

TEST REPORT

CERTIFICATE OF CONFORMITY

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

Report No.: RFBEMI-WTW-P23110406-3

FCC ID: NOIKBN367

Product: Electronic Display Device

Brand: Rakuten kobo

Model No.: N367

Received Date: 2023/11/15

Test Date: 2023/12/11 ~ 2024/1/10

Issued Date: 2024/1/31

Applicant: NETRONIX, INC.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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FCC Registration / (1) 788550 / TW0003

Designation Number: (2) 281270 / TW0032

Approved by: Jeremy Lin , **Date:** 2024/1/31
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Prepared by : Vera Huang / Specialist

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Table of Contents

Release Control Record	4
1 Certificate	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty	6
2.2 Supplementary Information	6
3 General Information	7
3.1 General Description of EUT	7
3.2 Antenna Description of EUT	9
3.3 Channel List	9
3.4 Test Mode Applicability and Tested Channel Detail	10
3.5 Duty Cycle of Test Signal	11
3.6 Test Program Used and Operation Descriptions	13
3.7 Connection Diagram of EUT and Peripheral Devices	13
3.8 Configuration of Peripheral Devices and Cable Connections	13
4 Test Instruments	14
4.1 RF Output Power	14
4.2 Power Spectral Density	14
4.3 6 dB Bandwidth	14
4.4 Occupied Bandwidth	14
4.5 Frequency Stability	14
4.6 AC Power Conducted Emissions	15
4.7 Unwanted Emissions below 1 GHz	16
4.8 Unwanted Emissions above 1 GHz	17
5 Limits of Test Items	18
5.1 RF Output Power	18
5.2 Power Spectral Density	18
5.3 6 dB Bandwidth	18
5.4 Occupied Bandwidth	18
5.5 Frequency Stability	18
5.6 AC Power Conducted Emissions	19
5.7 Unwanted Emissions below 1 GHz	19
5.8 Unwanted Emissions above 1 GHz	20
6 Test Arrangements	21
6.1 RF Output Power	21
6.1.1 Test Setup	21
6.1.2 Test Procedure	21
6.2 Power Spectral Density	21
6.2.1 Test Setup	21
6.2.2 Test Procedure	21
6.3 6 dB Bandwidth	23
6.3.1 Test Setup	23
6.3.2 Test Procedure	23
6.4 Occupied Bandwidth	23
6.4.1 Test Setup	23
6.4.2 Test Procedure	23
6.5 Frequency Stability	24
6.5.1 Test Setup	24
6.5.2 Test Procedure	24
6.6 AC Power Conducted Emissions	25
6.6.1 Test Setup	25
6.6.2 Test Procedure	25
6.7 Unwanted Emissions below 1 GHz	26
6.7.1 Test Setup	26
6.7.2 Test Procedure	27



6.8	Unwanted Emissions above 1 GHz.....	28
6.8.1	Test Setup	28
6.8.2	Test Procedure.....	28
7	Test Results of Test Item	29
7.1	RF Output Power.....	29
7.2	Power Spectral Density	31
7.3	6 dB Bandwidth	34
7.4	Occupied Bandwidth.....	36
7.5	Frequency Stability	40
7.6	AC Power Conducted Emissions	41
7.7	Unwanted Emissions below 1 GHz	43
7.8	Unwanted Emissions above 1 GHz.....	45
8	Pictures of Test Arrangements	73
9	Information of the Testing Laboratories	74



Release Control Record

Issue No.	Description	Date Issued
RFBEMI-WTW-P23110406-3	Original Release	2024/1/31

1 Certificate

Product: Electronic Display Device

Brand: Rakuten kobo

Test Model: N367

Sample Status: Engineering sample

Applicant: NETRONIX, INC.

Test Date: 2023/12/11 ~ 2024/1/10

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 -11.57 dB at 0.20148 MHz
15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -8.4 dB at 40.67 MHz
15.407(b) (1/10) 15.407(b) (4(i)/10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -1.0 dB at 5150.00 MHz
15.203	Antenna Requirement	Pass	No antenna connector is used.

Notes: 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) (±)
RF Output Power	-	1.371 dB
Power Spectral Density	-	1.017 dB
6 dB Bandwidth	-	206.5 Hz
Occupied Bandwidth	-	72 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	N367
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 : 24.831 mW (13.95 dBm) 5.745 GHz ~ 5.825 GHz : 36.728 mW (15.65 dBm)
EUT Category	Client device

Note:

1. The EUT uses following accessories.

USB Cable 1	Brand	LUXSHARE-ICT
	Model	LB93US005-1H
	Material	TPE
	Signal Line	Shielded: Y, 1.0M, Core: N/A
USB Cable 2	Brand	HIGH-TEK
	Model	0UPNET23004N
	Material	TPE
	Signal Line	Shielded: Y, 1.0M, Core: N/A

2. The EUT could be supplied with three eMMC as below table.

No.	Brand	Model	Remark
1	Phison	PTE7A0YJ-16GE	1st source eMMC
2	Kinston	EMMC16G-PJ30-GA02	2nd source eMMC
3	FORESEE	FEMDNN016G-A3A55	3rd source eMMC

3. The EUT could be supplied with two DRAM LP-DDR4 as below table.

No.	Brand	Model	Remark
1	Nanya	NT6AN256M16AV-J2	1st source DRAM LP-DDR4
2	Leahkinn	LTHS0005GS4-ZPI1	2nd source DRAM LP-DDR4

4. 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.

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.

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. The USB Cable has the following models: LB93US005-1H / 0UPNET23004N. Pre-scan these models of USB Cables and find the worst case as a representative test condition.</p> <p>2. The eMMC has the following models: PTE7A0YJ-16GE / EMMC16G-PJ30-GA02 / FEMDNN016G-A3A55. Pre-scan these models of eMMC and find the worst case as a representative test condition.</p> <p>3. The DRAM LP-DDR4 has the following models: NT6AN256M16AV-J2 / LTHS0005GS4-ZPI1. Pre-scan these models of DRAM LP-DDR4 and find the worst case as a representative test condition.</p> <p>4. For Radiated, pre-scan Power from AC Adpeter via USB Cable / Laptop via USB Cable / Battery and find the worst case as a representative test condition.</p> <p>5. For AC conduction, pre-scan Power from AC Adpeter via USB Cable / Laptop via USB Cable and find the worst case as a representative test condition.</p> <p>6. 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> <p>7. 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>
Worst Case:	<p>1. USB Cable Worst Condition: LB93US005-1H</p> <p>2. eMMC Worst Condition: PTE7A0YJ-16GE</p> <p>3. DRAM LP-DDR4 Worst Condition: NT6AN256M16AV-J2</p> <p>4. For Radiated Worst Condition: Power from Laptop via USB Cable</p> <p>5. For AC conduction Worst Condition: Power from Laptop via USB Cable</p> <p>6. 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

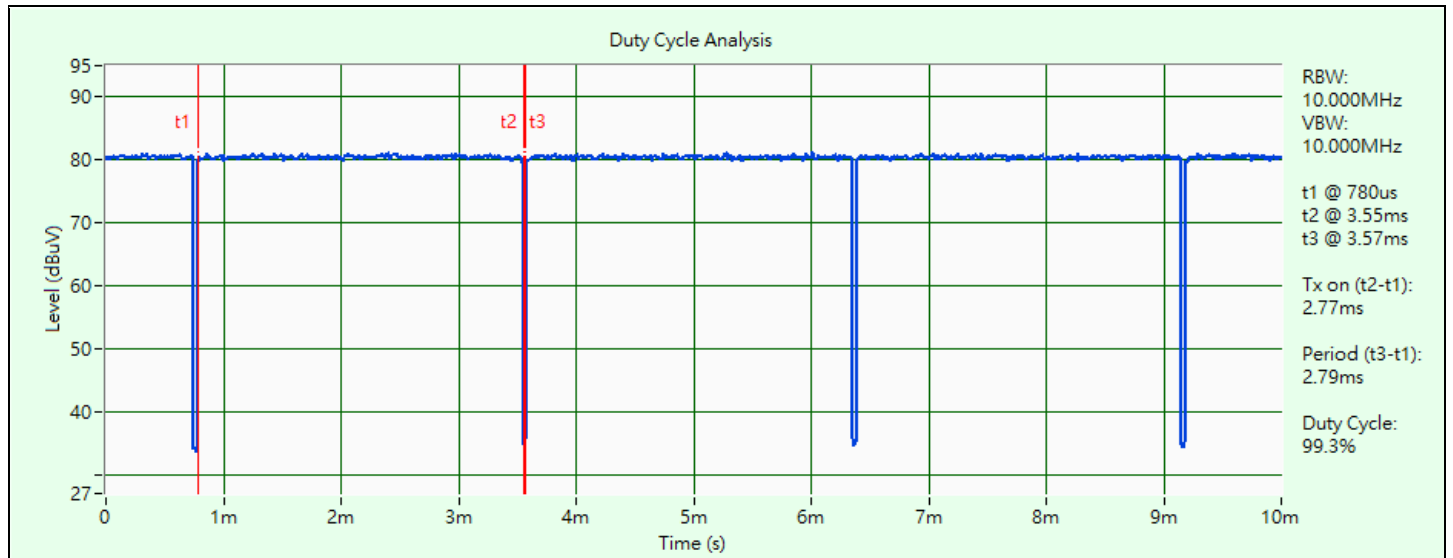
3.5 Duty Cycle of Test Signal

802.11a: Duty cycle = 2.77 ms / 2.79 ms x 100% = 99.3%

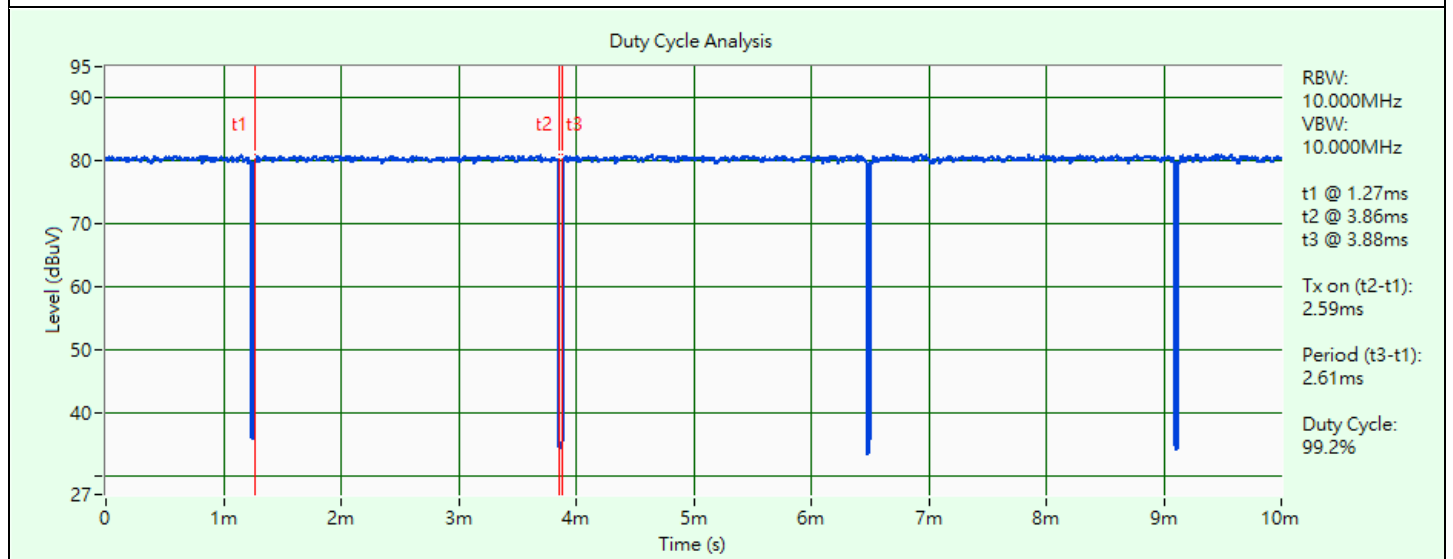
802.11ac (VHT20): Duty cycle = 2.59 ms / 2.61 ms x 100% = 99.2%

802.11ac (VHT40): Duty cycle = 1.265 ms / 1.3 ms x 100% = 97.3%, duty factor = $10 * \log (1/\text{Duty cycle}) = 0.12 \text{ dB}$

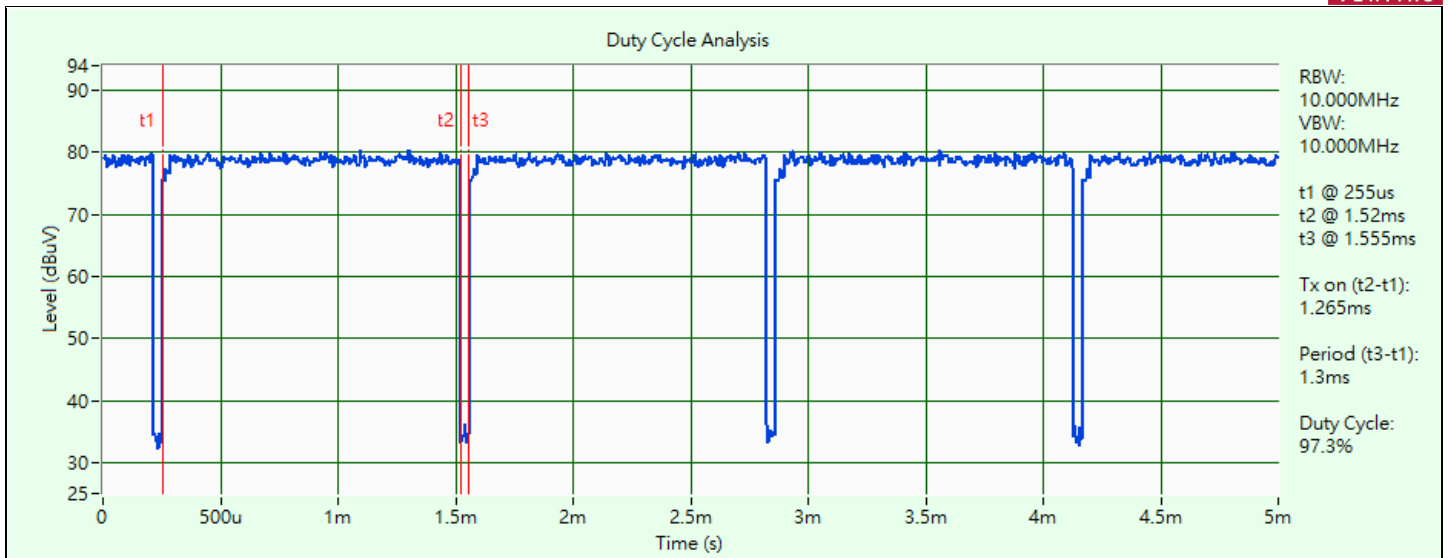
802.11ac (VHT80): Duty cycle = 0.606 ms / 0.645 ms x 100% = 94.0%, duty factor = $10 * \log (1/\text{Duty cycle}) = 0.27 \text{ dB}$



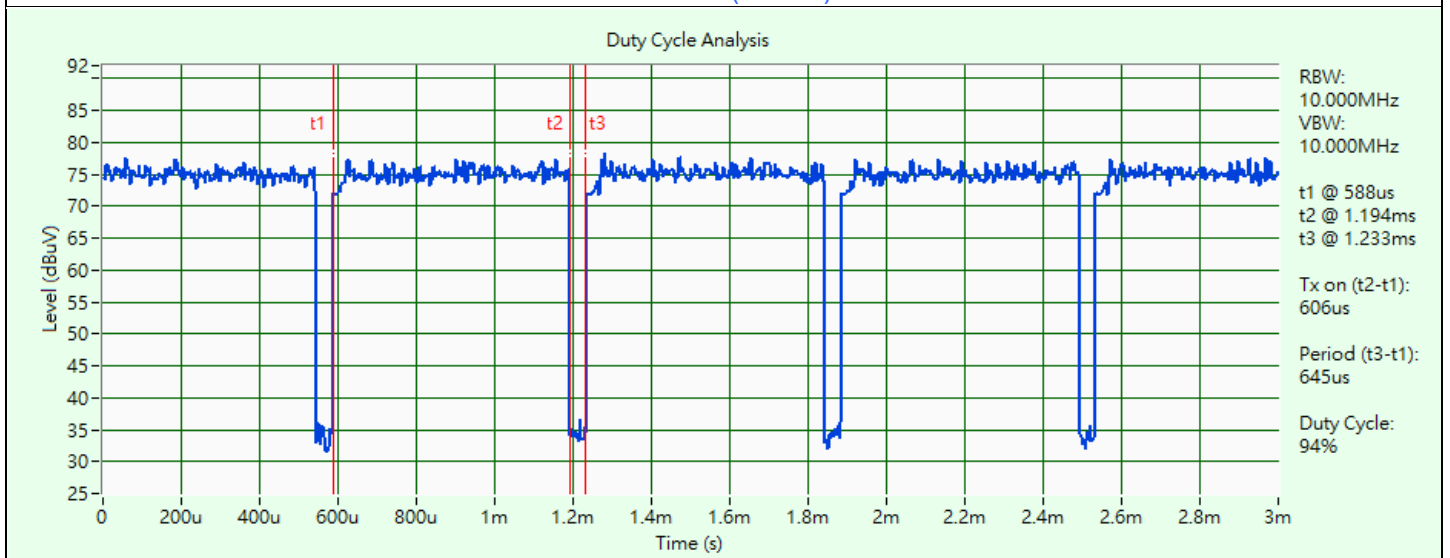
802.11a



802.11ac (VHT20)



