



# FCC RADIO TEST REPORT

**FCC ID** : QYLAX201NG  
**Equipment** : WLAN Module  
**Brand Name** : Getac  
**Model Name** : AX201NGW  
**Applicant** : Getac Technology Corporation.  
5F., Building A, No. 209, Sec.1,  
Nangang Rd., Nangang Dist., Taipei  
City 11568, Taiwan, R.O.C.  
**Standard** : FCC Part 15 Subpart E §15.407

The product was received on Feb. 10, 2023 and testing was performed from Feb. 17, 2023 to Mar. 15, 2023. We, Sporton International Inc. Wensan Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this variant report apply exclusively to the tested model / sample. Without written approval from Sporton International Inc. Wensan Laboratory, the test report shall not be reproduced except in full.

Approved by: Louis Wu

**Sporton International Inc. Wensan Laboratory**

No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)



## Table of Contents

History of this test report.....	3
Summary of Test Result.....	4
<b>1 General Description .....</b>	<b>5</b>
1.1 Product Feature of Equipment Under Test.....	5
1.2 Modification of EUT .....	7
1.3 Testing Location .....	8
1.4 Applicable Standards.....	8
<b>2 Test Configuration of Equipment Under Test .....</b>	<b>9</b>
2.1 Carrier Frequency and Channel .....	9
2.2 Test Mode.....	10
2.3 Connection Diagram of Test System.....	11
2.4 Support Unit used in test configuration and system .....	12
2.5 EUT Operation Test Setup .....	12
<b>3 Test Result .....</b>	<b>13</b>
3.1 Maximum Conducted Output Power Measurement .....	13
3.2 Unwanted Emissions Measurement .....	14
3.3 Antenna Requirements.....	19
<b>4 List of Measuring Equipment.....</b>	<b>20</b>
<b>5 Uncertainty of Evaluation.....</b>	<b>21</b>
<b>Appendix A. Conducted Test Results</b>	
<b>Appendix B. Radiated Spurious Emission</b>	
<b>Appendix C. Radiated Spurious Emission Plots</b>	
<b>Appendix D. Duty Cycle Plots</b>	
<b>Appendix E. Setup Photographs</b>	



### History of this test report

Report No.	Version	Description	Issue Date
FR111325-04C	01	Initial issue of report	Mar. 29, 2023
FR111325-04C	02	<ol style="list-style-type: none"><li>1. Revise appendix A</li><li>2. This report is an updated version, replacing the report issued on Mar. 29, 2023.</li></ol>	Apr. 07, 2023



### Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
-	15.403(i)	6dB & 26dB Bandwidth	Not Required	-
-	2.1049	99% Occupied Bandwidth	Not Required	-
3.1	15.407(a)	Maximum Conducted Output Power	Pass	-
-	15.407(a)	Power Spectral Density	Not Required	-
3.2	15.407(b)	Unwanted Emissions	Pass	-
-	15.207	AC Conducted Emission	Not Required	-
3.3	15.203	Antenna Requirement	Pass	-

**Note:**

1. Not required means after assessing, test items are not necessary to carry out.
2. This is a variant report by changing WLAN Main antenna position and adding AC Adapter 3. All the test cases were performed on original report which can be referred to Sporton Report Number FR111325E. Based on the original report, the test cases were verified.

**Conformity Assessment Condition:**

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. Please refer to the section " Uncertainty of Evaluation " for measurement uncertainty.

**Disclaimer:**

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

**Reviewed by: Yun Huang**

**Report Producer: Michelle Chen**



# 1 General Description

## 1.1 Product Feature of Equipment Under Test

Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n/ac/ax and Wi-Fi 5GHz 802.11a/n/ac/ax.

Product Specification is subject to this standard	
Sample 1	EUT with Host 1
Sample 2	EUT with Host 2
Sample 3	EUT with Host 3
Antenna Type	<b>WLAN:</b> <Main> PIFA Antenna <Aux.> PIFA Antenna <b>Bluetooth:</b> PIFA Antenna

Antenna information		
5725 MHz ~ 5850 MHz	Peak Gain (dBi)	Main: 2.86 Aux.: 0.87

**Remark:** The above EUT's information was declared by manufacturer. Please refer to Disclaimer in report summary.

The product was installed into Tablet (Brand Name: Getac, Model Name: F110, F110G6, F110-Exc, F110-621, F110-601) during test, and the host information was recorded in the following table.

Host Information	
Host 1	Host with SKU A
Host 2	Host with SKU B
Host 3	Host with SKU C

SKU	SKU A	SKU B	SKU C
CPU	i3-1115G7 (Non Vpro)	i5-1135G7 (Non Vpro)	i7-1165G7 (Vpro)
DDR	Kingston DDR4-3200 8GB	Kingston DDR4-3200 16GB	Kingston DDR4-3200 32GB
SSD	256GB	512GB	1TB
PANEL	Full HD AUO	Full HD AUO	Full HD AUO
DIGITIZER	EMRright Digitizer	N/A	EMRright Digitizer
OPTION BAY	Micro SD	2D Barcode Reader	RS232 + LAN
Expansion Bay	N/A	Smart Card	Smart Card
Right side option	Finger Print	NXP RFID(PN7462)	Finger Print
WLAN/BT	Intel AX201	Intel AX201	Intel AX201
WWAN(4G)	NA	EM7511	EM7511
GPS/GNS	GPS/GNSS (MC-1010-G)	EM7511	EM7511
Rear 8M Camera	Support	Support	Support
Webcam FHD	Support	Not Support	Not Support
IR Webcam	Not Support	Support	Support
USB3.2 Gen2 x 1 Type-A	Support	Support	Support
Type-C (thunder bolt)	Support	Support	Support
Audio/MIC	Support	Support	Support



### 1.1.1 Antenna Directional Gain

**<For CDD Mode>**

Follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01 F2)f)ii)

Directional gain =  $G_{ANT}$  + Array Gain, where Array Gain is as follows:

For power measurements on IEEE 802.11 devices,

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

$G_{ANT}$  is set equal to the gain of the antenna having the highest gain.

For PSD measurements, the directional gain calculation.

$$DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;

$N_{SS}$  = the number of independent spatial streams of data;

$N_{ANT}$  = the total number of antennas

$g_{j,k} = 10^{G_k / 20}$  if the  $k$ th antenna is being fed by spatial stream  $j$ , or zero if it is not;  
 $G_k$  is the gain in dBi of the  $k$ th antenna.

As minimum  $N_{SS}=1$  is supported by EUT, the formula can be simplified as:

Directional gain =  $10 \cdot \log[(10^{G_1 / 20} + 10^{G_2 / 20} + \dots + 10^{G_N / 20})^2 / N_{ANT}]$  dBi

Where  $G_1, G_2, \dots, G_N$  denote single antenna gain.



The directional gain “DG” is calculated as following table.

