656000	3840	16.41	17.50	1.285	0.07	0.079	0.102
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 12	DSI 1	656000	3840	16.30	17.50	1.318	0.04	0.067	0.088
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 12	DSI 1	633334	3500.01	17.23	17.50	1.064	0.03	0.540	0.575
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 12	DSI 1	633334	3500.01	17.02	17.50	1.117	0.12	0.548	0.612
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 12	DSI 1	633334	3500.01	17.23	17.50	1.064	0.1	0.191	0.203
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 12	DSI 1	633334	3500.01	17.02	17.50	1.117	0.11	0.196	0.219
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 12	DSI 1	633334	3500.01	17.23	17.50	1.064	-0.1	0.109	0.116
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 12	DSI 1	633334	3500.01	17.02	17.50	1.117	-0.02	0.124	0.138
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 12	DSI 1	633334	3500.01	17.23	17.50	1.064	0.13	0.071	0.076
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 12	DSI 1	633334	3500.01	17.02	17.50	1.117	0.19	0.062	0.069
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 13	DSI 1	656000	3840	15.60	16.50	1.230	0.09	0.656	0.807
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 13	DSI 1	656000	3840	15.58	16.50	1.236	-0.17	0.847	1.047
	FR1 n77	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 13	DSI 1	656000	3840	15.51	16.50	1.256	0.03	0.632	0.794
19	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 13	DSI 1	656000	3840	15.60	16.50	1.230	-0.06	0.871	1.072
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 13	DSI 1	656000	3840	15.58	16.50	1.236	0.15	0.850	1.051
	FR1 n77	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 13	DSI 1	656000	3840	15.51	16.50	1.256	-0.02	0.833	1.046
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 13	DSI 1	656000	3840	15.60	16.50	1.230	0.06	0.351	0.432
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 13	DSI 1	656000	3840	15.58	16.50	1.236	0.07	0.257	0.318
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 13	DSI 1	656000	3840	15.60	16.50	1.230	-0.15	0.345	0.424
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 13	DSI 1	656000	3840	15.58	16.50	1.236	0.01	0.288	0.356
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 13	DSI 1	633334	3500.01	15.42	16.50	1.282	0.09	0.593	0.760
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 13	DSI 1	633334	3500.01	15.30	16.50	1.318	-0.09	0.583	0.769
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 13	DSI 1	633334	3500.01	15.42	16.50	1.282	-0.05	0.811	1.040
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 13	DSI 1	633334	3500.01	15.30	16.50	1.318	0.13	0.783	1.032
	FR1 n77	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 13	DSI 1	633334	3500.01	15.18	16.50	1.355	-0.01	0.762	1.033
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 13	DSI 1	633334	3500.01	15.42	16.50	1.282	0.04	0.232	0.298
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 13	DSI 1	633334	3500.01	15.30	16.50	1.318	0.09	0.247	0.326
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 13	DSI 1	633334	3500.01	15.42	16.50	1.282	0.01	0.298	0.382
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 13	DSI 1	633334	3500.01	15.30	16.50	1.318	-0.16	0.296	0.390
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 6	DSI 1	650000	3750	13.53	15.00	1.403	0.07	0.415	0.582
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 6	DSI 1	650000	3750	13.48	15.00	1.419	0.08	0.258	0.366
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 6	DSI 1	650000	3750	13.53	15.00	1.403	0.07	0.286	0.401
20	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 6	DSI 1	650000	3750	13.48	15.00	1.419	-0.08	0.419	0.595
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 6	DSI 1	650000	3750	13.53	15.00	1.403	-0.13	0.269	0.377
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 6	DSI 1	650000	3750	13.48	15.00	1.419	-0.02	0.262	0.372
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 6	DSI 1	650000	3750	13.53	15.00	1.403	0.06	0.362	0.508
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 6	DSI 1	650000	3750	13.48	15.00	1.419	0.01	0.372	0.528
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 6	DSI 1	633334	3500.01	13.50	15.00	1.413	0.13	0.166	0.234
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 6	DSI 1	633334	3500.01	13.33	15.00	1.469	-0.12	0.164	0.241
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 6	DSI 1	633334	3500.01	13.50	15.00	1.413	-0.03	0.227	0.321
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 6	DSI 1	633334	3500.01	13.33	15.00	1.469	-0.16	0.224	0.329

Sporton International (Kunshan) Inc.

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

FCC ID : 2AFZZ113SG

Page 63 of 95

Issued Date : Jul. 19, 2021

Form version. : 200414



FCC SAR Test Report

Report No. : FA151502

FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 6	DSI 1	633334	3500.01	13.50	15.00	1.413	0.03	0.212	0.299
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 6	DSI 1	633334	3500.01	13.33	15.00	1.469	-0.06	0.183	0.269
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 6	DSI 1	633334	3500.01	13.50	15.00	1.413	0.03	0.282	0.398
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 6	DSI 1	633334	3500.01	13.33	15.00	1.469	0.08	0.244	0.358
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 11	DSI 1	650000	3750	17.69	19.00	1.352	-0.16	0.015	0.020
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 11	DSI 1	650000	3750	17.60	19.00	1.380	0.04	0.026	0.036
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 11	DSI 1	650000	3750	17.69	19.00	1.352	-0.05	0.017	0.023
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 11	DSI 1	650000	3750	17.60	19.00	1.380	0.09	0.042	0.058
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 11	DSI 1	650000	3750	17.69	19.00	1.352	0.09	0.029	0.039
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 11	DSI 1	650000	3750	17.60	19.00	1.380	0.14	0.013	0.018
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 11	DSI 1	650000	3750	17.69	19.00	1.352	0.02	0.040	0.054
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 11	DSI 1	650000	3750	17.60	19.00	1.380	0.07	0.019	0.026
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 11	DSI 1	633334	3500.01	17.79	19.00	1.321	0.02	0.226	0.299
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 11	DSI 1	633334	3500.01	17.68	19.00	1.355	0.16	0.222	0.301
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 11	DSI 1	633334	3500.01	17.79	19.00	1.321	0.19	0.335	0.443
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 11	DSI 1	633334	3500.01	17.68	19.00	1.355	0.04	0.301	0.408
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 11	DSI 1	633334	3500.01	17.79	19.00	1.321	-0.16	0.113	0.149
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 11	DSI 1	633334	3500.01	17.68	19.00	1.355	-0.19	0.099	0.134
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 11	DSI 1	633334	3500.01	17.79	19.00	1.321	0.06	0.154	0.203
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 11	DSI 1	633334	3500.01	17.68	19.00	1.355	0.01	0.148	0.201
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 12	DSI 1	650000	3750	15.50	16.50	1.259	-0.04	0.064	0.081
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 12	DSI 1	650000	3750	15.45	16.50	1.274	-0.01	0.066	0.084
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 12	DSI 1	650000	3750	15.50	16.50	1.259	-0.03	0.018	0.023
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 12	DSI 1	650000	3750	15.45	16.50	1.274	0.16	0.017	0.022
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 12	DSI 1	650000	3750	15.50	16.50	1.259	0.09	0.012	0.015
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 12	DSI 1	650000	3750	15.45	16.50	1.274	-0.13	0.011	0.014
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 12	DSI 1	650000	3750	15.50	16.50	1.259	0.07	0.007	0.009
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 12	DSI 1	650000	3750	15.45	16.50	1.274	0.03	0.006	0.008
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 12	DSI 1	633334	3500.01	15.66	16.50	1.213	-0.01	0.390	0.473
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 12	DSI 1	633334	3500.01	15.56	16.50	1.242	0.16	0.309	0.384
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 12	DSI 1	633334	3500.01	15.66	16.50	1.213	-0.1	0.123	0.149
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 12	DSI 1	633334	3500.01	15.56	16.50	1.242	-0.1	0.110	0.137
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 12	DSI 1	633334	3500.01	15.66	16.50	1.213	0.08	0.093	0.113
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 12	DSI 1	633334	3500.01	15.56	16.50	1.242	-0.19	0.088	0.109
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 12	DSI 1	633334	3500.01	15.66	16.50	1.213	0.09	0.043	0.052
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 12	DSI 1	633334	3500.01	15.56	16.50	1.242	0.15	0.039	0.048
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 13	DSI 1	650000	3750	13.62	14.50	1.225	0.16	0.072	0.088
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 13	DSI 1	650000	3750	13.53	14.50	1.250	0.09	0.078	0.098
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 13	DSI 1	650000	3750	13.62	14.50	1.225	0.09	0.083	0.102
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 13	DSI 1	650000	3750	13.53	14.50	1.250	-0.07	0.087	0.109
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 13	DSI 1	650000	3750	13.62	14.50	1.225	0.11	0.028	0.034
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 13	DSI 1	650000	3750	13.53	14.50	1.250	0.01	0.029	0.036
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 13	DSI 1	650000	3750	13.62	14.50	1.225	0.14	0.035	0.043
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 13	DSI 1	650000	3750	13.53	14.50	1.250	-0.06	0.037	0.046
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 13	DSI 1	633334	3500.01	14.02	14.50	1.117	0.12	0.340	0.380
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Cheek	0mm	Ant 13	DSI 1	633334	3500.01	13.88	14.50	1.153	0.05	0.343	0.396
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 13	DSI 1	633334	3500.01	14.02	14.50	1.117	-0.18	0.461	0.515
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Tilted	0mm	Ant 13	DSI 1	633334	3500.01	13.88	14.50	1.153	-0.07	0.458	0.528
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 13	DSI 1	633334	3500.01	14.02	14.50	1.117	-0.04	0.134	0.150
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Cheek	0mm	Ant 13	DSI 1	633334	3500.01	13.88	14.50	1.153	0.18	0.174	0.201
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 13	DSI 1	633334	3500.01	14.02	14.50	1.117	0.13	0.171	0.191
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Tilted	0mm	Ant 13	DSI 1	633334	3500.01	13.88	14.50	1.153	-0.1	0.174	0.201



<WLAN2.4G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 7+9	standalone	6	2437	20.18	21.50	1.355	100	1.000	-0.17	0.198	0.268
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 7+9	standalone	6	2437	20.18	21.50	1.355	100	1.000	-0.14	0.184	0.249
21	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 7+9	standalone	6	2437	20.18	21.50	1.355	100	1.000	0.08	0.735	0.996
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 7+9	standalone	1	2412	20.16	21.50	1.361	100	1.000	0.1	0.701	0.954
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 7+9	standalone	6	2437	20.18	21.50	1.355	100	1.000	0.05	0.478	0.648
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 7+9	DBS	6	2437	18.89	20.00	1.291	100	1.000	0.02	0.163	0.210
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 7+9	DBS	6	2437	18.89	20.00	1.291	100	1.000	0.03	0.152	0.196
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 7+9	DBS	6	2437	18.89	20.00	1.291	100	1.000	0.03	0.606	0.782
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 7+9	DBS	6	2437	18.89	20.00	1.291	100	1.000	0.03	0.394	0.509
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 7+9	simultaneous_2TX	6	2437	16.83	18.00	1.309	100	1.000	-0.14	0.097	0.127
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 7+9	simultaneous_2TX	6	2437	16.83	18.00	1.309	100	1.000	0.15	0.090	0.118
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 7+9	simultaneous_2TX	6	2437	16.83	18.00	1.309	100	1.000	0.05	0.360	0.471
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 7+9	simultaneous_2TX	6	2437	16.83	18.00	1.309	100	1.000	0.05	0.234	0.306
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 7+9	simultaneous_3TX	6	2437	12.85	14.00	1.303	100	1.000	-0.02	0.036	0.047
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 7+9	simultaneous_3TX	6	2437	12.85	14.00	1.303	100	1.000	0.13	0.034	0.044
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 7+9	simultaneous_3TX	6	2437	12.85	14.00	1.303	100	1.000	-0.04	0.134	0.175
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 7+9	simultaneous_3TX	6	2437	12.85	14.00	1.303	100	1.000	0.07	0.087	0.113

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 7	simultaneous	39	2441	10.99	12.00	1.262	77.06	1.298	0.05	0.074	0.121
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 7	simultaneous	39	2441	10.99	12.00	1.262	77.06	1.298	0.05	0.092	0.151
	Bluetooth	1Mbps	Left Cheek	0mm	Ant 7	simultaneous	39	2441	10.99	12.00	1.262	77.06	1.298	0.06	0.131	0.215
22	Bluetooth	1Mbps	Left Tilted	0mm	Ant 7	simultaneous	39	2441	10.99	12.00	1.262	77.06	1.298	0.03	0.152	0.249
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 9	simultaneous	39	2441	9.23	10.00	1.194	76.82	1.302	-0.17	0.047	0.073
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 9	simultaneous	39	2441	9.23	10.00	1.194	76.82	1.302	0.03	0.007	0.011
	Bluetooth	1Mbps	Left Cheek	0mm	Ant 9	simultaneous	39	2441	9.23	10.00	1.194	76.82	1.302	-0.17	0.098	0.152
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 9	simultaneous	39	2441	9.23	10.00	1.194	76.82	1.302	0.14	0.019	0.030



<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
23	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7+9	standalone	58	5290	15.65	17.00	1.365	100	1.000	0.06	0.583	0.796
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7+9	standalone	58	5290	15.65	17.00	1.365	100	1.000	-0.19	0.497	0.678
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+9	standalone	58	5290	15.65	17.00	1.365	100	1.000	-0.11	0.705	0.962
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+9	standalone	58	5290	15.65	17.00	1.365	100	1.000	0.06	0.622	0.849
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7+9	DBS	58	5290	13.33	15.00	1.469	100	1.000	0.19	0.415	0.610
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7+9	DBS	58	5290	13.33	15.00	1.469	100	1.000	-0.14	0.354	0.520
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+9	DBS	58	5290	13.33	15.00	1.469	100	1.000	0.08	0.502	0.737
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+9	DBS	58	5290	13.33	15.00	1.469	100	1.000	0.17	0.443	0.651
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7+9	simultaneous_2TX	58	5290	11.90	13.50	1.445	100	1.000	-0.17	0.276	0.399
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7+9	simultaneous_2TX	58	5290	11.90	13.50	1.445	100	1.000	0.02	0.235	0.340
24	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+9	simultaneous_2TX	58	5290	11.90	13.50	1.445	100	1.000	-0.05	0.334	0.483
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+9	simultaneous_2TX	58	5290	11.90	13.50	1.445	100	1.000	0.04	0.295	0.426
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7+9	simultaneous_3TX	58	5290	9.62	11.00	1.374	100	1.000	0.05	0.119	0.164
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7+9	simultaneous_3TX	58	5290	9.62	11.00	1.374	100	1.000	-0.04	0.101	0.139
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+9	simultaneous_3TX	58	5290	9.62	11.00	1.374	100	1.000	0.01	0.144	0.198
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+9	simultaneous_3TX	58	5290	9.62	11.00	1.374	100	1.000	0.1	0.127	0.175
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7+9	standalone	138	5690	13.54	15.00	1.400	100	1.000	0.01	0.412	0.577
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7+9	standalone	138	5690	13.54	15.00	1.400	100	1.000	-0.14	0.392	0.549
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+9	standalone	138	5690	13.54	15.00	1.400	100	1.000	-0.13	0.649	0.908
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+9	standalone	106	5530	13.49	15.00	1.416	100	1.000	0.03	0.611	0.865
25	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+9	standalone	138	5690	13.54	15.00	1.400	100	1.000	0.08	0.613	0.858
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+9	standalone	106	5530	13.49	15.00	1.416	100	1.000	-0.16	0.599	0.848
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7+9	DBS	138	5690	11.63	13.00	1.371	100	1.000	-0.12	0.275	0.377
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7+9	DBS	138	5690	11.63	13.00	1.371	100	1.000	-0.15	0.262	0.359
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+9	DBS	138	5690	11.63	13.00	1.371	100	1.000	-0.11	0.433	0.594
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+9	DBS	138	5690	11.63	13.00	1.371	100	1.000	-0.05	0.409	0.561
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7+9	simultaneous_2TX	138	5690	11.16	12.50	1.361	100	1.000	0.07	0.231	0.314
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7+9	simultaneous_2TX	138	5690	11.16	12.50	1.361	100	1.000	0.12	0.221	0.301
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+9	simultaneous_2TX	138	5690	11.16	12.50	1.361	100	1.000	0.03	0.365	0.497
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+9	simultaneous_2TX	138	5690	11.16	12.50	1.361	100	1.000	-0.02	0.345	0.470
25	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7+9	simultaneous_3TX	138	5690	8.05	9.50	1.396	100	1.000	-0.19	0.092	0.128
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7+9	simultaneous_3TX	138	5690	8.05	9.50	1.396	100	1.000	-0.02	0.088	0.123
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+9	simultaneous_3TX	138	5690	8.05	9.50	1.396	100	1.000	0.01	0.145	0.202
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+9	simultaneous_3TX	138	5690	8.05	9.50	1.396	100	1.000	0.01	0.137	0.191
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7+9	standalone	155	5775	14.99	16.00	1.262	100	1.000	-0.17	0.604	0.762
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7+9	standalone	155	5775	14.99	16.00	1.262	100	1.000	-0.11	0.595	0.751
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+9	standalone	155	5775	14.99	16.00	1.262	100	1.000	0.05	0.853	1.076
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+9	standalone	155	5775	14.99	16.00	1.262	100	1.000	0.04	0.783	0.988
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7+9	DBS	155	5775	12.49	13.50	1.262	100	1.000	0.02	0.417	0.526
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7+9	DBS	155	5775	12.49	13.50	1.262	100	1.000	-0.05	0.411	0.519
25	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+9	DBS	155	5775	12.49	13.50	1.262	100	1.000	0.03	0.589	0.743
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+9	DBS	155	5775	12.49	13.50	1.262	100	1.000	0.01	0.541	0.683
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7+9	simultaneous_2TX	155	5775	10.54	11.50	1.247	100	1.000	0.04	0.230	0.287
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7+9	simultaneous_2TX	155	5775	10.54	11.50	1.247	100	1.000	0.03	0.227	0.283
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+9	simultaneous_2TX	155	5775	10.54	11.50	1.247	100	1.000	0.04	0.325	0.405
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+9	simultaneous_2TX	155	5775	10.54	11.50	1.247	100	1.000	0.06	0.298	0.372
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7+9	simultaneous_3TX	155	5775	8.14	9.00	1.219	100	1.000	-0.05	0.094	0.115
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7+9	simultaneous_3TX	155	5775	8.14	9.00	1.219	100	1.000	0.06	0.093	0.113
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+9	simultaneous_3TX	155	5775	8.14	9.00	1.219	100	1.000	0.07	0.133	0.162
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+9	simultaneous_3TX	155	5775	8.14	9.00	1.219	100	1.000	0.08	0.122	0.149

