TEST REPORT

CERTIFICATE OF CONFORMITY

Standard:	**47 CFR FCC Part 15, Subpart E (Section 15.407)**
Report No.:	RFBAPP-WTW-P22110606A
FCC ID:	PD5-NWA1050
Product:	Outdoor Wireless AP
Brand:	Nile Global
Model No.:	NWA 1050
Received Date:	2022/11/22
Test Date:	2022/12/20 ~ 2023/3/7
Issued Date:	2023/7/3
Applicant:	Delta Electronics, Inc.
Address:	31-1 Shien Pan Rd., Kuei San Industrial Zone, Taoyuan City, 333 Taiwan
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kewi Shan Dist., Taoyuan City 33383, Taiwan
FCC Registration / Designation Number:	788550 / TW0003

Approved by: Jeremy Lin , **Date:** 2023/7/3

Jeremy Lin / Project Engineer

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Prepared by : Polly Chien / Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBAPP-WTW-P22110606A	Original release.	2023/7/3

1 Certificate

Product:	Outdoor Wireless AP
Brand:	Nile Global
Test Model:	NWA 1050
Sample Status:	Engineering Sample
Applicant:	Delta Electronics, Inc.
Test Date:	2022/12/20 ~ 2023/3/7
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)(2) 15.407(a)(3)	RF Output Power	Pass	Meet the requirement of limit.
15.407(a)(2) 15.407(a)(3)	Power Spectral Density	Pass	Meet the requirement of limit.
---	Occupied Bandwidth	-	Reference only.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.407(b)(9)	AC Power Conducted Emissions	Pass	Minimum passing margin is -9.93 dB at 21.49000 MHz
15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -6.2 dB at 46.49 MHz
15.407(b) (2/10) 15.407(b) (3/10) 15.407(b) (4(i)/10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.3 dB at 5725.00 MHz
15.203	Antenna Requirement	Pass	Antenna connector is Ipex(MHF) not a standard connector.

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

2.1 Measurement Uncertainty

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

Parameter	Specification	Expanded Uncertainty (k=2) (±)
AC Power Conducted Emissions	9 kHz ~ 30 MHz	2.99 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.59 dB
	30 MHz ~ 1 GHz	3.64 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	2.29 dB
	18 GHz ~ 40 GHz	2.29 dB

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

2.2 Supplementary Information

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

3 General Information

3.1 General Description of EUT

Product	Outdoor Wireless AP
Brand	Nile Global
Test Model	NWA 1050
Status of EUT	Engineering Sample
Power Supply Rating	56Vdc (From POE)
Modulation Type	256QAM for OFDM in 11ac mode 1024QAM for OFDMA in 11ax HE mode
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n (HT20/40): 6.5 to 600Mbps (MCS0 to MCS31) 802.11ac (VHT20/40/80): up to 3466.7Mbps (MCS0 to MCS9, NSS=1 to 4) 802.11ax: up to 4803.9Mbps (MCS0 to MCS11, NSS=1 to 4)
Operating Frequency	5.26 GHz ~ 5.32 GHz 5.5 GHz ~ 5.72 GHz
Number of Channel	5260 ~ 5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 4 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1 5500 ~ 5720MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 12 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 6 802.11ac (VHT80), 802.11ax (HE80): 3
Output Power	For QCN-5154 Module: CDD Mode: 5.26 GHz ~ 5.32 GHz : 180.728 mW (22.57 dBm) 5.5 GHz ~ 5.72 GHz : 182.679 mW (22.62 dBm) Beamforming Mode: 5.26 GHz ~ 5.32 GHz : 52.247 mW (17.18 dBm) 5.5 GHz ~ 5.72 GHz : 49.251 mW (16.92 dBm) For QCA-9889 Module: CDD Mode: 5.26 GHz ~ 5.32 GHz : 29.648 mW (14.72 dBm) 5.5 GHz ~ 5.72 GHz : 31.117 mW (14.93 dBm)

Note:

1. This report is prepared for FCC class II permissive change. The difference compared with the original report (BV CPS report no.: RFBAPP-WTW-P22110606-1) is adding 5.26GHz to 5.32GHz and 5.50GHz to 5.72GHz.
2. The EUT uses following accessories.

POE (Support unit)		
Brand	Model	Specification
CISCO	DPSN-35FB A	AC Input : 100-240Vac, 50/60Hz,0.8A DC Output : 56Vdc, 0.55A

3. There are four modules for the EUT.

Module	Function	Radio
QCN-5124	WLAN 2.4G (TX/RX)	1
QCN-5154	WLAN 5G (TX/RX)	2
QCA-9889	WLAN 2.4G & 5G (TX/RX)	3
CSR8811	BT LE	4

4. Simultaneously transmission condition.

Condition	Technology	
1	WLAN (Radio 1+2)	Bluetooth (Radio 4)
2	WLAN 2.4 GHz (Radio 3)	Bluetooth (Radio 4)
3	WLAN 5 GHz (Radio 3)	Bluetooth (Radio 4)
Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.		

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

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Antenna Type	PIFA				
Antenna Connector	Ipex(MHF)				
Antenna No.	Gain (dBi)				
	2.4~2.4835GHz	5.15~5.25GHz	5.25~5.35GHz	5.47~5.725GHz	5.725~5.85GHz
2G1	6.6	-	-	-	-
2G2	7.2	-	-	-	-
2G3	7	-	-	-	-
2G4	7.1	-	-	-	-
5G1	-	6.1	6.1	6.8	7.2
5G2	-	7.1	7.1	6.9	7.4
5G3	-	6.4	6.4	7.2	6
5G4	-	6.5	6.5	7.2	6.7
Dual Band (DB)	6.8	5.9	5.9	7.1	6.9
BLE	6.1	-	-	-	-

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

2. The EUT incorporates a MIMO function:

QCN-5154 Module

5 GHz Band		
Modulation Mode	TX & RX Configuration	
802.11a	4TX	4RX
802.11n (HT20)	4TX	4RX
802.11n (HT40)	4TX	4RX
802.11ac (VHT20)	4TX	4RX
802.11ac (VHT40)	4TX	4RX
802.11ac (VHT80)	4TX	4RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX
802.11ax (HE80)	4TX	4RX

QCA-9889 Module

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

Note:
1. All of modulation mode support beamforming function except 802.11a modulation mode.
2. The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
3. The modulation and bandwidth are similar for 802.11n mode for 20 MHz (40 MHz), 802.11ac mode for 20 MHz (40 MHz, 80 MHz) and 802.11ax mode for 20 MHz (40 MHz, 80 MHz), therefore the manufacturer will control the power for 802.11n/ac mode is the same as the 802.11ax or more lower than it and investigated worst case to representative mode in test report.
4. The EUT doesn't support Tone RU mode.

3.3 Channel List

5260~5320MHz:

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Channel	Frequency	Channel	Frequency
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency
58	5290MHz

For 5500 ~ 5720MHz:

12 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

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

6 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

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

3 channels are provided for 802.11ac (VHT80), 802.11ax (HE80):

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

3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	The EUT had been pre-tested on the positioned of each 3 axis (X-axis/ Y-axis/ Z-axis). Pre-scan these ways and find the worst case as a representative test condition.
Worst Case:	Worst Condition: The worst case was X-axis.

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

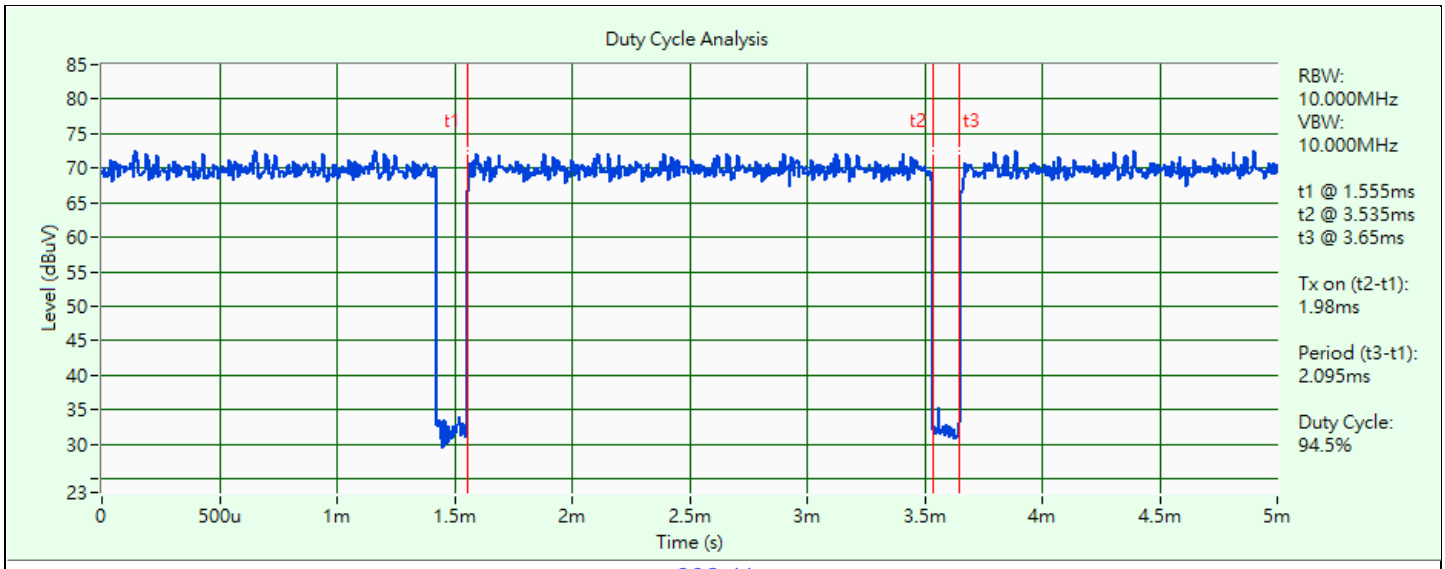
Test Item	EUT Configure Mode	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter
26 dB Bandwidth	A	802.11a	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	6Mb/s
		802.11ax (HE20)	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	MCS0
		802.11ax (HE40)	CDD	54, 62, 102, 110, 134, 142	BPSK	MCS0
		802.11ax (HE80)	CDD	58, 106, 122, 138	BPSK	MCS0
	B	802.11a	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	6Mb/s
		802.11ac (VHT20)	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	MCS0
		802.11ac (VHT40)	CDD	54, 62, 102, 110, 134, 142	BPSK	MCS0
		802.11ac (VHT80)	CDD	58, 106, 122, 138	BPSK	MCS0
RF Output Power	A	802.11a	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	6Mb/s
		802.11ax (HE20)	CDD & Beamforming	52, 60, 64, 100, 116, 140, 144	BPSK	MCS0
		802.11ax (HE40)	CDD & Beamforming	54, 62, 102, 110, 134, 142	BPSK	MCS0
		802.11ax (HE80)	CDD & Beamforming	58, 106, 122, 138	BPSK	MCS0
	B	802.11a	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	6Mb/s
		802.11ac (VHT20)	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	MCS0
		802.11ac (VHT40)	CDD	54, 62, 102, 110, 134, 142	BPSK	MCS0
		802.11ac (VHT80)	CDD	58, 106, 122, 138	BPSK	MCS0
Occupied Bandwidth/ Power Spectral Density	A	802.11a	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	6Mb/s
		802.11ax (HE20)	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	MCS0
		802.11ax (HE40)	CDD	54, 62, 102, 110, 134, 142	BPSK	MCS0
		802.11ax (HE80)	CDD	58, 106, 122, 138	BPSK	MCS0
	B	802.11a	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	6Mb/s
		802.11ac (VHT20)	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	MCS0
		802.11ac (VHT40)	CDD	54, 62, 102, 110, 134, 142	BPSK	MCS0
		802.11ac (VHT80)	CDD	58, 106, 122, 138	BPSK	MCS0
Frequency Stability	A, B	802.11a	CDD	52	-	-

Test Item	EUT Configure Mode	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter
AC Power Conducted Emissions	A	802.11a	CDD	60	BPSK	6Mb/s
	B	802.11ac (VHT20)	CDD	116	BPSK	MCS0
Unwanted Emissions below 1 GHz	A	802.11a	CDD	60	BPSK	6Mb/s
	B	802.11ac (VHT20)	CDD	116	BPSK	MCS0
Unwanted Emissions above 1 GHz	A	802.11a	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	6Mb/s
		802.11ax (HE20)	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	MCS0
		802.11ax (HE40)	CDD	54, 62, 102, 110, 134, 142	BPSK	MCS0
		802.11ax (HE80)	CDD	58, 106, 122, 138	BPSK	MCS0
	B	802.11a	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	6Mb/s
		802.11ac (VHT20)	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	MCS0
		802.11ac (VHT40)	CDD	54, 62, 102, 110, 134, 142	BPSK	MCS0
		802.11ac (VHT80)	CDD	58, 106, 122, 138	BPSK	MCS0
EUT Configure Mode:	A	5GHz Radio 2: QCN-5154 Module				
	B	Scan Radio 3: QCA-9889 Module				

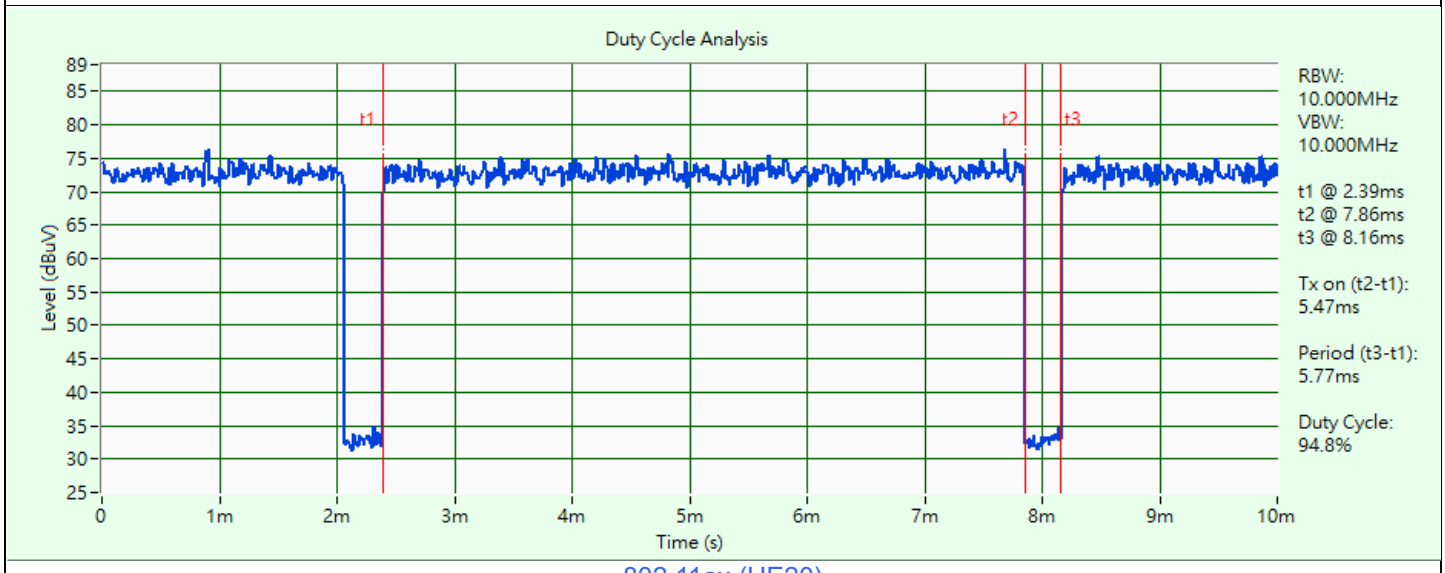
3.5 Duty Cycle of Test Signal

Mode A: 5GHz Radio 2: QCN-5154 Module

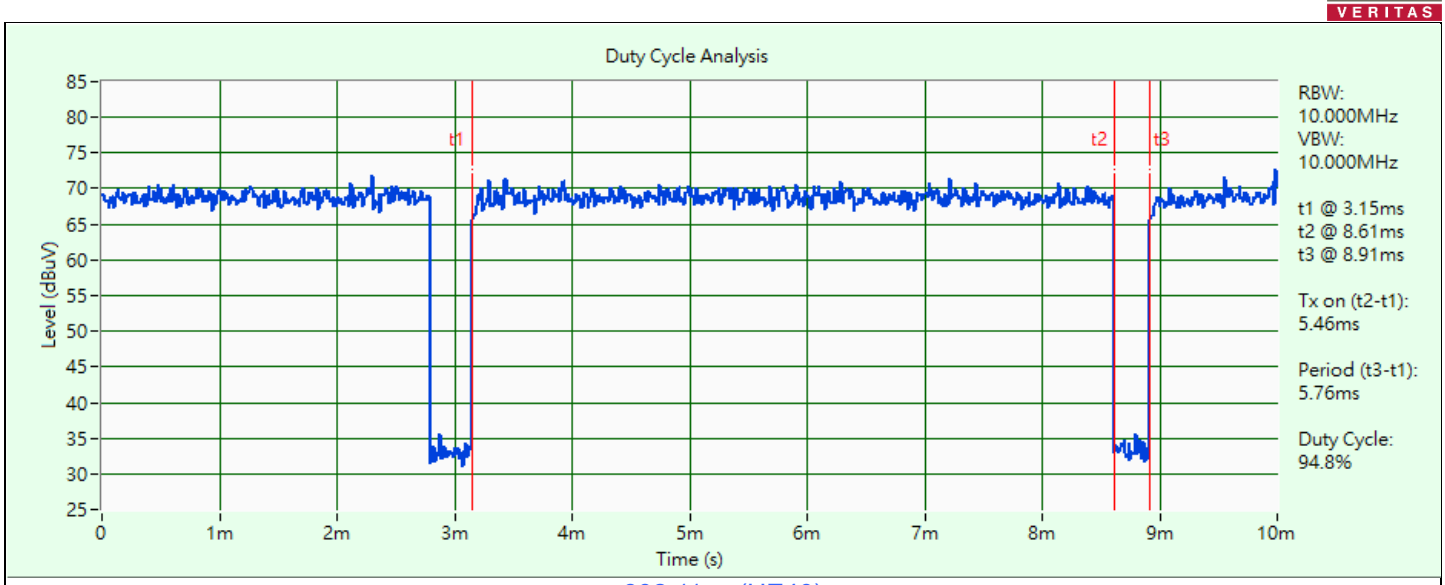
802.11a: Duty cycle = 1.98 ms / 2.095 ms x 100% = 94.5%, duty factor = 10 * log (1/Duty cycle) = 0.25 dB
802.11ax (HE20): Duty cycle = 5.47 ms / 5.77 ms x 100% = 94.8%, duty factor = 10 * log (1/Duty cycle) = 0.23 dB
802.11ax (HE40): Duty cycle = 5.46 ms / 5.76 ms x 100% = 94.8%, duty factor = 10 * log (1/Duty cycle) = 0.23 dB
802.11ax (HE80): Duty cycle = 5.47 ms / 5.81 ms x 100% = 94.1%, duty factor = 10 * log (1/Duty cycle) = 0.26 dB



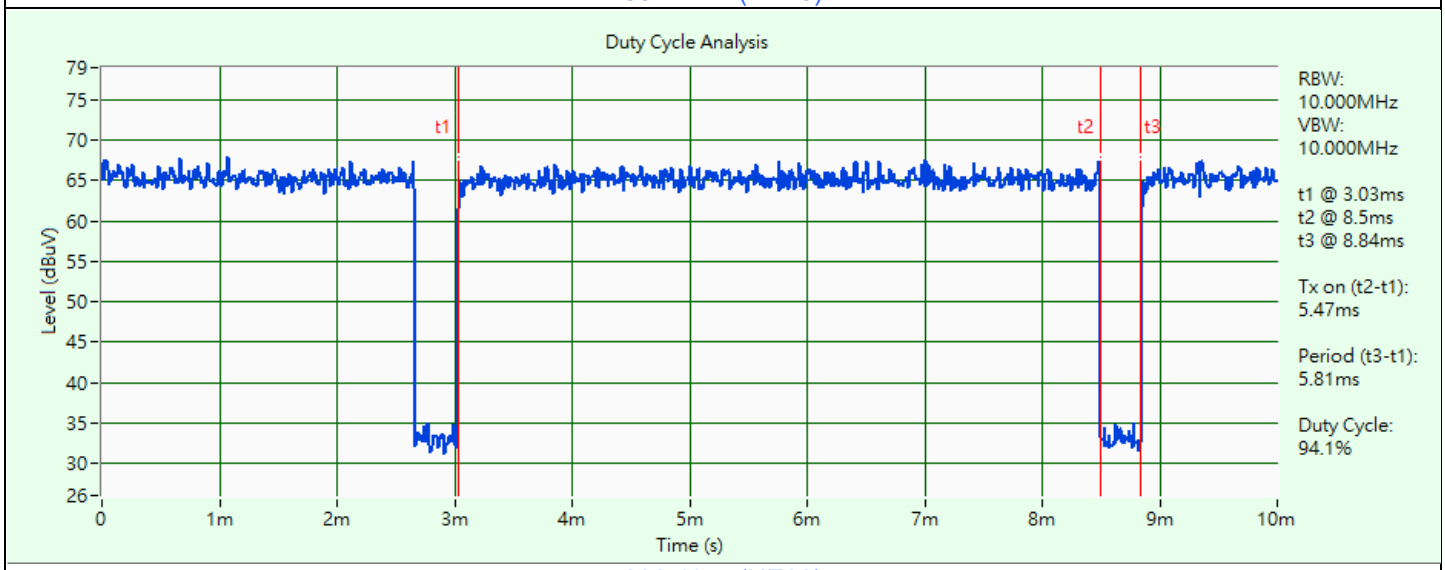
802.11a



802.11ax (HE20)



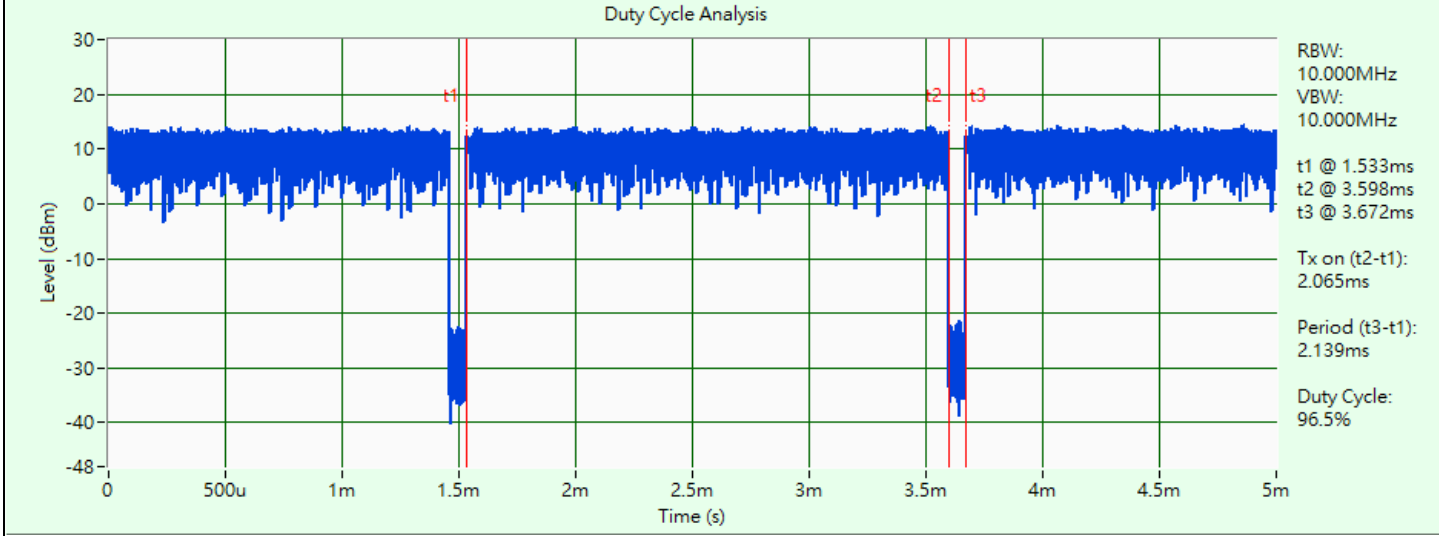
802.11ax (HE40)



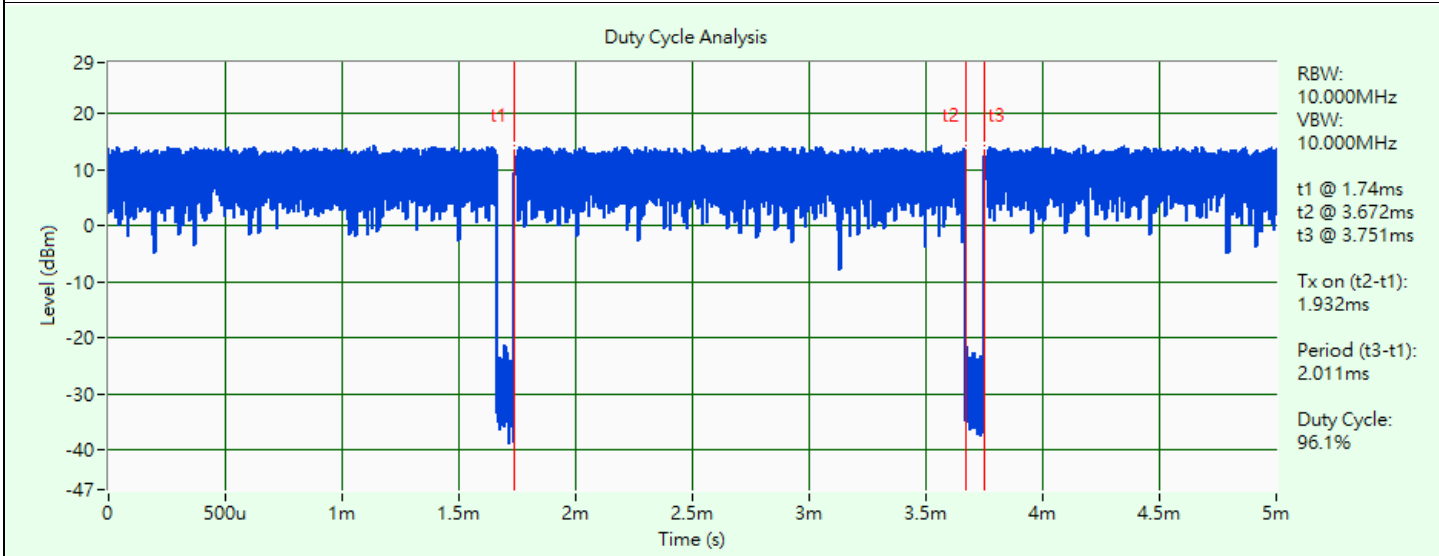
802.11ax (HE80)

Mode B: Scan Radio 3: QCA-9889 Module

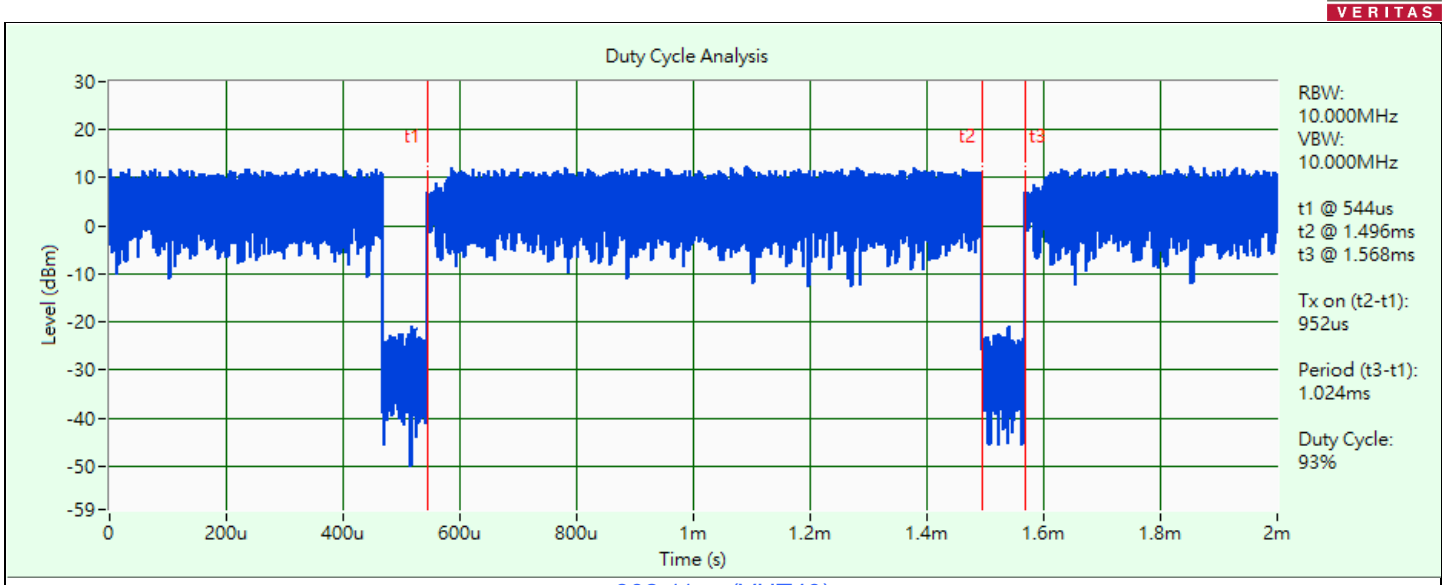
802.11a: Duty cycle = 2.065 ms / 2.139 ms x 100% = 96.5%, duty factor = 10 * log (1/Duty cycle) = 0.15 dB
802.11ac (VHT20): Duty cycle = 1.932 ms / 2.011 ms x 100% = 96.1%, duty factor = 10 * log (1/Duty cycle) = 0.17 dB
802.11ac (VHT40): Duty cycle = 0.952 ms / 1.024 ms x 100% = 93.0%, duty factor = 10 * log (1/Duty cycle) = 0.32 dB
802.11ac (VHT80): Duty cycle = 0.469 ms / 0.532 ms x 100% = 88.2%, duty factor = 10 * log (1/Duty cycle) = 0.55 dB



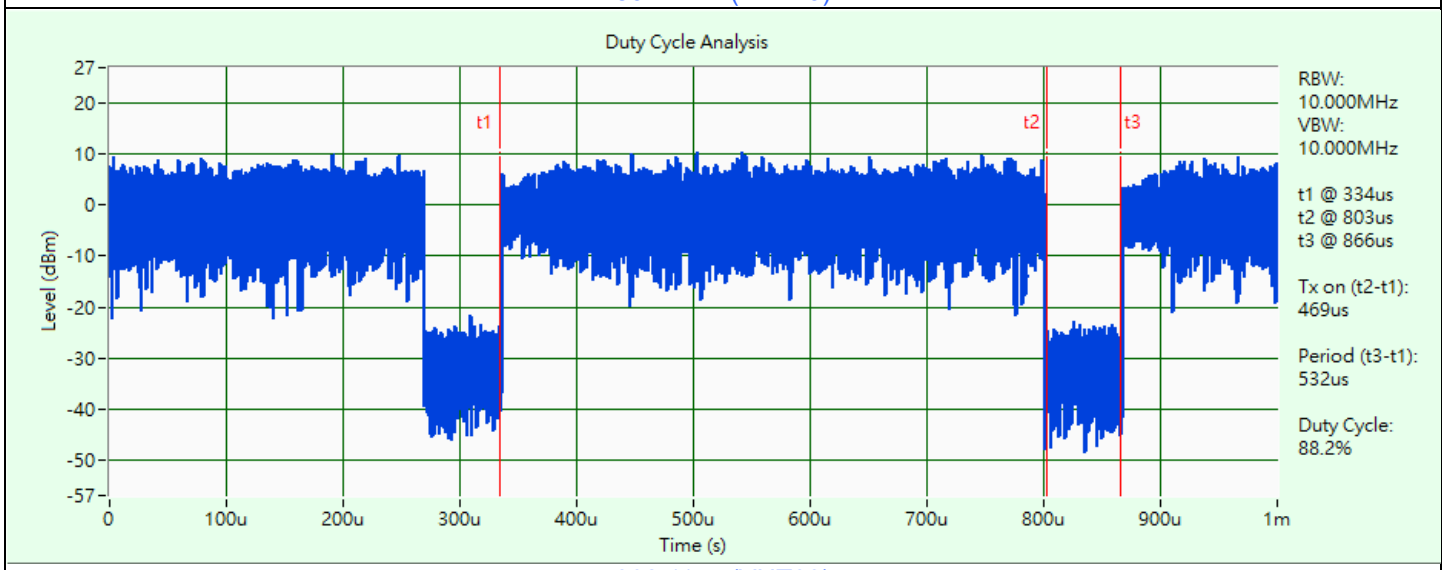
802.11a



802.11ac (VHT20)



802.11ac (VHT40)

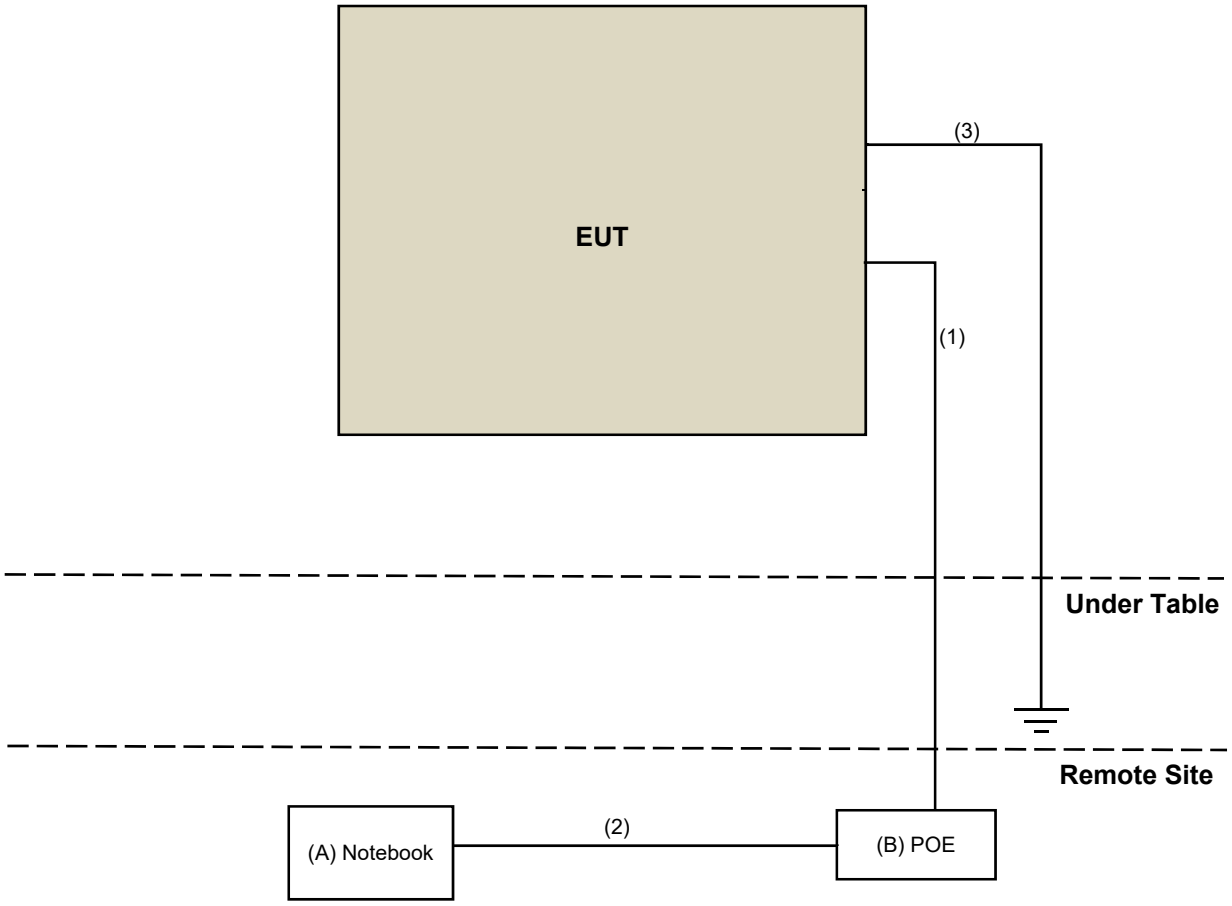


802.11ac (VHT80)

3.6 Test Program Used and Operation Descriptions

Controlling software (QSPR V5.0-00196) 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	Notebook	DELL	E5430	2RL3YW1	FCC DoC Approved	Provided by Lab
B	POE	CISCO	DPSN-35FB A	N/A	N/A	Supplied by applicant

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	RJ-45 Cable	1	1.5	No	0	Provided by Lab
2	RJ-45 Cable	1	1.5	No	0	Provided by Lab
3	GND Cable	1	1.2	No	0	Provided by Lab

4 Test Instruments

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

4.1 26 dB Bandwidth

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Software BV	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	100980	2022/4/20	2023/4/19

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2023/3/7

4.2 RF Output Power

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	100980	2022/4/20	2023/4/19
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY55190004/ MY55190007/MY55210005	2022/7/13	2023/7/12

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2023/3/7

4.3 Power Spectral Density

Refer to section 4.1 to get information of the instruments.

4.4 Occupied Bandwidth

Refer to section 4.1 to get information of the instruments.

4.5 Frequency Stability

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
3-channel DC power supply JIN YIH Technology	ODP3033	ODP30332128138	N/A	N/A
Digital Multimeter Fluke	87-III	70360742	2022/6/23	2023/6/22
Software BV	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	100980	2022/4/20	2023/4/19
Temperature & Humidity Chamber TERCHY	HRM-120RF	931022	2022/12/27	2023/12/26

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2023/3/7

4.6 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
LISN R&S	ESH3-Z5	100311	2022/9/12	2023/9/11
LISN ROHDE & SCHWARZ	ENV216	101826	2022/3/14	2023/3/13
Receiver R&S	ESCI	100412	2022/8/22	2023/8/21
RF Coaxial Cable WOKEN	5D-FB	Cable-cond1-01	2023/1/7	2024/1/6
Software BVADT	BVADT_Cond_ V7.3.7.4	N/A	N/A	N/A
V-LISN Schwarzbeck	NNBL 8226-2	8226-142	2022/8/31	2023/8/30

Notes:

1. The test was performed in HY - Conduction 1.
2. Tested Date: 2023/1/9 ~ 2023/1/10

4.7 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower inn-co GmbH	MA 4000	010303	N/A	N/A
Bi_Log Antenna Schwarbeck	VULB9168	9168-155	2022/10/21	2023/10/20
Loop Antenna EMCI	EM-6879	269	2022/9/19	2023/9/18
Loop Antenna TESEQ	HLA 6121	45745	2022/7/27	2023/7/26
Pre-amplifier EMCI	EMC001340	980201	2022/9/23	2023/9/22
Pre_Amplifier Agilent	8447D	2944A10631	2022/5/14	2023/5/13
RF Coaxial Cable EMCI	5D-NM-BM	140903+140902	2022/1/15	2023/1/14
RF Coaxial Cable WOKEN	8D-FB	Cable-CH4-01	2022/7/9	2023/7/8
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Spectrum Analyzer R&S	FSW43	101582	2022/4/13	2023/4/12
Test Receiver R&S	ESR3+	102782	2022/12/12	2023/12/11
Turn Table BV ADT	TT100	TT93021705	N/A	N/A
Turn Table Controller BV ADT	SC100	SC93021705	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 3.
2. Tested Date: 2023/1/9

4.8 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower inn-co GmbH	MA 4000	010303	N/A	N/A
Boresight antenna tower fixture BV	BAF-02	5	N/A	N/A
Horn Antenna Schwarzbeck	9120D	9120D-408	2022/11/13	2023/11/12
	BBHA 9170	9170-480	2022/11/13	2023/11/12
		BBHA9170241	2022/10/20	2023/10/19
		BBHA9170243	2022/11/13	2023/11/12
Pre-Ammlifier EMCI	EMC 184045	980116	2022/10/1	2023/9/30
Pre_Amplifier KEYSIGHT	83017A	MY53270295	2022/5/14	2023/5/13
RF cable HUBER+SUHNER	Sucoflex 104	MY 13380+295012/04	2022/5/14	2023/5/13
RF Coaxial Cable EMCI	EMC102-KM-KM-600	150928	2022/7/9	2023/7/8
	EMC102-KM-KM-3000	150929	2022/7/9	2023/7/8
RF Coaxial Cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03(250724)	2022/5/14	2023/5/13
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Spectrum Analyzer R&S	FSW43	101582	2022/4/13	2023/4/12
Test Receiver R&S	ESR3+	102782	2022/12/12	2023/12/11
Turn Table BV ADT	TT100	TT93021705	N/A	N/A
Turn Table Controller BV ADT	SC100	SC93021705	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 3.
2. Tested Date: 2022/12/20 ~ 2022/12/30

5 Limits of Test Items

5.1 26 dB Bandwidth

The results are for reference only.

5.2 RF Output Power

Operation Band	Limit
U-NII-2A	250 mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	250 mW (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	Limit
U-NII-2A	11 dBm/MHz
U-NII-2C	11 dBm/MHz
U-NII-3	30 dBm/500 kHz

5.4 Occupied Bandwidth

The results are for reference only.