	Ant 1	Ant 2	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Band IV	0.87	2.86	2.86	4.93	0.00	0.00

Calculation example:

If a device has two antenna,  $G_{ANT1}= 0.87\text{dBi}$ ;  $G_{ANT2}=2.86\text{dBi}$

Directional gain of power measurement =  $\max(0.87, 2.86) + 0 = 2.86 \text{ dBi}$

Directional gain of PSD derived from formula which is

$$10 \times \log \left\{ \left[ 10^{(0.87 \text{ dBi} / 20)} + 10^{(2.86 \text{ dBi} / 20)} \right]^2 / 2 \right\}$$

= 4.93 dBi

Power and PSD limit reduction = Composite gain – 6dBi, ( min = 0 )

## 1.2 Modification of EUT

No modifications made to the EUT during the testing.



### 1.3 Testing Location

<b>Test Site</b>	Sporton International Inc. Wensan Laboratory
<b>Test Site Location</b>	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
<b>Test Site No.</b>	<b>Sporton Site No.</b> TH05-HY, 03CH15-HY

**Note:** The test site complies with ANSI C63.4 2014 requirement.

FCC designation No.: TW3786

### 1.4 Applicable Standards

According to the specifications declared by the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ FCC Part 15 Subpart E
- ♦ FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01.
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ ANSI C63.10-2013

**Remark:**

1. All the test items were validated and recorded in accordance with the standards without any modification during the testing.
2. The TAF code is not including all the FCC KDB listed without accreditation.





## 2 Test Configuration of Equipment Under Test

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and only the worst case emissions were reported in this report.

### 2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5725-5850 MHz Band 4 (U-NII-3)	149	5745	157	5785
	151*	5755	159*	5795
	153	5765	161	5805
	155#	5775	165	5825

**Note:**

- 1. The above Frequency and Channel with "\*" are 802.11n HT40 and 802.11ac VHT40 and 802.11ax HE40.
- 2. The above Frequency and Channel with "#" are 802.11ac VHT80 and 802.11ax HE80.



## 2.2 Test Mode

The final test modes include the worst data rates for each modulation shown in the table below.

### Single Mode

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0
802.11ax HE20	MCS0
802.11ax HE40	MCS0
802.11ax HE80	MCS0

### MIMO Mode

Modulation	Data Rate
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0
802.11ax HE20	MCS0
802.11ax HE40	MCS0
802.11ax HE80	MCS0

<Ant. 2>

Ch. #		Band IV : 5725-5850 MHz
		802.11ax HE40
L	Low	151
M	Middle	-
H	High	-

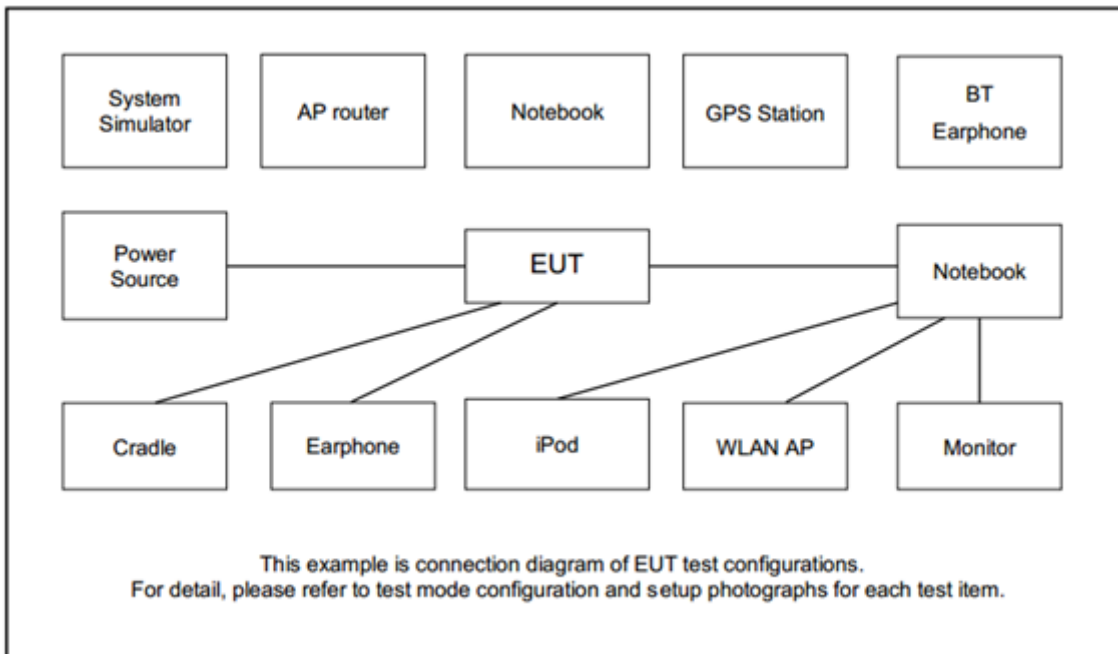
MIMO <Ant. 1+2>

Ch. #		Band IV : 5725-5850 MHz
		802.11ax HE80
L	Low	-
M	Middle	155
H	High	-

Remark:

1. For radiation spurious emission, the modulation and the data rate picked for testing are determined by the Max. RF conducted power.
2. For Radiated Test Cases, the tests were performed with Adapter 3, Battery 2 and Sample 2.

### 2.3 Connection Diagram of Test System





## 2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0 m	N/A

## 2.5 EUT Operation Test Setup

The RF test items, utility "DRTU v.01346.22.140.0" was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

### 3 Test Result

#### 3.1 Maximum Conducted Output Power Measurement

##### 3.1.1 Limit of Maximum Conducted Output Power

For the band 5.725–5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

##### 3.1.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

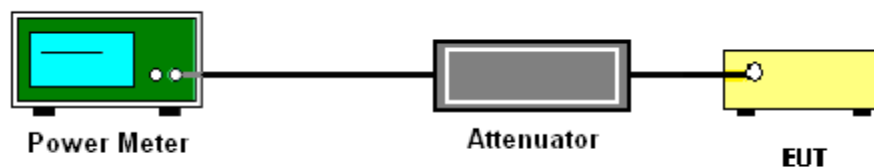
##### 3.1.3 Test Procedures

The testing follows Method PM-G of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

Method PM-G (Measurement using a gated RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit at its maximum power control level.
3. Measure the average power of the transmitter.
4. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01

##### 3.1.4 Test Setup



##### 3.1.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.



### 3.2 Unwanted Emissions Measurement

This section is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement.

#### 3.2.1 Limit of Unwanted Emissions

(1) For transmitters operating in the 5.725-5.85 GHz band:

15.407(b)(4)(i) 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.

(2) Unwanted spurious emissions falls in restricted bands shall comply with the general field strength limits as below table,

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

**Note:** The following formula is used to convert the EIRP to field strength.

$$E = \frac{1000000\sqrt{30P}}{3} \text{ } \mu\text{V/m, where P is the eirp (Watts)}$$

EIRP (dBm)	Field Strength at 3m (dBμV/m)
- 27	68.3

(3) KDB789033 D02 v02r01 G)2)c)

(i) Sections 15.407(b)(1-3) specifies the unwanted emissions limit for the U-NII-1 and U-NII-2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz.

