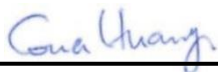


FCC SAR Spot Check Evaluation

FCC ID : A4RGLU0G
Equipment : Phone
Model Name : GLU0G
Applicant : Google LLC
1600 Amphitheatre Parkway,
Mountain View, California, 94043 USA
Standard : FCC 47 CFR Part 2 (2.1093)

We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample provide by manufacturer and the test data has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been pass the FCC requirement.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.



Approved by: Cona Huang / Deputy Manager



Sporton International Inc. EMC & Wireless Communications Laboratory
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History of this test report

Report No.	Version	Description	Issued Date
FA121931-05C	01	Initial issue of report	Aug. 18, 2021
FA121931-05C	02	Update section 2.1	Sep. 18, 2021



1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for Google LLC, Phone, GLU0G, are as follows.

Equipment Class	Frequency Band	Highest SAR Summary				Highest Simultaneous Transmission 1g SAR (W/kg)		
		Head (Separation 0mm)	Body-worn (Separation 10mm)	Hotspot (Separation 10mm)	Product Specific (Separation 0mm)			
		1g SAR (W/kg)			10g SAR (W/kg)			
Licensed	GSM850	1.05	0.50	0.50		1.56		
	GSM1900	0.22	0.69	0.91				
	WCDMA II	0.30	0.90	0.90				
	WCDMA IV	0.32	0.97	0.89				
	WCDMA V	1.10	0.37	0.37				
	LTE Band 7	0.37	1.19	0.91				
	LTE Band 12 / 17	0.34	0.31	0.31				
	LTE Band 13	0.43	0.34	0.34				
	LTE Band 14	0.67	0.33	0.33				
	LTE Band 2 / 25	0.38	1.14	0.91				
	LTE Band 5 / 26	0.53	0.38	0.38				
	LTE Band 30	0.24	1.19	0.90				
	LTE Band 38 / 41	0.21	1.18	0.90				
	LTE Band 48	0.35	0.96	0.89				
	LTE Band 4 / 66	0.31	0.89	0.89	2.97			
	LTE Band 71	0.31	0.32	0.32				
	FR1 n5	0.72	0.40	0.40				
	FR1 n7	0.56	1.18	0.90				
	FR1 n12	0.53	0.29	0.29				
	FR1 n25 / n2	0.44	1.19	0.90				
	FR1 n30	0.35	1.18	0.90				
	FR1 n41 / n38	1.11	1.15	0.89	2.72			
	FR1 n66	0.31	0.87	0.86				
	FR1 n71	0.40	0.29	0.29				
	FR1 n77	0.62	0.84	0.89				
DTS	2.4GHz WLAN	1.11	0.82	0.61		1.55		
NII	5GHz WLAN	0.96	1.13	0.54	2.04	1.56		
DSS	Bluetooth	0.18	0.26	0.33		1.56		
Equipment Class	Frequency Band	Head		Body		Product Specific		Highest Reported PD (W/m^2)
		Reported 1g SAR (W/kg)	APD (W/m^2)	Reported 1g SAR (W/kg)	APD (W/m^2)	Reported 1g SAR (W/kg)	APD (W/m^2)	
6XD	6GHz WLAN	0.20	1.05	0.14	0.78	0.18	3.68	6.95
Date of Testing:		2021/7/3 ~ 2021/8/10						

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test. 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

Referencing to the operational description and FCC guidance in KDB inquiry, along with the spot check verification in section 4, SAR data referencing is justified. Standalone and simultaneous transmission SAR summary is referenced from A4RG8V0U test report FA121931-04C

Reviewed by: Jason Wang

Report Producer: Carlie Tsai

2. Equipment Under Test (EUT) Information

2.1 General Information

Product Feature & Specification	
Equipment Name	Phone
Model Name	GLU0G
FCC ID	A4RGLU0G
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n12 : 699 MHz ~ 716 MHz 5G NR n25 : 1850 MHz ~ 1915 MHz 5G NR n30 : 2305 MHz ~ 2315 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71: 663 MHz ~ 698 MHz 5G NR n77 : 3450MHz ~ 3550MHz, 3700 MHz ~ 3980 MHz WLAN 2.4 GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2 GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3 GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.6 GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8 GHz Band: 5725 MHz ~ 5850 MHz WLAN 6E: 5925 MHz ~ 6425 MHz, 6425 MHz ~ 6525 MHz, 6525 MHz ~ 6875 MHz, 6875 MHz ~ 7125 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz NFC : 13.56 MHz WPT: 110KHz ~ 148.5KHz UWB: 6489.6 MHz, 7987.2 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM WLAN: 802.11a/b/g/n/ac/ax HT20/HT40/VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE NFC:ASK WPT ASK UWB: BPM-BPSK
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. Dynamic antenna tuning mechanism is available at Ant. 0 and for its <1GHz band, details are illustrated in the operational description 2. The device implements the power management and sensor detection for SAR compliance at different exposure conditions (head, body-worn, hotspot/extremity) and the TAS feature 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. 3. This device only WLAN 2.4GHz / 5.2GHz / 5.8GHz supports Hotspot operation and Bluetooth support tethering applications 4. The UWB output power is -17 dBm according to 201810 TCBC workshops the UWB output power is less than 1mW and exempt from power density testing.	



3. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards, the below KDB standard may not including in the TAF code without accreditation.

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01
- FCC KDB 941225 D07 UMPC Mini Tablet v01r02

4. Data Referencing

4.1 Introduction Section

FCC ID: A4RG8V0U (parent model) and FCC ID: A4RGLU0G (variant model) use the same printed circuit board. As such the layout is not changed and the position of components between reference model and variant model is identical.

The variant model depopulate mmWave antenna modules, details are available in the operational description. Due to the same design of all antenna 0/1/2/3/4/5/6/7, SAR data reuse is requested and spot check data in this report is used to justify the SAR data reuse

The applicant should take full responsibility that the test data as referenced in this report represent compliance for this FCC ID: A4RGLU0G.

4.2 Model Difference Information

The difference between FCC ID: A4RG8V0U and FCC ID: A4RGLU0G is as below:

- 5G FR2 antenna modules are depopulated.

The details of similarity and difference can be found in the confidential documents.



4.3 Reference detail Section

Rule Part	Equipment Class	Wireless Technology	Frequency Band (MHz)	Reference FCC ID (Parent)	Type Grant/ Permissive Change	Reference Title	FCC ID Filling (Variant)	Test on the variant
Part 2.1093 SAR	DSS	Bluetooth	2400~2483.5	A4RG8V0U	Original Grant	FA121931-04C	A4RGLU0G	Spot Check
	DTS	BLE Wi-Fi	2400~2483.5	A4RG8V0U	Original Grant	FA121931-04C	A4RGLU0G	Spot Check
	UWB	UWB	6489.6~ 7987.2	A4RG8V0U	Original Grant	FA121931-04C	A4RGLU0G	1mW Low power exclusion
	NII	Wi-Fi	2400~2483.5 5150~5250 5250~5350 5470~5725 5725~5850	A4RG8V0U	Original Grant	FA121931-04C	A4RGLU0G	Spot Check
	6XD	Wi-Fi	5925 ~ 6425 6425 ~ 6525 6525 ~ 6875 6875 ~ 7125	A4RG8V0U	Original Grant	FA121931-04C	A4RGLU0G	Spot Check
	PCE CBE	GSM	GSM 850/1900	A4RG8V0U	Original Grant	FA121931-04C	A4RGLU0G	Spot Check
		WCDMA	Band II, IV, V	A4RG8V0U	Original Grant	FA121931-04C	A4RGLU0G	Spot Check
		LTE	B2/ 4/ 5/ 7/ 12/ 13/ 14/ 17/ 25/ 26/ 30/ 38/ 41/ 48/ 66/ 71	A4RG8V0U	Original Grant	FA121931-04C	A4RGLU0G	Spot Check
		5G FR1	n2/ 5/ 7/ 12/ 25/ 30/ 41/ 66/ 71/ 77	A4RG8V0U	Original Grant	FA121931-04C	A4RGLU0G	Spot Check

4.4 Spot Check Verification Data Section

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
 1st as parent model
 2nd as variant model

4.4.1 Head SAR

<WWAN SAR>

No.	Band	Mode	Test Position	Gap (mm)	Output Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (%)
1st	GSM850_Ant 0	GPRS (4 Tx slots)	Left Cheek	0mm	Index 2/3	128	824.2	28.60	30.50	1.549	-0.07	0.153	0.237	-5.06%
2nd	GSM850_Ant 0	GPRS (4 Tx slots)	Left Cheek	0mm	Index 2/3	128	824.2	28.68	30.50	1.521	-0.15	0.148	0.225	
1st	GSM850_Ant 1-	GPRS (4 Tx slots)	Right Cheek	0mm	Index 2	251	848.8	27.85	29.50	1.462	0.05	0.717	1.048	-1.81%
2nd	GSM850_Ant 1-	GPRS (4 Tx slots)	Right Cheek	0mm	Index 2	251	848.8	27.81	29.50	1.476	0.05	0.697	1.029	
1st	GSM850_Ant 1	GPRS (4 Tx slots)	Right Cheek	0mm	Index 3	251	848.8	27.85	28.80	1.245	0.05	0.717	0.892	-1.91%
2nd	GSM850_Ant 1	GPRS (4 Tx slots)	Right Cheek	0mm	Index 3	251	848.8	27.81	28.80	1.256	0.05	0.697	0.875	
1st	GSM1900_Ant 2	GPRS (4 Tx slots)	Right Cheek	0mm	Index 2/3	512	1850.2	26.10	28.00	1.549	-0.19	0.121	0.187	-2.14%
2nd	GSM1900_Ant 2	GPRS (4 Tx slots)	Right Cheek	0mm	Index 2/3	512	1850.2	26.09	28.00	1.552	-0.16	0.118	0.183	
1st	GSM1900_Ant 0	GPRS (3 Tx slots)	Left Cheek	0mm	Index 2/3	512	1850.2	26.09	27.50	1.384	-0.18	0.156	0.216	-6.02%
2nd	GSM1900_Ant 0	GPRS (3 Tx slots)	Left Cheek	0mm	Index 2/3	512	1850.2	26.13	27.50	1.371	-0.14	0.148	0.203	
1st	WCDMA II_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	Index 2/3	9400	1880	23.90	25.25	1.365	-0.08	0.165	0.225	-24.44%
2nd	WCDMA II_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	Index 2/3	9400	1880	23.84	25.25	1.384	-0.06	0.123	0.170	
1st	WCDMA II_Ant 0	RMC 12.2Kbps	Left Cheek	0mm	Index 2/3	9538	1907.6	23.27	24.30	1.268	-0.14	0.239	0.303	-19.14%
2nd	WCDMA II_Ant 0	RMC 12.2Kbps	Left Cheek	0mm	Index 2/3	9538	1907.6	23.31	24.30	1.256	-0.11	0.195	0.245	
1st	WCDMA IV_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	Index 2/3	1513	1752.6	23.87	25.25	1.374	-0.07	0.144	0.198	-2.53%
2nd	WCDMA IV_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	Index 2/3	1513	1752.6	23.92	25.25	1.358	-0.09	0.142	0.193	
1st	WCDMA IV_Ant 0	RMC 12.2Kbps	Left Cheek	0mm	Index 2/3	1513	1752.6	23.05	24.50	1.396	-0.14	0.226	0.316	-23.44%
2nd	WCDMA IV_Ant 0	RMC 12.2Kbps	Left Cheek	0mm	Index 2/3	1513	1752.6	23.01	24.50	1.409	-0.06	0.182	0.256	
1st	WCDMA V_Ant 0	RMC 12.2Kbps	Left Cheek	0mm	Index 2/3	4233	846.6	23.98	25.40	1.387	-0.17	0.267	0.370	-17.84%
2nd	WCDMA V_Ant 0	RMC 12.2Kbps	Left Cheek	0mm	Index 2/3	4233	846.6	23.99	25.40	1.384	-0.05	0.220	0.304	
1st	WCDMA V_Ant 1-	RMC 12.2Kbps	Right Cheek	0mm	Index 2	4132	826.4	23.74	25.20	1.400	0.03	0.784	1.097	-27.16%
2nd	WCDMA V_Ant 1-	RMC 12.2Kbps	Right Cheek	0mm	Index 2	4132	826.4	23.86	25.20	1.361	0.08	0.587	0.799	
1st	WCDMA V_Ant 1	RMC 12.2Kbps	Right Cheek	0mm	Index 3	4132	826.4	23.74	24.30	1.138	0.03	0.784	0.892	-27.13%
2nd	WCDMA V_Ant 1	RMC 12.2Kbps	Right Cheek	0mm	Index 3	4132	826.4	23.86	24.30	1.107	0.08	0.587	0.650	



FCC SAR Spot Check Evaluation

Report No. : FA121931-05C

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Output Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (%)
1st	LTE Band 7_Ant 2	20M	QPSK	1	0	Right Cheek	0mm	Index 2/3	21350	2560	24.16	25.50	1.361	-0.18	0.205	0.279	-3.23%
2nd	LTE Band 7_Ant 2	20M	QPSK	1	0	Right Cheek	0mm	Index 2/3	21350	2560	23.98	25.50	1.419	0	0.190	0.270	
1st	LTE Band 7_Ant 0	20M	QPSK	1	49	Left Cheek	0mm	Index 2/3	21100	2535	22.55	24.10	1.429	-0.18	0.256	0.366	-15.85%
2nd	LTE Band 7_Ant 0	20M	QPSK	1	49	Left Cheek	0mm	Index 2/3	21100	2535	22.94	24.10	1.306	0.01	0.236	0.308	
1st	LTE Band 12_Ant 0	10M	QPSK	25	0	Left Cheek	0mm	Index 2/3	23095	707.5	23.36	24.50	1.300	-0.01	0.181	0.235	-8.94%
2nd	LTE Band 12_Ant 0	10M	QPSK	1	0	Left Cheek	0mm	Index 2/3	23095	707.5	24.31	25.50	1.315	-0.15	0.163	0.214	
1st	LTE Band 12_Ant 1	10M	QPSK	1	25	Right Cheek	0mm	Index 2/3	23095	707.5	23.87	25.20	1.358	-0.12	0.253	0.344	-1.45%
2nd	LTE Band 12_Ant 1	10M	QPSK	1	25	Right Cheek	0mm	Index 2/3	23095	707.5	23.64	25.20	1.432	-0.11	0.237	0.339	
1st	LTE Band 13_Ant 0	10M	QPSK	1	0	Left Cheek	0mm	Index 2/3	23230	782	24.47	25.50	1.268	-0.02	0.254	0.322	-29.50%
2nd	LTE Band 13_Ant 0	10M	QPSK	1	0	Left Cheek	0mm	Index 2/3	23230	782	24.30	25.50	1.318	-0.12	0.172	0.227	
1st	LTE Band 13_Ant 1	10M	QPSK	1	25	Right Cheek	0mm	Index 2/3	23230	782	23.94	25.20	1.337	-0.04	0.322	0.430	-3.95%
2nd	LTE Band 13_Ant 1	10M	QPSK	1	25	Right Cheek	0mm	Index 2/3	23230	782	23.81	25.20	1.377	-0.17	0.300	0.413	
1st	LTE Band 14_Ant 0	10M	QPSK	1	0	Left Cheek	0mm	Index 2/3	23330	793	24.30	25.50	1.318	-0.08	0.275	0.363	-32.23%
2nd	LTE Band 14_Ant 0	10M	QPSK	1	0	Left Cheek	0mm	Index 2/3	23330	793	24.15	25.50	1.365	-0.05	0.180	0.246	
1st	LTE Band 14_Ant 1	10M	QPSK	1	25	Right Cheek	0mm	Index 2/3	23330	793	23.84	25.20	1.368	-0.08	0.493	0.674	-2.08%
2nd	LTE Band 14_Ant 1	10M	QPSK	1	25	Right Cheek	0mm	Index 2/3	23330	793	23.71	25.20	1.409	-0.11	0.468	0.660	
1st	LTE Band 25_Ant 2	20M	QPSK	1	0	Right Cheek	0mm	Index 2/3	26590	1905	24.13	25.50	1.371	-0.07	0.223	0.306	-29.74%
2nd	LTE Band 25_Ant 2	20M	QPSK	1	0	Right Cheek	0mm	Index 2/3	26590	1905	24.08	25.50	1.387	-0.02	0.155	0.215	
1st	LTE Band 25_Ant 0	20M	QPSK	1	49	Left Cheek	0mm	Index 2/3	26590	1905	23.09	24.60	1.416	-0.18	0.269	0.381	-1.84%
2nd	LTE Band 25_Ant 0	20M	QPSK	1	49	Left Cheek	0mm	Index 2/3	26590	1905	22.99	24.60	1.449	-0.13	0.258	0.374	
1st	LTE Band 26_Ant 0	15M	QPSK	1	0	Left Cheek	0mm	Index 2/3	26865	831.5	24.20	25.50	1.349	-0.06	0.246	0.332	-22.29%
2nd	LTE Band 26_Ant 0	15M	QPSK	1	0	Left Cheek	0mm	Index 2/3	26865	831.5	24.15	25.50	1.365	-0.08	0.189	0.258	
1st	LTE Band 26_Ant 1	15M	QPSK	1	37	Right Titled	0mm	Index 2/3	26865	831.5	23.66	25.00	1.361	-0.11	0.392	0.534	-8.05%
2nd	LTE Band 26_Ant 1	15M	QPSK	1	37	Right Titled	0mm	Index 2/3	26865	831.5	23.44	25.00	1.432	-0.02	0.343	0.491	
1st	LTE Band 30_Ant 2	10M	QPSK	1	0	Right Cheek	0mm	Index 2/3	27710	2310	24.11	25.50	1.377	-0.16	0.099	0.136	-10.29%
2nd	LTE Band 30_Ant 2	10M	QPSK	1	0	Right Cheek	0mm	Index 2/3	27710	2310	24.09	25.50	1.384	-0.06	0.088	0.122	
1st	LTE Band 30_Ant 0	10M	QPSK	1	25	Left Cheek	0mm	Index 2/3	27710	2310	22.62	24.40	1.507	-0.17	0.159	0.240	-21.25%
2nd	LTE Band 30_Ant 0	10M	QPSK	1	25	Left Cheek	0mm	Index 2/3	27710	2310	22.51	24.40	1.545	-0.06	0.122	0.189	
1st	LTE Band 41_Ant 2	20M	QPSK	1	99	Right Cheek	0mm	Index 2/3	39750	2506	24.18	25.50	1.355	-0.16	0.140	0.191	-8.90%
2nd	LTE Band 41_Ant 2	20M	QPSK	1	99	Right Cheek	0mm	Index 2/3	39750	2506	24.08	25.50	1.387	-0.02	0.125	0.174	
1st	LTE Band 41_HPUE_Ant 2	20M	QPSK	1	99	Right Cheek	0mm	Index 2/3	39750	2506	26.23	27.50	1.340	-0.03	0.158	0.213	-7.04%
2nd	LTE Band 41_HPUE_Ant 2	20M	QPSK	1	99	Right Cheek	0mm	Index 2/3	39750	2506	26.11	27.50	1.377	-0.09	0.143	0.198	
1st	LTE Band 41_Ant 0	20M	QPSK	1	49	Left Cheek	0mm	Index 2/3	41055	2636.5	22.52	24.50	1.578	0.06	0.131	0.208	-8.17%
2nd	LTE Band 41_Ant 0	20M	QPSK	1	49	Left Cheek	0mm	Index 2/3	41055	2636.5	22.61	24.50	1.545	0.06	0.123	0.191	
1st	LTE Band 41_HPUE_Ant 0	20M	QPSK	1	49	Left Cheek	0mm	Index 2/3	41055	2636.5	24.66	26.60	1.563	-0.04	0.132	0.208	-14.90%
2nd	LTE Band 41_HPUE_Ant 0	20M	QPSK	1	49	Left Cheek	0mm	Index 2/3	41055	2636.5	24.61	26.60	1.581	-0.12	0.111	0.177	
1st	LTE Band 48_Ant 6	20M	QPSK	1	0	Left Cheek	0mm	Index 2/3	55340	3560	23.63	25.50	1.538	-0.13	0.224	0.347	-14.41%
2nd	LTE Band 48_Ant 6	20M	QPSK	1	0	Left Cheek	0mm	Index 2/3	55340	3560	23.61	25.50	1.545	-0.12	0.191	0.297	
1st	LTE Band 48_Ant 2	20M	QPSK	1	0	Right Cheek	0mm	Index 2/3	55340	3560	21.49	22.90	1.384	0.11	0.084	0.117	-27.35%
2nd	LTE Band 48_Ant 2	20M	QPSK	1	0	Right Cheek	0mm	Index 2/3	55340	3560	21.34	22.90	1.432	0.01	0.059	0.085	
1st	LTE Band 66_Ant 2	20M	QPSK	1	0	Right Cheek	0mm	Index 2/3	132572	1770	24.23	25.50	1.340	-0.08	0.150	0.201	-24.38%
2nd	LTE Band 66_Ant 2	20M	QPSK	1	0	Right Cheek	0mm	Index 2/3	132572	1770	24.18	25.50	1.355	-0.01	0.112	0.152	
1st	LTE Band 66_Ant 0	20M	QPSK	1	49	Left Cheek	0mm	Index 2/3	132572	1770	22.86	24.40	1.426	0.1	0.219	0.312	-0.64%
2nd	LTE Band 66_Ant 0	20M	QPSK	1	49	Left Cheek	0mm	Index 2/3	132572	1770	22.75	24.40	1.462	-0.15	0.212	0.310	
1st	LTE Band 71_Ant 0	20M	QPSK	1	0	Left Cheek	0mm	Index 2/3	133322	683	24.19	25.50	1.352	-0.13	0.170	0.230	-8.26%
2nd	LTE Band 71_Ant 0	20M	QPSK	1	0	Left Cheek	0mm	Index 2/3	133322	683	24.18	25.50	1.355	-0.19	0.156	0.211	
1st	LTE Band 71_Ant 1	20M	QPSK	1	49	Right Cheek	0mm	Index 2/3	133322	683	23.66	25.00	1.361	0.18	0.228	0.310	-10.32%
2nd	LTE Band 71_Ant 1	20M	QPSK	1	49	Right Cheek	0mm	Index 2/3	133322	683	23.59	25.00	1.384	0.11	0.201	0.278	



