

FCC SAR Test Report

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT2453-7, XT2453-9
FCC ID : IHDT56AQ8
STANDARD : FCC 47 CFR Part 2 (2.1093)

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the test procedures 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 Inc. (Kunshan), the test report shall not be reproduced except in full.



Approved by: Si Zhang



Sporton International Inc. (Kunshan)

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Table of Contents

1. Statement of Compliance	4
2. Administration Data	6
3. Data Reuse Approach	7
3.1 Introduction Section	7
3.2 Model Difference Information	7
3.3 Reference detail Section	7
4. Guidance Applied	8
5. Equipment Under Test (EUT) Information	9
5.1 General Information	9
5.2 General LTE SAR Test and Reporting Considerations	12
5.3 General 5G NR SAR Test and Reporting Considerations	16
6. TA-SAR feature for RF Exposure compliance	19
7. Proximity Sensor Triggering Test	22
8. RF Exposure Limits	24
8.1 Uncontrolled Environment	24
8.2 Controlled Environment	24
9. Specific Absorption Rate (SAR)	25
9.1 Introduction	25
9.2 SAR Definition	25
10. System Description and Setup	26
10.1 E-Field Probe	27
10.2 Data Acquisition Electronics (DAE)	27
10.3 Phantom	28
10.4 Device Holder	29
11. Measurement Procedures	30
11.1 Spatial Peak SAR Evaluation	30
11.2 Power Reference Measurement	31
11.3 Area Scan	31
11.4 Zoom Scan	32
11.5 Volume Scan Procedures	32
11.6 Power Drift Monitoring	32
12. Test Equipment List	33
13. System Verification	34
13.1 Tissue Simulating Liquids	34
13.2 Tissue Verification	34
13.3 System Performance Check Results	36
14. RF Exposure Positions	38
14.1 Ear and handset reference point	38
14.2 Definition of the cheek position	39
14.3 Definition of the tilt position	40
14.4 Body Worn Accessory	41
14.5 Product Specific 10g SAR Exposure	42
14.6 Wireless Router	42
15. Conducted RF Output Power (Unit: dBm)	43
16. Antenna Location	53
17. SAR Test Results	54
17.1 Head SAR	57
17.2 Hotspot SAR	62
17.3 Body Worn Accessory SAR	72
17.4 Product specific 10g SAR	81
17.5 Repeated SAR Measurement	86
17.6 TDD LTE Linearity Data Analysis	87
18. Simultaneous Transmission Analysis	90
18.1 5G NR + LTE + WLAN + BT Sim-Tx analysis	92
18.2 Head Exposure Conditions	93
18.3 Hotspot Exposure Conditions	95
18.4 Body-Worn Accessory Exposure Conditions	99
18.5 Product specific 10g SAR Exposure Conditions	101
18.6 SPLSR Evaluation and Analysis	103
19. Supplemental Tuner Tests Results	105
20. Uncertainty Assessment	106
21. References	108
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
Appendix F. Power reduction mechanism verification
Appendix G. Supplemental Tuner Head & Body SAR Results

Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA422203-02	Rev. 01	Initial issue of report.	Apr. 24, 2024



1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Motorola Mobility LLC, Mobile Cellular Phone, XT2453-7, XT2453-9**, are as follows.

Highest 1g SAR Summary						
Equipment Class	Frequency Band		Head (Separation 0mm)	Hotspot (Separation 5mm)	Body-worn (Separation 5mm)	Highest Simultaneous Transmission 1g SAR (W/kg)
			1g SAR (W/kg)			
Licensed	GSM	GSM850	0.37	1.14	1.14	1.59
		GSM1900	0.88	1.28	0.88	
	WCDMA	WCDMA II	0.88	1.27	1.27	
		WCDMA IV	0.88	1.28	1.29	
		WCDMA V	0.24	1.09	1.09	
	LTE	LTE Band 7	0.89	1.29	1.30	
		LTE Band 12/17	0.33	1.28	1.14	
		LTE Band 2	0.89	1.29	1.29	
		LTE Band 26/5	0.40	1.28	1.28	
		LTE Band 66/4	0.89	1.29	1.29	
		LTE Band 41/38	0.88	1.29	1.29	
		LTE Band 42	0.90	0.64	0.90	
	5G NR	FR1 n5	0.25	0.90	0.90	
		FR1 n66	0.88	1.28	1.29	
		FR1 n41	0.89	1.30	1.29	
		FR1 n77/78	0.89	0.63	0.89	
DTS	WLAN	2.4GHz WLAN	1.25	0.62	1.32	1.59
NII		5GHz WLAN	1.20	0.63	1.18	1.58
6XD		6GHz WLAN	0.41		0.20	1.56
DSS	Bluetooth	2.4GHz Bluetooth	0.36	0.27	0.39	1.59

Highest 10g SAR Summary				
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)	Highest Simultaneous Transmission 10g SAR (W/kg)
Licensed	GSM	GSM1900	1.70	3.71
	WCDMA	WCDMA II	3.13	
		WCDMA IV	2.95	
	LTE	LTE Band 7	3.19	
		LTE Band 12/17	1.95	
		LTE Band 2	3.19	
		LTE Band 26/5	1.91	
		LTE Band 66/4	3.16	
		LTE Band 41/38	2.83	
		LTE Band 42	2.50	
		5G NR	FR1 n66	
	FR1 n41		3.14	
	FR1 n77/78		2.49	
DTS	WLAN	2.4GHz WLAN	3.00	3.71
NII		5GHz WLAN	3.18	3.71
6XD		6GHz WLAN	0.56	3.71
DSS	Bluetooth	2.4GHz Bluetooth	0.81	3.71
Equipment Class	Frequency Band	Head Measured APD (W/m^2)	Body-worn Measured APD (W/m^2)	Product Specific Measured APD (W/m^2)
6XD	6GHz WLAN	2.06	0.77	9.4
Date of Testing:			2024/4/1 ~ 2024/4/16	
Remark:				
1. This device supports LTE B4 / B5 / B17 / B38 and B66 / B26 / B12 / B41. Since the supported frequency span for LTE B4 / B5 / B17 / B38 falls completely within the supports frequency span for LTE B66 / B26 / B12 / B41, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B66 / B26 / B12 / B41.				
2. This device supports 5GNR n78 and n77. Since the supported frequency span for 5GNR n78 falls completely within the supports frequency span for n77, both 5GNR bands have the same target power, and both 5GNR bands share the same transmission path; therefore, SAR was only assessed for n77.				

Declaration of Conformity:

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

Comments and Explanations:

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

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



2. Administration Data

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

Testing Laboratory			
Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	SAR07-KS	CN1257	314309

Applicant	
Company Name	Motorola Mobility LLC
Address	222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

Manufacturer	
Company Name	Motorola Mobility LLC
Address	222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

3. Data Reuse Approach

3.1 Introduction Section

This application re-uses data collected on a similar device, FCC ID: IHDT56AR7 (reference model) and FCC ID: IHDT56AQ8 (variant model). Due to the same design are identical between parent model and variant model, SAR data reuse is requested and spot check data in this report is used to justify the SAR data reuse.

Per KDB 484596 D01 v02r03, the deviation of variant model 1g SAR and 10g SAR spot check result was no larger than 3 dB, the WWAN/WLAN/BT maximum SAR summary was always choosing the higher SAR between parent model and variant model.

The applicant should take full responsibility that the test data as referenced in this report represent compliance for this FCC ID: IHDT56AQ8

3.2 Model Difference Information

The **main** difference between FCC ID: IHDT56AR7 and FCC ID: IHDT56AQ8 is as below:

- Removed LTE B13/14/25/30/71/48 and 5G NR n2/n7/n12/n14/n25/n26/n30/n70/n71/n38/n48.
 - Added LTE B42.
 - NFC Chipset silk-screen and Firmware are different.

Other differences and all the details of similarity and difference can be found in the confidential documents (XT2453-7, XT2453-9_Operational Description of Product Equality Declaration).

3.3 Reference detail Section

Rule Part	Equipment Class	Wireless Technology	Frequency Band (MHz)	FCC ID (Reference)	Type Grant/ Permissive Change	Reference Title	FCC ID Filling (Variant)	Test on the variant
Part 2.1093	PCE	GSM	GSM850/1900	IHDT56AR7	Original Grant	FA422203	IHDT56AQ8	Spot check
		WCDMA	B2/4/5	IHDT56AR7	Original Grant	FA422203	IHDT56AQ8	Spot check
		LTE	B5/12/17/26/B42				IHDT56AQ8	Full Test
		LTE	B2/4/7/66/B38/41	IHDT56AR7	Original Grant	FA422203	IHDT56AQ8	Spot check
		5G NR	n77/n78				IHDT56AQ8	Full Test
		5G NR	n5/n66 /n41	IHDT56AR7	Original Grant	FA422203	IHDT56AQ8	Spot check
	DTS	BLE/ Wi-Fi	2400~2483.5	IHDT56AR7	Original Grant	FA422203	IHDT56AQ8	Spot check
	NII	Wi-Fi	5150 ~ 5250 5250 ~ 5350 5470 ~ 5725 5725 ~ 5850	IHDT56AR7	Original Grant	FA422203	IHDT56AQ8	Spot check
	DSS	Bluetooth	2400~2483.5	IHDT56AR7	Original Grant	FA422203	IHDT56AQ8	Spot check
	6XD	Wi-Fi	5925 ~ 7125	IHDT56AR7	Original Grant	FA422203	IHDT56AQ8	Spot check on SAR, full test on PD
	DXX	NFC	13.56				IHDT56AQ8	Full Test
	DCD	WPT	0.110~0.148				IHDT56AQ8	Full Test

4. 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
- IEC/IEEE 62209-1528:2020
- 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
- FCC KDB 484596 D01 Referencing Test Data v02r03

5. Equipment Under Test (EUT) Information

5.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2453-7, XT2453-9
FCC ID	IHDT56AQ8
IMEI Code	IMEI1: 356537710004319 IMEI2: 356537710004327
Wireless Technology and Frequency Range	GSM850: 824 MHz ~ 849 MHz GSM1900: 1850 MHz ~ 1910 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 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 n66: 1710 MHz ~ 1780 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz WLAN 6GHz U-NII-5: 5925 MHz ~ 6425 MHz WLAN 6GHz U-NII-6: 6425 MHz ~ 6525 MHz WLAN 6GHz U-NII-7: 6525 MHz ~ 6875 MHz WLAN 6GHz U-NII-8: 6875 MHz ~ 7125 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz WPT: 110 kHz ~ 148 kHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+(16QAM uplink is supported) LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR : CP-OFDM / DFT-s-OFDM, PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 2.4GHz 802.11ax HE20/HE40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac/ax VHT20/VHT40/VHT80/HE20/HE40/HE80 WLAN 6GHz 802.11ax HE20/HE40/HE80 Bluetooth BR/EDR/LE NFC: ASK WPT: ASK
HW Version	DVT2

SW Version	U3UC34.16
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 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). WLAN 6GHz has no hotspot function.
4. The 2.4GHz/5GHz/6GHz WLAN can transmit in MIMO/SISO antenna mode.
5. This device does not support DTM operation and supports GPRS/EGPRS mode up to multi-slot class 12.
6. For dual SIM card mobile has single SIM slots + eSIM (electronic SIM) and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active).
7. The device implements the power management, Hall sensor and proximity sensor /receiver detection/hotspot mode for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the MediaTek TA-SAR will manage to ensure the power level not exceeding the associated power table. Details about the power management decision and sensor detection are provided in the operational description. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E.
8. For WLAN/BT when transmit simultaneously with each other, or when transmit simultaneous with WWAN/BT, power reduction will be activated to head. For WLAN/BT when transmit simultaneous with WWAN and Proximity sensors trigger, power reduction will be activated to body-worn and Handheld.
9. For some WWAN bands, sensor on power level is higher than hotspot power level, so front/back sensor on SAR can represent hotspot conservatively.
10. This device implements antenna tuning techniques for several WWAN (cellular) operating modes and frequencies for the purpose of improving antenna efficiency over a broad range of frequencies. Specifically, these techniques are employed in the LTE and 5G NR modes. In this report SAR was measured according to the normally required SAR configurations with the tuner active and worst tune state (auto tune) was used for SAR testing. The detail descriptions of the antenna tuner and supplemental data for additional information can be referred to section 19 and appendix G.
11. This device supports HPUE for LTE Band 41 with class 2 level, HPUE power has been measured separately. For HPUE power is higher than power class 3 but with lower duty cycle, the maximum average power for class 2 and class 3 is almost the same, so we chose power class 3 full SAR testing and power class 2 verify the worst case of power class 3 SAR.
12. For 5G NR bands test, using FTM (Factory Test Mode) with default 100% duty cycle transmission to perform SAR testing.
13. 5G NR n41 supports UL MIMO.
14. For 5G NR FDD/TDD supports SCS15KHz and SCS30KHz, after verification for 30KHz at FDD power level is less than 15KHz at FDD power level, also verification for 15KHz at TDD power level is less than 30KHz at TDD power level, so only show 15KHz at FDD power and 30KHz at TDD power and chose higher power which is SCS15KHz for FDD bands and SCS30KHz for TDD bands to perform SAR testing.
15. The device support DBS (Dual Band Simultaneous) function, when the device 2.4GHz and 5GHz or 6GHz transmit at the same time the module will limit different output power for simultaneous transmission compliance.
16. This device has NFC function and the NFC SAR report will be separately submitted.
17. Power density test report for WLAN 6GHz U-NII-5/6/7/8 will be separately submitted.
18. The two model names XT2453-7, XT2453-9 are the same product except model name different for market segment.
19. This device supports 5G NR 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
	n5	FDD	30	10, 15, 20
	n41	TDD	15	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
	n41	TDD	30	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100
	n77	TDD	15	10, 15, 20, 25, 30, 40, 50
	n77	TDD	30	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	15	10, 15, 20, 25, 30, 40, 50
	n78	TDD	30	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100
SA	n5	FDD	15	5, 10, 15, 20
	n5	FDD	30	10, 15, 20
	n66	FDD	15	5, 10, 15, 20, 25, 30, 35, 40
	n66	FDD	30	10, 15, 20, 25, 30, 35, 40
	n41	TDD	15	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
	n41	TDD	30	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100
	n77	TDD	15	10, 15, 20, 25, 30, 40, 50
	n77	TDD	30	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	15	10, 15, 20, 25, 30, 40, 50
	n78	TDD	30	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100

5.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																														
FCC ID			IHDT56AQ8																											
Equipment Name			Mobile Cellular 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 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																											
Channel Bandwidth			LTE Band 66: 1710 MHz ~ 1780 MHz																											
			LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz																											
			LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz																											
			LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz																											
			LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz																											
			LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz																											
			LTE Band 17: 5MHz, 10MHz																											
			LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz																											
			LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz																											
			LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz																											
uplink modulations used			LTE Band 42: 5MHz, 10MHz, 15MHz, 20MHz																											
			LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz																											
			QPSK / 16QAM / 64QAM / 256QAM																											
			LTE Voice / Data requirements																											
			Voice and Data																											
			LTE Release Version																											
			R15, Cat18																											
			CA Support																											
			Supported, Uplink and Downlink																											
			LTE MPR permanently built-in by design			Table 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																											
Power reduction applied to satisfy SAR compliance			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.																											
LTE Carrier Aggregation Combinations			Yes, when operating in Proximity sensors/receiver/hotspot detect mechanism, head/body -worn /hotspot/extremity will trigger reduced power for some bands applied to satisfy SAR compliance, the detail please referred to section 15.																											
LTE Carrier Aggregation Additional Information			Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 15.																											
LTE Carrier Aggregation Additional Information			1. This device supports LTE Carrier Aggregation (CA) in the uplink for intra-band and inter-band with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance.																											
			2. This device supports maximum of 3 carriers in the downlink and 2 carriers in the uplink.																											
Transmission (H, M, L) channel numbers and frequencies in each LTE band																														
LTE Band 2																														
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz																			
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)																		
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860																		
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880																		
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900																		
LTE Band 4																														



FCC SAR Test Report

Report No. : FA422203-02

	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	20450	829	20450	829
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5
H	20643	848.3	20635	847.5	20625	846.5	20600	844	20600	844	20600	844
LTE Band 7												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510	20850	2510	20850	2510
M	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560	21350	2560	21350	2560
LTE Band 12												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704	23060	704	23060	704
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5
H	23173	715.3	23165	714.5	23155	713.5	23130	711	23130	711	23130	711
LTE Band 17												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Channel #	Freq. (MHz)	Channel #	Freq. (MHz)	Channel #	Freq. (MHz)	Channel #	Freq. (MHz)	Channel #	Freq. (MHz)	Channel #	Freq. (MHz)
L	23755	706.5	23780	709	23780	709	23780	709	23780	709	23780	709
M	23790	710	23790	710	23790	710	23790	710	23790	710	23790	710
H	23825	713.5	23800	711	23800	711	23800	711	23800	711	23800	711
LTE Band 26												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5	26765	821.5
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5	26965	841.5
LTE Band 38												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580	37850	2580	37850	2580
M	38000	2595	38000	2595	38000	2595	38000	2595	38000	2595	38000	2595
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610	38150	2610	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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506	39750	2506	39750	2506
LM	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5	40185	2549.5	40185	2549.5
M	40620	2593	40620	2593	40620	2593	40620	2593	40620	2593	40620	2593
HM	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5	41055	2636.5	41055	2636.5
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680	41490	2680	41490	2680
LTE Band 66												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770
LTE Band 42												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	42115	3452.5	42140	3455	42165	3457.5	42190	3460	42190	3460	42190	3460
M	42590	3500	42590	3500	42590	3500	42590	3500	42590	3500	42590	3500
H	43065	3547.5	43040	3545	43015	3542.5	42990	3540	42990	3540	42990	3540

<For LTE Overlap Bands Description>
1) LTE Bands BW

Band	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz
LTE Band 5	Yes	Yes	Yes	Yes		
LTE Band 26	Yes	Yes	Yes	Yes	Yes	
LTE Band 12	Yes	Yes	Yes	Yes		
LTE Band 17			Yes	Yes		
LTE Band 4	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 66	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 38			Yes	Yes	Yes	Yes
LTE Band 41			Yes	Yes	Yes	Yes

2) LTE Bands tune up:

Band	Antenna	Head	Body-worn open	Hotspot open	Extremity open	Body-worn close	Hotspot close	Sensor Off	Default
		ECI 2	ECI 3	ECI 9	ECI 6	ECI 5	ECI 10	ECI4	
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	
LTE Band 5	Ant 0	24	24	24	24	22.7	21.1	24	24
LTE Band 26	Ant 0	24	24	24	24	22.7	21.1	24	24
LTE Band 12	Ant 0	24	24	24	24	23.4	21.1	24	24
LTE Band 17	Ant 0	24	24	24	24	23.4	21.1	24	24
LTE Band 4	Ant 0	24	22	22.5	23.9	21.3	17.3	24	24
LTE Band 66	Ant 0	24	22	22.5	23.9	21.3	17.3	24	24
LTE Band 38	Ant 0	25	23.2	22.6	25	23.9	22.8	25	25
LTE Band 41	Ant 0	25	23.2	22.6	25	23.9	22.8	25	25
LTE Band 41 HPUE	Ant 0	28	24.8	24.2	28	25.5	24.4	28	28

Band	Antenna	Head	Body-worn open	Hotspot open	Extremity open	Body-worn close	Hotspot close	Sensor Off	Default
		ECI 2	ECI 3	ECI 9	ECI 6	ECI 5	ECI 10	ECI4	
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	
LTE Band 5	Ant 1	24	24	24	24	24	24	24	24
LTE Band 26	Ant 1	24	24	24	24	24	24	24	24
LTE Band 12	Ant 1	24	24	24	24	24	24	24	24
LTE Band 17	Ant 1	24	24	24	24	24	24	24	24
LTE Band 4	Ant 1	24	21.1	19.8	23	19.9	17.8	24	24
LTE Band 66	Ant 1	24	21.1	19.8	23	19.9	17.8	24	24
LTE Band 38	Ant 1	25	22.1	20.9	25	23.6	20.4	25	25
LTE Band 41	Ant 1	25	22.1	20.9	25	23.6	20.4	25	25
LTE Band 41 HPUE	Ant 1	27	23.7	22.5	27	25.2	22	27	27



Band	Antenna	Head	Body-worn open	Hotspot open	Extremity open	Body-worn close	Hotspot close	Sensor Off	Default
		ECI 2	ECI 3	ECI 9	ECI 6	ECI 5	ECI 10	ECI4	
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
LTE Band 4	Ant 2	13.5	16.2	11.3	19.7	19.2	13.8	24	24
LTE Band 66	Ant 2	13.5	16.2	11.3	19.7	19.2	13.8	24	24
LTE Band 38	Ant 2	15.5	18.9	17.3	23	20.8	16.2	25	25
LTE Band 41	Ant 2	15.5	18.9	17.3	23	20.8	16.2	25	25
LTE Band 41 HPUE	Ant 2	17.1	20.5	18.9	24.6	22.4	17.8	28	28

Band	Antenna	Head	Body-worn open	Hotspot open	Extremity open	Body-worn close	Hotspot close	Sensor Off	Default
		ECI 2	ECI 3	ECI 9	ECI 6	ECI 5	ECI 10	ECI4	
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
LTE Band 4	Ant 3	15.5	20.3	18.3	20.6	24	21.2	24	24
LTE Band 66	Ant 3	15.5	20.3	18.3	20.6	24	21.2	24	24
LTE Band 38	Ant 3	18.7	21.4	16.9	22.2	22.9	18.8	24	24
LTE Band 41	Ant 3	18.7	21.4	16.9	22.2	22.9	18.8	24	24
LTE Band 41 HPUE	Ant 3	20.3	23	18.5	23.8	24.5	20.4	27	27

Note: For some bands/antennas at some exposure conditions which cannot be covered were fully tested for RF exposure compliance.

5.3 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 n66: 1710 MHz ~ 1780 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz
Channel Bandwidth	The detail please refers to section 4.1 5GNR FR1 bands table.
SCS	FDD/TDD: SCS15KHz, SCS30KHz
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM
A-MPR (Additional MPR) disabled for SAR Testing?	Yes
LTE Anchor Bands for n5	LTE B66
LTE Anchor Bands for n41	LTE B66
LTE Anchor Bands for n77	LTE B41
LTE Anchor Bands for n78	LTE B41

Transmission (H, M, L) channel numbers and frequencies in each 5G NR band								
NR Band 5 SCS15KHz								
	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 5 SCS30KHz						
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	165800	829	166300	831.5	166800	834
M	167300	836.5	167300	836.5	167300	836.5
H	168800	844	168300	841.5	167800	839

NR Band 66 SCS15KHz																
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz	
	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	342500	1712.5	343000	1715	343500	1717.5	344000	1720	344500	1722.5	345000	1725	345500	1727.5	346000	1730
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745
H	355500	1777.5	355000	1775	354500	1772.5	354000	1770	353500	1767.5	353000	1765	352500	1762.5	352000	1760

NR Band 66 SCS30KHz														
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	343000	1715	343500	1717.5	344000	1720	344500	1722.5	345000	1725	345500	1727.5	346000	1730
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745
H	355000	1775	354500	1772.5	354000	1770	353500	1767.5	353000	1765	352500	1762.5	352000	1760

NR Band 41 SCS15KHz																				
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz		Bandwidth 45MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500502	2502.51	500202	2501.01	500700	2503.5	501204	2506.02	501702	2508.51	500502	2502.51	500202	2501.01	500700	2503.5	501204	2506.02	501702	2508.51
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	537000	2685	537000	2685	536496	2682.48	535998	2679.99	535500	2677.5	537000	2685	537000	2685	536496	2682.48	535998	2679.99	535500	2677.5

NR Band 41 SCS30KHz																												
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz		Bandwidth 45MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz		
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	
L	500202	2501.01	500700	2503.5	501204	2506.02	501702	2508.51	502200	2511	502704	2513.52	503202	2516.01	503700	2518.5	504204	2521.02	505200	2526	500202	2501.01	507204	2536.02	508200	2541	509202	2546.01
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	537000	2685	536496	2682.48	535998	2679.99	535500	2677.5	534996	2674.98	534498	2672.49	534000	2670	533496	2667.48	532998	2664.99	531996	2659.98	531000	2655	529998	2649.99	528996	2644.98	528000	2640



NR Band 77 SCS15KHz														
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	647500	3712.5	647668	3715.02	648000	3720	648334	3725.01
M	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H	665000	3975	664834	3972.51	664666	3970.02	664500	3967.5	664332	3965.01	664000	3960	663668	3955.02

NR Band 77 SCS30KHz																								
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	647500	3712.5	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	656000	3840	656000	3840	656000	3840
H	665000	3975	664834	3972.51	664666	3970.02	664500	3967.5	664332	3965.01	664000	3960	663668	3955.02	663332	3950.01	663000	3945	662666	3940.02	662332	3935.01	662000	3930

NR Band 78 SCS15KHz														
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	647500	3712.5	647668	3715.02	648000	3720	648334	3725.01
M	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750
H	653000	3795	652834	3792.51	652668	3790.02	652500	3787.5	652334	3785.01	652000	3780	651668	3775.02

NR Band 78 SCS30KHz																								
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz		
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	
L	647000	3705	647168	3707.52	647334	3710.01	647500	3712.5	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	650000	3750	650000	3750	650000	3750
H	653000	3795	652834	3792.51	652668	3790.02	652500	3787.5	652334	3785.01	652000	3780	651668	3775.02	651334	3770.01	651000	3765	650668	3760.02	650334	3755.01		

<For NR Overlap Bands Description>

1) NR Bands BW
SCS30KHz

Band	5 MHz	10 MHz	15 MHz	20 MHz	25 MHz	30 MHz	35 MHz	40 MHz	45 MHz	50 MHz	60 MHz	70 MHz	80 MHz	90 MHz	100 MHz
FR1 n77		Yes	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes
FR1 n78		Yes	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes

SCS15KHz

Band	5 MHz	10 MHz	15 MHz	20 MHz	25 MHz	30 MHz	35 MHz	40 MHz	45 MHz	50 MHz	60 MHz	70 MHz	80 MHz	90 MHz	100 MHz
FR1 n77		Yes	Yes	Yes	Yes	Yes		Yes		Yes					
FR1 n78		Yes	Yes	Yes	Yes	Yes		Yes		Yes					

2) NR Bands Tune up:

Band	Antenna	Head	Body-worn open	Hotspot open	Extremity open	Body-worn close	Hotspot close	Sensor Off	Default
		ECI 2 Tune-up Limit	ECI 3 Tune-up Limit	ECI 9 Tune-up Limit	ECI 6 Tune-up Limit	ECI 5 Tune-up Limit	ECI 10 Tune-up Limit	ECI4 Tune-up Limit	
5G NR n77	Ant 3	18.9	22.3	18.1	24	20.9	18.1	24	24
5G NR n78	Ant 3	18.9	22.3	18.1	24	20.9	18.1	24	24

Band	Antenna	Head	Body-worn open	Hotspot open	Extremity open	Body-worn close	Hotspot close	Sensor Off	Default
		ECI 2 Tune-up Limit	ECI 3 Tune-up Limit	ECI 9 Tune-up Limit	ECI 6 Tune-up Limit	ECI 5 Tune-up Limit	ECI 10 Tune-up Limit	ECI4 Tune-up Limit	
5G NR n77	Ant 4	16.2	20.3	14.4	20.1	21.4	15.4	24	24
5G NR n78	Ant 4	16.2	20.3	14.4	20.1	21.4	15.4	24	24

Band	Antenna	Head	Body-worn open	Hotspot open	Extremity open	Body-worn close	Hotspot close	Sensor Off	Default
		ECI 2 Tune-up Limit	ECI 3 Tune-up Limit	ECI 9 Tune-up Limit	ECI 6 Tune-up Limit	ECI 5 Tune-up Limit	ECI 10 Tune-up Limit	ECI4 Tune-up Limit	
5G NR n77	Ant 6	14.4	18.4	15.2	20.1	18.1	15.6	22	22
5G NR n78	Ant 6	14.4	18.4	15.2	20.1	18.1	15.6	22	22
5G NR n77 other Path	Ant 6	14.4	18.4	15.2	20.1	18.1	15.6	22	22
5G NR n78 other Path	Ant 6	14.4	18.4	15.2	20.1	18.1	15.6	22	22

Band	Antenna	Head	Body-worn open	Hotspot open	Extremity open	Body-worn close	Hotspot close	Sensor Off	Default
		ECI 2 Tune-up Limit	ECI 3 Tune-up Limit	ECI 9 Tune-up Limit	ECI 6 Tune-up Limit	ECI 5 Tune-up Limit	ECI 10 Tune-up Limit	ECI4 Tune-up Limit	
5G NR n77	Ant 8	17.8	21.2	15.1	19.6	19.6	17.3	22	22
5G NR n78	Ant 8	17.8	21.2	15.1	19.6	19.6	17.3	22	22

6. TA-SAR feature for RF Exposure compliance

WWAN bands and mmWave are all enabled with MediaTek TA-SAR feature. This feature performs time averaging algorithm in real time to control and manage transmitting power and ensure the time-averaged RF exposure is in compliance with FCC requirements all the time. Note that WLAN operations are not enabled with TA-SAR feature.

The FCC RF exposure limit is defined based on time-averaged RF exposure. The product implements MediaTek TA-SAR feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with FCC RF exposure limit over a defined time window, for SAR (transmit frequency $\leq 6\text{GHz}$). To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement.

The purpose of this report (Part 1 test) is to demonstrate that the EUT meets FCC SAR limits when transmitting in static transmission scenario at maximum allowable time-averaged power levels.

The P_{limit} values correspond to SAR_{design_target}. The power will be fixed at the static reduce power level at different exposure conditions for RF exposure compliance. For the GSM (TDD) P_{limit} power levels in the table correspond to the burst average power levels which don't account for TX duty cycle.

This report describes the procedures for the SAR char generation, and the parameters obtained from SAR characterization (referred to as SAR char, respectively) will be used as input for TA-SAR algorithm. SAR char will be entered via the MediaTek's NV suggestion to enable the TA-SAR Feature.

<Terminologies in this report>

P_{limit}	The time-averaged RF power which corresponds to SAR _{design_target} .
P_{max}	Maximum target power level
SAR_{design_target}:	The design target for SAR compliance. It should be less than regulatory SAR limit to account for all device design related uncertainty.
SAR char	P _{limit} for all the technologies/bands for all applicable ECI

<SAR Characterization>

SAR char must be generated to cover all radio configurations and usage scenarios that the wireless device supports for operating at 6 GHz or below. It will then be used as input for TA-SAR to control and manage RF exposure for $f < 6\text{GHz}$.

<SAR design target and uncertainty>

Item	Uncertainty dB (k=2)
Total uncertainty	1.5

To account for total uncertainty, SAR_{design_target} should be determined as:

$$SAR_{design_target} < SAR_{regulatory_limit} \times 10^{\frac{-total\ uncertainty}{10}}$$

The TA-SAR algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of SAR_design_target, below the predefined time-averaged power limit, for each characterized technology and band.

TA-SAR allows the device to transmit at higher power instantaneously, as high as Pmax, when needed, but enforces power limiting to maintain time-averaged transmit power to Plimit.

<P_{limit} for supported technologies and bands>

Band	Antenna	Head ECI 2	Body-worn open ECI 3	Hotspot open ECI 9	Extremity open ECI 6	Body-Worn close ECI 5	Hotspot close ECI 10	Sensor off ECI 4	Pmax*
GSM850	Ant 0	30.4	25.5	25.5	25.0	25.5	24.4	25.0	25.0
GSM850	Ant 1	35.2	26.6	26.1	25.0	28.4	26.8	25.0	25.0
GSM1900	Ant 0	34.3	23.4	20.1	21.0	23.6	21.8	21.0	21.0
GSM1900	Ant 2	15	19.9	13.9	23.6	19.1	14.3	22.0	22.0
WCDMA II	Ant 0	33.4	18.3	16.0	23.2	19.5	17.1	22.0	22.0
WCDMA II	Ant 1	31.5	17.3	17.3	21.4	18.3	16.2	22.0	22.0
WCDMA II	Ant 2	14.9	17.5	13.9	20.8	18.5	12.9	23.0	23.0
WCDMA II	Ant 3	15.1	16.9	16.3	19.7	19.0	16.4	21.0	21.0
WCDMA IV	Ant 0	52.3	21.7	18.7	23.8	20.6	17.4	22.0	22.0
WCDMA IV	Ant 1	51.7	18.1	18.1	22.0	18.2	16.6	22.0	22.0
WCDMA IV	Ant 2	15.6	16.0	13.5	20.5	20.6	15.1	23.0	23.0
WCDMA IV	Ant 3	15.7	18.9	14.9	20.0	23.0	17.1	21.0	21.0
WCDMA V	Ant 0	31.3	24.7	24.7	24.0	23.9	22.7	24.0	24.0
WCDMA V	Ant 1	37.8	27.9	26.5	24.0	26.1	24.6	24.0	24.0
LTE Band 2	Ant 0	31.4	20.9	19.1	22.4	18.5	18.6	23.0	23.0
LTE Band 2	Ant 1	33	19.7	18.5	22.0	18.7	17.2	23.0	23.0
LTE Band 2	Ant 2	11.1	15.4	12.1	19.2	15.4	12.3	23.0	23.0
LTE Band 2	Ant 3	15.7	19.2	17.1	20.8	21.6	18.5	23.0	23.0
LTE Band 66(4)	Ant 0	34.3	21.0	21.5	22.9	20.3	16.3	23.0	23.0
LTE Band 66(4)	Ant 1	31	20.1	18.8	22.0	18.9	16.8	23.0	23.0
LTE Band 66(4)	Ant 2	12.5	15.2	10.3	18.7	18.2	12.8	23.0	23.0
LTE Band 66(4)	Ant 3	14.5	19.3	17.3	19.6	23.3	20.2	23.0	23.0
LTE Band 26(5)	Ant 0	28.1	23.0	23.0	25.2	21.7	20.1	23.0	23.0
LTE Band 26(5)	Ant 1	33.9	26.9	26.9	23.0	28.2	26.6	23.0	23.0
LTE Band 7	Ant 0	25.8	21.2	20.8	22.7	20.2	19.6	24.0	24.0
LTE Band 7	Ant 1	33.6	21.0	20.5	22.8	20.0	17.7	23.0	23.0
LTE Band 7	Ant 2	14.4	17.0	14.0	20.2	18.5	13.2	24.0	24.0
LTE Band 7	Ant 3	15.3	18.6	14.2	18.9	20.1	15.8	24.0	24.0
LTE Band 12(17)	Ant 0	28.9	23.5	23.0	25.1	22.4	20.1	23.0	23.0
LTE Band 12(17)	Ant 1	33	28.5	24.8	23.0	25.3	23.7	23.0	23.0
LTE Band 41(38)	Ant 0	25.4	20.2	19.6	23.9	20.9	19.8	23.4	22.0
LTE Band 41 HPUE	Ant 0	25.4	20.2	19.6	23.9	20.9	19.8	23.4	23.4
LTE Band 41(38)	Ant 1	33	19.1	17.9	25.9	20.6	17.4	22.4	22.0
LTE Band 41 HPUE	Ant 1	33	19.1	17.9	25.9	20.6	17.4	22.4	22.4
LTE Band 41(38)	Ant 2	12.5	15.9	14.3	20.0	17.8	13.2	23.4	22.0
LTE Band 41 HPUE	Ant 2	12.5	15.9	14.3	20.0	17.8	13.2	23.4	23.4
LTE Band 41(38)	Ant 3	15.7	18.4	13.9	19.2	19.9	15.8	22.4	21.0
LTE Band 41 HPUE	Ant 3	15.7	18.4	13.9	19.2	19.9	15.8	22.4	22.4
LTE Band 42	Ant 3	13.7	16.0	11.5	18.9	17.4	16.4	21.0	21.0
LTE Band 42	Ant 4	12.4	14.4	12.3	16.3	18.8	11.7	21.0	21.0
LTE Band 42	Ant 6	13.5	20.4	13.8	20.7	17.7	14.5	21.0	21.0
LTE Band 42	Ant 8	19.3	19.5	18.6	23.2	23.6	18.0	21.0	21.0
FR1 n5	Ant 0	30.1	24.5	24.5	23.0	23.1	22.1	23.0	23.0
FR1 n5	Ant 1	33.7	26.6	26.1	23.0	24.4	23.1	23.0	23.0
FR1 n66	Ant 0	35.6	22.8	19.4	23.1	20.2	18.1	23.0	23.0
FR1 n66	Ant 1	33	22.5	21.9	24.6	21.0	20.2	23.0	23.0

FR1 n66	Ant 2	15.1	18.3	13.4	20.9	19.8	14.6	23.0	23.0
FR1 n66	Ant 3	17.5	20.6	16.8	21.9	24.4	19.9	23.0	23.0
FR1 n66 other Path	Ant 3	17.5	20.6	16.8	21.9	24.4	19.9	23.0	23.0
FR1 n41	Ant 0	26.8	20.3	20.5	25.5	19.8	18.7	25.0	22.0
FR1 n41	Ant 1	33.4	19.6	19.3	25.0	21.1	18.3	25.0	22.0
FR1 n41	Ant 2	14.8	18.0	13.7	20.6	18.1	13.7	26.0	23.0
FR1 n41	Ant 3	15.8	19.7	15.1	19.1	19.2	15.1	24.0	21.0
FR1 n41 other Path	Ant 3	15.8	20.1	15.1	19.4	21.0	15.4	26.0	23.0
FR1 n77(78)	Ant 3	17.9	21.3	17.1	23.4	19.9	17.1	23.0	23.0
FR1 n77(78)	Ant 4	15.2	19.3	13.4	19.1	20.4	14.4	23.0	23.0
FR1 n77(78)	Ant 6	13.4	17.4	14.2	19.1	17.1	14.6	21.0	21.0
FR1 n77(78) other Path	Ant 6	13.4	17.4	14.2	19.1	17.1	14.6	21.0	21.0
FR1 n77(78)	Ant 8	16.8	20.2	14.1	18.6	18.6	16.3	21.0	21.0

Note:

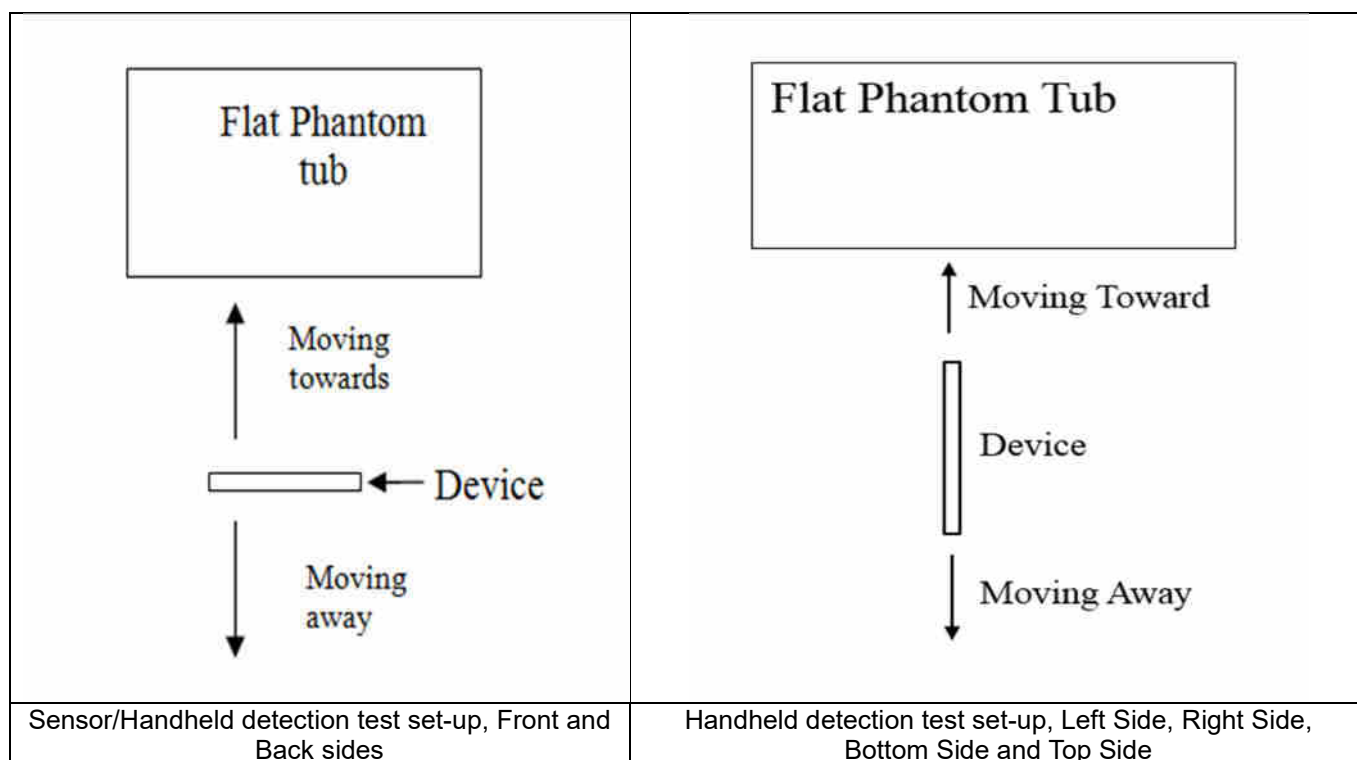
- 1) *P_{max} is used for RF tune up procedure. The maximum allowed output power is equal to P_{max} + 1.0 dB device uncertainty.
- 2) All Plimit power levels entered in the Table correspond to average power levels after accounting for duty cycle in the case TDD modulation schemes (for e.g., GSM & LTE TDD & NR TDD).
- 3) The max allowed output power is the Plimit + 1.0 dB device uncertainty, and if Plimit is higher than P_{max}, the device output power will be P_{max} instead.
- 4) The following table is duty cycle and factor used for calculating time average power.

GSM/FDD/TDD	Duty Cycle	Time average calculation factor(dB)
GSM 1TX	12.50%	-9.0
GSM 2TX	25%	-6.0
GSM 3TX	37.50%	-4.3
GSM 4TX	50%	-3.0
FDD LTE	100%	0.0
TDD LTE	63.30%	-2.0
TDD HPUE	43.30%	-3.6
NR FDD/TDD	100%	0.0

7. Proximity Sensor Triggering Test

<Proximity Sensor Triggering Distance>:

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (5850MHz) and lowest (750MHz) frequency was used for proximity sensor triggering testing.
2. Capacitive proximity sensors placed coincident with antenna elements at the top and bottom ends of the phone are utilized to determine when the device comes in proximity of the user's body at the front or back of the device.
3. The output power will reduce to body worn power level when top and bottom sensor pad be detected.
4. The sensors used to detect the proximity of the user's body at the front or back surface of the device use a detection threshold distance. The data shown in the sections below shows the distance(s). When front or back body worn condition is detected reduced power will be active.
5. The device employs proximity sensors also can detect the presence of the user's a finger or hand when handheld state at the front/back/top/bottom/left/right sides of the device. When front/back/top/bottom/left/right sides of handheld condition is detected reduced power will be active.
6. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance -1mm was performed:



<Flip-Open Mode>

<P-Sensor>

Proximity Sensor Triggering Distance (mm)				
Position	Front		Back	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	16	21	18	24

<Handheld for ANT0>

Proximity Sensor Triggering Distance (mm)						
Position	Back		Left Side		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	14	19	17	22	11	17

<Handheld for ANT 1>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Right Side		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	11	17	13	19	9	14	14	19

<Handheld for ANT2/4>

Proximity Sensor Triggering Distance (mm)						
Position	Front		Back		Left Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	17	22	16	21	22	27

<Handheld for ANT3>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Left Side		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	14	19	13	18	13	18	16	21

<Handheld for ANT 5/6/7/8>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Right Side		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	17	22	14	19	16	21	10	16

<Flip-Close Mode>
<P-Sensor>

Proximity Sensor Triggering Distance (mm)				
Position	Front		Back	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	18	22	17	22

8. RF Exposure Limits

8.1 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.

