

# CLASS II PERMISSIVE CHANGE

## RADIO TEST REPORT

### FCC 47 CFR PART 15 SUBPART E

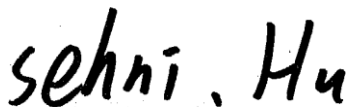
Test Standard	FCC Part 15.407
Product name	7.8" Digital Note Pad; 7.8" Color Digital Note Pad; 7.8" Digital Reader; 7.8" Color Digital Reader
Brand Name	MobiScribe
Model No.	E70P24
Test Result	Pass
Statements of Conformity	Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

The test Result was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were given in ANSI C63.10: 2013 and compliance standards.

The test results of this report relate only to the tested sample (EUT) identified in this report.

The test Report of full or partial shall not copy. Without written approval of Compliance Certification Services Inc. (Wugu Laboratory)

Approved by:



Sehni Hu  
Supervisor

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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**Revision History**

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	November 23, 2023	Initial Issue	ALL	Peggy Tsai

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# 1. GENERAL INFORMATION

## 1.1 EUT INFORMATION

<b>Applicant</b>	NETRONIX, INC. No. 945, Boai St., Jubei City, Hsin-Chu, 30265, Taiwan													
<b>Manufacturer</b>	NETRONIX, INC. No. 945, Boai St., Jubei City, Hsin-Chu, 30265, Taiwan													
<b>Equipment</b>	7.8" Digital Note Pad; 7.8" Color Digital Note Pad; 7.8" Digital Reader; 7.8" Color Digital Reader													
<b>Model Name</b>	E70P24													
<b>Product Discrepancy</b>	Please see remark as below.													
<b>Brand Name</b>	MobiScribe													
<b>Received Date</b>	October 13, 2023													
<b>Date of Test</b>	October 26, 2023													
<b>Power Supply</b>	1. Power from Host System. (DC 5V) 2. Power from Battery. Brand / Model: EVE Energy Co., LTD. / EVE2275A7GH Rating: 3.85VDC, 9.63Wh													
<b>Class II Permissive Change</b>	The major change filed under this application is: Product Name: 7.8" Color Digital Note Pad. Adding EPD Panel with two different configurations as follows: 1. Configured with the new Digitizer on the newly modified PCBA. 2. Configured with the old Digitizer and the old PCBA.													
		<table border="1"> <thead> <tr> <th></th> <th>Update Model</th> <th>Original Model</th> </tr> </thead> <tbody> <tr> <td>Panel (CFA)</td> <td>EC078KH7</td> <td>EC078KH5</td> </tr> <tr> <td>Wacom Digitizer</td> <td>SUEE-07S01MI-02X</td> <td>SUDE-07S01MI-01A</td> </tr> <tr> <td>PCBA</td> <td>B3</td> <td>B2</td> </tr> </tbody> </table>		Update Model	Original Model	Panel (CFA)	EC078KH7	EC078KH5	Wacom Digitizer	SUEE-07S01MI-02X	SUDE-07S01MI-01A	PCBA	B3	B2
		Update Model	Original Model											
	Panel (CFA)	EC078KH7	EC078KH5											
	Wacom Digitizer	SUEE-07S01MI-02X	SUDE-07S01MI-01A											
PCBA	B3	B2												

**Remark:**

1. For more details, please refer to the User's manual of the EUT.
2. Disclaimer: Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.
3. Disclaimer: Variant information between/among model numbers / trademarks is provided by the applicant, test results of this report are applicable to the sample EUT received of main test model name.
4. Model Discrepancy:

Product Name	7.8" Digital Note Pad	7.8" Color Digital Note Pad	7.8" Digital Reader	7.8" Color Digital Reader
Model Name	E70P24			
Button	N/A	N/A	Yes	Yes
Touch Pen	Yes	Yes	N/A	N/A
Panel display	Black and White	Color	Black and White	Color
Appearance				

## 1.2 EUT CHANNEL INFORMATION

Frequency Range	<b>UNII-1</b>	
	IEEE 802.11a	5180 ~ 5240 MHz
	IEEE 802.11n HT20	5180 ~ 5240 MHz
	IEEE 802.11n HT40	5190 ~ 5230 MHz
	IEEE 802.11ac VHT20	5180 ~ 5240 MHz
	IEEE 802.11ac VHT40	5190 ~ 5230 MHz
	IEEE 802.11ac VHT80	5210 MHz
Modulation Type	<ol style="list-style-type: none"> <li>1. IEEE 802.11a mode: OFDM</li> <li>2. IEEE 802.11n HT20 mode: OFDM</li> <li>3. IEEE 802.11n HT40 mode: OFDM</li> <li>4. IEEE 802.11ac VHT20 mode: OFDM</li> <li>5. IEEE 802.11ac VHT40 mode: OFDM</li> <li>6. IEEE 802.11ac VHT80 mode: OFDM</li> </ol>	

**Remark:**

1. Refer as ANSI C63.10: 2013 clause 5.6.1 Table 4 for test channels.

Number of frequencies to be tested		
Frequency range in which device operates	Number of frequencies	Location in frequency range of operation
<input type="checkbox"/> 1 MHz or less	1	Middle
<input type="checkbox"/> 1 MHz to 10 MHz	2	1 near top and 1 near bottom
<input checked="" type="checkbox"/> More than 10 MHz	3	1 near top, 1 near middle, and 1 near bottom

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### 1.3 ANTENNA INFORMATION

<b>Antenna Specification</b>	<input type="checkbox"/> PIFA <input checked="" type="checkbox"/> PCB <input type="checkbox"/> Dipole <input type="checkbox"/> Coils
<b>Antenna Gain</b>	Gain: 5.72 dBi
<b>Brand / Model</b>	INPAQ Technology Co., Ltd. / RFPCA310710EMLB301

**Notes:**

1.The antenna(s) of the EUT are permanently attached and there are no provisions for connection to an external antenna. So the EUT complies with the requirements of §15.203.

### 1.4 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	± 2.213 dB
Radiated Emission_9kHz-30MHz	± 3.761 dB
Radiated Emission_30MHz-200MHz	± 3.473 dB
Radiated Emission_200MHz-1GHz	± 3.946 dB

**Remark:**

- 1.This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2
2. ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report.

## 1.5 FACILITIES AND TEST LOCATION

All measurement facilities used to collect the measurement data are located at

No.11, Wugong 6th Rd., Wugu Dist., New Taipei City, Taiwan.

No. 12, Ln. 116, Wugong 3rd Rd., Wugu Dist., New Taipei City, Taiwan.

CAB identifier: TW1309

Test site	Test Engineer	Remark
AC Conduction Room	Tony Chao	-
Radiation	Tony Chao	-

**Remark:** 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. :444940, the FCC Designation No.:TW1309

## 1.6 INSTRUMENT CALIBRATION

966A Radiated 30M~1G					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Bi-Log Antenna	Sunol Sciences	JB3	A030105	2023-08-08	2024-08-07
Signal Analyzer	KEYSIGHT	N9010A	MY54200716	2023-10-13	2024-10-12
Thermo-Hygro Meter	WISEWIND	1206	D07	2022-12-19	2023-12-18
Preamplifier	EMEC	EM330	060609	2023-02-22	2024-02-21
Cable	Huber+Suhner	104PEA	20995+21000+ 182330	2023-02-22	2024-02-21
Turn Table	CCS	CC-T-1F	N/A	N.C.R	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R	N.C.R
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R	N.C.R
<b>Software</b>	e3 V9-210616c				

RF_Conduction(RF)					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
EMI Test Receiver	R&S	ESCI	100064	2023-06-07	2024-06-06
LISN	TESEQ	LN2-16N	22012	2023-03-08	2024-03-07
Cable	EMCI	CFD300-NL	CERF	2023-06-27	2024-06-26
<b>Software</b>	EZ-EMC(CCS-3A1-CE-WUKU)				

**Remark:**

1. Each piece of equipment is scheduled for calibration once a year.
2. N.C.R. = No Calibration Required.



## 1.7 SUPPORT AND EUT ACCESSORIES EQUIPMENT

EUT Accessories Equipment						
No.	Equipment	Brand	Model	Series No.	FCC ID	IC
	N/A					

Support Equipment						
No.	Equipment	Brand	Model	Series No.	FCC ID	IC
1	NB	Lenovo	IBM 7663	N/A	N/A	N/A
2	NB(D)	Lenovo	ThinkPad X260	N/A	N/A	N/A

## 1.8 TEST METHODOLOGY AND APPLIED STANDARDS

The test methodology, setups and results comply with all requirements in accordance with ANSI C63.10:2013, FCC Part 2, FCC Part 15.407, KDB 789033 D02.

## 2. TEST SUMMARY

FCC Standard Sec.	Chapter	Test Item	Result
15.203	1.3	Antenna Requirement	Pass
15.207	4.1	AC Conducted Emission	Pass
15.407(b) 15.209 15.205	4.2	Radiation Spurious Emission	Pass

**Note:**

Per check with the RF output power, the RF parameters are same with the certified device. So the changes are not affect the test result of RF conducted tests. Therefore, the AC Line conducted test, Radiation Below 1GHz test were performed. other test items please refer to the original FCC ID report.

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### 3. DESCRIPTION OF TEST MODES

#### 3.1 THE EUT CHANNEL NUMBER OF OPERATING CONDITION

<p>Operation mode</p>	<ol style="list-style-type: none"> <li>1. IEEE 802.11a mode: 6Mbps</li> <li>2. IEEE 802.11n HT20 mode: MCS0</li> <li>3. IEEE 802.11n HT40 mode: MCS0</li> <li>4. IEEE 802.11ac VHT20 mode: MCS0</li> <li>5. IEEE 802.11ac VHT40 mode: MCS0</li> <li>6. IEEE 802.11ac VHT80 mode: MCS0</li> </ol>																
<p>Operating Frequency</p>	<table border="1"> <thead> <tr> <th></th> <th>Mode</th> <th>Frequency Range (MHz)</th> </tr> </thead> <tbody> <tr> <td rowspan="6">U-NII-1</td> <td>IEEE 802.11a</td> <td>5180, 5220, 5240</td> </tr> <tr> <td>IEEE 802.11n HT20</td> <td>5180, 5220, 5240</td> </tr> <tr> <td>IEEE 802.11n HT40</td> <td>5190, 5230</td> </tr> <tr> <td>IEEE 802.11ac VHT20</td> <td>5180, 5220, 5240</td> </tr> <tr> <td>IEEE 802.11ac VHT40</td> <td>5190, 5230</td> </tr> <tr> <td>IEEE 802.11ac VHT80</td> <td>5210</td> </tr> </tbody> </table>		Mode	Frequency Range (MHz)	U-NII-1	IEEE 802.11a	5180, 5220, 5240	IEEE 802.11n HT20	5180, 5220, 5240	IEEE 802.11n HT40	5190, 5230	IEEE 802.11ac VHT20	5180, 5220, 5240	IEEE 802.11ac VHT40	5190, 5230	IEEE 802.11ac VHT80	5210
	Mode	Frequency Range (MHz)															
U-NII-1	IEEE 802.11a	5180, 5220, 5240															
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	IEEE 802.11ac VHT20	5180, 5220, 5240															
	IEEE 802.11ac VHT40	5190, 5230															
	IEEE 802.11ac VHT80	5210															

**Remark:**

1. EUT pre-scanned data rate of output power for each mode, the worst data rate were recorded in this report.
2. The system support 802.11a/n ht20/n ht40/ac vht20/40/80, the vht20/vht40 were reduced since the identical parameters with 802.11n ht20 and ht40.
3. The worst-case data rates are determined to be as follows for each mode based upon investigations by evaluation judgment the average power and PSD across all date rates, bandwidths, and modulations.

