

TEST REPORT

CERTIFICATE OF CONFORMITY

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

Report No.: RFBCKS-WTW-P22040853-1

FCC ID: 2AAAS-NM02

Model No.: NM02

Received Date: 2022/4/28

Test Date: 2022/4/29 ~ 2022/6/10

Issued Date: 2022/7/19

Applicant: Vivint, Inc.

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

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FCC Registration / 788550 / TW0003

Designation Number:

Approved by: _____

Jeremy Lin

Date: _____

2022/7/19

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
RFBCKS-WTW-P22040853-1	Original release.	2022/7/19

1 Certificate

Product: Vivint 2.4GHz/5GHz WiFi Module

Brand: Vivint

Test Model: NM02

Sample Status: Engineering sample

Applicant: Vivint, Inc.

Test Date: 2022/4/29 ~ 2022/6/10

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

Measurement procedure: ANSI C63.10-2013
KDB 789033 D02 General UNII Test Procedure New Rules v02r01
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 -19.35 dB at 0.51000 MHz
15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -5.3 dB at 37.76 MHz
15.407(b)(1/2/3/4(i)/10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.5 dB at 5150.00, 5470.00 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	3.60 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	2.29 dB
	18 GHz ~ 40 GHz	2.29 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	Vivint 2.4GHz/5GHz WiFi Module
Brand	Vivint
Test Model	NM02
Status of EUT	Engineering sample
Power Supply Rating	3.3Vdc
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
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 : 236.979 mW (23.75 dBm) 5260 ~ 5320 MHz : 233.950 mW (23.69 dBm) 5500 ~ 5720 MHz : 232.159 mW (23.66 dBm) 5745 ~ 5825 MHz : 228.709 mW (23.59 dBm)
EUT Category	Client device

Note: 2.4GHz & 5GHz technology cannot transmit at same time.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

No.	RF Chain No.	Brand	Model	Antenna Net Gain (dBi)	Frequency Range	Antenna Type	Connector Type	Cable Length (mm)	Cable Loss (dB)	Excluding cable loss Antenna Gain (dBi)
1	Chain 0	NA	TE 2108517-1	2.5	2.4~2.4835GHz	PIFA	ipex(MHF)	60	0.5	3.0
				2.0	5.15~5.85GHz	PIFA	ipex(MHF)		1.0	3.0
2	Chain 1	NA	TE 2108517-1	2.0	2.4~2.4835GHz	PIFA	ipex(MHF)	230	1.0	3.0
				1.5	5.15~5.85GHz	PIFA	ipex(MHF)		1.5	3.0

* The above Antenna information refers to the manufacturer's antenna specifications, the laboratory shall not be held responsible.

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) and 802.11ac mode for 20 MHz (40 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), 802.11ac (VHT20):

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

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

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

2 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
42	5210 MHz	58	5290 MHz

FOR 5500 ~ 5720 MHz

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

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

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

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

3 channels are provided for 802.11ac (VHT80):

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

FOR 5745 ~ 5825 MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775 MHz

3.4 Power Setting

Power Setting				
Channel	802.11a	802.11n (HT20)	Channel	802.11n (HT40)
36	1F	21	38	1E
40	29	29	46	28
48	28	29	54	28
52	29	29	62	1D
60	29	29	102	1D
64	23	23	110	28
100	24	24	134	26
116	29	29	142	28
140	1E	1F	151	28
144	29	29	159	28
149	29	29		
157	29	29		
165	29	29		

Power Setting					
Channel	802.11ac (VHT20)	Channel	802.11ac (VHT40)	Channel	802.11ac (VHT80)
36	21	38	1E	42	5210
40	29	46	28	58	5290
48	29	54	28	106	5530
52	29	62	1D	122	5610
60	29	102	1D	138	5690
64	23	110	28	155	5775
100	24	134	26		
116	29	142	28		
140	1F	151	28		
144	29	159	28		
149	29				
157	29				
165	29				

3.5 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	EUT can be used in the following ways: X-axis/ Y-axis/ Z-axis. Pre-scan in these ways and find the worst case as a representative test condition.
Worst Case:	<ol style="list-style-type: none"> The worst case was found when positioned on Z-plane. 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).

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	802.11a	40	BPSK	6Mb/s
Unwanted Emissions below 1 GHz	802.11a	40	BPSK	6Mb/s
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	-

3.6 Duty Cycle of Test Signal

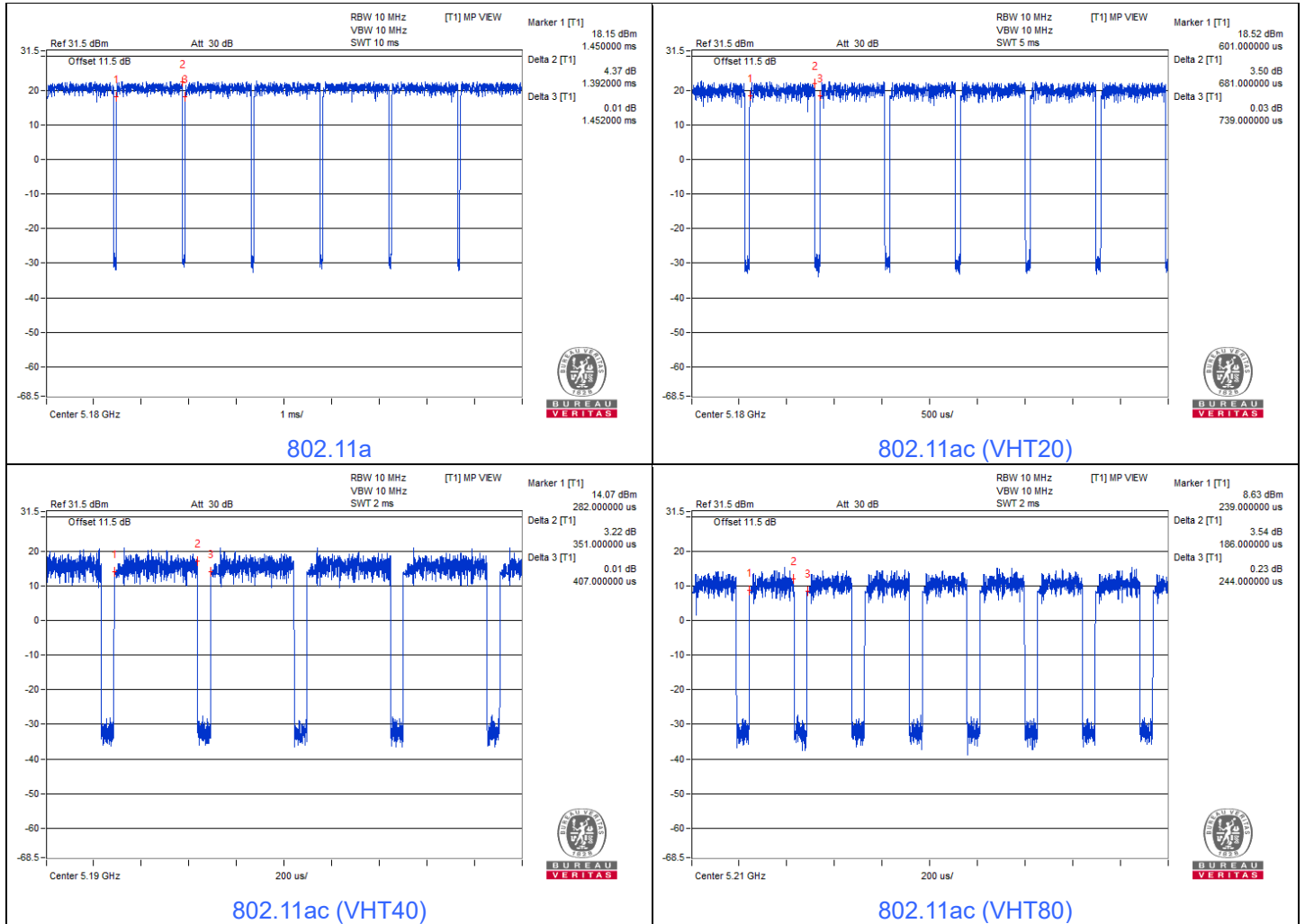
Duty cycle of test signal is < 98 %, duty factor shall be considered.

802.11a: Duty cycle = 1.392 ms / 1.452 ms x 100% = 95.9%, duty factor = 10 * log (1/Duty cycle) = 0.18 dB

802.11ac (VHT20): Duty cycle = 0.681 ms / 0.739 ms x 100% = 92.2%, duty factor = 10 * log (1/Duty cycle) = 0.35 dB

802.11ac (VHT40): Duty cycle = 0.351 ms / 0.407 ms x 100% = 86.2%, duty factor = 10 * log (1/Duty cycle) = 0.64 dB

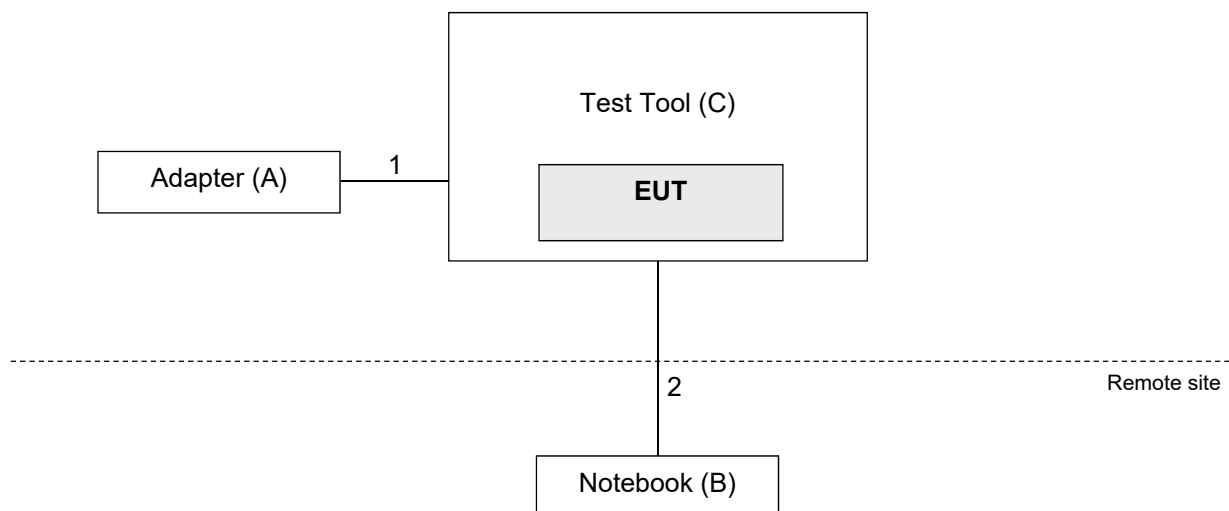
802.11ac (VHT80): Duty cycle = 0.186 ms / 0.244 ms x 100% = 76.2%, duty factor = 10 * log (1/Duty cycle) = 1.18 dB



3.7 Test Program Used and Operation Descriptions

Controlling software (MT7615 QA0.02.0) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.8 Connection Diagram of EUT and Peripheral Devices



3.9 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Adapter	ADP	WB-18Q12FU	N/A	N/A	Provided by Client
B	Notebook	Lenovo	L440	R90J29AA	DoC	Provided by Lab
C	Test Tool	N/A	N/A	N/A	N/A	Provided by Client

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	DC Power Cable	1	1.4	No	0	Provided by Client
2	RJ-45 Cable	1	10	No	0	Provided by Lab

4 Test Instruments

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

4.1 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: 2022/6/5

4.2 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Peak Power Analyzer KEYSIGHT	8990B	MY51000485	2022/1/18	2023/1/17
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
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: 2022/6/5

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
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: 2022/6/5

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 R&S	ESH2-Z5	100100	2022/2/17	2023/2/16
	ESH3-Z5	100312	2021/9/17	2022/9/16
	ENV216	100072	2021/6/16	2022/6/15
RF Coaxial Cable WORKEN	5D-FB	Cable-cond2-01	2021/9/4	2022/9/3
Software BVADT	BVADT_Cond_ V7.3.7.4	N/A	N/A	N/A
Test Receiver R&S	ESR3	102783	2021/12/20	2022/12/19
V-LISN Schwarzbeck	NNBL 8226-2	8226-142	2021/8/20	2022/8/19

Notes:

1. The test was performed in HY - Conduction 2.
2. Tested Date: 2022/4/29

4.8 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn Max-Full	MFA-440H	AT93021705	N/A	N/A
Bi_Log Antenna Schwarzbeck	VULB9168	9168-472	2021/10/28	2022/10/27
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	EMC 330H	980112	2021/10/5	2022/10/4
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
RF Coaxial Cable WORKEN	8D-FB	Cable-Ch10-01	2021/10/5	2022/10/4
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Test Receiver Agilent	N9038A	MY51210203	2021/9/22	2022/9/21
Turn Table Max-Full	MFT-201SS	N/A	N/A	N/A
Turn Table Controller Max-Full	MG-7802	N/A	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 5.
2. Tested Date: 2022/6/10

4.9 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn Max-Full	MFA-440H	AT93021705	N/A	N/A
Boresight antenna tower fixture BV	BAF-02	7	N/A	N/A
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-969	2021/11/14	2022/11/13
	BBHA 9170	148	2021/11/14	2022/11/13
Pre-Amplifier EMCI	EMC 012645	980115	2021/10/5	2022/10/4
	EMC 184045	980116	2021/10/5	2022/10/4
RF Coaxial Cable EMCI	EMC104-SM-SM-8000	171005	2021/10/5	2022/10/4
RF Coaxial Cable HUBER SUHNER	SUCOFLEX 104	EMC104-SM-SM- 1000(140807)	2021/10/5	2022/10/4
RF Coaxial Cable EMCI	EMC102-KM-KM-600	150928	2021/7/24	2022/7/23
	EMC102-KM-KM-3000	150929	2021/7/24	2022/7/23
RF FILTER MICRO-TRONICS	BRM50716	060	2022/1/10	2023/1/9
	BRM17690	004	2022/1/10	2023/1/9
Signal Analyzer Agilent	N9010A	MY52220314	2021/12/3	2022/12/2
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table Max-Full	MFT-201SS	N/A	N/A	N/A
Turn Table Controller Max-Full	MG-7802	N/A	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 5.
2. Tested Date: 2022/5/25 ~ 2022/5/27

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.	

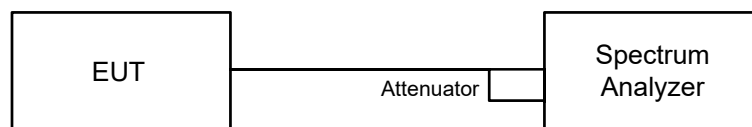
Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

6 Test Arrangements

6.1 26 dB Bandwidth

6.1.1 Test Setup

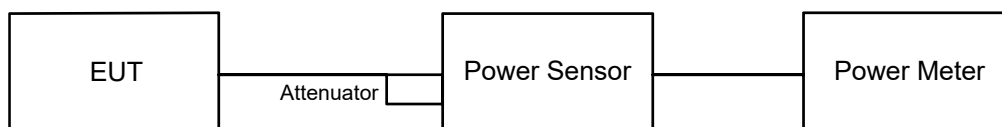


6.1.2 Test Procedure

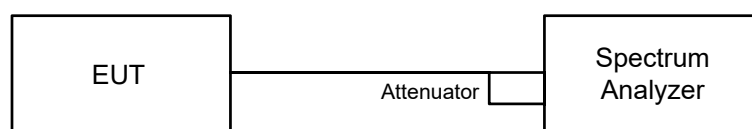
- Set RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW.
- Detector = Peak.
- Trace mode = max hold.
- Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement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

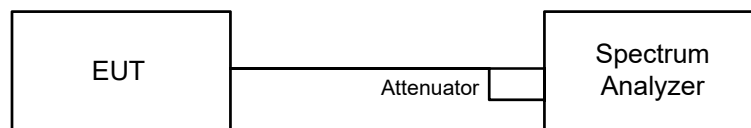
Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst and set the detector to average. Duty factor is not added to measured value.

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 ≤ $\text{RBW} / 2$, 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

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

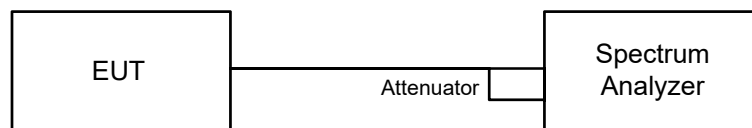
For specified measurement bandwidth 500 kHz:

Method SA-2

- n. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- o. Set RBW = 300 kHz, Set VBW \geq 1 MHz, Detector = RMS
- p. Scale the observed power level to an equivalent value in 500 kHz by adjusting (increasing) the measured power by a bandwidth correction factor (BWCF) where $\text{BWCF} = 10\log(500 \text{ kHz}/300 \text{ kHz})$
- q. Sweep points $\geq [2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing $\leq \text{RBW} / 2$, so that narrowband signals are not lost between frequency bins.)
- r. Sweep time = auto, trigger set to “free run”.
- s. Trace average at least 100 traces in power averaging mode.
- t. Use the peak search function on the instrument to find the peak of the spectrum and record its value.
- u. Record the max value and add 10 log (1/duty cycle).

6.4 6 dB Bandwidth

6.4.1 Test Setup

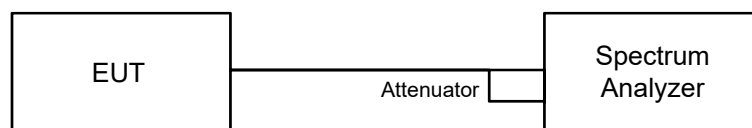


6.4.2 Test Procedure

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

6.5 Occupied Bandwidth

6.5.1 Test Setup

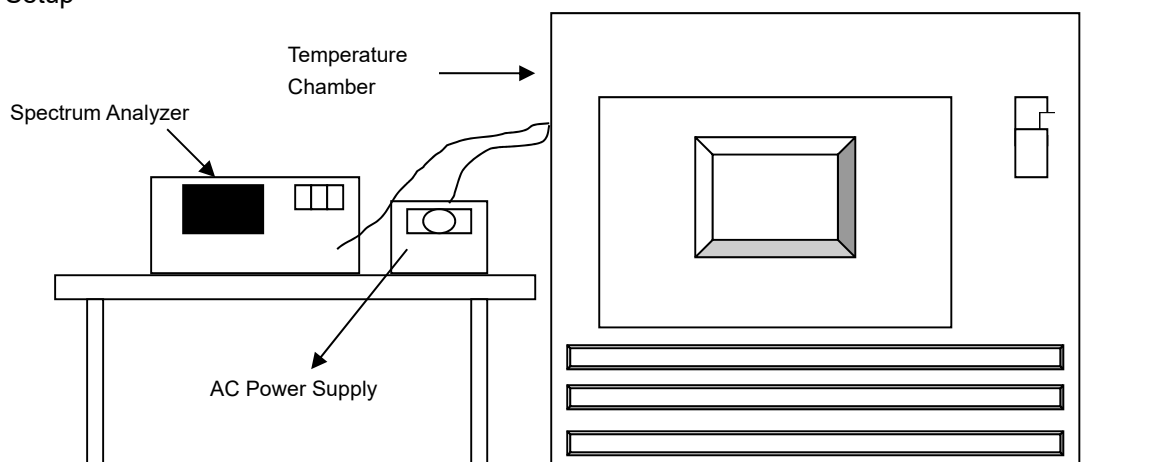


6.5.2 Test Procedure

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

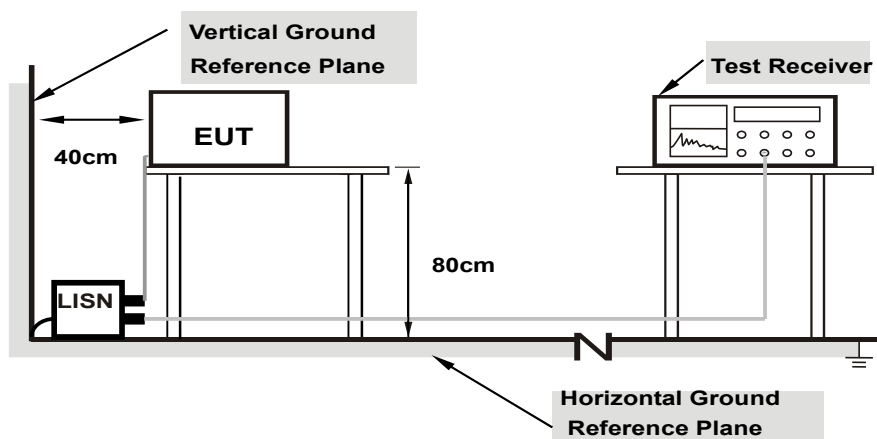


6.6.2 Test Procedure

- 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.

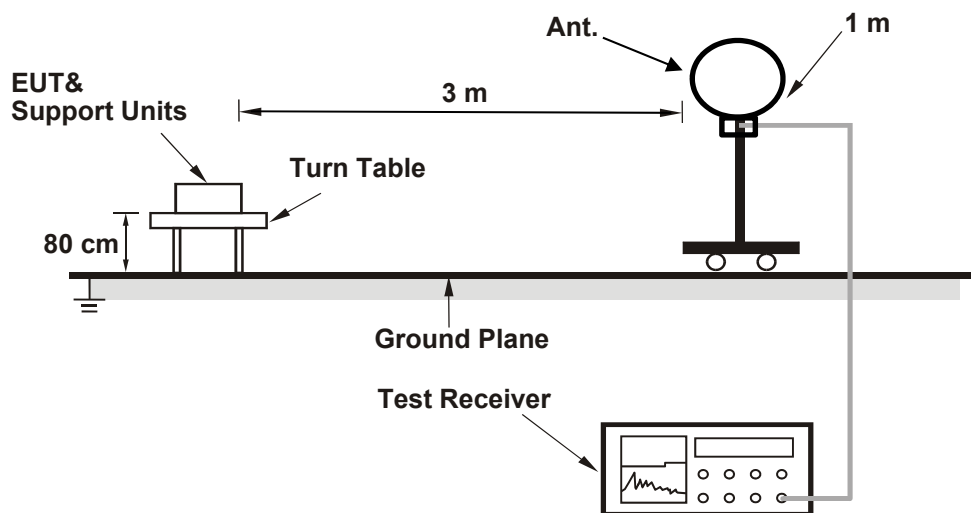
Note:

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.

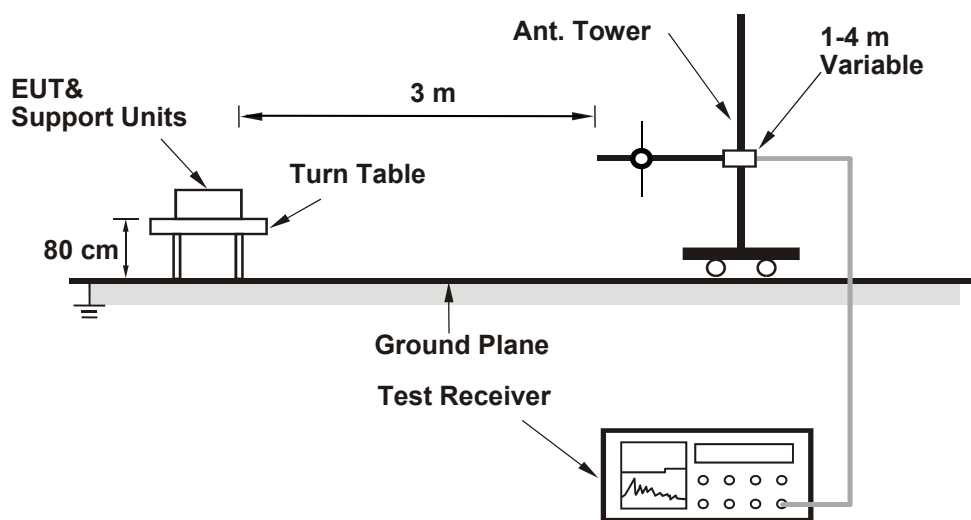
6.8 Unwanted Emissions below 1 GHz

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.

