

TEST REPORT

CERTIFICATE OF CONFORMITY

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

Report No.: RFBEOP-WTW-P22030407-1

FCC ID: NKR-LS04

Model No.: S501R0-01

Received Date: 2022/3/26

Test Date: 2022/5/19 ~ 2022/5/27

Issued Date: 2022/7/8

Applicant: Wistron NeWeb Corporation

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

Designation Number:

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

FCC Registration / 281270 / TW0032

Designation Number:

Approved by: Jeremy Lin, **Date:** 2022/7/8
Jeremy Lin / Project Engineer

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Prepared by : Celine Chou / Senior Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBEOP-WTW-P22030407-1	Original release.	2022/7/8

1 Certificate

Product: home security gateway

Brand: ADT

Test Model: S501R0-01

Sample Status: Engineering sample

Applicant: Wistron NeWeb Corporation

Test Date: 2022/5/19 ~ 2022/5/27

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

Measurement ANSI C63.10-2013

procedure: KDB 789033 D02 General UNII Test Procedure New Rules v02r01
KDB 662911 D01 Multiple Transmitter Output v02r01

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

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
Clause	Test Item	Result	Remark
15.407(a)(2)	26 dB Bandwidth	Pass	For U-NII-2A U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.
15.407(a)(1/2/3)	RF Output Power	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	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	Pass	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 -10.68 dB at 0.44999 MHz
15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -11.7 dB at 64.92 MHz
15.407(b)(1/2/3/4(i)/10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.3 dB at 5150.00 MHz
15.203	Antenna Requirement	Pass	Antenna connector is ipex(MHF) not a standard connector.

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

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

Measurement	Specification	Expanded Uncertainty (k=2) (±)
AC Power Conducted Emissions	9 kHz ~ 30 MHz	2.79 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.00 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	home security gateway
Brand	ADT
Test Model	S501R0-01
Status of EUT	Engineering sample
Power Supply Rating	12Vdc from adapter 3.65Vdc from battery
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	OFDM
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps 802.11ac: up to 866.7Mbps
Operating Frequency	5180 ~ 5240 MHz 5260 ~ 5320 MHz 5500 ~ 5720 MHz 5745 ~ 5825 MHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20): 25 802.11n (HT40), 802.11ac (VHT40): 12 802.11ac (VHT80): 6
Output Power	5180 ~ 5240 MHz : 241.854 mW (23.84 dBm) 5260 ~ 5320 MHz : 213.386 mW (23.29 dBm) 5500 ~ 5720 MHz : 243.941 mW (23.87 dBm) 5745 ~ 5825 MHz : 352.396 mW (25.47 dBm)
EUT Category	Client device

Note:

1. The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter	ADT	1A101-1215-01	I/P: 100-120Vac, 50Hz-60Hz, 500mA O/P: 12Vdc, 1.5A 1.5m cable without core attached on adapter
Battery	TENERGY	34262	3.65Vdc, 2400mAh, 8.76Wh

2. The EUT contains certified LTE module (Brand: Telit, Model: LE910C4-WWX, FCC ID: RI7LE910CXWWX).

3. Simultaneously transmission condition.

Condition	Technology
1	WLAN 2.4G + BLE + Zigbee + DECT + WWAN
2	WLAN 2.4G + BLE + Z-wave + DECT + WWAN
3	WLAN 5G + BLE + Zigbee + DECT + WWAN
4	WLAN 5G + BLE + Z-wave + DECT + WWAN

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

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Antenna No.	Brand	Model	Frequency Range	Antenna Type	Connector Type	Antenna Gain (dBi)
WIFI1	WNC	LS04	2.4~2.4835GHz	Dipole	ipex(MHF)	5.19
			5.15~5.25GHz	Dipole	ipex(MHF)	5.36
			5.25~5.35GHz	Dipole	ipex(MHF)	4.68
			5.47~5.725GHz	Dipole	ipex(MHF)	4.22
			5.725~5.85GHz	Dipole	ipex(MHF)	4.83
WIFI2	WNC	LS04	2.4~2.4835GHz	Dipole	ipex(MHF)	4.05
			5.15~5.25GHz	Dipole	ipex(MHF)	5.56
			5.25~5.35GHz	Dipole	ipex(MHF)	5.36
			5.47~5.725GHz	Dipole	ipex(MHF)	5.54
			5.725~5.85GHz	Dipole	ipex(MHF)	5.52

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

2. The EUT incorporates a MIMO function:

5 GHz Band		
Modulation Mode	Tx & Rx Configuration	
802.11a	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
802.11ac (VHT20)	2TX	2RX
802.11ac (VHT40)	2TX	2RX
802.11ac (VHT80)	2TX	2RX

Note: The modulation and bandwidth are similar for 802.11n mode for 20 MHz (40 MHz), 802.11ac mode for 20 MHz (40 MHz, 80 MHz), therefore the manufacturer will control the power for 802.11n mode is the same as the 802.11ac or more lower than it and investigated worst case to representative mode in test report.

3.3 Channel List

FOR 5180 ~ 5320 MHz

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

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

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

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

2 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
42	5210 MHz	58	5290 MHz

FOR 5500 ~ 5720 MHz

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

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

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

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

3 channels are provided for 802.11ac (VHT80):

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

FOR 5745 ~ 5825 MHz:

5 channels are provided for 802.11a, 802.11n (HT20) and 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) and 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

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

Test Item	Mode	Tested Channel	Modulation	Data Rate Parameter
AC Power Conducted Emissions	802.11ac (VHT20)	165	BPSK	MCS0
Unwanted Emissions below 1 GHz	802.11ac (VHT20)	165	BPSK	MCS0
Unwanted Emissions above 1 GHz	802.11a	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	6Mb/s
	802.11ac (VHT20)	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	MCS0
	802.11ac (VHT40)	38, 46, 54, 62, 102, 110, 134, 142, 151, 159	BPSK	MCS0
	802.11ac (VHT80)	42, 58, 106, 122, 138, 155	BPSK	MCS0
RF Output Power	802.11a	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	6Mb/s
	802.11n (HT20)	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	MCS0
	802.11n (HT40)	38, 46, 54, 62, 102, 110, 134, 142, 151, 159	BPSK	MCS0
	802.11ac (VHT20)	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	MCS0
	802.11ac (VHT40)	38, 46, 54, 62, 102, 110, 134, 142, 151, 159	BPSK	MCS0
	802.11ac (VHT80)	42, 58, 106, 122, 138, 155	BPSK	MCS0

Test Item	Mode	Tested Channel	Modulation	Data Rate Parameter
Occupied Bandwidth / Power Spectral Density	802.11a	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	6Mb/s
	802.11ac (VHT20)	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	MCS0
	802.11ac (VHT40)	38, 46, 54, 62, 102, 110, 134, 142, 151, 159	BPSK	MCS0
	802.11ac (VHT80)	42, 58, 106, 122, 138, 155	BPSK	MCS0
26 dB Bandwidth	802.11a	36, 40, 48, 52, 60, 64, 100, 116, 140, 144	BPSK	6Mb/s
	802.11ac (VHT20)	36, 40, 48, 52, 60, 64, 100, 116, 140, 144	BPSK	MCS0
	802.11ac (VHT40)	38, 46, 54, 62, 102, 110, 134, 142	BPSK	MCS0
	802.11ac (VHT80)	42, 58, 106, 122, 138	BPSK	MCS0
6 dB Bandwidth	802.11a	144, 149, 157, 165	BPSK	6Mb/s
	802.11ac (VHT20)	144, 149, 157, 165	BPSK	MCS0
	802.11ac (VHT40)	142, 151, 159	BPSK	MCS0
	802.11ac (VHT80)	138, 155	BPSK	MCS0
Frequency Stability	802.11a	36	un-modulation	-

3.5 Duty Cycle of Test Signal

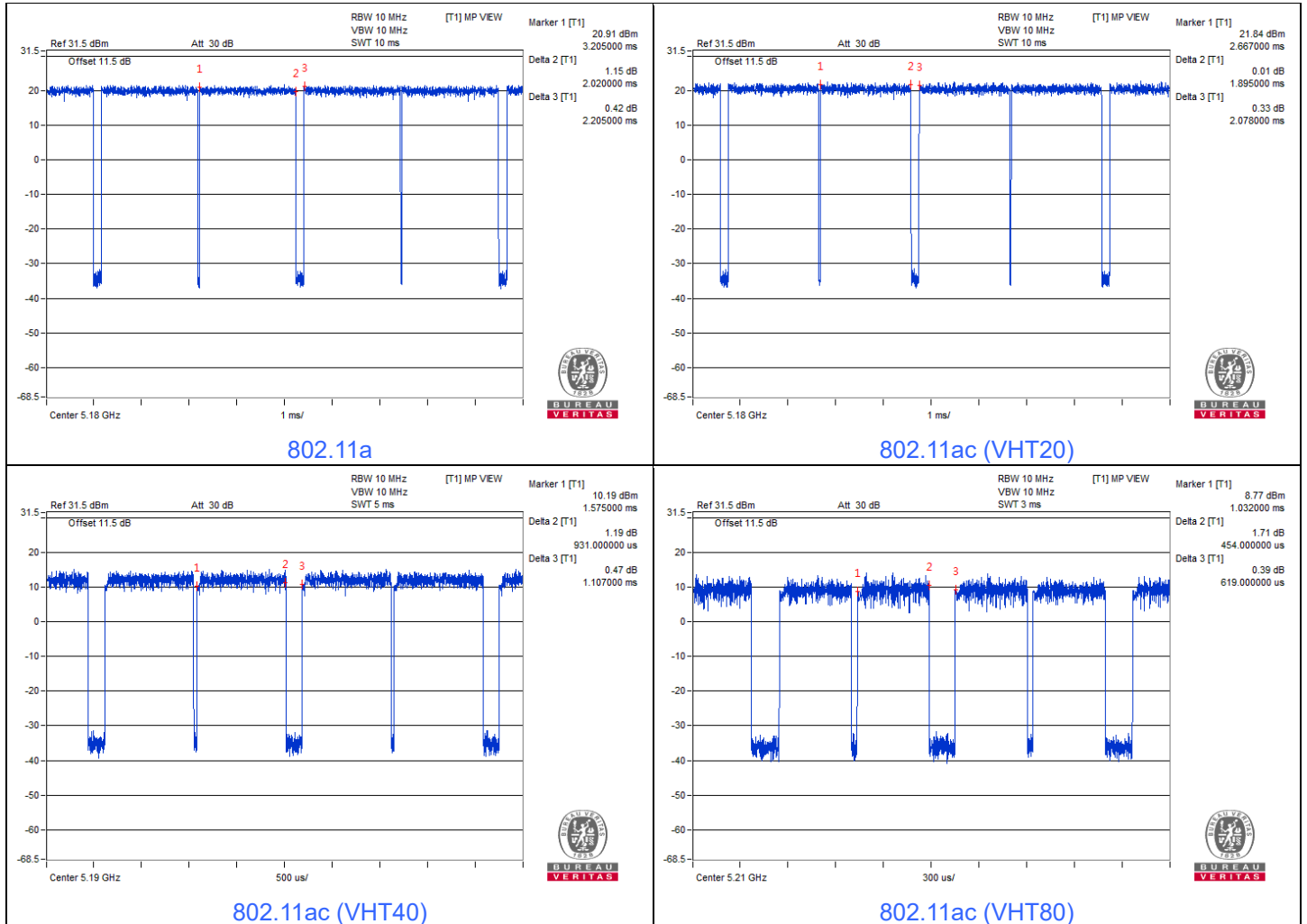
Duty cycle of test signal is < 98 %, duty factor shall be considered.

802.11a: Duty cycle = 2.02 ms / 2.205 ms x 100% = 91.6%, duty factor = 10 * log (1/Duty cycle) = 0.38 dB

802.11ac (VHT20): Duty cycle = 1.895 ms / 2.078 ms x 100% = 91.2%, duty factor = 10 * log (1/Duty cycle) = 0.40 dB

802.11ac (VHT40): Duty cycle = 0.931 ms / 1.107 ms x 100% = 84.1%, duty factor = 10 * log (1/Duty cycle) = 0.75 dB

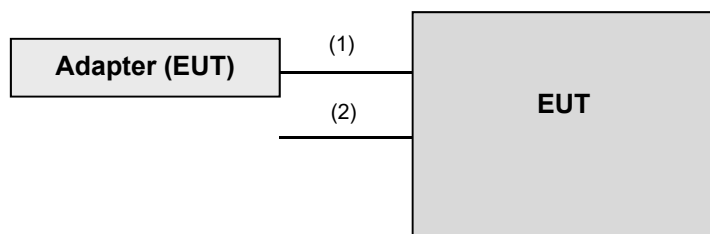
802.11ac (VHT80): Duty cycle = 0.454 ms / 0.619 ms x 100% = 73.3%, duty factor = 10 * log (1/Duty cycle) = 1.35 dB



3.6 Test Program Used and Operation Descriptions

Controlling software (QRCT4 (4.0.00177.0)) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.7 Connection Diagram of EUT and Peripheral Devices



3.8 Configuration of Peripheral Devices and Cable Connections

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	Power cable	1	1.5	N	0	Accessory of EUT
2	USB type C cable	1	0.2	Y	0	Provided by client

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 26 dB Bandwidth

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Software BV	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	100979	2022/3/25	2023/3/24

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2022/5/27

4.2 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
3-channel DC power supply JIN YIH Technology	ODP3033	ODP30332128138	N/A	N/A
AC Power Source ExTech	CFW-105	E000603	N/A	N/A
Digital Multimeter Fluke	87-III	70360755	2021/7/8	2022/7/7
Peak Power Analyzer KEYSIGHT	8990B	MY51000485	2022/1/18	2023/1/17
Software BV	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	100979	2022/3/25	2023/3/24
Temperature & Humidity Chamber TERCHY	HRM-120RF	931022	2022/1/3	2023/1/2
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY55190004/MY55190007/MY55210005	2021/7/12	2022/7/11
Wideband Power Sensor(N1923A) KEYSIGHT	N1923A	MY58020002	2022/1/17	2023/1/16

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2022/5/27

4.3 Power Spectral Density

Refer to section 4.1 to get information of the instruments.

4.4 6 dB Bandwidth

Refer to section 4.1 to get information of the instruments.

4.5 Occupied Bandwidth

Refer to section 4.1 to get information of the instruments.

4.6 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
AC Power Source ExTech	CFW-105	E000603	N/A	N/A
Digital Multimeter Fluke	87-III	70360755	2021/7/8	2022/7/7
Software BV	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	100979	2022/3/25	2023/3/24
Temperature & Humidity Chamber TERCHY	HRM-120RF	931022	2022/1/3	2023/1/2

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2022/5/27

4.7 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
DC LISN R&S	ESH3-Z6	100219	2021/7/25	2022/7/24
		844950/018	2021/7/25	2022/7/24
DC-LISN SCHWARZBECK MESS- ELETRONIK	NNBM 8126G	8126G-069	2021/11/10	2022/11/9
LISN ROHDE & SCHWARZ	ENV216	101826	2022/3/14	2023/3/13
LISN R&S	ESH3-Z5	100311	2021/9/7	2022/9/6
	ENV216	100072	2021/6/16	2022/6/15
RF Coaxial Cable WOKEN	5D-FB	Cable-cond1-01	2022/1/15	2023/1/14
Software BVADT	BVADT_Cond_ V7.3.7.4	N/A	N/A	N/A
Test Receiver Rohde&Schwarz	ESCI	100613	2021/12/3	2022/12/2
V-LISN Schwarzbeck	NNBL 8226-2	8226-142	2021/8/20	2022/8/19

Notes:

1. The test was performed in HY - Conduction 1.
2. Tested Date: 2022/5/27

4.8 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower Max-Full	MFT-151SS-0.5T	N/A	N/A	N/A
Bi-log Broadband Antenna Schwarzbeck	VULB9168	9168-1213	2021/10/27	2022/10/26
Loop Antenna TESEQ	HLA 6121	45745	2021/7/21	2022/7/20
Loop Antenna EMCI	EM-6879	269	2021/9/16	2022/9/15
Pre_Amplifier EMCI	EMC330N	980782	2022/1/17	2023/1/16
Pre-amplifier EMCI	EMC001340	980201	2021/9/15	2022/9/14
RF Coaxial Cable EMCI	5D-NM-BM	140903+140902	2022/1/15	2023/1/14
	EMCCFD400-NM-NM- 500	201233	2022/1/17	2023/1/16
	EMCCFD400-NM-NM- 3000	201235	2022/1/17	2023/1/16
	EMCCFD400-NM-NM- 9000	201236	2022/1/17	2023/1/16
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Spectrum Analyzer R&S	FSW43	101866	2022/1/14	2023/1/13
Test Receiver R&S	ESR3+	102782	2021/12/10	2022/12/9
Turn Table Max-Full	MF-7802BS	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208674	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 8.
2. Tested Date: 2022/5/25

4.9 Unwanted Emissions above 1 GHz

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

Notes:

1. The test was performed in WM - 966 chamber 8.
2. Tested Date: 2022/5/19 ~ 2022/5/25

5 Limits of Test Items

5.1 26 dB Bandwidth

The results are for reference only.

5.2 RF Output Power

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

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

*B is the 26 dB emission bandwidth in megahertz

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

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

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

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

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

5.3 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-2A	11 dBm/ MHz
U-NII-2C	11 dBm/ MHz
U-NII-3	30 dBm/ 500 kHz

5.4 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.

5.5 Occupied Bandwidth

The results are for reference only.

5.6 Frequency Stability

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

5.7 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.

5.8 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).

5.9 Unwanted Emissions above 1 GHz

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

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

Notes:

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

Limits of unwanted emission out of the restricted bands

Applicable To		Limit	
789033 D02 General UNII Test Procedure New Rules v02r01		Field Strength at 3 m	
		PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK: -27 (dBm/MHz) ^{*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.	

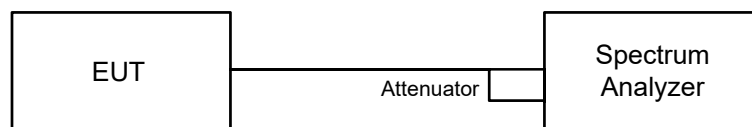
Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

6 Test Arrangements

6.1 26 dB Bandwidth

6.1.1 Test Setup

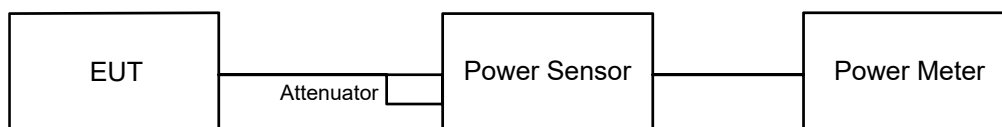


6.1.2 Test Procedure

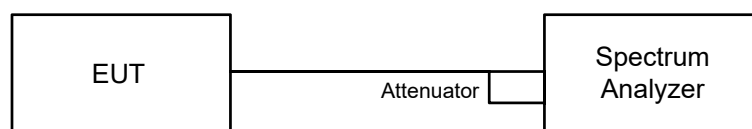
- Set RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW.
- Detector = Peak.
- Trace mode = max hold.
- Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

6.2 RF Output Power

6.2.1 Test Setup



For channel straddling:



6.2.2 Test Procedure

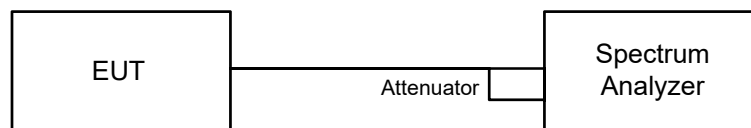
Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst and set the detector to average. Duty factor is not added to measured value.

Method SA-2A

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS
- Sweep points ≥ $[2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing ≤ RBW / 2, so that narrowband signals are not lost between frequency bins.)
- Manually set sweep time ≥ $10 \times (\text{number of points in sweep}) \times (\text{total on/off period of the transmitted signal})$.
- Perform a single sweep.
- Record the max value and add $10 \log (1/\text{duty cycle})$.

6.3 Power Spectral Density

6.3.1 Test Setup



6.3.2 Test Procedure

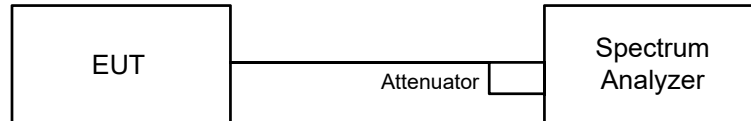
For specified measurement bandwidth 1 MHz:

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/duty cycle).

6.4 6 dB Bandwidth

6.4.1 Test Setup

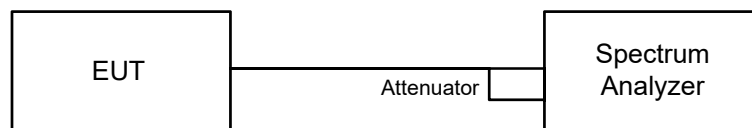


6.4.2 Test Procedure

- Set resolution bandwidth (RBW) = 100 kHz.
- Set the video bandwidth (VBW) \geq 3 x 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.

6.5 Occupied Bandwidth

6.5.1 Test Setup

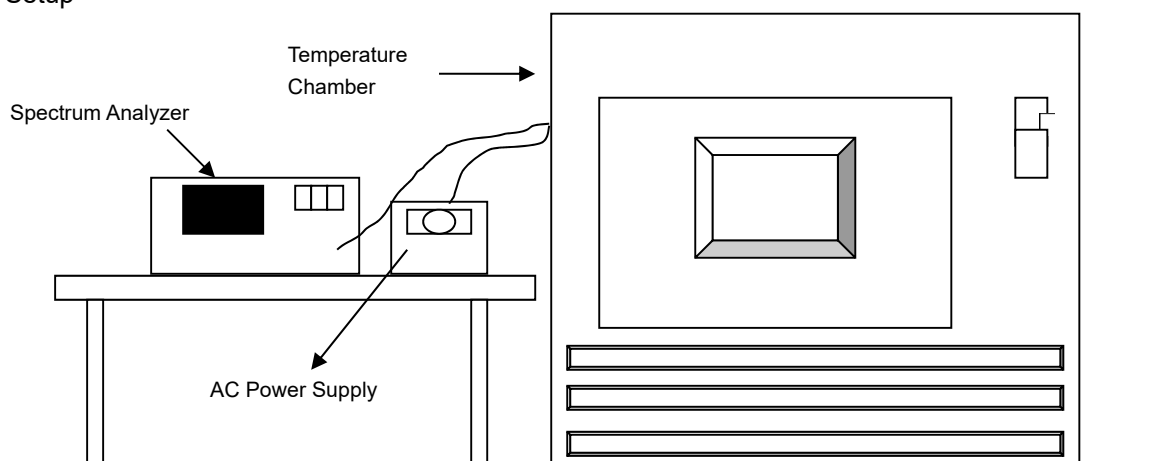


6.5.2 Test Procedure

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.

6.6 Frequency Stability

6.6.1 Test Setup

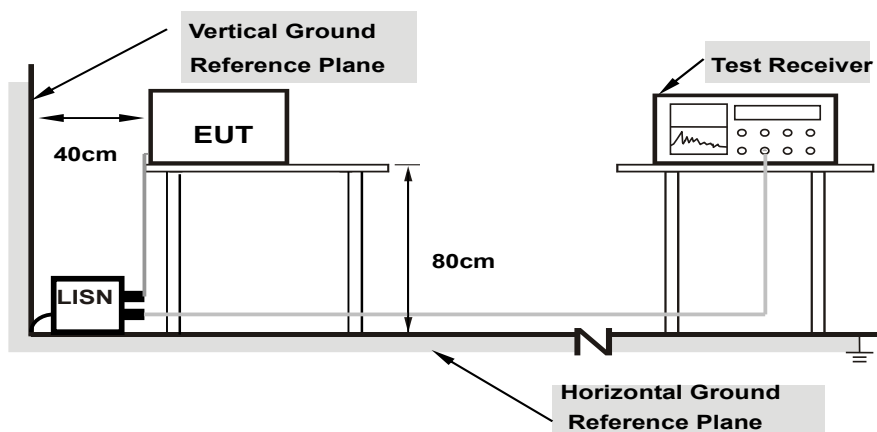


6.6.2 Test Procedure

- a. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
- b. Turn the EUT on and couple its output to a spectrum analyzer.
- c. Turn the EUT off and set the chamber to the highest temperature specified.
- d. 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.
- e. Repeat step (d) with the temperature chamber set to the next desired temperature until measurements down to the lowest specified temperature have been completed.
- f. 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.

6.7 AC Power Conducted Emissions

6.7.1 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).

6.7.2 Test Procedure

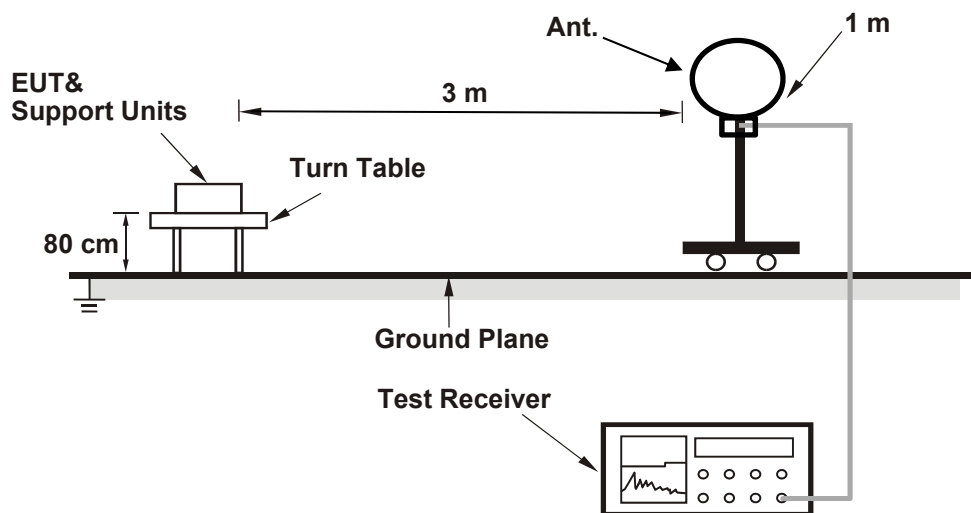
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50 uH of coupling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

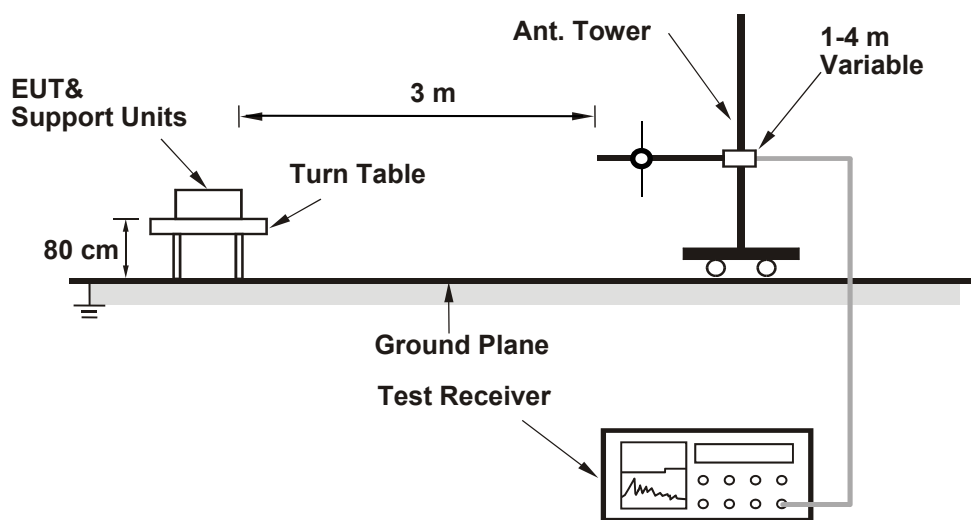
6.8 Unwanted Emissions below 1 GHz

6.8.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



6.8.2 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.

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz at frequency below 30 MHz.
2. 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.

