

# FCC Test Report

**Report No.:** RWAP202400215D

**Applicant:** Invixium Access Inc.

**Address:** 300-111 Gordon Baker Road, Toronto Canada M2H 3R1

**Product Name:** IXMC410

**Product Model:** IXMC410

**Multiple Models:** N/A

**Trade Mark:** Invixium

**FCC ID:** S38-IXMC410

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

**Test Date:** 2024-03-18~2024-03-21

**Test Result:** Complied

**Issue Date:** 2024-03-26

**Reviewed by:**

*Abel Chen*

**Approved by:**

*Jacob Kong*

Abel Chen

Project Engineer

Jacob Kong

Manager

**Prepared by:**

World Alliance Testing & 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



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## Revision History

Version No.	Issued Date	Description
00	2024-03-26	Original

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# 1 General Information

## 1.1 Client Information

Applicant:	Invixium Access Inc.
Address:	111 Gordon Baker Road, Suite 300, Toronto Ontario Canada M2H 3R1
Manufacturer:	Invixium Access Inc.
Address:	111 Gordon Baker Road, Suite 300, Toronto Ontario Canada M2H 3R1

## 1.2 Product Description of EUT

The EUT is IXMC410 that contains Classic Bluetooth(BDR/EDR), BLE, 2.4G and 5G WLAN radios, this report covers the full testing of the 5G WLAN radio.

Sample Serial number	6E-1(assigned by WATC)
Sample Received Date	2024-02-28
Sample Status	Good Condition
Frequency Range	5150-5250MHz, 5250-5350MHz, 5470-5730MHz, 5725-5850MHz
Maximum Conducted Output Power	5150-5250MHz: 14.26dBm 5250-5350MHz: 14.59dBm 5470-5730MHz: 14.59dBm 5725-5850MHz: 13.99dBm
Modulation Technology	OFDM
Spatial Streams	SISO (1TX, 1RX)
Antenna Gain <sup>#</sup>	3.3dBi
Power Supply	DC 3.8V
Operating temperature <sup>#</sup>	-20 deg.C to +50 deg.C
Adapter Information	N/A
Modification	Sample No Modification by the test lab

## 1.3 Antenna information

<p><b>15.203 requirement:</b></p> <p>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.</p>	
<p><b>Device Antenna information:</b></p>	
<p>The Wi-Fi antenna is an external antenna with I-PEX MHF4 connector, please see product internal photos for details.</p>	

## 1.4 Related Submittal(s)/Grant(s)

FCC Part 15, Subpart C, Equipment Class: DTS, FCC ID: S38-IXMC410  
 FCC Part 15, Subpart C, Equipment Class: DSS, FCC ID: S38-IXMC410

## 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
Emissions, Conducted	1.75dB	
Conducted Power	0.74dB	
Frequency Error	150Hz	
Bandwidth	0.34%	
Power Spectral Density	0.74dB	

**Note:** 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.

## 1.6 Laboratory Location

World Alliance Testing & 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](mailto: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

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					
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					
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					
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					
Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)

52	5260	56	5280	64	5320
<b>802.11n-HT40, 802.11ac-VHT40</b>					
Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
54	5270	/	/	62	5310
<b>802.11ac-VHT80</b>					
Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
/	/	58	5290	/	/

Operating channels: (5470-5730MHz)					
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							
Lowest channel		Middle channel		Highest channel		Straddle 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							
Lowest channel		Middle channel		Highest channel		Straddle 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							
Lowest channel		Middle channel		Highest channel		Straddle channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
106	5530	/	/	/	/	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	/	/
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					
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					
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					
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;cmd.exe			
5150-5250MHz Band				
Mode	Data rate	Powel Level Setting <sup>#</sup>		
		Low Channel	Middle Channel	High Channel
802.11a	6Mbps	17	17	17
802.11n-HT20	MCS0	16	16	16
802.11n-HT40	MCS0	15	/	14
802.11ac-HT20	MCS0	16	16	16
802.11ac-HT40	MCS0	15	/	14
802.11ac-VHT80	MCS0	/	13	/
5250-5350MHz Band				
Mode	Data rate	Powel Level Setting <sup>#</sup>		
		Low Channel	Middle Channel	High Channel
802.11a	6Mbps	17	17	17
802.11n-HT20	MCS0	16	14	15



802.11n-HT40	MCS0	14	/	13	
802.11ac-HT20	MCS0	16	15	15	
802.11ac-HT40	MCS0	14	/	13	
802.11ac-VHT80	MCS0	/	13	/	
5470-5725MHz Band					
Mode	Data rate	Powel Level Setting <sup>#</sup>			
		Low Channel	Middle Channel	High Channel	Straddle channel
802.11a	6Mbps	15	17	17	17
802.11n-HT20	MCS0	15	14	18	17
802.11n-HT40	MCS0	13	13	16	16
802.11ac-HT20	MCS0	14	16	18	18
802.11ac-HT40	MCS0	13	13	16	16
802.11ac-VHT80	MCS0	12	/	14	14
5725-5850MHz Band					
Mode	Data rate	Powel Level Setting <sup>#</sup>			
		Low Channel	Middle Channel	High Channel	
802.11a	6Mbps	20	20	20	
802.11n-HT20	MCS0	18	19	20	
802.11n-HT40	MCS0	17	/	17	
802.11ac-HT20	MCS0	18	19	20	
802.11ac-HT40	MCS0	17	/	18	
802.11ac-VHT80	MCS0	/	16	/	
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.

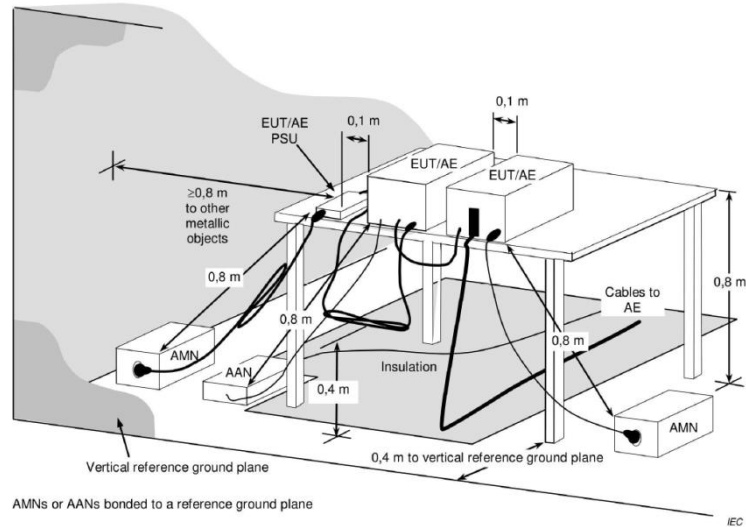
The n-ht20/n-ht40 were reduced test since the identical parameters with ac-vht20/ac-vht40.

## 2.2 Test Auxiliary Equipment

Manufacturer	Description	Model	Serial Number
TP-Link	POE adapter	TL-POE4824G	Unknown
Invizium	Connector Board	XAM-010-034-01A	Unknown

## 2.3 Test Setup

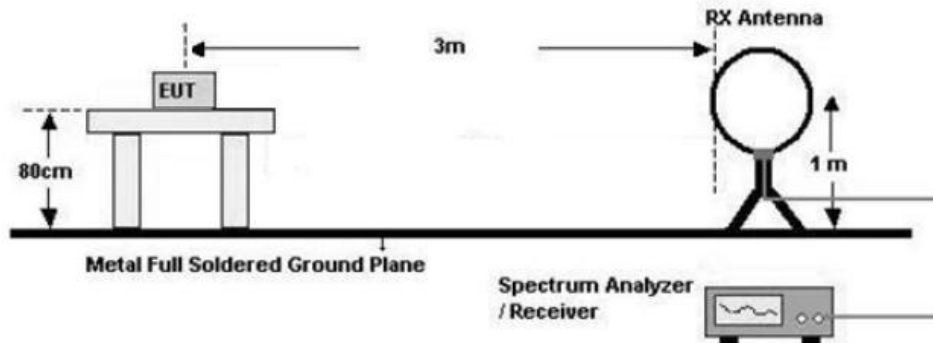
### 1) Conducted emission measurement:



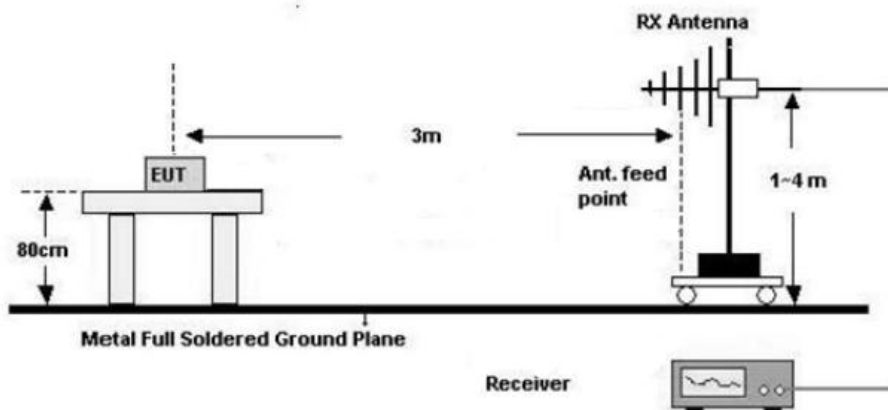
**Note:** The 0.8 m distance specified between EUT/AE/PSU and AMN/AAN, is applicable only to the EUT being measured. If the device is AE then it shall be >0.8 m.