8.2 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.

9. Specific Absorption Rate (SAR)

9.1 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.

9.2 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:

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

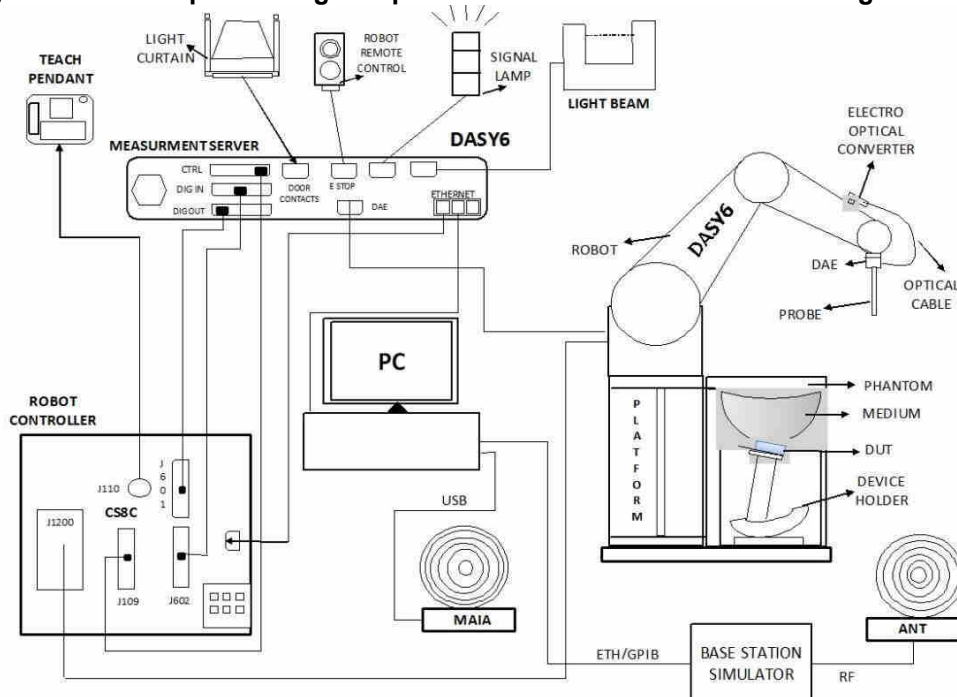
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

10. 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 Win10 and the DASY5 or DASY6 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.

10.1 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	

10.2 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

10.3 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 or for evaluating transmitters operating at low frequencies. ELI is fully compatible with standard and all known tissue simulating liquids.

10.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

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



Mounting Device for Hand-Held Transmitters



Mounting Device Adaptor for Wide-Phones

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

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



Mounting Device for Laptops

11. 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

11.1 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

11.2 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.

11.3 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.	

11.4 Zoom Scan

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

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

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: $\Delta x_{\text{Zoom}}, \Delta y_{\text{Zoom}}$			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm *	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{\text{Zoom}}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{\text{Zoom}}(1)$: between 1 st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{\text{Zoom}}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{\text{Zoom}}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.				
* When zoom scan is required and the <u>reported</u> SAR from the <u>area scan based 1-g SAR estimation</u> 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.				

11.5 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.

11.6 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.

12. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1087	2022/2/24	2025/2/22
SPEAG	835MHz System Validation Kit	D835V2	4d091	2022/8/19	2025/8/18
SPEAG	1750MHz System Validation Kit	D1750V2	1090	2022/2/24	2025/2/22
SPEAG	1900MHz System Validation Kit	D1900V2	5d118	2022/3/30	2025/3/28
SPEAG	2450MHz System Validation Kit	D2450V2	1040	2023/4/25	2024/4/24
SPEAG	2600MHz System Validation Kit	D2600V2	1112	2023/12/18	2024/12/17
SPEAG	3500MHz System Validation Kit	D3500V2	1037	2023/11/20	2024/11/19
SPEAG	3700MHz System Validation Kit	D3700V2	1008	2023/11/20	2024/11/19
SPEAG	3900MHz System Validation Kit	D3900V2	1048	2023/3/9	2026/3/8
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	2022/9/23	2025/9/22
SPEAG	6500MHz System Validation Kit	D6.5GHzV2	1031	2023/2/22	2026/2/21
SPEAG	Data Acquisition Electronics	DAE4	1649	2023/4/24	2024/4/23
SPEAG	Dosimetric E-Field Probe	EX3DV4	7706	2024/1/24	2025/1/23
SPEAG	SAM Twin Phantom	SAM Twin	TP-2024	NCR	NCR
Testo	Thermo-Hygrometer	608-H1	1241332126	2023/7/10	2024/7/9
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Rohde & Schwarz	Signal Generator	SMB100A	100455	2024/1/2	2025/1/1
Keysight	Preamplifier	83017A	MY57280111	2023/7/5	2024/7/4
Anritsu	Radio Communication Analyzer	MT8821C	6262306175	2023/7/5	2024/7/4
Agilent	ENA Series Network Analyzer	E5071C	MY46111157	2023/7/5	2024/7/4
SPEAG	Dielectric Probe Kit	DAK-3.5	1144	2023/8/17	2024/8/16
Anritsu	Vector Signal Generator	MG3710A	6201682672	2024/1/2	2025/1/1
Rohde & Schwarz	Power Meter	NRVD	102081	2023/7/5	2024/7/4
Rohde & Schwarz	Power Sensor	NRV-Z5	100538	2023/7/5	2024/7/4
Rohde & Schwarz	Power Sensor	NRV-Z5	100539	2023/7/5	2024/7/4
Rohde & Schwarz	Power Sensor	NRP50S	101254	2023/4/6	2024/4/5
R&S	BLUETOOTH TESTER	CBT	101246	2023/5/15	2024/5/14
Rohde & Schwarz	Spectrum Analyzer	FSV7	101631	2023/10/11	2024/10/10
TES	DIGITAC THERMOMETER	1310	220305411	2023/7/8	2024/7/7
BONN	POWER AMPLIFIER	BLMA 0830-3	087193A	Note 1	
BONN	POWER AMPLIFIER	BLMA 2060-2	087193B	Note 1	
ARRA	Power Divider	A3200-2	N/A	Note 1	
Agilent	Dual Directional Coupler	778D	20500	Note 1	
Agilent	Dual Directional Coupler	11691D	MY48151020	Note 1	
MCL	Attenuation1	BW-S10W5+	N/A	Note 1	
MCL	Attenuation2	BW-S10W5+	N/A	Note 1	
MCL	Attenuation3	BW-S10W5+	N/A	Note 1	

Note:

- 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
- 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.
- 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.

13. System Verification

13.1 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

13.2 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
900	40.3	57.9	0.2	1.4	0.2	0	0.97	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	22.6	0.900	41.2	0.89	41.90	1.12	-1.67	±5	2024/4/1
835	Head	22.9	0.902	41.2	0.90	41.50	0.22	-0.72	±5	2024/4/1
1750	Head	22.8	1.41	40.7	1.37	40.10	2.92	1.50	±5	2024/4/2
1900	Head	22.7	1.40	39.0	1.40	40.00	0.00	-2.50	±5	2024/4/2
2450	Head	22.8	1.83	37.5	1.80	39.20	1.67	-4.34	±5	2024/4/3
2600	Head	22.7	1.93	38.2	1.96	39.00	-1.53	-2.05	±5	2024/4/4
3500	Head	22.6	2.78	38.9	2.91	37.90	-4.47	2.64	±5	2024/4/5
3700	Head	22.9	2.99	38.7	3.12	37.70	-4.17	2.65	±5	2024/4/6
3900	Head	22.8	3.19	38.4	3.32	37.50	-3.92	2.40	±5	2024/4/7
5250	Head	22.7	4.60	35.9	4.71	35.90	-2.34	0.00	±5	2024/4/8
5600	Head	22.7	5.00	35.3	5.07	35.50	-1.38	-0.56	±5	2024/4/8
5750	Head	22.8	5.17	35.1	5.22	35.40	-0.96	-0.85	±5	2024/4/8
750	Head	22.6	0.872	41.2	0.89	41.90	-2.02	-1.67	±5	2024/4/9
835	Head	22.8	0.911	42.7	0.90	41.50	1.22	2.89	±5	2024/4/9
1750	Head	22.7	1.34	38.5	1.37	40.10	-2.19	-3.99	±5	2024/4/10
1900	Head	22.7	1.40	41.4	1.40	40.00	0.00	3.50	±5	2024/4/10
2450	Head	22.7	1.83	37.5	1.80	39.20	1.67	-4.34	±5	2024/4/11
2600	Head	22.7	1.93	38.3	1.96	39.00	-1.53	-1.79	±5	2024/4/12
3500	Head	22.8	2.85	38.6	2.91	37.90	-2.06	1.85	±5	2024/4/13
3700	Head	22.8	3.08	38.0	3.12	37.70	-1.28	0.80	±5	2024/4/14
3900	Head	22.7	3.28	37.6	3.32	37.50	-1.20	0.27	±5	2024/4/15
5250	Head	22.9	4.58	35.7	4.71	35.90	-2.76	-0.56	±5	2024/4/16
5600	Head	22.9	4.95	35.1	5.07	35.50	-2.37	-1.13	±5	2024/4/16
5750	Head	22.9	5.11	34.9	5.22	35.40	-2.11	-1.41	±5	2024/4/16
6500	Head	22.8	6.16	34.6	6.07	34.50	1.48	0.29	±5	2024/4/4

13.3 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 (%)
2024/4/1	750	Head	50	1087	7706	1649	0.423	8.58	8.46	-1.40
2024/4/1	835	Head	50	4d091	7706	1649	0.476	9.45	9.52	0.74
2024/4/2	1750	Head	50	1090	7706	1649	1.87	37.00	37.4	1.08
2024/4/2	1900	Head	50	5d118	7706	1649	2.00	39.30	40	1.78
2024/4/3	2450	Head	50	1040	7706	1649	2.68	52.70	53.6	1.71
2024/4/4	2600	Head	50	1112	7706	1649	2.72	55.10	54.4	-1.27
2024/4/5	3500	Head	50	1037	7706	1649	3.15	65.40	63	-3.67
2024/4/6	3700	Head	50	1008	7706	1649	3.29	67.20	65.8	-2.08
2024/4/7	3900	Head	50	1048	7706	1649	3.39	69.10	67.8	-1.88
2024/4/8	5250	Head	50	1113	7706	1649	3.88	81.50	77.6	-4.79
2024/4/8	5600	Head	50	1113	7706	1649	4.02	82.60	80.4	-2.66
2024/4/8	5750	Head	50	1113	7706	1649	3.76	80.80	75.2	-6.93
2024/4/9	750	Head	50	1087	7706	1649	0.414	8.58	8.28	-3.50
2024/4/9	835	Head	50	4d091	7706	1649	0.483	9.45	9.66	2.22
2024/4/10	1750	Head	50	1090	7706	1649	1.79	37.00	35.8	-3.24
2024/4/10	1900	Head	50	5d118	7706	1649	2.00	39.30	40	1.78
2024/4/11	2450	Head	50	1040	7706	1649	2.63	52.70	52.6	-0.19
2024/4/12	2600	Head	50	1112	7706	1649	2.64	55.10	52.8	-4.17
2024/4/13	3500	Head	50	1037	7706	1649	3.16	65.40	63.2	-3.36
2024/4/14	3700	Head	50	1008	7706	1649	3.40	67.20	68	1.19
2024/4/15	3900	Head	50	1048	7706	1649	3.50	69.10	70	1.30
2024/4/16	5250	Head	50	1113	7706	1649	3.85	81.50	77	-5.52
2024/4/16	5600	Head	50	1113	7706	1649	4.03	82.60	80.6	-2.42
2024/4/16	5750	Head	50	1113	7706	1649	3.79	80.80	75.8	-6.19
2024/4/4	6500	Head	50	1031	7706	1649	13.8	297.00	276	-7.07

<10g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2024/4/1	750	Head	50	1087	7706	1649	0.281	5.65	5.62	-0.53
2024/4/1	835	Head	50	4d091	7706	1649	0.314	6.22	6.28	0.96
2024/4/2	1750	Head	50	1090	7706	1649	1.01	19.50	20.2	3.59
2024/4/2	1900	Head	50	5d118	7706	1649	1.05	20.40	21	2.94
2024/4/3	2450	Head	50	1040	7706	1649	1.26	24.60	25.2	2.44
2024/4/4	2600	Head	50	1112	7706	1649	1.22	24.80	24.4	-1.61
2024/4/5	3500	Head	50	1037	7706	1649	1.19	24.70	23.8	-3.64
2024/4/6	3700	Head	50	1008	7706	1649	1.23	24.40	24.6	0.82
2024/4/7	3900	Head	50	1048	7706	1649	1.21	24.10	24.2	0.41
2024/4/8	5250	Head	50	1113	7706	1649	1.11	23.30	22.2	-4.72
2024/4/8	5600	Head	50	1113	7706	1649	1.14	23.70	22.8	-3.80
2024/4/8	5750	Head	50	1113	7706	1649	1.07	23.00	21.4	-6.96
2024/4/9	750	Head	50	1087	7706	1649	0.275	5.65	5.5	-2.65
2024/4/9	835	Head	50	4d091	7706	1649	0.319	6.22	6.38	2.57
2024/4/10	1750	Head	50	1090	7706	1649	0.959	19.50	19.18	-1.64
2024/4/10	1900	Head	50	5d118	7706	1649	1.05	20.40	21	2.94
2024/4/11	2450	Head	50	1040	7706	1649	1.23	24.60	24.6	0.00
2024/4/12	2600	Head	50	1112	7706	1649	1.19	24.80	23.8	-4.03
2024/4/13	3500	Head	50	1037	7706	1649	1.22	24.70	24.4	-1.21
2024/4/14	3700	Head	50	1008	7706	1649	1.27	24.40	25.4	4.10
2024/4/15	3900	Head	50	1048	7706	1649	1.24	24.10	24.8	2.90
2024/4/16	5250	Head	50	1113	7706	1649	1.09	23.30	21.8	-6.44
2024/4/16	5600	Head	50	1113	7706	1649	1.13	23.70	22.6	-4.64
2024/4/16	5750	Head	50	1113	7706	1649	1.08	23.00	21.6	-6.09
2024/4/4	6500	Head	50	1031	7706	1649	2.62	54.80	52.4	-4.38

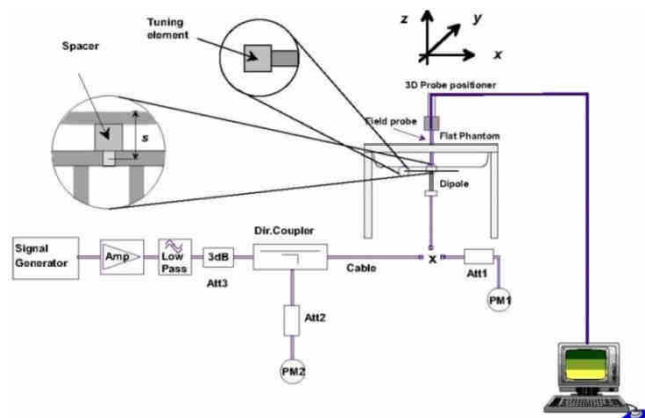


Fig 11.3.1 System Performance Check Setup

Fig 11.3.2 Setup Photo

14. RF Exposure Positions

14.1 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.

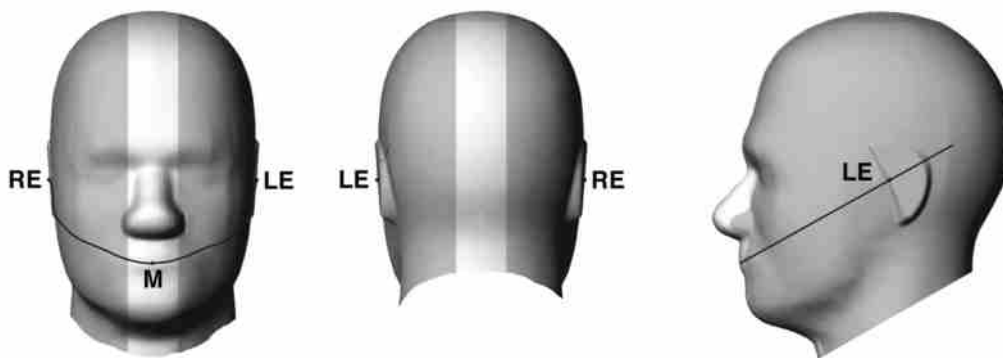


Fig 12.1.1 Front, back, and side views of SAM twin phantom

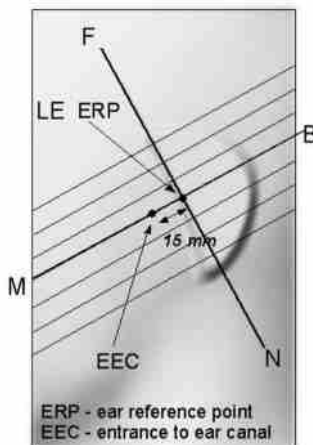


Fig 12.1.2 Close-up side view of phantom showing the ear region.

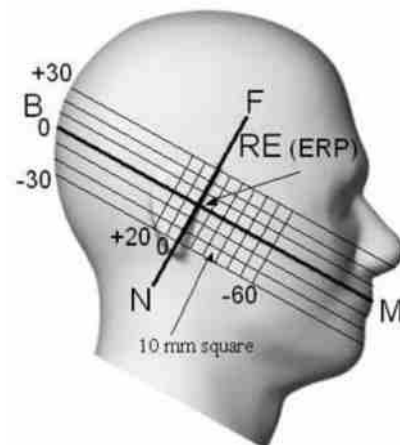


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

14.2 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.

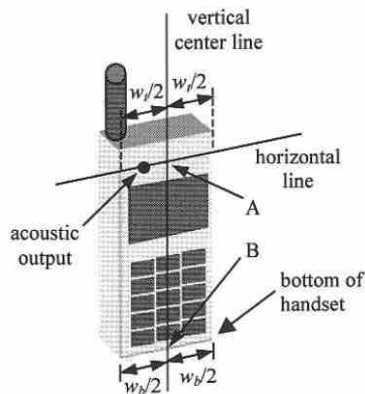


Fig 12.2.1 Handset vertical and horizontal reference lines—“fixed case”

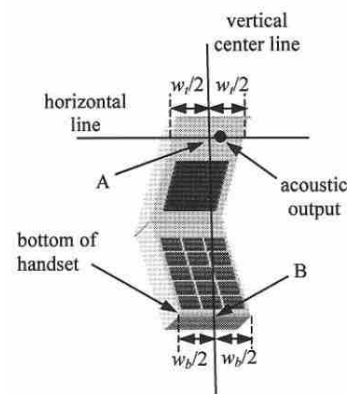


Fig 12.2.2 Handset vertical and horizontal reference lines—“clam-shell case”

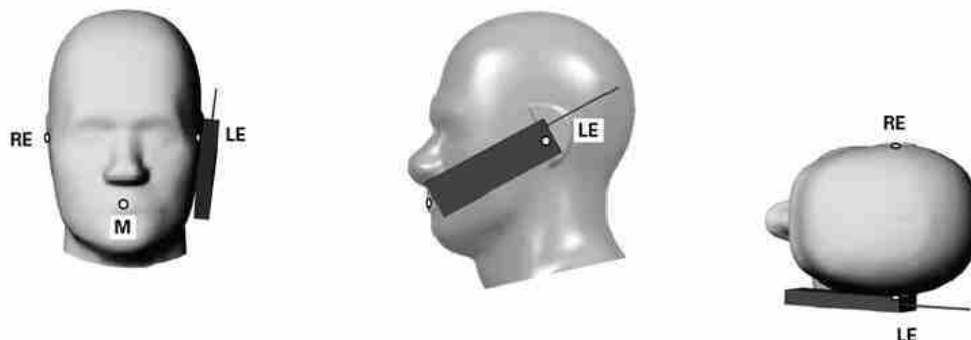


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

14.3 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

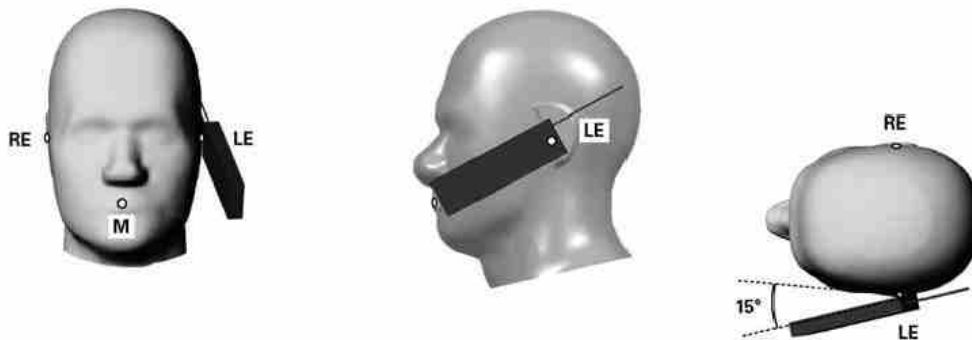


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

14.4 Body Worn Accessory

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 11.4). Per KDB648474 D04v01r03, body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for body-worn accessory, measured without a headset connected to the handset is $> 1.2 \text{ W/kg}$, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

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

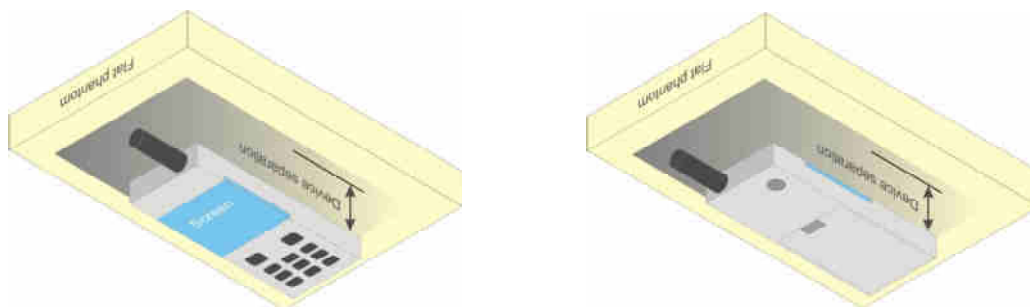


Fig 12.4 Body Worn Position

14.5 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 can provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets and 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.

14.6 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.

15. Conducted RF Output Power (Unit: dBm)

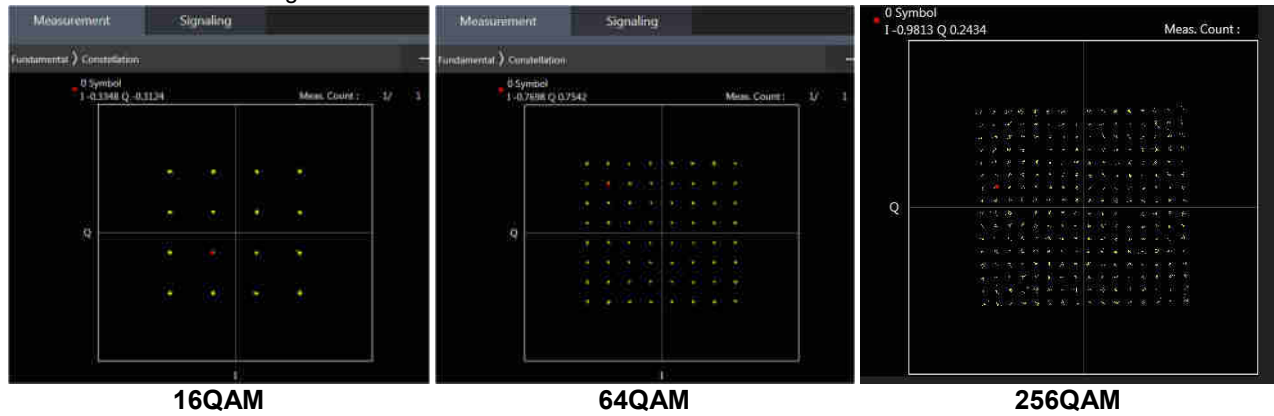
The detailed conducted power table can refer to Appendix E.

<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/256QAM 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/256QAM SAR testing is not required.
7. 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.
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 May 2017 TCB workshop, for 16QAM and 64QAM, 256QAM 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 256QAM, 64QAM and 16QAM signal modulation are correct.



<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.

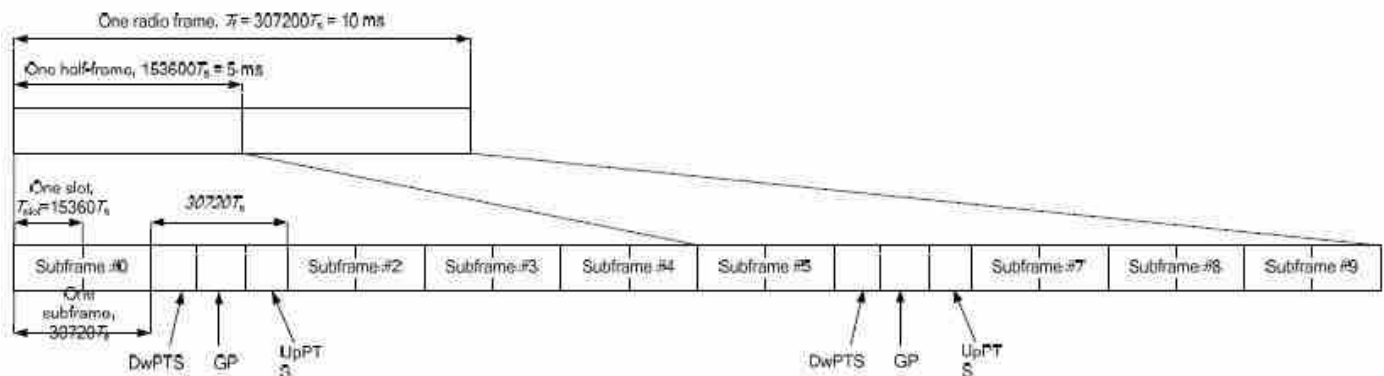


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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:

For LTE TDD Power class 2

- Uplink-downlink configuration: 1. In a half-frame consisted of 5 subframes, uplink operation is in 2 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: $(2+0.167)/5 = 43.3\%$
- for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: $(2+0.143)/5 = 42.9\%$
- For TDD LTE SAR measurement, the duty cycle 1:2.33 (42.9 %) was used perform testing and considering the theoretical duty cycle of 43.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 42.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix $43.3\%/42.9\% = 1.009$ 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.

For LTE TDD Power class 3

- 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.

The device can adjust uplink/downlink configuration automatically according to the transmitting power class level, as followings:

LTE TDD Band	Power Class level	support uplink/downlink configuration
LTE Band 41	> 23	1,2,3,4,5
	=23	0,1,2,3,4,5,6
	< 23	0,1,2,3,4,5,6

<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
1	CA_41A-42A		1	CA_41A-42C	
2	CA_41C	3CC2	2	CA_41C-42A	
3	CA_42C	3CC1	3	CA_42D	
4	CA_66A-66A				
5	CA_66B				
6	CA_66C				

LTE Carrier Aggregation Conducted Power (Downlink)

- i. According to KDB941225 D05A v01r02, Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.
- ii. Uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.
- iii. The device supports downlink three 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 Band 42/41/66 only. Uplink transmission is limited to a single output stream. Power measurements were performed with downlink 4x4 MIMO active for the configuration with highest measured maximum conducted power with 4x4 downlink MIMO inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.

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

4X4 MIMO	Band
	LTE Band 42/41/66

LTE Carrier Aggregation Conducted Power (Uplink)

LTE Uplink CA	2CC Uplink Carrier Aggregation	
Intra-band	Antenna Tx	ASDiv-1 Tx
CA_41C	Ant2	Ant3,Ant0,Ant1
CA_66B	Ant2	Ant3,Ant0,Ant1
CA_66C	Ant2	Ant3,Ant0,Ant1
CA_42C	Ant4	Ant6,Ant3,38

<Intra-band>
General Note:

- The device supports intra-band uplink carrier aggregation for LTE B66/41/42 with a maximum of two uplink component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.
- The device supports uplink carrier aggregation with a maximum of two uplink component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre the 3GPP requirement.
- According Nov. 2017 TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
- Additional SAR measurement for LTE UL CA with other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active.
- LTE CA_66B test was covered by CA_66C; therefore, SAR was only assessed for CA_66C.

<Inter-band uplink carrier aggregation consideration>

LTE Uplink CA	2CC Uplink Carrier Aggregation			
Inter-band	Main Antenna Tx	ASDiv-1 Tx	ASDiv-2 Tx	ASDiv-3 Tx
CA_41A-42A	Ant3+Ant4/Ant6/Ant8	Ant2+Ant4/Ant6/Ant8	Ant0+Ant4/Ant6/Ant8	Ant1+Ant4/Ant6/Ant8

General Note:

1. The single carrier of inte-band CA uplink power level is the same as Non-CA standalone LTE power level.
2. The product implements MediaTek TA-SAR feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with FCC RF exposure limit over a defined time window, for SAR (transmit frequency $\leq 6\text{GHz}$). To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement.
3. MediaTek's TA-SAR algorithm controls the total RF exposure base on LTE inter CA bands to not exceed FCC limit. In Part 1 Report, simultaneous transmission compliance was evaluated with other Radios (WLAN or BT) using standalone LTE SAR mode.

5G NR Output Power (Unit: dBm)

General Note:

1. 5G NR n5/ n41 /n77/n78 is NSA mode.
2. 5G NR n5 /n66 /n41 /n77/n78 is SA mode.
3. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
 - a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-s QPSK and the reported SAR for the DFT-s 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/64QAM/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the 16QAM/64QAM/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.
 - c. SAR testing start with the largest channel bandwidth and measure SAR for 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
4. For 5G NR bands test, using FTM (Factory Test Mode) with default 100% duty cycle transmission to perform SAR testing.
5. NSA and SA mode should perform SAR separately. For the maximum power of NSA mode is the same as SA total power level, so SA SAR can represent NSA mode SAR.
6. 5G NR NSA mode, the power level is the same as 5G NR SA mode, so 5G NR NSA mode and SA mode power table only show one time.
7. 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.
8. 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.
9. 5G NR n41 supports UL MIMO.
10. For NR MIMO mode, MediaTek's TA-SAR algorithm in WWAN adds directly the time-averaged RF exposure between two NR bands. TA-SAR algorithm controls the total RF exposure base on NR MIMO bands to not exceed FCC limit.

<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 combination>

ENDC	Main Antenna Tx		ASDiv-1 Tx	
	LTE TX	NR TX	LTE TX	NR TX
DC_41A_n77A	Ant3	Ant4/Ant6/Ant8	Ant2/Ant0/Ant1	Ant4/Ant6/Ant8
DC_41A_n78A	Ant3	Ant4/Ant6/Ant8	Ant2/Ant0/Ant1	Ant4/Ant6/Ant8
DC_66A_n41A	Ant2	Ant3/Ant0/Ant1	Ant3	Ant2/Ant0/Ant1
DC_66A_n5A	Ant2/Ant3/Ant1	Ant0	Ant2/Ant3/Ant0	Ant1

NR UL MIMO Bands Configuration:

ULMIMO	Main Antenna Tx	ASDiv Tx
5G NR n41(ULMIMO)	Ant2+Ant3	Ant1/Ant0+Ant3;Ant0+Ant1



16. Antenna Location

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

17. SAR Test Results

Spot Check General Note:

- According to section 3.3, spot check conducted power test against the variant project based on the worst-case SAR condition from the original project was performed in this filing to demonstrate the test data from original project remains representative for the variant project. Detail Conducted power measurement referred to appendix E.
- SAR spot check verification on the worst cases from the original model was performed to demonstrate the test data from original model remains representative for the variant model.
- Per KDB 484596 D01 v02r03, the variant filings must demonstrate that the referenced test data remain valid for the variant device by including spot-check measurements that meet the following criteria:
 - Spot-check measurements shall be made in correspondence to the worst-case scenario reported in the reference device filing, i.e., for those conditions that are the closest to non-compliance
 - Spot-check measurements, while being always compliant with the applicable rule part(s) for the test under consideration, may show a deviation d_{dB} from the reference data no larger than 3 dB:
$$d_{dB} = |V_{dB} - R_{dB}| \leq 3 \text{ dB} \quad (1)$$
where between V_{dB} , the variant spot-check level in dB, and R_{dB} is the corresponding measurement level in dB for the reference model.
- The Spot check results showed that deviation of the SAR results did not exceed 3 dB, therefore referring to the guidance in the KDB inquiry, SAR data reuse is justified.
- 1st as parent model, 2nd as variant model.

General Note:

- Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - 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.
 - 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)"
 - For SAR testing of Bluetooth signal with 83.3% theoretical duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle) * 83.3%".
 - For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - For BT/WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
 - For TDD LTE SAR measurement of power class 3, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The reported TDD LTE SAR (W/kg) = Measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
 - For TDD LTE SAR measurement of power class 2, the duty cycle 1:2.33 (42.9 %) was used perform testing and considering the theoretical duty cycle of 43.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 42.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 43.3%/42.9% = 1.009 is applied to scale-up the measured SAR result. The reported TDD LTE SAR (W/kg) = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
- Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:
 - $\leq 0.8 \text{ W/kg}$ or 2.0 W/kg , for 1-g or 10-g respectively, when the transmission band is $\leq 100 \text{ MHz}$
 - $\leq 0.6 \text{ W/kg}$ or 1.5 W/kg , for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
 - $\leq 0.4 \text{ W/kg}$ or 1.0 W/kg , for 1-g or 10-g respectively, when the transmission band is $\geq 200 \text{ MHz}$
- Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is $\geq 0.8 \text{ W/kg}$. 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.
- The device implements the power management, Hall sensor and proximity sensor /receiver detection/hotspot mode for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the MediaTek TA-SAR will manage to ensure the power level not exceeding the associated power table. Details about the power management decision and sensor detection are provided in the operational description. And the device will invoke corresponding work

scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E.

5. For WLAN/BT when transmit simultaneously with each other, or when transmit simultaneous with WWAN/BT, power reduction will be activated to head. For WLAN/BT when transmit simultaneous with WWAN and Proximity sensors trigger, power reduction will be activated to body-worn and Handheld.
6. This device supports HPUE for LTE Band 41 with class 2 level, HPUE power has been measured separately. For HPUE power is higher than power class 3 but with lower duty cycle, the maximum average power for class 2 and class 3 is almost the same, so we chose power class 3 full SAR testing and power class 2 verify the worst case of power class 3 SAR.
7. For 5G NR bands test, using FTM (Factory Test Mode) with default 100% duty cycle transmission to perform SAR testing.
8. Per KDB648474 D04v01r03, when the EUT is in flip open configuration with 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/WLAN transmitter scaled to maximum output power mode for product specific 10g SAR is higher than 1.2W/kg of GSM1900, WCDMA Band II/IV, LTE Band 2/4/5/7/12/17/26/66/38/41/42, 5G NR n66/n41/n77/n78, WLAN2.4/ Bluetooth/5.2GHz/5.8GHz, therefore product specific 10g SAR is necessary.
 - b. WLAN 5.3/5.5GHz/6GHz 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.
9. Although the headset SAR is greater than 0.8 W/kg, the headset SAR verified the worst of the non-headset SAR and less than non-headset SAR, so there is no need to be tested other channels.
10. Although the distance 1gSAR is greater than 0.8 W/kg at body-worn exposure conditions, the distance SAR verified the worst of the non-distance SAR and less than non-distance SAR, so there is no need to be tested other channels.
11. According to Nov. 2017 TCB workshop, when the reported 1gSAR for UL CA configuration is <1.2 W/kg, UL CA 1gSAR is not required for all required test channels (PCC based).
12. The EUT has two work states, flip open and flip close, SAR testing have been evaluated two states. For head mode, only flip open mode is performed SAR testing. When it is in flip close configuration since the diagonal dimension is < 160 mm, 10-g extremity SAR tests are not required. When it is in flip open configuration since the diagonal dimension is > 160 mm and < 200 mm. Therefore, 10-g extremity SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg. Additional SAR tests for 10-g extremity SAR were evaluated per KDB 616217 Section 6.
13. LTE Band 2/4/7/38/41/66 at ant3 and 5G NR n66/41 at ant 3, 5G NR n77/78 at ant 6 support different Paths for some antennas, and LTE/NR bands support Other Path only under ENDC & UL CA. For some LTE bands support different Paths for some antennas, the maximum power of Main Path is higher than and very close to the other PA, for RF exposure, the main Path was chosen to perform full SAR testing to ensure the RF exposure is compliance. Some NR bands support different Paths for some antennas, the maximum power of Main Path is less than and very close to the other Path, for RF exposure, after verification all Paths in a same position, so the worst-case Path was chosen to perform full SAR testing to ensure the RF exposure is compliance and other Paths verified the worst case.

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/256QAM 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/256QAM SAR testing is not required.
5. 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.
6. For LTE B4 / B5 / B12 / B17 / B26 / B38 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

7. LTE B4 /B5 / B17 / B38 SAR test was covered by B66 / B26 / B12 / B41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. the maximum output power, including tolerance, for the smaller band is $\leq$ the larger band to qualify for the SAR test exclusion
 - b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

5G NR Note:

1. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
 - a. SAR testing start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
 - b. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
 - c. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
 - d. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not $\frac{1}{2}$ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK /16QAM/64QAM/256QAM SAR testing are not required.
 - e. Smaller bandwidth output power for each RB allocation configuration for this device will not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
 - f. For 5G FR1 n5 /n66 /n41/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.

ECI status description:

The device has the following ECI state which used at different exposure condition.

This WWAN bands enabled with MediaTek TA-SAR feature which located at chapter 5. The default power is Pmax power, When Plimit power higher than Pmax power, the output power will be limited at Pmax, and so the SAR will use Pmax power to do the testing.