802.11ac (VHT40)

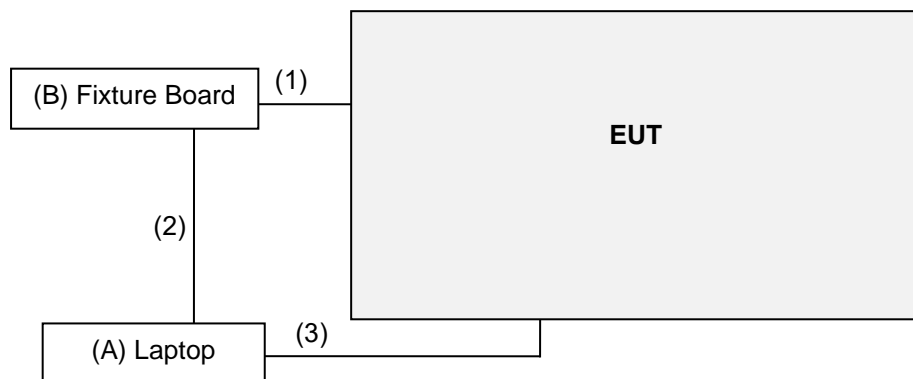


802.11ac (VHT80)

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
Peak Power Analyzer Keysight	8990B	MY51000485	2023/1/19	2024/1/18
Wideband Power Sensor Keysight	N1923A	MY58020002	2023/1/18	2024/1/17
		MY58140009	2023/1/18	2024/1/17

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2024/1/10

4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Signal & Spectrum Analyzer R&S	FSV3044	101504	2023/6/5	2024/6/4
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2024/1/10

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
3-channel DC power supply JIN YIH Technology	ODP3033	ODP30332128138	N/A	N/A
Digital Multimeter Fluke	87-III	70360742	2023/7/6	2024/7/5
Signal & Spectrum Analyzer R&S	FSV3044	101504	2023/6/5	2024/6/4
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A
Temperature & Humidity Chamber Terchy	HRM-120RF	931022	2023/12/19	2024/12/18

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2024/1/10

4.6 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal resistance HUBER+SUHNER	E1-011276	01	2023/2/1	2024/1/31
	E1-011312	10	2023/1/30	2024/1/29
	E1-011591	17	2023/2/1	2024/1/31
DC-LISN Schwarzbeck	NNBM 8126G	8126G-069	2023/11/7	2024/11/6
EMI Test Receiver R&S	ESCI	100613	2023/12/4	2024/12/3
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: 2023/12/12

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	2023/12/7	2024/12/6
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: 2023/12/11

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	2023/12/7	2024/12/6
Horn Antenna RFSPIN	DRH18-E	210103A18E	2023/11/12	2024/11/11
Horn Antenna Schwarzbeck	BBHA 9170	9170-1049	2023/11/12	2024/11/11
Preamplifier EMCI	EMC118A45SE	980808	2023/12/28	2024/12/27
	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: 2023/12/31

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) ^{*1} PK: 10 (dBm/MHz) ^{*2} PK: 15.6 (dBm/MHz) ^{*3} PK: 27 (dBm/MHz) ^{*4}	PK: 68.2 (dBμV/m) ^{*1} PK: 105.2 (dBμV/m) ^{*2} PK: 110.8 (dBμV/m) ^{*3} PK: 122.2 (dBμV/m) ^{*4}

^{*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.

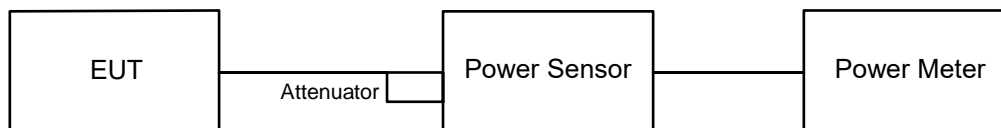
Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

6 Test Arrangements

6.1 RF Output Power

6.1.1 Test Setup

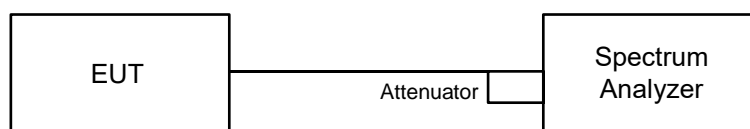


6.1.2 Test Procedure

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

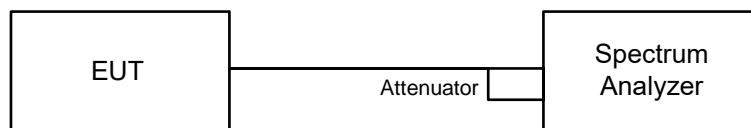
For specified measurement bandwidth 500 kHz:

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

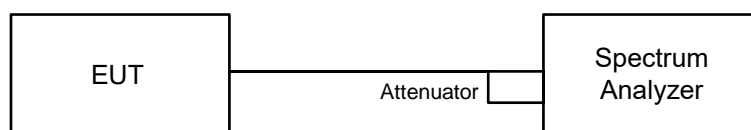


6.3.2 Test Procedure

- 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

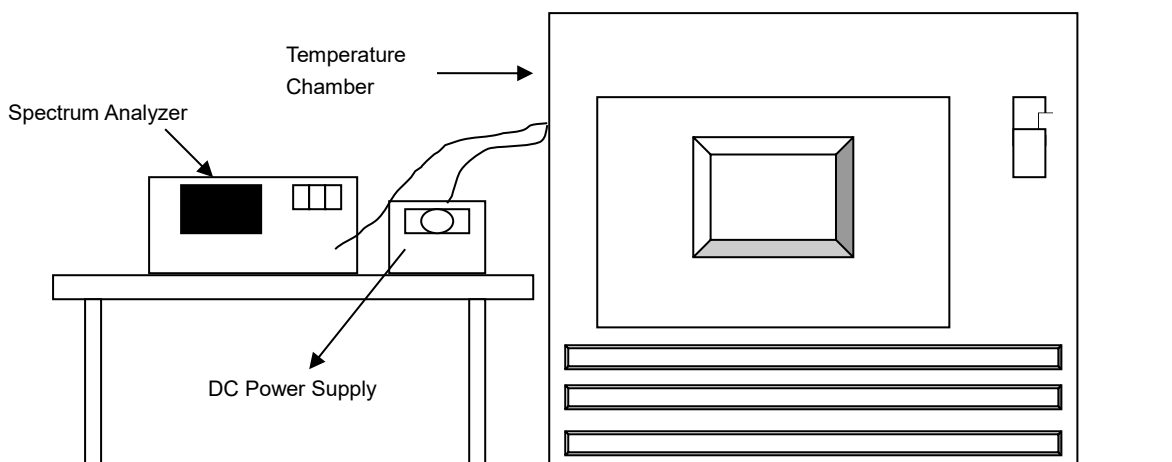


6.4.2 Test Procedure

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

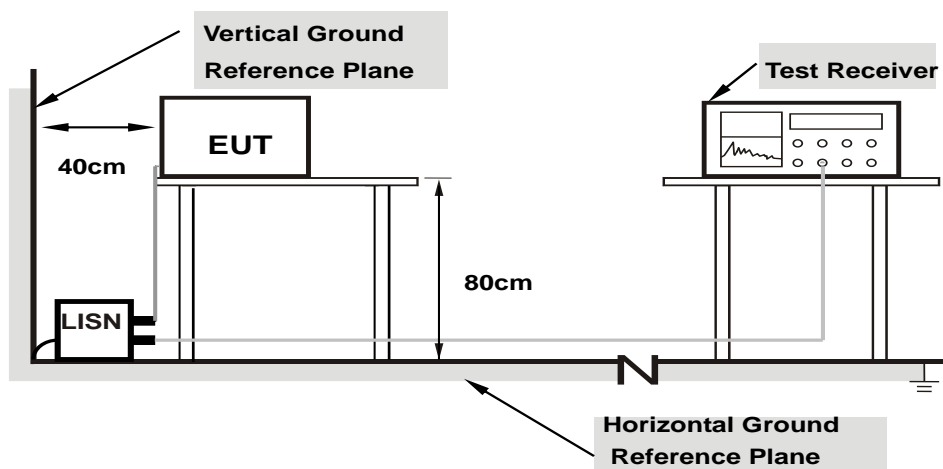


6.5.2 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal DC 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

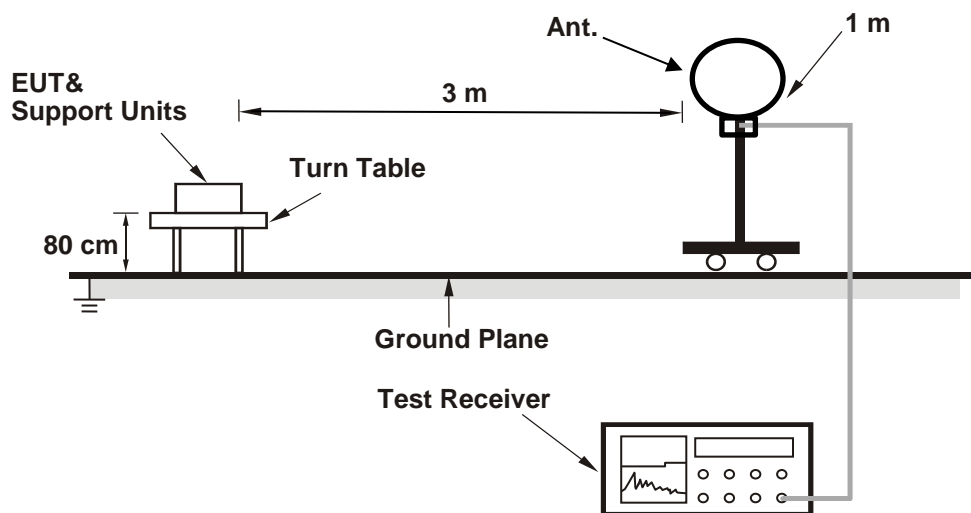
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The 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.

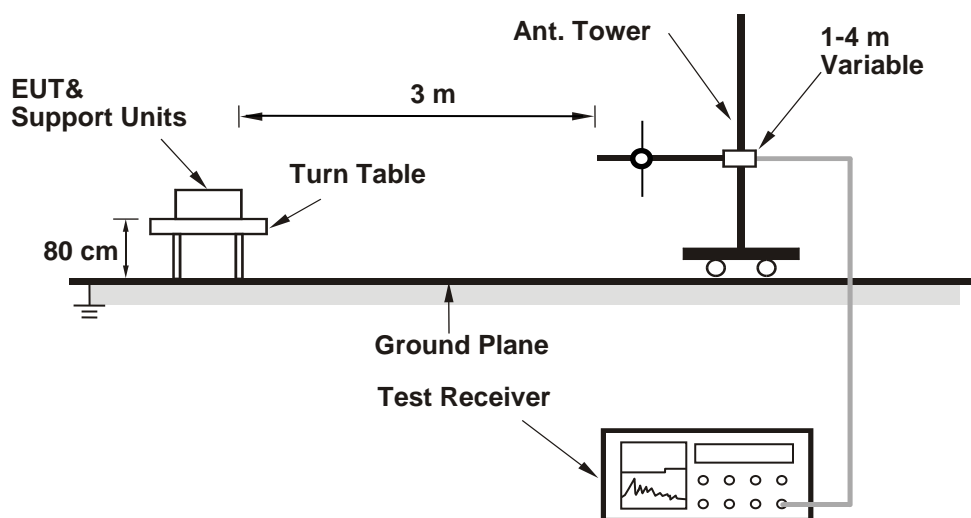
6.7 Unwanted Emissions below 1 GHz

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

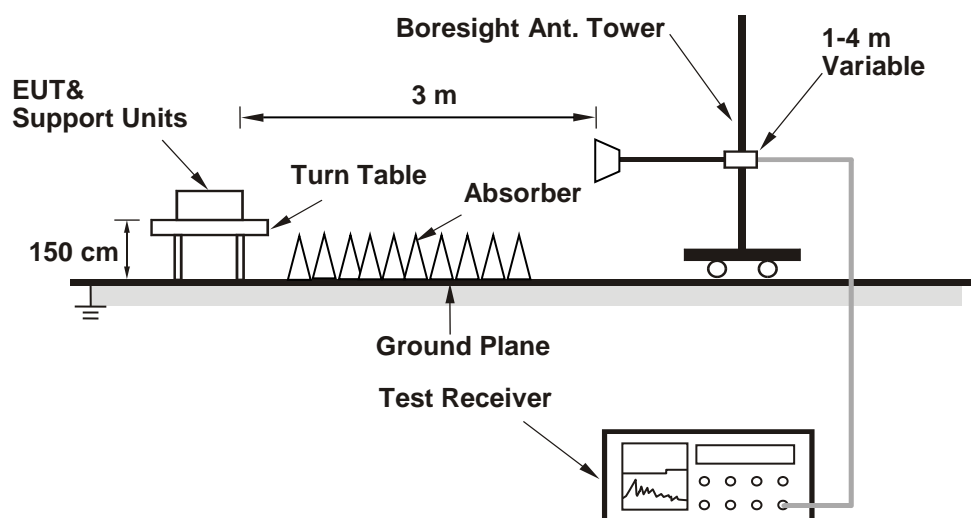
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the 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, 60% RH	Tested By:	Frank FI Liu
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802.11a

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
36	5180	24.604	13.91	24	Pass
40	5200	23.823	13.77	24	Pass
48	5240	24.266	13.85	24	Pass
149	5745	36.559	15.63	30	Pass
157	5785	35.81	15.54	30	Pass
165	5825	35.4	15.49	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	24.099	13.82	24	Pass
40	5200	24.322	13.86	24	Pass
48	5240	23.823	13.77	24	Pass
149	5745	35.727	15.53	30	Pass
157	5785	34.914	15.43	30	Pass
165	5825	35.318	15.48	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	24.21	13.84	24	Pass
46	5230	24.604	13.91	24	Pass
151	5755	35.563	15.51	30	Pass
159	5795	35.645	15.52	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	24.21	13.84	24	Pass
40	5200	24.434	13.88	24	Pass
48	5240	24.044	13.81	24	Pass
149	5745	35.81	15.54	30	Pass
157	5785	35.237	15.47	30	Pass
165	5825	35.563	15.51	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	24.378	13.87	24	Pass
46	5230	24.66	13.92	24	Pass
151	5755	35.727	15.53	30	Pass
159	5795	35.727	15.53	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	24.831	13.95	24	Pass
155	5775	36.728	15.65	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, 60% RH	Tested By:	Frank FI Liu
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802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
36	5180	2.95	11	Pass
40	5200	2.73	11	Pass
48	5240	2.88	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	2.63	11	Pass
40	5200	2.66	11	Pass
48	5240	2.59	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	-0.31	0.12	-0.19	11	Pass
46	5230	-0.27	0.12	-0.15	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	-3.81	0.27	-3.54	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

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
149	5745	-4.39	-2.17	30	Pass
157	5785	-4.48	-2.26	30	Pass
165	5825	-4.57	-2.35	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)

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
149	5745	-4.59	-2.37	30	Pass
157	5785	-4.68	-2.46	30	Pass
165	5825	-4.64	-2.42	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)

