

TEST REPORT

CERTIFICATE OF CONFORMITY

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

Report No.: RFBEXD-WTW-P22030036-1

FCC ID: PX9IM30

Model No.: WxxIM3Sxxxxx

Series Model: EQT3-7-xxxx, EQT3-10-xxxx, SYST3-7-xxxx, SYST3-10-xxxx
("x"= A~Z,a~z,0~9,"-" Blank or Slash for marketing purpose only, no impact safety related constructions or critical components)

Received Date: 2022/3/2

Test Date: 2022/6/2 ~ 2022/6/9

Issued Date: 2022/12/8

Applicant: WINMATE 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 / 281270 / TW0032

Designation Number (1):

FCC Registration / 788550 / TW0003

Designation Number (2):

Approved by: _____

Jeremy Lin

Date: _____

2022/12/8

Jeremy Lin / Project Engineer

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Prepared by : Celine Chou / Senior Specialist



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Release Control Record

Issue No.	Description	Date Issued
RFBEXD-WTW-P22030036-1	Original release.	2022/12/8

1 Certificate

Product: Panel PC

Brand: WINMATE INC.

Model No.: WxxIM3Sxxxxx

Series Model: EQT3-7-xxxx, EQT3-10-xxxx, SYST3-7-xxxx, SYST3-10-xxxx
("X"= A~Z,a~z,0~9,"-" Blank or Slash for marketing purpose only, no impact safety related constructions or critical components)

Sample Status: Engineering sample

Applicant: WINMATE INC.

Test Date: 2022/6/2 ~ 2022/6/9

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 -18.71 dB at 0.15000 MHz
15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -9.8 dB at 913.67 MHz
15.407(b)(1/2/3/4(i)/10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.9 dB at 5150.00 MHz
15.203	Antenna Requirement	Pass	Antenna connector is SMA. (The device is professionally installed)

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

2.1 Measurement Uncertainty

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

Measurement	Specification	Expanded Uncertainty (k=2) (±)
AC Power Conducted Emissions	9 kHz ~ 30 MHz	2.79 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.00 dB
	30 MHz ~ 1 GHz	2.92 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	1.76 dB
	18 GHz ~ 40 GHz	1.77 dB

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Panel PC
Brand	WINMATE INC.
Model No.	WxxIM3Sxxxxx
Series Model	EQT3-4-xxxx, EQT3-7-xxxx, EQT3-10-xxxx, SYST3-4-xxxx, SYST3-7-xxxx, SYST3-10-xxxx ("x"= A~Z,a~z,0~9,"-" Blank or Slash for marketing purpose only, no impact safety related constructions or critical components)
Status of EUT	Engineering sample
Power Supply Rating	12-24Vdc, 1-2A
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 ~ 5320MHz, 5500 ~ 5700MHz, 5745 ~ 5825MHz
Number of Channel	5180 ~ 5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 8 802.11n (HT40), 802.11ac (VHT40): 4 802.11ac (VHT80): 2 5500 ~ 5700MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 11 802.11n (HT40), 802.11ac (VHT40): 5 802.11ac (VHT80): 2 5745 ~ 5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 5 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1
Output Power	5180 ~ 5240MHz: 85.234 mW (19.31 dBm) 5260 ~ 5320MHz: 81.015 mW (19.09 dBm) 5500 ~ 5700MHz: 79.366 mW (19.00 dBm) 5745 ~ 5825MHz: 80.347 mW (19.05 dBm)
EUT Category	Client device

Note:

1. The following models are provided to this EUT.

Model No.	WxxIM3Sxxxxx	
Series Model	EQT3-7-xxxx, SYST3-7-xxxx	EQT3-10-xxxx, SYST3-10-xxxx
Panel	7"	10.1"

* "x"= A~Z,a~z,0~9,"-" Blank or Slash for marketing purpose only, no impact safety related constructions or critical components.

* Those models are use the same RF layout and antenna.

2. The EUT uses following accessories.

AC Adapter		
Brand	Model	Specification
Chicony	A18-065N3A	AC Input : 100-240Vac, 50-60Hz, 1.7A DC Output : 19.0Vdc, 3.42A, 65.0W DC Output Cable : 1.75m, with one core AC Power Cord : 1.70m, without core
DC Cable		
-	-	0.14m cable without core
USB To Micro USB Cable		
-	-	0.04m cable without core

3. 2.4GHz & 5GHz & BT technology cannot transmit at same time.

4. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

No.	Brand	Model	Type	Connector	Gain (dBi)				
					2.4GHz	5.15-5.25 GHz	5.25-5.35 GHz	5.47-5.725 GHz	5.725-5.85 GHz
WiFi A	Unictorn	MT-4B-AS-3W01	Dipole	SMA	3.44	0.18	2.49	-1.02	-1.12
WiFi M	Unictorn	MT-4B-AS-3W01	Dipole	SMA	2.51	-0.64	-0.52	-0.03	-0.26

* Detail antenna specification please refer to antenna datasheet an antenna gain measurement report.

2. The EUT incorporates a MIMO function:

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

Note: The bandwidth and modulation are similar for HT20/HT40 on 802.11n mode and VHT20/VHT40 on 802.11ac mode. Therefore the investigated worst case is the 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 ~ 5700 MHz

11 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		

5 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		

2 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
106	5530 MHz	122	5610 MHz

FOR 5745 ~ 5825 MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775 MHz

3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	<ol style="list-style-type: none"> EUT has two different panel sizes: 7" for model: W07IM3S-ELT1 and 10.1" for model: W10IM3S-ELH2. Pre-scan these two models and find the worst case as a representative test condition. EUT can be used in the following ways: X-axis/ Y-axis/ Z-axis. Pre-scan these ways and find the worst case as a representative test condition.
Worst Case:	<ol style="list-style-type: none"> The worst case was model: W10IM3S-ELH2. The worst case was found when positioned on Y-axis.

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

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

3.5 Duty Cycle of Test Signal

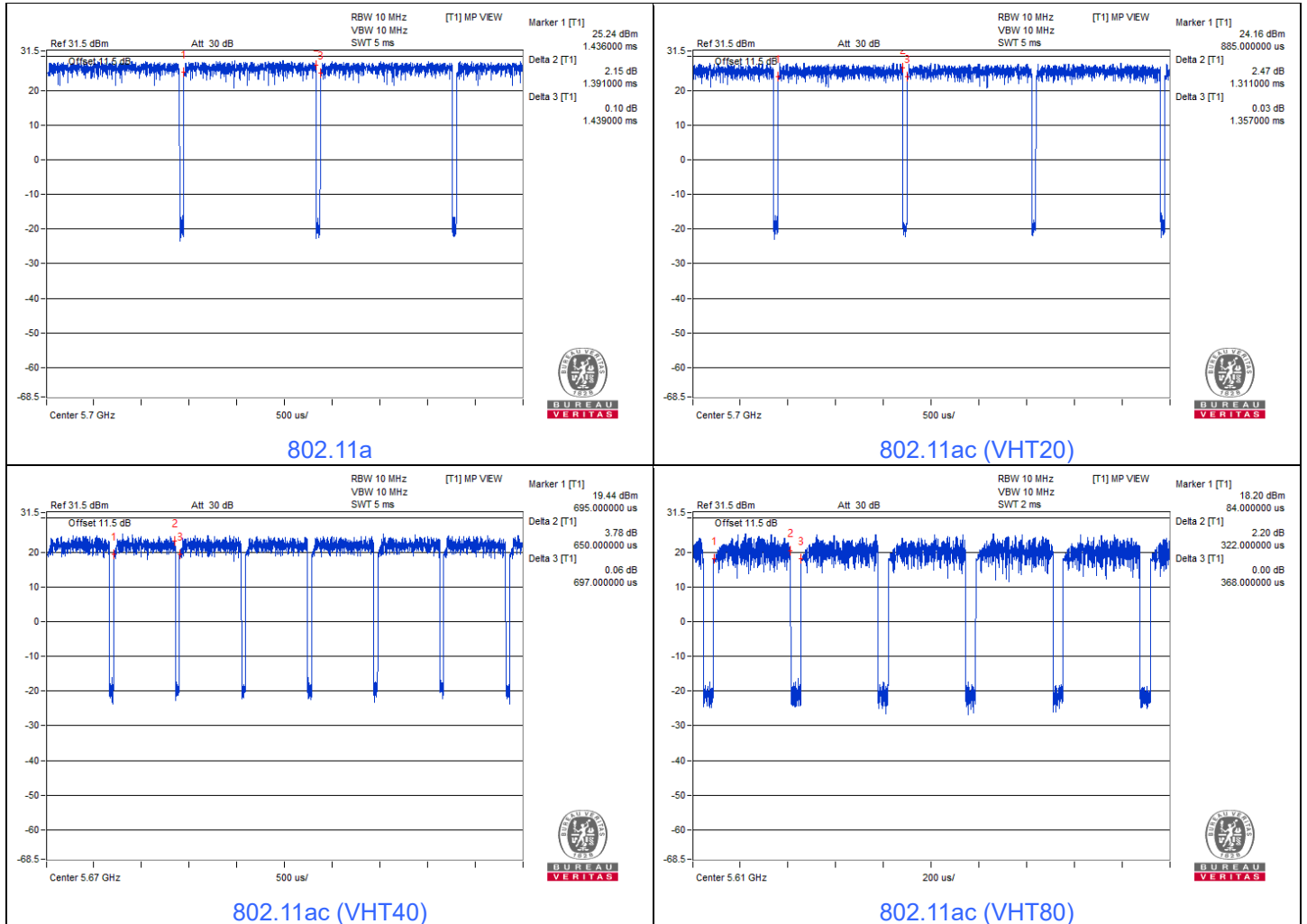
Duty cycle of test signal is < 98 %, duty factor shall be considered.

802.11a: Duty cycle = 1.391 ms / 1.439 ms x 100% = 96.7%, duty factor = 10 * log (1/Duty cycle) = 0.15 dB

802.11ac (VHT20): Duty cycle = 1.311 ms / 1.357 ms x 100% = 96.6%, duty factor = 10 * log (1/Duty cycle) = 0.15 dB

802.11ac (VHT40): Duty cycle = 0.65 ms / 0.697 ms x 100% = 93.3%, duty factor = 10 * log (1/Duty cycle) = 0.30 dB

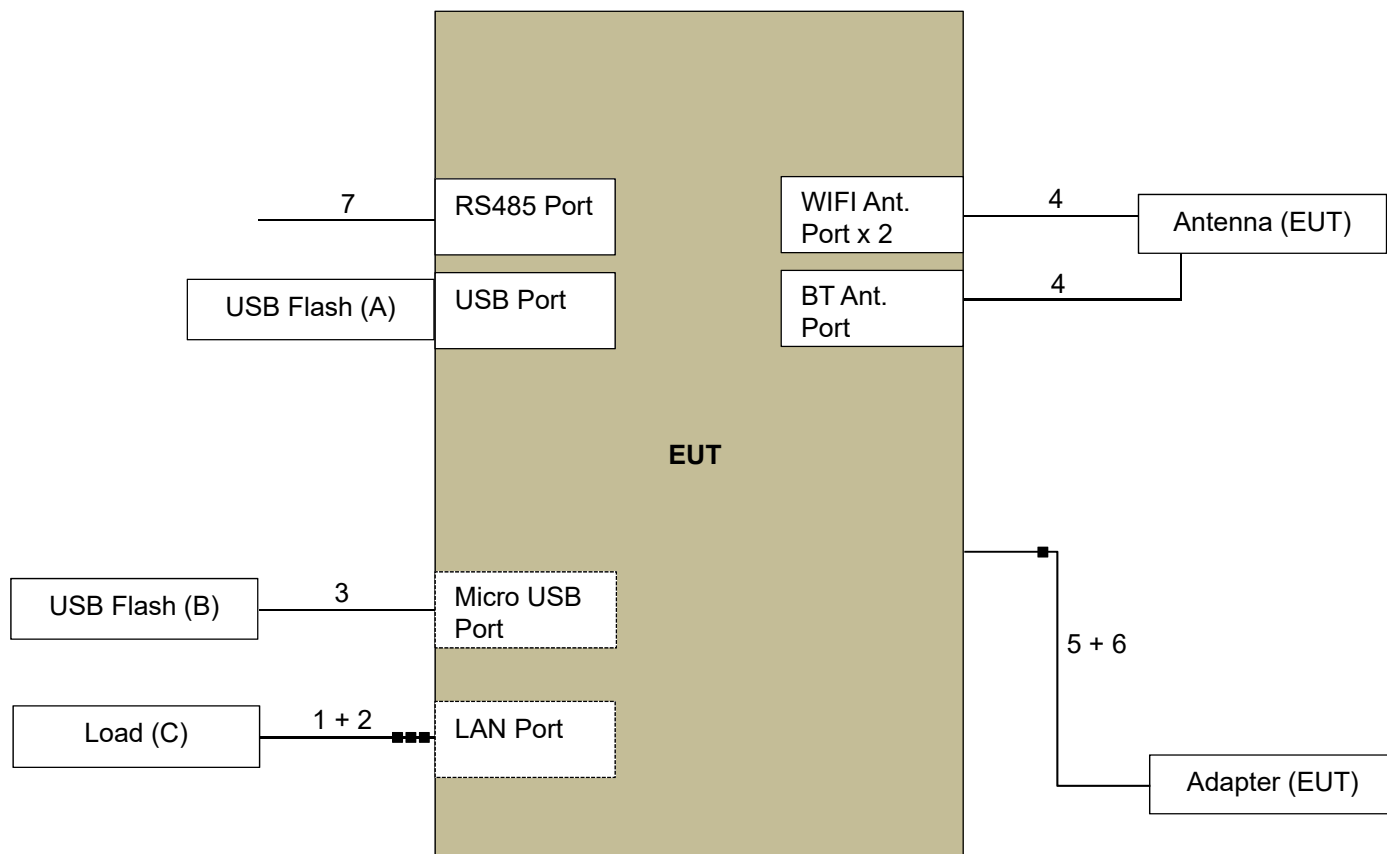
802.11ac (VHT80): Duty cycle = 0.322 ms / 0.368 ms x 100% = 87.5%, duty factor = 10 * log (1/Duty cycle) = 0.58 dB



3.6 Test Program Used and Operation Descriptions

Controlling software adb_4.2.2 has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.7 Connection Diagram of EUT and Peripheral Devices



3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	USB Flash	Sandisk	SDDDC3-032G	N/A	N/A	Provided by Lab
B	USB Flash	Sandisk	SDDDC3-032G	N/A	N/A	Provided by Lab
C	Load	N/A	N/A	N/A	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	RJ-45 Cable	1	1.5	N	0	Provided by Lab
2	RJ-45 Cable	1	0.2	N	3	Supplied by applicant
3	USB To Micro USB Cable	1	0.04	Y	0	Accessory of EUT
4	RF Cable	3	2	Y	0	Supplied by applicant
5	DC Cable	1	0.14	N	0	Accessory of EUT
6	DC Output Cable	1	1.75	N	1	Accessory of EUT Attached on adapter
7	RS485 Cable	1	0.65	N	0	Supplied by applicant

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
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2022/4/5	2023/4/4

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2022/6/6

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
Power sensor Keysight	U2021XA	MY55380009	2022/3/23	2023/3/22
Wideband Power Sensor(N1923A) KEYSIGHT	N1923A	MY58020002	2022/1/17	2023/1/16
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2022/4/5	2023/4/4

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2022/6/6

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	70360742	2021/6/24	2022/6/23
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
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2022/4/5	2023/4/4

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2022/6/6

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	ESH3-Z5	100311	2021/9/7	2022/9/6
LISN ROHDE & SCHWARZ	ENV216	101826	2022/3/14	2023/3/13
RF Coaxial Cable WOKEN	5D-FB	Cable-cond1-01	2022/1/15	2023/1/14
Software BVADT	BVADT_Cond_ V7.3.7.4	N/A	N/A	N/A
Test Receiver Rohde&Schwarz	ESCI	100613	2021/12/3	2022/12/2
V-LISN Schwarzbeck	NNBL 8226-2	8226-142	2021/8/20	2022/8/19

Notes:

1. The test was performed in HY - Conduction 1.
2. Tested Date: 2022/6/9

4.8 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower KaiTuo	N/A	N/A	N/A	N/A
Antenna Tower Controller KaiTuo	KT-2000	N/A	N/A	N/A
Bi-log Broadband Antenna Schwarzbeck	VULB9168	9168-995	2021/10/28	2022/10/27
Loop Antenna EMCI	EM-6879	269	2021/9/16	2022/9/15
Loop Antenna TESEQ	HLA 6121	45745	2021/7/21	2022/7/20
MXA Signal Analyzer KEYSIGHT	N9020B	MY60110462	2021/12/21	2022/12/20
Pre-amplifier EMCI	EMC001340	980201	2021/9/15	2022/9/14
Pre_Amplifier EMCI	EMC330N	980783	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	5D-NM-BM	140903+140902	2022/1/15	2023/1/14
	EMCCFD400-NM-NM- 500	201245	2022/1/17	2023/1/16
	EMCCFD400-NM-NM- 3000	201250	2022/1/17	2023/1/16
	EMCCFD400-NM-NM- 9000	201252	2022/1/17	2023/1/16
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Test Receiver R&S	ESR3	102579	2021/7/5	2022/7/4
Turn Table Max-Full	MFT-151SS-0.5T	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208675	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 7.
2. Tested Date: 2022/6/7

4.9 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower KaiTuo	N/A	N/A	N/A	N/A
Antenna Tower Controller KaiTuo	KT-2000	N/A	N/A	N/A
Horn Antenna RFSPIN	DRH18-E	210104A18E	2021/11/14	2022/11/13
Horn Antenna Schwarzbeck	BBHA 9170	9170-1048	2021/11/14	2022/11/13
MXA Signal Analyzer KEYSIGHT	N9020B	MY60110462	2021/12/21	2022/12/20
Pre_Amplifier EMCI	EMC118A45SE	980810	2021/12/30	2022/12/29
	EMC184045SE	980787	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMC101G-KM-KM-2000	201253	2022/1/17	2023/1/16
	EMC101G-KM-KM-3000	201256	2022/1/17	2023/1/16
	EMC101G-KM-KM-5000	201259	2022/1/17	2023/1/16
	EMC104-SM-SM-1000	210101	2022/1/17	2023/1/16
	EMC104-SM-SM-3000	201242	2022/1/17	2023/1/16
	EMC104-SM-SM-9000	201230	2022/1/17	2023/1/16
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Test Receiver R&S	ESR3	102579	2021/7/5	2022/7/4
Turn Table Max-Full	MFT-151SS-0.5T	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208675	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 7.
2. Tested Date: 2022/6/2 ~ 2022/6/3

5 Limits of Test Items

5.1 26 dB Bandwidth

The results are for reference only.

5.2 RF Output Power

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

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

*B is the 26 dB emission bandwidth in megahertz

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

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

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

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

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

5.3 Power Spectral Density

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

Operation Band	Limit
U-NII-2A	11 dBm/ MHz
U-NII-2C	11 dBm/ MHz
U-NII-3	30 dBm/ 500 kHz

5.4 6 dB Bandwidth

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

5.5 Occupied Bandwidth

The results are for reference only.

5.6 Frequency Stability

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

5.7 AC Power Conducted Emissions

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Notes:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

5.8 Unwanted Emissions below 1 GHz

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

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).

5.9 Unwanted Emissions above 1 GHz

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

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

Notes:

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

Limits of unwanted emission out of the restricted bands

Applicable To		Limit	
789033 D02 General UNII Test Procedure New Rules v02r01		Field Strength at 3 m	
		PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK: -27 (dBm/MHz) ^{*1} PK: 10 (dBm/MHz) ^{*2} PK: 15.6 (dBm/MHz) ^{*3} PK: 27 (dBm/MHz) ^{*4}	PK: 68.2 (dBμV/m) ^{*1} PK: 105.2 (dBμV/m) ^{*2} PK: 110.8 (dBμV/m) ^{*3} PK: 122.2 (dBμV/m) ^{*4}
*1 beyond 75 MHz or more above of the band edge.		*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.	
*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.		*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	

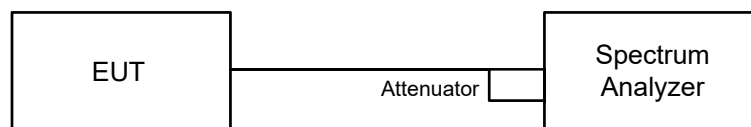
Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

6 Test Arrangements

6.1 26 dB Bandwidth

6.1.1 Test Setup

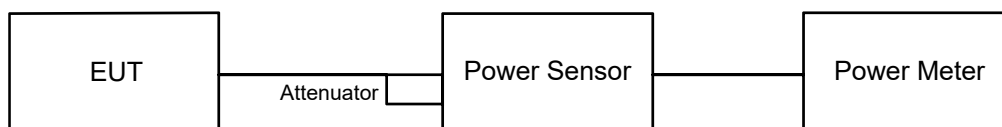


6.1.2 Test Procedure

- a. Set RBW = approximately 1% of the emission bandwidth.
- b. Set the VBW > RBW.
- c. Detector = Peak.
- d. Trace mode = max hold.
- e. 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

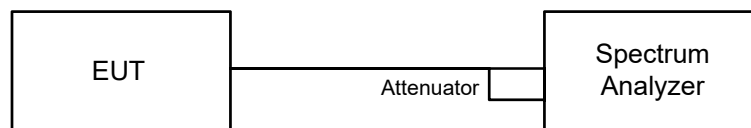


6.2.2 Test Procedure

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.

6.3 Power Spectral Density

6.3.1 Test Setup



6.3.2 Test Procedure

For specified measurement bandwidth 1 MHz:

Method SA-2

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

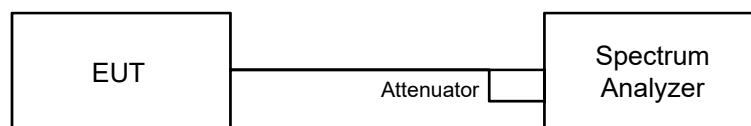
For specified measurement bandwidth 500 kHz:

Method SA-2

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 300 kHz, Set VBW \geq 1 MHz, Detector = RMS
- 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 $\text{BWCF} = 10\log(500 \text{ kHz}/300 \text{ kHz})$
- Sweep points \geq $[2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing \leq RBW / 2, so that narrowband signals are not lost between frequency bins.)
- Sweep time = auto, trigger set to "free run".
- Trace average at least 100 traces in power averaging mode.
- Use the peak search function on the instrument to find the peak of the spectrum and record its value.
- Record the max value and add 10 log (1/duty cycle).

