TEST REPORT

CERTIFICATE OF CONFORMITY

Standard:	**47 CFR FCC Part 15, Subpart E (Section 15.407)**
Report No.:	RFBECO-WTW-P21060006C-1
FCC ID:	TLZ-CM358SM
Product:	IEEE 802.11a/b/g/n/ac WLAN with Bluetooth 5 Combo Stamp Module
Brand:	AzureWave
Model No.:	AW-CM358, AW-CM358SM
Series Model:	AW-CM358AN
Received Date:	2023/10/16
Test Date:	2023/11/2 ~ 2023/11/6
Issued Date:	2023/11/28
Applicant:	AzureWave Technologies, Inc.
Address:	8F., No.94, Baozhong Rd., Xindian Dist., New Taipei City 23144, Taiwan
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
Test Location:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
FCC Registration / Designation Number:	723255 / TW2022

Approved by: _____ , **Date:** **2023/11/28**

Wen Yu / Assistant Manager

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Prepared by : Vito Lung / Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBECO-WTW-P21060006C-1	Original release.	2023/11/28

1 Certificate

Product:	IEEE 802.11a/b/g/n/ac WLAN with Bluetooth 5 Combo Stamp Module
Brand:	AzureWave
Test Model:	AW-CM358, AW-CM358SM
Series Model:	AW-CM358AN
Sample Status:	Engineering sample
Applicant:	AzureWave Technologies, Inc.
Test Date:	2023/11/2 ~ 2023/11/6
Standard:	47 CFR FCC Part 15, Subpart E (Section 15.407)
Measurement procedure:	ANSI C63.10-2013 KDB 789033 D02 General UNII Test Procedure New Rules v02r01

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
Clause	Test Item	Result	Remark
15.407(a)(2)	26 dB Bandwidth	NA	Refer to Note 1 below
15.407(a)(1) 15.407(a)(2) 15.407(a)(3)	RF Output Power	NA	Refer to Note 1 below
15.407(a)(1) 15.407(a)(2) 15.407(a)(3)	Power Spectral Density	NA	Refer to Note 1 below
15.407(e)	6 dB Bandwidth	NA	Refer to Note 1 below
---	Occupied Bandwidth	NA	Refer to Note 1 below
15.407(g)	Frequency Stability	NA	Refer to Note 1 below
15.407(b)(9)	AC Power Conducted Emissions	Pass	Minimum passing margin is -14.44 dB at 0.16953 MHz
15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -3.0 dB at 251.98 MHz
15.407(b) (1/2/3/4(i)/10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.7 dB at 5470.00 MHz
15.203	Antenna Requirement	Pass	Antenna connector is ipex(MHF) & RP-SMA not a standard connector.

Notes:

1. AC Power Conducted Emissions and Unwanted Emissions were performed for this addendum. The others testing data refer to original test report.
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
3. The “Dynamic Frequency Selection measurement” was recorded in DFS test report.
4. The new peak antenna gain (6.38dBi) does not affect the output power results from original certification and continues to comply with 15.407 requirements. The highest output power is 21.35 dBm while the limit has been reduced by 6.38-6=0.38dBi.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Specification	Expanded Uncertainty (k=2) (±)
AC Power Conducted Emissions	150 kHz ~ 30 MHz	1.9 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.1 dB
	30 MHz ~ 1 GHz	5.5 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	5.1 dB
	18 GHz ~ 40 GHz	5.3 dB

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	IEEE 802.11a/b/g/n/ac WLAN with Bluetooth 5 Combo Stamp Module
Brand	AzureWave
Test Model	AW-CM358, AW-CM358SM
Series Model	AW-CM358AN
Status of EUT	Engineering sample
Power Supply Rating	3.3 Vdc from host equipment
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode
Modulation Technology	OFDM
Transfer Rate	802.11a: up to 54Mbps 802.11n: up to 150Mbps 802.11ac: up to 433.3Mbps
Operating Frequency	5.18 GHz ~ 5.24 GHz 5.26 GHz ~ 5.32 GHz 5.50 GHz ~ 5.72 GHz 5.745 GHz ~ 5.825 GHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20): 25 802.11n (HT40), 802.11ac (VHT40): 12 802.11ac (VHT80): 6

Note:

1. This report is prepared for FCC Class II permissive change. The difference compared with the Report No.: RFBECO-WTW-P21060006A-1 design is as the following information:
   - ◆ Add PIFA antenna for model: AW-CM358 & AW-CM358SM (Refer Section 3.2)
2. According to above conditions, only AC Power Conducted Emissions and Unwanted Emissions test items need to be performed. All data for meeting the requirement is verified.
3. WLAN (2.4GHz), WLAN (5GHz) and Bluetooth technology can't transmit at same time.
4. All models are listed as below.

Brand	Model	Difference
AzureWave	AW-CM358SM	All models are electrically identical, different model names are for marketing purpose.
	AW-CM358	
Brand	Model	Difference
AzureWave	AW-CM358AN	Extend PCBA (Digital element with antenna related item) and add antenna on board.
Note: All models share the same internal PCB layout and are electrically identical. The only difference is in antenna as noted above.		

From the above models, model: **AW-CM358 & AW-CM358SM** was selected as representative model for the test and its data was recorded in this report.

5. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Original							
Antenna No.	Brand	Model	Ant. Net Gain (dBi)	Frequency range (GHz)	Antenna Type	Connector Type	Cable length (mm)
1	MAG.LAYERS	MSA-4008-25GC1-A2	2.98	2.4~2.4835	PIFA	i-pex(MHF)	155
			5.16	5.15~5.85			
2	AzureWave	AW-CM358AN	3.4	2.4~2.4835	PCB	None	NA
			3.4	5.15~5.85			
Newly							
Antenna No.	Brand	Model	Ant. Net Gain (dBi)	Frequency range (GHz)	Antenna Type	Connector Type	Cable length (mm)
3	FOXCONN	EA-2INP501-0010	1.17	2.4~2.4835GHz	PIFA	ipex(MHF)	90
			5.09	5.15~5.35GHz			
			6.38	5.475~5725GHz			
			4.81	5.725~5.85GHz			
4	FOXCONN	EA-2RUNMAP-0010	3.08	2.4~2.4835GHz	PIFA	w/ RP-SMA to ipex(MHF) cable	1935
			2.07	5.15~5.35GHz			
			2.86	5.475~5725GHz			
			3.45	5.725~5.85GHz			
Note: Antenna 4 is sold with RP-SMA to ipex(MHF) adapter cable and is included in cable length calculation. RP-SMA connector is for BT/WLAN TX w/ this module. SMA connectors on Antenna 4 are for WWAN/GPS only.							

* Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

2. The EUT incorporates a SISO function:

5GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11a	1TX	1RX
802.11n (HT20)	1TX	1RX
802.11n (HT40)	1TX	1RX
802.11ac (VHT20)	1TX	1RX
802.11ac (VHT40)	1TX	1RX
802.11ac (VHT80)	1TX	1RX
Note: The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz) and 802.11ac mode for 20MHz (40MHz), therefore investigated worst case to representative mode in test report.		

3.3 Channel List

FOR 5180 ~ 5240MHz

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency	Channel	Frequency
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210 MHz

FOR 5260 ~ 5320MHz

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency	Channel	Frequency
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290 MHz

FOR 5500 ~ 5720MHz

12 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency	Channel	Frequency
100	5500 MHz	124	5620 MHz
104	5520 MHz	128	5640 MHz
108	5540 MHz	132	5660 MHz
112	5560 MHz	136	5680 MHz
116	5580 MHz	140	5700 MHz
120	5600 MHz	144	5720 MHz

6 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
102	5510 MHz	126	5630 MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz	142	5710 MHz

3 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
106	5530 MHz	138	5690 MHz
122	5610 MHz		

FOR 5745 ~ 5825MHz:

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency	Channel	Frequency
149	5745 MHz	161	5805 MHz
153	5765 MHz	165	5825 MHz
157	5785 MHz		

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775 MHz

3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. EUT can be used in the following ways: X-axis/ Y-axis/ Z-axis. Pre-scan these ways and find the worst case as a representative test condition. 2. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
Worst Case:	1. X-axis/ Y-axis/ Z-axis Worst Condition:X-axis for Below 1GHz, Y-axis for Above 1GHz

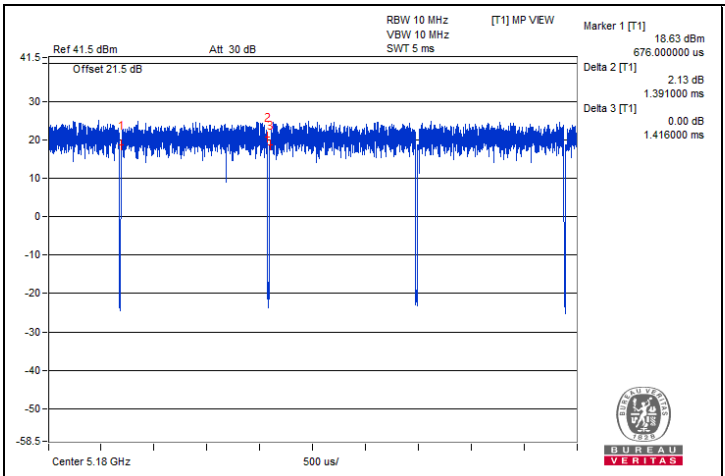
Following channel(s) was (were) selected for the final test as listed below:

Test Item	Mode	Tested Channel	Modulation	Data Rate Parameter
AC Power Conducted Emissions	802.11ac (VHT80)	138	BPSK	MCS0
Unwanted Emissions below 1 GHz	802.11ac (VHT80)	138	BPSK	MCS0
Unwanted Emissions above 1 GHz	802.11a	100, 116, 140, 144	BPSK	6Mb/s
	802.11ac (VHT20)	100, 116, 140, 144	BPSK	MCS0
	802.11ac (VHT40)	102, 110, 134, 142	BPSK	MCS0
	802.11ac (VHT80)	106, 122, 138	BPSK	MCS0

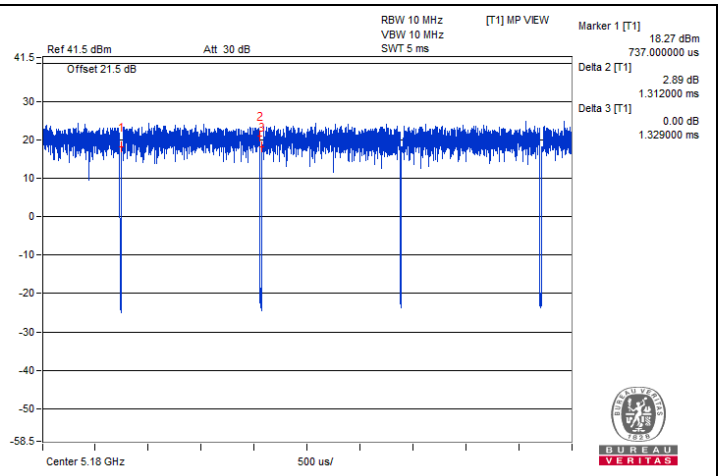
Note:
1. Adding new Antenna (Model: EA-2INP501-0010 and EA-2RUNMAP-0010, Type: PIFA). And due to the EA-2INP501-0010 UNII-2c Band Peak Gain (6.38 dBi) more than original Peak Gain (5.16 dBi)
2. Antenna model 3 was selected for the worst-case representative test due to having the highest antenna gain.

3.5 Duty Cycle of Test Signal

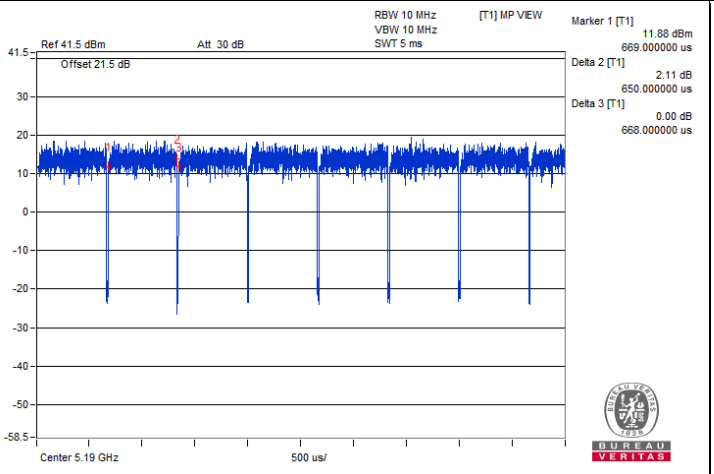
802.11a: Duty cycle = 1.391 ms / 1.416 ms x 100% = 98.2%
802.11ac (VHT20): Duty cycle = 1.312 ms / 1.329 ms x 100% = 98.7%
802.11ac (VHT40): Duty cycle = 0.65 ms / 0.668 ms x 100% = 97.3%, duty factor = 10 * log (1/Duty cycle) = 0.12 dB
802.11ac (VHT80): Duty cycle = 0.323 ms / 0.344 ms x 100% = 93.9%, duty factor = 10 * log (1/Duty cycle) = 0.27 dB



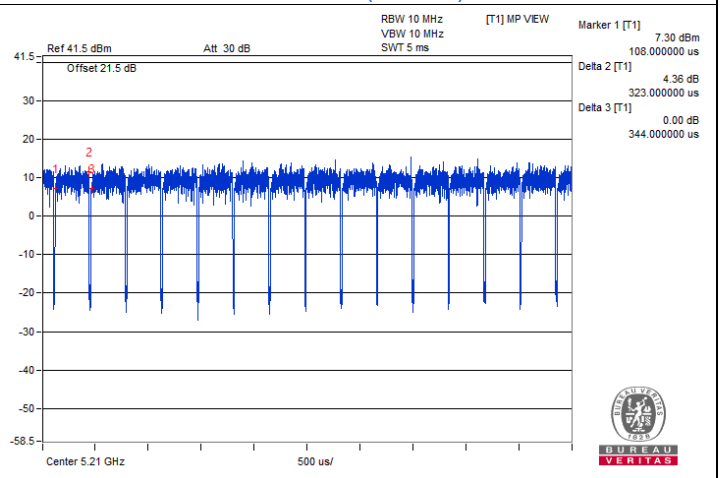
802.11a



802.11ac (VHT20)



