

FCC Test Report

Report No.: RWAX202300107B

Applicant: FocusAI Inc

Address: 530 Lakeside Dr, Ste 180, Sunnyvale, CA 94085, United States.

Product Name: FocusAI Dome Camera FD10

Product Model: FD10

Multiple Models: N/A

Trade Mark: N/A

FCC ID: 2BDXBFD10

Standards: FCC CFR Title 47 Part 15E (§15.407)

Test Date: 2023/11/10~2024/02/24

Test Result: Complied

Issue Date: 2024/02/27

Reviewed by:

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Revision History

Version No.	Issued Date	Description
00	2024/02/27	Original

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1 General Information

1.1 Client Information

Applicant:	FocusAI Inc
Address:	530 Lakeside Dr, Ste 180, Sunnyvale, CA 94085, United States.
Manufacturer:	FocusAI Inc
Address:	530 Lakeside Dr, Ste 180, Sunnyvale, CA 94085, United States.

1.2 Product Description of EUT

The EUT is FocusAI Dome Camera FD10 that contains 2.4G and 5G WLAN radios, this report covers the full testing of the 5G WLAN radio.

Sample Serial number	4A-2 for CE&RE test, 4A-1 for RF test conducted test (assigned by WATC)
Sample Received Date	2023/11/1
Sample Status	Good Condition
Frequency Range	Band 1: 5180-5240 MHz (802.11a/ n ht20/ac vht20/ax hew20) 5190-5230 MHz (802.11 n ht40/ac vht40/ax hew40) 5210 MHz (802.11ac vht80/ax hew80) Band 2: 5260-5320 MHz (802.11a/ n ht20/ac vht20/ax hew20) 5270-5310 MHz (802.11 n ht40/ac vht40/ax hew40) 5290 MHz (802.11ac vht80/ax hew80) Band 3: 5500-5720 MHz (802.11a/ n ht20/ac vht20/ax hew20) 5510-5710 MHz (802.11 n ht40/ac vht40/ax hew40) 5530-5690 MHz (802.11ac vht80/ax hew80) Band 4: 5745-5825 MHz (802.11a/ n ht20/ac vht20/ax hew20) 5755-5795 MHz (802.11 n ht40/ac vht40/ax hew40) 5775 MHz (802.11ac vht80/ax hew80)
Maximum Conducted Output Power	5150 MHz - 5250MHz: 17.80dBm 5250 MHz - 5350MHz: 17.72dBm 5470 MHz - 5725MHz: 19.48dBm 5725 MHz - 5850MHz: 21.76dBm
Modulation Technology	OFDM, OFDMA
Spatial Streams	MIMO (2TX, 2RX)
Antenna Gain [#]	Band1: Ant0: 2.80dBi; Ant1: 1.80dBi; Band2: Ant0: 2.90dBi; Ant1: 2.40dBi; Band3: Ant0: 3.0dBi; Ant1: 2.90dBi; Band4: Ant0: 1.70dBi; Ant1: 1.60dBi
Power Supply	DC 48V from POE
Operating temperature [#]	-20 deg.C to +50 deg.C
Adapter Information	N/A
Modification	Sample No Modification by the test lab

1.3 Antenna information

15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.	
Device Antenna information:	
The Wi-Fi antenna is two internal antennas which cannot replace by end-user. Please see product internal photos for details.	

1.4 Related Submittal(s)/Grant(s)

FCC Part 15, Subpart C, Equipment Class: DTS, FCC ID: 2BDXBFD10

1.5 Measurement Uncertainty

Parameter		Expanded Uncertainty (Confidence of 95%(U = 2Uc(y)))
AC Power Lines Conducted Emissions		±3.14dB
Emissions, Radiated	Below 30MHz	±2.78dB
	Below 1GHz	±4.84dB
	Above 1GHz	±5.44dB
Conducted Power		0.74dB
Frequency Error		150Hz
Bandwidth		0.34%
Power Spectral Density		0.74dB
Note 1: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.		
Note 2: The Decision Rule is based on simple acceptance with ISO Guide 98-4:2012 Clause 8.2 (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)		

1.6 Laboratory Location

World Alliance Testing and Certification (Shenzhen) Co., Ltd

No. 1002, East Block, Laobing Building, Xingye Road 3012, Xixiang street, Bao'an District, Shenzhen, Guangdong, People's Republic of China

Tel: +86-755-29691511, Email: qa@watc.com.cn

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 463912, the FCC Designation No. : CN5040.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0160.

1.7 Test Methodology

FCC CFR 47 Part 2

FCC CFR 47 Part 15

KDB 789033 D02 General UNII Test Procedures New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2020

2 Description of Measurement

2.1 Test Configuration

Operating channels: (5150-5250MHz)					
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
36	5180	42	5210	48	5240
38	5190	44	5220	/	/
40	5200	46	5230	/	/
According to ANSI C63.10-2020 chapter 5.6.1 Table 11 requirement, select lowest channel, middle channel, and highest channel in the frequency range in which device operates for testing. The detailed frequency points are as follows:					
802.11a, 802.11n-HT20, 802.11ac-VHT20, 802.11ax-HEW20					
Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
36	5180	40	5200	48	5240
802.11n-HT40, 802.11ac-VHT40, 802.11ax-HEW40					
Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
38	5190	/	/	46	5230
802.11ac-VHT80, 802.11ax-HEW80					
Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
/	/	42	5210	/	/

Operating channels: (5250-5350MHz)					
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
52	5260	58	5290	64	5320
54	5270	60	5300	/	/
56	5280	62	5310	/	/
According to ANSI C63.10-2020 chapter 5.6.1 Table 11 requirement, select lowest channel, middle channel, and highest channel in the frequency range in which device operates for testing. The detailed frequency points are as follows:					
802.11a, 802.11n-HT20, 802.11ac-VHT20, 802.11ax-HEW20					
Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
52	5260	56	5280	64	5320
802.11n-HT40, 802.11ac-VHT40, 802.11ax-HEW40					
Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
54	5270	/	/	62	5310
802.11ac-VHT80, 802.11ax-HEW80					
Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
/	/	58	5290	/	/

Operating channels: (5470-5725MHz)							
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)		
100	5500	116	5580	132	5660		
102	5510	118	5590	134	5670		
104	5520	120	5600	136	5680		
106	5530	122	5610	138	5690		
108	5540	124	5620	140	5700		
110	5550	126	5630	142	5710		
112	5560	128	5640	144	5720		
According to ANSI C63.10-2020 chapter 5.6.1 Table 11 requirement, select lowest channel, middle channel, and highest channel in the frequency range in which device operates for testing. The detailed frequency points are as follows:							
802.11a, 802.11n-HT20, 802.11ac-VHT20, 802.11ax-HEW20							
Lowest channel		Middle channel		Highest channel		Cross Channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
100	5500	116	5580	140	5700	144	5720
802.11n-HT40, 802.11ac-VHT40, 802.11ax-HEW40							
Lowest channel		Middle channel		Highest channel		Cross Channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
102	5510	110	5550	134	5670	142	5710
802.11ac-VHT80, 802.11ax-HEW80							
Lowest channel		Middle channel		Highest channel		Cross Channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
106	5530	/	/	122	5610	138	5690

Operating channels: (5725-5850MHz)					
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
149	5745	155	5775	161	5805
151	5755	157	5785	165	5825
153	5765	159	5795	/	/
802.11a, 802.11n-HT20, 802.11ac-VHT20, 802.11ax-HEW20					
Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
149	5745	157	5785	165	5825
802.11n-HT40, 802.11ac-VHT40, 802.11ax-HEW40					
Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
151	5755	/	/	159	5795
802.11ac-VHT80, 802.11ax-HEW80					
Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
/	/	155	5775	/	/

Test Mode:					
Transmitting mode:		Keep the EUT in continuous transmitting with modulation			
Exercise software [#] :		QRCT4			
5150-5250 MHz Band:					
Test Modes	Test Channels	Test Frequency	Data rate	Power Level Setting [#]	
				ANT 0	ANT 1
802.11a	Lowest	5180	6Mbps	20	19
	Middle	5200	6Mbps	20	19
	Highest	5240	6Mbps	19	19
802.11ac vht20	Lowest	5180	MCS0	13	13
	Middle	5200	MCS0	13	13
	Highest	5240	MCS0	13	13
802.11ac vht40	Lowest	5190	MCS0	14	14
	Highest	5230	MCS0	14	14
802.11ac vht80	Middle	5210	MCS0	14	14
802.11ax hew20	Lowest	5180	MCS0	13	13
	Middle	5200	MCS0	13	13
	Highest	5240	MCS0	13	13
802.11ax hew40	Lowest	5190	MCS0	16	16
	Highest	5230	MCS0	16	16
802.11ax hew80	Middle	5210	MCS0	15	15
5250-5350 MHz Band:					
Test Modes	Test Channels	Test Frequency	Data rate	Power Level Setting [#]	
				ANT 0	ANT 1
802.11a	Lowest	5260	6Mbps	19	19
	Middle	5280	6Mbps	19	19
	Highest	5320	6Mbps	19	19
802.11ac vht20	Lowest	5260	MCS0	14	14
	Middle	5280	MCS0	14	14
	Highest	5320	MCS0	14	14
802.11ac vht40	Lowest	5270	MCS0	14	14
	Highest	5310	MCS0	14	14
802.11ac vht80	Middle	5290	MCS0	14	14
802.11ax hew20	Lowest	5260	MCS0	14	14
	Middle	5280	MCS0	14	14
	Highest	5320	MCS0	14	14
802.11ax hew40	Lowest	5270	MCS0	14	14
	Highest	5310	MCS0	14	14
802.11ax hew80	Middle	5290	MCS0	14	14

5470-5725 MHz Band:					
Test Modes	Test Channels	Test Frequency	Data rate	Power Level Setting [#]	
				ANT 0	ANT 1
802.11a	Lowest	5500	6Mbps	19	18
	Middle	5580	6Mbps	19	18
	Highest	5700	6Mbps	19	18
	Cross	5720	6Mbps	19	18
802.11ac vht20	Lowest	5500	MCS0	18	18
	Middle	5580	MCS0	18	18
	Highest	5700	MCS0	18	18
	Cross	5720	MCS0	18	18
802.11ac vht40	Lowest	5510	MCS0	17	17
	Middle	5550	MCS0	17	17
	Highest	5670	MCS0	17	17
	Cross	5710	MCS0	17	17
802.11ac vht80	Lowest	5530	MCS0	16	16
	Highest	5610	MCS0	16	16
	Cross	5690	MCS0	16	16
802.11ax hew20	Lowest	5500	MCS0	18	18
	Middle	5580	MCS0	18	18
	Highest	5700	MCS0	18	18
	Cross	5720	MCS0	18	18
802.11ax hew40	Lowest	5510	MCS0	17	17
	Middle	5550	MCS0	17	17
	Highest	5670	MCS0	17	17
	Cross	5710	MCS0	17	17
802.11ax hew80	Lowest	5530	MCS0	16	16
	Highest	5610	MCS0	16	16
	Cross	5690	MCS0	16	16
5725-5850 MHz Band:					
Test Modes	Test Channels	Test Frequency	Data rate	Power Level Setting [#]	
				ANT 0	ANT 1
802.11a	Lowest	5745	6Mbps	20	20
	Middle	5785	6Mbps	20	20
	Highest	5825	6Mbps	20	20
802.11ac vht20	Lowest	5745	MCS0	20	20
	Middle	5785	MCS0	20	20
	Highest	5825	MCS0	20	20
802.11ac vht40	Lowest	5755	MCS0	20	20
	Highest	5795	MCS0	20	20
802.11ac vht80	Middle	5775	MCS0	18	18
802.11ax hew20	Lowest	5745	MCS0	20	20
	Middle	5785	MCS0	20	20
	Highest	5825	MCS0	20	20
802.11ax hew40	Lowest	5755	MCS0	20	20
	Highest	5795	MCS0	20	20
802.11ax hew80	Middle	5775	MCS0	18	18
The exercise software and the maximum power setting that provided by manufacturer.					

Worst-Case Configuration:

For radiated emissions, EUT was investigated in three orthogonal orientation, the worst-case orientation was recorded in report

For AC power line conducted emission and radiated emission 9kHz-1GHz and above 18GHz were performed with the EUT transmits at the channel with highest output power as worst-case scenario.