15.2 Hotspot SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850	GPRS (4 Tx slots)	Front	10mm	Ant 1	DSI 5	189	836.4	26.03	27.50	1.403	-0.01	0.283	0.397
	GSM850	GPRS (4 Tx slots)	Back	10mm	Ant 1	DSI 5	189	836.4	26.03	27.50	1.403	0.04	0.339	0.476
	GSM850	GPRS (4 Tx slots)	Right Side	10mm	Ant 1	DSI 5	189	836.4	26.03	27.50	1.403	0.19	0.137	0.192
	GSM850	GPRS (4 Tx slots)	Bottom Side	10mm	Ant 1	DSI 5	189	836.4	26.03	27.50	1.403	0.04	0.208	0.292
	GSM850	GPRS (4 Tx slots)	Front	10mm	Ant 3	DSI 5	189	836.4	24.21	26.00	1.510	0.11	0.265	0.400
	GSM850	GPRS (4 Tx slots)	Back	10mm	Ant 3	DSI 5	189	836.4	24.21	26.00	1.510	0.05	0.218	0.329
26	GSM850	GPRS (4 Tx slots)	Left Side	10mm	Ant 3	DSI 5	189	836.4	24.21	26.00	1.510	0.02	0.415	0.627
	GSM850	GPRS (4 Tx slots)	Top Side	10mm	Ant 3	DSI 5	189	836.4	24.21	26.00	1.510	-0.07	0.000	0.000
	GSM1900	GPRS (1 Tx slot)	Front	10mm	Ant 2	DSI 5	661	1880	30.76	31.00	1.057	0.04	0.312	0.330
	GSM1900	GPRS (1 Tx slot)	Back	10mm	Ant 2	DSI 5	661	1880	30.76	31.00	1.057	0.03	0.365	0.386
	GSM1900	GPRS (1 Tx slot)	Left Side	10mm	Ant 2	DSI 5	661	1880	30.76	31.00	1.057	0.01	0.115	0.122
27	GSM1900	GPRS (1 Tx slot)	Bottom Side	10mm	Ant 2	DSI 5	661	1880	30.76	31.00	1.057	0.01	0.415	0.439
	GSM1900	GPRS (1 Tx slot)	Front	10mm	Ant 5	DSI 5	661	1880	28.42	29.50	1.282	-0.14	0.111	0.142
	GSM1900	GPRS (1 Tx slot)	Back	10mm	Ant 5	DSI 5	661	1880	28.42	29.50	1.282	0.02	0.142	0.182
	GSM1900	GPRS (1 Tx slot)	Left Side	10mm	Ant 5	DSI 5	661	1880	28.42	29.50	1.282	0.01	0.083	0.106
	GSM1900	GPRS (1 Tx slot)	Top Side	10mm	Ant 5	DSI 5	661	1880	28.42	29.50	1.282	-0.11	0.212	0.272

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II	RMC 12.2Kbps	Front	10mm	Ant 2	DSI 5	9400	1880	23.57	24.50	1.239	0.15	0.676	0.837
	WCDMA II	RMC 12.2Kbps	Front	10mm	Ant 2	DSI 5	9262	1852.4	23.49	24.50	1.262	0.01	0.655	0.826
	WCDMA II	RMC 12.2Kbps	Front	10mm	Ant 2	DSI 5	9538	1907.6	23.44	24.50	1.276	0.12	0.639	0.816
28	WCDMA II	RMC 12.2Kbps	Back	10mm	Ant 2	DSI 5	9400	1880	23.57	24.50	1.239	-0.11	0.769	0.953
	WCDMA II	RMC 12.2Kbps	Left Side	10mm	Ant 2	DSI 5	9400	1880	23.57	24.50	1.239	-0.17	0.260	0.322
	WCDMA II	RMC 12.2Kbps	Bottom Side	10mm	Ant 2	DSI 5	9400	1880	23.57	24.50	1.239	0.02	0.768	0.951
	WCDMA II	RMC 12.2Kbps	Bottom Side	10mm	Ant 2	DSI 5	9262	1852.4	23.49	24.50	1.262	0.06	0.748	0.944
	WCDMA II	RMC 12.2Kbps	Bottom Side	10mm	Ant 2	DSI 5	9538	1907.6	23.44	24.50	1.276	0.03	0.726	0.927
	WCDMA II	RMC 12.2Kbps	Back	10mm	Ant 2	DSI 5	9262	1852.4	23.49	24.50	1.262	0.1	0.753	0.950
	WCDMA II	RMC 12.2Kbps	Back	10mm	Ant 2	DSI 5	9538	1907.6	23.44	24.50	1.276	0.08	0.733	0.936
	WCDMA II	RMC 12.2Kbps	Front	10mm	Ant 5	DSI 5	9400	1880	18.78	19.50	1.180	0.02	0.150	0.177
	WCDMA II	RMC 12.2Kbps	Back	10mm	Ant 5	DSI 5	9400	1880	18.78	19.50	1.180	0.14	0.194	0.229
	WCDMA II	RMC 12.2Kbps	Left Side	10mm	Ant 5	DSI 5	9400	1880	18.78	19.50	1.180	0.06	0.107	0.126
	WCDMA II	RMC 12.2Kbps	Top Side	10mm	Ant 5	DSI 5	9400	1880	18.78	19.50	1.180	-0.02	0.309	0.365
	WCDMA IV	RMC 12.2Kbps	Front	10mm	Ant 2	DSI 5	1513	1752.6	22.39	23.50	1.291	-0.11	0.641	0.828
	WCDMA IV	RMC 12.2Kbps	Back	10mm	Ant 2	DSI 5	1513	1752.6	22.39	23.50	1.291	-0.12	0.803	1.037
	WCDMA IV	RMC 12.2Kbps	Left Side	10mm	Ant 2	DSI 5	1513	1752.6	22.39	23.50	1.291	0.05	0.199	0.257
29	WCDMA IV	RMC 12.2Kbps	Bottom Side	10mm	Ant 2	DSI 5	1513	1752.6	22.39	23.50	1.291	-0.02	0.844	1.090
	WCDMA IV	RMC 12.2Kbps	Front	10mm	Ant 2	DSI 5	1413	1732.6	22.35	23.50	1.303	0.02	0.639	0.833
	WCDMA IV	RMC 12.2Kbps	Front	10mm	Ant 2	DSI 5	1312	1712.4	22.33	23.50	1.309	0.09	0.655	0.858
	WCDMA IV	RMC 12.2Kbps	Back	10mm	Ant 2	DSI 5	1413	1732.6	22.35	23.50	1.303	0.09	0.800	1.043
	WCDMA IV	RMC 12.2Kbps	Back	10mm	Ant 2	DSI 5	1312	1712.4	22.33	23.50	1.309	0.07	0.810	1.060
	WCDMA IV	RMC 12.2Kbps	Bottom Side	10mm	Ant 2	DSI 5	1413	1732.6	22.35	23.50	1.303	0.01	0.820	1.069
	WCDMA IV	RMC 12.2Kbps	Bottom Side	10mm	Ant 2	DSI 5	1312	1712.4	22.33	23.50	1.309	0.05	0.811	1.062
	WCDMA IV	RMC 12.2Kbps	Front	10mm	Ant 5	DSI 5	1513	1752.6	16.88	17.50	1.153	-0.08	0.146	0.168
	WCDMA IV	RMC 12.2Kbps	Back	10mm	Ant 5	DSI 5	1513	1752.6	16.88	17.50	1.153	-0.11	0.152	0.175
	WCDMA IV	RMC 12.2Kbps	Left Side	10mm	Ant 5	DSI 5	1513	1752.6	16.88	17.50	1.153	0.02	0.109	0.126
	WCDMA IV	RMC 12.2Kbps	Top Side	10mm	Ant 5	DSI 5	1513	1752.6	16.88	17.50	1.153	-0.11	0.268	0.309
	WCDMA V	RMC 12.2Kbps	Front	10mm	Ant 1	DSI 5	4182	836.4	24.90	25.50	1.148	0.13	0.612	0.703



FCC SAR Test Report

Report No. : FA151502

30	WCDMA V	RMC 12.2Kbps	Back	10mm	Ant 1	DSI 5	4182	836.4	24.90	25.50	1.148	0.01	0.635	0.729
	WCDMA V	RMC 12.2Kbps	Right Side	10mm	Ant 1	DSI 5	4182	836.4	24.90	25.50	1.148	0.18	0.256	0.294
	WCDMA V	RMC 12.2Kbps	Bottom Side	10mm	Ant 1	DSI 5	4182	836.4	24.90	25.50	1.148	0.09	0.390	0.448
	WCDMA V	RMC 12.2Kbps	Front	10mm	Ant 3	DSI 5	4132	826.4	22.16	22.50	1.081	-0.08	0.298	0.322
	WCDMA V	RMC 12.2Kbps	Back	10mm	Ant 3	DSI 5	4132	826.4	22.16	22.50	1.081	0.01	0.228	0.247
	WCDMA V	RMC 12.2Kbps	Left Side	10mm	Ant 3	DSI 5	4132	826.4	22.16	22.50	1.081	-0.02	0.504	0.545
	WCDMA V	RMC 12.2Kbps	Left Side	10mm	Ant 3	DSI 5	4132	826.4	22.16	22.50	1.081	0.01	0.548	0.593

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 2	20M	QPSK	1	0	Front	10mm	Ant 2	DSI 5	18900	1880	20.70	21.50	1.202	-0.13	0.332	0.399
	LTE Band 2	20M	QPSK	50	0	Front	10mm	Ant 2	DSI 5	18900	1880	20.66	21.50	1.213	-0.04	0.346	0.420
	LTE Band 2	20M	QPSK	1	0	Back	10mm	Ant 2	DSI 5	18900	1880	20.70	21.50	1.202	-0.1	0.373	0.448
	LTE Band 2	20M	QPSK	50	0	Back	10mm	Ant 2	DSI 5	18900	1880	20.66	21.50	1.213	0.03	0.388	0.471
	LTE Band 2	20M	QPSK	1	0	Left Side	10mm	Ant 2	DSI 5	18900	1880	20.70	21.50	1.202	0.01	0.129	0.155
	LTE Band 2	20M	QPSK	50	0	Left Side	10mm	Ant 2	DSI 5	18900	1880	20.66	21.50	1.213	0.03	0.133	0.161
	LTE Band 2	20M	QPSK	1	0	Bottom Side	10mm	Ant 2	DSI 5	18900	1880	20.70	21.50	1.202	0.17	0.457	0.549
31	LTE Band 2	20M	QPSK	50	0	Bottom Side	10mm	Ant 2	DSI 5	18900	1880	20.66	21.50	1.213	0.07	0.479	0.581
	LTE Band 2	20M	QPSK	1	0	Front	10mm	Ant 8	DSI 5	18900	1880	15.52	16.00	1.117	-0.15	0.071	0.079
	LTE Band 2	20M	QPSK	50	0	Front	10mm	Ant 8	DSI 5	18900	1880	15.50	16.00	1.122	0.06	0.078	0.088
	LTE Band 2	20M	QPSK	1	0	Back	10mm	Ant 8	DSI 5	18900	1880	15.52	16.00	1.117	-0.17	0.057	0.064
	LTE Band 2	20M	QPSK	50	0	Back	10mm	Ant 8	DSI 5	18900	1880	15.50	16.00	1.122	0.03	0.056	0.063
	LTE Band 2	20M	QPSK	1	0	Right Side	10mm	Ant 8	DSI 5	18900	1880	15.52	16.00	1.117	-0.19	0.092	0.103
	LTE Band 2	20M	QPSK	50	0	Right Side	10mm	Ant 8	DSI 5	18900	1880	15.50	16.00	1.122	0.09	0.095	0.107
	LTE Band 2	20M	QPSK	1	0	Top Side	10mm	Ant 8	DSI 5	18900	1880	15.52	16.00	1.117	0.07	0.000	0.000
	LTE Band 2	20M	QPSK	50	0	Top Side	10mm	Ant 8	DSI 5	18900	1880	15.50	16.00	1.122	0.03	0.000	0.000
	LTE Band 4	20M	QPSK	1	0	Front	10mm	Ant 4	DSI 5	20175	1732.5	22.58	23.00	1.102	0.1	0.221	0.243
	LTE Band 4	20M	QPSK	50	0	Front	10mm	Ant 4	DSI 5	20175	1732.5	22.57	23.00	1.104	-0.09	0.224	0.247
	LTE Band 4	20M	QPSK	1	0	Back	10mm	Ant 4	DSI 5	20175	1732.5	22.58	23.00	1.102	0.15	0.309	0.340
	LTE Band 4	20M	QPSK	50	0	Back	10mm	Ant 4	DSI 5	20175	1732.5	22.57	23.00	1.104	0.06	0.314	0.347
	LTE Band 4	20M	QPSK	1	0	Left Side	10mm	Ant 4	DSI 5	20175	1732.5	22.58	23.00	1.102	-0.07	0.354	0.390
32	LTE Band 4	20M	QPSK	50	0	Left Side	10mm	Ant 4	DSI 5	20175	1732.5	22.57	23.00	1.104	-0.04	0.356	0.393
	LTE Band 4	20M	QPSK	1	0	Top Side	10mm	Ant 4	DSI 5	20175	1732.5	22.58	23.00	1.102	-0.18	0.000	0.000
	LTE Band 4	20M	QPSK	50	0	Top Side	10mm	Ant 4	DSI 5	20175	1732.5	22.57	23.00	1.104	-0.08	0.000	0.000
	LTE Band 7	20M	QPSK	1	0	Front	10mm	Ant 2	DSI 5	21100	2535	21.89	22.50	1.151	0.04	0.430	0.495
	LTE Band 7	20M	QPSK	50	0	Front	10mm	Ant 2	DSI 5	21100	2535	21.81	22.50	1.172	0.07	0.437	0.512
	LTE Band 7	20M	QPSK	1	0	Back	10mm	Ant 2	DSI 5	21100	2535	21.89	22.50	1.151	0.01	0.466	0.536
	LTE Band 7	20M	QPSK	50	0	Back	10mm	Ant 2	DSI 5	21100	2535	21.81	22.50	1.172	0.08	0.484	0.567
	LTE Band 7	20M	QPSK	1	0	Left Side	10mm	Ant 2	DSI 5	21100	2535	21.89	22.50	1.151	-0.11	0.143	0.165
	LTE Band 7	20M	QPSK	50	0	Left Side	10mm	Ant 2	DSI 5	21100	2535	21.81	22.50	1.172	0.05	0.146	0.171
	LTE Band 7	20M	QPSK	1	0	Bottom Side	10mm	Ant 2	DSI 5	21100	2535	21.89	22.50	1.151	0.01	0.461	0.531
33	LTE Band 7	20M	QPSK	50	0	Bottom Side	10mm	Ant 2	DSI 5	21100	2535	21.81	22.50	1.172	0.11	0.492	0.577
	LTE Band 7C	20M	QPSK	50	0	Bottom Side	10mm	Ant 2	DSI 5	21100+21298	2535+2554.8	21.80	22.50	1.175	0.02	0.485	0.570
	LTE Band 7	20M	QPSK	1	0	Front	10mm	Ant 4	DSI 5	21100	2535	15.45	15.50	1.012	0.12	0.101	0.102
	LTE Band 7	20M	QPSK	50	0	Front	10mm	Ant 4	DSI 5	21100	2535	15.39	15.50	1.026	0.1	0.102	0.105
	LTE Band 7	20M	QPSK	1	0	Back	10mm	Ant 4	DSI 5	21100	2535	15.45	15.50	1.012	0.07	0.103	0.104
	LTE Band 7	20M	QPSK	50	0	Back	10mm	Ant 4	DSI 5	21100	2535	15.39	15.50	1.026	-0.09	0.103	0.106
	LTE Band 7	20M	QPSK	1	0	Left Side	10mm	Ant 4	DSI 5	21100	2535	15.45	15.50	1.012	0.09	0.157	0.159
	LTE Band 7	20M	QPSK	50	0	Left Side	10mm	Ant 4	DSI 5	21100	2535	15.39	15.50	1.026	0.06	0.158	0.162
	LTE Band 7C	20M	QPSK	50	0	Left Side	10mm	Ant 4	DSI 5	21100+21298	2535+2554.8	15.32	15.50	1.042	0.03	0.147	0.153
	LTE Band 7	20M	QPSK	1	0	Top Side	10mm	Ant 4	DSI 5	21100	2535	15.45	15.50	1.012	-0.14	0.030	0.030
	LTE Band 7	20M	QPSK	50	0	Top Side	10mm	Ant 4	DSI 5	21100	2535	15.39	15.50	1.026	-0.12	0.030	0.031
	LTE Band 7	20M	QPSK	1	0	Front	10mm	Ant 5	DSI 5	21100	2535	12.85	13.00	1.035	0.07	0.066	0.068
	LTE Band 7	20M	QPSK	50	0	Front	10mm	Ant 5	DSI 5	21100	2535	12.63	13.00	1.089	0.06	0.070	0.076

Sporton International (Kunshan) Inc.