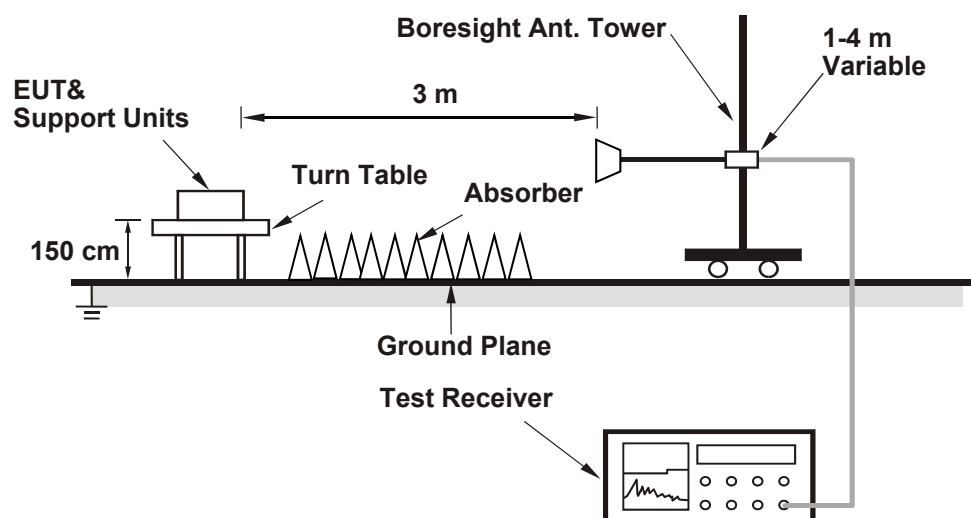
Notes:

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.

6.9 Unwanted Emissions above 1 GHz

6.9.1 Test Setup

For Radiated emission above 1 GHz



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

6.9.2 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 26 dB Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Vincent Huang / Jisyong Wang
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802.11a

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	22.08	22.19
60	5300	22.06	21.78
64	5320	22.25	21.88
100	5500	21.90	21.85
116	5580	22.04	22.19
140	5700	22.23	21.91
144 (U-NII-2C)	5720	15.79	15.88

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
52	5260	22.08	24.43 > 24
60	5300	21.78	24.38 > 24
64	5320	21.88	24.4 > 24
100	5500	21.85	24.39 > 24
116	5580	22.04	24.43 > 24
140	5700	21.91	24.4 > 24
144 (U-NII-2C)	5720	15.79	22.98 < 24

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

802.11ac (VHT20)

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	22.24	22.54
60	5300	22.45	22.27
64	5320	22.27	22.40
100	5500	22.66	22.61
116	5580	21.99	22.67
140	5700	23.96	22.67
144 (U-NII-2C)	5720	16.09	16.28

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
52	5260	22.24	24.47 > 24
60	5300	22.27	24.47 > 24
64	5320	22.27	24.47 > 24
100	5500	22.61	24.54 > 24
116	5580	21.99	24.42 > 24
140	5700	22.67	24.55 > 24
144 (U-NII-2C)	5720	16.09	23.06 < 24

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

802.11ac (VHT40)

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	42.29	42.56
62	5310	42.10	42.53
102	5510	41.85	42.18
110	5550	42.37	46.95
134	5670	42.17	42.42
142 (U-NII-2C)	5710	75.24	72.23

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
54	5270	42.29	27.26 > 24
62	5310	42.10	27.24 > 24
102	5510	41.85	27.21 > 24
110	5550	42.37	27.27 > 24
134	5670	42.17	27.25 > 24
142 (U-NII-2C)	5710	72.23	29.58 > 24

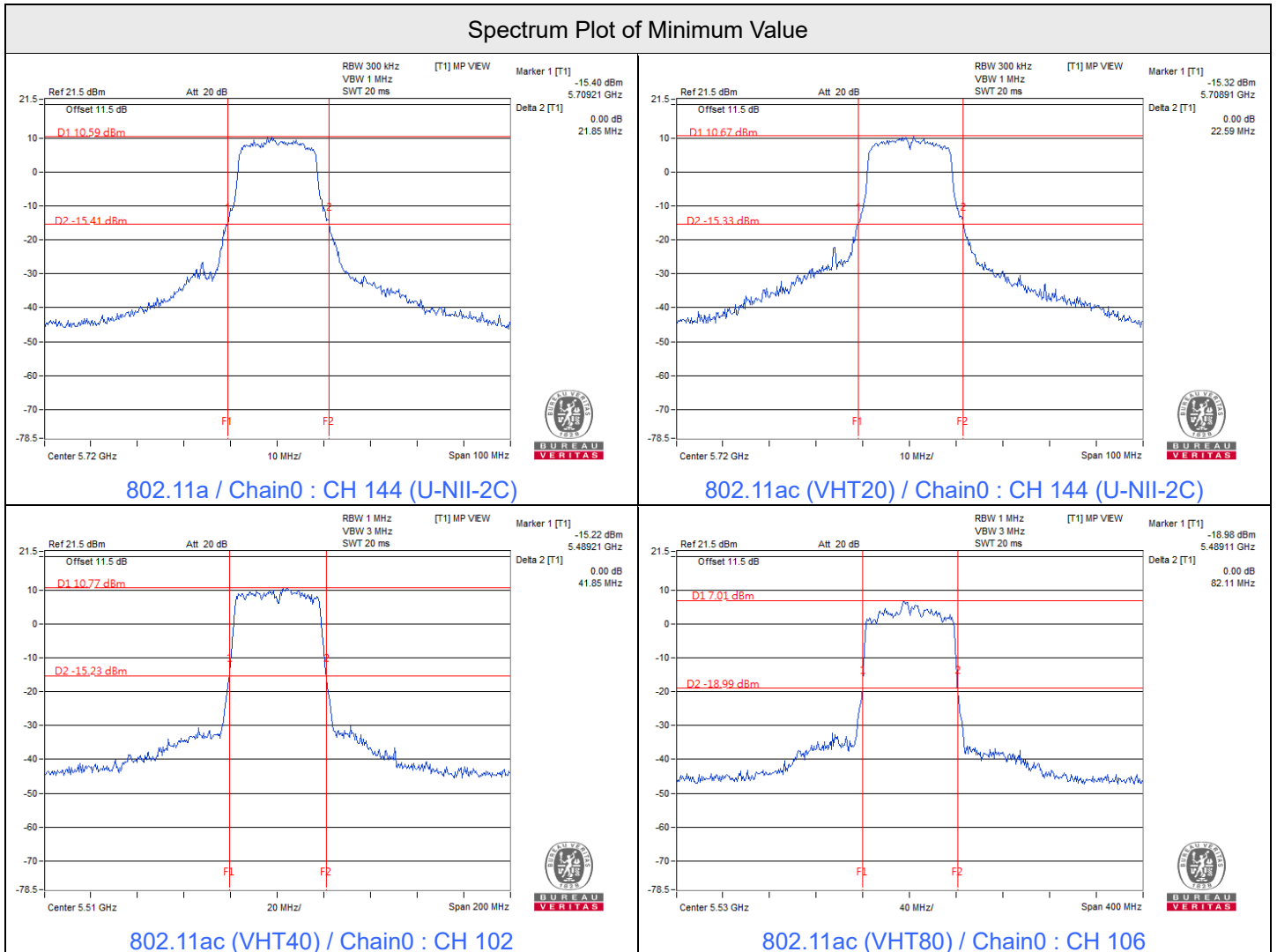
Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

802.11ac (VHT80)

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	83.03	82.58
106	5530	82.11	82.43
122	5610	82.48	83.73
138 (U-NII-2C)	5690	130.31	128.11

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
58	5290	82.58	30.16 > 24
106	5530	82.11	30.14 > 24
122	5610	82.48	30.16 > 24
138 (U-NII-2C)	5690	128.11	32.07 > 24

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.



Notes:

1. For U-NII-2C straddle channel = 5725 MHz - Marker 1

7.2 RF Output Power

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Vincent Huang / Jisyong Wang
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802.11a

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
36	5180	17.72	17.68	117.770	20.71	24	Pass
40	5200	17.77	17.72	118.997	20.76	24	Pass
48	5240	17.96	17.83	123.191	20.91	24	Pass
52	5260	18.52	18.46	141.267	21.50	24	Pass
60	5300	18.56	18.49	142.411	21.54	24	Pass
64	5320	19.03	18.46	150.129	21.76	24	Pass
100	5500	18.12	17.92	126.808	21.03	24	Pass
116	5580	17.64	17.53	114.700	20.60	24	Pass
140	5700	17.91	17.82	122.336	20.88	24	Pass
*144 (U-NII-2C)	5720	16.83	16.84	105.339	20.23	22.98	Pass
*144 (U-NII-3)	5720	9.83	9.78	20.873	13.20	30	Pass
149	5745	22.17	22.21	331.158	25.20	30	Pass
157	5785	22.03	22.36	331.775	25.21	30	Pass
165	5825	22.04	22.58	341.090	25.33	30	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 5.56 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 5.36 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 5.54 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 5.52 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
36	5180	18.24	18.12	131.544	21.19	24	Pass
40	5200	18.50	18.40	139.978	21.46	24	Pass
48	5240	18.80	18.70	149.989	21.76	24	Pass
52	5260	19.31	19.21	168.678	22.27	24	Pass
60	5300	19.10	19.03	161.266	22.08	24	Pass
64	5320	19.17	19.06	163.142	22.13	24	Pass
100	5500	18.23	18.13	131.540	21.19	24	Pass
116	5580	17.46	17.38	110.420	20.43	24	Pass
140	5700	18.31	18.28	135.062	21.31	24	Pass
*144 (U-NII-2C)	5720	17.25	17.30	106.792	20.29	24	Pass
*144 (U-NII-3)	5720	10.36	10.48	22.033	13.43	30	Pass
149	5745	21.81	22.10	313.886	24.97	30	Pass
157	5785	21.85	22.20	319.067	25.04	30	Pass
165	5825	22.27	22.28	337.699	25.29	30	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 5.56 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 5.36 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 5.54 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 5.52 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
38	5190	13.50	13.50	44.774	16.51	24	Pass
46	5230	20.74	20.65	234.722	23.71	24	Pass
54	5270	20.40	19.88	206.923	23.16	24	Pass
62	5310	16.83	16.17	89.595	19.52	24	Pass
102	5510	15.60	15.04	68.223	18.34	24	Pass
110	5550	19.53	19.63	181.576	22.59	24	Pass
134	5670	17.73	17.41	114.373	20.58	24	Pass
*142 (U-NII-2C)	5710	19.98	20.01	199.771	23.01	24	Pass
*142 (U-NII-3)	5710	9.30	9.85	18.172	12.59	30	Pass
151	5755	20.94	20.70	241.655	23.83	30	Pass
159	5795	21.24	21.17	263.964	24.22	30	Pass

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-1, the maximum gain is 5.56 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2A, the maximum gain is 5.36 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-2C, the maximum gain is 5.54 dBi < 6 dBi, so the output power limit shall not be reduced.
6. For U-NII-3, the maximum gain is 5.52 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
36	5180	18.37	18.32	136.627	21.36	24	Pass
40	5200	18.64	18.58	145.225	21.62	24	Pass
48	5240	18.94	18.87	155.433	21.92	24	Pass
52	5260	19.42	19.34	173.400	22.39	24	Pass
60	5300	19.22	19.14	165.595	22.19	24	Pass
64	5320	19.34	19.25	170.041	22.31	24	Pass
100	5500	18.36	18.29	136.002	21.34	24	Pass
116	5580	17.59	17.51	113.775	20.56	24	Pass
140	5700	18.46	18.43	139.808	21.46	24	Pass
*144 (U-NII-2C)	5720	17.45	17.46	122.058	20.87	23.06	Pass
*144 (U-NII-3)	5720	10.60	10.61	25.210	14.02	30	Pass
149	5745	22.01	22.26	327.122	25.15	30	Pass
157	5785	22.04	22.33	330.957	25.20	30	Pass
165	5825	22.45	22.47	352.396	25.47	30	Pass

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-1, the maximum gain is 5.56 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2A, the maximum gain is 5.36 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-2C, the maximum gain is 5.54 dBi < 6 dBi, so the output power limit shall not be reduced.
6. For U-NII-3, the maximum gain is 5.52 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
38	5190	14.63	14.69	58.484	17.67	24	Pass
46	5230	20.87	20.78	241.854	23.84	24	Pass
54	5270	20.51	20.04	213.386	23.29	24	Pass
62	5310	16.99	16.34	93.056	19.69	24	Pass
102	5510	15.71	15.24	70.659	18.49	24	Pass
110	5550	19.72	19.77	188.598	22.76	24	Pass
134	5670	17.84	17.57	117.961	20.72	24	Pass
*142 (U-NII-2C)	5710	20.04	20.18	243.941	23.87	24	Pass
*142 (U-NII-3)	5710	9.41	10.11	22.575	13.54	30	Pass
151	5755	21.09	20.86	250.428	23.99	30	Pass
159	5795	21.44	21.28	273.592	24.37	30	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 5.56 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 5.36 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 5.54 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 5.52 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
42	5210	14.68	14.39	56.855	17.55	24	Pass
58	5290	15.82	15.90	77.099	18.87	24	Pass
106	5530	13.67	13.66	46.508	16.68	24	Pass
122	5610	18.88	18.50	148.063	21.70	24	Pass
*138 (U-NII-2C)	5690	19.31	19.28	231.829	23.65	24	Pass
*138 (U-NII-3)	5690	4.83	4.65	8.124	9.10	30	Pass
155	5775	19.02	18.51	150.757	21.78	30	Pass

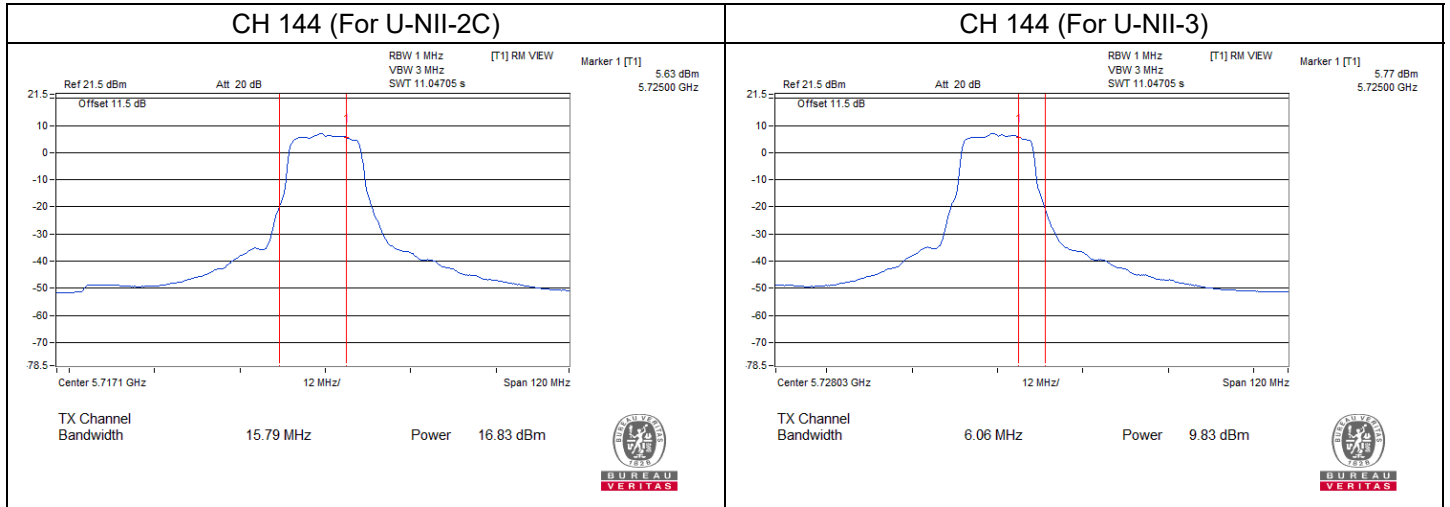
Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 5.56 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 5.36 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 5.54 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 5.52 dBi < 6 dBi, so the output power limit shall not be reduced.

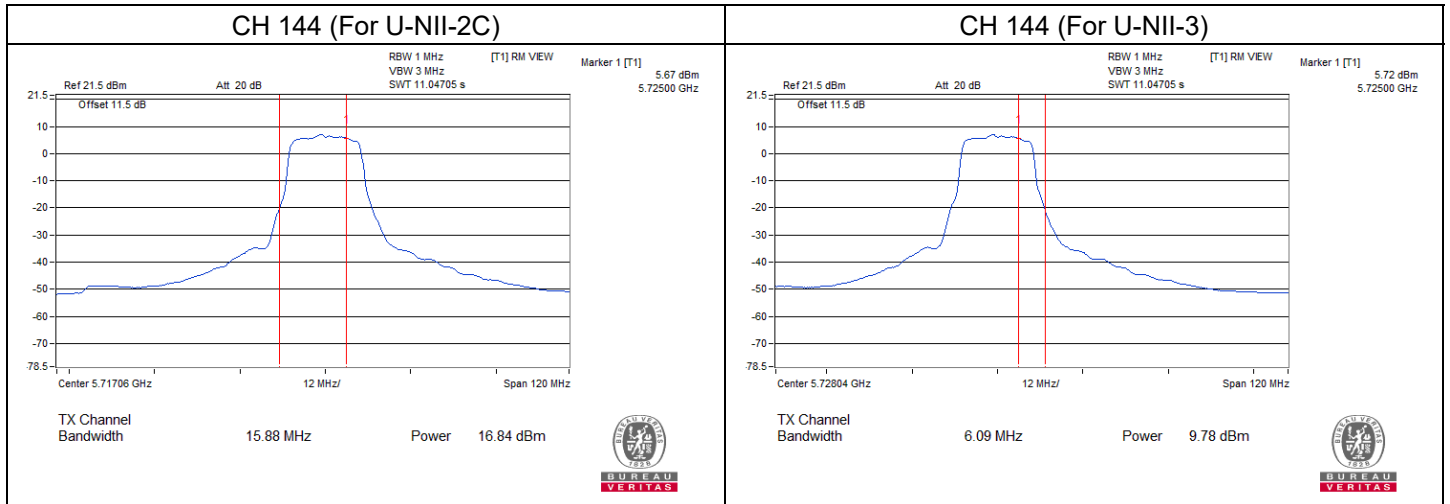
Straddle channel power plots:

802.11a

Chain 0

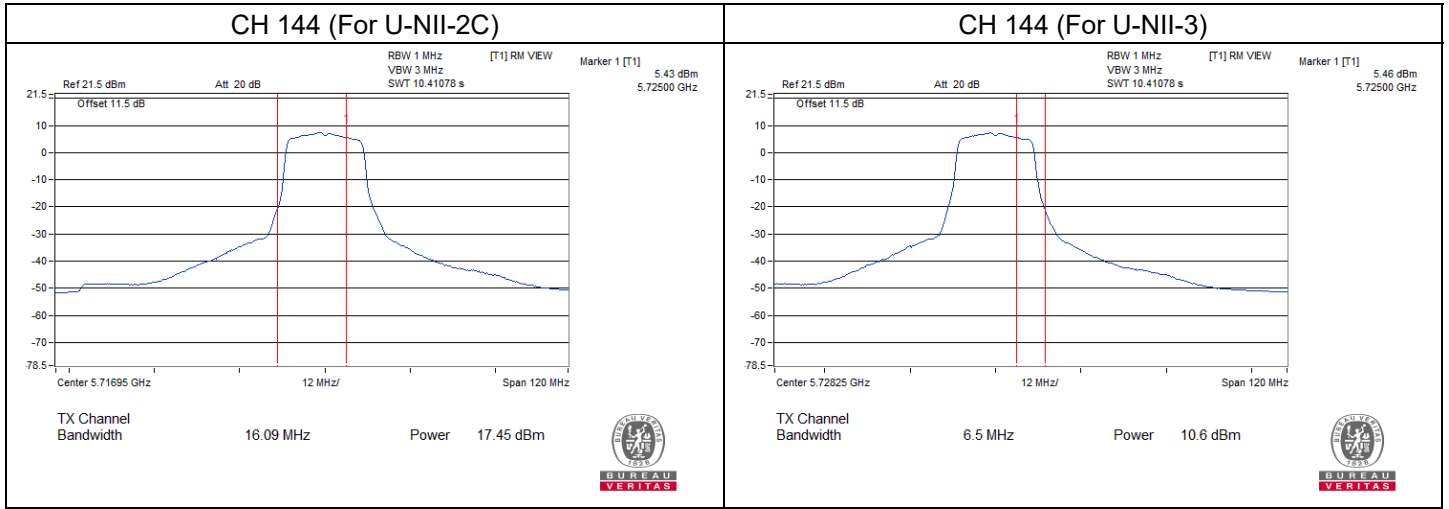


Chain 1

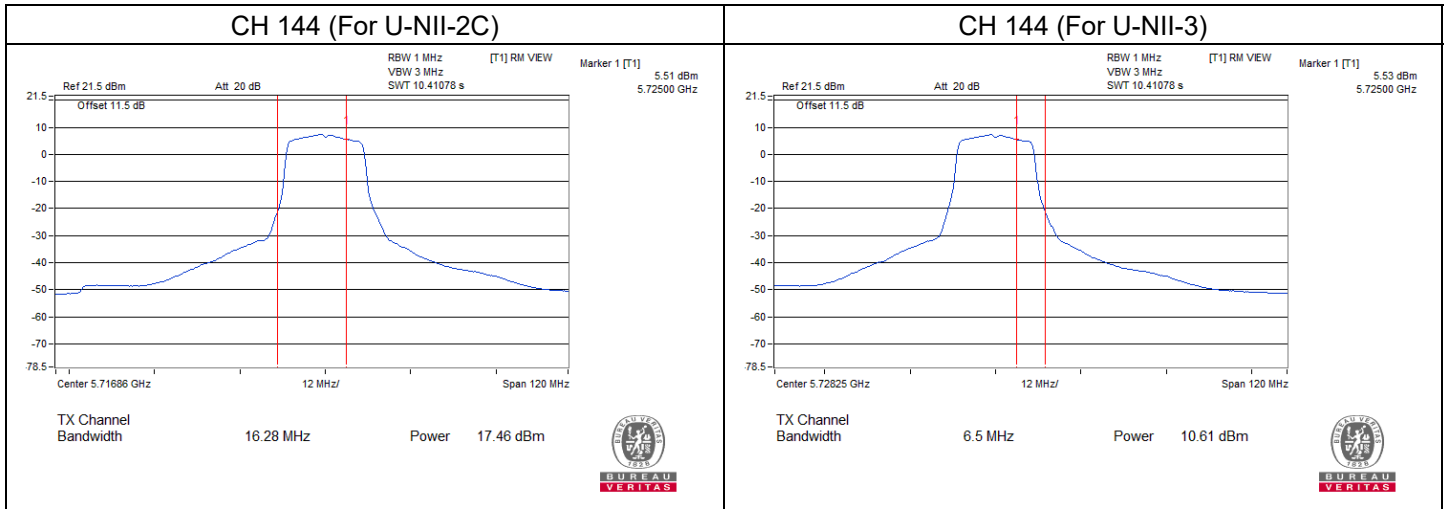


802.11ac (VHT20)

Chain 0

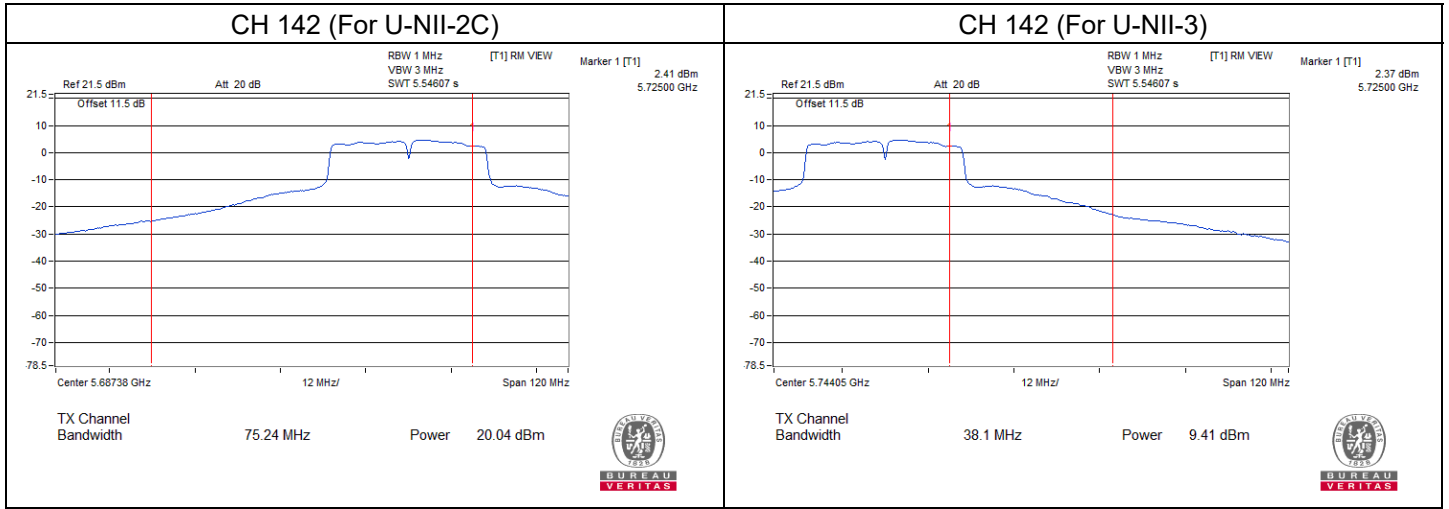


Chain 1

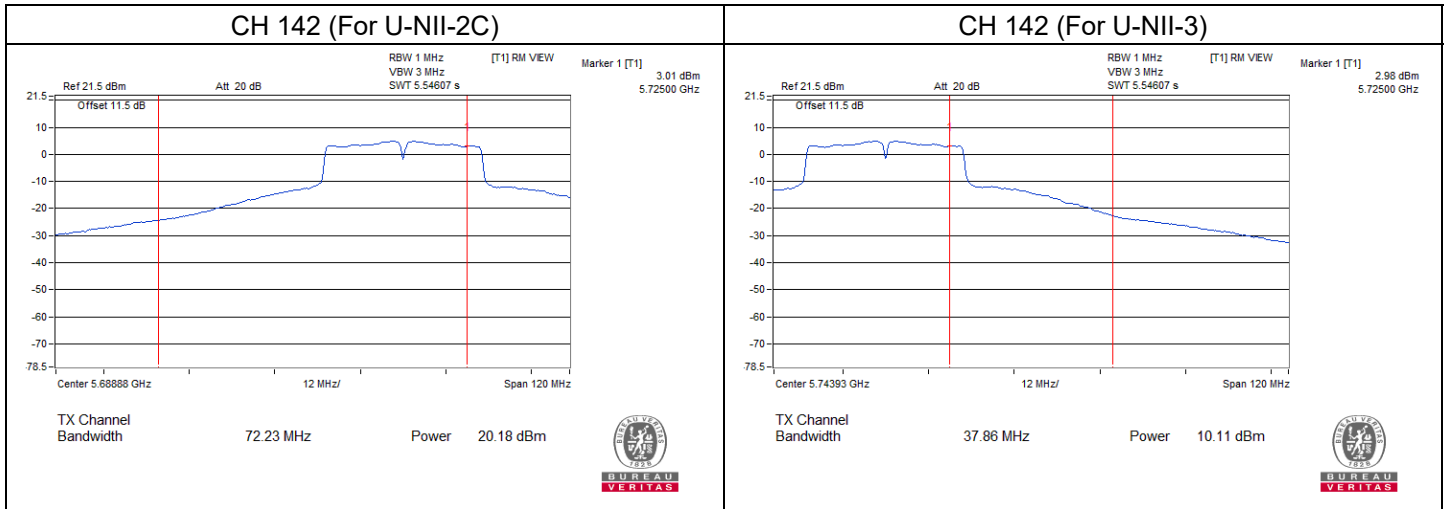


802.11ac (VHT40)

