TEST REPORT

CERTIFICATE OF CONFORMITY

Standard:	**47 CFR FCC Part 15, Subpart E (Section 15.407)**
Report No.:	RFBEFM-WTW-P22090533-3
FCC ID:	ARS-CRD22
Product:	WIFI Module
Brand:	Philips
Model No.:	CRD22
Received Date:	2022/9/16
Test Date:	2022/9/28 ~ 2022/11/14
Issued Date:	2022/12/8
Applicant:	TOP VICTORY ELECTRONICS (TAIWAN) CO., LTD.
Address:	10F., No 230, Liancheng Rd., Zhonghe Dist., New Taipei City 23553, 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. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
FCC Registration / Designation Number:	198487 / TW2021

Approved by: Jeremy Lin , **Date:** 2022/12/8

Jeremy Lin / Project Engineer

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Prepared by : Annie Chang / Senior Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBEFM-WTW-P22090533-3	Original release.	2022/12/8

1 Certificate

Product:	WIFI Module
Brand:	Philips
Test Model:	CRD22
Sample Status:	Engineering sample
Applicant:	TOP VICTORY ELECTRONICS (TAIWAN) CO., LTD.
Test Date:	2022/9/28 ~ 2022/11/14
Standard:	47 CFR FCC Part 15, Subpart E (Section 15.407)
Measurement procedure:	ANSI C63.10-2013 KDB 789033 D02 General UNII Test Procedure New Rules v02r01 KDB 662911 D01 Multiple Transmitter Output v02r01

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

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
Clause	Test Item	Result	Remark
15.407(a)(2)	26 dB Bandwidth	Pass	For U-NII-2A U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.
15.407(a)(1/2/3)	RF Output Power	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
---	Occupied Bandwidth	-	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 -13.18 dB at 0.52683 MHz
15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -14.8 dB at 75.69 MHz
15.407(b) (1/2/3/4(i)/10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.2 dB at 5350.00 MHz
15.203	Antenna Requirement	Pass	No antenna connector is used.

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	Uncertainty (±)
AC Power Conducted Emissions	150 kHz ~ 30 MHz	3.00 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	2.38 dB
	30 MHz ~ 1 GHz	5.62 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 6 GHz	4.61 dB
	6 GHz ~ 18 GHz	5.41 dB
	18 GHz ~ 40 GHz	5.14 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	WIFI Module
Brand	Philips
Test Model	CRD22
Status of EUT	Engineering sample
Power Supply Rating	5Vdc
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode 1024QAM for OFDMA in 11ax HE mode
Modulation Technology	OFDM, OFDMA
Transfer Rate	Up to 1201.0 Mbps
Operating Frequency	5.18 GHz ~ 5.24 GHz 5.26 GHz ~ 5.32 GHz 5.5 GHz ~ 5.72 GHz 5.745 GHz ~ 5.825 GHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):25 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):12 802.11ac (VHT80), 802.11ax (HE80):6
Output Power	5.18 GHz ~ 5.24 GHz : 53.378 mW (17.27 dBm) 5.26 GHz ~ 5.32 GHz : 55.085 mW (17.41 dBm) 5.5 GHz ~ 5.72 GHz : 55.793 mW (17.47 dBm) 5.745 GHz ~ 5.825 GHz : 53.416 mW (17.28 dBm)
EUT Category	Client device

Note:

1. There are Bluetooth and WLAN (2.4 GHz & 5 GHz) technology used for the EUT.
2. Bluetooth and WLAN (2.4 GHz & 5 GHz) technology can not transmit at same time.
3. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Gain (dBi)			Antenna Type	Connector Type
Frequency (GHz)	H-PLANE	V-PLANE		
5.15	1.68	2.57	Dipole	R-SMA
5.35	2.69	2.69		
5.85	2.51	2.55		

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

2. The EUT incorporates a MIMO function:

5 GHz Band		
Modulation Mode	TX & RX Configuration	
802.11a	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
802.11ac (VHT20)	2TX	2RX
802.11ac (VHT40)	2TX	2RX
802.11ac (VHT80)	2TX	2RX
802.11ax (HE20)	2TX	2RX
802.11ax (HE40)	2TX	2RX
802.11ax (HE80)	2TX	2RX
Note: The modulation and bandwidth are similar for 802.11n mode for 20 MHz (40 MHz), 802.11ac mode for 20 MHz (40 MHz, 80 MHz) 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.		

3.3 Channel List

FOR 5180 ~ 5320 MHz

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

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

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

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

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

Channel	Frequency	Channel	Frequency
42	5210 MHz	58	5290 MHz

FOR 5500 ~ 5720 MHz

12 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 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	138	5690 MHz
122	5610 MHz		

FOR 5745 ~ 5825 MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

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

Channel	Frequency
155	5775 MHz

3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. EUT can be used in the following ways: XYZ 3-axis. Pre-scan in these ways and find the worst case as a representative test condition.
Worst Case:	1. X/ Y/ Z Worst Condition: Z Axis for Unwanted Emission above 1GHz and Unwanted Emission below 1GHz.

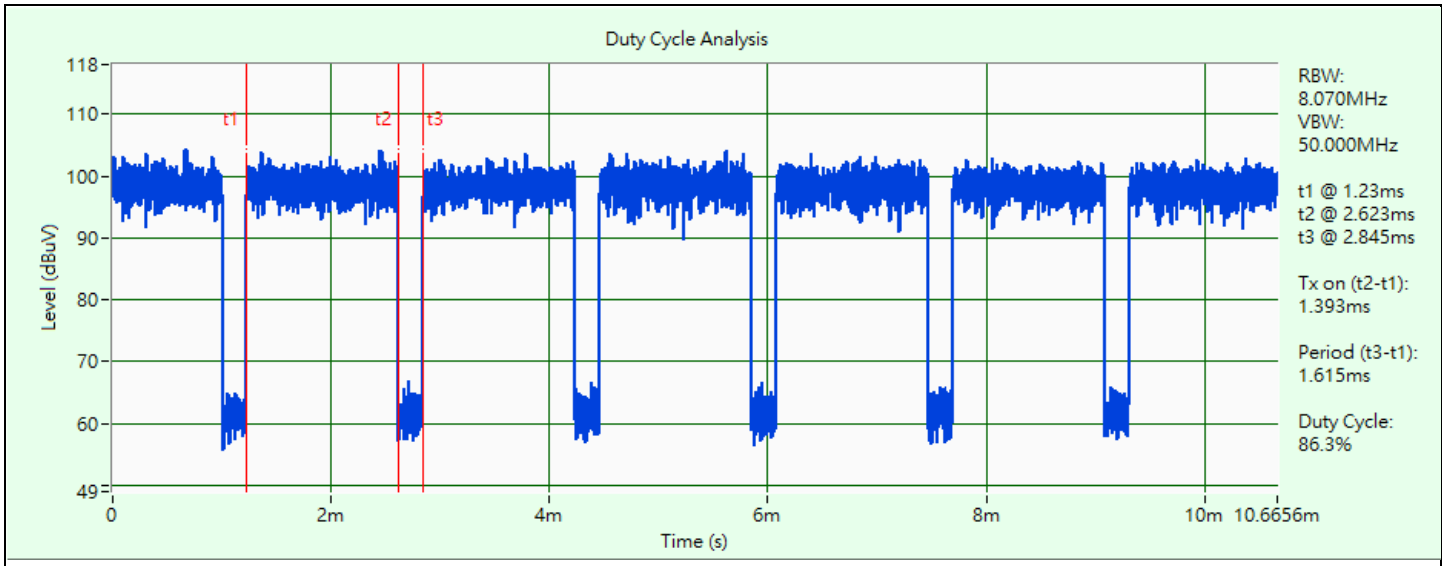
Following channel(s) was (were) selected for the final test as listed below:

Test Item	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter
26 dB Bandwidth	802.11a	CDD	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	6Mb/s
	802.11ax (HE20)	CDD	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	MCS0
	802.11ax (HE40)	CDD	38, 46, 54, 62, 102, 110, 134, 142, 151, 159	BPSK	MCS0
	802.11ax (HE80)	CDD	42, 58, 106, 122, 138, 155	BPSK	MCS0
RF Output Power	802.11a	CDD	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	6Mb/s
	802.11ac (VHT20)	CDD	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	MCS0
	802.11ac (VHT40)	CDD	38, 46, 54, 62, 102, 110, 134, 142, 151, 159	BPSK	MCS0
	802.11ac (VHT80)	CDD	42, 58, 106, 122, 138, 155	BPSK	MCS0
	802.11ax (HE20)	CDD	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	MCS0
	802.11ax (HE40)	CDD	38, 46, 54, 62, 102, 110, 134, 142, 151, 159	BPSK	MCS0
	802.11ax (HE80)	CDD	42, 58, 106, 122, 138, 155	BPSK	MCS0
Power Spectral Density	802.11a	CDD	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	6Mb/s
	802.11ax (HE20)	CDD	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	MCS0

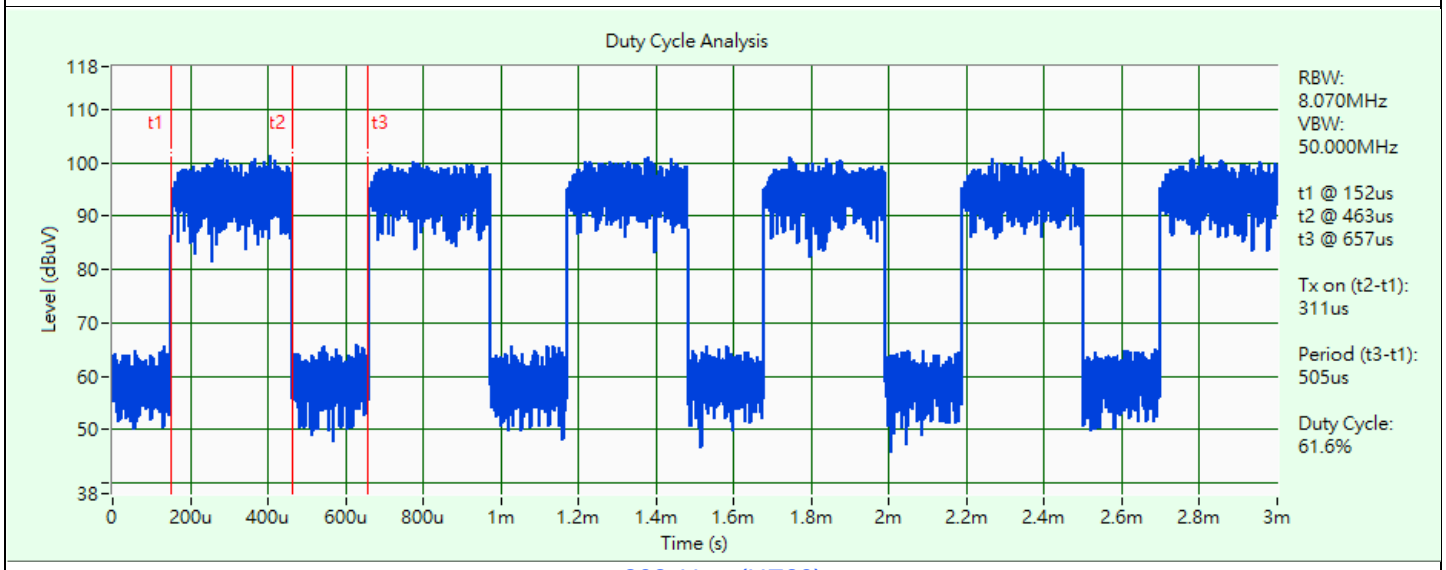
Test Item	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter
	802.11ax (HE40)	CDD	38, 46, 54, 62, 102, 110, 134, 142, 151, 159	BPSK	MCS0
	802.11ax (HE80)	CDD	42, 58, 106, 122, 138, 155	BPSK	MCS0
6 dB Bandwidth	802.11a	CDD	144, 149, 157, 165	BPSK	6Mb/s
	802.11ax (HE20)	CDD	144, 149, 157, 165	BPSK	MCS0
	802.11ax (HE40)	CDD	142, 151, 159	BPSK	MCS0
	802.11ax (HE80)	CDD	138, 155	BPSK	MCS0
Occupied Bandwidth	802.11a	CDD	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	6Mb/s
	802.11ax (HE20)	CDD	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	MCS0
	802.11ax (HE40)	CDD	38, 46, 54, 62, 102, 110, 134, 142, 151, 159	BPSK	MCS0
	802.11ax (HE80)	CDD	42, 58, 106, 122, 138, 155	BPSK	MCS0
Frequency Stability	802.11a	-	36	un-modulation	-
AC Power Conducted Emissions	802.11a	CDD	116	BPSK	6Mb/s
Unwanted Emissions below 1 GHz	802.11a	CDD	116	BPSK	6Mb/s
Unwanted Emissions above 1 GHz	802.11a	CDD	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	6Mb/s
	802.11ax (HE20)	CDD	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	MCS0
	802.11ax (HE40)	CDD	38, 46, 54, 62, 102, 110, 134, 142, 151, 159	BPSK	MCS0
	802.11ax (HE80)	CDD	42, 58, 106, 122, 138, 155	BPSK	MCS0

3.5 Duty Cycle of Test Signal

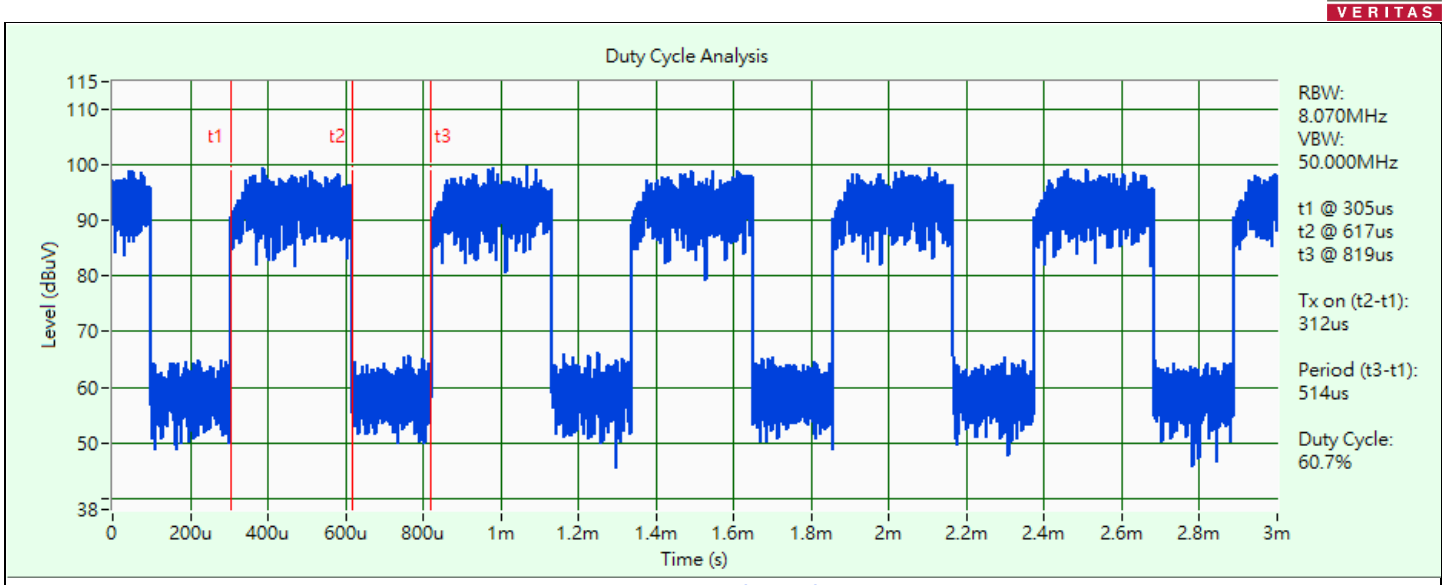
802.11a: Duty cycle = 1.393 ms / 1.615 ms x 100% = 86.3%, duty factor = 10 * log (1/Duty cycle) = 0.64 dB
802.11ax (HE20): Duty cycle = 0.311 ms / 0.505 ms x 100% = 61.6%, duty factor = 10 * log (1/Duty cycle) = 2.11 dB
802.11ax (HE40): Duty cycle = 0.312 ms / 0.514 ms x 100% = 60.7%, duty factor = 10 * log (1/Duty cycle) = 2.17 dB
802.11ax (HE80): Duty cycle = 0.301 ms / 0.518 ms x 100% = 58.1%, duty factor = 10 * log (1/Duty cycle) = 2.36 dB



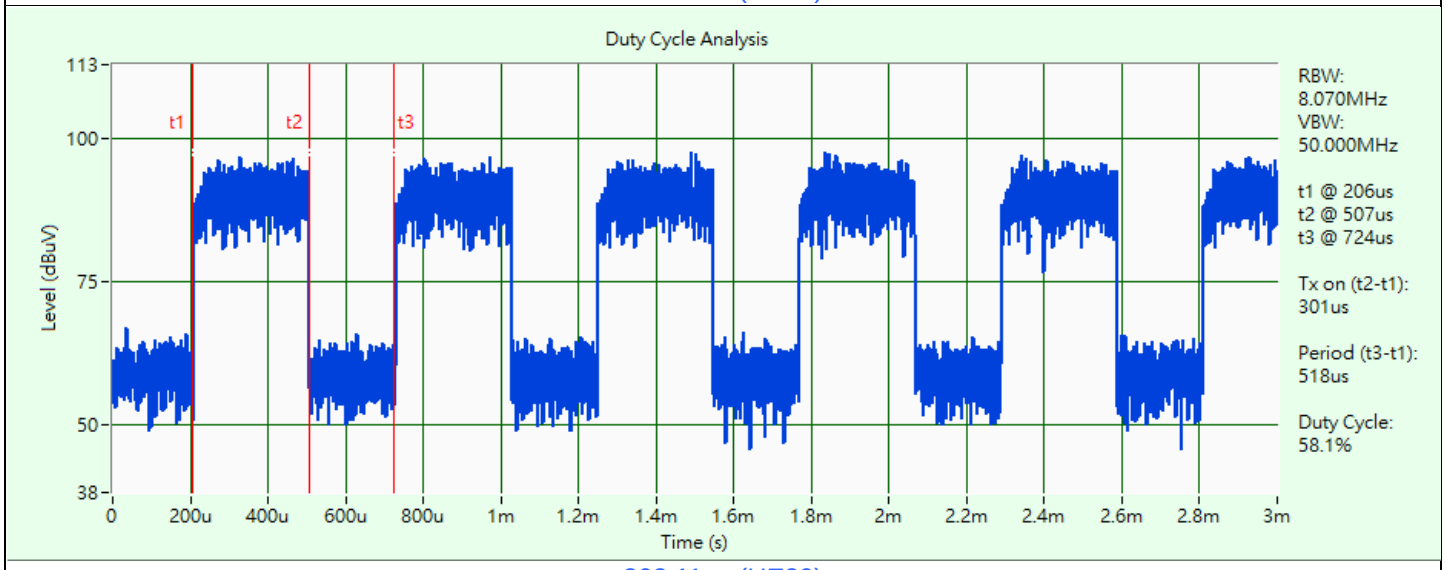
802.11a



802.11ax (HE20)



802.11ax (HE40)

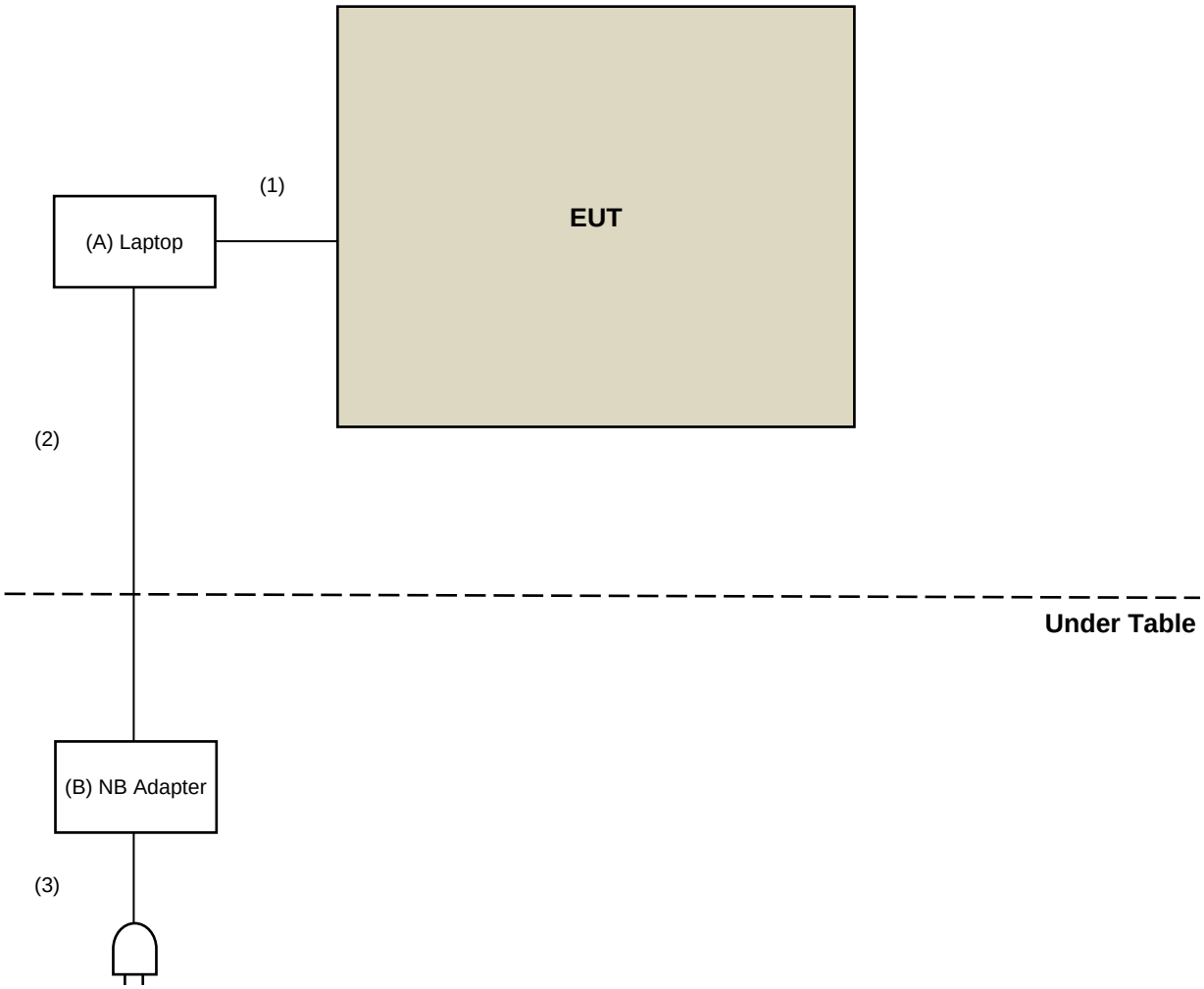


802.11ax (HE80)

3.6 Test Program Used and Operation Descriptions

Controlling software (QATool_v0.0.2.28、WCN_Combo_Tool W2022) 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	Laptop	Dell	E6230	1QGPNX1	N/A	Provided by Lab
B	NB Adapter	DELL	LA65NM130	N/A	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	USB Cable	1	1	Y	0	Provided by Lab
2	DC Cable	1	1.8	N	0	Provided by Lab
3	AC Cable	1	1	N	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
MIMO Powermeasurement Test set (4X4) KEYSIGHT	U2021XA	U2021XA_001	2022/6/13	2023/6/12
MXG Vector Signal Generator KEYSIGHT	N5182B	MY53052658	2022/5/9	2023/5/8
Power Meter Anritsu	ML2495A	1232003	2022/1/9	2023/1/8
Power Sensor Anritsu	MA2411B	1207333	2022/1/9	2023/1/8
Spectrum Analyzer KEYSIGHT	N9030A	MY54490260	2022/7/14	2023/7/13
Spectrum Analyzer R&S	FSV40	101042	2022/9/5	2023/9/4
		101544	2022/5/9	2023/5/8
Temperature & Humidity Chamber TERCHY	MHU-225AU	920409	2022/6/27	2023/6/26
Voltage Meter FLUKE	179	89610322	2022/10/3	2023/10/2

Notes:

1. The test was performed in LK - Oven
2. Tested Date: 2022/11/14

4.2 RF Output Power

Refer to section 4.1 to get information of the instruments.

4.3 Power Spectral Density

Refer to section 4.1 to get information of the instruments.

4.4 6 dB Bandwidth

Refer to section 4.1 to get information of the instruments.

4.5 Occupied Bandwidth

Refer to section 4.1 to get information of the instruments.

4.6 Frequency Stability

Refer to section 4.1 to get information of the instruments.

4.7 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal LYNICS	0900510	E1-011285	2022/9/19	2023/9/18
		E1-011286	2022/9/19	2023/9/18
50 Ohms Terminator LYNICS	0900510	E1-01-305	2022/2/9	2023/2/8
Attenuator STI	STI02-2200-10	NO.4	2022/9/2	2023/9/1
DC LISN R&S	ESH3-Z6	100219	2022/8/2	2023/8/1
		844950/018	2022/8/2	2023/8/1
DC LISN Schwarzbeck	NNLK 8121	8121-808	2022/4/29	2023/4/28
High Voltage Probe Schwarzbeck	TK9420	00982	2021/12/24	2022/12/23
Isolation Transformer Erika Fiedler	D-65396	017	2022/9/8	2023/9/7
LISN R&S	ENV216	101196	2022/5/24	2023/5/23
	ESH3-Z5	100220	2021/11/25	2022/11/24
LISN Schwarzbeck	NNLK 8121	8121-731	2022/5/26	2023/5/25
		8121-00759	2022/8/18	2023/8/17
	NNLK8129	8129229	2022/6/8	2023/6/7
	NSLK 8128	8128-244	2021/11/11	2022/11/10
RF Coaxial Cable Commate	5D-FB	Cable-CO5-01	2022/1/28	2023/1/27
Software BVADT	Cond_V7.3.7.4	N/A	N/A	N/A
Test Receiver R&S	ESR3	102412	2022/1/22	2023/1/21

Notes:

1. The test was performed in Linkou Conduction 5.
2. Tested Date: 2022/10/1

4.8 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
* LOOP ANTENNA EMCI	LPA600	270	2021/9/2	2023/9/1
Bi_Log Antenna Schwarzbeck	VULB 9168	137	2021/10/27	2022/10/26
Coupling/Dcoupling Network Schwarzbeck	CDNE-M2	00097	2022/6/1	2023/5/31
	CDNE-M3	00091	2022/6/1	2023/5/31
Pre_Amplifier EMCI	EMC001340	980269	2022/6/28	2023/6/27
Pre_Amplifier HP	8447D	2432A03504	2022/2/17	2023/2/16
RF Coaxial Cable Pacific	8D-FB	Cable-CH6-02	2022/6/30	2023/6/29
Software BVADT	Radiated_V7.7.1.1.1	N/A	N/A	N/A
	Radiated_V8.7.08	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	101544	2022/5/9	2023/5/8
Test Receiver Agilent	N9038A	MY51210129	2022/4/8	2023/4/7
		MY51210137	2022/6/9	2023/6/8
Tower ADT	AT100	0306	N/A	N/A
Turn Table ADT	TT100	0306	N/A	N/A

Notes:

1. * The calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA
2. The test was performed in Linkou 966 Chamber 6 (CH 6).
3. Tested Date: 2022/10/8

4.9 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Band Pass Filter MICRO-TRONICS	BRM17690	005	2022/5/26	2023/5/25
Boresight antenna tower fixture BV	BAF-02	6	N/A	N/A
High Pass Filter Wainwright Instruments	WHK 3.1/18G-10SS	SN 8	2022/5/26	2023/5/25
Horn Antenna EMCO	3115	00027024	2021/11/14	2022/11/13
		00028257	2021/11/14	2022/11/13
Horn Antenna ETS-Lindgren	3117-PA	00215857	2021/11/14	2022/11/13
Horn Antenna Schwarzbeck	BBHA 9170	212	2021/10/13	2022/10/12
Notch Filter MICRO-TRONICS	BRC50703-01	010	2022/5/26	2023/5/25
Pre-amplifier HP	8449B	3008A01201	2022/2/17	2023/2/16
Pre-amplifier (18GHz-40GHz) EMCI	EMC184045B	980175	2022/9/3	2023/9/2
Pre_Amplifier EMCI	EMC0126545	980076	2022/2/17	2023/2/16
	EMC184045B	980235	2022/2/17	2023/2/16
RF Coaxial Cable EM	EM102-KMKM-3.5+1M	EM102-KMKM-3.5+1M-01	2022/7/7	2023/7/6
RF Coaxial Cable HUBER SUHNER	SF-104	Cable-CH6-01	2022/9/20	2023/9/19
Software BVADT	Radiated_V7.7.1.1.1	N/A	N/A	N/A
	Radiated_V8.7.08	N/A	N/A	N/A
Spectrum Analyzer Agilent	E4446A	MY51100009	2022/6/27	2023/6/26
Spectrum Analyzer KEYSIGHT	N9030A	MY54490260	2022/7/14	2023/7/13
Spectrum Analyzer R&S	FSV40	101042	2022/9/5	2023/9/4
		101544	2022/5/9	2023/5/8
Test Receiver Agilent	N9038A	MY51210129	2022/4/8	2023/4/7
		MY51210137	2022/6/9	2023/6/8
Tower ADT	AT100	0306	N/A	N/A
Turn Table ADT	TT100	0306	N/A	N/A

Notes:

1. The test was performed in Linkou 966 Chamber 6 (CH 6).
2. Tested Date: 2022/9/28 ~ 2022/10/1

5 Limits of Test Items

5.1 26 dB Bandwidth

The results are for reference only.

5.2 RF Output Power

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

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

*B is the 26 dB emission bandwidth in megahertz

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

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less, for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

5.3 Power Spectral Density

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

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

5.4 6 dB Bandwidth

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

5.5 Occupied Bandwidth

The results are for reference only.