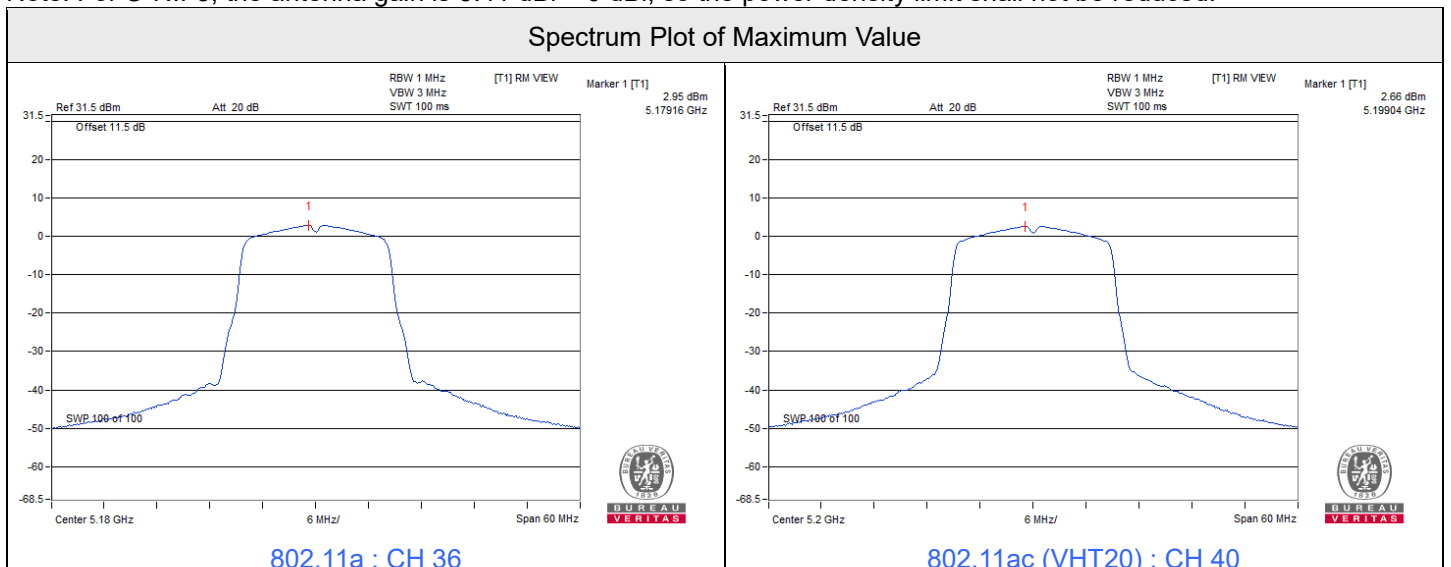
Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
151	5755	-8.25	0.12	-5.91	30	Pass
159	5795	-8.25	0.12	-5.91	30	Pass

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

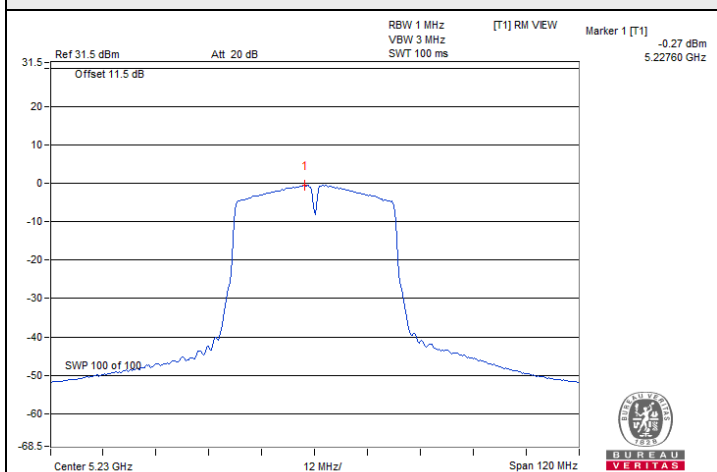
802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
155	5775	-12.01	0.27	-9.52	30	Pass

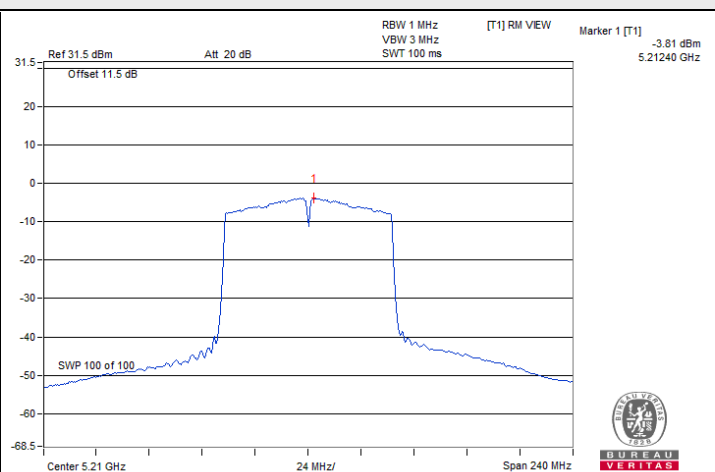
Note: For U-NII-3, the antenna gain is 3.41 dBi < 6 dBi, so the power density limit shall not be reduced.



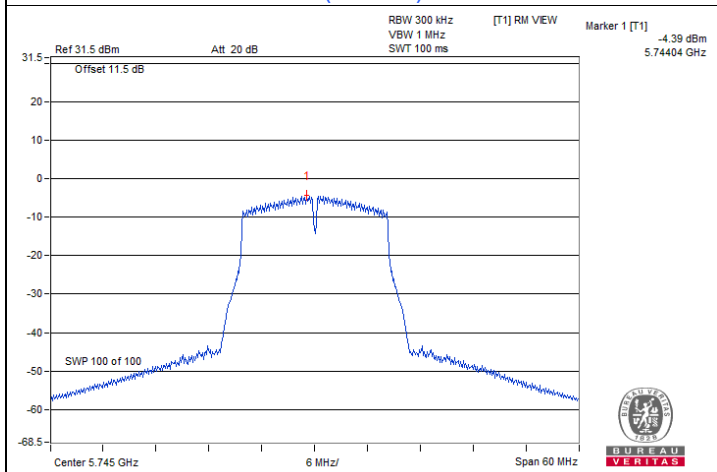
Spectrum Plot of Maximum Value



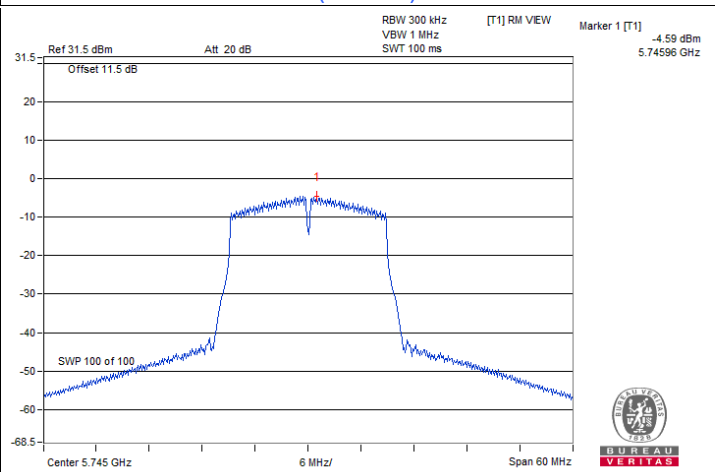
802.11ac (VHT40) : CH 46



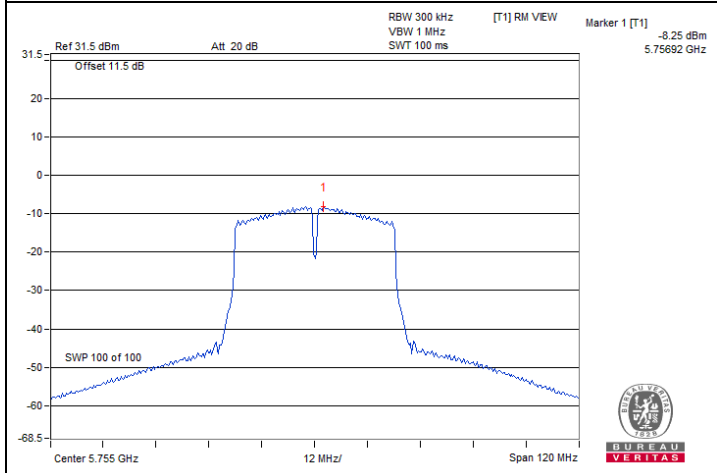
802.11ac (VHT80) : CH 42



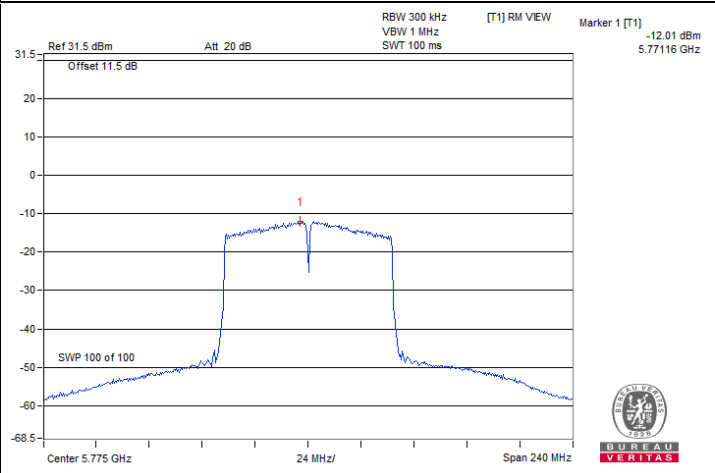
802.11a : CH 149



802.11ac (VHT20) : CH 149



802.11ac (VHT40) : CH 151



802.11ac (VHT80) : CH 155

7.3 6 dB Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Frank FI Liu
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802.11a

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

802.11ac (VHT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
149	5745	15.19	0.5	Pass
157	5785	15.19	0.5	Pass
165	5825	15.37	0.5	Pass

802.11ac (VHT40)

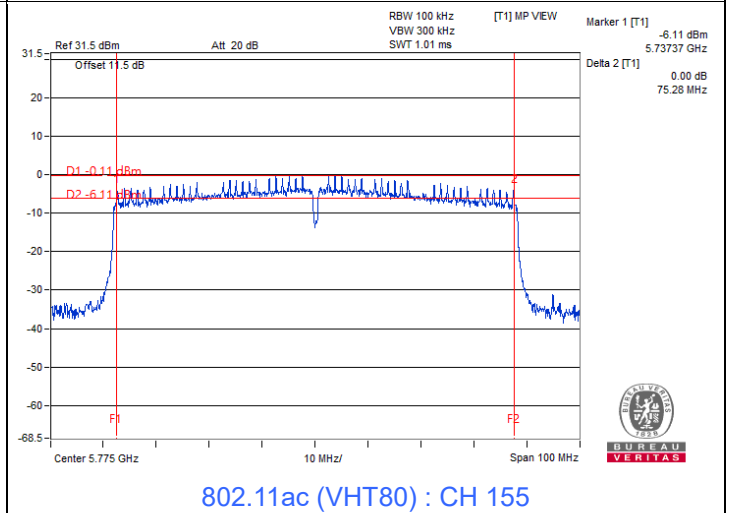
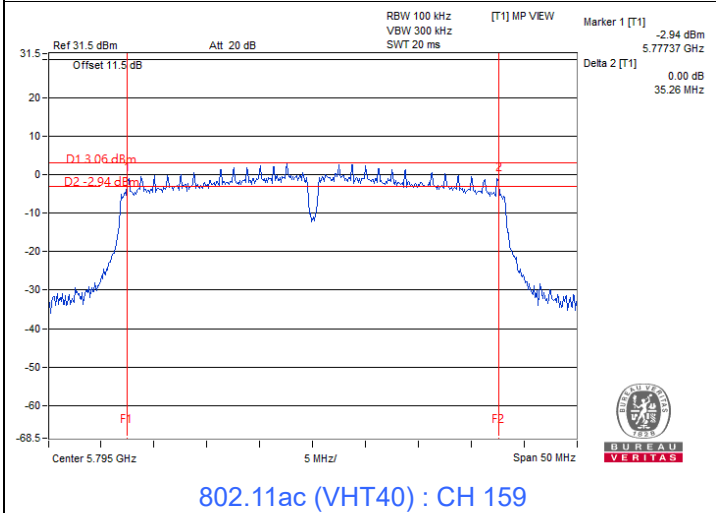
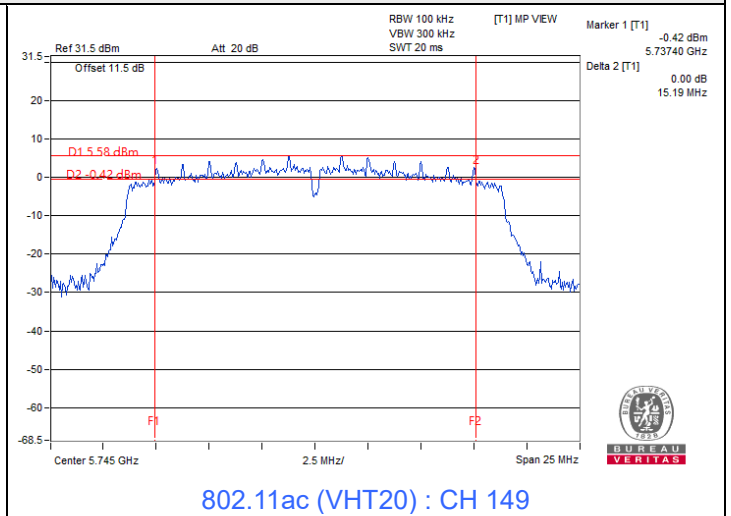
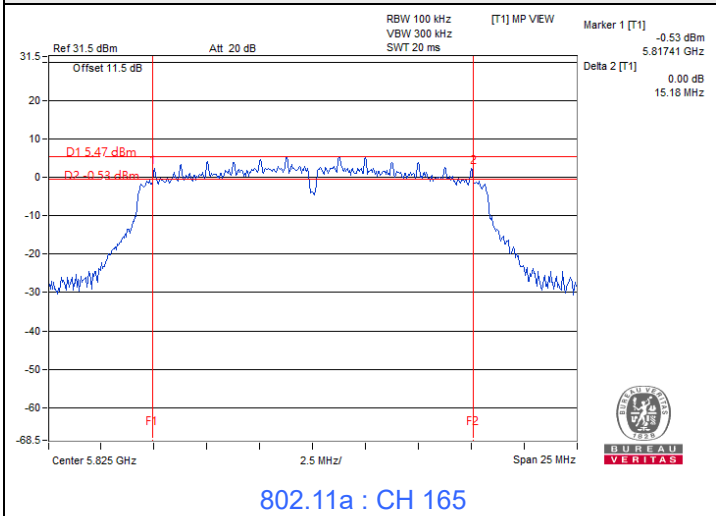
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
151	5755	35.28	0.5	Pass
159	5795	35.26	0.5	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
155	5775	75.28	0.5	Pass



Spectrum Plot of Minimum Value



7.4 Occupied Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Frank FI Liu
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802.11a

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

802.11ac (VHT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	17.76
40	5200	17.64
48	5240	17.64
149	5745	17.76
157	5785	17.88
165	5825	17.76

802.11ac (VHT40)

