

FCC SAR TEST REPORT

FCC ID : A4RGKV4X
Equipment : Phone
Model Name : GKV4X
Applicant : Google LLC
1600 Amphitheatre Parkway,
Mountain View, California, 94043 USA
Standard : FCC 47 CFR Part 2 (2.1093)

The product was received on Aug. 18, 2023 and testing was started from Aug. 30, 2023 and completed on Nov. 01, 2023. 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. Laboratory, the test report shall not be reproduced except in full.



Approved by: Cona Huang / Deputy Manager



Sporton International Inc. Wensan Laboratory

No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan



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History of this test report

Report No.	Version	Description	Issued Date
FA380307B	01	Initial issue of report	Nov. 13, 2023
FA380307B	02	Update section 6 and Appendix F	Nov. 21, 2023
FA380307B	03	Update section 6, 17.2 and Appendix B-2 and D	Dec. 06, 2023
FA380307B	04	Update section 3	Dec. 20, 2023
FA380307B	05	Update section 6.2 and 17.1 and Appendix D	Dec. 26, 2023



1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for Google LLC, Phone, GKV4X, 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) 10g SAR (W/kg)	
Licensed	GSM850	0.99	0.67	0.75		1.59
	GSM1900	0.69	0.80	0.83		
	WCDMA II	0.85	0.79	0.72		
	WCDMA IV	0.69	0.77	0.68		
	WCDMA V	0.98	0.46	0.54		
	LTE B2	0.98	0.76	0.56		
	LTE B7	0.99	0.78	0.79		
	LTE B12/B17	0.93	0.45	0.60		
	LTE B13	0.98	0.62	0.73		
	LTE B14	0.97	0.63	0.65		
	LTE B25/B2	0.84	0.66	0.82		
	LTE B26/B5	0.87	0.51	0.74		
	LTE B30	0.72	0.78	0.71		
	LTE B41/B38	0.98	0.96	0.69		
	LTE B48	0.82	0.78	0.72		
	LTE B66/B4	0.99	0.79	0.66		
	LTE B71	0.98	0.47	0.47		
	FR1 n2	0.82	0.67	0.82		
	FR1 n5	0.97	0.52	0.67		
	FR1 n7	0.99	0.84	0.81		
	FR1 n12	0.99	0.47	0.51		
	FR1 n25	0.82	0.68	0.76		
	FR1 n26	0.99	0.49	0.65		
	FR1 n30	0.88	0.81	0.81		
	FR1 n38/n41	0.82	0.99	0.78		
FR1 n48	0.91	0.78	0.77			
FR1 n66	0.68	0.80	0.68			
FR1 n70	0.62	0.85	0.76			
FR1 n71	0.97	0.47	0.47			
FR1 n77	0.99	0.99	0.59			
DXX	13.56 MHz				0.07	
DTS	2.4GHz WLAN	0.80	0.58	0.48		1.59
NII	5GHz WLAN	1.10	0.39	0.35		1.59
6CD	6GHz WLAN	0.56	0.26			1.59
DSS	Bluetooth	0.29	0.37	0.61		1.58
Equipment Class	Frequency Band	Head Reported APD (mW/cm ²)		Body Reported APD (mW/cm ²)		Reported PD (mW/cm ²)
6CD	6GHz WLAN	0.32		0.17		0.74
Date of Testing:		2023/8/30 ~ 2023/11/1				

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation and the FCC designation No. TW3786 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), Human Exposure to RF Radiation Limits (1.0 mW/cm²=10 W/m²) specified in FCC 47 CFR part 1.1310 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.

Reviewed by: Jason Wang
Report Producer: Paula Chen



2. Data Reuse Approach

FCC ID: A4RG8HHN (reference model) and FCC ID: A4RGKV4X (variant model)

- **PCB:** The PCB layout is identical with parent model.
- **Component Positions:** The position of the components on the PCB is not changed
- **Enclosure, Materials, and From Factor:** the Enclosure, Materials, and From Factor are exactly the same

Due to the same design are identical between parent model and variant model, SAR data reuse is requested and spot check data in this report is used to justify the SAR data reuse.

For variant model 1g SAR and 10g spot check SAR result does not exceed 30% and 1g SAR < 1.2W/kg, 10g SAR < 3.0W/kg of the reference model, the WWAN max SAR summary are identical with parent model.

The applicant should take full responsibility that the test data as referenced in this report represent compliance for this FCC ID: A4RGKV4X.

3. Model Difference Information

A4RG8HHN and A4RGKV4X use the identical internal printed circuit board layout, and the major differences which may relate to RF are listed below:

- 5G FR2 related components are depopulated
- The structure is different at Ant 4
- Enable n12/25/26/30/38/41/70

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



4. Reference detail Section

Rule Part	Equipment Class	Wireless Technology	Frequency Band (MHz)	FCC ID (Reference)	Type Grant/ Permissive Change	Reference Title	FCC ID Filling (Variant)	Test on the variant
Part 2.1093 SAR	DXX	NFC	13.56	A4RG8HHN	Original Grant	FA380306C	A4RGKV4X	Spot check
	DSS	Bluetooth	2400~2483.5	A4RG8HHN	Original Grant	FA380306C	A4RGKV4X	Full test
	DTS	BLE WiFi	2400~2483.5	A4RG8HHN	Original Grant	FA380306C	A4RGKV4X	Full test
	NII	Wi-Fi	5150 ~ 5250 5250 ~ 5350 5470 ~ 5725 5725 ~ 5850 5850 ~ 5895	A4RG8HHN	Original Grant	FA380306C	A4RGKV4X	Full test
	6CD	Wi-Fi	5925 ~ 6425 6425 ~ 6525 6525 ~ 6875 6875 ~ 7125	A4RG8HHN	Original Grant	FA380306C	A4RGKV4X	Full test
	PCB CBE	GSM	850/1900	A4RG8HHN	Original Grant	FA380306C	A4RGKV4X	Spot check
		WCDMA	B2/4/5	A4RG8HHN	Original Grant	FA380306C	A4RGKV4X	Spot check
		LTE	B2/4/5/7/12/13/14/17/25/26/30/38/41/48/66/71	A4RG8HHN	Original Grant	FA380306C	A4RGKV4X	Spot check
		5G FR1	n2/5/7/12/25/26/30/38/41/48/66/70/71/77	A4RG8HHN	Original Grant	FA380306C	A4RGKV4X	Spot check/ Full Test on n12/25/26/30/38/41/70

5. 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
- IEC/IEEE 62209-1528:2020
- SPEAG DASY6 System Handbook
- SPEAG DASY6 Application Note (Interim Procedure for Device Operation at 6GHz-10GHz)



6. Equipment Under Test (EUT) Information

6.1 General Information

Product Feature & Specification	
Equipment Name	Phone
Model Name	GKV4X
FCC ID	A4RGKV4X
S / N	38011JEKB00049, 38011JEKB00020
Frequency Band	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 48: 3550 MHz ~ 3700 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 n26 : 814 MHz ~ 849 MHz 5G NR n30 : 2305 MHz ~ 2315 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n48 : 3550 MHz ~ 3700 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n70 : 1695 MHz ~ 1710 MHz 5G NR n71 : 663 MHz ~ 698 MHz 5G NR n77: 3700 MHz ~ 3980 MHz, 3450MHz ~ 3550MHz 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 5.9 GHz Band: 5850 MHz ~ 5895 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 WPC Rx: 110 kHz ~ 148.5 kHz
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/HE20/HE40/HE80 Bluetooth BR/EDR/LE/HR/Channel sounding NFC: ASK WPC Rx: ASK
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.
Remark:	<ol style="list-style-type: none"> Dynamic antenna tuning mechanism is available at Ant. 0, for its < 3GHz LTE and NR band, and the supplemental antenna tuner test results were including in appendix G, details are illustrated in the operational description. This device WLAN 2.4GHz / 5.2GHz / 5.8GHz supports Hotspot operation and Bluetooth support tethering applications. The device implements the power management and sensor detection for SAR compliance at different exposure conditions (head, body-worn, hotspot) and the TAS feature will manage to ensure the power level not exceeding the associated power table. And also implement Spatial TAS predefine antenna group to analysis simultaneous transmission include in appendix F. The device implements the sensor detection for SAR compliance and the power verification include in appendix E.



6.2 Maximum Tune-up Limit

General Note:

- 1. In the report PC3 as power class3, PC2 as power class2
2. For each cellular band, the device has several WWAN antennas, the antenna selection is based on the connection quality condition.
3. The following table shows maximum output power configurations for various exposure conditions (output power index) with tune-up tolerance accounted. For TAS enabled bands, the values associate with Plimit plus the total uncertainty, or Pmax plus total uncertainty when the derived Plimit is higher than Pmax. In some frequency bands, for some power indexes which associate with the same power level, conducted power measurement for those only need to perform at once. Detail output power measurement refer to appendix D.
4. The index 1 is for the max power conditions, and the use case were evaluated in appendix G.
5. SAR compliance for the scenario, when device in next-to-ear voice call with hotspot enabled, is justified via head SAR test at Power Index 3.

Table with 2 columns: Transmit switching diversity configuration, Antenna configuration. Rows include TX 0 and TX 1 with their respective antenna and band support details.



Maximum Transmit Burst Average Power (dBm)								
Band	Antenna	Duty cycle	Maximum Power Condition	Head	Head	Hotspot	Body-worn	Body-worn
				Standalone	Simultaneous	Simultaneous	Standalone	Simultaneous
				Index 1	Index 2	Index 3	Index 4	Index 5
GSM850 GSM/GPRS 1TX	0	12.50%	33.50	33.50	33.50	33.50	33.50	33.50
GSM850 GPRS 2TX	0	25.00%	32.50	32.50	32.50	32.30	32.50	32.30
GSM850 GPRS 3TX	0	37.50%	31.50	31.50	31.00	30.60	31.50	30.60
GSM850 GPRS 4TX	0	50.00%	30.00	30.00	29.70	29.30	30.00	29.30
GSM850 EDGE 1TX	0	12.50%	28.00	28.00	28.00	28.00	28.00	28.00
GSM850 EDGE 2TX	0	25.00%	27.50	27.50	27.50	27.50	27.50	27.50
GSM850 EDGE 3TX	0	37.50%	27.50	27.50	27.50	27.50	27.50	27.50
GSM850 EDGE 4TX	0	50.00%	25.50	25.50	25.50	25.50	25.50	25.50
GSM850 GSM/GPRS 1TX	1	12.50%	33.00	31.90	29.80	33.00	33.00	33.00
GSM850 GPRS 2TX	1	25.00%	32.50	28.90	26.80	32.50	32.50	32.50
GSM850 GPRS 3TX	1	37.50%	30.50	27.00	24.90	30.50	30.50	30.50
GSM850 GPRS 4TX	1	50.00%	28.00	25.80	23.70	28.00	28.00	28.00
GSM850 EDGE 1TX	1	12.50%	27.50	27.50	27.50	27.50	27.50	27.50
GSM850 EDGE 2TX	1	25.00%	27.00	27.00	26.80	27.00	27.00	27.00
GSM850 EDGE 3TX	1	37.50%	27.00	27.00	24.90	27.00	27.00	27.00
GSM850 EDGE 4TX	1	50.00%	24.00	24.00	23.70	24.00	24.00	24.00
GSM1900 GSM/GPRS 1TX	2	12.50%	30.50	30.50	30.50	30.50	30.50	30.50
GSM1900 GPRS 2TX	2	25.00%	29.50	29.50	29.50	27.60	28.40	27.60
GSM1900 GPRS 3TX	2	37.50%	29.00	29.00	28.70	25.80	26.60	25.80
GSM1900 GPRS 4TX	2	50.00%	28.00	28.00	27.50	24.60	25.40	24.60
GSM1900 EDGE 1TX	2	12.50%	26.00	26.00	26.00	26.00	26.00	26.00
GSM1900 EDGE 2TX	2	25.00%	25.00	25.00	25.00	25.00	25.00	25.00
GSM1900 EDGE 3TX	2	37.50%	25.00	25.00	25.00	25.00	25.00	25.00
GSM1900 EDGE 4TX	2	50.00%	24.00	24.00	24.00	24.00	24.00	24.00
GSM1900 GSM/GPRS 1TX	0	12.50%	30.00	30.00	30.00	30.00	30.00	30.00
GSM1900 GPRS 2TX	0	25.00%	29.50	29.50	29.50	29.50	29.50	29.50
GSM1900 GPRS 3TX	0	37.50%	28.50	28.50	28.50	28.50	28.50	28.50
GSM1900 GPRS 4TX	0	50.00%	27.50	27.50	27.50	27.50	27.50	27.50
GSM1900 EDGE 1TX	0	12.50%	26.00	26.00	26.00	26.00	26.00	26.00
GSM1900 EDGE 2TX	0	25.00%	24.50	24.50	24.50	24.50	24.50	24.50
GSM1900 EDGE 3TX	0	37.50%	24.50	24.50	24.50	24.50	24.50	24.50
GSM1900 EDGE 4TX	0	50.00%	23.50	23.50	23.50	23.50	23.50	23.50



Maximum Transmit Burst Average Power (dBm)								
Band	Antenna	Duty cycle	Maximum Power Condition	Head	Head	Hotspot	Body-worn	Body-worn
				Standalone	Simultaneous	Simultaneous	Standalone	Simultaneous
				Index 1	Index 2	Index 3	Index 4	Index 5
WCDMA B2	2	100.00%	25.70	25.70	25.30	20.70	21.50	20.70
WCDMA B2	0	100.00%	25.20	25.20	24.00	23.90	25.20	24.70
WCDMA B4	2	100.00%	25.70	25.70	25.10	22.70	23.50	22.70
WCDMA B4	0	100.00%	25.20	25.20	25.20	23.80	25.20	23.80
WCDMA B5	0	100.00%	25.70	25.70	25.70	25.70	25.70	25.70
WCDMA B5	1	100.00%	25.20	22.10	20.00	25.20	25.20	25.20
LTE B2	2	100.00%	25.70	25.70	24.70	20.90	21.70	20.90
LTE B2	0	100.00%	25.20	25.20	25.20	24.20	25.20	24.20
LTE B2	1	100.00%	25.70	20.80	20.00	25.70	25.70	25.70
LTE B2	5	100.00%	25.20	17.70	13.50	21.50	25.20	24.40
LTE B5	0	100.00%	25.70	25.70	25.70	25.70	25.70	25.70
LTE B5	1	100.00%	25.20	21.10	19.00	25.20	25.20	25.20
LTE B7	2	100.00%	25.70	24.50	22.50	19.20	23.60	22.30
LTE B7	0	100.00%	25.20	25.20	23.80	21.90	23.70	22.00
LTE B12	0	100.00%	25.70	25.70	25.70	25.70	25.70	25.70
LTE B12	1	100.00%	25.30	22.40	20.30	25.30	25.30	25.30
LTE B13	0	100.00%	25.70	25.70	25.70	24.60	25.70	24.60
LTE B13	1	100.00%	25.20	23.10	21.00	24.50	25.20	25.20
LTE B14	0	100.00%	25.70	25.70	25.70	24.30	25.70	24.60
LTE B14	1	100.00%	25.20	21.50	19.40	25.10	25.20	25.20
LTE B17	0	100.00%	25.70	25.70	25.70	25.70	25.70	25.70
LTE B17	1	100.00%	25.20	22.40	20.30	25.20	25.20	25.20
LTE B25	2	100.00%	25.70	25.70	24.70	20.90	21.70	20.90
LTE B25	0	100.00%	25.20	25.20	25.20	24.20	25.20	24.20
LTE B26	0	100.00%	25.70	25.70	25.70	25.70	25.70	25.70
LTE B26	1	100.00%	25.20	21.10	19.00	25.20	25.20	25.20
LTE B30	2	100.00%	24.00	24.00	23.90	20.30	21.10	20.30
LTE B30	0	100.00%	25.20	25.20	25.10	23.70	25.20	24.20
LTE B38 PC3	2	63.30%	25.70	25.10	23.10	20.90	25.60	24.50
LTE B38 PC3	0	63.30%	25.20	25.20	25.20	23.30	25.20	24.20
LTE B41 PC3	2	63.30%	25.70	25.10	23.10	20.90	25.60	24.50
LTE B41 PC3	0	63.30%	25.20	25.20	25.20	23.30	25.20	24.20
LTE B41/B38 PC2	2	43.30%	27.50	26.70	24.70	22.50	27.20	26.10
LTE B41/B38 PC2	0	43.30%	27.00	27.00	27.00	24.90	27.00	25.80
LTE B48	6	63.30%	25.20	25.20	25.00	21.60	24.60	23.80
LTE B48	2	63.30%	25.70	25.70	25.70	22.90	25.70	25.40
LTE B66/B4	2	100.00%	25.70	25.70	25.50	23.40	24.20	23.40
LTE B66/B4	0	100.00%	25.20	25.20	25.20	23.30	25.20	23.30
LTE B66	1	100.00%	25.70	21.40	20.60	25.70	25.70	25.70
LTE B66	5	100.00%	25.20	24.40	20.30	25.20	25.20	25.20
LTE B71	0	100.00%	25.70	25.70	25.70	25.70	25.70	25.70
LTE B71	1	100.00%	25.30	23.00	21.00	25.30	25.30	25.30



Maximum Transmit Burst Average Power (dBm)								
Band	Antenna	Duty cycle	Maximum Power Condition	Head	Head	Hotspot	Body-worn	Body-worn
				Standalone	Simultaneous	Simultaneous	Standalone	Simultaneous
				Index 1	Index 2	Index 3	Index 4	Index 5
FR1 n2	2	100.00%	25.70	25.70	25.10	20.20	21.00	20.20
FR1 n2	0	100.00%	25.20	25.20	24.50	24.00	25.20	24.40
FR1 n5	0	100.00%	25.70	25.70	25.70	25.50	25.70	25.70
FR1 n5	1	100.00%	25.20	22.20	20.20	25.20	25.20	25.20
FR1 n7	2	100.00%	25.70	25.70	24.00	20.00	23.90	23.00
FR1 n7	0	100.00%	25.20	25.20	23.70	21.30	23.60	21.70
FR1 n12	0	100.00%	25.70	25.70	25.70	25.70	25.70	25.70
FR1 n12	1	100.00%	25.30	23.40	21.30	25.30	25.30	25.30
FR1 n25	2	100.00%	25.70	25.70	25.10	20.20	21.00	20.20
FR1 n25	0	100.00%	25.20	25.20	24.50	24.00	25.20	24.40
FR1 n26	0	100.00%	25.70	25.70	25.70	25.50	25.70	25.70
FR1 n26	1	100.00%	25.20	22.20	20.20	25.20	25.20	25.20
FR1 n30	2	100.00%	24.00	24.00	23.90	20.80	21.60	20.80
FR1 n30	0	100.00%	25.20	25.20	24.80	23.50	25.20	24.10
FR1 n41/n38 PC3	2	100.00%	25.70	24.30	23.50	20.40	23.50	22.60
FR1 n41/n38 PC3	0	100.00%	25.20	25.20	24.40	21.30	25.20	24.40
FR1 n41 PC2	2	50.00%	27.50	27.30	26.50	23.40	26.50	25.60
FR1 n41 PC2	0	50.00%	27.00	27.00	27.00	24.30	27.00	27.00
FR1 n48	6	100.00%	25.20	25.20	24.60	19.60	22.30	21.50
FR1 n48	2	100.00%	25.70	25.70	25.00	20.90	25.40	23.90
FR1 n66	2	100.00%	25.70	25.70	25.40	23.00	23.80	23.00
FR1 n66	0	100.00%	25.20	25.20	25.20	23.60	25.20	23.60
FR1 n70	2	100.00%	25.70	25.70	25.70	23.40	24.60	23.40
FR1 n70	0	100.00%	25.20	25.20	25.20	22.50	23.60	22.80
FR1 n71	0	100.00%	25.70	25.70	25.70	25.70	25.70	25.70
FR1 n71	1	100.00%	25.30	23.20	21.10	25.30	25.30	25.30
FR1 n77 PC3	6	100.00%	25.20	23.70	22.90	18.80	21.10	20.30
FR1 n77 PC3	2	100.00%	24.70	24.70	23.00	19.50	21.60	20.30
FR1 n77 PC3	1	100.00%	25.00	17.20	16.40	23.10	25.00	25.00
FR1 n77 PC3	5	100.00%	25.00	16.30	12.10	19.70	24.60	22.20
FR1 n77 PC2	6	50.00%	27.30	26.70	25.90	21.80	24.10	23.30
FR1 n77 PC2	2	50.00%	26.70	26.70	26.00	22.50	24.60	23.30



<WLAN Maximum Power>

General Note:

1. The device implements the power management for WLAN SAR compliance for different exposure conditions and user cases. In each exposure condition, the power index selection is determined by the user cases as tested in Section 17 of this report. Full details about the proprietary power management decision are illustrated in the operational description.
2. 4+3(3) represents the test in 2TX operation, while the SAR or power data is associated with antenna 3
3. 4+3(4) represents the test in 2TX operation, while the SAR or power data is associated with antenna 4

<Maximum Power – Power index 0>

<2.4GHz WLAN>

Burst Average Power (dBm)					
2.4GHz WLAN	Transmit Antenna			SISO Ant 4	SISO Ant 3
	Mode	Channel	Frequency (MHz)	Tune-Up Limit	Tune-Up Limit
2.4GHz WLAN	802.11b 1Mbps	1	2412	21.00	21.00
		6	2437	21.00	21.00
		11	2462	21.00	21.00
		12	2467	21.00	21.00
		13	2472	20.50	20.50
	802.11g 6Mbps	1	2412	Not support	18.00
		2	2417	Not support	19.50
		3	2422	Not support	20.50
		4	2427	Not support	21.00
		5	2432	Not support	21.00
		6	2437	Not support	21.00
		7	2442	Not support	21.00
		8	2447	Not support	20.50
		9	2452	Not support	19.50
		10	2457	Not support	18.50
		11	2462	Not support	16.50
		12	2467	Not support	15.00
		13	2472	Not support	5.00
	802.11n-HT20 MCS0	1	2412	Not support	18.00
		2	2417	Not support	18.00
		3	2422	Not support	19.00
		4	2427	Not support	20.00
		5	2432	Not support	21.00
		6	2437	Not support	21.00
		7	2442	Not support	20.00
		8	2447	Not support	19.00
		9	2452	Not support	18.00
		10	2457	Not support	17.00
		11	2462	Not support	16.00
	802.11ac-VHT20 MCS0	1	2412	Not support	18.00
		2	2417	Not support	18.00
		3	2422	Not support	19.00
		4	2427	Not support	20.00
		5	2432	Not support	21.00
		6	2437	Not support	21.00
7		2442	Not support	20.00	



		8	2447	Not support	19.00
		9	2452	Not support	18.00
		10	2457	Not support	17.00
		11	2462	Not support	16.00
		12	2467	Not support	15.50
		13	2472	Not support	6.50
	802.11ax-HE20 MCS0	1	2412	Not support	18.00
		2	2417	Not support	18.00
		3	2422	Not support	19.00
		4	2427	Not support	20.00
		5	2432	Not support	21.00
		6	2437	Not support	21.00
		7	2442	Not support	20.00
		8	2447	Not support	19.00
		9	2452	Not support	18.00
		10	2457	Not support	17.00
		11	2462	Not support	16.00
		12	2467	Not support	15.50
		13	2472	Not support	6.50

Burst Average Power (dBm)						
	Transmit Antenna			MIMO Ant 4+3		
	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
2.4GHz WLAN	802.11g 6Mbps	1	2412	18.00	18.00	21.0
		2	2417	19.50	19.50	22.5
		3	2422	20.50	20.50	23.5
		4	2427	21.00	21.00	24.0
		5	2432	21.00	21.00	24.0
		6	2437	21.00	21.00	24.0
		7	2442	21.00	21.00	24.0
		8	2447	20.50	20.50	23.5
		9	2452	19.50	19.50	22.5
		10	2457	18.50	18.50	21.5
		11	2462	16.50	16.50	19.5
		12	2467	15.00	15.00	18.0
		13	2472	5.00	5.00	8.0
	802.11n-HT20 MCS0	1	2412	18.00	18.00	21.0
		2	2417	18.00	18.00	21.0
		3	2422	19.00	19.00	22.0
		4	2427	20.00	20.00	23.0
		5	2432	21.00	21.00	24.0
		6	2437	21.00	21.00	24.0
		7	2442	20.00	20.00	23.0
		8	2447	19.00	19.00	22.0
		9	2452	18.00	18.00	21.0
		10	2457	17.00	17.00	20.0
		11	2462	16.00	16.00	19.0
		12	2467	15.50	15.50	18.5
		13	2472	6.50	6.50	9.5
	802.11ac-VHT20 MCS0	1	2412	18.00	18.00	21.0
		2	2417	18.00	18.00	21.0
		3	2422	19.00	19.00	22.0
		4	2427	20.00	20.00	23.0
		5	2432	21.00	21.00	24.0
		6	2437	21.00	21.00	24.0
		7	2442	20.00	20.00	23.0



SPORTON LAB.		8	2447	19.00	19.00	22.0
		9	2452	18.00	18.00	21.0
		10	2457	17.00	17.00	20.0
		11	2462	16.00	16.00	19.0
		12	2467	15.50	15.50	18.5
	13	2472	6.50	6.50	9.5	
	802.11ax-HE20 MCS0	1	2412	18.00	18.00	21.0
		2	2417	18.00	18.00	21.0
		3	2422	19.00	19.00	22.0
		4	2427	20.00	20.00	23.0
		5	2432	21.00	21.00	24.0
		6	2437	21.00	21.00	24.0
		7	2442	20.00	20.00	23.0
		8	2447	19.00	19.00	22.0
		9	2452	18.00	18.00	21.0
		10	2457	17.00	17.00	20.0
		11	2462	16.00	16.00	19.0
		12	2467	15.50	15.50	18.5
		13	2472	6.50	6.50	9.5



<5GHz WLAN>

Burst Average Power (dBm)				
5.2GHz WLAN	Transmit Antenna			SISO Ant 4
	Mode	Channel	Frequency (MHz)	Tune-Up Limit
5.2GHz WLAN	802.11a 6Mbps	36	5180	14.00
		40	5200	18.00
		44	5220	19.00
		48	5240	16.50
	802.11n-HT20 MCS0	36	5180	13.50
		40	5200	17.00
		44	5220	18.00
		48	5240	16.50
	802.11n-HT40 MCS0	38	5190	12.00
		46	5230	16.50
	802.11ac-VHT20 MCS0	36	5180	13.50
		40	5200	17.00
		44	5220	18.00
		48	5240	16.50
	802.11ac-VHT40 MCS0	38	5190	12.00
		46	5230	16.50
802.11ac-VHT80 MCS0	42	5210	11.00	
802.11ax-HE20 MCS0	36	5180	13.50	
	40	5200	17.00	
	44	5220	18.00	
	48	5240	16.50	
802.11ax-HE40 MCS0	38	5190	12.00	
	46	5230	16.50	
802.11ax-HE80 MCS0	42	5210	11.00	

Burst Average Power (dBm)						
5.2GHz WLAN	Transmit Antenna			MIMO Ant 4+3		
	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
5.2GHz WLAN	802.11a 6Mbps	36	5180	14.00	14.00	17.0
		40	5200	18.00	18.00	21.0
		44	5220	19.00	19.00	22.0
		48	5240	16.50	16.50	19.5
	802.11n-HT20 MCS0	36	5180	13.50	13.50	16.5
		40	5200	17.00	17.00	20.0
		44	5220	18.00	18.00	21.0
		48	5240	16.50	16.50	19.5
	802.11n-HT40 MCS0	38	5190	12.00	12.00	15.0
		46	5230	16.50	16.50	19.5
	802.11ac-VHT20 MCS0	36	5180	13.50	13.50	16.5
		40	5200	17.00	17.00	20.0
		44	5220	18.00	18.00	21.0
		48	5240	16.50	16.50	19.5
	802.11ac-VHT40 MCS0	38	5190	12.00	12.00	15.0
		46	5230	16.50	16.50	19.5
	802.11ac-VHT80 MCS0	42	5210	11.00	11.00	14.0
	802.11ax-HE20 MCS0	36	5180	13.50	13.50	16.5
		40	5200	17.00	17.00	20.0
		44	5220	18.00	18.00	21.0
		48	5240	16.50	16.50	19.5
	802.11ax-HE40 MCS0	38	5190	12.00	12.00	15.0
		46	5230	16.50	16.50	19.5
	802.11ax-HE80 MCS0	42	5210	11.00	11.00	14.0



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	52	5260	18.50
		56	5280	18.00
		60	5300	18.00
		64	5320	13.50
	802.11n-HT20 MCS0	52	5260	19.00
		56	5280	17.50
		60	5300	17.50
	802.11n-HT40 MCS0	64	5320	13.50
		54	5270	17.00
	802.11ac-VHT20 MCS0	62	5310	13.00
		52	5260	19.00
		56	5280	17.50
	802.11ac-VHT40 MCS0	60	5300	17.50
		64	5320	13.50
	802.11ac-VHT80 MCS0	54	5270	17.00
62		5310	13.00	
802.11ax-HE20 MCS0	58	5290	13.00	
	52	5260	19.00	
	56	5280	17.50	
	60	5300	17.50	
802.11ax-HE40 MCS0	64	5320	13.50	
	54	5270	17.00	
802.11ax-HE80 MCS0	62	5310	13.00	
	58	5290	13.00	

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	52	5260	18.50	18.50	21.5
		56	5280	18.00	18.00	21.0
		60	5300	18.00	18.00	21.0
		64	5320	13.50	13.50	16.5
	802.11n-HT20 MCS0	52	5260	19.00	19.00	22.0
		56	5280	17.50	17.50	20.5
		60	5300	17.50	17.50	20.5
	802.11n-HT40 MCS0	64	5320	13.50	13.50	16.5
		54	5270	17.00	17.00	20.0
	802.11ac-VHT20 MCS0	62	5310	13.00	13.00	16.0
		52	5260	19.00	19.00	22.0
		56	5280	17.50	17.50	20.5
	802.11ac-VHT40 MCS0	60	5300	17.50	17.50	20.5
		64	5320	13.50	13.50	16.5
	802.11ac-VHT80 MCS0	54	5270	17.00	17.00	20.0
62		5310	13.00	13.00	16.0	
802.11ax-HE20 MCS0	58	5290	13.00	13.00	16.0	
	52	5260	19.00	19.00	22.0	
	56	5280	17.50	17.50	20.5	
	60	5300	17.50	17.50	20.5	
802.11ax-HE40 MCS0	64	5320	13.50	13.50	16.5	
	54	5270	17.00	17.00	20.0	
802.11ax-HE80 MCS0	62	5310	13.00	13.00	16.0	
	58	5290	13.00	13.00	16.0	



Burst Average Power (dBm)				
	Transmit Antenna			SISO Ant 4
	Mode	Channel	Frequency (MHz)	Tune-Up Limit
5.5GHz WLAN	802.11a 6Mbps	100	5500	17.00
		104	5520	18.50
		116	5580	18.50
		124	5620	16.50
		132	5660	16.50
		136	5680	18.50
		140	5700	15.00
		144	5720	18.50
	802.11n-HT20 MCS0	100	5500	17.50
		104	5520	19.00
		116	5580	19.00
		124	5620	15.50
		132	5660	15.50
		136	5680	18.00
	802.11n-HT40 MCS0	102	5510	16.00
		110	5550	18.00
		126	5630	17.50
		134	5670	17.50
	802.11ac-VHT20 MCS0	100	5500	17.50
		104	5520	19.00
		116	5580	19.00
		124	5620	15.50
		132	5660	15.50
		136	5680	18.00
		140	5700	15.50
	802.11ac-VHT40 MCS0	102	5510	16.00
		110	5550	18.00
		126	5630	17.50
		134	5670	17.50
	802.11ac-VHT80 MCS0	106	5530	14.50
		122	5610	17.00
		138	5690	18.00
	802.11ax-HE20 MCS0	100	5500	17.50
		104	5520	19.00
		116	5580	19.00
		124	5620	15.50
		132	5660	15.50
		136	5680	18.00
		140	5700	13.50
	802.11ax-HE40 MCS0	102	5510	16.00
		110	5550	18.00
		126	5630	17.50
		134	5670	17.50
	802.11ax-HE80 MCS0	106	5530	14.50
		122	5610	17.00
		138	5690	18.00



Burst Average Power (dBm)						
	Transmit Antenna			MIMO Ant 4+3		
	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
5.5GHz WLAN	802.11a 6Mbps	100	5500	17.00	17.00	20.0
		104	5520	18.50	18.50	21.5
		116	5580	18.50	18.50	21.5
		124	5620	16.50	16.50	19.5
		132	5660	16.50	16.50	19.5
		136	5680	18.50	18.50	21.5
		140	5700	15.00	15.00	18.0
		144	5720	18.50	18.50	21.5
	802.11n-HT20 MCS0	100	5500	17.50	17.50	20.5
		104	5520	19.00	19.00	22.0
		116	5580	19.00	19.00	22.0
		124	5620	15.50	15.50	18.5
		132	5660	15.50	15.50	18.5
		136	5680	18.00	18.00	21.0
		140	5700	15.50	15.50	18.5
	802.11n-HT40 MCS0	102	5510	16.00	16.00	19.0
		110	5550	18.00	18.00	21.0
		126	5630	17.50	17.50	20.5
		134	5670	17.50	17.50	20.5
	802.11ac-VHT20 MCS0	100	5500	17.50	17.50	20.5
		104	5520	19.00	19.00	22.0
		116	5580	19.00	19.00	22.0
		124	5620	15.50	15.50	18.5
		132	5660	15.50	15.50	18.5
		136	5680	18.00	18.00	21.0
		140	5700	15.50	15.50	18.5
		144	5720	19.00	19.00	22.0
	802.11ac-VHT40 MCS0	102	5510	16.00	16.00	19.0
		110	5550	18.00	18.00	21.0
		126	5630	17.50	17.50	20.5
		134	5670	17.50	17.50	20.5
	802.11ac-VHT80 MCS0	106	5530	14.50	14.50	17.5
		122	5610	17.00	17.00	20.0
		138	5690	18.00	18.00	21.0
	802.11ax-HE20 MCS0	100	5500	17.50	17.50	20.5
		104	5520	19.00	19.00	22.0
		116	5580	19.00	19.00	22.0
		124	5620	15.50	15.50	18.5
		132	5660	15.50	15.50	18.5
		136	5680	18.00	18.00	21.0
		140	5700	13.50	13.50	16.5
		144	5720	19.00	19.00	22.0
	802.11ax-HE40 MCS0	102	5510	16.00	16.00	19.0
		110	5550	18.00	18.00	21.0
		126	5630	17.50	17.50	20.5
		134	5670	17.50	17.50	20.5
		142	5710	18.00	18.00	21.0
	802.11ax-HE80 MCS0	106	5530	14.50	14.50	17.5
		122	5610	17.00	17.00	20.0
		138	5690	18.00	18.00	21.0



Burst Average Power (dBm)				
5.8GHz WLAN	Transmit Antenna			SISO Ant 4
	Mode	Channel	Frequency (MHz)	Tune-Up Limit
5.8GHz WLAN	802.11a 6Mbps	149	5745	20.00
		157	5785	20.00
		165	5825	20.00
	802.11n-HT20 MCS0	149	5745	20.00
		157	5785	20.00
		165	5825	20.00
	802.11n-HT40 MCS0	151	5755	18.00
		159	5795	18.00
	802.11ac-VHT20 MCS0	149	5745	19.00
		157	5785	19.00
		165	5825	19.00
	802.11ac-VHT40 MCS0	151	5755	18.00
		159	5795	18.00
	802.11ac-VHT80 MCS0	155	5775	18.00
	802.11ax-HE20 MCS0	149	5745	19.00
157		5785	19.00	
165		5825	19.00	
802.11ax-HE40 MCS0	151	5755	18.00	
	159	5795	18.00	
802.11ax-HE80 MCS0	155	5775	18.00	

Burst Average Power (dBm)						
5.8GHz WLAN	Transmit Antenna			MIMO Ant 4+3		
	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
5.8GHz WLAN	802.11a 6Mbps	149	5745	20.00	20.00	23.0
		157	5785	20.00	20.00	23.0
		165	5825	20.00	20.00	23.0
	802.11n-HT20 MCS0	149	5745	20.00	20.00	23.0
		157	5785	20.00	20.00	23.0
		165	5825	20.00	20.00	23.0
	802.11n-HT40 MCS0	151	5755	18.00	18.00	21.0
		159	5795	18.00	18.00	21.0
	802.11ac-VHT20 MCS0	149	5745	19.00	19.00	22.0
		157	5785	19.00	19.00	22.0
		165	5825	19.00	19.00	22.0
	802.11ac-VHT40 MCS0	151	5755	18.00	18.00	21.0
		159	5795	18.00	18.00	21.0
	802.11ac-VHT80 MCS0	155	5775	18.00	18.00	21.0
	802.11ax-HE20 MCS0	149	5745	19.00	19.00	22.0
157		5785	19.00	19.00	22.0	
165		5825	19.00	19.00	22.0	
802.11ax-HE40 MCS0	151	5755	18.00	18.00	21.0	
	159	5795	18.00	18.00	21.0	
802.11ax-HE80 MCS0	155	5775	18.00	18.00	21.0	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.9GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	169	5845	20.00
		173	5865	20.00
		177	5885	19.00
	802.11n-HT20 MCS0	169	5845	20.00
		173	5865	20.00
		177	5885	20.00
	802.11n-HT40 MCS0	167	5835	18.00
		175	5875	18.00
	802.11ac-VHT20 MCS0	169	5845	19.00
		173	5865	19.00
		177	5885	19.00
	802.11ac-VHT40 MCS0	167	5835	18.00
		175	5875	18.00
802.11ac-VHT80 MCS0	171	5855	17.00	
802.11ax-HE20 MCS0	169	5845	19.00	
	173	5865	19.00	
	177	5885	19.00	
802.11ax-HE40 MCS0	167	5835	18.00	
	175	5875	18.00	
802.11ax-HE80 MCS0	171	5855	17.00	

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
5.9GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	169	5845	20.00	20.00	23.0
		173	5865	20.00	20.00	23.0
		177	5885	19.00	19.00	22.0
	802.11n-HT20 MCS0	169	5845	20.00	20.00	23.0
		173	5865	20.00	20.00	23.0
		177	5885	20.00	20.00	23.0
	802.11n-HT40 MCS0	167	5835	18.00	18.00	21.0
		175	5875	18.00	18.00	21.0
	802.11ac-VHT20 MCS0	169	5845	19.00	19.00	22.0
		173	5865	19.00	19.00	22.0
		177	5885	19.00	19.00	22.0
	802.11ac-VHT40 MCS0	167	5835	18.00	18.00	21.0
		175	5875	18.00	18.00	21.0
802.11ac-VHT80 MCS0	171	5855	17.00	17.00	20.0	
802.11ax-HE20 MCS0	169	5845	19.00	19.00	22.0	
	173	5865	19.00	19.00	22.0	
	177	5885	19.00	19.00	22.0	
802.11ax-HE40 MCS0	167	5835	18.00	18.00	21.0	
	175	5875	18.00	18.00	21.0	
802.11ax-HE80 MCS0	171	5855	17.00	17.00	20.0	



<Power index 1>

<2.4Hz WLAN>

Burst Average Power (dBm)					
Transmit Antenna				SISO Ant 4	SISO Ant 3
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit	Tune-Up Limit
	802.11b 1Mbps	1	2412	12.50	12.50
		6	2437	12.50	12.50
		11	2462	12.50	12.50
		12	2467	12.50	12.50
		13	2472	12.50	12.50

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11g 6Mbps	1	2412	12.50	12.50	15.5
		6	2437	12.50	12.50	15.5
		11	2462	12.50	12.50	15.5
		12	2467	12.50	12.50	15.5
		13	2472	5.00	5.00	8.0
	802.11n-HT20 MCS0	1	2412	12.50	12.50	15.5
		6	2437	12.50	12.50	15.5
		11	2462	12.50	12.50	15.5
		12	2467	12.50	12.50	15.5
	802.11ac-VHT20 MCS0	13	2472	6.50	6.50	9.5
		1	2412	12.50	12.50	15.5
		6	2437	12.50	12.50	15.5
		11	2462	12.50	12.50	15.5
	802.11ax-HE20 MCS0	12	2467	12.50	12.50	15.5
		13	2472	6.50	6.50	9.5
		1	2412	12.50	12.50	15.5
		6	2437	12.50	12.50	15.5
		11	2462	12.50	12.50	15.5



<5GHz WLAN>

Burst Average Power (dBm)				
5.2GHz WLAN	Transmit Antenna			SISO Ant 4
	Mode	Channel	Frequency (MHz)	Tune-Up Limit
5.2GHz WLAN	802.11a 6Mbps	36	5180	14.00
		40	5200	18.00
		44	5220	18.00
		48	5240	18.00
	802.11n-HT20 MCS0	36	5180	13.50
		40	5200	17.00
		44	5220	18.00
		48	5240	18.00
	802.11n-HT40 MCS0	38	5190	12.00
		46	5230	16.50
	802.11ac-VHT20 MCS0	36	5180	13.50
		40	5200	17.00
		44	5220	18.00
	802.11ac-VHT40 MCS0	38	5190	12.00
		46	5230	16.50
	802.11ac-VHT80 MCS0	42	5210	11.00
	802.11ax-HE20 MCS0	36	5180	13.50
		40	5200	17.00
44		5220	18.00	
48		5240	18.00	
802.11ax-HE40 MCS0	38	5190	12.00	
	46	5230	16.50	
802.11ax-HE80 MCS0	42	5210	11.00	

Burst Average Power (dBm)						
5.2GHz WLAN	Transmit Antenna			MIMO Ant 4+3		
	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
5.2GHz WLAN	802.11a 6Mbps	36	5180	14.00	14.00	17.0
		40	5200	18.00	18.00	21.0
		44	5220	18.00	18.00	21.0
		48	5240	18.00	18.00	21.0
	802.11n-HT20 MCS0	36	5180	13.50	13.50	16.5
		40	5200	17.00	17.00	20.0
		44	5220	18.00	18.00	21.0
		48	5240	18.00	18.00	21.0
	802.11n-HT40 MCS0	38	5190	12.00	12.00	15.0
		46	5230	16.50	16.50	19.5
	802.11ac-VHT20 MCS0	36	5180	13.50	13.50	16.5
		40	5200	17.00	17.00	20.0
		44	5220	18.00	18.00	21.0
	802.11ac-VHT40 MCS0	38	5190	12.00	12.00	15.0
		46	5230	16.50	16.50	19.5
	802.11ac-VHT80 MCS0	42	5210	11.00	11.00	14.0
	802.11ax-HE20 MCS0	36	5180	13.50	13.50	16.5
		40	5200	17.00	17.00	20.0
44		5220	18.00	18.00	21.0	
48		5240	18.00	18.00	21.0	
802.11ax-HE40 MCS0	38	5190	12.00	12.00	15.0	
	46	5230	16.50	16.50	19.5	
802.11ax-HE80 MCS0	42	5210	11.00	11.00	14.0	



Burst Average Power (dBm)				
5.3GHz WLAN	Transmit Antenna			SISO Ant 4
	Mode	Channel	Frequency (MHz)	Tune-Up Limit
5.3GHz WLAN	802.11a 6Mbps	52	5260	18.00
		56	5280	18.00
		60	5300	18.00
		64	5320	14.50
	802.11n-HT20 MCS0	52	5260	18.00
		56	5280	17.50
		60	5300	17.50
	802.11n-HT40 MCS0	64	5320	13.50
		54	5270	17.00
	802.11ac-VHT20 MCS0	62	5310	13.00
		52	5260	18.00
		56	5280	17.50
	802.11ac-VHT40 MCS0	60	5300	17.50
		64	5320	13.50
	802.11ac-VHT80 MCS0	54	5270	17.00
		62	5310	13.00
802.11ax-HE20 MCS0	58	5290	13.00	
	52	5260	18.00	
	56	5280	17.50	
	60	5300	17.50	
802.11ax-HE40 MCS0	64	5320	13.50	
	54	5270	17.00	
802.11ax-HE80 MCS0	62	5310	13.00	
	58	5290	13.00	

Burst Average Power (dBm)						
5.3GHz WLAN	Transmit Antenna			MIMO Ant 4+3		
	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
5.3GHz WLAN	802.11a 6Mbps	52	5260	18.00	18.00	21.0
		56	5280	18.00	18.00	21.0
		60	5300	18.00	18.00	21.0
		64	5320	13.50	13.50	16.5
	802.11n-HT20 MCS0	52	5260	18.00	18.00	21.0
		56	5280	17.50	17.50	20.5
		60	5300	17.50	17.50	20.5
	802.11n-HT40 MCS0	64	5320	13.50	13.50	16.5
		54	5270	17.00	17.00	20.0
	802.11ac-VHT20 MCS0	62	5310	13.00	13.00	16.0
		52	5260	18.00	18.00	21.0
		56	5280	17.50	17.50	20.5
	802.11ac-VHT40 MCS0	60	5300	17.50	17.50	20.5
		64	5320	13.50	13.50	16.5
	802.11ac-VHT80 MCS0	54	5270	17.00	17.00	20.0
		62	5310	13.00	13.00	16.0
802.11ax-HE20 MCS0	58	5290	13.00	13.00	16.0	
	52	5260	18.00	18.00	21.0	
	56	5280	17.50	17.50	20.5	
	60	5300	17.50	17.50	20.5	
802.11ax-HE40 MCS0	64	5320	13.50	13.50	16.5	
	54	5270	17.00	17.00	20.0	
802.11ax-HE80 MCS0	62	5310	13.00	13.00	16.0	
	58	5290	13.00	13.00	16.0	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	100	5500	15.50
		116	5580	15.50
		124	5620	15.50
		132	5660	15.50
		144	5720	15.50
	802.11n-HT20 MCS0	100	5500	15.50
		116	5580	15.50
		124	5620	15.50
		132	5660	15.50
		144	5720	15.50
	802.11n-HT40 MCS0	102	5510	15.50
		110	5550	15.50
		126	5630	15.50
		134	5670	15.50
		142	5710	15.50
	802.11ac-VHT20 MCS0	100	5500	15.50
		116	5580	15.50
		124	5620	15.50
		132	5660	15.50
144		5720	15.50	
802.11ac-VHT40 MCS0	102	5510	15.50	
	110	5550	15.50	
	126	5630	15.50	
	134	5670	15.50	
	142	5710	15.50	
802.11ac-VHT80 MCS0	106	5530	14.50	
	122	5610	15.50	
	138	5690	15.50	
802.11ax-HE20 MCS0	100	5500	15.50	
	116	5580	15.50	
	124	5620	15.50	
	132	5660	15.50	
	144	5720	15.50	
802.11ax-HE40 MCS0	102	5510	15.50	
	110	5550	15.50	
	126	5630	15.50	
	134	5670	15.50	
	142	5710	15.50	
802.11ax-HE80 MCS0	106	5530	14.50	
	122	5610	15.50	
	138	5690	15.50	



