FCC Test Report

Report No.:	RF181217C36-2 R2
FCC ID:	A4RH2A
Model Name:	H2A
Received Date:	Dec. 17, 2018
Test Date:	Jan. 22, 2019 ~ Feb. 27, 2019
Issued Date:	Apr. 12, 2019
Applicant:	Google LLC
Address:	1600 Amphitheatre Parkway, Mountain View, CA 94043, USA
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C)
Test Location:	No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.
FCC Registration / Designation Number:	788550 / TW0003

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Release Control Record

Issue No.	Description	Date Issued
RF181217C36-2	Original Release	Mar. 21, 2019
RF181217C36-2 R1	Added H/W, S/W	Apr. 11, 2019
RF181217C36-2 R2	Revised average power of 5G Band 3	Apr. 12, 2019

1 Certificate of Conformity

Product:	Interactive Video Streaming Device
Test Model:	H2A
Sample Status:	Engineering Sample
Applicant:	Google LLC
Test Date:	Jan. 22, 2019 ~ Feb. 27, 2019
Standards:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10:2013

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

Prepared by : _____ , **Date:** Apr. 12, 2019

Gina Liu / Specialist

Approved by : _____ , **Date:** Apr. 12, 2019

Dylan Chiou / 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)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -23.81 dB at 22.98750 MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.55 dB at 5470.00 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is i-pex(MHF) not a standard connector.

Note:

1. For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOBE test plots were recorded in Annex A.
2. 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**	**Expended Uncertainty (k=2) (±)**
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.44 dB
Radiated Emissions up to 1 GHz	9 kHz ~ 30 MHz	3.04 dB
	30 MHz ~ 200 MHz	2.93 dB
	200 MHz ~ 1000 MHz	2.95 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	2.26 dB
	18 GHz ~ 40 GHz	1.94 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Interactive Video Streaming Device
Test Model	H2A
Status of EUT	Engineering Sample
Power Supply Rating	24.0 Vdc (adapter)
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 150.0 Mbps 802.11ac: up to 433.3 Mbps
Operating Frequency	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5720 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 ~ 5720 MHz: 12 for 802.11a, 802.11n (HT20) 6 for 802.11n (HT40) 3 for 802.11ac (VHT80) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80)
Output Power	47.098 mW for 5180 ~ 5240 MHz 76.208 mW for 5260 ~ 5320 MHz 75.162 mW for 5500 ~ 5720 MHz 78.343 mW for 5745 ~ 5825 MHz
Antenna Type	PIFA antenna with 5 dBi gain
Antenna Connector	i-pex(MHF)
HW Version	EVT
SW Version	173539
Accessory Device	Refer to Note as below
Data Cable Supplied	Refer to Note as below

Note:

1. The EUT provides one completed transmitter and one receiver.

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

* 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)

2. The EUT's accessories list refers to Ext. Pho.
3. 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 ~ 5720 MHz

12 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	144	5720

6 channels are provided for 802.11n (HT40):

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

3 channels are provided for 802.11ac (VHT80):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
106	5530	138	5690
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	PLC	APCM	
-	√	√	√	√	-

Where **RE≥1G:** Radiated Emission above 1 GHz **RE<1G:** Radiated Emission below 1 GHz
PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

Note:
1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane**.
2. "-" 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
-	5500-5720	802.11a	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.0
-		802.11n (HT20)	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
-		802.11n (HT40)	102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
-		802.11ac (VHT80)	106 to 138	106, 122, 138	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)
-	5500-5720	802.11n (HT40)	102 to 142	102	OFDM	BPSK	13.5

Power Line Conducted Emission Test:

☒ 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)
-	5500-5720	802.11n (HT40)	102 to 142	102	OFDM	BPSK	13.5

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

☒ 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
-	5500-5720	802.11a	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.0
-		802.11n (HT20)	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
-		802.11n (HT40)	102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
-		802.11ac (VHT80)	106 to 138	106, 122, 138	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

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Jisyong Wang
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Jisyong Wang
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Jisyong Wang
APCM	25 deg. C, 65 % RH	120 Vac, 60 Hz	Vincent Huang