5.6 Frequency Stability

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

5.7 AC Power Conducted Emissions

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

Notes:

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

5.8 Unwanted Emissions below 1 GHz

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

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

Notes:

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

5.9 Unwanted Emissions above 1 GHz

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

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

Notes:

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

Limits of unwanted emission out of the restricted bands

<table>
<tr><th colspan="2">Applicable To</th><th colspan="2">Limit</th></tr>
<tr><td colspan="2" rowspan="2">789033 D02 General UNII Test Procedure New Rules v02r01</td><td colspan="2">Field Strength at 3 m</td></tr>
<tr><td>PK: 74 (dBµV/m)</td><td>AV: 54 (dBµV/m)</td></tr>
<tr><td>Frequency Band</td><td>Applicable To</td><td>EIRP Limit</td><td>Equivalent Field Strength at 3 m</td></tr>
<tr><td>5150~5250 MHz</td><td>15.407(b)(1)</td><td rowspan="3">PK: -27 (dBm/MHz)</td><td rowspan="3">PK: 68.2 (dBµV/m)</td></tr>
<tr><td>5250~5350 MHz</td><td>15.407(b)(2)</td></tr>
<tr><td>5470~5725 MHz</td><td>15.407(b)(3)</td></tr>
<tr><td>5725~5850 MHz</td><td>15.407(b)(4)(i)</td><td>PK: -27 (dBm/MHz) *1
PK: 10 (dBm/MHz) *2
PK: 15.6 (dBm/MHz) *3
PK: 27 (dBm/MHz) *4</td><td>PK: 68.2 (dBµV/m) *1
PK: 105.2 (dBµV/m) *2
PK: 110.8 (dBµV/m) *3
PK: 122.2 (dBµV/m) *4</td></tr>
<tr><td colspan="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.</td></tr>
</table>

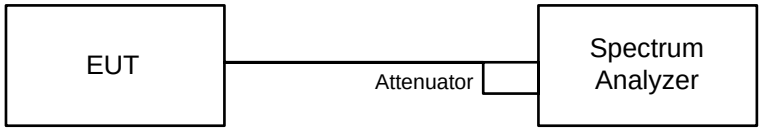
Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

6 Test Arrangements

6.1 26 dB Bandwidth

6.1.1 Test Setup

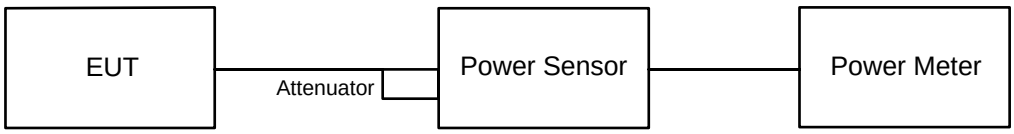


6.1.2 Test Procedure

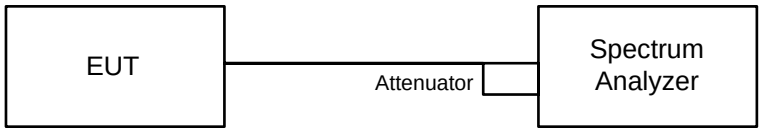
a. Set RBW = approximately 1% of the emission bandwidth.
b. Set the VBW > RBW.
c. Detector = Peak.
d. Trace mode = max hold.
e. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement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

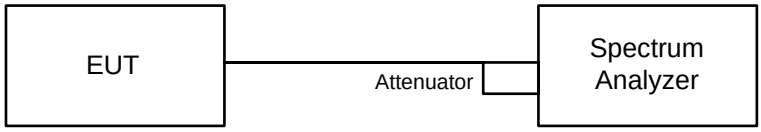
Method SA-2A

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

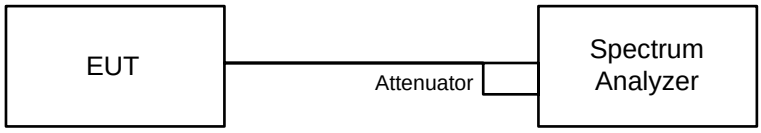
a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
b. Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS
c. Sweep points ≥ [2 × span / RBW]. (This gives bin-to-bin spacing ≤ RBW / 2, so that narrowband signals are not lost between frequency bins.)
d. Sweep time = auto, trigger 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 6 dB Bandwidth

6.4.1 Test Setup

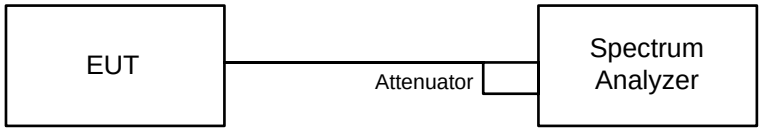


6.4.2 Test Procedure

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

6.5 Occupied Bandwidth

6.5.1 Test Setup

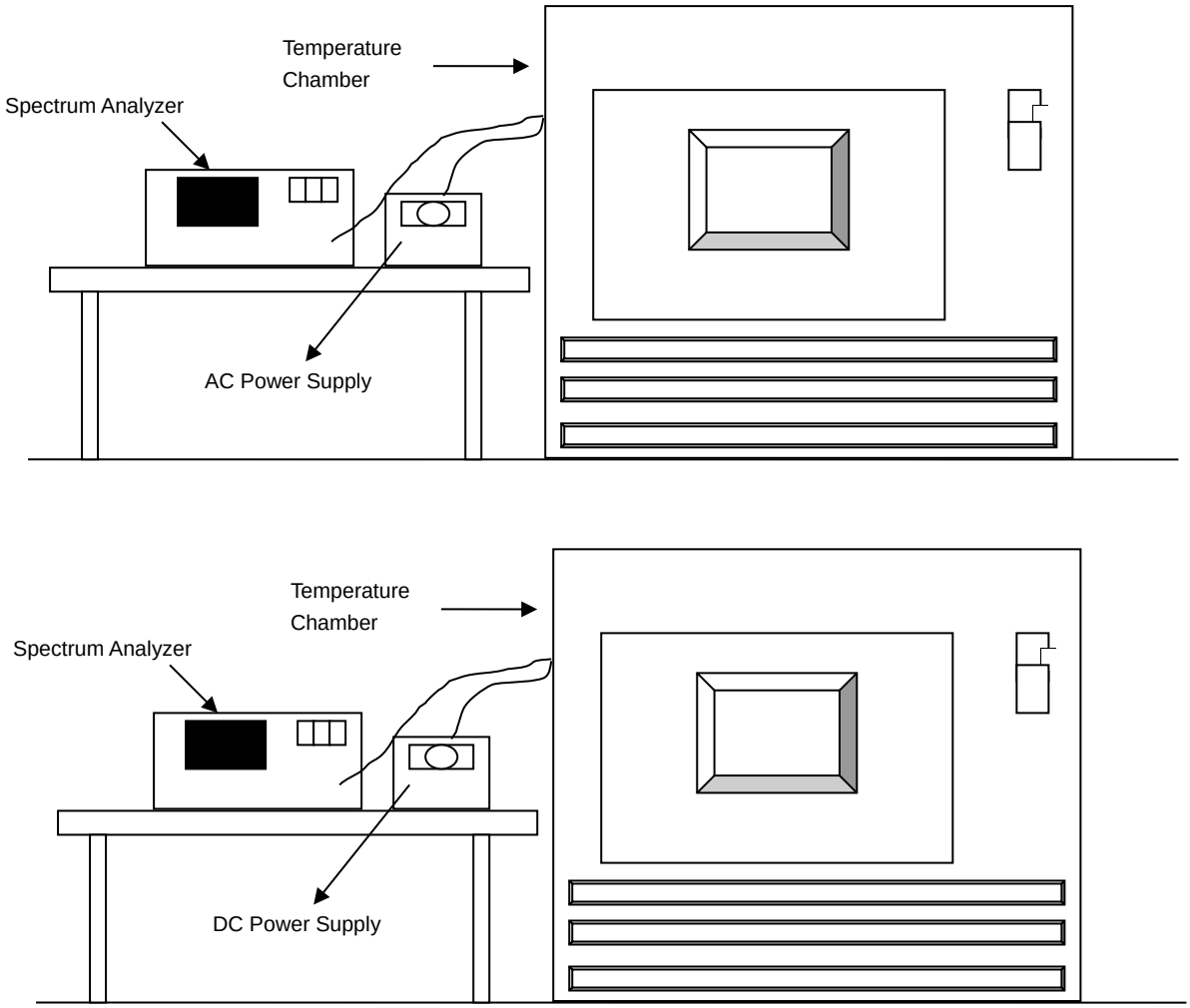


6.5.2 Test Procedure

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

6.6 Frequency Stability

6.6.1 Test Setup

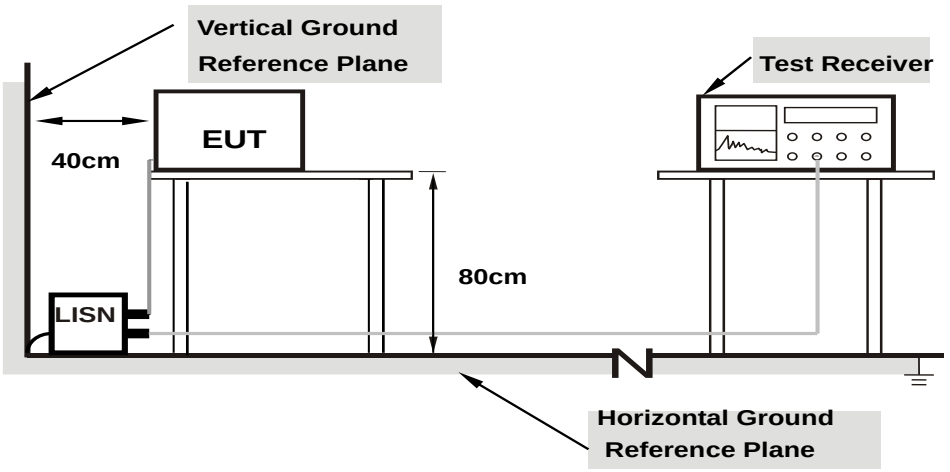


6.6.2 Test Procedure

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

6.7 AC Power Conducted Emissions

6.7.1 Test Setup



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

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

6.7.2 Test Procedure

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.

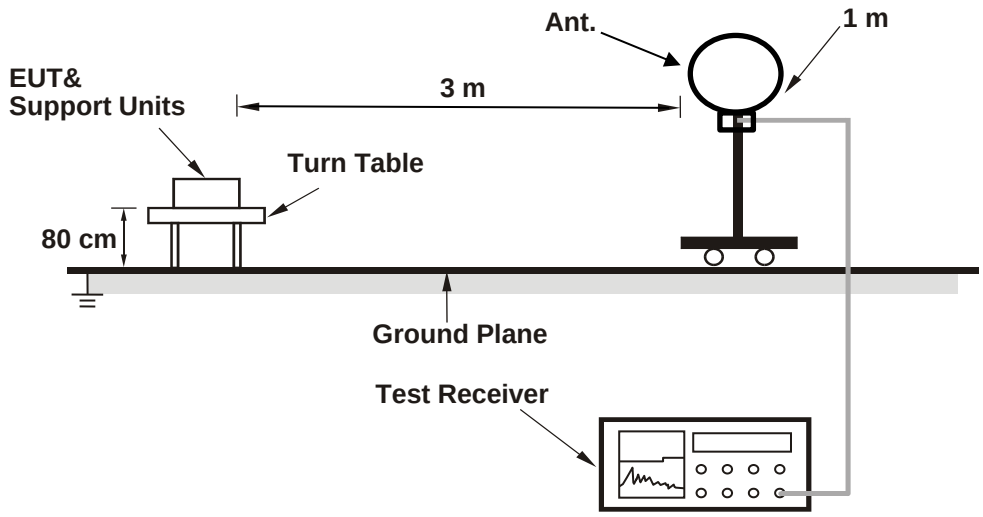
c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

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.

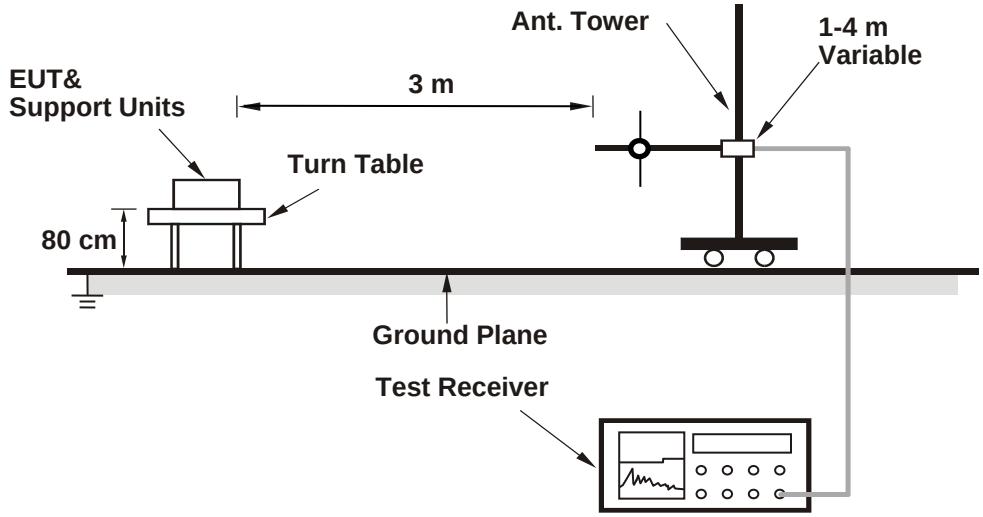
6.8 Unwanted Emissions below 1 GHz

6.8.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



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

6.8.2 Test Procedure

For Radiated emission below 30 MHz

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

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

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

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

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

Notes:

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

For Radiated emission above 30 MHz

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

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

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

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

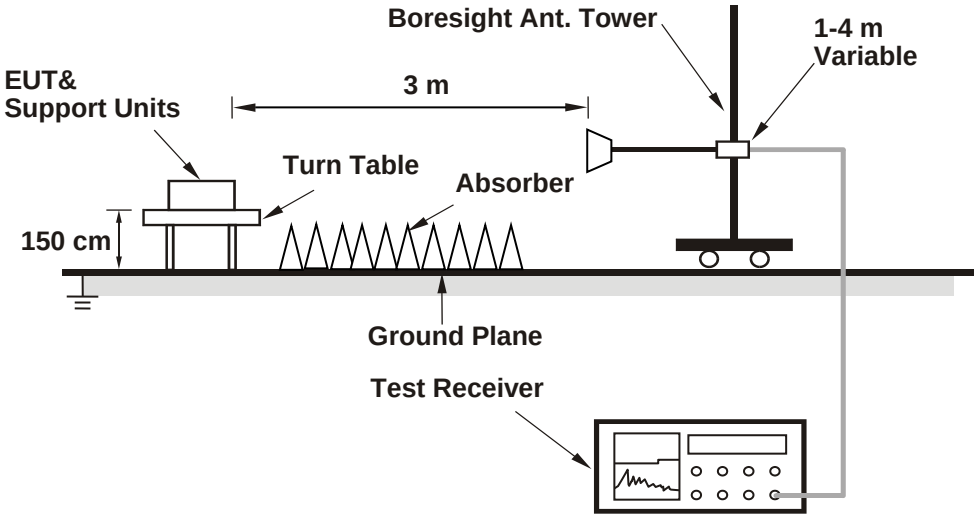
e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

Notes:

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

6.9 Unwanted Emissions above 1 GHz

6.9.1 Test Setup



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

6.9.2 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, 76% RH	Tested By:	Waydi Tuan

802.11a

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	28.03	25.95
60	5300	26.66	26.69
64	5320	26.73	27.08
100	5500	27.06	27.43
116	5580	26.79	26.48
140	5700	25.85	27.04
144 (U-NII-2C)	5720	19.25	18.41

Determined Output Power Limit					
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)		
52	5260	25.95	25.14	>	24
60	5300	26.66	25.25	>	24
64	5320	26.73	25.26	>	24
100	5500	27.06	25.32	>	24
116	5580	26.48	25.22	>	24
140	5700	25.85	25.12	>	24
144 (U-NII-2C)	5720	18.41	23.65	<	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
52	5260	28.98	24.89
60	5300	23.30	37.05
64	5320	35.69	28.39
100	5500	36.14	24.30
116	5580	23.82	23.88
140	5700	26.37	29.94
144 (U-NII-2C)	5720	17.09	18.07

Determined Output Power Limit					
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)		
52	5260	24.89	24.96	>	24
60	5300	23.30	24.67	>	24
64	5320	28.39	25.53	>	24
100	5500	24.30	24.85	>	24
116	5580	23.82	24.76	>	24
140	5700	26.37	25.21	>	24
144 (U-NII-2C)	5720	17.09	23.32	<	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
54	5270	40.78	40.74
62	5310	40.79	40.75
102	5510	40.90	40.83
110	5550	40.63	40.75
134	5670	40.64	40.62
142 (U-NII-2C)	5710	35.41	35.34

Determined Output Power Limit					
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)		
54	5270	40.74	27.1	>	24
62	5310	40.75	27.1	>	24
102	5510	40.83	27.1	>	24
110	5550	40.63	27.08	>	24
134	5670	40.62	27.08	>	24
142 (U-NII-2C)	5710	35.34	26.48	>	24

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

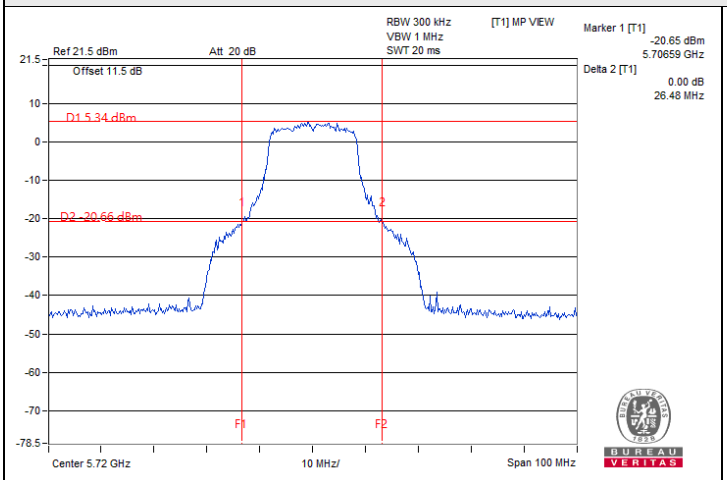
802.11ax (HE80)

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	81.06	81.23
106	5530	81.12	81.27
122	5610	81.09	81.38
138 (U-NII-2C)	5690	75.50	75.43

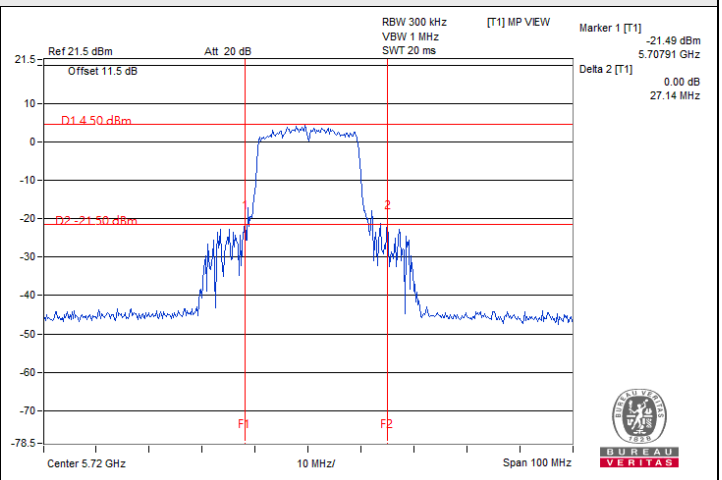
Determined Output Power Limit					
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)		
58	5290	81.06	30.08	>	24
106	5530	81.12	30.09	>	24
122	5610	81.09	30.08	>	24
138 (U-NII-2C)	5690	75.43	29.77	>	24

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

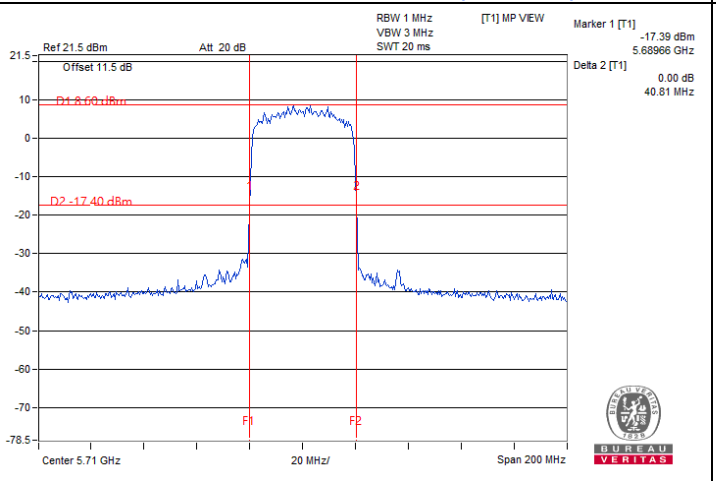
Spectrum Plot of Minimum Value



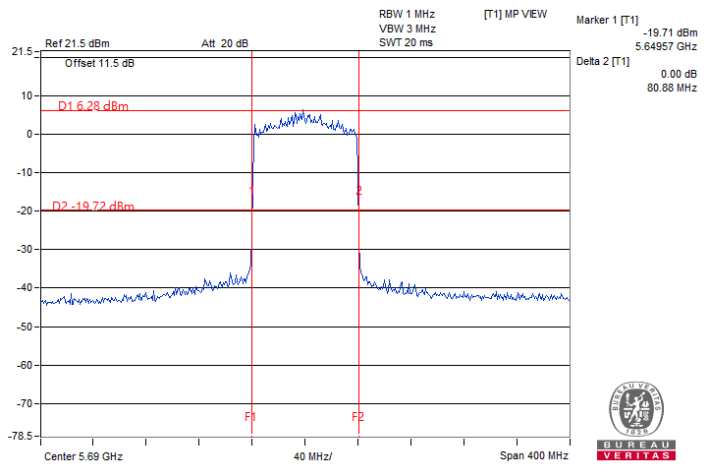
802.11a / Chain 1 : CH 144 (U-NII-2C)



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



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



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

Notes:

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

7.2 RF Output Power

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Waydi Tuan

802.11a

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
36	5180	14.01	14.34	52.341	17.19	24	Pass
40	5200	14.03	14.32	52.333	17.19	24	Pass
48	5240	14.09	14.43	53.378	17.27	24	Pass
52	5260	13.96	14.14	50.83	17.06	24	Pass
60	5300	14.11	14.34	52.928	17.24	24	Pass
64	5320	14.42	14.38	55.085	17.41	24	Pass
100	5500	11.39	11.21	26.985	14.31	24	Pass
116	5580	14.52	14.39	55.793	17.47	24	Pass
140	5700	14.39	14.13	53.361	17.27	24	Pass
*144 (U-NII-2C)	5720	11.91	12.09	36.757	15.65	23.65	Pass
*144 (U-NII-3)	5720	5.12	5.28	7.679	8.85	30	Pass
149	5745	12.93	14.37	46.986	16.72	30	Pass
157	5785	13.92	14.55	53.171	17.26	30	Pass
165	5825	13.94	14.57	53.416	17.28	30	Pass

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-1, the maximum gain is 2.57 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2A, the maximum gain is 2.69 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-2C, the maximum gain is 2.69 dBi < 6 dBi, so the output power limit shall not be reduced.
6. For U-NII-3, the maximum gain is 2.55 dBi< 6 dBi, so the output power limit shall not be reduced.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
36	5180	11.77	11.99	30.844	14.89	24	Pass
40	5200	11.78	11.97	30.806	14.89	24	Pass
48	5240	11.86	12.29	32.29	15.09	24	Pass
52	5260	8.43	8.68	14.345	11.57	24	Pass
60	5300	11.60	12.12	30.747	14.88	24	Pass
64	5320	11.57	12.06	30.424	14.83	24	Pass
100	5500	11.76	12.08	31.14	14.93	24	Pass
116	5580	11.75	12.26	31.789	15.02	24	Pass
140	5700	11.86	11.93	30.942	14.91	24	Pass
*144 (U-NII-2C)	5720	9.57	9.69	29.827	14.75	23.32	Pass
*144 (U-NII-3)	5720	3.78	3.86	7.827	8.94	30	Pass
149	5745	11.80	11.90	30.624	14.86	30	Pass
157	5785	11.86	11.83	30.587	14.86	30	Pass
165	5825	11.72	11.90	30.348	14.82	30	Pass

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-1, the maximum gain is 2.57 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2A, the maximum gain is 2.69 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-2C, the maximum gain is 2.69 dBi < 6 dBi, so the output power limit shall not be reduced.
6. For U-NII-3, the maximum gain is 2.55 dBi< 6 dBi, so the output power limit shall not be reduced.

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				
36	5180	11.96	12.12	31.997	15.05	24	Pass
40	5200	11.92	12.16	32.003	15.05	24	Pass
48	5240	12.01	12.42	33.344	15.23	24	Pass
52	5260	8.61	8.87	14.97	11.75	24	Pass
60	5300	11.74	12.23	31.639	15.00	24	Pass
64	5320	11.76	12.26	31.824	15.03	24	Pass
100	5500	11.92	12.26	32.386	15.10	24	Pass
116	5580	11.86	12.41	32.764	15.15	24	Pass
140	5700	11.97	12.05	31.772	15.02	24	Pass
*144 (U-NII-2C)	5720	9.57	9.69	29.827	14.75	23.32	Pass
*144 (U-NII-3)	5720	3.78	3.86	7.827	8.94	30	Pass
149	5745	11.98	12.03	31.735	15.02	30	Pass
157	5785	11.97	12.03	31.699	15.01	30	Pass
165	5825	11.91	12.06	31.593	15.00	30	Pass

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-1, the maximum gain is 2.57 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2A, the maximum gain is 2.69 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-2C, the maximum gain is 2.69 dBi < 6 dBi, so the output power limit shall not be reduced.
6. For U-NII-3, the maximum gain is 2.55 dBi< 6 dBi, so the output power limit shall not be reduced.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
38	5190	11.66	11.89	30.108	14.79	24	Pass
46	5230	11.74	11.95	30.595	14.86	24	Pass
54	5270	11.13	11.96	28.675	14.58	24	Pass
62	5310	11.06	11.90	28.253	14.51	24	Pass
102	5510	11.22	11.91	28.767	14.59	24	Pass
110	5550	11.36	12.01	29.563	14.71	24	Pass
134	5670	12.26	12.14	33.195	15.21	24	Pass
*142 (U-NII-2C)	5710	10.08	10.14	33.795	15.29	24	Pass
*142 (U-NII-3)	5710	-1.40	-1.30	2.4147	3.83	30	Pass
151	5755	12.11	12.06	32.325	15.10	30	Pass
159	5795	12.03	12.01	31.844	15.03	30	Pass

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-1, the maximum gain is 2.57 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2A, the maximum gain is 2.69 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-2C, the maximum gain is 2.69 dBi < 6 dBi, so the output power limit shall not be reduced.
6. For U-NII-3, the maximum gain is 2.55 dBi< 6 dBi, so the output power limit shall not be reduced.

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				
38	5190	11.79	12.01	30.986	14.91	24	Pass
46	5230	11.93	12.09	31.776	15.02	24	Pass
54	5270	11.33	12.12	29.876	14.75	24	Pass
62	5310	11.21	12.03	29.172	14.65	24	Pass
102	5510	11.36	12.05	29.71	14.73	24	Pass
110	5550	11.51	12.20	30.754	14.88	24	Pass
134	5670	12.43	12.32	34.559	15.39	24	Pass
*142 (U-NII-2C)	5710	10.08	10.14	33.795	15.29	24	Pass
*142 (U-NII-3)	5710	-1.40	-1.30	2.4147	3.83	30	Pass
151	5755	12.22	12.21	33.307	15.23	30	Pass
159	5795	12.19	12.15	32.964	15.18	30	Pass

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-1, the maximum gain is 2.57 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2A, the maximum gain is 2.69 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-2C, the maximum gain is 2.69 dBi < 6 dBi, so the output power limit shall not be reduced.
6. For U-NII-3, the maximum gain is 2.55 dBi< 6 dBi, so the output power limit shall not be reduced.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
42	5210	11.97	12.23	32.451	15.11	24	Pass
58	5290	11.95	12.18	32.187	15.08	24	Pass
106	5530	11.43	11.87	29.281	14.67	24	Pass
122	5610	11.62	11.98	30.297	14.81	24	Pass
*138 (U-NII-2C)	5690	9.20	9.24	28.761	14.59	24	Pass
*138 (U-NII-3)	5690	-5.68	-5.65	0.9339	-0.30	30	Pass
155	5775	12.04	11.89	31.448	14.98	30	Pass

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-1, the maximum gain is 2.57 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2A, the maximum gain is 2.69 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-2C, the maximum gain is 2.69 dBi < 6 dBi, so the output power limit shall not be reduced.
6. For U-NII-3, the maximum gain is 2.55 dBi< 6 dBi, so the output power limit shall not be reduced.

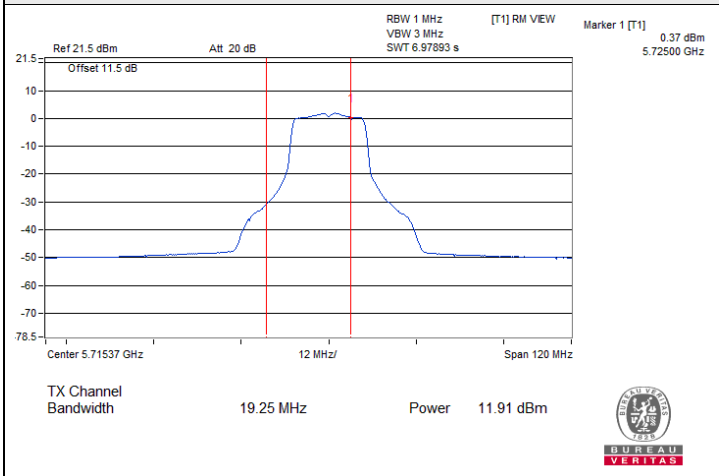
802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
42	5210	12.11	12.43	33.754	15.28	24	Pass
58	5290	12.09	12.31	33.202	15.21	24	Pass
106	5530	11.62	12.04	30.517	14.85	24	Pass
122	5610	11.81	12.15	31.576	14.99	24	Pass
*138 (U-NII-2C)	5690	9.20	9.24	28.761	14.59	24	Pass
*138 (U-NII-3)	5690	-5.68	-5.65	0.9339	-0.30	30	Pass
155	5775	12.18	12.09	32.7	15.15	30	Pass

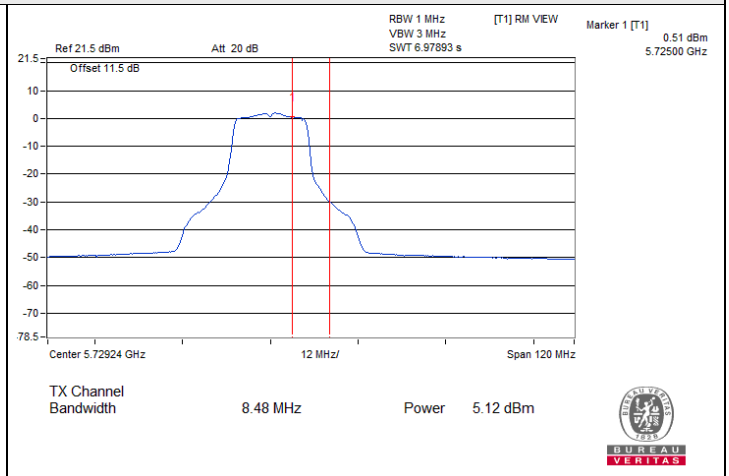
Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-1, the maximum gain is 2.57 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2A, the maximum gain is 2.69 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-2C, the maximum gain is 2.69 dBi < 6 dBi, so the output power limit shall not be reduced.
6. For U-NII-3, the maximum gain is 2.55 dBi< 6 dBi, so the output power limit shall not be reduced.