Burst Average Power (dBm)						
5.5GHz WLAN	Transmit Antenna			MIMO Ant 4+3		
	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
5.5GHz WLAN	802.11a 6Mbps	100	5500	15.50	15.50	18.5
		116	5580	15.50	15.50	18.5
		124	5620	15.50	15.50	18.5
		132	5660	15.50	15.50	18.5
	802.11n-HT20 MCS0	144	5720	15.50	15.50	18.5
		100	5500	15.50	15.50	18.5
		116	5580	15.50	15.50	18.5
		124	5620	15.50	15.50	18.5
	802.11n-HT40 MCS0	132	5660	15.50	15.50	18.5
		144	5720	15.50	15.50	18.5
		102	5510	15.50	15.50	18.5
		110	5550	15.50	15.50	18.5
	802.11ac-VHT20 MCS0	126	5630	15.50	15.50	18.5
		134	5670	15.50	15.50	18.5
		142	5710	15.50	15.50	18.5
		100	5500	15.50	15.50	18.5
802.11ac-VHT40 MCS0	116	5580	15.50	15.50	18.5	
	124	5620	15.50	15.50	18.5	
	132	5660	15.50	15.50	18.5	
	144	5720	15.50	15.50	18.5	
802.11ac-VHT80 MCS0	102	5510	15.50	15.50	18.5	
	110	5550	15.50	15.50	18.5	
	126	5630	15.50	15.50	18.5	
	134	5670	15.50	15.50	18.5	
802.11ax-HE20 MCS0	142	5710	15.50	15.50	18.5	
	106	5530	14.50	14.50	17.5	
	122	5610	15.50	15.50	18.5	
	138	5690	15.50	15.50	18.5	
802.11ax-HE40 MCS0	100	5500	15.50	15.50	18.5	
	116	5580	15.50	15.50	18.5	
	124	5620	15.50	15.50	18.5	
	132	5660	15.50	15.50	18.5	
802.11ax-HE80 MCS0	144	5720	15.50	15.50	18.5	
	102	5510	15.50	15.50	18.5	
	110	5550	15.50	15.50	18.5	
	126	5630	15.50	15.50	18.5	
802.11ax-HE80 MCS0	134	5670	15.50	15.50	18.5	
	142	5710	15.50	15.50	18.5	
	106	5530	14.50	14.50	17.5	
802.11ax-HE80 MCS0	122	5610	15.50	15.50	18.5	
	138	5690	15.50	15.50	18.5	



Burst Average Power (dBm)				
5.8GHz WLAN	Transmit Antenna			SISO Ant 4
	Mode	Channel	Frequency (MHz)	Tune-Up Limit
5.8GHz WLAN	802.11a 6Mbps	149	5745	17.50
		157	5785	17.50
		165	5825	17.50
	802.11n-HT20 MCS0	149	5745	17.50
		157	5785	17.50
		165	5825	17.50
	802.11n-HT40 MCS0	151	5755	17.50
		159	5795	17.50
	802.11ac-VHT20 MCS0	149	5745	17.50
		157	5785	17.50
		165	5825	17.50
	802.11ac-VHT40 MCS0	151	5755	17.50
		159	5795	17.50
	802.11ac-VHT80 MCS0	155	5775	17.50
	802.11ax-HE20 MCS0	149	5745	17.50
157		5785	17.50	
165		5825	17.50	
802.11ax-HE40 MCS0	151	5755	17.50	
	159	5795	17.50	
802.11ax-HE80 MCS0	155	5775	17.50	

Burst Average Power (dBm)						
5.8GHz WLAN	Transmit Antenna			MIMO Ant 4+3		
	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
5.8GHz WLAN	802.11a 6Mbps	149	5745	17.50	17.50	20.5
		157	5785	17.50	17.50	20.5
		165	5825	17.50	17.50	20.5
	802.11n-HT20 MCS0	149	5745	17.50	17.50	20.5
		157	5785	17.50	17.50	20.5
		165	5825	17.50	17.50	20.5
	802.11n-HT40 MCS0	151	5755	17.50	17.50	20.5
		159	5795	17.50	17.50	20.5
	802.11ac-VHT20 MCS0	149	5745	17.50	17.50	20.5
		157	5785	17.50	17.50	20.5
		165	5825	17.50	17.50	20.5
	802.11ac-VHT40 MCS0	151	5755	17.50	17.50	20.5
		159	5795	17.50	17.50	20.5
	802.11ac-VHT80 MCS0	155	5775	17.50	17.50	20.5
	802.11ax-HE20 MCS0	149	5745	17.50	17.50	20.5
157		5785	17.50	17.50	20.5	
165		5825	17.50	17.50	20.5	
802.11ax-HE40 MCS0	151	5755	17.50	17.50	20.5	
	159	5795	17.50	17.50	20.5	
802.11ax-HE80 MCS0	155	5775	17.50	17.50	20.5	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.9GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	169	5845	16.50
		173	5865	16.50
		177	5885	16.50
	802.11n-HT20 MCS0	169	5845	16.50
		173	5865	16.50
		177	5885	16.50
	802.11n-HT40 MCS0	167	5835	16.50
		175	5875	16.50
	802.11ac-VHT20 MCS0	169	5845	16.50
		173	5865	16.50
		177	5885	16.50
	802.11ac-VHT40 MCS0	167	5835	16.50
		175	5875	16.50
802.11ac-VHT80 MCS0	171	5855	16.50	
802.11ax-HE20 MCS0	169	5845	16.50	
	173	5865	16.50	
	177	5885	16.50	
802.11ax-HE40 MCS0	167	5835	16.50	
	175	5875	16.50	
802.11ax-HE80 MCS0	171	5855	16.50	

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
5.9GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	169	5845	16.50	16.50	19.5
		173	5865	16.50	16.50	19.5
		177	5885	16.50	16.50	19.5
	802.11n-HT20 MCS0	169	5845	16.50	16.50	19.5
		173	5865	16.50	16.50	19.5
		177	5885	16.50	16.50	19.5
	802.11n-HT40 MCS0	167	5835	16.50	16.50	19.5
		175	5875	16.50	16.50	19.5
	802.11ac-VHT20 MCS0	169	5845	16.50	16.50	19.5
		173	5865	16.50	16.50	19.5
		177	5885	16.50	16.50	19.5
	802.11ac-VHT40 MCS0	167	5835	16.50	16.50	19.5
		175	5875	16.50	16.50	19.5
802.11ac-VHT80 MCS0	171	5855	16.50	16.50	19.5	
802.11ax-HE20 MCS0	169	5845	16.50	16.50	19.5	
	173	5865	16.50	16.50	19.5	
	177	5885	16.50	16.50	19.5	
802.11ax-HE40 MCS0	167	5835	16.50	16.50	19.5	
	175	5875	16.50	16.50	19.5	
802.11ax-HE80 MCS0	171	5855	16.50	16.50	19.5	



<Power index 2>

<2.4GHz WLAN>

Burst Average Power (dBm)				
2.4GHz WLAN	Transmit Antenna			SISO Ant 3
	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11b 1Mbps	1	2412	12.50
		6	2437	12.50
		11	2462	12.50
		12	2467	12.50
		13	2472	12.50
	802.11g 6Mbps	1	2412	12.50
		6	2437	12.50
		11	2462	12.50
		12	2467	12.50
		13	2472	5.00
	802.11n-HT20 MCS0	1	2412	12.50
		6	2437	12.50
		11	2462	12.50
		12	2467	12.50
	802.11ac-VHT20 MCS0	13	2472	6.50
		1	2412	12.50
		6	2437	12.50
		11	2462	12.50
	802.11ax-HE20 MCS0	12	2467	12.50
		13	2472	6.50
1		2412	12.50	
6		2437	12.50	
	11	2462	12.50	
	12	2467	12.50	
	11	2462	12.50	
	12	2467	12.50	
	13	2472	6.50	
	1	2412	12.50	
	6	2437	12.50	
	11	2462	12.50	
	12	2467	12.50	
	13	2472	6.50	
	1	2412	12.50	
	6	2437	12.50	
	11	2462	12.50	
	12	2467	12.50	
	13	2472	6.50	
	1	2412	12.50	



<5GHz WLAN>

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.2GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	36	5180	14.00
		40	5200	18.00
		44	5220	18.00
		48	5240	16.50
	802.11n-HT20 MCS0	36	5180	13.50
		40	5200	17.00
		44	5220	18.00
		48	5240	16.50
	802.11n-HT40 MCS0	38	5190	12.00
		46	5230	16.50
	802.11ac-VHT20 MCS0	36	5180	13.50
		40	5200	17.00
		44	5220	18.00
		48	5240	16.50
	802.11ac-VHT40 MCS0	38	5190	12.00
46		5230	16.50	
802.11ac-VHT80 MCS0	42	5210	11.00	
802.11ax-HE20 MCS0	36	5180	13.50	
	40	5200	17.00	
	44	5220	18.00	
	48	5240	16.50	
802.11ax-HE40 MCS0	38	5190	12.00	
	46	5230	16.50	
802.11ax-HE80 MCS0	42	5210	11.00	

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	52	5260	18.00
		56	5280	18.00
		60	5300	18.00
		64	5320	14.50
	802.11n-HT20 MCS0	52	5260	18.00
		56	5280	17.50
		60	5300	17.50
		64	5320	13.50
	802.11n-HT40 MCS0	54	5270	17.00
		62	5310	13.00
	802.11ac-VHT20 MCS0	52	5260	18.00
		56	5280	17.50
		60	5300	17.50
		64	5320	13.50
	802.11ac-VHT40 MCS0	54	5270	17.00
62		5310	13.00	
802.11ac-VHT80 MCS0	58	5290	13.00	
802.11ax-HE20 MCS0	52	5260	18.00	
	56	5280	17.50	
	60	5300	17.50	
	64	5320	13.50	
802.11ax-HE40 MCS0	54	5270	17.00	
	62	5310	13.00	
802.11ax-HE80 MCS0	58	5290	13.00	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	100	5500	16.00
		116	5580	16.00
		124	5620	16.00
		132	5660	16.00
		144	5720	16.00
	802.11n-HT20 MCS0	100	5500	16.00
		116	5580	16.00
		124	5620	15.50
		132	5660	15.50
		144	5720	16.00
	802.11n-HT40 MCS0	102	5510	16.00
		110	5550	16.00
		126	5630	16.00
		134	5670	16.00
		142	5710	16.00
	802.11ac-VHT20 MCS0	100	5500	16.00
		116	5580	16.00
		124	5620	15.50
		132	5660	15.50
144		5720	16.00	
802.11ac-VHT40 MCS0	102	5510	16.00	
	110	5550	16.00	
	126	5630	16.00	
	134	5670	16.00	
	142	5710	16.00	
802.11ac-VHT80 MCS0	106	5530	14.50	
	122	5610	16.00	
	138	5690	16.00	
802.11ax-HE20 MCS0	100	5500	16.00	
	116	5580	16.00	
	124	5620	15.50	
	132	5660	15.50	
	144	5720	16.00	
802.11ax-HE40 MCS0	102	5510	16.00	
	110	5550	16.00	
	126	5630	16.00	
	134	5670	16.00	
	142	5710	16.00	
802.11ax-HE80 MCS0	106	5530	14.50	
	122	5610	16.00	
	138	5690	16.00	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	149	5745	16.50
		157	5785	16.50
		165	5825	16.50
	802.11n-HT20 MCS0	149	5745	16.50
		157	5785	16.50
		165	5825	16.50
	802.11n-HT40 MCS0	151	5755	16.50
		159	5795	16.50
		149	5745	16.50
	802.11ac-VHT20 MCS0	157	5785	16.50
		165	5825	16.50
		151	5755	16.50
	802.11ac-VHT40 MCS0	159	5795	16.50
155		5775	16.50	
149		5745	16.50	
802.11ax-HE20 MCS0	157	5785	16.50	
	165	5825	16.50	
	151	5755	16.50	
802.11ax-HE40 MCS0	159	5795	16.50	
	155	5775	16.50	

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.9GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	169	5845	16.50
		173	5865	16.50
		177	5885	16.50
	802.11n-HT20 MCS0	169	5845	16.50
		173	5865	16.50
		177	5885	16.50
	802.11n-HT40 MCS0	167	5835	16.50
		175	5875	16.50
		169	5845	16.50
	802.11ac-VHT20 MCS0	173	5865	16.50
		177	5885	16.50
		167	5835	16.50
	802.11ac-VHT40 MCS0	175	5875	16.50
171		5855	16.50	
802.11ax-HE20 MCS0	169	5845	16.50	
	173	5865	16.50	
	177	5885	16.50	
802.11ax-HE40 MCS0	167	5835	16.50	
	175	5875	16.50	
802.11ax-HE80 MCS0	171	5855	16.50	

<Power index 3>

<2.4GHz WLAN>

Burst Average Power (dBm)					
Transmit Antenna				SISO Ant 4	SISO Ant 3
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit	Tune-Up Limit
	802.11b 1Mbps	1	2412	10.00	10.00
		6	2437	10.00	10.00
		11	2462	10.00	10.00
		12	2467	10.00	10.00
		13	2472	10.00	10.00

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11g 6Mbps	1	2412	10.00	10.00	13.0
		6	2437	10.00	10.00	13.0
		11	2462	10.00	10.00	13.0
		12	2467	10.00	10.00	13.0
		13	2472	5.00	5.00	8.0
	802.11n-HT20 MCS0	1	2412	10.00	10.00	13.0
		6	2437	10.00	10.00	13.0
		11	2462	10.00	10.00	13.0
		12	2467	10.00	10.00	13.0
	802.11ac-VHT20 MCS0	13	2472	6.50	6.50	9.5
		1	2412	10.00	10.00	13.0
		6	2437	10.00	10.00	13.0
		11	2462	10.00	10.00	13.0
	802.11ax-HE20 MCS0	12	2467	10.00	10.00	13.0
		13	2472	6.50	6.50	9.5
		1	2412	10.00	10.00	13.0
		6	2437	10.00	10.00	13.0
		11	2462	10.00	10.00	13.0
		12	2467	10.00	10.00	13.0
13		2472	6.50	6.50	9.5	



<5GHz WLAN>

Burst Average Power (dBm)				
5.2GHz WLAN	Transmit Antenna			SISO Ant 4
	Mode	Channel	Frequency (MHz)	Tune-Up Limit
5.2GHz WLAN	802.11a 6Mbps	36	5180	12.00
		40	5200	12.00
		44	5220	12.00
		48	5240	12.00
	802.11n-HT20 MCS0	36	5180	12.00
		40	5200	12.00
		44	5220	12.00
	802.11n-HT40 MCS0	38	5190	12.00
		46	5230	12.00
	802.11ac-VHT20 MCS0	36	5180	12.00
		40	5200	12.00
		44	5220	12.00
	802.11ac-VHT40 MCS0	38	5190	12.00
		46	5230	12.00
	802.11ac-VHT80 MCS0	42	5210	11.00
	802.11ax-HE20 MCS0	36	5180	12.00
40		5200	12.00	
44		5220	12.00	
48		5240	12.00	
802.11ax-HE40 MCS0	38	5190	12.00	
	46	5230	12.00	
802.11ax-HE80 MCS0	42	5210	11.00	

Burst Average Power (dBm)						
5.2GHz WLAN	Transmit Antenna			MIMO Ant 4+3		
	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
5.2GHz WLAN	802.11a 6Mbps	36	5180	12.00	12.00	15.0
		40	5200	12.00	12.00	15.0
		44	5220	12.00	12.00	15.0
		48	5240	12.00	12.00	15.0
	802.11n-HT20 MCS0	36	5180	12.00	12.00	15.0
		40	5200	12.00	12.00	15.0
		44	5220	12.00	12.00	15.0
	802.11n-HT40 MCS0	38	5190	12.00	12.00	15.0
		46	5230	12.00	12.00	15.0
	802.11ac-VHT20 MCS0	36	5180	12.00	12.00	15.0
		40	5200	12.00	12.00	15.0
		44	5220	12.00	12.00	15.0
		48	5240	12.00	12.00	15.0
	802.11ac-VHT40 MCS0	38	5190	12.00	12.00	15.0
		46	5230	12.00	12.00	15.0
	802.11ac-VHT80 MCS0	42	5210	11.00	11.00	14.0
802.11ax-HE20 MCS0	36	5180	12.00	12.00	15.0	
	40	5200	12.00	12.00	15.0	
	44	5220	12.00	12.00	15.0	
	48	5240	12.00	12.00	15.0	
802.11ax-HE40 MCS0	38	5190	12.00	12.00	15.0	
	46	5230	12.00	12.00	15.0	
802.11ax-HE80 MCS0	42	5210	11.00	11.00	14.0	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	52	5260	12.00
		56	5280	12.00
		60	5300	12.00
		64	5320	12.00
	802.11n-HT20 MCS0	52	5260	12.00
		56	5280	12.00
		60	5300	12.00
	802.11n-HT40 MCS0	54	5270	12.00
		62	5310	12.00
	802.11ac-VHT20 MCS0	52	5260	12.00
		56	5280	12.00
		60	5300	12.00
		64	5320	12.00
	802.11ac-VHT40 MCS0	54	5270	12.00
		62	5310	12.00
802.11ac-VHT80 MCS0	58	5290	12.00	
802.11ax-HE20 MCS0	52	5260	12.00	
	56	5280	12.00	
	60	5300	12.00	
	64	5320	12.00	
802.11ax-HE40 MCS0	54	5270	12.00	
	62	5310	12.00	
802.11ax-HE80 MCS0	58	5290	12.00	

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	52	5260	12.00	12.00	15.0
		56	5280	12.00	12.00	15.0
		60	5300	12.00	12.00	15.0
		64	5320	12.00	12.00	15.0
	802.11n-HT20 MCS0	52	5260	12.00	12.00	15.0
		56	5280	12.00	12.00	15.0
		60	5300	12.00	12.00	15.0
	802.11n-HT40 MCS0	54	5270	12.00	12.00	15.0
		62	5310	12.00	12.00	15.0
	802.11ac-VHT20 MCS0	52	5260	12.00	12.00	15.0
		56	5280	12.00	12.00	15.0
		60	5300	12.00	12.00	15.0
		64	5320	12.00	12.00	15.0
	802.11ac-VHT40 MCS0	54	5270	12.00	12.00	15.0
		62	5310	12.00	12.00	15.0
802.11ac-VHT80 MCS0	58	5290	12.00	12.00	15.0	
802.11ax-HE20 MCS0	52	5260	12.00	12.00	15.0	
	56	5280	12.00	12.00	15.0	
	60	5300	12.00	12.00	15.0	
	64	5320	12.00	12.00	15.0	
802.11ax-HE40 MCS0	54	5270	12.00	12.00	15.0	
	62	5310	12.00	12.00	15.0	
802.11ax-HE80 MCS0	58	5290	12.00	12.00	15.0	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	100	5500	9.50
		116	5580	9.50
		124	5620	9.50
		132	5660	9.50
		144	5720	9.50
	802.11n-HT20 MCS0	100	5500	9.50
		116	5580	9.50
		124	5620	9.50
		132	5660	9.50
		144	5720	9.50
	802.11n-HT40 MCS0	102	5510	9.50
		110	5550	9.50
		126	5630	9.50
		134	5670	9.50
		142	5710	9.50
	802.11ac-VHT20 MCS0	100	5500	9.50
		116	5580	9.50
		124	5620	9.50
		132	5660	9.50
144		5720	9.50	
802.11ac-VHT40 MCS0	102	5510	9.50	
	110	5550	9.50	
	126	5630	9.50	
	134	5670	9.50	
	142	5710	9.50	
802.11ac-VHT80 MCS0	106	5530	9.50	
	122	5610	9.50	
	138	5690	9.50	
802.11ax-HE20 MCS0	100	5500	9.50	
	116	5580	9.50	
	124	5620	9.50	
	132	5660	9.50	
	144	5720	9.50	
802.11ax-HE40 MCS0	102	5510	9.50	
	110	5550	9.50	
	126	5630	9.50	
	134	5670	9.50	
	142	5710	9.50	
802.11ax-HE80 MCS0	106	5530	9.50	
	122	5610	9.50	
	138	5690	9.50	



Burst Average Power (dBm)						
5.5GHz WLAN	Transmit Antenna			MIMO Ant 4+3		
	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
802.11a 6Mbps		100	5500	9.50	9.50	12.5
		116	5580	9.50	9.50	12.5
		124	5620	9.50	9.50	12.5
		132	5660	9.50	9.50	12.5
802.11n-HT20 MCS0		144	5720	9.50	9.50	12.5
		100	5500	9.50	9.50	12.5
		116	5580	9.50	9.50	12.5
		124	5620	9.50	9.50	12.5
802.11n-HT40 MCS0		132	5660	9.50	9.50	12.5
		144	5720	9.50	9.50	12.5
		102	5510	9.50	9.50	12.5
		110	5550	9.50	9.50	12.5
802.11ac-VHT20 MCS0		126	5630	9.50	9.50	12.5
		134	5670	9.50	9.50	12.5
		142	5710	9.50	9.50	12.5
		100	5500	9.50	9.50	12.5
802.11ac-VHT40 MCS0		116	5580	9.50	9.50	12.5
		124	5620	9.50	9.50	12.5
		132	5660	9.50	9.50	12.5
		144	5720	9.50	9.50	12.5
802.11ac-VHT80 MCS0		102	5510	9.50	9.50	12.5
		110	5550	9.50	9.50	12.5
		126	5630	9.50	9.50	12.5
		134	5670	9.50	9.50	12.5
802.11ax-HE20 MCS0		142	5710	9.50	9.50	12.5
		106	5530	9.50	9.50	12.5
		122	5610	9.50	9.50	12.5
		138	5690	9.50	9.50	12.5
802.11ax-HE40 MCS0		100	5500	9.50	9.50	12.5
		116	5580	9.50	9.50	12.5
		124	5620	9.50	9.50	12.5
		132	5660	9.50	9.50	12.5
802.11ax-HE80 MCS0		144	5720	9.50	9.50	12.5
		102	5510	9.50	9.50	12.5
		110	5550	9.50	9.50	12.5
		126	5630	9.50	9.50	12.5
		134	5670	9.50	9.50	12.5
		142	5710	9.50	9.50	12.5
		106	5530	9.50	9.50	12.5
		122	5610	9.50	9.50	12.5
		138	5690	9.50	9.50	12.5



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	149	5745	10.50
		157	5785	10.50
		165	5825	10.50
	802.11n-HT20 MCS0	149	5745	10.50
		157	5785	10.50
		165	5825	10.50
	802.11n-HT40 MCS0	151	5755	10.50
		159	5795	10.50
	802.11ac-VHT20 MCS0	149	5745	10.50
		157	5785	10.50
		165	5825	10.50
	802.11ac-VHT40 MCS0	151	5755	10.50
		159	5795	10.50
802.11ac-VHT80 MCS0	155	5775	10.50	
802.11ax-HE20 MCS0	149	5745	10.50	
	157	5785	10.50	
	165	5825	10.50	
802.11ax-HE40 MCS0	151	5755	10.50	
	159	5795	10.50	
802.11ax-HE80 MCS0	155	5775	10.50	

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	149	5745	10.50	10.50	13.5
		157	5785	10.50	10.50	13.5
		165	5825	10.50	10.50	13.5
	802.11n-HT20 MCS0	149	5745	10.50	10.50	13.5
		157	5785	10.50	10.50	13.5
		165	5825	10.50	10.50	13.5
	802.11n-HT40 MCS0	151	5755	10.50	10.50	13.5
		159	5795	10.50	10.50	13.5
	802.11ac-VHT20 MCS0	149	5745	10.50	10.50	13.5
		157	5785	10.50	10.50	13.5
		165	5825	10.50	10.50	13.5
	802.11ac-VHT40 MCS0	151	5755	10.50	10.50	13.5
		159	5795	10.50	10.50	13.5
802.11ac-VHT80 MCS0	155	5775	10.50	10.50	13.5	
802.11ax-HE20 MCS0	149	5745	10.50	10.50	13.5	
	157	5785	10.50	10.50	13.5	
	165	5825	10.50	10.50	13.5	
802.11ax-HE40 MCS0	151	5755	10.50	10.50	13.5	
	159	5795	10.50	10.50	13.5	
802.11ax-HE80 MCS0	155	5775	10.50	10.50	13.5	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.9GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	169	5845	9.50
		173	5865	9.50
		177	5885	9.50
	802.11n-HT20 MCS0	169	5845	9.50
		173	5865	9.50
		177	5885	9.50
	802.11n-HT40 MCS0	167	5835	9.50
		175	5875	9.50
	802.11ac-VHT20 MCS0	169	5845	9.50
		173	5865	9.50
		177	5885	9.50
	802.11ac-VHT40 MCS0	167	5835	9.50
		175	5875	9.50
802.11ac-VHT80 MCS0	171	5855	9.50	
802.11ax-HE20 MCS0	169	5845	9.50	
	173	5865	9.50	
	177	5885	9.50	
802.11ax-HE40 MCS0	167	5835	9.50	
	175	5875	9.50	
802.11ax-HE80 MCS0	171	5855	9.50	

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
5.9GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	169	5845	9.50	9.50	12.5
		173	5865	9.50	9.50	12.5
		177	5885	9.50	9.50	12.5
	802.11n-HT20 MCS0	169	5845	9.50	9.50	12.5
		173	5865	9.50	9.50	12.5
		177	5885	9.50	9.50	12.5
	802.11n-HT40 MCS0	167	5835	9.50	9.50	12.5
		175	5875	9.50	9.50	12.5
	802.11ac-VHT20 MCS0	169	5845	9.50	9.50	12.5
		173	5865	9.50	9.50	12.5
		177	5885	9.50	9.50	12.5
	802.11ac-VHT40 MCS0	167	5835	9.50	9.50	12.5
		175	5875	9.50	9.50	12.5
802.11ac-VHT80 MCS0	171	5855	9.50	9.50	12.5	
802.11ax-HE20 MCS0	169	5845	9.50	9.50	12.5	
	173	5865	9.50	9.50	12.5	
	177	5885	9.50	9.50	12.5	
802.11ax-HE40 MCS0	167	5835	9.50	9.50	12.5	
	175	5875	9.50	9.50	12.5	
802.11ax-HE80 MCS0	171	5855	9.50	9.50	12.5	



<Power index 4>
<2.4GHz WLAN>

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 3
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11b 1Mbps	1	2412	10.00
		6	2437	10.00
		11	2462	10.00
		12	2467	10.00
		13	2472	10.00
	802.11g 6Mbps	1	2412	10.00
		6	2437	10.00
		11	2462	10.00
		13	2472	5.00
	802.11n-HT20 MCS0	1	2412	10.00
		6	2437	10.00
		11	2462	10.00
		13	2472	6.50
	802.11ac-VHT20 MCS0	1	2412	10.00
		6	2437	10.00
		11	2462	10.00
		13	2472	6.50
	802.11ax-HE20 MCS0	1	2412	10.00
		6	2437	10.00
11		2462	10.00	
13		2472	6.50	



<5GHz WLAN>

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.2GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	36	5180	14.00
		40	5200	15.50
		44	5220	15.50
		48	5240	15.50
	802.11n-HT20 MCS0	36	5180	13.50
		40	5200	15.50
		48	5240	15.50
	802.11n-HT40 MCS0	38	5190	12.00
		46	5230	15.50
	802.11ac-VHT20 MCS0	36	5180	13.50
		40	5200	15.50
		48	5240	15.50
	802.11ac-VHT40 MCS0	38	5190	12.00
		46	5230	15.50
	802.11ac-VHT80 MCS0	42	5210	11.00
802.11ax-HE20 MCS0	36	5180	13.50	
	40	5200	15.50	
	44	5220	15.50	
	48	5240	15.50	
802.11ax-HE40 MCS0	38	5190	12.00	
	46	5230	15.50	
802.11ax-HE80 MCS0	42	5210	11.00	

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	52	5260	15.50
		56	5280	15.50
		60	5300	15.50
		64	5320	14.50
	802.11n-HT20 MCS0	52	5260	15.50
		56	5280	15.50
		60	5300	15.50
	802.11n-HT40 MCS0	54	5270	15.50
		62	5310	13.00
	802.11ac-VHT20 MCS0	52	5260	15.50
		56	5280	15.50
		60	5300	15.50
		64	5320	13.50
	802.11ac-VHT40 MCS0	54	5270	15.50
		62	5310	13.00
802.11ac-VHT80 MCS0	58	5290	13.00	
802.11ax-HE20 MCS0	52	5260	15.50	
	56	5280	15.50	
	60	5300	15.50	
	64	5320	13.50	
802.11ax-HE40 MCS0	54	5270	15.50	
	62	5310	13.00	
802.11ax-HE80 MCS0	58	5290	13.00	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	100	5500	12.50
		116	5580	12.50
		124	5620	12.50
		132	5660	12.50
		144	5720	12.50
	802.11n-HT20 MCS0	100	5500	12.50
		116	5580	12.50
		124	5620	12.50
		132	5660	12.50
	802.11n-HT40 MCS0	144	5720	12.50
		102	5510	12.50
		110	5550	12.50
		126	5630	12.50
	802.11ac-VHT20 MCS0	134	5670	12.50
		142	5710	12.50
		100	5500	12.50
		116	5580	12.50
	802.11ac-VHT40 MCS0	124	5620	12.50
		132	5660	12.50
144		5720	12.50	
102		5510	12.50	
802.11ac-VHT80 MCS0	110	5550	12.50	
	126	5630	12.50	
	134	5670	12.50	
	142	5710	12.50	
802.11ax-HE20 MCS0	106	5530	12.50	
	122	5610	12.50	
	138	5690	12.50	
	100	5500	12.50	
802.11ax-HE40 MCS0	116	5580	12.50	
	124	5620	12.50	
	132	5660	12.50	
	144	5720	12.50	
802.11ax-HE80 MCS0	102	5510	12.50	
	110	5550	12.50	
	126	5630	12.50	
	134	5670	12.50	
	142	5710	12.50	
	106	5530	12.50	
	122	5610	12.50	
	138	5690	12.50	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	149	5745	13.50
		157	5785	13.50
		165	5825	13.50
	802.11n-HT20 MCS0	149	5745	13.50
		157	5785	13.50
		165	5825	13.50
	802.11n-HT40 MCS0	151	5755	13.50
		159	5795	13.50
	802.11ac-VHT20 MCS0	149	5745	13.50
		157	5785	13.50
		165	5825	13.50
	802.11ac-VHT40 MCS0	151	5755	13.50
		159	5795	13.50
802.11ac-VHT80 MCS0	155	5775	13.50	
	149	5745	13.50	
802.11ax-HE20 MCS0	157	5785	13.50	
	165	5825	13.50	
	151	5755	13.50	
802.11ax-HE40 MCS0	159	5795	13.50	
	155	5775	13.50	

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.9GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	169	5845	13.00
		173	5865	13.00
		177	5885	13.00
	802.11n-HT20 MCS0	169	5845	13.00
		173	5865	13.00
		177	5885	13.00
	802.11n-HT40 MCS0	167	5835	13.00
		175	5875	13.00
	802.11ac-VHT20 MCS0	169	5845	13.00
		173	5865	13.00
		177	5885	13.00
	802.11ac-VHT40 MCS0	167	5835	13.00
		175	5875	13.00
802.11ac-VHT80 MCS0	171	5855	13.00	
	169	5845	13.00	
802.11ax-HE20 MCS0	173	5865	13.00	
	177	5885	13.00	
	167	5835	13.00	
802.11ax-HE40 MCS0	175	5875	13.00	
	171	5855	13.00	



<Power index 5>

<2.4GHz WLAN>

Burst Average Power (dBm)					
Transmit Antenna				SISO Ant 4	SISO Ant 3
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit	Tune-Up Limit
	802.11b 1Mbps	1	2412	19.50	19.50
		6	2437	19.50	19.50
		11	2462	19.50	19.50
		12	2467	19.50	19.50
		13	2472	19.50	19.50

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11g 6Mbps	1	2412	18.00	18.00	21.0
		6	2437	19.50	19.50	22.5
		11	2462	16.50	16.50	19.5
		12	2467	15.00	15.00	18.0
		13	2472	5.00	5.00	8.0
	802.11n-HT20 MCS0	1	2412	18.00	18.00	21.0
		6	2437	19.50	19.50	22.5
		11	2462	16.00	16.00	19.0
		12	2467	15.50	15.50	18.5
	802.11ac-VHT20 MCS0	13	2472	6.50	6.50	9.5
		1	2412	18.00	18.00	21.0
		6	2437	19.50	19.50	22.5
		11	2462	16.00	16.00	19.0
	802.11ax-HE20 MCS0	12	2467	15.50	15.50	18.5
		13	2472	6.50	6.50	9.5
		1	2412	18.00	18.00	21.0
		6	2437	19.50	19.50	22.5
		11	2462	16.00	16.00	19.0
		12	2467	15.50	15.50	18.5
13		2472	6.50	6.50	9.5	



<5GHz WLAN>

Burst Average Power (dBm)				
5.2GHz WLAN	Transmit Antenna			SISO Ant 4
	Mode	Channel	Frequency (MHz)	Tune-Up Limit
5.2GHz WLAN	802.11a 6Mbps	36	5180	14.00
		40	5200	18.00
		44	5220	18.00
		48	5240	16.50
	802.11n-HT20 MCS0	36	5180	13.50
		40	5200	17.00
		44	5220	18.00
		48	5240	16.50
	802.11n-HT40 MCS0	38	5190	12.00
		46	5230	16.50
	802.11ac-VHT20 MCS0	36	5180	13.50
		40	5200	17.00
		44	5220	18.00
		48	5240	16.50
	802.11ac-VHT40 MCS0	38	5190	12.00
		46	5230	16.50
802.11ac-VHT80 MCS0	42	5210	11.00	
802.11ax-HE20 MCS0	36	5180	13.50	
	40	5200	17.00	
	44	5220	18.00	
	48	5240	16.50	
802.11ax-HE40 MCS0	38	5190	12.00	
	46	5230	16.50	
802.11ax-HE80 MCS0	42	5210	11.00	

Burst Average Power (dBm)						
5.2GHz WLAN	Transmit Antenna			MIMO Ant 4+3		
	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
5.2GHz WLAN	802.11a 6Mbps	36	5180	14.00	14.00	17.0
		40	5200	18.00	18.00	21.0
		44	5220	18.00	18.00	21.0
		48	5240	16.50	16.50	19.5
	802.11n-HT20 MCS0	36	5180	13.50	13.50	16.5
		40	5200	17.00	17.00	20.0
		44	5220	18.00	18.00	21.0
		48	5240	16.50	16.50	19.5
	802.11n-HT40 MCS0	38	5190	12.00	12.00	15.0
		46	5230	16.50	16.50	19.5
	802.11ac-VHT20 MCS0	36	5180	13.50	13.50	16.5
		40	5200	17.00	17.00	20.0
		44	5220	18.00	18.00	21.0
		48	5240	16.50	16.50	19.5
	802.11ac-VHT40 MCS0	38	5190	12.00	12.00	15.0
		46	5230	16.50	16.50	19.5
802.11ac-VHT80 MCS0	42	5210	11.00	11.00	14.0	
802.11ax-HE20 MCS0	36	5180	13.50	13.50	16.5	
	40	5200	17.00	17.00	20.0	
	44	5220	18.00	18.00	21.0	
	48	5240	16.50	16.50	19.5	
802.11ax-HE40 MCS0	38	5190	12.00	12.00	15.0	
	46	5230	16.50	16.50	19.5	
802.11ax-HE80 MCS0	42	5210	11.00	11.00	14.0	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	52	5260	18.00
		56	5280	18.00
		60	5300	18.00
		64	5320	13.50
	802.11n-HT20 MCS0	52	5260	18.00
		56	5280	17.50
		60	5300	17.50
	802.11n-HT40 MCS0	64	5320	13.50
		54	5270	17.00
	802.11ac-VHT20 MCS0	62	5310	13.00
		52	5260	18.00
		56	5280	17.50
	802.11ac-VHT40 MCS0	60	5300	17.50
		64	5320	13.50
802.11ac-VHT80 MCS0	54	5270	17.00	
	62	5310	13.00	
802.11ax-HE20 MCS0	58	5290	13.00	
	52	5260	18.00	
	56	5280	17.50	
	60	5300	17.50	
802.11ax-HE40 MCS0	64	5320	13.50	
	54	5270	17.00	
802.11ax-HE80 MCS0	62	5310	13.00	
	58	5290	13.00	

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	52	5260	18.00	18.00	21.0
		56	5280	18.00	18.00	21.0
		60	5300	18.00	18.00	21.0
		64	5320	13.50	13.50	16.5
	802.11n-HT20 MCS0	52	5260	18.00	18.00	21.0
		56	5280	17.50	17.50	20.5
		60	5300	17.50	17.50	20.5
	802.11n-HT40 MCS0	64	5320	13.50	13.50	16.5
		54	5270	17.00	17.00	20.0
	802.11ac-VHT20 MCS0	62	5310	13.00	13.00	16.0
		52	5260	18.00	18.00	21.0
		56	5280	17.50	17.50	20.5
	802.11ac-VHT40 MCS0	60	5300	17.50	17.50	20.5
		64	5320	13.50	13.50	16.5
802.11ac-VHT80 MCS0	54	5270	17.00	17.00	20.0	
	62	5310	13.00	13.00	16.0	
802.11ax-HE20 MCS0	58	5290	13.00	13.00	16.0	
	52	5260	18.00	18.00	21.0	
	56	5280	17.50	17.50	20.5	
	60	5300	17.50	17.50	20.5	
802.11ax-HE40 MCS0	64	5320	13.50	13.50	16.5	
	54	5270	17.00	17.00	20.0	
802.11ax-HE80 MCS0	62	5310	13.00	13.00	16.0	
	58	5290	13.00	13.00	16.0	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	100	5500	17.00
		116	5580	18.50
		124	5620	16.50
		132	5660	16.50
		144	5720	18.50
	802.11n-HT20 MCS0	100	5500	17.50
		116	5580	19.00
		124	5620	15.50
		132	5660	15.50
	802.11n-HT40 MCS0	144	5720	19.00
		102	5510	16.00
		110	5550	18.00
		126	5630	17.50
	802.11ac-VHT20 MCS0	134	5670	17.50
		142	5710	18.00
		100	5500	17.50
		116	5580	19.00
	802.11ac-VHT40 MCS0	124	5620	15.50
		132	5660	15.50
144		5720	19.00	
102		5510	16.00	
802.11ac-VHT80 MCS0	110	5550	18.00	
	126	5630	17.50	
	134	5670	17.50	
	142	5710	18.00	
802.11ax-HE20 MCS0	106	5530	14.50	
	122	5610	17.00	
	138	5690	18.00	
	100	5500	17.50	
802.11ax-HE40 MCS0	116	5580	19.00	
	124	5620	15.50	
	132	5660	15.50	
	144	5720	19.00	
802.11ax-HE80 MCS0	102	5510	16.00	
	110	5550	18.00	
	126	5630	17.50	
	134	5670	17.50	
	142	5710	18.00	
	106	5530	14.50	
	122	5610	17.00	
	138	5690	18.00	



Burst Average Power (dBm)						
5.5GHz WLAN	Transmit Antenna			MIMO Ant 4+3		
	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
802.11a 6Mbps	100	100	5500	17.00	17.00	20.0
		116	5580	18.50	18.50	21.5
		124	5620	16.50	16.50	19.5
		132	5660	16.50	16.50	19.5
	144	144	5720	18.50	18.50	21.5
		100	5500	17.50	17.50	20.5
		116	5580	19.00	19.00	22.0
		124	5620	15.50	15.50	18.5
	802.11n-HT20 MCS0	132	5660	15.50	15.50	18.5
		144	5720	19.00	19.00	22.0
		102	5510	16.00	16.00	19.0
		110	5550	18.00	18.00	21.0
	802.11n-HT40 MCS0	126	5630	17.50	17.50	20.5
		134	5670	17.50	17.50	20.5
		142	5710	18.00	18.00	21.0
		100	5500	17.50	17.50	20.5
802.11ac-VHT20 MCS0	116	5580	19.00	19.00	22.0	
	124	5620	15.50	15.50	18.5	
	132	5660	15.50	15.50	18.5	
	144	5720	19.00	19.00	22.0	
802.11ac-VHT40 MCS0	102	5510	16.00	16.00	19.0	
	110	5550	18.00	18.00	21.0	
	126	5630	17.50	17.50	20.5	
	134	5670	17.50	17.50	20.5	
802.11ac-VHT80 MCS0	142	5710	18.00	18.00	21.0	
	106	5530	14.50	14.50	17.5	
	122	5610	17.00	17.00	20.0	
	138	5690	18.00	18.00	21.0	
802.11ax-HE20 MCS0	100	5500	17.50	17.50	20.5	
	116	5580	19.00	19.00	22.0	
	124	5620	15.50	15.50	18.5	
	132	5660	15.50	15.50	18.5	
802.11ax-HE40 MCS0	144	5720	19.00	19.00	22.0	
	102	5510	16.00	16.00	19.0	
	110	5550	18.00	18.00	21.0	
	126	5630	17.50	17.50	20.5	
802.11ax-HE80 MCS0	134	5670	17.50	17.50	20.5	
	142	5710	18.00	18.00	21.0	
	106	5530	14.50	14.50	17.5	
	122	5610	17.00	17.00	20.0	
		138	5690	18.00	18.00	21.0



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	149	5745	20.00
		157	5785	20.00
		165	5825	20.00
	802.11n-HT20 MCS0	149	5745	20.00
		157	5785	20.00
		165	5825	20.00
	802.11n-HT40 MCS0	151	5755	18.00
		159	5795	18.00
	802.11ac-VHT20 MCS0	149	5745	19.00
		157	5785	19.00
		165	5825	19.00
	802.11ac-VHT40 MCS0	151	5755	18.00
		159	5795	18.00
802.11ac-VHT80 MCS0	155	5775	18.00	
	149	5745	19.00	
802.11ax-HE20 MCS0	157	5785	19.00	
	165	5825	19.00	
	151	5755	18.00	
802.11ax-HE40 MCS0	159	5795	18.00	
	155	5775	18.00	

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	149	5745	20.00	20.00	23.0
		157	5785	20.00	20.00	23.0
		165	5825	20.00	20.00	23.0
	802.11n-HT20 MCS0	149	5745	20.00	20.00	23.0
		157	5785	20.00	20.00	23.0
		165	5825	20.00	20.00	23.0
	802.11n-HT40 MCS0	151	5755	18.00	18.00	21.0
		159	5795	18.00	18.00	21.0
	802.11ac-VHT20 MCS0	149	5745	19.00	19.00	22.0
		157	5785	19.00	19.00	22.0
		165	5825	19.00	19.00	22.0
	802.11ac-VHT40 MCS0	151	5755	18.00	18.00	21.0
		159	5795	18.00	18.00	21.0
802.11ac-VHT80 MCS0	155	5775	18.00	18.00	21.0	
	149	5745	19.00	19.00	22.0	
802.11ax-HE20 MCS0	157	5785	19.00	19.00	22.0	
	165	5825	19.00	19.00	22.0	
	151	5755	18.00	18.00	21.0	
802.11ax-HE40 MCS0	159	5795	18.00	18.00	21.0	
	155	5775	18.00	18.00	21.0	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.9GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	169	5845	19.50
		173	5865	19.50
		177	5885	19.00
	802.11n-HT20 MCS0	169	5845	19.50
		173	5865	19.50
		177	5885	19.50
	802.11n-HT40 MCS0	167	5835	18.00
		175	5875	18.00
	802.11ac-VHT20 MCS0	169	5845	19.00
		173	5865	19.00
		177	5885	19.00
	802.11ac-VHT40 MCS0	167	5835	18.00
		175	5875	18.00
802.11ac-VHT80 MCS0	171	5855	17.00	
802.11ax-HE20 MCS0	169	5845	19.00	
	173	5865	19.00	
	177	5885	19.00	
802.11ax-HE40 MCS0	167	5835	18.00	
	175	5875	18.00	
802.11ax-HE80 MCS0	171	5855	17.00	

Burst Average Power (dBm)							
Transmit Antenna				MIMO Ant 4+3			
5.9GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3	
	802.11a 6Mbps	169	5845	19.50	19.50	19.50	22.5
		173	5865	19.50	19.50	19.50	22.5
		177	5885	19.00	19.00	19.00	22.0
	802.11n-HT20 MCS0	169	5845	19.50	19.50	19.50	22.5
		173	5865	19.50	19.50	19.50	22.5
		177	5885	19.50	19.50	19.50	22.5
	802.11n-HT40 MCS0	167	5835	18.00	18.00	18.00	21.0
		175	5875	18.00	18.00	18.00	21.0
	802.11ac-VHT20 MCS0	169	5845	19.00	19.00	19.00	22.0
		173	5865	19.00	19.00	19.00	22.0
		177	5885	19.00	19.00	19.00	22.0
	802.11ac-VHT40 MCS0	167	5835	18.00	18.00	18.00	21.0
		175	5875	18.00	18.00	18.00	21.0
802.11ac-VHT80 MCS0	171	5855	17.00	17.00	17.00	20.0	
802.11ax-HE20 MCS0	169	5845	19.00	19.00	19.00	22.0	
	173	5865	19.00	19.00	19.00	22.0	
	177	5885	19.00	19.00	19.00	22.0	
802.11ax-HE40 MCS0	167	5835	18.00	18.00	18.00	21.0	
	175	5875	18.00	18.00	18.00	21.0	
802.11ax-HE80 MCS0	171	5855	17.00	17.00	17.00	20.0	



<Power index 6>

<2.4GHz WLAN>

Burst Average Power (dBm)				
2.4GHz WLAN	Transmit Antenna			SISO Ant 3
	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11b 1Mbps	1	2412	21.00
		6	2437	21.00
		11	2462	21.00
		12	2467	21.00
		13	2472	20.50
	802.11g 6Mbps	1	2412	18.00
		6	2437	21.00
		11	2462	16.50
		12	2467	15.00
		13	2472	5.00
	802.11n-HT20 MCS0	1	2412	18.00
		6	2437	21.00
		11	2462	16.00
		12	2467	15.50
	802.11ac-VHT20 MCS0	13	2472	6.50
		1	2412	18.00
		6	2437	21.00
		11	2462	16.00
	802.11ax-HE20 MCS0	12	2467	15.50
		13	2472	6.50
1		2412	18.00	
6		2437	21.00	
11		2462	16.00	
		12	2467	15.50
		13	2472	6.50