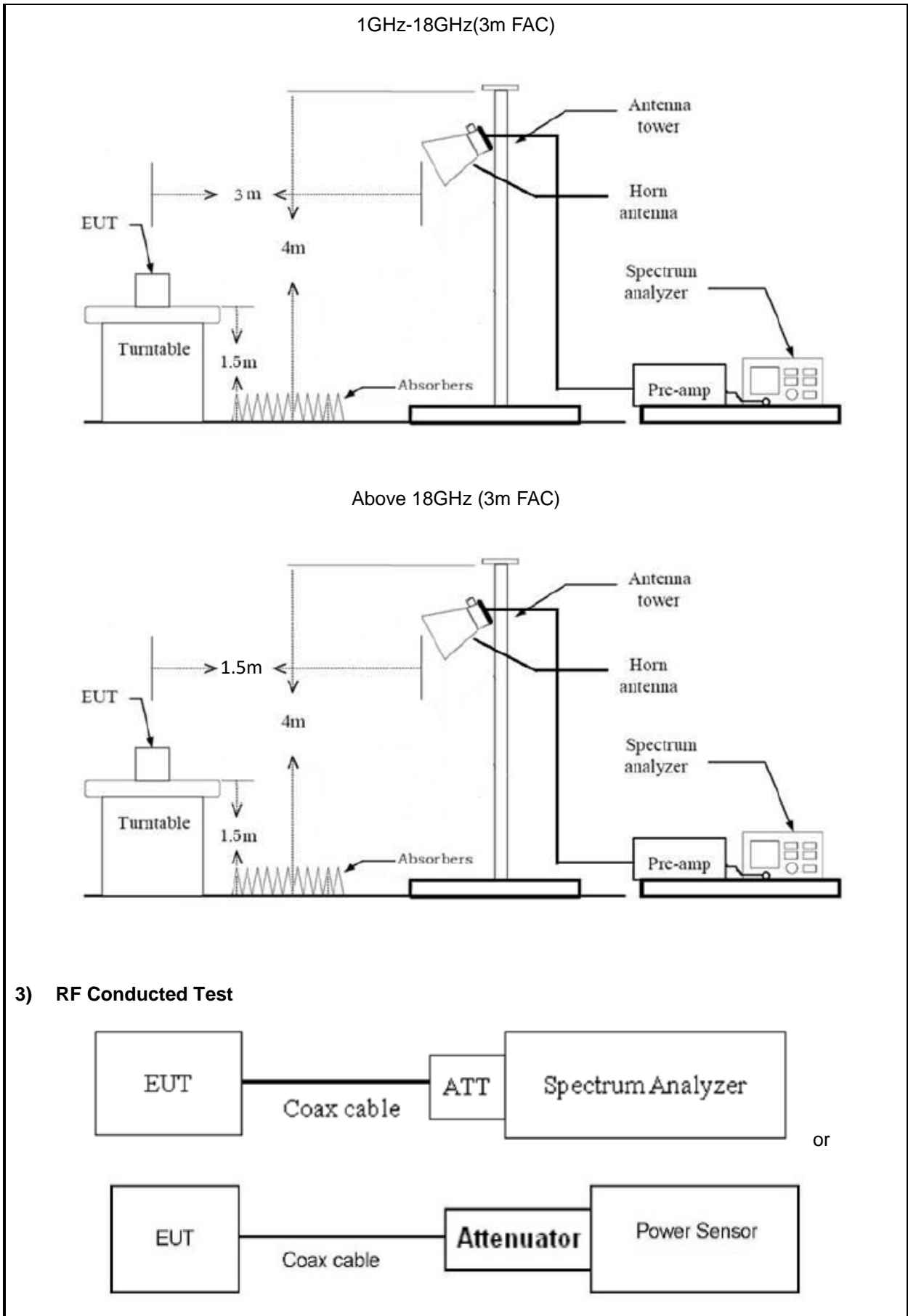
### 2) Radiated emission measurement:

Below 30MHz (3m SAC)



0MHz-1GHz (3m SAC)





## 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 7.0dB (including 6.0 dB Attenuator and 1.0 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 1.0dB 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
BACL	Loop Antenna	1313-1A	4010611	2024-2-7	2027-2-6
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-4223-02	1007726-03	2023/7/10	2024/7/9
Ducommun technologies	Horn Antenna	ARH-2823-02	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	N/A	NO.9	2023/8/8	2024/8/7
N/A	Coaxial Cable	N/A	NO.10	2023/8/8	2024/8/7
N/A	Coaxial Cable	N/A	NO.11	2023/8/8	2024/8/7
Audix	Test Software	E3	191218 V9	/	/
RF Conducted Test					
ANRITSU	USB Power Sensor	MA24418A	12620	2023/7/12	2024/7/11
narda	6dB attenuator	603-06-1	N/A	2023/7/26	2024/7/25

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	Remark
§15.203	Antenna Requirement	Compliance	/
§15.207 (a) §15.407 (b)(9)	AC Line Conducted Emissions	Compliance	/
§15.407 (a)	Conducted Peak Output Power	Report only	/
§15.407 (a)	Power Spectral Density	/	See Note
§15.407 (a)(12)	99% Occupied Bandwidth	/	See Note
§15.407 (a)	26 dB Emission Bandwidth	/	See Note
§15.407 (e)	6 dB Emission Bandwidth	/	See Note
§15.205, §15.209, §15.407 (b)(1), (4), (9), (10)	Unwanted Emissions	Compliance	/
§15.407 (h)	Dynamic Frequency Selection (DFS)	/	See Note
/	Duty Cycle	/	See Note

Note:

1. This is a CIIPC application for FCC ID: S38-IXMC410, the below changes was made based on the device granted on 01/24/2024 which was provided by the manufacturer:

- (1) Changing the I/O board.
- (2) Changing the Antenna.

2. The output power was tested and verify consistence with the original report, test data of those item please refers to the report: RSZ200929002-00D and RSZ200929001-00.

3. World Alliance Testing and Certification (Shenzhen) Co., Ltd is responsible for all the information provided in this report, except when information is provided by the customer as identified in this report.

### 3.2 Limit

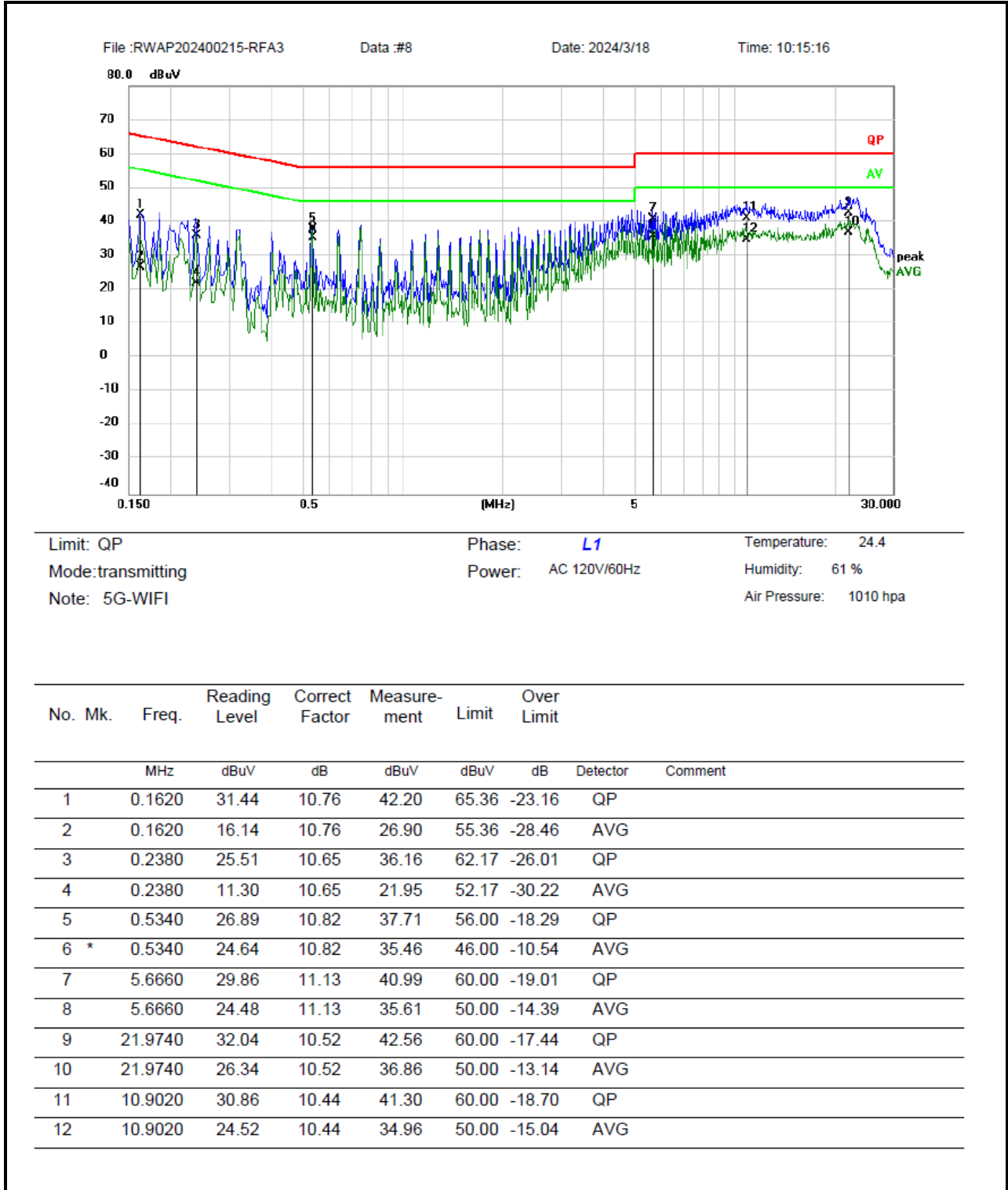
Test items	Limit
AC Power Line Conducted Emission	See details §15.207 (a)
Conducted Peak Output Power  Power Spectral Density	<p><b>For the band 5.150-5.250 GHz:</b></p> <p>For client devices in the 5.15–5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not 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.</p> <p><b>For the band 5.250-5.350 GHz and 5.470-5.725GHz:</b></p> <p>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 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.</p> <p><b>For the band 5.725-5.895 GHz:</b></p> <p>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-multi point 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.</p>
26dB Emission Bandwidth 99% Occupied Bandwidth	N/A
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.