FCC SAR Spot Check Evaluation

Report No. : FA121931-05C

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Output Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (%)
1st	FR1 n5_Ant 0	20M	BPSK	50	28	Left Cheek	0mm	Index 2/3	167300	836.5	24.50	25.50	1.259	-0.13	0.242	0.305	-4.59%
2nd	FR1 n5_Ant 0	20M	BPSK	50	28	Left Cheek	0mm	Index 2/3	167300	836.5	24.51	25.50	1.256	-0.08	0.232	0.291	
1st	FR1 n5_Ant 1	20M	BPSK	50	28	Right Cheek	0mm	Index 2/3	167300	836.5	23.96	25.10	1.300	-0.04	0.552	0.718	-30.78%
2nd	FR1 n5_Ant 1	20M	BPSK	50	28	Right Cheek	0mm	Index 2/3	167300	836.5	23.84	25.10	1.337	-0.04	0.372	0.497	
1st	FR1 n7_Ant 2	20M	BPSK	50	28	Right Cheek	0mm	Index 2/3	502000	2510	24.41	25.50	1.285	-0.18	0.234	0.301	-16.28%
2nd	FR1 n7_Ant 2	20M	BPSK	50	28	Right Cheek	0mm	Index 2/3	502000	2510	24.25	25.50	1.334	-0.11	0.189	0.252	
1st	FR1 n7_Ant 0	20M	BPSK	50	28	Left Cheek	0mm	Index 2/3	512000	2560	22.74	24.70	1.570	0.05	0.355	0.557	-8.62%
2nd	FR1 n7_Ant 0	20M	BPSK	50	28	Left Cheek	0mm	Index 2/3	512000	2560	22.71	24.70	1.581	0.12	0.322	0.509	
1st	FR1 n12_Ant 0	15M	BPSK	36	22	Left Cheek	0mm	Index 2/3	141500	707.5	24.57	25.50	1.239	-0.03	0.205	0.254	-5.91%
2nd	FR1 n12_Ant 0	15M	BPSK	36	22	Left Cheek	0mm	Index 2/3	141500	707.5	24.31	25.50	1.315	-0.18	0.182	0.239	
1st	FR1 n12_Ant 1	15M	BPSK	36	22	Right Cheek	0mm	Index 2/3	141500	707.5	24.11	25.10	1.256	-0.03	0.419	0.526	-48.10%
2nd	FR1 n12_Ant 1	15M	BPSK	36	22	Right Cheek	0mm	Index 2/3	141500	707.5	24.08	25.10	1.265	-0.02	0.216	0.273	
1st	FR1 n25_Ant 2	20M	BPSK	50	28	Right Cheek	0mm	Index 2/3	376500	1882.5	24.02	25.50	1.406	-0.04	0.210	0.295	-30.85%
2nd	FR1 n25_Ant 2	20M	BPSK	50	28	Right Cheek	0mm	Index 2/3	376500	1882.5	23.95	25.50	1.429	-0.16	0.143	0.204	
1st	FR1 n25_Ant 0	20M	BPSK	50	28	Left Cheek	0mm	Index 2/3	376500	1882.5	23.17	24.60	1.390	-0.04	0.315	0.438	-21.92%
2nd	FR1 n25_Ant 0	20M	BPSK	50	28	Left Cheek	0mm	Index 2/3	376500	1882.5	23.01	24.60	1.442	-0.01	0.237	0.342	
1st	FR1 n30_Ant 2	10M	BPSK	1	26	Right Cheek	0mm	Index 2/3	462000	2310	24.53	25.50	1.250	-0.18	0.182	0.228	-22.81%
2nd	FR1 n30_Ant 2	10M	BPSK	1	26	Right Cheek	0mm	Index 2/3	462000	2310	24.44	25.50	1.276	-0.1	0.138	0.176	
1st	FR1 n30_Ant 0	10M	BPSK	1	26	Left Cheek	0mm	Index 2/3	462000	2310	22.92	24.50	1.439	0.12	0.245	0.353	-4.82%
2nd	FR1 n30_Ant 0	10M	BPSK	1	26	Left Cheek	0mm	Index 2/3	462000	2310	22.84	24.50	1.466	0.04	0.229	0.336	
1st	FR1 n41_Ant 1-	100M	BPSK	135	69	Right Tilted	0mm	Index 2	518598	2592.99	17.47	18.50	1.268	-0.07	0.872	1.105	3.17%
2nd	FR1 n41_Ant 1-	100M	BPSK	135	69	Right Tilted	0mm	Index 2	518598	2592.99	17.31	18.50	1.315	0.01	0.867	1.140	
1st	FR1 n41_HPUE_Ant 1-	100M	BPSK	135	69	Right Tilted	0mm	Index 2	518598	2592.99	20.57	21.50	1.239	-0.05	0.839	1.039	-0.29%
2nd	FR1 n41_HPUE_Ant 1-	100M	BPSK	135	69	Right Tilted	0mm	Index 2	518598	2592.99	20.44	21.50	1.276	-0.13	0.812	1.036	
1st	FR1 n41_Ant 1	100M	BPSK	135	69	Right Tilted	0mm	Index 3	518598	2592.99	16.19	17.30	1.291	-0.17	0.695	0.897	-1.56%
2nd	FR1 n41_Ant 1	100M	BPSK	135	69	Right Tilted	0mm	Index 3	518598	2592.99	16.11	17.30	1.315	0.03	0.671	0.883	
1st	FR1 n41_HPUE_Ant 1	100M	BPSK	135	69	Right Tilted	0mm	Index 3	518598	2592.99	19.13	20.30	1.309	-0.08	0.667	0.873	-2.63%
2nd	FR1 n41_HPUE_Ant 1	100M	BPSK	135	69	Right Tilted	0mm	Index 3	518598	2592.99	19.08	20.30	1.324	0.04	0.642	0.850	
1st	FR1 n41_Ant 5	100M	BPSK	135	69	Left Cheek	0mm	Index 2	518598	2592.99	21.25	22.40	1.303	-0.09	0.839	1.093	-19.85%
2nd	FR1 n41_Ant 5	100M	BPSK	135	69	Left Cheek	0mm	Index 2	518598	2592.99	21.19	22.40	1.321	-0.09	0.663	0.876	
1st	FR1 n41_HPUE_Ant 5	100M	BPSK	135	69	Left Cheek	0mm	Index 2	518598	2592.99	24.60	25.40	1.202	-0.01	0.834	1.003	-20.04%
2nd	FR1 n41_HPUE_Ant 5	100M	BPSK	135	69	Left Cheek	0mm	Index 2	518598	2592.99	24.50	25.40	1.230	0.01	0.652	0.802	
1st	FR1 n41_Ant 5-	100M	BPSK	135	69	Left Cheek	0mm	Index 3	518598	2592.99	20.26	21.20	1.242	-0.08	0.715	0.888	-29.73%
2nd	FR1 n41_Ant 5-	100M	BPSK	135	69	Left Cheek	0mm	Index 3	518598	2592.99	20.14	21.20	1.276	-0.05	0.489	0.624	
1st	FR1 n41_HPUE_Ant 5-	100M	BPSK	135	69	Left Cheek	0mm	Index 3	518598	2592.99	23.71	24.20	1.119	-0.13	0.674	0.755	-30.07%
2nd	FR1 n41_HPUE_Ant 5-	100M	BPSK	135	69	Left Cheek	0mm	Index 3	518598	2592.99	23.61	24.20	1.146	-0.02	0.461	0.528	



FCC SAR Spot Check Evaluation

Report No. : FA121931-05C

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Output Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (%)
1st	FR1 n66_Ant 2	40M	BPSK	108	54	Right Cheek	0mm	Index 2/3	352000	1760	23.90	25.50	1.445	-0.16	0.145	0.210	-29.05%
2nd	FR1 n66_Ant 2	40M	BPSK	108	54	Right Cheek	0mm	Index 2/3	352000	1760	23.89	25.50	1.449	-0.01	0.103	0.149	
1st	FR1 n66_Ant 0	40M	BPSK	1	108	Left Cheek	0mm	Index 2/3	352000	1760	22.93	24.20	1.340	-0.11	0.232	0.311	-13.83%
2nd	FR1 n66_Ant 0	40M	BPSK	1	108	Left Cheek	0mm	Index 2/3	352000	1760	22.99	24.20	1.321	-0.08	0.203	0.268	
1st	FR1 n71_Ant 0	20M	BPSK	50	28	Right Cheek	0mm	Index 2/3	136100	680.5	24.56	25.50	1.242	-0.08	0.155	0.192	-2.60%
2nd	FR1 n71_Ant 0	20M	BPSK	50	28	Right Cheek	0mm	Index 2/3	136100	680.5	24.55	25.50	1.245	-0.04	0.150	0.187	
1st	FR1 n71_Ant 1	20M	BPSK	1	53	Right Tilted	0mm	Index 2/3	136100	680.5	24.21	25.10	1.227	-0.08	0.324	0.398	-2.51%
2nd	FR1 n71_Ant 1	20M	BPSK	1	53	Right Tilted	0mm	Index 2/3	136100	680.5	24.18	25.10	1.236	-0.08	0.314	0.388	
1st	FR1 n77_Ant 6	100M	QPSK	1	137	Left Cheek	0mm	Index 2/3	656000	3840	23.53	25.30	1.503	-0.09	0.409	0.615	-11.06%
2nd	FR1 n77_Ant 6	100M	QPSK	1	137	Left Cheek	0mm	Index 2/3	656000	3840	23.51	25.30	1.510	-0.09	0.362	0.547	
1st	FR1 n77_HPUE_Ant 6	100M	QPSK	1	137	Left Cheek	0mm	Index 2/3	656000	3840	25.73	27.00	1.340	-0.1	0.312	0.418	-15.31%
2nd	FR1 n77_HPUE_Ant 6	100M	QPSK	1	137	Left Cheek	0mm	Index 2/3	656000	3840	25.69	27.00	1.352	0.02	0.262	0.354	
1st	FR1 n77_Ant 6	100M	QPSK	1	137	Left Cheek	0mm	Index 2/3	633332	3499.98	23.77	25.30	1.422	-0.05	0.328	0.467	-15.20%
2nd	FR1 n77_Ant 6	100M	QPSK	1	137	Left Cheek	0mm	Index 2/3	633332	3499.98	23.80	25.30	1.413	0.03	0.280	0.396	
1st	FR1 n77_HPUE_Ant 6	100M	QPSK	1	137	Left Cheek	0mm	Index 2/3	633332	3499.98	25.83	27.00	1.309	0.04	0.172	0.225	-6.22%
2nd	FR1 n77_HPUE_Ant 6	100M	QPSK	1	137	Left Cheek	0mm	Index 2/3	633332	3499.98	25.79	27.00	1.321	0.17	0.160	0.211	
1st	FR1 n77_Ant 2	100M	QPSK	135	69	Right Cheek	0mm	Index 2/3	656000	3840	22.27	23.30	1.268	0.13	0.043	0.055	-36.36%
2nd	FR1 n77_Ant 2	100M	QPSK	135	69	Right Cheek	0mm	Index 2/3	656000	3840	22.21	23.30	1.285	0.14	0.027	0.035	
1st	FR1 n77_HPUE_Ant 2	100M	QPSK	1	271	Right Cheek	0mm	Index 2/3	656000	3840	23.68	25.00	1.355	-0.15	0.029	0.039	-23.08%
2nd	FR1 n77_HPUE_Ant 2	100M	QPSK	1	271	Right Cheek	0mm	Index 2/3	656000	3840	23.61	25.00	1.377	-0.02	0.022	0.030	
1st	FR1 n77_Ant 2	100M	QPSK	135	69	Right Cheek	0mm	Index 2/3	633332	3499.98	22.14	23.30	1.306	-0.16	0.038	0.050	-50.00%
2nd	FR1 n77_Ant 2	100M	QPSK	1	271	Right Cheek	0mm	Index 2/3	633332	3499.98	22.15	23.30	1.303	0.1	0.019	0.025	
1st	FR1 n77_HPUE_Ant 2	100M	QPSK	1	271	Right Cheek	0mm	Index 2/3	633332	3499.98	23.55	25.00	1.396	0.1	0.025	0.035	8.57%
2nd	FR1 n77_HPUE_Ant 2	100M	QPSK	1	271	Right Cheek	0mm	Index 2/3	633332	3499.98	23.51	25.00	1.409	0.1	0.027	0.038	