Exposure Condition	ECI	EUT Flip State	Trigger conditions
Head SAR-Standalone	ECI 2	Flip Open	Earpiece On
Hotspot Mode SAR	ECI 9	Flip Open	Hotspot On
Hotspot Mode SAR	ECI 10	Flip Close	Hotspot On
Body worn Mode SAR-Standalone	ECI 3	Flip Open	Sensor On
Body worn Mode SAR-Standalone	ECI 5	Flip Close	Sensor On
Extremity (Handheld) SAR-Standalone	ECI 6	Flip Open	Sensor On
Sensor off SAR	ECI 4	Flip Open/Flip Close	Sensor Off



17.1 Head SAR

<Flip open>

Plot No.	No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation d _{dB} (dB)
750MHz																						
	2nd	LTE Band 12	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	ECI 2	23095	707.5	23.14	24.00	1.219	-	-	-0.1	0.163	0.199	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 0	ECI 2	23095	707.5	21.96	23.00	1.271	-	-	0.07	0.127	0.161	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	ECI 2	23095	707.5	23.14	24.00	1.219	-	-	0.18	0.117	0.143	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 0	ECI 2	23095	707.5	21.96	23.00	1.271	-	-	-0.1	0.094	0.119	
01	2nd	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	ECI 2	23095	707.5	23.14	24.00	1.219	-	-	0.01	0.268	0.327	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 0	ECI 2	23095	707.5	21.96	23.00	1.271	-	-	-0.15	0.209	0.266	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	ECI 2	23095	707.5	23.14	24.00	1.219	-	-	0.19	0.147	0.179	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 0	ECI 2	23095	707.5	21.96	23.00	1.271	-	-	0.07	0.119	0.151	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	ECI 2	23095	707.5	22.74	24.00	1.337	-	-	0.06	0.095	0.127	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 1	ECI 2	23095	707.5	21.58	23.00	1.387	-	-	-0.09	0.077	0.107	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	ECI 2	23095	707.5	22.74	24.00	1.337	-	-	-0.08	0.068	0.091	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 1	ECI 2	23095	707.5	21.58	23.00	1.387	-	-	0.13	0.052	0.072	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	ECI 2	23095	707.5	22.74	24.00	1.337	-	-	0.12	0.072	0.096	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 1	ECI 2	23095	707.5	21.58	23.00	1.387	-	-	0.03	0.056	0.078	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	ECI 2	23095	707.5	22.74	24.00	1.337	-	-	0.18	0.050	0.067	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 1	ECI 2	23095	707.5	21.58	23.00	1.387	-	-	0.16	0.041	0.057	
835MHz																						
	1st	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 0	ECI 2	189	836.4	27.48	29.00	1.419	-	-	-0.11	0.257	0.365	2.006
02	2nd	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 0	ECI 2	189	836.4	27.32	29.00	1.472	-	-	-0.04	0.156	0.230	
	1st	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 1	ECI 2	189	836.4	27.50	29.00	1.413	-	-	0.1	0.087	0.123	0.771
	2nd	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 1	ECI 2	189	836.4	27.43	29.00	1.435	-	-	0.02	0.072	0.103	
	1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	ECI 2	4182	836.4	24.34	25.00	1.164	-	-	0.05	0.205	0.239	0.460
03	2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	ECI 2	4182	836.4	24.22	25.00	1.197	-	-	-0.03	0.180	0.215	
	1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	ECI 2	4182	836.4	24.34	25.00	1.164	-	-	-0.02	0.046	0.054	1.526
	2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	ECI 2	4182	836.4	24.25	25.00	1.189	-	-	0.06	0.032	0.038	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	ECI 2	26865	831.5	23.15	24.00	1.216	-	-	-0.18	0.203	0.247	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 0	ECI 2	26865	831.5	22.10	23.00	1.230	-	-	0.03	0.160	0.197	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	ECI 2	26865	831.5	23.15	24.00	1.216	-	-	-0.15	0.132	0.161	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 0	ECI 2	26865	831.5	22.10	23.00	1.230	-	-	-0.15	0.105	0.129	
04	2nd	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	ECI 2	26865	831.5	23.15	24.00	1.216	-	-	0.11	0.326	0.396	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 0	ECI 2	26865	831.5	22.10	23.00	1.230	-	-	-0.08	0.257	0.316	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	ECI 2	26865	831.5	23.15	24.00	1.216	-	-	-0.17	0.189	0.230	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 0	ECI 2	26865	831.5	22.10	23.00	1.230	-	-	-0.08	0.148	0.182	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	ECI 2	26865	831.5	22.78	24.00	1.324	-	-	-0.04	0.051	0.068	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 1	ECI 2	26865	831.5	21.76	23.00	1.330	-	-	-0.08	0.036	0.048	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	ECI 2	26865	831.5	22.78	24.00	1.324	-	-	0.17	0.025	0.033	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 1	ECI 2	26865	831.5	21.76	23.00	1.330	-	-	0.18	0.018	0.024	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	ECI 2	26865	831.5	22.78	24.00	1.324	-	-	-0.04	0.078	0.103	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 1	ECI 2	26865	831.5	21.76	23.00	1.330	-	-	-0.08	0.062	0.082	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	ECI 2	26865	831.5	22.78	24.00	1.324	-	-	-0.13	0.018	0.024	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 1	ECI 2	26865	831.5	21.76	23.00	1.330	-	-	-0.13	0.011	0.015	
	1st	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 0	ECI 2	166300	831.5	23.40	24.00	1.148	-	-	0.03	0.220	0.253	0.830
05	2nd	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 0	ECI 2	167300	836.5	23.18	24.00	1.208	-	-	-0.03	0.173	0.209	
	1st	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	ECI 2	166300	831.5	23.04	24.00	1.247	-	-	0.07	0.087	0.109	0.374
	2nd	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	ECI 2	167300	836.5	22.80	24.00	1.318	-	-	0.06	0.076	0.100	
1750MHz																						
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	ECI 2	1413	1732.6	15.58	16.60	1.265	-	-	0.02	0.693	0.876	0.100
06	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	ECI 2	1413	1732.6	15.39	16.60	1.321	-	-	-0.18	0.648	0.856	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 3	ECI 2	1513	1752.6	15.62	16.70	1.282	-	-	0.02	0.682	0.875	0.235



FCC SAR Test Report

Report No. : FA422203-02

	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 3	ECI 2	1513	1752.6	15.54	16.70	1.306	-	-	0.06	0.635	0.829	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	ECI 2	1413	1732.6	22.22	23.00	1.197	-	-	0.02	0.010	0.012	0.792
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	ECI 2	1413	1732.6	22.15	23.00	1.216	-	-	0.01	0.008	0.010	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	ECI 2	1413	1732.6	21.58	23.00	1.387	-	-	-0.04	0.021	0.029	0.474
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	ECI 2	1413	1732.6	21.48	23.00	1.419	-	-	0.01	0.018	0.026	
	1st	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	ECI 2	132322	1745	12.52	13.50	1.253	-	-	0.01	0.707	0.886	0.185
07	2nd	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	ECI 2	132322	1745	12.38	13.50	1.294	-	-	0.12	0.656	0.849	
	1st	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	ECI 2	132572	1770	14.30	15.50	1.318	-	-	0.02	0.669	0.882	0.186
	2nd	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	ECI 2	132572	1770	14.12	15.50	1.374	-	-	0.06	0.615	0.845	
	1st	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	ECI 2	132322	1745	23.37	24.00	1.156	-	-	-0.18	0.083	0.096	0.329
	2nd	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	ECI 2	132322	1745	22.65	24.00	1.365	-	-	0.02	0.065	0.089	
	1st	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	ECI 2	132322	1745	23.12	24.00	1.225	-	-	-0.08	0.165	0.202	0.175
	2nd	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	ECI 2	132322	1745	22.74	24.00	1.337	-	-	0.09	0.145	0.194	
	1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	ECI 2	349000	1745	15.34	16.10	1.191	-	-	0.12	0.736	0.877	0.126
08	2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	ECI 2	349000	1745	15.28	16.10	1.208	-	-	0.12	0.705	0.852	
	1st	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 3	ECI 2	349000	1745	17.62	18.50	1.225	-	-	0.07	0.714	0.874	0.357
	2nd	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 3	ECI 2	349000	1745	17.54	18.50	1.247	-	-	0.06	0.645	0.805	
	1st	FR1 n66 other Path	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 3	ECI 2	349000	1745	17.62	18.50	1.225	-	-	0.02	0.603	0.738	0.267
	2nd	FR1 n66 other Path	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 3	ECI 2	349000	1745	17.54	18.50	1.247	-	-	0.02	0.556	0.694	
	1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 0	ECI 2	349000	1745	23.05	24.00	1.245	-	-	-0.13	0.057	0.071	0.383
	2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 0	ECI 2	349000	1745	22.71	24.00	1.346	-	-	0.09	0.048	0.065	
	1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	ECI 2	349000	1745	23.30	24.00	1.175	-	-	-0.08	0.110	0.129	0.068
	2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	ECI 2	349000	1745	22.89	24.00	1.291	-	-	0.05	0.098	0.127	
1900MHz																						
	1st	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 2	ECI 2	661	1880	17.79	19.00	1.321	-	-	-0.09	0.667	0.881	0.060
09	2nd	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 2	ECI 2	661	1880	17.76	19.00	1.330	-	-	0.01	0.653	0.869	
	1st	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 0	ECI 2	661	1880	24.04	25.00	1.247	-	-	0.08	0.048	0.060	0.880
	2nd	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 0	ECI 2	661	1880	23.87	25.00	1.297	-	-	0.02	0.038	0.049	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	ECI 2	9400	1880	14.62	15.90	1.343	-	-	0.01	0.651	0.874	0.357
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	ECI 2	9400	1880	14.38	15.90	1.419	-	-	0.06	0.567	0.805	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 3	ECI 2	9262	1852.4	15.05	16.10	1.274	-	-	0.06	0.687	0.875	0.157
10	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 3	ECI 2	9262	1852.4	14.93	16.10	1.309	-	-	0.03	0.645	0.844	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	ECI 2	9400	1880	22.30	23.00	1.175	-	-	0.1	0.079	0.093	0.709
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	ECI 2	9400	1880	22.10	23.00	1.230	-	-	0.02	0.064	0.079	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	ECI 2	9400	1880	21.52	23.00	1.406	-	-	0.11	0.102	0.143	0.250
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	ECI 2	9400	1880	21.48	23.00	1.419	-	-	0.09	0.095	0.135	
	1st	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	ECI 2	26340	1880	10.86	12.10	1.330	-	-	0.06	0.669	0.890	0.767
11	2nd	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	ECI 2	18900	1880	10.77	12.10	1.358	-	-	-0.09	0.549	0.746	
	1st	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	ECI 2	26140	1860	15.45	16.70	1.334	-	-	0.01	0.666	0.888	0.881
	2nd	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	ECI 2	18900	1880	15.24	16.70	1.400	-	-	0.09	0.518	0.725	
	1st	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	ECI 2	26340	1880	23.31	24.00	1.172	-	-	-0.17	0.158	0.185	0.119
	2nd	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	ECI 2	18900	1880	22.66	24.00	1.361	-	-	0.06	0.132	0.180	
	1st	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	ECI 2	26340	1880	22.80	24.00	1.318	-	-	-0.18	0.097	0.128	0.317
	2nd	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	ECI 2	18900	1880	22.59	24.00	1.384	-	-	0.04	0.086	0.119	
2600MHz																						
	1st	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	ECI 2	21350	2560	14.32	15.40	1.282	-	-	-0.08	0.696	0.893	0.386
	2nd	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	ECI 2	21350	2560	13.89	15.40	1.416	-	-	0.08	0.577	0.817	
	1st	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	ECI 2	21350	2560	15.33	16.30	1.250	-	-	0.06	0.708	0.885	0.191
12	2nd	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	ECI 2	21350	2560	15.21	16.30	1.285	-	-	-0.04	0.659	0.847	
	1st	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	ECI 2	21100	2535	24.33	25.00	1.167	-	-	-0.09	0.726	0.847	0.237
	2nd	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	ECI 2	21100	2535	23.40	25.00	1.445	-	-	0.03	0.555	0.802	
	1st	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	ECI 2	21100	2535	23.67	24.00	1.079	-	-	-0.04	0.104	0.112	0.239
	2nd	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	ECI 2	21100	2535	22.88	24.00	1.294	-	-	0.06	0.082	0.106	
	1st	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	ECI 2	41490	2680	14.80	15.50	1.175	62.9	1.006	0.1	0.710	0.839	0.223
	2nd	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	ECI 2	41490	2680	14.54	15.50	1.247	62.9	1.006	0.03	0.635	0.797	



FCC SAR Test Report

Report No. : FA422203-02

	1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	ECI 2	41490	2680	15.96	17.10	1.300	42.9	1.009	-0.18	0.669	0.878	0.559
	2nd	LTE Band 41 HPUE	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	ECI 2	41490	2680	15.72	17.10	1.374	42.9	1.009	0.01	0.557	0.772	
	1st	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	ECI 2	41055	2636.5	18.14	18.70	1.138	62.9	1.006	0.01	0.720	0.824	0.016
	2nd	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	ECI 2	41055	2636.5	18.06	18.70	1.159	62.9	1.006	0.03	0.704	0.821	
	1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	ECI 2	41055	2636.5	19.39	20.30	1.233	42.9	1.009	0.02	0.707	0.880	0.238
13	2nd	LTE Band 41 HPUE	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	ECI 2	41055	2636.5	19.32	20.30	1.253	42.9	1.009	0.1	0.659	0.833	
	1st	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	ECI 2	40620	2593	24.56	25.00	1.107	62.9	1.006	0.02	0.437	0.486	0.315
	2nd	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	ECI 2	40620	2593	23.46	25.00	1.426	62.9	1.006	0.03	0.315	0.452	
	1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	ECI 2	40620	2593	27.00	28.00	1.259	42.9	1.009	0.07	0.529	0.672	0.260
	2nd	LTE Band 41 HPUE	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	ECI 2	40620	2593	26.38	28.00	1.452	42.9	1.009	0.01	0.432	0.633	
	1st	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	ECI 2	40620	2593	23.76	25.00	1.330	62.9	1.006	-0.09	0.076	0.102	0.309
	2nd	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	ECI 2	40620	2593	23.10	25.00	1.549	62.9	1.006	0.03	0.061	0.095	
	1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	ECI 2	40620	2593	26.17	27.00	1.211	42.9	1.009	-0.03	0.093	0.114	0.195
	2nd	LTE Band 41 HPUE	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	ECI 2	40620	2593	26.15	27.00	1.216	42.9	1.009	0.04	0.089	0.109	
	1st	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	ECI 2	518598	2592.99	15.05	15.80	1.189	-	-	0.01	0.737	0.876	0.313
	2nd	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	ECI 2	518598	2592.99	14.70	15.80	1.288	-	-	-0.04	0.633	0.815	
	1st	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	ECI 2	518598	2592.99	15.94	16.80	1.219	-	-	0.02	0.726	0.885	0.044
14	2nd	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	ECI 2	518598	2592.99	15.92	16.80	1.225	-	-	0.1	0.715	0.876	
	1st	FR1 n41 HPUE other Path	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	ECI 2	518598	2592.99	15.94	16.80	1.219	-	-	0.01	0.716	0.873	0.341
	2nd	FR1 n41 other Path	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	ECI 2	518598	2592.99	15.92	16.80	1.225	-	-	0.06	0.659	0.807	
	1st	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	ECI 2	518598	2592.99	24.87	26.00	1.297	-	-	-0.11	0.655	0.850	0.088
	2nd	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	ECI 2	518598	2592.99	21.74	23.00	1.337	-	-	0.03	0.623	0.833	
	1st	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	ECI 2	518598	2592.99	24.64	26.00	1.368	-	-	0.18	0.135	0.185	0.291
	2nd	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	ECI 2	518598	2592.99	21.70	23.00	1.349	-	-	0.03	0.128	0.173	
3500-3900MHz																						
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	ECI 2	42590	3500	14.40	15.40	1.259	62.9	1.006	0.06	0.689	0.873	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	ECI 2	42190	3460	14.35	15.40	1.274	62.9	1.006	-0.03	0.663	0.849	
15	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	ECI 2	42990	3540	14.38	15.40	1.265	62.9	1.006	0.06	0.705	0.897	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	ECI 2	42590	3500	14.37	15.40	1.268	62.9	1.006	0.08	0.561	0.715	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 4	ECI 2	42590	3500	14.35	15.40	1.274	62.9	1.006	-0.11	0.557	0.714	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	ECI 2	42590	3500	14.40	15.40	1.259	62.9	1.006	-0.12	0.168	0.213	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	ECI 2	42590	3500	14.37	15.40	1.268	62.9	1.006	-0.02	0.135	0.172	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	ECI 2	42590	3500	14.40	15.40	1.259	62.9	1.006	-0.05	0.231	0.293	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	ECI 2	42990	3540	14.37	15.40	1.268	62.9	1.006	0.05	0.189	0.241	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	ECI 2	42590	3500	14.40	15.40	1.259	62.9	1.006	0.02	0.088	0.111	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	ECI 2	42590	3500	14.37	15.40	1.268	62.9	1.006	0.07	0.074	0.094	
	2nd	LTE Band 42C Part 27Q	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	ECI 2	42990+42792	3540+3520.2	14.27	15.40	1.297	62.9	1.006	0.06	0.642	0.838	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 6	ECI 2	42590	3500	15.20	16.50	1.349	62.9	1.006	0.16	0.257	0.349	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 6	ECI 2	42590	3500	15.16	16.50	1.361	62.9	1.006	0.02	0.209	0.286	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 6	ECI 2	42590	3500	15.20	16.50	1.349	62.9	1.006	-0.04	0.301	0.408	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 6	ECI 2	42590	3500	15.16	16.50	1.361	62.9	1.006	-0.06	0.247	0.338	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 6	ECI 2	42590	3500	15.20	16.50	1.349	62.9	1.006	-0.1	0.533	0.723	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 6	ECI 2	42990	3540	15.16	16.50	1.361	62.9	1.006	-0.04	0.435	0.596	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 6	ECI 2	42590	3500	15.20	16.50	1.349	62.9	1.006	-0.01	0.600	0.814	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 6	ECI 2	42190	3460	15.16	16.50	1.361	62.9	1.006	-0.09	0.593	0.812	



FCC SAR Test Report

Report No. : FA422203-02

2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 6	ECI 2	42990	3540	15.15	16.50	1.365	62.9	1.006	-0.04	0.652	0.895	
2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 6	ECI 2	42590	3500	15.16	16.50	1.361	62.9	1.006	0.02	0.566	0.775	
2nd	LTE Band 42 Part 27Q	20M	QPSK	100	0	-	Left Tilted	0mm	Ant 6	ECI 2	42590	3500	15.10	16.50	1.380	62.9	1.006	0.06	0.537	0.746	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 6	ECI 2	42990+ 42792	3540+ 3520.2	15.03	16.50	1.403	62.9	1.006	0.01	0.601	0.848	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	ECI 2	42590	3500	15.70	16.70	1.259	62.9	1.006	-0.15	0.586	0.742	
2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	ECI 2	42590	3500	15.66	16.70	1.271	62.9	1.006	0.1	0.468	0.598	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	ECI 2	42590	3500	15.70	16.70	1.259	62.9	1.006	-0.11	0.681	0.862	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	ECI 2	42190	3460	15.65	16.70	1.274	62.9	1.006	0.02	0.696	0.892	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	ECI 2	42990	3540	15.63	16.70	1.279	62.9	1.006	-0.15	0.681	0.876	
2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 3	ECI 2	42590	3500	15.66	16.70	1.271	62.9	1.006	-0.06	0.581	0.743	
2nd	LTE Band 42 Part 27Q	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 3	ECI 2	42590	3500	15.64	16.70	1.276	62.9	1.006	0.01	0.576	0.740	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	ECI 2	42590	3500	15.70	16.70	1.259	62.9	1.006	0.06	0.316	0.400	
2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 3	ECI 2	42990	3540	15.66	16.70	1.271	62.9	1.006	-0.16	0.224	0.286	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 3	ECI 2	42590	3500	15.70	16.70	1.259	62.9	1.006	-0.05	0.407	0.515	
2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 3	ECI 2	42590	3500	15.66	16.70	1.271	62.9	1.006	0.16	0.338	0.432	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	99	-	Right Tilted	0mm	Ant 3	ECI 2	42190+ 42388	3460+ 3479.8	15.49	16.70	1.321	62.9	1.006	0.02	0.620	0.824	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 8	ECI 2	42590	3500	21.25	22.30	1.274	62.9	1.006	-0.04	0.503	0.644	
2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 8	ECI 2	42590	3500	21.22	22.30	1.282	62.9	1.006	-0.11	0.437	0.564	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 8	ECI 2	42590	3500	21.25	22.30	1.274	62.9	1.006	-0.13	0.088	0.113	
2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 8	ECI 2	42590	3500	21.22	22.30	1.282	62.9	1.006	0.16	0.073	0.094	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 8	ECI 2	42590	3500	21.25	22.30	1.274	62.9	1.006	-0.15	0.648	0.830	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 8	ECI 2	42190	3460	21.18	22.30	1.294	62.9	1.006	-0.02	0.663	0.863	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 8	ECI 2	42990	3540	21.21	22.30	1.285	62.9	1.006	-0.09	0.692	0.895	
2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 8	ECI 2	42990	3540	21.22	22.30	1.282	62.9	1.006	0.14	0.529	0.682	
2nd	LTE Band 42 Part 27Q	20M	QPSK	100	0	-	Left Cheek	0mm	Ant 8	ECI 2	42590	3500	21.18	22.30	1.294	62.9	1.006	0.07	0.529	0.689	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 8	ECI 2	42590	3500	21.25	22.30	1.274	62.9	1.006	-0.09	0.143	0.183	
2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 8	ECI 2	42590	3500	21.22	22.30	1.282	62.9	1.006	-0.16	0.115	0.148	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 8	ECI 2	42990+ 42792	3540+ 3520.2	21.07	22.30	1.327	62.9	1.006	0.06	0.623	0.832	
2nd	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	ECI 2	656000	3840	15.42	16.20	1.197	-	-	0.08	0.680	0.814	
2nd	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	ECI 2	656000	3840	15.41	16.20	1.199	-	-	0.06	0.736	0.883	
2nd	FR1 n77 Part 27O	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	ECI 2	656000	3840	15.25	16.20	1.245	-	-	0.01	0.669	0.833	
2nd	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	ECI 2	656000	3840	15.42	16.20	1.197	-	-	0.03	0.163	0.195	
2nd	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	ECI 2	656000	3840	15.41	16.20	1.199	-	-	-0.08	0.212	0.254	
2nd	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	ECI 2	656000	3840	15.42	16.20	1.197	-	-	0.1	0.264	0.316	
2nd	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	ECI 2	656000	3840	15.41	16.20	1.199	-	-	-0.18	0.260	0.312	
2nd	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	ECI 2	656000	3840	15.42	16.20	1.197	-	-	0.12	0.101	0.121	
2nd	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	ECI 2	656000	3840	15.41	16.20	1.199	-	-	0.08	0.098	0.118	
2nd	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	ECI 2	656000	3840	13.54	14.40	1.219	-	-	0.08	0.311	0.379	
2nd	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	ECI 2	656000	3840	13.47	14.40	1.239	-	-	-0.17	0.252	0.312	
2nd	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 6	ECI 2	656000	3840	13.54	14.40	1.219	-	-	0.14	0.393	0.479	
2nd	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 6	ECI 2	656000	3840	13.47	14.40	1.239	-	-	0.11	0.299	0.370	
2nd	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 6	ECI 2	656000	3840	13.54	14.40	1.219	-	-	0.18	0.646	0.787	
2nd	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 6	ECI 2	656000	3840	13.47	14.40	1.239	-	-	0.14	0.487	0.603	



FCC SAR Test Report

Report No. : FA422203-02

	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	ECI 2	556000	3840	13.54	14.40	1.219	-	-	-0.13	0.719	0.876	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	ECI 2	556000	3840	13.47	14.40	1.239	-	-	0.17	0.699	0.866	
	2nd	FR1 n77 Part 270	100M	QPSK	270	0	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	ECI 2	556000	3840	13.39	14.40	1.262	-	-	-0.05	0.664	0.838	
	2nd	FR1 n77 Part 270 other Path	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	ECI 2	556000	3840	13.54	14.40	1.219	-	-	-0.13	0.666	0.812	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	ECI 2	556000	3840	17.95	18.90	1.245	-	-	0.01	0.703	0.875	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	ECI 2	556000	3840	17.85	18.90	1.274	-	-	-0.17	0.681	0.867	
	2nd	FR1 n77 Part 270	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	ECI 2	556000	3840	17.88	18.90	1.265	-	-	-0.03	0.654	0.827	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	ECI 2	556000	3840	17.95	18.90	1.245	-	-	0.14	0.687	0.855	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	ECI 2	556000	3840	17.85	18.90	1.274	-	-	0.11	0.651	0.829	
	2nd	FR1 n77 Part 270	100M	QPSK	270	0	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	ECI 2	556000	3840	17.88	18.90	1.265	-	-	-0.05	0.637	0.806	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	ECI 2	556000	3840	17.95	18.90	1.245	-	-	0.18	0.296	0.368	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	ECI 2	556000	3840	17.85	18.90	1.274	-	-	0.14	0.269	0.343	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	ECI 2	556000	3840	17.95	18.90	1.245	-	-	0.17	0.450	0.560	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	ECI 2	556000	3840	17.85	18.90	1.274	-	-	-0.05	0.337	0.429	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 8	ECI 2	556000	3840	16.76	17.80	1.271	-	-	0.08	0.473	0.601	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 8	ECI 2	556000	3840	16.74	17.80	1.276	-	-	0.01	0.527	0.673	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 8	ECI 2	556000	3840	16.76	17.80	1.271	-	-	-0.08	0.080	0.102	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 8	ECI 2	556000	3840	16.72	17.80	1.282	-	-	-0.08	0.079	0.101	
16	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 8	ECI 2	556000	3840	16.76	17.80	1.271	-	-	0.03	0.700	0.889	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 8	ECI 2	556000	3840	16.74	17.80	1.276	-	-	0.1	0.690	0.881	
	2nd	FR1 n77 Part 270	100M	QPSK	270	0	DFT-SCS-30KHz	Left Cheek	0mm	Ant 8	ECI 2	556000	3840	16.73	17.80	1.279	-	-	-0.18	0.661	0.846	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 8	ECI 2	556000	3840	16.76	17.80	1.271	-	-	0.1	0.105	0.133	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 8	ECI 2	556000	3840	16.72	17.80	1.282	-	-	0.12	0.137	0.176	

Plot No.	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)	Deviation d _{dB} (dB)
WLAN/BT																		
17	1st	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 5+7(7)	Standalone	11	2462	14.10	16.00	1.549	100	1.000	-0.07	0.808	1.251	0.049
	2nd	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 5+7(7)	Standalone	11	2462	14.02	16.00	1.578	100	1.000	-0.04	0.784	1.237	
	1st	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 5+7(7)	Standalone	6	2437	14.35	16.00	1.462	100	1.000	0.08	0.458	0.670	0.247
	2nd	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 5+7(7)	Standalone	6	2437	14.28	16.00	1.486	100	1.000	0.03	0.426	0.633	
18	1st	Bluetooth	1Mbps	Left Cheek	0mm	Ant 7	Standalone	39	2441	8.48	9.50	1.265	76.64	1.087	-0.02	0.265	0.364	0.374
	2nd	Bluetooth	1Mbps	Left Cheek	0mm	Ant 7	Standalone	39	2441	8.46	9.50	1.271	76.64	1.087	0.01	0.242	0.334	
19	1st	WLAN5.3GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 5+7(5)	Standalone	54	5270	16.35	18.00	1.462	93.7	1.067	-0.09	0.715	1.116	0.175
	2nd	WLAN5.3GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 5+7(5)	Standalone	54	5270	16.28	18.00	1.486	93.7	1.067	-0.08	0.676	1.072	
20	1st	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+7(5)	Standalone	138	5690	15.25	17.00	1.496	88.19	1.134	-0.07	0.702	1.191	0.156
	2nd	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+7(5)	Standalone	138	5690	15.17	17.00	1.524	88.19	1.134	0.03	0.665	1.149	
21	1st	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+7(5)	Standalone	155	5775	14.25	16.00	1.496	88.19	1.134	-0.03	0.705	1.196	0.055
	2nd	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+7(5)	Standalone	155	5775	14.18	16.00	1.521	88.19	1.134	0.05	0.685	1.181	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	EUT Flip 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)	Measured APD (W/m^2)	Deviation d _{dB} (dB)
	1st	WLAN6GHz	802.11ax-HE80 MCS0	Left Cheek	0mm	Ant 5+7(5)	Full power	open	119	6545	10.74	12.50	1.500	86.93	1.150	0.11	0.237	0.409	2.06	0.423
22	2nd	WLAN6GHz	802.11ax-HE80 MCS0	Left Cheek	0mm	Ant 5+7(5)	Full power	open	119	6545	10.70	12.50	1.514	86.93	1.150	-0.02	0.213	0.371	1.94	



17.2 Hotspot SAR

< Flip Open >

Plot No.	No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	EUT Flip State	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)	Deviation d _{dB} (dB)
750MHz																							
	2nd	LTE Band 12	10M	QPSK	1	0	-	Front	5mm	Ant 0	ECI 9	23095	707.5	open	23.14	24.00	1.219	-	-	-0.1	0.841	1.025	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 0	ECI 9	23095	707.5	open	21.96	23.00	1.271	-	-	0.17	0.663	0.842	
	2nd	LTE Band 12	10M	QPSK	50	0	-	Front	5mm	Ant 0	ECI 9	23095	707.5	open	21.91	23.00	1.285	-	-	0.12	0.654	0.841	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 9	23095	707.5	open	23.14	24.00	1.219	-	-	-0.11	1.030	1.256	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 0	ECI 9	23095	707.5	open	21.96	23.00	1.271	-	-	-0.12	0.817	1.038	
	2nd	LTE Band 12	10M	QPSK	50	0	-	Back	5mm	Ant 0	ECI 9	23095	707.5	open	21.91	23.00	1.285	-	-	-0.1	0.798	1.026	
23	2nd	LTE Band 12	10M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 9	23095	707.5	open	23.14	24.00	1.219	-	-	0.16	1.050	1.280	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Left Side	5mm	Ant 0	ECI 9	23095	707.5	open	21.96	23.00	1.271	-	-	-0.09	0.828	1.052	
	2nd	LTE Band 12	10M	QPSK	50	0	-	Left Side	5mm	Ant 0	ECI 9	23095	707.5	open	21.91	23.00	1.285	-	-	-0.09	0.815	1.048	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Right Side	5mm	Ant 0	ECI 9	23095	707.5	open	23.14	24.00	1.219	-	-	0.08	0.190	0.232	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Right Side	5mm	Ant 0	ECI 9	23095	707.5	open	21.96	23.00	1.271	-	-	0.06	0.150	0.191	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	ECI 9	23095	707.5	open	23.14	24.00	1.219	-	-	0.1	0.472	0.575	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Bottom Side	5mm	Ant 0	ECI 9	23095	707.5	open	21.96	23.00	1.271	-	-	0.1	0.368	0.468	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Front	5mm	Ant 1	ECI 9	23095	707.5	open	22.74	24.00	1.337	-	-	-0.11	0.162	0.217	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 1	ECI 9	23095	707.5	open	21.58	23.00	1.387	-	-	0.03	0.133	0.184	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 9	23095	707.5	open	22.74	24.00	1.337	-	-	0.05	0.271	0.362	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 1	ECI 9	23095	707.5	open	21.58	23.00	1.387	-	-	-0.14	0.210	0.291	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Left Side	5mm	Ant 1	ECI 9	23095	707.5	open	22.74	24.00	1.337	-	-	-0.17	0.047	0.063	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Left Side	5mm	Ant 1	ECI 9	23095	707.5	open	21.58	23.00	1.387	-	-	0.05	0.030	0.042	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Right Side	5mm	Ant 1	ECI 9	23095	707.5	open	22.74	24.00	1.337	-	-	0.13	0.212	0.283	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Right Side	5mm	Ant 1	ECI 9	23095	707.5	open	21.58	23.00	1.387	-	-	0.05	0.166	0.230	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 9	23095	707.5	open	22.74	24.00	1.337	-	-	-0.03	0.629	0.841	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Bottom Side	5mm	Ant 1	ECI 9	23095	707.5	open	21.58	23.00	1.387	-	-	-0.12	0.500	0.693	
	2nd	LTE Band 12	10M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	ECI 9	23095	707.5	open	21.51	23.00	1.409	-	-	-0.05	0.496	0.699	
835MHz																							
	1st	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	ECI 9	189	836.4	open	27.48	29.00	1.419	-	-	-0.08	0.802	1.138	0.640
24	2nd	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	ECI 9	189	836.4	open	27.32	29.00	1.472	-	-	0.02	0.667	0.982	
	1st	GSM850	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	5mm	Ant 1	ECI 9	251	848.8	open	27.46	29.00	1.426	-	-	0.06	0.694	0.989	1.115
	2nd	GSM850	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	5mm	Ant 1	ECI 9	251	848.8	open	27.39	29.00	1.449	-	-	0.02	0.528	0.765	
	1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	ECI 9	4182	836.4	open	24.34	25.00	1.164	-	-	-0.15	0.936	1.090	1.189
25	2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	ECI 9	4182	836.4	open	24.22	25.00	1.197	-	-	-0.06	0.693	0.829	
	1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	ECI 9	4182	836.4	open	24.34	25.00	1.164	-	-	0.01	0.622	0.724	0.260
	2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	ECI 9	4182	836.4	open	24.25	25.00	1.189	-	-	0.06	0.574	0.682	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 0	ECI 9	26865	831.5	open	23.15	24.00	1.216	-	-	0.08	0.875	1.064	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 0	ECI 9	26865	831.5	open	22.10	23.00	1.230	-	-	0.01	0.690	0.849	
	2nd	LTE Band 26	15M	QPSK	75	0	-	Front	5mm	Ant 0	ECI 9	26865	831.5	open	22.06	23.00	1.242	-	-	0.03	0.694	0.862	
26	2nd	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 9	26865	831.5	open	23.15	24.00	1.216	-	-	-0.08	1.050	1.277	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	ECI 9	26865	831.5	open	22.10	23.00	1.230	-	-	-0.08	0.829	1.020	
	2nd	LTE Band 26	15M	QPSK	75	0	-	Back	5mm	Ant 0	ECI 9	26865	831.5	open	22.06	23.00	1.242	-	-	0.1	0.839	1.042	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 9	26865	831.5	open	23.15	24.00	1.216	-	-	-0.18	0.952	1.158	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Left Side	5mm	Ant 0	ECI 9	26865	831.5	open	22.10	23.00	1.230	-	-	0.1	0.743	0.914	
	2nd	LTE Band 26	15M	QPSK	75	0	-	Left Side	5mm	Ant 0	ECI 9	26865	831.5	open	22.06	23.00	1.242	-	-	0.12	0.757	0.940	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Right Side	5mm	Ant 0	ECI 9	26865	831.5	open	23.15	24.00	1.216	-	-	0.08	0.156	0.190	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Right Side	5mm	Ant 0	ECI 9	26865	831.5	open	22.10	23.00	1.230	-	-	-0.17	0.121	0.149	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	ECI 9	26865	831.5	open	23.15	24.00	1.216	-	-	-0.03	0.455	0.553	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Bottom Side	5mm	Ant 0	ECI 9	26865	831.5	open	22.10	23.00	1.230	-	-	0.14	0.358	0.440	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 1	ECI 9	26865	831.5	open	22.78	24.00	1.324	-	-	0.18	0.240	0.318	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 1	ECI 9	26865	831.5	open	21.76	23.00	1.330	-	-	0.1	0.187	0.249	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 9	26865	831.5	open	22.78	24.00	1.324	-	-	-0.05	0.390	0.516	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 1	ECI 9	26865	831.5	open	21.76	23.00	1.330	-	-	-0.01	0.307	0.408	



FCC SAR Test Report

Report No. : FA422203-02

	2nd	LTE Band 26	15M	QPSK	1	0	-	Left Side	5mm	Ant 1	ECI 9	26865	831.5	open	22.78	24.00	1.324	-	-	0.02	0.020	0.026	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Left Side	5mm	Ant 1	ECI 9	26865	831.5	open	21.76	23.00	1.330	-	-	0.07	0.011	0.015	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Right Side	5mm	Ant 1	ECI 9	26865	831.5	open	22.78	24.00	1.324	-	-	-0.18	0.145	0.192	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Right Side	5mm	Ant 1	ECI 9	26865	831.5	open	21.76	23.00	1.330	-	-	0.06	0.117	0.156	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 9	26865	831.5	open	22.78	24.00	1.324	-	-	0.15	0.314	0.416	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Bottom Side	5mm	Ant 1	ECI 9	26865	831.5	open	21.76	23.00	1.330	-	-	-0.06	0.246	0.327	
27	1st	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 0	ECI 9	166300	831.5	open	23.36	24.00	1.159	-	-	-0.02	0.778	0.902	0.024
	2nd	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 0	ECI 9	167300	836.5	open	23.13	24.00	1.222	-	-	0.14	0.734	0.897	
	1st	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	ECI 9	166300	831.5	open	23.04	24.00	1.247	-	-	0.18	0.504	0.629	0.234
	2nd	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	ECI 9	167300	836.5	open	22.80	24.00	1.318	-	-	0.03	0.452	0.596	
1750MHz																							
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 2	ECI 9	1413	1732.6	open	13.50	14.50	1.259	-	-	-0.05	0.488	0.614	0.232
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 2	ECI 9	1413	1732.6	open	13.39	14.50	1.291	-	-	0.1	0.451	0.582	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	5mm	Ant 3	ECI 9	1413	1732.6	open	14.65	15.90	1.334	-	-	0.1	0.466	0.621	0.245
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	5mm	Ant 3	ECI 9	1413	1732.6	open	14.56	15.90	1.361	-	-	0.01	0.431	0.587	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	ECI 9	1312	1712.4	open	18.58	19.70	1.294	-	-	0.06	0.992	1.284	1.833
28	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	ECI 9	1312	1712.4	open	18.49	19.70	1.321	-	-	0.16	0.637	0.842	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	ECI 9	1513	1752.6	open	17.98	19.10	1.294	-	-	0.03	0.981	1.270	1.900
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	ECI 9	1513	1752.6	open	17.86	19.10	1.330	-	-	-0.05	0.616	0.820	
	1st	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	ECI 9	132322	1745	open	10.13	11.30	1.309	-	-	-0.08	0.476	0.623	0.494
	2nd	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	ECI 9	132322	1745	open	10.01	11.30	1.346	-	-	0.06	0.413	0.556	
	1st	LTE Band 66	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	ECI 9	132322	1745	open	17.30	18.30	1.259	-	-	-0.07	0.489	0.616	0.224
	2nd	LTE Band 66	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	ECI 9	132322	1745	open	17.19	18.30	1.291	-	-	0.05	0.453	0.585	
	1st	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 9	132072	1720	open	21.21	22.50	1.346	-	-	0.03	0.959	1.291	0.390
	2nd	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 9	132072	1720	open	21.05	22.50	1.396	-	-	-0.08	0.845	1.180	
	1st	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 9	132572	1770	open	18.62	19.80	1.312	-	-	-0.01	0.970	1.273	0.021
29	2nd	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 9	132572	1770	open	18.58	19.80	1.324	-	-	0.01	0.957	1.267	
	1st	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 9	132572	1770	open	18.62	19.80	1.312	-	-	0.07	0.941	1.235	0.179
	2nd	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 9	132572	1770	open	18.58	19.80	1.324	-	-	0.02	0.895	1.185	
	1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	5mm	Ant 2	ECI 9	349000	1745	open	13.30	14.40	1.288	-	-	0.01	0.481	0.620	0.458
	2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	5mm	Ant 2	ECI 9	349000	1745	open	13.22	14.40	1.312	-	-	0.18	0.425	0.558	
	1st	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	5mm	Ant 3	ECI 9	349000	1745	open	16.60	17.80	1.318	-	-	0.02	0.470	0.620	0.099
	2nd	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	5mm	Ant 3	ECI 9	349000	1745	open	16.52	17.80	1.343	-	-	0.03	0.451	0.606	
	1st	FR1 n66 other Path	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	5mm	Ant 3	ECI 9	349000	1745	open	16.60	17.80	1.318	-	-	0.03	0.304	0.401	0.199
	2nd	FR1 n66 other Path	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	5mm	Ant 3	ECI 9	349000	1745	open	16.52	17.80	1.343	-	-	0.03	0.285	0.383	
	1st	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 0	ECI 9	349000	1745	open	19.74	20.40	1.164	-	-	-0.01	1.090	1.269	0.055
30	2nd	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 0	ECI 9	349000	1745	open	19.55	20.40	1.216	-	-	-0.09	1.030	1.253	
	1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 0	ECI 9	349000	1745	open	19.67	20.40	1.183	-	-	0.1	0.525	0.621	0.121
	2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 0	ECI 9	349000	1745	open	19.45	20.40	1.245	-	-	0.06	0.485	0.604	
	1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	ECI 9	349000	1745	open	21.88	22.90	1.265	-	-	0.05	1.010	1.277	0.339
	2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	ECI 9	349000	1745	open	21.75	22.90	1.303	-	-	0.12	0.906	1.181	
1900MHz																							
	1st	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	5mm	Ant 2	ECI 9	661	1880	open	16.76	17.90	1.300	-	-	-0.03	0.475	0.618	0.085
	2nd	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	5mm	Ant 2	ECI 9	661	1880	open	16.62	17.90	1.343	-	-	0.18	0.451	0.606	
	1st	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	5mm	Ant 0	ECI 9	512	1850.2	open	23.00	24.10	1.288	-	-	0.06	0.991	1.277	2.174
31	2nd	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	5mm	Ant 0	ECI 9	512	1850.2	open	22.92	24.10	1.312	-	-	0.03	0.590	0.774	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 2	ECI 9	9400	1880	open	13.63	14.90	1.340	-	-	0.08	0.466	0.624	0.318
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 2	ECI 9	9400	1880	open	13.55	14.90	1.365	-	-	0.19	0.425	0.580	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	5mm	Ant 3	ECI 9	9400	1880	open	16.06	17.30	1.330	-	-	0.01	0.467	0.621	0.215
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	5mm	Ant 3	ECI 9	9400	1880	open	15.85	17.30	1.396	-	-	-0.15	0.423	0.591	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	ECI 9	9262	1852.4	open	15.90	17.00	1.288	-	-	0.02	0.986	1.270	0.818
32	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	ECI 9	9262	1852.4	open	15.85	17.00	1.303	-	-	0.09	0.807	1.052	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	ECI 9	9262	1852.4	open	17.16	18.30	1.300	-	-	0.01	0.976	1.269	1.074
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	ECI 9	9262	1852.4	open	16.89	18.30	1.384	-	-	0.01	0.716	0.991	
	1st	LTE Band 25	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	ECI 9	26340	1880	open	12.00	13.10	1.288	-	-	-0.03	0.477	0.614	0.346



FCC SAR Test Report

Report No. : FA422203-02

	2nd	LTE Band 2	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	ECI 9	18900	1880	open	11.85	13.10	1.334	-	-	0.11	0.425	0.567	
	1st	LTE Band 25	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	ECI 9	26340	1880	open	17.08	18.10	1.265	-	-	0.11	0.488	0.617	0.078
	2nd	LTE Band 2	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	ECI 9	18900	1880	open	16.92	18.10	1.312	-	-	-0.15	0.462	0.606	
	1st	LTE Band 25	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 9	26140	1860	open	18.86	20.10	1.330	-	-	0.18	0.968	1.288	
	2nd	LTE Band 2	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 9	18700	1860	open	18.77	20.10	1.358	-	-	-0.15	0.804	1.092	
	1st	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 9	26590	1905	open	18.34	19.50	1.306	-	-	0.01	0.985	1.287	0.519
33	2nd	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 9	19100	1900	open	18.26	19.50	1.330	-	-	-0.02	0.858	1.142	
2600MHz																							
	1st	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	ECI 9	21100	2535	open	13.75	15.00	1.334	-	-	0.12	0.466	0.621	0.149
	2nd	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	ECI 9	21100	2535	open	13.56	15.00	1.393	-	-	0.17	0.431	0.600	
	1st	LTE Band 7	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	ECI 9	21100	2535	open	13.85	15.20	1.365	-	-	-0.08	0.456	0.622	0.259
	2nd	LTE Band 7	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	ECI 9	21100	2535	open	13.74	15.20	1.400	-	-	-0.08	0.419	0.586	
	1st	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 9	21350	2560	open	20.48	21.80	1.355	-	-	0.05	0.948	1.285	1.972
	2nd	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 9	21350	2560	open	20.36	21.80	1.393	-	-	-0.04	0.586	0.816	
	1st	LTE Band 7	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	ECI 9	21350	2560	open	20.28	21.50	1.324	-	-	0.04	0.966	1.279	1.536
34	2nd	LTE Band 7	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	ECI 9	21350	2560	open	20.21	21.50	1.346	-	-	-0.09	0.667	0.898	
	1st	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 2	ECI 9	40620	2593	open	16.65	17.30	1.161	62.9	1.006	0.18	0.507	0.592	0.265
	2nd	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 2	ECI 9	40620	2593	open	16.55	17.30	1.189	62.9	1.006	-0.16	0.466	0.557	
	1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Front	5mm	Ant 2	ECI 9	40620	2593	open	17.90	18.90	1.259	42.9	1.009	0.16	0.465	0.591	0.376
	2nd	LTE Band 41 HPUE	20M	QPSK	1	0	-	Front	5mm	Ant 2	ECI 9	40620	2593	open	17.84	18.90	1.276	42.9	1.009	0.03	0.421	0.542	
	1st	LTE Band 41	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	ECI 9	40620	2593	open	16.17	16.90	1.183	62.9	1.006	-0.08	0.496	0.590	0.180
	2nd	LTE Band 41	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	ECI 9	40620	2593	open	16.08	16.90	1.208	62.9	1.006	-0.12	0.466	0.566	
	1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	ECI 9	40620	2593	open	17.39	18.50	1.291	42.9	1.009	0.05	0.477	0.621	0.297
	2nd	LTE Band 41 HPUE	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	ECI 9	40620	2593	open	17.22	18.50	1.343	42.9	1.009	-0.11	0.428	0.580	
	1st	LTE Band 41	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 9	41055	2636.5	open	21.83	22.60	1.194	62.9	1.006	0.01	1.010	1.213	1.029
	2nd	LTE Band 41	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 9	41055	2636.5	open	21.76	22.60	1.213	62.9	1.006	-0.01	0.784	0.957	
	1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 9	41055	2636.5	open	23.08	24.20	1.294	42.9	1.009	0.06	0.985	1.286	1.256
35	2nd	LTE Band 41 HPUE	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 9	41055	2636.5	open	23.00	24.20	1.318	42.9	1.009	-0.03	0.724	0.963	
	1st	LTE Band 41	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	ECI 9	41490	2680	open	19.79	20.90	1.291	62.9	1.006	0.1	0.985	1.279	1.659
	2nd	LTE Band 41	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	ECI 9	41490	2680	open	19.68	20.90	1.324	62.9	1.006	-0.07	0.655	0.873	
	1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	ECI 9	41490	2680	open	21.09	22.50	1.384	42.9	1.009	-0.17	0.913	1.275	1.665
	2nd	LTE Band 41 HPUE	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	ECI 9	41490	2680	open	20.96	22.50	1.426	42.9	1.009	0.05	0.604	0.869	
	1st	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 2	ECI 9	518598	2592.99	open	13.57	14.70	1.297	-	-	-0.05	0.476	0.617	0.129
	2nd	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 2	ECI 9	518598	2592.99	open	13.48	14.70	1.324	-	-	-0.13	0.452	0.599	
	1st	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	5mm	Ant 3	ECI 9	518598	2592.99	open	14.67	16.10	1.390	-	-	0.02	0.447	0.621	0.007
	2nd	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	5mm	Ant 3	ECI 9	518598	2592.99	open	14.59	16.10	1.416	-	-	-0.13	0.438	0.620	
	1st	FR1 n41 HPUE other Path	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	5mm	Ant 3	ECI 9	518598	2592.99	open	14.67	16.10	1.390	-	-	0.01	0.429	0.596	0.179
	2nd	FR1 n41 other Path	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	5mm	Ant 3	ECI 9	518598	2592.99	open	14.59	16.10	1.416	-	-	0.01	0.404	0.572	
	1st	FR1 n41 HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	5mm	Ant 0	ECI 9	518598	2592.99	open	20.34	21.50	1.306	-	-	-0.05	0.977	1.276	0.410
36	2nd	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	5mm	Ant 0	ECI 9	518598	2592.99	open	20.31	21.50	1.315	-	-	0.01	0.883	1.161	
	1st	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 1	ECI 9	518598	2592.99	open	18.77	20.30	1.422	-	-	0.06	0.911	1.296	0.853
	2nd	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 1	ECI 9	518598	2592.99	open	18.64	20.30	1.466	-	-	0.06	0.727	1.065	
3500-3900MHz																							
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 4	ECI 9	42590	3500	open	14.22	15.30	1.282	62.9	1.006	0.16	0.183	0.236	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Front	5mm	Ant 4	ECI 9	42590	3500	open	14.20	15.30	1.288	62.9	1.006	-0.03	0.148	0.192	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 4	ECI 9	42590	3500	open	14.22	15.30	1.282	62.9	1.006	0.16	0.149	0.192	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	5mm	Ant 4	ECI 9	42590	3500	open	14.20	15.30	1.288	62.9	1.006	0.02	0.117	0.152	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Side	5mm	Ant 4	ECI 9	42590	3500	open	14.22	15.30	1.282	62.9	1.006	0.12	0.487	0.628	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Side	5mm	Ant 4	ECI 9	42590	3500	open	14.20	15.30	1.288	62.9	1.006	-0.06	0.399	0.517	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Side	5mm	Ant 4	ECI 9	42590	3500	open	14.22	15.30	1.282	62.9	1.006	-0.1	0.005	0.006	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Side	5mm	Ant 4	ECI 9	42590	3500	open	14.20	15.30	1.288	62.9	1.006	0.18	0.003	0.004	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Top Side	5mm	Ant 4	ECI 9	42590	3500	open	14.22	15.30	1.282	62.9	1.006	-0.17	0.056	0.072	



