FCC Test Report

Report No.:	RFBAYS-WTW-P20110319A-3
FCC ID:	W23-WMU62XX
Test Model:	WMU6202
Series Model:	WMU6203, WMU6204, WMU6205, WMU6206, WMU6207
Received Date:	Apr. 14, 2021
Test Date:	Apr. 24 ~ Apr. 27, 2021
Issued Date:	May 14, 2021
Applicant:	jjPlus Corporation
Address:	15F-7, No. 2, Jianba Road, Zhonghe Dist., New Taipei City, Taiwan (R.O.C.)
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:	B2F., No.215, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan
FCC Registration / Designation Number:	427177 / TW0011

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Release Control Record

Issue No.	Description	Date Issued
RFBAYS-WTW-P20110319A-3	Original Release	May 14, 2021

1 Certificate of Conformity

Product:	11ac 2T2R WIFI & BT Module
Brand:	jjPlus
Test Model:	WMU6202
Series Model:	WMU6203, WMU6204, WMU6205, WMU6206, WMU6207
Sample Status:	wifi module
Applicant:	jjPlus Corporation
Test Date:	Apr. 24 ~ Apr. 27, 2021
Standards:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10:2013

This report is issued as a supplementary report to BV CPS report no.: RF181127C08-3. This report shall be used by combining with its original report.

Prepared by : _____ , **Date:** May 14, 2021

Gina Liu / Specialist

Approved by : _____ , **Date:** May 14, 2021

Dylan Chiou / Senior Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	**Test Item**	**Result**	**Remarks**
15.407(b)(8)	AC Power Conducted Emissions	N/A	Refer to Note
15.407(b) (1/2/3/4(i/ii)/8)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.17 dB at 5470 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	N/A	Refer to Note
---	Occupied Bandwidth Measurement	N/A	Refer to Note
15.407(a)(1/2/3)	Peak Power Spectral Density	N/A	Refer to Note
15.407(e)	6 dB Bandwidth	N/A	Refer to Note
15.407(g)	Frequency Stability	N/A	Refer to Note
15.203	Antenna Requirement	Pass	Antenna connector is U.FLx2 not a standard connector.

Note:

1. Only Radiated Emissions test was performed for this addendum. Refer to original report for other test data.
2. For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOBE test plots were recorded in Annex A.
3. For U-NII-1, U-NII-2A, U-NII-2C band compliance with rule 15.407(b) of the band-edge items, the test plots were recorded in Annex B. Test Procedures refer to report 4.1.3.
4. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

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

Measurement	**Frequency**	**Expanded Uncertainty (k=2) (±)**
Radiated Emissions up to 1 GHz	9 kHz ~ 30 MHz	3.04 dB
	30 MHz ~ 200 MHz	2.0153 dB
	200 MHz ~ 1000 MHz	2.0224 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	1.0121 dB
	18 GHz ~ 40 GHz	1.1508 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	11ac 2T2R WIFI & BT Module
Brand	jjPlus
Test Model	WMU6202
Series Model	WMU6203, WMU6204, WMU6205, WMU6206, WMU6207
Status of EUT	wifi module
Power Supply Rating	3.3 Vdc (host equipment)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0 Mbps 802.11n: up to 300.0 Mbps 802.11ac: up to 866.7 Mbps
Operating Frequency	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5700 MHz, 5745 ~ 5825 MHz
Number of Channel	5180 ~ 5240 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80) 5260 ~ 5320 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80) 5500 ~ 5700 MHz: 11 for 802.11a, 802.11n (HT20) 5 for 802.11n (HT40) 2 for 802.11ac (VHT80) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80)
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	N/A
Data Cable Supplied	N/A

Note:

1. This report is prepared for FCC class II permissive change. This report is issued as a supplementary report to BV CPS report no. RF181127C08-3. The difference compared with original report is adding new Antennas. Therefore, only Radiated Emissions re-test and recorded in this report.
2. The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and two receivers.

Modulation Mode	Tx Function
802.11a	1TX
802.11n (HT20)	2TX
802.11n (HT40)	2TX
802.11ac (VHT20)	2TX
802.11ac (VHT40)	2TX
802.11ac (VHT80)	2TX

* The modulation and bandwidth are similar for 802.11n mode for HT20 / HT40 and 802.11ac mode for VHT20 / VHT40, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

3. All models and antennas are listed as below.

Test Mode	Model	RF Chip	RF Design	Interface	Antenna type	Antenna connector
v	WMU6202	RTL8822BU	The Same	mPCIe	Dipole PIFA	U.FLx2
	WMU6203			M.2		MHF4
	WMU6204			USB Type-A		U.FLx2
	WMU6205			4Pin Wafer		U.FLx2
	WMU6206			USB Type-A	PCB Antenna x2	none (like solder)
	WMU6207			4Pin Wafer		none (like solder)
*The difference Models are pre-tested, because the connector and interface are difference with difference Model, and selected the worst Model for testing.						

4. The antennas information is listed as below. (New antenna is marked in boldface.)

Antenna Type	Brand	Model	Antenna Gain (dBi)		
			BT	2.4G	5G
Dipole	LYNwave	AOA160-221020-000000	3.0	3.0	2.0
	LYNwave	AOA160-221034-000000	3.0	3.0	3.0
	LYNwave	AOA160-221050-000000	5.0	5.0	5.0
PCB	N/A	N/A	3.6	3.6	5.3
	N/A	N/A	3.6	3.6	4.7
PIFA	**SINBON**	**A9706632**	**4.1**	**4.1**	**3.5**
	SINBON	**A9706633**	**4.8**	**4.8**	**4.1**

5. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.
6. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

3.2 Description of Test Modes

For 5180 ~ 5240 MHz

4 channels are provided for 802.11a, 802.11n (HT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220
40	5200	48	5240

2 channels are provided for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	46	5230

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
42	5210

For 5260 ~ 5320 MHz

4 channels are provided for 802.11a, 802.11n (HT20):

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

2 channels are provided for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
54	5270	62	5310

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
58	5290

For 5500 ~ 5700 MHz

11 channels are provided for 802.11a, 802.11n (HT20):

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

5 channels are provided for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
102	5510	126	5630
110	5550	134	5670
118	5590		

2 channels are provided for 802.11ac (VHT80):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
106	5530	122	5610

For 5745 ~ 5825 MHz:

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

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

2 channels are provided for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
155	5775

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To		Description
	RE≥1G	RE<1G	
-	√	√	-

Where **RE≥1G:** Radiated Emission above 1 GHz **RE<1G:** Radiated Emission below 1 GHz
Note: "-" means no effect.

Radiated Emission Test (Above 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11a	36 to 48	36, 40, 48	OFDM	BPSK	6.0
-		802.11n (HT20)	36 to 48	36, 40, 48	OFDM	BPSK	6.5
-		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	13.5
-		802.11ac (VHT80)	42	42	OFDM	BPSK	29.3
-	5260-5320	802.11a	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-		802.11n (HT20)	52 to 64	52, 60, 64	OFDM	BPSK	6.5
-		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	13.5
-		802.11ac (VHT80)	58	58	OFDM	BPSK	29.3
-	5500-5700	802.11a	100 to 140	100, 116, 140	OFDM	BPSK	6.0
-		802.11n (HT20)	100 to 140	100, 116, 140	OFDM	BPSK	6.5
-		802.11n (HT40)	102 to 134	102, 110, 134	OFDM	BPSK	13.5
-		802.11ac (VHT80)	106 to 122	106, 122	OFDM	BPSK	29.3
-	5745-5825	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-		802.11n (HT20)	149 to 165	149, 157, 165	OFDM	BPSK	6.5
-		802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	13.5
-		802.11ac (VHT80)	155	155	OFDM	BPSK	29.3

Radiated Emission Test (Below 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5500-5700	802.11n (HT40)	102 to 134	102	OFDM	BPSK	13.5

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Karl Lee
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Karl Lee

3.3 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

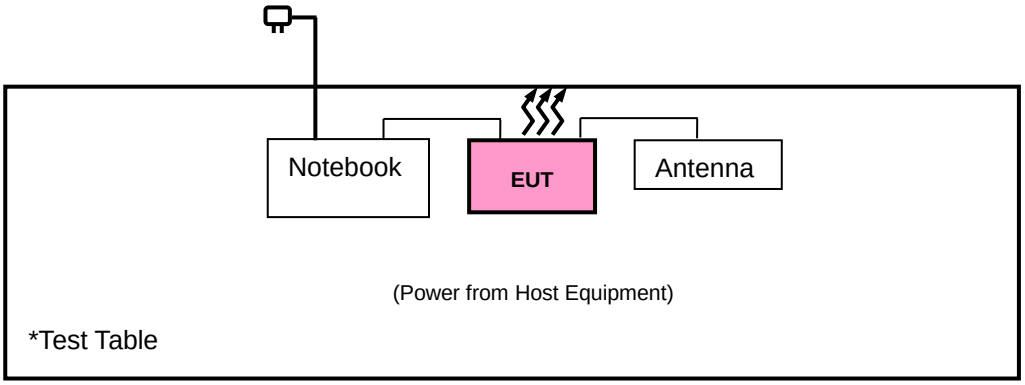
No.	Product	Brand	Model No.	Serial No.	FCC ID
A.	Notebook	DELL	E6420	D3T96R1	N/A

No.	Signal Cable Description of The Above Support Units
1.	N/A

Note:

1. All power cords of the above support units are non-shielded (1.8m).

3.3.1 Configuration of System under Test



3.4 General Description of Applied Standards and References

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards and references:

Test Standard:

FCC Part 15, Subpart E (15.407)
ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

References Test Guidance:

KDB 789033 D02 General UNII Test Procedures New Rules v02r01
KDB 662911 D01 Multiple Transmitter Output v02r01

All test items have been performed as a reference to the above KDB test guidance.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

Note:

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

Limits of Unwanted Emission Out of the Restricted Bands

Applicable To			Limit	
789033 D02 General UNII Test Procedures New Rules v02r01			Field Strength at 3 m	
			PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	**Applicable To**		**EIRP Limit**	**Equivalent Field Strength at 3 m**
5150~5250 MHz	15.407(b)(1)		PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
5250~5350 MHz	15.407(b)(2)			
5470~5725 MHz	15.407(b)(3)			
5725~5850 MHz	☒	15.407(b)(4)(i)	PK:-27 (dBm/MHz) *1 PK:10 (dBm/MHz) *2 PK:15.6 (dBm/MHz) *3 PK:27 (dBm/MHz) *4	PK: 68.2 (dBμV/m) *1 PK:105.2 (dBμV/m) *2 PK: 110.8 (dBμV/m) *3 PK:122.2 (dBμV/m) *4
	☐	15.407(b)(4)(ii)	Emission limits in section 15.247(d)	

*1 beyond 75 MHz or more above of the band edge.

*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Note:

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent Technologies	N9038A	MY52260177	Aug. 24, 2020	Aug. 23, 2021
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Apr. 12, 2021	Apr. 11, 2022
HORN Antenna ETS-Lindgren	3117	00143293	Nov. 22, 2020	Nov. 21, 2021
BILOG Antenna SCHWARZBECK	VULB 9168	9168-616	Nov. 09, 2020	Nov. 08, 2021
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Nov. 22, 2020	Nov. 21, 2021
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 13, 2021	Apr. 12, 2022
Loop Antenna	EM-6879	269	Sep. 17, 2020	Sep. 16, 2021
MXG Vector signal generator Agilent	N5182B	MY53050430	Nov. 25, 2020	Nov. 24, 2021
Preamplifier Agilent	310N	187226	Jun. 17, 2020	Jun. 16, 2021
Preamplifier Agilent	83017A	MY39501357	Jun. 17, 2020	Jun. 16, 2021
Preamplifier EMCI	EMC 184045	980116	Oct. 07, 2020	Oct. 06, 2021
Power Meter Anritsu	ML2495A	1012010	Sep. 01, 2020	Aug. 31, 2021
Power Sensor Anritsu	MA2411B	1315050	Sep. 01, 2020	Aug. 31, 2021
RF signal cable ETS-LINDGREN	5D-FB	Cable-CH1-01(RFC-SMS-100-SMS-120+RFC-SMS-100-SMS-400)	Jun. 17, 2020	Jun. 16, 2021
RF signal cable ETS-LINDGREN	8D-FB	Cable-CH1-02(RFC-SMS-100-SMS-24)	Jun. 17, 2020	Jun. 17, 2021
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Software BV ADT	E3 8.130425b	NA	NA	NA
Antenna Tower MF	NA	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HsinTien Chamber 1.

4.1.3 Test Procedures

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 a 3 meter chamber room. 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.

Note:

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

For Radiated Emission above 30 MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30 MHz ~ 1 GHz) / 1.5 meters (for above 1 GHz) 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.
f. The test-receiver system was set to peak and average detected 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.

Note:

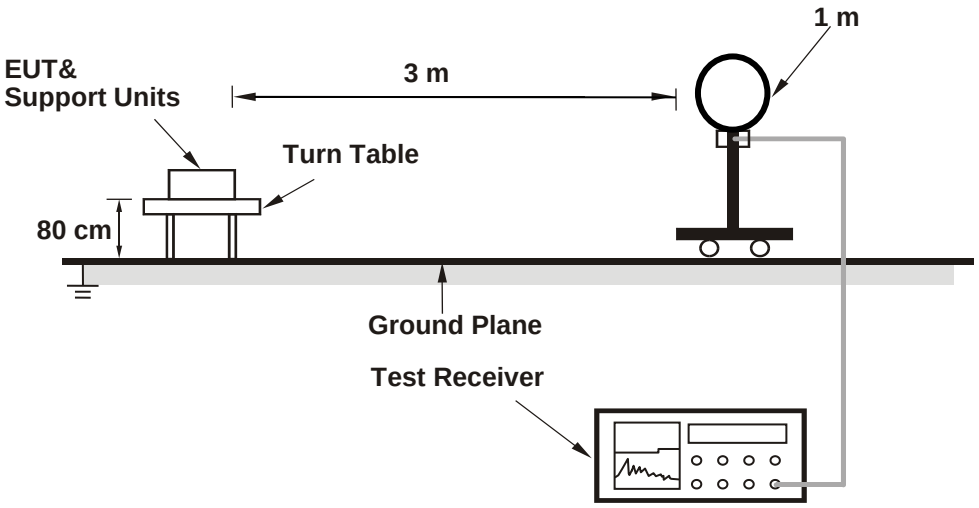
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. 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. (11a: RBW = 1 MHz, VBW = 1 kHz ; 11n (HT20): RBW = 1 MHz, VBW = 1 kHz ; 11n (HT40): RBW = 1 MHz, VBW = 3 kHz ; 11ac (VHT80): RBW = 1 MHz, VBW = 10 kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

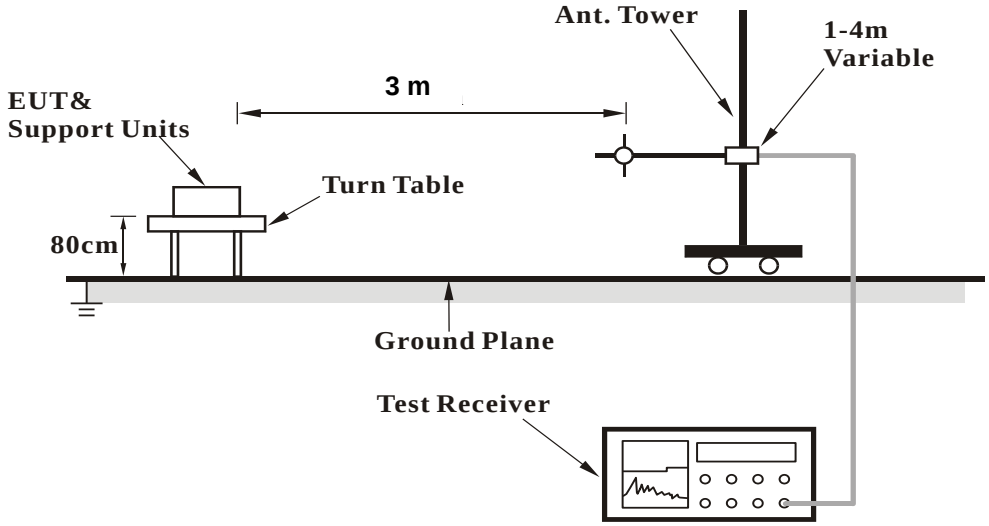
No deviation.

4.1.5 Test Setup

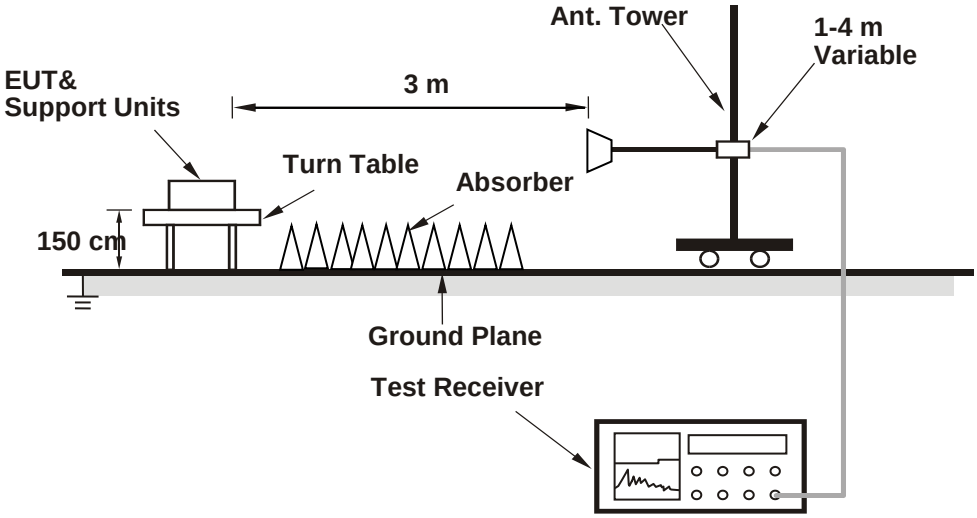
<Radiated Emission below 30 MHz>



<Radiated Emission 30 MHz to 1 GHz>



<Radiated Emission above 1 GHz>



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

4.1.6 EUT Operating Conditions

a. Placed the EUT on a testing table.
b. Use the software to control the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1 GHz Data：