<5GHz WLAN>

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.2GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	36	5180	14.00
		40	5200	18.00
		44	5220	19.00
		48	5240	16.50
	802.11n-HT20 MCS0	36	5180	13.50
		40	5200	17.00
		44	5220	18.00
	802.11n-HT40 MCS0	38	5190	12.00
		46	5230	16.50
	802.11ac-VHT20 MCS0	36	5180	13.50
		40	5200	17.00
		44	5220	18.00
	802.11ac-VHT40 MCS0	38	5190	12.00
		46	5230	16.50
	802.11ac-VHT80 MCS0	42	5210	11.00
802.11ax-HE20 MCS0	36	5180	13.50	
	40	5200	17.00	
	44	5220	18.00	
	48	5240	16.50	
802.11ax-HE40 MCS0	38	5190	12.00	
	46	5230	16.50	
802.11ax-HE80 MCS0	42	5210	11.00	

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	52	5260	18.50
		56	5280	18.00
		60	5300	18.00
		64	5320	13.50
	802.11n-HT20 MCS0	52	5260	19.00
		56	5280	17.50
		60	5300	17.50
	802.11n-HT40 MCS0	54	5270	17.00
		62	5310	13.00
	802.11ac-VHT20 MCS0	52	5260	19.00
		56	5280	17.50
		60	5300	17.50
		64	5320	13.50
	802.11ac-VHT40 MCS0	54	5270	17.00
		62	5310	13.00
802.11ac-VHT80 MCS0	58	5290	13.00	
802.11ax-HE20 MCS0	52	5260	19.00	
	56	5280	17.50	
	60	5300	17.50	
	64	5320	13.50	
802.11ax-HE40 MCS0	54	5270	17.00	
	62	5310	13.00	
802.11ax-HE80 MCS0	58	5290	13.00	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	100	5500	17.00
		116	5580	18.50
		124	5620	16.50
		132	5660	16.50
		144	5720	18.50
	802.11n-HT20 MCS0	100	5500	17.50
		116	5580	19.00
		124	5620	15.50
		132	5660	15.50
	802.11n-HT40 MCS0	144	5720	19.00
		102	5510	16.00
		110	5550	18.00
		126	5630	17.50
	802.11ac-VHT20 MCS0	134	5670	17.50
		142	5710	18.00
		100	5500	17.50
		116	5580	19.00
	802.11ac-VHT40 MCS0	124	5620	15.50
		132	5660	15.50
144		5720	19.00	
102		5510	16.00	
802.11ac-VHT80 MCS0	110	5550	18.00	
	126	5630	17.50	
	134	5670	17.50	
	142	5710	18.00	
802.11ax-HE20 MCS0	106	5530	14.50	
	122	5610	17.00	
	138	5690	18.00	
	100	5500	17.50	
802.11ax-HE40 MCS0	116	5580	19.00	
	124	5620	15.50	
	132	5660	15.50	
	144	5720	19.00	
802.11ax-HE80 MCS0	102	5510	16.00	
	110	5550	18.00	
	126	5630	17.50	
	134	5670	17.50	
	142	5710	18.00	
	106	5530	14.50	
	122	5610	17.00	
	138	5690	18.00	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	149	5745	20.00
		157	5785	20.00
		165	5825	20.00
	802.11n-HT20 MCS0	149	5745	20.00
		157	5785	20.00
		165	5825	20.00
	802.11n-HT40 MCS0	151	5755	18.00
		159	5795	18.00
	802.11ac-VHT20 MCS0	149	5745	19.00
		157	5785	19.00
		165	5825	19.00
	802.11ac-VHT40 MCS0	151	5755	18.00
		159	5795	18.00
802.11ac-VHT80 MCS0	155	5775	18.00	
	149	5745	19.00	
802.11ax-HE20 MCS0	157	5785	19.00	
	165	5825	19.00	
	151	5755	18.00	
802.11ax-HE40 MCS0	159	5795	18.00	
	155	5775	18.00	

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.9GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	169	5845	20.00
		173	5865	20.00
		177	5885	19.00
	802.11n-HT20 MCS0	169	5845	20.00
		173	5865	20.00
		177	5885	20.00
	802.11n-HT40 MCS0	167	5835	18.00
		175	5875	18.00
	802.11ac-VHT20 MCS0	169	5845	19.00
		173	5865	19.00
		177	5885	19.00
	802.11ac-VHT40 MCS0	167	5835	18.00
		175	5875	18.00
	802.11ac-VHT80 MCS0	171	5855	17.00
		169	5845	19.00
	802.11ax-HE20 MCS0	173	5865	19.00
		177	5885	19.00
167		5835	18.00	
802.11ax-HE40 MCS0	175	5875	18.00	
	171	5855	17.00	



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<2.4GHz WLAN>

Burst Average Power (dBm)					
Transmit Antenna				SISO Ant 4	SISO Ant 3
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit	Tune-Up Limit
	802.11b 1Mbps	1	2412	16.50	16.50
		6	2437	16.50	16.50
		11	2462	16.50	16.50
		12	2467	16.50	16.50
		13	2472	16.50	16.50

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11g 6Mbps	1	2412	16.50	16.50	19.5
		6	2437	16.50	16.50	19.5
		11	2462	16.50	16.50	19.5
		12	2467	15.00	15.00	18.0
		13	2472	5.00	5.00	8.0
	802.11n-HT20 MCS0	1	2412	16.50	16.50	19.5
		6	2437	16.50	16.50	19.5
		11	2462	16.00	16.00	19.0
		12	2467	15.50	15.50	18.5
	802.11ac-VHT20 MCS0	13	2472	6.50	6.50	9.5
		1	2412	16.50	16.50	19.5
		6	2437	16.50	16.50	19.5
		11	2462	16.00	16.00	19.0
	802.11ax-HE20 MCS0	12	2467	15.50	15.50	18.5
		13	2472	6.50	6.50	9.5
		1	2412	16.50	16.50	19.5
		6	2437	16.50	16.50	19.5
		11	2462	16.00	16.00	19.0
		12	2467	15.50	15.50	18.5
		13	2472	6.50	6.50	9.5



<5GHz WLAN>

Burst Average Power (dBm)				
5.2GHz WLAN	Transmit Antenna			SISO Ant 4
	Mode	Channel	Frequency (MHz)	Tune-Up Limit
5.2GHz WLAN	802.11a 6Mbps	36	5180	14.00
		40	5200	18.00
		44	5220	18.00
		48	5240	16.50
	802.11n-HT20 MCS0	36	5180	13.50
		40	5200	17.00
		44	5220	18.00
		48	5240	16.50
	802.11n-HT40 MCS0	38	5190	12.00
		46	5230	16.50
	802.11ac-VHT20 MCS0	36	5180	13.50
		40	5200	17.00
		44	5220	18.00
		48	5240	16.50
	802.11ac-VHT40 MCS0	38	5190	12.00
		46	5230	16.50
802.11ac-VHT80 MCS0	42	5210	11.00	
802.11ax-HE20 MCS0	36	5180	13.50	
	40	5200	17.00	
	44	5220	18.00	
	48	5240	16.50	
802.11ax-HE40 MCS0	38	5190	12.00	
	46	5230	16.50	
802.11ax-HE80 MCS0	42	5210	11.00	

Burst Average Power (dBm)						
5.2GHz WLAN	Transmit Antenna			MIMO Ant 4+3		
	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
5.2GHz WLAN	802.11a 6Mbps	36	5180	14.00	14.00	17.0
		40	5200	18.00	18.00	21.0
		44	5220	18.00	18.00	21.0
		48	5240	16.50	16.50	19.5
	802.11n-HT20 MCS0	36	5180	13.50	13.50	16.5
		40	5200	17.00	17.00	20.0
		44	5220	18.00	18.00	21.0
		48	5240	16.50	16.50	19.5
	802.11n-HT40 MCS0	38	5190	12.00	12.00	15.0
		46	5230	16.50	16.50	19.5
	802.11ac-VHT20 MCS0	36	5180	13.50	13.50	16.5
		40	5200	17.00	17.00	20.0
		44	5220	18.00	18.00	21.0
		48	5240	16.50	16.50	19.5
	802.11ac-VHT40 MCS0	38	5190	12.00	12.00	15.0
		46	5230	16.50	16.50	19.5
802.11ac-VHT80 MCS0	42	5210	11.00	11.00	14.0	
802.11ax-HE20 MCS0	36	5180	13.50	13.50	16.5	
	40	5200	17.00	17.00	20.0	
	44	5220	18.00	18.00	21.0	
	48	5240	16.50	16.50	19.5	
802.11ax-HE40 MCS0	38	5190	12.00	12.00	15.0	
	46	5230	16.50	16.50	19.5	
802.11ax-HE80 MCS0	42	5210	11.00	11.00	14.0	



Burst Average Power (dBm)				
5.3GHz WLAN	Transmit Antenna			SISO Ant 4
	Mode	Channel	Frequency (MHz)	Tune-Up Limit
5.3GHz WLAN	802.11a 6Mbps	52	5260	18.00
		56	5280	18.00
		60	5300	18.00
		64	5320	14.50
	802.11n-HT20 MCS0	52	5260	18.00
		56	5280	17.50
		60	5300	17.50
	802.11n-HT40 MCS0	64	5320	13.50
		54	5270	17.00
	802.11ac-VHT20 MCS0	62	5310	13.00
		52	5260	18.00
		56	5280	17.50
	802.11ac-VHT40 MCS0	60	5300	17.50
		64	5320	13.50
	802.11ac-VHT80 MCS0	54	5270	17.00
		62	5310	13.00
	802.11ax-HE20 MCS0	58	5290	13.00
		52	5260	18.00
56		5280	17.50	
60		5300	17.50	
802.11ax-HE40 MCS0	64	5320	13.50	
	54	5270	17.00	
802.11ax-HE80 MCS0	62	5310	13.00	
	58	5290	13.00	

Burst Average Power (dBm)						
5.3GHz WLAN	Transmit Antenna			MIMO Ant 4+3		
	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
5.3GHz WLAN	802.11a 6Mbps	52	5260	18.00	18.00	21.0
		56	5280	18.00	18.00	21.0
		60	5300	18.00	18.00	21.0
		64	5320	13.50	13.50	16.5
	802.11n-HT20 MCS0	52	5260	18.00	18.00	21.0
		56	5280	17.50	17.50	20.5
		60	5300	17.50	17.50	20.5
	802.11n-HT40 MCS0	64	5320	13.50	13.50	16.5
		54	5270	17.00	17.00	20.0
	802.11ac-VHT20 MCS0	62	5310	13.00	13.00	16.0
		52	5260	18.00	18.00	21.0
		56	5280	17.50	17.50	20.5
	802.11ac-VHT40 MCS0	60	5300	17.50	17.50	20.5
		64	5320	13.50	13.50	16.5
	802.11ac-VHT80 MCS0	54	5270	17.00	17.00	20.0
		62	5310	13.00	13.00	16.0
	802.11ax-HE20 MCS0	58	5290	13.00	13.00	16.0
		52	5260	18.00	18.00	21.0
		56	5280	17.50	17.50	20.5
		60	5300	17.50	17.50	20.5
	802.11ax-HE40 MCS0	64	5320	13.50	13.50	16.5
		54	5270	17.00	17.00	20.0
	802.11ax-HE80 MCS0	62	5310	13.00	13.00	16.0
		58	5290	13.00	13.00	16.0



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
		802.11a 6Mbps	100	5500
116			5580	18.50
124			5620	16.50
132			5660	16.50
144			5720	18.50
802.11n-HT20 MCS0		100	5500	17.50
		116	5580	19.00
		124	5620	15.50
		132	5660	15.50
		144	5720	19.00
802.11n-HT40 MCS0		102	5510	16.00
		110	5550	18.00
		126	5630	17.50
		134	5670	17.50
		142	5710	18.00
802.11ac-VHT20 MCS0		100	5500	17.50
		116	5580	19.00
		124	5620	15.50
		132	5660	15.50
		144	5720	19.00
802.11ac-VHT40 MCS0	102	5510	16.00	
	110	5550	18.00	
	126	5630	17.50	
	134	5670	17.50	
	142	5710	18.00	
802.11ac-VHT80 MCS0	106	5530	14.50	
	122	5610	17.00	
	138	5690	18.00	
802.11ax-HE20 MCS0	100	5500	17.50	
	116	5580	19.00	
	124	5620	15.50	
	132	5660	15.50	
	144	5720	19.00	
802.11ax-HE40 MCS0	102	5510	16.00	
	110	5550	18.00	
	126	5630	17.50	
	134	5670	17.50	
	142	5710	18.00	
802.11ax-HE80 MCS0	106	5530	14.50	
	122	5610	17.00	
	138	5690	18.00	



Burst Average Power (dBm)						
5.5GHz WLAN	Transmit Antenna			MIMO Ant 4+3		
	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
5.5GHz WLAN	802.11a 6Mbps	100	5500	17.00	17.00	20.0
		116	5580	18.50	18.50	21.5
		124	5620	16.50	16.50	19.5
		132	5660	16.50	16.50	19.5
	802.11n-HT20 MCS0	144	5720	18.50	18.50	21.5
		100	5500	17.50	17.50	20.5
		116	5580	19.00	19.00	22.0
		124	5620	15.50	15.50	18.5
	802.11n-HT40 MCS0	132	5660	15.50	15.50	18.5
		144	5720	19.00	19.00	22.0
		102	5510	16.00	16.00	19.0
		110	5550	18.00	18.00	21.0
	802.11ac-VHT20 MCS0	126	5630	17.50	17.50	20.5
		134	5670	17.50	17.50	20.5
		142	5710	18.00	18.00	21.0
		100	5500	17.50	17.50	20.5
802.11ac-VHT40 MCS0	116	5580	19.00	19.00	22.0	
	124	5620	15.50	15.50	18.5	
	132	5660	15.50	15.50	18.5	
	144	5720	19.00	19.00	22.0	
802.11ac-VHT80 MCS0	102	5510	16.00	16.00	19.0	
	110	5550	18.00	18.00	21.0	
	126	5630	17.50	17.50	20.5	
	134	5670	17.50	17.50	20.5	
802.11ax-HE20 MCS0	142	5710	18.00	18.00	21.0	
	106	5530	14.50	14.50	17.5	
	122	5610	17.00	17.00	20.0	
	138	5690	18.00	18.00	21.0	
802.11ax-HE40 MCS0	100	5500	17.50	17.50	20.5	
	116	5580	19.00	19.00	22.0	
	124	5620	15.50	15.50	18.5	
	132	5660	15.50	15.50	18.5	
802.11ax-HE80 MCS0	144	5720	19.00	19.00	22.0	
	102	5510	16.00	16.00	19.0	
	110	5550	18.00	18.00	21.0	
	126	5630	17.50	17.50	20.5	
802.11ax-HE80 MCS0	134	5670	17.50	17.50	20.5	
	142	5710	18.00	18.00	21.0	
	106	5530	14.50	14.50	17.5	
802.11ax-HE80 MCS0	122	5610	17.00	17.00	20.0	
	138	5690	18.00	18.00	21.0	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	149	5745	20.00
		157	5785	20.00
		165	5825	20.00
	802.11n-HT20 MCS0	149	5745	20.00
		157	5785	20.00
		165	5825	20.00
	802.11n-HT40 MCS0	151	5755	18.00
		159	5795	18.00
	802.11ac-VHT20 MCS0	149	5745	19.00
		157	5785	19.00
		165	5825	19.00
	802.11ac-VHT40 MCS0	151	5755	18.00
		159	5795	18.00
802.11ac-VHT80 MCS0	155	5775	18.00	
	149	5745	19.00	
802.11ax-HE20 MCS0	157	5785	19.00	
	165	5825	19.00	
	151	5755	18.00	
802.11ax-HE40 MCS0	159	5795	18.00	
	155	5775	18.00	

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	149	5745	20.00	20.00	23.0
		157	5785	20.00	20.00	23.0
		165	5825	20.00	20.00	23.0
	802.11n-HT20 MCS0	149	5745	20.00	20.00	23.0
		157	5785	20.00	20.00	23.0
		165	5825	20.00	20.00	23.0
	802.11n-HT40 MCS0	151	5755	18.00	18.00	21.0
		159	5795	18.00	18.00	21.0
	802.11ac-VHT20 MCS0	149	5745	19.00	19.00	22.0
		157	5785	19.00	19.00	22.0
		165	5825	19.00	19.00	22.0
	802.11ac-VHT40 MCS0	151	5755	18.00	18.00	21.0
		159	5795	18.00	18.00	21.0
802.11ac-VHT80 MCS0	155	5775	18.00	18.00	21.0	
	149	5745	19.00	19.00	22.0	
802.11ax-HE20 MCS0	157	5785	19.00	19.00	22.0	
	165	5825	19.00	19.00	22.0	
	151	5755	18.00	18.00	21.0	
802.11ax-HE40 MCS0	159	5795	18.00	18.00	21.0	
	155	5775	18.00	18.00	21.0	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.9GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	169	5845	19.50
		173	5865	19.50
		177	5885	19.00
	802.11n-HT20 MCS0	169	5845	19.50
		173	5865	19.50
		177	5885	19.50
	802.11n-HT40 MCS0	167	5835	18.00
		175	5875	18.00
	802.11ac-VHT20 MCS0	169	5845	19.00
		173	5865	19.00
		177	5885	19.00
	802.11ac-VHT40 MCS0	167	5835	18.00
		175	5875	18.00
802.11ac-VHT80 MCS0	171	5855	17.00	
802.11ax-HE20 MCS0	169	5845	19.00	
	173	5865	19.00	
	177	5885	19.00	
802.11ax-HE40 MCS0	167	5835	18.00	
	175	5875	18.00	
802.11ax-HE80 MCS0	171	5855	17.00	

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
5.9GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	169	5845	19.50	19.50	22.5
		173	5865	19.50	19.50	22.5
		177	5885	19.00	19.00	22.0
	802.11n-HT20 MCS0	169	5845	19.50	19.50	22.5
		173	5865	19.50	19.50	22.5
		177	5885	19.50	19.50	22.5
	802.11n-HT40 MCS0	167	5835	18.00	18.00	21.0
		175	5875	18.00	18.00	21.0
	802.11ac-VHT20 MCS0	169	5845	19.00	19.00	22.0
		173	5865	19.00	19.00	22.0
		177	5885	19.00	19.00	22.0
	802.11ac-VHT40 MCS0	167	5835	18.00	18.00	21.0
		175	5875	18.00	18.00	21.0
802.11ac-VHT80 MCS0	171	5855	17.00	17.00	20.0	
802.11ax-HE20 MCS0	169	5845	19.00	19.00	22.0	
	173	5865	19.00	19.00	22.0	
	177	5885	19.00	19.00	22.0	
802.11ax-HE40 MCS0	167	5835	18.00	18.00	21.0	
	175	5875	18.00	18.00	21.0	
802.11ax-HE80 MCS0	171	5855	17.00	17.00	20.0	



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<2.4GHz WLAN>

Burst Average Power (dBm)				
2.4GHz WLAN	Transmit Antenna			SISO Ant 3
	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11b 1Mbps	1	2412	17.00
		6	2437	17.00
		11	2462	17.00
		12	2467	17.00
		13	2472	17.00
	802.11g 6Mbps	1	2412	17.00
		6	2437	17.00
		11	2462	16.50
		12	2467	15.00
		13	2472	5.00
	802.11n-HT20 MCS0	1	2412	17.00
		6	2437	17.00
		11	2462	16.00
		12	2467	15.50
		13	2472	6.50
	802.11ac-VHT20 MCS0	1	2412	17.00
		6	2437	17.00
		11	2462	16.00
		12	2467	15.50
		13	2472	6.50
802.11ax-HE20 MCS0	1	2412	17.00	
	6	2437	17.00	
	11	2462	16.00	
	12	2467	15.50	
	13	2472	6.50	



<5GHz WLAN>

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.2GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	36	5180	14.00
		40	5200	18.00
		44	5220	19.00
		48	5240	16.50
	802.11n-HT20 MCS0	36	5180	13.50
		40	5200	17.00
		44	5220	18.00
	802.11n-HT40 MCS0	48	5240	16.50
		38	5190	12.00
	802.11ac-VHT20 MCS0	46	5230	16.50
		36	5180	13.50
		40	5200	17.00
	802.11ac-VHT40 MCS0	44	5220	18.00
		48	5240	16.50
		38	5190	12.00
	802.11ac-VHT80 MCS0	46	5230	16.50
42		5210	11.00	
802.11ax-HE20 MCS0	36	5180	13.50	
	40	5200	17.00	
	44	5220	18.00	
	48	5240	16.50	
802.11ax-HE40 MCS0	38	5190	12.00	
	46	5230	16.50	
802.11ax-HE80 MCS0	42	5210	11.00	

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	52	5260	18.50
		56	5280	18.00
		60	5300	18.00
		64	5320	13.50
	802.11n-HT20 MCS0	52	5260	19.00
		56	5280	17.50
		60	5300	17.50
	802.11n-HT40 MCS0	64	5320	13.50
		54	5270	17.00
	802.11ac-VHT20 MCS0	62	5310	13.00
		52	5260	19.00
		56	5280	17.50
	802.11ac-VHT40 MCS0	60	5300	17.50
		64	5320	13.50
		54	5270	17.00
	802.11ac-VHT80 MCS0	62	5310	13.00
58		5290	13.00	
802.11ax-HE20 MCS0	52	5260	19.00	
	56	5280	17.50	
	60	5300	17.50	
	64	5320	13.50	
802.11ax-HE40 MCS0	54	5270	17.00	
	62	5310	13.00	
802.11ax-HE80 MCS0	58	5290	13.00	



Burst Average Power (dBm)					
Transmit Antenna				SISO Ant 4	
5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit	
	802.11a 6Mbps	802.11a 6Mbps	100	5500	17.00
116			5580	18.00	
124			5620	16.50	
132			5660	16.50	
144			5720	18.00	
802.11n-HT20 MCS0		802.11n-HT20 MCS0	100	5500	17.50
			116	5580	18.00
			124	5620	15.50
			132	5660	15.50
802.11n-HT40 MCS0		802.11n-HT40 MCS0	144	5720	18.00
			102	5510	16.00
			110	5550	18.00
	126		5630	17.50	
802.11ac-VHT20 MCS0	802.11ac-VHT20 MCS0	134	5670	17.50	
		142	5710	18.00	
		100	5500	17.50	
		116	5580	18.00	
802.11ac-VHT40 MCS0	802.11ac-VHT40 MCS0	124	5620	15.50	
		132	5660	15.50	
		144	5720	18.00	
		102	5510	16.00	
802.11ac-VHT80 MCS0	802.11ac-VHT80 MCS0	110	5550	18.00	
		126	5630	17.50	
		134	5670	17.50	
		142	5710	18.00	
802.11ax-HE20 MCS0	802.11ax-HE20 MCS0	106	5530	14.50	
		122	5610	17.00	
		138	5690	18.00	
		100	5500	17.50	
802.11ax-HE40 MCS0	802.11ax-HE40 MCS0	116	5580	18.00	
		124	5620	15.50	
		132	5660	15.50	
		144	5720	18.00	
802.11ax-HE80 MCS0	802.11ax-HE80 MCS0	102	5510	16.00	
		110	5550	18.00	
		126	5630	17.50	
		134	5670	17.50	
802.11ax-HE80 MCS0	802.11ax-HE80 MCS0	142	5710	18.00	
		106	5530	14.50	
		122	5610	17.00	
		138	5690	18.00	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	149	5745	20.00
		157	5785	20.00
		165	5825	20.00
	802.11n-HT20 MCS0	149	5745	20.00
		157	5785	20.00
		165	5825	20.00
	802.11n-HT40 MCS0	151	5755	18.00
		159	5795	18.00
	802.11ac-VHT20 MCS0	149	5745	19.00
		157	5785	19.00
		165	5825	19.00
	802.11ac-VHT40 MCS0	151	5755	18.00
		159	5795	18.00
802.11ac-VHT80 MCS0	155	5775	18.00	
	149	5745	19.00	
802.11ax-HE20 MCS0	157	5785	19.00	
	165	5825	19.00	
	151	5755	18.00	
802.11ax-HE40 MCS0	159	5795	18.00	
	155	5775	18.00	

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.9GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	169	5845	20.00
		173	5865	20.00
		177	5885	19.00
	802.11n-HT20 MCS0	169	5845	20.00
		173	5865	20.00
		177	5885	20.00
	802.11n-HT40 MCS0	167	5835	18.00
		175	5875	18.00
	802.11ac-VHT20 MCS0	169	5845	19.00
		173	5865	19.00
		177	5885	19.00
	802.11ac-VHT40 MCS0	167	5835	18.00
		175	5875	18.00
802.11ac-VHT80 MCS0	171	5855	17.00	
	169	5845	19.00	
802.11ax-HE20 MCS0	173	5865	19.00	
	177	5885	19.00	
	167	5835	18.00	
802.11ax-HE40 MCS0	175	5875	18.00	
	171	5855	17.00	



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<5GHz WLAN>

Burst Average Power (dBm)				
5.2GHz WLAN	Transmit Antenna			SISO Ant 4
	Mode	Channel	Frequency (MHz)	Tune-Up Limit
5.2GHz WLAN	802.11a 6Mbps	36	5180	14.00
		40	5200	18.00
		44	5220	18.00
		48	5240	16.50
	802.11n-HT20 MCS0	36	5180	13.50
		40	5200	17.00
		44	5220	18.00
		48	5240	16.50
	802.11n-HT40 MCS0	38	5190	12.00
		46	5230	16.50
	802.11ac-VHT20 MCS0	36	5180	13.50
		40	5200	17.00
		44	5220	18.00
		48	5240	16.50
	802.11ac-VHT40 MCS0	38	5190	12.00
		46	5230	16.50
802.11ac-VHT80 MCS0	42	5210	11.00	
802.11ax-HE20 MCS0	36	5180	13.50	
	40	5200	17.00	
	44	5220	18.00	
	48	5240	16.50	
802.11ax-HE40 MCS0	38	5190	12.00	
	46	5230	16.50	
802.11ax-HE80 MCS0	42	5210	11.00	

Burst Average Power (dBm)						
5.2GHz WLAN	Transmit Antenna			MIMO Ant 4+3		
	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
5.2GHz WLAN	802.11a 6Mbps	36	5180	14.00	14.00	17.0
		40	5200	18.00	18.00	21.0
		44	5220	18.00	18.00	21.0
		48	5240	16.50	16.50	19.5
	802.11n-HT20 MCS0	36	5180	13.50	13.50	16.5
		40	5200	17.00	17.00	20.0
		44	5220	18.00	18.00	21.0
		48	5240	16.50	16.50	19.5
	802.11n-HT40 MCS0	38	5190	12.00	12.00	15.0
		46	5230	16.50	16.50	19.5
	802.11ac-VHT20 MCS0	36	5180	13.50	13.50	16.5
		40	5200	17.00	17.00	20.0
		44	5220	18.00	18.00	21.0
		48	5240	16.50	16.50	19.5
	802.11ac-VHT40 MCS0	38	5190	12.00	12.00	15.0
		46	5230	16.50	16.50	19.5
802.11ac-VHT80 MCS0	42	5210	11.00	11.00	14.0	
802.11ax-HE20 MCS0	36	5180	13.50	13.50	16.5	
	40	5200	17.00	17.00	20.0	
	44	5220	18.00	18.00	21.0	
	48	5240	16.50	16.50	19.5	
802.11ax-HE40 MCS0	38	5190	12.00	12.00	15.0	
	46	5230	16.50	16.50	19.5	
802.11ax-HE80 MCS0	42	5210	11.00	11.00	14.0	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	52	5260	18.00
		56	5280	18.00
		60	5300	18.00
		64	5320	14.50
	802.11n-HT20 MCS0	52	5260	18.00
		56	5280	17.50
		60	5300	17.50
	802.11n-HT40 MCS0	64	5320	13.50
		54	5270	17.00
	802.11ac-VHT20 MCS0	62	5310	13.00
		52	5260	18.00
		56	5280	17.50
	802.11ac-VHT40 MCS0	60	5300	17.50
		64	5320	13.50
	802.11ac-VHT80 MCS0	54	5270	17.00
62		5310	13.00	
802.11ax-HE20 MCS0	58	5290	13.00	
	52	5260	18.00	
	56	5280	17.50	
	60	5300	17.50	
802.11ax-HE40 MCS0	64	5320	13.50	
	54	5270	17.00	
802.11ax-HE80 MCS0	62	5310	13.00	
	58	5290	13.00	

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	52	5260	18.00	18.00	21.0
		56	5280	18.00	18.00	21.0
		60	5300	18.00	18.00	21.0
		64	5320	13.50	13.50	16.5
	802.11n-HT20 MCS0	52	5260	18.00	18.00	21.0
		56	5280	17.50	17.50	20.5
		60	5300	17.50	17.50	20.5
	802.11n-HT40 MCS0	64	5320	13.50	13.50	16.5
		54	5270	17.00	17.00	20.0
	802.11ac-VHT20 MCS0	62	5310	13.00	13.00	16.0
		52	5260	18.00	18.00	21.0
		56	5280	17.50	17.50	20.5
	802.11ac-VHT40 MCS0	60	5300	17.50	17.50	20.5
		64	5320	13.50	13.50	16.5
	802.11ac-VHT80 MCS0	54	5270	17.00	17.00	20.0
62		5310	13.00	13.00	16.0	
802.11ax-HE20 MCS0	58	5290	13.00	13.00	16.0	
	52	5260	18.00	18.00	21.0	
	56	5280	17.50	17.50	20.5	
	60	5300	17.50	17.50	20.5	
802.11ax-HE40 MCS0	64	5320	13.50	13.50	16.5	
	54	5270	17.00	17.00	20.0	
802.11ax-HE80 MCS0	62	5310	13.00	13.00	16.0	
	58	5290	13.00	13.00	16.0	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	100	5500	17.00
		116	5580	18.50
		124	5620	16.50
		132	5660	16.50
		144	5720	18.50
	802.11n-HT20 MCS0	100	5500	17.50
		116	5580	19.00
		124	5620	15.50
		132	5660	15.50
	802.11n-HT40 MCS0	144	5720	19.00
		102	5510	16.00
		110	5550	18.00
		126	5630	17.50
	802.11ac-VHT20 MCS0	134	5670	17.50
		142	5710	18.00
		100	5500	17.50
		116	5580	19.00
	802.11ac-VHT40 MCS0	124	5620	15.50
		132	5660	15.50
144		5720	19.00	
102		5510	16.00	
802.11ac-VHT80 MCS0	110	5550	18.00	
	126	5630	17.50	
	134	5670	17.50	
	142	5710	18.00	
802.11ax-HE20 MCS0	106	5530	14.50	
	122	5610	17.00	
	138	5690	18.00	
	100	5500	17.50	
802.11ax-HE40 MCS0	116	5580	19.00	
	124	5620	15.50	
	132	5660	15.50	
	144	5720	19.00	
802.11ax-HE80 MCS0	102	5510	16.00	
	110	5550	18.00	
	126	5630	17.50	
	134	5670	17.50	
802.11ax-HE80 MCS0	142	5710	18.00	
	106	5530	14.50	
	122	5610	17.00	
		138	5690	18.00



Burst Average Power (dBm)						
	Transmit Antenna			MIMO Ant 4+3		
	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
5.5GHz WLAN	802.11a 6Mbps	100	5500	17.00	17.00	20.0
		116	5580	18.50	18.50	21.5
		124	5620	16.50	16.50	19.5
		132	5660	16.50	16.50	19.5
		144	5720	18.50	18.50	21.5
	802.11n-HT20 MCS0	100	5500	17.50	17.50	20.5
		116	5580	19.00	19.00	22.0
		124	5620	15.50	15.50	18.5
		132	5660	15.50	15.50	18.5
		144	5720	19.00	19.00	22.0
	802.11n-HT40 MCS0	102	5510	16.00	16.00	19.0
		110	5550	18.00	18.00	21.0
		126	5630	17.50	17.50	20.5
		134	5670	17.50	17.50	20.5
		142	5710	18.00	18.00	21.0
	802.11ac-VHT20 MCS0	100	5500	17.50	17.50	20.5
		116	5580	19.00	19.00	22.0
		124	5620	15.50	15.50	18.5
		132	5660	15.50	15.50	18.5
		144	5720	19.00	19.00	22.0
	802.11ac-VHT40 MCS0	102	5510	16.00	16.00	19.0
		110	5550	18.00	18.00	21.0
		126	5630	17.50	17.50	20.5
		134	5670	17.50	17.50	20.5
		142	5710	18.00	18.00	21.0
	802.11ac-VHT80 MCS0	106	5530	14.50	14.50	17.5
		122	5610	17.00	17.00	20.0
		138	5690	18.00	18.00	21.0
	802.11ax-HE20 MCS0	100	5500	17.50	17.50	20.5
		116	5580	19.00	19.00	22.0
		124	5620	15.50	15.50	18.5
		132	5660	15.50	15.50	18.5
		144	5720	19.00	19.00	22.0
	802.11ax-HE40 MCS0	102	5510	16.00	16.00	19.0
		110	5550	18.00	18.00	21.0
		126	5630	17.50	17.50	20.5
		134	5670	17.50	17.50	20.5
		142	5710	18.00	18.00	21.0
	802.11ax-HE80 MCS0	106	5530	14.50	14.50	17.5
		122	5610	17.00	17.00	20.0
138		5690	18.00	18.00	21.0	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	149	5745	19.50
		157	5785	19.50
		165	5825	19.50
	802.11n-HT20 MCS0	149	5745	19.50
		157	5785	19.50
		165	5825	19.50
	802.11n-HT40 MCS0	151	5755	18.00
		159	5795	18.00
	802.11ac-VHT20 MCS0	149	5745	19.00
		157	5785	19.00
		165	5825	19.00
	802.11ac-VHT40 MCS0	151	5755	18.00
		159	5795	18.00
802.11ac-VHT80 MCS0	155	5775	18.00	
	149	5745	19.00	
802.11ax-HE20 MCS0	157	5785	19.00	
	165	5825	19.00	
802.11ax-HE40 MCS0	151	5755	18.00	
	159	5795	18.00	
802.11ax-HE80 MCS0	155	5775	18.00	

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	149	5745	19.50	19.50	22.5
		157	5785	19.50	19.50	22.5
		165	5825	19.50	19.50	22.5
	802.11n-HT20 MCS0	149	5745	19.50	19.50	22.5
		157	5785	19.50	19.50	22.5
		165	5825	19.50	19.50	22.5
	802.11n-HT40 MCS0	151	5755	18.00	18.00	21.0
		159	5795	18.00	18.00	21.0
	802.11ac-VHT20 MCS0	149	5745	19.00	19.00	22.0
		157	5785	19.00	19.00	22.0
		165	5825	19.00	19.00	22.0
	802.11ac-VHT40 MCS0	151	5755	18.00	18.00	21.0
		159	5795	18.00	18.00	21.0
802.11ac-VHT80 MCS0	155	5775	18.00	18.00	21.0	
	149	5745	19.00	19.00	22.0	
802.11ax-HE20 MCS0	157	5785	19.00	19.00	22.0	
	165	5825	19.00	19.00	22.0	
802.11ax-HE40 MCS0	151	5755	18.00	18.00	21.0	
	159	5795	18.00	18.00	21.0	
802.11ax-HE80 MCS0	155	5775	18.00	18.00	21.0	



Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
5.9GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	169	5845	19.50
		173	5865	19.50
		177	5885	19.00
	802.11n-HT20 MCS0	169	5845	19.50
		173	5865	19.50
		177	5885	19.50
	802.11n-HT40 MCS0	167	5835	18.00
		175	5875	18.00
	802.11ac-VHT20 MCS0	169	5845	19.00
		173	5865	19.00
		177	5885	19.00
	802.11ac-VHT40 MCS0	167	5835	18.00
		175	5875	18.00
802.11ac-VHT80 MCS0	171	5855	17.00	
	169	5845	19.00	
802.11ax-HE20 MCS0	173	5865	19.00	
	177	5885	19.00	
	167	5835	18.00	
802.11ax-HE40 MCS0	175	5875	18.00	
	171	5855	17.00	

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
5.9GHz WLAN	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	169	5845	19.50	19.50	22.5
		173	5865	19.50	19.50	22.5
		177	5885	19.00	19.00	22.0
	802.11n-HT20 MCS0	169	5845	19.50	19.50	22.5
		173	5865	19.50	19.50	22.5
		177	5885	19.50	19.50	22.5
	802.11n-HT40 MCS0	167	5835	18.00	18.00	21.0
		175	5875	18.00	18.00	21.0
	802.11ac-VHT20 MCS0	169	5845	19.00	19.00	22.0
		173	5865	19.00	19.00	22.0
		177	5885	19.00	19.00	22.0
	802.11ac-VHT40 MCS0	167	5835	18.00	18.00	21.0
		175	5875	18.00	18.00	21.0
802.11ac-VHT80 MCS0	171	5855	17.00	17.00	20.0	
	169	5845	19.00	19.00	22.0	
802.11ax-HE20 MCS0	173	5865	19.00	19.00	22.0	
	177	5885	19.00	19.00	22.0	
	167	5835	18.00	18.00	21.0	
802.11ax-HE40 MCS0	175	5875	18.00	18.00	21.0	
	171	5855	17.00	17.00	20.0	



<Maximum Power - Power Index 0> - Standard Power client (SP)

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	1	5955	19.00
		49	6195	20.00
		93	6415	20.00
		117	6535	20.00
		149	6695	20.00
		181	6855	20.00
	802.11ax-HE20 MCS0	1	5955	19.00
		49	6195	19.00
		93	6415	19.00
		117	6535	19.00
		149	6695	19.00
		181	6855	19.00
	802.11ax-HE40 MCS0	3	5965	18.00
		51	6205	18.00
		91	6405	18.00
		123	6565	18.00
		147	6685	18.00
		179	6845	18.00
	802.11ax-HE80 MCS0	7	5985	17.50
55		6225	18.00	
87		6385	18.00	
135		6625	17.50	
151		6705	18.00	
167		6785	18.00	

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	1	5955	19.00	19.00	22.0
		49	6195	20.00	20.00	23.0
		93	6415	20.00	20.00	23.0
		117	6535	20.00	20.00	23.0
		149	6695	20.00	20.00	23.0
		181	6855	20.00	20.00	23.0
	802.11ax-HE20 MCS0	1	5955	19.00	19.00	22.0
		49	6195	19.00	19.00	22.0
		93	6415	19.00	19.00	22.0
		117	6535	19.00	19.00	22.0
		149	6695	19.00	19.00	22.0
		181	6855	19.00	19.00	22.0
	802.11ax-HE40 MCS0	3	5965	18.00	18.00	21.0
		51	6205	18.00	18.00	21.0
		91	6405	18.00	18.00	21.0
		123	6565	18.00	18.00	21.0
		147	6685	18.00	18.00	21.0
		179	6845	18.00	18.00	21.0
	802.11ax-HE80 MCS0	7	5985	17.50	17.50	20.5
55		6225	18.00	18.00	21.0	
87		6385	18.00	18.00	21.0	
135		6625	17.50	17.50	20.5	
151		6705	18.00	18.00	21.0	
167		6785	18.00	18.00	21.0	



<Power Index 1> - Standard Power client (SP)

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	1	5955	14.00
		57	6235	14.00
		173	6815	14.00
	802.11ax-HE20 MCS0	1	5955	14.00
		57	6235	14.00
		173	6815	14.00
	802.11ax-HE40 MCS0	3	5965	14.00
		59	6245	14.00
		171	6805	14.00
	802.11ax-HE80 MCS0	7	5985	14.00
		71	6305	14.00
167		6785	14.00	

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	1	5955	14.00	14.00	17.0
		57	6235	14.00	14.00	17.0
		173	6815	14.00	14.00	17.0
	802.11ax-HE20 MCS0	1	5955	14.00	14.00	17.0
		57	6235	14.00	14.00	17.0
		173	6815	14.00	14.00	17.0
	802.11ax-HE40 MCS0	3	5965	14.00	14.00	17.0
		59	6245	14.00	14.00	17.0
		171	6805	14.00	14.00	17.0
	802.11ax-HE80 MCS0	7	5985	14.00	14.00	17.0
		71	6305	14.00	14.00	17.0
167		6785	14.00	14.00	17.0	



<Power Index 2> - Standard Power client (SP)

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	1	5955	14.00
		57	6235	14.00
		173	6815	14.00
	802.11ax-HE20 MCS0	1	5955	14.00
		57	6235	14.00
		173	6815	14.00
	802.11ax-HE40 MCS0	3	5965	14.00
		59	6245	14.00
		171	6805	14.00
	802.11ax-HE80 MCS0	7	5985	14.00
		71	6305	14.00
		167	6785	14.00



<Power Index 3> - Standard Power client (SP)

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	1	5955	10.50
		57	6235	10.50
		173	6815	10.50
	802.11ax-HE20 MCS0	1	5955	10.50
		57	6235	10.50
		173	6815	10.50
	802.11ax-HE40 MCS0	3	5965	10.50
		59	6245	10.50
		171	6805	10.50
	802.11ax-HE80 MCS0	7	5985	10.50
		71	6305	10.50
167		6785	10.50	

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	1	5955	10.50	10.50	13.5
		57	6235	10.50	10.50	13.5
		173	6815	10.50	10.50	13.5
	802.11ax-HE20 MCS0	1	5955	10.50	10.50	13.5
		57	6235	10.50	10.50	13.5
		173	6815	10.50	10.50	13.5
	802.11ax-HE40 MCS0	3	5965	10.50	10.50	13.5
		59	6245	10.50	10.50	13.5
		171	6805	10.50	10.50	13.5
	802.11ax-HE80 MCS0	7	5985	10.50	10.50	13.5
		71	6305	10.50	10.50	13.5
167		6785	10.50	10.50	13.5	



<Power Index 4> - Standard Power client (SP)

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	1	5955	13.50
		57	6235	13.50
		173	6815	13.50
	802.11ax-HE20 MCS0	1	5955	13.50
		57	6235	13.50
		173	6815	13.50
	802.11ax-HE40 MCS0	3	5965	13.50
		59	6245	13.50
		171	6805	13.50
	802.11ax-HE80 MCS0	7	5985	13.50
		71	6305	13.50
		167	6785	13.50



<Power Index 5> - Standard Power client (SP)

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	1	5955	19.00
		57	6235	20.00
		173	6815	20.00
	802.11ax-HE20 MCS0	1	5955	19.00
		57	6235	19.00
		173	6815	19.00
	802.11ax-HE40 MCS0	3	5965	18.00
		59	6245	18.00
		171	6805	18.00
	802.11ax-HE80 MCS0	7	5985	17.50
		71	6305	18.00
		167	6785	18.00

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	1	5955	19.00	19.00	22.0
		57	6235	20.00	20.00	23.0
		173	6815	20.00	20.00	23.0
	802.11ax-HE20 MCS0	1	5955	19.00	19.00	22.0
		57	6235	19.00	19.00	22.0
		173	6815	19.00	19.00	22.0
	802.11ax-HE40 MCS0	3	5965	18.00	18.00	21.0
		59	6245	18.00	18.00	21.0
		171	6805	18.00	18.00	21.0
	802.11ax-HE80 MCS0	7	5985	17.50	17.50	20.5
		71	6305	18.00	18.00	21.0
		167	6785	18.00	18.00	21.0



<Power Index 6> - Standard Power client (SP)

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	1	5955	19.00
		57	6235	20.00
		173	6815	20.00
	802.11ax-HE20 MCS0	1	5955	19.00
		57	6235	19.00
		173	6815	19.00
	802.11ax-HE40 MCS0	3	5965	18.00
		59	6245	18.00
		171	6805	18.00
	802.11ax-HE80 MCS0	7	5985	17.50
		71	6305	18.00
		167	6785	18.00



<Power Index 7> - Standard Power client (SP)

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	1	5955	19.00
		57	6235	20.00
		173	6815	20.00
	802.11ax-HE20 MCS0	1	5955	19.00
		57	6235	19.00
		173	6815	19.00
	802.11ax-HE40 MCS0	3	5965	18.00
		59	6245	18.00
		171	6805	18.00
	802.11ax-HE80 MCS0	7	5985	17.50
		71	6305	18.00
		167	6785	18.00

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	1	5955	19.00	19.00	22.0
		57	6235	20.00	20.00	23.0
		173	6815	20.00	20.00	23.0
	802.11ax-HE20 MCS0	1	5955	19.00	19.00	22.0
		57	6235	19.00	19.00	22.0
		173	6815	19.00	19.00	22.0
	802.11ax-HE40 MCS0	3	5965	18.00	18.00	21.0
		59	6245	18.00	18.00	21.0
		171	6805	18.00	18.00	21.0
	802.11ax-HE80 MCS0	7	5985	17.50	17.50	20.5
		71	6305	18.00	18.00	21.0
		167	6785	18.00	18.00	21.0



<Power Index 8> - Standard Power client (SP)

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	1	5955	19.00
		57	6235	20.00
		173	6815	20.00
	802.11ax-HE20 MCS0	1	5955	19.00
		57	6235	19.00
		173	6815	19.00
	802.11ax-HE40 MCS0	3	5965	18.00
		59	6245	18.00
		171	6805	18.00
	802.11ax-HE80 MCS0	7	5985	17.50
		71	6305	18.00
		167	6785	18.00



<Power Index 9> - Standard Power client (SP)

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	1	5955	19.00
		57	6235	20.00
		173	6815	20.00
	802.11ax-HE20 MCS0	1	5955	19.00
		57	6235	19.00
		173	6815	19.00
	802.11ax-HE40 MCS0	3	5965	18.00
		59	6245	18.00
		171	6805	18.00
	802.11ax-HE80 MCS0	7	5985	17.50
		71	6305	18.00
		167	6785	18.00

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	1	5955	19.00	19.00	22.0
		57	6235	20.00	20.00	23.0
		173	6815	20.00	20.00	23.0
	802.11ax-HE20 MCS0	1	5955	19.00	19.00	22.0
		57	6235	19.00	19.00	22.0
		173	6815	19.00	19.00	22.0
	802.11ax-HE40 MCS0	3	5965	18.00	18.00	21.0
		59	6245	18.00	18.00	21.0
		171	6805	18.00	18.00	21.0
	802.11ax-HE80 MCS0	7	5985	17.50	17.50	20.5
		71	6305	18.00	18.00	21.0
		167	6785	18.00	18.00	21.0



<Maximum Power - Power Index 0>- Low Power Indoor (LPI)

