

# TEST REPORT

## CERTIFICATE OF CONFORMITY

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

**Report No.:** RFBEMI-WTW-P23090647-3

**FCC ID:** NOIKBN365

**Product:** Electronic Display Device

**Brand:** Rakuten kobo

**Model No.:** N365

**Received Date:** 2023/9/27

**Test Date:** 2023/10/30 ~ 2023/11/22

**Issued Date:** 2023/12/15

**Applicant:** NETRONIX, INC.

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

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**FCC Registration /** (1) 198487 / TW2021

**Designation Number:** (2) 788550 / TW0003

(3) 281270 / TW0032

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

*Jeremy Lin*

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

2023/12/15

Jeremy Lin / Project Engineer

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Prepared by : Vera Huang / Specialist

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## Release Control Record

Issue No.	Description	Date Issued
RFBEMI-WTW-P23090647-3	Original Release	2023/12/15

## 1 Certificate

**Product:** Electronic Display Device

**Brand:** Rakuten kobo

**Test Model:** N365

**Sample Status:** Engineering sample

**Applicant:** NETRONIX, INC.

**Test Date:** 2023/10/30 ~ 2023/11/22

**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

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)(1) 15.407(a)(3)	RF Output Power	Pass	Meet the requirement of limit.
15.407(a)(1) 15.407(a)(3)	Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
---	Occupied Bandwidth	-	Reference only.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.407(b)(9)	AC Power Conducted Emissions	Pass	Minimum passing margin is -12.16 dB at 1.77800 MHz
15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -7.9 dB at 64.92 MHz
15.407(b) (1/10) 15.407(b) (4(i)/10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.5 dB at 5650.00 MHz
15.203	Antenna Requirement	Pass	No antenna connector is used.

### Notes:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. The "Dynamic Frequency Selection measurement" was recorded in DFS test report.

### 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) (±)
RF Output Power	-	1.1 dB
Power Spectral Density	-	1.2 dB
6 dB Bandwidth	-	960 Hz
Occupied Bandwidth	-	960 Hz
AC Power Conducted Emissions	9 kHz ~ 30 MHz	2.88 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	Electronic Display Device
Brand	Rakuten kobo
Test Model	N365
Status of EUT	Engineering sample
Power Supply Rating	3.7 Vdc from battery 5 Vdc from adapter or host equipment
Modulation Type	802.11a/n: BPSK, QPSK, 16QAM, 64QAM 802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM
Modulation Technology	OFDM
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n (HT20/40): up to 150Mbps 802.11ac (VHT20/40/80): up to 433.3Mbps
Operating Frequency	5.18 GHz ~ 5.24 GHz 5.745 GHz ~ 5.825 GHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20):9 802.11n (HT40), 802.11ac (VHT40):4 802.11ac (VHT80):2
Output Power	5.18 GHz ~ 5.24 GHz : 24.491 mW (13.89 dBm) 5.745 GHz ~ 5.825 GHz : 34.041 mW (15.32 dBm)
EUT Category	Client device

Note:

1. The EUT uses following accessories.

USB Cable	Brand	LUXSHARE-ICT
	Model	LB93US005-1H
	Material	TPE
	Signal Line	Shielded: Y, 1.0M, Core: N/A

2. Simultaneously transmission condition.

Condition	Technology	
1	WLAN (2.4 GHz)	Bluetooth
2	WLAN (5 GHz)	Bluetooth

Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.

3. 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.

Gain (dBi)	Antenna Type	Connector Type
3.41	Chip	N/A

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

2. The EUT provides 1 completed transmitter and 1 receiver.

5 GHz Band		
Modulation Mode	TX & RX Configuration	
802.11a	1TX	1RX
802.11n (HT20)	1TX	1RX
802.11n (HT40)	1TX	1RX
802.11ac (VHT20)	1TX	1RX
802.11ac (VHT40)	1TX	1RX
802.11ac (VHT80)	1TX	1RX

### 3.3 Channel List

#### For 5180 ~ 5240 MHz

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

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

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210 MHz

#### For 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:	<p>1. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).</p> <p>2. For Radiated, pre-scan Power from AC Adapter via USB Cable / Laptop via USB Cable / Battery and find the worst case as a representative test condition.</p> <p>3. For AC conduction, pre-scan Power from AC Adapter via USB Cable / Laptop via USB Cable and find the worst case as a representative test condition.</p> <p>4. EUT can be used in the following ways: X-axis/ Y-axis/ Z-axis. Pre-scan these ways and find the worst case as a representative test condition.</p>
Worst Case:	<p>1. For Radiated Worst Condition: Power from Laptop via USB Cable</p> <p>2. For AC conduction Worst Condition: Power from Laptop via USB Cable</p> <p>3. X-axis/ Y-axis/ Z-axis Worst Condition: Y-axis</p>

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

Test Item	Mode	Tested Channel	Modulation	Data Rate Parameter
RF Output Power	802.11a	36, 40, 48, 149, 157, 165	BPSK	6Mb/s
	802.11n (HT20)	36, 40, 48, 149, 157, 165	BPSK	MCS0
	802.11n (HT40)	38, 46, 151, 159	BPSK	MCS0
	802.11ac (VHT20)	36, 40, 48, 149, 157, 165	BPSK	MCS0
	802.11ac (VHT40)	38, 46, 151, 159	BPSK	MCS0
	802.11ac (VHT80)	42, 155	BPSK	MCS0
Power Spectral Density / Occupied Bandwidth	802.11a	36, 40, 48, 149, 157, 165	BPSK	6Mb/s
	802.11ac (VHT20)	36, 40, 48, 149, 157, 165	BPSK	MCS0
	802.11ac (VHT40)	38, 46, 151, 159	BPSK	MCS0
	802.11ac (VHT80)	42, 155	BPSK	MCS0
6 dB Bandwidth	802.11a	149, 157, 165	BPSK	6Mb/s
	802.11ac (VHT20)	149, 157, 165	BPSK	MCS0
	802.11ac (VHT40)	151, 159	BPSK	MCS0
	802.11ac (VHT80)	155	BPSK	MCS0
Frequency Stability	802.11a	36	unmodulated	-
AC Power Conducted Emissions	802.11ac (VHT80)	155	BPSK	MCS0
Unwanted Emissions below 1 GHz	802.11ac (VHT80)	155	BPSK	MCS0
Unwanted Emissions above 1 GHz	802.11a	36, 40, 48, 149, 157, 165	BPSK	6Mb/s
	802.11ac (VHT20)	36, 40, 48, 149, 157, 165	BPSK	MCS0
	802.11ac (VHT40)	38, 46, 151, 159	BPSK	MCS0
	802.11ac (VHT80)	42, 155	BPSK	MCS0

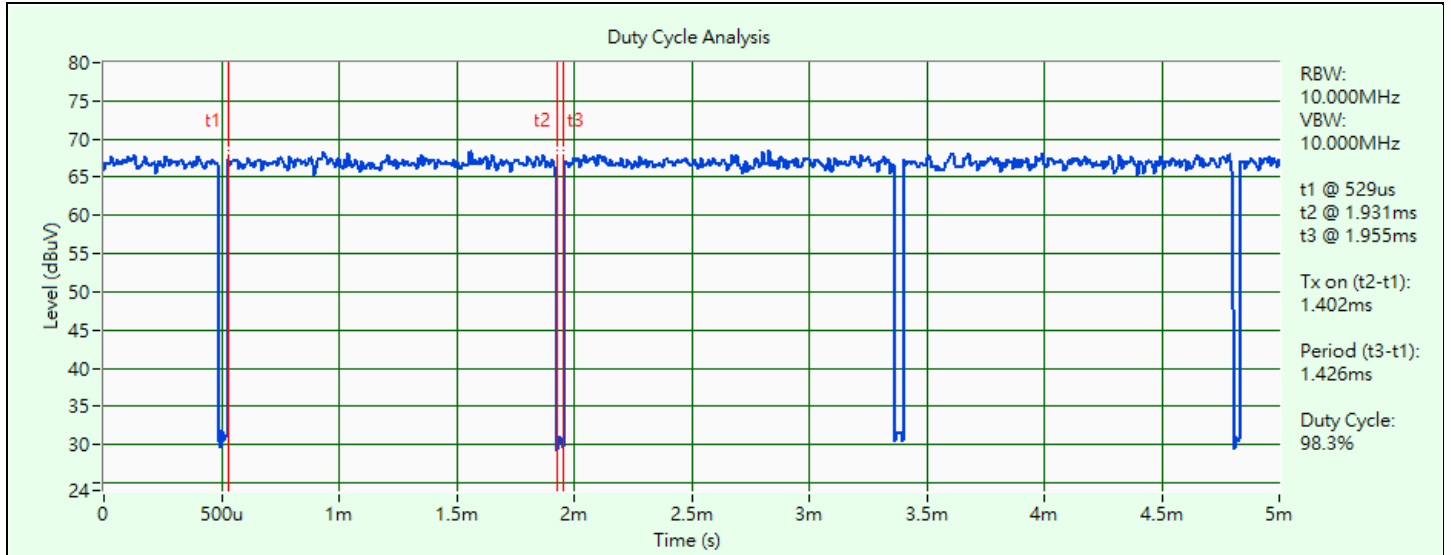
### 3.5 Duty Cycle of Test Signal

**802.11a:** Duty cycle = 1.402 ms / 1.426 ms x 100% = 98.3%

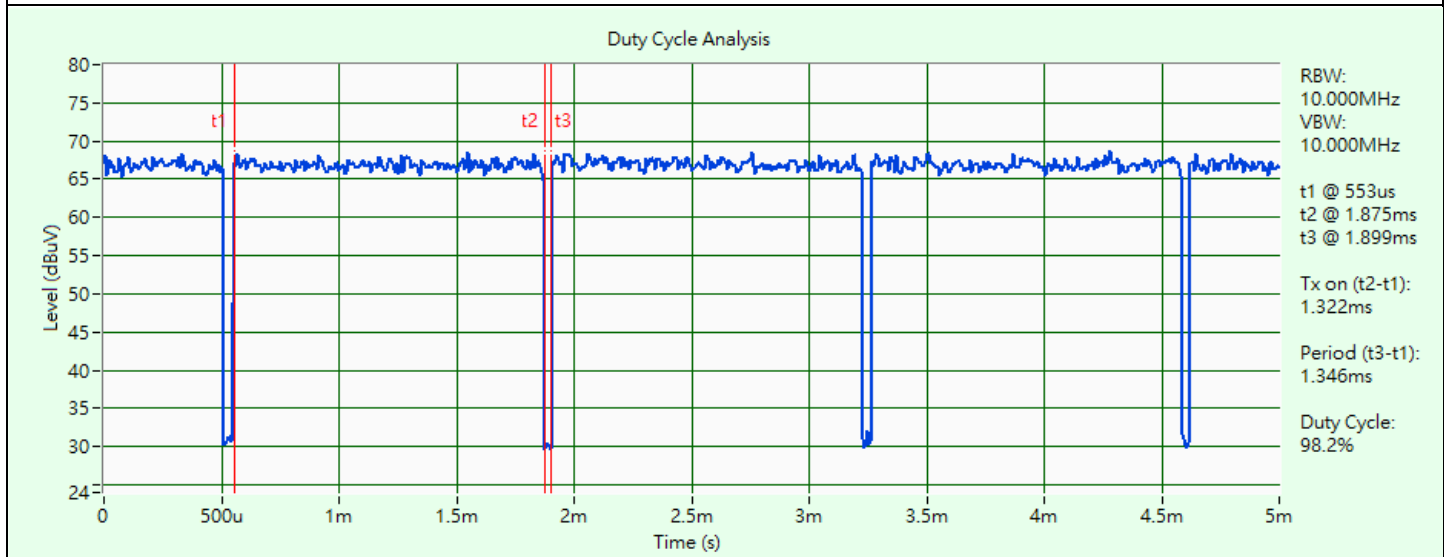
**802.11ac (VHT20):** Duty cycle = 1.322 ms / 1.346 ms x 100% = 98.2%

**802.11ac (VHT40):** Duty cycle = 0.661 ms / 0.699 ms x 100% = 94.6%, duty factor = 10 \* log (1/Duty cycle) = 0.24 dB

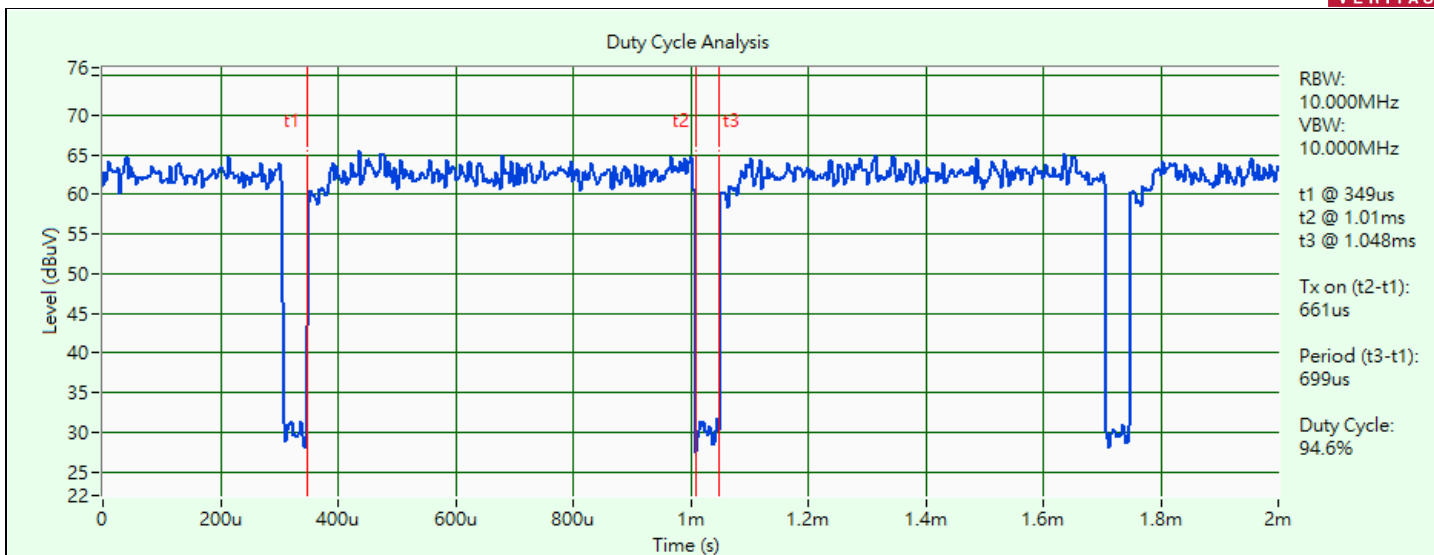
**802.11ac (VHT80):** Duty cycle = 0.331 ms / 0.369 ms x 100% = 89.7%, duty factor = 10 \* log (1/Duty cycle) = 0.47 dB



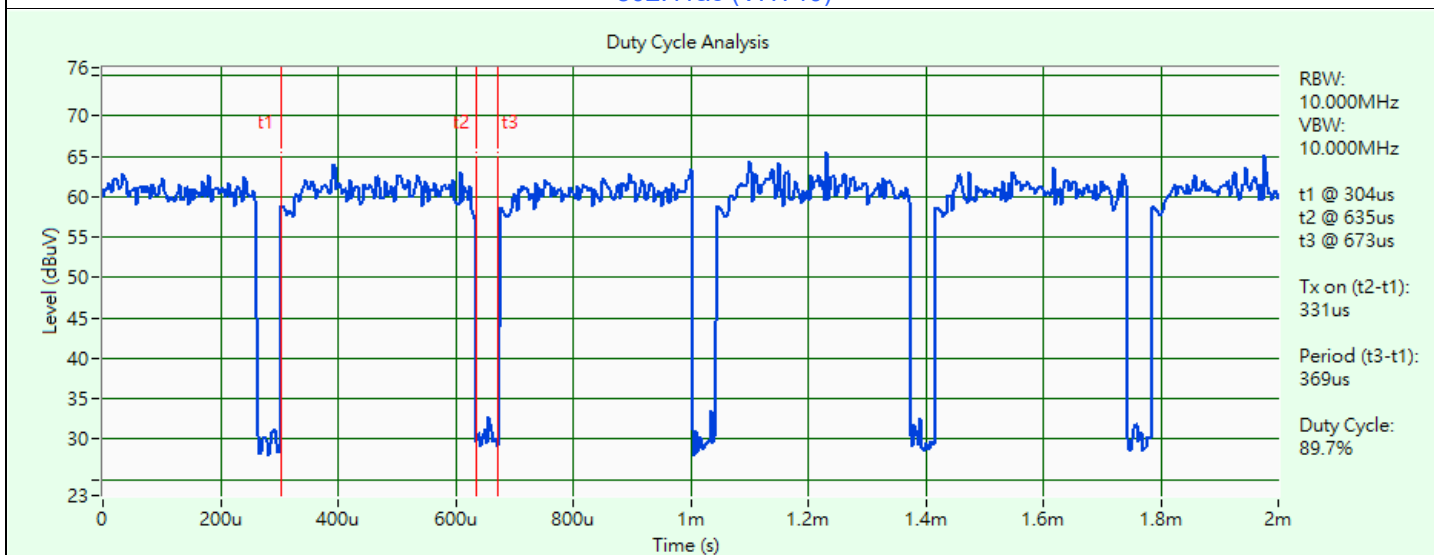
802.11a



802.11ac (VHT20)



802.11ac (VHT40)

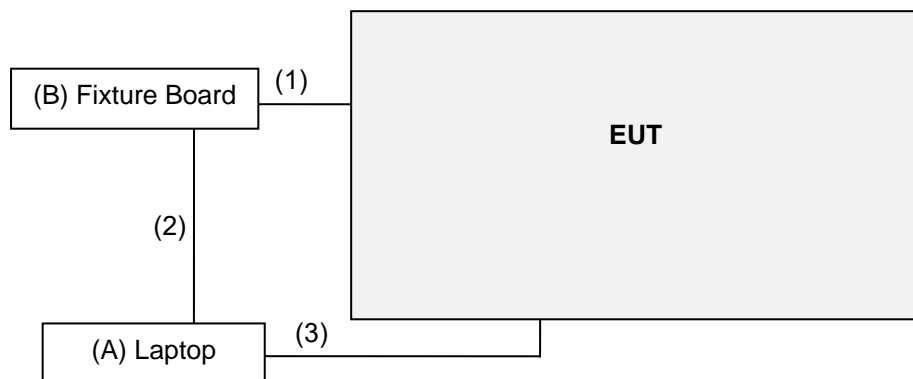


802.11ac (VHT80)

### 3.6 Test Program Used and Operation Descriptions

Controlling software teraterm v4.80 has been activated to set the EUT under transmission condition continuously at specific channel frequency.