802.11a

EUT Test Condition		Measurement Detail	
Channel	Channel 36	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	44.18	34.13	10.05	54	-9.82	115	245	Average
5150	53.57	43.52	10.05	74	-20.43	115	245	Peak
5180	93.83	83.71	10.12			115	245	Average
5180	100.99	90.87	10.12			115	245	Peak
*10360	55.13	39.11	16.02	68.2	-13.07	250	167	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	46.15	36.1	10.05	54	-7.85	237	276	Average
5150	59.04	48.99	10.05	74	-14.96	237	276	Peak
5180	97.3	87.18	10.12			237	276	Average
5180	104.46	94.34	10.12			237	276	Peak
*10360	55.74	39.72	16.02	68.2	-12.46	237	0	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5180 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 40	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	43.29	33.24	10.05	54	-10.71	115	245	Average
5150	53.25	43.2	10.05	74	-20.75	115	245	Peak
5200	93.38	83.22	10.16			115	245	Average
5200	100.87	90.71	10.16			115	245	Peak
5350	43.05	32.82	10.23	54	-10.95	115	245	Average
5350	53.05	42.82	10.23	74	-20.95	115	245	Peak
*10400	55.43	39.25	16.18	68.2	-12.77	180	134	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	43.72	33.67	10.05	54	-10.28	221	276	Average
5150	52.44	42.39	10.05	74	-21.56	221	276	Peak
5200	97.31	87.15	10.16			221	276	Average
5200	104.47	94.31	10.16			221	276	Peak
5350	43.09	32.86	10.23	54	-10.91	221	276	Average
5350	52.79	42.56	10.23	74	-21.21	221	276	Peak
*10400	54.83	38.65	16.18	68.2	-13.37	325	106	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5200 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 48	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5240	94.57	84.43	10.14			126	245	Average
5240	101.07	90.93	10.14			126	245	Peak
5350	43.06	32.83	10.23	54	-10.94	126	245	Average
5350	53.28	43.05	10.23	74	-20.72	126	245	Peak
*10480	55.05	39.15	15.9	68.2	-13.15	146	187	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5240	97	86.86	10.14			221	276	Average
5240	104.2	94.06	10.14			221	276	Peak
5350	43.24	33.01	10.23	54	-10.76	221	276	Average
5350	52.81	42.58	10.23	74	-21.19	221	276	Peak
*10480	55.01	39.11	15.9	68.2	-13.19	129	345	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5240 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 52	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	42.96	32.91	10.05	54	-11.04	106	52	Average
5150	52.21	42.16	10.05	74	-21.79	106	52	Peak
5260	94.78	84.66	10.12			106	52	Average
5260	101.1	90.98	10.12			106	52	Peak
*10520	55.54	39.66	15.88	68.2	-12.66	218	121	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	42.88	32.83	10.05	54	-11.12	220	241	Average
5150	52.54	42.49	10.05	74	-21.46	220	241	Peak
5260	97.27	87.15	10.12			220	241	Average
5260	104.79	94.67	10.12			220	241	Peak
*10520	54.85	38.97	15.88	68.2	-13.35	123	176	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5260 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 60	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	42.88	32.83	10.05	54	-11.12	106	51	Average
5150	52.55	42.5	10.05	74	-21.45	106	51	Peak
5300	94.01	83.95	10.06			106	51	Average
5300	101.26	91.2	10.06			106	51	Peak
5350	42.83	32.6	10.23	54	-11.17	106	51	Average
5350	52.71	42.48	10.23	74	-21.29	106	51	Peak
10600	45.17	29.41	15.76	54	-8.83	125	81	Average
10600	54.95	39.19	15.76	74	-19.05	125	81	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	42.9	32.85	10.05	54	-11.1	220	241	Average
5150	53.11	43.06	10.05	74	-20.89	220	241	Peak
5300	96.93	86.87	10.06			220	241	Average
5300	104.42	94.36	10.06			220	241	Peak
5350	42.95	32.72	10.23	54	-11.05	220	241	Average
5350	52.49	42.26	10.23	74	-21.51	220	241	Peak
10600	44.85	29.09	15.76	54	-9.15	169	37	Average
10600	54.62	38.86	15.76	74	-19.38	169	37	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 64	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5320	94.08	83.99	10.09			106	51	Average
5320	101.39	91.3	10.09			106	51	Peak
5350	44.19	33.96	10.23	54	-9.81	106	51	Average
5350	54.34	44.11	10.23	74	-19.66	106	51	Peak
10640	44.59	28.6	15.99	54	-9.41	275	166	Average
10640	54.74	38.75	15.99	74	-19.26	275	166	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5320	97.15	87.06	10.09			220	242	Average
5320	104.64	94.55	10.09			220	242	Peak
5350	43.6	33.37	10.23	54	-10.4	220	242	Average
5350	53.05	42.82	10.23	74	-20.95	220	242	Peak
10640	45.26	29.27	15.99	54	-8.74	128	222	Average
10640	55.11	39.12	15.99	74	-18.89	128	222	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5320 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 100	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	43.04	32.53	10.51	54	-10.96	121	14	Average
5460	52.32	41.81	10.51	74	-21.68	121	14	Peak
*5470	53.63	43.1	10.53	68.2	-14.57	121	14	Peak
5500	94.75	84.15	10.6			121	14	Average
5500	101.31	90.71	10.6			121	14	Peak
11000	45.11	28.98	16.13	54	-8.89	128	34	Average
11000	55.24	39.11	16.13	74	-18.76	128	34	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	43.17	32.66	10.51	54	-10.83	250	237	Average
5460	52.16	41.65	10.51	74	-21.84	250	237	Peak
*5470	53.27	42.74	10.53	68.2	-14.93	250	237	Peak
5500	97.28	86.68	10.6			250	237	Average
5500	104.91	94.31	10.6			250	237	Peak
11000	45.39	29.26	16.13	54	-8.61	162	283	Average
11000	55.19	39.06	16.13	74	-18.81	162	283	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5500 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 116	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	42.91	32.4	10.51	54	-11.09	121	14	Average
5460	52.6	42.09	10.51	74	-21.4	121	14	Peak
*5470	51.12	40.59	10.53	68.2	-17.08	121	14	Peak
5580	97.15	86.44	10.71			121	14	Average
5580	103.57	92.86	10.71			121	14	Peak
*5725	51.26	40.34	10.92	68.2	-16.94	121	14	Peak
11160	47.36	31	16.36	54	-6.64	107	25	Average
11160	57.59	41.23	16.36	74	-16.41	107	25	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	43.02	32.51	10.51	54	-10.98	250	237	Average
5460	52.69	42.18	10.51	74	-21.31	250	237	Peak
*5470	49.71	39.18	10.53	68.2	-18.49	250	237	Peak
5580	98.17	87.46	10.71			250	237	Average
5580	105.36	94.65	10.71			250	237	Peak
*5725	51.56	40.64	10.92	68.2	-16.64	250	237	Peak
11160	47.24	30.88	16.36	54	-6.76	163	180	Average
11160	57.05	40.69	16.36	74	-16.95	163	180	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5580 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 140	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5700	95.58	84.63	10.95			100	15	Average
5700	102.64	91.69	10.95			100	15	Peak
*5725	52.58	41.66	10.92	68.2	-15.62	100	15	Peak
11400	46.37	30.18	16.19	54	-7.63	284	101	Average
11400	56.69	40.5	16.19	74	-17.31	284	101	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5700	97.62	86.67	10.95			250	233	Average
5700	104.57	93.62	10.95			250	233	Peak
*5725	51.39	40.47	10.92	68.2	-16.81	250	233	Peak
11400	46.63	30.44	16.19	54	-7.37	154	192	Average
11400	56.88	40.69	16.19	74	-17.12	154	192	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5700 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 149	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5745	93.21	82.33	10.88			100	17	Average
5745	99.79	88.91	10.88			100	17	Peak
11490	46.92	30.45	16.47	54	-7.08	208	142	Average
11490	57.27	40.8	16.47	74	-16.73	208	142	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5745	96.02	85.14	10.88			232	231	Average
5745	102.82	91.94	10.88			232	231	Peak
11490	47.35	30.88	16.47	54	-6.65	141	37	Average
11490	57.55	41.08	16.47	74	-16.45	141	37	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5620.75	52.37	41.58	10.79	68.2	-15.83	100	17	Peak
5649.625	52.13	41.26	10.87	68.2	-16.07	100	17	Peak
5932.075	51.57	40.46	11.11	68.2	-16.63	100	17	Peak
*5952.55	52.7	41.51	11.19	68.2	-15.5	100	17	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5564.05	52.54	41.86	10.68	68.2	-15.66	232	231	Peak
5654.35	51.87	41	10.87	71.42	-19.55	232	231	Peak
5918.95	51.11	40.02	11.09	72.68	-21.57	232	231	Peak
*5958.325	52.67	41.46	11.21	68.2	-15.53	232	231	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5745 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 157	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5785	93.24	82.43	10.81			100	17	Average
5785	100.25	89.44	10.81			100	17	Peak
11570	47.49	31	16.49	54	-6.51	213	271	Average
11570	57.69	41.2	16.49	74	-16.31	213	271	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5785	95.32	84.51	10.81			232	231	Average
5785	102.46	91.65	10.81			232	231	Peak
11570	46.21	29.72	16.49	54	-7.79	106	340	Average
11570	56.57	40.08	16.49	74	-17.43	106	340	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5553.55	52.23	41.57	10.66	68.2	-15.97	100	17	Peak
5654.35	51.58	40.71	10.87	71.42	-19.84	100	17	Peak
5920	50.64	39.55	11.09	71.9	-21.26	100	17	Peak
*5995.6	52.39	41.06	11.33	68.2	-15.81	100	17	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5564.575	52.38	41.68	10.7	68.2	-15.82	232	231	Peak
5656.975	51.82	40.95	10.87	73.36	-21.54	232	231	Peak
5913.175	51.52	40.45	11.07	76.95	-25.43	232	231	Peak
*5977.75	52.26	41	11.26	68.2	-15.94	232	231	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5785 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 165	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5825	92.47	81.59	10.88			118	7	Average
5825	99.5	88.62	10.88			118	7	Peak
11650	47.54	30.76	16.78	54	-6.46	152	227	Average
11650	57.7	40.92	16.78	74	-16.3	152	227	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5825	95.26	84.38	10.88			232	231	Average
5825	102.28	91.4	10.88			232	231	Peak
11650	47.36	30.58	16.78	54	-6.64	165	171	Average
11650	57.71	40.93	16.78	74	-16.29	165	171	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5557.225	52.32	41.64	10.68	68.2	-15.88	118	7	Peak
5653.3	51.41	40.54	10.87	70.64	-19.23	118	7	Peak
5921.05	50.56	39.47	11.09	71.12	-20.56	118	7	Peak
*5942.575	52.48	41.3	11.18	68.2	-15.72	118	7	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5594.5	52.84	42.09	10.75	68.2	-15.36	232	231	Peak
5653.825	51.58	40.71	10.87	71.03	-19.45	232	231	Peak
5920	51.1	40.01	11.09	71.9	-20.8	232	231	Peak
*5946.775	53.47	42.29	11.18	68.2	-14.73	232	231	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5825 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

802.11n (HT20)

EUT Test Condition		Measurement Detail	
Channel	Channel 36	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	44.22	34.17	10.05	54	-9.78	114	348	Average
5150	53.67	43.62	10.05	74	-20.33	114	348	Peak
5180	95.75	85.63	10.12			114	348	Average
5180	102.5	92.38	10.12			114	348	Peak
*10360	56.02	40	16.02	68.2	-12.18	163	284	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	43.61	33.56	10.05	54	-10.39	137	59	Average
5150	53.88	43.83	10.05	74	-20.12	137	59	Peak
5180	96.59	86.47	10.12			137	59	Average
5180	103.2	93.08	10.12			137	59	Peak
*10360	57.19	41.17	16.02	68.2	-11.01	263	190	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5180 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 40	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	42.39	32.34	10.05	54	-11.61	114	348	Average
5150	53.32	43.27	10.05	74	-20.68	114	348	Peak
5200	95.46	85.3	10.16			114	348	Average
5200	102.94	92.78	10.16			114	348	Peak
5350	42.19	31.96	10.23	54	-11.81	114	348	Average
5350	52.06	41.83	10.23	74	-21.94	114	348	Peak
*10400	55.76	39.58	16.18	68.2	-12.44	131	87	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	42.37	32.32	10.05	54	-11.63	137	59	Average
5150	52.73	42.68	10.05	74	-21.27	137	59	Peak
5200	96.89	86.73	10.16			137	59	Average
5200	103.79	93.63	10.16			137	59	Peak
5350	42.08	31.85	10.23	54	-11.92	137	59	Average
5350	52.99	42.76	10.23	74	-21.01	137	59	Peak
*10400	56.14	39.96	16.18	68.2	-12.06	253	101	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5200 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 48	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5240	95.16	85.02	10.14			114	348	Average
5240	102.45	92.31	10.14			114	348	Peak
5350	42.23	32	10.23	54	-11.77	114	348	Average
5350	52.53	42.3	10.23	74	-21.47	114	348	Peak
*10480	56.48	40.58	15.9	68.2	-11.72	116	272	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5240	96.59	86.45	10.14			137	59	Average
5240	103.12	92.98	10.14			137	59	Peak
5350	42.09	31.86	10.23	54	-11.91	137	59	Average
5350	52.35	42.12	10.23	74	-21.65	137	59	Peak
*10480	56.9	41	15.9	68.2	-11.3	125	324	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5240 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 52	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	42.22	32.17	10.05	54	-11.78	168	335	Average
5150	53.58	43.53	10.05	74	-20.42	168	335	Peak
5260	96.69	86.57	10.12			168	335	Average
5260	103.57	93.45	10.12			168	335	Peak
*10520	55.67	39.79	15.88	68.2	-12.53	326	117	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	42.37	32.32	10.05	54	-11.63	269	268	Average
5150	52.87	42.82	10.05	74	-21.13	269	268	Peak
5260	97.58	87.46	10.12			269	268	Average
5260	104.22	94.1	10.12			269	268	Peak
*10520	56.83	40.95	15.88	68.2	-11.37	214	176	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5260 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 60	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	42.41	32.36	10.05	54	-11.59	168	335	Average
5150	53.06	43.01	10.05	74	-20.94	168	335	Peak
5300	96.19	86.13	10.06			168	335	Average
5300	103.69	93.63	10.06			168	335	Peak
5350	42.06	31.83	10.23	54	-11.94	168	335	Average
5350	53.44	43.21	10.23	74	-20.56	168	335	Peak
10600	45.42	29.66	15.76	54	-8.58	128	30	Average
10600	55.73	39.97	15.76	74	-18.27	128	30	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	42.43	32.38	10.05	54	-11.57	269	268	Average
5150	52.81	42.76	10.05	74	-21.19	269	268	Peak
5300	97.67	87.61	10.06			269	268	Average
5300	104.38	94.32	10.06			269	268	Peak
5350	42.13	31.9	10.23	54	-11.87	269	268	Average
5350	53.44	43.21	10.23	74	-20.56	269	268	Peak
10600	45.54	29.78	15.76	54	-8.46	231	172	Average
10600	55.76	40	15.76	74	-18.24	231	172	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 64	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5320	95.45	85.36	10.09			168	335	Average
5320	102.81	92.72	10.09			168	335	Peak
5350	43.04	32.81	10.23	54	-10.96	168	335	Average
5350	53	42.77	10.23	74	-21	168	335	Peak
10640	47.14	31.15	15.99	54	-6.86	171	162	Average
10640	57.32	41.33	15.99	74	-16.68	171	162	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5320	97.6	87.51	10.09			269	268	Average
5320	104.73	94.64	10.09			269	268	Peak
5350	45.4	35.17	10.23	54	-8.6	269	268	Average
5350	59.68	49.45	10.23	74	-14.32	269	268	Peak
10640	46.73	30.74	15.99	54	-7.27	287	104	Average
10640	57.02	41.03	15.99	74	-16.98	287	104	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5320 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 100	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	42.48	31.97	10.51	54	-11.52	168	335	Average
5460	53.07	42.56	10.51	74	-20.93	168	335	Peak
*5470	59.09	48.56	10.53	68.2	-9.11	168	335	Peak
5500	95.14	84.54	10.6			168	335	Average
5500	102.26	91.66	10.6			168	335	Peak
11000	46.47	30.34	16.13	54	-7.53	129	353	Average
11000	56.58	40.45	16.13	74	-17.42	129	353	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	43.79	33.28	10.51	54	-10.21	278	302	Average
5460	52.98	42.47	10.51	74	-21.02	278	302	Peak
*5470	59.49	48.96	10.53	68.2	-8.71	278	302	Peak
5500	96.59	85.99	10.6			278	302	Average
5500	103.56	92.96	10.6			278	302	Peak
11000	46.11	29.98	16.13	54	-7.89	173	225	Average
11000	56.27	40.14	16.13	74	-17.73	173	225	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5500 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 116	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	42.05	31.54	10.51	54	-11.95	168	335	Average
5460	52.74	42.23	10.51	74	-21.26	168	335	Peak
*5470	50.73	40.2	10.53	68.2	-17.47	168	335	Peak
5580	96.59	85.88	10.71			168	335	Average
5580	103.76	93.05	10.71			168	335	Peak
*5725	52.57	41.65	10.92	68.2	-15.63	168	335	Peak
11160	47.49	31.13	16.36	54	-6.51	166	231	Average
11160	57.65	41.29	16.36	74	-16.35	166	231	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	42.13	31.62	10.51	54	-11.87	278	360	Average
5460	52.97	42.46	10.51	74	-21.03	278	360	Peak
*5470	51.17	40.64	10.53	68.2	-17.03	278	360	Peak
5580	97.48	86.77	10.71			278	360	Average
5580	104.29	93.58	10.71			278	360	Peak
*5725	51.5	40.58	10.92	68.2	-16.7	278	360	Peak
11160	46.03	29.67	16.36	54	-7.97	148	227	Average
11160	56.23	39.87	16.36	74	-17.77	148	227	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5580 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 140	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5700	95.16	84.21	10.95			168	335	Average
5700	102.73	91.78	10.95			168	335	Peak
*5725	55.43	44.51	10.92	68.2	-12.77	168	335	Peak
11400	47.47	31.28	16.19	54	-6.53	253	142	Average
11400	57.46	41.27	16.19	74	-16.54	253	142	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5700	96.63	85.68	10.95			278	360	Average
5700	103.56	92.61	10.95			278	360	Peak
*5725	56.49	45.57	10.92	68.2	-11.71	278	360	Peak
11400	46.39	30.2	16.19	54	-7.61	262	178	Average
11400	56.76	40.57	16.19	74	-17.24	262	178	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5700 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 149	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5745	94.77	83.89	10.88			168	356	Average
5745	101.95	91.07	10.88			168	356	Peak
11490	46.2	29.73	16.47	54	-7.8	292	176	Average
11490	56.38	39.91	16.47	74	-17.62	292	176	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5745	95.55	84.67	10.88			277	300	Average
5745	102.71	91.83	10.88			277	300	Peak
11490	46.48	30.01	16.47	54	-7.52	234	172	Average
11490	56.63	40.16	16.47	74	-17.37	234	172	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5597.125	52.05	41.3	10.75	68.2	-16.15	168	356	Peak
5652.775	52.49	41.62	10.87	70.25	-17.76	168	356	Peak
5920.525	53.06	41.97	11.09	71.51	-18.45	168	356	Peak
*5955.7	53.15	41.94	11.21	68.2	-15.05	168	356	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5600.275	54.12	43.36	10.76	68.2	-14.08	277	300	Peak
5652.25	51.61	40.74	10.87	69.86	-18.25	277	300	Peak
5920	52.25	41.16	11.09	71.9	-19.65	277	300	Peak
*5958.325	53.38	42.17	11.21	68.2	-14.82	277	300	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5745 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 157	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5785	95.58	84.77	10.81			168	356	Average
5785	102.32	91.51	10.81			168	356	Peak
11570	47.27	30.78	16.49	54	-6.73	162	43	Average
11570	57.43	40.94	16.49	74	-16.57	162	43	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5785	96.26	85.45	10.81			277	300	Average
5785	103.02	92.21	10.81			277	300	Peak
11570	47.85	31.36	16.49	54	-6.15	182	36	Average
11570	58.25	41.76	16.49	74	-15.75	182	36	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5554.6	54.8	44.14	10.66	68.2	-13.4	168	356	Peak
5651.725	51.42	40.55	10.87	69.48	-18.06	168	356	Peak
5921.575	51.84	40.73	11.11	70.73	-18.89	168	356	Peak
*5981.425	53.7	42.44	11.26	68.2	-14.5	168	356	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5608.15	53.56	42.81	10.75	68.2	-14.64	277	300	Peak
5652.775	52.52	41.65	10.87	70.25	-17.73	277	300	Peak
5915.8	51.68	40.59	11.09	75.01	-23.33	277	300	Peak
*5964.1	53.57	42.34	11.23	68.2	-14.63	277	300	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5785 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 165	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5825	94.22	83.34	10.88			168	356	Average
5825	101.09	90.21	10.88			168	356	Peak
11650	46.8	30.02	16.78	54	-7.2	236	101	Average
11650	56.98	40.2	16.78	74	-17.02	236	101	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5825	95.45	84.57	10.88			277	300	Average
5825	102.63	91.75	10.88			277	300	Peak
11650	47.44	30.66	16.78	54	-6.56	130	283	Average
11650	56.92	40.14	16.78	74	-17.08	130	283	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5576.125	53.82	43.09	10.73	68.2	-14.38	168	356	Peak
5652.25	51.76	40.89	10.87	69.86	-18.1	168	356	Peak
5922.625	53.17	42.06	11.11	69.96	-16.79	168	356	Peak
*6013.45	52.97	41.62	11.35	68.2	-15.23	168	356	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5609.2	52.39	41.64	10.75	68.2	-15.81	277	300	Peak
5650.15	52.01	41.14	10.87	68.31	-16.3	277	300	Peak
5923.15	53.06	41.95	11.11	69.57	-16.51	277	300	Peak
*5991.4	53.61	42.28	11.33	68.2	-14.59	277	300	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5825 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