Burst Average Power (dBm)				
Transmit Antenna			SISO Ant 4	
Mode	Channel	Frequency (MHz)	Tune-Up	
			Limit	
802.11a 6Mbps	1	5955	6.5	
	49	6195	6.5	
	57	6235	6.5	
	93	6415	6.5	
	97	6435	7.5	
	105	6475	7.5	
	113	6515	7.5	
	117	6535	7.5	
	149	6695	7.5	
	173	6815	7.5	
	181	6855	7.5	
	185	6875	7.5	
189	6895	9		
209	6995	9		
229	7095	9		
802.11ax-HE20 MCS0	1	5955	7	
	49	6195	7	
	57	6235	7	
	93	6415	7	
	97	6435	8	
	105	6475	8	
	113	6515	8	
	117	6535	8	
	149	6695	8	
	173	6815	8	
	181	6855	8	
	185	6875	8	
189	6895	9		
209	6995	9		
229	7095	9		
802.11ax-HE40 MCS0	3	5965	9.5	
	51	6205	9.5	
	59	6245	9.5	
	91	6405	9.5	
	99	6445	10.5	
	107	6485	10.5	
	115	6525	10.5	
	123	6565	10.5	
	147	6685	10.5	
	171	6805	11	
	179	6845	10.5	
	187	6885	10.5	
195	6925	11.5		
211	7005	11.5		
227	7085	11.5		
802.11ax-HE80 MCS0	7	5985	13.5	
	55	6225	13.5	
	71	6305	13.5	
	87	6385	13.5	
	103	6465	14.5	
	119	6545	14.5	
	135	6625	14.5	
	151	6705	14.5	
	167	6785	14.5	
	183	6865	14.5	
199	6945	15		
215	7025	15		



Burst Average Power (dBm)						
WiFi 6E	Transmit Antenna		MIMO Ant 4+3			
	Mode	Channel	Frequency	Tune-Up	Tune-Up	Tune-Up
			(MHz)	Limit Ant 4+3(4)	Limit Ant 4+3(3)	Limit Ant 4+3
WiFi 6E	802.11a 6Mbps	1	5955	6.5	6.5	9.5
		49	6195	6.5	6.5	9.5
		57	6235	6.5	6.5	9.5
		93	6415	6.5	6.5	9.5
		97	6435	7.5	7.5	10.5
		105	6475	7.5	7.5	10.5
		113	6515	7.5	7.5	10.5
		117	6535	7.5	7.5	10.5
		149	6695	7.5	7.5	10.5
		173	6815	7.5	7.5	10.5
		181	6855	7.5	7.5	10.5
		185	6875	7.5	7.5	10.5
		189	6895	9	9	12
		209	6995	9	9	12
	229	7095	9	9	12	
	802.11ax-HE20 MCS0	1	5955	7	7	10
		49	6195	7	7	10
		57	6235	7	7	10
		93	6415	7	7	10
		97	6435	8	8	11
		105	6475	8	8	11
		113	6515	8	8	11
		117	6535	8	8	11
		149	6695	8	8	11
		173	6815	8	8	11
		181	6855	8	8	11
		185	6875	8	8	11
		189	6895	9	9	12
		209	6995	9	9	12
	229	7095	9	9	12	
	802.11ax-HE40 MCS0	3	5965	9.5	9.5	12.5
		51	6205	9.5	9.5	12.5
		59	6245	9.5	9.5	12.5
		91	6405	9.5	9.5	12.5
		99	6445	10.5	10.5	13.5
		107	6485	10.5	10.5	13.5
		115	6525	10.5	10.5	13.5
		123	6565	10.5	10.5	13.5
		147	6685	10.5	10.5	13.5
		171	6805	11	11	14
		179	6845	10.5	10.5	13.5
		187	6885	10.5	10.5	13.5
195		6925	11.5	11.5	14.5	
211		7005	11.5	11.5	14.5	
227	7085	11.5	11.5	14.5		
802.11ax-HE80 MCS0	7	5985	13.5	13.5	16.5	
	55	6225	13.5	13.5	16.5	
	71	6305	13.5	13.5	16.5	
	87	6385	13.5	13.5	16.5	
	103	6465	14.5	14.5	17.5	
	119	6545	14.5	14.5	17.5	
	135	6625	14.5	14.5	17.5	
	151	6705	14.5	14.5	17.5	
	167	6785	14.5	14.5	17.5	
	183	6865	14.5	14.5	17.5	
	199	6945	15	15	18	
	215	7025	15	15	18	



<Power Index 1>- Low Power Indoor (LPI)

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	1	5955	6.50
		57	6235	6.50
		113	6515	7.50
		173	6815	7.50
	802.11ax-HE20 MCS0	1	5955	7.00
		57	6235	7.00
		113	6515	8.00
		173	6815	8.00
	802.11ax-HE40 MCS0	3	5965	9.50
		59	6245	9.50
		107	6485	10.50
		171	6805	11.00
	802.11ax-HE80 MCS0	227	7085	11.50
		7	5985	13.50
		71	6305	13.50
119		6545	14.50	
167	6785	14.00		
215	7025	15.00		

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	1	5955	6.50	6.50	9.5
		57	6235	6.50	6.50	9.5
		113	6515	7.50	7.50	10.5
		173	6815	7.50	7.50	10.5
	802.11ax-HE20 MCS0	1	5955	7.00	7.00	10.0
		57	6235	7.00	7.00	10.0
		113	6515	8.00	8.00	11.0
		173	6815	8.00	8.00	11.0
	802.11ax-HE40 MCS0	3	5965	9.50	9.50	12.5
		59	6245	9.50	9.50	12.5
		107	6485	10.50	10.50	13.5
		171	6805	11.00	11.00	14.0
	802.11ax-HE80 MCS0	227	7085	11.50	11.50	14.5
		7	5985	13.50	13.50	16.5
		71	6305	13.50	13.50	16.5
119		6545	14.50	14.50	17.5	
167	6785	14.00	14.00	17.0		
215	7025	15.00	15.00	18.0		



<Power Index 2>- Low Power Indoor (LPI)

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	1	5955	6.50
		57	6235	6.50
		113	6515	7.50
		173	6815	7.50
	802.11ax-HE20 MCS0	1	5955	7.00
		57	6235	7.00
		113	6515	8.00
		173	6815	8.00
	802.11ax-HE40 MCS0	3	5965	9.50
		59	6245	9.50
		107	6485	10.50
		171	6805	11.00
	802.11ax-HE80 MCS0	227	7085	11.50
		7	5985	13.50
		71	6305	13.50
119		6545	14.50	
	167	6785	14.00	
	215	7025	15.00	



<Power Index 3>- Low Power Indoor (LPI)

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	1	5955	6.50
		57	6235	6.50
		113	6515	7.50
		173	6815	7.50
	802.11ax-HE20 MCS0	1	5955	7.00
		57	6235	7.00
		113	6515	8.00
		173	6815	8.00
	802.11ax-HE40 MCS0	3	5965	9.50
		59	6245	9.50
		107	6485	10.50
		171	6805	10.50
	802.11ax-HE80 MCS0	227	7085	11.50
		7	5985	10.50
		71	6305	10.50
119		6545	11.00	
	167	6785	10.50	
	215	7025	12.50	

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	1	5955	6.50	6.50	9.5
		57	6235	6.50	6.50	9.5
		113	6515	7.50	7.50	10.5
		173	6815	7.50	7.50	10.5
	802.11ax-HE20 MCS0	1	5955	7.00	7.00	10.0
		57	6235	7.00	7.00	10.0
		113	6515	8.00	8.00	11.0
		173	6815	8.00	8.00	11.0
	802.11ax-HE40 MCS0	3	5965	9.50	9.50	12.5
		59	6245	9.50	9.50	12.5
		107	6485	10.50	10.50	13.5
		171	6805	10.50	10.50	13.5
	802.11ax-HE80 MCS0	227	7085	11.50	11.50	14.5
		7	5985	10.50	10.50	13.5
		71	6305	10.50	10.50	13.5
119		6545	11.00	11.00	14.0	
	167	6785	10.50	10.50	13.5	
	215	7025	12.50	12.50	15.5	



<Power Index 4>- Low Power Indoor (LPI)

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	1	5955	6.50
		57	6235	6.50
		113	6515	7.50
		173	6815	7.50
	802.11ax-HE20 MCS0	1	5955	7.00
		57	6235	7.00
		113	6515	8.00
		173	6815	8.00
	802.11ax-HE40 MCS0	3	5965	9.50
		59	6245	9.50
		107	6485	10.50
		171	6805	11.00
	802.11ax-HE80 MCS0	227	7085	11.50
		7	5985	13.50
		71	6305	13.50
119		6545	14.00	
	167	6785	13.50	
	215	7025	15.00	



<Power Index 5>- Low Power Indoor (LPI)

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	1	5955	6.50
		57	6235	6.50
		113	6515	7.50
		173	6815	7.50
	802.11ax-HE20 MCS0	1	5955	7.00
		57	6235	7.00
		113	6515	8.00
		173	6815	8.00
	802.11ax-HE40 MCS0	3	5965	9.50
		59	6245	9.50
		107	6485	10.50
		171	6805	11.00
	802.11ax-HE80 MCS0	227	7085	11.50
		7	5985	13.50
		71	6305	13.50
119		6545	14.50	
	167	6785	14.50	
	215	7025	15.00	

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	1	5955	6.50	6.50	9.5
		57	6235	6.50	6.50	9.5
		113	6515	7.50	7.50	10.5
		173	6815	7.50	7.50	10.5
	802.11ax-HE20 MCS0	1	5955	7.00	7.00	10.0
		57	6235	7.00	7.00	10.0
		113	6515	8.00	8.00	11.0
		173	6815	8.00	8.00	11.0
	802.11ax-HE40 MCS0	3	5965	9.50	9.50	12.5
		59	6245	9.50	9.50	12.5
		107	6485	10.50	10.50	13.5
		171	6805	11.00	11.00	14.0
	802.11ax-HE80 MCS0	227	7085	11.50	11.50	14.5
		7	5985	13.50	13.50	16.5
		71	6305	13.50	13.50	16.5
119		6545	14.50	14.50	17.5	
	167	6785	14.50	14.50	17.5	
	215	7025	15.00	15.00	18.0	



<Power Index 6>- Low Power Indoor (LPI)

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	1	5955	6.50
		57	6235	6.50
		113	6515	7.50
		173	6815	7.50
	802.11ax-HE20 MCS0	1	5955	7.00
		57	6235	7.00
		113	6515	8.00
		173	6815	8.00
	802.11ax-HE40 MCS0	3	5965	9.50
		59	6245	9.50
		107	6485	10.50
		171	6805	11.00
	802.11ax-HE80 MCS0	227	7085	11.50
		7	5985	13.50
		71	6305	13.50
119		6545	14.50	
	167	6785	14.50	
	215	7025	15.00	



<Power Index 7>- Low Power Indoor (LPI)

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	1	5955	6.50
		57	6235	6.50
		113	6515	7.50
		173	6815	7.50
	802.11ax-HE20 MCS0	1	5955	7.00
		57	6235	7.00
		113	6515	8.00
		173	6815	8.00
	802.11ax-HE40 MCS0	3	5965	9.50
		59	6245	9.50
		107	6485	10.50
		171	6805	11.00
	802.11ax-HE80 MCS0	227	7085	11.50
		7	5985	13.50
		71	6305	13.50
119		6545	14.50	
	167	6785	14.50	
	215	7025	15.00	

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	1	5955	6.50	6.50	9.5
		57	6235	6.50	6.50	9.5
		113	6515	7.50	7.50	10.5
		173	6815	7.50	7.50	10.5
	802.11ax-HE20 MCS0	1	5955	7.00	7.00	10.0
		57	6235	7.00	7.00	10.0
		113	6515	8.00	8.00	11.0
		173	6815	8.00	8.00	11.0
	802.11ax-HE40 MCS0	3	5965	9.50	9.50	12.5
		59	6245	9.50	9.50	12.5
		107	6485	10.50	10.50	13.5
		171	6805	11.00	11.00	14.0
	802.11ax-HE80 MCS0	227	7085	11.50	11.50	14.5
		7	5985	13.50	13.50	16.5
		71	6305	13.50	13.50	16.5
119		6545	14.50	14.50	17.5	
	167	6785	14.50	14.50	17.5	
	215	7025	15.00	15.00	18.0	



<Power Index 8>- Low Power Indoor (LPI)

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	1	5955	6.50
		57	6235	6.50
		113	6515	7.50
		173	6815	7.50
	802.11ax-HE20 MCS0	1	5955	7.00
		57	6235	7.00
		113	6515	8.00
		173	6815	8.00
	802.11ax-HE40 MCS0	3	5965	9.50
		59	6245	9.50
		107	6485	10.50
		171	6805	11.00
	802.11ax-HE80 MCS0	227	7085	11.50
		7	5985	13.50
		71	6305	13.50
119		6545	14.50	
	167	6785	14.50	
	215	7025	15.00	



<Power Index 9>- Low Power Indoor (LPI)

Burst Average Power (dBm)				
Transmit Antenna				SISO Ant 4
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit
	802.11a 6Mbps	1	5955	6.50
		57	6235	6.50
		113	6515	7.50
		173	6815	7.50
	802.11ax-HE20 MCS0	1	5955	7.00
		57	6235	7.00
		113	6515	8.00
		173	6815	8.00
	802.11ax-HE40 MCS0	3	5965	9.50
		59	6245	9.50
		107	6485	10.50
		171	6805	11.00
	802.11ax-HE80 MCS0	227	7085	11.50
		7	5985	13.50
		71	6305	13.50
119		6545	14.50	
167	6785	14.50		
215	7025	15.00		

Burst Average Power (dBm)						
Transmit Antenna				MIMO Ant 4+3		
WiFi 6E	Mode	Channel	Frequency (MHz)	Tune-Up Limit Ant 4+3(4)	Tune-Up Limit Ant 4+3(3)	Tune-Up Limit Ant 4+3
	802.11a 6Mbps	1	5955	6.50	6.50	9.5
		57	6235	6.50	6.50	9.5
		113	6515	7.50	7.50	10.5
		173	6815	7.50	7.50	10.5
	802.11ax-HE20 MCS0	1	5955	7.00	7.00	10.0
		57	6235	7.00	7.00	10.0
		113	6515	8.00	8.00	11.0
		173	6815	8.00	8.00	11.0
	802.11ax-HE40 MCS0	3	5965	9.50	9.50	12.5
		59	6245	9.50	9.50	12.5
		107	6485	10.50	10.50	13.5
		171	6805	11.00	11.00	14.0
	802.11ax-HE80 MCS0	227	7085	11.50	11.50	14.5
		7	5985	13.50	13.50	16.5
		71	6305	13.50	13.50	16.5
119		6545	14.50	14.50	17.5	
167	6785	14.50	14.50	17.5		
215	7025	15.00	15.00	18.0		



<Bluetooth Maximum Power>

General Note:

1. The device implements the power management for Bluetooth SAR compliance for different exposure conditions and user cases. In each exposure condition, the power index selection is determined by the user cases as tested in Section 17 of this report. Full details about the proprietary power management decision are illustrated in the operational description.

<Maximum Power – Power Index 0>

Burst Average Power (dBm)					
	Transmit Antenna			SISO Ant 4	SISO Ant 3
	Mode	Channel	Frequency (MHz)	Tune-Up Limit	Tune-Up Limit
Bluetooth	BR / EDR 1Mbps	0	2402	21.00	21.00
		39	2441	21.00	21.00
		78	2480	21.00	21.00
	BR / EDR 2Mbps	0	2402	18.50	18.50
		39	2441	18.50	18.50
		78	2480	18.50	18.50
	BR / EDR 3Mbps	0	2402	18.00	18.00
		39	2441	18.00	18.00
		78	2480	18.00	18.00
	LE 1Mbps	0	2402	21.00	21.00
		19	2440	21.00	21.00
		39	2480	21.00	21.00
	LE 2Mbps	0	2402	21.00	21.00
		19	2440	21.00	21.00
		39	2480	21.00	21.00
	LE CS ASK 1Mbps	2	2404	9.50	9.50
		38	2440	10.50	10.50
		76	2478	9.50	9.50
	LE CS ASK 2Mbps	2	2404	9.50	9.50
		38	2440	10.50	10.50
		76	2478	9.50	9.50
	LE CS GFSK 1Mbps	2	2404	9.00	9.00
		38	2440	10.50	10.50
		76	2478	9.00	9.00
	LE CS GFSK 2Mbps	2	2404	9.00	9.00
		38	2440	10.50	10.50
		76	2478	9.00	9.00
	HR 2Mbps	0	2402	18.50	18.50
		39	2441	18.50	18.50
		78	2480	18.50	18.50
HR 4Mbps	2	2404	18.50	18.50	
	39	2441	18.50	18.50	
	76	2478	18.50	18.50	
HR 8Mbps	2	2404	18.50	18.50	
	39	2441	18.50	18.50	
	76	2478	13.50	15.00	



<Power Index 1>

Burst Average Power (dBm)					
	Transmit Antenna			SISO Ant 4	SISO Ant 3
	Mode	Channel	Frequency (MHz)	Tune-Up Limit	Tune-Up Limit
Bluetooth	BR / EDR 1Mbps	0	2402	9.50	9.50
		39	2441	9.50	9.50
		78	2480	9.50	9.50
	BR / EDR 2Mbps	0	2402	9.50	9.50
		39	2441	9.50	9.50
		78	2480	9.50	9.50
	BR / EDR 3Mbps	0	2402	9.50	9.50
		39	2441	9.50	9.50
		78	2480	9.50	9.50
	LE 1Mbps	0	2402	9.50	9.50
		19	2440	9.50	9.50
		39	2480	9.50	9.50
	LE 2Mbps	0	2402	9.50	9.50
		19	2440	9.50	9.50
		39	2480	9.50	9.50
	LE CS ASK 1Mbps	2	2404	9.50	9.50
		38	2440	9.50	9.50
		76	2478	9.50	9.50
	LE CS ASK 2Mbps	2	2404	9.50	9.50
		38	2440	9.50	9.50
		76	2478	9.50	9.50
	LE CS GFSK 1Mbps	2	2404	9.00	9.00
		38	2440	9.50	9.50
		76	2478	9.00	9.00
	LE CS GFSK 2Mbps	2	2404	9.00	9.00
		38	2440	9.50	9.50
		76	2478	9.00	9.00
	HR 2Mbps	0	2402	9.50	9.50
		39	2441	9.50	9.50
		78	2480	9.50	9.50
HR 4Mbps	2	2404	9.50	9.50	
	39	2441	9.50	9.50	
	76	2478	9.50	9.50	
HR 8Mbps	2	2404	9.50	9.50	
	39	2441	9.50	9.50	
	76	2478	9.50	9.50	



<Power Index 2>

Burst Average Power (dBm)					
	Transmit Antenna			SISO Ant 4	SISO Ant 3
	Mode	Channel	Frequency (MHz)	Tune-Up Limit	Tune-Up Limit
Bluetooth	BR / EDR 1Mbps	0	2402	21.00	21.00
		39	2441	21.00	21.00
		78	2480	21.00	21.00
	BR / EDR 2Mbps	0	2402	18.50	18.50
		39	2441	18.50	18.50
		78	2480	18.50	18.50
	BR / EDR 3Mbps	0	2402	18.00	18.00
		39	2441	18.00	18.00
		78	2480	18.00	18.00
	LE 1Mbps	0	2402	21.00	21.00
		19	2440	21.00	21.00
		39	2480	21.00	21.00
	LE 2Mbps	0	2402	21.00	21.00
		19	2440	21.00	21.00
		39	2480	21.00	21.00
	LE CS ASK 1Mbps	2	2404	9.50	9.50
		38	2440	10.50	10.50
		76	2478	9.50	9.50
	LE CS ASK 2Mbps	2	2404	9.50	9.50
		38	2440	10.50	10.50
		76	2478	9.50	9.50
	LE CS GFSK 1Mbps	2	2404	9.00	9.00
		38	2440	10.50	10.50
		76	2478	9.00	9.00
	LE CS GFSK 2Mbps	2	2404	9.00	9.00
		38	2440	10.50	10.50
		76	2478	9.00	9.00
	HR 2Mbps	0	2402	18.50	18.50
		39	2441	18.50	18.50
		78	2480	18.50	18.50
HR 4Mbps	2	2404	18.50	18.50	
	39	2441	18.50	18.50	
	76	2478	18.50	18.50	
HR 8Mbps	2	2404	18.50	18.50	
	39	2441	18.50	18.50	
	76	2478	13.50	15.00	



<Power Index 3>

Burst Average Power (dBm)					
	Transmit Antenna			SISO Ant 4	SISO Ant 3
	Mode	Channel	Frequency (MHz)	Tune-Up Limit	Tune-Up Limit
Bluetooth	BR / EDR 1Mbps	0	2402	15.00	21.00
		39	2441	15.00	21.00
		78	2480	15.00	21.00
	BR / EDR 2Mbps	0	2402	15.00	18.50
		39	2441	15.00	18.50
		78	2480	15.00	18.50
	BR / EDR 3Mbps	0	2402	15.00	18.00
		39	2441	15.00	18.00
		78	2480	15.00	18.00
	LE 1Mbps	0	2402	15.00	21.00
		19	2440	15.00	21.00
		39	2480	15.00	21.00
	LE 2Mbps	0	2402	15.00	21.00
		19	2440	15.00	21.00
		39	2480	15.00	21.00
	LE CS ASK 1Mbps	2	2404	9.50	9.50
		38	2440	10.50	10.50
		76	2478	9.50	9.50
	LE CS ASK 2Mbps	2	2404	9.50	9.50
		38	2440	10.50	10.50
		76	2478	9.50	9.50
	LE CS GFSK 1Mbps	2	2404	9.00	9.00
		38	2440	10.50	10.50
		76	2478	9.00	9.00
	LE CS GFSK 2Mbps	2	2404	9.00	9.00
		38	2440	10.50	10.50
		76	2478	9.00	9.00
	HR 2Mbps	0	2402	15.00	18.50
		39	2441	15.00	18.50
		78	2480	15.00	18.50
	HR 4Mbps	2	2404	15.00	18.50
		39	2441	15.00	18.50
		76	2478	15.00	18.50
	HR 8Mbps	2	2404	15.00	18.50
		39	2441	15.00	18.50
		76	2478	13.50	15.00



< Power Index 4 >

Burst Average Power (dBm)					
	Transmit Antenna			SISO Ant 4	SISO Ant 3
	Mode	Channel	Frequency (MHz)	Tune-Up Limit	Tune-Up Limit
Bluetooth	BR / EDR 1Mbps	0	2402	15.00	15.00
		39	2441	15.00	15.00
		78	2480	15.00	15.00
	BR / EDR 2Mbps	0	2402	15.00	15.00
		39	2441	15.00	15.00
		78	2480	15.00	15.00
	BR / EDR 3Mbps	0	2402	15.00	15.00
		39	2441	15.00	15.00
		78	2480	15.00	15.00
	LE 1Mbps	0	2402	15.00	15.00
		19	2440	15.00	15.00
		39	2480	15.00	15.00
	LE 2Mbps	0	2402	15.00	15.00
		19	2440	15.00	15.00
		39	2480	15.00	15.00
	LE CS ASK 1Mbps	2	2404	9.50	9.50
		38	2440	10.50	10.50
		76	2478	9.50	9.50
	LE CS ASK 2Mbps	2	2404	9.50	9.50
		38	2440	10.50	10.50
		76	2478	9.50	9.50
	LE CS GFSK 1Mbps	2	2404	9.00	9.00
		38	2440	10.50	10.50
		76	2478	9.00	9.00
	LE CS GFSK 2Mbps	2	2404	9.00	9.00
		38	2440	10.50	10.50
		76	2478	9.00	9.00
	HR 2Mbps	0	2402	15.00	15.00
		39	2441	15.00	15.00
		78	2480	15.00	15.00
	HR 4Mbps	2	2404	15.00	15.00
		39	2441	15.00	15.00
		76	2478	15.00	15.00
	HR 8Mbps	2	2404	15.00	15.00
		39	2441	15.00	15.00
		76	2478	13.50	15.00



6.3 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																															
FCC ID	A4RGKV4X																																																														
Equipment Name	Phone																																																														
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 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 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz																																																														
Channel Bandwidth	LTE Band 2: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5: 1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12: 1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 14: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 25: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 30: 5MHz, 10MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 48: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz																																																														
uplink modulations used	QPSK / 16QAM / 64QAM / 256QAM																																																														
LTE Voice / Data requirements	Voice and Data																																																														
LTE MPR permanently built-in by design	<p>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</p> <table border="1"> <thead> <tr> <th rowspan="2">Modulation</th> <th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th> <th rowspan="2">MPR (dB)</th> </tr> <tr> <th>1.4 MHz</th> <th>3.0 MHz</th> <th>5 MHz</th> <th>10 MHz</th> <th>15 MHz</th> <th>20 MHz</th> </tr> </thead> <tbody> <tr> <td>QPSK</td> <td>> 5</td> <td>> 4</td> <td>> 8</td> <td>> 12</td> <td>> 16</td> <td>> 18</td> <td>≤ 1</td> </tr> <tr> <td>16 QAM</td> <td>≤ 5</td> <td>≤ 4</td> <td>≤ 8</td> <td>≤ 12</td> <td>≤ 16</td> <td>≤ 18</td> <td>≤ 1</td> </tr> <tr> <td>16 QAM</td> <td>> 5</td> <td>> 4</td> <td>> 8</td> <td>> 12</td> <td>> 16</td> <td>> 18</td> <td>≤ 2</td> </tr> <tr> <td>64 QAM</td> <td>≤ 5</td> <td>≤ 4</td> <td>≤ 8</td> <td>≤ 12</td> <td>≤ 16</td> <td>≤ 18</td> <td>≤ 2</td> </tr> <tr> <td>64 QAM</td> <td>> 5</td> <td>> 4</td> <td>> 8</td> <td>> 12</td> <td>> 16</td> <td>> 18</td> <td>≤ 3</td> </tr> <tr> <td>256 QAM</td> <td colspan="6">≥ 1</td> <td>≤ 5</td> </tr> </tbody> </table>	Modulation	Channel bandwidth / Transmission bandwidth (N _{RB})						MPR (dB)	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1	16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1	16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2	64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2	64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3	256 QAM	≥ 1						≤ 5
Modulation	Channel bandwidth / Transmission bandwidth (N _{RB})						MPR (dB)																																																								
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz																																																									
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1																																																								
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1																																																								
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2																																																								
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2																																																								
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3																																																								
256 QAM	≥ 1						≤ 5																																																								
LTE A-MPR	In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)																																																														
Spectrum plots for RB configuration	A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.																																																														
Power reduction applied to satisfy SAR compliance	The device has several different power modes for each exposure conditions SAR compliance; power selection is determined by the device's positioning and usage scenarios. Detail refer to operational description.																																																														
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power measurement please referred to reference model FCC ID: A4RG8HHN, Part1 SAR report section 13.																																																														
LTE Carrier Aggregation Additional Information	This device supports maximum of 6 carriers in the downlink and 2 carriers in the uplink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICl, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.																																																														

Transmission (H, M, L) channel numbers and frequencies in each LTE band												
LTE Band 2												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900
LTE Band 4												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745
LTE Band 5												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20407	824.7	20415	825.5	20425	826.5	20450	829	20450	829	20450	829
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5
H	20643	848.3	20635	847.5	20625	846.5	20600	844	20600	844	20600	844
LTE Band 7												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510	20850	2510	20850	2510
M	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560	21350	2560	21350	2560
LTE Band 12												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704	23060	704	23060	704
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5
H	23173	715.3	23165	714.5	23155	713.5	23130	711	23130	711	23130	711
LTE Band 13												
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 10 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23205		779.5		23230		782		23230		782	
M	23230		782		23230		782		23230		782	
H	23255		784.5		23230		782		23230		782	
LTE Band 14												
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 10 MHz			
	Channel #		Channel #		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23305		790.5		23330		793		23330		793	
M	23330		793		23330		793		23330		793	
H	23355		795.5		23330		793		23330		793	
LTE Band 17												
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 10 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23755		706.5		23780		709		23780		709	
M	23790		710		23790		710		23790		710	
H	23825		713.5		23800		711		23800		711	



LTE Band 25												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905
LTE Band 26												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz			
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5	26765	821.5
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5	26965	841.5
LTE Band 30												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)					
L	27685		2307.5		27710		2310					
M	27710		2310									
H	27735		2312.5									
LTE Band 38												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580				
M	38000	2595	38000	2595	38000	2595	38000	2595				
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610				
LTE Band 41												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506				
L	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5				
M	40620	2593	40620	2593	40620	2593	40620	2593				
H	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5				
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680				
LTE Band 48												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	55265	3552.5	55290	3555	55315	3557.5	55340	3560				
L	55810	3607	55815	3607.5	55820	3608	55830	3609				
M	56170	3643	56165	3642.5	56160	3642	56150	3641				
H	56715	3697.5	56690	3695	56665	3692.5	56640	3690				
LTE Band 66												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770
LTE Band 71												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	133147	665.5	133172	668	133197	670.5	133222	673				
M	133297	680.5	133297	680.5	133297	680.5	133297	680.5				
H	133447	695.5	133422	693	133397	690.5	133372	688				



6.4 General 5G NR SAR Test and Reporting Considerations

5G NR Information								
FCC	A4RGKV4X							
Equipment Name	Phone							
Operating Frequency Range of each 5G NR transmission band	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 n26 : 814 MHz ~ 849 MHz 5G NR n30 : 2305 MHz ~ 2315 MHz 5G NR n38: 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n48 : 3550 MHz ~ 3700 MHz 5G NR n66: 1710 MHz ~ 1780 MHz 5G NR n70 : 1695 MHz ~ 1710 MHz 5G NR n71: 663 MHz ~ 698 MHz 5G NR n77: 3700 MHz ~ 3980 MHz, 3450MHz ~ 3550MHz							
Channel Bandwidth	5G NR n2: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n5: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n7: 5MHz, 10MHz, 15MHz, 20MHz, 25 MHz, 30MHz, 40MHz, 50MHz 5G NR n12: 5MHz, 10MHz, 15MHz 5G NR n25: 5MHz, 10MHz, 15MHz, 20MHz, 25 MHz, 30MHz, 40MHz 5G NR n26: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n30: 5MHz, 10MHz 5G NR n38: 10MHz, 15MHz, 20MHz 5G NR n41: 10MHz, 15MHz, 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz 5G NR n48: 10MHz, 15MHz, 20MHz, 40MHz 5G NR n66: 5MHz, 10MHz, 15MHz, 20MHz, 25 MHz, 30MHz, 40MHz 5G NR n70: 5MHz, 10MHz, 15MHz 5G NR n71: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n77: 10MHz, 15MHz, 20MHz, 25 MHz, 30MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz							
SCS	FDD: SCS15KHz, TDD: SCS30KHz							
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM QPSK / 16QAM / 64QAM / 256QAM							
A-MPR (Additional MPR) disabled for SAR Testing?	Yes							
LTE Anchor Bands for n2	LTE B5/12/13/14/48/71							
LTE Anchor Bands for n5	LTE B2/7/30/48/66							
LTE Anchor Bands for n7	LTE B5/12/13/71							
LTE Anchor Bands for n12	LTE B2/7/48/66							
LTE Anchor Bands for n25	LTE B12/13/26/48							
LTE Anchor Bands for n26	LTE B7							
LTE Anchor Bands for n30	LTE B5/12/14							
LTE Anchor Bands for n38	LTE B2/5/12/66/71							
LTE Anchor Bands for n41	LTE B2/5/12/26/66/71							
LTE Anchor Bands for n48	LTE B2/66/71							
LTE Anchor Bands for n66	LTE B5/12/13/14/48/71							
LTE Anchor Bands for n71	LTE B2/7/48/66							
LTE Anchor Bands for n77	LTE B2/5/7/12/13/14/25/26/30/41/66							
NR Band 2								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	370500	1852.5	371000	1855	371500	1857.5	372000	1860
M	376000	1880	376000	1880	376000	1880	376000	1880
H	381500	1907.5	381000	1905	380500	1902.5	380000	1900
NR Band 5								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	165300	826.5	165800	829	166300	831.5	166800	834
M	167300	836.5	167300	836.5	167300	836.5	167300	836.5
H	169300	846.5	168800	844	168300	841.5	167800	839



NR Band 7																						
Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz								
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)							
L	500500	2502.5	501000	2505	501500	2507.5	502000	2510	502500	2512.5	503000	2515	504000	2520	505000	2525						
M	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535						
H	513500	2567.5	513000	2565	512500	2562.5	512000	2560	511500	2557.5	511000	2555	510000	2550	509000	2545						
NR Band 12																						
Bandwidth 5MHz				Bandwidth 10MHz				Bandwidth 15MHz														
Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)												
L	140300		701.5		140800		704		141300		706.5											
M	141500		707.5		141500		707.5		141500		707.5											
H	142700		713.5		142200		711		141700		708.5											
NR Band 25																						
Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz										
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)									
L	370500	1852.5	371000	1855	371500	1857.5	372000	1860	372500	1862.5	373000	1865	374000	1870								
M	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5								
H	382500	1912.5	382000	1910	381500	1907.5	381000	1905	380500	1902.5	380000	1900	379000	1895								
NR Band 26																						
Bandwidth 5MHz			Bandwidth 10MHz			Bandwidth 15MHz			Bandwidth 20MHz													
Ch. #		Freq. (MHz)	Ch. #		Freq. (MHz)	Ch. #		Freq. (MHz)	Ch. #		Freq. (MHz)											
L	163300		816.5	163800		819	164300		821.5	164800		824										
M	166300		831.5	166300		831.5	166300		831.5	166300		831.5										
H	169300		846.5	168800		844	168300		841.5	167800		839										
NR Band 30																						
Bandwidth 5MHz					Bandwidth 10MHz																	
Ch. #		Freq. (MHz)			Ch. #		Freq. (MHz)															
L	461500		2307.5			462000		2310														
M	462000		2310																			
H	462500		2312.5																			
NR Band 38																						
Bandwidth 10MHz				Bandwidth 15MHz				Bandwidth 20MHz														
Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)												
L	515004		2575.02		515502		2577.51		516000		2580											
M	519000		2595		519000		2595		519000		2595											
H	522996		2614.98		522498		2612.49		522000		2610											
NR Band 41																						
Bandwidth10MHz		Bandwidth15MHz		Bandwidth20MHz		Bandwidth30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth100MHz		
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	
L	500202	2501.01	500700	2503.5	501204	2506.02	502200	2511	503202	2516.01	504204	2521.02	505200	2526	506202	2531.01	507204	2536.02	508200	2541	509202	2546.01
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	537000	2685	536496	2682.48	535998	2679.99	534996	2674.98	534000	2670	532998	2664.99	531996	2659.98	531000	2655	529998	2649.99	528996	2644.98	528000	2640
NR Band 48																						
Bandwidth10MHz				Bandwidth 15MHz				Bandwidth20MHz				Bandwidth 40MHz										
Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)								
L	637000		3555		637168		3557.52		637334		3560.01		638000		3570							
M	641666		3624.99		641666		3624.99		641666		3624.99		641666		3624.99							
H	646332		3694.98		646166		3692.49		646000		3690		645332		3679.98							
NR Band 66																						
Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz										
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)									
L	342500	1712.5	343000	1715	343500	1717.5	344000	1720	344500	1722.5	345000	1725	346000	1730								
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745								
H	355500	1777.5	355000	1775	354500	1772.5	354000	1770	353500	1767.5	353000	1765	352000	1760								



NR Band 70																								
Bandwidth 5MHz						Bandwidth 10MHz						Bandwidth 15MHz												
Ch. #		Freq. (MHz)				Ch. #		Freq. (MHz)				Ch. #		Freq. (MHz)										
L	339500	1697.5				340000		1700				340500		1702.5										
M	340500	1702.5				340500		1702.5																
H	341500	1707.5				341000		1705																
NR Band 71																								
Bandwidth 5MHz				Bandwidth 10MHz				Bandwidth 15MHz				Bandwidth 20MHz												
Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)										
L	133100	665.5		133600		668		13410		670.5		134600		673										
M	136100	680.5		136100		680.5		136100		680.5		136100		680.5										
H	139100	695.5		138600		693		13810		690.5		137600		688										
NR Band 77																								
Bandwidth10MHz		Bandwidth15MHz		Bandwidth 20MHz		Bandwidth25MHz		Bandwidth30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth100MHz		
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	
L	647000	3705	647168	3707.52	647334	3710.01	647500	3712.5	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02	650000	3750
M	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H	665000	3975	664832	3972.48	664666	3969.99	664500	3967.50	664332	3964.98	664000	3960	663666	3954.99	663332	3949.98	663000	3945	662666	3939.99	662332	3934.98	662000	3930
NR Band 77 (3450MHz ~ 3550MHz)																								
Bandwidth10MHz		Bandwidth15MHz		Bandwidth 20MHz		Bandwidth25MHz		Bandwidth30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth100MHz		
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	
L	630334	3455.01	630500	3457.5	630668	3460.02	630834	3462.51	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495	633332	3499.98
M	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98		
H	636332	3544.98	636166	3542.49	636000	3540	635832	3537.48	635666	3534.99	635332	3529.98	635000	3525	634666	3519.99	634332	3514.98	634000	3510	633666	3504.99		



7. TAS feature for RF Exposure compliance

The FCC RF exposure limit is based on time-averaged RF exposure. Both SAR and PD regulatory specifications are defined over certain measurement duration allowing for time-averaging. The Samsung S.LSI proprietary TAS (Time Average SAR) algorithm has been designed to meet the compliance limits over the required duration, while still allowing dynamic control of transmit power for meeting system performance. Under the control of TAS algorithm, the device can transmit at high power up to Pmax for certain interval, but the average power will be maintained not exceeding the pre-defined averaged level (Plimit), and thus maintain the time-averaged RF exposure compliance

The following table shows Plimit and maximum tune up output power Pmax, for all exposure and transmit transmit conditions (output power index).

Pmax	Maximum Tx power that can be transmitted physically from RFIC for a given RAT
SAR_FCC_limit	SAR limit specified by FCC 1.6 W/kg averaged over 1-gram, for head and body exposure, and 4 W/kg averaged over 10-gram, for extremity exposure
Plimit	The time-averaged RF power that corresponds to SAR_target



7.1 SAR Characterization – Power Table

General Note:

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

<P_{limit} for supported technologies and bands (P_{limit} corresponding to SAR design target)>

Wireless technology/ band (No Accounting duty cycle)	Antenna	Duty cycle	Maximum Power Condition	Head		Hotspot	Body-worn		P Max Burst average power (dBm)	
				Standalone	Simultaneous	Simultaneous	Standalone	Simultaneous		
				Index 1	Index 2	Index 3	Index 4	Index 5		Index 6
				P limit						
Burst average power (dBm)										
GSM850 GSM/GPRS 1TX	0	12.50%	32.50	37.10	34.70	34.30	37.50	34.30	32.50	
GSM850 GPRS 2TX	0	25.00%	31.50	34.10	31.70	31.30	34.50	31.30	31.50	
GSM850 GPRS 3TX	0	37.50%	30.50	32.40	30.00	29.60	32.80	29.60	30.50	
GSM850 GPRS 4TX	0	50.00%	29.00	31.10	28.70	28.30	31.50	28.30	29.00	
GSM850 EDGE 1TX	0	12.50%	27.00	37.10	34.70	34.30	37.50	34.30	27.00	
GSM850 EDGE 2TX	0	25.00%	26.50	34.10	31.70	31.30	34.50	31.30	26.50	
GSM850 EDGE 3TX	0	37.50%	26.50	32.40	30.00	29.60	32.80	29.60	26.50	
GSM850 EDGE 4TX	0	50.00%	24.50	31.10	28.70	28.30	31.50	28.30	24.50	
GSM850 GSM/GPRS 1TX	1	12.50%	32.00	30.90	28.80	38.50	39.30	38.50	32.00	
GSM850 GPRS 2TX	1	25.00%	31.50	27.90	25.80	35.50	36.30	35.50	31.50	
GSM850 GPRS 3TX	1	37.50%	29.50	26.00	23.90	33.60	34.40	33.60	29.50	
GSM850 GPRS 4TX	1	50.00%	27.00	24.80	22.70	32.40	33.20	32.40	27.00	
GSM850 EDGE 1TX	1	12.50%	26.50	30.90	28.80	38.50	39.30	38.50	26.50	
GSM850 EDGE 2TX	1	25.00%	26.00	27.90	25.80	35.50	36.30	35.50	26.00	
GSM850 EDGE 3TX	1	37.50%	26.00	26.00	23.90	33.60	34.40	33.60	26.00	
GSM850 EDGE 4TX	1	50.00%	23.00	24.80	22.70	32.40	33.20	32.40	23.00	
GSM1900 GSM/GPRS 1TX	2	12.50%	29.50	35.70	32.50	29.60	30.40	29.60	29.50	
GSM1900 GPRS 2TX	2	25.00%	28.50	32.70	29.50	26.60	27.40	26.60	28.50	
GSM1900 GPRS 3TX	2	37.50%	28.00	30.90	27.70	24.80	25.60	24.80	28.00	
GSM1900 GPRS 4TX	2	50.00%	27.00	29.70	26.50	23.60	24.40	23.60	27.00	
GSM1900 EDGE 1TX	2	12.50%	25.00	35.70	32.50	29.60	30.40	29.60	25.00	
GSM1900 EDGE 2TX	2	25.00%	24.00	32.70	29.50	26.60	27.40	26.60	24.00	
GSM1900 EDGE 3TX	2	37.50%	24.00	30.90	27.70	24.80	25.60	24.80	24.00	
GSM1900 EDGE 4TX	2	50.00%	23.00	29.70	26.50	23.60	24.40	23.60	23.00	
GSM1900 GSM/GPRS 1TX	0	12.50%	29.00	34.90	34.10	32.80	34.90	34.10	29.00	
GSM1900 GPRS 2TX	0	25.00%	28.50	31.90	31.10	29.80	31.90	31.10	28.50	
GSM1900 GPRS 3TX	0	37.50%	27.50	30.10	29.30	28.00	30.10	29.30	27.50	
GSM1900 GPRS 4TX	0	50.00%	26.50	28.90	28.10	26.80	28.90	28.10	26.50	
GSM1900 EDGE 1TX	0	12.50%	25.00	34.90	34.10	32.80	34.90	34.10	25.00	
GSM1900 EDGE 2TX	0	25.00%	23.50	31.90	31.10	29.80	31.90	31.10	23.50	
GSM1900 EDGE 3TX	0	37.50%	23.50	30.10	29.30	28.00	30.10	29.30	23.50	
GSM1900 EDGE 4TX	0	50.00%	22.50	28.90	28.10	26.80	28.90	28.10	22.50	



<P_{limit} for supported technologies and bands (P_{limit} corresponding to SAR design target)>

Wireless technology/ band (Accounting duty cycle)	Antenna	Duty cycle	Maximum Power Condition	Head		Hotspot	Body-worn		P Max Time-average power (dBm)
				Standalone	Simultaneous	Simultaneous	Standalone	Simultaneous	
			Index 1	Index 2	Index 3	Index 4	Index 5	Index 6	
			P limit						
WCDMA B2	2	100.00%	24.70	26.30	24.30	19.70	20.50	19.70	24.70
WCDMA B2	0	100.00%	24.20	24.50	23.00	22.90	25.10	23.70	24.20
WCDMA B4	2	100.00%	24.70	26.70	24.10	21.70	22.50	21.70	24.70
WCDMA B4	0	100.00%	24.20	27.00	26.20	22.80	25.30	22.80	24.20
WCDMA B5	0	100.00%	24.70	28.10	27.30	24.70	30.10	29.30	24.70
WCDMA B5	1	100.00%	24.20	21.10	19.00	24.90	28.10	27.30	24.20
LTE B2	2	100.00%	24.70	25.70	23.70	19.90	20.70	19.90	24.70
LTE B2	0	100.00%	24.20	26.00	25.20	23.20	26.00	23.20	24.20
LTE B2	1	100.00%	24.70	19.80	19.00	25.90	27.90	27.10	24.70
LTE B2	5	100.00%	24.20	16.70	12.50	20.50	24.60	23.40	24.20
LTE B5	0	100.00%	24.70	27.60	26.80	25.10	27.50	26.70	24.70
LTE B5	1	100.00%	24.20	20.10	18.00	28.00	28.80	28.00	24.20
LTE B7	2	100.00%	24.70	23.50	21.50	18.20	22.60	21.30	24.70
LTE B7	0	100.00%	24.20	24.50	22.80	20.90	22.70	21.00	24.20
LTE B12	0	100.00%	24.80	30.00	29.20	26.30	28.10	27.30	24.80
LTE B12	1	100.00%	24.30	21.40	19.30	28.20	29.00	28.20	24.30
LTE B13	0	100.00%	24.70	27.00	26.20	23.60	26.30	23.60	24.70
LTE B13	1	100.00%	24.20	22.10	20.00	23.50	28.10	27.30	24.20
LTE B14	0	100.00%	24.70	26.80	26.00	23.30	26.30	23.60	24.70
LTE B14	1	100.00%	24.20	20.50	18.40	24.10	28.40	27.60	24.20
LTE B17	0	100.00%	24.70	29.90	29.10	26.20	28.00	27.20	24.70
LTE B17	1	100.00%	24.20	21.40	19.30	28.20	29.00	28.20	24.20
LTE B25	2	100.00%	24.70	25.70	23.70	19.90	20.70	19.90	24.70
LTE B25	0	100.00%	24.20	26.00	25.20	23.20	26.00	23.20	24.20
LTE B26	0	100.00%	24.70	27.60	26.80	25.10	27.50	26.70	24.70
LTE B26	1	100.00%	24.20	20.10	18.00	28.00	28.80	28.00	24.20
LTE B30	2	100.00%	23.00	24.90	22.90	19.30	20.10	19.30	23.00
LTE B30	0	100.00%	24.20	25.80	24.10	22.70	25.90	23.20	24.20
LTE B38 PC3	2	63.30%	22.70	22.10	20.10	17.90	22.60	21.50	22.70
LTE B38 PC3	0	63.30%	22.20	24.40	23.60	20.30	23.90	21.20	22.20
LTE B41 PC3	2	63.30%	22.70	22.10	20.10	17.90	22.60	21.50	22.70
LTE B41 PC3	0	63.30%	22.20	24.40	23.60	20.30	23.90	21.20	22.20
LTE B41/B38 PC2	2	43.30%	22.90	22.10	20.10	17.90	22.60	21.50	22.90
LTE B41/B38 PC2	0	43.30%	22.40	24.40	23.60	20.30	23.90	21.20	22.40
LTE B48	6	63.30%	22.20	23.50	22.00	18.60	21.60	20.80	22.20
LTE B48	2	63.30%	22.20	25.00	24.20	19.40	24.30	21.90	22.20
LTE B66/B4	2	100.00%	24.70	27.50	24.50	22.40	23.20	22.40	24.70
LTE B66/B4	0	100.00%	24.20	26.90	26.10	22.30	25.00	22.30	24.20
LTE B66	1	100.00%	24.70	20.40	19.60	26.00	27.80	27.00	24.70
LTE B66	5	100.00%	24.20	23.40	19.30	28.30	31.80	31.00	24.20
LTE B71	0	100.00%	24.80	29.60	28.80	26.80	27.70	26.90	24.80
LTE B71	1	100.00%	24.30	22.00	20.00	29.10	29.90	29.10	24.30

1. LTE and 5GNR TDD: P_{limit} power levels in the table correspond to the time-averaged power levels which accounts for TX duty cycle.
2. Maximum target power, P_{max}, is configured in NV settings in EUT to limit maximum transmitting power. This power is converted into peak power in NV settings for TDD schemes.