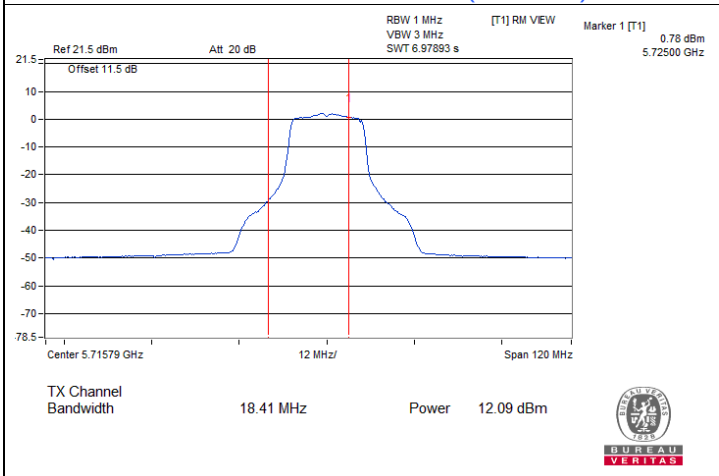
Spectrum Plot for channel straddling



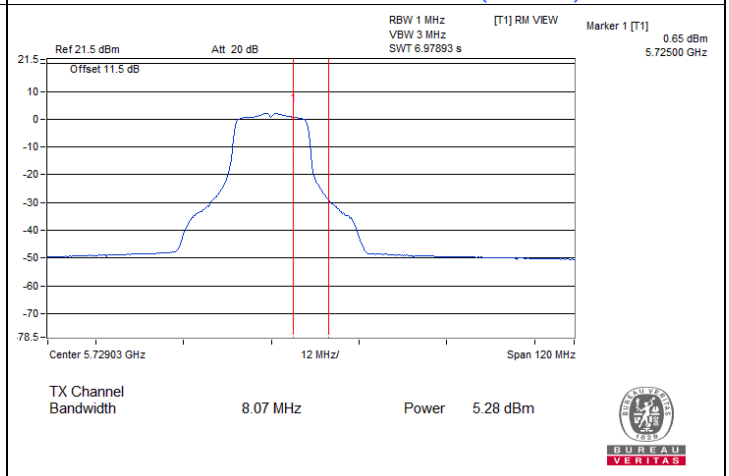
802.11a / Chain 0 : CH 144 (U-NII-2C)



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

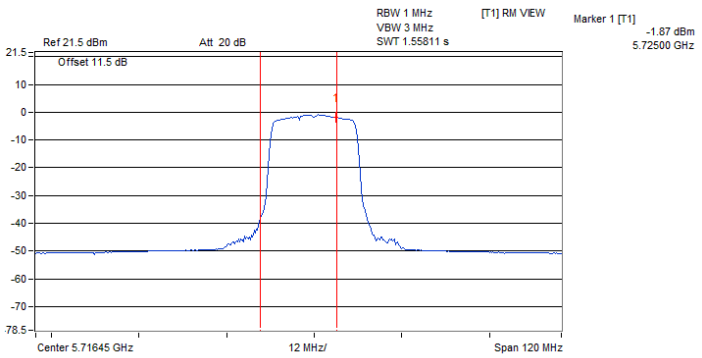


802.11a / Chain 1 : CH 144 (U-NII-2C)

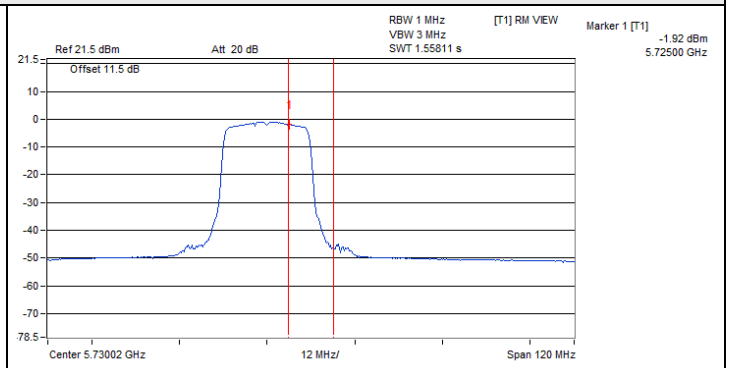


802.11a / Chain 1 : CH 144 (U-NII-3)

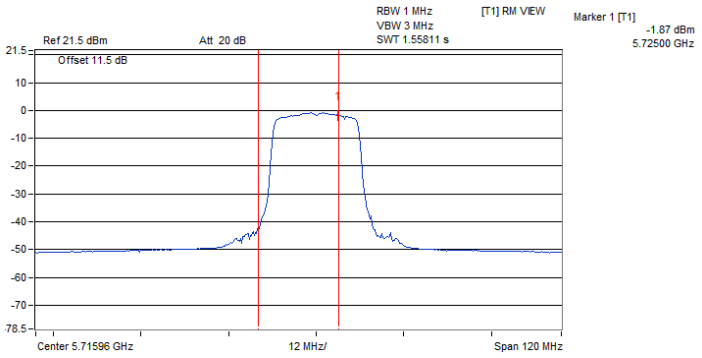
Spectrum Plot for channel straddling



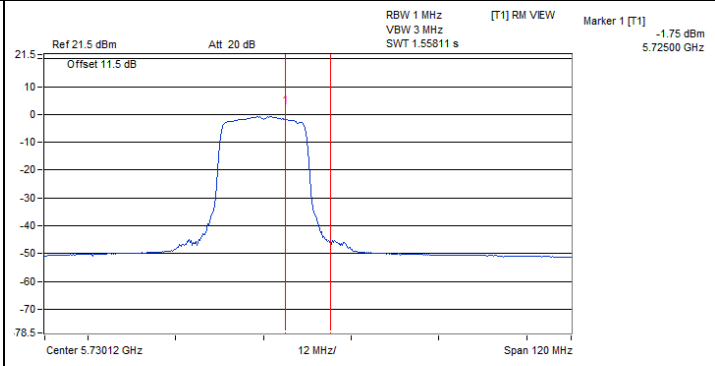
802.11ac (VHT20) / Chain 0 : CH 144 (U-NII-2C)



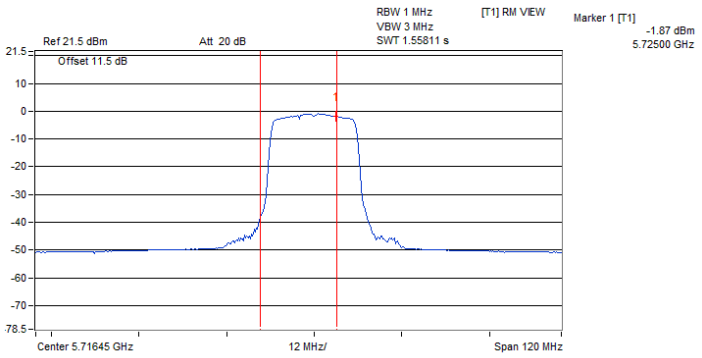
802.11ac (VHT20) / Chain 0 : CH 144 (U-NII-3)



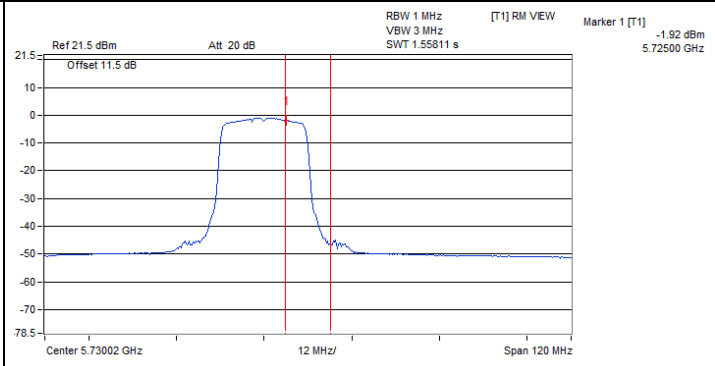
802.11ac (VHT20) / Chain 1 : CH 144 (U-NII-2C)



802.11ac (VHT20) / Chain 1 : CH 144 (U-NII-3)

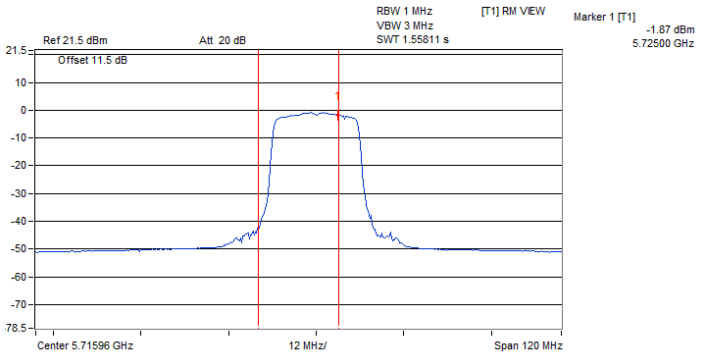


802.11ax (HE20) / Chain 0 : CH 144 (U-NII-2C)



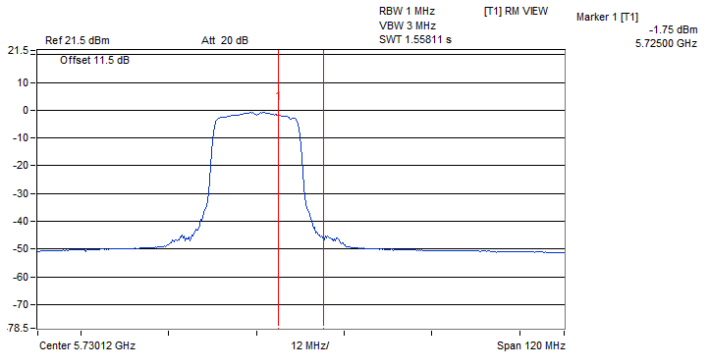
802.11ax (HE20) / Chain 0 : CH 144 (U-NII-3)

Spectrum Plot for channel straddling



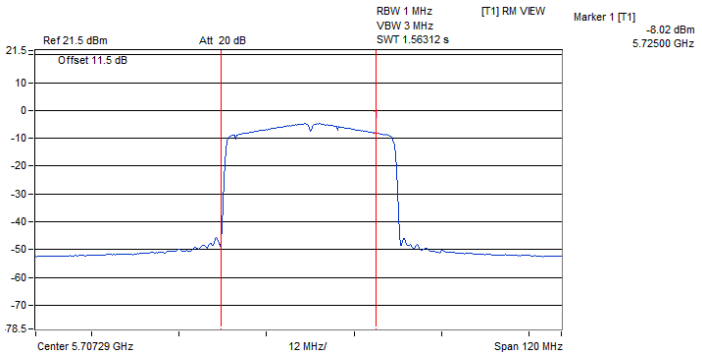
TX Channel Bandwidth 18.07 MHz Power 9.69 dBm

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



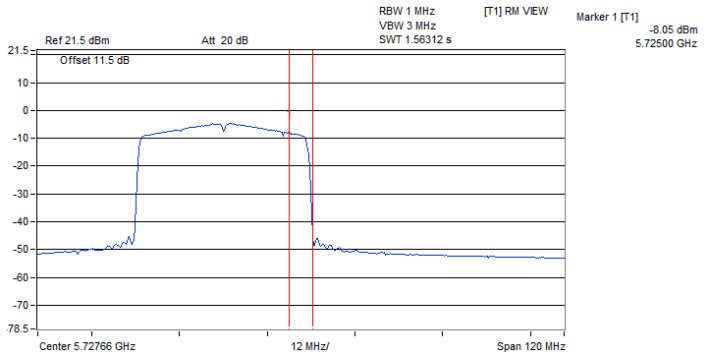
TX Channel Bandwidth 10.25 MHz Power 3.86 dBm

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



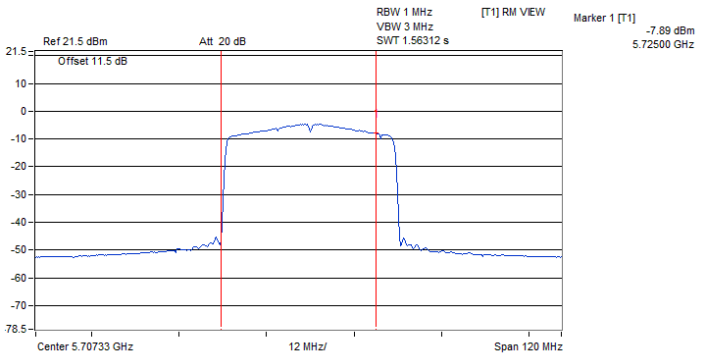
TX Channel Bandwidth 35.41 MHz Power 10.08 dBm

802.11ac (VHT40) / Chain 0 : CH 142 (U-NII-2C)



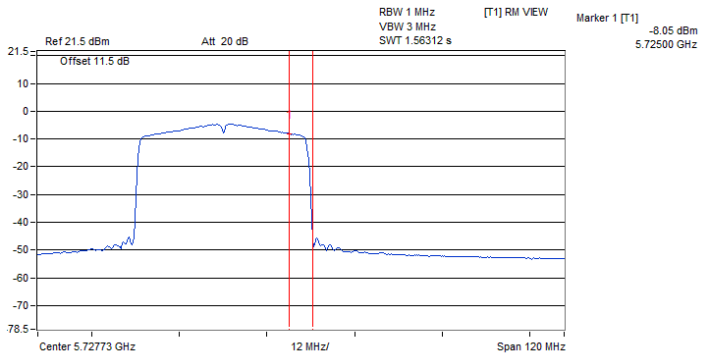
TX Channel Bandwidth 5.32 MHz Power -1.4 dBm

802.11ac (VHT40) / Chain 0 : CH 142 (U-NII-3)



TX Channel Bandwidth 35.34 MHz Power 10.14 dBm

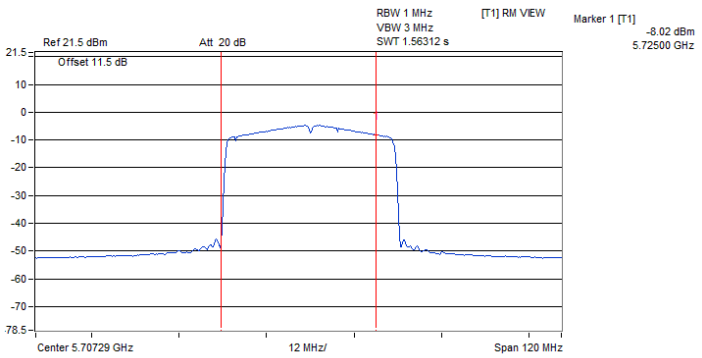
802.11ac (VHT40) / Chain 1 : CH 142 (U-NII-2C)



TX Channel Bandwidth 5.47 MHz Power -1.3 dBm

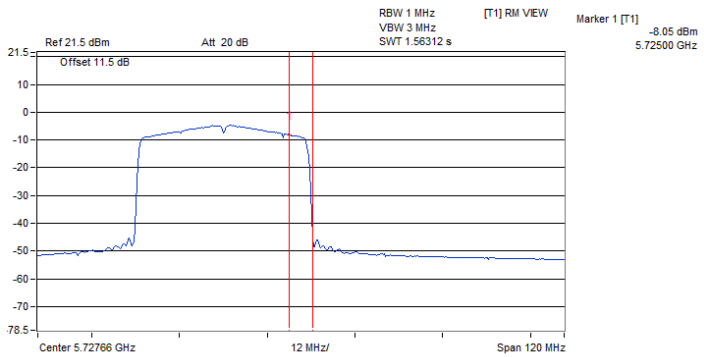
802.11ac (VHT40) / Chain 1 : CH 142 (U-NII-3)

Spectrum Plot for channel straddling



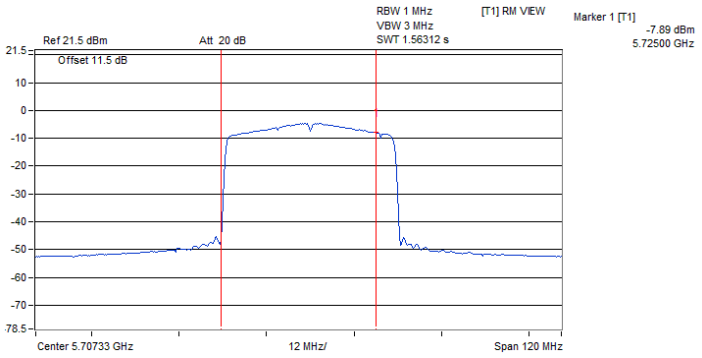
TX Channel Bandwidth 35.41 MHz Power 10.08 dBm

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



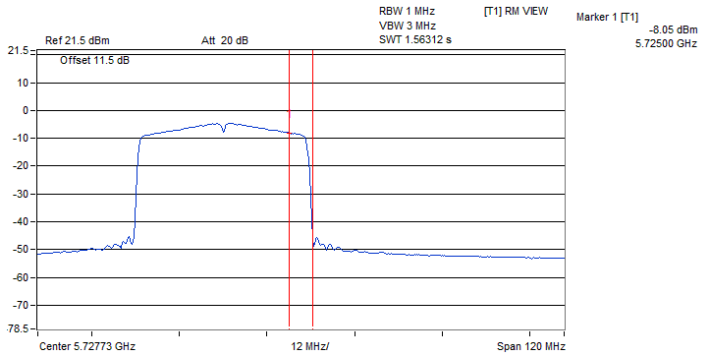
TX Channel Bandwidth 5.32 MHz Power -1.4 dBm

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



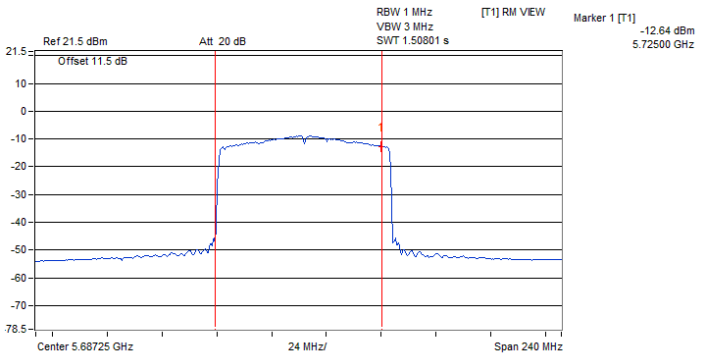
TX Channel Bandwidth 35.34 MHz Power 10.14 dBm

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



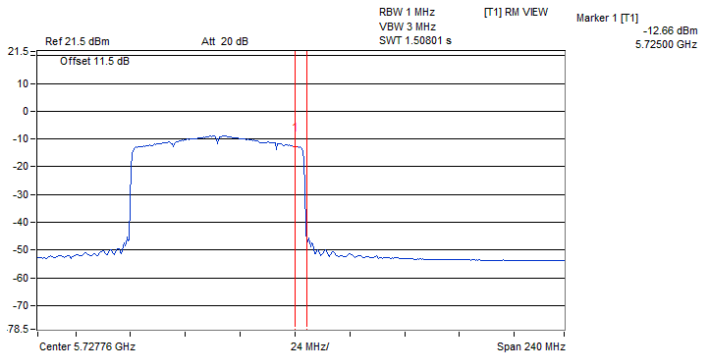
TX Channel Bandwidth 5.47 MHz Power -1.3 dBm

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



TX Channel Bandwidth 75.5 MHz Power 9.2 dBm

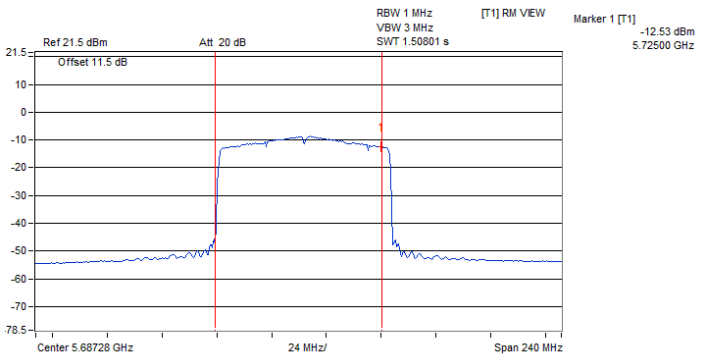
802.11ac (VHT80) / Chain 0 : CH 138 (U-NII-2C)



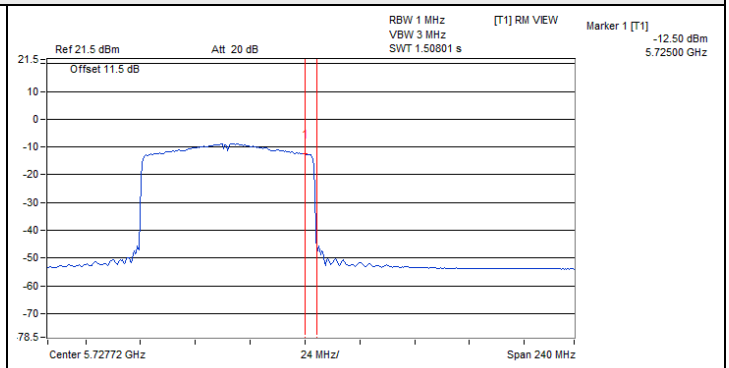
TX Channel Bandwidth 5.52 MHz Power -5.68 dBm

802.11ac (VHT80) / Chain 0 : CH 138 (U-NII-3)

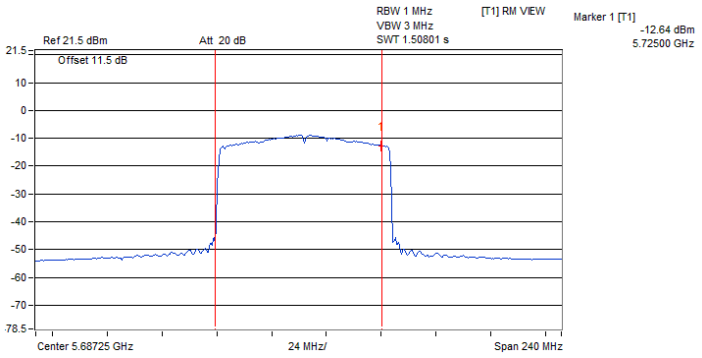
Spectrum Plot for channel straddling



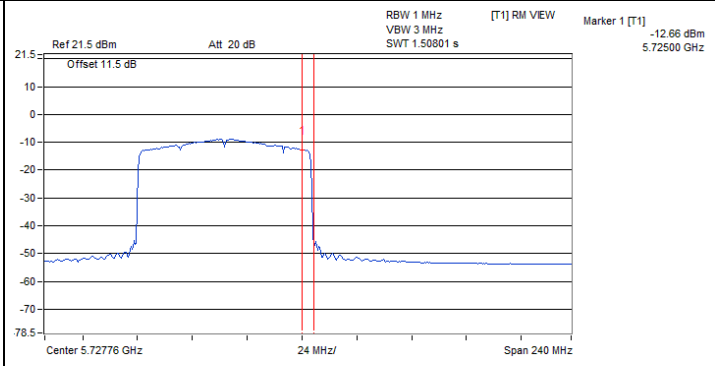
802.11ac (VHT80) / Chain 1 : CH 138 (U-NII-2C)



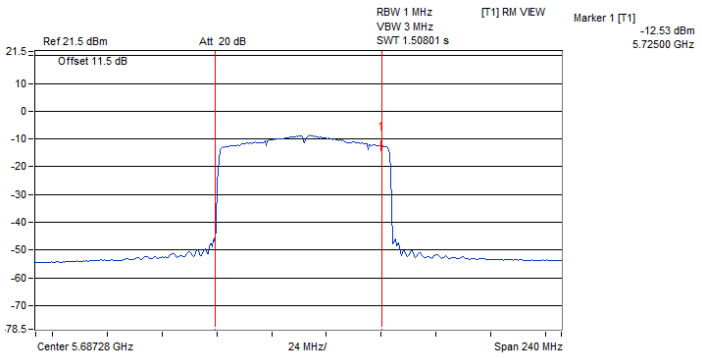
802.11ac (VHT80) / Chain 1 : CH 138 (U-NII-3)



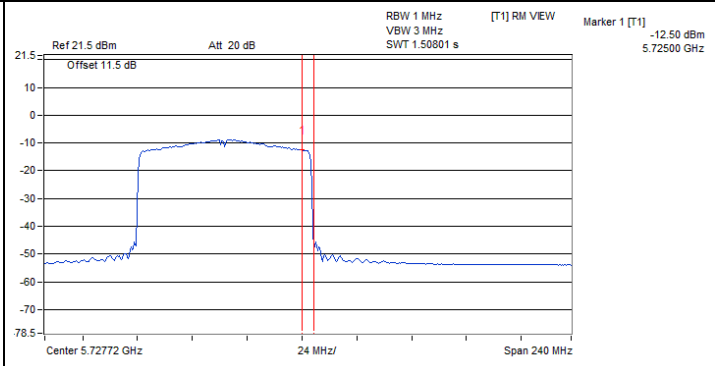
802.11ax (HE80) / Chain 0 : CH 138 (U-NII-2C)



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



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



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

7.3 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Waydi Tuan

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1				
36	5180	0.14	0.95	0.64	4.21	11.00	Pass
40	5200	-0.05	0.48	0.64	3.87	11.00	Pass
48	5240	0.45	0.64	0.64	4.20	11.00	Pass
52	5260	0.14	0.57	0.64	4.01	11.00	Pass
60	5300	0.07	0.01	0.64	3.69	11.00	Pass
64	5320	0.27	0.16	0.64	3.87	11.00	Pass
100	5500	-3.53	-2.94	0.64	0.43	11.00	Pass
116	5580	0.88	1.17	0.64	4.68	11.00	Pass
140	5700	0.22	1.12	0.64	4.34	11.00	Pass
144 (U-NII-2C)	5720	0.85	0.72	0.64	4.44	11.00	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. For U-NII-1, the directional gain is 5.58 dBi < 6dBi, so the power density limit shall not be reduced.
4. For U-NII-2A, the directional gain is 5.7 dBi < 6 dBi, so the power density limit shall not be reduced.
5. For U-NII-2C, the directional gain is 5.7 dBi < 6 dBi, so the power density limit shall not be reduced.

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				
36	5180	-2.51	-2.15	2.11	2.79	11.00	Pass
40	5200	-2.54	-2.47	2.11	2.62	11.00	Pass
48	5240	-2.79	-1.67	2.11	2.93	11.00	Pass
52	5260	-5.22	-5.88	2.11	-0.42	11.00	Pass
60	5300	-3.00	-4.01	2.11	1.64	11.00	Pass
64	5320	-3.46	-3.62	2.11	1.58	11.00	Pass
100	5500	-2.93	-2.87	2.11	2.22	11.00	Pass
116	5580	-2.47	-2.27	2.11	2.75	11.00	Pass
140	5700	-2.64	-3.22	2.11	2.20	11.00	Pass
144 (U-NII-2C)	5720	-2.96	-3.10	2.11	2.09	11.00	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. For U-NII-1, the directional gain is 5.58 dBi < 6dBi, so the power density limit shall not be reduced.
4. For U-NII-2A, the directional gain is 5.7 dBi < 6 dBi, so the power density limit shall not be reduced.
5. For U-NII-2C, the directional gain is 5.7 dBi < 6 dBi, so the power density limit shall not be reduced.

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				
38	5190	-5.84	-6.14	2.17	-0.81	11.00	Pass
46	5230	-6.52	-6.12	2.17	-1.14	11.00	Pass
54	5270	-6.27	-6.67	2.17	-1.29	11.00	Pass
62	5310	-6.48	-8.07	2.17	-2.02	11.00	Pass
102	5510	-5.58	-5.13	2.17	-0.17	11.00	Pass
110	5550	-6.09	-5.56	2.17	-0.64	11.00	Pass
134	5670	-5.44	-6.35	2.17	-0.69	11.00	Pass
142 (U-NII-2C)	5710	-4.71	-3.40	2.17	1.17	11.00	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. For U-NII-1, the directional gain is 5.58 dBi < 6dBi, so the power density limit shall not be reduced.
4. For U-NII-2A, the directional gain is 5.7 dBi < 6 dBi, so the power density limit shall not be reduced.
5. For U-NII-2C, the directional gain is 5.7 dBi < 6 dBi, so the power density limit shall not be reduced.

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				
42	5210	-9.70	-10.18	2.36	-4.56	11.00	Pass
58	5290	-10.93	-10.33	2.36	-5.25	11.00	Pass
106	5530	-10.49	-10.60	2.36	-5.17	11.00	Pass
122	5610	-10.44	-10.27	2.36	-4.98	11.00	Pass
138 (U-NII-2C)	5690	-10.33	-10.34	2.36	-4.96	11.00	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. For U-NII-1, the directional gain is 5.58 dBi < 6dBi, so the power density limit shall not be reduced.
4. For U-NII-2A, the directional gain is 5.7 dBi < 6 dBi, so the power density limit shall not be reduced.
5. For U-NII-2C, the directional gain is 5.7 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11a

TX chain	Channel	Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	PSD w/o Duty Factor (dBm/500kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
Chain 0	144 (U-NII-3)	5720	-9.51	-7.29	3.01	0.64	-3.64	30	Pass
	149	5745	-8.2	-5.98	3.01	0.64	-2.33	30	Pass
	157	5785	-8.34	-6.12	3.01	0.64	-2.47	30	Pass
	165	5825	-8.4	-6.18	3.01	0.64	-2.53	30	Pass
Chain 1	144 (U-NII-3)	5720	-9.7	-7.48	3.01	0.64	-3.83	30	Pass
	149	5745	-7.62	-5.4	3.01	0.64	-1.75	30	Pass
	157	5785	-7.63	-5.41	3.01	0.64	-1.76	30	Pass
	165	5825	-7.98	-5.76	3.01	0.64	-2.11	30	Pass

Notes:

1. Method E) 2) c) Measure and add 10 log(NANT) dB of KDB 662911 is using for calculating total power density.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. For U-NII-3, the directional gain is 5.56 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11ax (HE20)

TX chain	Channel	Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	PSD w/o Duty Factor (dBm/500kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
Chain 0	144 (U-NII-3)	5720	-13.48	-11.26	3.01	2.11	-6.14	30	Pass
	149	5745	-11.44	-9.22	3.01	2.11	-4.1	30	Pass
	157	5785	-12.13	-9.91	3.01	2.11	-4.79	30	Pass
	165	5825	-11.97	-9.75	3.01	2.11	-4.63	30	Pass
Chain 1	144 (U-NII-3)	5720	-12.12	-9.9	3.01	2.11	-4.78	30	Pass
	149	5745	-11.22	-9	3.01	2.11	-3.88	30	Pass
	157	5785	-11.69	-9.47	3.01	2.11	-4.35	30	Pass
	165	5825	-11.65	-9.43	3.01	2.11	-4.31	30	Pass

Notes:

1. Method E) 2) c) Measure and add 10 log(NANT) dB of KDB 662911 is using for calculating total power density.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. For U-NII-3, the directional gain is 5.56 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11ax (HE40)

TX chain	Channel	Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	PSD w/o Duty Factor (dBm/500kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
Chain 0	142 (U-NII-3)	5710	-18.1	-15.88	3.01	2.17	-10.7	30	Pass
	151	5755	-14.25	-12.03	3.01	2.17	-6.85	30	Pass
	159	5795	-13.71	-11.49	3.01	2.17	-6.31	30	Pass
Chain 1	142 (U-NII-3)	5710	-18.22	-16	3.01	2.17	-10.82	30	Pass
	151	5755	-14.13	-11.91	3.01	2.17	-6.73	30	Pass
	159	5795	-14.71	-12.49	3.01	2.17	-7.31	30	Pass

Notes:

1. Method E) 2) c) Measure and add 10 log(NANT) dB of KDB 662911 is using for calculating total power density.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. For U-NII-3, the directional gain is 5.56 dBi < 6 dBi, so the power density limit shall not be reduced.

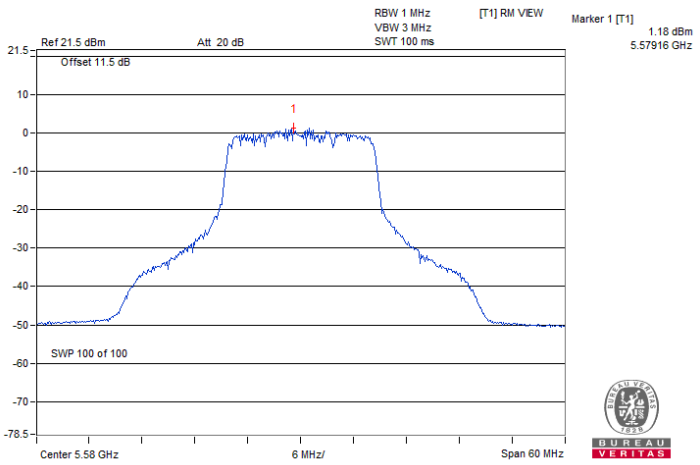
802.11ax (HE80)

TX chain	Channel	Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	PSD w/o Duty Factor (dBm/500kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
Chain 0	138 (U-NII-3)	5690	-24.28	-22.06	3.01	2.36	-16.69	30	Pass
	155	5775	-18.87	-16.65	3.01	2.36	-11.28	30	Pass
Chain 1	138 (U-NII-3)	5690	-23.58	-21.36	3.01	2.36	-15.99	30	Pass
	155	5775	-19.05	-16.83	3.01	2.36	-11.46	30	Pass

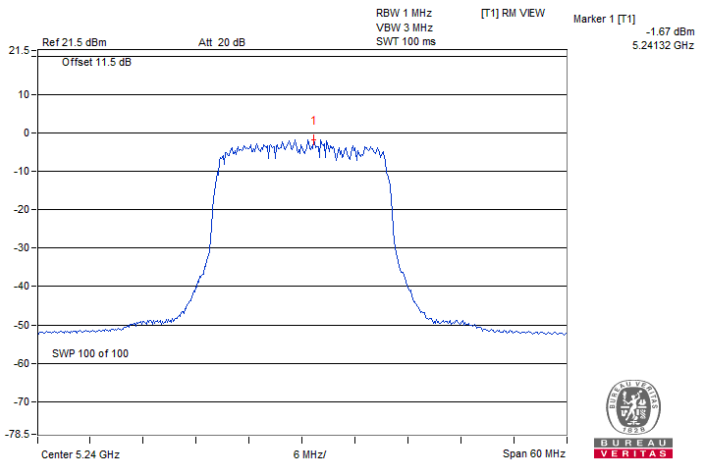
Notes:

1. Method E) 2) c) Measure and add 10 log(NANT) dB of KDB 662911 is using for calculating total power density.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. For U-NII-3, the directional gain is 5.56 dBi < 6 dBi, so the power density limit shall not be reduced.