802.11n (HT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 38	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	49.99	39.94	10.05	54	-4.01	114	348	Average
5150	59.86	49.81	10.05	74	-14.14	114	348	Peak
5190	93.59	83.47	10.12			114	348	Average
5190	100.25	90.13	10.12			114	348	Peak
5350	42.46	32.23	10.23	54	-11.54	114	348	Average
5350	52.92	42.69	10.23	74	-21.08	114	348	Peak
*10380	55.86	39.76	16.1	68.2	-12.34	112	173	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	50.11	40.06	10.05	54	-3.89	137	58	Average
5150	61.22	51.17	10.05	74	-12.78	137	58	Peak
5190	94.49	84.37	10.12			137	59	Average
5190	101.01	90.89	10.12			137	59	Peak
5350	42.67	32.44	10.23	54	-11.33	137	59	Average
5350	52.69	42.46	10.23	74	-21.31	137	59	Peak
*10380	55.71	39.61	16.1	68.2	-12.49	281	134	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5190 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 46	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	42.55	32.5	10.05	54	-11.45	114	348	Average
5150	52.99	42.94	10.05	74	-21.01	114	348	Peak
5230	93.58	83.44	10.14			114	348	Average
5230	100.58	90.44	10.14			114	348	Peak
5350	42.51	32.28	10.23	54	-11.49	114	348	Average
5350	53.11	42.88	10.23	74	-20.89	114	348	Peak
*10460	55.9	39.9	16	68.2	-12.3	193	233	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	42.65	32.6	10.05	54	-11.35	137	59	Average
5150	52.85	42.8	10.05	74	-21.15	137	59	Peak
5230	94.59	84.45	10.14			137	59	Average
5230	101.65	91.51	10.14			137	59	Peak
5350	42.55	32.32	10.23	54	-11.45	137	59	Average
5350	53.01	42.78	10.23	74	-20.99	137	59	Peak
*10460	56.54	40.54	16	68.2	-11.66	274	151	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5230 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 54	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	42.68	32.63	10.05	54	-11.32	168	335	Average
5150	53.17	43.12	10.05	74	-20.83	168	335	Peak
5270	93.16	83.04	10.12			168	335	Average
5270	100	89.88	10.12			168	335	Peak
5350	42.62	32.39	10.23	54	-11.38	168	335	Average
5350	52.94	42.71	10.23	74	-21.06	168	335	Peak
*10540	56.05	40.22	15.83	68.2	-12.15	193	205	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	42.79	32.74	10.05	54	-11.21	269	268	Average
5150	53.54	43.49	10.05	74	-20.46	269	268	Peak
5270	94.84	84.72	10.12			269	268	Average
5270	101.89	91.77	10.12			269	268	Peak
5350	42.19	31.96	10.23	54	-11.81	269	268	Average
5350	52.89	42.66	10.23	74	-21.11	269	268	Peak
*10540	55.88	40.05	15.83	68.2	-12.32	228	141	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5270 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 62	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	42.18	32.13	10.05	54	-11.82	168	335	Average
5150	53.13	43.08	10.05	74	-20.87	168	335	Peak
5310	92.5	82.41	10.09			168	335	Average
5310	99.13	89.04	10.09			168	335	Peak
5350	45.79	35.56	10.23	54	-8.21	168	335	Average
5350	57.26	47.03	10.23	74	-16.74	168	335	Peak
10620	45.23	29.35	15.88	54	-8.77	148	243	Average
10620	55.37	39.49	15.88	74	-18.63	148	243	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	42.24	32.19	10.05	54	-11.76	269	268	Average
5150	52.97	42.92	10.05	74	-21.03	269	268	Peak
5310	93.51	83.42	10.09			269	268	Average
5310	100.01	89.92	10.09			269	268	Peak
5350	50.5	40.27	10.23	54	-3.5	270	268	Average
5350	61.09	50.86	10.23	74	-12.91	270	268	Peak
10620	45.68	29.8	15.88	54	-8.32	253	107	Average
10620	55.91	40.03	15.88	74	-18.09	253	107	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5310 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 102	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	45.35	34.84	10.51	54	-8.65	168	335	Average
5460	55.93	45.42	10.51	74	-18.07	168	335	Peak
*5470	63.94	53.41	10.53	68.2	-4.26	168	335	Peak
5510	90.57	79.97	10.6			168	335	Average
5510	97.25	86.65	10.6			168	335	Peak
*5725	53.62	42.7	10.92	68.2	-14.58	168	335	Peak
11020	45.48	29.32	16.16	54	-8.52	131	198	Average
11020	55.65	39.49	16.16	74	-18.35	131	198	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	47.24	36.73	10.51	54	-6.76	240	247	Average
5460	59.22	48.71	10.51	74	-14.78	240	247	Peak
*5470	67.03	56.5	10.53	68.2	-1.17	240	247	Peak
5510	91.64	81.04	10.6			278	302	Average
5510	98.73	88.13	10.6			278	302	Peak
*5725	52.15	41.23	10.92	68.2	-16.05	278	302	Peak
11020	45.73	29.57	16.16	54	-8.27	304	182	Average
11020	56.01	39.85	16.16	74	-17.99	304	182	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5510 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 110	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	42.49	31.98	10.51	54	-11.51	168	335	Average
5460	52.51	42	10.51	74	-21.49	168	335	Peak
*5470	51.98	41.45	10.53	68.2	-16.22	168	335	Peak
5550	93.58	82.9	10.68			168	335	Average
5550	100.37	89.69	10.68			168	335	Peak
*5725	51.58	40.66	10.92	68.2	-16.62	168	335	Peak
11100	46.34	30.07	16.27	54	-7.66	270	125	Average
11100	56.52	40.25	16.27	74	-17.48	270	125	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	42.75	32.24	10.51	54	-11.25	278	302	Average
5460	53.41	42.9	10.51	74	-20.59	278	302	Peak
*5470	51.45	40.92	10.53	68.2	-16.75	278	302	Peak
5550	94.29	83.61	10.68			278	302	Average
5550	101.62	90.94	10.68			278	302	Peak
*5725	50.93	40.01	10.92	68.2	-17.27	278	302	Peak
11100	46.96	30.69	16.27	54	-7.04	162	249	Average
11100	57.15	40.88	16.27	74	-16.85	162	249	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5550 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 134	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	42.39	31.88	10.51	54	-11.61	168	335	Average
5460	52.63	42.12	10.51	74	-21.37	168	335	Peak
*5470	52.22	41.69	10.53	68.2	-15.98	168	335	Peak
5670	93.74	82.84	10.9			168	335	Average
5670	100.57	89.67	10.9			168	335	Peak
*5725	54.05	43.13	10.92	68.2	-14.15	168	335	Peak
11340	46.72	30.3	16.42	54	-7.28	194	236	Average
11340	56.89	40.47	16.42	74	-17.11	194	236	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	42.6	32.09	10.51	54	-11.4	278	302	Average
5460	52.57	42.06	10.51	74	-21.43	278	302	Peak
*5470	51.64	41.11	10.53	68.2	-16.56	278	302	Peak
5670	95.42	84.52	10.9			278	302	Average
5670	102.2	91.3	10.9			278	302	Peak
*5725	54.51	43.59	10.92	68.2	-13.69	278	302	Peak
11340	46.18	29.76	16.42	54	-7.82	226	243	Average
11340	56.39	39.97	16.42	74	-17.61	226	243	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5670 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 151	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5755	92.19	81.29	10.9			168	356	Average
5755	99.06	88.16	10.9			168	356	Peak
11510	47.45	30.94	16.51	54	-6.55	261	108	Average
11510	58	41.49	16.51	74	-16	261	108	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5755	92.66	81.76	10.9			277	300	Average
5755	99.18	88.28	10.9			277	300	Peak
11510	46.31	29.8	16.51	54	-7.69	115	28	Average
11510	56.71	40.2	16.51	74	-17.29	115	28	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5648.05	53.79	42.94	10.85	68.2	-14.41	168	356	Peak
5652.775	51.17	40.3	10.87	70.25	-19.08	168	356	Peak
5916.325	53.55	42.46	11.09	74.62	-21.07	168	356	Peak
*5927.35	52.85	41.74	11.11	68.2	-15.35	168	356	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5612.35	52.42	41.65	10.77	68.2	-15.78	277	300	Peak
5650.675	51.6	40.73	10.87	68.7	-17.1	277	300	Peak
5920	52.26	41.17	11.09	71.9	-19.64	277	300	Peak
*5987.725	53.22	41.91	11.31	68.2	-14.98	277	300	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5755 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 159	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5795	91.58	80.76	10.82			168	356	Average
5795	98.97	88.15	10.82			168	356	Peak
11590	46.64	30.13	16.51	54	-7.36	206	331	Average
11590	56.87	40.36	16.51	74	-17.13	206	331	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5795	92.55	81.73	10.82			277	300	Average
5795	99.84	89.02	10.82			277	300	Peak
11590	46.82	30.31	16.51	54	-7.18	214	106	Average
11590	57.08	40.57	16.51	74	-16.92	214	106	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5560.375	53.31	42.63	10.68	68.2	-14.89	168	356	Peak
5651.725	52.33	41.46	10.87	69.48	-17.15	168	356	Peak
5918.95	52.86	41.77	11.09	72.68	-19.82	168	356	Peak
*5994.025	53.34	42.01	11.33	68.2	-14.86	168	356	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5625.475	52.58	41.79	10.79	68.2	-15.62	277	300	Peak
5656.45	53.58	42.71	10.87	72.97	-19.39	277	300	Peak
5921.05	52.04	40.95	11.09	71.12	-19.08	277	300	Peak
*5968.825	53.27	42.04	11.23	68.2	-14.93	277	300	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5795 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

802.11ac (VHT80)

EUT Test Condition		Measurement Detail	
Channel	Channel 42	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	48.62	38.57	10.05	54	-5.38	114	348	Average
5150	58.29	48.24	10.05	74	-15.71	114	348	Peak
5210	87.14	76.97	10.17			114	348	Average
5210	94.07	83.9	10.17			114	348	Peak
5350	42.74	32.51	10.23	54	-11.26	114	348	Average
5350	53	42.77	10.23	74	-21	114	348	Peak
*10420	55.61	39.45	16.16	68.2	-12.59	182	154	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	50.87	40.82	10.05	54	-3.13	137	58	Average
5150	59.69	49.64	10.05	74	-14.31	137	58	Peak
5210	87.48	77.31	10.17			137	59	Average
5210	94.49	84.32	10.17			137	59	Peak
5350	42.91	32.68	10.23	54	-11.09	137	59	Average
5350	53.72	43.49	10.23	74	-20.28	137	59	Peak
*10420	56.27	40.11	16.16	68.2	-11.93	251	129	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5210 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 58	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	42.85	32.8	10.05	54	-11.15	114	348	Average
5150	53.29	43.24	10.05	74	-20.71	114	348	Peak
5290	87.26	77.16	10.1			114	348	Average
5290	94.04	83.94	10.1			114	348	Peak
5350	45.78	35.55	10.23	54	-8.22	114	348	Average
5350	55.91	45.68	10.23	74	-18.09	114	348	Peak
*10580	56.38	40.67	15.71	68.2	-11.82	177	125	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	42.85	32.8	10.05	54	-11.15	137	59	Average
5150	52.84	42.79	10.05	74	-21.16	137	59	Peak
5290	88.5	78.4	10.1			137	59	Average
5290	95.35	85.25	10.1			137	59	Peak
5350	49.34	39.11	10.23	54	-4.66	270	268	Average
5350	58.35	48.12	10.23	74	-15.65	270	268	Peak
*10580	56.12	40.41	15.71	68.2	-12.08	138	224	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5290 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 106	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	48.97	38.46	10.51	54	-5.03	168	335	Average
5460	59.43	48.92	10.51	74	-14.57	168	335	Peak
*5470	60.36	49.83	10.53	68.2	-7.84	168	335	Peak
5530	88.57	77.94	10.63			168	335	Average
5530	95.99	85.36	10.63			168	335	Peak
*5725	52.59	41.67	10.92	68.2	-15.61	168	335	Peak
11060	46.49	30.26	16.23	54	-7.51	182	172	Average
11060	56.68	40.45	16.23	74	-17.32	182	172	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	51.41	40.9	10.51	54	-2.59	240	247	Average
5460	60.76	50.25	10.51	74	-13.24	240	247	Peak
*5470	62.16	51.63	10.53	68.2	-6.04	240	247	Peak
5530	89.58	78.95	10.63			278	302	Average
5530	96.56	85.93	10.63			278	302	Peak
*5725	52.04	41.12	10.92	68.2	-16.16	278	302	Peak
11060	46.38	30.15	16.23	54	-7.62	241	117	Average
11060	56.62	40.39	16.23	74	-17.38	241	117	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5530 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 122	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	42.87	32.36	10.51	54	-11.13	168	335	Average
5460	52.73	42.22	10.51	74	-21.27	168	335	Peak
*5470	51.77	41.24	10.53	68.2	-16.43	168	335	Peak
5610	88.57	77.8	10.77			168	335	Average
5610	95.04	84.27	10.77			168	335	Peak
*5725	51.8	40.88	10.92	68.2	-16.4	168	335	Peak
11220	46.88	30.46	16.42	54	-7.12	126	308	Average
11220	57.08	40.66	16.42	74	-16.92	126	308	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	42.95	32.44	10.51	54	-11.05	278	302	Average
5460	52.58	42.07	10.51	74	-21.42	278	302	Peak
*5470	52.29	41.76	10.53	68.2	-15.91	278	302	Peak
5610	90.59	79.82	10.77			278	302	Average
5610	97.46	86.69	10.77			278	302	Peak
*5725	53.41	42.49	10.92	68.2	-14.79	278	302	Peak
11220	47.26	30.84	16.42	54	-6.74	215	147	Average
11220	57.49	41.07	16.42	74	-16.51	215	147	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5610 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 155	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5775	88.56	77.69	10.87			168	356	Average
5775	95.33	84.46	10.87			168	356	Peak
11550	46.63	30.13	16.5	54	-7.37	284	206	Average
11550	56.82	40.32	16.5	74	-17.18	284	206	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5775	89.26	78.39	10.87			277	300	Average
5775	96.13	85.26	10.87			277	300	Peak
11550	45.72	29.22	16.5	54	-8.28	227	182	Average
11550	55.7	39.2	16.5	74	-18.3	227	182	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5548.3	52.95	42.27	10.68	68.2	-15.25	168	356	Peak
5650.15	52.05	41.18	10.87	68.31	-16.26	168	356	Peak
5918.425	53.27	42.18	11.09	73.07	-19.8	168	356	Peak
*5983	53.03	41.77	11.26	68.2	-15.17	168	356	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5597.125	52.32	41.57	10.75	68.2	-15.88	277	300	Peak
5652.775	52.68	41.81	10.87	70.25	-17.57	277	300	Peak
5922.1	52.28	41.17	11.11	70.35	-18.07	277	300	Peak
*5992.975	53.36	42.03	11.33	68.2	-14.84	277	300	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5775 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

9 kHz ~ 30 MHz Data:

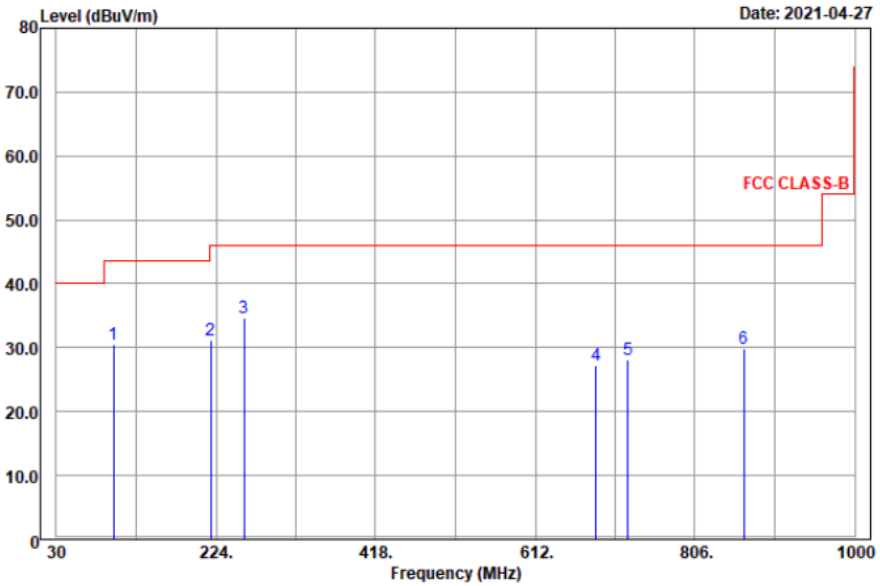
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

30 MHz ~ 1 GHz Worst-Case Data:

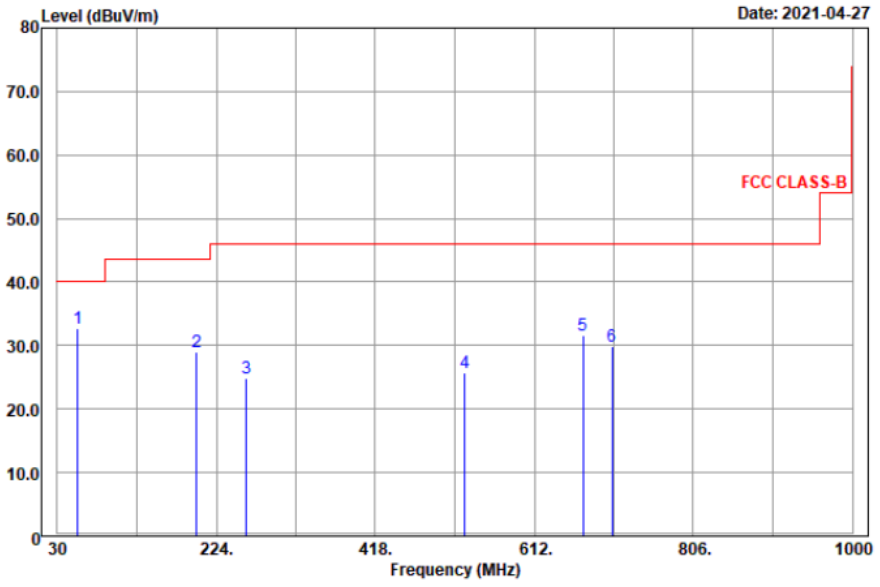
802.11n (HT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 102	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Karl Lee

Horizontal



Vertical



Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
99.66	30.6	47.8	-17.2	43.5	-12.9	188	195	Peak
217.65	31.09	49.01	-17.92	46	-14.91	105	262	Peak
258.15	34.59	51.29	-16.7	46	-11.41	124	175	Peak
685.7	27.22	36.63	-9.41	46	-18.78	165	285	Peak
724.2	28.11	36.83	-8.72	46	-17.89	195	177	Peak
865.6	29.8	36.27	-6.47	46	-16.2	105	210	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
54.57	32.59	48.02	-15.43	40	-7.41	108	5	Peak
199.56	29.03	47.28	-18.25	43.5	-14.47	110	241	Peak
260.58	24.83	41.5	-16.67	46	-21.17	158	263	Peak
527.5	25.78	37.7	-11.92	46	-20.22	167	66	Peak
671.7	31.52	41.13	-9.61	46	-14.48	179	77	Peak
706.7	29.93	39.05	-9.12	46	-16.07	105	32	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. The emission levels of other frequencies were very low against the limit

5 Pictures of Test Arrangements

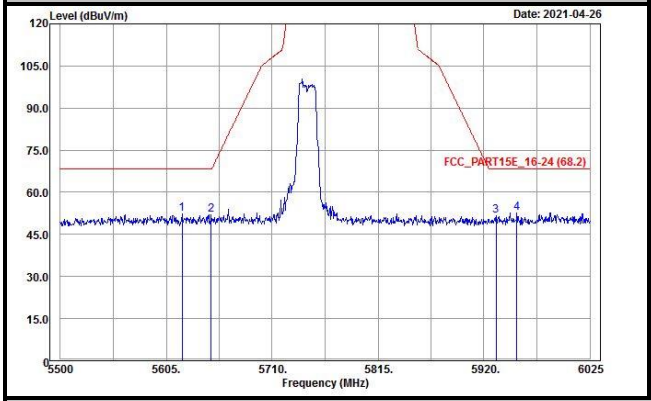
Please refer to the attached file (Test Setup Photo).

Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

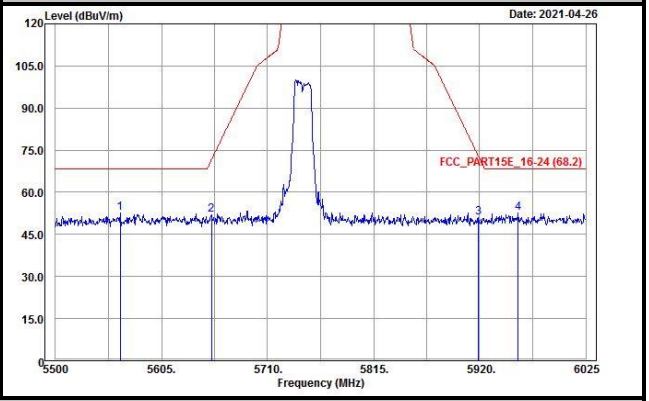
802.11a

Ch 149

Horizontal

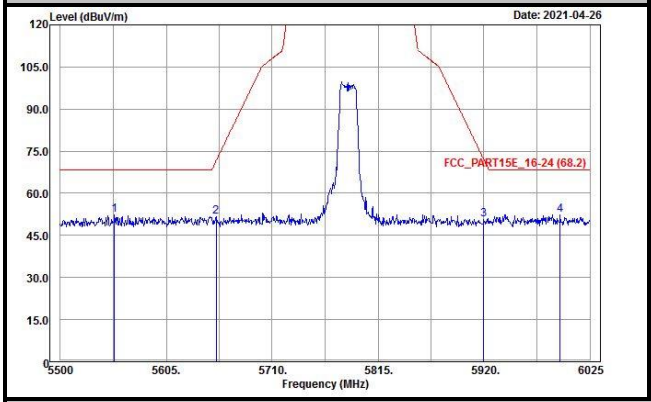


Vertical

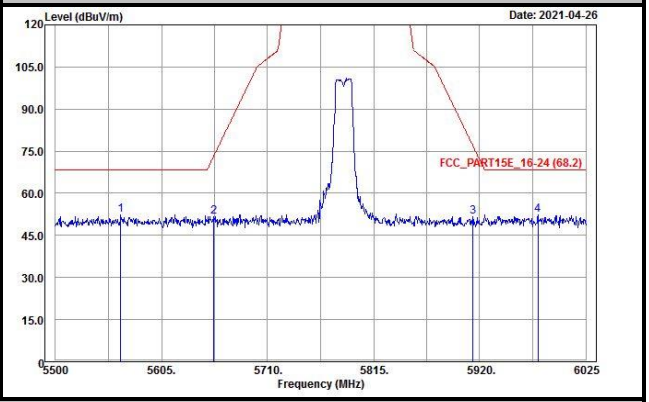


Ch 157

Horizontal

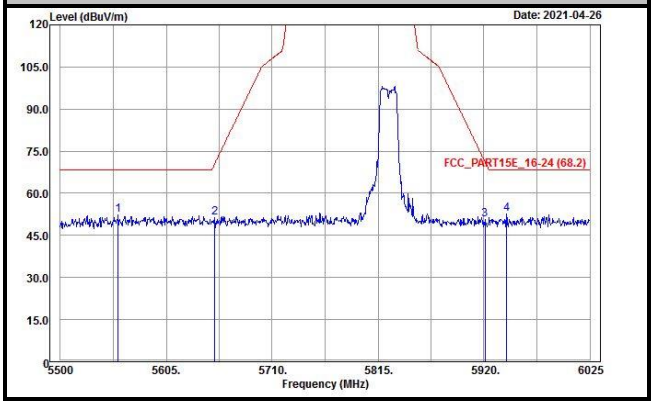


Vertical

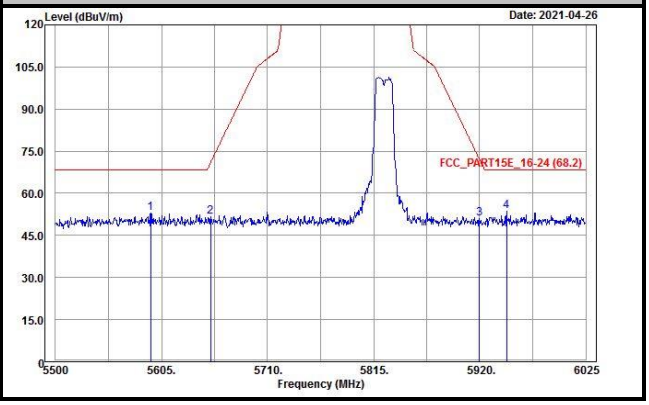


Ch 165

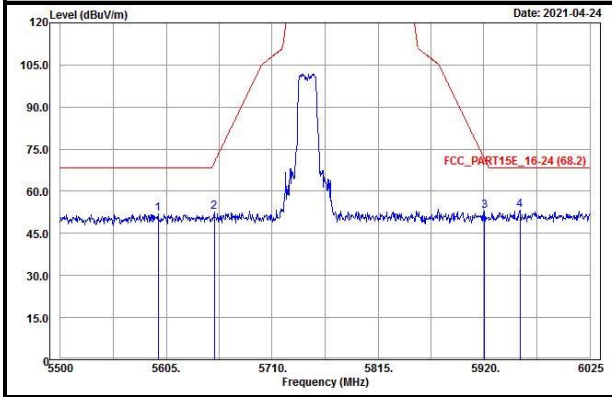
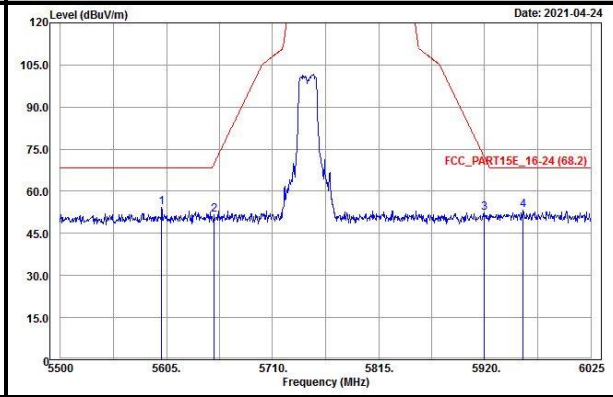
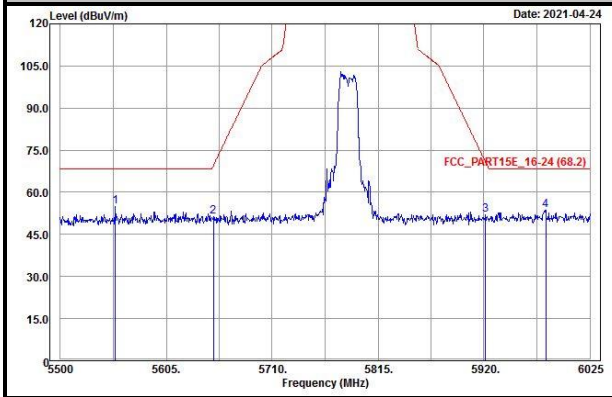
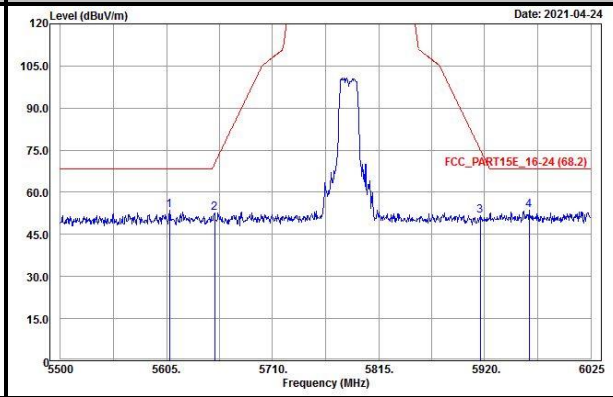
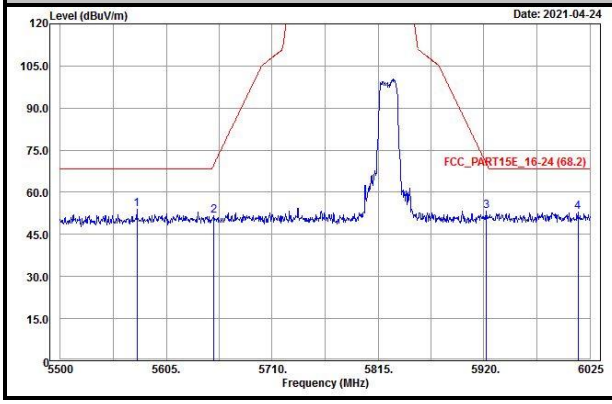
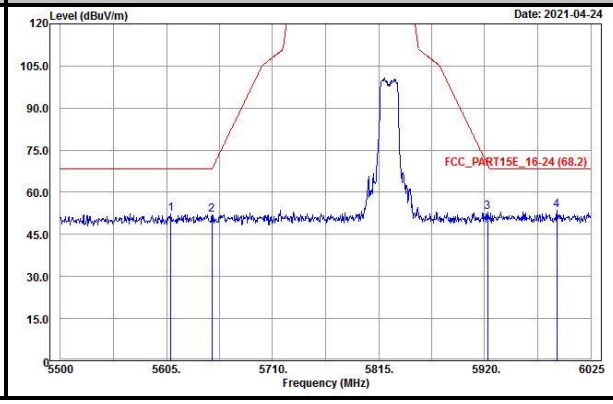
Horizontal



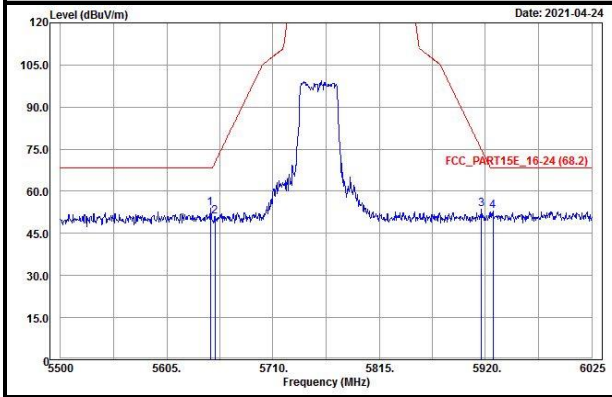
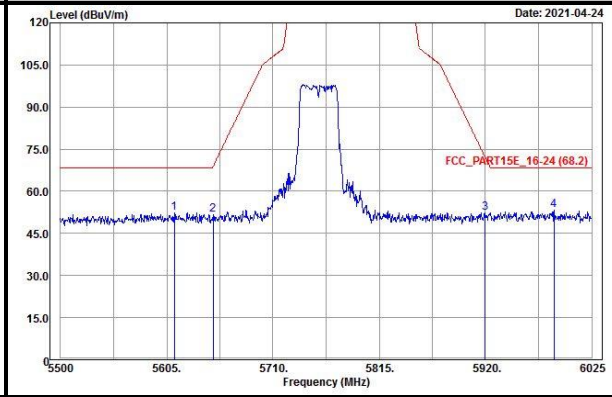
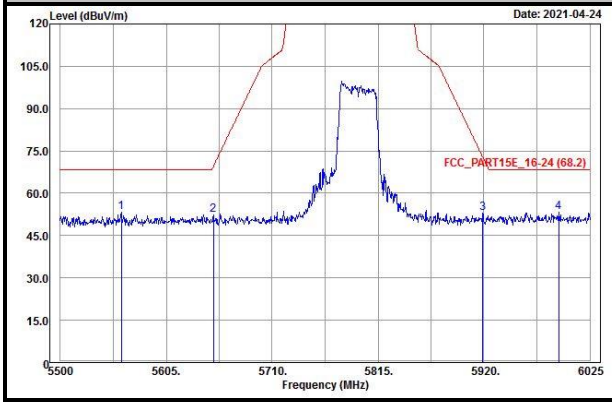
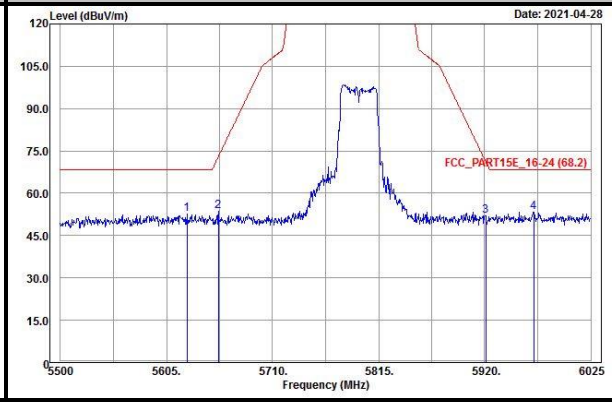
Vertical



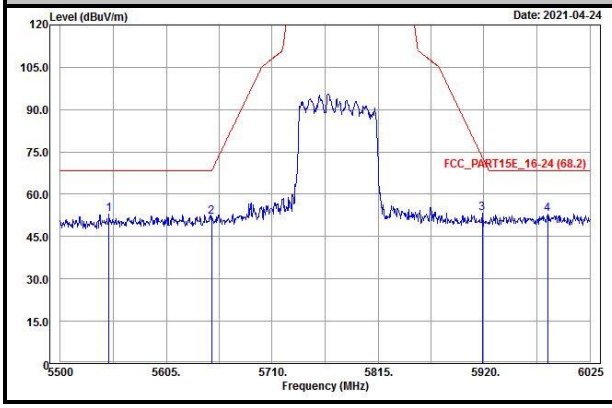
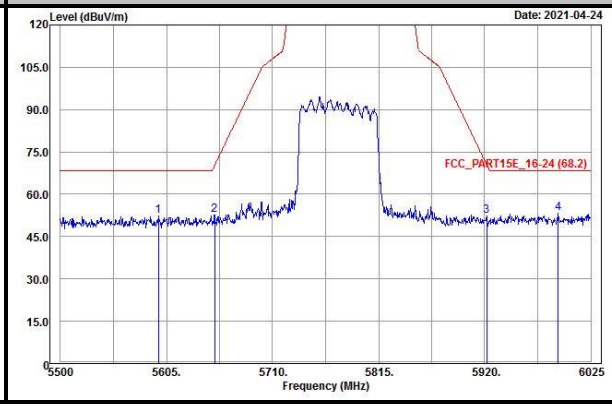
802.11n (HT20)

Ch 149	
Horizontal	Vertical
	
Ch 157	
Horizontal	Vertical
	
Ch 165	
Horizontal	Vertical
	

802.11n (HT40)

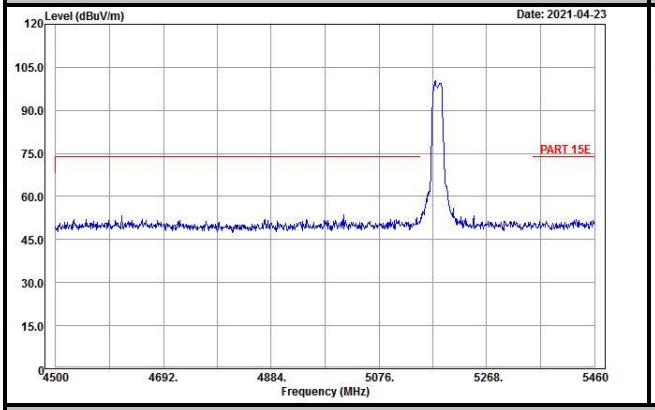
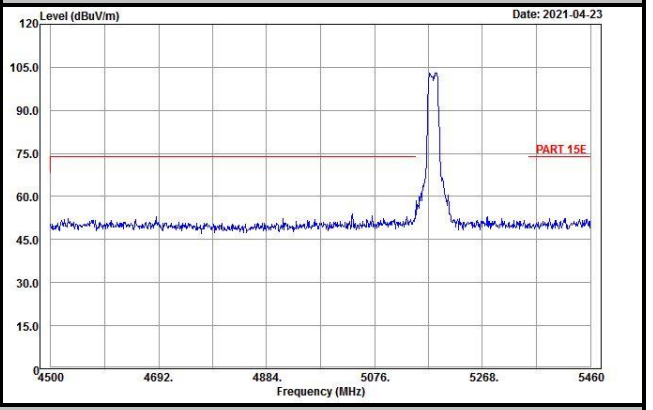
Ch 151	
Horizontal	Vertical
	
Ch 159	
Horizontal	Vertical
	

802.11ac (VHT80)

Ch 155	
Horizontal	Vertical
	

Annex B- Band Edge Measurement

802.11a

Ch 36	
Peak	
Horizontal	**Vertical**
	
Average	
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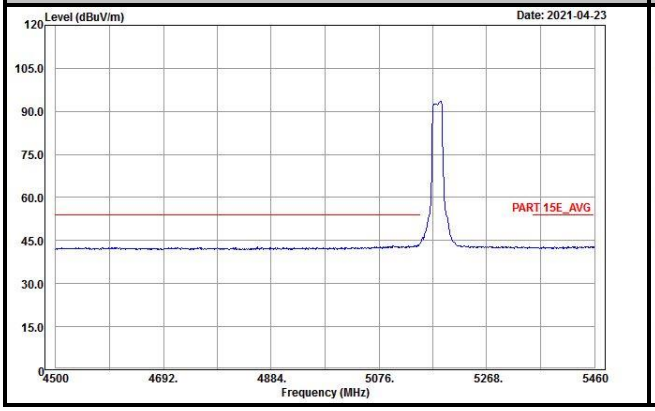	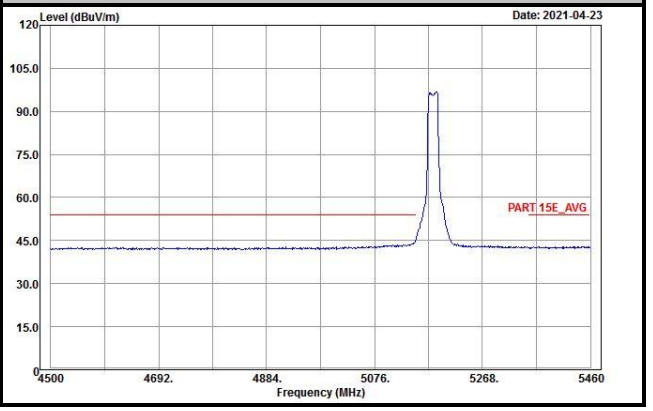

Ch 40	
Peak	
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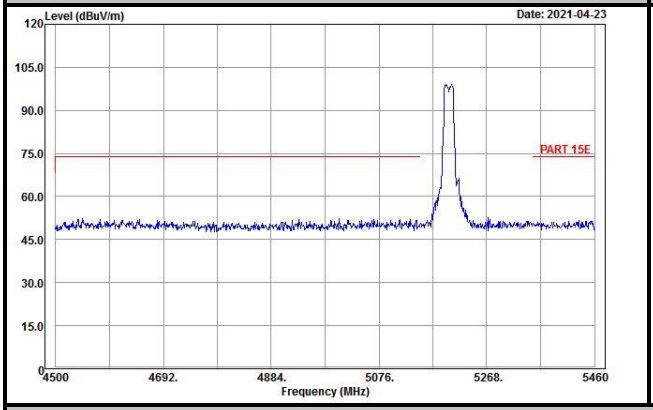	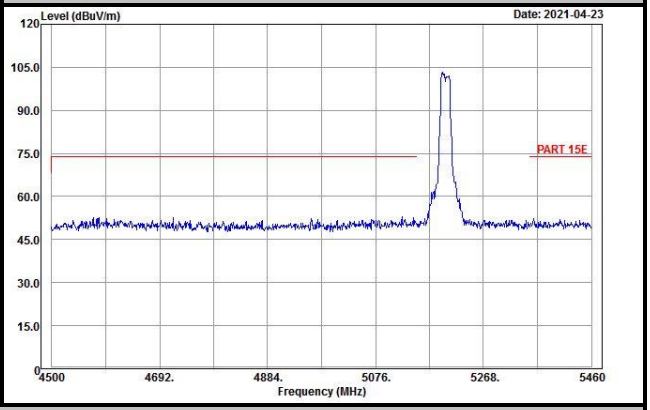
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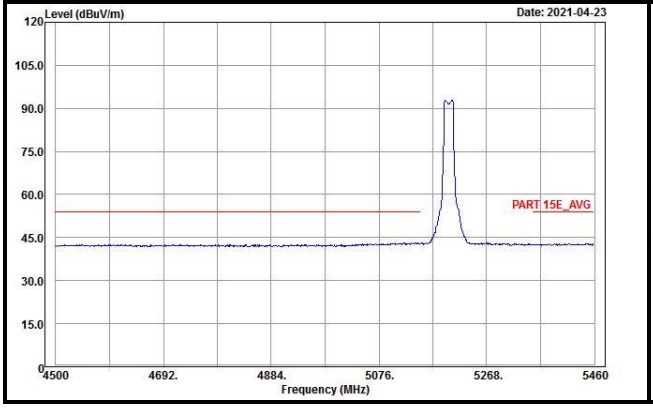	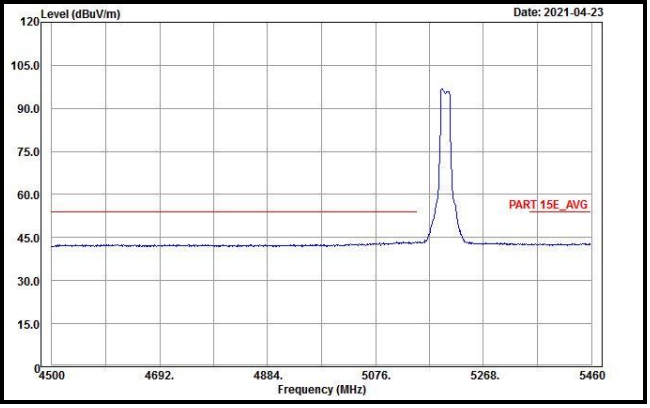

Ch 48	
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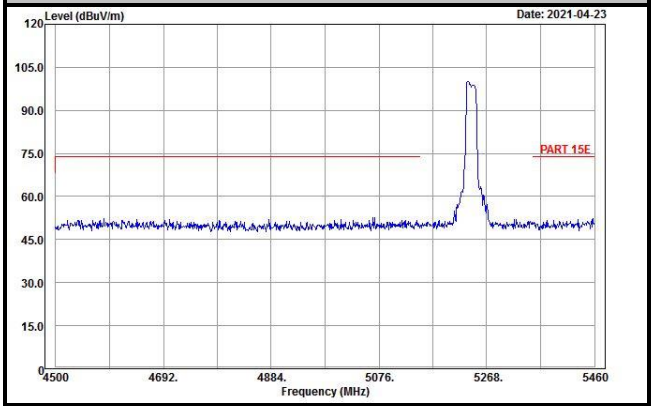	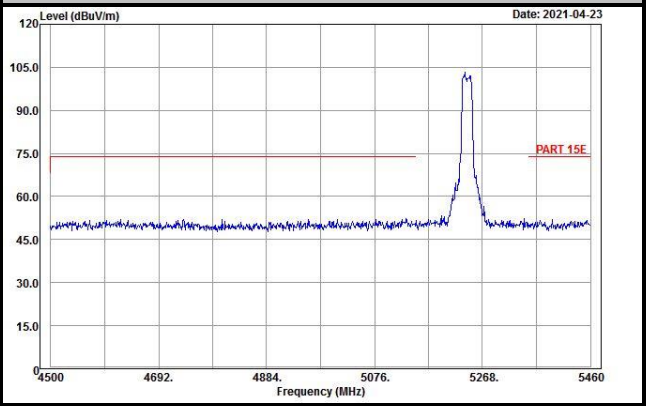
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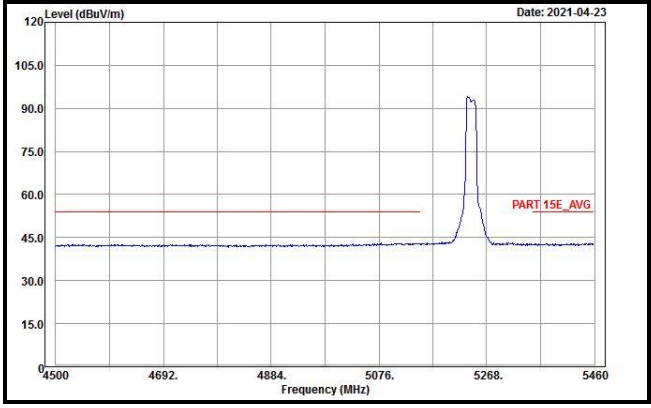	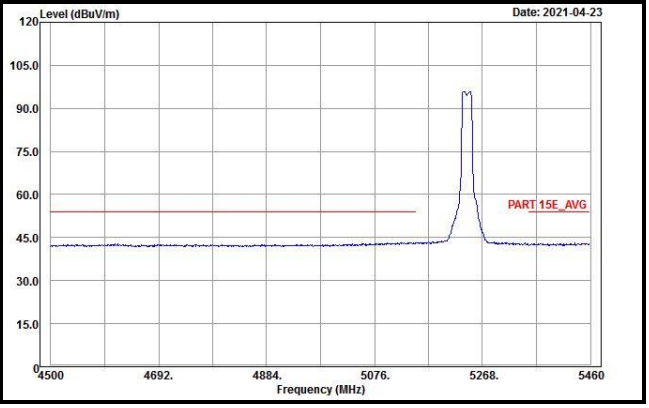