802.11ac (VHT40)

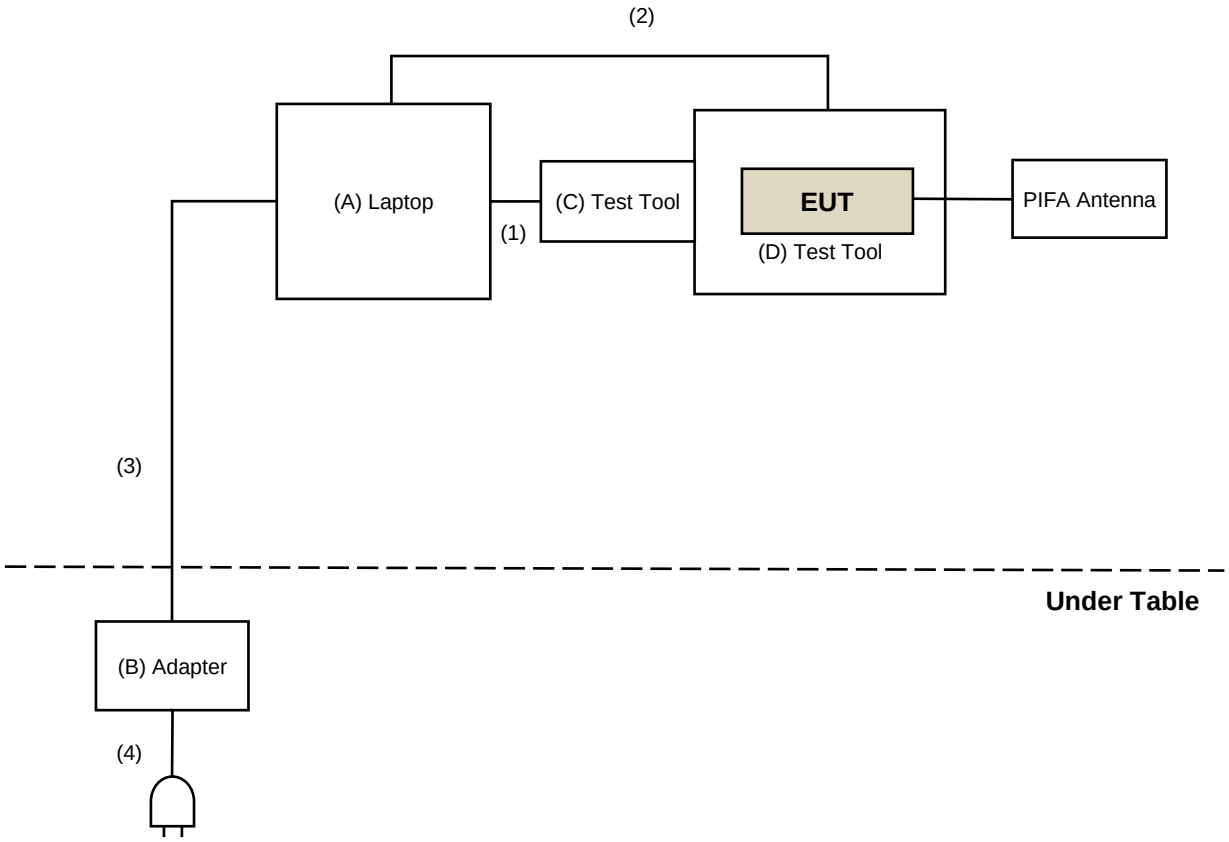


802.11ac (VHT80)

3.6 Test Program Used and Operation Descriptions

Controlling software (DutApiSisoACDualIf.exe 1.0.0.164) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.7 Connection Diagram of EUT and Peripheral Devices



3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Laptop	SONY	VPCCA36FWB	N/A	N/A	Supplied by applicant
B	Adapter	SONY	VGP-AC19V41	N/A	N/A	Supplied by applicant
C	Test Tool	Azure Wave	N/A	N/A	N/A	Supplied by applicant
D	Test Tool	Azure Wave	N/A	N/A	N/A	Supplied by applicant

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	USB Cable	1	1.5	Yes	0	Supplied by applicant
2	Micro USB Cable	1	1.5	Yes	0	Provided by Lab
3	DC Cable	1	1.8	No	0	Supplied by applicant
4	AC Cable	1	0.8	No	0	Supplied by applicant

4 Test Instruments

The calibration interval of the all test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.1 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal resistance Telegartner	50 ohm	3	2023/10/20	2024/10/19
EMI Test Receiver R&S	ESCS 30	847124/029	2023/10/18	2024/10/17
Fixed Attenuator STI	STI02-2200-10	005	2023/7/1	2024/6/30
LISN R&S	ESH3-Z5	848773/004	2023/10/13	2024/10/12
RF Coaxial Cable JYEBAO	5D-FB	COCCAB-001	2023/7/1	2024/6/30
Software BVADT	BVADT_Cond_V7.3.7.4	N/A	N/A	N/A

Notes:

1. The test was performed in Conduction 1
2. Tested Date: 2023/11/6

4.2 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-406	2023/10/13	2024/10/12
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
Fixed Attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-03	2022/12/28	2023/12/27
Loop Antenna Electro-Metrics	EM-6879	264	2023/2/21	2024/2/20
MXA Signal Analyzer Keysight	N9020B	MY60112408	2023/3/6	2024/3/5
MXE EMI Receiver Keysight	N9038A	MY59050100	2023/6/13	2024/6/12
Preamplifier EMCI	EMC330N	980701	2023/2/18	2024/2/17
	EMC001340	980142	2023/5/8	2024/5/7
RF Coaxial Cable JYEBAO	5D-FB	LOOPCAB-001	2022/12/19	2023/12/18
		LOOPCAB-002	2022/12/19	2023/12/18
RF Coaxial Cable PEWC	8D	966-4-1	2023/2/18	2024/2/17
		966-4-2	2023/2/18	2024/2/17
		966-4-3	2023/2/18	2024/2/17
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A

Notes:

1. The test was performed in 966 Chamber No. 4.
2. Tested Date: 2023/11/2

4.3 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-783	2022/11/13	2023/11/12
	BBHA 9170	9170-739	2022/11/13	2023/11/12
MXA Signal Analyzer Keysight	N9020B	MY60112408	2023/3/6	2024/3/5
Preamplifier EMCI	EMC12630SE	980688	2023/10/3	2024/10/2
	EMC184045SE	980387	2023/8/9	2024/8/8
RF Coaxial Cable EMCI	EMC-KM-KM-4000	200214	2023/2/20	2024/2/19
	EMC102-KM-KM-1200	160924	2023/8/9	2024/8/8
	EMC104-SM-SM-1200	160922	2023/8/9	2024/8/8
	EMC104-SM-SM-2000	180502	2023/3/27	2024/3/26
	EMC104-SM-SM-6000	210704	2023/11/2	2024/11/1
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A

Notes:

1. The test was performed in 966 Chamber No. 4.
2. Tested Date: 2023/11/2 ~ 2023/11/3

5 Limits of Test Items

5.1 AC Power Conducted Emissions

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Notes:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

5.2 Unwanted Emissions below 1 GHz

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequencies (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

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).

5.3 Unwanted Emissions above 1 GHz

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
Above 960	500	3

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

Limits of unwanted emission out of the restricted bands

Applicable To	Limit	
789033 D02 General UNII Test Procedure New Rules v02r01	Field Strength at 3 m	
	PK: 74 (dBμV/m)	AV: 54 (dBμV/m)

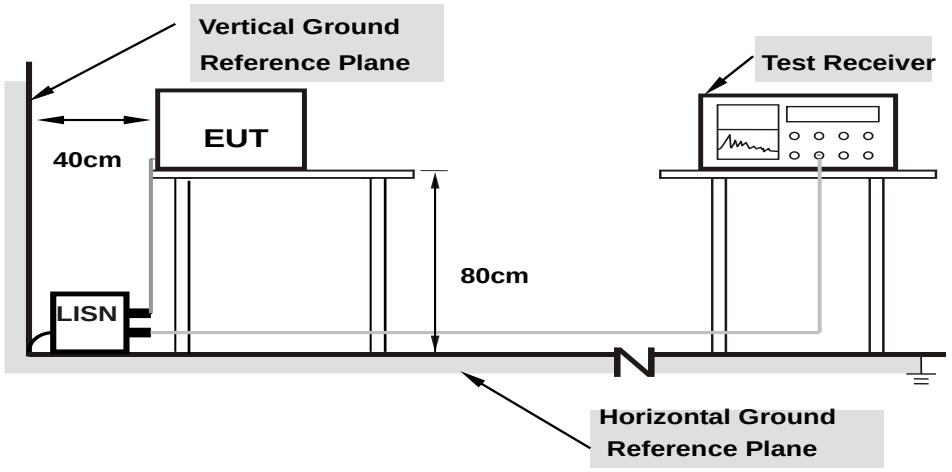
Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

6 Test Arrangements

6.1 AC Power Conducted Emissions

6.1.1 Test Setup



Note: 1.Support units were connected to second LISN.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

6.1.2 Test Procedure

a. The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50 uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

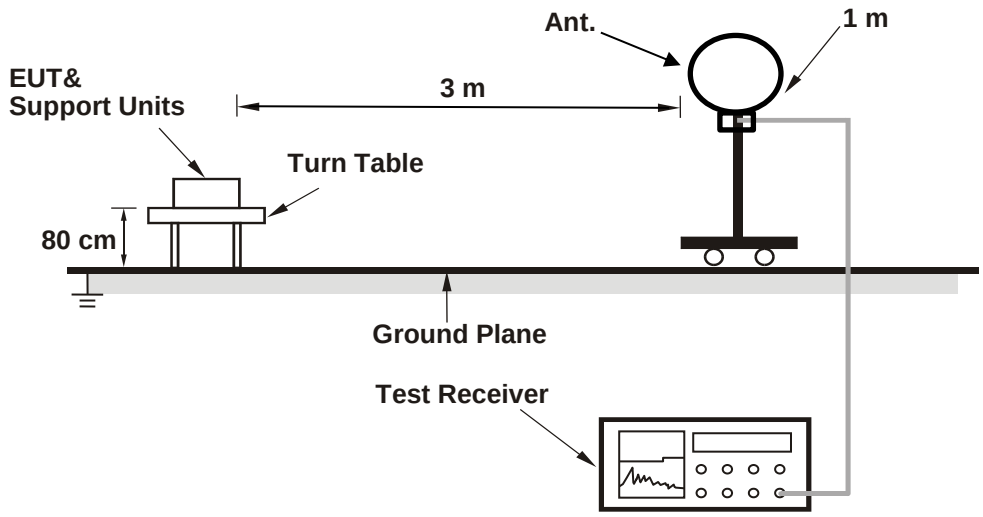
c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz-30 MHz.

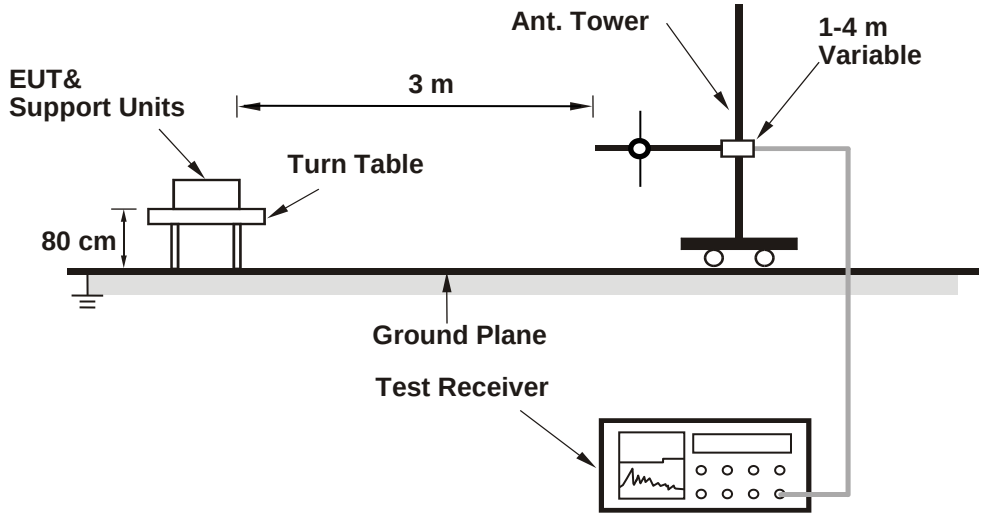
6.2 Unwanted Emissions below 1 GHz

6.2.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

6.2.2 Test Procedure

For Radiated emission below 30 MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode, except for the frequency band (9 kHz to 90 kHz and 110 kHz to 490 kHz) set to average detect function and peak detect function.

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 200 Hz at frequency below 150 kHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz or 10 kHz at frequency (150 kHz to 30 MHz).
3. All modes of operation were investigated and the worst-case emissions are reported.