### 3.7 Connection Diagram of EUT and Peripheral Devices



-----  
**Under Table**

### 3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	Lenovo	20J4 MD A003TW	PF-11H9AK	N/A	Provided by Lab
B.	Fixture Board	N/A	N/A	N/A	N/A	Supplied by applicant

No.	Cable Descriptions	Qty.	Length (m)	Shielded (Yes/ No)	Cores (Qty.)	Remark
1.	Console Cable	1	0.6	No	0	Supplied by applicant (for RF Setup)
2.	USB Cable	1	1	Yes	0	Supplied by applicant
3.	USB Cable	1	1	Yes	0	Accessory of EUT

## 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
Power Meter Anritsu	ML2495A	0842014	2023/5/5	2024/5/4
Pulse Power Sensor Anritsu	MA2411B	0738404	2023/5/5	2024/5/4
USB Wideband Power Sensor Keysight	U2021XA	U2021XA_001	2023/6/6	2024/6/5

Notes:

1. The test was performed in LK - Oven
2. Tested Date: 2023/11/22

### 4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
PXA Signal Analyzer Keysight	N9030A	MY54490260	2023/7/13	2024/7/12
Signal Analyzer R&S	FSV40	101042	2023/9/5	2024/9/4
		101544	2023/5/9	2024/5/8
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in LK - Oven
2. Tested Date: 2023/11/22

### 4.3 6 dB Bandwidth

Refer to section 4.2 to get information of the instruments.

### 4.4 Occupied Bandwidth

Refer to section 4.2 to get information of the instruments.

#### 4.5 Frequency Stability

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
AC Power Source Schaffner	Proflin2105- 208NSG1007	55616	N/A	N/A
PXA Signal Analyzer Keysight	N9030A	MY54490260	2023/7/13	2024/7/12
Signal Analyzer R&S	FSV40	101042	2023/9/5	2024/9/4
		101544	2023/5/9	2024/5/8
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Temperature & Humidity Chamber Terchy	MHU-225AU	920409	2023/6/26	2024/6/25

Notes:

1. The test was performed in LK - Oven
2. Tested Date: 2023/11/22

#### 4.6 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal resistance HUBER+SUHNER	E1-011315	13	2022/11/17	2023/11/16
50 ohm terminal resistance	E1-011280	05	2022/11/21	2023/11/20
	E1-011311	09	2022/11/17	2023/11/16
EMI Test Receiver R&S	ESCI	100613	2022/12/5	2023/12/4
Fixed Attenuator Mini-Circuits	HAT-10+	PAD-COND1-01	2023/1/7	2024/1/6
LISN R&S	ENV216	101826	2023/3/23	2024/3/22
	ESH3-Z5	100311	2023/9/6	2024/9/5
RF Coaxial Cable Woken	5D-FB	Cable-cond1-01	2023/1/7	2024/1/6
Software BVADT	BVADT_Cond_ V7.3.7.4	N/A	N/A	N/A
V-LISN Schwarzbeck	NNBL 8226-2	8226-142	2023/8/31	2024/8/30

Notes:

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

#### 4.7 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 Antenna Schwarzbeck	VULB 9168	9168-1213	2023/10/13	2024/10/12
EMI Test Receiver R&S	ESR3	102782	2022/12/12	2023/12/11
Loop Antenna Electro-Metrics	EM-6879	269	2023/9/23	2024/9/22
Loop Antenna TESEQ	HLA 6121	45745	2023/8/8	2024/8/7
Preamplifier EMCI	EMC330N	980782	2023/1/16	2024/1/15
	EMC001340	980201	2023/9/27	2024/9/26
RF Coaxial Cable EMCI	5D-NM-BM	140903+140902	2023/1/7	2024/1/6
	EMCCFD400-NM-NM- 500	201233	2023/1/16	2024/1/15
	EMCCFD400-NM-NM- 3000	201235	2023/1/16	2024/1/15
	EMCCFD400-NM-NM- 9000	201236(with PAD)	2023/1/16	2024/1/15
Signal & Spectrum Analyzer R&S	FSW43	101866	2023/1/10	2024/1/9
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
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: 2023/11/3

#### 4.8 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
EMI Test Receiver R&S	ESR3	102782	2022/12/12	2023/12/11
Horn Antenna RFSPIN	DRH18-E	210103A18E	2022/11/13	2023/11/12
Horn Antenna Schwarzbeck	BBHA 9170	9170-1049	2022/11/13	2023/11/12
Preamplifier EMCI	EMC118A45SE	980808	2022/12/29	2023/12/28
	EMC184045SE	980788	2023/1/16	2024/1/15
RF Coaxial Cable EMCI	EMC101G-KM-KM-2000	201254	2023/1/16	2024/1/15
	EMC101G-KM-KM-3000	201257	2023/1/16	2024/1/15
	EMC101G-KM-KM-5000	201260	2023/1/16	2024/1/15
	EMC104-SM-SM-1000	210102	2023/1/16	2024/1/15
	EMC104-SM-SM-3000	201231	2023/1/16	2024/1/15
	EMC104-SM-SM-9000	201243	2023/1/16	2024/1/15
Signal & Spectrum Analyzer R&S	FSW43	101866	2023/1/10	2024/1/9
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
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: 2023/10/30



## 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-3	1 Watt (30 dBm)

### 5.2 Power Spectral Density

Operation Band	EUT Category	Limit
U-NII-1	Outdoor Access Point	17 dBm/MHz
	Fixed point-to-point Access Point	
	Indoor Access Point	
	Mobile and Portable client device	11 dBm/MHz

Operation Band	Limit
U-NII-3	30 dBm/500 kHz

### 5.3 6 dB Bandwidth

Within the 5.725-5.850 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

### 5.4 Occupied Bandwidth

The results are for reference only.

### 5.5 Frequency Stability

The frequency of the carrier signal shall be maintained within band of operation.

## 5.6 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.

## 5.7 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).

## 5.8 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)

For transmitters operating in the 5.15-5.25 GHz band:

Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBµV/m)

For transmitters operating in the 5.725-5.850 GHz band:

Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
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>

<sup>\*1</sup> beyond 75 MHz or more above of the band edge.

<sup>\*2</sup> below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

<sup>\*3</sup> below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

<sup>\*4</sup> from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

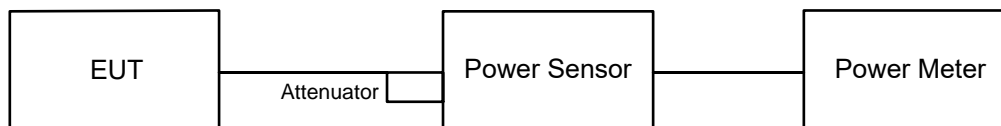
Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

## 6 Test Arrangements

### 6.1 RF Output Power

#### 6.1.1 Test Setup

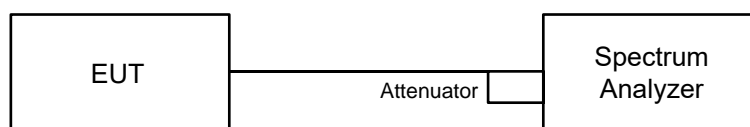


#### 6.1.2 Test Procedure

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.

### 6.2 Power Spectral Density

#### 6.2.1 Test Setup



#### 6.2.2 Test Procedure

##### For specified measurement bandwidth 1 MHz:

###### Method SA-1

- 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  $\leq$  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.
- Record the max value

##### For specified measurement bandwidth 1 MHz:

###### 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  $\leq$  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  $10 \log (1/\text{duty cycle})$ .

**For specified measurement bandwidth 500 kHz:**

Method SA-1

- a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- b. Set RBW = 300 kHz, Set VBW  $\geq$  1 MHz, Detector = RMS
- c. Scale the observed power level to an equivalent value in 500 kHz by adjusting (increasing) the measured power by a bandwidth correction factor (BWCF) where  $BWCF = 10\log(500 \text{ kHz}/300 \text{ kHz})$
- d. 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.)
- e. Sweep time = auto, trigger set to "free run".
- f. Trace average at least 100 traces in power averaging mode.
- g. Record the max value

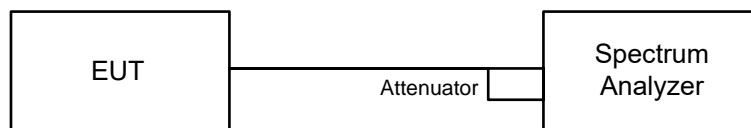
**For specified measurement bandwidth 500 kHz:**

Method SA-2

- a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- b. Set RBW = 300 kHz, Set VBW  $\geq$  1 MHz, Detector = RMS
- c. Scale the observed power level to an equivalent value in 500 kHz by adjusting (increasing) the measured power by a bandwidth correction factor (BWCF) where  $BWCF = 10\log(500 \text{ kHz}/300 \text{ kHz})$
- d. 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.)
- e. Sweep time = auto, trigger set to "free run".
- f. Trace average at least 100 traces in power averaging mode.
- g. Use the peak search function on the instrument to find the peak of the spectrum and record its value.
- h. Record the max value and add  $10 \log (1/\text{duty cycle})$ .

### 6.3 6 dB Bandwidth

#### 6.3.1 Test Setup

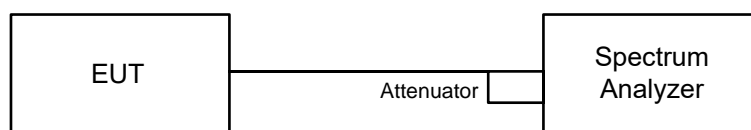


#### 6.3.2 Test Procedure

- Set resolution bandwidth (RBW) = 100 kHz.
- Set the video bandwidth (VBW)  $\geq 3 \times$  RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

### 6.4 Occupied Bandwidth

#### 6.4.1 Test Setup

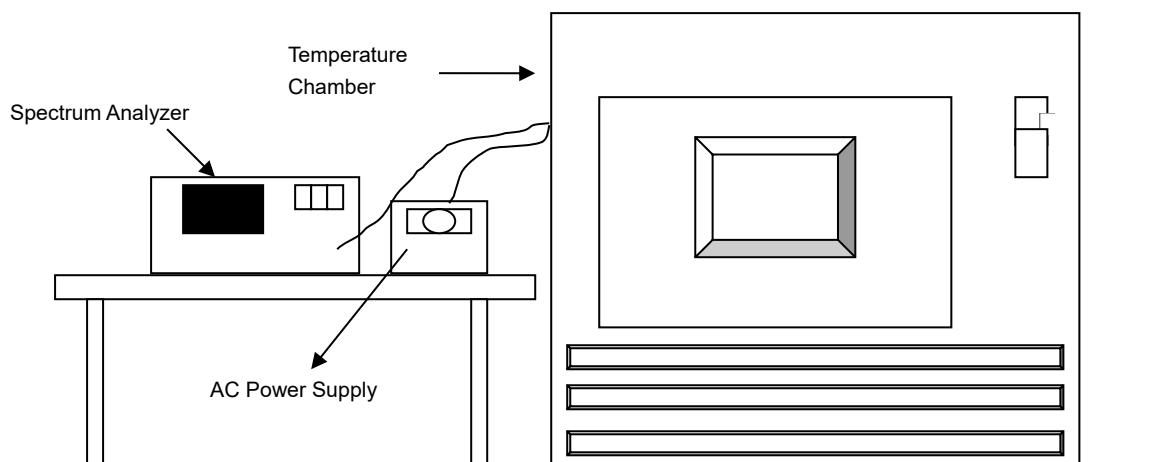


#### 6.4.2 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to Sampling. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean power of a given emission.

## 6.5 Frequency Stability

### 6.5.1 Test Setup

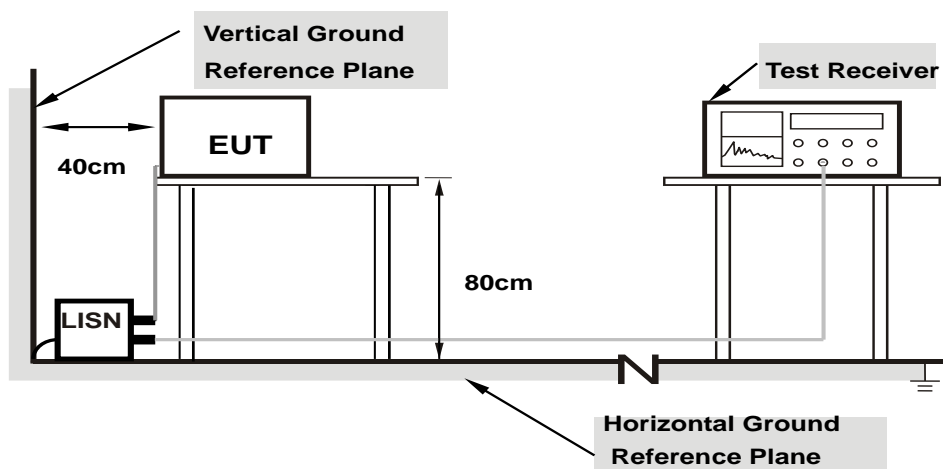


### 6.5.2 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 Minutes.
- Repeat step (d) with the temperature chamber set to the next desired temperature until measurements down to the lowest specified temperature have been completed.
- The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 Minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

## 6.6 AC Power Conducted Emissions

### 6.6.1 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).

### 6.6.2 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.

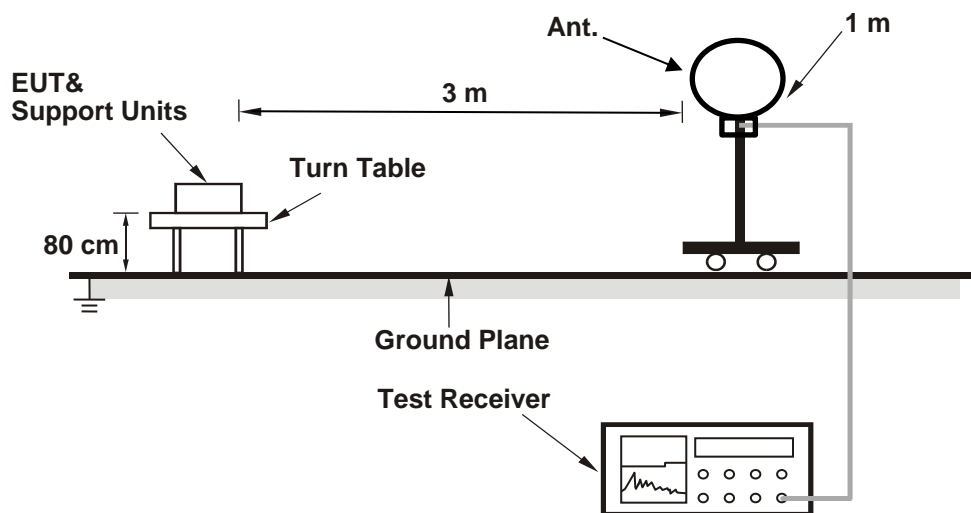
Note: The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz-30 MHz.



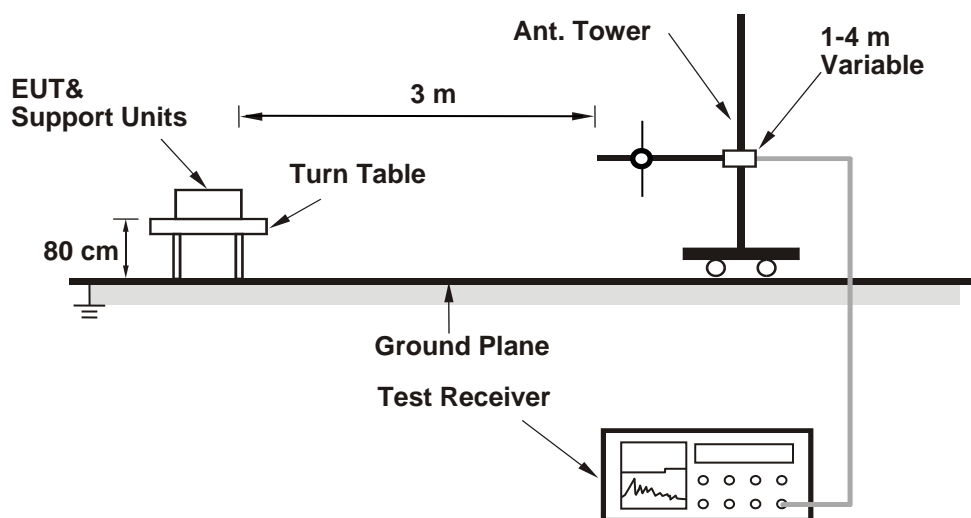
## 6.7 Unwanted Emissions below 1 GHz

### 6.7.1 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).

## 6.7.2 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

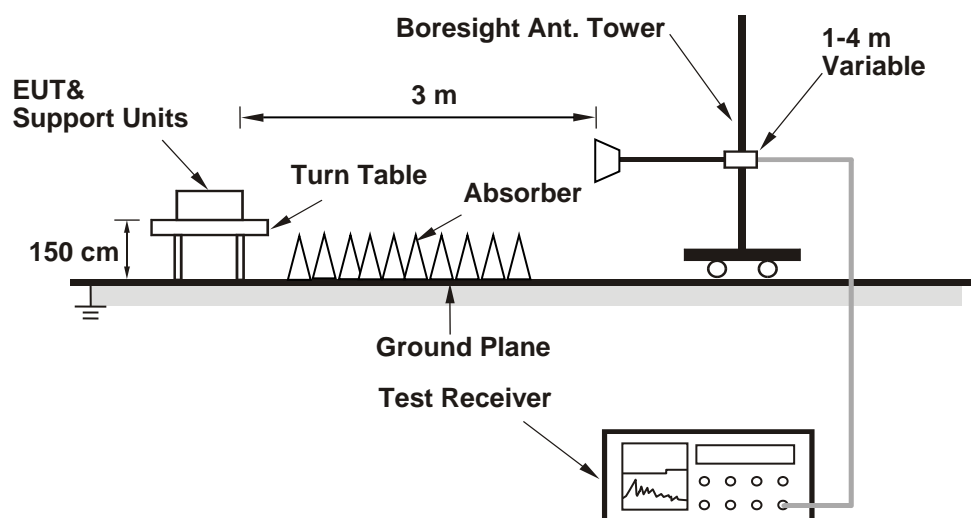
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the 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.