5.5 Frequency Stability

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

5.6 AC Power Conducted Emissions

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

Notes:

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

5.7 Unwanted Emissions below 1 GHz

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

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

Notes:

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

5.8 Unwanted Emissions above 1 GHz

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

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

Notes:

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

Limits of unwanted emission out of the restricted bands

Applicable To	Limit	
789033 D02 General UNII Test Procedure New Rules v02r01	Field Strength at 3 m	
	PK: 74 (dBµV/m)	AV: 54 (dBµV/m)

For transmitters operating in the 5.25-5.35 GHz band:

Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
15.407(b)(2)	PK: -27 (dBm/MHz)	PK: 68.2 (dBµV/m)

For transmitters operating in the 5.47-5.725 GHz band:

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

For transmitters operating in the 5.725-5.850 GHz band:

Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
15.407(b)(4)(i)	PK: -27 (dBm/MHz) *1 PK: 10 (dBm/MHz) *2 PK: 15.6 (dBm/MHz) *3 PK: 27 (dBm/MHz) *4	PK: 68.2 (dBµV/m) *1 PK: 105.2 (dBµV/m) *2 PK: 110.8 (dBµV/m) *3 PK: 122.2 (dBµV/m) *4
*1 beyond 75 MHz or more above of the band edge. *2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above. *3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above. *4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.		

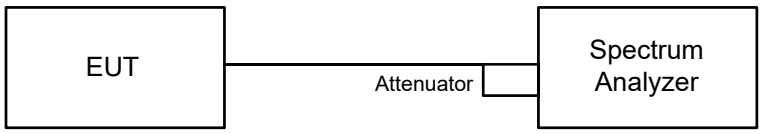
Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

6 Test Arrangements

6.1 26 dB Bandwidth

6.1.1 Test Setup



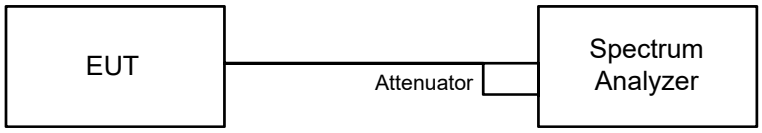
6.1.2 Test Procedure

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

For channel straddling:



6.2.2 Test Procedure

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

For channel straddling:

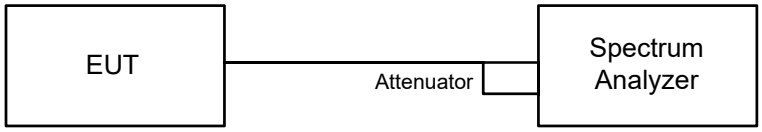
Method SA-2A

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

Note: When measuring straddle channel power, use compute power by integrating the spectrum across the 26 dB EBW or 99% OBW of the signal using the instrument's band power measurement function, with band limits set equal to the EBW or OBW band edges. If the instrument does not have a band power function, then sum the spectrum levels (in power units) at 1 MHz intervals extending across the 26 dB EBW or 99% OBW of the spectrum.

6.3 Power Spectral Density

6.3.1 Test Setup



6.3.2 Test Procedure

For specified measurement bandwidth 1 MHz:
Method SA-2

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
b. Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS
c. Sweep points ≥ [2 × span / RBW]. (This gives bin-to-bin spacing ≤ RBW / 2, so that narrowband signals are not lost between frequency bins.)
d. Sweep time = auto, trigger set to “free run”.
e. Trace average at least 100 traces in power averaging mode.
f. Use the peak search function on the instrument to find the peak of the spectrum and record its value.
g. Record the max value and add 10 log (1/duty cycle).

For specified measurement bandwidth 500 kHz:
Method SA-2

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
b. Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS
c. Scale the observed power level to an equivalent value in 500 kHz by adjusting (increasing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(500 kHz/300 kHz)
d. Sweep points ≥ [2 × span / RBW]. (This gives bin-to-bin spacing ≤ RBW / 2, so that narrowband signals are not lost between frequency bins.)
e. Sweep time = auto, trigger set to “free run”.
f. Trace average at least 100 traces in power averaging mode.
g. Use the peak search function on the instrument to find the peak of the spectrum and record its value.
h. Record the max value and add 10 log (1/duty cycle).

6.4 Occupied Bandwidth

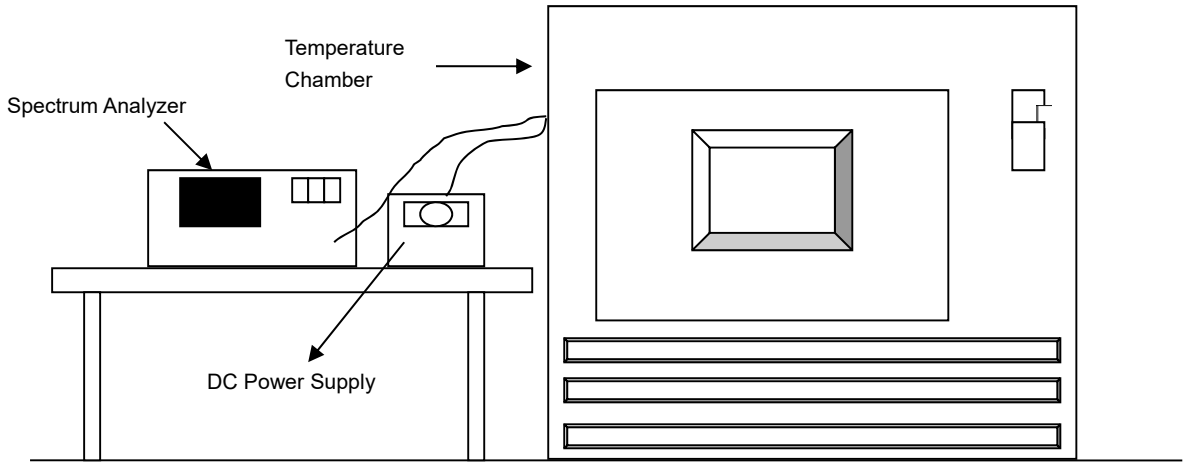
6.4.1 Test Setup

6.4.2 Test Procedure

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

6.5 Frequency Stability

6.5.1 Test Setup

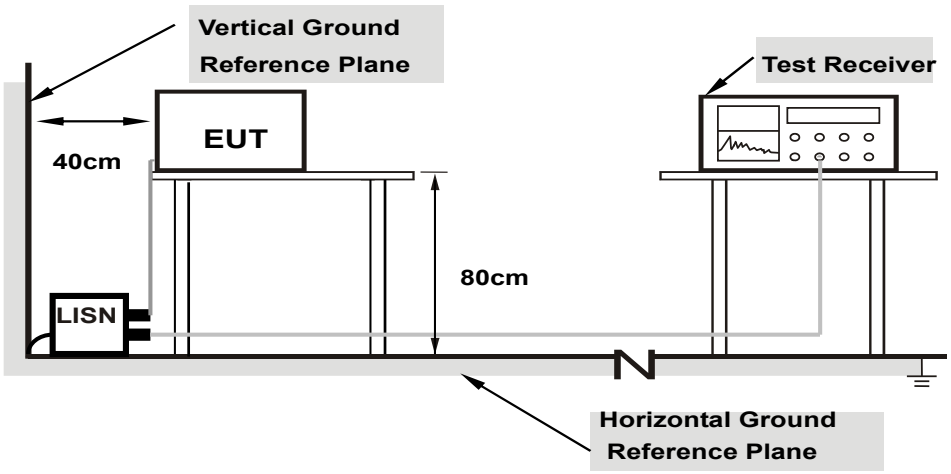


6.5.2 Test Procedure

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

6.6 AC Power Conducted Emissions

6.6.1 Test Setup



Note: 1.Support units were connected to second LISN.

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

6.6.2 Test Procedure

a. 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.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

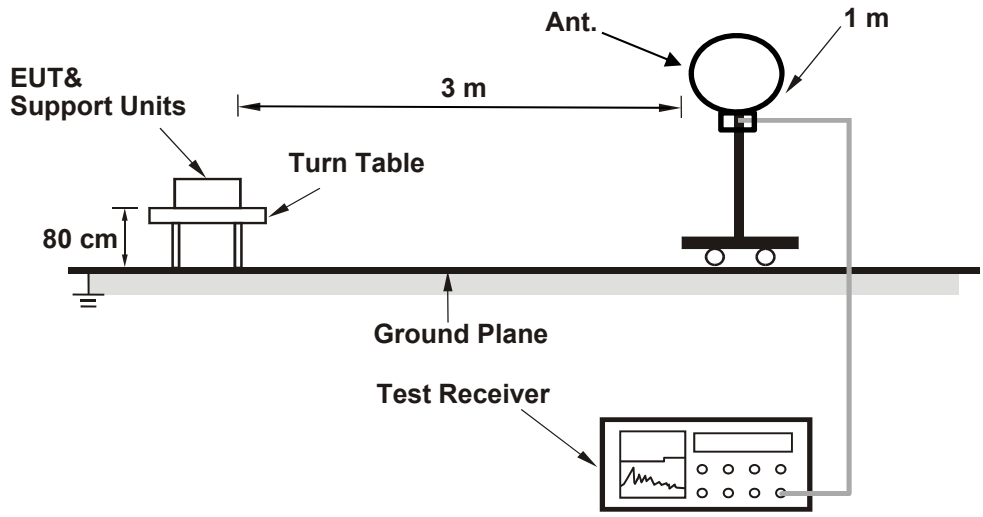
c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

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

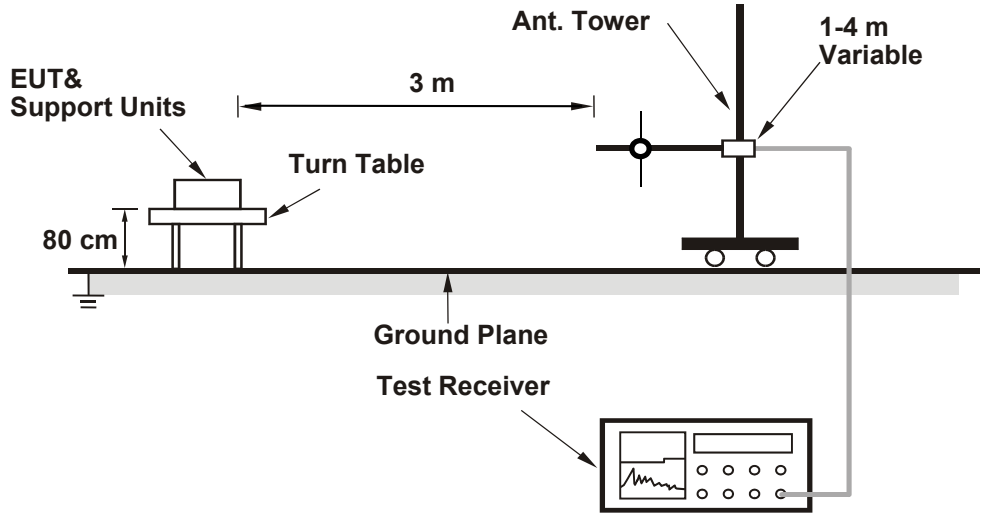
6.7 Unwanted Emissions below 1 GHz

6.7.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



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

6.7.2 Test Procedure

For Radiated emission below 30 MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode, except for the frequency band (9 kHz to 90 kHz and 110 kHz to 490 kHz) set to average detect function and peak detect function.

Notes:

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

For Radiated emission above 30 MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

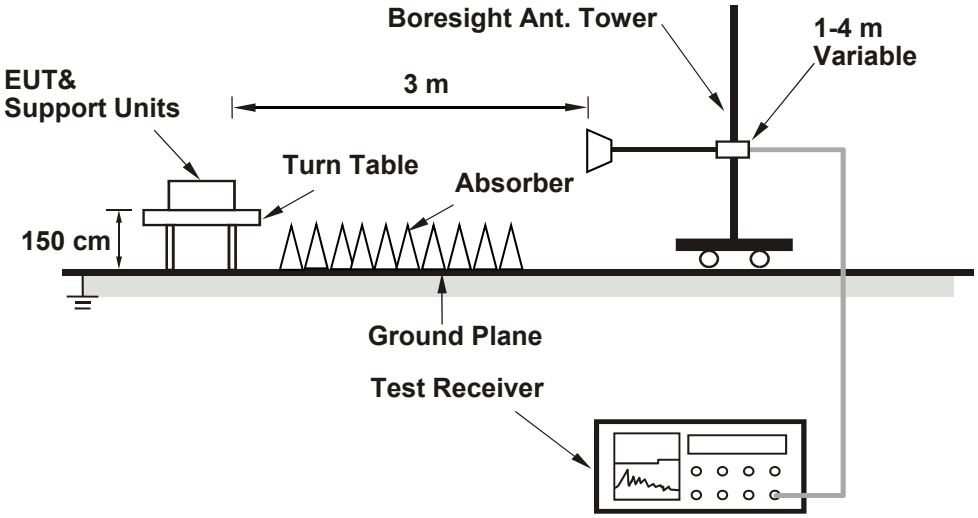
e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

Notes:

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

6.8 Unwanted Emissions above 1 GHz

6.8.1 Test Setup



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

6.8.2 Test Procedure

a. 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.

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 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:

1. 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.
2. For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10 Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1 GHz.
3. 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

Mode A: 5GHz Radio 2: QCN-5154 Module

802.11a

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	19.61	19.81	19.87	19.85
60	5300	19.72	19.80	19.67	19.81
64	5320	19.69	19.74	19.67	19.70
100	5500	19.71	19.74	19.71	19.70
116	5580	19.68	19.63	19.61	19.76
140	5700	19.85	19.77	19.92	19.79
144 (U-NII-2C)	5720	15.08	15.14	15.09	15.05
144 (U-NII-3)	5720	4.84	4.72	4.78	4.76

Determined Output Power Limit					
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)		
52	5260	19.61	23.92	<	24
60	5300	19.67	23.93	<	24
64	5320	19.67	23.93	<	24
100	5500	19.70	23.94	<	24
116	5580	19.61	23.92	<	24
140	5700	19.77	23.96	<	24
144 (U-NII-2C)	5720	15.05	22.77	<	24

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

802.11ax (HE20)

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	21.53	21.71	21.71	21.38
60	5300	21.93	21.32	21.50	21.56
64	5320	21.58	21.63	21.50	21.40
100	5500	21.61	22.04	21.49	21.38
116	5580	21.65	21.51	21.59	21.34
140	5700	21.80	21.59	21.43	21.24
144 (U-NII-2C)	5720	15.71	15.78	15.65	15.82
144 (U-NII-3)	5720	5.65	5.67	5.54	5.74

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
52	5260	21.38	24.3 > 24
60	5300	21.32	24.28 > 24
64	5320	21.40	24.3 > 24
100	5500	21.38	24.3 > 24
116	5580	21.34	24.29 > 24
140	5700	21.24	24.27 > 24
144 (U-NII-2C)	5720	15.65	22.94 < 24

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

802.11ax (HE40)

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	42.63	42.53	42.71	42.17
62	5310	42.92	42.58	42.53	42.36
102	5510	42.25	42.14	42.34	42.33
110	5550	42.42	42.47	41.99	42.08
134	5670	42.57	42.02	42.67	41.81
142 (U-NII-2C)	5710	36.36	36.38	36.06	36.16
142 (U-NII-3)	5710	6.26	6.29	6.02	6.29

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
54	5270	42.17	27.25 > 24
62	5310	42.36	27.26 > 24
102	5510	42.14	27.24 > 24
110	5550	41.99	27.23 > 24
134	5670	41.81	27.21 > 24
142 (U-NII-2C)	5710	36.06	26.57 > 24

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

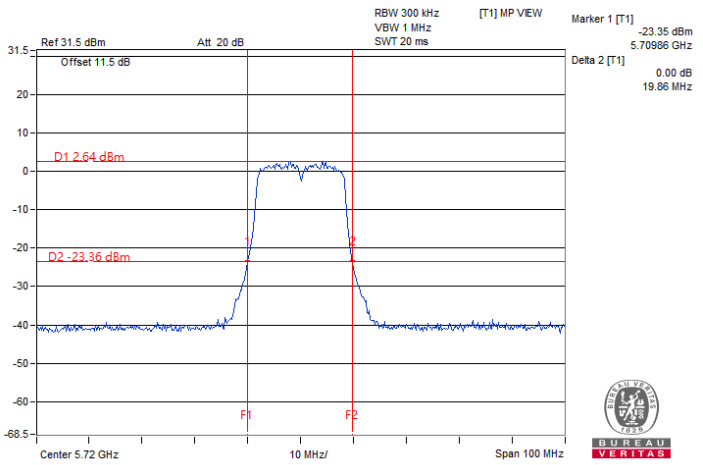
802.11ax (HE80)

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	83.31	82.75	82.99	83.39
106	5530	83.16	83.07	82.61	83.22
122	5610	82.97	82.98	82.82	83.26
138 (U-NII-2C)	5690	76.49	76.70	77.11	76.67
138 (U-NII-3)	5690	6.72	6.41	6.46	6.43

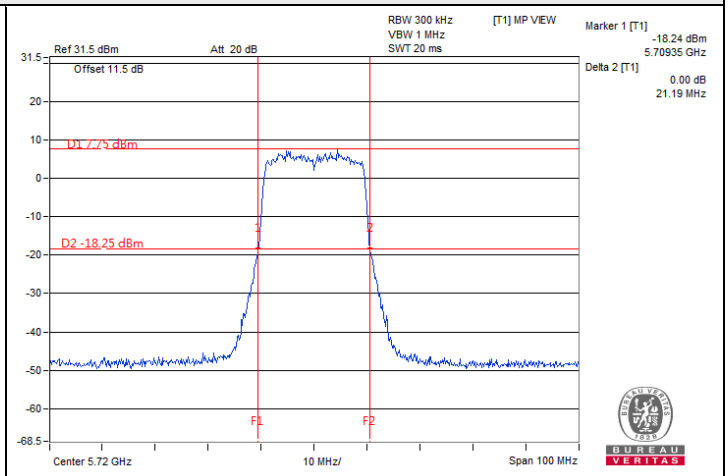
Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
58	5290	82.75	30.17 > 24
106	5530	82.61	30.17 > 24
122	5610	82.82	30.18 > 24
138 (U-NII-2C)	5690	76.49	29.83 > 24

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

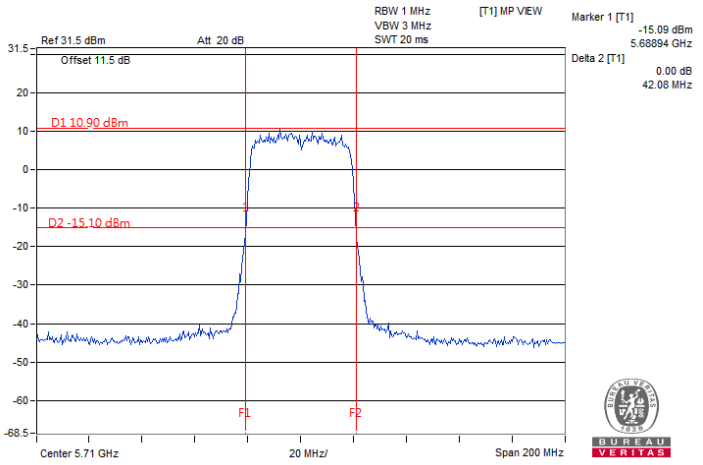
Spectrum Plot of Minimum Value



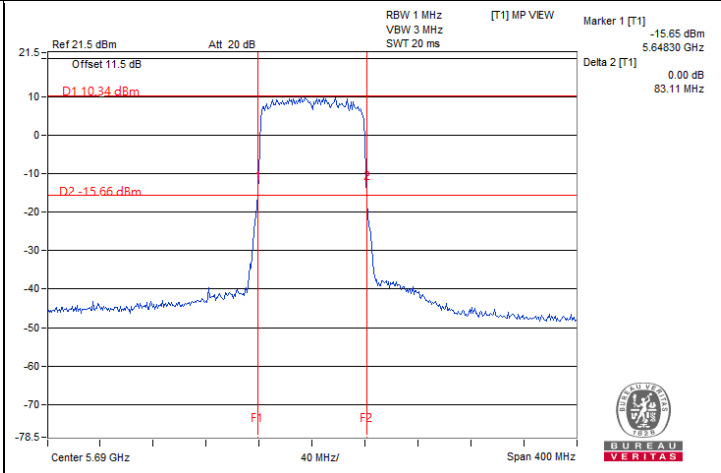
802.11a / Chain 1 : CH 144 (U-NII-3)



802.11ax (HE20) / Chain 2 : CH 144 (U-NII-3)



802.11ax (HE40) / Chain 2 : CH 142 (U-NII-3)



802.11ax (HE80) / Chain 1 : CH 138 (U-NII-3)

Notes:

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

Mode B: Scan Radio 3: QCA-9889 Module

802.11a

Channel	Frequency (MHz)	26dB Bandwidth (MHz)
52	5260	29.54
60	5300	32.4
64	5320	29.81
100	5500	25.93
116	5580	25.32
140	5700	29.26
144 (U-NII-2C)	5720	20.24
144 (U-NII-3)	5720	9.15

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
52	5260	29.54	25.7 > 24
60	5300	32.40	26.1 > 24
64	5320	29.81	25.74 > 24
100	5500	25.93	25.13 > 24
116	5580	25.32	25.03 > 24
140	5700	29.26	25.66 > 24
144 (U-NII-2C)	5720	20.24	24.06 > 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)	26dB Bandwidth (MHz)
52	5260	31.56
60	5300	32.98
64	5320	32.67
100	5500	27.77
116	5580	27.77
140	5700	29.45
144 (U-NII-2C)	5720	20.89
144 (U-NII-3)	5720	11.08

Determined Output Power Limit					
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)		
52	5260	31.56	25.99	>	24
60	5300	32.98	26.18	>	24
64	5320	32.67	26.14	>	24
100	5500	27.77	25.43	>	24
116	5580	27.77	25.43	>	24
140	5700	29.45	25.69	>	24
144 (U-NII-2C)	5720	20.89	24.19	>	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)	26dB Bandwidth (MHz)
54	5270	64.07
62	5310	59.5
102	5510	55.76
110	5550	55.13
134	5670	58.75
142 (U-NII-2C)	5710	45.73
142 (U-NII-3)	5710	15.36

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
54	5270	64.07	29.06 > 24
62	5310	59.50	28.74 > 24
102	5510	55.76	28.46 > 24
110	5550	55.13	28.41 > 24
134	5670	58.75	28.69 > 24
142 (U-NII-2C)	5710	45.73	27.6 > 24

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

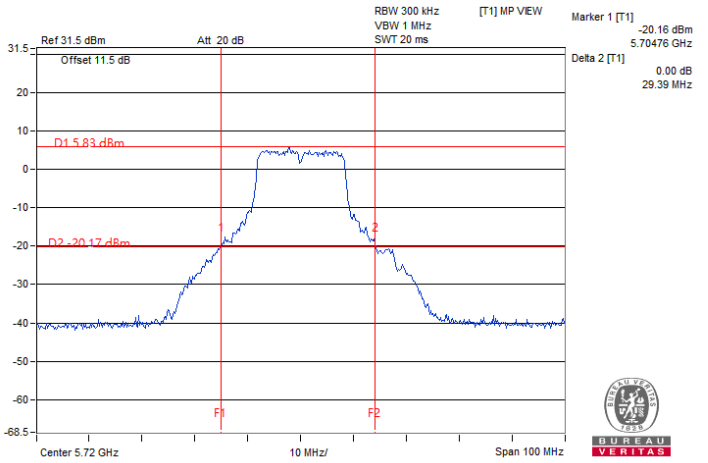
802.11ac (VHT80)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)
58	5290	103.58
106	5530	102.22
122	5610	104.37
138 (U-NII-2C)	5690	92.31
138 (U-NII-3)	5690	19.4

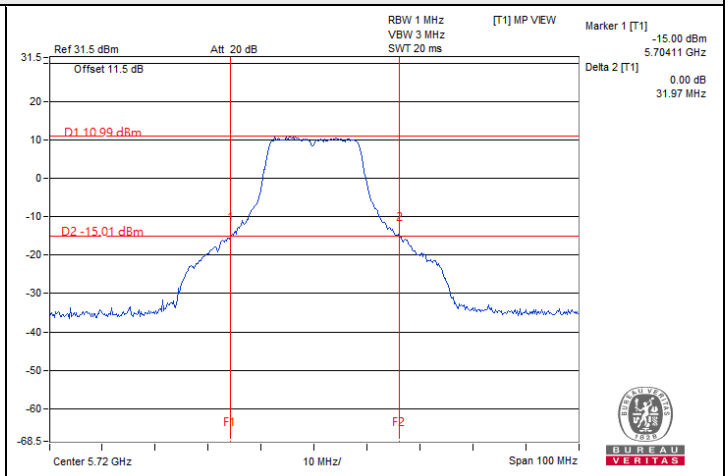
Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
58	5290	103.58	31.15 > 24
106	5530	102.22	31.09 > 24
122	5610	104.37	31.18 > 24
138 (U-NII-2C)	5690	92.31	30.65 > 24

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

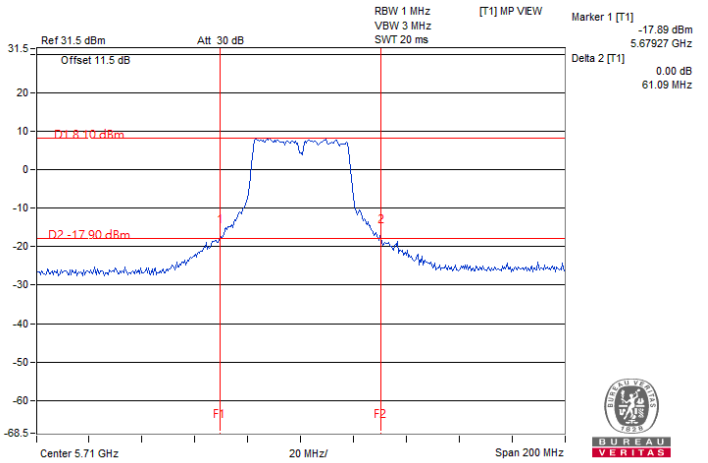
Spectrum Plot of Minimum Value



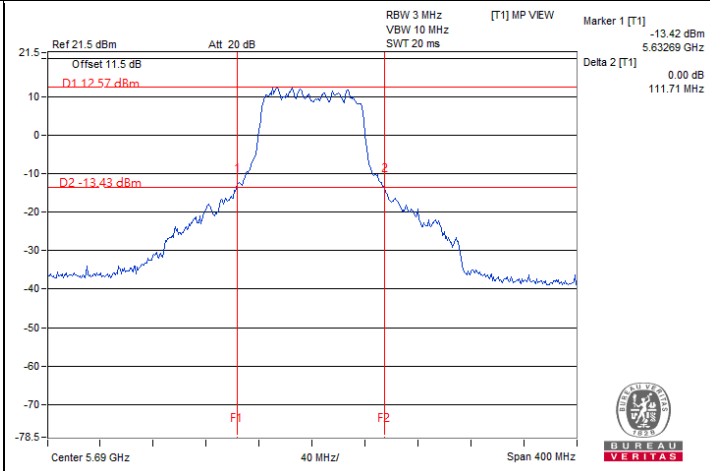
802.11a : CH 144 (U-NII-3)



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



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



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

Notes:

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

7.2 RF Output Power

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Jisyong Wang

Mode A: 5GHz Radio 2: QCN-5154 Module

CDD Mode

802.11a

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	11.16	11.02	10.71	11.01	50.103	17.00	22.82	Pass
60	5300	10.91	10.75	10.48	10.73	47.215	16.74	22.83	Pass
64	5320	11.31	11.02	10.97	11.25	52.006	17.16	22.83	Pass
100	5500	10.78	10.25	10.42	10.31	44.315	16.47	22.74	Pass
116	5580	10.57	10.10	10.46	10.23	43.297	16.36	22.72	Pass
140	5700	10.56	10.54	10.53	10.40	44.963	16.53	22.76	Pass
*144 (U-NII-2C)	5720	9.58	9.60	9.58	9.01	37.285	15.72	21.57	Pass
*144 (U-NII-3)	5720	3.34	3.32	3.32	2.75	8.821	9.46	28.6	Pass

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-2A, the directional gain is 7.1 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(7.1-6)].
4. For U-NII-2C, the directional gain is 7.2 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(7.2-6)].
5. For U-NII-3, the directional gain is 7.4 dBi > 6 dBi, so the output power limit shall be reduced to 30-(7.4-6) = 28.6 dBm.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	11.23	11.16	10.81	11.15	51.418	17.11	22.9	Pass
60	5300	11.08	10.87	10.77	11.02	49.629	16.96	22.9	Pass
64	5320	11.09	11.02	10.49	11.02	49.342	16.93	22.9	Pass
100	5500	10.81	10.43	10.65	10.22	45.225	16.55	22.8	Pass
116	5580	10.62	10.43	10.32	10.37	44.229	16.46	22.8	Pass
140	5700	10.63	10.69	10.71	10.53	46.357	16.66	22.8	Pass
*144 (U-NII-2C)	5720	9.43	9.25	8.96	9.11	35.022	15.44	21.74	Pass
*144 (U-NII-3)	5720	3.82	3.49	3.47	3.50	9.605	9.82	28.6	Pass

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-2A, the directional gain is 7.1 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(7.1-6)].
4. For U-NII-2C, the directional gain is 7.2 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(7.2-6)].
5. For U-NII-3, the directional gain is 7.4 dBi > 6 dBi, so the output power limit shall be reduced to 30-(7.4-6) = 28.6 dBm.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	14.15	14.29	13.92	14.27	104.245	20.18	22.9	Pass
62	5310	14.23	14.12	13.90	14.07	102.382	20.10	22.9	Pass
102	5510	13.52	13.02	13.36	12.99	84.119	19.25	22.8	Pass
110	5550	13.68	13.21	13.39	13.32	87.581	19.42	22.8	Pass
134	5670	13.73	13.82	13.61	13.58	93.469	19.71	22.8	Pass
*142 (U-NII-2C)	5710	13.23	13.32	13.03	12.93	86.759	19.38	22.8	Pass
*142 (U-NII-3)	5710	3.31	2.29	2.52	2.35	7.745	8.89	28.6	Pass

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-2A, the maximum gain is 7.1 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(7.1-6)].
4. For U-NII-2C, the maximum gain is 7.2 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(7.2-6)].
5. For U-NII-3, the maximum gain is 7.4 dBi > 6 dBi, so the output power limit shall be reduced to 30-(7.4-6) = 28.6 dBm.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	16.73	16.52	16.35	16.59	180.728	22.57	22.9	Pass
106	5530	16.58	16.11	16.44	16.12	171.312	22.34	22.8	Pass
122	5610	16.77	16.57	16.55	16.49	182.679	22.62	22.8	Pass
*138 (U-NII-2C)	5690	15.96	15.93	15.84	15.82	164.831	22.17	22.8	Pass
*138 (U-NII-3)	5690	1.62	1.57	1.47	1.42	6.03	7.80	28.6	Pass

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-2A, the maximum gain is 7.1 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(7.1-6)].
4. For U-NII-2C, the maximum gain is 7.2 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(7.2-6)].
5. For U-NII-3, the maximum gain is 7.4 dBi > 6 dBi, so the output power limit shall be reduced to 30-(7.4-6) = 28.6 dBm.

Beamforming Mode

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	11.23	11.16	10.81	11.15	51.418	17.11	17.45	Pass
60	5300	11.08	10.87	10.77	11.02	49.629	16.96	17.45	Pass
64	5320	11.09	11.02	10.49	11.02	49.342	16.93	17.45	Pass
100	5500	10.81	10.43	10.65	10.22	45.225	16.55	16.95	Pass
116	5580	10.62	10.43	10.32	10.37	44.229	16.46	16.95	Pass
140	5700	10.63	10.69	10.71	10.53	46.357	16.66	16.95	Pass
*144 (U-NII-2C)	5720	9.43	9.25	8.96	9.11	35.022	15.44	15.89	Pass
*144 (U-NII-3)	5720	3.82	3.49	3.47	3.50	9.605	9.82	23.14	Pass

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
2. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
3. For U-NII-2A, the directional gain is 12.55 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(12.55-6)].
4. For U-NII-2C, the directional gain is 13.05 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(13.05-6)].
5. For U-NII-3, the directional gain is 12.86 dBi > 6 dBi, so the output power limit shall be reduced to 30-(12.86-6) = 23.14 dBm.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	11.15	11.29	10.92	11.27	52.247	17.18	17.45	Pass
62	5310	11.23	11.12	10.90	11.07	51.312	17.10	17.45	Pass
102	5510	11.02	10.52	10.86	10.49	47.304	16.75	16.95	Pass
110	5550	11.18	10.71	10.89	10.82	49.251	16.92	16.95	Pass
134	5670	10.73	10.82	10.61	10.58	46.845	16.71	16.95	Pass
*142 (U-NII-2C)	5710	10.73	10.82	10.53	10.43	48.788	16.88	16.95	Pass
*142 (U-NII-3)	5710	0.81	-0.21	0.02	-0.15	4.3553	6.39	23.14	Pass

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
2. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
3. For U-NII-2A, the directional gain is 12.55 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(12.55-6)].
4. For U-NII-2C, the directional gain is 13.05 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(13.05-6)].
5. For U-NII-3, the directional gain is 12.86 dBi > 6 dBi, so the output power limit shall be reduced to 30-(12.86-6) = 23.14 dBm.

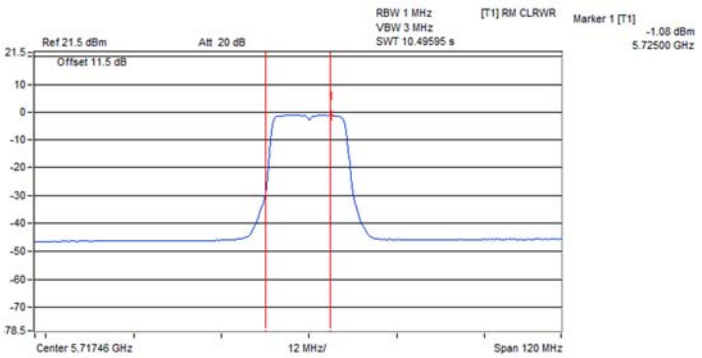
802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	11.23	11.02	10.85	11.09	50.936	17.07	17.45	Pass
106	5530	11.08	10.61	10.94	10.62	48.282	16.84	16.95	Pass
122	5610	10.77	10.57	10.55	10.49	45.887	16.62	16.95	Pass
*138 (U-NII-2C)	5690	10.46	10.43	10.34	10.32	46.456	16.67	16.95	Pass
*138 (U-NII-3)	5690	-3.88	-3.93	-4.03	-4.08	1.6995	2.30	23.14	Pass

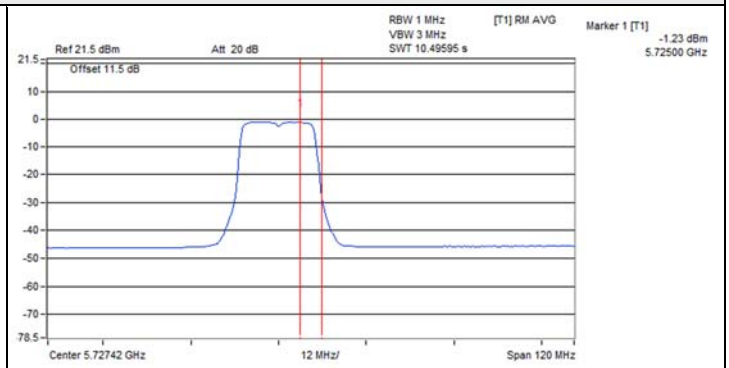
Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
2. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
3. For U-NII-2A, the directional gain is 12.55 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(12.55-6)].
4. For U-NII-2C, the directional gain is 13.05 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(13.05-6)].
5. For U-NII-3, the directional gain is 12.86 dBi > 6 dBi, so the output power limit shall be reduced to 30-(12.86-6) = 23.14 dBm.