3.3 Duty Cycle of Test Signal

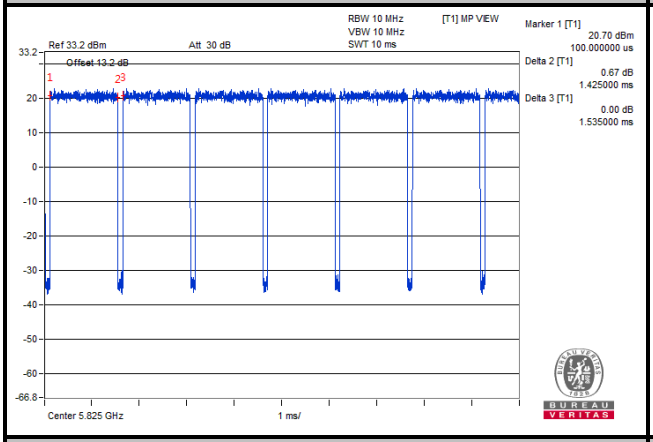
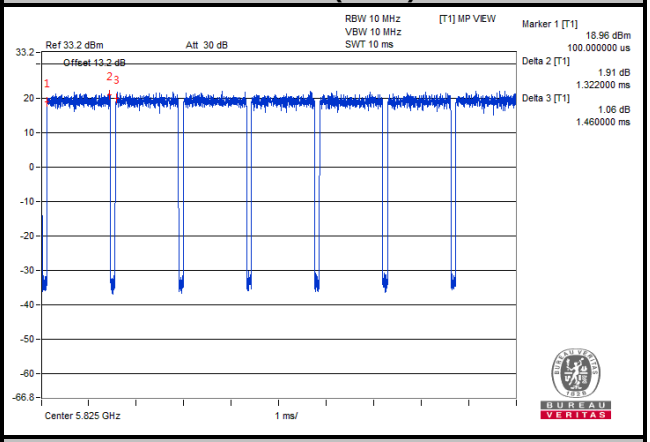
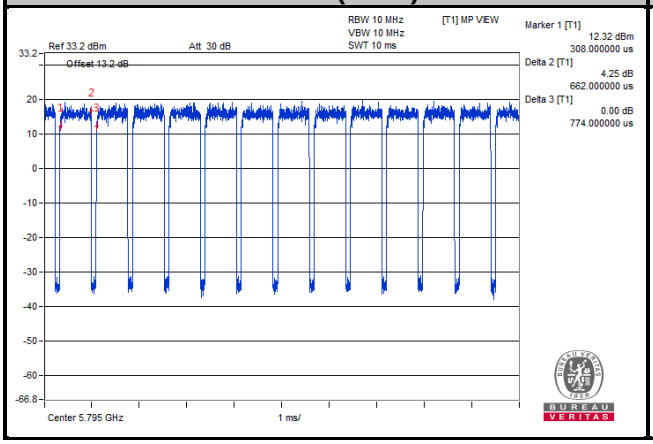
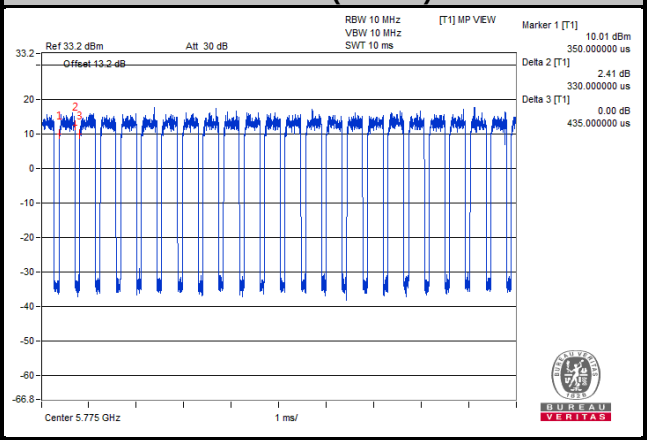
MODULATION TYPE: BPSK

802.11a: Duty cycle = 1.425/1.535 = 0.928, Duty factor = 10 * log(1/0.928) = 0.32

802.11n (HT20): Duty cycle = 1.322/1.46 = 0.905, Duty factor = 10 * log(1/0.905) = 0.43