FCC SAR Test Report

Report No. : FA422203-02

	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Top Side	5mm	Ant 4	ECI 9	42590	3500	open	14.20	15.30	1.288	62.9	1.006	0.02	0.045	0.058	
	2nd	LTE Band 42C Part 27Q	20M	QPSK	1	99	-	Left Side	5mm	Ant 4	ECI 9	42590+42788	3500+3519.8	open	14.17	15.30	1.297	62.9	1.006	0.12	0.456	0.595	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 6	ECI 9	42590	3500	open	15.88	16.80	1.236	62.9	1.006	-0.09	0.314	0.390	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Front	5mm	Ant 6	ECI 9	42590	3500	open	15.85	16.80	1.245	62.9	1.006	-0.07	0.254	0.318	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 6	ECI 9	42590	3500	open	15.88	16.80	1.236	62.9	1.006	-0.01	0.330	0.410	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	5mm	Ant 6	ECI 9	42590	3500	open	15.85	16.80	1.245	62.9	1.006	-0.17	0.257	0.322	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Side	5mm	Ant 6	ECI 9	42590	3500	open	15.88	16.80	1.236	62.9	1.006	0.03	0.020	0.025	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Side	5mm	Ant 6	ECI 9	42590	3500	open	15.85	16.80	1.245	62.9	1.006	0.1	0.015	0.019	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Side	5mm	Ant 6	ECI 9	42590	3500	open	15.88	16.80	1.236	62.9	1.006	0.16	0.078	0.097	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Side	5mm	Ant 6	ECI 9	42590	3500	open	15.85	16.80	1.245	62.9	1.006	-0.06	0.072	0.090	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Top Side	5mm	Ant 6	ECI 9	42590	3500	open	15.88	16.80	1.236	62.9	1.006	0.02	0.503	0.625	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Top Side	5mm	Ant 6	ECI 9	42590	3500	open	15.85	16.80	1.245	62.9	1.006	-0.03	0.389	0.487	
	2nd	LTE Band 42C Part 27Q	20M	QPSK	1	99	-	Top Side	5mm	Ant 6	ECI 9	42590+42788	3500+3519.8	open	15.81	16.80	1.256	62.9	1.006	0.02	0.485	0.613	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 3	ECI 9	42590	3500	open	13.46	14.50	1.271	62.9	1.006	-0.11	0.283	0.362	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Front	5mm	Ant 3	ECI 9	42590	3500	open	13.43	14.50	1.279	62.9	1.006	0.14	0.219	0.282	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 3	ECI 9	42590	3500	open	13.46	14.50	1.271	62.9	1.006	0.09	0.258	0.330	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	5mm	Ant 3	ECI 9	42590	3500	open	13.43	14.50	1.279	62.9	1.006	-0.13	0.185	0.238	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Side	5mm	Ant 3	ECI 9	42590	3500	open	13.46	14.50	1.271	62.9	1.006	-0.16	0.032	0.041	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Side	5mm	Ant 3	ECI 9	42590	3500	open	13.43	14.50	1.279	62.9	1.006	-0.17	0.026	0.033	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Side	5mm	Ant 3	ECI 9	42590	3500	open	13.46	14.50	1.271	62.9	1.006	0.11	0.019	0.024	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Side	5mm	Ant 3	ECI 9	42590	3500	open	13.43	14.50	1.279	62.9	1.006	-0.05	0.015	0.019	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	ECI 9	42590	3500	open	13.46	14.50	1.271	62.9	1.006	-0.01	0.493	0.630	
	2nd	LTE Band 42C Part 27Q	20M	QPSK	50	0	-	Top Side	5mm	Ant 3	ECI 9	42590	3500	open	13.43	14.50	1.279	62.9	1.006	-0.12	0.417	0.537	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	99	-	Top Side	5mm	Ant 3	ECI 9	42590+42788	3500+3519.8	open	13.36	14.50	1.300	62.9	1.006	-0.01	0.465	0.608	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 8	ECI 9	42590	3500	open	20.56	21.60	1.271	62.9	1.006	-0.05	0.312	0.399	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Front	5mm	Ant 8	ECI 9	42590	3500	open	20.52	21.60	1.282	62.9	1.006	0.18	0.262	0.338	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 8	ECI 9	42590	3500	open	20.56	21.60	1.271	62.9	1.006	0.02	0.305	0.390	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	5mm	Ant 8	ECI 9	42590	3500	open	20.52	21.60	1.282	62.9	1.006	-0.02	0.242	0.312	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Side	5mm	Ant 8	ECI 9	42590	3500	open	20.56	21.60	1.271	62.9	1.006	0.08	0.017	0.022	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Side	5mm	Ant 8	ECI 9	42590	3500	open	20.52	21.60	1.282	62.9	1.006	0.12	0.010	0.013	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Side	5mm	Ant 8	ECI 9	42590	3500	open	20.56	21.60	1.271	62.9	1.006	-0.13	0.492	0.629	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Side	5mm	Ant 8	ECI 9	42590	3500	open	20.52	21.60	1.282	62.9	1.006	0.11	0.391	0.504	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Top Side	5mm	Ant 8	ECI 9	42590	3500	open	20.56	21.60	1.271	62.9	1.006	0.11	0.053	0.068	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Top Side	5mm	Ant 8	ECI 9	42590	3500	open	20.52	21.60	1.282	62.9	1.006	-0.07	0.041	0.053	
	2nd	LTE Band 42C Part 27Q	20M	QPSK	1	99	-	Right Side	5mm	Ant 8	ECI 9	42590+42788	3500+3519.8	open	20.47	21.60	1.297	62.9	1.006	-0.13	0.467	0.609	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 4	ECI 9	656000	3840	open	13.21	14.40	1.315	-	-	-0.16	0.178	0.234	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 4	ECI 9	656000	3840	open	13.19	14.40	1.321	-	-	-0.12	0.176	0.233	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 4	ECI 9	656000	3840	open	13.21	14.40	1.315	-	-	-0.02	0.123	0.162	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 4	ECI 9	656000	3840	open	13.19	14.40	1.321	-	-	-0.05	0.130	0.172	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 4	ECI 9	656000	3840	open	13.21	14.40	1.315	-	-	0.08	0.473	0.622	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 4	ECI 9	656000	3840	open	13.19	14.40	1.321	-	-	0.16	0.449	0.593	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 4	ECI 9	656000	3840	open	13.21	14.40	1.315	-	-	-0.16	0.004	0.005	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 4	ECI 9	656000	3840	open	13.19	14.40	1.321	-	-	0.1	0.001	0.001	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	5mm	Ant 4	ECI 9	656000	3840	open	13.21	14.40	1.315	-	-	-0.04	0.094	0.124	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	5mm	Ant 4	ECI 9	656000	3840	open	13.19	14.40	1.321	-	-	-0.01	0.113	0.149	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 6	ECI 9	656000	3840	open	14.04	15.20	1.306	-	-	0.12	0.285	0.372	



FCC SAR Test Report

Report No. : FA422203-02

2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 6	ECI 9	656000	3840	open	13.92	15.20	1.343	-	-	0.07	0.258	0.346	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 6	ECI 9	656000	3840	open	14.04	15.20	1.306	-	-	0.19	0.259	0.338	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 6	ECI 9	656000	3840	open	13.92	15.20	1.343	-	-	-0.06	0.221	0.297	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 6	ECI 9	656000	3840	open	14.04	15.20	1.306	-	-	-0.03	0.013	0.017	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 6	ECI 9	656000	3840	open	13.92	15.20	1.343	-	-	0.07	0.012	0.016	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 6	ECI 9	656000	3840	open	14.04	15.20	1.306	-	-	-0.12	0.074	0.097	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 6	ECI 9	656000	3840	open	13.92	15.20	1.343	-	-	-0.03	0.068	0.091	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	5mm	Ant 6	ECI 9	656000	3840	open	14.04	15.20	1.306	-	-	0.02	0.474	0.619	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	5mm	Ant 6	ECI 9	656000	3840	open	13.92	15.20	1.343	-	-	0.12	0.372	0.500	
2nd	FR1 n77 Part 270 other Path	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	5mm	Ant 6	ECI 9	656000	3840	open	14.04	15.20	1.306	-	-	0.02	0.429	0.560	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 3	ECI 9	656000	3840	open	16.72	18.10	1.374	-	-	-0.09	0.255	0.350	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 3	ECI 9	656000	3840	open	16.55	18.10	1.429	-	-	0.18	0.317	0.453	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 3	ECI 9	656000	3840	open	16.72	18.10	1.374	-	-	0.07	0.226	0.311	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 3	ECI 9	656000	3840	open	16.55	18.10	1.429	-	-	-0.03	0.316	0.452	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 3	ECI 9	656000	3840	open	16.72	18.10	1.374	-	-	-0.08	0.149	0.205	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 3	ECI 9	656000	3840	open	16.55	18.10	1.429	-	-	-0.05	0.171	0.244	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 3	ECI 9	656000	3840	open	16.72	18.10	1.374	-	-	-0.03	0.010	0.014	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 3	ECI 9	656000	3840	open	16.55	18.10	1.429	-	-	0.17	0.014	0.020	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	5mm	Ant 3	ECI 9	656000	3840	open	16.72	18.10	1.374	-	-	0.1	0.452	0.621	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	5mm	Ant 3	ECI 9	656000	3840	open	16.55	18.10	1.429	-	-	0.06	0.428	0.612	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 8	ECI 9	656000	3840	open	14.50	15.10	1.148	-	-	-0.05	0.259	0.297	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 8	ECI 9	656000	3840	open	14.44	15.10	1.164	-	-	-0.07	0.281	0.327	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 8	ECI 9	656000	3840	open	14.50	15.10	1.148	-	-	-0.11	0.309	0.355	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 8	ECI 9	656000	3840	open	14.44	15.10	1.164	-	-	-0.02	0.286	0.333	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 8	ECI 9	656000	3840	open	14.50	15.10	1.148	-	-	0.14	0.005	0.006	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 8	ECI 9	656000	3840	open	14.44	15.10	1.164	-	-	0.04	0.002	0.002	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 8	ECI 9	656000	3840	open	14.50	15.10	1.148	-	-	-0.05	0.441	0.506	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 8	ECI 9	656000	3840	open	14.44	15.10	1.164	-	-	-0.01	0.533	0.620	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	5mm	Ant 8	ECI 9	656000	3840	open	14.50	15.10	1.148	-	-	0.03	0.058	0.067	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	5mm	Ant 8	ECI 9	656000	3840	open	14.44	15.10	1.164	-	-	0.16	0.049	0.057	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	EUT Flip State	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation d _{dB} (dB)
WLAN/BT																			
	1st	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	Ant 5+7(7)	Hotspot	6	2437	open	10.76	12.50	1.493	100	1.000	-0.02	0.416	0.621	0.106
37	2nd	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	Ant 5+7(7)	Hotspot	6	2437	open	10.72	12.50	1.507	100	1.000	-0.05	0.402	0.606	
	1st	Bluetooth	1Mbps	Right Side	5mm	Ant 7	Hotspot	39	2441	open	7.50	8.50	1.259	76.64	1.087	-0.05	0.199	0.272	0.163
38	2nd	Bluetooth	1Mbps	Right Side	5mm	Ant 7	Hotspot	39	2441	open	7.44	8.50	1.276	76.64	1.087	-0.03	0.189	0.262	
	1st	WLAN5.2GHz	802.11n-HT40 MCS0	Right Side	5mm	Ant 5+7(5)	Hotspot	46	5230	open	17.84	19.50	1.466	93.7	1.067	-0.08	0.377	0.590	0.807
39	2nd	WLAN5.2GHz	802.11n-HT40 MCS0	Right Side	5mm	Ant 5+7(5)	Hotspot	46	5230	open	17.75	19.50	1.496	93.7	1.067	-0.13	0.307	0.490	
	1st	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top Side	5mm	Ant 5+7(5)	Hotspot	155	5775	open	11.80	13.50	1.479	88.19	1.134	-0.13	0.367	0.616	0.854
	2nd	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top Side	5mm	Ant 5+7(5)	Hotspot	155	5775	open	11.72	13.50	1.507	88.19	1.134	0.01	0.296	0.506	



FCC SAR Test Report

Report No. : FA422203-02

<Flip Close >

Plot No.	No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	EUT Flip State	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)	Deviation d _{dB} (dB)
750MHz																							
	2nd	LTE Band 12	10M	QPSK	1	0	-	Front	5mm	Ant 0	ECI 10	23095	707.5	close	20.07	21.10	1.268	-	-	0.14	0.076	0.096	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 0	ECI 10	23095	707.5	close	20.01	21.10	1.285	-	-	-0.09	0.061	0.078	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 10	23095	707.5	close	20.07	21.10	1.268	-	-	0.04	0.488	0.619	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 0	ECI 10	23095	707.5	close	20.01	21.10	1.285	-	-	-0.12	0.382	0.491	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 10	23095	707.5	close	20.07	21.10	1.268	-	-	0.03	0.376	0.477	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Left Side	5mm	Ant 0	ECI 10	23095	707.5	close	20.01	21.10	1.285	-	-	-0.11	0.299	0.384	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Right Side	5mm	Ant 0	ECI 10	23095	707.5	close	20.07	21.10	1.268	-	-	-0.16	0.046	0.058	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Right Side	5mm	Ant 0	ECI 10	23095	707.5	close	20.01	21.10	1.285	-	-	0.15	0.036	0.046	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	ECI 10	23095	707.5	close	20.07	21.10	1.268	-	-	-0.15	0.194	0.246	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Bottom Side	5mm	Ant 0	ECI 10	23095	707.5	close	20.01	21.10	1.285	-	-	0.06	0.155	0.199	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Front	5mm	Ant 1	ECI 10	23095	707.5	close	22.74	24.00	1.337	-	-	-0.19	0.010	0.013	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 1	ECI 10	23095	707.5	close	21.58	23.00	1.387	-	-	0.09	0.008	0.011	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 10	23095	707.5	close	22.74	24.00	1.337	-	-	0.13	0.392	0.524	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 1	ECI 10	23095	707.5	close	21.58	23.00	1.387	-	-	-0.08	0.303	0.420	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Left Side	5mm	Ant 1	ECI 10	23095	707.5	close	22.74	24.00	1.337	-	-	-0.02	0.096	0.128	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Left Side	5mm	Ant 1	ECI 10	23095	707.5	close	21.58	23.00	1.387	-	-	0.01	0.077	0.107	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Right Side	5mm	Ant 1	ECI 10	23095	707.5	close	22.74	24.00	1.337	-	-	0.1	0.179	0.239	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Right Side	5mm	Ant 1	ECI 10	23095	707.5	close	21.58	23.00	1.387	-	-	0.13	0.139	0.193	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 10	23095	707.5	close	22.74	24.00	1.337	-	-	-0.04	0.382	0.511	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Bottom Side	5mm	Ant 1	ECI 10	23095	707.5	close	21.58	23.00	1.387	-	-	-0.12	0.297	0.412	
835MHz																							
	1st	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	ECI 10	189	836.4	close	26.98	28.40	1.387	-	-	-0.06	0.448	0.621	0.106
	2nd	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	ECI 10	189	836.4	close	26.89	28.40	1.416	-	-	-0.05	0.428	0.606	
	1st	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 1	ECI 10	189	836.4	close	27.50	29.00	1.413	-	-	0.01	0.288	0.407	0.533
	2nd	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 1	ECI 10	189	836.4	close	27.43	29.00	1.435	-	-	0.03	0.251	0.360	
	1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	ECI 10	4182	836.4	close	22.50	23.70	1.318	-	-	0.02	0.470	0.620	0.064
	2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	ECI 10	4182	836.4	close	22.44	23.70	1.337	-	-	-0.03	0.457	0.611	
	1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	ECI 10	4182	836.4	close	24.34	25.00	1.164	-	-	-0.03	0.467	0.544	0.738
	2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	ECI 10	4182	836.4	close	24.25	25.00	1.189	-	-	0.01	0.386	0.459	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 0	ECI 10	26865	831.5	close	20.05	21.10	1.274	-	-	0.14	0.104	0.132	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 0	ECI 10	26865	831.5	close	19.94	21.10	1.306	-	-	0.04	0.082	0.107	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 10	26865	831.5	close	20.05	21.10	1.274	-	-	0.06	0.488	0.621	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	ECI 10	26865	831.5	close	19.94	21.10	1.306	-	-	-0.04	0.381	0.498	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 10	26865	831.5	close	20.05	21.10	1.274	-	-	-0.06	0.400	0.509	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Left Side	5mm	Ant 0	ECI 10	26865	831.5	close	19.94	21.10	1.306	-	-	0.07	0.312	0.408	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Right Side	5mm	Ant 0	ECI 10	26865	831.5	close	20.05	21.10	1.274	-	-	-0.18	0.041	0.052	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Right Side	5mm	Ant 0	ECI 10	26865	831.5	close	19.94	21.10	1.306	-	-	0.11	0.031	0.040	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	ECI 10	26865	831.5	close	20.05	21.10	1.274	-	-	-0.01	0.204	0.260	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Bottom Side	5mm	Ant 0	ECI 10	26865	831.5	close	19.94	21.10	1.306	-	-	-0.11	0.161	0.210	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 1	ECI 10	26865	831.5	close	22.78	24.00	1.324	-	-	0.03	0.023	0.030	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 1	ECI 10	26865	831.5	close	21.76	23.00	1.330	-	-	0.16	0.015	0.020	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 10	26865	831.5	close	22.78	24.00	1.324	-	-	0.01	0.203	0.269	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 1	ECI 10	26865	831.5	close	21.76	23.00	1.330	-	-	-0.06	0.161	0.214	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Left Side	5mm	Ant 1	ECI 10	26865	831.5	close	22.78	24.00	1.324	-	-	-0.18	0.020	0.026	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Left Side	5mm	Ant 1	ECI 10	26865	831.5	close	21.76	23.00	1.330	-	-	0.06	0.013	0.017	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Right Side	5mm	Ant 1	ECI 10	26865	831.5	close	22.78	24.00	1.324	-	-	0.18	0.105	0.139	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Right Side	5mm	Ant 1	ECI 10	26865	831.5	close	21.76	23.00	1.330	-	-	-0.19	0.077	0.102	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 10	26865	831.5	close	22.78	24.00	1.324	-	-	0.17	0.188	0.249	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Bottom Side	5mm	Ant 1	ECI 10	26865	831.5	close	21.76	23.00	1.330	-	-	-0.16	0.143	0.190	
	1st	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 0	ECI 10	166300	831.5	close	21.86	23.10	1.330	-	-	-0.02	0.470	0.625	0.021
	2nd	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 0	ECI 10	167300	836.5	close	21.84	23.10	1.337	-	-	0.03	0.465	0.622	



FCC SAR Test Report

Report No. : FA422203-02

	1st	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	ECI 10	166300	831.5	close	23.13	24.00	1.222	-	-	-0.01	0.497	0.607	1.548
	2nd	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	ECI 10	167300	836.5	close	22.94	24.00	1.276	-	-	-0.08	0.333	0.425	
1750MHz																							
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 2	ECI 10	1413	1732.6	close	14.90	16.10	1.318	-	-	-0.04	0.470	0.620	0.857
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 2	ECI 10	1413	1732.6	close	14.66	16.10	1.393	-	-	0.03	0.365	0.509	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 3	ECI 10	1413	1732.6	close	17.05	18.10	1.274	-	-	-0.03	0.482	0.614	1.096
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 3	ECI 10	1413	1732.6	close	16.74	18.10	1.368	-	-	-0.08	0.349	0.477	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	ECI 10	1413	1732.6	close	17.32	18.40	1.282	-	-	0.09	0.486	0.623	0.448
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	ECI 10	1413	1732.6	close	17.24	18.40	1.306	-	-	0.06	0.430	0.562	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	ECI 10	1413	1732.6	close	16.52	17.60	1.282	-	-	0.02	0.478	0.613	0.656
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	ECI 10	1413	1732.6	close	16.36	17.60	1.330	-	-	0.12	0.396	0.527	
	1st	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	ECI 10	132322	1745	close	12.65	13.80	1.303	-	-	-0.01	0.478	0.623	0.869
	2nd	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	ECI 10	132322	1745	close	12.48	13.80	1.355	-	-	-0.17	0.376	0.510	
	1st	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 3	ECI 10	132322	1745	close	19.85	21.20	1.365	-	-	0.09	0.453	0.618	0.643
	2nd	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 3	ECI 10	132322	1745	close	19.74	21.20	1.400	-	-	-0.17	0.381	0.533	
	1st	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 10	132322	1745	close	16.30	17.30	1.259	-	-	-0.02	0.484	0.609	0.014
	2nd	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 10	132322	1745	close	16.28	17.30	1.265	-	-	-0.02	0.480	0.607	
	1st	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 10	132322	1745	close	16.65	17.80	1.303	-	-	-0.04	0.475	0.619	1.177
	2nd	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 10	132322	1745	close	16.49	17.80	1.352	-	-	0.02	0.349	0.472	
	1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	5mm	Ant 2	ECI 10	349000	1745	close	14.21	15.60	1.377	-	-	-0.01	0.456	0.628	0.490
	2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	5mm	Ant 2	ECI 10	349000	1745	close	14.03	15.60	1.435	-	-	-0.07	0.391	0.561	
	1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	5mm	Ant 3	ECI 10	349000	1745	close	19.66	20.90	1.330	-	-	-0.03	0.469	0.624	0.564
	2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	5mm	Ant 3	ECI 10	349000	1745	close	19.40	20.90	1.413	-	-	-0.03	0.388	0.548	
	1st	FR1 n66 other Path	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	5mm	Ant 3	ECI 10	349000	1745	close	19.66	20.90	1.330	-	-	0.02	0.360	0.479	0.185
	2nd	FR1 n66 other Path	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	5mm	Ant 3	ECI 10	349000	1745	close	19.40	20.90	1.413	-	-	0.02	0.325	0.459	
	1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	5mm	Ant 0	ECI 10	349000	1745	close	17.93	19.10	1.309	-	-	-0.07	0.471	0.617	0.321
	2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	5mm	Ant 0	ECI 10	349000	1745	close	17.77	19.10	1.358	-	-	0.01	0.422	0.573	
	1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 1	ECI 10	349000	1745	close	16.75	17.60	1.216	-	-	-0.06	0.507	0.617	0.100
	2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 1	ECI 10	349000	1745	close	16.66	17.60	1.242	-	-	0.18	0.486	0.603	
1900MHz																							
	1st	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	5mm	Ant 2	ECI 10	661	1880	close	17.40	18.30	1.230	-	-	0.01	0.504	0.620	0.576
	2nd	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	5mm	Ant 2	ECI 10	661	1880	close	17.33	18.30	1.250	-	-	0.02	0.434	0.543	
	1st	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	5mm	Ant 0	ECI 10	661	1880	close	24.04	25.00	1.247	-	-	0.02	0.411	0.513	0.280
	2nd	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	5mm	Ant 0	ECI 10	661	1880	close	23.87	25.00	1.297	-	-	0.01	0.371	0.481	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 2	ECI 10	9400	1880	close	13.05	13.90	1.216	-	-	-0.01	0.506	0.615	0.086
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 2	ECI 10	9400	1880	close	12.99	13.90	1.233	-	-	0.06	0.489	0.603	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 3	ECI 10	9400	1880	close	16.50	17.40	1.230	-	-	0.02	0.505	0.621	0.559
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 3	ECI 10	9400	1880	close	16.31	17.40	1.285	-	-	0.09	0.425	0.546	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	ECI 10	9400	1880	close	16.90	18.10	1.318	-	-	-0.02	0.469	0.618	0.459
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	ECI 10	9400	1880	close	16.68	18.10	1.387	-	-	-0.02	0.401	0.556	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	ECI 10	9400	1880	close	16.26	17.20	1.242	-	-	0.01	0.496	0.616	0.476
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	ECI 10	9400	1880	close	16.02	17.20	1.312	-	-	-0.07	0.421	0.552	
	1st	LTE Band 25	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	ECI 10	26340	1880	close	12.45	13.30	1.216	-	-	0.07	0.506	0.615	0.188
	2nd	LTE Band 2	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	ECI 10	18900	1880	close	12.36	13.30	1.242	-	-	0.01	0.474	0.589	
	1st	LTE Band 25	20M	QPSK	1	0	-	Left Side	5mm	Ant 3	ECI 10	26340	1880	close	18.48	19.50	1.265	-	-	-0.13	0.485	0.613	0.495
	2nd	LTE Band 2	20M	QPSK	1	0	-	Left Side	5mm	Ant 3	ECI 10	18900	1880	close	18.16	19.50	1.361	-	-	-0.16	0.402	0.547	
	1st	LTE Band 25	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 10	26340	1880	close	18.25	19.60	1.365	-	-	-0.1	0.458	0.625	0.708
	2nd	LTE Band 2	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 10	18900	1880	close	18.10	19.60	1.413	-	-	-0.03	0.376	0.531	
	1st	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 10	26340	1880	close	17.25	18.20	1.245	-	-	0.05	0.496	0.617	0.685
	2nd	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 10	18900	1880	close	17.09	18.20	1.291	-	-	0.03	0.408	0.527	
2600MHz																							
	1st	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	ECI 10	21100	2535	close	13.25	14.20	1.245	-	-	-0.06	0.498	0.620	0.624
	2nd	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	ECI 10	21100	2535	close	13.14	14.20	1.276	-	-	0.1	0.421	0.537	
	1st	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 3	ECI 10	21100	2535	close	15.88	16.80	1.236	-	-	-0.03	0.496	0.613	0.731
	2nd	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 3	ECI 10	21100	2535	close	15.74	16.80	1.276	-	-	0.03	0.406	0.518	
	1st	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	ECI 10	21100	2535	close	19.45	20.60	1.303	-	-	-0.04	0.473	0.616	0.727



FCC SAR Test Report

Report No. : FA422203-02

	2nd	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	ECI 10	21100	2535	close	19.22	20.60	1.374	-	-	0.06	0.379	0.521	
	1st	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 10	21100	2535	close	17.85	18.70	1.216	-	-	-0.11	0.507	0.617	0.231
	2nd	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 10	21100	2535	close	17.69	18.70	1.262	-	-	0.14	0.464	0.585	
	1st	LTE Band 41	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	ECI 10	40620	2593	close	15.23	16.20	1.250	62.9	1.006	-0.01	0.501	0.630	0.678
	2nd	LTE Band 41	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	ECI 10	40620	2593	close	15.15	16.20	1.274	62.9	1.006	0.08	0.421	0.539	
	1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	ECI 10	40620	2593	close	16.45	17.80	1.365	42.9	1.009	-0.04	0.418	0.576	0.403
	2nd	LTE Band 41 HPUE	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	ECI 10	40620	2593	close	16.33	17.80	1.403	42.9	1.009	0.07	0.371	0.525	
	1st	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 3	ECI 10	41055	2636.5	close	17.62	18.80	1.312	62.9	1.006	-0.05	0.471	0.622	0.671
	2nd	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 3	ECI 10	41055	2636.5	close	17.49	18.80	1.352	62.9	1.006	0.09	0.392	0.533	
	1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 3	ECI 10	41055	2636.5	close	18.87	20.40	1.422	42.9	1.009	-0.04	0.421	0.604	0.701
	2nd	LTE Band 41 HPUE	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 3	ECI 10	41055	2636.5	close	18.66	20.40	1.493	42.9	1.009	-0.12	0.341	0.514	
	1st	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	ECI 10	40620	2593	close	22.35	22.80	1.109	62.9	1.006	-0.07	0.518	0.578	0.153
	2nd	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	ECI 10	40620	2593	close	22.21	22.80	1.146	62.9	1.006	0.01	0.484	0.558	
	1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	ECI 10	40620	2593	close	23.60	24.40	1.202	42.9	1.009	-0.01	0.510	0.619	0.601
	2nd	LTE Band 41 HPUE	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	ECI 10	40620	2593	close	23.49	24.40	1.233	42.9	1.009	-0.05	0.433	0.539	
	1st	LTE Band 41	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	ECI 10	41490	2680	close	18.93	20.40	1.403	62.9	1.006	-0.03	0.441	0.622	0.606
	2nd	LTE Band 41	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	ECI 10	41490	2680	close	18.75	20.40	1.462	62.9	1.006	0.1	0.368	0.541	
	1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	ECI 10	41490	2680	close	20.07	22.00	1.560	42.9	1.009	-0.12	0.358	0.563	0.515
	2nd	LTE Band 41 HPUE	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	ECI 10	41490	2680	close	20.05	22.00	1.567	42.9	1.009	-0.16	0.316	0.500	
	1st	FR1 n41 HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 2	ECI 10	518598	2592.99	close	13.69	14.70	1.262	-	-	-0.01	0.492	0.621	0.696
	2nd	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 2	ECI 10	518598	2592.99	close	13.58	14.70	1.294	-	-	0.11	0.409	0.529	
	1st	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	5mm	Ant 3	ECI 10	518598	2592.99	close	15.25	16.10	1.216	-	-	-0.14	0.508	0.618	0.514
	2nd	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	5mm	Ant 3	ECI 10	518598	2592.99	close	15.20	16.10	1.230	-	-	-0.07	0.446	0.549	
	1st	FR1 n41 HPUE other Path	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	5mm	Ant 3	ECI 10	518598	2592.99	close	15.38	16.40	1.265	-	-	0.05	0.487	0.616	0.299
	2nd	FR1 n41 other Path	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	5mm	Ant 3	ECI 10	518598	2592.99	close	15.20	16.40	1.318	-	-	0.05	0.436	0.575	
	1st	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	5mm	Ant 0	ECI 10	518598	2592.99	close	18.31	19.70	1.377	-	-	-0.17	0.455	0.627	0.931
	2nd	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	5mm	Ant 0	ECI 10	518598	2592.99	close	18.28	19.70	1.387	-	-	-0.03	0.365	0.506	
	1st	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 1	ECI 10	518598	2592.99	close	18.21	19.30	1.285	-	-	0.05	0.484	0.622	0.922
	2nd	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 1	ECI 10	518598	2592.99	close	18.15	19.30	1.303	-	-	0.12	0.386	0.503	
3500-3900MHz																							
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 4	ECI 10	42590	3500	close	13.14	14.70	1.432	62.9	1.006	0.03	0.114	0.164	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Front	5mm	Ant 4	ECI 10	42590	3500	close	13.12	14.70	1.439	62.9	1.006	-0.16	0.094	0.136	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 4	ECI 10	42590	3500	close	13.14	14.70	1.432	62.9	1.006	-0.13	0.036	0.052	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	5mm	Ant 4	ECI 10	42590	3500	close	13.12	14.70	1.439	62.9	1.006	-0.03	0.037	0.054	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Side	5mm	Ant 4	ECI 10	42590	3500	close	13.14	14.70	1.432	62.9	1.006	0.02	0.433	0.624	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Side	5mm	Ant 4	ECI 10	42590	3500	close	13.12	14.70	1.439	62.9	1.006	-0.17	0.331	0.479	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Side	5mm	Ant 4	ECI 10	42590	3500	close	13.14	14.70	1.432	62.9	1.006	0.04	0.017	0.024	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Side	5mm	Ant 4	ECI 10	42590	3500	close	13.12	14.70	1.439	62.9	1.006	0.01	0.013	0.019	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 4	ECI 10	42590	3500	close	13.14	14.70	1.432	62.9	1.006	0.04	0.087	0.125	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 4	ECI 10	42590	3500	close	13.12	14.70	1.439	62.9	1.006	0.1	0.070	0.101	
	2nd	LTE Band 42C Part 27Q	20M	QPSK	1	99	-	Left Side	5mm	Ant 4	ECI 10	42590+42788	3500+3519.8	close	13.06	14.70	1.459	62.9	1.006	0.02	0.406	0.596	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 6	ECI 10	42590	3500	close	16.42	17.50	1.282	62.9	1.006	0.06	0.153	0.197	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Front	5mm	Ant 6	ECI 10	42590	3500	close	16.38	17.50	1.294	62.9	1.006	0.06	0.121	0.158	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 6	ECI 10	42590	3500	close	16.42	17.50	1.282	62.9	1.006	0.09	0.023	0.030	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	5mm	Ant 6	ECI 10	42590	3500	close	16.38	17.50	1.294	62.9	1.006	-0.02	0.019	0.025	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Side	5mm	Ant 6	ECI 10	42590	3500	close	16.42	17.50	1.282	62.9	1.006	0.15	0.010	0.013	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Side	5mm	Ant 6	ECI 10	42590	3500	close	16.38	17.50	1.294	62.9	1.006	-0.08	0.009	0.012	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Side	5mm	Ant 6	ECI 10	42590	3500	close	16.42	17.50	1.282	62.9	1.006	0.06	0.055	0.071	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Side	5mm	Ant 6	ECI 10	42590	3500	close	16.38	17.50	1.294	62.9	1.006	0.15	0.044	0.057	
40	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 6	ECI 10	42590	3500	close	16.42	17.50	1.282	62.9	1.006	-0.18	0.492	0.635	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 6	ECI 10	42590	3500	close	16.38	17.50	1.294	62.9	1.006	-0.08	0.334	0.435	



FCC SAR Test Report

Report No. : FA422203-02

	2nd	LTE Band 42C Part 27Q	20M	QPSK	1	99	-	Bottom Side	5mm	Ant 6	ECI 10	42590+42788	3500+3519.8	close	16.37	17.50	1.297	62.9	1.006	0.02	0.475	0.620	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 3	ECI 10	42590	3500	close	17.92	19.40	1.406	62.9	1.006	-0.03	0.192	0.272	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Front	5mm	Ant 3	ECI 10	42590	3500	close	17.86	19.40	1.426	62.9	1.006	0.02	0.158	0.227	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 3	ECI 10	42590	3500	close	17.92	19.40	1.406	62.9	1.006	0.19	0.098	0.139	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	5mm	Ant 3	ECI 10	42590	3500	close	17.86	19.40	1.426	62.9	1.006	0.13	0.091	0.131	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Side	5mm	Ant 3	ECI 10	42590	3500	close	17.92	19.40	1.406	62.9	1.006	-0.03	0.069	0.098	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Side	5mm	Ant 3	ECI 10	42590	3500	close	17.86	19.40	1.426	62.9	1.006	0.12	0.058	0.083	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Side	5mm	Ant 3	ECI 10	42590	3500	close	17.92	19.40	1.406	62.9	1.006	0.19	0.019	0.027	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Side	5mm	Ant 3	ECI 10	42590	3500	close	17.86	19.40	1.426	62.9	1.006	-0.09	0.017	0.024	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 3	ECI 10	42590	3500	close	17.92	19.40	1.406	62.9	1.006	0.07	0.443	0.627	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 3	ECI 10	42590	3500	close	17.86	19.40	1.426	62.9	1.006	-0.06	0.322	0.462	
	2nd	LTE Band 42C Part 27Q	20M	QPSK	1	99	-	Bottom Side	5mm	Ant 3	ECI 10	42590+42788	3500+3519.8	close	17.84	19.40	1.432	62.9	1.006	0.07	0.405	0.584	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 8	ECI 10	42590	3500	close	19.55	21.00	1.396	62.9	1.006	-0.03	0.193	0.271	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Front	5mm	Ant 8	ECI 10	42590	3500	close	19.52	21.00	1.406	62.9	1.006	0.15	0.164	0.232	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 8	ECI 10	42590	3500	close	19.55	21.00	1.396	62.9	1.006	-0.19	0.028	0.039	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	5mm	Ant 8	ECI 10	42590	3500	close	19.52	21.00	1.406	62.9	1.006	-0.13	0.022	0.031	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Side	5mm	Ant 8	ECI 10	42590	3500	close	19.55	21.00	1.396	62.9	1.006	-0.05	0.027	0.038	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Side	5mm	Ant 8	ECI 10	42590	3500	close	19.52	21.00	1.406	62.9	1.006	-0.12	0.021	0.030	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Side	5mm	Ant 8	ECI 10	42590	3500	close	19.55	21.00	1.396	62.9	1.006	0.03	0.442	0.621	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Side	5mm	Ant 8	ECI 10	42590	3500	close	19.52	21.00	1.406	62.9	1.006	0.09	0.346	0.489	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 8	ECI 10	42590	3500	close	19.55	21.00	1.396	62.9	1.006	0.12	0.053	0.074	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 8	ECI 10	42590	3500	close	19.52	21.00	1.406	62.9	1.006	0.11	0.042	0.059	
	2nd	LTE Band 42C Part 27Q	20M	QPSK	1	99	-	Right Side	5mm	Ant 8	ECI 10	42590+42788	3500+3519.8	close	19.46	21.00	1.426	62.9	1.006	0.03	0.415	0.595	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 4	ECI 10	656000	3840	close	14.01	15.40	1.377	-	-	0.04	0.114	0.157	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 4	ECI 10	656000	3840	close	13.97	15.40	1.390	-	-	-0.09	0.144	0.200	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 4	ECI 10	656000	3840	close	14.01	15.40	1.377	-	-	0.11	0.044	0.061	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 4	ECI 10	656000	3840	close	13.97	15.40	1.390	-	-	0.14	0.039	0.054	
41	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 4	ECI 10	656000	3840	close	14.01	15.40	1.377	-	-	-0.15	0.456	0.628	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 4	ECI 10	656000	3840	close	13.97	15.40	1.390	-	-	0.02	0.443	0.616	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 4	ECI 10	656000	3840	close	14.01	15.40	1.377	-	-	-0.16	0.015	0.021	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 4	ECI 10	656000	3840	close	13.97	15.40	1.390	-	-	-0.02	0.018	0.025	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	5mm	Ant 4	ECI 10	656000	3840	close	14.01	15.40	1.377	-	-	0.08	0.066	0.091	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	5mm	Ant 4	ECI 10	656000	3840	close	13.97	15.40	1.390	-	-	0.17	0.072	0.100	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 6	ECI 10	656000	3840	close	14.35	15.60	1.334	-	-	-0.08	0.295	0.393	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 6	ECI 10	656000	3840	close	14.31	15.60	1.346	-	-	-0.04	0.220	0.296	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 6	ECI 10	656000	3840	close	14.35	15.60	1.334	-	-	-0.07	0.049	0.065	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 6	ECI 10	656000	3840	close	14.31	15.60	1.346	-	-	-0.08	0.041	0.055	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 6	ECI 10	656000	3840	close	14.35	15.60	1.334	-	-	0.12	0.019	0.025	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 6	ECI 10	656000	3840	close	14.31	15.60	1.346	-	-	-0.07	0.016	0.022	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 6	ECI 10	656000	3840	close	14.35	15.60	1.334	-	-	-0.05	0.100	0.133	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 6	ECI 10	656000	3840	close	14.31	15.60	1.346	-	-	-0.04	0.087	0.117	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	5mm	Ant 6	ECI 10	656000	3840	close	14.35	15.60	1.334	-	-	0.13	0.466	0.621	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	5mm	Ant 6	ECI 10	656000	3840	close	14.31	15.60	1.346	-	-	-0.03	0.356	0.479	
	2nd	FR1 n77 Part 270 other Path	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	5mm	Ant 6	ECI 10	656000	3840	close	14.35	15.60	1.334	-	-	0.13	0.415	0.553	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 3	ECI 10	656000	3840	close	17.42	18.10	1.169	-	-	0.11	0.317	0.371	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 3	ECI 10	656000	3840	close	17.39	18.10	1.178	-	-	-0.06	0.381	0.449	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 3	ECI 10	656000	3840	close	17.42	18.10	1.169	-	-	0.02	0.046	0.054	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 3	ECI 10	656000	3840	close	17.39	18.10	1.178	-	-	0.12	0.041	0.048	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 3	ECI 10	656000	3840	close	17.42	18.10	1.169	-	-	0.02	0.074	0.087	
	2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 3	ECI 10	656000	3840	close	17.39	18.10	1.178	-	-	-0.11	0.092	0.108	
	2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 3	ECI 10	656000	3840	close	17.42	18.10	1.169	-	-	-0.11	0.038	0.044	



FCC SAR Test Report

Report No. : FA422203-02

2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 3	ECI 10	656000	3840	close	17.39	18.10	1.178	-	-	-0.05	0.063	0.074	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	5mm	Ant 3	ECI 10	656000	3840	close	17.42	18.10	1.169	-	-	0.03	0.395	0.462	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	5mm	Ant 3	ECI 10	656000	3840	close	17.39	18.10	1.178	-	-	-0.06	0.525	0.618	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 8	ECI 10	656000	3840	close	16.07	17.30	1.327	-	-	-0.07	0.243	0.323	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 8	ECI 10	656000	3840	close	16.04	17.30	1.337	-	-	-0.03	0.270	0.361	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 8	ECI 10	656000	3840	close	16.07	17.30	1.327	-	-	0.05	0.025	0.033	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 8	ECI 10	656000	3840	close	16.04	17.30	1.337	-	-	-0.15	0.026	0.035	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 8	ECI 10	656000	3840	close	16.07	17.30	1.327	-	-	-0.11	0.020	0.027	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 8	ECI 10	656000	3840	close	16.04	17.30	1.337	-	-	0.07	0.020	0.027	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 8	ECI 10	656000	3840	close	16.07	17.30	1.327	-	-	0.01	0.435	0.577	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 8	ECI 10	656000	3840	close	16.04	17.30	1.337	-	-	-0.05	0.461	0.616	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	5mm	Ant 8	ECI 10	656000	3840	close	16.07	17.30	1.327	-	-	-0.01	0.063	0.084	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	5mm	Ant 8	ECI 10	656000	3840	close	16.04	17.30	1.337	-	-	-0.19	0.073	0.098	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	EUT Flip State	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)	Deviation d _{dB} (dB)
WLAN/BT																			
	1st	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	Ant 5+7(5)	Hotspot	6	2437	close	10.79	12.50	1.483	100	1.000	-0.05	0.412	0.611	0.425
	2nd	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	Ant 5+7(5)	Hotspot	6	2437	close	10.75	12.50	1.496	100	1.000	-0.07	0.370	0.554	
	1st	Bluetooth	802.11b 1Mbps	Right Side	5mm	Ant 7	Hotspot	39	2441	close	7.50	8.50	1.259	76.64	1.087	-0.11	0.149	0.204	0.218
	2nd	Bluetooth	802.11b 1Mbps	Right Side	5mm	Ant 7	Hotspot	39	2441	close	7.44	8.50	1.276	76.64	1.087	-0.01	0.140	0.194	
	1st	WLAN5.2GHz	802.11n-HT40 MCS0	Right Side	5mm	Ant 5+7(7)	Hotspot	46	5230	close	15.35	17.00	1.462	93.7	1.067	0.03	0.377	0.588	2.417
	2nd	WLAN5.2GHz	802.11n-HT40 MCS0	Right Side	5mm	Ant 5+7(7)	Hotspot	46	5230	close	15.29	17.00	1.483	93.7	1.067	-0.01	0.213	0.337	
	1st	WLAN5.8GHz	802.11ac-VHT80 MCS0	Bottom Side	5mm	Ant 5+7(5)	Hotspot	155	5775	close	12.34	14.00	1.466	88.19	1.134	0.03	0.376	0.625	0.091
42	2nd	WLAN5.8GHz	802.11ac-VHT80 MCS0	Bottom Side	5mm	Ant 5+7(5)	Hotspot	155	5775	close	12.28	14.00	1.486	88.19	1.134	0.03	0.363	0.612	