## 6.8 Unwanted Emissions above 1 GHz

### 6.8.1 Test Setup



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

### 6.8.2 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, 76% RH	Tested By:	Ted Chang
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#### 802.11a

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
36	5180	23.227	13.66	24	Pass
40	5200	22.387	13.50	24	Pass
48	5240	22.803	13.58	24	Pass
149	5745	32.509	15.12	30	Pass
157	5785	31.623	15.00	30	Pass
165	5825	31.842	15.03	30	Pass

#### Notes:

1. For U-NII-1, the antenna gain is 3.41 dBi < 6 dBi, so the output power limit shall not be reduced.
2. For U-NII-3, the antenna gain is 3.41 dBi < 6 dBi, so the output power limit shall not be reduced.

#### 802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
36	5180	22.699	13.56	24	Pass
40	5200	21.281	13.28	24	Pass
48	5240	22.803	13.58	24	Pass
149	5745	33.037	15.19	30	Pass
157	5785	32.584	15.13	30	Pass
165	5825	32.961	15.18	30	Pass

#### Notes:

1. For U-NII-1, the antenna gain is 3.41 dBi < 6 dBi, so the output power limit shall not be reduced.
2. For U-NII-3, the antenna gain is 3.41 dBi < 6 dBi, so the output power limit shall not be reduced.

#### 802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
38	5190	22.803	13.58	24	Pass
46	5230	22.387	13.50	24	Pass
151	5755	33.189	15.21	30	Pass
159	5795	33.42	15.24	30	Pass

#### Notes:

1. For U-NII-1, the antenna gain is 3.41 dBi < 6 dBi, so the output power limit shall not be reduced.
2. For U-NII-3, the antenna gain is 3.41 dBi < 6 dBi, so the output power limit shall not be reduced.

### 802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
36	5180	22.803	13.58	24	Pass
40	5200	22.803	13.58	24	Pass
48	5240	22.909	13.60	24	Pass
149	5745	33.806	15.29	30	Pass
157	5785	33.189	15.21	30	Pass
165	5825	33.189	15.21	30	Pass

Notes:

1. For U-NII-1, the antenna gain is 3.41 dBi < 6 dBi, so the output power limit shall not be reduced.
2. For U-NII-3, the antenna gain is 3.41 dBi < 6 dBi, so the output power limit shall not be reduced.

### 802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
38	5190	23.014	13.62	24	Pass
46	5230	22.699	13.56	24	Pass
151	5755	33.806	15.29	30	Pass
159	5795	33.806	15.29	30	Pass

Notes:

1. For U-NII-1, the antenna gain is 3.41 dBi < 6 dBi, so the output power limit shall not be reduced.
2. For U-NII-3, the antenna gain is 3.41 dBi < 6 dBi, so the output power limit shall not be reduced.

### 802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
42	5210	<b>24.491</b>	<b>13.89</b>	24	Pass
155	5775	<b>34.041</b>	<b>15.32</b>	30	Pass

Notes:

1. For U-NII-1, the antenna gain is 3.41 dBi < 6 dBi, so the output power limit shall not be reduced.
2. For U-NII-3, the antenna gain is 3.41 dBi < 6 dBi, so the output power limit shall not be reduced.

## 7.2 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Ted Chang
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### 802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
36	5180	3.19	11	Pass
40	5200	3.12	11	Pass
48	5240	3.08	11	Pass

Note: For U-NII-1, the antenna gain is 3.41 dBi < 6dBi, so the power density limit shall not be reduced.

### 802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
36	5180	2.81	11	Pass
40	5200	2.92	11	Pass
48	5240	2.68	11	Pass

Note: For U-NII-1, the antenna gain is 3.41 dBi < 6dBi, so the power density limit shall not be reduced.

### 802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
38	5190	0.01	0.24	0.25	11	Pass
46	5230	-0.08	0.24	0.16	11	Pass

Note: For U-NII-1, the antenna gain is 3.41 dBi < 6dBi, so the power density limit shall not be reduced.

### 802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
42	5210	-3.73	0.47	-3.26	11	Pass

Note: For U-NII-1, the antenna gain is 3.41 dBi < 6dBi, so the power density limit shall not be reduced.

**802.11a**

Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
149	5745	-1.61	0.61	30	Pass
157	5785	-1.54	0.68	30	Pass
165	5825	-1.39	0.83	30	Pass

Note: For U-NII-3, the antenna gain is 3.41 dBi < 6 dBi, so the power density limit shall not be reduced.

**802.11ac (VHT20)**

Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
149	5745	-2.21	0.01	30	Pass
157	5785	-2.24	-0.02	30	Pass
165	5825	-2.32	-0.1	30	Pass

Note: For U-NII-3, the antenna gain is 3.41 dBi < 6 dBi, so the power density limit shall not be reduced.

**802.11ac (VHT40)**

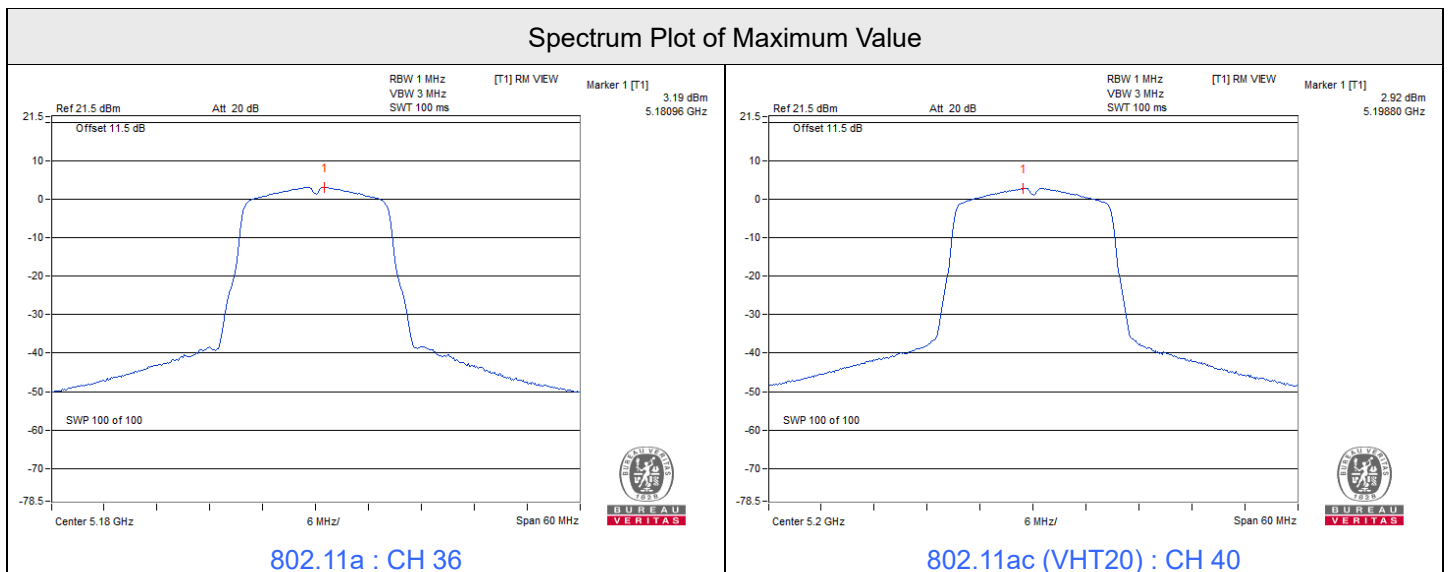
Channel	Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	PSD w/o Duty Factor (dBm/500kHz)	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
151	5755	-5.77	-3.55	0.24	-3.31	30	Pass
159	5795	-5.39	-3.17	0.24	-2.93	30	Pass

Note: For U-NII-3, the antenna gain is 3.41 dBi < 6 dBi, so the power density limit shall not be reduced.

**802.11ac (VHT80)**

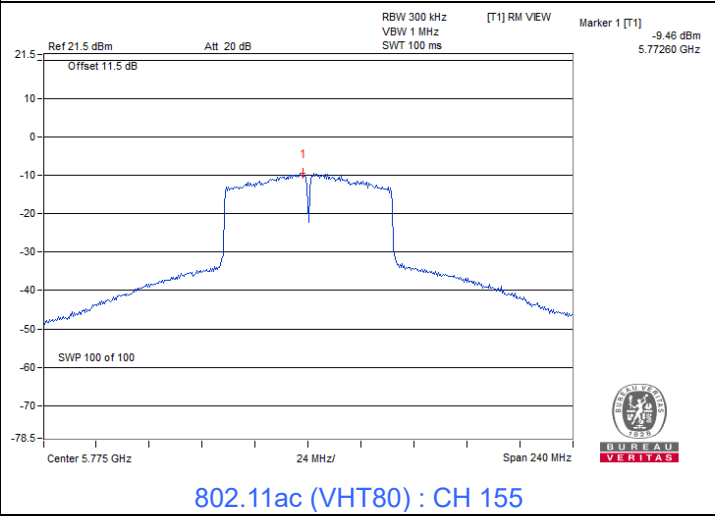
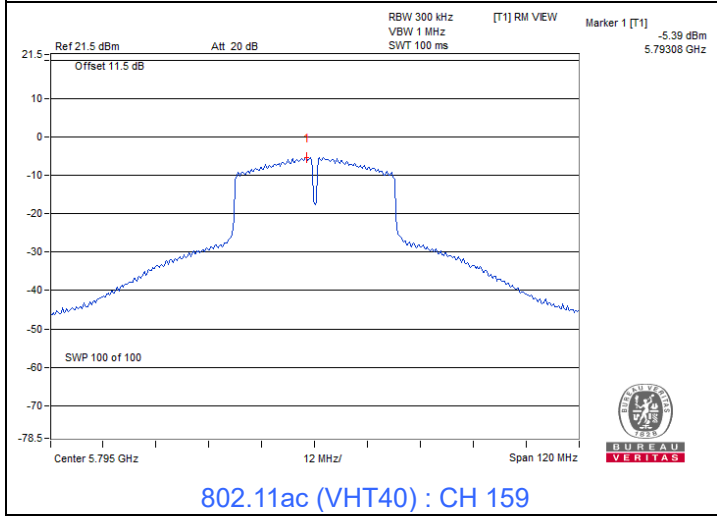
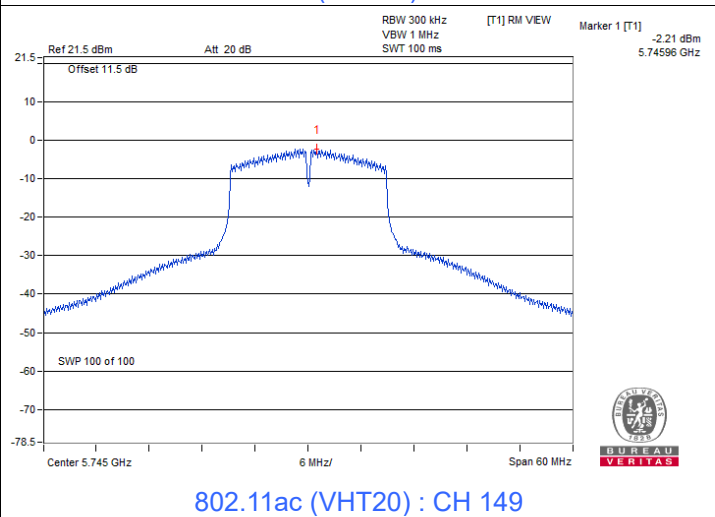
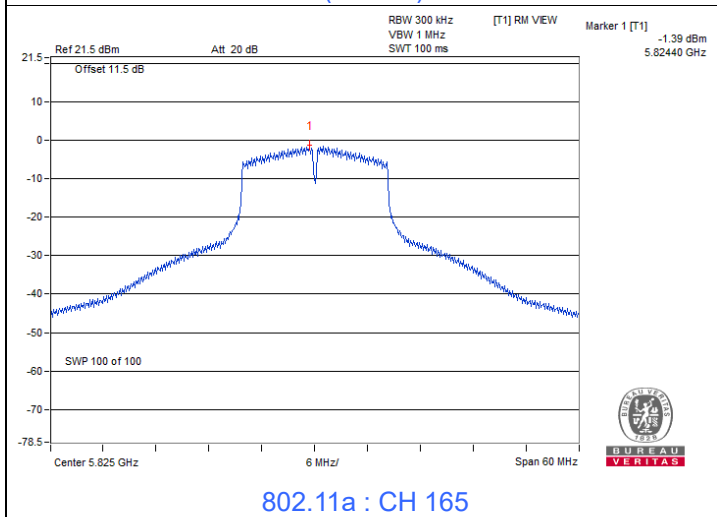
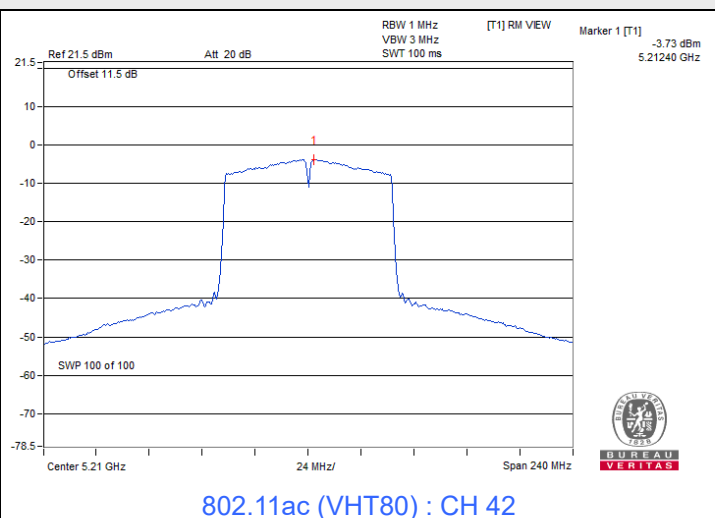
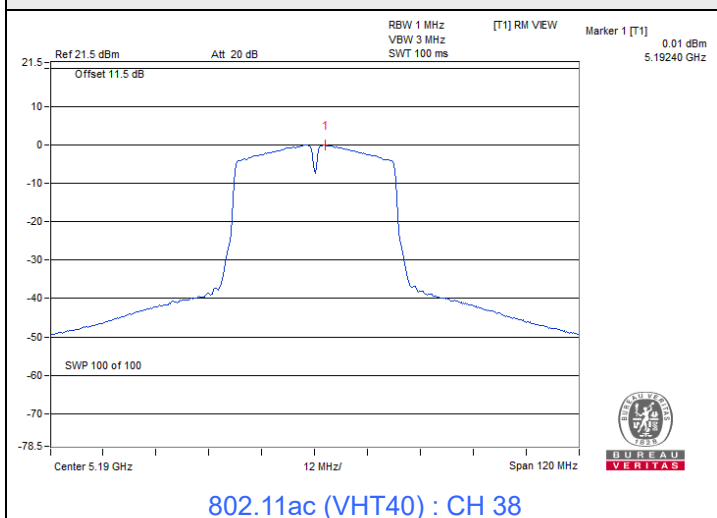
Channel	Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	PSD w/o Duty Factor (dBm/500kHz)	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
155	5775	-9.46	-7.24	0.47	-6.77	30	Pass

Note: For U-NII-3, the antenna gain is 3.41 dBi < 6 dBi, so the power density limit shall not be reduced.