Chain 0



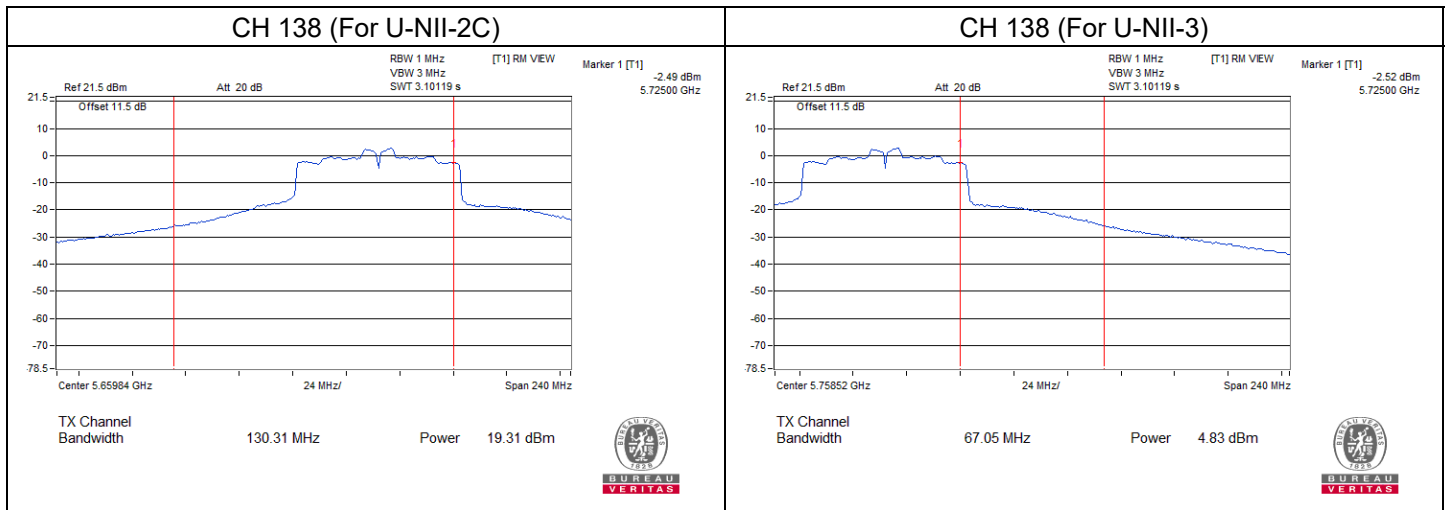
Chain 1



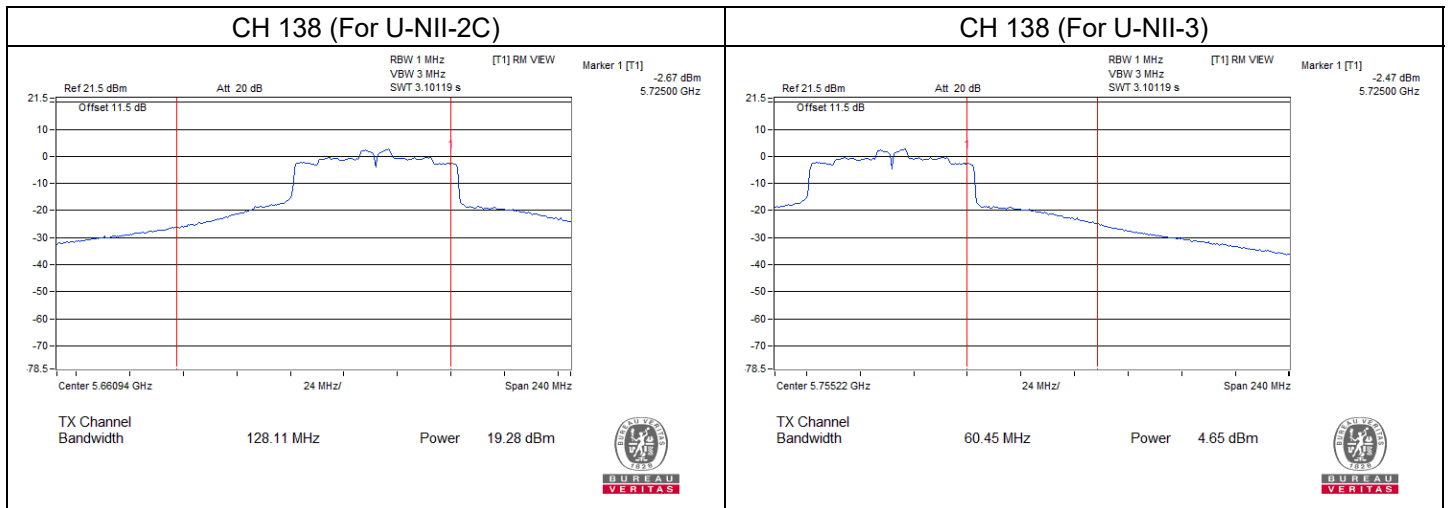


802.11ac (VHT80)

Chain 0



Chain 1



7.3 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Vincent Huang / Jisyong Wang
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802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1				
36	5180	5.36	4.52	0.38	8.35	8.53	Pass
40	5200	4.94	4.75	0.38	8.24	8.53	Pass
48	5240	4.75	4.26	0.38	7.90	8.53	Pass
52	5260	5.50	4.66	0.38	8.49	8.96	Pass
60	5300	5.63	4.73	0.38	8.59	8.96	Pass
64	5320	5.38	5.54	0.38	8.85	8.96	Pass
100	5500	5.51	5.68	0.38	8.99	9.08	Pass
116	5580	5.67	5.11	0.38	8.79	9.08	Pass
140	5700	5.24	5.23	0.38	8.63	9.08	Pass
144 (U-NII-2C)	5720	4.87	4.94	0.38	8.30	9.08	Pass

Notes:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
- For U-NII-1, the directional gain is 8.47 dBi > 6dBi, so the power density limit shall be reduced to $11-(8.47-6) = 8.53$ dBm/MHz.
- For U-NII-2A, the directional gain is 8.04 dBi > 6 dBi, so the power density limit shall be reduced to $11-(8.04-6) = 8.96$ dBm/MHz.
- For U-NII-2C, the directional gain is 7.92 dBi > 6 dBi, so the power density limit shall be reduced to $11-(7.92-6) = 9.08$ dBm/MHz.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1				
36	5180	5.17	4.46	0.40	8.24	8.53	Pass
40	5200	5.14	4.69	0.40	8.33	8.53	Pass
48	5240	5.28	4.91	0.40	8.51	8.53	Pass
52	5260	5.86	5.08	0.40	8.90	8.96	Pass
60	5300	5.25	5.10	0.40	8.59	8.96	Pass
64	5320	5.41	5.15	0.40	8.69	8.96	Pass
100	5500	5.24	5.78	0.40	8.93	9.08	Pass
116	5580	5.12	5.25	0.40	8.60	9.08	Pass
140	5700	5.48	5.36	0.40	8.83	9.08	Pass
144 (U-NII-2C)	5720	5.33	5.31	0.40	8.73	9.08	Pass

Notes:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
- For U-NII-1, the directional gain is 8.47 dBi > 6dBi, so the power density limit shall be reduced to $11-(8.47-6) = 8.53$ dBm/MHz.
- For U-NII-2A, the directional gain is 8.04 dBi > 6 dBi, so the power density limit shall be reduced to $11-(8.04-6) = 8.96$ dBm/MHz.
- For U-NII-2C, the directional gain is 7.92 dBi > 6 dBi, so the power density limit shall be reduced to $11-(7.92-6) = 9.08$ dBm/MHz.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1				
38	5190	-1.48	-1.47	0.75	2.29	8.53	Pass
46	5230	4.29	3.77	0.75	7.80	8.53	Pass
54	5270	4.40	3.40	0.75	7.69	8.96	Pass
62	5310	0.30	-0.36	0.75	3.74	8.96	Pass
102	5510	-0.52	-0.87	0.75	3.07	9.08	Pass
110	5550	4.14	3.58	0.75	7.63	9.08	Pass
134	5670	2.22	1.55	0.75	5.66	9.08	Pass
142 (U-NII-2C)	5710	4.48	4.80	0.75	8.40	9.08	Pass

Notes:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
- For U-NII-1, the directional gain is 8.47 dBi > 6dBi, so the power density limit shall be reduced to 11-(8.47-6) = 8.53 dBm/MHz.
- For U-NII-2A, the directional gain is 8.04 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.04-6) = 8.96 dBm/MHz.
- For U-NII-2C, the directional gain is 7.92 dBi > 6 dBi, so the power density limit shall be reduced to 11-(7.92-6) = 9.08 dBm/MHz.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1				
42	5210	-4.59	-4.74	1.35	-0.30	8.53	Pass
58	5290	-3.75	-3.26	1.35	0.86	8.96	Pass
106	5530	-4.60	-4.25	1.35	-0.06	9.08	Pass
122	5610	0.95	0.84	1.35	5.26	9.08	Pass
138 (U-NII-2C)	5690	0.60	0.67	1.35	5.00	9.08	Pass

Notes:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
- For U-NII-1, the directional gain is 8.47 dBi > 6dBi, so the power density limit shall be reduced to 11-(8.47-6) = 8.53 dBm/MHz.
- For U-NII-2A, the directional gain is 8.04 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.04-6) = 8.96 dBm/MHz.
- For U-NII-2C, the directional gain is 7.92 dBi > 6 dBi, so the power density limit shall be reduced to 11-(7.92-6) = 9.08 dBm/MHz.

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)		Total PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1					
144 (U-NII-3)	5720	-4.45	-4.50	-1.46	0.38	1.14	27.81	Pass
149	5745	1.55	1.23	4.4	0.38	7.00	27.81	Pass
157	5785	1.45	1.08	4.28	0.38	6.88	27.81	Pass
165	5825	0.87	1.46	4.19	0.38	6.79	27.81	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-3, the directional gain is 8.19 dBi > 6 dBi, so the power density limit shall be reduced to $30-(8.19-6) = 27.81$ dBm/500kHz.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)		Total PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1					
144 (U-NII-3)	5720	-4.41	-4.49	-1.44	0.4	1.18	27.81	Pass
149	5745	0.76	1.16	3.97	0.4	6.59	27.81	Pass
157	5785	0.64	1.33	4.01	0.4	6.63	27.81	Pass
165	5825	0.56	1.11	3.85	0.4	6.47	27.81	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-3, the directional gain is 8.19 dBi > 6 dBi, so the power density limit shall be reduced to $30-(8.19-6) = 27.81$ dBm/500kHz.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)		Total PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1					
142 (U-NII-3)	5710	-6.52	-5.84	-3.16	0.75	-0.19	27.81	Pass
151	5755	-4.22	-4.15	-1.17	0.75	1.80	27.81	Pass
159	5795	-4.46	-3.79	-1.1	0.75	1.87	27.81	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-3, the directional gain is 8.19 dBi > 6 dBi, so the power density limit shall be reduced to $30-(8.19-6) = 27.81$ dBm/500kHz.

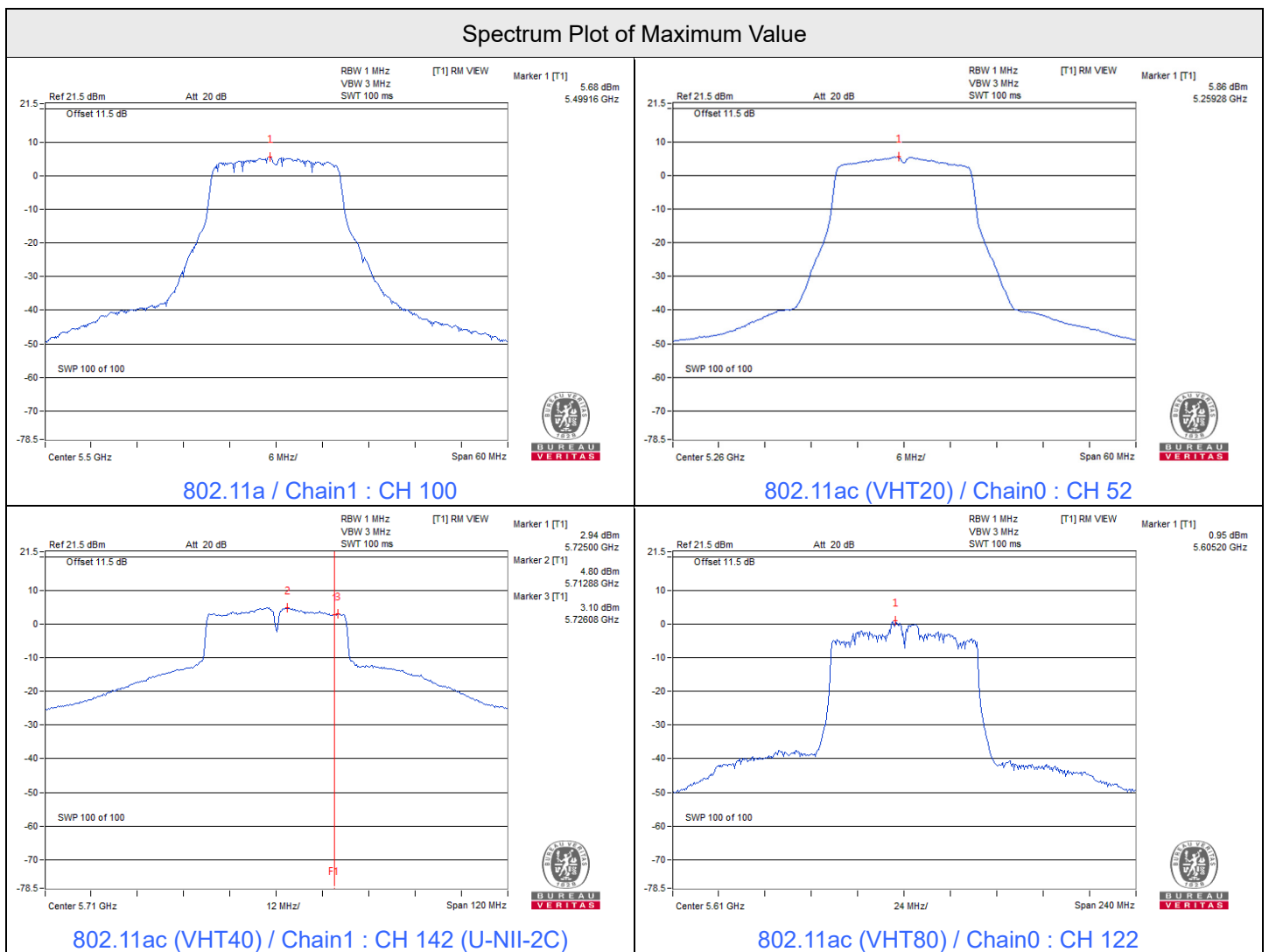


802.11ac (VHT80)

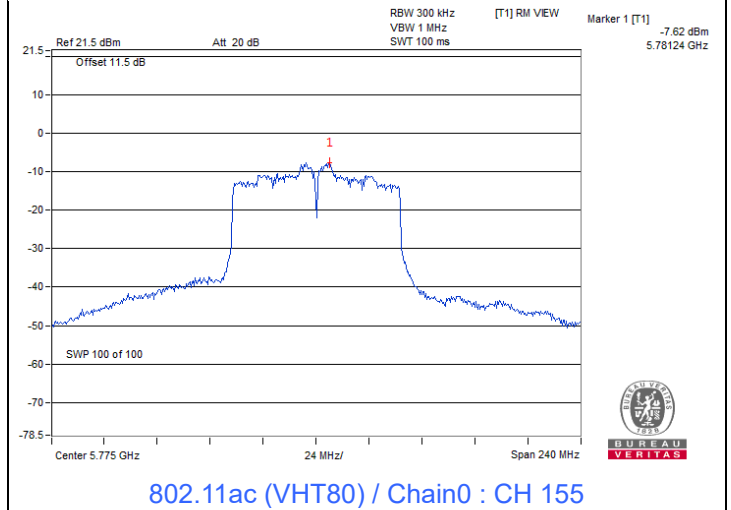
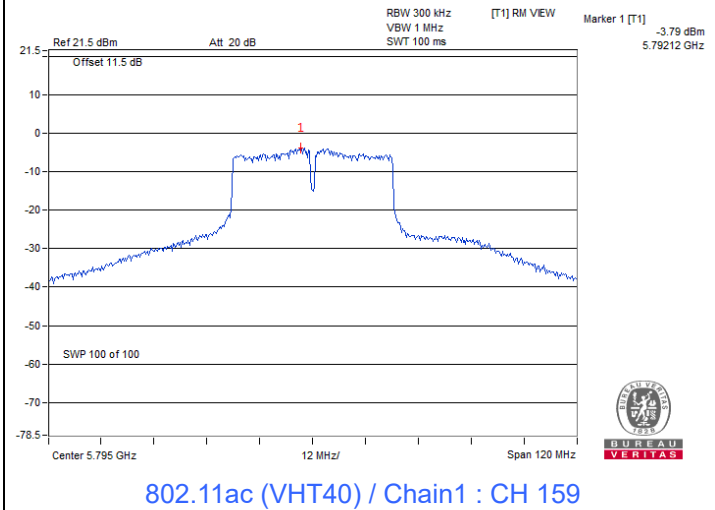
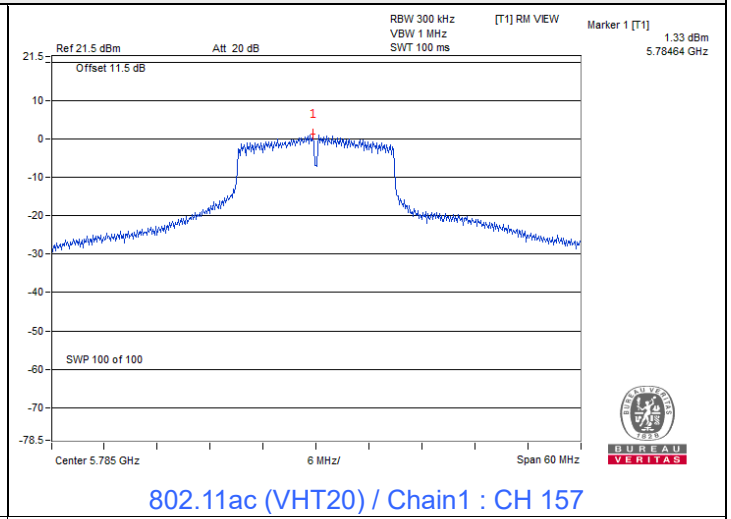
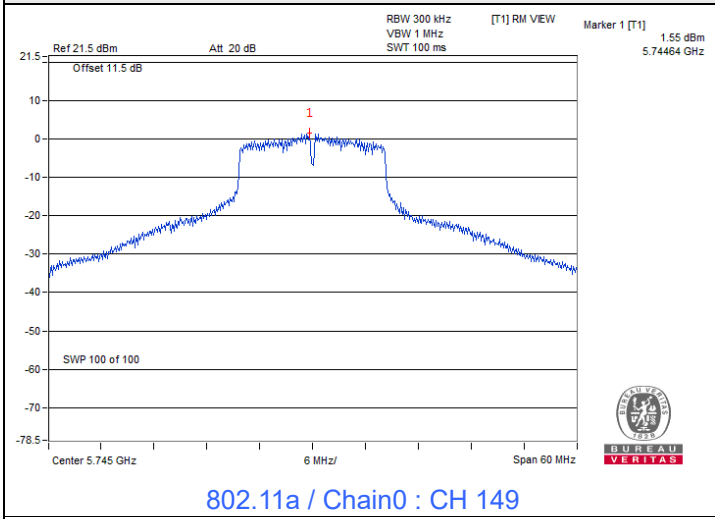
Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)		Total PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1					
138 (U-NII-3)	5690	-11.96	-12.11	-9.02	1.35	-5.45	27.81	Pass
155	5775	-7.62	-7.72	-4.66	1.35	-1.09	27.81	Pass

Notes:

- Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
- Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
- For U-NII-3, the directional gain is 8.19 dBi > 6 dBi, so the power density limit shall be reduced to $30 - (8.19 - 6) = 27.81 \text{ dBm/500kHz}$.



Spectrum Plot of Maximum Value



7.4 6 dB Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Vincent Huang / Jisyong Wang
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802.11a

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
144 (U-NII-3)	5720	3.16	2.90	0.5	Pass
149	5745	16.30	16.36	0.5	Pass
157	5785	16.06	16.33	0.5	Pass
165	5825	16.05	16.07	0.5	Pass

802.11ac (VHT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
144 (U-NII-3)	5720	2.58	2.62	0.5	Pass
149	5745	17.56	17.19	0.5	Pass
157	5785	16.87	17.35	0.5	Pass
165	5825	17.58	16.84	0.5	Pass

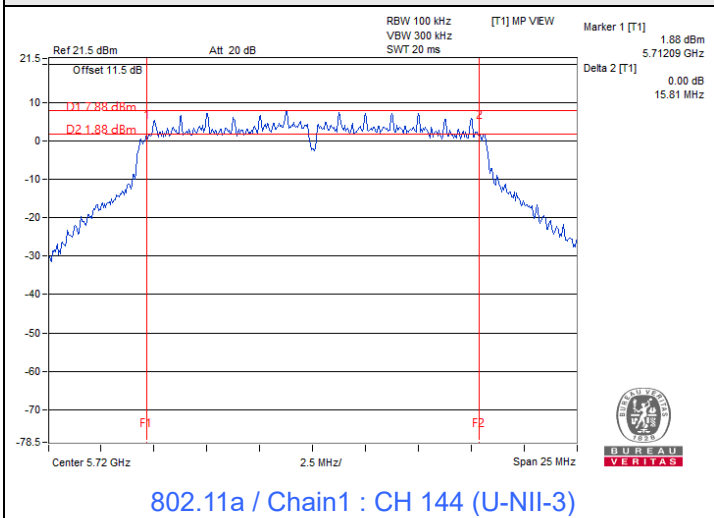
802.11ac (VHT40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
142 (U-NII-3)	5710	2.65	2.81	0.5	Pass
151	5755	36.39	36.32	0.5	Pass
159	5795	35.85	36.41	0.5	Pass

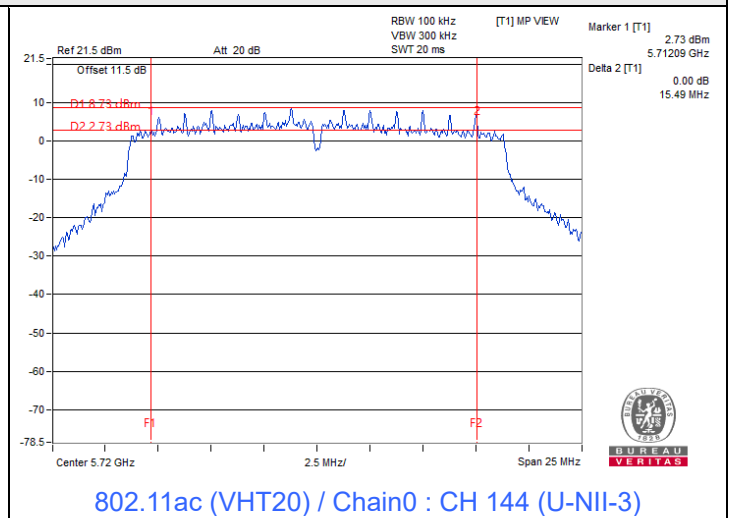
802.11ac (VHT80)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
138 (U-NII-3)	5690	2.51	2.50	0.5	Pass
155	5775	70.22	70.15	0.5	Pass

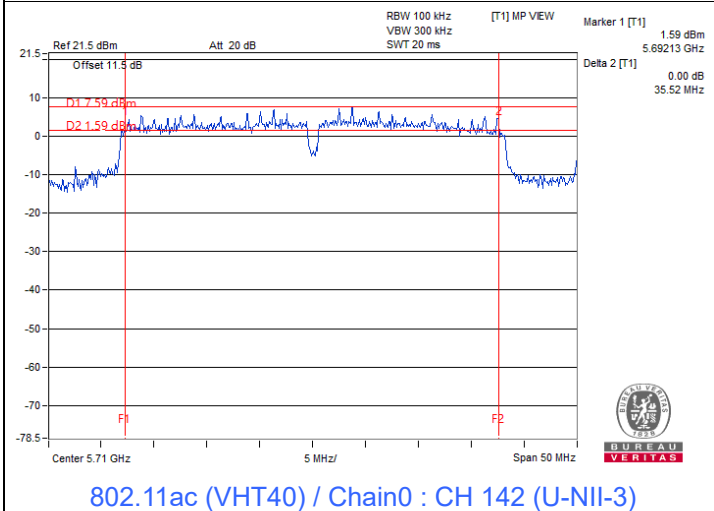
Spectrum Plot of Minimum Value



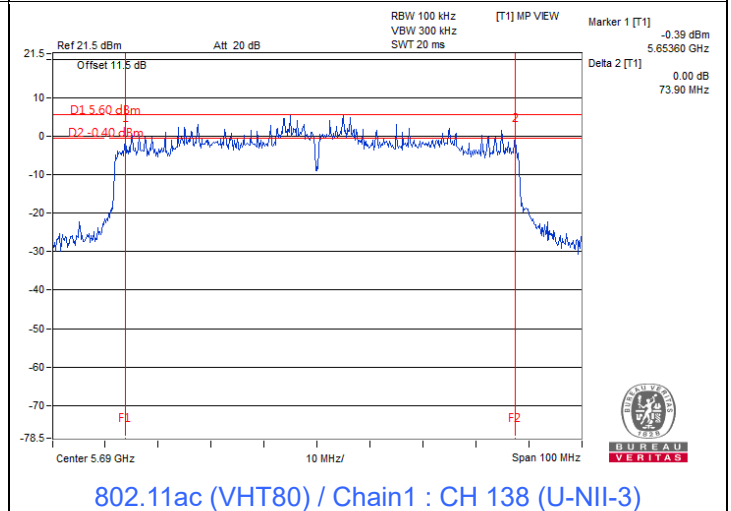
802.11a / Chain1 : CH 144 (U-NII-3)



802.11ac (VHT20) / Chain0 : CH 144 (U-NII-3)



802.11ac (VHT40) / Chain0 : CH 142 (U-NII-3)



802.11ac (VHT80) / Chain1 : CH 138 (U-NII-3)

Notes:

1. For U-NII-3 straddle channel = Marker 1 + Delta 2 - 5725 MHz

7.5 Occupied Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Vincent Huang / Jisyong Wang
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802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.68	16.56
40	5200	16.68	16.56
48	5240	16.56	16.56
52	5260	16.68	16.56
60	5300	16.56	16.56
64	5320	16.80	16.80
100	5500	16.56	16.68
116	5580	16.68	16.56
140	5700	16.68	16.56
144 (U-NII-2C)	5720	13.40	13.28
144 (U-NII-3)	5720	3.28	3.40
149	5745	24.14	31.34
157	5785	27.02	34.52
165	5825	32.31	34.52

For CH144 (U-NII-2C Band): The Occupied bandwidth below 5725MHz = 5725MHz - Temp 1

For CH144 (U-NII-3 Band): The Occupied bandwidth above 5725MHz = Temp 2 - 5725MHz

802.11ac (VHT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.76	17.76
40	5200	17.76	17.76
48	5240	17.76	17.76
52	5260	17.76	17.76
60	5300	17.76	17.76
64	5320	17.76	17.76
100	5500	17.76	17.76
116	5580	17.64	17.76
140	5700	17.88	17.76
144 (U-NII-2C)	5720	13.88	13.88
144 (U-NII-3)	5720	3.88	3.88
149	5745	24.52	28.46
157	5785	27.59	31.06
165	5825	33.27	27.41

For CH144 (U-NII-2C Band): The Occupied bandwidth below 5725MHz = 5725MHz - Temp 1

For CH144 (U-NII-3 Band): The Occupied bandwidth above 5725MHz = Temp 2 - 5725MHz

802.11ac (VHT40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.60	36.48
46	5230	36.72	36.72
54	5270	36.72	36.72
62	5310	36.60	36.72
102	5510	36.48	36.60
110	5550	36.73	36.73
134	5670	36.72	36.72
142 (U-NII-2C)	5710	46.44	46.68
142 (U-NII-3)	5710	19.80	20.28
151	5755	41.35	38.46
159	5795	38.95	37.98

For CH142 (U-NII-2C Band): The Occupied bandwidth below 5725MHz = 5725MHz - Temp 1