17.3 Body Worn Accessory SAR

< Flip Open >

Plot No.	No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Headset	Power State	Ch.	Freq. (MHz)	EUT Flip State	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)	Deviation d _{dB} (dB)
750MHz																								
	2nd	LTE Band 12	10M	QPSK	1	0	-	Front	5mm	Ant 0	-	ECI 3	23095	707.5	open	23.14	24.00	1.219	-	-	0.01	0.761	0.928	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 0	-	ECI 3	23095	707.5	open	21.96	23.00	1.271	-	-	0.02	0.600	0.762	
	2nd	LTE Band 12	10M	QPSK	50	0	-	Front	5mm	Ant 0	-	ECI 3	23095	707.5	open	21.91	23.00	1.285	-	-	-0.11	0.592	0.761	
43	2nd	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	-	ECI 3	23095	707.5	open	23.14	24.00	1.219	-	-	-0.01	0.932	1.136	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 0	-	ECI 3	23095	707.5	open	21.96	23.00	1.271	-	-	0.09	0.739	0.939	
	2nd	LTE Band 12	10M	QPSK	50	0	-	Back	5mm	Ant 0	-	ECI 3	23095	707.5	open	21.91	23.00	1.285	-	-	0.1	0.722	0.928	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Front	5mm	Ant 1	-	ECI 3	23095	707.5	open	22.74	24.00	1.337	-	-	-0.04	0.162	0.217	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 1	-	ECI 3	23095	707.5	open	21.58	23.00	1.387	-	-	0.15	0.133	0.184	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 1	-	ECI 3	23095	707.5	open	22.74	24.00	1.337	-	-	0.09	0.271	0.362	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 1	-	ECI 3	23095	707.5	open	21.58	23.00	1.387	-	-	-0.16	0.210	0.291	
835MHz																								
	1st	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	-	ECI 3	189	836.4	open	27.48	29.00	1.419	-	-	-0.08	0.802	1.138	0.640
44	2nd	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	-	ECI 3	189	836.4	open	27.32	29.00	1.472	-	-	0.02	0.667	0.982	
	1st	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 1	-	ECI 3	189	836.4	open	27.50	29.00	1.413	-	-	0.07	0.628	0.887	0.064
	2nd	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 1	-	ECI 3	189	836.4	open	27.43	29.00	1.435	-	-	0.06	0.609	0.874	
	1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	ECI 3	4182	836.4	open	24.34	25.00	1.164	-	-	-0.15	0.936	1.090	1.194
	2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	ECI 3	4182	836.4	open	24.22	25.00	1.197	-	-	-0.16	0.692	0.828	
	1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	ECI 3	4182	836.4	open	24.34	25.00	1.164	-	-	-0.06	0.444	0.517	0.233
	2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	ECI 3	4182	836.4	open	24.25	25.00	1.189	-	-	0.01	0.412	0.490	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 0	-	ECI 3	26865	831.5	open	23.15	24.00	1.216	-	-	0.08	0.875	1.064	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 0	-	ECI 3	26865	831.5	open	22.10	23.00	1.230	-	-	0.01	0.690	0.849	
	2nd	LTE Band 26	15M	QPSK	75	0	-	Front	5mm	Ant 0	-	ECI 3	26865	831.5	open	22.06	23.00	1.242	-	-	0.03	0.694	0.862	
45	2nd	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	-	ECI 3	26865	831.5	open	23.15	24.00	1.216	-	-	-0.08	1.050	1.277	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	-	ECI 3	26865	831.5	open	22.10	23.00	1.230	-	-	-0.08	0.829	1.020	
	2nd	LTE Band 26	15M	QPSK	75	0	-	Back	5mm	Ant 0	-	ECI 3	26865	831.5	open	22.06	23.00	1.242	-	-	0.1	0.839	1.042	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	Headset	ECI 3	26865	831.5	open	23.15	24.00	1.216	-	-	0.02	0.813	0.989	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 1	-	ECI 3	26865	831.5	open	22.78	24.00	1.324	-	-	-0.15	0.240	0.318	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 1	-	ECI 3	26865	831.5	open	21.76	23.00	1.330	-	-	-0.12	0.187	0.249	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 1	-	ECI 3	26865	831.5	open	22.78	24.00	1.324	-	-	-0.17	0.390	0.516	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 1	-	ECI 3	26865	831.5	open	21.76	23.00	1.330	-	-	0.08	0.307	0.408	
	1st	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 0	-	ECI 3	166300	831.5	open	23.36	24.00	1.159	-	-	-0.02	0.778	0.902	0.024
46	2nd	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 0	-	ECI 3	167300	836.5	open	23.13	24.00	1.222	-	-	0.14	0.734	0.897	
	1st	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	-	ECI 3	166300	831.5	open	23.13	24.00	1.222	-	-	-0.13	0.454	0.555	0.225
	2nd	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	-	ECI 3	167300	836.5	open	22.94	24.00	1.276	-	-	0.02	0.413	0.527	
1750MHz																								
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	-	ECI 3	1413	1732.6	open	15.80	17.00	1.318	-	-	-0.05	0.674	0.889	0.272
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	-	ECI 3	1413	1732.6	open	15.66	17.00	1.361	-	-	0.05	0.613	0.835	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 3	-	ECI 3	1413	1732.6	open	18.86	19.90	1.271	-	-	0.01	0.697	0.886	0.170
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 3	-	ECI 3	1413	1732.6	open	18.72	19.90	1.312	-	-	0.08	0.649	0.852	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	ECI 3	1513	1752.6	open	21.20	22.70	1.413	-	-	0.03	0.911	1.287	0.348
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	ECI 3	1513	1752.6	open	21.11	22.70	1.442	-	-	0.06	0.824	1.188	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	ECI 3	1413	1732.6	open	18.05	19.10	1.274	-	-	0.06	1.010	1.286	0.250
47	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	ECI 3	1413	1732.6	open	17.96	19.10	1.300	-	-	0.06	0.934	1.214	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	-	ECI 3	1413	1732.6	open	18.05	19.10	1.274	-	-	-0.15	0.598	0.762	0.234
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	-	ECI 3	1413	1732.6	open	17.96	19.10	1.300	-	-	0.02	0.555	0.722	
	1st	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	ECI 3	132572	1770	open	15.25	16.20	1.245	-	-	-0.02	0.705	0.877	0.115
	2nd	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	ECI 3	132572	1770	open	15.03	16.20	1.309	-	-	-0.03	0.652	0.854	
	1st	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	ECI 3	132572	1770	open	19.19	20.30	1.291	-	-	-0.09	0.681	0.879	0.244
	2nd	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	ECI 3	132572	1770	open	19.02	20.30	1.343	-	-	-0.04	0.619	0.831	



FCC SAR Test Report

Report No. : FA422203-02

	1st	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	ECI 3	132322	1745	open	20.76	22.00	1.330	-	-	0.02	0.962	1.280	0.331
	2nd	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	ECI 3	132322	1745	open	20.63	22.00	1.371	-	-	-0.18	0.865	1.186	
	1st	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	ECI 3	132572	1770	open	19.95	21.10	1.303	-	-	-0.09	0.992	1.293	0.228
48	2nd	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	ECI 3	132572	1770	open	19.82	21.10	1.343	-	-	0.02	0.914	1.227	
	1st	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	ECI 3	132572	1770	open	19.95	21.10	1.303	-	-	-0.15	0.846	1.102	0.048
	2nd	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	ECI 3	132572	1770	open	19.82	21.10	1.343	-	-	0.03	0.812	1.090	
	1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 2	-	ECI 3	349000	1745	open	18.35	19.30	1.245	-	-	0.06	0.706	0.879	0.095
	2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 2	-	ECI 3	349000	1745	open	17.85	19.30	1.396	-	-	-0.09	0.616	0.860	
	1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 3	-	ECI 3	349000	1745	open	20.56	21.60	1.271	-	-	-0.16	0.700	0.889	0.262
	2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 3	-	ECI 3	349000	1745	open	20.32	21.60	1.343	-	-	0.18	0.623	0.837	
	1st	FR1 n66 other Path	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 3	-	ECI 3	349000	1745	open	20.56	21.60	1.271	-	-	-0.04	0.444	0.564	0.117
	2nd	FR1 n66 other Path	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 3	-	ECI 3	349000	1745	open	20.32	21.60	1.343	-	-	-0.04	0.409	0.549	
	1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 0	-	ECI 3	349000	1745	open	22.68	23.80	1.294	-	-	-0.02	1.000	1.294	0.102
49	2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 0	-	ECI 3	349000	1745	open	22.56	23.80	1.330	-	-	0.04	0.950	1.264	
	1st	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 0	-	ECI 3	349000	1745	open	22.72	23.80	1.282	-	-	-0.1	0.898	1.152	0.276
	2nd	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 0	-	ECI 3	349000	1745	open	22.63	23.80	1.309	-	-	0.03	0.826	1.081	
	1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 1	-	ECI 3	349000	1745	open	22.43	23.50	1.279	-	-	-0.02	1.010	1.292	0.372
	2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 1	-	ECI 3	349000	1745	open	22.36	23.50	1.300	-	-	0.11	0.912	1.186	
1900MHz																								
	1st	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 2	-	ECI 3	661	1880	open	22.85	23.90	1.274	-	-	0.01	0.687	0.875	0.325
	2nd	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 2	-	ECI 3	661	1880	open	22.73	23.90	1.309	-	-	-0.03	0.620	0.812	
	1st	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	-	ECI 3	661	1880	open	24.04	25.00	1.247	-	-	0.03	0.596	0.743	0.482
	2nd	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	-	ECI 3	661	1880	open	23.87	25.00	1.297	-	-	0.01	0.513	0.665	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	-	ECI 3	9538	1907.6	open	17.33	18.50	1.309	-	-	0.01	0.672	0.880	0.223
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	-	ECI 3	9538	1907.6	open	17.21	18.50	1.346	-	-	0.09	0.621	0.836	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 3	-	ECI 3	9400	1880	open	16.70	17.90	1.318	-	-	0.01	0.669	0.882	0.100
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 3	-	ECI 3	9400	1880	open	16.54	17.90	1.368	-	-	-0.03	0.630	0.862	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	ECI 3	9262	1852.4	open	18.08	19.30	1.324	-	-	0.03	0.958	1.269	0.268
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	ECI 3	9262	1852.4	open	17.96	19.30	1.361	-	-	0.07	0.876	1.193	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	ECI 3	9262	1852.4	open	17.16	18.30	1.300	-	-	0.01	0.976	1.269	0.097
50	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	ECI 3	9262	1852.4	open	17.03	18.30	1.340	-	-	0.06	0.926	1.241	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	-	ECI 3	9400	1880	open	17.20	18.30	1.288	-	-	-0.15	0.661	0.852	0.098
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	-	ECI 3	9400	1880	open	17.05	18.30	1.334	-	-	0.06	0.625	0.833	
	1st	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	ECI 3	26140	1860	open	15.38	16.40	1.265	-	-	0.02	0.702	0.888	0.139
	2nd	LTE Band 2	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	ECI 3	18700	1860	open	15.21	16.40	1.315	-	-	-0.08	0.654	0.860	
	1st	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	ECI 3	26340	1880	open	18.88	20.20	1.355	-	-	0.05	0.656	0.889	0.236
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	ECI 3	18900	1880	open	18.65	20.20	1.429	-	-	-0.05	0.589	0.842	
	1st	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	ECI 3	26140	1860	open	20.67	21.90	1.327	-	-	0.05	0.966	1.282	0.423
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	ECI 3	18700	1860	open	20.45	21.90	1.396	-	-	-0.03	0.833	1.163	
	1st	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	ECI 3	26590	1905	open	19.43	20.70	1.340	-	-	-0.01	0.964	1.291	0.051
51	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	ECI 3	19100	1900	open	19.36	20.70	1.361	-	-	-0.03	0.937	1.276	
	1st	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	ECI 3	26590	1905	open	19.43	20.70	1.340	-	-	0.14	0.786	1.053	0.268
	2nd	LTE Band 2	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	ECI 3	19100	1900	open	19.36	20.70	1.361	-	-	0.03	0.727	0.990	
2600MHz																								
	1st	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	ECI 3	21350	2560	open	16.88	18.00	1.294	-	-	0.06	0.679	0.879	0.239
	2nd	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	ECI 3	21350	2560	open	16.64	18.00	1.368	-	-	0.06	0.608	0.832	
	1st	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	ECI 3	21350	2560	open	18.43	19.60	1.309	-	-	0.03	0.671	0.878	0.156
	2nd	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	ECI 3	21350	2560	open	18.25	19.60	1.365	-	-	-0.14	0.621	0.847	
	1st	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	ECI 3	21350	2560	open	21.03	22.20	1.309	-	-	0.01	0.990	1.296	0.576
52	2nd	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	ECI 3	21350	2560	open	20.98	22.20	1.324	-	-	-0.07	0.857	1.135	
	1st	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	ECI 3	21350	2560	open	20.86	22.00	1.300	-	-	0.03	0.975	1.268	0.621
	2nd	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	ECI 3	21350	2560	open	20.68	22.00	1.355	-	-	0.17	0.811	1.099	
	1st	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	ECI 3	41490	2680	open	18.15	18.90	1.189	62.9	1.006	0.08	0.715	0.855	0.410
	2nd	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	ECI 3	41490	2680	open	17.96	18.90	1.242	62.9	1.006	0.09	0.623	0.778	
	1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	ECI 3	41490	2680	open	19.40	20.50	1.288	42.9	1.009	0.01	0.683	0.888	0.378
	2nd	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 2	-	ECI 3	41490	2680	open	19.22	20.50	1.343	42.9	1.009	0.02	0.601	0.814	



Report No. : FA422203-02

[illegible]



FCC SAR Test Report

Report No. : FA422203-02

	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	ECI 3	42590	3500	open	17.66	19.00	1.361	62.9	1.006	0.08	0.568	0.778	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	5mm	Ant 3	-	ECI 3	42590	3500	open	17.63	19.00	1.371	62.9	1.006	0.03	0.430	0.593	
	2nd	LTE Band 42C Part 27Q	20M	QPSK	1	99	-	Front	5mm	Ant 3	-	ECI 3	42590+42788	3500+3519.8	open	17.54	19.00	1.400	62.9	1.006	-0.05	0.596	0.839	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	15mm	Ant 3	-	ECI 4	42590	3500	open	23.85	24.00	1.035	62.9	1.006	-0.03	0.265	0.276	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	17mm	Ant 3	-	ECI 4	42590	3500	open	23.85	24.00	1.035	62.9	1.006	0.14	0.209	0.218	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 8	-	ECI 3	42590	3500	open	21.22	22.50	1.343	62.9	1.006	0.03	0.636	0.859	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 8	-	ECI 3	42190	3460	open	21.16	22.50	1.361	62.9	1.006	0.1	0.643	0.881	
55	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 8	-	ECI 3	42990	3540	open	21.19	22.50	1.352	62.9	1.006	-0.09	0.660	0.898	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Front	5mm	Ant 8	-	ECI 3	42590	3500	open	21.18	22.50	1.355	62.9	1.006	-0.06	0.500	0.682	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	100	0	-	Front	5mm	Ant 8	-	ECI 3	42590	3500	open	21.17	22.50	1.358	62.9	1.006	0.05	0.500	0.683	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 8	-	ECI 3	42590	3500	open	21.22	22.50	1.343	62.9	1.006	-0.03	0.582	0.786	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	5mm	Ant 8	-	ECI 3	42590	3500	open	21.18	22.50	1.355	62.9	1.006	0.16	0.463	0.631	
	2nd	LTE Band 42C Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 8	-	ECI 3	42990+42792	3540+3520.2	open	21.05	22.50	1.396	62.9	1.006	-0.09	0.603	0.847	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	15mm	Ant 8	-	ECI 4	42990	3540	open	23.38	24.00	1.153	62.9	1.006	0.08	0.185	0.215	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	17mm	Ant 8	-	ECI 4	42590	3500	open	23.47	24.00	1.130	62.9	1.006	-0.17	0.172	0.195	
	2nd	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 4	-	ECI 3	56000	3840	open	19.03	20.30	1.340	-	-	0.1	0.661	0.886	
	2nd	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 4	-	ECI 3	56000	3840	open	18.99	20.30	1.352	-	-	-0.17	0.645	0.872	
	2nd	FR1 n77 Part 27Q	100M	QPSK	270	0	DFT-SCS-30KHz	Front	5mm	Ant 4	-	ECI 3	56000	3840	open	18.82	20.30	1.406	-	-	0.04	0.613	0.862	
	2nd	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 4	-	ECI 3	56000	3840	open	19.03	20.30	1.340	-	-	-0.01	0.459	0.615	
	2nd	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 4	-	ECI 3	56000	3840	open	18.99	20.30	1.352	-	-	-0.08	0.484	0.654	
	2nd	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 4	-	ECI 4	56000	3840	open	23.39	24.00	1.151	-	-	-0.17	0.226	0.260	
	2nd	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	17mm	Ant 4	-	ECI 4	56000	3840	open	23.35	24.00	1.161	-	-	0.17	0.205	0.238	
	2nd	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 6	-	ECI 3	56000	3840	open	17.27	18.40	1.297	-	-	-0.18	0.679	0.881	
	2nd	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 6	-	ECI 3	56000	3840	open	17.19	18.40	1.321	-	-	-0.07	0.613	0.810	
	2nd	FR1 n77 Part 27Q	100M	QPSK	270	0	DFT-SCS-30KHz	Front	5mm	Ant 6	-	ECI 3	56000	3840	open	17.15	18.40	1.334	-	-	0.11	0.460	0.613	
	2nd	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 6	-	ECI 3	56000	3840	open	17.27	18.40	1.297	-	-	-0.08	0.610	0.791	
	2nd	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 6	-	ECI 3	56000	3840	open	17.19	18.40	1.321	-	-	-0.1	0.527	0.696	
	2nd	FR1 n77 Part 27Q other Path	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 6	-	ECI 3	56000	3840	open	17.27	18.40	1.297	-	-	-0.18	0.625	0.811	
	2nd	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 6	-	ECI 4	56000	3840	open	20.89	22.00	1.291	-	-	-0.05	0.265	0.342	
	2nd	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	17mm	Ant 6	-	ECI 4	56000	3840	open	20.89	22.00	1.291	-	-	0.01	0.215	0.278	
	2nd	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 3	-	ECI 3	56000	3840	open	21.23	22.30	1.279	-	-	-0.01	0.648	0.829	
56	2nd	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 3	-	ECI 3	56000	3840	open	21.13	22.30	1.309	-	-	-0.03	0.682	0.893	
	2nd	FR1 n77 Part 27Q	100M	QPSK	270	0	DFT-SCS-30KHz	Front	5mm	Ant 3	-	ECI 3	56000	3840	open	21.12	22.30	1.312	-	-	0.19	0.653	0.857	
	2nd	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 3	-	ECI 3	56000	3840	open	21.23	22.30	1.279	-	-	-0.14	0.627	0.802	
	2nd	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 3	-	ECI 3	56000	3840	open	21.13	22.30	1.309	-	-	-0.18	0.670	0.877	
	2nd	FR1 n77 Part 27Q	100M	QPSK	270	0	DFT-SCS-30KHz	Back	5mm	Ant 3	-	ECI 3	56000	3840	open	21.12	22.30	1.312	-	-	-0.06	0.617	0.810	
	2nd	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 3	-	ECI 4	56000	3840	open	23.33	24.00	1.167	-	-	0.03	0.306	0.357	
	2nd	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	17mm	Ant 3	-	ECI 4	56000	3840	open	23.33	24.00	1.167	-	-	0.01	0.185	0.216	
	2nd	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 8	-	ECI 3	56000	3840	open	20.18	21.20	1.265	-	-	-0.09	0.580	0.734	
	2nd	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 8	-	ECI 3	56000	3840	open	20.14	21.20	1.276	-	-	-0.06	0.621	0.793	
	2nd	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 8	-	ECI 3	56000	3840	open	20.18	21.20	1.265	-	-	-0.01	0.692	0.875	
	2nd	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 8	-	ECI 3	56000	3840	open	20.14	21.20	1.276	-	-	-0.11	0.642	0.819	
	2nd	FR1 n77 Part 27Q	100M	QPSK	270	0	DFT-SCS-30KHz	Back	5mm	Ant 8	-	ECI 3	56000	3840	open	20.10	21.20	1.288	-	-	0.14	0.635	0.818	
	2nd	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 8	-	ECI 4	56000	3840	open	20.62	22.00	1.374	-	-	0.03	0.266	0.365	
	2nd	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	17mm	Ant 8	-	ECI 4	56000	3840	open	20.68	22.00	1.355	-	-	0.04	0.306	0.415	



FCC SAR Test Report

Report No. : FA422203-02

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Headset	Power State	Ch.	Freq. (MHz)	EUT Flip State	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)	Deviation d _{dB} (dB)
WLAN/BT																				
	1st	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 5+7(5)	-	Standalone	6	2437	open	16.39	18.00	1.449	100	1.000	-0.01	0.908	1.315	0.138
57	2nd	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 5+7(5)	-	Standalone	6	2437	open	16.31	18.00	1.476	100	1.000	-0.09	0.863	1.274	
	1st	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 5+7(5)	-	Standalone	6	2437	open	16.39	18.00	1.449	100	1.000	-0.17	0.516	0.748	0.282
	2nd	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 5+7(5)	-	Standalone	6	2437	open	16.31	18.00	1.476	100	1.000	0.01	0.475	0.701	
	1st	Bluetooth	1Mbps	Front	5mm	Ant 7	-	Standalone	39	2441	open	12.30	13.50	1.318	76.64	1.087	0.06	0.273	0.391	0.240
58	2nd	Bluetooth	1Mbps	Front	5mm	Ant 7	-	Standalone	39	2441	open	12.25	13.50	1.334	76.64	1.087	0.02	0.255	0.370	
	1st	WLAN5.3GHz	802.11n-HT40 MCS0	Front	5mm	Ant 5+7(5)	-	Standalone	54	5270	open	19.29	21.00	1.483	93.7	1.067	0.01	0.594	0.940	0.184
59	2nd	WLAN5.3GHz	802.11n-HT40 MCS0	Front	5mm	Ant 5+7(5)	-	Standalone	54	5270	open	19.24	21.00	1.500	93.7	1.067	-0.07	0.563	0.901	
	1st	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+7(7)	-	Standalone	138	5690	open	17.86	19.50	1.459	88.19	1.134	0.16	0.660	1.092	0.133
60	2nd	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+7(7)	-	Standalone	138	5690	open	17.75	19.50	1.496	88.19	1.134	-0.07	0.624	1.059	
	1st	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+7(5)	-	Standalone	155	5775	open	17.85	19.50	1.462	88.19	1.134	-0.18	0.698	1.157	0.122
	2nd	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+7(5)	-	Standalone	155	5775	open	17.77	19.50	1.489	88.19	1.134	-0.04	0.666	1.125	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	EUT Flip 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)	Measured APD (W/m^2)	Deviation d _{dB} (dB)
	1st	WLAN6GHz	802.11ax-HE80 MCS0	Back	5mm	Ant 5+7(5)	Full power	open	167	6785	10.71	12.50	1.510	86.93	1.150	0.07	0.087	0.151	0.529	1.071
	2nd	WLAN6GHz	802.11ax-HE80 MCS0	Back	5mm	Ant 5+7(5)	Full power	open	167	6785	10.66	12.50	1.528	86.93	1.150	0.01	0.067	0.118	0.495	



FCC SAR Test Report

Report No. : FA422203-02

<Flip Close >

Plot No.	No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	EUT Flip State	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)	Deviation d _{dB} (dB)
750MHz																							
	2nd	LTE Band 12	10M	QPSK	1	0	-	Front	5mm	Ant 0	ECI 5	23095	707.5	close	22.20	23.40	1.318	-	-	0.14	0.103	0.136	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 0	ECI 5	23095	707.5	close	21.79	23.00	1.321	-	-	-0.09	0.083	0.110	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 5	23095	707.5	close	22.20	23.40	1.318	-	-	0.04	0.663	0.874	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 0	ECI 5	23095	707.5	close	21.79	23.00	1.321	-	-	-0.12	0.599	0.791	
	2nd	LTE Band 12	10M	QPSK	50	0	-	Back	5mm	Ant 0	ECI 5	23095	707.5	close	21.75	23.00	1.334	-	-	-0.06	0.572	0.763	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Front	17mm	Ant 0	ECI 4	23095	707.5	close	23.14	24.00	1.219	-	-	0.1	0.116	0.141	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Back	16mm	Ant 0	ECI 4	23095	707.5	close	23.14	24.00	1.219	-	-	-0.17	0.238	0.290	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Front	5mm	Ant 1	ECI 5	23095	707.5	close	22.74	24.00	1.337	-	-	-0.19	0.010	0.013	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 1	ECI 5	23095	707.5	close	21.58	23.00	1.387	-	-	0.09	0.008	0.011	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 5	23095	707.5	close	22.74	24.00	1.337	-	-	0.13	0.392	0.524	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 1	ECI 5	23095	707.5	close	21.58	23.00	1.387	-	-	-0.08	0.303	0.420	
835MHz																							
	1st	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	ECI 5	189	836.4	close	27.48	29.00	1.419	-	-	-0.06	0.548	0.778	0.630
	2nd	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	ECI 5	189	836.4	close	27.32	29.00	1.472	-	-	-0.04	0.457	0.673	
	1st	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 1	ECI 5	189	836.4	close	27.50	29.00	1.413	-	-	0.01	0.288	0.407	1.196
	2nd	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 1	ECI 5	189	836.4	close	27.43	29.00	1.435	-	-	0.06	0.215	0.309	
61	1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	ECI 5	4132	826.4	close	23.91	24.90	1.256	-	-	0.08	0.701	0.880	0.005
	2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	ECI 5	4132	826.4	close	23.89	24.90	1.262	-	-	0.03	0.697	0.879	
	1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	ECI 5	4182	836.4	close	24.34	25.00	1.164	-	-	-0.03	0.467	0.544	0.419
	2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	ECI 5	4182	836.4	close	24.25	25.00	1.189	-	-	0.06	0.416	0.494	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 0	ECI 5	26865	831.5	close	21.74	22.70	1.247	-	-	0.14	0.150	0.187	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 0	ECI 5	26865	831.5	close	21.68	22.70	1.265	-	-	0.04	0.118	0.149	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 5	26865	831.5	close	21.74	22.70	1.247	-	-	0.06	0.703	0.877	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	ECI 5	26865	831.5	close	21.68	22.70	1.265	-	-	-0.04	0.649	0.821	
	2nd	LTE Band 26	15M	QPSK	75	0	-	Back	5mm	Ant 0	ECI 5	26865	831.5	close	21.64	22.70	1.276	-	-	0.14	0.625	0.798	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Front	17mm	Ant 0	ECI 4	26865	831.5	close	23.15	24.00	1.216	-	-	0.03	0.103	0.125	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Back	16mm	Ant 0	ECI 4	26865	831.5	close	23.15	24.00	1.216	-	-	0.1	0.225	0.274	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 1	ECI 5	26865	831.5	close	22.78	24.00	1.324	-	-	0.03	0.023	0.030	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 1	ECI 5	26865	831.5	close	21.76	23.00	1.330	-	-	0.16	0.015	0.020	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 5	26865	831.5	close	22.78	24.00	1.324	-	-	0.01	0.203	0.269	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 1	ECI 5	26865	831.5	close	21.76	23.00	1.330	-	-	-0.06	0.161	0.214	
	1st	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 0	ECI 5	166300	831.5	close	22.82	24.00	1.312	-	-	0.04	0.659	0.865	0.040
	2nd	FR1 n5	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 0	ECI 5	167300	836.5	close	22.76	24.00	1.330	-	-	-0.03	0.644	0.857	
	1st	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	ECI 5	166300	831.5	close	23.13	24.00	1.222	-	-	-0.08	0.528	0.645	0.172
	2nd	FR1 n5	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	ECI 5	167300	836.5	close	22.94	24.00	1.276	-	-	0.02	0.486	0.620	
1750MHz																							
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	ECI 5	1413	1732.6	close	20.61	21.60	1.256	-	-	0.02	0.708	0.889	1.373
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	ECI 5	1413	1732.6	close	20.55	21.60	1.274	-	-	-0.02	0.509	0.648	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 3	ECI 5	1413	1732.6	close	21.36	22.00	1.159	-	-	0.02	0.477	0.553	0.525
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 3	ECI 5	1413	1732.6	close	21.29	22.00	1.178	-	-	0.08	0.416	0.490	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	ECI 5	1413	1732.6	close	20.32	21.60	1.343	-	-	0.01	0.658	0.884	1.597
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	ECI 5	1413	1732.6	close	20.16	21.60	1.393	-	-	-0.04	0.439	0.612	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	ECI 5	1312	1712.4	close	18.01	19.20	1.315	-	-	-0.09	0.675	0.888	1.903
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	ECI 5	1312	1712.4	close	17.86	19.20	1.361	-	-	0.12	0.421	0.573	
	1st	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 2	ECI 5	132072	1720	close	18.18	19.20	1.265	-	-	0.05	0.703	0.889	0.164
	2nd	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 2	ECI 5	132072	1720	close	18.06	19.20	1.300	-	-	-0.07	0.658	0.856	
	1st	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 3	ECI 5	132572	1770	close	23.21	24.00	1.199	-	-	0.08	0.681	0.817	0.162
	2nd	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 3	ECI 5	132572	1770	close	22.79	24.00	1.321	-	-	0.09	0.596	0.787	
	1st	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 5	132572	1770	close	19.73	21.30	1.435	-	-	-0.07	0.613	0.880	0.485
	2nd	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 5	132572	1770	close	19.68	21.30	1.452	-	-	-0.02	0.542	0.787	
	1st	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 5	132572	1770	close	18.67	19.90	1.327	-	-	0.02	0.669	0.888	1.071



FCC SAR Test Report

Report No. : FA422203-02

	2nd	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 5	132572	1770	close	18.53	19.90	1.371	-	-	-0.16	0.506	0.694	
	1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 2	ECI 5	349000	1745	close	19.67	20.80	1.297	-	-	-0.02	0.689	0.894	0.214
	2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 2	ECI 5	349000	1745	close	19.54	20.80	1.337	-	-	-0.08	0.637	0.851	
	1st	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 3	ECI 5	349000	1745	close	23.18	24.00	1.208	-	-	0.15	0.525	0.634	0.364
	2nd	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 3	ECI 5	349000	1745	close	23.11	24.00	1.227	-	-	-0.06	0.475	0.583	
	1st	FR1 n66 other Path	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 3	ECI 5	349000	1745	close	23.18	24.00	1.208	-	-	0.04	0.377	0.455	0.560
	2nd	FR1 n66 other Path	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 3	ECI 5	349000	1745	close	23.11	24.00	1.227	-	-	0.01	0.326	0.400	
	1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 0	ECI 5	349000	1745	close	19.97	21.20	1.327	-	-	-0.04	0.661	0.877	0.345
	2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 0	ECI 5	349000	1745	close	19.78	21.20	1.387	-	-	-0.03	0.584	0.810	
	1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 1	ECI 5	349000	1745	close	20.76	22.00	1.330	-	-	-0.08	0.668	0.889	0.356
	2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 1	ECI 5	349000	1745	close	20.45	22.00	1.429	-	-	0.08	0.573	0.819	
1900MHz																							
62	1st	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 2	ECI 5	810	1909.8	close	22.11	23.10	1.256	-	-	-0.03	0.703	0.883	0.279
	2nd	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 2	ECI 5	810	1909.8	close	22.02	23.10	1.282	-	-	0.02	0.646	0.828	
	1st	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	ECI 5	661	1880	close	24.04	25.00	1.247	-	-	0.12	0.392	0.489	0.661
	2nd	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	ECI 5	661	1880	close	23.87	25.00	1.297	-	-	0.03	0.324	0.420	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	ECI 5	9538	1907.6	close	18.47	19.50	1.268	-	-	-0.08	0.691	0.876	1.062
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	ECI 5	9538	1907.6	close	18.22	19.50	1.343	-	-	-0.07	0.511	0.686	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 3	ECI 5	9538	1907.6	close	19.00	20.00	1.259	-	-	0.13	0.705	0.888	0.410
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 3	ECI 5	9538	1907.6	close	18.89	20.00	1.291	-	-	0.03	0.626	0.808	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	ECI 5	9262	1852.4	close	19.38	20.50	1.294	-	-	-0.03	0.677	0.876	0.744
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	ECI 5	9262	1852.4	close	19.12	20.50	1.374	-	-	0.11	0.537	0.738	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	ECI 5	9262	1852.4	close	17.74	19.30	1.432	-	-	-0.02	0.624	0.894	0.751
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	ECI 5	9262	1852.4	close	17.58	19.30	1.486	-	-	-0.13	0.506	0.752	
	1st	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 2	ECI 5	26140	1860	close	15.32	16.40	1.282	-	-	0.14	0.697	0.894	1.125
	2nd	LTE Band 2	20M	QPSK	1	0	-	Front	5mm	Ant 2	ECI 5	18700	1860	close	15.19	16.40	1.321	-	-	-0.1	0.522	0.690	
	1st	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 3	ECI 5	26590	1905	close	21.41	22.60	1.315	-	-	0.03	0.670	0.881	0.636
	2nd	LTE Band 2	20M	QPSK	1	0	-	Front	5mm	Ant 3	ECI 5	19100	1900	close	21.22	22.60	1.374	-	-	0.17	0.554	0.761	
	1st	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 5	26340	1880	close	18.17	19.50	1.358	-	-	-0.03	0.657	0.892	0.894
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 5	18900	1880	close	17.99	19.50	1.416	-	-	0.04	0.513	0.726	
	1st	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 5	26590	1905	close	18.78	19.70	1.236	-	-	-0.13	0.707	0.874	0.411
	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 5	19100	1900	close	18.66	19.70	1.271	-	-	-0.03	0.626	0.795	
2600MHz																							
	1st	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 2	ECI 5	21350	2560	close	18.27	19.50	1.327	-	-	-0.04	0.672	0.892	0.430
	2nd	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 2	ECI 5	21350	2560	close	18.12	19.50	1.374	-	-	0.17	0.588	0.808	
	1st	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 3	ECI 5	21350	2560	close	19.79	21.10	1.352	-	-	-0.01	0.658	0.890	0.590
	2nd	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 3	ECI 5	21350	2560	close	19.57	21.10	1.422	-	-	-0.15	0.546	0.777	
	1st	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 5	21350	2560	close	20.29	21.20	1.233	-	-	0.02	0.720	0.888	0.190
	2nd	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 5	21350	2560	close	20.18	21.20	1.265	-	-	0.04	0.672	0.850	
	1st	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 5	20850	2510	close	19.63	21.00	1.371	-	-	0.09	0.642	0.880	0.637
	2nd	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 5	20850	2510	close	19.44	21.00	1.432	-	-	0.18	0.531	0.760	
	1st	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 2	ECI 5	41055	2636.5	close	19.67	20.80	1.297	62.9	1.006	-0.03	0.677	0.883	1.264
	2nd	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 2	ECI 5	41055	2636.5	close	19.48	20.80	1.355	62.9	1.006	-0.02	0.484	0.660	
	1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Front	5mm	Ant 2	ECI 5	41055	2636.5	close	20.93	22.40	1.403	42.9	1.009	-0.05	0.605	0.856	1.263
	2nd	LTE Band 41 HPUE	20M	QPSK	1	0	-	Front	5mm	Ant 2	ECI 5	41055	2636.5	close	20.77	22.40	1.455	42.9	1.009	0.1	0.436	0.640	
	1st	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 3	ECI 5	41490	2680	close	22.06	22.90	1.213	62.9	1.006	0.08	0.722	0.881	0.876
	2nd	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 3	ECI 5	41490	2680	close	21.95	22.90	1.245	62.9	1.006	-0.02	0.575	0.720	
	1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Front	5mm	Ant 3	ECI 5	41490	2680	close	23.29	24.50	1.321	42.9	1.009	-0.14	0.660	0.880	0.557
	2nd	LTE Band 41 HPUE	20M	QPSK	1	0	-	Front	5mm	Ant 3	ECI 5	41490	2680	close	23.21	24.50	1.346	42.9	1.009	-0.05	0.570	0.774	
	1st	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 5	41055	2636.5	close	22.86	23.90	1.271	62.9	1.006	0.08	0.699	0.893	1.158
	2nd	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 5	41055	2636.5	close	22.59	23.90	1.352	62.9	1.006	0.14	0.503	0.684	
	1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 5	41055	2636.5	close	24.09	25.50	1.384	42.9	1.009	-0.09	0.634	0.885	0.994
	2nd	LTE Band 41 HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 5	41055	2636.5	close	23.84	25.50	1.466	42.9	1.009	-0.16	0.476	0.704	
	1st	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 5	40185	2549.5	close	22.34	23.60	1.337	62.9	1.006	0.06	0.657	0.883	1.147
	2nd	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 5	40185	2549.5	close	22.16	23.60	1.393	62.9	1.006	0.03	0.484	0.678	
	1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 5	40185	2549.5	close	23.83	25.20	1.371	42.9	1.009	-0.09	0.587	0.812	1.172



FCC SAR Test Report

Report No. : FA422203-02

2nd	LTE Band 41 HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 5	40185	2549.5	close	23.77	25.20	1.390	42.9	1.009	-0.1	0.442	0.620	
1st	FR1 n41 HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 2	ECI 5	518598	2592.99	close	17.73	19.10	1.371	-	-	-0.06	0.651	0.892	1.217
2nd	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 2	ECI 5	518598	2592.99	close	17.58	19.10	1.419	-	-	0.04	0.475	0.674	
1st	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 3	ECI 5	518598	2592.99	close	18.76	20.20	1.393	-	-	0.05	0.627	0.874	1.381
2nd	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 3	ECI 5	518598	2592.99	close	18.59	20.20	1.449	-	-	0.05	0.439	0.636	
1st	FR1 n41 HPUE other Path	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 3	ECI 5	518598	2592.99	close	20.45	22.00	1.429	-	-	0.03	0.609	0.870	1.585
2nd	FR1 n41 other Path	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 3	ECI 5	518598	2592.99	close	20.38	22.00	1.452	-	-	0.03	0.416	0.604	
1st	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 0	ECI 5	518598	2592.99	close	19.78	20.80	1.265	-	-	-0.09	0.704	0.890	1.031
2nd	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 0	ECI 5	518598	2592.99	close	19.66	20.80	1.300	-	-	0.06	0.540	0.702	
1st	FR1 n41 HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 1	ECI 5	518598	2592.99	close	20.71	22.10	1.377	-	-	0.05	0.645	0.888	1.335
2nd	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 1	ECI 5	518598	2592.99	close	20.54	22.10	1.432	-	-	0.15	0.456	0.653	
3500-3900MHz																						
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 4	ECI 5	42590	3500	close	20.77	21.80	1.268	62.9	1.006	-0.01	0.701	0.894	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 4	ECI 5	42190	3460	close	20.71	21.80	1.285	62.9	1.006	-0.12	0.656	0.848	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 4	ECI 5	42990	3540	close	20.73	21.80	1.279	62.9	1.006	0.15	0.690	0.888	
2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Front	5mm	Ant 4	ECI 5	42590	3500	close	20.70	21.80	1.288	62.9	1.006	-0.05	0.577	0.748	
2nd	LTE Band 42 Part 27Q	20M	QPSK	100	0	-	Front	5mm	Ant 4	ECI 5	42590	3500	close	20.67	21.80	1.297	62.9	1.006	-0.11	0.571	0.745	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 4	ECI 5	42590	3500	close	20.77	21.80	1.268	62.9	1.006	-0.02	0.223	0.284	
2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	5mm	Ant 4	ECI 5	42590	3500	close	20.70	21.80	1.288	62.9	1.006	-0.1	0.208	0.270	
2nd	LTE Band 42C Part 27Q	20M	QPSK	1	99	-	Front	5mm	Ant 4	ECI 5	42590+42788	3500+3519.8	close	20.63	21.80	1.309	62.9	1.006	-0.01	0.645	0.849	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	17mm	Ant 4	ECI 4	42590	3500	close	23.11	24.00	1.227	62.9	1.006	-0.01	0.266	0.328	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	16mm	Ant 4	ECI 4	42590	3500	close	23.11	24.00	1.227	62.9	1.006	-0.02	0.124	0.153	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 6	ECI 5	42590	3500	close	19.35	20.70	1.365	62.9	1.006	-0.14	0.620	0.851	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 6	ECI 5	42190	3460	close	19.30	20.70	1.380	62.9	1.006	0.17	0.624	0.867	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 6	ECI 5	42990	3540	close	19.33	20.70	1.371	62.9	1.006	-0.16	0.649	0.895	
2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Front	5mm	Ant 6	ECI 5	42590	3500	close	19.32	20.70	1.374	62.9	1.006	0.07	0.412	0.570	
2nd	LTE Band 42 Part 27Q	20M	QPSK	100	0	-	Front	5mm	Ant 6	ECI 5	42590	3500	close	19.29	20.70	1.384	62.9	1.006	-0.13	0.405	0.564	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 6	ECI 5	42590	3500	close	19.35	20.70	1.365	62.9	1.006	-0.13	0.078	0.107	
2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	5mm	Ant 6	ECI 5	42590	3500	close	19.32	20.70	1.374	62.9	1.006	0.03	0.064	0.088	
2nd	LTE Band 42C Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 6	ECI 5	42990+42792	3540+3520.2	close	19.27	20.70	1.390	62.9	1.006	-0.16	0.598	0.836	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	17mm	Ant 6	ECI 4	42990	3540	close	22.75	24.00	1.334	62.9	1.006	-0.16	0.185	0.248	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	16mm	Ant 6	ECI 4	42590	3500	close	22.80	24.00	1.318	62.9	1.006	-0.13	0.077	0.102	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 3	ECI 5	42590	3500	close	19.00	20.40	1.380	62.9	1.006	-0.1	0.630	0.875	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 3	ECI 5	42190	3460	close	18.96	20.40	1.393	62.9	1.006	-0.07	0.640	0.897	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 3	ECI 5	42990	3540	close	18.94	20.40	1.400	62.9	1.006	0.11	0.595	0.838	
2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Front	5mm	Ant 3	ECI 5	42590	3500	close	18.96	20.40	1.393	62.9	1.006	-0.17	0.520	0.729	
2nd	LTE Band 42 Part 27Q	20M	QPSK	100	0	-	Front	5mm	Ant 3	ECI 5	42590	3500	close	18.94	20.40	1.400	62.9	1.006	0.11	0.523	0.736	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 3	ECI 5	42590	3500	close	19.00	20.40	1.380	62.9	1.006	-0.07	0.323	0.449	
2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	5mm	Ant 3	ECI 5	42590	3500	close	18.96	20.40	1.393	62.9	1.006	0.18	0.301	0.422	
2nd	LTE Band 42C Part 27Q	20M	QPSK	1	99	-	Front	5mm	Ant 3	ECI 5	42190+42388	3460+3479.8	close	18.84	20.40	1.432	62.9	1.006	-0.07	0.585	0.843	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	17mm	Ant 3	ECI 4	42190	3460	close	23.80	24.00	1.047	62.9	1.006	0.03	0.235	0.248	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	16mm	Ant 3	ECI 4	42590	3500	close	23.85	24.00	1.035	62.9	1.006	0.04	0.119	0.124	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 8	ECI 5	42590	3500	close	23.47	24.00	1.130	62.9	1.006	-0.01	0.428	0.486	
2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Front	5mm	Ant 8	ECI 5	42590	3500	close	22.41	23.00	1.146	62.9	1.006	0.18	0.327	0.377	
2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 8	ECI 5	42590	3500	close	23.47	24.00	1.130	62.9	1.006	-0.02	0.055	0.063	
2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	5mm	Ant 8	ECI 5	42590	3500	close	22.41	23.00	1.146	62.9	1.006	0.07	0.043	0.050	
2nd	LTE Band 42C Part 27Q	20M	QPSK	1	99	-	Front	5mm	Ant 8	ECI 5	42590+42788	3500+3519.8	close	23.29	24.00	1.178	62.9	1.006	0.03	0.386	0.457	
2nd	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 4	ECI 5	656000	3840	close	20.30	21.40	1.288	-	-	-0.04	0.637	0.821	