802.11n (HT40): Duty cycle = 0.662/0.774 = 0.855, Duty factor = 10 * log(1/0.855) = 0.68

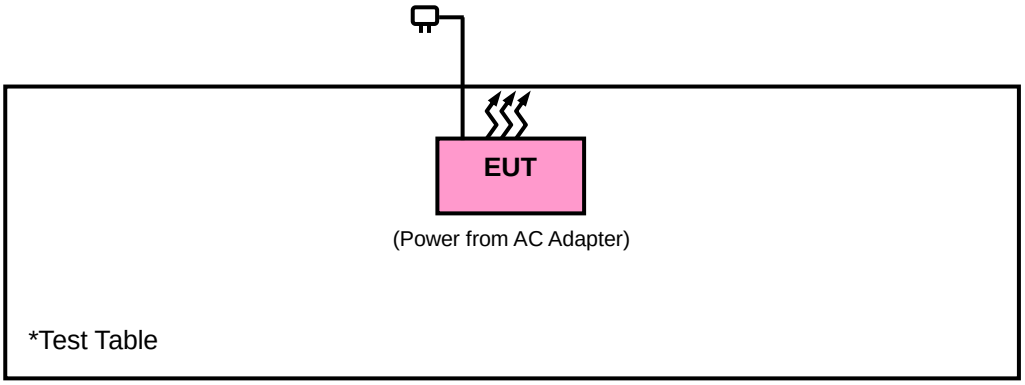
802.11ac (VHT80): Duty cycle = 0.33/0.435 = 0.759, Duty factor = 10 * log(1/0.759) = 1.20

802.11a	802.11n (HT20)
	
802.11n (HT40)	**802.11ac (VHT80)**
	

3.4 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units.

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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

FCC Part 15, Subpart E (15.407)
KDB 789033 D02 General UNII Test Procedures New Rules v02r01
ANSI C63.10-2013

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

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.

4.1.2 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).

4.1.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent	N9038A	MY51210203	Mar. 16, 2018	Mar. 15, 2019
Spectrum Analyzer Agilent	N9010A	MY52220314	Dec. 13, 2018	Dec. 12, 2019
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	100115	Jan. 21, 2019	Jan. 20, 2020
BILOG Antenna SCHWARZBECK	VULB 9168	9168-472	Nov. 23, 2018	Nov. 22, 2019
Horn Antenna SCHWARZBECK	BBHA 9120D	9120D-969	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Nov. 25, 2018	Nov. 24, 2019
Loop Antenna	HLA 6121	45745	Jun. 14, 2018	May 18, 2019
Preamplifier EMCI	EMC 012645	980115	Oct. 12, 2018	Oct. 11, 2019
Preamplifier EMCI	EMC 184045	980116	Oct. 12, 2018	Oct. 11, 2019
Preamplifier EMCI	EMC 330H	980112	Oct. 12, 2018	Oct. 11, 2019
Preamplifier EMCI	EMC001340	980201	Oct. 12, 2018	Oct. 11, 2019
RF Coaxial Cable HUBER+SUHNNER	EMC104-SM-SM-8000&3000	140811+170717	Oct. 12, 2018	Oct. 11, 2019
Power Meter Anritsu	ML2495A	1012010	Sep. 05, 2018	Sep. 04, 2019
Power Sensor Anritsu	MA2411B	1315050	Sep. 04, 2018	Sep. 03, 2019
RF Coaxial Cable HUBER+SUHNNER	SUCOFLEX 104	EMC104-SM-SM-1000(140807)	Oct. 12, 2018	Oct. 11, 2019
RF Coaxial Cable WOKEN	8D-FB	Cable-Ch10-01	Oct. 12, 2018	Oct. 11, 2019
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower &Turn Table Controller MF	MF-7802	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 HwaYa Chamber 10.
3. The horn antenna and preamplifier (model: EMC 184045) are used only for the measurement of emission frequency above 1 GHz if tested.
4. The IC Site Registration No. is 7450F-10.