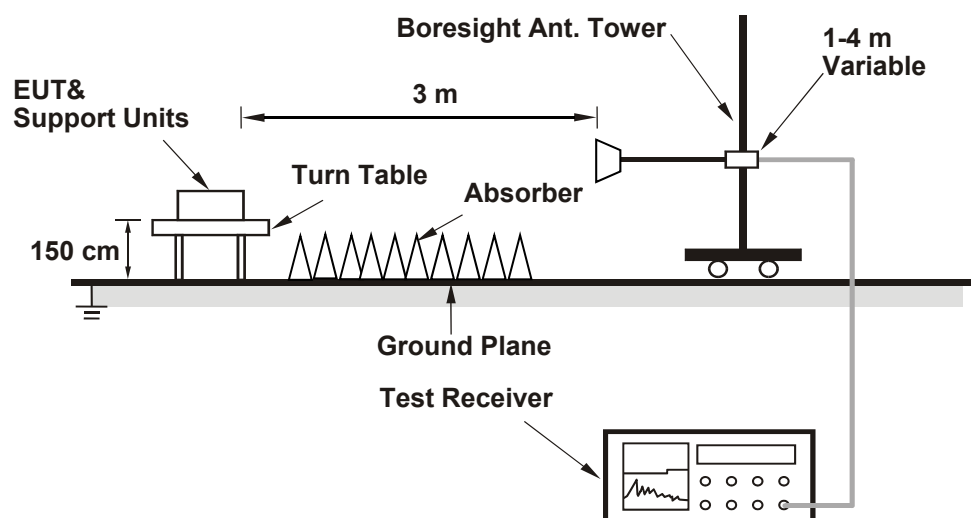
Notes:

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:	Jisyong Wang
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802.11a

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	38.19	38.05
60	5300	37.82	39.93
64	5320	34.95	29.58
100	5500	36.39	35.17
116	5580	37.76	40.60
140	5700	24.78	24.73
144 (U-NII-2C)	5720	23.23	22.70

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
52	5260	38.05	26.8 > 24
60	5300	37.82	26.77 > 24
64	5320	29.58	25.7 > 24
100	5500	35.17	26.46 > 24
116	5580	37.76	26.77 > 24
140	5700	24.73	24.93 > 24
144 (U-NII-2C)	5720	22.70	24.56 > 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	39.62	42.76
60	5300	40.19	40.34
64	5320	23.06	26.82
100	5500	25.67	28.09
116	5580	41.60	42.52
140	5700	20.56	20.58
144 (U-NII-2C)	5720	21.45	23.29

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
52	5260	39.62	26.97 > 24
60	5300	40.19	27.04 > 24
64	5320	23.06	24.62 > 24
100	5500	25.67	25.09 > 24
116	5580	41.60	27.19 > 24
140	5700	20.56	24.13 > 24
144 (U-NII-2C)	5720	21.45	24.31 > 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	79.33	78.89
62	5310	42.01	42.03
102	5510	42.09	42.04
110	5550	79.51	77.24
134	5670	72.50	71.92
142 (U-NII-2C)	5710	55.89	58.22

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
54	5270	78.89	29.97 > 24
62	5310	42.01	27.23 > 24
102	5510	42.04	27.23 > 24
110	5550	77.24	29.87 > 24
134	5670	71.92	29.56 > 24
142 (U-NII-2C)	5710	55.89	28.47 > 24

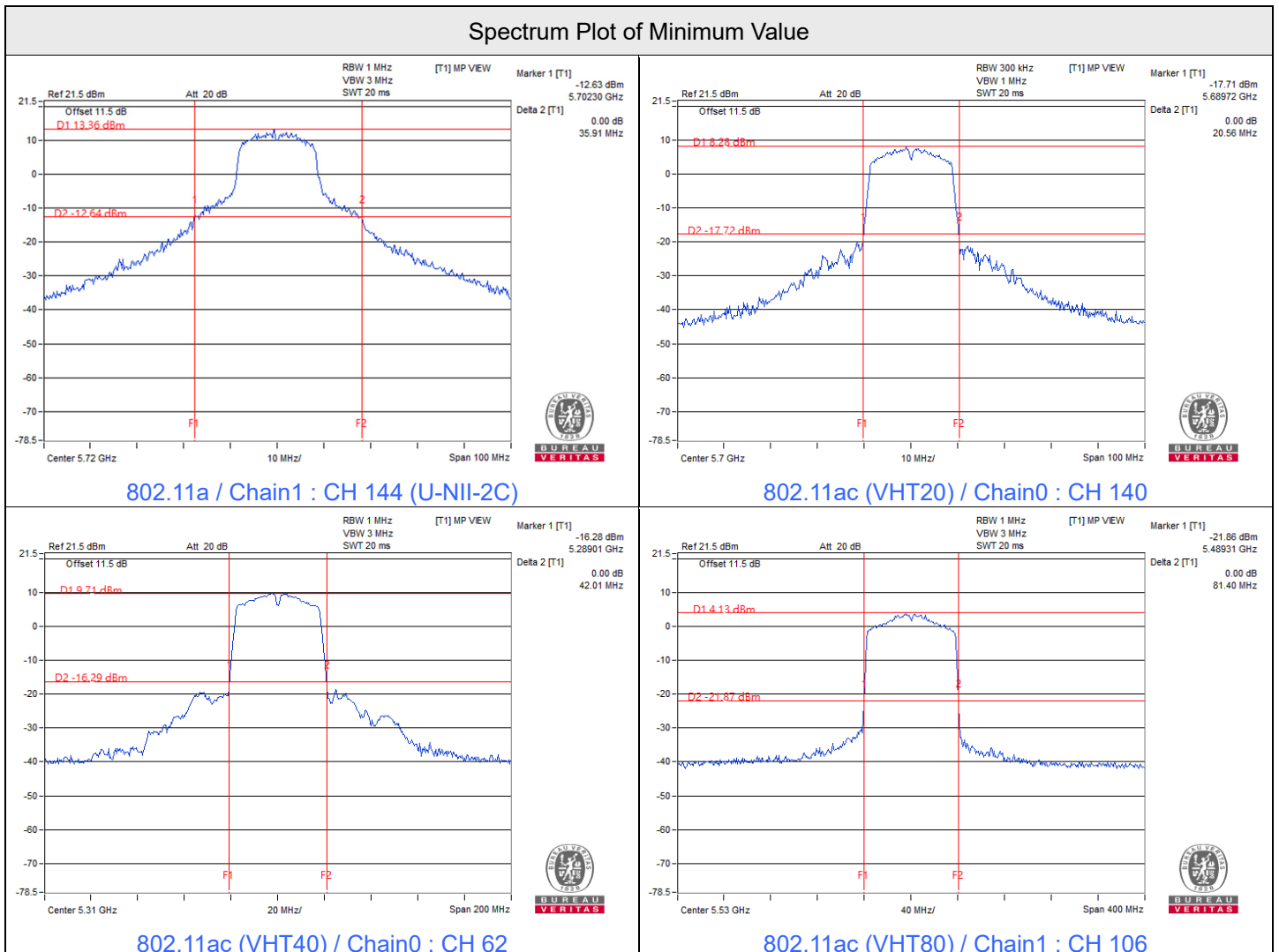
Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

802.11ac (VHT80)

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	81.53	81.46
106	5530	81.56	81.40
122	5610	135.74	136.75
138 (U-NII-2C)	5690	112.54	114.40

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
58	5290	81.46	30.1 > 24
106	5530	81.40	30.1 > 24
122	5610	135.74	32.32 > 24
138 (U-NII-2C)	5690	112.54	31.51 > 24

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



- Notes:
- 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:	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	16.65	16.92	95.442	19.80	24	Pass
40	5200	20.61	20.86	236.979	23.75	24	Pass
48	5240	20.02	20.11	203.027	23.08	24	Pass
52	5260	20.59	20.77	233.950	23.69	24	Pass
60	5300	20.28	20.52	219.379	23.41	24	Pass
64	5320	18.31	18.95	146.288	21.65	24	Pass
100	5500	18.72	18.96	153.178	21.85	24	Pass
116	5580	20.23	20.72	223.471	23.49	24	Pass
140	5700	16.23	16.68	88.535	19.47	24	Pass
*144 (U-NII-2C)	5720	19.60	19.86	196.134	22.93	24	Pass
*144 (U-NII-3)	5720	11.89	12.11	33.075	15.19	30	Pass
149	5745	20.22	20.83	226.256	23.55	30	Pass
157	5785	20.24	20.90	228.709	23.59	30	Pass
165	5825	20.14	20.95	227.728	23.57	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 2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11n (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	17.02	17.64	108.427	20.35	24	Pass
40	5200	20.12	20.48	214.488	23.31	24	Pass
48	5240	20.22	20.37	214.089	23.31	24	Pass
52	5260	20.09	20.21	207.048	23.16	24	Pass
60	5300	20.03	20.19	205.165	23.12	24	Pass
64	5320	17.66	18.12	123.208	20.91	24	Pass
100	5500	18.03	18.15	128.846	21.10	24	Pass
116	5580	19.94	20.01	198.858	22.99	24	Pass
140	5700	15.98	16.34	82.680	19.17	24	Pass
*144 (U-NII-2C)	5720	19.00	19.32	178.987	22.53	24	Pass
*144 (U-NII-3)	5720	11.78	12.05	33.747	15.28	30	Pass
149	5745	20.03	20.18	204.925	23.12	30	Pass
157	5785	19.88	20.08	199.134	22.99	30	Pass
165	5825	19.89	20.14	200.775	23.03	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 2 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2A, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-2C, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
6. For U-NII-3, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11n (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	15.82	16.43	82.149	19.15	24	Pass
46	5230	19.82	20.56	209.703	23.22	24	Pass
54	5270	19.68	20.31	200.296	23.02	24	Pass
62	5310	15.22	15.69	70.334	18.47	24	Pass
102	5510	15.03	15.27	65.493	18.16	24	Pass
110	5550	19.50	20.05	190.283	22.79	24	Pass
134	5670	18.84	19.54	166.509	22.21	24	Pass
*142 (U-NII-2C)	5710	19.42	20.30	225.706	23.54	24	Pass
*142 (U-NII-3)	5710	7.20	8.19	13.729	11.38	30	Pass
151	5755	19.62	20.43	202.030	23.05	30	Pass
159	5795	19.70	20.38	202.469	23.06	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 2 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2A, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-2C, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
6. For U-NII-3, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
36	5180	17.24	17.85	113.920	20.57	24	Pass
40	5200	20.35	20.69	225.612	23.53	24	Pass
48	5240	20.41	20.60	224.716	23.52	24	Pass
52	5260	20.28	20.39	216.055	23.35	24	Pass
60	5300	20.23	20.41	215.339	23.33	24	Pass
64	5320	17.89	18.35	129.909	21.14	24	Pass
100	5500	18.22	18.34	134.608	21.29	24	Pass
116	5580	20.12	20.24	208.483	23.19	24	Pass
140	5700	16.22	16.58	87.378	19.41	24	Pass
*144 (U-NII-2C)	5720	19.09	19.43	183.172	22.63	24	Pass
*144 (U-NII-3)	5720	11.86	12.17	34.539	15.38	30	Pass
149	5745	20.26	20.40	215.817	23.34	30	Pass
157	5785	20.09	20.33	209.989	23.22	30	Pass
165	5825	20.11	20.37	211.458	23.25	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 2 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2A, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-2C, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
6. For U-NII-3, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
38	5190	16.06	16.66	86.709	19.38	24	Pass
46	5230	20.04	20.81	221.429	23.45	24	Pass
54	5270	19.89	20.55	211.000	23.24	24	Pass
62	5310	15.44	15.92	74.079	18.70	24	Pass
102	5510	15.26	15.48	68.892	18.38	24	Pass
110	5550	19.74	20.29	201.094	23.03	24	Pass
134	5670	19.05	19.77	175.194	22.44	24	Pass
*142 (U-NII-2C)	5710	19.53	20.37	230.327	23.62	24	Pass
*142 (U-NII-3)	5710	7.28	8.27	13.984	11.46	30	Pass
151	5755	19.85	20.66	213.018	23.28	30	Pass
159	5795	19.92	20.60	212.990	23.28	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 2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.

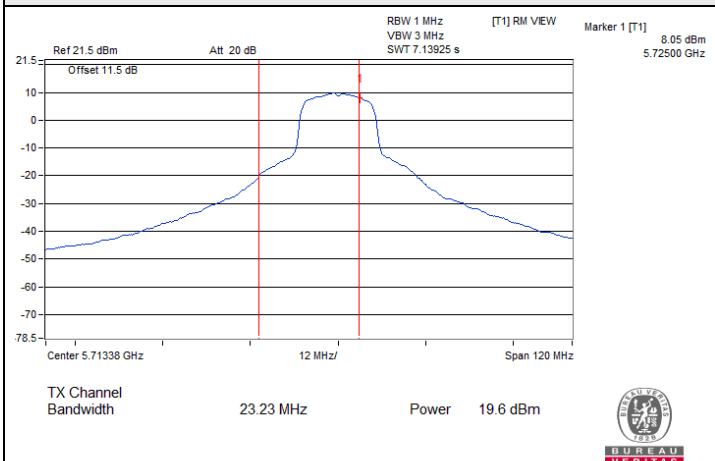
802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
42	5210	13.76	14.41	51.374	17.11	24	Pass
58	5290	13.39	14.05	47.237	16.74	24	Pass
106	5530	11.91	12.45	33.103	15.20	24	Pass
122	5610	18.83	19.44	164.286	22.16	24	Pass
*138 (U-NII-2C)	5690	18.99	19.90	232.159	23.66	24	Pass
*138 (U-NII-3)	5690	2.59	3.02	5.011	7.00	30	Pass
155	5775	18.25	19.18	149.629	21.75	30	Pass

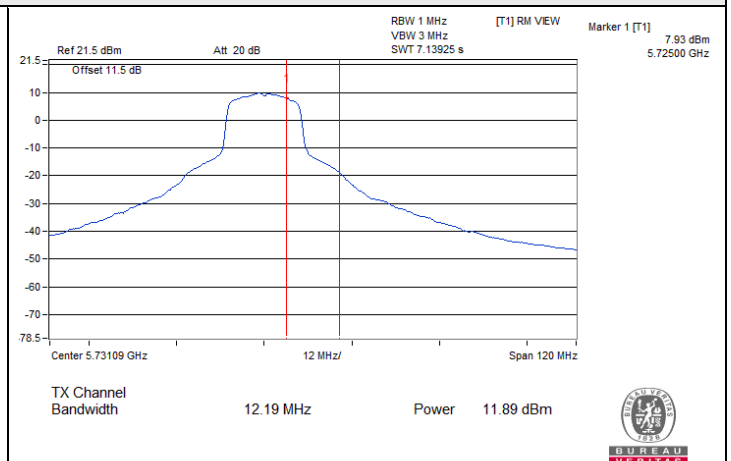
Notes:

- * : 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 2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.

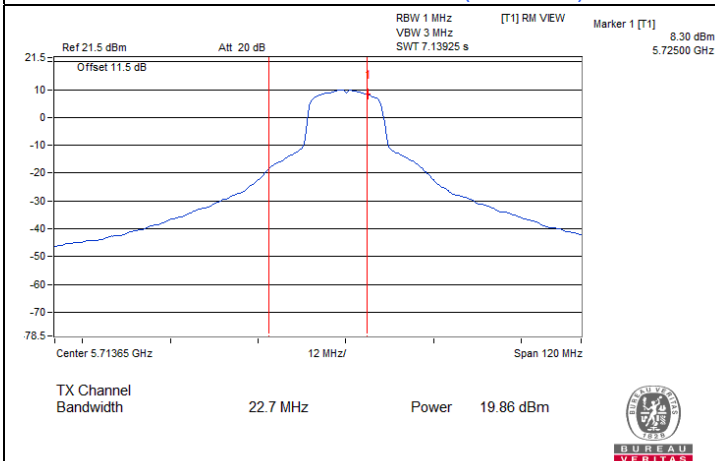
Spectrum Plot of Straddle Channel Power



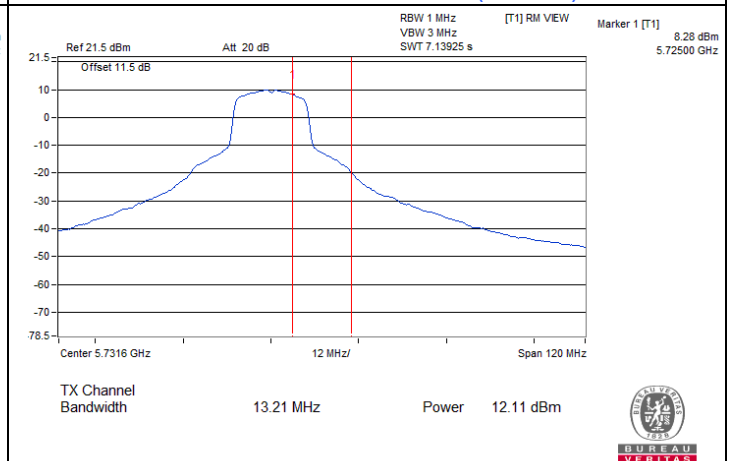
802.11a / Chain0 : CH 144 (U-NII-2C)



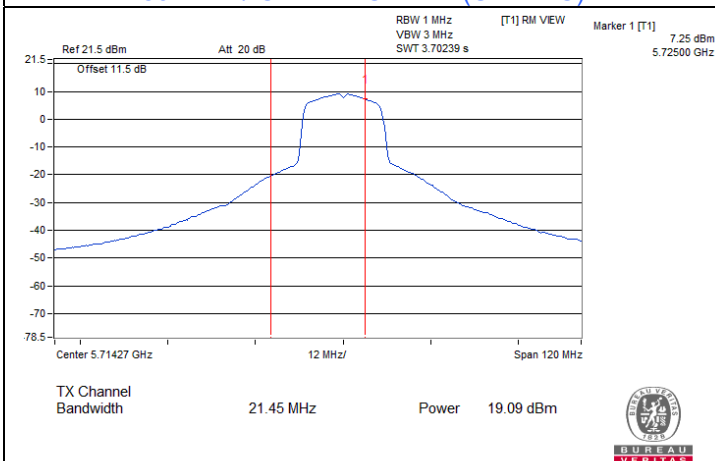
802.11a / Chain0 : CH 144 (U-NII-3)



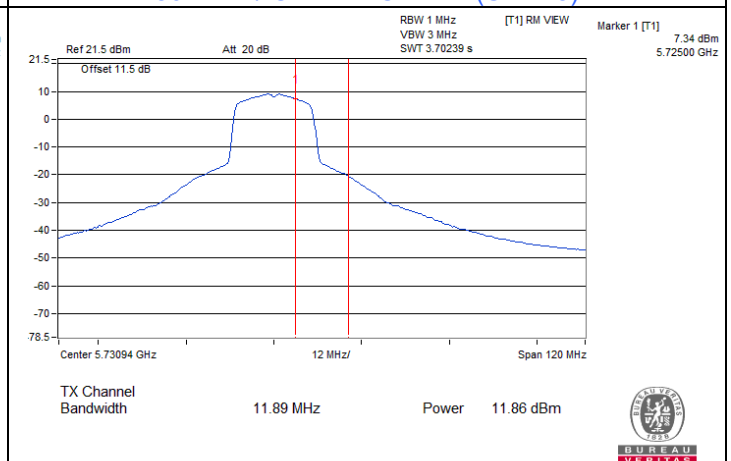
802.11a / Chain1 : CH 144 (U-NII-2C)



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



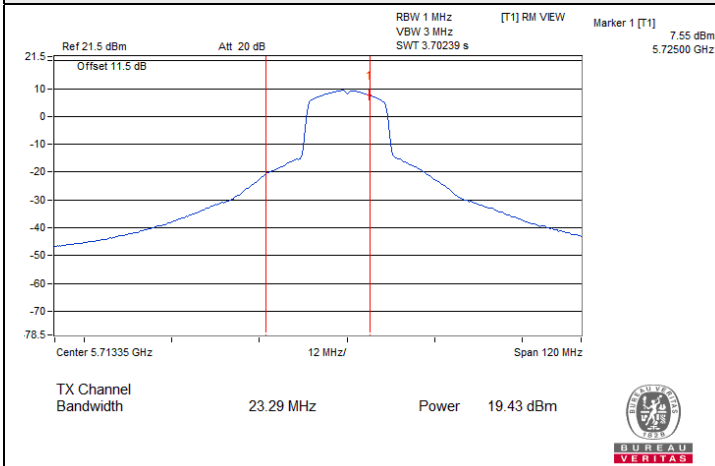
802.11ac (VHT20) / Chain0 : CH 144 (U-NII-2C)



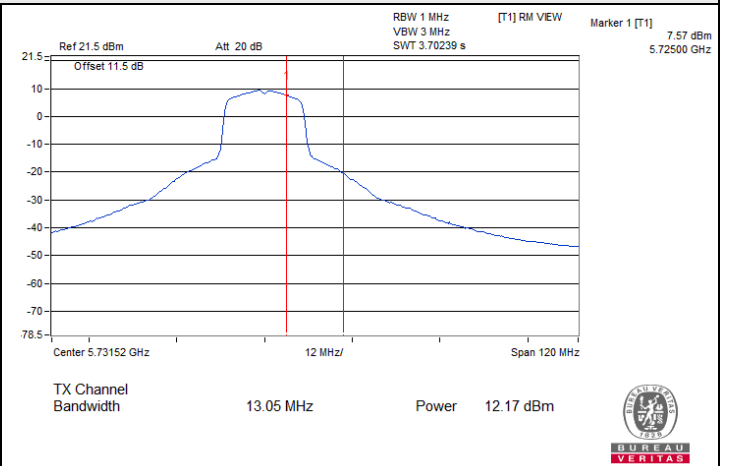
802.11ac (VHT20) / Chain0 : CH 144 (U-NII-3)



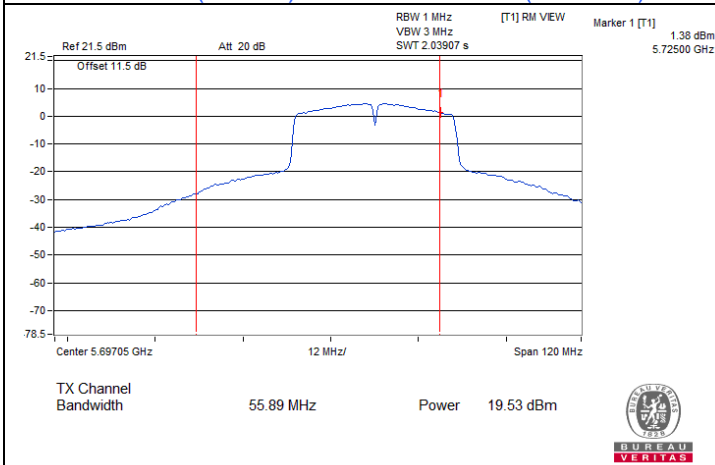
Spectrum Plot of Straddle Channel Power



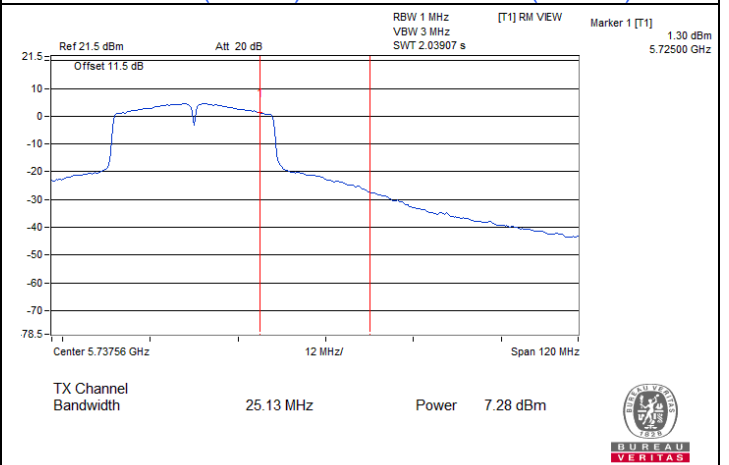
802.11ac (VHT20) / Chain1 : CH 144 (U-NII-2C)



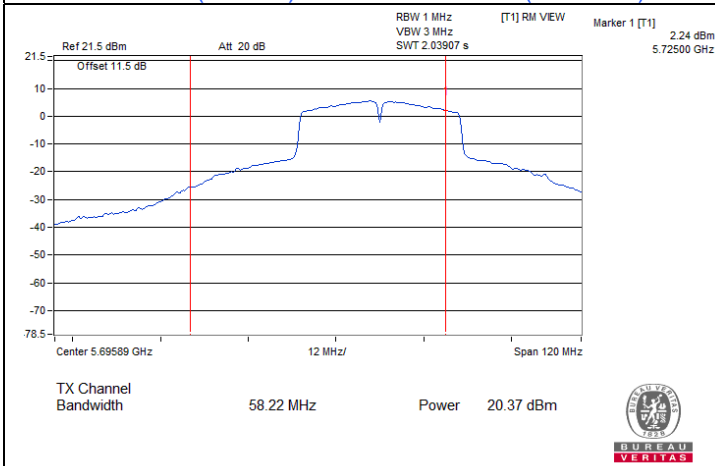
802.11ac (VHT20) / Chain1 : CH 144 (U-NII-3)



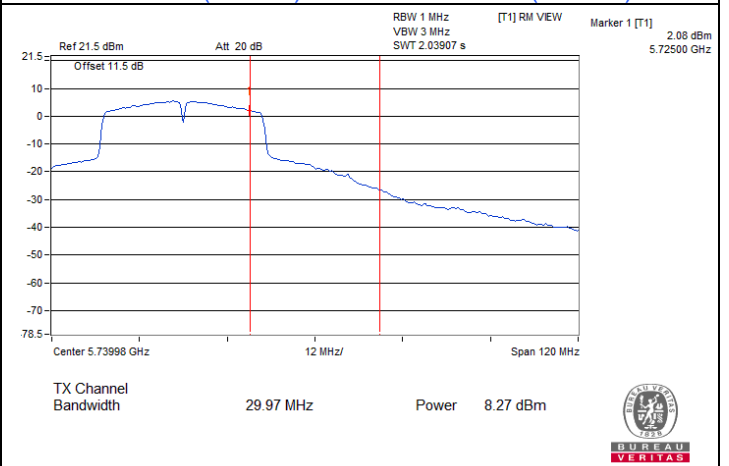
802.11ac (VHT40) / Chain0 : CH 142 (U-NII-2C)



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



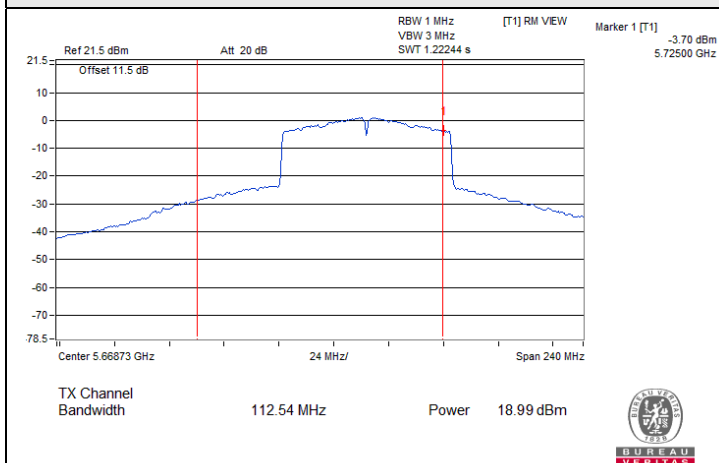
802.11ac (VHT40) / Chain1 : CH 142 (U-NII-2C)



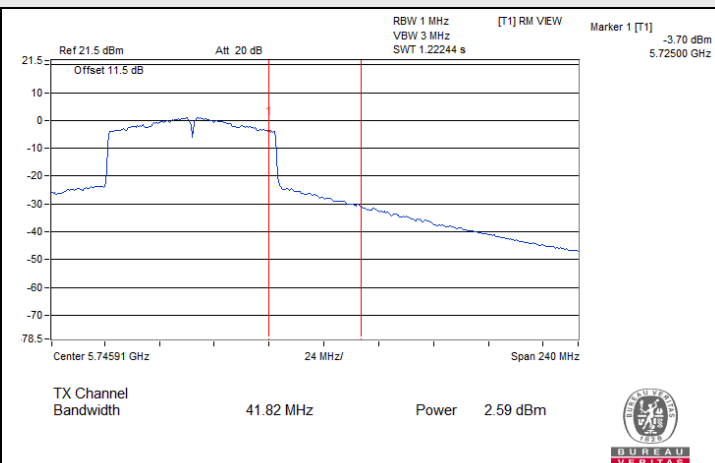
802.11ac (VHT40) / Chain1 : CH 142 (U-NII-3)



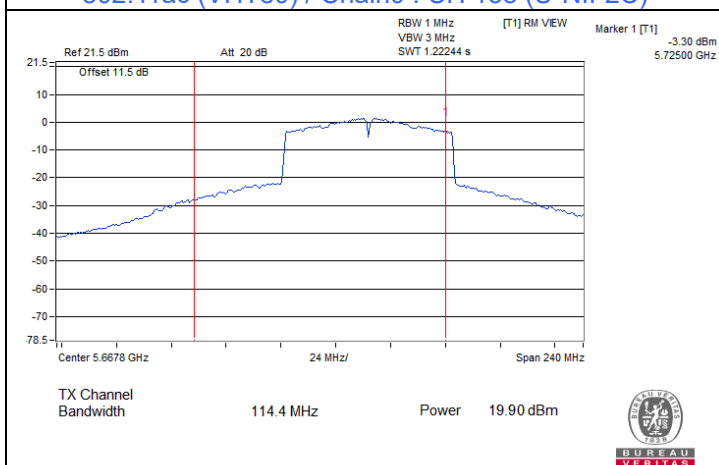
Spectrum Plot of Straddle Channel Power



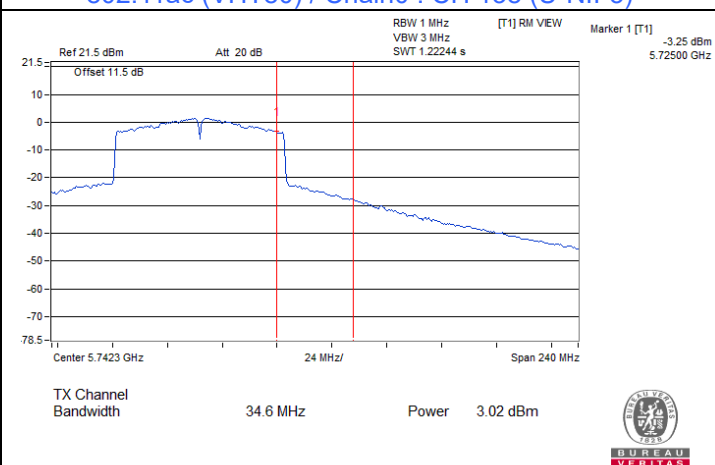
802.11ac (VHT80) / Chain0 : CH 138 (U-NII-2C)



802.11ac (VHT80) / Chain0 : CH 138 (U-NII-3)



802.11ac (VHT80) / Chain1 : CH 138 (U-NII-2C)



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

7.3 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	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	3.21	3.46	0.18	6.53	11.00	Pass
40	5200	7.09	7.20	0.18	10.34	11.00	Pass
48	5240	6.56	6.66	0.18	9.80	11.00	Pass
52	5260	6.98	7.26	0.18	10.31	11.00	Pass
60	5300	6.76	7.01	0.18	10.08	11.00	Pass
64	5320	4.71	5.35	0.18	8.23	11.00	Pass
100	5500	5.10	5.51	0.18	8.50	11.00	Pass
116	5580	6.67	7.22	0.18	10.14	11.00	Pass
140	5700	2.76	3.23	0.18	6.19	11.00	Pass
144 (U-NII-2C)	5720	6.73	7.25	0.18	10.19	11.00	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 4.76 dBi < 6dBi, so the power density limit shall not be reduced.
- For U-NII-2A, the directional gain is 4.76 dBi < 6 dBi, so the power density limit shall not be reduced.
- For U-NII-2C, the directional gain is 4.76 dBi < 6 dBi, so the power density limit shall not be reduced.