According to manufacturer, for 802.11 n/ac/ax modes, the device support MIMO mode, all modes share the same power level setting under the same modulation. So the worst mode MIMO was selected to test

For 802.11 a mode, the device only support SISO mode.

The n-ht20/n-ht40 was reduced test since the identical parameters with ac vht20/ac vht40.

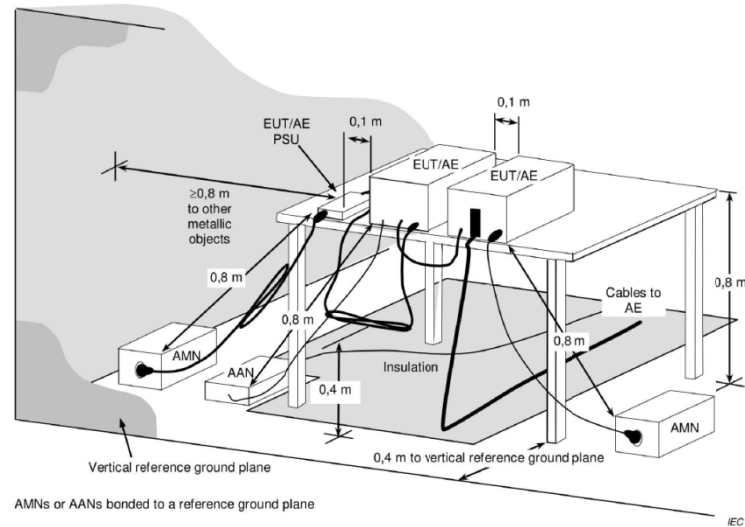
For 802.11 ax mode, the device not supports Partial RU.

2.2 Test Auxiliary Equipment

Manufacturer	Description	Model	Serial Number
SHENZHEN GOSPELL DIGITAL TECHNOLOGY CO.,LTD SWITCHING GIGABIT POWER SUPPLY	POE	G0566-480-100	/

2.3 Test Setup

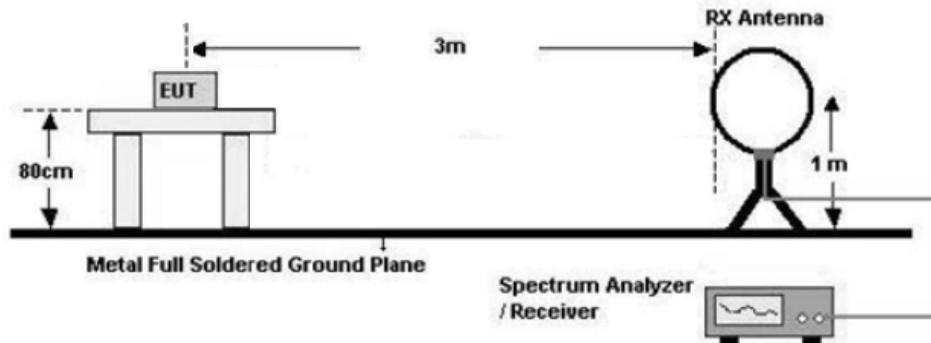
1) Conducted emission measurement:



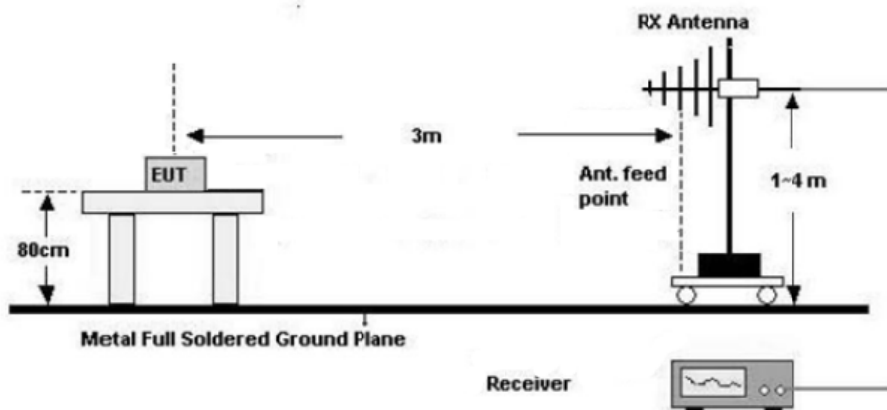
Note: The 0.8 m distance specified between EUT/AE/PSU and AMN/AAN, is applicable only to the EUT being measured. If the device is AE then it shall be >0.8 m.

2) Radiated emission measurement:

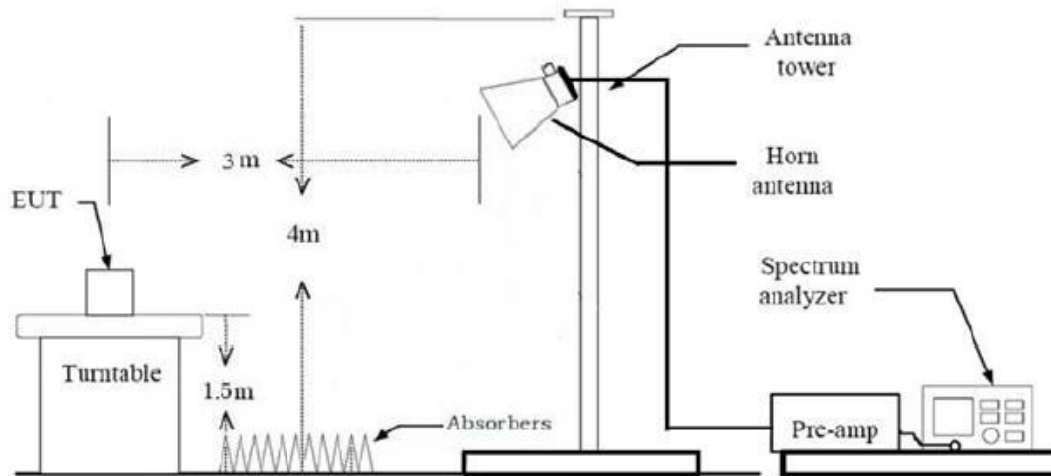
Below 30MHz (3m SAC)



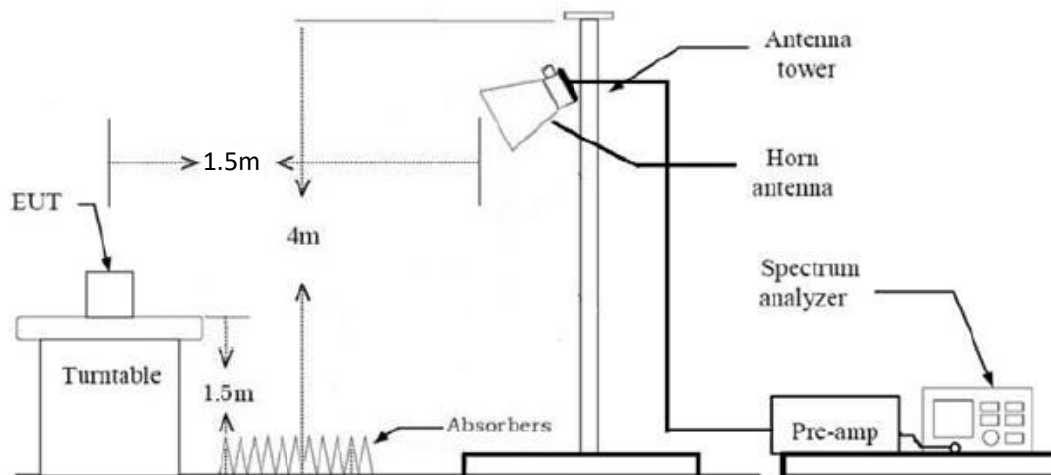
0MHz-1GHz (3m SAC)



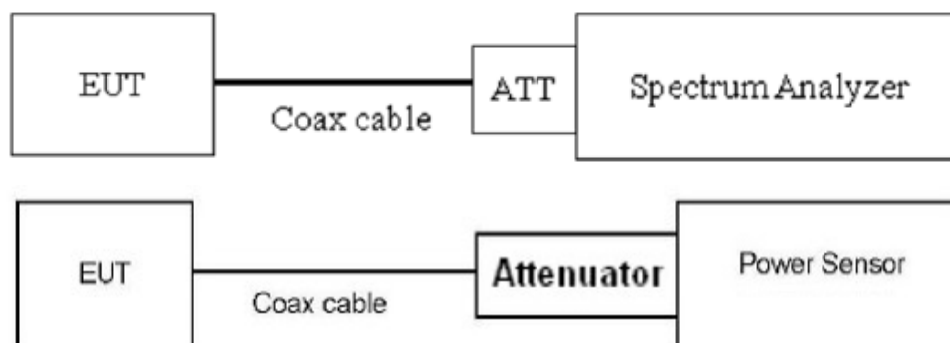
1GHz-18GHz(3m FAC)



Above 18GHz (3m FAC)



3) RF Conducted Test



2.4 Test Procedure

Conducted emission:

1. The E.U.T is placed on a non-conducting table 40cm from the vertical ground plane and 80cm above the horizontal ground plane (Please refer to the block diagram of the test setup and photographs).
2. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.
3. Line conducted data is recorded for both Line and Neutral

Radiated Emission Procedure:

a) For below 30MHz

1. All measurements were made at a test distance of 3 m. The measured data was extrapolated from the test distance (3m) to the specification distance (300 m from 9-490 kHz and 30 m from 490 kHz- 30 MHz) to clearly show the relative levels of fundamental and spurious emissions and demonstrate compliance with the requirement that the level of any spurious emissions be below the level of the intentionally transmitted signal. The extrapolation factor for the limits were $40 \cdot \log(\text{test distance} / \text{specification distance})$.
2. Loop antenna use, investigation was done on the three antenna orientations (parallel, perpendicular, ground-parallel)

b) For 30MHz-1GHz:

1. The EUT was placed on the tabletop of a rotating table 0.8 m the ground at a 3 m semi anechoic chamber. The measurement distance from the EUT to the receiving antenna is 3 m.
2. EUT works in each mode of operation that needs to be tested. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations.

c) For above 1GHz:

1. The EUT was placed on the tabletop of a rotating table 1.5 m the ground at a 3 m fully anechoic room. The measurement distance from the EUT to the receiving antenna is 3 m (1-18GHz) and 1.5 m (above 18GHz).
2. EUT works in each mode of operation that needs to be tested, and having the EUT continuously working. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations.
3. Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data.
4. Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

RF Conducted Test:

1. The antenna port of EUT was connected to the RF port of the test equipment (Power Meter or

Spectrum analyzer) through Attenuator and RF cable.

2. The cable assembly insertion loss of 11.5dB (including 10 dB Attenuator and 1.5 dB cable) was entered as an offset in the power meter. Note: Actual cable loss was unavailable at the time of testing, therefore a loss of 1.5dB was assumed as worst case. This was later verified to be true by laboratory. (if the RF cable provided by client, the cable loss declared by client)
3. The EUT is keeping in continuous transmission mode and tested in all modulation modes.

2.5 Measurement Method

Description of Test	Measurement Method
AC Line Conducted Emissions	ANSI C63.10-2020 Section 6.2
Maximum Conducted Output Power	KDB 789033 D02 v02r01 section E.3. b)
Power Spectral Density	KDB 789033 D02 v02r01 section F
26 dB Emission Bandwidth	KDB 789033 D02 v02r01 section C.1
6 dB Emission Bandwidth	KDB 789033 D02 v02r01 section C.2
99% Occupied Bandwidth	KDB 789033 D02 v02r01 section D.
Unwanted Emissions	KDB 789033 D02 v02r01 section G.
Duty Cycle	KDB 789033 D02 v02r01 section B.