4.1.4 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. Both 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:

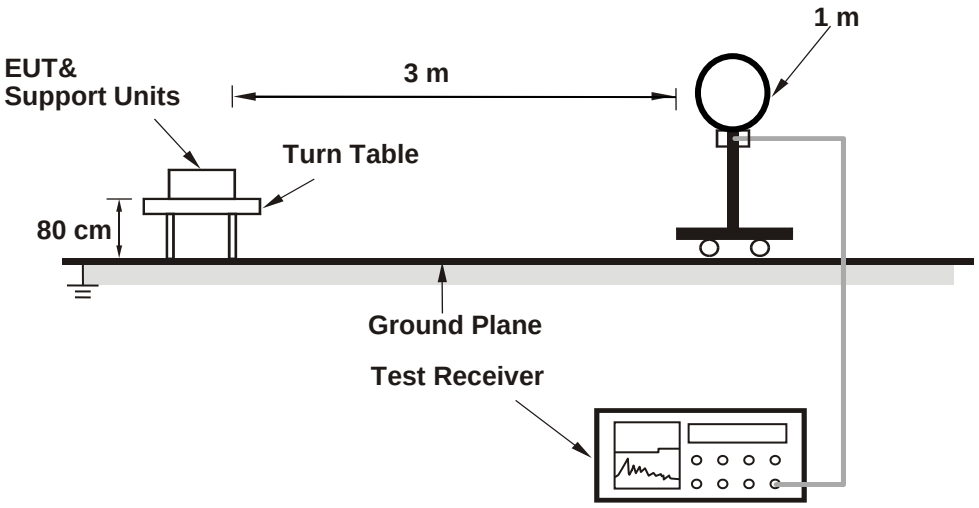
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) 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.

4.1.5 Deviation from Test Standard

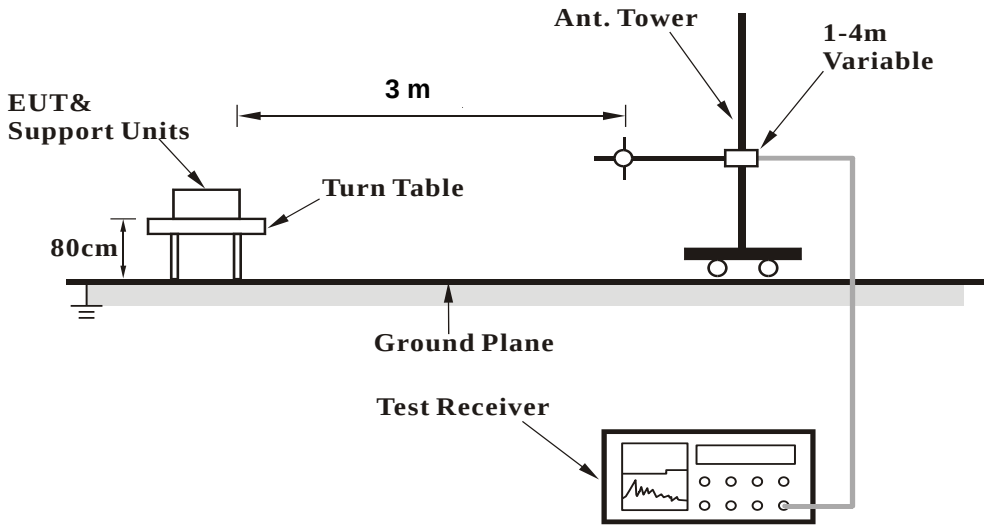
No deviation.