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	3.63	4.29	0.35	7.33	11.00	Pass
40	5200	6.64	7.06	0.35	10.22	11.00	Pass
48	5240	6.92	7.12	0.35	10.38	11.00	Pass
52	5260	6.72	6.84	0.35	10.14	11.00	Pass
60	5300	6.77	6.85	0.35	10.17	11.00	Pass
64	5320	4.27	4.78	0.35	7.89	11.00	Pass
100	5500	4.75	4.76	0.35	8.12	11.00	Pass
116	5580	6.53	6.77	0.35	10.01	11.00	Pass
140	5700	2.75	3.04	0.35	6.26	11.00	Pass
144 (U-NII-2C)	5720	6.57	6.90	0.35	10.10	11.00	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 4.76 dBi < 6dBi, so the power density limit shall not be reduced.
- For U-NII-2A, the directional gain is 4.76 dBi < 6 dBi, so the power density limit shall not be reduced.
- For U-NII-2C, the directional gain is 4.76 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1				
38	5190	-0.45	0.10	0.64	3.48	11.00	Pass
46	5230	3.58	4.27	0.64	7.59	11.00	Pass
54	5270	3.28	3.94	0.64	7.27	11.00	Pass
62	5310	-1.23	-0.51	0.64	2.80	11.00	Pass
102	5510	-1.13	-1.09	0.64	2.54	11.00	Pass
110	5550	3.37	3.66	0.64	7.17	11.00	Pass
134	5670	2.58	3.32	0.64	6.62	11.00	Pass
142 (U-NII-2C)	5710	3.36	4.27	0.64	7.49	11.00	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 4.76 dBi < 6dBi, so the power density limit shall not be reduced.
- For U-NII-2A, the directional gain is 4.76 dBi < 6 dBi, so the power density limit shall not be reduced.
- For U-NII-2C, the directional gain is 4.76 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1				
42	5210	-5.51	-5.01	1.18	-1.06	11.00	Pass
58	5290	-6.05	-5.29	1.18	-1.46	11.00	Pass
106	5530	-7.56	-7.12	1.18	-3.14	11.00	Pass
122	5610	-0.64	-0.04	1.18	3.86	11.00	Pass
138 (U-NII-2C)	5690	0.03	1.03	1.18	4.75	11.00	Pass

Notes:

1. 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.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-1, the directional gain is 4.76 dBi < 6dBi, so the power density limit shall not be reduced.
4. For U-NII-2A, the directional gain is 4.76 dBi < 6 dBi, so the power density limit shall not be reduced.
5. For U-NII-2C, the directional gain is 4.76 dBi < 6 dBi, so the power density limit shall not be reduced.

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	-1.71	-1.38	1.47	0.18	3.87	30	Pass
149	5745	-0.40	-0.16	2.73	0.18	5.13	30	Pass
157	5785	-0.39	0.01	2.82	0.18	5.22	30	Pass
165	5825	-0.44	-0.05	2.77	0.18	5.17	30	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 4.76 dBi < 6 dBi, so the power density limit shall not be reduced.

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	-2.32	-1.91	0.9	0.35	3.47	30	Pass
149	5745	-1.02	-0.70	2.15	0.35	4.72	30	Pass
157	5785	-1.13	-0.85	2.02	0.35	4.59	30	Pass
165	5825	-1.20	-1.19	1.82	0.35	4.39	30	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 4.76 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)		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	-7.72	-7.08	-4.38	0.64	-1.52	30	Pass
151	5755	-5.14	-4.77	-1.94	0.64	0.92	30	Pass
159	5795	-5.01	-4.69	-1.84	0.64	1.02	30	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 4.76 dBi < 6 dBi, so the power density limit shall not be reduced.

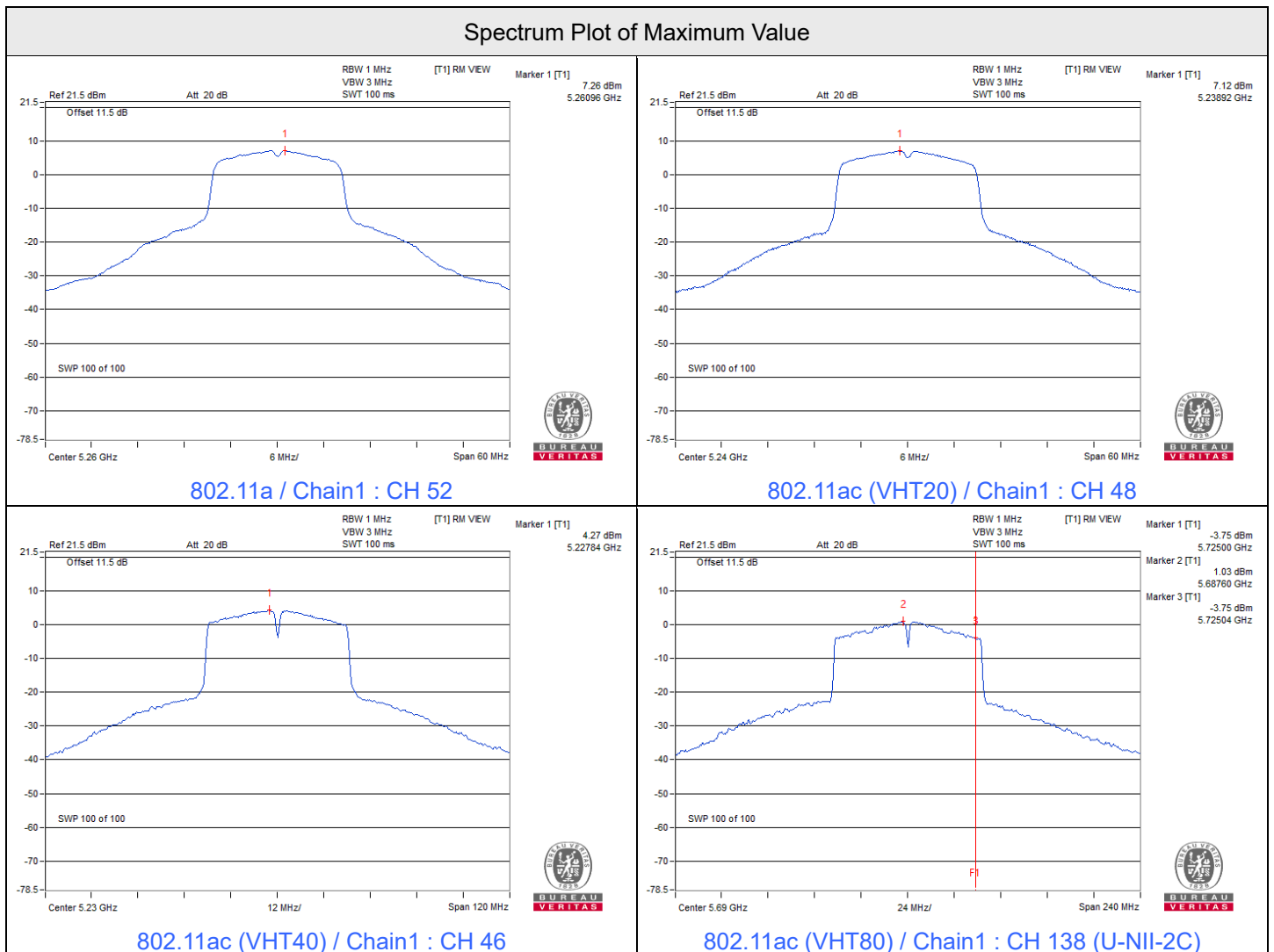


802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)		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	-12.83	-12.26	-9.53	1.18	-6.13	30	Pass
155	5775	-9.33	-9.15	-6.23	1.18	-2.83	30	Pass

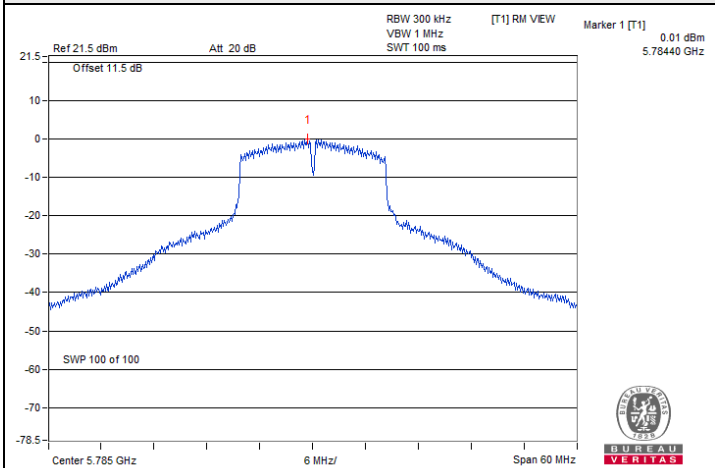
Notes:

- 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 4.76 dBi < 6 dBi, so the power density limit shall not be reduced.

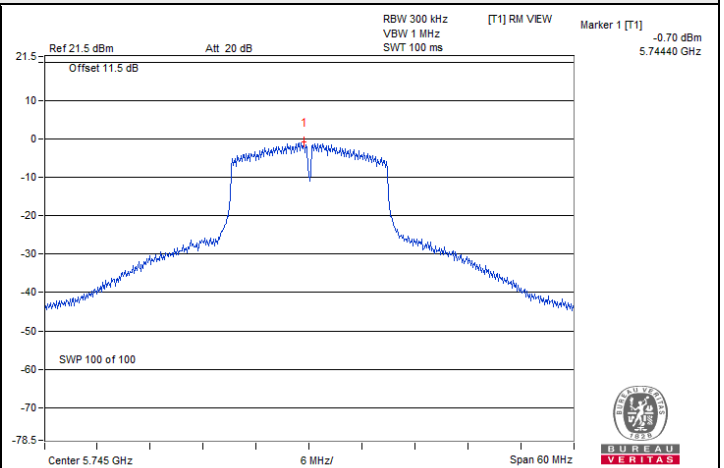




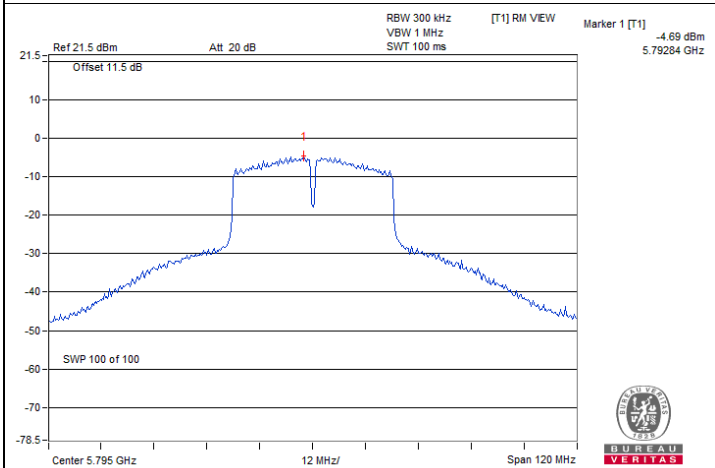
Spectrum Plot of Maximum Value



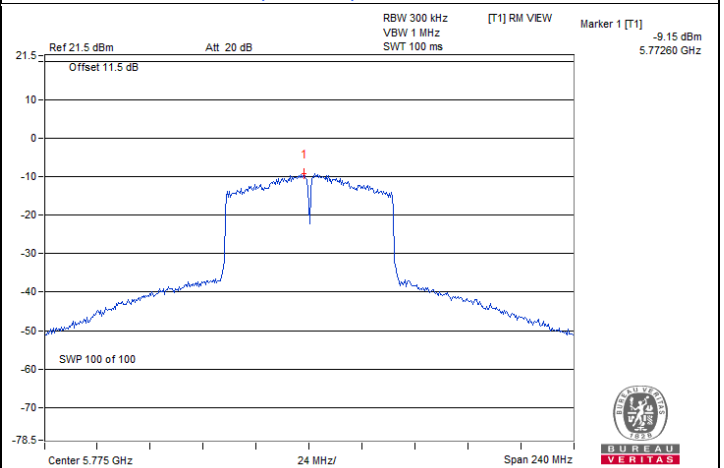
802.11a / Chain1 : CH 157



802.11ac (VHT20) / Chain1 : CH 149



802.11ac (VHT40) / Chain1 : CH 159



802.11ac (VHT80) / Chain1 : CH 155

7.4 6 dB Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	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	2.60	2.59	0.5	Pass
149	5745	15.17	15.16	0.5	Pass
157	5785	15.18	15.18	0.5	Pass
165	5825	15.16	15.16	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	2.59	2.60	0.5	Pass
149	5745	15.15	15.18	0.5	Pass
157	5785	15.19	15.18	0.5	Pass
165	5825	15.19	15.19	0.5	Pass

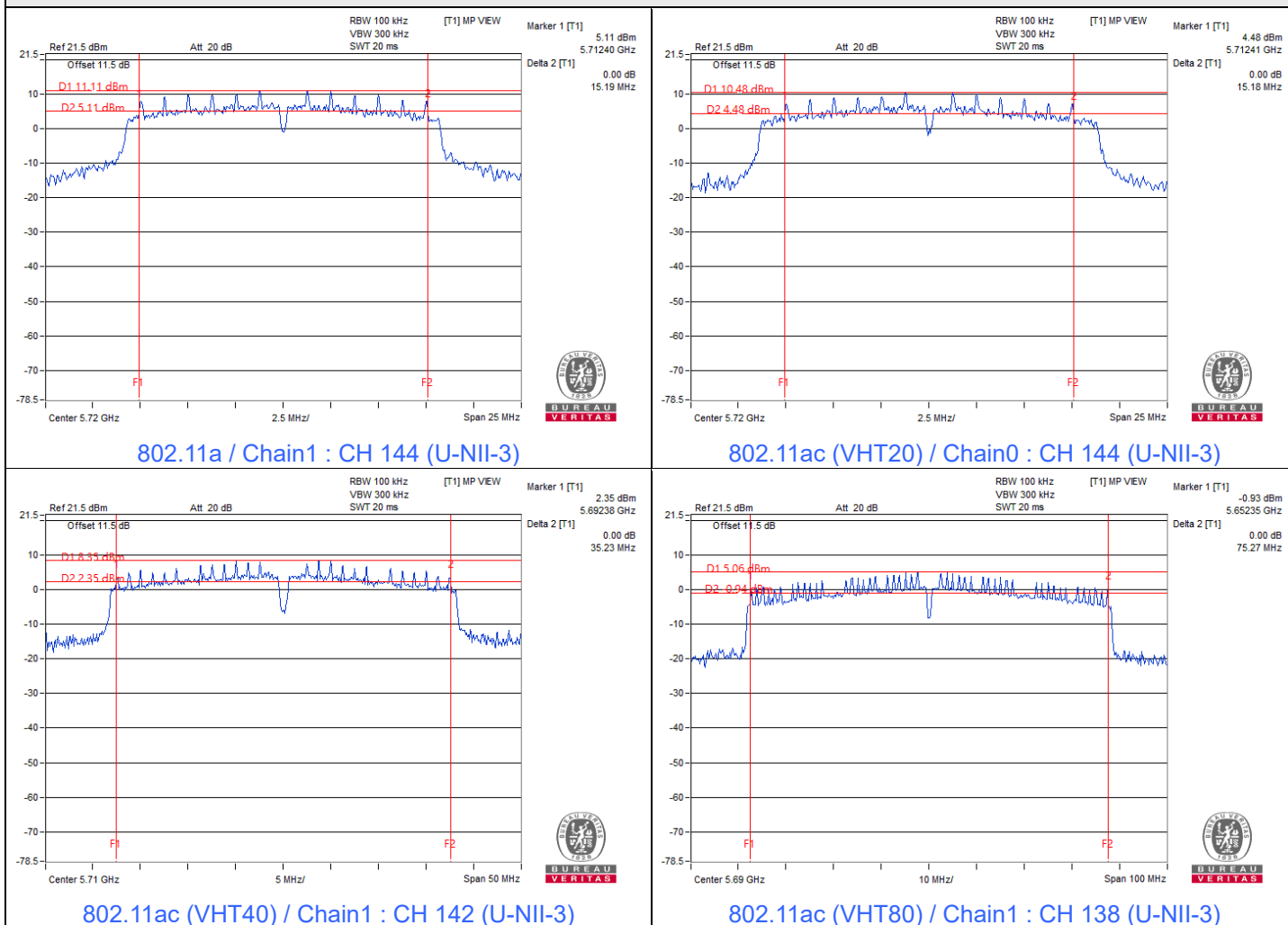
802.11ac (VHT40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
142 (U-NII-3)	5710	2.63	2.61	0.5	Pass
151	5755	35.19	35.19	0.5	Pass
159	5795	35.26	35.24	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	2.63	2.62	0.5	Pass
155	5775	75.23	75.23	0.5	Pass

Spectrum Plot of Minimum Value



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:	Jisyong Wang
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802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.92	16.92
40	5200	20.64	21.60
48	5240	20.28	20.28
52	5260	21.00	21.24
60	5300	20.88	21.00
64	5320	17.40	17.28
100	5500	17.76	17.52
116	5580	20.88	20.52
140	5700	16.92	16.92
144 (U-NII-2C)	5720	14.96	15.56
144 (U-NII-3)	5720	4.72	5.44
149	5745	19.31	20.09
157	5785	20.04	20.64
165	5825	20.26	21.22

802.11ac (VHT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.76	17.76
40	5200	18.72	18.96
48	5240	18.96	19.08
52	5260	18.84	19.20
60	5300	18.84	19.08
64	5320	17.76	17.88
100	5500	17.88	17.88
116	5580	18.72	18.72
140	5700	17.64	17.64
144 (U-NII-2C)	5720	14.24	14.48
144 (U-NII-3)	5720	4.12	4.36
149	5745	18.44	19.05
157	5785	18.60	19.08
165	5825	18.60	18.60

802.11ac (VHT40)

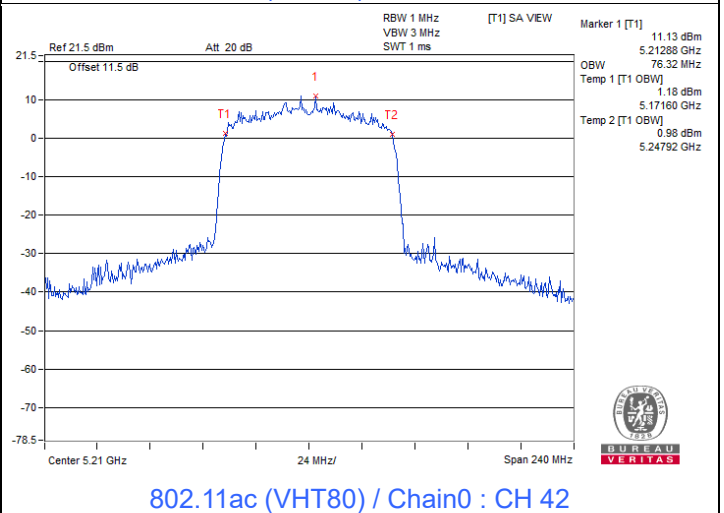
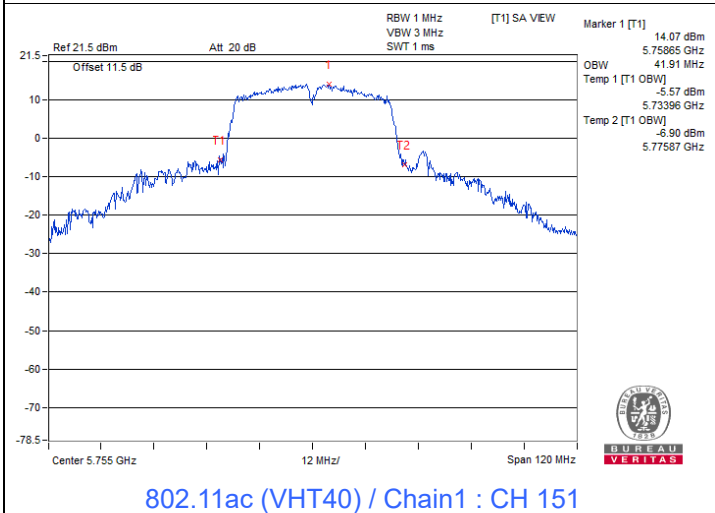
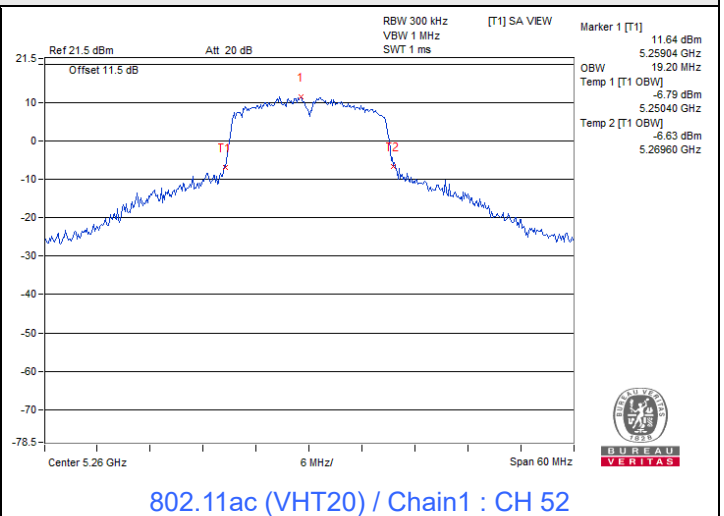
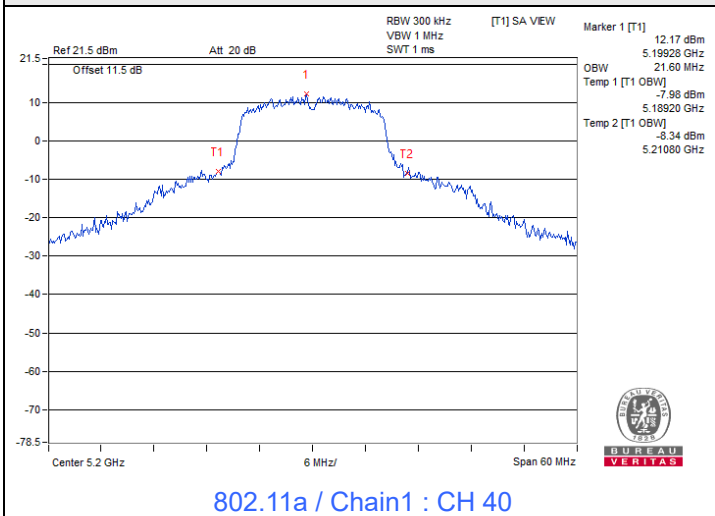
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.36	36.24
46	5230	38.40	38.16
54	5270	37.44	37.32
62	5310	36.36	36.24
102	5510	36.36	36.24
110	5550	40.56	38.40
134	5670	37.68	37.44
142 (U-NII-2C)	5710	35.40	40.44
142 (U-NII-3)	5710	5.16	9.72
151	5755	38.43	41.91
159	5795	37.32	37.80

802.11ac (VHT80)

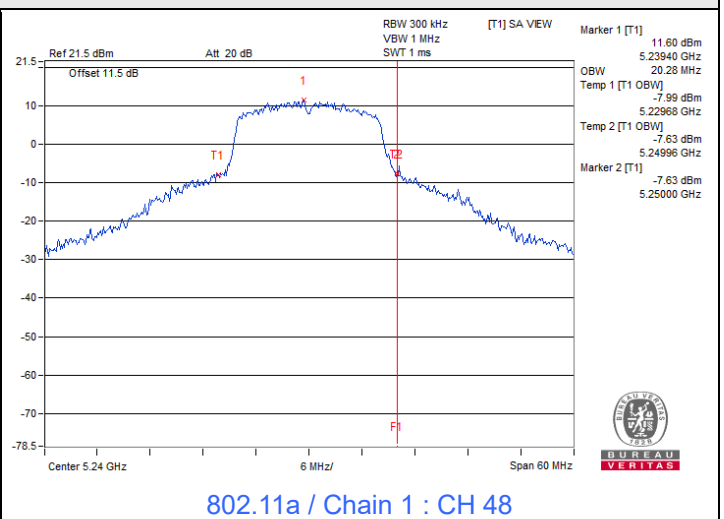
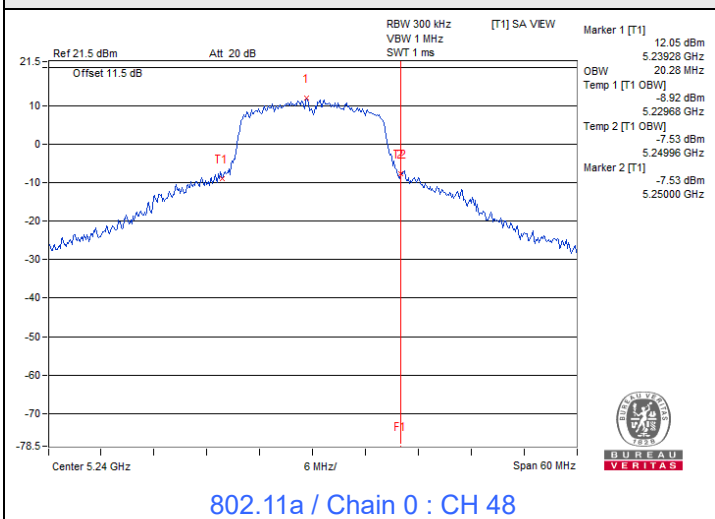
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	76.32	75.84
58	5290	75.36	75.12
106	5530	75.36	75.36
122	5610	75.36	75.60
138 (U-NII-2C)	5690	72.91	72.91
138 (U-NII-3)	5690	2.57	2.57
155	5775	75.82	75.82



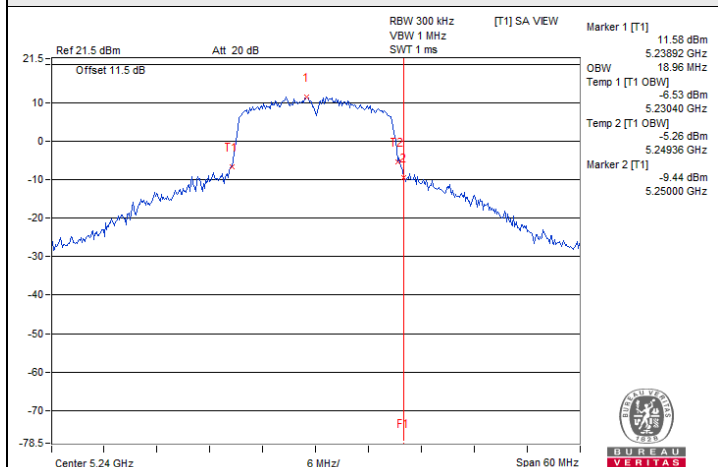
Spectrum Plot of Maximum Value



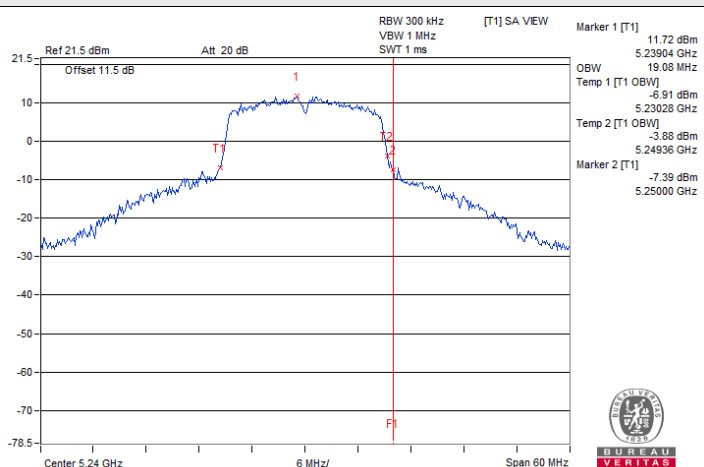
Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2A band)