(ii) Section 15.407(b)(4) specifies the unwanted emissions limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). The emission limits are based on the use of a peak detector.



### 3.2.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

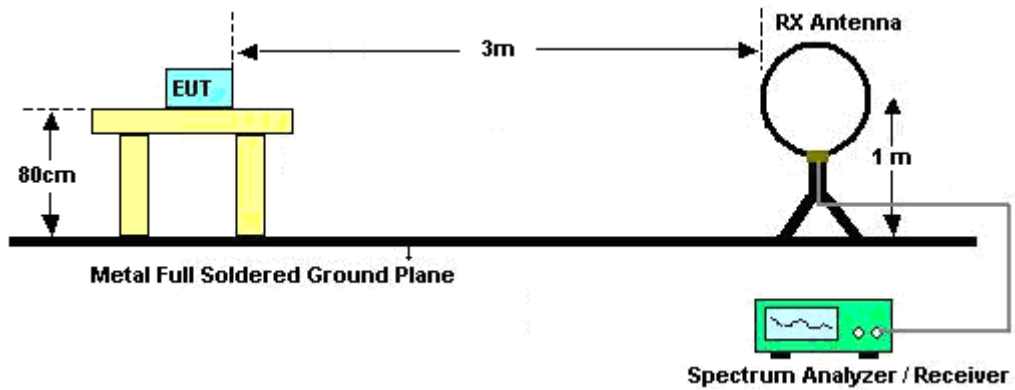
### 3.2.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.
  - (1) Procedure for Unwanted Emissions Measurements Below 1000 MHz
    - RBW = 120 kHz
    - VBW = 300 kHz
    - Detector = Peak
    - Trace mode = max hold
  - (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
    - RBW = 1 MHz
    - VBW  $\geq$  3 MHz
    - Detector = Peak
    - Sweep time = auto
    - Trace mode = max hold
  - (3) Procedures for Average Unwanted Emissions Measurements Above 1000 MHz
    - RBW = 1 MHz
    - VBW = 10 Hz, when duty cycle is no less than 98 percent.
    - VBW  $\geq$  1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
2. The EUT is placed on a turntable with 0.8 meter for frequency below 1 GHz and 1.5 meter for frequency above 1 GHz respectively above ground.
3. The EUT is set 3 meters away from the receiving antenna which is mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT is arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.

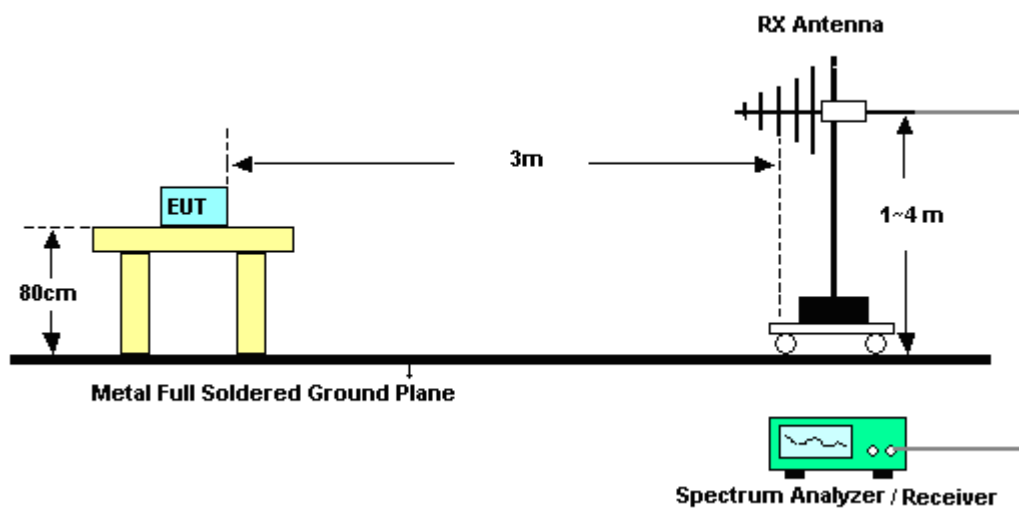
6. Radiated testing below 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading. When there is no suspected emission found and the emission level is with at least 6 dB margin against QP limit line, the position is marked as “-“.
7. Radiated testing above 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading for scanning all frequencies. When there is no suspected emission found and the harmonic emission level is with at least 6 dB margin against average limit line, the position is marked as “-“.