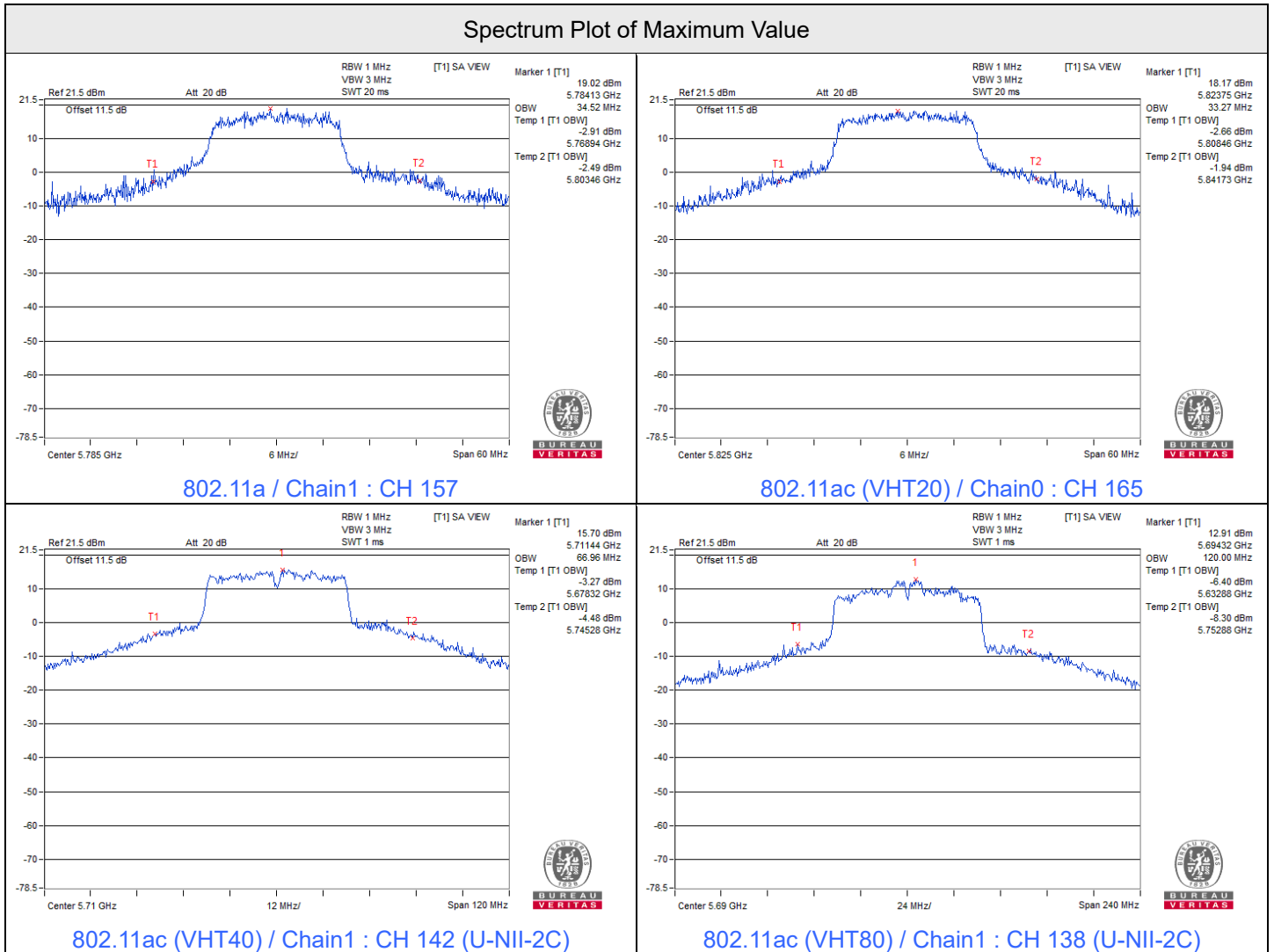
For CH142 (U-NII-3 Band): The Occupied bandwidth above 5725MHz = Temp 2 - 5725MHz

802.11ac (VHT80)

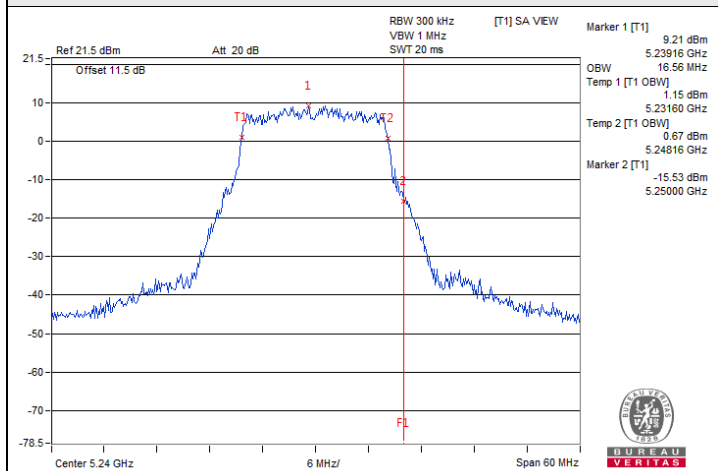
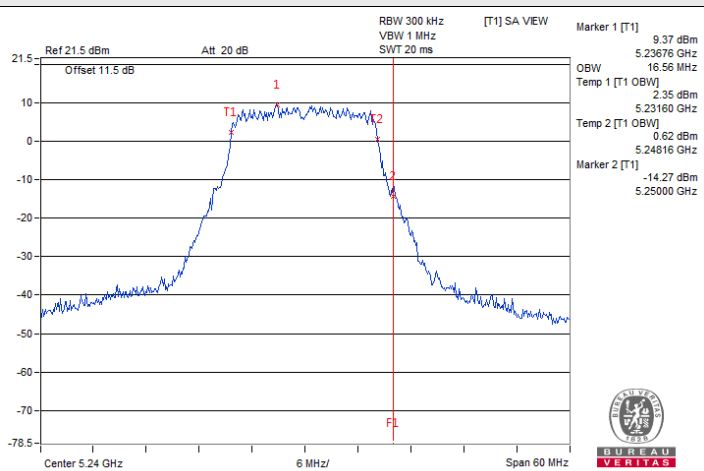
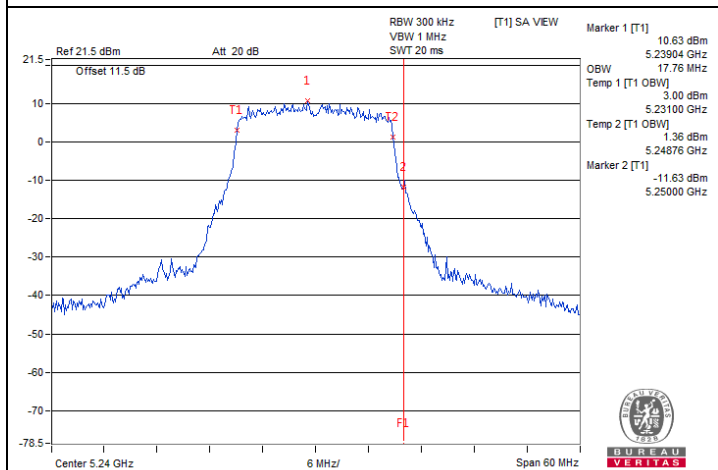
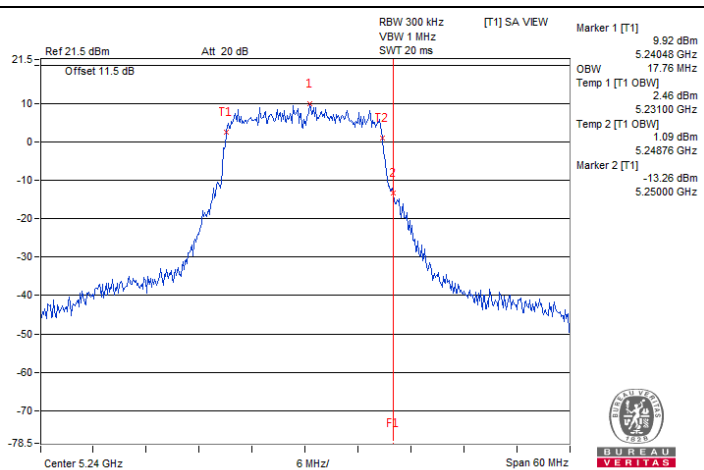
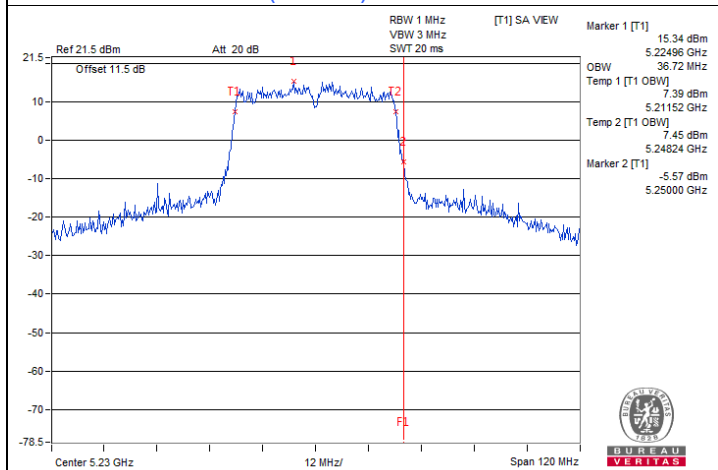
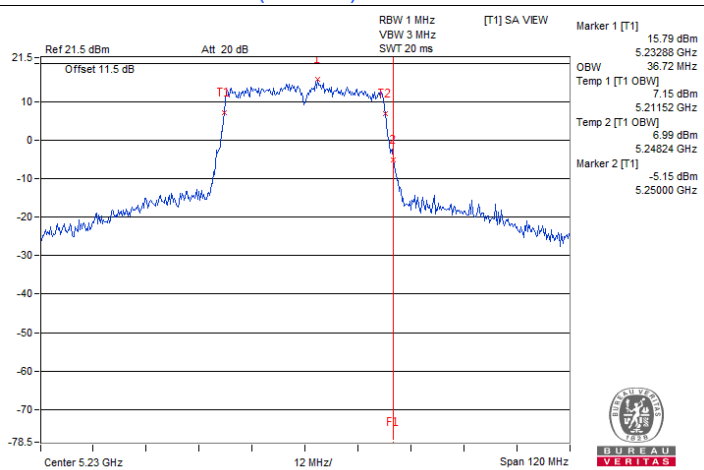
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	75.36	75.36
58	5290	75.36	75.36
106	5530	75.00	75.39
122	5610	75.36	75.36
138 (U-NII-2C)	5690	91.64	92.12
138 (U-NII-3)	5690	29.80	27.88
155	5775	75.77	75.77

For CH138 (U-NII-2C Band): The Occupied bandwidth below 5725MHz = 5725MHz - Temp 1

For CH138 (U-NII-3 Band): The Occupied bandwidth above 5725MHz = Temp 2 - 5725MHz

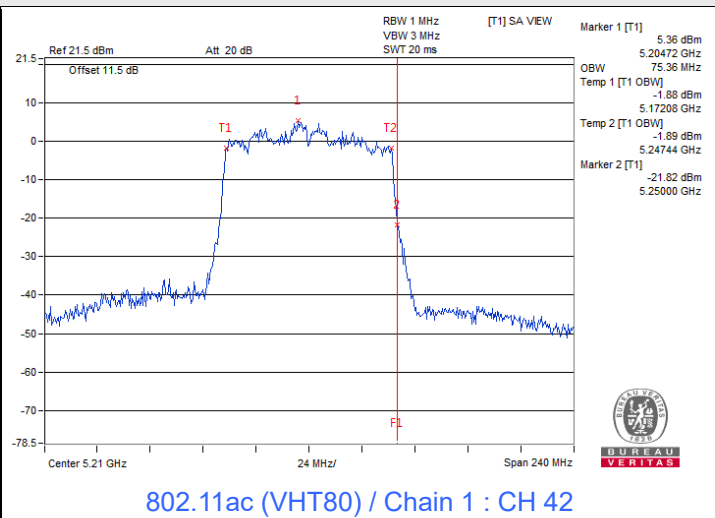
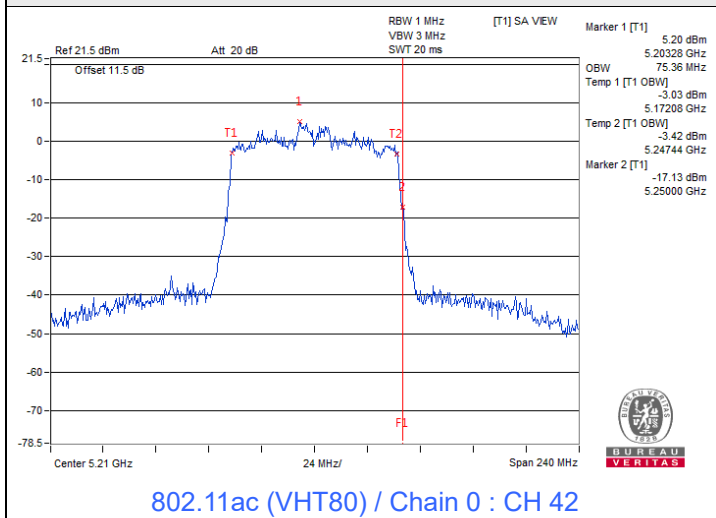


Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2A band)

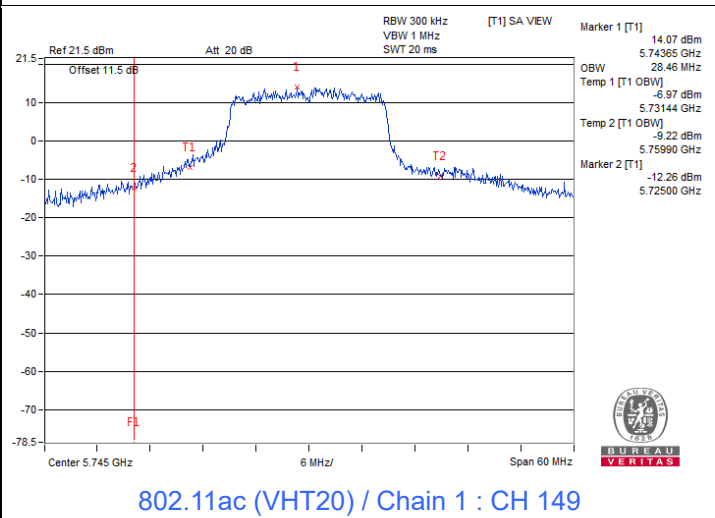
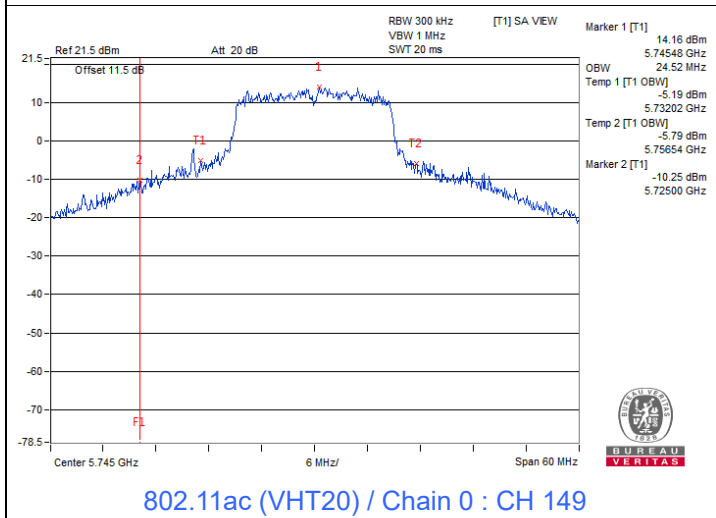
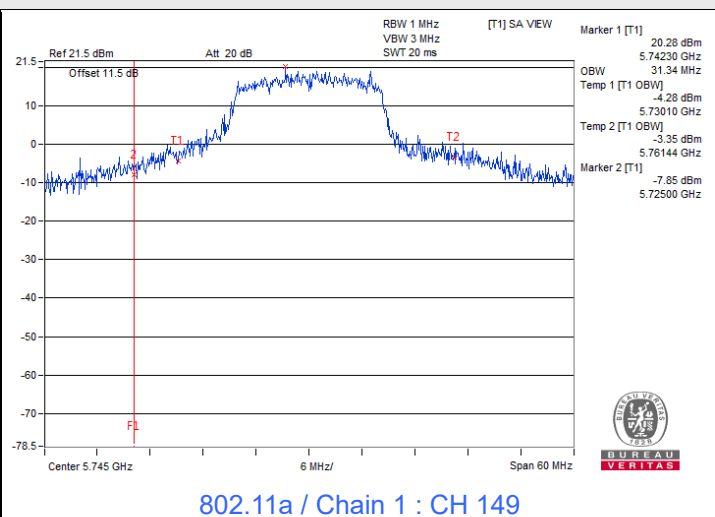
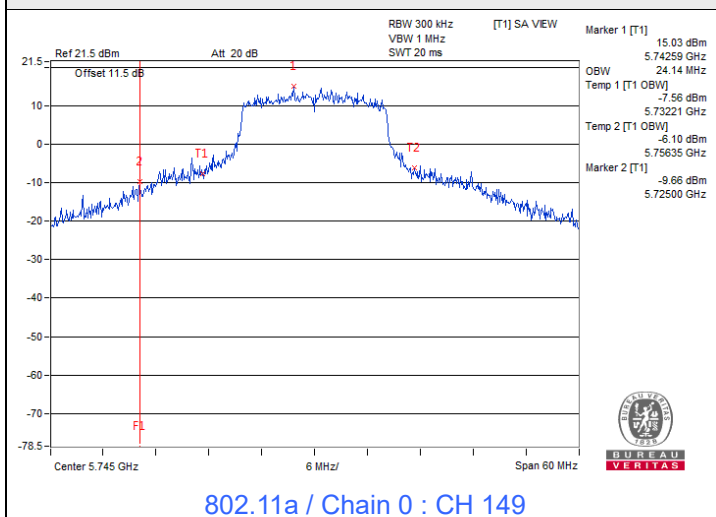
**802.11a / Chain 0 : CH 48****802.11a / Chain 1 : CH 48****802.11ac (VHT20) / Chain 0 : CH 48****802.11ac (VHT20) / Chain 1 : CH 48****802.11ac (VHT40) / Chain 0 : CH 46****802.11ac (VHT40) / Chain 1 : CH 46**



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

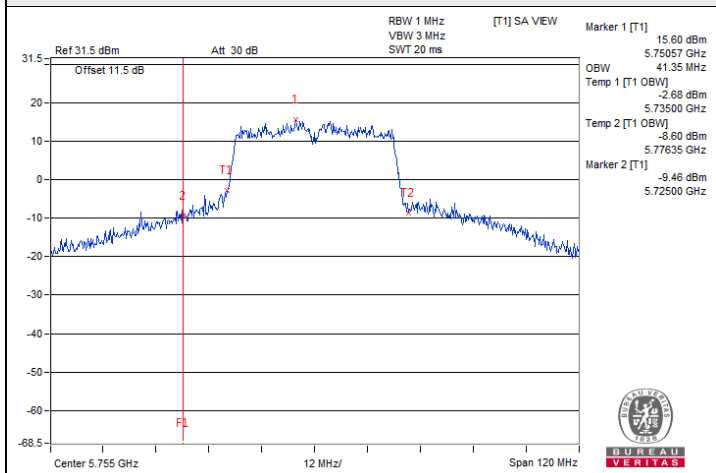


Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2C band)

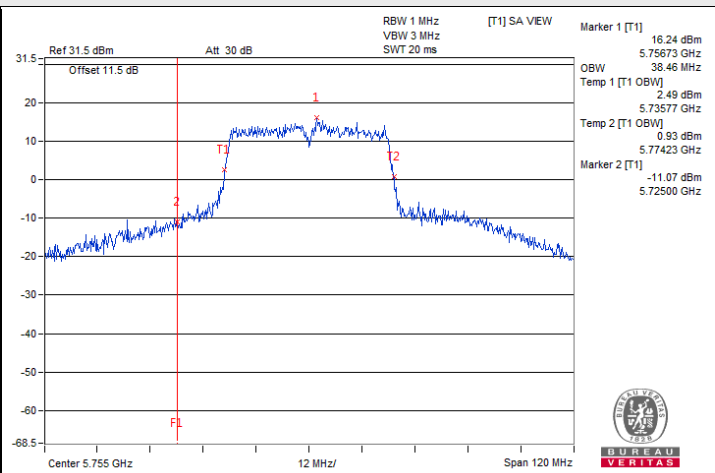




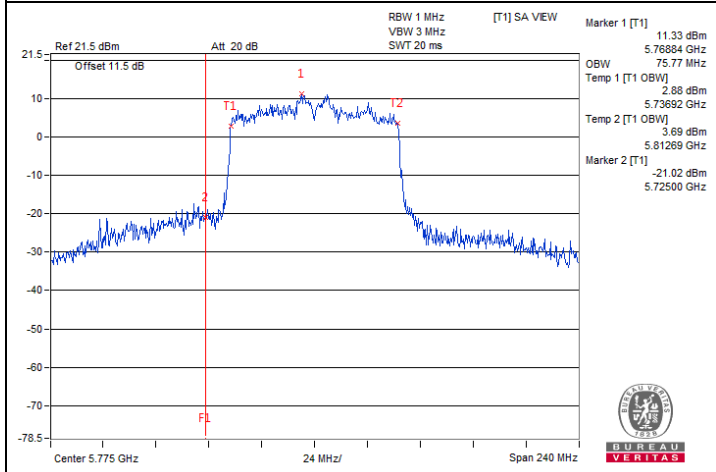
Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2C band)



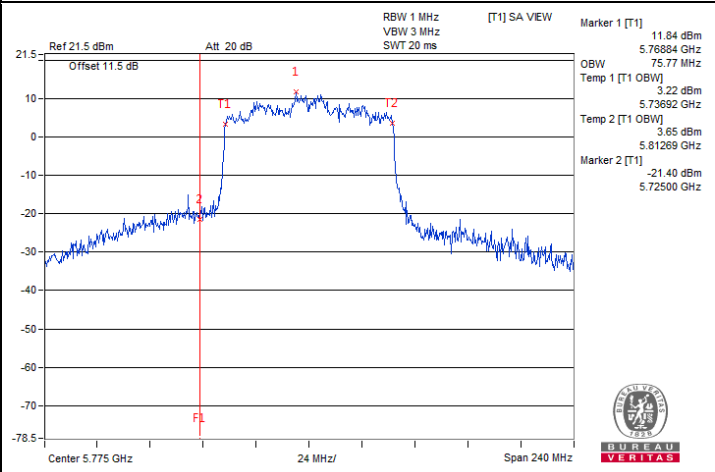
802.11ac (VHT40) / Chain 0 : CH 151



802.11ac (VHT40) / Chain 1 : CH 151



802.11ac (VHT80) / Chain 0 : CH 155



802.11ac (VHT80) / Chain 1 : CH 155

7.6 Frequency Stability

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Vincent Huang / Jisyong Wang
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802.11a

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
TEMP. (°C)	Power Supply (Vac)	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
50	120	5179.9997	Pass	5179.9997	Pass	5179.997	Pass	5179.9961	Pass
40	120	5180.0069	Pass	5180.0087	Pass	5180.0055	Pass	5180.0085	Pass
30	120	5179.9839	Pass	5179.9847	Pass	5179.987	Pass	5179.9878	Pass
20	120	5179.9906	Pass	5179.987	Pass	5179.9904	Pass	5179.989	Pass
10	120	5180.0113	Pass	5180.0134	Pass	5180.0124	Pass	5180.0134	Pass
0	120	5180.0209	Pass	5180.0224	Pass	5180.0221	Pass	5180.0202	Pass
-10	120	5179.9791	Pass	5179.9766	Pass	5179.9753	Pass	5179.9754	Pass
-20	120	5180.0142	Pass	5180.0175	Pass	5180.014	Pass	5180.0126	Pass
-30	120	5179.9967	Pass	5179.9986	Pass	5179.998	Pass	5179.9982	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
TEMP. (°C)	Power Supply (Vac)	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	138	5179.9932	Pass	5179.9927	No	5179.9927	Pass	5179.9918	Pass
	120	5179.9906	Pass	5179.987	Pass	5179.9904	Pass	5179.989	Pass
	102	5180.0003	Pass	5179.9972	No	5179.9964	Pass	5179.9992	Pass

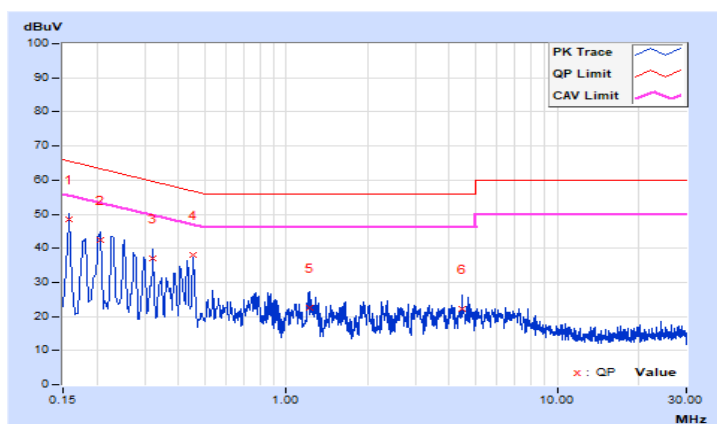
7.7 AC Power Conducted Emissions

RF Mode	TX 802.11ac (VHT20)	Channel	CH 165 : 5825 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 75% RH
Tested By	Greg Lin		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15800	9.69	38.67	22.06	48.36	31.75	65.57	55.57	-17.21	-23.82
2	0.20600	9.72	32.57	17.24	42.29	26.96	63.37	53.37	-21.08	-26.41
3	0.32200	9.77	27.18	12.39	36.95	22.16	59.66	49.66	-22.71	-27.50
4	0.45400	9.80	28.23	23.32	38.03	33.12	56.80	46.80	-18.77	-13.68
5	1.21400	9.85	12.76	4.35	22.61	14.20	56.00	46.00	-33.39	-31.80
6	4.46600	9.96	12.40	2.78	22.36	12.74	56.00	46.00	-33.64	-33.26

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

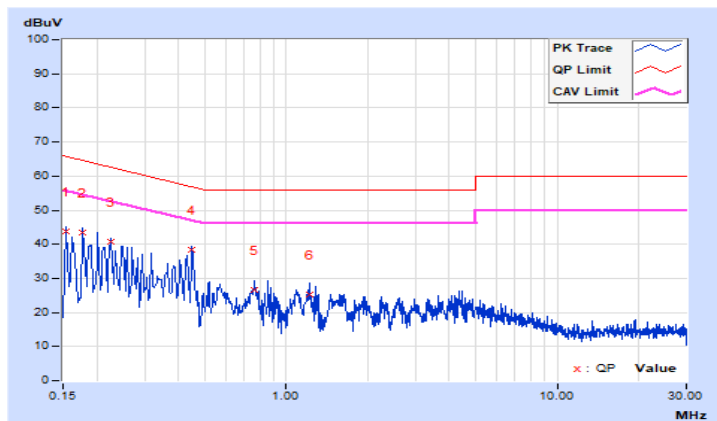


RF Mode	TX 802.11ac (VHT20)	Channel	CH 165 : 5825 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 75% RH
Tested By	Greg Lin		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15400	9.68	34.18	18.33	43.86	28.01	65.78	55.78	-21.92	-27.77
2	0.17800	9.70	33.61	17.40	43.31	27.10	64.58	54.58	-21.27	-27.48
3	0.22600	9.73	30.97	15.82	40.70	25.55	62.60	52.60	-21.90	-27.05
4	0.44999	9.81	28.46	26.39	38.27	36.20	56.88	46.88	-18.61	-10.68
5	0.76600	9.84	16.76	12.54	26.60	22.38	56.00	46.00	-29.40	-23.62
6	1.21400	9.87	15.27	9.56	25.14	19.43	56.00	46.00	-30.86	-26.57

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



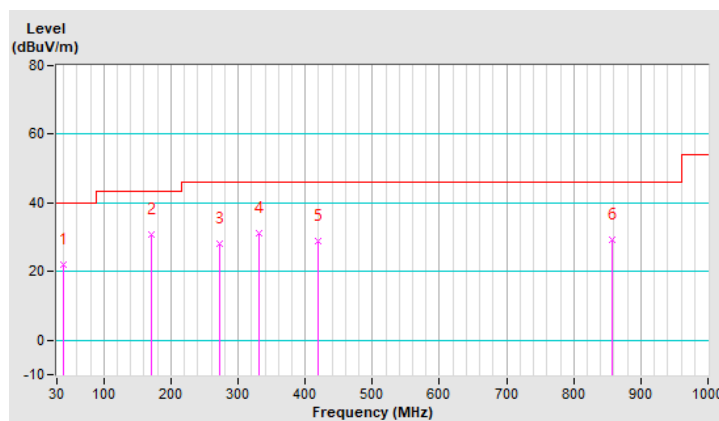
7.8 Unwanted Emissions below 1 GHz

RF Mode	TX 802.11ac (VHT20)	Channel	CH 165 : 5825 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 73% 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	39.70	21.9 QP	40.0	-18.1	1.25 H	42	35.6	-13.7
2	170.65	30.9 QP	43.5	-12.6	1.00 H	2	44.7	-13.8
3	271.53	28.0 QP	46.0	-18.0	1.50 H	87	41.8	-13.8
4	331.67	31.1 QP	46.0	-14.9	1.00 H	198	43.0	-11.9
5	418.97	28.9 QP	46.0	-17.1	1.25 H	50	38.8	-9.9
6	857.41	29.1 QP	46.0	-16.9	1.00 H	261	31.2	-2.1