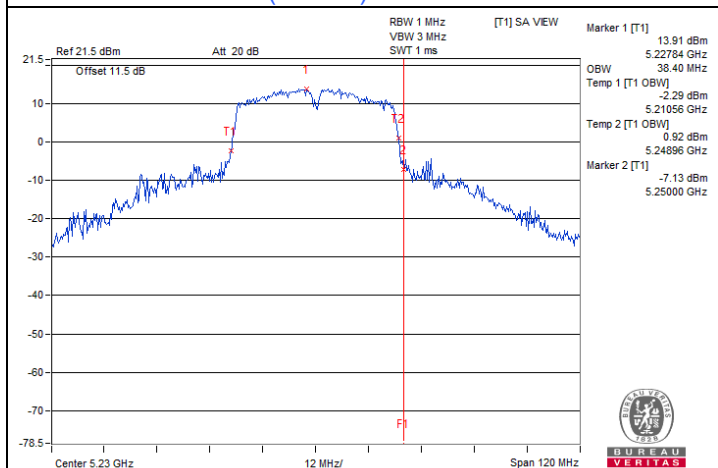
Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2A band)



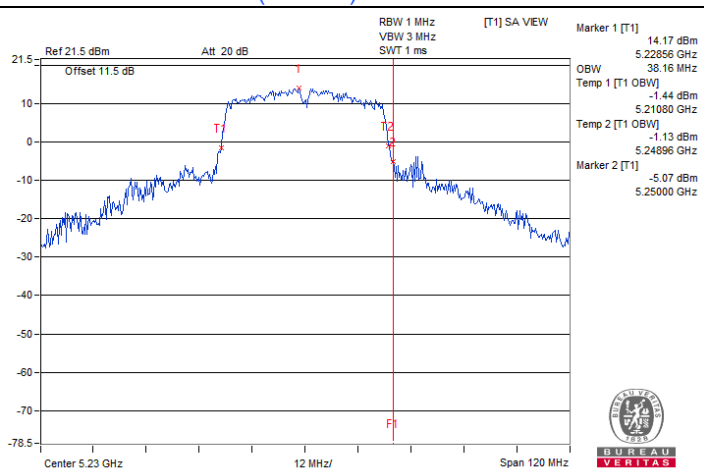
802.11ac (VHT20) / Chain 0 : CH 48



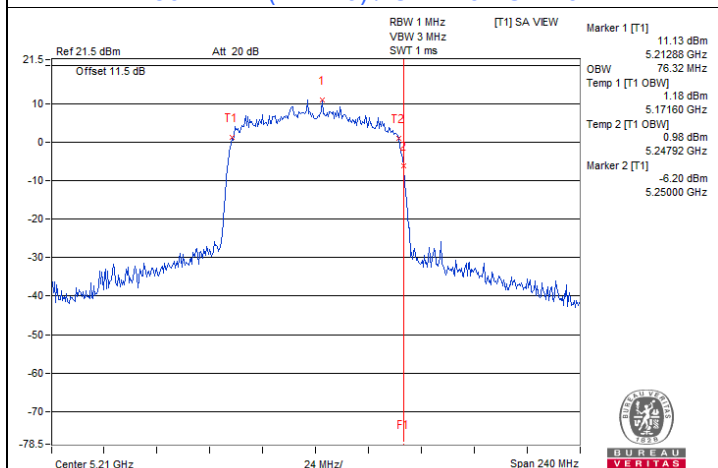
802.11ac (VHT20) / Chain 1 : CH 48



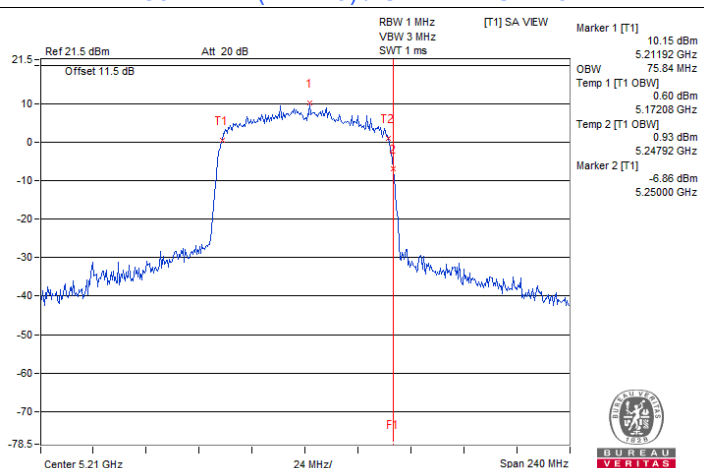
802.11ac (VHT40) / Chain 0 : CH 46



802.11ac (VHT40) / Chain 1 : CH 46



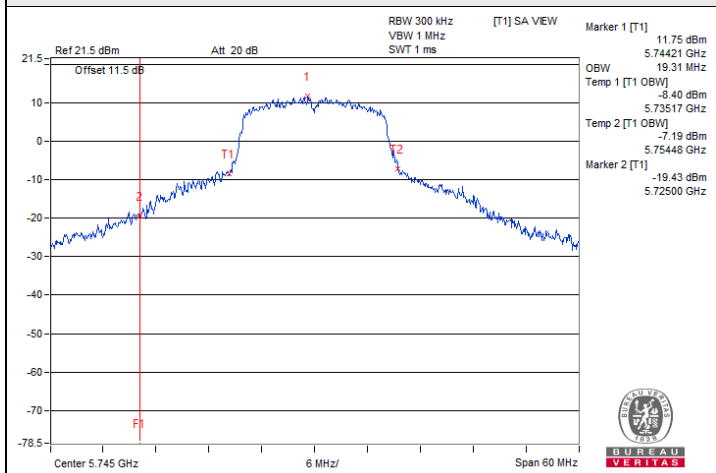
802.11ac (VHT80) / Chain 0 : CH 42



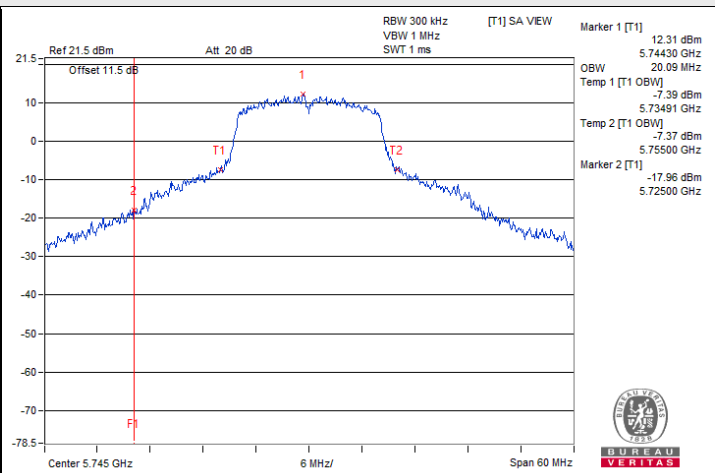
802.11ac (VHT80) / Chain 1 : CH 42



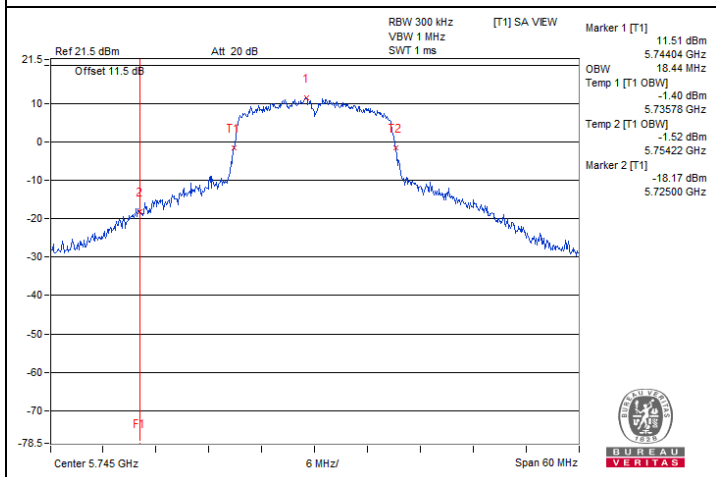
Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2C band)



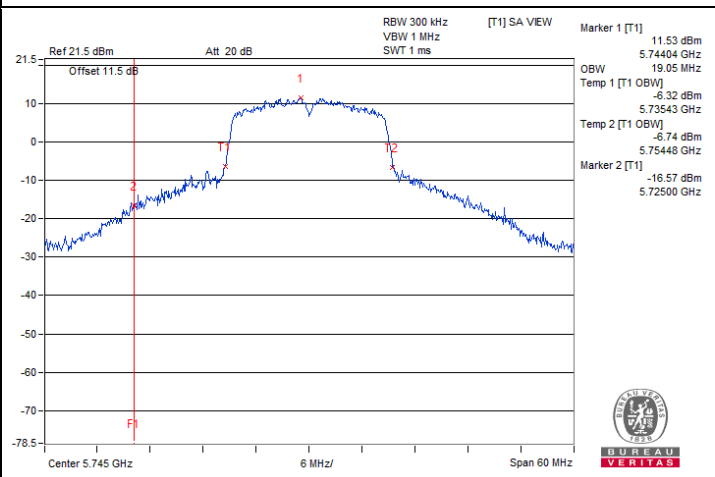
802.11a / Chain 0 : CH 149



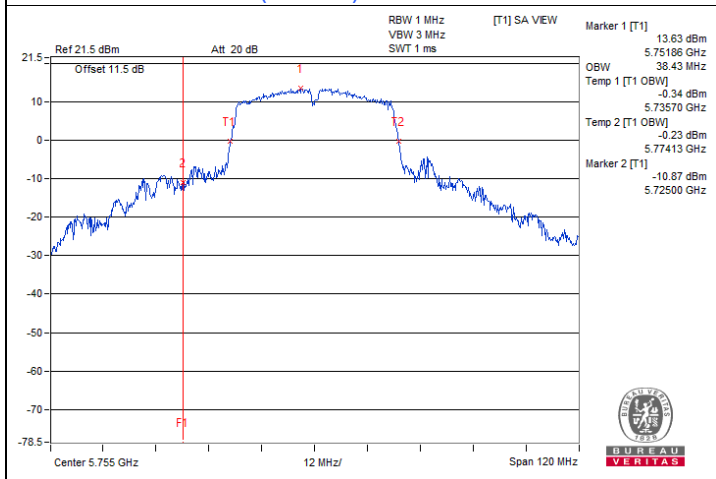
802.11a / Chain 1 : CH 149



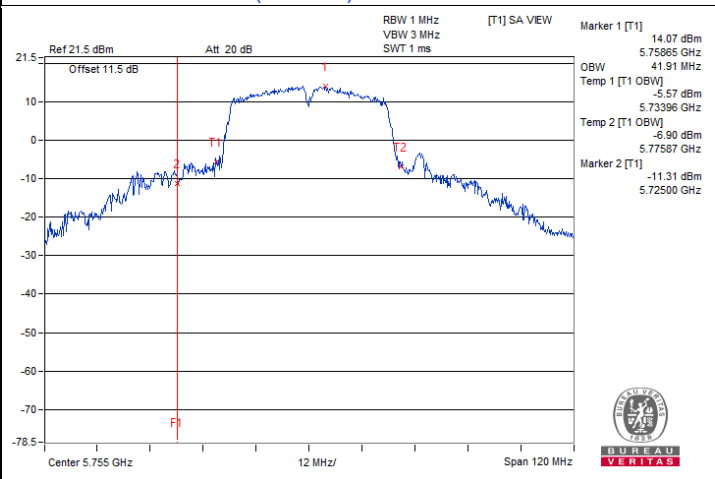
802.11ac (VHT20) / Chain 0 : CH 149



802.11ac (VHT20) / Chain 1 : CH 149



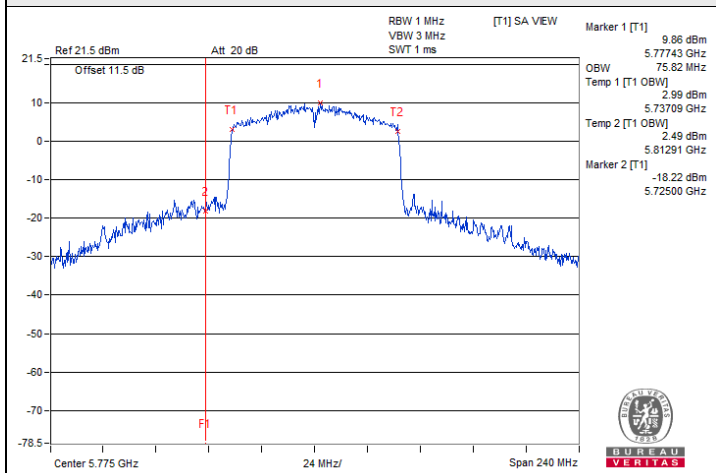
802.11ac (VHT40) / Chain 0 : CH 151



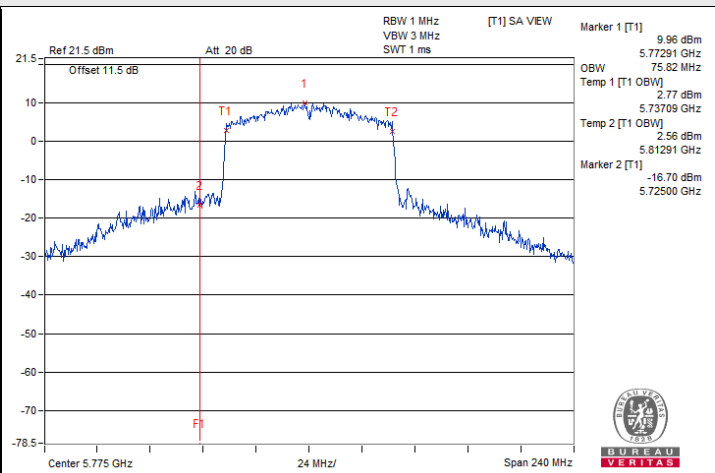
802.11ac (VHT40) / Chain 1 : CH 151



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



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:	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
55	120	5179.9852	Pass	5179.9831	Pass	5179.9825	Pass	5179.9826	Pass
50	120	5179.98	Pass	5179.9796	Pass	5179.9802	Pass	5179.9802	Pass
40	120	5180.0091	Pass	5180.0092	Pass	5180.0067	Pass	5180.0061	Pass
30	120	5180.0054	Pass	5180.0061	Pass	5180.0066	Pass	5180.0046	Pass
20	120	5179.9912	Pass	5179.9911	Pass	5179.9874	Pass	5179.9884	Pass
10	120	5180.0086	Pass	5180.0078	Pass	5180.0065	Pass	5180.006	Pass
0	120	5179.9916	Pass	5179.9938	Pass	5179.9923	Pass	5179.9925	Pass
-10	120	5180.0256	Pass	5180.0265	Pass	5180.0248	Pass	5180.0241	Pass
-20	120	5180.0103	Pass	5180.0114	Pass	5180.009	Pass	5180.0117	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	5179.9945	Pass	5179.996	Pass	5179.9974	Pass	5179.9958	Pass
	120	5179.9912	Pass	5179.9911	Pass	5179.9874	Pass	5179.9884	Pass
	102	5179.9839	Pass	5179.9865	Pass	5179.9875	Pass	5179.9845	Pass

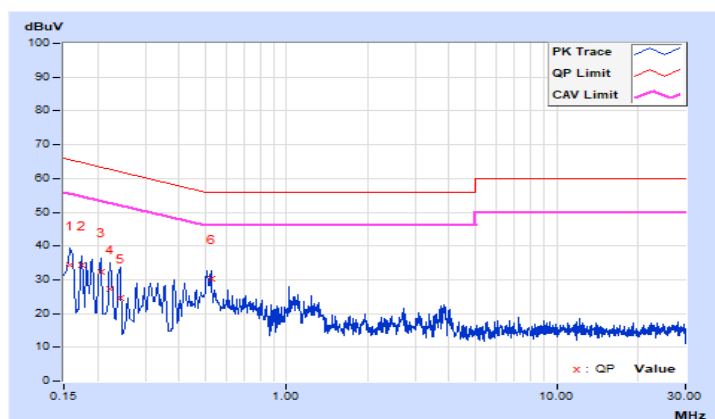
7.7 AC Power Conducted Emissions

RF Mode	TX 802.11a	Channel	CH 40 : 5200 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 72% RH
Tested By	Luis Lee		

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	10.13	24.38	12.84	34.51	22.97	65.57	55.57	-31.06	-32.60
2	0.17400	10.14	24.25	9.18	34.39	19.32	64.77	54.77	-30.38	-35.45
3	0.20600	10.16	22.23	5.36	32.39	15.52	63.37	53.37	-30.98	-37.85
4	0.22200	10.17	17.11	-0.42	27.28	9.75	62.74	52.74	-35.46	-42.99
5	0.24200	10.18	14.46	-2.55	24.64	7.63	62.03	52.03	-37.39	-44.40
6	0.52600	10.25	20.12	12.05	30.37	22.30	56.00	46.00	-25.63	-23.70

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

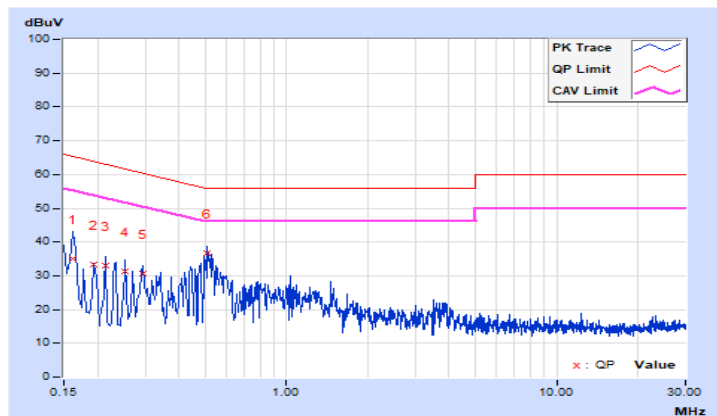


RF Mode	TX 802.11a	Channel	CH 40 : 5200 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 72% RH
Tested By	Luis Lee		

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	0.16190	10.15	24.79	8.49	34.94	18.64	65.37	55.37	-30.43	-36.73
2	0.19367	10.18	23.21	9.21	33.39	19.39	63.88	53.88	-30.49	-34.49
3	0.21400	10.19	22.76	7.74	32.95	17.93	63.05	53.05	-30.10	-35.12
4	0.25400	10.21	21.23	7.75	31.44	17.96	61.63	51.63	-30.19	-33.67
5	0.29366	10.22	20.56	9.55	30.78	19.77	60.42	50.42	-29.64	-30.65
6	0.51000	10.27	26.38	15.75	36.65	26.02	56.00	46.00	-19.35	-19.98

Remarks:

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



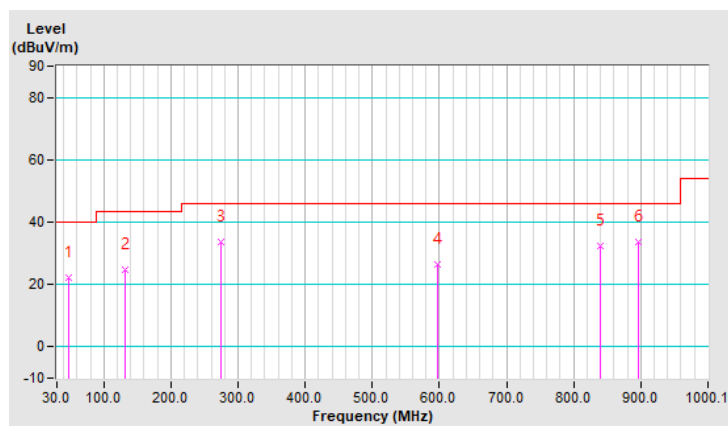
7.8 Unwanted Emissions below 1 GHz

RF Mode	TX 802.11a	Channel	CH 40 : 5200 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	48.43	22.2 QP	40.0	-17.8	1.63 H	18	34.7	-12.5
2	130.89	24.9 QP	43.5	-18.6	2.42 H	82	38.1	-13.2
3	274.47	33.7 QP	46.0	-12.3	1.78 H	144	47.0	-13.3
4	596.54	26.5 QP	46.0	-19.5	2.65 H	175	30.1	-3.6
5	839.06	32.2 QP	46.0	-13.8	1.10 H	6	31.1	1.1
6	896.30	33.7 QP	46.0	-12.3	2.03 H	275	32.2	1.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The 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.

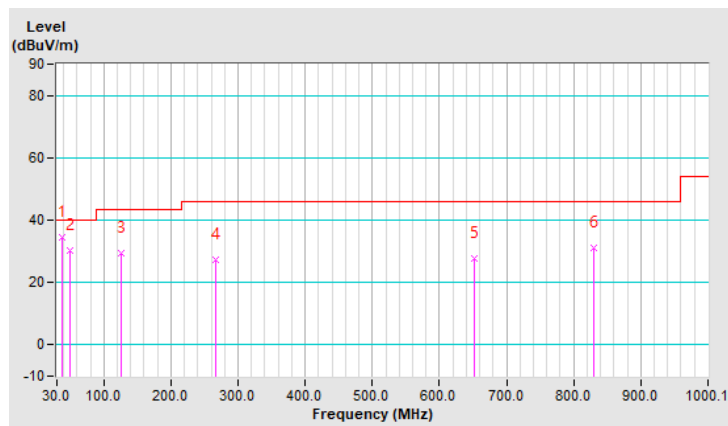


RF Mode	TX 802.11a	Channel	CH 40 : 5200 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°C, 68% RH
Tested By	Thomas Cheng		

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	37.76	34.7 QP	40.0	-5.3	1.32 V	162	48.0	-13.3
2	50.37	30.4 QP	40.0	-9.6	1.58 V	128	43.0	-12.6
3	125.07	29.4 QP	43.5	-14.1	3.26 V	328	43.3	-13.9
4	265.73	27.2 QP	46.0	-18.8	2.81 V	39	41.0	-13.8
5	652.80	27.6 QP	46.0	-18.4	1.04 V	3	30.1	-2.5
6	830.33	31.2 QP	46.0	-14.8	2.20 V	309	30.2	1.0

Remarks:

1. Emission Level(dBUV/m) = Raw Value(dBUV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit 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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	62.0 PK	74.0	-12.0	1.12 H	345	78.9	-16.9
2	5150.00	49.3 AV	54.0	-4.7	1.12 H	345	66.2	-16.9
3	*5180.00	107.6 PK			1.12 H	345	71.5	36.1
4	*5180.00	99.6 AV			1.12 H	345	63.5	36.1
5	#10360.00	50.6 PK	68.2	-17.6	3.76 H	24	56.8	-6.2

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	64.4 PK	74.0	-9.6	1.14 V	151	81.3	-16.9
2	5150.00	53.3 AV	54.0	-0.7	1.14 V	151	70.2	-16.9
3	*5180.00	108.5 PK			1.14 V	151	72.4	36.1
4	*5180.00	101.4 AV			1.14 V	151	65.3	36.1
5	#10360.00	51.3 PK	68.2	-16.9	2.09 V	46	57.5	-6.2

Remarks:

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



RF Mode	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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.8 PK	74.0	-16.2	1.12 H	344	74.7	-16.9
2	5150.00	46.4 AV	54.0	-7.6	1.12 H	344	63.3	-16.9
3	*5200.00	110.8 PK			1.12 H	344	74.7	36.1
4	*5200.00	102.5 AV			1.12 H	344	66.4	36.1
5	#10400.00	51.2 PK	68.2	-17.0	2.30 H	120	57.2	-6.0

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	58.5 PK	74.0	-15.5	1.07 V	154	75.4	-16.9
2	5150.00	47.3 AV	54.0	-6.7	1.07 V	154	64.2	-16.9
3	*5200.00	112.3 PK			1.07 V	154	76.2	36.1
4	*5200.00	105.4 AV			1.07 V	154	69.3	36.1
5	#10400.00	51.6 PK	68.2	-16.6	1.29 V	121	57.6	-6.0

Remarks:

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



RF Mode	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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	110.1 PK			1.23 H	348	74.1	36.0
2	*5240.00	102.6 AV			1.23 H	348	66.6	36.0
3	5350.00	50.9 PK	74.0	-23.1	1.23 H	348	67.7	-16.8
4	5350.00	40.7 AV	54.0	-13.3	1.23 H	348	57.5	-16.8
5	#10480.00	54.6 PK	68.2	-13.6	3.67 H	96	60.6	-6.0

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	111.7 PK			1.11 V	156	75.7	36.0
2	*5240.00	104.5 AV			1.11 V	156	68.5	36.0
3	5350.00	51.0 PK	74.0	-23.0	1.11 V	156	67.8	-16.8
4	5350.00	40.8 AV	54.0	-13.2	1.11 V	156	57.6	-16.8
5	#10480.00	54.9 PK	68.2	-13.3	1.11 V	156	60.9	-6.0

Remarks:

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



RF Mode	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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	50.1 PK	74.0	-23.9	1.27 H	348	67.0	-16.9
2	5150.00	39.9 AV	54.0	-14.1	1.27 H	348	56.8	-16.9
3	*5260.00	109.9 PK			1.27 H	348	74.0	35.9
4	*5260.00	102.3 AV			1.27 H	348	66.4	35.9
5	#10520.00	55.2 PK	68.2	-13.0	3.19 H	139	61.2	-6.0

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	50.2 PK	74.0	-23.8	1.28 V	148	67.1	-16.9
2	5150.00	40.0 AV	54.0	-14.0	1.28 V	148	56.9	-16.9
3	*5260.00	111.6 PK			1.28 V	148	75.7	35.9
4	*5260.00	104.1 AV			1.28 V	148	68.2	35.9
5	#10520.00	55.7 PK	68.2	-12.5	1.71 V	343	61.7	-6.0

Remarks:

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



RF Mode	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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	109.8 PK			1.30 H	349	74.0	35.8
2	*5300.00	102.7 AV			1.30 H	349	66.9	35.8
3	5350.00	62.2 PK	74.0	-11.8	1.30 H	349	79.0	-16.8
4	5350.00	48.6 AV	54.0	-5.4	1.30 H	349	65.4	-16.8
5	10600.00	54.3 PK	74.0	-19.7	1.62 H	69	60.2	-5.9
6	10600.00	43.4 AV	54.0	-10.6	1.62 H	69	49.3	-5.9

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	*5300.00	111.3 PK			1.08 V	155	75.5	35.8
2	*5300.00	104.0 AV			1.08 V	155	68.2	35.8
3	5350.00	62.9 PK	74.0	-11.1	1.08 V	155	79.7	-16.8
4	5350.00	50.3 AV	54.0	-3.7	1.08 V	155	67.1	-16.8
5	10600.00	55.9 PK	74.0	-18.1	3.42 V	258	61.8	-5.9
6	10600.00	44.7 AV	54.0	-9.3	3.42 V	258	50.6	-5.9

Remarks:

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



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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	108.1 PK			1.24 H	348	72.3	35.8
2	*5320.00	100.6 AV			1.24 H	348	64.8	35.8
3	5350.00	61.9 PK	74.0	-12.1	1.24 H	348	78.7	-16.8
4	5350.00	50.2 AV	54.0	-3.8	1.24 H	348	67.0	-16.8
5	10640.00	55.1 PK	74.0	-18.9	1.11 H	41	60.8	-5.7
6	10640.00	43.8 AV	54.0	-10.2	1.11 H	41	49.5	-5.7