**3.2.4 Test Setup**

**For radiated emissions below 30MHz**

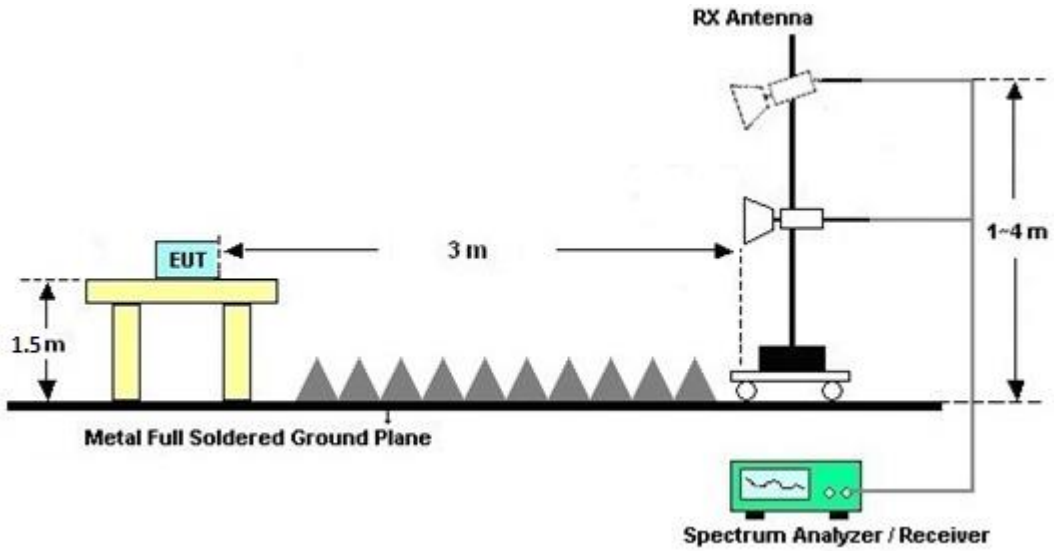


**For radiated emissions from 30MHz to 1GHz**

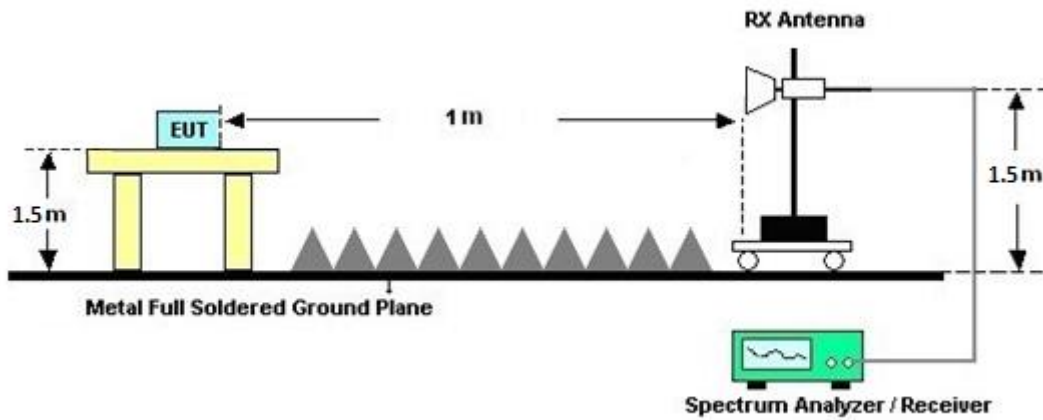




For radiated test from 1GHz to 18GHz



For radiated test above 18GHz





### **3.2.5 Test Results of Radiated Emissions (9 kHz ~ 30 MHz)**

The low frequency, which starts from 9 kHz to 30 MHz, is pre-scanned and the result which is 20 dB lower than the limit line is not reported.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

### **3.2.6 Test Result of Radiated Band Edges**

Please refer to Appendix B and C.

### **3.2.7 Duty Cycle**

Please refer to Appendix D.

### **3.2.8 Test Result of Unwanted Radiated Emission (30MHz ~ 10th Harmonic)**

Please refer to Appendix B and C.



### **3.3 Antenna Requirements**

#### **3.3.1 Standard Applicable**

The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the rule.

#### **3.3.2 Antenna Anti-Replacement Construction**

An embedded-in antenna design is used.



## 4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Hygrometer	TECPEL	DTM-303A	TP201996	N/A	Nov. 17, 2022	Feb. 17, 2023~ Mar. 15, 2023	Nov. 16, 2023	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	16I00054SNO 12 (NO:113)	10MHz~6GHz	Dec. 13, 2022	Feb. 17, 2023~ Mar. 15, 2023	Dec. 12, 2023	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101905	10Hz - 40GHz	Aug. 03, 2022	Feb. 17, 2023~ Mar. 15, 2023	Aug. 02, 2023	Conducted (TH05-HY)
Loop Antenna	TESEQ	HLA 6120	31244	9 kHz~30 MHz	Mar. 18, 2022	Mar. 03, 2023~ Mar. 06, 2023	Mar. 17, 2023	Radiation (03CH15-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	0103 & 07	30MHz~1GHz	Apr. 24, 2022	Mar. 03, 2023~ Mar. 06, 2023	Apr. 23, 2023	Radiation (03CH15-HY)
Amplifie	SONOMA	310N	363440	9kHz~1GHz	Dec. 26, 2022	Mar. 03, 2023~ Mar. 06, 2023	Dec. 25, 2023	Radiation (03CH15-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-02294	1GHz~18GHz	Jun. 23, 2022	Mar. 03, 2023~ Mar. 06, 2023	Jun. 22, 2023	Radiation (03CH15-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA9170576	18GHz~40GHz	May 14, 2022	Mar. 03, 2023~ Mar. 06, 2023	May 13, 2023	Radiation (03CH15-HY)
Preamplifier	Jet-Power	JPA0118-55-303K	171000180005 4002	1GHz~18GHz	Sep. 28, 2022	Mar. 03, 2023~ Mar. 06, 2023	Sep. 27, 2023	Radiation (03CH15-HY)
Preamplifier	EM Electronics	EM01G18G	060802	1GHz-18GHz	Mar. 08, 2022	Mar. 03, 2023~ Mar. 06, 2023	Mar. 07, 2023	Radiation (03CH15-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY54130085	20MHz~8.4GHz	Oct. 18, 2022	Mar. 03, 2023~ Mar. 06, 2023	Oct. 17, 2023	Radiation (03CH15-HY)
Spectrum Analyzer	Keysight	N9010	MY54200485	10Hz~44GHz	May 07, 2022	Mar. 03, 2023~ Mar. 06, 2023	May 06, 2023	Radiation (03CH15-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Mar. 03, 2023~ Mar. 06, 2023	N/A	Radiation (03CH15-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Mar. 03, 2023~ Mar. 06, 2023	N/A	Radiation (03CH15-HY)
Software	Audix	E3 6.2009-8-24 (k5)	RK-000451	N/A	N/A	Mar. 03, 2023~ Mar. 06, 2023	N/A	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104, 102E	MY582185/4,M Y9838/4PE,51 9228/2	30MHz~18G	Jun. 21, 2022	Mar. 03, 2023~ Mar. 06, 2023	Jun. 20, 2023	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	804011/2,8040 12/2	30MHz-40GHz	Jan. 03, 2023	Mar. 03, 2023~ Mar. 06, 2023	Jan. 02, 2024	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	9kHz~30MHz	Mar. 10, 2022	Mar. 03, 2023~ Mar. 06, 2023	Mar. 09, 2023	Radiation (03CH15-HY)



## 5 Uncertainty of Evaluation

### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	6.30 dB
---	---------

### Uncertainty of Radiated Emission Measurement (1000 MHz ~ 6000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	4.20 dB
---	---------

### Uncertainty of Radiated Emission Measurement (6000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	5.40 dB
---	---------

### Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	5.20 dB
---	---------

**Appendix A. Test Result of Conducted Test Items**

Test Engineer:	River Tsai	Temperature:	21~25	°C
Test Date:	2023/02/17~2023/03/15	Relative Humidity:	51~54	%

**TEST RESULTS DATA**  
**Average Power Table**

Band IV single antenna												
Mod.	Data Rate	N <sub>TX</sub>	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	149	5745	13.30	14.30		30.00	30.00	0.87	2.86	Pass
11a	6Mbps	1	157	5785	13.20	14.20		30.00	30.00	0.87	2.86	Pass
11a	6Mbps	1	165	5825	13.10	14.30		30.00	30.00	0.87	2.86	Pass
HT20	MCS0	1	149	5745	13.10	14.10		30.00	30.00	0.87	2.86	Pass
HT20	MCS0	1	157	5785	13.10	14.10		30.00	30.00	0.87	2.86	Pass
HT20	MCS0	1	165	5825	13.10	14.20		30.00	30.00	0.87	2.86	Pass
HT40	MCS0	1	151	5755	13.00	14.10		30.00	30.00	0.87	2.86	Pass
HT40	MCS0	1	159	5795	13.10	14.10		30.00	30.00	0.87	2.86	Pass
VHT20	MCS0	1	149	5745	13.20	14.20		30.00	30.00	0.87	2.86	Pass
VHT20	MCS0	1	157	5785	13.20	14.20		30.00	30.00	0.87	2.86	Pass
VHT20	MCS0	1	165	5825	13.20	14.20		30.00	30.00	0.87	2.86	Pass
VHT40	MCS0	1	151	5755	13.10	14.20		30.00	30.00	0.87	2.86	Pass
VHT40	MCS0	1	159	5795	13.20	14.20		30.00	30.00	0.87	2.86	Pass
VHT80	MCS0	1	155	5775	13.20	14.20		30.00	30.00	0.87	2.86	Pass

