

# TEST REPORT

## CERTIFICATE OF CONFORMITY

**Standard:** 47 CFR FCC Part 15, Subpart E (Section 15.407)

**Report No.:** RFBENL-WTW-P22070089-3

**FCC ID:** RYK-WPEQ262ACNIBT

**Model No.:** WPEQ-262ACNI(BT)

**Received Date:** 2022/7/5

**Test Date:** 2022/7/21 ~ 2022/8/11

**Issued Date:** 2022/10/11

**Applicant:** SparkLAN Communications, Inc.

**Address:** 5F, No. 199, Ruihu St., Neihu Dist., Taipei City 114067, Taiwan

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Lin Kou Laboratories

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

**Test Location (1):** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kewi Shan Dist., Taoyuan City 33383, Taiwan

**Test Location (2):** No. 70, Wenming Rd., Guishan Dist., Taoyuan City 333, Taiwan

**FCC Registration /** 788550 / TW0003

**Designation Number:** 281270 / TW0032

**Approved by:** \_\_\_\_\_

*Jeremy Lin*

**Date:** \_\_\_\_\_

2022/10/11

Jeremy Lin / Project Engineer

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Prepared by : Lena Wang / Specialist

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## Release Control Record

Issue No.	Description	Date Issued
RFBENL-WTW-P22070089-3	Original Release	2022/10/11

## 1 Certificate

**Product:** 802.11ac/b/g/n Wi-Fi+BT Module

**Brand:** SparkLAN

**Test Model:** WPEQ-262ACNI(BT)

**Sample Status:** Mass product

**Applicant:** SparkLAN Communications, Inc.

**Test Date:** 2022/7/21 ~ 2022/8/11

**Standard:** 47 CFR FCC Part 15, Subpart E (Section 15.407)

**Measurement** ANSI C63.10-2013

**procedure:** KDB 789033 D02 General UNII Test Procedure New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output 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	N/A	Refer to note.
15.407(a)(1/2/3)	RF Output Power	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Power Spectral Density	N/A	Refer to note.
15.407(e)	6 dB Bandwidth	N/A	Refer to note.
---	Occupied Bandwidth	N/A	Refer to note.
15.407(g)	Frequency Stability	N/A	Refer to note.
15.407(b)(9)	AC Power Conducted Emissions	Pass	Minimum passing margin is -19.56 dB at 0.40927 MHz
15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -7.1 dB at 98.88 MHz
15.407(b)(1/2/3/4(i)/10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.5 dB at 5150.00 MHz
15.203	Antenna Requirement	Pass	No antenna connector is used.

### Notes:

1. This report is a partial report, only test item of RF Output Power, AC Power Conducted Emissions and Unwanted Emissions tests were performed for this report. Other testing data please refer to original BV CPS report no.: RF190625C32.
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

### 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	9 kHz ~ 30 MHz	2.79 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3 dB
	30 MHz ~ 1 GHz	2.93 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	1.76 dB
	18 GHz ~ 40 GHz	1.77 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	802.11ac/b/g/n Wi-Fi+BT Module
Brand	SparkLAN
Test Model	WPEQ-262ACNI(BT)
Status of EUT	Mass product
Power Supply Rating	3.3Vdc
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0 Mbps 802.11n: up to 300Mbps 802.11ac: up to 867Mbps
Operating Frequency	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5720 MHz, 5745 ~ 5825 MHz
Number of Channel	5180 ~ 5240 MHz: 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80) 5260 ~ 5320 MHz: 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80) 5500 ~ 5720 MHz: 12 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 6 for 802.11n (HT40), 802.11ac (VHT40) 3 for 802.11ac (VHT80) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80)
Output Power	CDD Mode: 5180 ~ 5240 MHz : 155.276 mW (21.91 dBm) 5260 ~ 5320 MHz : 151.832 mW (21.81 dBm) 5500 ~ 5720 MHz : 159.054 mW (22.02 dBm) 5745 ~ 5825 MHz : 191.905 mW (22.83 dBm) Beamforming Mode: 5180 ~ 5240 MHz : 77.106 mW (18.87 dBm) 5260 ~ 5320 MHz : 75.375 mW (18.77 dBm) 5500 ~ 5720 MHz : 78.987 mW (18.98 dBm) 5745 ~ 5825 MHz : 83.392 mW (19.21 dBm)
EUT Category	Client device

Note:

1. This report is prepared for FCC class II permissive change. This report is issued as a supplementary report to BV CPS report no. RF190625C32. The difference compared with original report is adding antenna and reducing the power, therefore only test item of RF Output Power, AC Power Conducted Emissions and Unwanted Emissions tests were performed for this report. Other testing data please refer to original report.
2. There are Bluetooth and WLAN (2.4 GHz & 5 GHz) technology used for the EUT.
3. 2.4GHz & 5GHz technologies cannot transmit at same time.
4. WLAN & BT technologies cannot transmit at same time.
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. (Antenna 5 is new)

No.	Transmitter Circuit	Brand	Model	Antenna Type	2.4G gain with cable loss (dBi)	5G gain with cable loss (dBi)	Connector Type
1	Chain(0) Chain(1)	Sparklan	AD-300N	Dipole	3	5	RP-SMA
2	Chain(0) Chain(1)	Sparklan	AD-103AG	Dipole	2.02	2.03	RP-SMA
3	Chain(0) Chain(1)	Sparklan	AD-302N	Dipole	3	2	RP-SMA
4	Chain(0) Chain(1)	Sparklan	AD-303N	Dipole	3	3	RP-SMA
5	-	Taolas	MA230.LBC.002	PIFA	1.5	2	RP-SMA

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

2. The EUT provides 2 completed transmitter and 2 receiver.

5 GHz Band			
Modulation Mode	TX & RX Configuration		Beamforming
802.11a	2TX	2RX	Not Support
802.11n (HT20)	2TX	2RX	Support
802.11n (HT40)	2TX	2RX	Support
802.11ac (VHT20)	2TX	2RX	Support
802.11ac (VHT40)	2TX	2RX	Support
802.11ac (VHT80)	2TX	2RX	Support

\* The modulation and bandwidth are similar for 802.11n mode for HT20 / HT40 and 802.11ac mode for VHT20 / VHT40, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

### 3.3 Channel List

#### FOR 5180 ~ 5320 MHz

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

Channel	Frequency	Channel	Frequency
36	5180 MHz	52	5260 MHz
40	5200 MHz	56	5280 MHz
44	5220 MHz	60	5300 MHz
48	5240 MHz	64	5320 MHz

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	54	5270 MHz
46	5230 MHz	62	5310 MHz

2 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
42	5210 MHz	58	5290 MHz

#### FOR 5500 ~ 5720 MHz

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 ~ 5825 MHz:**

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:	EUT can be used in the following ways: X-axis/ Y-axis/ Z-axis. Pre-scan in these ways and find the worst case as a representative test condition.
Worst Case:	The worst case was found when positioned on X-axis.

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

Test Item	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter
RF Output Power	802.11a	CDD	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	6Mb/s
	802.11ac (VHT20)	CDD & Beamforming	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	6.5Mb/s
	802.11ac (VHT40)	CDD & Beamforming	38, 46, 54, 62, 102, 118, 134, 142, 151, 159	BPSK	13.5Mb/s
	802.11ac (VHT80)	CDD & Beamforming	42, 58, 106, 122, 138, 155	BPSK	29.3Mb/s
AC Power Conducted Emissions	802.11a	CDD	149	BPSK	6Mb/s
Unwanted Emissions below 1 GHz	802.11a	CDD	149	BPSK	6Mb/s
Unwanted Emissions above 1 GHz	802.11a	CDD	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	6Mb/s
	802.11ac (VHT20)	CDD	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	6.5Mb/s
	802.11ac (VHT40)	CDD	38, 46, 54, 62, 102, 118, 134, 142, 151, 159	BPSK	13.5Mb/s
	802.11ac (VHT80)	CDD	42, 58, 106, 122, 138, 155	BPSK	29.3Mb/s

### 3.5 Duty Cycle of Test Signal

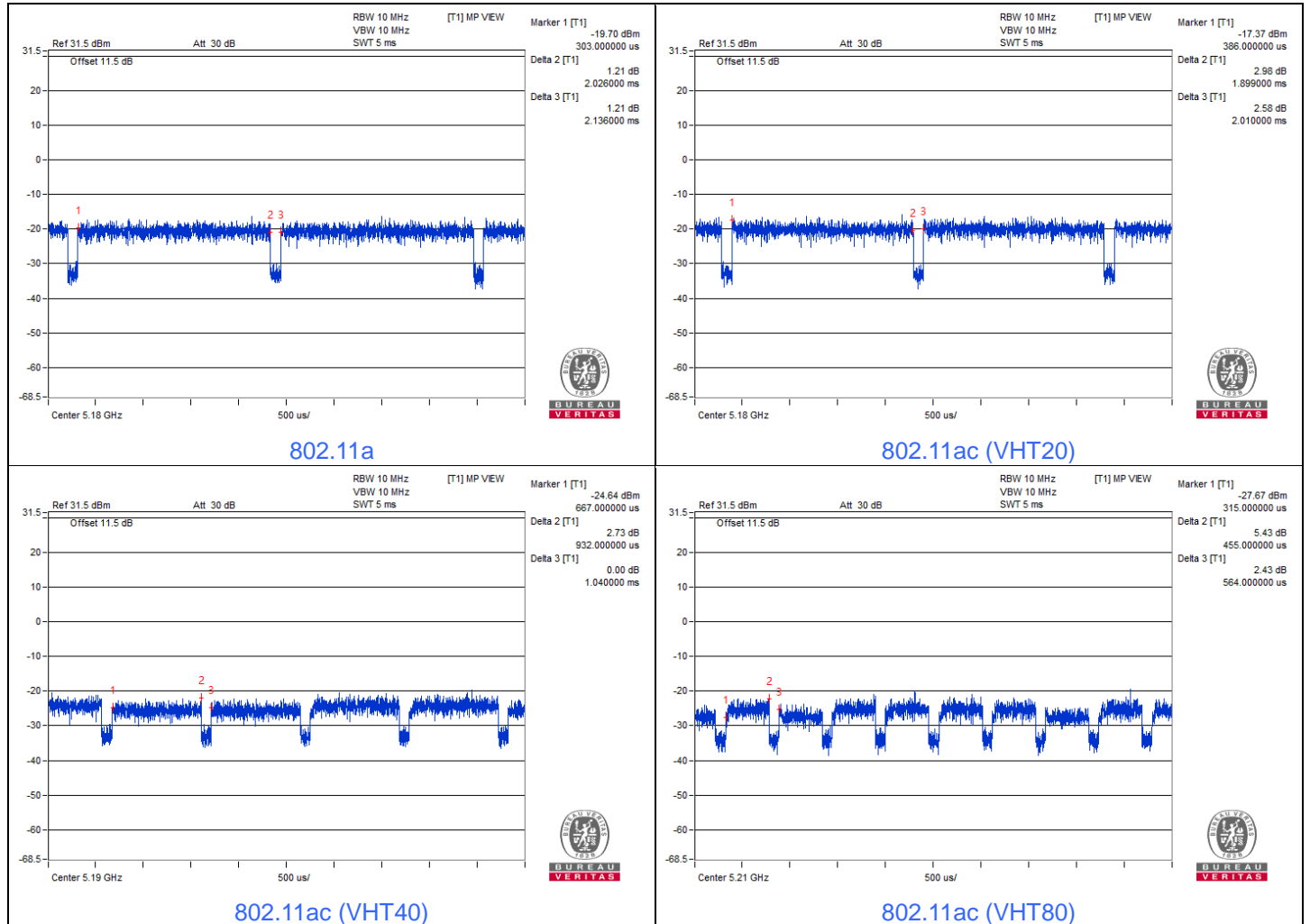
Duty cycle of test signal is < 98 %, duty factor shall be considered.

**802.11a:** Duty cycle = 2.026 ms / 2.136 ms x 100% = 94.9%, duty factor = 10 \* log (1/Duty cycle) = 0.23 dB

**802.11ac (VHT20):** Duty cycle = 1.899 ms / 2.01 ms x 100% = 94.5%, duty factor = 10 \* log (1/Duty cycle) = 0.25 dB

**802.11ac (VHT40):** Duty cycle = 0.932 ms / 1.04 ms x 100% = 89.6%, duty factor = 10 \* log (1/Duty cycle) = 0.48 dB

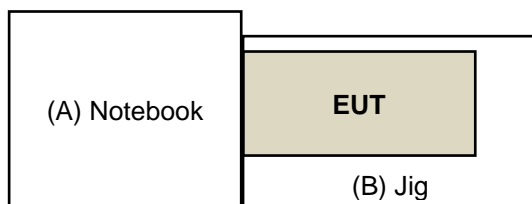
**802.11ac (VHT80):** Duty cycle = 0.455 ms / 0.564 ms x 100% = 80.7%, duty factor = 10 \* log (1/Duty cycle) = 0.93 dB



### 3.6 Test Program Used and Operation Descriptions

Controlling software QCARCT\_3.0.203.0 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	Notebook	Dell	E5430	HMZJ7W1	N/A	Provided by Lab
B	Jig	N/A	N/A	N/A	N/A	Provided by Lab

## 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 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Peak Power Analyzer KEYSIGHT	8990B	MY51000485	2022/1/18	2023/1/17
Power sensor Keysight	U2021XA	MY55380009	2022/3/23	2023/3/22
Software BV	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	100979	2022/3/25	2023/3/24
Wideband Power Sensor(N1923A) KEYSIGHT	N1923A	MY58020002	2022/1/17	2023/1/16

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2022/8/3

### 4.2 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
DC LISN R&S	ESH3-Z6	100219	2021/7/25	2022/7/24
		844950/018	2021/7/25	2022/7/24
DC-LISN SCHWARZBECK MESS- ELETRONIK	NNBM 8126G	8126G-069	2021/11/10	2022/11/9
LISN R&S	ESH2-Z5	100100	2022/2/17	2023/2/16
	ESH3-Z5	100312	2021/9/17	2022/9/16
RF Coaxial Cable WORKEN	5D-FB	Cable-cond2-01	2021/9/4	2022/9/3
Software BVADT	BVADT_Cond_ V7.3.7.4	N/A	N/A	N/A
Test Receiver R&S	ESR3	102783	2021/12/20	2022/12/19
V-LISN Schwarzbeck	NNBL 8226-2	8226-142	2021/8/20	2022/8/19

Notes:

1. The test was performed in HY - Conduction 2.
2. Tested Date: 2022/7/22

### 4.3 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower Max-Full	MFT-151SS-0.5T	N/A	N/A	N/A
Bi-log Broadband Antenna Schwarzbeck	VULB9168	9168-1213	2021/10/27	2022/10/26
Loop Antenna EMCI	EM-6879	269	2021/9/16	2022/9/15
Pre-amplifier EMCI	EMC001340	980201	2021/9/15	2022/9/14
Pre_Amplifier EMCI	EMC330N	980782	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	5D-NM-BM	140903+140902	2022/1/15	2023/1/14
	EMCCFD400-NM-NM- 500	201233	2022/1/17	2023/1/16
	EMCCFD400-NM-NM- 3000	201235	2022/1/17	2023/1/16
	EMCCFD400-NM-NM- 9000	201236	2022/1/17	2023/1/16
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Spectrum Analyzer R&S	FSW43	101866	2022/1/14	2023/1/13
Test Receiver R&S	ESR3+	102782	2021/12/10	2022/12/9
Turn Table Max-Full	MF-7802BS	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208674	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 8.
2. Tested Date: 2022/7/21

#### 4.4 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower Max-Full	MFT-151SS-0.5T	N/A	N/A	N/A
Horn Antenna RFSPIN	DRH18-E	210103A18E	2021/11/14	2022/11/13
Horn Antenna Schwarzbeck	BBHA 9170	9170-1049	2021/11/14	2022/11/13
Pre_Amplifier EMCI	EMC118A45SE	980808	2021/12/30	2022/12/29
	EMC184045SE	980788	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMC101G-KM-KM-2000	201254	2022/1/17	2023/1/16
	EMC101G-KM-KM-3000	201257	2022/1/17	2023/1/16
	EMC101G-KM-KM-5000	201260	2022/1/17	2023/1/16
	EMC104-SM-SM-1000	210102	2022/1/17	2023/1/16
	EMC104-SM-SM-3000	201231	2022/1/17	2023/1/16
	EMC104-SM-SM-9000	201243	2022/1/17	2023/1/16
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Spectrum Analyzer R&S	FSW43	101866	2022/1/14	2023/1/13
Test Receiver R&S	ESR3+	102782	2021/12/10	2022/12/9
Turn Table Max-Full	MF-7802BS	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208674	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 8.
2. Tested Date: 2022/8/9 ~ 2022/8/11

## 5 Limits of Test Items

### 5.1 RF Output Power

Operation Band	EUT Category	Limit
U-NII-1	Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
	Fixed point-to-point Access Point	1 Watt (30 dBm)
	Indoor Access Point	1 Watt (30 dBm)
	Mobile and Portable client device	250mW (24 dBm)

Operation Band	Limit
U-NII-2A	250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	1 Watt (30 dBm)

\*B is the 26 dB emission bandwidth in megahertz

Per KDB 662911 D01 Multiple Transmitter Output Method of conducted output power measurement on IEEE 802.11 devices,

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

Array Gain = 0 dB (i.e., no array gain) for channel widths  $\geq 40$  MHz for any  $N_{ANT}$ ;

Array Gain =  $5 \log(N_{ANT}/N_{SS})$  dB or 3 dB, whichever is less, for 20-MHz channel widths with  $N_{ANT} \geq 5$ .

For power measurements on all other devices: Array Gain =  $10 \log(N_{ANT}/N_{SS})$  dB.

### 5.2 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.



### 5.3 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).

## 5.4 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)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBµV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK: -27 (dBm/MHz) <sup>*1</sup> PK: 10 (dBm/MHz) <sup>*2</sup> PK: 15.6 (dBm/MHz) <sup>*3</sup> PK: 27 (dBm/MHz) <sup>*4</sup>	PK: 68.2 (dBµV/m) <sup>*1</sup> PK: 105.2 (dBµV/m) <sup>*2</sup> PK: 110.8 (dBµV/m) <sup>*3</sup> PK: 122.2 (dBµV/m) <sup>*4</sup>
*1 beyond 75 MHz or more above of the band edge.		*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.	
*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.		*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	

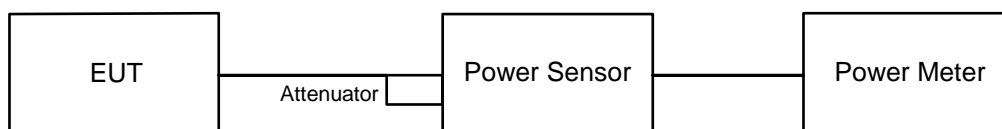
Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

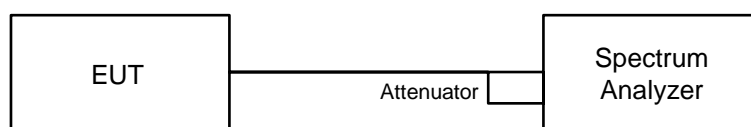
## 6 Test Arrangements

### 6.1 RF Output Power

#### 6.1.1 Test Setup



#### For channel straddling:



#### 6.1.2 Test Procedure

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst and set the detector to average. Duty factor is not added to measured value.

#### For channel straddling:

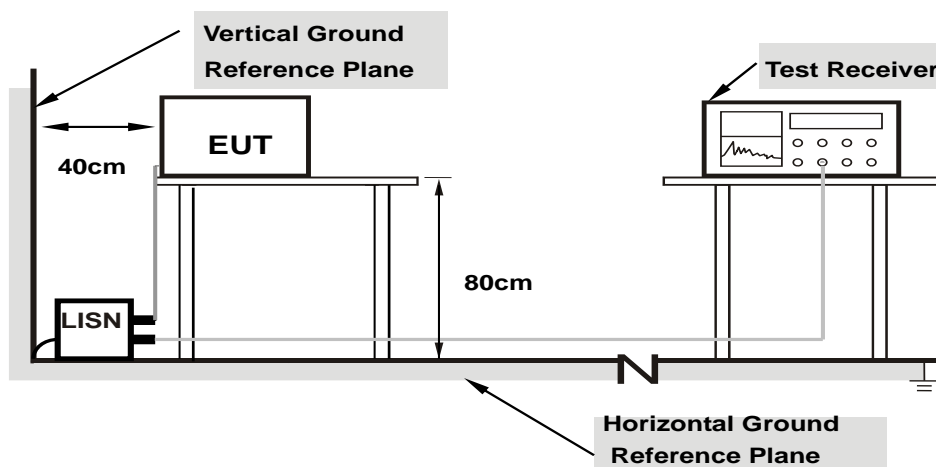
##### Method SA-2

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz, Set VBW  $\geq$  3 MHz, Detector = RMS
- Sweep points  $\geq [2 \times \text{span} / \text{RBW}]$ . (This gives bin-to-bin spacing  $\leq \text{RBW} / 2$ , so that narrowband signals are not lost between frequency bins.) Sweep time = auto, trigger set to "free run".
- Trace average at least 100 traces in power averaging mode.
- Use the peak search function on the instrument to find the peak of the spectrum and record its value.
- Record the max value and add  $10 \log (1/\text{duty cycle})$ .

Note: When measuring straddle channel power, use compute power by integrating the spectrum across the 26 dB EBW or 99% OBW of the signal using the instrument's band power measurement function, with band limits set equal to the EBW or OBW band edges. If the instrument does not have a band power function, then sum the spectrum levels (in power units) at 1 MHz intervals extending across the 26 dB EBW or 99% OBW of the spectrum.