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	*5320.00	109.5 PK			1.27 V	189	73.7	35.8
2	*5320.00	102.1 AV			1.27 V	189	66.3	35.8
3	5352.00	65.3 PK	74.0	-8.7	1.27 V	189	82.1	-16.8
4	5352.00	53.1 AV	54.0	-0.9	1.27 V	189	69.9	-16.8
5	10640.00	55.4 PK	74.0	-18.6	1.62 V	84	61.1	-5.7
6	10640.00	44.0 AV	54.0	-10.0	1.62 V	84	49.7	-5.7

Remarks:

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



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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	61.2 PK	74.0	-12.8	1.29 H	350	77.6	-16.4
2	5460.00	49.1 AV	54.0	-4.9	1.29 H	350	65.5	-16.4
3	#5470.00	66.2 PK	68.2	-2.0	1.29 H	350	82.6	-16.4
4	*5500.00	108.2 PK			1.29 H	350	72.0	36.2
5	*5500.00	100.5 AV			1.29 H	350	64.3	36.2
6	11000.00	54.6 PK	74.0	-19.4	3.79 H	195	60.6	-6.0
7	11000.00	43.6 AV	54.0	-10.4	3.79 H	195	49.6	-6.0

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5458.00	62.8 PK	74.0	-11.2	1.21 V	192	79.2	-16.4
2	5458.00	51.0 AV	54.0	-3.0	1.21 V	192	67.4	-16.4
3	#5470.00	67.6 PK	68.2	-0.6	1.21 V	192	84.0	-16.4
4	*5500.00	109.7 PK			1.21 V	192	73.5	36.2
5	*5500.00	102.6 AV			1.21 V	192	66.4	36.2
6	11000.00	55.2 PK	74.0	-18.8	1.75 V	278	61.2	-6.0
7	11000.00	44.5 AV	54.0	-9.5	1.75 V	278	50.5	-6.0

Remarks:

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



RF Mode	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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	110.8 PK			1.45 H	351	74.4	36.4
2	*5580.00	103.1 AV			1.45 H	351	66.7	36.4
3	11160.00	55.1 PK	74.0	-18.9	3.78 H	304	60.9	-5.8
4	11160.00	43.9 AV	54.0	-10.1	3.78 H	304	49.7	-5.8

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	112.7 PK			1.12 V	125	76.3	36.4
2	*5580.00	105.7 AV			1.12 V	125	69.3	36.4
3	11160.00	55.7 PK	74.0	-18.3	1.10 V	188	61.5	-5.8
4	11160.00	44.1 AV	54.0	-9.9	1.10 V	188	49.9	-5.8

Remarks:

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



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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	106.8 PK			1.35 H	340	70.0	36.8
2	*5700.00	98.2 AV			1.35 H	340	61.4	36.8
3	#5725.00	62.2 PK	68.2	-6.0	1.35 H	340	78.2	-16.0
4	11400.00	55.3 PK	74.0	-18.7	2.03 H	64	60.1	-4.8
5	11400.00	44.7 AV	54.0	-9.3	2.03 H	64	49.5	-4.8

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	*5700.00	109.8 PK			1.04 V	81	73.0	36.8
2	*5700.00	102.6 AV			1.04 V	81	65.8	36.8
3	#5725.00	67.3 PK	68.2	-0.9	1.04 V	81	83.3	-16.0
4	11400.00	55.4 PK	74.0	-18.6	1.40 V	26	60.2	-4.8
5	11400.00	45.8 AV	54.0	-8.2	1.40 V	26	50.6	-4.8

Remarks:

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



RF Mode	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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5720.00	110.9 PK			1.32 H	341	74.2	36.7
2	*5720.00	102.8 AV			1.32 H	341	66.1	36.7
3	#5850.00	50.9 PK	68.2	-17.3	1.32 H	341	66.6	-15.7
4	11440.00	56.3 PK	74.0	-17.7	1.19 H	172	61.1	-4.8
5	11440.00	44.7 AV	54.0	-9.3	1.19 H	172	49.5	-4.8

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	*5720.00	114.0 PK			1.14 V	77	77.3	36.7
2	*5720.00	106.8 AV			1.14 V	77	70.1	36.7
3	#5850.00	51.5 PK	68.2	-16.7	1.14 V	77	67.2	-15.7
4	11440.00	57.3 PK	74.0	-16.7	2.29 V	113	62.1	-4.8
5	11440.00	45.8 AV	54.0	-8.2	2.29 V	113	50.6	-4.8

Remarks:

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



RF Mode	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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5646.40	52.3 PK	68.2	-15.9	1.17 H	340	68.4	-16.1
2	*5745.00	110.4 PK			1.17 H	340	73.6	36.8
3	*5745.00	101.8 AV			1.17 H	340	65.0	36.8
4	#5944.80	50.7 PK	68.2	-17.5	1.17 H	340	66.4	-15.7
5	11490.00	55.7 PK	74.0	-18.3	3.81 H	240	60.5	-4.8
6	11490.00	45.5 AV	54.0	-8.5	3.81 H	240	50.3	-4.8

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	#5636.40	51.7 PK	68.2	-16.5	1.08 V	79	67.9	-16.2
2	*5745.00	114.9 PK			1.08 V	79	78.1	36.8
3	*5745.00	107.3 AV			1.08 V	79	70.5	36.8
4	#5939.60	49.5 PK	68.2	-18.7	1.08 V	79	65.2	-15.7
5	11490.00	56.8 PK	74.0	-17.2	2.62 V	349	61.6	-4.8
6	11490.00	45.9 AV	54.0	-8.1	2.62 V	349	50.7	-4.8

Remarks:

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



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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBUV)	Correction Factor (dB/m)
1	#5626.00	51.6 PK	68.2	-16.6	1.39 H	340	67.8	-16.2
2	*5785.00	109.2 PK			1.39 H	340	72.4	36.8
3	*5785.00	100.6 AV			1.39 H	340	63.8	36.8
4	#5950.00	51.4 PK	68.2	-16.8	1.39 H	340	67.3	-15.9
5	11570.00	55.9 PK	74.0	-18.1	N/A H	N/A	61.0	-5.1
6	11570.00	44.2 AV	54.0	-9.8	N/A H	N/A	49.3	-5.1

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	#5627.60	51.2 PK	68.2	-17.0	1.19 V	84	67.4	-16.2
2	*5785.00	113.9 PK			1.19 V	84	77.1	36.8
3	*5785.00	106.5 AV			1.19 V	84	69.7	36.8
4	#5940.40	51.0 PK	68.2	-17.2	1.19 V	84	66.7	-15.7
5	11570.00	57.1 PK	74.0	-16.9	1.02 V	253	62.2	-5.1
6	11570.00	45.1 AV	54.0	-8.9	1.02 V	253	50.2	-5.1

Remarks:

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



RF Mode	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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBUV)	Correction Factor (dB/m)
1	#5626.00	50.8 PK	68.2	-17.4	1.22 H	340	67.0	-16.2
2	*5825.00	109.2 PK			1.22 H	340	72.3	36.9
3	*5825.00	100.8 AV			1.22 H	340	63.9	36.9
4	#5935.60	51.2 PK	68.2	-17.0	1.22 H	340	66.9	-15.7
5	11650.00	55.5 PK	74.0	-18.5	2.80 H	243	61.0	-5.5
6	11650.00	44.7 AV	54.0	-9.3	2.80 H	243	50.2	-5.5

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	#5646.00	50.6 PK	68.2	-17.6	1.06 V	76	66.7	-16.1
2	*5825.00	113.7 PK			1.06 V	76	76.8	36.9
3	*5825.00	106.2 AV			1.06 V	76	69.3	36.9
4	#5930.40	51.6 PK	68.2	-16.6	1.06 V	76	67.3	-15.7
5	11650.00	56.6 PK	74.0	-17.4	1.69 V	175	62.1	-5.5
6	11650.00	44.9 AV	54.0	-9.1	1.69 V	175	50.4	-5.5

Remarks:

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



RF Mode	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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	63.8 PK	74.0	-10.2	1.00 H	335	80.7	-16.9
2	5150.00	51.4 AV	54.0	-2.6	1.00 H	335	68.3	-16.9
3	*5180.00	106.0 PK			1.00 H	335	69.9	36.1
4	*5180.00	99.0 AV			1.00 H	335	62.9	36.1
5	#10360.00	51.4 PK	68.2	-16.8	3.33 H	245	57.6	-6.2

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	65.7 PK	74.0	-8.3	1.15 V	64	82.6	-16.9
2	5150.00	53.5 AV	54.0	-0.5	1.15 V	64	70.4	-16.9
3	*5180.00	107.6 PK			1.15 V	64	71.5	36.1
4	*5180.00	100.2 AV			1.15 V	64	64.1	36.1
5	#10360.00	51.7 PK	68.2	-16.5	2.36 V	302	57.9	-6.2

Remarks:

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



RF Mode	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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	108.7 PK			1.00 H	338	72.6	36.1
2	*5200.00	100.7 AV			1.00 H	338	64.6	36.1
3	#10400.00	51.7 PK	68.2	-16.5	3.07 H	204	57.7	-6.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	110.0 PK			1.13 V	142	73.9	36.1
2	*5200.00	102.9 AV			1.13 V	142	66.8	36.1
3	#10400.00	52.5 PK	68.2	-15.7	2.73 V	186	58.5	-6.0

Remarks:

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



RF Mode	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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	109.2 PK			1.00 H	334	73.2	36.0
2	*5240.00	101.6 AV			1.00 H	334	65.6	36.0
3	5350.00	50.6 PK	74.0	-23.4	1.00 H	334	67.4	-16.8
4	5350.00	40.6 AV	54.0	-13.4	1.00 H	334	57.4	-16.8
5	#10480.00	52.1 PK	68.2	-16.1	2.60 H	359	58.1	-6.0

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	110.9 PK			1.07 V	88	74.9	36.0
2	*5240.00	103.6 AV			1.07 V	88	67.6	36.0
3	5350.00	51.0 PK	74.0	-23.0	1.07 V	88	67.8	-16.8
4	5350.00	40.7 AV	54.0	-13.3	1.07 V	88	57.5	-16.8
5	#10480.00	52.2 PK	68.2	-16.0	2.80 V	248	58.2	-6.0

Remarks:

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



RF Mode	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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	50.0 PK	74.0	-24.0	1.00 H	335	66.9	-16.9
2	5150.00	40.1 AV	54.0	-13.9	1.00 H	335	57.0	-16.9
3	*5260.00	108.0 PK			1.00 H	335	72.1	35.9
4	*5260.00	101.7 AV			1.00 H	335	65.8	35.9
5	#10520.00	52.1 PK	68.2	-16.1	1.81 H	107	58.1	-6.0

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	50.7 PK	74.0	-23.3	1.13 V	101	67.6	-16.9
2	5150.00	40.4 AV	54.0	-13.6	1.13 V	101	57.3	-16.9
3	*5260.00	109.6 PK			1.13 V	101	73.7	35.9
4	*5260.00	103.0 AV			1.13 V	101	67.1	35.9
5	#10520.00	53.0 PK	68.2	-15.2	3.88 V	43	59.0	-6.0

Remarks:

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



RF Mode	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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	107.7 PK			1.12 H	344	71.9	35.8
2	*5300.00	100.4 AV			1.12 H	344	64.6	35.8
3	10600.00	51.9 PK	74.0	-22.1	3.22 H	308	57.8	-5.9
4	10600.00	42.0 AV	54.0	-12.0	3.22 H	308	47.9	-5.9

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	*5300.00	108.9 PK			1.07 V	98	73.1	35.8
2	*5300.00	101.3 AV			1.07 V	98	65.5	35.8
3	10600.00	52.3 PK	74.0	-21.7	2.71 V	46	58.2	-5.9
4	10600.00	42.6 AV	54.0	-11.4	2.71 V	46	48.5	-5.9

Remarks:

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



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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	105.8 PK			1.07 H	349	70.0	35.8
2	*5320.00	98.4 AV			1.07 H	349	62.6	35.8
3	5351.00	64.9 PK	74.0	-9.1	1.07 H	349	81.7	-16.8
4	5351.00	51.4 AV	54.0	-2.6	1.07 H	349	68.2	-16.8
5	10640.00	52.6 PK	74.0	-21.4	1.88 H	37	58.3	-5.7
6	10640.00	42.4 AV	54.0	-11.6	1.88 H	37	48.1	-5.7

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	*5320.00	106.9 PK			1.07 V	94	71.1	35.8
2	*5320.00	99.8 AV			1.07 V	94	64.0	35.8
3	5351.00	67.4 PK	74.0	-6.6	1.07 V	94	84.2	-16.8
4	5351.00	53.1 AV	54.0	-0.9	1.07 V	94	69.9	-16.8
5	10640.00	53.5 PK	74.0	-20.5	2.27 V	320	59.2	-5.7
6	10640.00	42.6 AV	54.0	-11.4	2.27 V	320	48.3	-5.7

Remarks:

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



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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.8 PK	74.0	-13.2	1.14 H	341	77.2	-16.4
2	5460.00	49.4 AV	54.0	-4.6	1.14 H	341	65.8	-16.4
3	#5470.00	67.3 PK	68.2	-0.9	1.14 H	341	83.7	-16.4
4	*5500.00	107.8 PK			1.14 H	341	71.6	36.2
5	*5500.00	100.7 AV			1.14 H	341	64.5	36.2
6	11000.00	51.5 PK	74.0	-22.5	2.93 H	217	57.5	-6.0
7	11000.00	41.9 AV	54.0	-12.1	2.93 H	217	47.9	-6.0

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	62.0 PK	74.0	-12.0	1.11 V	92	78.4	-16.4
2	5460.00	50.5 AV	54.0	-3.5	1.11 V	92	66.9	-16.4
3	#5470.00	67.7 PK	68.2	-0.5	1.11 V	92	84.1	-16.4
4	*5500.00	108.9 PK			1.11 V	92	72.7	36.2
5	*5500.00	102.0 AV			1.11 V	92	65.8	36.2
6	11000.00	53.0 PK	74.0	-21.0	3.44 V	277	59.0	-6.0
7	11000.00	42.1 AV	54.0	-11.9	3.44 V	277	48.1	-6.0

Remarks:

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



RF Mode	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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	109.4 PK			1.00 H	137	73.0	36.4
2	*5580.00	102.2 AV			1.00 H	137	65.8	36.4
3	11160.00	52.0 PK	74.0	-22.0	2.46 H	162	57.8	-5.8
4	11160.00	42.3 AV	54.0	-11.7	2.46 H	162	48.1	-5.8

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	110.9 PK			1.00 V	90	74.5	36.4
2	*5580.00	103.8 AV			1.00 V	90	67.4	36.4
3	11160.00	53.1 PK	74.0	-20.9	2.41 V	208	58.9	-5.8
4	11160.00	42.8 AV	54.0	-11.2	2.41 V	208	48.6	-5.8

Remarks:

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



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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	105.6 PK			1.49 H	356	68.8	36.8
2	*5700.00	98.2 AV			1.49 H	356	61.4	36.8
3	#5725.00	62.8 PK	68.2	-5.4	1.49 H	356	78.8	-16.0
4	11400.00	53.2 PK	74.0	-20.8	1.49 H	356	58.0	-4.8
5	11400.00	43.3 AV	54.0	-10.7	1.49 H	356	48.1	-4.8

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	*5700.00	108.1 PK			1.04 V	93	71.3	36.8
2	*5700.00	101.5 AV			1.04 V	93	64.7	36.8
3	#5725.00	67.4 PK	68.2	-0.8	1.04 V	93	83.4	-16.0
4	11400.00	53.4 PK	74.0	-20.6	2.68 V	344	58.2	-4.8
5	11400.00	43.4 AV	54.0	-10.6	2.68 V	344	48.2	-4.8

Remarks:

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



RF Mode	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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5720.00	107.9 PK			1.52 H	357	71.2	36.7
2	*5720.00	100.8 AV			1.52 H	357	64.1	36.7
3	#5850.00	51.4 PK	68.2	-16.8	1.52 H	357	67.1	-15.7
4	11440.00	53.2 PK	74.0	-20.8	2.91 H	204	58.0	-4.8
5	11440.00	44.1 AV	54.0	-9.9	2.91 H	204	48.9	-4.8

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	*5720.00	112.1 PK			1.04 V	97	75.4	36.7
2	*5720.00	105.2 AV			1.04 V	97	68.5	36.7
3	#5850.00	51.5 PK	68.2	-16.7	1.04 V	97	67.2	-15.7
4	11440.00	53.7 PK	74.0	-20.3	2.59 V	260	58.5	-4.8
5	11440.00	44.3 AV	54.0	-9.7	2.59 V	260	49.1	-4.8

Remarks:

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



RF Mode	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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5645.60	51.2 PK	68.2	-17.0	1.07 H	50	67.3	-16.1
2	*5745.00	107.9 PK			1.07 H	50	71.1	36.8
3	*5745.00	100.4 AV			1.07 H	50	63.6	36.8
4	#5939.60	50.4 PK	68.2	-17.8	1.07 H	50	66.1	-15.7
5	11490.00	53.5 PK	74.0	-20.5	2.19 H	104	58.3	-4.8
6	11490.00	43.4 AV	54.0	-10.6	2.19 H	104	48.2	-4.8

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	#5648.00	52.8 PK	68.2	-15.4	1.05 V	98	68.9	-16.1
2	*5745.00	112.3 PK			1.05 V	98	75.5	36.8
3	*5745.00	104.9 AV			1.05 V	98	68.1	36.8
4	#5942.00	51.3 PK	68.2	-16.9	1.05 V	98	67.0	-15.7
5	11490.00	53.6 PK	74.0	-20.4	1.43 V	203	58.4	-4.8
6	11490.00	44.1 AV	54.0	-9.9	1.43 V	203	48.9	-4.8

Remarks:

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



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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBUV)	Correction Factor (dB/m)
1	#5619.20	51.1 PK	68.2	-17.1	1.02 H	96	67.4	-16.3
2	*5785.00	107.4 PK			1.02 H	96	70.6	36.8
3	*5785.00	100.1 AV			1.02 H	96	63.3	36.8
4	#5938.80	50.5 PK	68.2	-17.7	1.02 H	96	66.2	-15.7
5	11570.00	52.8 PK	74.0	-21.2	2.06 H	316	57.9	-5.1
6	11570.00	43.0 AV	54.0	-11.0	2.06 H	316	48.1	-5.1

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	#5602.40	51.3 PK	68.2	-16.9	1.00 V	92	67.7	-16.4
2	*5785.00	111.8 PK			1.00 V	92	75.0	36.8
3	*5785.00	104.6 AV			1.00 V	92	67.8	36.8
4	#5940.80	50.1 PK	68.2	-18.1	1.00 V	92	65.8	-15.7
5	11570.00	53.3 PK	74.0	-20.7	1.75 V	224	58.4	-5.1
6	11570.00	43.2 AV	54.0	-10.8	1.75 V	224	48.3	-5.1

Remarks:

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



RF Mode	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	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5647.60	50.9 PK	68.2	-17.3	1.18 H	92	67.0	-16.1
2	*5825.00	107.4 PK			1.18 H	92	70.5	36.9
3	*5825.00	100.5 AV			1.18 H	92	63.6	36.9
4	#5932.80	51.6 PK	68.2	-16.6	1.18 H	92	67.3	-15.7
5	11650.00	53.7 PK	74.0	-20.3	3.05 H	8	59.2	-5.5
6	11650.00	42.6 AV	54.0	-11.4	3.05 H	8	48.1	-5.5

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	#5618.80	51.4 PK	68.2	-16.8	1.03 V	91	67.7	-16.3
2	*5825.00	111.5 PK			1.03 V	91	74.6	36.9
3	*5825.00	104.2 AV			1.03 V	91	67.3	36.9
4	#5926.00	51.5 PK	68.2	-16.7	1.03 V	91	67.2	-15.7
5	11650.00	54.0 PK	74.0	-20.0	1.69 V	41	59.5	-5.5
6	11650.00	43.1 AV	54.0	-10.9	1.69 V	41	48.6	-5.5

Remarks:

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



RF Mode	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 = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.4 PK	74.0	-16.6	2.16 H	337	74.3	-16.9
2	5150.00	51.1 AV	54.0	-2.9	2.16 H	337	68.0	-16.9
3	*5190.00	100.1 PK			2.16 H	337	64.0	36.1
4	*5190.00	92.8 AV			2.16 H	337	56.7	36.1
5	#10380.00	51.3 PK	68.2	-16.9	3.74 H	274	57.5	-6.2

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	67.1 PK	74.0	-6.9	1.70 V	180	84.0	-16.9
2	5150.00	52.6 AV	54.0	-1.4	1.70 V	180	69.5	-16.9
3	*5190.00	102.3 PK			1.70 V	180	66.2	36.1
4	*5190.00	95.3 AV			1.70 V	180	59.2	36.1
5	#10380.00	52.5 PK	68.2	-15.7	2.31 V	197	58.7	-6.2

Remarks:

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



RF Mode	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 = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	61.5 PK	74.0	-12.5	2.27 H	339	78.4	-16.9
2	5150.00	49.0 AV	54.0	-5.0	2.27 H	339	65.9	-16.9
3	*5230.00	104.0 PK			2.27 H	339	68.0	36.0
4	*5230.00	96.3 AV			2.27 H	339	60.3	36.0
5	5350.00	56.0 PK	74.0	-18.0	2.27 H	339	72.8	-16.8
6	5350.00	43.7 AV	54.0	-10.3	2.27 H	339	60.5	-16.8
7	#10460.00	51.7 PK	68.2	-16.5	1.96 H	278	57.6	-5.9

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.9 PK	74.0	-14.1	1.52 V	176	76.8	-16.9
2	5150.00	48.7 AV	54.0	-5.3	1.52 V	176	65.6	-16.9
3	*5230.00	106.3 PK			1.52 V	176	70.3	36.0
4	*5230.00	99.3 AV			1.52 V	176	63.3	36.0
5	5350.00	57.1 PK	74.0	-16.9	1.52 V	176	73.9	-16.8
6	5350.00	44.8 AV	54.0	-9.2	1.52 V	176	61.6	-16.8
7	#10460.00	52.4 PK	68.2	-15.8	1.41 V	252	58.3	-5.9

Remarks:

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



RF Mode	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 = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	50.7 PK	74.0	-23.3	2.03 H	343	67.6	-16.9
2	5150.00	40.6 AV	54.0	-13.4	2.03 H	343	57.5	-16.9
3	*5270.00	102.4 PK			2.03 H	343	66.5	35.9
4	*5270.00	94.6 AV			2.03 H	343	58.7	35.9
5	5350.00	59.0 PK	74.0	-15.0	2.03 H	343	75.8	-16.8
6	5350.00	46.0 AV	54.0	-8.0	2.03 H	343	62.8	-16.8
7	#10540.00	51.6 PK	68.2	-16.6	2.36 H	187	57.6	-6.0

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	51.7 PK	74.0	-22.3	1.58 V	181	68.6	-16.9
2	5150.00	40.5 AV	54.0	-13.5	1.58 V	181	57.4	-16.9
3	*5270.00	105.1 PK			1.48 V	181	69.2	35.9
4	*5270.00	98.0 AV			1.48 V	181	62.1	35.9
5	5350.00	62.2 PK	74.0	-11.8	1.48 V	181	79.0	-16.8
6	5350.00	47.9 AV	54.0	-6.1	1.48 V	181	64.7	-16.8
7	#10540.00	52.4 PK	68.2	-15.8	1.48 V	181	58.4	-6.0

Remarks:

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



RF Mode	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 = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5310.00	99.8 PK			2.05 H	350	64.0	35.8
2	*5310.00	92.2 AV			2.05 H	350	56.4	35.8
3	5350.00	61.8 PK	74.0	-12.2	2.05 H	350	78.6	-16.8
4	5350.00	48.7 AV	54.0	-5.3	2.05 H	350	65.5	-16.8
5	10620.00	51.6 PK	74.0	-22.4	3.21 H	197	57.4	-5.8
6	10620.00	41.8 AV	54.0	-12.2	3.21 H	197	47.6	-5.8

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	*5310.00	102.9 PK			1.26 V	179	67.1	35.8
2	*5310.00	95.7 AV			1.26 V	179	59.9	35.8
3	5350.00	63.9 PK	74.0	-10.1	1.26 V	179	80.7	-16.8
4	5350.00	52.9 AV	54.0	-1.1	1.26 V	179	69.7	-16.8
5	10620.00	52.6 PK	74.0	-21.4	2.32 V	177	58.4	-5.8
6	10620.00	42.5 AV	54.0	-11.5	2.32 V	177	48.3	-5.8

Remarks:

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



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 = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	56.9 PK	74.0	-17.1	1.79 H	355	73.3	-16.4
2	5460.00	46.2 AV	54.0	-7.8	1.79 H	355	62.6	-16.4
3	#5470.00	66.7 PK	68.2	-1.5	1.79 H	355	83.1	-16.4
4	*5510.00	102.0 PK			1.79 H	355	65.8	36.2
5	*5510.00	93.7 AV			1.79 H	355	57.5	36.2
6	11020.00	51.4 PK	74.0	-22.6	3.78 H	297	57.4	-6.0
7	11020.00	41.3 AV	54.0	-12.7	3.78 H	297	47.3	-6.0

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.4 PK	74.0	-13.6	1.12 V	183	76.8	-16.4
2	5460.00	50.2 AV	54.0	-3.8	1.12 V	183	66.6	-16.4
3	#5470.00	67.5 PK	68.2	-0.7	1.12 V	183	83.9	-16.4
4	*5510.00	103.8 PK			1.12 V	183	67.6	36.2
5	*5510.00	96.8 AV			1.12 V	183	60.6	36.2
6	11020.00	52.4 PK	74.0	-21.6	2.31 V	197	58.4	-6.0
7	11020.00	42.3 AV	54.0	-11.7	2.31 V	197	48.3	-6.0

Remarks:

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



RF Mode	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 = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.1 PK	74.0	-13.9	1.79 H	347	76.5	-16.4
2	5460.00	49.2 AV	54.0	-4.8	1.79 H	347	65.6	-16.4
3	#5470.00	60.9 PK	68.2	-7.3	1.79 H	347	77.3	-16.4
4	*5550.00	105.6 PK			1.79 H	347	69.3	36.3
5	*5550.00	97.7 AV			1.79 H	347	61.4	36.3
6	11100.00	51.9 PK	74.0	-22.1	3.14 H	166	57.7	-5.8
7	11100.00	41.4 AV	54.0	-12.6	3.14 H	166	47.2	-5.8

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	61.0 PK	74.0	-13.0	1.11 V	177	77.4	-16.4
2	5460.00	51.8 AV	54.0	-2.2	1.11 V	177	68.2	-16.4
3	#5470.00	62.2 PK	68.2	-6.0	1.11 V	177	78.6	-16.4
4	*5550.00	108.2 PK			1.11 V	177	71.9	36.3
5	*5550.00	101.1 AV			1.11 V	177	64.8	36.3
6	11100.00	52.6 PK	74.0	-21.4	2.31 V	102	58.4	-5.8
7	11100.00	42.6 AV	54.0	-11.4	2.31 V	102	48.4	-5.8

Remarks:

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



RF Mode	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 = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	104.3 PK			1.20 H	358	67.6	36.7
2	*5670.00	97.4 AV			1.20 H	358	60.7	36.7
3	#5725.00	66.2 PK	68.2	-2.0	1.20 H	358	82.2	-16.0
4	11340.00	52.1 PK	74.0	-21.9	3.57 H	111	57.2	-5.1
5	11340.00	42.2 AV	54.0	-11.8	3.57 H	111	47.3	-5.1

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	*5670.00	107.9 PK			1.16 V	179	71.2	36.7
2	*5670.00	100.9 AV			1.16 V	179	64.2	36.7
3	#5725.00	67.4 PK	68.2	-0.8	1.16 V	179	83.4	-16.0
4	11340.00	53.3 PK	74.0	-20.7	2.31 V	12	58.4	-5.1
5	11340.00	43.2 AV	54.0	-10.8	2.31 V	12	48.3	-5.1