Ch 52	
Peak	
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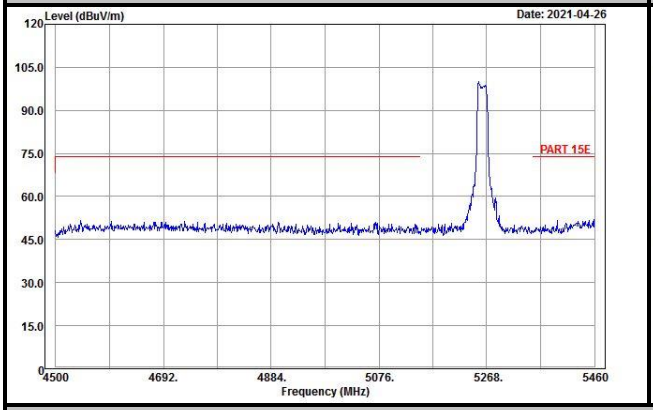	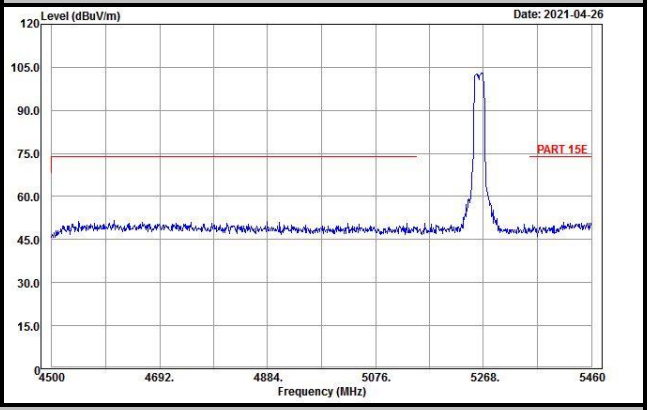
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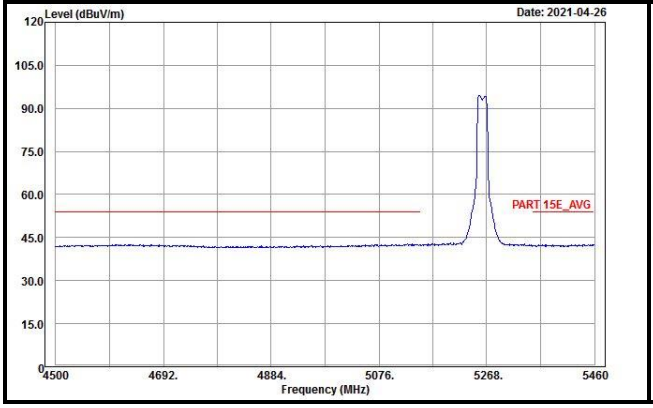
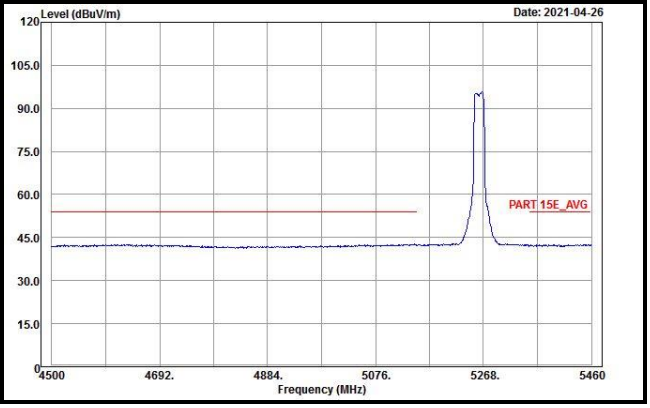
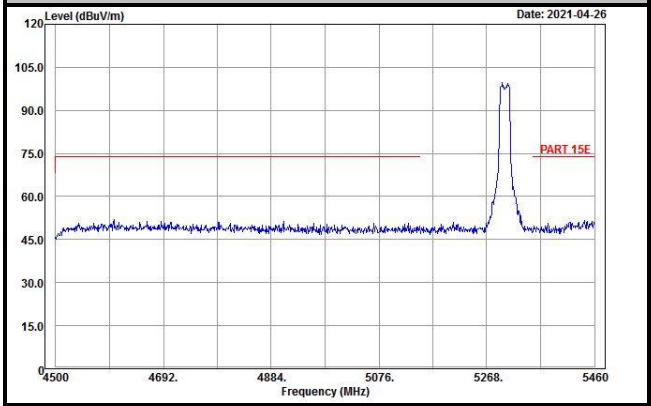
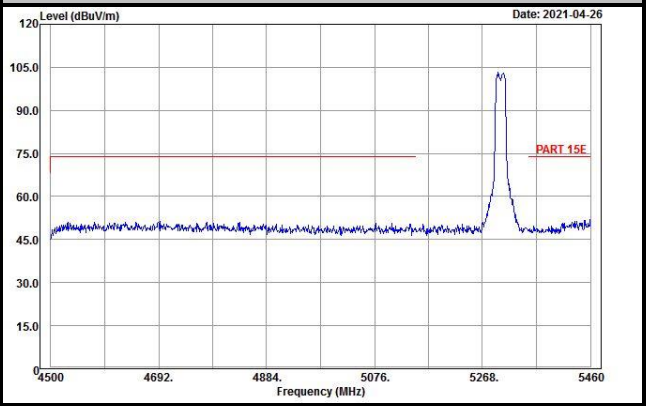
	

Ch 60	
Peak	
Horizontal	**Vertical**
	
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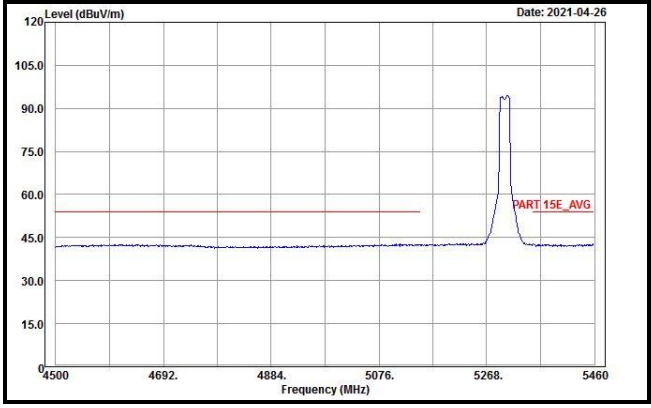
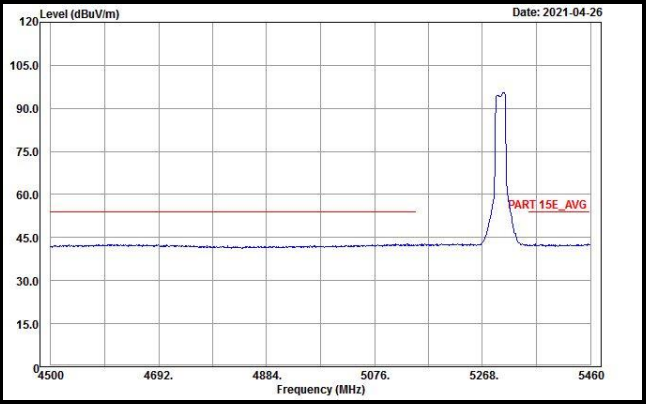
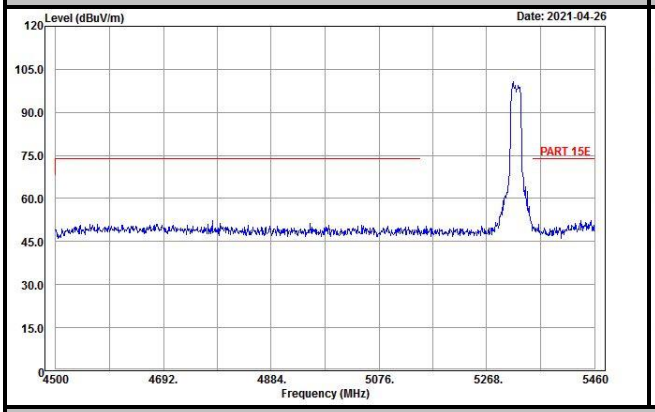
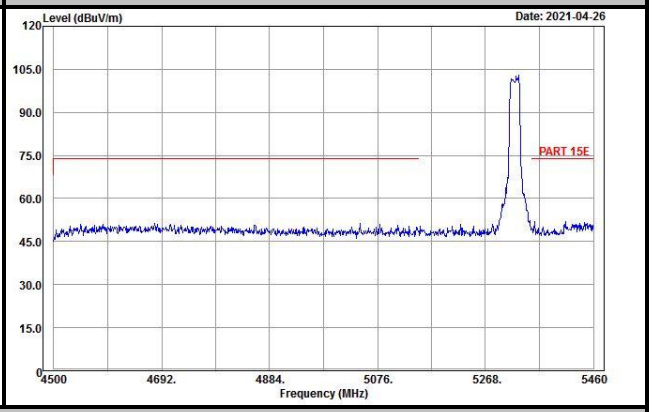
Horizontal	**Vertical**
	

Ch 64	
Peak	
Horizontal	Vertical
	
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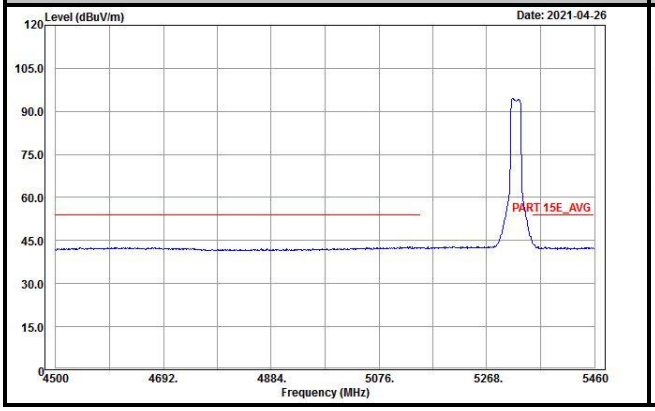
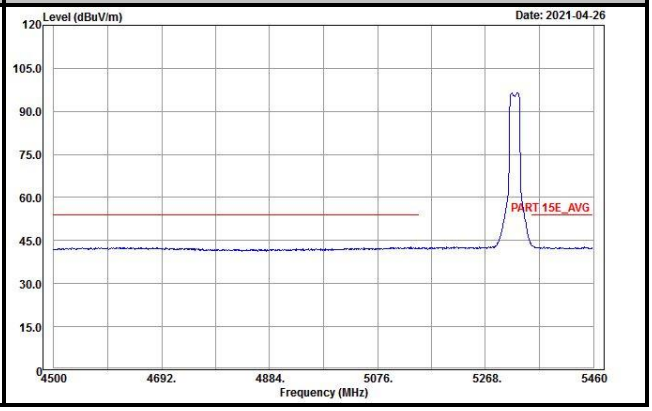
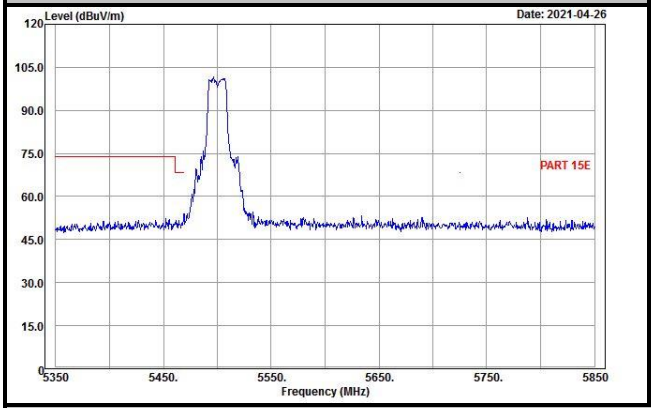
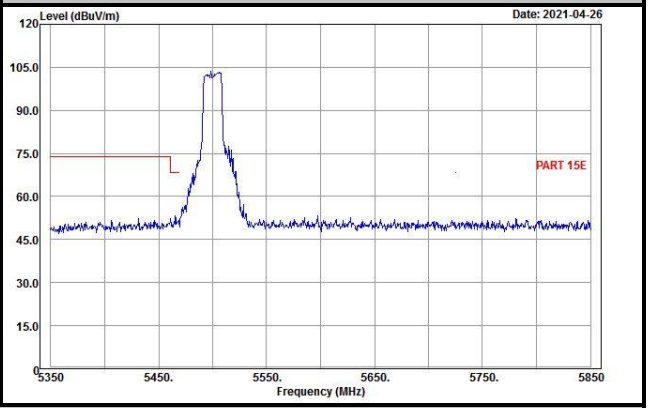
Horizontal	Vertical
	

Ch 100	
Peak	
Horizontal	Vertical
	
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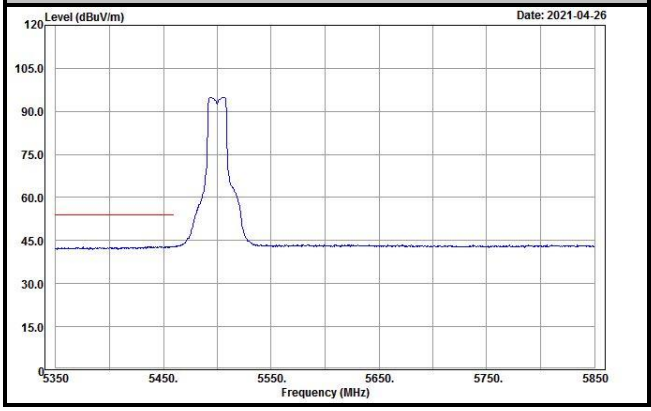
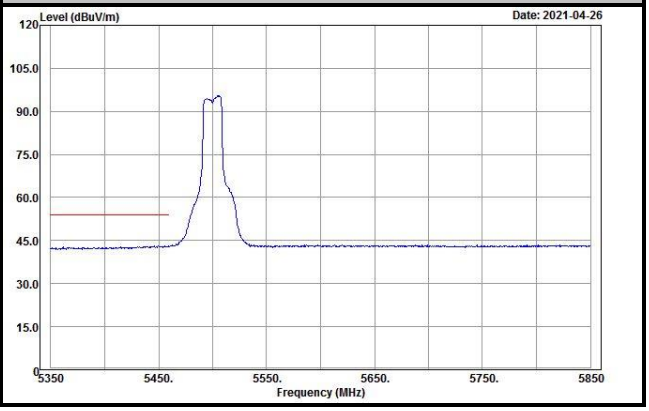
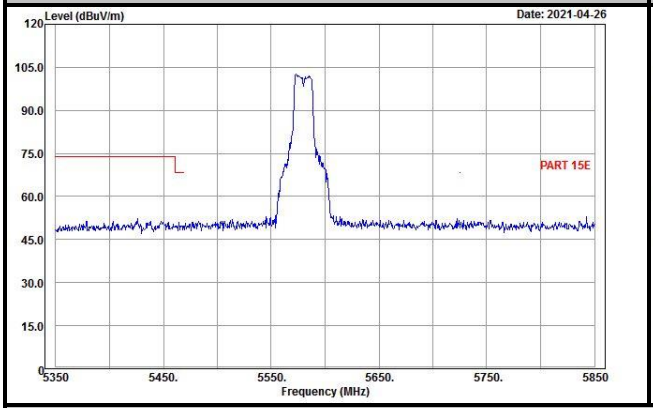
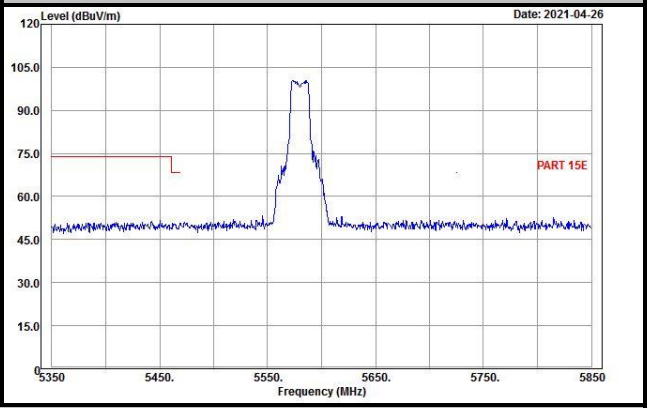
Horizontal	Vertical
	

Ch 116	
Peak	
Horizontal	Vertical
	
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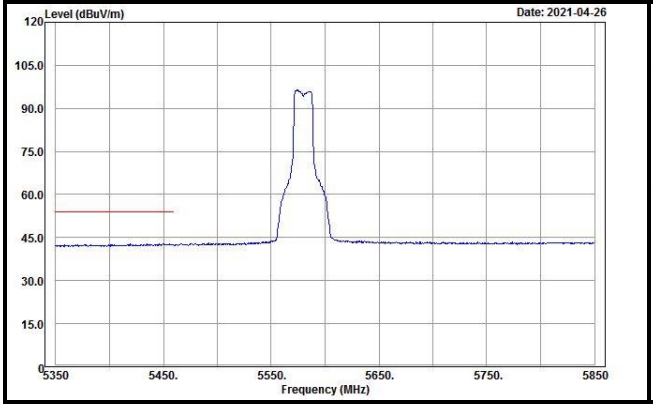
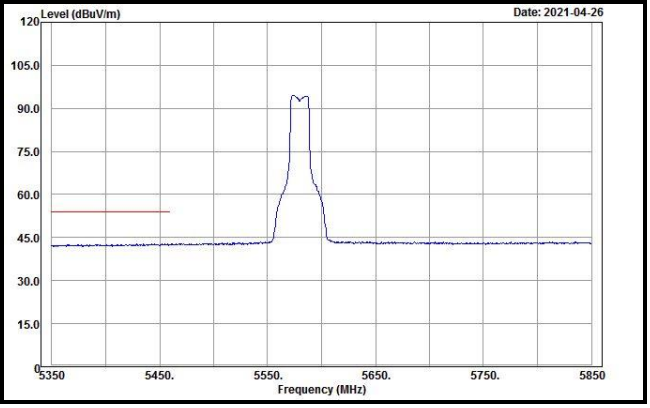
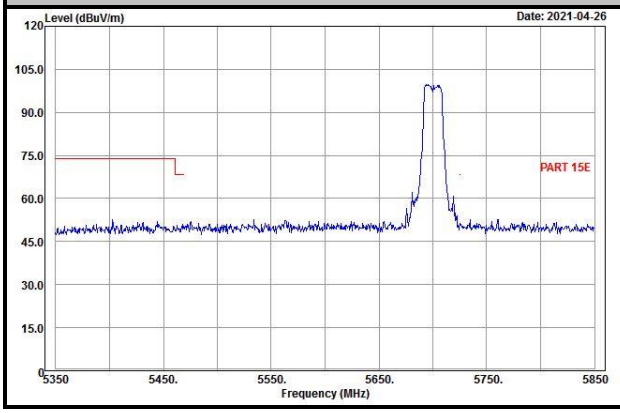
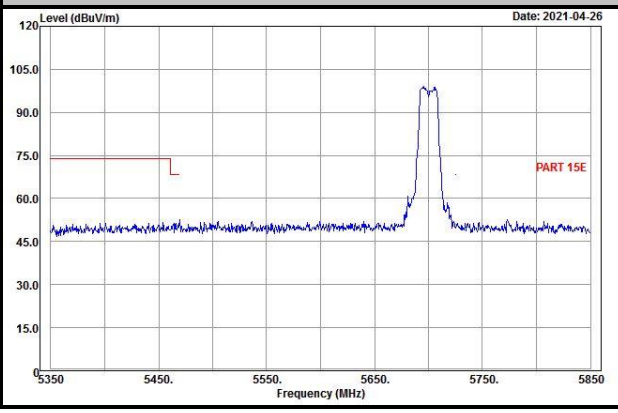
Horizontal	Vertical
	

Ch 140	
Peak	
Horizontal	Vertical
	

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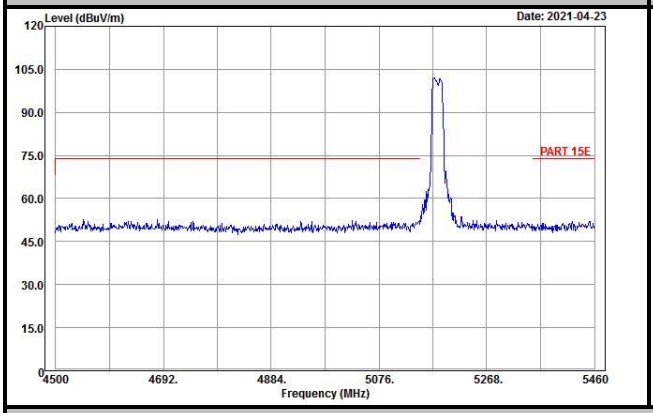
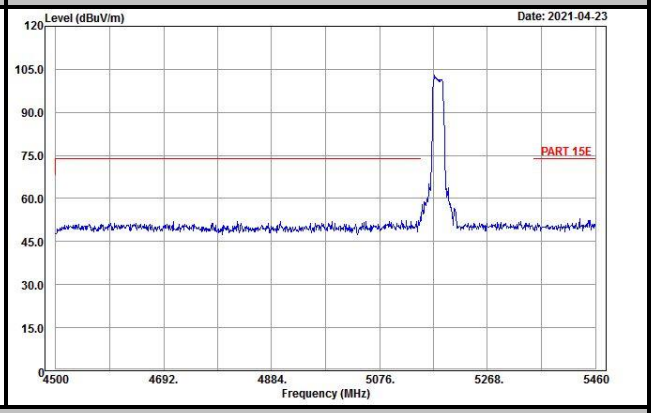
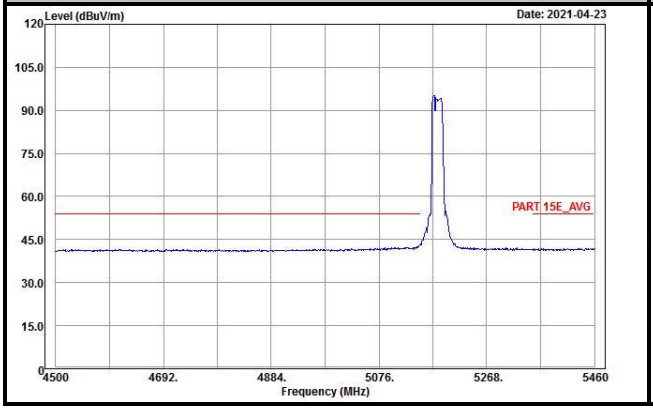
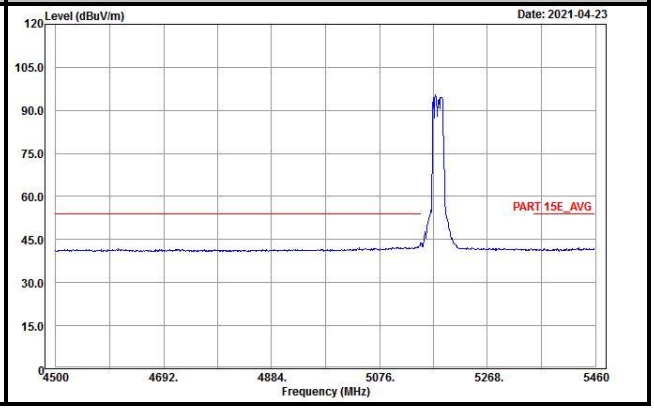
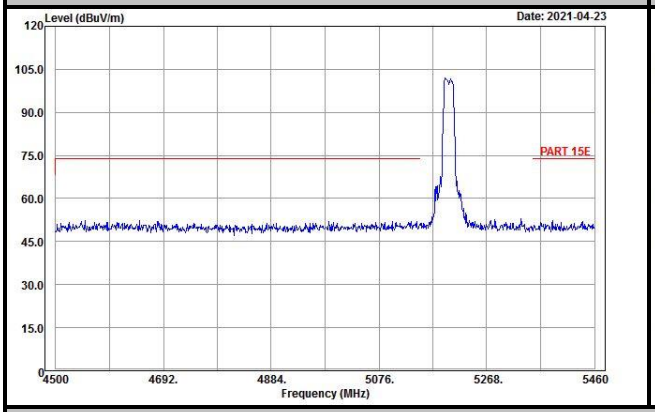
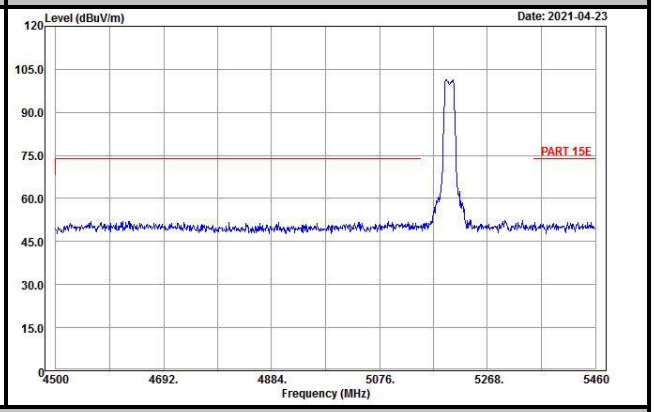
Ch 36	
Peak	
Horizontal	**Vertical**
	