<P_{limit} for supported technologies and bands (P_{limit} corresponding to SAR design target)>

Wireless technology/ band (Accounting duty cycle)	Antenna	Duty cycle	Maximum Power Condition	Head		Hotspot	Body-worn		P Max Time-average power (dBm)
				Standalone	Simultaneous	Simultaneous	Standalone	Simultaneous	
			Index 1	Index 2	Index 3	Index 4	Index 5	Index 6	
			P limit						
FR1 n2	2	100.00%	24.70	25.80	24.10	19.20	20.00	19.20	24.70
FR1 n2	0	100.00%	24.20	25.00	23.50	23.00	25.60	23.40	24.20
FR1 n5	0	100.00%	24.70	27.70	26.90	24.50	27.40	26.60	24.70
FR1 n5	1	100.00%	24.20	21.20	19.20	27.60	28.40	27.60	24.20
FR1 n7	2	100.00%	24.70	25.00	23.00	19.00	22.90	22.00	24.70
FR1 n7	0	100.00%	24.20	24.20	22.70	20.30	22.60	20.70	24.20
FR1 n12	0	100.00%	24.80	28.70	27.90	27.00	28.00	27.20	24.80
FR1 n12	1	100.00%	24.30	22.40	20.30	29.50	30.40	29.60	24.30
FR1 n25	2	100.00%	24.70	25.80	24.10	19.20	20.00	19.20	24.70
FR1 n25	0	100.00%	24.20	25.00	23.50	23.00	25.60	23.40	24.20
FR1 n26	0	100.00%	24.70	27.70	26.90	24.50	27.40	26.60	24.70
FR1 n26	1	100.00%	24.20	21.20	19.20	27.60	28.40	27.60	24.20
FR1 n30	2	100.00%	23.00	25.40	22.90	19.80	20.60	19.80	23.00
FR1 n30	0	100.00%	24.20	24.70	23.80	22.50	24.90	23.10	24.20
FR1 n41/n38 PC3	2	100.00%	24.70	23.30	22.50	19.40	22.50	21.60	24.70
FR1 n41/n38 PC3	0	100.00%	24.20	24.20	23.40	20.30	24.20	23.40	24.20
FR1 n41 PC2	2	50.00%	23.50	23.30	22.50	19.40	22.50	21.60	23.50
FR1 n41 PC2	0	50.00%	23.00	24.20	23.40	20.30	24.20	23.40	23.00
FR1 n48	6	100.00%	24.20	24.40	23.60	18.60	21.30	20.50	24.20
FR1 n48	2	100.00%	24.20	25.50	23.50	19.40	23.90	22.40	24.20
FR1 n66	2	100.00%	24.70	26.40	24.40	22.00	22.80	22.00	24.70
FR1 n66	0	100.00%	24.20	26.80	26.00	22.60	25.30	22.60	24.20
FR1 n70	2	100.00%	24.70	27.10	26.30	22.40	23.60	22.40	24.70
FR1 n70	0	100.00%	24.20	32.50	31.70	21.50	22.60	21.80	24.20
FR1 n71	0	100.00%	24.80	30.60	29.80	26.50	27.40	26.60	24.80
FR1 n71	1	100.00%	24.30	22.20	20.10	28.80	29.70	28.90	24.30
FR1 n77 PC3	6	100.00%	24.20	22.70	21.90	17.80	20.10	19.30	24.20
FR1 n77 PC3	2	100.00%	23.20	23.50	21.50	18.00	20.10	18.80	23.20
FR1 n77 PC3	1	100.00%	24.00	16.20	15.40	22.10	25.90	25.10	24.00
FR1 n77 PC3	5	100.00%	24.00	15.30	11.10	18.70	23.60	21.20	24.00
FR1 n77 PC2	6	50.00%	23.30	22.70	21.90	17.80	20.10	19.30	23.30
FR1 n77 PC2	2	50.00%	22.20	23.50	21.50	18.00	20.10	18.80	22.20

1. LTE and 5G NR TDD: P_{limit} power levels in the table correspond to the time-averaged power levels which accounts for TX duty cycle.
2. Maximum target power, P_{max}, is configured in NV settings in EUT to limit maximum transmitting power. This power is converted into peak power in NV settings for TDD schemes.

8. RF Exposure Limits

8.1 Uncontrolled Environment

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

8.2 Controlled Environment

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

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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



According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Peak Spatially Averaged Power Density was evaluated over a circular area of 4cm² per interim FCC Guidance for near-field power density evaluations per October 2018 TCB Workshop notes

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

9. Specific Absorption Rate (SAR)

9.1 Introduction

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

9.2 SAR Definition

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

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

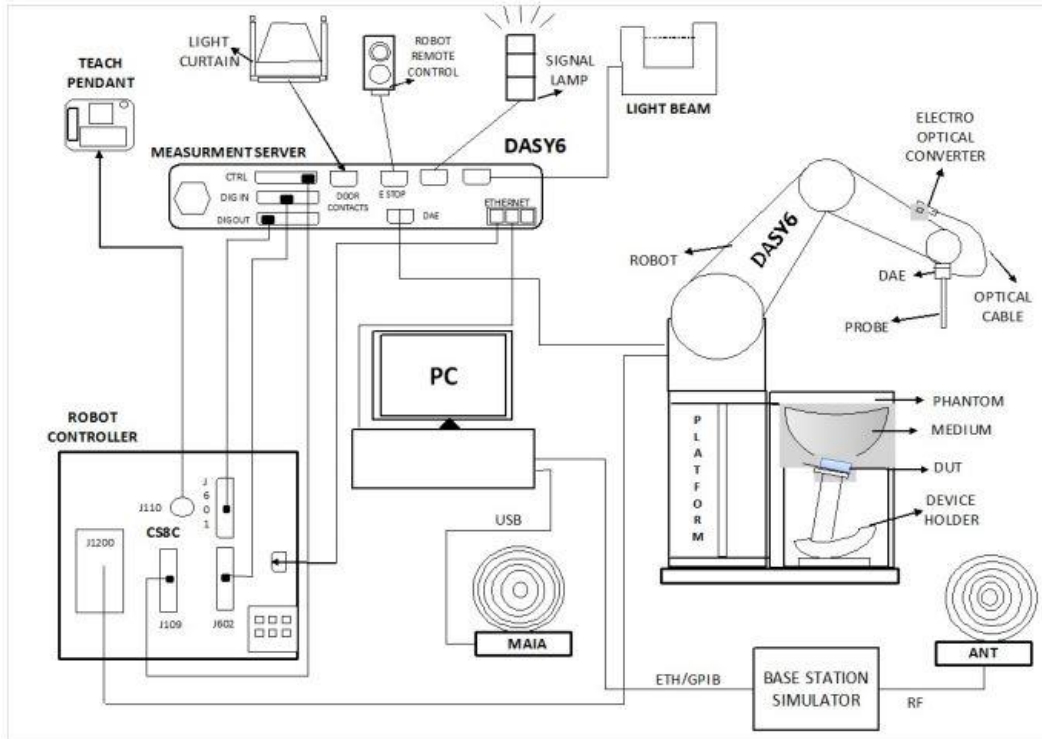
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

10. System Description and Setup

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



- The DASY system in DASY6/DASY5 V5.2 SAR Configuration is shown above
- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running windows software and the DASY5/DASY6 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

10.1 Test Site Location


The SAR measurement facilities used to collect data are within both Sporton Lab list below test site location are accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190 and 3786) and the FCC designation No. TW1190 and TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test.

Test Site	EMC & Wireless Communications Laboratory		Wensan Laboratory		
Test Site Location	TW1190 No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan		TW3786 No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan		
Test Site No.	SAR01-HY	SAR03-HY	SAR08-HY	SAR09-HY	SAR15-HY
	SAR04-HY	SAR05-HY	SAR11-HY	SAR12-HY	SAR16-HY
	SAR06-HY	SAR10-HY	SAR13-HY	SAR14-HY	SAR17-HY
			SAR18-HY	SAR-20HY	


10.2 E-Field Probe

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

<ES3DV3 Probe>

Construction	Symmetric design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz – 4 GHz; Linearity: ± 0.2 dB (30 MHz – 4 GHz)	
Directivity	± 0.2 dB in TSL (rotation around probe axis) ± 0.3 dB in TSL (rotation normal to probe axis)	
Dynamic Range	5 μ W/g – >100 mW/g; Linearity: ± 0.2 dB	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 3.9 mm (body: 12 mm) Distance from probe tip to dipole centers: 3.0 mm	

<EX3DV4 Probe>

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

10.3 Data Acquisition Electronics (DAE)

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

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

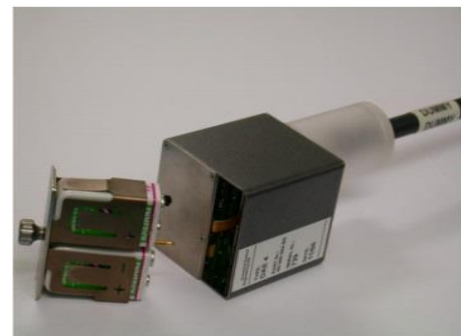


Fig 5.1 Photo of DAE

10.4 Phantom

<SAM Twin Phantom>

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



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

<ELI Phantom>

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



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

10.5 Device Holder

<Mounting Device for Hand-Held Transmitter>

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



Mounting Device for Hand-Held Transmitters



Mounting Device Adaptor for Wide-Phones

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

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



Mounting Device for Laptops



11. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

11.1 Spatial Peak SAR Evaluation

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

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

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

- (a) Extraction of the measured data (grid and values) from the Zoom Scan
- (b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
- (c) Generation of a high-resolution mesh within the measured volume
- (d) Interpolation of all measured values from the measurement grid to the high-resolution grid
- (e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
- (f) Calculation of the averaged SAR within masses of 1g and 10g

11.2 Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

11.3 Area Scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

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

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area} , Δy_{Area}	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

11.4 Zoom Scan

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

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

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

11.5 Volume Scan Procedures

The volume scan is used to assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

11.6 Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASYS measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drifts more than 5%, the SAR will be retested.



12. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit ⁽²⁾	D750V3	1107	Jun. 22, 2022	Jun. 20, 2024
SPEAG	835MHz System Validation Kit	D835V2	4d167	Nov. 24, 2022	Nov. 23, 2023
SPEAG	1750MHz System Validation Kit ⁽²⁾	D1750V2	1112	Jun. 22, 2022	Jun. 20, 2024
SPEAG	1900MHz System Validation Kit ⁽²⁾	D1900V2	5d185	Jun. 17, 2022	Jun. 15, 2024
SPEAG	2300MHz System Validation Kit ⁽²⁾	D2300V2	1006	Jan. 18, 2022	Jan. 16, 2024
SPEAG	2450MHz System Validation Kit	D2450V2	929	Nov. 21, 2022	Nov. 20, 2023
SPEAG	2600MHz System Validation Kit ⁽²⁾	D2600V2	1078	Jun. 23, 2022	Jun. 21, 2024
SPEAG	3500MHz System Validation Kit ⁽²⁾	D3500V2	1014	Jan. 17, 2022	Jan. 15, 2024
SPEAG	3500MHz System Validation Kit ⁽²⁾	D3500V2	1036	Mar. 23, 2022	Mar. 21, 2024
SPEAG	3900MHz System Validation Kit ⁽²⁾	D3900V2	1017	Apr. 22, 2022	Apr. 20, 2024
SPEAG	3900MHz System Validation Kit	D3900V2	1092	May. 15, 2023	May. 14, 2024
SPEAG	5GHz System Validation Kit ⁽²⁾	D5GHZV2	1006	May. 25, 2023	May. 23, 2025
SPEAG	5GHz System Validation Kit ⁽²⁾	D5GHZV2	1171	Apr. 20, 2021	Apr. 17, 2024
SPEAG	6500MHz System Validation Kit	D6.5GHZV2	1003	Mar. 15, 2023	Mar. 14, 2024
SPEAG	13MHz System Validation Kit ⁽²⁾	CLA13	1022	Sep. 01, 2022	Aug. 30, 2024
SPEAG	5G Verification Source	10GHz	1020	Jan. 20, 2023	Jan. 19, 2024
SPEAG	EUMMWV Probe Tip Protection	EUMMWV3	9424	Mar. 21, 2023	Mar. 20, 2024
SPEAG	Data Acquisition Electronics	DAE4	656	Jan. 23, 2023	Jan. 22, 2024
SPEAG	Data Acquisition Electronics	DAE4	661	May. 23, 2023	May. 22, 2024
SPEAG	Data Acquisition Electronics	DAE4	699	Feb. 22, 2023	Feb. 21, 2024
SPEAG	Data Acquisition Electronics	DAE4	1696	Nov. 09, 2022	Nov. 08, 2023
SPEAG	Data Acquisition Electronics	DAE4	1697	Dec. 15, 2022	Dec. 14, 2023
SPEAG	Data Acquisition Electronics	DAE4	1707	Dec. 15, 2022	Dec. 14, 2023
SPEAG	Dosimetric E-Field Probe	EX3DV4	3931	Oct. 31, 2022	Oct. 30, 2023
SPEAG	Dosimetric E-Field Probe	EX3DV4	7625	Jan. 26, 2023	Jan. 25, 2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	7692	Jul. 18, 2023	Jul. 17, 2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	7695	May. 22, 2023	May. 21, 2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	7700	Jan. 24, 2023	Jan. 23, 2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	7785	Jan. 05, 2023	Jan. 04, 2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	7791	Feb. 22, 2023	Feb. 21, 2024
RCPTWN	Thermometer	HTC-1	TM685-1	Mar. 21, 2023	Mar. 20, 2024
RCPTWN	Thermometer	HTC-1	TM560-2	Mar. 21, 2023	Mar. 20, 2024
Anritsu	Radio Communication Analyzer	MT8821C	6201074414	Aug. 23, 2023	Aug. 22, 2024
Keysight	Wireless Communication Test Set	E5515C	MY50266977	May. 15, 2023	May. 14, 2024
R&S	Wideband Radio Communication Tester	CMX500	101931	Jul. 20, 2023	Jul. 19, 2024
R&S	BT Base Station	CBT	100815	Mar. 05, 2023	Mar. 04, 2024
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3692A	212506	Nov. 14, 2022	Nov. 13, 2023
Keysight	ENA Network Analyzer	E5071C	MY46104758	Sep. 22, 2022	Sep. 21, 2023
Keysight	ENA Network Analyzer	E5071C	MY46316648	Sep. 07, 2023	Sep. 06, 2024
SPEAG	Dielectric Probe Kit	DAK-3.5	1146	Jul. 11, 2023	Jul. 10, 2024
SPEAG	Dielectric Probe Kit	DAK-12	1156	Jul. 17, 2023	Jul. 16, 2024
LINE SEIKI	Digital Thermometer	DTM3000-spezial	3690	Aug. 09, 2023	Aug. 08, 2024
Anritsu	Power Meter	ML2495A	1419002	Aug. 17, 2023	Aug. 16, 2024
Anritsu	Power Sensor	MA2411B	1911176	Aug. 18, 2023	Aug. 17, 2024
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jul. 10, 2023	Jul. 09, 2024
Mini-Circuits	Power Amplifier	ZHL-42W+	715701915	May. 19, 2023	May. 18, 2024
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.



13. System Verification

13.1 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 ± 2°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>

<Spot Check>

Frequency (MHz)	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ε _r)	Conductivity Target (σ)	Permittivity Target (ε _r)	Delta (σ) (%)	Delta (ε _r) (%)	Limit (%)	Date
13	22.3	0.728	54.685	0.75	55.00	-2.93	-0.57	±5	2023/10/13
750	22.6	0.895	43.400	0.89	41.90	0.56	3.58	±5	2023/9/12
750	22.4	0.890	41.900	0.89	41.90	0.00	0.00	±5	2023/9/14
750	22.3	0.887	41.700	0.89	41.90	-0.34	-0.48	±5	2023/9/16
750	22.4	0.883	41.600	0.89	41.90	-0.79	-0.72	±5	2023/9/18
750	22.3	0.895	41.800	0.89	41.90	0.56	-0.24	±5	2023/9/23
750	22.6	0.889	41.800	0.89	41.90	-0.11	-0.24	±5	2023/9/25
835	22.8	0.926	41.500	0.90	41.50	2.89	0.00	±5	2023/9/13
835	22.3	0.921	41.400	0.90	41.50	2.33	-0.24	±5	2023/9/16
835	22.1	0.930	41.600	0.90	41.50	3.33	0.24	±5	2023/9/19
835	22.6	0.892	41.400	0.90	41.50	-0.89	-0.24	±5	2023/9/24
835	22.2	0.920	41.400	0.90	41.50	2.22	-0.24	±5	2023/9/25
1750	22.5	1.350	40.900	1.37	40.10	-1.46	2.00	±5	2023/9/15
1750	22.6	1.350	40.800	1.37	40.10	-1.46	1.75	±5	2023/9/20
1750	22.6	1.360	40.900	1.37	40.10	-0.73	2.00	±5	2023/9/24
1750	22.9	1.370	41.100	1.37	40.10	0.00	2.49	±5	2023/9/29
1750	22.7	1.360	40.600	1.37	40.10	-0.73	1.25	±5	2023/10/13
1900	22.8	1.460	39.500	1.40	40.00	4.29	-1.25	±5	2023/8/30
1900	22.2	1.420	39.300	1.40	40.00	1.43	-1.75	±5	2023/9/17
1900	22.7	1.420	40.800	1.40	40.00	1.43	2.00	±5	2023/9/20
1900	22.6	1.430	41.000	1.40	40.00	2.14	2.50	±5	2023/9/21
1900	22.2	1.430	39.400	1.40	40.00	2.14	-1.50	±5	2023/9/26
1900	22.3	1.440	39.400	1.40	40.00	2.86	-1.50	±5	2023/10/3
1900	22.7	1.440	38.700	1.40	40.00	2.86	-3.25	±5	2023/10/11
2300	22.7	1.670	39.100	1.67	39.50	0.00	-1.01	±5	2023/9/21
2300	22.4	1.670	39.000	1.67	39.50	0.00	-1.27	±5	2023/9/27
2600	22.7	2.000	37.900	1.96	39.00	2.04	-2.82	±5	2023/9/21
2600	22.4	1.980	37.800	1.96	39.00	1.02	-3.08	±5	2023/9/24
2600	22.6	1.980	38.800	1.96	39.00	1.02	-0.51	±5	2023/9/26
2600	22.4	1.990	37.900	1.96	39.00	1.53	-2.82	±5	2023/9/27
2600	22.2	1.980	38.000	1.96	39.00	1.02	-2.56	±5	2023/9/28
2600	22.3	1.970	37.800	1.96	39.00	0.51	-3.08	±5	2023/10/4
3500	22.5	2.970	38.400	2.91	37.90	2.06	1.32	±5	2023/9/22
3500	22.6	2.920	37.600	2.91	37.90	0.34	-0.79	±5	2023/9/29
3500	22.7	2.920	37.800	2.91	37.90	0.34	-0.26	±5	2023/10/3
3500	22.5	2.950	38.200	2.91	37.90	1.37	0.79	±5	2023/10/5
3500	22.6	2.960	38.100	2.91	37.90	1.72	0.53	±5	2023/10/5
3500	22.7	2.950	37.400	2.91	37.90	1.37	-1.32	±5	2023/10/7
3500	22.7	2.950	37.900	2.91	37.90	1.37	0.00	±5	2023/10/7
3500	22.8	2.930	37.300	2.91	37.90	0.69	-1.58	±5	2023/10/8
3500	22.6	3.010	37.900	2.91	37.90	3.44	0.00	±5	2023/10/9



3500	22.7	2.950	38.100	2.91	37.90	1.37	0.53	±5	2023/10/12
3500	22.3	2.920	37.600	2.91	37.90	0.34	-0.79	±5	2023/10/31
3500	22.2	2.930	38.200	2.91	37.90	0.69	0.79	±5	2023/11/1
3700	22.5	3.130	38.200	3.12	37.70	0.32	1.33	±5	2023/9/22
3700	22.6	3.080	37.400	3.12	37.70	-1.28	-0.80	±5	2023/9/29
3700	22.7	3.110	37.700	3.12	37.70	-0.32	0.00	±5	2023/10/3
3700	22.5	3.110	38.000	3.12	37.70	-0.32	0.80	±5	2023/10/5
3700	22.6	3.120	37.800	3.12	37.70	0.00	0.27	±5	2023/10/5
3700	22.7	3.140	37.100	3.12	37.70	0.64	-1.59	±5	2023/10/7
3700	22.8	3.120	37.000	3.12	37.70	0.00	-1.86	±5	2023/10/8
3700	22.7	3.160	37.900	3.12	37.70	1.28	0.53	±5	2023/10/12
3700	22.3	3.080	37.400	3.12	37.70	-1.28	-0.80	±5	2023/10/31
3700	22.2	3.140	38.000	3.12	37.70	0.64	0.80	±5	2023/11/1
3900	22.6	3.250	37.100	3.33	37.51	-2.40	-1.09	±5	2023/9/29
3900	22.7	3.250	37.300	3.33	37.51	-2.40	-0.56	±5	2023/10/1
3900	22.7	3.280	37.400	3.33	37.51	-1.50	-0.29	±5	2023/10/3
3900	22.6	3.290	37.600	3.33	37.51	-1.20	0.24	±5	2023/10/5
3900	22.5	3.380	37.000	3.33	37.51	1.50	-1.36	±5	2023/10/6
3900	22.7	3.340	36.900	3.33	37.51	0.30	-1.63	±5	2023/10/7
3900	22.7	3.280	37.300	3.33	37.51	-1.50	-0.56	±5	2023/10/7
3900	22.8	3.320	36.700	3.33	37.51	-0.30	-2.16	±5	2023/10/8
3900	22.3	3.250	37.100	3.33	37.51	-2.40	-1.09	±5	2023/10/31
3900	22.2	3.35	37.8	3.33	37.51	0.60	0.77	±5	2023/11/1

<Full Test>

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	22.6	0.878	41.900	0.89	41.90	-1.35	0.00	±5	2023/9/12
750	22.8	0.896	41.800	0.89	41.90	0.67	-0.24	±5	2023/10/16
835	22.6	0.911	41.600	0.90	41.50	1.22	0.24	±5	2023/9/13
835	22.3	0.924	41.300	0.90	41.50	2.67	-0.48	±5	2023/10/13
1750	22.6	1.360	39.800	1.37	40.10	-0.73	-0.75	±5	2023/9/14
1750	22.4	1.370	40.200	1.37	40.10	0.00	0.25	±5	2023/10/14
1900	22.6	1.430	41.000	1.40	40.00	2.14	2.50	±5	2023/9/21
1900	22.4	1.450	38.700	1.40	40.00	3.57	-3.25	±5	2023/10/14
2300	22.5	1.670	39.900	1.67	39.50	0.00	1.01	±5	2023/9/22
2300	22.5	1.610	39.400	1.67	39.50	-3.59	-0.25	±5	2023/10/15
2450	22.3	1.770	38.600	1.80	39.20	-1.67	-1.53	±5	2023/10/7
2450	22.2	1.840	39.000	1.80	39.20	2.22	-0.51	±5	2023/10/12
2450	22.3	1.810	38.800	1.80	39.20	0.56	-1.02	±5	2023/10/12
2450	22.5	1.780	38.900	1.80	39.20	-1.11	-0.77	±5	2023/10/13
2450	22.3	1.780	38.600	1.80	39.20	-1.11	-1.53	±5	2023/10/15
2450	22.3	1.790	38.700	1.80	39.20	-0.56	-1.28	±5	2023/10/18
2450	22.9	1.790	39.900	1.80	39.20	-0.56	1.79	±5	2023/10/19
2600	22.7	1.990	38.800	1.96	39.00	1.53	-0.51	±5	2023/9/23
2600	22.8	1.920	38.000	1.96	39.00	-2.04	-2.56	±5	2023/10/10
2600	22.5	1.930	38.200	1.96	39.00	-1.53	-2.05	±5	2023/10/12
5250	22.3	4.600	35.400	4.71	35.95	-2.34	-1.53	±5	2023/10/7
5250	22.3	4.750	37.000	4.71	35.95	0.85	2.92	±5	2023/10/14
5250	22.3	4.820	36.900	4.71	35.95	2.34	2.64	±5	2023/10/15
5250	22.3	4.680	35.700	4.71	35.95	-0.64	-0.70	±5	2023/10/16
5250	22.6	4.820	36.500	4.71	35.95	2.34	1.53	±5	2023/10/16
5250	22.3	4.680	36.000	4.71	35.95	-0.64	0.14	±5	2023/10/17
5250	22.6	4.700	36.800	4.71	35.95	-0.21	2.36	±5	2023/10/18
5250	22.8	4.570	35.400	4.71	35.95	-2.97	-1.53	±5	2023/10/18



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5250	22.5	4.670	37.200	4.71	35.95	-0.85	3.48	±5	2023/10/20
5600	22.3	5.000	34.800	5.07	35.50	-1.38	-1.97	±5	2023/10/7
5600	22.3	5.120	36.500	5.07	35.50	0.99	2.82	±5	2023/10/14
5600	22.3	5.210	36.300	5.07	35.50	2.76	2.25	±5	2023/10/15
5600	22.3	5.080	35.100	5.07	35.50	0.20	-1.13	±5	2023/10/16
5600	22.3	5.080	35.400	5.07	35.50	0.20	-0.28	±5	2023/10/17
5600	22.6	5.060	36.300	5.07	35.50	-0.20	2.25	±5	2023/10/18
5600	22.8	4.960	34.800	5.07	35.50	-2.17	-1.97	±5	2023/10/18
5750	22.3	5.180	34.500	5.22	35.35	-0.77	-2.40	±5	2023/10/7
5750	22.3	5.290	36.300	5.22	35.35	1.34	2.69	±5	2023/10/14
5750	22.3	5.360	36.200	5.22	35.35	2.68	2.40	±5	2023/10/15
5750	22.3	5.260	34.800	5.22	35.35	0.77	-1.56	±5	2023/10/16
5750	22.5	5.360	35.800	5.22	35.35	2.68	1.27	±5	2023/10/16
5750	22.3	5.270	35.100	5.22	35.35	0.96	-0.71	±5	2023/10/17
5750	22.6	5.220	36.100	5.22	35.35	0.00	2.12	±5	2023/10/18
5750	22.8	5.150	34.500	5.22	35.35	-1.34	-2.40	±5	2023/10/18
5850	22.5	5.440	35.500	5.32	35.25	2.26	0.71	±5	2023/10/17
5850	22.6	5.180	36.000	5.32	35.25	-2.63	2.13	±5	2023/10/18
6500	22.5	6.310	35.200	6.07	34.50	3.95	2.03	±5	2023/10/13
6500	22.5	5.970	34.200	6.07	34.50	-1.65	-0.87	±5	2023/10/14



13.2 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.

<Spot Check>

Test Site	Date	Frequency (MHz)	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
SAR-15	2023/10/13	13	1000	CLA13-1022	EX3DV4 - SN7695	DAE4 Sn656	0.335	0.349	0.335	-4.29
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 (%)
SAR17	2023/9/12	750	50	D750V3-1107	EX3DV4 - SN7700	DAE4 Sn1707	0.403	8.540	8.06	-5.62
SAR17	2023/9/14	750	50	D750V3-1107	EX3DV4 - SN7700	DAE4 Sn1707	0.427	8.540	8.54	0.00
SAR17	2023/9/16	750	50	D750V3-1107	EX3DV4 - SN7700	DAE4 Sn1707	0.426	8.540	8.52	-0.23
SAR17	2023/9/18	750	50	D750V3-1107	EX3DV4 - SN7700	DAE4 Sn1707	0.388	8.540	7.76	-9.13
SAR17	2023/9/23	750	50	D750V3-1107	EX3DV4 - SN7700	DAE4 Sn1707	0.427	8.540	8.54	0.00
SAR18	2023/9/25	750	50	D750V3-1107	EX3DV4 - SN3931	DAE4 Sn1696	0.392	8.540	7.84	-8.20
SAR17	2023/9/13	835	50	D835V2-4d167	EX3DV4 - SN7700	DAE4 Sn1707	0.461	9.800	9.22	-5.92
SAR17	2023/9/16	835	50	D835V2-4d167	EX3DV4 - SN7700	DAE4 Sn1707	0.446	9.800	8.92	-8.98
SAR17	2023/9/19	835	50	D835V2-4d167	EX3DV4 - SN7700	DAE4 Sn1707	0.471	9.800	9.42	-3.88
SAR18	2023/9/24	850	50	D835V2-4d167	EX3DV4 - SN3931	DAE4 Sn1696	0.468	9.800	9.36	-4.49
SAR17	2023/9/25	835	50	D835V2-4d167	EX3DV4 - SN7700	DAE4 Sn1707	0.446	9.800	8.92	-8.98
SAR17	2023/9/15	1750	50	D1750V2-1112	EX3DV4 - SN7700	DAE4 Sn1707	1.860	36.900	37.2	0.81
SAR17	2023/9/20	1750	50	D1750V2-1112	EX3DV4 - SN7700	DAE4 Sn1707	1.810	36.900	36.2	-1.90
SAR18	2023/9/24	1750	50	D1750V2-1112	EX3DV4 - SN3931	DAE4 Sn1696	1.750	36.900	35	-5.15
SAR17	2023/9/29	1750	50	D1750V2-1112	EX3DV4 - SN7700	DAE4 Sn1707	1.870	36.900	37.4	1.36
SAR16	2023/10/13	1750	50	D1750V2-1112	EX3DV4 - SN7692	DAE4 Sn661	1.680	36.900	33.6	-8.94
SAR18	2023/8/30	1900	50	D1900V2-5d185	EX3DV4 - SN3931	DAE4 Sn1696	1.830	39.000	36.6	-6.15
SAR17	2023/9/17	1900	50	D1900V2-5d185	EX3DV4 - SN7700	DAE4 Sn1707	1.830	39.000	36.6	-6.15
SAR18	2023/9/20	1900	50	D1900V2-5d185	EX3DV4 - SN3931	DAE4 Sn1696	1.930	39.000	38.6	-1.03
SAR18	2023/9/21	1900	50	D1900V2-5d185	EX3DV4 - SN3931	DAE4 Sn1696	1.950	39.000	39	0.00
SAR17	2023/9/26	1900	50	D1900V2-5d185	EX3DV4 - SN7700	DAE4 Sn1707	1.870	39.000	37.4	-4.10
SAR17	2023/10/3	1900	50	D1900V2-5d185	EX3DV4 - SN7700	DAE4 Sn1707	1.840	39.000	36.8	-5.64
SAR16	2023/10/11	1900	50	D1900V2-5d185	EX3DV4 - SN7692	DAE4 Sn661	1.840	39.000	36.8	-5.64
SAR17	2023/9/21	2300	50	D2300V2-1006	EX3DV4 - SN7700	DAE4 Sn1707	2.270	48.300	45.4	-6.00
SAR17	2023/9/27	2300	50	D2300V2-1006	EX3DV4 - SN7700	DAE4 Sn1707	2.350	48.300	47	-2.69
SAR17	2023/9/21	2600	50	D2600V2-1078	EX3DV4 - SN7700	DAE4 Sn1707	2.790	55.400	55.8	0.72
SAR17	2023/9/24	2600	50	D2600V2-1078	EX3DV4 - SN7700	DAE4 Sn1707	2.620	55.400	52.4	-5.42
SAR18	2023/9/26	2600	50	D2600V2-1078	EX3DV4 - SN3931	DAE4 Sn1696	2.710	55.400	54.2	-2.17
SAR17	2023/9/27	2600	50	D2600V2-1078	EX3DV4 - SN7700	DAE4 Sn1707	2.590	55.400	51.8	-6.50
SAR17	2023/9/28	2600	50	D2600V2-1078	EX3DV4 - SN7700	DAE4 Sn1707	2.590	55.400	51.8	-6.50
SAR17	2023/10/4	2600	50	D2600V2-1078	EX3DV4 - SN7700	DAE4 Sn1707	2.600	55.400	52	-6.14
SAR17	2023/9/22	3500	50	D3500V2-1014	EX3DV4 - SN7700	DAE4 Sn1707	3.230	67.200	64.6	-3.87
SAR18	2023/9/29	3500	50	D3500V2-1014	EX3DV4 - SN3931	DAE4 Sn1696	3.400	67.200	68	1.19
SAR16	2023/10/3	3500	50	D3500V2-1014	EX3DV4 - SN7692	DAE4 Sn661	3.550	67.200	71	5.65
SAR17	2023/10/5	3500	50	D3500V2-1014	EX3DV4 - SN7700	DAE4 Sn1707	3.030	67.200	60.6	-9.82
SAR16	2023/10/5	3500	50	D3500V2-1014	EX3DV4 - SN7692	DAE4 Sn661	3.140	67.200	62.8	-6.55
SAR17	2023/10/7	3500	50	D3500V2-1036	EX3DV4 - SN7700	DAE4 Sn1707	3.180	67.400	63.6	-5.64
SAR16	2023/10/7	3500	50	D3500V2-1036	EX3DV4 - SN7692	DAE4 Sn661	3.270	67.400	65.4	-2.97
SAR17	2023/10/8	3500	50	D3500V2-1036	EX3DV4 - SN7700	DAE4 Sn1707	3.080	67.400	61.6	-8.61
SAR16	2023/10/9	3500	50	D3500V2-1036	EX3DV4 - SN7692	DAE4 Sn661	3.160	67.400	63.2	-6.23
SAR16	2023/10/12	3500	50	D3500V2-1036	EX3DV4 - SN7692	DAE4 Sn661	3.150	67.400	63	-6.53
SAR16	2023/10/31	3500	50	D3500V2-1036	EX3DV4 - SN7692	DAE4 Sn661	3.540	67.400	70.8	5.04
SAR16	2023/11/1	3500	50	D3500V2-1036	EX3DV4 - SN7692	DAE4 Sn661	3.580	67.400	71.6	6.23
SAR17	2023/9/22	3700	50	D3700V2-1006	EX3DV4 - SN7700	DAE4 Sn1707	3.250	65.600	65	-0.91
SAR18	2023/9/29	3700	50	D3700V2-1006	EX3DV4 - SN3931	DAE4 Sn1696	3.060	65.600	61.2	-6.71



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SAR16	2023/10/3	3700	50	D3700V2-1006	EX3DV4 - SN7692	DAE4 Sn661	3.080	65.600	61.6	-6.10
SAR17	2023/10/5	3700	50	D3700V2-1006	EX3DV4 - SN7700	DAE4 Sn1707	3.100	65.600	62	-5.49
SAR16	2023/10/5	3700	50	D3700V2-1006	EX3DV4 - SN7692	DAE4 Sn661	3.240	65.600	64.8	-1.22
SAR17	2023/10/7	3700	50	D3700V2-1006	EX3DV4 - SN7700	DAE4 Sn1707	3.200	65.600	64	-2.44
SAR17	2023/10/8	3700	50	D3700V2-1006	EX3DV4 - SN7700	DAE4 Sn1707	3.160	65.600	63.2	-3.66
SAR16	2023/10/12	3700	50	D3700V2-1006	EX3DV4 - SN7692	DAE4 Sn661	3.260	65.600	65.2	-0.61
SAR16	2023/10/31	3700	50	D3700V2-1006	EX3DV4 - SN7692	DAE4 Sn661	3.260	65.600	65.2	-0.61
SAR16	2023/11/1	3700	50	D3700V2-1006	EX3DV4 - SN7692	DAE4 Sn661	3.150	65.600	63	-3.96
SAR18	2023/9/29	3900	50	D3900V2-1092	EX3DV4 - SN3931	DAE4 Sn1696	3.060	67.000	61.2	-8.66
SAR18	2023/10/1	3900	50	D3900V2-1092	EX3DV4 - SN3931	DAE4 Sn1696	3.370	67.000	67.4	0.60
SAR16	2023/10/3	3900	50	D3900V2-1017-3900	EX3DV4 - SN7692	DAE4 Sn661	3.310	68.700	66.2	-3.64
SAR16	2023/10/5	3900	50	D3900V2-1017-3900	EX3DV4 - SN7692	DAE4 Sn661	3.220	68.700	64.4	-6.26
SAR17	2023/10/6	3900	50	D3900V2-1092	EX3DV4 - SN7700	DAE4 Sn1707	3.240	67.000	64.8	-3.28
SAR17	2023/10/7	3900	50	D3900V2-1092	EX3DV4 - SN7700	DAE4 Sn1707	3.080	67.000	61.6	-8.06
SAR16	2023/10/7	3900	50	D3900V2-1092	EX3DV4 - SN7692	DAE4 Sn661	3.360	67.000	67.2	0.30
SAR17	2023/10/8	3900	50	D3900V2-1092	EX3DV4 - SN7700	DAE4 Sn1707	3.020	67.000	60.4	-9.85
SAR16	2023/10/31	3900	50	D3900V2-1092	EX3DV4 - SN7692	DAE4 Sn661	3.570	67.000	71.4	6.57
SAR16	2023/11/1	3900	50	D3900V2-1092	EX3DV4 - SN7692	DAE4 Sn661	3.330	67.000	66.6	-0.60

<Full Test>

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 (%)
SAR16	2023/9/12	750	50	D750V3-1107	EX3DV4 - SN3931	DAE4 Sn1696	0.413	8.54	8.26	-3.28
SAR17	2023/10/16	750	50	D750V3-1107	EX3DV4 - SN7700	DAE4 Sn1707	0.392	8.54	7.84	-8.2
SAR16	2023/9/13	835	50	D835V2-4d167	EX3DV4 - SN3931	DAE4 Sn1696	0.523	9.8	10.46	6.73
SAR17	2023/10/13	835	50	D835V2-4d167	EX3DV4 - SN7700	DAE4 Sn1707	0.465	9.8	9.3	-5.1
SAR16	2023/9/14	1750	50	D1750V2-1112	EX3DV4 - SN3931	DAE4 Sn1696	1.77	36.9	35.4	-4.07
SAR17	2023/10/14	1750	50	D1750V2-1112	EX3DV4 - SN7700	DAE4 Sn1707	1.68	36.9	33.6	-8.94
SAR16	2023/9/21	1900	50	D1900V2-5d185	EX3DV4 - SN3931	DAE4 Sn1696	1.95	39	39	0
SAR17	2023/10/14	1900	50	D1900V2-5d185	EX3DV4 - SN7700	DAE4 Sn1707	1.91	39	38.2	-2.05
SAR16	2023/9/22	2300	50	D2300V2-1006	EX3DV4 - SN3931	DAE4 Sn1696	2.4	48.3	48	-0.62
SAR17	2023/10/15	2300	50	D2300V2-1006	EX3DV4 - SN7700	DAE4 Sn1707	2.26	48.3	45.2	-6.42
SAR-14	2023/10/7	2450	50	D2450V2-929	EX3DV4 - SN7791	DAE4 Sn699	2.78	52.4	55.6	6.11
SAR-14	2023/10/12	2450	50	D2450V2-929	EX3DV4 - SN7791	DAE4 Sn1697	2.62	52.4	52.4	0
SAR-15	2023/10/12	2450	50	D2450V2-929	EX3DV4 - SN7785	DAE4 Sn699	2.58	52.4	51.6	-1.53
SAR-17	2023/10/13	2450	50	D2450V2-929	EX3DV4 - SN7700	DAE4 Sn1707	2.37	52.4	47.4	-9.54
SAR-15	2023/10/15	2450	50	D2450V2-929	EX3DV4 - SN7785	DAE4 Sn699	2.51	52.4	50.2	-4.2
SAR-15	2023/10/18	2450	50	D2450V2-929	EX3DV4 - SN7785	DAE4 Sn699	2.54	52.4	50.8	-3.05
SAR-15	2023/10/19	2450	50	D2450V2-929	EX3DV4 - SN7785	DAE4 Sn699	2.46	52.4	49.2	-6.11
SAR16	2023/9/23	2600	50	D2600V2-1078	EX3DV4 - SN3931	DAE4 Sn1696	2.82	55.4	56.4	1.81
SAR17	2023/10/10	2600	50	D2600V2-1078	EX3DV4 - SN7700	DAE4 Sn1707	2.51	55.4	50.2	-9.39
SAR17	2023/10/12	2600	50	D2600V2-1078	EX3DV4 - SN7700	DAE4 Sn1707	2.53	55.4	50.6	-8.66
SAR-14	2023/10/7	5250	50	D5GHzV2-1171-5250	EX3DV4 - SN7791	DAE4 Sn699	3.85	80.3	77	-4.11
SAR-15	2023/10/14	5250	100	D5GHzV2-1171-5250	EX3DV4 - SN7785	DAE4 Sn699	7.41	80.3	74.1	-7.72
SAR-15	2023/10/15	5250	100	D5GHzV2-1171-5250	EX3DV4 - SN7785	DAE4 Sn699	7.83	80.3	78.3	-2.49
SAR-15	2023/10/16	5250	100	D5GHzV2-1171-5250	EX3DV4 - SN7785	DAE4 Sn699	7.78	80.3	77.8	-3.11
SAR-14	2023/10/16	5250	50	D5GHzV2-1171-5250	EX3DV4 - SN7791	DAE4 Sn1697	3.87	80.3	77.4	-3.61
SAR-15	2023/10/17	5250	100	D5GHzV2-1171-5250	EX3DV4 - SN7785	DAE4 Sn699	8.34	80.3	83.4	3.86
SAR-16	2023/10/18	5250	50	D5GHzV2-1171-5250	EX3DV4 - SN7692	DAE4 Sn661	3.82	80.3	76.4	-4.86
SAR-17	2023/10/18	5250	50	D5GHzV2-1171-5250	EX3DV4 - SN7700	DAE4 Sn1707	4.16	80.3	83.2	3.61
SAR-12	2023/10/20	5250	50	D5GHzV2-1171-5250	EX3DV4 - SN7695	DAE4 Sn1697	3.77	80.3	75.4	-6.1
SAR-14	2023/10/7	5600	50	D5GHzV2-1171-5600	EX3DV4 - SN7791	DAE4 Sn699	4.12	83.4	82.4	-1.2
SAR-15	2023/10/14	5600	100	D5GHzV2-1171-5600	EX3DV4 - SN7785	DAE4 Sn699	8.16	83.4	81.6	-2.16
SAR-15	2023/10/15	5600	100	D5GHzV2-1171-5600	EX3DV4 - SN7785	DAE4 Sn699	8.04	83.4	80.4	-3.6
SAR-15	2023/10/16	5600	100	D5GHzV2-1171-5600	EX3DV4 - SN7785	DAE4 Sn699	8.16	83.4	81.6	-2.16

SAR-15	2023/10/17	5600	100	D5GHzV2-1171-5600	EX3DV4 - SN7785	DAE4 Sn699	7.96	83.4	79.6	-4.56
SAR-16	2023/10/18	5600	50	D5GHzV2-1171-5600	EX3DV4 - SN7692	DAE4 Sn661	4.34	83.4	86.8	4.08
SAR-17	2023/10/18	5600	50	D5GHzV2-1171-5600	EX3DV4 - SN7700	DAE4 Sn1707	4.25	83.4	85	1.92
SAR-14	2023/10/7	5750	50	D5GHzV2-1171-5750	EX3DV4 - SN7791	DAE4 Sn699	3.79	80.4	75.8	-5.72
SAR-15	2023/10/14	5750	100	D5GHzV2-1171-5750	EX3DV4 - SN7785	DAE4 Sn699	7.36	80.4	73.6	-8.46
SAR-15	2023/10/15	5750	100	D5GHzV2-1171-5750	EX3DV4 - SN7785	DAE4 Sn699	7.67	80.4	76.7	-4.6
SAR-15	2023/10/16	5750	100	D5GHzV2-1171-5750	EX3DV4 - SN7785	DAE4 Sn699	7.35	80.4	73.5	-8.58
SAR-14	2023/10/16	5750	100	D5GHzV2-1171-5750	EX3DV4 - SN7791	DAE4 Sn1697	8.24	80.4	82.4	2.49
SAR-15	2023/10/17	5750	100	D5GHzV2-1171-5750	EX3DV4 - SN7785	DAE4 Sn699	7.32	80.4	73.2	-8.96
SAR-16	2023/10/18	5750	50	D5GHzV2-1171-5750	EX3DV4 - SN7692	DAE4 Sn661	4.13	80.4	82.6	2.74
SAR-17	2023/10/18	5750	50	D5GHzV2-1171-5750	EX3DV4 - SN7700	DAE4 Sn1707	4.04	80.4	80.8	0.5
SAR-13	2023/10/17	5850	50	D5GHzV2-1006-5850	EX3DV4 - SN7625	DAE4 Sn1697	3.93	81.8	78.6	-3.91
SAR-13	2023/10/18	5850	50	D5GHzV2-1171-5850	EX3DV4 - SN7625	DAE4 Sn1697	3.78	82.3	75.6	-8.14
SAR-14	2023/10/13	6500	100	D6.5GHzV2-1003	EX3DV4 - SN7791	DAE4 Sn1697	27.4	297	274	-7.74
SAR-14	2023/10/14	6500	100	D6.5GHzV2-1003	EX3DV4 - SN7791	DAE4 Sn1697	32.1	297	321	8.08

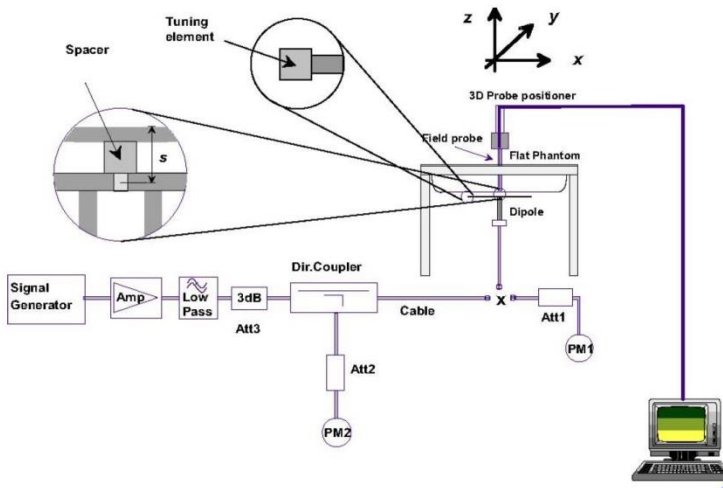


Fig 8.3.1 System Performance Check Setup

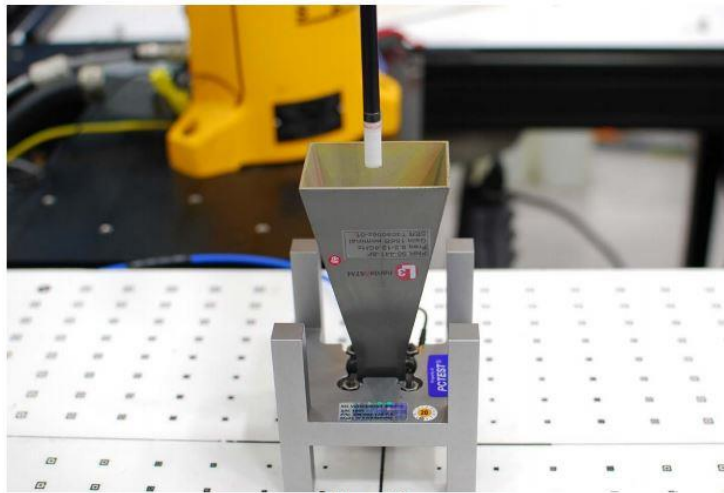


Fig 8.3.2 Setup Photo

13.3 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
SAR13	10G	10GHz_1020	9424	1697	10mm	54.8	54.9	-0.01	2023/10/11



**Figure 4-3
System Verification Setup Photo**

System Performance Check Setup

14. Measurement procedure for output power and SAR

Detail output power measurement data is in the appendix D

<5G NR Note>

1. Referencing the procedure in KDB 941225, the test procedures are outlined as below
 - a. For DFT-OFDM output power measurement, full measurement was done for Pi/2 BPSK and QPSK and for the largest supported bandwidth, repeat test for 16QAM/64QAM/256QAM under 1RB 1Offset configuration. For smaller bandwidth, measure conducted power for Pi/2 BPSK and 1RB 1Offset configuration.
 - b. According to the tune-up, CP-OFDM output power is not ½ dB higher than DFT-OFDM mode, and the reported SAR of DFT-OFDM mode reported SAR is ≤ 1.45 W/kg, SAR test and thus conducted power for CP-OFDM mode is not required.
 - c. To start SAR test for the largest channel bandwidth for Pi/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. Also do SAR test for 50% RB allocation for Pi/2 BPSK SAR testing using 1RB Pi/2 BPSK allocation procedure
 - d. For Pi/2 BPSK with 100% RB allocation, SAR test is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
 - e. For higher modulation QPSK/16QAM/64QAM/256QAM, according to tune-up document the power level is not ½ dB higher than the same configuration in Pi/2 BPSK, also reported SAR for the Pi/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
 - f. Smaller bandwidth output power for each RB allocation configuration for this device is not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
2. Due to test setup limitations, SAR testing for NR TDD Power class 3 was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission. For NR TDD power class2 was performed using Factory Test Mode software to establish the connection and perform SAR with 50% transmission.
3. For NR FDD was establishing connections via a base station simulator to use for output power measurement and SAR testing

<3GPP 38.101 MPR for EN-DC>

Table 6.2.2-1 Maximum power reduction (MPR) for power class 3

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

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

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

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

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



<WLAN Note>

1. The 2.4GHz WLAN Ant 3, and 5G/6GHz WLAN ant 4 support SDB mode and only operation in power index 2,4,6,8
2. The 2.4GHz 802.11b mode support SISO mode and only operation in power index 1,3,5,7.
3. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For "Not required", SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, additional output power measurements were not necessary.
4. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
5. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
6. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
7. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures.18 The initial test position procedure is described in the following:
 - a. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
 - b. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
 - c. For all positions/configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
8. Per 201904 TCBC workshops, General principles of FCC KDB Publication 248227 D01 can be applied to determine the SAR Initial Test Configurations and test reduction for 802.11ax SAR testing. For the table below the 802.11ax maximum power is SU (non-OFDMA), and the SU maximum power also higher than RU (OFDMA)
9. In applying the test guidance, the IEEE 802.11 mode with the maximum output power (out of all modes) should be considered for testing
10. For modes with the same maximum output power, the guidance from section 5.3.2 a) of FCC KDB Publication 248227 D01 should be applied, with 802.11ax being considered as the highest 802.11 mode for the appropriate frequency bands
11. When SAR testing for 802.11ax is required
 - a. If the maximum output power is highest for OFDMA scenarios, choose the tone size with the maximum number of tones and the highest maximum output power
 - b. Otherwise, consider the fully allocated channel for SAR testing
 - c. When SAR testing is required on RU sizes less than the fully allocated channel, use the RU number closest to the middle of the channel, choosing the higher RU number when two RUs are equidistant to the middle of the channel

<Bluetooth>

1. For 2.4GHz Bluetooth SAR testing was selected ER/EDR 1Mbps due to its highest average power and duty cycle list below are considered in SAR testing, and the duty cycle would be scaled to theoretical 83.3% in reported SAR calculation, for the duty cycle figure and output power include in appendix D.