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### 3.2 THE WORST MODE OF MEASUREMENT

AC Power Line Conducted Emission	
Test Condition	AC Power line conducted emission for line and neutral
Power supply Mode	Mode 1: EUT power by Host System(New PCB) Mode 2: EUT power by Host System(Old PCB)
Worst Mode	<input checked="" type="checkbox"/> Mode 1 <input checked="" type="checkbox"/> Mode 2 <input type="checkbox"/> Mode 3 <input type="checkbox"/> Mode 4

Radiated Emission Measurement Below 1G	
Test Condition	Radiated Emission Below 1G
Power supply Mode	Mode 1: EUT power by Host System(New PCB) Mode 2: EUT power by Host System(Old PCB)
Worst Mode	<input checked="" type="checkbox"/> Mode 1 <input checked="" type="checkbox"/> Mode 2 <input type="checkbox"/> Mode 3 <input type="checkbox"/> Mode 4

**Remark:**

1. The worst mode was record in this test report.
2. AC power line conducted emission and for below 1G radiation emission were performed the EUT transmit at the highest output power channel as worse case.
3. EUT pre-scanned in three axis ,X,Y, Z and two polarity, for radiated measurement. The worst case(X-Plane) were recorded in this report

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## 4. TEST RESULT

### 4.1 AC POWER LINE CONDUCTED EMISSION

#### 4.1.1 Test Limit

According to §15.207(a),

Frequency Range (MHz)	Limits(dBµV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

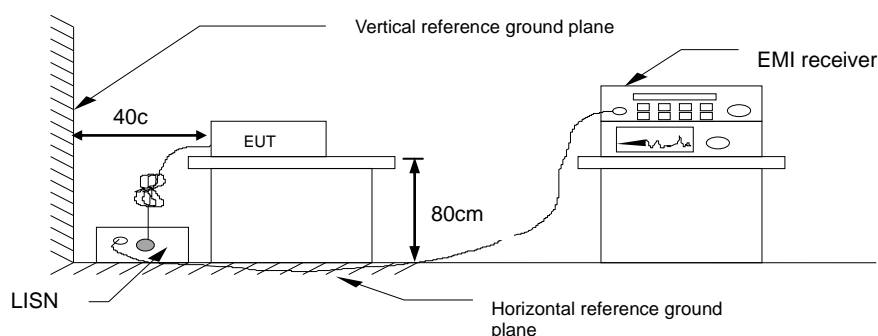
\* Decreases with the logarithm of the frequency.

#### 4.1.2 Test Procedure

Test method Refer as ANSI C63.10: 2013 clause 6.2,

1. The EUT was placed on a non-conducted table, which is 0.8m above horizontal ground plane and 0.4m above vertical ground plane.
2. EUT connected to the line impedance stabilization network (LISN)
3. Receiver set RBW of 9kHz and Detector Peak, and note as quasi-Peak and Average.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. Recorded Line for Neutral and Line.

#### 4.1.3 Test Setup

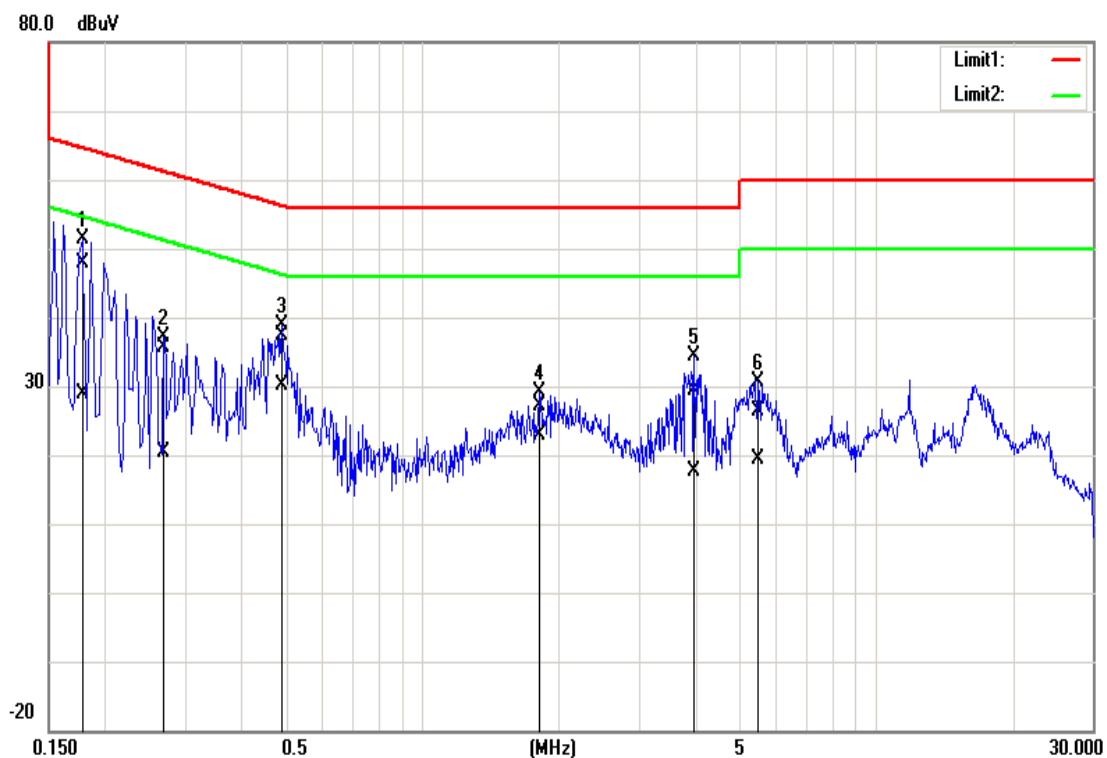


#### 4.1.4 Test Result

**Pass.**

## Test Data

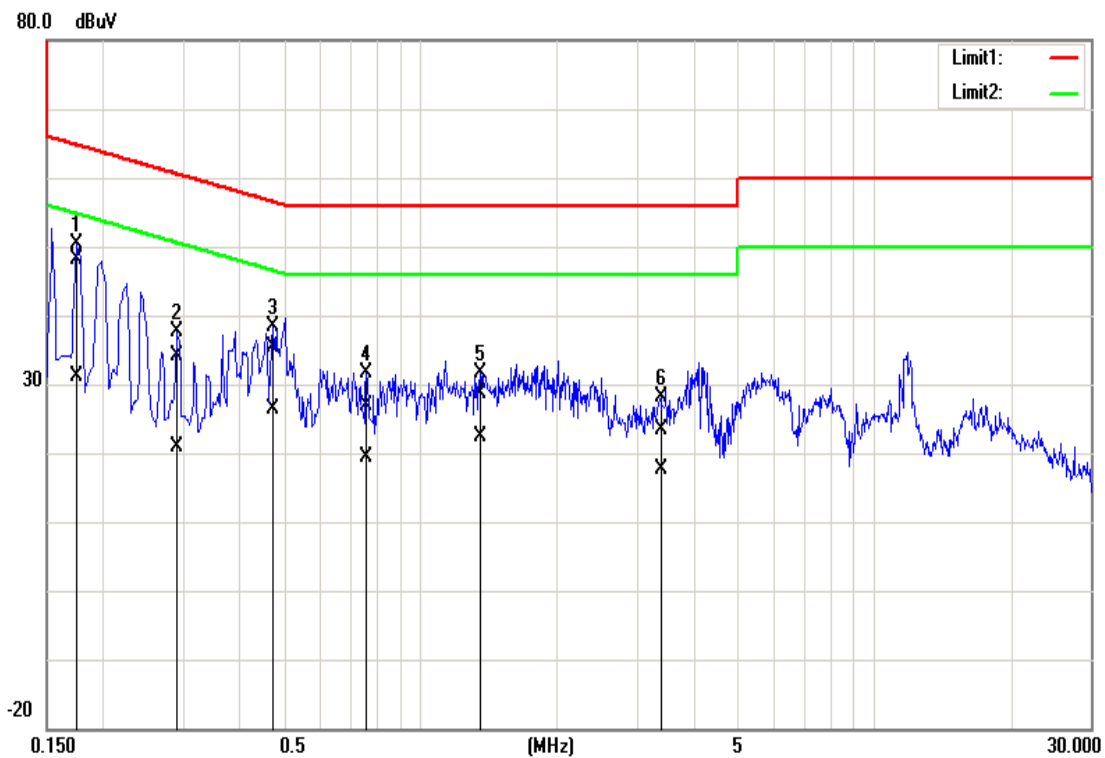
Test Mode:	Mode 1	Temp/Hum	24.3(°C)/ 52%RH
Phase:	Line	Test Date	October 26, 2023
Test Voltage:	120Vac, 60Hz	Test Engineer	Tony Chao



Frequency (MHz)	Quasi Peak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	Quasi Peak result (dBuV)	Average result (dBu)	Quasi Peak limit (dBuV)	Average limit (dBuV)	Quasi Peak margin (dB)	Average margin (dB)	Remark
0.1780	47.66	28.74	0.15	47.81	28.89	64.58	54.58	-16.77	-25.69	Pass
0.2700	35.53	20.19	0.15	35.68	20.34	61.12	51.12	-25.44	-30.78	Pass
0.4900	37.32	29.96	0.15	37.47	30.11	56.17	46.17	-18.70	-16.06	Pass
1.8180	27.01	22.78	0.21	27.22	22.99	56.00	46.00	-28.78	-23.01	Pass
3.9740	29.15	17.25	0.26	29.41	17.51	56.00	46.00	-26.59	-28.49	Pass
5.4820	26.08	19.16	0.29	26.37	19.45	60.00	50.00	-33.63	-30.55	Pass

Note: Correction factor = LISN loss + Cable loss.