<WLAN SAR>

No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation %
1st	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+4 (4)	1	12	2467	16.95	17.50	1.135	0.18	0.922	1.105	-12%
				0mm	Ant 3+4 (3)	1	12	2467	16.55	17.50	1.245	0.18	0.219	0.288	
2nd	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+4 (4)	1	12	2467	16.95	17.50	1.135	-0.13	0.811	0.972	
				0mm	Ant 3+4 (3)	1	12	2467	16.55	17.50	1.245	0.11	0.205	0.269	
1st	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+4 (4)	2	12	2467	16.95	17.00	1.012	0.18	0.922	0.985	-12%
				0mm	Ant 3+4 (3)	2	12	2467	16.55	17.00	1.109	0.18	0.219	0.257	
2nd	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+4 (4)	2	12	2467	16.95	17.00	1.012	-0.13	0.811	0.866	
				0mm	Ant 3+4 (3)	2	12	2467	16.55	17.00	1.109	0.11	0.205	0.240	
1st	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+4 (4)	3	12	2467	14.45	15.00	1.135	-0.1	0.506	0.606	0%
				0mm	Ant 3+4 (3)	3	12	2467	14.15	15.00	1.216	-0.1	0.113	0.145	
2nd	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+4 (4)	3	12	2467	14.45	15.00	1.135	-0.1	0.505	0.605	
				0mm	Ant 3+4 (3)	3	12	2467	14.15	15.00	1.216	0.15	0.123	0.158	
1st	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+4 (4)	4	6	2437	9.15	10.50	1.365	-0.07	0.121	0.174	-10%
				0mm	Ant 3+4 (3)	4	6	2437	9.05	10.50	1.396	-0.07	0.013	0.019	
2nd	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+4 (4)	4	6	2437	9.15	10.50	1.365	-0.01	0.108	0.156	
				0mm	Ant 3+4 (3)	4	6	2437	9.05	10.50	1.396	-0.01	0.016	0.024	
1st	WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+7 (7)	1/2	54	5270	19.75	21.00	1.334	-0.09	0.281	0.387	-8%
				0mm	Ant 3+7 (3)	1/2	54	5270	19.40	21.00	1.445	-0.09	0.613	0.915	
2nd	WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+7 (7)	1/2	54	5270	19.75	21.00	1.334	-0.04	0.233	0.321	
				0mm	Ant 3+7 (3)	1/2	54	5270	19.40	21.00	1.445	-0.04	0.565	0.844	
1st	WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+7 (3)	3/4	54	5270	17.20	17.50	1.072	-0.01	0.336	0.372	-14%
2nd	WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+7 (3)	3/4	54	5270	17.20	17.50	1.072	-0.15	0.288	0.319	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+7 (7)	1/2	138	5690	19.55	21.00	1.396	0.04	0.290	0.460	-2%
				0mm	Ant 3+7 (3)	1/2	138	5690	19.50	21.00	1.413	0.04	0.598	0.959	
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+7 (7)	1/2	138	5690	19.55	21.00	1.396	-0.07	0.266	0.422	
				0mm	Ant 3+7 (3)	1/2	138	5690	19.50	21.00	1.413	-0.07	0.585	0.938	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+7 (3)	3	122	5610	17.90	19.50	1.445	-0.11	0.267	0.438	-10%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+7 (3)	3	122	5610	17.90	19.50	1.445	-0.05	0.240	0.394	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+7 (3)	4	122	5610	17.90	18.50	1.148	-0.11	0.267	0.348	-10%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+7 (3)	4	122	5610	17.90	18.50	1.148	-0.05	0.240	0.313	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+7 (7)	1/2	155	5775	19.85	21.00	1.303	0.04	0.320	0.473	-5%
				0mm	Ant 3+7 (3)	1/2	155	5775	19.90	21.00	1.288	0.04	0.513	0.750	
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+7 (7)	1/2	155	5775	19.85	21.00	1.303	-0.07	0.302	0.447	
				0mm	Ant 3+7 (3)	1/2	155	5775	19.90	21.00	1.288	-0.07	0.488	0.714	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+7 (3)	3/4	155	5775	19.00	19.50	1.122	0.02	0.397	0.506	-53%
2nd	WLAN5GHz	802.11ac-VHT160 MCS0	Right Cheek	0mm	Ant 3+7 (3)	3/4	155	5775	19.00	19.50	1.122	0	0.185	0.236	



<6GHz WLAN SAR>

No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation %
1st	WLAN6GHz	802.11ax-HE160 MCS0	Left Tilted	0mm	Ant 3+7 (7)	1/2/3/4	175	6825	14.10	15.00	1.230	-0.07	0.135	0.195	-14%
				0mm	Ant 3+7 (3)	1/2/3/4	175	6825	14.40	15.00	1.148	-0.07	0.001	0.001	
2nd	WLAN6GHz	802.11ax-HE160 MCS0	Left Tilted	0mm	Ant 3+7 (7)	1/2/3/4	175	6825	14.10	15.00	1.230	0.14	0.116	0.168	
				0mm	Ant 3+7 (3)	1/2/3/4	175	6825	14.40	15.00	1.148	0.14	0.001	0.001	

<Bluetooth SAR>

No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation %
1st	Bluetooth	1Mbps	Left Cheek	0mm	Ant 4	1	39	2441	11.46	12.00	1.132	0.1	0.119	0.146	-9%
2nd	Bluetooth	1Mbps	Left Cheek	0mm	Ant 4	1	39	2441	11.46	12.00	1.132	-0.09	0.108	0.133	
1st	Bluetooth	1Mbps	Right Cheek	0mm	Ant 3	1	39	2441	11.51	12.00	1.119	-0.14	0.046	0.056	-11%
2nd	Bluetooth	1Mbps	Right Cheek	0mm	Ant 3	1	39	2441	11.51	12.00	1.119	-0.14	0.041	0.050	
1st	Bluetooth	1Mbps	Left Cheek	0mm	Ant 3+4 (4)	1	39	2441	11.15	12.00	1.216	0.01	0.136	0.179	-26%
				0mm	Ant 3+4 (3)	1	39	2441	11.19	12.00	1.205	0.01	0.031	0.040	
2nd	Bluetooth	1Mbps	Left Cheek	0mm	Ant 3+4 (4)	1	39	2441	11.15	12.00	1.216	0.19	0.100	0.132	
				0mm	Ant 3+4 (3)	1	39	2441	11.19	12.00	1.205	0.19	0.034	0.044	

4.4.2 Hotspot SAR

<WWAN SAR>

No.	Band	Test Position	Gap (mm)	Output Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (%)
1st	GSM850_Ant 0	Back	10mm	Index 4	128	824.2	28.60	30.50	1.549	-0.14	0.319	0.494	1.21%
2nd	GSM850_Ant 0	Back	10mm	Index 4	128	824.2	28.51	30.50	1.581	-0.09	0.316	0.500	
1st	GSM850_Ant 1	Back	10mm	Index 4	128	824.2	27.68	29.50	1.521	-0.08	0.330	0.502	-12.95%
2nd	GSM850_Ant 1	Back	10mm	Index 4	128	824.2	27.66	29.50	1.528	-0.12	0.286	0.437	
1st	GSM1900_Ant 2	Bottom Side	10mm	Index 4	512	1850.2	24.99	25.10	1.026	-0.15	0.884	0.907	-2.87%
2nd	GSM1900_Ant 2	Bottom Side	10mm	Index 4	512	1850.2	24.87	25.10	1.054	-0.18	0.836	0.881	
1st	GSM1900_Ant 0	Back	10mm	Index 4	810	1909.8	26.39	27.50	1.291	-0.03	0.533	0.688	-16.72%
2nd	GSM1900_Ant 0	Back	10mm	Index 4	810	1909.8	26.18	27.50	1.355	-0.03	0.423	0.573	
1st	WCDMA II_Ant 2	Bottom Side	10mm	Index 4	9262	1852.4	23.29	23.40	1.026	0.05	0.856	0.878	-2.96%
2nd	WCDMA II_Ant 2	Bottom Side	10mm	Index 4	9262	1852.4	23.11	23.40	1.069	-0.07	0.797	0.852	
1st	WCDMA II_Ant 0	Back	10mm	Index 4	9538	1907.6	22.41	23.10	1.172	-0.1	0.770	0.903	-46.29%
2nd	WCDMA II_Ant 0	Back	10mm	Index 4	9538	1907.6	22.51	23.10	1.146	-0.07	0.423	0.485	
1st	WCDMA IV_Ant 2	Bottom Side	10mm	Index 4	1513	1752.6	22.86	23.00	1.033	-0.03	0.864	0.892	-7.96%
2nd	WCDMA IV_Ant 2	Bottom Side	10mm	Index 4	1513	1752.6	22.71	23.00	1.069	0.13	0.768	0.821	
1st	WCDMA IV_Ant 0	Back	10mm	Index 4	1413	1732.6	23.06	24.50	1.393	-0.08	0.435	0.606	-9.90%
2nd	WCDMA IV_Ant 0	Back	10mm	Index 4	1413	1732.6	22.99	24.50	1.416	-0.04	0.386	0.546	
1st	WCDMA V_Ant 0	Back	10mm	Index 4	4233	846.6	23.98	25.40	1.387	-0.05	0.262	0.363	1.38%
2nd	WCDMA V_Ant 0	Back	10mm	Index 4	4233	846.6	23.77	25.40	1.455	-0.02	0.253	0.368	
1st	WCDMA V_Ant 1	Back	10mm	Index 4	4233	846.6	23.61	25.20	1.442	-0.03	0.254	0.366	-13.39%
2nd	WCDMA V_Ant 1	Back	10mm	Index 4	4233	846.6	23.51	25.20	1.476	-0.01	0.215	0.317	



FCC SAR Spot Check Evaluation

Report No. : FA121931-05C

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Output Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (%)
1st	LTE Band 7_Ant 2	20M	QPSK	50	24	Back	10mm	Index 4	21350	2560	20.97	21.10	1.030	-0.03	0.876	0.903	-5.87%
2nd	LTE Band 7_Ant 2	20M	QPSK	50	24	Back	10mm	Index 4	21350	2560	20.88	21.10	1.052	0	0.808	0.850	
1st	LTE Band 7_Ant 0	20M	QPSK	50	0	Left Side	10mm	Index 4	21350	2560	21.58	22.00	1.102	0.07	0.823	0.907	-1.43%
2nd	LTE Band 7_Ant 0	20M	QPSK	50	0	Left Side	10mm	Index 4	21350	2560	21.45	22.00	1.135	0.04	0.788	0.894	
1st	LTE Band 12_Ant 0	10M	QPSK	1	0	Back	10mm	Index 4	23095	707.5	24.31	25.50	1.315	-0.19	0.238	0.313	-12.46%
2nd	LTE Band 12_Ant 0	10M	QPSK	1	0	Back	10mm	Index 4	23095	707.5	24.15	25.50	1.365	0.05	0.201	0.274	
1st	LTE Band 12_Ant 1	10M	QPSK	1	25	Back	10mm	Index 4	23095	707.5	23.87	25.20	1.358	-0.06	0.208	0.283	-10.25%
2nd	LTE Band 12_Ant 1	10M	QPSK	1	25	Back	10mm	Index 4	23095	707.5	23.90	25.20	1.349	-0.16	0.188	0.254	
1st	LTE Band 13_Ant 0	10M	QPSK	1	0	Back	10mm	Index 4	23230	782	24.47	25.50	1.268	0.01	0.269	0.341	-6.16%
2nd	LTE Band 13_Ant 0	10M	QPSK	1	0	Back	10mm	Index 4	23230	782	24.50	25.50	1.259	0.12	0.254	0.320	
1st	LTE Band 13_Ant 1	10M	QPSK	1	25	Back	10mm	Index 4	23230	782	23.94	25.20	1.337	-0.04	0.228	0.305	-10.82%
2nd	LTE Band 13_Ant 1	10M	QPSK	1	25	Back	10mm	Index 4	23230	782	23.84	25.20	1.368	-0.18	0.199	0.272	
1st	LTE Band 14_Ant 0	10M	QPSK	1	0	Back	10mm	Index 4	23330	793	24.30	25.50	1.318	-0.15	0.249	0.328	-3.35%
2nd	LTE Band 14_Ant 0	10M	QPSK	1	0	Back	10mm	Index 4	23330	793	24.31	25.50	1.315	-0.05	0.241	0.317	
1st	LTE Band 14_Ant 1	10M	QPSK	1	25	Back	10mm	Index 4	23330	793	23.84	25.20	1.368	-0.01	0.209	0.286	-11.19%
2nd	LTE Band 14_Ant 1	10M	QPSK	1	25	Back	10mm	Index 4	23330	793	23.78	25.20	1.387	-0.16	0.183	0.254	
1st	LTE Band 25_Ant 2	20M	QPSK	50	50	Bottom Side	10mm	Index 4	26140	1860	21.25	22.00	1.189	-0.17	0.764	0.908	-11.45%
2nd	LTE Band 25_Ant 2	20M	QPSK	50	50	Bottom Side	10mm	Index 4	26140	1860	21.18	22.00	1.208	-0.14	0.666	0.804	
1st	LTE Band 25_Ant 0	20M	QPSK	1	49	Back	10mm	Index 4	26590	1905	23.09	23.60	1.125	0.01	0.803	0.903	-4.98%
2nd	LTE Band 25_Ant 0	20M	QPSK	1	49	Back	10mm	Index 4	26590	1905	23.01	23.60	1.146	-0.14	0.749	0.858	
1st	LTE Band 26_Ant 0	15M	QPSK	1	0	Back	10mm	Index 4	26865	831.5	24.20	25.50	1.349	-0.03	0.278	0.375	-13.60%
2nd	LTE Band 26_Ant 0	15M	QPSK	1	0	Back	10mm	Index 4	26865	831.5	24.12	25.50	1.374	-0.05	0.236	0.324	
1st	LTE Band 26_Ant 1	15M	QPSK	1	37	Back	10mm	Index 4	26865	831.5	23.66	25.00	1.361	0.08	0.263	0.358	-16.48%
2nd	LTE Band 26_Ant 1	15M	QPSK	1	37	Back	10mm	Index 4	26865	831.5	23.51	25.00	1.409	-0.13	0.212	0.299	
1st	LTE Band 30_Ant 2	10M	QPSK	25	0	Back	10mm	Index 4	27710	2310	21.32	21.80	1.117	0.02	0.806	0.900	0.00%
2nd	LTE Band 30_Ant 2	10M	QPSK	25	0	Back	10mm	Index 4	27710	2310	21.24	21.80	1.138	-0.01	0.791	0.900	
1st	LTE Band 30_Ant 0	10M	QPSK	1	25	Left Side	10mm	Index 4	27710	2310	22.62	24.40	1.507	0.01	0.453	0.682	0.88%
2nd	LTE Band 30_Ant 0	10M	QPSK	1	25	Left Side	10mm	Index 4	27710	2310	22.51	24.40	1.545	0.09	0.445	0.688	
1st	LTE Band 41_Ant 2	20M	QPSK	1	0	Back	10mm	Index 4	40620	2593	23.59	24.30	1.178	0.01	0.758	0.898	-12.03%
2nd	LTE Band 41_Ant 2	20M	QPSK	1	0	Back	10mm	Index 4	40620	2593	23.51	24.30	1.199	0.04	0.655	0.790	
1st	LTE Band 41_HPUE_Ant 2	20M	QPSK	1	0	Back	10mm	Index 4	40620	2593	25.80	25.90	1.023	0.18	0.822	0.849	-17.08%
2nd	LTE Band 41_HPUE_Ant 2	20M	QPSK	1	0	Back	10mm	Index 4	40620	2593	25.78	25.90	1.028	-0.05	0.679	0.704	
1st	LTE Band 41_Ant 0	20M	QPSK	1	49	Left Side	10mm	Index 4	39750	2506	22.69	23.40	1.178	0.18	0.737	0.873	-23.37%
2nd	LTE Band 41_Ant 0	20M	QPSK	1	49	Left Side	10mm	Index 4	39750	2506	22.58	23.40	1.208	-0.16	0.551	0.669	
1st	LTE Band 41_HPUE_Ant 0	20M	QPSK	1	49	Left Side	10mm	Index 4	39750	2506	24.71	25.00	1.069	-0.15	0.837	0.903	-27.80%
2nd	LTE Band 41_HPUE_Ant 0	20M	QPSK	1	49	Left Side	10mm	Index 4	39750	2506	24.69	25.00	1.074	0.03	0.602	0.652	
1st	LTE Band 48_Ant 6	20M	QPSK	1	0	Left Side	10mm	Index 4	56150	3641	23.81	24.30	1.119	0.07	0.793	0.893	8.62%
2nd	LTE Band 48_Ant 6	20M	QPSK	1	0	Left Side	10mm	Index 4	56150	3641	22.99	24.30	1.352	-0.15	0.713	0.970	
1st	LTE Band 48_Ant 2	20M	QPSK	1	0	Right Side	10mm	Index 4	55340	3560	21.49	22.90	1.384	0.16	0.220	0.306	-7.52%
2nd	LTE Band 48_Ant 2	20M	QPSK	1	0	Right Side	10mm	Index 4	55830	3609	21.52	22.90	1.374	0.07	0.205	0.283	
1st	LTE Band 66_Ant 2	20M	QPSK	50	50	Bottom Side	10mm	Index 4	132572	1770	21.28	21.70	1.102	0.06	0.810	0.892	-2.80%
2nd	LTE Band 66_Ant 2	20M	QPSK	50	50	Bottom Side	10mm	Index 4	132572	1770	20.97	21.70	1.183	0.09	0.733	0.867	
1st	LTE Band 66_Ant 0	20M	QPSK	1	49	Left Side	10mm	Index 4	132572	1770	22.86	24.40	1.426	-0.06	0.583	0.831	-2.53%
2nd	LTE Band 66_Ant 0	20M	QPSK	1	49	Left Side	10mm	Index 4	132572	1770	22.79	24.40	1.449	-0.14	0.559	0.810	
1st	LTE Band 71_Ant 0	20M	QPSK	1	0	Back	10mm	Index 4	133322	683	24.19	25.50	1.352	-0.1	0.240	0.324	-2.16%
2nd	LTE Band 71_Ant 0	20M	QPSK	1	0	Back	10mm	Index 4	133322	683	24.05	25.50	1.396	-0.03	0.227	0.317	
1st	LTE Band 71_Ant 1	20M	QPSK	1	49	Back	10mm	Index 4	133322	683	23.66	25.00	1.361	-0.09	0.175	0.238	-1.68%
2nd	LTE Band 71_Ant 1	20M	QPSK	1	49	Back	10mm	Index 4	133322	683	23.48	25.00	1.419	-0.13	0.165	0.234	