Bluetooth	Power Index	Antenna	Duty Cycle %
	1/2/3/4	Ant 4	77.07
	1/2/3/4	Ant 3	77.07

15. RF Exposure position consideration

Distance of the Antenna to the EUT surface/edge						
Antennas	Front	Back	Top Side	Bottom Side	Right Side	Left Side
WWAN Ant 0	≤ 25mm	≤ 25mm	> 25mm	≤ 25mm	≤ 25mm	≤ 25mm
WWAN Ant 1	≤ 25mm	≤ 25mm	≤ 25mm	> 25mm	≤ 25mm	≤ 25mm
WWAN Ant 2	≤ 25mm	≤ 25mm	> 25mm	≤ 25mm	≤ 25mm	≤ 25mm
WWAN Ant 5	≤ 25mm	≤ 25mm	≤ 25mm	> 25mm	≤ 25mm	≤ 25mm
WWAN Ant 6	≤ 25mm	≤ 25mm	> 25mm	≤ 25mm	≤ 25mm	≤ 25mm
WLAN/BT Ant 3 / 4	≤ 25mm	≤ 25mm	≤ 25mm	> 25mm	≤ 25mm	≤ 25mm
NFC	≤ 25mm	≤ 25mm	> 25mm	> 25mm	≤ 25mm	≤ 25mm

Positions for SAR / 6E PD tests						
Antennas	Front	Back	Top Side	Bottom Side	Right Side	Left Side
WWAN Ant 0	Yes	Yes	No	Yes	Yes	Yes
WWAN Ant 1	Yes	Yes	Yes	No	Yes	Yes
WWAN Ant 2	Yes	Yes	No	Yes	Yes	Yes
WWAN Ant 5	Yes	Yes	Yes	No	Yes	Yes
WWAN Ant 6	Yes	Yes	No	Yes	Yes	Yes
WLAN/BT Ant 3 / 4	Yes	Yes	Yes	No	Yes	Yes
NFC	Yes	Yes	No	No	Yes	Yes

General Note:

1. Referring to KDB 941225 D06 v02r01, when the overall device length and width are ≥ 9cm*5cm, the test distance is 10 mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge
2. The antenna location is illustrated in the Appendix H.



16. Spot Check SAR Results

General Note:

- 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.
- If the 1-g SAR spot check result “does not exceed 30%, but larger than 1.2 W/kg”, more spot check on the next-higher exposure position until the spot check result does not exceed 1.2 W/kg.
- The spot check results don’t show the SAR increase more than 30%, therefore referring to the guidance in the KDB inquiry, SAR data reuse is justified.

1st as parent model
2nd as variant model

16.1 Head SAR

Plot No.	No.	Mode	BW (MHz)	Test Position	Gap (mm)	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (%)
	1st	GSM850_Ant 0	GPRS (3 Tx slots)	Left Cheek	0mm	Index 2	251	848.8	30.00	31.50	1.413			0.05	0.457	0.646	
	2nd	GSM850_Ant 0	GPRS (3 Tx slots)	Left Cheek	0mm	Index 2	251	848.8	29.95	31.50	1.429			0.07	0.431	0.616	-4.64%
	1st	GSM850_Ant 0	GPRS (3 Tx slots)	Left Cheek	0mm	Index 3	251	848.8	30.00	31.00	1.259			0.05	0.457	0.575	
	2nd	GSM850_Ant 0	GPRS (3 Tx slots)	Left Cheek	0mm	Index 3	251	848.8	29.95	31.00	1.274			0.07	0.431	0.549	-4.52%
01	1st	GSM850_Ant 1	GPRS (2 Tx slots)	Right Cheek	0mm	Index 2	128	824.2	27.99	28.90	1.233			0	0.800	0.986	
	2nd	GSM850_Ant 1	GPRS (2 Tx slots)	Right Cheek	0mm	Index 2	128	824.2	27.93	28.90	1.250			0.04	0.785	0.981	-0.51%
	1st	GSM850_Ant 1	GPRS (2 Tx slots)	Right Cheek	0mm	Index 3	128	824.2	26.79	26.80	1.002			0	0.635	0.636	
	2nd	GSM850_Ant 1	GPRS (2 Tx slots)	Right Cheek	0mm	Index 3	128	824.2	26.73	26.80	1.016			0.04	0.624	0.634	-0.31%
02	1st	GSM1900_Ant 2	GPRS (4 Tx slots)	Right Cheek	0mm	Index 2	661	1880	27.01	28.00	1.256			0.11	0.551	0.692	
	2nd	GSM1900_Ant 2	GPRS (4 Tx slots)	Right Cheek	0mm	Index 2	661	1880	27.24	28.00	1.191			0.08	0.538	0.641	-7.37%
	1st	GSM1900_Ant 2	GPRS (4 Tx slots)	Right Cheek	0mm	Index 3	661	1880	27.01	27.50	1.119			0.11	0.551	0.617	
	2nd	GSM1900_Ant 2	GPRS (4 Tx slots)	Right Cheek	0mm	Index 3	661	1880	27.24	27.50	1.062			0.08	0.538	0.571	-7.46%
	1st	GSM1900_Ant 0	GPRS (4 Tx slots)	Left Cheek	0mm	Index 2/3	661	1880	27.18	27.50	1.076			-0.01	0.568	0.611	
	2nd	GSM1900_Ant 0	GPRS (4 Tx slots)	Left Cheek	0mm	Index 2/3	661	1880	26.47	27.50	1.268			-0.02	0.440	0.558	-8.67%
	1st	WCDMA II_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	Index 2	9538	1907.6	25.13	25.70	1.140			0.16	0.671	0.765	
	2nd	WCDMA II_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	Index 2	9538	1907.6	25.13	25.70	1.140			0.16	0.636	0.725	-5.23%
	1st	WCDMA II_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	Index 3	9538	1907.6	25.13	25.30	1.040			0.16	0.671	0.698	
	2nd	WCDMA II_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	Index 3	9538	1907.6	25.13	25.30	1.040			0.16	0.636	0.661	-5.30%
03	1st	WCDMA II_Ant 0	RMC 12.2Kbps	Left Cheek	0mm	Index 2	9538	1907.6	24.30	25.20	1.230			0.15	0.688	0.846	
	2nd	WCDMA II_Ant 0	RMC 12.2Kbps	Left Cheek	0mm	Index 2	9538	1907.6	23.97	25.20	1.327			-0.01	0.620	0.823	-2.72%
	1st	WCDMA II_Ant 0	RMC 12.2Kbps	Left Cheek	0mm	Index 3	9538	1907.6	23.74	24.00	1.062			-0.05	0.613	0.651	
	2nd	WCDMA II_Ant 0	RMC 12.2Kbps	Left Cheek	0mm	Index 3	9538	1907.6	23.42	24.00	1.143			0.08	0.553	0.632	-2.92%
04	1st	WCDMA IV_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	Index 2	1513	1752.6	24.50	25.70	1.318			0.01	0.524	0.691	
	2nd	WCDMA IV_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	Index 2	1513	1752.6	24.16	25.70	1.426			0	0.462	0.659	-4.63%
	1st	WCDMA IV_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	Index 3	1513	1752.6	24.50	25.10	1.148			0.01	0.524	0.602	
	2nd	WCDMA IV_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	Index 3	1513	1752.6	24.16	25.10	1.242			0	0.462	0.574	-4.65%
	1st	WCDMA IV_Ant 0	RMC 12.2Kbps	Left Cheek	0mm	Index 2/3	1513	1752.6	23.80	25.20	1.380			0	0.356	0.491	
	2nd	WCDMA IV_Ant 0	RMC 12.2Kbps	Left Cheek	0mm	Index 2/3	1513	1752.6	23.76	25.20	1.393			-0.01	0.285	0.397	-19.14%
	1st	WCDMA V_Ant 0	RMC 12.2Kbps	Left Cheek	0mm	Index 2/3	4132	826.4	24.21	25.70	1.409			-0.03	0.285	0.402	
	2nd	WCDMA V_Ant 0	RMC 12.2Kbps	Left Cheek	0mm	Index 2/3	4132	826.4	24.13	25.70	1.435			0.16	0.276	0.396	-1.49%
05	1st	WCDMA V_Ant 1	RMC 12.2Kbps	Right Cheek	0mm	Index 2	4132	826.4	20.61	22.10	1.409			0.02	0.697	0.982	
	2nd	WCDMA V_Ant 1	RMC 12.2Kbps	Right Cheek	0mm	Index 2	4132	826.4	20.55	22.10	1.429			0.01	0.682	0.975	-0.71%
	1st	WCDMA V_Ant 1	RMC 12.2Kbps	Right Cheek	0mm	Index 3	4132	826.4	19.98	20.00	1.005			-0.07	0.621	0.624	
	2nd	WCDMA V_Ant 1	RMC 12.2Kbps	Right Cheek	0mm	Index 3	4132	826.4	19.92	20.00	1.019			-0.1	0.608	0.619	-0.80%
06	1st	LTE Band 2_Ant 1	20M_QPSK_1_0	Right Tilted	0mm	Index 2	19100	1900	19.59	20.80	1.321			-0.03	0.742	0.980	
	2nd	LTE Band 2_Ant 1	20M_QPSK_1_0	Right Tilted	0mm	Index 2	19100	1900	19.66	20.80	1.300			0.15	0.712	0.926	-5.51%
	1st	LTE Band 2_Ant 1	20M_QPSK_1_0	Right Tilted	0mm	Index 3	18900	1880	19.85	20.00	1.035			-0.04	0.693	0.717	
	2nd	LTE Band 2_Ant 1	20M_QPSK_1_0	Right Tilted	0mm	Index 3	18900	1880	19.78	20.00	1.052			0.15	0.671	0.706	-1.53%
	1st	LTE Band 2_Ant 5	20M_QPSK_1_0	Left Cheek	0mm	Index 2	19100	1900	16.36	17.70	1.361			0	0.721	0.982	
	2nd	LTE Band 2_Ant 5	20M_QPSK_1_0	Left Cheek	0mm	Index 2	19100	1900	15.70	17.70	1.585			0.02	0.549	0.870	-11.41%



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	1st	FR1 n71_Ant 1	20M_BPSK_1_1	Right Cheek	0mm	Index 3	136100	680.5	20.35	21.10	1.189			0	0.501	0.595	-21.85%
	2nd	FR1 n71_Ant 1	20M_BPSK_1_1	Right Cheek	0mm	Index 3	136100	680.5	20.06	21.10	1.271			0.01	0.366	0.465	
	1st	FR1 n77_Ant 6	100M_BPSK_1_1	Left Cheek	0mm	Index 2	656000	3840	22.37	23.70	1.358			-0.13	0.491	0.667	-10.34%
	2nd	FR1 n77_Ant 6	100M_BPSK_1_1	Left Cheek	0mm	Index 2	656000	3840	22.40	23.70	1.349			-0.1	0.443	0.598	
	1st	FR1 n77_Ant 6	100M_BPSK_1_1	Left Cheek	0mm	Index 3	656000	3840	22.37	22.90	1.130			-0.13	0.491	0.555	-10.45%
	2nd	FR1 n77_Ant 6	100M_BPSK_1_1	Left Cheek	0mm	Index 3	656000	3840	22.40	22.90	1.122			-0.1	0.443	0.497	
	1st	FR1 n77_Ant 6	100M_BPSK_1_1	Left Cheek	0mm	Index 2	633332	3499.98	22.19	23.70	1.416			-0.06	0.445	0.630	-6.03%
	2nd	FR1 n77_Ant 6	100M_BPSK_1_1	Left Cheek	0mm	Index 2	633332	3499.98	22.30	23.70	1.380			-0.18	0.429	0.592	
	1st	FR1 n77_Ant 6	100M_BPSK_1_1	Left Cheek	0mm	Index 3	633332	3499.98	22.19	22.90	1.178			-0.06	0.445	0.524	-5.92%
	2nd	FR1 n77_Ant 6	100M_BPSK_1_1	Left Cheek	0mm	Index 3	633332	3499.98	22.30	22.90	1.148			-0.18	0.429	0.493	
	1st	FR1 n77_Ant 2	100M_BPSK_1_1	Right Cheek	0mm	Index 2	656000	3840	23.70	24.70	1.259			0.04	0.391	0.492	-1.42%
	2nd	FR1 n77_Ant 2	100M_BPSK_1_1	Right Cheek	0mm	Index 2	656000	3840	23.71	24.70	1.256			-0.05	0.386	0.485	
	1st	FR1 n77_Ant 2	100M_BPSK_1_1	Right Cheek	0mm	Index 3	656000	3840	22.69	23.00	1.074			-0.02	0.311	0.334	-1.50%
	2nd	FR1 n77_Ant 2	100M_BPSK_1_1	Right Cheek	0mm	Index 3	656000	3840	22.70	23.00	1.072			0.05	0.307	0.329	
	1st	FR1 n77_Ant 2	100M_BPSK_1_1	Right Cheek	0mm	Index 2	633332	3499.98	23.55	24.70	1.303			-0.14	0.724	0.943	-11.03%
	2nd	FR1 n77_Ant 2	100M_BPSK_1_1	Right Cheek	0mm	Index 2	633332	3499.98	23.58	24.70	1.294			-0.1	0.648	0.839	
	1st	FR1 n77_Ant 2	100M_BPSK_1_1	Right Cheek	0mm	Index 3	633332	3499.98	22.53	23.00	1.114			0	0.599	0.667	-14.54%
	2nd	FR1 n77_Ant 2	100M_BPSK_1_1	Right Cheek	0mm	Index 3	633332	3499.98	22.56	23.00	1.107			-0.05	0.515	0.570	
	1st	FR1 n77_Ant 1	100M_BPSK_1_1	Right Tilted	0mm	Index 2	656000	3840	16.04	17.20	1.306			0.05	0.356	0.465	-17.42%
	2nd	FR1 n77_Ant 1	100M_BPSK_1_1	Right Tilted	0mm	Index 2	656000	3840	16.06	17.20	1.300			-0.01	0.295	0.384	
	1st	FR1 n77_Ant 1	100M_BPSK_1_1	Right Tilted	0mm	Index 3	656000	3840	16.04	16.40	1.086			0.05	0.356	0.387	-17.57%
	2nd	FR1 n77_Ant 1	100M_BPSK_1_1	Right Tilted	0mm	Index 3	656000	3840	16.06	16.40	1.081			-0.01	0.295	0.319	
	1st	FR1 n77_Ant 1	100M_BPSK_135_69	Right Tilted	0mm	Index 2	633332	3499.98	16.04	17.20	1.306			0.12	0.529	0.691	-16.79%
	2nd	FR1 n77_Ant 1	100M_BPSK_135_69	Right Tilted	0mm	Index 2	633332	3499.98	16.35	17.20	1.216			-0.07	0.473	0.575	
	1st	FR1 n77_Ant 1	100M_BPSK_135_69	Right Tilted	0mm	Index 3	633332	3499.98	16.04	16.40	1.086			0.12	0.529	0.575	-16.87%
	2nd	FR1 n77_Ant 1	100M_BPSK_135_69	Right Tilted	0mm	Index 3	633332	3499.98	16.35	16.40	1.012			-0.07	0.473	0.478	
	1st	FR1 n77_Ant 5	100M_BPSK_1_1	Left Cheek	0mm	Index 2	656000	3840	15.11	16.30	1.315			0.08	0.666	0.876	-13.13%
	2nd	FR1 n77_Ant 5	100M_BPSK_1_1	Left Cheek	0mm	Index 2	656000	3840	15.12	16.30	1.312			0.06	0.580	0.761	
	1st	FR1 n77_Ant 5	100M_BPSK_1_1	Left Cheek	0mm	Index 3	656000	3840	11.05	12.10	1.274			0.05	0.265	0.337	-14.24%
	2nd	FR1 n77_Ant 5	100M_BPSK_1_1	Left Cheek	0mm	Index 3	656000	3840	11.12	12.10	1.253			-0.02	0.231	0.289	
	1st	FR1 n77_Ant 5	100M_BPSK_1_1	Left Cheek	0mm	Index 2	633332	3499.98	15.28	16.30	1.265			-0.12	0.785	0.993	-8.66%
23	2nd	FR1 n77_Ant 5	100M_BPSK_1_1	Left Cheek	0mm	Index 2	633332	3499.98	15.18	16.30	1.294			0.06	0.701	0.907	
	1st	FR1 n77_Ant 5	100M_BPSK_1_1	Left Cheek	0mm	Index 3	633332	3499.98	11.26	12.10	1.213			-0.18	0.313	0.380	-9.21%
	2nd	FR1 n77_Ant 5	100M_BPSK_1_1	Left Cheek	0mm	Index 3	633332	3499.98	11.18	12.10	1.236			0.05	0.279	0.345	



16.2 Hotspot SAR

Table with columns: Plot No., No., Band, Mode, Test Position, Gap (mm), Power Index, Ch., Freq. (MHz), Average Power (dBm), Tune-Up Limit (dBm), Tune-Up Scaling Factor, Duty Cycle %, Duty Cycle Scaling Factor, Power Drift (dB), Measured 1g SAR (W/kg), Reported 1g SAR (W/kg), Deviation (%). Rows include various frequency bands like GSM850, GSM1900, WCDMA, and LTE.



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Table with columns for frequency bands, antenna types, modulation schemes, orientations, and SAR values. Includes rows for LTE Band 66, 71, FR1 n5-n7, and FR1 n48-n77.



	1st	FR1 n77_Ant 2	100M_BPSK_1_1	Back	10mm	Index 5	633332	3499.98	21.13	21.60	1.114			-0.17	0.580	0.646	-15.33%
	2nd	FR1 n77_Ant 2	100M_BPSK_1_1	Back	10mm	Index 5	633332	3499.98	21.25	21.60	1.084			-0.11	0.505	0.547	
	1st	FR1 n77_Ant 2	100M_BPSK_1_1	Back	10mm	Index 6	633332	3499.98	19.08	20.30	1.324			-0.1	0.371	0.491	-0.20%
	2nd	FR1 n77_Ant 2	100M_BPSK_1_1	Back	10mm	Index 6	633332	3499.98	18.78	20.30	1.419			-0.02	0.345	0.490	
	1st	FR1 n77_Ant 1	100M_BPSK_1_1	Back	10mm	Index 5/6	656000	3840	24.00	25.00	1.259			0.19	0.469	0.590	-23.73%
	2nd	FR1 n77_Ant 1	100M_BPSK_1_1	Back	10mm	Index 5/6	656000	3840	23.86	25.00	1.300			0.13	0.346	0.450	
	1st	FR1 n77_Ant 1	100M_BPSK_1_1	Back	10mm	Index 5/6	633332	3499.98	24.36	25.00	1.159			-0.01	0.554	0.642	-6.70%
	2nd	FR1 n77_Ant 1	100M_BPSK_1_1	Back	10mm	Index 5/6	633332	3499.98	24.21	25.00	1.199			0.01	0.499	0.599	
	1st	FR1 n77_Ant 5	100M_BPSK_1_1	Front	10mm	Index 5	656000	3840	23.16	24.60	1.393			-0.07	0.658	0.917	-29.23%
	2nd	FR1 n77_Ant 5	100M_BPSK_1_1	Front	10mm	Index 5	656000	3840	23.20	24.60	1.380			-0.1	0.470	0.649	
	1st	FR1 n77_Ant 5	100M_BPSK_1_1	Front	10mm	Index 6	656000	3840	21.16	22.20	1.271			0.09	0.415	0.527	-26.57%
	2nd	FR1 n77_Ant 5	100M_BPSK_1_1	Front	10mm	Index 6	656000	3840	21.05	22.20	1.303			0.05	0.297	0.387	
	1st	FR1 n77_Ant 5	100M_BPSK_1_1	Front	10mm	Index 5	633332	3499.98	23.30	24.60	1.349			-0.1	0.736	0.993	-2.01%
70	2nd	FR1 n77_Ant 5	100M_BPSK_1_1	Front	10mm	Index 5	633332	3499.98	23.35	24.60	1.334			0.03	0.730	0.973	
	1st	FR1 n77_Ant 5	100M_BPSK_1_1	Front	10mm	Index 6	633332	3499.98	21.22	22.20	1.253			0	0.464	0.581	-3.79%
	2nd	FR1 n77_Ant 5	100M_BPSK_1_1	Front	10mm	Index 6	633332	3499.98	21.36	22.20	1.213			0	0.461	0.559	

16.4 NFC SAR

Plot No.	No.	Band	Test Position	Gap (mm)	Freq. (MHz)	Power Drift (dB)	Measured 10g SAR (W/kg)	Deviation (%)
	1st	NFC	Back	0mm	13.56	-0.09	0.072	-1.39%
71	2nd	NFC	Back	0mm	13.56	-0.1	0.071	

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.



17. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
 - c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - d. For WLAN/Bluetooth: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
 - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
 - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
 - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8 W/kg.
4. Per KDB 648474 D04v01r03, when the reported SAR for a body-worn accessory measured without a headset connected to the handset is ≤ 1.2 W/kg, SAR testing with a headset connected to the handset is not required.

5G NR Note:

1. Referencing the procedure in KDB 941225, the test procedures are outlined as below:
 - a. To start SAR test for the largest channel bandwidth for PI/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. Also do SAR test for 50% RB allocation for PI/2 BPSK SAR testing using 1RB PI/2 BPSK allocation procedure
 - b. For PI/2 BPSK with 100% RB allocation, SAR test is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
 - c. For higher modulation QPSK/16QAM/64QAM/256QAM, according to tune-up document the power level is not $\frac{1}{2}$ dB higher than the same configuration in PI/2 BPSK, also reported SAR for the PI/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
 - d. Smaller bandwidth output power for each RB allocation configuration for this device is not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
 - e. For 5G FR1 n12/n25/26/n30/n41, the maximum channel bandwidth does not support three non-overlapping channels in the frequency band, the middle channel of the group of overlapping channels were selected for testing.
 - f. Due to test setup limitations, SAR testing for NR TDD Power class 3 was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission. For NR TDD power class2 was performed using Factory Test Mode software to establish the connection and perform SAR with 50% transmission.
 - g. For NR FDD was establishing connections via a base station simulator to use for output power measurement and SAR testing

**WLAN Note:**

1. The 2.4GHz WLAN Ant 3, and 5G/6GHz WLAN ant 4 support SDB mode and only operation in power index 2,4,6,8.
2. The 2.4GHz 802.11b mode support SISO mode and only operation in power index 1,3,5,7.
3. Per KDB 248227 D01v02r02, For 802.11b DSSS SAR measurements, DSSS SAR procedure applies to fixed exposure test position and initial test position procedure applies to multiple exposure test position when 802.11 DSS mode is active at transmit antenna 3 and 4
4. Per KDB 248227 D01v02r02, for 2.4GHz WLAN MIMO operation for 802.11g/n, when the same highest maximum output power specification applies to multiple transmission modes, the largest channel bandwidth configuration with the lowest order modulation and lowest data rate is measured, so 802.11g mode is selected to be tested.
5. Per KDB 248227 D01v02r02, WLAN5.2GHz SAR testing is not required when the WLAN5.3GHz band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for WLAN5.2GHz band.
6. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
7. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
8. For determination of the scaling factor for report SAR of MIMO mode, if the hot spots are separated the scaling factors are individually determined from each transmit chain. If the hot spots are not spatially separated, the scaling factor is determined from the worst number of each transmit chain
9. 4+3(3) represents the test in 2TX operation, while the SAR or power data is associated with antenna 3
10. 4+3(4) represents the test in 2TX operation, while the SAR or power data is associated with antenna 4
11. During SAR testing the WLAN transmission was verified using a spectrum analyzer.

WLAN PD Note:

1. The WiFi 6E PD was performed according 2020 TCB workshop RF Exposure 5G RFX Policies Interim Procedures.
2. First, evaluate SAR using 6-7 GHz parameters per IEC/IEEE 62209-1528:2020 and using highest SAR test configurations evaluate incident PD using the mmw near-field probe and total-field/power-density reconstruction method (2 mm closest meas. plane).
3. Per Interim Procedures. The power density results were scaled according to IEC 62479:2010 for the portion of the measurement uncertainty $> 30\%$. Total expanded uncertainty of 2.68 dB (85.4%) was used to determine the psPD measurement scaling factor
4. The manufacturer has confirmed that the devices tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
5. The WiFi 6E RF Exposure results are used for simultaneous transmission analysis with the other transmitters and total exposure ratio, the analysis can be found in this report appendix F.
6. Absorbed power density (APD) using a 4cm² averaging area is reported based on SAR measurements.
7. Power density was calculated by repeated E-field measurements on two measurement planes separated by $\lambda/4$.
8. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools.
9. The measurement procedure consists of measuring the PD_{inc} at two different distances: 2 mm (compliance distance) and $\lambda/5$. The grid extents should be large enough to fully capture the transmitted energy. The grid step should be fine enough to demonstrate that the integrated Power Density iPD_n fulfill the criterion described below. Since iPD ratio between the two distances is ≥ -1 dB, the grid step (0.0625) was sufficient for determining compliance at d=2mm.

$$10 \cdot \log_{10} \frac{iPD_n(2mm)}{iPD_n(\lambda/5)} \geq -1$$



17.1 Head SAR

<5G NR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	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)
	FR1 n12_Ant 0	15M	BPSK	1	1	Right Cheek	0mm	Index 2/3	141500	707.5	24.25	25.70	1.396	0.05	0.181	0.253
	FR1 n12_Ant 0	15M	BPSK	36	22	Right Cheek	0mm	Index 2/3	141500	707.5	24.23	25.70	1.403	0.09	0.196	0.275
	FR1 n12_Ant 0	15M	BPSK	1	1	Right Tilted	0mm	Index 2/3	141500	707.5	24.25	25.70	1.396	0.11	0.091	0.127
	FR1 n12_Ant 0	15M	BPSK	36	22	Right Tilted	0mm	Index 2/3	141500	707.5	24.23	25.70	1.403	0.14	0.101	0.142
	FR1 n12_Ant 0	15M	BPSK	1	1	Left Cheek	0mm	Index 2/3	141500	707.5	24.25	25.70	1.396	0.16	0.232	0.324
	FR1 n12_Ant 0	15M	BPSK	36	22	Left Cheek	0mm	Index 2/3	141500	707.5	24.23	25.70	1.403	0.02	0.258	0.362
	FR1 n12_Ant 0	15M	BPSK	1	1	Left Tilted	0mm	Index 2/3	141500	707.5	24.25	25.70	1.396	0.08	0.102	0.142
	FR1 n12_Ant 0	15M	BPSK	36	22	Left Tilted	0mm	Index 2/3	141500	707.5	24.23	25.70	1.403	0.12	0.120	0.168
72	FR1 n12_Ant 1	15M	BPSK	1	1	Right Cheek	0mm	Index 2	141500	707.5	21.73	23.40	1.469	-0.02	0.675	0.992
	FR1 n12_Ant 1	15M	BPSK	36	22	Right Cheek	0mm	Index 2	141500	707.5	21.85	23.40	1.429	0.15	0.625	0.893
	FR1 n12_Ant 1	15M	BPSK	75	0	Right Cheek	0mm	Index 2	141500	707.5	21.86	23.40	1.426	0.03	0.633	0.902
	FR1 n12_Ant 1	15M	BPSK	1	1	Right Tilted	0mm	Index 2	141500	707.5	21.73	23.40	1.469	0.01	0.575	0.845
	FR1 n12_Ant 1	15M	BPSK	36	22	Right Tilted	0mm	Index 2	141500	707.5	21.85	23.40	1.429	-0.08	0.524	0.749
	FR1 n12_Ant 1	15M	BPSK	75	0	Right Tilted	0mm	Index 2	141500	707.5	21.86	23.40	1.426	0.14	0.536	0.764
	FR1 n12_Ant 1	15M	BPSK	1	1	Left Cheek	0mm	Index 2	141500	707.5	21.73	23.40	1.469	0.16	0.237	0.348
	FR1 n12_Ant 1	15M	BPSK	36	22	Left Cheek	0mm	Index 2	141500	707.5	21.85	23.40	1.429	-0.05	0.224	0.320
	FR1 n12_Ant 1	15M	BPSK	1	1	Left Tilted	0mm	Index 2	141500	707.5	21.73	23.40	1.469	0.07	0.278	0.408
	FR1 n12_Ant 1	15M	BPSK	36	22	Left Tilted	0mm	Index 2	141500	707.5	21.85	23.40	1.429	0.06	0.254	0.363
	FR1 n12_Ant 1	15M	BPSK	1	1	Right Cheek	0mm	Index 3	141500	707.5	20.72	21.30	1.143	0.1	0.536	0.613
	FR1 n12_Ant 1	15M	BPSK	36	22	Right Cheek	0mm	Index 3	141500	707.5	20.82	21.30	1.117	0.05	0.496	0.554
	FR1 n12_Ant 1	15M	BPSK	1	1	Right Tilted	0mm	Index 3	141500	707.5	20.72	21.30	1.143	-0.03	0.457	0.522
	FR1 n12_Ant 1	15M	BPSK	36	22	Right Tilted	0mm	Index 3	141500	707.5	20.82	21.30	1.117	-0.06	0.416	0.465
	FR1 n12_Ant 1	15M	BPSK	1	1	Left Cheek	0mm	Index 3	141500	707.5	20.72	21.30	1.143	-0.08	0.188	0.215
	FR1 n12_Ant 1	15M	BPSK	36	22	Left Cheek	0mm	Index 3	141500	707.5	20.82	21.30	1.117	0	0.178	0.199
	FR1 n12_Ant 1	15M	BPSK	1	1	Left Tilted	0mm	Index 3	141500	707.5	20.72	21.30	1.143	-0.06	0.221	0.253
	FR1 n12_Ant 1	15M	BPSK	36	22	Left Tilted	0mm	Index 3	141500	707.5	20.82	21.30	1.117	0.09	0.202	0.226



FCC SAR TEST REPORT

Report No. : FA380307B

Table with 17 columns: Plot No., Band, BW (MHz), Modulation, RB Size, RB offset, Test Position, Gap (mm), 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). Rows include data for Plot No. 73 and 74 across various antenna configurations and test conditions.



FCC SAR TEST REPORT

Report No. : FA380307B

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	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)
	FR1 n30_Ant 2	10M	BPSK	1	1	Right Cheek	0mm	Index 2	462000	2310	23.57	24.00	1.104	0.14	0.584	0.645
	FR1 n30_Ant 2	10M	BPSK	25	14	Right Cheek	0mm	Index 2	462000	2310	23.56	24.00	1.107	0.01	0.576	0.637
	FR1 n30_Ant 2	10M	BPSK	1	1	Right Tilted	0mm	Index 2	462000	2310	23.57	24.00	1.104	0.04	0.260	0.287
	FR1 n30_Ant 2	10M	BPSK	25	14	Right Tilted	0mm	Index 2	462000	2310	23.56	24.00	1.107	0.03	0.227	0.251
	FR1 n30_Ant 2	10M	BPSK	1	1	Left Cheek	0mm	Index 2	462000	2310	23.57	24.00	1.104	0.11	0.318	0.351
	FR1 n30_Ant 2	10M	BPSK	25	14	Left Cheek	0mm	Index 2	462000	2310	23.56	24.00	1.107	-0.06	0.305	0.338
	FR1 n30_Ant 2	10M	BPSK	1	1	Left Tilted	0mm	Index 2	462000	2310	23.57	24.00	1.104	-0.05	0.251	0.277
	FR1 n30_Ant 2	10M	BPSK	25	14	Left Tilted	0mm	Index 2	462000	2310	23.56	24.00	1.107	0.05	0.229	0.253
	FR1 n30_Ant 2	10M	BPSK	1	1	Right Cheek	0mm	Index 3	462000	2310	23.57	23.90	1.079	0.14	0.584	0.630
	FR1 n30_Ant 2	10M	BPSK	25	14	Right Cheek	0mm	Index 3	462000	2310	23.56	23.90	1.081	0.01	0.576	0.623
	FR1 n30_Ant 2	10M	BPSK	1	1	Right Tilted	0mm	Index 3	462000	2310	23.57	23.90	1.079	0.04	0.260	0.281
	FR1 n30_Ant 2	10M	BPSK	25	14	Right Tilted	0mm	Index 3	462000	2310	23.56	23.90	1.081	0.03	0.227	0.245
	FR1 n30_Ant 2	10M	BPSK	1	1	Left Cheek	0mm	Index 3	462000	2310	23.57	23.90	1.079	0.11	0.318	0.343
	FR1 n30_Ant 2	10M	BPSK	25	14	Left Cheek	0mm	Index 3	462000	2310	23.56	23.90	1.081	-0.06	0.305	0.330
	FR1 n30_Ant 2	10M	BPSK	1	1	Left Tilted	0mm	Index 3	462000	2310	23.57	23.90	1.079	-0.05	0.251	0.271
	FR1 n30_Ant 2	10M	BPSK	25	14	Left Tilted	0mm	Index 3	462000	2310	23.56	23.90	1.081	0.05	0.229	0.248
	FR1 n30_Ant 0	10M	BPSK	1	1	Right Cheek	0mm	Index 2	462000	2310	24.27	25.20	1.239	0.02	0.379	0.470
	FR1 n30_Ant 0	10M	BPSK	25	14	Right Cheek	0mm	Index 2	462000	2310	24.16	25.20	1.271	0.11	0.404	0.513
	FR1 n30_Ant 0	10M	BPSK	1	1	Right Tilted	0mm	Index 2	462000	2310	24.27	25.20	1.239	0.06	0.304	0.377
	FR1 n30_Ant 0	10M	BPSK	25	14	Right Tilted	0mm	Index 2	462000	2310	24.16	25.20	1.271	0.05	0.327	0.415
	FR1 n30_Ant 0	10M	BPSK	1	1	Left Cheek	0mm	Index 2	462000	2310	24.27	25.20	1.239	-0.09	0.629	0.779
75	FR1 n30_Ant 0	10M	BPSK	25	14	Left Cheek	0mm	Index 2	462000	2310	24.16	25.20	1.271	0.04	0.694	0.882
	FR1 n30_Ant 0	10M	BPSK	50	0	Left Cheek	0mm	Index 2	462000	2310	23.66	24.70	1.271	0.01	0.526	0.668
	FR1 n30_Ant 0	10M	BPSK	1	1	Left Tilted	0mm	Index 2	462000	2310	24.27	25.20	1.239	-0.11	0.258	0.320
	FR1 n30_Ant 0	10M	BPSK	25	14	Left Tilted	0mm	Index 2	462000	2310	24.16	25.20	1.271	0.04	0.266	0.338
	FR1 n30_Ant 0	10M	BPSK	1	1	Right Cheek	0mm	Index 3	462000	2310	24.27	24.80	1.130	0.02	0.379	0.428
	FR1 n30_Ant 0	10M	BPSK	25	14	Right Cheek	0mm	Index 3	462000	2310	24.16	24.80	1.159	0.11	0.404	0.468
	FR1 n30_Ant 0	10M	BPSK	1	1	Right Tilted	0mm	Index 3	462000	2310	24.27	24.80	1.130	0.06	0.304	0.343
	FR1 n30_Ant 0	10M	BPSK	25	14	Right Tilted	0mm	Index 3	462000	2310	24.16	24.80	1.159	0.05	0.327	0.379
	FR1 n30_Ant 0	10M	BPSK	1	1	Left Cheek	0mm	Index 3	462000	2310	24.27	24.80	1.130	-0.09	0.629	0.711
	FR1 n30_Ant 0	10M	BPSK	25	14	Left Cheek	0mm	Index 3	462000	2310	24.16	24.80	1.159	0.04	0.694	0.804
	FR1 n30_Ant 0	10M	BPSK	50	0	Left Cheek	0mm	Index 3	462000	2310	23.66	24.70	1.271	0.01	0.526	0.668
	FR1 n30_Ant 0	10M	BPSK	1	1	Left Tilted	0mm	Index 3	462000	2310	24.27	24.80	1.130	-0.11	0.258	0.291
	FR1 n30_Ant 0	10M	BPSK	25	14	Left Tilted	0mm	Index 3	462000	2310	24.16	24.80	1.159	0.04	0.266	0.308



FCC SAR TEST REPORT

Report No. : FA380307B

Table with columns: Plot No., Band, BW (MHz), Modulation, RB Size, RB offset, Test Position, Gap (mm), 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). Contains multiple rows of test data for various antenna configurations and frequencies.