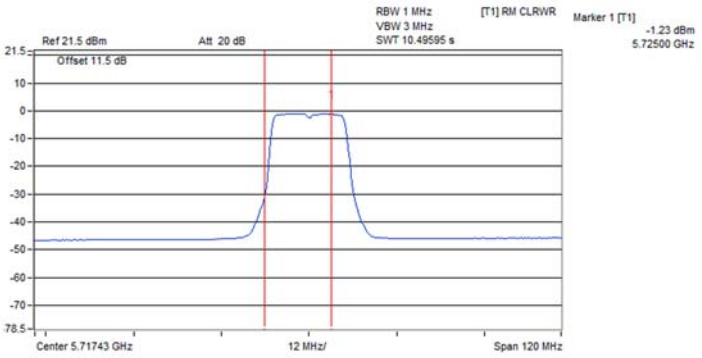
Spectrum Plot for channel straddling



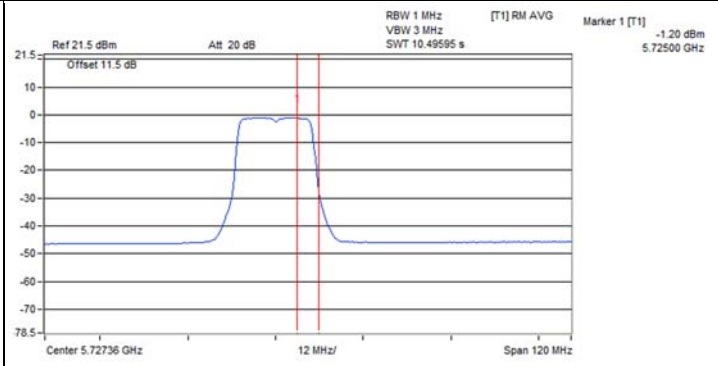
802.11a / Chain 0 : CH 144 (U-NII-2C)



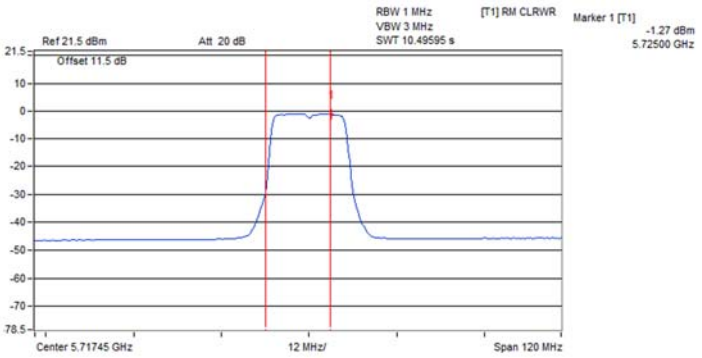
802.11a / Chain 0 : CH 144 (U-NII-3)



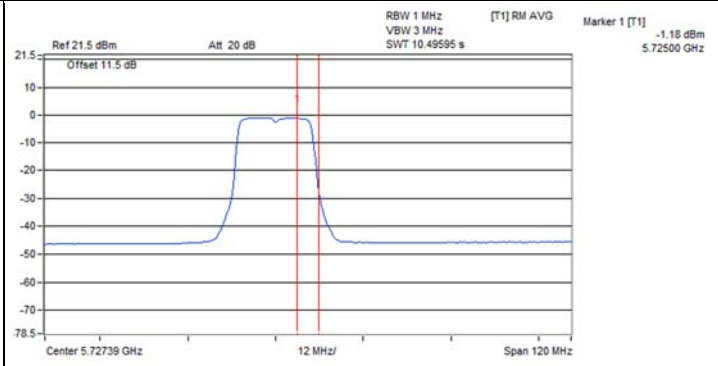
802.11a / Chain 1 : CH 144 (U-NII-2C)



802.11a / Chain 1 : CH 144 (U-NII-3)

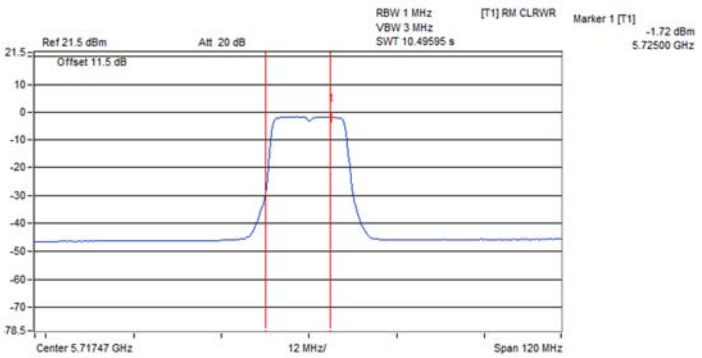


802.11a / Chain 2 : CH 144 (U-NII-2C)



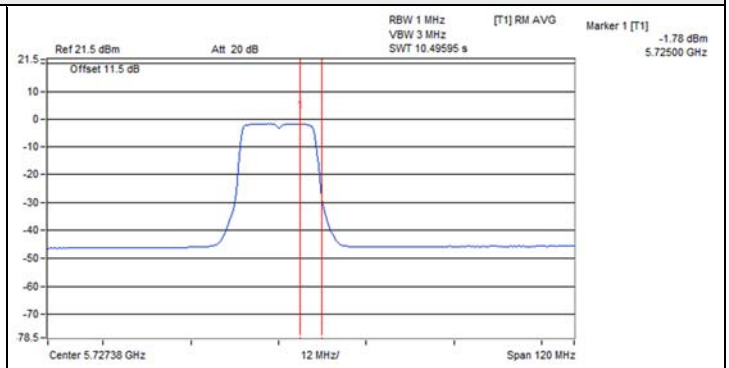
802.11a / Chain 2 : CH 144 (U-NII-3)

Spectrum Plot for channel straddling



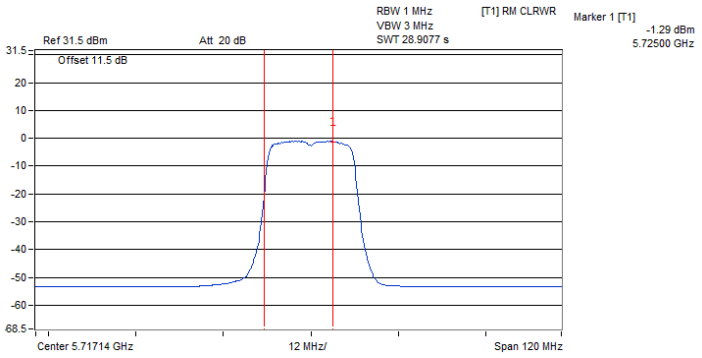
TX Channel Bandwidth 15.05 MHz Power 9.01 dBm

802.11a / Chain 3 : CH 144 (U-NII-2C)



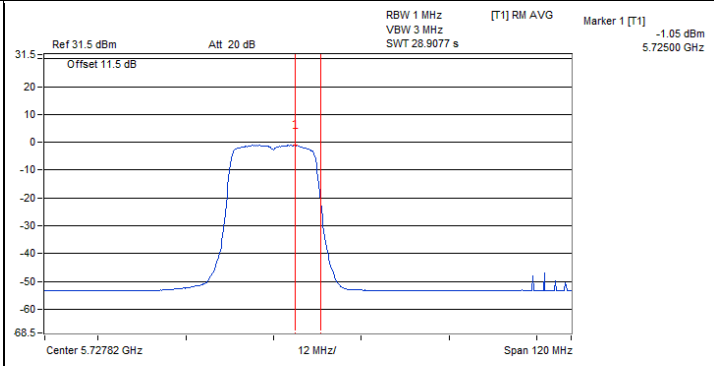
TX Channel Bandwidth 4.76 MHz Power 2.75 dBm

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



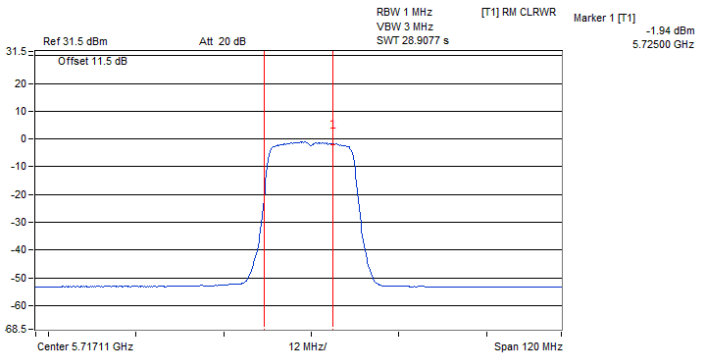
TX Channel Bandwidth 15.71 MHz Power 9.43 dBm

802.11ax (HE20) / Chain 0 : CH 144 (U-NII-2C)



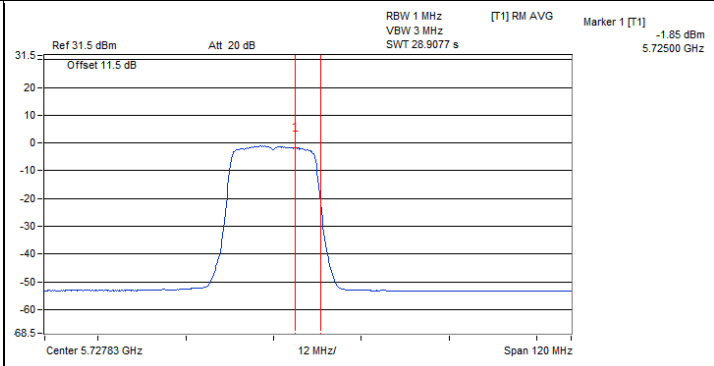
TX Channel Bandwidth 5.65 MHz Power 3.82 dBm

802.11ax (HE20) / Chain 0 : CH 144 (U-NII-3)



TX Channel Bandwidth 15.78 MHz Power 9.25 dBm

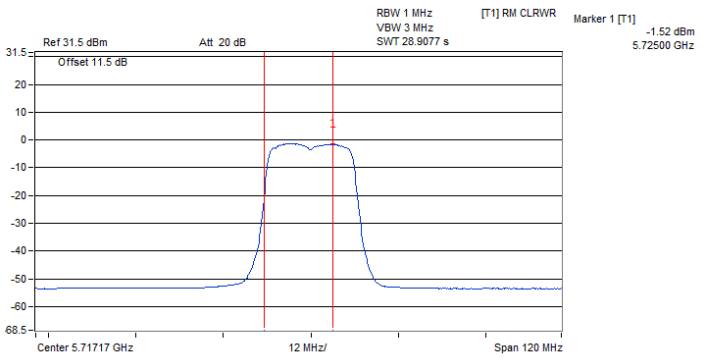
802.11ax (HE20) / Chain 1 : CH 144 (U-NII-2C)



TX Channel Bandwidth 5.67 MHz Power 3.49 dBm

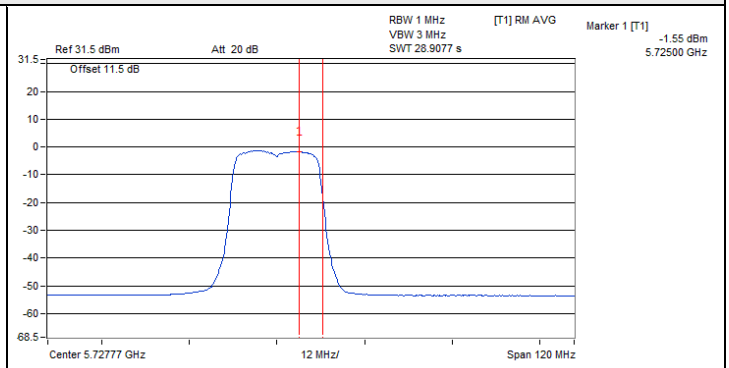
802.11ax (HE20) / Chain 1 : CH 144 (U-NII-3)

Spectrum Plot for channel straddling



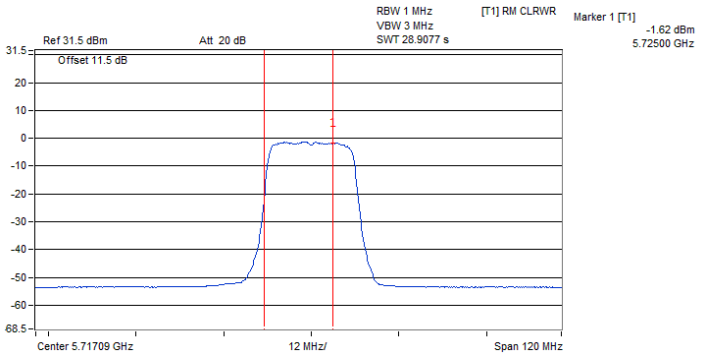
TX Channel Bandwidth 15.65 MHz Power 8.96 dBm

802.11ax (HE20) / Chain 2 : CH 144 (U-NII-2C)



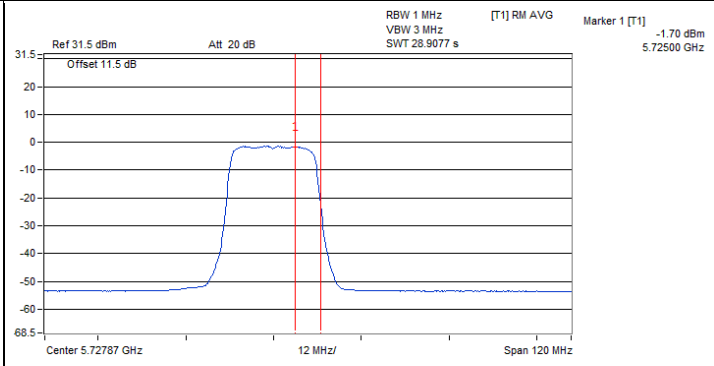
TX Channel Bandwidth 5.54 MHz Power 3.47 dBm

802.11ax (HE20) / Chain 2 : CH 144 (U-NII-3)



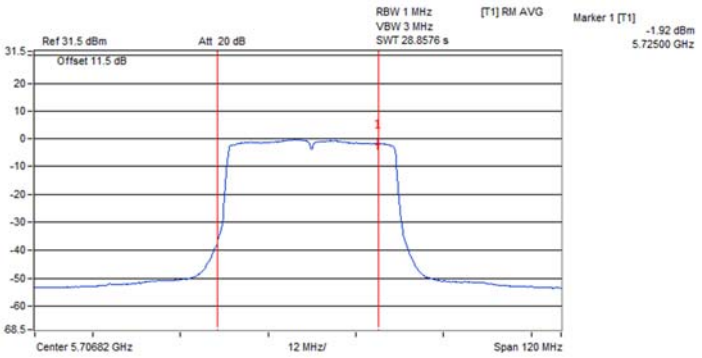
TX Channel Bandwidth 15.82 MHz Power 9.11 dBm

802.11ax (HE20) / Chain 3 : CH 144 (U-NII-2C)



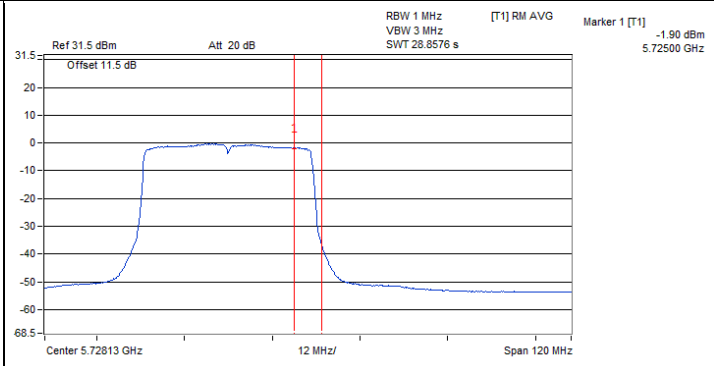
TX Channel Bandwidth 5.74 MHz Power 3.5 dBm

802.11ax (HE20) / Chain 3 : CH 144 (U-NII-3)



TX Channel Bandwidth 36.36 MHz Power 13.23 dBm

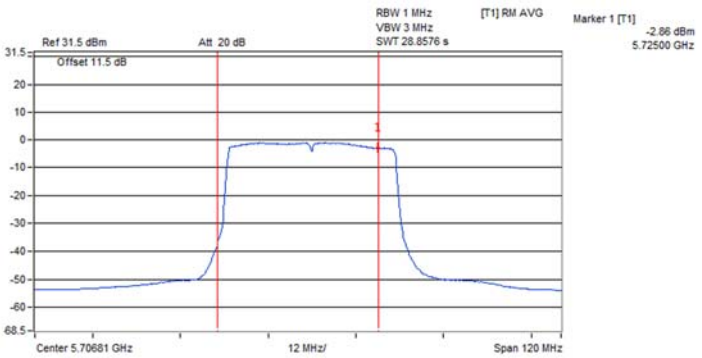
802.11ax (HE40) / Chain 0 : CH 142 (U-NII-2C)



TX Channel Bandwidth 6.26 MHz Power 3.31 dBm

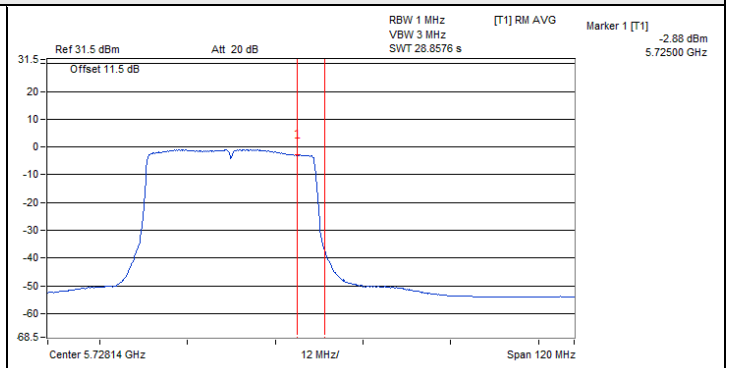
802.11ax (HE40) / Chain 0 : CH 142 (U-NII-3)

Spectrum Plot for channel straddling



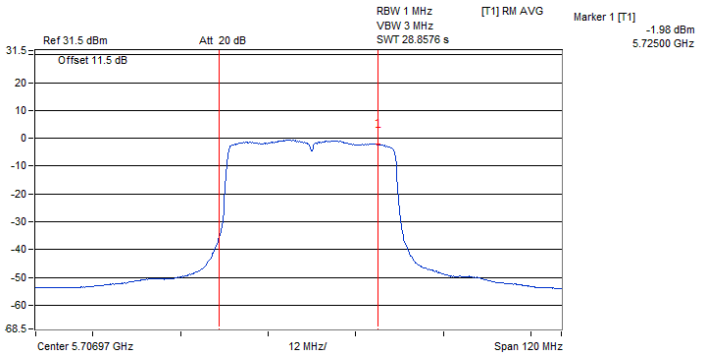
TX Channel Bandwidth 36.38 MHz Power 13.32 dBm

802.11ax (HE40) / Chain 1 : CH 142 (U-NII-2C)



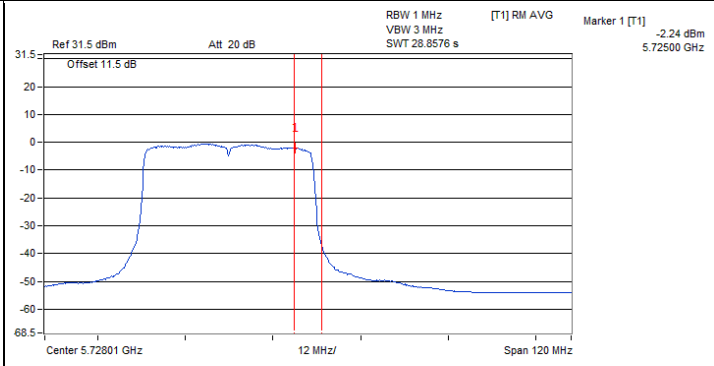
TX Channel Bandwidth 6.29 MHz Power 2.29 dBm

802.11ax (HE40) / Chain 1 : CH 142 (U-NII-3)



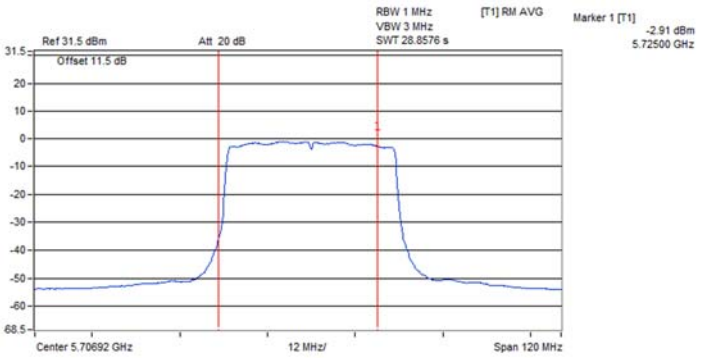
TX Channel Bandwidth 36.06 MHz Power 13.03 dBm

802.11ax (HE40) / Chain 2 : CH 142 (U-NII-2C)



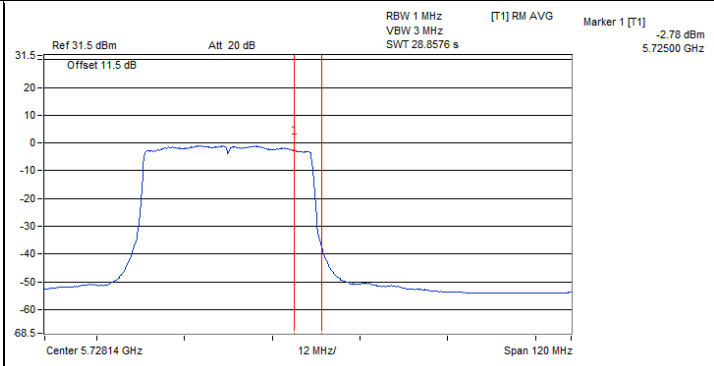
TX Channel Bandwidth 6.02 MHz Power 2.52 dBm

802.11ax (HE40) / Chain 2 : CH 142 (U-NII-3)



TX Channel Bandwidth 36.16 MHz Power 12.93 dBm

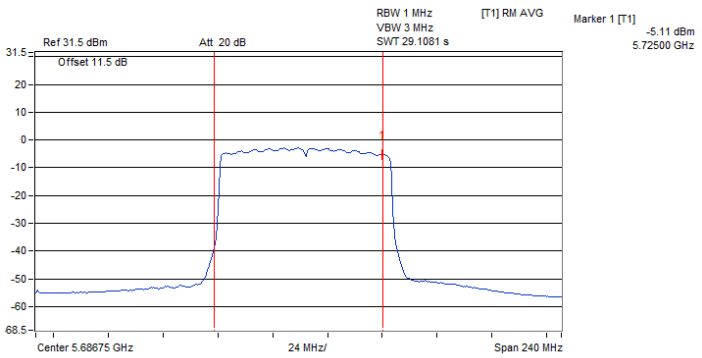
802.11ax (HE40) / Chain 3 : CH 142 (U-NII-2C)



TX Channel Bandwidth 6.29 MHz Power 2.35 dBm

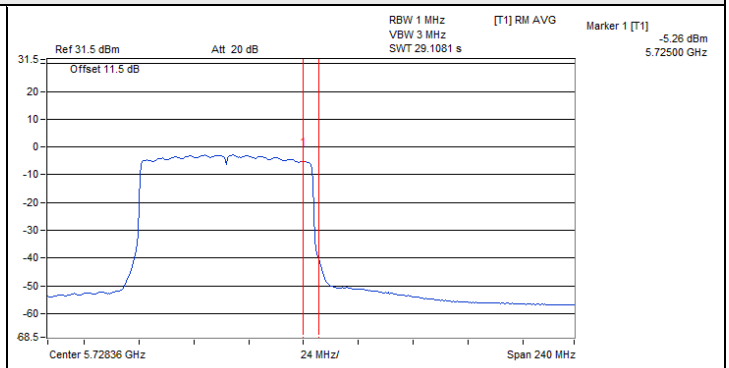
802.11ax (HE40) / Chain 3 : CH 142 (U-NII-3)

Spectrum Plot for channel straddling



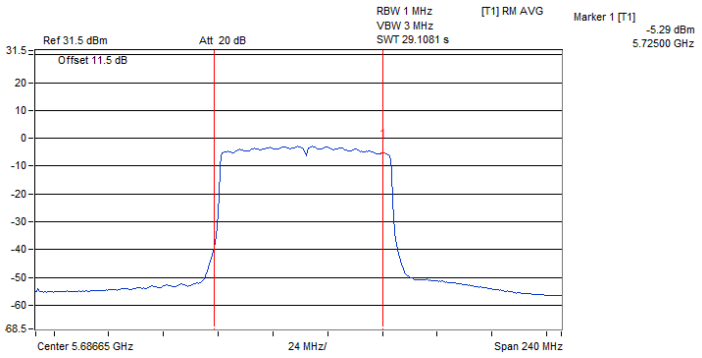
TX Channel Bandwidth 76.49 MHz Power 15.96 dBm

802.11ax (HE80) / Chain 0 : CH 138 (U-NII-2C)



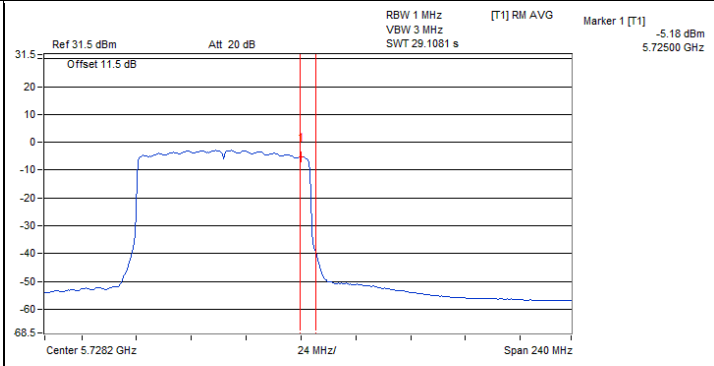
TX Channel Bandwidth 6.72 MHz Power 1.62 dBm

802.11ax (HE80) / Chain 0 : CH 138 (U-NII-3)



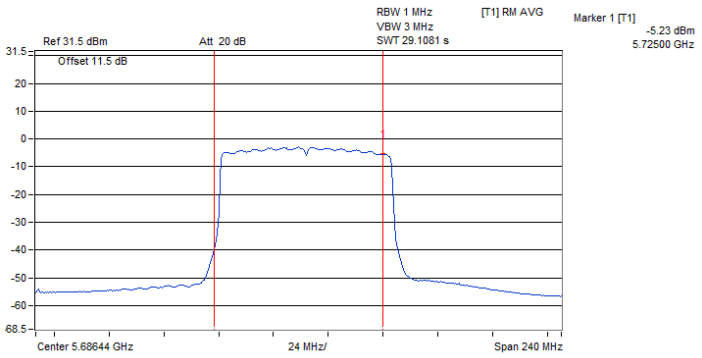
TX Channel Bandwidth 76.7 MHz Power 15.93 dBm

802.11ax (HE80) / Chain 1 : CH 138 (U-NII-2C)



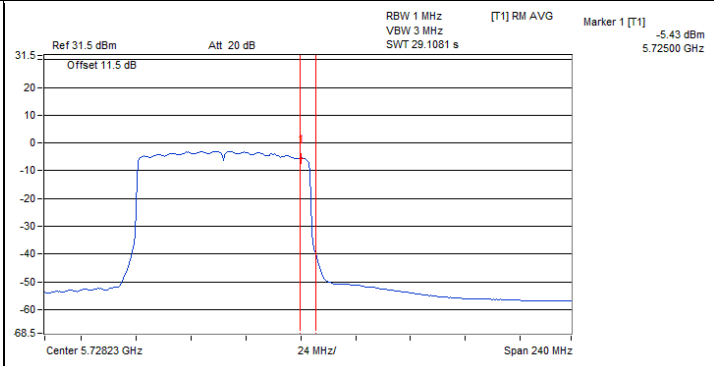
TX Channel Bandwidth 6.41 MHz Power 1.57 dBm

802.11ax (HE80) / Chain 1 : CH 138 (U-NII-3)



TX Channel Bandwidth 77.11 MHz Power 15.84 dBm

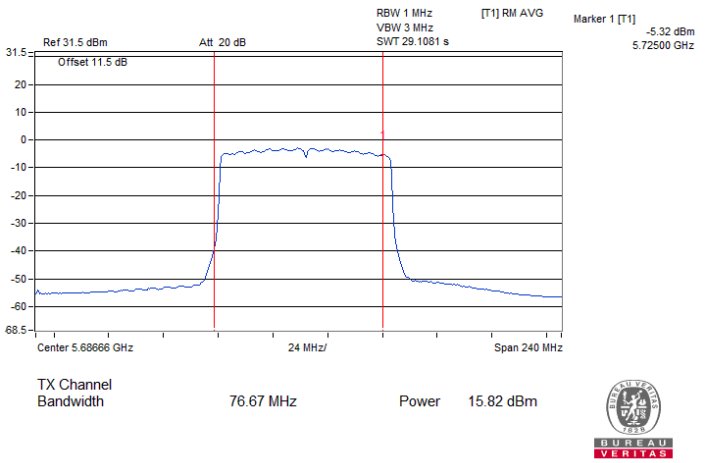
802.11ax (HE80) / Chain 2 : CH 138 (U-NII-2C)



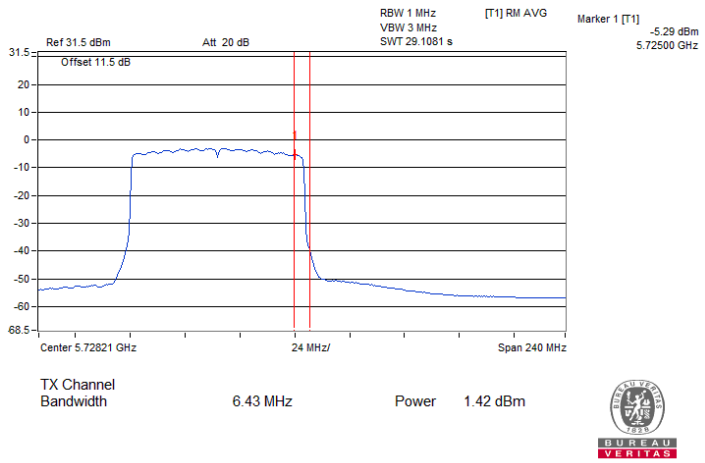
TX Channel Bandwidth 6.46 MHz Power 1.47 dBm

802.11ax (HE80) / Chain 2 : CH 138 (U-NII-3)

Spectrum Plot for channel straddling



802.11ax (HE80) / Chain 3 : CH 138 (U-NII-2C)



802.11ax (HE80) / Chain 3 : CH 138 (U-NII-3)

Mode B: Scan Radio 3: QCA-9889 Module

CDD Mode

802.11a

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
52	5260	29.04	14.63	24	Pass
60	5300	28.642	14.57	24	Pass
64	5320	28.314	14.52	24	Pass
100	5500	30.061	14.78	22.9	Pass
116	5580	30.479	14.84	22.9	Pass
140	5700	30.13	14.79	22.9	Pass
*144 (U-NII-2C)	5720	19.512	12.90	22.9	Pass
*144 (U-NII-3)	5720	4.812	6.82	29.1	Pass

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
2. For U-NII-2A, the antenna gain is 5.9 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-2C, the antenna gain is 7.1 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(7.1-6)].
4. For U-NII-3, the antenna gain is 6.9 dBi > 6 dBi, so the output power limit shall be reduced to 30-(6.9-6) = 29.1 dBm.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
52	5260	29.648	14.72	24	Pass
60	5300	29.376	14.68	24	Pass
64	5320	29.648	14.72	24	Pass
100	5500	31.046	14.92	22.9	Pass
116	5580	31.117	14.93	22.9	Pass
140	5700	27.227	14.35	22.9	Pass
*144 (U-NII-2C)	5720	19.382	12.87	22.9	Pass
*144 (U-NII-3)	5720	5.388	7.31	29.1	Pass

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
2. For U-NII-2A, the antenna gain is 5.9 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-2C, the antenna gain is 7.1 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(7.1-6)].
4. For U-NII-3, the antenna gain is 6.9 dBi > 6 dBi, so the output power limit shall be reduced to 30-(6.9-6) = 29.1 dBm.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
54	5270	27.733	14.43	24	Pass
62	5310	18.03	12.56	24	Pass
102	5510	20.989	13.22	22.9	Pass
110	5550	27.669	14.42	22.9	Pass
134	5670	28.51	14.55	22.9	Pass
*142 (U-NII-2C)	5710	22.786	13.58	22.9	Pass
*142 (U-NII-3)	5710	2.069	3.16	29.1	Pass

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
2. For U-NII-2A, the antenna gain is 5.9 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-2C, the antenna gain is 7.1 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(7.1-6)].
4. For U-NII-3, the antenna gain is 6.9 dBi > 6 dBi, so the output power limit shall be reduced to 30-(6.9-6) = 29.1 dBm.

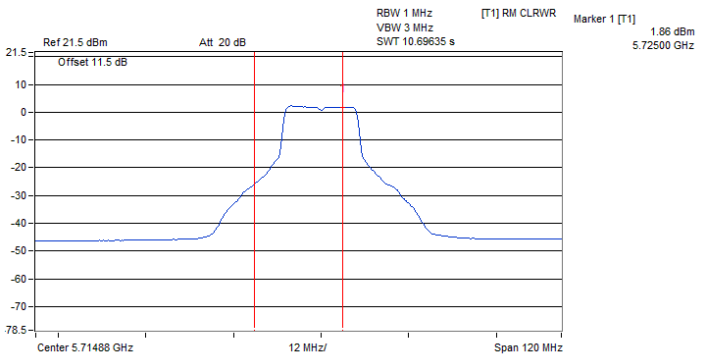
802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
58	5290	11.015	10.42	24	Pass
106	5530	13.459	11.29	22.9	Pass
122	5610	27.669	14.42	22.9	Pass
*138 (U-NII-2C)	5690	23.428	13.70	22.9	Pass
*138 (U-NII-3)	5690	0.9157	-0.38	29.1	Pass

Notes:

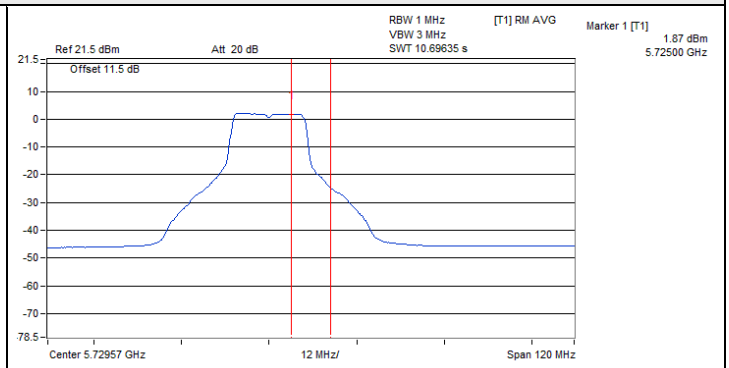
1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
2. For U-NII-2A, the antenna gain is 5.9 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-2C, the antenna gain is 7.1 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(7.1-6)].
4. For U-NII-3, the antenna gain is 6.9 dBi > 6 dBi, so the output power limit shall be reduced to 30-(6.9-6) = 29.1 dBm.

Spectrum Plot for channel straddling



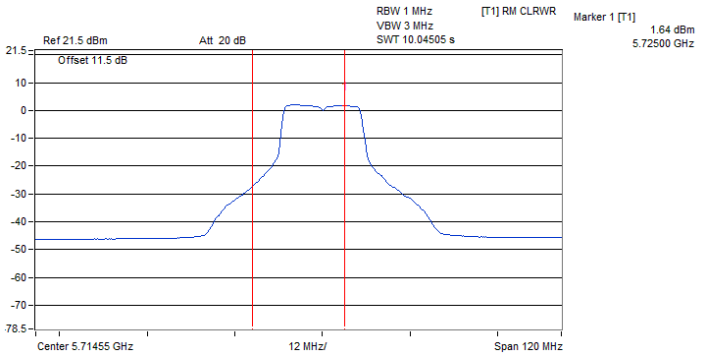
TX Channel Bandwidth 20.24 MHz Power 12.75 dBm

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



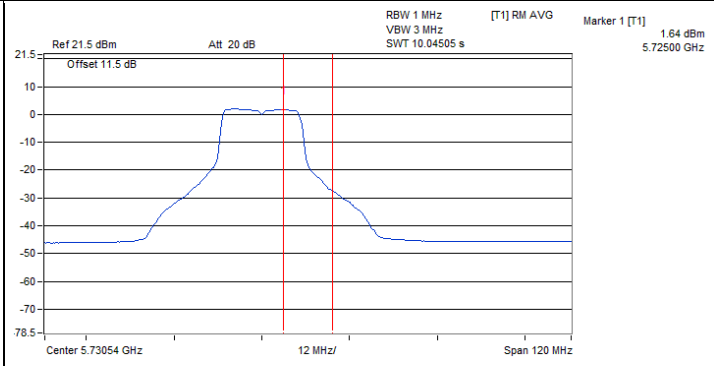
TX Channel Bandwidth 9.15 MHz Power 6.67 dBm

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



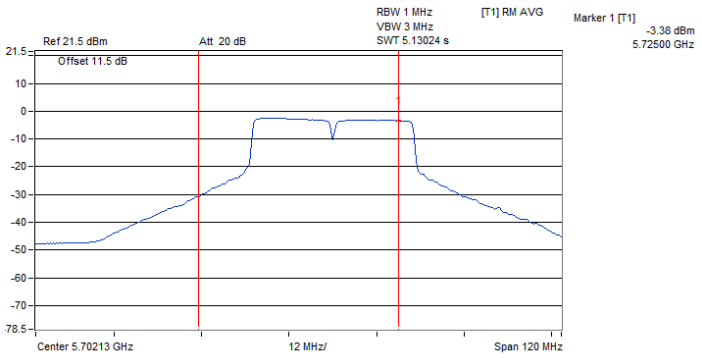
TX Channel Bandwidth 20.89 MHz Power 12.7 dBm

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



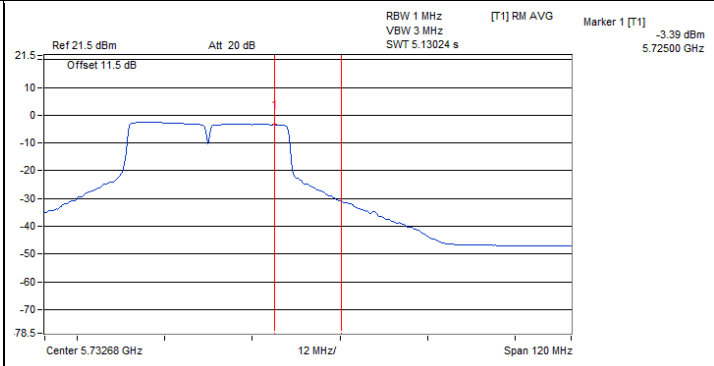
TX Channel Bandwidth 11.08 MHz Power 7.14 dBm

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



TX Channel Bandwidth 45.73 MHz Power 13.26 dBm

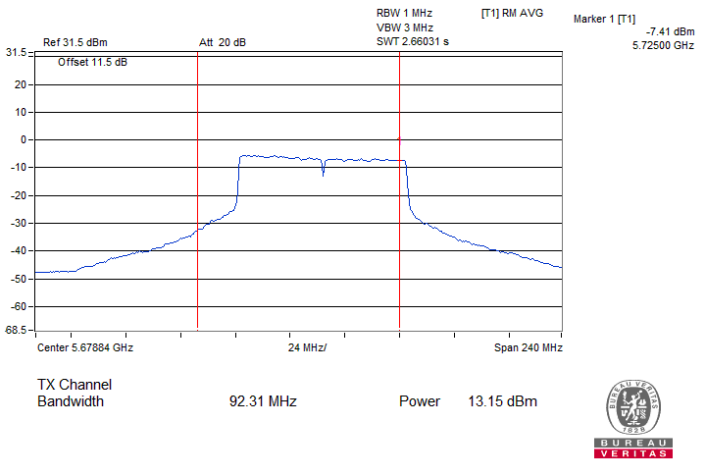
802.11ac (VHT40) : CH 142 (U-NII-2C)



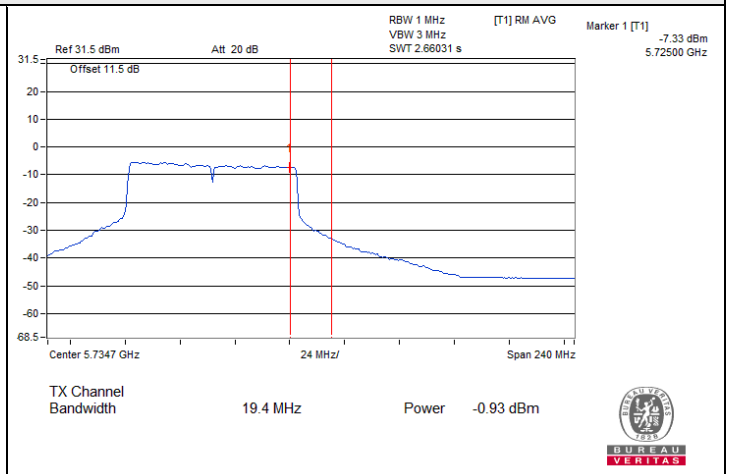
TX Channel Bandwidth 15.36 MHz Power 2.84 dBm

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

Spectrum Plot for channel straddling



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



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

7.3 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Jisyong Wang

Mode A: 5GHz Radio 2: QCN-5154 Module

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	Chain 2	Chain 3				
52	5260	-1.89	-2.08	-2.45	-2.02	0.25	4.17	4.45	Pass
60	5300	-2.25	-2.34	-2.41	-2.52	0.25	3.89	4.45	Pass
64	5320	-1.74	-1.93	-2.24	-1.76	0.25	4.36	4.45	Pass
100	5500	-2.32	-2.76	-2.89	-2.77	0.25	3.59	3.95	Pass
116	5580	-2.67	-2.94	-2.61	-2.81	0.25	3.51	3.95	Pass
140	5700	-2.37	-2.67	-2.78	-2.71	0.25	3.64	3.95	Pass
144 (U-NII-2C)	5720	-2.58	-2.70	-2.67	-3.07	0.25	3.52	3.95	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[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
3. For U-NII-2A, the directional gain is 12.55 dBi > 6 dBi, so the power density limit shall be reduced to 11-(12.55-6) = 4.45 dBm/MHz.
4. For U-NII-2C, the directional gain is 13.05 dBi > 6 dBi, so the power density limit shall be reduced to 11-(13.05-6) = 3.95 dBm/MHz.

802.11ax (HE20)

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	Chain 2	Chain 3				
52	5260	-1.84	-2.92	-2.59	-2.30	0.23	3.86	4.45	Pass
60	5300	-2.51	-2.92	-2.81	-2.40	0.23	3.60	4.45	Pass
64	5320	-2.97	-2.24	-3.32	-2.18	0.23	3.60	4.45	Pass
100	5500	-3.10	-3.21	-2.44	-4.25	0.23	3.05	3.95	Pass
116	5580	-3.20	-2.60	-4.34	-2.89	0.23	3.04	3.95	Pass
140	5700	-2.40	-3.43	-2.63	-2.87	0.23	3.43	3.95	Pass
144 (U-NII-2C)	5720	-3.43	-2.63	-2.88	-3.54	0.23	3.15	3.95	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[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
3. For U-NII-2A, the directional gain is 12.55 dBi > 6 dBi, so the power density limit shall be reduced to 11-(12.55-6) = 4.45 dBm/MHz.
4. For U-NII-2C, the directional gain is 13.05 dBi > 6 dBi, so the power density limit shall be reduced to 11-(13.05-6) = 3.95 dBm/MHz.

802.11ax (HE40)

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	Chain 2	Chain 3				
54	5270	-2.84	-1.79	-4.09	-2.11	0.23	3.63	4.45	Pass
62	5310	-2.72	-2.17	-3.34	-2.92	0.23	3.48	4.45	Pass
102	5510	-2.67	-4.01	-2.66	-4.53	0.23	2.86	3.95	Pass
110	5550	-2.34	-3.02	-3.93	-3.86	0.23	3.01	3.95	Pass
134	5670	-3.00	-2.36	-3.22	-2.60	0.23	3.47	3.95	Pass
142 (U-NII-2C)	5710	-2.99	-2.41	-4.07	-2.55	0.23	3.29	3.95	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[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
3. For U-NII-2A, the directional gain is 12.55 dBi > 6 dBi, so the power density limit shall be reduced to 11-(12.55-6) = 4.45 dBm/MHz.
4. For U-NII-2C, the directional gain is 13.05 dBi > 6 dBi, so the power density limit shall be reduced to 11-(13.05-6) = 3.95 dBm/MHz.

802.11ax (HE80)

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	Chain 2	Chain 3				
58	5290	-2.21	-2.42	-2.73	-2.58	0.26	3.80	4.45	Pass
106	5530	-2.72	-2.92	-2.70	-2.80	0.26	3.50	3.95	Pass
122	5610	-2.58	-2.42	-2.54	-2.56	0.26	3.76	3.95	Pass
138 (U-NII-2C)	5690	-2.42	-2.16	-2.46	-2.49	0.26	3.90	3.95	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[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
3. For U-NII-2A, the directional gain is 12.55 dBi > 6 dBi, so the power density limit shall be reduced to 11-(12.55-6) = 4.45 dBm/MHz.
4. For U-NII-2C, the directional gain is 13.05 dBi > 6 dBi, so the power density limit shall be reduced to 11-(13.05-6) = 3.95 dBm/MHz.

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Total PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3					
144 (U-NII-3)	5720	-11.11	-11.31	-11.02	-11.76	-5.27	0.25	-2.80	23.14	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[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
3. For U-NII-3, the directional gain is 12.86 dBi > 6 dBi, so the power density limit shall be reduced to 30-(12.86-6) = 23.14 dBm/500kHz.

802.11ax (HE20)

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	Chain 2	Chain 3					
144 (U-NII-3)	5720	-10.70	-11.28	-10.62	-10.60	-4.77	0.23	-2.32	23.14	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[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
3. For U-NII-3, the directional gain is 12.86 dBi > 6 dBi, so the power density limit shall be reduced to 30-(12.86-6) = 23.14 dBm/500kHz.

802.11ax (HE40)

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	Chain 2	Chain 3					
142 (U-NII-3)	5710	-13.09	-13.35	-14.03	-13.45	-7.45	0.23	-5.00	23.14	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[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
3. For U-NII-3, the directional gain is 12.86 dBi > 6 dBi, so the power density limit shall be reduced to 30-(12.86-6) = 23.14 dBm/500kHz.