Remarks:

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



RF Mode	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 = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5710.00	105.9 PK			1.28 H	356	69.2	36.7
2	*5710.00	98.4 AV			1.28 H	356	61.7	36.7
3	#5850.00	51.4 PK	68.2	-16.8	1.28 H	356	67.1	-15.7
4	11420.00	52.6 PK	74.0	-21.4	3.78 H	195	57.4	-4.8
5	11420.00	42.4 AV	54.0	-11.6	3.78 H	195	47.2	-4.8

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	*5710.00	109.0 PK			1.03 V	167	72.3	36.7
2	*5710.00	101.9 AV			1.03 V	167	65.2	36.7
3	#5850.00	53.5 PK	68.2	-14.7	1.03 V	167	69.2	-15.7
4	11420.00	53.6 PK	74.0	-20.4	2.32 V	197	58.4	-4.8
5	11420.00	43.5 AV	54.0	-10.5	2.32 V	197	48.3	-4.8

Remarks:

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



RF Mode	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 = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5648.00	60.8 PK	68.2	-7.4	1.25 H	354	76.9	-16.1
2	*5755.00	104.2 PK			1.25 H	354	67.4	36.8
3	*5755.00	96.6 AV			1.25 H	354	59.8	36.8
4	#5959.20	51.8 PK	68.2	-16.4	1.25 H	354	67.6	-15.8
5	11510.00	52.4 PK	74.0	-21.6	2.97 H	106	57.4	-5.0
6	11510.00	42.6 AV	54.0	-11.4	2.97 H	106	47.6	-5.0

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5649.60	59.2 PK	68.2	-9.0	1.01 V	163	75.3	-16.1
2	*5755.00	108.8 PK			1.01 V	163	72.0	36.8
3	*5755.00	101.6 AV			1.01 V	163	64.8	36.8
4	#5927.60	50.4 PK	68.2	-17.8	1.01 V	163	66.1	-15.7
5	11510.00	53.9 PK	74.0	-20.1	2.38 V	141	58.9	-5.0
6	11510.00	43.5 AV	54.0	-10.5	2.38 V	141	48.5	-5.0

Remarks:

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



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 = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5649.20	52.9 PK	68.2	-15.3	1.43 H	359	69.0	-16.1
2	*5795.00	103.8 PK			1.43 H	359	67.0	36.8
3	*5795.00	96.2 AV			1.43 H	359	59.4	36.8
4	#5927.20	51.5 PK	68.2	-16.7	1.43 H	359	67.2	-15.7
5	11590.00	52.3 PK	74.0	-21.7	2.43 H	127	57.6	-5.3
6	11590.00	41.9 AV	54.0	-12.1	2.43 H	127	47.2	-5.3

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	#5633.60	53.3 PK	68.2	-14.9	1.03 V	160	69.5	-16.2
2	*5795.00	108.9 PK			1.03 V	160	72.1	36.8
3	*5795.00	101.5 AV			1.03 V	160	64.7	36.8
4	#5931.60	55.1 PK	68.2	-13.1	1.03 V	160	70.8	-15.7
5	11590.00	53.1 PK	74.0	-20.9	3.77 V	164	58.4	-5.3
6	11590.00	43.0 AV	54.0	-11.0	3.77 V	164	48.3	-5.3

Remarks:

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



RF Mode	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 = 3.6 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	60.4 PK	74.0	-13.6	1.56 H	333	77.3	-16.9
2	5150.00	49.3 AV	54.0	-4.7	1.56 H	333	66.2	-16.9
3	*5210.00	95.6 PK			1.56 H	333	59.5	36.1
4	*5210.00	87.5 AV			1.56 H	333	51.4	36.1
5	#10420.00	51.4 PK	68.2	-16.8	2.87 H	166	57.4	-6.0

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	62.1 PK	74.0	-11.9	1.07 V	148	79.0	-16.9
2	5150.00	53.3 AV	54.0	-0.7	1.07 V	148	70.2	-16.9
3	*5210.00	97.1 PK			1.07 V	148	61.0	36.1
4	*5210.00	90.7 AV			1.07 V	148	54.6	36.1
5	#10420.00	52.7 PK	68.2	-15.5	3.47 V	196	58.7	-6.0

Remarks:

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



RF Mode	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 = 3.6 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5290.00	97.5 PK			1.14 H	350	61.7	35.8
2	*5290.00	89.7 AV			1.14 H	350	53.9	35.8
3	5350.00	65.5 PK	74.0	-8.5	1.14 H	350	82.3	-16.8
4	5350.00	51.1 AV	54.0	-2.9	1.14 H	350	67.9	-16.8
5	#10580.00	51.5 PK	68.2	-16.7	2.36 H	177	57.4	-5.9

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	*5290.00	100.0 PK			1.05 V	116	64.2	35.8
2	*5290.00	92.6 AV			1.05 V	116	56.8	35.8
3	5350.00	65.4 PK	74.0	-8.6	1.05 V	116	82.2	-16.8
4	5350.00	53.2 AV	54.0	-0.8	1.05 V	116	70.0	-16.8
5	#10580.00	52.5 PK	68.2	-15.7	3.12 V	297	58.4	-5.9

Remarks:

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



RF Mode	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 = 3.6 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	62.8 PK	74.0	-11.2	1.10 H	354	79.2	-16.4
2	5460.00	49.4 AV	54.0	-4.6	1.10 H	354	65.8	-16.4
3	#5470.00	64.5 PK	68.2	-3.7	1.10 H	354	80.9	-16.4
4	*5530.00	97.0 PK			1.10 H	354	60.7	36.3
5	*5530.00	89.3 AV			1.10 H	354	53.0	36.3
6	11060.00	51.4 PK	74.0	-22.6	2.43 H	174	57.3	-5.9
7	11060.00	41.3 AV	54.0	-12.7	2.43 H	174	47.2	-5.9

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	65.8 PK	74.0	-8.2	1.02 V	103	82.2	-16.4
2	5460.00	52.3 AV	54.0	-1.7	1.02 V	103	68.7	-16.4
3	#5470.00	67.2 PK	68.2	-1.0	1.02 V	103	83.6	-16.4
4	*5530.00	100.5 PK			1.02 V	103	64.2	36.3
5	*5530.00	93.0 AV			1.02 V	103	56.7	36.3
6	11060.00	52.3 PK	74.0	-21.7	3.74 V	141	58.2	-5.9
7	11060.00	42.4 AV	54.0	-11.6	3.74 V	141	48.3	-5.9

Remarks:

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



RF Mode	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 = 3.6 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.0 PK	74.0	-14.0	1.17 H	354	76.4	-16.4
2	5460.00	51.1 AV	54.0	-2.9	1.17 H	354	67.5	-16.4
3	#5470.00	61.1 PK	68.2	-7.1	1.17 H	354	77.5	-16.4
4	*5610.00	103.2 PK			1.17 H	354	66.8	36.4
5	*5610.00	95.4 AV			1.17 H	354	59.0	36.4
6	#5725.00	63.2 PK	68.2	-5.0	1.17 H	354	79.2	-16.0
7	11220.00	51.8 PK	74.0	-22.2	3.12 H	227	57.4	-5.6
8	11220.00	41.6 AV	54.0	-12.4	3.12 H	227	47.2	-5.6

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	61.6 PK	74.0	-12.4	1.01 V	103	78.0	-16.4
2	5460.00	52.8 AV	54.0	-1.2	1.01 V	103	69.2	-16.4
3	#5470.00	63.0 PK	68.2	-5.2	1.01 V	103	79.4	-16.4
4	*5610.00	106.5 PK			1.01 V	103	70.1	36.4
5	*5610.00	99.8 AV			1.01 V	103	63.4	36.4
6	#5725.00	66.6 PK	68.2	-1.6	1.01 V	103	82.6	-16.0
7	11220.00	52.8 PK	74.0	-21.2	3.21 V	278	58.4	-5.6
8	11220.00	42.6 AV	54.0	-11.4	3.21 V	278	48.2	-5.6

Remarks:

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



RF Mode	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 = 3.6 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5690.00	103.5 PK			1.05 H	357	66.8	36.7
2	*5690.00	95.6 AV			1.05 H	357	58.9	36.7
3	#5850.00	57.0 PK	68.2	-11.2	1.05 H	357	72.7	-15.7
4	11380.00	52.3 PK	74.0	-21.7	2.32 H	174	57.3	-5.0
5	11380.00	42.4 AV	54.0	-11.6	2.32 H	174	47.4	-5.0

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5690.00	107.4 PK			1.08 V	103	70.7	36.7
2	*5690.00	100.2 AV			1.08 V	103	63.5	36.7
3	#5850.00	61.3 PK	68.2	-6.9	1.08 V	103	77.0	-15.7
4	11380.00	53.4 PK	74.0	-20.6	2.63 V	188	58.4	-5.0
5	11380.00	43.2 AV	54.0	-10.8	2.63 V	188	48.2	-5.0

Remarks:

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



RF Mode	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 = 3.6 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°C, 68% RH
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5649.60	67.2 PK	68.2	-1.0	1.31 H	358	83.3	-16.1
2	*5775.00	100.3 PK			1.31 H	358	63.5	36.8
3	*5775.00	93.5 AV			1.31 H	358	56.7	36.8
4	#5934.00	57.3 PK	68.2	-10.9	1.31 H	358	73.0	-15.7
5	11550.00	52.0 PK	74.0	-22.0	1.49 H	232	57.1	-5.1
6	11550.00	42.2 AV	54.0	-11.8	1.49 H	232	47.3	-5.1

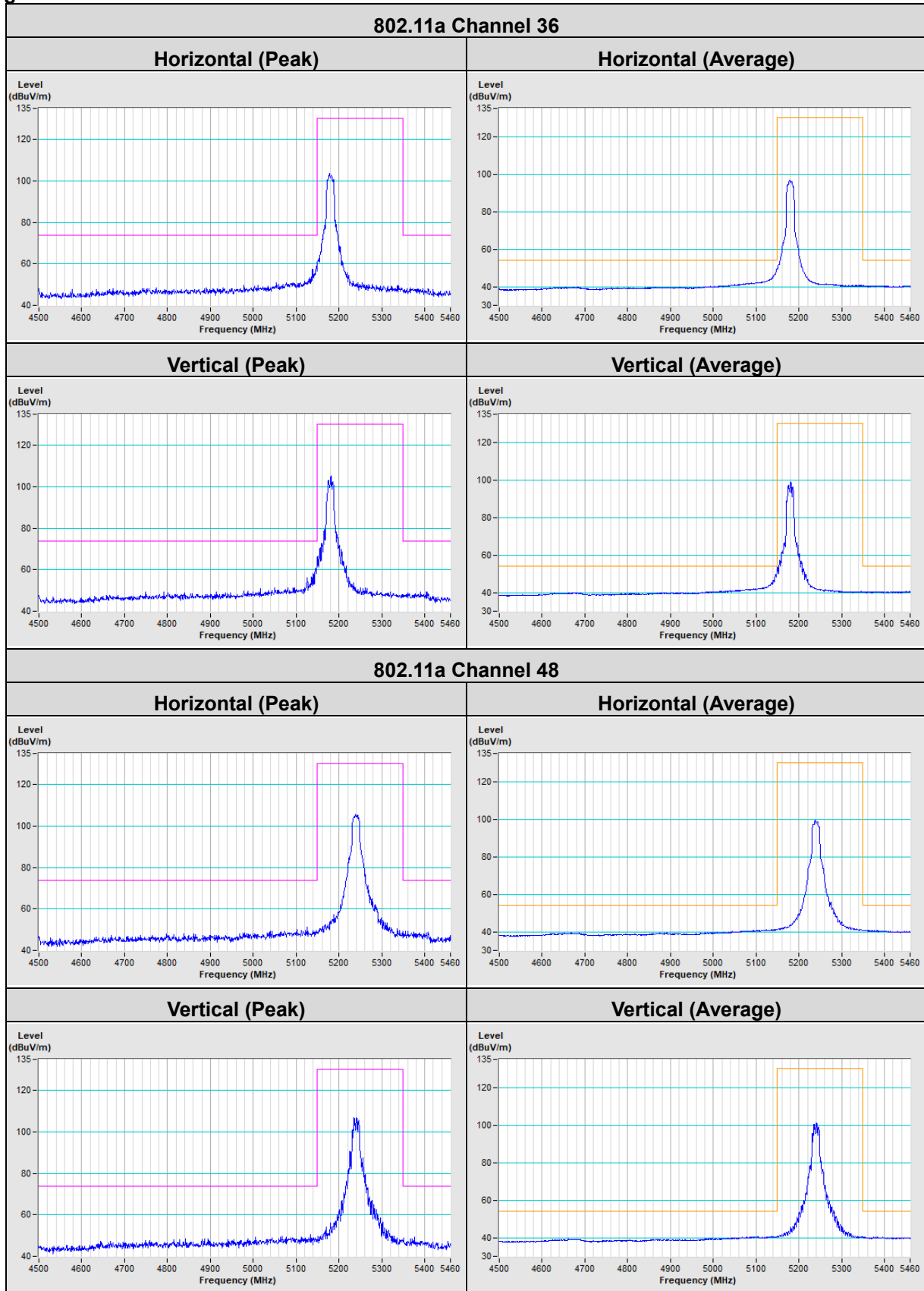
Antenna Polarity & Test Distance : Vertical at 3 m

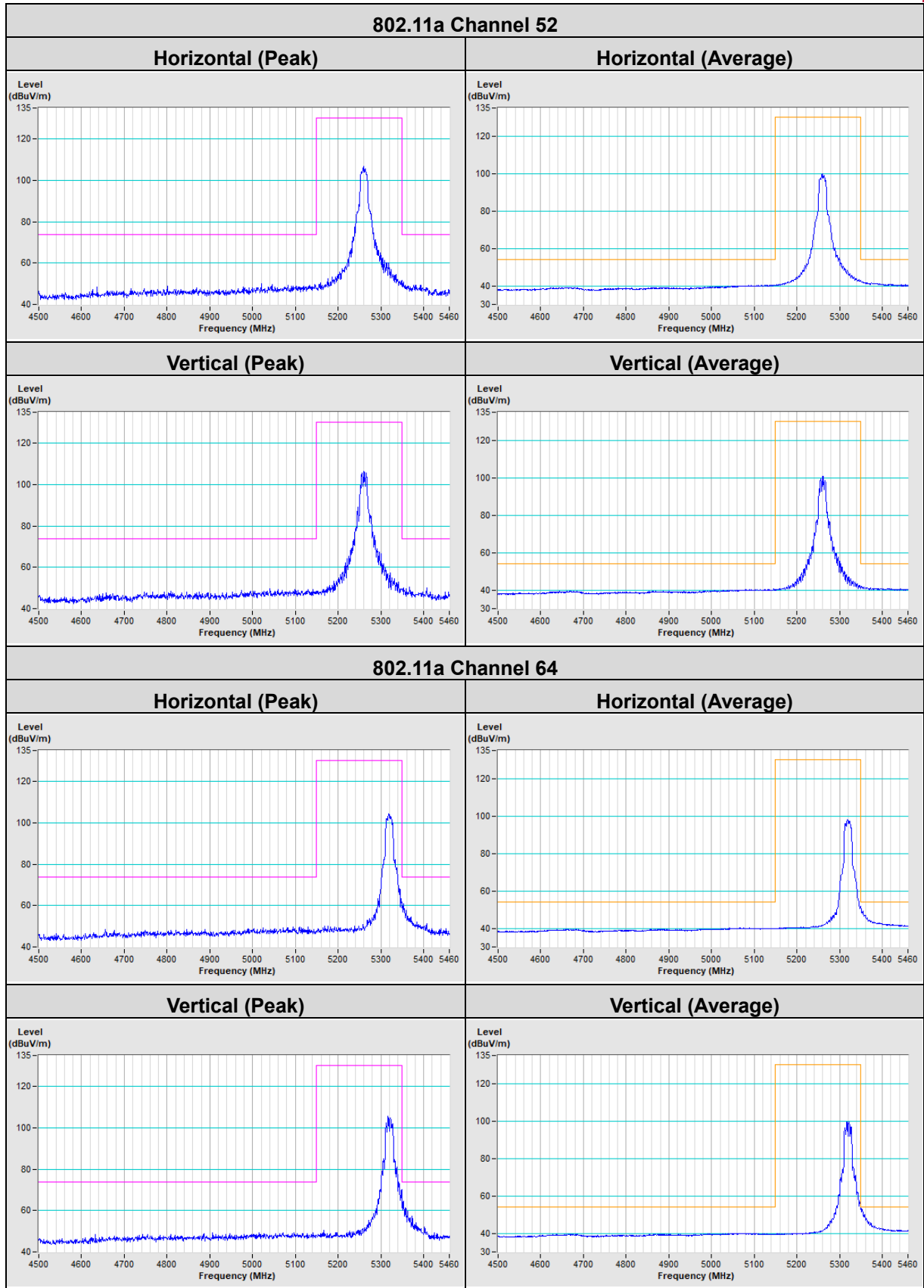
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1	#5648.40	67.4 PK	68.2	-0.8	1.06 V	90	83.5	-16.1
2	*5775.00	104.9 PK			1.06 V	90	68.1	36.8
3	*5775.00	98.0 AV			1.06 V	90	61.2	36.8
4	#5925.20	60.6 PK	68.2	-7.6	1.06 V	90	76.3	-15.7
5	11550.00	53.1 PK	74.0	-20.9	2.39 V	157	58.2	-5.1
6	11550.00	43.6 AV	54.0	-10.4	2.39 V	157	48.7	-5.1

Remarks:

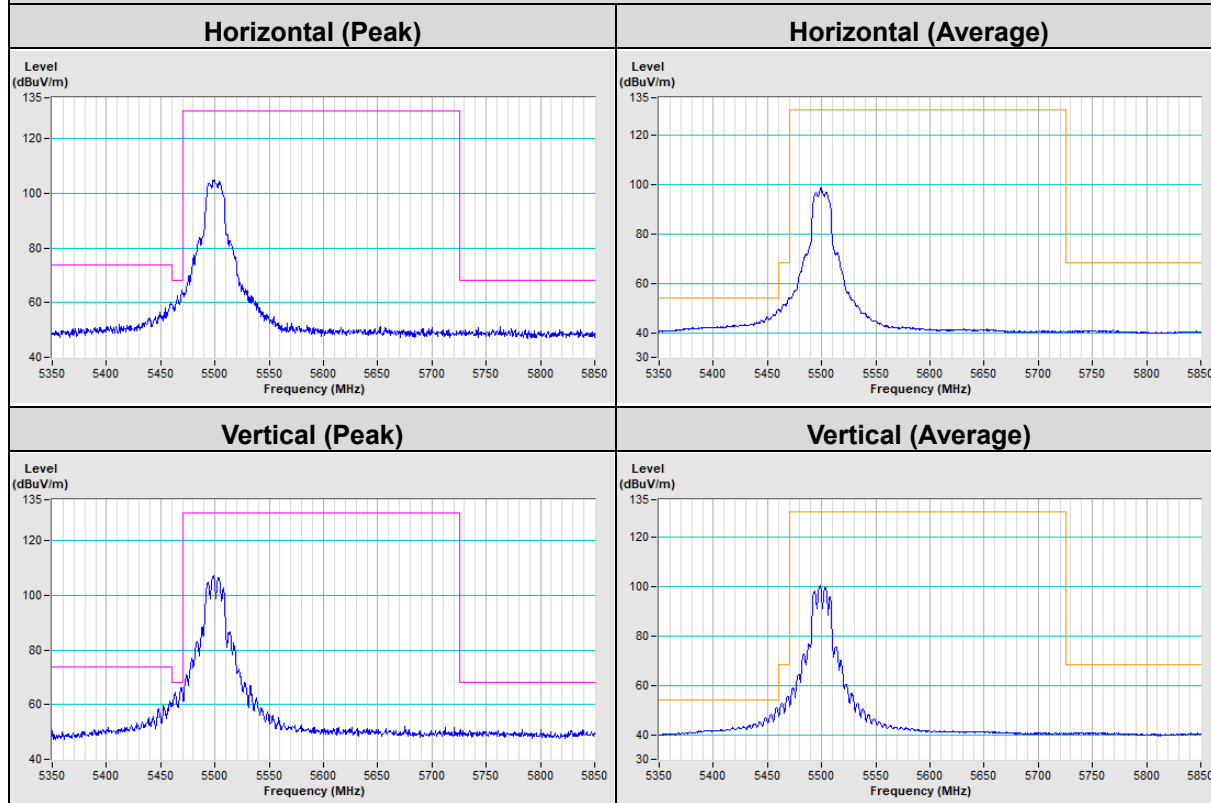
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2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit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