<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 4	Index 1	12	2467	12.40	12.50	1.023	98.85	1.012	0.08	0.310	0.321
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 4	Index 1	12	2467	12.40	12.50	1.023	98.85	1.012	0.01	0.318	0.329
78	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 4	Index 1	12	2467	12.40	12.50	1.023	98.85	1.012	-0.19	0.768	0.795
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 4	Index 1	12	2467	12.40	12.50	1.023	98.85	1.012	0.1	0.751	0.778
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 3	Index 1/2	11	2462	12.45	12.50	1.012	98.85	1.012	0.01	0.399	0.408
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 3	Index 1/2	11	2462	12.45	12.50	1.012	98.85	1.012	0.12	0.064	0.066
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3	Index 1/2	11	2462	12.45	12.50	1.012	98.85	1.012	0.08	0.262	0.268
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 3	Index 1/2	11	2462	12.45	12.50	1.012	98.85	1.012	-0.17	0.051	0.052
	WLAN2.4GHz	802.11g 6Mbps	Right Cheek	0mm	Ant 4+3(4)	Index 1	6	2437	12.40	12.50	1.023	93.46	1.070	-0.19	0.241	0.264
	WLAN2.4GHz	802.11g 6Mbps	Right Cheek	0mm	Ant 4+3(3)	Index 1	6	2437	12.15	12.50	1.084	93.46	1.070	-0.19	0.189	0.219
	WLAN2.4GHz	802.11g 6Mbps	Right Tilted	0mm	Ant 4+3(4)	Index 1	6	2437	12.40	12.50	1.023	93.46	1.070	-0.03	0.274	0.300
	WLAN2.4GHz	802.11g 6Mbps	Right Tilted	0mm	Ant 4+3(3)	Index 1	6	2437	12.15	12.50	1.084	93.46	1.070	-0.03	0.001	0.001
	WLAN2.4GHz	802.11g 6Mbps	Left Cheek	0mm	Ant 4+3(4)	Index 1	6	2437	12.40	12.50	1.023	93.46	1.070	-0.06	0.641	0.702
	WLAN2.4GHz	802.11g 6Mbps	Left Cheek	0mm	Ant 4+3(3)	Index 1	6	2437	12.15	12.50	1.084	93.46	1.070	-0.06	0.134	0.155
	WLAN2.4GHz	802.11g 6Mbps	Left Tilted	0mm	Ant 4+3(4)	Index 1	6	2437	12.40	12.50	1.023	93.46	1.070	0.01	0.606	0.664
	WLAN2.4GHz	802.11g 6Mbps	Left Tilted	0mm	Ant 4+3(3)	Index 1	6	2437	12.15	12.50	1.084	93.46	1.070	0.01	0.001	0.001
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 4	Index 3	12	2467	9.90	10.00	1.023	98.85	1.012	0.15	0.162	0.168
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 4	Index 3	12	2467	9.90	10.00	1.023	98.85	1.012	0.05	0.168	0.174
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 4	Index 3	12	2467	9.90	10.00	1.023	98.85	1.012	0	0.459	0.475
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 4	Index 3	12	2467	9.90	10.00	1.023	98.85	1.012	-0.16	0.366	0.379
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 3	Index 3/4	11	2462	9.95	10.00	1.012	98.85	1.012	-0.15	0.236	0.242
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 3	Index 3/4	11	2462	9.95	10.00	1.012	98.85	1.012	-0.07	0.037	0.038
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3	Index 3/4	11	2462	9.95	10.00	1.012	98.85	1.012	0.11	0.155	0.159
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 3	Index 3/4	11	2462	9.95	10.00	1.012	98.85	1.012	0.08	0.030	0.031
	WLAN2.4GHz	802.11g 6Mbps	Right Cheek	0mm	Ant 4+3(4)	Index 3	1	2412	9.80	10.00	1.047	93.46	1.070	-0.1	0.098	0.110
	WLAN2.4GHz	802.11g 6Mbps	Right Cheek	0mm	Ant 4+3(3)	Index 3	1	2412	9.45	10.00	1.135	93.46	1.070	-0.1	0.103	0.125
	WLAN2.4GHz	802.11g 6Mbps	Right Tilted	0mm	Ant 4+3(4)	Index 3	1	2412	9.80	10.00	1.047	93.46	1.070	-0.09	0.112	0.125
	WLAN2.4GHz	802.11g 6Mbps	Right Tilted	0mm	Ant 4+3(3)	Index 3	1	2412	9.45	10.00	1.135	93.46	1.070	-0.09	0.001	0.001
	WLAN2.4GHz	802.11g 6Mbps	Left Cheek	0mm	Ant 4+3(4)	Index 3	1	2412	9.80	10.00	1.047	93.46	1.070	-0.13	0.274	0.307
	WLAN2.4GHz	802.11g 6Mbps	Left Cheek	0mm	Ant 4+3(3)	Index 3	1	2412	9.45	10.00	1.135	93.46	1.070	-0.13	0.057	0.069
	WLAN2.4GHz	802.11g 6Mbps	Left Tilted	0mm	Ant 4+3(4)	Index 3	1	2412	9.80	10.00	1.047	93.46	1.070	0.08	0.284	0.318
	WLAN2.4GHz	802.11g 6Mbps	Left Tilted	0mm	Ant 4+3(3)	Index 3	1	2412	9.45	10.00	1.135	93.46	1.070	0.08	0.007	0.009



FCC SAR TEST REPORT

Report No. : FA380307B

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 4	Index 1/2	56	5280	17.90	18.00	1.023	93.46	1.070	0.08	0.112	0.123
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 4	Index 1/2	56	5280	17.90	18.00	1.023	93.46	1.070	0.01	0.123	0.135
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 4	Index 1/2	56	5280	17.90	18.00	1.023	93.46	1.070	0.16	0.609	0.667
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 4	Index 1/2	56	5280	17.90	18.00	1.023	93.46	1.070	0.03	0.347	0.380
79	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 4+3(4)	Index 1	56	5280	18.00	18.00	1.000	93.42	1.070	0.08	0.130	0.139
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 4+3(3)	Index 1	56	5280	17.80	18.00	1.047	93.42	1.070	0.08	0.776	0.869
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 4+3(4)	Index 1	52	5260	17.90	18.00	1.023	93.42	1.070	-0.17	0.158	0.173
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 4+3(3)	Index 1	52	5260	17.90	18.00	1.023	93.42	1.070	-0.17	1.000	1.095
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 4+3(4)	Index 1	60	5300	18.00	18.00	1.000	93.42	1.070	0	0.157	0.168
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 4+3(3)	Index 1	60	5300	17.60	18.00	1.096	93.42	1.070	0	0.871	1.022
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 4+3(4)	Index 1	64	5320	13.40	13.50	1.023	93.42	1.070	-0.11	0.043	0.047
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 4+3(3)	Index 1	64	5320	12.90	13.50	1.148	93.42	1.070	-0.11	0.294	0.361
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 4+3(4)	Index 1	56	5280	18.00	18.00	1.000	93.42	1.070	-0.13	0.125	0.134
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 4+3(3)	Index 1	56	5280	17.80	18.00	1.047	93.42	1.070	-0.13	0.153	0.171
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 4+3(4)	Index 1	56	5280	18.00	18.00	1.000	93.42	1.070	-0.1	0.680	0.728
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 4+3(3)	Index 1	56	5280	17.80	18.00	1.047	93.42	1.070	-0.1	0.358	0.401
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 4+3(4)	Index 1	56	5280	18.00	18.00	1.000	93.42	1.070	-0.1	0.447	0.478
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 4+3(3)	Index 1	56	5280	17.80	18.00	1.047	93.42	1.070	-0.1	0.097	0.109
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4	Index 3	58	5290	11.90	12.00	1.023	89.9	1.112	-0.02	0.067	0.076
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4	Index 3	58	5290	11.90	12.00	1.023	89.9	1.112	0.11	0.058	0.066
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Index 3	58	5290	11.90	12.00	1.023	89.9	1.112	-0.16	0.152	0.173
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4	Index 3	58	5290	11.90	12.00	1.023	89.9	1.112	0.02	0.092	0.105
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(4)	Index 3	58	5290	11.90	12.00	1.023	89.9	1.112	0.1	0.017	0.019
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(3)	Index 3	58	5290	11.50	12.00	1.122	89.9	1.112	0.1	0.262	0.327
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4+3(4)	Index 3	58	5290	11.90	12.00	1.023	89.9	1.112	0.01	0.015	0.017
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4+3(3)	Index 3	58	5290	11.50	12.00	1.122	89.9	1.112	0.01	0.021	0.026
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4+3(4)	Index 3	58	5290	11.90	12.00	1.023	89.9	1.112	-0.15	0.142	0.162
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4+3(3)	Index 3	58	5290	11.50	12.00	1.122	89.9	1.112	-0.15	0.065	0.081
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4+3(4)	Index 3	58	5290	11.90	12.00	1.023	89.9	1.112	-0.15	0.100	0.114
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4+3(3)	Index 3	58	5290	11.50	12.00	1.122	89.9	1.112	-0.15	0.010	0.012
	WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 4	Index 4	54	5270	15.40	15.50	1.023	86.84	1.152	0.02	0.069	0.081
	WLAN5GHz	802.11n-HT40 MCS0	Right Tilted	0mm	Ant 4	Index 4	54	5270	15.40	15.50	1.023	86.84	1.152	0.07	0.085	0.100
	WLAN5GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 4	Index 4	54	5270	15.40	15.50	1.023	86.84	1.152	0.18	0.292	0.344
	WLAN5GHz	802.11n-HT40 MCS0	Left Tilted	0mm	Ant 4	Index 4	54	5270	15.40	15.50	1.023	86.84	1.152	-0.02	0.206	0.243



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Report No. : FA380307B

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4	Index 1	122	5610	15.40	15.50	1.023	89.9	1.112	0.07	0.121	0.138
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4	Index 1	122	5610	15.40	15.50	1.023	89.9	1.112	-0.16	0.101	0.115
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Index 1	122	5610	15.40	15.50	1.023	89.9	1.112	-0.15	0.628	0.715
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4	Index 1	122	5610	15.40	15.50	1.023	89.9	1.112	-0.15	0.363	0.413
80	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(4)	Index 1	122	5610	15.40	15.50	1.023	89.9	1.112	-0.18	0.168	0.191
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(3)	Index 1	122	5610	15.30	15.50	1.047	89.9	1.112	-0.18	0.874	1.018
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(4)	Index 1	106	5530	14.00	14.50	1.122	89.9	1.112	-0.15	0.065	0.081
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(3)	Index 1	106	5530	13.80	14.50	1.175	89.9	1.112	-0.15	0.385	0.503
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(4)	Index 1	138	5690	15.30	15.50	1.047	89.9	1.112	0.18	0.167	0.194
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(3)	Index 1	138	5690	14.80	15.50	1.175	89.9	1.112	0.18	0.608	0.794
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4+3(4)	Index 1	122	5610	15.40	15.50	1.023	89.9	1.112	-0.11	0.077	0.088
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4+3(3)	Index 1	122	5610	15.30	15.50	1.047	89.9	1.112	-0.11	0.037	0.043
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4+3(4)	Index 1	122	5610	15.40	15.50	1.023	89.9	1.112	0.17	0.391	0.445
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4+3(3)	Index 1	122	5610	15.30	15.50	1.047	89.9	1.112	0.17	0.329	0.383
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4+3(4)	Index 1	122	5610	15.40	15.50	1.023	89.9	1.112	0.13	0.292	0.332
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4+3(3)	Index 1	122	5610	15.30	15.50	1.047	89.9	1.112	0.13	0.030	0.035
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4	Index 2	122	5610	15.80	16.00	1.047	89.9	1.112	0.11	0.089	0.104
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4	Index 2	122	5610	15.80	16.00	1.047	89.9	1.112	0.09	0.074	0.086
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Index 2	122	5610	15.80	16.00	1.047	89.9	1.112	0.15	0.497	0.579
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4	Index 2	122	5610	15.80	16.00	1.047	89.9	1.112	-0.07	0.267	0.311
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4	Index 3	122	5610	9.30	9.50	1.047	89.9	1.112	0.05	0.065	0.076
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4	Index 3	122	5610	9.30	9.50	1.047	89.9	1.112	0.08	0.051	0.059
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Index 3	122	5610	9.30	9.50	1.047	89.9	1.112	-0.14	0.133	0.155
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4	Index 3	122	5610	9.30	9.50	1.047	89.9	1.112	-0.09	0.092	0.107
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(4)	Index 3	122	5610	9.40	9.50	1.023	89.9	1.112	-0.17	0.024	0.027
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(3)	Index 3	122	5610	9.20	9.50	1.072	89.9	1.112	-0.17	0.210	0.250
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4+3(4)	Index 3	122	5610	9.40	9.50	1.023	89.9	1.112	0.02	0.016	0.018
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4+3(3)	Index 3	122	5610	9.20	9.50	1.072	89.9	1.112	0.02	0.011	0.013
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4+3(4)	Index 3	122	5610	9.40	9.50	1.023	89.9	1.112	-0.01	0.121	0.138
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4+3(3)	Index 3	122	5610	9.20	9.50	1.072	89.9	1.112	-0.01	0.081	0.097
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4+3(4)	Index 3	122	5610	9.40	9.50	1.023	89.9	1.112	-0.14	0.087	0.099
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4+3(3)	Index 3	122	5610	9.20	9.50	1.072	89.9	1.112	-0.14	0.010	0.012
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4	Index 4	106	5530	12.40	12.50	1.023	89.9	1.112	0.09	0.056	0.064
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4	Index 4	106	5530	12.40	12.50	1.023	89.9	1.112	-0.13	0.053	0.060
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Index 4	106	5530	12.40	12.50	1.023	89.9	1.112	0.05	0.279	0.317
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4	Index 4	106	5530	12.40	12.50	1.023	89.9	1.112	-0.18	0.170	0.193



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Report No. : FA380307B

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4	Index 1	155	5775	17.40	17.50	1.023	89.9	1.112	-0.15	0.201	0.229
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4	Index 1	155	5775	17.40	17.50	1.023	89.9	1.112	-0.17	0.161	0.183
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Index 1	155	5775	17.40	17.50	1.023	89.9	1.112	0.06	0.572	0.651
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4	Index 1	155	5775	17.40	17.50	1.023	89.9	1.112	0.09	0.355	0.404
81	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(4)	Index 1	155	5775	17.50	17.50	1.000	89.9	1.112	-0.17	0.236	0.262
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(3)	Index 1	155	5775	16.80	17.50	1.175	89.9	1.112	-0.17	0.693	0.905
	WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 4+3(4)	Index 1	151	5755	17.50	17.50	1.000	92.7	1.079	-0.17	0.222	0.240
	WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 4+3(3)	Index 1	151	5755	17.10	17.50	1.096	92.7	1.079	-0.17	0.677	0.801
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4+3(4)	Index 1	155	5775	17.50	17.50	1.000	89.9	1.112	-0.12	0.214	0.238
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4+3(3)	Index 1	155	5775	16.80	17.50	1.175	89.9	1.112	-0.12	0.044	0.057
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4+3(4)	Index 1	155	5775	17.50	17.50	1.000	89.9	1.112	-0.01	0.380	0.423
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4+3(3)	Index 1	155	5775	16.80	17.50	1.175	89.9	1.112	-0.01	0.499	0.652
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4+3(4)	Index 1	155	5775	17.50	17.50	1.000	89.9	1.112	0.08	0.313	0.348
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4+3(3)	Index 1	155	5775	16.80	17.50	1.175	89.9	1.112	0.08	0.037	0.048
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4	Index 2	155	5775	16.40	16.50	1.023	89.9	1.112	-0.02	0.168	0.191
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4	Index 2	155	5775	16.40	16.50	1.023	89.9	1.112	0.1	0.134	0.152
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Index 2	155	5775	16.40	16.50	1.023	89.9	1.112	-0.11	0.406	0.462
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4	Index 2	155	5775	16.40	16.50	1.023	89.9	1.112	0.06	0.298	0.339
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4	Index 3	155	5775	10.40	10.50	1.023	89.9	1.112	-0.01	0.026	0.030
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4	Index 3	155	5775	10.40	10.50	1.023	89.9	1.112	0.09	0.022	0.025
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Index 3	155	5775	10.40	10.50	1.023	89.9	1.112	-0.09	0.081	0.092
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4	Index 3	155	5775	10.40	10.50	1.023	89.9	1.112	-0.16	0.036	0.041
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(4)	Index 3	155	5775	9.70	10.50	1.202	89.9	1.112	0.11	0.024	0.032
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(3)	Index 3	155	5775	10.40	10.50	1.023	89.9	1.112	0.11	0.098	0.112
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4+3(4)	Index 3	155	5775	9.70	10.50	1.202	89.9	1.112	0.15	0.012	0.016
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4+3(3)	Index 3	155	5775	10.40	10.50	1.023	89.9	1.112	0.15	0.001	0.001
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4+3(4)	Index 3	155	5775	9.70	10.50	1.202	89.9	1.112	0.01	0.030	0.040
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4+3(3)	Index 3	155	5775	10.40	10.50	1.023	89.9	1.112	0.01	0.047	0.053
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4+3(4)	Index 3	155	5775	9.70	10.50	1.202	89.9	1.112	0.05	0.024	0.032
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4+3(3)	Index 3	155	5775	10.40	10.50	1.023	89.9	1.112	0.05	0.002	0.002
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4	Index 4	155	5775	13.40	13.50	1.023	89.9	1.112	0.02	0.075	0.085
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4	Index 4	155	5775	13.40	13.50	1.023	89.9	1.112	0.08	0.098	0.112
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Index 4	155	5775	13.40	13.50	1.023	89.9	1.112	-0.11	0.185	0.211
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4	Index 4	155	5775	13.40	13.50	1.023	89.9	1.112	0.02	0.140	0.159



FCC SAR TEST REPORT

Report No. : FA380307B

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4	Index 1	171	5855	16.40	16.50	1.023	89.9	1.112	0.05	0.183	0.208
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4	Index 1	171	5855	16.40	16.50	1.023	89.9	1.112	0.09	0.166	0.189
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Index 1	171	5855	16.40	16.50	1.023	89.9	1.112	-0.03	0.618	0.703
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4	Index 1	171	5855	16.40	16.50	1.023	89.9	1.112	-0.08	0.404	0.460
82	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(4)	Index 1	171	5855	16.40	16.50	1.023	89.9	1.112	-0.04	0.223	0.254
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(3)	Index 1	171	5855	15.50	16.50	1.259	89.9	1.112	-0.04	0.665	0.931
	WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 4+3(4)	Index 1	175	5875	16.40	16.50	1.023	92.7	1.079	0.04	0.317	0.350
	WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 4+3(3)	Index 1	175	5875	16.00	16.50	1.122	92.7	1.079	0.04	0.578	0.700
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4+3(4)	Index 1	171	5855	16.40	16.50	1.023	89.9	1.112	-0.08	0.174	0.198
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4+3(3)	Index 1	171	5855	15.50	16.50	1.259	89.9	1.112	-0.08	0.051	0.071
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4+3(4)	Index 1	171	5855	16.40	16.50	1.023	89.9	1.112	-0.13	0.499	0.568
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4+3(3)	Index 1	171	5855	15.50	16.50	1.259	89.9	1.112	-0.13	0.371	0.519
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4+3(4)	Index 1	171	5855	16.40	16.50	1.023	89.9	1.112	-0.12	0.367	0.418
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4+3(3)	Index 1	171	5855	15.50	16.50	1.259	89.9	1.112	-0.12	0.056	0.078
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4	Index 2	171	5855	16.40	16.50	1.023	89.9	1.112	0.06	0.165	0.188
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4	Index 2	171	5855	16.40	16.50	1.023	89.9	1.112	0.07	0.150	0.171
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Index 2	171	5855	16.40	16.50	1.023	89.9	1.112	0.03	0.582	0.662
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4	Index 2	171	5855	16.40	16.50	1.023	89.9	1.112	-0.05	0.365	0.415
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4	Index 3	171	5855	9.40	9.50	1.023	89.9	1.112	0.08	0.049	0.056
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4	Index 3	171	5855	9.40	9.50	1.023	89.9	1.112	0.01	0.040	0.046
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Index 3	171	5855	9.40	9.50	1.023	89.9	1.112	0.09	0.093	0.106
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4	Index 3	171	5855	9.40	9.50	1.023	89.9	1.112	0.03	0.068	0.077
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(4)	Index 3	171	5855	9.40	9.50	1.023	89.9	1.112	-0.18	0.027	0.031
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(3)	Index 3	171	5855	8.70	9.50	1.202	89.9	1.112	-0.18	0.121	0.162
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4+3(4)	Index 3	171	5855	9.40	9.50	1.023	89.9	1.112	-0.02	0.014	0.016
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4+3(3)	Index 3	171	5855	8.70	9.50	1.202	89.9	1.112	-0.02	0.001	0.001
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4+3(4)	Index 3	171	5855	9.40	9.50	1.023	89.9	1.112	0.13	0.078	0.089
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4+3(3)	Index 3	171	5855	8.70	9.50	1.202	89.9	1.112	0.13	0.041	0.055
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4+3(4)	Index 3	171	5855	9.40	9.50	1.023	89.9	1.112	-0.09	0.068	0.077
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4+3(3)	Index 3	171	5855	8.70	9.50	1.202	89.9	1.112	-0.09	0.001	0.001
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4	Index 4	171	5855	12.90	13.00	1.023	89.9	1.112	0.06	0.081	0.092
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4	Index 4	171	5855	12.90	13.00	1.023	89.9	1.112	0.02	0.089	0.101
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Index 4	171	5855	12.90	13.00	1.023	89.9	1.112	-0.06	0.204	0.232
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4	Index 4	171	5855	12.90	13.00	1.023	89.9	1.112	-0.15	0.118	0.134



<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 4	BT Index 1	39	2441	8.95	9.50	1.135	77.07	1.081	0.09	0.094	0.115
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 4	BT Index 1	39	2441	8.95	9.50	1.135	77.07	1.081	0.13	0.110	0.135
85	Bluetooth	1Mbps	Left Cheek	0mm	Ant 4	BT Index 1	39	2441	8.95	9.50	1.135	77.07	1.081	-0.06	0.236	0.290
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 4	BT Index 1	39	2441	8.95	9.50	1.135	77.07	1.081	-0.16	0.231	0.283
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 3	BT Index 1	0	2402	8.75	9.50	1.189	77.07	1.081	0.06	0.084	0.108
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 3	BT Index 1	0	2402	8.75	9.50	1.189	77.07	1.081	-0.1	0.013	0.017
	Bluetooth	1Mbps	Left Cheek	0mm	Ant 3	BT Index 1	0	2402	8.75	9.50	1.189	77.07	1.081	-0.16	0.047	0.060
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 3	BT Index 1	0	2402	8.75	9.50	1.189	77.07	1.081	-0.12	0.006	0.008

17.2 Hotspot SAR

<5G NR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	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)
	FR1 n12_Ant 0	15M	BPSK	1	1	Front	10mm	Index 4	141500	707.5	24.25	25.70	1.396	0.12	0.290	0.405
	FR1 n12_Ant 0	15M	BPSK	36	22	Front	10mm	Index 4	141500	707.5	24.23	25.70	1.403	-0.01	0.315	0.442
	FR1 n12_Ant 0	15M	BPSK	1	1	Back	10mm	Index 4	141500	707.5	24.25	25.70	1.396	0.03	0.334	0.466
	FR1 n12_Ant 0	15M	BPSK	36	22	Back	10mm	Index 4	141500	707.5	24.23	25.70	1.403	0.01	0.336	0.471
86	FR1 n12_Ant 0	15M	BPSK	1	1	Left Side	10mm	Index 4	141500	707.5	24.25	25.70	1.396	0.01	0.367	0.512
	FR1 n12_Ant 0	15M	BPSK	36	22	Left Side	10mm	Index 4	141500	707.5	24.23	25.70	1.403	-0.05	0.301	0.422
	FR1 n12_Ant 0	15M	BPSK	1	1	Right Side	10mm	Index 4	141500	707.5	24.25	25.70	1.396	-0.01	0.172	0.240
	FR1 n12_Ant 0	15M	BPSK	36	22	Right Side	10mm	Index 4	141500	707.5	24.23	25.70	1.403	0.01	0.135	0.189
	FR1 n12_Ant 0	15M	BPSK	1	1	Bottom Side	10mm	Index 4	141500	707.5	24.25	25.70	1.396	-0.02	0.085	0.119
	FR1 n12_Ant 0	15M	BPSK	36	22	Bottom Side	10mm	Index 4	141500	707.5	24.23	25.70	1.403	-0.01	0.109	0.153
	FR1 n12_Ant 1	15M	BPSK	1	1	Front	10mm	Index 4	141500	707.5	23.88	25.30	1.387	-0.01	0.199	0.276
	FR1 n12_Ant 1	15M	BPSK	36	22	Front	10mm	Index 4	141500	707.5	23.86	25.30	1.393	-0.03	0.200	0.279
	FR1 n12_Ant 1	15M	BPSK	1	1	Back	10mm	Index 4	141500	707.5	23.88	25.30	1.387	-0.08	0.212	0.294
	FR1 n12_Ant 1	15M	BPSK	36	22	Back	10mm	Index 4	141500	707.5	23.86	25.30	1.393	-0.02	0.228	0.318
	FR1 n12_Ant 1	15M	BPSK	1	1	Left Side	10mm	Index 4	141500	707.5	23.88	25.30	1.387	-0.03	0.229	0.318
	FR1 n12_Ant 1	15M	BPSK	36	22	Left Side	10mm	Index 4	141500	707.5	23.86	25.30	1.393	-0.01	0.236	0.329
	FR1 n12_Ant 1	15M	BPSK	1	1	Right Side	10mm	Index 4	141500	707.5	23.88	25.30	1.387	-0.05	0.136	0.189
	FR1 n12_Ant 1	15M	BPSK	36	22	Right Side	10mm	Index 4	141500	707.5	23.86	25.30	1.393	-0.01	0.140	0.195
	FR1 n12_Ant 1	15M	BPSK	1	1	Top Side	10mm	Index 4	141500	707.5	23.88	25.30	1.387	-0.06	0.101	0.140
	FR1 n12_Ant 1	15M	BPSK	36	22	Top Side	10mm	Index 4	141500	707.5	23.86	25.30	1.393	-0.02	0.123	0.171



FCC SAR TEST REPORT

Report No. : FA380307B

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	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)
	FR1 n25_Ant 2	40M	BPSK	1	108	Front	10mm	Index 4	376500	1882.5	20.01	20.20	1.045	-0.03	0.497	0.519
	FR1 n25_Ant 2	40M	BPSK	108	54	Front	10mm	Index 4	376500	1882.5	19.93	20.20	1.064	-0.1	0.504	0.536
	FR1 n25_Ant 2	40M	BPSK	1	108	Back	10mm	Index 4	376500	1882.5	20.01	20.20	1.045	-0.02	0.507	0.530
	FR1 n25_Ant 2	40M	BPSK	108	54	Back	10mm	Index 4	376500	1882.5	19.93	20.20	1.064	-0.1	0.532	0.566
	FR1 n25_Ant 2	40M	BPSK	1	108	Left Side	10mm	Index 4	376500	1882.5	20.01	20.20	1.045	0.03	0.027	0.028
	FR1 n25_Ant 2	40M	BPSK	108	54	Left Side	10mm	Index 4	376500	1882.5	19.93	20.20	1.064	-0.04	0.037	0.039
	FR1 n25_Ant 2	40M	BPSK	1	108	Right Side	10mm	Index 4	376500	1882.5	20.01	20.20	1.045	-0.01	0.408	0.426
	FR1 n25_Ant 2	40M	BPSK	108	54	Right Side	10mm	Index 4	376500	1882.5	19.93	20.20	1.064	0.08	0.428	0.455
	FR1 n25_Ant 2	40M	BPSK	1	108	Bottom Side	10mm	Index 4	376500	1882.5	20.01	20.20	1.045	-0.04	0.302	0.316
	FR1 n25_Ant 2	40M	BPSK	108	54	Bottom Side	10mm	Index 4	376500	1882.5	19.93	20.20	1.064	0.03	0.325	0.346
	FR1 n25_Ant 0	40M	BPSK	1	1	Front	10mm	Index 4	376500	1882.5	22.48	24.00	1.419	0.15	0.361	0.512
	FR1 n25_Ant 0	40M	BPSK	108	54	Front	10mm	Index 4	376500	1882.5	22.44	24.00	1.432	-0.07	0.369	0.528
	FR1 n25_Ant 0	40M	BPSK	1	1	Back	10mm	Index 4	376500	1882.5	22.48	24.00	1.419	-0.07	0.354	0.502
	FR1 n25_Ant 0	40M	BPSK	108	54	Back	10mm	Index 4	376500	1882.5	22.44	24.00	1.432	-0.04	0.373	0.534
	FR1 n25_Ant 0	40M	BPSK	1	1	Left Side	10mm	Index 4	376500	1882.5	22.48	24.00	1.419	0.11	0.481	0.683
87	FR1 n25_Ant 0	40M	BPSK	108	54	Left Side	10mm	Index 4	376500	1882.5	22.44	24.00	1.432	-0.02	0.528	0.756
	FR1 n25_Ant 0	40M	BPSK	1	1	Right Side	10mm	Index 4	376500	1882.5	22.48	24.00	1.419	-0.05	0.019	0.027
	FR1 n25_Ant 0	40M	BPSK	108	54	Right Side	10mm	Index 4	376500	1882.5	22.44	24.00	1.432	0.18	0.028	0.040
	FR1 n25_Ant 0	40M	BPSK	1	1	Bottom Side	10mm	Index 4	376500	1882.5	22.48	24.00	1.419	0.12	0.100	0.142
	FR1 n25_Ant 0	40M	BPSK	108	54	Bottom Side	10mm	Index 4	376500	1882.5	22.44	24.00	1.432	-0.08	0.108	0.155
	FR1 n26_Ant 0	20M	BPSK	1	1	Front	10mm	Index 4	166300	831.5	24.40	25.50	1.288	0.15	0.333	0.429
	FR1 n26_Ant 0	20M	BPSK	50	28	Front	10mm	Index 4	166300	831.5	24.27	25.50	1.327	-0.02	0.351	0.466
	FR1 n26_Ant 0	20M	BPSK	1	1	Back	10mm	Index 4	166300	831.5	24.40	25.50	1.288	-0.08	0.336	0.433
	FR1 n26_Ant 0	20M	BPSK	50	28	Back	10mm	Index 4	166300	831.5	24.27	25.50	1.327	0	0.347	0.461
88	FR1 n26_Ant 0	20M	BPSK	1	1	Left Side	10mm	Index 4	166300	831.5	24.40	25.50	1.288	-0.02	0.507	0.653
	FR1 n26_Ant 0	20M	BPSK	50	28	Left Side	10mm	Index 4	166300	831.5	24.27	25.50	1.327	0.11	0.463	0.615
	FR1 n26_Ant 0	20M	BPSK	1	1	Right Side	10mm	Index 4	166300	831.5	24.40	25.50	1.288	-0.02	0.286	0.368
	FR1 n26_Ant 0	20M	BPSK	50	28	Right Side	10mm	Index 4	166300	831.5	24.27	25.50	1.327	0.04	0.240	0.319
	FR1 n26_Ant 0	20M	BPSK	1	1	Bottom Side	10mm	Index 4	166300	831.5	24.40	25.50	1.288	0.01	0.204	0.263
	FR1 n26_Ant 0	20M	BPSK	50	28	Bottom Side	10mm	Index 4	166300	831.5	24.27	25.50	1.327	0.12	0.186	0.247
	FR1 n26_Ant 1	20M	BPSK	1	1	Front	10mm	Index 4	166300	831.5	23.84	25.20	1.368	-0.04	0.199	0.272
	FR1 n26_Ant 1	20M	BPSK	50	28	Front	10mm	Index 4	166300	831.5	23.83	25.20	1.371	-0.05	0.202	0.277
	FR1 n26_Ant 1	20M	BPSK	1	1	Back	10mm	Index 4	166300	831.5	23.84	25.20	1.368	0.03	0.254	0.347
	FR1 n26_Ant 1	20M	BPSK	50	28	Back	10mm	Index 4	166300	831.5	23.83	25.20	1.371	0.05	0.252	0.345
	FR1 n26_Ant 1	20M	BPSK	1	1	Left Side	10mm	Index 4	166300	831.5	23.84	25.20	1.368	-0.01	0.154	0.211
	FR1 n26_Ant 1	20M	BPSK	50	28	Left Side	10mm	Index 4	166300	831.5	23.83	25.20	1.371	0.02	0.134	0.184
	FR1 n26_Ant 1	20M	BPSK	1	1	Right Side	10mm	Index 4	166300	831.5	23.84	25.20	1.368	-0.01	0.177	0.242
	FR1 n26_Ant 1	20M	BPSK	50	28	Right Side	10mm	Index 4	166300	831.5	23.83	25.20	1.371	-0.03	0.169	0.232
	FR1 n26_Ant 1	20M	BPSK	1	1	Top Side	10mm	Index 4	166300	831.5	23.84	25.20	1.368	0.06	0.177	0.242
	FR1 n26_Ant 1	20M	BPSK	50	28	Top Side	10mm	Index 4	166300	831.5	23.83	25.20	1.371	0.03	0.175	0.240



FCC SAR TEST REPORT

Report No. : FA380307B

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	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)
	FR1 n30_Ant 2	10M	BPSK	1	26	Front	10mm	Index 4	462000	2310	20.46	20.80	1.081	0.04	0.485	0.524
	FR1 n30_Ant 2	10M	BPSK	25	0	Front	10mm	Index 4	462000	2310	20.35	20.80	1.109	0	0.531	0.589
	FR1 n30_Ant 2	10M	BPSK	1	26	Back	10mm	Index 4	462000	2310	20.46	20.80	1.081	0.05	0.554	0.599
	FR1 n30_Ant 2	10M	BPSK	25	0	Back	10mm	Index 4	462000	2310	20.35	20.80	1.109	-0.08	0.581	0.644
	FR1 n30_Ant 2	10M	BPSK	1	26	Left Side	10mm	Index 4	462000	2310	20.46	20.80	1.081	0.03	0.015	0.016
	FR1 n30_Ant 2	10M	BPSK	25	0	Left Side	10mm	Index 4	462000	2310	20.35	20.80	1.109	-0.08	0.019	0.021
	FR1 n30_Ant 2	10M	BPSK	1	26	Right Side	10mm	Index 4	462000	2310	20.46	20.80	1.081	0.09	0.622	0.673
	FR1 n30_Ant 2	10M	BPSK	25	0	Right Side	10mm	Index 4	462000	2310	20.35	20.80	1.109	0.06	0.634	0.703
	FR1 n30_Ant 2	10M	BPSK	1	26	Bottom Side	10mm	Index 4	462000	2310	20.46	20.80	1.081	-0.05	0.519	0.561
	FR1 n30_Ant 2	10M	BPSK	25	0	Bottom Side	10mm	Index 4	462000	2310	20.35	20.80	1.109	-0.03	0.516	0.572
	FR1 n30_Ant 0	10M	BPSK	1	1	Front	10mm	Index 4	462000	2310	22.37	23.50	1.297	0.15	0.420	0.545
	FR1 n30_Ant 0	10M	BPSK	25	0	Front	10mm	Index 4	462000	2310	22.35	23.50	1.303	-0.08	0.430	0.560
	FR1 n30_Ant 0	10M	BPSK	1	1	Back	10mm	Index 4	462000	2310	22.37	23.50	1.297	-0.08	0.430	0.558
	FR1 n30_Ant 0	10M	BPSK	25	0	Back	10mm	Index 4	462000	2310	22.35	23.50	1.303	-0.07	0.443	0.577
	FR1 n30_Ant 0	10M	BPSK	1	1	Left Side	10mm	Index 4	462000	2310	22.37	23.50	1.297	-0.11	0.614	0.796
89	FR1 n30_Ant 0	10M	BPSK	25	0	Left Side	10mm	Index 4	462000	2310	22.35	23.50	1.303	-0.01	0.621	0.809
	FR1 n30_Ant 0	10M	BPSK	50	0	Left Side	10mm	Index 4	462000	2310	22.32	23.50	1.312	0.15	0.590	0.774
	FR1 n30_Ant 0	10M	BPSK	1	1	Right Side	10mm	Index 4	462000	2310	22.37	23.50	1.297	0.03	0.020	0.026
	FR1 n30_Ant 0	10M	BPSK	25	0	Right Side	10mm	Index 4	462000	2310	22.35	23.50	1.303	-0.19	0.023	0.030
	FR1 n30_Ant 0	10M	BPSK	1	1	Bottom Side	10mm	Index 4	462000	2310	22.37	23.50	1.297	0.14	0.184	0.239
	FR1 n30_Ant 0	10M	BPSK	25	0	Bottom Side	10mm	Index 4	462000	2310	22.35	23.50	1.303	0.03	0.203	0.265
	FR1 n41_Ant 2	100M	BPSK	1	1	Front	10mm	Index 4	518598	2592.99	19.51	20.40	1.227	-0.08	0.315	0.387
	FR1 n41_Ant 2	100M	BPSK	135	0	Front	10mm	Index 4	518598	2592.99	19.26	20.40	1.300	0.01	0.270	0.351
	FR1 n41_Ant 2	100M	BPSK	1	1	Back	10mm	Index 4	518598	2592.99	19.51	20.40	1.227	0.03	0.348	0.427
	FR1 n41_Ant 2	100M	BPSK	135	0	Back	10mm	Index 4	518598	2592.99	19.26	20.40	1.300	0.09	0.324	0.421
	FR1 n41_Ant 2	100M	BPSK	1	1	Left Side	10mm	Index 4	518598	2592.99	19.51	20.40	1.227	0.11	0.011	0.014
	FR1 n41_Ant 2	100M	BPSK	135	0	Left Side	10mm	Index 4	518598	2592.99	19.26	20.40	1.300	0.02	0.009	0.012
	FR1 n41_Ant 2	100M	BPSK	1	1	Right Side	10mm	Index 4	518598	2592.99	19.51	20.40	1.227	-0.05	0.587	0.721
	FR1 n41_Ant 2	100M	BPSK	135	0	Right Side	10mm	Index 4	518598	2592.99	19.26	20.40	1.300	-0.04	0.524	0.681
	FR1 n41_Ant 2	100M	BPSK	1	1	Bottom Side	10mm	Index 4	518598	2592.99	19.51	20.40	1.227	0	0.278	0.341
	FR1 n41_Ant 2	100M	BPSK	135	0	Bottom Side	10mm	Index 4	518598	2592.99	19.26	20.40	1.300	0.03	0.256	0.333
	FR1 n41_HPUE_Ant 2	100M	BPSK	1	1	Right Side	10mm	Index 4	518598	2592.99	22.53	23.40	1.222	0	0.558	0.682
	FR1 n41_Ant 0	100M	BPSK	1	1	Front	10mm	Index 4	518598	2592.99	19.62	21.30	1.472	0.06	0.265	0.390
	FR1 n41_Ant 0	100M	BPSK	135	0	Front	10mm	Index 4	518598	2592.99	19.36	21.30	1.563	0.15	0.239	0.374
	FR1 n41_Ant 0	100M	BPSK	1	1	Back	10mm	Index 4	518598	2592.99	19.62	21.30	1.472	-0.19	0.216	0.318
	FR1 n41_Ant 0	100M	BPSK	135	0	Back	10mm	Index 4	518598	2592.99	19.36	21.30	1.563	-0.08	0.199	0.311
90	FR1 n41_Ant 0	100M	BPSK	1	1	Left Side	10mm	Index 4	518598	2592.99	19.62	21.30	1.472	-0.02	0.527	0.776
	FR1 n41_Ant 0	100M	BPSK	135	0	Left Side	10mm	Index 4	518598	2592.99	19.36	21.30	1.563	0.05	0.461	0.721
	FR1 n41_Ant 0	100M	BPSK	1	1	Right Side	10mm	Index 4	518598	2592.99	19.62	21.30	1.472	0.13	0.009	0.013
	FR1 n41_Ant 0	100M	BPSK	135	0	Right Side	10mm	Index 4	518598	2592.99	19.36	21.30	1.563	0.14	0.007	0.011
	FR1 n41_Ant 0	100M	BPSK	1	1	Bottom Side	10mm	Index 4	518598	2592.99	19.62	21.30	1.472	-0.01	0.053	0.078
	FR1 n41_Ant 0	100M	BPSK	135	0	Bottom Side	10mm	Index 4	518598	2592.99	19.36	21.30	1.563	-0.08	0.049	0.077
	FR1 n41_HPUE_Ant 0	100M	BPSK	1	1	Left Side	10mm	Index 4	518598	2592.99	22.82	24.30	1.406	-0.03	0.511	0.718



FCC SAR TEST REPORT

Report No. : FA380307B

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	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)
	FR1 n70_Ant 2	15M	BPSK	1	1	Front	10mm	Index 4	340500	1702.5	23.23	23.40	1.040	0.09	0.524	0.545
	FR1 n70_Ant 2	15M	BPSK	36	22	Front	10mm	Index 4	340500	1702.5	23.14	23.40	1.062	-0.15	0.560	0.595
	FR1 n70_Ant 2	15M	BPSK	1	1	Back	10mm	Index 4	340500	1702.5	23.23	23.40	1.040	-0.1	0.594	0.618
	FR1 n70_Ant 2	15M	BPSK	36	22	Back	10mm	Index 4	340500	1702.5	23.14	23.40	1.062	-0.07	0.612	0.650
	FR1 n70_Ant 2	15M	BPSK	1	1	Left Side	10mm	Index 4	340500	1702.5	23.23	23.40	1.040	0.12	0.105	0.109
	FR1 n70_Ant 2	15M	BPSK	36	22	Left Side	10mm	Index 4	340500	1702.5	23.14	23.40	1.062	-0.14	0.113	0.120
	FR1 n70_Ant 2	15M	BPSK	1	1	Right Side	10mm	Index 4	340500	1702.5	23.23	23.40	1.040	-0.15	0.503	0.523
	FR1 n70_Ant 2	15M	BPSK	36	22	Right Side	10mm	Index 4	340500	1702.5	23.14	23.40	1.062	-0.08	0.551	0.585
	FR1 n70_Ant 2	15M	BPSK	1	1	Bottom Side	10mm	Index 4	340500	1702.5	23.23	23.40	1.040	0.06	0.355	0.369
	FR1 n70_Ant 2	15M	BPSK	36	22	Bottom Side	10mm	Index 4	340500	1702.5	23.14	23.40	1.062	-0.03	0.363	0.385
	FR1 n70_Ant 0	15M	BPSK	1	1	Front	10mm	Index 4	340500	1702.5	20.85	22.50	1.462	0.03	0.229	0.335
	FR1 n70_Ant 0	15M	BPSK	36	22	Front	10mm	Index 4	340500	1702.5	20.93	22.50	1.435	-0.18	0.308	0.442
	FR1 n70_Ant 0	15M	BPSK	1	1	Back	10mm	Index 4	340500	1702.5	20.85	22.50	1.462	0.09	0.319	0.466
	FR1 n70_Ant 0	15M	BPSK	36	22	Back	10mm	Index 4	340500	1702.5	20.93	22.50	1.435	-0.02	0.334	0.479
	FR1 n70_Ant 0	15M	BPSK	1	1	Left Side	10mm	Index 4	340500	1702.5	20.85	22.50	1.462	-0.04	0.093	0.136
	FR1 n70_Ant 0	15M	BPSK	36	22	Left Side	10mm	Index 4	340500	1702.5	20.93	22.50	1.435	-0.13	0.101	0.145
	FR1 n70_Ant 0	15M	BPSK	1	1	Right Side	10mm	Index 4	340500	1702.5	20.85	22.50	1.462	0.14	0.041	0.060
	FR1 n70_Ant 0	15M	BPSK	36	22	Right Side	10mm	Index 4	340500	1702.5	20.93	22.50	1.435	0.14	0.043	0.062
	FR1 n70_Ant 0	15M	BPSK	1	1	Bottom Side	10mm	Index 4	340500	1702.5	20.85	22.50	1.462	0.05	0.492	0.719
91	FR1 n70_Ant 0	15M	BPSK	36	22	Bottom Side	10mm	Index 4	340500	1702.5	20.93	22.50	1.435	-0.01	0.527	0.757

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 4	Index 7	12	2467	16.40	16.50	1.023	98.85	1.012	-0.16	0.351	0.363
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 4	Index 7	12	2467	16.40	16.50	1.023	98.85	1.012	0.05	0.301	0.312
	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Ant 4	Index 7	12	2467	16.40	16.50	1.023	98.85	1.012	-0.16	0.001	0.001
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 4	Index 7	12	2467	16.40	16.50	1.023	98.85	1.012	0.04	0.104	0.108
92	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 4	Index 7	12	2467	16.40	16.50	1.023	98.85	1.012	0.02	0.463	0.479
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 3	Index 7	6	2437	16.45	16.50	1.012	98.85	1.012	-0.18	0.117	0.120
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 3	Index 7	6	2437	16.45	16.50	1.012	98.85	1.012	0.05	0.104	0.106
	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Ant 3	Index 7	6	2437	16.45	16.50	1.012	98.85	1.012	-0.01	0.170	0.174
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 3	Index 7	6	2437	16.45	16.50	1.012	98.85	1.012	0.02	0.001	0.001
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 3	Index 7	6	2437	16.45	16.50	1.012	98.85	1.012	0.03	0.001	0.001
	WLAN2.4GHz	802.11g 6Mbps	Front	10mm	Ant 4+3(4)	Index 7	6	2437	16.40	16.50	1.023	93.46	1.070	-0.03	0.255	0.279
	WLAN2.4GHz	802.11g 6Mbps	Front	10mm	Ant 4+3(3)	Index 7	6	2437	16.35	16.50	1.035	93.46	1.070	-0.03	0.120	0.133
	WLAN2.4GHz	802.11g 6Mbps	Back	10mm	Ant 4+3(4)	Index 7	6	2437	16.40	16.50	1.023	93.46	1.070	-0.02	0.231	0.253
	WLAN2.4GHz	802.11g 6Mbps	Back	10mm	Ant 4+3(3)	Index 7	6	2437	16.35	16.50	1.035	93.46	1.070	-0.02	0.158	0.175
	WLAN2.4GHz	802.11g 6Mbps	Left Side	10mm	Ant 4+3(4)	Index 7	6	2437	16.40	16.50	1.023	93.46	1.070	0.08	0.001	0.001
	WLAN2.4GHz	802.11g 6Mbps	Left Side	10mm	Ant 4+3(3)	Index 7	6	2437	16.35	16.50	1.035	93.46	1.070	-0.09	0.149	0.165
	WLAN2.4GHz	802.11g 6Mbps	Right Side	10mm	Ant 4+3(4)	Index 7	6	2437	16.40	16.50	1.023	93.46	1.070	-0.03	0.097	0.106
	WLAN2.4GHz	802.11g 6Mbps	Right Side	10mm	Ant 4+3(3)	Index 7	6	2437	16.35	16.50	1.035	93.46	1.070	-0.03	0.001	0.001
	WLAN2.4GHz	802.11g 6Mbps	Top Side	10mm	Ant 4+3(4)	Index 7	6	2437	16.40	16.50	1.023	93.46	1.070	-0.06	0.375	0.411
	WLAN2.4GHz	802.11g 6Mbps	Top Side	10mm	Ant 4+3(3)	Index 7	6	2437	16.35	16.50	1.035	93.46	1.070	-0.06	0.001	0.001
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 3	Index 8	6	2437	16.95	17.00	1.012	98.85	1.012	-0.18	0.125	0.128
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 3	Index 8	6	2437	16.95	17.00	1.012	98.85	1.012	0.05	0.119	0.122
	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Ant 3	Index 8	6	2437	16.95	17.00	1.012	98.85	1.012	0.11	0.221	0.226
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 3	Index 8	6	2437	16.95	17.00	1.012	98.85	1.012	-0.11	0.001	0.001
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 3	Index 8	6	2437	16.95	17.00	1.012	98.85	1.012	0.05	0.001	0.001



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Table with 17 columns: Plot No., Band, Mode, Test Position, Gap (mm), Antenna, Power Index, Ch., Freq. (MHz), Average Power (dBm), Tune-Up Limit (dBm), Tune-up Scaling Factor, Duty Cycle %, Duty Cycle Scaling Factor, Power Drift (dB), Measured 1g SAR (W/kg), Reported 1g SAR (W/kg). Rows include various test configurations for WLAN5GHz across different test positions and antennas.