2.6 Measurement Equipment

Manufacturer	Description	Model	Management No.	Calibration Date	Calibration Due Date
AC Line Conducted Emission Test					
ROHDE& SCHWARZ	EMI TEST RECEIVER	ESR	101817	2023/7/3	2024/7/2
R&S	LISN	ENV216	101748	2023/8/1	2024/7/31
N/A	Coaxial Cable	NO.12	N/A	2023/7/3	2024/7/2
Farad	Test Software	EZ-EMC	Ver. EMEC-3A1	/	/
Radiated Emission Test					
R&S	EMI test receiver	ESR3	102758	2023/7/3	2024/7/2
ROHDE& SCHWARZ	SPECTRUM ANALYZER	FSV40-N	101608	2023/7/3	2024/7/2
SONOMA INSTRUMENT	Low frequency amplifier	310	186014	2023/7/12	2024/7/11
COM-POWER	PREAMPLIFIER	PAM-118A	18040152	2023/8/21	2024/8/20
COM-POWER	Amplifier	PAM-840A	461306	2023/8/8	2024/8/7
ETS	Passive Loop Antenna	6512	29604	2023/7/7	2024/7/6
SCHWARZBECK	Log - periodic wideband antenna	VULB 9163	9163-872	2023/7/7	2024/7/6
Astro Antenna Ltd	Horn antenna	AHA-118S	3015	2023/7/6	2024/7/5
Ducommun technologies	Horn Antenna	ARH-2823-02	1007726-03	2023/7/10	2024/7/9
Ducommun technologies	Horn Antenna	ARH-4223-02	1007726-03	2023/7/10	2024/7/9
Oulitong	Band Reject Filter	OBSF-5150-585 0-S	OE02104371	2023/9/15	2024/9/14
N/A	Coaxial Cable	NO.9	N/A	2023/8/8	2024/8/7
N/A	Coaxial Cable	NO.10	N/A	2023/8/8	2024/8/7
N/A	Coaxial Cable	NO.11	N/A	2023/8/8	2024/8/7
Audix	Test Software	E3	191218 V9	/	/
RF Conducted Test					
ROHDE& SCHWARZ	SPECTRUM ANALYZER	FSU-26	200680/026	2023/7/12	2024/7/11
ANRITSU	USB Power Sensor	MA24418A	12620	2023/7/12	2024/7/11
MARCONI	10dB Attenuator	1692595	2942	2023/10/25	2024/10/24
ROHDE& SCHWARZ	SPECTRUM ANALYZER	FSV40	101419	2023/9/12	2024/9/11

Note: All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or International standards.

3 Test Results

3.1 Test Summary

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliance
§15.207 (a) §15.407 (b)(9)	AC Line Conducted Emissions	Compliance
§15.407 (a)(1)(iv), (2), (3)(i)	Conducted Peak Output Power Power Spectral Density	Compliance
§15.407 (a)(12)	99% Occupied Bandwidth	Compliance
§15.407 (a)	26 dB Emission Bandwidth	Compliance
§15.407 (e)	6 dB Emission Bandwidth	Compliance
§15.205, §15.209, §15.407 (b)(1), (2), (3), (4), (9), (10)	Unwanted Emissions	Compliance
/	Duty Cycle	Report only

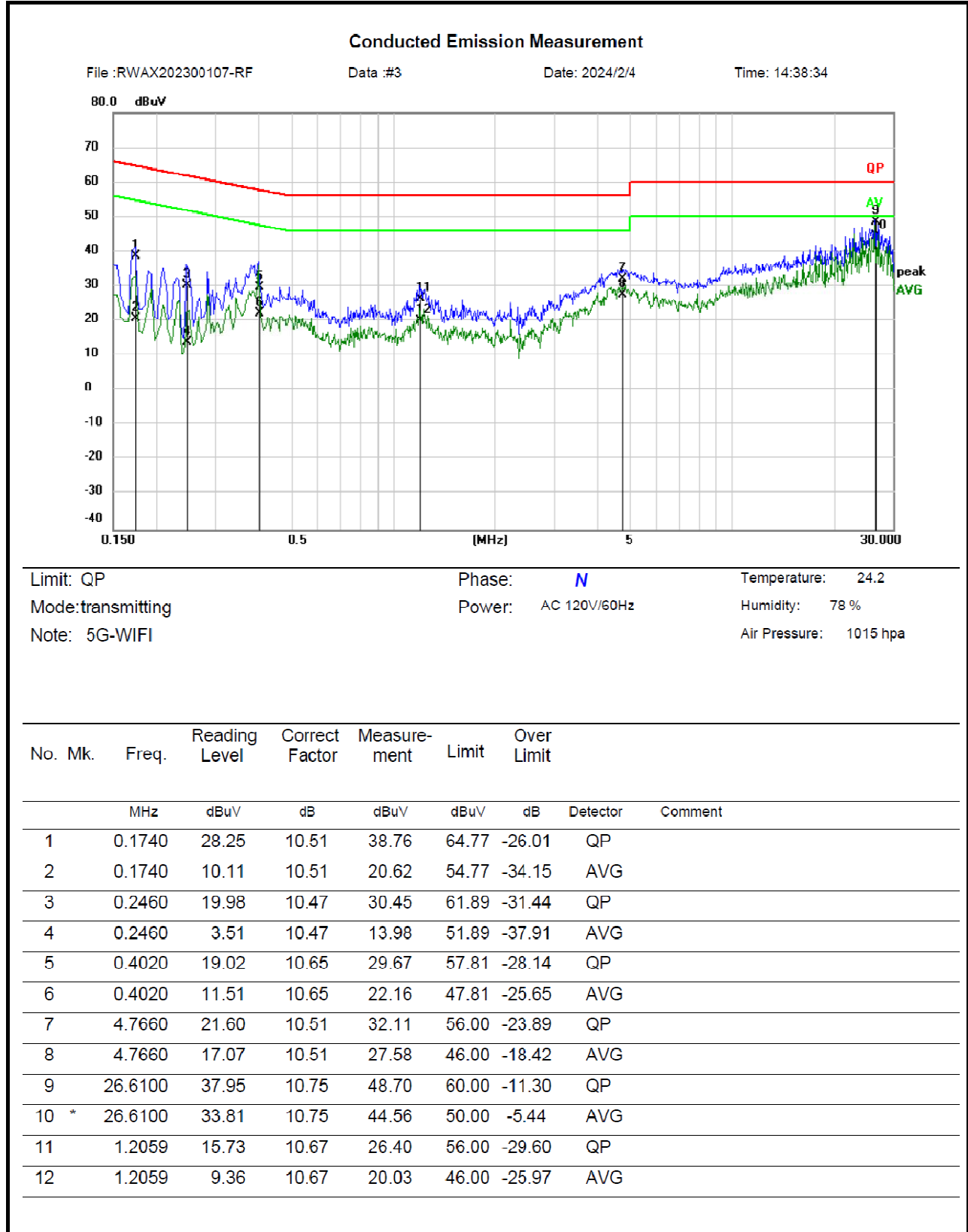
3.2 Limit

Test items	Limit
AC Power Line Conducted Emission	See details §15.207 (a)
Conducted Peak Output Power	For the band 5.15–5.25 GHz: For client devices in the 5.15–5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For the band 5.25–5.35 GHz and 5.47–5.725 GHz: For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For the band 5.725–5.895 GHz: For the band 5.725–5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, Fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
Power Spectral Density	
26dB Emission Bandwidth	N/A
99% Occupied Bandwidth	
6dB Emission Bandwidth	Within the 5.725–5.850 GHz and 5.850–5.895 GHz bands, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

Unwanted Emissions	For transmitters operating in the 5.15–5.25 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz. For transmitters operating in the 5.25–5.35 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz. For transmitters operating in the 5.47–5.725 GHz band: All emissions outside of the 5.47–5.725 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz. For transmitters operating solely in the 5.725–5.850 GHz band: All emissions shall be limited to a level of –27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge. Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. The provisions of § 15.205 apply to intentional radiators operating under this section.
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3.3 AC Line Conducted Emissions Test Data

Test Date:	2024-02-04	Test By:	Lirou Li
Environment condition:	Temperature: 24.2°C; Relative Humidity:78%; ATM Pressure: 101.5kPa		



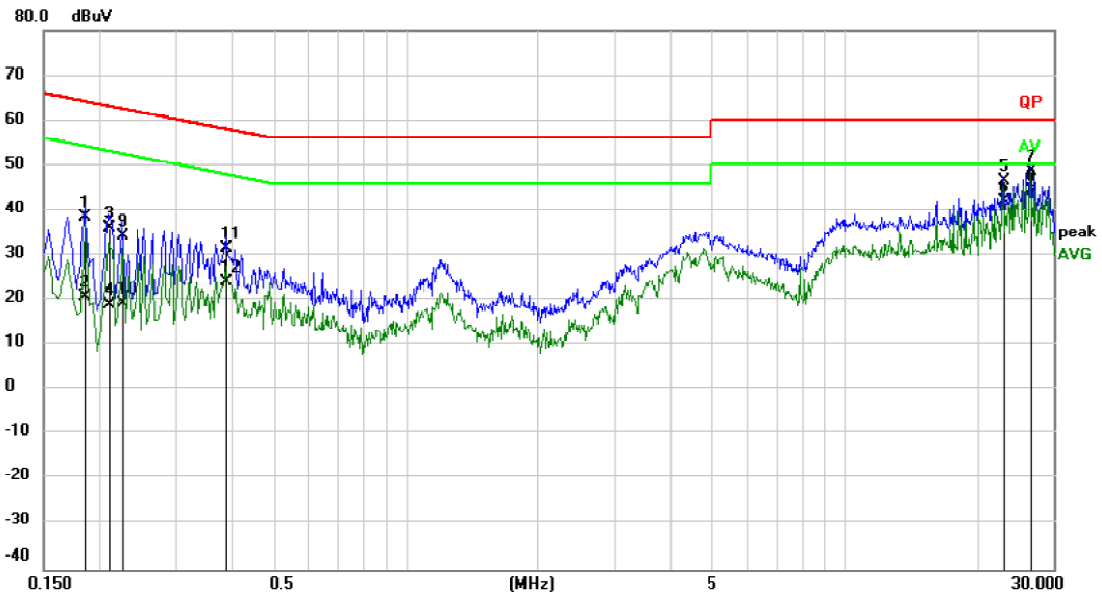
Conducted Emission Measurement

File :RWAX202300107-RF

Data :#4

Date: 2024/2/4

Time: 14:40:23



Limit: QP

Phase: **L1**

Temperature: 24.2

Mode:transmitting

Power: AC 120V/60Hz

Humidity: 78 %

Note: 5G-WIFI

Air Pressure: 1015 hpa

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over Limit		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1860	27.80	10.67	38.47	64.21	-25.74	QP	
2		0.1860	10.10	10.67	20.77	54.21	-33.44	AVG	
3		0.2100	25.41	10.62	36.03	63.21	-27.18	QP	
4		0.2100	8.20	10.62	18.82	53.21	-34.39	AVG	
5		23.1299	36.02	10.52	46.54	60.00	-13.46	QP	
6		23.1299	31.65	10.52	42.17	50.00	-7.83	AVG	
7		26.6100	38.13	10.45	48.58	60.00	-11.42	QP	
8	*	26.6100	34.00	10.45	44.45	50.00	-5.55	AVG	
9		0.2260	23.46	10.64	34.10	62.60	-28.50	QP	
10		0.2260	8.56	10.64	19.20	52.60	-33.40	AVG	
11		0.3899	20.76	10.78	31.54	58.07	-26.53	QP	
12		0.3899	13.37	10.78	24.15	48.07	-23.92	AVG	

Remark:

Measurement (dBuV)= Reading Level (dBuV) + Correct Factor(dB)

Correct Factor(dB)= LISN Voltage Division Factor (dB)+ Cable loss(dB)

Over = Measurement – Limit

3.4 Radiated emission Test Data

9 kHz-30MHz:

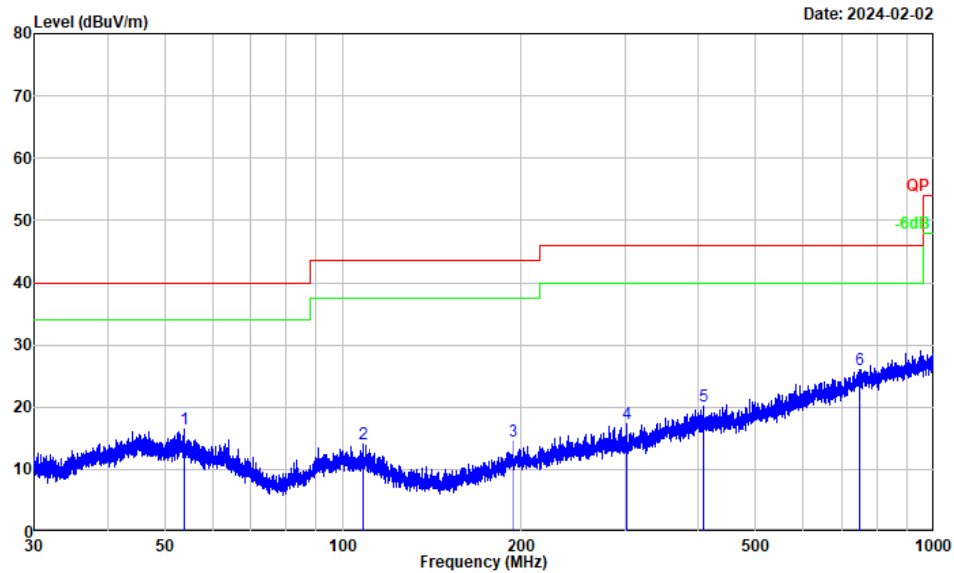
Test Date:	2024-02-02	Test By:	Luke Li
Environment condition:	Temperature: 23.6°C; Relative Humidity:64%; ATM Pressure: 101.2kPa		

For radiated emissions below 30MHz, there were no emissions found within 20dB of limit.