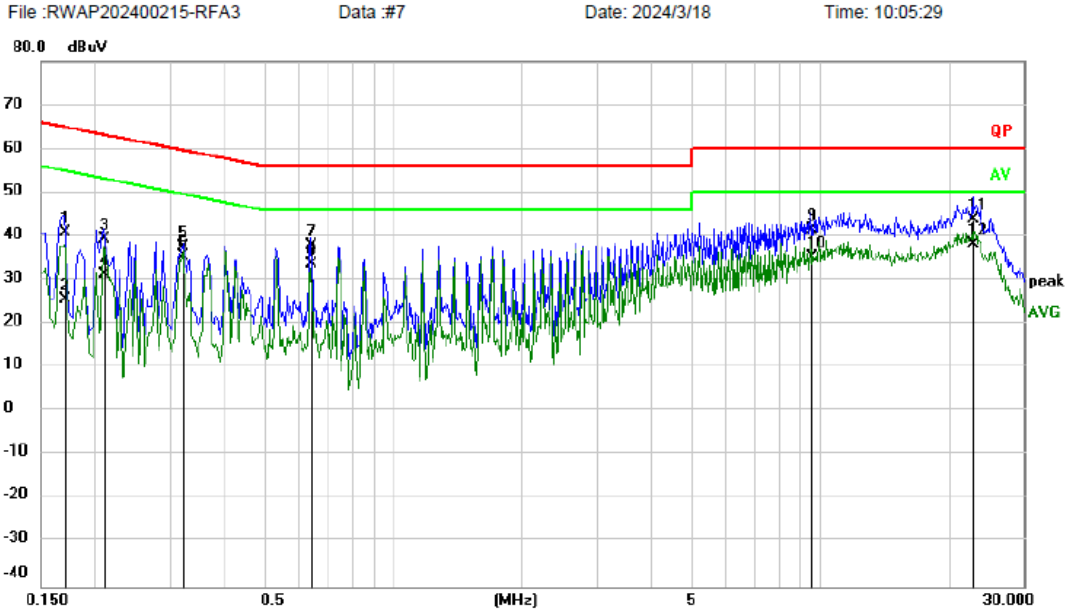


<p>Unwanted Emissions</p>	<p>For transmitters operating in the 5.15–5.25 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.</p> <p>For transmitters operating in the 5.25–5.35 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.</p> <p>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.</p> <p>For transmitters operating solely in the 5.725–5.850 GHz band:</p> <p>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.</p> <p>Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209.</p> <p>The provisions of § 15.205 apply to intentional radiators operating under this section.</p>
<p>Dynamic Frequency Selection (DFS)</p>	<p>See details §15.407 (h) , KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02 and KDB 905462 D03 Client Without DFS New Rules v01r02</p>

### 3.3 AC Line Conducted Emissions Test Data

<b>Test Date:</b>	2024-03-18	<b>Test By:</b>	Lirou Li
<b>Environment condition:</b>	Temperature: 24.4°C; Relative Humidity:61%; ATM Pressure: 101kPa		





Limit: QP      Phase: **N**      Temperature: 24.4  
 Mode:transmitting      Power: AC 120V/60Hz      Humidity: 61 %  
 Note: 5G-WIFI      Air Pressure: 1010 hpa

No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over Limit		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.1700	30.37	10.53	40.90	64.96	-24.06	QP	
2	0.1700	14.89	10.53	25.42	54.96	-29.54	AVG	
3	0.2100	28.98	10.42	39.40	63.21	-23.81	QP	
4	0.2100	20.88	10.42	31.30	53.21	-21.91	AVG	
5	0.3220	27.09	10.56	37.65	59.66	-22.01	QP	
6	0.3220	24.78	10.56	35.34	49.66	-14.32	AVG	
7	0.6419	27.11	10.61	37.72	56.00	-18.28	QP	
8	0.6419	23.00	10.61	33.61	46.00	-12.39	AVG	
9	9.5140	30.68	10.72	41.40	60.00	-18.60	QP	
10	9.5140	24.35	10.72	35.07	50.00	-14.93	AVG	
11	22.8100	33.04	10.71	43.75	60.00	-16.25	QP	
12 *	22.8100	27.57	10.71	38.28	50.00	-11.72	AVG	

**Remark:**

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

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

Over Limit = Measurement – Limit

### 3.4 Radiated emission Test Data

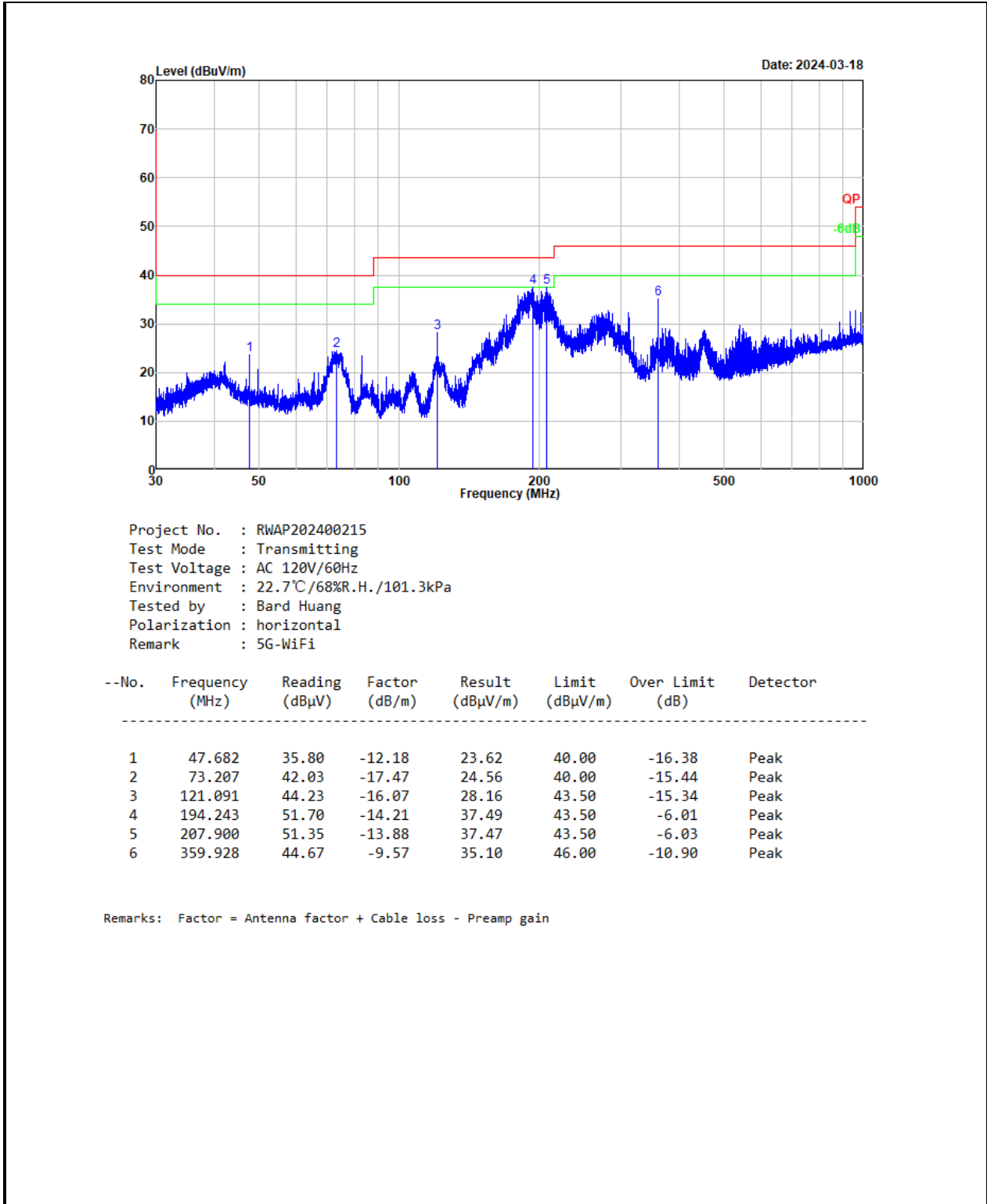
9 kHz-30MHz:

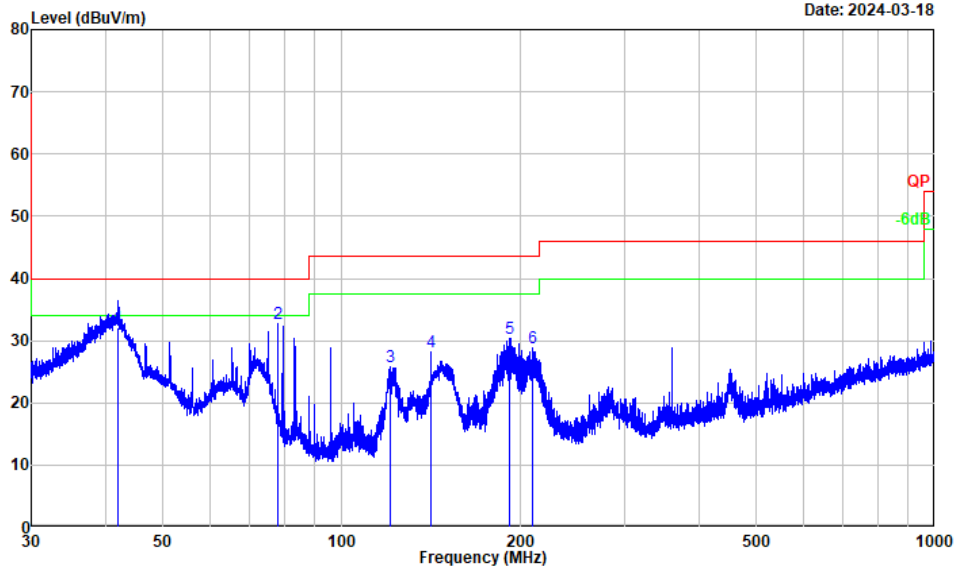
<b>Test Date:</b>	2024-03-18	<b>Test By:</b>	Bard Huang
<b>Environment condition:</b>	Temperature: 22.7°C; Relative Humidity:68%; ATM Pressure: 101.3kPa		

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

**30MHz-1GHz:**

<b>Test Date:</b>	2024-03-18	<b>Test By:</b>	Bard Huang
<b>Environment condition:</b>	Temperature: 22.7°C; Relative Humidity:68%; ATM Pressure: 101.3kPa		





Project No. : RWAP202400215  
 Test Mode : Transmitting  
 Test Voltage : AC 120V/60Hz  
 Environment : 22.7°C /68%R.H. /101.3kPa  
 Tested by : Bard Huang  
 Polarization : vertical  
 Remark : 5G-WiFi

--No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
1	42.045	44.60	-12.51	32.09	40.00	-7.91	QP
2	78.148	50.89	-18.19	32.70	40.00	-7.30	Peak
3	120.932	41.80	-16.04	25.76	43.50	-17.74	Peak
4	141.481	45.89	-17.62	28.27	43.50	-15.23	Peak
5	192.042	44.84	-14.44	30.40	43.50	-13.10	Peak
6	209.823	42.82	-13.92	28.90	43.50	-14.60	Peak

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

**Remark:**

Result = Reading + Factor

Factor = Antenna factor + Cable loss – Amplifier gain

Margin = Result – Limit

**Above 1GHz:**

<b>Test Date:</b>	2024-03-20~2024-03-21	<b>Test By:</b>	Bard Huang
<b>Environment condition:</b>	Temperature: 22~22.7°C; Relative Humidity:48~68%; ATM Pressure: 101~101.3kPa		