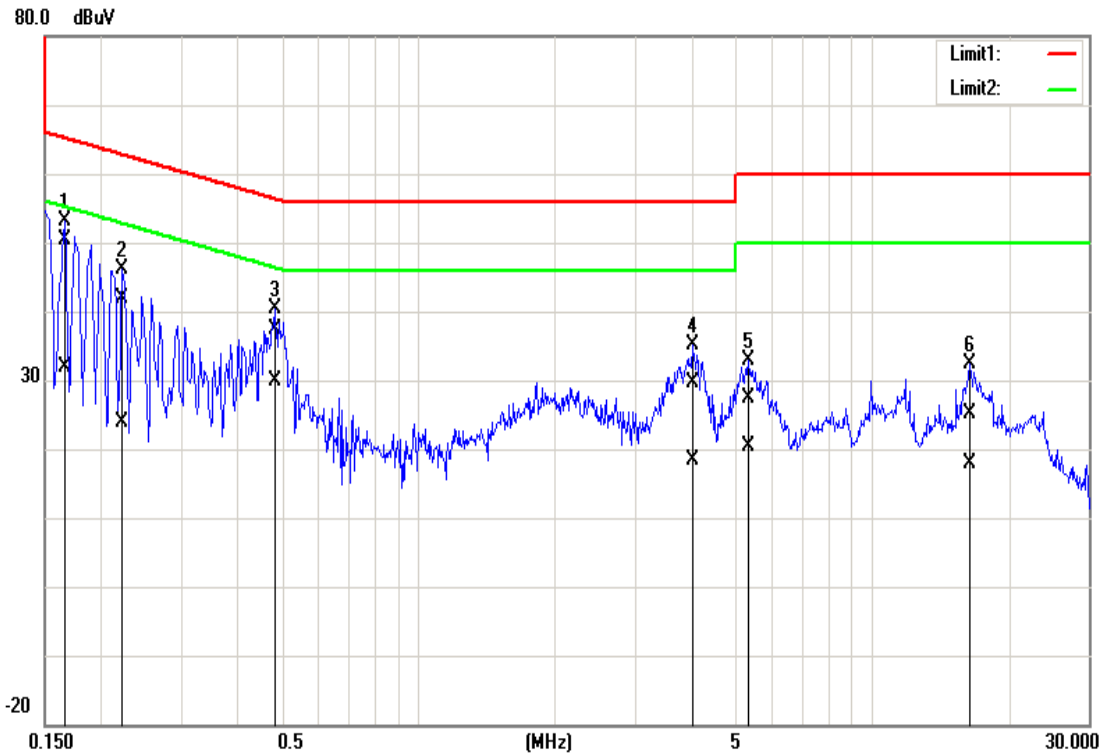
Test Mode:	Mode 1	Temp/Hum	24.3(°C)/ 52%RH
Phase:	Neutral	Test Date	October 26, 2023
Test Voltage:	120Vac, 60Hz	Test Engineer	Tony Chao



Frequency (MHz)	Quasi Peak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	Quasi Peak result (dBuV)	Average result (dBuV)	Quasi Peak limit (dBuV)	Average limit (dBuV)	Quasi Peak margin (dB)	Average margin (dB)	Remark
0.1740	48.00	30.97	0.19	48.19	31.16	64.77	54.77	-16.58	-23.61	Pass
0.2900	33.94	20.63	0.19	34.13	20.82	60.52	50.52	-26.39	-29.70	Pass
0.4740	35.19	26.27	0.19	35.38	26.46	56.44	46.44	-21.06	-19.98	Pass
0.7620	26.64	19.15	0.21	26.85	19.36	56.00	46.00	-29.15	-26.64	Pass
1.3540	28.49	22.08	0.22	28.71	22.30	56.00	46.00	-27.29	-23.70	Pass
3.3980	23.10	17.23	0.29	23.39	17.52	56.00	46.00	-32.61	-28.48	Pass

Note: Correction factor = LISN loss + Cable loss.

Test Mode:	Mode 2	Temp/Hum	24.3(°C)/ 52%RH
Phase:	Line	Test Date	October 26, 2023
Test Voltage:	120Vac, 60Hz	Test Engineer	Tony Chao

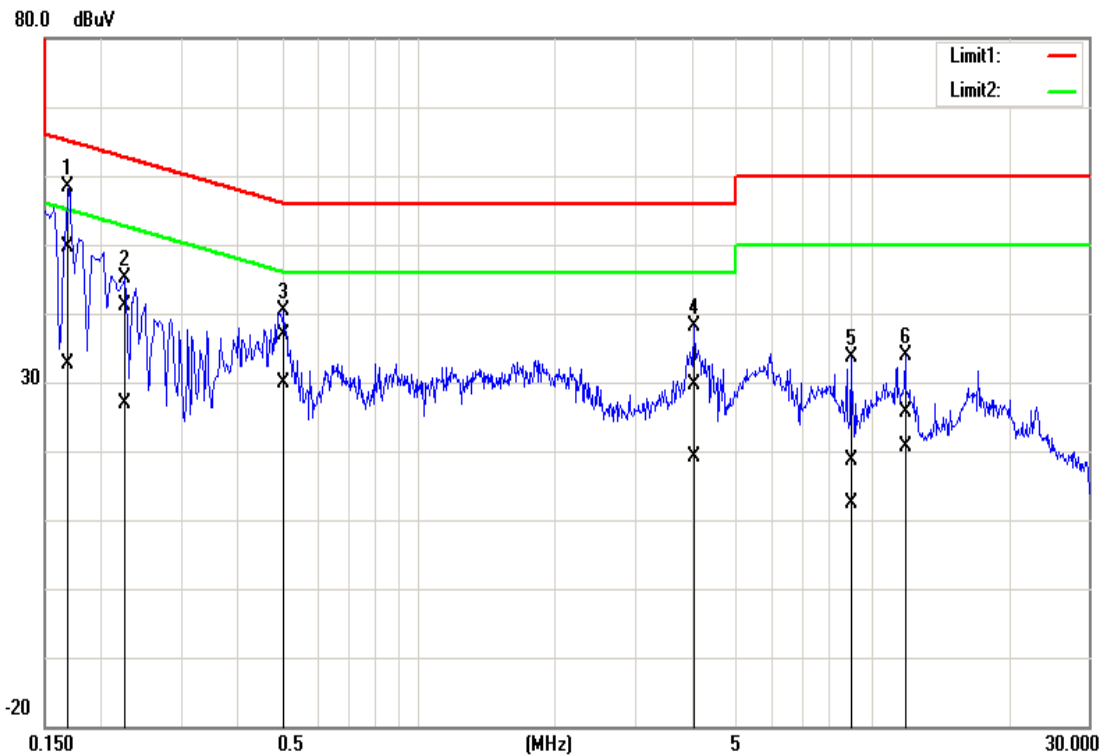


Frequency (MHz)	Quasi Peak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	Quasi Peak result (dBuV)	Average result (dBu)	Quasi Peak limit (dBuV)	Average limit (dBuV)	Quasi Peak margin (dB)	Average margin (dB)	Remark
0.1660	50.32	31.85	0.15	50.47	32.00	65.16	55.16	-14.69	-23.16	Pass
0.2220	41.81	23.80	0.15	41.96	23.95	62.74	52.74	-20.78	-28.79	Pass
0.4820	37.20	29.77	0.15	37.35	29.92	56.30	46.30	-18.95	-16.38	Pass
4.0100	29.48	18.06	0.26	29.74	18.32	56.00	46.00	-26.26	-27.68	Pass
5.3540	27.21	20.16	0.29	27.50	20.45	60.00	50.00	-32.50	-29.55	Pass
16.4220	24.64	17.50	0.45	25.09	17.95	60.00	50.00	-34.91	-32.05	Pass

Note: Correction factor = LISN loss + Cable loss.



Test Mode:	Mode 2	Temp/Hum	24.3(°C)/ 52%RH
Phase:	Neutral	Test Date	October 26, 2023
Test Voltage:	120Vac, 60Hz	Test Engineer	Tony Chao



Frequency (MHz)	Quasi Peak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	Quasi Peak result (dBuV)	Average result (dBuV)	Quasi Peak limit (dBuV)	Average limit (dBuV)	Quasi Peak margin (dB)	Average margin (dB)	Remark
0.1700	49.43	32.38	0.19	49.62	32.57	64.96	54.96	-15.34	-22.39	Pass
0.2260	40.89	26.78	0.19	41.08	26.97	62.60	52.60	-21.52	-25.63	Pass
0.5060	36.67	29.74	0.19	36.86	29.93	56.00	46.00	-19.14	-16.07	Pass
4.0500	29.25	18.88	0.31	29.56	19.19	56.00	46.00	-26.44	-26.81	Pass
9.0100	18.23	12.10	0.38	18.61	12.48	60.00	50.00	-41.39	-37.52	Pass
11.8140	25.29	20.25	0.41	25.70	20.66	60.00	50.00	-34.30	-29.34	Pass

Note: Correction factor = LISN loss + Cable loss.

## 4.2 RADIATION BANDEDGE AND SPURIOUS EMISSION

### 4.2.1 Test Limit

FCC according to §15.407, §15.209 and §15.205,

#### Below 30 MHz

Frequency	Field Strength (microvolts/m)	Magnetic H-Field (microamperes/m)	Measurement Distance (metres)
9-490 kHz	2,400/F (F in kHz)	2,400/F (F in kHz)	300
490-1,705 kHz	24,000/F (F in kHz)	24,000/F (F in kHz)	30
1.705-30 MHz	30	N/A	30

#### Above 30 MHz

Frequency (MHz)	Field Strength microvolts/m at 3 metres (watts, e.i.r.p.)	
	Transmitters	Receivers
30-88	100 (3 nW)	100 (3 nW)
88-216	150 (6.8 nW)	150 (6.8 nW)
216-960	200 (12 nW)	200 (12 nW)
Above 960	500 (75 nW)	500 (75 nW)

#### UNII-1 :

For transmitters operating in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. However, any unwanted emissions that fall into the band 5250-5350 MHz must be 26 dBc, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth, above 5.25 GHz. Otherwise, the transmission is considered as intentional and the devices shall implement dynamic frequency selection (DFS) and transmitter power control (TPC) as per the requirements for the band 5250-5350 MHz

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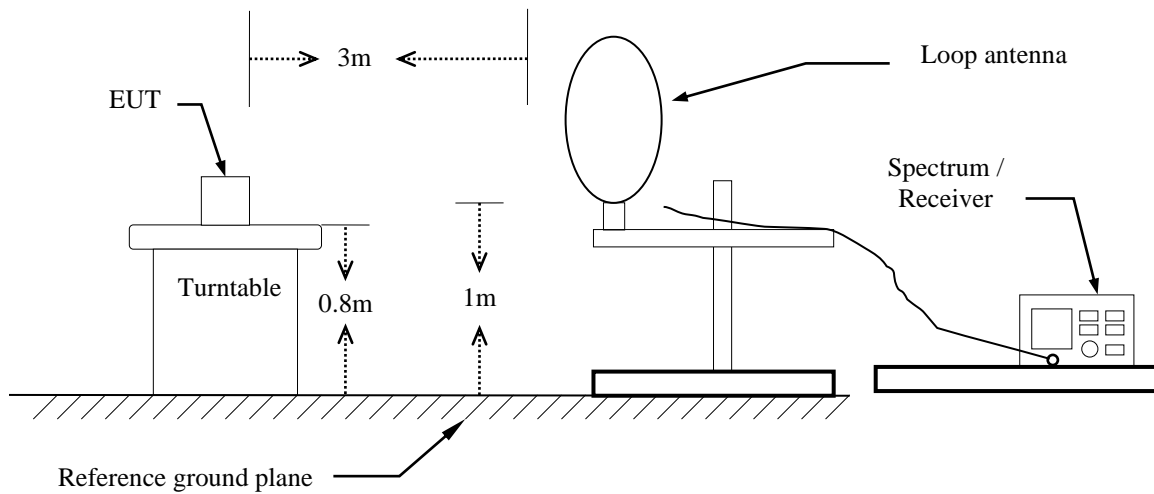
## 4.2.2 Test Procedure

Test method Refer as KDB 789033 D02.