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

FCC ID : 2AFZZ113SG

Page 68 of 95

Issued Date : Jul. 19, 2021

Form version. : 200414



FCC SAR Test Report

Report No. : FA151502

	LTE Band 7	20M	QPSK	1	0	Back	10mm	Ant 5	DSI 5	21100	2535	12.85	13.00	1.035	0.04	0.066	0.068
	LTE Band 7	20M	QPSK	50	0	Back	10mm	Ant 5	DSI 5	21100	2535	12.63	13.00	1.089	0.02	0.067	0.073
	LTE Band 7	20M	QPSK	1	0	Left Side	10mm	Ant 5	DSI 5	21100	2535	12.85	13.00	1.035	0.17	0.022	0.023
	LTE Band 7	20M	QPSK	50	0	Left Side	10mm	Ant 5	DSI 5	21100	2535	12.63	13.00	1.089	0.05	0.023	0.025
	LTE Band 7	20M	QPSK	1	0	Top Side	10mm	Ant 5	DSI 5	21100	2535	12.85	13.00	1.035	0.06	0.112	0.116
	LTE Band 7	20M	QPSK	50	0	Top Side	10mm	Ant 5	DSI 5	21100	2535	12.63	13.00	1.089	0.02	0.110	0.120
	LTE Band 7C	20M	QPSK	50	0	Top Side	10mm	Ant 5	DSI 5	21100+21298	2535+2554.8	12.61	13.00	1.094	0.03	0.105	0.115
	LTE Band 7	20M	QPSK	1	0	Front	10mm	Ant 8	DSI 5	21100	2535	13.88	14.00	1.028	-0.11	0.060	0.062
	LTE Band 7	20M	QPSK	50	0	Front	10mm	Ant 8	DSI 5	21100	2535	13.85	14.00	1.035	0.03	0.061	0.063
	LTE Band 7	20M	QPSK	1	0	Back	10mm	Ant 8	DSI 5	21100	2535	13.88	14.00	1.028	0.18	0.053	0.054
	LTE Band 7	20M	QPSK	50	0	Back	10mm	Ant 8	DSI 5	21100	2535	13.85	14.00	1.035	0.05	0.052	0.054
	LTE Band 7	20M	QPSK	1	0	Right Side	10mm	Ant 8	DSI 5	21100	2535	13.88	14.00	1.028	0.15	0.123	0.126
	LTE Band 7	20M	QPSK	50	0	Right Side	10mm	Ant 8	DSI 5	21100	2535	13.85	14.00	1.035	0.02	0.125	0.129
	LTE Band 7C	20M	QPSK	50	0	Right Side	10mm	Ant 8	DSI 5	21100+21298	2535+2554.8	13.82	14.00	1.042	0.05	0.112	0.117
	LTE Band 7	20M	QPSK	1	0	Top Side	10mm	Ant 8	DSI 5	21100	2535	13.88	14.00	1.028	0.02	0.000	0.000
	LTE Band 7	20M	QPSK	50	0	Top Side	10mm	Ant 8	DSI 5	21100	2535	13.85	14.00	1.035	-0.03	0.000	0.000
	LTE Band 12	10M	QPSK	1	0	Front	10mm	Ant 1	DSI 5	23095	707.5	24.53	25.50	1.250	-0.04	0.181	0.226
	LTE Band 12	10M	QPSK	25	0	Front	10mm	Ant 1	DSI 5	23095	707.5	23.42	24.50	1.282	0.12	0.145	0.186
	LTE Band 12	10M	QPSK	1	0	Back	10mm	Ant 1	DSI 5	23095	707.5	24.53	25.50	1.250	0.09	0.203	0.254
	LTE Band 12	10M	QPSK	25	0	Back	10mm	Ant 1	DSI 5	23095	707.5	23.42	24.50	1.282	0.18	0.163	0.209
	LTE Band 12	10M	QPSK	1	0	Right Side	10mm	Ant 1	DSI 5	23095	707.5	24.53	25.50	1.250	-0.04	0.220	0.275
	LTE Band 12	10M	QPSK	25	0	Right Side	10mm	Ant 1	DSI 5	23095	707.5	23.42	24.50	1.282	-0.07	0.172	0.221
	LTE Band 12	10M	QPSK	1	0	Bottom Side	10mm	Ant 1	DSI 5	23095	707.5	24.53	25.50	1.250	0.04	0.106	0.133
	LTE Band 12	10M	QPSK	25	0	Bottom Side	10mm	Ant 1	DSI 5	23095	707.5	23.42	24.50	1.282	-0.02	0.085	0.109
	LTE Band 12	10M	QPSK	1	0	Front	10mm	Ant 3	DSI 5	23095	707.5	24.45	25.00	1.135	-0.18	0.312	0.354
	LTE Band 12	10M	QPSK	25	0	Front	10mm	Ant 3	DSI 5	23095	707.5	23.38	24.00	1.153	0.02	0.253	0.292
	LTE Band 12	10M	QPSK	1	0	Back	10mm	Ant 3	DSI 5	23095	707.5	24.45	25.00	1.135	0.02	0.249	0.283
	LTE Band 12	10M	QPSK	25	0	Back	10mm	Ant 3	DSI 5	23095	707.5	23.38	24.00	1.153	0.06	0.205	0.236
34	LTE Band 12	10M	QPSK	1	0	Left Side	10mm	Ant 3	DSI 5	23095	707.5	24.45	25.00	1.135	-0.04	0.585	0.664
	LTE Band 12	10M	QPSK	25	0	Left Side	10mm	Ant 3	DSI 5	23095	707.5	23.38	24.00	1.153	-0.08	0.483	0.557
	LTE Band 12	10M	QPSK	1	0	Top Side	10mm	Ant 3	DSI 5	23095	707.5	24.45	25.00	1.135	-0.09	0.000	0.000
	LTE Band 12	10M	QPSK	25	0	Top Side	10mm	Ant 3	DSI 5	23095	707.5	23.38	24.00	1.153	0.19	0.000	0.000
	LTE Band 13	10M	QPSK	1	0	Front	10mm	Ant 1	DSI 5	23230	782	24.00	25.00	1.259	-0.02	0.202	0.254
	LTE Band 13	10M	QPSK	25	0	Front	10mm	Ant 1	DSI 5	23230	782	23.07	24.00	1.239	0.12	0.169	0.209
	LTE Band 13	10M	QPSK	1	0	Back	10mm	Ant 1	DSI 5	23230	782	24.00	25.00	1.259	-0.05	0.222	0.279
	LTE Band 13	10M	QPSK	25	0	Back	10mm	Ant 1	DSI 5	23230	782	23.07	24.00	1.239	-0.04	0.186	0.230
	LTE Band 13	10M	QPSK	1	0	Right Side	10mm	Ant 1	DSI 5	23230	782	24.00	25.00	1.259	0.04	0.143	0.180
	LTE Band 13	10M	QPSK	25	0	Right Side	10mm	Ant 1	DSI 5	23230	782	23.07	24.00	1.239	0.06	0.119	0.147
	LTE Band 13	10M	QPSK	1	0	Bottom Side	10mm	Ant 1	DSI 5	23230	782	24.00	25.00	1.259	0.05	0.131	0.165
	LTE Band 13	10M	QPSK	25	0	Bottom Side	10mm	Ant 1	DSI 5	23230	782	23.07	24.00	1.239	0.05	0.111	0.138
	LTE Band 13	10M	QPSK	1	0	Front	10mm	Ant 3	DSI 5	23230	782	22.97	23.50	1.130	0.02	0.366	0.414
	LTE Band 13	10M	QPSK	25	0	Front	10mm	Ant 3	DSI 5	23230	782	22.93	23.50	1.140	-0.16	0.382	0.436
	LTE Band 13	10M	QPSK	1	0	Back	10mm	Ant 3	DSI 5	23230	782	22.97	23.50	1.130	-0.05	0.326	0.368
	LTE Band 13	10M	QPSK	25	0	Back	10mm	Ant 3	DSI 5	23230	782	22.93	23.50	1.140	0.07	0.343	0.391
	LTE Band 13	10M	QPSK	1	0	Left Side	10mm	Ant 3	DSI 5	23230	782	22.97	23.50	1.130	0.04	0.638	0.721
35	LTE Band 13	10M	QPSK	25	0	Left Side	10mm	Ant 3	DSI 5	23230	782	22.93	23.50	1.140	-0.01	0.664	0.757
	LTE Band 13	10M	QPSK	1	0	Top Side	10mm	Ant 3	DSI 5	23230	782	22.97	23.50	1.130	0.03	0.000	0.000
	LTE Band 13	10M	QPSK	25	0	Top Side	10mm	Ant 3	DSI 5	23230	782	22.93	23.50	1.140	0.08	0.000	0.000
36	LTE Band 26	15M	QPSK	1	0	Front	10mm	Ant 1	DSI 5	26865	831.5	24.51	25.50	1.256	0.04	0.326	0.409
	LTE Band 26	15M	QPSK	36	0	Front	10mm	Ant 1	DSI 5	26865	831.5	23.58	24.50	1.236	-0.12	0.263	0.325
	LTE Band 26	15M	QPSK	1	0	Back	10mm	Ant 1	DSI 5	26865	831.5	24.51	25.50	1.256	-0.02	0.250	0.314
	LTE Band 26	15M	QPSK	36	0	Back	10mm	Ant 1	DSI 5	26865	831.5	23.58	24.50	1.236	0.13	0.277	0.342
	LTE Band 26	15M	QPSK	1	0	Right Side	10mm	Ant 1	DSI 5	26865	831.5	24.51	25.50	1.256	0.03	0.060	0.075
	LTE Band 26	15M	QPSK	36	0	Right Side	10mm	Ant 1	DSI 5	26865	831.5	23.58	24.50	1.236	-0.01	0.102	0.126
	LTE Band 26	15M	QPSK	1	0	Bottom Side	10mm	Ant 1	DSI 5	26865	831.5	24.51	25.50	1.256	-0.11	0.201	0.252
	LTE Band 26	15M	QPSK	36	0	Bottom Side	10mm	Ant 1	DSI 5	26865	831.5	23.58	24.50	1.236	0.04	0.180	0.222

Sporton International (Kunshan) Inc.

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

FCC ID : 2AFZZ113SG

Page 69 of 95

Issued Date : Jul. 19, 2021

Form version. : 200414



FCC SAR Test Report

Report No. : FA151502

	LTE Band 26	15M	QPSK	1	0	Front	10mm	Ant 3	DSI 5	26865	831.5	21.61	22.00	1.094	-0.17	0.064	0.070
	LTE Band 26	15M	QPSK	36	0	Front	10mm	Ant 3	DSI 5	26865	831.5	21.46	22.00	1.132	0.08	0.164	0.186
	LTE Band 26	15M	QPSK	1	0	Back	10mm	Ant 3	DSI 5	26865	831.5	21.61	22.00	1.094	0.03	0.072	0.079
	LTE Band 26	15M	QPSK	36	0	Back	10mm	Ant 3	DSI 5	26865	831.5	21.46	22.00	1.132	-0.1	0.137	0.155
	LTE Band 26	15M	QPSK	1	0	Left Side	10mm	Ant 3	DSI 5	26865	831.5	21.61	22.00	1.094	0.02	0.104	0.114
	LTE Band 26	15M	QPSK	36	0	Left Side	10mm	Ant 3	DSI 5	26865	831.5	21.46	22.00	1.132	0.01	0.252	0.285
	LTE Band 26	15M	QPSK	1	0	Top Side	10mm	Ant 3	DSI 5	26865	831.5	21.61	22.00	1.094	0.05	0.000	0.000
	LTE Band 26	15M	QPSK	36	0	Top Side	10mm	Ant 3	DSI 5	26865	831.5	21.46	22.00	1.132	0.08	0.000	0.000
	LTE Band 66	20M	QPSK	1	0	Front	10mm	Ant 2	DSI 5	132572	1770	20.28	21.00	1.180	-0.08	0.273	0.322
	LTE Band 66	20M	QPSK	50	0	Front	10mm	Ant 2	DSI 5	132572	1770	20.27	21.00	1.183	0.03	0.276	0.327
	LTE Band 66	20M	QPSK	1	0	Back	10mm	Ant 2	DSI 5	132572	1770	20.28	21.00	1.180	-0.17	0.332	0.392
	LTE Band 66	20M	QPSK	50	0	Back	10mm	Ant 2	DSI 5	132572	1770	20.27	21.00	1.183	0.03	0.338	0.400
	LTE Band 66	20M	QPSK	1	0	Left Side	10mm	Ant 2	DSI 5	132572	1770	20.28	21.00	1.180	0.13	0.090	0.106
	LTE Band 66	20M	QPSK	50	0	Left Side	10mm	Ant 2	DSI 5	132572	1770	20.27	21.00	1.183	0.06	0.090	0.106
	LTE Band 66	20M	QPSK	1	0	Bottom Side	10mm	Ant 2	DSI 5	132572	1770	20.28	21.00	1.180	-0.02	0.449	0.530
37	LTE Band 66	20M	QPSK	50	0	Bottom Side	10mm	Ant 2	DSI 5	132572	1770	20.27	21.00	1.183	0.09	0.452	0.535
	LTE Band 66	20M	QPSK	1	0	Front	10mm	Ant 4	DSI 5	132322	1745	18.58	19.00	1.102	0.1	0.099	0.109
	LTE Band 66	20M	QPSK	50	0	Front	10mm	Ant 4	DSI 5	132322	1745	18.57	19.00	1.104	0.08	0.101	0.112
	LTE Band 66	20M	QPSK	1	0	Back	10mm	Ant 4	DSI 5	132322	1745	18.58	19.00	1.102	0.15	0.139	0.153
	LTE Band 66	20M	QPSK	50	0	Back	10mm	Ant 4	DSI 5	132322	1745	18.57	19.00	1.104	0.06	0.141	0.156
	LTE Band 66	20M	QPSK	1	0	Left Side	10mm	Ant 4	DSI 5	132322	1745	18.58	19.00	1.102	-0.07	0.159	0.175
	LTE Band 66	20M	QPSK	50	0	Left Side	10mm	Ant 4	DSI 5	132322	1745	18.57	19.00	1.104	-0.04	0.160	0.177
	LTE Band 66	20M	QPSK	1	0	Top Side	10mm	Ant 4	DSI 5	132322	1745	18.58	19.00	1.102	-0.18	0.000	0.000
	LTE Band 66	20M	QPSK	50	0	Top Side	10mm	Ant 4	DSI 5	132322	1745	18.57	19.00	1.104	-0.08	0.000	0.000
	LTE Band 66	20M	QPSK	1	0	Front	10mm	Ant 5	DSI 5	132572	1770	15.65	17.00	1.365	-0.06	0.085	0.116
	LTE Band 66	20M	QPSK	50	0	Front	10mm	Ant 5	DSI 5	132572	1770	15.46	17.00	1.426	0.05	0.089	0.127
	LTE Band 66	20M	QPSK	1	0	Back	10mm	Ant 5	DSI 5	132572	1770	15.65	17.00	1.365	-0.09	0.095	0.130
	LTE Band 66	20M	QPSK	50	0	Back	10mm	Ant 5	DSI 5	132572	1770	15.46	17.00	1.426	0.03	0.096	0.137
	LTE Band 66	20M	QPSK	1	0	Left Side	10mm	Ant 5	DSI 5	132572	1770	15.65	17.00	1.365	0.06	0.035	0.048
	LTE Band 66	20M	QPSK	50	0	Left Side	10mm	Ant 5	DSI 5	132572	1770	15.46	17.00	1.426	0.02	0.036	0.051
	LTE Band 66	20M	QPSK	1	0	Top Side	10mm	Ant 5	DSI 5	132572	1770	15.65	17.00	1.365	0.16	0.158	0.216
	LTE Band 66	20M	QPSK	50	0	Top Side	10mm	Ant 5	DSI 5	132572	1770	15.46	17.00	1.426	0.1	0.163	0.232
	LTE Band 66	20M	QPSK	1	0	Front	10mm	Ant 8	DSI 5	132322	1745	14.05	15.50	1.396	0.09	0.053	0.074
	LTE Band 66	20M	QPSK	50	0	Front	10mm	Ant 8	DSI 5	132322	1745	14.01	15.50	1.409	0.06	0.055	0.078
	LTE Band 66	20M	QPSK	1	0	Back	10mm	Ant 8	DSI 5	132322	1745	14.05	15.50	1.396	0.06	0.047	0.066
	LTE Band 66	20M	QPSK	50	0	Back	10mm	Ant 8	DSI 5	132322	1745	14.01	15.50	1.409	-0.18	0.048	0.068
	LTE Band 66	20M	QPSK	1	0	Right Side	10mm	Ant 8	DSI 5	132322	1745	14.05	15.50	1.396	0.01	0.085	0.119
	LTE Band 66	20M	QPSK	50	0	Right Side	10mm	Ant 8	DSI 5	132322	1745	14.01	15.50	1.409	0.03	0.082	0.116
	LTE Band 66	20M	QPSK	1	0	Top Side	10mm	Ant 8	DSI 5	132322	1745	14.05	15.50	1.396	0.07	0.001	0.001
	LTE Band 66	20M	QPSK	50	0	Top Side	10mm	Ant 8	DSI 5	132322	1745	14.01	15.50	1.409	0.02	0.003	0.004