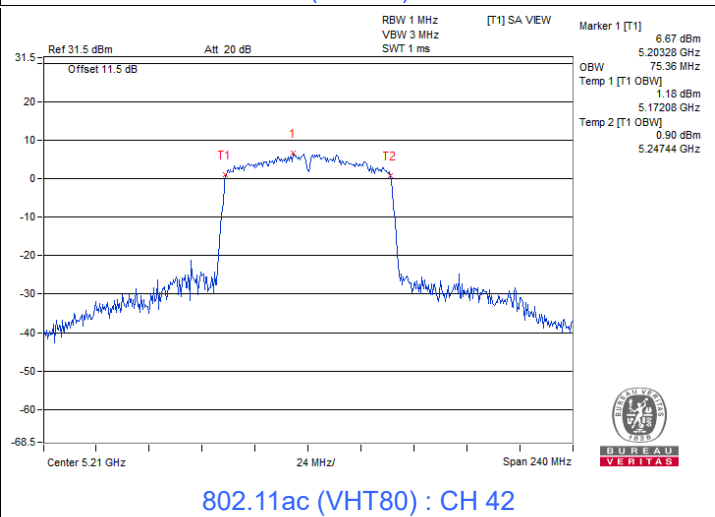
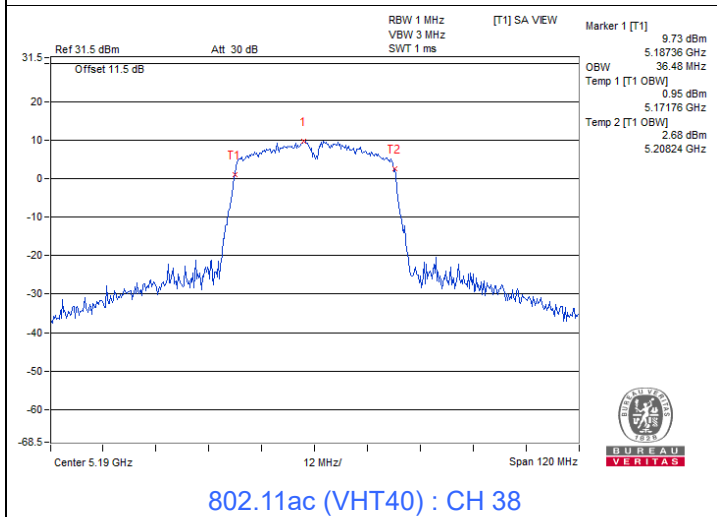
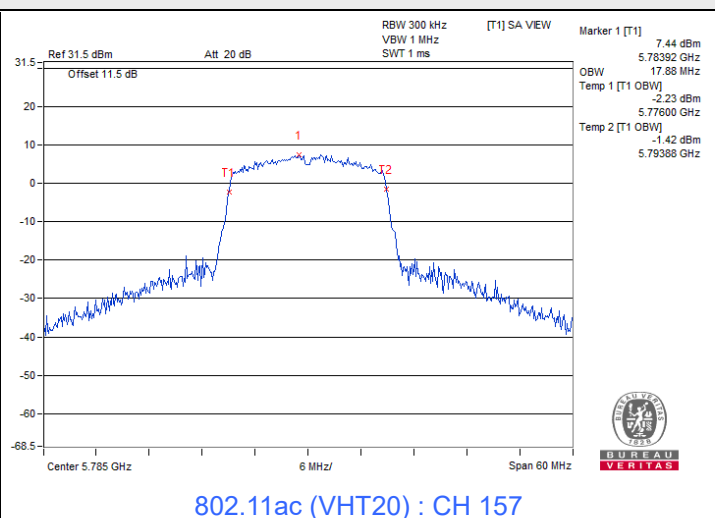
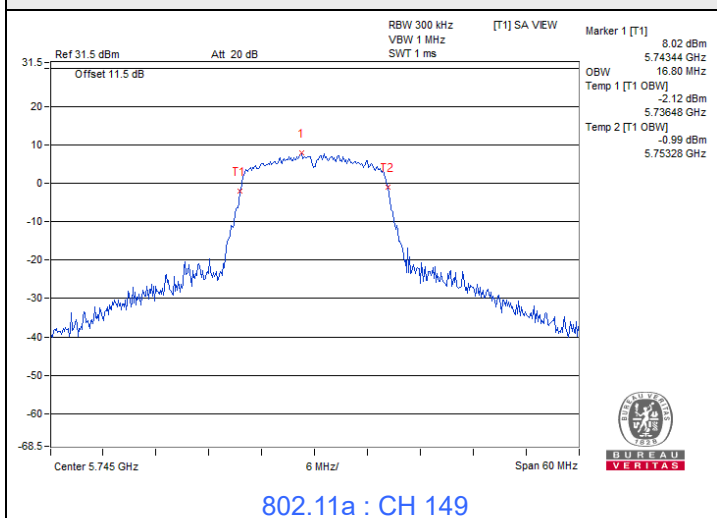
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
38	5190	36.48
46	5230	36.24
151	5755	36.24
159	5795	36.24

802.11ac (VHT80)

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

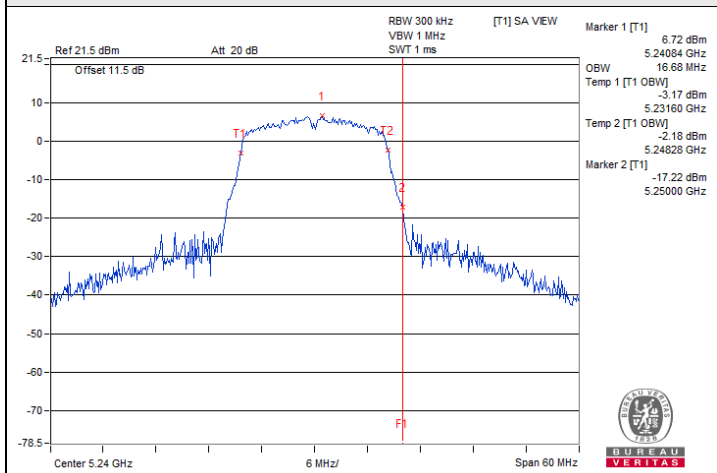


Spectrum Plot of Maximum Value

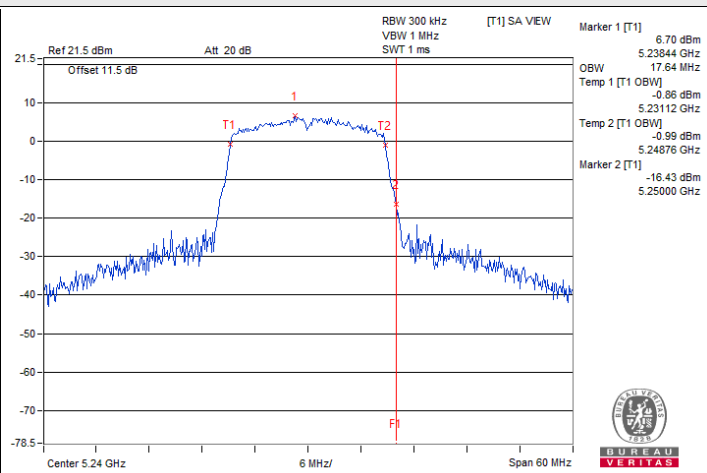




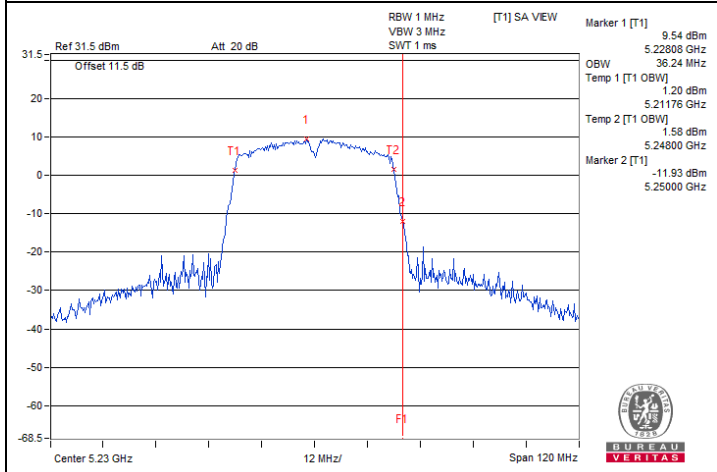
Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2A)



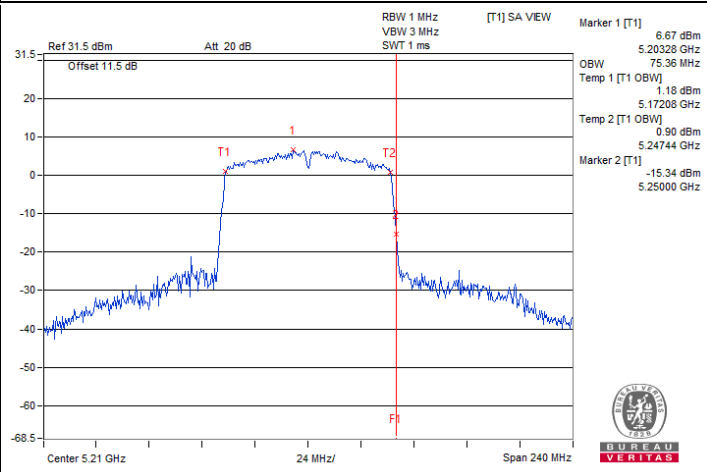
802.11a : CH 48



802.11ac (VHT20) : CH 48

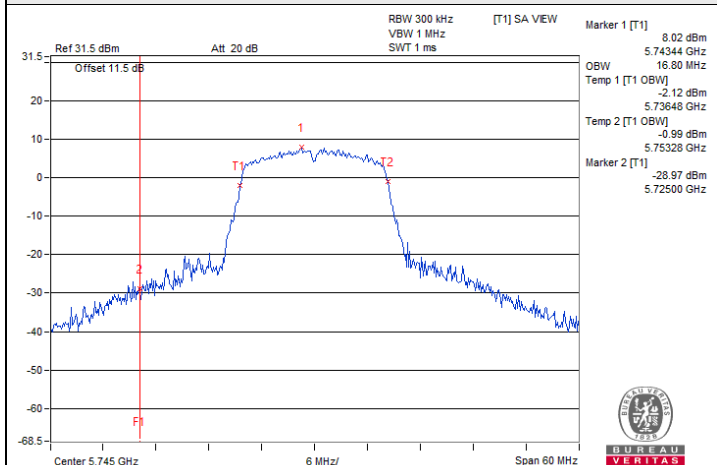
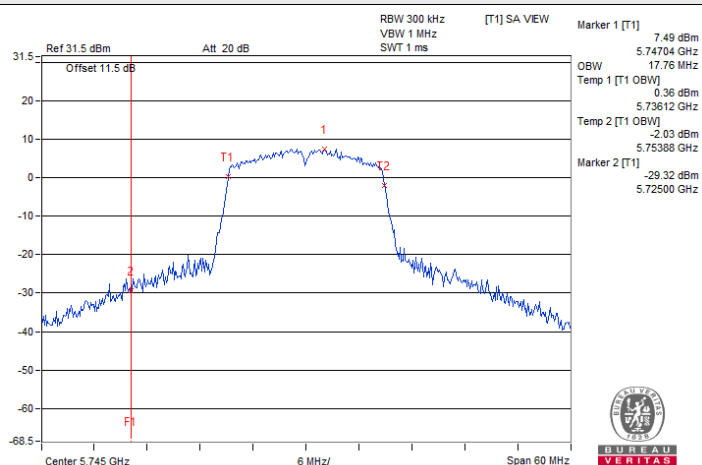
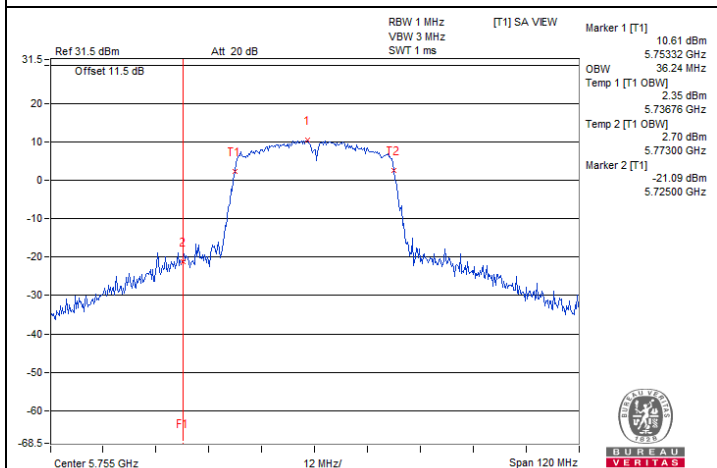
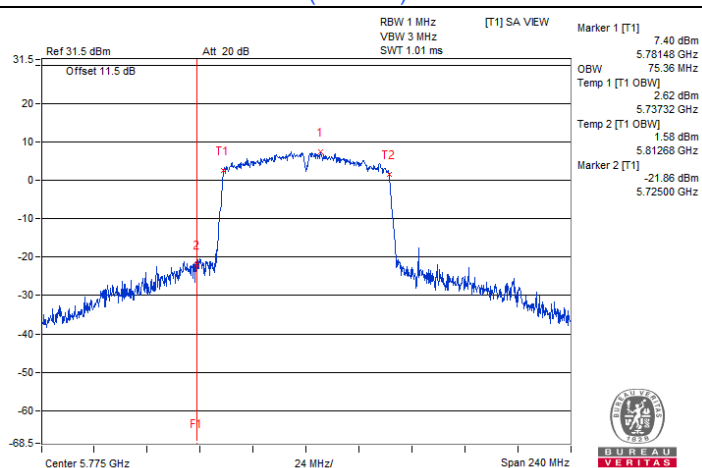


802.11ac (VHT40) : CH 46



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, 60% RH	Tested By:	Frank FI Liu
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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	5179.9964	Pass	5179.9952	Pass	5179.9973	Pass	5179.9963	Pass
40	3.7	5179.9828	Pass	5179.9838	Pass	5179.9821	Pass	5179.9821	Pass
30	3.7	5179.9785	Pass	5179.976	Pass	5179.9783	Pass	5179.9795	Pass
20	3.7	5179.9898	Pass	5179.9864	Pass	5179.9901	Pass	5179.9854	Pass
10	3.7	5180.0015	Pass	5180.0012	Pass	5180.0006	Pass	5180.0024	Pass
0	3.7	5179.9992	Pass	5179.9962	Pass	5179.9986	Pass	5179.9992	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	5179.994	Pass	5179.9943	Pass	5179.9958	Pass	5179.998	Pass
	3.7	5179.9898	Pass	5179.9864	Pass	5179.9901	Pass	5179.9854	Pass
	3.145	5179.9941	Pass	5179.995	Pass	5179.9945	Pass	5179.9975	Pass

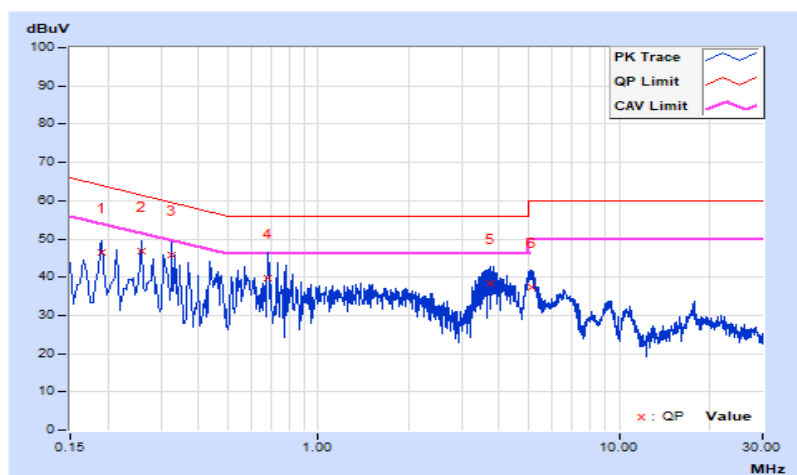
7.6 AC Power Conducted Emissions

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	25°C, 75% RH
Tested By	Rex Wang		

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	0.19000	9.64	36.68	29.44	46.32	39.08	64.04	54.04	-17.72	-14.96
2	0.25800	9.65	37.21	22.02	46.86	31.67	61.50	51.50	-14.64	-19.83
3	0.32600	9.66	36.15	21.70	45.81	31.36	59.55	49.55	-13.74	-18.19
4	0.68200	9.68	30.04	16.14	39.72	25.82	56.00	46.00	-16.28	-20.18
5	3.74200	9.74	28.67	15.14	38.41	24.88	56.00	46.00	-17.59	-21.12
6	5.13000	9.75	27.74	19.72	37.49	29.47	60.00	50.00	-22.51	-20.53

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

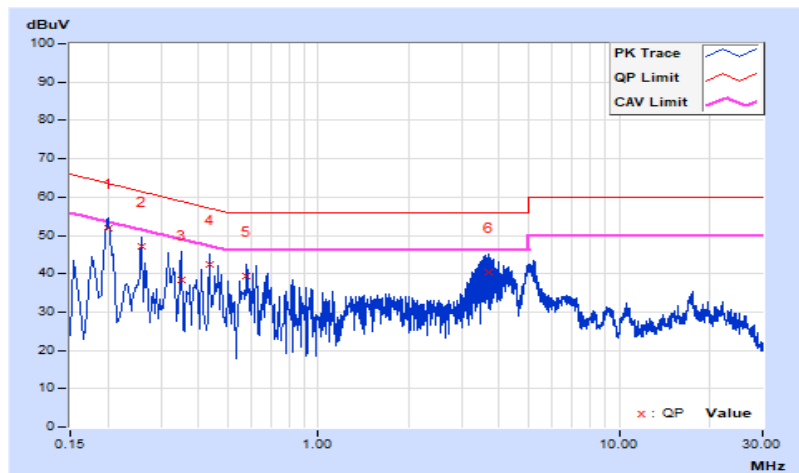


RF Mode	802.11ac (VHT80)	Channel	CH 155 : 5775 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Rex Wang		

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	0.20148	9.64	42.34	25.21	51.98	34.85	63.55	53.55	-11.57	-18.70
2	0.25800	9.65	37.61	21.64	47.26	31.29	61.50	51.50	-14.24	-20.21
3	0.35000	9.66	28.73	10.65	38.39	20.31	58.96	48.96	-20.57	-28.65
4	0.43400	9.67	32.84	16.10	42.51	25.77	57.18	47.18	-14.67	-21.41
5	0.57796	9.68	29.78	12.58	39.46	22.26	56.00	46.00	-16.54	-23.74
6	3.69000	9.75	30.68	15.36	40.43	25.11	56.00	46.00	-15.57	-20.89

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



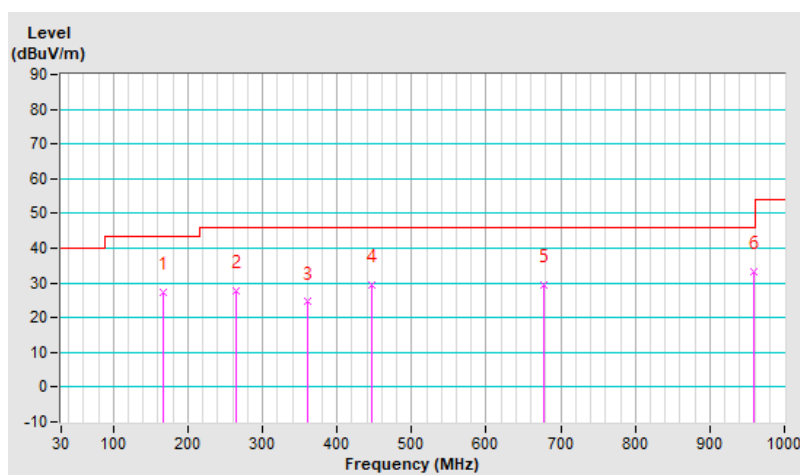
7.7 Unwanted Emissions below 1 GHz

RF Mode	802.11ac (VHT80)	Channel	CH 155 : 5775 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°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	167.74	27.4 QP	43.5	-16.1	1.50 H	259	40.5	-13.1
2	263.77	27.9 QP	46.0	-18.1	1.25 H	171	41.8	-13.9
3	359.80	24.5 QP	46.0	-21.5	1.00 H	162	35.8	-11.3
4	447.10	29.3 QP	46.0	-16.7	1.25 H	190	38.0	-8.7
5	677.96	29.4 QP	46.0	-16.6	1.00 H	44	33.8	-4.4
6	959.26	33.4 QP	46.0	-12.6	1.50 H	334	33.6	-0.2

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 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.