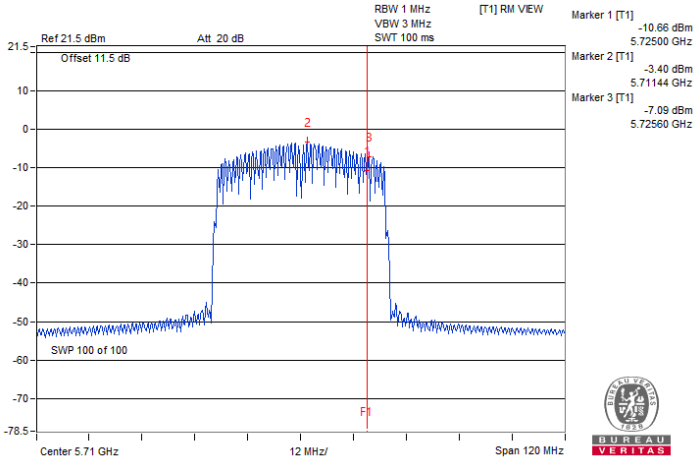
Spectrum Plot of Maximum Value



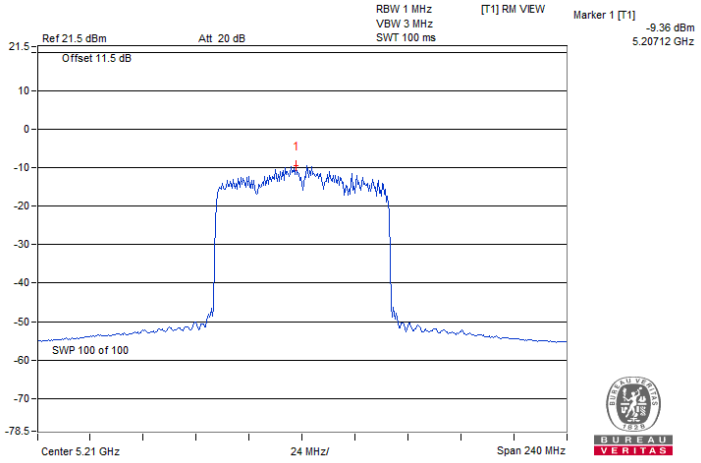
802.11a / Chain 1 : CH 116



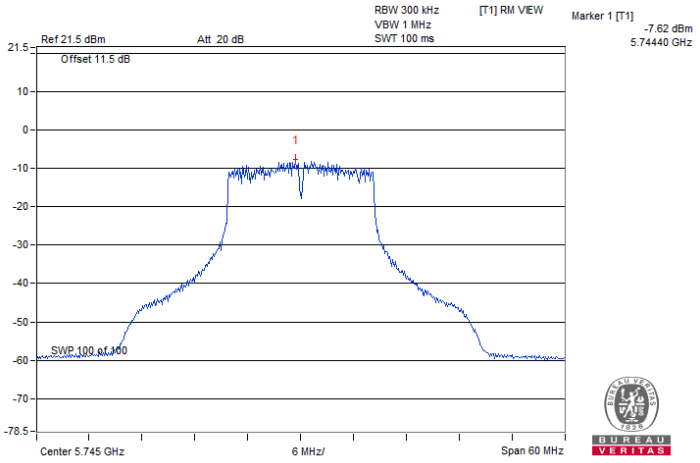
802.11ax (HE20) / Chain 1 : CH 48



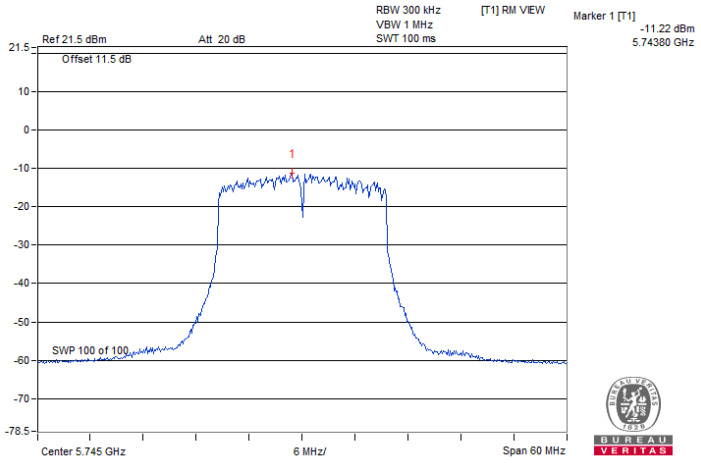
802.11ax (HE40) / Chain 1 : CH 142 (U-NII-2C)



802.11ax (HE80) / Chain 0 : CH 42

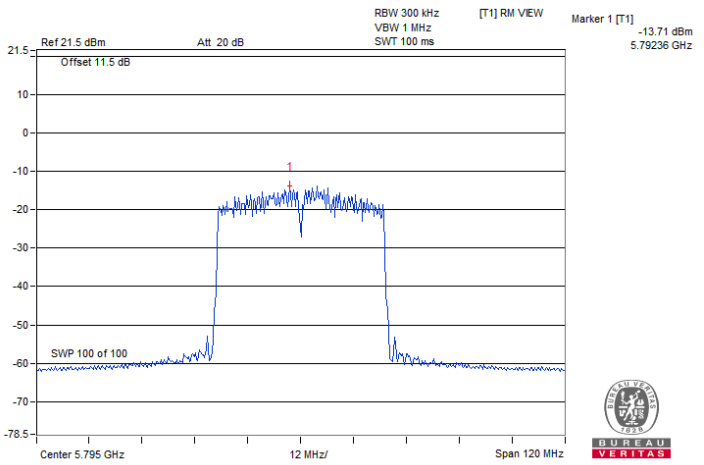


802.11a / Chain 1 : CH 149

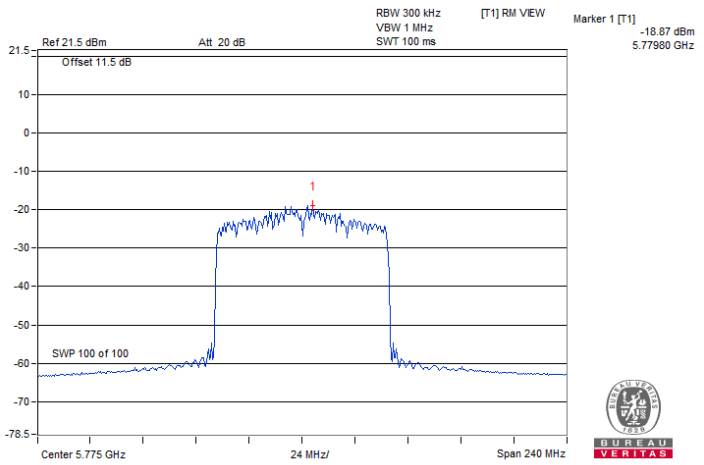


802.11ax (HE20) / Chain 1 : CH 149

Spectrum Plot of Maximum Value



802.11ax (HE40) / Chain 0 : CH 159



802.11ax (HE80) / Chain 0 : CH 155

7.4 6 dB Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Waydi Tuan

802.11a

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
144 (U-NII-3)	5720	3.17	3.17	0.5	Pass
149	5745	16.35	16.33	0.5	Pass
157	5785	16.34	16.32	0.5	Pass
165	5825	16.33	16.32	0.5	Pass

802.11ax (HE20)

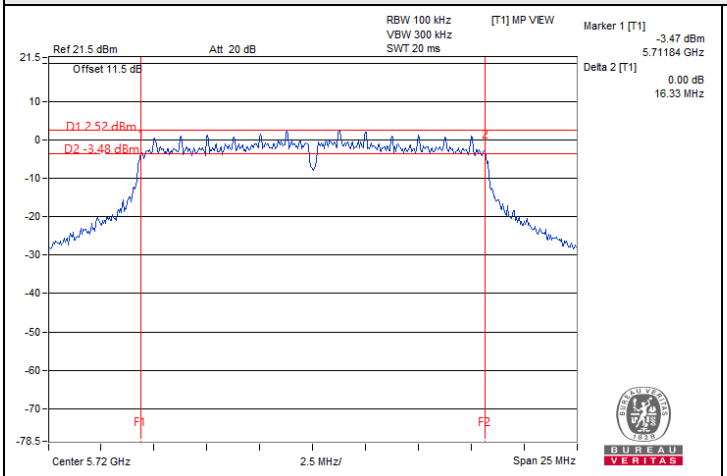
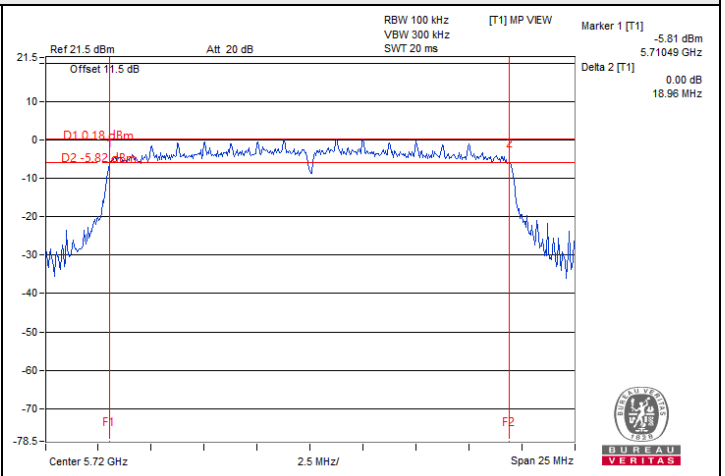
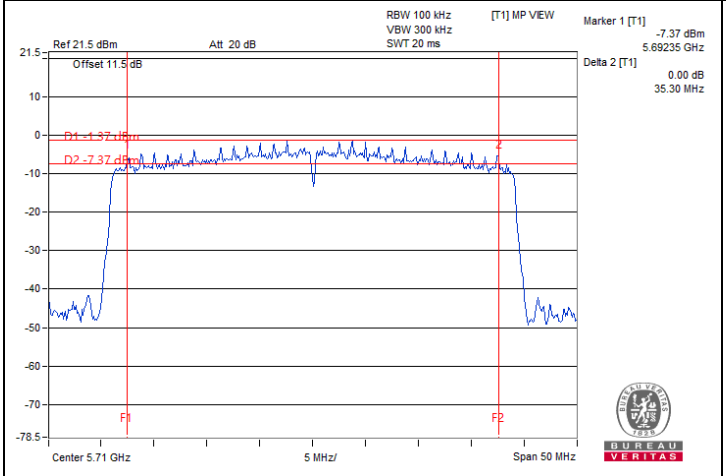
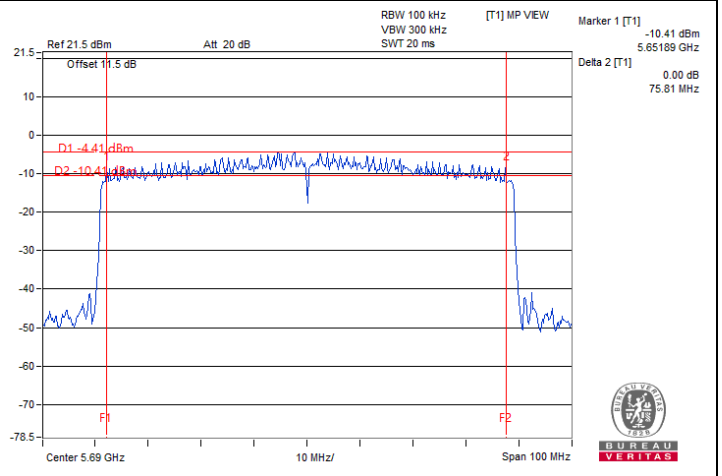
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
144 (U-NII-3)	5720	4.45	4.50	0.5	Pass
149	5745	18.94	18.87	0.5	Pass
157	5785	18.88	18.89	0.5	Pass
165	5825	18.93	18.78	0.5	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
142 (U-NII-3)	5710	2.66	2.65	0.5	Pass
151	5755	35.28	36.17	0.5	Pass
159	5795	35.26	35.25	0.5	Pass

802.11ax (HE80)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
138 (U-NII-3)	5690	2.70	3.47	0.5	Pass
155	5775	75.44	75.43	0.5	Pass

Spectrum Plot of Minimum Value	
	
802.11a / Chain 0 : CH 144 (U-NII-3)	802.11ax (HE20) / Chain 0 : CH 144 (U-NII-3)
	
802.11ax (HE40) / Chain 1 : CH 142 (U-NII-3)	802.11ax (HE80) / Chain 0 : CH 138 (U-NII-3)

Notes:

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

7.5 Occupied Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Waydi Tuan

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.28	17.40
40	5200	17.40	17.28
48	5240	17.40	17.40
52	5260	17.52	17.64
60	5300	17.52	17.40
64	5320	17.40	17.40
100	5500	17.40	17.40
116	5580	17.52	17.40
140	5700	17.40	17.40
144 (U-NII-2C)	5720	13.76	13.76
144 (U-NII-3)	5720	3.64	3.76
149	5745	17.40	17.52
157	5785	17.52	17.40
165	5825	17.28	17.40

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	19.08	19.20
40	5200	19.08	19.08
48	5240	19.08	19.20
52	5260	19.20	19.08
60	5300	19.20	19.20
64	5320	19.08	19.20
100	5500	19.08	19.20
116	5580	19.08	19.20
140	5700	19.20	19.08
144 (U-NII-2C)	5720	14.60	14.60
144 (U-NII-3)	5720	4.60	4.48
149	5745	19.08	19.08
157	5785	19.20	19.20
165	5825	19.20	19.08

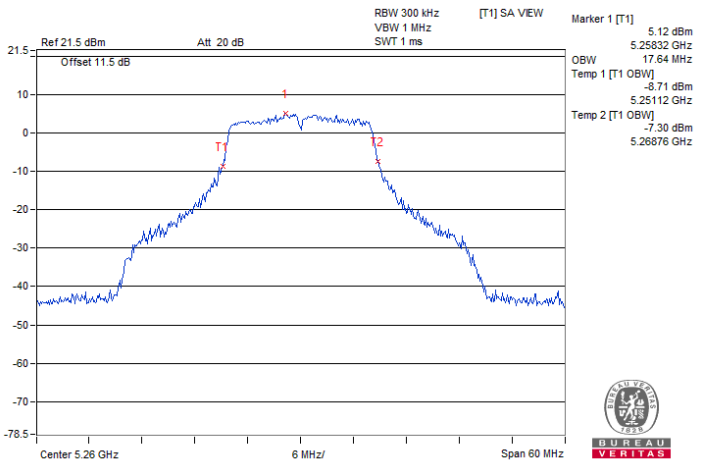
802.11ax (HE40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	37.68	37.68
46	5230	37.68	37.68
54	5270	37.68	37.68
62	5310	37.68	37.68
102	5510	37.68	37.68
110	5550	37.92	37.68
134	5670	37.68	37.92
142 (U-NII-2C)	5710	33.96	33.96
142 (U-NII-3)	5710	3.72	3.72
151	5755	37.68	37.68
159	5795	37.80	37.80

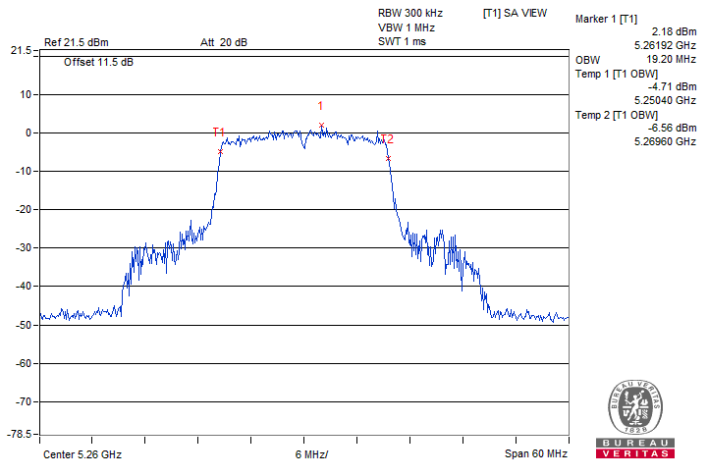
802.11ax (HE80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	76.80	76.80
58	5290	77.04	77.04
106	5530	76.80	76.80
122	5610	76.80	76.80
138 (U-NII-2C)	5690	73.40	73.40
138 (U-NII-3)	5690	3.40	3.40
155	5775	76.80	76.80

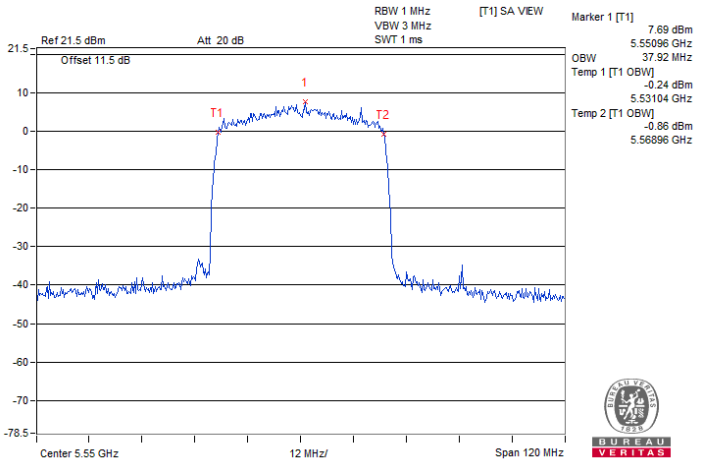
Spectrum Plot of Maximum Value



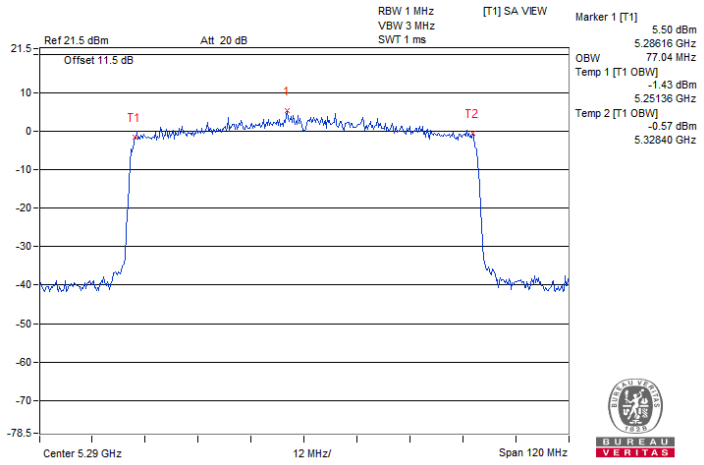
802.11a / Chain 1 : CH 52



802.11ax (HE20) / Chain 0 : CH 52



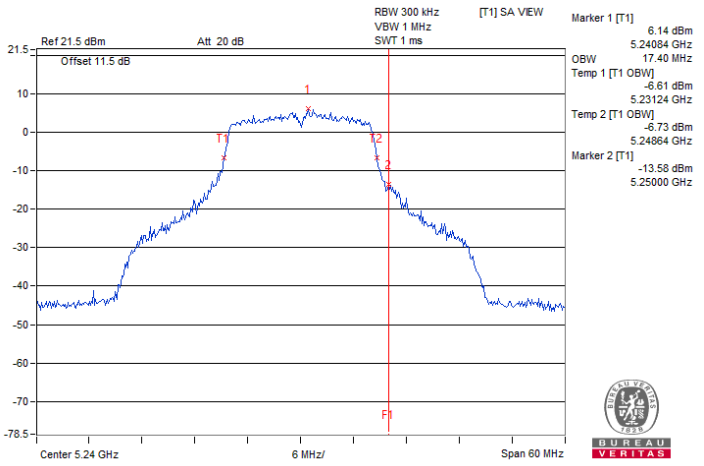
802.11ax (HE40) / Chain 0 : CH 110



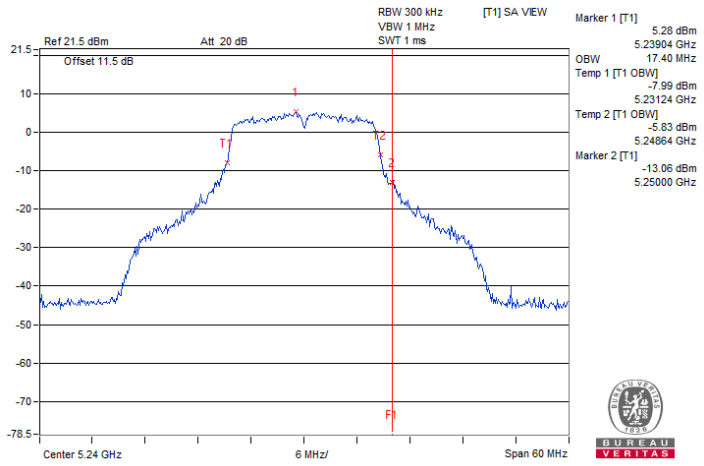
802.11ax (HE80) / Chain 0 : CH 58

Spectrum Plot for nearby DFS band

(DFS is required, if 99% OCP straddle into U-NII-2A)



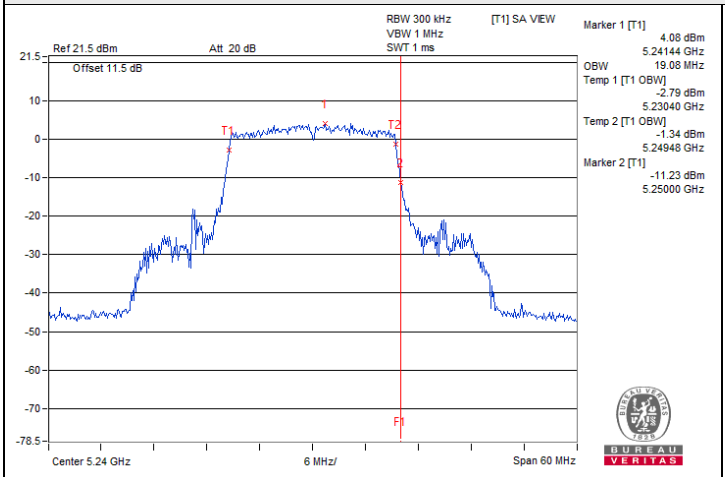
802.11a / Chain 0 : CH 48



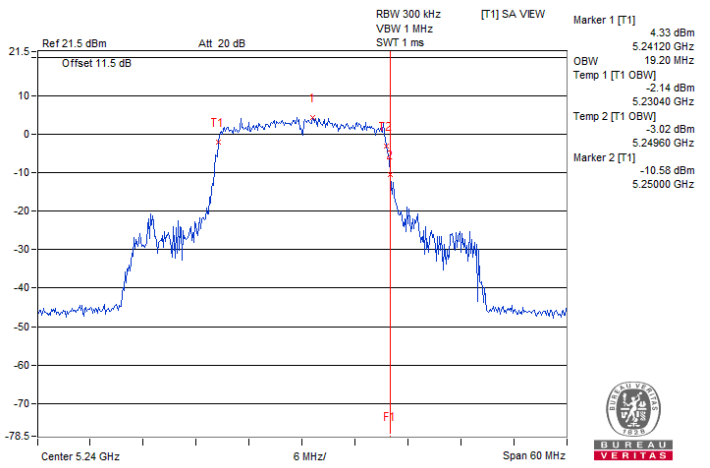
802.11a / Chain 1 : CH 48

Spectrum Plot for nearby DFS band

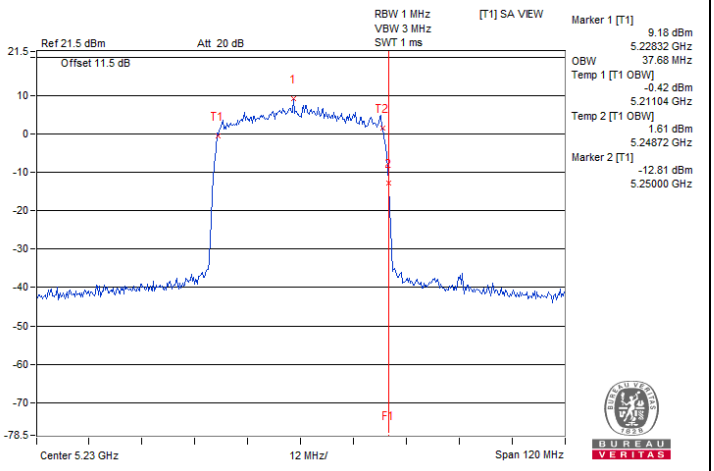
(DFS is required, if 99% OCP straddle into U-NII-2A)



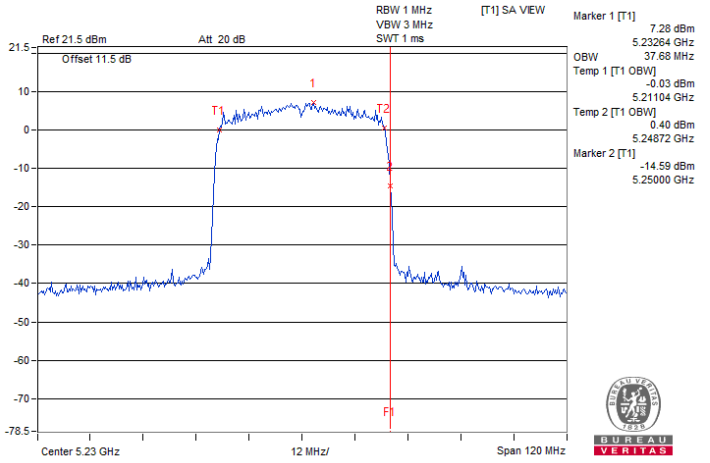
802.11ax (HE20) / Chain 0 : CH 48



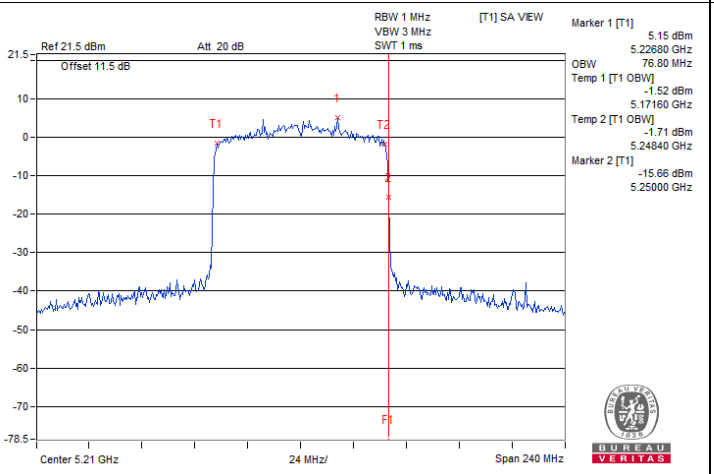
802.11ax (HE20) / Chain 1 : CH 48



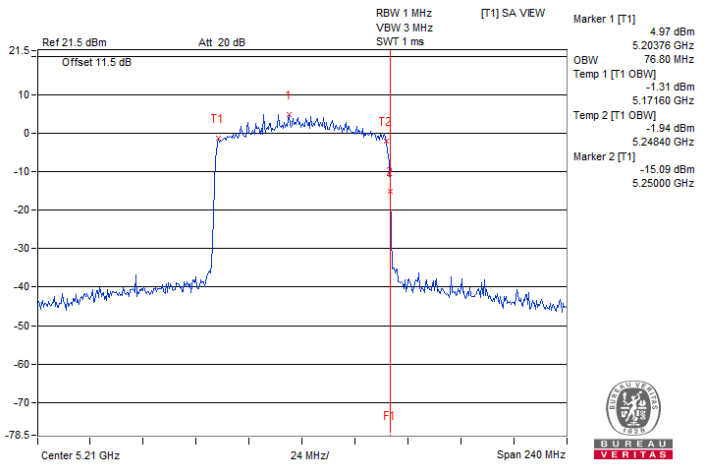
802.11ax (HE40) / Chain 0 : CH 46



802.11ax (HE40) / Chain 1 : CH 46



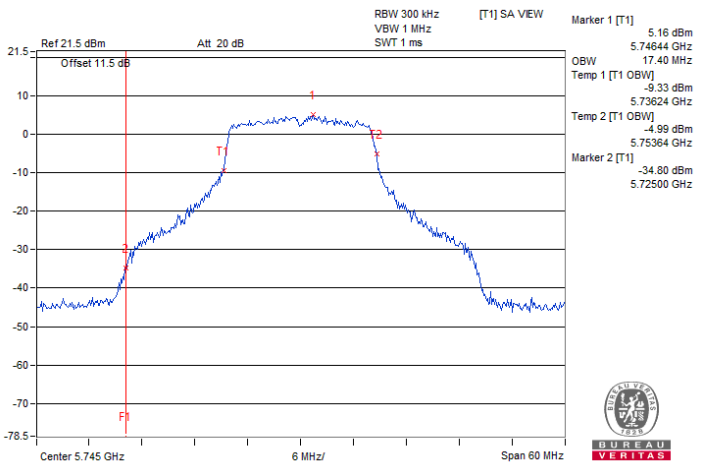
802.11ax (HE80) / Chain 0 : CH 42



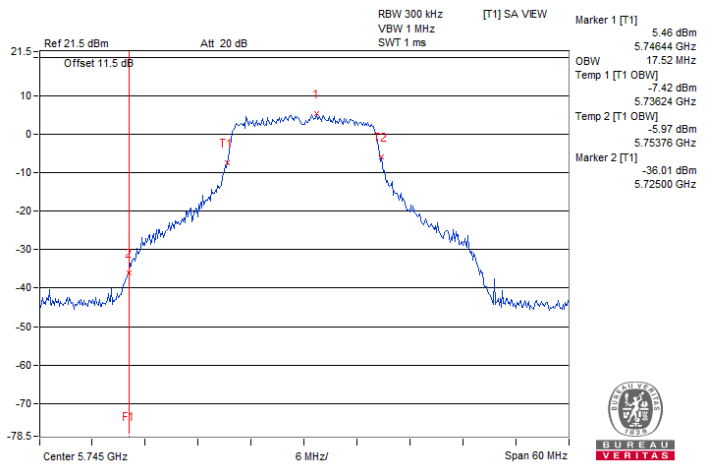
802.11ax (HE80) / Chain 1 : CH 42

Spectrum Plot for nearby DFS band

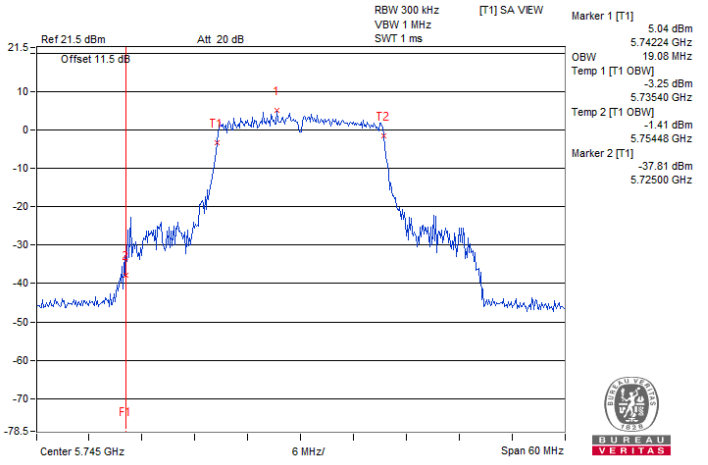
(DFS is required, if 99% OCP straddle into U-NII-2C)