<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20M	QPSK	1	0	Front	10mm	Ant 2	DSI 5	40620	2593	22.68	23.50	1.208	62.9	1.006	0.06	0.275	0.334
	LTE Band 41	20M	QPSK	50	0	Front	10mm	Ant 2	DSI 5	40620	2593	22.65	23.50	1.216	62.9	1.006	0.03	0.286	0.350
	LTE Band 41	20M	QPSK	1	0	Back	10mm	Ant 2	DSI 5	40620	2593	22.68	23.50	1.208	62.9	1.006	0.01	0.300	0.365
	LTE Band 41	20M	QPSK	50	0	Back	10mm	Ant 2	DSI 5	40620	2593	22.65	23.50	1.216	62.9	1.006	-0.08	0.314	0.384
	LTE Band 41	20M	QPSK	1	0	Left Side	10mm	Ant 2	DSI 5	40620	2593	22.68	23.50	1.208	62.9	1.006	0.1	0.095	0.115
	LTE Band 41	20M	QPSK	50	0	Left Side	10mm	Ant 2	DSI 5	40620	2593	22.65	23.50	1.216	62.9	1.006	0.15	0.101	0.124
	LTE Band 41	20M	QPSK	1	0	Bottom Side	10mm	Ant 2	DSI 5	40620	2593	22.68	23.50	1.208	62.9	1.006	0.05	0.307	0.373
38	LTE Band 41	20M	QPSK	50	0	Bottom Side	10mm	Ant 2	DSI 5	40620	2593	22.65	23.50	1.216	62.9	1.006	-0.11	0.322	0.394
	LTE Band 38C	20M	QPSK	50	0	Bottom Side	10mm	Ant 2	DSI 5	3800+38198	2595+2554.8	22.54	23.50	1.247	62.9	1.006	0.03	0.312	0.392
	LTE Band 41	20M	QPSK	1	0	Front	10mm	Ant 4	DSI 5	40620	2593	16.84	17.00	1.038	62.9	1.006	0.03	0.060	0.063
	LTE Band 41	20M	QPSK	50	0	Front	10mm	Ant 4	DSI 5	40620	2593	16.82	17.00	1.042	62.9	1.006	0.14	0.062	0.065
	LTE Band 41	20M	QPSK	1	0	Back	10mm	Ant 4	DSI 5	40620	2593	16.84	17.00	1.038	62.9	1.006	0.07	0.059	0.062
	LTE Band 41	20M	QPSK	50	0	Back	10mm	Ant 4	DSI 5	40620	2593	16.82	17.00	1.042	62.9	1.006	-0.15	0.062	0.065
	LTE Band 41	20M	QPSK	1	0	Left Side	10mm	Ant 4	DSI 5	40620	2593	16.84	17.00	1.038	62.9	1.006	0.16	0.091	0.095
	LTE Band 41	20M	QPSK	50	0	Left Side	10mm	Ant 4	DSI 5	40620	2593	16.82	17.00	1.042	62.9	1.006	0.18	0.096	0.101
	LTE Band 38C	20M	QPSK	50	0	Left Side	10mm	Ant 4	DSI 5	3800+38198	2595+2554.8	16.72	17.00	1.067	62.9	1.006	0.03	0.091	0.098
	LTE Band 41	20M	QPSK	1	0	Top Side	10mm	Ant 4	DSI 5	40620	2593	16.84	17.00	1.038	62.9	1.006	-0.15	0.000	0.000
	LTE Band 41	20M	QPSK	50	0	Top Side	10mm	Ant 4	DSI 5	40620	2593	16.82	17.00	1.042	62.9	1.006	-0.1	0.000	0.000
	LTE Band 41	20M	QPSK	1	0	Front	10mm	Ant 5	DSI 5	40620	2593	15.88	16.00	1.028	62.9	1.006	-0.1	0.057	0.059
	LTE Band 41	20M	QPSK	50	0	Front	10mm	Ant 5	DSI 5	40620	2593	15.79	16.00	1.050	62.9	1.006	-0.17	0.061	0.064
	LTE Band 41	20M	QPSK	1	0	Back	10mm	Ant 5	DSI 5	40620	2593	15.88	16.00	1.028	62.9	1.006	0.08	0.053	0.055
	LTE Band 41	20M	QPSK	50	0	Back	10mm	Ant 5	DSI 5	40620	2593	15.79	16.00	1.050	62.9	1.006	0.05	0.055	0.058
	LTE Band 41	20M	QPSK	1	0	Left Side	10mm	Ant 5	DSI 5	40620	2593	15.88	16.00	1.028	62.9	1.006	-0.16	0.019	0.020
	LTE Band 41	20M	QPSK	50	0	Left Side	10mm	Ant 5	DSI 5	40620	2593	15.79	16.00	1.050	62.9	1.006	0.18	0.020	0.021
	LTE Band 41	20M	QPSK	1	0	Top Side	10mm	Ant 5	DSI 5	40620	2593	15.88	16.00	1.028	62.9	1.006	0.09	0.090	0.093
	LTE Band 41	20M	QPSK	50	0	Top Side	10mm	Ant 5	DSI 5	40620	2593	15.79	16.00	1.050	62.9	1.006	0.02	0.093	0.098
	LTE Band 38C	20M	QPSK	50	0	Top Side	10mm	Ant 5	DSI 5	3800+38198	2595+2554.8	15.55	16.00	1.109	62.9	1.006	0.03	0.091	0.102
	LTE Band 41	20M	QPSK	1	0	Front	10mm	Ant 8	DSI 5	40620	2593	17.37	17.50	1.030	62.9	1.006	0.11	0.047	0.049
	LTE Band 41	20M	QPSK	50	0	Front	10mm	Ant 8	DSI 5	40620	2593	17.35	17.50	1.035	62.9	1.006	0.13	0.050	0.052
	LTE Band 41	20M	QPSK	1	0	Back	10mm	Ant 8	DSI 5	40620	2593	17.37	17.50	1.030	62.9	1.006	0.01	0.032	0.033
	LTE Band 41	20M	QPSK	50	0	Back	10mm	Ant 8	DSI 5	40620	2593	17.35	17.50	1.035	62.9	1.006	-0.18	0.034	0.035
	LTE Band 41	20M	QPSK	1	0	Right Side	10mm	Ant 8	DSI 5	40620	2593	17.37	17.50	1.030	62.9	1.006	0.18	0.063	0.065
	LTE Band 41	20M	QPSK	50	0	Right Side	10mm	Ant 8	DSI 5	40620	2593	17.35	17.50	1.035	62.9	1.006	-0.08	0.067	0.070
	LTE Band 38C	20M	QPSK	50	0	Right Side	10mm	Ant 5	DSI 5	3800+38198	2595+2554.8	17.26	17.50	1.057	62.9	1.006	0.03	0.065	0.069
	LTE Band 41	20M	QPSK	1	0	Top Side	10mm	Ant 8	DSI 5	40620	2593	17.37	17.50	1.030	62.9	1.006	0.05	0.000	0.000
	LTE Band 41	20M	QPSK	50	0	Top Side	10mm	Ant 8	DSI 5	40620	2593	17.35	17.50	1.035	62.9	1.006	0.19	0.000	0.000



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 42	20M	QPSK	1	0	Front	10mm	Ant 6	DSI 5	42590	3500	17.96	19.00	1.271	62.9	1.006	0.01	0.057	0.073
	LTE Band 42	20M	QPSK	50	0	Front	10mm	Ant 6	DSI 5	42590	3500	17.93	19.00	1.279	62.9	1.006	0.07	0.048	0.062
	LTE Band 42	20M	QPSK	1	0	Back	10mm	Ant 6	DSI 5	42590	3500	17.96	19.00	1.271	62.9	1.006	0.04	0.054	0.069
	LTE Band 42	20M	QPSK	50	0	Back	10mm	Ant 6	DSI 5	42590	3500	17.93	19.00	1.279	62.9	1.006	0.04	0.043	0.055
	LTE Band 42	20M	QPSK	1	0	Right Side	10mm	Ant 6	DSI 5	42590	3500	17.96	19.00	1.271	62.9	1.006	0.13	0.007	0.009
	LTE Band 42	20M	QPSK	50	0	Right Side	10mm	Ant 6	DSI 5	42590	3500	17.93	19.00	1.279	62.9	1.006	-0.06	0.004	0.005
	LTE Band 42	20M	QPSK	1	0	Top Side	10mm	Ant 6	DSI 5	42590	3500	17.96	19.00	1.271	62.9	1.006	-0.04	0.175	0.224
	LTE Band 42	20M	QPSK	50	0	Top Side	10mm	Ant 6	DSI 5	42590	3500	17.93	19.00	1.279	62.9	1.006	-0.03	0.147	0.189
	LTE Band 42	20M	QPSK	1	0	Front	10mm	Ant 11	DSI 5	42590	3500	19.27	19.50	1.054	62.9	1.006	-0.14	0.024	0.025
	LTE Band 42	20M	QPSK	50	0	Front	10mm	Ant 11	DSI 5	42590	3500	19.23	19.50	1.064	62.9	1.006	0.07	0.031	0.033
	LTE Band 42	20M	QPSK	1	0	Back	10mm	Ant 11	DSI 5	42590	3500	19.27	19.50	1.054	62.9	1.006	0.06	0.250	0.265
	LTE Band 42	20M	QPSK	50	0	Back	10mm	Ant 11	DSI 5	42590	3500	19.23	19.50	1.064	62.9	1.006	0.19	0.199	0.213
	LTE Band 42	20M	QPSK	1	0	Left Side	10mm	Ant 11	DSI 5	42590	3500	19.27	19.50	1.054	62.9	1.006	-0.18	0.013	0.014
	LTE Band 42	20M	QPSK	50	0	Left Side	10mm	Ant 11	DSI 5	42590	3500	19.23	19.50	1.064	62.9	1.006	0.08	0.012	0.013
	LTE Band 42	20M	QPSK	1	0	Top Side	10mm	Ant 11	DSI 5	42590	3500	19.27	19.50	1.054	62.9	1.006	-0.05	0.121	0.128
	LTE Band 42	20M	QPSK	50	0	Top Side	10mm	Ant 11	DSI 5	42590	3500	19.23	19.50	1.064	62.9	1.006	0.01	0.099	0.106
	LTE Band 42	20M	QPSK	1	0	Front	10mm	Ant 12	DSI 5	42590	3500	19.81	20.00	1.045	62.9	1.006	0.07	0.105	0.110
	LTE Band 42	20M	QPSK	50	0	Front	10mm	Ant 12	DSI 5	42590	3500	19.70	20.00	1.072	62.9	1.006	0.12	0.090	0.097
	LTE Band 42	20M	QPSK	1	0	Back	10mm	Ant 12	DSI 5	42590	3500	19.81	20.00	1.045	62.9	1.006	0.08	0.131	0.138
	LTE Band 42	20M	QPSK	50	0	Back	10mm	Ant 12	DSI 5	42590	3500	19.70	20.00	1.072	62.9	1.006	0.12	0.132	0.142
	LTE Band 42	20M	QPSK	1	0	Left Side	10mm	Ant 12	DSI 5	42590	3500	19.81	20.00	1.045	62.9	1.006	-0.1	0.204	0.214
	LTE Band 42	20M	QPSK	50	0	Left Side	10mm	Ant 12	DSI 5	42590	3500	19.70	20.00	1.072	62.9	1.006	-0.03	0.208	0.224
	LTE Band 42	20M	QPSK	1	0	Top Side	10mm	Ant 12	DSI 5	42590	3500	19.81	20.00	1.045	62.9	1.006	-0.18	0.064	0.067
	LTE Band 42	20M	QPSK	50	0	Top Side	10mm	Ant 12	DSI 5	42590	3500	19.70	20.00	1.072	62.9	1.006	0.09	0.065	0.070
	LTE Band 42	20M	QPSK	1	0	Front	10mm	Ant 13	DSI 5	42590	3500	18.26	18.50	1.057	62.9	1.006	0.07	0.121	0.129
	LTE Band 42	20M	QPSK	50	0	Front	10mm	Ant 13	DSI 5	42590	3500	18.17	18.50	1.079	62.9	1.006	0.15	0.095	0.103
	LTE Band 42	20M	QPSK	1	0	Back	10mm	Ant 13	DSI 5	42590	3500	18.26	18.50	1.057	62.9	1.006	0.1	0.144	0.153
	LTE Band 42	20M	QPSK	50	0	Back	10mm	Ant 13	DSI 5	42590	3500	18.17	18.50	1.079	62.9	1.006	0.06	0.118	0.128
	LTE Band 42	20M	QPSK	1	0	Left Side	10mm	Ant 13	DSI 5	42590	3500	18.26	18.50	1.057	62.9	1.006	0.09	0.053	0.056
	LTE Band 42	20M	QPSK	50	0	Left Side	10mm	Ant 13	DSI 5	42590	3500	18.17	18.50	1.079	62.9	1.006	-0.09	0.042	0.046
39	LTE Band 42	20M	QPSK	1	0	Top Side	10mm	Ant 13	DSI 5	42590	3500	18.26	18.50	1.057	62.9	1.006	0.01	0.306	0.325
	LTE Band 42	20M	QPSK	50	0	Top Side	10mm	Ant 13	DSI 5	42590	3500	18.17	18.50	1.079	62.9	1.006	0.08	0.241	0.262



<5GNR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n5	20M	QPSK	1	53	DFT-s-OFDM SCS15KHz	Front	10mm	Ant 1	DSI 5	167300	836.5	22.54	23.50	1.247	0.02	0.304	0.379
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Front	10mm	Ant 1	DSI 5	167300	836.5	22.45	23.50	1.274	0.03	0.303	0.386
40	FR1 n5	20M	QPSK	1	53	DFT-s-OFDM SCS15KHz	Back	10mm	Ant 1	DSI 5	167300	836.5	22.54	23.50	1.247	-0.06	0.339	0.423
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Back	10mm	Ant 1	DSI 5	167300	836.5	22.45	23.50	1.274	-0.16	0.330	0.420
	FR1 n5	20M	QPSK	1	53	DFT-s-OFDM SCS15KHz	Right Side	10mm	Ant 1	DSI 5	167300	836.5	22.54	23.50	1.247	-0.08	0.075	0.094
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Right Side	10mm	Ant 1	DSI 5	167300	836.5	22.45	23.50	1.274	0.06	0.059	0.075
	FR1 n5	20M	QPSK	1	53	DFT-s-OFDM SCS15KHz	Bottom Side	10mm	Ant 1	DSI 5	167300	836.5	22.54	23.50	1.247	-0.11	0.104	0.130
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Bottom Side	10mm	Ant 1	DSI 5	167300	836.5	22.45	23.50	1.274	0.08	0.111	0.141
	FR1 n5	20M	QPSK	1	53	DFT-s-OFDM SCS15KHz	Front	10mm	Ant 3	DSI 5	167300	836.5	19.03	19.50	1.114	-0.05	0.142	0.158
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Front	10mm	Ant 3	DSI 5	167300	836.5	18.97	19.50	1.130	-0.01	0.142	0.160
	FR1 n5	20M	QPSK	1	53	DFT-s-OFDM SCS15KHz	Back	10mm	Ant 3	DSI 5	167300	836.5	19.03	19.50	1.114	0.04	0.121	0.135
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Back	10mm	Ant 3	DSI 5	167300	836.5	18.97	19.50	1.130	0.04	0.121	0.137
	FR1 n5	20M	QPSK	1	53	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant 3	DSI 5	167300	836.5	19.03	19.50	1.114	0.02	0.127	0.142
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant 3	DSI 5	167300	836.5	18.97	19.50	1.130	-0.19	0.126	0.142
	FR1 n5	20M	QPSK	1	53	DFT-s-OFDM SCS15KHz	Top Side	10mm	Ant 3	DSI 5	167300	836.5	19.03	19.50	1.114	0.19	0.005	0.006
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Top Side	10mm	Ant 3	DSI 5	167300	836.5	18.97	19.50	1.130	0.14	0.006	0.007
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Front	10mm	Ant 2	DSI 5	507000	2535	18.85	19.00	1.035	0.15	0.157	0.163
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Front	10mm	Ant 2	DSI 5	507000	2535	18.68	19.00	1.076	-0.15	0.158	0.170
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Back	10mm	Ant 2	DSI 5	507000	2535	18.85	19.00	1.035	0.08	0.201	0.208
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Back	10mm	Ant 2	DSI 5	507000	2535	18.68	19.00	1.076	-0.05	0.201	0.216
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant 2	DSI 5	507000	2535	18.85	19.00	1.035	0.08	0.066	0.068
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant 2	DSI 5	507000	2535	18.68	19.00	1.076	0.01	0.058	0.062
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Bottom Side	10mm	Ant 2	DSI 5	507000	2535	18.85	19.00	1.035	0.02	0.240	0.248
41	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Bottom Side	10mm	Ant 2	DSI 5	507000	2535	18.68	19.00	1.076	0.04	0.243	0.262
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Front	10mm	Ant 4	DSI 5	507000	2535	13.22	13.50	1.067	-0.04	0.085	0.091
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Front	10mm	Ant 4	DSI 5	507000	2535	13.19	13.50	1.074	0.17	0.085	0.091
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Back	10mm	Ant 4	DSI 5	507000	2535	13.22	13.50	1.067	0.09	0.086	0.092
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Back	10mm	Ant 4	DSI 5	507000	2535	13.19	13.50	1.074	0.02	0.086	0.092
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant 4	DSI 5	507000	2535	13.22	13.50	1.067	0.02	0.136	0.145
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant 4	DSI 5	507000	2535	13.19	13.50	1.074	0.08	0.125	0.134
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Top Side	10mm	Ant 4	DSI 5	507000	2535	13.22	13.50	1.067	0.08	0.023	0.025
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Top Side	10mm	Ant 4	DSI 5	507000	2535	13.19	13.50	1.074	0.05	0.024	0.026
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Front	10mm	Ant 5	DSI 5	507000	2535	11.66	12.00	1.081	0.11	0.062	0.067
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Front	10mm	Ant 5	DSI 5	507000	2535	11.61	12.00	1.094	0.06	0.062	0.068
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Back	10mm	Ant 5	DSI 5	507000	2535	11.66	12.00	1.081	0.08	0.071	0.077
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Back	10mm	Ant 5	DSI 5	507000	2535	11.61	12.00	1.094	0.08	0.074	0.081
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant 5	DSI 5	507000	2535	11.66	12.00	1.081	0.04	0.028	0.030
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant 5	DSI 5	507000	2535	11.61	12.00	1.094	0.08	0.021	0.023
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Top Side	10mm	Ant 5	DSI 5	507000	2535	11.66	12.00	1.081	-0.02	0.117	0.127
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Top Side	10mm	Ant 5	DSI 5	507000	2535	11.61	12.00	1.094	-0.14	0.115	0.126
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Front	10mm	Ant 8	DSI 5	507000	2535	13.44	13.50	1.014	0.07	0.065	0.066
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Front	10mm	Ant 8	DSI 5	507000	2535	13.39	13.50	1.026	-0.04	0.063	0.065
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Back	10mm	Ant 8	DSI 5	507000	2535	13.44	13.50	1.014	-0.11	0.065	0.066
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Back	10mm	Ant 8	DSI 5	507000	2535	13.39	13.50	1.026	0.04	0.044	0.045
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Right Side	10mm	Ant 8	DSI 5	507000	2535	13.44	13.50	1.014	0.17	0.129	0.131
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Side	10mm	Ant 8	DSI 5	507000	2535	13.39	13.50	1.026	0.07	0.140	0.144
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Top Side	10mm	Ant 8	DSI 5	507000	2535	13.44	13.50	1.014	0.09	0.025	0.025
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Top Side	10mm	Ant 8	DSI 5	507000	2535	13.39	13.50	1.026	0.08	0.021	0.022
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Front	10mm	Ant 2	DSI 5	349000	1745	18.52	19.00	1.117	0.08	0.100	0.112
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Front	10mm	Ant 2	DSI 5	349000	1745	18.46	19.00	1.132	0.02	0.115	0.130
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Back	10mm	Ant 2	DSI 5	349000	1745	18.52	19.00	1.117	0.06	0.137	0.153