4.1.6 Test Setup

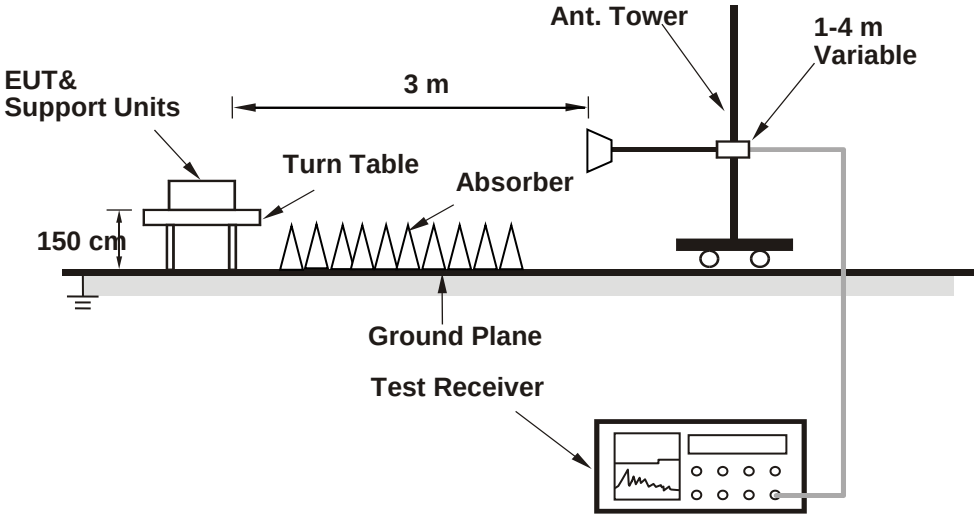
<Radiated Emission below 30 MHz>



<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).

4.1.7 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.