FCC SAR Test Report

Report No. : FA422203-02

2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 4	ECI 5	656000	3840	close	20.28	21.40	1.294	-	-	-0.04	0.678	0.877	
2nd	FR1 n77 Part 270	100M	QPSK	270	0	DFT-SCS-30KHz	Front	5mm	Ant 4	ECI 5	656000	3840	close	20.25	21.40	1.303	-	-	-0.09	0.639	0.833	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 4	ECI 5	656000	3840	close	20.30	21.40	1.288	-	-	0.05	0.206	0.265	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 4	ECI 5	656000	3840	close	20.28	21.40	1.294	-	-	0.13	0.182	0.236	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Front	17mm	Ant 4	ECI 4	656000	3840	close	23.35	24.00	1.161	-	-	-0.04	0.185	0.215	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Back	16mm	Ant 4	ECI 4	656000	3840	close	23.39	24.00	1.151	-	-	0.05	0.044	0.051	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 6	ECI 5	656000	3840	close	16.75	18.10	1.365	-	-	0.12	0.650	0.887	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 6	ECI 5	656000	3840	close	16.70	18.10	1.380	-	-	0.07	0.584	0.806	
2nd	FR1 n77 Part 270	100M	QPSK	270	0	DFT-SCS-30KHz	Front	5mm	Ant 6	ECI 5	656000	3840	close	16.65	18.10	1.396	-	-	0.15	0.576	0.804	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 6	ECI 5	656000	3840	close	16.75	18.10	1.365	-	-	0.14	0.107	0.146	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 6	ECI 5	656000	3840	close	16.70	18.10	1.380	-	-	-0.03	0.091	0.126	
2nd	FR1 n77 Part 270 other Path	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 6	ECI 5	656000	3840	close	16.75	18.10	1.365	-	-	0.12	0.621	0.847	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Front	17mm	Ant 6	ECI 4	656000	3840	close	20.89	22.00	1.291	-	-	0.12	0.316	0.408	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Back	16mm	Ant 6	ECI 4	656000	3840	close	20.89	22.00	1.291	-	-	0.14	0.144	0.186	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 3	ECI 5	656000	3840	close	19.98	20.90	1.236	-	-	-0.17	0.693	0.857	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 3	ECI 5	656000	3840	close	19.95	20.90	1.245	-	-	0.1	0.713	0.887	
2nd	FR1 n77 Part 270	100M	QPSK	270	0	DFT-SCS-30KHz	Front	5mm	Ant 3	ECI 5	656000	3840	close	19.92	20.90	1.253	-	-	0.08	0.647	0.811	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 3	ECI 5	656000	3840	close	19.98	20.90	1.236	-	-	0.03	0.086	0.106	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 3	ECI 5	656000	3840	close	19.95	20.90	1.245	-	-	-0.13	0.077	0.096	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Front	17mm	Ant 3	ECI 4	656000	3840	close	23.33	24.00	1.167	-	-	0.1	0.175	0.204	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Back	16mm	Ant 3	ECI 4	656000	3840	close	23.43	24.00	1.140	-	-	0.03	0.068	0.078	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 8	ECI 5	656000	3840	close	18.80	19.60	1.202	-	-	0.18	0.685	0.824	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 8	ECI 5	656000	3840	close	18.77	19.60	1.211	-	-	-0.03	0.728	0.881	
2nd	FR1 n77 Part 270	100M	QPSK	270	0	DFT-SCS-30KHz	Front	5mm	Ant 8	ECI 5	656000	3840	close	18.72	19.60	1.225	-	-	-0.05	0.650	0.796	
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 8	ECI 5	656000	3840	close	18.80	19.60	1.202	-	-	-0.04	0.059	0.071	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 8	ECI 5	656000	3840	close	18.77	19.60	1.211	-	-	-0.08	0.064	0.077	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Front	17mm	Ant 8	ECI 4	656000	3840	close	20.62	22.00	1.374	-	-	0.06	0.368	0.506	
2nd	FR1 n77 Part 270	100M	QPSK	135	69	DFT-SCS-30KHz	Back	16mm	Ant 8	ECI 4	656000	3840	close	20.62	22.00	1.374	-	-	0.02	0.125	0.172	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	EUT Flip State	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)	Deviation d _{dB} (dB)
WLAN/BT																			
	1st	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 5+7(5)	Standalone	11	2462	close	17.23	18.50	1.340	100	1.000	0.01	0.902	1.208	0.671
	2nd	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 5+7(5)	Standalone	11	2462	close	17.18	18.50	1.355	100	1.000	-0.05	0.764	1.035	
	1st	Bluetooth	1Mbps	Front	5mm	Ant 7	Standalone	39	2441	close	12.30	13.50	1.318	76.64	1.087	-0.13	0.207	0.297	0.545
	2nd	Bluetooth	1Mbps	Front	5mm	Ant 7	Standalone	39	2441	close	12.25	13.50	1.334	76.64	1.087	-0.05	0.181	0.262	
	1st	WLAN5.3GHz	802.11n-HT40 MCS0	Front	5mm	Ant 5+7(5)	Standalone	54	5270	close	19.29	21.00	1.483	93.7	1.067	-0.01	0.495	0.783	0.316
	2nd	WLAN5.3GHz	802.11n-HT40 MCS0	Front	5mm	Ant 5+7(5)	Standalone	54	5270	close	19.24	21.00	1.500	93.7	1.067	0.03	0.455	0.728	
	1st	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+7(5)	Standalone	138	5690	close	19.23	21.00	1.503	88.19	1.134	-0.01	0.649	1.106	0.292
	2nd	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+7(5)	Standalone	138	5690	close	19.19	21.00	1.517	88.19	1.134	0.01	0.601	1.034	
	1st	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+7(7)	Standalone	155	5775	close	19.28	21.00	1.486	88.19	1.134	-0.05	0.702	1.183	0.033
63	2nd	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+7(7)	Standalone	155	5775	close	19.25	21.00	1.496	88.19	1.134	0.08	0.692	1.174	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	EUT Flip 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)	Measured APD (W/m^2)	Deviation d _{dB} (dB)
	1st	WLAN6GHz	802.11ax-HE80 MCS0	Front	5mm	Ant 5+7(7)	Full power	close	71	6305	10.77	12.50	1.489	86.93	1.150	0.03	0.115	0.197	0.766	1.069
64	2nd	WLAN6GHz	802.11ax-HE80 MCS0	Front	5mm	Ant 5+7(7)	Full power	close	71	6305	10.72	12.50	1.507	86.93	1.150	0.02	0.089	0.154	0.605	



17.4 Product specific 10g SAR

< Flip Open >

Plot No.	No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	EUT Flip State	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)	Deviation d _{dB} (dB)
750MHz																							
	2nd	LTE Band 12	10M	QPSK	1	0	-	Front	0mm	Ant 0	ECI 4	23095	707.5	open	23.14	24.00	1.219	-	-	-0.07	1.240	1.512	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Front	0mm	Ant 0	ECI 4	23095	707.5	open	21.96	23.00	1.271	-	-	0.12	0.965	1.226	
65	2nd	LTE Band 12	10M	QPSK	1	0	-	Back	0mm	Ant 0	ECI 6	23095	707.5	open	23.14	24.00	1.219	-	-	0.08	1.600	1.950	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Back	0mm	Ant 0	ECI 6	23095	707.5	open	21.96	23.00	1.271	-	-	0.15	1.210	1.537	
	2nd	LTE Band 12	10M	QPSK	1	0	-	Left Side	0mm	Ant 0	ECI 6	23095	707.5	open	23.14	24.00	1.219	-	-	-0.05	1.450	1.768	
	2nd	LTE Band 12	10M	QPSK	25	0	-	Left Side	0mm	Ant 0	ECI 6	23095	707.5	open	21.96	23.00	1.271	-	-	0.02	0.792	1.006	
835MHz																							
	2nd	LTE Band 26	15M	QPSK	1	0	-	Front	0mm	Ant 0	ECI 4	26865	831.5	open	23.15	24.00	1.216	-	-	0.11	1.200	1.459	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Front	0mm	Ant 0	ECI 4	26865	831.5	open	22.10	23.00	1.230	-	-	-0.05	0.926	1.139	
66	2nd	LTE Band 26	15M	QPSK	1	0	-	Back	0mm	Ant 0	ECI 6	26865	831.5	open	23.15	24.00	1.216	-	-	0.18	1.570	1.909	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Back	0mm	Ant 0	ECI 6	26865	831.5	open	22.10	23.00	1.230	-	-	0.14	1.180	1.452	
	2nd	LTE Band 26	15M	QPSK	1	0	-	Left Side	0mm	Ant 0	ECI 6	26865	831.5	open	23.15	24.00	1.216	-	-	-0.17	0.665	0.809	
	2nd	LTE Band 26	15M	QPSK	36	0	-	Left Side	0mm	Ant 0	ECI 6	26865	831.5	open	22.10	23.00	1.230	-	-	0.17	0.525	0.646	
1750MHz																							
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	0mm	Ant 2	ECI 6	1312	1712.4	open	20.48	21.50	1.265	-	-	-0.1	1.940	2.454	0.111
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	0mm	Ant 2	ECI 6	1312	1712.4	open	20.36	21.50	1.300	-	-	-0.01	1.840	2.392	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	0mm	Ant 3	ECI 6	1312	1712.4	open	19.91	21.00	1.285	-	-	0.12	1.920	2.468	0.121
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	0mm	Ant 3	ECI 6	1312	1712.4	open	19.75	21.00	1.334	-	-	-0.17	1.800	2.400	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	0mm	Ant 0	ECI 6	1312	1712.4	open	22.05	23.00	1.245	-	-	0.02	1.690	2.103	0.335
	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	0mm	Ant 0	ECI 6	1312	1712.4	open	22.01	23.00	1.256	-	-	0.04	1.550	1.947	
	1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 1	ECI 6	1413	1732.6	open	21.58	23.00	1.387	-	-	-0.07	2.130	2.954	0.536
67	2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 1	ECI 6	1413	1732.6	open	21.48	23.00	1.419	-	-	-0.15	1.840	2.611	
	1st	LTE Band 66	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	ECI 6	132072	1720	open	18.75	19.70	1.245	-	-	-0.02	1.960	2.439	0.068
	2nd	LTE Band 66	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	ECI 6	132072	1720	open	18.66	19.70	1.271	-	-	0.13	1.890	2.401	
	1st	LTE Band 66	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	ECI 6	132322	1745	open	19.35	20.60	1.334	-	-	-0.09	1.860	2.480	0.164
	2nd	LTE Band 66	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	ECI 6	132322	1745	open	19.15	20.60	1.396	-	-	-0.08	1.710	2.388	
	1st	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 0	ECI 6	132572	1770	open	22.66	23.90	1.330	-	-	0.01	2.370	3.153	0.996
	2nd	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 0	ECI 6	132572	1770	open	22.51	23.90	1.377	-	-	-0.09	1.820	2.507	
	1st	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	ECI 6	132572	1770	open	21.98	23.00	1.265	-	-	0.12	2.500	3.162	0.967
68	2nd	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	ECI 6	132572	1770	open	21.89	23.00	1.291	-	-	0.04	1.960	2.531	
	1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	0mm	Ant 2	ECI 6	349000	1745	open	20.78	21.90	1.294	-	-	0.08	1.890	2.446	0.179
	2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	0mm	Ant 2	ECI 6	349000	1745	open	20.55	21.90	1.365	-	-	0.07	1.720	2.347	
	1st	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	0mm	Ant 3	ECI 6	349000	1745	open	21.71	22.90	1.315	-	-	0.02	1.870	2.459	0.138
	2nd	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	0mm	Ant 3	ECI 6	349000	1745	open	21.61	22.90	1.346	-	-	-0.1	1.770	2.382	
	1st	FR1 n66 other Path	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	0mm	Ant 3	ECI 6	349000	1745	open	21.71	22.90	1.315	-	-	0.02	1.160	1.526	0.210
	2nd	FR1 n66 other Path	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	0mm	Ant 3	ECI 6	349000	1745	open	21.61	22.90	1.346	-	-	0.06	1.080	1.454	
	1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	0mm	Ant 0	ECI 6	349000	1745	open	23.05	24.00	1.245	-	-	-0.01	2.470	3.074	0.344
69	2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	0mm	Ant 0	ECI 6	349000	1745	open	22.71	24.00	1.346	-	-	-0.04	2.110	2.840	
	1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	ECI 6	349000	1745	open	23.30	24.00	1.175	-	-	-0.17	1.880	2.209	0.077
	2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	ECI 6	349000	1745	open	23.09	24.00	1.233	-	-	0.16	1.760	2.170	
1900MHz																							
	1st	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	0mm	Ant 2	ECI 6	661	1880	open	25.40	26.00	1.148	-	-	-0.09	1.480	1.699	0.315
70	2nd	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	0mm	Ant 2	ECI 6	661	1880	open	25.22	26.00	1.197	-	-	-0.03	1.320	1.580	
	1st	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	0mm	Ant 0	ECI 6	661	1880	open	24.04	25.00	1.247	-	-	0.03	0.685	0.854	0.219
	2nd	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	0mm	Ant 0	ECI 6	661	1880	open	23.85	25.00	1.303	-	-	-0.1	0.623	0.812	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 2	ECI 6	9400	1880	open	20.77	21.80	1.268	-	-	0.03	1.950	2.472	0.231
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 2	ECI 6	9400	1880	open	20.53	21.80	1.340	-	-	0.03	1.750	2.344	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	0mm	Ant 3	ECI 6	9538	1907.6	open	19.65	20.70	1.274	-	-	-0.16	1.920	2.445	0.050
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	0mm	Ant 3	ECI 6	9538	1907.6	open	19.42	20.70	1.343	-	-	-0.18	1.800	2.417	



FCC SAR Test Report

Report No. : FA422203-02

	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 0	ECI 6	9262	1852.4	open	22.15	23.00	1.216	-	-	-0.17	2.000	2.432	0.048
	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 0	ECI 6	9262	1852.4	open	21.93	23.00	1.279	-	-	0.07	1.880	2.405	
	1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 1	ECI 6	9262	1852.4	open	21.34	22.40	1.276	-	-	0.03	2.450	3.127	0.908
71	2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 1	ECI 6	9262	1852.4	open	21.28	22.40	1.294	-	-	0.04	1.960	2.537	
	1st	LTE Band 25	20M	QPSK	1	0	-	Front	0mm	Ant 2	ECI 6	26140	1860	open	18.88	20.20	1.355	-	-	0.05	1.830	2.480	0.049
	2nd	LTE Band 2	20M	QPSK	1	0	-	Front	0mm	Ant 2	ECI 6	18700	1860	open	18.71	20.20	1.409	-	-	-0.08	1.740	2.452	
	1st	LTE Band 25	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	ECI 6	26590	1905	open	20.74	21.80	1.276	-	-	-0.06	1.910	2.438	0.083
	2nd	LTE Band 2	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	ECI 6	19100	1900	open	20.66	21.80	1.300	-	-	-0.17	1.840	2.392	
	1st	LTE Band 25	20M	QPSK	1	0	-	Back	0mm	Ant 0	ECI 6	26340	1880	open	22.25	23.40	1.303	-	-	0.14	2.450	3.193	0.048
72	2nd	LTE Band 2	20M	QPSK	1	0	-	Back	0mm	Ant 0	ECI 6	18900	1880	open	22.19	23.40	1.321	-	-	0.02	2.390	3.158	
	1st	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 0	ECI 6	26590	1905	open	22.18	23.40	1.324	-	-	0.08	1.930	2.556	0.143
	2nd	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 0	ECI 6	19100	1900	open	22.14	23.40	1.337	-	-	0.02	1.850	2.473	
	1st	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	ECI 6	26590	1905	open	21.58	23.00	1.387	-	-	0.15	2.290	3.176	0.437
	2nd	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	ECI 6	19100	1900	open	21.45	23.00	1.429	-	-	-0.08	2.010	2.872	
2600MHz																							
	1st	LTE Band 7	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	ECI 6	21100	2535	open	20.12	21.20	1.282	-	-	0.16	1.920	2.462	0.186
	2nd	LTE Band 7	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	ECI 6	21100	2535	open	20.05	21.20	1.303	-	-	-0.08	1.810	2.359	
	1st	LTE Band 7	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	ECI 6	21350	2560	open	18.65	19.90	1.334	-	-	0.1	1.860	2.480	0.199
	2nd	LTE Band 7	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	ECI 6	21350	2560	open	18.51	19.90	1.377	-	-	-0.04	1.720	2.369	
	1st	LTE Band 7	20M	QPSK	1	0	-	Back	0mm	Ant 0	ECI 6	21350	2560	open	22.32	23.70	1.374	-	-	0.07	2.320	3.188	1.317
	2nd	LTE Band 7	20M	QPSK	1	0	-	Back	0mm	Ant 0	ECI 6	21350	2560	open	22.21	23.70	1.409	-	-	0.18	1.670	2.354	
	1st	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	ECI 6	21100	2535	open	22.79	23.80	1.262	-	-	0.19	2.490	3.142	1.087
73	2nd	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	ECI 6	21100	2535	open	22.68	23.80	1.294	-	-	0.02	1.890	2.446	
	1st	LTE Band 41	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	ECI 6	40185	2549.5	open	21.63	23.00	1.371	62.9	1.006	-0.01	1.800	2.482	1.267
	2nd	LTE Band 41	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	ECI 6	40185	2549.5	open	21.55	23.00	1.396	62.9	1.006	-0.02	1.320	1.854	
	1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	ECI 6	40185	2549.5	open	23.95	24.60	1.161	42.9	1.009	0.18	1.960	2.297	0.975
	2nd	LTE Band 41 HPUE	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	ECI 6	40185	2549.5	open	23.82	24.60	1.197	42.9	1.009	0.15	1.520	1.835	
	1st	LTE Band 41	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	ECI 6	40620	2593	open	20.66	22.20	1.426	62.9	1.006	-0.13	1.750	2.510	0.247
	2nd	LTE Band 41	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	ECI 6	40620	2593	open	20.49	22.20	1.483	62.9	1.006	-0.09	1.590	2.371	
	1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	ECI 6	40620	2593	open	22.96	23.80	1.213	42.9	1.009	-0.09	1.920	2.351	0.214
	2nd	LTE Band 41 HPUE	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	ECI 6	40620	2593	open	22.77	23.80	1.268	42.9	1.009	0.11	1.750	2.238	
	1st	LTE Band 41	20M	QPSK	1	0	-	Back	0mm	Ant 0	ECI 6	40620	2593	open	24.56	25.00	1.107	62.9	1.006	0.05	1.920	2.137	0.117
	2nd	LTE Band 41	20M	QPSK	1	0	-	Back	0mm	Ant 0	ECI 6	40620	2593	open	23.46	25.00	1.426	62.9	1.006	0.06	1.450	2.080	
	1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Back	0mm	Ant 0	ECI 6	40620	2593	open	27.00	28.00	1.259	42.9	1.009	-0.19	2.230	2.833	0.191
74	2nd	LTE Band 41 HPUE	20M	QPSK	1	0	-	Back	0mm	Ant 0	ECI 6	40620	2593	open	26.38	28.00	1.452	42.9	1.009	0.03	1.850	2.711	
	1st	LTE Band 41	20M	QPSK	1	0	-	Back	0mm	Ant 1	ECI 6	40620	2593	open	23.76	25.00	1.330	62.9	1.006	-0.12	0.975	1.305	0.194
	2nd	LTE Band 41	20M	QPSK	1	0	-	Back	0mm	Ant 1	ECI 6	40620	2593	open	23.10	25.00	1.549	62.9	1.006	-0.05	0.801	1.248	
	1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Back	0mm	Ant 1	ECI 6	40620	2593	open	26.17	27.00	1.211	42.9	1.009	0.02	1.170	1.429	0.620
	2nd	LTE Band 41 HPUE	20M	QPSK	1	0	-	Back	0mm	Ant 1	ECI 6	40620	2593	open	26.15	27.00	1.216	42.9	1.009	-0.08	1.010	1.239	
	1st	FR1 n41 HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 2	ECI 6	518598	2592.99	open	20.59	21.60	1.262	-	-	0.15	1.940	2.448	1.774
	2nd	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 2	ECI 6	518598	2592.99	open	20.49	21.60	1.291	-	-	0.08	1.260	1.627	
	1st	FR1 n41 HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	0mm	Ant 3	ECI 6	518598	2592.99	open	19.21	20.10	1.227	-	-	0.04	2.000	2.455	2.305
	2nd	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	0mm	Ant 3	ECI 6	518598	2592.99	open	19.11	20.10	1.256	-	-	-0.03	1.150	1.444	
	1st	FR1 n41 HPUE other Path	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	0mm	Ant 3	ECI 6	518598	2592.99	open	19.44	20.40	1.247	-	-	0.03	1.980	2.470	2.395
	2nd	FR1 n41 other Path	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	0mm	Ant 3	ECI 6	518598	2592.99	open	19.32	20.40	1.282	-	-	0.03	1.110	1.423	
	1st	FR1 n41 HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	0mm	Ant 0	ECI 6	518598	2592.99	open	24.99	26.00	1.262	-	-	0.03	2.220	2.801	2.043
	2nd	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	0mm	Ant 0	ECI 6	518598	2592.99	open	21.84	23.00	1.306	-	-	-0.03	1.340	1.750	
	1st	FR1 n41 HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	0mm	Ant 1	ECI 6	518598	2592.99	open	22.84	24.00	1.306	-	-	-0.14	2.400	3.135	2.300
75	2nd	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	0mm	Ant 1	ECI 6	518598	2592.99	open	21.80	23.00	1.318	-	-	0.04	1.400	1.846	
3500-3900MHz																							
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	0mm	Ant 4	ECI 6	42590	3500	open	18.20	19.30	1.288	62.9	1.006	0.05	0.714	0.925	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Front	0mm	Ant 4	ECI 6	42590	3500	open	18.16	19.30	1.300	62.9	1.006	0.17	0.693	0.906	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	0mm	Ant 4	ECI 6	42590	3500	open	18.20	19.30	1.288	62.9	1.006	-0.15	0.446	0.578	



FCC SAR Test Report

Report No. : FA422203-02

	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	0mm	Ant 4	ECI 6	42590	3500	open	18.16	19.30	1.300	62.9	1.006	0.1	0.395	0.517	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Side	0mm	Ant 4	ECI 6	42590	3500	open	18.20	19.30	1.288	62.9	1.006	-0.11	1.900	2.462	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Side	0mm	Ant 4	ECI 6	42190	3460	open	18.15	19.30	1.303	62.9	1.006	-0.16	1.840	2.412	
76	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Side	0mm	Ant 4	ECI 6	42990	3540	open	18.18	19.30	1.294	62.9	1.006	-0.07	1.920	2.500	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Side	0mm	Ant 4	ECI 6	42590	3500	open	18.16	19.30	1.300	62.9	1.006	-0.06	1.760	2.302	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Side	0mm	Ant 4	ECI 6	42190	3460	open	18.04	19.30	1.337	62.9	1.006	-0.14	1.720	2.313	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Side	0mm	Ant 4	ECI 6	42990	3540	open	18.06	19.30	1.330	62.9	1.006	-0.19	1.690	2.262	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	100	0	-	Left Side	0mm	Ant 4	ECI 6	42590	3500	open	18.13	19.30	1.309	62.9	1.006	0.01	1.640	2.160	
	2nd	LTE Band 42C Part 27Q	20M	QPSK	1	0	-	Left Side	0mm	Ant 4	ECI 6	42990+42792	3540+3520.2	open	18.08	19.30	1.324	62.9	1.006	-0.07	1.810	2.411	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	16mm	Ant 4	ECI 4	42590	3500	open	23.11	24.00	1.227	62.9	1.006	0.05	0.216	0.267	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	15mm	Ant 4	ECI 4	42590	3500	open	23.11	24.00	1.227	62.9	1.006	-0.15	0.139	0.172	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Side	21mm	Ant 4	ECI 4	42990	3540	open	23.08	24.00	1.236	62.9	1.006	-0.07	0.287	0.357	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	0mm	Ant 6	ECI 6	42590	3500	open	22.77	23.70	1.239	62.9	1.006	0.05	1.140	1.421	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Front	0mm	Ant 6	ECI 6	42590	3500	open	22.12	23.00	1.225	62.9	1.006	-0.01	1.080	1.331	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	0mm	Ant 6	ECI 6	42590	3500	open	22.77	23.70	1.239	62.9	1.006	0.19	0.801	0.998	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	0mm	Ant 6	ECI 6	42590	3500	open	22.12	23.00	1.225	62.9	1.006	-0.14	0.766	0.944	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Top Side	0mm	Ant 6	ECI 6	42590	3500	open	22.77	23.70	1.239	62.9	1.006	-0.18	1.840	2.293	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Top Side	0mm	Ant 6	ECI 6	42190	3460	open	22.71	23.70	1.256	62.9	1.006	-0.06	1.880	2.376	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Top Side	0mm	Ant 6	ECI 6	42990	3540	open	22.75	23.70	1.245	62.9	1.006	0.02	1.970	2.466	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Top Side	0mm	Ant 6	ECI 6	42590	3500	open	22.12	23.00	1.225	62.9	1.006	0.16	1.790	2.205	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Top Side	0mm	Ant 6	ECI 6	42190	3460	open	22.06	23.00	1.242	62.9	1.006	0.01	1.800	2.248	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Top Side	0mm	Ant 6	ECI 6	42990	3540	open	22.08	23.00	1.236	62.9	1.006	-0.04	1.740	2.163	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	100	0	-	Top Side	0mm	Ant 6	ECI 6	42590	3500	open	22.08	23.00	1.236	62.9	1.006	0.13	1.610	2.002	
	2nd	LTE Band 42C Part 27Q	20M	QPSK	1	0	-	Top Side	0mm	Ant 6	ECI 6	42990+42792	3540+3520.2	open	22.60	23.70	1.288	62.9	1.006	0.02	1.720	2.229	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	16mm	Ant 6	ECI 4	42590	3500	open	22.80	24.00	1.318	62.9	1.006	0.05	0.106	0.141	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	13mm	Ant 6	ECI 4	42590	3500	open	22.80	24.00	1.318	62.9	1.006	0.19	0.138	0.183	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Top Side	9mm	Ant 6	ECI 4	42990	3540	open	22.75	24.00	1.334	62.9	1.006	0.02	0.316	0.424	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	0mm	Ant 3	ECI 6	42590	3500	open	20.90	21.90	1.259	62.9	1.006	0.02	0.789	0.999	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Front	0mm	Ant 3	ECI 6	42590	3500	open	20.87	21.90	1.268	62.9	1.006	0.09	0.566	0.722	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	0mm	Ant 3	ECI 6	42590	3500	open	20.90	21.90	1.259	62.9	1.006	-0.04	0.513	0.650	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	0mm	Ant 3	ECI 6	42590	3500	open	20.87	21.90	1.268	62.9	1.006	0.15	0.424	0.541	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	ECI 6	42590	3500	open	20.90	21.90	1.259	62.9	1.006	0.09	1.900	2.406	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	ECI 6	42190	3460	open	20.88	21.90	1.265	62.9	1.006	-0.16	1.950	2.481	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	ECI 6	42990	3540	open	20.85	21.90	1.274	62.9	1.006	0.05	1.870	2.396	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Top Side	0mm	Ant 3	ECI 6	42590	3500	open	20.87	21.90	1.268	62.9	1.006	0.08	1.730	2.206	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Top Side	0mm	Ant 3	ECI 6	42190	3460	open	20.84	21.90	1.276	62.9	1.006	-0.18	1.760	2.260	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Top Side	0mm	Ant 3	ECI 6	42990	3540	open	20.79	21.90	1.291	62.9	1.006	-0.03	1.690	2.195	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	100	0	-	Top Side	0mm	Ant 3	ECI 6	42590	3500	open	20.83	21.90	1.279	62.9	1.006	-0.04	1.630	2.098	
	2nd	LTE Band 42C Part 27Q	20M	QPSK	1	99	-	Top Side	0mm	Ant 3	ECI 6	42190+42388	3460+3479.8	open	20.76	21.90	1.300	62.9	1.006	-0.16	1.760	2.302	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	13mm	Ant 3	ECI 4	42590	3500	open	23.85	24.00	1.035	62.9	1.006	0.02	0.199	0.207	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	12mm	Ant 3	ECI 4	42590	3500	open	23.85	24.00	1.035	62.9	1.006	-0.04	0.216	0.225	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Top Side	15mm	Ant 3	ECI 4	42190	3460	open	23.80	24.00	1.047	62.9	1.006	-0.16	0.206	0.217	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	0mm	Ant 8	ECI 6	42590	3500	open	23.47	24.00	1.130	62.9	1.006	0.07	0.583	0.663	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Front	0mm	Ant 8	ECI 6	42590	3500	open	22.41	23.00	1.146	62.9	1.006	-0.03	0.462	0.532	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	0mm	Ant 8	ECI 6	42590	3500	open	23.47	24.00	1.130	62.9	1.006	0.07	0.472	0.536	
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	0mm	Ant 8	ECI 6	42590	3500	open	22.41	23.00	1.146	62.9	1.006	-0.13	0.344	0.396	
	2nd	LTE Band 42	20M	QPSK	1	0	-	Right Side	0mm	Ant 8	ECI 6	42590	3500	open	23.47	24.00	1.130	62.9	1.006	0.04	1.320	1.500	



		Part 27Q																					
	2nd	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Side	0mm	Ant 8	ECI 6	42590	3500	open	22.41	23.00	1.146	62.9	1.006	-0.09	0.494	0.569	
	2nd	LTE Band 42C Part 27Q	20M	QPSK	1	99	-	Right Side	0mm	Ant 8	ECI 6	42590+ 42788	3500+ 3519.8	open	23.29	24.00	1.178	62.9	1.006	0.04	1.210	1.433	
	2nd	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Front	0mm	Ant 4	ECI 6	656000	3840	open	19.21	20.10	1.227	-	-	-0.06	1.280	1.571	
	2nd	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Front	0mm	Ant 4	ECI 6	656000	3840	open	19.19	20.10	1.233	-	-	-0.15	1.210	1.492	
	2nd	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Back	0mm	Ant 4	ECI 6	656000	3840	open	19.21	20.10	1.227	-	-	-0.13	0.843	1.035	
	2nd	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 4	ECI 6	656000	3840	open	19.19	20.10	1.233	-	-	0.16	0.707	0.872	
	2nd	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 4	ECI 6	656000	3840	open	19.21	20.10	1.227	-	-	-0.13	2.010	2.467	
	2nd	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 4	ECI 6	656000	3840	open	19.19	20.10	1.233	-	-	-0.09	1.980	2.442	
	2nd	FR1 n77 Part 27O	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	0mm	Ant 4	ECI 6	656000	3840	open	19.17	20.10	1.239	-	-	0.14	1.930	2.391	
	2nd	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	0mm	Ant 4	ECI 4	656000	3840	open	23.39	24.00	1.151	-	-	0.1	0.950	1.093	
	2nd	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	0mm	Ant 4	ECI 4	656000	3840	open	23.35	24.00	1.161	-	-	-0.09	0.948	1.101	
	2nd	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Front	16mm	Ant 4	ECI 4	656000	3840	open	23.39	24.00	1.151	-	-	-0.06	0.325	0.374	
	2nd	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 4	ECI 4	656000	3840	open	23.39	24.00	1.151	-	-	-0.13	0.287	0.330	
	2nd	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	21mm	Ant 4	ECI 4	656000	3840	open	23.39	24.00	1.151	-	-	-0.13	0.442	0.509	
	2nd	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Front	0mm	Ant 6	ECI 6	656000	3840	open	19.20	20.10	1.230	-	-	-0.03	1.990	2.448	
	2nd	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Front	0mm	Ant 6	ECI 6	656000	3840	open	19.11	20.10	1.256	-	-	-0.13	1.850	2.324	
	2nd	FR1 n77 Part 27O	100M	QPSK	270	0	DFT-SCS-30KHz	Front	0mm	Ant 6	ECI 6	656000	3840	open	19.05	20.10	1.274	-	-	-0.1	1.800	2.292	
	2nd	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Back	0mm	Ant 6	ECI 6	656000	3840	open	19.20	20.10	1.230	-	-	0.05	1.150	1.415	
	2nd	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 6	ECI 6	656000	3840	open	19.11	20.10	1.256	-	-	0.01	0.995	1.250	
	2nd	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side															



FCC SAR Test Report

Report No. : FA422203-02

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	EUT Flip State	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)	Deviation d _{dB} (dB)
WLAN/BT																			
	1st	WLAN2.4GHz	802.11b 1Mbps	Right Side	0mm	Ant 5+7(7)	Standalone	6	2437	open	18.38	19.50	1.294	100	1.000	-0.05	2.320	3.003	0.152
78	2nd	WLAN2.4GHz	802.11b 1Mbps	Right Side	0mm	Ant 5+7(7)	Standalone	6	2437	open	18.32	19.50	1.312	100	1.000	-0.07	2.210	2.900	
	1st	Bluetooth	1Mbps	Right Side	0mm	Ant 7	Standalone	39	2441	open	12.30	13.50	1.318	76.64	1.087	-0.17	0.563	0.807	0.221
79	2nd	Bluetooth	1Mbps	Right Side	0mm	Ant 7	Standalone	39	2441	open	12.25	13.50	1.334	76.64	1.087	-0.04	0.529	0.767	
	1st	WLAN5.3GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 5+7(5)	Standalone	54	5270	open	19.29	21.00	1.483	93.7	1.067	-0.11	1.560	2.468	0.948
80	2nd	WLAN5.3GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 5+7(5)	Standalone	54	5270	open	19.24	21.00	1.500	93.7	1.067	-0.01	1.240	1.984	
	1st	WLAN5.5GHz	802.11ac-VHT80 MCS0	Top Side	0mm	Ant 5+7(5)	Standalone	138	5690	open	19.23	21.00	1.503	88.19	1.134	-0.01	1.850	3.153	0.672
81	2nd	WLAN5.5GHz	802.11ac-VHT80 MCS0	Top Side	0mm	Ant 5+7(5)	Standalone	138	5690	open	19.19	21.00	1.517	88.19	1.134	0.01	1.570	2.701	
	1st	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top Side	0mm	Ant 5+7(5)	Standalone	155	5775	open	18.20	20.00	1.514	88.19	1.134	0.09	1.850	3.175	0.889
82	2nd	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top Side	0mm	Ant 5+7(5)	Standalone	155	5775	open	18.12	20.00	1.542	88.19	1.134	-0.07	1.480	2.587	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	EUT Flip 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)	Measured APD (W/m^2)	Deviation d _{dB} (dB)
	1st	WLAN6GHz	802.11ax-HE80 MCS0	Top Side	0mm	Ant 5+7(5)	Full power	open	119	6545	10.74	12.50	1.500	86.93	1.150	0.04	0.323	0.557	9.4	1.526
83	2nd	WLAN6GHz	802.11ax-HE80 MCS0	Top Side	0mm	Ant 5+7(5)	Full power	open	119	6545	10.70	12.50	1.514	86.93	1.150	-0.03	0.225	0.392	5.39	



17.5 Repeated SAR Measurement

<1g>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	EUT Flip State	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	LTE Band 12	10M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 9	23095	707.5	open	23.14	24.00	1.219	-	-	0.16	1.050	1	1.280
2nd	LTE Band 12	10M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 9	23095	707.5	open	23.14	24.00	1.219	-	-	0.02	1.020	1.029	1.243
1st	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 9	26865	831.5	open	23.15	24.00	1.216	-	-	-0.08	1.050	1	1.277
2nd	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 9	26865	831.5	open	23.15	24.00	1.216	-	-	-0.08	1.030	1.019	1.253
1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 0	ECI 3	349000	1745	open	22.56	23.80	1.330	-	-	0.04	0.950	1	1.264
2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 0	ECI 3	349000	1745	open	22.56	23.80	1.330	-	-	0.03	0.936	1.015	1.245
1st	LTE Band 2	20M	QPSK	1	0		Back	5mm	Ant 1	ECI 3	19100	1900	open	19.36	20.70	1.361	-	-	-0.03	0.937	1	1.276
2nd	LTE Band 2	20M	QPSK	1	0		Back	5mm	Ant 1	ECI 3	19100	1900	open	19.36	20.70	1.361	-	-	0.06	0.928	1.010	1.263
1st	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 3	21350	2560	open	20.98	22.20	1.324	-	-	-0.07	0.857	1	1.135
2nd	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 3	21350	2560	open	20.98	22.20	1.324	-	-	0.03	0.845	1.014	1.119
1st	WLAN2.4GHz					802.11b 1Mbps	Front	5mm	Ant 5+7(5)	Standalone	6	2437	open	16.31	18.00	1.476	100	1.000	-0.09	0.863	1	1.274
2nd	WLAN2.4GHz					802.11b 1Mbps	Front	5mm	Ant 5+7(5)	Standalone	6	2437	open	16.31	18.00	1.476	100	1.000	0.03	0.855	1.009	1.262

<10g>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	EUT Flip State	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Ratio	Reported 10g SAR (W/kg)
1st	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 4	ECI 6	656000	3840	open	19.21	20.10	1.227	-0.13	2.010	1	2.467
2nd	FR1 n77 Part 270	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 4	ECI 6	656000	3840	open	19.21	20.10	1.227	0.02	1.980	1.015	2.430
1st	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	0mm	Ant 0	ECI 6	349000	1745	open	22.71	24.00	1.346	-0.04	2.110	1	2.840
2nd	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	0mm	Ant 0	ECI 6	349000	1745	open	22.71	24.00	1.346	0.06	2.090	1.010	2.813
1st	LTE Band 2	20M	QPSK	1	0		Back	0mm	Ant 0	ECI 6	18900	1880	open	22.19	23.40	1.321	0.02	2.390	1	3.158
2nd	LTE Band 2	20M	QPSK	1	0		Back	0mm	Ant 0	ECI 6	18900	1880	open	22.19	23.40	1.321	0.05	2.360	1.013	3.118
1st	WLAN2.4GHz					802.11b 1Mbps	Right Side	0mm	Ant 5+7(7)	Standalone	6	2437	open	18.32	19.50	1.312	-0.07	2.210	1	2.900
2nd	WLAN2.4GHz					802.11b 1Mbps	Right Side	0mm	Ant 5+7(7)	Standalone	6	2437	open	18.32	19.50	1.312	0.06	2.190	1.009	2.874

General Note:

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

17.6 TDD LTE Linearity Data Analysis

General Note:

This device support Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1. Per FCC Guidance based on the device behavior, all SAR tests were performed using Power Class 3. Power Class 2 is tested using the highest SAR test configuration in Power Class 3 for each LTE configuration and exposure condition combination, according to the highest time averaged power for all applicable uplink-downlink configurations in Power Class 2. When the reported SAR vs. output power is linearly scaled with < 10% discrepancy between power classes and all reported SAR are < 1.4 W/kg for 1g and < 3.5 W/kg for 10g, Separate SAR testing for Power Class 2 is not required.