6.4 6 dB Bandwidth

6.4.1 Test Setup

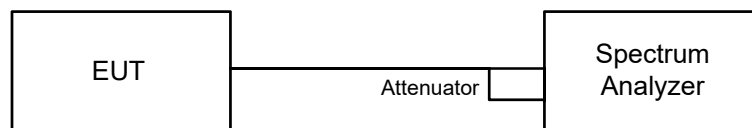


6.4.2 Test Procedure

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

6.5 Occupied Bandwidth

6.5.1 Test Setup

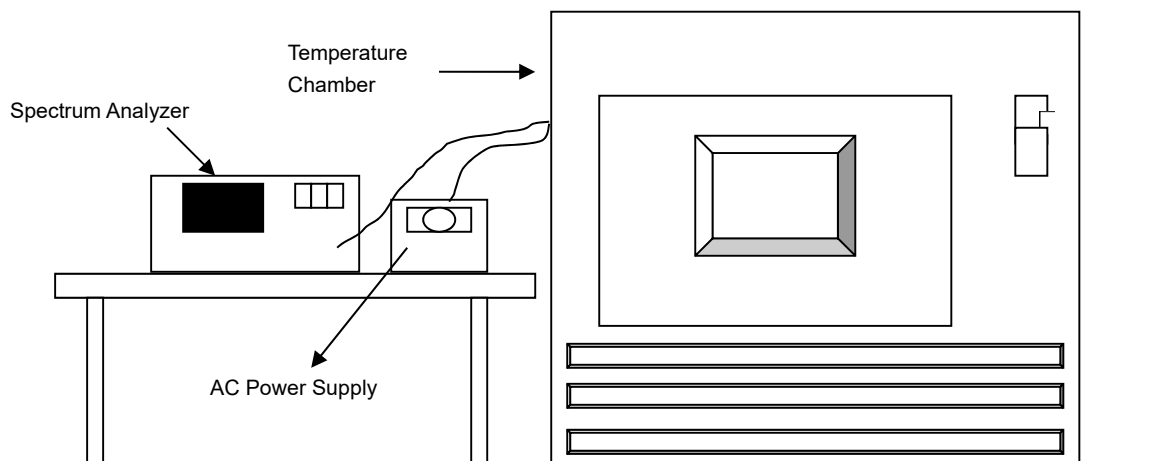


6.5.2 Test Procedure

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

6.6 Frequency Stability

6.6.1 Test Setup

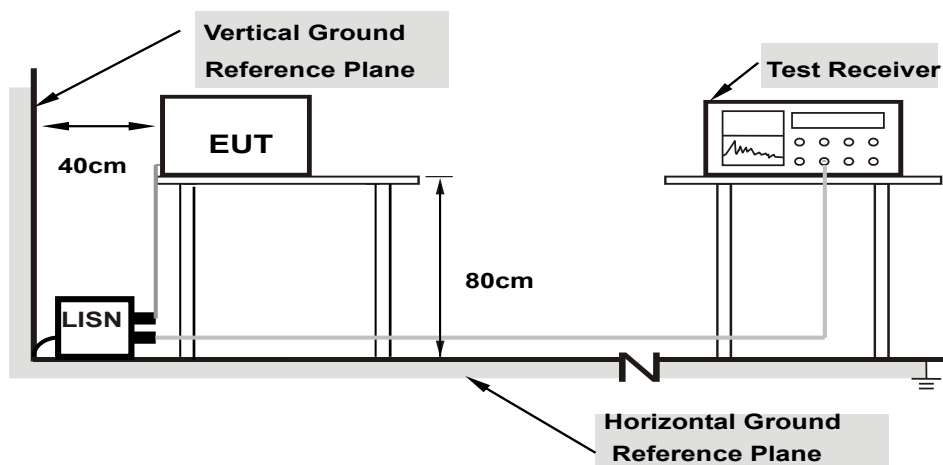


6.6.2 Test Procedure

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

6.7 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

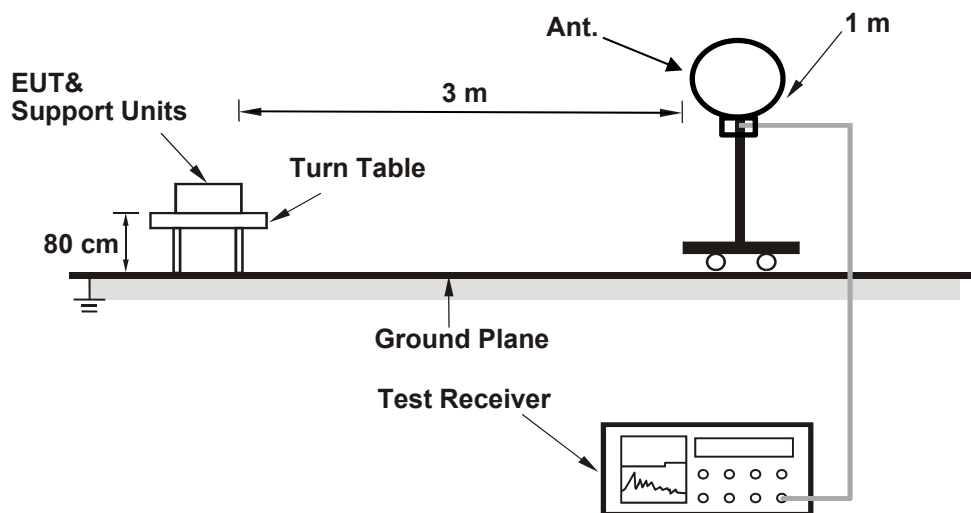
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50 uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

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

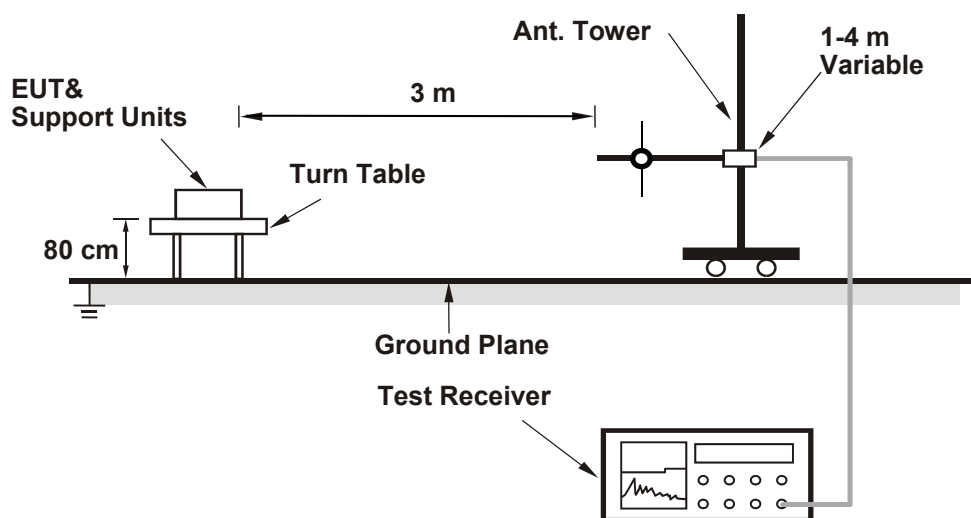
6.8 Unwanted Emissions below 1 GHz

6.8.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



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

6.8.2 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, except for the frequency band (9 kHz to 90 kHz and 110 kHz to 490 kHz) set to average detect function and peak detect function.

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 200 Hz at frequency below 150 kHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz or 10 kHz at frequency (150 kHz to 30 MHz).
3. All modes of operation were investigated and the worst-case emissions are reported.

For Radiated emission above 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

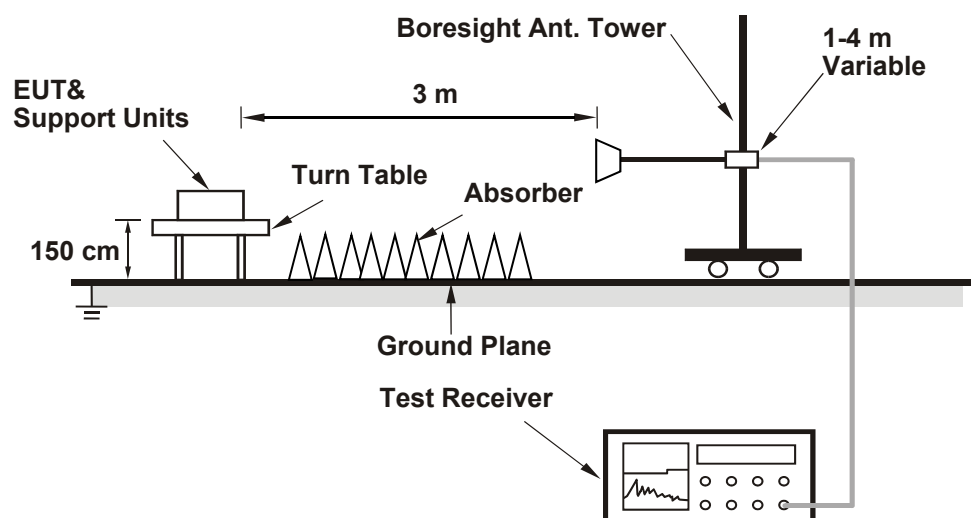
Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

6.9 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	20.48	20.44
60	5300	20.38	20.53
64	5320	20.23	20.42
100	5500	20.36	20.33
116	5580	20.58	20.64
140	5700	20.53	20.59

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
52	5260	20.44	24.1 > 24
60	5300	20.38	24.09 > 24
64	5320	20.23	24.05 > 24
100	5500	20.33	24.08 > 24
116	5580	20.58	24.13 > 24
140	5700	20.53	24.12 > 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	20.49	20.53
60	5300	20.54	20.53
64	5320	20.34	20.33
100	5500	20.42	20.30
116	5580	20.42	20.54
140	5700	20.59	20.37

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
52	5260	20.49	24.11 > 24
60	5300	20.53	24.12 > 24
64	5320	20.33	24.08 > 24
100	5500	20.30	24.07 > 24
116	5580	20.42	24.1 > 24
140	5700	20.37	24.08 > 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	41.76	41.63
62	5310	41.69	41.69
102	5510	41.75	41.77
110	5550	41.72	41.68
134	5670	41.81	41.71

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
54	5270	41.63	27.19 > 24
62	5310	41.69	27.2 > 24
102	5510	41.75	27.2 > 24
110	5550	41.68	27.19 > 24
134	5670	41.71	27.2 > 24

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

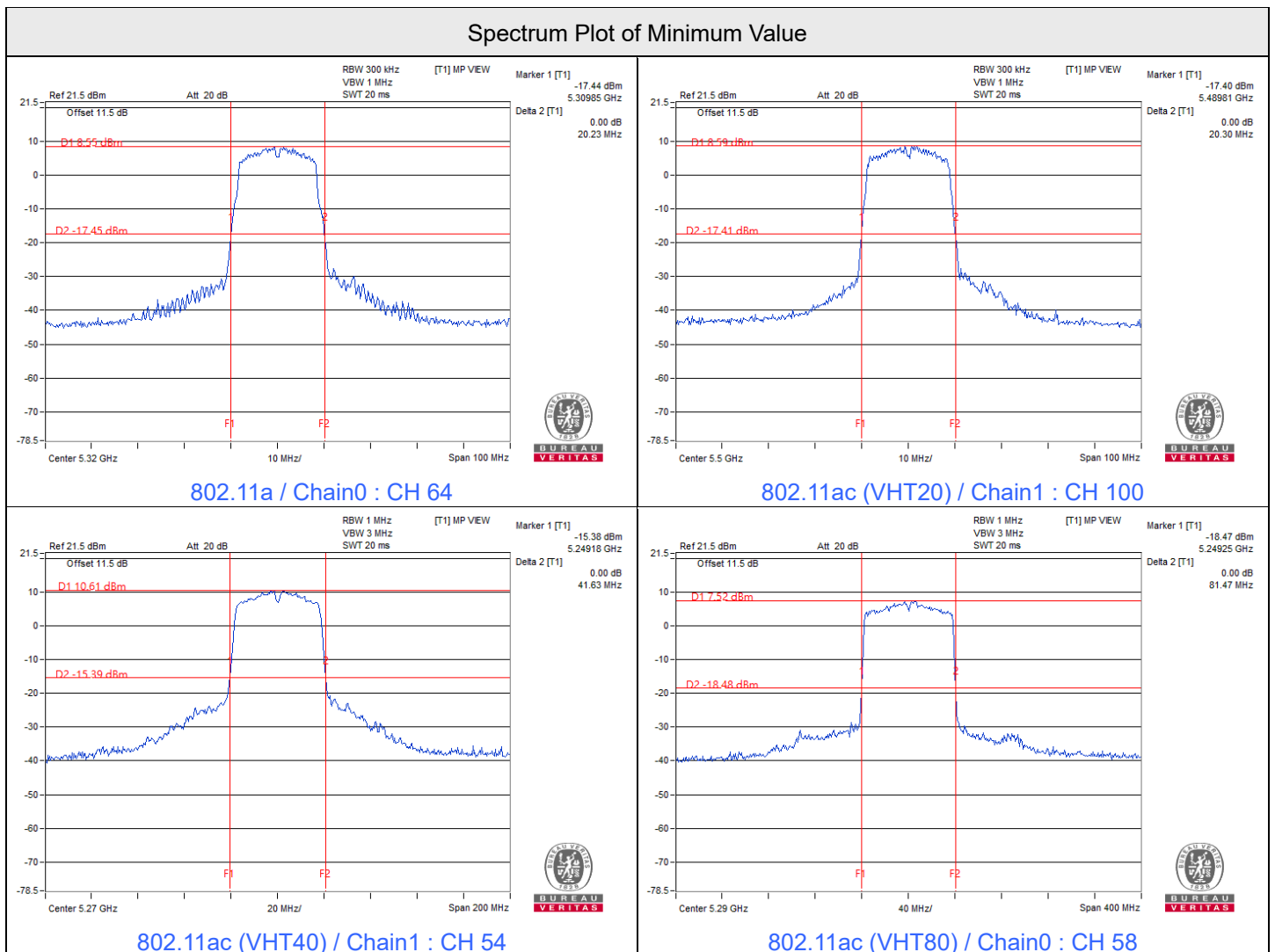


802.11ac (VHT80)

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	81.47	81.65
106	5530	81.73	81.62
122	5610	81.62	81.68

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
58	5290	81.47	30.1 > 24
106	5530	81.62	30.11 > 24
122	5610	81.62	30.11 > 24

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



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	16.37	16.19	84.942	19.29	24	Pass
40	5200	16.38	16.21	85.234	19.31	24	Pass
48	5240	16.23	16.07	82.433	19.16	24	Pass
52	5260	16.13	16.02	81.015	19.09	24	Pass
60	5300	15.96	15.84	77.816	18.91	24	Pass
64	5320	15.95	15.82	77.549	18.90	24	Pass
100	5500	16.04	15.87	78.816	18.97	24	Pass
116	5580	16.08	15.89	79.366	19.00	24	Pass
140	5700	16.02	15.76	77.665	18.90	24	Pass
149	5745	16.31	15.52	78.401	18.94	30	Pass
157	5785	16.34	15.58	79.194	18.99	30	Pass
165	5825	16.23	15.84	80.347	19.05	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 0.18 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-2A, the maximum gain is 2.49 dBi < 6 dBi, so the output power limit shall not be reduced..
4. For U-NII-2C, the maximum gain is -0.03 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-3, the maximum gain is -0.26 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	15.09	14.82	62.624	17.97	24	Pass
40	5200	15.27	15.04	65.567	18.17	24	Pass
48	5240	15.13	14.86	63.203	18.01	24	Pass
52	5260	15.14	14.87	63.349	18.02	24	Pass
60	5300	15.26	15.02	65.343	18.15	24	Pass
64	5320	15.23	14.94	64.532	18.10	24	Pass
100	5500	15.14	14.82	62.998	17.99	24	Pass
116	5580	15.08	14.74	61.996	17.92	24	Pass
140	5700	15.14	14.53	61.038	17.86	24	Pass
149	5745	15.53	14.63	64.768	18.11	30	Pass
157	5785	15.56	14.67	65.284	18.15	30	Pass
165	5825	15.24	14.76	63.342	18.02	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 0.18 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-2A, the maximum gain is 2.49 dBi < 6 dBi, so the output power limit shall not be reduced..
4. For U-NII-2C, the maximum gain is -0.03 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-3, the maximum gain is -0.26 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
38	5190	15.28	15.17	66.614	18.24	24	Pass
46	5230	15.27	15.14	66.310	18.22	24	Pass
54	5270	15.17	14.93	64.002	18.06	24	Pass
62	5310	15.07	14.87	62.827	17.98	24	Pass
102	5510	15.23	14.79	63.473	18.03	24	Pass
110	5550	15.17	14.73	62.602	17.97	24	Pass
134	5670	15.53	14.57	64.369	18.09	24	Pass
151	5755	15.32	14.43	61.774	17.91	30	Pass
159	5795	15.47	14.56	63.813	18.05	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 0.18 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-2A, the maximum gain is 2.49 dBi < 6 dBi, so the output power limit shall not be reduced..
4. For U-NII-2C, the maximum gain is -0.03 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-3, the maximum gain is -0.26 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	15.13	15.02	64.352	18.09	24	Pass
58	5290	15.16	14.89	63.641	18.04	24	Pass
106	5530	15.02	14.77	61.760	17.91	24	Pass
122	5610	15.04	14.76	61.838	17.91	24	Pass
155	5775	15.32	14.34	61.205	17.87	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 0.18 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-2A, the maximum gain is 2.49 dBi < 6 dBi, so the output power limit shall not be reduced..
4. For U-NII-2C, the maximum gain is -0.03 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-3, the maximum gain is -0.26 dBi < 6 dBi, so the output power limit shall not be reduced.

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	2.82	2.61	0.15	5.88	11	Pass
40	5200	2.73	2.66	0.15	5.86	11	Pass
48	5240	2.74	2.46	0.15	5.76	11	Pass
52	5260	2.57	2.51	0.15	5.70	11	Pass
60	5300	2.44	2.41	0.15	5.59	11	Pass
64	5320	2.40	2.39	0.15	5.56	11	Pass
100	5500	2.49	2.37	0.15	5.59	11	Pass
116	5580	2.54	2.36	0.15	5.61	11	Pass
140	5700	2.57	2.31	0.15	5.60	11	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 2.79 dBi < 6dBi, so the power density limit shall not be reduced.
- For U-NII-2A, the directional gain is 4.13 dBi < 6dBi, so the power density limit shall not be reduced.
- For U-NII-2C, the directional gain is 2.50 dBi < 6dBi, 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	1.51	1.26	0.15	4.55	11	Pass
40	5200	1.79	1.42	0.15	4.77	11	Pass
48	5240	1.65	1.23	0.15	4.61	11	Pass
52	5260	1.46	1.37	0.15	4.58	11	Pass
60	5300	1.71	1.44	0.15	4.74	11	Pass
64	5320	1.67	1.30	0.15	4.65	11	Pass
100	5500	1.61	1.28	0.15	4.61	11	Pass
116	5580	1.57	1.26	0.15	4.58	11	Pass
140	5700	1.68	1.01	0.15	4.52	11	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 2.79 dBi < 6dBi, so the power density limit shall not be reduced.
4. For U-NII-2A, the directional gain is 4.13 dBi < 6dBi, so the power density limit shall not be reduced.
5. For U-NII-2C, the directional gain is 2.50 dBi < 6dBi, so the power density limit shall not be reduced.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1				
38	5190	-1.32	-1.37	0.30	1.97	11	Pass
46	5230	-1.39	-1.30	0.30	1.97	11	Pass
54	5270	-1.34	-1.58	0.30	1.85	11	Pass
62	5310	-1.37	-1.60	0.30	1.83	11	Pass
102	5510	-1.46	-1.76	0.30	1.70	11	Pass
110	5550	-1.31	-1.74	0.30	1.79	11	Pass
134	5670	-0.90	-1.97	0.30	1.91	11	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 2.79 dBi < 6dBi, so the power density limit shall not be reduced.
4. For U-NII-2A, the directional gain is 4.13 dBi < 6dBi, so the power density limit shall not be reduced.
5. For U-NII-2C, the directional gain is 2.50 dBi < 6dBi, so the power density limit shall not be reduced.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1				
42	5210	-4.38	-4.47	0.58	-0.83	11	Pass
58	5290	-4.24	-4.70	0.58	-0.87	11	Pass
106	5530	-4.37	-4.66	0.58	-0.92	11	Pass
122	5610	-4.45	-4.77	0.58	-1.02	11	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 2.79 dBi < 6dBi, so the power density limit shall not be reduced.
4. For U-NII-2A, the directional gain is 4.13 dBi < 6dBi, so the power density limit shall not be reduced.
5. For U-NII-2C, the directional gain is 2.50 dBi < 6dBi, 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					
149	5745	-4.89	-5.77	-2.30	0.15	0.07	30	Pass
157	5785	-4.66	-5.58	-2.09	0.15	0.28	30	Pass
165	5825	-4.06	-4.81	-1.41	0.15	0.96	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 2.33 dBi < 6dBi, 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					
149	5745	-5.59	-6.40	-2.97	0.15	-0.60	30	Pass
157	5785	-5.21	-6.23	-2.68	0.15	-0.31	30	Pass
165	5825	-4.78	-5.61	-2.16	0.15	0.21	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 2.33 dBi < 6dBi, 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					
151	5755	-9.88	-10.72	-7.27	0.3	-4.75	30	Pass
159	5795	-9.62	-10.33	-6.95	0.3	-4.43	30	Pass

Notes:

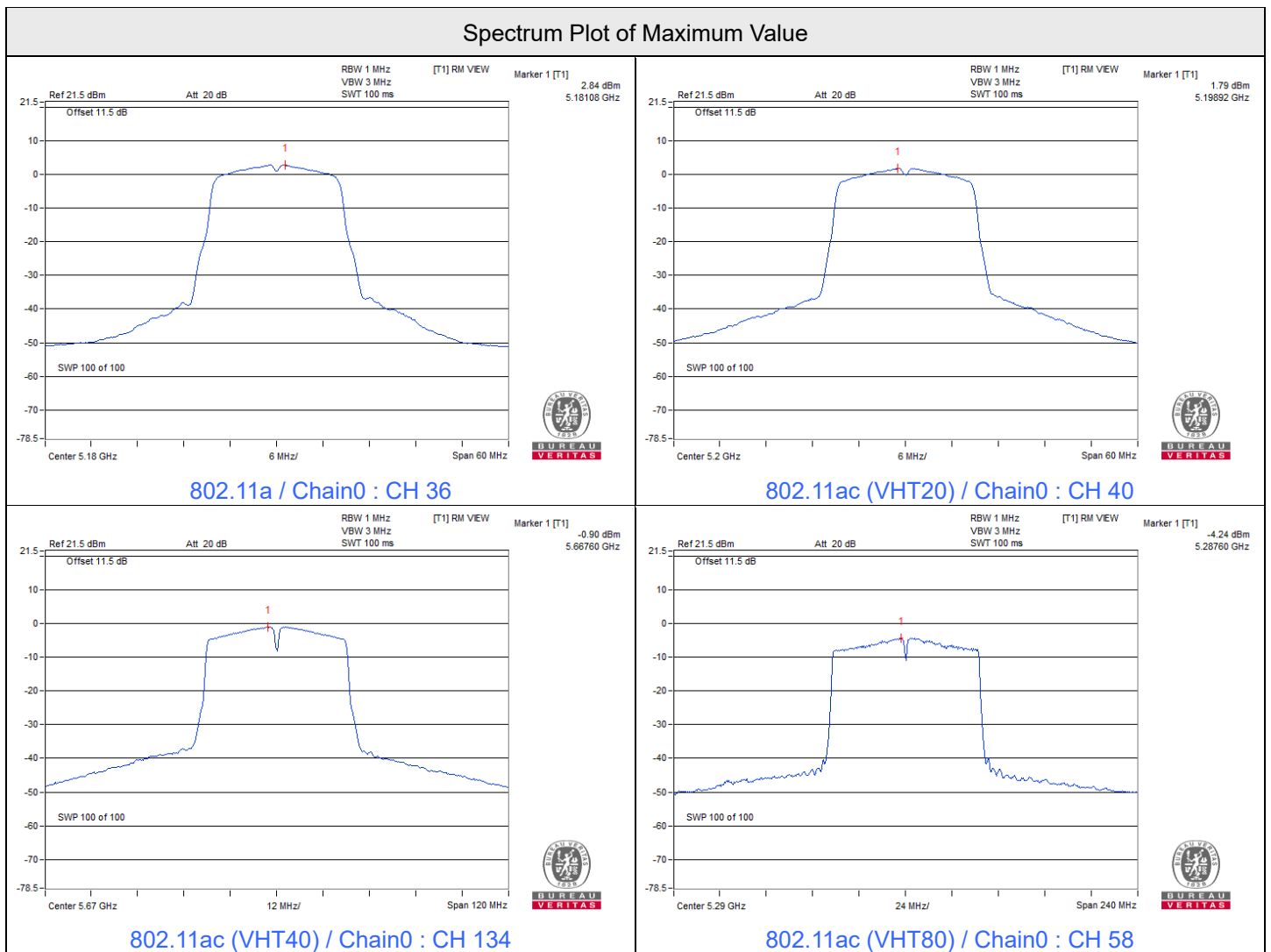
1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-3, the directional gain is 2.33 dBi < 6dBi, so the power density limit shall not be reduced.