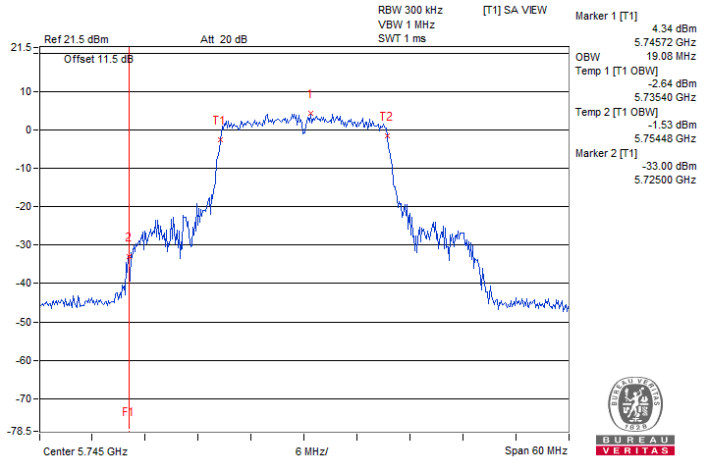
802.11a / Chain 0 : CH 149



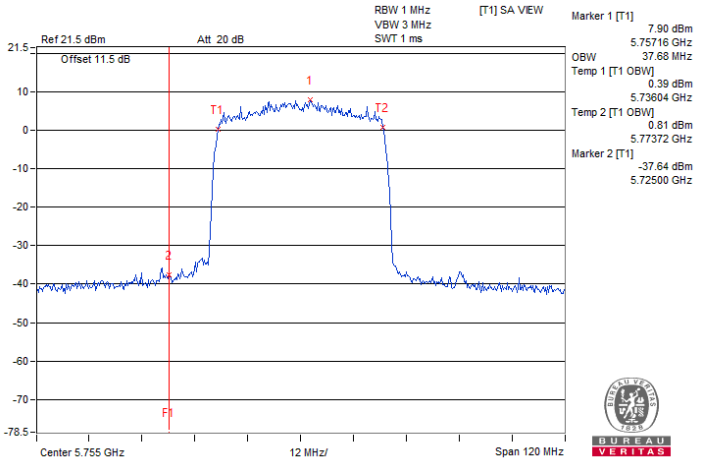
802.11a / Chain 1 : CH 149



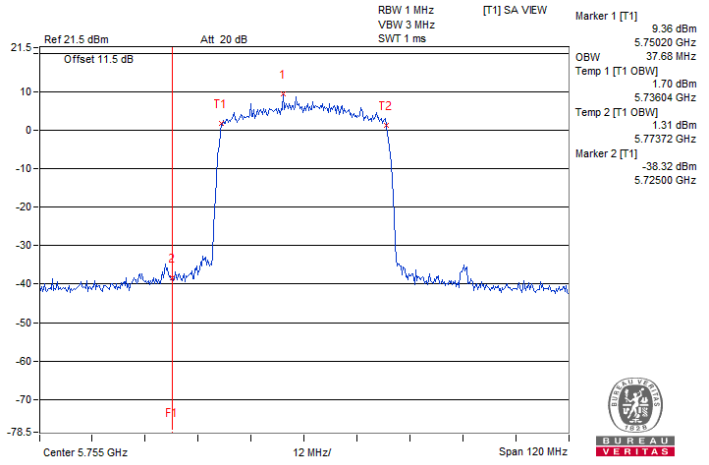
802.11ax (HE20) / Chain 0 : CH 149



802.11ax (HE20) / Chain 1 : CH 149



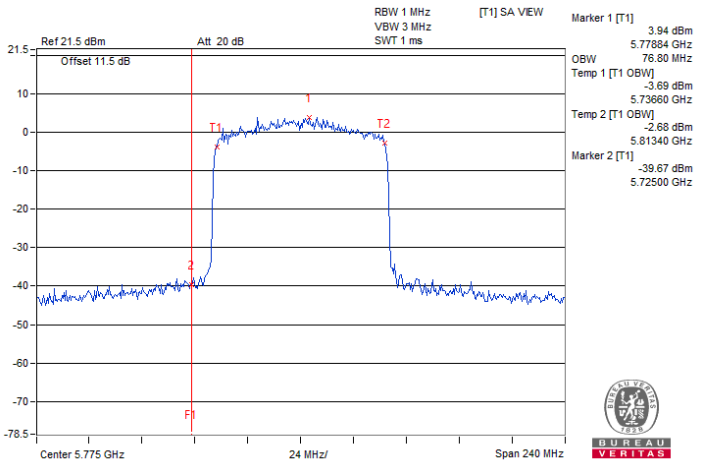
802.11ax (HE40) / Chain 0 : CH 151



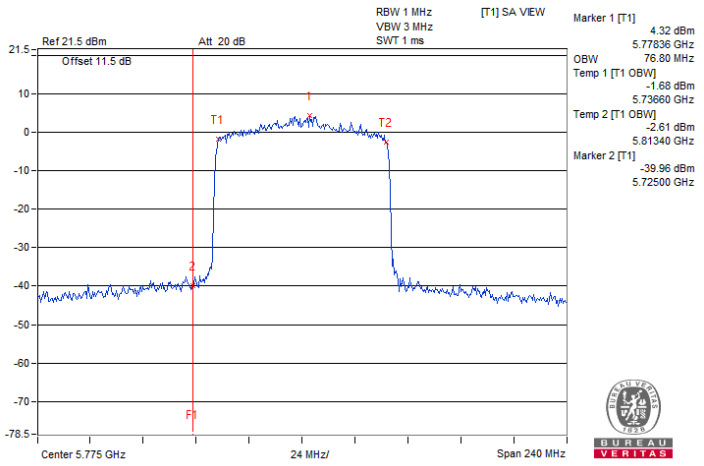
802.11ax (HE40) / Chain 1 : CH 151

Spectrum Plot for nearby DFS band

(DFS is required, if 99% OCP straddle into U-NII-2C)



802.11ax (HE80) / Chain 0 : CH 155



802.11ax (HE80) / Chain 1 : CH 155

7.6 Frequency Stability

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Waydi Tuan

802.11a

Frequency Stability Versus Temperature									
Operating Frequency: 5180 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	5	5180.0133	Pass	5180.0122	Pass	5180.0142	Pass	5180.0133	Pass
50	5	5179.9997	Pass	5180.0008	Pass	5179.999	Pass	5179.999	Pass
40	5	5179.9903	Pass	5179.993	Pass	5179.9914	Pass	5179.9927	Pass
30	5	5180.0167	Pass	5180.0185	Pass	5180.0171	Pass	5180.0175	Pass
20	5	5179.9818	Pass	5179.9815	Pass	5179.9809	Pass	5179.9776	Pass
10	5	5179.9743	Pass	5179.9765	Pass	5179.9738	Pass	5179.9744	Pass
0	5	5179.9943	Pass	5179.9947	Pass	5179.9961	Pass	5179.9931	Pass
-10	5	5179.9947	Pass	5179.9957	Pass	5179.9951	Pass	5179.9929	Pass
-20	5	5180.0035	Pass	5180.0003	Pass	5180.0023	Pass	5180.0017	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5180 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	5.75	5180.0156	Pass	5180.0113	Pass	5180.0114	Pass	5180.0112	Pass
	5	5180.0167	Pass	5180.0185	Pass	5180.0171	Pass	5180.0175	Pass
	4.25	5180.0124	Pass	5180.0117	Pass	5180.0124	Pass	5180.0103	Pass

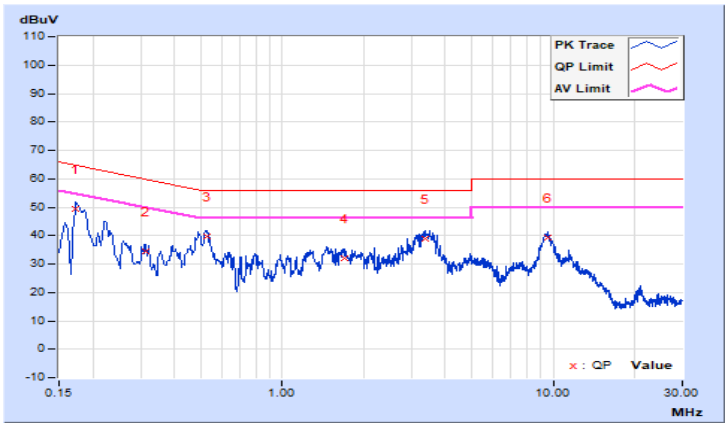
7.7 AC Power Conducted Emissions

RF Mode	802.11a	**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**	25°C, 67.2% RH
Tested By	Jed Wu		

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	0.17345	9.93	39.50	22.94	49.43	32.87	64.79	54.79	-15.36	-21.92
2	0.31418	9.94	24.65	16.65	34.59	26.59	59.86	49.86	-25.27	-23.27
3	**0.52683**	**9.95**	**29.56**	**22.87**	**39.51**	**32.82**	**56.00**	**46.00**	**-16.49**	**-13.18**
4	1.69615	10.01	21.89	16.86	31.90	26.87	56.00	46.00	-24.10	-19.13
5	3.38379	10.09	28.80	18.09	38.89	28.18	56.00	46.00	-17.11	-17.82
6	9.51099	10.36	28.91	24.40	39.27	34.76	60.00	50.00	-20.73	-15.24

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

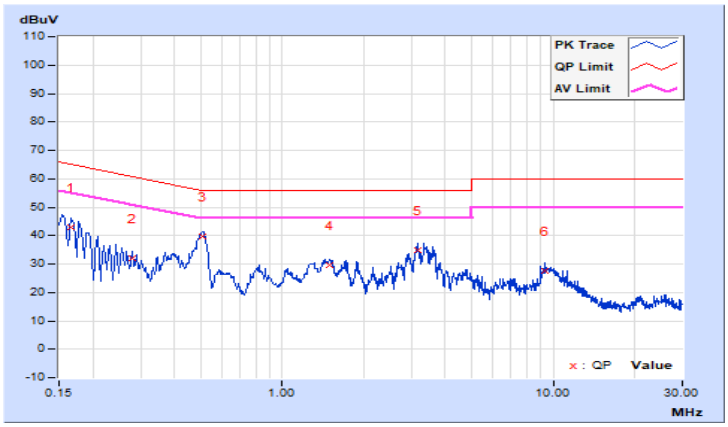


RF Mode	802.11a	**Channel**	CH 116：5580 MHz
Frequency Range	150 kHz ~ 30 MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 67.2% RH
Tested By	Jed Wu		

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	0.16564	9.94	33.07	19.16	43.01	29.10	65.18	55.18	-22.17	-26.08
2	0.27900	9.95	21.91	11.67	31.86	21.62	60.85	50.85	-28.99	-29.23
3	0.50508	9.97	29.64	22.21	39.61	32.18	56.00	46.00	-16.39	-13.82
4	1.49680	10.01	19.51	13.93	29.52	23.94	56.00	46.00	-26.48	-22.06
5	3.15706	10.09	24.68	15.04	34.77	25.13	56.00	46.00	-21.23	-20.87
6	9.27254	10.34	17.19	11.91	27.53	22.25	60.00	50.00	-32.47	-27.75

Remarks:

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



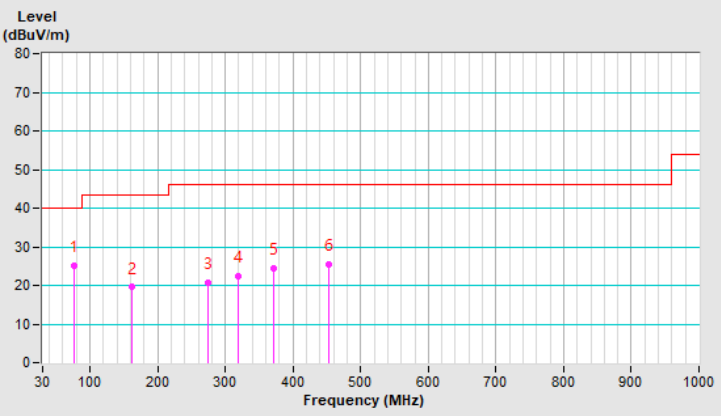
7.8 Unwanted Emissions below 1 GHz

RF Mode	802.11a	**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**	29°C, 62% RH
Tested By	Jed Wu		

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	**75.69**	**25.2 QP**	**40.0**	**-14.8**	**1.78 H**	**185**	**37.4**	**-12.2**
2	161.29	19.5 QP	43.5	-24.0	1.41 H	125	27.7	-8.2
3	273.95	20.6 QP	46.0	-25.4	1.52 H	172	27.2	-6.6
4	318.62	22.5 QP	46.0	-23.5	1.86 H	244	27.9	-5.4
5	371.25	24.4 QP	46.0	-21.6	1.93 H	304	28.7	-4.3
6	452.14	25.5 QP	46.0	-20.5	1.62 H	19	27.8	-2.3

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.

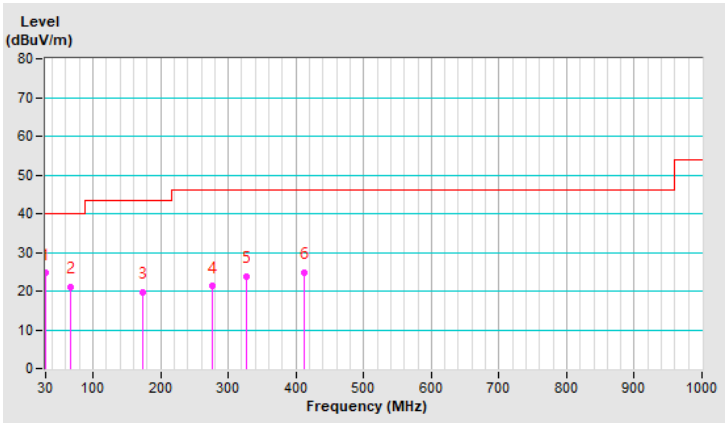


RF Mode	802.11a	**Channel**	CH 116：5580 MHz
Frequency Range	9 kHz ~ 1 GHz	**Detector Function & Bandwidth**	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	29°C, 62% RH
Tested By	Jed Wu		

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	30.58	24.6 QP	40.0	-15.4	1.30 V	358	35.3	-10.7
2	66.42	21.0 QP	40.0	-19.0	1.24 V	269	30.9	-9.9
3	173.27	19.7 QP	43.5	-23.8	1.69 V	168	28.3	-8.6
4	275.94	21.2 QP	46.0	-24.8	1.57 V	322	27.7	-6.5
5	326.82	23.8 QP	46.0	-22.2	1.84 V	33	28.9	-5.1
6	412.08	24.7 QP	46.0	-21.3	1.73 V	110	28.1	-3.4

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 of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



7.9 Unwanted Emissions above 1 GHz

RF Mode	802.11a	**Channel**	CH 36：5180 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	29°C, 62% RH
Tested By	Jed Wu		

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	60.1 PK	74.0	-13.9	1.10 H	108	52.4	7.7
2	5150.00	48.9 AV	54.0	-5.1	1.10 H	108	41.2	7.7
3	*5180.00	103.6 PK			1.10 H	108	96.0	7.6
4	*5180.00	95.3 AV			1.10 H	108	87.7	7.6
5	#10360.00	60.8 PK	68.2	-7.4	1.02 H	33	45.4	15.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	5150.00	61.6 PK	74.0	-12.4	1.37 V	178	53.9	7.7
2	5150.00	50.5 AV	54.0	-3.5	1.37 V	178	42.8	7.7
3	*5180.00	110.6 PK			1.37 V	178	103.0	7.6
4	*5180.00	102.9 AV			1.37 V	178	95.3	7.6
5	#10360.00	63.1 PK	68.2	-5.1	3.85 V	294	47.7	15.4

Remarks:

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

RF Mode	802.11a	Channel	CH 40：5200 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	103.3 PK			1.08 H	110	95.8	7.5
2	*5200.00	95.0 AV			1.08 H	110	87.5	7.5
3	#10400.00	60.7 PK	68.2	-7.5	1.00 H	35	45.2	15.5
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	*5200.00	110.3 PK			1.35 V	180	102.8	7.5
2	*5200.00	102.7 AV			1.35 V	180	95.2	7.5
3	#10400.00	63.0 PK	68.2	-5.2	3.83 V	296	47.5	15.5

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 48：5240 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	104.4 PK			1.41 H	111	96.6	7.8
2	*5240.00	96.5 AV			1.41 H	111	88.7	7.8
3	5350.00	60.2 PK	74.0	-13.8	1.41 H	111	51.6	8.6
4	5350.00	49.1 AV	54.0	-4.9	1.41 H	111	40.5	8.6
5	#10480.00	61.8 PK	68.2	-6.4	1.33 H	36	45.9	15.9
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	*5240.00	111.3 PK			1.68 V	181	103.5	7.8
2	*5240.00	103.2 AV			1.68 V	181	95.4	7.8
3	5350.00	60.5 PK	74.0	-13.5	1.68 V	181	51.9	8.6
4	5350.00	49.3 AV	54.0	-4.7	1.68 V	181	40.7	8.6
5	#10480.00	64.1 PK	68.2	-4.1	3.54 V	297	48.2	15.9

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 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	29°C, 62% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.3 PK	74.0	-14.7	1.16 H	104	51.6	7.7
2	5150.00	48.2 AV	54.0	-5.8	1.16 H	104	40.5	7.7
3	*5260.00	104.7 PK			1.16 H	104	96.8	7.9
4	*5260.00	97.1 AV			1.16 H	104	89.2	7.9
5	#10520.00	62.4 PK	68.2	-5.8	1.01 H	88	46.5	15.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.7 PK	74.0	-14.3	1.43 V	174	52.0	7.7
2	5150.00	48.5 AV	54.0	-5.5	1.43 V	174	40.8	7.7
3	*5260.00	111.6 PK			1.43 V	174	103.7	7.9
4	*5260.00	103.1 AV			1.43 V	174	95.2	7.9
5	#10520.00	64.7 PK	68.2	-3.5	3.86 V	349	48.8	15.9

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 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	29°C, 62% RH
Tested By	Jed Wu		

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	105.3 PK			2.05 H	268	97.1	8.2
2	*5300.00	97.7 AV			2.05 H	268	89.5	8.2
3	10600.00	60.3 PK	74.0	-13.7	1.00 H	142	44.2	16.1
4	10600.00	48.7 AV	54.0	-5.3	1.00 H	142	32.6	16.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	112.4 PK			2.32 V	10	104.2	8.2
2	*5300.00	104.5 AV			2.32 V	10	96.3	8.2
3	10600.00	62.6 PK	74.0	-11.4	3.85 V	295	46.5	16.1
4	10600.00	51.0 AV	54.0	-3.0	3.85 V	295	34.9	16.1

Remarks:

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

RF Mode	802.11a	Channel	CH 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	29°C, 62% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	105.9 PK			1.33 H	275	97.5	8.4
2	*5320.00	98.1 AV			1.33 H	275	89.7	8.4
3	5350.00	60.7 PK	74.0	-13.3	1.33 H	275	52.1	8.6
4	5350.00	49.9 AV	54.0	-4.1	1.33 H	275	41.3	8.6
5	10640.00	61.5 PK	74.0	-12.5	3.76 H	248	45.4	16.1
6	10640.00	50.0 AV	54.0	-4.0	3.76 H	248	33.9	16.1
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	*5320.00	112.8 PK			1.06 V	3	104.4	8.4
2	*5320.00	104.6 AV			1.06 V	3	96.2	8.4
3	5350.00	61.8 PK	74.0	-12.2	1.06 V	3	53.2	8.6
4	5350.00	51.2 AV	54.0	-2.8	1.06 V	3	42.6	8.6
5	10640.00	63.8 PK	74.0	-10.2	3.76 V	2	47.7	16.1
6	10640.00	52.3 AV	54.0	-1.7	3.76 V	2	36.2	16.1

Remarks:

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

RF Mode	802.11a	Channel	CH 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	29°C, 62% RH
Tested By	Jed Wu		

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	61.5 PK	74.0	-12.5	1.32 H	110	52.8	8.7
2	5460.00	50.8 AV	54.0	-3.2	1.32 H	110	42.1	8.7
3	#5470.00	61.3 PK	68.2	-6.9	1.32 H	110	52.6	8.7
4	*5500.00	104.1 PK			1.32 H	110	95.2	8.9
5	*5500.00	96.2 AV			1.32 H	110	87.3	8.9
6	11000.00	53.4 PK	74.0	-20.6	1.06 H	291	36.5	16.9
7	11000.00	43.2 AV	54.0	-10.8	1.06 H	291	26.3	16.9
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	64.6 PK	74.0	-9.4	1.59 V	180	55.9	8.7
2	5460.00	53.0 AV	54.0	-1.0	1.59 V	180	44.3	8.7
3	#5470.00	63.7 PK	68.2	-4.5	1.59 V	180	55.0	8.7
4	*5500.00	110.7 PK			1.59 V	180	101.8	8.9
5	*5500.00	102.2 AV			1.59 V	180	93.3	8.9
6	11000.00	55.7 PK	74.0	-18.3	3.81 V	146	38.8	16.9
7	11000.00	44.4 AV	54.0	-9.6	3.81 V	146	27.5	16.9

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	29°C, 62% RH
Tested By	Jed Wu		

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	105.0 PK			1.55 H	275	96.4	8.6
2	*5580.00	98.4 AV			1.55 H	275	89.8	8.6
3	11160.00	54.6 PK	74.0	-19.4	1.29 H	126	37.6	17.0
4	11160.00	44.1 AV	54.0	-9.9	1.29 H	126	27.1	17.0
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	*5580.00	111.9 PK			1.36 V	15	103.3	8.6
2	*5580.00	104.5 AV			1.36 V	15	95.9	8.6
3	11160.00	56.7 PK	74.0	-17.3	3.98 V	117	39.7	17.0
4	11160.00	46.4 AV	54.0	-7.6	3.98 V	117	29.4	17.0

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	802.11a	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	29°C, 62% RH
Tested By	Jed Wu		

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	107.2 PK			1.38 H	112	99.2	8.0
2	*5700.00	100.0 AV			1.38 H	112	92.0	8.0
3	#5725.00	63.4 PK	68.2	-4.8	1.38 H	112	55.4	8.0
4	11400.00	56.4 PK	74.0	-17.6	1.12 H	293	38.8	17.6
5	11400.00	45.5 AV	54.0	-8.5	1.12 H	293	27.9	17.6
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	*5700.00	113.8 PK			1.53 V	182	105.8	8.0
2	*5700.00	105.6 AV			1.53 V	182	97.6	8.0
3	#5725.00	67.9 PK	68.2	-0.3	1.53 V	182	59.9	8.0
4	11400.00	58.7 PK	74.0	-15.3	3.88 V	17	41.1	17.6
5	11400.00	47.8 AV	54.0	-6.2	3.88 V	17	30.2	17.6

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	802.11a	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	29°C, 62% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	58.7 PK	68.2	-9.5	2.70 H	274	50.0	8.7
2	*5720.00	106.5 PK			2.70 H	274	98.5	8.0
3	*5720.00	98.4 AV			2.70 H	274	90.4	8.0
4	11440.00	55.9 PK	74.0	-18.1	3.31 H	236	38.5	17.4
5	11440.00	44.7 AV	54.0	-9.3	3.31 H	236	27.3	17.4
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	#5470.00	60.1 PK	68.2	-8.1	1.52 V	182	51.4	8.7
2	*5720.00	113.6 PK			1.52 V	182	105.6	8.0
3	*5720.00	105.7 AV			1.52 V	182	97.7	8.0
4	11440.00	58.5 PK	74.0	-15.5	2.58 V	180	41.1	17.4
5	11440.00	47.6 AV	54.0	-6.4	2.58 V	180	30.2	17.4

Remarks:

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

RF Mode	802.11a	Channel	CH 149：5745 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

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	#5644.52	59.7 PK	68.2	-8.5	2.48 H	273	51.7	8.0
2	*5745.00	106.5 PK			2.48 H	273	98.6	7.9
3	*5745.00	99.2 AV			2.48 H	273	91.3	7.9
4	#6010.27	59.9 PK	68.2	-8.3	2.48 H	273	51.5	8.4
5	11490.00	54.9 PK	74.0	-19.1	3.09 H	235	38.0	16.9
6	11490.00	43.8 AV	54.0	-10.2	3.09 H	235	26.9	16.9
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	#5642.15	61.0 PK	68.2	-7.2	1.30 V	182	53.0	8.0
2	*5745.00	113.4 PK			1.30 V	182	105.5	7.9
3	*5745.00	105.8 AV			1.30 V	182	97.9	7.9
4	#5999.35	60.0 PK	68.2	-8.2	1.30 V	182	51.8	8.2
5	11490.00	55.5 PK	74.0	-18.5	2.36 V	180	38.6	16.9
6	11490.00	44.4 AV	54.0	-9.6	2.36 V	180	27.5	16.9

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 157：5785 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

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	#5644.52	59.6 PK	68.2	-8.6	2.49 H	270	51.6	8.0
2	*5785.00	107.8 PK			2.49 H	270	99.9	7.9
3	*5785.00	99.9 AV			2.49 H	270	92.0	7.9
4	#5943.30	60.0 PK	68.2	-8.2	2.49 H	270	51.8	8.2
5	11570.00	55.7 PK	74.0	-18.3	3.10 H	232	38.3	17.4
6	11570.00	44.6 AV	54.0	-9.4	3.10 H	232	27.2	17.4
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	#5601.77	59.6 PK	68.2	-8.6	1.29 V	185	51.2	8.4
2	*5785.00	114.4 PK			1.29 V	185	106.5	7.9
3	*5785.00	106.5 AV			1.29 V	185	98.6	7.9
4	#6016.93	60.3 PK	68.2	-7.9	1.29 V	185	51.9	8.4
5	11570.00	56.3 PK	74.0	-17.7	2.35 V	183	38.9	17.4
6	11570.00	45.2 AV	54.0	-8.8	2.35 V	183	27.8	17.4

Remarks:

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

RF Mode	802.11a	Channel	CH 165：5825 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

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	#5635.50	59.2 PK	68.2	-9.0	2.46 H	276	51.0	8.2
2	*5825.00	107.5 PK			2.46 H	276	99.6	7.9
3	*5825.00	99.6 AV			2.46 H	276	91.7	7.9
4	#5982.25	60.2 PK	68.2	-8.0	2.46 H	276	51.9	8.3
5	11650.00	56.4 PK	74.0	-17.6	3.07 H	238	38.6	17.8
6	11650.00	45.3 AV	54.0	-8.7	3.07 H	238	27.5	17.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5602.73	59.1 PK	68.2	-9.1	1.28 V	185	50.7	8.4
2	*5825.00	114.0 PK			1.28 V	185	106.1	7.9
3	*5825.00	105.9 AV			1.28 V	185	98.0	7.9
4	#5987.95	60.2 PK	68.2	-8.0	1.28 V	185	51.9	8.3
5	11650.00	57.0 PK	74.0	-17.0	2.38 V	177	39.2	17.8
6	11650.00	45.9 AV	54.0	-8.1	2.38 V	177	28.1	17.8

Remarks:

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

RF Mode	802.11ax (HE20)	Channel	CH 36：5180 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.2 PK	74.0	-14.8	1.42 H	110	51.5	7.7
2	5150.00	49.6 AV	54.0	-4.4	1.42 H	110	41.9	7.7
3	*5180.00	103.0 PK			1.42 H	110	95.4	7.6
4	*5180.00	92.9 AV			1.42 H	110	85.3	7.6
5	#10360.00	58.3 PK	68.2	-9.9	1.03 H	34	42.9	15.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.9 PK	74.0	-14.1	1.69 V	180	52.2	7.7
2	5150.00	50.3 AV	54.0	-3.7	1.69 V	180	42.6	7.7
3	*5180.00	110.0 PK			1.69 V	180	102.4	7.6
4	*5180.00	99.4 AV			1.69 V	180	91.8	7.6
5	#10360.00	60.6 PK	68.2	-7.6	3.84 V	295	45.2	15.4

Remarks:

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

RF Mode	802.11ax (HE20)	Channel	CH 40：5200 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	103.2 PK			1.42 H	107	95.7	7.5
2	*5200.00	94.9 AV			1.42 H	107	87.4	7.5
3	#10400.00	58.7 PK	68.2	-9.5	1.34 H	34	43.2	15.5
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	*5200.00	110.2 PK			1.69 V	178	102.7	7.5
2	*5200.00	100.1 AV			1.69 V	178	92.6	7.5
3	#10400.00	61.0 PK	68.2	-7.2	3.83 V	297	45.5	15.5

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 48：5240 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	104.7 PK			2.31 H	281	96.9	7.8
2	*5240.00	94.3 AV			2.31 H	281	86.5	7.8
3	5350.00	59.2 PK	74.0	-14.8	2.31 H	281	50.6	8.6
4	5350.00	49.7 AV	54.0	-4.3	2.31 H	281	41.1	8.6
5	#10480.00	59.3 PK	68.2	-8.9	1.12 H	32	43.4	15.9
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	*5240.00	111.3 PK			2.58 V	5	103.5	7.8
2	*5240.00	101.0 AV			2.58 V	5	93.2	7.8
3	5350.00	59.6 PK	74.0	-14.4	2.58 V	5	51.0	8.6
4	5350.00	50.1 AV	54.0	-3.9	2.58 V	5	41.5	8.6
5	#10480.00	61.6 PK	68.2	-6.6	3.95 V	294	45.7	15.9

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 52：5260 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.9 PK	74.0	-14.1	1.15 H	114	52.2	7.7
2	5150.00	50.1 AV	54.0	-3.9	1.15 H	114	42.4	7.7
3	*5260.00	105.0 PK			1.15 H	114	97.1	7.9
4	*5260.00	94.7 AV			1.15 H	114	86.8	7.9
5	#10520.00	58.2 PK	68.2	-10.0	1.02 H	98	42.3	15.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	60.8 PK	74.0	-13.2	1.43 V	184	53.1	7.7
2	5150.00	50.5 AV	54.0	-3.5	1.43 V	184	42.8	7.7
3	*5260.00	111.8 PK			1.43 V	184	103.9	7.9
4	*5260.00	101.6 AV			1.43 V	184	93.7	7.9
5	#10520.00	60.5 PK	68.2	-7.7	3.87 V	118	44.6	15.9

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 60：5300 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

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	105.4 PK			1.07 H	116	97.2	8.2
2	*5300.00	95.1 AV			1.07 H	116	86.9	8.2
3	10600.00	56.4 PK	74.0	-17.6	1.10 H	100	40.3	16.1
4	10600.00	46.2 AV	54.0	-7.8	1.10 H	100	30.1	16.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	112.3 PK			1.35 V	186	104.1	8.2
2	*5300.00	101.8 AV			1.35 V	186	93.6	8.2
3	10600.00	58.7 PK	74.0	-15.3	3.97 V	68	42.6	16.1
4	10600.00	48.5 AV	54.0	-5.5	3.97 V	68	32.4	16.1

Remarks:

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

RF Mode	802.11ax (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 = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	105.1 PK			1.14 H	105	96.7	8.4
2	*5320.00	94.3 AV			1.14 H	105	85.9	8.4
3	5350.00	60.7 PK	74.0	-13.3	1.14 H	105	52.1	8.6
4	5350.00	50.9 AV	54.0	-3.1	1.14 H	105	42.3	8.6
5	10640.00	55.9 PK	74.0	-18.1	1.03 H	89	39.8	16.1
6	10640.00	46.4 AV	54.0	-7.6	1.03 H	89	30.3	16.1
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	*5320.00	111.8 PK			1.42 V	175	103.4	8.4
2	*5320.00	101.3 AV			1.42 V	175	92.9	8.4
3	5350.00	63.1 PK	74.0	-10.9	1.42 V	175	54.5	8.6
4	5350.00	53.4 AV	54.0	-0.6	1.42 V	175	44.8	8.6
5	10640.00	58.2 PK	74.0	-15.8	3.87 V	135	42.1	16.1
6	10640.00	48.7 AV	54.0	-5.3	3.87 V	135	32.6	16.1

Remarks:

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

RF Mode	802.11ax (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 = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

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	60.9 PK	74.0	-13.1	1.40 H	114	52.2	8.7
2	5460.00	51.5 AV	54.0	-2.5	1.40 H	114	42.8	8.7
3	#5470.00	62.2 PK	68.2	-6.0	1.40 H	114	53.5	8.7
4	*5500.00	104.7 PK			1.40 H	114	95.8	8.9
5	*5500.00	94.4 AV			1.40 H	114	85.5	8.9
6	11000.00	52.1 PK	74.0	-21.9	1.14 H	295	35.2	16.9
7	11000.00	43.4 AV	54.0	-10.6	1.14 H	295	26.5	16.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	62.5 PK	74.0	-11.5	1.51 V	184	53.8	8.7
2	5460.00	53.0 AV	54.0	-1.0	1.51 V	184	44.3	8.7
3	#5470.00	63.0 PK	68.2	-5.2	1.51 V	184	54.3	8.7
4	*5500.00	111.3 PK			1.51 V	184	102.4	8.9
5	*5500.00	100.7 AV			1.51 V	184	91.8	8.9
6	11000.00	54.4 PK	74.0	-19.6	3.73 V	150	37.5	16.9
7	11000.00	45.2 AV	54.0	-8.8	3.73 V	150	28.3	16.9

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 = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

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	106.7 PK			1.50 H	113	98.1	8.6
2	*5580.00	98.8 AV			1.50 H	113	90.2	8.6
3	11160.00	53.3 PK	74.0	-20.7	1.24 H	294	36.3	17.0
4	11160.00	43.3 AV	54.0	-10.7	1.24 H	294	26.3	17.0
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	*5580.00	113.3 PK			1.41 V	177	104.7	8.6
2	*5580.00	103.2 AV			1.41 V	177	94.6	8.6
3	11160.00	55.6 PK	74.0	-18.4	3.63 V	143	38.6	17.0
4	11160.00	45.5 AV	54.0	-8.5	3.63 V	143	28.5	17.0

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 (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 = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	106.6 PK			1.33 H	109	98.6	8.0
2	*5700.00	97.1 AV			1.33 H	109	89.1	8.0
3	#5725.00	60.1 PK	68.2	-8.1	1.33 H	109	52.1	8.0
4	11400.00	54.4 PK	74.0	-19.6	1.07 H	292	36.8	17.6
5	11400.00	44.8 AV	54.0	-9.2	1.07 H	292	27.2	17.6
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	*5700.00	112.9 PK			1.60 V	179	104.9	8.0
2	*5700.00	102.4 AV			1.60 V	179	94.4	8.0
3	#5725.00	64.0 PK	68.2	-4.2	1.60 V	179	56.0	8.0
4	11400.00	56.7 PK	74.0	-17.3	3.77 V	152	39.1	17.6
5	11400.00	47.1 AV	54.0	-6.9	3.77 V	152	29.5	17.6

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 (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 = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

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	59.5 PK	68.2	-8.7	2.69 H	270	50.8	8.7
2	*5720.00	105.9 PK			2.69 H	270	97.9	8.0
3	*5720.00	95.9 AV			2.69 H	270	87.9	8.0
4	11440.00	55.6 PK	74.0	-18.4	3.30 H	232	38.2	17.4
5	11440.00	44.4 AV	54.0	-9.6	3.30 H	232	27.0	17.4
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	#5470.00	60.0 PK	68.2	-8.2	1.52 V	178	51.3	8.7
2	*5720.00	113.4 PK			1.52 V	178	105.4	8.0
3	*5720.00	103.5 AV			1.52 V	178	95.5	8.0
4	11440.00	58.3 PK	74.0	-15.7	2.57 V	184	40.9	17.4
5	11440.00	47.4 AV	54.0	-6.6	2.57 V	184	30.0	17.4