Band IV MIMO												
Mod.	Data Rate	N <sub>TX</sub>	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
HT20	MCS0	2	149	5745	12.20	12.70	15.47	30.00		2.86		Pass
HT20	MCS0	2	157	5785	12.20	12.60	15.41	30.00		2.86		Pass
HT20	MCS0	2	165	5825	12.20	12.70	15.47	30.00		2.86		Pass
HT40	MCS0	2	151	5755	12.10	12.20	15.16	30.00		2.86		Pass
HT40	MCS0	2	159	5795	12.20	12.30	15.26	30.00		2.86		Pass
VHT20	MCS0	2	149	5745	12.30	12.60	15.46	30.00		2.86		Pass
VHT20	MCS0	2	157	5785	12.30	12.50	15.41	30.00		2.86		Pass
VHT20	MCS0	2	165	5825	12.30	12.60	15.46	30.00		2.86		Pass
VHT40	MCS0	2	151	5755	12.20	12.30	15.26	30.00		2.86		Pass
VHT40	MCS0	2	159	5795	12.30	12.40	15.36	30.00		2.86		Pass
VHT80	MCS0	2	155	5775	12.30	12.30	15.31	30.00		2.86		Pass

**TEST RESULTS DATA**  
**Average Power Table**

Band IV single antenna													
Mod.	Data Rate	N <sub>TX</sub>	CH.	Freq. (MHz)	RU Config	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
						Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
HE20	MCS0	1	149	5745	Full	13.30	14.30	-	30.00	30.00	0.87	2.86	Pass
HE20	MCS0	1	149	5745	26/0	13.30	14.30	-	30.00	30.00	0.87	2.86	Pass
HE20	MCS0	1	157	5785	Full	13.30	14.30	-	30.00	30.00	0.87	2.86	Pass
HE20	MCS0	1	165	5825	Full	13.30	14.40	-	30.00	30.00	0.87	2.86	Pass
HE40	MCS0	1	151	5755	Full	13.20	14.30	-	30.00	30.00	0.87	2.86	Pass
HE40	MCS0	1	159	5795	Full	13.30	14.30	-	30.00	30.00	0.87	2.86	Pass
HE80	MCS0	1	155	5775	Full	13.30	14.30	-	30.00	30.00	0.87	2.86	Pass

Band IV MIMO													
Mod.	Data Rate	N <sub>TX</sub>	CH.	Freq. (MHz)	RU Config	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
						Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
HE20	MCS0	2	149	5745	Full	12.40	12.50	15.46	30.00	30.00	2.86	2.86	Pass
HE20	MCS0	2	149	5745	26/0	12.40	12.50	15.46	30.00	30.00	2.86	2.86	Pass
HE20	MCS0	2	157	5785	Full	12.40	12.40	15.41	30.00	30.00	2.86	2.86	Pass
HE20	MCS0	2	165	5825	Full	12.40	12.50	15.46	30.00	30.00	2.86	2.86	Pass
HE40	MCS0	2	151	5755	Full	12.30	12.40	15.36	30.00	30.00	2.86	2.86	Pass
HE40	MCS0	2	159	5795	Full	12.40	12.50	15.46	30.00	30.00	2.86	2.86	Pass
HE80	MCS0	2	155	5775	Full	12.40	12.50	15.46	30.00	30.00	2.86	2.86	Pass





## Appendix B. Radiated Spurious Emission

Test Engineer :	Eric Shou, Quentin Liu and Bigshow Wan	Temperature :	21.5~22.5°C
		Relative Humidity :	50~55%

**Band 4 - 5725~5850MHz**  
**WIFI 802.11ax HE40\_Full (Band Edge @ 3m)**

WIFI Ant. 2	Note	Frequency ( MHz )	Level ( dBμV/m )	Margin ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )
		5638.485	48.76	-19.44	68.2	42.86	33.08	9.54	36.72	284	16	P	H
		5689.225	52.29	-44.96	97.25	45.88	33.57	9.56	36.72	284	16	P	H
		5718.895	56.69	-53.8	110.49	50.03	33.81	9.57	36.72	284	16	P	H
		5722.12	56.57	-59.07	115.64	49.89	33.83	9.57	36.72	284	16	P	H
	*	5755	103.36	-	-	96.46	34.02	9.59	36.71	284	16	P	H
	*	5755	93.64	-	-	86.74	34.02	9.59	36.71	284	16	A	H
		5851.45	48.04	-70.85	118.89	40.87	34.2	9.68	36.71	284	16	P	H
		5863.6	49.8	-58.59	108.39	42.58	34.23	9.7	36.71	284	16	P	H
		5920.525	49.11	-22.39	71.5	41.83	34.22	9.77	36.71	284	16	P	H
		5930.425	48.52	-19.68	68.2	41.26	34.18	9.79	36.71	284	16	P	H
													H
													H
<b>802.11ax</b>													
<b>HE40 Full</b>													
<b>CH 151</b>		5628.165	48.54	-19.66	68.2	42.67	33.06	9.53	36.72	300	86	P	V
<b>5755MHz</b>		5698.685	51.02	-53.21	104.23	44.5	33.68	9.56	36.72	300	86	P	V
		5716.745	53.75	-56.14	109.89	47.1	33.8	9.57	36.72	300	86	P	V
		5721.045	54.06	-59.12	113.18	47.38	33.83	9.57	36.72	300	86	P	V
	*	5755	99.39	-	-	92.49	34.02	9.59	36.71	300	86	P	V
	*	5755	91.33	-	-	84.43	34.02	9.59	36.71	300	86	A	V
		5854.15	48.27	-64.47	112.74	41.09	34.21	9.68	36.71	300	86	P	V
		5875.075	48.66	-56.48	105.14	41.41	34.25	9.71	36.71	300	86	P	V
		5923.675	49.65	-19.53	69.18	42.37	34.21	9.78	36.71	300	86	P	V
		5938.975	48.43	-19.77	68.2	41.2	34.14	9.8	36.71	300	86	P	V
													V
													V
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Band 4 5725~5850MHz**

**WIFI 802.11ax HE40\_Full (Harmonic @ 3m)**

WIFI Ant. 2	Note	Frequency ( MHz )	Level ( dBμV/m )	Margin ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)	
802.11ax HE40 Full CH 151 5755MHz		11510	49.82	-24.18	74	50.43	38.97	13.52	53.1	-	-	P	H	
		11510	40.86	-13.14	54	41.47	38.97	13.52	53.1	-	-	P	H	
		17265	51.42	-16.78	68.2	51.41	38	16.55	54.54	-	-	A	H	
													H	
			11510	50.15	-23.85	74	50.76	38.97	13.52	53.1	-	-	P	V
			11510	41.15	-12.85	54	41.76	38.97	13.52	53.1	-	-	P	V
			17265	50.59	-17.61	68.2	50.58	38	16.55	54.54	-	-	A	V
													V	
<b>Remark</b>	<ol style="list-style-type: none"> <li>No other spurious found.</li> <li>All results are PASS against Peak and Average limit line.</li> <li>The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.</li> </ol>													