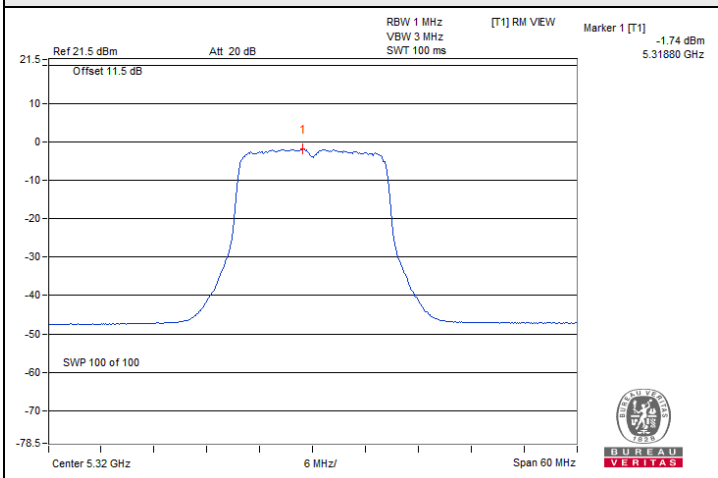
802.11ax (HE80)

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	Chain 2	Chain 3					
138 (U-NII-3)	5690	-14.97	-15.49	-15.30	-15.43	-9.27	0.26	-6.79	23.14	Pass

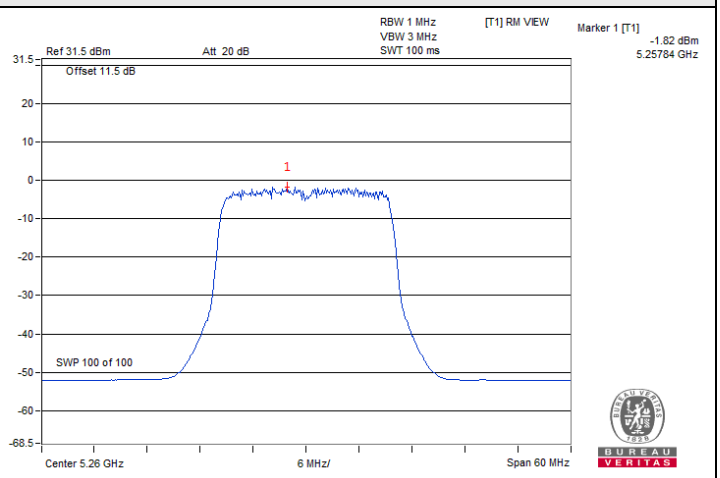
Notes:

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[($10^{Chain0/20}$ + $10^{Chain1/20}$ + $10^{Chain2/20}$ + $10^{Chain3/20}$)^2 / 4]
3. For U-NII-3, the directional gain is 12.86 dBi > 6 dBi, so the power density limit shall be reduced to 30-(12.86-6) = 23.14 dBm/500kHz.

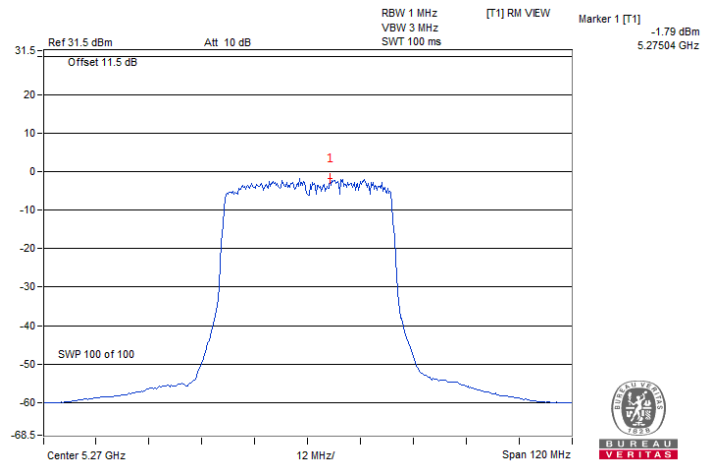
Spectrum Plot of Maximum Value



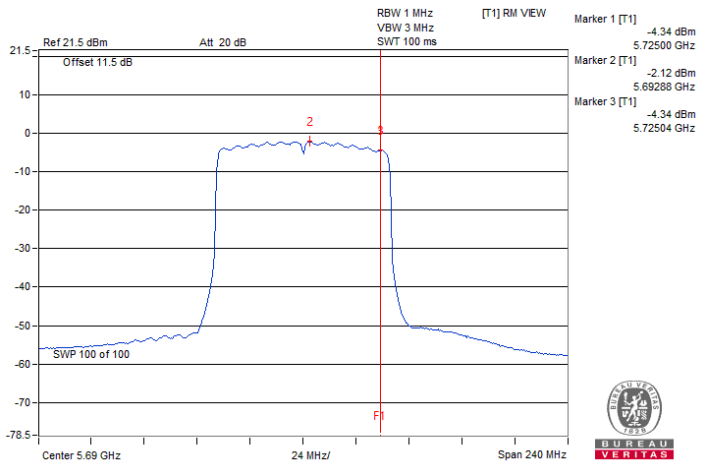
802.11a / Chain 0 : CH 64



802.11ax (HE20) / Chain 0 : CH 52

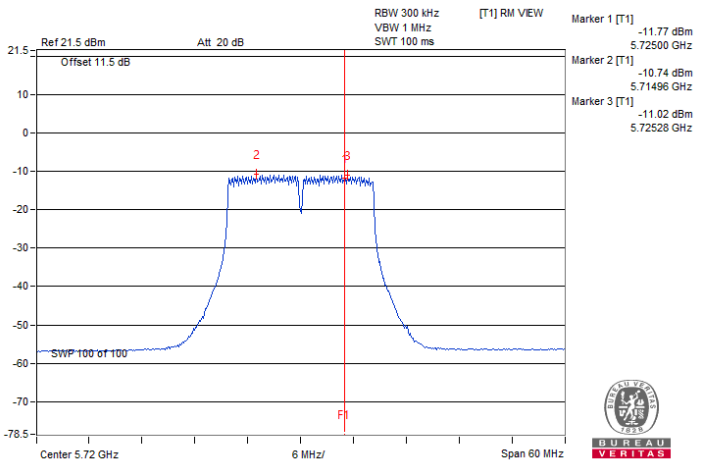


802.11ax (HE40) / Chain 1 : CH 54

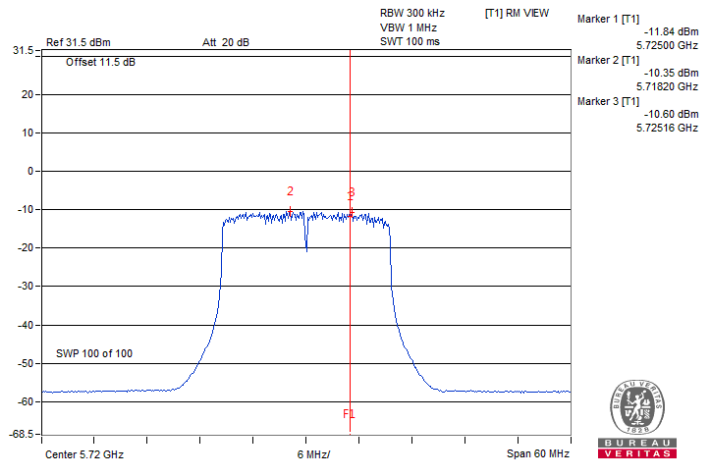


802.11ax (HE80) / Chain 1 : CH 138 (U-NII-2C)

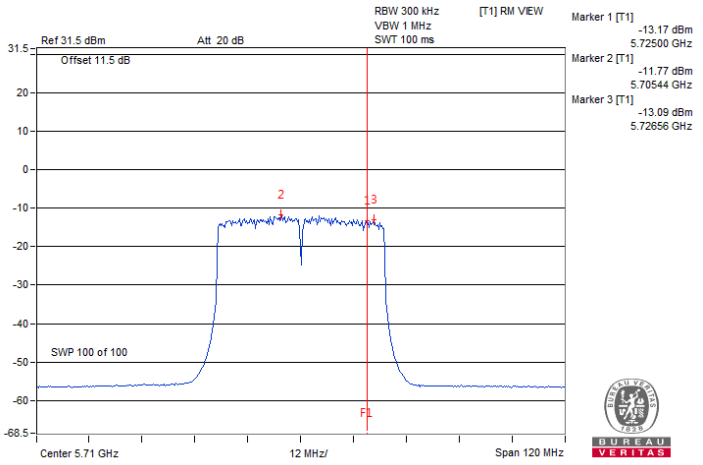
Spectrum Plot of Maximum Value



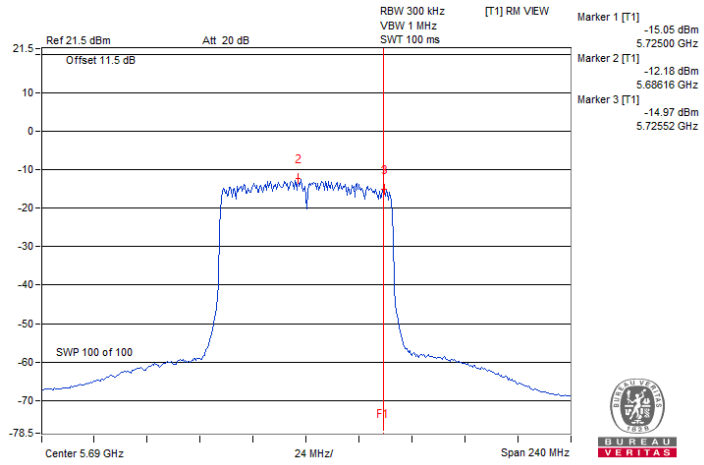
802.11a / Chain 2 : CH 144 (U-NII-3)



802.11ax (HE20) / Chain 3 : CH 144 (U-NII-3)



802.11ax (HE40) / Chain 0 : CH 142 (U-NII-3)



802.11ax (HE80) / Chain 0 : CH 138 (U-NII-3)

Mode B: Scan Radio 3: QCA-9889 Module

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
52	5260	1.70	0.15	1.85	11	Pass
60	5300	1.67	0.15	1.82	11	Pass
64	5320	1.48	0.15	1.63	11	Pass
100	5500	1.75	0.15	1.90	9.9	Pass
116	5580	1.65	0.15	1.80	9.9	Pass
140	5700	1.78	0.15	1.93	9.9	Pass
144 (U-NII-2C)	5720	1.63	0.15	1.78	9.9	Pass

Notes:

1. For U-NII-2A, the antenna gain is 5.9 dBi < 6dBi, so the power density limit shall not be reduced.
2. For U-NII-2C, the antenna gain is 7.1 dBi > 6 dBi, so the power density limit shall be reduced to 11-(7.1-6) = 9.9 dBm/MHz.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
52	5260	1.77	0.17	1.94	11	Pass
60	5300	1.62	0.17	1.79	11	Pass
64	5320	1.57	0.17	1.74	11	Pass
100	5500	1.86	0.17	2.03	9.9	Pass
116	5580	1.74	0.17	1.91	9.9	Pass
140	5700	1.18	0.17	1.35	9.9	Pass
144 (U-NII-2C)	5720	1.56	0.17	1.73	9.9	Pass

Notes:

1. For U-NII-2A, the antenna gain is 5.9 dBi < 6dBi, so the power density limit shall not be reduced.
2. For U-NII-2C, the antenna gain is 7.1 dBi > 6 dBi, so the power density limit shall be reduced to 11-(7.1-6) = 9.9 dBm/MHz.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
54	5270	-1.62	0.32	-1.30	11	Pass
62	5310	-3.35	0.32	-3.03	11	Pass
102	5510	-2.74	0.32	-2.42	9.9	Pass
110	5550	-1.46	0.32	-1.14	9.9	Pass
134	5670	-1.62	0.32	-1.30	9.9	Pass
142 (U-NII-2C)	5710	-1.58	0.32	-1.26	9.9	Pass

Notes:

1. For U-NII-2A, the antenna gain is 5.9 dBi < 6dBi, so the power density limit shall not be reduced.
2. For U-NII-2C, the antenna gain is 7.1 dBi > 6 dBi, so the power density limit shall be reduced to 11-(7.1-6) = 9.9 dBm/MHz.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
58	5290	-8.56	0.55	-8.01	11	Pass
106	5530	-7.68	0.55	-7.13	9.9	Pass
122	5610	-4.77	0.55	-4.22	9.9	Pass
138 (U-NII-2C)	5690	-4.65	0.55	-4.10	9.9	Pass

Notes:

1. For U-NII-2A, the antenna gain is 5.9 dBi < 6dBi, so the power density limit shall not be reduced.
2. For U-NII-2C, the antenna gain is 7.1 dBi > 6 dBi, so the power density limit shall be reduced to 11-(7.1-6) = 9.9 dBm/MHz.

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
144 (U-NII-3)	5720	-7.96	0.15	-5.59	29.1	Pass

Note: For U-NII-3, the antenna gain is 6.9 dBi > 6 dBi, so the power density limit shall be reduced to 30-(6.9-6) = 29.1 dBm/500kHz.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
144 (U-NII-3)	5720	-8.22	0.17	-5.83	29.1	Pass

Note: For U-NII-3, the antenna gain is 6.9 dBi > 6 dBi, so the power density limit shall be reduced to 30-(6.9-6) = 29.1 dBm/500kHz.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
142 (U-NII-3)	5710	-12.55	0.32	-10.01	29.1	Pass

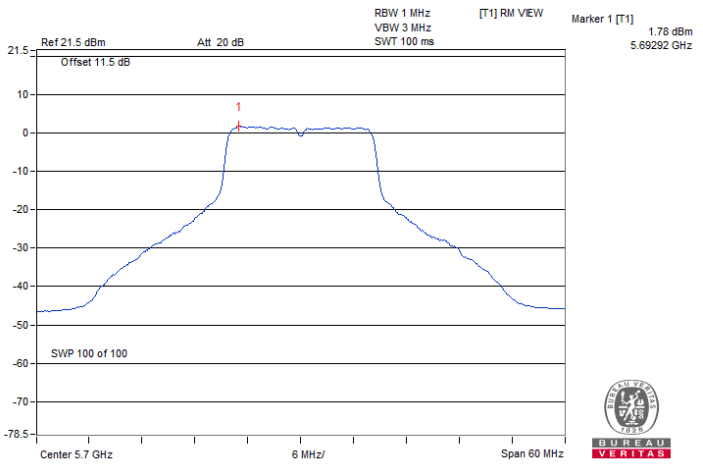
Note: For U-NII-3, the antenna gain is 6.9 dBi > 6 dBi, so the power density limit shall be reduced to 30-(6.9-6) = 29.1 dBm/500kHz.

802.11ac (VHT80)

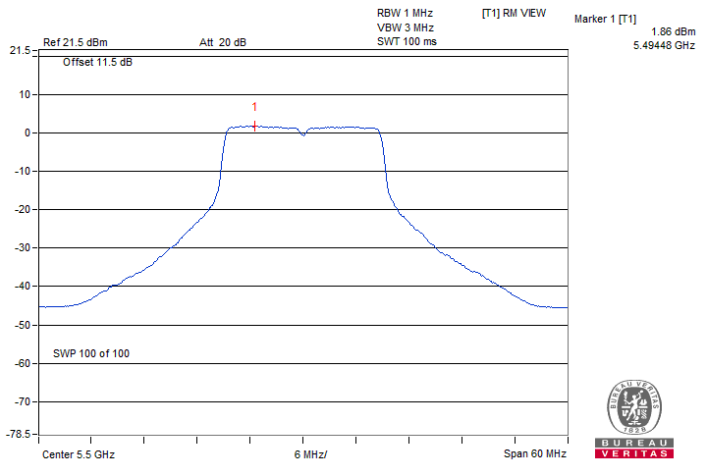
Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
138 (U-NII-3)	5690	-16.47	0.55	-13.70	29.1	Pass

Note: For U-NII-3, the antenna gain is 6.9 dBi > 6 dBi, so the power density limit shall be reduced to 30-(6.9-6) = 29.1 dBm/500kHz.

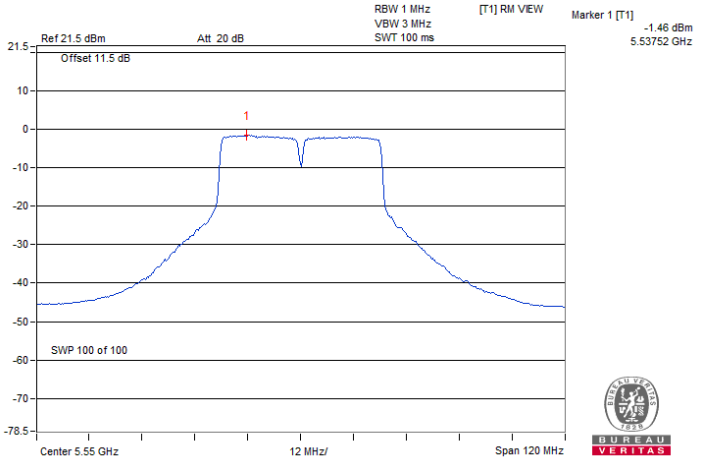
Spectrum Plot of Maximum Value



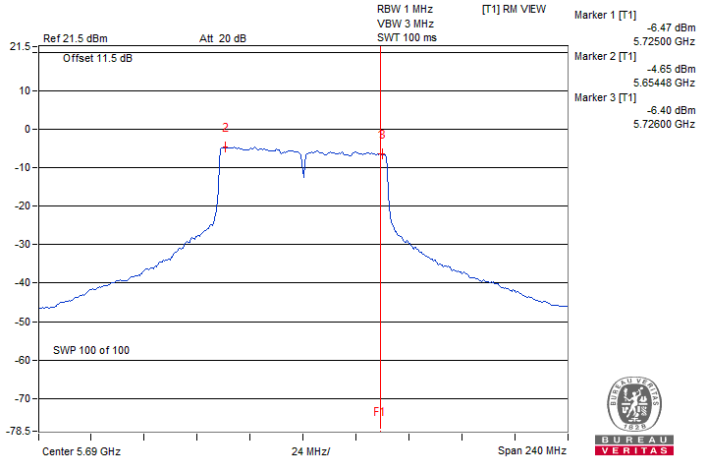
802.11a : CH 140



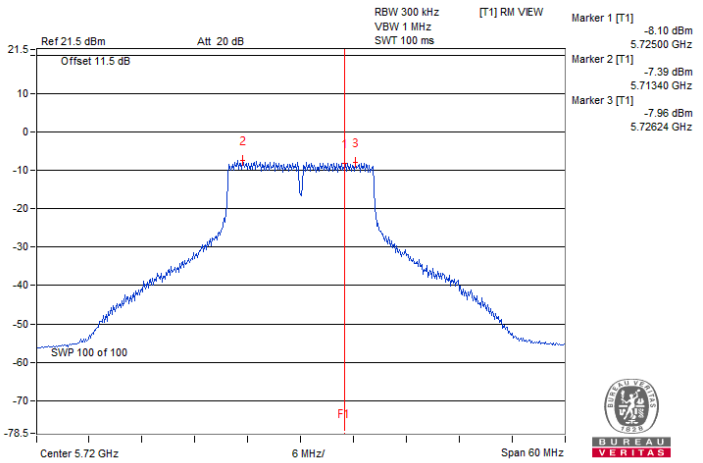
802.11ac (VHT20) : CH 100



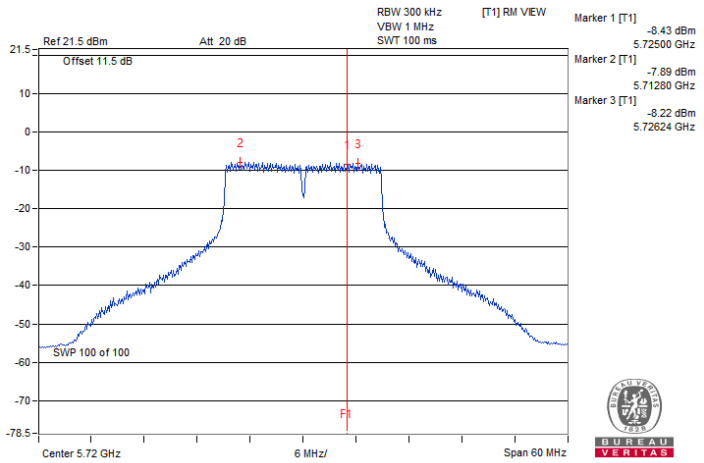
802.11ac (VHT40) : CH 110



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

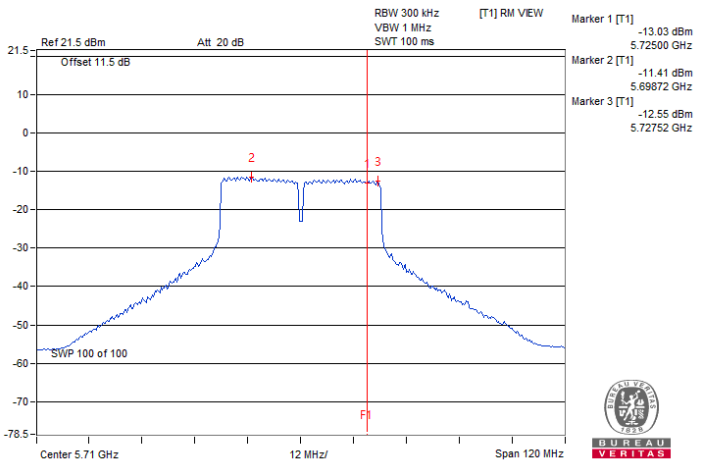


802.11a : CH 144 (U-NII-3)

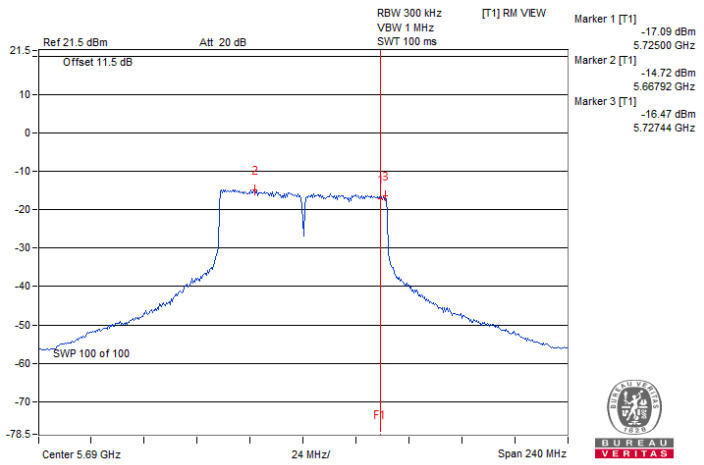


802.11ac (VHT20) : CH 144 (U-NII-3)

Spectrum Plot of Maximum Value



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



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

7.4 Occupied Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Jisyong Wang

Mode A: 5GHz Radio 2: QCN-5154 Module

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	16.44	16.44	16.44	16.44
60	5300	16.44	16.44	16.44	16.44
64	5320	16.44	16.44	16.44	16.44
100	5500	16.44	16.44	16.44	16.44
116	5580	16.44	16.44	16.44	16.44
140	5700	16.44	16.44	16.44	16.44
144 (U-NII-2C)	5720	13.28	13.40	13.40	13.28
144 (U-NII-3)	5720	3.16	3.16	3.16	3.16

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	18.96	19.08	18.96	19.08
60	5300	18.96	18.96	18.96	18.96
64	5320	18.96	18.96	18.96	18.96
100	5500	19.08	18.96	18.96	18.96
116	5580	19.08	18.96	18.96	18.96
140	5700	18.96	18.96	18.96	18.96
144 (U-NII-2C)	5720	14.60	14.60	14.48	14.60
144 (U-NII-3)	5720	4.36	4.36	4.36	4.36

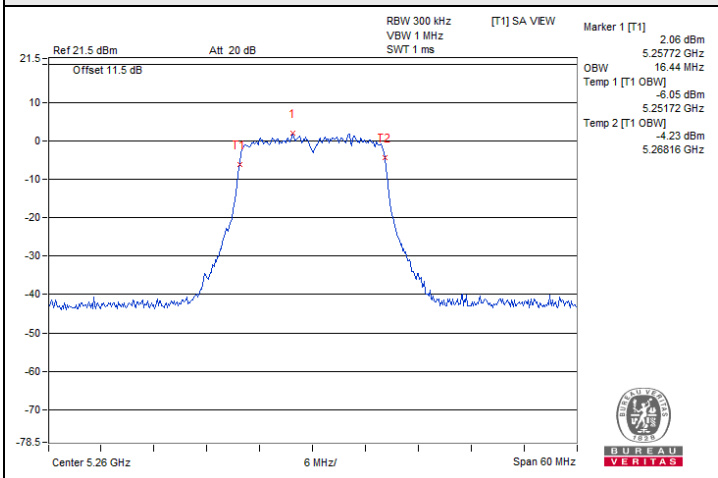
802.11ax (HE40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	38.16	37.68	38.16	38.16
62	5310	38.16	37.92	38.16	37.92
102	5510	38.16	37.92	38.16	38.16
110	5550	37.92	37.92	38.16	38.16
134	5670	38.08	37.92	38.16	38.16
142 (U-NII-2C)	5710	33.96	33.96	33.96	34.20
142 (U-NII-3)	5710	3.96	3.96	3.96	3.96

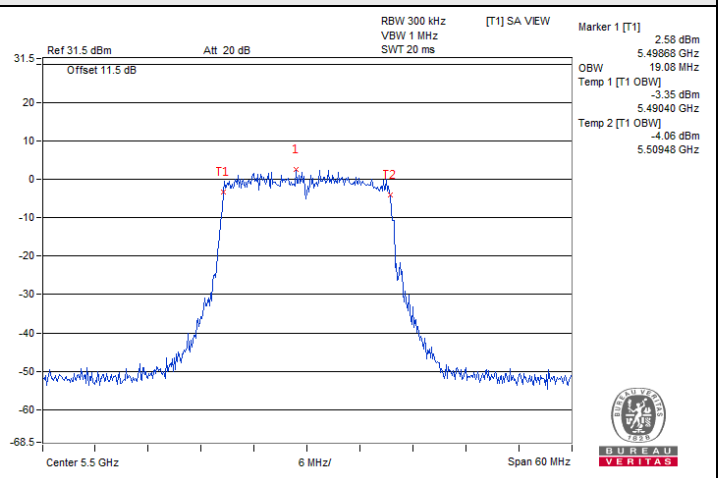
802.11ax (HE80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	76.80	77.28	77.28	77.28
106	5530	77.22	77.22	77.22	77.22
122	5610	77.28	77.76	77.28	77.28
138 (U-NII-2C)	5690	73.88	73.88	73.88	73.88
138 (U-NII-3)	5690	3.40	2.92	3.40	3.40

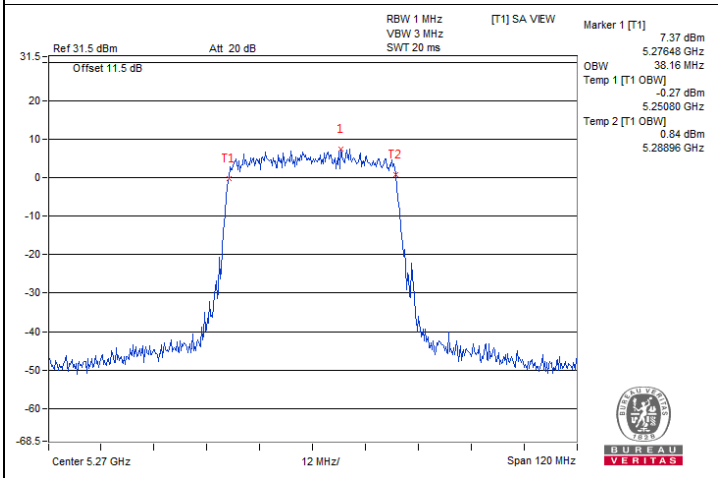
Spectrum Plot of Maximum Value



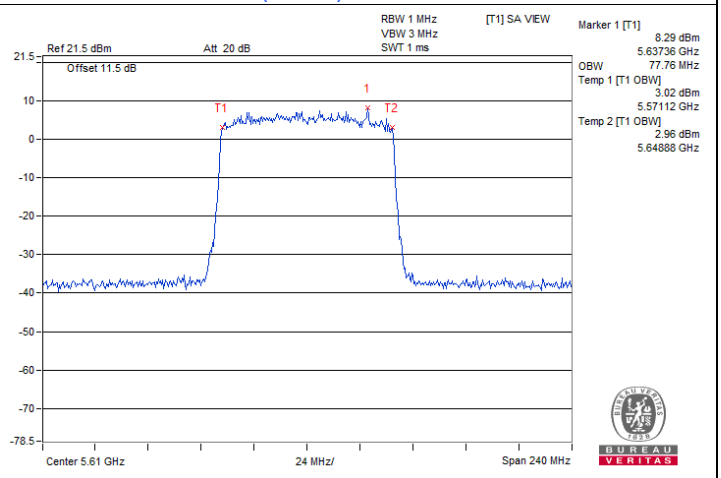
802.11a / Chain 0 : CH 52



802.11ax (HE20) / Chain 0 : CH 100



802.11ax (HE40) / Chain 0 : CH 54



802.11ax (HE80) / Chain 1 : CH 122

Mode B: Scan Radio 3: QCA-9889 Module

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
52	5260	18.12
60	5300	18.36
64	5320	18.24
100	5500	17.16
116	5580	17.16
140	5700	17.76
144 (U-NII-2C)	5720	14.12
144 (U-NII-3)	5720	3.88

802.11ac (VHT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
52	5260	18.72
60	5300	18.84
64	5320	18.96
100	5500	18.24
116	5580	18.24
140	5700	18.48
144 (U-NII-2C)	5720	14.48
144 (U-NII-3)	5720	4.24

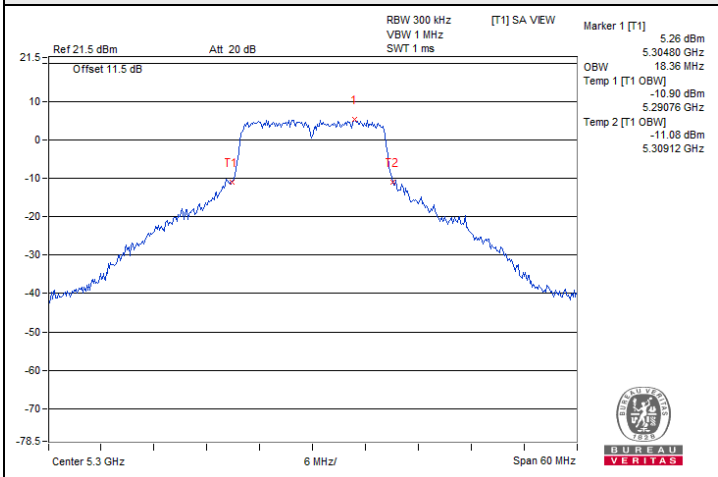
802.11ac (VHT40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
54	5270	37.92
62	5310	37.92
102	5510	37.44
110	5550	37.44
134	5670	37.68
142 (U-NII-2C)	5710	34.2
142 (U-NII-3)	5710	3.72

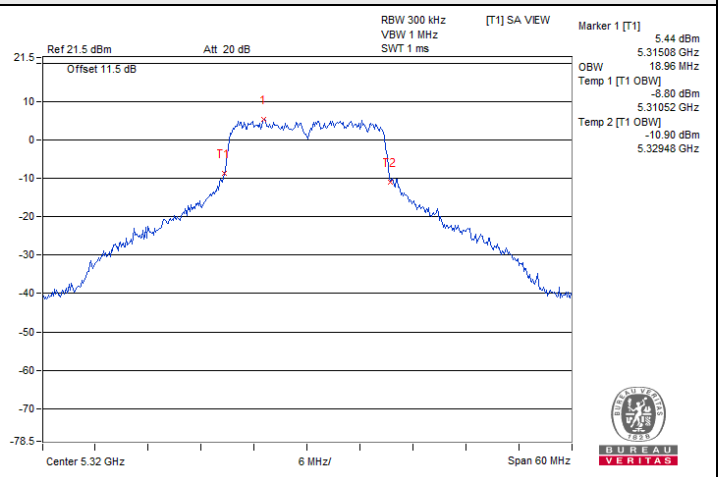
802.11ac (VHT80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
58	5290	76.8
106	5530	76.32
122	5610	76.8
138 (U-NII-2C)	5690	73.88
138 (U-NII-3)	5690	3.4

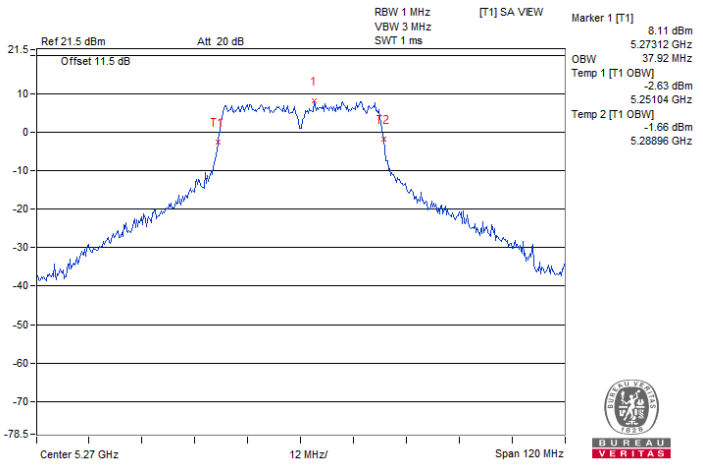
Spectrum Plot of Maximum Value



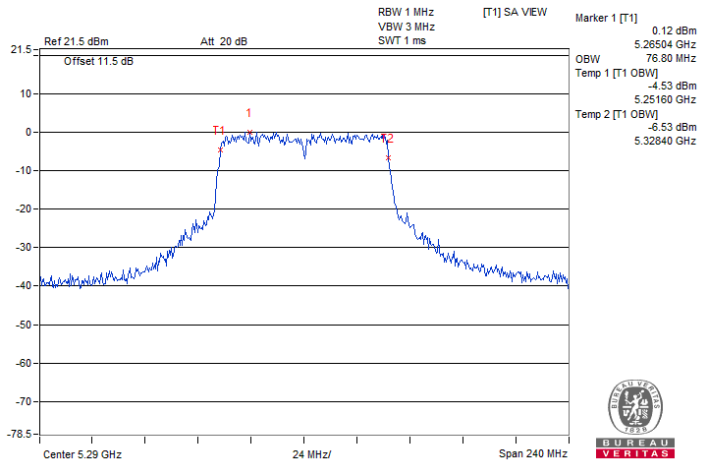
802.11a : CH 60



802.11ac (VHT20) : CH 64



802.11ac (VHT40) : CH 54



802.11ac (VHT80) : CH 58

7.5 Frequency Stability

Input Power:	56Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Jisyong Wang

Mode A: 5GHz Radio 2: QCN-5154 Module

802.11a

Frequency Stability Versus Temperature									
Operating Frequency: 5260 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
55	56	5260.0252	Pass	5260.024	Pass	5260.0209	Pass	5260.0251	Pass
50	56	5260.0114	Pass	5260.0072	Pass	5260.0096	Pass	5260.0096	Pass
40	56	5259.99	Pass	5259.9928	Pass	5259.9898	Pass	5259.9911	Pass
30	56	5260.0015	Pass	5260.0033	Pass	5260.0019	Pass	5260.0023	Pass
20	56	5260.0186	Pass	5260.0183	Pass	5260.0177	Pass	5260.0196	Pass
10	56	5260.0111	Pass	5260.0133	Pass	5260.0106	Pass	5260.0112	Pass
0	56	5259.9787	Pass	5259.9791	Pass	5259.9806	Pass	5259.9775	Pass
-10	56	5259.9792	Pass	5259.9802	Pass	5259.9796	Pass	5259.9812	Pass
-20	56	5260.0253	Pass	5260.0274	Pass	5260.0241	Pass	5260.0235	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5260 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
20	64.4	5260.0244	Pass	5260.0253	Pass	5260.0254	Pass	5260.0252	Pass
	56	5260.0186	Pass	5260.0183	Pass	5260.0177	Pass	5260.0196	Pass
	47.6	5260.0212	Pass	5260.0205	Pass	5260.0212	Pass	5260.0243	Pass

Mode B: Scan Radio 3: QCA-9889 Module

802.11a

Frequency Stability Versus Temperature									
Operating Frequency: 5260 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
55	56	5260.0045	Pass	5260.0047	Pass	5260.0068	Pass	5260.0059	Pass
50	56	5260.006	Pass	5260.0018	Pass	5260.0053	Pass	5260.0064	Pass
40	56	5260.0082	Pass	5260.0109	Pass	5260.0079	Pass	5260.0092	Pass
30	56	5260.0197	Pass	5260.0176	Pass	5260.0214	Pass	5260.0218	Pass
20	56	5259.9943	Pass	5259.994	Pass	5259.9934	Pass	5259.9963	Pass
10	56	5260.0037	Pass	5260.0007	Pass	5260.0032	Pass	5260.0038	Pass
0	56	5259.9815	Pass	5259.9818	Pass	5259.9833	Pass	5259.9802	Pass
-10	56	5259.9819	Pass	5259.9829	Pass	5259.9835	Pass	5259.9812	Pass
-20	56	5260.0027	Pass	5259.9994	Pass	5260.0014	Pass	5260.0008	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5260 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
20	64.4	5259.9927	Pass	5259.9898	Pass	5259.9899	Pass	5259.9897	Pass
	56	5259.9943	Pass	5259.994	Pass	5259.9934	Pass	5259.9963	Pass
	47.6	5259.9913	Pass	5259.9906	Pass	5259.9913	Pass	5259.9954	Pass

7.6 AC Power Conducted Emissions

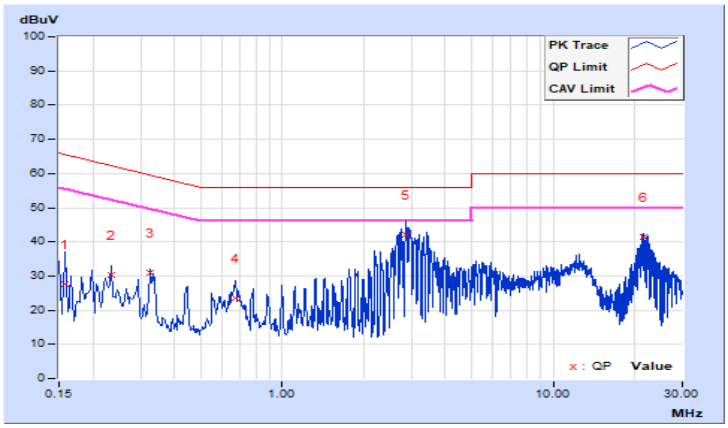
Mode A: 5GHz Radio 2: QCN-5154 Module

RF Mode	802.11a	**Channel**	CH 60：5300 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, 68% RH
Tested By	Luis Lee		

Phase Of Power : Line (L)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.15800	9.62	17.85	6.88	27.47	16.50	65.57	55.57	-38.10	-39.07
2	0.23400	9.65	20.73	12.19	30.38	21.84	62.31	52.31	-31.93	-30.47
3	0.32600	9.67	21.29	13.09	30.96	22.76	59.55	49.55	-28.59	-26.79
4	0.67400	9.69	14.01	8.24	23.70	17.93	56.00	46.00	-32.30	-28.07
5	2.86200	9.73	32.42	19.93	42.15	29.66	56.00	46.00	-13.85	-16.34
6	**21.49000**	**9.87**	**31.52**	**30.20**	**41.39**	**40.07**	**60.00**	**50.00**	**-18.61**	**-9.93**

Remarks:

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

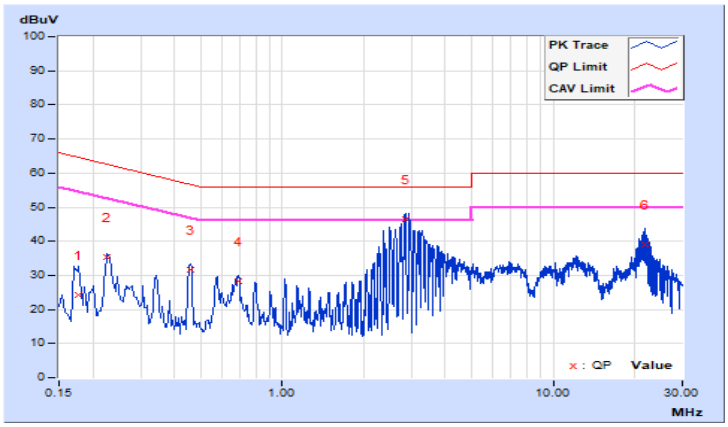


RF Mode	802.11a	**Channel**	CH 60：5300 MHz
Frequency Range	150 kHz ~ 30 MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	22°C, 68% RH
Tested By	Luis Lee		