For Radiated emission above 30 MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

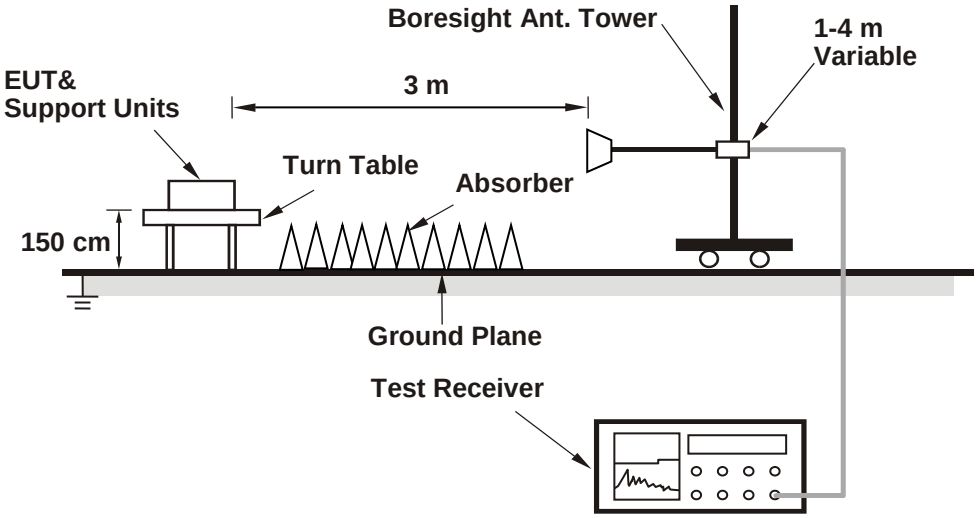
e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

6.3 Unwanted Emissions above 1 GHz

6.3.1 Test Setup



For the actual test configuration, please refer to the attached file (Test Setup Photo).

6.3.2 Test Procedure

a. The EUT was placed on the top of a rotating table 1.5 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Notes:

1. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) and Average detection (AV) at frequency above 1 GHz.
2. For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10 Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1 GHz.
3. All modes of operation were investigated and the worst-case emissions are reported.

7 Test Results of Test Item

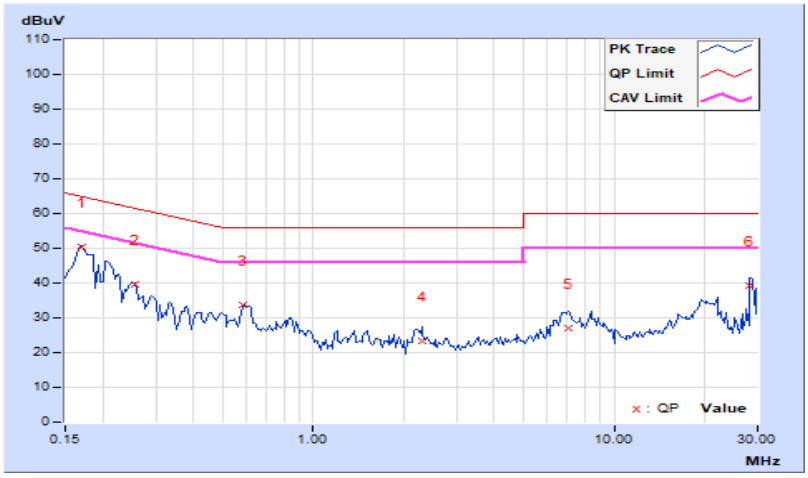
7.1 AC Power Conducted Emissions

RF Mode	802.11ac (VHT80)	**Channel**	CH 138：5690 MHz
Frequency Range	150 kHz ~ 30 MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Willy Lin		

Phase Of Power : Line (L)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	**0.16953**	**9.94**	**40.60**	**29.99**	**50.54**	**39.93**	**64.98**	**54.98**	**-14.44**	**-15.05**
2	0.25547	9.94	29.81	17.75	39.75	27.69	61.58	51.58	-21.83	-23.89
3	0.58750	9.96	23.63	16.51	33.59	26.47	56.00	46.00	-22.41	-19.53
4	2.29297	10.03	13.39	4.20	23.42	14.23	56.00	46.00	-32.58	-31.77
5	7.04297	10.31	16.65	10.60	26.96	20.91	60.00	50.00	-33.04	-29.09
6	28.10547	11.26	27.85	23.01	39.11	34.27	60.00	50.00	-20.89	-15.73

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

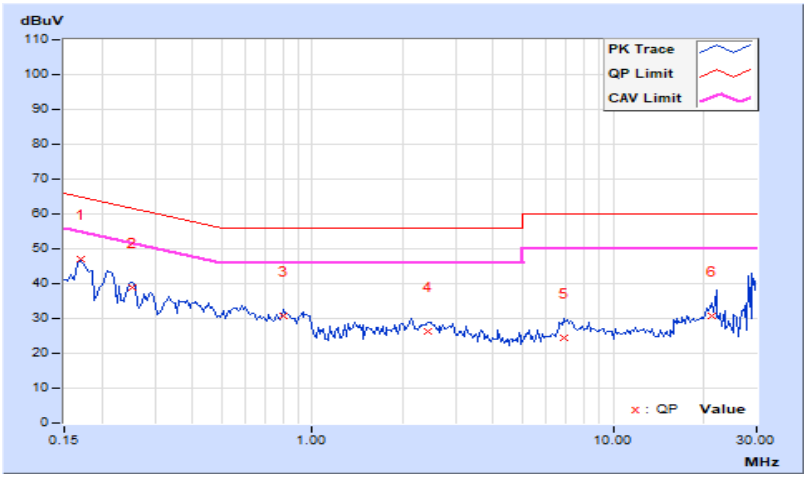


RF Mode	802.11ac (VHT80)	**Channel**	CH 138：5690 MHz
Frequency Range	150 kHz ~ 30 MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Willy Lin		

Phase Of Power : Neutral (N)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.16953	9.99	37.15	30.07	47.14	40.06	64.98	54.98	-17.84	-14.92
2	0.25156	9.99	28.79	17.65	38.78	27.64	61.71	51.71	-22.93	-24.07
3	0.80625	10.02	20.85	10.84	30.87	20.86	56.00	46.00	-25.13	-25.14
4	2.42969	10.09	16.39	10.07	26.48	20.16	56.00	46.00	-29.52	-25.84
5	6.84375	10.30	14.21	8.35	24.51	18.65	60.00	50.00	-35.49	-31.35
6	21.26953	10.80	20.03	16.11	30.83	26.91	60.00	50.00	-29.17	-23.09

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



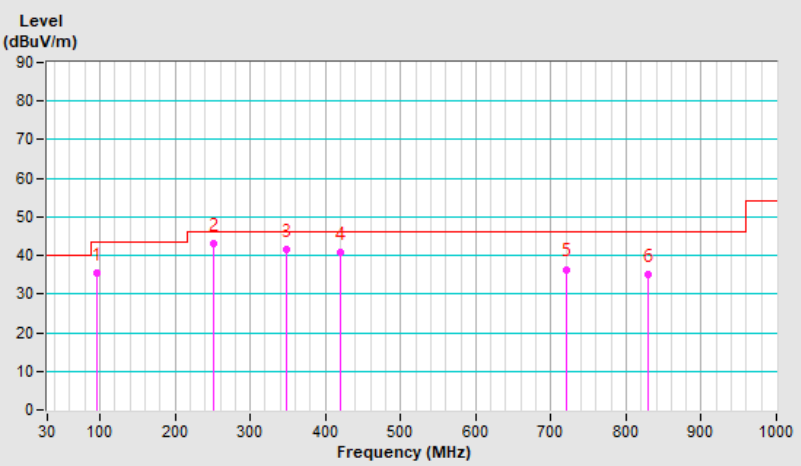
7.2 Unwanted Emissions below 1 GHz

RF Mode	802.11ac (VHT80)	**Channel**	CH 138：5690 MHz
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	QP: RB=120kHz, DET=Quasi-Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	22°C, 70% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	96.01	35.5 QP	43.5	-8.0	2.00 H	60	53.4	-17.9
2	**251.98**	**43.0 QP**	**46.0**	**-3.0**	**1.00 H**	**186**	**56.6**	**-13.6**
3	347.97	41.7 QP	46.0	-4.3	1.00 H	238	52.2	-10.5
4	419.92	40.9 QP	46.0	-5.1	1.00 H	205	49.5	-8.6
5	720.01	36.4 QP	46.0	-9.6	1.00 H	333	39.0	-2.6
6	829.18	35.0 QP	46.0	-11.0	2.00 H	169	35.5	-0.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

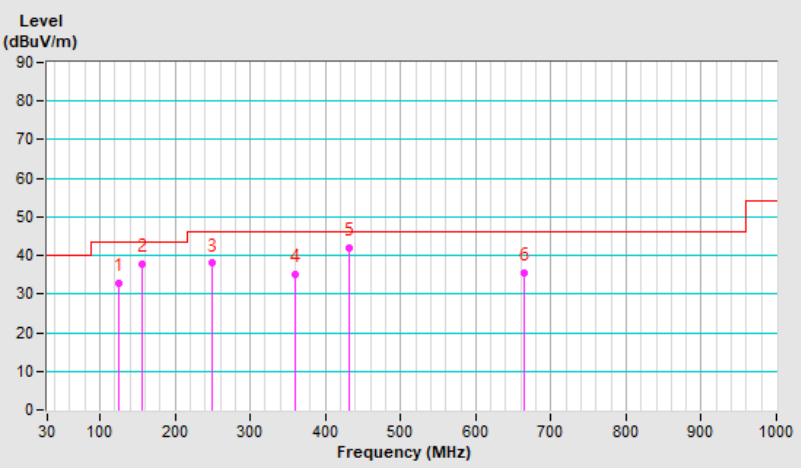


RF Mode	802.11ac (VHT80)	Channel	CH 138：5690 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	22°C, 70% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	125.01	32.9 QP	43.5	-10.6	1.00 V	2	47.1	-14.2
2	156.00	37.8 QP	43.5	-5.7	2.00 V	156	50.5	-12.7
3	250.00	37.9 QP	46.0	-8.1	2.00 V	25	51.5	-13.6
4	359.99	35.1 QP	46.0	-10.9	1.00 V	305	45.2	-10.1
5	431.99	41.9 QP	46.0	-4.1	1.00 V	360	49.9	-8.0
6	663.82	35.3 QP	46.0	-10.7	1.00 V	257	38.7	-3.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.



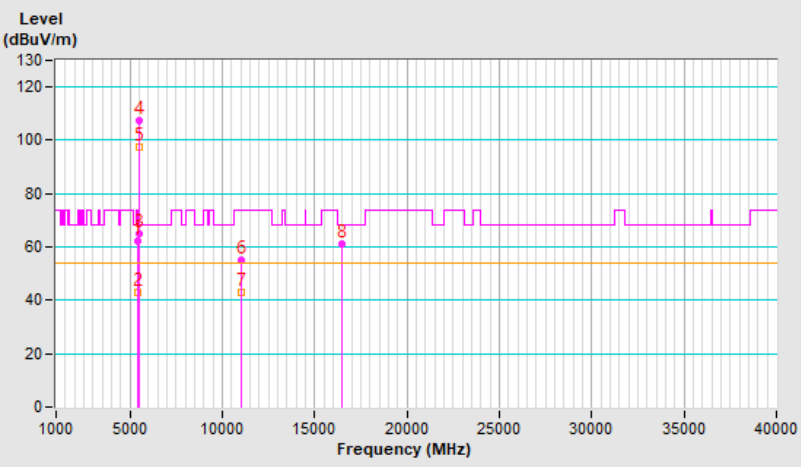
7.3 Unwanted Emissions above 1 GHz

RF Mode	802.11a	**Channel**	CH 100：5500 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	5460.00	62.4 PK	74.0	-11.6	2.89 H	206	59.4	3.0
2	5460.00	42.8 AV	54.0	-11.2	2.89 H	206	39.8	3.0
3	#5470.00	64.8 PK	68.2	-3.4	2.89 H	206	61.8	3.0
4	*5500.00	107.5 PK			2.89 H	206	104.4	3.1
5	*5500.00	97.7 AV			2.89 H	206	94.6	3.1
6	11000.00	54.9 PK	74.0	-19.1	2.82 H	23	42.0	12.9
7	11000.00	42.7 AV	54.0	-11.3	2.82 H	23	29.8	12.9
8	#16500.00	61.1 PK	68.2	-7.1	2.76 H	26	47.3	13.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

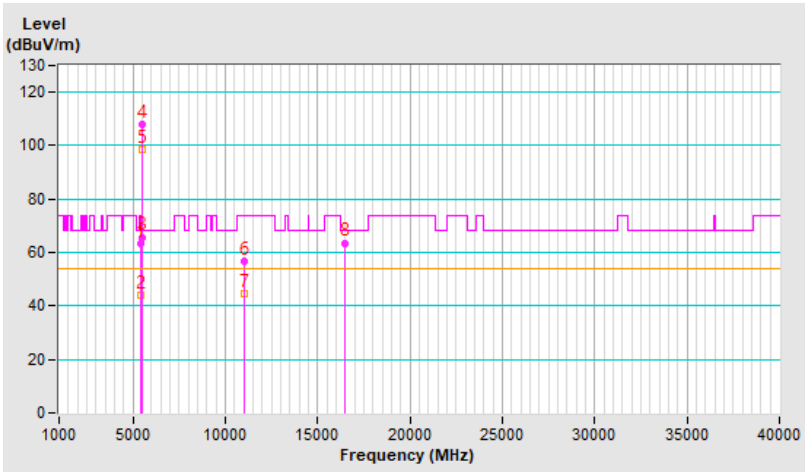


RF Mode	802.11a	**Channel**	CH 100：5500 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	5460.00	63.1 PK	74.0	-10.9	1.87 V	36	60.1	3.0
2	5460.00	44.1 AV	54.0	-9.9	1.87 V	36	41.1	3.0
3	#5470.00	65.8 PK	68.2	-2.4	1.87 V	36	62.8	3.0
4	*5500.00	108.1 PK			1.87 V	36	105.0	3.1
5	*5500.00	98.4 AV			1.87 V	36	95.3	3.1
6	11000.00	56.6 PK	74.0	-17.4	3.21 V	271	43.7	12.9
7	11000.00	44.5 AV	54.0	-9.5	3.21 V	271	31.6	12.9
8	#16500.00	63.6 PK	68.2	-4.6	3.09 V	278	49.8	13.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