**5150-5250MHz**

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11a							
Low Channel							
5150.000	38.31	horizontal	11.57	49.88	54.00	-4.12	Average
5150.000	49.96	horizontal	11.57	61.53	74.00	-12.47	Peak
5150.000	36.76	vertical	11.57	48.33	54.00	-5.67	Average
5150.000	48.68	vertical	11.57	60.25	74.00	-13.75	Peak
10360.000	45.79	horizontal	5.50	51.29	68.20	-16.91	Peak
10360.000	45.30	vertical	5.50	50.80	68.20	-17.40	Peak
Middle Channel							
10400.000	46.04	horizontal	5.70	51.74	68.20	-16.46	Peak
10400.000	46.13	vertical	5.70	51.83	68.20	-16.37	Peak
High Channel							
5350.000	36.57	horizontal	11.44	48.01	54.00	-5.99	Average
5350.000	47.92	horizontal	11.44	59.36	74.00	-14.64	Peak
5350.000	36.64	vertical	11.44	48.08	54.00	-5.92	Average
5350.000	49.21	vertical	11.44	60.65	74.00	-13.35	Peak
10480.000	43.39	horizontal	5.74	49.13	68.20	-19.07	Peak
10480.000	44.04	vertical	5.74	49.78	68.20	-18.42	Peak
802.11ac20							
Low Channel							
5150.000	38.07	horizontal	11.57	49.64	54.00	-4.36	Average
5150.000	51.16	horizontal	11.57	62.73	74.00	-11.27	Peak
5150.000	36.87	vertical	11.57	48.44	54.00	-5.56	Average
5150.000	49.76	vertical	11.57	61.33	74.00	-12.67	Peak
10360.000	45.55	horizontal	5.50	51.05	68.20	-17.15	Peak
10360.000	45.02	vertical	5.50	50.52	68.20	-17.68	Peak
Middle Channel							
10400.000	45.07	horizontal	5.70	50.77	68.20	-17.43	Peak
10400.000	46.11	vertical	5.70	51.81	68.20	-16.39	Peak

High Channel							
5350.000	36.91	horizontal	11.44	48.35	54.00	-5.65	Average
5350.000	47.97	horizontal	11.44	59.41	74.00	-14.59	Peak
5350.000	36.85	vertical	11.44	48.29	54.00	-5.71	Average
5350.000	48.03	vertical	11.44	59.47	74.00	-14.53	Peak
10480.000	43.24	horizontal	5.74	48.98	68.20	-19.22	Peak
10480.000	43.72	vertical	5.74	49.46	68.20	-18.74	Peak
802.11ac40							
Low Channel							
5150.000	37.05	horizontal	11.57	48.62	54.00	-5.38	Average
5150.000	48.89	horizontal	11.57	60.46	74.00	-13.54	Peak
5150.000	36.99	vertical	11.57	48.56	54.00	-5.44	Average
5150.000	48.15	vertical	11.57	59.72	74.00	-14.28	Peak
10380.000	45.22	horizontal	5.60	50.82	68.20	-17.38	Peak
10380.000	44.98	vertical	5.60	50.58	68.20	-17.62	Peak
High Channel							
5350.000	36.18	horizontal	11.44	47.62	54.00	-6.38	Average
5350.000	47.79	horizontal	11.44	59.23	74.00	-14.77	Peak
5350.000	35.78	vertical	11.44	47.22	54.00	-6.78	Average
5350.000	48.21	vertical	11.44	59.65	74.00	-14.35	Peak
10460.000	46.32	vertical	5.73	52.05	68.20	-16.15	Peak
10460.000	46.32	vertical	5.73	52.05	68.20	-16.15	Peak
802.11ac80							
5150.000	36.64	horizontal	11.57	48.21	54.00	-5.79	Average
5150.000	48.28	horizontal	11.57	59.85	74.00	-14.15	Peak
5150.000	36.28	vertical	11.57	47.85	54.00	-6.15	Average
5150.000	47.99	vertical	11.57	59.56	74.00	-14.44	Peak
5350.000	36.94	horizontal	11.44	48.38	54.00	-5.62	Average
5350.000	48.01	horizontal	11.44	59.45	74.00	-14.55	Peak
5350.000	36.46	vertical	11.44	47.90	54.00	-6.10	Average
5350.000	48.07	vertical	11.44	59.51	74.00	-14.49	Peak
10420.000	46.46	horizontal	5.71	52.17	68.20	-16.03	Peak
10420.000	47.03	vertical	5.71	52.74	68.20	-15.46	Peak

Remark:

Corrected Amplitude= Reading level + corrected Factor

Corrected Factor = Antenna factor + Cable loss – Amplifier gain

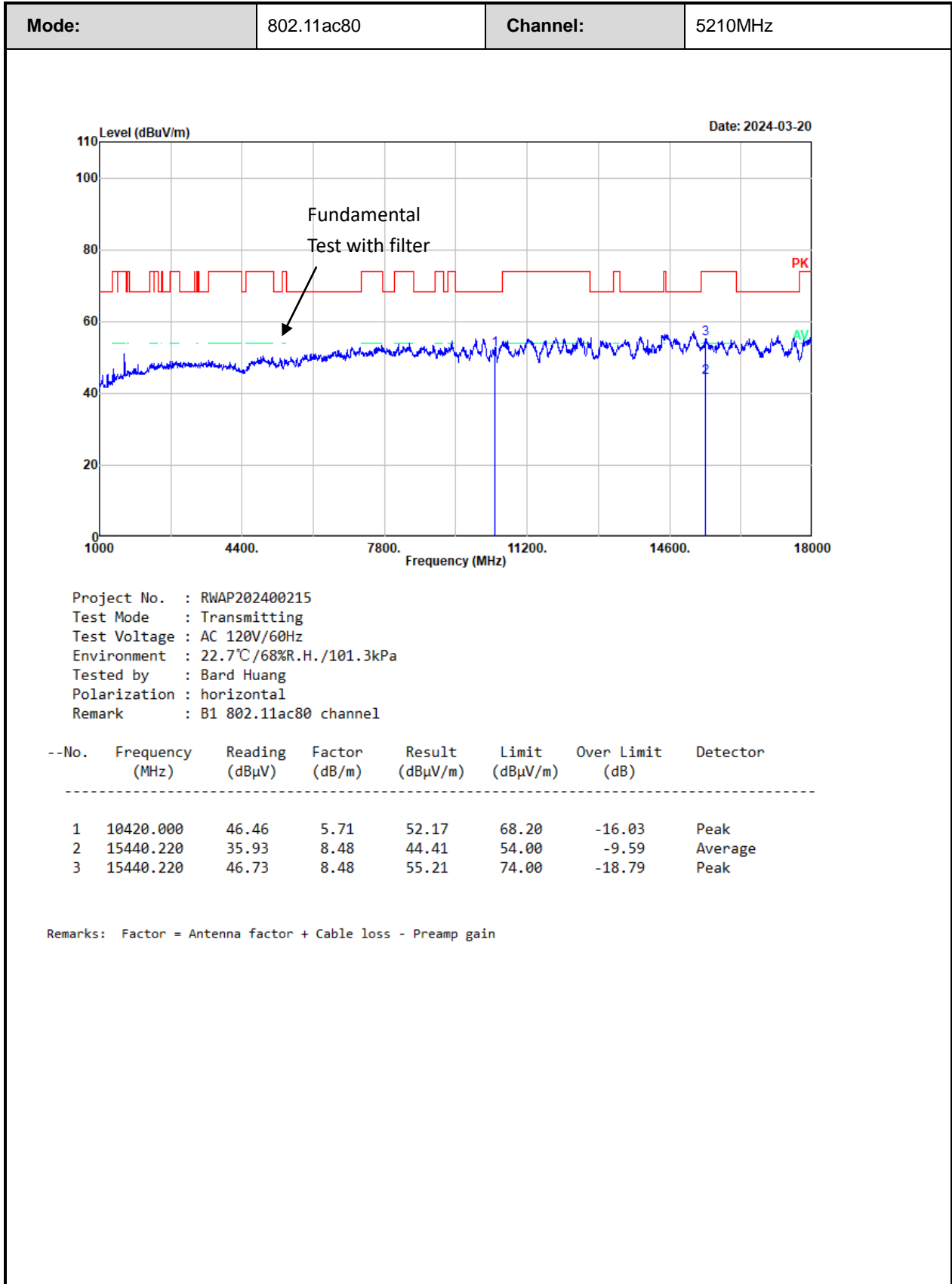
Margin = Corrected Amplitude – Limit

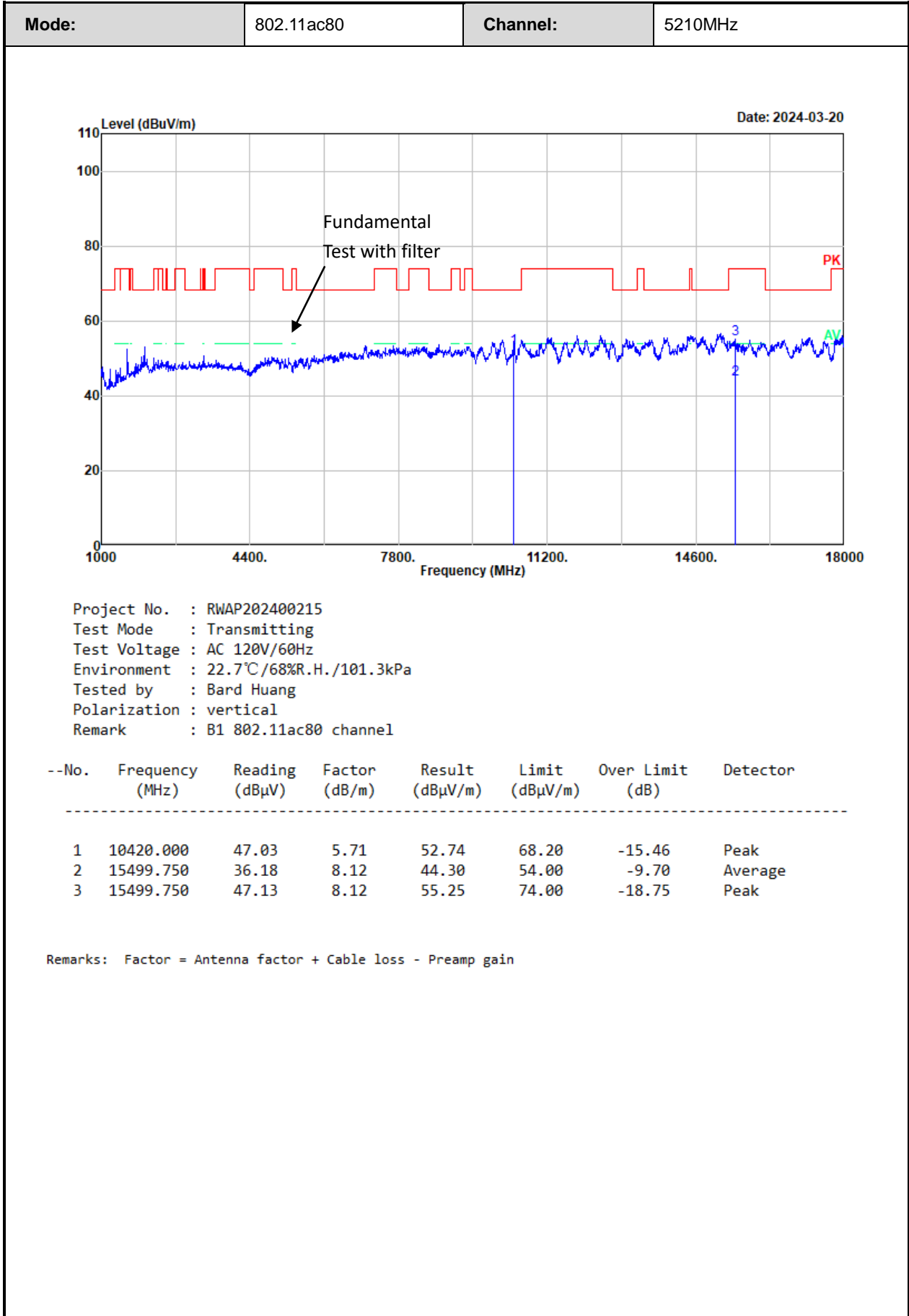
The emission levels of other frequencies that were lower than the limit 20dB, not show in test report.