Phase Of Power : Neutral (N)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.17800	9.63	14.50	5.08	24.13	14.71	64.58	54.58	-40.45	-39.87
2	0.22600	9.65	25.69	23.87	35.34	33.52	62.60	52.60	-27.26	-19.08
3	0.45717	9.69	21.90	20.63	31.59	30.32	56.74	46.74	-25.15	-16.42
4	0.68595	9.69	18.43	13.00	28.12	22.69	56.00	46.00	-27.88	-23.31
5	2.84200	9.74	36.59	25.20	46.33	34.94	56.00	46.00	-9.67	-11.06
6	21.89000	9.89	29.17	23.08	39.06	32.97	60.00	50.00	-20.94	-17.03

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



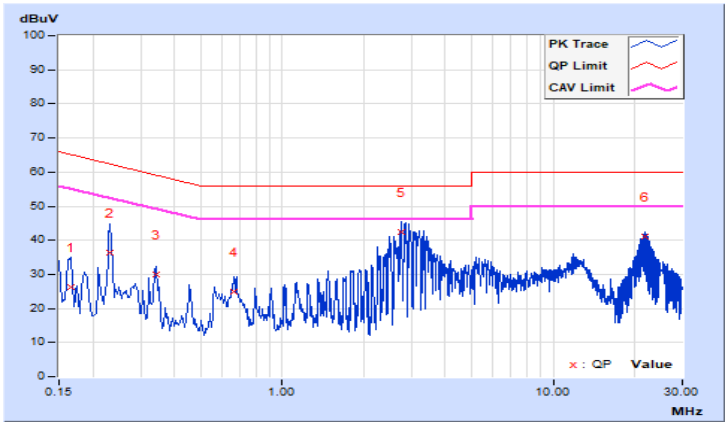
Mode B: Scan Radio 3: QCA-9889 Module

RF Mode	802.11ac (VHT20)	**Channel**	CH 116：5580 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, 68% RH
Tested By	Luis Lee		

Phase Of Power : Line (L)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.16579	9.63	16.66	8.12	26.29	17.75	65.17	55.17	-38.88	-37.42
2	0.23000	9.65	26.72	14.08	36.37	23.73	62.45	52.45	-26.08	-28.72
3	0.34200	9.68	20.40	16.72	30.08	26.40	59.15	49.15	-29.07	-22.75
4	0.66200	9.69	15.11	9.61	24.80	19.30	56.00	46.00	-31.20	-26.70
5	2.74200	9.73	32.56	19.80	42.29	29.53	56.00	46.00	-13.71	-16.47
6	21.77800	9.87	31.20	29.49	41.07	39.36	60.00	50.00	-18.93	-10.64

Remarks:

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

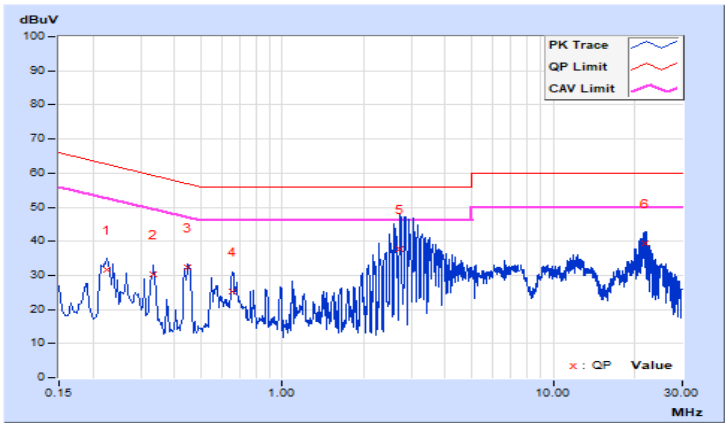


RF Mode	802.11ac (VHT20)	**Channel**	CH 116：5580 MHz
Frequency Range	150 kHz ~ 30 MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	22°C, 68% RH
Tested By	Luis Lee		

Phase Of Power : Neutral (N)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.22565	9.65	21.88	14.91	31.53	24.56	62.61	52.61	-31.08	-28.05
2	0.33400	9.67	20.49	11.20	30.16	20.87	59.35	49.35	-29.19	-28.48
3	0.44882	9.69	22.51	20.91	32.20	30.60	56.90	46.90	-24.70	-16.30
4	0.65400	9.69	15.48	9.62	25.17	19.31	56.00	46.00	-30.83	-26.69
5	2.71000	9.74	27.96	15.85	37.70	25.59	56.00	46.00	-18.30	-20.41
6	21.88200	9.89	29.51	25.05	39.40	34.94	60.00	50.00	-20.60	-15.06

Remarks:

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



7.7 Unwanted Emissions below 1 GHz

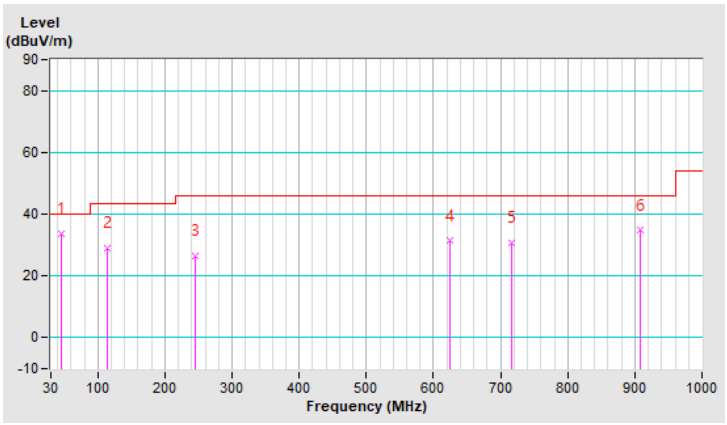
Mode A: 5GHz Radio 2: QCN-5154 Module

RF Mode	802.11a	**Channel**	CH 60：5300 MHz
Frequency Range	9 kHz ~ 1 GHz	**Detector Function & Bandwidth**	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	23°C, 66% RH
Tested By	Titan Hsu		

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	**46.49**	**33.8 QP**	**40.0**	**-6.2**	**1.00 H**	**60**	**42.7**	**-8.9**
2	114.39	28.9 QP	43.5	-14.6	1.00 H	175	40.3	-11.4
3	244.37	26.5 QP	46.0	-19.5	1.00 H	271	35.8	-9.3
4	623.64	31.3 QP	46.0	-14.7	1.00 H	110	32.5	-1.2
5	715.79	30.7 QP	46.0	-15.3	1.00 H	83	30.4	0.3
6	908.82	34.7 QP	46.0	-11.3	1.00 H	11	29.4	5.3

Remarks:

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

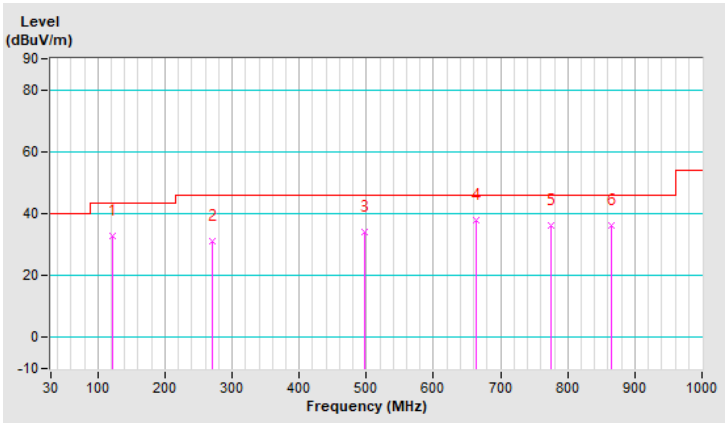


RF Mode	802.11a	Channel	CH 60：5300 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu		

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	121.18	32.8 QP	43.5	-10.7	1.99 V	112	43.6	-10.8
2	270.56	31.0 QP	46.0	-15.0	1.00 V	56	39.3	-8.3
3	497.54	34.1 QP	46.0	-11.9	1.99 V	52	38.3	-4.2
4	663.41	37.7 QP	46.0	-8.3	1.99 V	68	38.4	-0.7
5	775.93	36.2 QP	46.0	-9.8	1.00 V	103	33.7	2.5
6	864.20	36.2 QP	46.0	-9.8	1.00 V	58	32.2	4.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



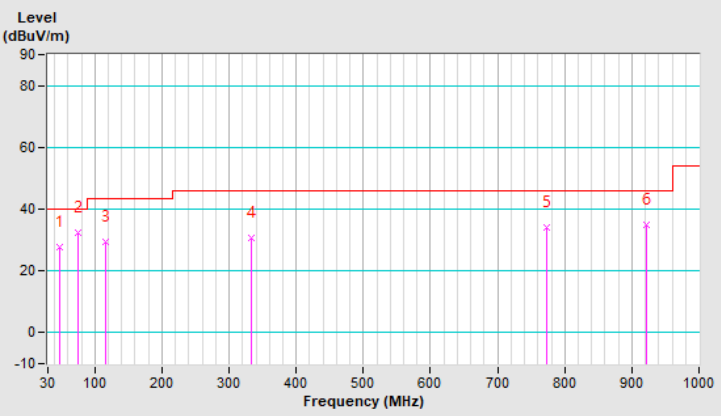
Mode B: Scan Radio 3: QCA-9889 Module

RF Mode	802.11ac (VHT20)	Channel	CH 116：5580 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	48.43	27.6 QP	40.0	-12.4	1.49 H	175	36.4	-8.8
2	74.62	32.2 QP	40.0	-7.8	1.49 H	165	43.7	-11.5
3	115.36	29.2 QP	43.5	-14.3	1.49 H	172	40.5	-11.3
4	333.61	30.5 QP	46.0	-15.5	1.49 H	48	37.2	-6.7
5	773.02	34.0 QP	46.0	-12.0	1.49 H	6	31.5	2.5
6	922.40	35.1 QP	46.0	-10.9	1.49 H	144	29.5	5.6

Remarks:

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

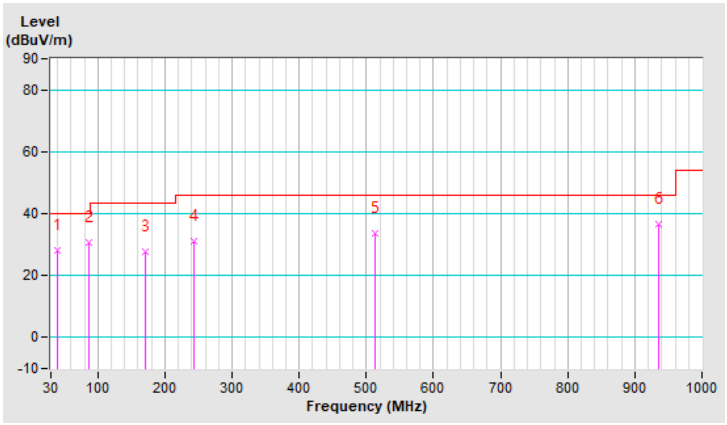


RF Mode	802.11ac (VHT20)	**Channel**	CH 116：5580 MHz
Frequency Range	9 kHz ~ 1 GHz	**Detector Function & Bandwidth**	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	23°C, 66% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	40.67	28.2 QP	40.0	-11.8	1.49 V	71	37.5	-9.3
2	86.26	30.7 QP	40.0	-9.3	1.49 V	115	44.9	-14.2
3	170.65	27.9 QP	43.5	-15.6	1.49 V	56	36.9	-9.0
4	242.43	31.1 QP	46.0	-14.9	1.49 V	67	40.5	-9.4
5	512.09	33.7 QP	46.0	-12.3	1.49 V	59	37.6	-3.9
6	935.01	36.6 QP	46.0	-9.4	1.01 V	12	30.6	6.0

Remarks:

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



7.8 Unwanted Emissions above 1 GHz

Mode A: 5GHz Radio 2: QCN-5154 Module

RF Mode	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, 66% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	5150.00	60.2 PK	74.0	-13.8	2.60 H	165	47.7	12.5
2	5150.00	47.0 AV	54.0	-7.0	2.60 H	165	34.5	12.5
3	*5260.00	115.6 PK			2.60 H	165	73.2	42.4
4	*5260.00	106.2 AV			2.60 H	165	63.8	42.4
5	#10520.00	62.0 PK	68.2	-6.2	2.33 H	138	39.5	22.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	5150.00	60.5 PK	74.0	-13.5	2.73 V	199	48.0	12.5
2	5150.00	47.3 AV	54.0	-6.7	2.73 V	199	34.8	12.5
3	*5260.00	118.6 PK			2.73 V	199	76.2	42.4
4	*5260.00	109.6 AV			2.73 V	199	67.2	42.4
5	#10520.00	62.3 PK	68.2	-5.9	1.75 V	145	39.8	22.5

Remarks:

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

RF Mode	802.11a	Channel	CH 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, 66% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	117.0 PK			2.61 H	170	74.5	42.5
2	*5300.00	107.3 AV			2.61 H	170	64.8	42.5
3	10600.00	61.9 PK	74.0	-12.1	2.39 H	134	39.5	22.4
4	10600.00	47.8 AV	54.0	-6.2	2.39 H	134	25.4	22.4
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	*5300.00	118.8 PK			2.81 V	199	76.3	42.5
2	*5300.00	109.5 AV			2.81 V	199	67.0	42.5
3	10600.00	62.1 PK	74.0	-11.9	1.75 V	149	39.7	22.4
4	10600.00	48.0 AV	54.0	-6.0	1.75 V	149	25.6	22.4

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.

RF Mode	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, 66% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	115.3 PK			2.70 H	172	72.8	42.5
2	*5320.00	106.3 AV			2.70 H	172	63.8	42.5
3	5350.00	59.7 PK	74.0	-14.3	2.70 H	172	47.4	12.3
4	5350.00	46.8 AV	54.0	-7.2	2.70 H	172	34.5	12.3
5	10640.00	62.2 PK	74.0	-11.8	2.38 H	135	39.5	22.7
6	10640.00	48.2 AV	54.0	-5.8	2.38 H	135	25.5	22.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	118.3 PK			2.80 V	206	75.8	42.5
2	*5320.00	109.1 AV			2.80 V	206	66.6	42.5
3	5350.00	59.9 PK	74.0	-14.1	2.80 V	206	47.6	12.3
4	5350.00	47.2 AV	54.0	-6.8	2.80 V	206	34.9	12.3
5	10640.00	62.5 PK	74.0	-11.5	1.76 V	144	39.8	22.7
6	10640.00	48.4 AV	54.0	-5.6	1.76 V	144	25.7	22.7

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	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, 66% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.2 PK	74.0	-13.8	2.63 H	169	47.5	12.7
2	5460.00	46.9 AV	54.0	-7.1	2.63 H	169	34.2	12.7
3	#5470.00	60.6 PK	68.2	-7.6	2.63 H	169	48.0	12.6
4	*5500.00	115.2 PK			2.63 H	169	72.1	43.1
5	*5500.00	105.7 AV			2.63 H	169	62.6	43.1
6	11000.00	62.4 PK	74.0	-11.6	2.34 H	141	39.5	22.9
7	11000.00	48.6 AV	54.0	-5.4	2.34 H	141	25.7	22.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.4 PK	74.0	-13.6	2.87 V	153	47.7	12.7
2	5460.00	47.0 AV	54.0	-7.0	2.87 V	153	34.3	12.7
3	#5470.00	60.8 PK	68.2	-7.4	2.87 V	153	48.2	12.6
4	*5500.00	119.1 PK			2.87 V	153	76.0	43.1
5	*5500.00	109.8 AV			2.87 V	153	66.7	43.1
6	11000.00	62.7 PK	74.0	-11.3	1.77 V	148	39.8	22.9
7	11000.00	49.0 AV	54.0	-5.0	1.77 V	148	26.1	22.9

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	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, 66% RH
Tested By	Titan Hsu		

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	115.2 PK			2.49 H	169	72.3	42.9
2	*5580.00	105.8 AV			2.49 H	169	62.9	42.9
3	11160.00	62.7 PK	74.0	-11.3	2.42 H	139	39.5	23.2
4	11160.00	49.0 AV	54.0	-5.0	2.42 H	139	25.8	23.2
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	*5580.00	118.7 PK			2.80 V	207	75.8	42.9
2	*5580.00	109.6 AV			2.80 V	207	66.7	42.9
3	11160.00	62.9 PK	74.0	-11.1	1.79 V	152	39.7	23.2
4	11160.00	49.2 AV	54.0	-4.8	1.79 V	152	26.0	23.2

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.

RF Mode	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, 66% RH
Tested By	Titan Hsu		

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	115.1 PK			2.49 H	119	72.1	43.0
2	*5700.00	105.6 AV			2.49 H	119	62.6	43.0
3	#5725.00	60.3 PK	68.2	-7.9	2.49 H	119	47.2	13.1
4	11400.00	63.7 PK	74.0	-10.3	2.37 H	136	39.7	24.0
5	11400.00	49.9 AV	54.0	-4.1	2.37 H	136	25.9	24.0
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	*5700.00	120.2 PK			2.83 V	159	77.2	43.0
2	*5700.00	110.4 AV			2.83 V	159	67.4	43.0
3	#5725.00	60.6 PK	68.2	-7.6	2.83 V	159	47.5	13.1
4	11400.00	63.9 PK	74.0	-10.1	1.81 V	152	39.9	24.0
5	11400.00	50.2 AV	54.0	-3.8	1.81 V	152	26.2	24.0

Remarks:

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

RF Mode	802.11a	Channel	CH 144：5720 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	59.8 PK	68.2	-8.4	2.56 H	167	47.2	12.6
2	*5720.00	116.9 PK			2.56 H	167	73.7	43.2
3	*5720.00	107.0 AV			2.56 H	167	63.8	43.2
4	#5850.00	60.7 PK	68.2	-7.5	2.56 H	167	47.3	13.4
5	11440.00	63.5 PK	74.0	-10.5	2.35 H	134	39.5	24.0
6	11440.00	49.7 AV	54.0	-4.3	2.35 H	134	25.7	24.0
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	#5470.00	59.9 PK	68.2	-8.3	2.81 V	192	47.3	12.6
2	*5720.00	119.2 PK			2.81 V	192	76.0	43.2
3	*5720.00	110.0 AV			2.81 V	192	66.8	43.2
4	#5850.00	60.8 PK	68.2	-7.4	2.81 V	192	47.4	13.4
5	11440.00	63.7 PK	74.0	-10.3	1.82 V	152	39.7	24.0
6	11440.00	50.1 AV	54.0	-3.9	1.82 V	152	26.1	24.0

Remarks:

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

RF Mode	802.11ax (HE20)	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, 66% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	60.0 PK	74.0	-14.0	2.57 H	168	47.5	12.5
2	5150.00	46.7 AV	54.0	-7.3	2.57 H	168	34.2	12.5
3	*5260.00	119.6 PK			2.57 H	168	77.2	42.4
4	*5260.00	107.6 AV			2.57 H	168	65.2	42.4
5	#10520.00	62.0 PK	68.2	-6.2	2.36 H	132	39.5	22.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	60.4 PK	74.0	-13.6	2.76 V	178	47.9	12.5
2	5150.00	47.1 AV	54.0	-6.9	2.76 V	178	34.6	12.5
3	*5260.00	121.3 PK			2.76 V	178	78.9	42.4
4	*5260.00	109.1 AV			2.76 V	178	66.7	42.4
5	#10520.00	62.2 PK	68.2	-6.0	1.75 V	143	39.7	22.5

Remarks:

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

RF Mode	802.11ax (HE20)	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, 66% RH
Tested By	Titan Hsu		

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	119.2 PK			2.59 H	167	76.7	42.5
2	*5300.00	106.9 AV			2.59 H	167	64.4	42.5
3	10600.00	61.9 PK	74.0	-12.1	2.37 H	132	39.5	22.4
4	10600.00	47.9 AV	54.0	-6.1	2.37 H	132	25.5	22.4
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	*5300.00	121.6 PK			2.79 V	191	79.1	42.5
2	*5300.00	109.0 AV			2.79 V	191	66.5	42.5
3	10600.00	62.1 PK	74.0	-11.9	1.79 V	143	39.7	22.4
4	10600.00	48.1 AV	54.0	-5.9	1.79 V	143	25.7	22.4

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.

RF Mode	802.11ax (HE20)	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, 66% RH
Tested By	Titan Hsu		

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	118.9 PK			2.65 H	168	76.4	42.5
2	*5320.00	106.4 AV			2.65 H	168	63.9	42.5
3	5350.00	59.7 PK	74.0	-14.3	2.65 H	168	47.4	12.3
4	5350.00	46.7 AV	54.0	-7.3	2.65 H	168	34.4	12.3
5	10640.00	62.2 PK	74.0	-11.8	2.33 H	132	39.5	22.7
6	10640.00	48.0 AV	54.0	-6.0	2.33 H	132	25.3	22.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	121.8 PK			2.82 V	152	79.3	42.5
2	*5320.00	109.4 AV			2.82 V	152	66.9	42.5
3	5350.00	59.9 PK	74.0	-14.1	2.82 V	152	47.6	12.3
4	5350.00	47.1 AV	54.0	-6.9	2.82 V	152	34.8	12.3
5	10640.00	62.4 PK	74.0	-11.6	1.78 V	141	39.7	22.7
6	10640.00	48.2 AV	54.0	-5.8	1.78 V	141	25.5	22.7

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	802.11ax (HE20)	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, 66% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.5 PK	74.0	-13.5	2.63 H	169	47.8	12.7
2	5460.00	46.9 AV	54.0	-7.1	2.63 H	169	34.2	12.7
3	#5470.00	60.6 PK	68.2	-7.6	2.63 H	169	48.0	12.6
4	*5500.00	119.0 PK			2.63 H	169	75.9	43.1
5	*5500.00	106.2 AV			2.63 H	169	63.1	43.1
6	11000.00	62.4 PK	74.0	-11.6	2.35 H	135	39.5	22.9
7	11000.00	48.7 AV	54.0	-5.3	2.35 H	135	25.8	22.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.7 PK	74.0	-13.3	2.88 V	198	48.0	12.7
2	5460.00	47.2 AV	54.0	-6.8	2.88 V	198	34.5	12.7
3	#5470.00	60.8 PK	68.2	-7.4	2.88 V	198	48.2	12.6
4	*5500.00	122.3 PK			2.88 V	198	79.2	43.1
5	*5500.00	109.4 AV			2.88 V	198	66.3	43.1
6	11000.00	62.7 PK	74.0	-11.3	1.82 V	153	39.8	22.9
7	11000.00	49.1 AV	54.0	-4.9	1.82 V	153	26.2	22.9

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	802.11ax (HE20)	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, 66% RH
Tested By	Titan Hsu		

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	117.6 PK			2.61 H	172	74.7	42.9
2	*5580.00	105.0 AV			2.61 H	172	62.1	42.9
3	11160.00	62.7 PK	74.0	-11.3	2.39 H	143	39.5	23.2
4	11160.00	48.9 AV	54.0	-5.1	2.39 H	143	25.7	23.2
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	*5580.00	123.4 PK			2.80 V	133	80.5	42.9
2	*5580.00	110.3 AV			2.80 V	133	67.4	42.9
3	11160.00	62.9 PK	74.0	-11.1	1.75 V	145	39.7	23.2
4	11160.00	49.2 AV	54.0	-4.8	1.75 V	145	26.0	23.2

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.

RF Mode	802.11ax (HE20)	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, 66% RH
Tested By	Titan Hsu		

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	118.7 PK			2.72 H	180	75.7	43.0
2	*5700.00	106.3 AV			2.72 H	180	63.3	43.0
3	#5725.00	60.7 PK	68.2	-7.5	2.72 H	180	47.6	13.1
4	11400.00	63.7 PK	74.0	-10.3	2.35 H	133	39.7	24.0
5	11400.00	49.8 AV	54.0	-4.2	2.35 H	133	25.8	24.0
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	*5700.00	123.0 PK			2.81 V	132	80.0	43.0
2	*5700.00	109.9 AV			2.81 V	132	66.9	43.0
3	#5725.00	67.2 PK	68.2	-1.0	2.81 V	132	54.1	13.1
4	11400.00	63.9 PK	74.0	-10.1	1.82 V	152	39.9	24.0
5	11400.00	50.2 AV	54.0	-3.8	1.82 V	152	26.2	24.0

Remarks:

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

RF Mode	802.11ax (HE20)	Channel	CH 144：5720 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	59.8 PK	68.2	-8.4	2.71 H	171	47.2	12.6
2	*5720.00	118.4 PK			2.71 H	171	75.2	43.2
3	*5720.00	105.9 AV			2.71 H	171	62.7	43.2
4	#5850.00	60.4 PK	68.2	-7.8	2.71 H	171	47.0	13.4
5	11440.00	63.5 PK	74.0	-10.5	2.31 H	136	39.5	24.0
6	11440.00	49.8 AV	54.0	-4.2	2.31 H	136	25.8	24.0
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	#5470.00	59.9 PK	68.2	-8.3	2.80 V	195	47.3	12.6
2	*5720.00	123.1 PK			2.80 V	195	79.9	43.2
3	*5720.00	109.9 AV			2.80 V	195	66.7	43.2
4	#5850.00	60.5 PK	68.2	-7.7	2.80 V	195	47.1	13.4
5	11440.00	63.8 PK	74.0	-10.2	1.85 V	146	39.8	24.0
6	11440.00	50.1 AV	54.0	-3.9	1.85 V	146	26.1	24.0

Remarks:

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

RF Mode	802.11ax (HE40)	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 = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	60.0 PK	74.0	-14.0	2.54 H	168	47.5	12.5
2	5150.00	46.8 AV	54.0	-7.2	2.54 H	168	34.3	12.5
3	*5270.00	117.4 PK			2.54 H	168	75.0	42.4
4	*5270.00	104.5 AV			2.54 H	168	62.1	42.4
5	#10540.00	61.7 PK	68.2	-6.5	2.39 H	360	39.2	22.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	60.1 PK	74.0	-13.9	2.87 V	177	47.6	12.5
2	5150.00	47.0 AV	54.0	-7.0	2.87 V	177	34.5	12.5
3	*5270.00	119.8 PK			2.87 V	177	77.4	42.4
4	*5270.00	107.5 AV			2.87 V	177	65.1	42.4
5	#10540.00	62.0 PK	68.2	-6.2	1.82 V	145	39.5	22.5

Remarks:

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

RF Mode	802.11ax (HE40)	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 = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu		

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	116.4 PK			2.62 H	165	73.9	42.5
2	*5310.00	103.7 AV			2.62 H	165	61.2	42.5
3	5350.00	63.1 PK	74.0	-10.9	2.62 H	165	50.8	12.3
4	5350.00	50.0 AV	54.0	-4.0	2.62 H	165	37.7	12.3
5	10620.00	61.8 PK	74.0	-12.2	2.39 H	138	39.2	22.6
6	10620.00	47.8 AV	54.0	-6.2	2.39 H	138	25.2	22.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5310.00	120.4 PK			2.82 V	144	77.9	42.5
2	*5310.00	107.4 AV			2.82 V	144	64.9	42.5
3	5350.00	63.6 PK	74.0	-10.4	2.82 V	144	51.3	12.3
4	5350.00	52.6 AV	54.0	-1.4	2.82 V	144	40.3	12.3
5	10620.00	62.2 PK	74.0	-11.8	1.83 V	147	39.6	22.6
6	10620.00	48.0 AV	54.0	-6.0	1.83 V	147	25.4	22.6

Remarks:

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

RF Mode	802.11ax (HE40)	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 = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.8 PK	74.0	-13.2	2.70 H	172	48.1	12.7
2	5460.00	48.1 AV	54.0	-5.9	2.70 H	172	35.4	12.7
3	#5470.00	60.5 PK	68.2	-7.7	2.70 H	172	47.9	12.6
4	*5510.00	116.2 PK			2.70 H	172	73.1	43.1
5	*5510.00	103.8 AV			2.70 H	172	60.7	43.1
6	11020.00	62.1 PK	74.0	-11.9	2.39 H	138	39.2	22.9
7	11020.00	48.4 AV	54.0	-5.6	2.39 H	138	25.5	22.9
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	61.2 PK	74.0	-12.8	2.55 V	197	48.5	12.7
2	5460.00	49.1 AV	54.0	-4.9	2.55 V	197	36.4	12.7
3	#5470.00	61.9 PK	68.2	-6.3	2.55 V	197	49.3	12.6
4	*5510.00	120.5 PK			2.55 V	197	77.4	43.1
5	*5510.00	107.3 AV			2.55 V	197	64.2	43.1
6	11020.00	62.4 PK	74.0	-11.6	1.81 V	151	39.5	22.9
7	11020.00	48.6 AV	54.0	-5.4	1.81 V	151	25.7	22.9

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	802.11ax (HE40)	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 = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu		

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	115.6 PK			2.60 H	167	72.6	43.0
2	*5550.00	102.8 AV			2.60 H	167	59.8	43.0
3	11100.00	62.3 PK	74.0	-11.7	2.39 H	135	39.3	23.0
4	11100.00	48.5 AV	54.0	-5.5	2.39 H	135	25.5	23.0
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	*5550.00	119.9 PK			2.61 V	197	76.9	43.0
2	*5550.00	107.6 AV			2.61 V	197	64.6	43.0
3	11100.00	62.5 PK	74.0	-11.5	1.84 V	156	39.5	23.0
4	11100.00	48.8 AV	54.0	-5.2	1.84 V	156	25.8	23.0

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	802.11ax (HE40)	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 = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu		

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	117.1 PK			2.85 H	168	74.0	43.1
2	*5670.00	104.1 AV			2.85 H	168	61.0	43.1
3	#5725.00	60.1 PK	68.2	-8.1	2.85 H	168	47.0	13.1
4	11340.00	63.1 PK	74.0	-10.9	2.39 H	137	39.5	23.6
5	11340.00	49.4 AV	54.0	-4.6	2.39 H	137	25.8	23.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	120.7 PK			2.64 V	153	77.6	43.1
2	*5670.00	107.9 AV			2.64 V	153	64.8	43.1
3	#5725.00	62.2 PK	68.2	-6.0	2.64 V	153	49.1	13.1
4	11340.00	63.4 PK	74.0	-10.6	1.78 V	155	39.8	23.6
5	11340.00	49.7 AV	54.0	-4.3	1.78 V	155	26.1	23.6

Remarks:

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

RF Mode	802.11ax (HE40)	Channel	CH 142：5710 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	60.0 PK	68.2	-8.2	2.78 H	168	47.4	12.6
2	*5710.00	117.0 PK			2.78 H	168	73.9	43.1
3	*5710.00	104.0 AV			2.78 H	168	60.9	43.1
4	#5850.00	61.2 PK	68.2	-7.0	2.78 H	168	47.8	13.4
5	11420.00	63.6 PK	74.0	-10.4	2.35 H	136	39.5	24.1
6	11420.00	49.6 AV	54.0	-4.4	2.35 H	136	25.5	24.1
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	#5470.00	60.1 PK	68.2	-8.1	2.60 V	153	47.5	12.6
2	*5710.00	120.2 PK			2.60 V	153	77.1	43.1
3	*5710.00	107.6 AV			2.60 V	153	64.5	43.1
4	#5850.00	61.4 PK	68.2	-6.8	2.60 V	153	48.0	13.4
5	11420.00	63.8 PK	74.0	-10.2	1.82 V	146	39.7	24.1
6	11420.00	49.9 AV	54.0	-4.1	1.82 V	146	25.8	24.1

Remarks:

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

RF Mode	802.11ax (HE80)	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 = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	60.4 PK	74.0	-13.6	2.58 H	166	47.9	12.5
2	5150.00	47.2 AV	54.0	-6.8	2.58 H	166	34.7	12.5
3	*5290.00	112.8 PK			2.58 H	166	70.3	42.5
4	*5290.00	99.7 AV			2.58 H	166	57.2	42.5
5	5350.00	65.6 PK	74.0	-8.4	2.58 H	166	53.3	12.3
6	5350.00	52.9 AV	54.0	-1.1	2.58 H	166	40.6	12.3
7	#10580.00	61.6 PK	68.2	-6.6	2.33 H	137	39.0	22.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	60.6 PK	74.0	-13.4	2.89 V	145	48.1	12.5
2	5150.00	47.5 AV	54.0	-6.5	2.89 V	145	35.0	12.5
3	*5290.00	115.6 PK			2.89 V	145	73.1	42.5
4	*5290.00	103.7 AV			2.89 V	145	61.2	42.5
5	5350.00	65.8 PK	74.0	-8.2	2.89 V	145	53.5	12.3
6	**5350.00**	**53.6 AV**	**54.0**	**-0.4**	**2.89 V**	**145**	**41.3**	**12.3**
7	#10580.00	61.9 PK	68.2	-6.3	1.85 V	143	39.3	22.6

Remarks:

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

RF Mode	802.11ax (HE80)	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 = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu		

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	63.6 PK	74.0	-10.4	2.51 H	168	50.9	12.7
2	5460.00	50.5 AV	54.0	-3.5	2.51 H	168	37.8	12.7
3	#5470.00	64.1 PK	68.2	-4.1	2.51 H	168	51.5	12.6
4	*5530.00	112.9 PK			2.51 H	168	69.8	43.1
5	*5530.00	99.5 AV			2.51 H	168	56.4	43.1
6	#5725.00	60.8 PK	68.2	-7.4	2.51 H	168	47.7	13.1
7	11060.00	62.1 PK	74.0	-11.9	2.32 H	141	39.2	22.9
8	11060.00	48.1 AV	54.0	-5.9	2.32 H	141	25.2	22.9
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	66.0 PK	74.0	-8.0	2.57 V	197	53.3	12.7
2	**5460.00**	**53.6 AV**	**54.0**	**-0.4**	**2.57 V**	**197**	**40.9**	**12.7**
3	#5470.00	63.6 PK	68.2	-4.6	2.57 V	197	51.0	12.6
4	*5530.00	116.9 PK			2.57 V	197	73.8	43.1
5	*5530.00	104.2 AV			2.57 V	197	61.1	43.1
6	#5725.00	61.1 PK	68.2	-7.1	2.57 V	197	48.0	13.1
7	11060.00	62.4 PK	74.0	-11.6	1.85 V	149	39.5	22.9
8	11060.00	48.4 AV	54.0	-5.6	1.85 V	149	25.5	22.9

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	802.11ax (HE80)	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 = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.4 PK	74.0	-13.6	2.66 H	172	47.7	12.7
2	5460.00	46.9 AV	54.0	-7.1	2.66 H	172	34.2	12.7
3	#5470.00	60.1 PK	68.2	-8.1	2.66 H	172	47.5	12.6
4	*5610.00	113.9 PK			2.66 H	172	70.9	43.0
5	*5610.00	101.4 AV			2.66 H	172	58.4	43.0
6	#5725.00	60.3 PK	68.2	-7.9	2.66 H	172	47.2	13.1
7	11220.00	62.8 PK	74.0	-11.2	2.31 H	142	39.3	23.5
8	11220.00	48.7 AV	54.0	-5.3	2.31 H	142	25.2	23.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	61.0 PK	74.0	-13.0	2.58 V	152	48.3	12.7
2	5460.00	47.2 AV	54.0	-6.8	2.58 V	152	34.5	12.7
3	#5470.00	60.9 PK	68.2	-7.3	2.58 V	152	48.3	12.6
4	*5610.00	116.9 PK			2.58 V	152	73.9	43.0
5	*5610.00	104.6 AV			2.58 V	152	61.6	43.0
6	#5725.00	62.0 PK	68.2	-6.2	2.58 V	152	48.9	13.1
7	11220.00	63.1 PK	74.0	-10.9	1.82 V	154	39.6	23.5
8	11220.00	48.9 AV	54.0	-5.1	1.82 V	154	25.4	23.5

Remarks:

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

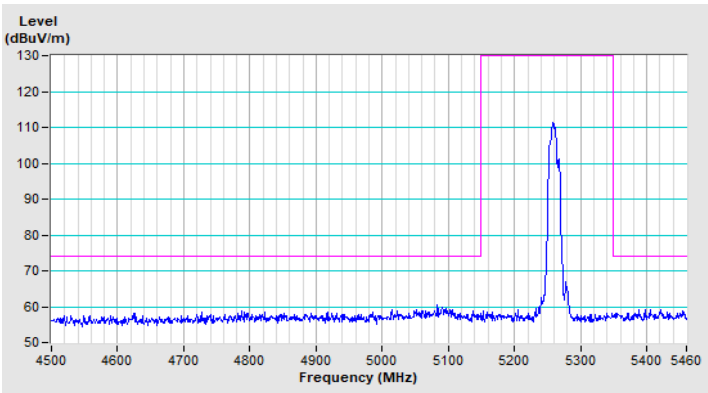
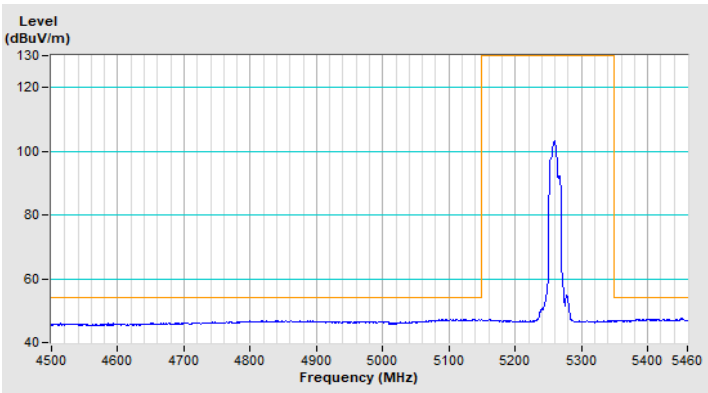
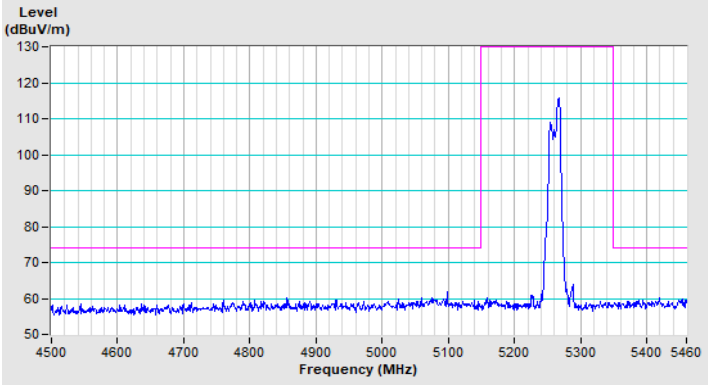
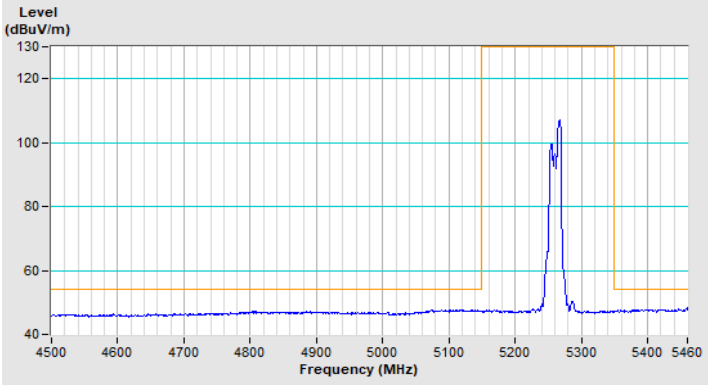
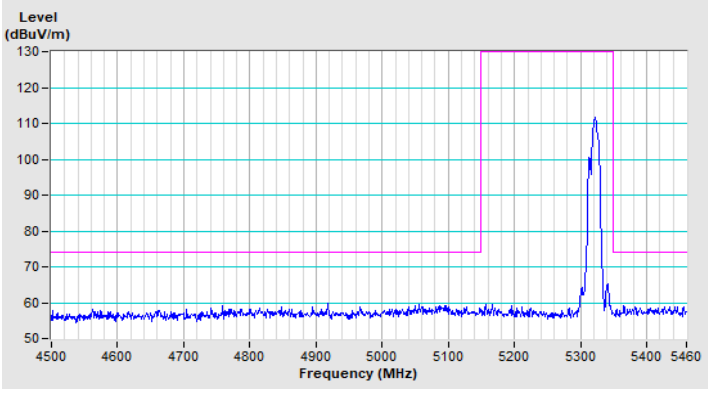
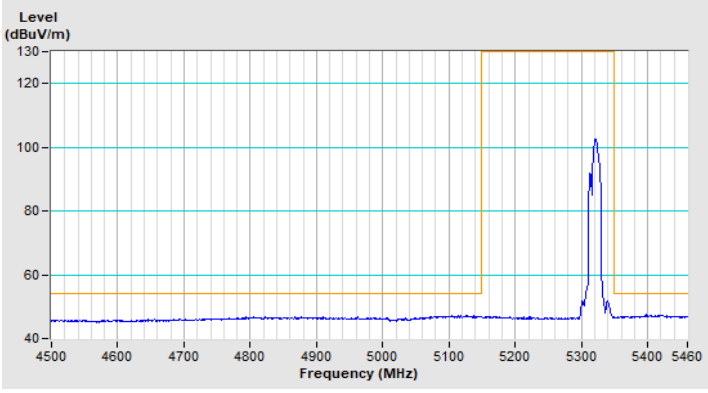
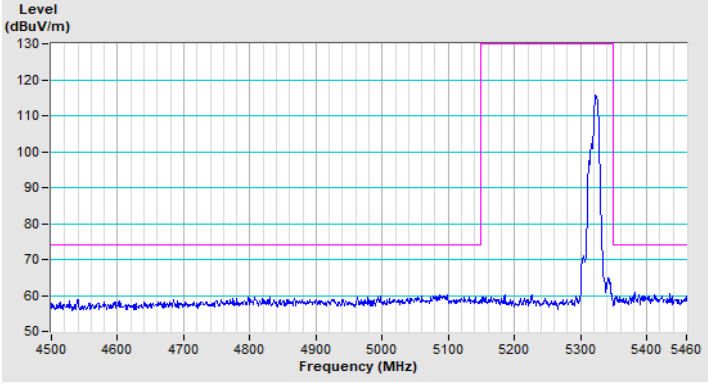
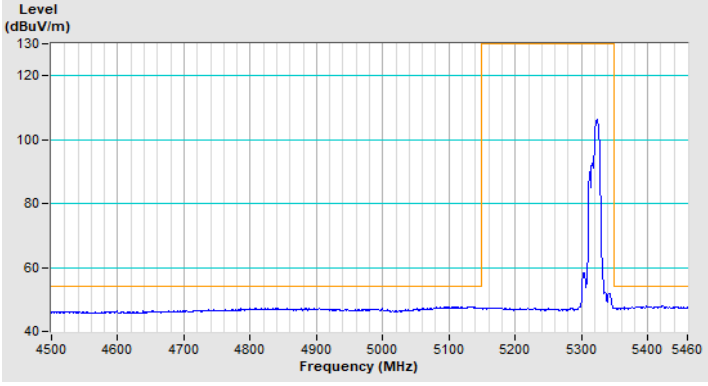
RF Mode	802.11ax (HE80)	Channel	CH 138：5690 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	60.2 PK	68.2	-8.0	2.50 H	168	47.6	12.6
2	*5690.00	113.4 PK			2.50 H	168	70.4	43.0
3	*5690.00	101.2 AV			2.50 H	168	58.2	43.0
4	#5850.00	61.1 PK	68.2	-7.1	2.50 H	168	47.7	13.4
5	11380.00	63.2 PK	74.0	-10.8	2.39 H	132	39.2	24.0
6	11380.00	49.2 AV	54.0	-4.8	2.39 H	132	25.2	24.0
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	#5470.00	60.5 PK	68.2	-7.7	2.58 V	151	47.9	12.6
2	*5690.00	116.9 PK			2.58 V	151	73.9	43.0
3	*5690.00	104.4 AV			2.58 V	151	61.4	43.0
4	#5850.00	61.4 PK	68.2	-6.8	2.58 V	151	48.0	13.4
5	11380.00	63.5 PK	74.0	-10.5	1.87 V	153	39.5	24.0
6	11380.00	49.4 AV	54.0	-4.6	1.87 V	153	25.4	24.0