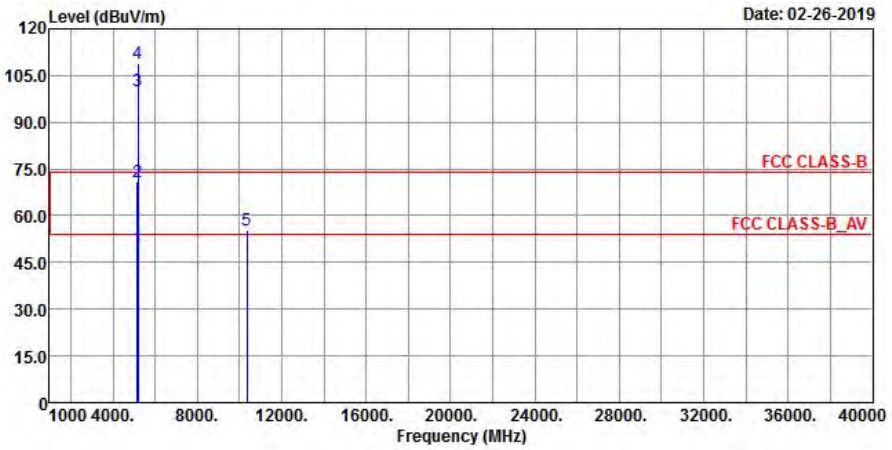
4.1.8 Test Results

Above 1 GHz Data：

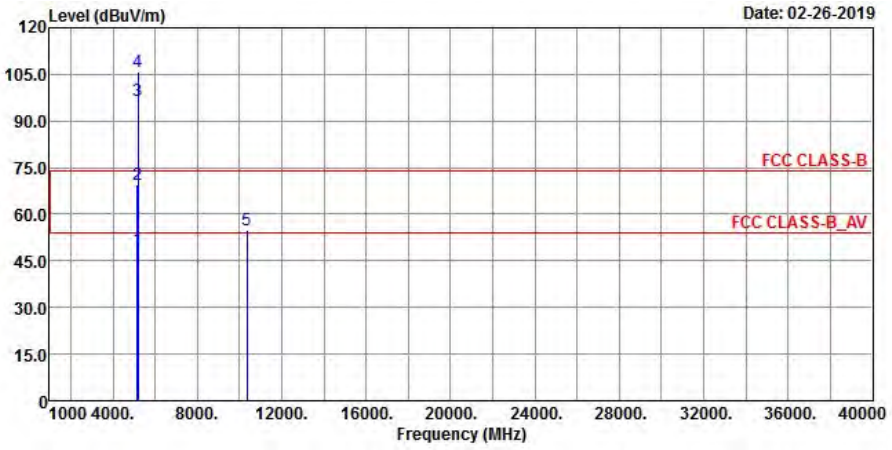
802.11a

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**	Jisyong Wang

Horizontal



Vertical



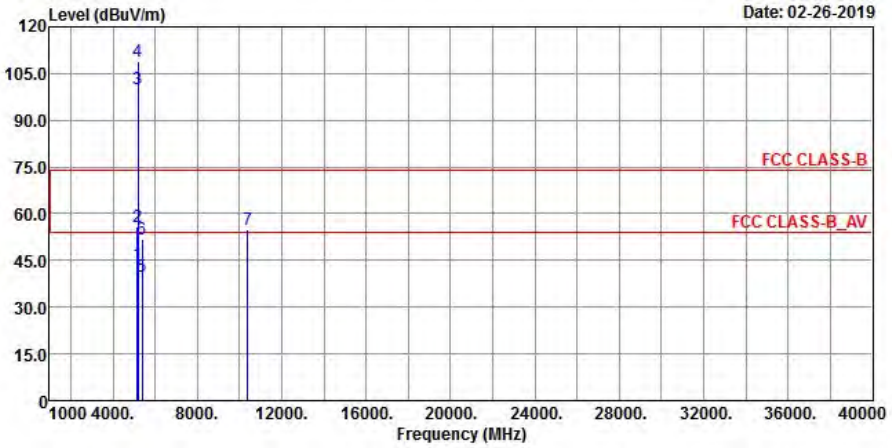
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.76	49.55	48.97	54	-4.45	31.56	6.34	37.32	164	165	Average
5149.76	70.91	70.33	74	-3.09	31.56	6.34	37.32	164	165	Peak
5180	100.08	99.46			31.59	6.37	37.34	164	165	Average
5180	108.98	108.36			31.59	6.37	37.34	164	165	Peak
*10360	55.36	58.12	68.2	-12.84	39.48	10.21	52.45	152	301	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5147.42	48.67	48.09	54	-5.33	31.56	6.34	37.32	167	80	Peak
5147.42	69.57	68.99	74	-4.43	31.56	6.34	37.32	167	80	Peak
5180	96.68	96.06			31.59	6.37	37.34	167	80	Average
5180	105.8	105.18			31.59	6.37	37.34	167	80	Peak
*10360	54.7	57.46	68.2	-13.5	39.48	10.21	52.45	178	223	Peak

Remarks:

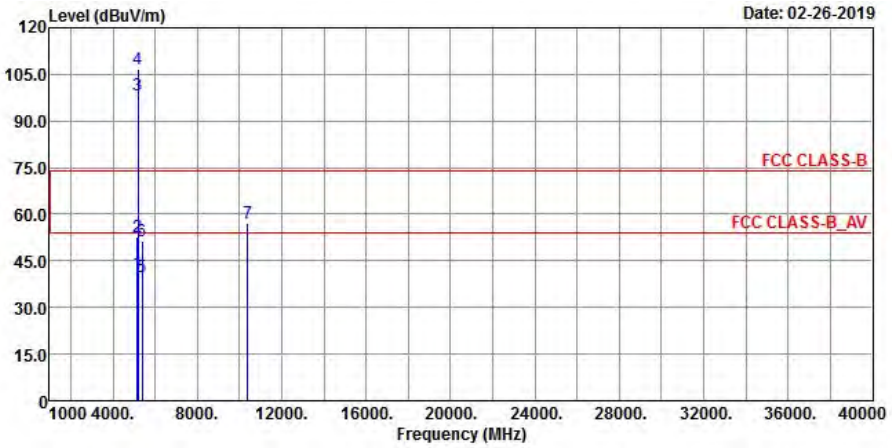
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5180 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