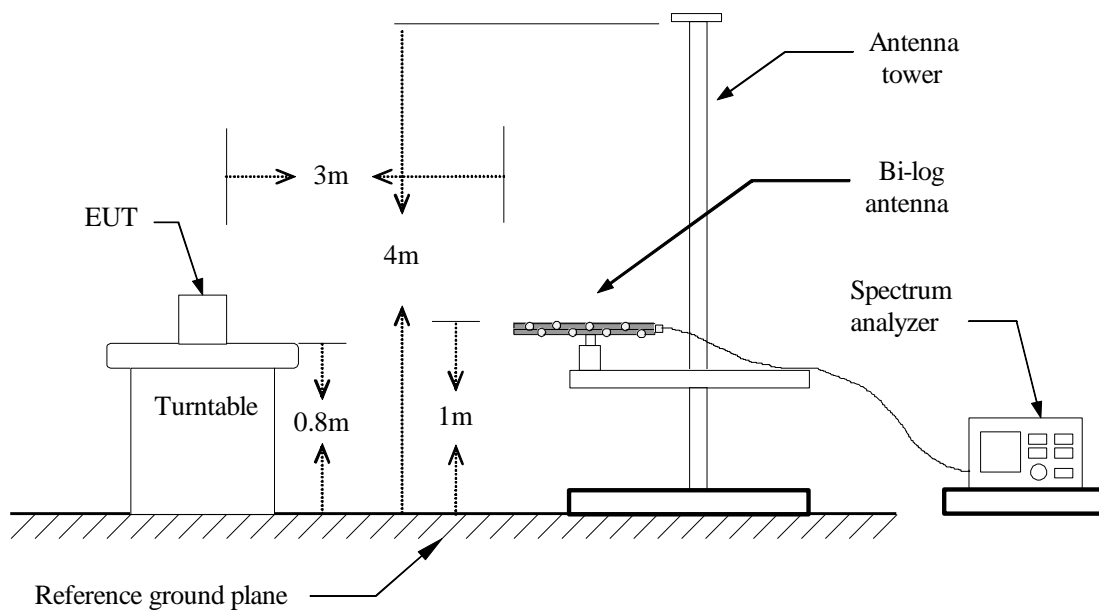
1. The EUT is placed on a turntable, below 1 GHz is 0.8m above ground plane. The EUT Configured un accordance with ANSI C63.10: 2013, and the EUT set in a continuous mode.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level. And EUT is set 3m away from the receiving antenna, which is scanned from 1m to 4m above the ground plane to find out the highest emissions. Measurement are made polarized in both the vertical and the horizontal positions with antenna.
3. Span shall wide enough to full capture the emission measured. The SA from 9kHz to 1GHz set to high power channels with the EUT transmit.
4. No emission found between lowest internal used/generated frequency to 30MHz (9KHz~30MHz)
5. The SA setting following :
  - Below 1G : RBW = 100kHz, VBW  $\geq$  3\*RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.
6. Data result
  - Actual FS=Spectrum Reading Level + Factor
  - Margin=Actual FS- Limit

## 4.2.3 Test Setup

### 9kHz ~ 30MHz



### 30MHz ~ 1GHz



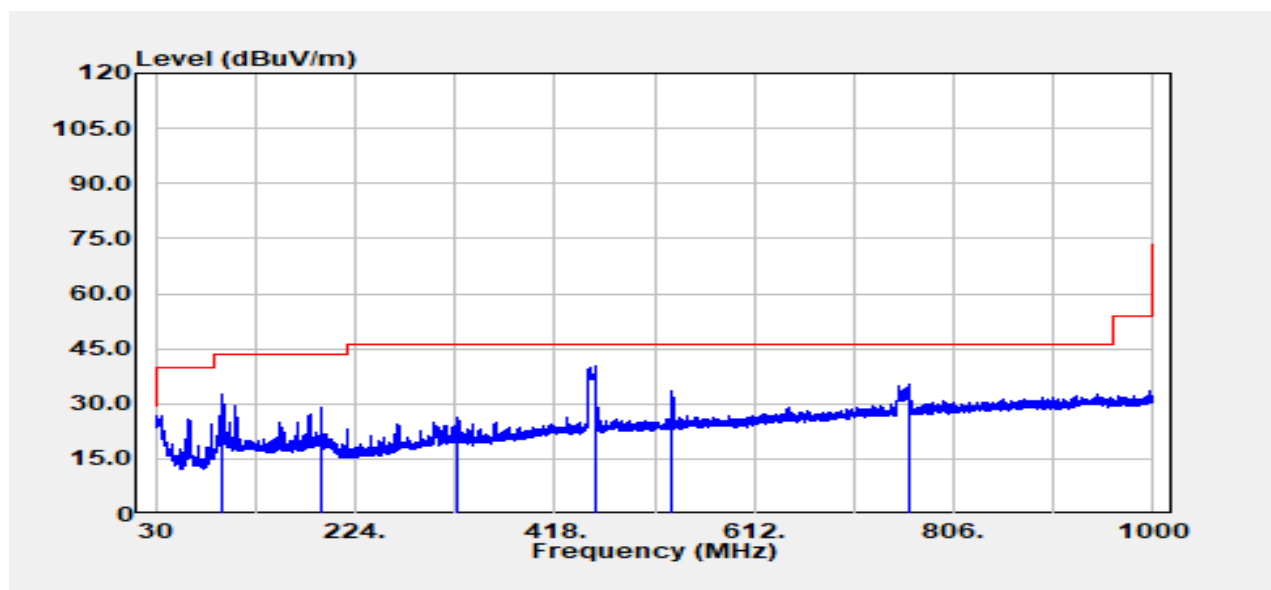
Report No.: TMWK2310003649KR

### 4.2.4 Test Result

#### Above 1G

#### Test Data for UNII-1

Test Mode	IEEE 802.11a / 5180 MHz	Temp/Hum	24.6(°C)/ 56%RH
Test Item	Harmonic	Test Date	October 26, 2023
Polarize	Vertical	Test Engineer	Tony Chao
Detector	Peak / Average	Test Mode	Mode 1

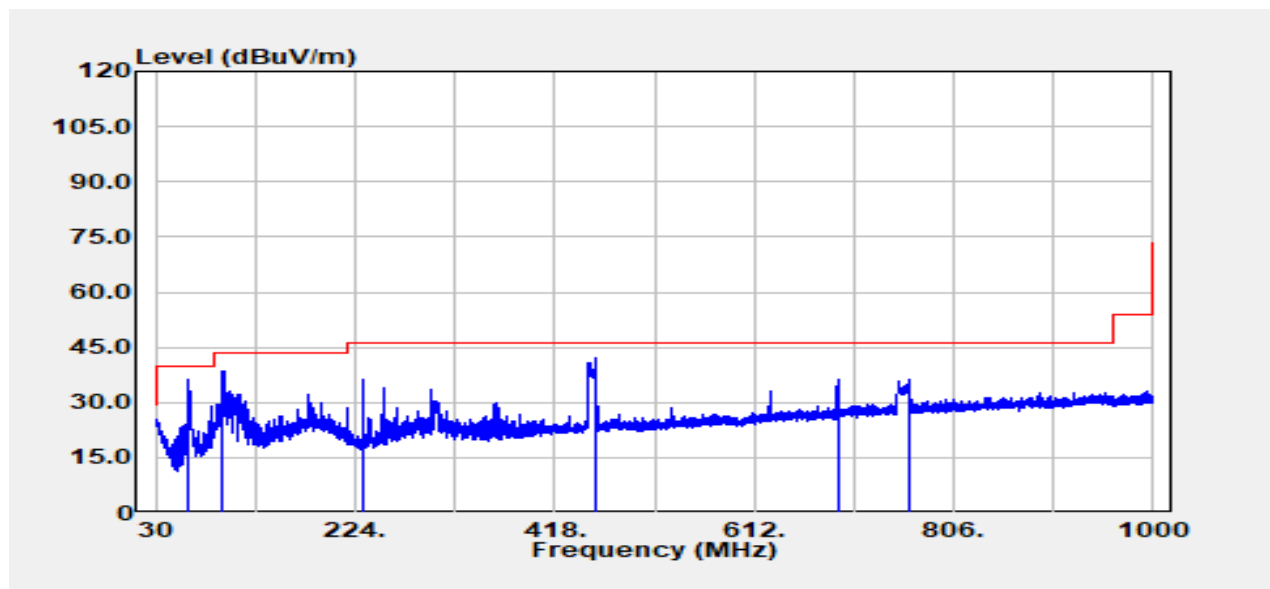


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
95.60	Peak	46.93	-14.13	32.80	43.50	-10.70
191.63	Peak	40.21	-11.32	28.89	43.50	-14.61
323.30	Peak	34.38	-8.16	26.23	46.00	-19.77
457.41	Peak	44.73	-4.30	40.43	46.00	-5.57
532.70	Peak	36.57	-3.13	33.45	46.00	-12.55
762.35	Peak	34.78	0.66	35.44	46.00	-10.56

#### Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11a / 5180 MHz	Temp/Hum	24.6(°C)/ 56%RH
Test Item	Harmonic	Test Date	October 26, 2023
Polarize	Horizontal	Test Engineer	Tony Chao
Detector	Peak / Average	Test Mode	Mode 1