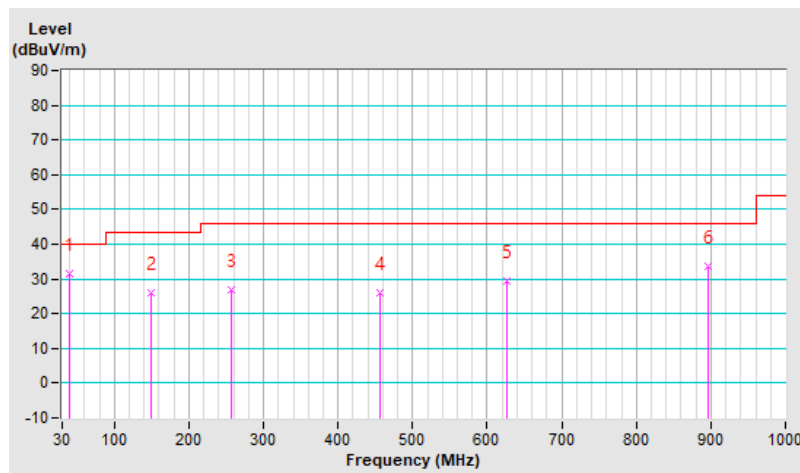


RF Mode	802.11ac (VHT80)	Channel	CH 155 : 5775 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°C, 69% RH
Tested By	Greg Lin		

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	40.67	31.6 QP	40.0	-8.4	1.00 V	265	45.0	-13.4
2	148.34	26.0 QP	43.5	-17.5	1.00 V	244	39.1	-13.1
3	256.01	26.8 QP	46.0	-19.2	1.50 V	18	41.1	-14.3
4	455.83	26.0 QP	46.0	-20.0	1.25 V	196	34.4	-8.4
5	626.55	29.5 QP	46.0	-16.5	1.25 V	222	34.4	-4.9
6	896.21	33.7 QP	46.0	-12.3	1.50 V	146	34.8	-1.1

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 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	21°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	5150.00	58.2 PK	74.0	-15.8	2.00 H	302	55.1	3.1
2	5150.00	49.4 AV	54.0	-4.6	2.00 H	302	46.3	3.1
3	*5180.00	107.0 PK			2.00 H	302	66.3	40.7
4	*5180.00	99.6 AV			2.00 H	302	58.9	40.7
5	#10360.00	55.5 PK	68.2	-12.7	1.24 H	165	46.8	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	61.7 PK	74.0	-12.3	1.04 V	84	58.6	3.1
2	5150.00	49.8 AV	54.0	-4.2	1.04 V	84	46.7	3.1
3	*5180.00	108.3 PK			1.04 V	84	67.6	40.7
4	*5180.00	100.8 AV			1.04 V	84	60.1	40.7
5	#10360.00	56.2 PK	68.2	-12.0	1.13 V	104	47.5	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.



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	21°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	*5200.00	107.8 PK			2.04 H	308	67.1	40.7
2	*5200.00	100.2 AV			2.04 H	308	59.5	40.7
3	#10400.00	55.5 PK	68.2	-12.7	1.38 H	176	46.8	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	*5200.00	108.9 PK			1.08 V	107	68.2	40.7
2	*5200.00	101.3 AV			1.08 V	107	60.6	40.7
3	#10400.00	56.4 PK	68.2	-11.8	1.08 V	102	47.7	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.



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	21°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	*5240.00	107.6 PK			2.04 H	301	66.9	40.7
2	*5240.00	100.0 AV			2.04 H	301	59.3	40.7
3	5350.00	56.7 PK	74.0	-17.3	2.04 H	301	53.8	2.9
4	5350.00	47.6 AV	54.0	-6.4	2.04 H	301	44.7	2.9
5	#10480.00	55.1 PK	68.2	-13.1	1.37 H	182	46.6	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	*5240.00	108.8 PK			1.14 V	111	68.1	40.7
2	*5240.00	101.2 AV			1.14 V	111	60.5	40.7
3	5350.00	57.3 PK	74.0	-16.7	1.14 V	111	54.4	2.9
4	5350.00	48.0 AV	54.0	-6.0	1.14 V	111	45.1	2.9
5	#10480.00	56.1 PK	68.2	-12.1	1.13 V	102	47.6	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 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	21°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	#5640.40	58.8 PK	68.2	-9.4	2.02 H	301	54.8	4.0
2	*5745.00	106.0 PK			2.02 H	301	63.9	42.1
3	*5745.00	98.4 AV			2.02 H	301	56.3	42.1
4	#5966.40	59.5 PK	68.2	-8.7	2.02 H	301	54.6	4.9
5	11490.00	55.9 PK	74.0	-18.1	1.37 H	184	46.8	9.1
6	11490.00	46.7 AV	54.0	-7.3	1.37 H	184	37.6	9.1

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	#5619.60	59.3 PK	68.2	-8.9	1.13 V	117	55.4	3.9
2	*5745.00	107.0 PK			1.13 V	117	64.9	42.1
3	*5745.00	99.6 AV			1.13 V	117	57.5	42.1
4	#5994.00	60.7 PK	68.2	-7.5	1.13 V	117	55.6	5.1
5	11490.00	56.7 PK	74.0	-17.3	1.16 V	121	47.6	9.1
6	11490.00	47.5 AV	54.0	-6.5	1.16 V	121	38.4	9.1

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.



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	21°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	#5628.40	57.8 PK	68.2	-10.4	2.05 H	303	53.8	4.0
2	*5785.00	105.8 PK			2.05 H	303	63.5	42.3
3	*5785.00	98.1 AV			2.05 H	303	55.8	42.3
4	#5943.60	58.9 PK	68.2	-9.3	2.05 H	303	54.1	4.8
5	11570.00	55.9 PK	74.0	-18.1	1.41 H	179	46.8	9.1
6	11570.00	46.8 AV	54.0	-7.2	1.41 H	179	37.7	9.1

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	#5629.60	59.6 PK	68.2	-8.6	1.21 V	55	55.6	4.0
2	*5785.00	106.9 PK			1.21 V	55	64.6	42.3
3	*5785.00	99.1 AV			1.21 V	55	56.8	42.3
4	#5987.20	60.0 PK	68.2	-8.2	1.21 V	55	55.1	4.9
5	11570.00	56.6 PK	74.0	-17.4	1.15 V	126	47.5	9.1
6	11570.00	47.4 AV	54.0	-6.6	1.15 V	126	38.3	9.1

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.



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	21°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	#5620.00	58.8 PK	68.2	-9.4	2.00 H	304	54.9	3.9
2	*5825.00	105.6 PK			2.00 H	304	63.2	42.4
3	*5825.00	97.8 AV			2.00 H	304	55.4	42.4
4	#5987.60	59.8 PK	68.2	-8.4	2.00 H	204	54.9	4.9
5	11650.00	55.8 PK	74.0	-18.2	1.39 H	182	46.8	9.0
6	11650.00	46.6 AV	54.0	-7.4	1.39 H	182	37.6	9.0
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	#5646.80	58.5 PK	68.2	-9.7	1.20 V	57	54.5	4.0
2	*5825.00	106.5 PK			1.20 V	57	64.1	42.4
3	*5825.00	98.7 AV			1.20 V	57	56.3	42.4
4	#5961.20	59.8 PK	68.2	-8.4	1.20 V	57	54.9	4.9
5	11650.00	56.6 PK	74.0	-17.4	1.18 V	127	47.6	9.0
6	11650.00	47.1 AV	54.0	-6.9	1.18 V	127	38.1	9.0

Remarks:

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



RF Mode	802.11ac (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	21°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	5150.00	57.8 PK	74.0	-16.2	1.97 H	298	54.7	3.1
2	5150.00	49.3 AV	54.0	-4.7	1.97 H	298	46.2	3.1
3	*5180.00	106.6 PK			1.97 H	298	65.9	40.7
4	*5180.00	99.2 AV			1.97 H	298	58.5	40.7
5	#10360.00	55.4 PK	68.2	-12.8	1.43 H	181	46.7	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	58.3 PK	74.0	-15.7	1.07 V	120	55.2	3.1
2	5150.00	50.1 AV	54.0	-3.9	1.07 V	120	47.0	3.1
3	*5180.00	107.8 PK			1.07 V	120	67.1	40.7
4	*5180.00	100.4 AV			1.07 V	120	59.7	40.7
5	#10380.00	56.1 PK	68.2	-12.1	1.16 V	108	47.4	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.



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	21°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	*5200.00	107.2 PK			2.07 H	301	66.5	40.7
2	*5200.00	99.7 AV			2.07 H	301	59.0	40.7
3	#10400.00	55.5 PK	68.2	-12.7	1.38 H	184	46.8	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	*5200.00	108.2 PK			1.13 V	124	67.5	40.7
2	*5200.00	100.8 AV			1.13 V	124	60.1	40.7
3	#10400.00	56.5 PK	68.2	-11.7	1.16 V	101	47.8	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.



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	21°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	*5240.00	107.6 PK			2.02 H	303	66.9	40.7
2	*5240.00	100.1 AV			2.02 H	303	59.4	40.7
3	5350.00	57.5 PK	74.0	-16.5	2.02 H	303	54.6	2.9
4	5350.00	47.8 AV	54.0	-6.2	2.02 H	303	44.9	2.9
5	#10480.00	55.1 PK	68.2	-13.1	1.42 H	187	46.6	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	*5240.00	108.6 PK			1.00 V	112	67.9	40.7
2	*5240.00	101.2 AV			1.00 V	112	60.5	40.7
3	5350.00	57.7 PK	74.0	-16.3	1.00 V	112	54.8	2.9
4	5350.00	48.2 AV	54.0	-5.8	1.00 V	112	45.3	2.9
5	#10480.00	56.2 PK	68.2	-12.0	1.18 V	102	47.7	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 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	21°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	#5631.20	58.4 PK	68.2	-9.8	2.03 H	301	54.4	4.0
2	*5745.00	106.5 PK			2.03 H	301	64.4	42.1
3	*5745.00	98.8 AV			2.03 H	301	56.7	42.1
4	#5930.40	59.5 PK	68.2	-8.7	2.03 H	301	54.8	4.7
5	11490.00	55.9 PK	74.0	-18.1	1.37 H	182	46.8	9.1
6	11490.00	46.5 AV	54.0	-7.5	1.37 H	182	37.4	9.1
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	#5624.40	60.2 PK	68.2	-8.0	1.08 V	81	56.3	3.9
2	*5745.00	107.4 PK			1.08 V	81	65.3	42.1
3	*5745.00	99.9 AV			1.08 V	81	57.8	42.1
4	#5925.20	60.0 PK	68.2	-8.2	1.08 V	81	55.3	4.7
5	11490.00	56.8 PK	74.0	-17.2	1.18 V	121	47.7	9.1
6	11490.00	47.4 AV	54.0	-6.6	1.18 V	121	38.3	9.1

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.



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	21°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	#5609.60	58.8 PK	68.2	-9.4	2.02 H	299	54.8	4.0
2	*5785.00	105.6 PK			2.02 H	299	63.3	42.3
3	*5785.00	97.9 AV			2.02 H	299	55.6	42.3
4	#5992.40	59.2 PK	68.2	-9.0	2.02 H	299	54.1	5.1
5	11570.00	55.8 PK	74.0	-18.2	1.33 H	179	46.7	9.1
6	11570.00	46.6 AV	54.0	-7.4	1.33 H	179	37.5	9.1
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	#5632.00	59.5 PK	68.2	-8.7	1.07 V	64	55.5	4.0
2	*5785.00	106.6 PK			1.07 V	64	64.3	42.3
3	*5785.00	98.9 AV			1.07 V	64	56.6	42.3
4	#5998.00	59.3 PK	68.2	-8.9	1.07 V	64	54.2	5.1
5	11570.00	56.6 PK	74.0	-17.4	1.18 V	120	47.5	9.1
6	11570.00	47.3 AV	54.0	-6.7	1.18 V	120	38.2	9.1

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.

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	21°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	#5627.60	58.6 PK	68.2	-9.6	1.97 H	301	54.7	3.9
2	*5825.00	105.3 PK			1.97 H	301	62.9	42.4
3	*5825.00	97.5 AV			1.97 H	301	55.1	42.4
4	#5993.60	59.9 PK	68.2	-8.3	1.97 H	301	54.8	5.1
5	11650.00	55.8 PK	74.0	-18.2	1.34 H	179	46.8	9.0
6	11650.00	46.6 AV	54.0	-7.4	1.34 H	179	37.6	9.0
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	#5611.60	58.8 PK	68.2	-9.4	1.20 V	57	54.8	4.0
2	*5825.00	106.3 PK			1.20 V	57	63.9	42.4
3	*5825.00	98.5 AV			1.20 V	57	56.1	42.4
4	#5988.00	60.2 PK	68.2	-8.0	1.20 V	57	55.3	4.9
5	11650.00	56.5 PK	74.0	-17.5	1.19 V	121	47.5	9.0
6	11650.00	47.1 AV	54.0	-6.9	1.19 V	121	38.1	9.0

Remarks:

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



RF Mode	802.11ac (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	21°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	5150.00	62.6 PK	74.0	-11.4	2.03 H	306	59.5	3.1
2	5150.00	50.7 AV	54.0	-3.3	2.03 H	306	47.6	3.1
3	*5190.00	105.2 PK			2.03 H	306	64.4	40.8
4	*5190.00	97.5 AV			2.03 H	306	56.7	40.8
5	#10380.00	55.2 PK	68.2	-13.0	1.42 H	179	46.5	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	62.9 PK	74.0	-11.1	1.01 V	111	59.8	3.1
2	5150.00	51.0 AV	54.0	-3.0	1.01 V	111	47.9	3.1
3	*5190.00	106.4 PK			1.01 V	111	65.6	40.8
4	*5190.00	98.6 AV			1.01 V	111	57.8	40.8
5	#10380.00	56.0 PK	68.2	-12.2	1.13 V	109	47.3	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.