Average	
Horizontal	**Vertical**
	

Ch 40	
Peak	
Horizontal	Vertical
	
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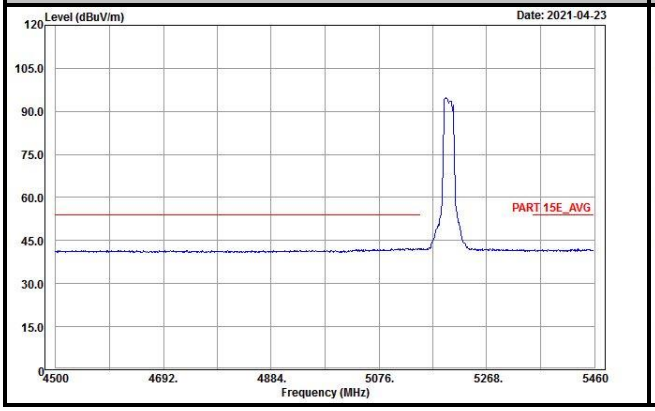
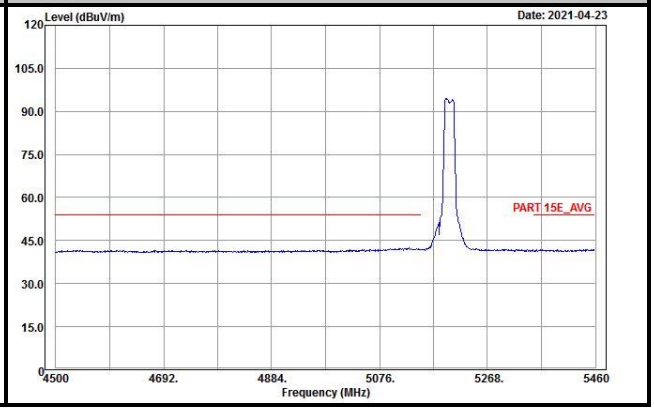
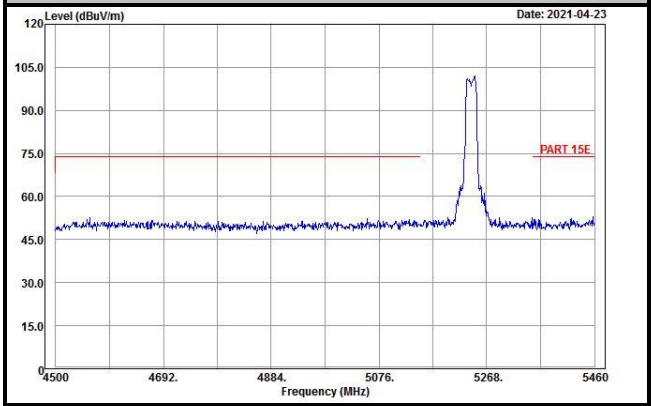
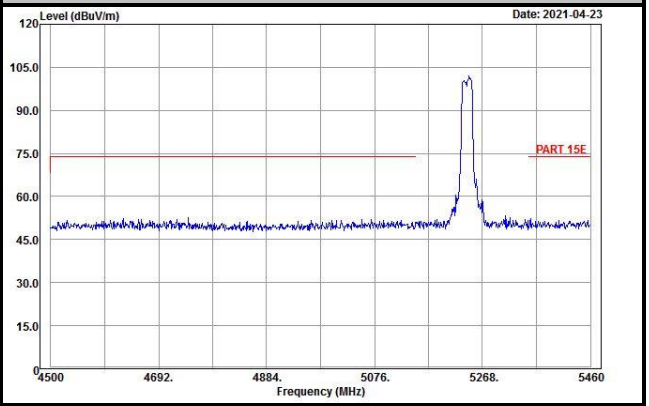
Horizontal	Vertical
	

Ch 48	
Peak	
Horizontal	Vertical
	
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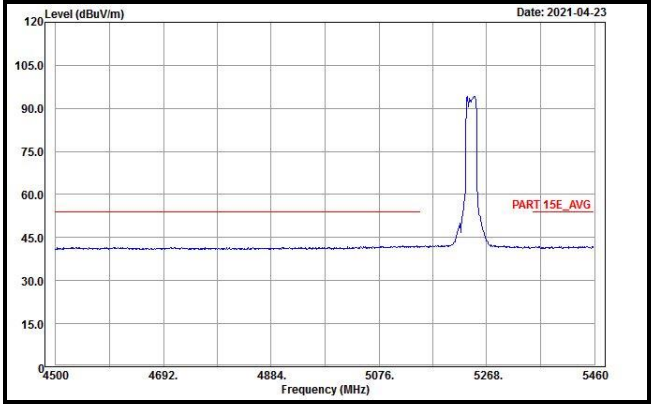
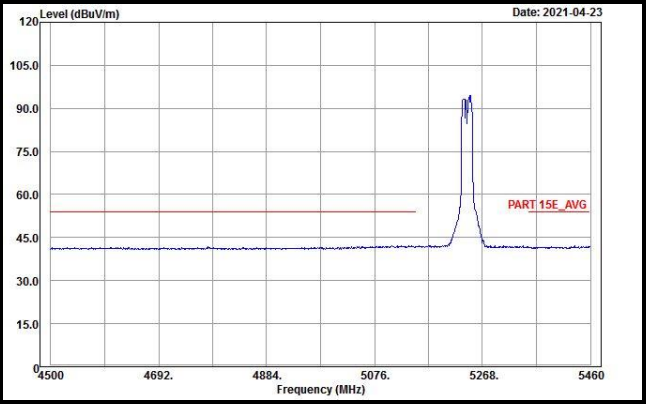
Horizontal	Vertical
	

Ch 52	
Peak	
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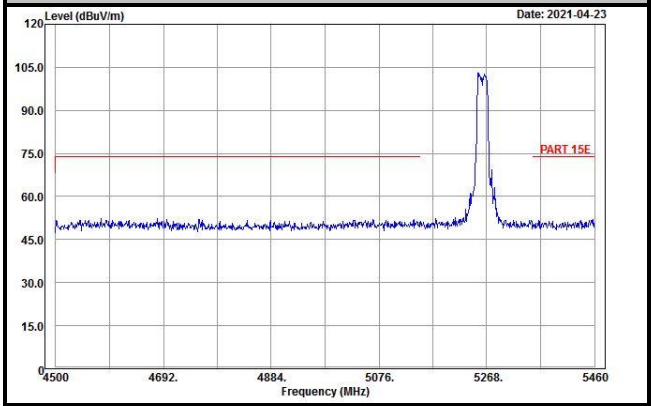	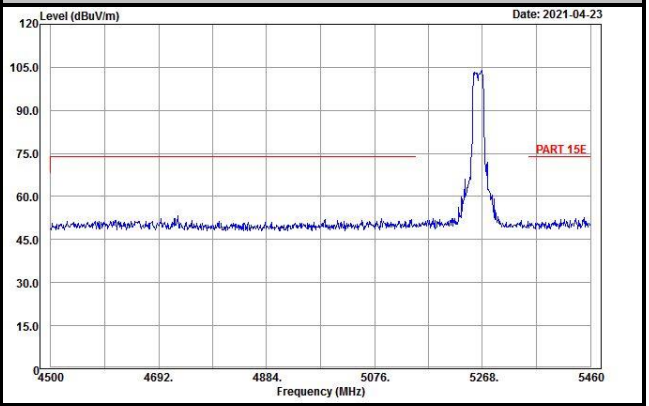
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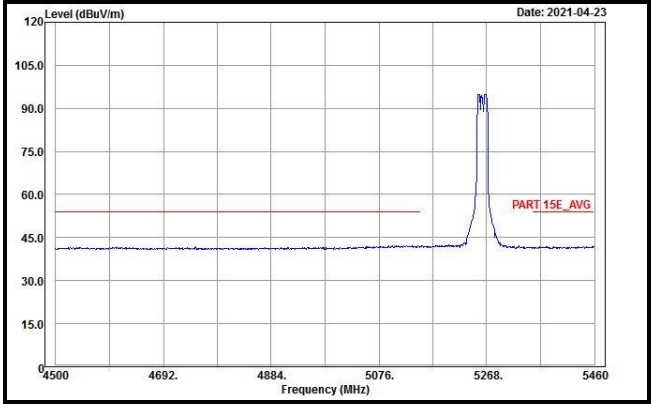
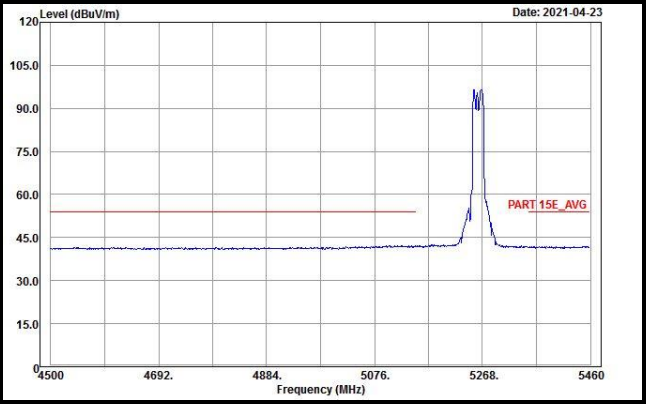
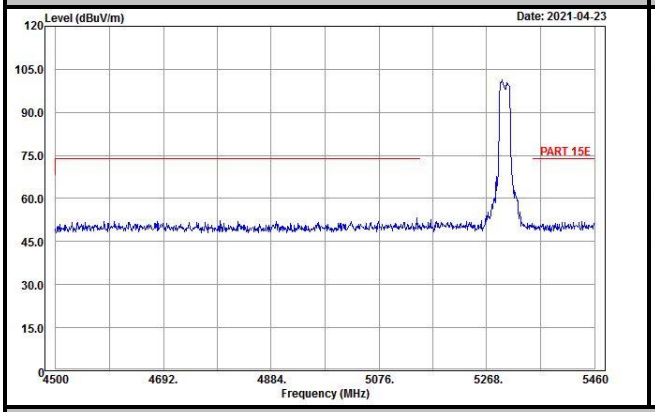
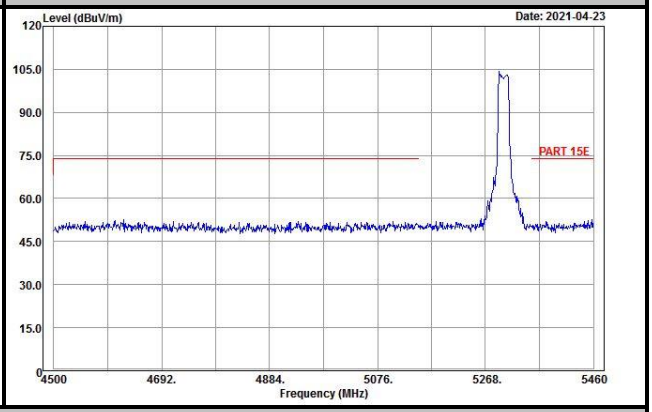
Horizontal	**Vertical**
	

Ch 60	
Peak	
Horizontal	**Vertical**
	
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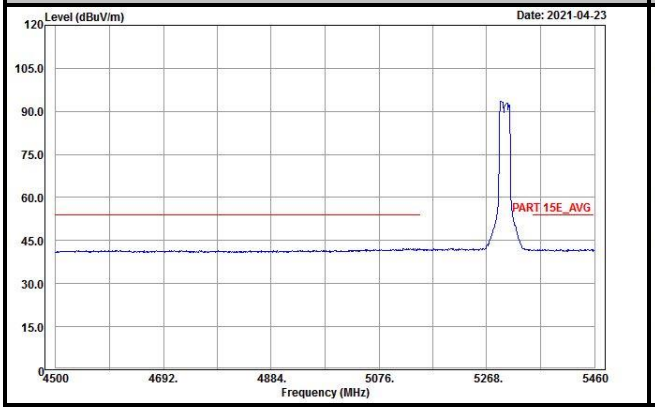
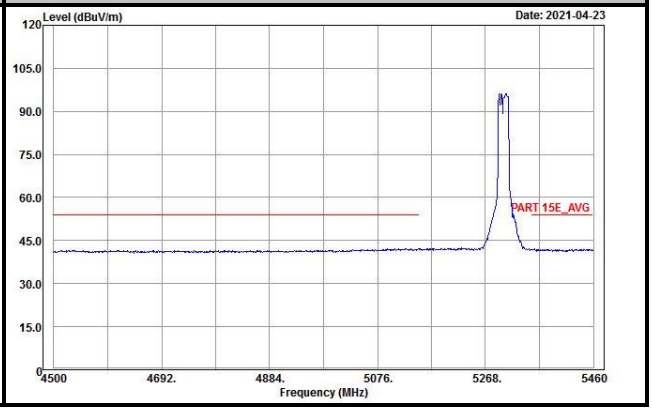
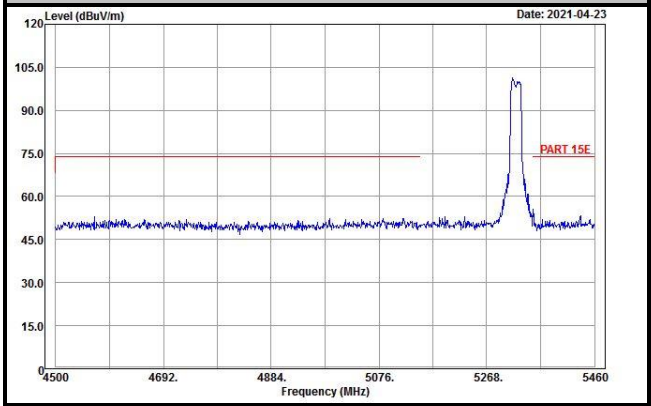
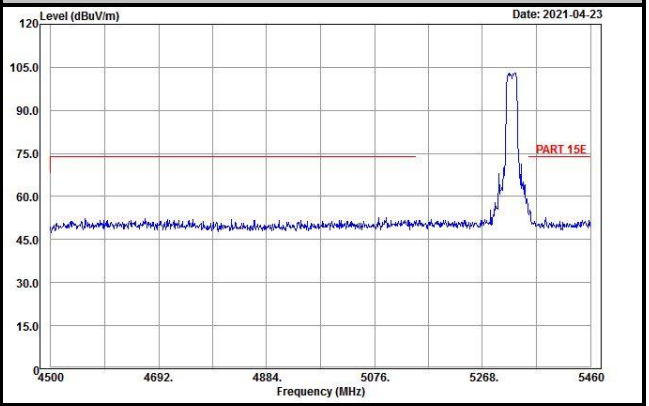
Horizontal	**Vertical**
	

Ch 64	
Peak	
Horizontal	Vertical
	
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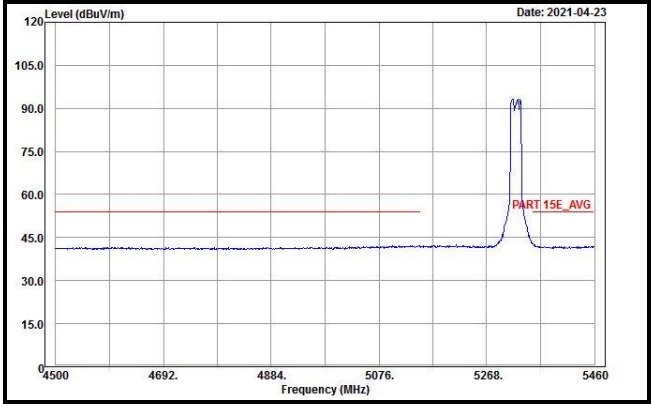
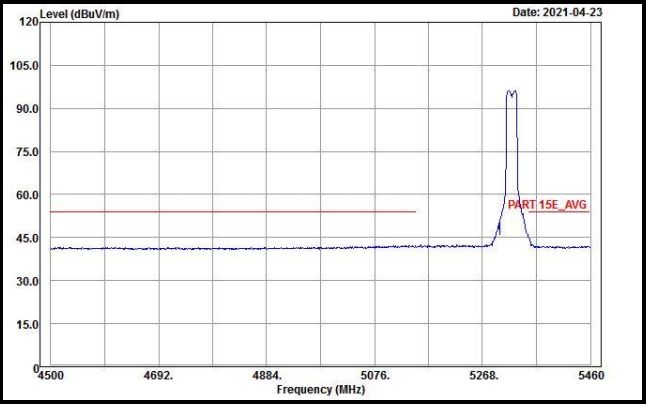
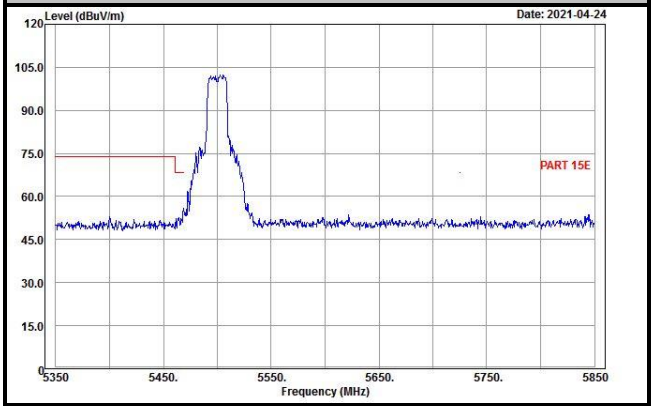
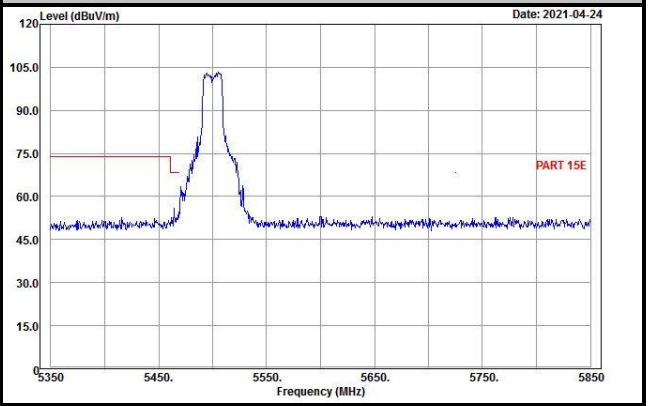
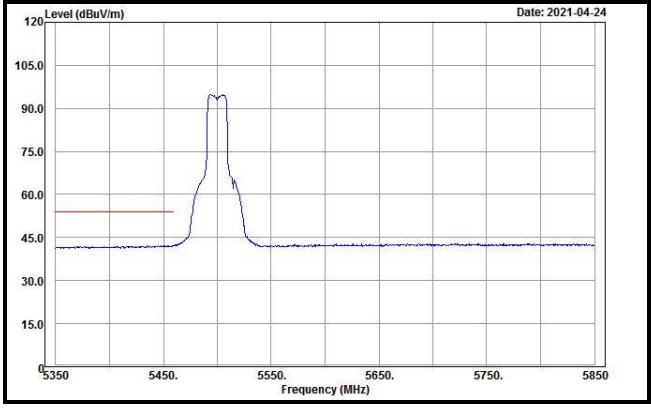
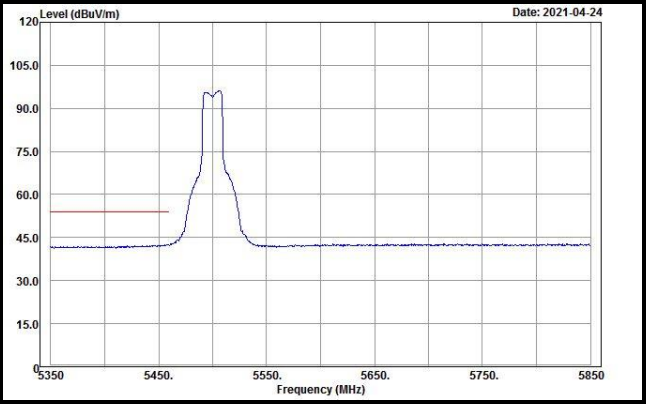
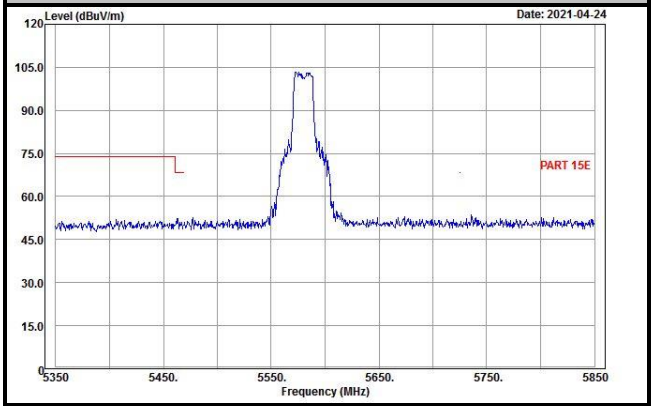
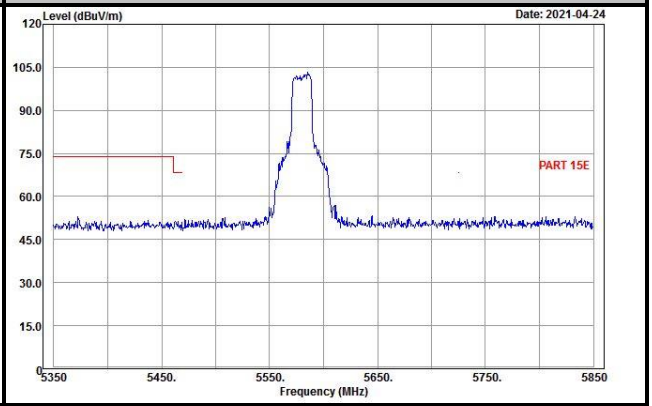
Horizontal	Vertical
	