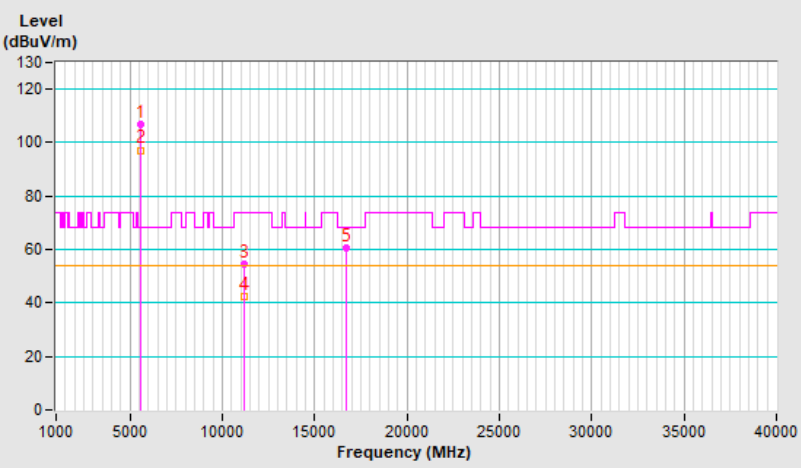


RF Mode	802.11a	**Channel**	CH 116：5580 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*5580.00	106.6 PK			2.88 H	200	103.7	2.9
2	*5580.00	97.2 AV			2.88 H	200	94.3	2.9
3	11160.00	54.5 PK	74.0	-19.5	2.71 H	28	42.1	12.4
4	11160.00	42.6 AV	54.0	-11.4	2.71 H	28	30.2	12.4
5	#16740.00	60.7 PK	68.2	-7.5	2.82 H	6	45.5	15.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

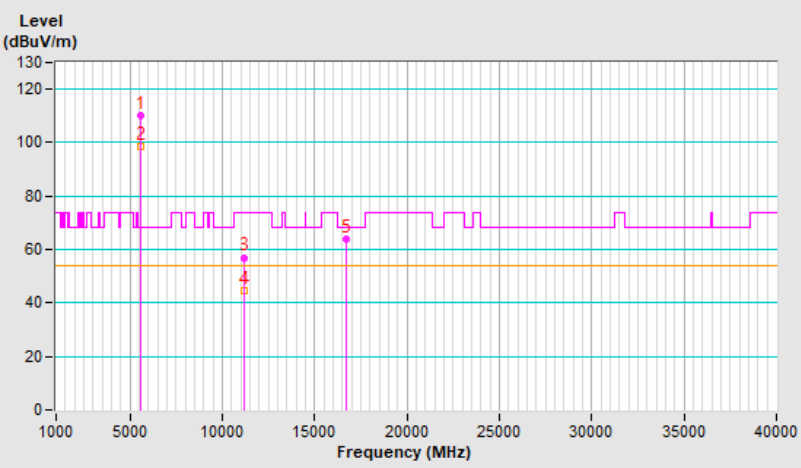


RF Mode	802.11a	**Channel**	CH 116：5580 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*5580.00	110.1 PK			1.93 V	50	107.2	2.9
2	*5580.00	98.6 AV			1.93 V	50	95.7	2.9
3	11160.00	57.0 PK	74.0	-17.0	3.09 V	283	44.6	12.4
4	11160.00	44.5 AV	54.0	-9.5	3.09 V	283	32.1	12.4
5	#16740.00	63.9 PK	68.2	-4.3	3.05 V	281	48.7	15.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

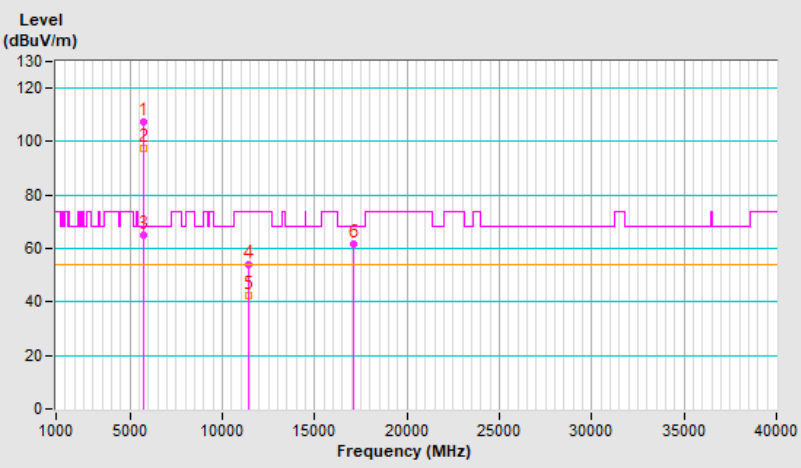


RF Mode	802.11a	Channel	CH 140：5700 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	107.4 PK			2.92 H	197	104.4	3.0
2	*5700.00	97.7 AV			2.92 H	197	94.7	3.0
3	#5725.00	65.1 PK	68.2	-3.1	2.92 H	197	62.1	3.0
4	11400.00	54.2 PK	74.0	-19.8	2.80 H	21	41.4	12.8
5	11400.00	42.2 AV	54.0	-11.8	2.80 H	21	29.4	12.8
6	#17100.00	61.6 PK	68.2	-6.6	2.85 H	14	45.0	16.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

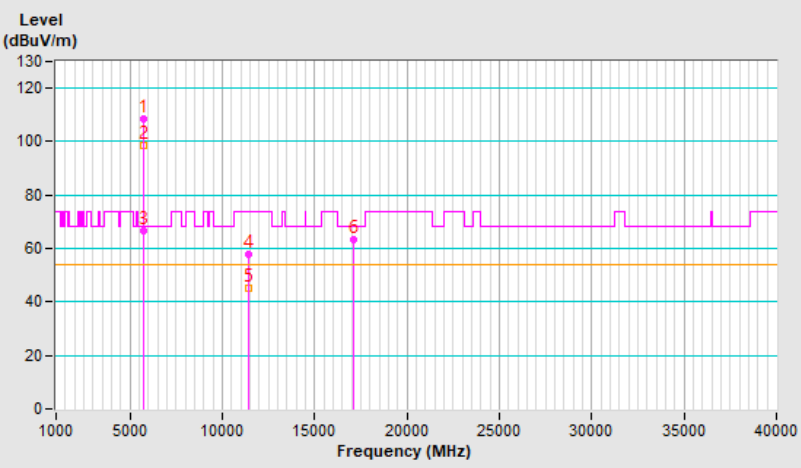


RF Mode	802.11a	Channel	CH 140：5700 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	108.4 PK			1.87 V	50	105.4	3.0
2	*5700.00	98.5 AV			1.87 V	50	95.5	3.0
3	#5725.00	66.8 PK	68.2	-1.4	1.87 V	50	63.8	3.0
4	11400.00	57.9 PK	74.0	-16.1	3.17 V	267	45.1	12.8
5	11400.00	45.4 AV	54.0	-8.6	3.17 V	267	32.6	12.8
6	#17100.00	63.1 PK	68.2	-5.1	3.11 V	289	46.5	16.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

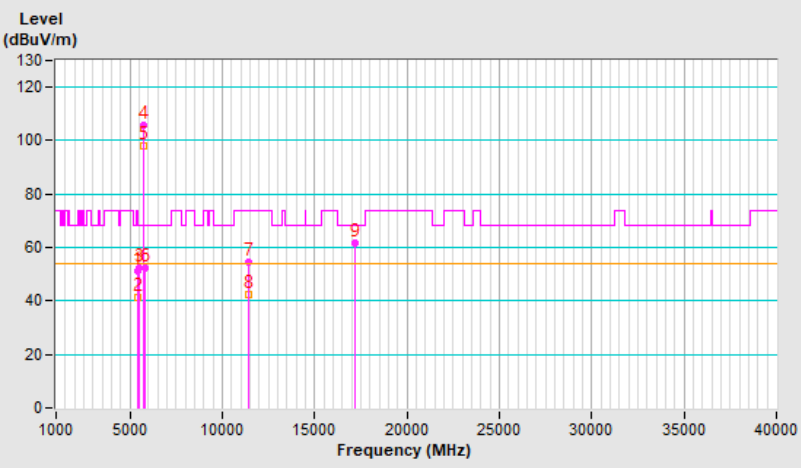


RF Mode	802.11a	Channel	CH 144：5720 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	51.1 PK	74.0	-22.9	3.26 H	207	48.1	3.0
2	5460.00	41.2 AV	54.0	-12.8	3.26 H	207	38.2	3.0
3	#5470.00	52.1 PK	68.2	-16.1	3.26 H	207	49.1	3.0
4	*5720.00	105.8 PK			3.26 H	207	102.8	3.0
5	*5720.00	97.8 AV			3.26 H	207	94.8	3.0
6	#5850.00	52.1 PK	68.2	-16.1	3.26 H	207	48.6	3.5
7	11440.00	54.7 PK	74.0	-19.3	2.74 H	28	41.8	12.9
8	11440.00	42.3 AV	54.0	-11.7	2.74 H	28	29.4	12.9
9	#17160.00	61.5 PK	68.2	-6.7	2.79 H	6	44.8	16.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

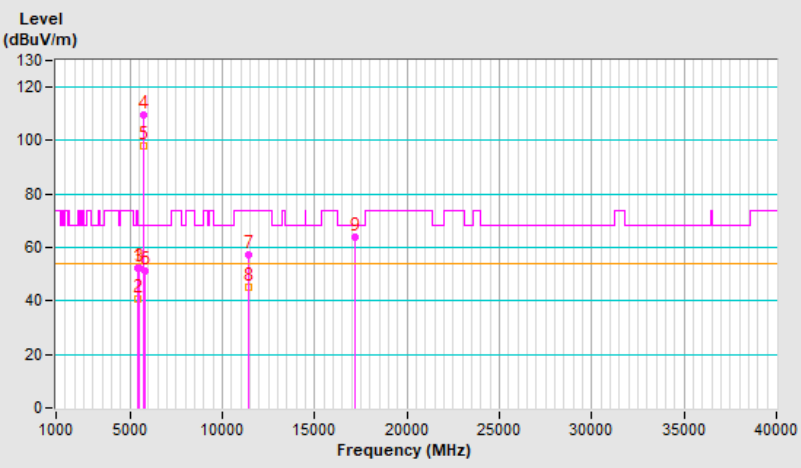


RF Mode	802.11a	Channel	CH 144：5720 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	52.2 PK	74.0	-21.8	1.88 V	38	49.2	3.0
2	5460.00	40.6 AV	54.0	-13.4	1.88 V	38	37.6	3.0
3	#5470.00	52.4 PK	68.2	-15.8	1.88 V	38	49.4	3.0
4	*5720.00	109.6 PK			1.88 V	38	106.6	3.0
5	*5720.00	98.2 AV			1.88 V	38	95.2	3.0
6	#5850.00	51.3 PK	68.2	-16.9	1.88 V	38	47.8	3.5
7	11440.00	57.1 PK	74.0	-16.9	3.18 V	272	44.2	12.9
8	11440.00	44.9 AV	54.0	-9.1	3.18 V	272	32.0	12.9
9	#17160.00	64.0 PK	68.2	-4.2	3.14 V	272	47.3	16.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

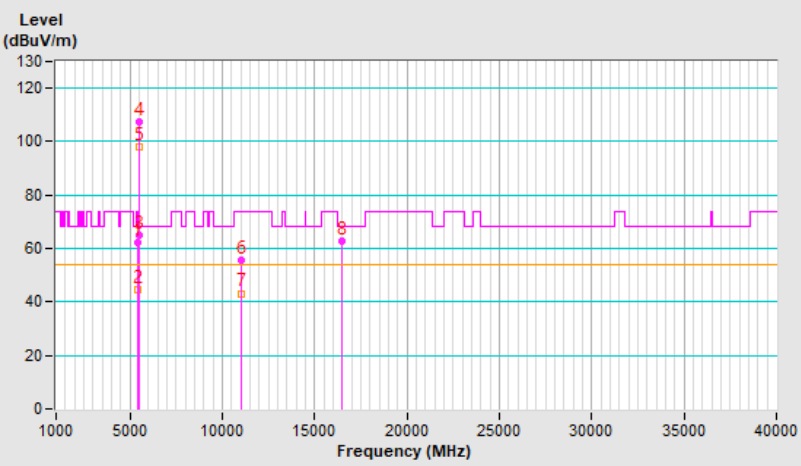


RF Mode	802.11ac (VHT20)	**Channel**	CH 100：5500 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	5460.00	62.1 PK	74.0	-11.9	3.05 H	206	59.1	3.0
2	5460.00	44.7 AV	54.0	-9.3	3.05 H	206	41.7	3.0
3	#5470.00	65.1 PK	68.2	-3.1	3.05 H	206	62.1	3.0
4	*5500.00	107.6 PK			3.05 H	206	104.5	3.1
5	*5500.00	97.8 AV			3.05 H	206	94.7	3.1
6	11000.00	55.7 PK	74.0	-18.3	2.72 H	35	42.8	12.9
7	11000.00	43.2 AV	54.0	-10.8	2.72 H	35	30.3	12.9
8	#16500.00	63.0 PK	68.2	-5.2	2.81 H	6	49.2	13.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