## 6.2 AC Power Conducted Emissions

### 6.2.1 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).

### 6.2.2 Test Procedure

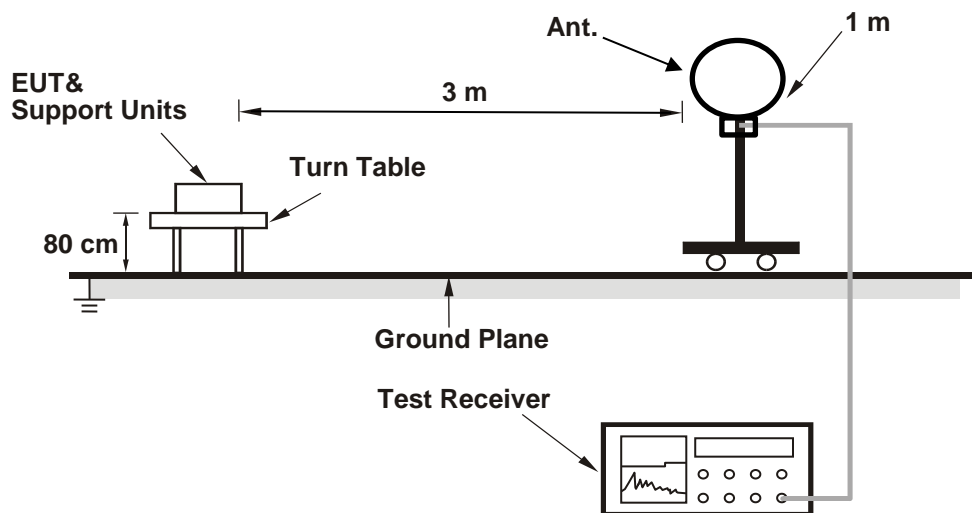
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The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

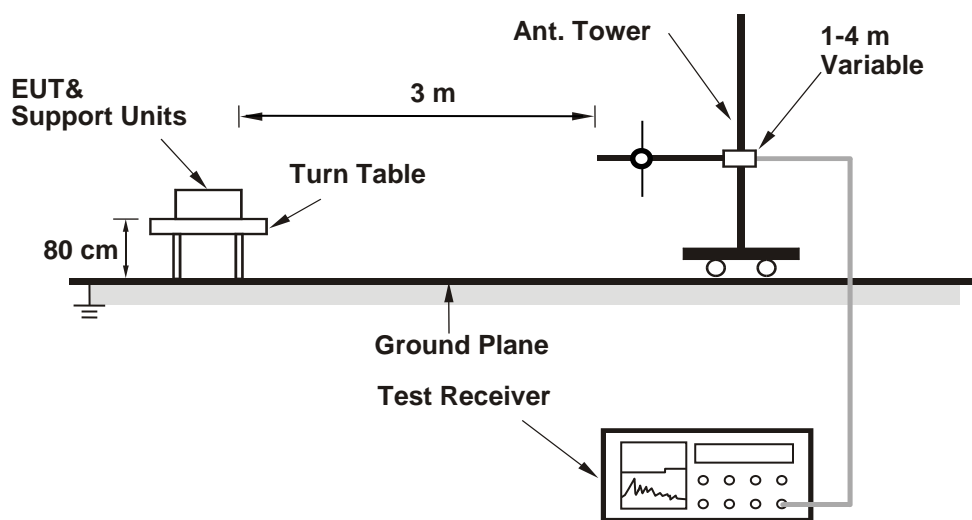
### 6.3 Unwanted Emissions below 1 GHz

#### 6.3.1 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).

### 6.3.2 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.

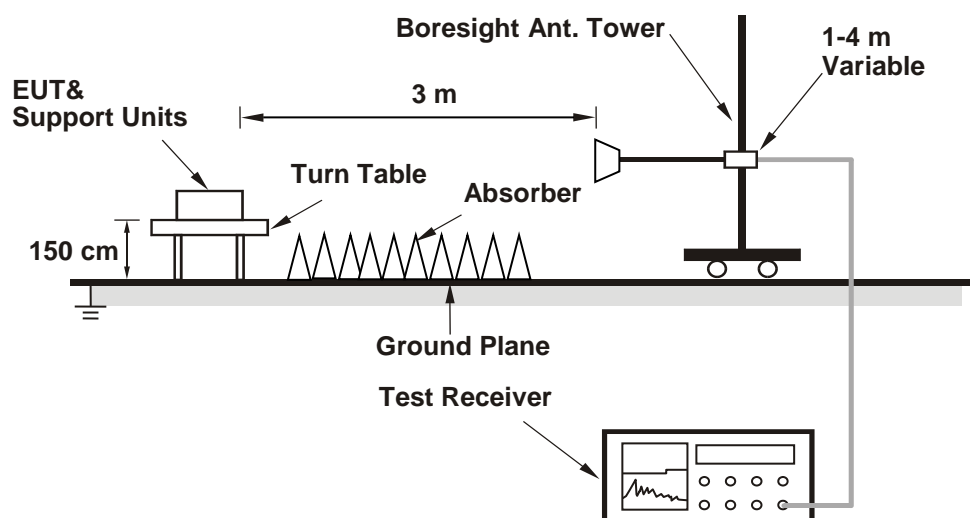
#### Notes:

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.

## 6.4 Unwanted Emissions above 1 GHz

### 6.4.1 Test Setup

#### For Radiated emission above 1 GHz



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

### 6.4.2 Test Procedure

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

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

## 7 Test Results of Test Item

### 7.1 RF Output Power

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Jisyong Wang
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#### CDD Mode:

#### 802.11a

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
36	5180	18.01	18.05	127.068	21.04	24	Pass
40	5200	17.91	17.71	120.822	20.82	24	Pass
48	5240	17.88	17.72	120.532	20.81	24	Pass
52	5260	17.84	17.55	117.699	20.71	24	Pass
60	5300	17.88	17.72	120.532	20.81	24	Pass
64	5320	17.37	17.21	107.178	20.30	24	Pass
100	5500	17.94	17.66	120.575	20.81	24	Pass
116	5580	18.26	18.00	130.084	21.14	24	Pass
140	5700	17.80	17.72	119.412	20.77	24	Pass
*144 (U-NII-2C)	5720	17.01	16.88	104.362	20.19	24	Pass
*144 (U-NII-3)	5720	12.56	12.39	37.289	15.72	30	Pass
149	5745	19.89	19.75	<b>191.905</b>	<b>22.83</b>	30	Pass
157	5785	19.81	19.63	187.553	22.73	30	Pass
165	5825	19.77	19.44	182.744	22.62	30	Pass

#### Notes:

- \* : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test , the duty factor was included in the total power.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.



**802.11ac (VHT20)**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
36	5180	17.75	17.20	112.047	20.49	24	Pass
40	5200	18.83	18.57	148.328	21.71	24	Pass
48	5240	18.83	18.42	145.886	21.64	24	Pass
52	5260	18.76	18.30	142.771	21.55	24	Pass
60	5300	18.84	18.51	147.517	21.69	24	Pass
64	5320	18.89	18.63	150.392	21.77	24	Pass
100	5500	17.78	17.61	117.656	20.71	24	Pass
116	5580	18.99	18.86	156.163	21.94	24	Pass
140	5700	18.39	18.29	136.477	21.35	24	Pass
*144 (U-NII-2C)	5720	17.01	16.77	103.482	20.15	24	Pass
*144 (U-NII-3)	5720	12.88	12.19	38.069	15.81	30	Pass
149	5745	19.34	19.13	167.748	22.25	30	Pass
157	5785	19.25	19.03	164.123	22.15	30	Pass
165	5825	19.22	18.96	162.265	22.10	30	Pass

**Notes:**

1. \* : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test , the duty factor was included in the total power.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-1, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2A, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-2C, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
6. For U-NII-3, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.

**802.11ac (VHT40)**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
38	5190	15.11	14.83	62.843	17.98	24	Pass
46	5230	18.98	18.82	<b>155.276</b>	<b>21.91</b>	24	Pass
54	5270	18.97	18.63	<b>151.832</b>	<b>21.81</b>	24	Pass
62	5310	15.60	15.41	71.061	18.52	24	Pass
102	5510	12.48	12.89	37.155	15.70	24	Pass
118	5590	19.04	18.97	<b>159.054</b>	<b>22.02</b>	24	Pass
134	5670	17.58	17.42	112.487	20.51	24	Pass
*142 (U-NII-2C)	5710	17.58	17.12	121.41	20.84	24	Pass
*142 (U-NII-3)	5710	11.30	10.84	28.593	14.56	30	Pass
151	5755	19.20	19.15	165.401	22.19	30	Pass
159	5795	19.18	19.14	164.829	22.17	30	Pass

**Notes:**

- \* : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test , the duty factor was included in the total power.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.

**802.11ac (VHT80)**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
42	5210	14.25	14.19	52.849	17.23	24	Pass
58	5290	14.04	14.03	50.644	17.05	24	Pass
106	5530	14.57	14.47	56.632	17.53	24	Pass
122	5610	18.92	18.86	154.896	21.90	24	Pass
*138 (U-NII-2C)	5690	17.08	16.67	120.86	20.82	24	Pass
*138 (U-NII-3)	5690	10.85	10.42	28.73	14.58	30	Pass
155	5775	19.07	19.05	161.076	22.07	30	Pass

**Notes:**

- \* : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test , the duty factor was included in the total power.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.

## Beamforming Mode:

### 802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
36	5180	14.72	14.18	55.83	17.47	24	Pass
40	5200	15.81	15.54	73.916	18.69	24	Pass
48	5240	15.80	15.38	72.533	18.61	24	Pass
52	5260	15.73	15.22	70.677	18.49	24	Pass
60	5300	15.79	15.47	73.169	18.64	24	Pass
64	5320	15.89	15.63	<b>75.375</b>	<b>18.77</b>	24	Pass
100	5500	14.74	14.55	58.295	17.66	24	Pass
116	5580	15.93	15.82	77.369	18.89	24	Pass
140	5700	15.35	15.22	67.543	18.30	24	Pass
*144 (U-NII-2C)	5720	13.98	13.72	51.392	17.11	24	Pass
*144 (U-NII-3)	5720	9.85	9.17	18.968	12.78	30	Pass
149	5745	16.29	16.11	<b>83.392</b>	<b>19.21</b>	30	Pass
157	5785	16.21	16.02	81.778	19.13	30	Pass
165	5825	16.20	15.93	80.861	19.08	30	Pass

#### Notes:

- \* : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test , the duty factor was included in the total power.
- Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
- For U-NII-1, the directional gain is 5.01 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the directional gain is 5.01 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the directional gain is 5.01 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the directional gain is 5.01 dBi < 6 dBi, so the output power limit shall not be reduced.

### 802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
38	5190	12.08	11.78	31.21	14.94	24	Pass
46	5230	15.93	15.79	<b>77.106</b>	<b>18.87</b>	24	Pass
54	5270	15.92	15.58	75.225	18.76	24	Pass
62	5310	12.58	12.36	35.332	15.48	24	Pass
102	5510	9.45	9.84	18.449	12.66	24	Pass
118	5590	16.01	15.92	<b>78.987</b>	<b>18.98</b>	24	Pass
134	5670	14.54	14.38	55.86	17.47	24	Pass
*142 (U-NII-2C)	5710	14.51	14.08	60.073	17.79	24	Pass
*142 (U-NII-3)	5710	8.22	7.78	14.1	11.49	30	Pass
151	5755	16.17	16.11	82.232	19.15	30	Pass
159	5795	16.12	16.12	81.852	19.13	30	Pass

Notes:

- \* : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test , the duty factor was included in the total power.
- Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
- For U-NII-1, the directional gain is 5.01 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the directional gain is 5.01 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the directional gain is 5.01 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the directional gain is 5.01 dBi < 6 dBi, so the output power limit shall not be reduced.

### 802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
42	5210	11.22	11.17	26.335	14.21	24	Pass
58	5290	11.04	11.03	25.382	14.05	24	Pass
106	5530	11.55	11.41	28.125	14.49	24	Pass
122	5610	15.90	15.78	76.749	18.85	24	Pass
*138 (U-NII-2C)	5690	14.03	13.65	60.078	17.79	24	Pass
*138 (U-NII-3)	5690	7.83	7.32	14.208	11.53	30	Pass
155	5775	16.02	16.01	79.897	19.03	30	Pass

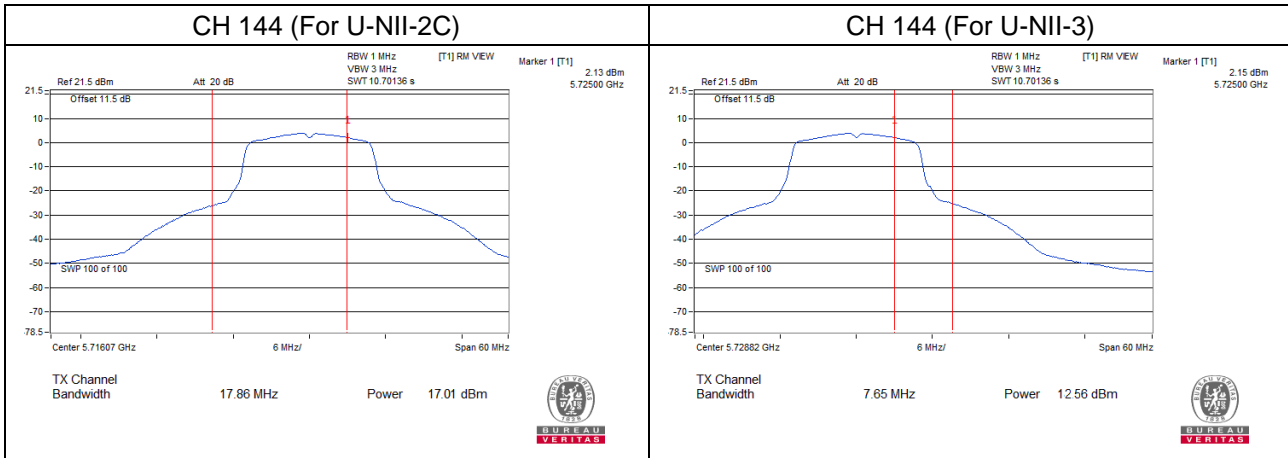
Notes:

- \* : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test , the duty factor was included in the total power.
- Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
- For U-NII-1, the directional gain is 5.01 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the directional gain is 5.01 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the directional gain is 5.01 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the directional gain is 5.01 dBi < 6 dBi, so the output power limit shall not be reduced.

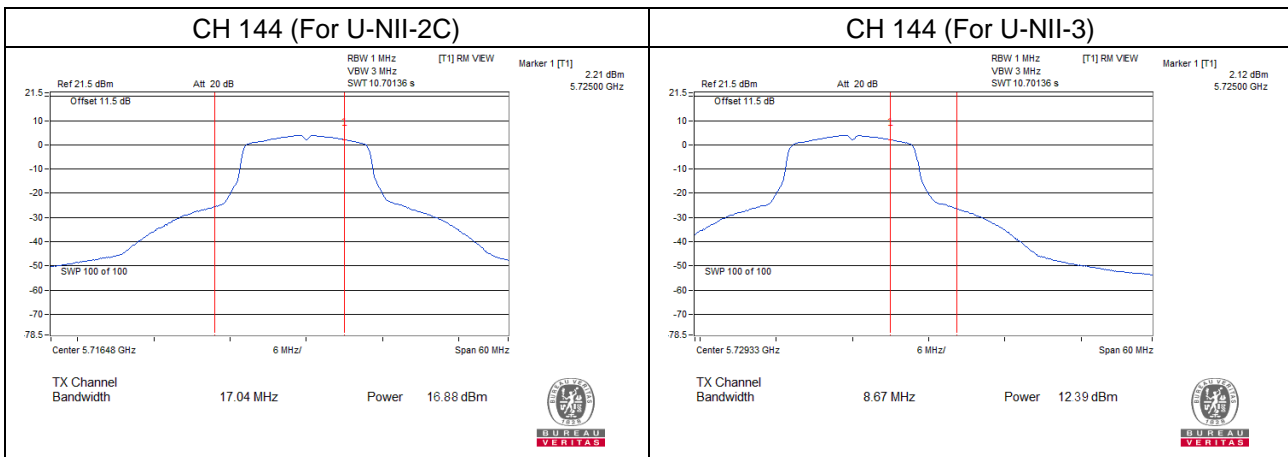
**Straddle channel power plots:**

802.11a

Chain 0

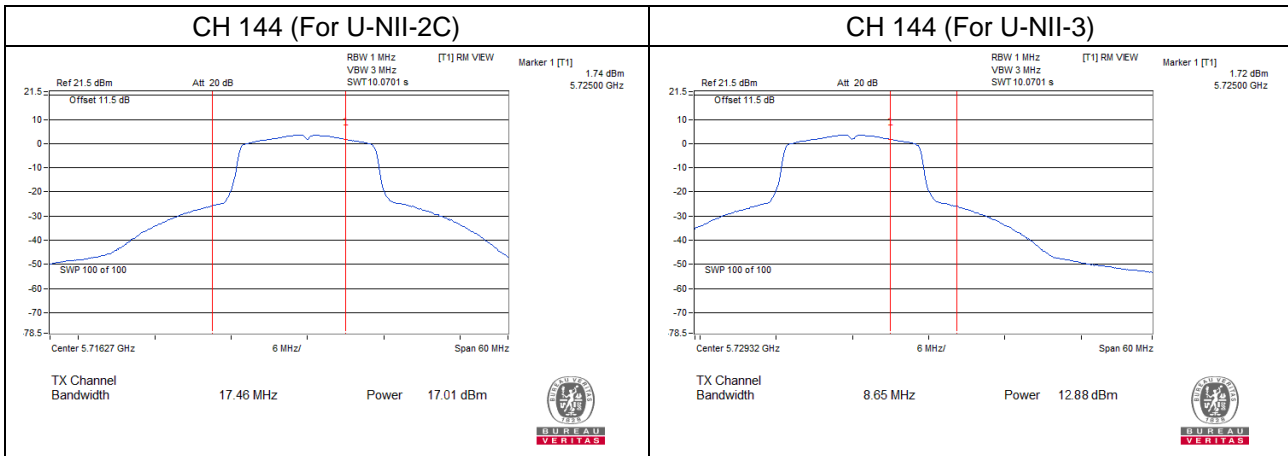


Chain 1

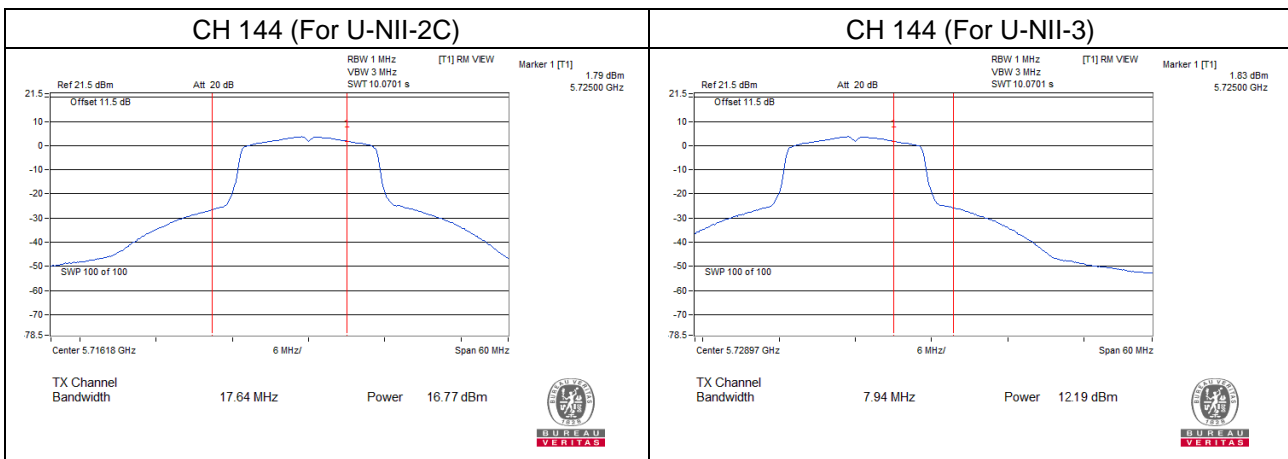


802.11ac (VHT20)

Chain 0

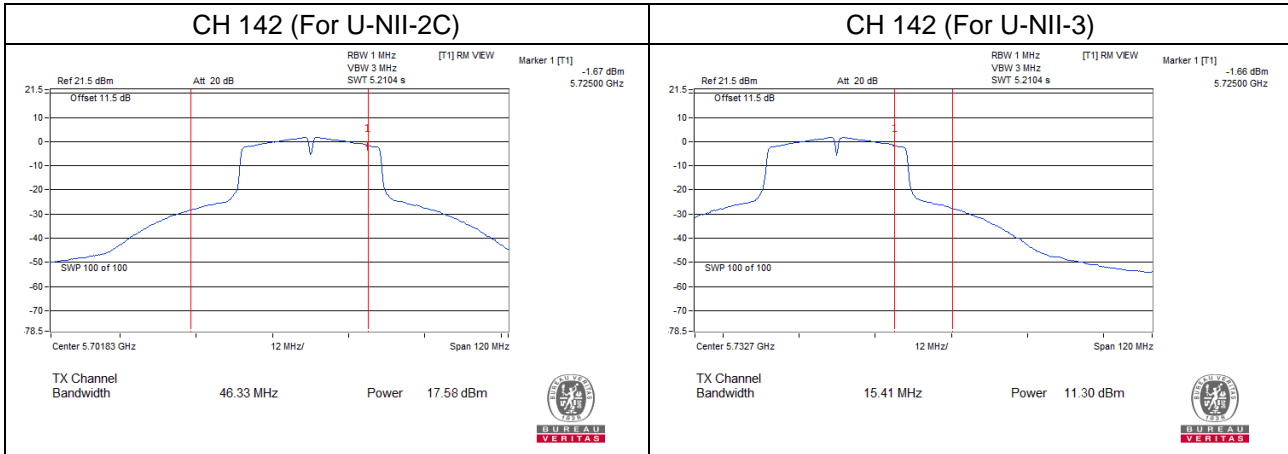


Chain 1

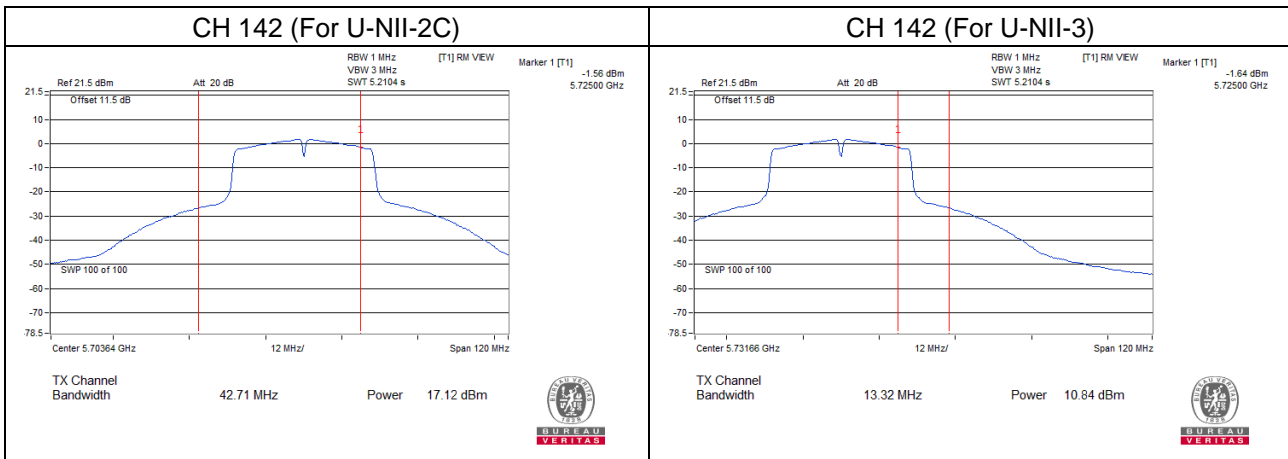


802.11ac (VHT40)