### Spectrum Plot of Maximum Value





### 7.3 6 dB Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Ted Chang
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#### 802.11a

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
149	5745	15.17	0.5	Pass
157	5785	15.18	0.5	Pass
165	5825	15.19	0.5	Pass

#### 802.11ac (VHT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
149	5745	15.17	0.5	Pass
157	5785	15.18	0.5	Pass
165	5825	15.21	0.5	Pass

#### 802.11ac (VHT40)

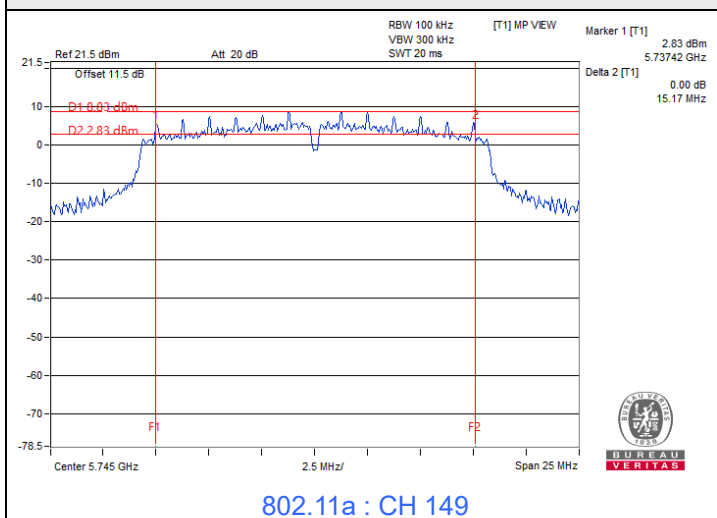
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
151	5755	35.26	0.5	Pass
159	5795	35.23	0.5	Pass

#### 802.11ac (VHT80)

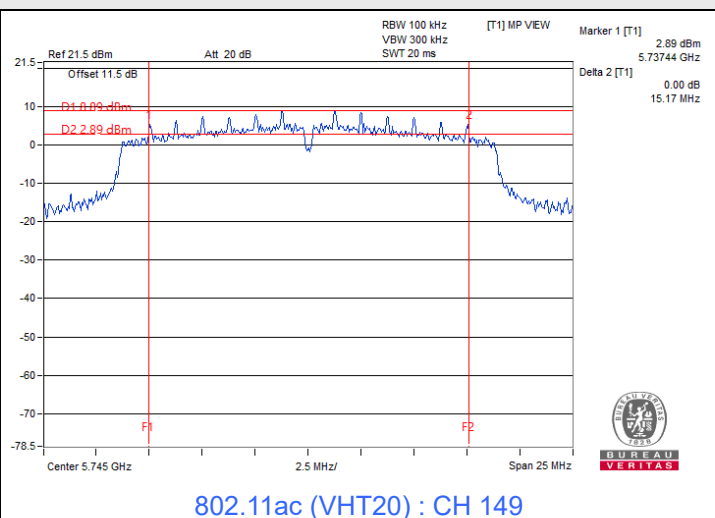
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
155	5775	75.36	0.5	Pass



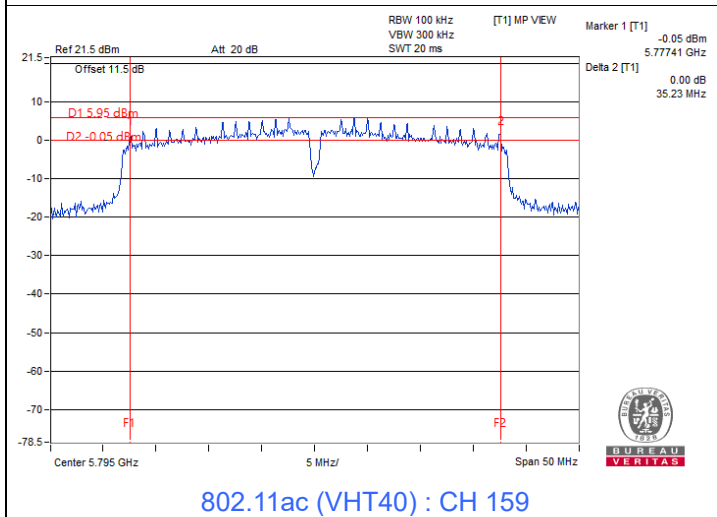
### Spectrum Plot of Minimum Value



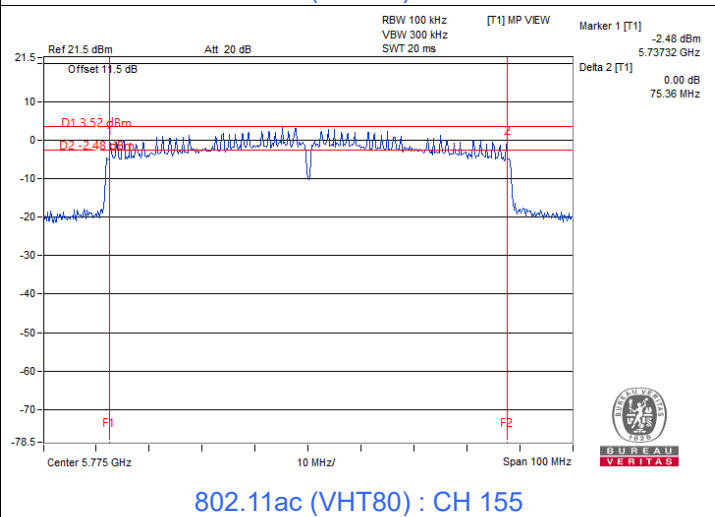
802.11a : CH 149



802.11ac (VHT20) : CH 149



802.11ac (VHT40) : CH 159



802.11ac (VHT80) : CH 155

## 7.4 Occupied Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Ted Chang
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### 802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	16.68
40	5200	16.56
48	5240	16.8
149	5745	18.84
157	5785	19.08
165	5825	18.72

### 802.11ac (VHT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	17.64
40	5200	17.76
48	5240	17.76
149	5745	19.44
157	5785	19.68
165	5825	19.08

### 802.11ac (VHT40)

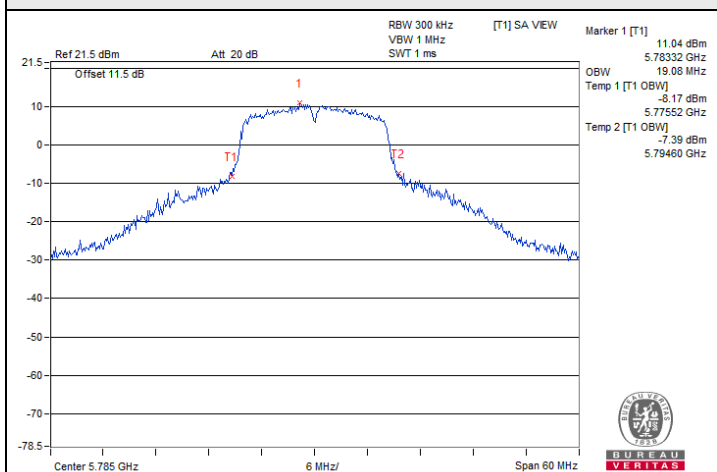
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
38	5190	36.48
46	5230	36.24
151	5755	41.52
159	5795	42.72

### 802.11ac (VHT80)

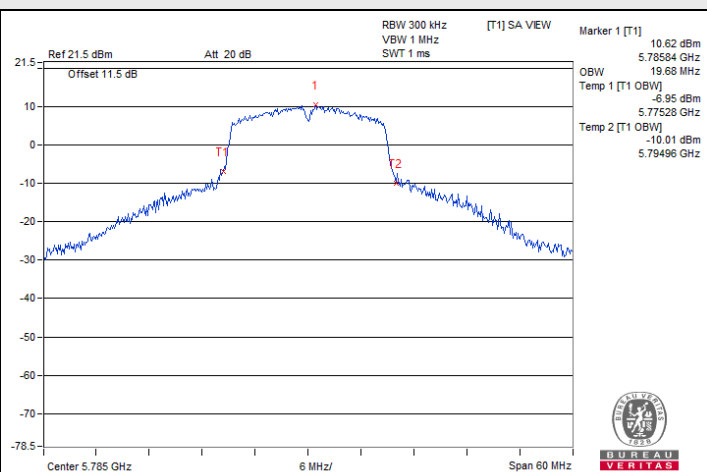
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
42	5210	75.36
155	5775	85.44



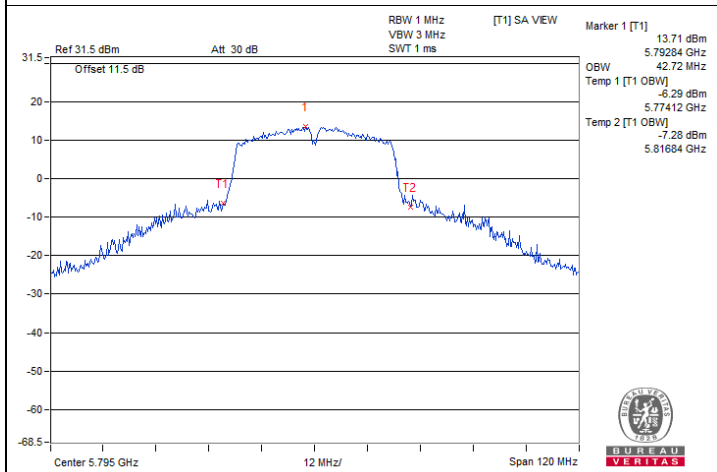
### Spectrum Plot of Maximum Value



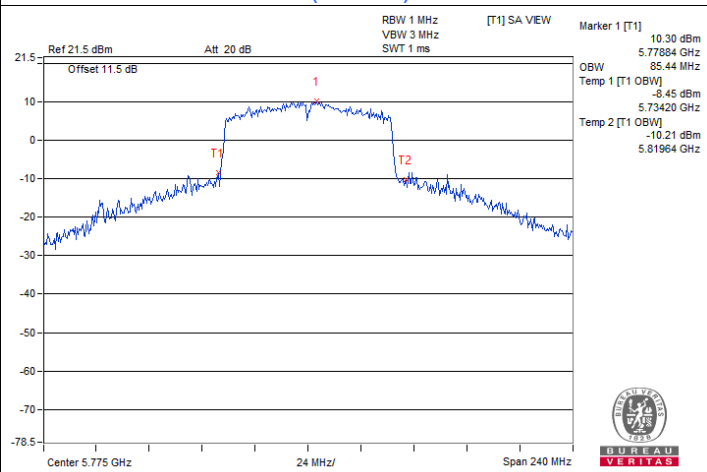
802.11a : CH 157



802.11ac (VHT20) : CH 157



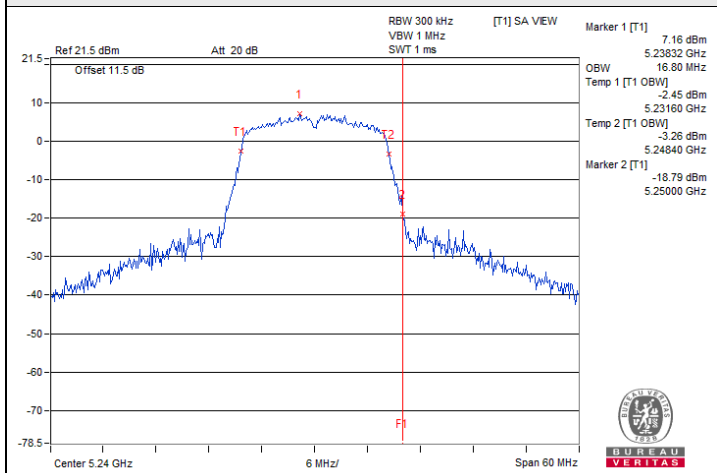
802.11ac (VHT40) : CH 159



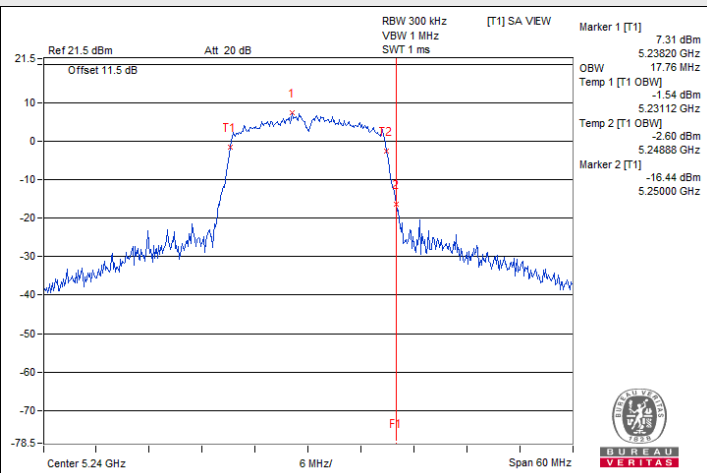
802.11ac (VHT80) : CH 155



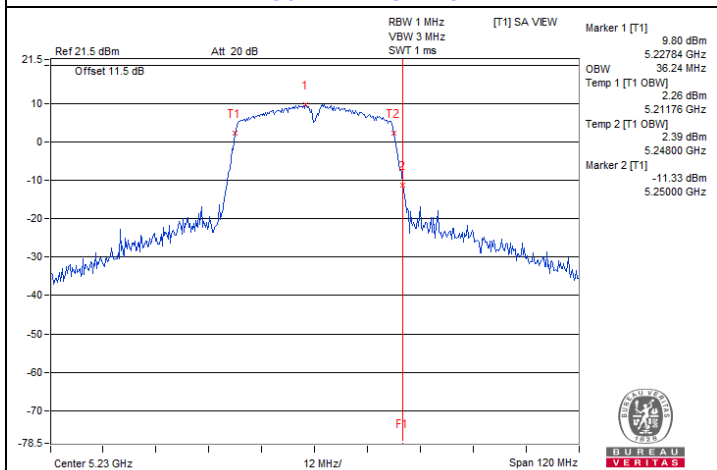
### Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2A)



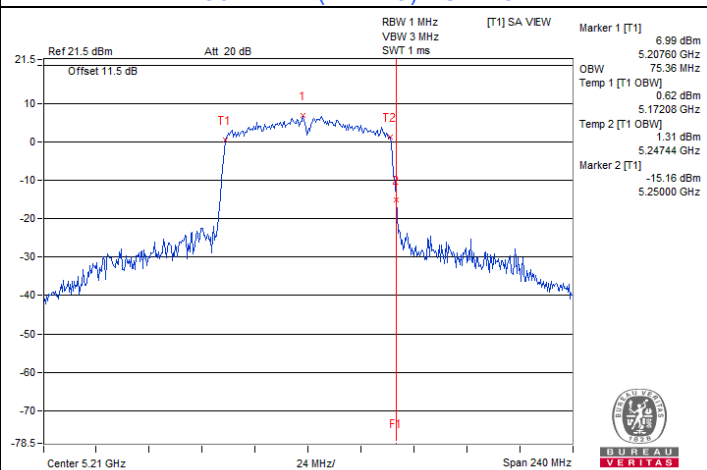
802.11a : CH 48



802.11ac (VHT20) : CH 48



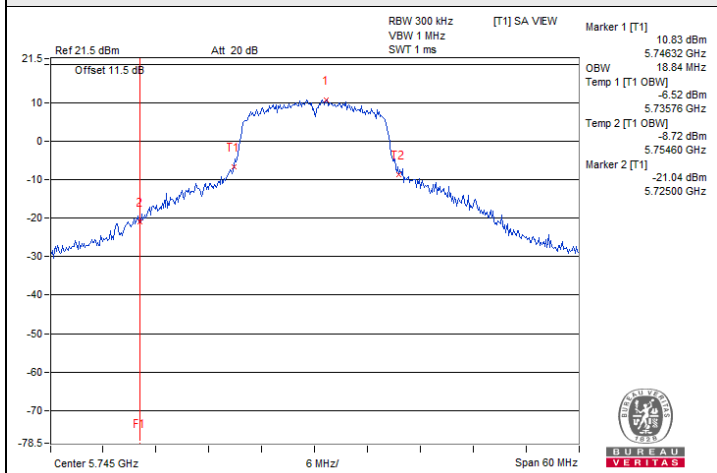
802.11ac (VHT40) : CH 46



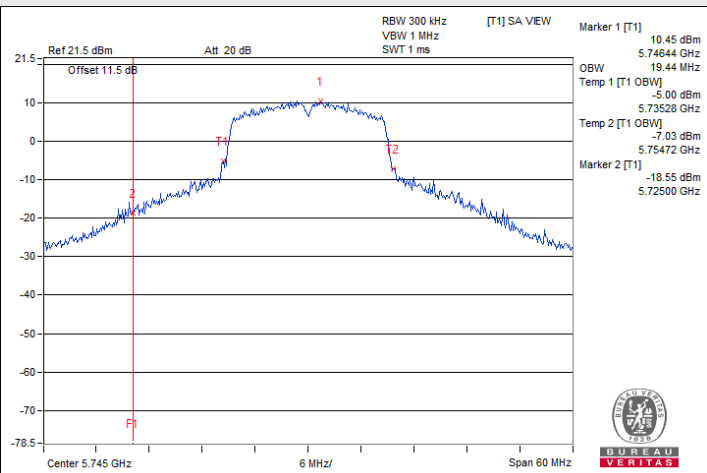
802.11ac (VHT80) : CH 42



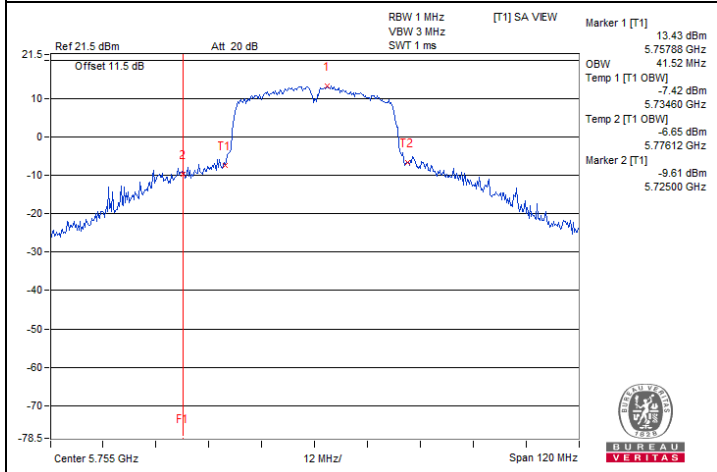
### Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2C)



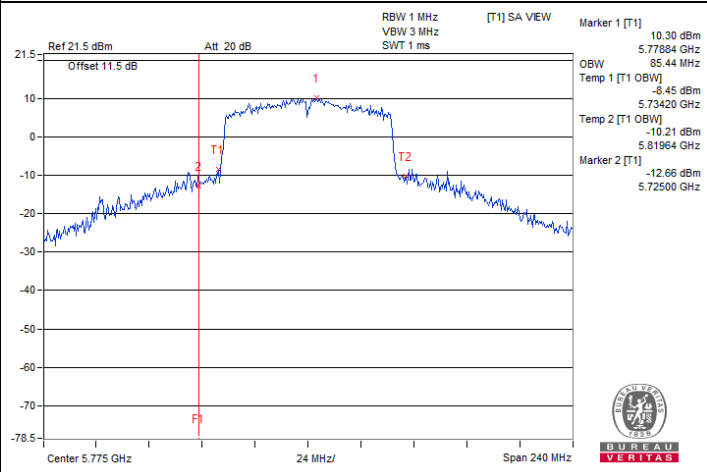
802.11a : CH 149



802.11ac (VHT20) : CH 149



802.11ac (VHT40) : CH 151



802.11ac (VHT80) : CH 155

## 7.5 Frequency Stability

Input Power:	3.7 Vdc	Environmental Conditions:	25°C, 76% RH	Tested By:	Ted Chang
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Frequency Stability Versus Temperature									
Operating Frequency: 5180 MHz									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
45	3.7	5180.0072	Pass	5180.0106	Pass	5180.0074	Pass	5180.012	Pass
40	3.7	5180.0126	Pass	5180.0135	Pass	5180.0136	Pass	5180.0134	Pass
30	3.7	5180.005	Pass	5180.0043	Pass	5180.005	Pass	5180.008	Pass
20	3.7	5179.9807	Pass	5179.9823	Pass	5179.9826	Pass	5179.9829	Pass
10	3.7	5179.998	Pass	5179.9943	Pass	5179.9936	Pass	5179.9972	Pass
0	3.7	5179.9944	Pass	5179.9964	Pass	5179.9941	Pass	5179.9946	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
20	4.255	5179.988	Pass	5179.9849	Pass	5179.9862	Pass	5179.985	Pass
	3.7	5179.9807	Pass	5179.9823	Pass	5179.9826	Pass	5179.9829	Pass
	3.145	5179.9729	Pass	5179.9707	Pass	5179.9706	Pass	5179.9734	Pass