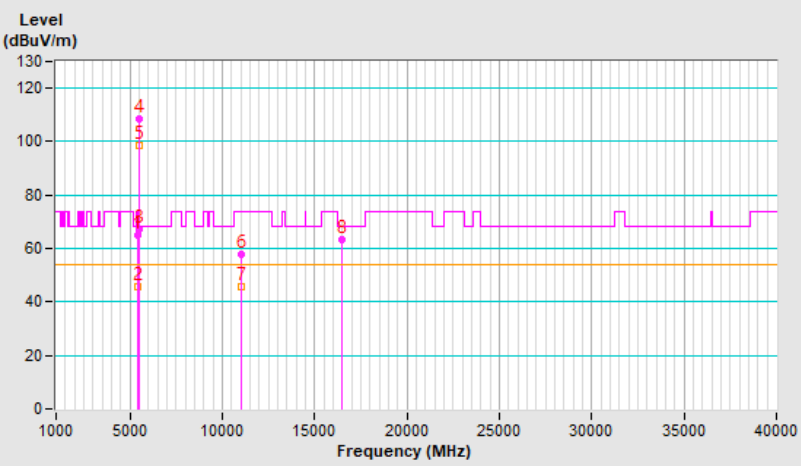


RF Mode	802.11ac (VHT20)	**Channel**	CH 100：5500 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	5460.00	64.8 PK	74.0	-9.2	1.84 V	36	61.8	3.0
2	5460.00	45.7 AV	54.0	-8.3	1.84 V	36	42.7	3.0
3	#5470.00	67.2 PK	68.2	-1.0	1.84 V	36	64.2	3.0
4	*5500.00	108.7 PK			1.84 V	36	105.6	3.1
5	*5500.00	98.5 AV			1.84 V	36	95.4	3.1
6	11000.00	57.7 PK	74.0	-16.3	2.87 V	241	44.8	12.9
7	11000.00	45.5 AV	54.0	-8.5	2.87 V	241	32.6	12.9
8	#16500.00	63.5 PK	68.2	-4.7	2.77 V	229	49.7	13.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

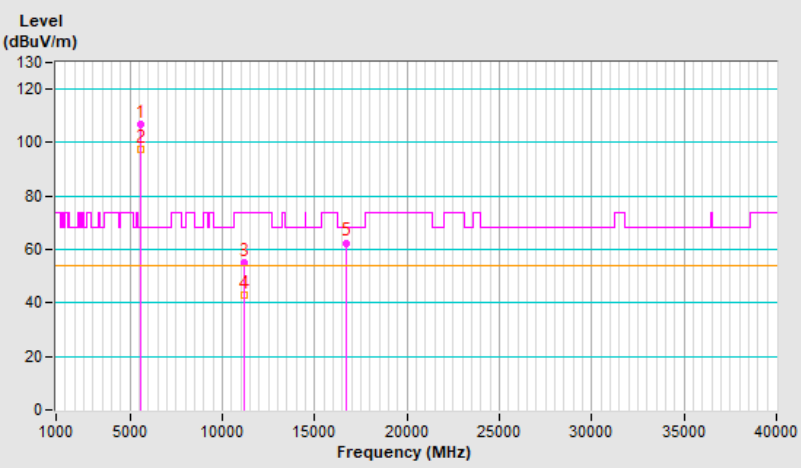


RF Mode	802.11ac (VHT20)	Channel	CH 116：5580 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	107.0 PK			2.99 H	196	104.1	2.9
2	*5580.00	97.4 AV			2.99 H	196	94.5	2.9
3	11160.00	55.3 PK	74.0	-18.7	2.80 H	19	42.9	12.4
4	11160.00	43.1 AV	54.0	-10.9	2.80 H	19	30.7	12.4
5	#16740.00	62.5 PK	68.2	-5.7	2.82 H	15	47.3	15.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

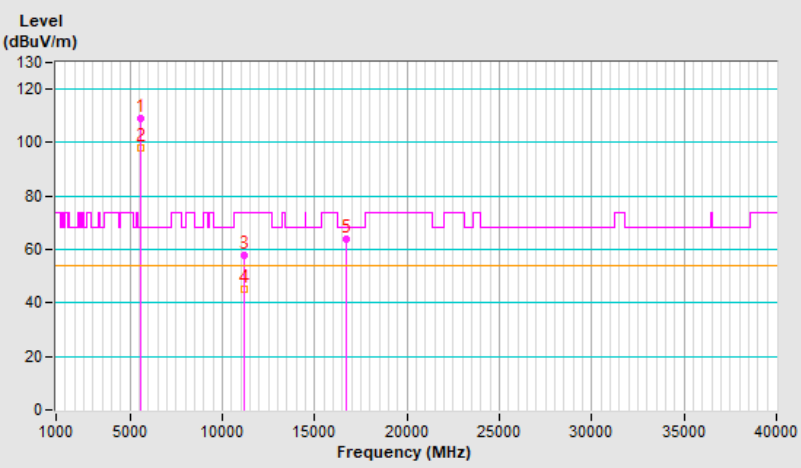


RF Mode	802.11ac (VHT20)	**Channel**	CH 116：5580 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*5580.00	109.0 PK			1.95 V	52	106.1	2.9
2	*5580.00	97.8 AV			1.95 V	52	94.9	2.9
3	11160.00	57.9 PK	74.0	-16.1	2.81 V	234	45.5	12.4
4	11160.00	45.2 AV	54.0	-8.8	2.81 V	234	32.8	12.4
5	#16740.00	64.0 PK	68.2	-4.2	2.80 V	244	48.8	15.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

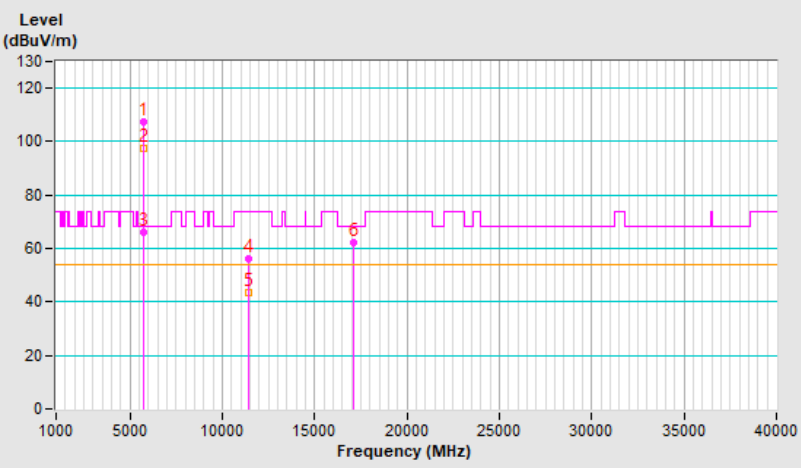


RF Mode	802.11ac (VHT20)	Channel	CH 140：5700 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	107.2 PK			3.10 H	209	104.2	3.0
2	*5700.00	97.5 AV			3.10 H	209	94.5	3.0
3	#5725.00	66.3 PK	68.2	-1.9	3.10 H	209	63.3	3.0
4	11400.00	56.1 PK	74.0	-17.9	2.74 H	19	43.3	12.8
5	11400.00	43.6 AV	54.0	-10.4	2.74 H	19	30.8	12.8
6	#17100.00	62.3 PK	68.2	-5.9	2.85 H	29	45.7	16.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

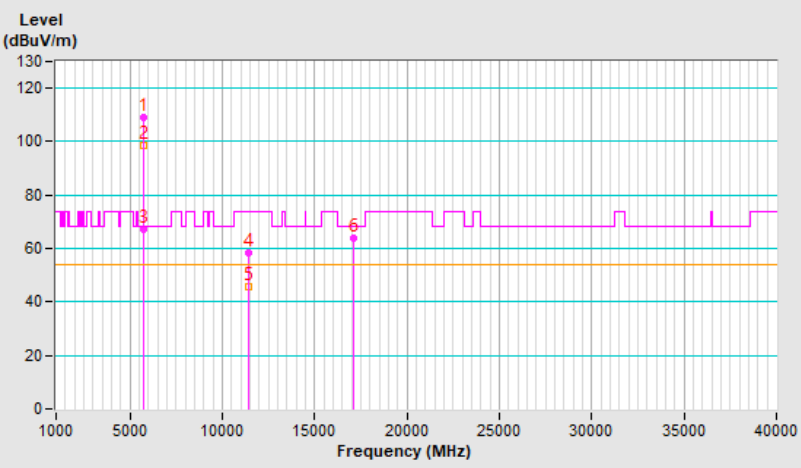


RF Mode	802.11ac (VHT20)	Channel	CH 140：5700 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	108.8 PK			1.84 V	50	105.8	3.0
2	*5700.00	98.4 AV			1.84 V	50	95.4	3.0
3	#5725.00	67.1 PK	68.2	-1.1	1.84 V	50	64.1	3.0
4	11400.00	58.3 PK	74.0	-15.7	2.79 V	231	45.5	12.8
5	11400.00	45.7 AV	54.0	-8.3	2.79 V	231	32.9	12.8
6	#17100.00	64.1 PK	68.2	-4.1	2.82 V	248	47.5	16.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

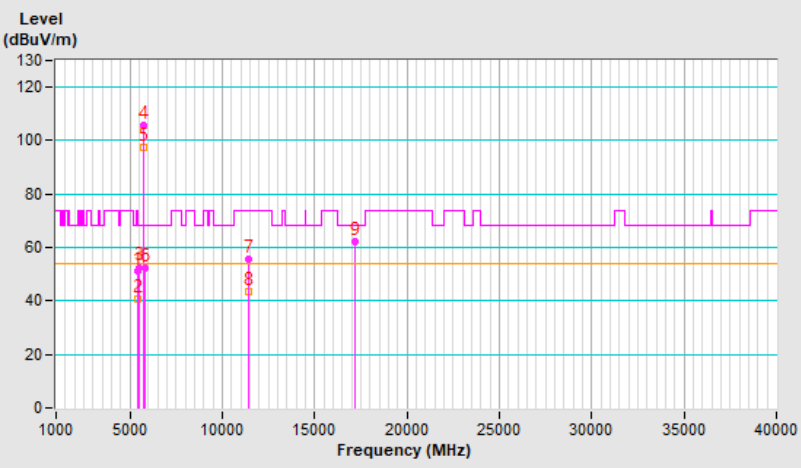


RF Mode	802.11ac (VHT20)	**Channel**	CH 144：5720 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	5460.00	51.0 PK	74.0	-23.0	3.27 H	212	48.0	3.0
2	5460.00	40.8 AV	54.0	-13.2	3.27 H	212	37.8	3.0
3	#5470.00	52.6 PK	68.2	-15.6	3.27 H	212	49.6	3.0
4	*5720.00	105.6 PK			3.27 H	212	102.6	3.0
5	*5720.00	97.4 AV			3.27 H	212	94.4	3.0
6	#5850.00	52.2 PK	68.2	-16.0	3.27 H	212	48.7	3.5
7	11440.00	55.6 PK	74.0	-18.4	2.74 H	21	42.7	12.9
8	11440.00	43.4 AV	54.0	-10.6	2.74 H	21	30.5	12.9
9	#17160.00	62.2 PK	68.2	-6.0	2.73 H	7	45.5	16.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

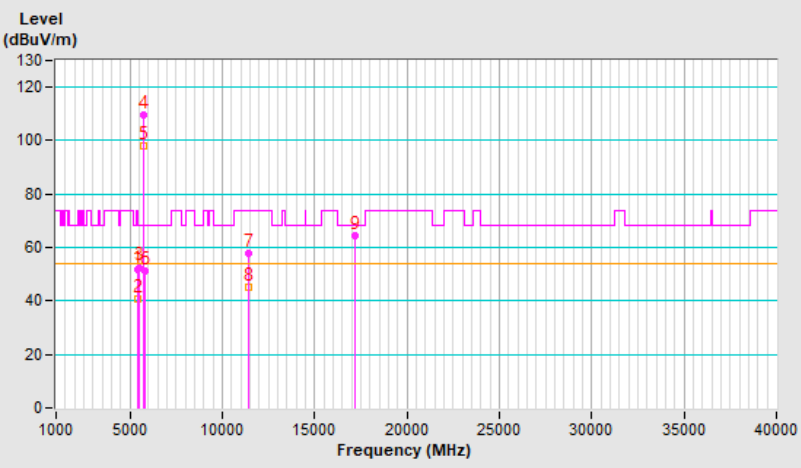


RF Mode	802.11ac (VHT20)	Channel	CH 144：5720 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	51.9 PK	74.0	-22.1	1.91 V	44	48.9	3.0
2	5460.00	40.5 AV	54.0	-13.5	1.91 V	44	37.5	3.0
3	#5470.00	52.6 PK	68.2	-15.6	1.91 V	44	49.6	3.0
4	*5720.00	109.6 PK			1.91 V	44	106.6	3.0
5	*5720.00	98.2 AV			1.91 V	44	95.2	3.0
6	#5850.00	51.2 PK	68.2	-17.0	1.91 V	44	47.7	3.5
7	11440.00	57.8 PK	74.0	-16.2	2.83 V	227	44.9	12.9
8	11440.00	45.2 AV	54.0	-8.8	2.83 V	227	32.3	12.9
9	#17160.00	64.3 PK	68.2	-3.9	2.86 V	249	47.6	16.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

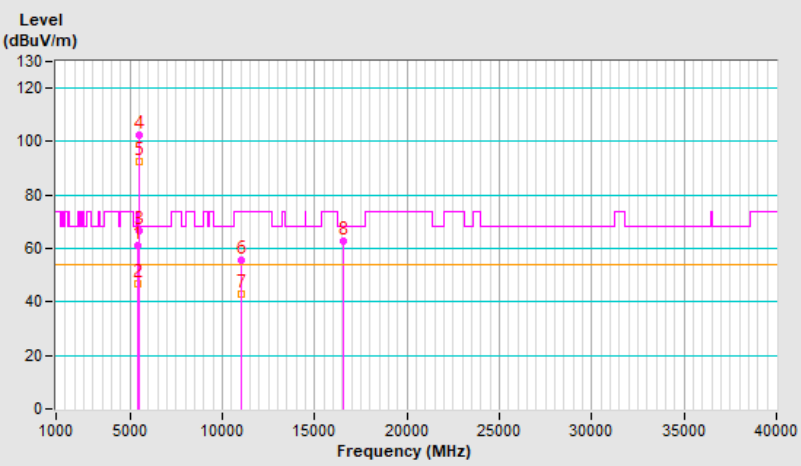


RF Mode	802.11ac (VHT40)	**Channel**	CH 102：5510 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=2 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	5460.00	61.1 PK	74.0	-12.9	3.05 H	207	58.1	3.0
2	5460.00	46.9 AV	54.0	-7.1	3.05 H	207	43.9	3.0
3	#5470.00	66.8 PK	68.2	-1.4	3.05 H	207	63.8	3.0
4	*5510.00	102.5 PK			3.05 H	207	99.5	3.0
5	*5510.00	92.7 AV			3.05 H	207	89.7	3.0
6	11020.00	55.6 PK	74.0	-18.4	2.73 H	46	42.8	12.8
7	11020.00	43.1 AV	54.0	-10.9	2.73 H	46	30.3	12.8
8	#16530.00	63.0 PK	68.2	-5.2	2.72 H	8	49.1	13.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