FCC SAR Spot Check Evaluation

Report No. : FA121931-05C

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Output Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (%)
1st	FR1 n5_Ant 0	20M	BPSK	50	28	Back	10mm	Index 4	167300	836.5	24.50	25.50	1.259	-0.18	0.321	0.404	1.98%
2nd	FR1 n5_Ant 0	20M	BPSK	50	28	Back	10mm	Index 4	167300	836.5	23.98	25.50	1.419	-0.18	0.290	0.412	
1st	FR1 n5_Ant 1	20M	BPSK	1	53	Back	10mm	Index 4	167300	836.5	24.09	25.10	1.262	-0.12	0.303	0.382	-1.31%
2nd	FR1 n5_Ant 1	20M	BPSK	1	53	Back	10mm	Index 4	167300	836.5	23.89	25.10	1.321	-0.05	0.285	0.377	
1st	FR1 n7_Ant 2	20M	BPSK	50	28	Back	10mm	Index 4	502000	2510	21.16	21.40	1.057	-0.05	0.847	0.895	0.89%
2nd	FR1 n7_Ant 2	20M	BPSK	50	28	Back	10mm	Index 4	502000	2510	21.08	21.40	1.076	-0.06	0.839	0.903	
1st	FR1 n7_Ant 0	20M	BPSK	1	53	Left Side	10mm	Index 4	507000	2535	21.50	21.80	1.072	0.11	0.829	0.888	-8.45%
2nd	FR1 n7_Ant 0	20M	BPSK	1	53	Left Side	10mm	Index 4	507000	2535	21.41	21.80	1.094	0.17	0.743	0.813	
1st	FR1 n12_Ant 0	15M	BPSK	1	40	Back	10mm	Index 4	141500	707.5	24.57	25.50	1.239	-0.14	0.201	0.249	4.02%
2nd	FR1 n12_Ant 0	15M	BPSK	1	40	Back	10mm	Index 4	141500	707.5	24.31	25.50	1.315	-0.08	0.197	0.259	
1st	FR1 n12_Ant 1	15M	BPSK	1	40	Back	10mm	Index 4	141500	707.5	24.05	25.10	1.274	-0.07	0.228	0.290	-5.52%
2nd	FR1 n12_Ant 1	15M	BPSK	1	40	Back	10mm	Index 4	141500	707.5	24.18	25.10	1.236	-0.01	0.222	0.274	
1st	FR1 n25_Ant 2	20M	BPSK	1	53	Bottom Side	10mm	Index 4	372000	1860	21.68	21.90	1.052	-0.04	0.801	0.843	1.07%
2nd	FR1 n25_Ant 2	20M	BPSK	1	53	Bottom Side	10mm	Index 4	372000	1860	21.55	21.90	1.084	-0.05	0.786	0.852	
1st	FR1 n25_Ant 0	20M	BPSK	1	53	Back	10mm	Index 4	381000	1905	23.25	23.30	1.012	0	0.893	0.903	-0.78%
2nd	FR1 n25_Ant 0	20M	BPSK	1	53	Back	10mm	Index 4	381000	1905	23.18	23.30	1.028	-0.08	0.872	0.896	
1st	FR1 n30_Ant 2	10M	BPSK	1	26	Back	10mm	Index 4	462000	2310	22.17	22.20	1.007	-0.08	0.892	0.898	-5.90%
2nd	FR1 n30_Ant 2	10M	BPSK	1	26	Back	10mm	Index 4	462000	2310	22.07	22.20	1.030	-0.12	0.820	0.845	
1st	FR1 n30_Ant 0	10M	BPSK	1	26	Left Side	10mm	Index 4	462000	2310	22.92	24.50	1.439	0.09	0.541	0.778	-6.43%
2nd	FR1 n30_Ant 0	10M	BPSK	1	26	Left Side	10mm	Index 4	462000	2310	22.81	24.50	1.476	-0.06	0.493	0.728	
1st	FR1 n41_Ant 1	100M	BPSK	1	137	Top Side	10mm	Index 4	518598	2592.99	20.82	20.90	1.019	-0.03	0.869	0.885	-10.51%
2nd	FR1 n41_Ant 1	100M	BPSK	1	137	Top Side	10mm	Index 4	518598	2592.99	20.51	20.90	1.094	-0.02	0.724	0.792	
1st	FR1 n41_HPUE_Ant 1	100M	BPSK	1	137	Top Side	10mm	Index 4	518598	2592.99	23.57	23.90	1.079	-0.02	0.758	0.818	-13.94%
2nd	FR1 n41_HPUE_Ant 1	100M	BPSK	1	137	Top Side	10mm	Index 4	518598	2592.99	23.44	23.90	1.112	-0.05	0.633	0.704	
1st	FR1 n41_Ant 5	100M	BPSK	1	137	Right Side	10mm	Index 4	518598	2592.99	21.50	21.80	1.072	-0.05	0.824	0.883	0.11%
2nd	FR1 n41_Ant 5	100M	BPSK	1	137	Right Side	10mm	Index 4	518598	2592.99	21.35	21.80	1.109	0.09	0.797	0.884	
1st	FR1 n41_HPUE_Ant 5	100M	BPSK	1	137	Right Side	10mm	Index 4	518598	2592.99	24.46	24.80	1.081	-0.08	0.773	0.836	5.98%
2nd	FR1 n41_HPUE_Ant 5	100M	BPSK	1	137	Right Side	10mm	Index 4	518598	2592.99	24.19	24.80	1.151	0.03	0.770	0.886	
1st	FR1 n66_Ant 2	40M	BPSK	1	108	Bottom Side	10mm	Index 4	349000	1745	21.78	22.20	1.102	-0.06	0.784	0.864	0.81%
2nd	FR1 n66_Ant 2	40M	BPSK	1	108	Bottom Side	10mm	Index 4	349000	1745	21.64	22.20	1.138	-0.01	0.766	0.871	
1st	FR1 n66_Ant 0	40M	BPSK	1	108	Back	10mm	Index 4	349000	1745	22.99	24.10	1.291	-0.12	0.655	0.846	0.00%
2nd	FR1 n66_Ant 0	40M	BPSK	1	108	Back	10mm	Index 4	349000	1745	22.84	24.10	1.337	-0.15	0.633	0.846	
1st	FR1 n71_Ant 0	20M	BPSK	1	53	Back	10mm	Index 4	136100	680.5	24.67	25.50	1.211	-0.11	0.238	0.288	0.00%
2nd	FR1 n71_Ant 0	20M	BPSK	1	53	Back	10mm	Index 4	136100	680.5	24.53	25.50	1.250	-0.04	0.230	0.288	
1st	FR1 n71_Ant 1	20M	BPSK	1	53	Back	10mm	Index 4	136100	680.5	24.21	25.10	1.227	-0.02	0.198	0.243	-1.65%
2nd	FR1 n71_Ant 1	20M	BPSK	1	53	Back	10mm	Index 4	136100	680.5	24.15	25.10	1.245	-0.05	0.192	0.239	
1st	FR1 n77_Ant 6	100M	BPSK	1	137	Left Side	10mm	Index 4	633332	3499.98	21.92	22.10	1.042	0.08	0.744	0.775	-18.32%
2nd	FR1 n77_Ant 6	100M	BPSK	1	137	Left Side	10mm	Index 4	633332	3499.98	21.91	22.10	1.045	-0.05	0.606	0.633	
1st	FR1 n77_HPUE_Ant 6	100M	BPSK	1	137	Left Side	10mm	Index 4	633332	3499.98	23.88	25.10	1.324	0	0.548	0.726	-9.50%
2nd	FR1 n77_HPUE_Ant 6	100M	BPSK	1	137	Left Side	10mm	Index 4	633332	3499.98	23.79	25.10	1.352	-0.14	0.486	0.657	
1st	FR1 n77_Ant 6	100M	BPSK	1	137	Left Side	10mm	Index 4	656000	3840	21.88	22.10	1.052	-0.07	0.850	0.894	-1.57%
2nd	FR1 n77_Ant 6	100M	BPSK	1	137	Left Side	10mm	Index 4	656000	3840	21.91	22.10	1.045	-0.17	0.842	0.880	
1st	FR1 n77_HPUE_Ant 6	100M	BPSK	1	137	Left Side	10mm	Index 4	656000	3840	23.94	25.10	1.306	-0.09	0.622	0.812	-0.62%
2nd	FR1 n77_HPUE_Ant 6	100M	BPSK	1	137	Left Side	10mm	Index 4	656000	3840	23.90	25.10	1.318	-0.16	0.612	0.807	
1st	FR1 n77_Ant 2	100M	BPSK	135	138	Right Side	10mm	Index 4	633332	3499.98	22.14	23.30	1.306	0.03	0.326	0.426	-16.67%
2nd	FR1 n77_Ant 2	100M	BPSK	135	138	Right Side	10mm	Index 4	633332	3499.98	22.18	23.30	1.294	-0.08	0.274	0.355	
1st	FR1 n77_HPUE_Ant 2	100M	BPSK	1	271	Right Side	10mm	Index 4	633332	3499.98	23.55	25.00	1.396	-0.17	0.215	0.300	-26.00%
2nd	FR1 n77_HPUE_Ant 2	100M	BPSK	1	271	Right Side	10mm	Index 4	633332	3499.98	23.57	25.00	1.390	0.11	0.160	0.222	
1st	FR1 n77_Ant 2	100M	BPSK	1	271	Right Side	10mm	Index 4	656000	3840	22.74	23.30	1.138	-0.12	0.250	0.284	-13.73%
2nd	FR1 n77_Ant 2	100M	BPSK	1	271	Right Side	10mm	Index 4	656000	3840	22.71	23.30	1.146	-0.04	0.214	0.245	
1st	FR1 n77_HPUE_Ant 2	100M	BPSK	1	271	Right Side	10mm	Index 4	656000	3840	23.68	25.00	1.355	-0.05	0.185	0.251	-1.59%
2nd	FR1 n77_HPUE_Ant 2	100M	BPSK	1	271	Right Side	10mm	Index 4	656000	3840	23.61	25.00	1.377	-0.01	0.179	0.247	



<WLAN SAR>

No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation %
1st	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Ant 3+4 (3)	7	13	2472	17.65	18.00	1.084	0.05	0.536	0.614	-3%
2nd	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Ant 3+4 (3)	7	13	2472	17.65	18.00	1.084	0.05	0.521	0.596	
1st	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Ant 3+4 (3)	8	13	2472	14.85	15.00	1.035	-0.07	0.240	0.262	-3%
2nd	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Ant 3+4 (3)	8	13	2472	14.89	15.00	1.026	-0.07	0.234	0.253	
1st	WLAN5GHz	802.11n-HT40 MCS0	Back	10mm	Ant 3+7(7)	7	46	5230	15.25	17.50	1.679	0.02	0.249	0.432	-6%
2nd	WLAN5GHz	802.11n-HT40 MCS0	Back	10mm	Ant 3+7(7)	7	46	5230	15.25	17.50	1.679	-0.1	0.235	0.408	
1st	WLAN5GHz	802.11n-HT40 MCS0	Back	10mm	Ant 3+7(7)	8	46	5230	15.25	17.00	1.496	0.02	0.249	0.385	-6%
2nd	WLAN5GHz	802.11n-HT40 MCS0	Back	10mm	Ant 3+7(7)	8	46	5230	15.25	17.00	1.496	-0.1	0.235	0.363	
1st	WLAN5GHz	802.11n-HT40 MCS0	Back	10mm	Ant 3+7(7)	9	46	5230	15.25	17.00	1.496	0.02	0.249	0.385	-6%
2nd	WLAN5GHz	802.11n-HT40 MCS0	Back	10mm	Ant 3+7(7)	9	46	5230	15.25	17.00	1.496	-0.1	0.235	0.363	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	7	155	5775	14.86	16.50	1.459	0.08	0.327	0.541	-9%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	7	155	5775	14.86	16.50	1.459	0.18	0.298	0.493	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	8	155	5775	14.86	15.50	1.159	0.08	0.327	0.430	-9%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	8	155	5775	14.86	15.50	1.159	0.18	0.298	0.392	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	9	155	5775	14.86	15.50	1.159	0.08	0.327	0.430	-9%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	9	155	5775	14.86	15.50	1.159	0.18	0.298	0.392	



<Bluetooth SAR>

No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation %
1st	Bluetooth	1Mbps	Back	10mm	Ant 4	5	39	2441	19.05	19.50	1.110	-0.1	0.135	0.195	-2%
2nd	Bluetooth	1Mbps	Back	10mm	Ant 4	5	39	2441	19.05	19.50	1.110	-0.1	0.133	0.192	
1st	Bluetooth	1Mbps	Left Side	10mm	Ant 3	5	39	2441	19.25	19.50	1.060	-0.19	0.203	0.280	-1%
2nd	Bluetooth	1Mbps	Left Side	10mm	Ant 3	5	39	2441	19.25	19.50	1.060	-0.1	0.201	0.277	
1st	Bluetooth	1Mbps	Back	10mm	Ant 3+4 (4)	5	39	2441	17.19	18.00	1.205	0.11	0.048	0.075	-8%
				10mm	Ant 3+4 (3)	5	39	2441	17.15	18.00	1.217	0.11	0.099	0.157	
2nd	Bluetooth	1Mbps	Back	10mm	Ant 3+4 (4)	5	39	2441	17.19	18.00	1.205	0.1	0.043	0.067	
				10mm	Ant 3+4 (3)	5	39	2441	17.15	18.00	1.217	0.1	0.091	0.144	
1st	Bluetooth	1Mbps	Back	10mm	Ant 4	4	39	2441	19.05	21.00	1.567	-0.1	0.135	0.275	-1%
2nd	Bluetooth	1Mbps	Back	10mm	Ant 4	4	39	2441	19.05	21.00	1.567	-0.1	0.133	0.271	
1st	Bluetooth	1Mbps	Left Side	10mm	Ant 3	4	39	2441	19.25	21.00	1.497	-0.19	0.203	0.396	-1%
2nd	Bluetooth	1Mbps	Left Side	10mm	Ant 3	4	39	2441	19.25	21.00	1.497	-0.1	0.201	0.392	
1st	Bluetooth	1Mbps	Back	10mm	Ant 3+4 (4)	4	39	2441	17.19	18.00	1.205	0.11	0.048	0.075	-8%
				10mm	Ant 3+4 (3)	4	39	2441	17.15	18.00	1.217	0.11	0.099	0.157	
2nd	Bluetooth	1Mbps	Back	10mm	Ant 3+4 (4)	4	39	2441	17.19	18.00	1.205	0.1	0.043	0.067	
				10mm	Ant 3+4 (3)	4	39	2441	17.15	18.00	1.217	0.1	0.091	0.144	

4.4.3 Body-Worn SAR

<WWAN SAR>

No.	Band	Test Position	Gap (mm)	Output Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (%)
1st	GSM850_Ant 0	Back	10mm	Index 5/6	128	824.2	28.60	30.50	1.549	-0.14	0.319	0.494	1.21%
2nd	GSM850_Ant 0	Back	10mm	Index 5/6	128	824.2	28.51	30.50	1.581	-0.09	0.316	0.500	
1st	GSM850_Ant 1	Back	10mm	Index 5/6	128	824.2	27.68	29.50	1.521	-0.08	0.330	0.502	-12.95%
2nd	GSM850_Ant 1	Back	10mm	Index 5/6	128	824.2	27.66	29.50	1.528	-0.12	0.286	0.437	
1st	GSM1900_Ant 2	Back	10mm	Index 5/6	810	1909.8	25.07	26.30	1.327	-0.05	0.457	0.607	-18.45%
2nd	GSM1900_Ant 2	Back	10mm	Index 5/6	810	1909.8	25.14	26.30	1.306	-0.07	0.379	0.495	
1st	GSM1900_Ant 0	Back	10mm	Index 5/6	810	1909.8	26.39	27.50	1.291	-0.03	0.533	0.688	-16.72%
2nd	GSM1900_Ant 0	Back	10mm	Index 5/6	810	1909.8	26.18	27.50	1.355	-0.03	0.423	0.573	
1st	WCDMA II_Ant 2	Back	10mm	Index 5/6	9538	1907.6	23.23	24.60	1.371	0.01	0.655	0.898	-1.78%
2nd	WCDMA II_Ant 2	Back	10mm	Index 5/6	9538	1907.6	23.18	24.60	1.387	0.01	0.636	0.882	
1st	WCDMA II_Ant 0	Back	10mm	Index 5/6	9538	1907.6	22.41	23.10	1.172	-0.1	0.770	0.903	-20.93%
2nd	WCDMA II_Ant 0	Back	10mm	Index 5/6	9538	1907.6	22.51	23.10	1.146	-0.07	0.623	0.714	
1st	WCDMA IV_Ant 2-	Back	10mm	Index 5	1513	1752.6	22.86	24.20	1.361	-0.05	0.714	0.972	0.62%
2nd	WCDMA IV_Ant 2-	Back	10mm	Index 5	1513	1752.6	22.71	24.20	1.409	-0.08	0.694	0.978	
1st	WCDMA IV_Ant 2	Back	10mm	Index 6	1513	1752.6	22.86	23.80	1.242	-0.05	0.714	0.887	0.56%
2nd	WCDMA IV_Ant 2	Back	10mm	Index 6	1513	1752.6	22.71	23.80	1.285	-0.08	0.694	0.892	
1st	WCDMA IV_Ant 0	Back	10mm	Index 5/6	1413	1732.6	23.06	24.50	1.393	-0.08	0.435	0.606	-9.90%
2nd	WCDMA IV_Ant 0	Back	10mm	Index 5/6	1413	1732.6	22.99	24.50	1.416	-0.04	0.386	0.546	
1st	WCDMA V_Ant 0	Back	10mm	Index 5/6	4233	846.6	23.98	25.40	1.387	-0.05	0.262	0.363	1.38%
2nd	WCDMA V_Ant 0	Back	10mm	Index 5/6	4233	846.6	23.77	25.40	1.455	-0.02	0.253	0.368	
1st	WCDMA V_Ant 1	Back	10mm	Index 5/6	4233	846.6	23.61	25.20	1.442	-0.03	0.254	0.366	-13.39%
2nd	WCDMA V_Ant 1	Back	10mm	Index 5/6	4233	846.6	23.51	25.20	1.476	-0.01	0.215	0.317	