Remarks:

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

RF Mode	802.11ax (HE20)	Channel	CH 149：5745 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

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	#5576.12	58.9 PK	68.2	-9.3	2.69 H	280	50.3	8.6
2	*5745.00	106.8 PK			2.69 H	280	98.9	7.9
3	*5745.00	96.5 AV			2.69 H	280	88.6	7.9
4	#5942.82	59.8 PK	68.2	-8.4	2.69 H	280	51.6	8.2
5	11490.00	54.7 PK	74.0	-19.3	3.30 H	242	37.8	16.9
6	11490.00	43.6 AV	54.0	-10.4	3.30 H	242	26.7	16.9
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	#5559.02	60.3 PK	68.2	-7.9	1.51 V	175	51.7	8.6
2	*5745.00	113.2 PK			1.51 V	175	105.3	7.9
3	*5745.00	103.0 AV			1.51 V	175	95.1	7.9
4	#5952.32	59.8 PK	68.2	-8.4	1.51 V	175	51.6	8.2
5	11490.00	55.3 PK	74.0	-18.7	2.57 V	187	38.4	16.9
6	11490.00	44.2 AV	54.0	-9.8	2.57 V	187	27.3	16.9

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 157：5785 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

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	#5569.95	59.2 PK	68.2	-9.0	2.49 H	276	50.7	8.5
2	*5785.00	106.4 PK			2.49 H	276	98.5	7.9
3	*5785.00	96.3 AV			2.49 H	276	88.4	7.9
4	#6015.02	59.6 PK	68.2	-8.6	2.49 H	276	51.2	8.4
5	11570.00	55.2 PK	74.0	-18.8	3.08 H	233	37.8	17.4
6	11570.00	43.7 AV	54.0	-10.3	3.08 H	233	26.3	17.4
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	#5637.87	59.3 PK	68.2	-8.9	1.29 V	179	51.1	8.2
2	*5785.00	113.1 PK			1.29 V	179	105.2	7.9
3	*5785.00	102.9 AV			1.29 V	179	95.0	7.9
4	#5953.75	59.8 PK	68.2	-8.4	1.29 V	179	51.6	8.2
5	11570.00	55.8 PK	74.0	-18.2	2.37 V	177	38.4	17.4
6	11570.00	44.5 AV	54.0	-9.5	2.37 V	177	27.1	17.4

Remarks:

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

RF Mode	802.11ax (HE20)	Channel	CH 165：5825 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5600.35	58.9 PK	68.2	-9.3	2.50 H	271	50.5	8.4
2	*5825.00	106.6 PK			2.50 H	271	98.7	7.9
3	*5825.00	96.8 AV			2.50 H	271	88.9	7.9
4	#5966.57	60.0 PK	68.2	-8.2	2.50 H	271	51.8	8.2
5	11650.00	56.0 PK	74.0	-18.0	3.11 H	237	38.2	17.8
6	11650.00	44.9 AV	54.0	-9.1	3.11 H	237	27.1	17.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5574.70	59.2 PK	68.2	-9.0	1.28 V	180	50.6	8.6
2	*5825.00	113.4 PK			1.28 V	180	105.5	7.9
3	*5825.00	103.9 AV			1.28 V	180	96.0	7.9
4	#6009.80	60.4 PK	68.2	-7.8	1.28 V	180	52.0	8.4
5	11650.00	56.6 PK	74.0	-17.4	2.34 V	178	38.8	17.8
6	11650.00	45.5 AV	54.0	-8.5	2.34 V	178	27.7	17.8

Remarks:

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

RF Mode	802.11ax (HE40)	Channel	CH 38：5190 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.8 PK	74.0	-14.2	1.11 H	106	52.1	7.7
2	5150.00	50.4 AV	54.0	-3.6	1.11 H	106	42.7	7.7
3	*5190.00	101.7 PK			1.11 H	106	94.1	7.6
4	*5190.00	92.0 AV			1.11 H	106	84.4	7.6
5	#10380.00	55.8 PK	68.2	-12.4	1.12 H	34	40.3	15.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	61.1 PK	74.0	-12.9	1.36 V	176	53.4	7.7
2	5150.00	51.0 AV	54.0	-3.0	1.36 V	176	43.3	7.7
3	*5190.00	108.3 PK			1.36 V	176	100.7	7.6
4	*5190.00	98.0 AV			1.36 V	176	90.4	7.6
5	#10380.00	57.6 PK	68.2	-10.6	3.95 V	294	42.1	15.5

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 46：5230 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5230.00	102.0 PK			1.40 H	109	94.3	7.7
2	*5230.00	91.8 AV			1.40 H	109	84.1	7.7
3	5350.00	59.1 PK	74.0	-14.9	1.40 H	109	50.5	8.6
4	5350.00	50.3 AV	54.0	-3.7	1.40 H	109	41.7	8.6
5	#10460.00	56.4 PK	68.2	-11.8	1.32 H	32	40.5	15.9
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	*5230.00	108.6 PK			1.67 V	179	100.9	7.7
2	*5230.00	98.7 AV			1.67 V	179	91.0	7.7
3	5350.00	59.9 PK	74.0	-14.1	1.67 V	179	51.3	8.6
4	5350.00	50.7 AV	54.0	-3.3	1.67 V	179	42.1	8.6
5	#10460.00	58.7 PK	68.2	-9.5	3.86 V	294	42.8	15.9

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 54：5270 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

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	3.65 H	115	52.3	7.7
2	5150.00	50.0 AV	54.0	-4.0	3.65 H	115	42.3	7.7
3	*5270.00	102.4 PK			3.65 H	115	94.5	7.9
4	*5270.00	92.8 AV			3.65 H	115	84.9	7.9
5	#10540.00	56.7 PK	68.2	-11.5	1.03 H	99	40.8	15.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	61.4 PK	74.0	-12.6	3.93 V	183	53.7	7.7
2	5150.00	50.6 AV	54.0	-3.4	3.93 V	183	42.9	7.7
3	*5270.00	109.8 PK			3.93 V	183	101.9	7.9
4	*5270.00	99.6 AV			3.93 V	183	91.7	7.9
5	#10540.00	59.0 PK	68.2	-9.2	3.86 V	118	43.1	15.9

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 62：5310 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

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	103.4 PK			1.30 H	105	95.1	8.3
2	*5310.00	93.4 AV			1.30 H	105	85.1	8.3
3	5350.00	60.4 PK	74.0	-13.6	1.30 H	105	51.8	8.6
4	5350.00	51.1 AV	54.0	-2.9	1.30 H	105	42.5	8.6
5	10620.00	53.2 PK	74.0	-20.8	1.17 H	107	37.2	16.0
6	10620.00	44.1 AV	54.0	-9.9	1.17 H	107	28.1	16.0
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	*5310.00	109.4 PK			1.58 V	175	101.1	8.3
2	*5310.00	99.1 AV			1.58 V	175	90.8	8.3
3	5350.00	62.8 PK	74.0	-11.2	1.58 V	175	54.2	8.6
4	5350.00	53.5 AV	54.0	-0.5	1.58 V	175	44.9	8.6
5	10620.00	55.5 PK	74.0	-18.5	3.98 V	295	39.5	16.0
6	10620.00	46.1 AV	54.0	-7.9	3.98 V	295	30.1	16.0

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 102：5510 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	62.4 PK	74.0	-11.6	1.48 H	111	53.7	8.7
2	5460.00	51.7 AV	54.0	-2.3	1.48 H	111	43.0	8.7
3	#5470.00	61.5 PK	68.2	-6.7	1.48 H	111	52.8	8.7
4	*5510.00	104.7 PK			1.48 H	111	95.9	8.8
5	*5510.00	94.6 AV			1.48 H	111	85.8	8.8
6	11020.00	51.9 PK	74.0	-22.1	1.22 H	292	35.1	16.8
7	11020.00	43.2 AV	54.0	-10.8	1.22 H	292	26.4	16.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	62.4 PK	74.0	-11.6	1.43 V	181	53.7	8.7
2	5460.00	52.8 AV	54.0	-1.2	1.43 V	181	44.1	8.7
3	#5470.00	63.8 PK	68.2	-4.4	1.43 V	181	55.1	8.7
4	*5510.00	111.0 PK			1.43 V	181	102.2	8.8
5	*5510.00	99.9 AV			1.43 V	181	91.1	8.8
6	11020.00	54.2 PK	74.0	-19.8	3.65 V	147	37.4	16.8
7	11020.00	44.9 AV	54.0	-9.1	3.65 V	147	28.1	16.8

Remarks:

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

RF Mode	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 = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

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	103.5 PK			1.49 H	112	94.8	8.7
2	*5550.00	95.6 AV			1.49 H	112	86.9	8.7
3	11100.00	52.5 PK	74.0	-21.5	1.23 H	293	35.9	16.6
4	11100.00	43.1 AV	54.0	-10.9	1.23 H	293	26.5	16.6
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	*5550.00	110.1 PK			1.42 V	178	101.4	8.7
2	*5550.00	100.5 AV			1.42 V	178	91.8	8.7
3	11100.00	54.8 PK	74.0	-19.2	3.64 V	144	38.2	16.6
4	11100.00	45.5 AV	54.0	-8.5	3.64 V	144	28.9	16.6

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 134：5670 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	104.6 PK			1.76 H	288	96.6	8.0
2	*5670.00	94.6 AV			1.76 H	288	86.6	8.0
3	#5725.00	60.4 PK	68.2	-7.8	1.76 H	288	52.4	8.0
4	11340.00	54.5 PK	74.0	-19.5	1.50 H	113	37.1	17.4
5	11340.00	44.2 AV	54.0	-9.8	1.50 H	113	26.8	17.4
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	*5670.00	110.4 PK			2.03 V	2	102.4	8.0
2	*5670.00	100.9 AV			2.03 V	2	92.9	8.0
3	#5725.00	61.3 PK	68.2	-6.9	2.03 V	2	53.3	8.0
4	11340.00	56.8 PK	74.0	-17.2	3.37 V	324	39.4	17.4
5	11340.00	45.5 AV	54.0	-8.5	3.37 V	324	28.1	17.4

Remarks:

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

RF Mode	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 = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

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	59.6 PK	68.2	-8.6	2.41 H	271	50.9	8.7
2	*5710.00	106.2 PK			2.41 H	271	98.2	8.0
3	*5710.00	96.8 AV			2.41 H	271	88.8	8.0
4	11420.00	55.2 PK	74.0	-18.8	3.02 H	233	37.7	17.5
5	11420.00	44.7 AV	54.0	-9.3	3.02 H	233	27.2	17.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	60.1 PK	68.2	-8.1	1.23 V	185	51.4	8.7
2	*5710.00	112.7 PK			1.23 V	185	104.7	8.0
3	*5710.00	101.7 AV			1.23 V	185	93.7	8.0
4	11420.00	55.8 PK	74.0	-18.2	2.51 V	176	38.3	17.5
5	11420.00	45.3 AV	54.0	-8.7	2.51 V	176	27.8	17.5

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 151：5755 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

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	#5615.07	58.6 PK	68.2	-9.6	2.53 H	274	50.4	8.2
2	*5755.00	106.1 PK			2.53 H	274	98.1	8.0
3	*5755.00	95.8 AV			2.53 H	274	87.8	8.0
4	#5959.93	59.6 PK	68.2	-8.6	2.53 H	274	51.4	8.2
5	11510.00	54.4 PK	74.0	-19.6	3.14 H	236	37.4	17.0
6	11510.00	43.3 AV	54.0	-10.7	3.14 H	236	26.3	17.0
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	#5647.85	61.1 PK	68.2	-7.1	1.37 V	182	53.1	8.0
2	*5755.00	111.4 PK			1.37 V	182	103.4	8.0
3	*5755.00	101.7 AV			1.37 V	182	93.7	8.0
4	#6009.80	60.4 PK	68.2	-7.8	1.37 V	182	52.0	8.4
5	11510.00	54.9 PK	74.0	-19.1	2.43 V	181	37.9	17.0
6	11510.00	44.1 AV	54.0	-9.9	2.43 V	181	27.1	17.0

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 159：5795 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

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	#5556.65	59.1 PK	68.2	-9.1	2.40 H	271	50.4	8.7
2	*5795.00	105.4 PK			2.40 H	271	97.5	7.9
3	*5795.00	95.1 AV			2.40 H	271	87.2	7.9
4	#6007.90	59.3 PK	68.2	-8.9	2.40 H	271	50.9	8.4
5	11590.00	55.3 PK	74.0	-18.7	3.01 H	237	37.7	17.6
6	11590.00	44.2 AV	54.0	-9.8	3.01 H	237	26.6	17.6
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	#5637.87	59.6 PK	68.2	-8.6	1.22 V	180	51.4	8.2
2	*5795.00	111.7 PK			1.22 V	180	103.8	7.9
3	*5795.00	101.8 AV			1.22 V	180	93.9	7.9
4	#5941.40	60.1 PK	68.2	-8.1	1.22 V	180	51.9	8.2
5	11590.00	55.9 PK	74.0	-18.1	2.28 V	178	38.3	17.6
6	11590.00	45.1 AV	54.0	-8.9	2.28 V	178	27.5	17.6

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 42：5210 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

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	60.6 PK	74.0	-13.4	1.09 H	111	52.9	7.7
2	5150.00	51.5 AV	54.0	-2.5	1.09 H	111	43.8	7.7
3	*5210.00	98.6 PK			1.09 H	111	91.0	7.6
4	*5210.00	89.2 AV			1.09 H	111	81.6	7.6
5	5350.00	59.4 PK	74.0	-14.6	1.09 H	111	50.8	8.6
6	5350.00	50.0 AV	54.0	-4.0	1.09 H	111	41.4	8.6
7	#10420.00	54.7 PK	68.2	-13.5	1.01 H	33	39.0	15.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	61.7 PK	74.0	-12.3	1.36 V	176	54.0	7.7
2	5150.00	52.8 AV	54.0	-1.2	1.36 V	176	45.1	7.7
3	*5210.00	105.0 PK			1.36 V	176	97.4	7.6
4	*5210.00	95.4 AV			1.36 V	176	87.8	7.6
5	5350.00	59.8 PK	74.0	-14.2	1.36 V	176	51.2	8.6
6	5350.00	50.4 AV	54.0	-3.6	1.36 V	176	41.8	8.6
7	#10420.00	56.9 PK	68.2	-11.3	3.84 V	292	41.2	15.7

Remarks:

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

RF Mode	802.11ax (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 = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.7 PK	74.0	-14.3	1.31 H	113	52.0	7.7
2	5150.00	49.5 AV	54.0	-4.5	1.31 H	113	41.8	7.7
3	*5290.00	99.8 PK			1.31 H	113	91.6	8.2
4	*5290.00	90.7 AV			1.31 H	113	82.5	8.2
5	5350.00	61.6 PK	74.0	-12.4	1.31 H	113	53.0	8.6
6	5350.00	51.0 AV	54.0	-3.0	1.31 H	113	42.4	8.6
7	#10580.00	52.9 PK	68.2	-15.3	1.18 H	97	36.8	16.1
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	5150.00	60.2 PK	74.0	-13.8	1.27 V	184	52.5	7.7
2	5150.00	50.0 AV	54.0	-4.0	1.27 V	184	42.3	7.7
3	*5290.00	106.7 PK			1.27 V	184	98.5	8.2
4	*5290.00	97.3 AV			1.27 V	184	89.1	8.2
5	5350.00	63.6 PK	74.0	-10.4	1.27 V	184	55.0	8.6
6	**5350.00**	**53.8 AV**	**54.0**	**-0.2**	**1.27 V**	**184**	**45.2**	**8.6**
7	#10580.00	55.2 PK	68.2	-13.0	3.71 V	119	39.1	16.1

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 106：5530 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

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	1.41 H	106	52.3	8.7
2	5460.00	51.6 AV	54.0	-2.4	1.41 H	106	42.9	8.7
3	#5470.00	61.4 PK	68.2	-6.8	1.41 H	106	52.7	8.7
4	*5530.00	102.7 PK			1.41 H	106	93.9	8.8
5	*5530.00	93.0 AV			1.41 H	106	84.2	8.8
6	11060.00	54.0 PK	74.0	-20.0	1.15 H	295	37.3	16.7
7	11060.00	43.5 AV	54.0	-10.5	1.15 H	295	26.8	16.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	61.6 PK	74.0	-12.4	1.50 V	184	52.9	8.7
2	5460.00	52.4 AV	54.0	-1.6	1.50 V	184	43.7	8.7
3	#5470.00	63.0 PK	68.2	-5.2	1.50 V	184	54.3	8.7
4	*5530.00	108.3 PK			1.50 V	184	99.5	8.8
5	*5530.00	97.9 AV			1.50 V	184	89.1	8.8
6	11060.00	55.6 PK	74.0	-18.4	3.90 V	142	38.9	16.7
7	11060.00	43.7 AV	54.0	-10.3	3.90 V	142	27.0	16.7

Remarks:

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

RF Mode	802.11ax (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 = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5610.00	99.4 PK			1.98 H	288	91.1	8.3
2	*5610.00	89.7 AV			1.98 H	288	81.4	8.3
3	#5725.00	59.2 PK	68.2	-9.0	1.98 H	288	51.2	8.0
4	11220.00	53.6 PK	74.0	-20.4	1.72 H	113	36.2	17.4
5	11220.00	43.4 AV	54.0	-10.6	1.72 H	113	26.0	17.4
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	*5610.00	105.8 PK			2.25 V	2	97.5	8.3
2	*5610.00	96.4 AV			2.25 V	2	88.1	8.3
3	#5725.00	59.9 PK	68.2	-8.3	2.25 V	2	51.9	8.0
4	11220.00	55.9 PK	74.0	-18.1	3.15 V	325	38.5	17.4
5	11220.00	44.2 AV	54.0	-9.8	3.15 V	325	26.8	17.4

Remarks:

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

RF Mode	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 = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

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	59.5 PK	68.2	-8.7	2.62 H	275	50.8	8.7
2	*5690.00	101.9 PK			2.62 H	275	94.0	7.9
3	*5690.00	92.6 AV			2.62 H	275	84.7	7.9
4	11380.00	55.6 PK	74.0	-18.4	3.23 H	237	38.0	17.6
5	11380.00	45.2 AV	54.0	-8.8	3.23 H	237	27.6	17.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	60.1 PK	68.2	-8.1	1.60 V	181	51.4	8.7
2	*5690.00	108.4 PK			1.60 V	181	100.5	7.9
3	*5690.00	98.2 AV			1.60 V	181	90.3	7.9
4	11380.00	56.0 PK	74.0	-18.0	2.66 V	179	38.4	17.6
5	11380.00	45.6 AV	54.0	-8.4	2.66 V	179	28.0	17.6

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.

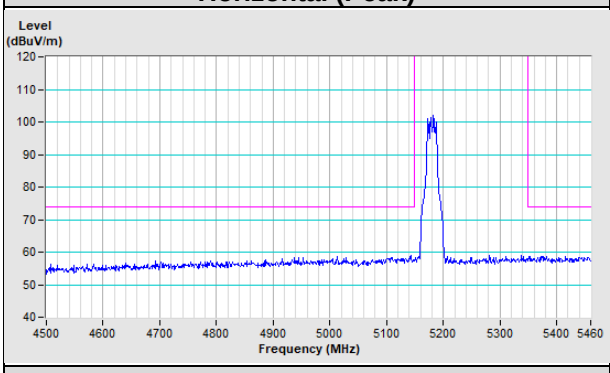
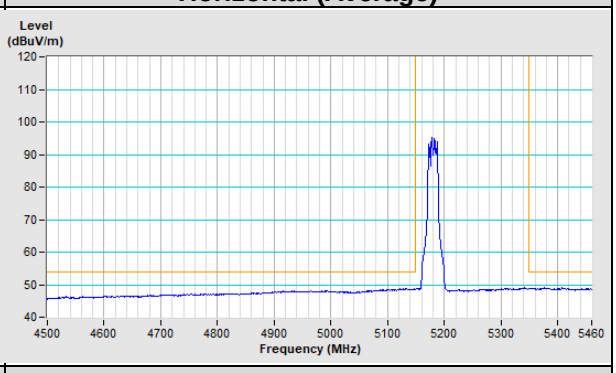
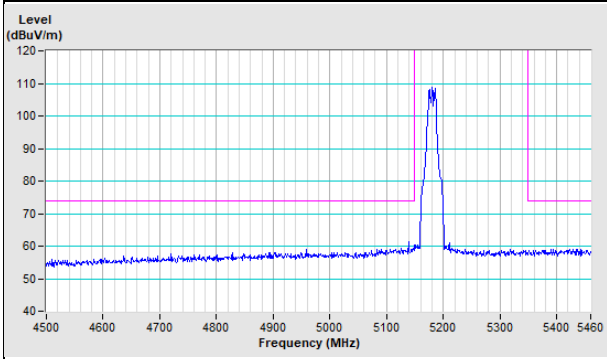
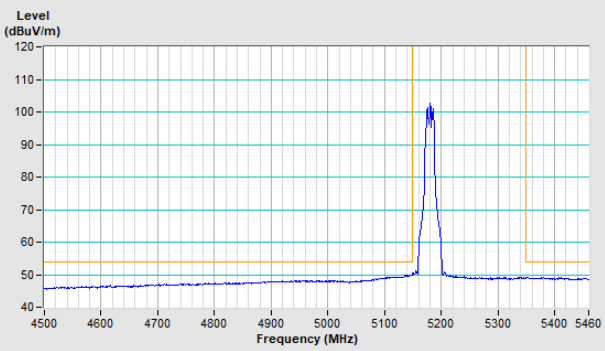
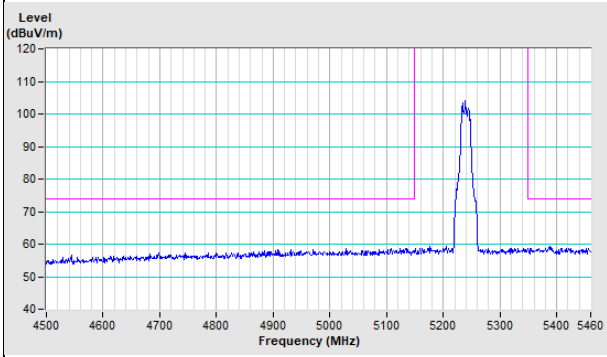
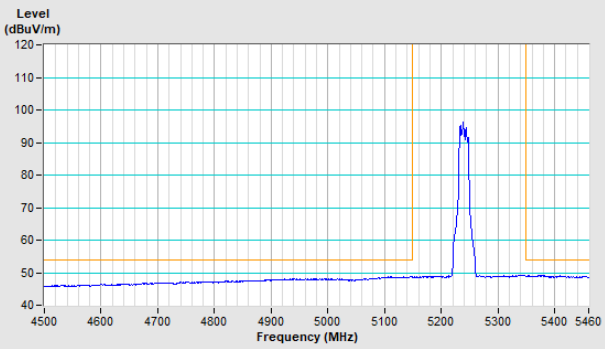
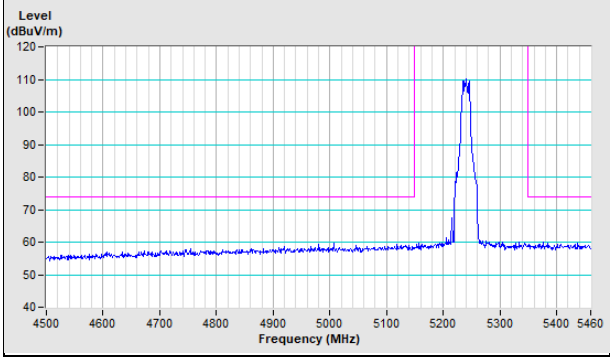
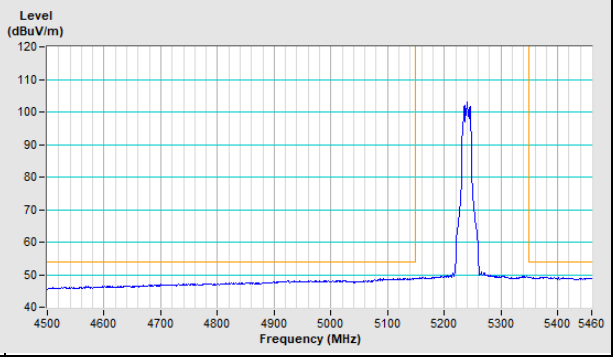
RF Mode	802.11ax (HE80)	Channel	CH 155：5775 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 62% RH
Tested By	Jed Wu		

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	#5559.98	59.1 PK	68.2	-9.1	2.56 H	275	50.5	8.6
2	*5775.00	91.3 PK			2.56 H	275	83.3	8.0
3	*5775.00	81.9 AV			2.56 H	275	73.9	8.0
4	#5985.57	59.6 PK	68.2	-8.6	2.56 H	275	51.3	8.3
5	11550.00	54.1 PK	74.0	-19.9	3.17 H	237	36.8	17.3
6	11550.00	43.7 AV	54.0	-10.3	3.17 H	237	26.4	17.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5632.65	59.2 PK	68.2	-9.0	1.29 V	180	51.0	8.2
2	*5775.00	108.4 PK			1.29 V	180	100.4	8.0
3	*5775.00	98.7 AV			1.29 V	180	90.7	8.0
4	#5944.73	60.0 PK	68.2	-8.2	1.29 V	180	51.8	8.2
5	11550.00	54.4 PK	74.0	-19.6	2.35 V	182	37.1	17.3
6	11550.00	44.0 AV	54.0	-10.0	2.35 V	182	26.7	17.3

Remarks:

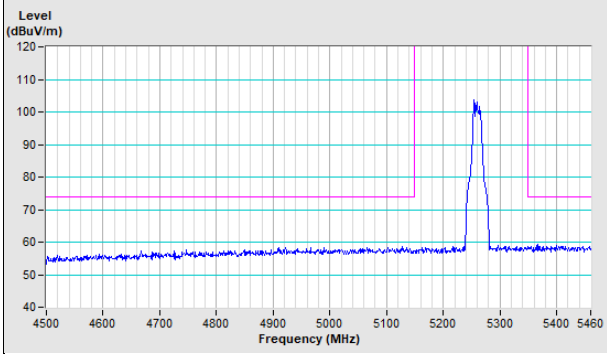
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency,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

Plot of Band Edge

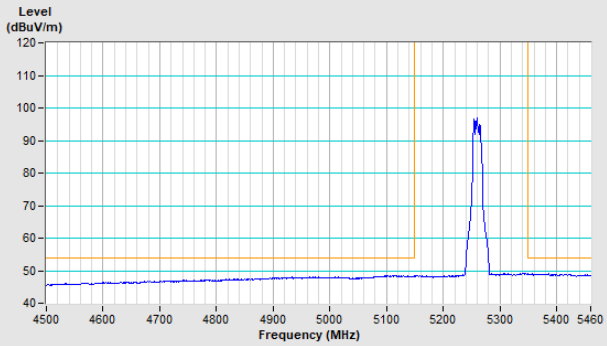
802.11a Channel 36	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11a Channel 48	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11a Channel 52

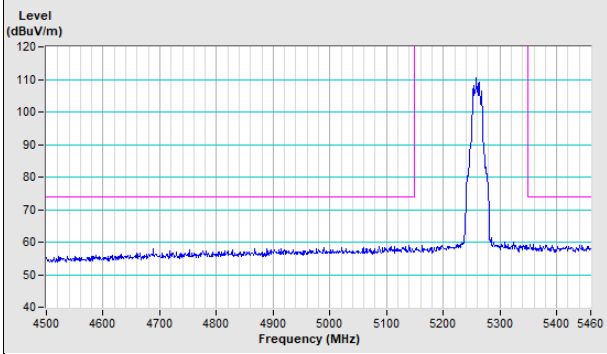
Horizontal (Peak)



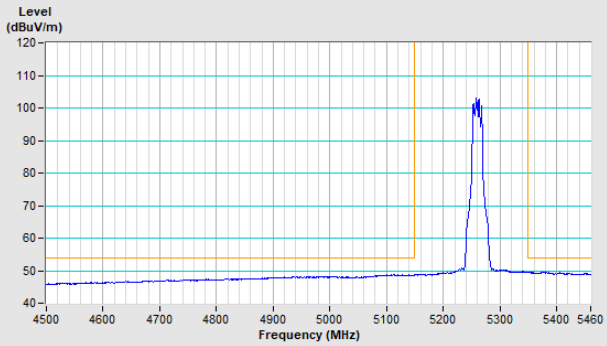
Horizontal (Average)



Vertical (Peak)

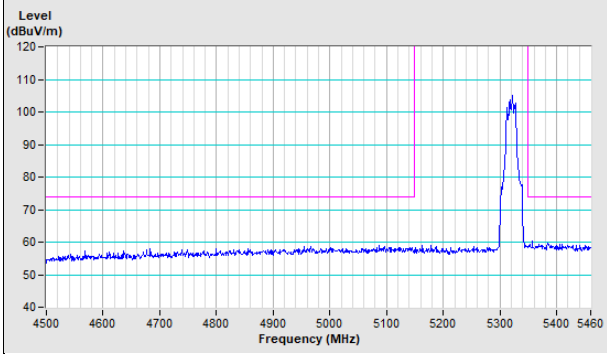


Vertical (Average)

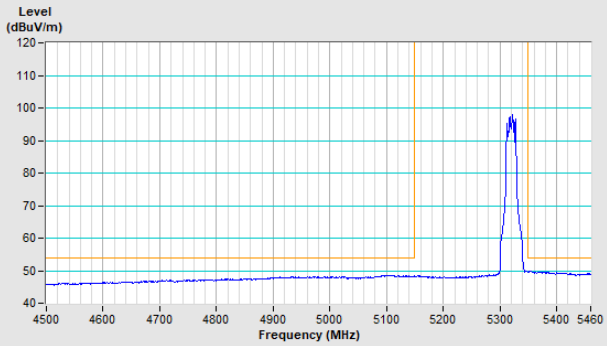


802.11a Channel 64

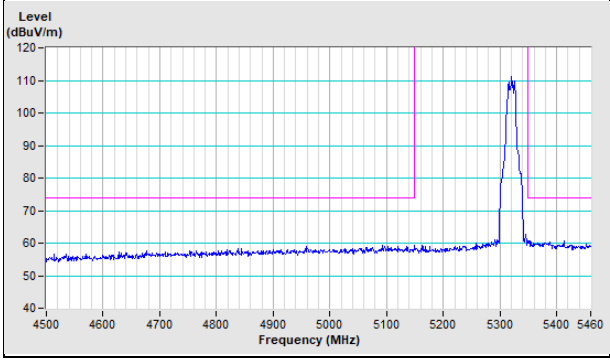
Horizontal (Peak)



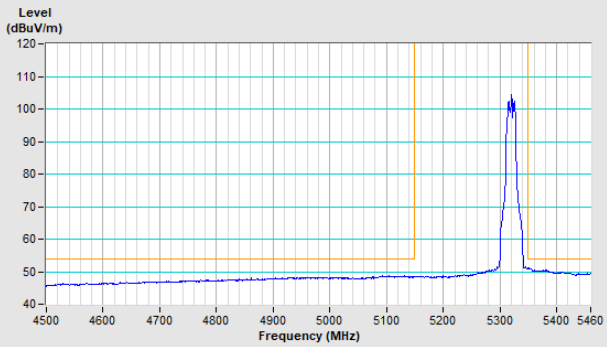
Horizontal (Average)



Vertical (Peak)

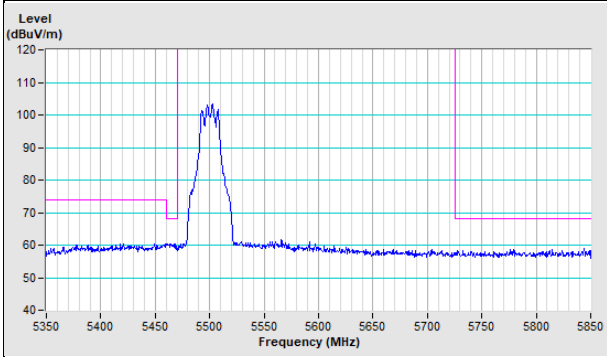


Vertical (Average)