802.11ac (VHT80)

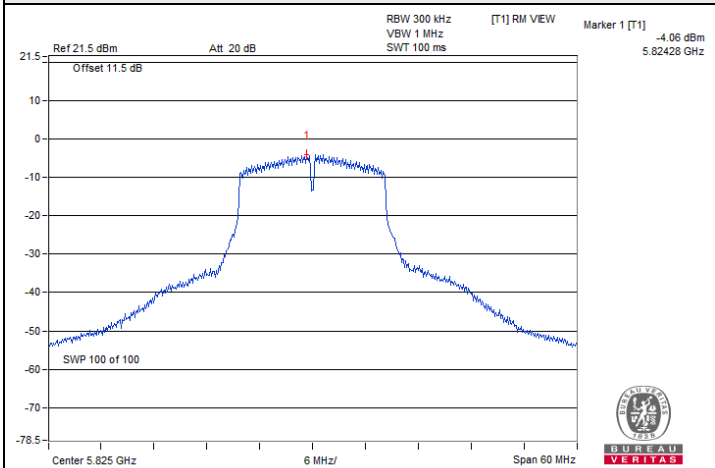
Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)		Total PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1					
155	5775	-13.06	-13.99	-10.49	0.58	-7.69	30	Pass

Notes:

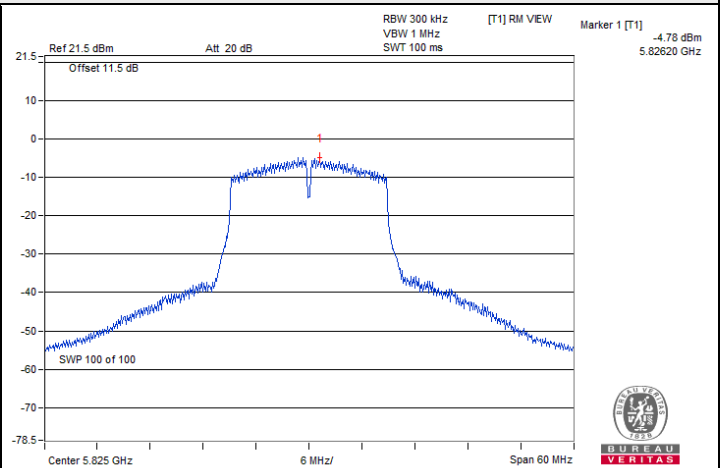
- Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
- Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
- For U-NII-3, the directional gain is 2.33 dBi < 6dBi, so the power density limit shall not be reduced.



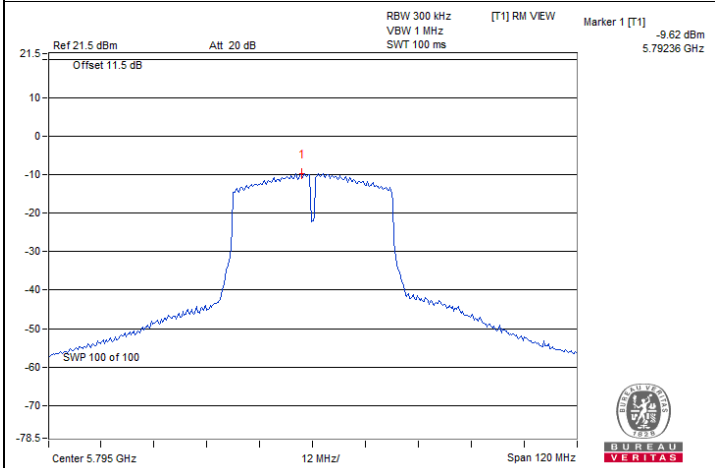
Spectrum Plot of Maximum Value



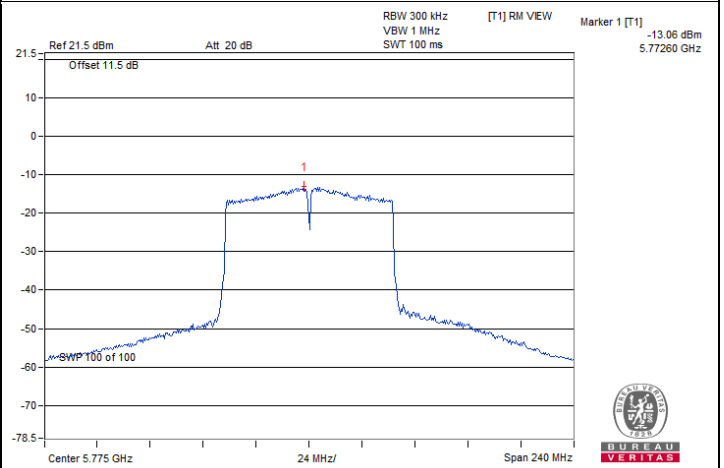
802.11a / Chain0 : CH 165



802.11ac (VHT20) / Chain0 : CH 165



802.11ac (VHT40) / Chain0 : CH 159



802.11ac (VHT80) / Chain0 : 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		
149	5745	15.17	15.47	0.5	Pass
157	5785	15.15	15.15	0.5	Pass
165	5825	15.18	15.18	0.5	Pass

802.11ac (VHT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
149	5745	15.75	15.75	0.5	Pass
157	5785	15.17	15.70	0.5	Pass
165	5825	15.18	15.18	0.5	Pass

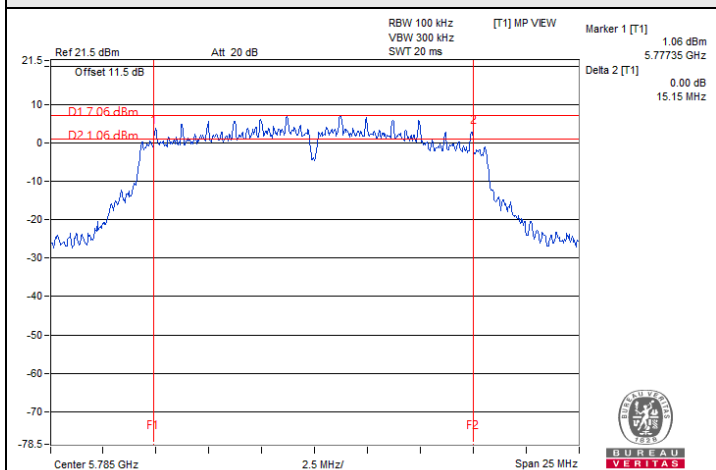
802.11ac (VHT40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
151	5755	35.19	35.19	0.5	Pass
159	5795	35.21	35.19	0.5	Pass

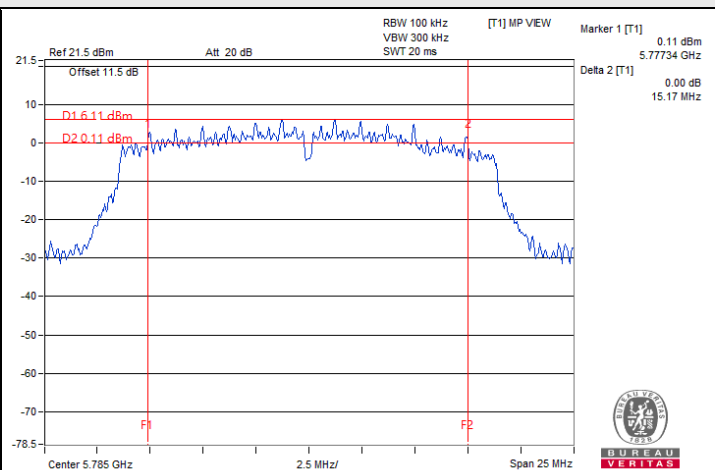
802.11ac (VHT80)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
155	5775	75.32	75.33	0.5	Pass

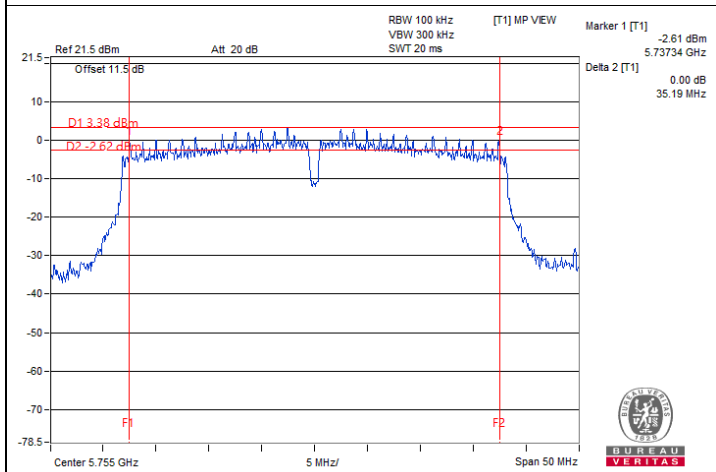
Spectrum Plot of Minimum Value



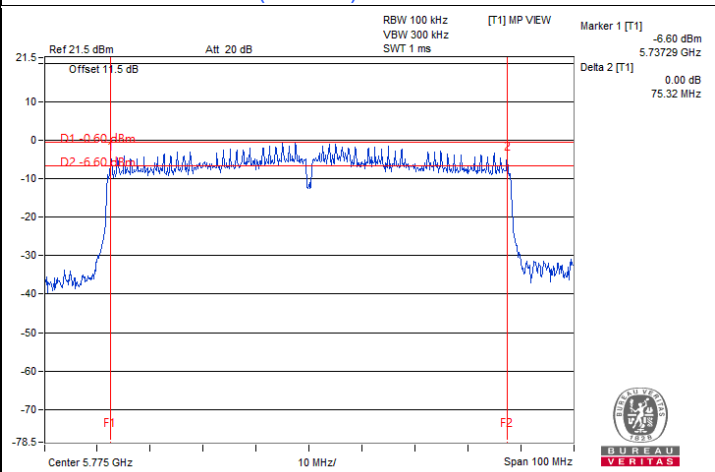
802.11a / Chain0 : CH 157



802.11ac (VHT20) / Chain0 : CH 157



802.11ac (VHT40) / Chain0 : CH 151



802.11ac (VHT80) / Chain0 : CH 155

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	16.56	16.56
40	5200	16.56	16.56
48	5240	16.56	16.56
52	5260	16.56	16.56
60	5300	16.56	16.56
64	5320	16.44	16.56
100	5500	16.56	16.56
116	5580	16.56	16.56
140	5700	16.56	16.56
149	5745	16.69	16.52
157	5785	16.69	16.68
165	5825	16.80	16.56

802.11ac (VHT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.64	17.64
40	5200	17.64	17.64
48	5240	17.64	17.64
52	5260	17.57	17.64
60	5300	17.64	17.64
64	5320	17.64	17.64
100	5500	17.64	17.64
116	5580	17.64	17.64
140	5700	17.64	17.64
149	5745	17.57	17.57
157	5785	17.64	17.64
165	5825	17.76	17.64

802.11ac (VHT40)

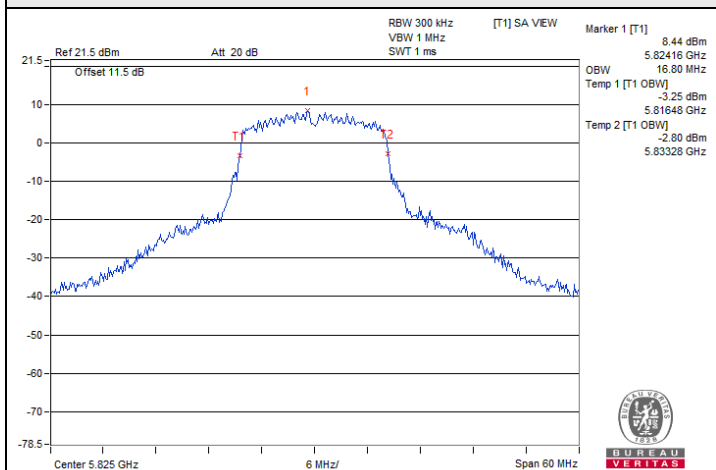
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.24	36.48
46	5230	36.48	36.48
54	5270	36.48	36.48
62	5310	36.60	36.48
102	5510	36.48	36.48
110	5550	36.48	36.48
134	5670	36.48	36.48
151	5755	36.52	36.52
159	5795	36.60	36.48

802.11ac (VHT80)

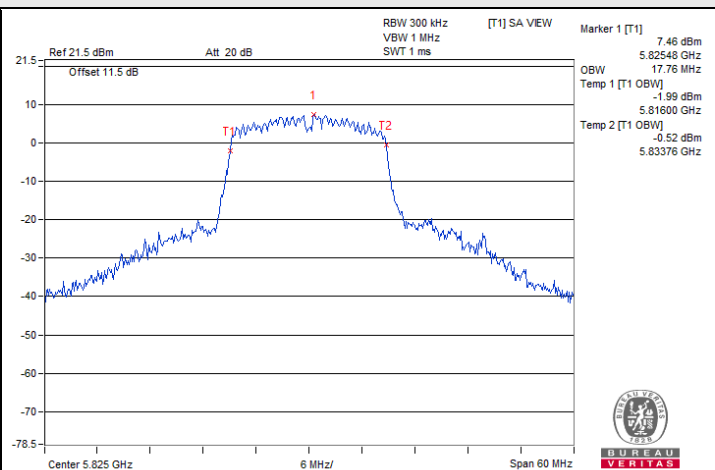
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	76.52	76.52
58	5290	75.31	75.48
106	5530	75.36	75.36
122	5610	75.60	75.36
155	5775	75.14	75.14



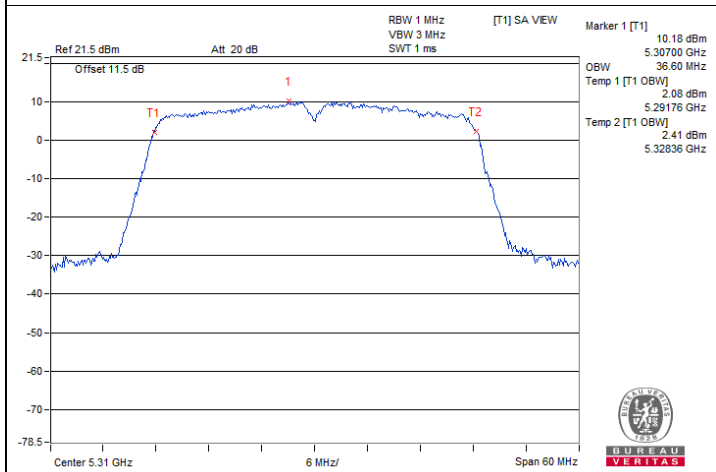
Spectrum Plot of Maximum Value



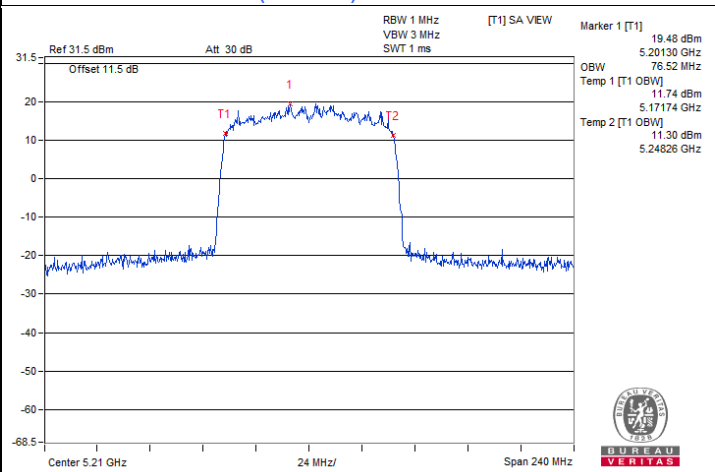
802.11a / Chain0 : CH 165



802.11ac (VHT20) / Chain0 : CH 165

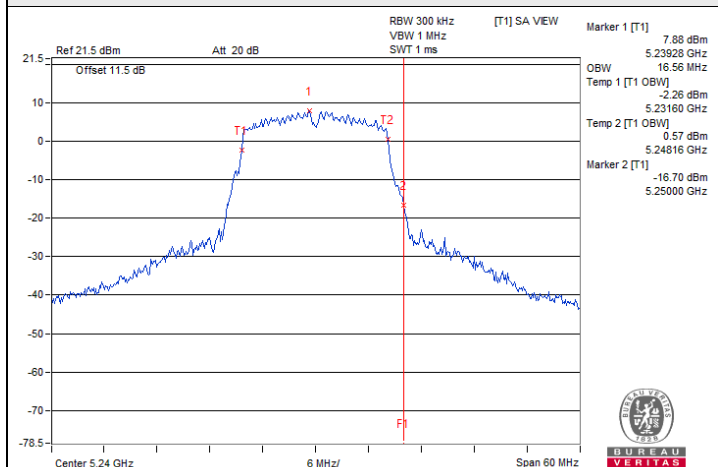
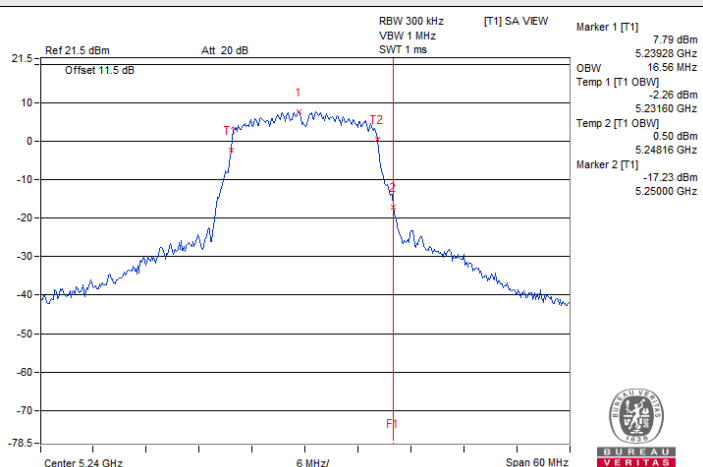
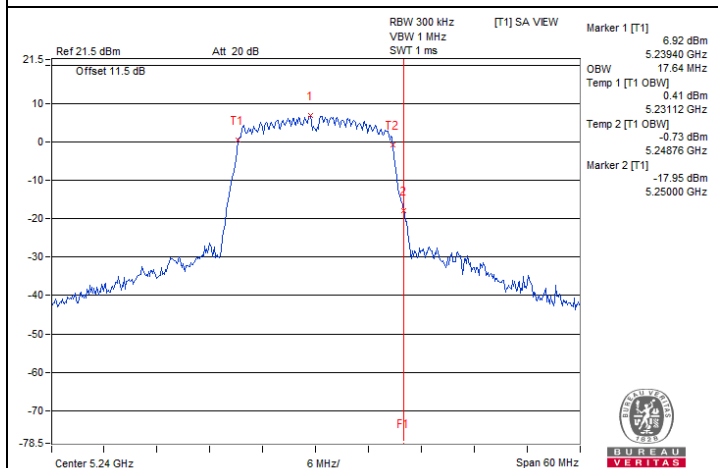
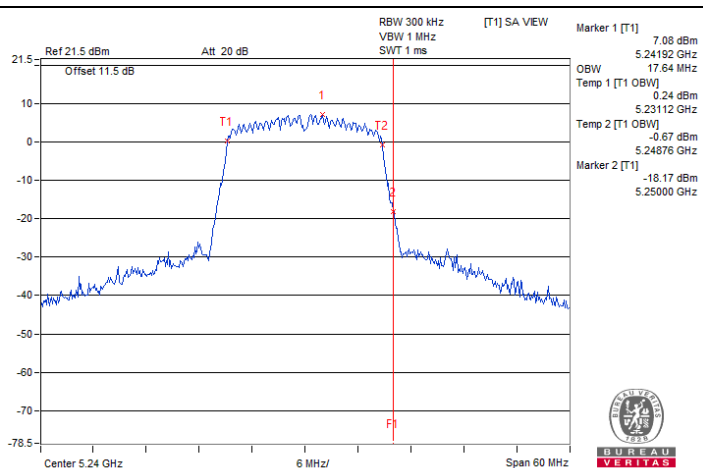
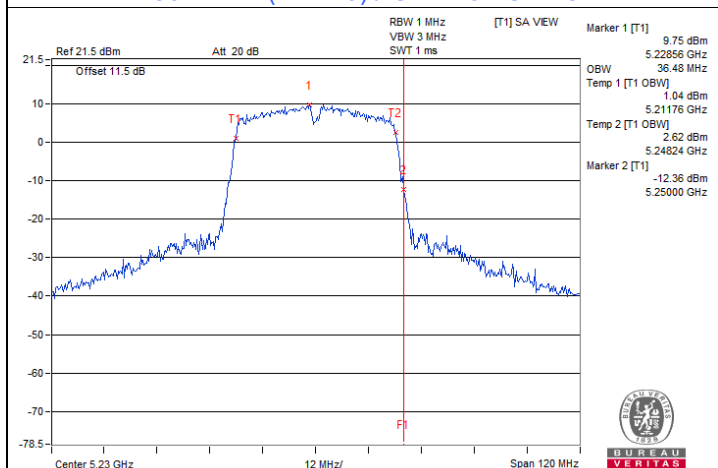
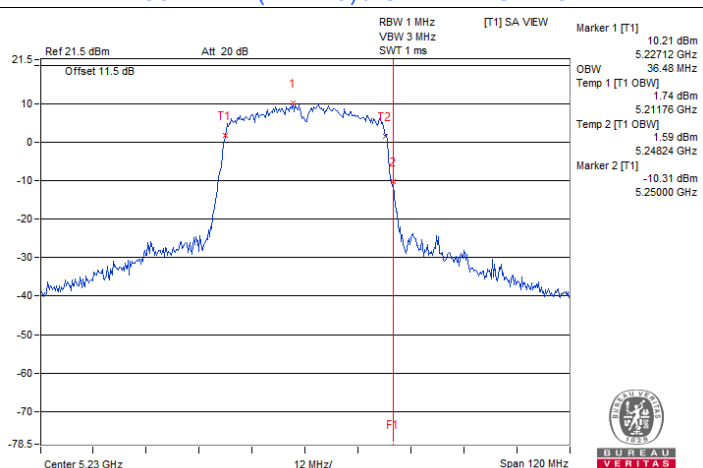


802.11ac (VHT40) / Chain0 : CH 62

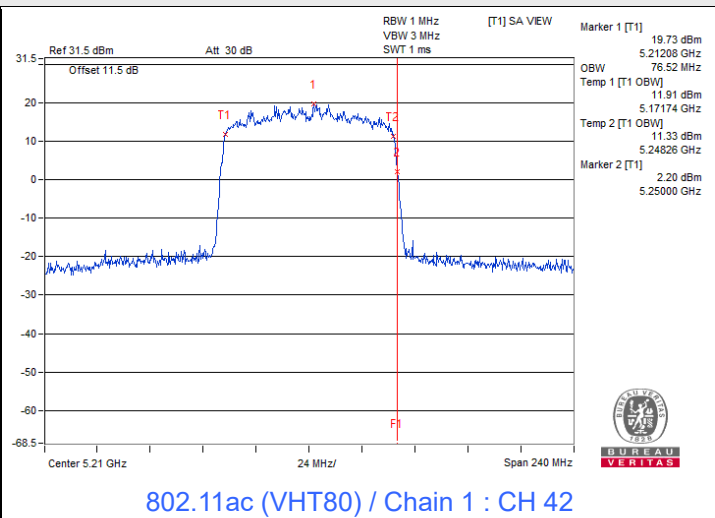
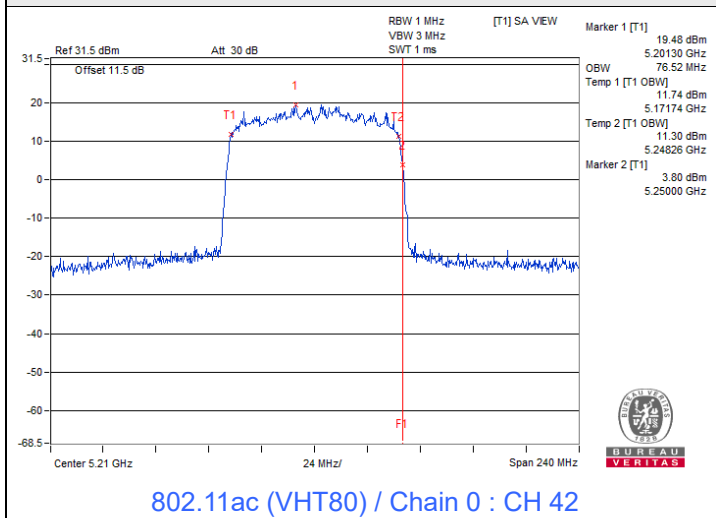