FCC SAR Spot Check Evaluation

Report No. : FA121931-05C

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Output Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (%)
1st	LTE Band 7_Ant 2-	20M	QPSK	50	24	Back	10mm	Index 5	21350	2560	20.97	22.30	1.358	-0.03	0.876	1.190	-5.88%
2nd	LTE Band 7_Ant 2-	20M	QPSK	50	24	Back	10mm	Index 5	21350	2560	20.88	22.30	1.387	0	0.808	1.120	
1st	LTE Band 7_Ant 2	20M	QPSK	50	24	Back	10mm	Index 6	21350	2560	20.97	21.10	1.030	-0.03	0.876	0.903	-5.87%
2nd	LTE Band 7_Ant 2	20M	QPSK	50	24	Back	10mm	Index 6	21350	2560	20.88	21.10	1.052	0	0.808	0.850	
1st	LTE Band 7_Ant 0	20M	QPSK	50	0	Back	10mm	Index 5/6	21350	2560	21.58	23.10	1.419	-0.12	0.479	0.680	-7.35%
2nd	LTE Band 7_Ant 0	20M	QPSK	50	0	Back	10mm	Index 5/6	21350	2560	21.45	23.10	1.462	0.01	0.431	0.630	
1st	LTE Band 12_Ant 0	10M	QPSK	1	0	Back	10mm	Index 5/6	23095	707.5	24.31	25.50	1.315	-0.19	0.238	0.313	-12.46%
2nd	LTE Band 12_Ant 0	10M	QPSK	1	0	Back	10mm	Index 5/6	23095	707.5	24.15	25.50	1.365	0.05	0.201	0.274	
1st	LTE Band 12_Ant 1	10M	QPSK	1	25	Back	10mm	Index 5/6	23095	707.5	23.87	25.20	1.358	-0.06	0.208	0.283	-10.25%
2nd	LTE Band 12_Ant 1	10M	QPSK	1	25	Back	10mm	Index 5/6	23095	707.5	23.90	25.20	1.349	-0.16	0.188	0.254	
1st	LTE Band 13_Ant 0	10M	QPSK	1	0	Back	10mm	Index 5/6	23230	782	24.47	25.50	1.268	0.01	0.269	0.341	-5.57%
2nd	LTE Band 13_Ant 0	10M	QPSK	1	0	Back	10mm	Index 5/6	23230	782	24.50	25.50	1.268	0.12	0.254	0.322	
1st	LTE Band 13_Ant 1	10M	QPSK	1	25	Back	10mm	Index 5/6	23230	782	23.94	25.20	1.337	-0.04	0.228	0.305	-12.79%
2nd	LTE Band 13_Ant 1	10M	QPSK	1	25	Back	10mm	Index 5/6	23230	782	23.84	25.20	1.337	-0.18	0.199	0.266	
1st	LTE Band 14_Ant 0	10M	QPSK	1	0	Back	10mm	Index 5/6	23330	793	24.30	25.50	1.318	-0.15	0.249	0.328	-3.05%
2nd	LTE Band 14_Ant 0	10M	QPSK	1	0	Back	10mm	Index 5/6	23330	793	24.31	25.50	1.318	-0.05	0.241	0.318	
1st	LTE Band 14_Ant 1	10M	QPSK	1	25	Back	10mm	Index 5/6	23330	793	23.84	25.20	1.368	-0.01	0.209	0.286	-12.59%
2nd	LTE Band 14_Ant 1	10M	QPSK	1	25	Back	10mm	Index 5/6	23330	793	23.78	25.20	1.368	-0.16	0.183	0.250	
1st	LTE Band 25_Ant 2	20M	QPSK	50	50	Back	10mm	Index 5/6	26590	1905	22.04	23.20	1.306	-0.16	0.571	0.746	0.67%
2nd	LTE Band 25_Ant 2	20M	QPSK	50	50	Back	10mm	Index 5/6	26590	1905	21.91	23.20	1.346	-0.16	0.558	0.751	
1st	LTE Band 25_Ant 0-	20M	QPSK	1	49	Back	10mm	Index 5	26590	1905	23.09	24.60	1.416	0.01	0.803	1.137	-5.01%
2nd	LTE Band 25_Ant 0-	20M	QPSK	1	49	Back	10mm	Index 5	26590	1905	23.01	24.60	1.442	-0.14	0.749	1.080	
1st	LTE Band 25_Ant 0	20M	QPSK	1	49	Back	10mm	Index 6	26590	1905	23.09	23.60	1.125	0.01	0.803	0.903	-4.98%
2nd	LTE Band 25_Ant 0	20M	QPSK	1	49	Back	10mm	Index 6	26590	1905	23.01	23.60	1.146	-0.14	0.749	0.858	
1st	LTE Band 26_Ant 0	15M	QPSK	1	0	Back	10mm	Index 5/6	26865	831.5	24.20	25.50	1.349	-0.03	0.278	0.375	-13.60%
2nd	LTE Band 26_Ant 0	15M	QPSK	1	0	Back	10mm	Index 5/6	26865	831.5	24.12	25.50	1.374	-0.05	0.236	0.324	
1st	LTE Band 26_Ant 1	15M	QPSK	1	37	Back	10mm	Index 5/6	26865	831.5	23.66	25.00	1.361	0.08	0.263	0.358	-16.48%
2nd	LTE Band 26_Ant 1	15M	QPSK	1	37	Back	10mm	Index 5/6	26865	831.5	23.51	25.00	1.409	-0.13	0.212	0.299	
1st	LTE Band 30_Ant 2-	10M	QPSK	25	0	Back	10mm	Index 5	27710	2310	21.32	23.00	1.472	0.02	0.806	1.187	-0.08%
2nd	LTE Band 30_Ant 2-	10M	QPSK	25	0	Back	10mm	Index 5	27710	2310	21.24	23.00	1.500	-0.01	0.791	1.186	
1st	LTE Band 30_Ant 2	10M	QPSK	25	0	Back	10mm	Index 6	27710	2310	21.32	21.80	1.117	0.02	0.806	0.900	0.00%
2nd	LTE Band 30_Ant 2	10M	QPSK	25	0	Back	10mm	Index 6	27710	2310	21.24	21.80	1.138	-0.01	0.791	0.900	
1st	LTE Band 30_Ant 0	10M	QPSK	1	25	Back	10mm	Index 5/6	27710	2310	22.62	24.40	1.507	0.04	0.351	0.529	0.19%
2nd	LTE Band 30_Ant 0	10M	QPSK	1	25	Back	10mm	Index 5/6	27710	2310	22.51	24.40	1.545	0.14	0.343	0.530	
1st	LTE Band 41_Ant 2-	20M	QPSK	1	0	Back	10mm	Index 5	40620	2593	23.59	25.50	1.552	0.01	0.758	1.184	-11.99%
2nd	LTE Band 41_Ant 2-	20M	QPSK	1	0	Back	10mm	Index 5	40620	2593	23.51	25.50	1.581	0.04	0.655	1.042	
1st	LTE Band 41_HPUE_Ant 2-	20M	QPSK	1	0	Back	10mm	Index 5	40620	2593	25.80	27.10	1.349	-0.05	0.822	1.119	-17.07%
2nd	LTE Band 41_HPUE_Ant 2-	20M	QPSK	1	0	Back	10mm	Index 5	40620	2593	25.78	27.10	1.355	0.18	0.679	0.928	
1st	LTE Band 41_Ant 2	20M	QPSK	1	0	Back	10mm	Index 6	40620	2593	23.59	24.30	1.178	0.01	0.758	0.898	-12.03%
2nd	LTE Band 41_Ant 2	20M	QPSK	1	0	Back	10mm	Index 6	40620	2593	23.51	24.30	1.199	0.04	0.655	0.790	
1st	LTE Band 41_HPUE_Ant 2	20M	QPSK	1	0	Back	10mm	Index 6	40620	2593	25.80	25.90	1.023	-0.05	0.822	0.849	-17.08%
2nd	LTE Band 41_HPUE_Ant 2	20M	QPSK	1	0	Back	10mm	Index 6	40620	2593	25.78	25.90	1.028	0.18	0.679	0.704	
1st	LTE Band 41_Ant 0	20M	QPSK	1	49	Back	10mm	Index 5/6	39750	2506	22.69	24.50	1.517	-0.01	0.281	0.429	-15.38%
2nd	LTE Band 41_Ant 0	20M	QPSK	1	49	Back	10mm	Index 5/6	39750	2506	22.58	24.50	1.556	-0.03	0.232	0.363	
1st	LTE Band 41_HPUE_Ant 0	20M	QPSK	1	49	Back	10mm	Index 5/6	39750	2506	24.71	26.60	1.545	-0.06	0.276	0.429	-26.11%
2nd	LTE Band 41_HPUE_Ant 0	20M	QPSK	1	49	Back	10mm	Index 5/6	39750	2506	24.69	26.60	1.552	-0.08	0.203	0.317	



FCC SAR Spot Check Evaluation

Report No. : FA121931-05C

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Output Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (%)
1st	LTE Band 48_Ant 6-	20M	QPSK	1	0	Back	10mm	Index 5	56150	3641	23.81	25.50	1.476	0.12	0.643	0.955	-6.28%
2nd	LTE Band 48_Ant 6-	20M	QPSK	1	0	Back	10mm	Index 5	56150	3641	23.79	25.50	1.483	-0.02	0.600	0.895	
1st	LTE Band 48_Ant 6	20M	QPSK	1	0	Back	10mm	Index 6	56150	3641	23.81	25.20	1.377	0.12	0.643	0.891	-6.29%
2nd	LTE Band 48_Ant 6	20M	QPSK	1	0	Back	10mm	Index 6	56150	3641	23.79	25.20	1.384	-0.02	0.600	0.835	
1st	LTE Band 48_Ant 2	20M	QPSK	1	0	Front	10mm	Index 5/6	55340	3560	21.49	22.90	1.384	0.02	0.114	0.159	-11.95%
2nd	LTE Band 48_Ant 2	20M	QPSK	1	0	Front	10mm	Index 5/6	55340	3560	21.52	22.90	1.374	0.02	0.101	0.140	
1st	LTE Band 66_Ant 2	20M	QPSK	50	50	Back	10mm	Index 5/6	132072	1720	22.17	23.80	1.455	-0.12	0.564	0.821	0.97%
2nd	LTE Band 66_Ant 2	20M	QPSK	50	50	Back	10mm	Index 5/6	132072	1720	22.11	23.80	1.476	-0.15	0.562	0.829	
1st	LTE Band 66_Ant 0	20M	QPSK	1	49	Back	10mm	Index 5/6	132572	1770	22.86	24.40	1.426	-0.04	0.625	0.891	0.45%
2nd	LTE Band 66_Ant 0	20M	QPSK	1	49	Back	10mm	Index 5/6	132572	1770	22.79	24.40	1.449	0.16	0.618	0.895	
1st	LTE Band 71_Ant 0	20M	QPSK	1	0	Back	10mm	Index 5/6	133322	683	24.19	25.50	1.352	-0.1	0.240	0.324	-5.25%
2nd	LTE Band 71_Ant 0	20M	QPSK	1	0	Back	10mm	Index 5/6	133322	683	24.05	25.50	1.352	-0.03	0.227	0.307	
1st	LTE Band 71_Ant 1	20M	QPSK	1	49	Back	10mm	Index 5/6	133322	683	23.66	25.00	1.361	-0.09	0.175	0.238	-5.46%
2nd	LTE Band 71_Ant 1	20M	QPSK	1	49	Back	10mm	Index 5/6	133322	683	23.48	25.00	1.361	-0.13	0.165	0.225	

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Output Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (%)
1st	FR1 n5_Ant 0	20M	BPSK	50	28	Back	10mm	Index 5/6	167300	836.5	24.50	25.50	1.259	-0.18	0.321	0.404	1.98%
2nd	FR1 n5_Ant 0	20M	BPSK	50	28	Back	10mm	Index 5/6	167300	836.5	23.98	25.50	1.419	-0.18	0.290	0.412	
1st	FR1 n5_Ant 1	20M	BPSK	1	53	Back	10mm	Index 5/6	167300	836.5	24.09	25.10	1.262	-0.12	0.303	0.382	-1.31%
2nd	FR1 n5_Ant 1	20M	BPSK	1	53	Back	10mm	Index 5/6	167300	836.5	23.89	25.10	1.321	-0.05	0.285	0.377	
1st	FR1 n7_Ant 2-	20M	BPSK	50	28	Back	10mm	Index 5	502000	2510	21.16	22.60	1.393	-0.05	0.847	1.180	0.93%
2nd	FR1 n7_Ant 2-	20M	BPSK	50	28	Back	10mm	Index 5	502000	2510	21.08	22.60	1.419	-0.06	0.839	1.191	
1st	FR1 n7_Ant 2	20M	BPSK	50	28	Back	10mm	Index 6	502000	2510	21.16	21.40	1.057	-0.05	0.847	0.895	0.89%
2nd	FR1 n7_Ant 2	20M	BPSK	50	28	Back	10mm	Index 6	502000	2510	21.08	21.40	1.076	-0.06	0.839	0.903	
1st	FR1 n7_Ant 0	20M	BPSK	1	53	Back	10mm	Index 5/6	502000	2510	21.55	23.00	1.396	-0.18	0.378	0.528	-44.32%
2nd	FR1 n7_Ant 0	20M	BPSK	1	53	Back	10mm	Index 5/6	502000	2510	21.49	23.00	1.416	-0.07	0.208	0.294	
1st	FR1 n12_Ant 0	15M	BPSK	1	40	Back	10mm	Index 5/6	141500	707.5	24.57	25.50	1.239	-0.14	0.201	0.249	4.02%
2nd	FR1 n12_Ant 0	15M	BPSK	1	40	Back	10mm	Index 5/6	141500	707.5	24.31	25.50	1.315	-0.08	0.197	0.259	
1st	FR1 n12_Ant 1	15M	BPSK	1	40	Back	10mm	Index 5/6	141500	707.5	24.05	25.10	1.274	-0.07	0.228	0.290	-5.52%
2nd	FR1 n12_Ant 1	15M	BPSK	1	40	Back	10mm	Index 5/6	141500	707.5	24.18	25.10	1.236	-0.01	0.222	0.274	
1st	FR1 n25_Ant 2	20M	BPSK	50	28	Back	10mm	Index 5/6	381000	1905	21.90	23.10	1.318	-0.15	0.544	0.717	-2.79%
2nd	FR1 n25_Ant 2	20M	BPSK	50	28	Back	10mm	Index 5/6	381000	1905	21.81	23.10	1.346	-0.06	0.518	0.697	
1st	FR1 n25_Ant 0-	20M	BPSK	1	53	Back	10mm	Index 5	381000	1905	23.25	24.50	1.334	0	0.893	1.191	-0.76%
2nd	FR1 n25_Ant 0-	20M	BPSK	1	53	Back	10mm	Index 5	381000	1905	23.18	24.50	1.355	-0.08	0.872	1.182	
1st	FR1 n25_Ant 0	20M	BPSK	1	53	Back	10mm	Index 6	381000	1905	23.25	23.30	1.012	0	0.893	0.903	-0.78%
2nd	FR1 n25_Ant 0	20M	BPSK	1	53	Back	10mm	Index 6	381000	1905	23.18	23.30	1.028	-0.08	0.872	0.896	
1st	FR1 n30_Ant 2-	10M	BPSK	1	26	Back	10mm	Index 5	462000	2310	22.17	23.40	1.327	-0.08	0.892	1.184	-5.91%
2nd	FR1 n30_Ant 2-	10M	BPSK	1	26	Back	10mm	Index 5	462000	2310	22.07	23.40	1.358	-0.12	0.820	1.114	
1st	FR1 n30_Ant 2	10M	BPSK	1	26	Back	10mm	Index 6	462000	2310	22.17	22.20	1.007	-0.08	0.892	0.898	-5.90%
2nd	FR1 n30_Ant 2	10M	BPSK	1	26	Back	10mm	Index 6	462000	2310	22.07	22.20	1.030	-0.12	0.820	0.845	
1st	FR1 n30_Ant 0	10M	BPSK	1	26	Back	10mm	Index 5/6	462000	2310	22.92	24.50	1.439	0.02	0.340	0.489	2.04%
2nd	FR1 n30_Ant 0	10M	BPSK	1	26	Back	10mm	Index 5/6	462000	2310	22.81	24.50	1.476	-0.03	0.338	0.499	