Note: For the 802.11ac20/ac40/ac80/ax20/ax40/ax80 mode, two antennas transmit simultaneously were the worst case.

30MHz-1GHz:

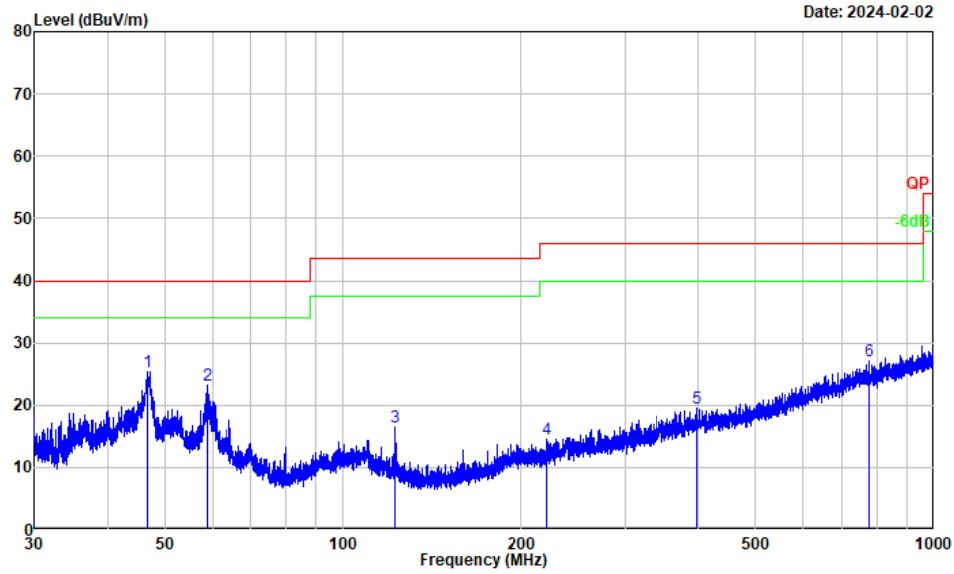
Test Date:	2024-02-02	Test By:	Luke Li
Environment condition:	Temperature: 23.6°C; Relative Humidity:64%; ATM Pressure: 101.2kPa		



Project No. :
 Test Mode : Transmitting
 Test Voltage : DC 48V From POE
 Environment : 23.6°C/64%R.H./101.2kPa
 Tested by : Luke Li
 Polarization : horizontal
 Remark : Band2 802.11a Middle Channel

--No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
1	53.858	28.98	-12.46	16.52	40.00	-23.48	Peak
2	108.077	28.19	-14.05	14.14	43.50	-29.36	Peak
3	194.113	28.66	-14.22	14.44	43.50	-29.06	Peak
4	301.422	28.58	-11.31	17.27	46.00	-28.73	Peak
5	408.767	28.52	-8.46	20.06	46.00	-25.94	Peak
6	747.155	28.42	-2.45	25.97	46.00	-20.03	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain



Project No. :
Test Mode : Transmitting
Test Voltage : DC 48V From POE
Environment : 23.6°C/64%R.H./101.2kPa
Tested by : Luke Li
Polarization : vertical
Remark : Band2 802.11a Middle Channel

--No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
1	46.728	37.54	-12.18	25.36	40.00	-14.64	Peak
2	58.870	36.83	-13.53	23.30	40.00	-16.70	Peak
3	123.050	32.85	-16.44	16.41	43.50	-27.09	Peak
4	221.198	28.18	-13.57	14.61	46.00	-31.39	Peak
5	397.633	28.15	-8.63	19.52	46.00	-26.48	Peak
6	778.241	29.24	-2.22	27.02	46.00	-18.98	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain

Remark:

Level = Reading + Factor

Factor = Antenna factor + Cable loss – Amplifier gain

Margin = Level – Limit

Above 1GHz:

Test Date:	2024-01-25	Test By:	Luke Li
Environment condition:	Temperature: 24°C; Relative Humidity:55%; ATM Pressure: 101kPa		

5150~5250

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11a							
ANT 0							
Low Channel							
5150	48.29	Horizontal	11.57	59.86	74	-14.14	Peak
5150	38.82	Horizontal	11.57	50.39	54	-3.61	Average
5150	48.74	Vertical	11.57	60.31	74	-13.69	Peak
5150	38.86	Vertical	11.57	50.43	54	-3.57	Average
10360	49.51	Horizontal	5.5	55.01	68.2	-13.19	Peak
10360	49.76	Vertical	5.5	55.26	68.2	-12.94	Peak
Middle Channel							
10400	49.38	Horizontal	5.7	55.08	68.2	-13.12	Peak
10400	50.13	Vertical	5.7	55.83	68.2	-12.37	Peak
High Channel							
5350	49.08	Horizontal	11.44	60.52	74	-13.48	Peak
5350	38.59	Horizontal	11.44	50.03	54	-3.97	Average
5350	49.26	Vertical	11.44	60.70	74	-13.30	Peak
5350	38.60	Vertical	11.44	50.04	54	-3.96	Average
10480	49.76	Horizontal	5.74	55.5	68.2	-12.70	Peak
10480	50.53	Vertical	5.74	56.27	68.2	-11.93	Peak

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11a							
ANT 1							
Low Channel							
5150	49.33	Horizontal	11.57	60.90	74	-13.10	Peak
5150	38.55	Horizontal	11.57	50.12	54	-3.88	Average
5150	48.74	Vertical	11.57	60.31	74	-13.69	Peak
5150	38.86	Vertical	11.57	50.43	54	-3.57	Average
10360	50.47	Horizontal	5.5	55.97	68.2	-12.23	Peak
10360	50.70	Vertical	5.5	56.20	68.2	-12.00	Peak
Middle Channel							
10400	50.21	Horizontal	5.7	55.91	68.2	-12.29	Peak
10400	49.86	Vertical	5.7	55.56	68.2	-12.64	Peak
High Channel							
5350	48.82	Horizontal	11.44	60.26	74	-13.74	Peak
5350	38.58	Horizontal	11.44	50.02	54	-3.98	Average
5350	48.27	Vertical	11.44	59.71	74	-14.29	Peak
5350	38.60	Vertical	11.44	50.04	54	-3.96	Average
10480	50.46	Horizontal	5.74	56.2	68.2	-12.00	Peak
10480	49.89	Vertical	5.74	55.63	68.2	-12.57	Peak

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11ac20							
Low Channel							
5150	49.40	Horizontal	11.57	60.97	74	-13.03	Peak
5150	38.93	Horizontal	11.57	50.50	54	-3.50	Average
5150	49.19	Vertical	11.57	60.76	74	-13.24	Peak
5150	38.28	Vertical	11.57	49.85	54	-4.15	Average
10360	50.63	Horizontal	5.5	56.13	68.2	-12.07	Peak
10360	50.69	Vertical	5.5	56.19	68.2	-12.01	Peak
Middle Channel							
10400	49.87	Horizontal	5.7	55.57	68.2	-12.63	Peak
10400	49.89	Vertical	5.7	55.59	68.2	-12.61	Peak
High Channel							
5350	48.71	Horizontal	11.44	60.15	74	-13.85	Peak
5350	38.11	Horizontal	11.44	49.55	54	-4.45	Average
5350	48.17	Vertical	11.44	59.61	74	-14.39	Peak
5350	38.79	Vertical	11.44	50.23	54	-3.77	Average
10480	49.97	Horizontal	5.74	55.71	68.2	-12.49	Peak
10480	50.09	Vertical	5.74	55.83	68.2	-12.37	Peak
802.11ac40							
Low Channel							
5150	49.18	Horizontal	11.57	60.75	74	-13.25	Peak
5150	39.28	Horizontal	11.57	50.85	54	-3.15	Average
5150	49.30	Vertical	11.57	60.87	74	-13.13	Peak
5150	38.77	Vertical	11.57	50.34	54	-3.66	Average
10380	50.19	Horizontal	5.6	55.79	68.2	-12.41	Peak
10380	49.98	Vertical	5.6	55.58	68.2	-12.62	Peak
High Channel							
5350	48.65	Horizontal	11.44	60.09	74	-13.91	Peak
5350	38.74	Horizontal	11.44	50.18	54	-3.82	Average
5350	49.17	Vertical	11.44	60.61	74	-13.39	Peak
5350	38.22	Vertical	11.44	49.66	54	-4.34	Average
10460	50.46	Horizontal	5.73	56.19	68.2	-12.01	Peak
10460	50.49	Vertical	5.73	56.22	68.2	-11.98	Peak

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11ac80							
5150	49.10	Horizontal	11.57	60.67	74	-13.33	Peak
5150	38.31	Horizontal	11.57	49.88	54	-4.12	Average
5150	49.25	Vertical	11.57	60.82	74	-13.18	Peak
5150	38.77	Vertical	11.57	50.34	54	-3.66	Average
5350	49.14	Horizontal	11.44	60.58	74	-13.42	Peak
5350	38.53	Horizontal	11.44	49.97	54	-4.03	Average
5350	49.37	Vertical	11.44	60.81	74	-13.19	Peak
5350	38.68	Vertical	11.44	50.12	54	-3.88	Average
10420	49.98	Horizontal	5.71	55.69	68.2	-12.51	Peak
10420	49.75	Vertical	5.71	55.46	68.2	-12.74	Peak

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11ax20							
Low Channel							
5150	49.96	Horizontal	11.57	61.53	74	-12.47	Peak
5150	38.93	Horizontal	11.57	50.50	54	-3.50	Average
5150	49.30	Vertical	11.57	60.87	74	-13.13	Peak
5150	38.92	Vertical	11.57	50.49	54	-3.51	Average
10360	50.18	Horizontal	5.5	55.68	68.2	-12.52	Peak
10360	49.87	Vertical	5.5	55.37	68.2	-12.83	Peak
Middle Channel							
10400	49.52	Horizontal	5.7	55.22	68.2	-12.98	Peak
10400	49.98	Vertical	5.7	55.68	68.2	-12.52	Peak
High Channel							
5350	49.81	Horizontal	11.44	61.25	74	-12.75	Peak
5350	38.70	Horizontal	11.44	50.14	54	-3.86	Average
5350	49.28	Vertical	11.44	60.72	74	-13.28	Peak
5350	38.62	Vertical	11.44	50.06	54	-3.94	Average
10480	49.90	Horizontal	5.74	55.64	68.2	-12.56	Peak
10480	50.09	Vertical	5.74	55.83	68.2	-12.37	Peak
802.11ax40							
Low Channel							
5150	49.39	Horizontal	11.57	60.96	74	-13.04	Peak
5150	38.63	Horizontal	11.57	50.20	54	-3.80	Average
5150	49.25	Vertical	11.57	60.82	74	-13.18	Peak
5150	38.84	Vertical	11.57	50.41	54	-3.59	Average
10380	50.68	Horizontal	5.6	56.28	68.2	-11.92	Peak
10380	50.15	Vertical	5.6	55.75	68.2	-12.45	Peak
High Channel							
5350	49.52	Horizontal	11.44	60.96	74	-13.04	Peak
5350	38.76	Horizontal	11.44	50.2	54	-3.80	Average
5350	49.38	Vertical	11.44	60.82	74	-13.18	Peak
5350	38.97	Vertical	11.44	50.41	54	-3.59	Average
10460	50.55	Horizontal	5.73	56.28	68.2	-11.92	Peak
10460	50.02	Vertical	5.73	55.75	68.2	-12.45	Peak