Chain 0

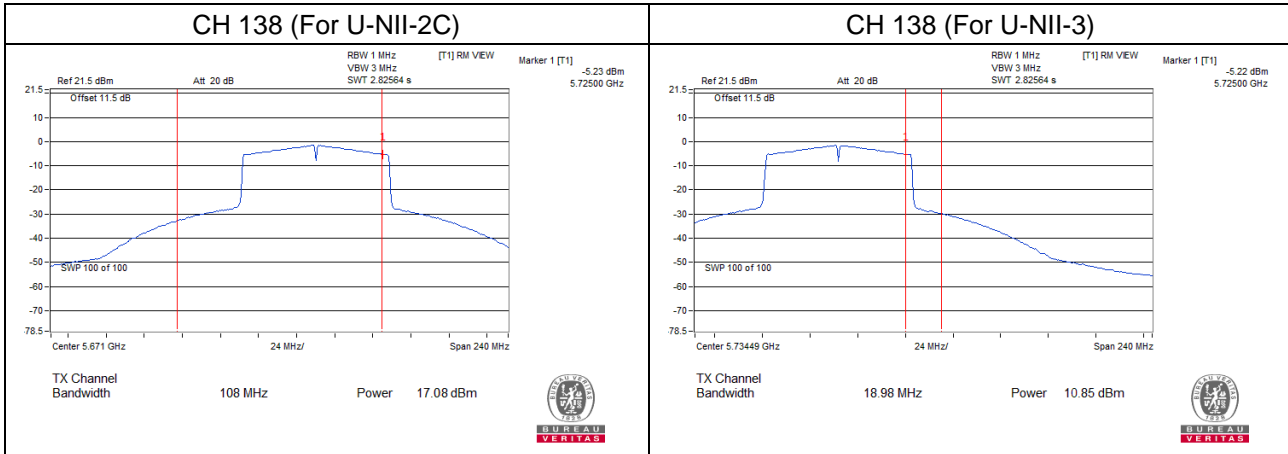


Chain 1

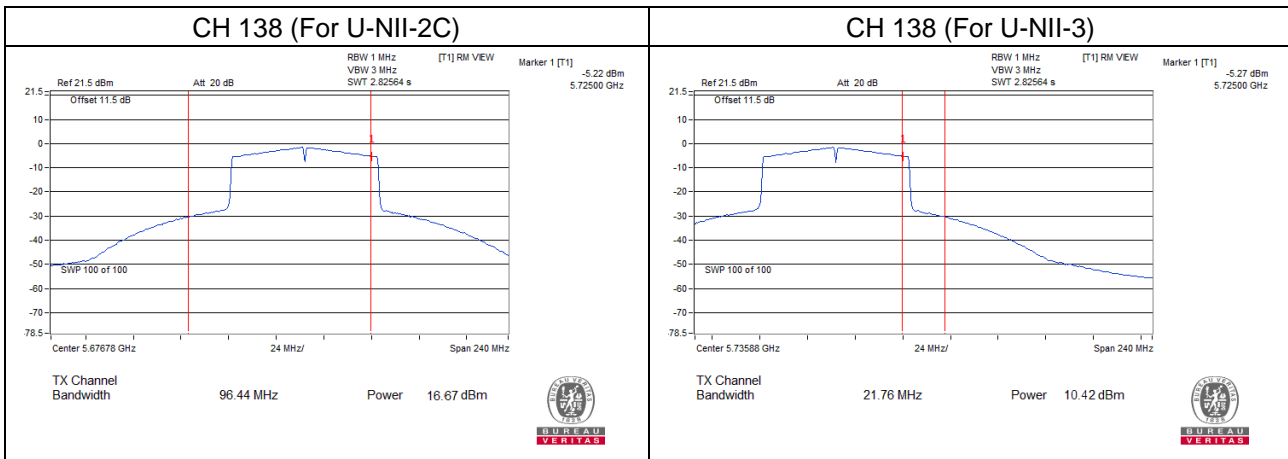


802.11ac (VHT80)

Chain 0



Chain 1





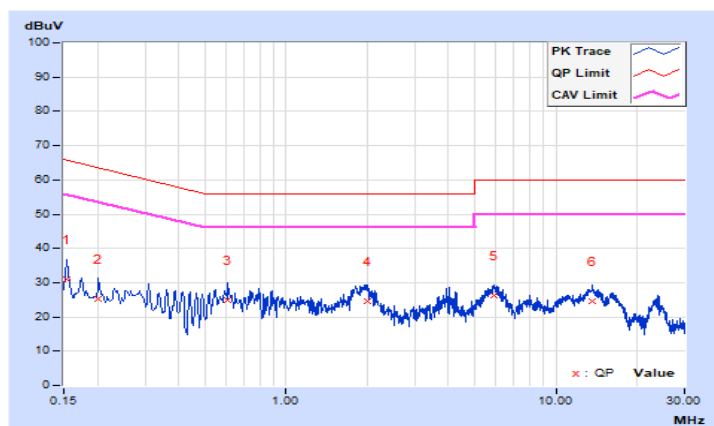
## 7.2 AC Power Conducted Emissions

RF Mode	TX 802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	TitanHSU		

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	0.15400	10.13	20.81	15.21	30.94	25.34	65.78	55.78	-34.84	-30.44
2	0.20200	10.14	14.98	11.25	25.12	21.39	63.53	53.53	-38.41	-32.14
3	0.61000	10.17	14.60	8.14	24.77	18.31	56.00	46.00	-31.23	-27.69
4	2.01400	10.22	14.28	7.96	24.50	18.18	56.00	46.00	-31.50	-27.82
5	5.91800	10.26	15.97	10.08	26.23	20.34	60.00	50.00	-33.77	-29.66
6	13.71000	10.32	14.20	8.70	24.52	19.02	60.00	50.00	-35.48	-30.98

### 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

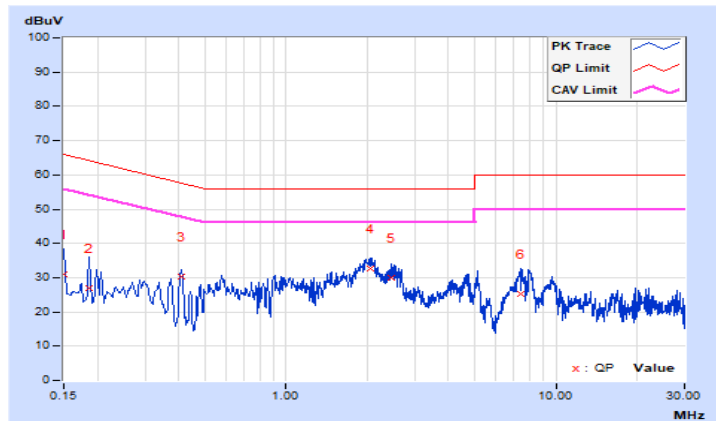


<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 149 : 5745 MHz
<b>Frequency Range</b>	150 kHz ~ 30 MHz	<b>Detector Function &amp; Resolution Bandwidth</b>	Quasi-Peak (QP) / Average (AV), 9 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 66% RH
<b>Tested By</b>	TitanHSU		

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	0.15000	10.14	20.96	10.47	31.10	20.61	66.00	56.00	-34.90	-35.39
2	0.18600	10.15	16.63	6.62	26.78	16.77	64.21	54.21	-37.43	-37.44
<b>3</b>	<b>0.40927</b>	<b>10.17</b>	<b>20.28</b>	<b>17.93</b>	<b>30.45</b>	<b>28.10</b>	<b>57.66</b>	<b>47.66</b>	<b>-27.21</b>	<b>-19.56</b>
4	2.04600	10.23	22.51	15.35	32.74	25.58	56.00	46.00	-23.26	-20.42
5	2.47000	10.24	19.69	11.38	29.93	21.62	56.00	46.00	-26.07	-24.38
6	7.38600	10.32	14.89	7.52	25.21	17.84	60.00	50.00	-34.79	-32.16

**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



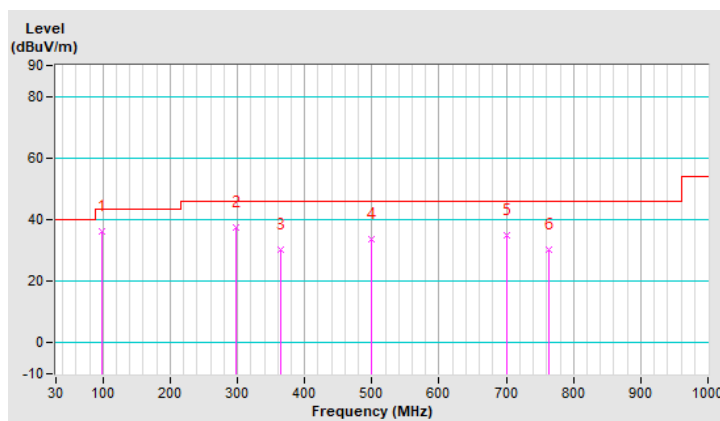
### 7.3 Unwanted Emissions below 1 GHz

<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 149 : 5745 MHz
<b>Frequency Range</b>	9 kHz ~ 1 GHz	<b>Detector Function &amp; Bandwidth</b>	(QP) RB = 120kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 66% RH
<b>Tested By</b>	Titan Hsu		

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	98.88	36.4 QP	43.5	-7.1	1.99 H	177	54.2	-17.9
2	298.51	37.7 QP	46.0	-8.4	1.00 H	149	50.3	-12.7
3	364.58	30.2 QP	46.0	-15.8	1.00 H	124	41.4	-11.1
4	499.54	33.5 QP	46.0	-12.5	1.49 H	215	41.4	-7.9
5	700.57	34.8 QP	46.0	-11.2	1.00 H	283	38.9	-4.1
6	762.42	30.1 QP	46.0	-16.0	1.99 H	339	33.0	-2.9

#### 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 of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

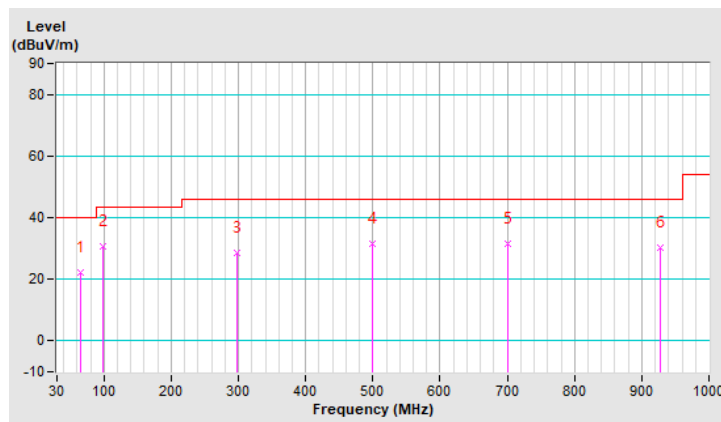


<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 149 : 5745 MHz
<b>Frequency Range</b>	9 kHz ~ 1 GHz	<b>Detector Function &amp; Bandwidth</b>	(QP) RB = 120kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 66% RH
<b>Tested By</b>	Titan Hsu		

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	65.14	22.1 QP	40.0	-17.9	1.01 V	30	36.9	-14.8
2	98.88	30.8 QP	43.5	-12.7	2.50 V	109	48.7	-17.9
3	298.51	28.5 QP	46.0	-17.5	2.50 V	259	41.1	-12.7
4	499.54	31.6 QP	46.0	-14.5	1.50 V	169	39.5	-7.9
5	700.57	31.6 QP	46.0	-14.5	1.01 V	83	35.6	-4.1
6	926.90	30.1 QP	46.0	-15.9	2.50 V	317	30.8	-0.6

**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 of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



#### 7.4 Unwanted Emissions above 1 GHz

<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 36 : 5180 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 67% RH
<b>Tested By</b>	Thomas Cheng		

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	5150.00	53.3 PK	74.0	-20.7	1.29 H	2	70.0	-16.7
2	5150.00	44.7 AV	54.0	-9.3	1.29 H	2	61.4	-16.7
3	*5180.00	110.9 PK			1.29 H	2	74.6	36.3
4	*5180.00	103.0 AV			1.29 H	2	66.7	36.3
5	#10360.00	53.2 PK	68.2	-15.0	1.91 H	174	57.4	-4.2
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	5150.00	52.2 PK	74.0	-21.8	2.86 V	350	68.9	-16.7
2	5150.00	42.5 AV	54.0	-11.5	2.86 V	350	59.2	-16.7
3	*5180.00	108.4 PK			2.86 V	350	72.1	36.3
4	*5180.00	100.5 AV			2.86 V	350	64.2	36.3
5	#10360.00	52.1 PK	68.2	-16.1	2.15 V	138	56.3	-4.2

#### 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.



<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 40 : 5200 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 67% RH
<b>Tested By</b>	Thomas Cheng		

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	*5200.00	111.0 PK			1.03 H	357	74.7	36.3
2	*5200.00	103.0 AV			1.03 H	357	66.7	36.3
3	#10400.00	53.8 PK	68.2	-14.4	1.81 H	254	57.7	-3.9
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	*5200.00	108.4 PK			2.86 V	354	72.1	36.3
2	*5200.00	100.5 AV			2.86 V	354	64.2	36.3
3	#10400.00	52.9 PK	68.2	-15.3	3.57 V	257	56.8	-3.9

**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.



<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 48 : 5240 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 67% RH
<b>Tested By</b>	Thomas Cheng		

**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	*5240.00	111.1 PK			1.16 H	360	74.8	36.3
2	*5240.00	102.9 AV			1.16 H	360	66.6	36.3
3	5350.00	50.3 PK	74.0	-23.7	1.16 H	360	66.8	-16.5
4	5350.00	40.6 AV	54.0	-13.4	1.16 H	360	57.1	-16.5
5	#10480.00	53.1 PK	68.2	-15.1	1.08 H	340	57.0	-3.9

**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	*5240.00	107.7 PK			2.94 V	344	71.4	36.3
2	*5240.00	100.0 AV			2.94 V	344	63.7	36.3
3	5350.00	50.2 PK	74.0	-23.8	2.94 V	344	66.7	-16.5
4	5350.00	39.9 AV	54.0	-14.1	2.94 V	344	56.4	-16.5
5	#10480.00	53.0 PK	68.2	-15.2	3.62 V	109	56.9	-3.9

**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.



<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 52 : 5260 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 67% RH
<b>Tested By</b>	Thomas Cheng		

**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	5150.00	50.6 PK	74.0	-23.4	1.33 H	1	67.3	-16.7
2	5150.00	40.5 AV	54.0	-13.5	1.33 H	1	57.2	-16.7
3	*5260.00	109.4 PK			1.33 H	1	73.2	36.2
4	*5260.00	102.1 AV			1.33 H	1	65.9	36.2
5	#10520.00	53.2 PK	68.2	-15.0	3.20 H	261	57.1	-3.9

**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	5150.00	50.5 PK	74.0	-23.5	2.97 V	346	67.2	-16.7
2	5150.00	40.4 AV	54.0	-13.6	2.97 V	346	57.1	-16.7
3	*5260.00	107.4 PK			2.97 V	346	71.2	36.2
4	*5260.00	99.9 AV			2.97 V	346	63.7	36.2
5	#10520.00	52.8 PK	68.2	-15.4	2.17 V	272	56.7	-3.9

**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.





<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 60 : 5300 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 67% RH
<b>Tested By</b>	Thomas Cheng		

**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	*5300.00	109.8 PK			1.07 H	358	73.7	36.1
2	*5300.00	102.0 AV			1.07 H	358	65.9	36.1
3	10600.00	53.9 PK	74.0	-20.1	3.26 H	67	57.7	-3.8
4	10600.00	43.7 AV	54.0	-10.3	3.26 H	67	47.5	-3.8

**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	*5300.00	107.3 PK			2.80 V	344	71.2	36.1
2	*5300.00	99.8 AV			2.80 V	344	63.7	36.1
3	10600.00	53.2 PK	74.0	-20.8	1.48 V	232	57.0	-3.8
4	10600.00	42.6 AV	54.0	-11.4	1.48 V	232	46.4	-3.8

**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.



<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 64 : 5320 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 67% RH
<b>Tested By</b>	Thomas Cheng		

**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	*5320.00	109.1 PK			1.27 H	2	73.0	36.1
2	*5320.00	101.6 AV			1.27 H	2	65.5	36.1
3	5350.00	53.4 PK	74.0	-20.6	1.27 H	2	69.9	-16.5
4	5350.00	43.5 AV	54.0	-10.5	1.27 H	2	60.0	-16.5
5	10640.00	53.2 PK	74.0	-20.8	2.95 H	157	56.8	-3.6
6	10640.00	43.2 AV	54.0	-10.8	2.95 H	157	46.8	-3.6

**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	*5320.00	107.4 PK			2.86 V	350	71.3	36.1
2	*5320.00	99.9 AV			2.86 V	350	63.8	36.1
3	5350.00	51.9 PK	74.0	-22.1	2.86 V	350	68.4	-16.5
4	5350.00	42.5 AV	54.0	-11.5	2.86 V	350	59.0	-16.5
5	10640.00	53.0 PK	74.0	-21.0	3.33 V	315	56.6	-3.6
6	10640.00	43.0 AV	54.0	-11.0	3.33 V	315	46.6	-3.6

**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.



<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 100 : 5500 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 67% RH
<b>Tested By</b>	Thomas Cheng		

**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	51.6 PK	74.0	-22.4	1.11 H	3	67.7	-16.1
2	5460.00	41.3 AV	54.0	-12.7	1.11 H	3	57.4	-16.1
3	#5470.00	56.3 PK	68.2	-11.9	1.11 H	3	72.5	-16.2
4	*5500.00	110.1 PK			1.11 H	3	73.6	36.5
5	*5500.00	101.9 AV			1.11 H	3	65.4	36.5
6	11000.00	53.5 PK	74.0	-20.5	1.28 H	85	57.2	-3.7
7	11000.00	43.4 AV	54.0	-10.6	1.28 H	85	47.1	-3.7

**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	50.9 PK	74.0	-23.1	2.98 V	335	67.0	-16.1
2	5460.00	41.2 AV	54.0	-12.8	2.98 V	335	57.3	-16.1
3	#5470.00	54.7 PK	68.2	-13.5	2.98 V	335	70.9	-16.2
4	*5500.00	107.8 PK			2.98 V	335	71.3	36.5
5	*5500.00	99.9 AV			2.98 V	335	63.4	36.5
6	11000.00	53.2 PK	74.0	-20.8	3.97 V	262	56.9	-3.7
7	11000.00	43.1 AV	54.0	-10.9	3.97 V	262	46.8	-3.7

**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.



<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 116 : 5580 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 67% RH
<b>Tested By</b>	Thomas Cheng		

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	110.7 PK			1.05 H	63	74.0	36.7
2	*5580.00	102.7 AV			1.05 H	63	66.0	36.7
3	11160.00	53.8 PK	74.0	-20.2	3.85 H	106	57.3	-3.5
4	11160.00	43.7 AV	54.0	-10.3	3.85 H	106	47.2	-3.5

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	108.7 PK			2.89 V	336	72.0	36.7
2	*5580.00	100.8 AV			2.89 V	336	64.1	36.7
3	11160.00	53.0 PK	74.0	-21.0	2.37 V	80	56.5	-3.5
4	11160.00	43.5 AV	54.0	-10.5	2.37 V	80	47.0	-3.5

**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.



<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 140 : 5700 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 67% RH
<b>Tested By</b>	Thomas Cheng		

**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	109.6 PK			1.22 H	55	72.5	37.1
2	*5700.00	102.2 AV			1.22 H	55	65.1	37.1
3	#5725.00	56.0 PK	68.2	-12.2	1.22 H	55	71.7	-15.7
4	11400.00	54.7 PK	74.0	-19.3	2.52 H	170	57.2	-2.5
5	11400.00	44.6 AV	54.0	-9.4	2.52 H	170	47.1	-2.5

**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	107.5 PK			2.92 V	334	70.4	37.1
2	*5700.00	100.5 AV			2.92 V	334	63.4	37.1
3	#5725.00	55.8 PK	68.2	-12.4	2.92 V	334	71.5	-15.7
4	11400.00	54.2 PK	74.0	-19.8	2.86 V	222	56.7	-2.5
5	11400.00	44.2 AV	54.0	-9.8	2.86 V	222	46.7	-2.5

**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.



<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 144 : 5720 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 67% RH
<b>Tested By</b>	Thomas Cheng		