Band Edge Measurement

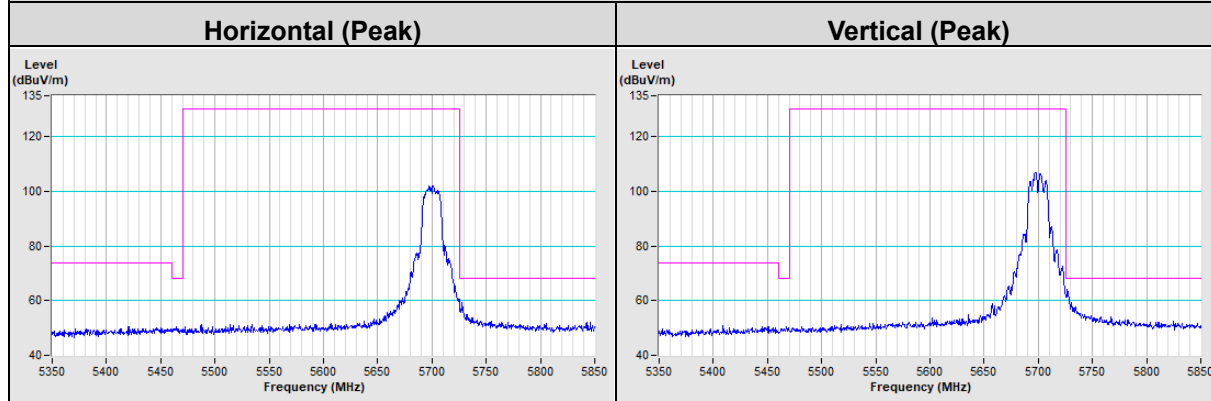




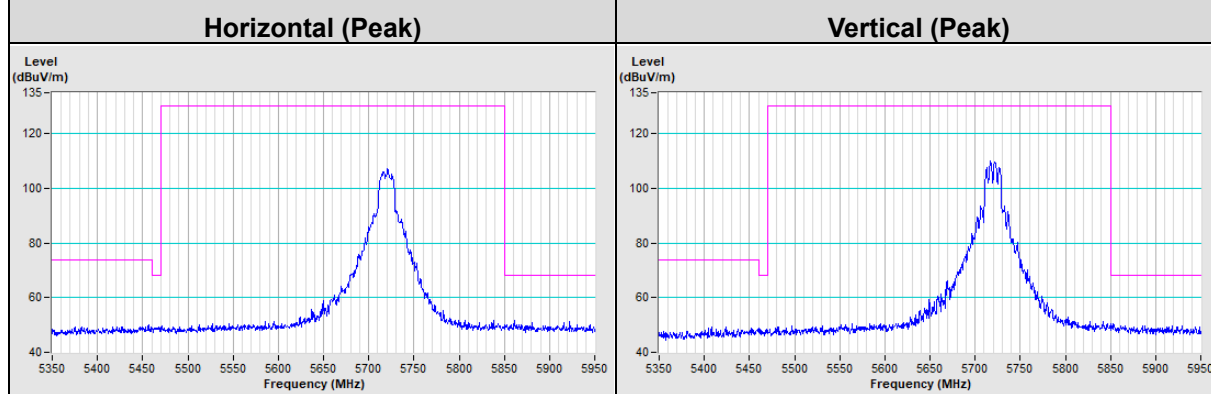
802.11a Channel 100

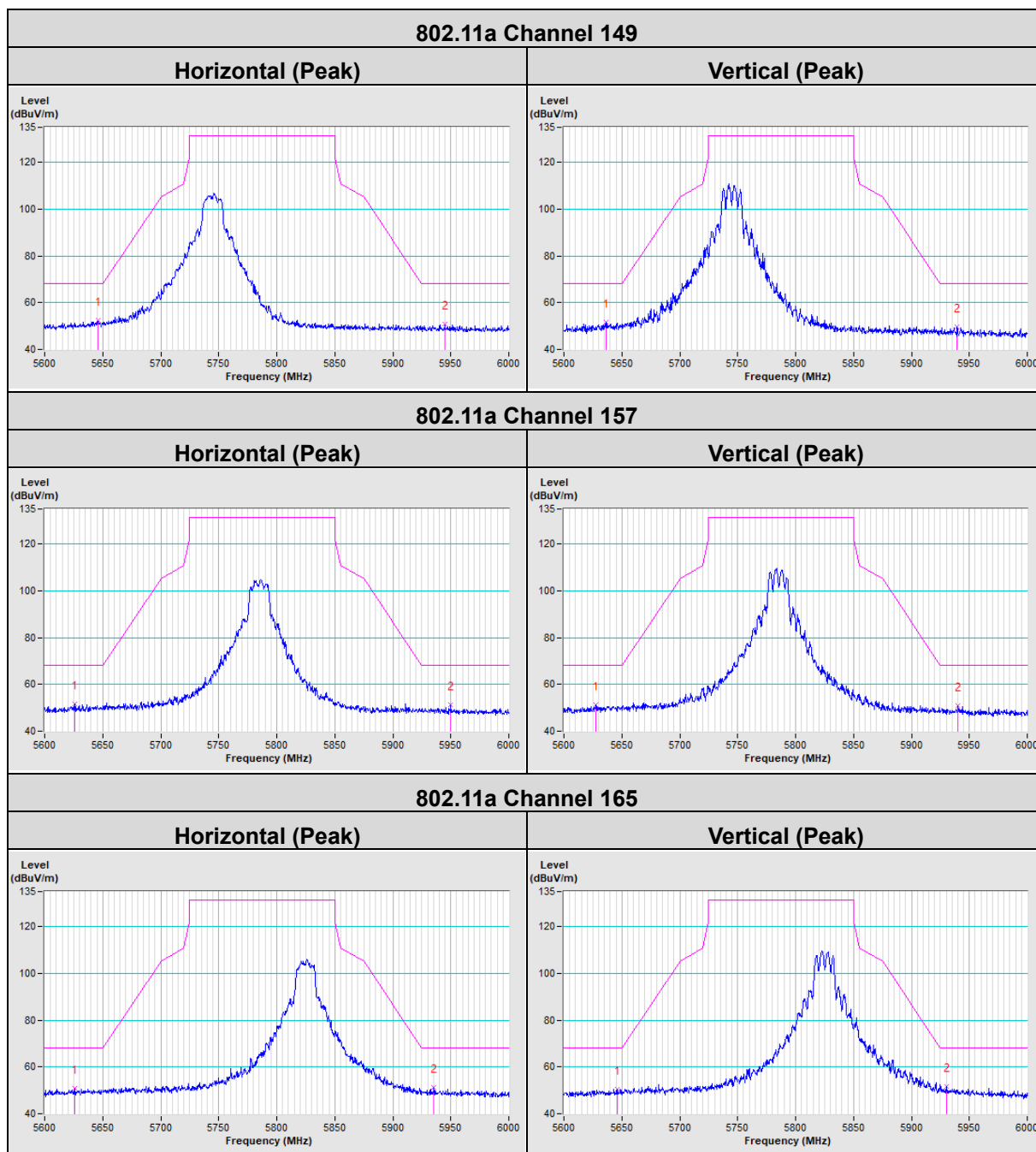


802.11a Channel 140

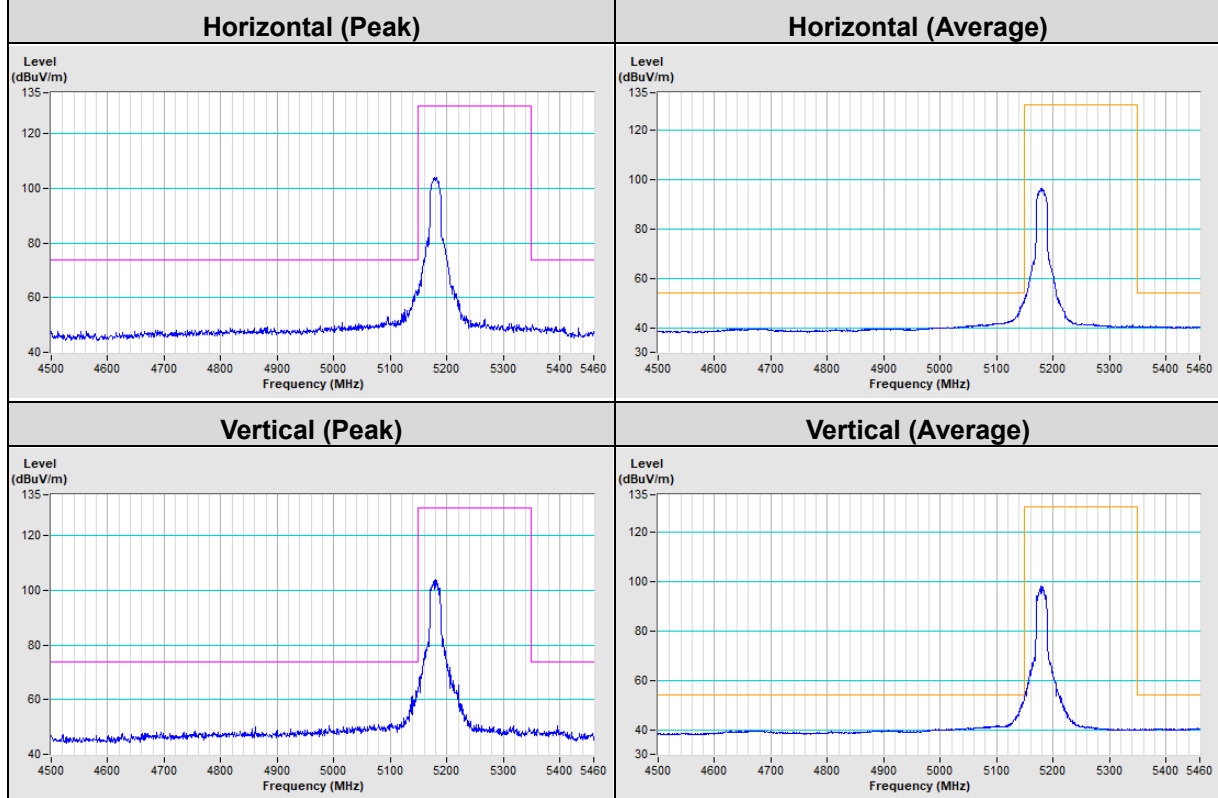


802.11a Channel 144

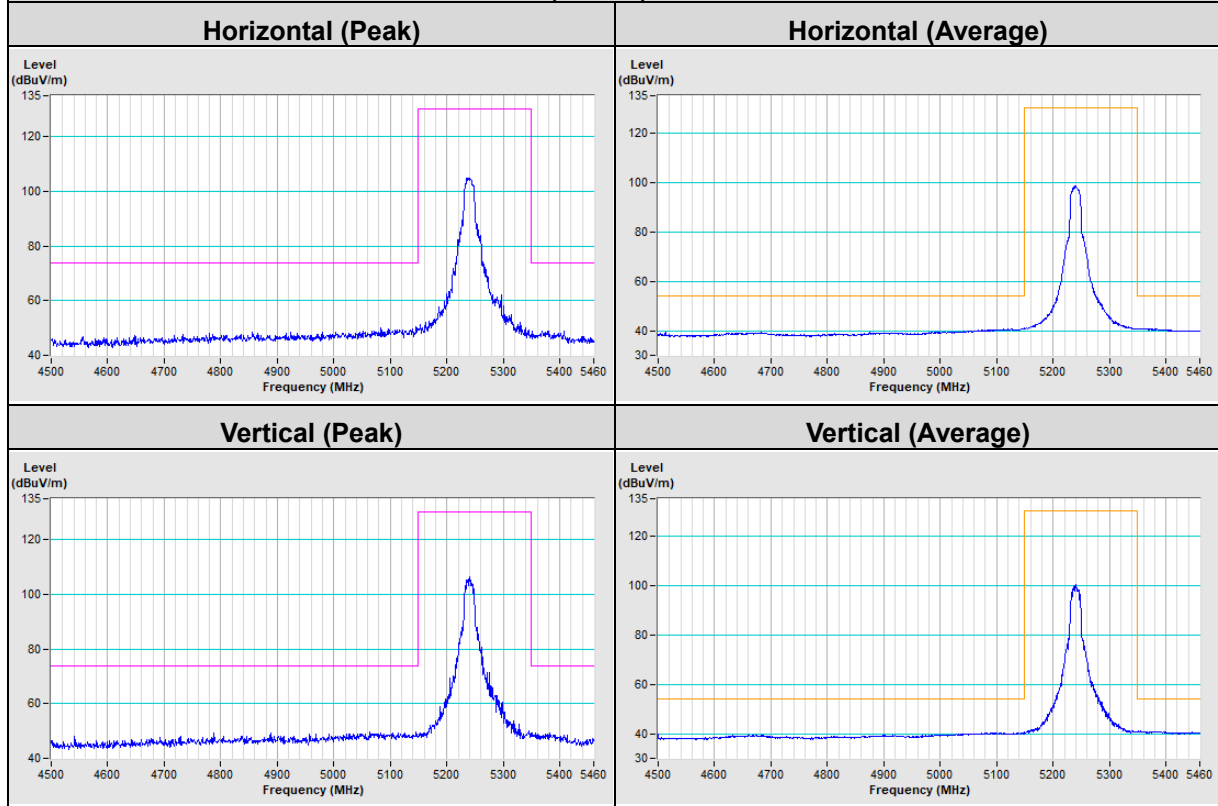




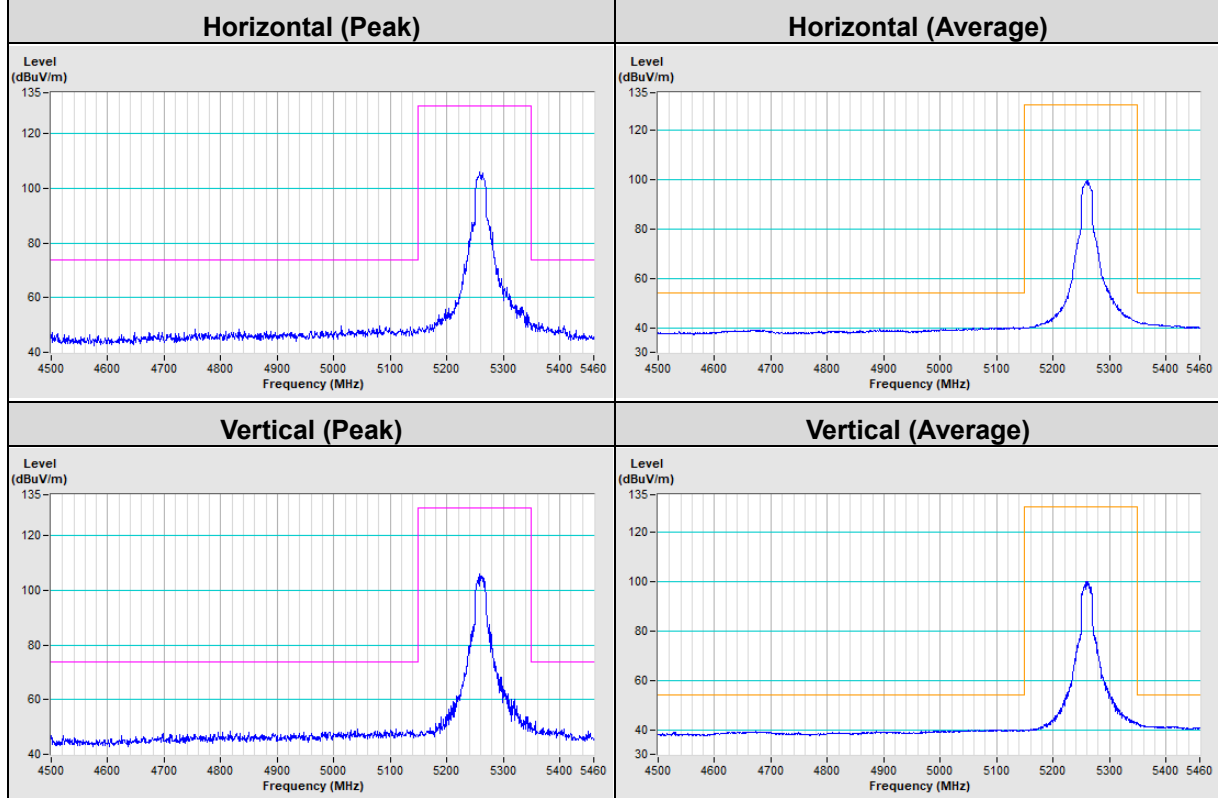
802.11ac (VHT20) Channel 36



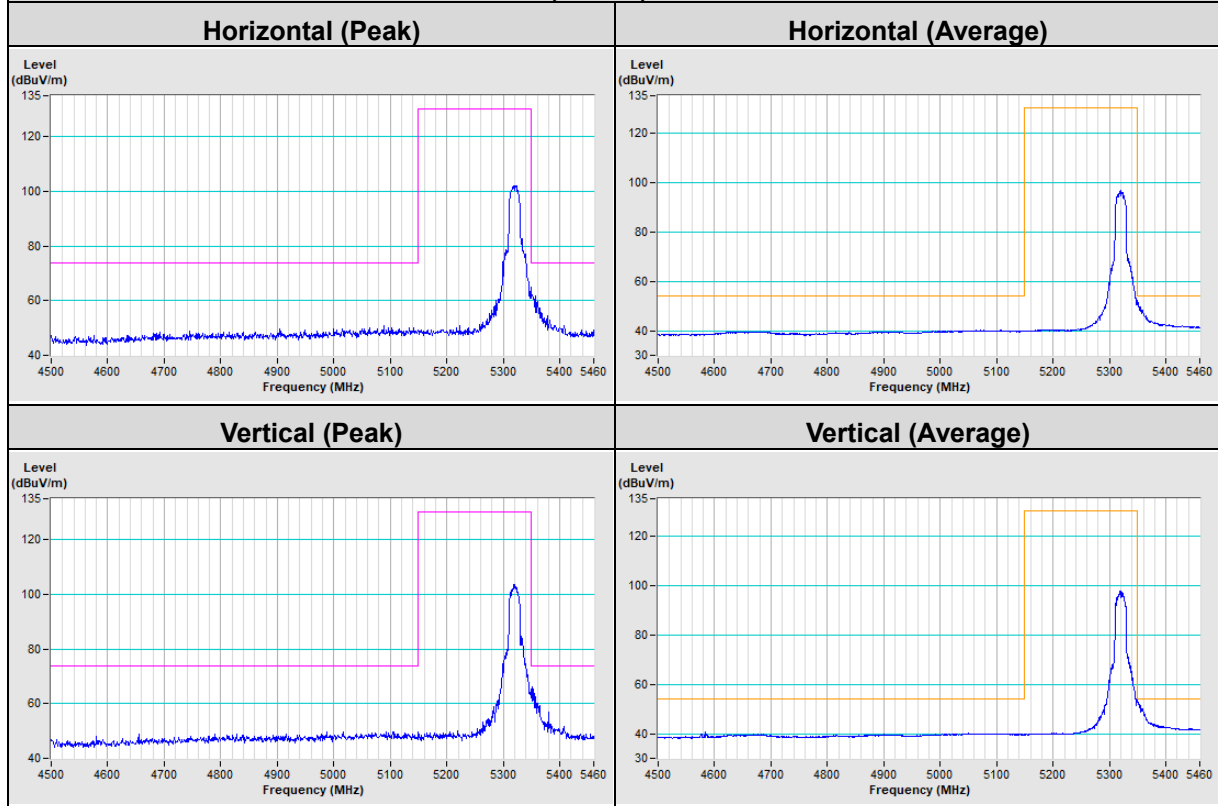
802.11ac (VHT20) Channel 48



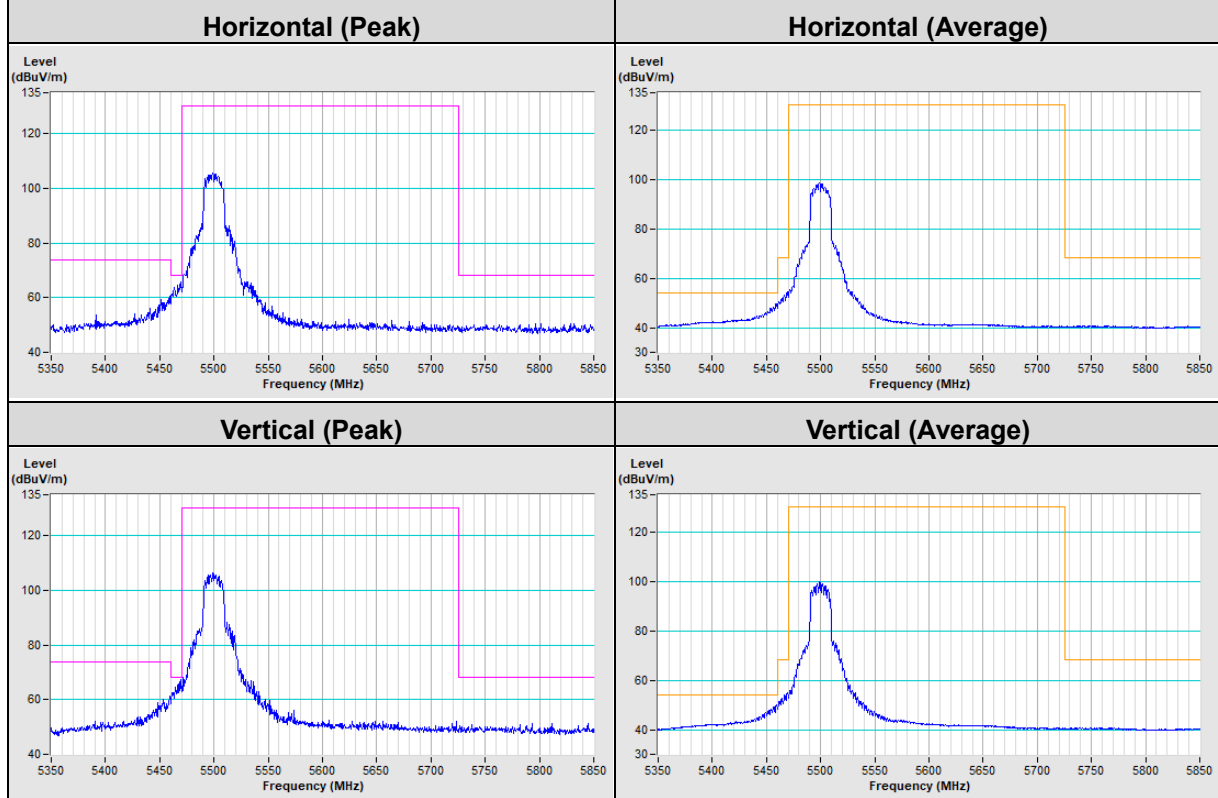
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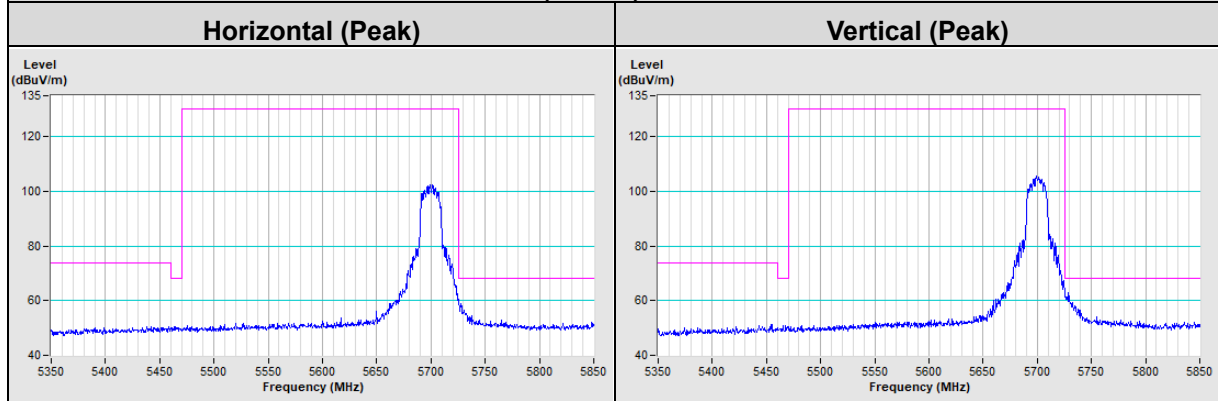
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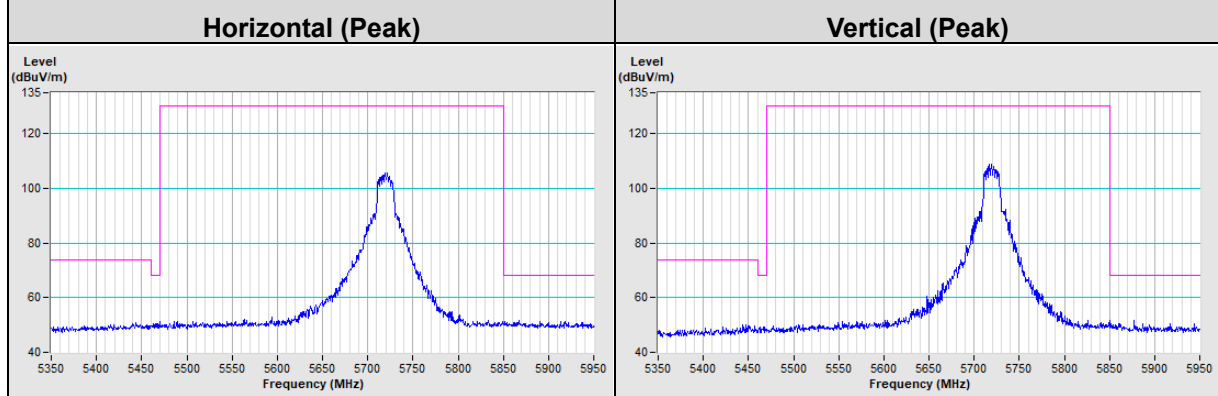
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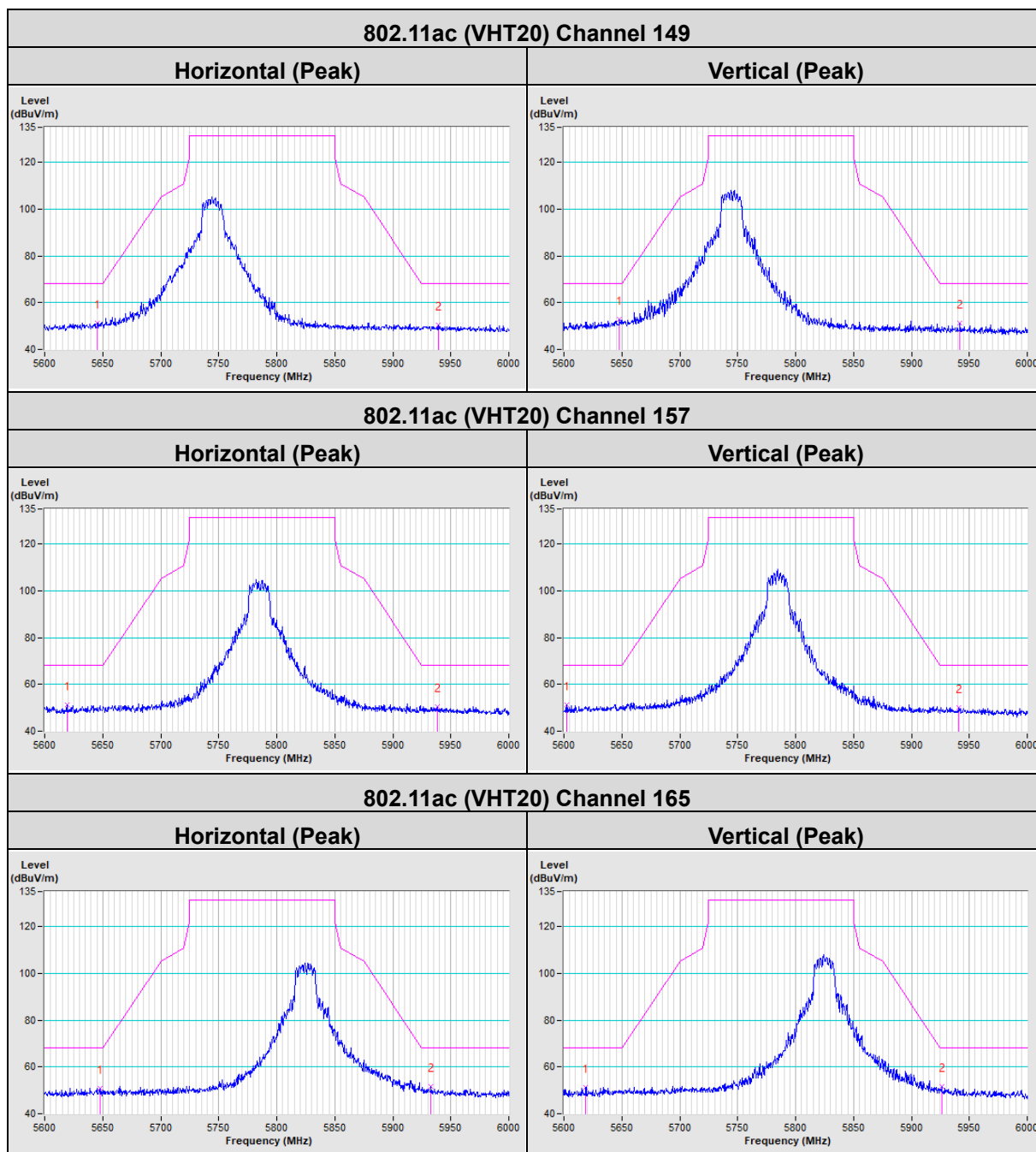