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11ax80							
5150	49.32	Horizontal	11.57	60.89	74	-13.11	Peak
5150	38.66	Horizontal	11.57	50.23	54	-3.77	Average
5150	49.06	Vertical	11.57	60.63	74	-13.37	Peak
5150	38.07	Vertical	11.57	49.64	54	-4.36	Average
5350	48.70	Horizontal	11.44	60.14	74	-13.86	Peak
5350	38.93	Horizontal	11.44	50.37	54	-3.63	Average
5350	48.99	Vertical	11.44	60.43	74	-13.57	Peak
5350	38.16	Vertical	11.44	49.60	54	-4.40	Average
10420	55.18	Horizontal	5.71	60.89	68.2	-7.31	Peak
10420	54.52	Vertical	5.71	60.23	68.2	-7.97	Peak

5250-5350MHz

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11a							
ANT 0							
Low Channel							
5150	49.18	Horizontal	11.57	60.75	74	-13.25	Peak
5150	38.28	Horizontal	11.57	49.85	54	-4.15	Average
5150	49.25	Vertical	11.57	60.82	74	-13.18	Peak
5150	38.53	Vertical	11.57	50.10	54	-3.90	Average
10520.000	49.66	Horizontal	5.78	55.44	68.2	-12.76	Peak
10520.000	50.30	Vertical	5.78	56.08	68.2	-12.12	Peak
Middle Channel							
10560.000	50.23	Horizontal	5.84	56.07	68.2	-12.13	Peak
10560.000	50.50	Vertical	5.84	56.34	68.2	-11.86	Peak
High Channel							
5350	49.14	Horizontal	11.44	60.58	74	-13.42	Peak
5350	38.44	Horizontal	11.44	49.88	54	-4.12	Average
5350	48.48	Vertical	11.44	59.92	74	-14.08	Peak
5350	38.69	Vertical	11.44	50.13	54	-3.87	Average
10640.000	50.49	Horizontal	5.92	56.41	74	-17.59	Peak
10640.000	38.84	Horizontal	5.92	44.76	54	-9.24	Average
10640.000	50.17	Vertical	5.92	56.09	74	-17.91	Peak
10640.000	38.92	Vertical	5.92	44.84	54	-9.16	Average

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11a							
ANT 1							
Low Channel							
5150	48.85	Horizontal	11.57	60.42	74	-13.58	Peak
5150	38.66	Horizontal	11.57	50.23	54	-3.77	Average
5150	48.60	Vertical	11.57	60.17	74	-13.83	Peak
5150	38.25	Vertical	11.57	49.82	54	-4.18	Average
10520.000	49.75	Horizontal	5.78	55.53	68.2	-12.67	Peak
10520.000	50.33	Vertical	5.78	56.11	68.2	-12.09	Peak
Middle Channel							
10560	50.09	Horizontal	5.84	55.93	68.2	-12.27	Peak
10560	50.52	Vertical	5.84	56.36	68.2	-11.84	Peak
High Channel							
5350	48.58	Horizontal	11.44	60.02	74	-13.98	Peak
5350	39.00	Horizontal	11.44	50.44	54	-3.56	Average
5350	49.17	Vertical	11.44	60.61	74	-13.39	Peak
5350	38.85	Vertical	11.44	50.29	54	-3.71	Average
10640.000	50.15	Horizontal	5.92	56.07	74	17.93	Peak
10640.000	38.26	Horizontal	5.92	44.18	54	9.82	Average
10640.000	50.44	Vertical	5.92	56.36	74	-17.64	Peak
10640.000	38.62	Vertical	5.92	44.54	54	-9.46	Average

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11ac20							
Low Channel							
5150	49.31	Horizontal	11.57	60.88	74	-13.12	Peak
5150	38.11	Horizontal	11.57	49.68	54	-4.32	Average
5150	48.55	Vertical	11.57	60.12	74	-13.88	Peak
5150	38.41	Vertical	11.57	49.98	54	-4.02	Average
10520.000	49.97	Horizontal	5.78	55.75	68.2	-12.45	Peak
10520.000	50.41	Vertical	5.78	56.19	68.2	-12.01	Peak
Middle Channel							
10560	50.23	Horizontal	5.84	56.07	68.2	-12.13	Peak
10560	50.78	Vertical	5.84	56.62	68.2	-11.58	Peak
High Channel							
5350	49.08	Horizontal	11.44	60.52	74	-13.48	Peak
5350	39.00	Horizontal	11.44	50.44	54	-3.56	Average
5350	49.39	Vertical	11.44	60.83	74	-13.17	Peak
5350	38.71	Vertical	11.44	50.15	54	-3.85	Average
10640.000	50.35	Horizontal	5.92	56.27	74	-17.73	Peak
10640.000	39.39	Horizontal	5.92	45.31	54	-8.69	Average
10640.000	50.34	Vertical	5.92	56.26	74	-17.74	Peak
10640.000	39.16	Vertical	5.92	45.08	54	-8.92	Average

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11ac40							
Low Channel							
5150	48.41	Horizontal	11.57	59.98	74	-14.02	Peak
5150	38.72	Horizontal	11.57	50.29	54	-3.71	Average
5150	48.29	Vertical	11.57	59.86	74	-14.14	Peak
5150	38.46	Vertical	11.57	50.03	54	-3.97	Average
10540.000	50.10	Horizontal	5.8	55.9	68.2	-12.30	Peak
10540.000	49.87	Vertical	5.8	55.67	68.2	-12.53	Peak
High Channel							
5350	48.73	Horizontal	11.44	60.17	74	-13.83	Peak
5350	38.84	Horizontal	11.44	50.28	54	-3.72	Average
5350	48.27	Vertical	11.44	59.71	74	-14.29	Peak
5350	38.88	Vertical	11.44	50.32	54	-3.68	Average
10620.000	50.49	Horizontal	5.9	56.39	74	-17.61	Peak
10620.000	38.34	Horizontal	5.9	44.24	54	-9.76	Average
10620.000	50.27	Vertical	5.9	56.17	74	-17.83	Peak
10620.000	39.13	Vertical	5.9	45.03	54	-8.97	Average

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11ac80							
Middle Channel							
5150	49.37	Horizontal	11.57	60.94	74	-13.06	Peak
5150	38.54	Horizontal	11.57	50.11	54	-3.89	Average
5150	49.15	Vertical	11.57	60.72	74	-13.28	Peak
5150	38.94	Vertical	11.57	50.51	54	-3.49	Average
5350	48.94	Horizontal	11.44	60.38	74	-13.62	Peak
5350	38.42	Horizontal	11.44	49.86	54	-4.14	Average
5350	48.73	Vertical	11.44	60.17	74	-13.83	Peak
5350	38.61	Vertical	11.44	50.05	54	-3.95	Average
10580.000	50.07	Horizontal	5.86	55.93	68.2	-12.27	Peak
10580.000	49.86	Vertical	5.86	55.72	68.2	-12.48	Peak

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11ax20							
Low Channel							
5150	48.63	Horizontal	11.57	60.2	74	-13.80	Peak
5150	38.56	Horizontal	11.57	50.13	54	-3.87	Average
5150	49.04	Vertical	11.57	60.61	74	-13.39	Peak
5150	38.41	Vertical	11.57	49.98	54	-4.02	Average
10520.000	49.63	Horizontal	5.78	55.41	68.2	-12.79	Peak
10520.000	49.87	Vertical	5.78	55.65	68.2	-12.55	Peak
Middle Channel							
10560	50.30	Horizontal	5.84	56.14	68.2	-12.06	Peak
10560	50.44	Vertical	5.84	56.28	68.2	-11.92	Peak
High Channel							
5350	48.96	Horizontal	11.44	60.4	74	-13.6	Peak
5350	38.72	Horizontal	11.44	50.16	54	-3.84	Average
5350	48.96	Vertical	11.44	60.4	74	-13.6	Peak
5350	38.74	Vertical	11.44	50.18	54	-3.82	Average
10640.000	50.32	Horizontal	5.92	56.24	74	-17.76	Peak
10640.000	38.95	Horizontal	5.92	44.87	54	-9.13	Average
10640.000	50.17	Vertical	5.92	56.09	74	-17.91	Peak
10640.000	38.23	Vertical	5.92	44.15	54	-9.85	Average

Frequency (MHz)	Reading level (dB μ V)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Remark
802.11ax40							
Low Channel							
5150	48.74	Horizontal	11.57	60.31	74	-13.69	Peak
5150	38.64	Horizontal	11.57	50.21	54	-3.79	Average
5150	48.55	Vertical	11.57	60.12	74	-13.88	Peak
5150	39.20	Vertical	11.57	50.77	54	-3.23	Average
10540.000	50.19	Horizontal	5.80	55.99	68.2	-12.21	Peak
10540.000	49.96	Vertical	5.80	55.76	68.2	-12.44	Peak
High Channel							
5350	48.55	Horizontal	11.44	59.99	74	-14.01	Peak
5350	38.64	Horizontal	11.44	50.08	54	-3.92	Average
5350	48.37	Vertical	11.44	59.81	74	-14.19	Peak
5350	38.47	Vertical	11.44	49.91	54	-4.09	Average
10620.000	50.32	Horizontal	5.90	56.22	74	-17.78	Peak
10620.000	38.43	Horizontal	5.90	44.33	54	-9.67	Average
10620.000	50.35	Vertical	5.90	56.25	74	-17.75	Peak
10620.000	39.03	Vertical	5.90	44.93	54	-9.07	Average
802.11ax80							
Middle Channel							
5150	48.74	Horizontal	11.57	60.31	74	-13.69	Peak
5150	38.95	Horizontal	11.57	50.52	54	-3.48	Average
5150	48.52	Vertical	11.57	60.09	74	-13.91	Peak
5150	38.71	Vertical	11.57	50.28	54	-3.72	Average
5350	48.70	Horizontal	11.44	60.14	74	-13.86	Peak
5350	38.72	Horizontal	11.44	50.16	54	-3.84	Average
5350	48.62	Vertical	11.44	60.06	74	-13.94	Peak
5350	38.10	Vertical	11.44	49.54	54	-4.46	Average
10580.000	49.87	Horizontal	5.86	55.73	68.2	-12.47	Peak
10580.000	49.92	Vertical	5.86	55.78	68.2	-12.42	Peak

5470-5725MHz

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11a							
ANT 0							
Low Channel							
5470.000	49.06	Horizontal	11.56	60.62	68.2	-7.58	Peak
5470.000	49.36	Vertical	11.56	60.92	68.2	-7.28	Peak
11000.000	50.41	Horizontal	6.37	56.78	74	-17.22	Peak
11000.000	38.98	Horizontal	6.37	45.35	54	-8.65	Average
11000.000	50.20	Vertical	6.37	56.57	74	-17.43	Peak
11000.000	39.08	Vertical	6.37	45.45	54	-8.55	Average
Middle Channel							
11160.000	49.39	Horizontal	6.60	55.99	74.00	-18.01	Peak
11160.000	38.60	Horizontal	6.60	45.2	54.00	-8.80	Average
11160.000	49.79	Vertical	6.60	56.39	74.00	-17.61	Peak
11160.000	38.70	Vertical	6.60	45.3	54.00	-8.70	Average
High Channel							
5725.000	48.70	Horizontal	12.03	60.73	68.2	-7.47	Peak
5725.000	48.26	Vertical	12.03	60.29	68.2	-7.91	Peak
11400.000	51.21	Horizontal	6.35	57.56	74	-16.44	Peak
11400.000	38.54	Horizontal	6.35	44.89	54	-9.11	Average
11400.000	50.11	Vertical	6.35	56.46	74	-17.54	Peak
11400.000	38.72	Vertical	6.35	45.07	54	-8.93	Average
Cross band							
11440.000	51.26	Horizontal	6.46	57.72	74	-16.28	Peak
11440.000	39.05	Horizontal	6.46	45.51	54	-8.49	Average
11440.000	51.14	Vertical	6.46	57.6	74	-16.40	Peak
11440.000	38.58	Vertical	6.46	45.04	54	-8.96	Average