FCC SAR Test Report

Report No. : FA151502

	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Back	10mm	Ant 2	DSI 5	349000	1745	18.46	19.00	1.132	-0.1	0.153	0.173
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant 2	DSI 5	349000	1745	18.52	19.00	1.117	0.07	0.077	0.086
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant 2	DSI 5	349000	1745	18.46	19.00	1.132	0.06	0.092	0.104
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Bottom Side	10mm	Ant 2	DSI 5	349000	1745	18.52	19.00	1.117	0.04	0.301	0.336
42	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Bottom Side	10mm	Ant 2	DSI 5	349000	1745	18.46	19.00	1.132	0.13	0.308	0.349
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Front	10mm	Ant 4	DSI 5	349000	1745	16.42	17.00	1.143	0.16	0.082	0.094
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Front	10mm	Ant 4	DSI 5	349000	1745	16.38	17.00	1.153	0.08	0.098	0.113
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Back	10mm	Ant 4	DSI 5	349000	1745	16.42	17.00	1.143	0.03	0.138	0.158
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Back	10mm	Ant 4	DSI 5	349000	1745	16.38	17.00	1.153	-0.07	0.159	0.183
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant 4	DSI 5	349000	1745	16.42	17.00	1.143	0.1	0.204	0.233
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant 4	DSI 5	349000	1745	16.38	17.00	1.153	0.08	0.172	0.198
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Top Side	10mm	Ant 4	DSI 5	349000	1745	16.42	17.00	1.143	0.05	0.014	0.016
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Top Side	10mm	Ant 4	DSI 5	349000	1745	16.38	17.00	1.153	0.07	0.014	0.016
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Front	10mm	Ant 5	DSI 5	349000	1745	16.31	17.50	1.315	0.01	0.081	0.107
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Front	10mm	Ant 5	DSI 5	349000	1745	16.23	17.50	1.340	0.04	0.112	0.150
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Back	10mm	Ant 5	DSI 5	349000	1745	16.31	17.50	1.315	0.05	0.105	0.138
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Back	10mm	Ant 5	DSI 5	349000	1745	16.23	17.50	1.340	-0.14	0.128	0.171
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant 5	DSI 5	349000	1745	16.31	17.50	1.315	0.06	0.014	0.018
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Left Side	10mm	Ant 5	DSI 5	349000	1745	16.23	17.50	1.340	-0.13	0.018	0.024
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Top Side	10mm	Ant 5	DSI 5	349000	1745	16.31	17.50	1.315	-0.1	0.168	0.221
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Top Side	10mm	Ant 5	DSI 5	349000	1745	16.23	17.50	1.340	0.03	0.158	0.212
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Front	10mm	Ant 8	DSI 5	349000	1745	13.75	14.00	1.059	-0.08	0.052	0.055
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Front	10mm	Ant 8	DSI 5	349000	1745	13.57	14.00	1.104	0.05	0.047	0.052
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Back	10mm	Ant 8	DSI 5	349000	1745	13.75	14.00	1.059	0.04	0.038	0.040
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Back	10mm	Ant 8	DSI 5	349000	1745	13.57	14.00	1.104	0.15	0.032	0.035
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Right Side	10mm	Ant 8	DSI 5	349000	1745	13.75	14.00	1.059	0.02	0.061	0.065
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Right Side	10mm	Ant 8	DSI 5	349000	1745	13.57	14.00	1.104	-0.02	0.074	0.082
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Top Side	10mm	Ant 8	DSI 5	349000	1745	13.75	14.00	1.059	-0.02	0.009	0.010
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Top Side	10mm	Ant 8	DSI 5	349000	1745	13.57	14.00	1.104	-0.13	0.008	0.009
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 2	DSI 5	518598	2592.99	19.49	20.00	1.125	0.09	0.255	0.287
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 2	DSI 5	518598	2592.99	19.41	20.00	1.146	-0.02	0.255	0.292
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 2	DSI 5	518598	2592.99	19.49	20.00	1.125	0.05	0.334	0.376
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 2	DSI 5	518598	2592.99	19.41	20.00	1.146	0.14	0.317	0.363
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 2	DSI 5	518598	2592.99	19.49	20.00	1.125	0.09	0.138	0.155
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 2	DSI 5	518598	2592.99	19.41	20.00	1.146	-0.19	0.168	0.192
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Bottom Side	10mm	Ant 2	DSI 5	518598	2592.99	19.49	20.00	1.125	0.03	0.365	0.410
43	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Bottom Side	10mm	Ant 2	DSI 5	518598	2592.99	19.41	20.00	1.146	0.08	0.400	0.458
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 4	DSI 5	518598	2592.99	14.13	15.00	1.222	0.05	0.059	0.072
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 4	DSI 5	518598	2592.99	13.89	15.00	1.291	-0.11	0.059	0.076
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 4	DSI 5	518598	2592.99	14.13	15.00	1.222	-0.05	0.071	0.087
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 4	DSI 5	518598	2592.99	13.89	15.00	1.291	0.01	0.072	0.093
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 4	DSI 5	518598	2592.99	14.13	15.00	1.222	0.09	0.156	0.191
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 4	DSI 5	518598	2592.99	13.89	15.00	1.291	-0.05	0.167	0.216
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 4	DSI 5	518598	2592.99	14.13	15.00	1.222	0.18	0.031	0.038
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 4	DSI 5	518598	2592.99	13.89	15.00	1.291	0.06	0.032	0.041
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 5	DSI 5	518598	2592.99	12.72	13.00	1.067	0.03	0.070	0.075
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 5	DSI 5	518598	2592.99	12.55	13.00	1.109	0.09	0.067	0.074
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 5	DSI 5	518598	2592.99	12.72	13.00	1.067	-0.03	0.069	0.074
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 5	DSI 5	518598	2592.99	12.55	13.00	1.109	0.08	0.084	0.093
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 5	DSI 5	518598	2592.99	12.72	13.00	1.067	0.05	0.022	0.023
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 5	DSI 5	518598	2592.99	12.55	13.00	1.109	0.03	0.026	0.029
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 5	DSI 5	518598	2592.99	12.72	13.00	1.067	0.06	0.130	0.139
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 5	DSI 5	518598	2592.99	12.55	13.00	1.109	-0.03	0.137	0.152
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 8	DSI 5	518598	2592.99	13.31	13.50	1.045	0.04	0.050	0.052
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 8	DSI 5	518598	2592.99	13.29	13.50	1.050	0.05	0.046	0.048
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 8	DSI 5	518598	2592.99	13.31	13.50	1.045	-0.18	0.052	0.054

Sporton International (Kunshan) Inc.

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

FCC ID : 2AFZZ113SG

Page 74 of 95

Issued Date : Jul. 19, 2021

Form version. : 200414



FCC SAR Test Report

Report No. : FA151502

	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 8	DSI 5	518598	2592.99	13.29	13.50	1.050	0.05	0.072	0.076
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant 8	DSI 5	518598	2592.99	13.31	13.50	1.045	0.18	0.110	0.115
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant 8	DSI 5	518598	2592.99	13.29	13.50	1.050	-0.18	0.100	0.105
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 8	DSI 5	518598	2592.99	13.31	13.50	1.045	0.06	0.046	0.048
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 8	DSI 5	518598	2592.99	13.29	13.50	1.050	0.19	0.032	0.034
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 6	DSI 5	556000	3840	18.77	20.00	1.327	0.06	0.182	0.242
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 6	DSI 5	556000	3840	18.75	20.00	1.334	0.06	0.161	0.215
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 6	DSI 5	556000	3840	18.77	20.00	1.327	0.04	0.199	0.264
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 6	DSI 5	556000	3840	18.75	20.00	1.334	-0.08	0.241	0.321
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant 6	DSI 5	556000	3840	18.77	20.00	1.327	0.08	0.017	0.023
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant 6	DSI 5	556000	3840	18.75	20.00	1.334	-0.15	0.033	0.044
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 6	DSI 5	556000	3840	18.77	20.00	1.327	0.12	0.541	0.718
44	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 6	DSI 5	556000	3840	18.75	20.00	1.334	0.06	0.653	0.871
	FR1 n77	100M	QPSK	270	0	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 6	DSI 5	556000	3840	18.73	20.00	1.340	0.06	0.632	0.847
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 6	DSI 5	533334	3500.01	18.62	20.00	1.374	0.02	0.092	0.126
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 6	DSI 5	533334	3500.01	18.58	20.00	1.387	0.12	0.094	0.130
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 6	DSI 5	533334	3500.01	18.62	20.00	1.374	0.08	0.087	0.120
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 6	DSI 5	533334	3500.01	18.58	20.00	1.387	0.01	0.078	0.108
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant 6	DSI 5	533334	3500.01	18.62	20.00	1.374	-0.05	0.029	0.040
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant 6	DSI 5	533334	3500.01	18.58	20.00	1.387	0.13	0.000	0.000
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 6	DSI 5	533334	3500.01	18.62	20.00	1.374	0.07	0.214	0.294
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 6	DSI 5	533334	3500.01	18.58	20.00	1.387	0.02	0.232	0.322
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 11	DSI 5	556000	3840	19.38	19.50	1.028	0.11	0.049	0.050
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 11	DSI 5	556000	3840	19.30	19.50	1.047	-0.08	0.052	0.054
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 11	DSI 5	556000	3840	19.38	19.50	1.028	-0.02	0.493	0.507
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 11	DSI 5	556000	3840	19.30	19.50	1.047	0.18	0.351	0.368
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 11	DSI 5	556000	3840	19.38	19.50	1.028	0.14	0.054	0.056
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 11	DSI 5	556000	3840	19.30	19.50	1.047	-0.14	0.040	0.042
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 11	DSI 5	556000	3840	19.38	19.50	1.028	-0.06	0.275	0.283
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 11	DSI 5	556000	3840	19.30	19.50	1.047	0.19	0.264	0.276
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 11	DSI 5	533334	3500.01	19.42	19.50	1.019	0.08	0.064	0.065
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 11	DSI 5	533334	3500.01	19.39	19.50	1.026	0.04	0.065	0.067
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 11	DSI 5	533334	3500.01	19.42	19.50	1.019	0.07	0.549	0.559
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 11	DSI 5	533334	3500.01	19.39	19.50	1.026	-0.08	0.552	0.566
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 11	DSI 5	533334	3500.01	19.42	19.50	1.019	0.08	0.035	0.036
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 11	DSI 5	533334	3500.01	19.39	19.50	1.026	0.11	0.038	0.039
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 11	DSI 5	533334	3500.01	19.42	19.50	1.019	-0.01	0.263	0.268
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 11	DSI 5	533334	3500.01	19.39	19.50	1.026	0.07	0.279	0.286
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 12	DSI 5	556000	3840	16.41	17.50	1.285	0.13	0.088	0.113
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 12	DSI 5	556000	3840	16.30	17.50	1.318	0.01	0.081	0.107
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 12	DSI 5	556000	3840	16.41	17.50	1.285	0.05	0.125	0.161
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 12	DSI 5	556000	3840	16.30	17.50	1.318	0.01	0.155	0.204
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 12	DSI 5	556000	3840	16.41	17.50	1.285	0.01	0.206	0.265
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 12	DSI 5	556000	3840	16.30	17.50	1.318	-0.15	0.215	0.283
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 12	DSI 5	556000	3840	16.41	17.50	1.285	0.08	0.071	0.091
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 12	DSI 5	556000	3840	16.30	17.50	1.318	0.03	0.063	0.083
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 12	DSI 5	533334	3500.01	17.23	17.50	1.064	0.11	0.048	0.051
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 12	DSI 5	533334	3500.01	17.02	17.50	1.117	-0.07	0.048	0.054
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 12	DSI 5	533334	3500.01	17.23	17.50	1.064	0.06	0.078	0.083
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 12	DSI 5	533334	3500.01	17.02	17.50	1.117	-0.09	0.075	0.084
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 12	DSI 5	533334	3500.01	17.23	17.50	1.064	0.17	0.097	0.103
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 12	DSI 5	533334	3500.01	17.02	17.50	1.117	-0.01	0.097	0.108
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 12	DSI 5	533334	3500.01	17.23	17.50	1.064	0.14	0.025	0.027
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 12	DSI 5	533334	3500.01	17.02	17.50	1.117	0.17	0.023	0.026
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 13	DSI 5	556000	3840	16.92	18.00	1.282	-0.14	0.053	0.068
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 13	DSI 5	556000	3840	16.83	18.00	1.309	0.05	0.054	0.071

Sporton International (Kunshan) Inc.

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

FCC ID : 2AFZZ113SG

Page 75 of 95

Issued Date : Jul. 19, 2021

Form version. : 200414



FCC SAR Test Report

Report No. : FA151502

	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 13	DSI 5	656000	3840	16.92	18.00	1.282	0.05	0.124	0.159
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 13	DSI 5	656000	3840	16.83	18.00	1.309	0.03	0.153	0.200
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 13	DSI 5	656000	3840	16.92	18.00	1.282	0.03	0.042	0.054
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 13	DSI 5	656000	3840	16.83	18.00	1.309	-0.04	0.055	0.072
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 13	DSI 5	656000	3840	16.92	18.00	1.282	0.11	0.200	0.256
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 13	DSI 5	656000	3840	16.83	18.00	1.309	-0.08	0.342	0.448
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 13	DSI 5	633334	3500.01	16.88	18.00	1.294	0.06	0.103	0.133
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 13	DSI 5	633334	3500.01	16.75	18.00	1.334	-0.01	0.103	0.137
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 13	DSI 5	633334	3500.01	16.88	18.00	1.294	0.02	0.160	0.207
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 13	DSI 5	633334	3500.01	16.75	18.00	1.334	0.14	0.145	0.193
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 13	DSI 5	633334	3500.01	16.88	18.00	1.294	0.07	0.041	0.053
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 13	DSI 5	633334	3500.01	16.75	18.00	1.334	0.06	0.042	0.056
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 13	DSI 5	633334	3500.01	16.88	18.00	1.294	0.16	0.243	0.314
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 13	DSI 5	633334	3500.01	16.75	18.00	1.334	-0.04	0.229	0.305
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 6	DSI 5	650000	3750	19.50	21.00	1.413	-0.13	0.151	0.213
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 6	DSI 5	650000	3750	19.40	21.00	1.445	0.06	0.134	0.194
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 6	DSI 5	650000	3750	19.50	21.00	1.413	-0.13	0.136	0.192
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 6	DSI 5	650000	3750	19.40	21.00	1.445	-0.15	0.115	0.166
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant 6	DSI 5	650000	3750	19.50	21.00	1.413	-0.09	0.021	0.030
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant 6	DSI 5	650000	3750	19.40	21.00	1.445	-0.04	0.020	0.029
45	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 6	DSI 5	650000	3750	19.50	21.00	1.413	0.09	0.452	0.638
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 6	DSI 5	650000	3750	19.40	21.00	1.445	0.03	0.431	0.623
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 6	DSI 5	633334	3500.01	19.52	21.00	1.406	-0.03	0.177	0.249
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 6	DSI 5	633334	3500.01	19.39	21.00	1.449	0.07	0.190	0.275
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 6	DSI 5	633334	3500.01	19.52	21.00	1.406	0.07	0.152	0.214
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 6	DSI 5	633334	3500.01	19.39	21.00	1.449	0.09	0.152	0.220
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant 6	DSI 5	633334	3500.01	19.52	21.00	1.406	-0.17	0.028	0.039
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Right Side	10mm	Ant 6	DSI 5	633334	3500.01	19.39	21.00	1.449	0.15	0.034	0.049
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 6	DSI 5	633334	3500.01	19.52	21.00	1.406	0.08	0.381	0.536
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 6	DSI 5	633334	3500.01	19.39	21.00	1.449	-0.07	0.370	0.536
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 11	DSI 5	650000	3750	16.20	17.50	1.349	-0.03	0.018	0.024
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 11	DSI 5	650000	3750	16.00	17.50	1.413	0.11	0.019	0.027
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 11	DSI 5	650000	3750	16.20	17.50	1.349	0.13	0.093	0.125
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 11	DSI 5	650000	3750	16.00	17.50	1.413	0.07	0.097	0.137
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 11	DSI 5	650000	3750	16.20	17.50	1.349	0.05	0.015	0.020
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 11	DSI 5	650000	3750	16.00	17.50	1.413	-0.17	0.014	0.020
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 11	DSI 5	650000	3750	16.20	17.50	1.349	0.05	0.071	0.096
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 11	DSI 5	650000	3750	16.00	17.50	1.413	0.05	0.069	0.097
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 11	DSI 5	633334	3500.01	16.24	17.50	1.337	0.05	0.044	0.059
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 11	DSI 5	633334	3500.01	16.19	17.50	1.352	-0.05	0.043	0.058
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 11	DSI 5	633334	3500.01	16.24	17.50	1.337	0.01	0.330	0.441
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 11	DSI 5	633334	3500.01	16.19	17.50	1.352	-0.15	0.319	0.431
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 11	DSI 5	633334	3500.01	16.24	17.50	1.337	-0.01	0.023	0.031
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 11	DSI 5	633334	3500.01	16.19	17.50	1.352	0.07	0.021	0.028
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 11	DSI 5	633334	3500.01	16.24	17.50	1.337	0.01	0.165	0.221
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 11	DSI 5	633334	3500.01	16.19	17.50	1.352	-0.14	0.135	0.183
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 12	DSI 5	650000	3750	21.95	23.00	1.274	0.03	0.171	0.218
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 12	DSI 5	650000	3750	21.85	23.00	1.303	-0.14	0.150	0.195
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 12	DSI 5	650000	3750	21.95	23.00	1.274	0.11	0.159	0.202
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 12	DSI 5	650000	3750	21.85	23.00	1.303	0.12	0.143	0.186
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 12	DSI 5	650000	3750	21.95	23.00	1.274	0.03	0.241	0.307
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 12	DSI 5	650000	3750	21.85	23.00	1.303	-0.17	0.230	0.300
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 12	DSI 5	650000	3750	21.95	23.00	1.274	-0.02	0.096	0.122
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 12	DSI 5	650000	3750	21.85	23.00	1.303	0.09	0.091	0.119
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 12	DSI 5	633334	3500.01	22.20	23.00	1.202	-0.02	0.158	0.190
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 12	DSI 5	633334	3500.01	22.13	23.00	1.222	-0.06	0.154	0.188

Sporton International (Kunshan) Inc.