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



**Test plot for example as below:**





**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							
Low Channel							
5150.000	36.40	horizontal	11.57	47.97	54.00	-6.03	Average
5150.000	48.27	horizontal	11.57	59.84	74.00	-14.16	Peak
5150.000	36.74	vertical	11.57	48.31	54.00	-5.69	Average
5150.000	48.43	vertical	11.57	60.00	74.00	-14.00	Peak
10520.000	45.57	horizontal	5.78	51.35	68.20	-16.85	Peak
10520.000	44.62	vertical	5.78	50.40	68.20	-17.80	Peak
Middle Channel							
10560.000	46.78	horizontal	5.84	52.62	68.20	-15.58	Peak
10560.000	46.18	vertical	5.84	52.02	68.20	-16.18	Peak
High Channel							
5350.000	37.09	horizontal	11.44	48.53	54.00	-5.47	Average
5350.000	48.49	horizontal	11.44	59.93	74.00	-14.07	Peak
5350.000	36.26	vertical	11.44	47.70	54.00	-6.30	Average
5350.000	48.03	vertical	11.44	59.47	74.00	-14.53	Peak
10640.000	47.52	horizontal	5.92	53.44	74.00	-20.56	Peak
10640.000	36.98	vertical	5.92	42.90	54.00	-11.10	Average
10640.000	48.17	vertical	5.92	54.09	74.00	-19.91	Peak
802.11ac20							
Low Channel							
5150.000	36.67	horizontal	11.57	48.24	54.00	-5.76	Average
5150.000	48.92	horizontal	11.57	60.49	74.00	-13.51	Peak
5150.000	36.51	vertical	11.57	48.08	54.00	-5.92	Average
5150.000	47.76	vertical	11.57	59.33	74.00	-14.67	Peak
10520.000	45.79	horizontal	5.78	51.57	68.20	-16.63	Peak
10520.000	45.17	vertical	5.78	50.95	68.20	-17.25	Peak
Middle Channel							
10560.000	46.10	horizontal	5.84	51.94	68.20	-16.26	Peak
10560.000	46.45	vertical	5.84	52.29	68.20	-15.91	Peak
High Channel							
5350.000	36.18	horizontal	11.44	47.62	54.00	-6.38	Average
5350.000	51.30	horizontal	11.44	62.74	74.00	-11.26	Peak
5350.000	36.03	vertical	11.44	47.47	54.00	-6.53	Average

5350.000	48.13	vertical	11.44	59.57	74.00	-14.43	Peak
10640.000	46.88	horizontal	5.92	52.80	74.00	-21.20	Peak
10640.000	47.52	vertical	5.92	53.44	74.00	-20.56	Peak
802.11ac40							
Low Channel							
5150.000	36.83	horizontal	11.57	48.40	54.00	-5.60	Average
5150.000	47.96	horizontal	11.57	59.53	74.00	-14.47	Peak
5150.000	36.74	vertical	11.57	48.31	54.00	-5.69	Average
5150.000	48.41	vertical	11.57	59.98	74.00	-14.02	Peak
10540.000	46.29	horizontal	5.80	52.09	68.20	-16.11	Peak
10540.000	46.28	vertical	5.80	52.08	68.20	-16.12	Peak
High Channel							
5350.000	36.35	horizontal	11.44	47.79	54.00	-6.21	Average
5350.000	48.72	horizontal	11.44	60.16	74.00	-13.84	Peak
5350.000	36.23	vertical	11.44	47.67	54.00	-6.33	Average
5350.000	48.47	vertical	11.44	59.91	74.00	-14.09	Peak
10620.000	36.88	horizontal	5.90	42.78	54.00	-11.22	Average
10620.000	49.20	horizontal	5.90	55.10	74.00	-18.90	Peak
10620.000	36.63	vertical	5.90	42.53	54.00	-11.47	Average
10620.000	48.79	vertical	5.90	54.69	74.00	-19.31	Peak
802.11ac80							
5150.000	36.76	horizontal	11.57	48.33	54.00	-5.67	Average
5150.000	47.85	horizontal	11.57	59.42	74.00	-14.58	Peak
5150.000	36.76	vertical	11.57	48.33	54.00	-5.67	Average
5150.000	47.37	vertical	11.57	58.94	74.00	-15.06	Peak
5350.000	35.94	horizontal	11.44	47.38	54.00	-6.62	Average
5350.000	48.89	horizontal	11.44	60.33	74.00	-13.67	Peak
5350.000	36.80	vertical	11.44	48.24	54.00	-5.76	Average
5350.000	48.22	vertical	11.44	59.66	74.00	-14.34	Peak
10580.000	47.21	horizontal	5.86	53.07	68.20	-15.13	Peak
10580.000	47.24	vertical	5.86	53.10	68.20	-15.10	Peak

Remark:

Corrected Amplitude= Reading level + corrected Factor

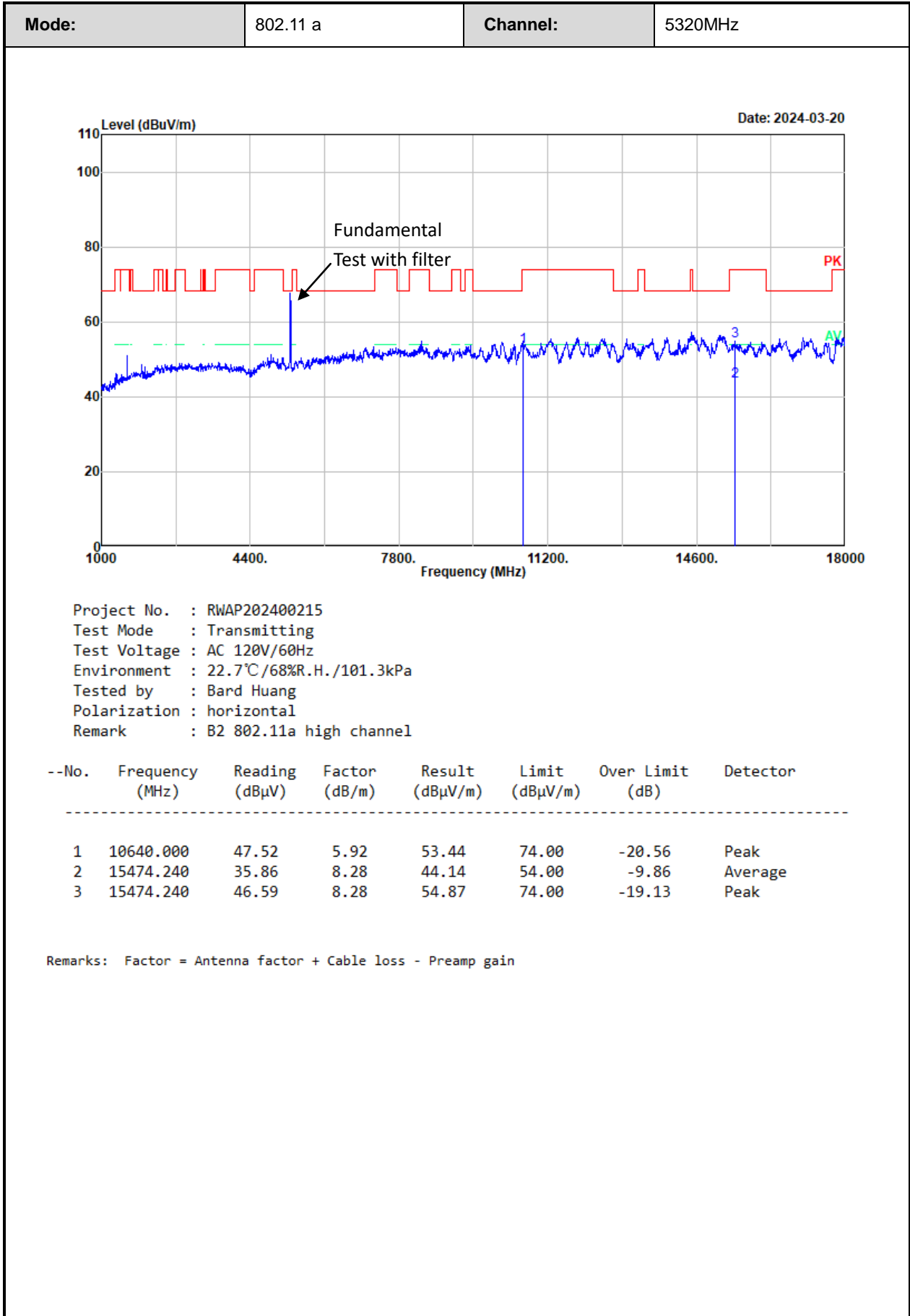
Corrected Factor = Antenna factor + Cable loss – Amplifier gain