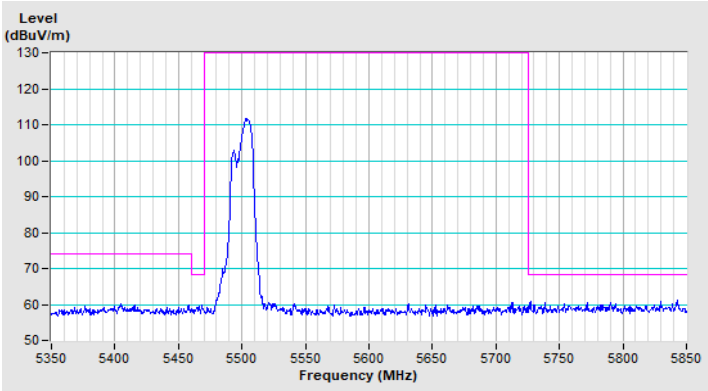
Remarks:

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

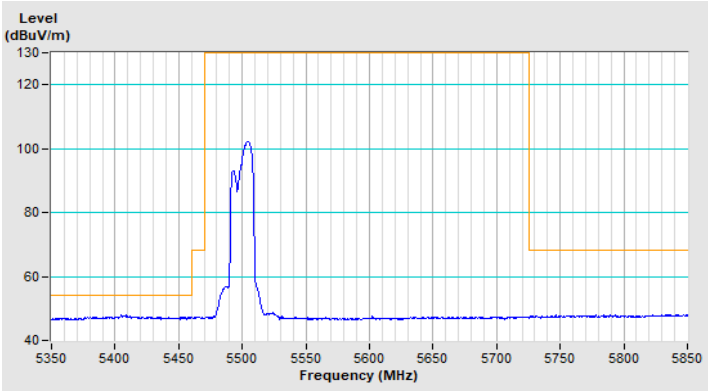
Plot of Band Edge

802.11a Channel 52	
	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
802.11a Channel 64	
	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)

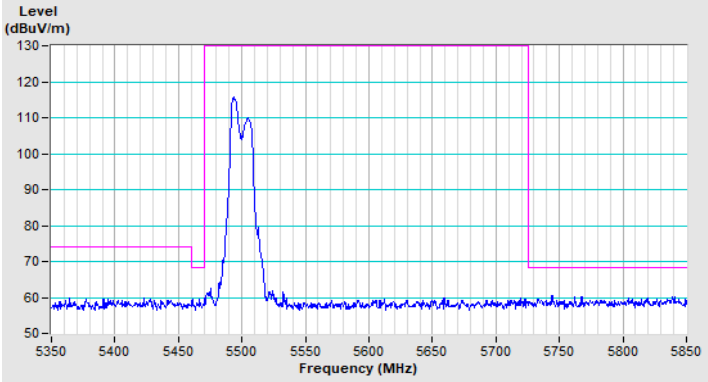
802.11a Channel 100



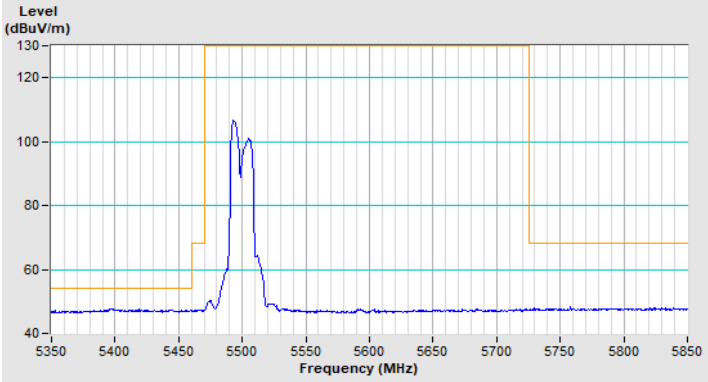
Horizontal (Peak)



Horizontal (Average)

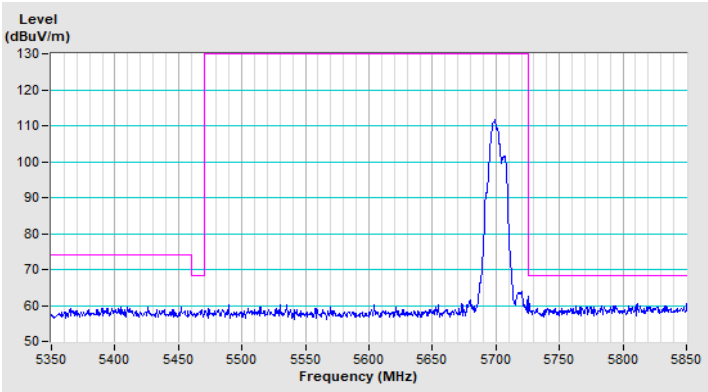


Vertical (Peak)

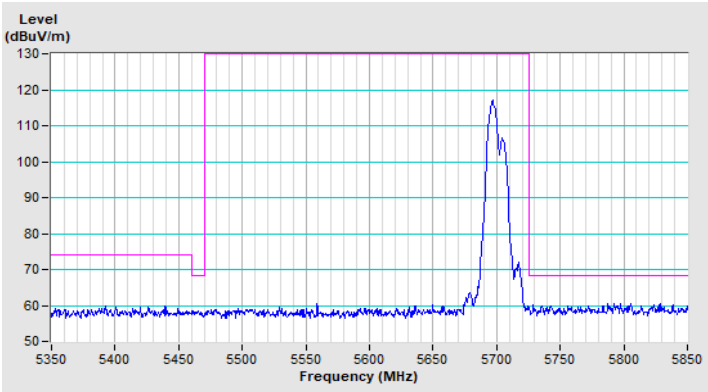


Vertical (Average)

802.11a Channel 140

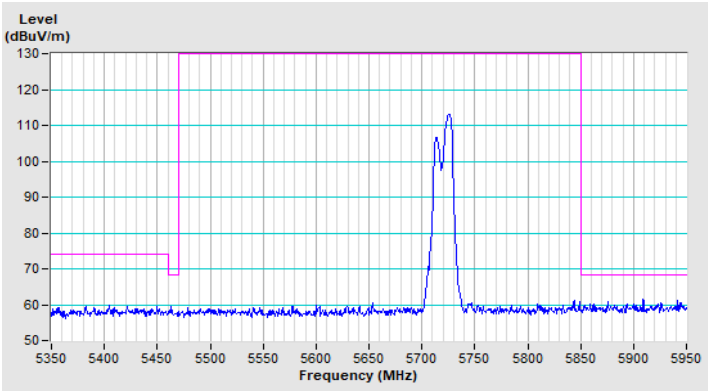


Horizontal (Peak)

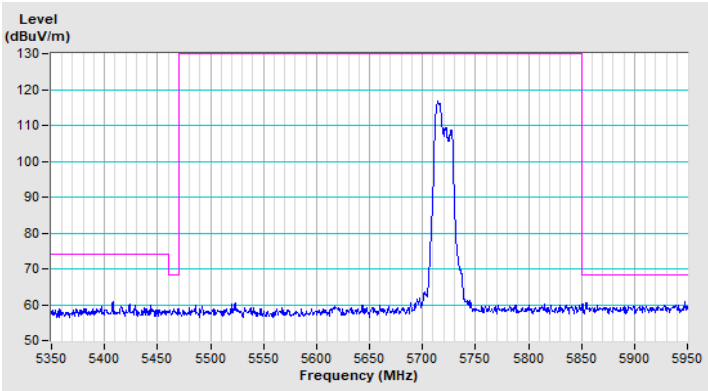


Vertical (Peak)

802.11a Channel 144

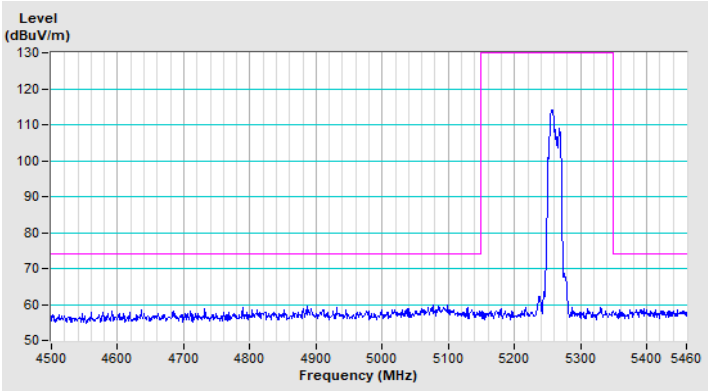


Horizontal (Peak)

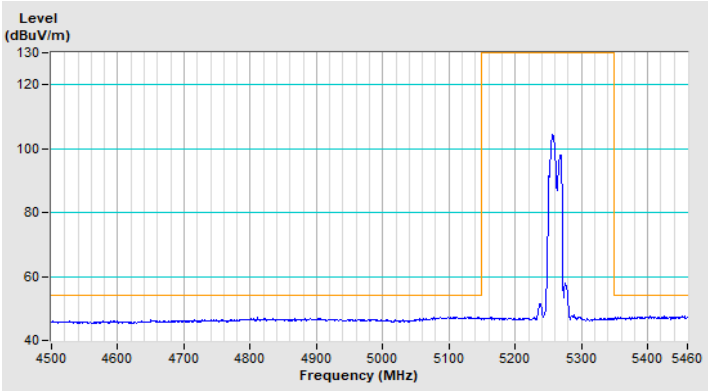


Vertical (Peak)

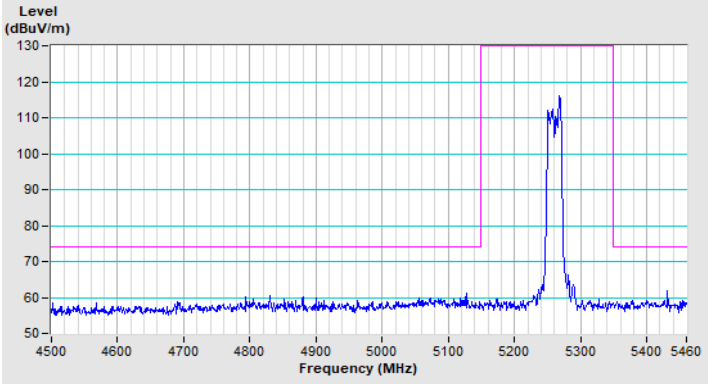
802.11ax (HE20) Channel 52



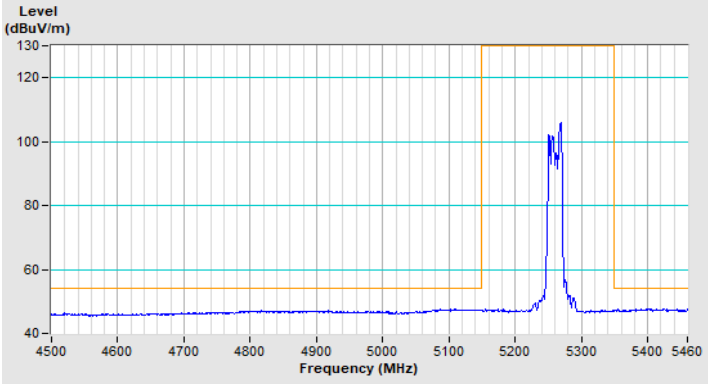
Horizontal (Peak)



Horizontal (Average)

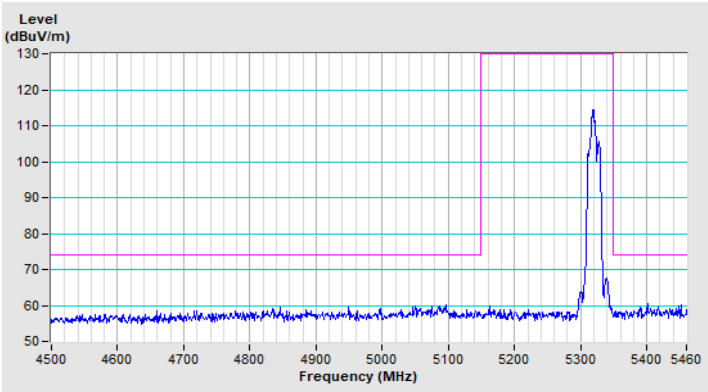


Vertical (Peak)

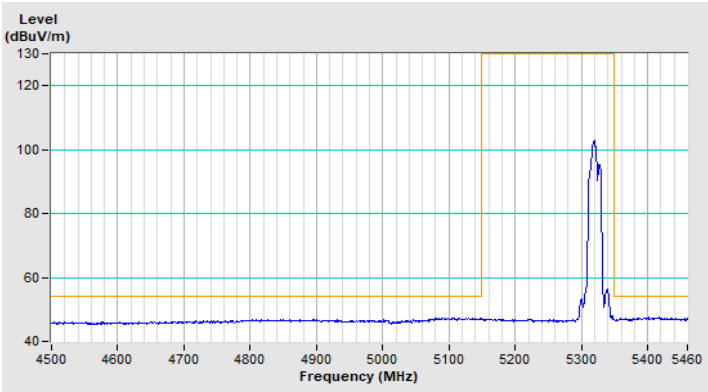


Vertical (Average)

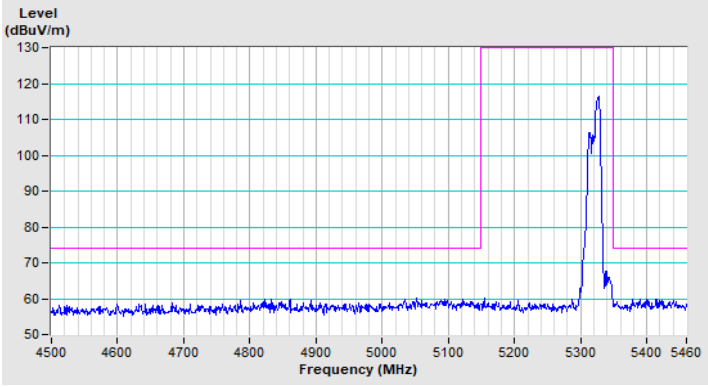
802.11ax (HE20) Channel 64



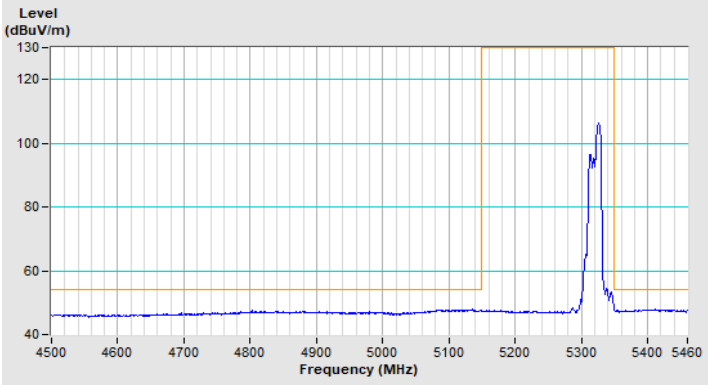
Horizontal (Peak)



Horizontal (Average)

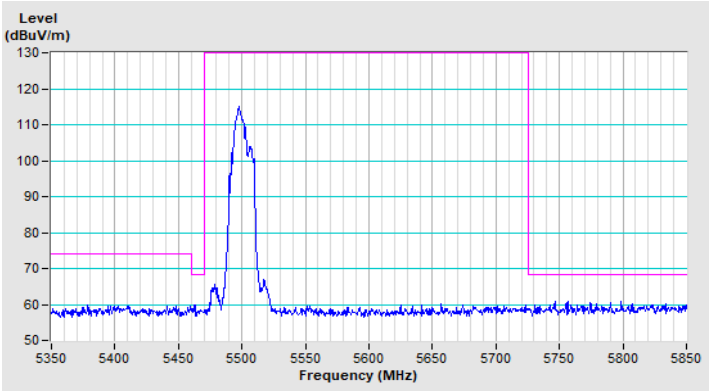


Vertical (Peak)

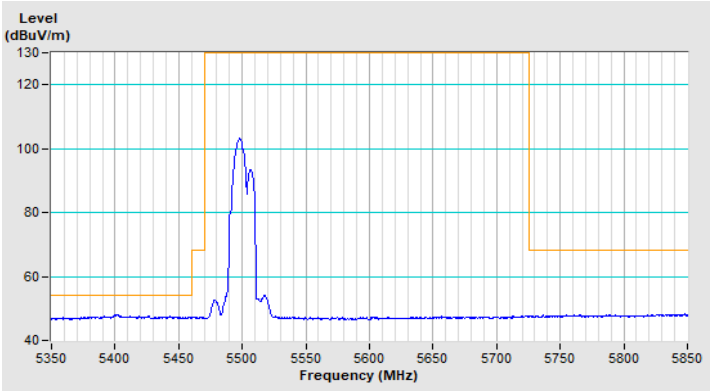


Vertical (Average)

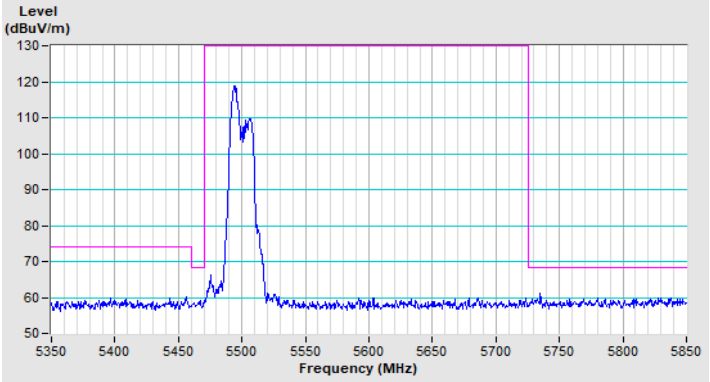
802.11ax (HE20) Channel 100



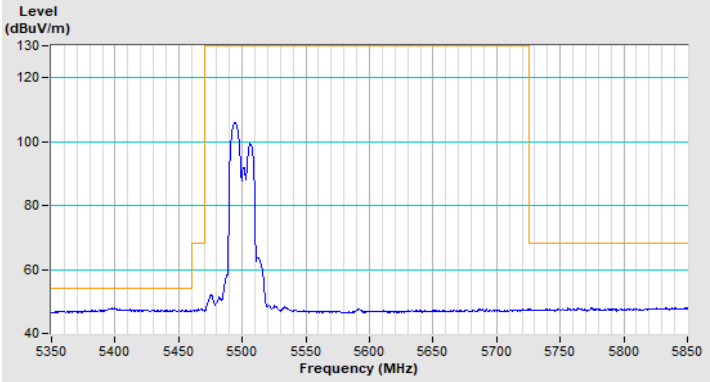
Horizontal (Peak)



Horizontal (Average)

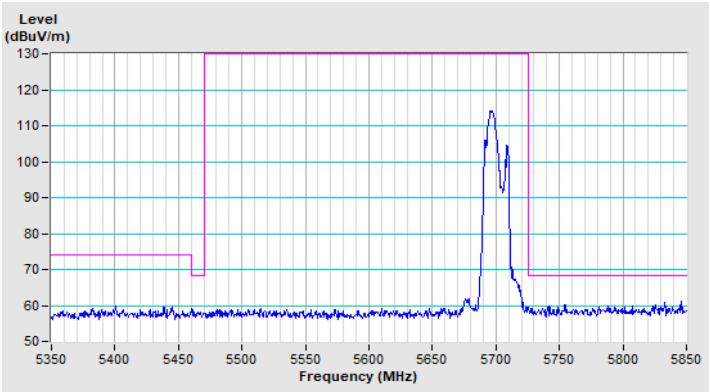


Vertical (Peak)

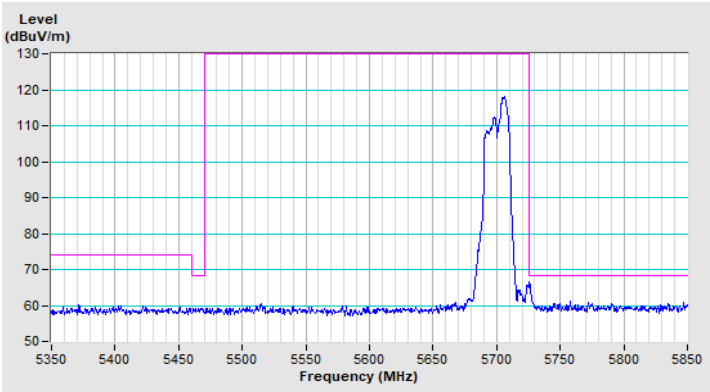


Vertical (Average)

802.11ax (HE20) Channel 140

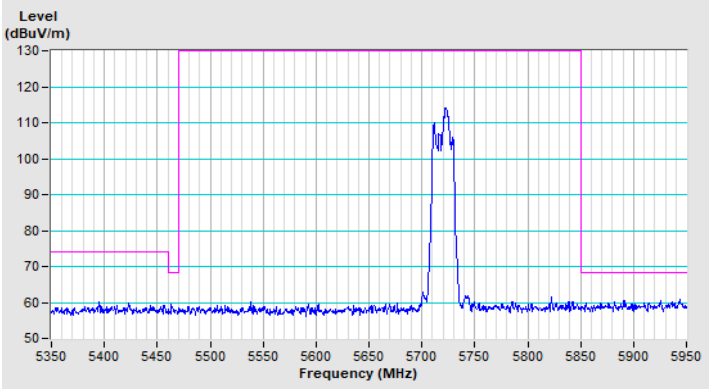


Horizontal (Peak)

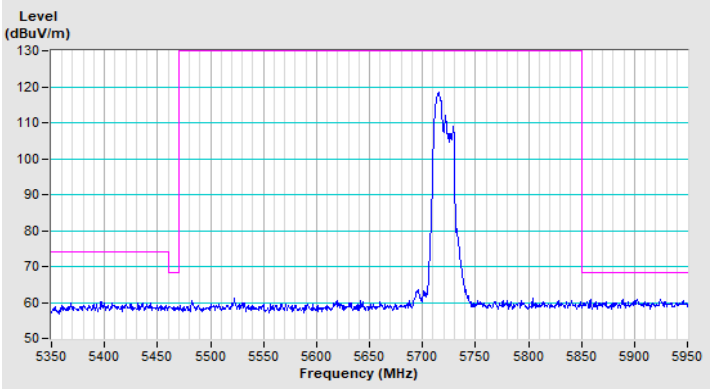


Vertical (Peak)

802.11ax (HE20) Channel 144

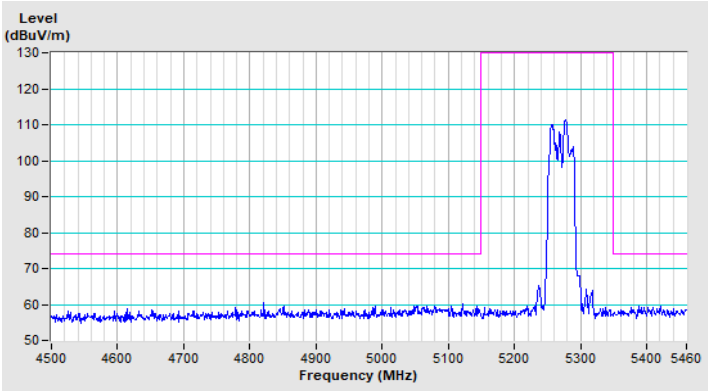


Horizontal (Peak)

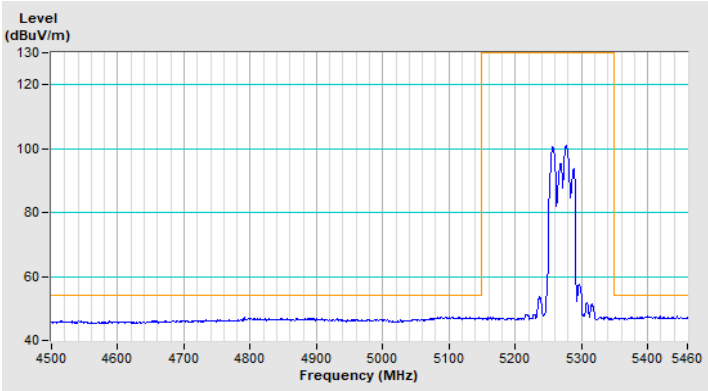


Vertical (Peak)

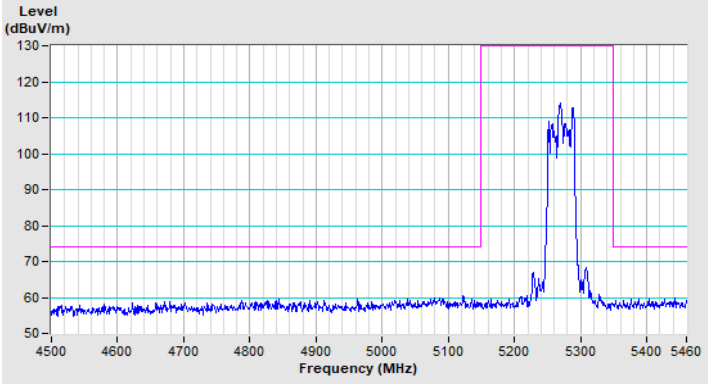
802.11ax (HE40) Channel 54



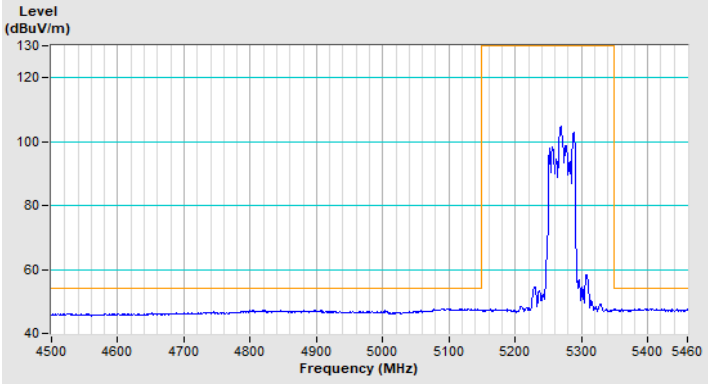
Horizontal (Peak)



Horizontal (Average)

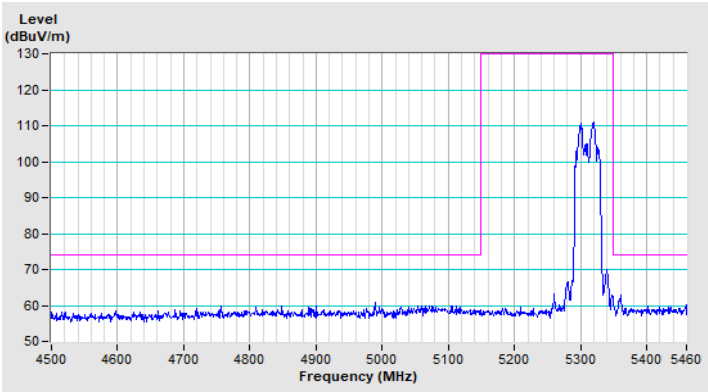


Vertical (Peak)

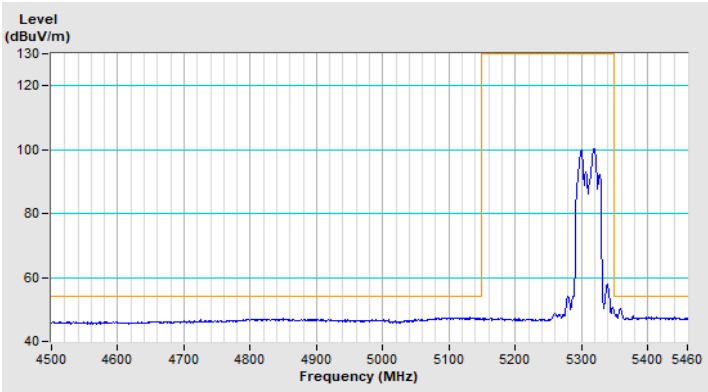


Vertical (Average)

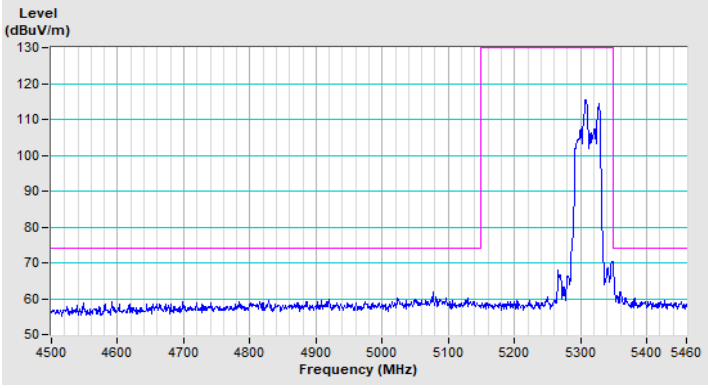
802.11ax (HE40) Channel 62



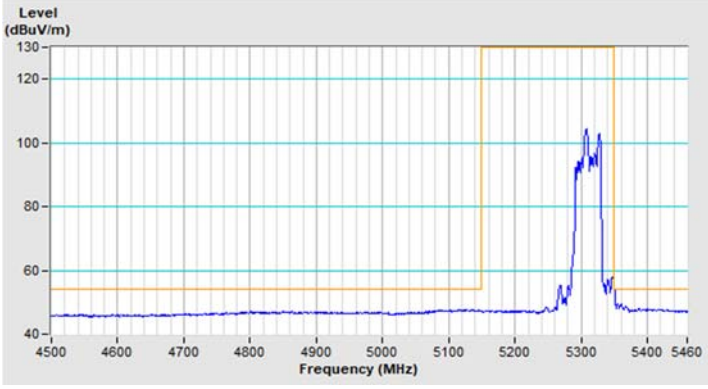
Horizontal (Peak)



Horizontal (Average)

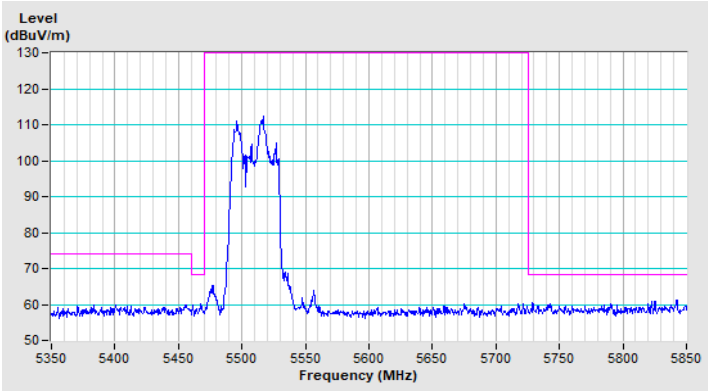


Vertical (Peak)

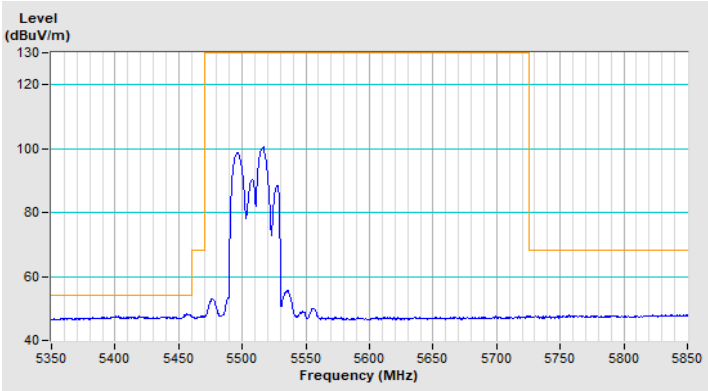


Vertical (Average)

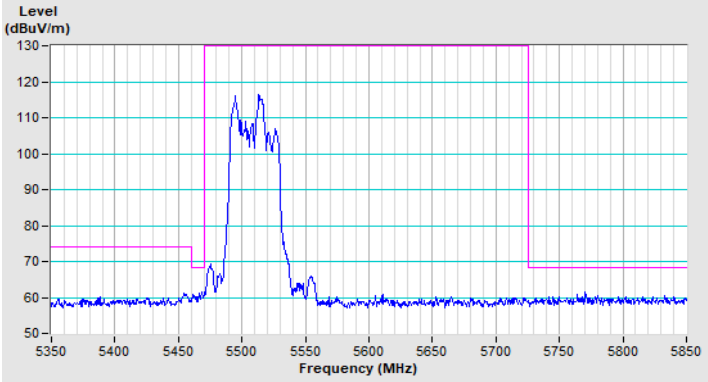
802.11ax (HE40) Channel 102



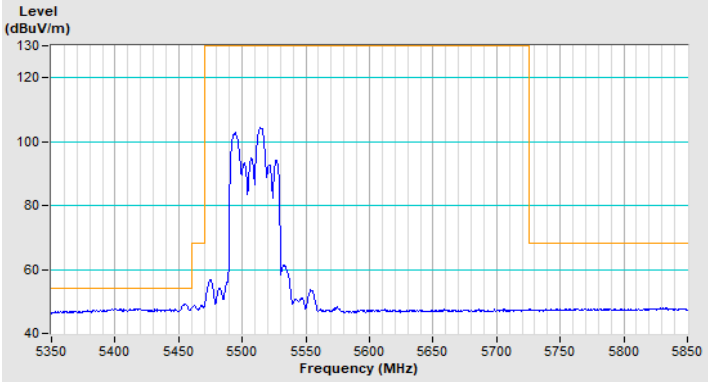
Horizontal (Peak)



Horizontal (Average)

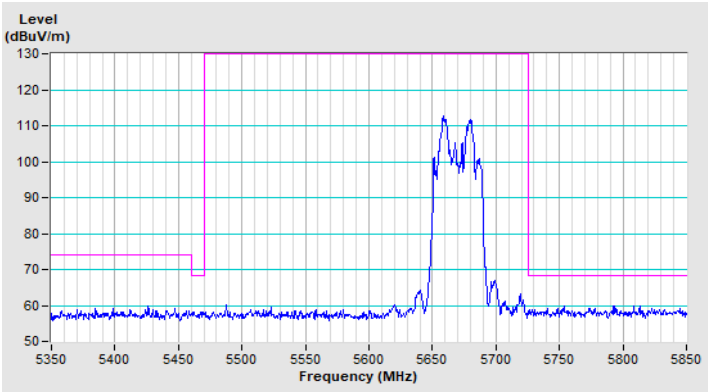


Vertical (Peak)

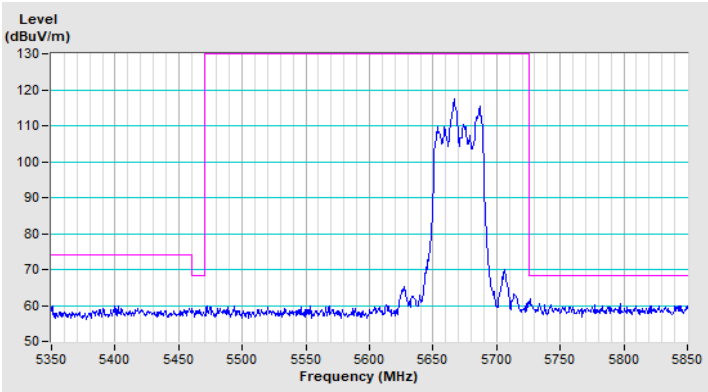


Vertical (Average)

802.11ax (HE40) Channel 134

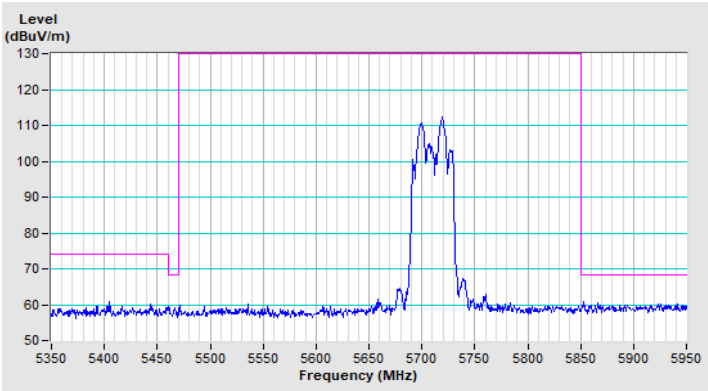


Horizontal (Peak)

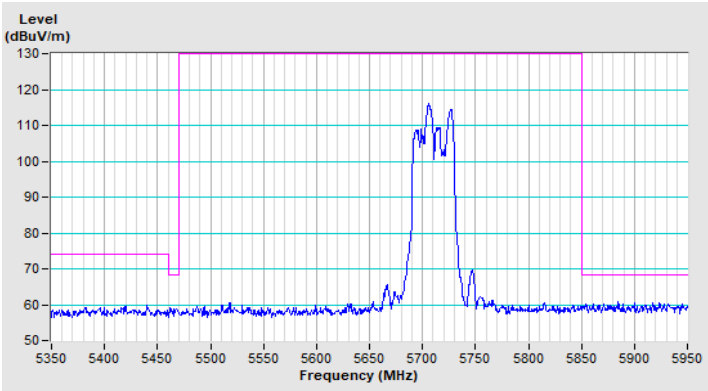


Vertical (Peak)

802.11ax (HE40) Channel 142

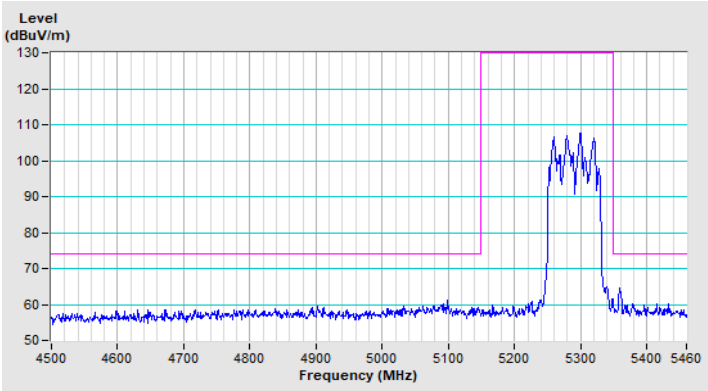


Horizontal (Peak)

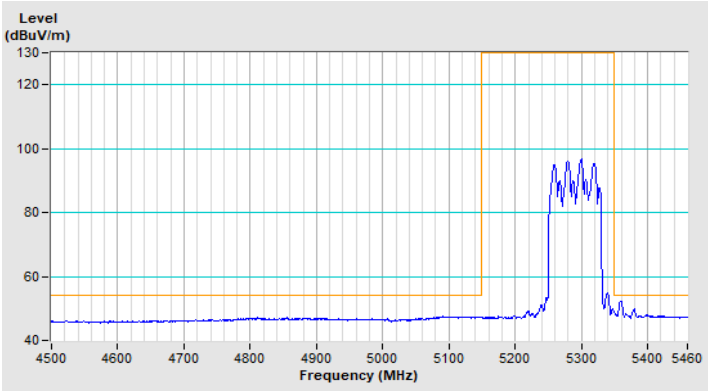


Vertical (Peak)