FCC SAR Spot Check Evaluation

Report No. : FA121931-05C

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Output Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (%)
1st	FR1 n41_Ant 1-	100M	BPSK	1	137	Back	10mm	Index 5	518598	2592.99	21.94	23.50	1.432	-0.09	0.773	1.107	-11.65%
2nd	FR1 n41_Ant 1-	100M	BPSK	1	137	Back	10mm	Index 5	518598	2592.99	21.98	23.50	1.419	-0.17	0.689	0.978	
1st	FR1 n41_HPUE_Ant 1-	100M	BPSK	1	137	Back	10mm	Index 5	518598	2592.99	25.02	26.50	1.406	-0.1	0.814	1.145	-7.16%
2nd	FR1 n41_HPUE_Ant 1-	100M	BPSK	1	137	Back	10mm	Index 5	518598	2592.99	24.99	26.50	1.416	-0.05	0.751	1.063	
1st	FR1 n41_Ant 1	100M	BPSK	1	137	Back	10mm	Index 6	518598	2592.99	20.82	22.30	1.406	-0.02	0.634	0.891	4.71%
2nd	FR1 n41_Ant 1	100M	BPSK	1	137	Back	10mm	Index 6	518598	2592.99	20.51	22.30	1.510	0.02	0.618	0.933	
1st	FR1 n41_HPUE_Ant 1	100M	BPSK	1	137	Back	10mm	Index 6	518598	2592.99	23.57	25.30	1.489	-0.07	0.511	0.761	1.58%
2nd	FR1 n41_HPUE_Ant 1	100M	BPSK	1	137	Back	10mm	Index 6	518598	2592.99	23.44	25.30	1.535	-0.08	0.504	0.773	
1st	FR1 n41_Ant 5	100M	BPSK	1	137	Back	10mm	Index 5/6	518598	2592.99	21.50	23.00	1.413	-0.09	0.451	0.637	-14.60%
2nd	FR1 n41_Ant 5	100M	BPSK	1	137	Back	10mm	Index 5/6	518598	2592.99	21.35	23.00	1.462	-0.19	0.372	0.544	
1st	FR1 n41_HPUE_Ant 5	100M	BPSK	1	137	Back	10mm	Index 5/6	518598	2592.99	24.46	26.00	1.426	-0.14	0.470	0.670	5.97%
2nd	FR1 n41_HPUE_Ant 5	100M	BPSK	1	137	Back	10mm	Index 5/6	518598	2592.99	24.19	26.00	1.517	-0.14	0.468	0.710	
1st	FR1 n66_Ant 2	40M	BPSK	108	108	Back	10mm	Index 5/6	349000	1745	21.63	23.40	1.503	-0.04	0.572	0.860	-15.23%
2nd	FR1 n66_Ant 2	40M	BPSK	1	108	Back	10mm	Index 5/6	349000	1745	21.78	23.40	1.452	-0.07	0.502	0.729	
1st	FR1 n66_Ant 0-	40M	BPSK	1	108	Back	10mm	Index 5	349000	1745	22.99	24.20	1.321	-0.12	0.655	0.865	0.12%
2nd	FR1 n66_Ant 0-	40M	BPSK	1	108	Back	10mm	Index 5	349000	1745	22.84	24.20	1.368	-0.15	0.633	0.866	
1st	FR1 n66_Ant 0	40M	BPSK	1	108	Back	10mm	Index 6	349000	1745	22.99	24.10	1.291	-0.12	0.655	0.846	0.00%
2nd	FR1 n66_Ant 0	40M	BPSK	1	108	Back	10mm	Index 6	349000	1745	22.84	24.10	1.337	-0.15	0.633	0.846	
1st	FR1 n71_Ant 0	20M	BPSK	1	53	Back	10mm	Index 5/6	136100	680.5	24.67	25.50	1.211	-0.11	0.238	0.288	0.00%
2nd	FR1 n71_Ant 0	20M	BPSK	1	53	Back	10mm	Index 5/6	136100	680.5	24.53	25.50	1.250	-0.04	0.230	0.288	
1st	FR1 n71_Ant 1	20M	BPSK	1	53	Back	10mm	Index 5/6	136100	680.5	24.21	25.10	1.227	-0.02	0.198	0.243	-1.65%
2nd	FR1 n71_Ant 1	20M	BPSK	1	53	Back	10mm	Index 5/6	136100	680.5	24.15	25.10	1.245	-0.05	0.192	0.239	
1st	FR1 n77_Ant 6	100M	BPSK	1	137	Back	10mm	Index 5/6	633332	3499.98	21.92	23.30	1.374	0.03	0.560	0.769	-5.33%
2nd	FR1 n77_Ant 6	100M	BPSK	1	137	Back	10mm	Index 5/6	633332	3499.98	21.89	23.30	1.384	0.06	0.526	0.728	
1st	FR1 n77_HPUE_Ant 6	100M	BPSK	1	137	Back	10mm	Index 5/6	633332	3499.98	25.89	26.30	1.099	-0.15	0.760	0.835	-8.02%
2nd	FR1 n77_HPUE_Ant 6	100M	BPSK	1	137	Back	10mm	Index 5/6	633332	3499.98	25.78	26.30	1.127	-0.07	0.681	0.768	
1st	FR1 n77_Ant 6	100M	BPSK	1	137	Back	10mm	Index 5/6	656000	3840	21.88	23.30	1.387	-0.07	0.575	0.797	3.64%
2nd	FR1 n77_Ant 6	100M	BPSK	1	137	Back	10mm	Index 5/6	656000	3840	21.69	23.30	1.449	-0.11	0.570	0.826	
1st	FR1 n77_HPUE_Ant 6	100M	BPSK	1	137	Back	10mm	Index 5/6	656000	3840	25.77	26.30	1.130	-0.13	0.658	0.743	-1.21%
2nd	FR1 n77_HPUE_Ant 6	100M	BPSK	1	137	Back	10mm	Index 5/6	656000	3840	25.61	26.30	1.172	-0.07	0.626	0.734	
1st	FR1 n77_Ant 2	100M	BPSK	1	271	Back	10mm	Index 5/6	633332	3499.98	22.34	23.30	1.247	-0.14	0.173	0.216	-16.67%
2nd	FR1 n77_Ant 2	100M	BPSK	1	271	Back	10mm	Index 5/6	633332	3499.98	22.25	23.30	1.274	-0.05	0.141	0.180	
1st	FR1 n77_HPUE_Ant 2	100M	BPSK	1	271	Back	10mm	Index 5/6	633332	3499.98	23.55	25.00	1.396	-0.06	0.114	0.159	-25.79%
2nd	FR1 n77_HPUE_Ant 2	100M	BPSK	1	271	Back	10mm	Index 5/6	633332	3499.98	23.54	25.00	1.400	-0.1	0.084	0.118	
1st	FR1 n77_Ant 2	100M	BPSK	1	271	Back	10mm	Index 5/6	656000	3840	22.74	23.30	1.138	-0.14	0.202	0.230	-36.52%
2nd	FR1 n77_Ant 2	100M	BPSK	1	271	Back	10mm	Index 5/6	656000	3840	22.75	23.30	1.135	-0.08	0.129	0.146	
1st	FR1 n77_HPUE_Ant 2	100M	BPSK	1	271	Back	10mm	Index 5/6	656000	3840	23.55	25.00	1.396	-0.05	0.133	0.186	-21.51%
2nd	FR1 n77_HPUE_Ant 2	100M	BPSK	1	271	Back	10mm	Index 5/6	656000	3840	23.61	25.00	1.377	0.01	0.106	0.146	

< WLAN SAR >

No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation %
1st	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 3+4 (4)	5	6	2437	22.85	23.00	1.035	0.13	0.753	0.823	-6%
				10mm	Ant 3+4 (3)	5	6	2437	22.55	23.00	1.109	0.13	0.636	0.745	
2nd	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 3+4 (4)	5	6	2437	22.85	23.00	1.035	0.15	0.711	0.777	
				10mm	Ant 3+4	5	6	2437	22.55	23.00	1.109	0.15	0.598	0.700	
1st	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 3+4 (4)	6	13	2472	18.35	19.50	1.303	-0.12	0.397	0.546	-2%
				10mm	Ant 3+4 (3)	6	13	2472	18.55	19.50	1.245	-0.12	0.310	0.407	
2nd	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 3+4	6	13	2472	18.35	19.50	1.303	-0.12	0.388	0.534	
				10mm	Ant 3+4 (3)	6	13	2472	18.55	19.50	1.245	0.15	0.302	0.397	
1st	WLAN5GHz	802.11n-HT40 MCS0	Back	10mm	Ant 3+7(7)	5	54	5270	18.45	20.00	1.429	-0.05	0.748	1.104	-19%
2nd	WLAN5GHz	802.11n-HT40 MCS0	Back	10mm	Ant 3+7(7)	5	54	5270	18.45	20.00	1.429	-0.02	0.606	0.894	
1st	WLAN5GHz	802.11n-HT40 MCS0	Back	10mm	Ant 3+7(7)	6	54	5270	18.45	19.00	1.135	-0.05	0.748	0.877	-19%
2nd	WLAN5GHz	802.11n-HT40 MCS0	Back	10mm	Ant 3+7(7)	6	54	5270	18.45	19.00	1.135	-0.02	0.606	0.711	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	7	58	5290	14.15	16.50	1.718	0.1	0.257	0.501	-6%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	7	58	5290	14.15	16.50	1.718	0.09	0.242	0.472	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	8	58	5290	14.15	16.00	1.531	0.1	0.257	0.447	-6%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	8	58	5290	14.15	16.00	1.531	0.09	0.242	0.421	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	9	58	5290	14.15	16.00	1.531	0.1	0.257	0.447	-6%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	9	58	5290	14.15	16.00	1.531	0.09	0.242	0.421	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	5	122	5610	17.15	18.00	1.216	-0.08	0.759	1.048	-5%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	5	122	5610	17.15	18.00	1.216	0.1	0.719	0.992	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	6	122	5610	17.15	17.50	1.084	-0.08	0.759	0.934	-5%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	6	122	5610	17.15	17.50	1.084	0.1	0.719	0.885	
1st	WLAN5GHz	802.11ac-VHT160 MCS0	Back	10mm	Ant 3+7(7)	7	114	5570	13.41	15.00	1.442	-0.03	0.297	0.492	-7%
2nd	WLAN5GHz	802.11ac-VHT160 MCS0	Back	10mm	Ant 3+7(7)	7	114	5570	13.41	15.00	1.442	0.15	0.275	0.456	
1st	WLAN5GHz	802.11ac-VHT160 MCS0	Back	10mm	Ant 3+7(7)	8	114	5570	13.41	14.50	1.285	-0.03	0.297	0.439	-8%
2nd	WLAN5GHz	802.11ac-VHT160 MCS0	Back	10mm	Ant 3+7(7)	8	114	5570	13.41	14.50	1.285	0.15	0.275	0.406	
1st	WLAN5GHz	802.11ac-VHT160 MCS0	Back	10mm	Ant 3+7(7)	9	114	5570	13.41	14.50	1.285	-0.03	0.297	0.439	-8%
2nd	WLAN5GHz	802.11ac-VHT160 MCS0	Back	10mm	Ant 3+7(7)	9	114	5570	13.41	14.50	1.285	0.15	0.275	0.406	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	5	155	5775	17.85	19.00	1.303	0.08	0.762	1.127	-17%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	5	155	5775	17.85	19.00	1.303	-0.04	0.629	0.930	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	6	155	5775	17.85	18.50	1.161	0.08	0.758	0.999	-17%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	6	155	5775	17.85	18.50	1.161	-0.04	0.629	0.829	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	7	155	5775	14.86	16.50	1.459	0.08	0.327	0.541	-9%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	7	155	5775	14.86	16.50	1.459	0.18	0.298	0.493	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	9	155	5775	14.86	15.50	1.159	0.08	0.327	0.430	-9%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	9	155	5775	14.86	15.50	1.159	0.18	0.298	0.392	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	8	155	5775	14.86	15.50	1.159	0.08	0.327	0.430	-9%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+7(7)	8	155	5775	14.86	15.50	1.159	0.18	0.298	0.392	

<6GHz WLAN SAR>

No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation %
1st	WLAN6GHz	802.11ax-HE160 MCS0	Back	10mm	Ant 3+7 (7)	5/6/7/8/9	175	6825	9.30	9.50	1.047	0.12	0.115	0.141	-11%
				10mm	Ant 3+7 (3)	5/6/7/8/9	175	6825	9.50	9.50	1.000	0.12	0.001	0.001	
2nd	WLAN6GHz	802.11ax-HE160 MCS0	Back	10mm	Ant 3+7 (7)	5/6/7/8/9	175	6825	9.30	9.50	1.047	-0.19	0.102	0.125	
				10mm	Ant 3+7 (3)	5/6/7/8/9	175	6825	9.50	9.50	1.000	-0.19	0.001	0.001	

<Bluetooth SAR>

No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation %
1st	Bluetooth	1Mbps	Back	10mm	Ant 4	2/3	39	2441	19.05	21.00	1.567	-0.1	0.150	0.306	-1%
2nd	Bluetooth	1Mbps	Back	10mm	Ant 4	2/3	39	2441	19.05	21.00	1.567	-0.1	0.148	0.302	
1st	Bluetooth	1Mbps	Back	10mm	Ant 3	2/3	39	2441	19.25	21.00	1.497	-0.04	0.123	0.240	-2%
2nd	Bluetooth	1Mbps	Back	10mm	Ant 3	2/3	39	2441	19.25	21.00	1.497	-0.1	0.121	0.236	
1st	Bluetooth	1Mbps	Back	10mm	Ant 3+4 (3)	2/3	39	2441	17.15	18.00	1.217	0.11	0.099	0.157	-5%
2nd	Bluetooth	1Mbps	Back	10mm	Ant 3+4	2/3	39	2441	17.15	18.00	1.217	0.1	0.094	0.149	
1st	Bluetooth	1Mbps	Back	10mm	Ant 4	4	39	2441	19.05	19.50	1.110	-0.1	0.135	0.195	-2%
2nd	Bluetooth	1Mbps	Back	10mm	Ant 4	4	39	2441	19.05	19.50	1.110	-0.1	0.133	0.192	
1st	Bluetooth	1Mbps	Back	10mm	Ant 3	4	39	2441	19.25	19.50	1.060	-0.04	0.123	0.170	-13%
2nd	Bluetooth	1Mbps	Back	10mm	Ant 3	4	39	2441	19.25	19.50	1.060	-0.1	0.107	0.148	
1st	Bluetooth	1Mbps	Back	10mm	Ant 3+4 (4)	4	39	2441	17.19	18.00	1.205	0.11	0.048	0.075	-8%
				10mm	Ant 3+4 (3)	4	39	2441	17.15	18.00	1.217	0.11	0.099	0.157	
2nd	Bluetooth	1Mbps	Back	10mm	Ant 3+4 (4)	4	39	2441	17.19	18.00	1.205	0.1	0.043	0.067	
				10mm	Ant 3+4 (3)	4	39	2441	17.15	18.00	1.217	0.1	0.091	0.144	

**4.4.4 Product Specific SAR****<WWAN SAR>**

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Output Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)	Deviation (%)
1st	LTE Band 66_Ant 2	20M	QPSK	50	50	Bottom Side	0mm	Index 5/6	132572	1770	22.24	23.80	1.432	-0.09	2.070	2.965	-3.86%
2nd	LTE Band 66_Ant 2	20M	QPSK	50	50	Bottom Side	0mm	Index 5/6	132572	1770	22.22	23.80	1.439	-0.1	1.990	2.863	
1st	FR1 n41_Ant 1-	100M	BPSK	1	137	Top Side	0mm	Index 5	518598	2592.99	21.94	23.50	1.432	-0.14	1.900	2.721	-7.89%
2nd	FR1 n41_Ant 1-	100M	BPSK	1	137	Top Side	0mm	Index 5	518598	2592.99	21.98	23.50	1.419	-0.13	1.750	2.483	

<WLAN SAR>

No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)	Deviation %
1st	WLAN5GHz	802.11n-HT40 MCS0	Back	0mm	Ant 3+7(7)	5	54	5270	18.45	20.00	1.429	0.1	1.370	2.022	-17%
2nd	WLAN5GHz	802.11n-HT40 MCS0	Back	0mm	Ant 3+7(7)	5	54	5270	18.45	20.00	1.429	0.02	1.140	1.683	
1st	WLAN5GHz	802.11n-HT40 MCS0	Back	0mm	Ant 3+7(7)	6	54	5270	18.45	19.00	1.135	0.1	1.370	1.606	-17%
2nd	WLAN5GHz	802.11n-HT40 MCS0	Back	0mm	Ant 3+7(7)	6	54	5270	18.45	19.00	1.135	0.02	1.140	1.337	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 3+7(7)	7	58	5290	14.15	16.50	1.718	0.03	0.503	0.981	-7%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 3+7(7)	7	58	5290	14.15	16.50	1.718	0.05	0.467	0.911	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 3+7(7)	8	58	5290	14.15	16.00	1.531	0.03	0.503	0.874	-7%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 3+7(7)	8	58	5290	14.15	16.00	1.531	0.05	0.467	0.812	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 3+7(7)	9	58	5290	14.15	16.00	1.531	0.03	0.503	0.874	-7%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 3+7(7)	9	58	5290	14.15	16.00	1.531	0.05	0.467	0.812	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 3+7(7)	5	122	5610	17.15	18.00	1.216	0.09	1.310	1.808	-15%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 3+7(7)	5	122	5610	17.15	18.00	1.216	-0.1	1.110	1.532	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 3+7(7)	6	122	5610	17.15	17.50	1.084	0.09	1.310	1.612	-15%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 3+7(7)	6	122	5610	17.15	17.50	1.084	-0.1	1.110	1.366	
1st	WLAN5GHz	802.11ac-VHT160 MCS0	Back	0mm	Ant 3+7(7)	7	114	5570	13.41	15.00	1.442	0.04	0.518	0.858	-19%
2nd	WLAN5GHz	802.11ac-VHT160 MCS0	Back	0mm	Ant 3+7(7)	7	114	5570	13.41	15.00	1.442	0.08	0.418	0.693	
1st	WLAN5GHz	802.11ac-VHT160 MCS0	Back	0mm	Ant 3+7(7)	8	114	5570	13.41	14.50	1.285	0.04	0.518	0.765	-19%
2nd	WLAN5GHz	802.11ac-VHT160 MCS0	Back	0mm	Ant 3+7(7)	8	114	5570	13.41	14.50	1.285	0.08	0.418	0.617	
1st	WLAN5GHz	802.11ac-VHT160 MCS0	Back	0mm	Ant 3+7(7)	9	114	5570	13.41	14.50	1.285	0.04	0.518	0.765	-19%
2nd	WLAN5GHz	802.11ac-VHT160 MCS0	Back	0mm	Ant 3+7(7)	9	114	5570	13.41	14.50	1.285	0.08	0.418	0.617	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 3+7(7)	5	155	5775	17.85	19.00	1.303	-0.14	1.380	2.041	-19%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 3+7(7)	5	155	5775	17.85	19.00	1.303	-0.05	1.120	1.657	
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 3+7(7)	6	155	5775	17.85	18.50	1.161	-0.14	1.380	1.819	-19%
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 3+7(7)	6	155	5775	17.85	18.50	1.161	-0.05	1.120	1.476	

<6GHz WLAN SAR>

No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)	Deviation %
1st	WLAN6GHz	802.11ax-HE160 MCS0	Back	0mm	Ant 3+7 (7)	5/6/7/8/9	175	6825	9.30	9.50	1.047	0.19	0.147	0.181	-8%
				0mm	Ant 3+7 (3)	5/6/7/8/9	175	6825	9.50	9.50	1.000	0.19	0.012	0.014	
2nd	WLAN6GHz	802.11ax-HE160 MCS0	Back	0mm	Ant 3+7 (7)	5/6/7/8/9	175	6825	9.30	9.50	1.047	-0.14	0.136	0.167	
				0mm	Ant 3+7 (3)	5/6/7/8/9	175	6825	9.50	9.50	1.000	-0.14	0.061	0.072	

4.4.5 <6GHz PD Test Result>

No.	Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Grip Step (A)	Scaling Factor for measurement uncertainty	Power Drift (dB)	Normal psPD (W/m ²)	Scaled Normal psPD (W/m ²)	Total psPD (W/m ²)	Scaled Total psPD (W/m ²)	Deviation %
1st	WLAN6GHz	802.11ax-HE160 MCS0	Back	2mm	Ant 3+7 (7)	111	6505	11.00	11.00	0.0625	1.5535	0.15	3.24	5.91	3.81	6.95	-62%
2nd	WLAN6GHz	802.11ax-HE160 MCS0	Back	2mm	Ant 3+7 (7)	111	6505	11.00	11.00	0.0625	1.5535	-0.05	1.37	2.50	1.44	2.63	
1st	WLAN6GHz	802.11ax-HE160 MCS0	Front	2mm	Ant 3+7 (7)	15	6025	14.20	15.00	0.0625	1.5535	0.07	1.01	2.22	1.14	2.50	-52%
2nd	WLAN6GHz	802.11ax-HE160 MCS0	Front	2mm	Ant 3+7 (7)	15	6025	14.20	15.00	0.0625	1.5535	0.14	0.501	1.10	0.543	1.19	

4.4.6 Conclusion

The spot check results don't show the SAR increase more than 30%, and all below 1.2W/kg for 1-g SAR, below 3W/kg for 10-g SAR. Referring to the guidance in the KDB inquiry, SAR data reuse is justified.

5. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit ⁽²⁾	D750V3	1107	Mar. 08, 2019	Mar. 05, 2022
SPEAG	835MHz System Validation Kit ⁽²⁾	D835V2	4d167	Nov. 25, 2019	Nov. 23, 2021
SPEAG	1750MHz System Validation Kit ⁽²⁾	D1750V2	1112	Mar. 07, 2019	Mar. 04, 2022
SPEAG	1900MHz System Validation Kit ⁽²⁾	D1900V2	5d041	Sep. 11, 2018	Sep. 08, 2021
SPEAG	1900MHz System Validation Kit ⁽²⁾	D1900V2	5d185	Mar. 07, 2019	Mar. 04, 2022
SPEAG	2300MHz System Validation Kit ⁽²⁾	D2300V2	1006	Jan. 28, 2019	Jan. 25, 2022
SPEAG	2450MHz System Validation Kit ⁽²⁾	D2450V2	736	Aug. 31, 2018	Aug. 28, 2021
SPEAG	2600MHz System Validation Kit ⁽²⁾	D2600V2	1008	Aug. 31, 2018	Aug. 28, 2021
SPEAG	2600MHz System Validation Kit ⁽²⁾	D2600V2	1078	Mar. 06, 2019	Mar. 03, 2022
SPEAG	3500MHz System Validation Kit ⁽²⁾	D3500V2	1014	Jan. 29, 2019	Jan. 26, 2022
SPEAG	3700MHz System Validation Kit ⁽²⁾	D3700V2	1006	Mar. 05, 2019	Mar. 02, 2022
SPEAG	3900MHz System Validation Kit ⁽²⁾	D3900V2	1017	Apr. 29, 2019	Apr. 26, 2022
SPEAG	5GHz System Validation Kit ⁽²⁾	D5GHzV2	1006	Sep. 27, 2018	Sep. 24, 2021
SPEAG	5GHz System Validation Kit ⁽²⁾	D5GHzV2	1128	Dec. 16, 2019	Dec. 14, 2021
SPEAG	6500MHz System Validation Kit ⁽²⁾	D6.5GHzV2	1003	Feb. 04, 2020	Feb. 02, 2022
SPEAG	5G Verification Source	10 GHz	1020	Jan. 18, 2021	Jan. 17, 2022
SPEAG	Data Acquisition Electronics	DAE3	393	Apr. 09, 2021	Apr. 08, 2022
SPEAG	Data Acquisition Electronics	DAE3	577	Sep. 16, 2020	Sep. 15, 2021
SPEAG	Data Acquisition Electronics	DAE4	656	Jan. 22, 2021	Jan. 21, 2022
SPEAG	Data Acquisition Electronics	DAE4	699	Feb. 16, 2021	Feb. 15, 2022
SPEAG	Data Acquisition Electronics	DAE4	917	Dec. 22, 2020	Dec. 21, 2021
SPEAG	Data Acquisition Electronics	DAE4	1311	Aug. 25, 2020	Aug. 24, 2021
SPEAG	Dosimetric E-Field Probe	ES3DV3	3124	Nov. 23, 2020	Nov. 22, 2021
SPEAG	Dosimetric E-Field Probe	ES3DV3	3169	May. 28, 2021	May. 27, 2022
SPEAG	Dosimetric E-Field Probe	EX3DV4	3642	Apr. 26, 2021	Apr. 25, 2022
SPEAG	Dosimetric E-Field Probe	EX3DV4	3898	Jun. 24, 2021	Jun. 23, 2022
SPEAG	Dosimetric E-Field Probe	EX3DV4	3976	Jan. 27, 2021	Jan. 26, 2022
SPEAG	Dosimetric E-Field Probe	EX3DV4	7306	Jul. 24, 2020	Jul. 23, 2021
SPEAG	Dosimetric E-Field Probe	EX3DV4	7625	Jan. 19, 2021	Jan. 18, 2022
SPEAG	EUmmWV Probe Tip Protection	EUmmWV4	9441	Nov. 24, 2020	Nov. 23, 2021
Testo	Hygro meter	608-H1	45196600	Nov. 10, 2020	Nov. 09, 2021
Testo	Hygro meter	608-H1	45207528	Nov. 10, 2020	Nov. 09, 2021
RCPTWN	Thermometer	HTC-1	TM685-1	Nov. 10, 2020	Nov. 09, 2021
RCPTWN	Thermometer	HTC-1	TM560-2	Nov. 10, 2020	Nov. 09, 2021
Anritsu	Radio Communication Analyzer	MT8821C	6201341950	Nov. 10, 2020	Nov. 09, 2021
Keysight	Wireless Communication Test Set	E5515C	MY50266977	May. 12, 2021	May. 11, 2022
Keysight	5G Wireless Test Platform	E7515B	MY59321826	Mar. 23, 2021	Mar. 22, 2022
R&S	BT Base Station	CBT	100815	Feb. 19, 2021	Feb. 18, 2022
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Nov. 11, 2020	Nov. 10, 2021
Keysight	ENA Network Analyzer	E5071C	MY46104758	Sep. 03, 2020	Sep. 02, 2021
SPEAG	Dielectric Probe Kit	DAK-3.5	1126	Sep. 16, 2020	Sep. 15, 2021
LINE SEIKI	Digital Thermometer	DTM3000-spezial	2942	Nov. 06, 2020	Nov. 05, 2021
Anritsu	Power Meter	ML2495A	1419002	Aug. 19, 2020	Aug. 18, 2021
Anritsu	Power Sensor	MA2411B	1911176	Aug. 18, 2020	Aug. 17, 2021
Anritsu	Power Meter	ML2495A	1804003	Oct. 21, 2020	Oct. 20, 2021

Anritsu	Power Sensor	MA2411B	1726150	Oct. 21, 2020	Oct. 20, 2021
Agilent	Spectrum Analyzer	E4408B	MY44211028	Aug. 27, 2020	Aug. 26, 2021
Anritsu	Spectrum Analyzer	N9010A	MY53470118	Jan. 15, 2021	Jan. 14, 2022
Mini-Circuits	Power Amplifier	ZVE-8G+	6418	Oct. 21, 2020	Oct. 20, 2021
Mini-Circuits	Power Amplifier	ZVE-8G+	479102029	Aug. 26, 2020	Aug. 25, 2021
Custom Microwave	Standard Horn antenna	M15RH	V91113-A	NCR	NCR
ATM	Dual Directional Coupler	C122H-10	P610410z-02	Note 1	
Warison	Directional Coupler	WCOU-10-50S-10	WR889BMC4B1	Note 1	
Woken	Attenuator 1	WK0602-XX	N/A	Note 1	
PE	Attenuator 2	PE7005-10	N/A	Note 1	
PE	Attenuator 3	PE7005- 3	N/A	Note 1	

General Note:

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

6. System Verification

6.1 Tissue Verification

The tissue dielectric parameters of tissue-equivalent media used for SAR measurements must be characterized within a temperature range of 18°C to 25°C, measured with calibrated instruments and apparatuses, such as network analyzers and temperature probes. The temperature of the tissue-equivalent medium during SAR measurement must also be within 18°C to 25°C and within $\pm 2^\circ\text{C}$ of the temperature when the tissue parameters are characterized. The tissue dielectric measurement system must be calibrated before use. The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements. The liquid tissue depth was at least 15cm in the phantom for all SAR testing

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ϵ_r)	Conductivity Target (σ)	Permittivity Target (ϵ_r)	Delta (σ) (%)	Delta (ϵ_r) (%)	Limit (%)	Date
750	22.5	0.898	42.686	0.89	41.90	0.90	1.88	± 5	2021/7/4
750	22.5	0.883	43.146	0.89	41.90	-0.79	2.97	± 5	2021/7/9
750	22.5	0.908	42.996	0.89	41.90	2.02	2.62	± 5	2021/7/11
750	22.6	0.902	42.656	0.89	41.90	1.35	1.80	± 5	2021/7/12
750	22.6	0.890	42.563	0.89	41.90	0.00	1.58	± 5	2021/7/12
750	22.6	0.890	42.563	0.89	41.90	0.00	1.58	± 5	2021/7/12
750	22.3	0.891	43.376	0.89	41.90	0.11	3.52	± 5	2021/7/16
835	22.5	0.944	42.700	0.90	41.50	4.89	2.89	± 5	2021/7/3
835	22.5	0.944	42.700	0.90	41.50	4.89	2.89	± 5	2021/7/3
835	22.5	0.912	42.650	0.90	41.50	1.33	2.77	± 5	2021/7/9
835	22.6	0.941	42.636	0.90	41.50	4.56	2.74	± 5	2021/7/11
835	22.3	0.921	42.780	0.90	41.50	2.33	3.08	± 5	2021/7/16
835	22.5	0.892	40.992	0.90	41.50	-0.89	-1.22	± 5	2021/7/16
1750	22.5	1.371	40.329	1.37	40.10	0.07	0.57	± 5	2021/7/8
1750	22.6	1.354	40.418	1.37	40.10	-1.17	0.79	± 5	2021/7/9
1750	22.6	1.370	40.577	1.37	40.10	0.00	1.19	± 5	2021/7/14
1750	22.5	1.389	40.296	1.37	40.10	1.39	0.49	± 5	2021/7/14
1750	22.5	1.344	40.237	1.37	40.10	-1.90	0.34	± 5	2021/7/16
1750	22.5	1.344	40.122	1.37	40.10	-1.90	0.05	± 5	2021/7/21
1750	22.5	1.337	39.453	1.37	40.10	-2.41	-1.61	± 5	2021/7/28



1900	22.5	1.448	38.781	1.40	40.00	3.43	-3.05	±5	2021/7/8
1900	22.6	1.430	38.870	1.40	40.00	2.14	-2.83	±5	2021/7/9
1900	22.5	1.405	40.193	1.40	40.00	0.36	0.48	±5	2021/7/12
1900	22.6	1.447	39.029	1.40	40.00	3.36	-2.43	±5	2021/7/14
1900	22.5	1.438	38.803	1.40	40.00	2.71	-2.99	±5	2021/7/15
1900	22.3	1.439	38.156	1.40	40.00	2.79	-4.61	±5	2021/7/16
1900	22.5	1.419	38.574	1.40	40.00	1.36	-3.57	±5	2021/7/22
2300	22.5	1.657	40.233	1.67	39.50	-0.78	1.86	±5	2021/7/10
2300	22.6	1.666	39.643	1.67	39.50	-0.24	0.36	±5	2021/7/13
2300	22.5	1.644	39.752	1.67	39.50	-1.56	0.64	±5	2021/7/15
2300	22.5	1.628	39.040	1.67	39.50	-2.51	-1.16	±5	2021/7/25
2450	22.5	1.851	39.267	1.80	39.20	2.83	0.17	±5	2021/7/14
2450	22.3	1.793	40.543	1.80	39.20	-0.39	3.43	±5	2021/7/15
2450	22.5	1.800	39.388	1.80	39.20	0.00	0.48	±5	2021/7/23
2450	22.5	1.800	39.388	1.80	39.20	0.00	0.48	±5	2021/7/23
2450	22.5	1.809	39.297	1.80	39.20	0.50	0.25	±5	2021/7/27

Frequency (MHz)	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ϵ_r)	Conductivity Target (σ)	Permittivity Target (ϵ_r)	Delta (σ) (%)	Delta (ϵ_r) (%)	Limit (%)	Date
2600	22.5	2.008	39.057	1.96	39.00	2.45	0.15	±5	2021/7/10
2600	22.5	1.963	38.687	1.96	39.00	0.15	-0.80	±5	2021/7/13
2600	22.5	1.956	37.741	1.96	39.00	-0.20	-3.23	±5	2021/7/14
2600	22.5	1.956	37.741	1.96	39.00	-0.20	-3.23	±5	2021/7/14
2600	22.5	1.953	38.758	1.96	39.00	-0.36	-0.62	±5	2021/7/15
2600	22.5	2.014	38.831	1.96	39.00	2.76	-0.43	±5	2021/7/16
2600	22.5	1.944	37.866	1.96	39.00	-0.82	-2.91	±5	2021/7/25
2600	22.5	1.944	38.188	1.96	39.00	-0.82	-2.08	±5	2021/7/27
2600	22.5	1.927	37.796	1.96	39.00	-1.68	-3.09	±5	2021/7/28
2600	22.4	1.976	38.083	1.96	39.00	0.82	-2.35	±5	2021/8/10
3500	22.5	2.985	37.876	2.91	37.90	2.58	-0.06	±5	2021/7/7
3500	22.6	2.930	37.497	2.91	37.90	0.69	-1.06	±5	2021/7/13
3500	22.5	2.944	38.716	2.91	37.90	1.17	2.15	±5	2021/7/17
3500	22.5	2.910	37.900	2.91	37.90	0.00	0.00	±5	2021/7/18
3500	22.5	2.885	37.700	2.91	37.90	-0.86	-0.53	±5	2021/7/20
3500	22.5	2.938	37.868	2.91	37.90	0.96	-0.08	±5	2021/8/5
3700	22.5	3.173	37.577	3.12	37.70	1.70	-0.33	±5	2021/7/7
3700	22.6	3.115	37.198	3.12	37.70	-0.16	-1.33	±5	2021/7/13
3700	22.5	3.129	38.417	3.12	37.70	0.29	1.90	±5	2021/7/17
3700	22.5	3.119	37.698	3.12	37.70	-0.03	-0.01	±5	2021/7/18
3700	22.5	3.078	37.588	3.12	37.70	-1.35	-0.30	±5	2021/7/20
3700	22.5	3.169	37.558	3.12	37.70	1.57	-0.38	±5	2021/8/5
3900	22.5	3.331	38.139	3.33	37.51	0.03	1.68	±5	2021/7/17
3900	22.5	3.327	37.510	3.33	37.51	-0.09	0.00	±5	2021/7/18
3900	22.5	3.411	37.717	3.33	37.51	2.43	0.55	±5	2021/8/5
5250	22.5	4.668	35.693	4.71	35.95	-0.89	-0.71	±5	2021/7/6
5250	22.5	4.601	35.923	4.71	35.95	-2.31	-0.08	±5	2021/7/17
5250	22.5	4.673	36.300	4.71	35.95	-0.79	0.97	±5	2021/7/20
5250	22.5	4.657	37.608	4.71	35.95	-1.13	4.61	±5	2021/7/21
5600	22.5	4.993	35.178	5.07	35.50	-1.52	-0.91	±5	2021/7/6
5600	22.5	4.934	35.463	5.07	35.50	-2.68	-0.10	±5	2021/7/17
5600	22.5	5.016	35.770	5.07	35.50	-1.07	0.76	±5	2021/7/20
5600	22.5	5.014	37.129	5.07	35.50	-1.10	4.59	±5	2021/7/21
5750	22.5	5.165	34.917	5.22	35.35	-1.05	-1.22	±5	2021/7/6
5750	22.5	5.095	35.231	5.22	35.35	-2.39	-0.34	±5	2021/7/17
5750	22.5	5.190	35.579	5.22	35.35	-0.57	0.65	±5	2021/7/20
5750	22.5	5.160	36.889	5.22	35.35	-1.15	4.35	±5	2021/7/21
6500	23.5	6.100	35.630	6.07	34.50	0.49	3.28	±5	2021/7/21