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	21°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	*5230.00	105.0 PK			2.06 H	306	64.3	40.7
2	*5230.00	97.3 AV			2.06 H	306	56.6	40.7
3	5350.00	57.7 PK	74.0	-16.3	2.06 H	306	54.8	2.9
4	5350.00	48.0 AV	54.0	-6.0	2.06 H	306	45.1	2.9
5	#10460.00	55.0 PK	68.2	-13.2	1.35 H	178	46.4	8.6

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	*5230.00	106.1 PK			1.04 V	112	65.4	40.7
2	*5230.00	98.4 AV			1.04 V	112	57.7	40.7
3	5350.00	58.1 PK	74.0	-15.9	1.04 V	112	55.2	2.9
4	5350.00	48.3 AV	54.0	-5.7	1.04 V	112	45.4	2.9
5	#10460.00	55.8 PK	68.2	-12.4	1.17 V	108	47.2	8.6

Remarks:

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

RF Mode	802.11ac (VHT40)	Channel	CH 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	21°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	#5634.40	59.0 PK	68.2	-9.2	2.05 H	298	55.0	4.0
2	*5755.00	103.7 PK			2.05 H	298	61.5	42.2
3	*5755.00	96.0 AV			2.05 H	298	53.8	42.2
4	#5990.40	59.6 PK	68.2	-8.6	2.05 H	298	54.7	4.9
5	11510.00	55.5 PK	74.0	-18.5	1.34 H	174	46.4	9.1
6	11510.00	46.3 AV	54.0	-7.7	1.34 H	174	37.2	9.1
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	#5624.40	59.5 PK	68.2	-8.7	1.03 V	65	55.6	3.9
2	*5755.00	104.6 PK			1.03 V	65	62.4	42.2
3	*5755.00	97.0 AV			1.03 V	65	54.8	42.2
4	#5931.60	60.0 PK	68.2	-8.2	1.03 V	65	55.3	4.7
5	11510.00	56.4 PK	74.0	-17.6	1.16 V	109	47.3	9.1
6	11510.00	47.2 AV	54.0	-6.8	1.16 V	109	38.1	9.1

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.



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	21°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	#5600.00	58.3 PK	68.2	-9.9	2.06 H	307	54.4	3.9
2	*5795.00	103.2 PK			2.06 H	307	60.9	42.3
3	*5795.00	95.5 AV			2.06 H	307	53.2	42.3
4	#5966.80	58.9 PK	68.2	-9.3	2.06 H	307	54.0	4.9
5	11590.00	55.4 PK	74.0	-18.6	1.38 H	182	46.3	9.1
6	11590.00	46.3 AV	54.0	-7.7	1.38 H	182	37.2	9.1
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	#5638.40	59.6 PK	68.2	-8.6	1.01 V	62	55.6	4.0
2	*5795.00	104.2 PK			1.01 V	62	61.9	42.3
3	*5795.00	96.5 AV			1.01 V	62	54.2	42.3
4	#5994.80	60.0 PK	68.2	-8.2	1.01 V	62	54.9	5.1
5	11590.00	56.3 PK	74.0	-17.7	1.16 V	120	47.2	9.1
6	11590.00	47.0 AV	54.0	-7.0	1.16 V	120	37.9	9.1

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.



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	21°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	5150.00	66.4 PK	74.0	-7.6	2.00 H	307	63.3	3.1
2	5150.00	52.7 AV	54.0	-1.3	2.00 H	307	49.6	3.1
3	*5210.00	101.6 PK			2.00 H	307	60.9	40.7
4	*5210.00	93.9 AV			2.00 H	307	53.2	40.7
5	#10420.00	55.0 PK	68.2	-13.2	1.36 H	177	46.3	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	66.7 PK	74.0	-7.3	1.00 V	118	63.6	3.1
2	5150.00	53.0 AV	54.0	-1.0	1.00 V	118	49.9	3.1
3	*5210.00	102.8 PK			1.00 V	118	62.1	40.7
4	*5210.00	95.0 AV			1.00 V	118	54.3	40.7
5	#10420.00	55.5 PK	68.2	-12.7	1.17 V	101	46.8	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.

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	21°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	#5634.00	59.5 PK	68.2	-8.7	2.06 H	306	55.5	4.0
2	*5775.00	100.4 PK			2.06 H	306	58.1	42.3
3	*5775.00	92.5 AV			2.06 H	306	50.2	42.3
4	#5970.00	59.2 PK	68.2	-9.0	2.06 H	306	54.3	4.9
5	11550.00	55.3 PK	74.0	-18.7	1.43 H	184	46.3	9.0
6	11550.00	46.0 AV	54.0	-8.0	1.43 H	184	37.0	9.0
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	#5644.40	59.7 PK	68.2	-8.5	1.06 V	66	55.7	4.0
2	*5775.00	101.4 PK			1.06 V	66	59.1	42.3
3	*5775.00	93.6 AV			1.06 V	66	51.3	42.3
4	#5955.20	59.8 PK	68.2	-8.4	1.06 V	66	54.9	4.9
5	11550.00	55.8 PK	74.0	-18.2	1.14 V	123	46.8	9.0
6	11550.00	46.6 AV	54.0	-7.4	1.14 V	123	37.6	9.0

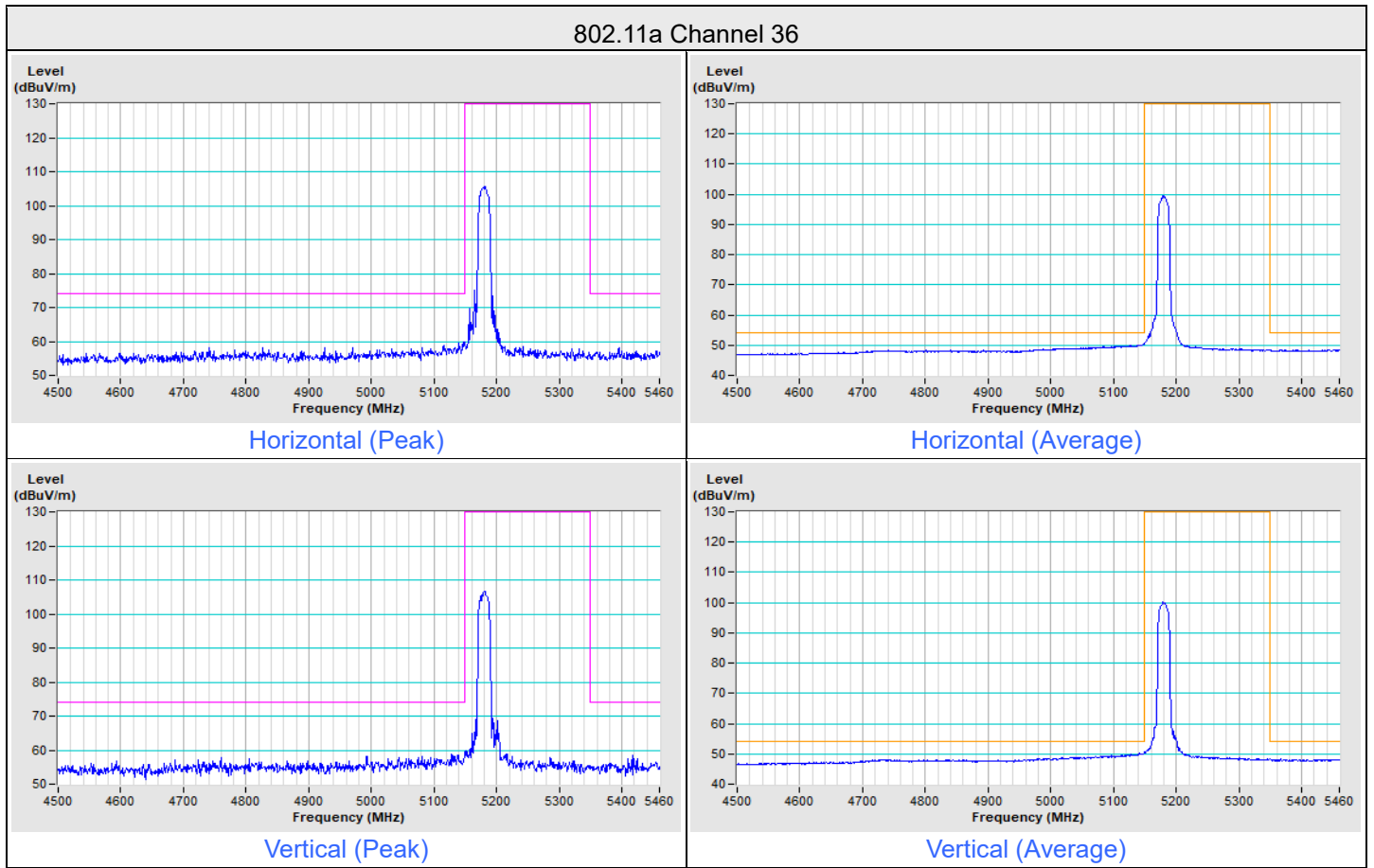
Remarks:

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.

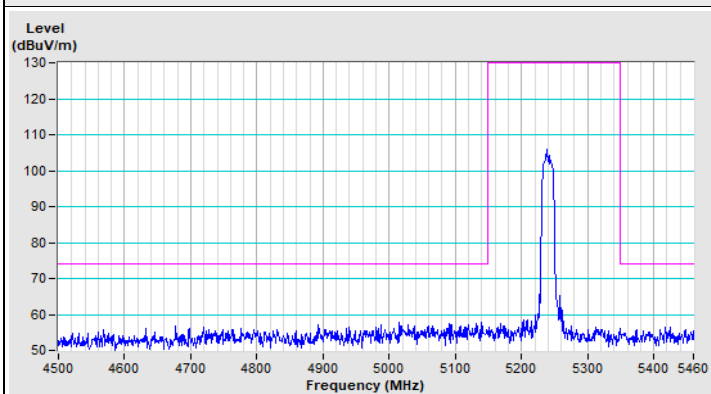


Plot of Band Edge

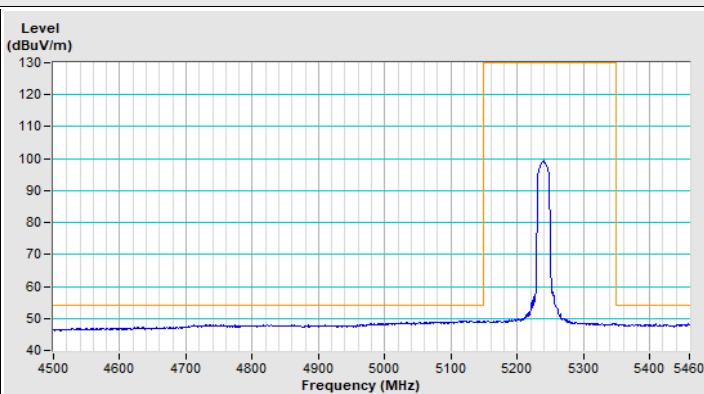
Frequency Range	4.5 GHz ~ 5.46 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
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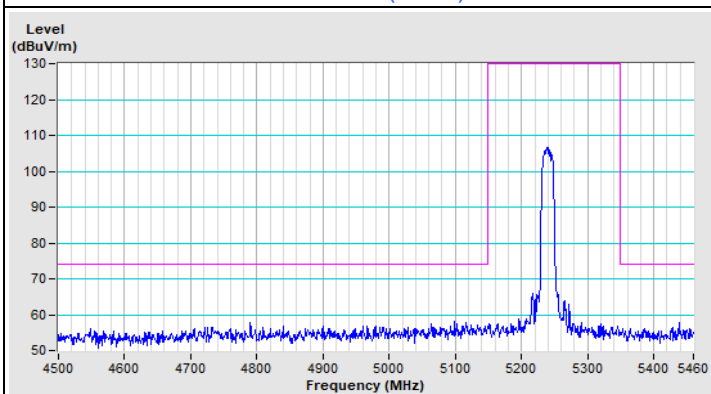
802.11a Channel 48



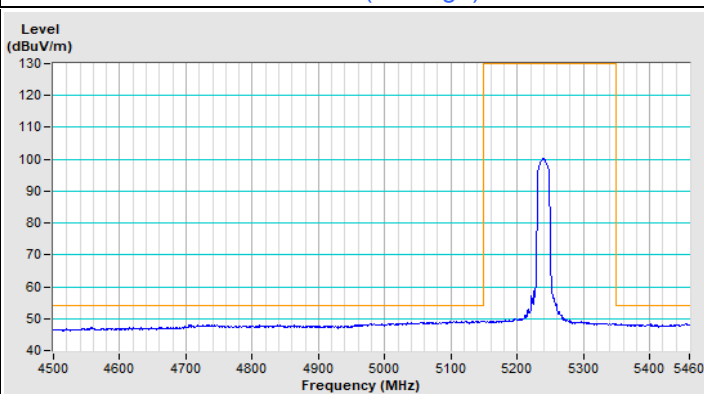
Horizontal (Peak)



Horizontal (Average)



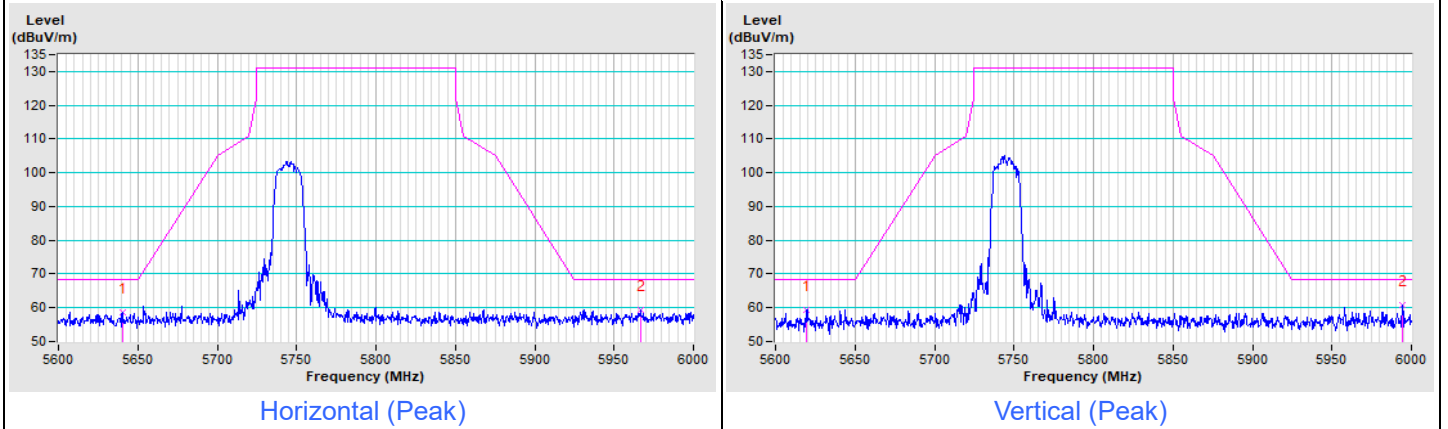
Vertical (Peak)



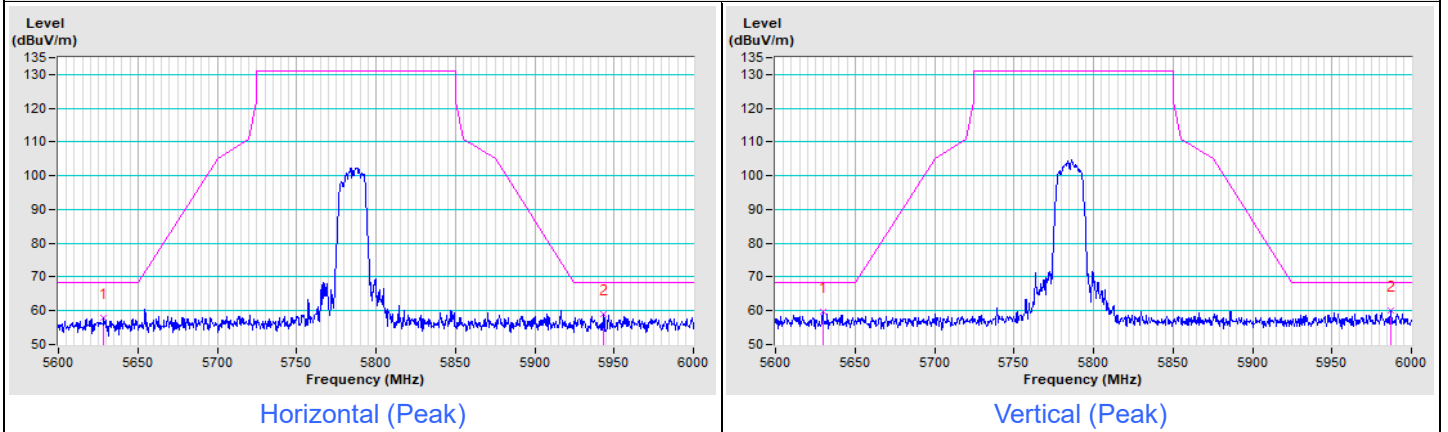
Vertical (Average)