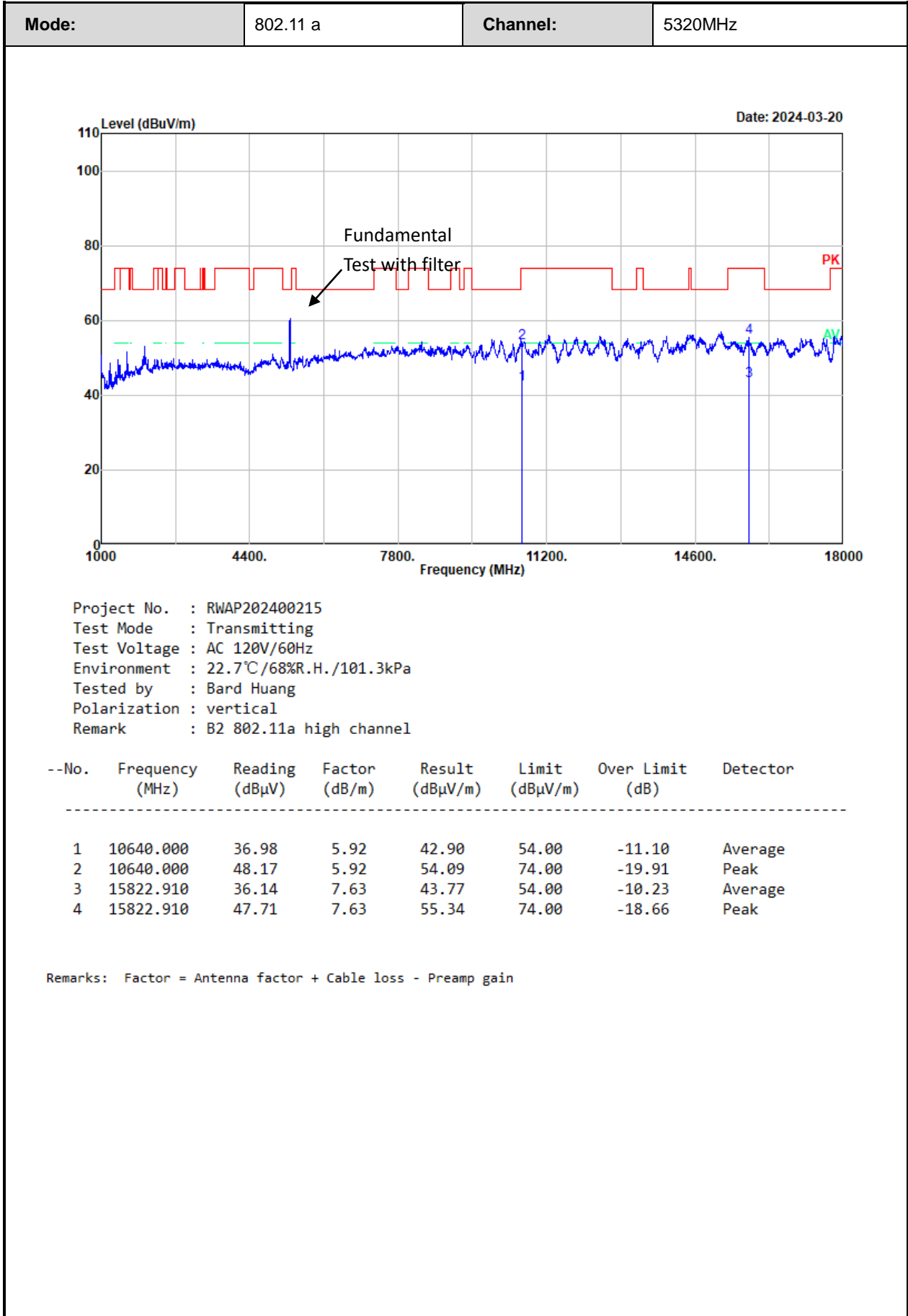
Margin = Corrected Amplitude – Limit

The emission levels of other frequencies that were lower than the limit 20dB, not show in test report.

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

**Test plot for example as below:**





**5470-5730MHz**

Frequency (MHz)	Reading level (dBµV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark
802.11a							
Low Channel							
5460.000	36.13	horizontal	11.55	47.68	54.00	-6.32	Average
5460.000	47.87	horizontal	11.55	59.42	74.00	-14.58	Peak
5460.000	36.58	vertical	11.55	48.13	54.00	-5.87	Average
5460.000	48.55	vertical	11.55	60.10	74.00	-13.90	Peak
11000.000	44.14	horizontal	6.37	50.51	74.00	-23.49	Peak
11000.000	43.66	vertical	6.37	50.03	74.00	-23.97	Peak
Middle Channel							
11160.000	46.58	horizontal	6.60	53.18	74.00	-20.82	Peak
11160.000	46.22	vertical	6.60	52.82	74.00	-21.18	Peak
High Channel							
5725.000	48.38	horizontal	12.03	60.41	68.20	-7.79	Peak
5725.000	47.79	vertical	12.03	59.82	68.20	-8.38	Peak
11400.000	46.27	horizontal	6.35	52.62	74.00	-21.38	Peak
11400.000	45.85	vertical	6.35	52.20	74.00	-21.80	Peak
802.11ac20							
Low Channel							
5460.000	36.93	horizontal	11.55	48.48	54.00	-5.52	Average
5460.000	48.04	horizontal	11.55	59.59	74.00	-14.41	Peak
5460.000	36.41	vertical	11.55	47.96	54.00	-6.04	Average
5460.000	48.13	vertical	11.55	59.68	74.00	-14.32	Peak
11000.000	44.90	horizontal	6.37	51.27	74.00	-22.73	Peak
11000.000	43.98	vertical	6.37	50.35	74.00	-23.65	Peak
Middle Channel							
11160.000	46.86	horizontal	6.60	53.46	74.00	-20.54	Peak
11160.000	46.94	vertical	6.60	53.54	74.00	-20.46	Peak
High Channel							
5725.000	48.93	horizontal	12.03	60.96	68.20	-7.24	Peak
5725.000	50.39	vertical	12.03	62.42	68.20	-5.78	Peak
11400.000	46.00	horizontal	6.35	52.35	74.00	-21.65	Peak
11400.000	45.46	vertical	6.35	51.81	74.00	-22.19	Peak
802.11ac40							
Low Channel							

5460.000	35.87	horizontal	11.55	47.42	54.00	-6.58	Average
5460.000	48.66	horizontal	11.55	60.21	74.00	-13.79	Peak
5460.000	36.75	vertical	11.55	48.30	54.00	-5.70	Average
5460.000	48.26	vertical	11.55	59.81	74.00	-14.19	Peak
11020.000	46.07	horizontal	6.39	52.46	74.00	-21.54	Peak
11020.000	45.66	vertical	6.39	52.05	74.00	-21.95	Peak
Middle Channel							
11100.000	45.40	horizontal	6.45	51.85	74.00	-22.15	Peak
11100.000	44.39	vertical	6.45	50.84	74.00	-23.16	Peak
High Channel							
5725.000	47.87	horizontal	12.03	59.90	68.20	-8.30	Peak
5725.000	48.17	vertical	12.03	60.20	68.20	-8.00	Peak
11340.000	46.73	horizontal	6.49	53.22	74.00	-20.78	Peak
11340.000	47.00	vertical	6.49	53.49	74.00	-20.51	Peak
802.11ac80							
Low Channel							
5460.000	36.49	horizontal	11.55	48.04	54.00	-5.96	Average
5460.000	48.11	horizontal	11.55	59.66	74.00	-14.34	Peak
5460.000	36.76	vertical	11.55	48.31	54.00	-5.69	Average
5460.000	48.20	vertical	11.55	59.75	74.00	-14.25	Peak
11060.000	36.24	horizontal	6.42	42.66	54.00	-11.34	Average
11060.000	48.46	horizontal	6.42	54.88	74.00	-19.12	Peak
11060.000	46.43	vertical	6.42	52.85	74.00	-21.15	Peak
Middle Channel							
11220.000	47.19	horizontal	6.68	53.87	74.00	-20.13	Peak
11220.000	47.30	vertical	6.68	53.98	74.00	-20.02	Peak
High Channel							
5725.000	47.07	horizontal	12.03	59.10	68.20	-9.10	Peak
5725.000	48.26	vertical	12.03	60.29	68.20	-7.91	Peak
11380.000	46.12	horizontal	6.39	52.51	74.00	-21.49	Peak
11380.000	46.75	vertical	6.39	53.14	74.00	-20.86	Peak

Remark:

Corrected Amplitude= Reading level + corrected Factor

Corrected Factor = Antenna factor + Cable loss – Amplifier gain

Margin = Corrected Amplitude – Limit

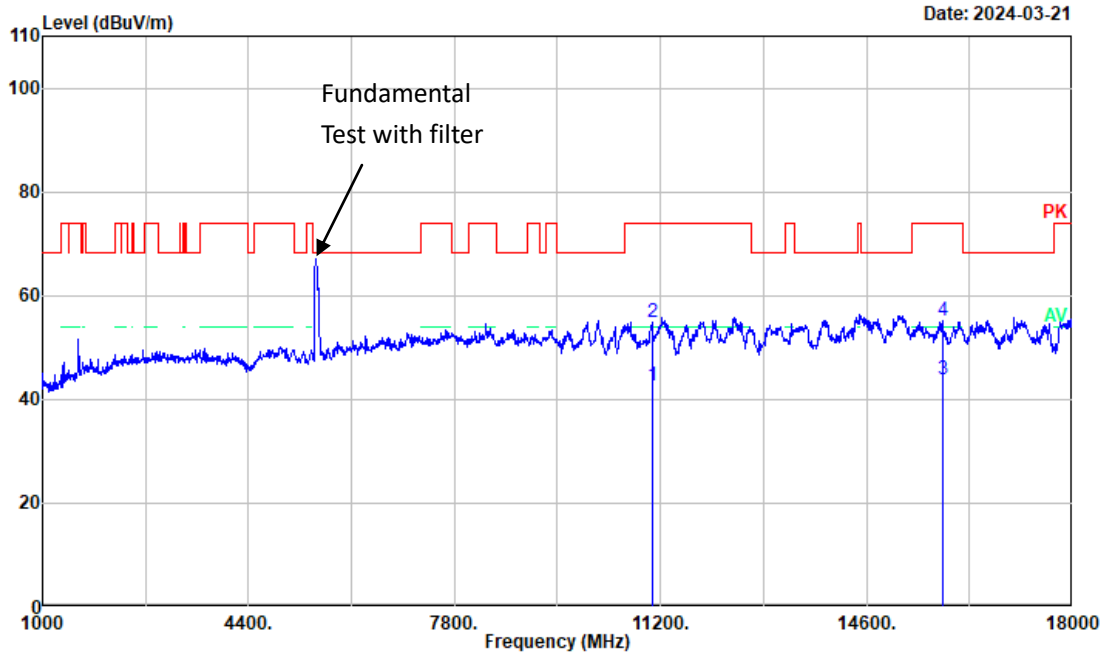
The emission levels of other frequencies that were lower than the limit 20dB, not show in test report.