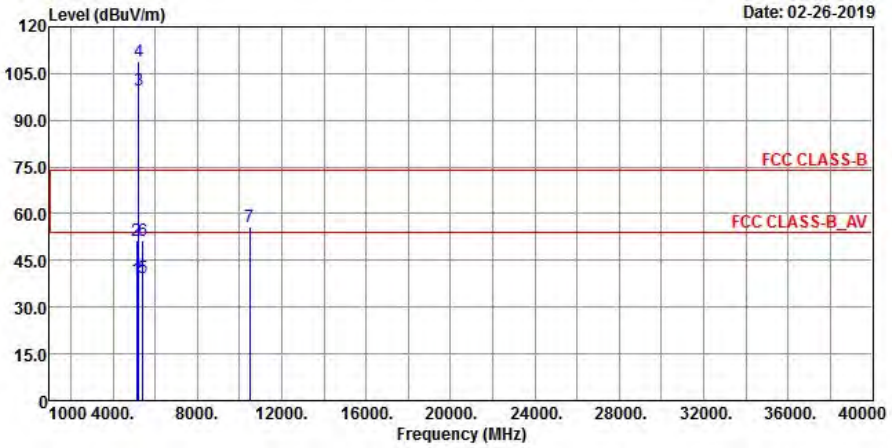
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.94	43.79	43.21	54	-10.21	31.56	6.34	37.32	174	166	Average
5149.94	55.73	55.15	74	-18.27	31.56	6.34	37.32	174	166	Peak
5200	100.15	99.52			31.6	6.39	37.36	174	166	Average
5200	108.93	108.3			31.6	6.39	37.36	174	166	Peak
5385.53	40.05	39.03	54	-13.95	31.73	6.47	37.18	174	166	Average
5385.53	51.9	50.88	74	-22.1	31.73	6.47	37.18	174	166	Peak
*10400	55.09	57.83	68.2	-13.11	39.51	10.2	52.45	162	159	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5148.5	41.34	40.76	54	-12.66	31.56	6.34	37.32	169	85	Average
5148.5	52.79	52.21	74	-21.21	31.56	6.34	37.32	169	85	Peak
5200	98.41	97.78			31.6	6.39	37.36	169	85	Average
5200	106.53	105.9			31.6	6.39	37.36	169	85	Peak
5397.96	39.72	38.69	54	-14.28	31.74	6.47	37.18	169	85	Average
5397.96	51.31	50.28	74	-22.69	31.74	6.47	37.18	169	85	Peak
*10400	57.24	59.98	68.2	-10.96	39.51	10.2	52.45	182	113	Peak

Remarks:

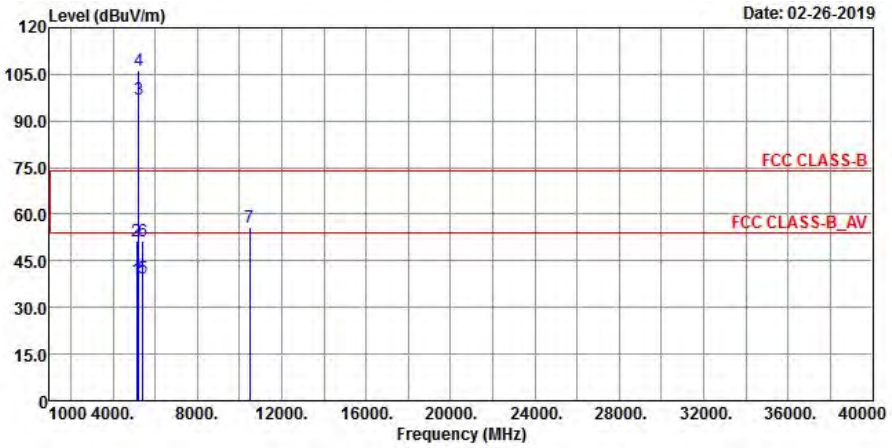
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5200 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