802.11ac (VHT20) Channel 140

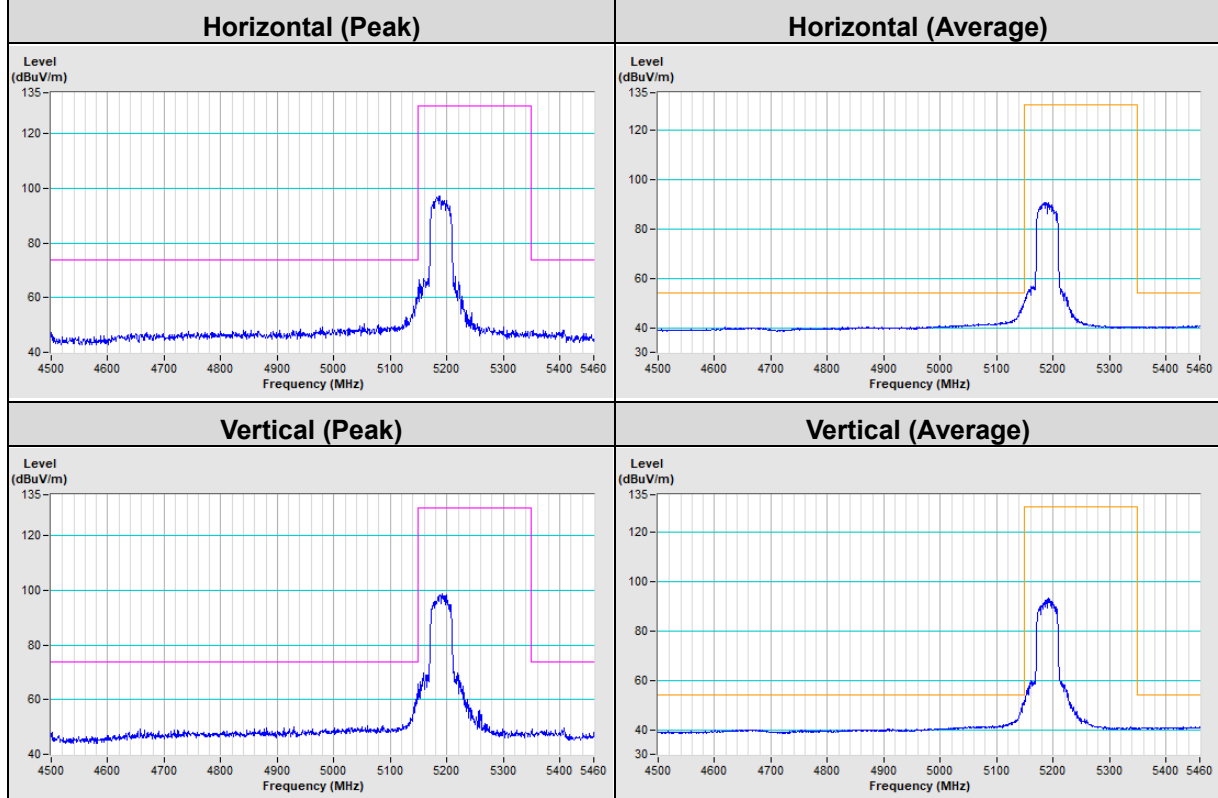


802.11ac (VHT20) Channel 144

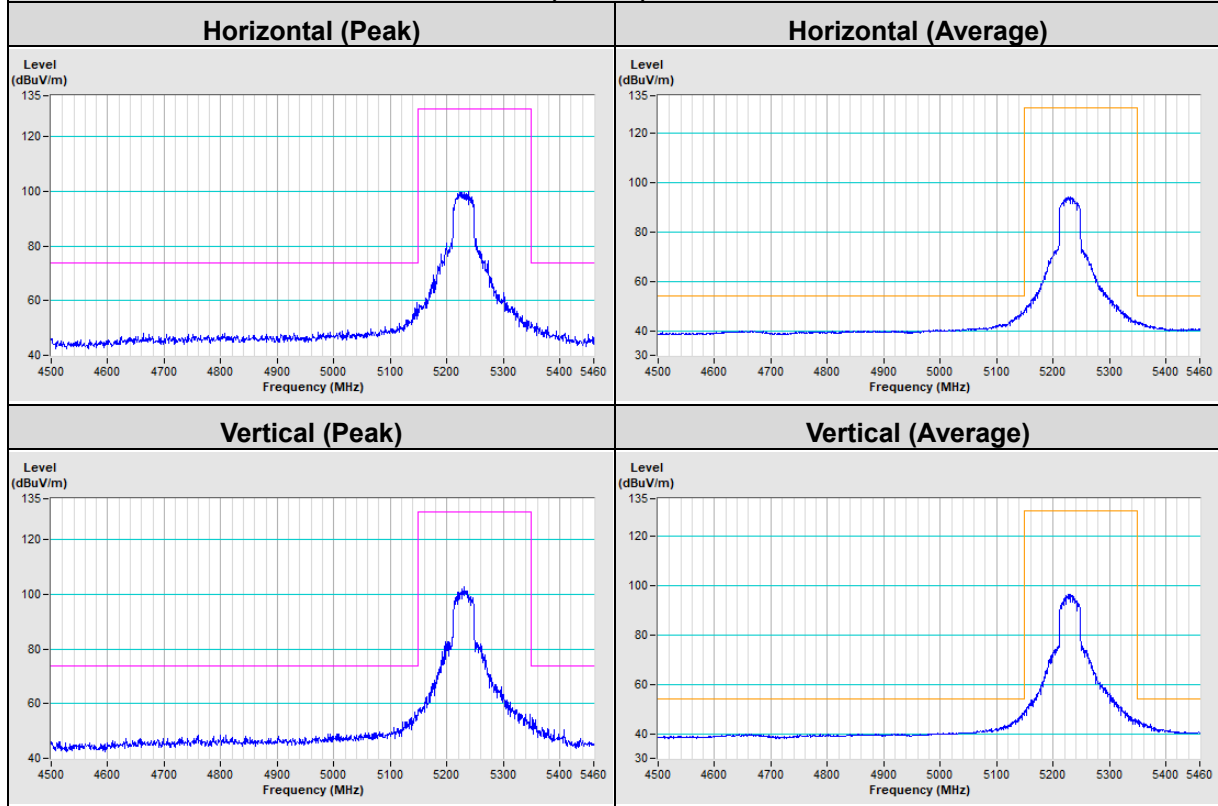




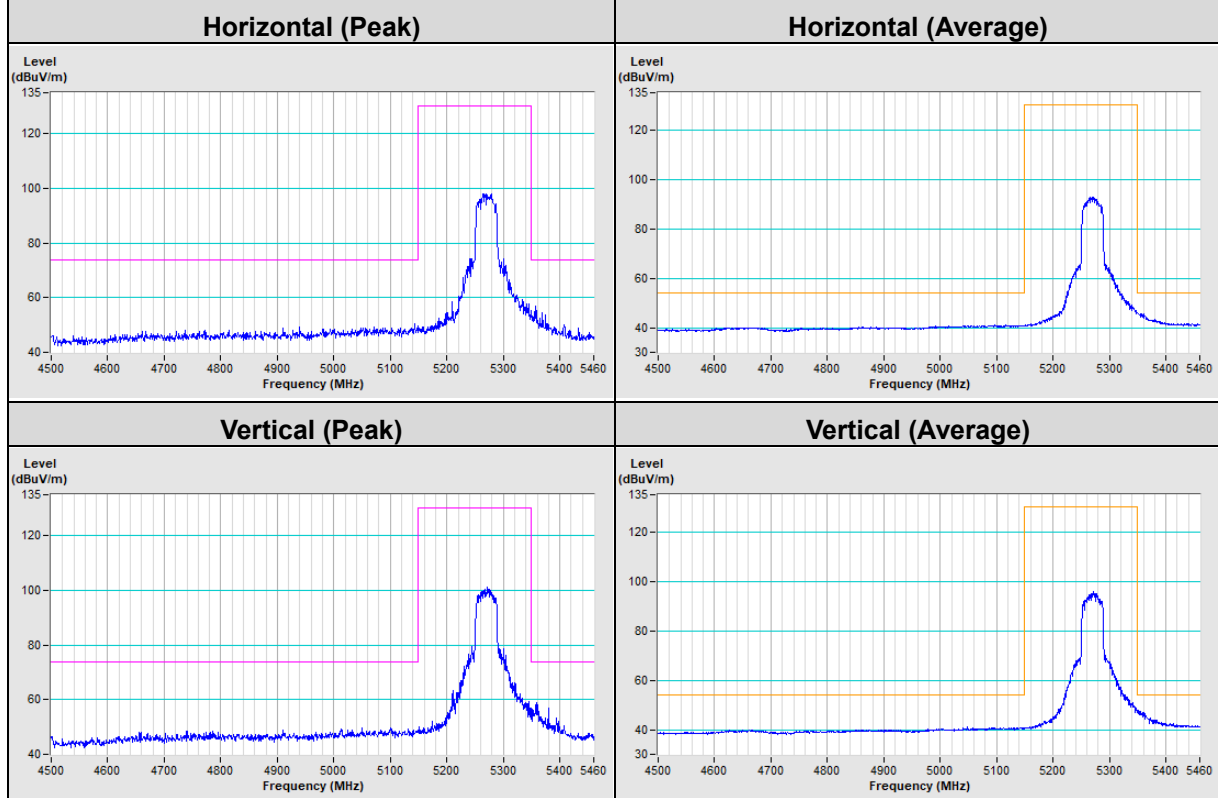
802.11ac (VHT40) Channel 38



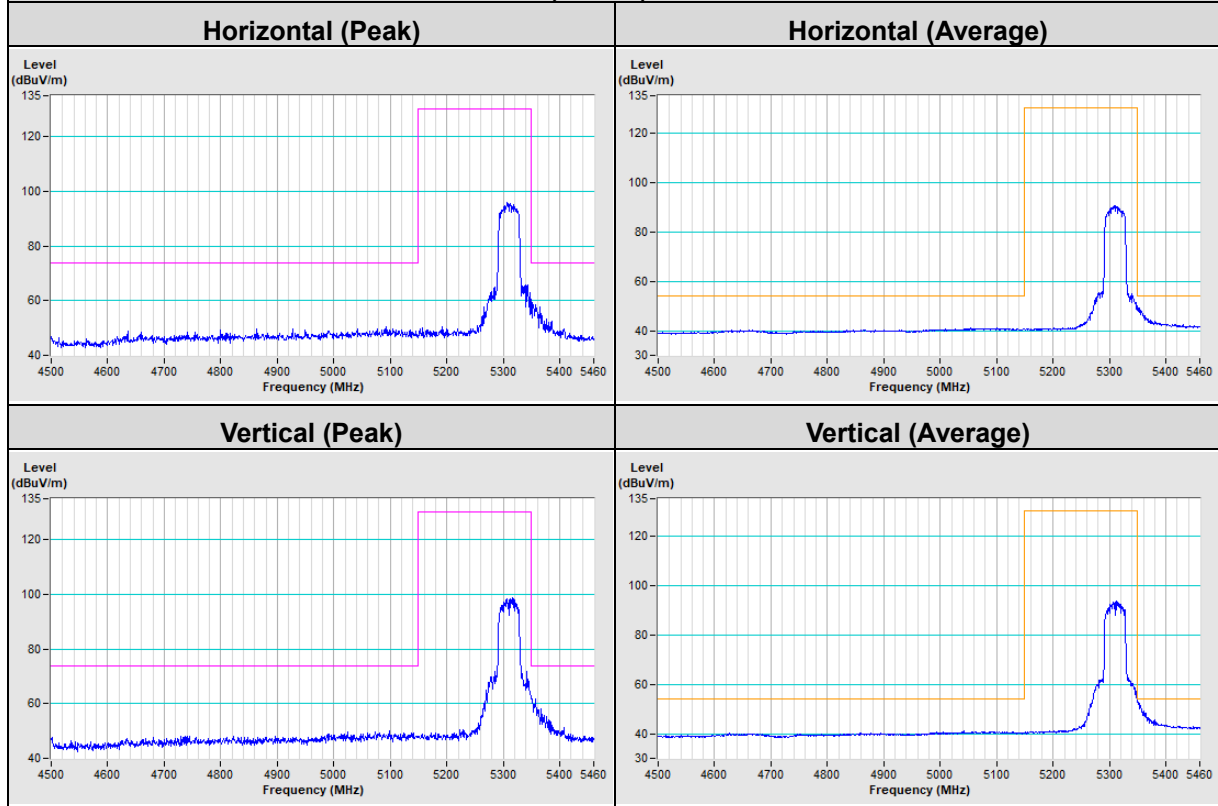
802.11ac (VHT40) Channel 46

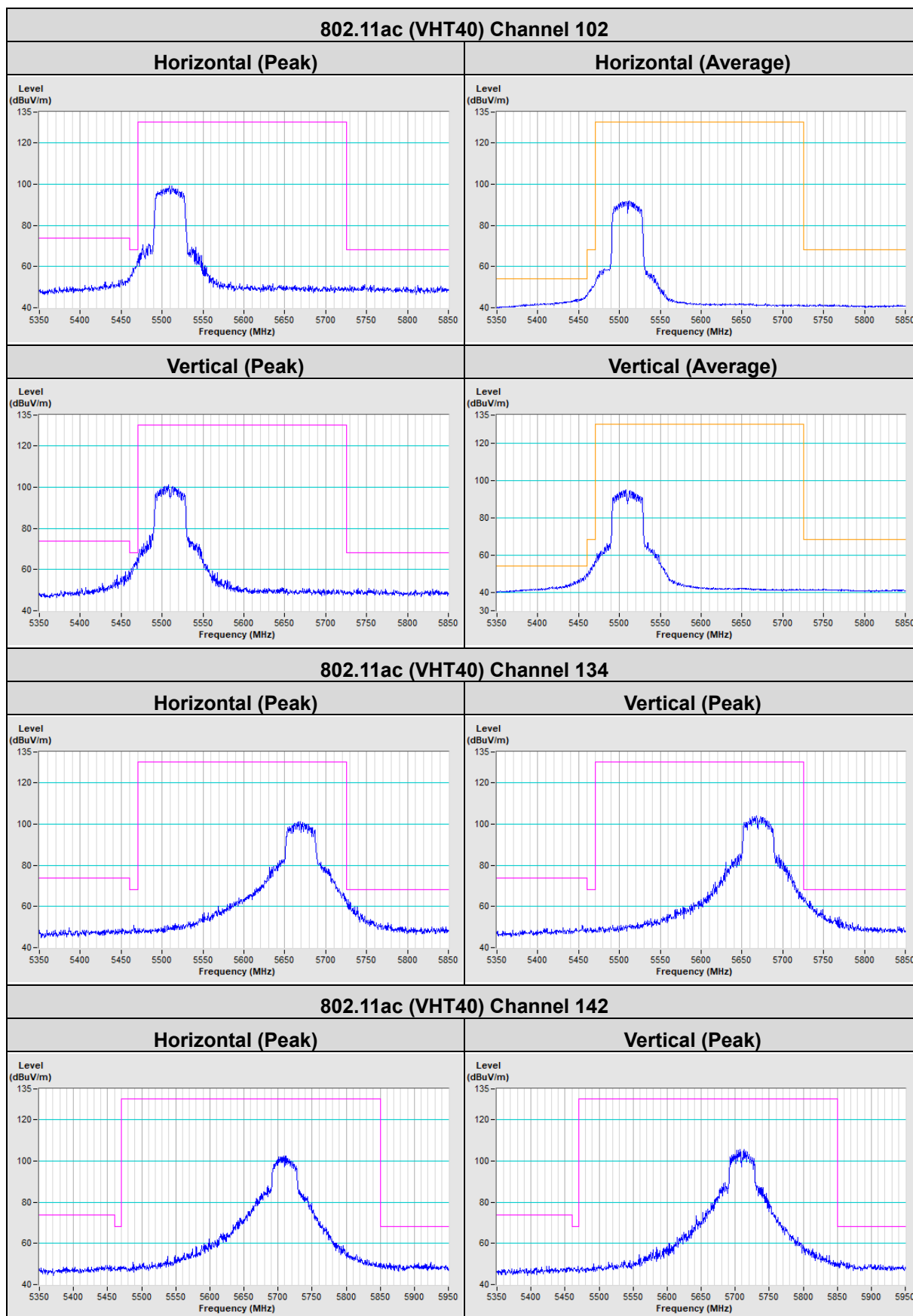


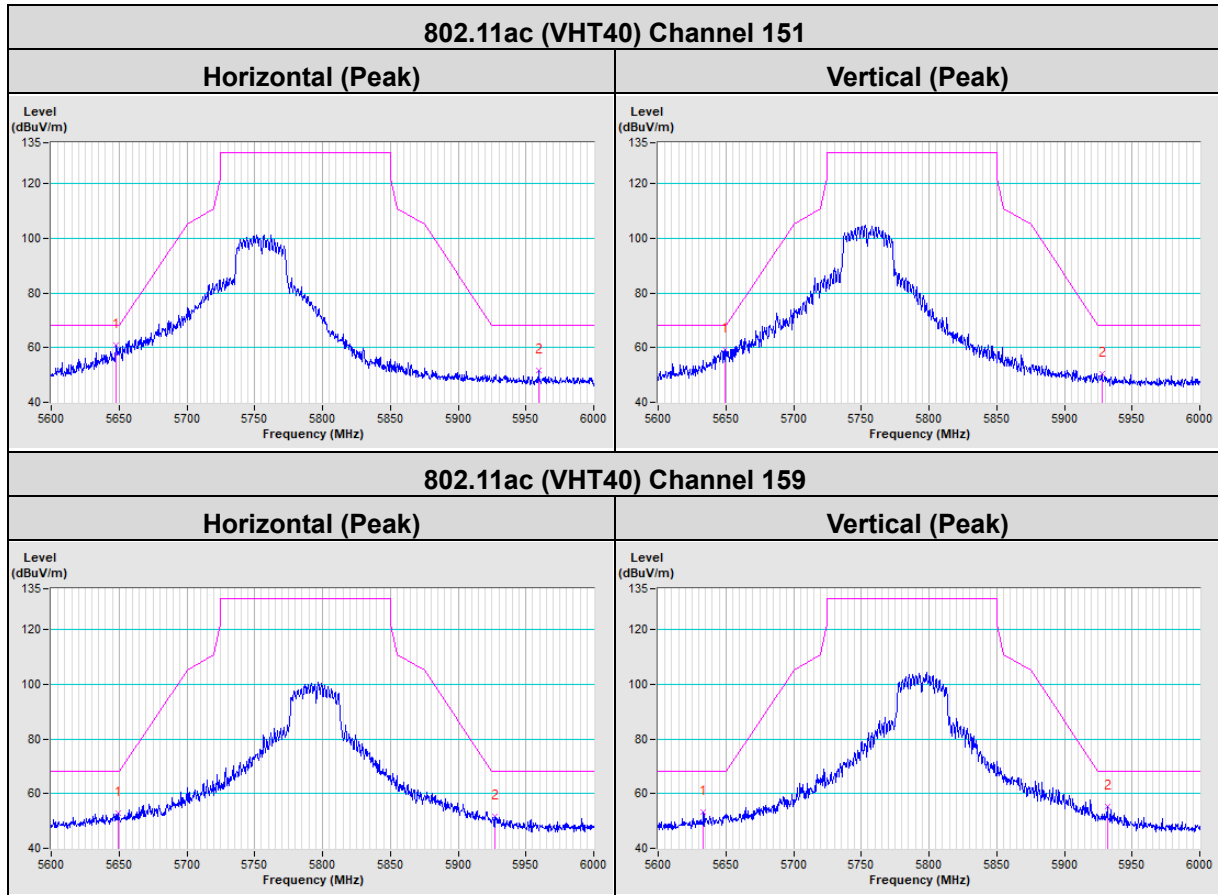
802.11ac (VHT40) Channel 54



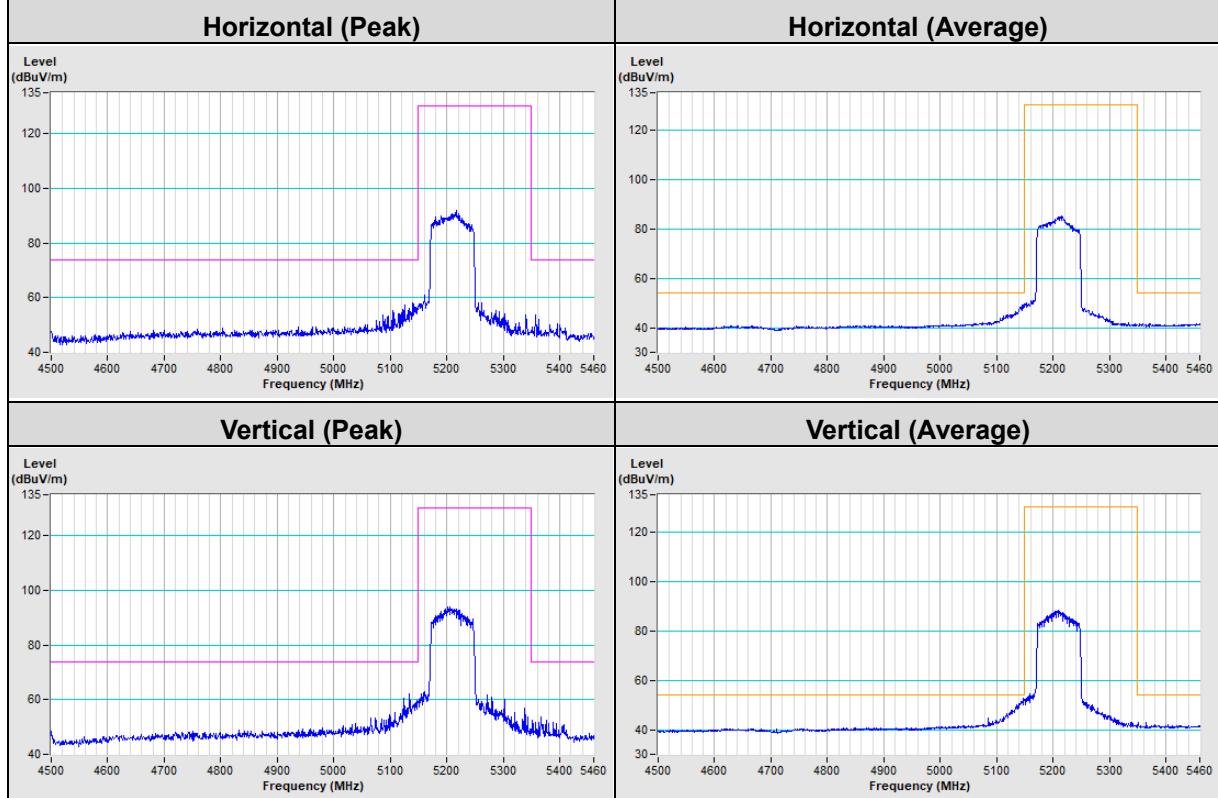
802.11ac (VHT40) Channel 62



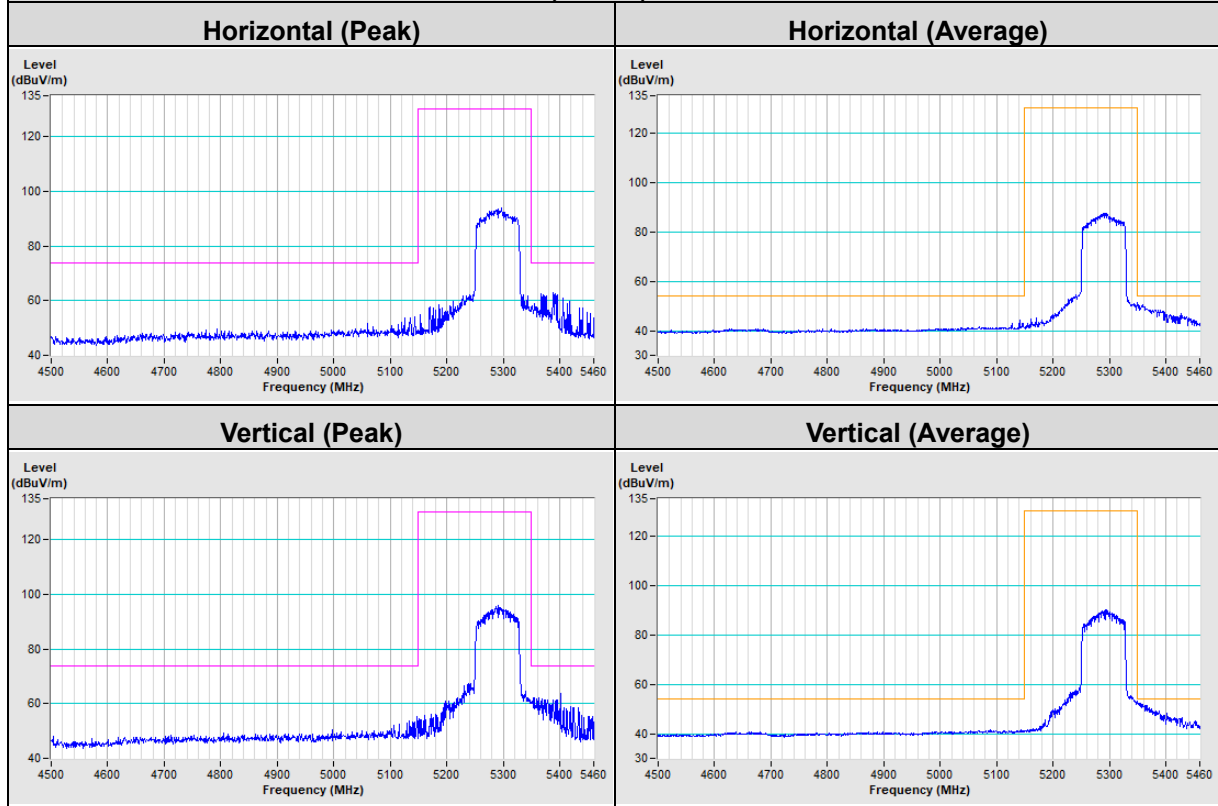


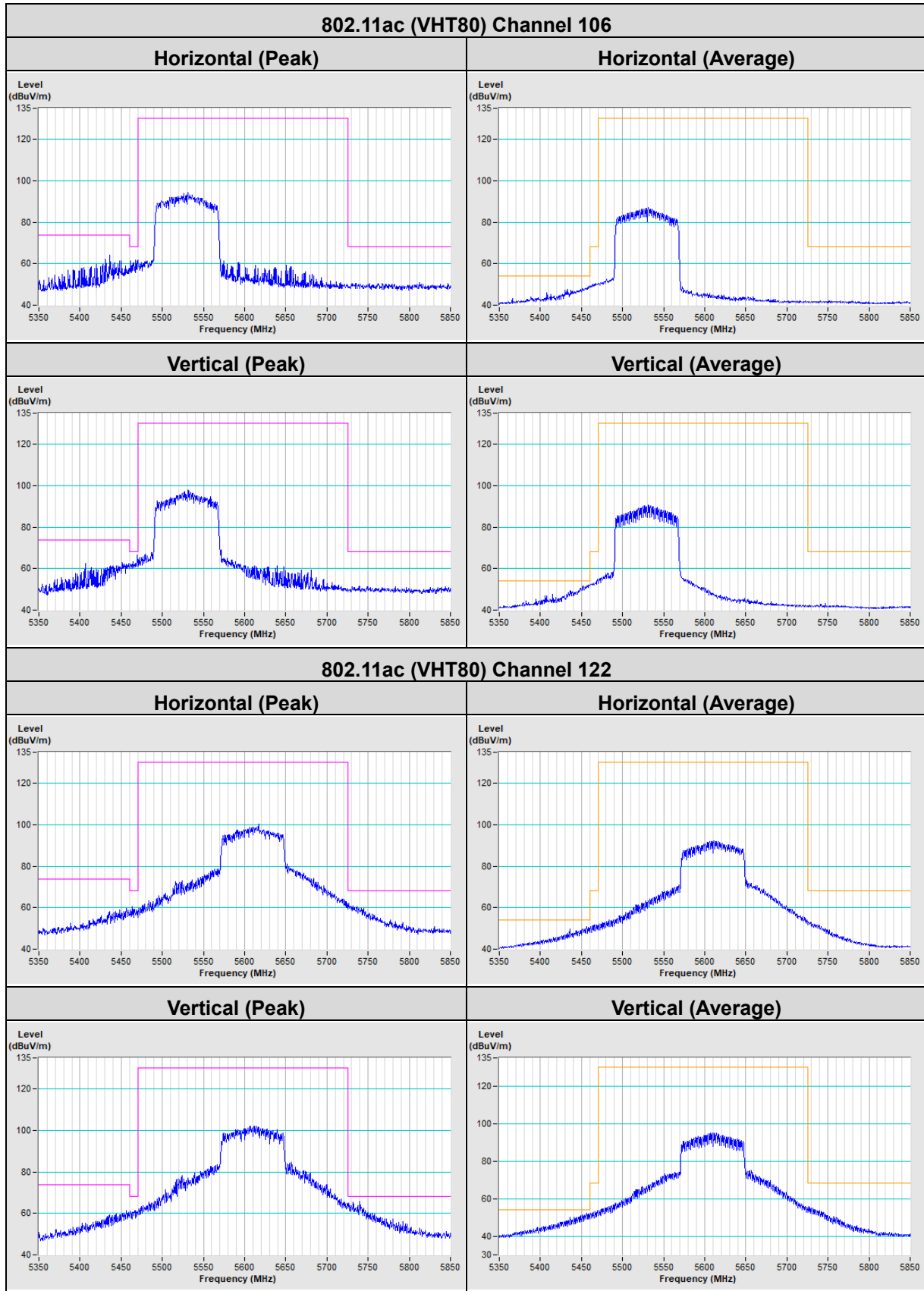


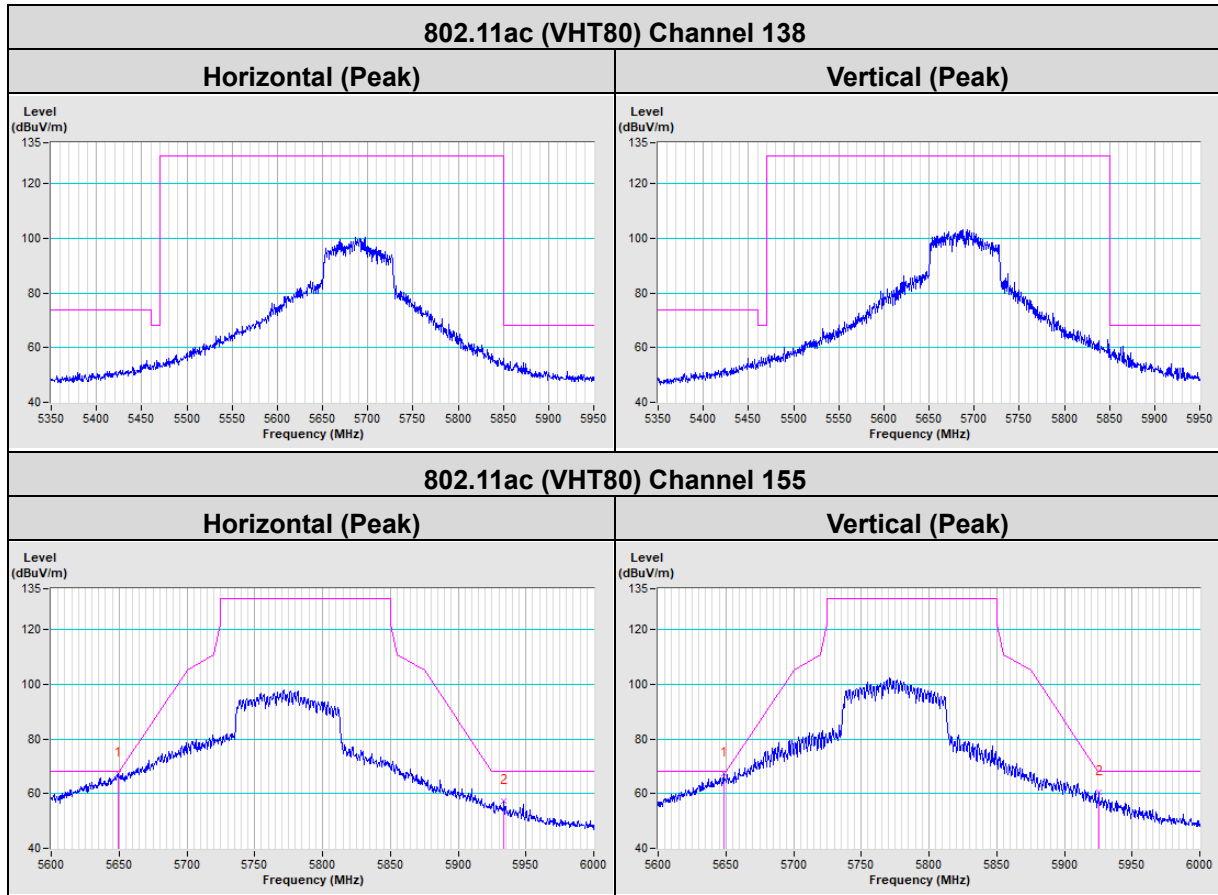
802.11ac (VHT80) Channel 42



802.11ac (VHT80) Channel 58







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.

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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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