**Band 4 - 5725~5850MHz**

**WIFI 802.11ax HE80\_Full (Band Edge @ 3m)**

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	( dBμV )	( dB/m )	( dB )	( dB )	( cm )	( deg )	(P/A)	(H/V)
		5641.4	61.79	-6.41	68.2	49.77	31.68	10.43	30.09	100	158	P	H
		5691.4	66.26	-32.6	98.86	54.21	31.7	10.48	30.13	100	158	P	H
		5719.2	69.78	-40.8	110.58	57.68	31.74	10.51	30.15	100	158	P	H
		5725	70.21	-51.99	122.2	58.09	31.75	10.52	30.15	100	158	P	H
	*	5775	107.33	-	-	95.15	31.8	10.57	30.19	100	158	P	H
	*	5775	98.14	-	-	85.96	31.8	10.57	30.19	100	158	A	H
		5852.215	66.04	-51.11	117.15	53.64	32	10.64	30.24	100	158	P	H
		5856.93	66.59	-43.67	110.26	54.19	32.01	10.64	30.25	100	158	P	H
		5879.275	59.08	-42.94	102.02	46.62	32.06	10.66	30.26	100	158	P	H
		5927.04	55.23	-12.97	68.2	42.69	32.15	10.69	30.3	100	158	P	H
<b>802.11ax</b>													H
<b>HE80 Full</b>													H
<b>CH 155</b>													
<b>5775MHz</b>		5639.8	57.07	-11.13	68.2	45.06	31.68	10.42	30.09	100	227	P	V
		5697.8	59.45	-44.13	103.58	47.39	31.7	10.49	30.13	100	227	P	V
		5719.8	63.97	-46.77	110.74	51.87	31.74	10.51	30.15	100	227	P	V
		5723.6	65.19	-53.82	119.01	53.07	31.75	10.52	30.15	100	227	P	V
	*	5775	106.36	-	-	94.18	31.8	10.57	30.19	100	227	P	V
	*	5775	97.47	-	-	85.29	31.8	10.57	30.19	100	227	A	V
		5852.83	62.87	-52.88	115.75	50.46	32.01	10.64	30.24	100	227	P	V
		5858.16	64.16	-45.75	109.91	51.75	32.02	10.64	30.25	100	227	P	V
		5876.815	58.42	-45.43	103.85	45.98	32.05	10.65	30.26	100	227	P	V
		5930.935	54.54	-13.66	68.2	41.99	32.16	10.69	30.3	100	227	P	V
													V
													V
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Band 4 5725~5850MHz**

**WIFI 802.11ax HE80\_Full (Harmonic @ 3m)**

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dBμV/m )	Margin ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE80 Full CH 155 5775MHz		11550	49.64	-24.36	74	55.49	40.05	15.06	60.96	-	-	P	H
		17325	52.65	-15.55	68.2	51.53	41.28	18.55	58.71	-	-	P	H
		17989	60.84	-13.16	74	50.92	48.8	19.03	57.91	100	136	P	H
		17989	50.82	-3.18	54	40.9	48.8	19.03	57.91	100	136	A	H
		11550	49.92	-24.08	74	55.77	40.05	15.06	60.96	-	-	P	V
		17325	52.12	-16.08	68.2	51	41.28	18.55	58.71	-	-	P	V
		17989	61.42	-12.58	74	51.5	48.8	19.03	57.91	300	241	P	V
		17989	50.95	-3.05	54	41.03	48.8	19.03	57.91	300	241	A	V
<b>Remark</b>	<ol style="list-style-type: none"> <li>No other spurious found.</li> <li>All results are PASS against Peak and Average limit line.</li> <li>The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.</li> <li>The emission level close to 18GHz is checked that the average emission level is noise floor only.</li> </ol>												



Emission above 1GHz  
 WIFI 802.11ax HE80 Full (SHF @ 3m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	(dBμV)	( dB/m )	( dB )	( dB )	( cm )	( deg )	(P/A)	(H/V)
802.11ax HE80 Full SHF		33334	53.26	-14.94	68.2	71.26	40.8	-1.37	57.43	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
			33004	53.27	-14.93	68.2	70.95	40.8	-1.18	57.3	-	-	P
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against limit line. 3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.												



Emission below 1GHz

WIFI 802.11ax HE80 Full (LF @ 3m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.	
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.		
1+2		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	( dBμV )	( dB/m )	( dB )	( dB )	( cm )	( deg )	( P/A )	( H/V )	
802.11ax HE80 Full LF		30	22.19	-17.81	40	29.41	24.53	0.64	32.39	-	-	P	H	
		135.73	17.25	-26.25	43.5	30.86	17.41	1.38	32.4	-	-	P	H	
		271.53	25.19	-20.81	46	36.48	19.06	2.02	32.37	-	-	P	H	
		565.44	28.17	-17.83	46	31.57	26.13	2.91	32.44	-	-	P	H	
		779.81	29.93	-16.07	46	30.53	28.13	3.39	32.12	-	-	P	H	
		903.97	36.67	-9.33	46	35.23	29.16	3.7	31.42	-	-	P	H	
														H
														H
														H
														H
														H
														H
			30	22.52	-17.48	40	29.74	24.53	0.64	32.39	-	-	P	V
			120.21	22.39	-21.11	43.5	36.23	17.31	1.31	32.46	-	-	P	V
			359.8	25.81	-20.19	46	35.03	20.91	2.26	32.39	-	-	P	V
			600.36	28.2	-17.8	46	32.04	25.6	2.99	32.43	-	-	P	V
			839.95	34.28	-11.72	46	33.78	28.81	3.55	31.86	-	-	P	V
			903	38.12	-7.88	46	36.7	29.15	3.7	31.43	-	-	P	V
													V	
													V	
													V	
													V	
													V	

**Remark**

- No other spurious found.
- All results are PASS against limit line.
- The emission position marked as "-" means no suspected emission found and emission level has at least 6dB margin against limit or emission is noise floor only.