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11a							
ANT 1							
Low Channel							
5470.000	48.07	Horizontal	11.56	59.63	68.2	-8.57	Peak
5470.000	49.10	Vertical	11.56	60.66	68.2	-7.54	Peak
11000.000	50.29	Horizontal	6.37	56.66	74	-17.34	Peak
11000.000	38.57	Horizontal	6.37	44.94	54	-9.06	Average
11000.000	48.70	Vertical	6.37	55.07	74	-18.93	Peak
11000.000	38.34	Vertical	6.37	44.71	54	-9.29	Average
Middle Channel							
11160.000	49.40	Horizontal	6.60	56.00	74.00	-18.00	Peak
11160.000	38.01	Horizontal	6.60	44.61	54.00	-9.39	Average
11160.000	49.59	Vertical	6.60	56.19	74.00	-17.81	Peak
11160.000	38.40	Vertical	6.60	45.00	54.00	-9.00	Average
High Channel							
5725.000	48.19	Horizontal	12.03	60.22	68.20	-7.98	Peak
5725.000	48.88	Vertical	12.03	60.91	68.20	-7.29	Peak
11400.000	50.53	Horizontal	6.35	56.88	74	-17.12	Peak
11400.000	39.14	Horizontal	6.35	45.49	54	-8.51	Average
11400.000	49.89	Vertical	6.35	56.24	74	-17.76	Peak
11400.000	38.78	Vertical	6.35	45.13	54	-8.87	Average
Cross band							
11440.000	50.61	Horizontal	6.46	57.07	74	-16.93	Peak
11440.000	38.12	Horizontal	6.46	44.58	54	-9.42	Average
11440.000	50.56	Vertical	6.46	57.02	74	-16.98	Peak
11440.000	38.44	Vertical	6.46	44.9	54	-9.10	Average

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11ac20							
Low Channel							
5470.000	49.01	Horizontal	11.56	60.57	68.2	-7.63	Peak
5470.000	48.46	Horizontal	11.56	60.02	68.2	-8.18	Peak
11000.000	49.89	Horizontal	6.37	56.26	74	-17.74	Peak
11000.000	38.58	Horizontal	6.37	44.95	54	-9.05	Average
11000.000	49.90	Vertical	6.37	56.27	74	-17.73	Peak
11000.000	38.72	Vertical	6.37	45.09	54	-8.91	Average
Middle Channel							
11160.000	49.46	Horizontal	6.60	56.06	74.00	-17.94	Peak
11160.000	38.92	Horizontal	6.60	45.52	54.00	-8.48	Average
11160.000	50.28	Vertical	6.60	56.88	74.00	-17.12	Peak
11160.000	39.10	Vertical	6.60	45.7	54.00	-8.30	Average
High Channel							
5725.000	48.03	Horizontal	12.03	60.06	68.20	-8.14	Peak
5725.000	48.62	Vertical	12.03	60.65	68.20	-7.55	Peak
11400.000	50.08	Horizontal	6.35	56.43	74.00	-17.57	Peak
11400.000	38.54	Horizontal	6.35	44.89	54.00	-9.11	Average
11400.000	50.20	Vertical	6.35	56.55	74.00	-17.45	Peak
11400.000	38.72	Vertical	6.35	45.07	54.00	-8.93	Average
Cross band							
11440.000	50.57	Horizontal	6.46	57.03	74.00	-16.97	Peak
11440.000	38.05	Horizontal	6.46	44.51	54.00	-9.49	Average
11440.000	51.48	Vertical	6.46	57.94	74.00	-16.06	Peak
11440.000	38.43	Vertical	6.46	44.89	54.00	-9.11	Average

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11ac40							
Low Channel							
5470.000	48.89	Horizontal	11.56	60.45	68.2	-7.75	Peak
5470.000	48.62	Vertical	11.56	60.18	68.2	-8.02	Peak
11020.000	49.20	Horizontal	6.39	55.59	74	-18.41	Peak
11020.000	38.55	Vertical	6.39	44.94	54	-9.06	Average
11020.000	49.73	Horizontal	6.39	56.12	74	-17.88	Peak
11020.000	38.79	Vertical	6.39	45.18	54	-8.82	Average
Middle Channel							
11100.000	49.18	Horizontal	6.45	55.63	74	-18.37	Peak
11100.000	38.55	Horizontal	6.45	45.00	54	-9.00	Average
11100.000	49.34	Vertical	6.45	55.79	74	-18.21	Peak
11100.000	38.72	Vertical	6.45	45.17	54	-8.83	Average
High Channel							
5725.000	48.06	Horizontal	12.03	60.09	68.2	-8.11	Peak
5725.000	48.24	Vertical	12.03	60.27	68.2	-7.93	Peak
11340.000	50.70	Horizontal	6.49	57.19	74	-16.81	Peak
11340.000	39.07	Horizontal	6.49	45.56	54	-8.44	Average
11340.000	50.94	Vertical	6.49	57.43	74	-16.57	Peak
11340.000	39.31	Vertical	6.49	45.80	54	-8.2	Average
Cross band							
11420.000	51.42	Horizontal	6.46	57.88	74	-16.12	Peak
11420.000	38.28	Horizontal	6.46	44.74	54	-9.26	Average
11420.000	51.07	Vertical	6.46	57.53	74	-16.47	Peak
11420.000	38.57	Vertical	6.46	45.03	54	-8.97	Average

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11ac80							
Low Channel							
5470.000	49.39	Horizontal	11.56	60.95	68.2	-7.25	Peak
5470.000	48.67	Vertical	11.56	60.23	68.2	-7.97	Peak
11060.000	50.71	Horizontal	6.42	57.13	74	-16.87	Peak
11060.000	38.44	Horizontal	6.42	44.86	54	-9.14	Average
11060.000	49.84	Vertical	6.42	56.26	74	-17.74	Peak
11060.000	38.61	Vertical	6.42	45.03	54	-8.97	Average
High Channel							
5725.000	48.45	Horizontal	12.03	60.48	68.2	-7.72	Peak
5725.000	48.83	Vertical	12.03	60.86	68.2	-7.34	Average
11220.000	50.06	Horizontal	6.68	56.74	74	-17.26	Peak
11220.000	38.70	Horizontal	6.68	45.38	54	-8.62	Average
11220.000	49.31	Vertical	6.68	55.99	74	-18.01	Peak
11220.000	39.10	Vertical	6.68	45.78	54	-8.22	Average
Cross band							
11380.000	51.14	Horizontal	6.39	57.53	74	-16.47	Peak
11380.000	38.65	Horizontal	6.39	45.04	54	-8.96	Average
11380.000	50.87	Vertical	6.39	57.26	74	-16.74	Peak
11380.000	39.18	Vertical	6.39	45.57	54	-8.43	Average

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11ax20							
Low Channel							
5470.000	48.32	Horizontal	11.56	59.88	68.2	-8.32	Peak
5470.000	48.68	Horizontal	11.56	60.24	68.2	-7.96	Peak
11000.000	49.87	Horizontal	6.37	56.24	74	-17.76	Peak
11000.000	38.89	Horizontal	6.37	45.26	54	-8.74	Average
11000.000	49.71	Vertical	6.37	56.08	74	-17.92	Peak
11000.000	38.50	Vertical	6.37	44.87	54	-9.13	Average
Middle Channel							
11160.000	49.19	Horizontal	6.6	55.79	74.00	-18.21	Peak
11160.000	39.01	Horizontal	6.6	45.61	54.00	-8.39	Average
11160.000	49.43	Vertical	6.6	56.03	74.00	-17.97	Peak
11160.000	39.15	Vertical	6.6	45.75	54.00	-8.25	Average
High Channel							
5725.000	49.15	Horizontal	12.03	61.18	68.20	-7.02	Peak
5725.000	48.43	Vertical	12.03	60.46	68.20	-7.74	Peak
11400.000	49.78	Horizontal	6.35	56.13	74.00	-17.87	Peak
11400.000	38.67	Horizontal	6.35	45.02	54.00	-8.98	Average
11400.000	50.02	Vertical	6.35	56.37	74.00	-17.63	Peak
11400.000	38.89	Vertical	6.35	45.24	54.00	-8.76	Average
Cross band							
11440.000	50.58	Horizontal	6.46	57.04	74.00	-16.96	Peak
11440.000	39.06	Horizontal	6.46	45.52	54.00	-8.48	Average
11440.000	50.02	Vertical	6.46	56.48	74.00	-17.52	Peak
11440.000	39.18	Vertical	6.46	45.64	54.00	-8.36	Average

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11ax40							
Low Channel							
5470.000	48.48	Horizontal	11.56	60.04	68.2	-8.16	Peak
5470.000	48.75	Vertical	11.56	60.31	68.2	-7.89	Peak
11020.000	49.26	Horizontal	6.39	55.65	74	-18.35	Peak
11020.000	38.67	Vertical	6.39	45.06	54	-8.94	Average
11020.000	49.55	Horizontal	6.39	55.94	74	-18.06	Peak
11020.000	38.88	Vertical	6.39	45.27	54	-8.73	Average
Middle Channel							
11100.000	49.41	Horizontal	6.45	55.86	74	-18.14	Peak
11100.000	38.57	Horizontal	6.45	45.02	54	-8.98	Average
11100.000	49.68	Vertical	6.45	56.13	74	-17.87	Peak
11100.000	38.80	Vertical	6.45	45.25	54	-8.75	Average
High Channel							
5725.000	48.24	Horizontal	12.03	60.27	68.2	-7.93	Peak
5725.000	48.49	Vertical	12.03	60.52	68.2	-7.68	Peak
11340.000	50.04	Horizontal	6.49	56.53	74	-17.47	Peak
11340.000	39.16	Horizontal	6.49	45.65	54	-8.35	Average
11340.000	50.28	Vertical	6.49	56.77	74	-17.23	Peak
11340.000	39.26	Vertical	6.49	45.75	54	-8.25	Average
Cross band							
11420.000	39.58	Horizontal	6.46	46.04	74	-27.96	Peak
11420.000	38.91	Horizontal	6.46	45.37	54	-8.63	Average
11420.000	50.40	Vertical	6.46	56.86	74	-17.14	Peak
11420.000	38.61	Vertical	6.46	45.07	54	-8.93	Average

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11ax80							
Low Channel							
5470.000	48.63	Horizontal	11.56	60.19	68.2	-8.01	Peak
5470.000	48.81	Vertical	11.56	60.37	68.2	-7.83	Peak
11060.000	49.57	Horizontal	6.42	55.99	74	-18.01	Peak
11060.000	38.49	Horizontal	6.42	44.91	54	-9.09	Average
11060.000	49.80	Vertical	6.42	56.22	74	-17.78	Peak
11060.000	38.64	Vertical	6.42	45.06	54	-8.94	Average
High Channel							
5725.000	48.54	Horizontal	12.03	60.57	68.2	-7.63	Peak
5725.000	48.85	Vertical	12.03	60.88	68.2	-7.32	Average
11220.000	49.02	Horizontal	6.68	55.7	74	-18.3	Peak
11220.000	38.91	Horizontal	6.68	45.59	54	-8.41	Average
11220.000	49.26	Vertical	6.68	55.94	74	-18.06	Peak
11220.000	39.17	Vertical	6.68	45.85	54	-8.15	Average
Cross band							
11380.000	51.14	Horizontal	6.39	57.53	74	-16.47	Peak
11380.000	38.87	Horizontal	6.39	45.26	54	-8.74	Average
11380.000	50.87	Vertical	6.39	57.26	74	-16.74	Peak
11380.000	38.92	Vertical	6.39	45.31	54	-8.69	Average

5725-5850MHz

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11a							
ANT 0							
Low Channel							
11490	49.80	Horizontal	6.46	56.26	74	-17.74	Peak
11490	38.57	Horizontal	6.46	45.03	54	-8.97	Average
11490	50.61	Vertical	6.46	57.07	74	-16.93	Peak
11490	38.23	Vertical	6.46	44.69	54	-9.31	Average
Middle Channel							
11570	49.99	Horizontal	6.52	56.51	74	-17.49	Peak
11570	38.84	Horizontal	6.52	45.36	54	-8.64	Average
11570	50.83	Vertical	6.52	57.35	74	-16.65	Peak
11570	38.56	Vertical	6.52	45.08	54	-8.92	Average
High Channel							
11650	51.32	Horizontal	6.55	57.87	74	-16.13	Peak
11650	39.14	Horizontal	6.55	45.69	54	-8.31	Average
11650	51.18	Vertical	6.55	57.73	74	-16.27	Peak
11650	39.15	Vertical	6.55	45.70	54	-8.30	Average