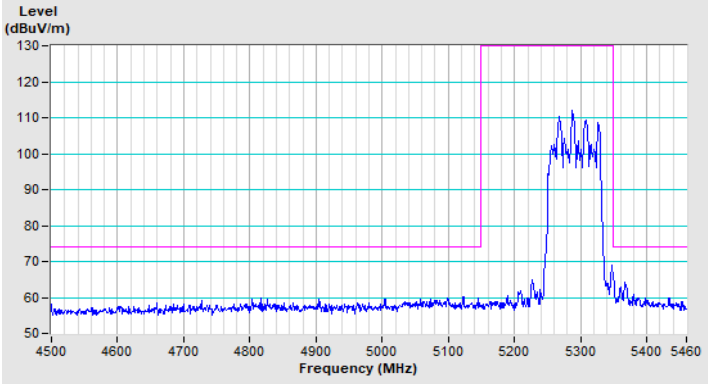
802.11ax (HE80) Channel 58



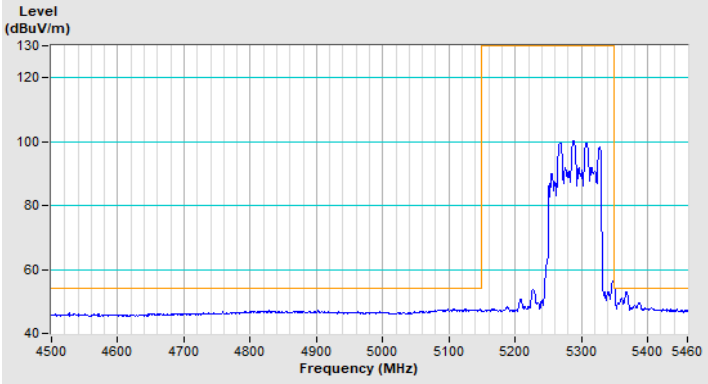
Horizontal (Peak)



Horizontal (Average)

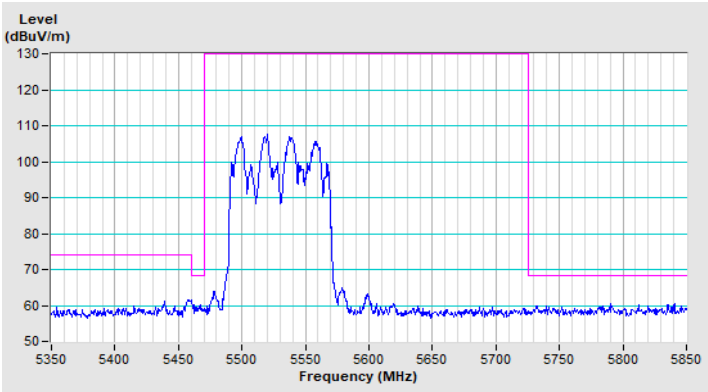


Vertical (Peak)

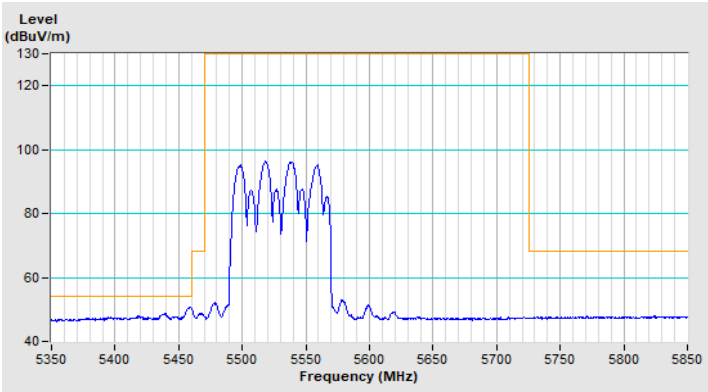


Vertical (Average)

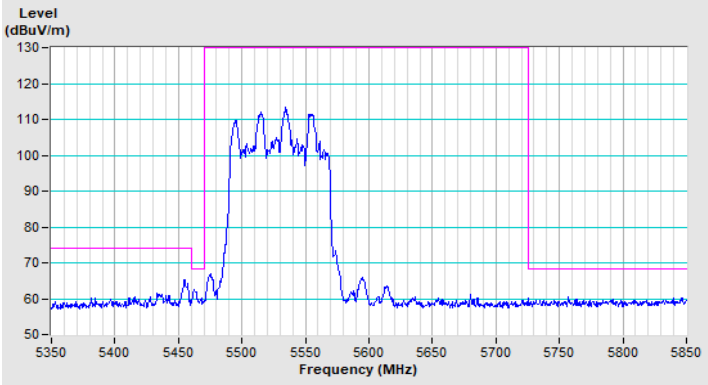
802.11ax (HE80) Channel 106



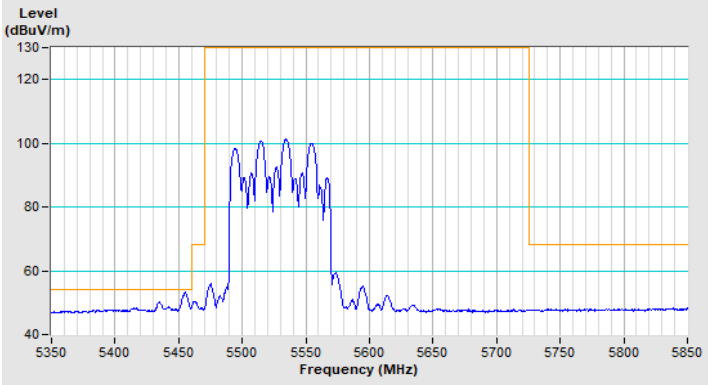
Horizontal (Peak)



Horizontal (Average)

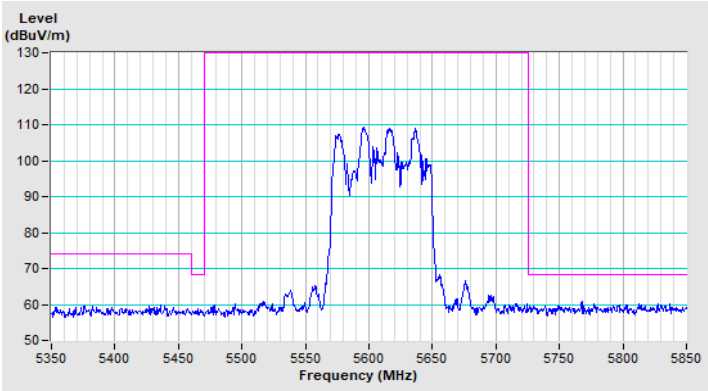


Vertical (Peak)

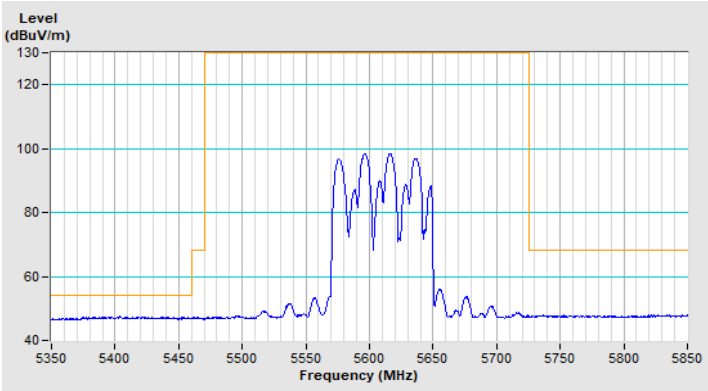


Vertical (Average)

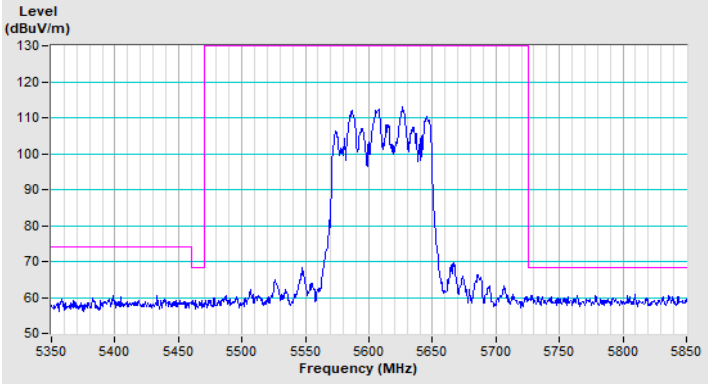
802.11ax (HE80) Channel 122



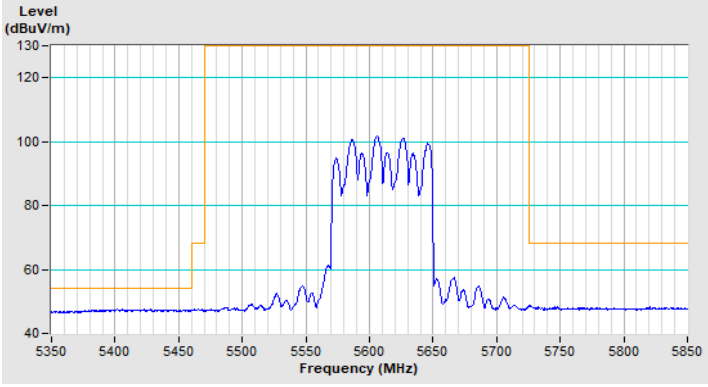
Horizontal (Peak)



Horizontal (Average)

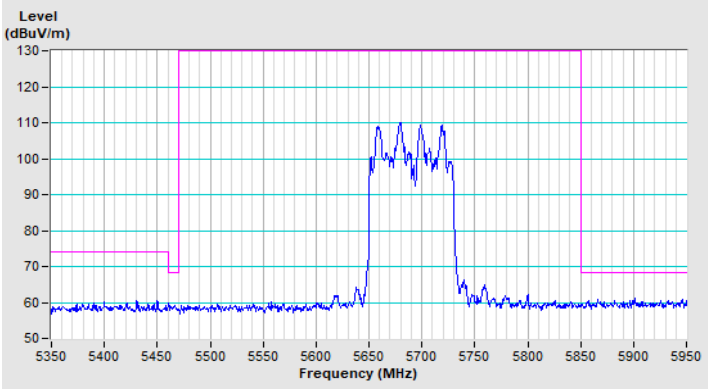


Vertical (Peak)

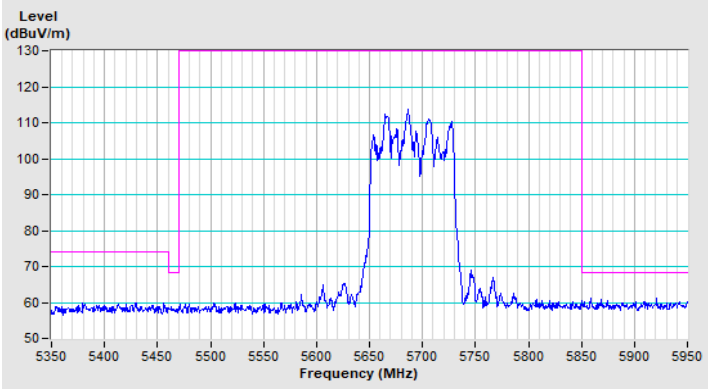


Vertical (Average)

802.11ax (HE80) Channel 138



Horizontal (Peak)



Vertical (Peak)

Mode B: Scan Radio 3: QCA-9889 Module

RF Mode	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	24°C, 68% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	61.1 PK	74.0	-12.9	1.55 H	349	48.6	12.5
2	5150.00	47.3 AV	54.0	-6.7	1.55 H	349	34.8	12.5
3	*5260.00	110.1 PK			1.55 H	349	67.7	42.4
4	*5260.00	100.2 AV			1.55 H	349	57.8	42.4
5	#10520.00	62.7 PK	68.2	-5.5	2.21 H	169	40.2	22.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	60.3 PK	74.0	-13.7	2.35 V	6	47.8	12.5
2	5150.00	46.8 AV	54.0	-7.2	2.35 V	6	34.3	12.5
3	*5260.00	106.9 PK			2.35 V	6	64.5	42.4
4	*5260.00	96.9 AV			2.35 V	6	54.5	42.4
5	#10520.00	61.8 PK	68.2	-6.4	1.33 V	244	39.3	22.5

Remarks:

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

RF Mode	802.11a	Channel	CH 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	24°C, 68% RH
Tested By	Titan Hsu		

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	109.6 PK			1.67 H	350	67.1	42.5
2	*5300.00	99.8 AV			1.67 H	350	57.3	42.5
3	10600.00	62.4 PK	74.0	-11.6	2.12 H	165	40.0	22.4
4	10600.00	47.9 AV	54.0	-6.1	2.12 H	165	25.5	22.4
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	*5300.00	106.9 PK			2.34 V	5	64.4	42.5
2	*5300.00	97.0 AV			2.34 V	5	54.5	42.5
3	10600.00	61.6 PK	74.0	-12.4	1.39 V	248	39.2	22.4
4	10600.00	47.3 AV	54.0	-6.7	1.39 V	248	24.9	22.4

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.

RF Mode	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	24°C, 68% RH
Tested By	Titan Hsu		

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	109.3 PK			1.58 H	350	66.8	42.5
2	*5320.00	99.3 AV			1.58 H	350	56.8	42.5
3	5350.00	65.7 PK	74.0	-8.3	1.58 H	350	53.4	12.3
4	5350.00	51.9 AV	54.0	-2.1	1.58 H	350	39.6	12.3
5	10640.00	62.8 PK	74.0	-11.2	2.16 H	169	40.1	22.7
6	10640.00	48.3 AV	54.0	-5.7	2.16 H	169	25.6	22.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	106.5 PK			2.30 V	7	64.0	42.5
2	*5320.00	97.0 AV			2.30 V	7	54.5	42.5
3	5350.00	63.9 PK	74.0	-10.1	2.30 V	7	51.6	12.3
4	5350.00	50.4 AV	54.0	-3.6	2.30 V	7	38.1	12.3
5	10640.00	62.0 PK	74.0	-12.0	1.36 V	251	39.3	22.7
6	10640.00	47.6 AV	54.0	-6.4	1.36 V	251	24.9	22.7

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	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	24°C, 68% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	61.3 PK	74.0	-12.7	1.94 H	18	48.6	12.7
2	5460.00	47.9 AV	54.0	-6.1	1.94 H	18	35.2	12.7
3	#5470.00	66.3 PK	68.2	-1.9	1.94 H	18	53.7	12.6
4	*5500.00	109.4 PK			1.94 H	18	66.3	43.1
5	*5500.00	99.6 AV			1.94 H	18	56.5	43.1
6	11000.00	63.1 PK	74.0	-10.9	2.23 H	175	40.2	22.9
7	11000.00	48.3 AV	54.0	-5.7	2.23 H	175	25.4	22.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.7 PK	74.0	-13.3	2.53 V	2	48.0	12.7
2	5460.00	47.3 AV	54.0	-6.7	2.53 V	2	34.6	12.7
3	#5470.00	62.8 PK	68.2	-5.4	2.53 V	2	50.2	12.6
4	*5500.00	106.6 PK			2.53 V	2	63.5	43.1
5	*5500.00	96.5 AV			2.53 V	2	53.4	43.1
6	11000.00	62.6 PK	74.0	-11.4	1.35 V	227	39.7	22.9
7	11000.00	47.9 AV	54.0	-6.1	1.35 V	227	25.0	22.9

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	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	24°C, 68% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	109.4 PK			1.92 H	19	66.5	42.9
2	*5580.00	99.7 AV			1.92 H	19	56.8	42.9
3	11160.00	63.3 PK	74.0	-10.7	2.25 H	178	40.1	23.2
4	11160.00	48.5 AV	54.0	-5.5	2.25 H	178	25.3	23.2
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	*5580.00	106.1 PK			2.65 V	6	63.2	42.9
2	*5580.00	96.1 AV			2.65 V	6	53.2	42.9
3	11160.00	62.8 PK	74.0	-11.2	1.35 V	235	39.6	23.2
4	11160.00	48.2 AV	54.0	-5.8	1.35 V	235	25.0	23.2

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.

RF Mode	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	24°C, 68% RH
Tested By	Titan Hsu		

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	107.0 PK			2.04 H	70	64.0	43.0
2	*5700.00	97.2 AV			2.04 H	70	54.2	43.0
3	**#5725.00**	**67.9 PK**	**68.2**	**-0.3**	**2.04 H**	**70**	**54.8**	**13.1**
4	11400.00	64.0 PK	74.0	-10.0	2.21 H	177	40.0	24.0
5	11400.00	49.2 AV	54.0	-4.8	2.21 H	177	25.2	24.0
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	*5700.00	103.0 PK			2.65 V	1	60.0	43.0
2	*5700.00	93.0 AV			2.65 V	1	50.0	43.0
3	#5725.00	62.5 PK	68.2	-5.7	2.65 V	1	49.4	13.1
4	11400.00	63.7 PK	74.0	-10.3	1.35 V	228	39.7	24.0
5	11400.00	48.8 AV	54.0	-5.2	1.35 V	228	24.8	24.0

Remarks:

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

RF Mode	802.11a	Channel	CH 144：5720 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 68% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	61.0 PK	68.2	-7.2	2.04 H	68	48.4	12.6
2	*5720.00	107.8 PK			2.04 H	68	64.6	43.2
3	*5720.00	97.9 AV			2.04 H	68	54.7	43.2
4	#5850.00	62.0 PK	68.2	-6.2	2.04 H	68	48.6	13.4
5	11440.00	64.0 PK	74.0	-10.0	2.21 H	178	40.0	24.0
6	11440.00	49.3 AV	54.0	-4.7	2.21 H	178	25.3	24.0
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	#5470.00	60.6 PK	68.2	-7.6	2.64 V	1	48.0	12.6
2	*5720.00	103.1 PK			2.64 V	1	59.9	43.2
3	*5720.00	93.6 AV			2.64 V	1	50.4	43.2
4	#5850.00	61.6 PK	68.2	-6.6	2.64 V	1	48.2	13.4
5	11440.00	63.7 PK	74.0	-10.3	1.35 V	228	39.7	24.0
6	11440.00	48.9 AV	54.0	-5.1	1.35 V	228	24.9	24.0

Remarks:

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

RF Mode	802.11ac (VHT20)	Channel	CH 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	24°C, 68% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	60.2 PK	74.0	-13.8	1.60 H	351	47.7	12.5
2	5150.00	47.1 AV	54.0	-6.9	1.60 H	351	34.6	12.5
3	*5260.00	109.3 PK			1.60 H	351	66.9	42.4
4	*5260.00	99.8 AV			1.60 H	351	57.4	42.4
5	#10520.00	62.5 PK	68.2	-5.7	2.15 H	163	40.0	22.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.8 PK	74.0	-14.2	2.30 V	5	47.3	12.5
2	5150.00	46.8 AV	54.0	-7.2	2.30 V	5	34.3	12.5
3	*5260.00	106.5 PK			2.30 V	5	64.1	42.4
4	*5260.00	96.5 AV			2.30 V	5	54.1	42.4
5	#10520.00	61.8 PK	68.2	-6.4	1.33 V	247	39.3	22.5

Remarks:

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

RF Mode	802.11ac (VHT20)	Channel	CH 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	24°C, 68% RH
Tested By	Titan Hsu		

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	108.7 PK			1.68 H	347	66.2	42.5
2	*5300.00	99.3 AV			1.68 H	347	56.8	42.5
3	10600.00	62.4 PK	74.0	-11.6	2.15 H	169	40.0	22.4
4	10600.00	48.0 AV	54.0	-6.0	2.15 H	169	25.6	22.4
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	*5300.00	106.5 PK			2.33 V	7	64.0	42.5
2	*5300.00	96.3 AV			2.33 V	7	53.8	42.5
3	10600.00	61.7 PK	74.0	-12.3	1.39 V	247	39.3	22.4
4	10600.00	47.2 AV	54.0	-6.8	1.39 V	247	24.8	22.4

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.

RF Mode	802.11ac (VHT20)	Channel	CH 64：5320 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 68% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	108.7 PK			1.71 H	349	66.2	42.5
2	*5320.00	98.7 AV			1.71 H	349	56.2	42.5
3	5350.00	66.9 PK	74.0	-7.1	1.71 H	349	54.6	12.3
4	5350.00	52.5 AV	54.0	-1.5	1.71 H	349	40.2	12.3
5	10640.00	62.8 PK	74.0	-11.2	2.12 H	159	40.1	22.7
6	10640.00	48.2 AV	54.0	-5.8	2.12 H	159	25.5	22.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	106.4 PK			2.39 V	6	63.9	42.5
2	*5320.00	96.3 AV			2.39 V	6	53.8	42.5
3	5350.00	64.8 PK	74.0	-9.2	2.39 V	6	52.5	12.3
4	5350.00	50.5 AV	54.0	-3.5	2.39 V	6	38.2	12.3
5	10640.00	61.9 PK	74.0	-12.1	1.42 V	248	39.2	22.7
6	10640.00	47.6 AV	54.0	-6.4	1.42 V	248	24.9	22.7

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	802.11ac (VHT20)	Channel	CH 100：5500 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 68% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	61.0 PK	74.0	-13.0	1.96 H	19	48.3	12.7
2	5460.00	47.4 AV	54.0	-6.6	1.96 H	19	34.7	12.7
3	#5470.00	67.0 PK	68.2	-1.2	1.96 H	19	54.4	12.6
4	*5500.00	109.1 PK			1.96 H	19	66.0	43.1
5	*5500.00	99.0 AV			1.96 H	19	55.9	43.1
6	11000.00	62.9 PK	74.0	-11.1	2.19 H	175	40.0	22.9
7	11000.00	48.1 AV	54.0	-5.9	2.19 H	175	25.2	22.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.7 PK	74.0	-13.3	2.42 V	3	48.0	12.7
2	5460.00	47.2 AV	54.0	-6.8	2.42 V	3	34.5	12.7
3	#5470.00	64.0 PK	68.2	-4.2	2.42 V	3	51.4	12.6
4	*5500.00	105.9 PK			2.42 V	3	62.8	43.1
5	*5500.00	96.4 AV			2.42 V	3	53.3	43.1
6	11000.00	62.4 PK	74.0	-11.6	1.33 V	225	39.5	22.9
7	11000.00	47.6 AV	54.0	-6.4	1.33 V	225	24.7	22.9

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	802.11ac (VHT20)	Channel	CH 116：5580 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 68% RH
Tested By	Titan Hsu		

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	108.5 PK			1.95 H	19	65.6	42.9
2	*5580.00	98.8 AV			1.95 H	19	55.9	42.9
3	11160.00	63.2 PK	74.0	-10.8	2.18 H	175	40.0	23.2
4	11160.00	48.5 AV	54.0	-5.5	2.18 H	175	25.3	23.2
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	*5580.00	105.9 PK			2.64 V	7	63.0	42.9
2	*5580.00	96.2 AV			2.64 V	7	53.3	42.9
3	11160.00	62.7 PK	74.0	-11.3	1.36 V	228	39.5	23.2
4	11160.00	48.1 AV	54.0	-5.9	1.36 V	228	24.9	23.2

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.

RF Mode	802.11ac (VHT20)	Channel	CH 140：5700 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 68% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	105.5 PK			2.04 H	67	62.5	43.0
2	*5700.00	95.6 AV			2.04 H	67	52.6	43.0
3	#5725.00	67.4 PK	68.2	-0.8	2.04 H	67	54.3	13.1
4	11400.00	64.0 PK	74.0	-10.0	2.19 H	182	40.0	24.0
5	11400.00	49.2 AV	54.0	-4.8	2.19 H	182	25.2	24.0
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	*5700.00	102.4 PK			2.64 V	359	59.4	43.0
2	*5700.00	92.1 AV			2.64 V	359	49.1	43.0
3	#5725.00	63.6 PK	68.2	-4.6	2.64 V	359	50.5	13.1
4	11400.00	63.6 PK	74.0	-10.4	1.31 V	225	39.6	24.0
5	11400.00	48.8 AV	54.0	-5.2	1.31 V	225	24.8	24.0

Remarks:

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

RF Mode	802.11ac (VHT20)	Channel	CH 144：5720 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 68% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	61.1 PK	68.2	-7.1	2.04 H	66	48.5	12.6
2	*5720.00	106.8 PK			2.04 H	66	63.6	43.2
3	*5720.00	97.2 AV			2.04 H	66	54.0	43.2
4	#5850.00	62.1 PK	68.2	-6.1	2.04 H	66	48.7	13.4
5	11440.00	64.0 PK	74.0	-10.0	2.23 H	182	40.0	24.0
6	11440.00	49.2 AV	54.0	-4.8	2.23 H	182	25.2	24.0
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	#5470.00	60.8 PK	68.2	-7.4	2.64 V	1	48.2	12.6
2	*5720.00	103.2 PK			2.64 V	1	60.0	43.2
3	*5720.00	93.2 AV			2.64 V	1	50.0	43.2
4	#5850.00	61.8 PK	68.2	-6.4	2.64 V	1	48.4	13.4
5	11440.00	63.5 PK	74.0	-10.5	1.35 V	231	39.5	24.0
6	11440.00	48.7 AV	54.0	-5.3	1.35 V	231	24.7	24.0

Remarks:

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

RF Mode	802.11ac (VHT40)	Channel	CH 54：5270 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 68% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	60.8 PK	74.0	-13.2	1.54 H	350	48.3	12.5
2	5150.00	47.1 AV	54.0	-6.9	1.54 H	350	34.6	12.5
3	*5270.00	107.4 PK			1.54 H	350	65.0	42.4
4	*5270.00	97.2 AV			1.54 H	350	54.8	42.4
5	#10540.00	62.0 PK	68.2	-6.2	2.08 H	158	39.5	22.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	60.0 PK	74.0	-14.0	2.34 V	5	47.5	12.5
2	5150.00	46.7 AV	54.0	-7.3	2.34 V	5	34.2	12.5
3	*5270.00	104.1 PK			2.34 V	5	61.7	42.4
4	*5270.00	94.2 AV			2.34 V	5	51.8	42.4
5	#10540.00	61.5 PK	68.2	-6.7	1.31 V	245	39.0	22.5

Remarks:

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

RF Mode	802.11ac (VHT40)	Channel	CH 62：5310 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 68% RH
Tested By	Titan Hsu		

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	101.5 PK			1.66 H	347	59.0	42.5
2	*5310.00	92.0 AV			1.66 H	347	49.5	42.5
3	5350.00	65.8 PK	74.0	-8.2	1.66 H	347	53.5	12.3
4	5350.00	53.2 AV	54.0	-0.8	1.66 H	347	40.9	12.3
5	10620.00	61.9 PK	74.0	-12.1	2.05 H	162	39.3	22.6
6	10620.00	47.4 AV	54.0	-6.6	2.05 H	162	24.8	22.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5310.00	99.1 PK			2.30 V	2	56.6	42.5
2	*5310.00	89.7 AV			2.30 V	2	47.2	42.5
3	5350.00	63.8 PK	74.0	-10.2	2.30 V	2	51.5	12.3
4	5350.00	51.8 AV	54.0	-2.2	2.30 V	2	39.5	12.3
5	10620.00	61.4 PK	74.0	-12.6	1.37 V	255	38.8	22.6
6	10620.00	47.1 AV	54.0	-6.9	1.37 V	255	24.5	22.6

Remarks:

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

RF Mode	802.11ac (VHT40)	Channel	CH 102：5510 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 68% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	61.2 PK	74.0	-12.8	2.21 H	67	48.5	12.7
2	5460.00	48.4 AV	54.0	-5.6	2.21 H	67	35.7	12.7
3	#5470.00	67.4 PK	68.2	-0.8	2.21 H	67	54.8	12.6
4	*5510.00	102.3 PK			2.21 H	67	59.2	43.1
5	*5510.00	92.8 AV			2.21 H	67	49.7	43.1
6	11020.00	62.4 PK	74.0	-11.6	2.09 H	185	39.5	22.9
7	11020.00	47.5 AV	54.0	-6.5	2.09 H	185	24.6	22.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.7 PK	74.0	-13.3	2.43 V	1	48.0	12.7
2	5460.00	47.3 AV	54.0	-6.7	2.43 V	1	34.6	12.7
3	#5470.00	64.5 PK	68.2	-3.7	2.43 V	1	51.9	12.6
4	*5510.00	99.7 PK			2.43 V	1	56.6	43.1
5	*5510.00	90.3 AV			2.43 V	1	47.2	43.1
6	11020.00	62.1 PK	74.0	-11.9	1.32 V	226	39.2	22.9
7	11020.00	47.2 AV	54.0	-6.8	1.32 V	226	24.3	22.9

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	802.11ac (VHT40)	Channel	CH 110：5550 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 68% RH
Tested By	Titan Hsu		

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	105.4 PK			2.15 H	65	62.4	43.0
2	*5550.00	95.9 AV			2.15 H	65	52.9	43.0
3	11100.00	62.5 PK	74.0	-11.5	2.18 H	178	39.5	23.0
4	11100.00	47.8 AV	54.0	-6.2	2.18 H	178	24.8	23.0
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	*5550.00	102.2 PK			2.46 V	2	59.2	43.0
2	*5550.00	92.3 AV			2.46 V	2	49.3	43.0
3	11100.00	62.2 PK	74.0	-11.8	1.39 V	228	39.2	23.0
4	11100.00	47.5 AV	54.0	-6.5	1.39 V	228	24.5	23.0

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	802.11ac (VHT40)	Channel	CH 134：5670 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 68% RH
Tested By	Titan Hsu		

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	105.9 PK			2.11 H	69	62.8	43.1
2	*5670.00	96.4 AV			2.11 H	69	53.3	43.1
3	#5725.00	67.8 PK	68.2	-0.4	2.11 H	69	54.7	13.1
4	11340.00	63.3 PK	74.0	-10.7	2.15 H	186	39.7	23.6
5	11340.00	48.4 AV	54.0	-5.6	2.15 H	186	24.8	23.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	102.8 PK			2.46 V	13	59.7	43.1
2	*5670.00	93.1 AV			2.46 V	13	50.0	43.1
3	#5725.00	62.2 PK	68.2	-6.0	2.46 V	13	49.1	13.1
4	11340.00	62.9 PK	74.0	-11.1	1.35 V	229	39.3	23.6
5	11340.00	48.1 AV	54.0	-5.9	1.35 V	229	24.5	23.6

Remarks:

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

RF Mode	802.11ac (VHT40)	Channel	CH 142：5710 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 68% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	61.2 PK	68.2	-7.0	2.08 H	71	48.6	12.6
2	*5710.00	104.6 PK			2.08 H	71	61.5	43.1
3	*5710.00	95.0 AV			2.08 H	71	51.9	43.1
4	#5850.00	62.1 PK	68.2	-6.1	2.08 H	71	48.7	13.4
5	11420.00	63.7 PK	74.0	-10.3	2.17 H	189	39.6	24.1
6	11420.00	48.8 AV	54.0	-5.2	2.17 H	189	24.7	24.1
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	#5470.00	60.6 PK	68.2	-7.6	2.55 V	357	48.0	12.6
2	*5710.00	100.5 PK			2.55 V	357	57.4	43.1
3	*5710.00	90.6 AV			2.55 V	357	47.5	43.1
4	#5850.00	61.5 PK	68.2	-6.7	2.55 V	357	48.1	13.4
5	11420.00	63.3 PK	74.0	-10.7	1.32 V	233	39.2	24.1
6	11420.00	48.6 AV	54.0	-5.4	1.32 V	233	24.5	24.1

Remarks:

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

RF Mode	802.11ac (VHT80)	Channel	CH 58：5290 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 68% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	60.0 PK	74.0	-14.0	1.67 H	351	47.5	12.5
2	5150.00	48.2 AV	54.0	-5.8	1.67 H	351	35.7	12.5
3	*5290.00	98.5 PK			1.67 H	351	56.0	42.5
4	*5290.00	87.5 AV			1.67 H	351	45.0	42.5
5	5350.00	64.8 PK	74.0	-9.2	1.67 H	351	52.5	12.3
6	5350.00	53.5 AV	54.0	-0.5	1.67 H	351	41.2	12.3
7	#10580.00	61.8 PK	68.2	-6.4	2.02 H	155	39.2	22.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.7 PK	74.0	-14.3	2.37 V	5	47.2	12.5
2	5150.00	47.9 AV	54.0	-6.1	2.37 V	5	35.4	12.5
3	*5290.00	96.2 PK			2.37 V	5	53.7	42.5
4	*5290.00	85.6 AV			2.37 V	5	43.1	42.5
5	5350.00	64.1 PK	74.0	-9.9	2.37 V	5	51.8	12.3
6	5350.00	51.4 AV	54.0	-2.6	2.37 V	5	39.1	12.3
7	#10580.00	61.1 PK	68.2	-7.1	1.32 V	251	38.5	22.6

Remarks:

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

RF Mode	802.11ac (VHT80)	Channel	CH 106：5530 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 68% RH
Tested By	Titan Hsu		

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	63.1 PK	74.0	-10.9	2.08 H	70	50.4	12.7
2	5460.00	51.0 AV	54.0	-3.0	2.08 H	70	38.3	12.7
3	#5470.00	67.6 PK	68.2	-0.6	2.08 H	70	55.0	12.6
4	*5530.00	99.0 PK			2.08 H	70	55.9	43.1
5	*5530.00	88.1 AV			2.08 H	70	45.0	43.1
6	#5725.00	60.7 PK	68.2	-7.5	2.08 H	70	47.6	13.1
7	11060.00	61.9 PK	74.0	-12.1	2.12 H	185	39.0	22.9
8	11060.00	47.4 AV	54.0	-6.6	2.12 H	185	24.5	22.9
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	61.2 PK	74.0	-12.8	2.46 V	8	48.5	12.7
2	5460.00	49.2 AV	54.0	-4.8	2.46 V	8	36.5	12.7
3	#5470.00	64.7 PK	68.2	-3.5	2.46 V	8	52.1	12.6
4	*5530.00	96.6 PK			2.46 V	8	53.5	43.1
5	*5530.00	85.8 AV			2.46 V	8	42.7	43.1
6	#5725.00	60.5 PK	68.2	-7.7	2.46 V	8	47.4	13.1
7	11060.00	61.6 PK	74.0	-12.4	1.29 V	235	38.7	22.9
8	11060.00	47.1 AV	54.0	-6.9	1.29 V	235	24.2	22.9

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	802.11ac (VHT80)	Channel	CH 122：5610 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 68% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.7 PK	74.0	-13.3	2.12 H	69	48.0	12.7
2	5460.00	48.0 AV	54.0	-6.0	2.12 H	69	35.3	12.7
3	#5470.00	61.5 PK	68.2	-6.7	2.12 H	69	48.9	12.6
4	*5610.00	104.2 PK			2.12 H	69	61.2	43.0
5	*5610.00	93.5 AV			2.12 H	69	50.5	43.0
6	#5725.00	62.3 PK	68.2	-5.9	2.12 H	69	49.2	13.1
7	11220.00	62.8 PK	74.0	-11.2	2.23 H	175	39.3	23.5
8	11220.00	48.3 AV	54.0	-5.7	2.23 H	175	24.8	23.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.5 PK	74.0	-13.5	1.48 V	9	47.8	12.7
2	5460.00	47.5 AV	54.0	-6.5	1.48 V	9	34.8	12.7
3	#5470.00	60.9 PK	68.2	-7.3	1.48 V	9	48.3	12.6
4	*5610.00	99.9 PK			1.48 V	9	56.9	43.0
5	*5610.00	89.2 AV			1.48 V	9	46.2	43.0
6	#5725.00	61.6 PK	68.2	-6.6	1.48 V	9	48.5	13.1
7	11220.00	62.5 PK	74.0	-11.5	1.26 V	239	39.0	23.5
8	11220.00	48.1 AV	54.0	-5.9	1.26 V	239	24.6	23.5

Remarks:

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

RF Mode	802.11ac (VHT80)	Channel	CH 138：5690 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 68% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	60.9 PK	68.2	-7.3	2.07 H	71	48.3	12.6
2	*5690.00	104.7 PK			2.07 H	71	61.7	43.0
3	*5690.00	94.0 AV			2.07 H	71	51.0	43.0
4	#5850.00	61.0 PK	68.2	-7.2	2.07 H	71	47.6	13.4
5	11380.00	63.3 PK	74.0	-10.7	2.15 H	189	39.3	24.0
6	11380.00	48.8 AV	54.0	-5.2	2.15 H	189	24.8	24.0
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	#5470.00	60.6 PK	68.2	-7.6	1.47 V	8	48.0	12.6
2	*5690.00	101.3 PK			1.47 V	8	58.3	43.0
3	*5690.00	90.6 AV			1.47 V	8	47.6	43.0
4	#5850.00	60.6 PK	68.2	-7.6	1.47 V	8	47.2	13.4
5	11380.00	63.0 PK	74.0	-11.0	1.28 V	245	39.0	24.0
6	11380.00	48.5 AV	54.0	-5.5	1.28 V	245	24.5	24.0

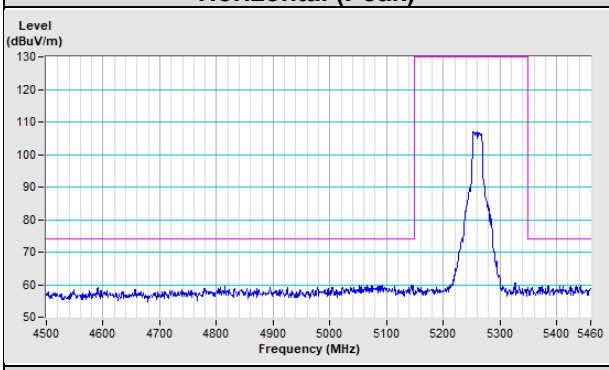
Remarks:

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

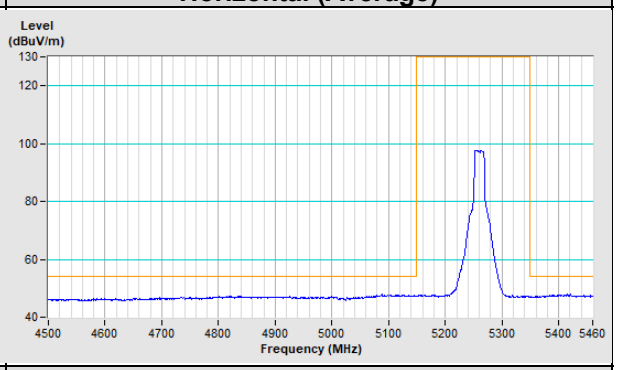
Plot of Band Edge

802.11a Channel 52

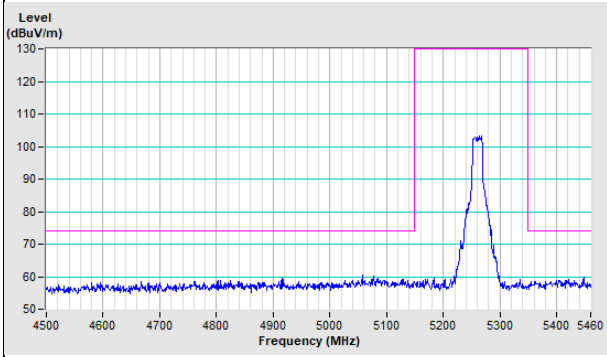
Horizontal (Peak)



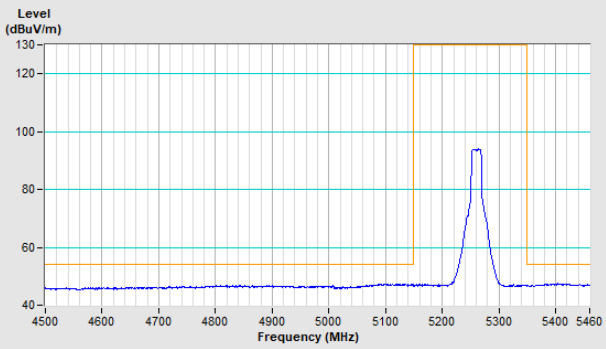
Horizontal (Average)



Vertical (Peak)

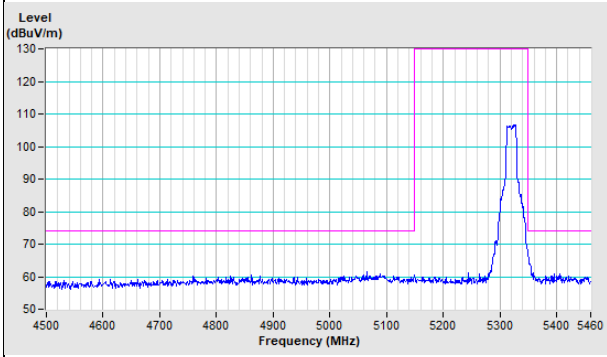


Vertical (Average)