**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	*5720.00	110.9 PK			1.20 H	54	73.9	37.0
2	*5720.00	102.8 AV			1.20 H	54	65.8	37.0
3	#5850.00	50.8 PK	68.2	-17.4	1.20 H	54	66.2	-15.4
4	11440.00	54.3 PK	74.0	-19.7	3.52 H	250	56.8	-2.5
5	11440.00	44.6 AV	54.0	-9.4	3.52 H	250	47.1	-2.5

**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	*5720.00	109.1 PK			3.05 V	338	72.1	37.0
2	*5720.00	101.3 AV			3.05 V	338	64.3	37.0
3	#5850.00	50.7 PK	68.2	-17.5	3.05 V	338	66.1	-15.4
4	11440.00	54.1 PK	74.0	-19.9	3.30 V	184	56.6	-2.5
5	11440.00	44.3 AV	54.0	-9.7	3.30 V	184	46.8	-2.5

**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.



<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 149 : 5745 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 67% RH
<b>Tested By</b>	Thomas Cheng		

**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	#5632.00	50.5 PK	68.2	-17.7	1.12 H	118	66.4	-15.9
2	*5745.00	112.2 PK			1.12 H	118	75.2	37.0
3	*5745.00	103.6 AV			1.12 H	118	66.6	37.0
4	#5931.20	51.6 PK	68.2	-16.6	1.12 H	118	67.0	-15.4
5	11490.00	54.8 PK	74.0	-19.2	1.46 H	186	57.3	-2.5
6	11490.00	44.7 AV	54.0	-9.3	1.46 H	186	47.2	-2.5

**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	#5631.60	50.7 PK	68.2	-17.5	2.93 V	335	66.6	-15.9
2	*5745.00	110.4 PK			2.93 V	335	73.4	37.0
3	*5745.00	101.9 AV			2.93 V	335	64.9	37.0
4	#5952.40	50.3 PK	68.2	-17.9	2.93 V	335	65.9	-15.6
5	11490.00	54.2 PK	74.0	-19.8	2.31 V	76	56.7	-2.5
6	11490.00	44.4 AV	54.0	-9.6	2.31 V	76	46.9	-2.5

**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.



<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 157 : 5785 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 67% RH
<b>Tested By</b>	Thomas Cheng		

**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	#5637.60	51.0 PK	68.2	-17.2	1.15 H	53	66.9	-15.9
2	*5785.00	111.9 PK			1.15 H	53	74.9	37.0
3	*5785.00	103.4 AV			1.15 H	53	66.4	37.0
4	#5956.40	50.3 PK	68.2	-17.9	1.15 H	53	65.8	-15.5
5	11570.00	54.6 PK	74.0	-19.4	1.52 H	18	57.4	-2.8
6	11570.00	44.4 AV	54.0	-9.6	1.52 H	18	47.2	-2.8

**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	#5633.20	51.5 PK	68.2	-16.7	2.97 V	331	67.4	-15.9
2	*5785.00	109.4 PK			2.97 V	331	72.4	37.0
3	*5785.00	101.8 AV			2.97 V	331	64.8	37.0
4	#5938.40	49.6 PK	68.2	-18.6	2.97 V	331	65.0	-15.4
5	11570.00	53.8 PK	74.0	-20.2	2.72 V	327	56.6	-2.8
6	11570.00	44.2 AV	54.0	-9.8	2.72 V	327	47.0	-2.8

**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.





<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 165 : 5825 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 67% RH
<b>Tested By</b>	Thomas Cheng		

**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	#5621.60	51.8 PK	68.2	-16.4	1.15 H	70	67.7	-15.9
2	*5825.00	110.7 PK			1.15 H	70	73.5	37.2
3	*5825.00	103.6 AV			1.15 H	70	66.4	37.2
4	#5940.00	50.2 PK	68.2	-18.0	1.15 H	70	65.6	-15.4
5	11650.00	53.8 PK	74.0	-20.2	3.08 H	190	57.1	-3.3
6	11650.00	43.6 AV	54.0	-10.4	3.08 H	190	46.9	-3.3

**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	#5638.80	51.0 PK	68.2	-17.2	2.91 V	328	66.9	-15.9
2	*5825.00	109.5 PK			2.91 V	328	72.3	37.2
3	*5825.00	101.7 AV			2.91 V	328	64.5	37.2
4	#5943.60	50.8 PK	68.2	-17.4	2.91 V	328	66.2	-15.4
5	11650.00	53.5 PK	74.0	-20.5	1.84 V	328	56.8	-3.3
6	11650.00	43.1 AV	54.0	-10.9	1.84 V	328	46.4	-3.3

**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.



<b>RF Mode</b>	TX 802.11ac (VHT20)	<b>Channel</b>	CH 36 : 5180 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	5150.00	54.6 PK	74.0	-19.4	1.11 H	120	71.3	-16.7
2	5150.00	44.0 AV	54.0	-10.0	1.11 H	120	60.7	-16.7
3	*5180.00	110.9 PK			1.11 H	120	74.6	36.3
4	*5180.00	102.2 AV			1.11 H	120	65.9	36.3
5	#10360.00	52.6 PK	68.2	-15.6	2.43 H	280	56.8	-4.2

**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	5150.00	50.5 PK	74.0	-23.5	2.62 V	336	67.2	-16.7
2	5150.00	41.1 AV	54.0	-12.9	2.62 V	336	57.8	-16.7
3	*5180.00	108.1 PK			2.62 V	336	71.8	36.3
4	*5180.00	100.0 AV			2.62 V	336	63.7	36.3
5	#10360.00	52.4 PK	68.2	-15.8	2.77 V	226	56.6	-4.2

**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.



<b>RF Mode</b>	TX 802.11ac (VHT20)	<b>Channel</b>	CH 40 : 5200 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

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	*5200.00	110.9 PK			1.22 H	117	74.6	36.3
2	*5200.00	103.2 AV			1.22 H	117	66.9	36.3
3	#10400.00	53.4 PK	68.2	-14.8	2.36 H	353	57.3	-3.9
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	*5200.00	108.7 PK			2.85 V	336	72.4	36.3
2	*5200.00	100.8 AV			2.85 V	336	64.5	36.3
3	#10400.00	53.2 PK	68.2	-15.0	1.68 V	181	57.1	-3.9

**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.



<b>RF Mode</b>	TX 802.11ac (VHT20)	<b>Channel</b>	CH 48 : 5240 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	*5240.00	110.7 PK			1.17 H	121	74.4	36.3
2	*5240.00	103.0 AV			1.17 H	121	66.7	36.3
3	5350.00	50.5 PK	74.0	-23.5	1.17 H	121	67.0	-16.5
4	5350.00	40.1 AV	54.0	-13.9	1.17 H	121	56.6	-16.5
5	#10480.00	53.1 PK	68.2	-15.1	2.95 H	149	57.0	-3.9

**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	*5240.00	108.5 PK			2.68 V	334	72.2	36.3
2	*5240.00	100.6 AV			2.68 V	334	64.3	36.3
3	5350.00	50.1 PK	74.0	-23.9	2.68 V	334	66.6	-16.5
4	5350.00	40.0 AV	54.0	-14.0	2.68 V	334	56.5	-16.5
5	#10480.00	52.9 PK	68.2	-15.3	3.70 V	161	56.8	-3.9

**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.



<b>RF Mode</b>	TX 802.11ac (VHT20)	<b>Channel</b>	CH 52 : 5260 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	5150.00	51.3 PK	74.0	-22.7	1.20 H	121	68.0	-16.7
2	5150.00	40.5 AV	54.0	-13.5	1.20 H	121	57.2	-16.7
3	*5260.00	110.5 PK			1.20 H	121	74.3	36.2
4	*5260.00	102.5 AV			1.20 H	121	66.3	36.2
5	#10520.00	52.9 PK	68.2	-15.3	1.61 H	230	56.8	-3.9

**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	5150.00	51.2 PK	74.0	-22.8	2.91 V	334	67.9	-16.7
2	5150.00	40.4 AV	54.0	-13.6	2.91 V	334	57.1	-16.7
3	*5260.00	108.4 PK			2.91 V	334	72.2	36.2
4	*5260.00	100.4 AV			2.91 V	334	64.2	36.2
5	#10520.00	52.8 PK	68.2	-15.4	1.40 V	207	56.7	-3.9

**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.



<b>RF Mode</b>	TX 802.11ac (VHT20)	<b>Channel</b>	CH 60 : 5300 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	*5300.00	110.4 PK			1.08 H	125	74.3	36.1
2	*5300.00	102.4 AV			1.08 H	125	66.3	36.1
3	10600.00	53.5 PK	74.0	-20.5	2.10 H	181	57.3	-3.8
4	10600.00	43.0 AV	54.0	-11.0	2.10 H	181	46.8	-3.8

**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	*5300.00	108.1 PK			2.74 V	327	72.0	36.1
2	*5300.00	100.2 AV			2.74 V	327	64.1	36.1
3	10600.00	53.3 PK	74.0	-20.7	2.89 V	220	57.1	-3.8
4	10600.00	42.9 AV	54.0	-11.1	2.89 V	220	46.7	-3.8

**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.



<b>RF Mode</b>	TX 802.11ac (VHT20)	<b>Channel</b>	CH 64 : 5320 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	*5320.00	110.5 PK			1.00 H	122	74.4	36.1
2	*5320.00	102.6 AV			1.00 H	122	66.5	36.1
3	5350.00	56.9 PK	74.0	-17.1	1.00 H	122	73.4	-16.5
4	5350.00	46.1 AV	54.0	-7.9	1.00 H	122	62.6	-16.5
5	10640.00	53.2 PK	74.0	-20.8	1.55 H	207	56.8	-3.6
6	10640.00	43.1 AV	54.0	-10.9	1.55 H	207	46.7	-3.6

**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	*5320.00	108.8 PK			2.77 V	332	72.7	36.1
2	*5320.00	101.2 AV			2.77 V	332	65.1	36.1
3	5350.00	56.1 PK	74.0	-17.9	2.77 V	332	72.6	-16.5
4	5350.00	45.8 AV	54.0	-8.2	2.77 V	332	62.3	-16.5
5	10640.00	52.9 PK	74.0	-21.1	1.21 V	321	56.5	-3.6
6	10640.00	42.9 AV	54.0	-11.1	1.21 V	321	46.5	-3.6

**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.



<b>RF Mode</b>	TX 802.11ac (VHT20)	<b>Channel</b>	CH 100 : 5500 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	51.3 PK	74.0	-22.7	1.29 H	356	67.4	-16.1
2	5460.00	41.0 AV	54.0	-13.0	1.29 H	356	57.1	-16.1
3	#5470.00	54.0 PK	68.2	-14.2	1.29 H	356	70.2	-16.2
4	*5500.00	109.5 PK			1.29 H	356	73.0	36.5
5	*5500.00	101.4 AV			1.29 H	356	64.9	36.5
6	11000.00	53.6 PK	74.0	-20.4	1.52 H	228	57.3	-3.7
7	11000.00	43.5 AV	54.0	-10.5	1.52 H	228	47.2	-3.7

**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	50.9 PK	74.0	-23.1	2.84 V	347	67.0	-16.1
2	5460.00	40.9 AV	54.0	-13.1	2.84 V	347	57.0	-16.1
3	#5470.00	56.1 PK	68.2	-12.1	2.84 V	347	72.3	-16.2
4	*5500.00	107.9 PK			2.84 V	347	71.4	36.5
5	*5500.00	100.0 AV			2.84 V	347	63.5	36.5
6	11000.00	53.2 PK	74.0	-20.8	2.78 V	191	56.9	-3.7
7	11000.00	43.3 AV	54.0	-10.7	2.78 V	191	47.0	-3.7

**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.





<b>RF Mode</b>	TX 802.11ac (VHT20)	<b>Channel</b>	CH 116 : 5580 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	111.3 PK			1.19 H	355	74.6	36.7
2	*5580.00	102.7 AV			1.19 H	355	66.0	36.7
3	11160.00	53.2 PK	74.0	-20.8	3.01 H	359	56.7	-3.5
4	11160.00	44.0 AV	54.0	-10.0	3.01 H	359	47.5	-3.5

**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	109.3 PK			2.89 V	347	72.6	36.7
2	*5580.00	101.5 AV			2.89 V	347	64.8	36.7
3	11160.00	52.9 PK	74.0	-21.1	1.40 V	322	56.4	-3.5
4	11160.00	43.3 AV	54.0	-10.7	1.40 V	322	46.8	-3.5

**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.

<b>RF Mode</b>	TX 802.11ac (VHT20)	<b>Channel</b>	CH 140 : 5700 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	110.5 PK			1.26 H	353	73.4	37.1
2	*5700.00	102.5 AV			1.26 H	353	65.4	37.1
3	#5725.00	63.0 PK	68.2	-5.2	1.26 H	353	78.7	-15.7
4	11400.00	54.6 PK	74.0	-19.4	3.77 H	56	57.1	-2.5
5	11400.00	44.6 AV	54.0	-9.4	3.77 H	56	47.1	-2.5

**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	108.6 PK			2.56 V	344	71.5	37.1
2	*5700.00	100.9 AV			2.56 V	344	63.8	37.1
3	#5750.00	59.9 PK	68.2	-8.3	2.56 V	344	75.6	-15.7
4	11400.00	53.9 PK	74.0	-20.1	3.02 V	241	56.4	-2.5
5	11400.00	44.4 AV	54.0	-9.6	3.02 V	241	46.9	-2.5

**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.

<b>RF Mode</b>	TX 802.11ac (VHT20)	<b>Channel</b>	CH 144 : 5720 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	*5720.00	111.0 PK			1.06 H	356	74.0	37.0
2	*5720.00	103.1 AV			1.06 H	356	66.1	37.0
3	#5850.00	51.1 PK	68.2	-17.1	1.06 H	356	66.5	-15.4
4	11440.00	54.4 PK	74.0	-19.6	1.23 H	241	56.9	-2.5
5	11440.00	44.6 AV	54.0	-9.4	1.23 H	241	47.1	-2.5

**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	*5720.00	109.7 PK			2.63 V	352	72.7	37.0
2	*5720.00	102.0 AV			2.63 V	352	65.0	37.0
3	#5850.00	50.9 PK	68.2	-17.3	2.63 V	352	66.3	-15.4
4	11440.00	54.2 PK	74.0	-19.8	2.06 V	172	56.7	-2.5
5	11440.00	44.0 AV	54.0	-10.0	2.06 V	172	46.5	-2.5

**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.



<b>RF Mode</b>	TX 802.11ac (VHT20)	<b>Channel</b>	CH 149 : 5745 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	#5612.80	50.7 PK	68.2	-17.5	1.00 H	360	66.7	-16.0
2	*5745.00	111.1 PK			1.00 H	360	74.1	37.0
3	*5745.00	103.0 AV			1.00 H	360	66.0	37.0
4	#5973.60	51.0 PK	68.2	-17.2	1.00 H	360	66.5	-15.5
5	11490.00	54.6 PK	74.0	-19.4	2.50 H	262	57.1	-2.5
6	11490.00	44.7 AV	54.0	-9.3	2.50 H	262	47.2	-2.5

**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	#5601.60	50.9 PK	68.2	-17.3	2.71 V	345	67.0	-16.1
2	*5745.00	109.3 PK			2.71 V	345	72.3	37.0
3	*5745.00	101.4 AV			2.71 V	345	64.4	37.0
4	#5948.80	51.3 PK	68.2	-16.9	2.71 V	345	66.8	-15.5
5	11490.00	54.4 PK	74.0	-19.6	2.82 V	323	56.9	-2.5
6	11490.00	44.0 AV	54.0	-10.0	2.82 V	323	46.5	-2.5

**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.



<b>RF Mode</b>	TX 802.11ac (VHT20)	<b>Channel</b>	CH 157 : 5785 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	#5625.20	51.4 PK	68.2	-16.8	1.14 H	355	67.3	-15.9
2	*5785.00	111.0 PK			1.14 H	355	74.0	37.0
3	*5785.00	102.7 AV			1.14 H	355	65.7	37.0
4	#5947.20	50.7 PK	68.2	-17.5	1.14 H	355	66.2	-15.5
5	11570.00	54.5 PK	74.0	-19.5	1.11 H	34	57.3	-2.8
6	11570.00	44.6 AV	54.0	-9.4	1.11 H	34	47.4	-2.8

**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	#5604.80	51.6 PK	68.2	-16.6	2.71 V	351	67.7	-16.1
2	*5785.00	109.4 PK			2.71 V	351	72.4	37.0
3	*5785.00	102.0 AV			2.71 V	351	65.0	37.0
4	#5938.00	50.7 PK	68.2	-17.5	2.71 V	351	66.1	-15.4
5	11570.00	54.0 PK	74.0	-20.0	3.92 V	138	56.8	-2.8
6	11570.00	43.9 AV	54.0	-10.1	3.92 V	138	46.7	-2.8

**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.



<b>RF Mode</b>	TX 802.11ac (VHT20)	<b>Channel</b>	CH 165 : 5825 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	#5634.00	51.9 PK	68.2	-16.3	1.07 H	360	67.8	-15.9
2	*5825.00	110.4 PK			1.07 H	360	73.2	37.2
3	*5825.00	101.9 AV			1.07 H	360	64.7	37.2
4	#5959.60	50.6 PK	68.2	-17.6	1.07 H	360	66.1	-15.5
5	11650.00	54.4 PK	74.0	-19.6	2.26 H	296	57.7	-3.3
6	11650.00	43.7 AV	54.0	-10.3	2.26 H	296	47.0	-3.3

**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	#5634.80	51.2 PK	68.2	-17.0	2.86 V	348	67.1	-15.9
2	*5825.00	108.6 PK			2.86 V	348	71.4	37.2
3	*5825.00	100.6 AV			2.86 V	348	63.4	37.2
4	#5944.80	50.5 PK	68.2	-17.7	2.86 V	348	65.9	-15.4
5	11650.00	53.5 PK	74.0	-20.5	3.37 V	166	56.8	-3.3
6	11650.00	43.6 AV	54.0	-10.4	3.37 V	166	46.9	-3.3

**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.



<b>RF Mode</b>	TX 802.11ac (VHT40)	<b>Channel</b>	CH 38 : 5190 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	5150.00	60.5 PK	74.0	-13.5	1.09 H	355	77.2	-16.7
2	5150.00	47.7 AV	54.0	-6.3	1.09 H	355	64.4	-16.7
3	*5190.00	104.6 PK			1.09 H	355	68.3	36.3
4	*5190.00	96.7 AV			1.09 H	355	60.4	36.3
5	#10380.00	53.2 PK	68.2	-15.0	3.82 H	138	57.3	-4.1

**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	5150.00	58.7 PK	74.0	-15.3	2.83 V	354	75.4	-16.7
2	5150.00	45.8 AV	54.0	-8.2	2.83 V	354	62.5	-16.7
3	*5190.00	102.7 PK			2.83 V	354	66.4	36.3
4	*5190.00	94.4 AV			2.83 V	354	58.1	36.3
5	#10380.00	53.0 PK	68.2	-15.2	2.03 V	74	57.1	-4.1

**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.



<b>RF Mode</b>	TX 802.11ac (VHT40)	<b>Channel</b>	CH 46 : 5230 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	*5230.00	108.6 PK			1.25 H	359	72.3	36.3
2	*5230.00	100.4 AV			1.25 H	359	64.1	36.3
3	5350.00	55.7 PK	74.0	-18.3	1.25 H	359	72.2	-16.5
4	5350.00	40.3 AV	54.0	-13.7	1.25 H	359	56.8	-16.5
5	#10460.00	53.0 PK	68.2	-15.2	3.70 H	244	56.9	-3.9

**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	*5230.00	106.7 PK			2.84 V	348	70.4	36.3
2	*5230.00	97.9 AV			2.84 V	348	61.6	36.3
3	5350.00	51.9 PK	74.0	-22.1	2.84 V	348	68.4	-16.5
4	5350.00	40.2 AV	54.0	-13.8	2.84 V	348	56.7	-16.5
5	#10460.00	52.7 PK	68.2	-15.5	2.21 V	228	56.6	-3.9

**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.





<b>RF Mode</b>	TX 802.11ac (VHT40)	<b>Channel</b>	CH 54 : 5270 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	5150.00	50.5 PK	74.0	-23.5	1.30 H	2	67.2	-16.7
2	5150.00	40.8 AV	54.0	-13.2	1.30 H	2	57.5	-16.7
3	*5270.00	108.1 PK			1.30 H	2	71.9	36.2
4	*5270.00	100.0 AV			1.30 H	2	63.8	36.2
5	#10540.00	53.3 PK	68.2	-14.9	1.85 H	170	57.2	-3.9

**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	5150.00	50.0 PK	74.0	-24.0	2.81 V	344	66.7	-16.7
2	5150.00	40.7 AV	54.0	-13.3	2.81 V	344	57.4	-16.7
3	*5270.00	105.6 PK			2.81 V	344	69.4	36.2
4	*5270.00	97.8 AV			2.81 V	344	61.6	36.2
5	#10540.00	53.0 PK	68.2	-15.2	3.75 V	242	56.9	-3.9

**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.



<b>RF Mode</b>	TX 802.11ac (VHT40)	<b>Channel</b>	CH 62 : 5310 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	*5310.00	105.1 PK			1.28 H	1	69.0	36.1
2	*5310.00	97.6 AV			1.28 H	1	61.5	36.1
3	5350.00	65.3 PK	74.0	-8.7	1.28 H	1	81.8	-16.5
4	5350.00	51.6 AV	54.0	-2.4	1.28 H	1	68.1	-16.5
5	10620.00	53.4 PK	74.0	-20.6	2.87 H	38	57.1	-3.7
6	10620.00	43.1 AV	54.0	-10.9	2.87 H	38	46.8	-3.7

**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	*5310.00	103.4 PK			2.81 V	249	67.3	36.1
2	*5310.00	95.8 AV			2.81 V	249	59.7	36.1
3	5350.00	62.1 PK	74.0	-11.9	2.81 V	349	78.6	-16.5
4	5350.00	50.9 AV	54.0	-3.1	2.81 V	349	67.4	-16.5
5	10620.00	53.1 PK	74.0	-20.9	3.89 V	102	56.8	-3.7
6	10620.00	42.9 AV	54.0	-11.1	3.89 V	102	46.6	-3.7