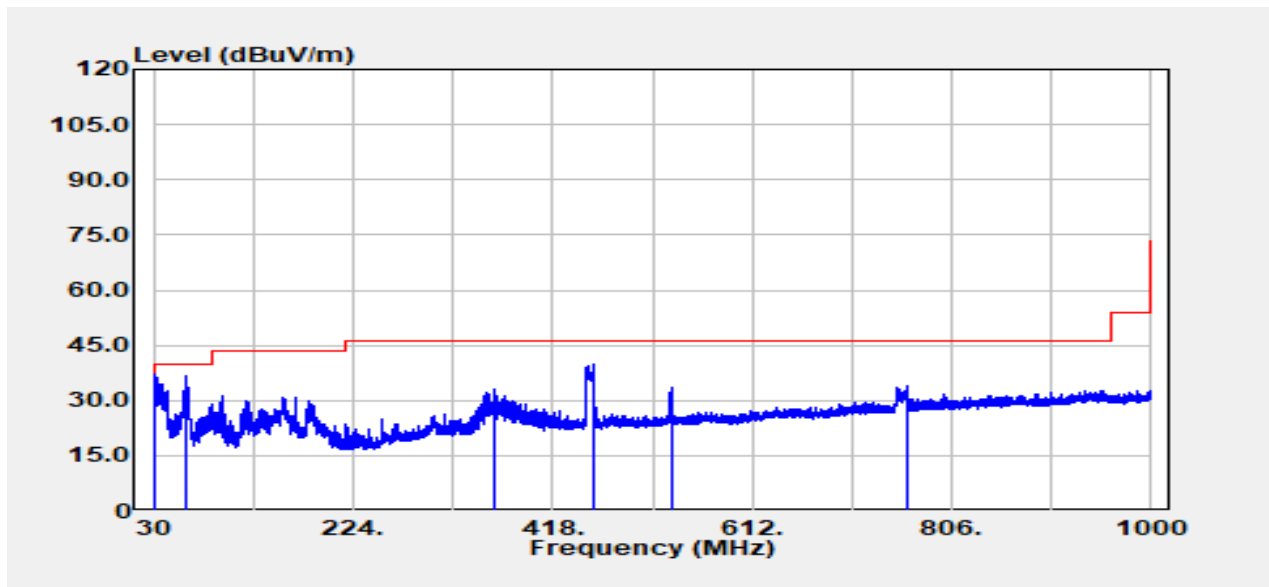
Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
62.50	Peak	51.96	-15.72	36.24	40.00	-3.76
95.72	Peak	52.58	-14.05	38.53	43.50	-4.97
231.03	Peak	47.62	-11.24	36.38	46.00	-9.62
457.41	Peak	46.56	-4.30	42.25	46.00	-3.75
693.00	Peak	36.88	-0.43	36.45	46.00	-9.55
761.99	Peak	35.73	0.66	36.38	46.00	-9.62

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Report No.: TMWK2310003649KR

Test Mode	IEEE 802.11n 20 / 5180 MHz	Temp/Hum	24.6(°C)/ 56%RH
Test Item	Harmonic	Test Date	October 26, 2023
Polarize	Vertical	Test Engineer	Tony Chao
Detector	Peak / Average	Test Mode	Mode 1



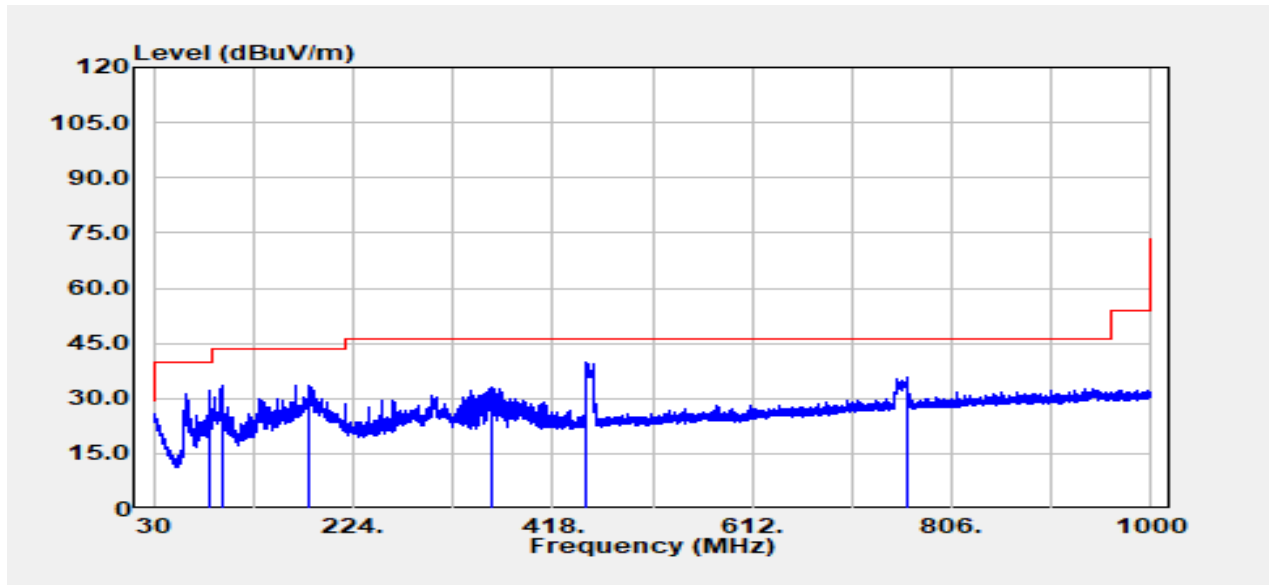
Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
31.58	Peak	40.39	-3.39	37.00	40.00	-3.00
62.01	Peak	52.43	-15.73	36.70	40.00	-3.30
360.29	Peak	40.15	-7.17	32.97	46.00	-13.03
457.41	Peak	43.95	-4.30	39.65	46.00	-6.35
533.31	Peak	36.60	-3.12	33.48	46.00	-12.52
762.59	Peak	33.23	0.65	33.89	46.00	-12.11

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Report No.: TMWK2310003649KR

Test Mode	IEEE 802.11n 20 / 5180 MHz	Temp/Hum	24.6(°C)/ 56%RH
Test Item	Harmonic	Test Date	October 26, 2023
Polarize	Horizontal	Test Engineer	Tony Chao
Detector	Peak / Average	Test Mode	Mode 1



Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
83.84	Peak	48.08	-15.79	32.29	40.00	-7.71
96.20	Peak	47.40	-13.83	33.57	43.50	-9.93
181.81	Peak	45.22	-11.67	33.56	43.50	-9.94
357.86	Peak	40.24	-7.24	33.00	46.00	-13.00
451.22	Peak	44.23	-4.54	39.69	46.00	-6.31
762.71	Peak	35.32	0.65	35.97	46.00	-10.03

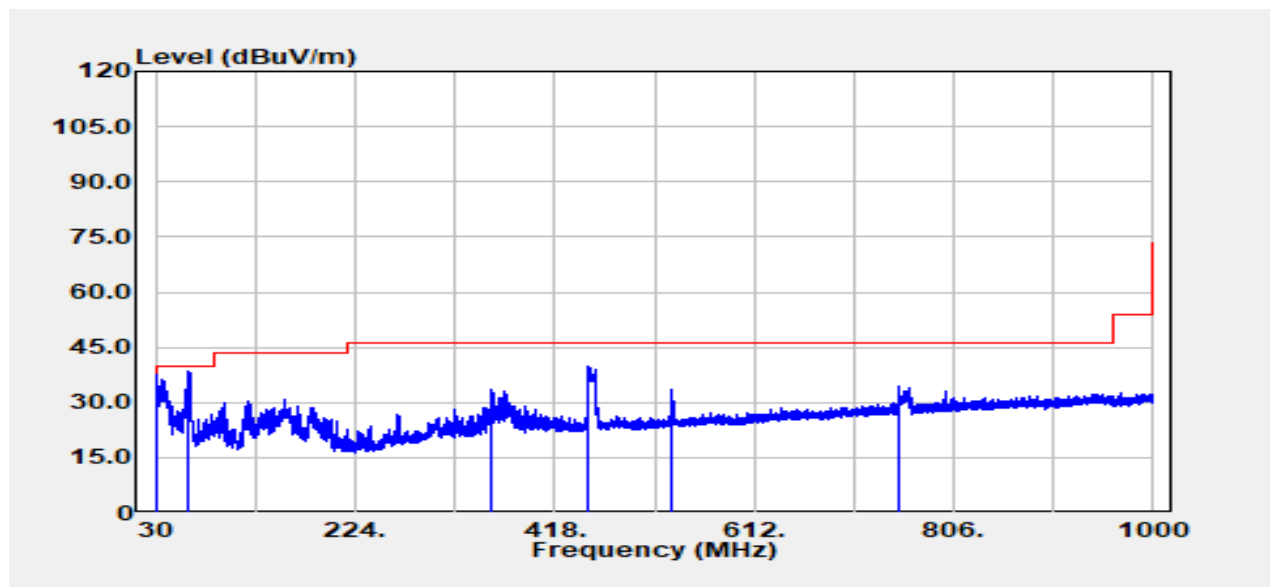
**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.



Report No.: TMWK2310003649KR

Test Mode	IEEE 802.11n 40 / 5190 MHz	Temp/Hum	24.6(°C)/ 56%RH
Test Item	Harmonic	Test Date	October 26, 2023
Polarize	Vertical	Test Engineer	Tony Chao
Detector	Peak / Average	Test Mode	Mode 1



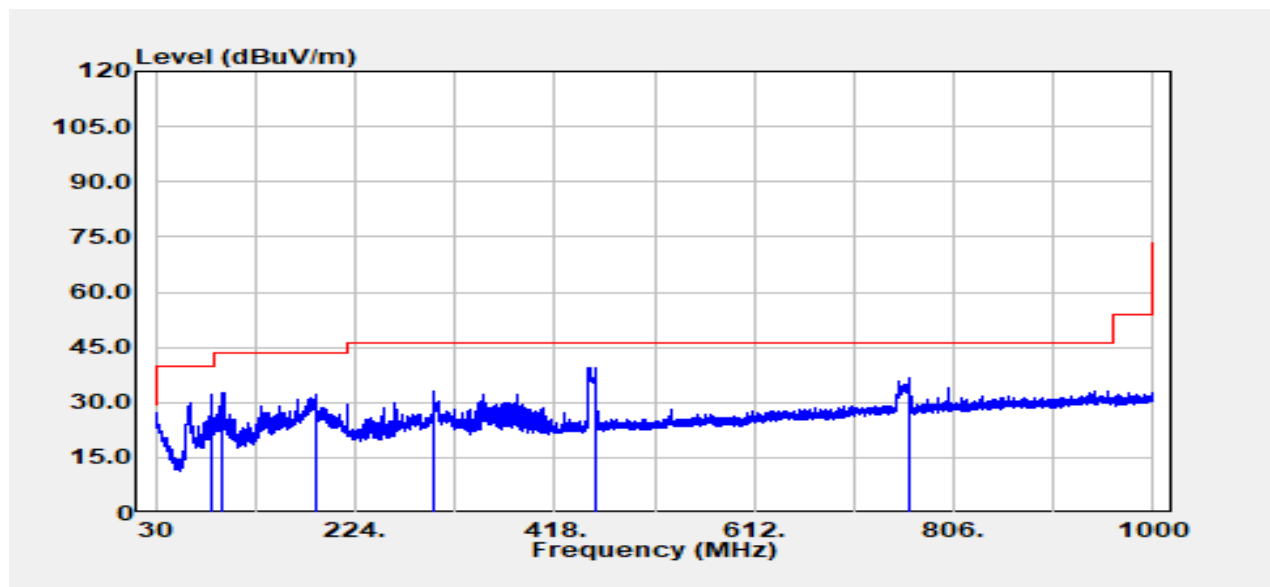
Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
31.46	Peak	40.75	-3.37	37.38	40.00	-2.62
61.65	Peak	54.47	-15.81	38.66	40.00	-1.34
355.92	Peak	40.61	-7.29	33.31	46.00	-12.69
451.22	Peak	44.30	-4.54	39.76	46.00	-6.24
532.58	Peak	36.47	-3.13	33.34	46.00	-12.66
752.41	Peak	34.00	0.46	34.46	46.00	-11.54