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11a							
ANT 1							
Low Channel							
11490	50.70	Horizontal	6.46	57.16	74	-16.84	Peak
11490	38.32	Horizontal	6.46	44.78	54	-9.22	Average
11490	50.89	Vertical	6.46	57.35	74	-16.65	Peak
11490	38.81	Vertical	6.46	45.27	54	-8.73	Average
Middle Channel							
11570	50.75	Horizontal	6.52	57.27	74	-16.73	Peak
11570	38.53	Horizontal	6.52	45.05	54	-8.95	Average
11570	50.20	Vertical	6.52	56.72	74	-17.28	Peak
11570	38.26	Vertical	6.52	44.78	54	-9.22	Average
High Channel							
11650	50.91	Horizontal	6.55	57.46	74	-16.54	Peak
11650	38.78	Horizontal	6.55	45.33	54	-8.67	Average
11650	51.35	Vertical	6.55	57.90	74	-16.1	Peak
11650	39.27	Vertical	6.55	45.82	54	-8.18	Average

Frequency (MHz)	Reading level (dB μ V)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Remark
802.11ac20							
Low Channel							
11490	50.33	Horizontal	6.46	56.79	74	-17.21	Peak
11490	39.01	Horizontal	6.46	45.47	54	-8.53	Average
11490	50.10	Vertical	6.46	56.56	74	-17.44	Peak
11490	39.09	Vertical	6.46	45.55	54	-8.45	Average
Middle Channel							
11570	50.81	Horizontal	6.52	57.33	74	-16.67	Peak
11570	38.48	Horizontal	6.52	45.00	54	-9.00	Average
11570	50.59	Vertical	6.52	57.11	74	-16.89	Peak
11570	38.80	Vertical	6.52	45.32	54	-8.68	Average
High Channel							
11650	50.01	Horizontal	6.55	56.56	74	-17.44	Peak
11650	38.70	Horizontal	6.55	45.25	54	-8.75	Average
11650	50.05	Vertical	6.55	56.60	74	-17.40	Peak
11650	38.35	Vertical	6.55	44.90	54	-9.10	Average
802.11ac40							
Low Channel							
11510	50.14	Horizontal	6.48	56.62	74	-17.38	Peak
11510	39.11	Horizontal	6.48	45.59	54	-8.41	Average
11510	50.20	Vertical	6.48	56.68	74	-17.32	Peak
11510	38.89	Vertical	6.48	45.37	54	-8.63	Average
High Channel							
11590	50.11	Horizontal	6.53	56.64	74	-17.36	Peak
11590	38.57	Horizontal	6.53	45.10	54	-8.90	Average
11590	49.88	Vertical	6.53	56.41	74	-17.59	Peak
11590	38.34	Vertical	6.53	44.87	54	-9.13	Average

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11ac80							
Middle Channel							
11550	49.77	Horizontal	6.5	56.27	74	-17.73	Peak
11550	38.84	Horizontal	6.5	45.34	54	-8.66	Average
11550	49.74	Vertical	6.5	56.24	74	-17.76	Peak
11550	38.96	Vertical	6.5	45.46	54	-8.54	Average
802.11ax20							
Low Channel							
11490	49.89	Horizontal	6.46	56.35	74	-17.65	Peak
11490	38.14	Horizontal	6.46	44.60	54	-9.40	Average
11490	50.15	Vertical	6.46	56.61	74	-17.39	Peak
11490	38.27	Vertical	6.46	44.73	54	-9.27	Average
Middle Channel							
11570	50.18	Horizontal	6.52	56.70	74	-17.3	Peak
11570	38.60	Horizontal	6.52	45.12	54	-8.88	Average
11570	50.63	Vertical	6.52	57.15	74	-16.85	Peak
11570	38.31	Vertical	6.52	44.83	54	-9.17	Average
High Channel							
11650	51.26	Horizontal	6.55	57.81	74	-16.19	Peak
11650	39.17	Horizontal	6.55	45.72	54	-8.28	Average
11650	50.78	Vertical	6.55	57.33	74	-16.67	Peak
11650	39.03	Vertical	6.55	45.58	54	-8.42	Average

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11ax40							
Low Channel							
11510	50.12	Horizontal	6.48	56.60	74	-17.40	Peak
11510	39.34	Horizontal	6.48	45.82	54	-8.18	Average
11510	50.33	Vertical	6.48	56.81	74	-17.19	Peak
11510	38.98	Vertical	6.48	45.46	54	-8.54	Average
High Channel							
11590	50.17	Horizontal	6.53	56.70	74	-17.30	Peak
11590	38.62	Horizontal	6.53	45.15	54	-8.85	Average
11590	50.02	Vertical	6.53	56.55	74	-17.45	Peak
11590	38.26	Vertical	6.53	44.79	54	-9.21	Average
802.11ax80							
Middle Channel							
11550	49.82	Horizontal	6.5	56.32	74	-17.68	Peak
11550	38.89	Horizontal	6.5	45.39	54	-8.61	Average
11550	49.92	Vertical	6.5	56.42	74	-17.58	Peak
11550	38.97	Vertical	6.5	45.47	54	-8.53	Average

Remark:

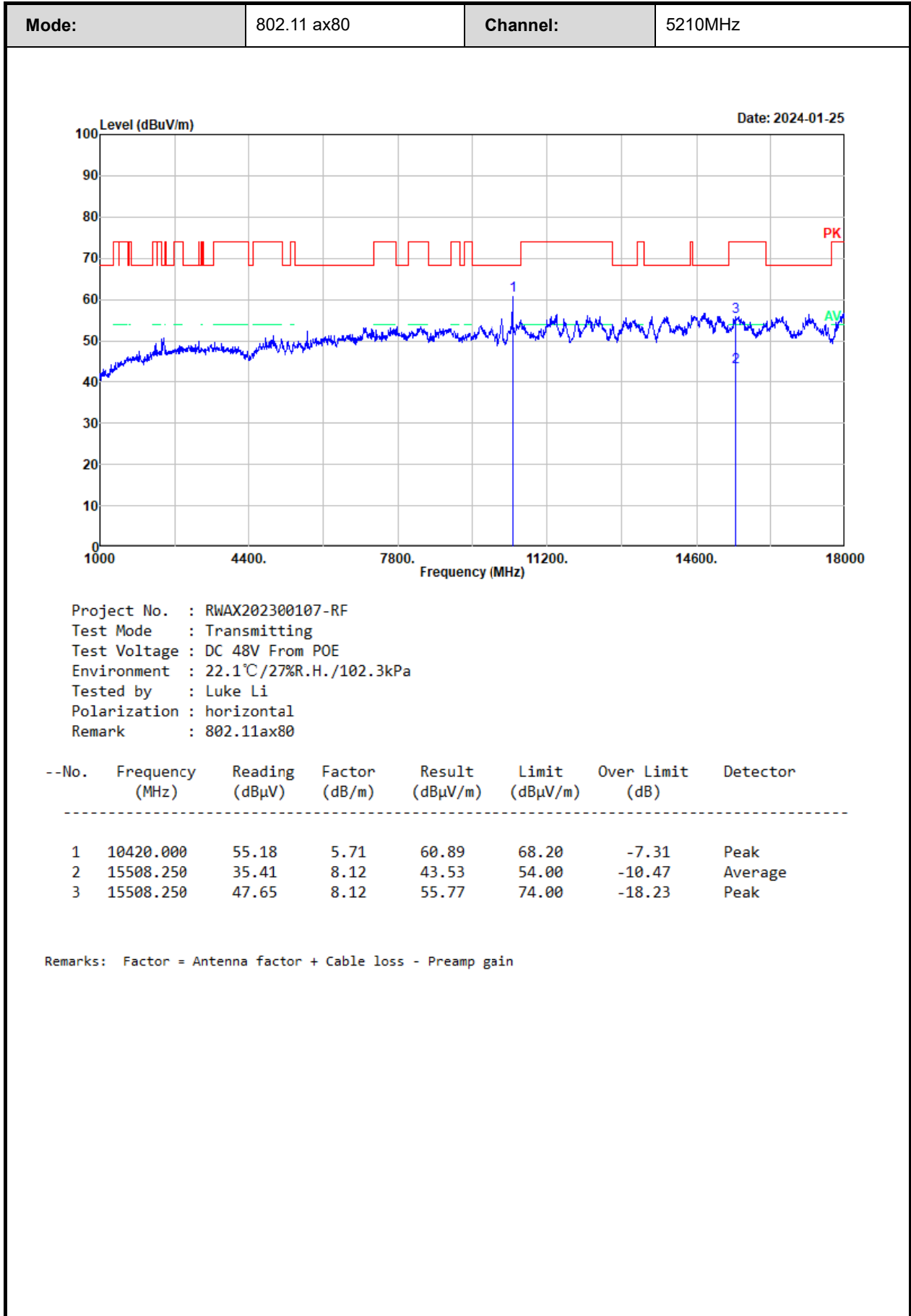
Corrected Amplitude= Reading level + corrected Factor

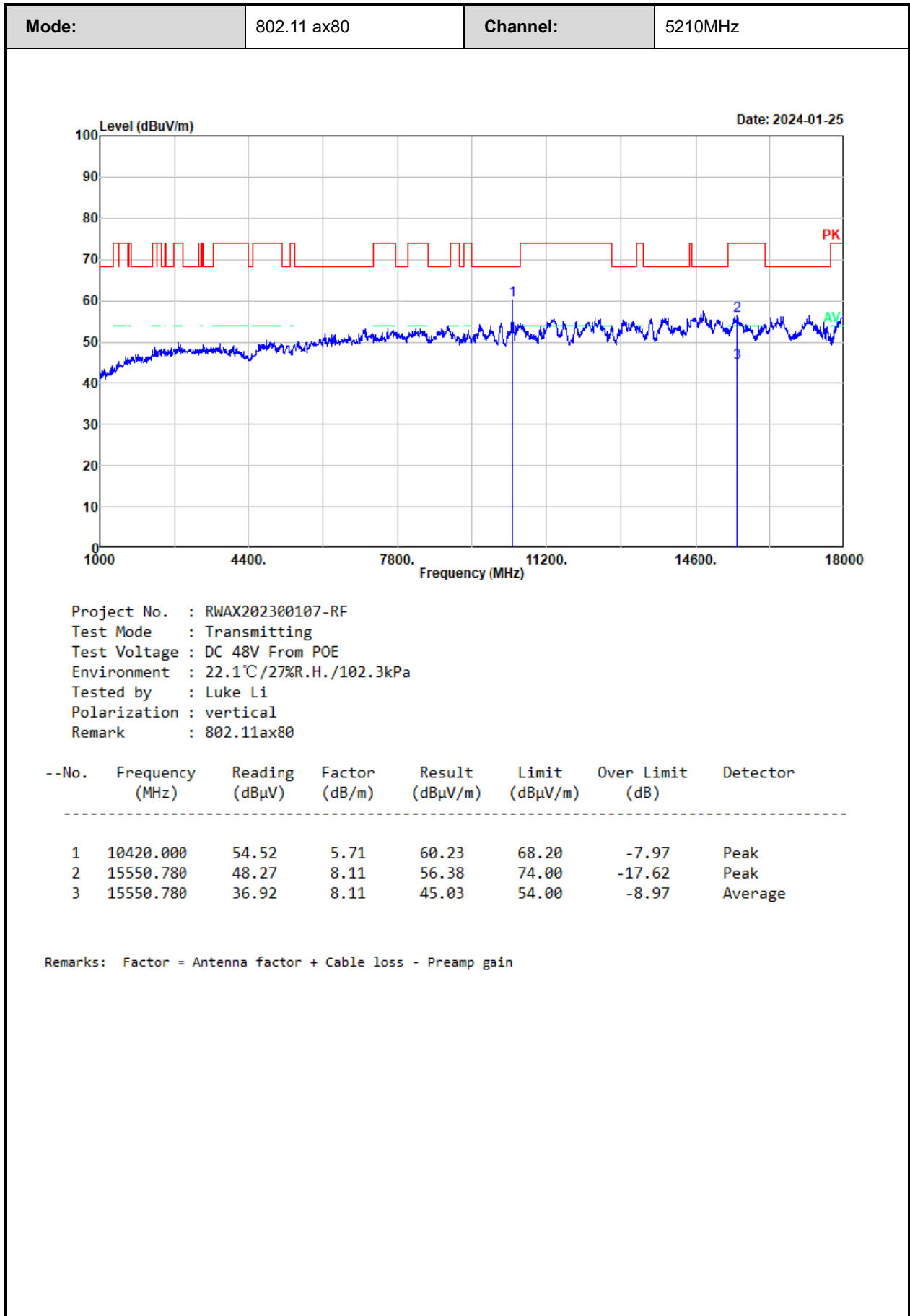
Corrected Factor = Antenna factor + Cable loss – Amplifier gain

Margin = Corrected Amplitude – Limit

For emissions in 18GHz-40GHz range, all emissions were investigated and in the noise floor level.