Frequency Range	5.35 GHz ~ 5.95 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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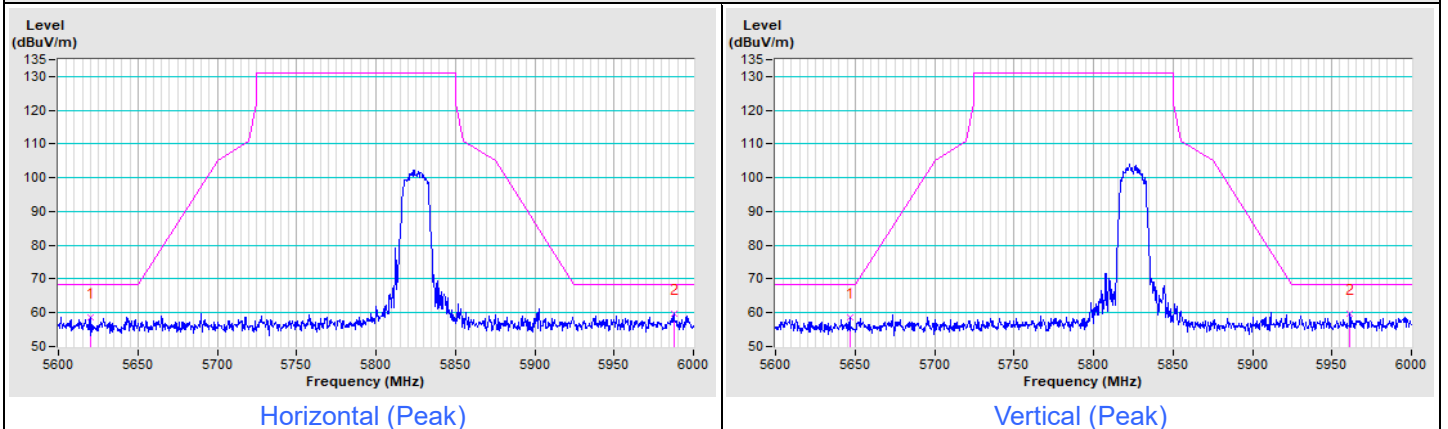
802.11a Channel 149



802.11a Channel 157

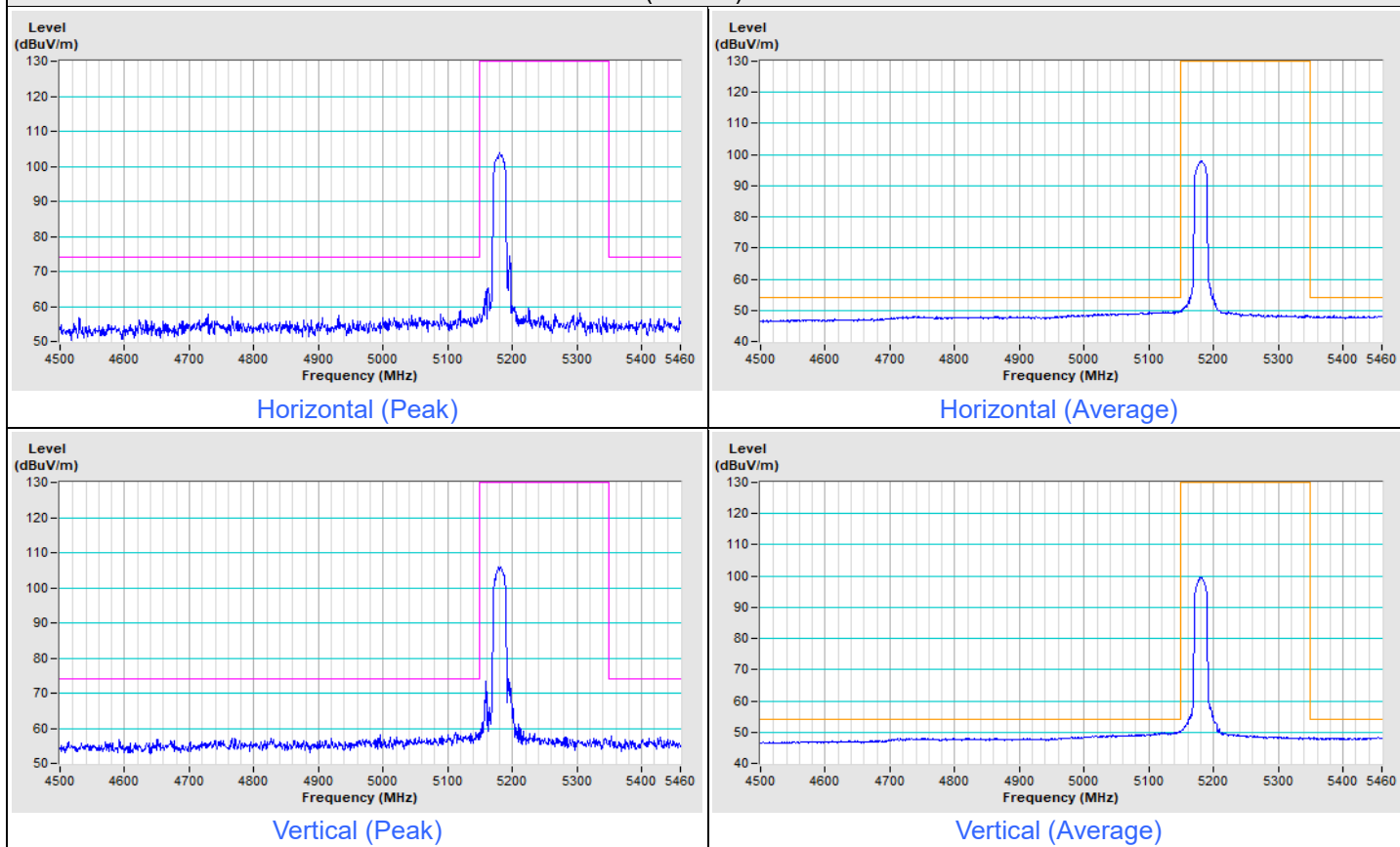


802.11a Channel 165

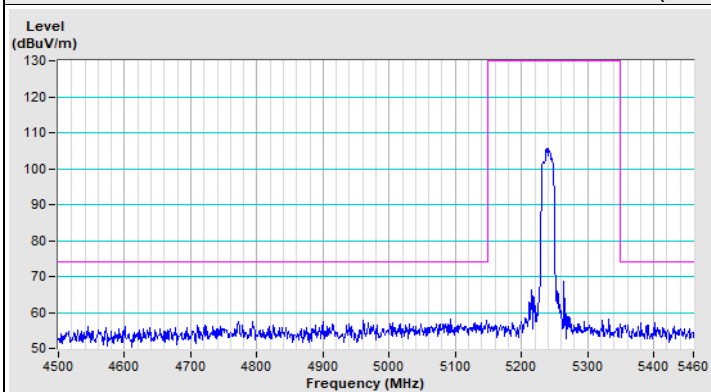


Frequency Range	4.5 GHz ~ 5.46 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
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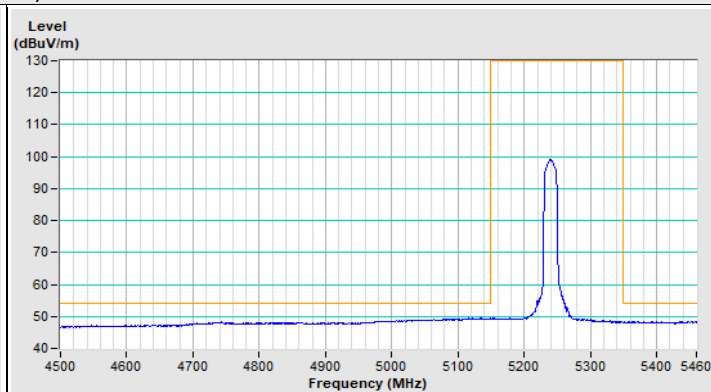
802.11ac (VHT20) Channel 36



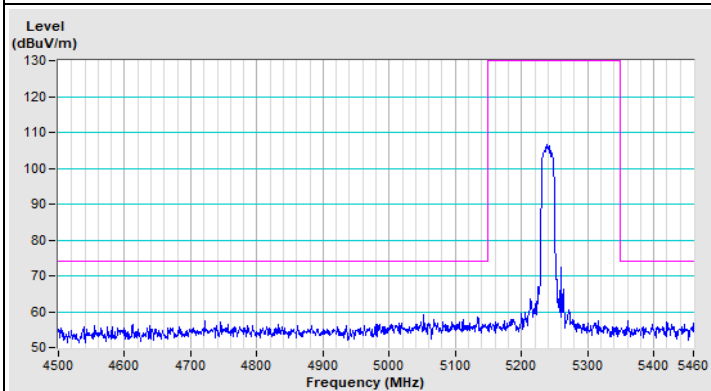
802.11ac (VHT20) Channel 48



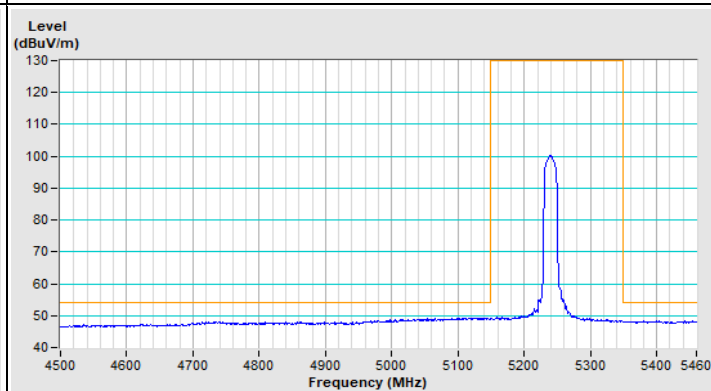
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)

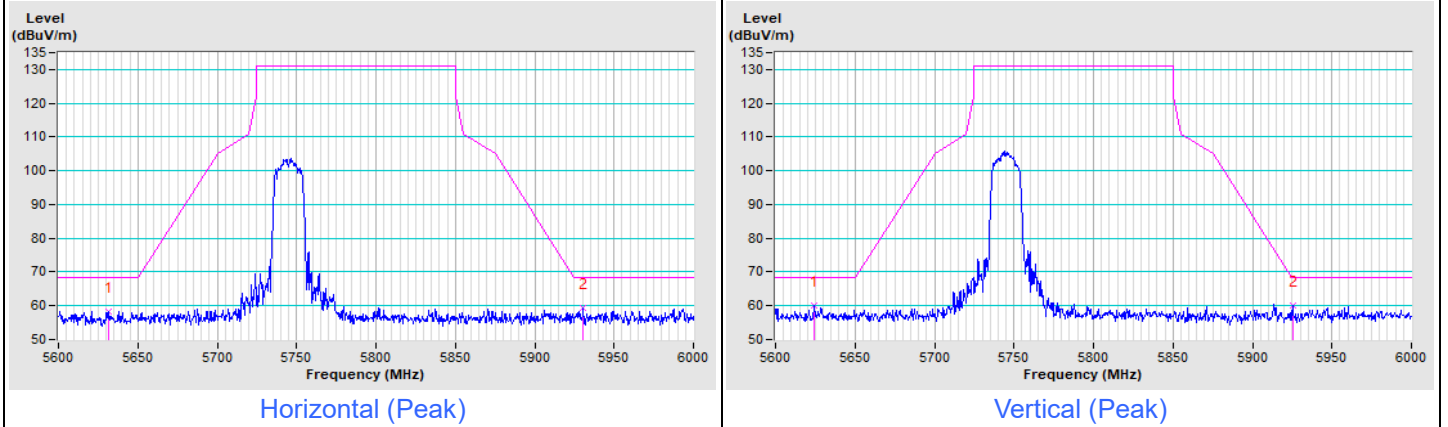


Vertical (Average)

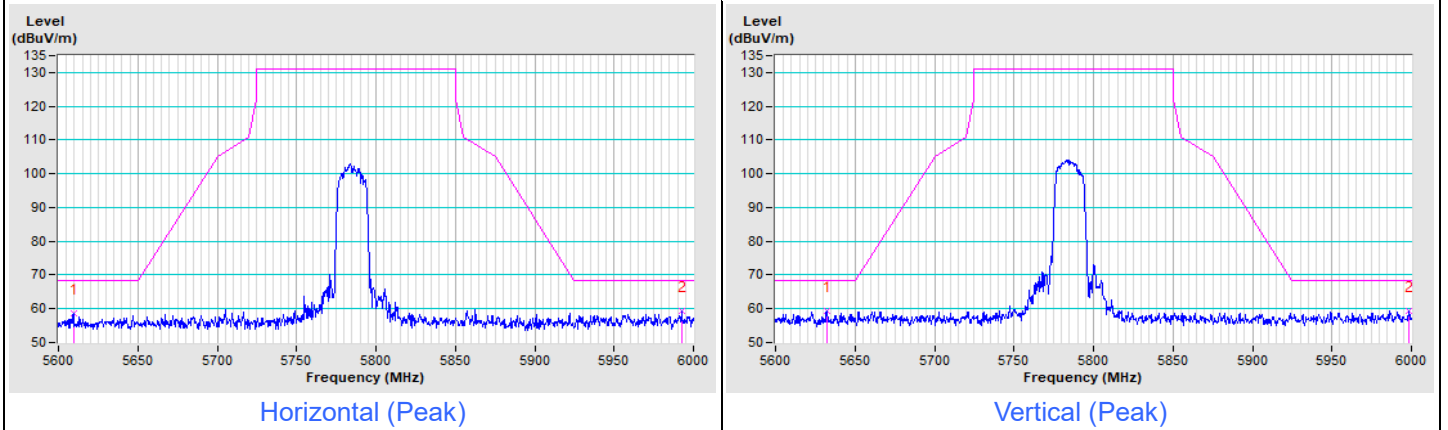


Frequency Range	5.35 GHz ~ 5.95 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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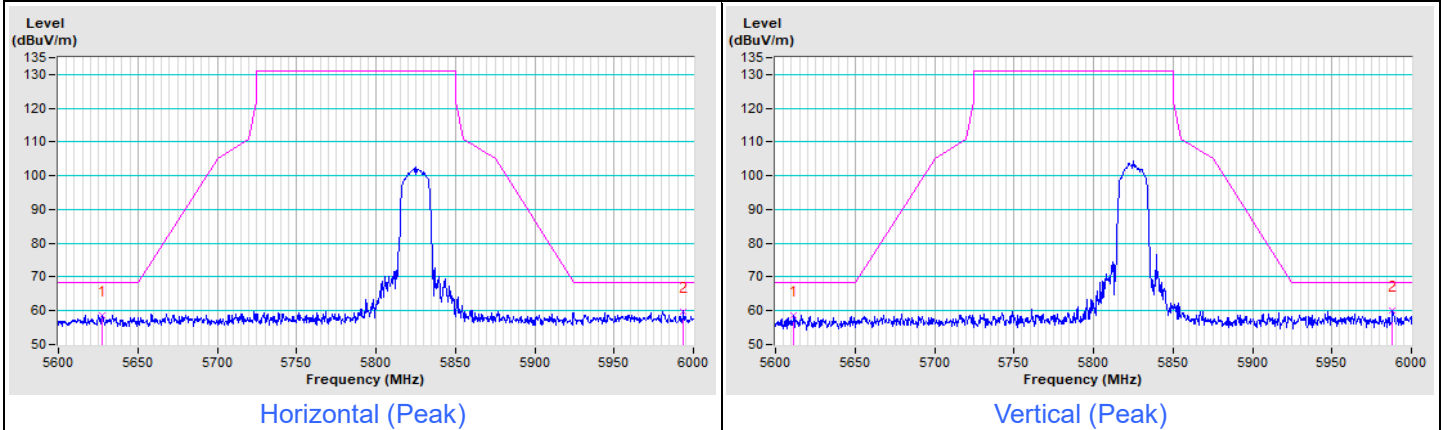
802.11ac (VHT20) Channel 149