802.11ac (VHT80) / Chain0 : CH 42

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

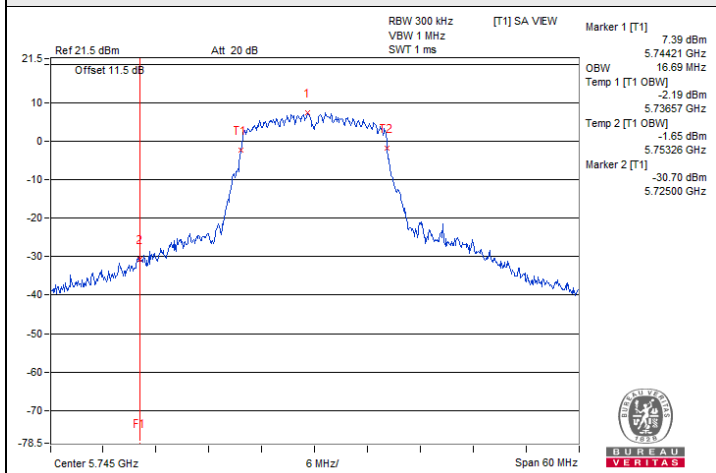
**802.11a / Chain 0 : CH 48****802.11a / Chain 1 : CH 48****802.11ac (VHT20) / Chain 0 : CH 48****802.11ac (VHT20) / Chain 1 : CH 48****802.11ac (VHT40) / Chain 0 : CH 46****802.11ac (VHT40) / Chain 1 : CH 46**

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

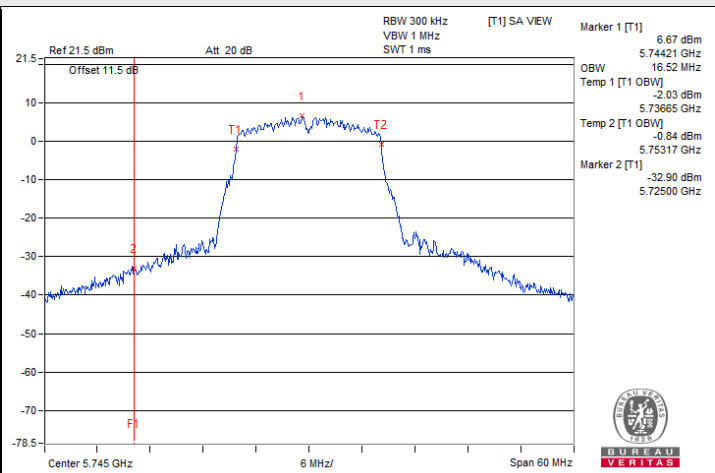




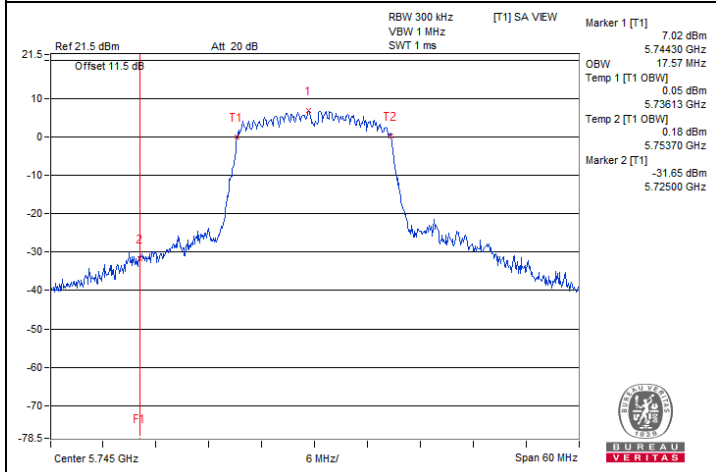
Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2C band)



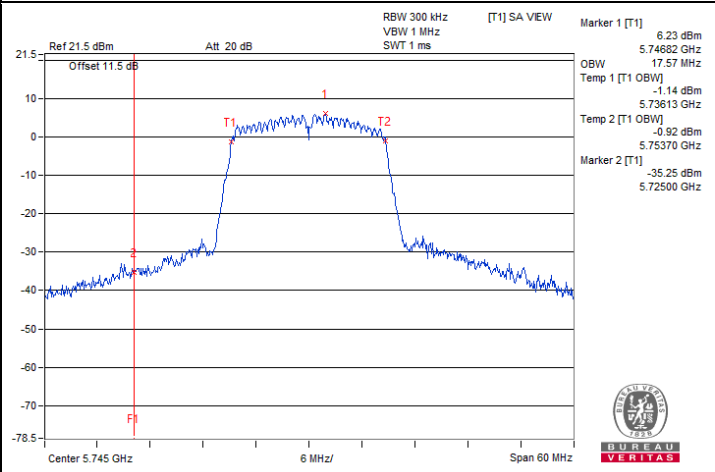
802.11a / Chain 0 : CH 149



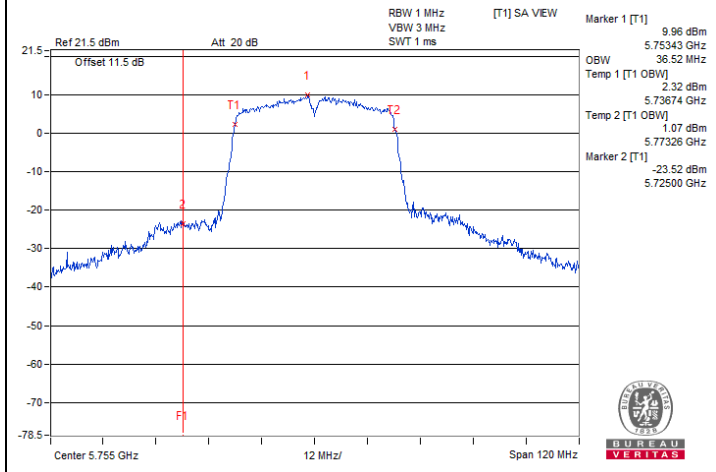
802.11a / Chain 1 : CH 149



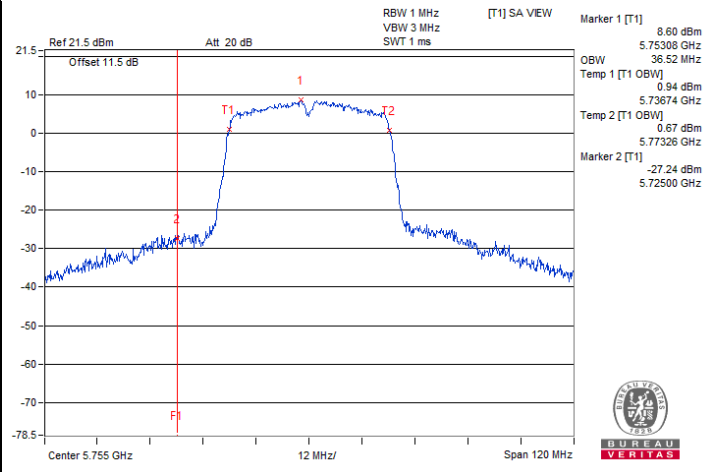
802.11ac (VHT20) / Chain 0 : CH 149



802.11ac (VHT20) / Chain 1 : CH 149



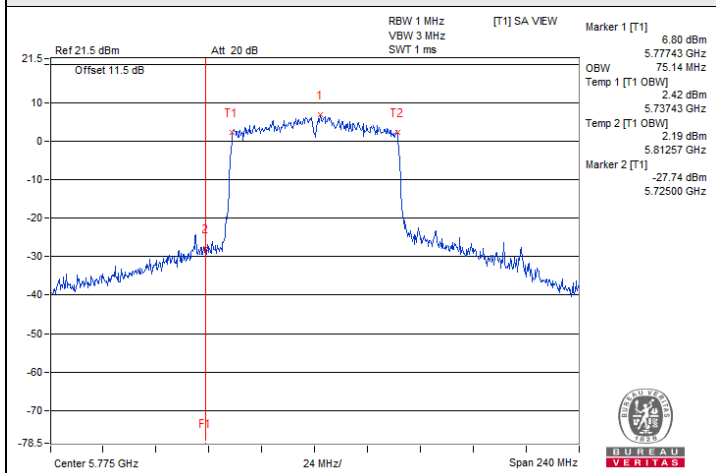
802.11ac (VHT40) / Chain 0 : CH 151



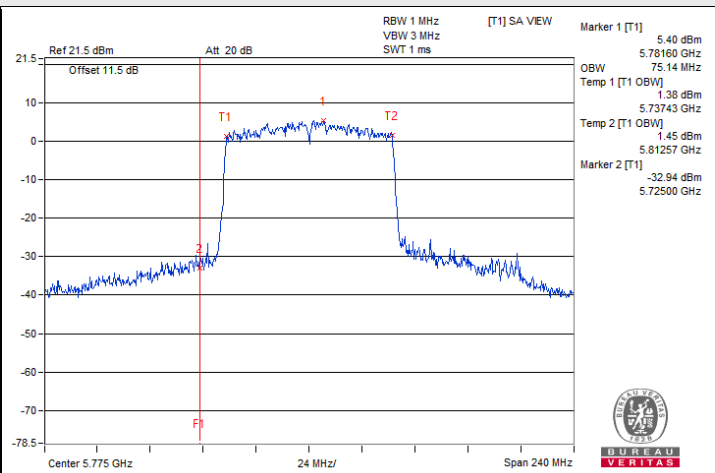
802.11ac (VHT40) / Chain 1 : CH 151



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
50	120	5179.9832	Pass	5179.9838	Pass	5179.9803	Pass	5179.9841	Pass
40	120	5179.9954	Pass	5179.9978	Pass	5179.9948	Pass	5179.9954	Pass
30	120	5179.9774	Pass	5179.9782	Pass	5179.9789	Pass	5179.979	Pass
20	120	5179.9999	Pass	5180.0026	Pass	5180.0023	Pass	5180.0029	Pass
10	120	5180.0072	Pass	5180.006	Pass	5180.0056	Pass	5180.0072	Pass
0	120	5180.0052	Pass	5180.0044	Pass	5180.0028	Pass	5180.0033	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	5180.0068	Pass	5180.0091	Pass	5180.0074	Pass	5180.0084	Pass
	120	5179.9999	Pass	5180.0026	Pass	5180.0023	Pass	5180.0029	Pass
	102	5180.0084	Pass	5180.0091	Pass	5180.008	Pass	5180.0057	Pass

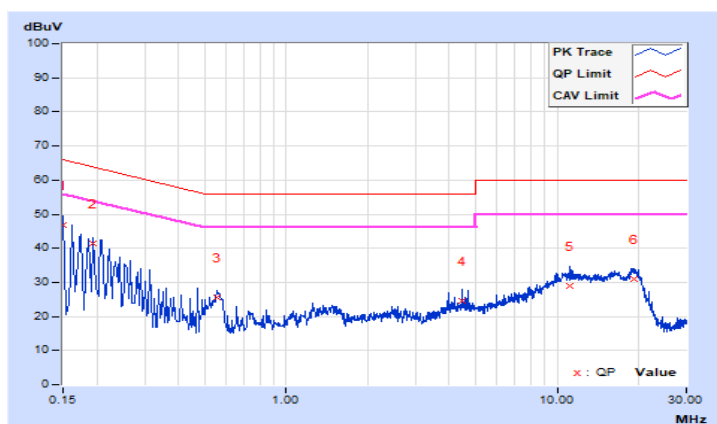
7.7 AC Power Conducted Emissions

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	22°C, 73% RH
Tested By	Greg Lin		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.62	37.17	18.74	46.79	28.36	66.00	56.00	-19.21	-27.64
2	0.19400	9.64	31.81	15.60	41.45	25.24	63.86	53.86	-22.41	-28.62
3	0.55800	9.69	15.90	10.58	25.59	20.27	56.00	46.00	-30.41	-25.73
4	4.47000	9.75	14.92	7.08	24.67	16.83	56.00	46.00	-31.33	-29.17
5	11.19800	9.82	19.24	14.52	29.06	24.34	60.00	50.00	-30.94	-25.66
6	19.19000	9.87	20.97	16.15	30.84	26.02	60.00	50.00	-29.16	-23.98

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

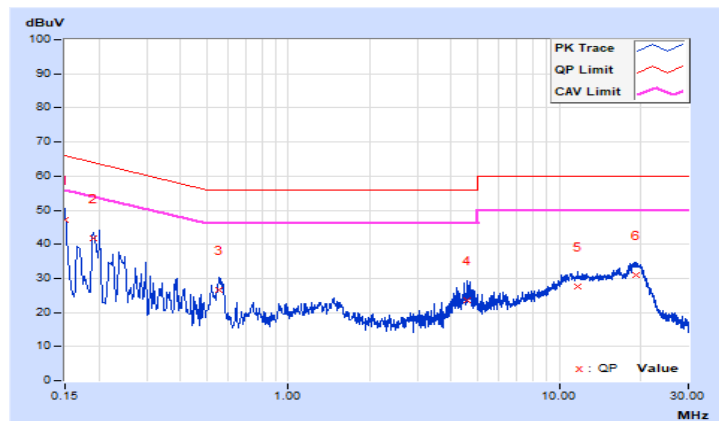


RF Mode	TX 802.11a	Channel	CH 40 : 5200 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 73% RH
Tested By	Greg Lin		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.62	37.67	19.42	47.29	29.04	66.00	56.00	-18.71	-26.96
2	0.19000	9.64	32.27	15.20	41.91	24.84	64.04	54.04	-22.13	-29.20
3	0.55400	9.69	16.88	11.35	26.57	21.04	56.00	46.00	-29.43	-24.96
4	4.57800	9.76	13.71	6.00	23.47	15.76	56.00	46.00	-32.53	-30.24
5	11.74200	9.83	17.64	13.11	27.47	22.94	60.00	50.00	-32.53	-27.06
6	19.19400	9.89	21.22	16.20	31.11	26.09	60.00	50.00	-28.89	-23.91

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



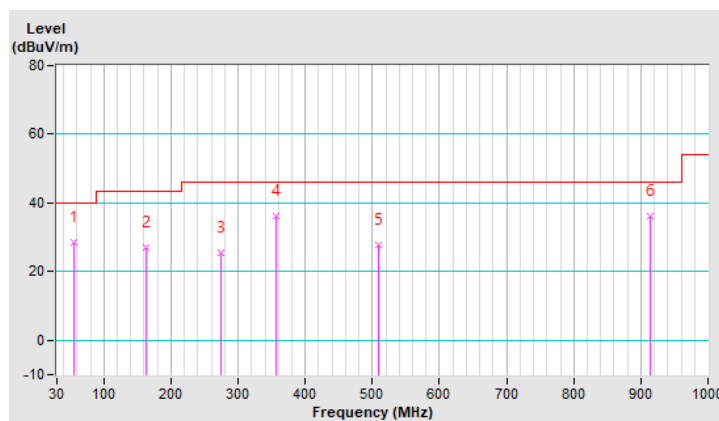
7.8 Unwanted Emissions below 1 GHz

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	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	56.19	28.6 QP	40.0	-11.4	1.00 H	289	42.1	-13.5
2	163.86	27.0 QP	43.5	-16.5	1.50 H	313	40.5	-13.5
3	275.41	25.6 QP	46.0	-20.4	1.00 H	2	39.3	-13.7
4	355.92	36.0 QP	46.0	-10.0	1.25 H	87	47.6	-11.6
5	508.21	27.8 QP	46.0	-18.2	1.00 H	49	35.8	-8.0
6	913.67	36.2 QP	46.0	-9.8	1.50 H	32	37.5	-1.3

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 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.

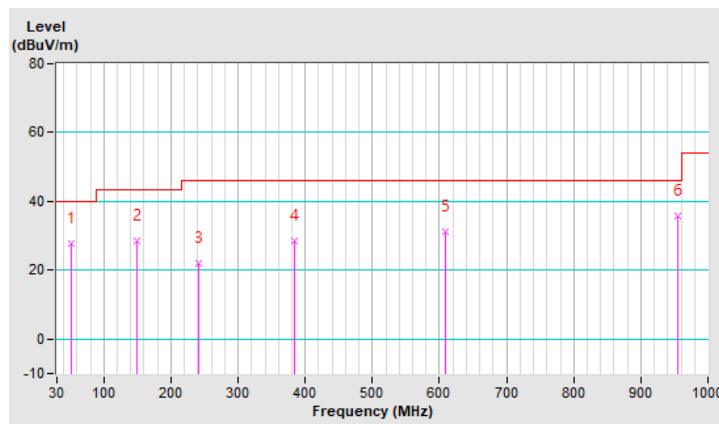


RF Mode	TX 802.11a	Channel	CH 40 : 5200 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	52.31	27.6 QP	40.0	-12.4	1.25 V	228	40.9	-13.3
2	148.34	28.5 QP	43.5	-15.0	1.50 V	220	41.8	-13.3
3	240.49	22.1 QP	46.0	-23.9	1.00 V	22	37.2	-15.1
4	384.05	28.6 QP	46.0	-17.4	1.25 V	294	39.4	-10.8
5	609.09	31.3 QP	46.0	-14.7	1.00 V	332	37.0	-5.7
6	954.41	35.6 QP	46.0	-10.4	1.00 V	255	36.3	-0.7

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 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	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.1 PK	74.0	-16.9	1.10 H	18	55.3	1.8
2	5150.00	46.0 AV	54.0	-8.0	1.10 H	18	44.2	1.8
3	*5180.00	110.3 PK			1.10 H	18	69.9	40.4
4	*5180.00	101.2 AV			1.10 H	18	60.8	40.4
5	#10360.00	65.2 PK	68.2	-3.0	1.81 H	224	57.9	7.3

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	56.6 PK	74.0	-17.4	1.72 V	23	54.8	1.8
2	5150.00	45.2 AV	54.0	-8.8	1.72 V	23	43.4	1.8
3	*5180.00	108.4 PK			1.72 V	23	68.0	40.4
4	*5180.00	99.3 AV			1.72 V	23	58.9	40.4
5	#10360.00	64.0 PK	68.2	-4.2	1.78 V	164	56.7	7.3

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 802.11a	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	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	110.9 PK			1.24 H	9	70.6	40.3
2	*5200.00	101.7 AV			1.24 H	9	61.4	40.3
3	#10400.00	65.8 PK	68.2	-2.4	1.92 H	234	58.4	7.4

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	109.0 PK			1.63 V	31	68.7	40.3
2	*5200.00	99.8 AV			1.63 V	31	59.5	40.3
3	#10400.00	64.3 PK	68.2	-3.9	1.81 V	159	56.9	7.4

Remarks:

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



RF Mode	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	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	109.7 PK			1.39 H	10	69.5	40.2
2	*5240.00	100.6 AV			1.39 H	10	60.4	40.2
3	5350.00	56.6 PK	74.0	-17.4	1.39 H	10	55.2	1.4
4	5350.00	44.0 AV	54.0	-10.0	1.39 H	10	42.6	1.4
5	#10480.00	65.3 PK	68.2	-2.9	1.83 H	221	58.1	7.2

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	*5240.00	107.8 PK			1.62 V	23	67.6	40.2
2	*5240.00	98.8 AV			1.62 V	23	58.6	40.2
3	5350.00	56.1 PK	74.0	-17.9	1.62 V	23	54.7	1.4
4	5350.00	43.7 AV	54.0	-10.3	1.62 V	23	42.3	1.4
5	#10480.00	64.0 PK	68.2	-4.2	1.72 V	159	56.8	7.2

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 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	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.7 PK	74.0	-16.3	1.47 H	24	55.9	1.8
2	5150.00	45.5 AV	54.0	-8.5	1.47 H	24	43.7	1.8
3	*5260.00	109.2 PK			1.47 H	24	69.1	40.1
4	*5260.00	100.4 AV			1.47 H	24	60.3	40.1
5	#10520.00	65.0 PK	68.2	-3.2	1.84 H	226	58.0	7.0

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	*5260.00	107.2 PK			1.52 V	46	67.1	40.1
2	*5260.00	98.6 AV			1.52 V	46	58.5	40.1
3	5350.00	57.2 PK	74.0	-16.8	1.52 V	46	55.8	1.4
4	5350.00	44.9 AV	54.0	-9.1	1.52 V	46	43.5	1.4
5	#10520.00	61.7 PK	68.2	-6.5	1.78 V	166	54.7	7.0

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	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	109.2 PK			1.15 H	13	69.2	40.0
2	*5300.00	100.5 AV			1.15 H	13	60.5	40.0
3	10600.00	64.2 PK	74.0	-9.8	1.78 H	223	57.1	7.1
4	10600.00	52.3 AV	54.0	-1.7	1.78 H	223	45.2	7.1

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	*5300.00	107.7 PK			1.68 V	43	67.7	40.0
2	*5300.00	99.0 AV			1.68 V	43	59.0	40.0
3	10600.00	62.7 PK	74.0	-11.3	1.78 V	161	55.6	7.1
4	10600.00	51.9 AV	54.0	-2.1	1.78 V	161	44.8	7.1

Remarks:

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



RF Mode	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	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	109.7 PK			1.15 H	12	69.7	40.0
2	*5320.00	101.2 AV			1.15 H	12	61.2	40.0
3	5350.00	57.8 PK	74.0	-16.2	1.15 H	12	56.4	1.4
4	5350.00	46.7 AV	54.0	-7.3	1.15 H	12	45.3	1.4
5	10640.00	64.6 PK	74.0	-9.4	1.71 H	223	57.6	7.0
6	10640.00	53.0 AV	54.0	-1.0	1.71 H	223	46.0	7.0

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	*5320.00	109.5 PK			1.79 V	32	69.5	40.0
2	*5320.00	100.8 AV			1.79 V	32	60.8	40.0
3	5350.00	57.7 PK	74.0	-16.3	1.79 V	32	56.3	1.4
4	5350.00	45.6 AV	54.0	-8.4	1.79 V	32	44.2	1.4
5	10640.00	64.5 PK	74.0	-9.5	1.69 V	167	57.5	7.0
6	10640.00	52.8 AV	54.0	-1.2	1.69 V	167	45.8	7.0

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 802.11a	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	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	56.3 PK	74.0	-17.7	1.10 H	7	54.8	1.5
2	5460.00	45.3 AV	54.0	-8.7	1.10 H	7	43.8	1.5
3	#5470.00	56.6 PK	68.2	-11.6	1.10 H	7	55.1	1.5
4	*5500.00	109.5 PK			1.10 H	7	69.2	40.3
5	*5500.00	100.8 AV			1.10 H	7	60.5	40.3
6	11000.00	62.4 PK	74.0	-11.6	1.84 H	225	55.5	6.9
7	11000.00	51.3 AV	54.0	-2.7	1.84 H	225	44.4	6.9

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	55.6 PK	74.0	-18.4	1.76 V	19	54.1	1.5
2	5460.00	44.5 AV	54.0	-9.5	1.76 V	19	43.0	1.5
3	#5470.00	56.5 PK	68.2	-11.7	1.76 V	19	55.0	1.5
4	*5500.00	107.8 PK			1.76 V	19	67.5	40.3
5	*5500.00	99.2 AV			1.76 V	19	58.9	40.3
6	11000.00	57.4 PK	74.0	-16.6	1.70 V	163	50.5	6.9
7	11000.00	46.9 AV	54.0	-7.1	1.70 V	163	40.0	6.9