**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.



<b>RF Mode</b>	TX 802.11ac (VHT40)	<b>Channel</b>	CH 102 : 5510 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	59.7 PK	74.0	-14.3	1.31 H	358	75.8	-16.1
2	5460.00	43.6 AV	54.0	-10.4	1.31 H	358	59.7	-16.1
3	#5470.00	60.9 PK	68.2	-7.3	1.31 H	358	77.0	-16.1
4	*5510.00	101.6 PK			1.31 H	358	65.1	36.5
5	*5510.00	93.8 AV			1.31 H	358	57.3	36.5
6	11020.00	53.5 PK	74.0	-20.5	2.24 H	120	57.2	-3.7
7	11020.00	43.1 AV	54.0	-10.9	2.24 H	120	46.8	-3.7

**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	57.7 PK	74.0	-16.3	2.80 V	340	73.8	-16.1
2	5460.00	43.5 AV	54.0	-10.5	2.80 V	340	59.6	-16.1
3	#5470.00	60.0 PK	68.2	-8.2	2.80 V	340	76.1	-16.1
4	*5510.00	99.8 PK			2.80 V	340	63.3	36.5
5	*5510.00	92.4 AV			2.80 V	340	55.9	36.5
6	11020.00	53.0 PK	74.0	-21.0	2.49 V	124	56.7	-3.7
7	11020.00	42.8 AV	54.0	-11.2	2.49 V	124	46.5	-3.7

**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.



<b>RF Mode</b>	TX 802.11ac (VHT40)	<b>Channel</b>	CH 118 : 5590 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	51.5 PK	74.0	-22.5	1.24 H	357	67.6	-16.1
2	5460.00	40.6 AV	54.0	-13.4	1.24 H	357	56.7	-16.1
3	#5470.00	51.7 PK	68.2	-16.5	1.24 H	357	67.8	-16.1
4	*5590.00	107.7 PK			1.24 H	357	71.0	36.7
5	*5590.00	99.9 AV			1.24 H	357	63.2	36.7
6	#5725.00	51.5 PK	68.2	-16.7	1.24 H	357	67.2	-15.7
7	11180.00	53.2 PK	74.0	-20.8	2.96 H	27	56.8	-3.6
8	11180.00	43.6 AV	54.0	-10.4	2.96 H	27	47.2	-3.6

**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	51.4 PK	74.0	-22.6	2.87 V	339	67.5	-16.1
2	5460.00	40.5 AV	54.0	-13.5	2.87 V	339	56.6	-16.1
3	#5470.00	51.5 PK	68.2	-16.7	2.87 V	339	67.6	-16.1
4	*5590.00	106.1 PK			2.87 V	339	69.4	36.7
5	*5590.00	98.6 AV			2.87 V	339	61.9	36.7
6	#5725.00	51.4 PK	68.2	-16.8	2.87 V	339	67.1	-15.7
7	11180.00	52.9 PK	74.0	-21.1	2.80 V	318	56.5	-3.6
8	11180.00	43.3 AV	54.0	-10.7	2.80 V	318	46.9	-3.6

**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.



<b>RF Mode</b>	TX 802.11ac (VHT40)	<b>Channel</b>	CH 134 : 5670 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	107.4 PK			1.27 H	358	70.4	37.0
2	*5670.00	99.9 AV			1.27 H	358	62.9	37.0
3	#5725.00	58.9 PK	68.2	-9.3	1.27 H	358	74.6	-15.7
4	11340.00	53.8 PK	74.0	-20.2	3.60 H	214	56.7	-2.9
5	11340.00	43.9 AV	54.0	-10.1	3.60 H	214	46.8	-2.9

**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	105.3 PK			2.81 V	347	68.3	37.0
2	*5670.00	98.1 AV			2.81 V	347	61.1	37.0
3	#5725.00	58.2 PK	68.2	-10.0	2.81 V	347	73.9	-15.7
4	11340.00	53.6 PK	74.0	-20.4	1.65 V	243	56.5	-2.9
5	11340.00	43.5 AV	54.0	-10.5	1.65 V	243	46.4	-2.9

**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.



<b>RF Mode</b>	TX 802.11ac (VHT40)	<b>Channel</b>	CH 142 : 5710 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	*5710.00	108.1 PK			1.21 H	3	71.1	37.0
2	*5710.00	100.0 AV			1.21 H	3	63.0	37.0
3	#5850.00	51.8 PK	68.2	-16.4	1.21 H	3	67.2	-15.4
4	11420.00	54.8 PK	74.0	-19.2	3.83 H	140	57.3	-2.5
5	11420.00	44.3 AV	54.0	-9.7	3.83 H	140	46.8	-2.5

**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	*5710.00	106.4 PK			2.66 V	351	69.4	37.0
2	*5710.00	98.5 AV			2.66 V	351	61.5	37.0
3	#5850.00	51.7 PK	68.2	-16.5	2.66 V	351	67.1	-15.4
4	11420.00	54.4 PK	74.0	-19.6	1.26 V	175	56.9	-2.5
5	11420.00	44.1 AV	54.0	-9.9	1.26 V	175	46.6	-2.5

**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.



<b>RF Mode</b>	TX 802.11ac (VHT40)	<b>Channel</b>	CH 151 : 5755 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	#5645.60	52.8 PK	68.2	-15.4	1.17 H	358	68.6	-15.8
2	*5755.00	108.6 PK			1.17 H	358	71.6	37.0
3	*5755.00	100.3 AV			1.17 H	358	63.3	37.0
4	#5935.20	51.3 PK	68.2	-16.9	1.17 H	358	66.7	-15.4
5	11510.00	54.2 PK	74.0	-19.8	3.95 H	227	56.9	-2.7
6	11510.00	44.5 AV	54.0	-9.5	3.95 H	227	47.2	-2.7

**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	#5628.80	52.1 PK	68.2	-16.1	2.80 V	350	68.0	-15.9
2	*5755.00	106.9 PK			2.80 V	350	69.9	37.0
3	*5755.00	99.2 AV			2.80 V	350	62.2	37.0
4	#5944.80	51.3 PK	68.2	-16.9	2.80 V	350	66.7	-15.4
5	11510.00	54.1 PK	74.0	-19.9	3.06 V	155	56.8	-2.7
6	11510.00	44.4 AV	54.0	-9.6	3.06 V	155	47.1	-2.7

**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.



<b>RF Mode</b>	TX 802.11ac (VHT40)	<b>Channel</b>	CH 159 : 5795 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	#5622.40	54.4 PK	68.2	-13.8	1.29 H	357	70.3	-15.9
2	*5795.00	108.7 PK			1.29 H	357	71.7	37.0
3	*5795.00	100.4 AV			1.29 H	357	63.4	37.0
4	#5960.00	52.9 PK	68.2	-15.3	1.29 H	357	68.4	-15.5
5	11590.00	54.3 PK	74.0	-19.7	2.08 H	104	57.3	-3.0
6	11590.00	44.4 AV	54.0	-9.6	2.08 H	104	47.4	-3.0

**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	#5642.00	55.7 PK	68.2	-12.5	2.92 V	347	71.6	-15.9
2	*5795.00	106.2 PK			2.92 V	347	69.2	37.0
3	*5795.00	98.8 AV			2.92 V	347	61.8	37.0
4	#5936.40	52.3 PK	68.2	-15.9	2.92 V	347	67.7	-15.4
5	11590.00	54.0 PK	74.0	-20.0	3.96 V	161	57.0	-3.0
6	11590.00	44.1 AV	54.0	-9.9	3.96 V	161	47.1	-3.0

**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.





<b>RF Mode</b>	TX 802.11ac (VHT80)	<b>Channel</b>	CH 42 : 5210 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

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	5150.00	66.7 PK	74.0	-7.3	1.18 H	9	64.2	2.5
2	<b>5150.00</b>	<b>53.5 AV</b>	<b>54.0</b>	<b>-0.5</b>	<b>1.18 H</b>	<b>9</b>	<b>51.0</b>	<b>2.5</b>
3	*5210.00	106.6 PK			1.18 H	9	66.4	40.2
4	*5210.00	95.3 AV			1.18 H	9	55.1	40.2
5	5350.00	58.7 PK	74.0	-15.3	1.18 H	9	56.6	2.1
6	5350.00	46.4 AV	54.0	-7.6	1.18 H	9	44.3	2.1
7	#10420.00	57.6 PK	68.2	-10.6	1.25 H	341	49.2	8.4
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	5150.00	60.8 PK	74.0	-13.2	2.18 V	189	58.3	2.5
2	5150.00	48.1 AV	54.0	-5.9	2.18 V	189	45.6	2.5
3	*5210.00	101.0 PK			2.18 V	189	60.8	40.2
4	*5210.00	92.1 AV			2.18 V	189	51.9	40.2
5	5350.00	58.0 PK	74.0	-16.0	2.18 V	189	55.9	2.1
6	5350.00	45.5 AV	54.0	-8.5	2.18 V	189	43.4	2.1
7	#10420.00	55.6 PK	68.2	-12.6	1.56 V	352	47.2	8.4

**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.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # " : The radiated frequency is out of the restricted band.



<b>RF Mode</b>	TX 802.11ac (VHT80)	<b>Channel</b>	CH 58 : 5290 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	5150.00	59.1 PK	74.0	-14.9	1.19 H	11	56.6	2.5
2	5150.00	47.3 AV	54.0	-6.7	1.19 H	11	44.8	2.5
3	*5290.00	105.3 PK			1.19 H	11	65.3	40.0
4	*5290.00	95.4 AV			1.19 H	11	55.4	40.0
5	5350.00	62.0 PK	74.0	-12.0	1.19 H	11	59.9	2.1
6	5350.00	50.6 AV	54.0	-3.4	1.19 H	11	48.5	2.1
7	#10580.00	56.4 PK	68.2	-11.8	1.82 H	209	47.7	8.7

**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	5150.00	58.7 PK	74.0	-15.3	2.20 V	190	56.2	2.5
2	5150.00	45.7 AV	54.0	-8.3	2.20 V	190	43.2	2.5
3	*5290.00	99.5 PK			2.20 V	190	59.5	40.0
4	*5290.00	89.5 AV			2.20 V	190	49.5	40.0
5	5350.00	58.7 PK	74.0	-15.3	2.20 V	190	56.6	2.1
6	5350.00	46.8 AV	54.0	-7.2	2.20 V	190	44.7	2.1
7	#10580.00	55.6 PK	68.2	-12.6	1.21 V	314	46.9	8.7

**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.



<b>RF Mode</b>	TX 802.11ac (VHT80)	<b>Channel</b>	CH 106 : 5530 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	64.4 PK	74.0	-9.6	1.16 H	6	62.3	2.1
2	5460.00	52.3 AV	54.0	-1.7	1.16 H	6	50.2	2.1
3	#5470.00	67.2 PK	68.2	-1.0	1.16 H	6	65.1	2.1
4	*5530.00	104.7 PK			1.16 H	6	64.3	40.4
5	*5530.00	94.3 AV			1.16 H	6	53.9	40.4
6	#5725.00	59.3 PK	68.2	-8.9	1.16 H	6	55.6	3.7
7	11060.00	56.2 PK	74.0	-17.8	1.68 H	204	47.4	8.8
8	11060.00	45.0 AV	54.0	-9.0	1.68 H	204	36.2	8.8

**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	64.2 PK	74.0	-9.8	2.43 V	345	62.1	2.1
2	5460.00	51.2 AV	54.0	-2.8	2.43 V	345	49.1	2.1
3	#5470.00	66.7 PK	68.2	-1.5	2.43 V	345	64.6	2.1
4	*5530.00	104.1 PK			2.43 V	345	63.7	40.4
5	*5530.00	94.5 AV			2.43 V	345	54.1	40.4
6	#5725.00	58.9 PK	68.2	-9.3	2.43 V	345	55.2	3.7
7	11060.00	56.0 PK	74.0	-18.0	1.93 V	214	47.2	8.8
8	11060.00	44.8 AV	54.0	-9.2	1.93 V	214	36.0	8.8

**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.



<b>RF Mode</b>	TX 802.11ac (VHT80)	<b>Channel</b>	CH 122 : 5610 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	61.4 PK	74.0	-12.6	3.00 H	71	59.3	2.1
2	5460.00	48.7 AV	54.0	-5.3	3.00 H	71	46.6	2.1
3	#5470.00	64.0 PK	68.2	-4.2	3.00 H	71	61.9	2.1
4	*5610.00	110.4 PK			3.00 H	71	69.3	41.1
5	*5610.00	100.3 AV			3.00 H	71	59.2	41.1
6	#5725.00	64.2 PK	68.2	-4.0	3.00 H	71	60.5	3.7
7	11220.00	57.2 PK	74.0	-16.8	1.53 H	241	48.3	8.9
8	11220.00	45.2 AV	54.0	-8.8	1.53 H	241	36.3	8.9

**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	60.4 PK	74.0	-13.6	2.41 V	349	58.3	2.1
2	5460.00	46.9 AV	54.0	-7.1	2.41 V	349	44.8	2.1
3	#5470.00	62.9 PK	68.2	-5.3	2.41 V	349	60.8	2.1
4	*5610.00	109.0 PK			2.41 V	349	67.9	41.1
5	*5610.00	99.0 AV			2.41 V	349	57.9	41.1
6	#5725.00	63.0 PK	68.2	-5.2	2.41 V	349	59.3	3.7
7	11220.00	56.6 PK	74.0	-17.4	1.64 V	183	47.7	8.9
8	11220.00	44.8 AV	54.0	-9.2	1.64 V	183	35.9	8.9

**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.



<b>RF Mode</b>	TX 802.11ac (VHT80)	<b>Channel</b>	CH 138 : 5690 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	#5470.00	58.7 PK	68.2	-9.5	3.01 H	73	56.6	2.1
2	*5690.00	111.5 PK			3.01 H	73	70.1	41.4
3	*5690.00	101.2 AV			3.01 H	73	59.8	41.4
4	#5850.00	59.8 PK	68.2	-8.4	3.01 H	73	56.1	3.7
5	11380.00	56.7 PK	74.0	-17.3	1.91 H	155	47.2	9.5
6	11380.00	45.6 AV	54.0	-8.4	1.91 H	155	36.1	9.5

**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	#5470.00	58.4 PK	68.2	-9.8	2.83 V	344	56.3	2.1
2	*5690.00	109.0 PK			2.83 V	344	67.6	41.4
3	*5690.00	98.7 AV			2.83 V	344	57.3	41.4
4	#5850.00	60.2 PK	68.2	-8.0	2.83 V	344	56.5	3.7
5	11380.00	56.3 PK	74.0	-17.7	1.53 V	247	46.8	9.5
6	11380.00	45.9 AV	54.0	-8.1	1.53 V	247	36.4	9.5

**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.



<b>RF Mode</b>	TX 802.11ac (VHT80)	<b>Channel</b>	CH 155 : 5775 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 69% RH
<b>Tested By</b>	Thomas Cheng		

**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	#5645.60	65.0 PK	68.2	-3.2	2.99 H	68	61.6	3.4
2	*5775.00	111.3 PK			2.99 H	68	69.6	41.7
3	*5775.00	99.3 AV			2.99 H	68	57.6	41.7
4	#5956.40	59.5 PK	68.2	-8.7	2.99 H	68	55.7	3.8
5	11550.00	57.3 PK	74.0	-16.7	1.05 H	213	47.7	9.6
6	11550.00	46.1 AV	54.0	-7.9	1.05 H	213	36.5	9.6

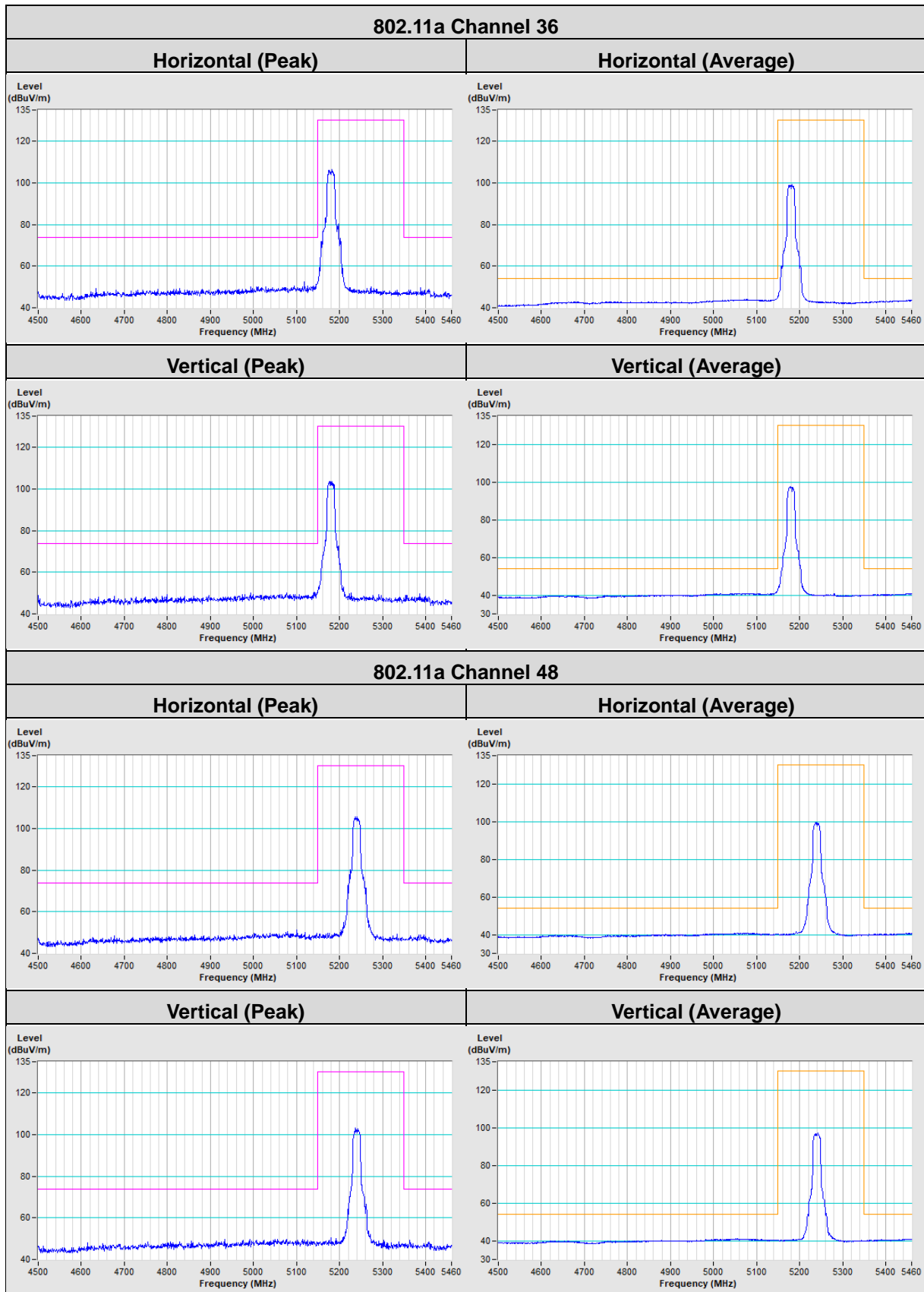
**Antenna Polarity & Test Distance : Vertical at 3 m**

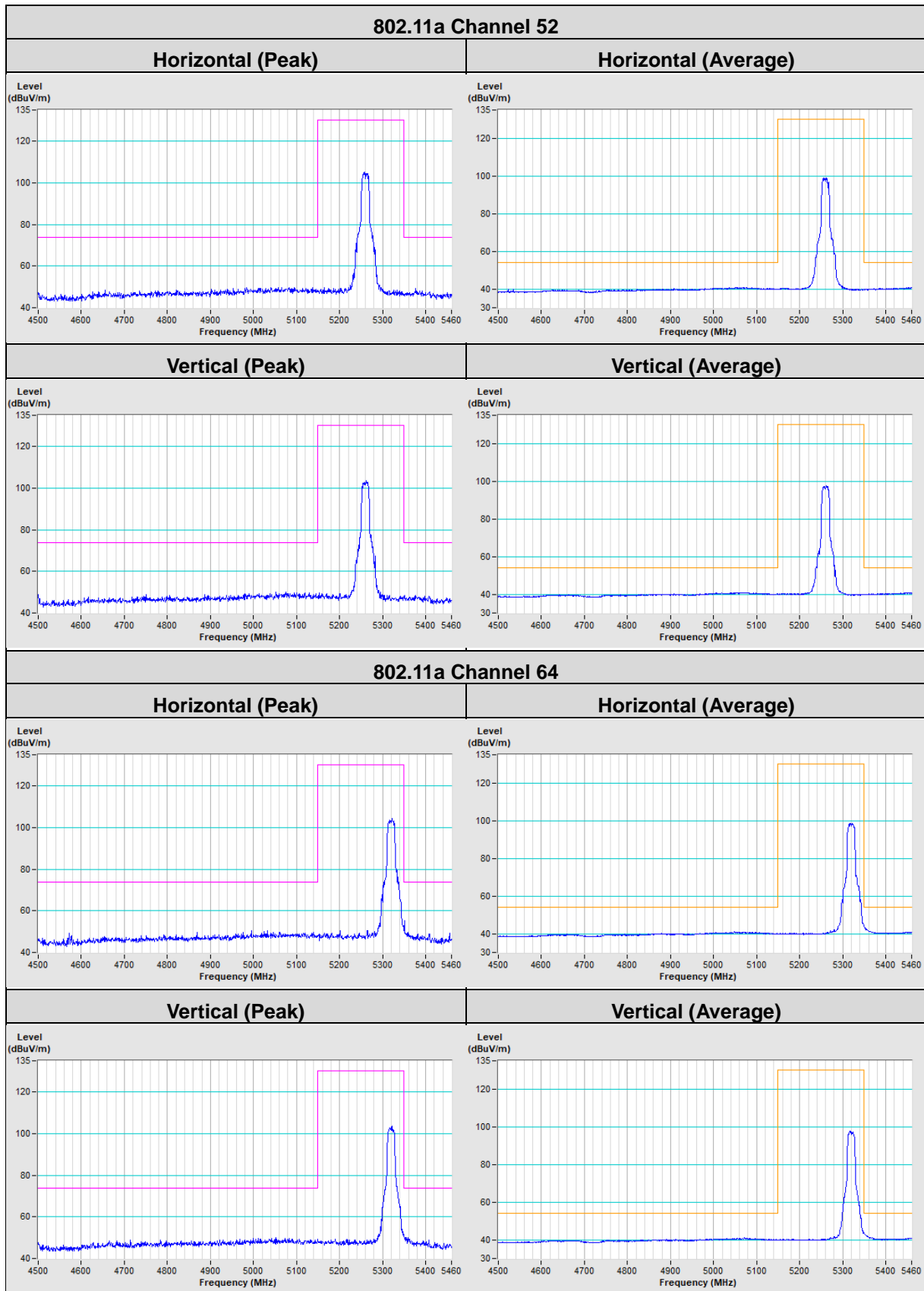
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5651.60	65.2 PK	69.4	-4.2	2.81 V	342	61.8	3.4
2	*5775.00	107.9 PK			2.81 V	342	66.2	41.7
3	*5775.00	97.8 AV			2.81 V	342	56.1	41.7
4	#5930.00	59.2 PK	68.2	-9.0	2.81 V	342	55.5	3.7
5	11550.00	56.8 PK	74.0	-17.2	1.24 V	134	47.2	9.6
6	11550.00	45.7 AV	54.0	-8.3	1.24 V	134	36.1	9.6