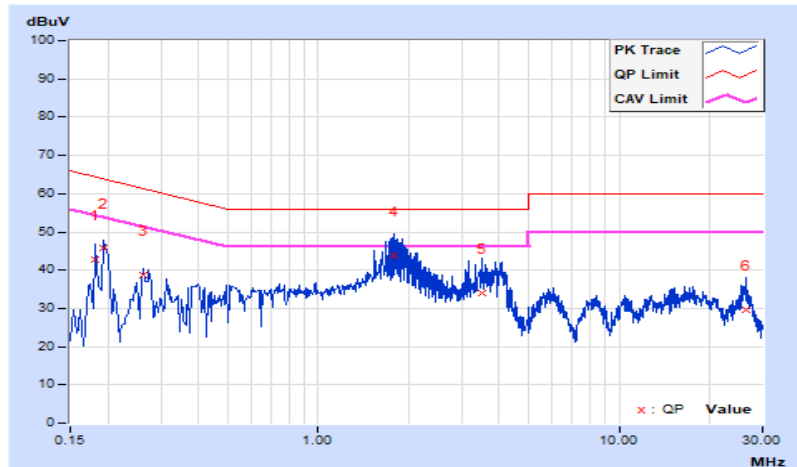
## 7.6 AC Power Conducted Emissions

RF Mode	802.11ac (VHT80)	Channel	CH 155 : 5775 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, 73% RH
Tested By	Greg Lin		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18200	9.63	33.05	17.88	42.68	27.51	64.39	54.39	-21.71	-26.88
2	0.19400	9.64	36.13	22.76	45.77	32.40	63.86	53.86	-18.09	-21.46
3	0.26200	9.65	29.16	18.81	38.81	28.46	61.37	51.37	-22.56	-22.91
<b>4</b>	<b>1.77800</b>	<b>9.71</b>	<b>34.13</b>	<b>19.30</b>	<b>43.84</b>	<b>29.01</b>	<b>56.00</b>	<b>46.00</b>	<b>-12.16</b>	<b>-16.99</b>
5	3.52600	9.73	24.32	15.09	34.05	24.82	56.00	46.00	-21.95	-21.18
6	26.33400	9.75	19.93	11.02	29.68	20.77	60.00	50.00	-30.32	-29.23

### Remarks:

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



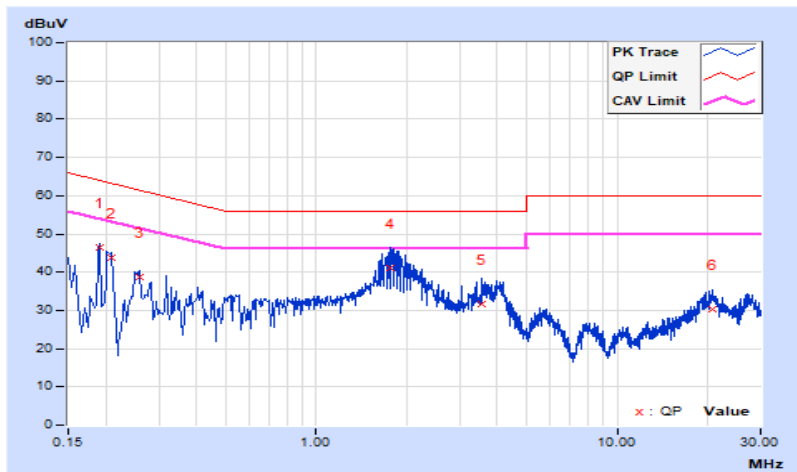


RF Mode	802.11ac (VHT80)	Channel	CH 155 : 5775 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 73% RH
Tested By	Greg Lin		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19000	9.64	36.83	22.58	46.47	32.22	64.04	54.04	-17.57	-21.82
2	0.20850	9.64	34.24	16.99	43.88	26.63	63.26	53.26	-19.38	-26.63
3	0.25800	9.65	29.15	18.10	38.80	27.75	61.50	51.50	-22.70	-23.75
4	1.75400	9.72	31.23	16.52	40.95	26.24	56.00	46.00	-15.05	-19.76
5	3.57000	9.74	21.78	11.95	31.52	21.69	56.00	46.00	-24.48	-24.31
6	20.87800	9.88	20.50	13.70	30.38	23.58	60.00	50.00	-29.62	-26.42

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



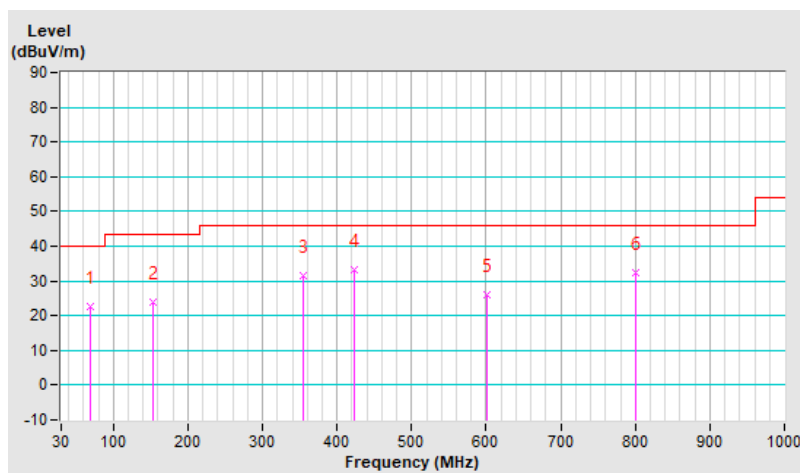
## 7.7 Unwanted Emissions below 1 GHz

RF Mode	802.11ac (VHT80)	Channel	CH 155 : 5775 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	68.80	22.8 QP	40.0	-17.2	1.50 H	140	38.2	-15.4
2	154.16	24.1 QP	43.5	-19.4	1.00 H	257	36.8	-12.7
3	353.98	31.7 QP	46.0	-14.3	1.25 H	197	43.1	-11.4
4	423.82	33.3 QP	46.0	-12.7	1.50 H	197	42.8	-9.5
5	600.36	26.2 QP	46.0	-19.8	1.00 H	125	31.6	-5.4
6	800.18	32.4 QP	46.0	-13.6	1.25 H	12	35.0	-2.6

### 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 frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

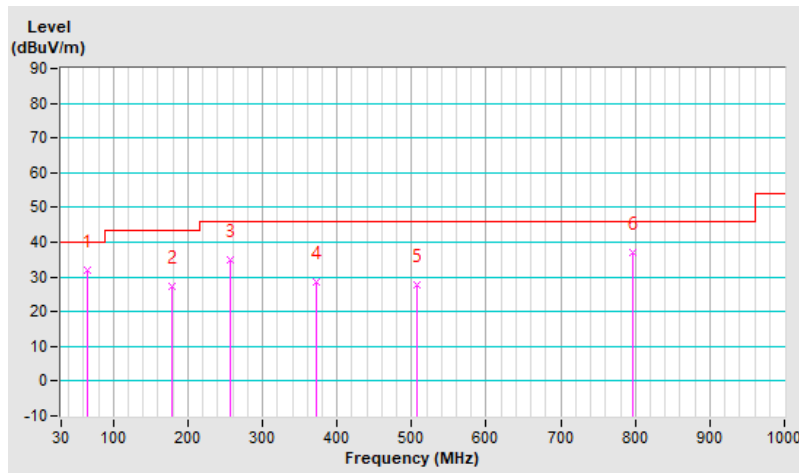


RF Mode	802.11ac (VHT80)	Channel	CH 155 : 5775 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	64.92	32.1 QP	40.0	-7.9	1.50 V	256	46.8	-14.7
2	179.38	27.5 QP	43.5	-16.0	1.25 V	183	41.9	-14.4
3	256.01	35.1 QP	46.0	-10.9	1.00 V	281	49.4	-14.3
4	371.44	28.6 QP	46.0	-17.4	1.25 V	88	39.3	-10.7
5	506.27	27.7 QP	46.0	-18.3	1.50 V	110	35.2	-7.5
6	796.30	37.0 QP	46.0	-9.0	1.00 V	259	39.6	-2.6

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 frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.



## 7.8 Unwanted Emissions above 1 GHz

RF Mode	802.11a	Channel	CH 36 : 5180 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	64.4 PK	74.0	-9.6	2.06 H	243	61.1	3.3
2	5150.00	48.4 AV	54.0	-5.6	2.06 H	243	45.1	3.3
3	*5180.00	105.8 PK			2.06 H	243	64.9	40.9
4	*5180.00	95.7 AV			2.06 H	243	54.8	40.9
5	#10360.00	55.8 PK	68.2	-12.4	1.34 H	168	47.3	8.5
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	5150.00	66.0 PK	74.0	-8.0	1.05 V	121	62.7	3.3
2	5150.00	49.6 AV	54.0	-4.4	1.05 V	121	46.3	3.3
3	*5180.00	107.3 PK			1.05 V	121	66.4	40.9
4	*5180.00	97.0 AV			1.05 V	121	56.1	40.9
5	#10360.00	56.7 PK	68.2	-11.5	1.09 V	114	48.2	8.5

### Remarks:

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



RF Mode	802.11a	Channel	CH 40 : 5200 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	106.7 PK			2.01 H	239	65.8	40.9
2	*5200.00	96.5 AV			2.01 H	239	55.6	40.9
3	#10400.00	55.8 PK	68.2	-12.4	1.28 H	165	47.4	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	*5200.00	107.8 PK			1.13 V	128	66.9	40.9
2	*5200.00	97.7 AV			1.13 V	128	56.8	40.9
3	#10400.00	56.7 PK	68.2	-11.5	1.07 V	113	48.3	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.



RF Mode	802.11a	Channel	CH 48 : 5240 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	106.2 PK			2.04 H	244	65.4	40.8
2	*5240.00	96.1 AV			2.04 H	244	55.3	40.8
3	5350.00	59.3 PK	74.0	-14.7	2.04 H	244	56.3	3.0
4	5350.00	46.2 AV	54.0	-7.8	2.04 H	244	43.2	3.0
5	#10480.00	55.6 PK	68.2	-12.6	1.36 H	172	47.3	8.3

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	*5240.00	107.5 PK			1.04 V	96	66.7	40.8
2	*5240.00	97.4 AV			1.04 V	96	56.6	40.8
3	5350.00	60.4 PK	74.0	-13.6	1.04 V	96	57.4	3.0
4	5350.00	46.8 AV	54.0	-7.2	1.04 V	96	43.8	3.0
5	#10480.00	56.2 PK	68.2	-12.0	1.02 V	112	47.9	8.3

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.



RF Mode	802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5627.60	57.5 PK	68.2	-10.7	2.00 H	253	53.3	4.2
2	*5745.00	107.3 PK			2.00 H	253	64.9	42.4
3	*5745.00	96.9 AV			2.00 H	253	54.5	42.4
4	#5940.40	58.2 PK	68.2	-10.0	2.00 H	253	53.3	4.9
5	11490.00	57.0 PK	74.0	-17.0	1.29 H	157	47.4	9.6
6	11490.00	42.8 AV	54.0	-11.2	1.29 H	157	33.2	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	#5620.50	56.9 PK	68.2	-11.3	1.00 V	125	52.7	4.2
2	*5745.00	108.5 PK			1.00 V	125	66.1	42.4
3	*5745.00	98.2 AV			1.00 V	125	55.8	42.4
4	#5941.00	58.2 PK	68.2	-10.0	1.00 V	125	53.3	4.9
5	11490.00	58.0 PK	74.0	-16.0	1.06 V	127	48.4	9.6
6	11490.00	43.9 AV	54.0	-10.1	1.06 V	127	34.3	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.

RF Mode	802.11a	Channel	CH 157 : 5785 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5614.10	57.2 PK	68.2	-11.0	2.01 H	249	53.1	4.1
2	*5785.00	107.1 PK			2.01 H	249	64.7	42.4
3	*5785.00	96.8 AV			2.01 H	249	54.4	42.4
4	#5953.80	58.6 PK	68.2	-9.6	2.01 H	249	53.7	4.9
5	11570.00	56.8 PK	74.0	-17.2	1.24 H	163	47.3	9.5
6	11570.00	42.6 AV	54.0	-11.4	1.24 H	163	33.1	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	#5623.10	58.3 PK	68.2	-9.9	1.03 V	84	54.1	4.2
2	*5785.00	108.3 PK			1.03 V	84	65.9	42.4
3	*5785.00	98.0 AV			1.03 V	84	55.6	42.4
4	#5950.60	58.1 PK	68.2	-10.1	1.03 V	84	53.2	4.9
5	11570.00	57.8 PK	74.0	-16.2	1.13 V	128	48.3	9.5
6	11570.00	43.6 AV	54.0	-10.4	1.13 V	128	34.1	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.





RF Mode	802.11a	Channel	CH 165 : 5825 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5641.70	58.2 PK	68.2	-10.0	1.96 H	246	53.9	4.3
2	*5825.00	106.8 PK			1.96 H	246	64.2	42.6
3	*5825.00	96.5 AV			1.96 H	246	53.9	42.6
4	#5985.90	58.6 PK	68.2	-9.6	1.96 H	246	53.8	4.8
5	11650.00	56.3 PK	74.0	-17.7	1.32 H	179	46.9	9.4
6	11650.00	42.1 AV	54.0	-11.9	1.32 H	179	32.7	9.4
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	#5644.90	57.5 PK	68.2	-10.7	1.00 V	65	53.2	4.3
2	*5825.00	108.1 PK			1.00 V	65	65.5	42.6
3	*5825.00	97.8 AV			1.00 V	65	55.2	42.6
4	#5946.20	58.3 PK	68.2	-9.9	1.00 V	65	53.4	4.9
5	11650.00	57.3 PK	74.0	-16.7	1.08 V	126	47.9	9.4
6	11650.00	43.2 AV	54.0	-10.8	1.08 V	126	33.8	9.4

## 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.



RF Mode	802.11ac (VHT20)	Channel	CH 36 : 5180 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	64.1 PK	74.0	-9.9	2.08 H	246	60.8	3.3
2	5150.00	48.0 AV	54.0	-6.0	2.08 H	246	44.7	3.3
3	*5180.00	105.8 PK			2.08 H	246	64.9	40.9
4	*5180.00	95.6 AV			2.08 H	246	54.7	40.9
5	#10360.00	55.6 PK	68.2	-12.6	1.26 H	171	47.1	8.5

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	5150.00	65.6 PK	74.0	-8.4	1.04 V	122	62.3	3.3
2	5150.00	49.1 AV	54.0	-4.9	1.04 V	122	45.8	3.3
3	*5180.00	107.2 PK			1.04 V	122	66.3	40.9
4	*5180.00	97.0 AV			1.04 V	122	56.1	40.9
5	#10360.00	56.3 PK	68.2	-11.9	1.06 V	111	47.8	8.5

Remarks:

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



RF Mode	802.11ac (VHT20)	Channel	CH 40 : 5200 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	107.0 PK			2.01 H	238	66.1	40.9
2	*5200.00	96.7 AV			2.01 H	238	55.8	40.9
3	#10400.00	55.7 PK	68.2	-12.5	1.37 H	178	47.3	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	*5200.00	108.2 PK			1.06 V	104	67.3	40.9
2	*5200.00	98.0 AV			1.06 V	104	57.1	40.9
3	#10400.00	56.6 PK	68.2	-11.6	1.08 V	115	48.2	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.



RF Mode	802.11ac (VHT20)	Channel	CH 48 : 5240 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Greg Lin		

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

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	106.6 PK			2.06 H	240	65.8	40.8
2	*5240.00	96.4 AV			2.06 H	240	55.6	40.8
3	5350.00	59.8 PK	74.0	-14.2	2.06 H	240	56.8	3.0
4	5350.00	46.6 AV	54.0	-7.4	2.06 H	240	43.6	3.0
5	#10480.00	55.2 PK	68.2	-13.0	1.33 H	174	46.9	8.3

**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	*5240.00	107.9 PK			1.04 V	94	67.1	40.8
2	*5240.00	97.7 AV			1.04 V	94	56.9	40.8
3	5350.00	60.8 PK	74.0	-13.2	1.04 V	94	57.8	3.0
4	5350.00	47.3 AV	54.0	-6.7	1.04 V	94	44.3	3.0
5	#10480.00	56.0 PK	68.2	-12.2	1.09 V	126	47.7	8.3

**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.



RF Mode	802.11ac (VHT20)	Channel	CH 149 : 5745 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5648.70	56.9 PK	68.2	-11.3	2.04 H	241	52.6	4.3
2	*5745.00	107.7 PK			2.04 H	241	65.3	42.4
3	*5745.00	97.4 AV			2.04 H	241	55.0	42.4
4	#5942.30	58.3 PK	68.2	-9.9	2.04 H	241	53.4	4.9
5	11490.00	56.8 PK	74.0	-17.2	1.23 H	166	47.2	9.6
6	11490.00	42.6 AV	54.0	-11.4	1.23 H	166	33.0	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	#5642.30	57.9 PK	68.2	-10.3	1.01 V	102	53.6	4.3
2	*5745.00	108.8 PK			1.01 V	102	66.4	42.4
3	*5745.00	98.6 AV			1.01 V	102	56.2	42.4
4	#5982.10	58.3 PK	68.2	-9.9	1.01 V	102	53.5	4.8
5	11490.00	57.7 PK	74.0	-16.3	1.08 V	125	48.1	9.6
6	11490.00	43.6 AV	54.0	-10.4	1.08 V	125	34.0	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.