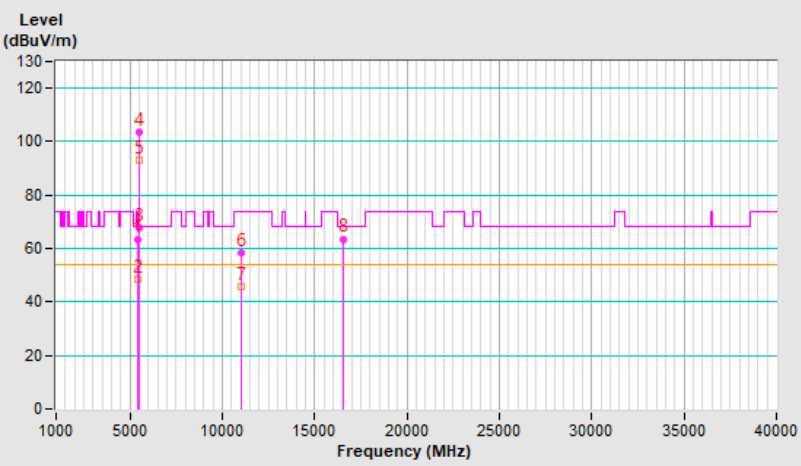


RF Mode	802.11ac (VHT40)	**Channel**	CH 102：5510 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=2 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	5460.00	63.4 PK	74.0	-10.6	1.86 V	38	60.4	3.0
2	5460.00	48.7 AV	54.0	-5.3	1.86 V	38	45.7	3.0
3	**#5470.00**	**67.5 PK**	**68.2**	**-0.7**	**1.86 V**	**38**	**64.5**	**3.0**
4	*5510.00	103.7 PK			1.86 V	38	100.7	3.0
5	*5510.00	93.2 AV			1.86 V	38	90.2	3.0
6	11020.00	58.5 PK	74.0	-15.5	2.93 V	223	45.7	12.8
7	11020.00	45.5 AV	54.0	-8.5	2.93 V	223	32.7	12.8
8	#16530.00	63.6 PK	68.2	-4.6	2.85 V	239	49.7	13.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

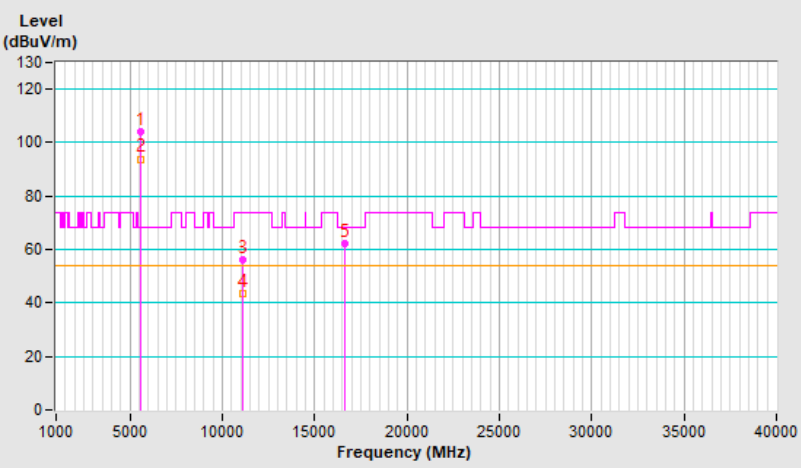


RF Mode	802.11ac (VHT40)	**Channel**	CH 110：5550 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=2 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*5550.00	104.0 PK			3.06 H	233	101.1	2.9
2	*5550.00	93.9 AV			3.06 H	233	91.0	2.9
3	11100.00	56.0 PK	74.0	-18.0	2.76 H	27	43.4	12.6
4	11100.00	43.7 AV	54.0	-10.3	2.76 H	27	31.1	12.6
5	#16650.00	62.0 PK	68.2	-6.2	2.76 H	10	47.4	14.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

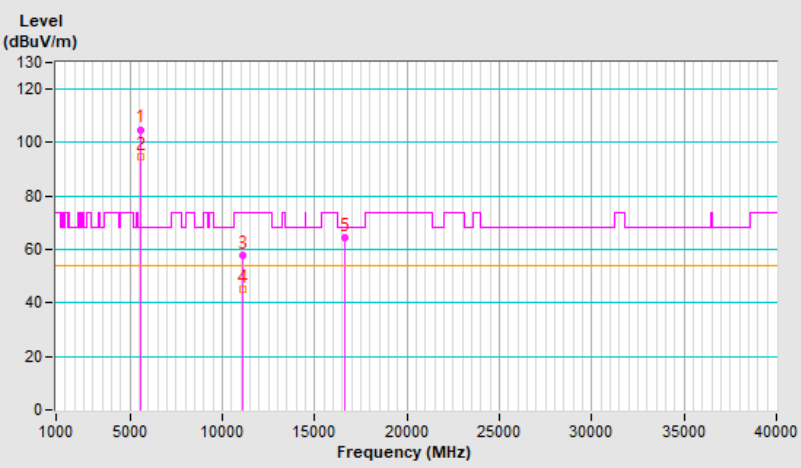


RF Mode	802.11ac (VHT40)	**Channel**	CH 110：5550 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=2 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*5550.00	104.9 PK			1.82 V	50	102.0	2.9
2	*5550.00	94.7 AV			1.82 V	50	91.8	2.9
3	11100.00	57.7 PK	74.0	-16.3	2.92 V	220	45.1	12.6
4	11100.00	44.9 AV	54.0	-9.1	2.92 V	220	32.3	12.6
5	#16650.00	64.3 PK	68.2	-3.9	2.78 V	256	49.7	14.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

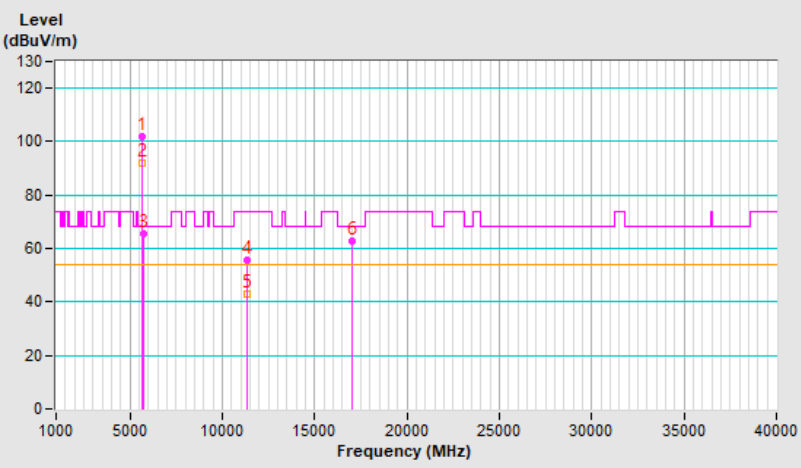


RF Mode	802.11ac (VHT40)	Channel	CH 134：5670 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=2 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	102.1 PK			3.07 H	204	99.1	3.0
2	*5670.00	92.2 AV			3.07 H	204	89.2	3.0
3	#5725.00	65.3 PK	68.2	-2.9	3.07 H	204	62.3	3.0
4	11340.00	55.5 PK	74.0	-18.5	2.81 H	18	42.8	12.7
5	11340.00	43.0 AV	54.0	-11.0	2.81 H	18	30.3	12.7
6	#17010.00	62.8 PK	68.2	-5.4	2.78 H	33	46.0	16.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

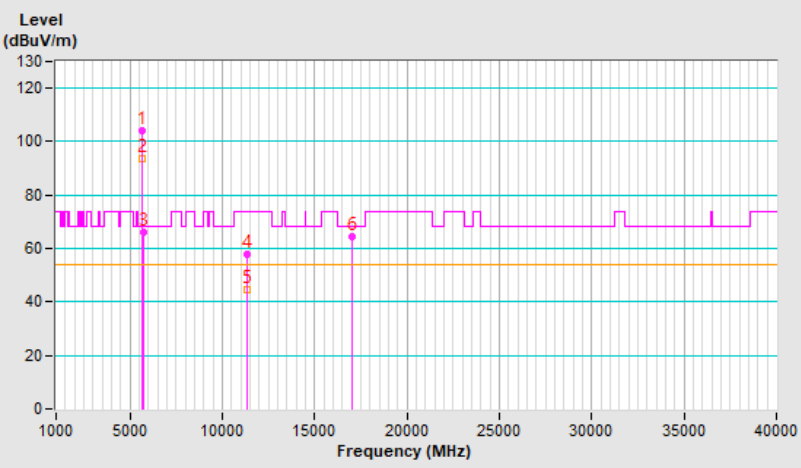


RF Mode	802.11ac (VHT40)	Channel	CH 134：5670 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=2 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	104.1 PK			1.82 V	40	101.1	3.0
2	*5670.00	93.5 AV			1.82 V	40	90.5	3.0
3	#5725.00	66.2 PK	68.2	-2.0	1.82 V	40	63.2	3.0
4	11340.00	57.6 PK	74.0	-16.4	2.86 V	222	44.9	12.7
5	11340.00	44.7 AV	54.0	-9.3	2.86 V	222	32.0	12.7
6	#17010.00	64.4 PK	68.2	-3.8	2.81 V	240	47.6	16.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

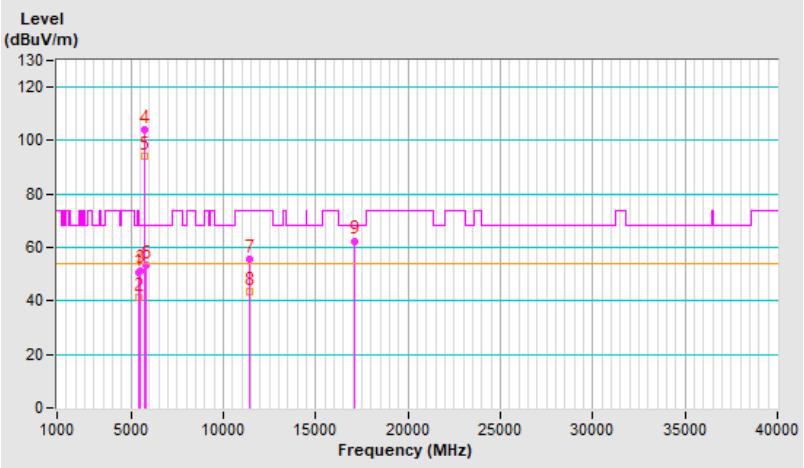


RF Mode	802.11ac (VHT40)	Channel	CH 142 : 5710 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=2 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	50.6 PK	74.0	-23.4	3.10 H	220	47.6	3.0
2	5460.00	41.5 AV	54.0	-12.5	3.10 H	220	38.5	3.0
3	#5470.00	51.5 PK	68.2	-16.7	3.10 H	220	48.5	3.0
4	*5710.00	104.3 PK			3.10 H	220	101.3	3.0
5	*5710.00	94.3 AV			3.10 H	220	91.3	3.0
6	#5850.00	53.2 PK	68.2	-15.0	3.10 H	220	49.7	3.5
7	11420.00	55.6 PK	74.0	-18.4	2.81 H	36	42.7	12.9
8	11420.00	43.3 AV	54.0	-10.7	2.81 H	36	30.4	12.9
9	#17130.00	62.5 PK	68.2	-5.7	2.81 H	40	45.9	16.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

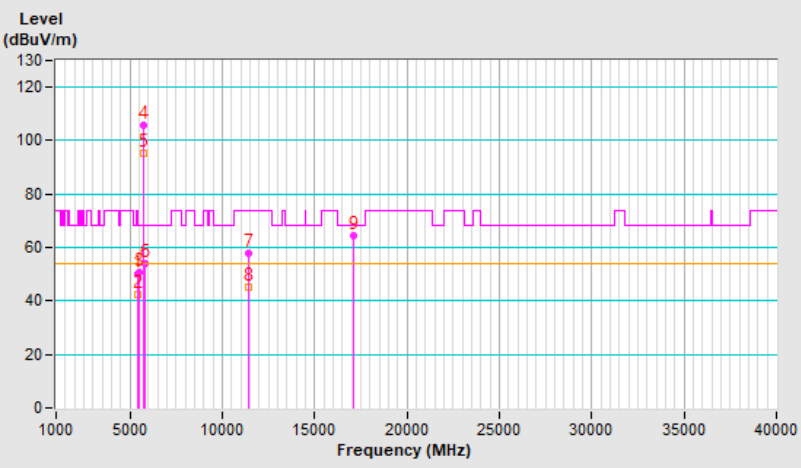


RF Mode	802.11ac (VHT40)	Channel	CH 142：5710 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=2 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	50.2 PK	74.0	-23.8	1.83 V	37	47.2	3.0
2	5460.00	42.6 AV	54.0	-11.4	1.83 V	37	39.6	3.0
3	#5470.00	50.7 PK	68.2	-17.5	1.83 V	37	47.7	3.0
4	*5710.00	105.6 PK			1.83 V	37	102.6	3.0
5	*5710.00	95.2 AV			1.83 V	37	92.2	3.0
6	#5850.00	54.0 PK	68.2	-14.2	1.83 V	37	50.5	3.5
7	11420.00	58.0 PK	74.0	-16.0	2.87 V	217	45.1	12.9
8	11420.00	45.2 AV	54.0	-8.8	2.87 V	217	32.3	12.9
9	#17130.00	64.5 PK	68.2	-3.7	2.78 V	235	47.9	16.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