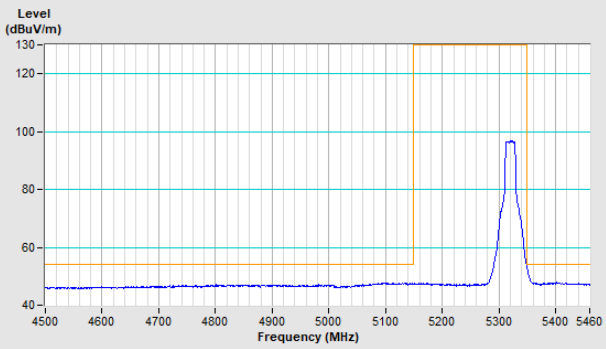


802.11a Channel 64

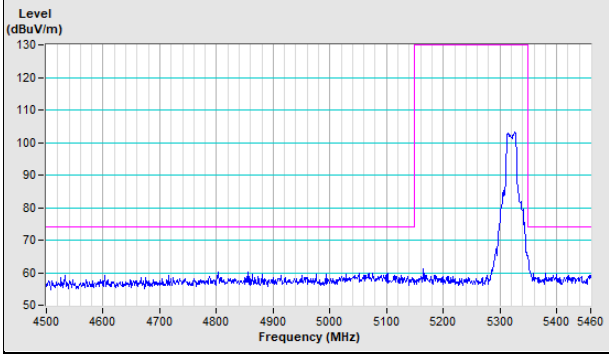
Horizontal (Peak)



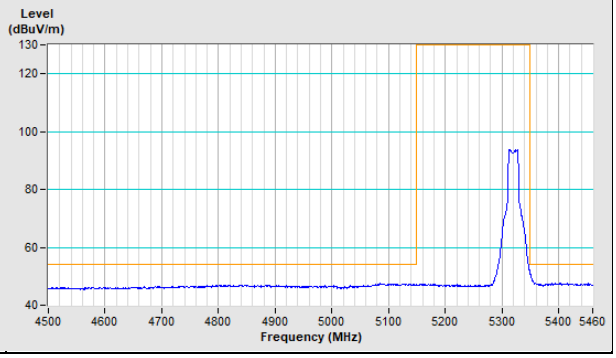
Horizontal (Average)



Vertical (Peak)

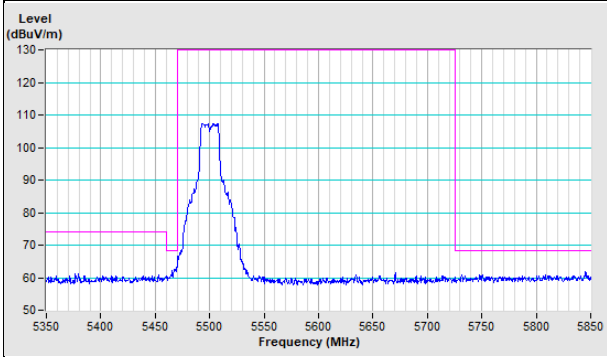


Vertical (Average)

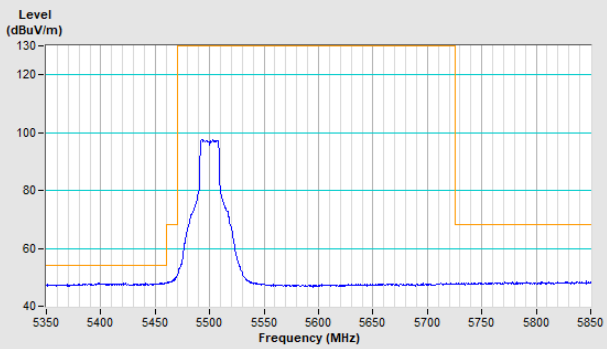


802.11a Channel 100

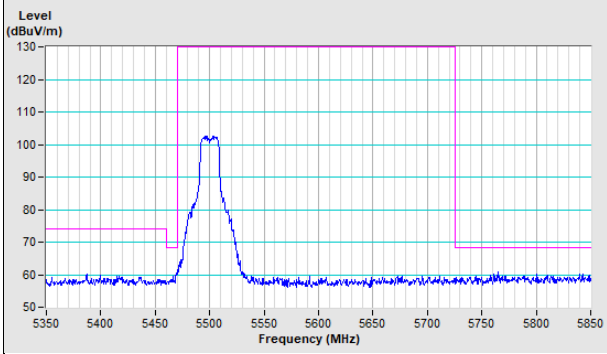
Horizontal (Peak)



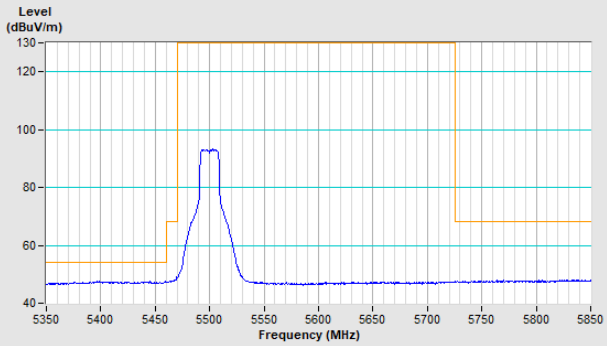
Horizontal (Average)



Vertical (Peak)

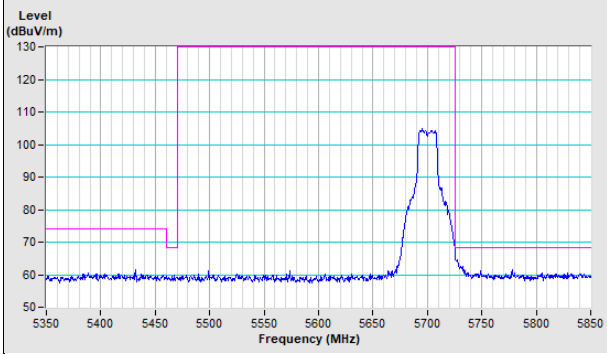


Vertical (Average)

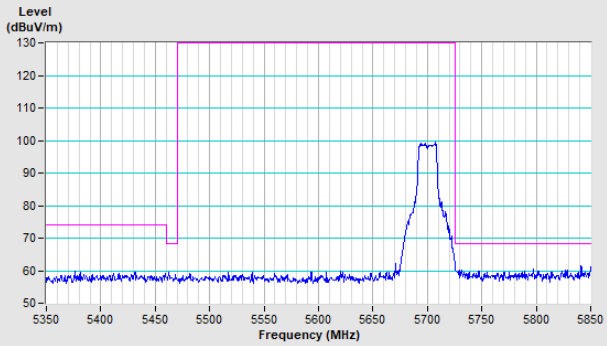


802.11a Channel 140

Horizontal (Peak)

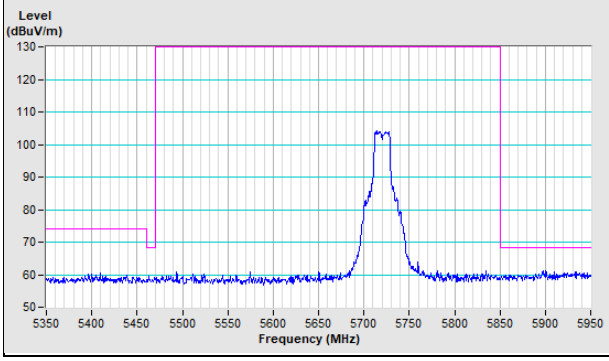


Vertical (Peak)

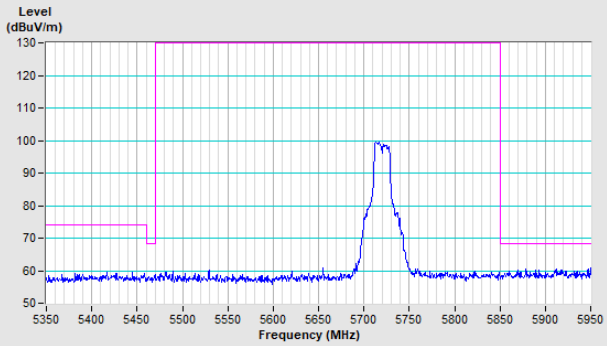


802.11a Channel 144

Horizontal (Peak)

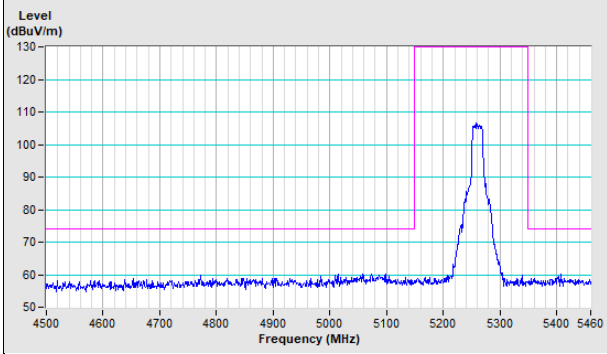


Vertical (Peak)

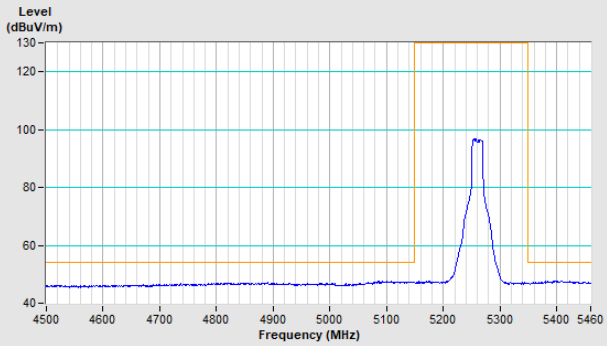


802.11ac (VHT20) Channel 52

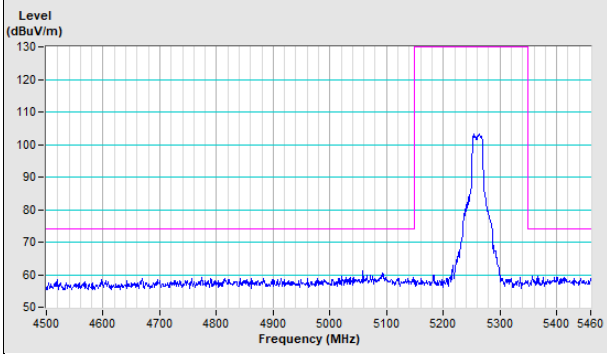
Horizontal (Peak)



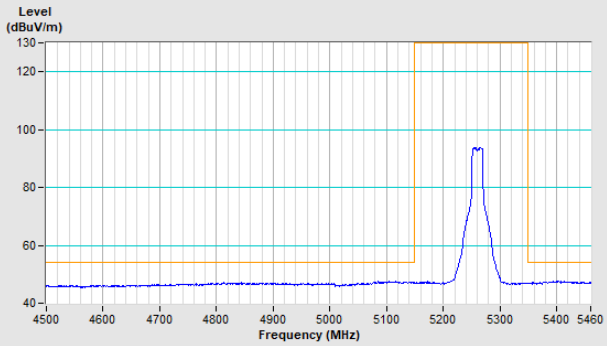
Horizontal (Average)



Vertical (Peak)

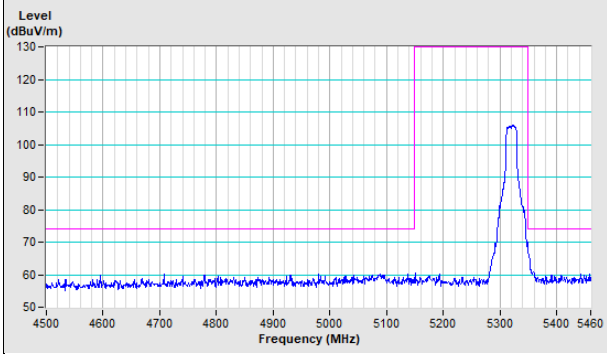


Vertical (Average)

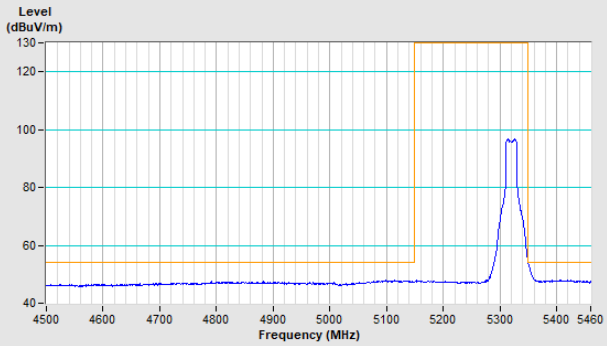


802.11ac (VHT20) Channel 64

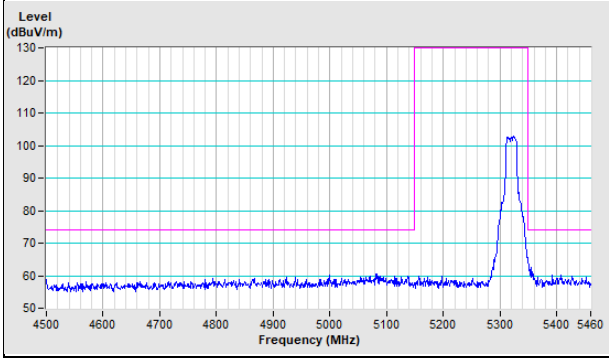
Horizontal (Peak)



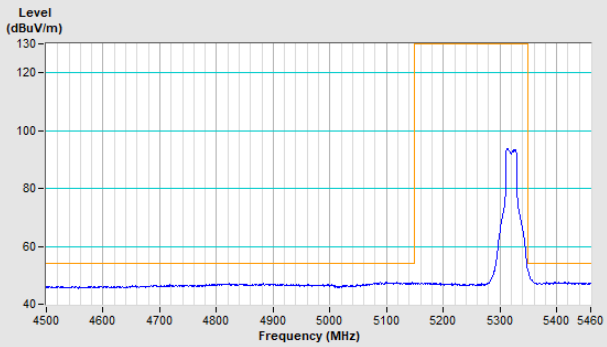
Horizontal (Average)



Vertical (Peak)

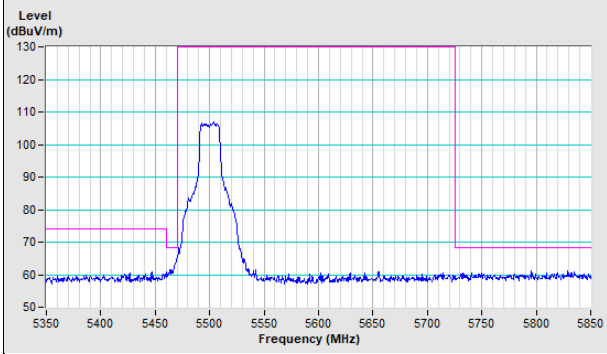


Vertical (Average)

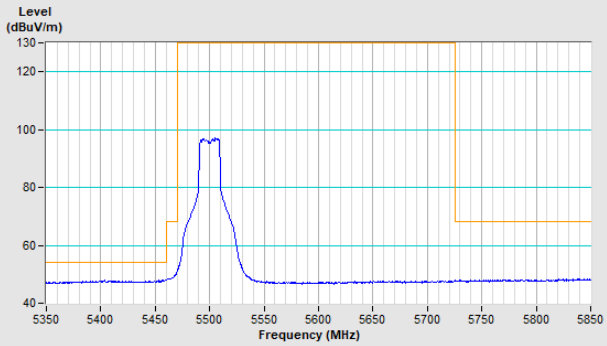


802.11ac (VHT20) Channel 100

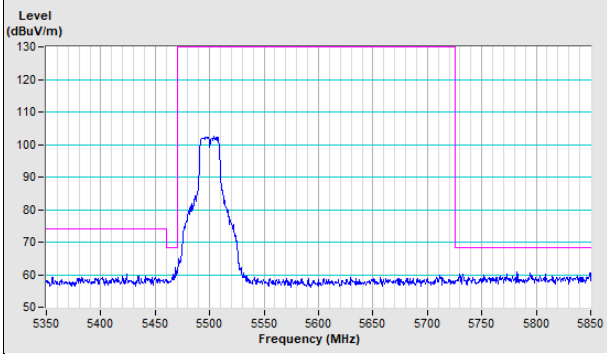
Horizontal (Peak)



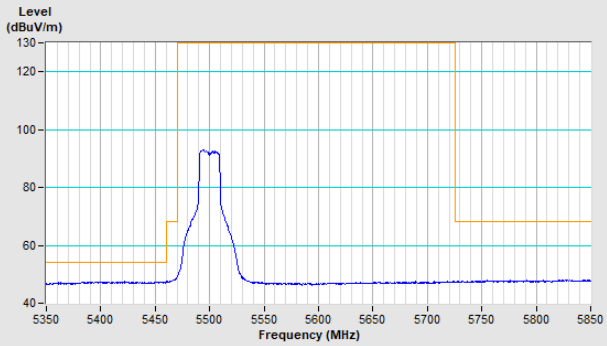
Horizontal (Average)



Vertical (Peak)

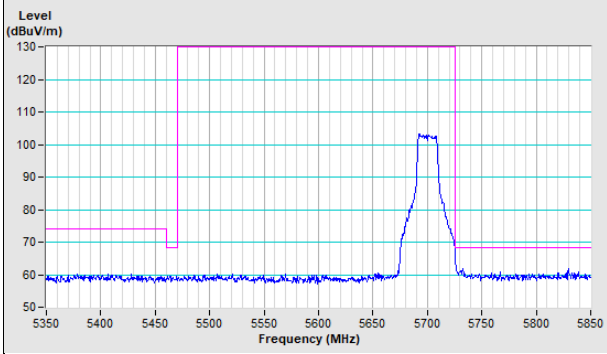


Vertical (Average)

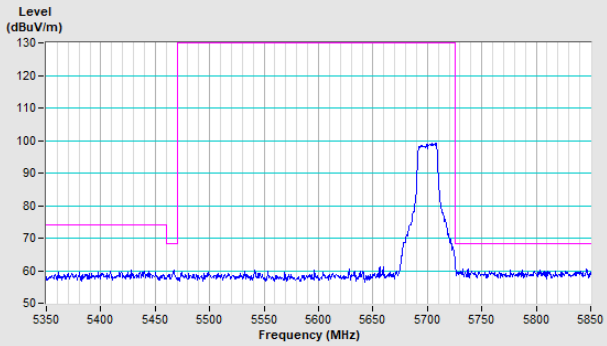


802.11ac (VHT20) Channel 140

Horizontal (Peak)

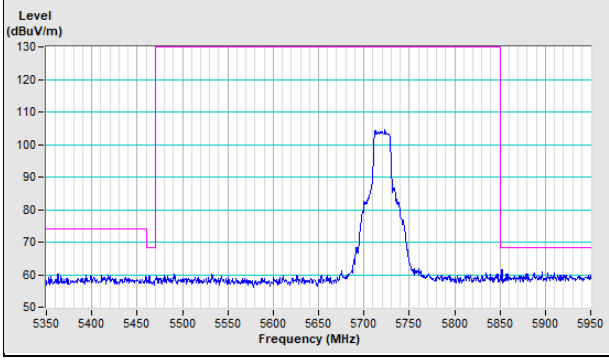


Vertical (Peak)

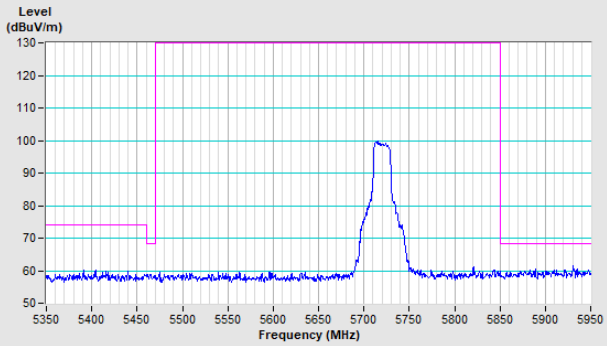


802.11ac (VHT20) Channel 144

Horizontal (Peak)

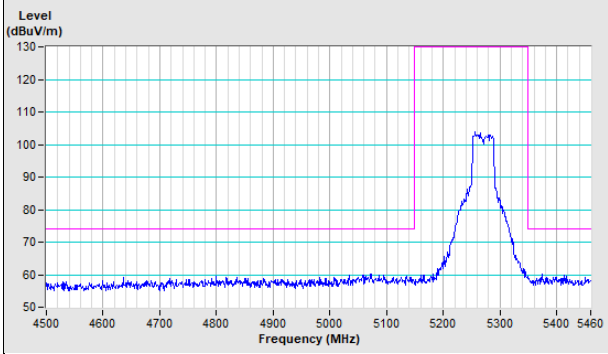


Vertical (Peak)

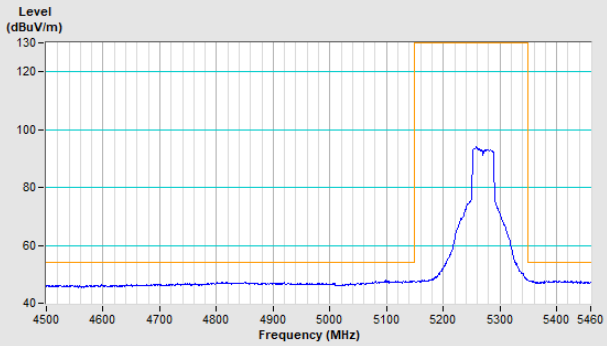


802.11ac (VHT40) Channel 54

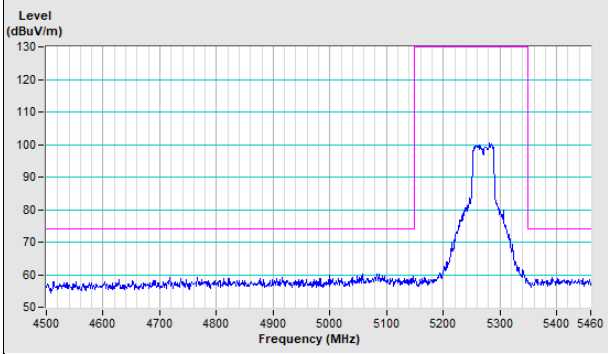
Horizontal (Peak)



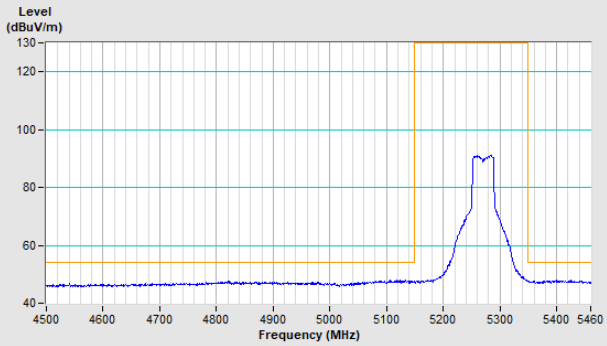
Horizontal (Average)



Vertical (Peak)

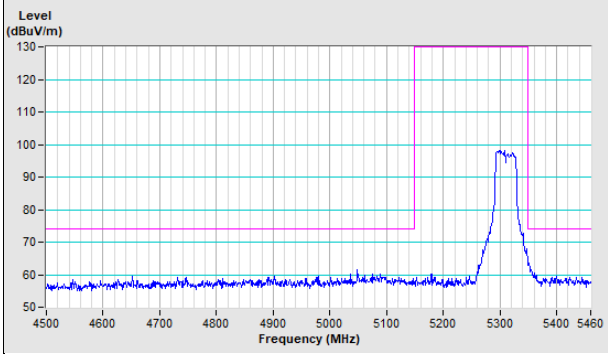


Vertical (Average)

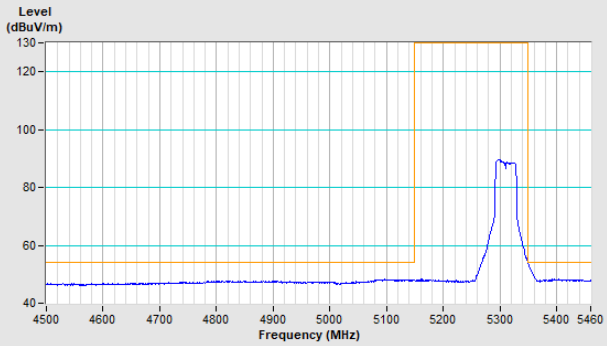


802.11ac (VHT40) Channel 62

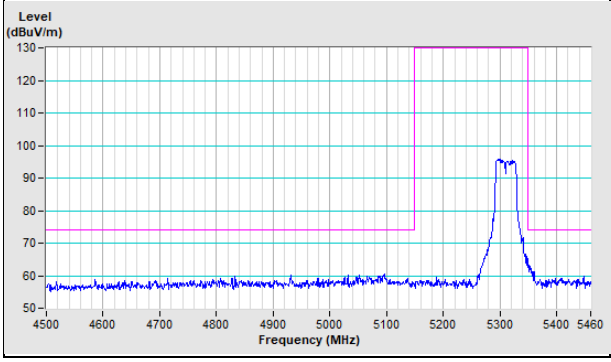
Horizontal (Peak)



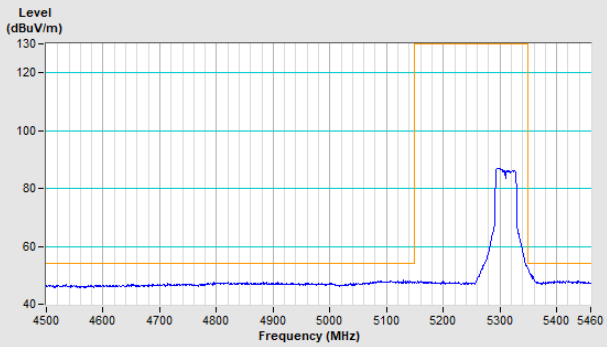
Horizontal (Average)



Vertical (Peak)

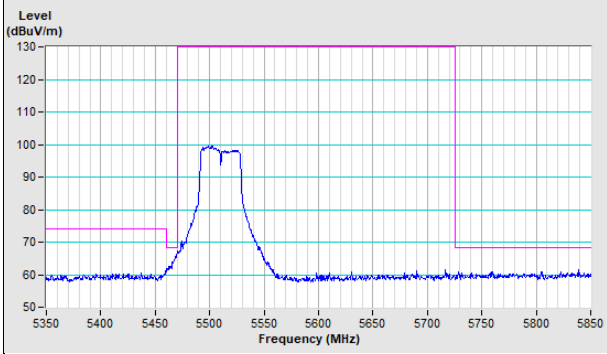


Vertical (Average)

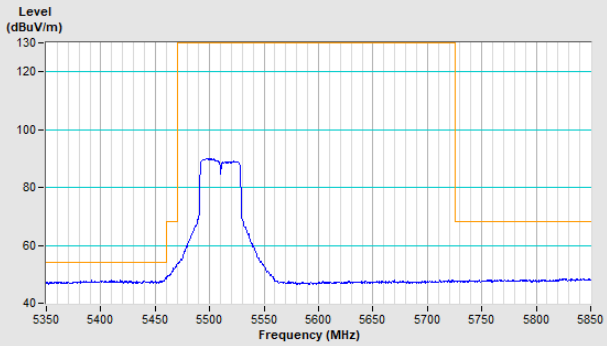


802.11ac (VHT40) Channel 102

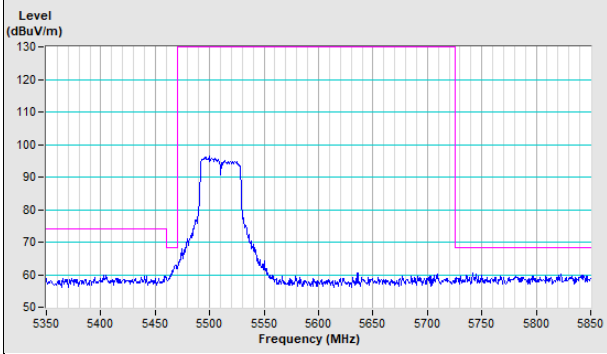
Horizontal (Peak)



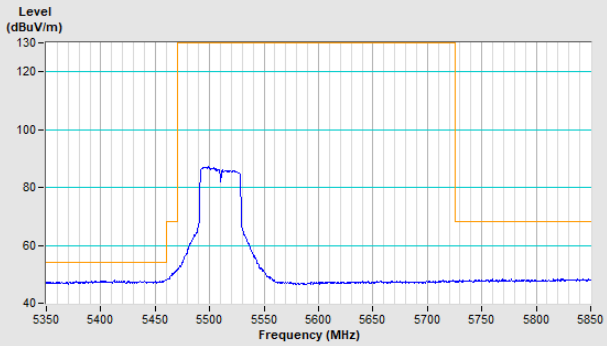
Horizontal (Average)



Vertical (Peak)

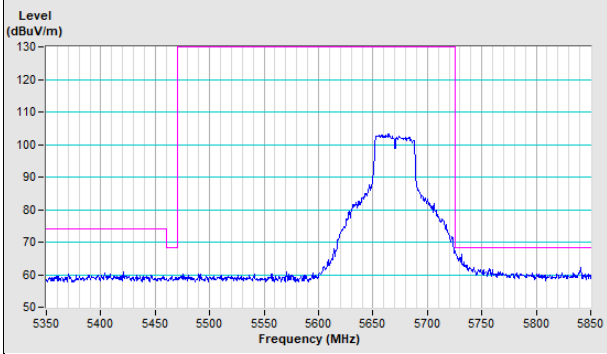


Vertical (Average)

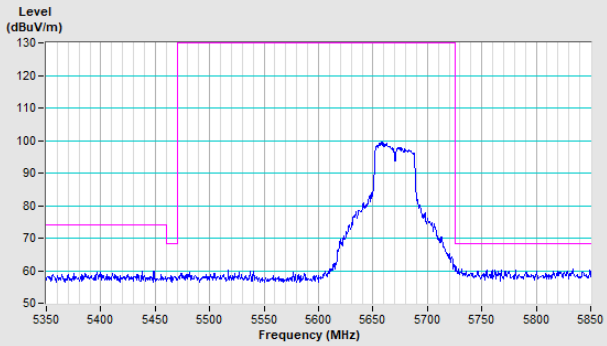


802.11ac (VHT40) Channel 134

Horizontal (Peak)

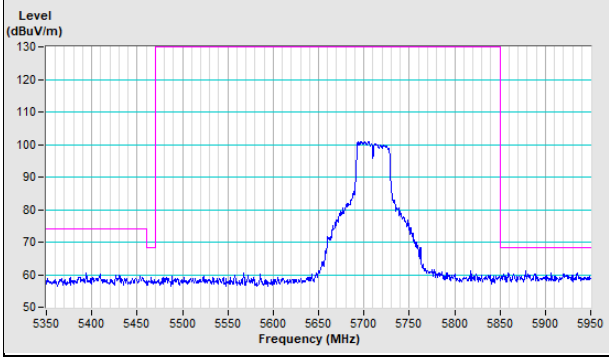


Vertical (Peak)

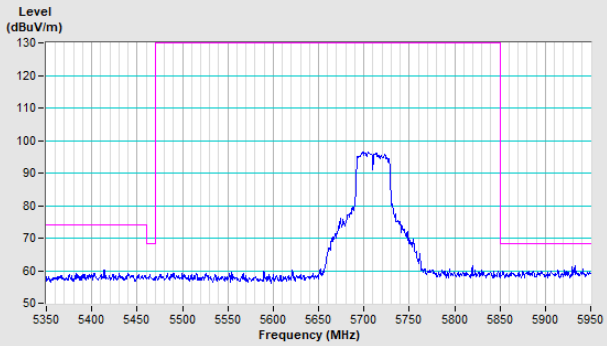


802.11ac (VHT40) Channel 142

Horizontal (Peak)

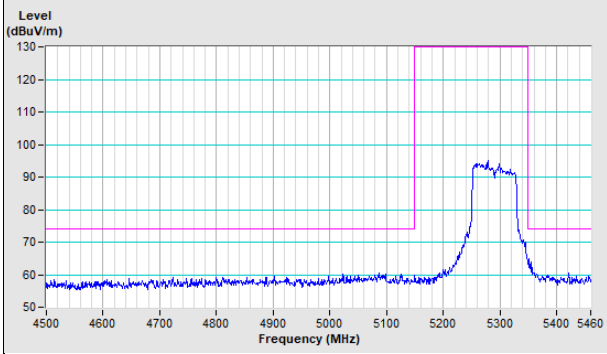


Vertical (Peak)

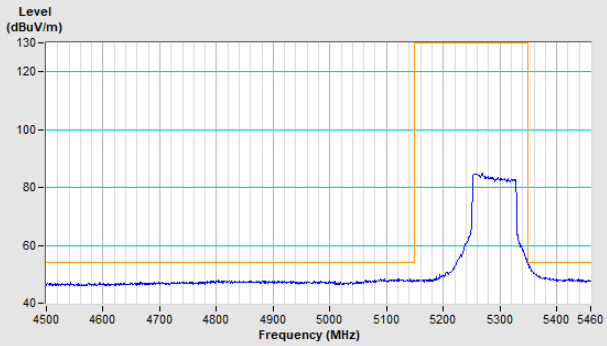


802.11ac (VHT80) Channel 58

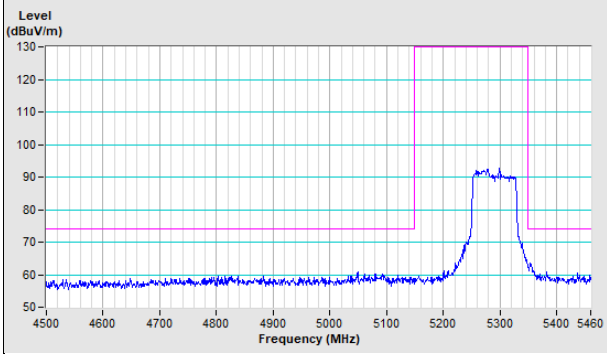
Horizontal (Peak)



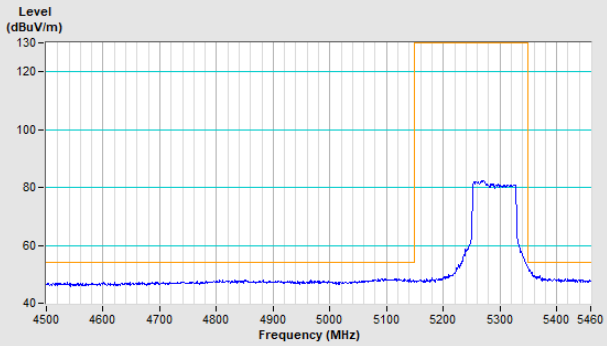
Horizontal (Average)



Vertical (Peak)

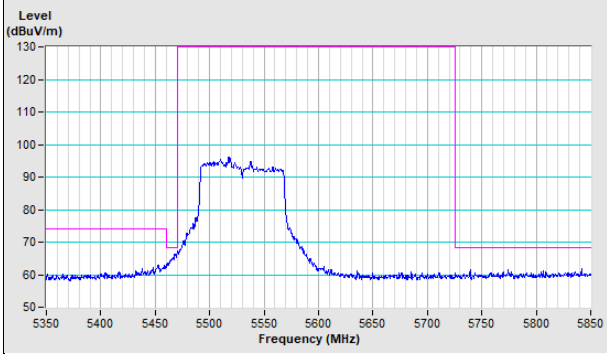


Vertical (Average)

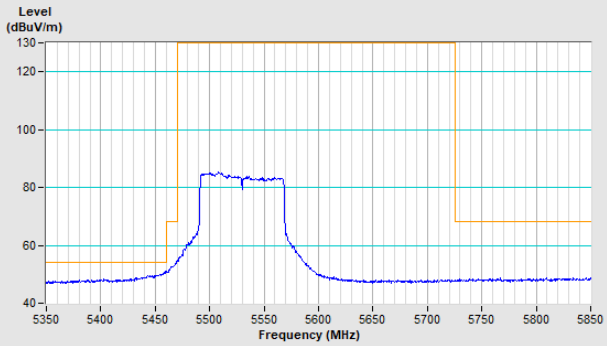


802.11ac (VHT80) Channel 106

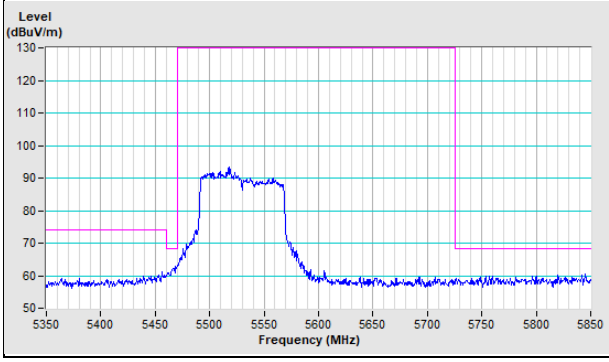
Horizontal (Peak)



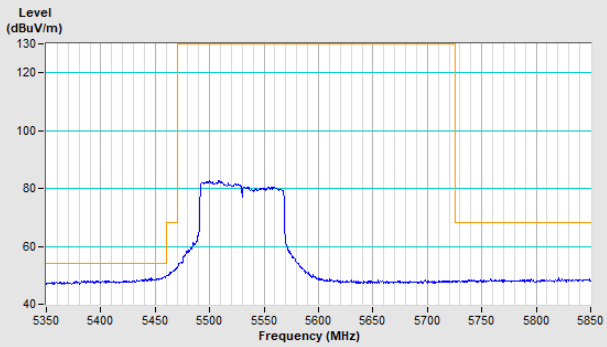
Horizontal (Average)



Vertical (Peak)

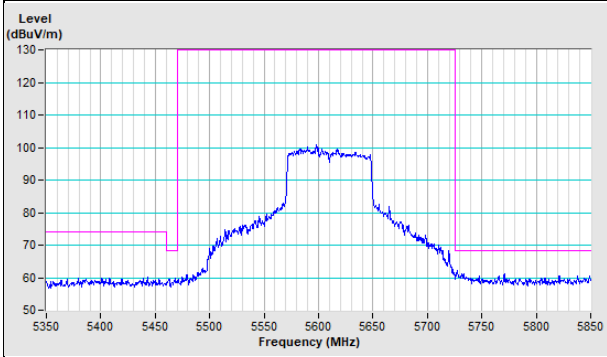


Vertical (Average)

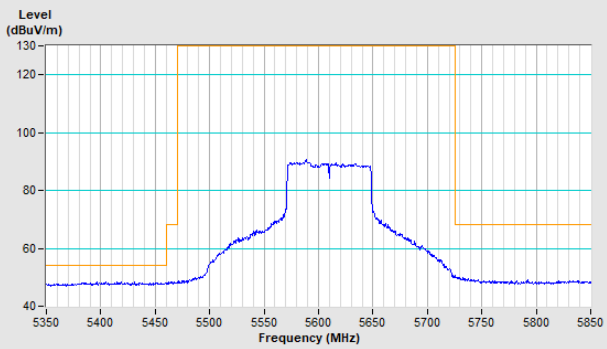


802.11ac (VHT80) Channel 122

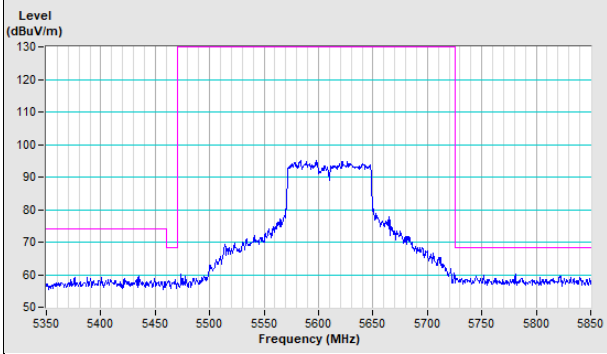
Horizontal (Peak)



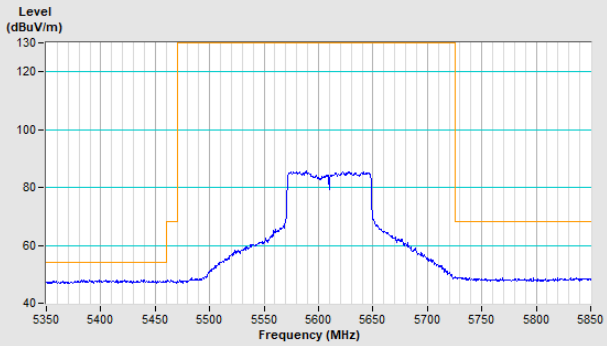
Horizontal (Average)



Vertical (Peak)

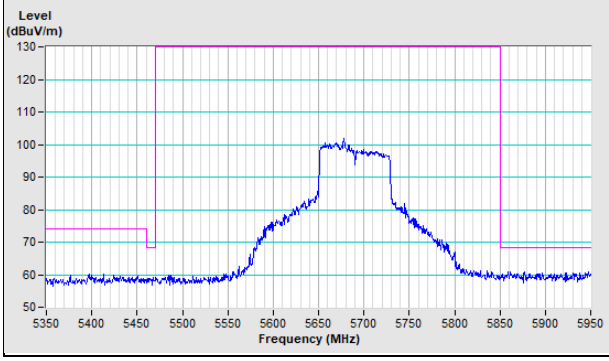


Vertical (Average)

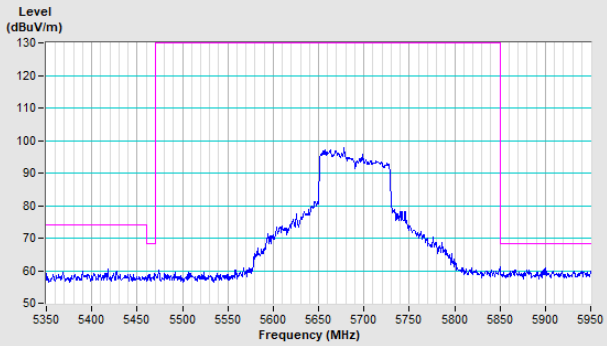


802.11ac (VHT80) Channel 138

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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