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

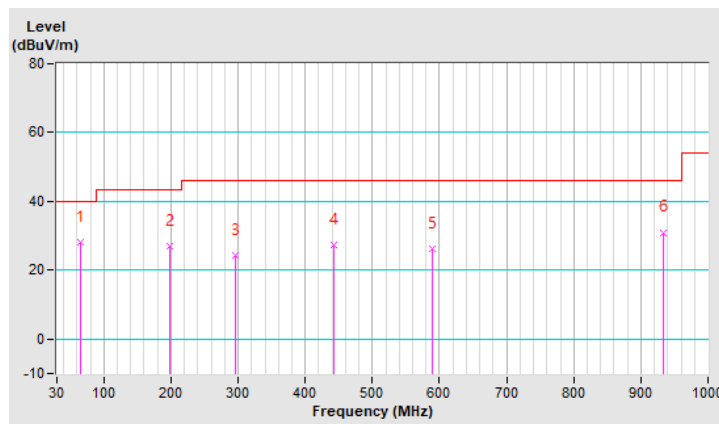


RF Mode	TX 802.11ac (VHT20)	Channel	CH 165 : 5825 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 73% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	64.92	28.3 QP	40.0	-11.7	1.25 V	159	43.2	-14.9
2	197.81	27.0 QP	43.5	-16.5	1.00 V	137	43.8	-16.8
3	295.78	24.5 QP	46.0	-21.5	1.25 V	227	37.6	-13.1
4	443.22	27.4 QP	46.0	-18.6	1.00 V	135	36.5	-9.1
5	588.72	26.1 QP	46.0	-19.9	1.50 V	17	32.3	-6.2
6	933.07	31.0 QP	46.0	-15.0	1.00 V	144	32.1	-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 emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



7.9 Unwanted Emissions above 1 GHz

RF Mode	TX 802.11a	Channel	CH 36 : 5180 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	27°C, 75% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	68.3 PK	74.0	-5.7	1.85 H	263	64.9	3.4
2	5150.00	52.6 AV	54.0	-1.4	1.85 H	263	49.2	3.4
3	*5180.00	116.5 PK			1.85 H	263	75.3	41.2
4	*5180.00	106.5 AV			1.85 H	263	65.3	41.2
5	#10360.00	58.2 PK	68.2	-10.0	1.77 H	173	49.9	8.3

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	67.9 PK	74.0	-6.1	1.83 V	292	64.5	3.4
2	5150.00	53.5 AV	54.0	-0.5	1.83 V	292	50.1	3.4
3	*5180.00	118.0 PK			1.83 V	292	76.8	41.2
4	*5180.00	108.0 AV			1.83 V	292	66.8	41.2
5	#10360.00	61.3 PK	68.2	-6.9	1.85 V	178	53.0	8.3

Remarks:

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



RF Mode	TX 802.11a	Channel	CH 40 : 5200 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	27°C, 75% 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	117.4 PK			1.90 H	265	77.2	40.2
2	*5200.00	108.0 AV			1.90 H	265	67.8	40.2
3	#10400.00	57.9 PK	68.2	-10.3	1.78 H	182	49.5	8.4

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	119.6 PK			2.12 V	306	79.4	40.2
2	*5200.00	110.3 AV			2.12 V	306	70.1	40.2
3	#10400.00	62.5 PK	68.2	-5.7	1.87 V	169	54.1	8.4

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 48 : 5240 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	27°C, 75% 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	59.8 PK	74.0	-14.2	1.88 H	261	57.3	2.5
2	5150.00	49.4 AV	54.0	-4.6	1.88 H	261	46.9	2.5
3	*5240.00	117.9 PK			1.88 H	261	77.8	40.1
4	*5240.00	108.1 AV			1.88 H	261	68.0	40.1
5	#10480.00	59.3 PK	68.2	-8.9	1.92 H	188	50.8	8.5

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	62.5 PK	74.0	-11.5	2.07 V	296	60.0	2.5
2	5150.00	52.5 AV	54.0	-1.5	2.07 V	296	50.0	2.5
3	*5240.00	119.4 PK			2.07 V	296	79.3	40.1
4	*5240.00	109.6 AV			2.07 V	296	69.5	40.1
5	#10480.00	62.0 PK	68.2	-6.2	1.78 V	182	53.5	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.
6. " # " : The radiated frequency is out of the restricted band.



RF Mode	TX 802.11ac (VHT20)	Channel	CH 36 : 5180 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	27°C, 75% 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	61.1 PK	74.0	-12.9	1.90 H	259	58.6	2.5
2	5150.00	50.5 AV	54.0	-3.5	1.90 H	259	48.0	2.5
3	*5180.00	116.6 PK			1.90 H	259	76.3	40.3
4	*5180.00	107.1 AV			1.90 H	259	66.8	40.3
5	#10360.00	58.1 PK	68.2	-10.1	1.80 H	172	49.6	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	5150.00	66.8 PK	74.0	-7.2	2.15 V	299	64.3	2.5
2	5150.00	53.2 AV	54.0	-0.8	2.15 V	299	50.7	2.5
3	*5180.00	117.9 PK			2.15 V	299	77.6	40.3
4	*5180.00	108.5 AV			2.15 V	299	68.2	40.3
5	#10360.00	61.9 PK	68.2	-6.3	1.85 V	183	53.4	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.
6. " # " : The radiated frequency is out of the restricted band.



RF Mode	TX 802.11ac (VHT20)	Channel	CH 40 : 5200 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	27°C, 75% 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	116.5 PK			1.83 H	263	76.3	40.2
2	*5200.00	107.1 AV			1.83 H	263	66.9	40.2
3	#10400.00	59.1 PK	68.2	-9.1	1.91 H	183	50.7	8.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	118.2 PK			2.17 V	277	78.0	40.2
2	*5200.00	108.7 AV			2.17 V	277	68.5	40.2
3	#10400.00	62.4 PK	68.2	-5.8	1.74 V	167	54.0	8.4

Remarks:

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



RF Mode	TX 802.11ac (VHT20)	Channel	CH 48 : 5240 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	27°C, 75% 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	62.0 PK	74.0	-12.0	1.88 H	259	59.5	2.5
2	5150.00	50.4 AV	54.0	-3.6	1.88 H	259	47.9	2.5
3	*5240.00	116.5 PK			1.88 H	259	76.4	40.1
4	*5240.00	107.4 AV			1.88 H	259	67.3	40.1
5	#10480.00	48.6 PK	68.2	-19.6	1.89 H	186	40.1	8.5

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	63.5 PK	74.0	-10.5	2.22 V	284	61.0	2.5
2	5150.00	52.8 AV	54.0	-1.2	2.22 V	284	50.3	2.5
3	*5240.00	118.0 PK			2.22 V	284	77.9	40.1
4	*5240.00	108.9 AV			2.22 V	284	68.8	40.1
5	#10480.00	51.7 PK	68.2	-16.5	1.76 V	174	43.2	8.5

Remarks:

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



RF Mode	TX 802.11ac (VHT40)	Channel	CH 38 : 5190 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	27°C, 75% 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	58.8 PK	74.0	-15.2	1.95 H	263	56.3	2.5
2	5150.00	48.3 AV	54.0	-5.7	1.95 H	263	45.8	2.5
3	*5190.00	105.9 PK			1.95 H	263	65.6	40.3
4	*5190.00	97.5 AV			1.95 H	263	57.2	40.3
5	#10380.00	58.7 PK	68.2	-9.5	1.87 H	175	50.2	8.5

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	61.7 PK	74.0	-12.3	1.97 V	309	59.2	2.5
2	5150.00	53.5 AV	54.0	-0.5	1.97 V	309	51.0	2.5
3	*5190.00	107.2 PK			1.97 V	309	66.9	40.3
4	*5190.00	98.9 AV			1.97 V	309	58.6	40.3
5	#10380.00	58.9 PK	68.2	-9.3	1.70 V	178	50.4	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.
6. " # " : The radiated frequency is out of the restricted band.



RF Mode	TX 802.11ac (VHT40)	Channel	CH 46 : 5230 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	27°C, 75% 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	62.8 PK	74.0	-11.2	1.83 H	260	60.3	2.5
2	5150.00	51.0 AV	54.0	-3.0	1.83 H	260	48.5	2.5
3	*5230.00	114.3 PK			1.83 H	260	74.2	40.1
4	*5230.00	105.0 AV			1.83 H	260	64.9	40.1
5	#10460.00	58.3 PK	68.2	-9.9	1.80 H	188	49.8	8.5

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	66.5 PK	74.0	-7.5	1.97 V	317	64.0	2.5
2	5150.00	53.7 AV	54.0	-0.3	1.97 V	317	51.2	2.5
3	*5230.00	115.6 PK			1.97 V	317	75.5	40.1
4	*5230.00	106.4 AV			1.97 V	317	66.3	40.1
5	#10460.00	59.1 PK	68.2	-9.1	1.86 V	168	50.6	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.
6. " # " : The radiated frequency is out of the restricted band.



RF Mode	TX 802.11ac (VHT80)	Channel	CH 42 : 5210 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	27°C, 75% 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	63.9 PK	74.0	-10.1	1.75 H	266	61.4	2.5
2	5150.00	51.9 AV	54.0	-2.1	1.75 H	266	49.4	2.5
3	*5210.00	104.1 PK			1.75 H	266	63.9	40.2
4	*5210.00	94.7 AV			1.75 H	266	54.5	40.2
5	#10420.00	58.1 PK	68.2	-10.1	1.77 H	181	49.7	8.4

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	65.7 PK	74.0	-8.3	2.02 V	317	63.2	2.5
2	5150.00	53.4 AV	54.0	-0.6	2.02 V	317	50.9	2.5
3	*5210.00	105.8 PK			2.02 V	317	65.6	40.2
4	*5210.00	96.3 AV			2.02 V	317	56.1	40.2
5	#10420.00	58.8 PK	68.2	-9.4	1.84 V	166	50.4	8.4

Remarks:

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



RF Mode	TX 802.11a	Channel	CH 52 : 5260 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 66% 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	*5260.00	118.1 PK			1.90 H	266	78.0	40.1
2	*5260.00	108.1 AV			1.90 H	266	68.0	40.1
3	5350.00	60.9 PK	74.0	-13.1	1.90 H	266	58.8	2.1
4	5350.00	50.1 AV	54.0	-3.9	1.90 H	266	48.0	2.1
5	#10520.00	58.5 PK	68.2	-9.7	1.85 H	175	50.0	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	*5260.00	119.6 PK			1.99 V	318	79.5	40.1
2	*5260.00	109.6 AV			1.99 V	318	69.5	40.1
3	5350.00	61.6 PK	74.0	-12.4	1.99 V	318	59.5	2.1
4	5350.00	50.3 AV	54.0	-3.7	1.99 V	318	48.2	2.1
5	#10520.00	63.8 PK	68.2	-4.4	1.70 V	166	55.3	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.
6. " # " : The radiated frequency is out of the restricted band.



RF Mode	TX 802.11a	Channel	CH 60 : 5300 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 66% 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	*5300.00	117.7 PK			1.87 H	264	77.7	40.0
2	*5300.00	106.9 AV			1.87 H	264	66.9	40.0
3	5350.00	64.9 PK	74.0	-9.1	1.87 H	264	62.8	2.1
4	5350.00	50.0 AV	54.0	-4.0	1.87 H	264	47.9	2.1
5	10600.00	58.7 PK	74.0	-15.3	1.84 H	175	49.9	8.8
6	10600.00	44.7 AV	54.0	-9.3	1.84 H	175	35.9	8.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	119.2 PK			1.82 V	316	79.2	40.0
2	*5300.00	108.4 AV			1.82 V	316	68.4	40.0
3	5350.00	67.0 PK	74.0	-7.0	1.82 V	316	64.9	2.1
4	5350.00	50.1 AV	54.0	-3.9	1.82 V	316	48.0	2.1
5	10600.00	63.2 PK	74.0	-10.8	1.76 V	174	54.4	8.8
6	10600.00	49.1 AV	54.0	-4.9	1.76 V	174	40.3	8.8

Remarks:

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



RF Mode	TX 802.11a	Channel	CH 64 : 5320 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 66% 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	*5320.00	115.4 PK			1.92 H	264	75.4	40.0
2	*5320.00	105.8 AV			1.92 H	264	65.8	40.0
3	5350.00	66.0 PK	74.0	-8.0	1.92 H	264	63.9	2.1
4	5350.00	51.0 AV	54.0	-3.0	1.92 H	264	48.9	2.1
5	10640.00	58.1 PK	74.0	-15.9	1.84 H	179	49.5	8.6
6	10640.00	44.5 AV	54.0	-9.5	1.84 H	179	35.9	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	*5320.00	117.1 PK			1.69 V	313	77.1	40.0
2	*5320.00	107.4 AV			1.69 V	313	67.4	40.0
3	5350.00	69.5 PK	74.0	-4.5	1.69 V	313	67.4	2.1
4	5350.00	53.1 AV	54.0	-0.9	1.69 V	313	51.0	2.1
5	10640.00	62.3 PK	74.0	-11.7	1.71 V	181	53.7	8.6
6	10640.00	46.6 AV	54.0	-7.4	1.71 V	181	38.0	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.



RF Mode	TX 802.11ac (VHT20)	Channel	CH 52 : 5260 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	27°C, 75% 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	*5260.00	116.4 PK			1.92 H	261	76.3	40.1
2	*5260.00	105.5 AV			1.92 H	261	65.4	40.1
3	5350.00	58.7 PK	74.0	-15.3	1.92 H	261	56.6	2.1
4	5350.00	47.9 AV	54.0	-6.1	1.92 H	261	45.8	2.1
5	#10520.00	58.5 PK	68.2	-9.7	1.90 H	185	50.0	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	*5260.00	117.7 PK			1.67 V	311	77.6	40.1
2	*5260.00	106.9 AV			1.67 V	311	66.8	40.1
3	5350.00	60.5 PK	74.0	-13.5	1.67 V	311	58.4	2.1
4	5350.00	49.3 AV	54.0	-4.7	1.67 V	311	47.2	2.1
5	#10520.00	58.0 PK	68.2	-10.2	1.94 V	175	49.5	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.
6. " # " : The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ac (VHT20)	Channel	CH 60 : 5300 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	27°C, 75% 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	*5300.00	117.1 PK			1.82 H	259	77.1	40.0
2	*5300.00	107.2 AV			1.82 H	259	67.2	40.0
3	10600.00	58.8 PK	74.0	-15.2	1.77 H	178	50.0	8.8
4	10600.00	44.6 AV	54.0	-9.4	1.77 H	178	35.8	8.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	118.8 PK			1.68 V	317	78.8	40.0
2	*5300.00	108.8 AV			1.68 V	317	68.8	40.0
3	10600.00	63.8 PK	74.0	-10.2	1.76 V	181	55.0	8.8
4	10600.00	48.7 AV	54.0	-5.3	1.76 V	181	39.9	8.8

Remarks:

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



RF Mode	TX 802.11ac (VHT20)	Channel	CH 64 : 5320 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	27°C, 75% 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	*5320.00	115.0 PK			1.83 H	263	75.0	40.0
2	*5320.00	104.0 AV			1.83 H	263	64.0	40.0
3	5350.00	69.6 PK	74.0	-4.4	1.83 H	263	67.5	2.1
4	5350.00	52.1 AV	54.0	-1.9	1.83 H	263	50.0	2.1
5	10640.00	58.5 PK	74.0	-15.5	1.81 H	186	49.9	8.6
6	10640.00	44.3 AV	54.0	-9.7	1.81 H	186	35.7	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	*5320.00	116.5 PK			1.68 V	312	76.5	40.0
2	*5320.00	105.5 AV			1.68 V	312	65.5	40.0
3	5350.00	70.5 PK	74.0	-3.5	1.68 V	312	68.4	2.1
4	5350.00	53.2 AV	54.0	-0.8	1.68 V	312	51.1	2.1
5	10640.00	61.0 PK	74.0	-13.0	1.69 V	168	52.4	8.6
6	10640.00	46.9 AV	54.0	-7.1	1.69 V	168	38.3	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.



RF Mode	TX 802.11ac (VHT40)	Channel	CH 54 : 5270 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	27°C, 75% 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	*5270.00	113.5 PK			1.90 H	264	73.4	40.1
2	*5270.00	103.9 AV			1.90 H	264	63.8	40.1
3	5350.00	62.1 PK	74.0	-11.9	1.90 H	264	60.0	2.1
4	5350.00	48.7 AV	54.0	-5.3	1.90 H	264	46.6	2.1
5	#10540.00	58.9 PK	68.2	-9.3	1.94 H	179	50.3	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	*5270.00	114.8 PK			1.68 V	312	74.7	40.1
2	*5270.00	105.3 AV			1.68 V	312	65.2	40.1
3	5350.00	66.8 PK	74.0	-7.2	1.68 V	312	64.7	2.1
4	5350.00	52.0 AV	54.0	-2.0	1.68 V	312	49.9	2.1
5	#10540.00	58.8 PK	68.2	-9.4	1.85 V	176	50.2	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.
6. " # " : The radiated frequency is out of the restricted band.



RF Mode	TX 802.11ac (VHT40)	Channel	CH 62 : 5310 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	27°C, 75% 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	*5310.00	110.2 PK			1.90 H	264	70.2	40.0
2	*5310.00	101.1 AV			1.90 H	264	61.1	40.0
3	5350.00	60.6 PK	74.0	-13.4	1.90 H	264	58.5	2.1
4	5350.00	48.4 AV	54.0	-5.6	1.90 H	264	46.3	2.1
5	10620.00	58.5 PK	74.0	-15.5	1.85 H	180	49.8	8.7
6	10620.00	44.4 AV	54.0	-9.6	1.85 H	180	35.7	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	*5310.00	111.5 PK			1.72 V	315	71.5	40.0
2	*5310.00	102.5 AV			1.72 V	315	62.5	40.0
3	5350.00	63.3 PK	74.0	-10.7	1.72 V	315	61.2	2.1
4	5350.00	53.0 AV	54.0	-1.0	1.72 V	315	50.9	2.1
5	10620.00	58.9 PK	74.0	-15.1	1.85 V	175	50.2	8.7
6	10620.00	44.6 AV	54.0	-9.4	1.85 V	175	35.9	8.7

Remarks:

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



RF Mode	TX 802.11ac (VHT80)	Channel	CH 58 : 5290 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	27°C, 75% 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	#5250.00	63.3 PK	68.2	-4.9	1.77 H	260	61.2	2.1
2	#5250.00	51.8 AV	54.0	-2.2	1.77 H	260	49.7	2.1
3	*5290.00	108.3 PK			1.77 H	260	68.3	40.0
4	*5290.00	99.1 AV			1.77 H	260	59.1	40.0
5	#10580.00	58.3 PK	68.2	-9.9	1.90 H	186	49.6	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	*5290.00	109.6 PK			1.82 V	319	69.6	40.0
2	*5290.00	100.5 AV			1.82 V	319	60.5	40.0
3	5350.00	65.4 PK	74.0	-8.6	1.82 V	319	63.3	2.1
4	5350.00	53.5 AV	54.0	-0.5	1.82 V	319	51.4	2.1
5	#10580.00	59.6 PK	68.2	-8.6	1.85 V	179	50.9	8.7

Remarks:

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



RF Mode	TX 802.11a	Channel	CH 100 : 5500 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	5460.00	59.8 PK	74.0	-14.2	2.12 H	269	57.7	2.1
2	5460.00	48.7 AV	54.0	-5.3	2.12 H	269	46.6	2.1
3	#5470.00	61.9 PK	68.2	-6.3	2.12 H	269	59.8	2.1
4	*5500.00	114.9 PK			2.12 H	269	74.8	40.1
5	*5500.00	104.9 AV			2.12 H	269	64.8	40.1
6	11100.00	60.0 PK	74.0	-14.0	1.74 H	228	51.1	8.9
7	11100.00	46.1 AV	54.0	-7.9	1.74 H	228	37.2	8.9

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	62.4 PK	74.0	-11.6	2.25 V	293	60.3	2.1
2	5460.00	51.2 AV	54.0	-2.8	2.25 V	293	49.1	2.1
3	#5470.00	67.2 PK	68.2	-1.0	2.25 V	293	65.1	2.1
4	*5500.00	116.5 PK			2.25 V	293	76.4	40.1
5	*5500.00	106.5 AV			2.25 V	293	66.4	40.1
6	11100.00	63.4 PK	74.0	-10.6	2.54 V	131	54.5	8.9
7	11100.00	49.2 AV	54.0	-4.8	2.54 V	131	40.3	8.9

Remarks:

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



RF Mode	TX 802.11a	Channel	CH 116 : 5580 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	*5580.00	118.6 PK			2.14 H	256	77.7	40.9
2	*5580.00	108.7 AV			2.14 H	256	67.8	40.9
3	11160.00	60.6 PK	74.0	-13.4	1.66 H	223	51.8	8.8
4	11160.00	47.5 AV	54.0	-6.5	1.66 H	223	38.7	8.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	120.3 PK			2.08 V	294	79.4	40.9
2	*5580.00	110.3 AV			2.08 V	294	69.4	40.9
3	11160.00	63.9 PK	74.0	-10.1	2.47 V	132	55.1	8.8
4	11160.00	50.3 AV	54.0	-3.7	2.47 V	132	41.5	8.8

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 140 : 5700 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	*5700.00	114.9 PK			2.10 H	259	73.5	41.4
2	*5700.00	104.9 AV			2.10 H	259	63.5	41.4
3	#5725.00	64.9 PK	68.2	-3.3	2.10 H	259	61.2	3.7
4	11400.00	60.5 PK	74.0	-13.5	1.73 H	221	51.0	9.5
5	11400.00	46.6 AV	54.0	-7.4	1.73 H	221	37.1	9.5

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	116.6 PK			2.11 V	289	75.2	41.4
2	*5700.00	106.5 AV			2.11 V	289	65.1	41.4
3	#5725.00	67.2 PK	68.2	-1.0	2.11 V	289	63.5	3.7
4	11400.00	63.8 PK	74.0	-10.2	2.43 V	127	54.3	9.5
5	11400.00	49.7 AV	54.0	-4.3	2.43 V	127	40.2	9.5

Remarks:

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



RF Mode	TX 802.11a	Channel	CH 144 : 5720 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	#5470.00	58.0 PK	68.2	-10.2	2.14 H	270	55.9	2.1
2	*5720.00	118.9 PK			2.14 H	270	77.4	41.5
3	*5720.00	108.9 AV			2.14 H	270	67.4	41.5
4	#5850.00	60.3 PK	68.2	-7.9	2.14 H	270	56.6	3.7
5	11440.00	61.4 PK	74.0	-12.6	1.71 H	216	51.8	9.6
6	11440.00	48.4 AV	54.0	-5.6	1.71 H	216	38.8	9.6

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	58.3 PK	68.2	-9.9	2.12 V	292	56.2	2.1
2	*5720.00	120.7 PK			2.12 V	292	79.2	41.5
3	*5720.00	110.6 AV			2.12 V	292	69.1	41.5
4	#5850.00	60.5 PK	68.2	-7.7	2.12 V	292	56.8	3.7
5	11440.00	64.9 PK	74.0	-9.1	2.52 V	137	55.3	9.6
6	11440.00	51.2 AV	54.0	-2.8	2.52 V	137	41.6	9.6

Remarks:

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



RF Mode	TX 802.11ac (VHT20)	Channel	CH 100 : 5500 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	5460.00	60.5 PK	74.0	-13.5	2.07 H	256	58.4	2.1
2	5460.00	49.6 AV	54.0	-4.4	2.07 H	256	47.5	2.1
3	#5470.00	64.0 PK	68.2	-4.2	2.07 H	256	61.9	2.1
4	*5500.00	114.9 PK			2.07 H	256	74.8	40.1
5	*5500.00	104.6 AV			2.07 H	256	64.5	40.1
6	11000.00	59.7 PK	74.0	-14.3	1.79 H	231	51.0	8.7
7	11000.00	45.7 AV	54.0	-8.3	1.79 H	231	37.0	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	5460.00	62.2 PK	74.0	-11.8	2.08 V	302	60.1	2.1
2	5460.00	50.7 AV	54.0	-3.3	2.08 V	302	48.6	2.1
3	#5470.00	67.4 PK	68.2	-0.8	2.08 V	302	65.3	2.1
4	*5500.00	116.6 PK			2.08 V	302	76.5	40.1
5	*5500.00	106.3 AV			2.08 V	302	66.2	40.1
6	11000.00	62.9 PK	74.0	-11.1	2.47 V	143	54.2	8.7
7	11000.00	48.8 AV	54.0	-5.2	2.47 V	143	40.1	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.
6. " # " : The radiated frequency is out of the restricted band.



RF Mode	TX 802.11ac (VHT20)	Channel	CH 116 : 5580 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	*5580.00	118.7 PK			2.18 H	264	77.8	40.9
2	*5580.00	108.2 AV			2.18 H	264	67.3	40.9
3	11160.00	60.4 PK	74.0	-13.6	1.63 H	217	51.6	8.8
4	11160.00	47.4 AV	54.0	-6.6	1.63 H	217	38.6	8.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	120.2 PK			2.11 V	294	79.3	40.9
2	*5580.00	109.8 AV			2.11 V	294	68.9	40.9
3	11160.00	63.7 PK	74.0	-10.3	2.41 V	147	54.9	8.8
4	11160.00	50.1 AV	54.0	-3.9	2.41 V	147	41.3	8.8

Remarks:

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



RF Mode	TX 802.11ac (VHT20)	Channel	CH 140 : 5700 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	*5700.00	114.7 PK			2.11 H	262	73.3	41.4
2	*5700.00	104.3 AV			2.11 H	262	62.9	41.4
3	#5725.00	64.3 PK	68.2	-3.9	2.11 H	262	60.6	3.7
4	11400.00	60.3 PK	74.0	-13.7	1.68 H	237	50.8	9.5
5	11400.00	46.5 AV	54.0	-7.5	1.68 H	237	37.0	9.5

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	116.3 PK			2.16 V	290	74.9	41.4
2	*5700.00	106.0 AV			2.16 V	290	64.6	41.4
3	#5725.00	67.3 PK	68.2	-0.9	2.16 V	290	63.6	3.7
4	11400.00	63.7 PK	74.0	-10.3	2.48 V	146	54.2	9.5
5	11400.00	49.6 AV	54.0	-4.4	2.48 V	146	40.1	9.5

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 144 : 5720 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	#5470.00	58.3 PK	68.2	-9.9	2.08 H	269	56.2	2.1
2	*5720.00	118.8 PK			2.08 H	269	77.3	41.5
3	*5720.00	108.3 AV			2.08 H	269	66.8	41.5
4	#5850.00	60.4 PK	68.2	-7.8	2.08 H	269	56.7	3.7
5	11440.00	61.2 PK	74.0	-12.8	1.82 H	227	51.6	9.6
6	11440.00	48.0 AV	54.0	-6.0	1.82 H	227	38.4	9.6

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	58.5 PK	68.2	-9.7	2.01 V	291	56.4	2.1
2	*5720.00	120.3 PK			2.01 V	291	78.8	41.5
3	*5720.00	109.9 AV			2.01 V	291	68.4	41.5
4	#5850.00	61.0 PK	68.2	-7.2	2.01 V	291	57.3	3.7
5	11440.00	64.8 PK	74.0	-9.2	2.42 V	143	55.2	9.6
6	11440.00	51.0 AV	54.0	-3.0	2.42 V	143	41.4	9.6

Remarks:

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



RF Mode	TX 802.11ac (VHT40)	Channel	CH 102 : 5510 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	5460.00	61.3 PK	74.0	-12.7	2.06 H	262	59.2	2.1
2	5460.00	48.3 AV	54.0	-5.7	2.06 H	262	46.2	2.1
3	#5470.00	66.0 PK	68.2	-2.2	2.06 H	262	63.9	2.1
4	*5510.00	109.9 PK			2.06 H	262	69.6	40.3
5	*5510.00	99.9 AV			2.06 H	262	59.6	40.3
6	11020.00	59.1 PK	74.0	-14.9	1.83 H	221	50.4	8.7
7	11020.00	44.5 AV	54.0	-9.5	1.83 H	221	35.8	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	5460.00	64.4 PK	74.0	-9.6	2.16 V	293	62.3	2.1
2	5460.00	49.2 AV	54.0	-4.8	2.16 V	293	47.1	2.1
3	#5470.00	67.3 PK	68.2	-0.9	2.16 V	293	65.2	2.1
4	*5510.00	111.5 PK			2.16 V	293	71.2	40.3
5	*5510.00	101.6 AV			2.16 V	293	61.3	40.3
6	11020.00	60.6 PK	74.0	-13.4	2.62 V	143	51.9	8.7
7	11020.00	47.3 AV	54.0	-6.7	2.62 V	143	38.6	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.
6. " # " : The radiated frequency is out of the restricted band.