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 802.11a	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	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	109.3 PK			1.08 H	4	68.5	40.8
2	*5580.00	100.8 AV			1.08 H	4	60.0	40.8
3	11160.00	63.6 PK	74.0	-10.4	1.85 H	221	55.7	7.9
4	11160.00	52.5 AV	54.0	-1.5	1.85 H	221	44.6	7.9

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	107.6 PK			1.52 V	44	66.8	40.8
2	*5580.00	98.9 AV			1.52 V	44	58.1	40.8
3	11160.00	58.8 PK	74.0	-15.2	1.77 V	162	50.9	7.9
4	11160.00	48.2 AV	54.0	-5.8	1.77 V	162	40.3	7.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency, 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	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	109.5 PK			1.09 H	13	68.2	41.3
2	*5700.00	100.9 AV			1.09 H	13	59.6	41.3
3	#5725.00	60.7 PK	68.2	-7.5	1.09 H	13	58.0	2.7
4	11400.00	63.9 PK	74.0	-10.1	1.88 H	211	56.1	7.8
5	11400.00	52.8 AV	54.0	-1.2	1.88 H	211	45.0	7.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	108.0 PK			1.73 V	31	66.7	41.3
2	*5700.00	99.5 AV			1.73 V	31	58.2	41.3
3	#5725.00	57.8 PK	68.2	-10.4	1.73 V	31	55.1	2.7
4	11400.00	59.3 PK	74.0	-14.7	1.77 V	166	51.5	7.8
5	11400.00	48.0 AV	54.0	-6.0	1.77 V	166	40.2	7.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency, 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	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5626.00	58.2 PK	68.2	-10.0	1.42 H	5	55.7	2.5
2	*5745.00	111.0 PK			1.42 H	5	69.3	41.7
3	*5745.00	101.9 AV			1.42 H	5	60.2	41.7
4	#5939.60	59.0 PK	68.2	-9.2	1.42 H	5	55.9	3.1
5	11490.00	63.6 PK	74.0	-10.4	1.86 H	227	55.5	8.1
6	11490.00	52.7 AV	54.0	-1.3	1.86 H	227	44.6	8.1

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5609.60	58.9 PK	68.2	-9.3	1.65 V	29	56.5	2.4
2	*5745.00	109.3 PK			1.65 V	29	67.6	41.7
3	*5745.00	100.1 AV			1.65 V	29	58.4	41.7
4	#5982.40	59.0 PK	68.2	-9.2	1.65 V	29	55.9	3.1
5	11490.00	61.5 PK	74.0	-12.5	1.84 V	159	53.4	8.1
6	11490.00	51.3 AV	54.0	-2.7	1.84 V	159	43.2	8.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, 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	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5640.00	59.3 PK	68.2	-8.9	1.39 H	4	56.7	2.6
2	*5785.00	111.4 PK			1.39 H	4	69.6	41.8
3	*5785.00	102.2 AV			1.39 H	4	60.4	41.8
4	#5968.00	60.7 PK	68.2	-7.5	1.39 H	4	57.7	3.0
5	11570.00	63.7 PK	74.0	-10.3	1.87 H	234	55.8	7.9
6	11570.00	52.8 AV	54.0	-1.2	1.87 H	234	44.9	7.9

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5625.60	59.1 PK	68.2	-9.1	1.78 V	25	56.6	2.5
2	*5785.00	109.7 PK			1.78 V	25	67.9	41.8
3	*5785.00	100.5 AV			1.78 V	25	58.7	41.8
4	#5969.60	58.9 PK	68.2	-9.3	1.78 V	25	55.9	3.0
5	11570.00	61.5 PK	74.0	-12.5	1.84 V	157	53.6	7.9
6	11570.00	51.3 AV	54.0	-2.7	1.84 V	157	43.4	7.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency, 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	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5630.40	58.5 PK	68.2	-9.7	1.33 H	4	56.0	2.5
2	*5825.00	112.0 PK			1.33 H	4	70.1	41.9
3	*5825.00	102.8 AV			1.33 H	4	60.9	41.9
4	#5991.20	59.0 PK	68.2	-9.2	1.33 H	4	55.9	3.1
5	11650.00	63.4 PK	74.0	-10.6	1.83 H	227	55.6	7.8
6	11650.00	52.2 AV	54.0	-1.8	1.83 H	227	44.4	7.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5628.00	59.4 PK	68.2	-8.8	1.74 V	28	56.9	2.5
2	*5825.00	110.1 PK			1.74 V	28	68.2	41.9
3	*5825.00	100.9 AV			1.74 V	28	59.0	41.9
4	#5931.20	58.9 PK	68.2	-9.3	1.74 V	28	55.8	3.1
5	11650.00	61.3 PK	74.0	-12.7	1.77 V	159	53.5	7.8
6	11650.00	51.1 AV	54.0	-2.9	1.77 V	159	43.3	7.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, 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 = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.1 PK	74.0	-16.9	1.33 H	11	55.3	1.8
2	5150.00	46.1 AV	54.0	-7.9	1.33 H	11	44.3	1.8
3	*5180.00	109.8 PK			1.33 H	11	69.4	40.4
4	*5180.00	100.6 AV			1.33 H	11	60.2	40.4
5	#10360.00	64.7 PK	68.2	-3.5	1.87 H	216	57.4	7.3

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	56.7 PK	74.0	-17.3	1.62 V	18	54.9	1.8
2	5150.00	45.6 AV	54.0	-8.4	1.62 V	18	43.8	1.8
3	*5180.00	108.0 PK			1.62 V	18	67.6	40.4
4	*5180.00	98.8 AV			1.62 V	18	58.4	40.4
5	#10360.00	63.2 PK	68.2	-5.0	1.71 V	157	55.9	7.3

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 (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 = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	110.4 PK			1.38 H	9	70.1	40.3
2	*5200.00	101.2 AV			1.38 H	9	60.9	40.3
3	#10400.00	65.0 PK	68.2	-3.2	1.87 H	221	57.6	7.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	108.6 PK			1.65 V	26	68.3	40.3
2	*5200.00	99.4 AV			1.65 V	26	59.1	40.3
3	#10400.00	63.5 PK	68.2	-4.7	1.74 V	160	56.1	7.4

Remarks:

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



RF Mode	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 = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	108.0 PK			1.36 H	10	67.8	40.2
2	*5240.00	98.8 AV			1.36 H	10	58.6	40.2
3	5350.00	57.1 PK	74.0	-16.9	1.36 H	10	55.7	1.4
4	5350.00	44.8 AV	54.0	-9.2	1.36 H	10	43.4	1.4
5	#10480.00	64.0 PK	68.2	-4.2	1.76 H	233	56.8	7.2

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	*5240.00	106.1 PK			1.60 V	22	65.9	40.2
2	*5240.00	97.0 AV			1.60 V	22	56.8	40.2
3	5350.00	56.8 PK	74.0	-17.2	1.60 V	22	55.4	1.4
4	5350.00	44.6 AV	54.0	-9.4	1.60 V	22	43.2	1.4
5	#10480.00	62.9 PK	68.2	-5.3	1.79 V	156	55.7	7.2

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 52 : 5260 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	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	58.0 PK	74.0	-16.0	1.24 H	11	56.2	1.8
2	5150.00	45.8 AV	54.0	-8.2	1.24 H	11	44.0	1.8
3	*5260.00	108.6 PK			1.24 H	11	68.5	40.1
4	*5260.00	99.5 AV			1.24 H	11	59.4	40.1
5	#10520.00	62.8 PK	68.2	-5.4	1.85 H	225	55.8	7.0

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	57.0 PK	74.0	-17.0	1.59 V	42	55.2	1.8
2	5150.00	45.5 AV	54.0	-8.5	1.59 V	42	43.7	1.8
3	*5260.00	105.9 PK			1.59 V	42	65.8	40.1
4	*5260.00	97.8 AV			1.59 V	42	57.7	40.1
5	#10520.00	62.1 PK	68.2	-6.1	1.67 V	164	55.1	7.0

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 = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	107.5 PK			1.36 H	19	67.5	40.0
2	*5300.00	98.3 AV			1.36 H	19	58.3	40.0
3	10600.00	62.3 PK	74.0	-11.7	1.77 H	225	55.2	7.1
4	10600.00	50.6 AV	54.0	-3.4	1.77 H	225	43.5	7.1

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	*5300.00	106.7 PK			1.81 V	38	66.7	40.0
2	*5300.00	97.5 AV			1.81 V	38	57.5	40.0
3	10600.00	61.6 PK	74.0	-12.4	1.57 V	163	54.5	7.1
4	10600.00	50.1 AV	54.0	-3.9	1.57 V	163	43.0	7.1

Remarks:

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



RF Mode	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 = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBUV)	Correction Factor (dB/m)
1	*5320.00	107.6 PK			1.33 H	20	67.6	40.0
2	*5320.00	98.5 AV			1.33 H	20	58.5	40.0
3	5350.00	56.7 PK	74.0	-17.3	1.33 H	20	55.3	1.4
4	5350.00	45.2 AV	54.0	-8.8	1.33 H	20	43.8	1.4
5	10640.00	62.5 PK	74.0	-11.5	1.75 H	230	55.5	7.0
6	10640.00	50.6 AV	54.0	-3.4	1.75 H	230	43.6	7.0

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	*5320.00	105.8 PK			1.65 V	43	65.8	40.0
2	*5320.00	98.0 AV			1.65 V	43	58.0	40.0
3	5350.00	56.2 PK	74.0	-17.8	1.65 V	43	54.8	1.4
4	5350.00	44.2 AV	54.0	-9.8	1.65 V	43	42.8	1.4
5	10640.00	61.7 PK	74.0	-12.3	1.55 V	167	54.7	7.0
6	10640.00	49.9 AV	54.0	-4.1	1.55 V	167	42.9	7.0

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 (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 = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	56.6 PK	74.0	-17.4	1.10 H	6	55.1	1.5
2	5460.00	45.2 AV	54.0	-8.8	1.10 H	6	43.7	1.5
3	#5470.00	57.0 PK	68.2	-11.2	1.10 H	6	55.5	1.5
4	*5500.00	108.1 PK			1.10 H	6	67.8	40.3
5	*5500.00	98.9 AV			1.10 H	6	58.6	40.3
6	11000.00	63.1 PK	74.0	-10.9	1.61 H	223	56.2	6.9
7	11000.00	50.5 AV	54.0	-3.5	1.61 H	223	43.6	6.9

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	56.7 PK	74.0	-17.3	1.78 V	21	55.2	1.5
2	5460.00	44.7 AV	54.0	-9.3	1.78 V	21	43.2	1.5
3	#5470.00	56.7 PK	68.2	-11.5	1.78 V	21	55.2	1.5
4	*5500.00	105.8 PK			1.78 V	21	65.5	40.3
5	*5500.00	96.7 AV			1.78 V	21	56.4	40.3
6	11000.00	56.9 PK	74.0	-17.1	1.69 V	165	50.0	6.9
7	11000.00	46.1 AV	54.0	-7.9	1.69 V	165	39.2	6.9

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 (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 = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	107.6 PK			1.08 H	5	66.8	40.8
2	*5580.00	98.8 AV			1.08 H	5	58.0	40.8
3	11160.00	61.2 PK	74.0	-12.8	1.79 H	208	53.3	7.9
4	11160.00	50.1 AV	54.0	-3.9	1.79 H	208	42.2	7.9

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	105.9 PK			1.61 V	44	65.1	40.8
2	*5580.00	96.8 AV			1.61 V	44	56.0	40.8
3	11160.00	57.9 PK	74.0	-16.1	1.68 V	163	50.0	7.9
4	11160.00	47.3 AV	54.0	-6.7	1.68 V	163	39.4	7.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency, 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 = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	107.8 PK			1.18 H	14	66.5	41.3
2	*5700.00	98.7 AV			1.18 H	14	57.4	41.3
3	#5725.00	59.0 PK	68.2	-9.2	1.18 H	14	56.3	2.7
4	11400.00	61.0 PK	74.0	-13.0	1.79 H	223	53.2	7.8
5	11400.00	50.4 AV	54.0	-3.6	1.79 H	223	42.6	7.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	104.5 PK			1.49 V	50	63.2	41.3
2	*5700.00	96.2 AV			1.49 V	50	54.9	41.3
3	#5725.00	59.1 PK	68.2	-9.1	1.49 V	50	56.4	2.7
4	11400.00	57.7 PK	74.0	-16.3	1.70 V	168	49.9	7.8
5	11400.00	47.0 AV	54.0	-7.0	1.70 V	168	39.2	7.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency, 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 = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBUV)	Correction Factor (dB/m)
1	#5632.40	58.5 PK	68.2	-9.7	1.32 H	6	56.0	2.5
2	*5745.00	110.5 PK			1.32 H	6	68.8	41.7
3	*5745.00	101.3 AV			1.32 H	6	59.6	41.7
4	#5964.00	59.4 PK	68.2	-8.8	1.32 H	6	56.4	3.0
5	11490.00	63.3 PK	74.0	-10.7	1.92 H	234	55.2	8.1
6	11490.00	52.4 AV	54.0	-1.6	1.92 H	234	44.3	8.1

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBUV)	Correction Factor (dB/m)
1	#5623.60	58.7 PK	68.2	-9.5	1.65 V	21	56.2	2.5
2	*5745.00	108.8 PK			1.65 V	21	67.1	41.7
3	*5745.00	99.6 AV			1.65 V	21	57.9	41.7
4	#5959.60	58.3 PK	68.2	-9.9	1.65 V	21	55.3	3.0
5	11490.00	61.2 PK	74.0	-12.8	1.88 V	162	53.1	8.1
6	11490.00	51.0 AV	54.0	-3.0	1.88 V	162	42.9	8.1

Remarks:

1. Emission Level(dBUV/m) = Raw Value(dBUV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, 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 157 : 5785 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	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBUV)	Correction Factor (dB/m)
1	#5618.40	59.5 PK	68.2	-8.7	1.39 H	6	57.1	2.4
2	*5785.00	110.4 PK			1.39 H	6	68.6	41.8
3	*5785.00	101.2 AV			1.39 H	6	59.4	41.8
4	#5957.60	59.5 PK	68.2	-8.7	1.39 H	6	56.5	3.0
5	11570.00	63.2 PK	74.0	-10.8	1.89 H	231	55.3	7.9
6	11570.00	52.1 AV	54.0	-1.9	1.89 H	231	44.2	7.9

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBUV)	Correction Factor (dB/m)
1	#5623.60	59.3 PK	68.2	-8.9	1.72 V	18	56.8	2.5
2	*5785.00	108.6 PK			1.72 V	18	66.8	41.8
3	*5785.00	99.5 AV			1.72 V	18	57.7	41.8
4	#5996.00	59.0 PK	68.2	-9.2	1.72 V	18	56.0	3.0
5	11570.00	61.1 PK	74.0	-12.9	1.89 V	154	53.2	7.9
6	11570.00	50.8 AV	54.0	-3.2	1.89 V	154	42.9	7.9

Remarks:

1. Emission Level(dBUV/m) = Raw Value(dBUV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency, 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 = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5647.20	58.8 PK	68.2	-9.4	1.33 H	4	56.2	2.6
2	*5825.00	110.4 PK			1.33 H	4	68.5	41.9
3	*5825.00	101.3 AV			1.33 H	4	59.4	41.9
4	#5955.60	58.9 PK	68.2	-9.3	1.33 H	4	55.9	3.0
5	11650.00	63.0 PK	74.0	-11.0	1.83 H	221	55.2	7.8
6	11650.00	51.9 AV	54.0	-2.1	1.83 H	221	44.1	7.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5648.80	58.6 PK	68.2	-9.6	1.69 V	26	56.0	2.6
2	*5825.00	108.6 PK			1.69 V	26	66.7	41.9
3	*5825.00	99.5 AV			1.69 V	26	57.6	41.9
4	#5946.80	59.9 PK	68.2	-8.3	1.69 V	26	56.8	3.1
5	11650.00	60.9 PK	74.0	-13.1	1.82 V	160	53.1	7.8
6	11650.00	50.8 AV	54.0	-3.2	1.82 V	160	43.0	7.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, 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 = 4 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	61.6 PK	74.0	-12.4	1.36 H	10	59.8	1.8
2	5150.00	49.2 AV	54.0	-4.8	1.36 H	10	47.4	1.8
3	*5190.00	106.5 PK			1.36 H	10	66.1	40.4
4	*5190.00	96.9 AV			1.36 H	10	56.5	40.4
5	#10380.00	62.9 PK	68.2	-5.3	1.89 H	228	55.6	7.3

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.3 PK	74.0	-14.7	1.59 V	22	57.5	1.8
2	5150.00	48.0 AV	54.0	-6.0	1.59 V	22	46.2	1.8
3	*5190.00	104.7 PK			1.59 V	22	64.3	40.4
4	*5190.00	95.1 AV			1.59 V	22	54.7	40.4
5	#10380.00	61.6 PK	68.2	-6.6	1.86 V	157	54.3	7.3

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 (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 = 4 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5230.00	106.3 PK			1.39 H	8	66.1	40.2
2	*5230.00	96.6 AV			1.39 H	8	56.4	40.2
3	5350.00	57.1 PK	74.0	-16.9	1.39 H	8	55.7	1.4
4	5350.00	45.2 AV	54.0	-8.8	1.39 H	8	43.8	1.4
5	#10460.00	62.6 PK	68.2	-5.6	1.93 H	231	55.4	7.2

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	*5230.00	104.4 PK			1.61 V	25	64.2	40.2
2	*5230.00	94.7 AV			1.61 V	25	54.5	40.2
3	5350.00	56.7 PK	74.0	-17.3	1.61 V	25	55.3	1.4
4	5350.00	44.9 AV	54.0	-9.1	1.61 V	25	43.5	1.4
5	#10460.00	61.4 PK	68.2	-6.8	1.77 V	157	54.2	7.2

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 54 : 5270 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 4 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.7 PK	74.0	-16.3	1.41 H	7	55.9	1.8
2	5150.00	46.2 AV	54.0	-7.8	1.41 H	7	44.4	1.8
3	*5270.00	106.2 PK			1.41 H	7	66.1	40.1
4	*5270.00	97.1 AV			1.41 H	7	57.0	40.1
5	#10540.00	62.1 PK	68.2	-6.1	1.91 H	230	55.1	7.0

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	56.9 PK	74.0	-17.1	1.67 V	16	55.1	1.8
2	5150.00	46.0 AV	54.0	-8.0	1.67 V	16	44.2	1.8
3	*5270.00	103.0 PK			1.67 V	16	62.9	40.1
4	*5270.00	95.4 AV			1.67 V	16	55.3	40.1
5	#10540.00	61.0 PK	68.2	-7.2	1.86 V	155	54.0	7.0

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 = 4 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5310.00	105.7 PK			1.38 H	21	65.7	40.0
2	*5310.00	96.9 AV			1.38 H	21	56.9	40.0
3	5350.00	61.4 PK	74.0	-12.6	1.38 H	21	60.0	1.4
4	5350.00	48.4 AV	54.0	-5.6	1.38 H	21	47.0	1.4
5	10620.00	62.5 PK	74.0	-11.5	1.93 H	233	55.4	7.1
6	10620.00	50.6 AV	54.0	-3.4	1.93 H	233	43.5	7.1
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	*5310.00	104.1 PK			1.52 V	35	64.1	40.0
2	*5310.00	95.4 AV			1.52 V	35	55.4	40.0
3	5350.00	58.8 PK	74.0	-15.2	1.52 V	35	57.4	1.4
4	5350.00	47.5 AV	54.0	-6.5	1.52 V	35	46.1	1.4
5	10620.00	61.8 PK	74.0	-12.2	1.55 V	160	54.7	7.1
6	10620.00	50.2 AV	54.0	-3.8	1.55 V	160	43.1	7.1

Remarks:

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



RF Mode	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 = 4 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	57.1 PK	74.0	-16.9	1.26 H	3	55.6	1.5
2	5460.00	45.0 AV	54.0	-9.0	1.26 H	3	43.5	1.5
3	#5470.00	57.4 PK	68.2	-10.8	1.26 H	3	55.9	1.5
4	*5510.00	103.8 PK			1.26 H	3	63.4	40.4
5	*5510.00	95.9 AV			1.26 H	3	55.5	40.4
6	11020.00	62.2 PK	74.0	-11.8	1.65 H	213	55.1	7.1
7	11020.00	50.0 AV	54.0	-4.0	1.65 H	213	42.9	7.1
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	5460.00	56.3 PK	74.0	-17.7	1.55 V	22	54.8	1.5
2	5460.00	44.5 AV	54.0	-9.5	1.55 V	22	43.0	1.5
3	#5470.00	56.6 PK	68.2	-11.6	1.55 V	22	55.1	1.5
4	*5510.00	102.9 PK			1.55 V	25	62.5	40.4
5	*5510.00	95.9 AV			1.55 V	25	55.5	40.4
6	11020.00	56.6 PK	74.0	-17.4	1.60 V	163	49.5	7.1
7	11020.00	45.6 AV	54.0	-8.4	1.60 V	163	38.5	7.1

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 110 : 5550 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 4 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5550.00	104.2 PK			1.07 H	9	63.5	40.7
2	*5550.00	96.7 AV			1.07 H	9	56.0	40.7
3	11100.00	61.8 PK	74.0	-12.2	1.62 H	230	54.1	7.7
4	11100.00	50.9 AV	54.0	-3.1	1.62 H	230	43.2	7.7

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	*5550.00	103.0 PK			1.66 V	54	62.3	40.7
2	*5550.00	95.1 AV			1.66 V	54	54.4	40.7
3	11100.00	57.6 PK	74.0	-16.4	1.70 V	160	49.9	7.7
4	11100.00	46.7 AV	54.0	-7.3	1.70 V	160	39.0	7.7

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 (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 = 4 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	105.0 PK			1.21 H	0	63.7	41.3
2	*5670.00	96.5 AV			1.21 H	0	55.2	41.3
3	#5725.00	59.7 PK	68.2	-8.5	1.21 H	0	57.0	2.7
4	11340.00	62.2 PK	74.0	-11.8	1.60 H	218	54.4	7.8
5	11340.00	50.5 AV	54.0	-3.5	1.60 H	218	42.7	7.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	103.8 PK			1.76 V	38	62.5	41.3
2	*5670.00	94.8 AV			1.76 V	38	53.5	41.3
3	#5725.00	57.9 PK	68.2	-10.3	1.76 V	38	55.2	2.7
4	11340.00	57.0 PK	74.0	-17.0	1.70 V	171	49.2	7.8
5	11340.00	46.4 AV	54.0	-7.6	1.70 V	171	38.6	7.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, 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 = 4 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5619.60	59.4 PK	68.2	-8.8	1.30 H	7	57.0	2.4
2	*5755.00	107.4 PK			1.30 H	7	65.7	41.7
3	*5755.00	98.3 AV			1.30 H	7	56.6	41.7
4	#5961.20	59.1 PK	68.2	-9.1	1.30 H	7	56.1	3.0
5	11510.00	62.9 PK	74.0	-11.1	1.82 H	217	54.8	8.1
6	11510.00	52.0 AV	54.0	-2.0	1.82 H	217	43.9	8.1

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5644.40	58.0 PK	68.2	-10.2	1.73 V	20	55.4	2.6
2	*5755.00	105.8 PK			1.73 V	20	64.1	41.7
3	*5755.00	96.6 AV			1.73 V	20	54.9	41.7
4	#5976.80	59.4 PK	68.2	-8.8	1.73 V	20	56.4	3.0
5	11510.00	60.8 PK	74.0	-13.2	1.76 V	168	52.7	8.1
6	11510.00	50.9 AV	54.0	-3.1	1.76 V	168	42.8	8.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency, 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 159 : 5795 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 4 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5619.60	59.0 PK	68.2	-9.2	1.37 H	6	56.6	2.4
2	*5795.00	107.5 PK			1.37 H	6	65.7	41.8
3	*5795.00	98.3 AV			1.37 H	6	56.5	41.8
4	#5985.60	59.0 PK	68.2	-9.2	1.37 H	6	55.9	3.1
5	11590.00	62.8 PK	74.0	-11.2	1.93 H	237	54.9	7.9
6	11590.00	51.7 AV	54.0	-2.3	1.93 H	237	43.8	7.9