**Note symbol**

*	<b>Fundamental Frequency</b> which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is <b>over limit</b> line.
P/A	<b>Peak</b> or <b>Average</b>
H/V	<b>Horizontal</b> or <b>Vertical</b>



A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	( dBμV )	( dB/m )	( dB )	( dB )	( cm )	( deg )	( P/A )	( H/V )
802.11a		11213	48.14	-25.86	74	59.06	39.72	17.65	68.29	-	-	P	H
CH 149		11213	37.67	-16.33	54	48.59	39.72	17.65	68.29	-	-	A	H
5745MHz													

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
3. Margin(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

**For Peak Limit @ 11213MHz:**

1. Level(dBμV/m)  
= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)  
= 39.72(dB/m) + 17.65(dB) + 59.06(dBμV) – 68.29 (dB)  
= 48.14 (dBμV/m)
2. Margin(dB)  
= Level(dBμV/m) – Limit Line(dBμV/m)  
= 48.14(dBμV/m) – 74(dBμV/m)  
= -25.86(dB)

**For Average Limit @ 11213MHz:**

1. Level(dBμV/m)  
= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)  
= 39.72(dB/m) + 17.65(dB) + 48.59(dBμV) – 68.29 (dB)  
= 37.67 (dBμV/m)
2. Margin(dB) = Level(dBμV/m) – Limit Line(dBμV/m)  
= 37.67(dBμV/m) – 54(dBμV/m)  
= -16.33(dB)

**Both peak and average measured complies with the limit line, so test result is “PASS”.**





## Appendix C. Radiated Spurious Emission Plots

Test Engineer :	Eric Shou, Quentin Liu and Bigshow Wan	Temperature :	21.5~22.5°C
		Relative Humidity :	50~55%



**Band 4 - 5725~5850MHz**

**WIFI 802.11ax HE40 Full (Band Edge @ 3m)**

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
2	Horizontal	Fundamental
Peak	<p>Site : 03CH15-HY Condition : PEAK_BE(B4)_16-24 3m 91200_02294_220623 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH15-HY Condition : PEAK(LIN) 3m 91200_02294_220623 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	<p>Site : 03CH15-HY Condition : PEAK_BE(B4)_16-24 3m 91200_02294_220623 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH15-HY Condition : AVG_54 3m 91200_02294_220623 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



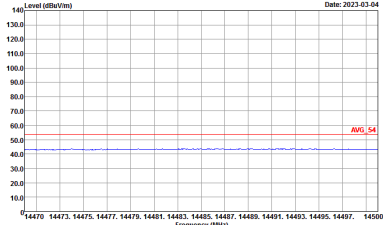
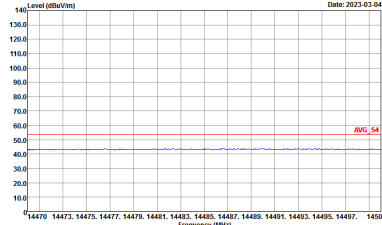
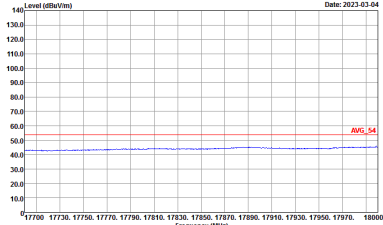
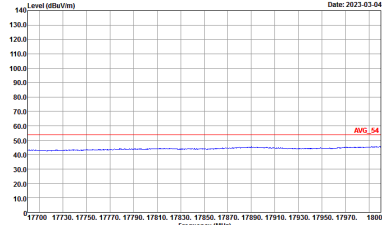
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
2	Vertical	Fundamental
Peak	<p>Site : 03CH15-HY Condition : PEAK_BE(B4)_16-24 3m 91200_02294_220623 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	<p>Site : 03CH15-HY Condition : PEAK(LINB) 3m 91200_02294_220623 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Peak	<p>Site : 03CH15-HY Condition : PEAK_BE(B4)_16-24 3m 91200_02294_220623 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	<p>Site : 03CH15-HY Condition : AVG_54 3m 91200_02294_220623 VERTICAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto</p>



**Band 4 - 5725~5850MHz**  
**WIFI 802.11ax HE40 Full (Harmonic @ 3m)**

<b>WIFI</b>	<b>Band 4 5725~5850MHz Harmonic @ 3m</b>	
<b>ANT</b>	<b>802.11ax HE40 Full CH151 5755MHz</b>	
<b>2</b>	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak Avg.</b>	<p>Site : 03CH15-HY          Condition : PEAK(UNII) 3m 91200_02294_220623 HORIZONTAL</p>	<p>Site : 03CH15-HY          Condition : PEAK(UNII) 3m 91200_02294_220623 VERTICAL</p>



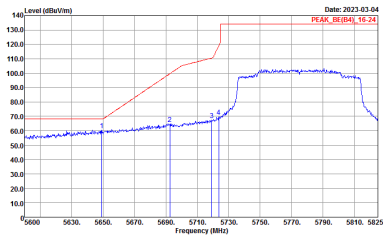
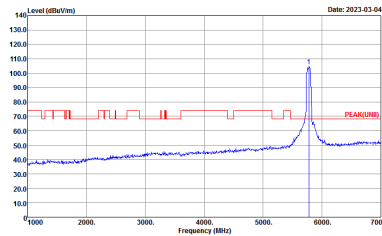
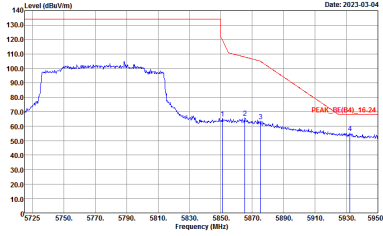
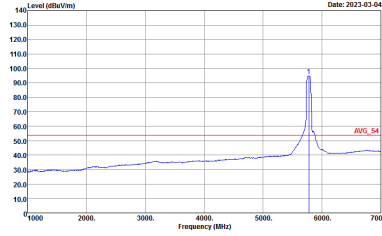
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
2	Horizontal	Vertical
<p>14.47G ~14.5G Avg.</p>	 <p>Site : 03CH15-HY Condition : AV6_54 3m 91200_02294_220623 HORIZONTAL</p>	 <p>Site : 03CH15-HY Condition : AV6_54 3m 91200_02294_220623 VERTICAL</p>
<p>17.7G ~18G Avg</p>	 <p>Site : 03CH15-HY Condition : AV6_54 3m 91200_02294_220623 HORIZONTAL</p>	 <p>Site : 03CH15-HY Condition : AV6_54 3m 91200_02294_220623 VERTICAL</p>



**Band 4 - 5725~5850MHz**  
**WIFI 802.11ax HE80 Full (Band Edge @ 3m)**

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Full CH155 5775MHz	
1+2	Horizontal	Fundamental
Peak	<p>Site : 03CH15-HY            Condition : PEAK_BE(B4)_16-24 3m 91200_02294_220623 HORIZONTAL            : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH15-HY            Condition : PEAK(LINB) 3m 91200_02294_220623 HORIZONTAL            : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	<p>Site : 03CH15-HY            Condition : PEAK_BE(B4)_16-24 3m 91200_02294_220623 HORIZONTAL            : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH15-HY            Condition : AVG_54 3m 91200_02294_220623 HORIZONTAL            : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ax HE80 Full CH155 5775MHz	
1+2	Vertical	Fundamental
Peak	 <p>Date: 2023-03-04 PEAK_BE(B4)_16-24</p> <p>Site : 03CH15-HY Condition : PEAK_BE(B4)_16-24 3m 91200_02294_220623 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Date: 2023-03-04 PEAK(LINE)</p> <p>Site : 03CH15-HY Condition : PEAK(LINE) 3m 91200_02294_220623 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	 <p>Date: 2023-03-04 PEAK_BE(B4)_16-24</p> <p>Site : 03CH15-HY Condition : PEAK_BE(B4)_16-24 3m 91200_02294_220623 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Date: 2023-03-04 AVG_54</p> <p>Site : 03CH15-HY Condition : AVG_54 3m 91200_02294_220623 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>