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

FCC ID : 2AFZZ113SG

Page 76 of 95

Issued Date : Jul. 19, 2021

Form version. : 200414



FCC SAR Test Report

Report No. : FA151502

FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 12	DSI 5	633334	3500.01	22.20	23.00	1.202	0.02	0.244	0.293
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 12	DSI 5	633334	3500.01	22.13	23.00	1.222	-0.12	0.243	0.297
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 12	DSI 5	633334	3500.01	22.20	23.00	1.202	0.06	0.311	0.374
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 12	DSI 5	633334	3500.01	22.13	23.00	1.222	0.04	0.275	0.336
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 12	DSI 5	633334	3500.01	22.20	23.00	1.202	0.08	0.050	0.060
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 12	DSI 5	633334	3500.01	22.13	23.00	1.222	-0.09	0.056	0.068
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 13	DSI 5	650000	3750	18.48	19.50	1.265	0.01	0.112	0.142
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 13	DSI 5	650000	3750	18.25	19.50	1.334	0.17	0.081	0.108
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 13	DSI 5	650000	3750	18.48	19.50	1.265	0.17	0.239	0.302
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 13	DSI 5	650000	3750	18.25	19.50	1.334	0.09	0.156	0.208
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 13	DSI 5	650000	3750	18.48	19.50	1.265	0.08	0.071	0.090
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 13	DSI 5	650000	3750	18.25	19.50	1.334	0.03	0.074	0.099
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 13	DSI 5	650000	3750	18.48	19.50	1.265	0.06	0.382	0.483
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 13	DSI 5	650000	3750	18.25	19.50	1.334	-0.09	0.174	0.232
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 13	DSI 5	633334	3500.01	18.96	19.50	1.132	0.07	0.175	0.198
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	10mm	Ant 13	DSI 5	633334	3500.01	18.93	19.50	1.140	0.13	0.175	0.200
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 13	DSI 5	633334	3500.01	18.96	19.50	1.132	0.13	0.250	0.283
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	10mm	Ant 13	DSI 5	633334	3500.01	18.93	19.50	1.140	0.18	0.280	0.319
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 13	DSI 5	633334	3500.01	18.96	19.50	1.132	0.03	0.076	0.086
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Left Side	10mm	Ant 13	DSI 5	633334	3500.01	18.93	19.50	1.140	0.09	0.076	0.087
FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 13	DSI 5	633334	3500.01	18.96	19.50	1.132	-0.14	0.461	0.522
FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Top Side	10mm	Ant 13	DSI 5	633334	3500.01	18.93	19.50	1.140	0.09	0.393	0.448



<WLAN2.4G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
46	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 7+9	simultaneous_2TX	6	2437	22.32	23.50	1.311	100	1.000	-0.08	0.287	0.376
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 7+9	simultaneous_2TX	6	2437	22.32	23.50	1.311	100	1.000	0.06	0.225	0.295
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 7+9	simultaneous_2TX	6	2437	22.32	23.50	1.311	100	1.000	0.15	0.284	0.372
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 7+9	simultaneous_2TX	6	2437	22.32	23.50	1.311	100	1.000	0.04	0.251	0.329
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 7+9	simultaneous_3TX	6	2437	20.18	21.50	1.355	100	1.000	-0.01	0.180	0.244
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 7+9	simultaneous_3TX	6	2437	20.18	21.50	1.355	100	1.000	0.1	0.141	0.191
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 7+9	simultaneous_3TX	6	2437	20.18	21.50	1.355	100	1.000	-0.14	0.178	0.241
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 7+9	simultaneous_3TX	6	2437	20.18	21.50	1.355	100	1.000	0.03	0.158	0.214

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Front	10mm	Ant 7	Full Power	39	2441	14.95	16.00	1.273	77.06	1.298	0.03	0.069	0.114
	Bluetooth	1Mbps	Back	10mm	Ant 7	Full Power	39	2441	14.95	16.00	1.273	77.06	1.298	-0.17	0.053	0.088
	Bluetooth	1Mbps	Right Side	10mm	Ant 7	Full Power	39	2441	14.95	16.00	1.273	77.06	1.298	-0.13	0.019	0.031
	Bluetooth	1Mbps	Top Side	10mm	Ant 7	Full Power	39	2441	14.95	16.00	1.273	77.06	1.298	0.02	0.098	0.162
	Bluetooth	1Mbps	Front	10mm	Ant 9	Full Power	39	2441	14.12	15.00	1.226	76.82	1.302	0.02	0.079	0.126
	Bluetooth	1Mbps	Back	10mm	Ant 9	Full Power	39	2441	14.12	15.00	1.226	76.82	1.302	0.07	0.067	0.107
47	Bluetooth	1Mbps	Right Side	10mm	Ant 9	Full Power	39	2441	14.12	15.00	1.226	76.82	1.302	0.15	0.146	0.233
	Bluetooth	1Mbps	Top Side	10mm	Ant 9	Full Power	39	2441	14.12	15.00	1.226	76.82	1.302	0.01	0.016	0.026

<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5.2GHz	802.11n-HT40 MCS0	Front	10mm	Ant 7+9	simultaneous_2TX	46	5230	21.30	23.00	1.480	100	1.000	-0.11	0.266	0.394
48	WLAN5.2GHz	802.11n-HT40 MCS0	Back	10mm	Ant 7+9	simultaneous_2TX	46	5230	21.30	23.00	1.480	100	1.000	-0.06	0.312	0.462
	WLAN5.2GHz	802.11n-HT40 MCS0	Right Side	10mm	Ant 7+9	simultaneous_2TX	46	5230	21.30	23.00	1.480	100	1.000	-0.08	0.256	0.379
	WLAN5.2GHz	802.11n-HT40 MCS0	Top Side	10mm	Ant 7+9	simultaneous_2TX	46	5230	21.30	23.00	1.480	100	1.000	0.07	0.283	0.419
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Front	10mm	Ant 7+9	simultaneous_3TX	42	5210	18.39	20.00	1.449	100	1.000	0.18	0.141	0.204
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 7+9	simultaneous_3TX	42	5210	18.39	20.00	1.449	100	1.000	-0.17	0.166	0.240
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Right Side	10mm	Ant 7+9	simultaneous_3TX	42	5210	18.39	20.00	1.449	100	1.000	0.1	0.136	0.197
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Top Side	10mm	Ant 7+9	simultaneous_3TX	42	5210	18.39	20.00	1.449	100	1.000	0.04	0.150	0.217
49	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	10mm	Ant 7+9	simultaneous_2TX	155	5775	17.09	18.00	1.233	100	1.000	0.04	0.317	0.391
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 7+9	simultaneous_2TX	155	5775	17.09	18.00	1.233	100	1.000	-0.19	0.107	0.132
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Side	10mm	Ant 7+9	simultaneous_2TX	155	5775	17.09	18.00	1.233	100	1.000	-0.17	0.292	0.360
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top Side	10mm	Ant 7+9	simultaneous_2TX	155	5775	17.09	18.00	1.233	100	1.000	0.1	0.196	0.242
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	10mm	Ant 7+9	simultaneous_3TX	155	5775	14.99	16.00	1.262	100	1.000	-0.07	0.144	0.182
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 7+9	simultaneous_3TX	155	5775	14.99	16.00	1.262	100	1.000	0.03	0.048	0.061
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Side	10mm	Ant 7+9	simultaneous_3TX	155	5775	14.99	16.00	1.262	100	1.000	-0.01	0.133	0.168
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top Side	10mm	Ant 7+9	simultaneous_3TX	155	5775	14.99	16.00	1.262	100	1.000	0.03	0.089	0.112

15.3 Body Worn Accessory SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850	GPRS (4 Tx slots)	Front	15mm	Ant 1	DSI 4	189	836.4	26.03	27.50	1.403	0.15	0.142	0.199
50	GSM850	GPRS (4 Tx slots)	Back	15mm	Ant 1	DSI 4	189	836.4	26.03	27.50	1.403	-0.02	0.174	0.244
	GSM850	GPRS (4 Tx slots)	Front	15mm	Ant 3	DSI 4	189	836.4	26.35	28.00	1.462	-0.03	0.156	0.228
	GSM850	GPRS (4 Tx slots)	Back	15mm	Ant 3	DSI 4	189	836.4	26.35	28.00	1.462	0.03	0.133	0.194
	GSM1900	GPRS (1 Tx slot)	Front	15mm	Ant 2	DSI 4	661	1880	30.76	31.00	1.057	0.02	0.121	0.128
51	GSM1900	GPRS (1 Tx slot)	Back	15mm	Ant 2	DSI 4	661	1880	30.76	31.00	1.057	-0.04	0.127	0.134
	GSM1900	GPRS (1 Tx slot)	Front	15mm	Ant 5	DSI 4	661	1880	29.41	30.50	1.285	0.13	0.086	0.111
	GSM1900	GPRS (1 Tx slot)	Back	15mm	Ant 5	DSI 4	661	1880	29.41	30.50	1.285	-0.08	0.068	0.087

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II	RMC 12.2Kbps	Front	15mm	Ant 2	DSI 4	9400	1880	24.88	25.50	1.153	0.03	0.400	0.461
52	WCDMA II	RMC 12.2Kbps	Back	15mm	Ant 2	DSI 4	9400	1880	24.88	25.50	1.153	-0.05	0.471	0.543
	WCDMA II	RMC 12.2Kbps	Front	15mm	Ant 5	DSI 4	9400	1880	23.91	24.50	1.146	0.17	0.291	0.333
	WCDMA II	RMC 12.2Kbps	Back	15mm	Ant 5	DSI 4	9400	1880	23.91	24.50	1.146	-0.08	0.325	0.372
	WCDMA IV	RMC 12.2Kbps	Front	15mm	Ant 2	DSI 4	1513	1752.6	24.84	25.50	1.164	0.06	0.330	0.384
53	WCDMA IV	RMC 12.2Kbps	Back	15mm	Ant 2	DSI 4	1513	1752.6	24.84	25.50	1.164	-0.12	0.406	0.473
	WCDMA IV	RMC 12.2Kbps	Front	15mm	Ant 5	DSI 4	1513	1752.6	24.08	24.50	1.102	0.06	0.351	0.387
	WCDMA IV	RMC 12.2Kbps	Back	15mm	Ant 5	DSI 4	1513	1752.6	24.08	24.50	1.102	-0.14	0.355	0.391
	WCDMA V	RMC 12.2Kbps	Front	15mm	Ant 1	DSI 4	4182	836.4	24.90	25.50	1.148	0.06	0.268	0.308
54	WCDMA V	RMC 12.2Kbps	Back	15mm	Ant 1	DSI 4	4182	836.4	24.90	25.50	1.148	0.02	0.332	0.381
	WCDMA V	RMC 12.2Kbps	Front	15mm	Ant 3	DSI 4	4182	836.4	22.69	23.00	1.074	0.12	0.263	0.282
	WCDMA V	RMC 12.2Kbps	Back	15mm	Ant 3	DSI 4	4182	836.4	22.69	23.00	1.074	-0.14	0.229	0.246



<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 2	20M	QPSK	1	0	Front	15mm	Ant 2	DSI 4	18900	1880	24.27	25.00	1.183	0.08	0.395	0.467
	LTE Band 2	20M	QPSK	50	0	Front	15mm	Ant 2	DSI 4	18900	1880	23.40	24.50	1.288	0.16	0.315	0.406
55	LTE Band 2	20M	QPSK	1	0	Back	15mm	Ant 2	DSI 4	18900	1880	24.27	25.00	1.183	-0.12	0.463	0.548
	LTE Band 2	20M	QPSK	50	0	Back	15mm	Ant 2	DSI 4	18900	1880	23.40	24.50	1.288	0.11	0.381	0.491
	LTE Band 2	20M	QPSK	1	0	Front	15mm	Ant 8	DSI 4	18900	1880	24.33	25.00	1.167	0.09	0.167	0.195
	LTE Band 2	20M	QPSK	50	0	Front	15mm	Ant 8	DSI 4	18900	1880	23.20	24.00	1.202	0.13	0.143	0.172
	LTE Band 2	20M	QPSK	1	0	Back	15mm	Ant 8	DSI 4	18900	1880	24.33	25.00	1.167	0.02	0.187	0.218
	LTE Band 2	20M	QPSK	50	0	Back	15mm	Ant 8	DSI 4	18900	1880	23.20	24.00	1.202	0.01	0.158	0.190
	LTE Band 7	20M	QPSK	1	0	Front	15mm	Ant 2	DSI 4	21100	2535	24.78	25.50	1.180	0.11	0.342	0.404
	LTE Band 7	20M	QPSK	50	0	Front	15mm	Ant 2	DSI 4	21100	2535	23.83	24.50	1.167	-0.05	0.271	0.316
56	LTE Band 7	20M	QPSK	1	0	Back	15mm	Ant 2	DSI 4	21100	2535	24.78	25.50	1.180	-0.08	0.426	0.503
	LTE Band 7C	20M	QPSK	1	0	Back	15mm	Ant 2	DSI 4	21100+21298	2535+2554.8	24.73	25.50	1.194	0.03	0.413	0.493
	LTE Band 7	20M	QPSK	50	0	Back	15mm	Ant 2	DSI 4	21100	2535	23.83	24.50	1.167	0.08	0.350	0.408
	LTE Band 7	20M	QPSK	1	0	Front	15mm	Ant 4	DSI 4	21100	2535	23.27	23.50	1.054	-0.05	0.256	0.270
	LTE Band 7C	20M	QPSK	1	0	Front	15mm	Ant 4	DSI 4	21100+21298	2535+2554.8	23.08	23.50	1.102	0.01	0.242	0.267
	LTE Band 7	20M	QPSK	50	0	Front	15mm	Ant 4	DSI 4	21100	2535	22.16	22.50	1.081	0.01	0.213	0.230
	LTE Band 7	20M	QPSK	1	0	Back	15mm	Ant 4	DSI 4	21100	2535	23.27	23.50	1.054	0.05	0.248	0.261
	LTE Band 7	20M	QPSK	50	0	Back	15mm	Ant 4	DSI 4	21100	2535	22.16	22.50	1.081	0.08	0.207	0.224
	LTE Band 7	20M	QPSK	1	0	Front	15mm	Ant 5	DSI 4	21100	2535	23.26	23.50	1.057	0.17	0.346	0.366
	LTE Band 7	20M	QPSK	50	0	Front	15mm	Ant 5	DSI 4	21100	2535	22.35	22.50	1.035	0.05	0.281	0.291
	LTE Band 7	20M	QPSK	1	0	Back	15mm	Ant 5	DSI 4	21100	2535	23.26	23.50	1.057	-0.06	0.397	0.420
	LTE Band 7C	20M	QPSK	1	0	Back	15mm	Ant 5	DSI 4	21100+21298	2535+2554.8	23.03	23.50	1.114	0.03	0.358	0.399
	LTE Band 7	20M	QPSK	50	0	Back	15mm	Ant 5	DSI 4	21100	2535	22.35	22.50	1.035	-0.19	0.321	0.332
	LTE Band 7	20M	QPSK	1	0	Front	15mm	Ant 8	DSI 4	21100	2535	19.77	20.00	1.054	0.03	0.146	0.154
	LTE Band 7	20M	QPSK	50	0	Front	15mm	Ant 8	DSI 4	21100	2535	19.76	20.00	1.057	-0.14	0.164	0.173
	LTE Band 7C	20M	QPSK	50	0	Front	15mm	Ant 8	DSI 4	21100+21298	2535+2554.8	19.64	20.00	1.086	0.02	0.157	0.171
	LTE Band 7	20M	QPSK	1	0	Back	15mm	Ant 8	DSI 4	21100	2535	19.77	20.00	1.054	0.05	0.146	0.154
	LTE Band 7	20M	QPSK	50	0	Back	15mm	Ant 8	DSI 4	21100	2535	19.76	20.00	1.057	-0.1	0.161	0.170
57	LTE Band 12	10M	QPSK	1	0	Front	15mm	Ant 1	DSI 4	23095	707.5	24.53	25.50	1.250	-0.03	0.243	0.304
	LTE Band 12	10M	QPSK	25	0	Front	15mm	Ant 1	DSI 4	23095	707.5	23.42	24.50	1.282	0.11	0.210	0.269
	LTE Band 12	10M	QPSK	1	0	Back	15mm	Ant 1	DSI 4	23095	707.5	24.53	25.50	1.250	-0.06	0.027	0.034
	LTE Band 12	10M	QPSK	25	0	Back	15mm	Ant 1	DSI 4	23095	707.5	23.42	24.50	1.282	-0.09	0.023	0.029
	LTE Band 12	10M	QPSK	1	0	Front	15mm	Ant 3	DSI 4	23095	707.5	24.45	25.00	1.135	0.02	0.159	0.180
	LTE Band 12	10M	QPSK	25	0	Front	15mm	Ant 3	DSI 4	23095	707.5	23.38	24.00	1.153	-0.15	0.130	0.150
	LTE Band 12	10M	QPSK	1	0	Back	15mm	Ant 3	DSI 4	23095	707.5	24.45	25.00	1.135	0.03	0.138	0.157
	LTE Band 12	10M	QPSK	25	0	Back	15mm	Ant 3	DSI 4	23095	707.5	23.38	24.00	1.153	0.02	0.115	0.133
	LTE Band 13	10M	QPSK	1	0	Front	15mm	Ant 1	DSI 4	23230	782	24.00	25.00	1.259	-0.16	0.237	0.298
	LTE Band 13	10M	QPSK	25	0	Front	15mm	Ant 1	DSI 4	23230	782	23.07	24.00	1.239	0.07	0.190	0.235
58	LTE Band 13	10M	QPSK	1	0	Back	15mm	Ant 1	DSI 4	23230	782	24.00	25.00	1.259	0.02	0.248	0.312
	LTE Band 13	10M	QPSK	25	0	Back	15mm	Ant 1	DSI 4	23230	782	23.07	24.00	1.239	-0.13	0.201	0.249
	LTE Band 13	10M	QPSK	1	0	Front	15mm	Ant 3	DSI 4	23230	782	24.09	24.50	1.099	-0.07	0.234	0.257
	LTE Band 13	10M	QPSK	25	0	Front	15mm	Ant 3	DSI 4	23230	782	23.26	23.50	1.057	0.05	0.190	0.201
	LTE Band 13	10M	QPSK	1	0	Back	15mm	Ant 3	DSI 4	23230	782	24.09	24.50	1.099	0.12	0.206	0.226
	LTE Band 13	10M	QPSK	25	0	Back	15mm	Ant 3	DSI 4	23230	782	23.26	23.50	1.057	-0.02	0.174	0.184
	LTE Band 26	15M	QPSK	1	0	Front	15mm	Ant 1	DSI 4	26865	831.5	24.51	25.50	1.256	-0.16	0.224	0.281
	LTE Band 26	15M	QPSK	36	0	Front	15mm	Ant 1	DSI 4	26865	831.5	23.58	24.50	1.236	-0.07	0.164	0.203
59	LTE Band 26	15M	QPSK	1	0	Back	15mm	Ant 1	DSI 4	26865	831.5	24.51	25.50	1.256	0.03	0.271	0.340
	LTE Band 26	15M	QPSK	36	0	Back	15mm	Ant 1	DSI 4	26865	831.5	23.58	24.50	1.236	0.15	0.204	0.252
	LTE Band 26	15M	QPSK	1	0	Front	15mm	Ant 3	DSI 4	26865	831.5	24.33	25.00	1.167	-0.13	0.242	0.282
	LTE Band 26	15M	QPSK	36	0	Front	15mm	Ant 3	DSI 4	26865	831.5	23.27	24.00	1.183	0.08	0.193	0.228
	LTE Band 26	15M	QPSK	1	0	Back	15mm	Ant 3	DSI 4	26865	831.5	24.33	25.00	1.167	0.08	0.204	0.238