RF Mode	802.11ac (VHT20)	Channel	CH 157 : 5785 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5629.50	57.2 PK	68.2	-11.0	2.06 H	250	53.0	4.2
2	*5785.00	107.0 PK			2.06 H	250	64.6	42.4
3	*5785.00	96.7 AV			2.06 H	250	54.3	42.4
4	#5930.10	57.7 PK	68.2	-10.5	2.06 H	250	52.7	5.0
5	11570.00	56.2 PK	74.0	-17.8	1.42 H	182	46.7	9.5
6	11570.00	42.1 AV	54.0	-11.9	1.42 H	182	32.6	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	#5626.90	57.4 PK	68.2	-10.8	1.00 V	62	53.2	4.2
2	*5785.00	108.2 PK			1.00 V	62	65.8	42.4
3	*5785.00	98.0 AV			1.00 V	62	55.6	42.4
4	#5926.30	58.8 PK	68.2	-9.4	1.00 V	62	53.8	5.0
5	11570.00	57.4 PK	74.0	-16.6	1.14 V	127	47.9	9.5
6	11570.00	43.2 AV	54.0	-10.8	1.14 V	127	33.7	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.

RF Mode	802.11ac (VHT20)	Channel	CH 165 : 5825 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5601.30	58.2 PK	68.2	-10.0	2.01 H	249	54.1	4.1
2	*5825.00	106.5 PK			2.01 H	249	63.9	42.6
3	*5825.00	96.2 AV			2.01 H	249	53.6	42.6
4	#5950.60	57.9 PK	68.2	-10.3	2.01 H	249	53.0	4.9
5	11650.00	56.1 PK	74.0	-17.9	1.41 H	175	46.7	9.4
6	11650.00	42.0 AV	54.0	-12.0	1.41 H	175	32.6	9.4
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	#5609.60	57.8 PK	68.2	-10.4	1.03 V	64	53.7	4.1
2	*5825.00	107.8 PK			1.03 V	64	65.2	42.6
3	*5825.00	97.5 AV			1.03 V	64	54.9	42.6
4	#5928.80	58.5 PK	68.2	-9.7	1.03 V	64	53.5	5.0
5	11650.00	57.1 PK	74.0	-16.9	1.13 V	129	47.7	9.4
6	11650.00	42.9 AV	54.0	-11.1	1.13 V	129	33.5	9.4

**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.



RF Mode	802.11ac (VHT40)	Channel	CH 38 : 5190 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	67.2 PK	74.0	-6.8	2.04 H	241	63.9	3.3
2	5150.00	48.8 AV	54.0	-5.2	2.04 H	241	45.5	3.3
3	*5190.00	103.2 PK			2.04 H	241	62.3	40.9
4	*5190.00	93.0 AV			2.04 H	241	52.1	40.9
5	#10380.00	55.1 PK	68.2	-13.1	1.29 H	173	46.7	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	68.6 PK	74.0	-5.4	1.01 V	121	65.3	3.3
2	5150.00	50.1 AV	54.0	-3.9	1.01 V	121	46.8	3.3
3	*5190.00	104.6 PK			1.01 V	121	63.7	40.9
4	*5190.00	94.4 AV			1.01 V	121	53.5	40.9
5	#10380.00	56.0 PK	68.2	-12.2	1.00 V	125	47.6	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.



RF Mode	802.11ac (VHT40)	Channel	CH 46 : 5230 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5230.00	103.4 PK			2.09 H	245	62.6	40.8
2	*5230.00	93.2 AV			2.09 H	245	52.4	40.8
3	5350.00	60.7 PK	74.0	-13.3	2.09 H	245	57.7	3.0
4	5350.00	46.8 AV	54.0	-7.2	2.09 H	245	43.8	3.0
5	#10460.00	54.9 PK	68.2	-13.3	1.31 H	165	46.6	8.3

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	*5230.00	104.6 PK			1.00 V	132	63.8	40.8
2	*5230.00	94.4 AV			1.00 V	132	53.6	40.8
3	5350.00	61.1 PK	74.0	-12.9	1.00 V	132	58.1	3.0
4	5350.00	47.5 AV	54.0	-6.5	1.00 V	132	44.5	3.0
5	#10460.00	55.9 PK	68.2	-12.3	1.07 V	124	47.6	8.3

**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.



RF Mode	802.11ac (VHT40)	Channel	CH 151 : 5755 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5621.20	59.6 PK	68.2	-8.6	2.01 H	252	55.4	4.2
2	*5755.00	103.8 PK			2.01 H	252	61.4	42.4
3	*5755.00	93.5 AV			2.01 H	252	51.1	42.4
4	#5989.10	57.9 PK	68.2	-10.3	2.01 H	252	53.1	4.8
5	11510.00	56.2 PK	74.0	-17.8	1.23 H	179	46.6	9.6
6	11510.00	42.0 AV	54.0	-12.0	1.23 H	179	32.4	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	#5644.20	60.3 PK	68.2	-7.9	1.01 V	114	56.0	4.3
2	*5755.00	104.9 PK			1.01 V	114	62.5	42.4
3	*5755.00	94.7 AV			1.01 V	114	52.3	42.4
4	#5985.90	59.6 PK	68.2	-8.6	1.01 V	114	54.8	4.8
5	11510.00	57.1 PK	74.0	-16.9	1.17 V	105	47.5	9.6
6	11510.00	43.0 AV	54.0	-11.0	1.17 V	105	33.4	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.



RF Mode	802.11ac (VHT40)	Channel	CH 159 : 5795 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5641.00	58.6 PK	68.2	-9.6	2.03 H	245	54.3	4.3
2	*5795.00	103.0 PK			2.03 H	245	60.6	42.4
3	*5795.00	92.6 AV			2.03 H	245	50.2	42.4
4	#5982.70	59.0 PK	68.2	-9.2	2.03 H	245	54.2	4.8
5	11590.00	55.6 PK	74.0	-18.4	1.26 H	184	46.3	9.3
6	11590.00	41.5 AV	54.0	-12.5	1.26 H	184	32.2	9.3
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	#5600.00	58.2 PK	68.2	-10.0	1.04 V	60	54.1	4.1
2	*5795.00	104.2 PK			1.04 V	60	61.8	42.4
3	*5795.00	93.9 AV			1.04 V	60	51.5	42.4
4	#5935.30	58.8 PK	68.2	-9.4	1.04 V	60	53.8	5.0
5	11590.00	56.7 PK	74.0	-17.3	1.03 V	128	47.4	9.3
6	11590.00	42.7 AV	54.0	-11.3	1.03 V	128	33.4	9.3

## 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.



RF Mode	802.11ac (VHT80)	Channel	CH 42 : 5210 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=2 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	68.5 PK	74.0	-5.5	2.01 H	242	65.2	3.3
2	5150.00	49.4 AV	54.0	-4.6	2.01 H	242	46.1	3.3
3	*5210.00	100.4 PK			2.01 H	242	59.5	40.9
4	*5210.00	90.2 AV			2.01 H	242	49.3	40.9
5	#10420.00	54.9 PK	68.2	-13.3	1.31 H	171	46.5	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	69.5 PK	74.0	-4.5	1.00 V	91	66.2	3.3
2	5150.00	50.5 AV	54.0	-3.5	1.00 V	91	47.2	3.3
3	*5210.00	101.6 PK			1.00 V	91	60.7	40.9
4	*5210.00	91.5 AV			1.00 V	91	50.6	40.9
5	#10420.00	55.8 PK	68.2	-12.4	1.08 V	114	47.4	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.

RF Mode	802.11ac (VHT80)	Channel	CH 155 : 5775 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=2 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Greg Lin		

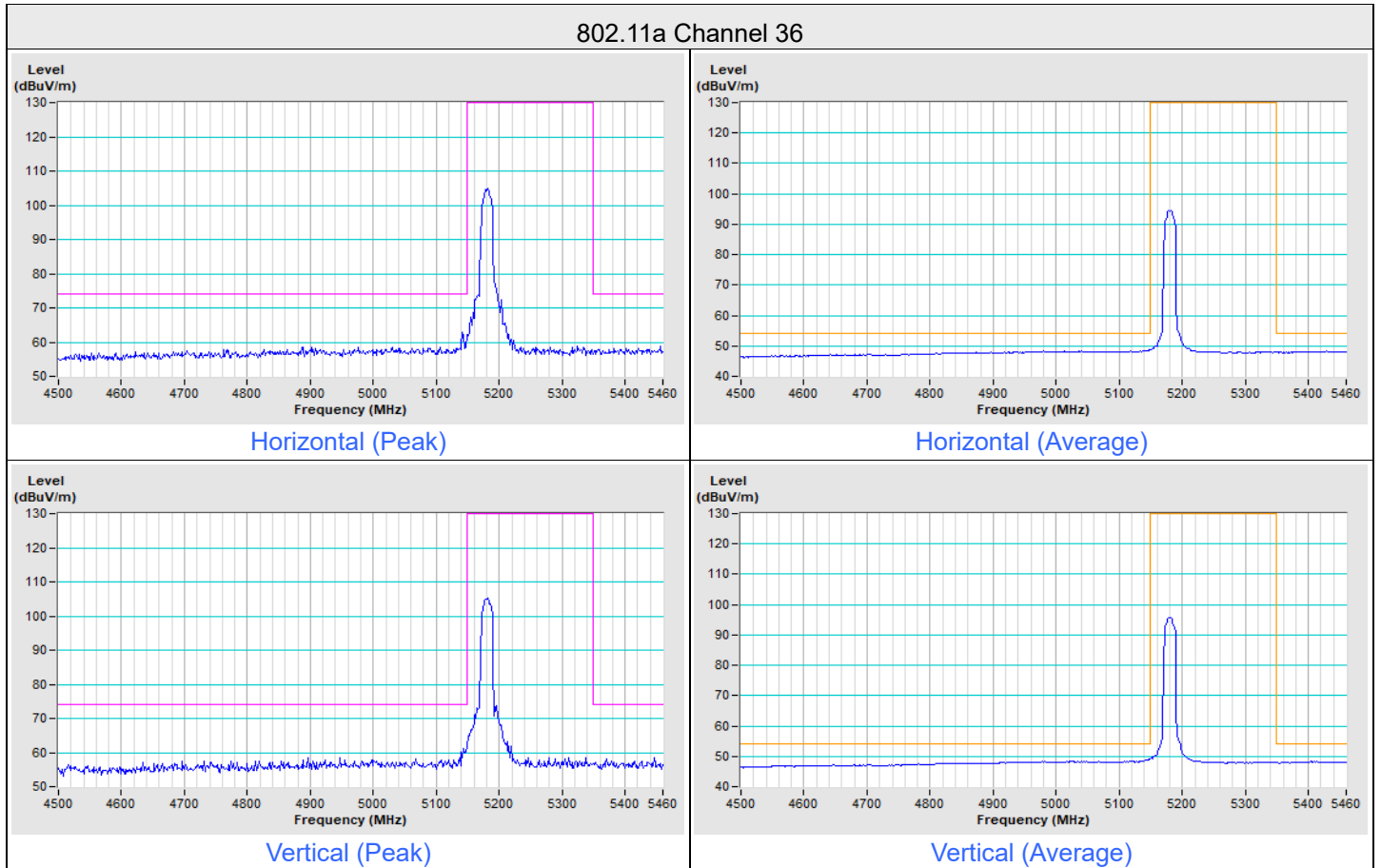
Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5650.00	66.3 PK	68.2	-1.9	2.06 H	244	62.0	4.3
2	*5775.00	99.7 PK			2.06 H	244	57.3	42.4
3	*5775.00	89.5 AV			2.06 H	244	47.1	42.4
4	#5927.60	63.5 PK	68.2	-4.7	2.06 H	244	58.5	5.0
5	11550.00	55.8 PK	74.0	-18.2	1.27 H	176	46.3	9.5
6	11550.00	41.6 AV	54.0	-12.4	1.27 H	176	32.1	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)
<b>1</b>	<b>#5650.00</b>	<b>67.7 PK</b>	<b>68.2</b>	<b>-0.5</b>	<b>1.04 V</b>	<b>61</b>	<b>63.4</b>	<b>4.3</b>
2	*5775.00	101.0 PK			1.04 V	61	58.6	42.4
3	*5775.00	90.7 AV			1.04 V	61	48.3	42.4
4	#5928.20	63.1 PK	68.2	-5.1	1.04 V	61	58.1	5.0
5	11550.00	56.9 PK	74.0	-17.1	1.13 V	125	47.4	9.5
6	11550.00	42.7 AV	54.0	-11.3	1.13 V	125	33.2	9.5

**Remarks:**

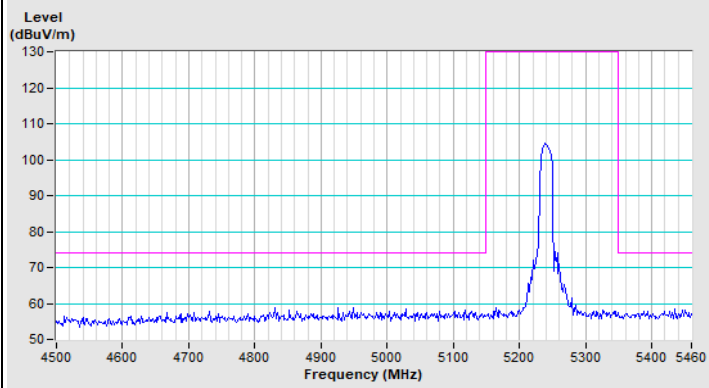
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency,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

### Plot of Band Edge

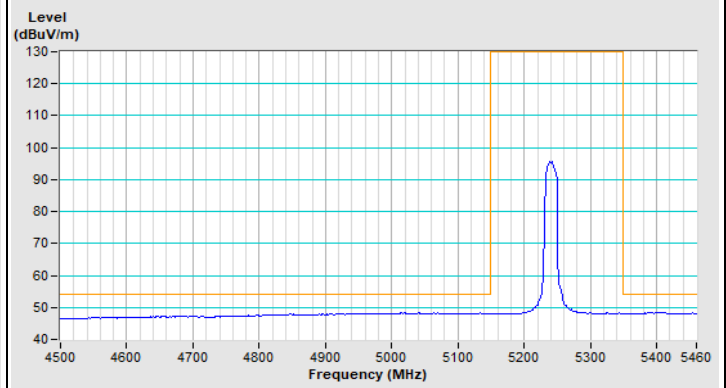
Frequency Range	4.5 GHz ~ 5.46 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
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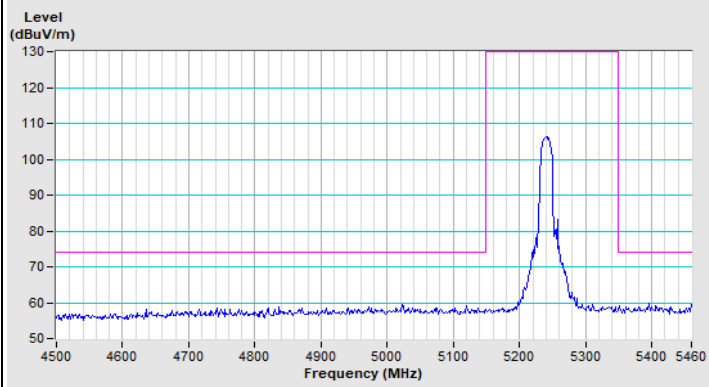
### 802.11a Channel 48



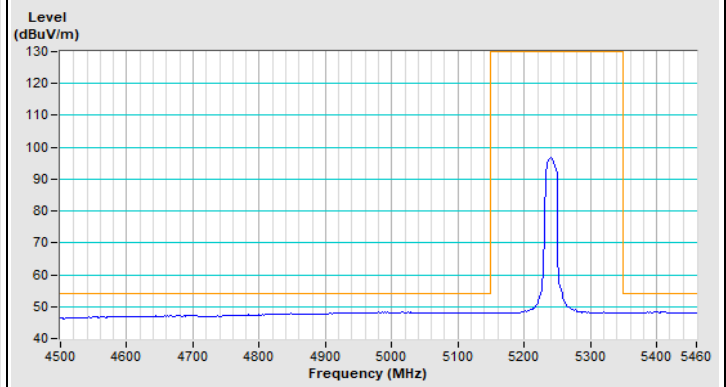
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)

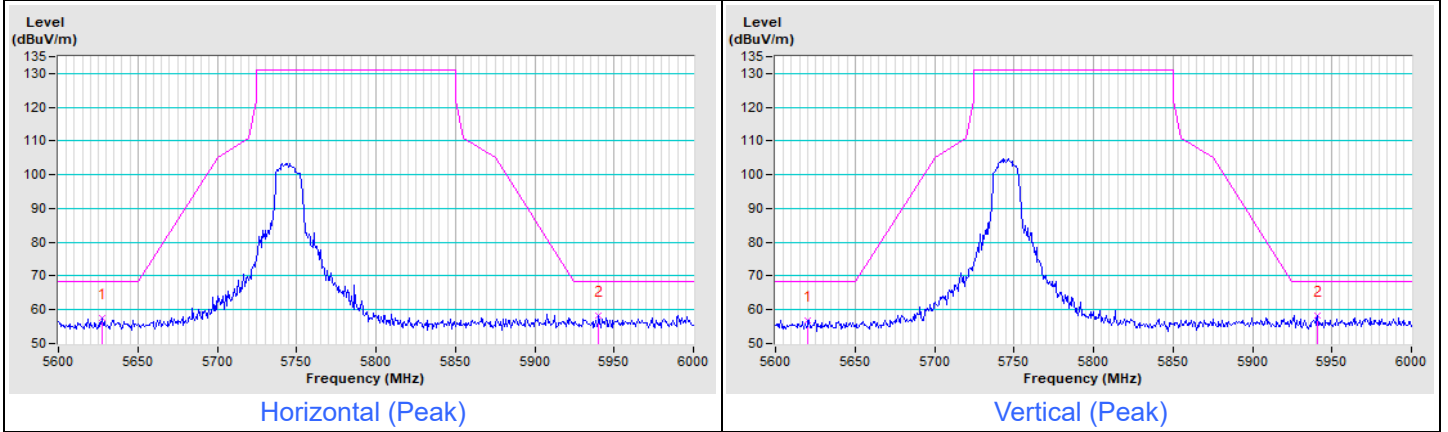


Vertical (Average)