LTE B41-Linearity Data for Head Ant 0			LTE B41-Linearity Data for Head Ant 1		
	LTE B41 (Power Class 3)	LTE B41 (Power Class 2)		LTE B41 (Power Class 3)	LTE B41 (Power Class 2)
Maximum Tune up Power (dBm)	25.00	28.00	Maximum Tune up Power (dBm)	25.00	27.00
Reported 1g SAR (W/kg)	0.452	0.633	Reported 1g SAR (W/kg)	0.095	0.109
Duty Cycle	63.30%	43.30%	Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	200.17	273.20	Frame Averaged (mW)	200.17	217.01
Linearity SAR (W/kg)	0.617		Linearity SAR (W/kg)	0.103	
% deviation from expected linearity		2.61%	% deviation from expected linearity		5.83%
LTE B41-Linearity Data for Body-worn open Ant 0			LTE B41-Linearity Data for Body-worn open Ant 1		
	LTE B41 (Power Class 3)	LTE B41 (Power Class 2)		LTE B41 (Power Class 3)	LTE B41 (Power Class 2)
Maximum Tune up Power (dBm)	23.20	24.80	Maximum Tune up Power (dBm)	22.10	23.70
Reported 1g SAR (W/kg)	0.912	0.926	Reported 1g SAR (W/kg)	0.940	0.938
Duty Cycle	63.30%	43.30%	Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	132.25	130.76	Frame Averaged (mW)	102.66	101.51
Linearity SAR (W/kg)	0.902		Linearity SAR (W/kg)	0.929	
% deviation from expected linearity		2.69%	% deviation from expected linearity		0.92%
LTE B41-Linearity Data for Hotspot open Ant 0			LTE B41-Linearity Data for Hotspot open Ant 1		
	LTE B41 (Power Class 3)	LTE B41 (Power Class 2)		LTE B41 (Power Class 3)	LTE B41 (Power Class 2)
Maximum Tune up Power (dBm)	22.60	24.20	Maximum Tune up Power (dBm)	20.90	22.50
Reported 1g SAR (W/kg)	0.957	0.963	Reported 1g SAR (W/kg)	0.873	0.869
Duty Cycle	63.30%	43.30%	Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	115.19	113.89	Frame Averaged (mW)	77.88	77.00
Linearity SAR (W/kg)	0.946		Linearity SAR (W/kg)	0.863	
% deviation from expected linearity		1.77%	% deviation from expected linearity		0.67%
LTE B41-Linearity Data for Extremity open Ant 0			LTE B41-Linearity Data for Extremity open Ant 1		
	LTE B41 (Power Class 3)	LTE B41 (Power Class 2)		LTE B41 (Power Class 3)	LTE B41 (Power Class 2)
Maximum Tune up Power (dBm)	25.00	28.00	Maximum Tune up Power (dBm)	25.00	27.00
Reported 10g SAR (W/kg)	2.080	2.711	Reported 10g SAR (W/kg)	1.248	1.239
Duty Cycle	63.30%	43.30%	Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	200.17	273.20	Frame Averaged (mW)	200.17	217.01
Linearity SAR (W/kg)	2.839		Linearity SAR (W/kg)	1.353	
% deviation from expected linearity		-4.50%	% deviation from expected linearity		-8.43%
LTE B41-Linearity Data for Body-worn close Ant 0			LTE B41-Linearity Data for Body-worn close Ant 1		
	LTE B41 (Power Class 3)	LTE B41 (Power Class 2)		LTE B41 (Power Class 3)	LTE B41 (Power Class 2)
Maximum Tune up Power (dBm)	23.90	25.50	Maximum Tune up Power (dBm)	23.60	25.20
Reported 1g SAR (W/kg)	0.684	0.704	Reported 1g SAR (W/kg)	0.678	0.620
Duty Cycle	63.30%	43.30%	Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	155.38	153.63	Frame Averaged (mW)	145.01	143.38
Linearity SAR (W/kg)	0.676		Linearity SAR (W/kg)	0.670	
% deviation from expected linearity		4.10%	% deviation from expected linearity		-7.51%
LTE B41-Linearity Data for Hotspot close Ant 0			LTE B41-Linearity Data for Hotspot close Ant 1		



FCC SAR Test Report

Report No. : FA422203-02

	LTE B41 (Power Class 3)	LTE B41 (Power Class 2)		LTE B41 (Power Class 3)	LTE B41 (Power Class 2)
Maximum Tune up Power (dBm)	22.80	24.40	Maximum Tune up Power (dBm)	20.40	22.00
Reported 1g SAR (W/kg)	0.558	0.539	Reported 1g SAR (W/kg)	0.541	0.500
Duty Cycle	63.30%	43.30%	Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	120.62	119.26	Frame Averaged (mW)	69.41	68.63
Linearity SAR (W/kg)	0.552		Linearity SAR (W/kg)	0.535	
% deviation from expected linearity		-2.31%	% deviation from expected linearity		-6.53%

LTE B41-Linearity Data for Head Ant 2			LTE B41-Linearity Data for Head Ant 3		
	LTE B41 (Power Class 3)	LTE B41 (Power Class 2)		LTE B41 (Power Class 3)	LTE B41 (Power Class 2)
Maximum Tune up Power (dBm)	15.50	17.10	Maximum Tune up Power (dBm)	18.70	20.30
Reported 1g SAR (W/kg)	0.797	0.772	Reported 1g SAR (W/kg)	0.821	0.833
Duty Cycle	63.30%	43.30%	Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	22.46	22.21	Frame Averaged (mW)	46.92	46.40
Linearity SAR (W/kg)	0.788		Linearity SAR (W/kg)	0.812	
% deviation from expected linearity		-2.03%	% deviation from expected linearity		2.62%
LTE B41-Linearity Data for Body-worn open Ant 2			LTE B41-Linearity Data for Body-worn open Ant 3		
	LTE B41 (Power Class 3)	LTE B41 (Power Class 2)		LTE B41 (Power Class 3)	LTE B41 (Power Class 2)
Maximum Tune up Power (dBm)	18.90	20.50	Maximum Tune up Power (dBm)	21.40	23.00
Reported 1g SAR (W/kg)	0.778	0.814	Reported 1g SAR (W/kg)	0.739	0.780
Duty Cycle	63.30%	43.30%	Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	49.14	48.58	Frame Averaged (mW)	87.38	86.39
Linearity SAR (W/kg)	0.769		Linearity SAR (W/kg)	0.731	
% deviation from expected linearity		5.82%	% deviation from expected linearity		6.75%



FCC SAR Test Report

Report No. : FA422203-02

LTE B41-Linearity Data for Hotspot open Ant 2			LTE B41-Linearity Data for Hotspot open Ant 3		
	LTE B41 (Power Class 3)	LTE B41 (Power Class 2)		LTE B41 (Power Class 3)	LTE B41 (Power Class 2)
Maximum Tune up Power (dBm)	17.30	18.90	Maximum Tune up Power (dBm)	16.90	18.50
Reported 1g SAR (W/kg)	0.557	0.542	Reported 1g SAR (W/kg)	0.566	0.580
Duty Cycle	63.30%	43.30%	Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	33.99	33.61	Frame Averaged (mW)	31.00	30.65
Linearity SAR (W/kg)	0.551		Linearity SAR (W/kg)	0.560	
% deviation from expected linearity		-1.59%	% deviation from expected linearity		3.64%
LTE B41-Linearity Data for Extremity open Ant 2			LTE B41-Linearity Data for Extremity open Ant 3		
	LTE B41 (Power Class 3)	LTE B41 (Power Class 2)		LTE B41 (Power Class 3)	LTE B41 (Power Class 2)
Maximum Tune up Power (dBm)	23.00	24.60	Maximum Tune up Power (dBm)	22.20	23.80
Reported 10g SAR (W/kg)	1.854	1.835	Reported 10g SAR (W/kg)	2.371	2.238
Duty Cycle	63.30%	43.30%	Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	126.30	124.88	Frame Averaged (mW)	105.05	103.87
Linearity SAR (W/kg)	1.833		Linearity SAR (W/kg)	2.344	
% deviation from expected linearity		0.10%	% deviation from expected linearity		-4.53%
LTE B41-Linearity Data for Body-worn close Ant 2			LTE B41-Linearity Data for Body-worn close Ant 3		
	LTE B41 (Power Class 3)	LTE B41 (Power Class 2)		LTE B41 (Power Class 3)	LTE B41 (Power Class 2)
Maximum Tune up Power (dBm)	20.80	22.40	Maximum Tune up Power (dBm)	22.90	24.50
Reported 1g SAR (W/kg)	0.660	0.640	Reported 1g SAR (W/kg)	0.720	0.774
Duty Cycle	63.30%	43.30%	Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	76.10	75.25	Frame Averaged (mW)	123.43	122.04
Linearity SAR (W/kg)	0.653		Linearity SAR (W/kg)	0.712	
% deviation from expected linearity		-1.93%	% deviation from expected linearity		8.72%
LTE B41-Linearity Data for Hotspot close Ant 2			LTE B41-Linearity Data for Hotspot close Ant 3		
	LTE B41 (Power Class 3)	LTE B41 (Power Class 2)		LTE B41 (Power Class 3)	LTE B41 (Power Class 2)
Maximum Tune up Power (dBm)	16.20	17.80	Maximum Tune up Power (dBm)	18.80	20.40
Reported 1g SAR (W/kg)	0.539	0.525	Reported 1g SAR (W/kg)	0.533	0.514
Duty Cycle	63.30%	43.30%	Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	26.39	26.09	Frame Averaged (mW)	48.02	47.48
Linearity SAR (W/kg)	0.533		Linearity SAR (W/kg)	0.527	
% deviation from expected linearity		-1.49%	% deviation from expected linearity		-2.47%

18. Simultaneous Transmission Analysis

No.	Simultaneous Transmission Configurations	Portable Handset			
		Head	Body-worn	Hotspot	Product specific 10g SAR
1.	WWAN + WLAN2.4GHz	Yes	Yes	Yes	Yes
2.	WWAN + WLAN5GHz	Yes	Yes	Yes	Yes
3.	WWAN + WLAN6GHz	Yes	Yes	Yes	Yes
4.	WWAN + Bluetooth	Yes	Yes	Yes	Yes
5.	WLAN2.4GHz + WLAN5GHz	Yes	Yes	Yes	Yes
6.	WLAN2.4GHz + WLAN6GHz	Yes	Yes	Yes	Yes
7.	WLAN2.4GHz+ Bluetooth	Yes	Yes	Yes	Yes
8.	WLAN5GHz+ Bluetooth	Yes	Yes	Yes	Yes
9.	WLAN6GHz+ Bluetooth	Yes	Yes	Yes	Yes
10.	WWAN + WLAN2.4GHz + WLAN5GHz	Yes	Yes	Yes	Yes
11.	WWAN + WLAN2.4GHz + WLAN6GHz	Yes	Yes	Yes	Yes
12.	WWAN + WLAN2.4GHz+ Bluetooth	Yes	Yes	Yes	Yes
13.	WWAN + WLAN5GHz+ Bluetooth	Yes	Yes	Yes	Yes
14.	WWAN + WLAN6GHz+ Bluetooth	Yes	Yes	Yes	Yes
15.	WWAN + WLAN2.4GHz+NFC				Yes
16.	WWAN + WLAN5GHz+NFC				Yes
17.	WWAN + WLAN6GHz+NFC				Yes
18.	WWAN + Bluetooth+NFC				Yes
19.	WLAN2.4GHz + WLAN5GHz+NFC				Yes
20.	WLAN2.4GHz + WLAN6GHz+NFC				Yes
21.	WLAN2.4GHz+ Bluetooth+NFC				Yes
22.	WLAN5GHz+ Bluetooth+NFC				Yes
23.	WLAN6GHz+ Bluetooth+NFC				Yes
24.	WWAN + WLAN2.4GHz + WLAN5GHz+NFC				Yes
25.	WWAN + WLAN2.4GHz + WLAN6GHz+NFC				Yes
26.	WWAN + WLAN2.4GHz+ Bluetooth+NFC				Yes
27.	WWAN + WLAN5GHz+ Bluetooth+NFC				Yes
28.	WWAN + WLAN6GHz+ Bluetooth+NFC				Yes

General Note:

1. This device supports VoIP in GPRS, EGPRS, WCDMA, LTE and 5GNR (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
2. WWAN above includes 5G NR bands and EN-DC combination.
3. The 2.4GHz/5GHz/6GHz WLAN can transmit in SISO/MIMO antenna mode.
4. EUT will choose each GSM, WCDMA, LTE and 5GNR according to the network signal condition; therefore, they will not operate simultaneously at any moment.
5. For EN-DC mode, MediaTek TA-SAR algorithm in WWAN adds directly the time-averaged RF exposure from 4G(LTE) and time-averaged RF exposure from 5G NR. TA-SAR algorithm controls the total RF exposure from both 4G and 5G NR to not exceed SAR exposure limit. Therefore, simultaneous transmission compliance between 4G+5G NR operation is demonstrated in the Part 2 Report during algorithm validation. In this Report, simultaneous transmission compliance was evaluated individually with other Radios (WLAN or BT) using one of 4G or 5G NR.
6. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
7. This device 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WLAN Direct (GC/GO), and 5.3GHz / 5.5GHz supports WLAN Direct (GC only). WLAN 6GHz has no hotspot function.
8. The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
9. WLAN 2.4GHz and Bluetooth share the same antenna path and cannot transmit simultaneously. WLAN2.4GHz and Bluetooth are located on different antennas, they can transmit simultaneously.
10. According to the EUT characteristic, WLAN 5GHz/6GHz and Bluetooth can transmit simultaneously.
11. According to the EUT characteristic, WLAN 5GHz/6GHz (Ant 5) and WLAN 2.4GHz (Ant 7) can transmit simultaneously.
12. According to the EUT characteristic, WLAN 5GHz and WLAN 6GHz can't transmit simultaneously.
13. NFC can transmit simultaneously with other Radios in extremity exposure condition.

14. For Headset SAR and non-Headset SAR always chose higher SAR to do co-located analysis.
15. For standalone WWAN, always choose the highest SAR among the selected WWAN bands within the selected antenna for each exposure position to perform simultaneous transmission analysis with WLAN/BT. This is the worst co-located analysis and can represent each band.
16. The maximum SAR summation is calculated based on the same configuration and test position.
17. For simultaneously analysis, since the SAR summation of 3 transmitters can cover others combination of 2 transmitters, therefore in this section did not additional to evaluate 2TX combination of simultaneously transmission.
18. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - i) 1g Scalar SAR summation < 1.6W/kg and 10g Scalar SAR summation < 4.0W/kg.
 - ii) $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$, and the peak separation distance is determined from the square root of $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$, where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
 - iii) If $SPLSR \leq 0.04$ for 1g SAR and $SPLSR \leq 0.10$ for 10g SAR, simultaneously transmission SAR measurement is not necessary.
 - iv) Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.
 - v) The SPLSR calculated results please refer to section 18.6.
19. The WLAN6GHz Sim-Tx analysis guidance with other transmitters was based on SAR test results. The simultaneous transmission and test exemption analysis was compliance with KDB 447498 D01, and the device does not support FR2 or another MPE field measurement, therefore SAR report in section 18 has no include TER analysis requirement according to KDB 987594.

18.1 5G NR + LTE + WLAN + BT Sim-Tx analysis

In 5G NR + LTE + WLAN + BT simultaneous transmission, 5G NR and LTE transmission are managed and controlled by MediaTek TA-SAR, while the RF exposure from WLAN and BT radios is managed using legacy approach, i.e., through a fixed power back-off if needed.

Since WLAN and BT do not employ time-averaging, 1gSAR and 10gSAR measurement for WLAN and BT need to be conducted at their corresponding rated power following current FCC test procedures to determine reported SAR values.

TA-SAR current implementation assumes hotspots from 5G NR and LTE are collocated. Therefore, for a total of 100% exposure margin, if LTE uses x, then the exposure margin left for 5G NR is capped to y. Thus, the compliance equation for LTE + 5G NR is

$$\begin{aligned} x \cdot A + y \cdot B + m &\leq 1 \\ x + y &= g \leq 1 \\ g + m &\leq 1 \end{aligned}$$

Where, A is normalized reported time-averaged SAR exposure ratio from LTE, and $A \leq 1.0$; B is normalized reported time-averaged exposure ratio from 5G NR (i.e., PD exposure for 5G FR2 or SAR exposure for 5G FR1), and $B \leq 1.0$.

Let m = normalized reported SAR exposure ratio from WLAN+BT, then for compliance,

$$x \cdot A + y \cdot B + m \leq 1.0 \quad (1)$$

$$x \cdot A + y \cdot B \leq x \cdot \max(A, B) + (g-x) \cdot \max(A, B) \leq \max(A, B)$$

$$x \cdot A + (g-x) \cdot B + m \leq \max(A, B) + m \leq 1.0 \quad (2)$$

If $A + m \leq 1.0$ and $B + m \leq 1.0$ can be proven, then " $x \cdot A + y \cdot B + m \leq 1.0$ ". Therefore simultaneous transmission analysis for 5G NR + LTE + WLAN + BT can be performed in two steps

Step 1: Prove total exposure ratio (TER) of LTE + WLAN + BT < 1

Step 2: Prove total exposure ratio (TER) of 5G NR + WLAN + BT < 1

Else, if $A + m > 1.0$ and/or $B + m > 1.0$, then the followings need to hold true for compliance:

- i. A and m are decoupled based on the SPLSR criteria, and
- ii. $y \cdot B + m \leq 1.0$, and
- iii. $x \cdot A + y \cdot B \leq 1.0$

Note iii. is covered in Part 2 report; i. and ii. should be addressed in Part 2 report.

Above analysis is also apply to LTE inter-band uplink, LTE1 + LTE2 + WLAN + BT simultaneous transmission, so inter-band uplink CA no need to do additional simultaneously analysis again. Only required comply with total exposure ratio (TER) of LTE+ WLAN + BT < 1.

Above analysis is also apply to NR band UL MIMO, NR(SISO1) + NR(SISO2) + WLAN + BT simultaneous transmission, so UL MIMO no need to do additional simultaneously analysis again. Only required comply with total exposure ratio (TER) of NR + WLAN + BT < 1.

**Conclusion:**

1. The Spot check results from chapter 17.1 to 17.4, showed that Deviation of the SAR results did not exceed 3dB, SAR data reuse is justified.
2. For the verified maximum SAR from chapter 17.1 to 17.4, when the SAR test results were less than reference model SAR results (Sporton SAR report no.: FA422203), there is no need to consider co-located SAR for reference model report had been performed conservatively. For the SAR results were higher than reference model SAR results and full tested bands, they were evaluated to do simultaneous transmission analysis with WLAN/BT. WLAN/BT SAR Chose higher SAR between reference model SAR results and variant model SAR results for each exposure position to perform co-located SAR analysis.

18.2 Head Exposure Conditions

< Flip Open >

WWAN Band	Exposure Position	1	2	3	4	5	6	7	8	9	10	11	12	2+10	6+10	10+11	3+7	3+12	1+4+10	1+8+10	1+10+11	1+5+9	1+5+12
		WWAN	WLAN 2.4GHz Ant 5+7 Standalone	WLAN 2.4GHz Ant 7 DBS only	WLAN 2.4GHz Ant 5+7 WWAN+ non DBS	WLAN 2.4GHz Ant 7 WWAN+ DBS	WLAN 5GHz Ant 5+7 Standalone	WLAN 5GHz Ant 5 DBS only	WLAN 5GHz Ant 5+7 WWAN+ non DBS	WLAN 5GHz Ant 5 WWAN+ DBS	Bluetooth Ant 7	WLAN 6GHz Ant 5+7	WLAN 6GHz Ant 5	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE Band 12 Ant 0	Right Cheek	0.199	0.670	0.413	0.230	0.103	0.826	0.596	0.261	0.130	0.079	0.214	0.227	0.75	0.91	0.29	1.01	0.64	0.51	0.54	0.49	0.43	0.53
	Right Tilted	0.143	0.621	0.383	0.214	0.096	0.886	0.643	0.283	0.142	0.033	0.274	0.254	0.65	0.92	0.31	1.03	0.64	0.39	0.46	0.45	0.38	0.49
	Left Cheek	0.327	1.251	0.728	0.354	0.181	1.196	0.788	0.384	0.197	0.253	0.409	0.347	1.50	1.45	0.66	1.52	1.08	0.93	0.96	0.99	0.71	0.86
	Left Tilted	0.179	0.481	0.296	0.166	0.074	1.176	0.783	0.379	0.189	0.060	0.285	0.273	0.54	1.24	0.35	1.08	0.57	0.41	0.62	0.52	0.44	0.53
LTE Band 12 Ant 1	Right Cheek	0.127	0.670	0.413	0.230	0.103	0.826	0.596	0.261	0.130	0.079	0.214	0.227	0.75	0.91	0.29	1.01	0.64	0.44	0.47	0.42	0.36	0.46
	Right Tilted	0.091	0.621	0.383	0.214	0.096	0.886	0.643	0.283	0.142	0.033	0.274	0.254	0.65	0.92	0.31	1.03	0.64	0.34	0.41	0.40	0.33	0.44
	Left Cheek	0.096	1.251	0.728	0.354	0.181	1.196	0.788	0.384	0.197	0.253	0.409	0.347	1.50	1.45	0.66	1.52	1.08	0.70	0.73	0.76	0.47	0.62
	Left Tilted	0.067	0.481	0.296	0.166	0.074	1.176	0.783	0.379	0.189	0.060	0.285	0.273	0.54	1.24	0.35	1.08	0.57	0.29	0.51	0.41	0.33	0.41
LTE Band 26 Ant 0	Right Cheek	0.247	0.670	0.413	0.230	0.103	0.826	0.596	0.261	0.130	0.079	0.214	0.227	0.75	0.91	0.29	1.01	0.64	0.56	0.59	0.54	0.48	0.58
	Right Tilted	0.161	0.621	0.383	0.214	0.096	0.886	0.643	0.283	0.142	0.033	0.274	0.254	0.65	0.92	0.31	1.03	0.64	0.41	0.48	0.47	0.40	0.51
	Left Cheek	0.396	1.251	0.728	0.354	0.181	1.196	0.788	0.384	0.197	0.253	0.409	0.347	1.50	1.45	0.66	1.52	1.08	1.00	1.03	1.06	0.77	0.92
	Left Tilted	0.230	0.481	0.296	0.166	0.074	1.176	0.783	0.379	0.189	0.060	0.285	0.273	0.54	1.24	0.35	1.08	0.57	0.46	0.67	0.58	0.49	0.58
LTE Band 26 Ant 1	Right Cheek	0.068	0.670	0.413	0.230	0.103	0.826	0.596	0.261	0.130	0.079	0.214	0.227	0.75	0.91	0.29	1.01	0.64	0.38	0.41	0.36	0.30	0.40
	Right Tilted	0.033	0.621	0.383	0.214	0.096	0.886	0.643	0.283	0.142	0.033	0.274	0.254	0.65	0.92	0.31	1.03	0.64	0.28	0.35	0.34	0.27	0.38
	Left Cheek	0.103	1.251	0.728	0.354	0.181	1.196	0.788	0.384	0.197	0.253	0.409	0.347	1.50	1.45	0.66	1.52	1.08	0.71	0.74	0.77	0.48	0.63
	Left Tilted	0.024	0.481	0.296	0.166	0.074	1.176	0.783	0.379	0.189	0.060	0.285	0.273	0.54	1.24	0.35	1.08	0.57	0.25	0.46	0.37	0.29	0.37
LTE Band 42 Part 27Q Ant 4	Right Cheek	0.897	0.670	0.413	0.230	0.103	0.826	0.596	0.261	0.130	0.079	0.214	0.227	0.75	0.91	0.29	1.01	0.64	1.21	1.24	1.19	1.13	1.23
	Right Tilted	0.213	0.621	0.383	0.214	0.096	0.886	0.643	0.283	0.142	0.033	0.274	0.254	0.65	0.92	0.31	1.03	0.64	0.46	0.53	0.52	0.45	0.56
	Left Cheek	0.293	1.251	0.728	0.354	0.181	1.196	0.788	0.384	0.197	0.253	0.409	0.347	1.50	1.45	0.66	1.52	1.08	0.90	0.93	0.96	0.67	0.82
	Left Tilted	0.111	0.481	0.296	0.166	0.074	1.176	0.783	0.379	0.189	0.060	0.285	0.273	0.54	1.24	0.35	1.08	0.57	0.34	0.55	0.46	0.37	0.46
LTE Band 42 Part 27Q Ant 6	Right Cheek	0.349	0.670	0.413	0.230	0.103	0.826	0.596	0.261	0.130	0.079	0.214	0.227	0.75	0.91	0.29	1.01	0.64	0.66	0.69	0.64	0.58	0.68
	Right Tilted	0.408	0.621	0.383	0.214	0.096	0.886	0.643	0.283	0.142	0.033	0.274	0.254	0.65	0.92	0.31	1.03	0.64	0.66	0.72	0.72	0.65	0.76
	Left Cheek	0.723	1.251	0.728	0.354	0.181	1.196	0.788	0.384	0.197	0.253	0.409	0.347	1.50	1.45	0.66	1.52	1.08	1.33	1.36	1.39	1.10	1.25
	Left Tilted	0.895	0.481	0.296	0.166	0.074	1.176	0.783	0.379	0.189	0.060	0.285	0.273	0.54	1.24	0.35	1.08	0.57	1.12	1.33	1.24	1.16	1.24
LTE Band 42 Part 27Q Ant 3	Right Cheek	0.742	0.670	0.413	0.230	0.103	0.826	0.596	0.261	0.130	0.079	0.214	0.227	0.75	0.91	0.29	1.01	0.64	1.05	1.08	1.04	0.98	1.07
	Right Tilted	0.892	0.621	0.383	0.214	0.096	0.886	0.643	0.283	0.142	0.033	0.274	0.254	0.65	0.92	0.31	1.03	0.64	1.14	1.21	1.20	1.13	1.24
	Left Cheek	0.400	1.251	0.728	0.354	0.181	1.196	0.788	0.384	0.197	0.253	0.409	0.347	1.50	1.45	0.66	1.52	1.08	1.01	1.04	1.06	0.78	0.93
	Left Tilted	0.515	0.481	0.296	0.166	0.074	1.176	0.783	0.379	0.189	0.060	0.285	0.273	0.54	1.24	0.35	1.08	0.57	0.74	0.95	0.86	0.78	0.86
LTE Band 42 Part 27Q Ant 8	Right Cheek	0.644	0.670	0.413	0.230	0.103	0.826	0.596	0.261	0.130	0.079	0.214	0.227	0.75	0.91	0.29	1.01	0.64	0.95	0.98	0.94	0.88	0.97
	Right Tilted	0.113	0.621	0.383	0.214	0.096	0.886	0.643	0.283	0.142	0.033	0.274	0.254	0.65	0.92	0.31	1.03	0.64	0.36	0.43	0.42	0.35	0.46
	Left Cheek	0.895	1.251	0.728	0.354	0.181	1.196	0.788	0.384	0.197	0.253	0.409	0.347	1.50	1.45	0.66	1.52	1.08	1.50	1.53	1.56	1.27	1.42
	Left Tilted	0.183	0.481	0.296	0.166	0.074	1.176	0.783	0.379	0.189	0.060	0.285	0.273	0.54	1.24	0.35	1.08	0.57	0.41	0.62	0.53	0.45	0.53
FR1 n77 Part 270 Ant 4	Right Cheek	0.883	0.670	0.413	0.230	0.103	0.826	0.596	0.261	0.130	0.079	0.214	0.227	0.75	0.91	0.29	1.01	0.64	1.19	1.22	1.18	1.12	1.21
	Right Tilted	0.254	0.621	0.383	0.214	0.096	0.886	0.643	0.283	0.142	0.033	0.274	0.254	0.65	0.92	0.31	1.03	0.64	0.50	0.57	0.56	0.49	0.60
	Left Cheek	0.316	1.251	0.728	0.354	0.181	1.196	0.788	0.384	0.197	0.253	0.409	0.347	1.50	1.45	0.66	1.52	1.08	0.92	0.95	0.98	0.69	0.84
	Left Tilted	0.121	0.481	0.296	0.166	0.074	1.176	0.783	0.379	0.189	0.060	0.285	0.273	0.54	1.24	0.35	1.08	0.57	0.35	0.56	0.47	0.38	0.47



FCC SAR Test Report

Report No. : FA422203-02

FR1 n77 Part 270 Ant 6	Right Cheek	0.379	0.670	0.413	0.230	0.103	0.826	0.596	0.261	0.130	0.079	0.214	0.227	0.75	0.91	0.29	1.01	0.64	0.69	0.72	0.67	0.61	0.71
	Right Tilted	0.479	0.621	0.383	0.214	0.096	0.886	0.643	0.283	0.142	0.033	0.274	0.254	0.65	0.92	0.31	1.03	0.64	0.73	0.80	0.79	0.72	0.83
	Left Cheek	0.787	1.251	0.728	0.354	0.181	1.196	0.788	0.384	0.197	0.253	0.409	0.347	1.50	1.45	0.66	1.52	1.08	1.39	1.42	1.45	1.17	1.32
	Left Tilted	0.876	0.481	0.296	0.166	0.074	1.176	0.783	0.379	0.189	0.060	0.285	0.273	0.54	1.24	0.35	1.08	0.57	1.10	1.32	1.22	1.14	1.22
FR1 n77 Part 270 Ant 3	Right Cheek	0.875	0.670	0.413	0.230	0.103	0.826	0.596	0.261	0.130	0.079	0.214	0.227	0.75	0.91	0.29	1.01	0.64	1.18	1.22	1.17	1.11	1.21
	Right Tilted	0.855	0.621	0.383	0.214	0.096	0.886	0.643	0.283	0.142	0.033	0.274	0.254	0.65	0.92	0.31	1.03	0.64	1.10	1.17	1.16	1.09	1.21
	Left Cheek	0.368	1.251	0.728	0.354	0.181	1.196	0.788	0.384	0.197	0.253	0.409	0.347	1.50	1.45	0.66	1.52	1.08	0.98	1.01	1.03	0.75	0.90
	Left Tilted	0.560	0.481	0.296	0.166	0.074	1.176	0.783	0.379	0.189	0.060	0.285	0.273	0.54	1.24	0.35	1.08	0.57	0.79	1.00	0.91	0.82	0.91
FR1 n77 Part 270 Ant 8	Right Cheek	0.673	0.670	0.413	0.230	0.103	0.826	0.596	0.261	0.130	0.079	0.214	0.227	0.75	0.91	0.29	1.01	0.64	0.98	1.01	0.97	0.91	1.00
	Right Tilted	0.102	0.621	0.383	0.214	0.096	0.886	0.643	0.283	0.142	0.033	0.274	0.254	0.65	0.92	0.31	1.03	0.64	0.35	0.42	0.41	0.34	0.45
	Left Cheek	0.889	1.251	0.728	0.354	0.181	1.196	0.788	0.384	0.197	0.253	0.409	0.347	1.50	1.45	0.66	1.52	1.08	1.50	1.53	1.55	1.27	1.42
	Left Tilted	0.176	0.481	0.296	0.166	0.074	1.176	0.783	0.379	0.189	0.060	0.285	0.273	0.54	1.24	0.35	1.08	0.57	0.40	0.62	0.52	0.44	0.52

18.3 Hotspot Exposure Conditions

< Flip Open >

WWAN Band	Exposure Position	1	2	3	4	5	6	1+2+6	1+4+6	1+3+5	SPLSR
		WWAN	WLAN2.4GHz Ant 5+7 Simultaneous	WLAN2.4GHz Ant 7 WWAN+DBS	WLAN5GHz Ant 5+7 Simultaneous	WLAN5GHz Ant 5 WWAN+DBS	Bluetooth Ant 7	Summed	Summed	Summed	
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
LTE Band 12 Ant 0	Front	1.025	0.291	0.134	0.418	0.227	0.118	1.43	1.56	1.39	
	Back	1.256	0.197	0.090	0.358	0.195	0.099	1.55	1.71	1.54	1
	Left side	1.280	0.039	0.019	0.059	0.033		1.32	1.34	1.33	
	Right side	0.232	0.621	0.284	0.590	0.289	0.272	1.13	1.09	0.81	
	Top side		0.145	0.066	0.616	0.318	0.022	0.17	0.64	0.38	
	Bottom side	0.575						0.58	0.58	0.58	
LTE Band 12 Ant 1	Front	0.217	0.291	0.134	0.418	0.227	0.118	0.63	0.75	0.58	
	Back	0.362	0.197	0.090	0.358	0.195	0.099	0.66	0.82	0.65	
	Left side	0.063	0.039	0.019	0.059	0.033		0.10	0.12	0.12	
	Right side	0.283	0.621	0.284	0.590	0.289	0.272	1.18	1.15	0.86	
	Top side		0.145	0.066	0.616	0.318	0.022	0.17	0.64	0.38	
	Bottom side	0.841						0.84	0.84	0.84	
LTE Band 26 Ant 0	Front	1.064	0.291	0.134	0.418	0.227	0.118	1.47	1.60	1.43	2
	Back	1.277	0.197	0.090	0.358	0.195	0.099	1.57	1.73	1.56	3
	Left side	1.158	0.039	0.019	0.059	0.033		1.20	1.22	1.21	
	Right side	0.190	0.621	0.284	0.590	0.289	0.272	1.08	1.05	0.76	
	Top side		0.145	0.066	0.616	0.318	0.022	0.17	0.64	0.38	
	Bottom side	0.553						0.55	0.55	0.55	
LTE Band 26 Ant 1	Front	0.318	0.291	0.134	0.418	0.227	0.118	0.73	0.85	0.68	
	Back	0.516	0.197	0.090	0.358	0.195	0.099	0.81	0.97	0.80	
	Left side	0.026	0.039	0.019	0.059	0.033		0.07	0.09	0.08	
	Right side	0.192	0.621	0.284	0.590	0.289	0.272	1.09	1.05	0.77	
	Top side		0.145	0.066	0.616	0.318	0.022	0.17	0.64	0.38	
	Bottom side	0.416						0.42	0.42	0.42	
LTE Band 42 Part 27Q Ant 4	Front	0.236	0.291	0.134	0.418	0.227	0.118	0.65	0.77	0.60	
	Back	0.192	0.197	0.090	0.358	0.195	0.099	0.49	0.65	0.48	
	Left side	0.628	0.039	0.019	0.059	0.033		0.67	0.69	0.68	
	Right side	0.006	0.621	0.284	0.590	0.289	0.272	0.90	0.87	0.58	
	Top side	0.072	0.145	0.066	0.616	0.318	0.022	0.24	0.71	0.46	
	Bottom side							0.00	0.00	0.00	
LTE Band 42 Part 27Q Ant 6	Front	0.390	0.291	0.134	0.418	0.227	0.118	0.80	0.93	0.75	
	Back	0.410	0.197	0.090	0.358	0.195	0.099	0.71	0.87	0.70	
	Left side	0.025	0.039	0.019	0.059	0.033		0.06	0.08	0.08	
	Right side	0.097	0.621	0.284	0.590	0.289	0.272	0.99	0.96	0.67	
	Top side	0.625	0.145	0.066	0.616	0.318	0.022	0.79	1.26	1.01	
	Bottom side							0.00	0.00	0.00	
LTE Band 42 Part 27Q Ant 3	Front	0.362	0.291	0.134	0.418	0.227	0.118	0.77	0.90	0.72	
	Back	0.330	0.197	0.090	0.358	0.195	0.099	0.63	0.79	0.62	
	Left side	0.041	0.039	0.019	0.059	0.033		0.08	0.10	0.09	
	Right side	0.024	0.621	0.284	0.590	0.289	0.272	0.92	0.89	0.60	
	Top side	0.630	0.145	0.066	0.616	0.318	0.022	0.80	1.27	1.01	
	Bottom side							0.00	0.00	0.00	
LTE Band 42 Part 27Q Ant 8	Front	0.399	0.291	0.134	0.418	0.227	0.118	0.81	0.94	0.76	
	Back	0.390	0.197	0.090	0.358	0.195	0.099	0.69	0.85	0.68	
	Left side	0.022	0.039	0.019	0.059	0.033		0.06	0.08	0.07	
	Right side	0.629	0.621	0.284	0.590	0.289	0.272	1.52	1.49	1.20	
	Top side	0.068	0.145	0.066	0.616	0.318	0.022	0.24	0.71	0.45	
	Bottom side							0.00	0.00	0.00	



FCC SAR Test Report

Report No. : FA422203-02

FR1 n77 Part 270 Ant 4	Front	0.234	0.291	0.134	0.418	0.227	0.118	0.64	0.77	0.60	
	Back	0.172	0.197	0.090	0.358	0.195	0.099	0.47	0.63	0.46	
	Left side	0.622	0.039	0.019	0.059	0.033		0.66	0.68	0.67	
	Right side	0.005	0.621	0.284	0.590	0.289	0.272	0.90	0.87	0.58	
	Top side	0.149	0.145	0.066	0.616	0.318	0.022	0.32	0.79	0.53	
	Bottom side							0.00	0.00	0.00	
FR1 n77 Part 270 Ant 6	Front	0.372	0.291	0.134	0.418	0.227	0.118	0.78	0.91	0.73	
	Back	0.338	0.197	0.090	0.358	0.195	0.099	0.63	0.80	0.62	
	Left side	0.017	0.039	0.019	0.059	0.033		0.06	0.08	0.07	
	Right side	0.097	0.621	0.284	0.590	0.289	0.272	0.99	0.96	0.67	
	Top side	0.619	0.145	0.066	0.616	0.318	0.022	0.79	1.26	1.00	
	Bottom side							0.00	0.00	0.00	
FR1 n77 Part 270 Ant 3	Front	0.453	0.291	0.134	0.418	0.227	0.118	0.86	0.99	0.81	
	Back	0.452	0.197	0.090	0.358	0.195	0.099	0.75	0.91	0.74	
	Left side	0.244	0.039	0.019	0.059	0.033		0.28	0.30	0.30	
	Right side	0.020	0.621	0.284	0.590	0.289	0.272	0.91	0.88	0.59	
	Top side	0.621	0.145	0.066	0.616	0.318	0.022	0.79	1.26	1.01	
	Bottom side							0.00	0.00	0.00	
FR1 n77 Part 270 Ant 8	Front	0.327	0.291	0.134	0.418	0.227	0.118	0.74	0.86	0.69	
	Back	0.355	0.197	0.090	0.358	0.195	0.099	0.65	0.81	0.64	
	Left side	0.006	0.039	0.019	0.059	0.033		0.05	0.07	0.06	
	Right side	0.620	0.621	0.284	0.590	0.289	0.272	1.51	1.48	1.19	
	Top side	0.067	0.145	0.066	0.616	0.318	0.022	0.23	0.71	0.45	
	Bottom side							0.00	0.00	0.00	



<Flip Close >

WWAN Band	Exposure Position	1	2	3	4	5	6	1+2+6	1+4+6	1+3+5
		WWAN	WLAN2.4GHz Ant 5+7 Simultaneous	WLAN2.4GHz Ant 7 WWAN+DBS	WLAN5GHz Ant 5+7 Simultaneous	WLAN5GHz Ant 5 WWAN+DBS	Bluetooth Ant 7	Summed	Summed	Summed
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE Band 12 Ant 0	Front	0.096	0.157	0.072	0.253	0.104	0.059	0.31	0.41	0.27
	Back	0.619	0.079	0.036	0.112	0.026	0.023	0.72	0.75	0.68
	Left side	0.477	0.016	0.007	0.086	0.015	0.003	0.50	0.57	0.50
	Right side	0.058	0.611	0.281	0.588	0.237	0.204	0.87	0.85	0.58
	Top side							0.00	0.00	0.00
	Bottom side	0.246	0.120	0.056	0.625	0.293	0.011	0.38	0.88	0.60
LTE Band 12 Ant 1	Front	0.013	0.157	0.072	0.253	0.104	0.059	0.23	0.33	0.19
	Back	0.524	0.079	0.036	0.112	0.026	0.023	0.63	0.66	0.59
	Left side	0.128	0.016	0.007	0.086	0.015	0.003	0.15	0.22	0.15
	Right side	0.239	0.611	0.281	0.588	0.237	0.204	1.05	1.03	0.76
	Top side							0.00	0.00	0.00
	Bottom side	0.511	0.120	0.056	0.625	0.293	0.011	0.64	1.15	0.86
LTE Band 26 Ant 0	Front	0.132	0.157	0.072	0.253	0.104	0.059	0.35	0.44	0.31
	Back	0.621	0.079	0.036	0.112	0.026	0.023	0.72	0.76	0.68
	Left side	0.509	0.016	0.007	0.086	0.015	0.003	0.53	0.60	0.53
	Right side	0.052	0.611	0.281	0.588	0.237	0.204	0.87	0.84	0.57
	Top side							0.00	0.00	0.00
	Bottom side	0.260	0.120	0.056	0.625	0.293	0.011	0.39	0.90	0.61
LTE Band 26 Ant 1	Front	0.030	0.157	0.072	0.253	0.104	0.059	0.25	0.34	0.21
	Back	0.269	0.079	0.036	0.112	0.026	0.023	0.37	0.40	0.33
	Left side	0.026	0.016	0.007	0.086	0.015	0.003	0.05	0.12	0.05
	Right side	0.139	0.611	0.281	0.588	0.237	0.204	0.95	0.93	0.66
	Top side							0.00	0.00	0.00
	Bottom side	0.249	0.120	0.056	0.625	0.293	0.011	0.38	0.89	0.60
LTE Band 42 Part 27Q Ant 4	Front	0.164	0.157	0.072	0.253	0.104	0.059	0.38	0.48	0.34
	Back	0.054	0.079	0.036	0.112	0.026	0.023	0.16	0.19	0.12
	Left side	0.624	0.016	0.007	0.086	0.015	0.003	0.64	0.71	0.65
	Right side	0.024	0.611	0.281	0.588	0.237	0.204	0.84	0.82	0.54
	Top side							0.00	0.00	0.00
	Bottom side	0.125	0.120	0.056	0.625	0.293	0.011	0.26	0.76	0.47
LTE Band 42 Part 27Q Ant 6	Front	0.197	0.157	0.072	0.253	0.104	0.059	0.41	0.51	0.37
	Back	0.030	0.079	0.036	0.112	0.026	0.023	0.13	0.17	0.09
	Left side	0.013	0.016	0.007	0.086	0.015	0.003	0.03	0.10	0.04
	Right side	0.071	0.611	0.281	0.588	0.237	0.204	0.89	0.86	0.59
	Top side							0.00	0.00	0.00
	Bottom side	0.635	0.120	0.056	0.625	0.293	0.011	0.77	1.27	0.98
LTE Band 42 Part 27Q Ant 3	Front	0.272	0.157	0.072	0.253	0.104	0.059	0.49	0.58	0.45
	Back	0.139	0.079	0.036	0.112	0.026	0.023	0.24	0.27	0.20
	Left side	0.098	0.016	0.007	0.086	0.015	0.003	0.12	0.19	0.12
	Right side	0.027	0.611	0.281	0.588	0.237	0.204	0.84	0.82	0.55
	Top side							0.00	0.00	0.00
	Bottom side	0.627	0.120	0.056	0.625	0.293	0.011	0.76	1.26	0.98
LTE Band 42 Part 27Q Ant 8	Front	0.271	0.157	0.072	0.253	0.104	0.059	0.49	0.58	0.45
	Back	0.039	0.079	0.036	0.112	0.026	0.023	0.14	0.17	0.10
	Left side	0.038	0.016	0.007	0.086	0.015	0.003	0.06	0.13	0.06
	Right side	0.621	0.611	0.281	0.588	0.237	0.204	1.44	1.41	1.14
	Top side							0.00	0.00	0.00
	Bottom side	0.074	0.120	0.056	0.625	0.293	0.011	0.21	0.71	0.42
FR1 n77 Part 27O Ant 4	Front	0.200	0.157	0.072	0.253	0.104	0.059	0.42	0.51	0.38
	Back	0.061	0.079	0.036	0.112	0.026	0.023	0.16	0.20	0.12
	Left side	0.628	0.016	0.007	0.086	0.015	0.003	0.65	0.72	0.65



FCC SAR Test Report

Report No. : FA422203-02

	Right side	0.025	0.611	0.281	0.588	0.237	0.204	0.84	0.82	0.54
	Top side							0.00	0.00	0.00
	Bottom side	0.100	0.120	0.056	0.625	0.293	0.011	0.23	0.74	0.45
FR1 n77 Part 27O Ant 6	Front	0.393	0.157	0.072	0.253	0.104	0.059	0.61	0.71	0.57
	Back	0.065	0.079	0.036	0.112	0.026	0.023	0.17	0.20	0.13
	Left side	0.025	0.016	0.007	0.086	0.015	0.003	0.04	0.11	0.05
	Right side	0.133	0.611	0.281	0.588	0.237	0.204	0.95	0.93	0.65
	Top side							0.00	0.00	0.00
	Bottom side	0.621	0.120	0.056	0.625	0.293	0.011	0.75	1.26	0.97
FR1 n77 Part 27O Ant 3	Front	0.449	0.157	0.072	0.253	0.104	0.059	0.67	0.76	0.63
	Back	0.054	0.079	0.036	0.112	0.026	0.023	0.16	0.19	0.12
	Left side	0.108	0.016	0.007	0.086	0.015	0.003	0.13	0.20	0.13
	Right side	0.074	0.611	0.281	0.588	0.237	0.204	0.89	0.87	0.59
	Top side							0.00	0.00	0.00
	Bottom side	0.618	0.120	0.056	0.625	0.293	0.011	0.75	1.25	0.97
FR1 n77 Part 27O Ant 8	Front	0.361	0.157	0.072	0.253	0.104	0.059	0.58	0.67	0.54
	Back	0.035	0.079	0.036	0.112	0.026	0.023	0.14	0.17	0.10
	Left side	0.027	0.016	0.007	0.086	0.015	0.003	0.05	0.12	0.05
	Right side	0.616	0.611	0.281	0.588	0.237	0.204	1.43	1.41	1.13
	Top side							0.00	0.00	0.00
	Bottom side	0.098	0.120	0.056	0.625	0.293	0.011	0.23	0.73	0.45