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Report No.: TMWK2310003649KR

Test Mode	IEEE 802.11n 40 / 5190 MHz	Temp/Hum	24.6(°C)/ 56%RH
Test Item	Harmonic	Test Date	October 26, 2023
Polarize	Horizontal	Test Engineer	Tony Chao
Detector	Peak / Average	Test Mode	Mode 1



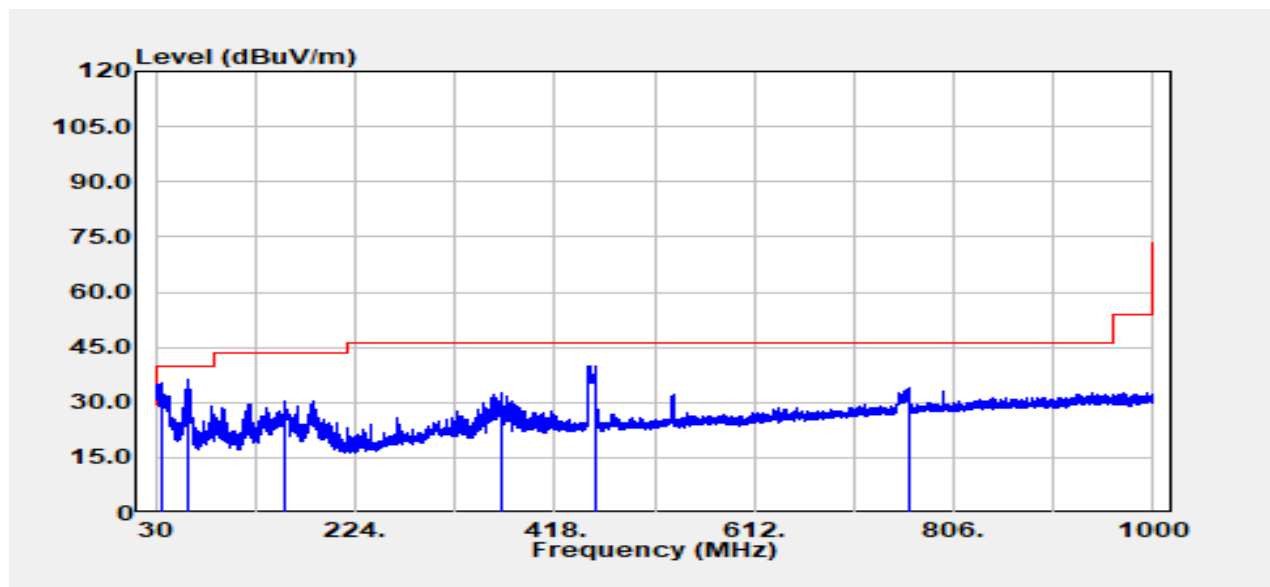
Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dB $\mu$ V)	Factor (dB)	Actual FS (dB $\mu$ V/m)	Limit @3m (dB $\mu$ V/m)	Margin (dB)
83.71	Peak	48.01	-15.77	32.24	40.00	-7.76
95.72	Peak	46.67	-14.05	32.62	43.50	-10.88
185.32	Peak	43.60	-11.65	31.95	43.50	-11.55
300.87	Peak	41.58	-8.65	32.93	46.00	-13.07
457.89	Peak	43.80	-4.29	39.51	46.00	-6.49
761.99	Peak	35.99	0.66	36.65	46.00	-9.35

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Report No.: TMWK2310003649KR

Test Mode	IEEE 802.11ac VHT80 / 5210 MHz	Temp/Hum	24.6(°C)/ 56%RH
Test Item	Harmonic	Test Date	October 26, 2023
Polarize	Vertical	Test Engineer	Tony Chao
Detector	Peak / Average	Test Mode	Mode 1



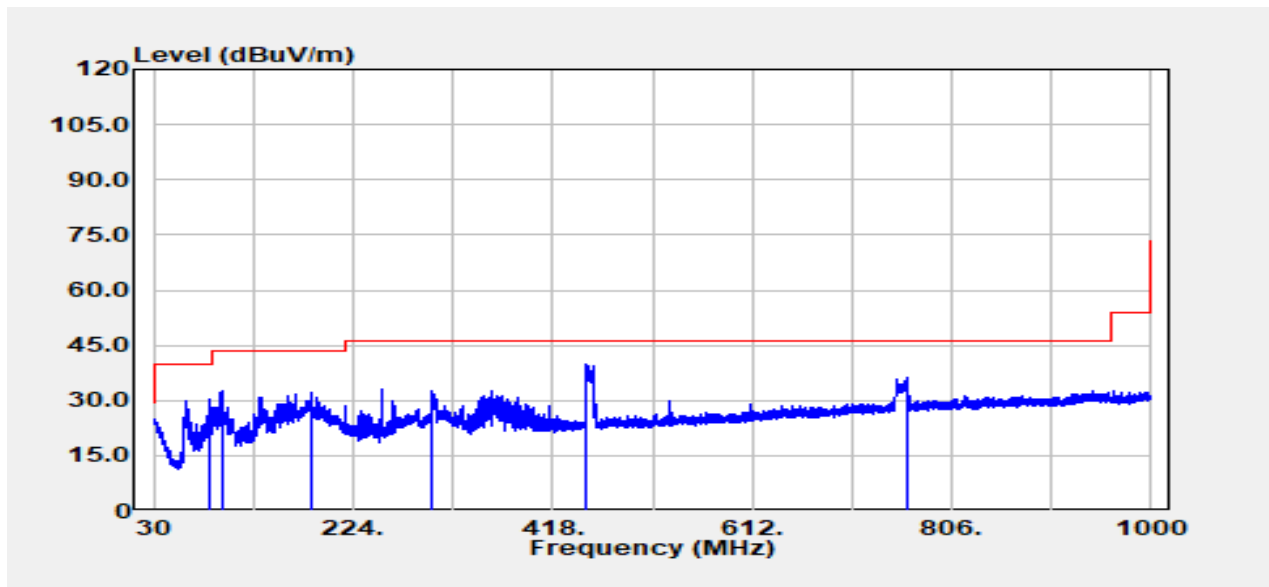
Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
36.79	Peak	42.36	-7.15	35.21	40.00	-4.79
61.53	Peak	51.92	-15.83	36.08	40.00	-3.92
155.49	Peak	40.93	-10.47	30.46	43.50	-13.04
366.83	Peak	39.45	-7.04	32.41	46.00	-13.59
457.77	Peak	44.35	-4.29	40.06	46.00	-5.94
761.74	Peak	33.30	0.66	33.96	46.00	-12.04

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Report No.: TMWK2310003649KR

Test Mode	IEEE 802.11ac VHT80 / 5210 MHz	Temp/Hum	24.6(°C)/ 56%RH
Test Item	Harmonic	Test Date	October 26, 2023
Polarize	Horizontal	Test Engineer	Tony Chao
Detector	Peak / Average	Test Mode	Mode 1

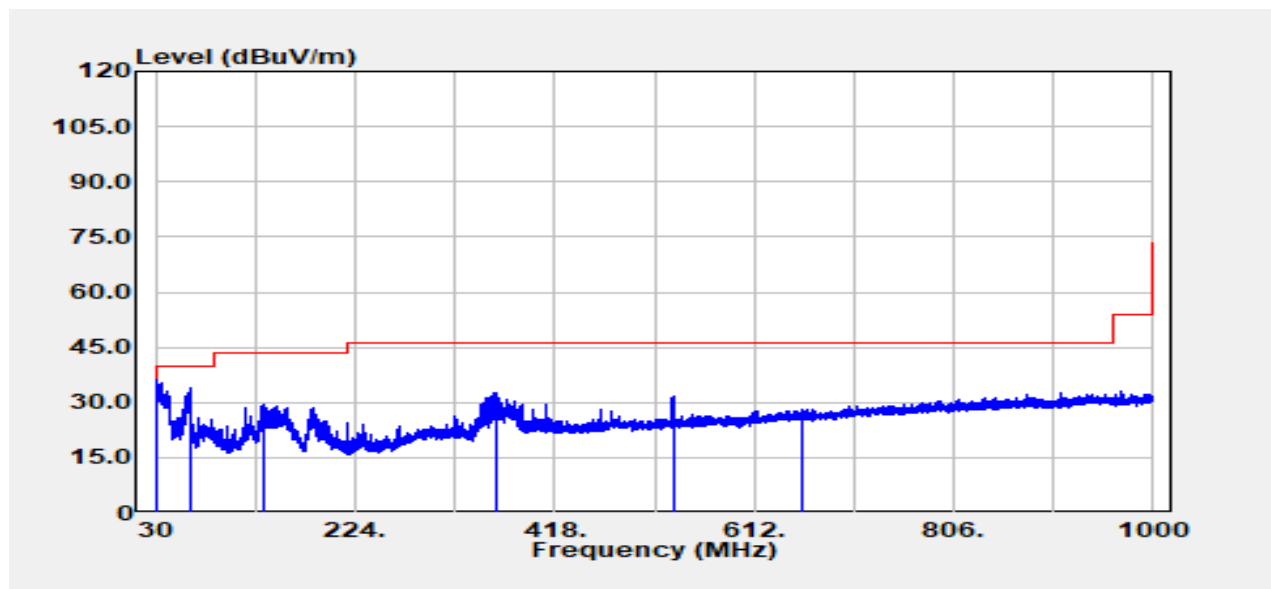


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
83.84	Peak	46.22	-15.79	30.43	40.00	-9.57
95.96	Peak	46.49	-13.90	32.59	43.50	-10.91
183.99	Peak	43.78	-11.63	32.15	43.50	-11.35
301.12	Peak	41.45	-8.64	32.82	46.00	-13.18
451.10	Peak	44.37	-4.54	39.83	46.00	-6.17
763.20	Peak	35.74	0.65	36.39	46.00	-9.61

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11a / 5180 MHz	Temp/Hum	24.6(°C)/ 56%RH
Test Item	Harmonic	Test Date	October 26, 2023
Polarize	Vertical	Test Engineer	Tony Chao
Detector	Peak / Average	Test Mode	Mode 2