RF Mode	TX 802.11ac (VHT40)	Channel	CH 110 : 5550 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	#5470.00	65.9 PK	68.2	-2.3	2.02 H	253	63.8	2.1
2	*5550.00	113.7 PK			2.02 H	253	73.1	40.6
3	*5550.00	103.8 AV			2.02 H	253	63.2	40.6
4	11100.00	59.8 PK	74.0	-14.2	1.83 H	225	50.9	8.9
5	11100.00	45.5 AV	54.0	-8.5	1.83 H	225	36.6	8.9

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	67.4 PK	68.2	-0.8	2.11 V	292	65.3	2.1
2	*5550.00	115.3 PK			2.11 V	292	74.7	40.6
3	*5550.00	105.5 AV			2.11 V	292	64.9	40.6
4	11100.00	61.2 PK	74.0	-12.8	2.59 V	144	52.3	8.9
5	11100.00	48.3 AV	54.0	-5.7	2.59 V	144	39.4	8.9

Remarks:

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



RF Mode	TX 802.11ac (VHT40)	Channel	CH 134 : 5670 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	*5670.00	112.5 PK			2.18 H	264	71.1	41.4
2	*5670.00	102.5 AV			2.18 H	264	61.1	41.4
3	#5725.00	64.6 PK	68.2	-3.6	2.18 H	264	60.9	3.7
4	11340.00	59.7 PK	74.0	-14.3	1.69 H	221	50.2	9.5
5	11340.00	45.3 AV	54.0	-8.7	1.69 H	221	35.8	9.5

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	114.0 PK			2.06 V	293	72.6	41.4
2	*5670.00	104.1 AV			2.06 V	293	62.7	41.4
3	#5725.00	67.5 PK	68.2	-0.7	2.06 V	293	63.8	3.7
4	11340.00	61.3 PK	74.0	-12.7	2.41 V	128	51.8	9.5
5	11340.00	48.1 AV	54.0	-5.9	2.41 V	128	38.6	9.5

Remarks:

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



RF Mode	TX 802.11ac (VHT40)	Channel	CH 142 : 5710 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	#5470.00	59.8 PK	68.2	-8.4	2.06 H	256	57.7	2.1
2	*5710.00	114.7 PK			2.06 H	256	73.2	41.5
3	*5710.00	104.8 AV			2.06 H	256	63.3	41.5
4	#5850.00	64.4 PK	68.2	-3.8	2.06 H	256	60.7	3.7
5	11420.00	59.8 PK	74.0	-14.2	1.77 H	212	50.2	9.6
6	11420.00	46.8 AV	54.0	-7.2	1.77 H	212	37.2	9.6

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBUV)	Correction Factor (dB/m)
1	#5470.00	61.3 PK	68.2	-6.9	2.16 V	280	59.2	2.1
2	*5710.00	116.6 PK			2.16 V	280	75.1	41.5
3	*5710.00	106.6 AV			2.16 V	280	65.1	41.5
4	#5850.00	67.2 PK	68.2	-1.0	2.16 V	280	63.5	3.7
5	11420.00	63.4 PK	74.0	-10.6	2.38 V	121	53.8	9.6
6	11420.00	49.9 AV	54.0	-4.1	2.38 V	121	40.3	9.6

Remarks:

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



RF Mode	TX 802.11ac (VHT80)	Channel	CH 106 : 5530 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	5460.00	64.7 PK	74.0	-9.3	2.12 H	269	62.6	2.1
2	5460.00	52.7 AV	54.0	-1.3	2.12 H	269	50.6	2.1
3	#5470.00	65.8 PK	68.2	-2.4	2.12 H	269	63.7	2.1
4	*5530.00	106.2 PK			2.12 H	269	65.8	40.4
5	*5530.00	96.2 AV			2.12 H	269	55.8	40.4
6	#5725.00	61.0 PK	68.2	-7.2	2.12 H	269	57.3	3.7
7	11060.00	58.6 PK	74.0	-15.4	1.82 H	227	49.8	8.8
8	11060.00	44.4 AV	54.0	-9.6	1.82 H	227	35.6	8.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	65.0 PK	74.0	-9.0	2.24 V	292	62.9	2.1
2	5460.00	53.1 AV	54.0	-0.9	2.24 V	292	51.0	2.1
3	#5470.00	67.6 PK	68.2	-0.6	2.24 V	292	65.5	2.1
4	*5530.00	107.9 PK			2.24 V	292	67.5	40.4
5	*5530.00	98.0 AV			2.24 V	292	57.6	40.4
6	#5725.00	61.3 PK	68.2	-6.9	2.24 V	292	57.6	3.7
7	11060.00	60.0 PK	74.0	-14.0	2.43 V	141	51.2	8.8
8	11060.00	47.0 AV	54.0	-7.0	2.43 V	141	38.2	8.8

Remarks:

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



RF Mode	TX 802.11ac (VHT80)	Channel	CH 122 : 5610 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	5460.00	59.7 PK	74.0	-14.3	2.10 H	256	57.6	2.1
2	5460.00	47.2 AV	54.0	-6.8	2.10 H	256	45.1	2.1
3	#5470.00	61.4 PK	68.2	-6.8	2.10 H	256	59.3	2.1
4	*5610.00	111.6 PK			2.10 H	256	70.5	41.1
5	*5610.00	101.5 AV			2.10 H	256	60.4	41.1
6	#5725.00	66.4 PK	68.2	-1.8	2.10 H	256	62.7	3.7
7	11220.00	59.4 PK	74.0	-14.6	1.79 H	217	50.5	8.9
8	11220.00	45.3 AV	54.0	-8.7	1.79 H	217	36.4	8.9

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.0 PK	74.0	-14.0	2.26 V	289	57.9	2.1
2	5460.00	47.4 AV	54.0	-6.6	2.26 V	289	45.3	2.1
3	#5470.00	61.9 PK	68.2	-6.3	2.26 V	289	59.8	2.1
4	*5610.00	113.2 PK			2.26 V	289	72.1	41.1
5	*5610.00	103.2 AV			2.26 V	289	62.1	41.1
6	#5725.00	67.4 PK	68.2	-0.8	2.26 V	289	63.7	3.7
7	11220.00	60.8 PK	74.0	-13.2	2.42 V	135	51.9	8.9
8	11220.00	48.1 AV	54.0	-5.9	2.42 V	135	39.2	8.9

Remarks:

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



RF Mode	TX 802.11ac (VHT80)	Channel	CH 138 : 5690 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	#5470.00	58.5 PK	68.2	-9.7	2.13 H	277	56.4	2.1
2	*5690.00	113.2 PK			2.13 H	277	71.8	41.4
3	*5690.00	103.2 AV			2.13 H	277	61.8	41.4
4	#5850.00	65.4 PK	68.2	-2.8	2.13 H	277	61.7	3.7
5	11380.00	60.3 PK	74.0	-13.7	1.79 H	223	50.8	9.5
6	11380.00	46.2 AV	54.0	-7.8	1.79 H	223	36.7	9.5

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBUV)	Correction Factor (dB/m)
1	#5470.00	59.7 PK	68.2	-8.5	2.32 V	289	57.6	2.1
2	*5690.00	114.9 PK			2.32 V	289	73.5	41.4
3	*5690.00	104.9 AV			2.32 V	289	63.5	41.4
4	#5850.00	67.1 PK	68.2	-1.1	2.32 V	289	63.4	3.7
5	11380.00	61.8 PK	74.0	-12.2	2.45 V	142	52.3	9.5
6	11380.00	49.0 AV	54.0	-5.0	2.45 V	142	39.5	9.5

Remarks:

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



RF Mode	TX 802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	*5745.00	119.3 PK			2.21 H	255	77.6	41.7
2	*5745.00	109.3 AV			2.21 H	255	67.6	41.7
3	11490.00	60.4 PK	74.0	-13.6	1.82 H	237	52.3	8.1
4	11490.00	47.4 AV	54.0	-6.6	1.82 H	237	39.3	8.1

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	*5745.00	121.1 PK			2.85 V	290	79.4	41.7
2	*5745.00	111.0 AV			2.85 V	290	69.3	41.7
3	11490.00	64.2 PK	74.0	-9.8	2.24 V	131	56.1	8.1
4	11490.00	52.6 AV	54.0	-1.4	2.24 V	131	44.5	8.1

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.



RF Mode	TX 802.11a	Channel	CH 157 : 5785 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	*5785.00	119.3 PK			2.25 H	254	77.5	41.8
2	*5785.00	109.2 AV			2.25 H	254	67.4	41.8
3	11570.00	59.7 PK	74.0	-14.3	1.83 H	236	51.8	7.9
4	11570.00	46.7 AV	54.0	-7.3	1.83 H	236	38.8	7.9

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5785.00	121.0 PK			2.75 V	289	79.2	41.8
2	*5785.00	111.0 AV			2.75 V	289	69.2	41.8
3	11570.00	63.7 PK	74.0	-10.3	2.28 V	139	55.8	7.9
4	11570.00	51.6 AV	54.0	-2.4	2.28 V	139	43.7	7.9

Remarks:

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



RF Mode	TX 802.11a	Channel	CH 165 : 5825 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	*5825.00	119.7 PK			2.13 H	250	77.8	41.9
2	*5825.00	109.6 AV			2.13 H	250	67.7	41.9
3	11650.00	59.5 PK	74.0	-14.5	1.87 H	226	51.7	7.8
4	11650.00	46.7 AV	54.0	-7.3	1.87 H	226	38.9	7.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5825.00	121.6 PK			2.83 V	287	79.7	41.9
2	*5825.00	111.5 AV			2.83 V	287	69.6	41.9
3	11650.00	63.7 PK	74.0	-10.3	2.37 V	135	55.9	7.8
4	11650.00	52.0 AV	54.0	-2.0	2.37 V	135	44.2	7.8

Remarks:

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



RF Mode	TX 802.11ac (VHT20)	Channel	CH 149 : 5745 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	*5745.00	119.3 PK			2.22 H	252	77.6	41.7
2	*5745.00	109.0 AV			2.22 H	252	67.3	41.7
3	11490.00	59.7 PK	74.0	-14.3	1.76 H	238	51.6	8.1
4	11490.00	46.8 AV	54.0	-7.2	1.76 H	238	38.7	8.1

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	*5745.00	121.0 PK			2.68 V	281	79.3	41.7
2	*5745.00	110.8 AV			2.68 V	281	69.1	41.7
3	11490.00	63.7 PK	74.0	-10.3	2.18 V	142	55.6	8.1
4	11490.00	51.8 AV	54.0	-2.2	2.18 V	142	43.7	8.1

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.



RF Mode	TX 802.11ac (VHT20)	Channel	CH 157 : 5785 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	*5785.00	119.6 PK			2.12 H	253	77.8	41.8
2	*5785.00	109.2 AV			2.12 H	253	67.4	41.8
3	11570.00	59.5 PK	74.0	-14.5	1.92 H	241	51.6	7.9
4	11570.00	46.3 AV	54.0	-7.7	1.92 H	241	38.4	7.9

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5785.00	121.3 PK			2.76 V	281	79.5	41.8
2	*5785.00	110.9 AV			2.76 V	281	69.1	41.8
3	11570.00	63.4 PK	74.0	-10.6	2.36 V	142	55.5	7.9
4	11570.00	51.3 AV	54.0	-2.7	2.36 V	142	43.4	7.9

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 165 : 5825 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	*5825.00	119.4 PK			2.25 H	258	77.5	41.9
2	*5825.00	109.1 AV			2.25 H	258	67.2	41.9
3	11650.00	59.2 PK	74.0	-14.8	1.86 H	247	51.4	7.8
4	11650.00	46.1 AV	54.0	-7.9	1.86 H	247	38.3	7.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5825.00	121.3 PK			2.90 V	292	79.4	41.9
2	*5825.00	110.9 AV			2.90 V	292	69.0	41.9
3	11650.00	63.4 PK	74.0	-10.6	2.28 V	134	55.6	7.8
4	11650.00	51.1 AV	54.0	-2.9	2.28 V	134	43.3	7.8

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	Channel	CH 151 : 5755 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	*5755.00	115.3 PK			2.24 H	254	73.6	41.7
2	*5755.00	105.5 AV			2.24 H	254	63.8	41.7
3	11510.00	58.9 PK	74.0	-15.1	1.84 H	236	50.8	8.1
4	11510.00	46.3 AV	54.0	-7.7	1.84 H	236	38.2	8.1
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	*5755.00	116.9 PK			2.58 V	289	75.2	41.7
2	*5755.00	107.1 AV			2.58 V	289	65.4	41.7
3	11510.00	62.9 PK	74.0	-11.1	2.29 V	136	54.8	8.1
4	11510.00	50.8 AV	54.0	-3.2	2.29 V	136	42.7	8.1

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.



RF Mode	TX 802.11ac (VHT40)	Channel	CH 159 : 5795 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	*5795.00	116.6 PK			2.24 H	254	74.8	41.8
2	*5795.00	106.7 AV			2.24 H	254	64.9	41.8
3	11590.00	58.3 PK	74.0	-15.7	1.88 H	235	50.4	7.9
4	11590.00	45.7 AV	54.0	-8.3	1.88 H	235	37.8	7.9

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5795.00	118.3 PK			2.91 V	285	76.5	41.8
2	*5795.00	108.4 AV			2.91 V	285	66.6	41.8
3	11590.00	63.2 PK	74.0	-10.8	2.18 V	145	55.3	7.9
4	11590.00	51.3 AV	54.0	-2.7	2.18 V	145	43.4	7.9

Remarks:

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



RF Mode	TX 802.11ac (VHT80)	Channel	CH 155 : 5775 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 72% 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	*5775.00	112.5 PK			2.25 H	260	70.7	41.8
2	*5775.00	102.7 AV			2.25 H	260	60.9	41.8
3	11550.00	57.5 PK	74.0	-16.5	1.83 H	236	49.6	7.9
4	11550.00	45.3 AV	54.0	-8.7	1.83 H	236	37.4	7.9

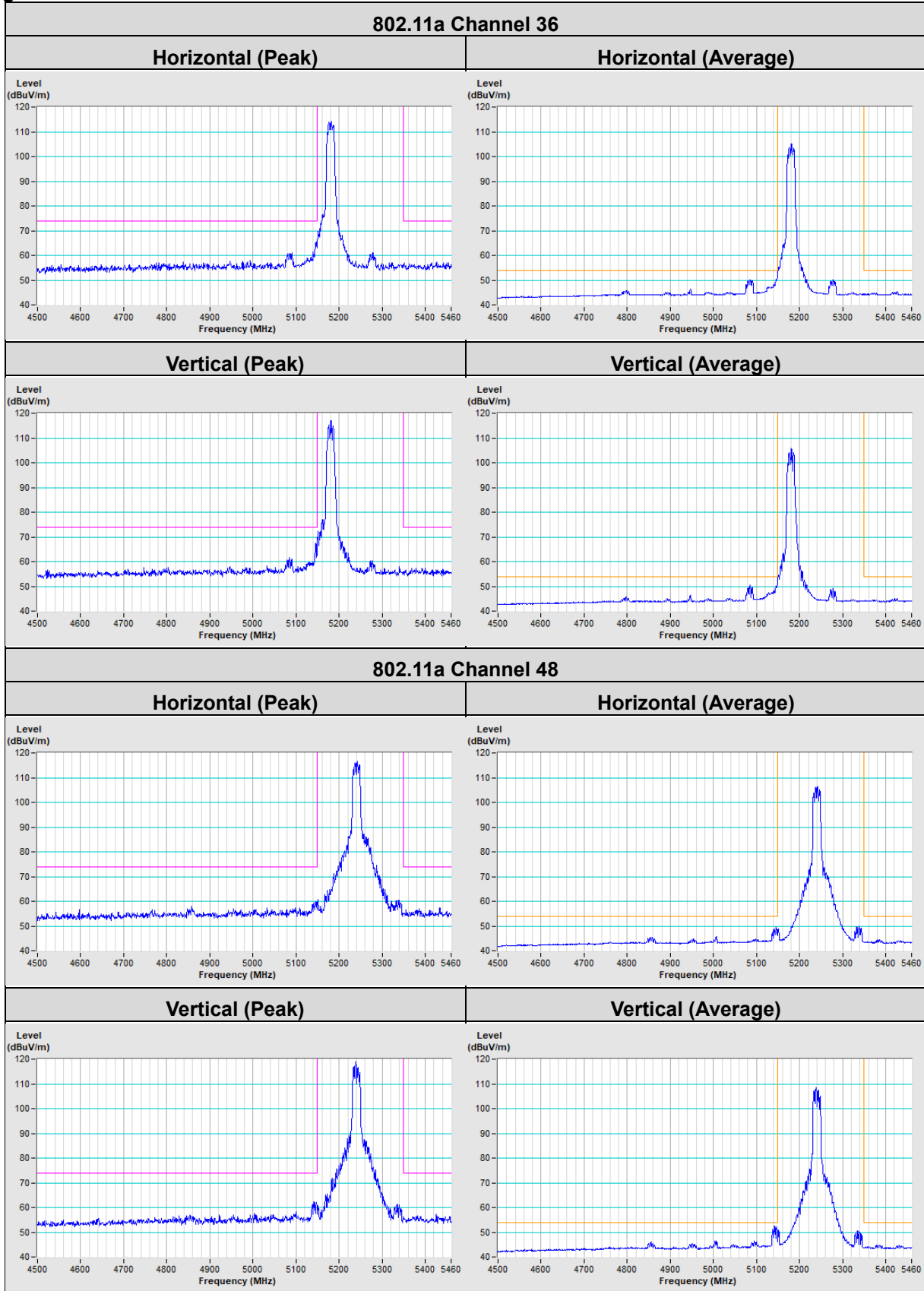
Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5775.00	114.2 PK			2.94 V	285	72.4	41.8
2	*5775.00	104.4 AV			2.94 V	285	62.6	41.8
3	11550.00	61.3 PK	74.0	-12.7	2.19 V	133	53.4	7.9
4	11550.00	51.1 AV	54.0	-2.9	2.19 V	133	43.2	7.9

Remarks:

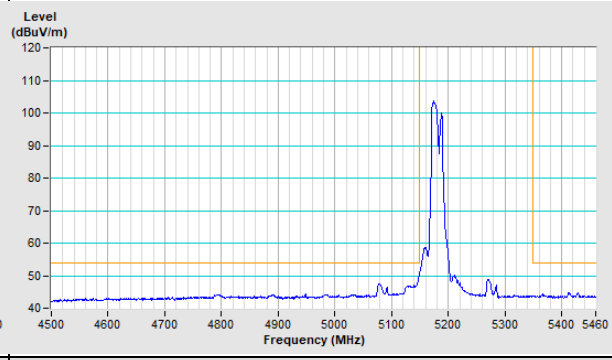
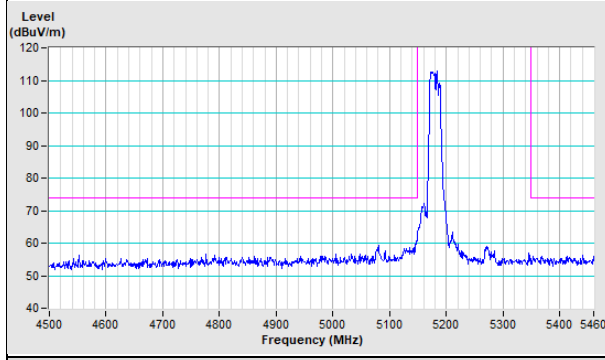
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency.

Band Edge Measurement



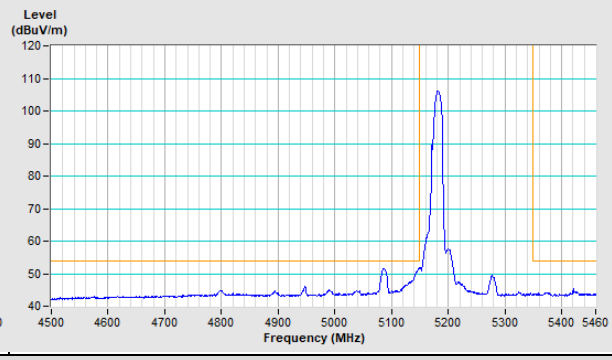
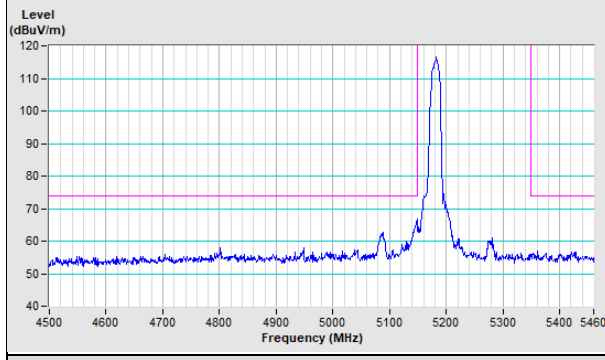
802.11ac (VHT20) Channel 36

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



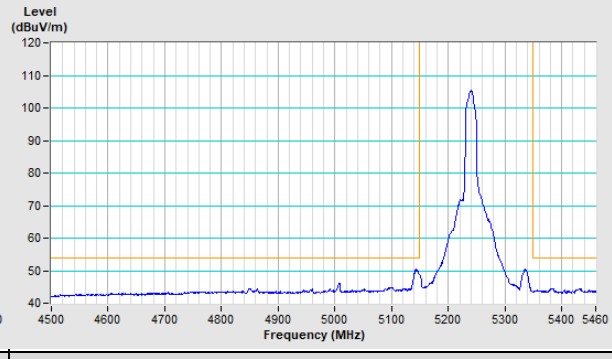
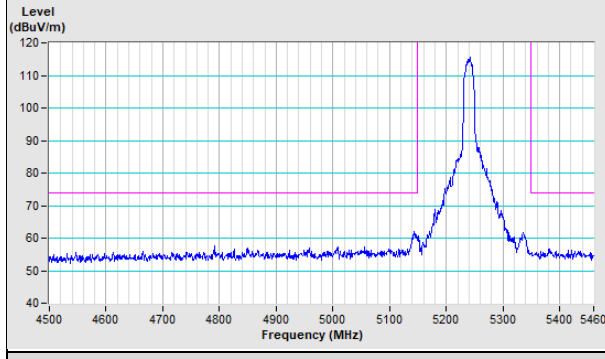
Vertical (Peak)

Vertical (Average)



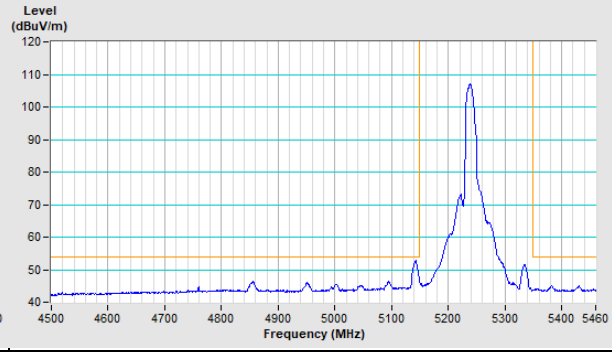
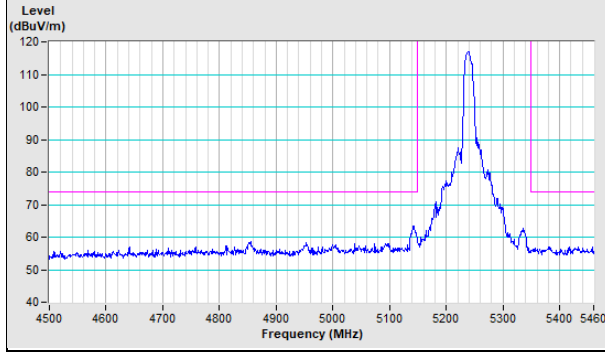
802.11ac (VHT20) Channel 48

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



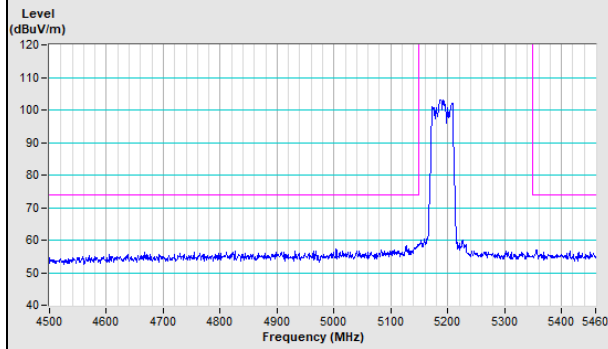
Vertical (Peak)

Vertical (Average)

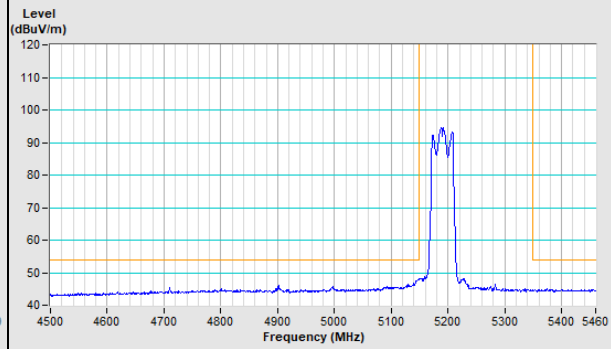


802.11ac (VHT40) Channel 38

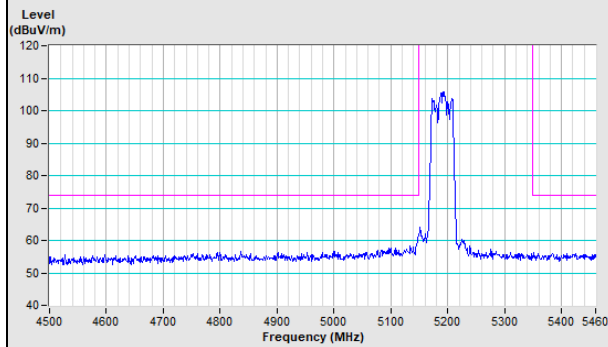
Horizontal (Peak)



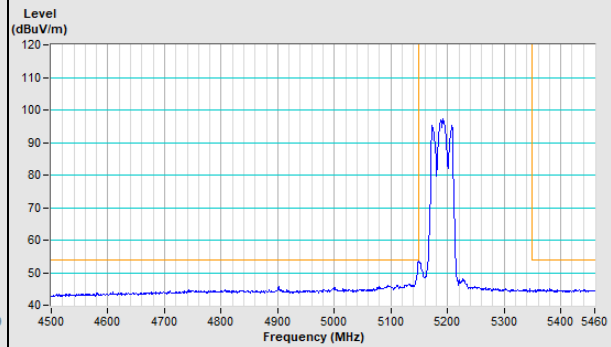
Horizontal (Average)



Vertical (Peak)

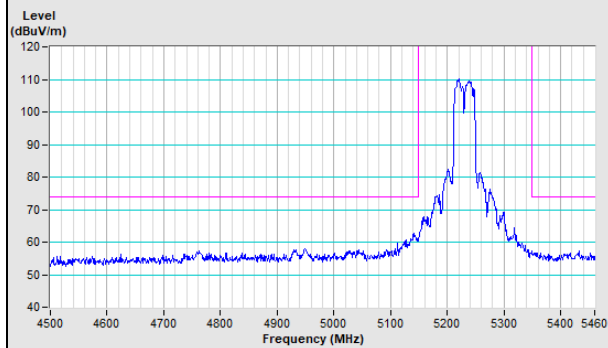


Vertical (Average)