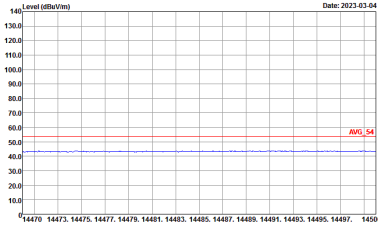
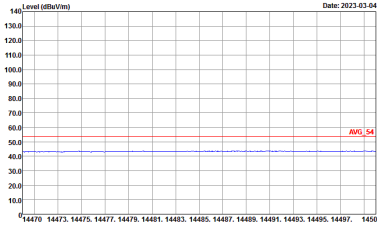
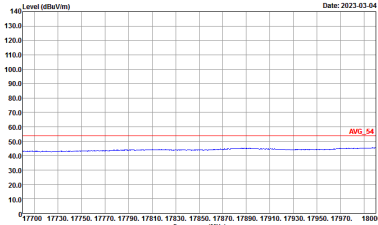
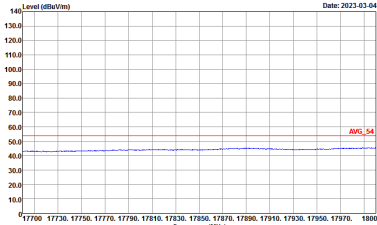


**Band 4 - 5725~5850MHz**  
**WIFI 802.11ax HE80 Full (Harmonic @ 3m)**

<b>WIFI</b>	<b>Band 4 5725~5850MHz Harmonic @ 3m</b>	
<b>ANT</b>	<b>802.11ax HE80 Full CH155 5775MHz</b>	
<b>1+2</b>	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak Avg.</b>	<p>Site : 03CH15-HY          Condition : PEAK(UNII) 3m 91200_02294_220623 HORIZONTAL</p>	<p>Site : 03CH15-HY          Condition : PEAK(UNII) 3m 91200_02294_220623 VERTICAL</p>





WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ax HE40 Full CH151 5755MHz	
2	Horizontal	Vertical
<p>14.47G ~14.5G Avg.</p>	 <p>Site : 03CH15-HY Condition : AV6_54 3m 91200_02294_220623 HORIZONTAL</p>	 <p>Site : 03CH15-HY Condition : AV6_54 3m 91200_02294_220623 VERTICAL</p>
<p>17.7G ~18G Avg</p>	 <p>Site : 03CH15-HY Condition : AV6_54 3m 91200_02294_220623 HORIZONTAL</p>	 <p>Site : 03CH15-HY Condition : AV6_54 3m 91200_02294_220623 VERTICAL</p>

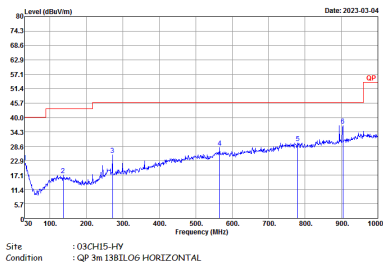
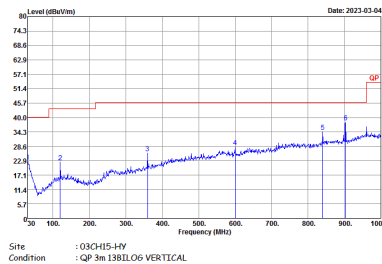


**Emission above 18GHz  
5GHz WIFI 802.11ax HE80 Full (SHF)**

WIFI	5GHz WIFI	
ANT	802.11ax HE80 Full SHF	
1+2	Horizontal	Vertical
QP / Peak	<p>Site : 03CH15-HY Condition : PEAK(UNII) 1m SHF_00991_220514 HORIZONTAL</p>	<p>Site : 03CH15-HY Condition : PEAK(UNII) 1m SHF_00991_220514 VERTICAL</p>



Emission below 1GHz  
5GHz WIFI 802.11ax HE80 Full (LF)

WIFI	5GHz WIFI	
ANT	802.11ax HE80 Full LF	
1+2	Horizontal	Vertical
QP / Peak	 <p>Site : 03CH15-HY Condition : QP 3m 138IL06 HORIZONTAL</p>	 <p>Site : 03CH15-HY Condition : QP 3m 138IL06 VERTICAL</p>

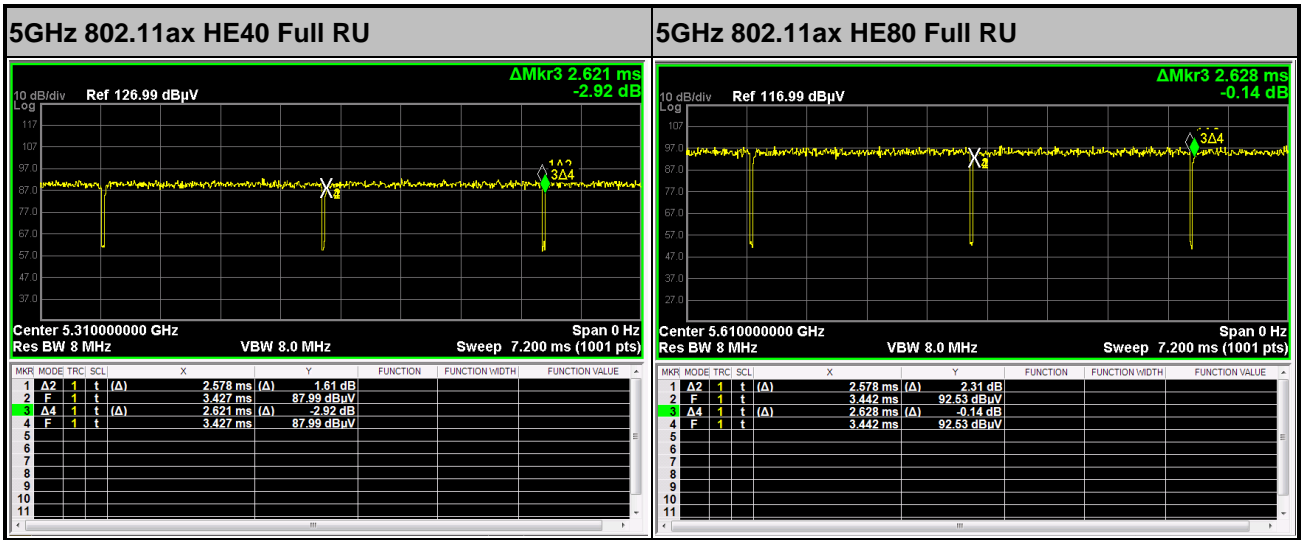


## Appendix D. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
2	5GHz 802.11ax HE40 Full RU	98.36	-	-	10Hz
1+2	5GHz 802.11ax HE80 Full RU	98.10	-	-	10Hz

<Ant. 2>

MIMO <Ant. 1+2>



## Appendix E. Setup Photographs

### <Radiated Emission>

X Plane

LF



HF



SHF



————THE END————