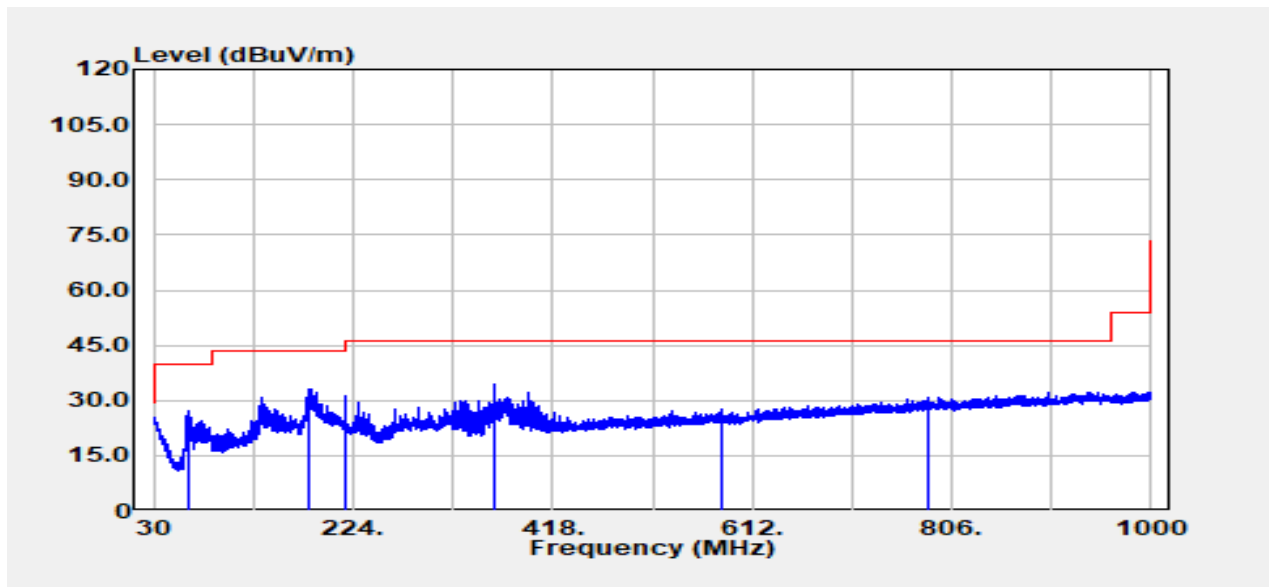
Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
31.33	Peak	39.77	-3.35	36.42	40.00	-3.58
63.10	Peak	49.62	-15.69	33.93	40.00	-6.07
134.40	Peak	38.93	-9.58	29.35	43.50	-14.15
361.62	Peak	39.79	-7.15	32.63	46.00	-13.37
532.95	Peak	34.91	-3.13	31.78	46.00	-14.22
659.05	Peak	28.79	-0.75	28.04	46.00	-17.96

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Report No.: TMWK2310003649KR

Test Mode	IEEE 802.11a / 5180 MHz	Temp/Hum	24.6(°C)/ 56%RH
Test Item	Harmonic	Test Date	October 26, 2023
Polarize	Horizontal	Test Engineer	Tony Chao
Detector	Peak / Average	Test Mode	Mode 2



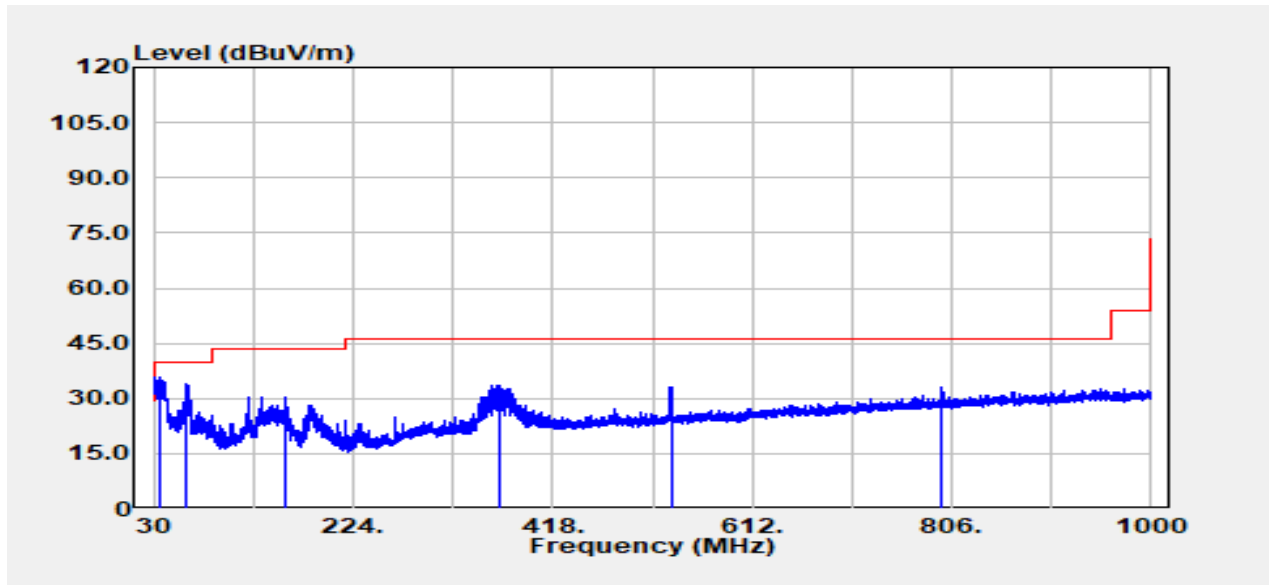
Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
64.07	Peak	42.87	-15.48	27.39	40.00	-12.61
182.05	Peak	44.81	-11.64	33.17	43.50	-10.33
216.00	Peak	43.06	-11.94	31.12	43.50	-12.38
361.50	Peak	41.49	-7.15	34.33	46.00	-11.67
581.20	Peak	30.00	-2.31	27.69	46.00	-18.31
782.96	Peak	29.57	1.27	30.84	46.00	-15.16

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Report No.: TMWK2310003649KR

Test Mode	IEEE 802.11n 20 / 5180 MHz	Temp/Hum	24.6(°C)/ 56%RH
Test Item	Harmonic	Test Date	October 26, 2023
Polarize	Vertical	Test Engineer	Tony Chao
Detector	Peak / Average	Test Mode	Mode 2



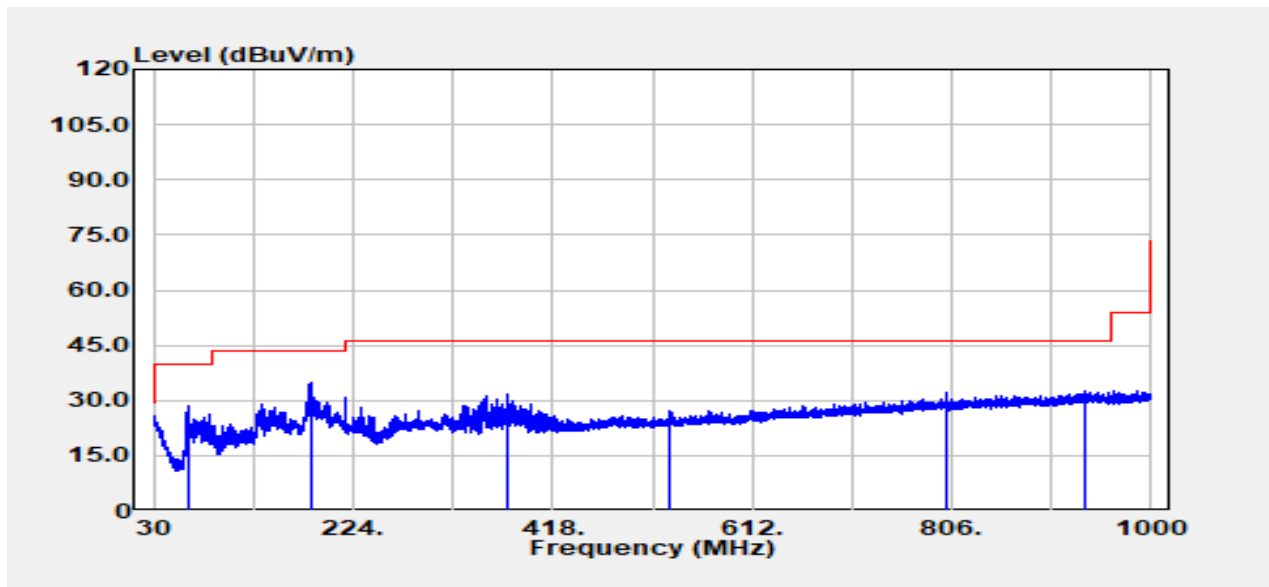
Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
36.31	Peak	43.13	-7.15	35.98	40.00	-4.02
62.62	Peak	49.72	-15.72	34.00	40.00	-6.00
158.04	Peak	40.86	-10.56	30.30	43.50	-13.20
367.56	Peak	40.73	-7.02	33.71	46.00	-12.29
533.07	Peak	36.09	-3.13	32.97	46.00	-13.03
796.18	Peak	31.56	1.31	32.87	46.00	-13.13

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Report No.: TMWK2310003649KR

Test Mode	IEEE 802.11n 20 / 5180 MHz	Temp/Hum	24.6(°C)/ 56%RH
Test Item	Harmonic	Test Date	October 26, 2023
Polarize	Horizontal	Test Engineer	Tony Chao
Detector	Peak / Average	Test Mode	Mode 2



Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
62.74	Peak	44.17	-15.71	28.46	40.00	-11.54
182.17	Peak	46.62	-11.64	34.98	43.50	-8.52
373.87	Peak	38.72	-6.87	31.85	46.00	-14.15
532.34	Peak	30.18	-3.13	27.05	46.00	-18.95
800.06	Peak	30.89	1.32	32.21	46.00	-13.79
934.40	Peak	29.26	3.49	32.75	46.00	-13.25

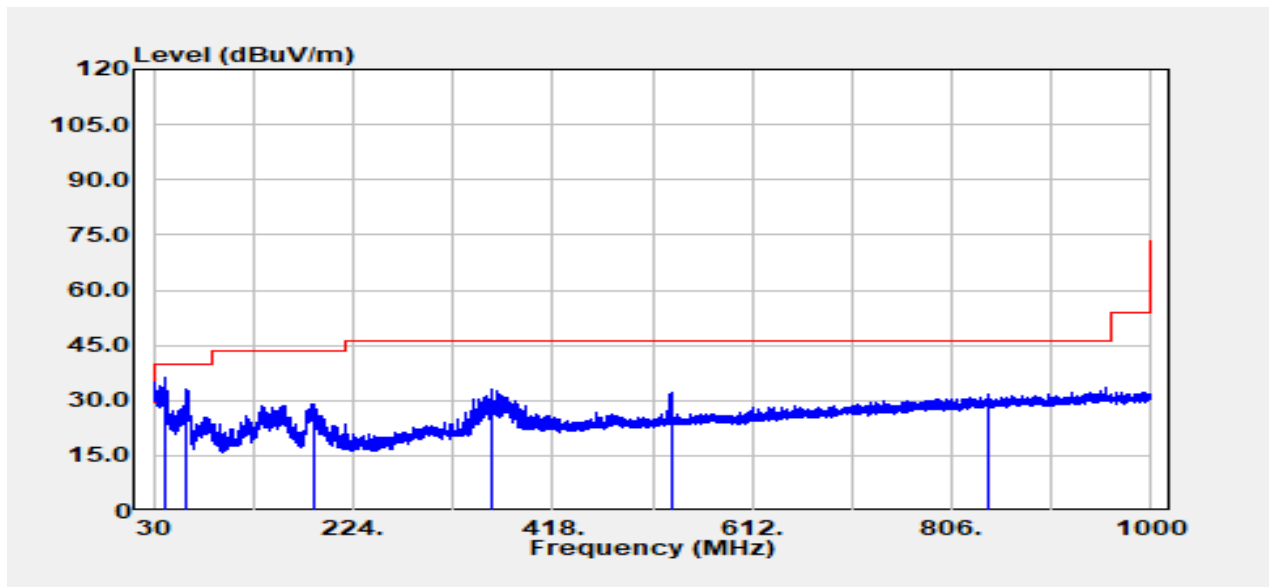
**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.