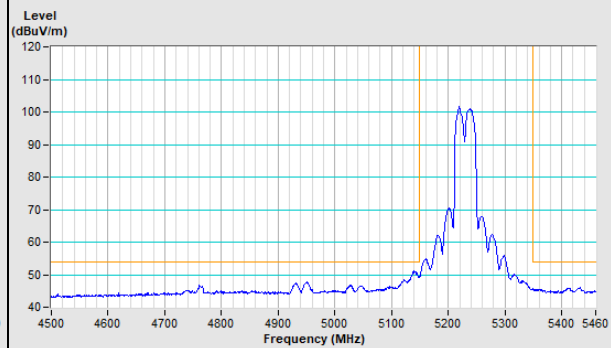


802.11ac (VHT40) Channel 46

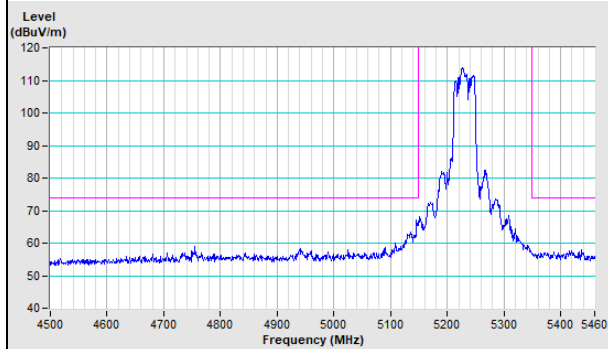
Horizontal (Peak)



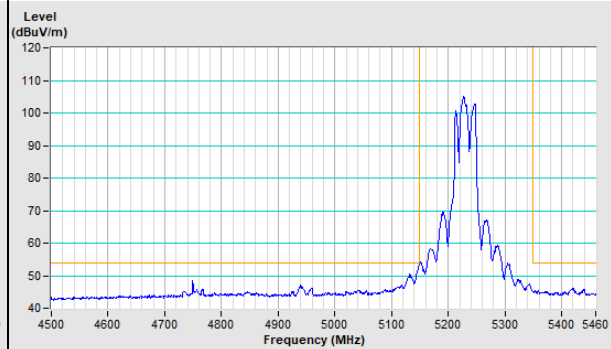
Horizontal (Average)

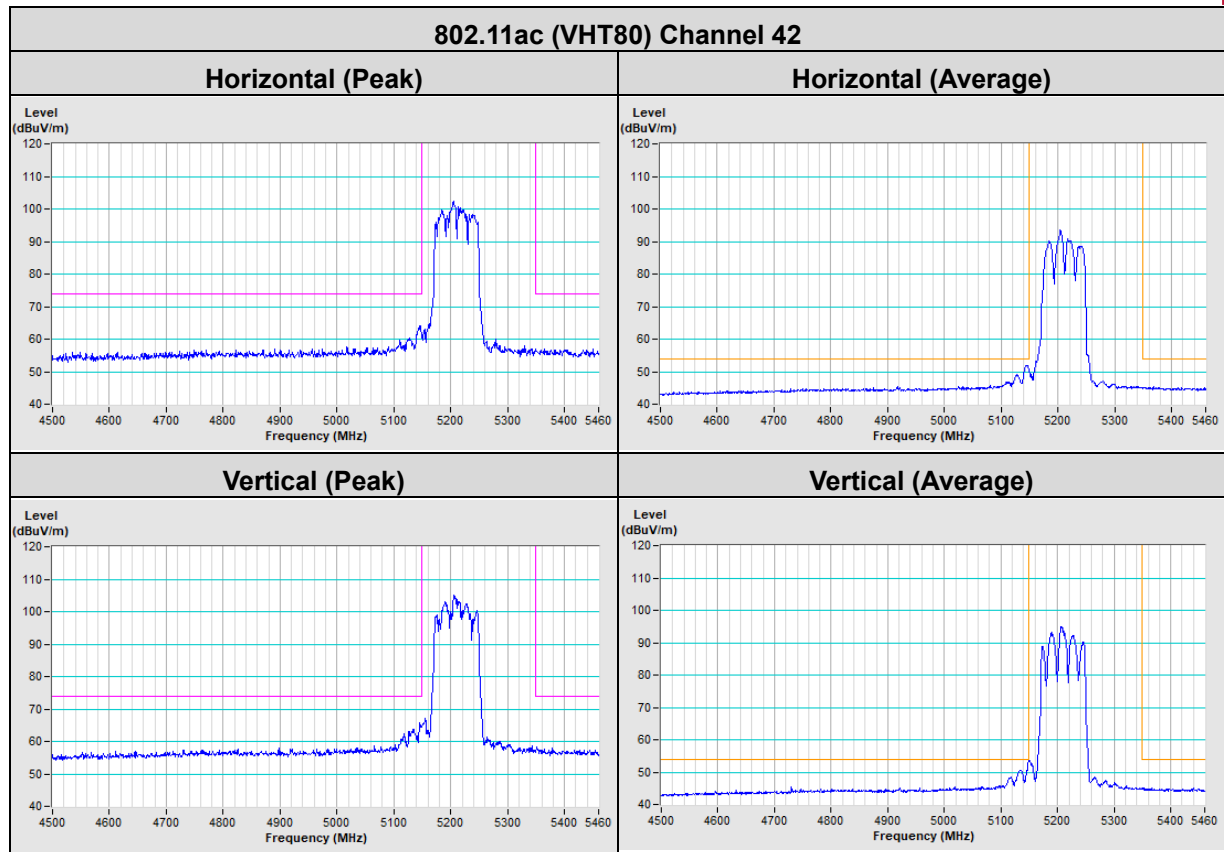


Vertical (Peak)



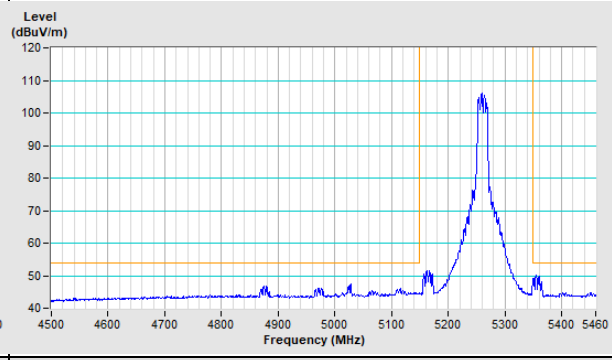
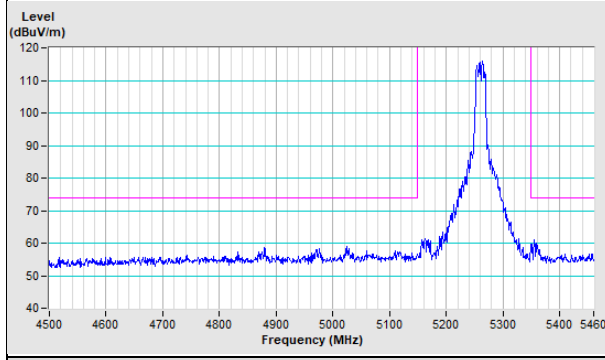
Vertical (Average)





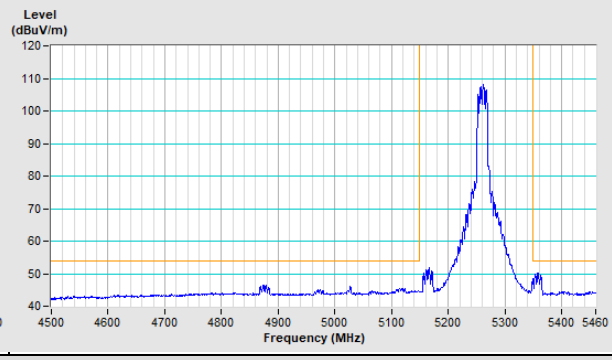
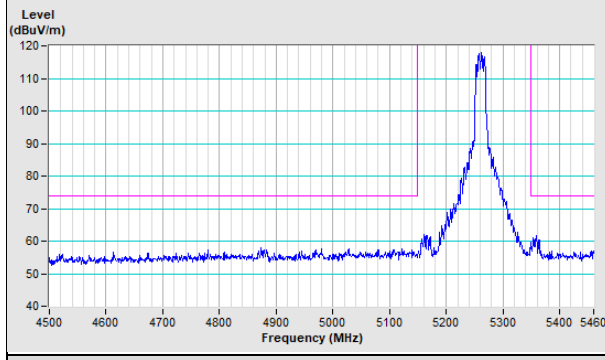
802.11a Channel 52

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



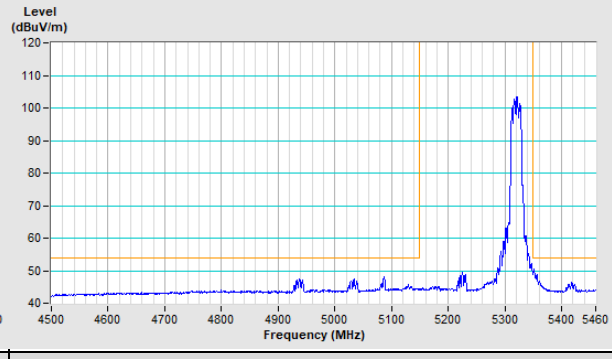
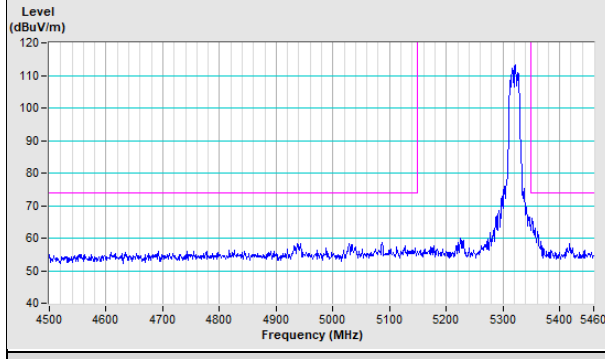
Vertical (Peak)

Vertical (Average)



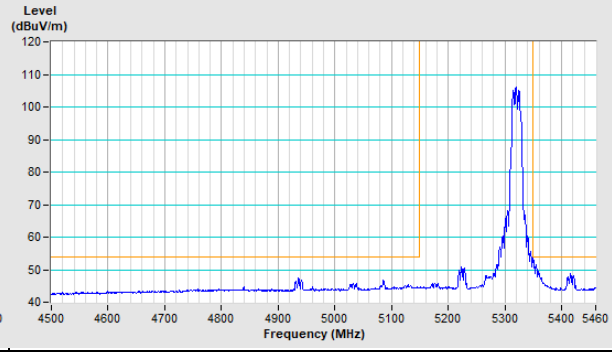
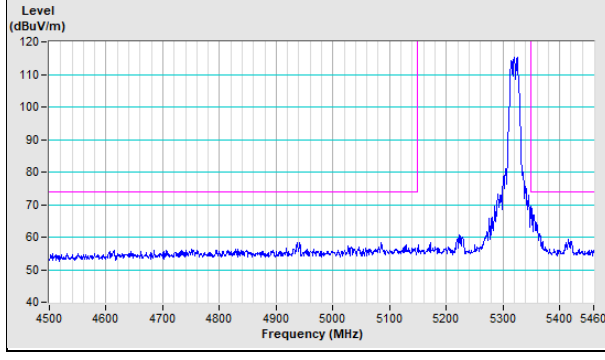
802.11a Channel 64

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



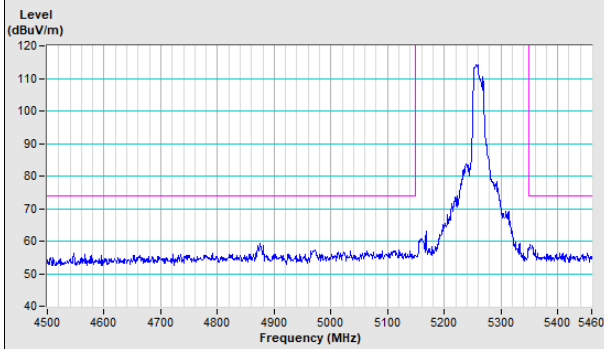
Vertical (Peak)

Vertical (Average)

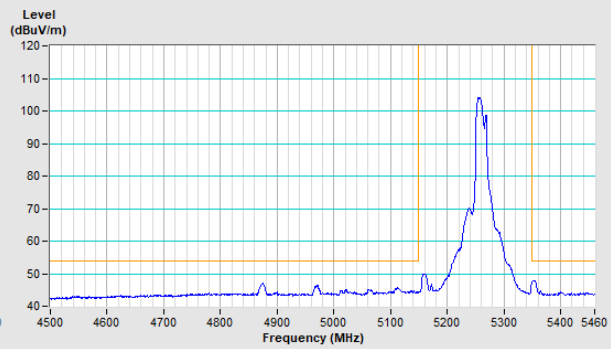


802.11ac (VHT20) Channel 52

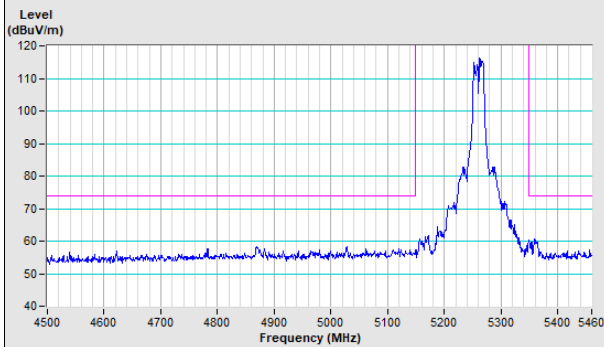
Horizontal (Peak)



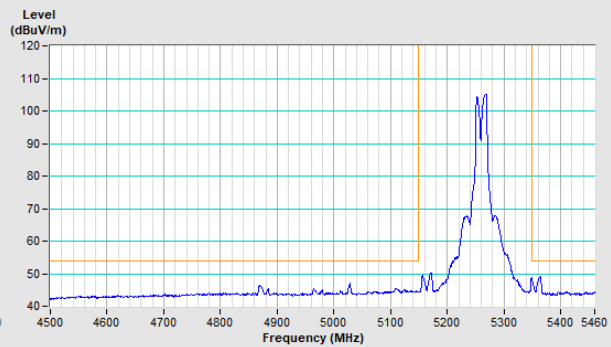
Horizontal (Average)



Vertical (Peak)

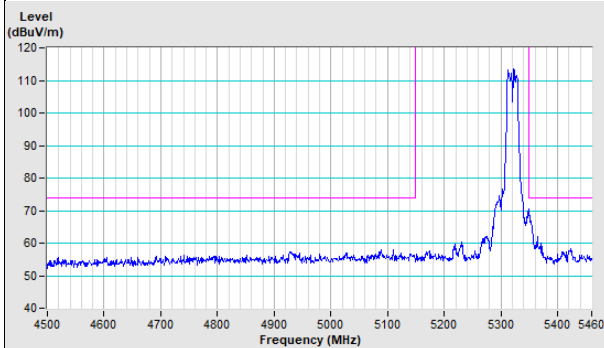


Vertical (Average)

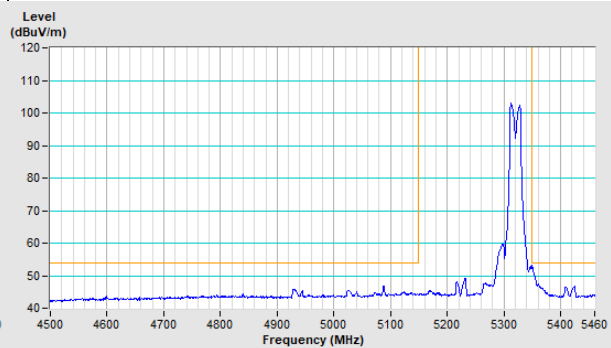


802.11ac (VHT20) Channel 64

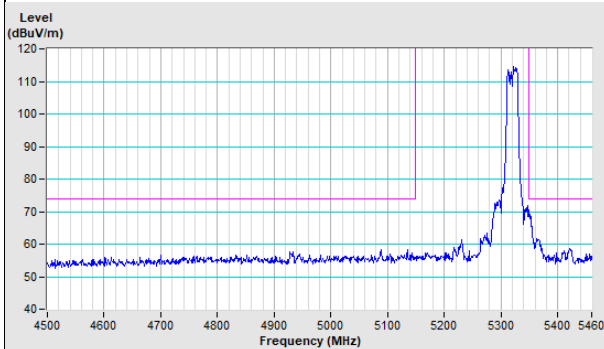
Horizontal (Peak)



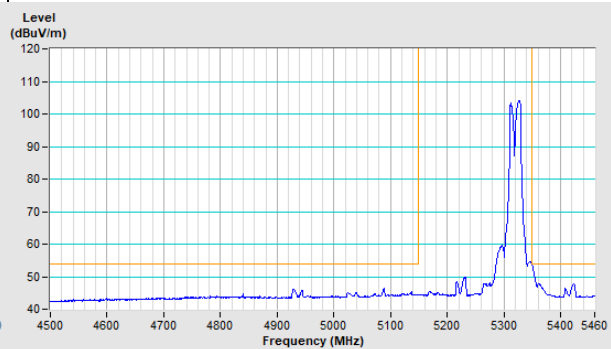
Horizontal (Average)



Vertical (Peak)

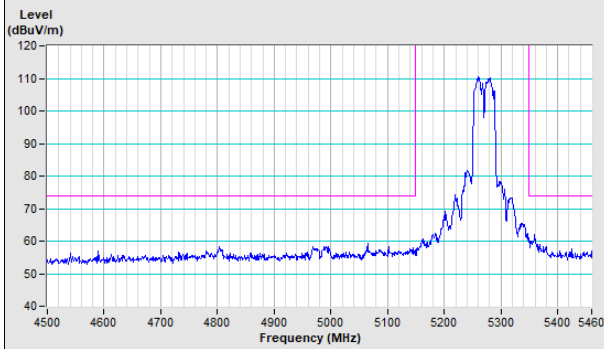


Vertical (Average)

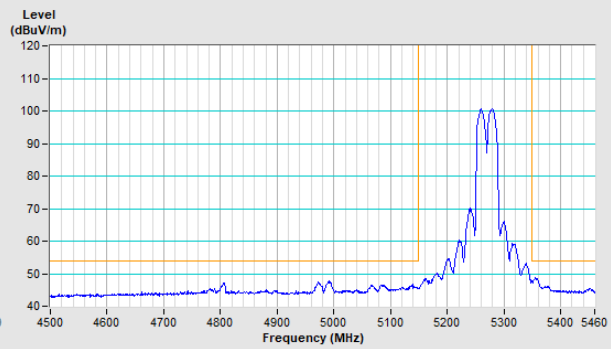


802.11ac (VHT40) Channel 54

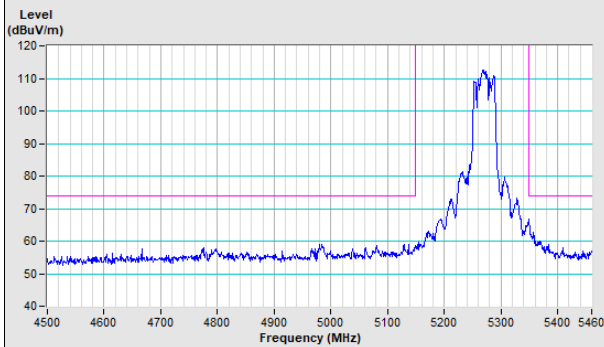
Horizontal (Peak)



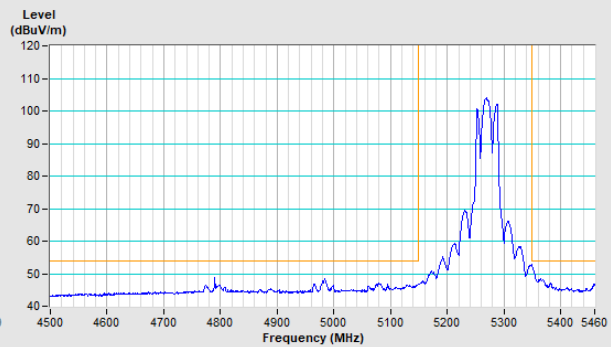
Horizontal (Average)



Vertical (Peak)

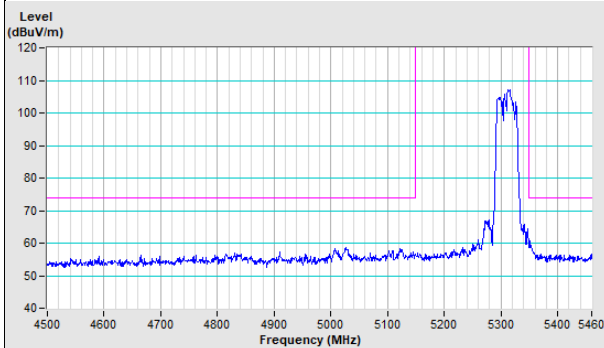


Vertical (Average)

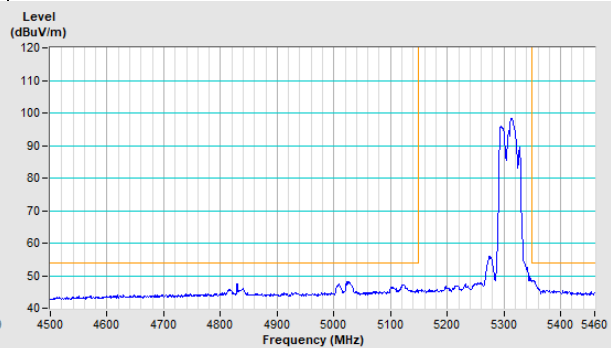


802.11ac (VHT40) Channel 62

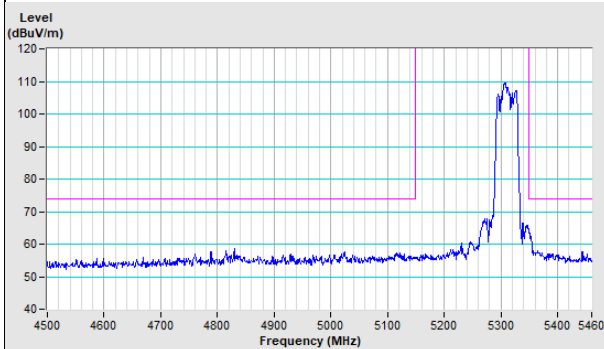
Horizontal (Peak)



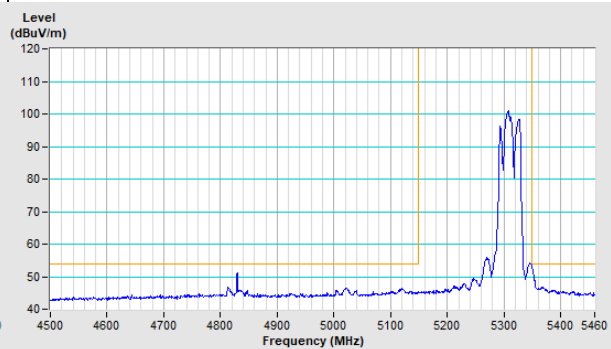
Horizontal (Average)

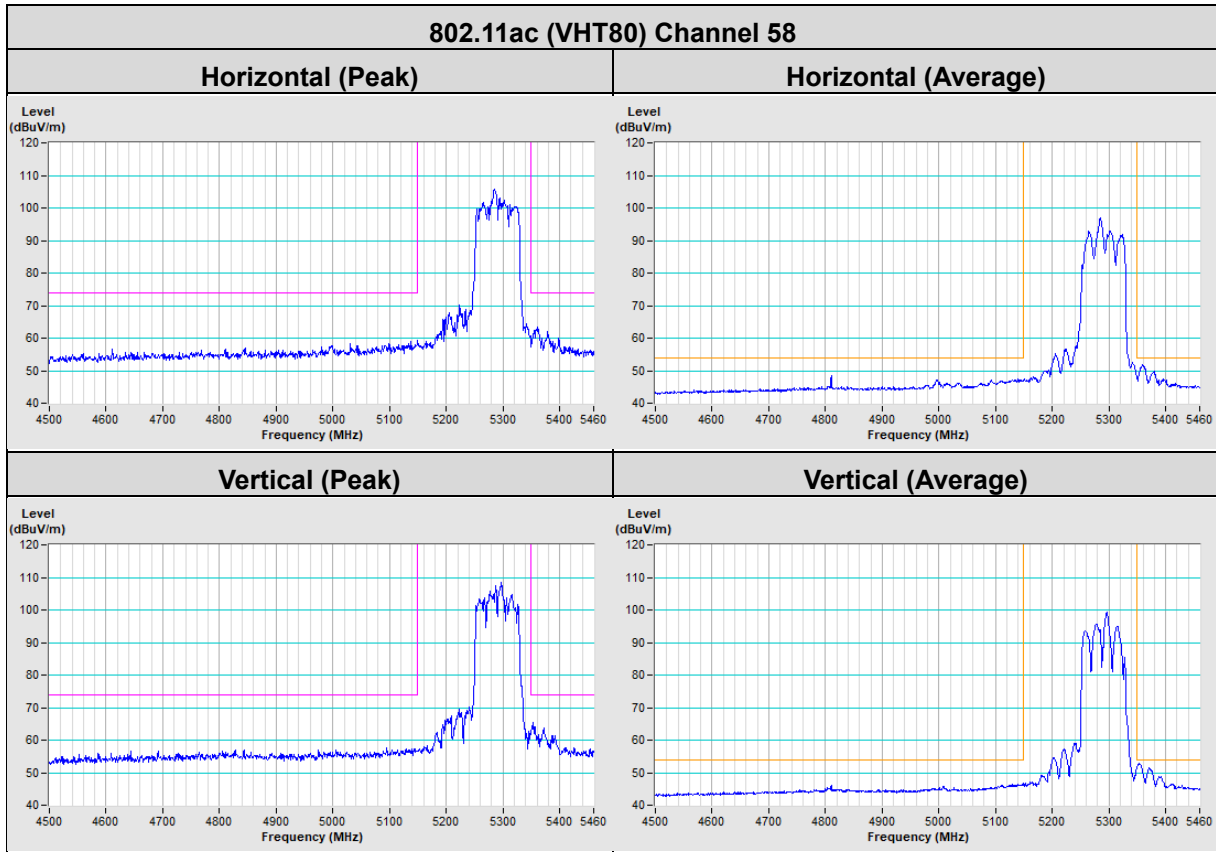


Vertical (Peak)



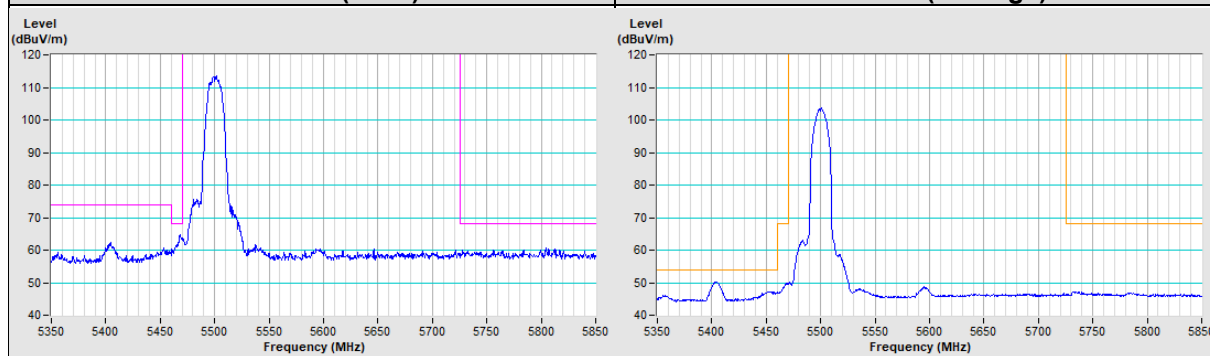
Vertical (Average)