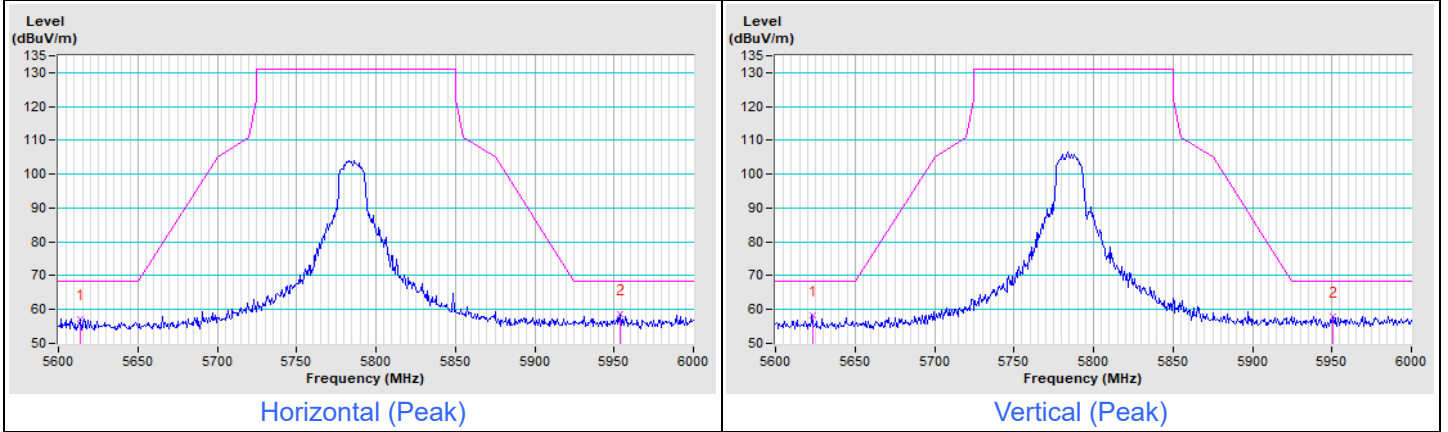


Frequency Range	5.6 GHz ~ 6 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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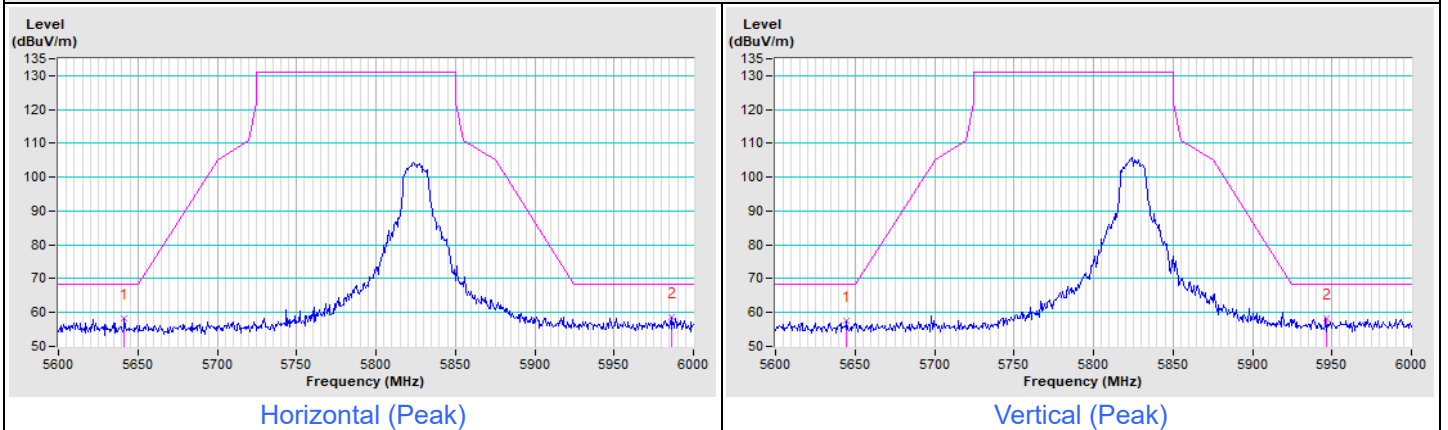
### 802.11a Channel 149



### 802.11a Channel 157



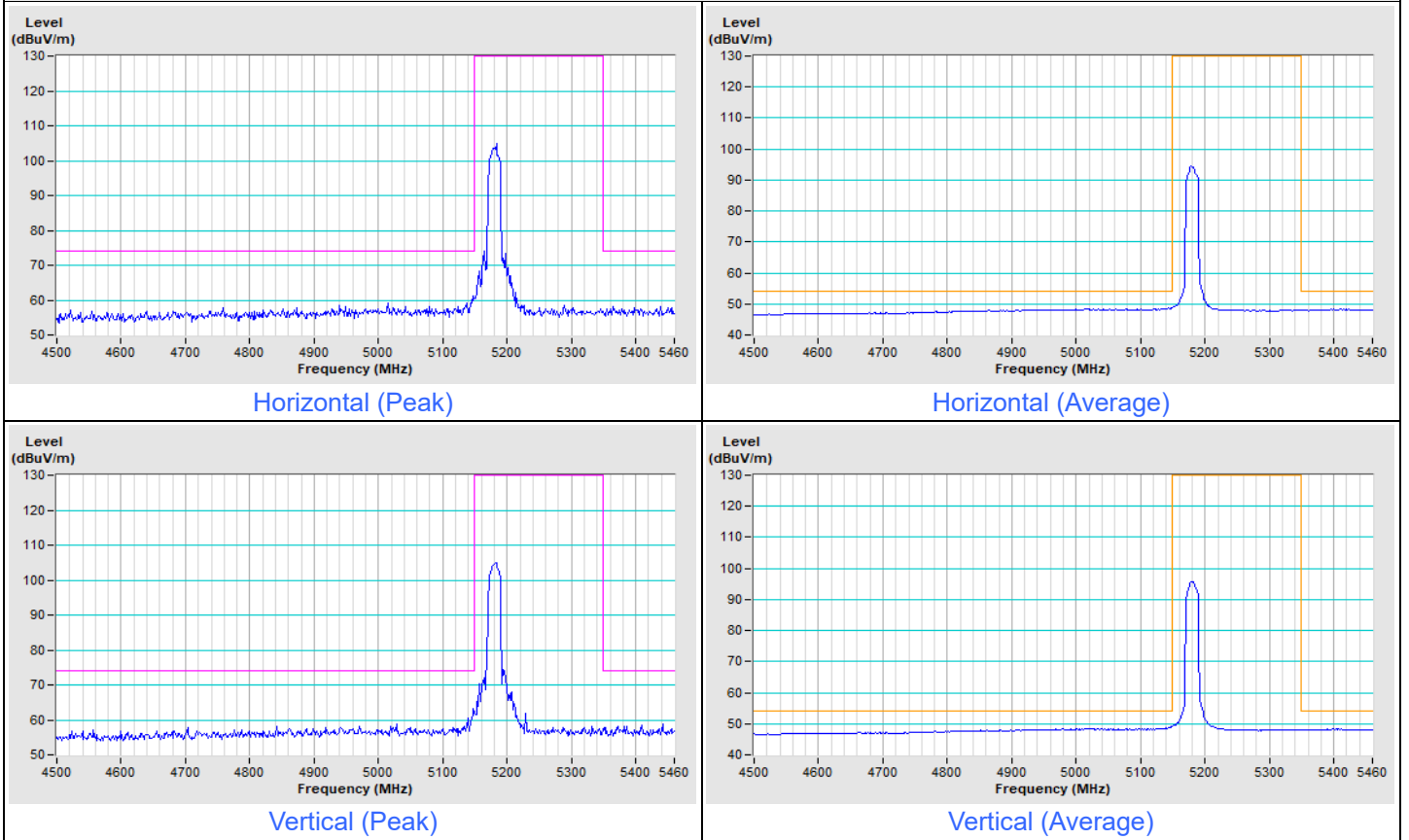
### 802.11a Channel 165



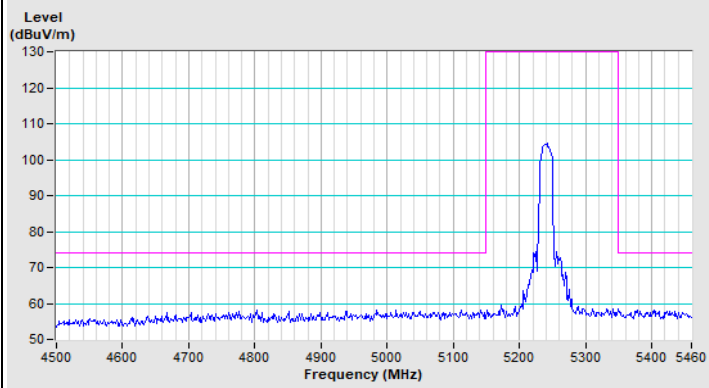


Frequency Range	4.5 GHz ~ 5.46 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
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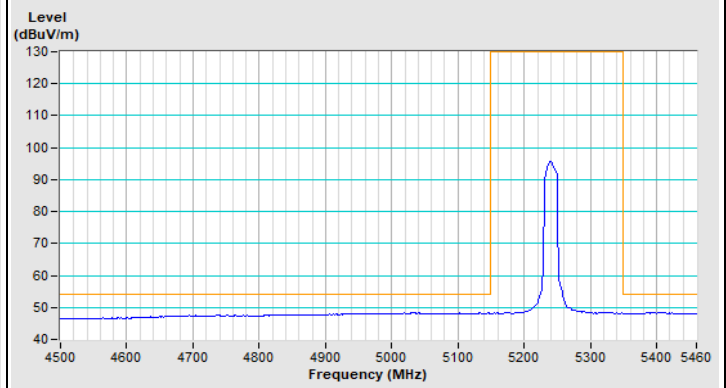
802.11ac (VHT20) Channel 36



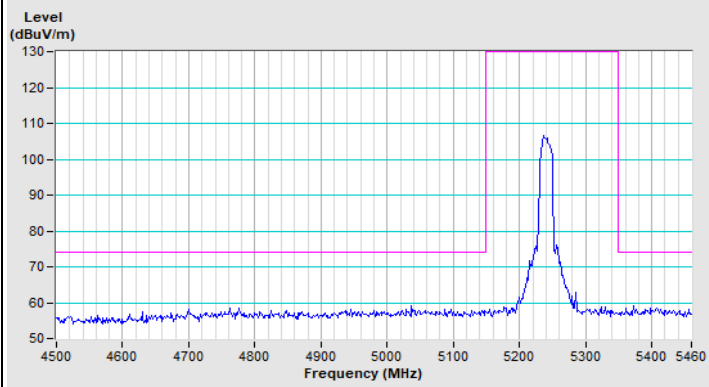
### 802.11ac (VHT20) Channel 48



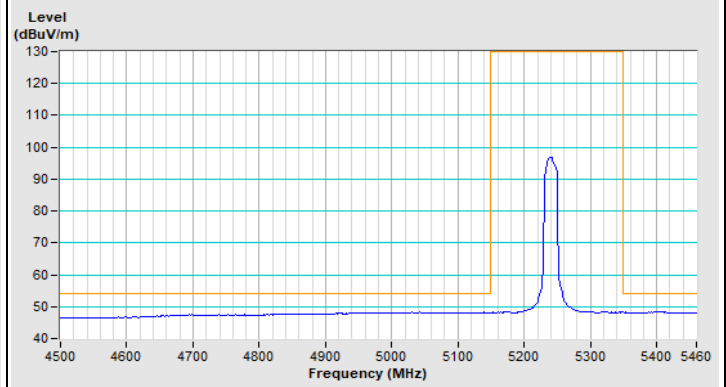
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)

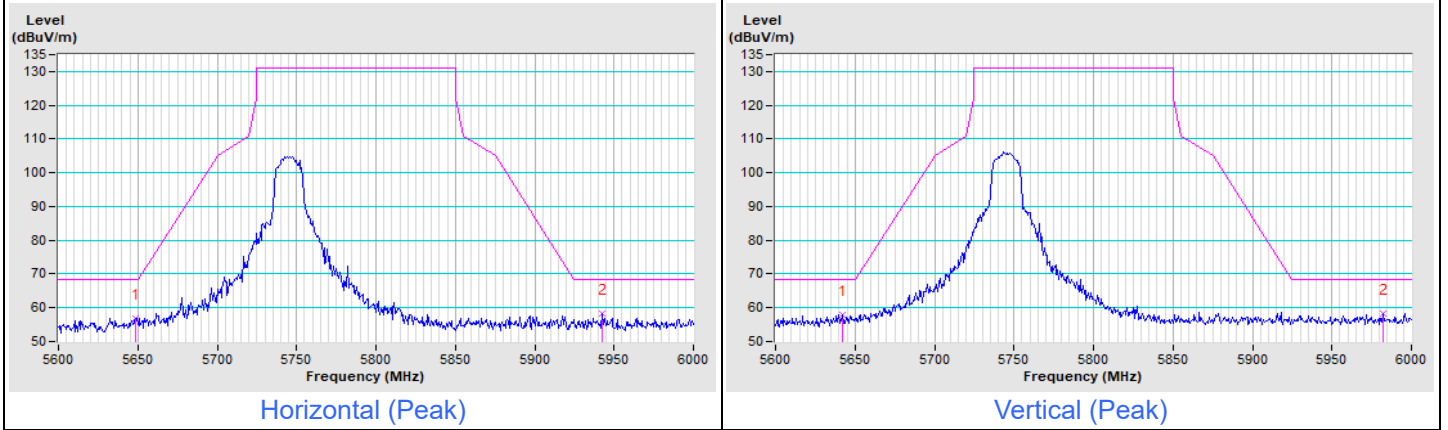


Vertical (Average)

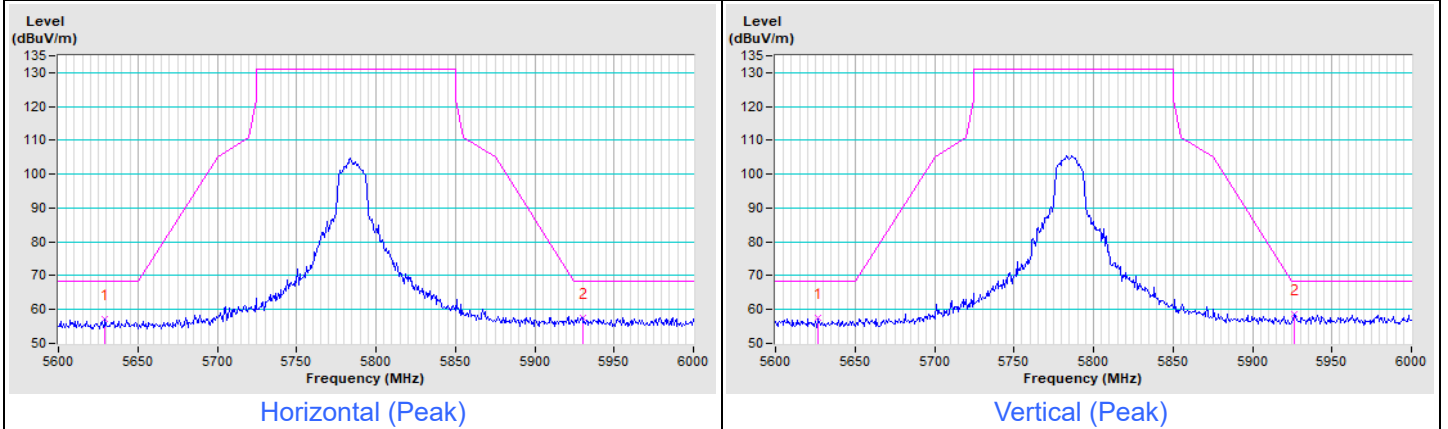


Frequency Range	5.6 GHz ~ 6 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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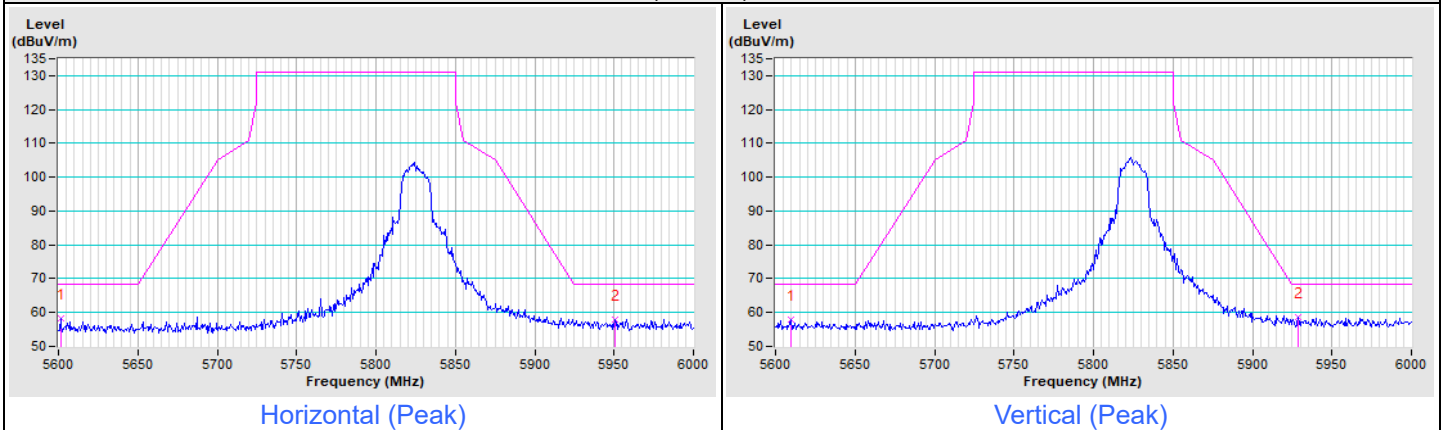
### 802.11ac (VHT20) Channel 149