Ch 100	
Peak	
Horizontal	Vertical
	
Average	
Horizontal	Vertical
	

Ch 116	
Peak	
Horizontal	Vertical
	
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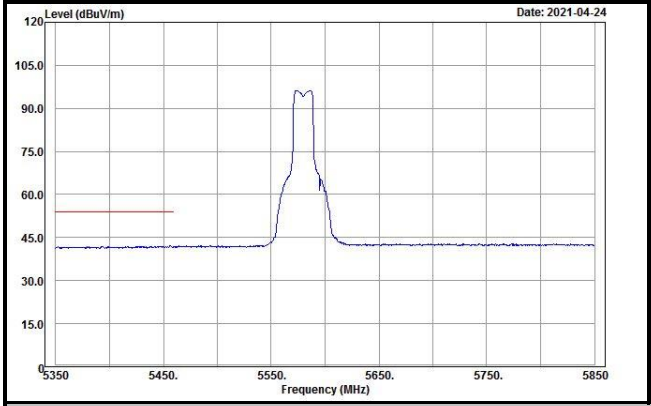
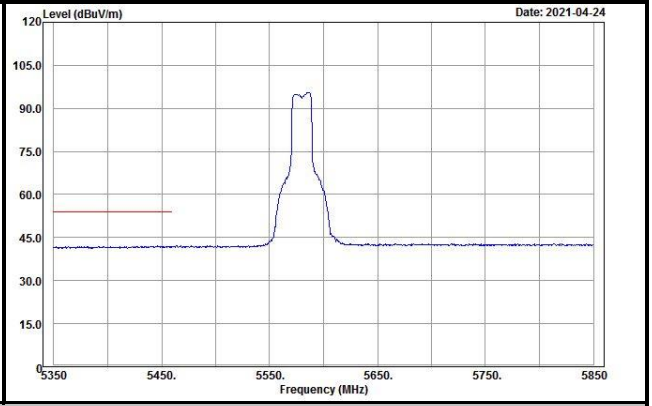
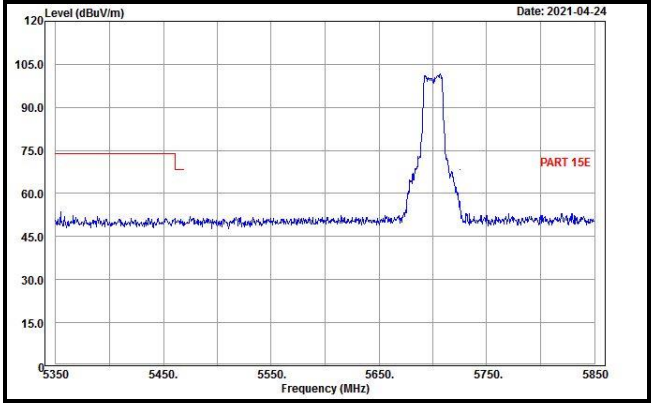
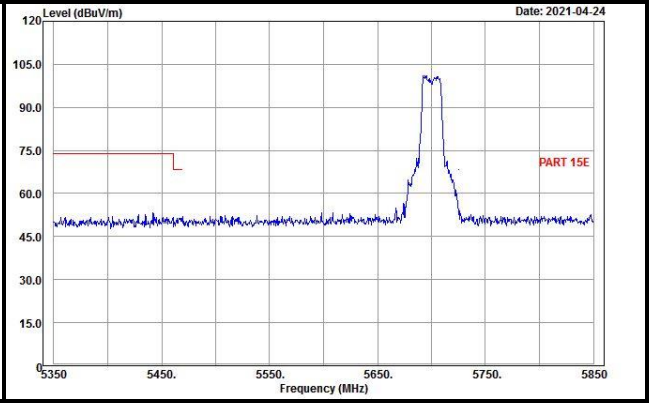
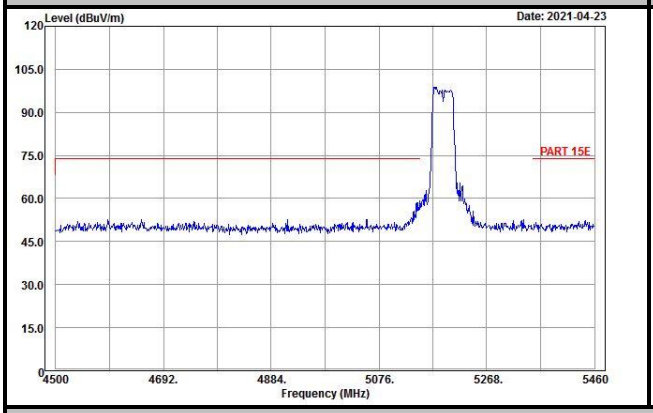
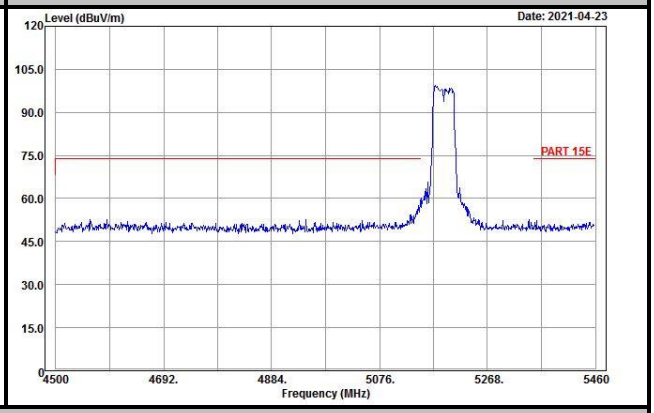
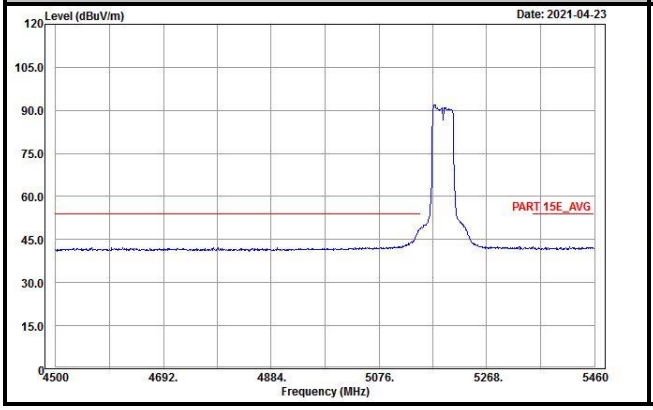
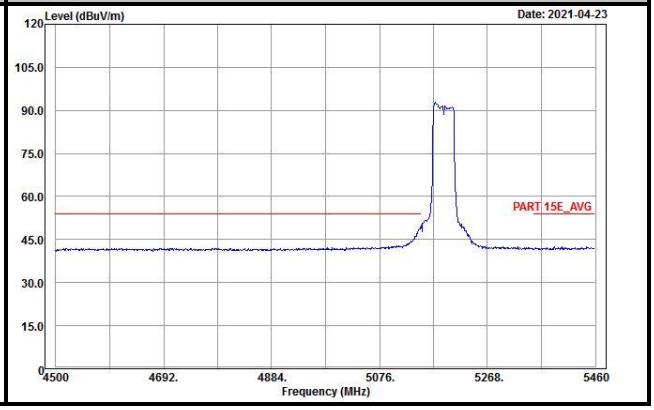
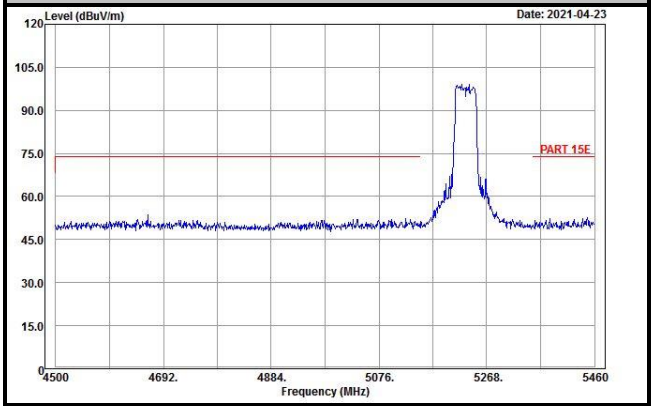
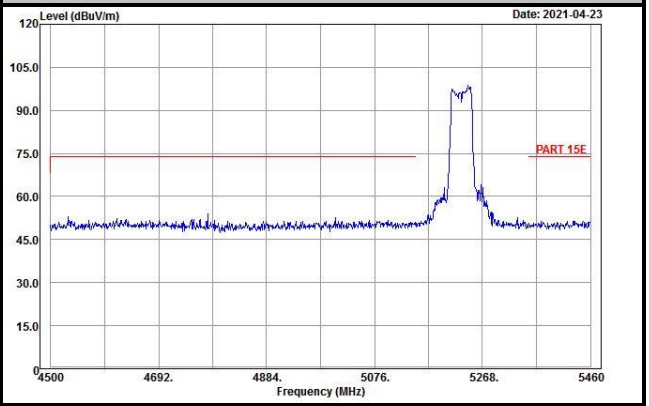
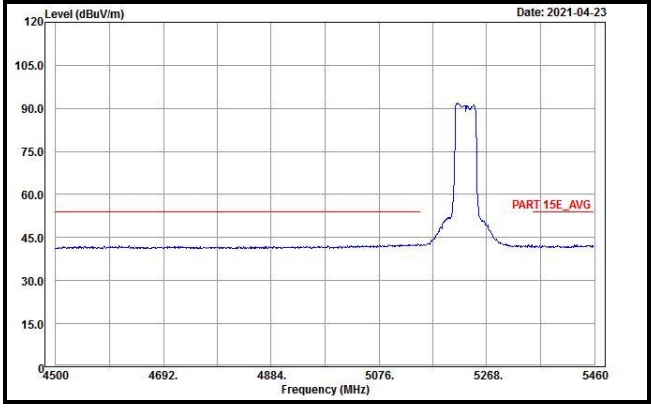
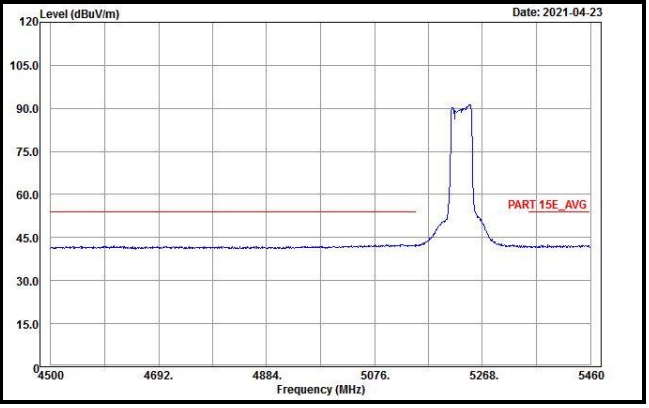
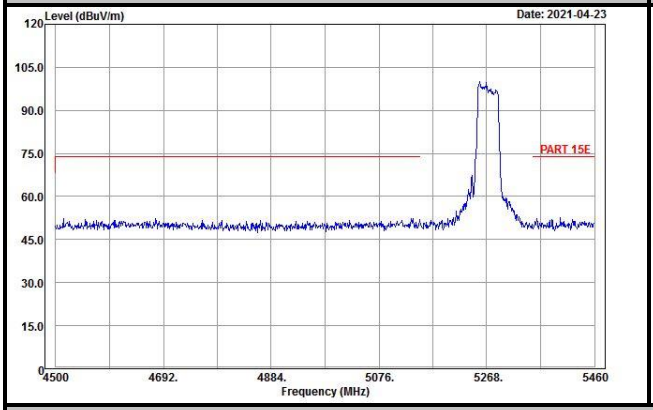
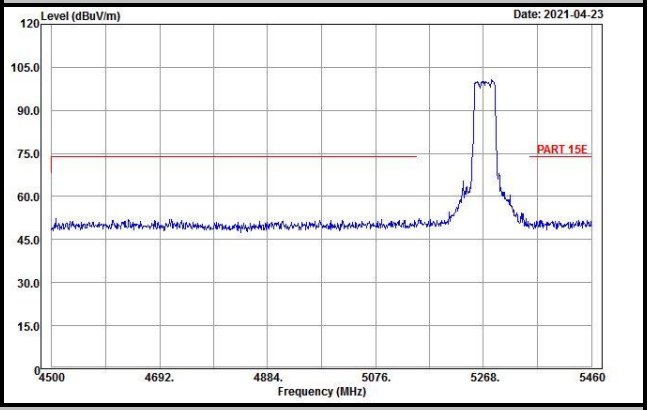
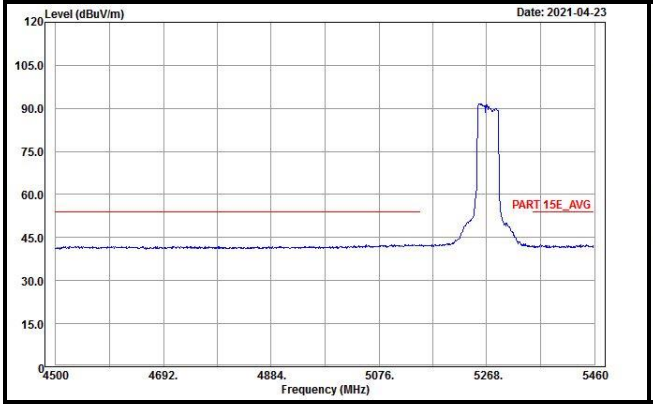
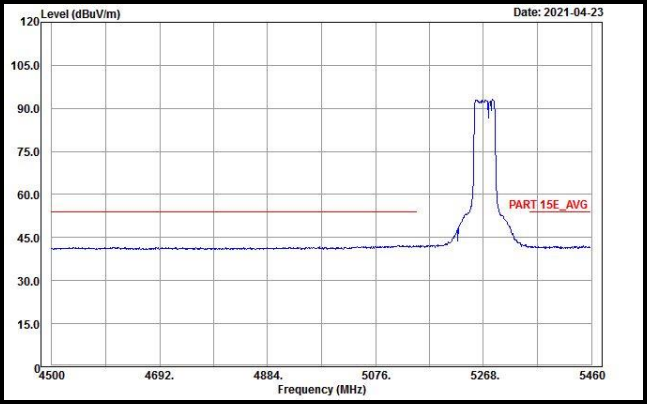
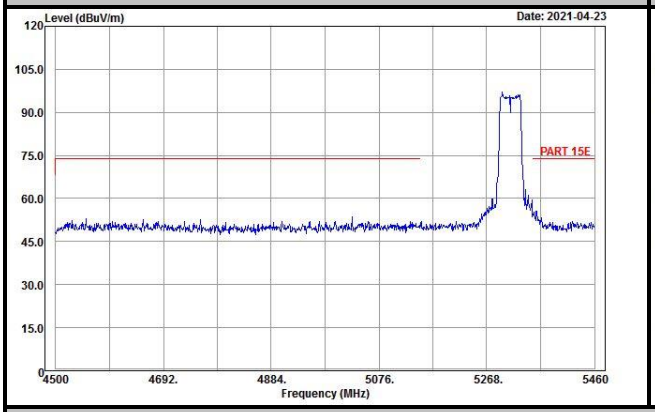
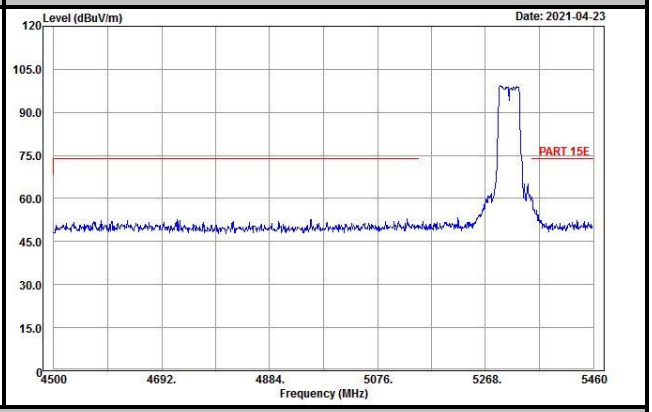
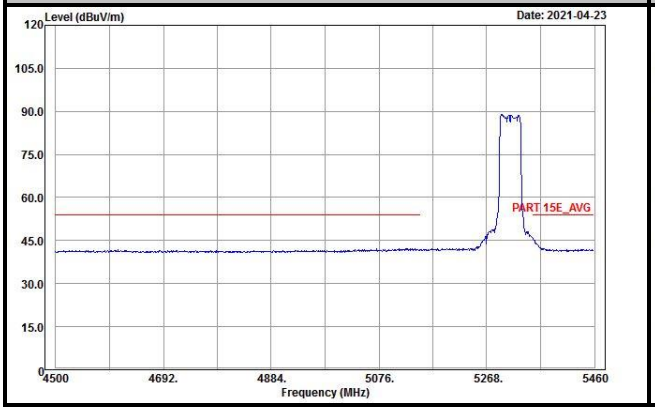
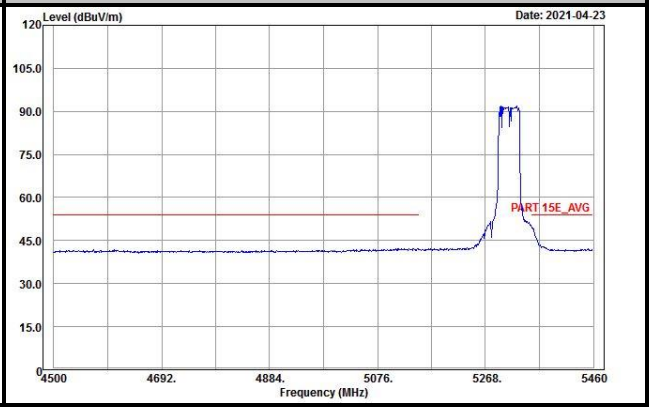
Horizontal	Vertical
	
Ch 140	
Peak	
Horizontal	Vertical
	

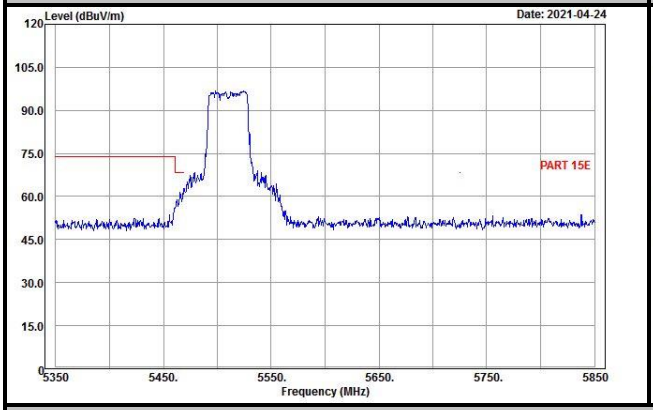
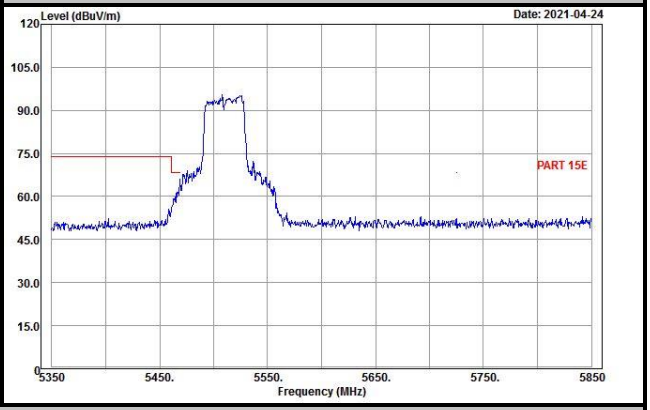
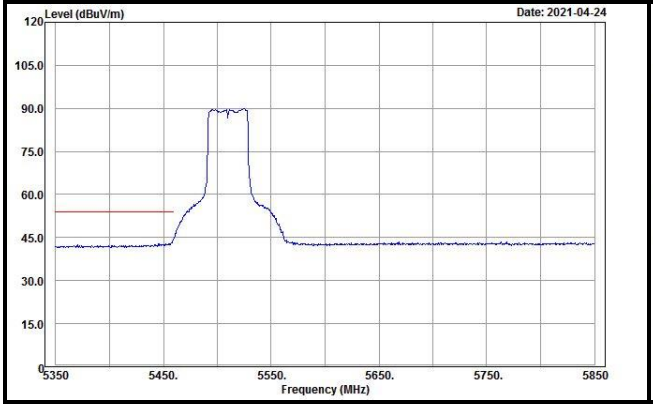
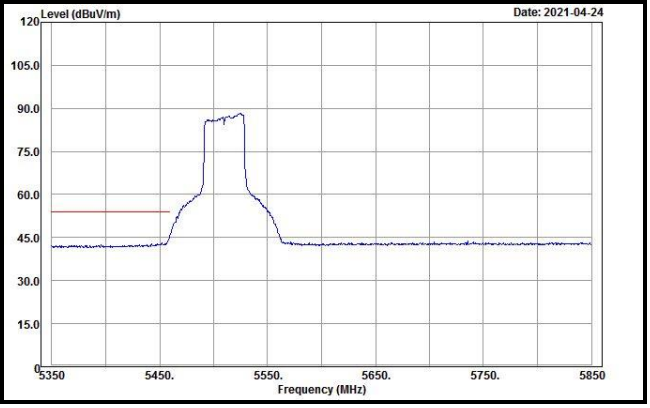
802.11n (HT40)