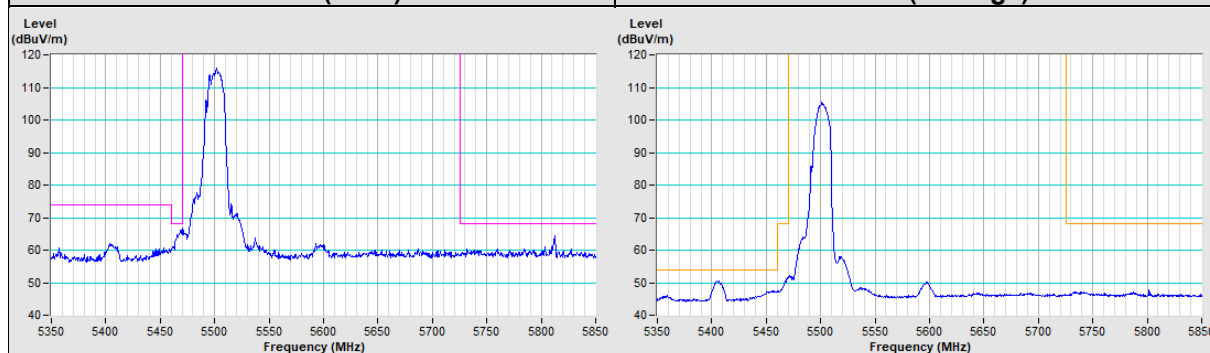


802.11ac (VHT20) Channel 100

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

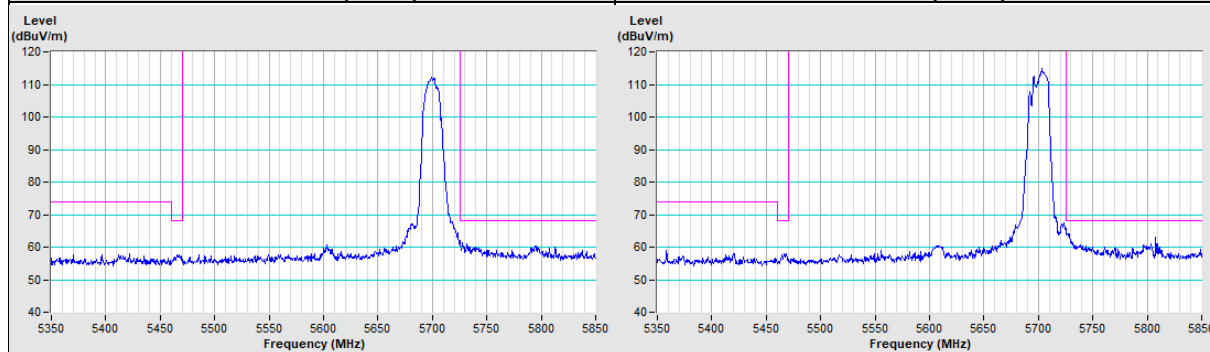


Vertical (Peak) **Vertical (Average)**



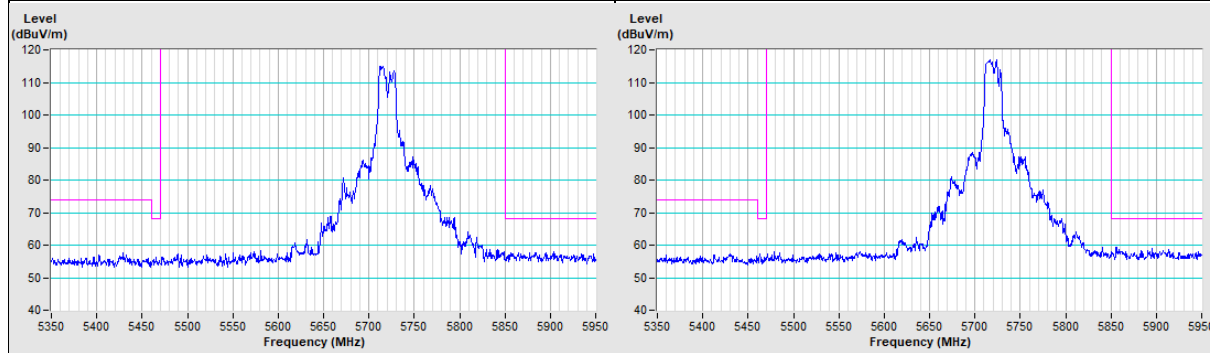
802.11ac (VHT20) Channel 140

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



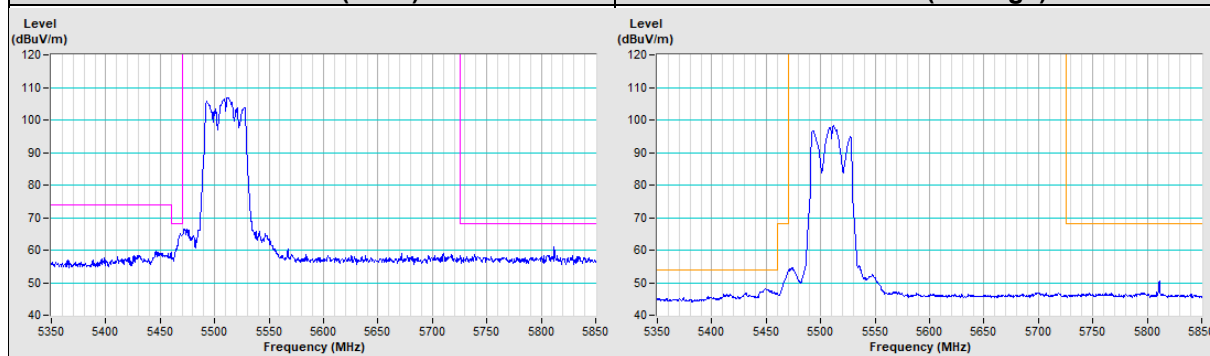
802.11ac (VHT20) Channel 144

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

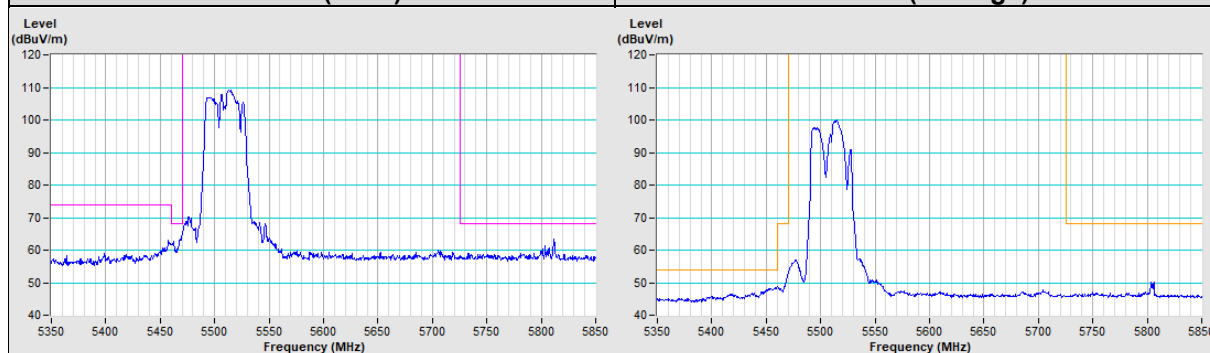


802.11ac (VHT40) Channel 102

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

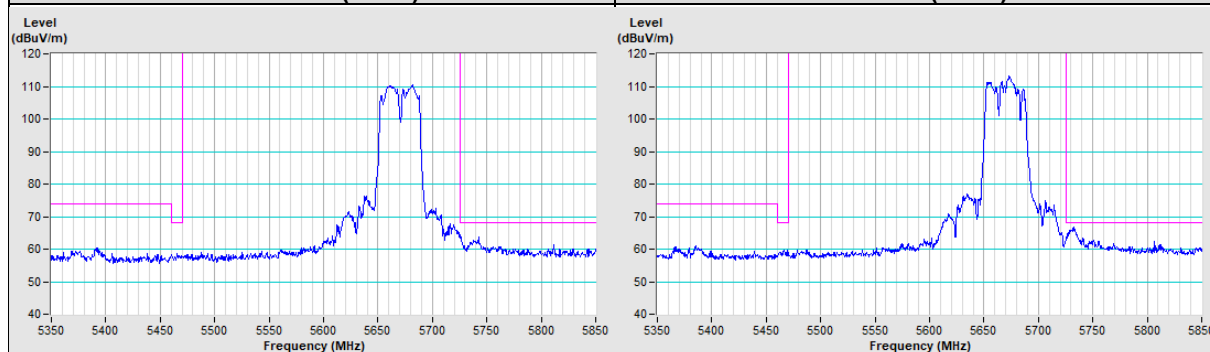


Vertical (Peak) **Vertical (Average)**



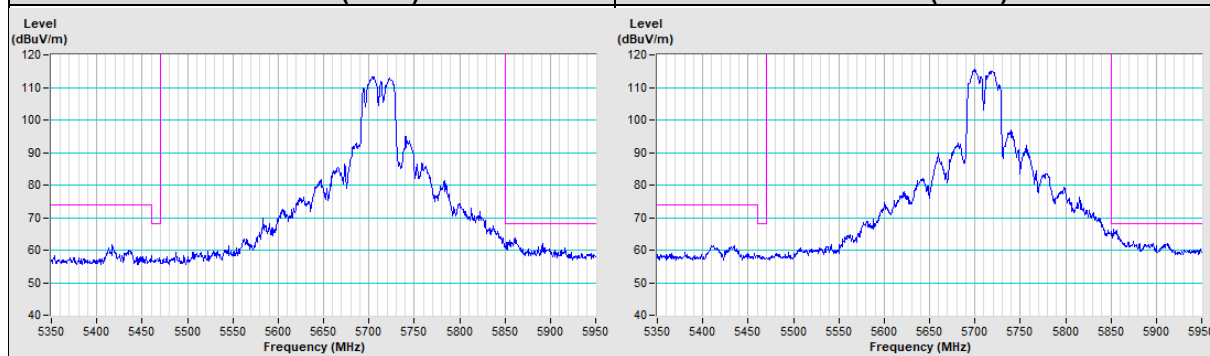
802.11ac (VHT40) Channel 134

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



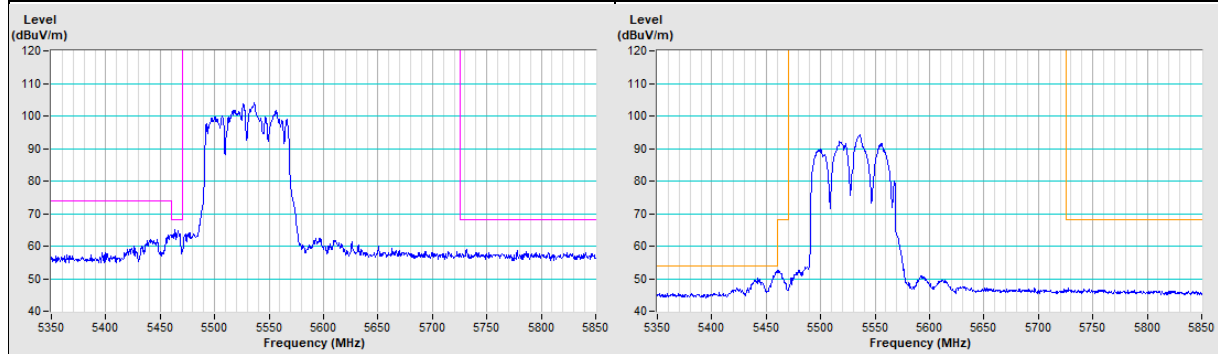
802.11ac (VHT40) Channel 142

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

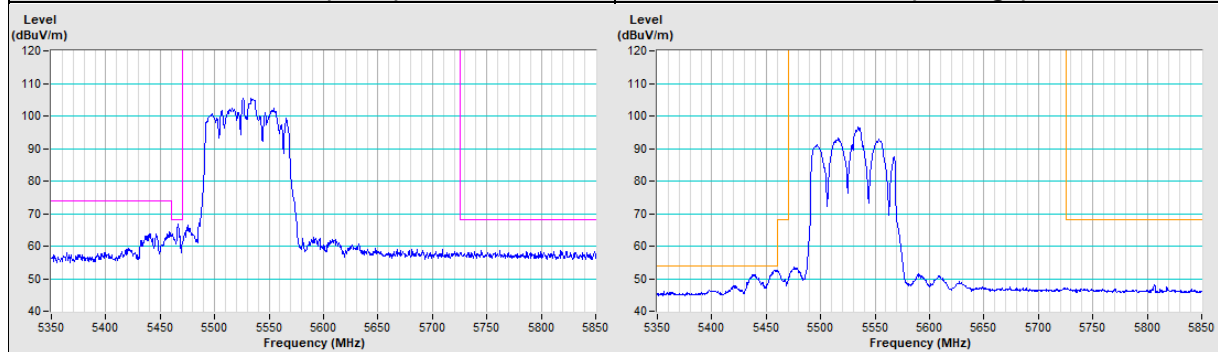


802.11ac (VHT80) Channel 106

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

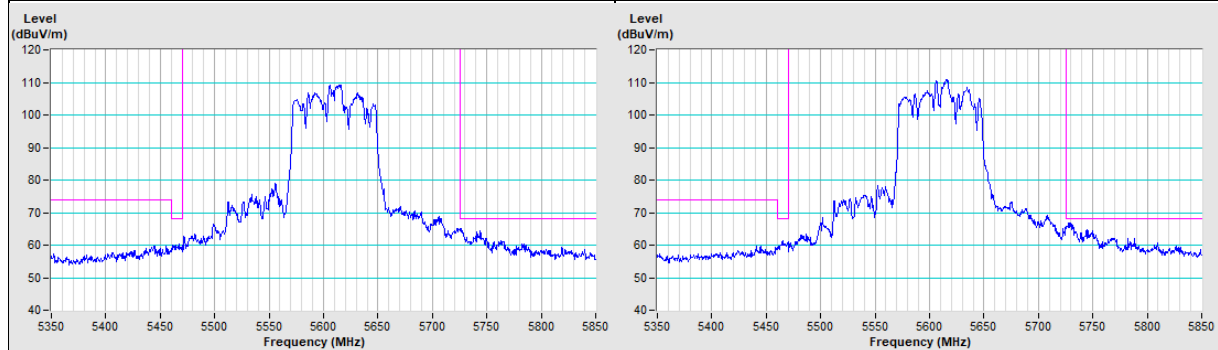


Vertical (Peak) **Vertical (Average)**



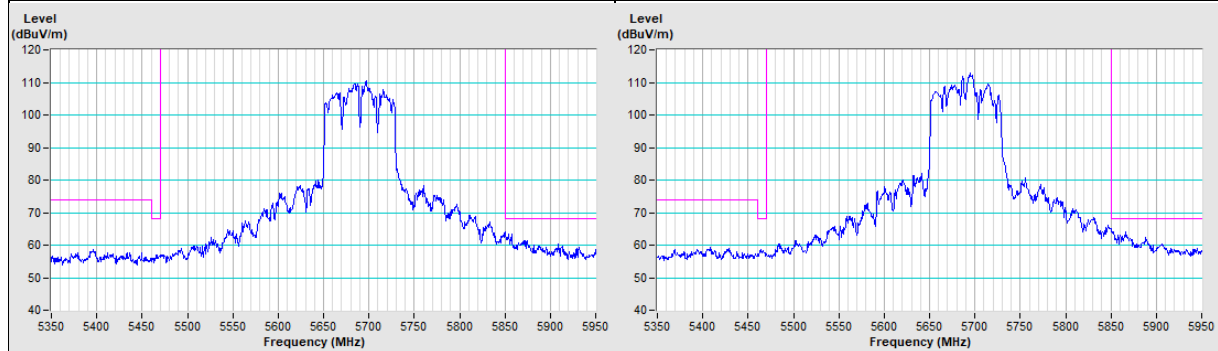
802.11ac (VHT80) Channel 122

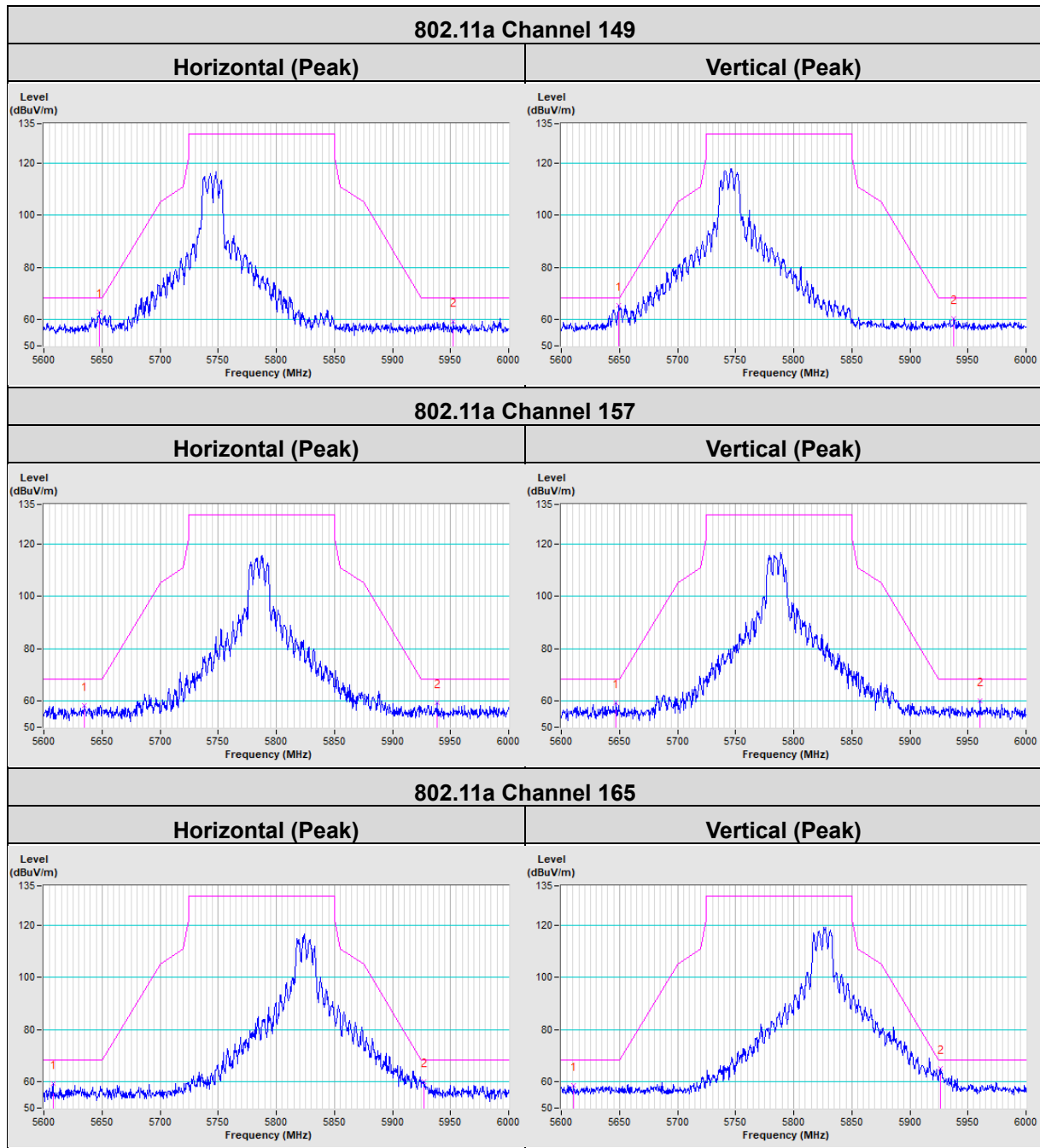
Horizontal (Peak) **Vertical (Peak)**



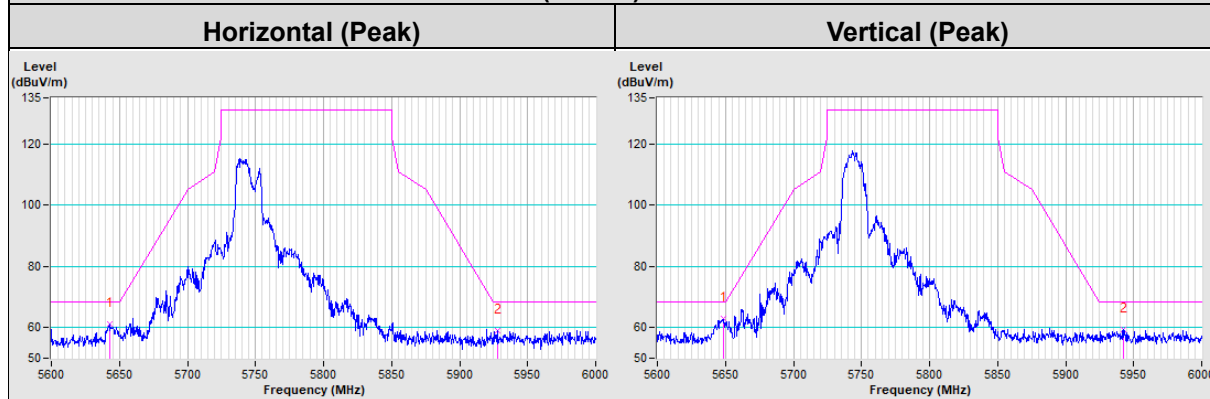
802.11ac (VHT80) Channel 138

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

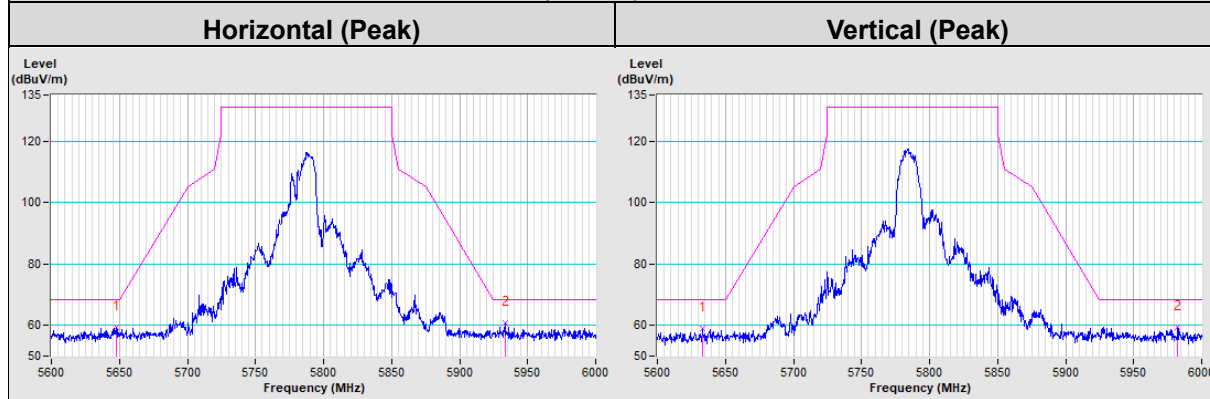




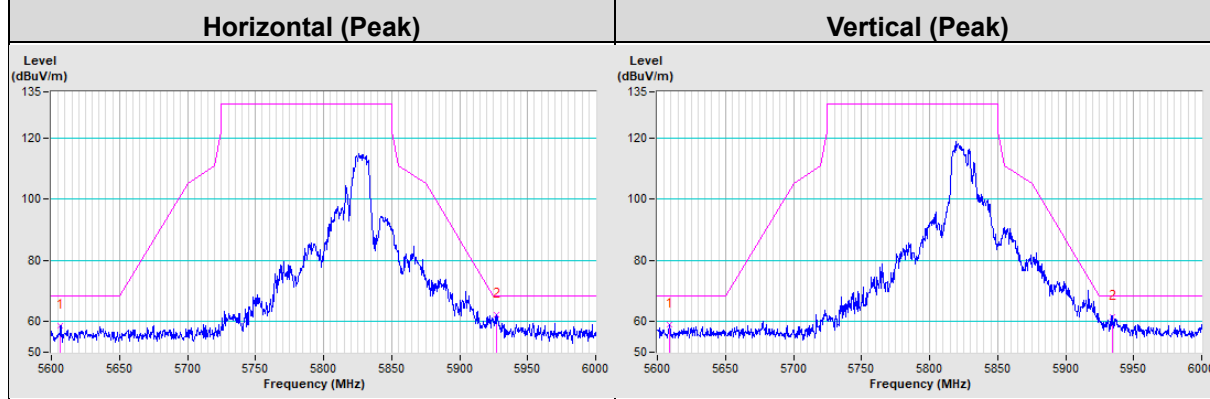
802.11ac (VHT20) Channel 149



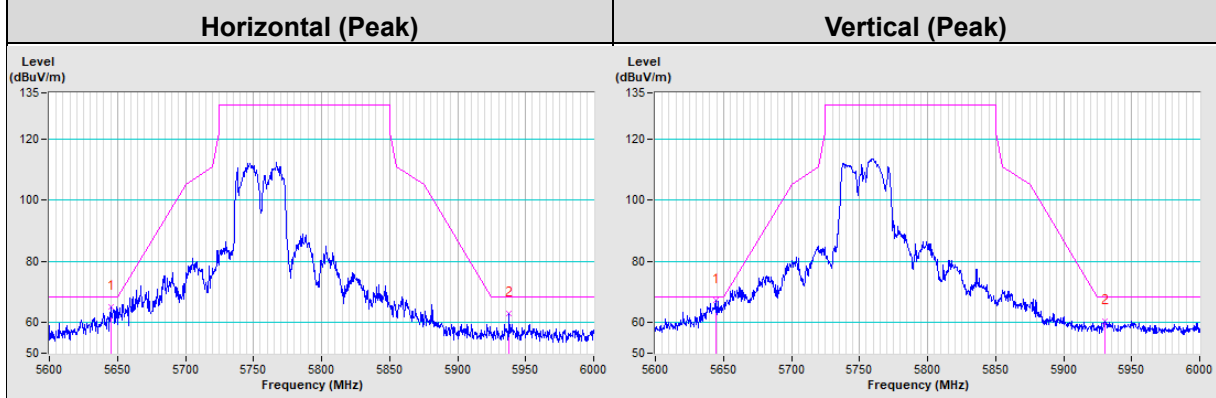
802.11ac (VHT20) Channel 157



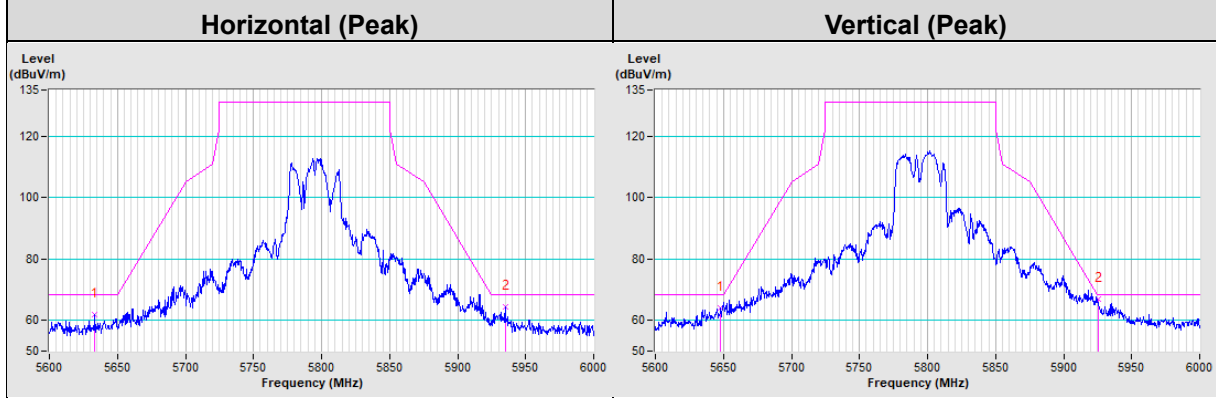
802.11ac (VHT20) Channel 165

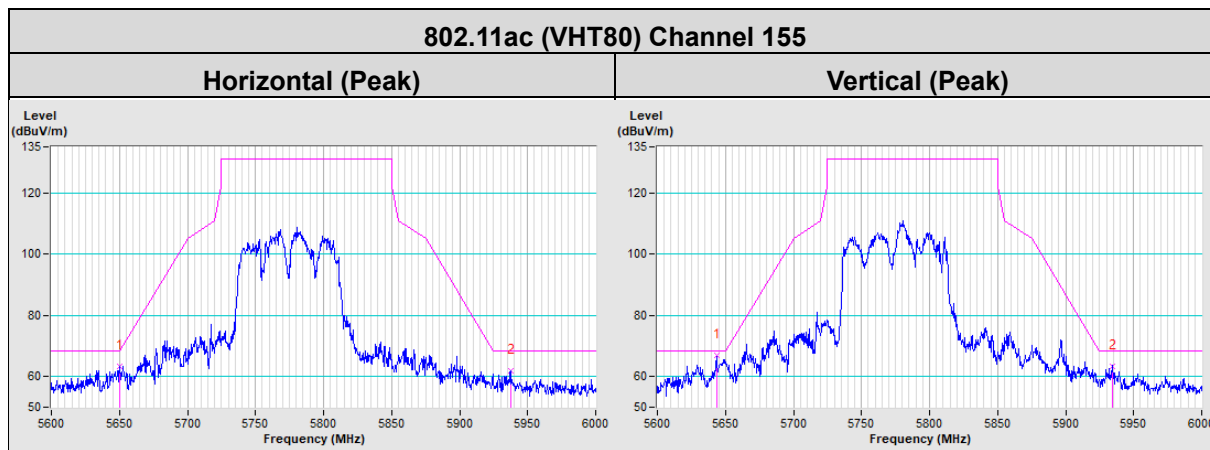


802.11ac (VHT40) Channel 151



802.11ac (VHT40) Channel 159





8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)



9 Information of the Testing Laboratories

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

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

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

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