### 802.11ac (VHT20) Channel 157

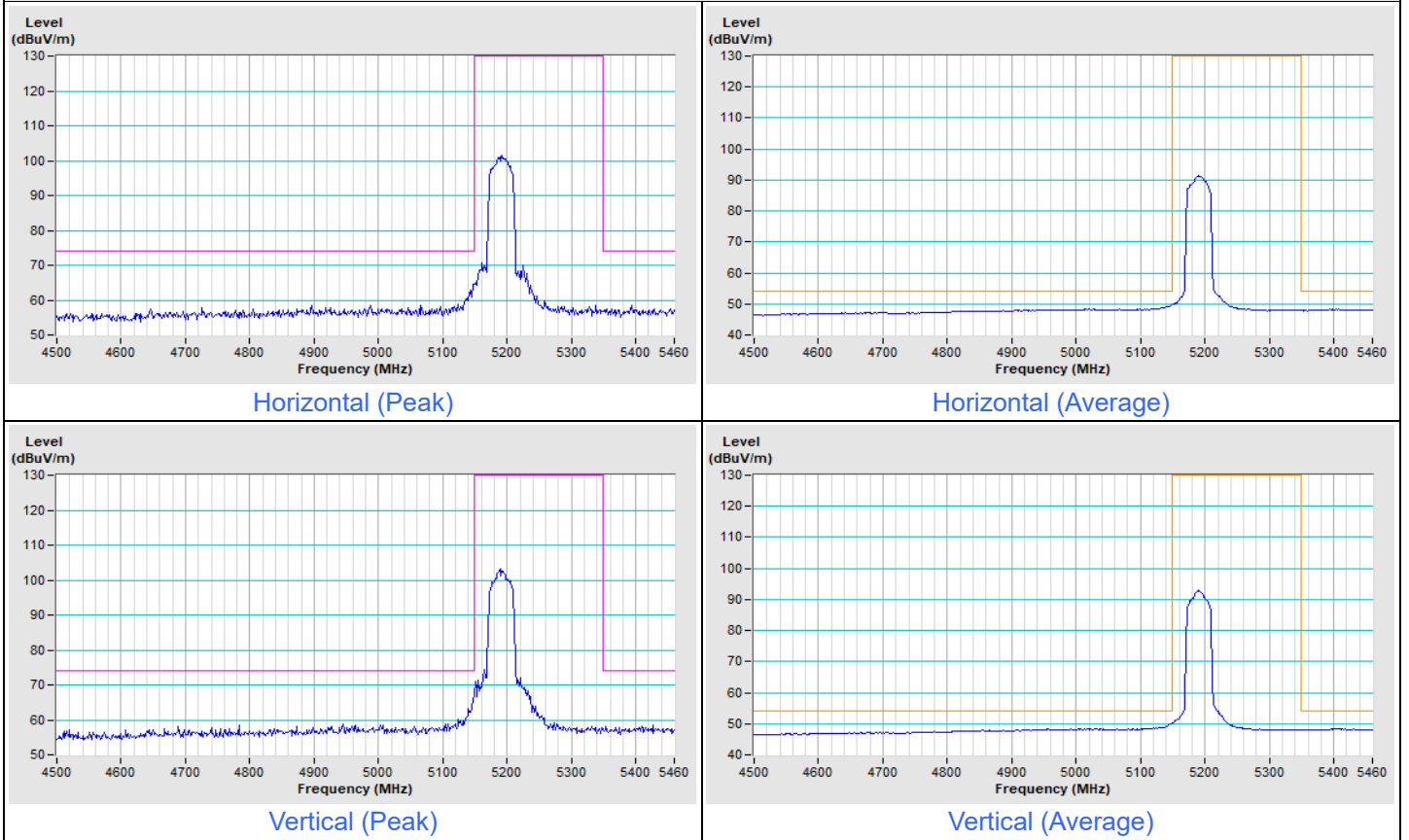


### 802.11ac (VHT20) Channel 165

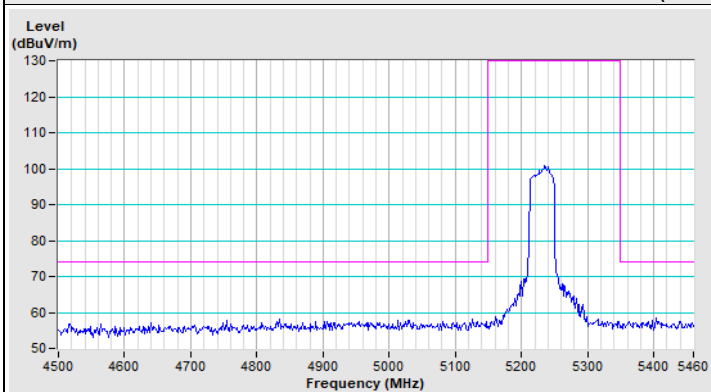


Frequency Range	4.5 GHz ~ 5.46 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
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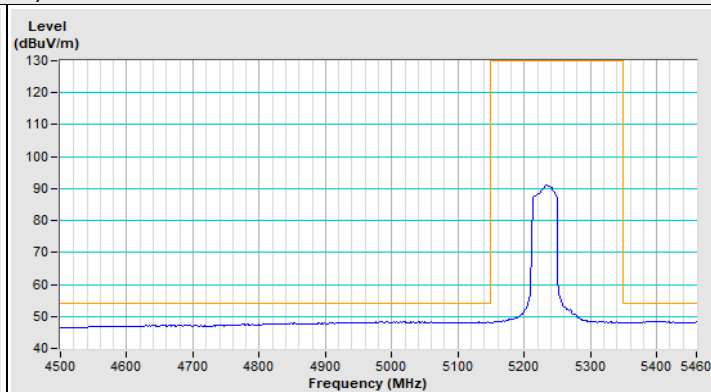
802.11ac (VHT40) Channel 38



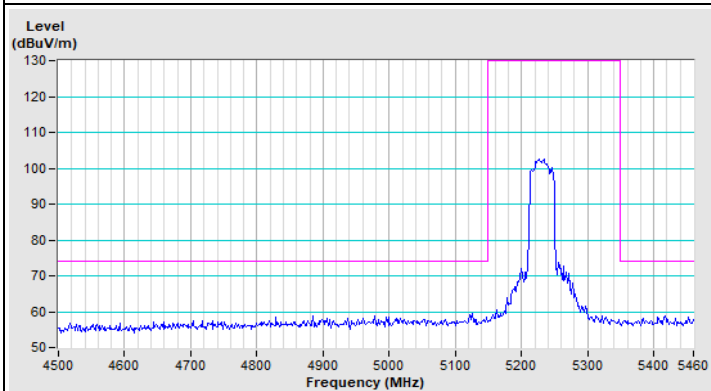
### 802.11ac (VHT40) Channel 46



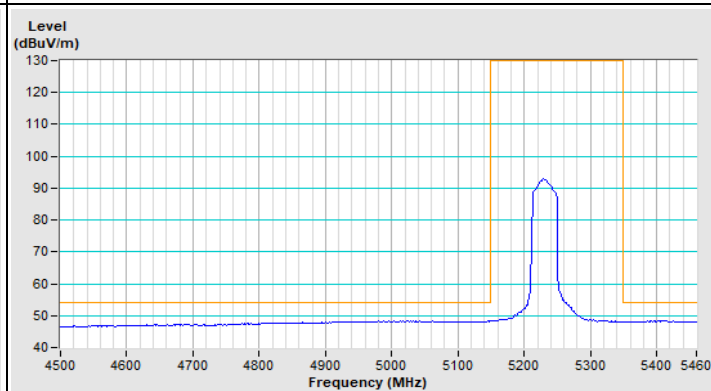
Horizontal (Peak)



Horizontal (Average)



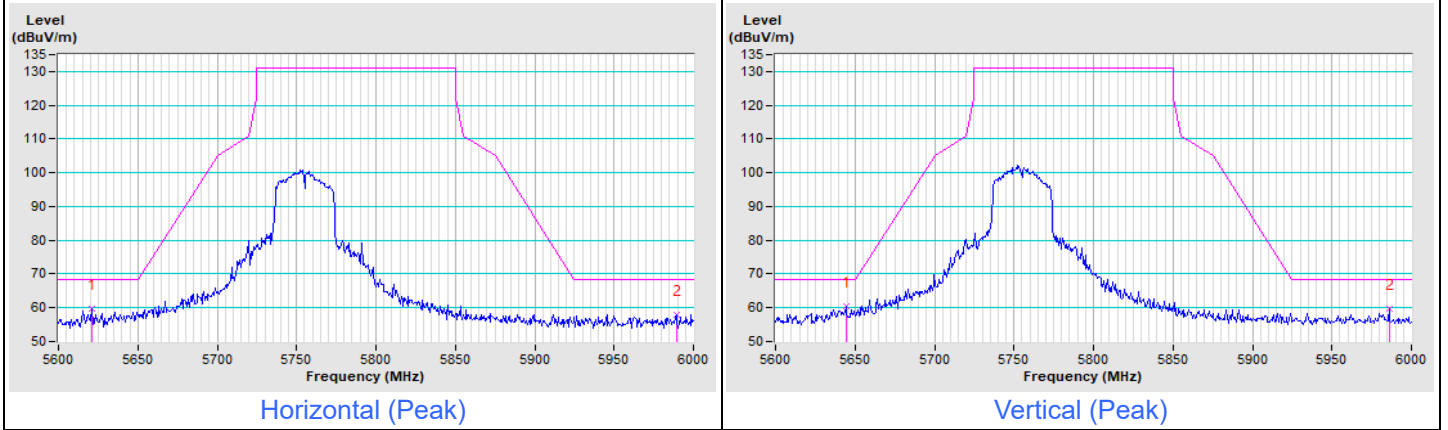
Vertical (Peak)



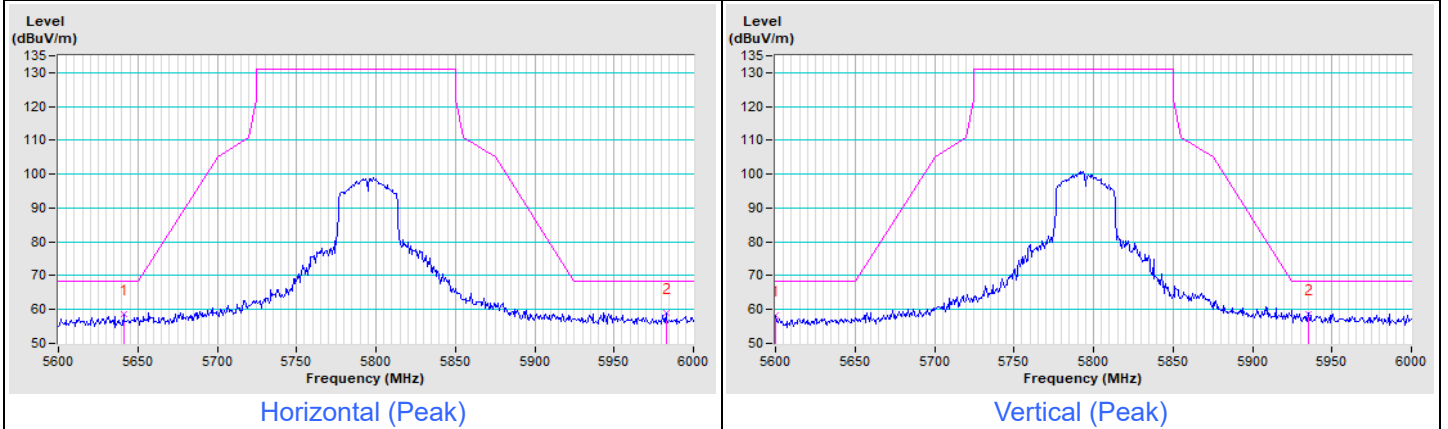
Vertical (Average)

Frequency Range	5.6 GHz ~ 6 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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### 802.11ac (VHT40) Channel 151

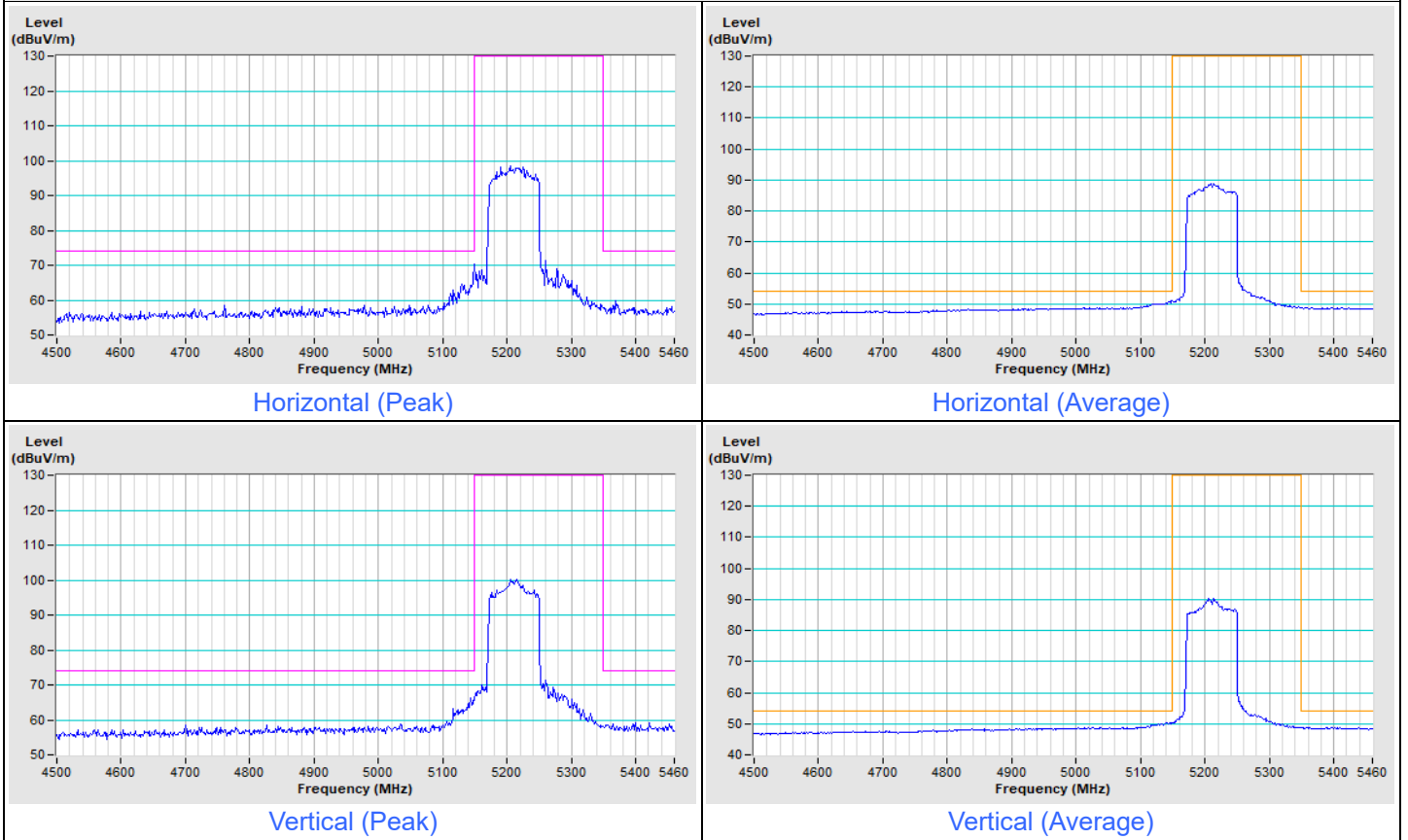


### 802.11ac (VHT40) Channel 159



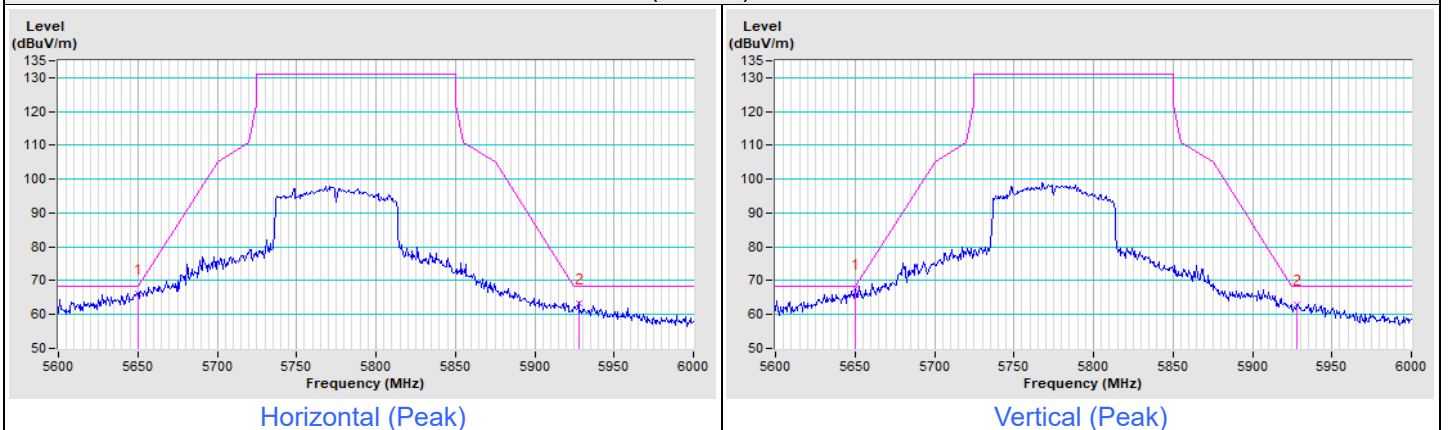
Frequency Range	4.5 GHz ~ 5.46 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=2 kHz, DET=Peak
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802.11ac (VHT80) Channel 42



Frequency Range	5.6 GHz ~ 6 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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802.11ac (VHT80) Channel 155



## 8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)



## 9 Information of the Testing Laboratories

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

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

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**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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