Report No.: TMWK2310003649KR

Test Mode	IEEE 802.11n 40 / 5190 MHz	Temp/Hum	24.6(°C)/ 56%RH
Test Item	Harmonic	Test Date	October 26, 2023
Polarize	Vertical	Test Engineer	Tony Chao
Detector	Peak / Average	Test Mode	Mode 2



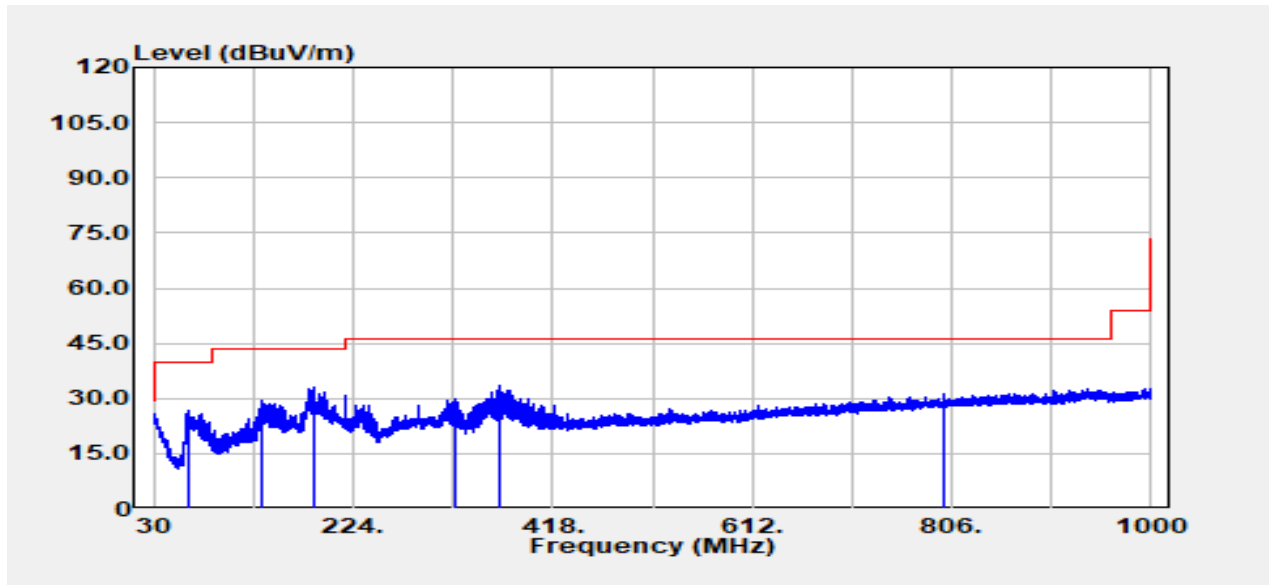
Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
40.43	Peak	45.97	-9.93	36.03	40.00	-3.97
62.62	Peak	48.68	-15.72	32.96	40.00	-7.04
185.20	Peak	40.78	-11.64	29.14	43.50	-14.36
359.19	Peak	40.16	-7.20	32.95	46.00	-13.05
532.95	Peak	35.17	-3.13	32.05	46.00	-13.95
840.68	Peak	29.60	2.02	31.62	46.00	-14.38

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Report No.: TMWK2310003649KR

Test Mode	IEEE 802.11n 40 / 5190 MHz	Temp/Hum	24.6(°C)/ 56%RH
Test Item	Harmonic	Test Date	October 26, 2023
Polarize	Horizontal	Test Engineer	Tony Chao
Detector	Peak / Average	Test Mode	Mode 2



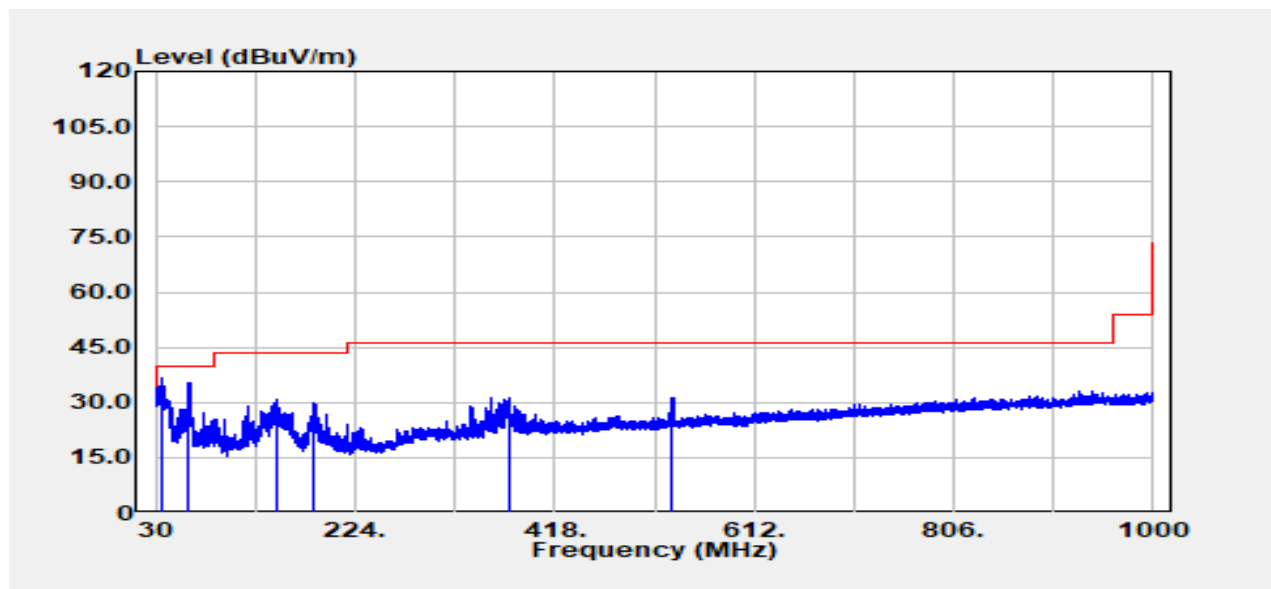
Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
63.83	Peak	42.18	-15.53	26.65	40.00	-13.35
134.40	Peak	39.12	-9.58	29.54	43.50	-13.96
184.96	Peak	44.67	-11.62	33.05	43.50	-10.45
323.67	Peak	37.82	-8.15	29.68	46.00	-16.32
365.86	Peak	40.48	-7.07	33.41	46.00	-12.59
797.76	Peak	30.15	1.32	31.47	46.00	-14.53

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Report No.: TMWK2310003649KR

Test Mode	IEEE 802.11ac VHT80 / 5210 MHz	Temp/Hum	24.6(°C)/ 56%RH
Test Item	Harmonic	Test Date	October 26, 2023
Polarize	Vertical	Test Engineer	Tony Chao
Detector	Peak / Average	Test Mode	Mode 2



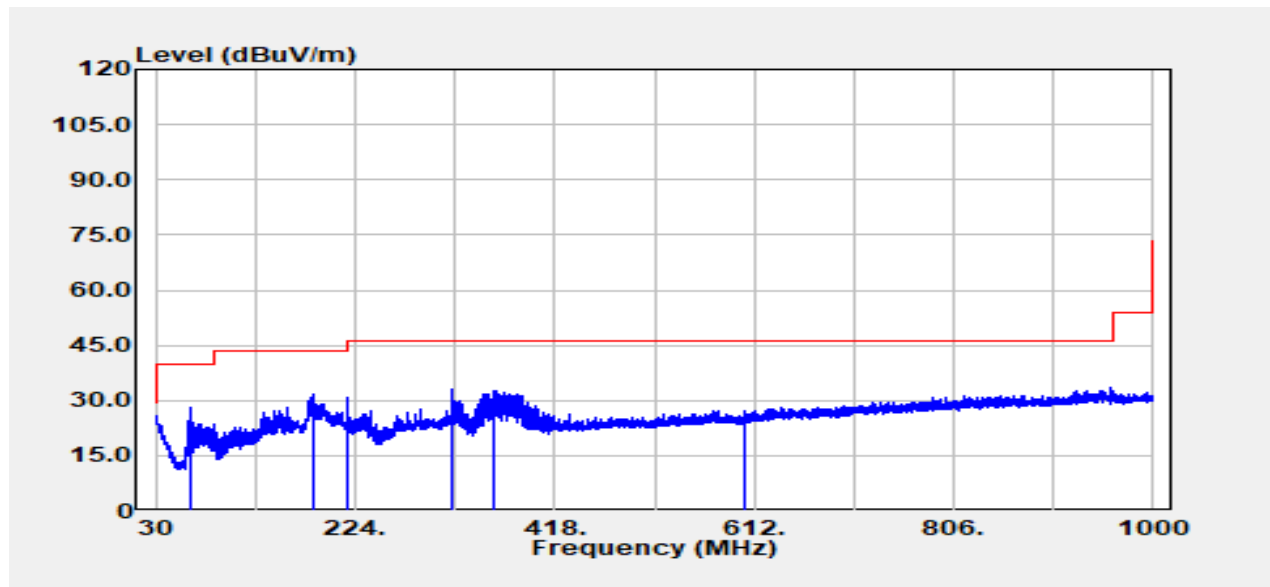
Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
34.97	Peak	42.24	-5.63	36.61	40.00	-3.39
62.01	Peak	50.90	-15.73	35.17	40.00	-4.83
146.64	Peak	41.17	-10.17	31.00	43.50	-12.50
182.53	Peak	41.61	-11.64	29.97	43.50	-13.53
374.59	Peak	38.23	-6.85	31.38	46.00	-14.62
532.70	Peak	34.54	-3.13	31.41	46.00	-14.59

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Report No.: TMWK2310003649KR

Test Mode	IEEE 802.11ac VHT80 / 5210 MHz	Temp/Hum	24.6(°C)/ 56%RH
Test Item	Harmonic	Test Date	October 26, 2023
Polarize	Horizontal	Test Engineer	Tony Chao
Detector	Peak / Average	Test Mode	Mode 2



Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
63.22	Peak	43.60	-15.66	27.94	40.00	-12.06
182.53	Peak	43.55	-11.64	31.91	43.50	-11.59
216.00	Peak	42.79	-11.94	30.85	43.50	-12.65
317.36	Peak	41.11	-8.19	32.92	46.00	-13.08
358.35	Peak	39.94	-7.23	32.71	46.00	-13.29
601.69	Peak	29.69	-2.41	27.28	46.00	-18.72

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

- End of Test Report -