18.4 Body-Worn Accessory Exposure Conditions

<Flip open>

WWAN Band	Exposure Position	1	2	3	4	5	6	7	8	9	10	11	12	2+10	6+10	10+1	3+7	3+12	1+4+10	1+8+10	1+10+11	1+5+9	1+5+12	SPLSR
		WWAN	WLAN2.4GHz Ant 5+7 Standalone	WLAN2.4GHz Ant 7 DBS only	WLAN2.4GHz Ant 5+7 WWAN+non DBS	WLAN2.4GHz Ant 7 WWAN+DBS	WLAN5GHz Ant 5+7 Standalone	WLAN5GHz Ant 5 DBS only	WLAN5GHz Ant 5+7 WWAN+non DBS	WLAN5GHz Ant 5 WWAN+DBS	Bluetooth Ant 7	WLAN6GHz Ant 5+7	WLAN6GHz Ant 5	Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed	
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
LTE Band 12 Ant 0	Front	0.928	1.315	0.725	0.376	0.174	1.157	0.791	0.383	0.191	0.127	0.024	0.075	1.44	1.28	0.15	1.52	0.80	1.43	1.44	1.08	1.29	1.18	
	Back	1.136	0.748	0.412	0.213	0.099	0.819	0.560	0.270	0.135	0.105	0.151	0.163	0.85	0.92	0.26	0.97	0.58	1.45	1.51	1.39	1.37	1.40	
LTE Band 12 Ant 1	Front	0.217	1.315	0.725	0.376	0.174	1.157	0.791	0.383	0.191	0.127	0.024	0.075	1.44	1.28	0.15	1.52	0.80	0.72	0.73	0.37	0.58	0.47	
	Back	0.362	0.748	0.412	0.213	0.099	0.819	0.560	0.270	0.135	0.105	0.151	0.163	0.85	0.92	0.26	0.97	0.58	0.68	0.74	0.62	0.60	0.62	
LTE Band 26 Ant 0	Front	1.064	1.315	0.725	0.376	0.174	1.157	0.791	0.383	0.191	0.127	0.024	0.075	1.44	1.28	0.15	1.52	0.80	1.57	1.57	1.22	1.43	1.31	
	Back	1.277	0.748	0.412	0.213	0.099	0.819	0.560	0.270	0.135	0.105	0.151	0.163	0.85	0.92	0.26	0.97	0.58	1.60	1.65	1.53	1.51	1.54	69/70
LTE Band 26 Ant 1	Front	0.318	1.315	0.725	0.376	0.174	1.157	0.791	0.383	0.191	0.127	0.024	0.075	1.44	1.28	0.15	1.52	0.80	0.82	0.83	0.47	0.68	0.57	
	Back	0.516	0.748	0.412	0.213	0.099	0.819	0.560	0.270	0.135	0.105	0.151	0.163	0.85	0.92	0.26	0.97	0.58	0.83	0.89	0.77	0.75	0.78	
LTE Band 42 Part 27Q Ant 4	Front	0.894	1.315	0.725	0.376	0.174	1.157	0.791	0.383	0.191	0.127	0.024	0.075	1.44	1.28	0.15	1.52	0.80	1.40	1.40	1.05	1.26	1.14	
	Back	0.714	0.748	0.412	0.213	0.099	0.819	0.560	0.270	0.135	0.105	0.151	0.163	0.85	0.92	0.26	0.97	0.58	1.03	1.09	0.97	0.95	0.98	
LTE Band 42 Part 27Q Ant 6	Front	0.883	1.315	0.725	0.376	0.174	1.157	0.791	0.383	0.191	0.127	0.024	0.075	1.44	1.28	0.15	1.52	0.80	1.39	1.39	1.03	1.25	1.13	
	Back	0.717	0.748	0.412	0.213	0.099	0.819	0.560	0.270	0.135	0.105	0.151	0.163	0.85	0.92	0.26	0.97	0.58	1.04	1.09	0.97	0.95	0.98	
LTE Band 42 Part 27Q Ant 3	Front	0.897	1.315	0.725	0.376	0.174	1.157	0.791	0.383	0.191	0.127	0.024	0.075	1.44	1.28	0.15	1.52	0.80	1.40	1.41	1.05	1.26	1.15	
	Back	0.778	0.748	0.412	0.213	0.099	0.819	0.560	0.270	0.135	0.105	0.151	0.163	0.85	0.92	0.26	0.97	0.58	1.10	1.15	1.03	1.01	1.04	
LTE Band 42 Part 27Q Ant 8	Front	0.898	1.315	0.725	0.376	0.174	1.157	0.791	0.383	0.191	0.127	0.024	0.075	1.44	1.28	0.15	1.52	0.80	1.40	1.41	1.05	1.26	1.15	
	Back	0.786	0.748	0.412	0.213	0.099	0.819	0.560	0.270	0.135	0.105	0.151	0.163	0.85	0.92	0.26	0.97	0.58	1.10	1.16	1.04	1.02	1.05	
FR1 n77 Part 27O Ant 4	Front	0.886	1.315	0.725	0.376	0.174	1.157	0.791	0.383	0.191	0.127	0.024	0.075	1.44	1.28	0.15	1.52	0.80	1.39	1.40	1.04	1.25	1.14	
	Back	0.654	0.748	0.412	0.213	0.099	0.819	0.560	0.270	0.135	0.105	0.151	0.163	0.85	0.92	0.26	0.97	0.58	0.97	1.03	0.91	0.89	0.92	
FR1 n77 Part 27O Ant 6	Front	0.881	1.315	0.725	0.376	0.174	1.157	0.791	0.383	0.191	0.127	0.024	0.075	1.44	1.28	0.15	1.52	0.80	1.38	1.39	1.03	1.25	1.13	
	Back	0.791	0.748	0.412	0.213	0.099	0.819	0.560	0.270	0.135	0.105	0.151	0.163	0.85	0.92	0.26	0.97	0.58	1.11	1.17	1.05	1.03	1.05	
FR1 n77 Part 27O Ant 3	Front	0.893	1.315	0.725	0.376	0.174	1.157	0.791	0.383	0.191	0.127	0.024	0.075	1.44	1.28	0.15	1.52	0.80	1.40	1.40	1.04	1.26	1.14	
	Back	0.877	0.748	0.412	0.213	0.099	0.819	0.560	0.270	0.135	0.105	0.151	0.163	0.85	0.92	0.26	0.97	0.58	1.20	1.25	1.13	1.11	1.14	
FR1 n77 Part 27O Ant 8	Front	0.793	1.315	0.725	0.376	0.174	1.157	0.791	0.383	0.191	0.127	0.024	0.075	1.44	1.28	0.15	1.52	0.80	1.30	1.30	0.94	1.16	1.04	
	Back	0.875	0.748	0.412	0.213	0.099	0.819	0.560	0.270	0.135	0.105	0.151	0.163	0.85	0.92	0.26	0.97	0.58	1.19	1.25	1.13	1.11	1.14	

Sensor off

WWAN Band	Exposure Position	1	2	3	4	1+2+4	1+3+4
		WWAN	WLAN2.4GHz Ant 5+7	WLAN5GHz Ant 5+7	Bluetooth Ant 7	Summed	Summed
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE Band 42 Part 27Q Ant 4	Front	0.354	0.975	0.710	0.244	1.57	1.31
	Back	0.269	0.521	0.671	0.208	1.00	1.15
LTE Band 42 Part 27Q Ant 6	Front	0.195	0.975	0.710	0.244	1.41	1.15
	Back	0.141	0.521	0.671	0.208	0.87	1.02
LTE Band 42 Part 27Q Ant 3	Front	0.276	0.975	0.710	0.244	1.50	1.23
	Back	0.218	0.521	0.671	0.208	0.95	1.10
LTE Band 42 Part 27Q Ant 8	Front	0.215	0.975	0.710	0.244	1.43	1.17
	Back	0.195	0.521	0.671	0.208	0.92	1.07
FR1 n77 Part 27O Ant 4	Front	0.260	0.975	0.710	0.244	1.48	1.21
	Back	0.238	0.521	0.671	0.208	0.97	1.12
FR1 n77 Part 27O Ant 6	Front	0.342	0.975	0.710	0.244	1.56	1.30
	Back	0.278	0.521	0.671	0.208	1.01	1.16
FR1 n77 Part 27O Ant 3	Front	0.357	0.975	0.710	0.244	1.58	1.31
	Back	0.216	0.521	0.671	0.208	0.95	1.10
FR1 n77 Part 27O Ant 8	Front	0.365	0.975	0.710	0.244	1.58	1.32
	Back	0.415	0.521	0.671	0.208	1.14	1.29



<Flip Close >

WWAN Band	Exposure Position	1	2	3	4	5	6	7	8	9	10	11	12	2+10	6+10	10+11	3+7	3+12	1+4+10	1+8+10	1+10+11	1+5+9	1+5+12
		WWAN 1g SAR (W/kg)	WLAN 2.4GHz Ant 5+7 Standalone 1g SAR (W/kg)	WLAN 2.4GHz Ant 7 DBS only 1g SAR (W/kg)	WLAN 2.4GHz Ant 5+7 WWAN+non DBS 1g SAR (W/kg)	WLAN 2.4GHz Ant 7 WWAN+DBS 1g SAR (W/kg)	WLAN 5GHz Ant 5+7 Standalone 1g SAR (W/kg)	WLAN 5GHz Ant 5 DBS only 1g SAR (W/kg)	WLAN 5GHz Ant 5+7 WWAN+non DBS 1g SAR (W/kg)	WLAN 5GHz Ant 5 WWAN+DBS 1g SAR (W/kg)	Bluetooth Ant 7 1g SAR (W/kg)	WLAN 6GHz Ant 5+7 1g SAR (W/kg)	WLAN 6GHz Ant 5 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)
LTE Band 12 Ant 0	Front	0.136	1.208	0.725	0.360	0.179	1.183	0.763	0.376	0.191	0.297	0.197	0.144	1.51	1.48	0.49	1.49	0.87	0.79	0.81	0.63	0.51	0.46
	Back	0.874	0.510	0.362	0.179	0.089	0.303	0.266	0.137	0.069	0.123	0.016		0.63	0.43	0.14	0.63	0.36	1.18	1.13	1.01	1.03	0.96
LTE Band 12 Ant 1	Front	0.013	1.208	0.725	0.360	0.179	1.183	0.763	0.376	0.191	0.297	0.197	0.144	1.51	1.48	0.49	1.49	0.87	0.67	0.69	0.51	0.38	0.34
	Back	0.524	0.510	0.362	0.179	0.089	0.303	0.266	0.137	0.069	0.123	0.016		0.63	0.43	0.14	0.63	0.36	0.83	0.78	0.66	0.68	0.61
LTE Band 26 Ant 0	Front	0.187	1.208	0.725	0.360	0.179	1.183	0.763	0.376	0.191	0.297	0.197	0.144	1.51	1.48	0.49	1.49	0.87	0.84	0.86	0.68	0.56	0.51
	Back	0.877	0.510	0.362	0.179	0.089	0.303	0.266	0.137	0.069	0.123	0.016		0.63	0.43	0.14	0.63	0.36	1.18	1.14	1.02	1.04	0.97
LTE Band 26 Ant 1	Front	0.030	1.208	0.725	0.360	0.179	1.183	0.763	0.376	0.191	0.297	0.197	0.144	1.51	1.48	0.49	1.49	0.87	0.69	0.70	0.52	0.40	0.35
	Back	0.269	0.510	0.362	0.179	0.089	0.303	0.266	0.137	0.069	0.123	0.016		0.63	0.43	0.14	0.63	0.36	0.57	0.53	0.41	0.43	0.36
LTE Band 42 Part 27Q Ant 4	Front	0.894	1.208	0.725	0.360	0.179	1.183	0.763	0.376	0.191	0.297	0.197	0.144	1.51	1.48	0.49	1.49	0.87	1.55	1.57	1.39	1.26	1.22
	Back	0.284	0.510	0.362	0.179	0.089	0.303	0.266	0.137	0.069	0.123	0.016		0.63	0.43	0.14	0.63	0.36	0.59	0.54	0.42	0.44	0.37
LTE Band 42 Part 27Q Ant 6	Front	0.895	1.208	0.725	0.360	0.179	1.183	0.763	0.376	0.191	0.297	0.197	0.144	1.51	1.48	0.49	1.49	0.87	1.55	1.57	1.39	1.27	1.22
	Back	0.107	0.510	0.362	0.179	0.089	0.303	0.266	0.137	0.069	0.123	0.016		0.63	0.43	0.14	0.63	0.36	0.41	0.37	0.25	0.27	0.20
LTE Band 42 Part 27Q Ant 3	Front	0.897	1.208	0.725	0.360	0.179	1.183	0.763	0.376	0.191	0.297	0.197	0.144	1.51	1.48	0.49	1.49	0.87	1.55	1.57	1.39	1.27	1.22
	Back	0.449	0.510	0.362	0.179	0.089	0.303	0.266	0.137	0.069	0.123	0.016		0.63	0.43	0.14	0.63	0.36	0.75	0.71	0.59	0.61	0.54
LTE Band 42 Part 27Q Ant 8	Front	0.486	1.208	0.725	0.360	0.179	1.183	0.763	0.376	0.191	0.297	0.197	0.144	1.51	1.48	0.49	1.49	0.87	1.14	1.16	0.98	0.86	0.81
	Back	0.063	0.510	0.362	0.179	0.089	0.303	0.266	0.137	0.069	0.123	0.016		0.63	0.43	0.14	0.63	0.36	0.37	0.32	0.20	0.22	0.15
FR1 n77 Part 27O Ant 4	Front	0.877	1.208	0.725	0.360	0.179	1.183	0.763	0.376	0.191	0.297	0.197	0.144	1.51	1.48	0.49	1.49	0.87	1.53	1.55	1.37	1.25	1.20
	Back	0.265	0.510	0.362	0.179	0.089	0.303	0.266	0.137	0.069	0.123	0.016		0.63	0.43	0.14	0.63	0.36	0.57	0.53	0.40	0.42	0.35
FR1 n77 Part 27O Ant 6	Front	0.887	1.208	0.725	0.360	0.179	1.183	0.763	0.376	0.191	0.297	0.197	0.144	1.51	1.48	0.49	1.49	0.87	1.54	1.56	1.38	1.26	1.21
	Back	0.146	0.510	0.362	0.179	0.089	0.303	0.266	0.137	0.069	0.123	0.016		0.63	0.43	0.14	0.63	0.36	0.45	0.41	0.29	0.30	0.24
FR1 n77 Part 27O Ant 3	Front	0.887	1.208	0.725	0.360	0.179	1.183	0.763	0.376	0.191	0.297	0.197	0.144	1.51	1.48	0.49	1.49	0.87	1.54	1.56	1.38	1.26	1.21
	Back	0.106	0.510	0.362	0.179	0.089	0.303	0.266	0.137	0.069	0.123	0.016		0.63	0.43	0.14	0.63	0.36	0.41	0.37	0.25	0.26	0.20
FR1 n77 Part 27O Ant 8	Front	0.881	1.208	0.725	0.360	0.179	1.183	0.763	0.376	0.191	0.297	0.197	0.144	1.51	1.48	0.49	1.49	0.87	1.54	1.55	1.38	1.25	1.20
	Back	0.077	0.510	0.362	0.179	0.089	0.303	0.266	0.137	0.069	0.123	0.016		0.63	0.43	0.14	0.63	0.36	0.38	0.34	0.22	0.24	0.17

Sensor off

WWAN Band	Exposure Position	1	2	3	4	1+2+4	1+3+4
		WWAN	WLAN2.4GHz Ant 5+7	WLAN5GHz Ant 5+7	Bluetooth Ant 7	Summed	Summed
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
LTE Band 12 Ant 0	Front	0.141	0.595	0.520	0.064	0.80	0.73
	Back	0.290	0.315	0.189	0.004	0.61	0.48
LTE Band 26 Ant 0	Front	0.125	0.595	0.520	0.064	0.78	0.71
	Back	0.274	0.315	0.189	0.004	0.59	0.47
LTE Band 42 Part 27Q Ant 4	Front	0.328	0.595	0.520	0.064	0.99	0.91
	Back	0.153	0.315	0.189	0.004	0.47	0.35
LTE Band 42 Part 27Q Ant 6	Front	0.248	0.595	0.520	0.064	0.91	0.83
	Back	0.102	0.315	0.189	0.004	0.42	0.30
LTE Band 42 Part 27Q Ant 3	Front	0.248	0.595	0.520	0.064	0.91	0.83
	Back	0.124	0.315	0.189	0.004	0.44	0.32
FR1 n77 Part 27O Ant 4	Front	0.215	0.595	0.520	0.064	0.87	0.80
	Back	0.051	0.315	0.189	0.004	0.37	0.24
FR1 n77 Part 27O Ant 6	Front	0.408	0.595	0.520	0.064	1.07	0.99
	Back	0.186	0.315	0.189	0.004	0.51	0.38
FR1 n77 Part 27O Ant 3	Front	0.204	0.595	0.520	0.064	0.86	0.79
	Back	0.078	0.315	0.189	0.004	0.40	0.27
FR1 n77 Part 27O Ant 8	Front	0.506	0.595	0.520	0.064	1.17	1.09
	Back	0.172	0.315	0.189	0.004	0.49	0.37



18.5 Product specific 10g SAR Exposure Conditions

< Flip Open >

WWAN Band	Exposure Position	1	2	3	4	5	6	7	8	9	10	11	12	13	2+10+13	3+10+13	10+11+13	3+7+13	3+12+13	1+4+10+13	1+8+10+13	1+10+11+13	1+5+9+13	1+5+12+13
		WWAN	WLAN 2.4GHz Ant 5+7 Standalone	WLAN 2.4GHz Ant 7 DBS only	WLAN 2.4GHz Ant 5+7 WWAN+ non DBS	WLAN 2.4GHz Ant 7 WWAN+ DBS	WLAN 5GHz Ant 5+7 Standalone	WLAN 5GHz Ant 5 DBS only	WLAN 5GHz Ant 5+7 WWAN+ non DBS	WLAN 5GHz Ant 5 WWAN+ DBS	Bluetooth Ant 7	WLAN 6GHz Ant 5+7	WLAN 6GHz Ant 5	NFC	Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed
LTE Band 12 Ant 0	Front	1.512	1.864	1.108	0.562	0.276	2.866	1.837	0.900	0.437		0.346	0.172	0.001	1.87	2.87	0.35	2.95	1.28	2.08	2.41	1.86	2.23	1.96
	Back	1.950	0.837	0.498	0.252	0.123	1.444	0.974	0.479	0.233		0.158	0.090	0.019	0.86	1.46	0.18	1.49	0.61	2.22	2.45	2.13	2.33	2.18
	Left side	1.768					1.136	1.213				0.005		0.001	0.00	1.14	0.01	1.21	0.00	1.77	1.77	1.77	1.77	1.77
	Right side		3.003	1.821	0.924	0.454	2.506	1.728	0.851	0.415	0.279	0.431	0.003	0.001	3.28	2.79	0.71	3.55	1.83	1.20	1.13	0.71	0.87	0.46
	Top side		1.372	0.814	0.412	0.202	3.175	1.961	0.948	0.467		0.557	0.345	0.001	1.37	3.18	0.56	2.78	1.16	0.41	0.95	0.56	0.67	0.55
	Bottom side													0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LTE Band 26 Ant 0	Front	1.459	1.864	1.108	0.562	0.276	2.866	1.837	0.900	0.437		0.346	0.172	0.001	1.87	2.87	0.35	2.95	1.28	2.02	2.36	1.81	2.17	1.91
	Back	1.909	0.837	0.498	0.252	0.123	1.444	0.974	0.479	0.233		0.158	0.090	0.019	0.86	1.46	0.18	1.49	0.61	2.18	2.41	2.09	2.28	2.14
	Left side	0.809					1.136	1.213				0.005		0.001	0.00	1.14	0.01	1.21	0.00	0.81	0.81	0.82	0.81	0.81
	Right side		3.003	1.821	0.924	0.454	2.506	1.728	0.851	0.415	0.279	0.431	0.003	0.001	3.28	2.79	0.71	3.55	1.83	1.20	1.13	0.71	0.87	0.46
	Top side		1.372	0.814	0.412	0.202	3.175	1.961	0.948	0.467		0.557	0.345	0.001	1.37	3.18	0.56	2.78	1.16	0.41	0.95	0.56	0.67	0.55
	Bottom side													0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LTE Band 42 Part 27Q Ant 4	Front	0.925	1.864	1.108	0.562	0.276	2.866	1.837	0.900	0.437		0.346	0.172	0.001	1.87	2.87	0.35	2.95	1.28	1.49	1.83	1.27	1.64	1.37
	Back	0.578	0.837	0.498	0.252	0.123	1.444	0.974	0.479	0.233		0.158	0.090	0.019	0.86	1.46	0.18	1.49	0.61	0.85	1.08	0.76	0.95	0.81
	Left side	2.500					1.136	1.213				0.005		0.001	0.00	1.14	0.01	1.21	0.00	2.50	2.50	2.51	2.50	2.50
	Right side		3.003	1.821	0.924	0.454	2.506	1.728	0.851	0.415	0.279	0.431	0.003	0.001	3.28	2.79	0.71	3.55	1.83	1.20	1.13	0.71	0.87	0.46
	Top side		1.372	0.814	0.412	0.202	3.175	1.961	0.948	0.467		0.557	0.345	0.001	1.37	3.18	0.56	2.78	1.16	0.41	0.95	0.56	0.67	0.55
	Bottom side													0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LTE Band 42 Part 27Q Ant 6	Front	1.421	1.864	1.108	0.562	0.276	2.866	1.837	0.900	0.437		0.346	0.172	0.001	1.87	2.87	0.35	2.95	1.28	1.98	2.32	1.77	2.14	1.87
	Back	0.998	0.837	0.498	0.252	0.123	1.444	0.974	0.479	0.233		0.158	0.090	0.019	0.86	1.46	0.18	1.49	0.61	1.27	1.50	1.18	1.37	1.23
	Left side						1.136	1.213				0.005		0.001	0.00	1.14	0.01	1.21	0.00	0.00	0.00	0.01	0.00	0.00
	Right side		3.003	1.821	0.924	0.454	2.506	1.728	0.851	0.415	0.279	0.431	0.003	0.001	3.28	2.79	0.71	3.55	1.83	1.20	1.13	0.71	0.87	0.46
	Top side	2.466	1.372	0.814	0.412	0.202	3.175	1.961	0.948	0.467		0.557	0.345	0.001	1.37	3.18	0.56	2.78	1.16	2.88	3.42	3.02	3.14	3.01
	Bottom side													0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LTE Band 42 Part 27Q Ant 3	Front	0.999	1.864	1.108	0.562	0.276	2.866	1.837	0.900	0.437		0.346	0.172	0.001	1.87	2.87	0.35	2.95	1.28	1.56	1.90	1.35	1.71	1.45
	Back	0.650	0.837	0.498	0.252	0.123	1.444	0.974	0.479	0.233		0.158	0.090	0.019	0.86	1.46	0.18	1.49	0.61	0.92	1.15	0.83	1.03	0.88
	Left side						1.136	1.213				0.005		0.001	0.00	1.14	0.01	1.21	0.00	0.00	0.00	0.01	0.00	0.00
	Right side		3.003	1.821	0.924	0.454	2.506	1.728	0.851	0.415	0.279	0.431	0.003	0.001	3.28	2.79	0.71	3.55	1.83	1.20	1.13	0.71	0.87	0.46
	Top side	2.481	1.372	0.814	0.412	0.202	3.175	1.961	0.948	0.467		0.557	0.345	0.001	1.37	3.18	0.56	2.78	1.16	2.89	3.43	3.04	3.15	3.03
	Bottom side													0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LTE Band 42 Part 27Q Ant 8	Front	0.663	1.864	1.108	0.562	0.276	2.866	1.837	0.900	0.437		0.346	0.172	0.001	1.87	2.87	0.35	2.95	1.28	1.23	1.56	1.01	1.38	1.11
	Back	0.536	0.837	0.498	0.252	0.123	1.444	0.974	0.479	0.233		0.158	0.090	0.019	0.86	1.46	0.18	1.49	0.61	0.81	1.03	0.71	0.91	0.77
	Left side						1.136	1.213				0.005		0.001	0.00	1.14	0.01	1.21	0.00	0.00	0.00	0.01	0.00	0.00
	Right side	1.500	3.003	1.821	0.924	0.454	2.506	1.728	0.851	0.415	0.279	0.431	0.003	0.001	3.28	2.79	0.71	3.55	1.83	2.70	2.63	2.21	2.37	1.96
	Top side		1.372	0.814	0.412	0.202	3.175	1.961	0.948	0.467		0.557	0.345	0.001	1.37	3.18	0.56	2.78	1.16	0.41	0.95	0.56	0.67	0.55
	Bottom side													0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FR1 n77 Part 27Q Ant 4	Front	1.571	1.864	1.108	0.562	0.276	2.866	1.837	0.900	0.437		0.346	0.172	0.001	1.87	2.87	0.35	2.95	1.28	2.13	2.47	1.92	2.29	2.02
	Back	1.035	0.837	0.498	0.252	0.123	1.444	0.974	0.479	0.233		0.158	0.090	0.019	0.86	1.46	0.18	1.49	0.61	1.31	1.53	1.21	1.41	1.27
	Left side	2.467					1.136	1.213				0.005		0.001	0.00	1.14	0.01	1.21	0.00	2.47	2.47	2.47	2.47	2.47
	Right side		3.003	1.821	0.924	0.454	2.506	1.728	0.851	0.415	0.279	0.431	0.003	0.001	3.28	2.79	0.71	3.55	1.83	1.20	1.13	0.71	0.87	0.46
	Top side	1.101	1.372	0.814	0.412	0.202	3.175	1.961	0.948	0.467		0.557	0.345	0.001	1.37	3.18	0.56	2.78	1.16	1.51	2.05	1.66	1.77	1.65
	Bottom side													0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FR1 n77 Part 27Q Ant 6	Front	2.448	1.864	1.108	0.562	0.276	2.866	1.837	0.900	0.437		0.346	0.172	0.001	1.87	2.87	0.35	2.95	1.28	3.01	3.35	2.80	3.16	2.90
	Back	1.415	0.837	0.498	0.252	0.123	1.444	0.974	0.479	0.233		0.158	0.090	0.019	0.86	1.46	0.18	1.49	0.61	1.69	1.91	1.59	1.79	1.65
	Left side						1.136	1.213				0.005		0.001	0.00	1.14	0.01	1.21	0.00	0.00	0.00	0.01	0.00	0.00
	Right side		3.003	1.821	0.924	0.454	2.506	1.728	0.851	0.415	0.279	0.431	0.003	0.001	3.28	2.79	0.71	3.55	1.83	1.20	1.13	0.71	0.87	0.46
	Top side	2.301	1.372	0.814	0.412	0.202	3.175	1.961	0.948	0.467		0.557	0.345	0.001	1.37	3.18	0.56	2.78	1.16	2.71	3.25	2.86	2.97	2.85



FCC SAR Test Report

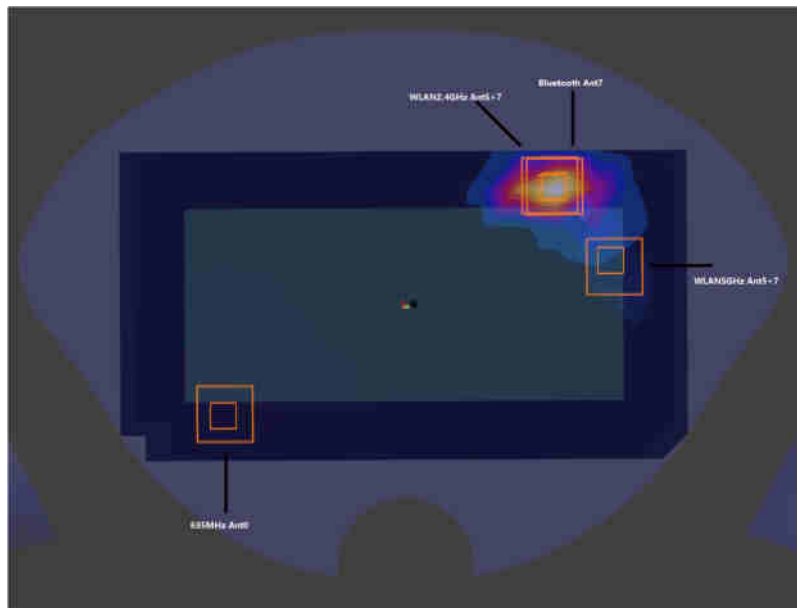
Report No. : FA422203-02

FR1 n77 Part 27O Ant 3	Bottom side													0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Front	2.100	1.864	1.108	0.562	0.276	2.866	1.837	0.900	0.437		0.346	0.172	0.001	1.87	2.87	0.35	2.95	1.28	2.66	3.00	2.45	2.81	2.55
	Back	1.715	0.837	0.498	0.252	0.123	1.444	0.974	0.479	0.233		0.158	0.090	0.019	0.86	1.46	0.18	1.49	0.61	1.99	2.21	1.89	2.09	1.95
	Left side						1.136	1.213				0.005		0.001	0.00	1.14	0.01	1.21	0.00	0.00	0.00	0.01	0.00	0.00
	Right side		3.003	1.821	0.924	0.454	2.506	1.728	0.851	0.415	0.279	0.431	0.003	0.001	3.28	2.79	0.71	3.55	1.83	1.20	1.13	0.71	0.87	0.46
	Top side	2.229	1.372	0.814	0.412	0.202	3.175	1.961	0.948	0.467		0.557	0.345	0.001	1.37	3.18	0.56	2.78	1.16	2.64	3.18	2.79	2.90	2.78
	Bottom side													0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FR1 n77 Part 27O Ant 8	Front	1.053	1.864	1.108	0.562	0.276	2.866	1.837	0.900	0.437		0.346	0.172	0.001	1.87	2.87	0.35	2.95	1.28	1.62	1.95	1.40	1.77	1.50
	Back	0.847	0.837	0.498	0.252	0.123	1.444	0.974	0.479	0.233		0.158	0.090	0.019	0.86	1.46	0.18	1.49	0.61	1.12	1.35	1.02	1.22	1.08
	Left side						1.136	1.213				0.005		0.001	0.00	1.14	0.01	1.21	0.00	0.00	0.00	0.01	0.00	0.00
	Right side	2.489	3.003	1.821	0.924	0.454	2.506	1.728	0.851	0.415	0.279	0.431	0.003	0.001	3.28	2.79	0.71	3.55	1.83	3.69	3.62	3.20	3.36	2.95
	Top side		1.372	0.814	0.412	0.202	3.175	1.961	0.948	0.467		0.557	0.345	0.001	1.37	3.18	0.56	2.78	1.16	0.41	0.95	0.56	0.67	0.55
	Bottom side													0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

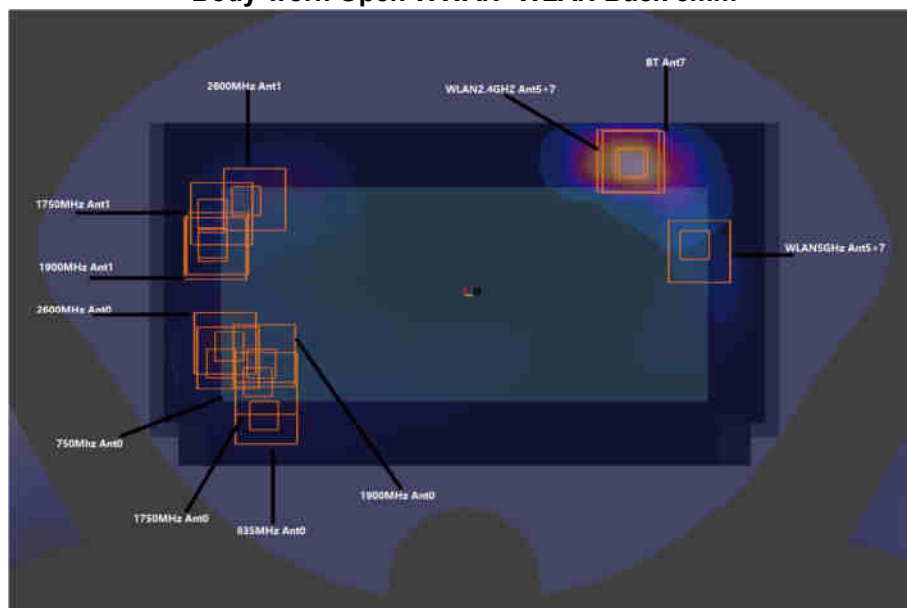
18.6 SPLSR Evaluation and Analysis

General Note:

1. When standalone SAR is measured for both antennas in the pair, the peak location separation distance is computed by the square root of $[(x_1 - x_2)^2 + (y_1 - y_2)^2 + (z_1 - z_2)^2]$, where (x_1, y_1, z_1) and (x_2, y_2, z_2) are the coordinates in the area scans or extrapolated peak SAR locations in the zoom scans, as appropriate.
2. $SPLSR = (SAR_1 + SAR_2)1.5 / (\text{min. separation distance, mm})$. If $SPLSR \leq 0.04$ for 1g SAR, simultaneously transmission SAR measurement is not necessary.
3. Per April 2022 TCB Workshop Notes, WLAN band antenna 5/7 was summed algebraically with the BT Antenna 7 separately for the purposes of hybrid SPLSR combination and they are located at the top of the device.
4. Per April 2022 TCB Workshop, instead of doing a small volume scan over a co-located antenna pair, used summing the SAR values of the co-located pair and using that value in SPLSR calculation. In the calculation used the minimum distance between the spatially separated antenna and the closest antenna of the co-located antenna pair to be conservative.



Body-worn Open WWAN+WLAN Back 5mm



Hotspot Open WWAN+WLAN Back 5mm

For Hotspot Open:

Case	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 1	LTE Band 12 Ant 0	Back	1.256	5mm	17	-73.5	-204	159.3	1.71	0.01	Not required
	WLAN5G Ant 5+7		0.358	5mm	-44	80	-204				
	Bluetooth Ant 7		0.099	5mm	-70	60	-204				
Case 2	LTE Band 26 Ant 0	Front	1.064	5mm	-68.5	-61.5	-204	144.7	1.60	0.01	Not required
	WLAN5G Ant 5+7		0.418	5mm	10	60	-204				
	Bluetooth Ant 7		0.118	5mm	-6	80	-204				
Case 3	LTE Band 26 Ant 0	Back	1.277	5mm	17	-72	-204	158.1	1.73	0.01	Not required
	WLAN5G Ant 5+7		0.358	5mm	-44	80	-204				
	Bluetooth Ant 7		0.099	5mm	-70	60	-204				

For Body-worn open:

Case	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 69	LTE Band 26 Ant 0	Back	1.277	5mm	17	-72	-204	157.0	1.60	0.01	Not required
	WLAN2.4G Ant 5+7		0.213	5mm	-71	58	-204				
	Bluetooth Ant 7		0.105	5mm	-70	60	-204				
Case 70	LTE Band 26 Ant 0	Back	1.277	5mm	17	-72	-204	158.1	1.65	0.01	Not required
	WLAN5G Ant 5+7		0.27	5mm	-44	80	-204				
	Bluetooth Ant 7		0.105	5mm	-70	60	-204				

19. Supplemental Tuner Tests Results

General Note:

1. This device implements impedance tuner (5 states) antenna tuning techniques in the LTE Band 2/4/5/7/12 /17/26/66/38/41, and 5GNR n5/66/41 for ANT0.
2. This device implements impedance tuner (5 states) antenna tuning techniques in the LTE Band 2/4/5/7/12 /17/26/66/38/41, and 5GNR n5/66/41 for ANT1.
3. This device implements impedance tuner (5 states) antenna tuning techniques in the LTE Band 2/4/7/66/38 /41, and 5GNR n66/41 for ANT2.
4. This device implements impedance tuner (5 states) antenna tuning techniques in the LTE Band 2/4/7/66/38/41/42, and 5GNR n66/41/77/78 for ANT3.
5. LTE B17 / B5 / B4 /B38 SAR test was covered by LTE B12 / B26 / B66 /B41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced.
6. 5GNR n78 SAR test was covered by 5GNR n77; according to April 2015 TCB workshop, SAR test for overlapping NR bands can be reduced.
7. Per 2019, April TCBC Workshop titled "RF Exposure Procedures", the following test procedure was followed to demonstrate that the SAR results in this report represent the appropriate SAR test conditions.
 - 1) SAR is measured according to required procedures with dynamic tuner active allowing device to automatically tune. Auto-tune state determined by device during normal SAR measurement verified and listed alongside the reported SAR results.
 - 2) Total number tuner states divided evenly among each supported band / air interface and exposure condition combination.
 - 3) The tuner state was established remotely through Wi-Fi so that the device is not moved for the entire series of single point SAR for the tuner states in each combination (band, mode, exposure conditions).
 - 4) Single point measurements performed at the peak SAR location of the highest measured SAR configuration for each combination. SAR probe remains stationary throughout the entire series of single point measurements for each combination.
 - 5) If any single point SAR measurement result is > 1.2 W/kg for 1gSAR (or > 3.0 W/kg for 10gSAR) for a band/exposure condition combination set, all supported tuner states are evaluated with single point SAR measurements for the combination.
8. The above test procedures were followed to demonstrate that the SAR results in Section 17 represented the appropriate SAR test conditions. For bands with dynamic tuning implemented, SAR will be measured according to the required FCC SAR test procedures with the dynamic tuner active to allow the device to automatically tune to the antenna state for the respective RF exposure test configurations. Additional single point SAR time-sweep measurements will be evaluated for other tuner states to determine that the other tuner configurations would result in equivalent or lower SAR values.
9. To evaluate all of the tuner states, the 5 tuner states for ANT0/1/2/3 is divided evenly among band, mode and exposure combinations so that at least one single point SAR measurement is measured in each configuration. Single point time-sweep measurements will be performed at the peak SAR location determined by the zoom scan of the configuration with the highest reported SAR for each combination. The tuner state will be established remotely so that the device is not moved for the entire series of single point SAR for the tuner states in each combination. The SAR probe will remain stationary at the same position throughout the entire series of single point measurements for each combination. When the single point SAR or 1g SAR was > 1.2 W/kg or 10g SAR was > 3.0 W/kg for a particular band / mode / exposure condition, point SAR measurements were made for all tuner states.
10. According to KDB 648474 D04 v01r03, in order to reduce the number of SAR tests required to demonstrate compliance for the numerous tuning states, certain SAR screening procedures were considered to identify the higher SAR between body-worn and hotspot scenarios that need normally required SAR measurements and allow SAR test reduction for the lower SAR conditions.
11. According to KDB 648474 D04 v01r03, this design will provide the highest power at different user scenarios and would not influence to the antenna characteristics other than impedance matching. The additional tuner hardware has no influence to the antenna characteristics, other than impedance matching.
12. The operational decryption contains more information about the design and implementation of the dynamic antenna tuning.

Test Engineer : Martin Li, Varus Wang, Ricky Gu, Light Wang

20. Uncertainty Assessment

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

Declaration of Conformity:

The test results with all measurement uncertainty excluded is 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.

The component of uncertainty may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainty by the statistical analysis of a series of observations is termed a Type A evaluation of uncertainty. The evaluation of uncertainty by means other than the statistical analysis of a series of observation is termed a Type B evaluation of uncertainty. Each component of uncertainty, however evaluated, is represented by an estimated standard deviation, termed standard uncertainty, which is determined by the positive square root of the estimated variance.

A Type A evaluation of standard uncertainty may be based on any valid statistical method for treating data. This includes calculating the standard deviation of the mean of a series of independent observations; using the method of least squares to fit a curve to the data in order to estimate the parameter of the curve and their standard deviations; or carrying out an analysis of variance in order to identify and quantify random effects in certain kinds of measurement.

A type B evaluation of standard uncertainty is typically based on scientific judgment using all of the relevant information available. These may include previous measurement data, experience, and knowledge of the behavior and properties of relevant materials and instruments, manufacture's specification, data provided in calibration reports and uncertainties assigned to reference data taken from handbooks. Broadly speaking, the uncertainty is either obtained from an outdoor source or obtained from an assumed distribution, such as the normal distribution, rectangular or triangular distributions indicated in table below.

Uncertainty Distributions	Normal	Rectangular	Triangular	U-Shape
Multi-plying Factor ^(a)	$1/k^{(b)}$	$1/\sqrt{3}$	$1/\sqrt{6}$	$1/\sqrt{2}$

(a) standard uncertainty is determined as the product of the multiplying factor and the estimated range of variations in the measured quantity

(b) k is the coverage factor

Standard Uncertainty for Assumed Distribution

The combined standard uncertainty of the measurement result represents the estimated standard deviation of the result. It is obtained by combining the individual standard uncertainties of both Type A and Type B evaluation using the usual "root-sum-squares" (RSS) methods of combining standard deviations by taking the positive square root of the estimated variances.

Expanded uncertainty is a measure of uncertainty that defines an interval about the measurement result within which the measured value is confidently believed to lie. It is obtained by multiplying the combined standard uncertainty by a coverage factor. Typically, the coverage factor ranges from 2 to 3. Using a coverage factor allows the true value of a measured quantity to be specified with a defined probability within the specified uncertainty range. For purpose of this document, a coverage factor two is used, which corresponds to confidence interval of about 95 %. The DASY uncertainty Budget is shown in the following tables.

The judgment of conformity in the report is based on the measurement results excluding the measurement uncertainty.

Uncertainty Budget According to IEC/IEEE 62209-1528 (Frequency band: 4 MHz - 10 GHz range)							
Error Description	Uncert. Value (±%)	Prob. Dist.	Div.	(Ci) 1g	(Ci) 10g	Standard Uncertainty (1g) (±%)	Standard Uncertainty (10g) (±%)
Measurement System errors							
Probe calibration	18.6	N	2	1	1	9.3	9.3
Probe calibration drift	1.7	R	1.732	1	1	1.0	1.0
Probe linearity and detection Limit	4.7	R	1.732	1	1	2.7	2.7
Broadband signal	2.8	R	1.732	1	1	1.6	1.6
Probe isotropy	7.6	R	1.732	1	1	4.4	4.4
Other probe and data acquisition errors	2.4	N	1	1	1	2.4	2.4
RF ambient and noise	1.8	N	1	1	1	1.8	1.8
Probe positioning errors	0.006	N	1	0.5	0.5	0.0	0.0
Data processing errors	4.0	N	1	1	1	4.0	4.0
Phantom and Device Errors							
Measurement of phantom conductivity (σ)	2.5	N	1	0.78	0.71	2.0	1.8
Temperature effects (medium)	5.4	R	1.732	0.78	0.71	2.4	2.2
Shell permittivity	14.0	R	1.732	0.5	0.5	4.0	4.0
Distance between the radiating element of the DUT and the phantom medium	2.0	N	1	2	2	4.0	4.0
Repeatability of positioning the DUT or source against the phantom	1.0	N	1	1	1	1.0	1.0
Device holder effects	3.6	N	1	1	1	3.6	3.6
Effect of operating mode on probe sensitivity	2.4	R	1.732	1	1	1.4	1.4
Time-average SAR	1.7	R	1.732	1	1	1.0	1.0
Variation in SAR due to drift in output of DUT	2.5	N	1	1	1	2.5	2.5
Validation antenna uncertainty (validation measurement only)	0.0	N	1	1	1	0.0	0.0
Uncertainty in accepted power (validation measurement only)	0.0	N	1	1	1	0.0	0.0
Correction to the SAR results							
Phantom deviation from target (ϵ' , σ)	1.9	N	1	1	0.84	1.9	1.6
SAR scaling	0.0	R	1.732	1	1	0.0	0.0
Combined Std. Uncertainty						14.5%	14.4%
Coverage Factor for 95 %						K=2	K=2
Expanded STD Uncertainty						29.0%	28.8%

21. References

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