**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.

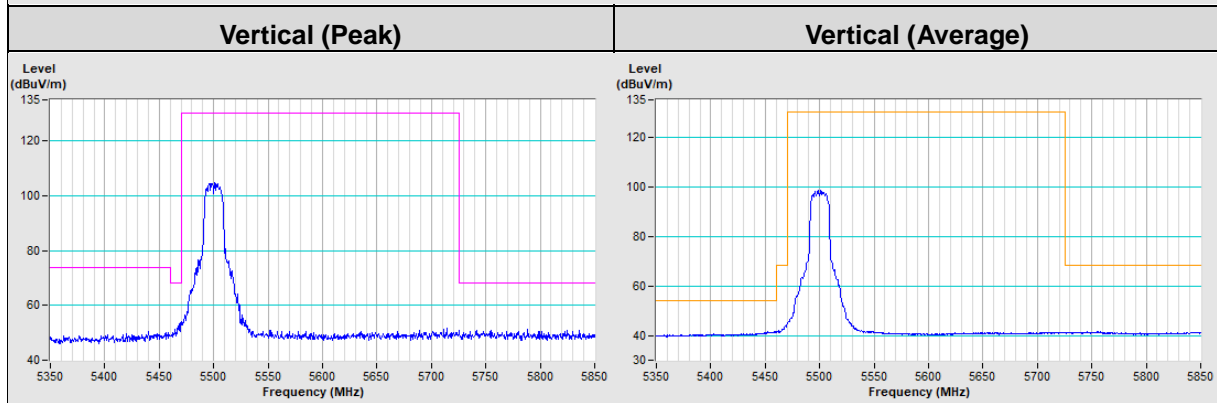
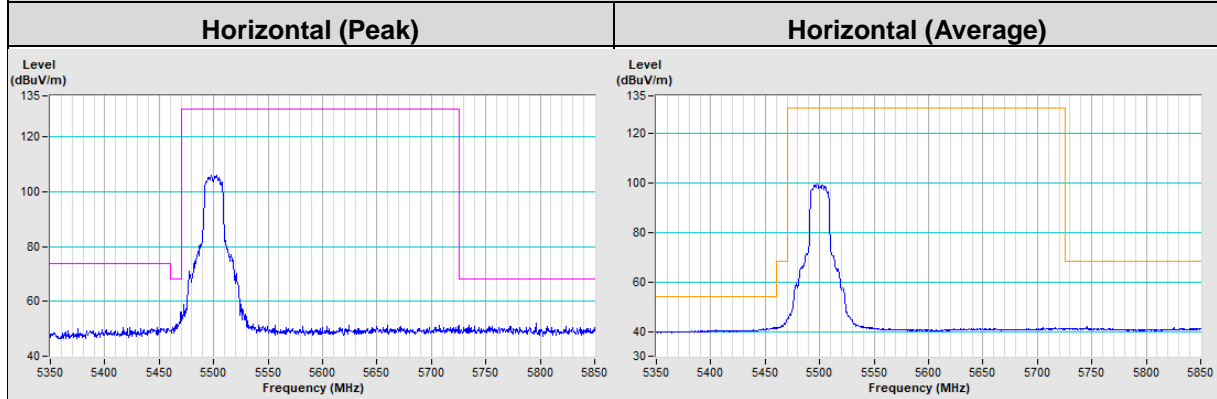
Plot of Band Edge



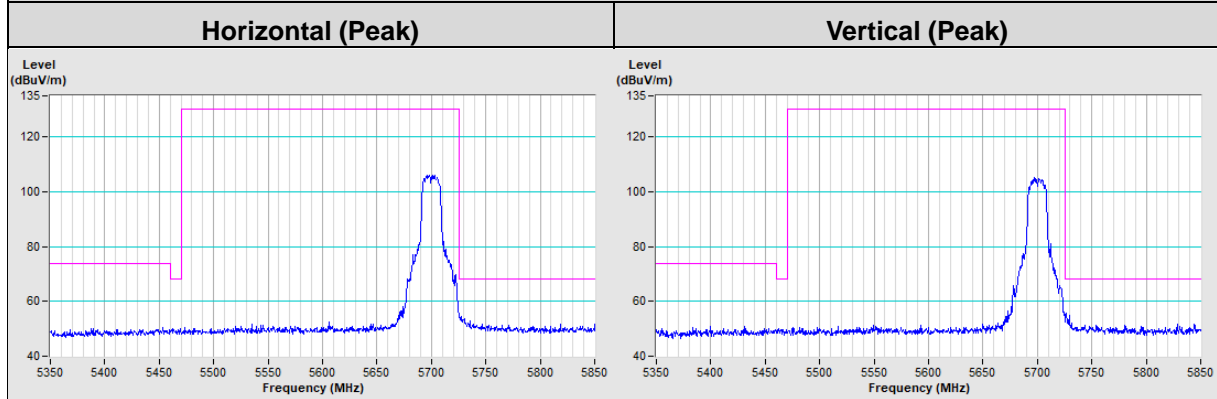




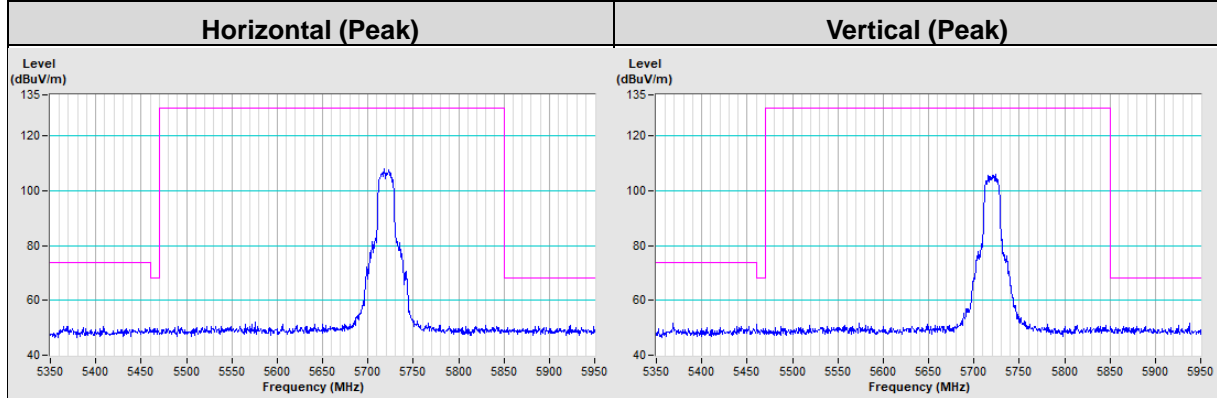
### 802.11a Channel 100

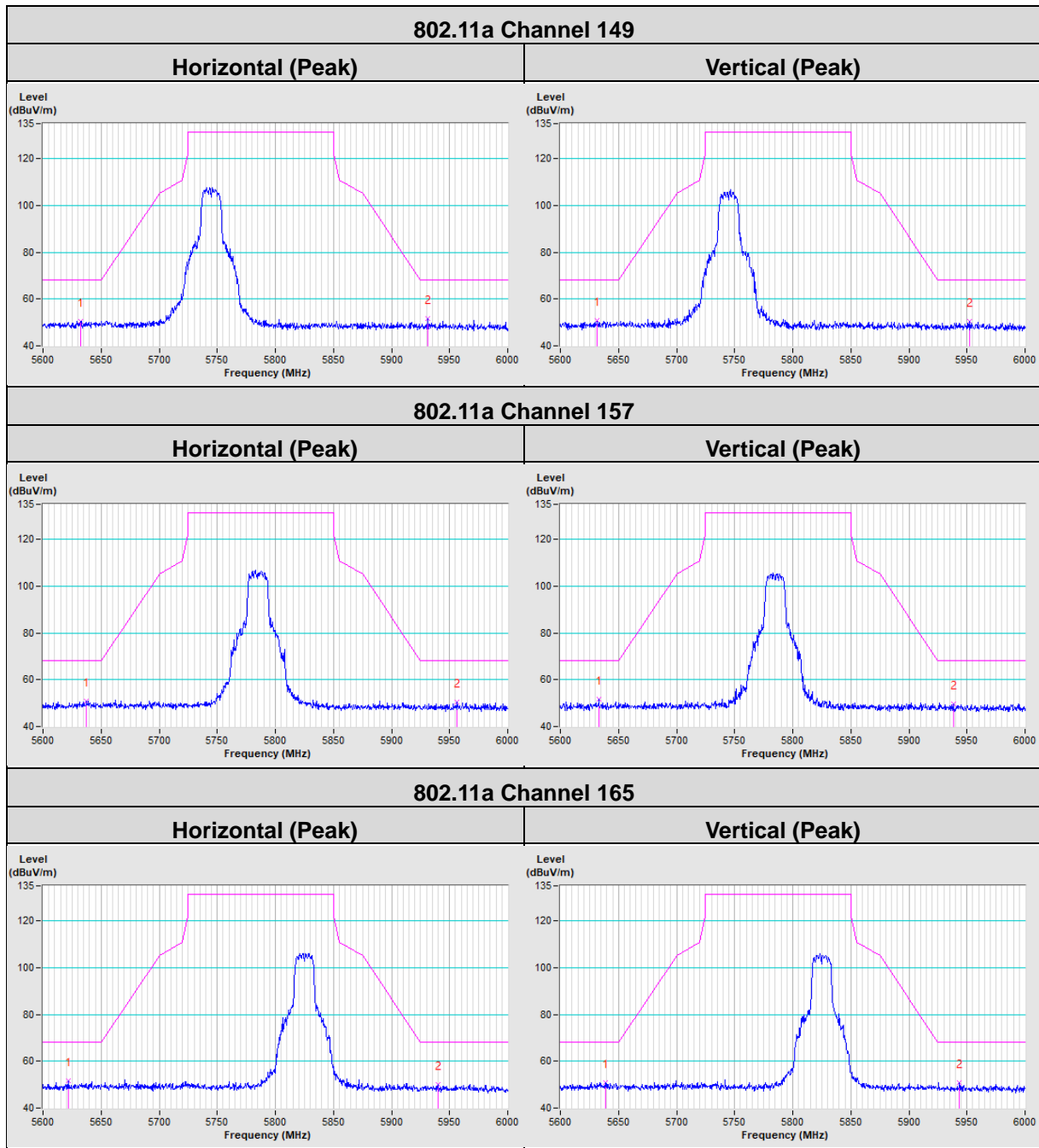


### 802.11a Channel 140

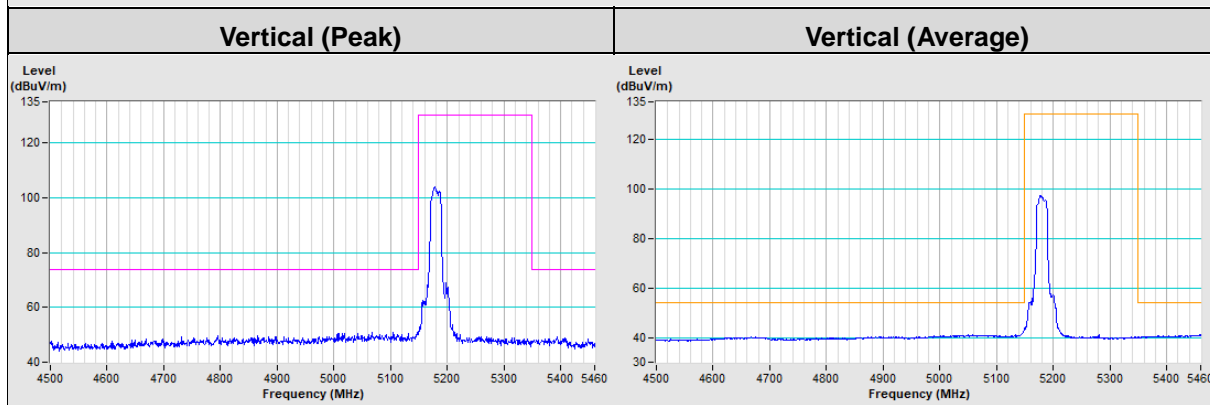
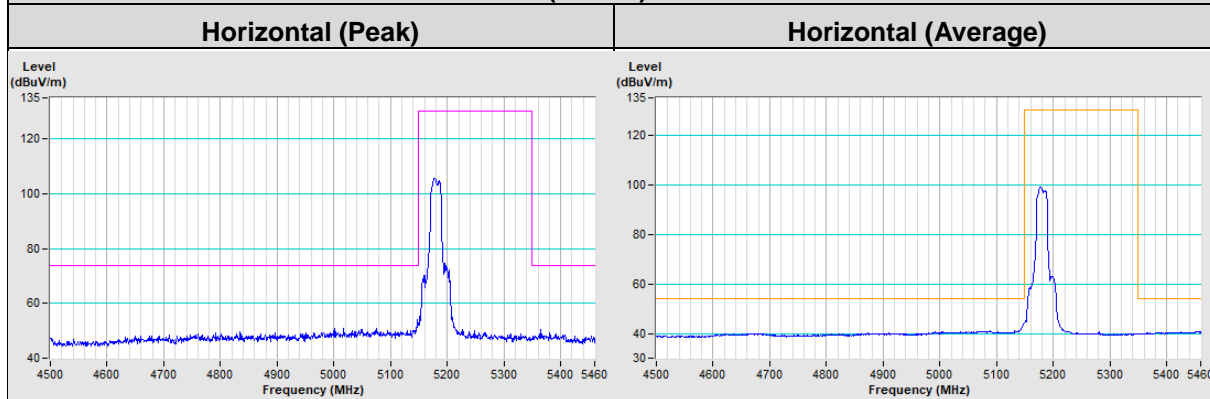


### 802.11a Channel 144

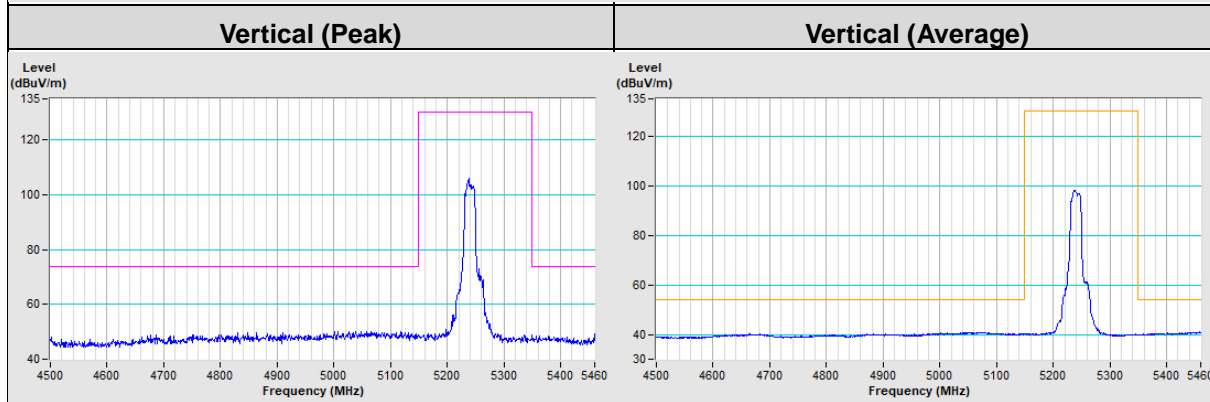
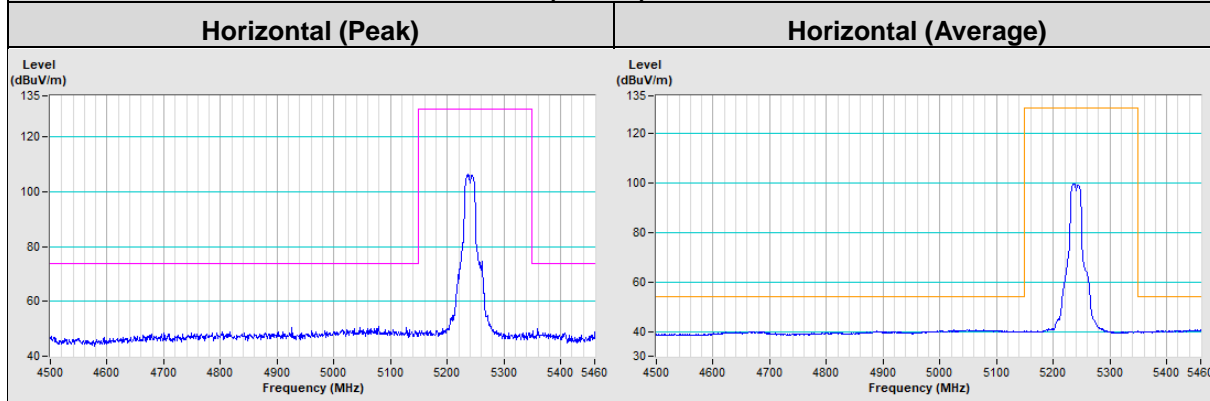