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



**Test plot for example as below:**

<b>Mode:</b>	802.11 ac80	<b>Channel:</b>	5530MHz
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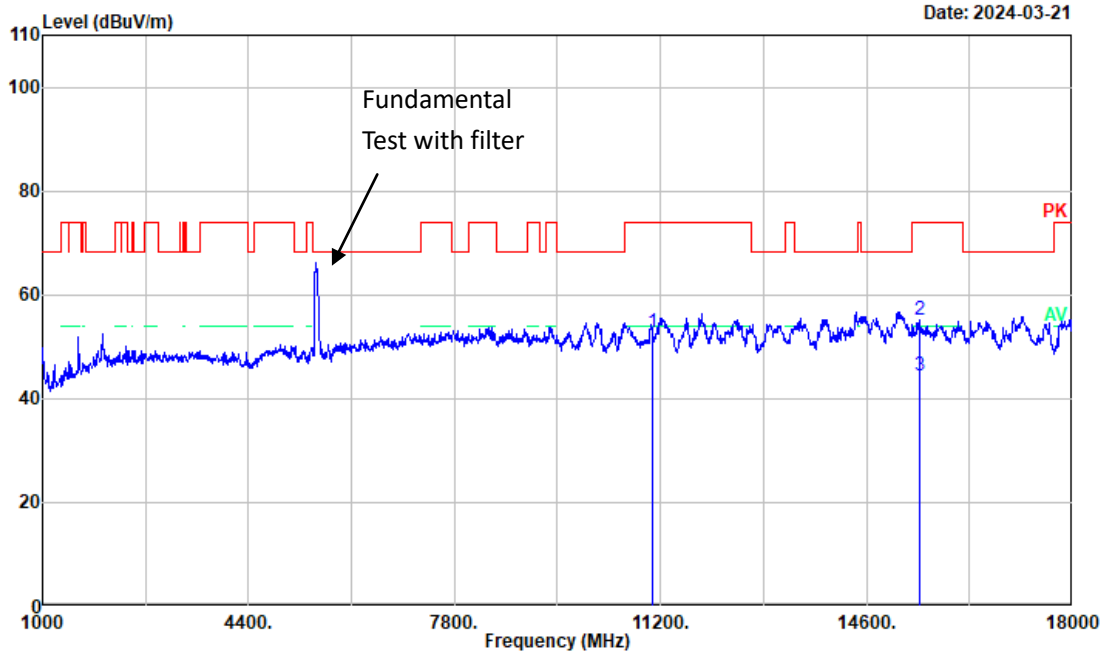


Project No. : RWAP202400215  
 Test Mode : Transmitting  
 Test Voltage : AC 120V/60Hz  
 Environment : 22.7°C/68%R.H./101.3kPa  
 Tested by : Bard Huang  
 Polarization : horizontal  
 Remark : B3 802.11ac80 low channel

--No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
1	11060.000	36.24	6.42	42.66	54.00	-11.34	Average
2	11060.000	48.46	6.42	54.88	74.00	-19.12	Peak
3	15848.420	36.31	7.63	43.94	54.00	-10.06	Average
4	15848.420	47.55	7.63	55.18	74.00	-18.82	Peak

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

<b>Mode:</b>	802.11 ac80	<b>Channel:</b>	5530MHz
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Project No. : RWAP202400215  
 Test Mode : Transmitting  
 Test Voltage : AC 120V/60Hz  
 Environment : 22.7°C/68%R.H./101.3kPa  
 Tested by : Bard Huang  
 Polarization : vertical  
 Remark : B3 802.11ac80 low channel

--No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
1	11060.000	46.43	6.42	52.85	74.00	-21.15	Peak
2	15474.240	46.80	8.28	55.08	74.00	-18.92	Peak
3	15474.240	36.17	8.28	44.45	54.00	-9.55	Average

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

**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							
Low Channel							
5603.827	50.53	horizontal	11.91	62.44	68.20	-5.76	Peak
5690.383	50.25	horizontal	11.98	62.23	98.11	-35.88	Peak
5710.080	50.12	horizontal	12.01	62.13	108.02	-45.89	Peak
5724.149	51.87	horizontal	12.03	63.90	120.26	-56.36	Peak
5619.810	50.27	vertical	11.91	62.18	68.20	-6.02	Peak
5660.330	50.62	vertical	11.92	62.54	75.87	-13.33	Peak
5715.933	50.66	vertical	12.03	62.69	109.66	-46.97	Peak
5724.712	53.87	vertical	12.03	65.90	121.54	-55.64	Peak
11490.000	43.41	horizontal	6.46	49.87	74.00	-24.13	Peak
11490.000	43.34	vertical	6.46	49.80	74.00	-24.20	Peak
Middle Channel							
11570.000	46.82	horizontal	6.52	53.34	74.00	-20.66	Peak
11570.000	45.88	vertical	6.52	52.40	74.00	-21.60	Peak
High Channel							
5851.563	49.12	horizontal	12.31	61.43	118.63	-57.20	Peak
5867.321	49.54	horizontal	12.37	61.91	107.35	-45.44	Peak
5912.344	49.90	horizontal	12.45	62.35	77.54	-15.19	Peak
5931.854	49.61	horizontal	12.43	62.04	68.20	-6.16	Peak
5852.438	48.77	vertical	12.32	61.09	116.64	-55.55	Peak
5868.322	49.47	vertical	12.36	61.83	107.07	-45.24	Peak
5900.212	50.22	vertical	12.47	62.69	86.50	-23.81	Peak
5930.853	49.89	vertical	12.43	62.32	68.20	-5.88	Peak
11650.000	35.64	horizontal	6.55	42.19	54.00	-11.81	Average
11650.000	48.35	horizontal	6.55	54.90	74.00	-19.10	Peak
11650.000	35.56	vertical	6.55	42.11	54.00	-11.89	Average
11650.000	48.48	vertical	6.55	55.03	74.00	-18.97	Peak
802.11ac20							
Low Channel							
5634.104	49.98	horizontal	11.90	61.88	68.20	-6.32	Peak
5694.547	49.96	horizontal	11.99	61.95	101.18	-39.23	Peak
5717.059	51.44	horizontal	12.03	63.47	109.98	-46.51	Peak
5724.037	58.51	horizontal	12.03	70.54	120.01	-49.47	Peak

5642.771	50.62	vertical	11.90	62.52	68.20	-5.68	Peak
5679.802	50.38	vertical	11.96	62.34	90.29	-27.95	Peak
5719.310	52.93	vertical	12.03	64.96	110.61	-45.65	Peak
5723.587	59.36	vertical	12.03	71.39	118.98	-47.59	Peak
11490.000	43.43	horizontal	6.46	49.89	74.00	-24.11	Peak
11490.000	44.34	vertical	6.46	50.80	74.00	-23.20	Peak
Middle Channel							
11570.000	46.56	horizontal	6.52	53.08	74.00	-20.92	Peak
11570.000	46.72	vertical	6.52	53.24	74.00	-20.76	Peak
High Channel							
5853.439	49.86	horizontal	12.31	62.17	114.36	-52.19	Peak
5866.321	49.37	horizontal	12.37	61.74	107.63	-45.89	Peak
5902.464	49.61	horizontal	12.46	62.07	84.84	-22.77	Peak
5929.102	49.85	horizontal	12.43	62.28	68.20	-5.92	Peak
5852.188	49.50	vertical	12.31	61.81	117.21	-55.40	Peak
5869.572	49.48	vertical	12.37	61.85	106.72	-44.87	Peak
5894.960	49.76	vertical	12.45	62.21	90.39	-28.18	Peak
5954.990	49.57	vertical	12.38	61.95	68.20	-6.25	Peak
11650.000	35.82	horizontal	6.55	42.37	54.00	-11.63	Average
11650.000	48.29	horizontal	6.55	54.84	74.00	-19.16	Peak
11650.000	35.71	vertical	6.55	42.26	54.00	-11.74	Average
11650.000	49.05	vertical	6.55	55.60	74.00	-18.40	Peak
802.11ac40							
Low Channel							
5604.502	50.36	horizontal	11.91	62.27	68.20	-5.93	Peak
5697.812	53.48	horizontal	12.00	65.48	103.59	-38.11	Peak
5716.496	57.97	horizontal	12.03	70.00	109.82	-39.82	Peak
5724.712	59.01	horizontal	12.03	71.04	121.54	-50.50	Peak
5621.723	49.81	vertical	11.91	61.72	68.20	-6.48	Peak
5694.097	53.91	vertical	11.99	65.90	100.85	-34.95	Peak
5718.522	59.08	vertical	12.03	71.11	110.39	-39.28	Peak
5724.487	60.16	vertical	12.03	72.19	121.03	-48.84	Peak
11510.000	46.01	horizontal	6.48	52.49	74.00	-21.51	Peak
11510.000	44.68	vertical	6.48	51.16	74.00	-22.84	Peak
High Channel							
5852.814	48.70	horizontal	12.31	61.01	115.78	-54.77	Peak
5867.196	49.50	horizontal	12.37	61.87	107.38	-45.51	Peak
5901.338	49.82	horizontal	12.47	62.29	85.67	-23.38	Peak

5940.983	49.77	horizontal	12.42	62.19	68.20	-6.01	Peak
5851.313	49.20	vertical	12.31	61.51	119.21	-57.70	Peak
5859.442	49.01	vertical	12.34	61.35	109.55	-48.20	Peak
5910.593	50.29	vertical	12.46	62.75	78.83	-16.08	Peak
5941.233	49.64	vertical	12.42	62.06	68.20	-6.14	Peak
11590.000	47.03	horizontal	6.53	53.56	74.00	-20.44	Peak
11590.000	47.36	vertical	6.53	53.89	74.00	-20.11	Peak
802.11ac80							
5619.322	50.10	horizontal	11.91	62.01	68.20	-6.19	Peak
5695.673	59.31	horizontal	11.99	71.30	102.01	-30.71	Peak
5710.868	60.12	horizontal	12.01	72.13	108.25	-36.12	Peak
5722.124	58.22	horizontal	12.03	70.25	115.64	-45.39	Peak
5646.523	51.14	vertical	11.91	63.05	68.20	-5.15	Peak
5691.733	61.04	vertical	11.98	73.02	99.11	-26.09	Peak
5706.178	61.45	vertical	12.01	73.46	106.93	-33.47	Peak
5723.625	60.16	vertical	12.03	72.19	119.06	-46.87	Peak
5851.188	53.36	horizontal	12.31	65.67	119.49	-53.82	Peak
5862.444	53.57	horizontal	12.35	65.92	108.71	-42.79	Peak
5877.076	50.13	horizontal	12.40	62.53	103.66	-41.13	Peak
5933.354	50.22	horizontal	12.42	62.64	68.20	-5.56	Peak
5851.563	54.57	vertical	12.31	66.88	118.63	-51.75	Peak
5857.566	53.65	vertical	12.33	65.98	110.08	-44.10	Peak
5895.085	50.26	vertical	12.46	62.72	90.30	-27.58	Peak
5947.424	49.92	vertical	12.41	62.33	68.20	-5.87	Peak
11550.000	45.44	horizontal	6.50	51.94	74.00	-22.06	Peak
11550.000	45.47	vertical	6.50	51.97	74.00	-22.03	Peak

Remark:

Corrected Amplitude= Reading level + corrected Factor

Corrected Factor = Antenna factor + Cable loss – Amplifier gain

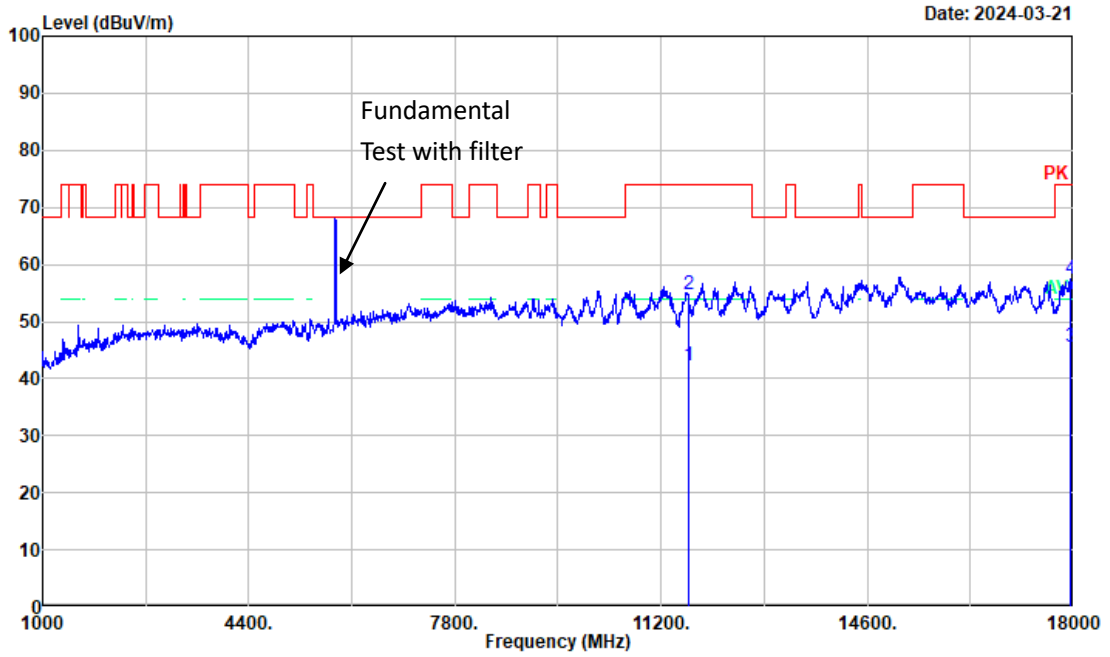
Margin = Corrected Amplitude – Limit

The emission levels of other frequencies that were lower than the limit 20dB, not show in test report.

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

**Test plot for example as below:**

<b>Mode:</b>	802.11 ac20	<b>Channel:</b>	5825MHz
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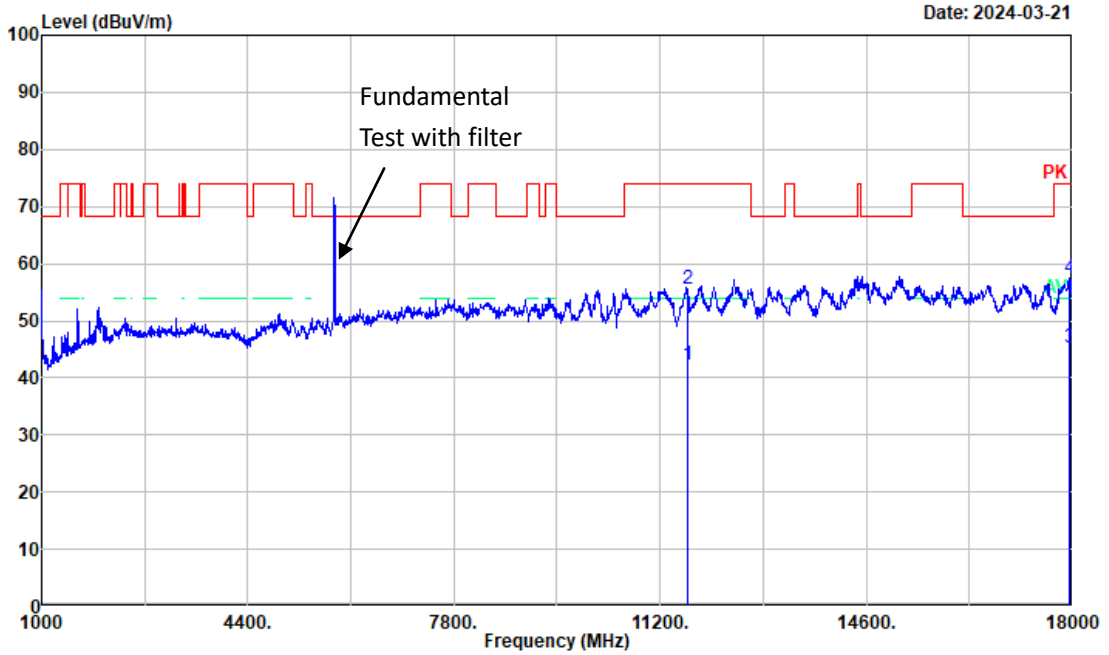


Project No. : RWAP202400215  
 Test Mode : Transmitting  
 Test Voltage : AC 120V/60Hz  
 Environment : 22.0°C/48%R.H./101.0kPa  
 Tested by : Bard Huang  
 Polarization : horizontal  
 Remark : B4 802.11ac20 High channel

--No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
1	11650.000	35.82	6.55	42.37	54.00	-11.63	Average
2	11650.000	48.29	6.55	54.84	74.00	-19.16	Peak
3	17948.970	37.26	8.19	45.45	54.00	-8.55	Average
4	17948.970	49.29	8.19	57.48	74.00	-16.52	Peak

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

<b>Mode:</b>	802.11 ac20	<b>Channel:</b>	5825MHz
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Project No. : RWAP202400215  
 Test Mode : Transmitting  
 Test Voltage : AC 120V/60Hz  
 Environment : 22.0°C/48%R.H./101.0kPa  
 Tested by : Bard Huang  
 Polarization : vertical  
 Remark : B4 802.11ac20 High channel

--No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
1	11650.000	35.71	6.55	42.26	54.00	-11.74	Average
2	11650.000	49.05	6.55	55.60	74.00	-18.40	Peak
3	17940.470	37.18	8.19	45.37	54.00	-8.63	Average
4	17940.470	49.18	8.19	57.37	74.00	-16.63	Peak

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

### 3.5 RF Conducted Test Data

<b>Test Date:</b>	2024-03-06	<b>Test By:</b>	Baylor Li
<b>Environment condition:</b>	Temperature: 24.9°C; Relative Humidity:54%; ATM Pressure: 101.2kPa		

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

Please refer to test report: RSZ200929002-00D, page 45~99.

#### 3.5.2 Maximum conducted output power

##### 5150-5250MHz

Test Mode	Channel [MHz]	Result [dBm]	Limit [dBm]	Verdict
802.11a	5180	13.85	23.98	Pass
	5200	13.42	23.98	Pass
	5240	14.26	23.98	Pass
802.11n ht20	5180	12.56	23.98	Pass
	5200	12.59	23.98	Pass
	5240	13.42	23.98	Pass
802.11n ht40	5190	12.4	23.98	Pass
	5230	12.02	23.98	Pass
802.11ac vht20	5180	11.92	23.98	Pass
	5200	12.86	23.98	Pass
	5240	12.94	23.98	Pass
802.11ac vht40	5190	13.37	23.98	Pass
	5230	11.89	23.98	Pass
802.11ac vht80	5210	10.79	23.98	Pass

##### 5250-5350MHz

Test Mode	Channel [MHz]	Result [dBm]	Limit [dBm]	Verdict
802.11a	5260	14.59	23.98	Pass
	5280	14.53	23.98	Pass
	5320	14.46	23.98	Pass
802.11n ht20	5260	12.68	23.98	Pass
	5280	13.08	23.98	Pass
	5320	13.34	23.98	Pass
802.11n ht40	5270	12.29	23.98	Pass
	5310	11.83	23.98	Pass
802.11ac vht20	5260	13.46	23.98	Pass



	5280	12.95	23.98	Pass
	5320	13.27	23.98	Pass
802.11ac vht40	5270	12.31	23.98	Pass
	5310	11.76	23.98	Pass
802.11ac vht80	5290	11.29	23.98	Pass

**5470-5730MHz**

Test Mode	Channel [MHz]	Result [dBm]	Limit [dBm]	Verdict
802.11a	5500	14.03	23.98	Pass
	5580	14.59	23.98	Pass
	5700	14.38	23.98	Pass
	5720	13.53	23.98	Pass
802.11n ht20	5500	12.91	23.98	Pass
	5580	13.57	23.98	Pass
	5700	13.05	23.98	Pass
	5720	13.19	23.98	Pass
802.11n ht40	5510	12.18	23.98	Pass
	5550	11.53	23.98	Pass
	5670	12.34	23.98	Pass
	5710	11.86	23.98	Pass
802.11ac vht20	5500	12.75	23.98	Pass
	5580	13.49	23.98	Pass
	5700	13.08	23.98	Pass
	5720	13.16	23.98	Pass
802.11ac vht40	5510	12.09	23.98	Pass
	5550	11.54	23.98	Pass
	5670	12.06	23.98	Pass
	5710	10.95	23.98	Pass
802.11ac vht80	5530	10.92	23.98	Pass
	5610	11.14	23.98	Pass
	5690	10.68	23.98	Pass

**5725-5850MHz**

Test Mode	Channel [MHz]	Result [dBm]	Limit [dBm]	Verdict
802.11a	5745	13.78	30	Pass
	5785	13.99	30	Pass
	5825	13.59	30	Pass
802.11n ht20	5745	12.52	30	Pass
	5785	13.07	30	Pass

	5825	13.29	30	Pass
802.11n ht40	5755	11.91	30	Pass
	5795	11.66	30	Pass
802.11ac vht20	5745	12.68	30	Pass
	5785	12.95	30	Pass
	5825	13.34	30	Pass
802.11ac vht40	5755	11.99	30	Pass
	5795	12.38	30	Pass
802.11ac vht80	5775	10.62	30	Pass

### 3.5.3 Power Spectral Density

Please refer to test report: RSZ200929002-00D, page 102~127.

### 3.5.4 Duty Cycle

Please refer to test report: RSZ200929002-00D, page 128~130.

### 3.5.5 Dynamic Frequency Selection (DFS)

Please refer to test report: RSZ200929001-00.

## 4 Test Setup Photo

Please refer to the attachment RWAP202400215 Test Setup photo.

## 5 E.U.T Photo

Please refer to the attachment RWAP202400215 External photo and RWAP202400215 Internal photo.

**---End of Report---**