Test plot for example as below:





3.5 RF Conducted Test Data

Test Date:	2023-11-11~2023-12-22	Test By:	Ryan Zhang
Environment condition:	Temperature: 24~25°C; Relative Humidity:34~36%; ATM Pressure: 101.0~101.6kPa		

3.5.1 26dB/6dB Emission Bandwidth and 99% Occupied Bandwidth

5150-5250MHz

Test Modes	Test Frequency (MHz)	26 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5180	20.64	16.46
	5200	20.65	16.70
	5240	21.84	16.51
802.11ac vht20	5180	20.64	17.54
	5200	20.90	17.58
	5240	20.80	17.58
802.11ac vht40	5190	40.00	36.12
	5230	40.05	36.12
802.11ac vht80	5210	83.13	75.44
802.11ax hew20	5180	21.76	18.94
	5200	21.48	18.94
	5240	21.52	18.94
802.11ax hew40	5190	40.88	37.80
	5230	40.80	37.80
802.11ax hew80	5210	82.88	77.20
Note: the 99% Occupied Bandwidth have not fall into the band 5250-5350MHz, please refer to the test plots of 99% occupied bandwidth. Test only was performed at ANT 0.			

5250-5350MHz

Test Modes	Test Frequency (MHz)	26 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5260	21.36	16.46
	5280	22.40	16.46
	5320	21.28	16.46
802.11ac vht20	5260	25.44	17.78
	5280	25.04	17.74
	5320	24.92	17.74
802.11ac vht40	5270	40.16	36.12
	5310	40.00	36.12
802.11ac vht80	5290	83.36	75.60
802.11ax hew20	5260	23.44	18.98
	5280	23.24	18.98
	5320	23.32	18.98
802.11ax hew40	5270	40.80	37.72
	5310	40.88	37.72
802.11ax hew80	5290	82.88	77.20
Note: Test only was performed at ANT 0.			

5470-5725MHz

Test Modes	Test Frequency (MHz)	26 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5500	21.68	16.46
	5580	20.72	16.42
	5700	20.80	16.46
	5720	21.88	16.50
802.11ac vht20	5500	20.92	17.58
	5580	20.60	17.58
	5700	20.92	17.58
	5720	20.80	17.58
802.11ac vht40	5510	40.40	36.12
	5550	40.56	36.12
	5670	40.64	36.04
	5710	40.48	36.04
802.11ac vht80	5530	83.04	75.60
	5610	82.88	75.60
	5690	83.36	75.60
802.11ax hew20	5500	21.60	18.94
	5580	21.52	18.94
	5700	21.72	18.94
	5720	21.68	18.94
802.11ax hew40	5510	40.96	37.72
	5550	41.04	37.72
	5670	41.12	37.72
	5710	40.96	37.80
802.11ax hew80	5530	83.20	77.20
	5610	83.20	77.20
	5690	82.88	77.36
Note: Test only was performed at ANT 0.			

5725-5850MHz

Test Modes	Test Frequency (MHz)	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5745	16.40	16.62
	5785	16.40	16.70
	5825	16.40	16.58
802.11ac vht20	5745	17.36	17.74
	5785	17.40	17.82
	5825	17.36	17.70
802.11ac vht40	5755	36.48	36.68
	5795	36.48	36.68
802.11ac vht80	5775	76.20	75.76
802.11ax hew20	5745	18.96	19.06
	5785	18.84	19.10
	5825	18.80	19.06
802.11ax hew40	5755	38.08	38.04
	5795	38.16	38.04
802.11ax hew80	5775	77.88	77.36

Note:

1. 6dB Emission Bandwidth Limit: ≥ 0.5 MHz
2. the 99% Occupied Bandwidth have not fall into the band 5470-5725MHz, please refer to the test plots of 99% Occupied Bandwidth.
3. Test only was performed at ANT 0.

3.5.2 Maximum conducted output power

5150-5250MHz

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power (dBm)			
		ANT 0	ANT 1	Total	FCC Limit
802.11a	5180	17.65	17.65	/	24
	5200	17.80	17.69	/	24
	5240	17.45	17.54	/	24
802.11ac vht20	5180	12.16	11.64	14.92	24
	5200	12.08	11.43	14.78	24
	5240	11.86	11.14	14.53	24
802.11ac vht40	5190	13.55	12.94	16.27	24
	5230	13.45	12.77	16.13	24
802.11ac vht80	5210	13.36	12.73	16.07	24
802.11ax hew20	5180	12.36	11.75	15.08	24
	5200	12.26	11.56	14.93	24
	5240	12.03	11.31	14.70	24
802.11ax hew40	5190	13.90	13.76	16.84	24
	5230	14.38	13.94	17.18	24
802.11ax hew80	5210	14.15	13.76	16.97	24

Note:

The device is a client unit.

The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices:

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$

So, Directional gain = $2.8\text{dBi} + 0 = 2.8\text{dBi} < 6\text{dBi}$

5250-5350MHz

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power (dBm)			
		ANT 0	ANT 1	Total	FCC Limit
802.11a	5260	17.62	17.57	/	24
	5280	17.56	17.58	/	24
	5320	17.48	17.72	/	24
802.11ac vht20	5260	12.76	12.24	15.52	24
	5280	12.46	12.27	15.38	24
	5320	12.23	12.29	15.27	24
802.11ac vht40	5270	13.09	12.81	15.96	24
	5310	12.71	12.82	15.78	24
802.11ac vht80	5290	12.76	12.54	15.66	24
802.11ax hew20	5260	12.83	12.36	15.61	24
	5280	12.63	12.38	15.52	24
	5320	12.38	12.39	15.40	24
802.11ax hew40	5270	13.05	12.62	15.85	24
	5310	12.67	12.65	15.67	24
802.11ax hew80	5290	12.81	12.50	15.67	24
Note: The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices: Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$ So, Directional gain = $2.9\text{dBi} + 0 = 2.9\text{dBi} < 6\text{dBi}$					

5470-5725MHz

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power (dBm)			
		ANT 0	ANT 1	Total	FCC Limit
802.11a	5500	17.93	17.29	/	24
	5580	17.05	16.87	/	24
	5700	16.98	15.91	/	24
	5720	16.75	15.87	/	24
802.11ac vht20	5500	15.97	16.27	19.13	24
	5580	15.06	15.91	18.52	24
	5700	14.90	16.85	18.99	24
	5720	15.15	16.72	19.02	24
802.11ac vht40	5510	14.94	13.92	17.47	24
	5550	14.57	14.30	17.45	24
	5670	13.09	14.48	16.85	24
	5710	12.15	13.78	16.05	24
802.11ac vht80	5530	12.86	14.58	16.81	24
	5610	12.95	13.91	16.47	24
	5690	12.95	14.56	16.84	24
802.11ax hew20	5500	16.71	16.21	19.48	24
	5580	15.81	15.63	18.73	24
	5700	15.68	16.77	19.27	24
	5720	15.83	16.68	19.29	24
802.11ax hew40	5510	16.13	15.39	18.79	24
	5550	15.70	14.96	18.36	24
	5670	15.12	15.48	18.31	24
	5710	15.35	15.99	18.69	24
802.11ax hew80	5530	12.80	14.61	16.81	24
	5610	12.27	13.40	15.88	24
	5690	13.03	13.81	16.45	24

Note:

The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices:

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$

So, Directional gain = $3dBi+0= 3dBi < 6dBi$

5725-5850MHz

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power (dBm)			
		ANT 0	ANT 1	Total	FCC Limit
802.11a	5745	18.20	17.78	/	30
	5785	18.56	17.70	/	30
	5825	18.43	17.52	/	30
802.11ac vht20	5745	17.24	18.10	20.70	30
	5785	18.01	17.83	20.93	30
	5825	17.10	17.53	20.33	30
802.11ac vht40	5755	17.72	18.80	21.30	30
	5795	17.41	18.44	20.97	30
802.11ac vht80	5775	15.80	17.02	19.46	30
802.11ax hew20	5745	17.62	18.51	21.10	30
	5785	18.17	18.44	21.32	30
	5825	18.10	18.33	21.23	30
802.11ax hew40	5755	18.49	19.00	21.76	30
	5795	18.71	18.74	21.74	30
802.11ax hew80	5775	15.68	16.88	19.33	30
Note: The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices: Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$ So, Directional gain = $1.7\text{dBi} + 0 = 1.7\text{dBi} < 6\text{dBi}$					

3.5.3 Power Spectral Density

5150-5250MHz

Test Modes	Test Frequency (MHz)	Maximum Power Spectral Density (dBm/MHz)			
		ANT 0	ANT 1	Total	FCC Limit
802.11a	5180	6.42	6.56	/	11
	5200	6.59	6.35	/	11
	5240	6.22	6.46	/	11
802.11ac vht20	5180	0.82	0.16	3.51	11
	5200	0.87	0.21	3.56	11
	5240	0.81	-0.39	3.26	11
802.11ac vht40	5190	-0.86	-1.27	1.95	11
	5230	-0.74	-1.32	1.99	11
802.11ac vht80	5210	-4.04	-4.49	-1.25	11
802.11ax hew20	5180	0.92	0.03	3.51	11
	5200	0.69	0.11	3.42	11
	5240	0.56	-0.17	3.22	11
802.11ax hew40	5190	-0.48	-0.72	2.41	11
	5230	-0.09	-0.29	2.82	11
802.11ax hew80	5210	-3.18	-3.45	-0.30	11

Note:

The device can operate as a client device.

Method SA-1 in KDB 789033 D02 General UNII Test Procedures New Rules v02r01 was used for PSD test.

The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

Array Gain = $10 \log(N_{\text{ANT}}/N_{\text{SS}})$ dB = $10 \log(2/1)$ = 3

So, Directional gain = 2.8dBi + 3 = 5.8dBi < 6dBi

5250-5350MHz

Test Modes	Test Frequency (MHz)	Maximum Power Spectral Density (dBm/MHz)			
		ANT 0	ANT 1	Total	FCC Limit
802.11a	5260	6.73	6.15	/	11
	5280	6.78	6.44	/	11
	5320	5.99	6.42	/	11
802.11ac vht20	5260	1.38	1.06	4.23	11
	5280	1.42	1.15	4.30	11
	5320	0.81	1.08	3.96	11
802.11ac vht40	5270	-1.24	-1.36	1.71	11
	5310	-1.35	-1.40	1.64	11
802.11ac vht80	5290	-4.22	-4.76	-1.47	11
802.11ax hew20	5260	0.88	1.19	4.05	11
	5280	1.59	0.46	4.07	11
	5320	0.56	0.94	3.76	11
802.11ax hew40	5270	-1.33	-1.89	1.41	11
	5310	-1.5	-1.51	1.51	11
802.11ax hew80	5290	-4.57	-4.85	-1.70	11

Note:

Method SA-1 in KDB 789033 D02 General UNII Test Procedures New Rules v02r01 was used for PSD test.

The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

$$\text{Array Gain} = 10 \log(N_{\text{ANT}}/N_{\text{SS}}) \text{ dB} = 10 \log(2/1) = 3$$

So, Directional gain = 2.9dBi + 3 = 5.9dBi < 6dBi