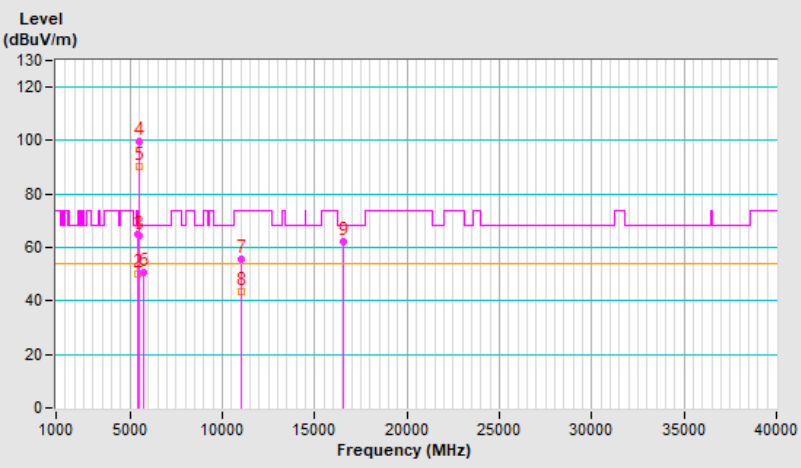


RF Mode	802.11ac (VHT80)	**Channel**	CH 106：5530 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=5.1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	5460.00	65.1 PK	74.0	-8.9	3.49 H	202	62.1	3.0
2	5460.00	50.0 AV	54.0	-4.0	3.49 H	202	47.0	3.0
3	#5470.00	64.4 PK	68.2	-3.8	3.49 H	202	61.4	3.0
4	*5530.00	99.8 PK			3.49 H	202	96.9	2.9
5	*5530.00	90.2 AV			3.49 H	202	87.3	2.9
6	#5725.00	50.7 PK	68.2	-17.5	3.49 H	202	47.7	3.0
7	11060.00	55.7 PK	74.0	-18.3	2.73 H	25	43.0	12.7
8	11060.00	43.5 AV	54.0	-10.5	2.73 H	25	30.8	12.7
9	#16590.00	62.0 PK	68.2	-6.2	2.84 H	13	48.0	14.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

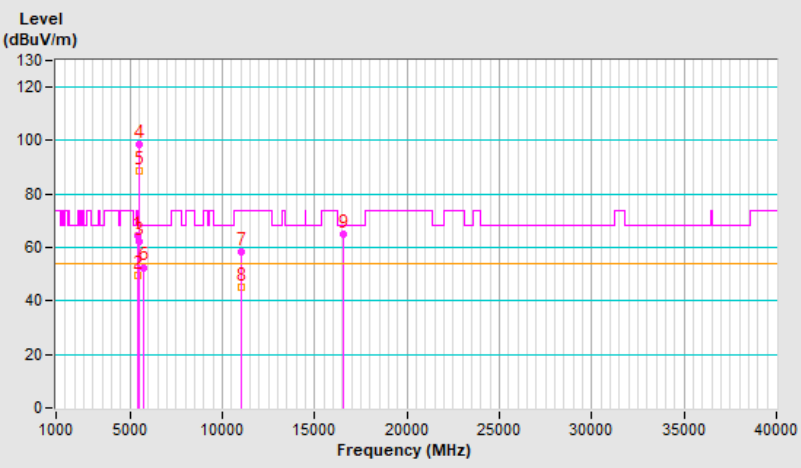


RF Mode	802.11ac (VHT80)	Channel	CH 106：5530 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=5.1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	64.6 PK	74.0	-9.4	1.24 V	104	61.6	3.0
2	5460.00	49.4 AV	54.0	-4.6	1.24 V	104	46.4	3.0
3	#5470.00	62.4 PK	68.2	-5.8	1.24 V	104	59.4	3.0
4	*5530.00	98.7 PK			1.24 V	104	95.8	2.9
5	*5530.00	88.5 AV			1.24 V	104	85.6	2.9
6	#5725.00	52.6 PK	68.2	-15.6	1.24 V	104	49.6	3.0
7	11060.00	58.3 PK	74.0	-15.7	2.82 V	213	45.6	12.7
8	11060.00	45.3 AV	54.0	-8.7	2.82 V	213	32.6	12.7
9	#16590.00	64.9 PK	68.2	-3.3	2.83 V	238	50.9	14.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

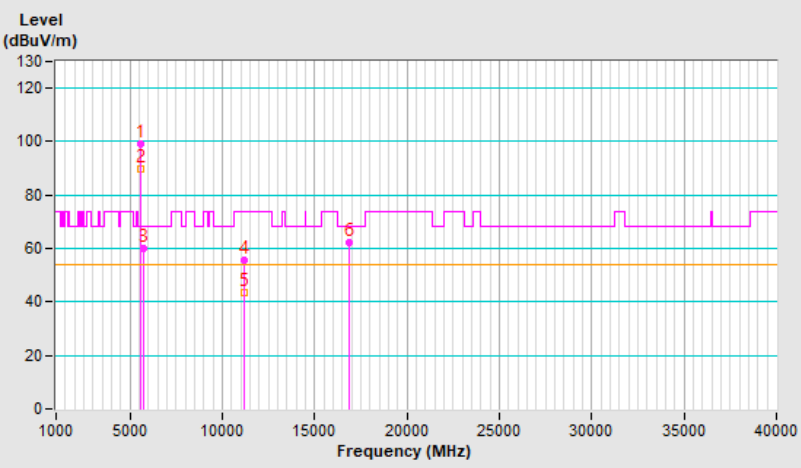


RF Mode	802.11ac (VHT80)	**Channel**	CH 122：5610 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=5.1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*5610.00	99.1 PK			3.49 H	202	96.1	3.0
2	*5610.00	89.8 AV			3.49 H	202	86.8	3.0
3	#5725.00	60.1 PK	68.2	-8.1	3.49 H	202	57.1	3.0
4	11220.00	55.8 PK	74.0	-18.2	2.72 H	32	43.4	12.4
5	11220.00	43.4 AV	54.0	-10.6	2.72 H	32	31.0	12.4
6	#16830.00	62.3 PK	68.2	-5.9	2.75 H	8	46.8	15.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

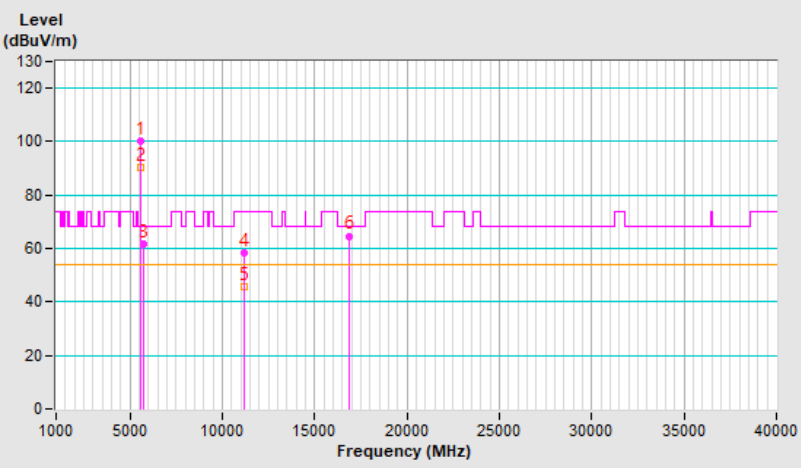


RF Mode	802.11ac (VHT80)	Channel	CH 122：5610 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=5.1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5610.00	100.2 PK			1.20 V	91	97.2	3.0
2	*5610.00	90.5 AV			1.20 V	91	87.5	3.0
3	#5725.00	61.5 PK	68.2	-6.7	1.20 V	91	58.5	3.0
4	11220.00	58.3 PK	74.0	-15.7	2.91 V	231	45.9	12.4
5	11220.00	45.5 AV	54.0	-8.5	2.91 V	231	33.1	12.4
6	#16830.00	64.7 PK	68.2	-3.5	2.75 V	250	49.2	15.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

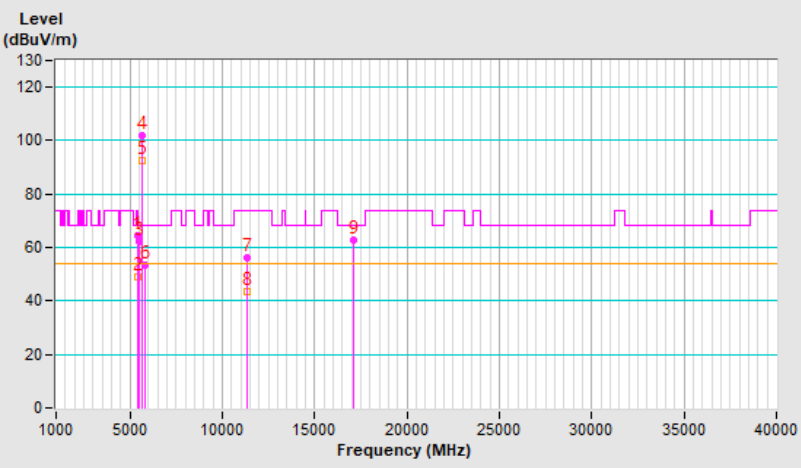


RF Mode	802.11ac (VHT80)	Channel	CH 138：5690 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=5.1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	64.6 PK	74.0	-9.4	3.48 H	205	61.6	3.0
2	5460.00	49.2 AV	54.0	-4.8	3.48 H	205	46.2	3.0
3	#5470.00	62.1 PK	68.2	-6.1	3.48 H	205	59.1	3.0
4	*5690.00	102.0 PK			3.48 H	205	99.0	3.0
5	*5690.00	92.5 AV			3.48 H	205	89.5	3.0
6	#5850.00	53.2 PK	68.2	-15.0	3.48 H	205	49.7	3.5
7	11380.00	56.0 PK	74.0	-18.0	2.77 H	32	43.1	12.9
8	11380.00	43.6 AV	54.0	-10.4	2.77 H	32	30.7	12.9
9	#17070.00	62.8 PK	68.2	-5.4	2.76 H	0	46.1	16.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

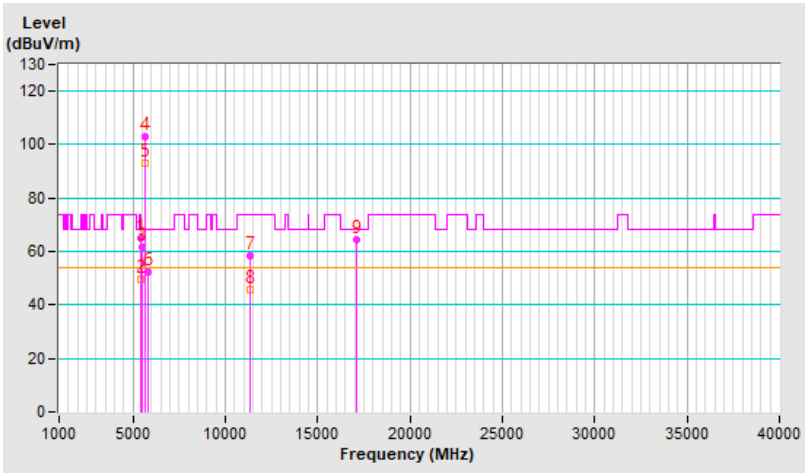


RF Mode	802.11ac (VHT80)	Channel	CH 138：5690 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=5.1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	65.1 PK	74.0	-8.9	1.19 V	91	62.1	3.0
2	5460.00	49.6 AV	54.0	-4.4	1.19 V	91	46.6	3.0
3	#5470.00	61.9 PK	68.2	-6.3	1.19 V	91	58.9	3.0
4	*5690.00	103.0 PK			1.19 V	91	100.0	3.0
5	*5690.00	93.1 AV			1.19 V	91	90.1	3.0
6	#5850.00	52.3 PK	68.2	-15.9	1.19 V	91	48.8	3.5
7	11380.00	58.3 PK	74.0	-15.7	2.86 V	229	45.4	12.9
8	11380.00	45.5 AV	54.0	-8.5	2.86 V	229	32.6	12.9
9	#17070.00	64.2 PK	68.2	-4.0	2.86 V	221	47.5	16.7

Remarks:

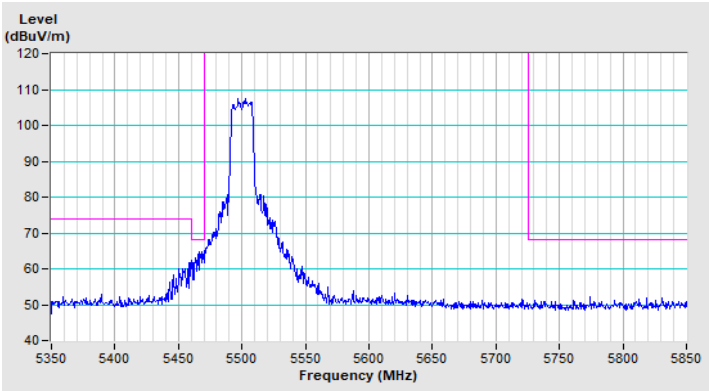
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.