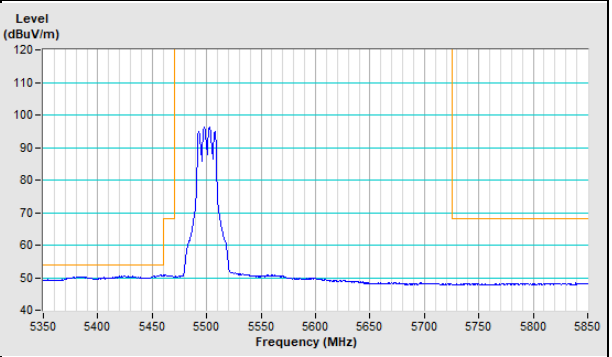


802.11a Channel 100

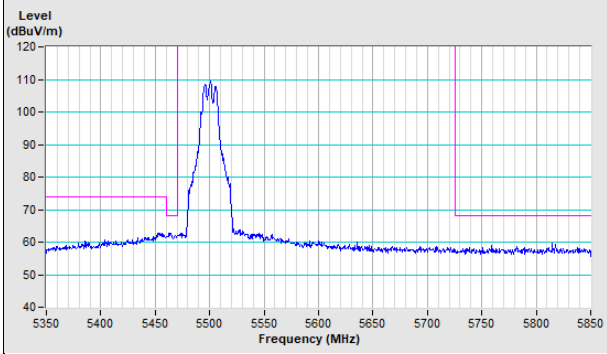
Horizontal (Peak)



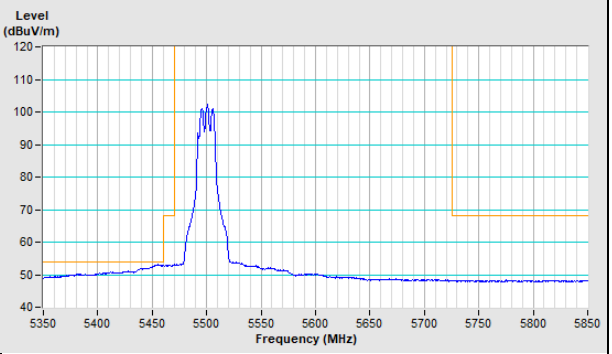
Horizontal (Average)



Vertical (Peak)

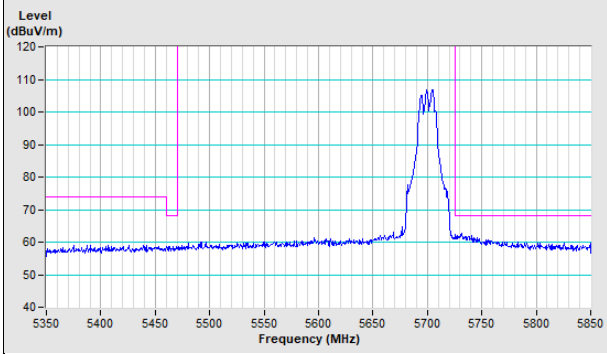


Vertical (Average)

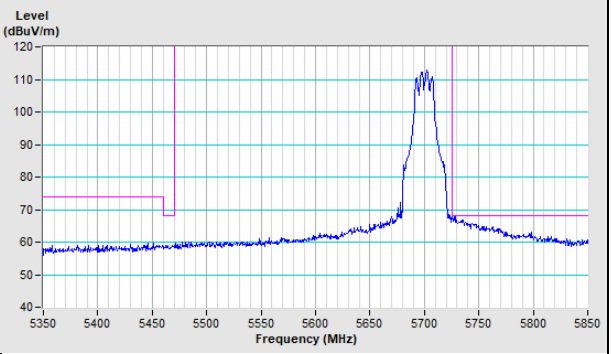


802.11a Channel 140

Horizontal (Peak)

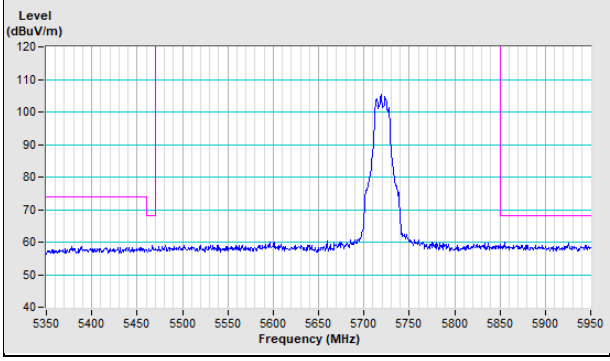


Vertical (Peak)

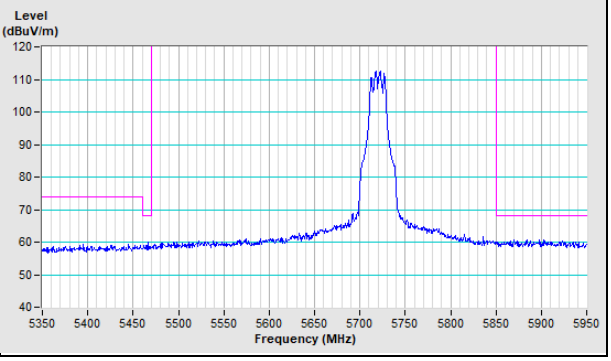


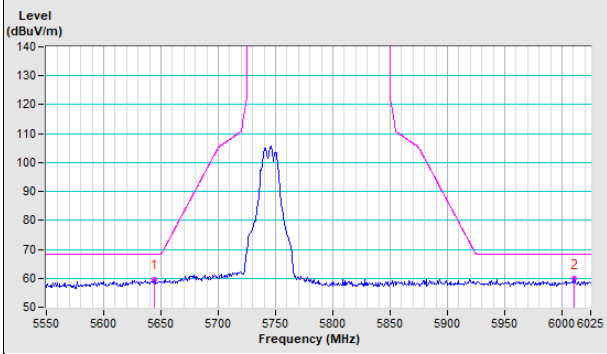
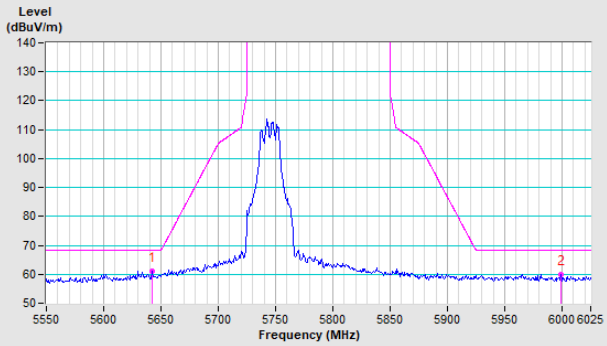
802.11a Channel 144

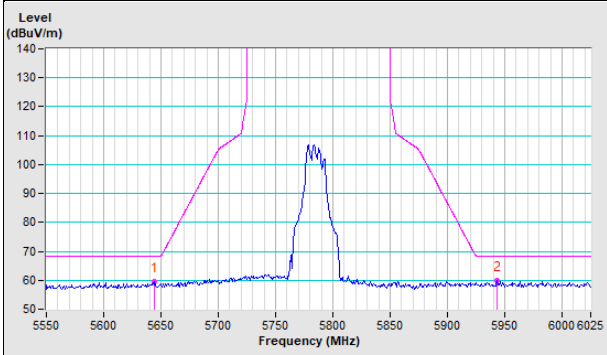
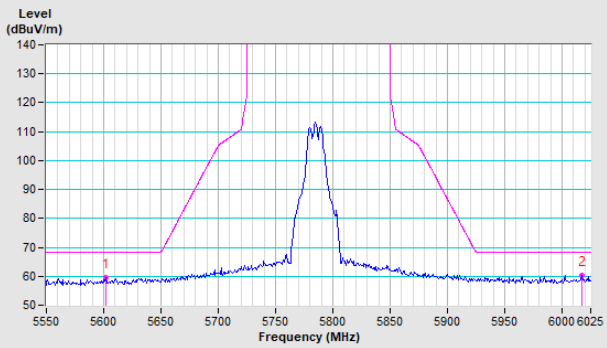
Horizontal (Peak)

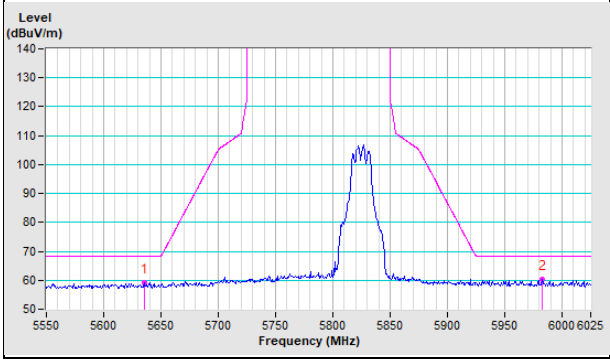
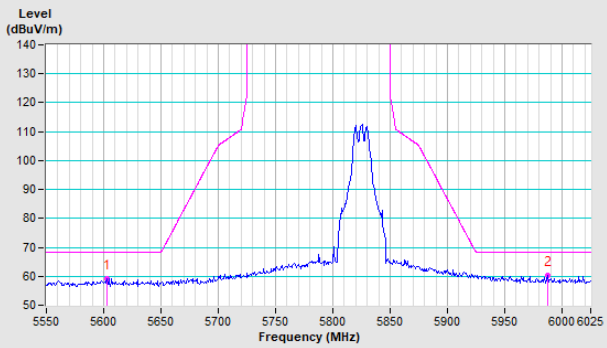


Vertical (Peak)



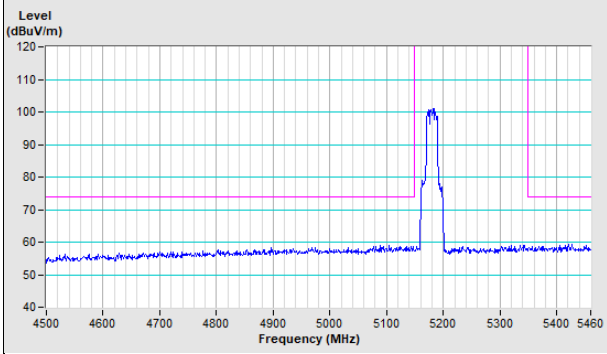
802.11a Channel 149	
Horizontal (Peak)	Vertical (Peak)
	

802.11a Channel 157	
Horizontal (Peak)	Vertical (Peak)
	

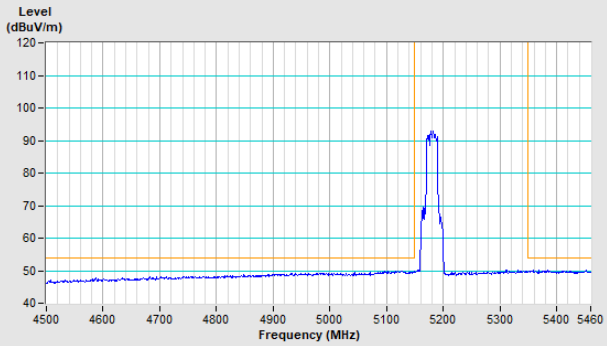
802.11a Channel 165	
Horizontal (Peak)	Vertical (Peak)
	

802.11ax (HE20) Channel 36

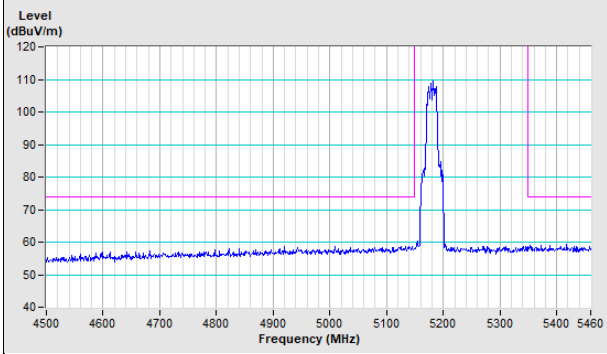
Horizontal (Peak)



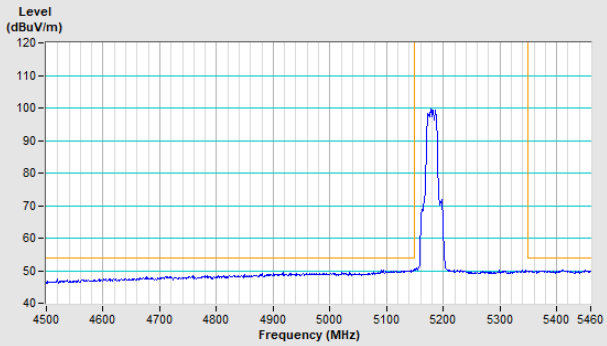
Horizontal (Average)



Vertical (Peak)

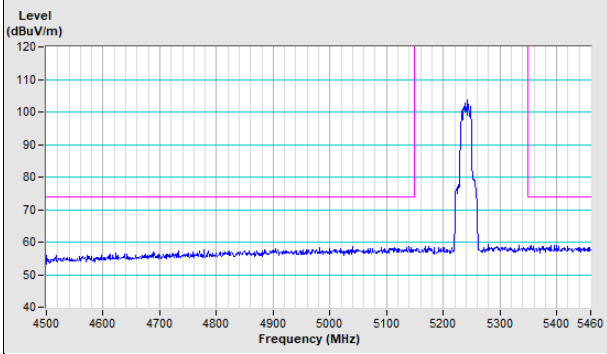


Vertical (Average)

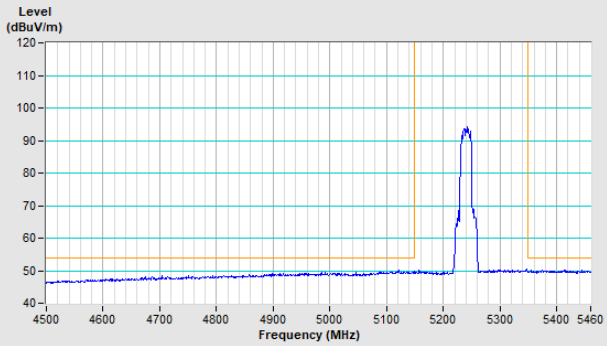


802.11ax (HE20) Channel 48

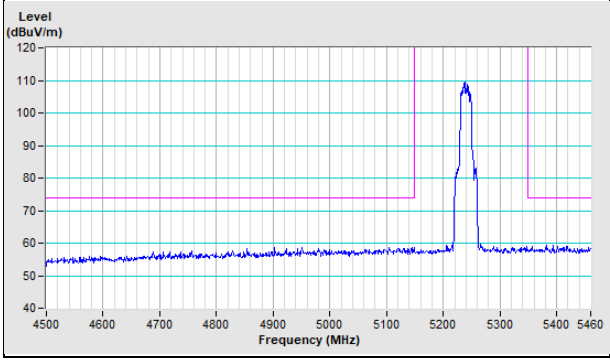
Horizontal (Peak)



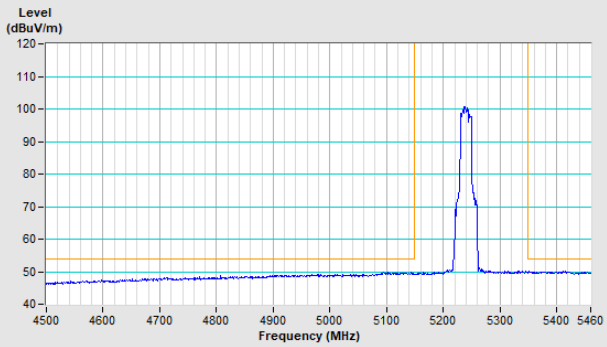
Horizontal (Average)



Vertical (Peak)

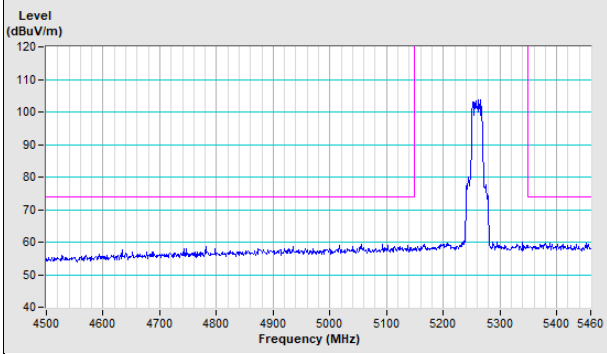


Vertical (Average)

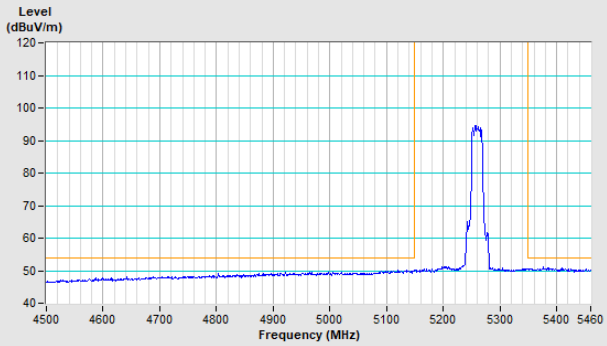


802.11ax (HE20) Channel 52

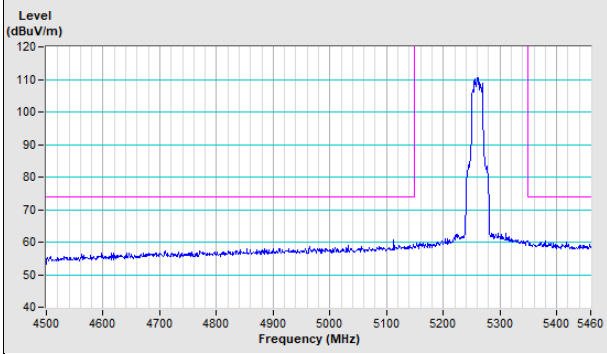
Horizontal (Peak)



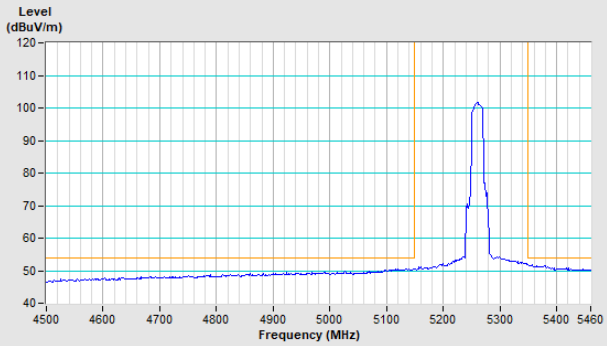
Horizontal (Average)



Vertical (Peak)

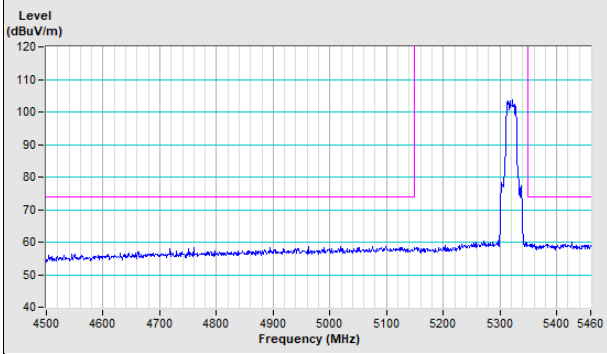


Vertical (Average)

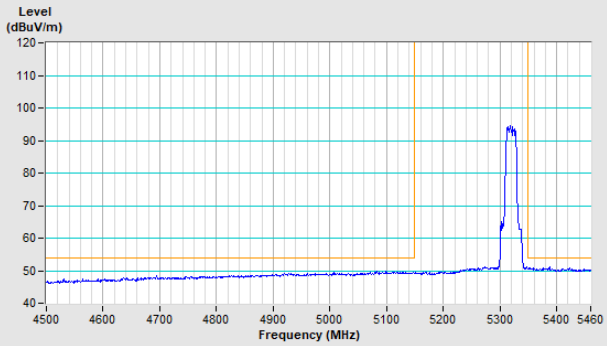


802.11ax (HE20) Channel 64

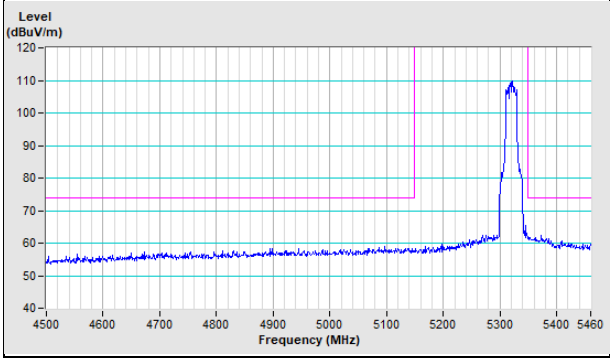
Horizontal (Peak)



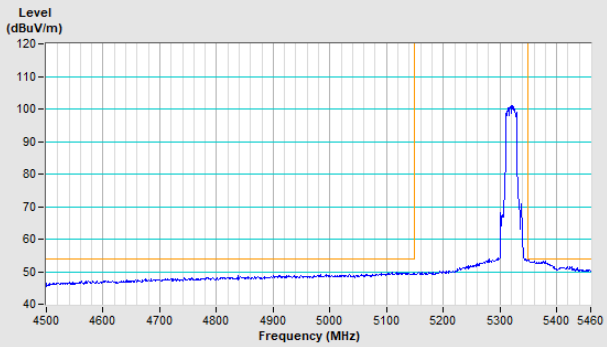
Horizontal (Average)



Vertical (Peak)

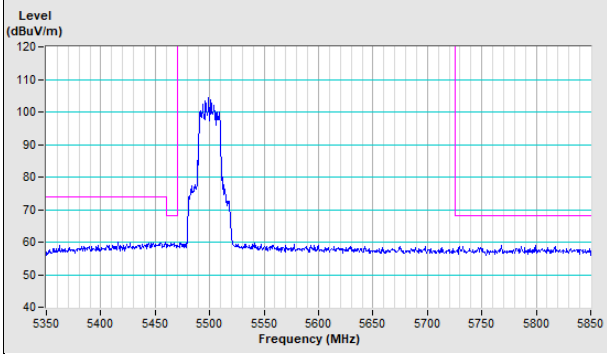


Vertical (Average)

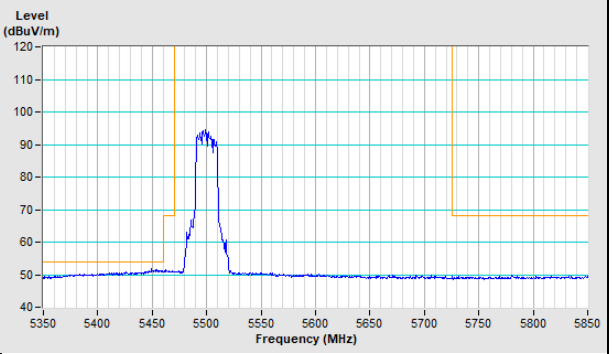


802.11ax (HE20) Channel 100

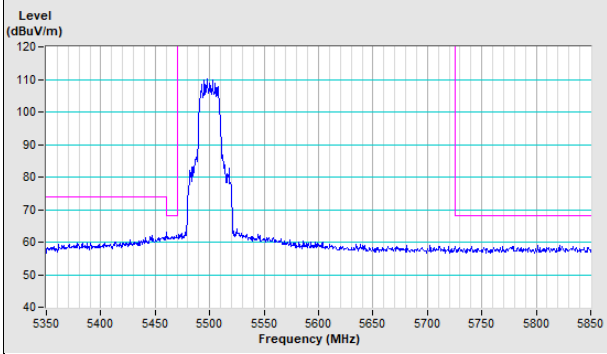
Horizontal (Peak)



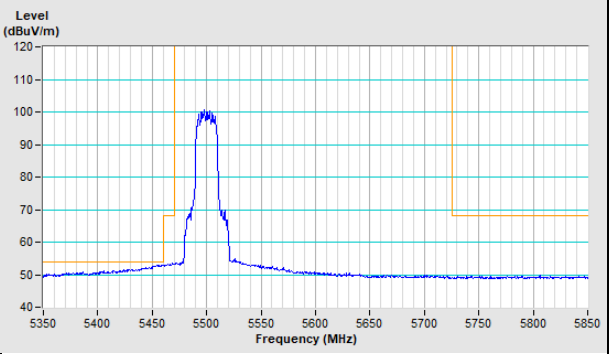
Horizontal (Average)



Vertical (Peak)

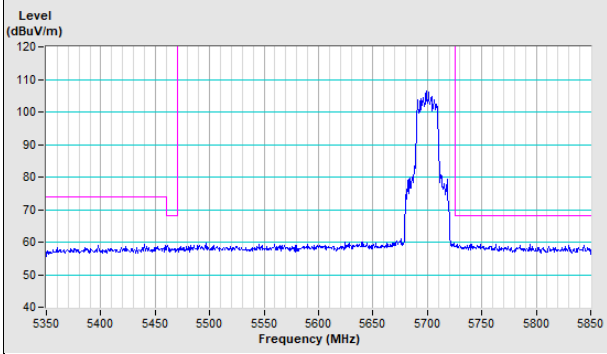


Vertical (Average)

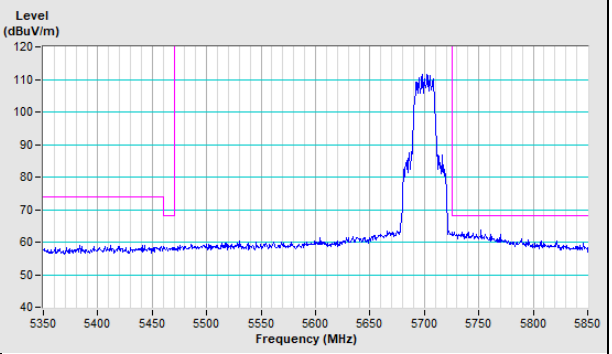


802.11ax (HE20) Channel 140

Horizontal (Peak)

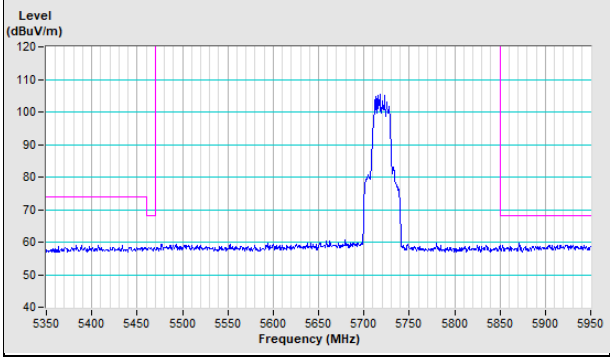


Vertical (Peak)

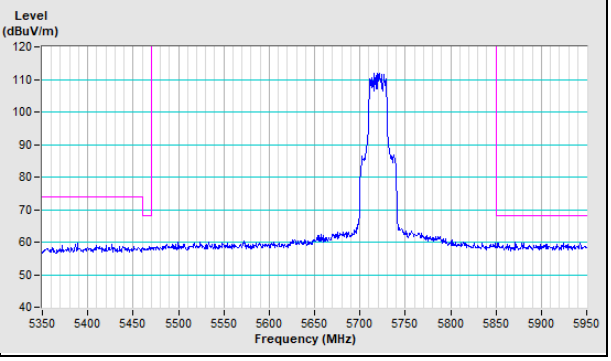


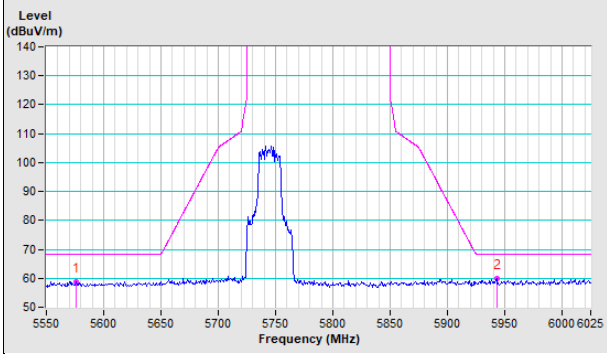
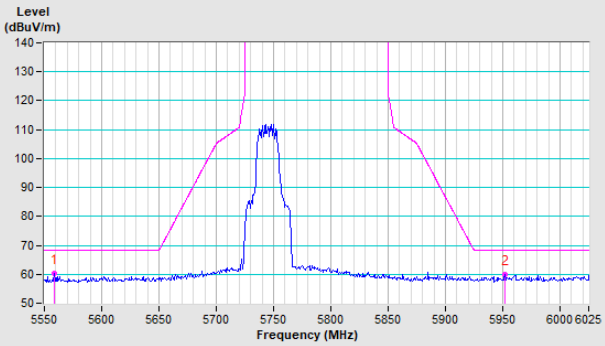
802.11ax (HE20) Channel 144

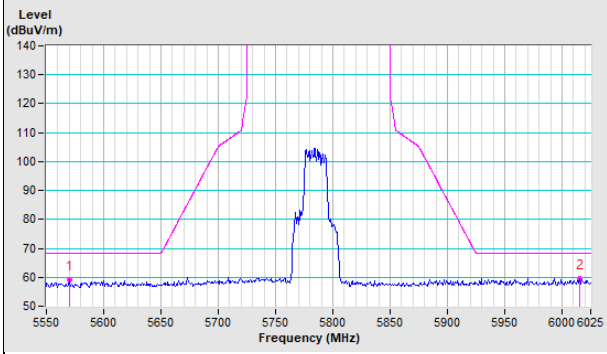
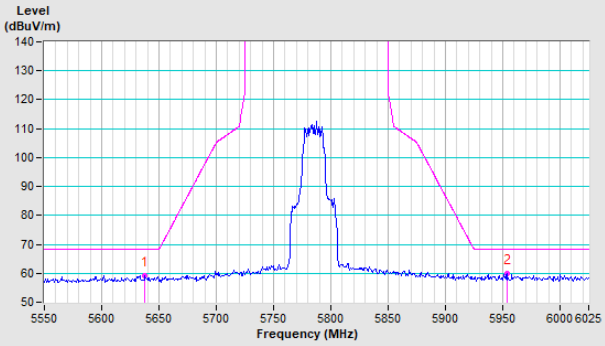
Horizontal (Peak)

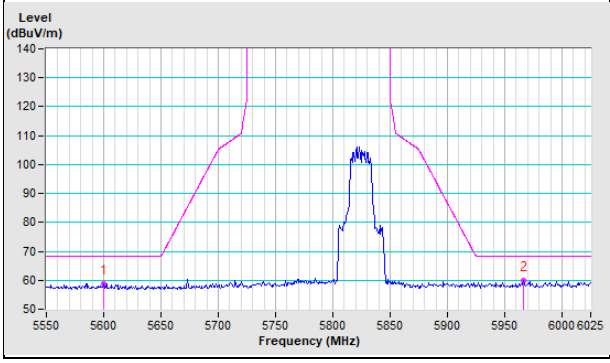
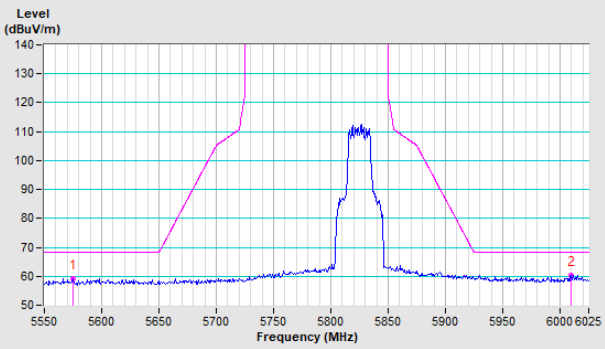


Vertical (Peak)



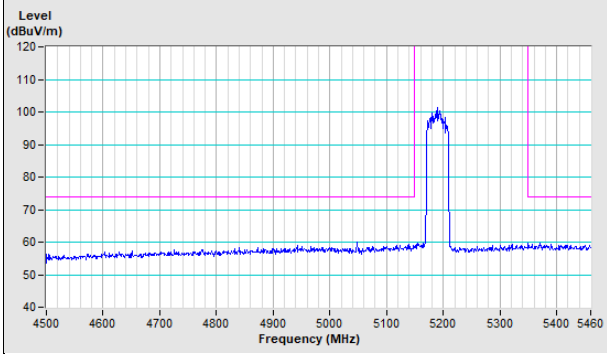
802.11ax (HE20) Channel 149	
Horizontal (Peak)	Vertical (Peak)
	

802.11ax (HE20) Channel 157	
Horizontal (Peak)	Vertical (Peak)
	

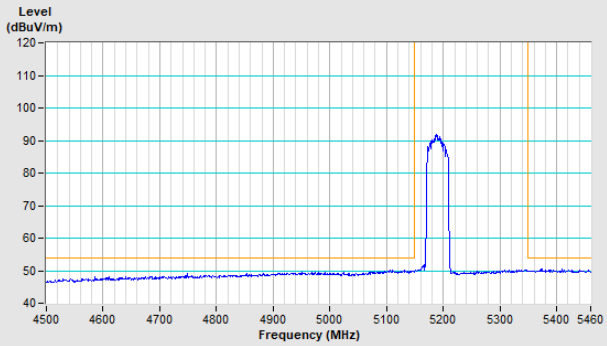
802.11ax (HE20) Channel 165	
Horizontal (Peak)	Vertical (Peak)
	