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5612.80	59.8 PK	68.2	-8.4	1.66 V	26	57.4	2.4
2	*5795.00	105.6 PK			1.66 V	26	63.8	41.8
3	*5795.00	96.5 AV			1.66 V	26	54.7	41.8
4	#5943.60	59.5 PK	68.2	-8.7	1.66 V	26	56.4	3.1
5	11590.00	60.4 PK	74.0	-13.6	1.80 V	162	52.5	7.9
6	11590.00	50.6 AV	54.0	-3.4	1.80 V	162	42.7	7.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency, 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 = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	64.6 PK	74.0	-9.4	1.38 H	9	62.8	1.8
2	5150.00	53.1 AV	54.0	-0.9	1.38 H	9	51.3	1.8
3	*5210.00	103.4 PK			1.38 H	9	63.1	40.3
4	*5210.00	94.0 AV			1.38 H	9	53.7	40.3
5	#10420.00	62.1 PK	68.2	-6.1	1.87 H	218	54.8	7.3

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	63.5 PK	74.0	-10.5	1.73 V	31	61.7	1.8
2	5150.00	51.9 AV	54.0	-2.1	1.73 V	31	50.1	1.8
3	*5210.00	101.6 PK			1.73 V	31	61.3	40.3
4	*5210.00	92.2 AV			1.73 V	31	51.9	40.3
5	#10420.00	61.0 PK	68.2	-7.2	1.83 V	157	53.7	7.3

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 58 : 5290 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5290.00	101.4 PK			1.44 H	5	61.4	40.0
2	*5290.00	92.7 AV			1.44 H	5	52.7	40.0
3	5350.00	61.7 PK	74.0	-12.3	1.44 H	5	60.3	1.4
4	5350.00	52.4 AV	54.0	-1.6	1.44 H	5	51.0	1.4
5	#10580.00	61.9 PK	68.2	-6.3	1.87 H	218	54.8	7.1

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	*5290.00	100.5 PK			1.75 V	40	60.5	40.0
2	*5290.00	92.0 AV			1.75 V	40	52.0	40.0
3	5350.00	60.2 PK	74.0	-13.8	1.75 V	40	58.8	1.4
4	5350.00	50.1 AV	54.0	-3.9	1.75 V	40	48.7	1.4
5	#10580.00	60.9 PK	68.2	-7.3	1.83 V	156	53.8	7.1

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 (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 = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	63.5 PK	74.0	-10.5	1.08 H	7	62.0	1.5
2	5460.00	52.5 AV	54.0	-1.5	1.08 H	7	51.0	1.5
3	#5470.00	64.2 PK	68.2	-4.0	1.08 H	7	62.7	1.5
4	*5530.00	102.5 PK			1.08 H	7	61.9	40.6
5	*5530.00	94.3 AV			1.08 H	7	53.7	40.6
6	11060.00	60.3 PK	74.0	-13.7	1.75 H	219	52.9	7.4
7	11060.00	50.0 AV	54.0	-4.0	1.75 H	219	42.6	7.4

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	61.0 PK	74.0	-13.0	1.75 V	44	59.5	1.5
2	5460.00	50.2 AV	54.0	-3.8	1.75 V	44	48.7	1.5
3	#5470.00	61.5 PK	68.2	-6.7	1.75 V	44	60.0	1.5
4	*5530.00	100.1 PK			1.75 V	44	59.5	40.6
5	*5530.00	91.8 AV			1.75 V	44	51.2	40.6
6	11060.00	55.9 PK	74.0	-18.1	1.60 V	161	48.5	7.4
7	11060.00	46.2 AV	54.0	-7.8	1.60 V	161	38.8	7.4

Remarks:

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



RF Mode	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 = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5610.00	102.6 PK			1.23 H	2	61.5	41.1
2	*5610.00	94.3 AV			1.23 H	2	53.2	41.1
3	#5725.00	58.6 PK	68.2	-9.6	1.23 H	2	55.9	2.7
4	11220.00	60.0 PK	74.0	-14.0	1.81 H	217	51.8	8.2
5	11220.00	50.1 AV	54.0	-3.9	1.81 H	217	41.9	8.2

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	*5610.00	100.3 PK			1.77 V	39	59.2	41.1
2	*5610.00	92.7 AV			1.77 V	39	51.6	41.1
3	#5725.00	58.2 PK	68.2	-10.0	1.77 V	39	55.5	2.7
4	11220.00	57.2 PK	74.0	-16.8	1.65 V	163	49.0	8.2
5	11220.00	47.0 AV	54.0	-7.0	1.65 V	163	38.8	8.2

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 (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 = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 70% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5641.60	60.5 PK	68.2	-7.7	1.42 H	4	57.9	2.6
2	*5775.00	105.0 PK			1.42 H	4	63.2	41.8
3	*5775.00	95.9 AV			1.42 H	4	54.1	41.8
4	#5996.80	60.2 PK	68.2	-8.0	1.42 H	4	57.2	3.0
5	11550.00	62.1 PK	74.0	-11.9	1.85 H	221	54.2	7.9
6	11550.00	51.5 AV	54.0	-2.5	1.85 H	221	43.6	7.9

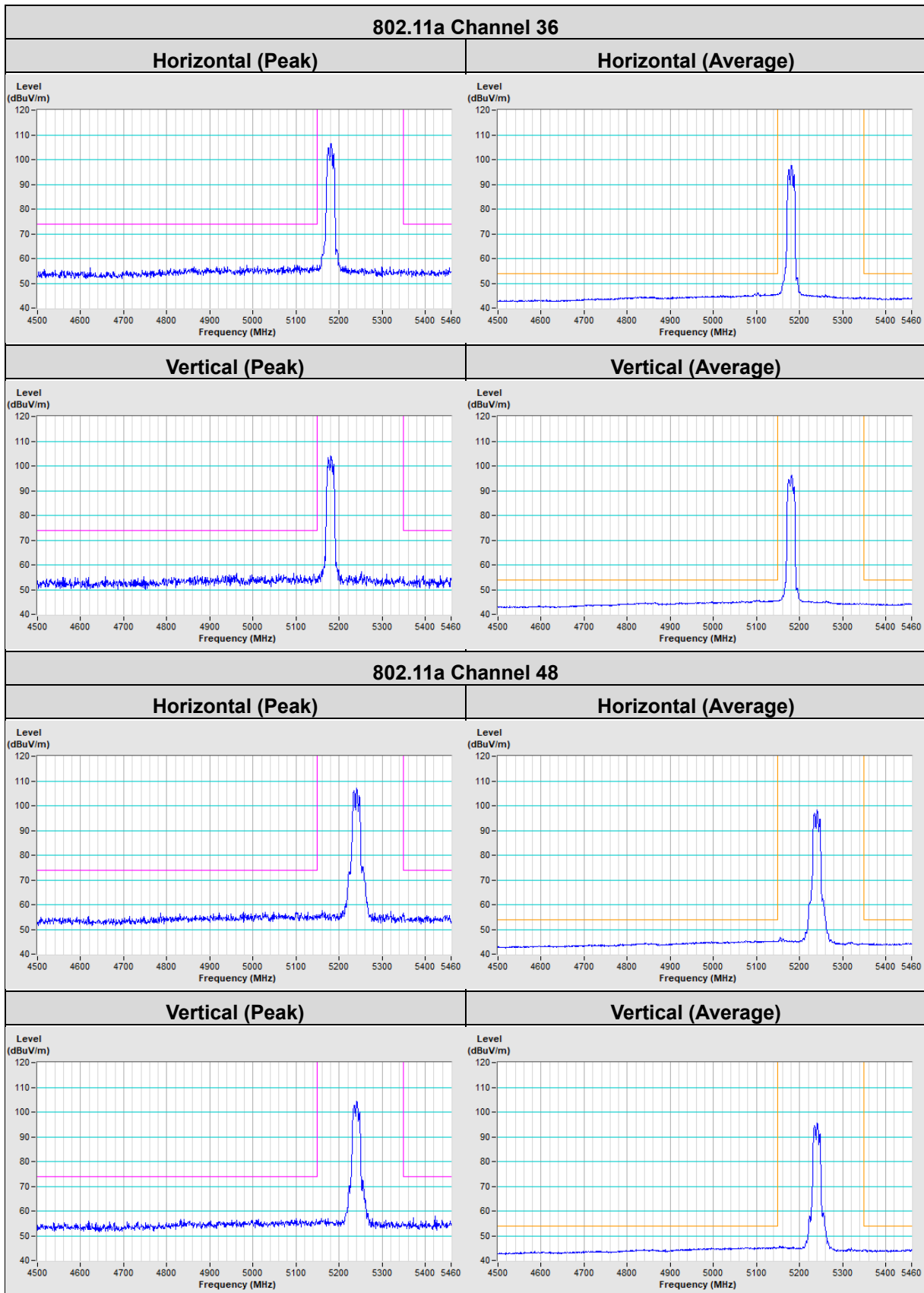
Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5617.20	59.6 PK	68.2	-8.6	1.67 V	22	57.2	2.4
2	*5775.00	103.2 PK			1.67 V	22	61.4	41.8
3	*5775.00	94.1 AV			1.67 V	22	52.3	41.8
4	#5950.00	59.8 PK	68.2	-8.4	1.67 V	22	56.8	3.0
5	11550.00	60.2 PK	74.0	-13.8	1.77 V	164	52.3	7.9
6	11550.00	50.5 AV	54.0	-3.5	1.77 V	164	42.6	7.9

Remarks:

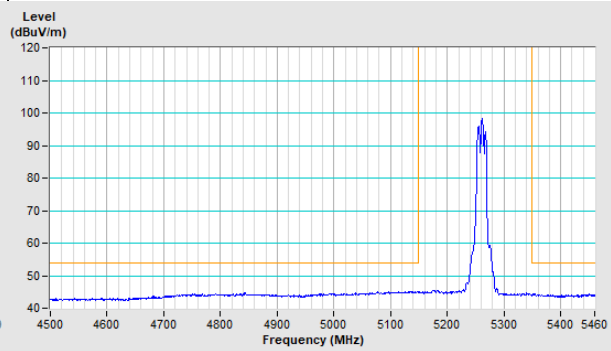
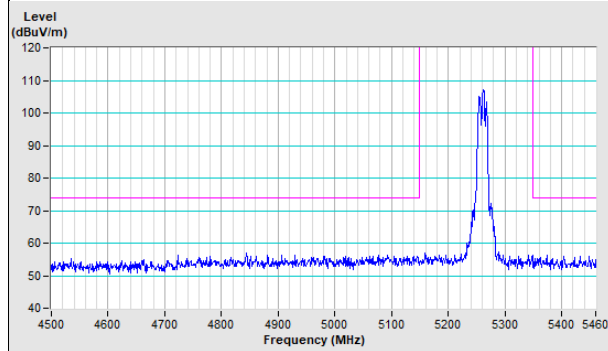
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency,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

Plot of Band Edge



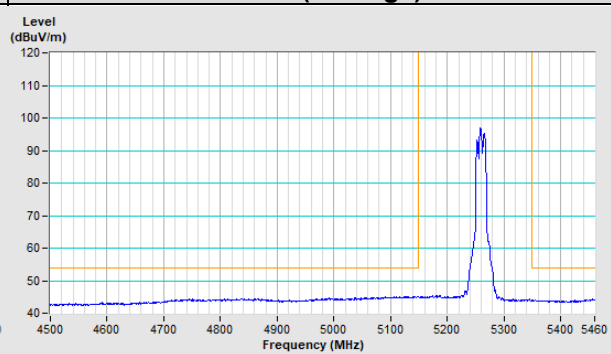
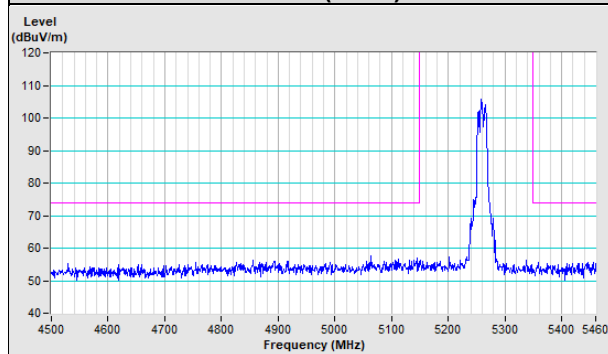
802.11a Channel 52

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



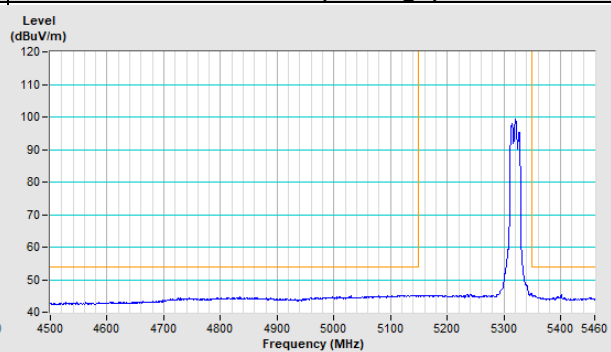
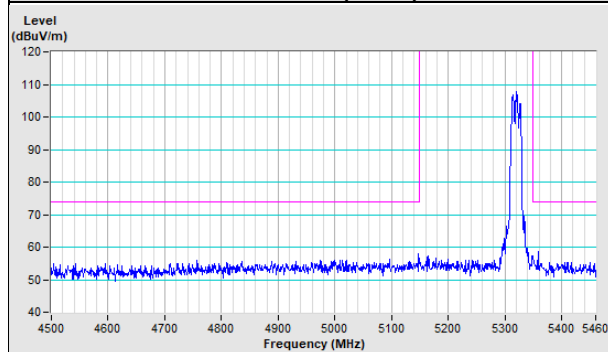
Vertical (Peak)

Vertical (Average)



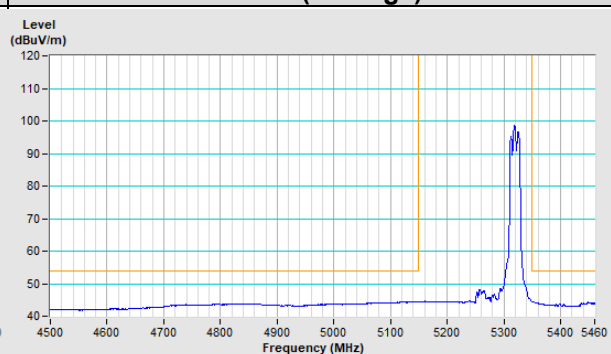
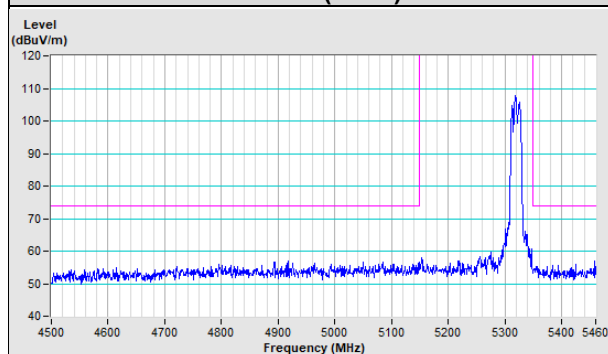
802.11a Channel 64

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

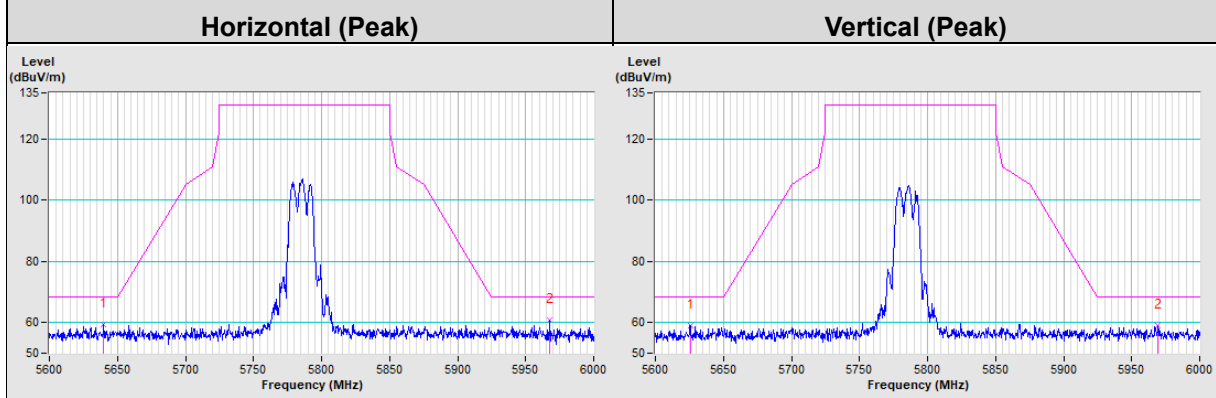


Vertical (Peak)

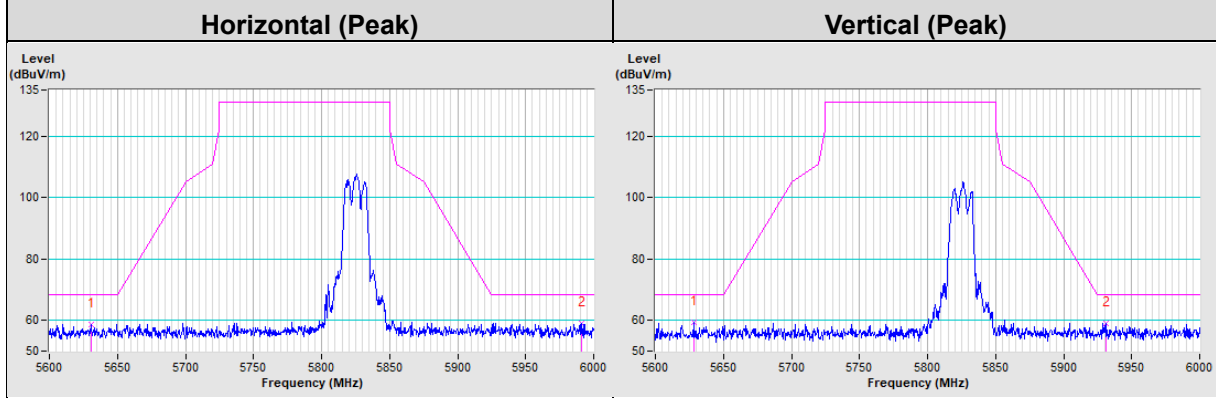
Vertical (Average)



802.11a Channel 157

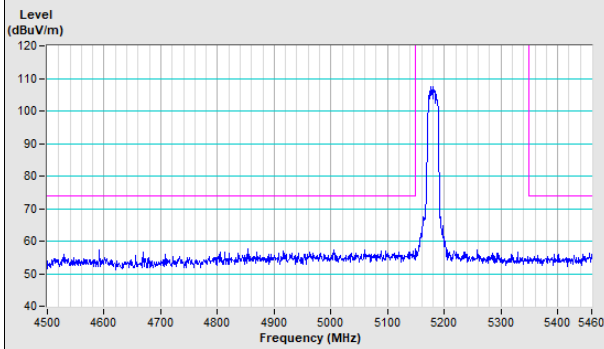


802.11a Channel 165

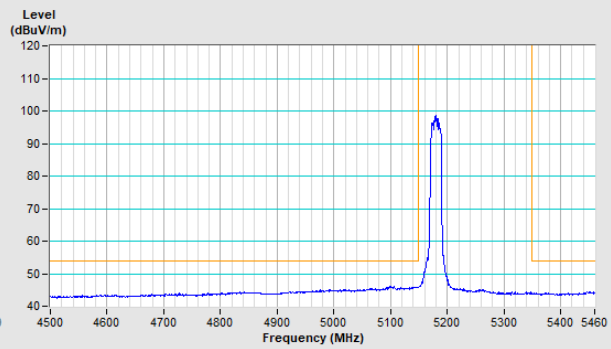


802.11ac (VHT20) Channel 36

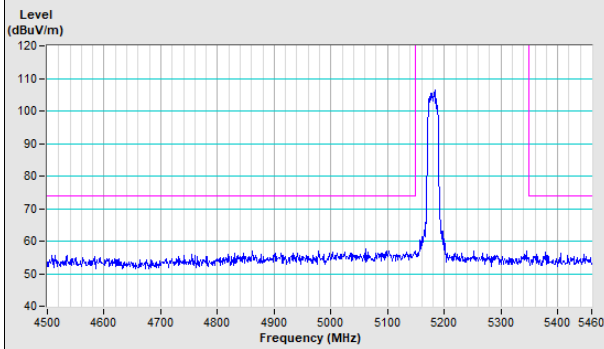
Horizontal (Peak)



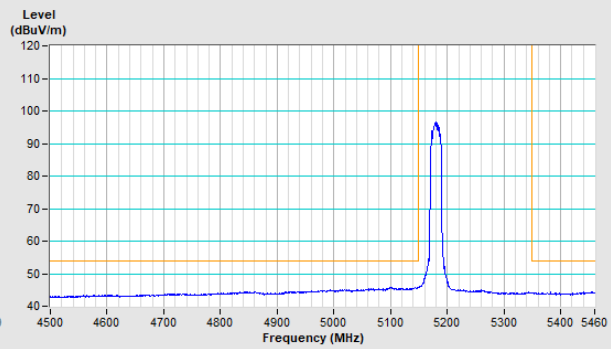
Horizontal (Average)



Vertical (Peak)

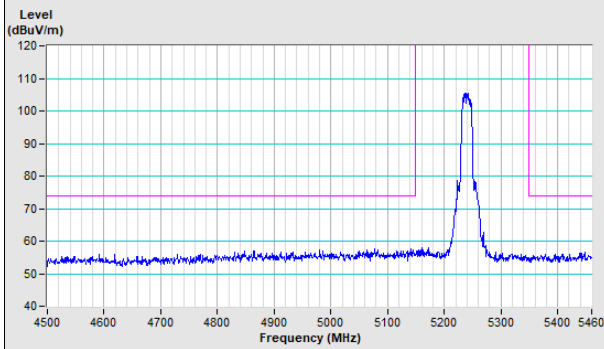


Vertical (Average)

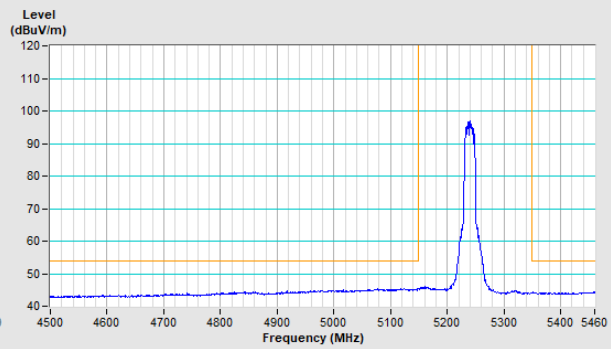


802.11ac (VHT20) Channel 48

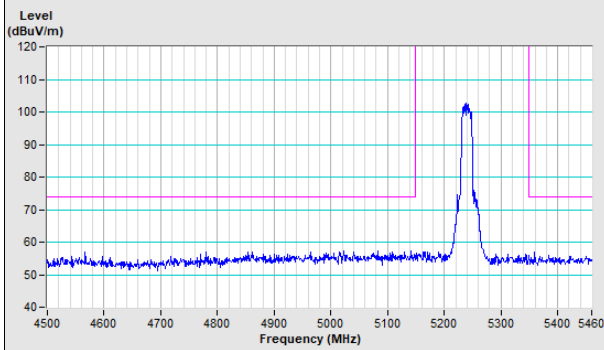
Horizontal (Peak)