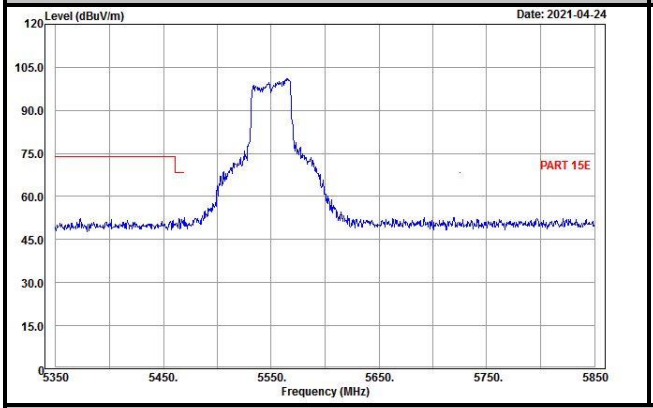
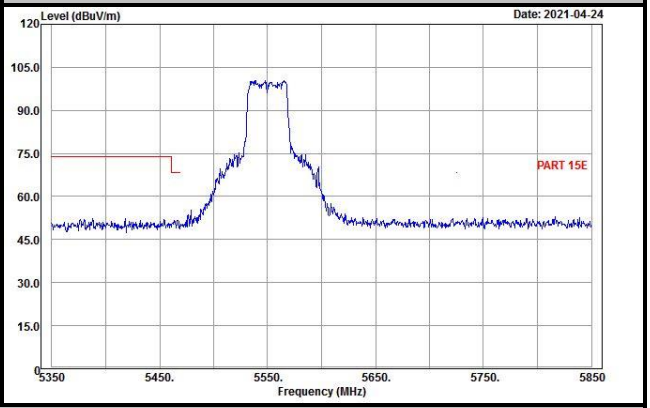
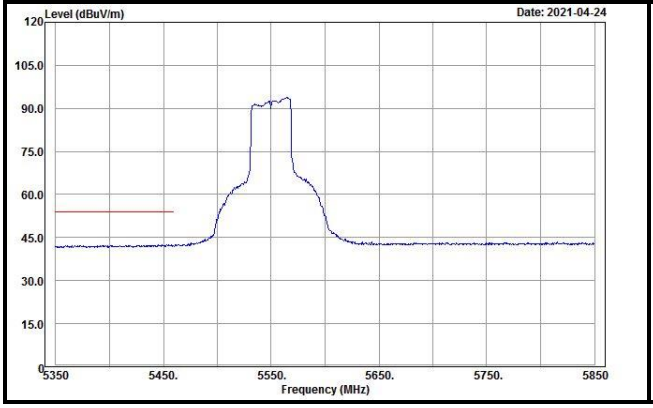
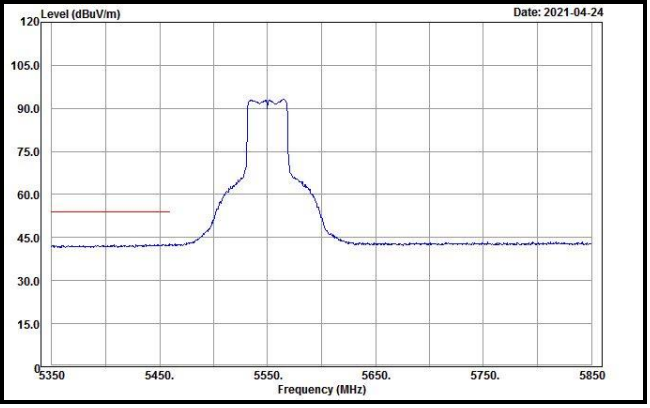
Ch 38	
Peak	
Horizontal	**Vertical**
	
Average	
Horizontal	**Vertical**
	

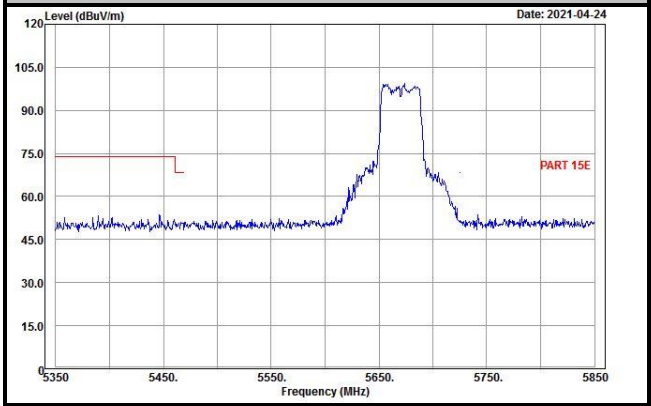
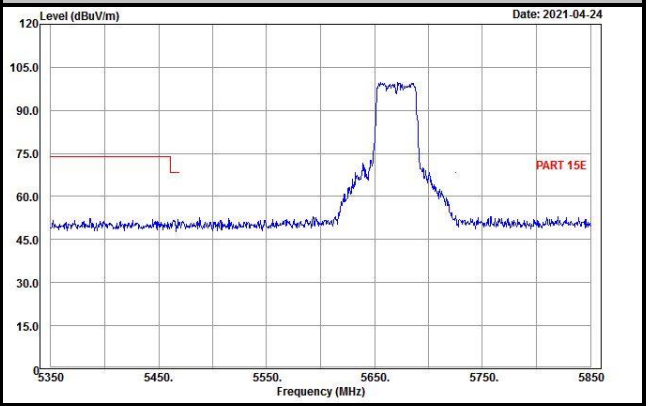
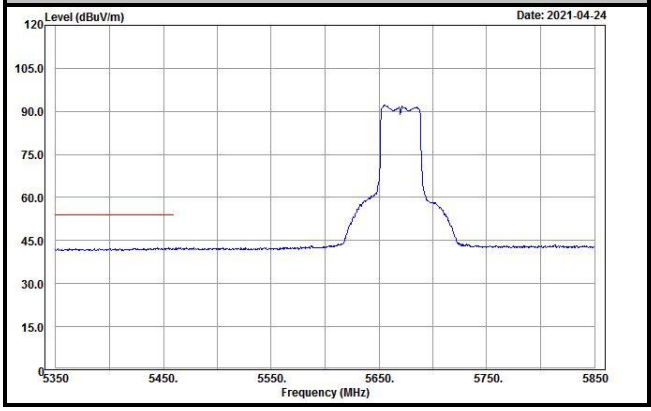
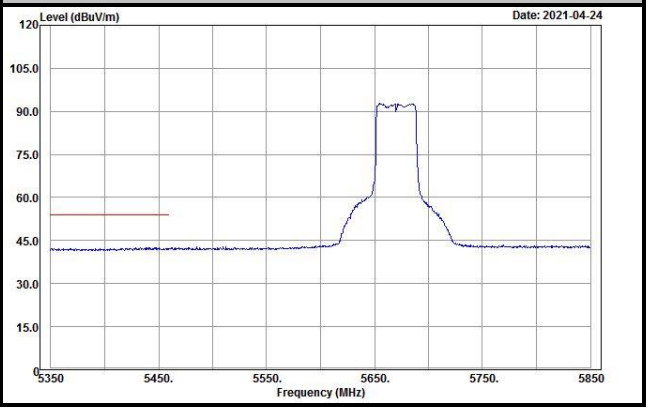
Ch 46	
Peak	
Horizontal	**Vertical**
	
Average	
Horizontal	**Vertical**
	

Ch 54	
Peak	
Horizontal	**Vertical**
	
Average	
Horizontal	**Vertical**
	

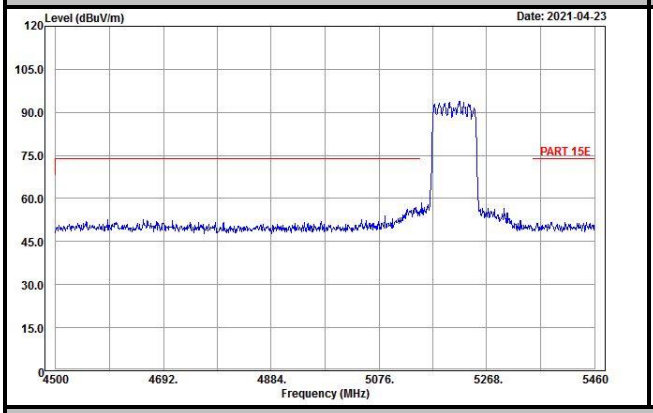
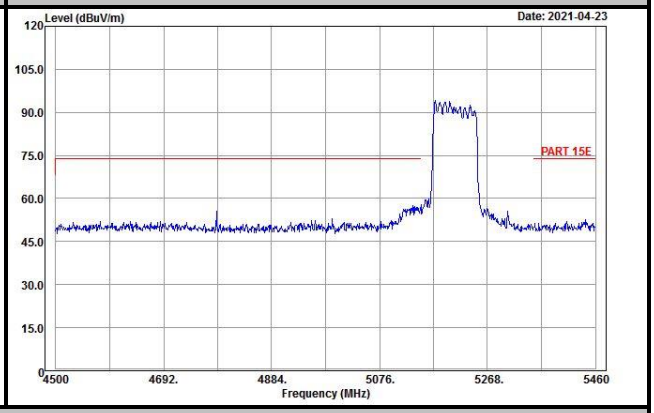
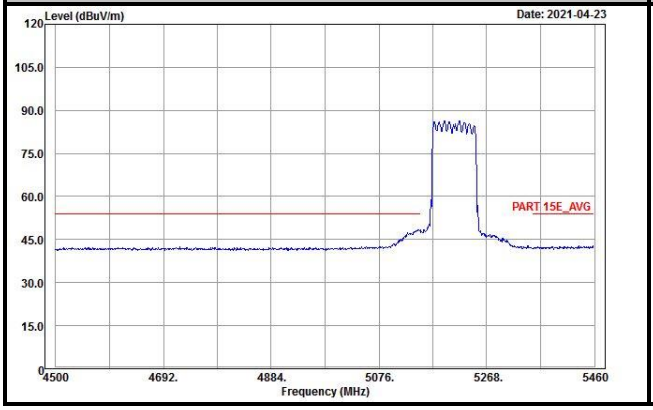
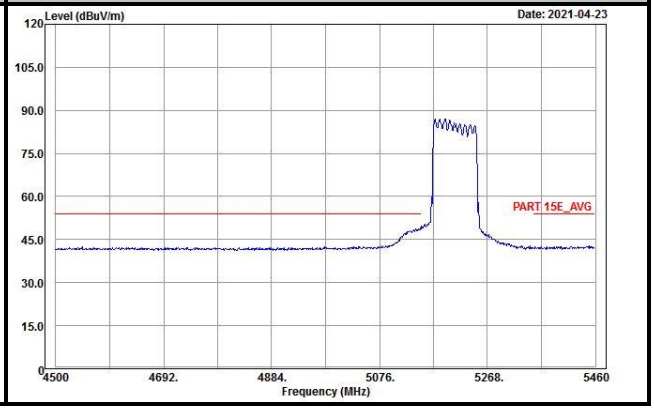
Ch 62	
Peak	
Horizontal	Vertical
	
Average	
Horizontal	Vertical
	

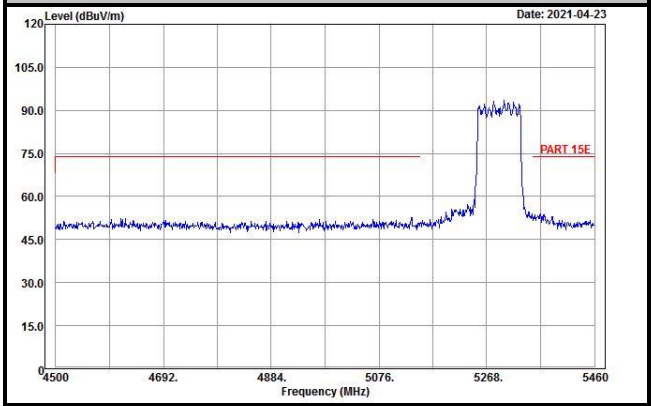
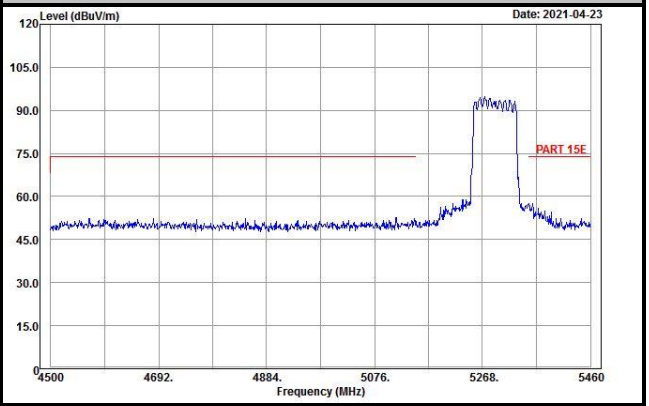
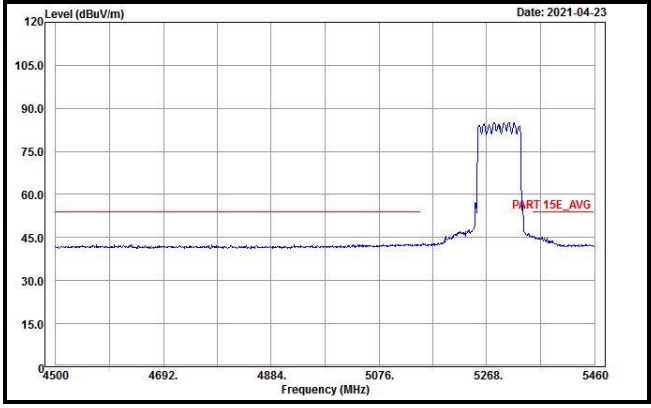
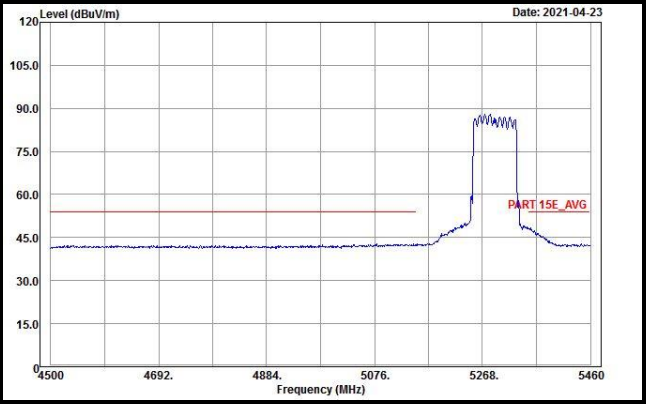
Ch 102	
Peak	
Horizontal	Vertical
	
Average	
Horizontal	Vertical
	

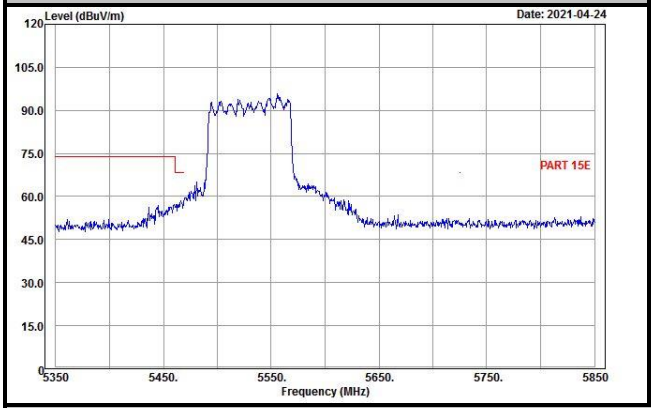
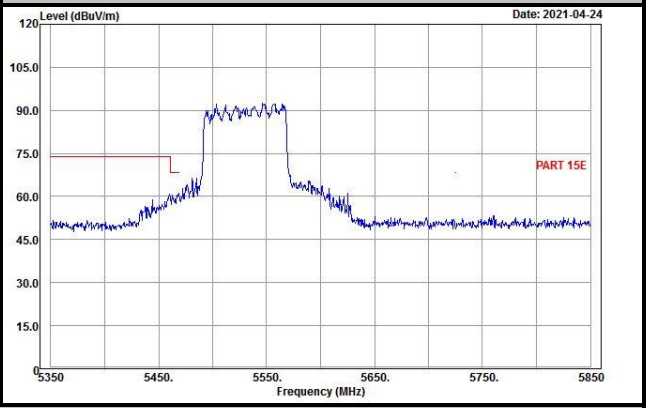
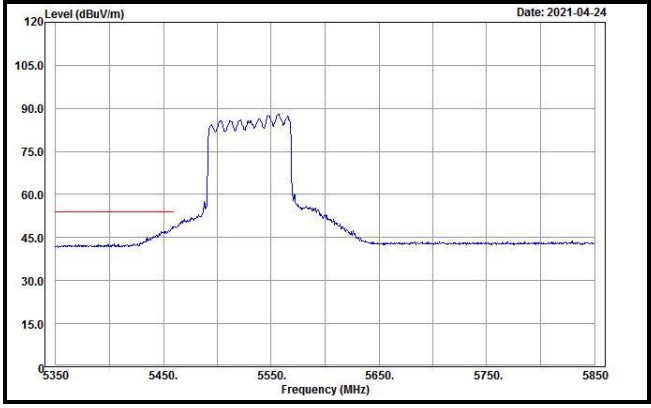
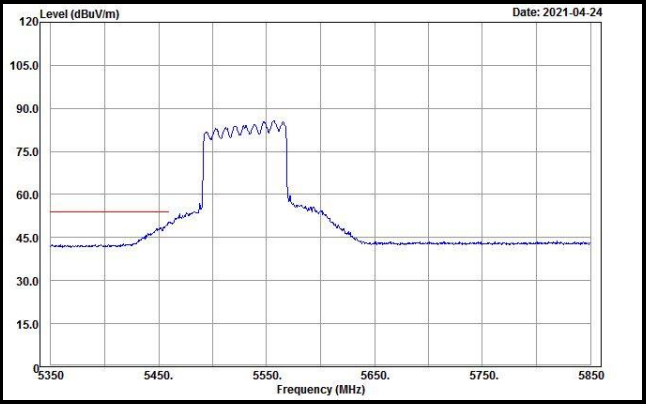
Ch 110	
Peak	
Horizontal	**Vertical**
	
Average	
Horizontal	**Vertical**
	

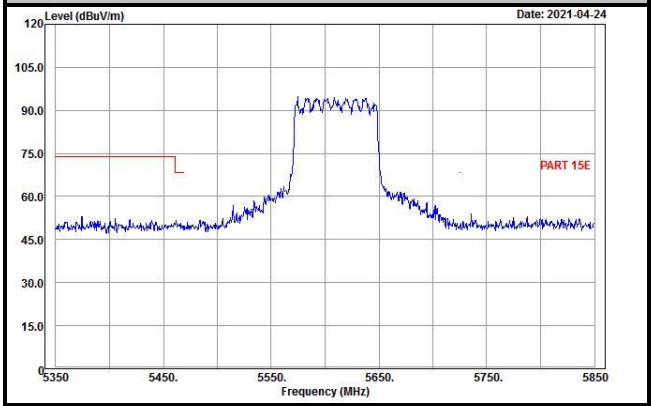
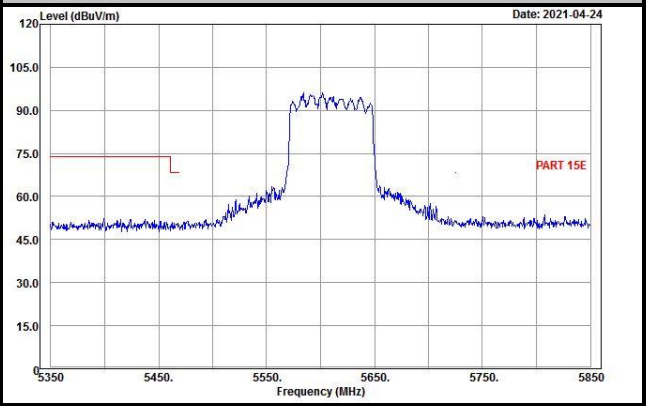
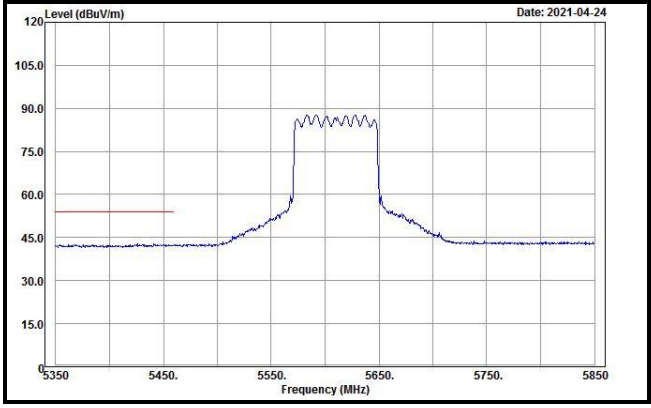
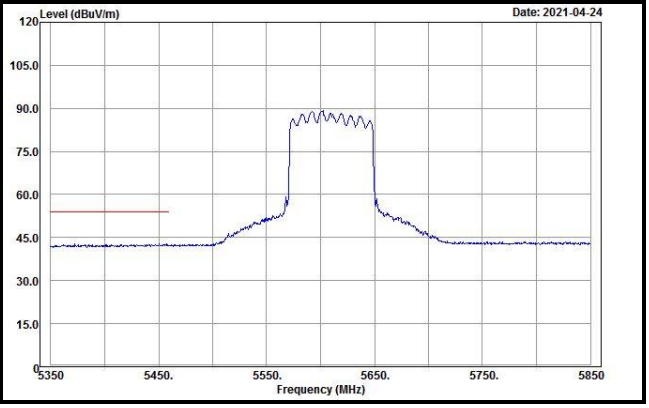
Ch 134	
Peak	
Horizontal	**Vertical**
	
Average	
Horizontal	**Vertical**
	

802.11ac (VHT80)

Ch 42	
Peak	
Horizontal	**Vertical**
	
Average	
Horizontal	**Vertical**
	

Ch 58	
Peak	
Horizontal	Vertical
	
Average	
Horizontal	Vertical
	

Ch 106	
Peak	
Horizontal	Vertical
	
Average	
Horizontal	Vertical
	

Ch 122	
Peak	
Horizontal	Vertical
	
Average	
Horizontal	Vertical
	

Appendix – 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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Web Site: www.bureauveritas-adt.com

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

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