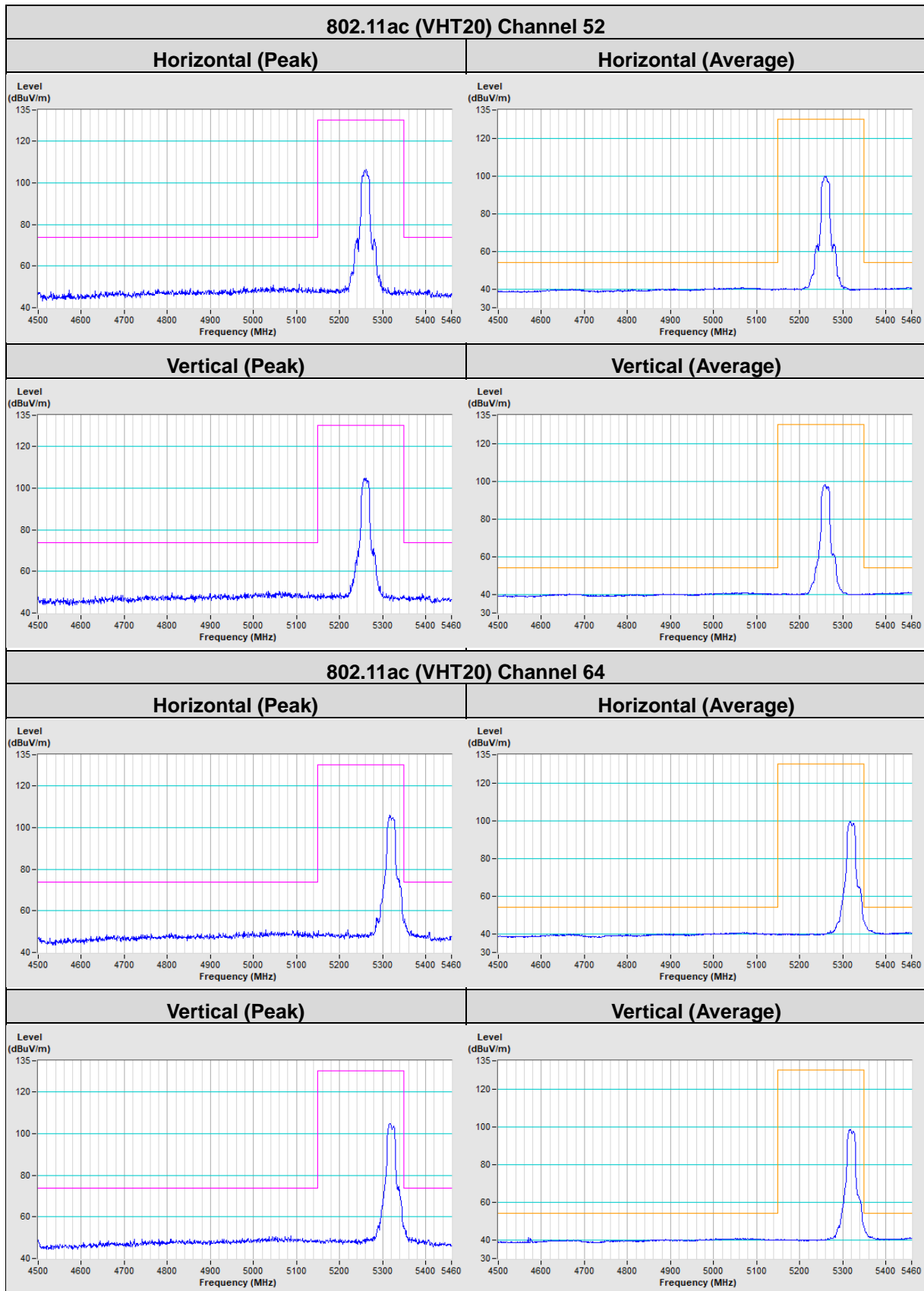


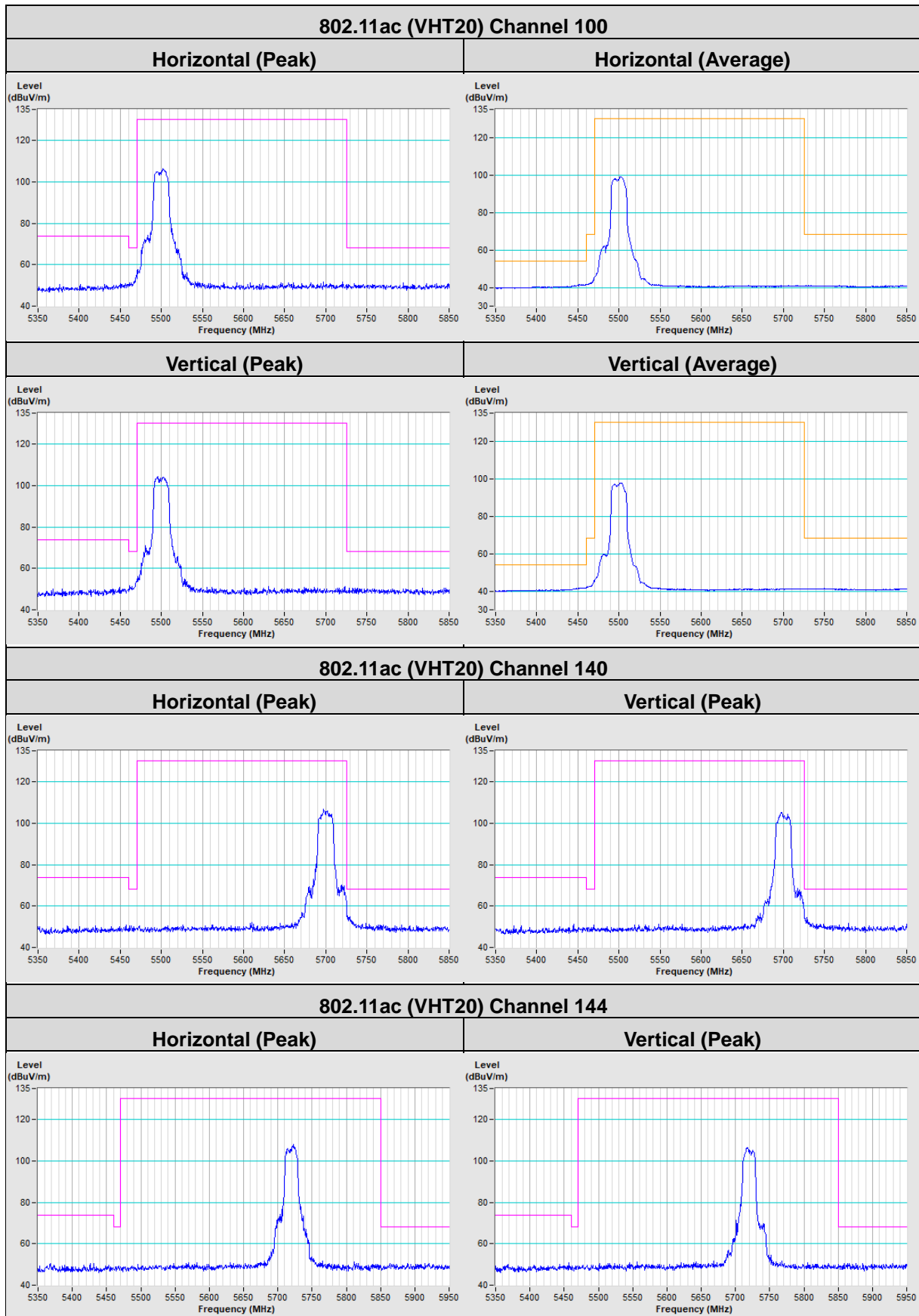
### 802.11ac (VHT20) Channel 36

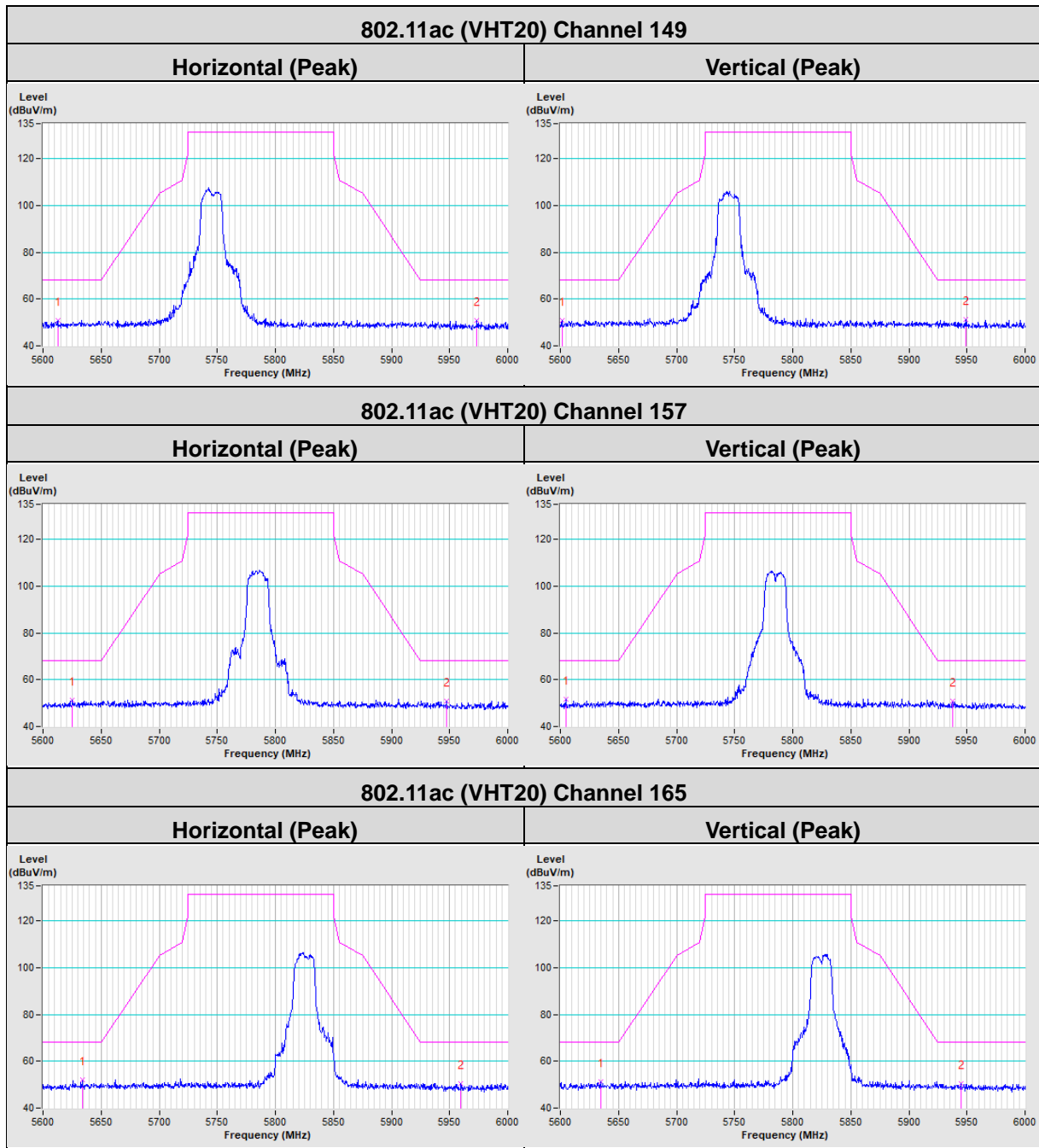


### 802.11ac (VHT20) Channel 48

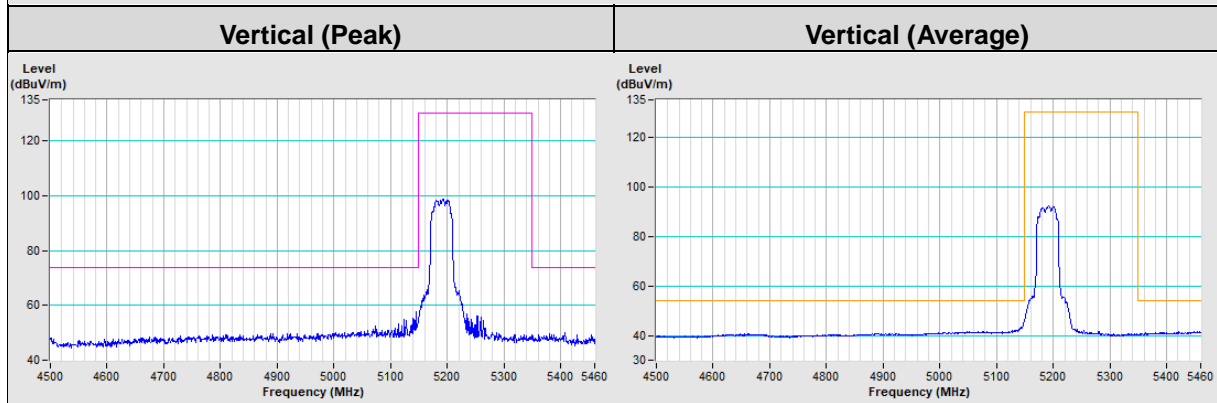
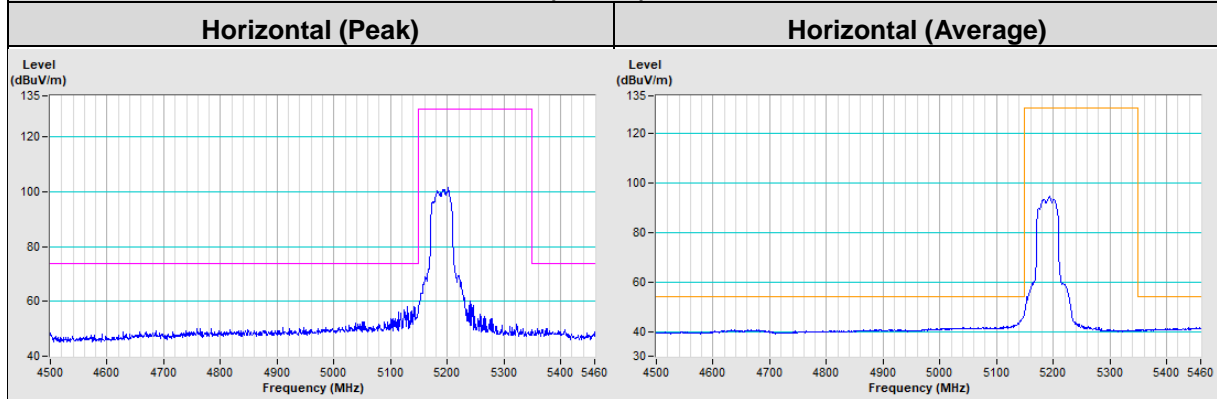




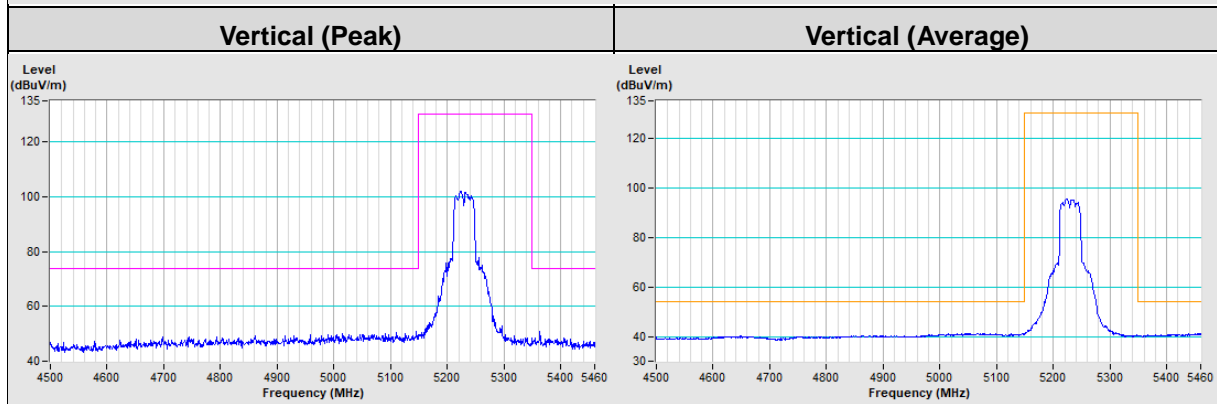
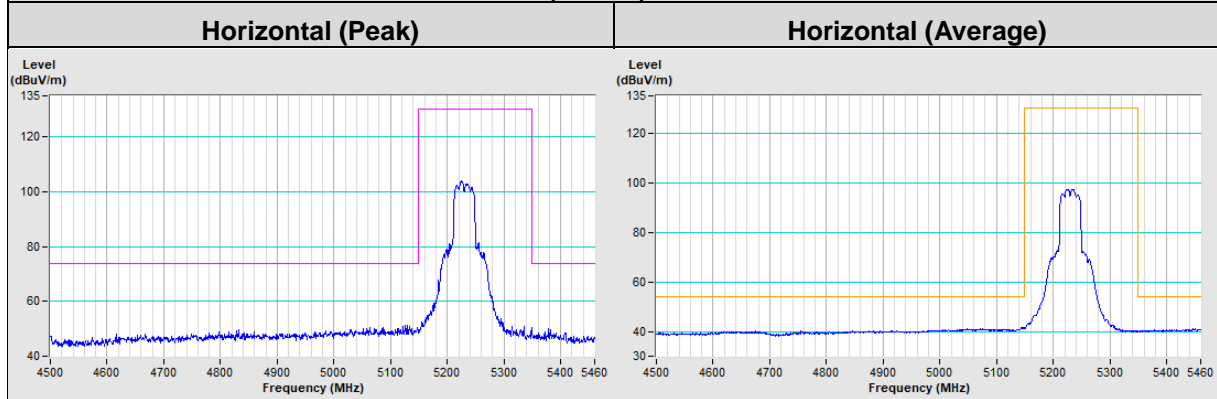


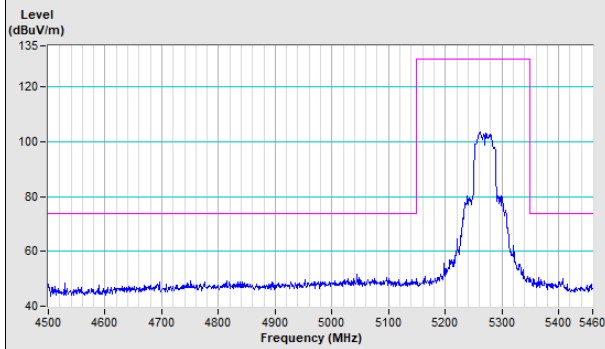
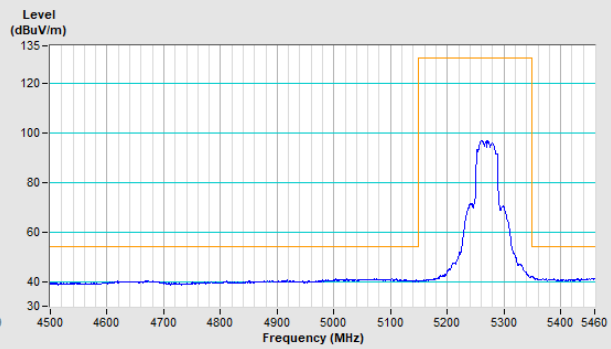
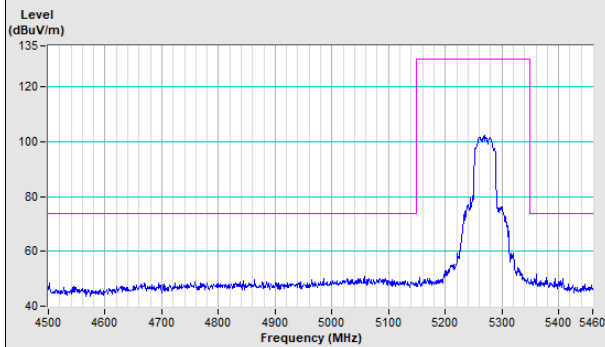
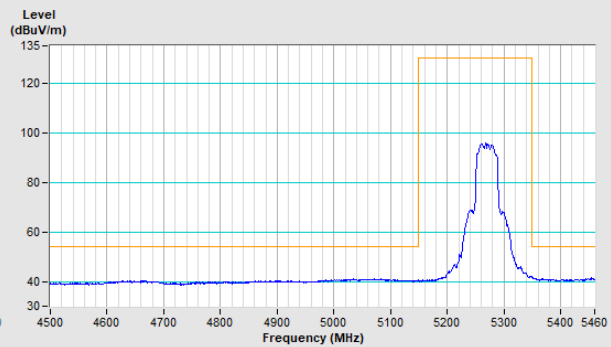
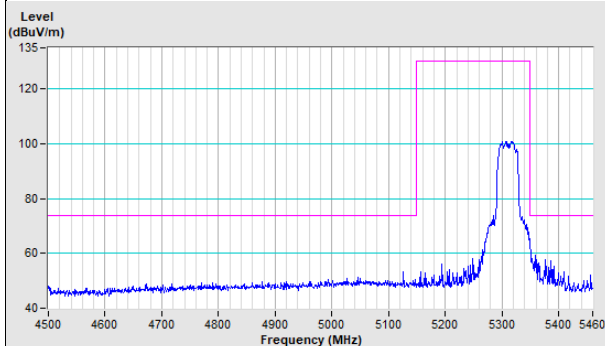
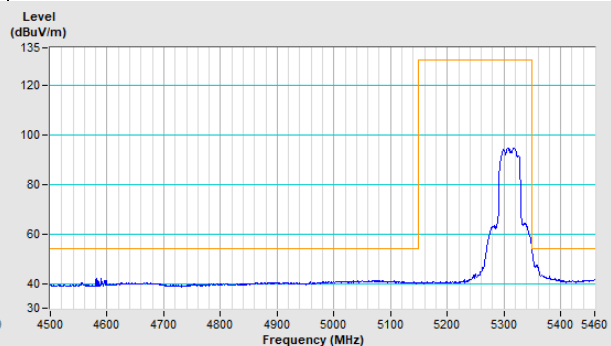
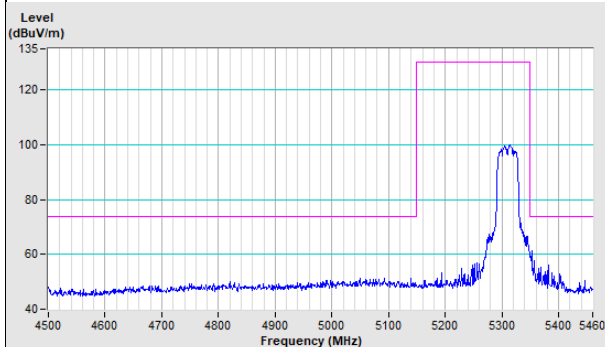
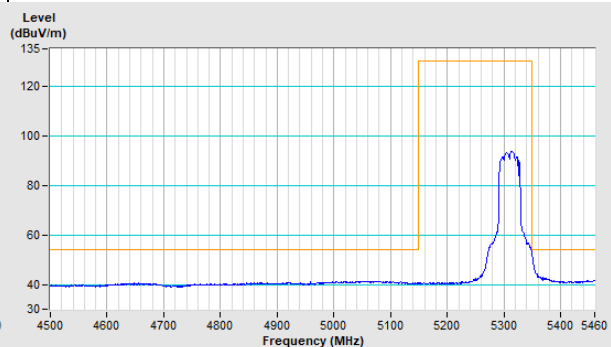


### 802.11ac (VHT40) Channel 38



### 802.11ac (VHT40) Channel 46

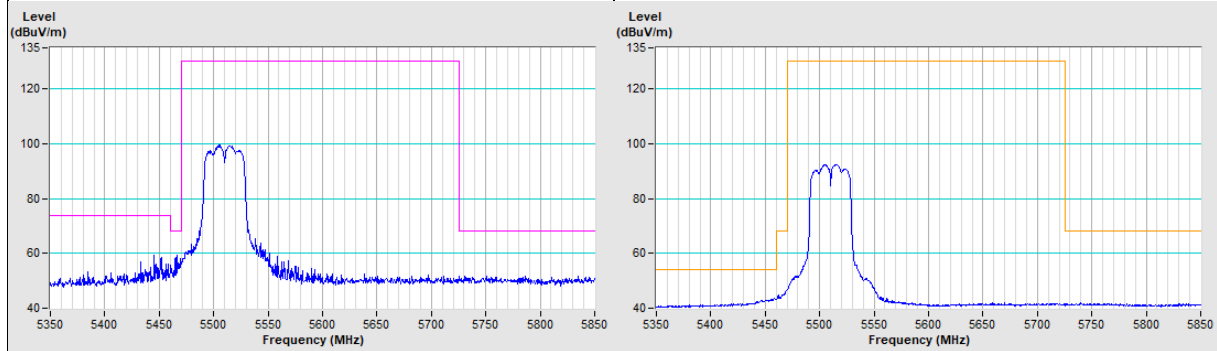


**802.11ac (VHT40) Channel 54****Horizontal (Peak)****Horizontal (Average)****Vertical (Peak)****Vertical (Average)****802.11ac (VHT40) Channel 62****Horizontal (Peak)****Horizontal (Average)****Vertical (Peak)****Vertical (Average)**