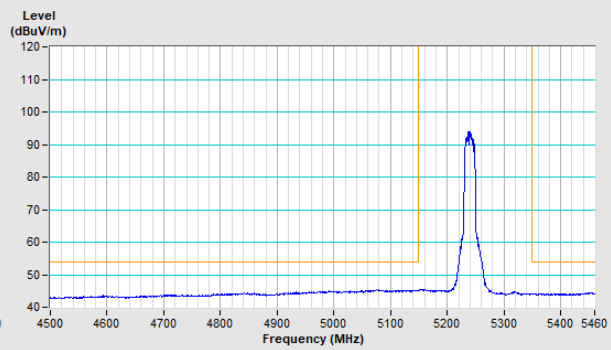
Horizontal (Average)



Vertical (Peak)



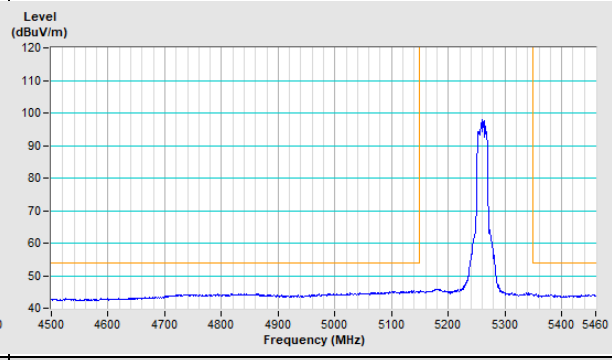
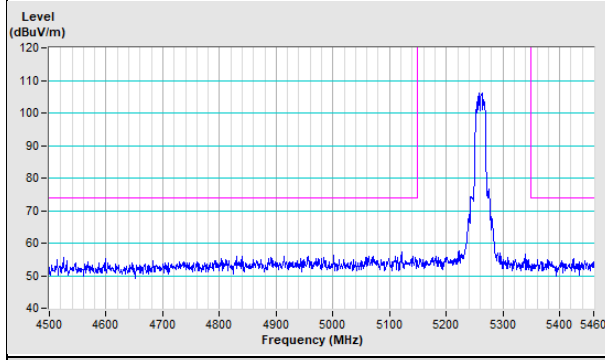
Vertical (Average)





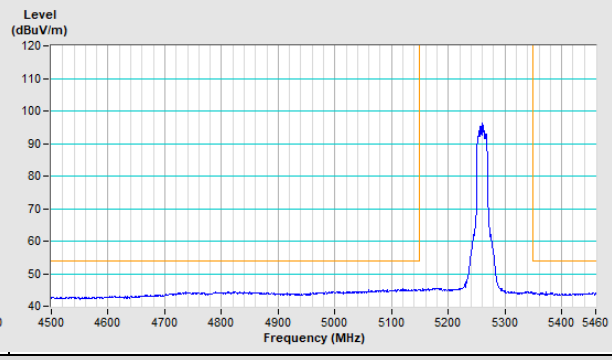
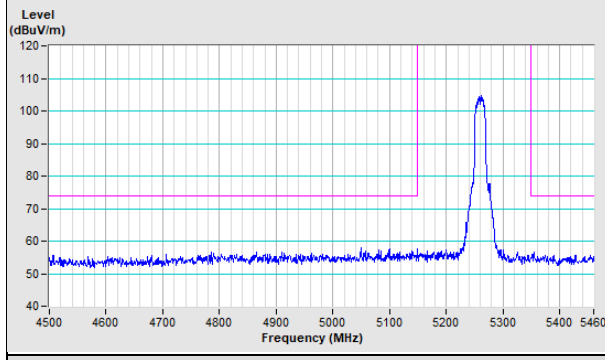
802.11ac (VHT20) Channel 52

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



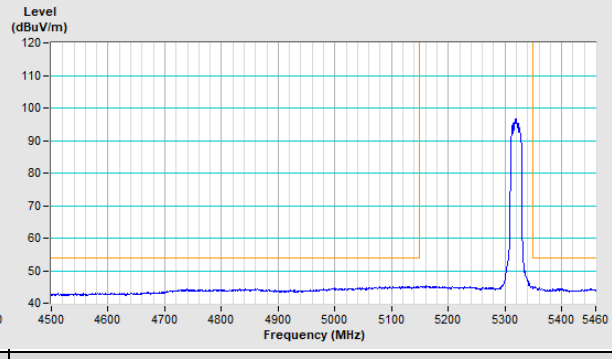
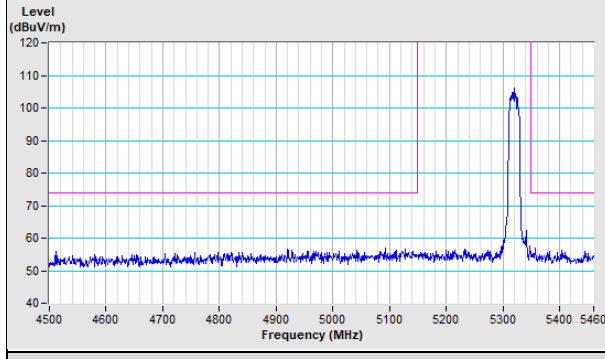
Vertical (Peak)

Vertical (Average)



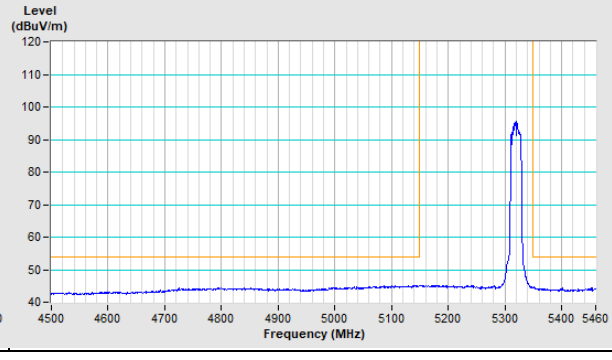
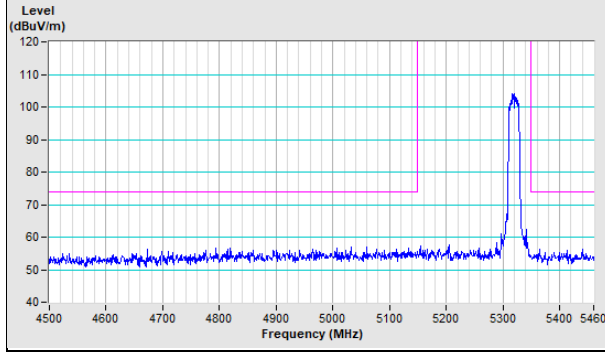
802.11ac (VHT20) Channel 64

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



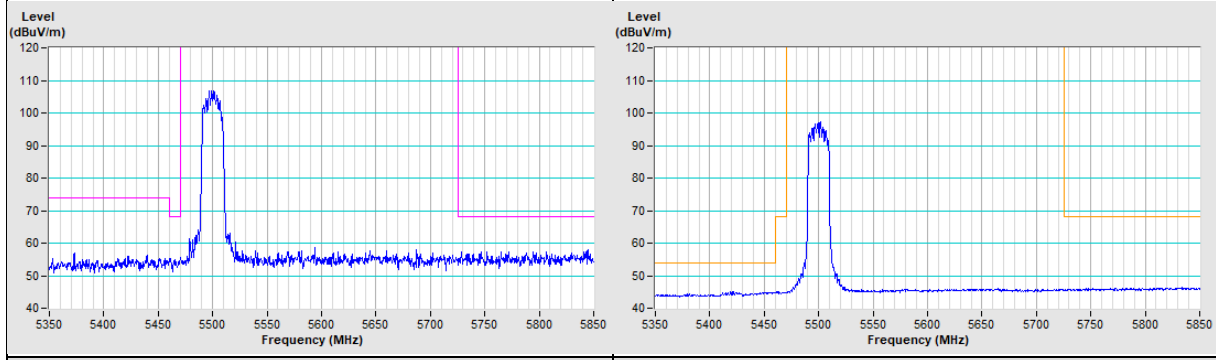
Vertical (Peak)

Vertical (Average)

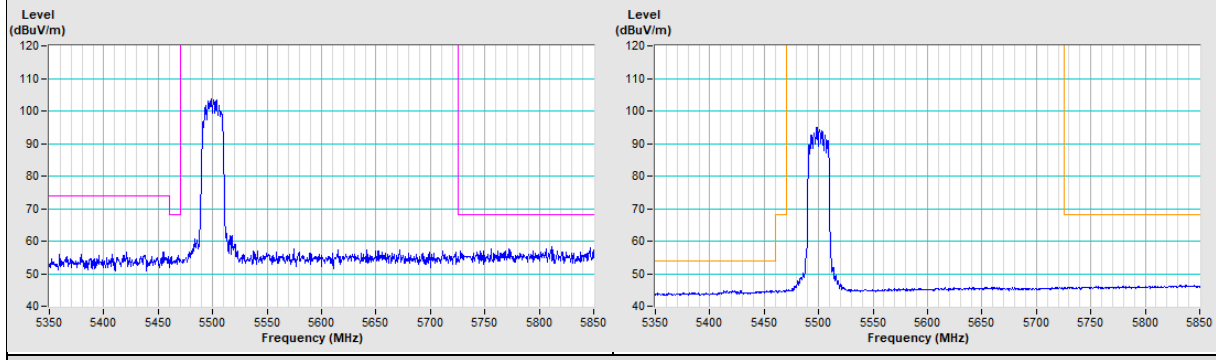


802.11ac (VHT20) Channel 100

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

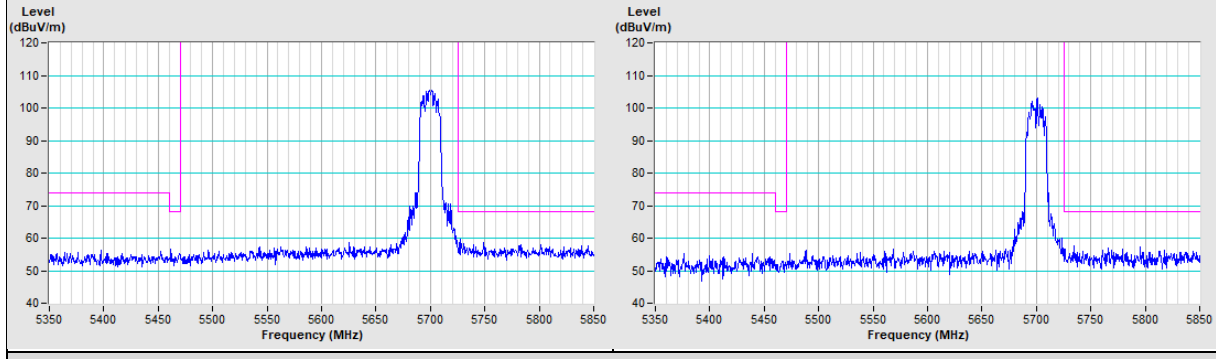


Vertical (Peak) **Vertical (Average)**



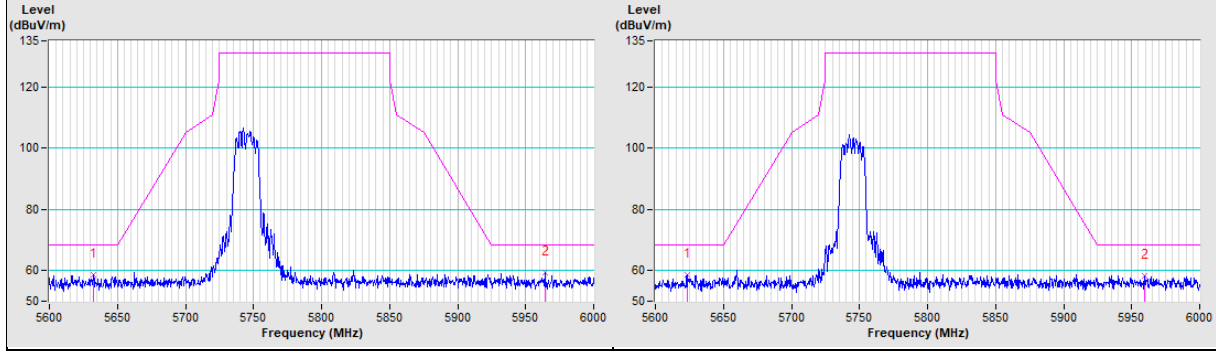
802.11ac (VHT20) Channel 140

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

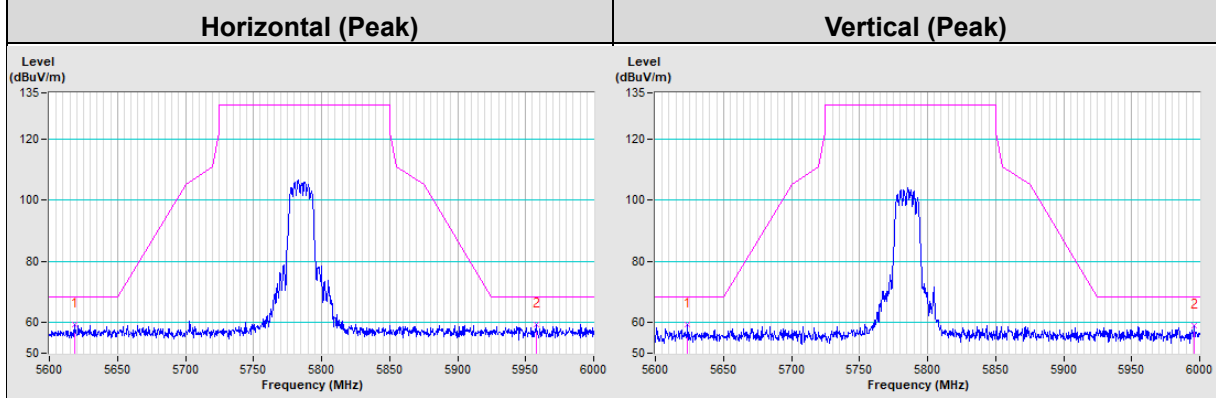


802.11ac (VHT20) Channel 149

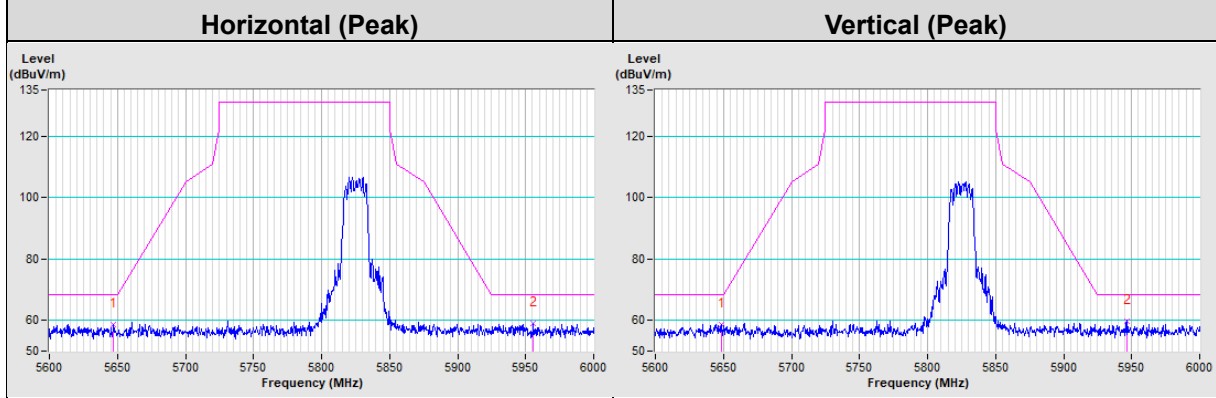
Horizontal (Peak) **Vertical (Peak)**



802.11ac (VHT20) Channel 157

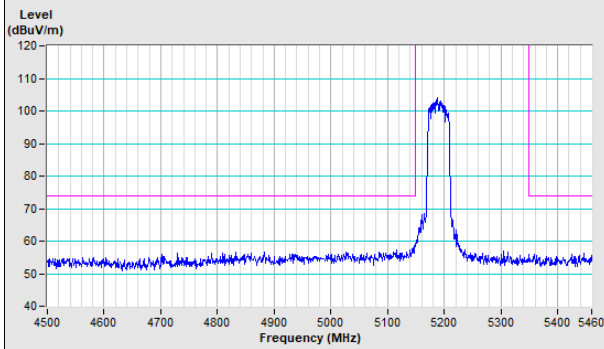


802.11ac (VHT20) Channel 165

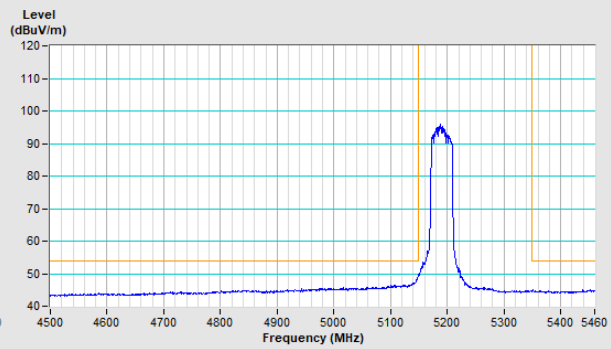


802.11ac (VHT40) Channel 38

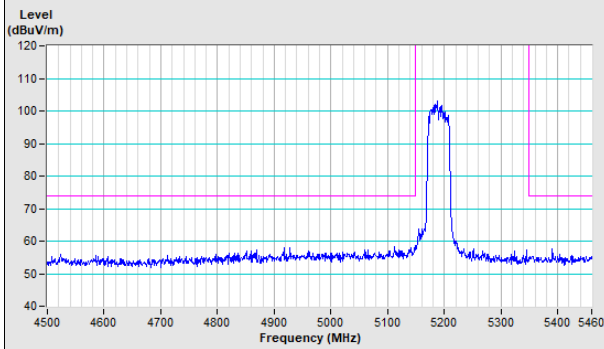
Horizontal (Peak)



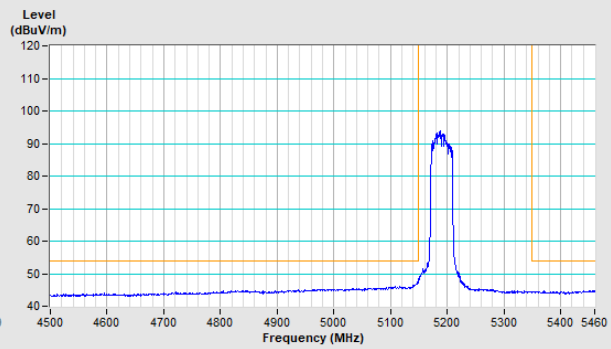
Horizontal (Average)



Vertical (Peak)

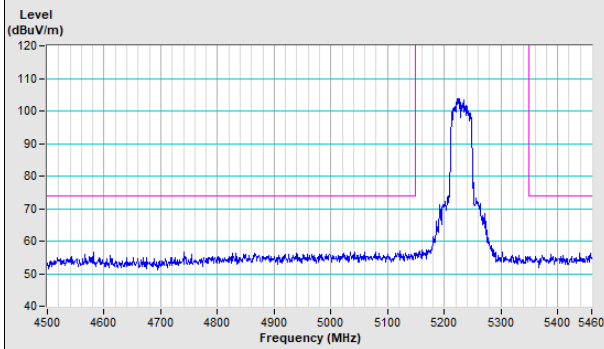


Vertical (Average)

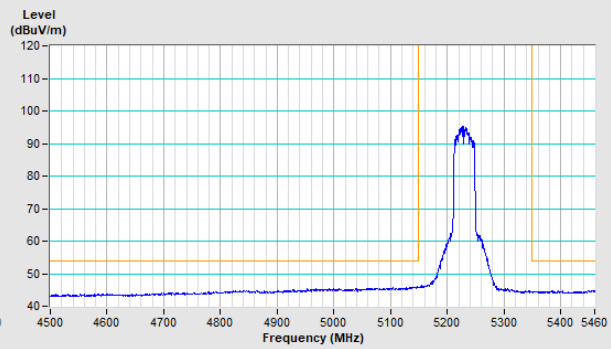


802.11ac (VHT40) Channel 46

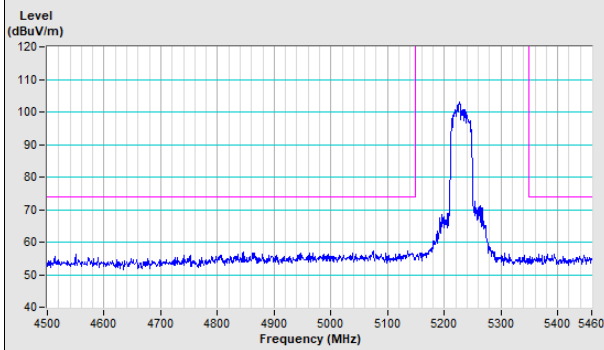
Horizontal (Peak)



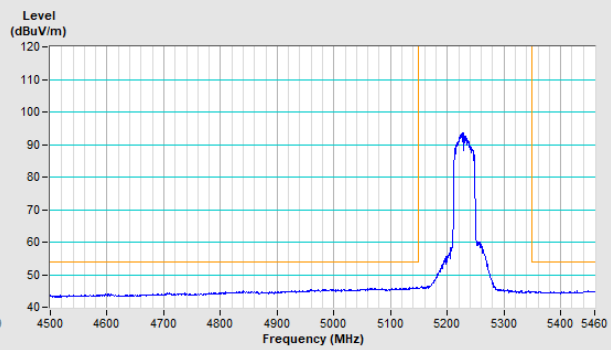
Horizontal (Average)



Vertical (Peak)

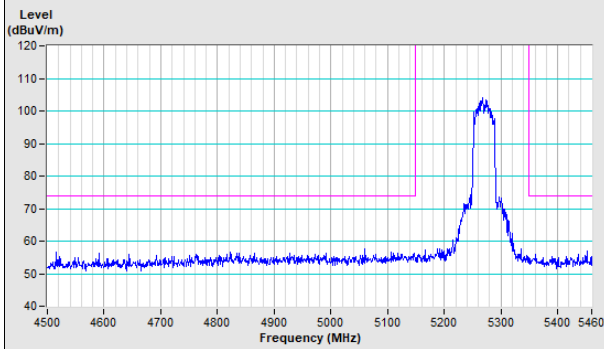


Vertical (Average)

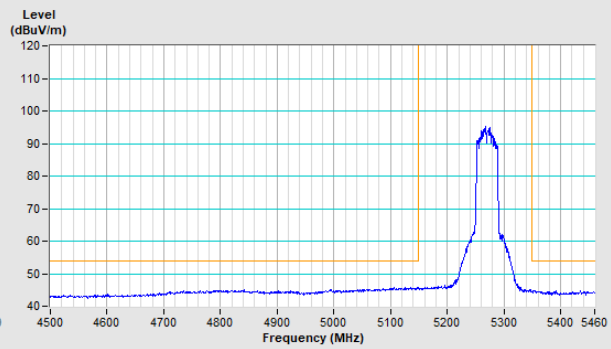


802.11ac (VHT40) Channel 54

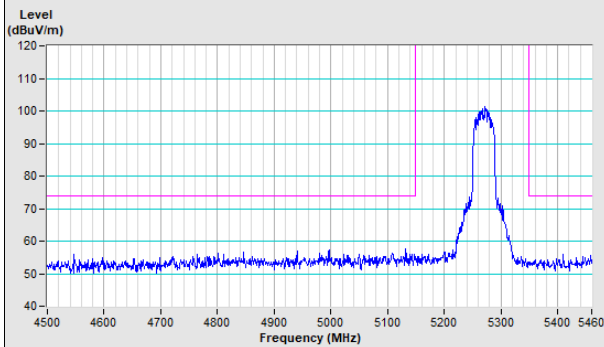
Horizontal (Peak)