802.11ax (HE40) Channel 38

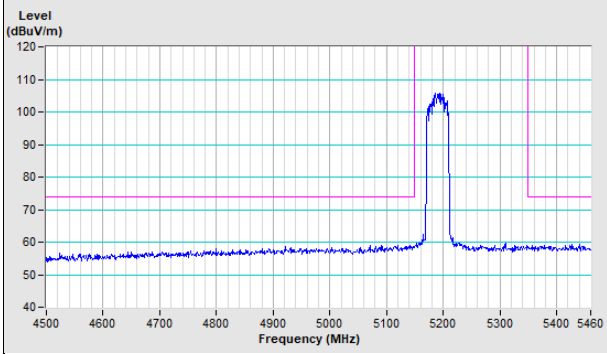
Horizontal (Peak)



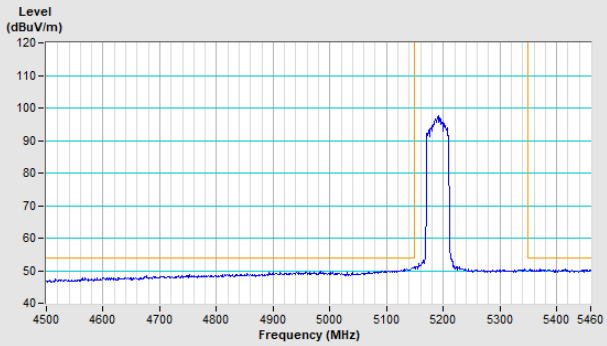
Horizontal (Average)



Vertical (Peak)

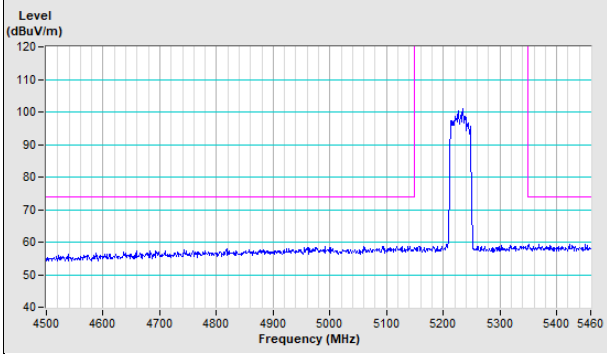


Vertical (Average)

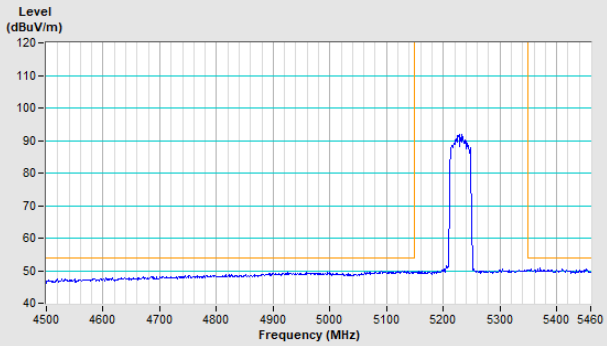


802.11ax (HE40) Channel 46

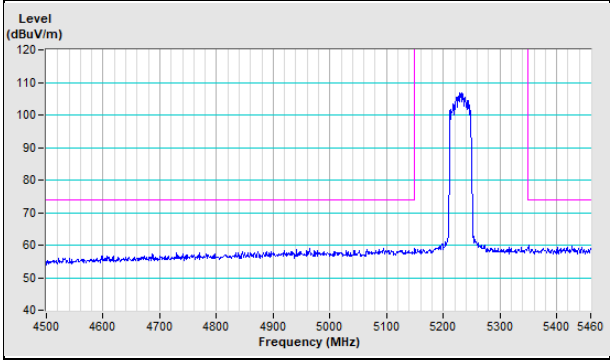
Horizontal (Peak)



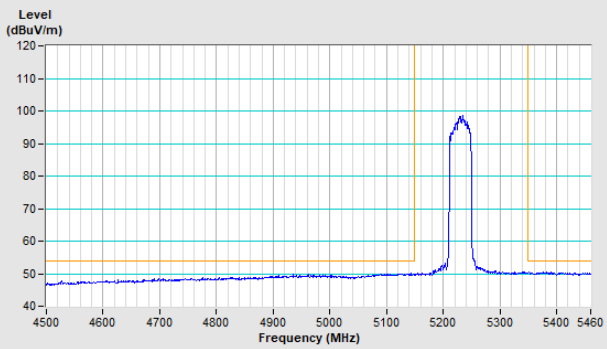
Horizontal (Average)



Vertical (Peak)

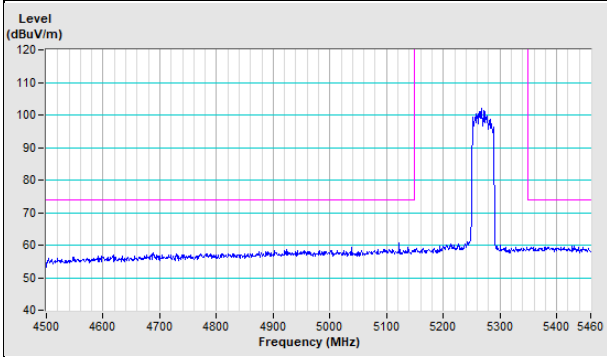


Vertical (Average)

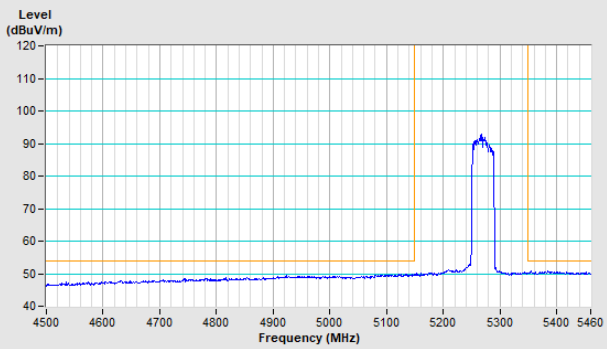


802.11ax (HE40) Channel 54

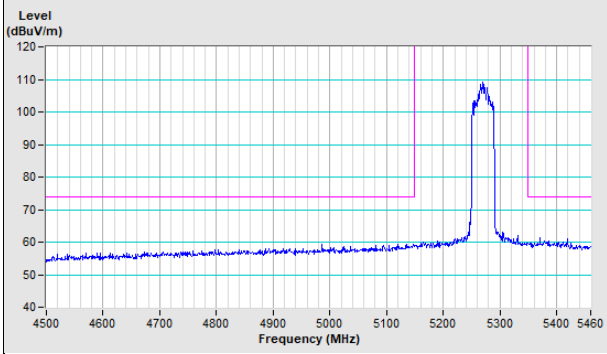
Horizontal (Peak)



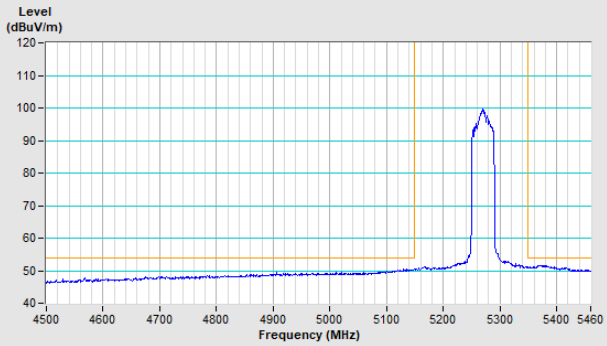
Horizontal (Average)



Vertical (Peak)

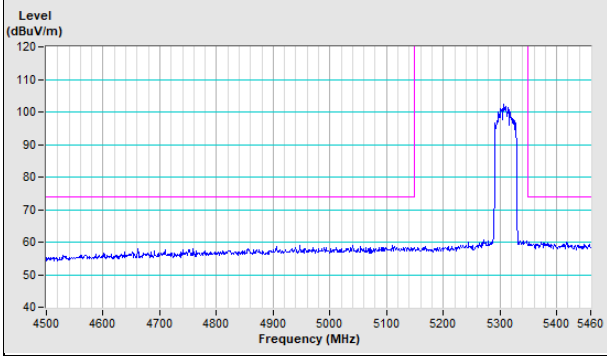


Vertical (Average)

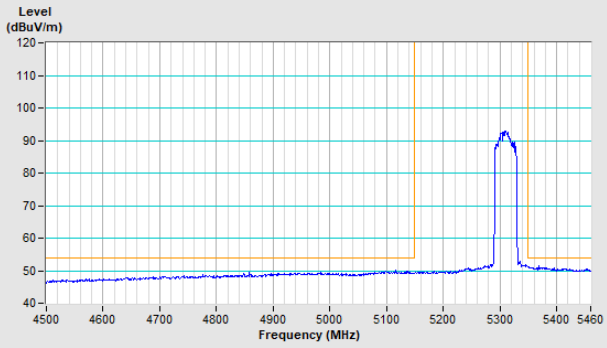


802.11ax (HE40) Channel 62

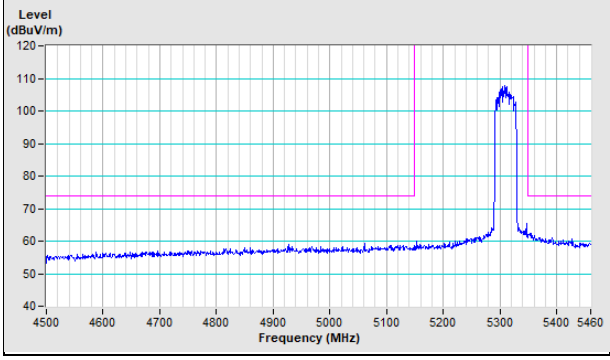
Horizontal (Peak)



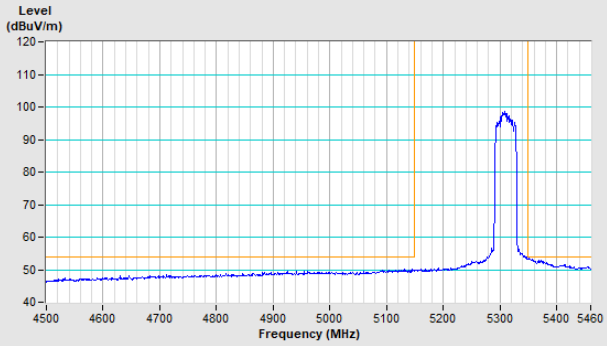
Horizontal (Average)



Vertical (Peak)

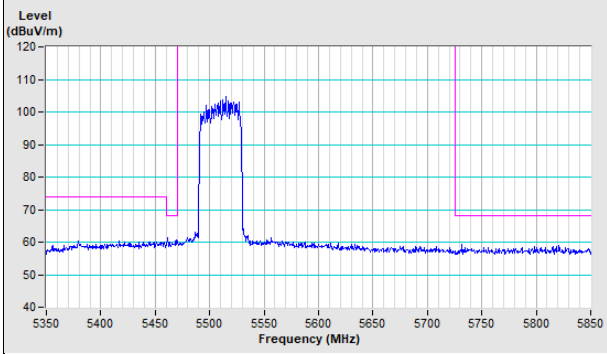


Vertical (Average)

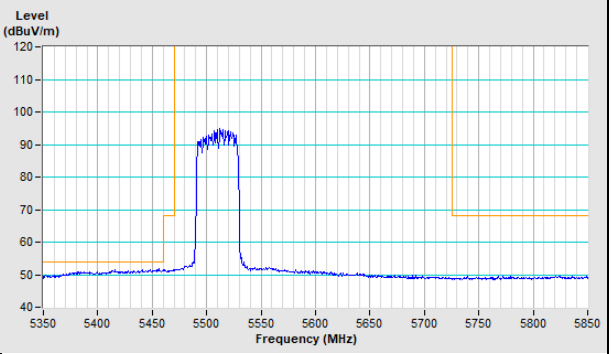


802.11ax (HE40) Channel 102

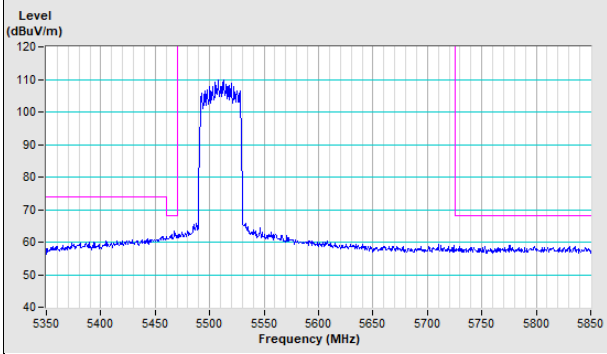
Horizontal (Peak)



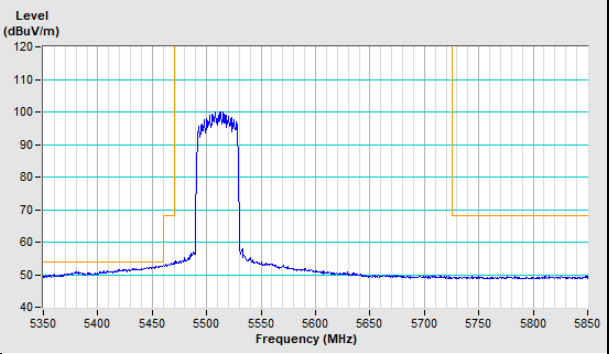
Horizontal (Average)



Vertical (Peak)

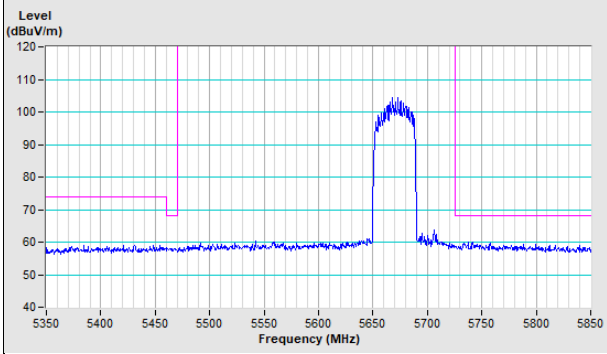


Vertical (Average)

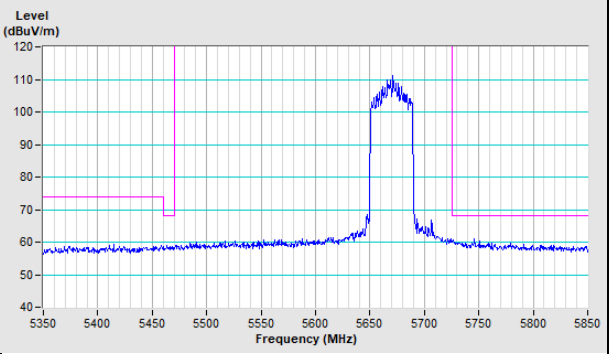


802.11ax (HE40) Channel 134

Horizontal (Peak)

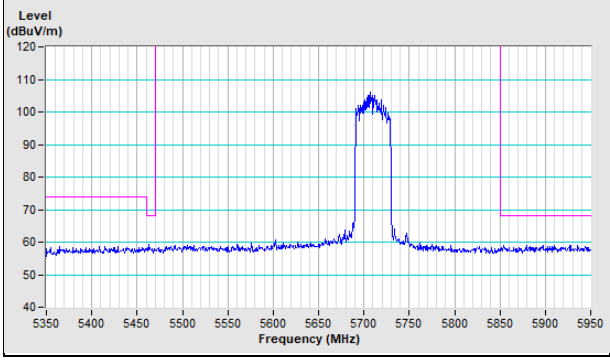


Vertical (Peak)

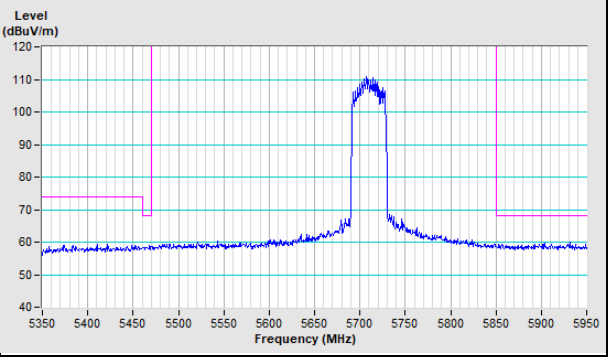


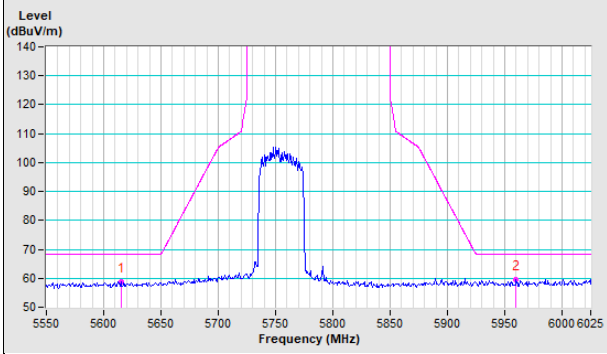
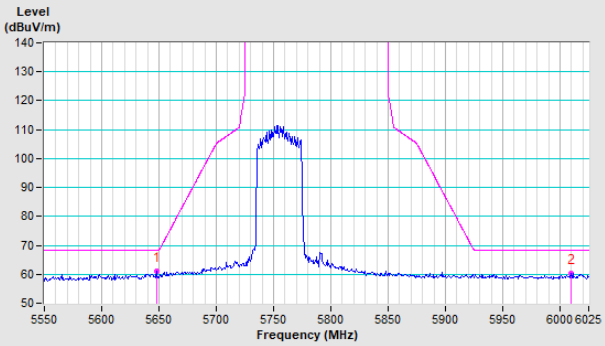
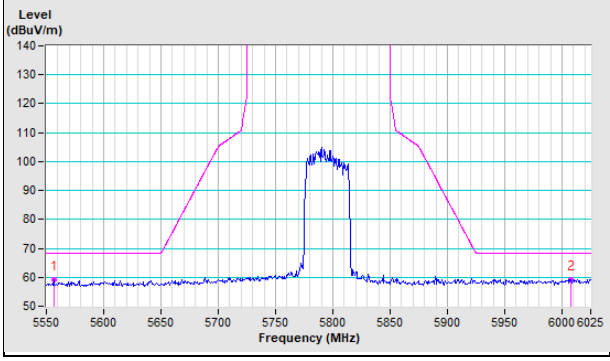
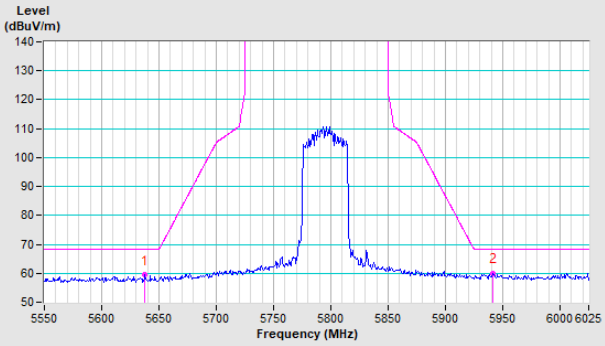
802.11ax (HE40) Channel 142

Horizontal (Peak)



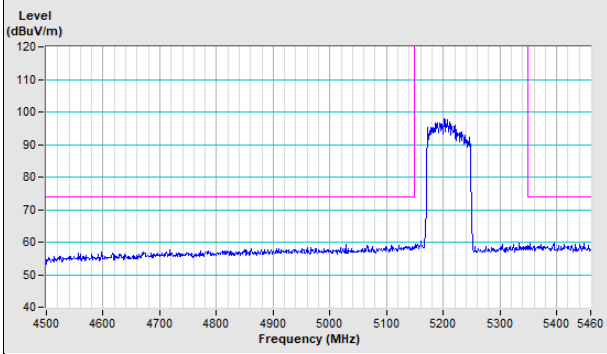
Vertical (Peak)



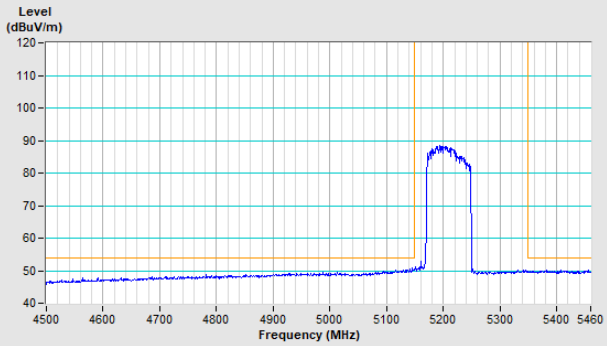
802.11ax (HE40) Channel 151	
Horizontal (Peak)	Vertical (Peak)
	
802.11ax (HE40) Channel 159	
Horizontal (Peak)	Vertical (Peak)
	

802.11ax (HE80) Channel 42

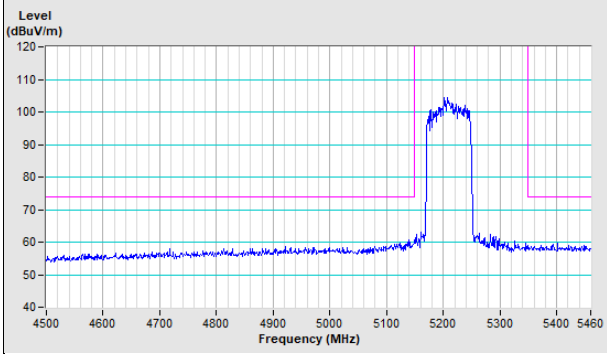
Horizontal (Peak)



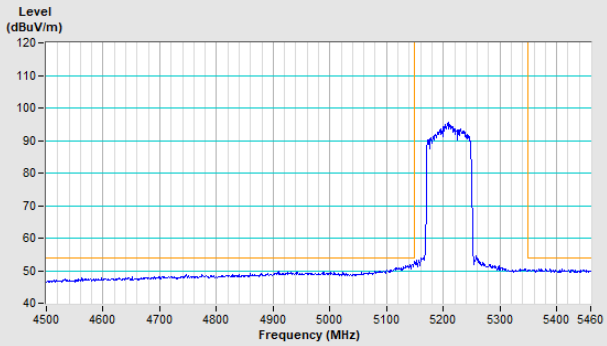
Horizontal (Average)



Vertical (Peak)

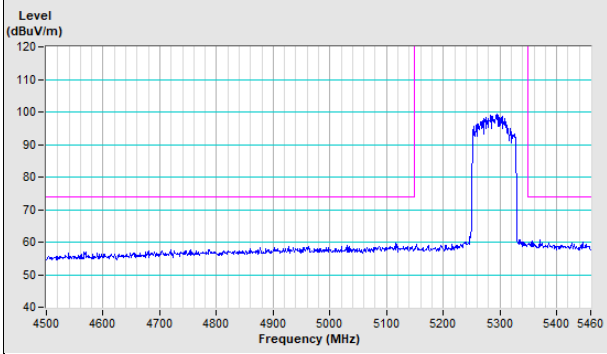


Vertical (Average)

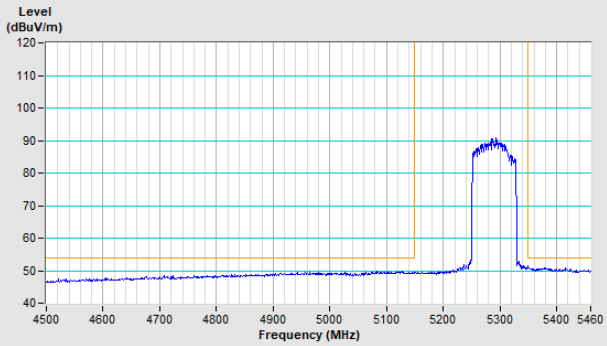


802.11ax (HE80) Channel 58

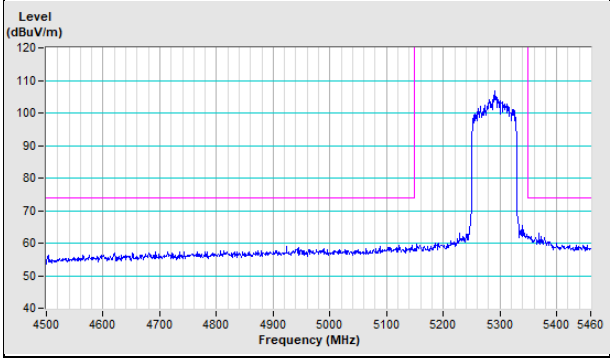
Horizontal (Peak)



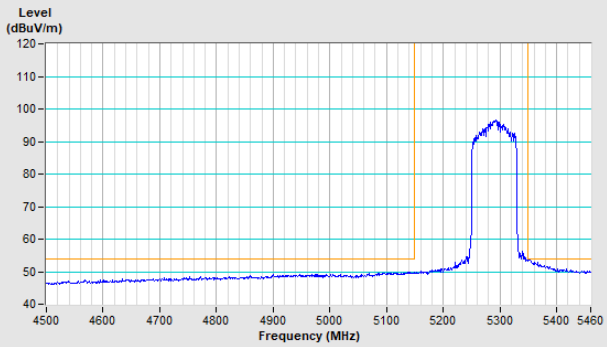
Horizontal (Average)



Vertical (Peak)

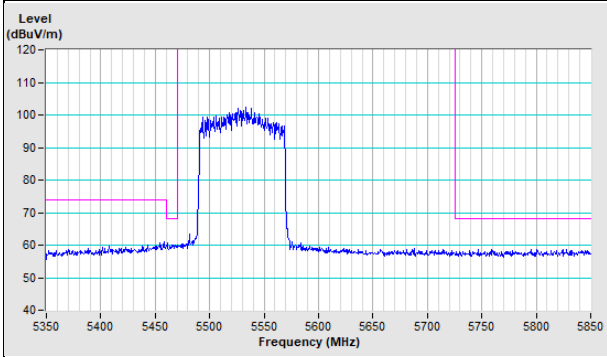


Vertical (Average)

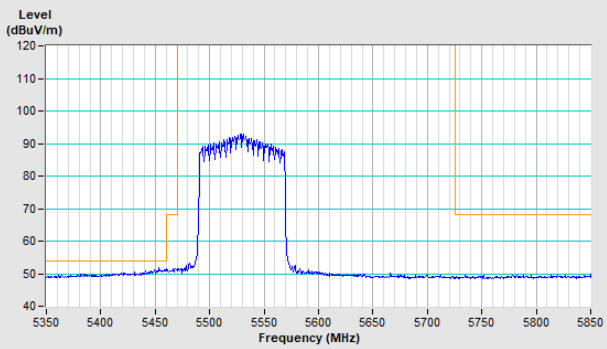


802.11ax (HE80) Channel 106

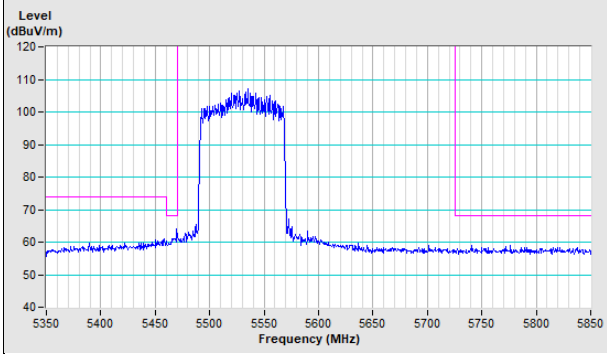
Horizontal (Peak)



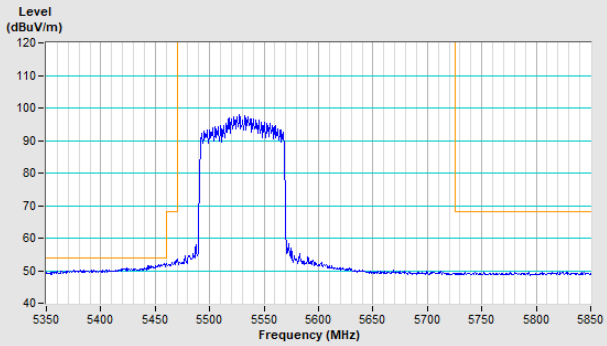
Horizontal (Average)



Vertical (Peak)

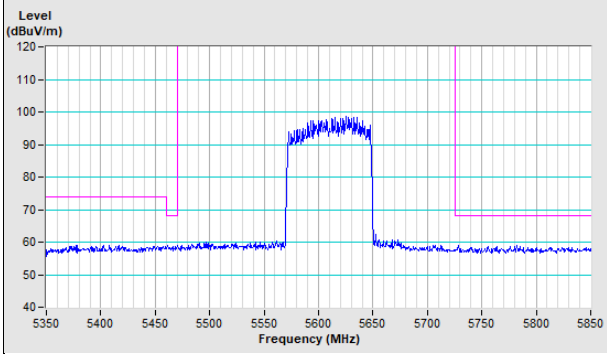


Vertical (Average)

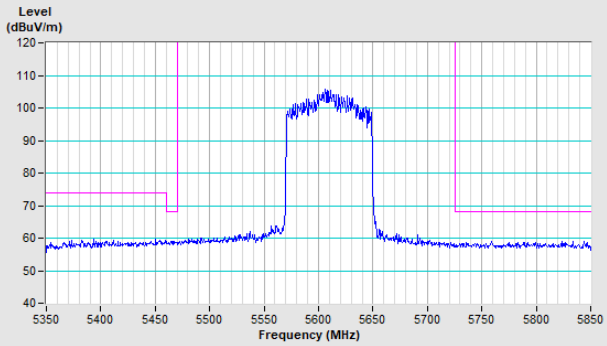


802.11ax (HE80) Channel 122

Horizontal (Peak)

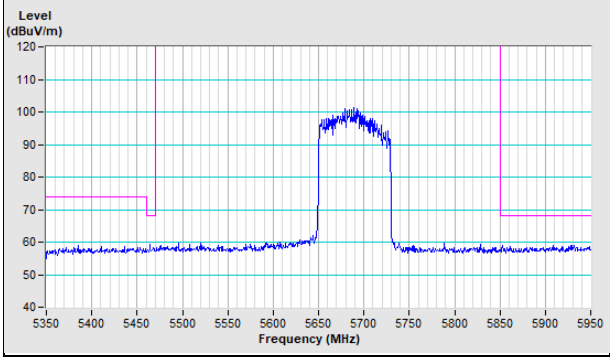


Vertical (Peak)

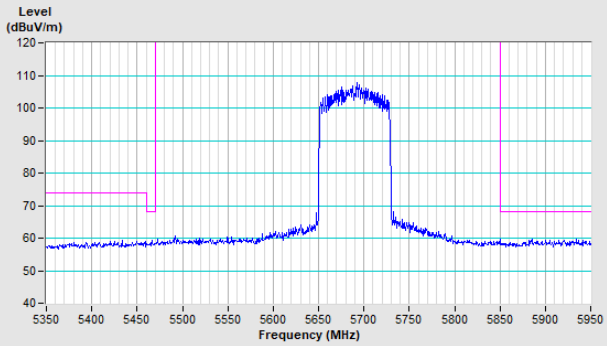


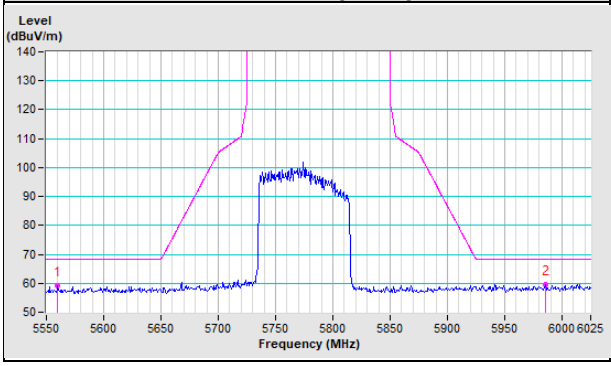
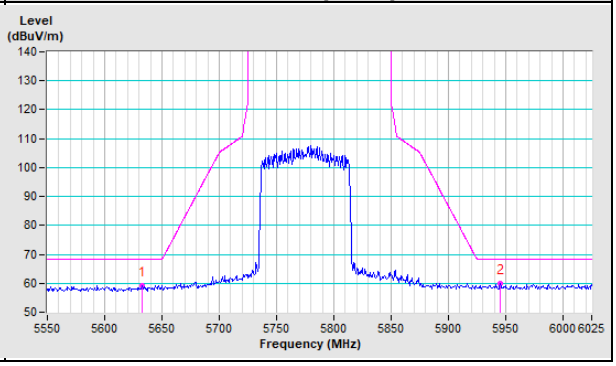
802.11ax (HE80) Channel 138

Horizontal (Peak)



Vertical (Peak)



802.11ax (HE80) Channel 155	
Horizontal (Peak)	**Vertical (Peak)**
	

8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

9 Information of the Testing Laboratories

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

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

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

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