<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Front	10mm	Ant 4	Index 3/4	78	2480	14.90	15.00	1.023	77.07	1.081	0.09	0.177	0.196
	Bluetooth	1Mbps	Back	10mm	Ant 4	Index 3/4	78	2480	14.90	15.00	1.023	77.07	1.081	-0.12	0.158	0.175
	Bluetooth	1Mbps	Left Side	10mm	Ant 4	Index 3/4	78	2480	14.90	15.00	1.023	77.07	1.081	-0.02	0.006	0.007
	Bluetooth	1Mbps	Right Side	10mm	Ant 4	Index 3/4	78	2480	14.90	15.00	1.023	77.07	1.081	0.09	0.061	0.067
	Bluetooth	1Mbps	Top Side	10mm	Ant 4	Index 3/4	78	2480	14.90	15.00	1.023	77.07	1.081	-0.14	0.239	0.264
	Bluetooth	1Mbps	Front	10mm	Ant 3	Index 3	78	2480	20.50	21.00	1.123	77.07	1.081	0.05	0.304	0.369
	Bluetooth	1Mbps	Back	10mm	Ant 3	Index 3	78	2480	20.50	21.00	1.123	77.07	1.081	-0.16	0.230	0.279
95	Bluetooth	1Mbps	Left Side	10mm	Ant 3	Index 3	78	2480	20.50	21.00	1.123	77.07	1.081	0.01	0.503	0.611
	Bluetooth	1Mbps	Right Side	10mm	Ant 3	Index 3	78	2480	20.50	21.00	1.123	77.07	1.081	-0.11	0.001	0.001
	Bluetooth	1Mbps	Top Side	10mm	Ant 3	Index 3	78	2480	20.50	21.00	1.123	77.07	1.081	0.01	0.052	0.063
	Bluetooth	1Mbps	Front	10mm	Ant 3	Index 4	78	2480	14.65	15.00	1.084	77.07	1.081	0.11	0.084	0.098
	Bluetooth	1Mbps	Back	10mm	Ant 3	Index 4	78	2480	14.65	15.00	1.084	77.07	1.081	-0.11	0.064	0.075
	Bluetooth	1Mbps	Left Side	10mm	Ant 3	Index 4	78	2480	14.65	15.00	1.084	77.07	1.081	-0.12	0.121	0.142
	Bluetooth	1Mbps	Right Side	10mm	Ant 3	Index 4	78	2480	14.65	15.00	1.084	77.07	1.081	0.001	0.001	0.001
	Bluetooth	1Mbps	Top Side	10mm	Ant 3	Index 4	78	2480	14.65	15.00	1.084	77.07	1.081	-0.15	0.008	0.009

17.3 Body-Worn SAR

<5G NR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	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)
	FR1 n12_Ant 0	15M	BPSK	1	1	Front	10mm	Index 5/6	141500	707.5	24.25	25.70	1.396	0.12	0.290	0.405
	FR1 n12_Ant 0	15M	BPSK	36	22	Front	10mm	Index 5/6	141500	707.5	24.23	25.70	1.403	-0.01	0.315	0.442
	FR1 n12_Ant 0	15M	BPSK	1	1	Back	10mm	Index 5/6	141500	707.5	24.25	25.70	1.396	0.03	0.334	0.466
96	FR1 n12_Ant 0	15M	BPSK	36	22	Back	10mm	Index 5/6	141500	707.5	24.23	25.70	1.403	0.01	0.336	0.471
	FR1 n12_Ant 1	15M	BPSK	1	1	Front	10mm	Index 5/6	141500	707.5	23.88	25.30	1.387	-0.01	0.199	0.276
	FR1 n12_Ant 1	15M	BPSK	36	22	Front	10mm	Index 5/6	141500	707.5	23.86	25.30	1.393	-0.03	0.200	0.279
	FR1 n12_Ant 1	15M	BPSK	1	1	Back	10mm	Index 5/6	141500	707.5	23.88	25.30	1.387	-0.08	0.212	0.294
	FR1 n12_Ant 1	15M	BPSK	36	22	Back	10mm	Index 5/6	141500	707.5	23.86	25.30	1.393	-0.02	0.228	0.318
	FR1 n25_Ant 2	40M	BPSK	1	108	Front	10mm	Index 5	376500	1882.5	20.56	21.00	1.107	0.11	0.558	0.617
	FR1 n25_Ant 2	40M	BPSK	108	54	Front	10mm	Index 5	376500	1882.5	20.45	21.00	1.135	-0.1	0.565	0.641
	FR1 n25_Ant 2	40M	BPSK	1	108	Back	10mm	Index 5	376500	1882.5	20.56	21.00	1.107	-0.08	0.569	0.630
97	FR1 n25_Ant 2	40M	BPSK	108	54	Back	10mm	Index 5	376500	1882.5	20.45	21.00	1.135	-0.05	0.597	0.678
	FR1 n25_Ant 2	40M	BPSK	1	108	Front	10mm	Index 6	376500	1882.5	20.01	20.20	1.045	-0.03	0.497	0.519
	FR1 n25_Ant 2	40M	BPSK	108	54	Front	10mm	Index 6	376500	1882.5	19.93	20.20	1.064	-0.1	0.504	0.536
	FR1 n25_Ant 2	40M	BPSK	1	108	Back	10mm	Index 6	376500	1882.5	20.01	20.20	1.045	-0.02	0.507	0.530
	FR1 n25_Ant 2	40M	BPSK	108	54	Back	10mm	Index 6	376500	1882.5	19.93	20.20	1.064	-0.1	0.532	0.566
	FR1 n25_Ant 0	40M	BPSK	1	1	Front	10mm	Index 5	376500	1882.5	24.20	25.20	1.259	0.19	0.453	0.570
	FR1 n25_Ant 0	40M	BPSK	108	54	Front	10mm	Index 5	376500	1882.5	24.04	25.20	1.306	-0.01	0.462	0.603
	FR1 n25_Ant 0	40M	BPSK	1	1	Back	10mm	Index 5	376500	1882.5	24.20	25.20	1.259	-0.08	0.417	0.525
	FR1 n25_Ant 0	40M	BPSK	108	54	Back	10mm	Index 5	376500	1882.5	24.04	25.20	1.306	-0.02	0.478	0.624
	FR1 n25_Ant 0	40M	BPSK	1	1	Front	10mm	Index 6	376500	1882.5	24.20	24.40	1.047	0.19	0.453	0.474
	FR1 n25_Ant 0	40M	BPSK	108	54	Front	10mm	Index 6	376500	1882.5	24.04	24.40	1.086	-0.01	0.462	0.502
	FR1 n25_Ant 0	40M	BPSK	1	1	Back	10mm	Index 6	376500	1882.5	24.20	24.40	1.047	-0.08	0.417	0.437
	FR1 n25_Ant 0	40M	BPSK	108	54	Back	10mm	Index 6	376500	1882.5	24.04	24.40	1.086	-0.02	0.478	0.519



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Report No. : FA380307B

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	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)
	FR1 n26_Ant 0	20M	BPSK	1	1	Front	10mm	Index 5/6	166300	831.5	24.40	25.70	1.349	0.15	0.333	0.449
98	FR1 n26_Ant 0	20M	BPSK	50	28	Front	10mm	Index 5/6	166300	831.5	24.27	25.70	1.390	-0.02	0.351	0.488
	FR1 n26_Ant 0	20M	BPSK	1	1	Back	10mm	Index 5/6	166300	831.5	24.40	25.70	1.349	-0.08	0.336	0.453
	FR1 n26_Ant 0	20M	BPSK	50	28	Back	10mm	Index 5/6	166300	831.5	24.27	25.70	1.390	0	0.347	0.482
	FR1 n26_Ant 1	20M	BPSK	1	1	Front	10mm	Index 5/6	166300	831.5	23.84	25.20	1.368	-0.04	0.199	0.272
	FR1 n26_Ant 1	20M	BPSK	50	28	Front	10mm	Index 5/6	166300	831.5	23.83	25.20	1.371	-0.05	0.202	0.277
	FR1 n26_Ant 1	20M	BPSK	1	1	Back	10mm	Index 5/6	166300	831.5	23.84	25.20	1.368	0.03	0.254	0.347
	FR1 n26_Ant 1	20M	BPSK	50	28	Back	10mm	Index 5/6	166300	831.5	23.83	25.20	1.371	0.05	0.252	0.345
	FR1 n30_Ant 2	10M	BPSK	1	26	Front	10mm	Index 5	462000	2310	21.46	21.60	1.033	0.11	0.611	0.631
	FR1 n30_Ant 2	10M	BPSK	25	0	Front	10mm	Index 5	462000	2310	21.36	21.60	1.057	-0.12	0.669	0.707
	FR1 n30_Ant 2	10M	BPSK	1	26	Back	10mm	Index 5	462000	2310	21.46	21.60	1.033	-0.05	0.697	0.720
	FR1 n30_Ant 2	10M	BPSK	25	0	Back	10mm	Index 5	462000	2310	21.36	21.60	1.057	-0.01	0.732	0.774
	FR1 n30_Ant 2	10M	BPSK	1	26	Front	10mm	Index 6	462000	2310	20.46	20.80	1.081	0.04	0.485	0.524
	FR1 n30_Ant 2	10M	BPSK	25	0	Front	10mm	Index 6	462000	2310	20.35	20.80	1.109	0	0.531	0.589
	FR1 n30_Ant 2	10M	BPSK	1	26	Back	10mm	Index 6	462000	2310	20.46	20.80	1.081	0.05	0.554	0.599
	FR1 n30_Ant 2	10M	BPSK	25	0	Back	10mm	Index 6	462000	2310	20.35	20.80	1.109	-0.08	0.581	0.644
	FR1 n30_Ant 0	10M	BPSK	1	1	Front	10mm	Index 5	462000	2310	24.27	25.20	1.239	0.19	0.583	0.722
	FR1 n30_Ant 0	10M	BPSK	25	14	Front	10mm	Index 5	462000	2310	24.16	25.20	1.271	0	0.621	0.789
	FR1 n30_Ant 0	10M	BPSK	1	1	Back	10mm	Index 5	462000	2310	24.27	25.20	1.239	-0.08	0.619	0.767
99	FR1 n30_Ant 0	10M	BPSK	25	14	Back	10mm	Index 5	462000	2310	24.16	25.20	1.271	-0.07	0.639	0.812
	FR1 n30_Ant 0	10M	BPSK	50	0	Back	10mm	Index 5	462000	2310	23.66	24.70	1.271	0	0.565	0.718
	FR1 n30_Ant 0	10M	BPSK	1	1	Front	10mm	Index 6	462000	2310	23.71	24.10	1.094	0.02	0.520	0.569
	FR1 n30_Ant 0	10M	BPSK	25	14	Front	10mm	Index 6	462000	2310	23.58	24.10	1.127	0.09	0.553	0.623
	FR1 n30_Ant 0	10M	BPSK	1	1	Back	10mm	Index 6	462000	2310	23.71	24.10	1.094	0.09	0.552	0.604
	FR1 n30_Ant 0	10M	BPSK	25	14	Back	10mm	Index 6	462000	2310	23.58	24.10	1.127	0	0.570	0.643



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Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	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)
	FR1 n41_Ant 2	100M	BPSK	1	1	Front	10mm	Index 5	518598	2592.99	22.50	23.50	1.259	-0.03	0.583	0.734
	FR1 n41_Ant 2	100M	BPSK	135	0	Front	10mm	Index 5	518598	2592.99	22.33	23.50	1.309	0.01	0.539	0.706
	FR1 n41_Ant 2	100M	BPSK	1	1	Back	10mm	Index 5	518598	2592.99	22.50	23.50	1.259	-0.04	0.704	0.886
	FR1 n41_Ant 2	100M	BPSK	135	0	Back	10mm	Index 5	518598	2592.99	22.33	23.50	1.309	0.05	0.616	0.806
	FR1 n41_Ant 2	100M	BPSK	270	0	Back	10mm	Index 5	518598	2592.99	22.30	23.50	1.318	0.03	0.592	0.780
	FR1 n41_HPUE_Ant 2	100M	BPSK	1	1	Back	10mm	Index 5	518598	2592.99	25.55	26.50	1.245	0.01	0.647	0.805
	FR1 n41_Ant 2	100M	BPSK	1	1	Front	10mm	Index 6	518598	2592.99	22.50	22.60	1.023	-0.03	0.583	0.597
	FR1 n41_Ant 2	100M	BPSK	135	0	Front	10mm	Index 6	518598	2592.99	22.33	22.60	1.064	0.01	0.539	0.574
	FR1 n41_Ant 2	100M	BPSK	1	1	Back	10mm	Index 6	518598	2592.99	22.50	22.60	1.023	-0.04	0.704	0.720
	FR1 n41_Ant 2	100M	BPSK	135	0	Back	10mm	Index 6	518598	2592.99	22.33	22.60	1.064	0.05	0.616	0.656
	FR1 n41_HPUE_Ant 2	100M	BPSK	1	1	Back	10mm	Index 6	518598	2592.99	25.55	25.60	1.012	0.01	0.647	0.654
100	FR1 n41_Ant 0	100M	BPSK	1	1	Front	10mm	Index 5	518598	2592.99	24.40	25.20	1.202	-0.06	0.824	0.991
	FR1 n41_Ant 0	100M	BPSK	135	69	Front	10mm	Index 5	518598	2592.99	24.02	25.20	1.312	0.15	0.689	0.904
	FR1 n41_Ant 0	100M	BPSK	270	0	Front	10mm	Index 5	518598	2592.99	23.56	24.70	1.300	0.19	0.619	0.805
	FR1 n41_Ant 0	100M	BPSK	1	1	Back	10mm	Index 5	518598	2592.99	24.40	25.20	1.202	-0.02	0.713	0.857
	FR1 n41_Ant 0	100M	BPSK	135	69	Back	10mm	Index 5	518598	2592.99	24.02	25.20	1.312	-0.04	0.649	0.852
	FR1 n41_Ant 0	100M	BPSK	270	0	Back	10mm	Index 5	518598	2592.99	23.56	24.70	1.300	0.11	0.600	0.780
	FR1 n41_HPUE_Ant 0	100M	BPSK	1	1	Front	10mm	Index 5	518598	2592.99	26.38	27.00	1.153	-0.03	0.708	0.817
	FR1 n41_Ant 0	100M	BPSK	1	1	Front	10mm	Index 6	518598	2592.99	24.40	24.40	1.000	-0.06	0.824	0.824
	FR1 n41_Ant 0	100M	BPSK	135	69	Front	10mm	Index 6	518598	2592.99	24.02	24.40	1.091	0.15	0.689	0.752
	FR1 n41_Ant 0	100M	BPSK	270	0	Front	10mm	Index 6	518598	2592.99	23.56	24.40	1.213	0.19	0.619	0.751
	FR1 n41_Ant 0	100M	BPSK	1	1	Back	10mm	Index 6	518598	2592.99	24.40	24.40	1.000	-0.02	0.713	0.713
	FR1 n41_Ant 0	100M	BPSK	135	69	Back	10mm	Index 6	518598	2592.99	24.02	24.40	1.091	-0.04	0.649	0.708
	FR1 n41_HPUE_Ant 0	100M	BPSK	1	1	Front	10mm	Index 6	518598	2592.99	26.38	27.00	1.153	-0.03	0.708	0.817
	FR1 n70_Ant 2	15M	BPSK	1	1	Front	10mm	Index 5	340500	1702.5	24.27	24.60	1.079	0.15	0.660	0.712
	FR1 n70_Ant 2	15M	BPSK	36	22	Front	10mm	Index 5	340500	1702.5	24.16	24.60	1.107	-0.09	0.705	0.780
	FR1 n70_Ant 2	15M	BPSK	1	1	Back	10mm	Index 5	340500	1702.5	24.27	24.60	1.079	-0.08	0.748	0.807
101	FR1 n70_Ant 2	15M	BPSK	36	22	Back	10mm	Index 5	340500	1702.5	24.16	24.60	1.107	0	0.770	0.852
	FR1 n70_Ant 2	15M	BPSK	75	0	Back	10mm	Index 5	340500	1702.5	22.77	24.20	1.390	0.06	0.520	0.723
	FR1 n70_Ant 2	15M	BPSK	1	1	Front	10mm	Index 6	340500	1702.5	23.23	23.40	1.040	0.09	0.524	0.545
	FR1 n70_Ant 2	15M	BPSK	36	22	Front	10mm	Index 6	340500	1702.5	23.14	23.40	1.062	-0.15	0.560	0.595
	FR1 n70_Ant 2	15M	BPSK	1	1	Back	10mm	Index 6	340500	1702.5	23.23	23.40	1.040	-0.1	0.594	0.618
	FR1 n70_Ant 2	15M	BPSK	36	22	Back	10mm	Index 6	340500	1702.5	23.14	23.40	1.062	-0.07	0.612	0.650
	FR1 n70_Ant 0	15M	BPSK	1	1	Front	10mm	Index 5	340500	1702.5	21.83	23.60	1.503	0.07	0.288	0.433
	FR1 n70_Ant 0	15M	BPSK	36	0	Front	10mm	Index 5	340500	1702.5	21.89	23.60	1.483	-0.12	0.388	0.575
	FR1 n70_Ant 0	15M	BPSK	1	1	Back	10mm	Index 5	340500	1702.5	21.83	23.60	1.503	-0.08	0.402	0.604
	FR1 n70_Ant 0	15M	BPSK	36	0	Back	10mm	Index 5	340500	1702.5	21.89	23.60	1.483	-0.1	0.420	0.623
	FR1 n70_Ant 0	15M	BPSK	1	1	Front	10mm	Index 6	340500	1702.5	21.83	22.80	1.250	0.07	0.288	0.360
	FR1 n70_Ant 0	15M	BPSK	36	0	Front	10mm	Index 6	340500	1702.5	21.89	22.80	1.233	-0.12	0.388	0.478
	FR1 n70_Ant 0	15M	BPSK	1	1	Back	10mm	Index 6	340500	1702.5	21.83	22.80	1.250	-0.08	0.402	0.503
	FR1 n70_Ant 0	15M	BPSK	36	0	Back	10mm	Index 6	340500	1702.5	21.89	22.80	1.233	-0.1	0.420	0.518



<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 4	Index 5	1	2412	19.40	19.50	1.023	98.85	1.012	-0.09	0.471	0.488
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 4	Index 5	1	2412	19.40	19.50	1.023	98.85	1.012	0.15	0.448	0.464
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 3	Index 5	1	2412	19.45	19.50	1.012	98.85	1.012	-0.09	0.280	0.287
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 3	Index 5	1	2412	19.45	19.50	1.012	98.85	1.012	0.1	0.187	0.191
102	WLAN2.4GHz	802.11g 6Mbps	Front	10mm	Ant 4+3(4)	Index 5	6	2437	19.40	19.50	1.023	93.46	1.070	0.01	0.529	0.579
	WLAN2.4GHz	802.11g 6Mbps	Front	10mm	Ant 4+3(3)	Index 5	6	2437	18.65	19.50	1.216	93.46	1.070	0.01	0.217	0.282
	WLAN2.4GHz	802.11g 6Mbps	Back	10mm	Ant 4+3(4)	Index 5	6	2437	19.40	19.50	1.023	93.46	1.070	-0.02	0.523	0.573
	WLAN2.4GHz	802.11g 6Mbps	Back	10mm	Ant 4+3(3)	Index 5	6	2437	18.65	19.50	1.216	93.46	1.070	-0.02	0.336	0.437
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 3	Index 6	1	2412	20.95	21.00	1.012	98.85	1.012	0.04	0.530	0.543
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 3	Index 6	1	2412	20.95	21.00	1.012	98.85	1.012	0.08	0.246	0.252
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 4	Index 7	12	2467	16.40	16.50	1.023	98.85	1.012	-0.16	0.351	0.363
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 4	Index 7	12	2467	16.40	16.50	1.023	98.85	1.012	0.05	0.301	0.312
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 3	Index 7	6	2437	16.45	16.50	1.012	98.85	1.012	-0.18	0.117	0.120
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 3	Index 7	6	2437	16.45	16.50	1.012	98.85	1.012	0.05	0.104	0.106
	WLAN2.4GHz	802.11g 6Mbps	Front	10mm	Ant 4+3(4)	Index 7	6	2437	16.40	16.50	1.023	93.46	1.070	-0.03	0.255	0.279
	WLAN2.4GHz	802.11g 6Mbps	Front	10mm	Ant 4+3(3)	Index 7	6	2437	16.35	16.50	1.035	93.46	1.070	-0.03	0.120	0.133
	WLAN2.4GHz	802.11g 6Mbps	Back	10mm	Ant 4+3(4)	Index 7	6	2437	16.40	16.50	1.023	93.46	1.070	-0.02	0.231	0.253
	WLAN2.4GHz	802.11g 6Mbps	Back	10mm	Ant 4+3(3)	Index 7	6	2437	16.35	16.50	1.035	93.46	1.070	-0.02	0.158	0.175
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 3	Index 8	6	2437	16.95	17.00	1.012	98.85	1.012	-0.18	0.125	0.128
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 3	Index 8	6	2437	16.95	17.00	1.012	98.85	1.012	0.05	0.119	0.122



FCC SAR TEST REPORT

Report No. : FA380307B

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5GHz	802.11a 6Mbps	Front	10mm	Ant 4	Index 5/7/9	52	5260	17.90	18.00	1.023	93.46	1.070	0.02	0.104	0.114
	WLAN5GHz	802.11a 6Mbps	Back	10mm	Ant 4	Index 5/7/9	52	5260	17.90	18.00	1.023	93.46	1.070	-0.04	0.120	0.131
103	WLAN5GHz	802.11a 6Mbps	Front	10mm	Ant 4+3(4)	Index 5/7/9	52	5260	17.90	18.00	1.023	93.42	1.070	-0.04	0.094	0.103
	WLAN5GHz	802.11a 6Mbps	Front	10mm	Ant 4+3(3)	Index 5/7/9	52	5260	17.90	18.00	1.023	93.42	1.070	-0.04	0.157	0.172
	WLAN5GHz	802.11a 6Mbps	Back	10mm	Ant 4+3(4)	Index 5/7/9	52	5260	17.90	18.00	1.023	93.42	1.070	-0.06	0.090	0.099
	WLAN5GHz	802.11a 6Mbps	Back	10mm	Ant 4+3(3)	Index 5/7/9	52	5260	17.90	18.00	1.023	93.42	1.070	-0.06	0.078	0.085
	WLAN5GHz	802.11n-HT20 MCS0	Front	10mm	Ant 4	Index 6/8	52	5260	18.80	19.00	1.047	93.46	1.070	0.04	0.081	0.091
	WLAN5GHz	802.11n-HT20 MCS0	Back	10mm	Ant 4	Index 6/8	52	5260	18.80	19.00	1.047	93.46	1.070	0.08	0.101	0.113
	WLAN5GHz	802.11n-HT20 MCS0	Front	10mm	Ant 4	Index 5/6/7/9	116	5580	18.90	19.00	1.023	93.06	1.075	0.15	0.219	0.241
	WLAN5GHz	802.11n-HT20 MCS0	Back	10mm	Ant 4	Index 5/6/7/9	116	5580	18.90	19.00	1.023	93.06	1.075	-0.1	0.313	0.344
104	WLAN5GHz	802.11n-HT20 MCS0	Front	10mm	Ant 4+3(4)	Index 5/7/9	116	5580	19.00	19.00	1.000	93.06	1.075	-0.17	0.132	0.142
	WLAN5GHz	802.11n-HT20 MCS0	Front	10mm	Ant 4+3(3)	Index 5/7/9	116	5580	18.60	19.00	1.096	93.06	1.075	-0.17	0.190	0.224
	WLAN5GHz	802.11n-HT20 MCS0	Back	10mm	Ant 4+3(4)	Index 5/7/9	116	5580	19.00	19.00	1.000	93.06	1.075	0.13	0.358	0.385
	WLAN5GHz	802.11n-HT20 MCS0	Back	10mm	Ant 4+3(3)	Index 5/7/9	116	5580	18.60	19.00	1.096	93.06	1.075	0.13	0.150	0.177
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	10mm	Ant 4	Index 8	138	5690	17.90	18.00	1.023	89.9	1.112	-0.16	0.089	0.101
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 4	Index 8	138	5690	17.90	18.00	1.023	89.9	1.112	0.01	0.227	0.258
105	WLAN5GHz	802.11a 6Mbps	Front	10mm	Ant 4	Index 5/6/7/8	157	5785	19.90	20.00	1.023	93.45	1.070	0.05	0.119	0.130
	WLAN5GHz	802.11a 6Mbps	Back	10mm	Ant 4	Index 5/6/7/8	157	5785	19.90	20.00	1.023	93.45	1.070	0.01	0.291	0.319
	WLAN5GHz	802.11a 6Mbps	Front	10mm	Ant 4+3(4)	Index 5/7	165	5825	19.90	20.00	1.023	93.42	1.070	-0.08	0.176	0.193
	WLAN5GHz	802.11a 6Mbps	Front	10mm	Ant 4+3(3)	Index 5/7	165	5825	19.60	20.00	1.096	93.42	1.070	-0.08	0.243	0.285
	WLAN5GHz	802.11a 6Mbps	Back	10mm	Ant 4+3(4)	Index 5/7	165	5825	19.90	20.00	1.023	93.42	1.070	0.04	0.243	0.266
	WLAN5GHz	802.11a 6Mbps	Back	10mm	Ant 4+3(3)	Index 5/7	165	5825	19.60	20.00	1.096	93.42	1.070	0.04	0.130	0.153
	WLAN5GHz	802.11a 6Mbps	Front	10mm	Ant 4	Index 9	157	5785	19.40	19.50	1.023	93.45	1.070	0.03	0.074	0.081
	WLAN5GHz	802.11a 6Mbps	Back	10mm	Ant 4	Index 9	157	5785	19.40	19.50	1.023	93.45	1.070	0.09	0.188	0.206
	WLAN5GHz	802.11a 6Mbps	Front	10mm	Ant 4+3(4)	Index 9	157	5785	19.40	19.50	1.023	93.42	1.070	-0.12	0.070	0.077
	WLAN5GHz	802.11a 6Mbps	Front	10mm	Ant 4+3(3)	Index 9	157	5785	19.20	19.50	1.072	93.42	1.070	-0.12	0.131	0.150
	WLAN5GHz	802.11a 6Mbps	Back	10mm	Ant 4+3(4)	Index 9	157	5785	19.40	19.50	1.023	93.42	1.070	0.08	0.155	0.170
	WLAN5GHz	802.11a 6Mbps	Back	10mm	Ant 4+3(3)	Index 9	157	5785	19.20	19.50	1.072	93.42	1.070	0.08	0.202	0.232
	WLAN5GHz	802.11a 6Mbps	Front	10mm	Ant 4	Index 5/7/9	169	5845	19.40	19.50	1.023	93.46	1.070	0.14	0.144	0.158
	WLAN5GHz	802.11a 6Mbps	Back	10mm	Ant 4	Index 5/7/9	169	5845	19.40	19.50	1.023	93.46	1.070	0.09	0.173	0.189
	WLAN5GHz	802.11a 6Mbps	Front	10mm	Ant 4+3(4)	Index 5/7/9	173	5865	19.40	19.50	1.023	93.42	1.070	-0.14	0.145	0.159
	WLAN5GHz	802.11a 6Mbps	Front	10mm	Ant 4+3(3)	Index 5/7/9	173	5865	19.10	19.50	1.096	93.42	1.070	-0.14	0.172	0.202
	WLAN5GHz	802.11a 6Mbps	Back	10mm	Ant 4+3(4)	Index 5/7/9	173	5865	19.40	19.50	1.023	93.42	1.070	-0.11	0.136	0.149
	WLAN5GHz	802.11a 6Mbps	Back	10mm	Ant 4+3(3)	Index 5/7/9	173	5865	19.10	19.50	1.096	93.42	1.070	-0.11	0.094	0.110
	WLAN5GHz	802.11a 6Mbps	Front	10mm	Ant 4	Index 6/8	169	5845	19.90	20.00	1.023	93.45	1.070	0.02	0.165	0.181
106	WLAN5GHz	802.11a 6Mbps	Back	10mm	Ant 4	Index 6/8	169	5845	19.90	20.00	1.023	93.45	1.070	0.02	0.202	0.221



FCC SAR TEST REPORT

Report No. : FA380307B

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Measured APD (W/m ²)	Reported APD (W/m ²)
	WLAN6GHz	802.11a 6Mbps	Front	10mm	Ant 4	Index 5/6/7/8/9	173	6815	19.90	20.00	1.023	93.46	1.070	0.01	0.157	0.172	1.2	1.314
	WLAN6GHz	802.11a 6Mbps	Back	10mm	Ant 4	Index 5/6/7/8/9	173	6815	19.90	20.00	1.023	93.46	1.070	0.11	0.176	0.193	1.41	1.544
	WLAN6GHz	802.11a 6Mbps	Back	10mm	Ant 4	Index 5/6/7/8/9	1	5955	18.90	19.00	1.023	93.46	1.070	0.13	0.113	0.124	0.732	0.801
107	WLAN6GHz	802.11a 6Mbps	Back	10mm	Ant 4	Index 5/6/7/8/9	57	6235	19.90	20.00	1.023	93.46	1.070	0.02	0.239	0.262	1.58	1.730
	WLAN6GHz	802.11ax-HE80 MCS0	Back	10mm	Ant 4	Index 5/6/7/8/9	119	6545	14.30	14.50	1.047	87.06	1.149	0.05	0.056	0.067	0.377	0.454
	WLAN6GHz	802.11ax-HE80 MCS0	Back	10mm	Ant 4	Index 5/6/7/8/9	215	7025	14.30	15.00	1.175	87.06	1.149	-0.09	0.012	0.016	0.023	0.031
	WLAN6GHz	802.11a 6Mbps	Front	10mm	Ant 4+3(4)	Index 5/7/9	57	6235	19.80	20.00	1.047	93.46	1.070	-0.13	0.070	0.078	0.516	0.578
	WLAN6GHz	802.11a 6Mbps	Front	10mm	Ant 4+3(3)	Index 5/7/9	57	6235	18.80	20.00	1.318	93.46	1.070	-0.13	0.135	0.190	0.988	1.394
	WLAN6GHz	802.11a 6Mbps	Back	10mm	Ant 4+3(4)	Index 5/7/9	57	6235	19.80	20.00	1.047	93.46	1.070	-0.11	0.121	0.136	0.7	0.784
	WLAN6GHz	802.11a 6Mbps	Back	10mm	Ant 4+3(3)	Index 5/7/9	57	6235	18.80	20.00	1.318	93.46	1.070	-0.11	0.068	0.096	0.504	0.711
	WLAN6GHz	802.11a 6Mbps	Front	10mm	Ant 4+3(4)	Index 5/7/9	1	5955	19.00	19.00	1.000	93.46	1.070	-0.17	0.133	0.142	0.961	1.028
	WLAN6GHz	802.11a 6Mbps	Front	10mm	Ant 4+3(3)	Index 5/7/9	1	5955	18.20	19.00	1.202	93.46	1.070	-0.17	0.110	0.142	0.872	1.122
	WLAN6GHz	802.11a 6Mbps	Front	10mm	Ant 4+3(4)	Index 5/7/9	173	6815	19.90	20.00	1.023	93.46	1.070	-0.09	0.042	0.046	0.252	0.276
	WLAN6GHz	802.11a 6Mbps	Front	10mm	Ant 4+3(3)	Index 5/7/9	173	6815	18.50	20.00	1.413	93.46	1.070	-0.09	0.159	0.240	1.05	1.587
	WLAN6GHz	802.11ax-HE80 MCS0	Front	10mm	Ant 4+3(4)	Index 5/7/9	119	6545	14.50	14.50	1.000	87.06	1.149	0.03	0.019	0.022	0.107	0.123
	WLAN6GHz	802.11ax-HE80 MCS0	Front	10mm	Ant 4+3(3)	Index 5/7/9	119	6545	13.80	14.50	1.175	87.06	1.149	0.03	0.046	0.062	0.299	0.404
	WLAN6GHz	802.11ax-HE80 MCS0	Front	10mm	Ant 4+3(4)	Index 5/7/9	215	7025	14.80	15.00	1.047	87.06	1.149	0.02	0.001	0.001	0.001	0.001
	WLAN6GHz	802.11ax-HE80 MCS0	Front	10mm	Ant 4+3(3)	Index 5/7/9	215	7025	14.10	15.00	1.230	87.06	1.149	0.02	0.026	0.037	0.119	0.168

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Front	10mm	Ant 4	Index 2	0	2402	20.90	21.00	1.024	77.07	1.081	-0.18	0.261	0.289
	Bluetooth	1Mbps	Back	10mm	Ant 4	Index 2	0	2402	20.90	21.00	1.024	77.07	1.081	-0.05	0.258	0.285
	Bluetooth	1Mbps	Front	10mm	Ant 4	Index 3/4	78	2480	14.90	15.00	1.023	77.07	1.081	0.09	0.177	0.196
	Bluetooth	1Mbps	Back	10mm	Ant 4	Index 3/4	78	2480	14.90	15.00	1.023	77.07	1.081	-0.12	0.158	0.175
108	Bluetooth	1Mbps	Front	10mm	Ant 3	Index 2/3	78	2480	20.50	21.00	1.123	77.07	1.081	0.05	0.304	0.369
	Bluetooth	1Mbps	Back	10mm	Ant 3	Index 2/3	78	2480	20.50	21.00	1.123	77.07	1.081	-0.16	0.230	0.279
	Bluetooth	1Mbps	Front	10mm	Ant 3	Index 4	78	2480	14.65	15.00	1.084	77.07	1.081	0.11	0.084	0.098
	Bluetooth	1Mbps	Back	10mm	Ant 3	Index 4	78	2480	14.65	15.00	1.084	77.07	1.081	-0.11	0.064	0.075

17.4 6GHz PD Test Result

Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Grid Step (λ)	iPDn	iPD ratio (≥ -1)	Normal psPD (W/m ²)	Total psPD (W/m ²)
WLAN6GHZ	802.11ax-HE80 MCS0	Front	2mm	Ant 4+3(3)	7	5985	13.30	0.0625	2.45	-0.73231914	2.8	3.52
WLAN6GHZ	802.11ax-HE80 MCS0	Front	10mm	Ant 4+3(3)	7	5985	13.30	0.25	2.9		0.869	0.888
WLAN6GHZ	802.11ax-HE80 MCS0	Front	2mm	Ant 4+3(3)	215	7025	14.10	0.0625	1.9	0.856290026	2.63	3.06
WLAN6GHZ	802.11ax-HE80 MCS0	Front	8.59mm	Ant 4+3(3)	215	7025	14.10	0.25	1.56		0.445	0.525

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Grid Step (λ)	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)
	WLAN6GHZ	802.11ax-HE80 MCS0	Front	2mm	Ant 4	1	119	6545	14.30	14.50	1.047	87.06	1.149	0.0625	1.5535	0.08	1.32	2.47	2.36	4.41
	WLAN6GHZ	802.11ax-HE80 MCS0	Front	2mm	Ant 4	1	7	5985	13.90	14.00	1.023	87.06	1.149	0.0625	1.5535	-0.06	1.98	3.62	2.30	4.20
	WLAN6GHZ	802.11ax-HE80 MCS0	Front	2mm	Ant 4	1	71	6305	14.00	14.00	1.000	87.06	1.149	0.0625	1.5535	-0.17	2.42	4.32	2.61	4.66
	WLAN6GHZ	802.11ax-HE80 MCS0	Front	2mm	Ant 4	1	167	6785	13.90	14.00	1.023	87.06	1.149	0.0625	1.5535	0.10	0.406	0.742	0.956	1.75
	WLAN6GHZ	802.11ax-HE80 MCS0	Front	2mm	Ant 4	1	215	7025	14.30	15.00	1.175	87.06	1.149	0.0625	1.5535	-0.12	0.55	1.16	0.78	1.64
	WLAN6GHZ	802.11a 6Mbps	Front	10mm	Ant 4	5	57	6235	19.90	20.00	1.023	93.46	1.070	0.0625	1.5535	-0.01	1.11	1.89	1.22	2.08
	WLAN6GHZ	802.11a 6Mbps	Back	10mm	Ant 4	5	57	6235	19.90	20.00	1.023	93.46	1.070	0.0625	1.5535	0.05	2.37	4.03	2.47	4.20
	WLAN6GHZ	802.11a 6Mbps	Back	10mm	Ant 4	5	1	5955	18.90	19.00	1.023	93.46	1.070	0.0625	1.5535	-0.06	1.73	2.94	1.91	3.25
	WLAN6GHZ	802.11a 6Mbps	Back	10mm	Ant 4	5	173	6815	19.90	20.00	1.023	93.46	1.070	0.0625	1.5535	-0.05	2.57	4.37	2.68	4.56
	WLAN6GHZ	802.11ax-HE80 MCS0	Back	10mm	Ant 4	5	215	7025	14.30	15.00	1.175	87.06	1.149	0.0625	1.5535	-0.09	0.325	0.682	0.486	1.02
	WLAN6GHZ	802.11ax-HE80 MCS0	Back	10mm	Ant 4	5	119	6545	14.30	14.50	1.047	87.06	1.149	0.0625	1.5535	-0.05	1.07	2.00	1.11	2.07
	WLAN6GHZ	802.11a 6Mbps	Right Side	10mm	Ant 4	5	57	6235	19.90	20.00	1.023	93.46	1.070	0.0625	1.5535	0.03	1.01	1.72	1.13	1.92
	WLAN6GHZ	802.11a 6Mbps	Top Side	10mm	Ant 4	5	57	6235	19.90	20.00	1.023	93.46	1.070	0.0625	1.5535	0.05	1.05	1.79	1.03	1.75
	WLAN6GHZ	802.11ax-HE80 MCS0	Front	2mm	Ant 4+3(3)	1	119	6545	13.80	14.50	1.175	87.06	1.149	0.0625	1.5535	-0.08	1.31	2.75	1.62	3.40
109	WLAN6GHZ	802.11ax-HE80 MCS0	Front	2mm	Ant 4+3(3)	1	7	5985	13.30	14.00	1.175	87.06	1.149	0.0625	1.5535	-0.02	2.80	5.87	3.52	7.38
	WLAN6GHZ	802.11ax-HE80 MCS0	Front	2mm	Ant 4+3(3)	1	71	6305	13.00	14.00	1.259	87.06	1.149	0.0625	1.5535	0.01	1.95	4.38	2.98	6.70
	WLAN6GHZ	802.11ax-HE80 MCS0	Front	2mm	Ant 4+3(3)	1	167	6785	12.70	14.00	1.349	87.06	1.149	0.0625	1.5535	-0.07	2.32	5.59	2.55	6.14
	WLAN6GHZ	802.11ax-HE80 MCS0	Front	2mm	Ant 4+3(3)	1	215	7025	14.10	15.00	1.230	87.06	1.149	0.0625	1.5535	0.08	2.63	5.78	3.06	6.72
	WLAN6GHZ	802.11a 6Mbps	Front	10mm	Ant 4+3(3)	5	57	6235	18.80	20.00	1.318	93.46	1.070	0.0625	1.5535	0.05	1.50	3.29	1.89	4.14
	WLAN6GHZ	802.11a 6Mbps	Back	10mm	Ant 4+3(3)	5	57	6235	18.80	20.00	1.318	93.46	1.070	0.0625	1.5535	-0.02	1.84	4.03	2.25	4.93
	WLAN6GHZ	802.11a 6Mbps	Left Side	10mm	Ant 4+3(3)	5	57	6235	18.80	20.00	1.318	93.46	1.070	0.0625	1.5535	0.09	2.89	6.33	3.08	6.75
	WLAN6GHZ	802.11a 6Mbps	Left Side	10mm	Ant 4+3(3)	5	1	5955	18.20	19.00	1.202	93.46	1.070	0.0625	1.5535	0.07	2.26	4.52	2.44	4.88
	WLAN6GHZ	802.11a 6Mbps	Left Side	10mm	Ant 4+3(3)	5	173	6815	18.50	20.00	1.413	93.46	1.070	0.0625	1.5535	-0.08	2.02	4.74	2.73	6.41
	WLAN6GHZ	802.11ax-HE80 MCS0	Left Side	10mm	Ant 4+3(3)	5	215	7025	14.10	15.00	1.230	87.06	1.149	0.0625	1.5535	0.14	0.444	0.98	0.555	1.22
	WLAN6GHZ	802.11ax-HE80 MCS0	Left Side	10mm	Ant 4+3(3)	5	119	6545	13.80	14.50	1.175	87.06	1.149	0.0625	1.5535	-0.12	0.672	1.41	0.787	1.65
	WLAN6GHZ	802.11a 6Mbps	Right Side	10mm	Ant 4+3(4)	5	57	6235	19.80	20.00	1.047	93.46	1.070	0.0625	1.5535	0.00	1.21	2.11	1.39	2.42
	WLAN6GHZ	802.11a 6Mbps	Top Side	10mm	Ant 4+3(4)	5	57	6235	19.80	20.00	1.047	93.46	1.070	0.0625	1.5535	0.16	1.25	2.18	1.34	2.33



17.5 Repeated SAR Measurement

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	FR1 n41_Ant 0	100M	BPSK	1	1	Front	10mm	Index 5	518598	2592.99	24.40	25.20	1.202	-0.06	0.824	-	0.991
2nd	FR1 n41_Ant 0	100M	BPSK	1	1	Front	10mm	Index 5	518598	2592.99	24.40	25.20	1.202	0	0.811	1.016	0.975

No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 4+3(4)	Index 1	52	5260	17.90	18.00	1.023	93.42	1.070	-0.17	0.158	-	0.173
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 4+3(3)	Index 1	52	5260	17.90	18.00	1.023	93.42	1.070	-0.17	1.000		1.095
2nd	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 4+3(4)	Index 1	52	5260	17.90	18.00	1.023	93.42	1.070	0.14	0.167	1.062	0.183
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 4+3(3)	Index 1	52	5260	17.90	18.00	1.023	93.42	1.070	0.14	0.942		1.031
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(4)	Index 1	122	5610	15.40	15.50	1.023	89.9	1.112	-0.18	0.168	-	0.191
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(3)	Index 1	122	5610	15.30	15.50	1.047	89.9	1.112	-0.18	0.874		1.018
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(4)	Index 1	122	5610	15.40	15.50	1.023	89.9	1.112	0.04	0.158	1.05	0.180
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4+3(3)	Index 1	122	5610	15.30	15.50	1.047	89.9	1.112	0.04	0.832		0.969

General Note:

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



17.6 FR1 n41 Power Class 2 and Power Class 3 Linearity

This device support Power Class 2 and Power Class 3 operations for FR1 n41. Per FCC Guidance based on the device behavior, all SAR tests were performed using Power Class 3. Power Class 2 is tested using the highest SAR test configuration in Power Class 3 for each FR1 configuration and exposure condition combination, according to the highest time averaged power for all applicable uplink-downlink configurations in Power Class 2. When the reported SAR vs. output power is linearly scaled with < 10% discrepancy between power classes and all reported SAR are < 1.4 W/kg, Separate SAR testing for Power Class 2 is not required. Use PC3 power level and SAR to estimated PC2 SAR linearly, and check if the deviation from the measured PC2 SAR is <10%

<FR1 n41 Linearity Data for Head>

	FR1 n41_Ant 2 (Power Class 3)	FR1 n41_Ant 2 (Power Class 2)
Maximum Tune up Power (dBm)	24.30	27.30
Reported 1g SAR (W/kg)	0.818	0.735
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	269.15	268.52
Linearity SAR(W/kg)	0.82	
% deviation from expected linearity		-9.93%
	FR1 n41_Ant 0 (Power Class 3)	FR1 n41_Ant 0 (Power Class 2)
Maximum Tune up Power (dBm)	25.2	27
Reported 1g SAR (W/kg)	0.82	0.573
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	331.13	250.59
Linearity SAR(W/kg)	0.62	
% deviation from expected linearity		-7.66%

<FR1 n41 Linearity Data for Hotspot>

	FR1 n41_Ant 2 (Power Class 3)	FR1 n41_Ant 2 (Power Class 2)
Maximum Tune up Power (dBm)	20.40	23.40
Reported 1g SAR (W/kg)	0.721	0.682
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	109.65	109.39
Linearity SAR(W/kg)	0.72	
% deviation from expected linearity		-5.18%
	FR1 n41_Ant 0 (Power Class 3)	FR1 n41_Ant 0 (Power Class 2)
Maximum Tune up Power (dBm)	21.3	24.3
Reported 1g SAR (W/kg)	0.776	0.718
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	134.90	134.58
Linearity SAR(W/kg)	0.77	
% deviation from expected linearity		-7.25%



<FR1 n41 Linearity Data for Body-worn>

	FR1 n41_Ant 2 (Power Class 3)	FR1 n41_Ant 2 (Power Class 2)
Maximum Tune up Power (dBm)	23.50	26.50
Reported 1g SAR (W/kg)	0.886	0.805
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	223.87	223.34
Linearity SAR(W/kg)	0.88	
% deviation from expected linearity		-8.93%
	FR1 n41_Ant 0 (Power Class 3)	FR1 n41_Ant 0 (Power Class 2)
Maximum Tune up Power (dBm)	25.2	27
Reported 1g SAR (W/kg)	0.991	0.817
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	331.13	250.59
Linearity SAR(W/kg)	0.75	
% deviation from expected linearity		8.94%

Test Engineer : Jocelyn Huang, Putzie Chen, Ben Huang, Jay Chien, Jimmy Lu, Carter Jhuang, Mood Huang, Rain Chiu, Jacky Chen and Hank Chiang

18. Uncertainty Assessment

Declaration of Conformity:

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

Comments and Explanations:

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

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

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

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

Uncertainty Distributions	Normal	Rectangular	Triangular	U-Shape
Multi-plying Factor ^(a)	1/k ^(b)	1/√3	1/√6	1/√2

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

Standard Uncertainty for Assumed Distribution

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

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

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



Applicable for SAR Measurements:

Uncertainty Budget (4 MHz - 10 GHz range)							
Error Description	Uncertainty Value (±%)	Probability	Divisor	(Ci) 1g	(Ci) 10g	Standard Uncertainty (1g) (±%)	Standard Uncertainty (10g) (±%)
Measurement System							
Probe Calibration	18.60	N	2	1	1	9.3	9.3
Axial Isotropy	4.70	R	1.732	0.7	0.7	1.9	1.9
Hemispherical Isotropy	9.60	R	1.732	0.7	0.7	3.9	3.9
Linearity	4.70	R	1.732	1	1	2.7	2.7
Modulation Response	4.68	R	1.732	1	1	2.7	2.7
System Detection Limits	1.00	R	1.732	1	1	0.6	0.6
Boundary Effects	2.00	R	1.732	1	1	1.2	1.2
Readout Electronics	0.30	N	1	1	1	0.3	0.3
Response Time	0.00	R	1.732	1	1	0.0	0.0
Integration Time	2.60	R	1.732	1	1	1.5	1.5
RF Ambient Noise	3.00	R	1.732	1	1	1.7	1.7
RF Ambient Reflections	3.00	R	1.732	1	1	1.7	1.7
Probe Positioner	0.40	R	1.732	1	1	0.2	0.2
Probe Positioning	6.70	R	1.732	1	1	3.9	3.9
Post-processing	4.00	R	1.732	1	1	2.3	2.3
Test Sample Related							
Device Holder	3.60	N	1	1	1	3.6	3.6
Test sample Positioning	3.03	N	1	1	1	3.0	3.0
Power Scaling	0.00	R	1.732	1	1	0.0	0.0
Power Drift	5.00	R	1.732	1	1	2.9	2.9
Phantom and Setup							
Phantom Uncertainty	7.60	R	1.732	1	1	4.4	4.4
SAR correction	0.00	R	1.732	1	0.84	0.0	0.0
Liquid Conductivity Repeatability	0.03	N	1	0.78	0.77	0.0	0.0
Liquid Conductivity (target)	5.00	R	1.732	0.78	0.77	2.3	2.2
Liquid Conductivity (mea.)	2.50	R	1.732	0.78	0.77	1.1	1.1
Temp. unc. - Conductivity	3.68	R	1.732	0.78	0.77	1.7	1.6
Liquid Permittivity Repeatability	0.02	N	1	0.23	0.26	0.0	0.0
Liquid Permittivity (target)	5.00	R	1.732	0.23	0.26	0.7	0.8
Liquid Permittivity (mea.)	2.50	R	1.732	0.23	0.26	0.3	0.4
Temp. unc. - Permittivity	0.84	R	1.732	0.23	0.26	0.1	0.1
Combined Std. Uncertainty						14.5%	14.2%
Coverage Factor for 95 %						K=2	K=2
Expanded STD Uncertainty						29.0%	28.4%



Applicable for Power Density Measurements:

Error Description	Uncertainty Value (±dB)	Probability	Divisor	(Ci)	Standard Uncertainty (±dB)
Probe Calibration	0.49	N	1	1	0.49
Probe correction	0.00	R	1.732	1	0.00
Frequency response (BW ≤ 1 GHz)	0.20	R	1.732	1	0.12
Sensor cross coupling	0.00	R	1.732	1	0.00
Isotropy	0.50	R	1.732	1	0.29
Linearity	0.20	R	1.732	1	0.12
Probe scattering	0.00	R	1.732	1	0.00
Probe positioning offset	0.30	R	1.732	1	0.17
Probe positioning repeatability	0.04	R	1.732	1	0.02
Sensor mechanical offset	0.00	R	1.732	1	0.00
Probe spatial resolution	0.00	R	1.732	1	0.00
Field impedance dependance	0.00	R	1.732	1	0.00
Amplitude and phase drift	0.00	R	1.732	1	0.00
Amplitude and phase noise	0.04	R	1.732	1	0.02
Measurement area truncation	0.00	R	1.732	1	0.00
Data acquisition	0.03	N	1	1	0.03
Sampling	0.00	R	1.732	1	0.00
Field reconstruction	2.00	R	1.732	1	1.15
Forward transformation	0.00	R	1.732	1	0.00
Power density scaling	0.00	R	1.732	1	0.00
Spatial averaging	0.10	R	1.732	1	0.06
System detection limit	0.04	R	1.732	1	0.02
Uncertainty terms dep endent on the DUT and environmental factors					
Probe coupling with DUT	0.00	R	1.732	1	0.0
Modulation response	0.40	R	1.732	1	0.2
Integration time	0.00	R	1.732	1	0.0
Response time	0.00	R	1.732	1	0.0
Device holder influence	0.10	R	1.732	1	0.1
DUT alignment	0.00	R	1.732	1	0.0
RF ambient conditions	0.04	R	1.732	1	0.0
Ambient reflections	0.04	R	1.732	1	0.0
Immunity / secondary reception	0.00	R	1.732	1	0.0
Drift of the DUT		R	1.732	1	
Combined Std. Uncertainty					1.34
Expanded STD Uncertainty (95%)					2.68



19. References

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