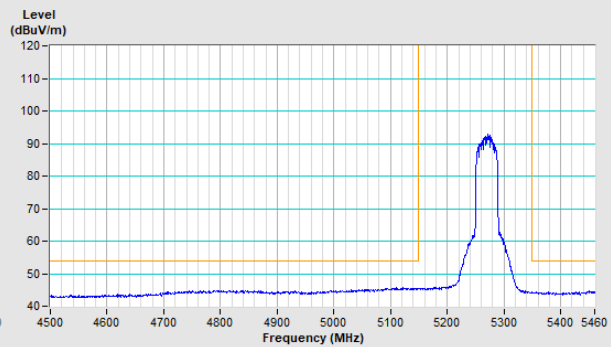
Horizontal (Average)



Vertical (Peak)

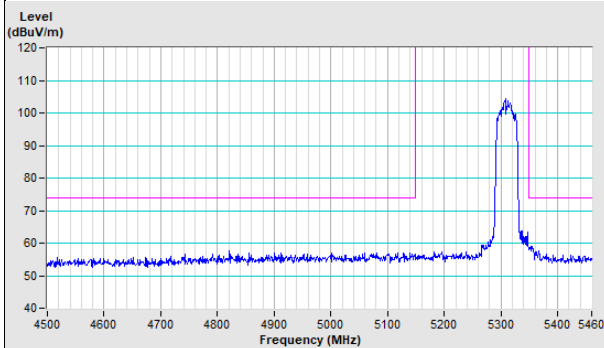


Vertical (Average)

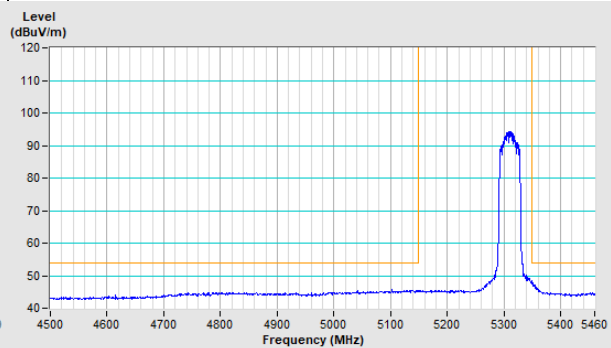


802.11ac (VHT40) Channel 62

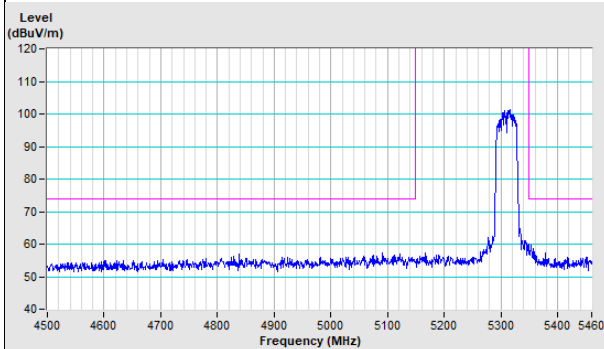
Horizontal (Peak)



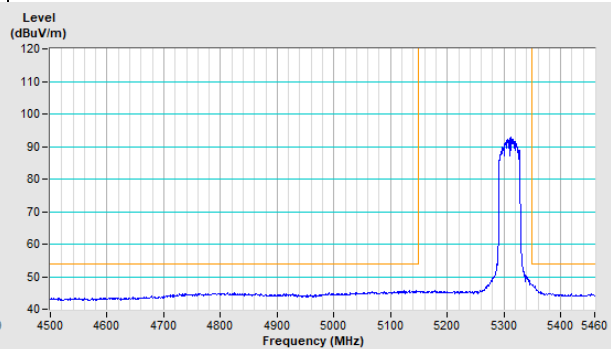
Horizontal (Average)



Vertical (Peak)

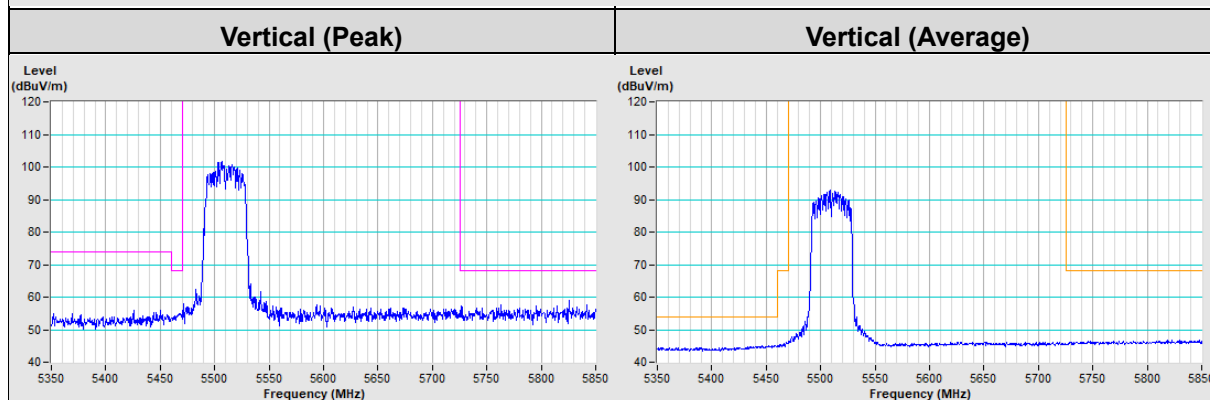
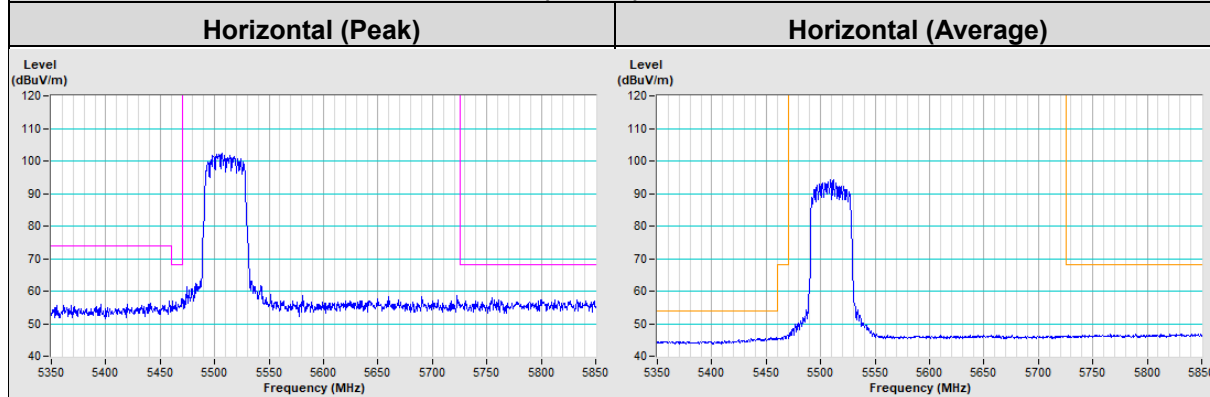


Vertical (Average)

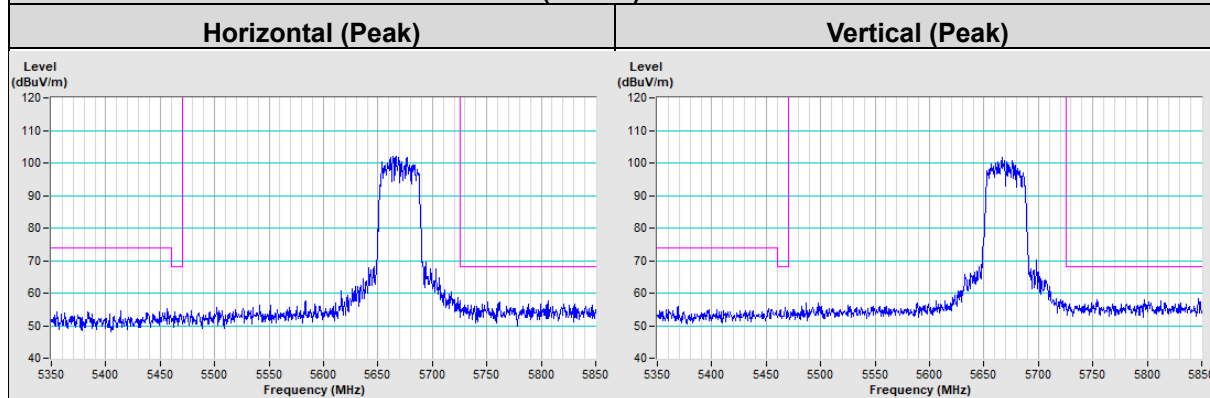




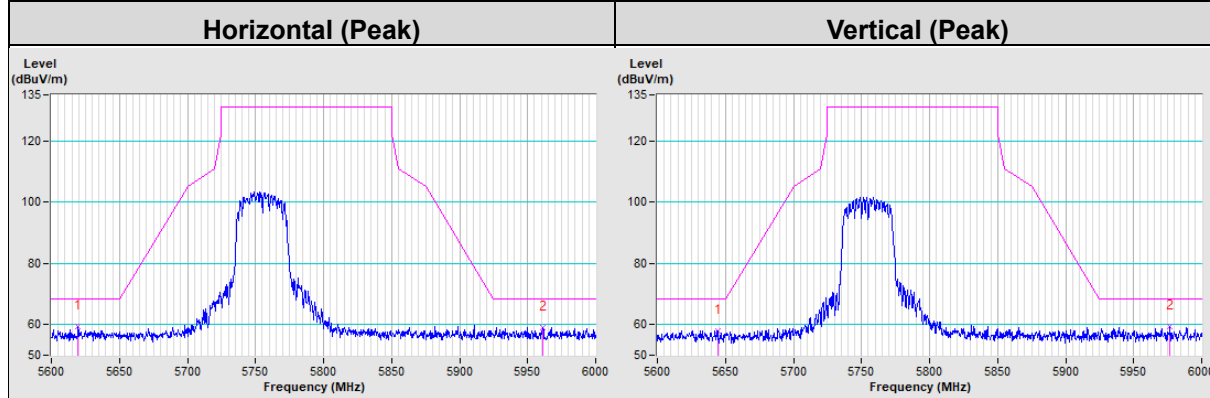
802.11ac (VHT40) Channel 102

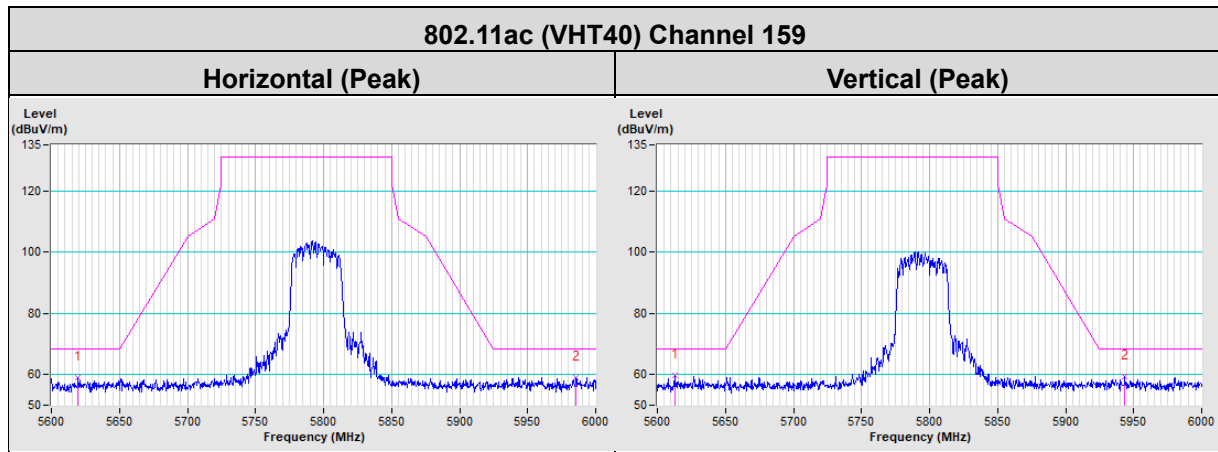


802.11ac (VHT40) Channel 134



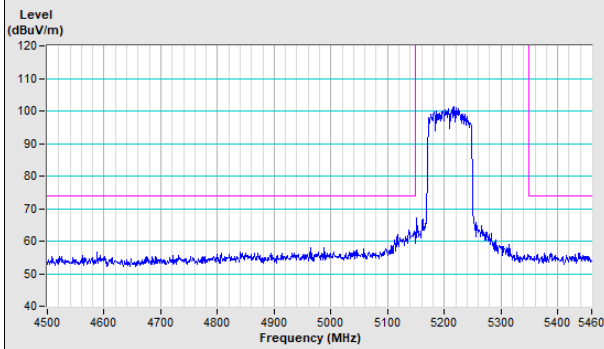
802.11ac (VHT40) Channel 151



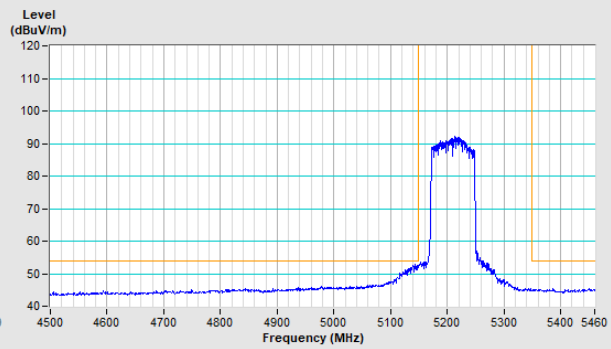


802.11ac (VHT80) Channel 42

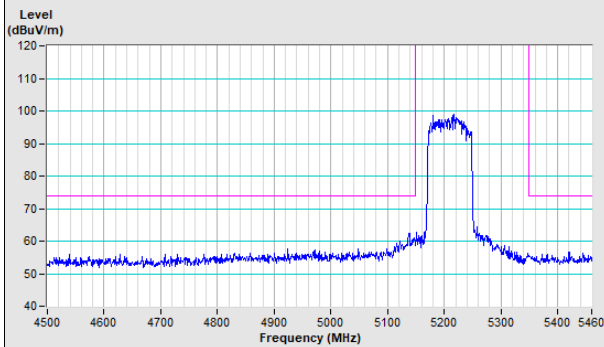
Horizontal (Peak)



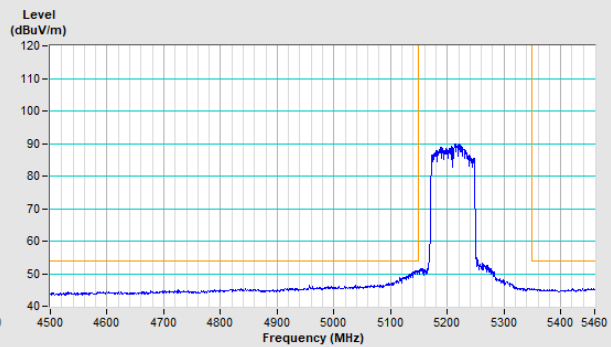
Horizontal (Average)



Vertical (Peak)

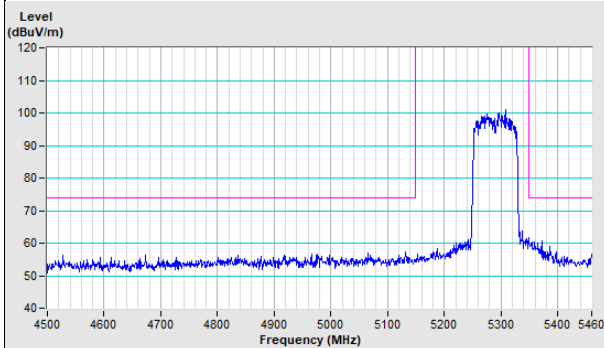


Vertical (Average)

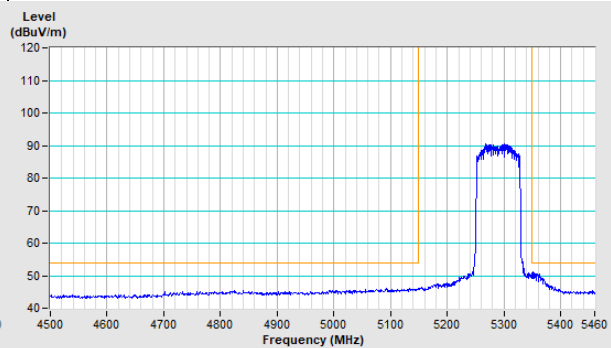


802.11ac (VHT80) Channel 58

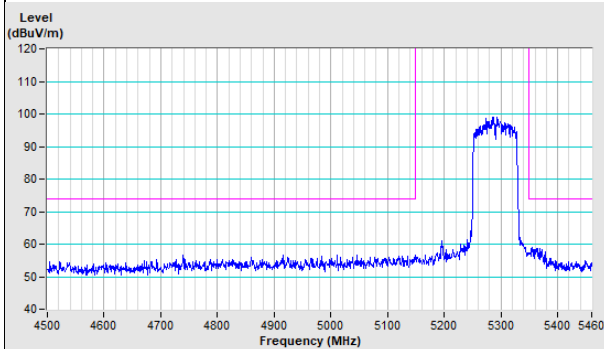
Horizontal (Peak)



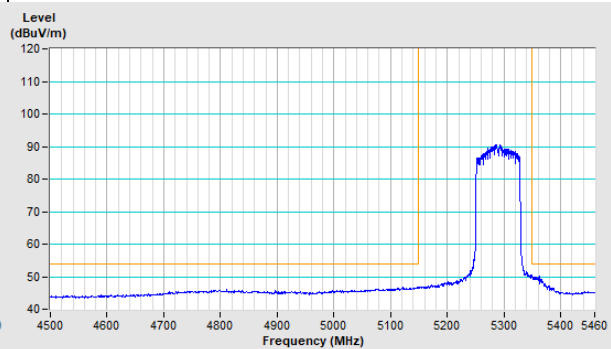
Horizontal (Average)



Vertical (Peak)



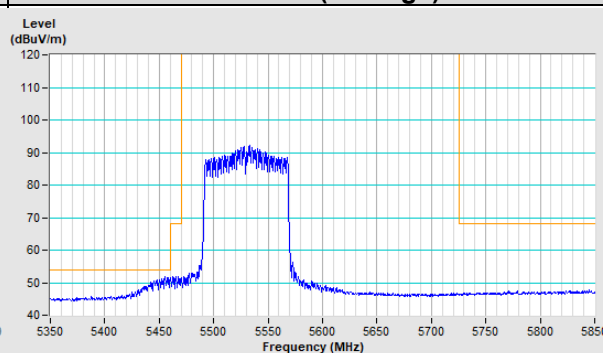
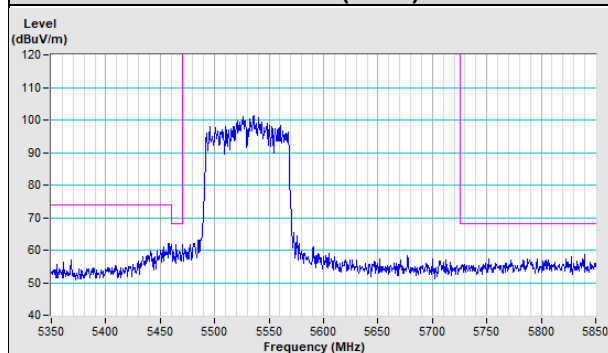
Vertical (Average)





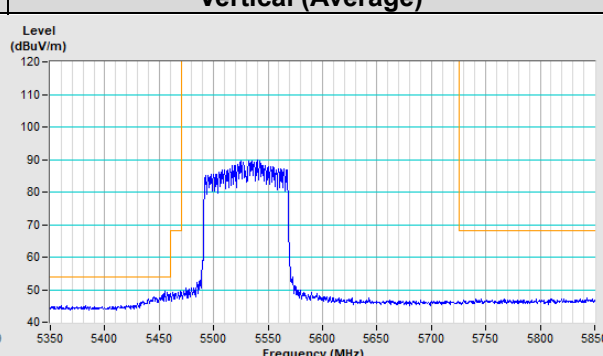
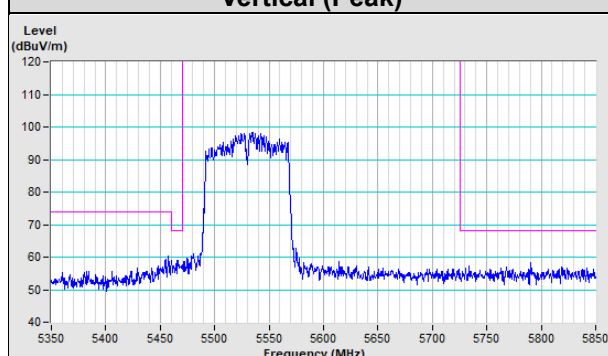
802.11ac (VHT80) Channel 106

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



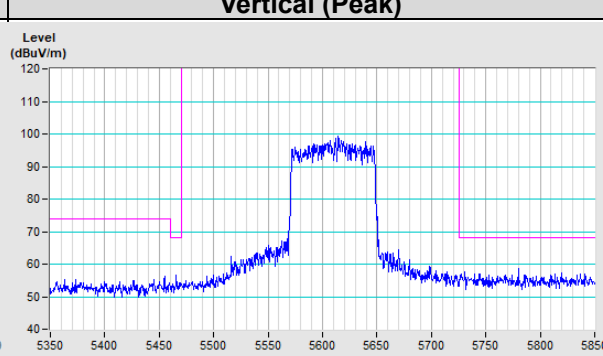
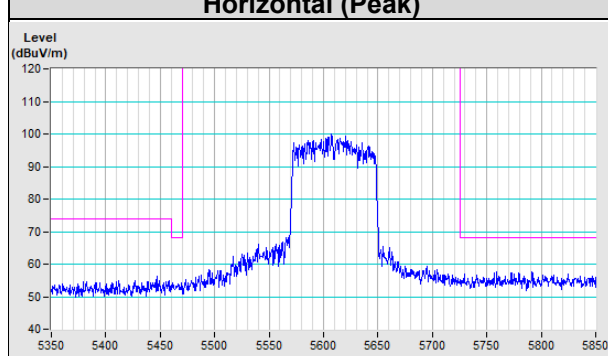
Vertical (Peak)

Vertical (Average)



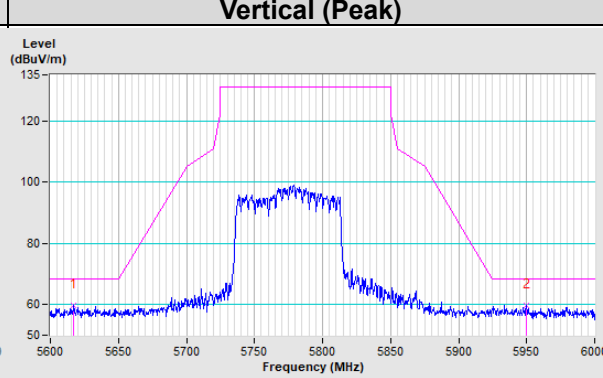
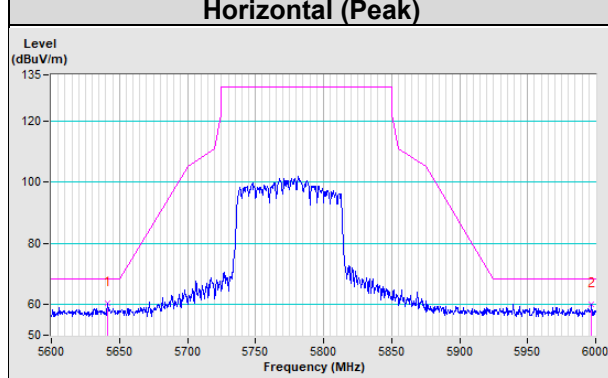
802.11ac (VHT80) Channel 122

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



802.11ac (VHT80) Channel 155

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



8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)



9 Information of the Testing Laboratories

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

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

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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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