FCC SAR Test Report

Report No. : FA151502

	LTE Band 26	15M	QPSK	36	0	Back	15mm	Ant 3	DSI 4	26865	831.5	23.27	24.00	1.183	0.07	0.169	0.200
	LTE Band 66	20M	QPSK	1	0	Front	15mm	Ant 2	DSI 4	132322	1745	24.88	25.50	1.153	0.12	0.373	0.430
	LTE Band 66	20M	QPSK	50	0	Front	15mm	Ant 2	DSI 4	132322	1745	23.96	24.50	1.132	-0.18	0.270	0.306
60	LTE Band 66	20M	QPSK	1	0	Back	15mm	Ant 2	DSI 4	132322	1745	24.88	25.50	1.153	-0.13	0.439	0.506
	LTE Band 66	20M	QPSK	50	0	Back	15mm	Ant 2	DSI 4	132322	1745	23.96	24.50	1.132	0.02	0.344	0.390
	LTE Band 66	20M	QPSK	1	0	Front	15mm	Ant 4	DSI 4	132322	1745	23.52	24.00	1.117	0.13	0.135	0.151
	LTE Band 66	20M	QPSK	50	0	Front	15mm	Ant 4	DSI 4	132322	1745	22.62	23.00	1.091	0.16	0.140	0.153
	LTE Band 66	20M	QPSK	1	0	Back	15mm	Ant 4	DSI 4	132322	1745	23.52	24.00	1.117	0.03	0.239	0.267
	LTE Band 66	20M	QPSK	50	0	Back	15mm	Ant 4	DSI 4	132322	1745	22.62	23.00	1.091	-0.05	0.217	0.237
	LTE Band 66	20M	QPSK	1	0	Front	15mm	Ant 5	DSI 4	132322	1745	22.63	24.00	1.371	-0.08	0.235	0.322
	LTE Band 66	20M	QPSK	50	0	Front	15mm	Ant 5	DSI 4	132322	1745	21.54	23.00	1.400	0.15	0.188	0.263
	LTE Band 66	20M	QPSK	1	0	Back	15mm	Ant 5	DSI 4	132322	1745	22.63	24.00	1.371	-0.06	0.293	0.402
	LTE Band 66	20M	QPSK	50	0	Back	15mm	Ant 5	DSI 4	132322	1745	21.54	23.00	1.400	0.11	0.269	0.376
	LTE Band 66	20M	QPSK	1	0	Front	15mm	Ant 8	DSI 4	132322	1745	23.55	25.00	1.396	0.13	0.097	0.135
	LTE Band 66	20M	QPSK	50	0	Front	15mm	Ant 8	DSI 4	132322	1745	22.62	24.00	1.374	0.15	0.111	0.153
	LTE Band 66	20M	QPSK	1	0	Back	15mm	Ant 8	DSI 4	132322	1745	23.55	25.00	1.396	0.05	0.150	0.209
	LTE Band 66	20M	QPSK	50	0	Back	15mm	Ant 8	DSI 4	132322	1745	22.62	24.00	1.374	-0.13	0.115	0.158

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
61	LTE Band 41	20M	QPSK	1	0	Front	15mm	Ant 2	DSI 4	40620	2593	24.79	25.50	1.178	62.9	1.006	0.01	0.271	0.321
	LTE Band 38C	20M	QPSK	1	0	Front	15mm	Ant 2	DSI 4	3800+38198	2595+2554.8	24.51	25.50	1.256	62.9	1.006	0.03	0.252	0.318
	LTE Band 41	20M	QPSK	50	0	Front	15mm	Ant 2	DSI 4	40620	2593	23.83	24.50	1.167	62.9	1.006	0.03	0.220	0.258
	LTE Band 41	20M	QPSK	1	0	Back	15mm	Ant 2	DSI 4	40620	2593	24.79	25.50	1.178	62.9	1.006	0.04	0.254	0.301
	LTE Band 41	20M	QPSK	50	0	Back	15mm	Ant 2	DSI 4	40620	2593	23.83	24.50	1.167	62.9	1.006	-0.17	0.209	0.245
	LTE Band 41	20M	QPSK	1	0	Front	15mm	Ant 4	DSI 4	40620	2593	23.20	23.50	1.072	62.9	1.006	0.03	0.178	0.192
	LTE Band 41	20M	QPSK	50	0	Front	15mm	Ant 4	DSI 4	40620	2593	22.34	22.50	1.038	62.9	1.006	0.03	0.167	0.174
	LTE Band 41	20M	QPSK	1	0	Back	15mm	Ant 4	DSI 4	40620	2593	23.20	23.50	1.072	62.9	1.006	-0.03	0.202	0.218
	LTE Band 38C	20M	QPSK	1	0	Back	15mm	Ant 4	DSI 4	3800+38198	2595+2554.8	23.37	23.50	1.030	62.9	1.006	0.01	0.196	0.203
	LTE Band 41	20M	QPSK	50	0	Back	15mm	Ant 4	DSI 4	40620	2593	22.34	22.50	1.038	62.9	1.006	0.04	0.166	0.173
	LTE Band 41	20M	QPSK	1	0	Front	15mm	Ant 5	DSI 4	40620	2593	23.24	23.50	1.062	62.9	1.006	0.06	0.210	0.224
	LTE Band 41	20M	QPSK	50	0	Front	15mm	Ant 5	DSI 4	40620	2593	22.21	22.50	1.069	62.9	1.006	0.12	0.170	0.183
	LTE Band 41	20M	QPSK	1	0	Back	15mm	Ant 5	DSI 4	40620	2593	23.24	23.50	1.062	62.9	1.006	-0.13	0.299	0.319
	LTE Band 38C	20M	QPSK	1	0	Back	15mm	Ant 5	DSI 4	3800+38198	2595+2554.8	23.34	23.50	1.038	62.9	1.006	-0.02	0.286	0.299
	LTE Band 41	20M	QPSK	50	0	Back	15mm	Ant 5	DSI 4	40620	2593	22.21	22.50	1.069	62.9	1.006	0.09	0.187	0.201
	LTE Band 41	20M	QPSK	1	0	Front	15mm	Ant 8	DSI 4	40620	2593	23.25	23.50	1.059	62.9	1.006	-0.07	0.186	0.198
	LTE Band 38C	20M	QPSK	1	0	Front	15mm	Ant 8	DSI 4	3800+38198	2595+2554.8	22.23	22.50	1.064	62.9	1.006	-0.01	0.181	0.194
	LTE Band 41	20M	QPSK	50	0	Front	15mm	Ant 8	DSI 4	40620	2593	23.23	23.50	1.064	62.9	1.006	-0.11	0.159	0.170
	LTE Band 41	20M	QPSK	1	0	Back	15mm	Ant 8	DSI 4	40620	2593	23.25	23.50	1.059	62.9	1.006	-0.1	0.158	0.168
	LTE Band 41	20M	QPSK	50	0	Back	15mm	Ant 8	DSI 4	40620	2593	23.23	23.50	1.064	62.9	1.006	0.13	0.153	0.164
	LTE Band 42	20M	QPSK	1	0	Front	15mm	Ant 6	DSI 4	42590	3500	23.88	25.00	1.294	62.9	1.006	0.08	0.161	0.210
	LTE Band 42	20M	QPSK	50	0	Front	15mm	Ant 6	DSI 4	42590	3500	23.12	24.00	1.225	62.9	1.006	0.05	0.131	0.161
	LTE Band 42	20M	QPSK	1	0	Back	15mm	Ant 6	DSI 4	42590	3500	23.88	25.00	1.294	62.9	1.006	0.09	0.145	0.189
	LTE Band 42	20M	QPSK	50	0	Back	15mm	Ant 6	DSI 4	42590	3500	23.12	24.00	1.225	62.9	1.006	0.01	0.113	0.139
	LTE Band 42	20M	QPSK	1	0	Front	15mm	Ant 11	DSI 4	42590	3500	23.70	24.00	1.072	62.9	1.006	0.03	0.106	0.114
	LTE Band 42	20M	QPSK	50	0	Front	15mm	Ant 11	DSI 4	42590	3500	22.78	23.00	1.052	62.9	1.006	0.01	0.081	0.086
62	LTE Band 42	20M	QPSK	1	0	Back	15mm	Ant 11	DSI 4	42590	3500	23.70	24.00	1.072	62.9	1.006	-0.03	0.465	0.501
	LTE Band 42	20M	QPSK	50	0	Back	15mm	Ant 11	DSI 4	42590	3500	22.78	23.00	1.052	62.9	1.006	0.07	0.359	0.380
	LTE Band 42	20M	QPSK	1	0	Front	15mm	Ant 12	DSI 4	42590	3500	24.69	25.00	1.074	62.9	1.006	0.05	0.196	0.212
	LTE Band 42	20M	QPSK	50	0	Front	15mm	Ant 12	DSI 4	42590	3500	23.58	24.00	1.102	62.9	1.006	0.01	0.160	0.177
	LTE Band 42	20M	QPSK	1	0	Back	15mm	Ant 12	DSI 4	42590	3500	24.69	25.00	1.074	62.9	1.006	0.08	0.302	0.326
	LTE Band 42	20M	QPSK	50	0	Back	15mm	Ant 12	DSI 4	42590	3500	23.58	24.00	1.102	62.9	1.006	0.01	0.243	0.269
	LTE Band 42	20M	QPSK	1	0	Front	15mm	Ant 13	DSI 4	42590	3500	25.19	25.50	1.074	62.9	1.006	0.01	0.283	0.306

Sporton International (Kunshan) Inc.

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

FCC ID : 2AFZZ113SG

Issued Date : Jul. 19, 2021

Form version. : 200414



FCC SAR Test Report

Report No. : FA151502

	LTE Band 42	20M	QPSK	50	0	Front	15mm	Ant 13	DSI 4	42590	3500	24.16	24.50	1.081	62.9	1.006	0.02	0.233	0.253
	LTE Band 42	20M	QPSK	1	0	Back	15mm	Ant 13	DSI 4	42590	3500	25.19	25.50	1.074	62.9	1.006	-0.09	0.387	0.418
	LTE Band 42	20M	QPSK	50	0	Back	15mm	Ant 13	DSI 4	42590	3500	24.16	24.50	1.081	62.9	1.006	0.05	0.308	0.335

<5GNR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n5	20M	QPSK	1	53	DFT-s-OFDM SCS15KHz	Front	15mm	Ant 1	DSI 4	167300	836.5	24.58	25.50	1.236	0.08	0.359	0.444
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Front	15mm	Ant 1	DSI 4	167300	836.5	24.51	25.50	1.256	0.07	0.341	0.428
63	FR1 n5	20M	QPSK	1	53	DFT-s-OFDM SCS15KHz	Back	15mm	Ant 1	DSI 4	167300	836.5	24.58	25.50	1.236	0.04	0.399	0.493
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Back	15mm	Ant 1	DSI 4	167300	836.5	24.51	25.50	1.256	0.08	0.386	0.485
	FR1 n5	20M	QPSK	1	53	DFT-s-OFDM SCS15KHz	Front	15mm	Ant 3	DSI 4	167300	836.5	22.51	23.00	1.119	-0.18	0.344	0.385
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Front	15mm	Ant 3	DSI 4	167300	836.5	22.44	23.00	1.138	-0.07	0.348	0.396
	FR1 n5	20M	QPSK	1	53	DFT-s-OFDM SCS15KHz	Back	15mm	Ant 3	DSI 4	167300	836.5	22.51	23.00	1.119	-0.12	0.270	0.302
	FR1 n5	20M	QPSK	50	28	DFT-s-OFDM SCS15KHz	Back	15mm	Ant 3	DSI 4	167300	836.5	22.44	23.00	1.138	0.05	0.272	0.309
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Front	15mm	Ant 2	DSI 4	507000	2535	24.42	24.50	1.019	0.03	0.341	0.347
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Front	15mm	Ant 2	DSI 4	507000	2535	24.41	24.50	1.021	0.02	0.312	0.319
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Back	15mm	Ant 2	DSI 4	507000	2535	24.42	24.50	1.019	0.15	0.214	0.218
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Back	15mm	Ant 2	DSI 4	507000	2535	24.41	24.50	1.021	-0.09	0.360	0.368
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Front	15mm	Ant 4	DSI 4	507000	2535	25.39	25.50	1.026	0.1	0.378	0.388
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Front	15mm	Ant 4	DSI 4	507000	2535	25.36	25.50	1.033	-0.12	0.385	0.398
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Back	15mm	Ant 4	DSI 4	507000	2535	25.39	25.50	1.026	0.07	0.369	0.378
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Back	15mm	Ant 4	DSI 4	507000	2535	25.36	25.50	1.033	0.06	0.377	0.389
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Front	15mm	Ant 5	DSI 4	507000	2535	22.98	23.50	1.127	0.01	0.344	0.388
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Front	15mm	Ant 5	DSI 4	507000	2535	22.92	23.50	1.143	0.07	0.432	0.494
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Back	15mm	Ant 5	DSI 4	507000	2535	22.98	23.50	1.127	0.03	0.363	0.409
64	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Back	15mm	Ant 5	DSI 4	507000	2535	22.92	23.50	1.143	-0.02	0.436	0.498
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Front	15mm	Ant 8	DSI 4	507000	2535	19.40	19.50	1.023	-0.08	0.090	0.092
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Front	15mm	Ant 8	DSI 4	507000	2535	19.36	19.50	1.033	0.09	0.078	0.081
	FR1 n7	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Back	15mm	Ant 8	DSI 4	507000	2535	19.40	19.50	1.023	0.02	0.061	0.062
	FR1 n7	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Back	15mm	Ant 8	DSI 4	507000	2535	19.36	19.50	1.033	0.07	0.057	0.059
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Front	15mm	Ant 2	DSI 4	349000	1745	23.86	24.00	1.033	-0.09	0.298	0.308
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Front	15mm	Ant 2	DSI 4	349000	1745	23.84	24.00	1.038	0.02	0.287	0.298
65	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Back	15mm	Ant 2	DSI 4	349000	1745	23.86	24.00	1.033	-0.04	0.467	0.482
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Back	15mm	Ant 2	DSI 4	349000	1745	23.84	24.00	1.038	0.14	0.426	0.442
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Front	15mm	Ant 4	DSI 4	349000	1745	22.94	23.50	1.138	0.06	0.130	0.148
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Front	15mm	Ant 4	DSI 4	349000	1745	22.79	23.50	1.178	-0.16	0.132	0.155
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Back	15mm	Ant 4	DSI 4	349000	1745	22.94	23.50	1.138	-0.13	0.237	0.270
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Back	15mm	Ant 4	DSI 4	349000	1745	22.79	23.50	1.178	-0.16	0.371	0.437
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Front	15mm	Ant 5	DSI 4	349000	1745	23.08	24.50	1.387	-0.11	0.336	0.466
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Front	15mm	Ant 5	DSI 4	349000	1745	23.06	24.50	1.393	-0.17	0.261	0.364
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Back	15mm	Ant 5	DSI 4	349000	1745	23.08	24.50	1.387	-0.01	0.343	0.476
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Back	15mm	Ant 5	DSI 4	349000	1745	23.06	24.50	1.393	0.05	0.253	0.352
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Front	15mm	Ant 8	DSI 4	349000	1745	23.85	24.00	1.035	-0.02	0.202	0.209
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Front	15mm	Ant 8	DSI 4	349000	1745	23.78	24.00	1.052	0.04	0.152	0.160
	FR1 n66	40M	QPSK	1	108	DFT-s-OFDM SCS15KHz	Back	15mm	Ant 8	DSI 4	349000	1745	23.85	24.00	1.035	0.02	0.108	0.112
	FR1 n66	40M	QPSK	108	54	DFT-s-OFDM SCS15KHz	Back	15mm	Ant 8	DSI 4	349000	1745	23.78	24.00	1.052	-0.11	0.111	0.117
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 2	DSI 4	518598	2592.99	24.35	25.00	1.161	0.11	0.104	0.121
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 2	DSI 4	518598	2592.99	24.23	25.00	1.194	0.12	0.110	0.131
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 2	DSI 4	518598	2592.99	24.35	25.00	1.161	-0.04	0.165	0.192
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 2	DSI 4	518598	2592.99	24.23	25.00	1.194	-0.15	0.122	0.146
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 4	DSI 4	518598	2592.99	24.98	25.50	1.127	0.07	0.225	0.254
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 4	DSI 4	518598	2592.99	24.84	25.50	1.164	-0.02	0.223	0.260
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 4	DSI 4	518598	2592.99	24.98	25.50	1.127	-0.04	0.200	0.225
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 4	DSI 4	518598	2592.99	24.84	25.50	1.164	0.06	0.202	0.235