**6.2 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.

Test site	Date	Frequency (MHz)	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 (%)	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
SAR01-HY	2021/7/4	750	250	D750V3-1107	ES3DV3 - SN3124	DAE4 Sn1311	2.13	8.32	8.52	2.40	1.46	5.61	5.84	4.10
SAR01-HY	2021/7/9	750	250	D750V3-1107	ES3DV3 - SN3124	DAE4 Sn1311	1.92	8.32	7.68	-7.69	1.29	5.61	5.16	-8.02
SAR01-HY	2021/7/11	750	250	D750V3-1107	ES3DV3 - SN3124	DAE3 Sn393	2.15	8.32	8.6	3.37	1.47	5.61	5.88	4.81
SAR01-HY	2021/7/12	750	250	D750V3-1107	ES3DV3 - SN3124	DAE3 Sn393	2.13	8.32	8.52	2.40	1.47	5.61	5.88	4.81
SAR08-HY	2021/7/12	750	250	D750V3-1107	EX3DV4 - SN3642	DAE4 Sn917	2.08	8.32	8.32	0.00	1.34	5.61	5.36	-4.46
SAR11-HY	2021/7/12	750	50	D750V3-1107	EX3DV4 - SN3976	DAE4 Sn656	0.39	8.32	7.8	-6.25	0.26	5.61	5.2	-7.31
SAR08-HY	2021/7/16	750	250	D750V3-1107	EX3DV4 - SN3642	DAE4 Sn656	2.08	8.32	8.32	0.00	1.34	5.61	5.36	-4.46
SAR08-HY	2021/7/3	835	250	D835V2-4d167	EX3DV4 - SN3642	DAE4 Sn917	2.36	9.55	9.44	-1.15	1.55	6.21	6.2	-0.16
SAR01-HY	2021/7/3	835	250	D835V2-4d167	ES3DV3 - SN3124	DAE4 Sn1311	2.33	9.55	9.32	-2.41	1.56	6.21	6.24	0.48
SAR01-HY	2021/7/9	835	50	D835V2-4d167	ES3DV3 - SN3124	DAE3 Sn393	0.46	9.55	9.26	-3.04	0.30	6.21	6.06	-2.42
SAR08-HY	2021/7/11	835	50	D835V2-4d167	EX3DV4 - SN3642	DAE4 Sn917	0.46	9.55	9.2	-3.66	0.31	6.21	6.2	-0.16
SAR08-HY	2021/7/16	835	250	D835V2-4d167	EX3DV4 - SN3642	DAE4 Sn656	2.33	9.55	9.32	-2.41	1.49	6.21	5.96	-4.03
SAR15-HY	2021/7/16	835	50	D835V2-4d167	EX3DV4 - SN7625	DAE4 Sn699	0.44	9.55	8.82	-7.64	0.29	6.21	5.74	-7.57
SAR01-HY	2021/7/8	1750	250	D1750V2-1112	ES3DV3 - SN3124	DAE3 Sn393	9.12	36.70	36.48	-0.60	5.10	19.40	20.4	5.15
SAR08-HY	2021/7/9	1750	50	D1750V2-1112	EX3DV4 - SN3642	DAE4 Sn917	1.67	36.70	33.4	-8.99	0.88	19.40	17.6	-9.28
SAR11-HY	2021/7/14	1750	50	D1750V2-1112	EX3DV4 - SN3976	DAE4 Sn656	1.83	36.70	36.6	-0.27	0.99	19.40	19.8	2.06
SAR15-HY	2021/7/14	1750	250	D1750V2-1112	EX3DV4 - SN7625	DAE4 Sn699	8.90	36.70	35.6	-3.00	4.70	19.40	18.8	-3.09
SAR08-HY	2021/7/16	1750	250	D1750V2-1112	EX3DV4 - SN3642	DAE4 Sn917	8.80	36.70	35.2	-4.09	4.68	19.40	18.72	-3.51
SAR08-HY	2021/7/21	1750	50	D1750V2-1112	EX3DV4 - SN3642	DAE4 Sn917	1.69	36.70	33.8	-7.90	0.91	19.40	18.12	-6.60
SAR15-HY	2021/7/28	1750	250	D1750V2-1112	EX3DV4 - SN7625	DAE3 Sn393	9.13	36.70	36.52	-0.49	4.79	19.40	19.16	-1.24
SAR01-HY	2021/7/8	1900	250	D1900V2-5d185	ES3DV3 - SN3124	DAE4 Sn1311	9.67	39.40	38.68	-1.83	5.34	20.50	21.36	4.20
SAR08-HY	2021/7/9	1900	250	D1900V2-5d041	EX3DV4 - SN3642	DAE4 Sn917	9.50	40.20	38	-5.47	4.88	21.20	19.52	-7.92
SAR15-HY	2021/7/12	1900	250	D1900V2-5d185	EX3DV4 - SN7625	DAE4 Sn699	9.91	39.40	39.64	0.61	5.10	20.50	20.4	-0.49
SAR11-HY	2021/7/14	1900	50	D1900V2-5d041	EX3DV4 - SN3976	DAE4 Sn656	2.04	40.20	40.8	1.49	1.08	21.20	21.6	1.89
SAR08-HY	2021/7/15	1900	250	D1900V2-5d185	EX3DV4 - SN3642	DAE4 Sn917	10.20	39.40	40.8	3.55	5.26	20.50	21.04	2.63
SAR08-HY	2021/7/16	1900	250	D1900V2-5d041	EX3DV4 - SN3642	DAE4 Sn656	9.57	40.20	38.28	-4.78	4.91	21.20	19.64	-7.36
SAR08-HY	2021/7/22	1900	250	D1900V2-5d185	EX3DV4 - SN3642	DAE4 Sn917	10.10	39.40	40.4	2.54	5.19	20.50	20.76	1.27
SAR01-HY	2021/7/10	2300	250	D2300V2-1006	ES3DV3 - SN3124	DAE3 Sn393	12.10	48.70	48.4	-0.62	6.03	23.20	24.12	3.97
SAR08-HY	2021/7/13	2300	250	D2300V2-1006	EX3DV4 - SN3642	DAE4 Sn656	11.60	48.70	46.4	-4.72	5.53	23.20	22.12	-4.66
SAR15-HY	2021/7/15	2300	250	D2300V2-1006	EX3DV4 - SN7625	DAE4 Sn699	11.90	48.70	47.6	-2.26	5.72	23.20	22.88	-1.38
SAR08-HY	2021/7/25	2300	250	D2300V2-1006	EX3DV4 - SN3642	DAE4 Sn917	12.10	48.70	48.4	-0.62	5.78	23.20	23.12	-0.34
SAR01-HY	2021/7/14	2450	50	D2450V2-736	ES3DV3 - SN3124	DAE3 Sn393	2.77	52.70	55.4	5.12	1.30	24.60	26	5.69
SAR01-HY	2021/7/15	2450	50	D2450V2-736	ES3DV3 - SN3124	DAE3 Sn393	2.68	52.70	53.6	1.71	1.26	24.60	25.2	2.44
SAR11-HY	2021/7/23	2450	50	D2450V2-736	EX3DV4 - SN3976	DAE4 Sn699	2.61	52.70	52.2	-0.95	1.26	24.60	25.2	2.44
SAR01-HY	2021/7/23	2450	50	D2450V2-736	ES3DV3 - SN3124	DAE4 Sn699	2.69	52.70	53.8	2.09	1.27	24.60	25.4	3.25
SAR11-HY	2021/7/27	2450	50	D2450V2-736	EX3DV4 - SN3976	DAE4 Sn699	2.62	52.70	52.4	-0.57	1.27	24.60	25.4	3.25
SAR01-HY	2021/7/10	2600	50	D2600V2-1078	ES3DV3 - SN3124	DAE3 Sn393	2.98	57.60	59.6	3.47	1.35	25.50	27	5.88
SAR15-HY	2021/7/13	2600	250	D2600V2-1078	EX3DV4 - SN7625	DAE4 Sn699	14.80	57.60	59.2	2.78	6.72	25.50	26.88	5.41
SAR08-HY	2021/7/14	2600	250	D2600V2-1078	EX3DV4 - SN3642	DAE4 Sn917	13.80	57.60	55.2	-4.17	6.30	25.50	25.2	-1.18
SAR15-HY	2021/7/14	2600	250	D2600V2-1078	EX3DV4 - SN7625	DAE3 Sn393	14.70	57.60	58.8	2.08	6.70	25.50	26.8	5.10
SAR08-HY	2021/7/15	2600	250	D2600V2-1008	EX3DV4 - SN3642	DAE4 Sn656	13.70	56.40	54.8	-2.84	6.17	25.30	24.68	-2.45
SAR15-HY	2021/7/16	2600	250	D2600V2-1078	EX3DV4 - SN7625	DAE4 Sn699	15.20	57.60	60.8	5.56	6.90	25.50	27.6	8.24
SAR08-HY	2021/7/25	2600	250	D2600V2-1078	EX3DV4 - SN3642	DAE4 Sn917	13.70	57.60	54.8	-4.86	6.26	25.50	25.04	-1.80
SAR03-HY	2021/7/27	2600	250	D2600V2-1078	ES3DV3 - SN3169	DAE3 Sn577	15.00	57.60	60	4.17	6.81	25.50	27.24	6.82
SAR15-HY	2021/7/28	2600	250	D2600V2-1078	EX3DV4 - SN7625	DAE3 Sn393	14.5	57.60	58	0.69	6.60	25.50	26.4	3.53
SAR11-HY	2021/8/10	2600	50	D2600V2-1008	EX3DV4 - SN3976	DAE4 Sn699	2.92	56.40	58.4	3.55	1.35	25.30	27	6.72

Test site	Date	Frequency (MHz)	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 (%)	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
SAR12-HY	2021/7/7	3500	100	D3500V2-1014	EX3DV4 - SN3898	DAE4 Sn1311	6.81	67.90	68.1	0.29	2.55	25.60	25.5	-0.39
SAR08-HY	2021/7/13	3500	100	D3500V2-1014	EX3DV4 - SN3642	DAE4 Sn656	6.63	67.90	66.3	-2.36	2.48	25.60	24.8	-3.13
SAR08-HY	2021/7/17	3500	100	D3500V2-1014	EX3DV4 - SN3642	DAE4 Sn917	6.36	67.90	63.6	-6.33	2.37	25.60	23.7	-7.42
SAR08-HY	2021/7/18	3500	100	D3500V2-1014	EX3DV4 - SN3642	DAE4 Sn917	6.29	67.90	62.9	-7.36	2.35	25.60	23.5	-8.20
SAR08-HY	2021/7/20	3500	100	D3500V2-1014	EX3DV4 - SN3642	DAE4 Sn917	6.61	67.90	66.1	-2.65	2.54	25.60	25.4	-0.78
SAR15-HY	2021/8/5	3500	100	D3500V2-1014	EX3DV4 - SN7625	DAE3 Sn393	6.37	67.90	63.7	-6.19	2.36	25.60	23.6	-7.81
SAR12-HY	2021/7/7	3700	100	D3700V2-1006	EX3DV4 - SN3898	DAE4 Sn1311	7.00	67.30	70	4.01	2.51	24.50	25.1	2.45
SAR08-HY	2021/7/13	3700	100	D3700V2-1006	EX3DV4 - SN3642	DAE4 Sn656	6.29	67.30	62.9	-6.54	2.28	24.50	22.8	-6.94
SAR08-HY	2021/7/17	3700	100	D3700V2-1006	EX3DV4 - SN3642	DAE4 Sn917	6.89	67.30	68.9	2.38	2.53	24.50	25.3	3.27
SAR08-HY	2021/7/18	3700	100	D3700V2-1006	EX3DV4 - SN3642	DAE4 Sn917	7.00	67.30	70	4.01	2.52	24.50	25.2	2.86
SAR08-HY	2021/7/20	3700	100	D3700V2-1006	EX3DV4 - SN3642	DAE4 Sn917	6.77	67.30	67.7	0.59	2.49	24.50	24.9	1.63
SAR15-HY	2021/8/5	3700	100	D3700V2-1006	EX3DV4 - SN7625	DAE3 Sn393	6.96	67.30	69.6	3.42	2.50	24.50	25	2.04
SAR08-HY	2021/7/17	3900	100	D3900V2-1017-3900	EX3DV4 - SN3642	DAE4 Sn917	6.93	69.50	69.3	-0.29	2.33	24.20	23.3	-3.72
SAR08-HY	2021/7/18	3900	100	D3900V2-1017-3900	EX3DV4 - SN3642	DAE4 Sn917	6.67	69.50	66.7	-4.03	2.22	24.20	22.2	-8.26
SAR15-HY	2021/8/5	3900	100	D3900V2-1017-3900	EX3DV4 - SN7625	DAE3 Sn393	7.26	69.50	72.6	4.46	2.51	24.20	25.1	3.72
SAR04-HY	2021/7/6	5250	100	D5GHzV2-1006-5250	EX3DV4 - SN7306	DAE4 Sn1311	7.66	80.70	76.6	-5.08	2.18	23.20	21.8	-6.03
SAR15-HY	2021/7/17	5250	100	D5GHzV2-1128-5250	EX3DV4 - SN7625	DAE3 Sn393	7.95	80.00	79.5	-0.63	2.26	22.90	22.6	-1.31
SAR11-HY	2021/7/20	5250	50	D5GHzV2-1006-5250	EX3DV4 - SN3976	DAE4 Sn699	4.12	80.70	82.4	2.11	1.18	23.20	23.6	1.72
SAR11-HY	2021/7/21	5250	50	D5GHzV2-1006-5250	EX3DV4 - SN3976	DAE4 Sn699	4.10	80.70	82	1.61	1.19	23.20	23.8	2.59
SAR04-HY	2021/7/6	5600	100	D5GHzV2-1006-5600	EX3DV4 - SN7306	DAE4 Sn1311	8.63	83.30	86.3	3.60	2.38	23.80	23.8	0.00
SAR15-HY	2021/7/17	5600	100	D5GHzV2-1128-5600	EX3DV4 - SN7625	DAE3 Sn393	8.02	82.40	80.2	-2.67	2.27	23.60	22.7	-3.81
SAR11-HY	2021/7/20	5600	50	D5GHzV2-1006-5600	EX3DV4 - SN3976	DAE4 Sn699	4.29	83.30	85.8	3.00	1.21	23.80	24.2	1.68
SAR11-HY	2021/7/21	5600	50	D5GHzV2-1006-5600	EX3DV4 - SN3976	DAE4 Sn699	4.29	83.30	85.8	3.00	1.22	23.80	24.4	2.52
SAR04-HY	2021/7/6	5750	100	D5GHzV2-1006-5750	EX3DV4 - SN7306	DAE4 Sn1311	7.82	80.40	78.2	-2.74	2.23	22.90	22.3	-2.62
SAR15-HY	2021/7/17	5750	100	D5GHzV2-1128-5750	EX3DV4 - SN7625	DAE3 Sn393	7.84	79.10	78.4	-0.88	2.22	22.60	22.2	-1.77
SAR11-HY	2021/7/20	5750	50	D5GHzV2-1006-5750	EX3DV4 - SN3976	DAE4 Sn699	3.97	80.40	79.4	-1.24	1.12	22.90	22.4	-2.18
SAR11-HY	2021/7/21	5750	50	D5GHzV2-1006-5750	EX3DV4 - SN3976	DAE4 Sn699	3.94	80.40	78.8	-1.99	1.14	22.90	22.8	-0.44
SAR15-HY	2021/7/21	6500	50	D6.5GHzV2-1003	EX3DV4 - SN7625	DAE4 - SN656	16.20	299.00	324	8.36	2.96	55.10	59.2	7.44

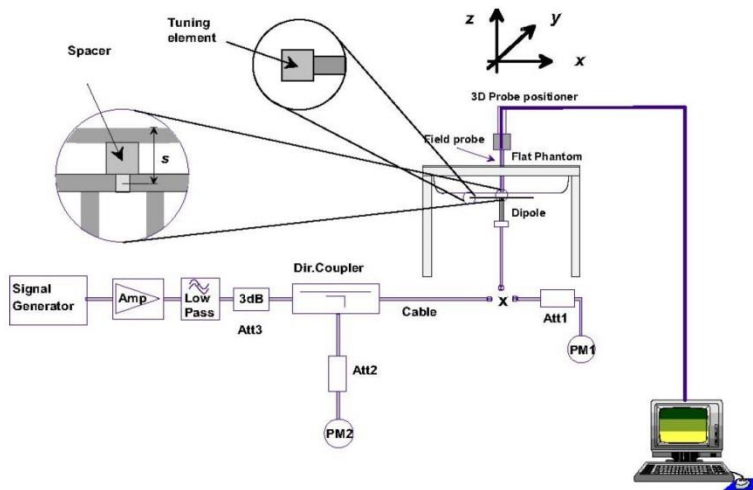


Fig 8.3.1 System Performance Check Setup



Fig 8.3.2 Setup Photo

6.3 PD System Performance Check Results

The system was verified to be within ± 0.66 dB of the power density targets on the calibration certificate according to the test system specification in the user's manual and calibration facility recommendation. The 0.66 dB deviation threshold represents the expanded uncertainty for system performance checks using SPEAG's mmWave verification sources. The same spatial resolution and measurement region used in the source calibration was applied during the system check. The measured power density distribution of verification source was also confirmed through visual inspection to have no noticeable differences, both spatially (shape) and numerically (level) from the distribution provided by the manufacturer, per November 2017 TCBC Workshop Notes

Test Location	Frequency (GHz)	5G Verification Source	Probe S/N	DAE S/N	Distance (mm)	Measured 4 cm ² (W/m ²)	Targeted 4 cm ² (W/m ²)	Deviation (dB)	Date
SAR06-HY	10G	10GHz_1020	9441	699	10mm	44	42.2	0.18	2021/7/16

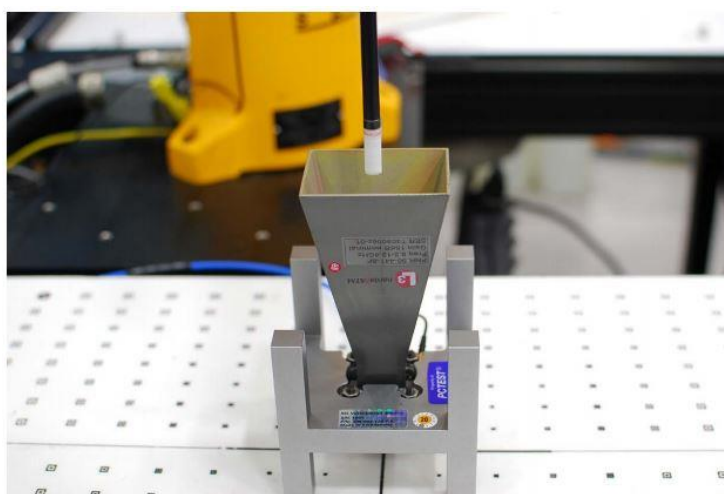


Figure 4-3
System Verification Setup Photo

System Performance Check Setup

7. References

- [1] FCC 47 CFR Part 2 "Frequency Allocations and Radio Treaty Matters; General Rules and Regulations"
- [2] ANSI/IEEE Std. C95.1-1992, "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz", September 1992
- [3] IEEE Std. 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", Sep 2013
- [4] SPEAG DASY System Handbook
- [5] FCC KDB 248227 D01 v02r02, "SAR Guidance for IEEE 802.11 (WiFi) Transmitters", Oct 2015.
- [6] FCC KDB 447498 D01 v06, "Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies", Oct 2015
- [7] FCC KDB 648474 D04 v01r03, "SAR Evaluation Considerations for Wireless Handsets", Oct 2015.
- [8] FCC KDB 941225 D01 v03r01, "3G SAR MEAUREMENT PROCEDURES", Oct 2015
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