802.11ac (VHT20) Channel 157

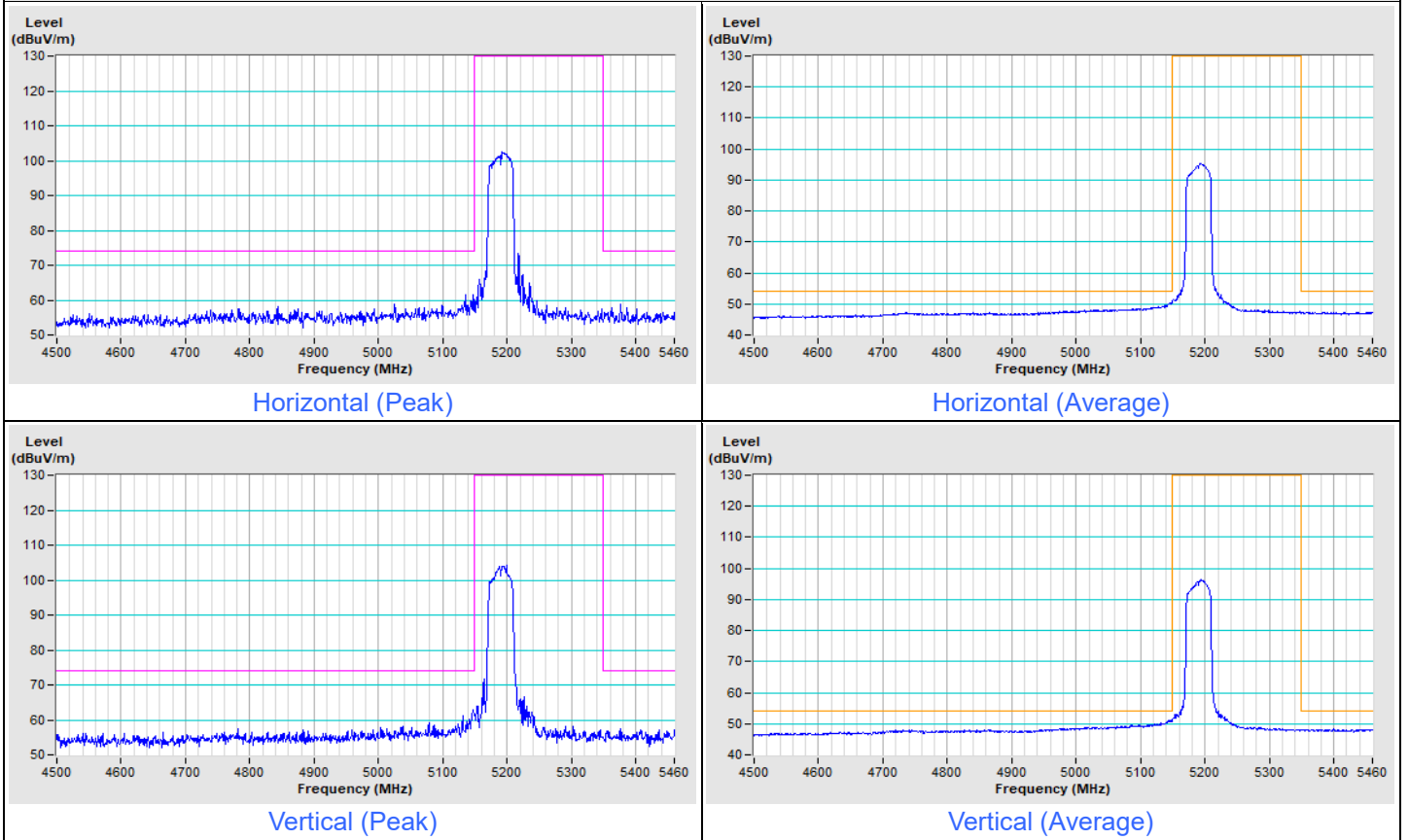


802.11ac (VHT20) Channel 165

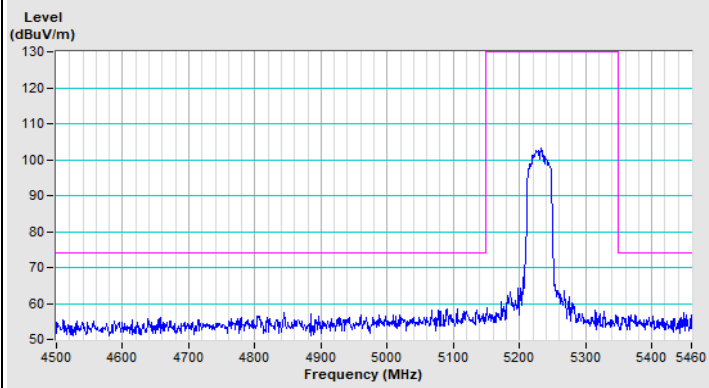


Frequency Range	4.5 GHz ~ 5.46 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
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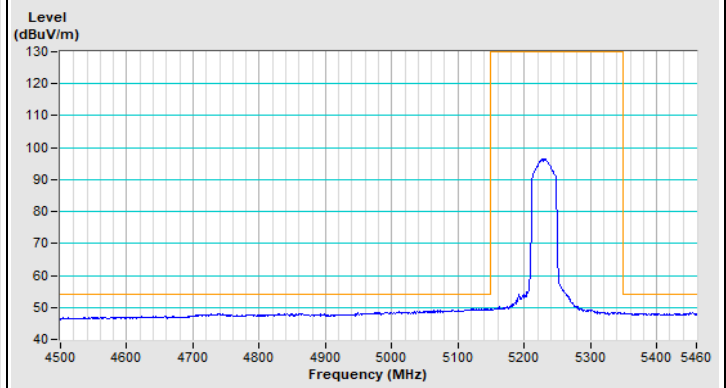
802.11ac (VHT40) Channel 38



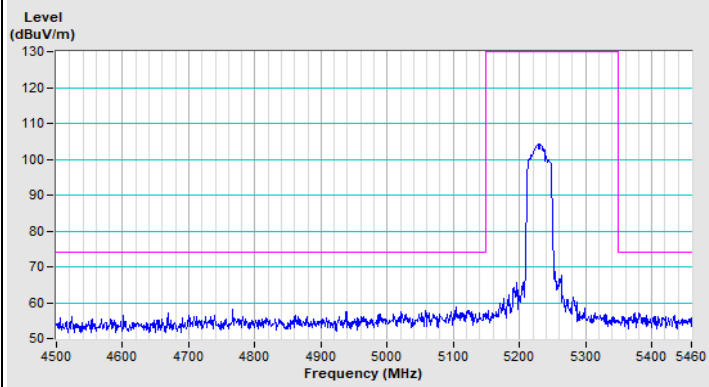
802.11ac (VHT40) Channel 46



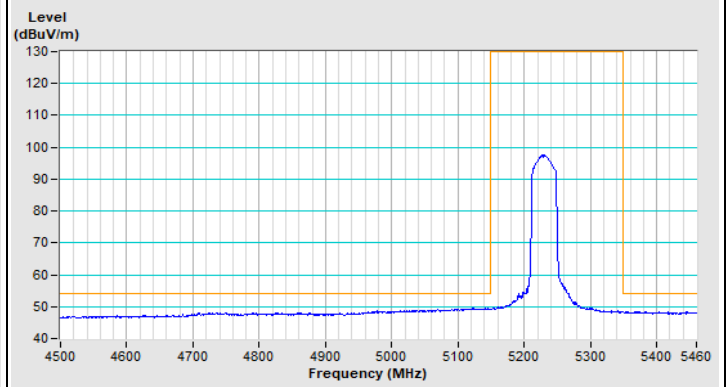
Horizontal (Peak)



Horizontal (Average)



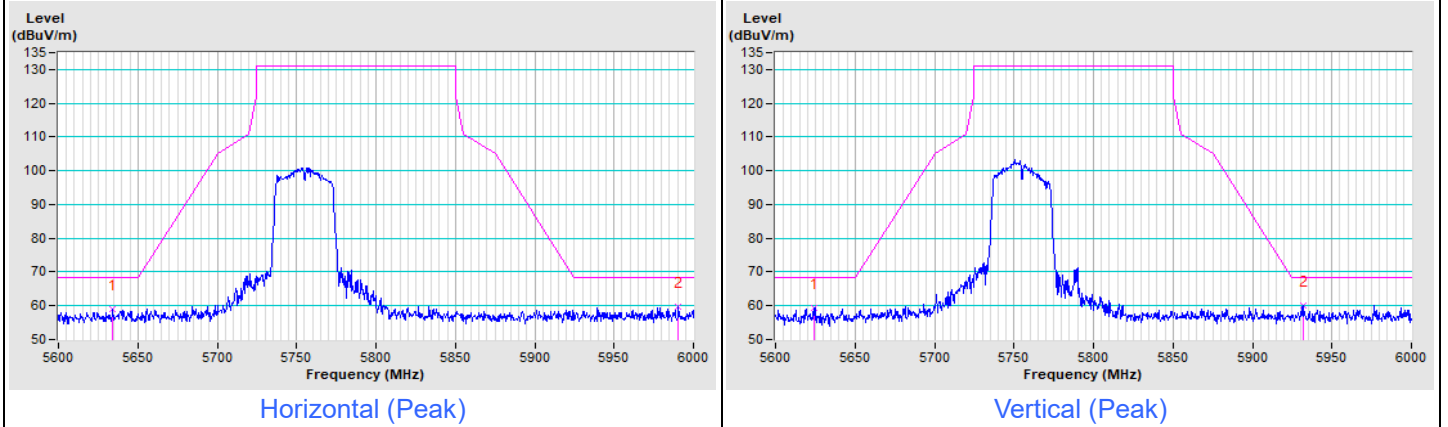
Vertical (Peak)



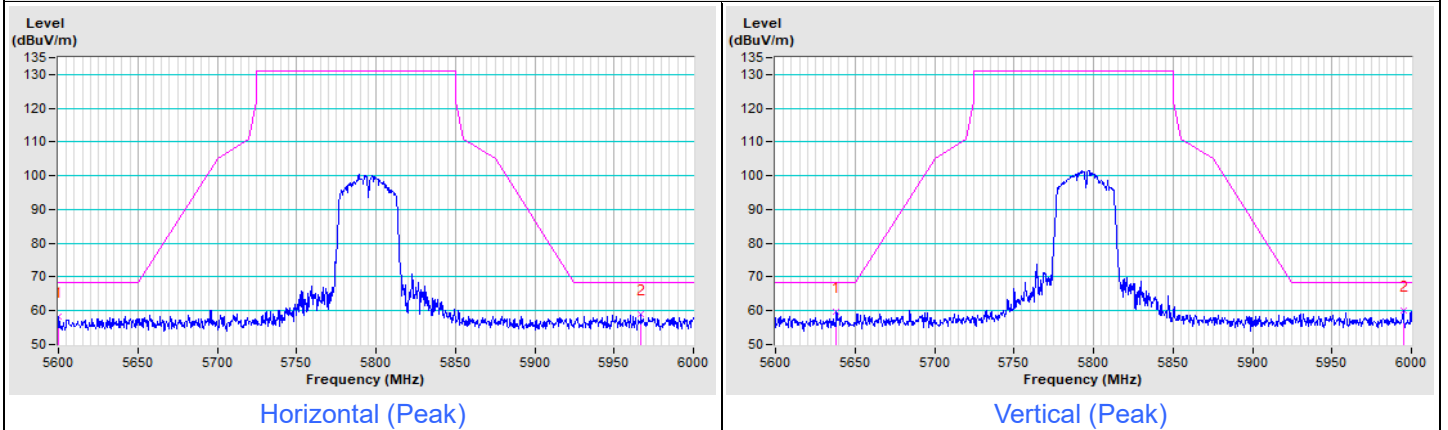
Vertical (Average)

Frequency Range	5.35 GHz ~ 5.95 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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802.11ac (VHT40) Channel 151

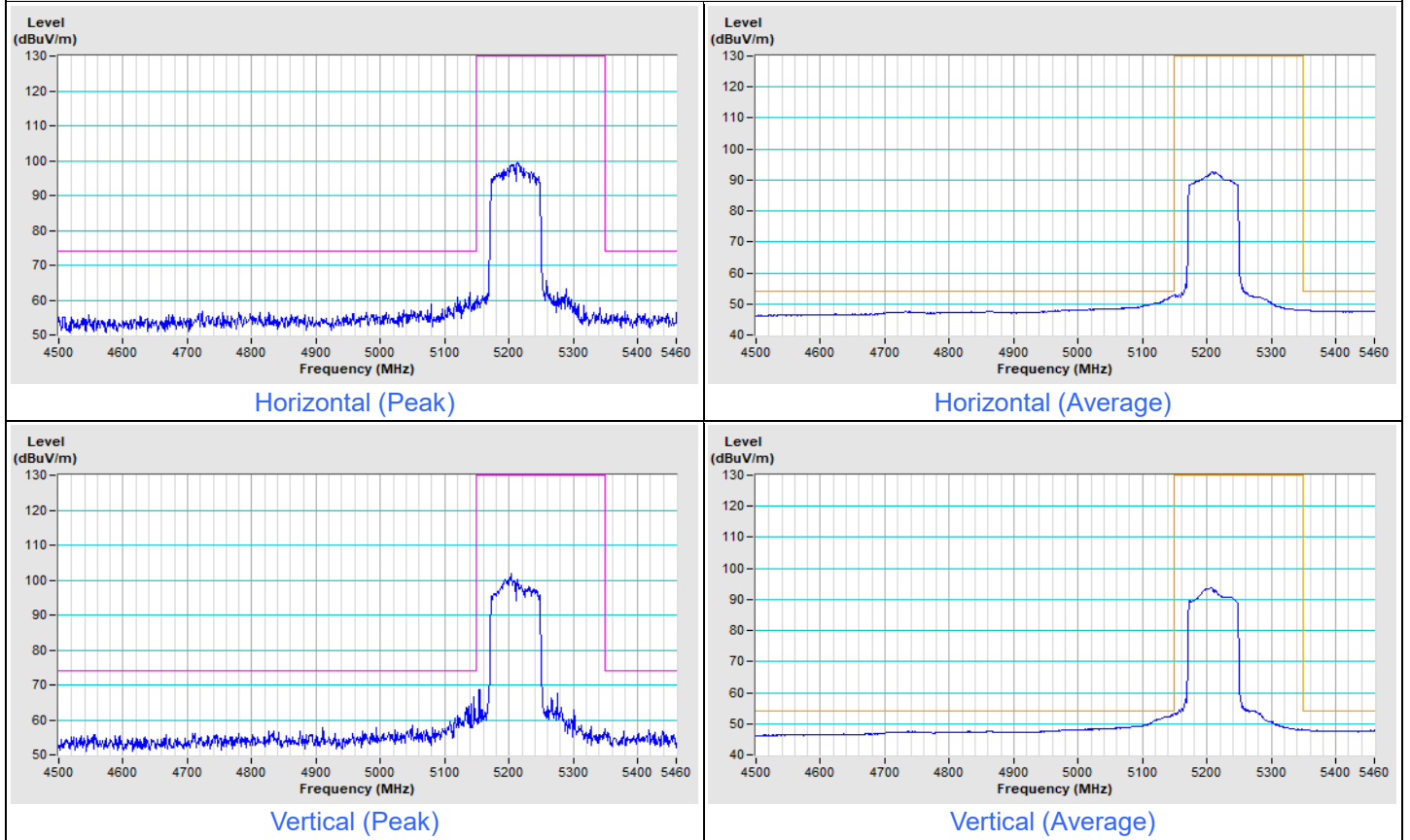


802.11ac (VHT40) Channel 159



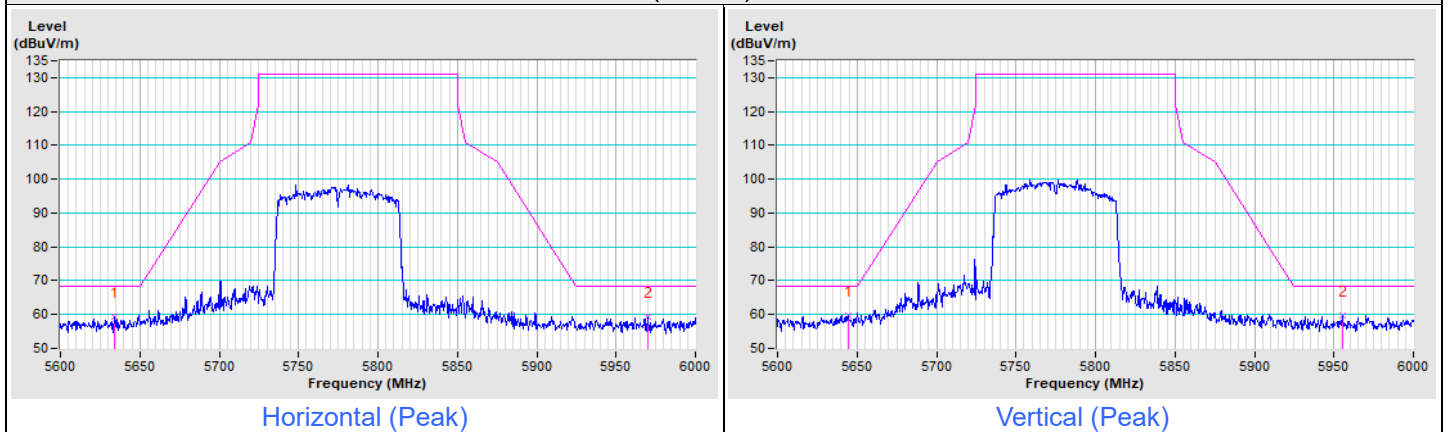
Frequency Range	4.5 GHz ~ 5.46 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=2 kHz, DET=Peak
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802.11ac (VHT80) Channel 42



Frequency Range	5.35 GHz ~ 5.95 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

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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