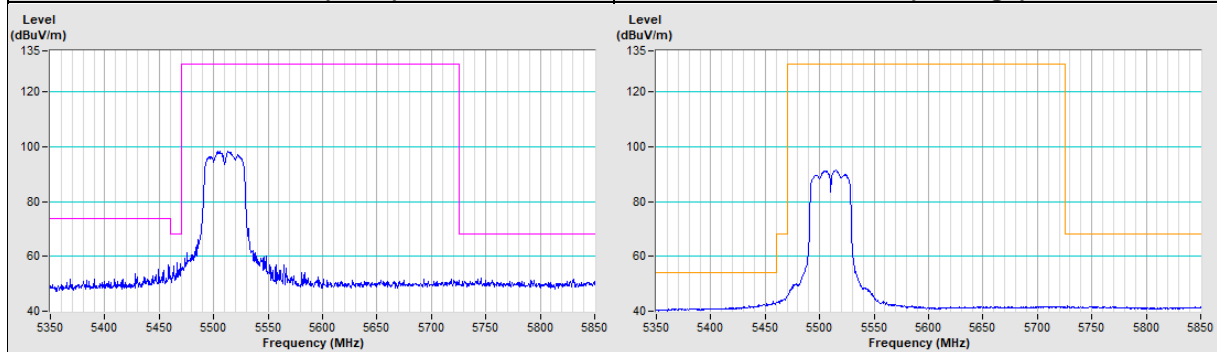


### 802.11ac (VHT40) Channel 102

**Horizontal (Peak)** **Horizontal (Average)**

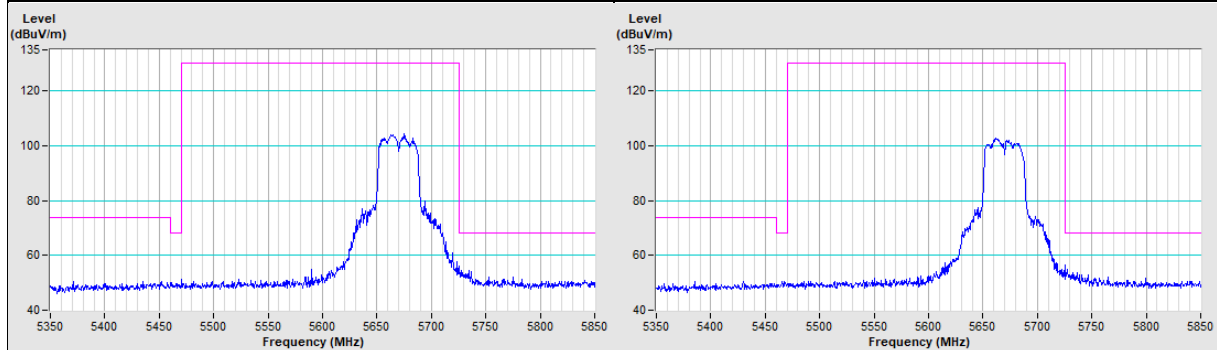


**Vertical (Peak)** **Vertical (Average)**



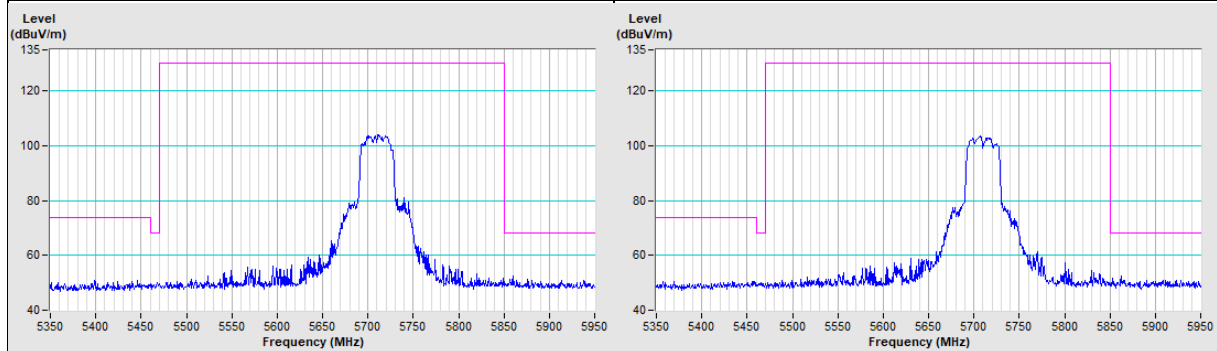
### 802.11ac (VHT40) Channel 134

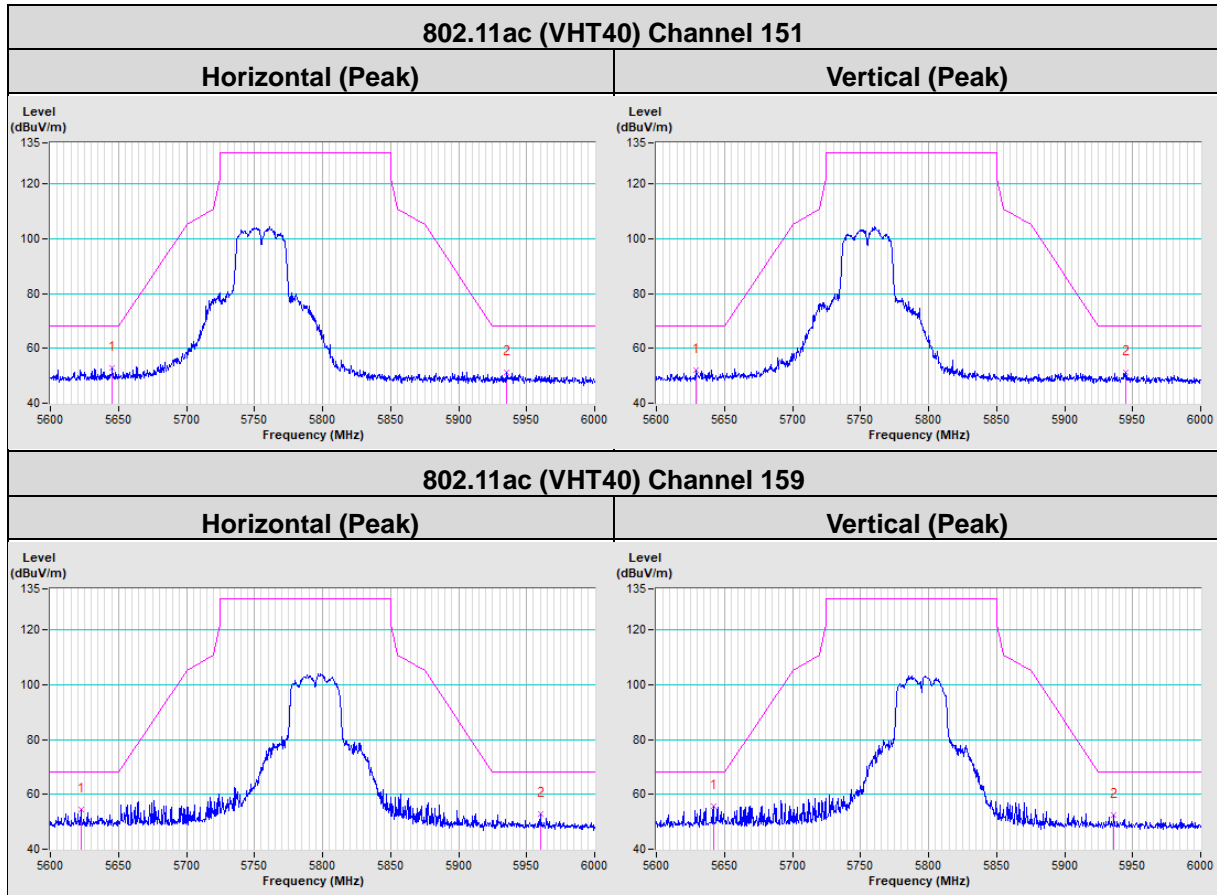
**Horizontal (Peak)** **Vertical (Peak)**



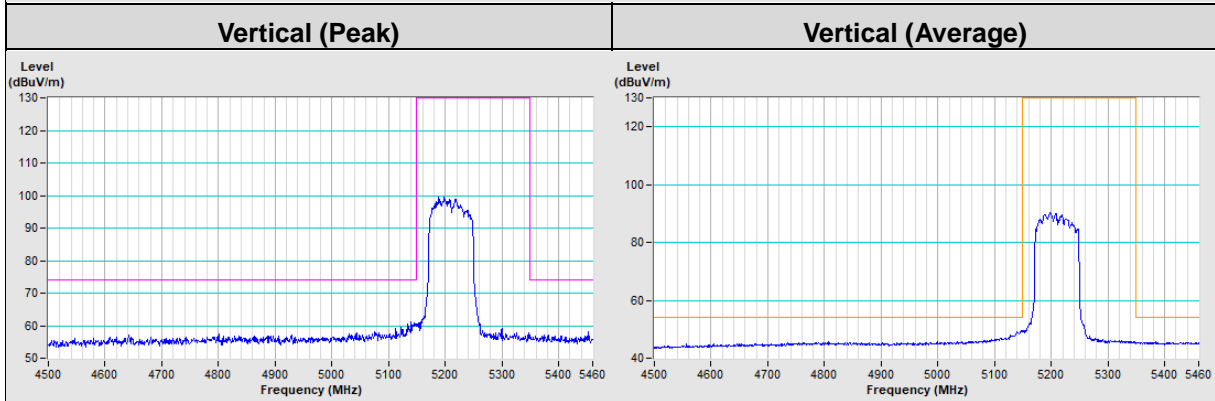
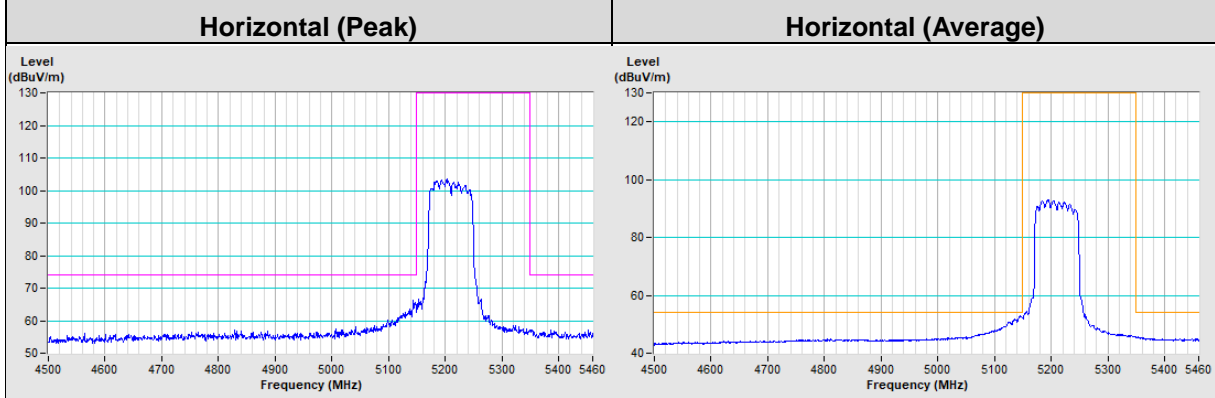
### 802.11ac (VHT40) Channel 142

**Horizontal (Peak)** **Vertical (Peak)**

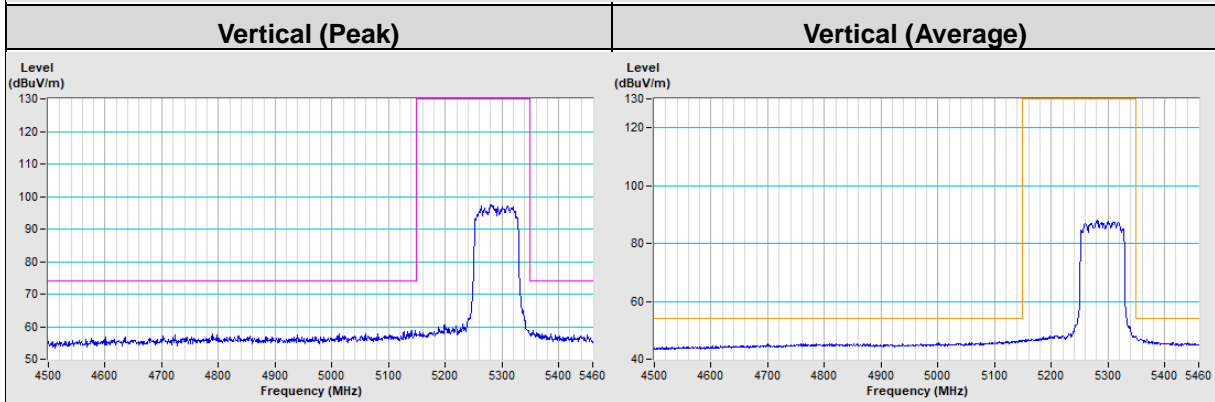
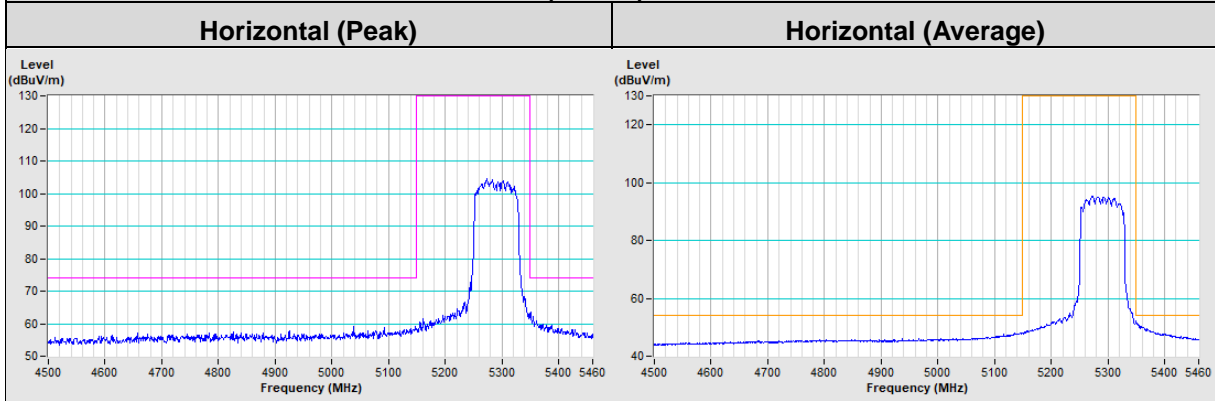




### 802.11ac (VHT80) Channel 42

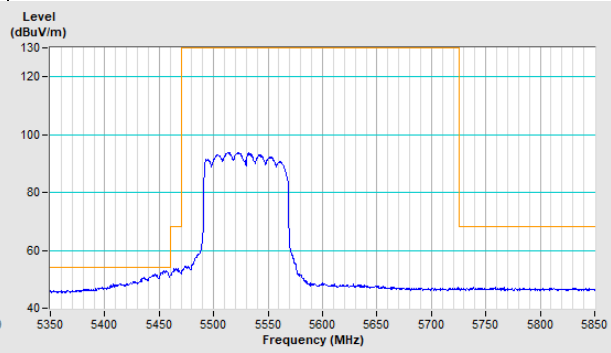
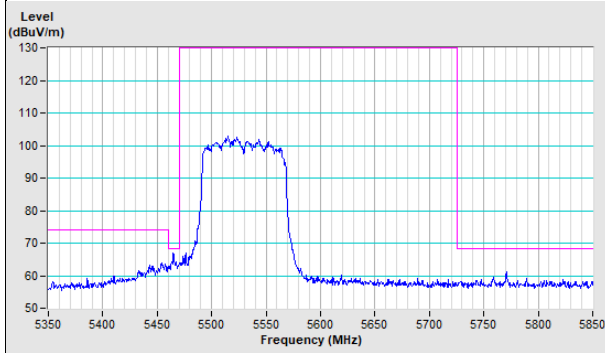


### 802.11ac (VHT80) Channel 58



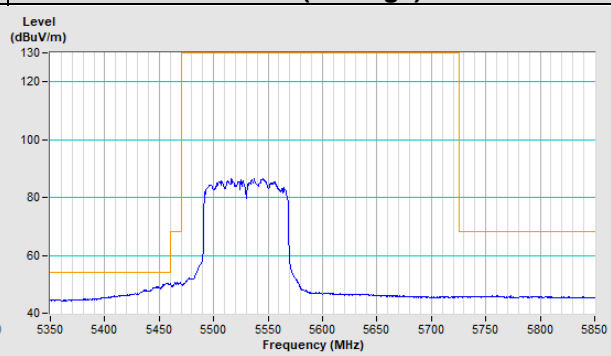
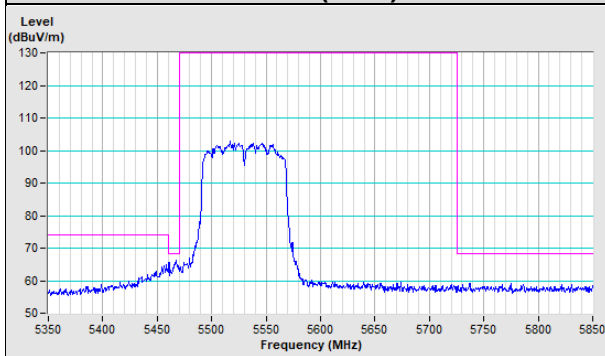
### 802.11ac (VHT80) Channel 106

**Horizontal (Peak)** **Horizontal (Average)**



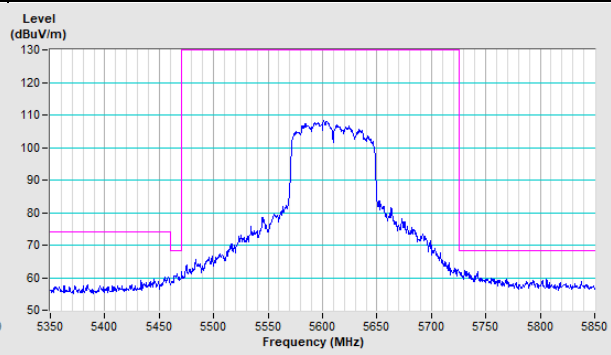
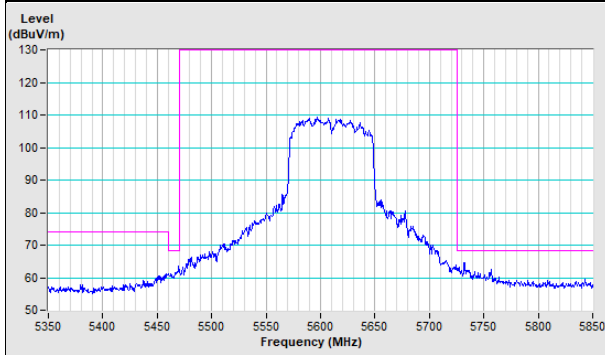
**Vertical (Peak)**

**Vertical (Average)**



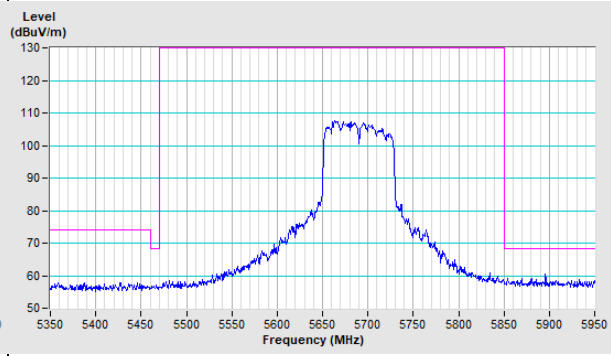
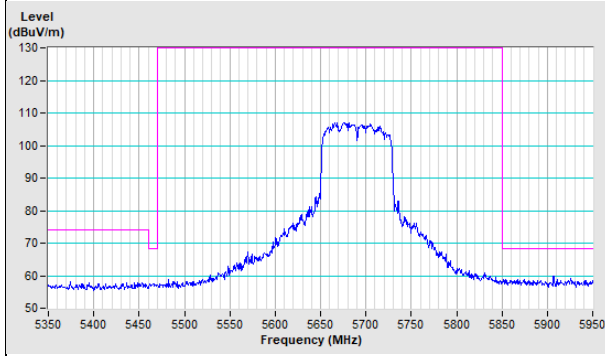
### 802.11ac (VHT80) Channel 122

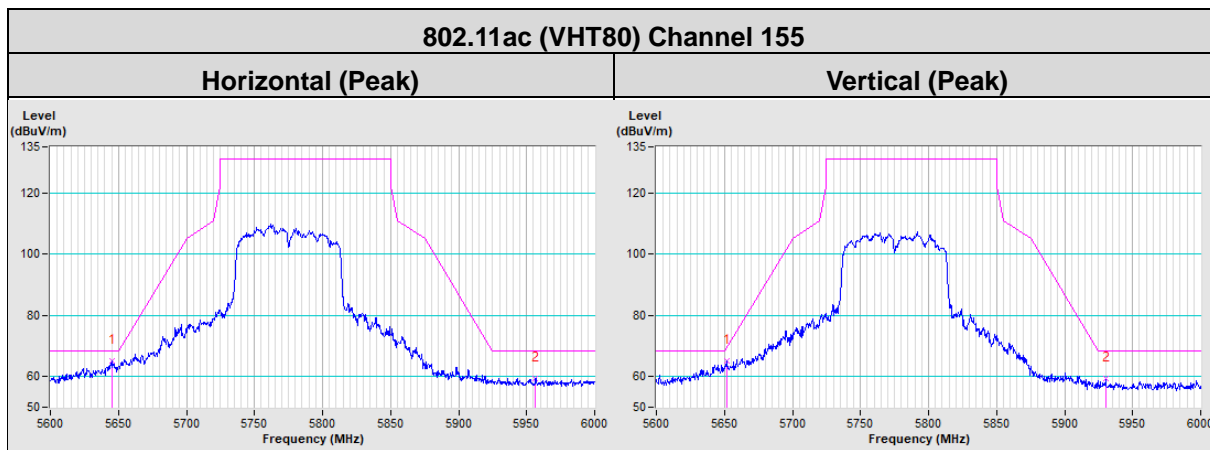
**Horizontal (Peak)** **Vertical (Peak)**



### 802.11ac (VHT80) Channel 138

**Horizontal (Peak)** **Vertical (Peak)**





## 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:

**Lin Kou EMC/RF Lab**

Tel: 886-2-26052180

Fax: 886-2-26051924

**Hsin Chu EMC/RF/Telecom Lab**

Tel: 886-3-6668565

Fax: 886-3-6668323

**Hwa Ya EMC/RF/Safety Lab**

Tel: 886-3-3183232

Fax: 886-3-3270892

**Email:** [service.adt@bureauveritas.com](mailto:service.adt@bureauveritas.com)

**Web Site:** <http://ee.bureauveritas.com.tw>

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

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