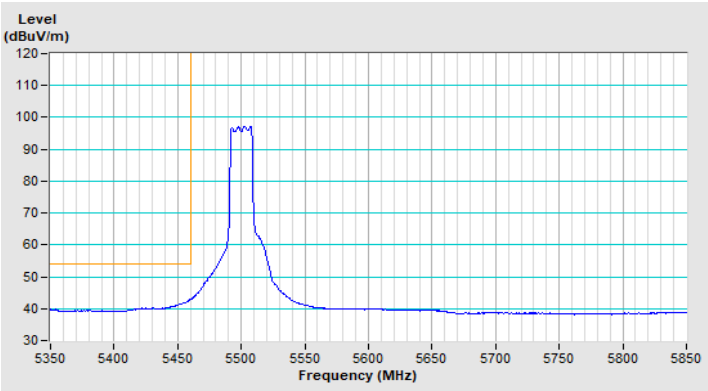
Plot of Band Edge

Frequency Range	5.35 GHz ~ 5.85 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak

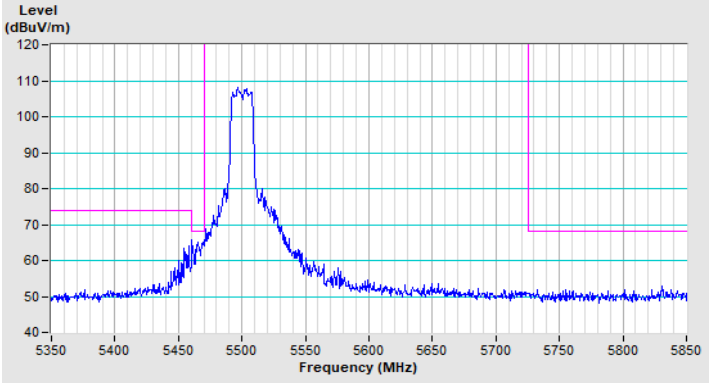
802.11a Channel 100



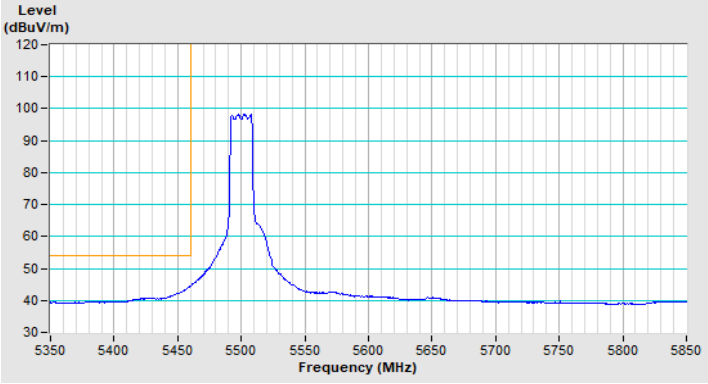
Horizontal (Peak)



Horizontal (Average)



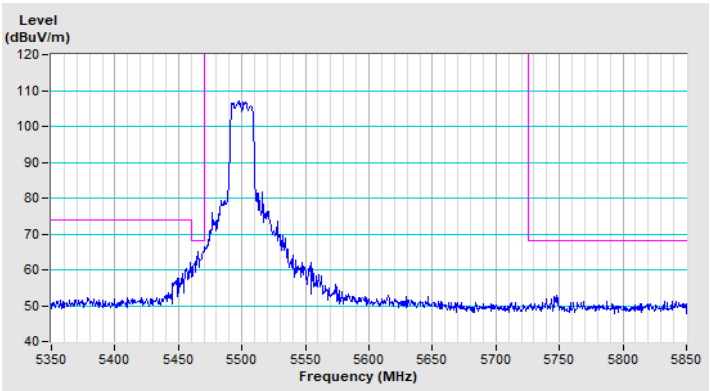
Vertical (Peak)



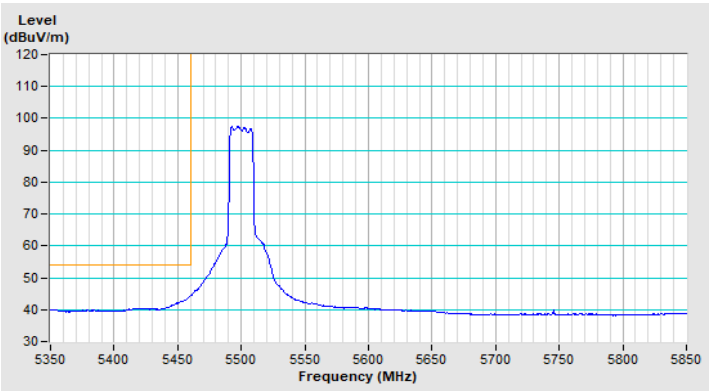
Vertical (Average)

Frequency Range	5.35 GHz ~ 5.85 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak

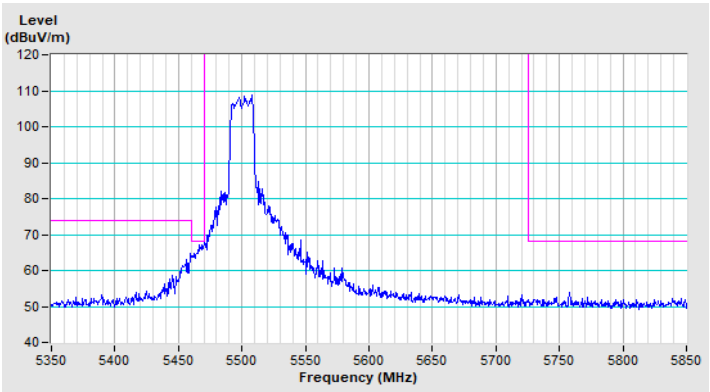
802.11ac (VHT20) Channel 100



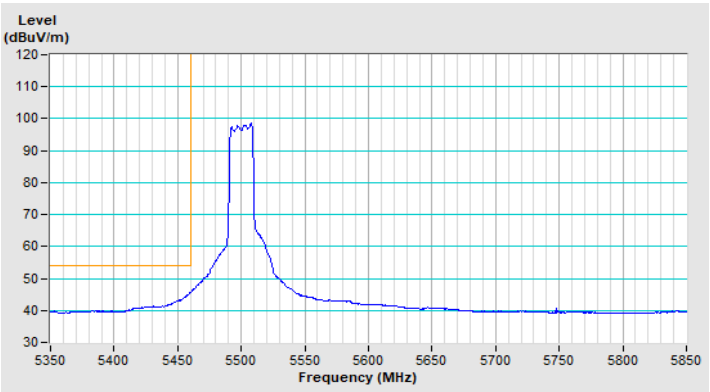
Horizontal (Peak)



Horizontal (Average)



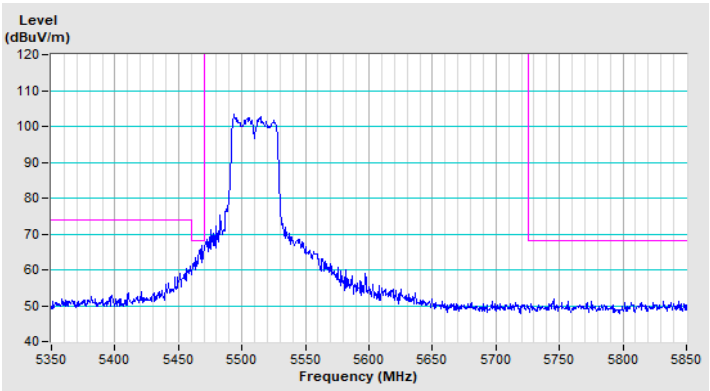
Vertical (Peak)



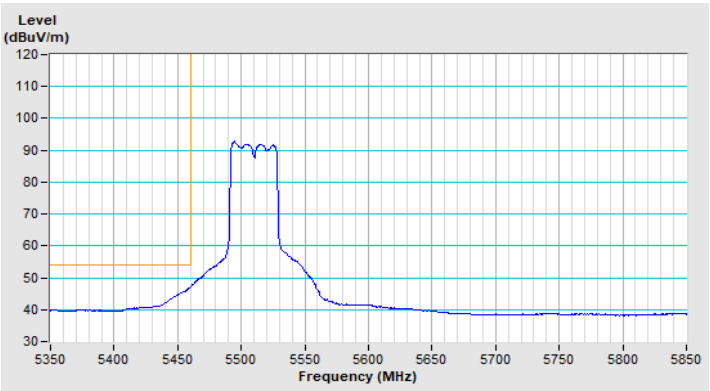
Vertical (Average)

Frequency Range	5.35 GHz ~ 5.85 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=2 kHz, DET=Peak

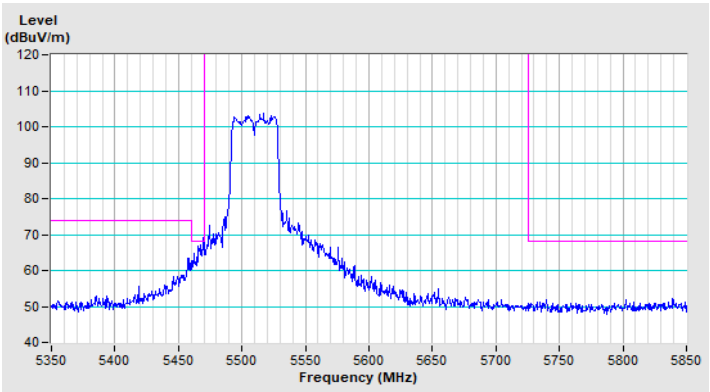
802.11ac (VHT40) Channel 102



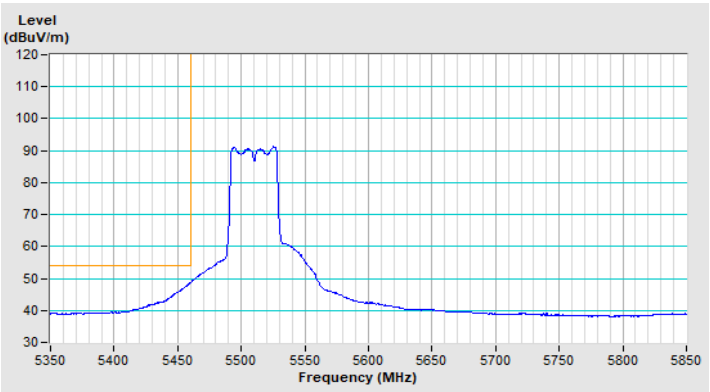
Horizontal (Peak)



Horizontal (Average)



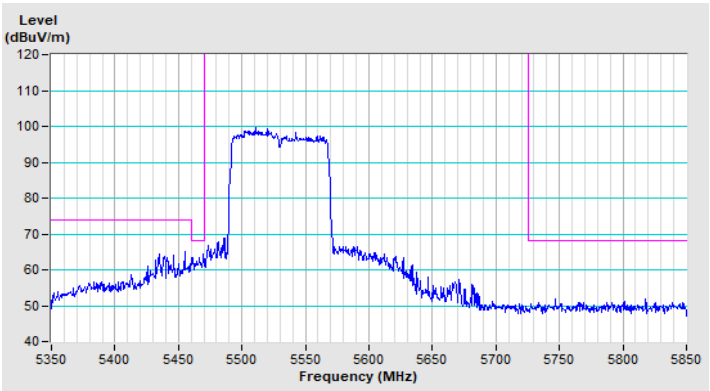
Vertical (Peak)



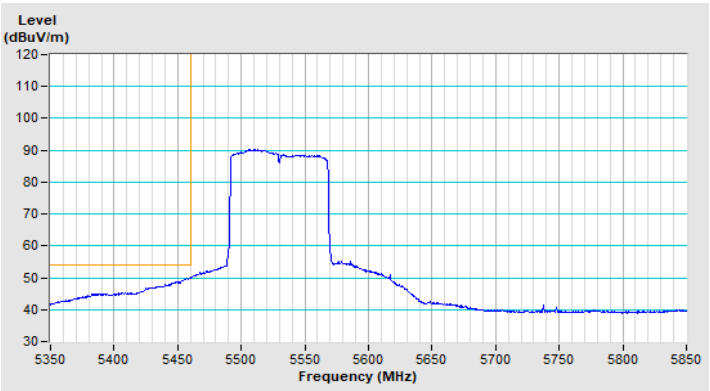
Vertical (Average)

Frequency Range	5.35 GHz ~ 5.85 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=5.1 kHz, DET=Peak

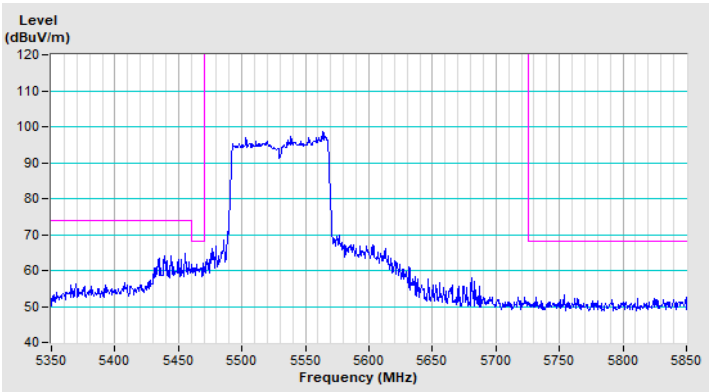
802.11ac (VHT80) Channel 106



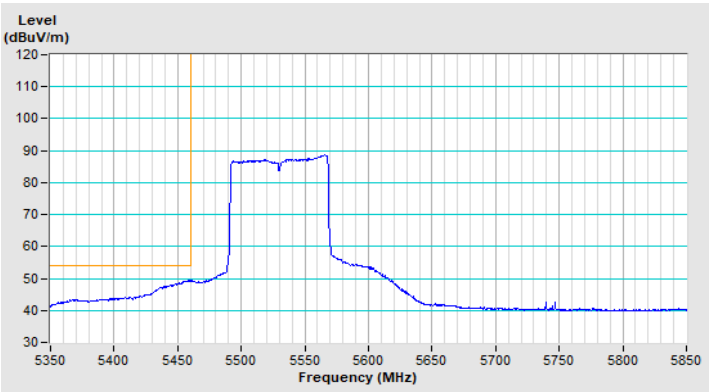
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)



Vertical (Average)

8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

9 Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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The address and road map of all our labs can be found in our web site also.

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