Sporton International (Kunshan) Inc.

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

FCC ID : 2AFZZ113SG

Issued Date : Jul. 19, 2021

Form version. : 200414



FCC SAR Test Report

Report No. : FA151502

66	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 5	DSI 4	518598	2592.99	25.15	25.50	1.084	-0.01	0.356	0.386
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 5	DSI 4	518598	2592.99	25.13	25.50	1.089	0.04	0.281	0.306
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 5	DSI 4	518598	2592.99	25.15	25.50	1.084	-0.11	0.264	0.286
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 5	DSI 4	518598	2592.99	25.13	25.50	1.089	0.05	0.315	0.343
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 8	DSI 4	518598	2592.99	20.36	20.50	1.033	-0.08	0.070	0.072
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 8	DSI 4	518598	2592.99	20.21	20.50	1.069	0.02	0.061	0.065
	FR1 n41	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 8	DSI 4	518598	2592.99	20.36	20.50	1.033	0.03	0.051	0.053
	FR1 n41	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 8	DSI 4	518598	2592.99	20.21	20.50	1.069	-0.11	0.054	0.058
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 6	DSI 4	656000	3840	24.09	25.50	1.384	0.07	0.079	0.109
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 6	DSI 4	656000	3840	23.93	25.50	1.435	-0.01	0.153	0.220
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 6	DSI 4	656000	3840	24.09	25.50	1.384	0.15	0.066	0.091
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 6	DSI 4	656000	3840	23.93	25.50	1.435	0.01	0.078	0.112
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 6	DSI 4	633334	3500.01	24.17	25.50	1.358	0.01	0.226	0.307
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 6	DSI 4	633334	3500.01	23.85	25.50	1.462	0.06	0.222	0.325
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 6	DSI 4	633334	3500.01	24.17	25.50	1.358	0.08	0.200	0.272
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 6	DSI 4	633334	3500.01	23.85	25.50	1.462	0.08	0.183	0.268
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 11	DSI 4	656000	3840	23.45	23.50	1.012	0.07	0.073	0.074
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 11	DSI 4	656000	3840	23.23	23.50	1.064	0.01	0.076	0.081
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 11	DSI 4	656000	3840	23.45	23.50	1.012	0.03	0.345	0.349
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 11	DSI 4	656000	3840	23.23	23.50	1.064	0.08	0.348	0.370
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 11	DSI 4	633334	3500.01	23.41	23.50	1.021	0.02	0.094	0.096
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 11	DSI 4	633334	3500.01	23.31	23.50	1.045	-0.03	0.097	0.101
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 11	DSI 4	633334	3500.01	23.41	23.50	1.021	0.06	0.507	0.518
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 11	DSI 4	633334	3500.01	23.31	23.50	1.045	-0.01	0.533	0.557
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 12	DSI 4	656000	3840	24.41	25.50	1.285	0.05	0.241	0.310
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 12	DSI 4	656000	3840	24.25	25.50	1.334	-0.15	0.238	0.317
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 12	DSI 4	656000	3840	24.41	25.50	1.285	0.05	0.339	0.436
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 12	DSI 4	656000	3840	24.25	25.50	1.334	-0.03	0.391	0.521
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 12	DSI 4	633334	3500.01	25.21	25.50	1.069	0.05	0.160	0.171
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 12	DSI 4	633334	3500.01	25.07	25.50	1.104	-0.05	0.157	0.173
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 12	DSI 4	633334	3500.01	25.21	25.50	1.069	0.04	0.254	0.272
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 12	DSI 4	633334	3500.01	25.07	25.50	1.104	0.06	0.262	0.289
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 13	DSI 4	656000	3840	25.10	26.00	1.230	0.12	0.192	0.236
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 13	DSI 4	656000	3840	25.00	26.00	1.259	0.06	0.120	0.151
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 13	DSI 4	656000	3840	25.10	26.00	1.230	0.01	0.257	0.316
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 13	DSI 4	656000	3840	25.00	26.00	1.259	-0.18	0.212	0.267
	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 13	DSI 4	633334	3500.01	25.11	26.00	1.227	-0.09	0.689	0.846
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 13	DSI 4	633334	3500.01	25.08	26.00	1.236	0.12	0.624	0.771
67	FR1 n77	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 13	DSI 4	633334	3500.01	25.11	26.00	1.227	0.08	0.725	0.890
	FR1 n77	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 13	DSI 4	633334	3500.01	25.08	26.00	1.236	0.02	0.716	0.885
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 6	DSI 4	650000	3750	24.57	26.00	1.390	0.01	0.099	0.138
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 6	DSI 4	650000	3750	24.51	26.00	1.409	0.07	0.119	0.168
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 6	DSI 4	650000	3750	24.57	26.00	1.390	0.01	0.224	0.311
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 6	DSI 4	650000	3750	24.51	26.00	1.409	0.04	0.185	0.261
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 6	DSI 4	633334	3500.01	24.44	26.00	1.432	0.04	0.261	0.374
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 6	DSI 4	633334	3500.01	24.35	26.00	1.462	0.08	0.245	0.358
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 6	DSI 4	633334	3500.01	24.44	26.00	1.432	-0.16	0.233	0.334
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 6	DSI 4	633334	3500.01	24.35	26.00	1.462	0.1	0.199	0.291
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 11	DSI 4	650000	3750	25.00	26.50	1.413	0.05	0.077	0.109
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 11	DSI 4	650000	3750	24.87	26.50	1.455	0.12	0.064	0.093
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 11	DSI 4	650000	3750	25.00	26.50	1.413	0.04	0.261	0.369
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 11	DSI 4	650000	3900	24.87	26.50	1.455	0.06	0.256	0.373
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 11	DSI 4	633334	3500.01	25.28	26.50	1.324	-0.07	0.075	0.099
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 11	DSI 4	633334	3500.01	25.11	26.50	1.377	-0.08	0.061	0.084
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 11	DSI 4	633334	3500.01	25.28	26.50	1.324	0.09	0.338	0.448
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 11	DSI 4	633334	3500.01	25.11	26.50	1.377	0.05	0.311	0.428

Sporton International (Kunshan) Inc.

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

FCC ID : 2AFZZ113SG

Page 83 of 95

Issued Date : Jul. 19, 2021

Form version. : 200414



FCC SAR Test Report

Report No. : FA151502

	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 12	DSI 4	650000	3750	26.08	27.50	1.387	-0.06	0.197	0.273
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 12	DSI 4	650000	3750	26.04	27.50	1.400	0.04	0.213	0.298
68	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 12	DSI 4	650000	3750	26.08	27.50	1.387	-0.01	0.326	0.452
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 12	DSI 4	650000	3750	26.04	27.50	1.400	0.19	0.312	0.437
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 12	DSI 4	633334	3500.01	26.61	27.50	1.227	-0.11	0.200	0.245
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 12	DSI 4	633334	3500.01	26.42	27.50	1.282	0.08	0.150	0.192
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 12	DSI 4	633334	3500.01	26.61	27.50	1.227	0.11	0.316	0.388
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 12	DSI 4	633334	3500.01	26.42	27.50	1.282	0.01	0.277	0.355
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 13	DSI 4	650000	3750	26.49	27.50	1.262	-0.08	0.087	0.110
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 13	DSI 4	650000	3750	26.35	27.50	1.303	-0.05	0.124	0.162
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 13	DSI 4	650000	3750	26.49	27.50	1.262	0.16	0.115	0.145
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 13	DSI 4	650000	3750	26.35	27.50	1.303	-0.02	0.115	0.150
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 13	DSI 4	633334	3500.01	26.97	27.50	1.130	0.11	0.263	0.297
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Front	15mm	Ant 13	DSI 4	633334	3500.01	26.78	27.50	1.180	0.07	0.228	0.269
	FR1 n78_HPUE	100M	QPSK	1	137	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 13	DSI 4	633334	3500.01	26.97	27.50	1.130	0.02	0.372	0.420
	FR1 n78_HPUE	100M	QPSK	135	69	DFT-s-OFDM SCS30KHz	Back	15mm	Ant 13	DSI 4	633334	3500.01	26.78	27.50	1.180	0.02	0.337	0.398

<WLAN2.4G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
69	WLAN2.4GHz	802.11b 1Mbps	Front	15mm	Ant 7+9	standalone/DBS/simultaneous_2TX/ simultaneous_3TX	6	2437	22.32	23.50	1.311	100	1.000	0.05	0.138	0.181
	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Ant 7+9	standalone/DBS/simultaneous_2TX/ simultaneous_3TX	6	2437	22.32	23.50	1.311	100	1.000	-0.11	0.099	0.130

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Front	15mm	Ant 7	Full Power	39	2441	14.95	16.00	1.273	77.06	1.298	0.05	0.032	0.053
	Bluetooth	1Mbps	Back	15mm	Ant 7	Full Power	39	2441	14.95	16.00	1.273	77.06	1.298	0.18	0.031	0.051
	Bluetooth	1Mbps	Front	15mm	Ant 9	Full Power	39	2441	14.12	15.00	1.226	76.82	1.302	0.09	0.035	0.056
70	Bluetooth	1Mbps	Back	15mm	Ant 9	Full Power	39	2441	14.12	15.00	1.226	76.82	1.302	0.07	0.036	0.057

<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
71	WLAN5.3GHz	802.11n-HT40 MCS0	Front	15mm	Ant 7+9	standalone/DBS/simultaneous_2TX	54	5270	21.72	23.00	1.344	100	1.000	0.02	0.369	0.496
	WLAN5.3GHz	802.11n-HT40 MCS0	Back	15mm	Ant 7+9	standalone/DBS/simultaneous_2TX	54	5270	21.72	23.00	1.344	100	1.000	-0.06	0.281	0.378
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Front	15mm	Ant 7+9	simultaneous_3TX	58	5290	18.80	20.00	1.318	100	1.000	0.02	0.178	0.235
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Back	15mm	Ant 7+9	simultaneous_3TX	58	5290	18.80	20.00	1.318	100	1.000	-0.06	0.135	0.178
72	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	15mm	Ant 7+9	standalone/DBS/simultaneous_2TX	138	5690	19.64	21.00	1.368	100	1.000	0.07	0.358	0.490
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	15mm	Ant 7+9	standalone/DBS/simultaneous_2TX	138	5690	19.64	21.00	1.368	100	1.000	0.07	0.129	0.176
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	15mm	Ant 7+9	simultaneous_3TX	138	5690	17.56	19.00	1.393	100	1.000	-0.09	0.125	0.174
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	15mm	Ant 7+9	simultaneous_3TX	138	5690	17.56	19.00	1.393	100	1.000	0.07	0.045	0.063
73	WLAN5.8GHz	802.11n-HT40 MCS0	Front	15mm	Ant 7+9	standalone/DBS	151	5755	21.10	22.00	1.230	100	1.000	-0.06	0.516	0.635
	WLAN5.8GHz	802.11n-HT40 MCS0	Back	15mm	Ant 7+9	standalone/DBS	151	5755	21.10	22.00	1.230	100	1.000	0.03	0.174	0.214
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	15mm	Ant 7+9	simultaneous_2TX	155	5775	19.12	20.00	1.225	100	1.000	0.01	0.391	0.479
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	15mm	Ant 7+9	simultaneous_2TX	155	5775	19.12	20.00	1.225	100	1.000	0.03	0.132	0.162
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	15mm	Ant 7+9	simultaneous_3TX	155	5775	17.09	18.00	1.233	100	1.000	-0.14	0.178	0.219
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	15mm	Ant 7+9	simultaneous_3TX	155	5775	17.09	18.00	1.233	100	1.000	0.03	0.060	0.074

Sporton International (Kunshan) Inc.

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

FCC ID : 2AFZZ113SG

Page 84 of 95

Issued Date : Jul. 19, 2021

Form version. : 200414



15.4 Product specific 10g SAR

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
74	WCDMA IV	RMC 12.2Kbps	Top Side	0mm	Ant 5	DSI 3	1513	1752.6	24.08	24.50	1.102	-0.02	1.73	1.906
	WCDMA IV	RMC 12.2Kbps	Top Side	5mm	Ant 5	DSI 4	1513	1752.6	24.08	24.50	1.102	0.01	0.745	0.821

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
75	LTE Band 2	20M	QPSK	1	0	Bottom Side	0mm	Ant 2	DSI 3	18900	1880	24.27	25.00	1.183	0.05	1.96	2.319
	LTE Band 2	20M	QPSK	1	0	Bottom Side	0mm	Ant 2	DSI 3	18700	1860	24.15	25.00	1.216	0.03	1.85	2.250
	LTE Band 2	20M	QPSK	1	0	Bottom Side	0mm	Ant 2	DSI 3	19100	1900	24.19	25.00	1.205	0.12	1.87	2.253
	LTE Band 2	20M	QPSK	50	0	Bottom Side	0mm	Ant 2	DSI 3	18900	1880	23.40	24.50	1.288	-0.02	1.67	2.151
	LTE Band 2	20M	QPSK	50	0	Bottom Side	0mm	Ant 2	DSI 3	18700	1860	23.23	24.50	1.340	0.03	1.54	2.063
	LTE Band 2	20M	QPSK	50	0	Bottom Side	0mm	Ant 2	DSI 3	19100	1900	23.33	24.50	1.309	0.09	1.58	2.069
	LTE Band 2	20M	QPSK	100	0	Bottom Side	0mm	Ant 2	DSI 3	18900	1880	23.37	24.50	1.297	-0.02	1.51	1.959
	LTE Band 2	20M	QPSK	1	0	Bottom Side	15mm	Ant 2	DSI 4	18900	1880	24.27	25.00	1.183	0.02	0.323	0.382

<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
76	WLAN5.3GHz	802.11n-HT40 MCS0	Front	0mm	Ant 7+9	Full Power	54	5270	21.72	23.00	1.344	100	1.000	-0.01	1.460	1.962
	WLAN5.3GHz	802.11n-HT40 MCS0	Back	0mm	Ant 7+9	Full Power	54	5270	21.72	23.00	1.344	100	1.000	0.01	0.776	1.043
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 7+9	Full Power	54	5270	21.72	23.00	1.344	100	1.000	0.05	1.050	1.411
	WLAN5.3GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 7+9	Full Power	54	5270	21.72	23.00	1.344	100	1.000	0.09	0.739	0.993
77	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	0mm	Ant 7+9	Full Power	138	5690	19.64	21.00	1.368	100	1.000	-0.08	1.380	1.887
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 7+9	Full Power	138	5690	19.64	21.00	1.368	100	1.000	0.01	0.472	0.645
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 7+9	Full Power	138	5690	19.64	21.00	1.368	100	1.000	0.01	0.883	1.208
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Top Side	0mm	Ant 7+9	Full Power	138	5690	19.64	21.00	1.368	100	1.000	0.09	0.671	0.918