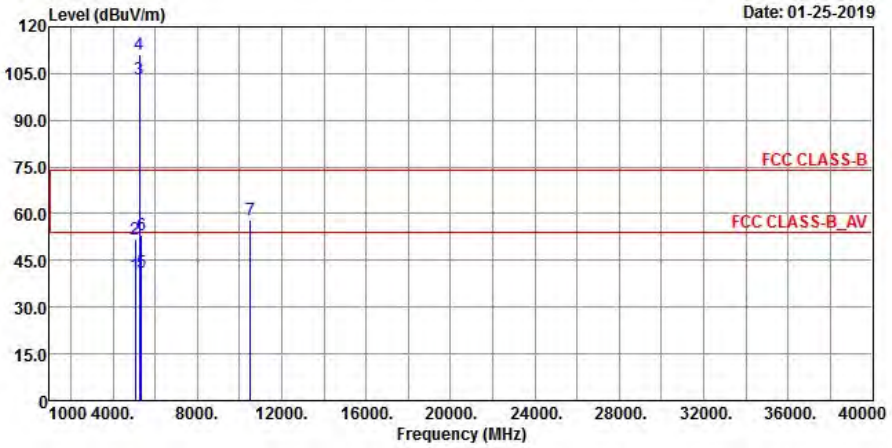
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5139.68	39.1	38.51	54	-14.9	31.56	6.33	37.3	183	168	Average
5139.68	51.58	50.99	74	-22.42	31.56	6.33	37.3	183	168	Peak
5240	99.85	99.13			31.62	6.42	37.32	183	168	Average
5240	108.91	108.19			31.62	6.42	37.32	183	168	Peak
5426.56	39.57	38.46	54	-14.43	31.75	6.49	37.13	183	168	Average
5426.56	51.4	50.29	74	-22.6	31.75	6.49	37.13	183	168	Peak
*10480	55.94	58.78	68.2	-12.26	39.6	10.22	52.66	162	191	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5134.28	39.05	38.48	54	-14.95	31.55	6.32	37.3	175	67	Average
5134.28	51.51	50.94	74	-22.49	31.55	6.32	37.3	175	67	Peak
5240	96.78	96.06			31.62	6.42	37.32	175	67	Average
5240	106.48	105.76			31.62	6.42	37.32	175	67	Peak
5427.99	39.27	38.16	54	-14.73	31.75	6.49	37.13	175	67	Average
5427.99	51.4	50.29	74	-22.6	31.75	6.49	37.13	175	67	Peak
*10480	55.86	58.7	68.2	-12.34	39.6	10.22	52.66	146	95	Peak

Remarks:

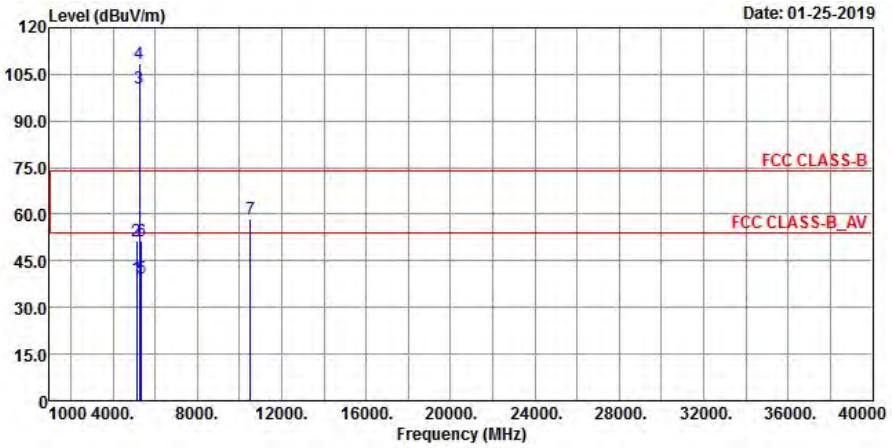
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5240 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



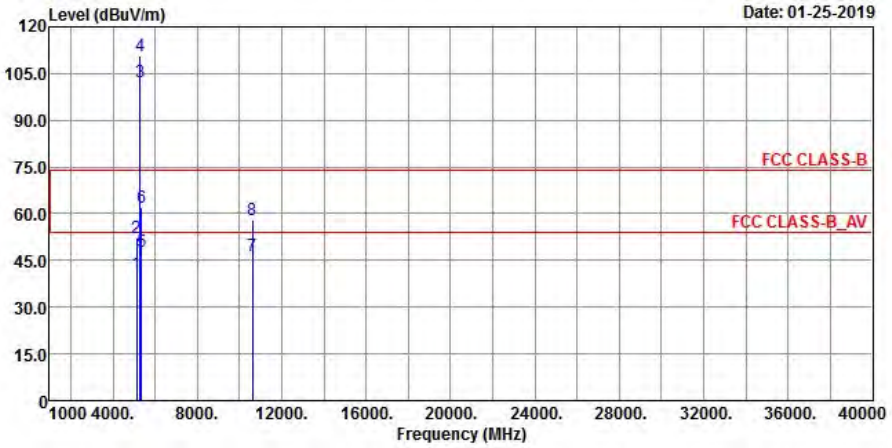
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5072.54	40.15	39.63	54	-13.85	31.52	6.27	37.27	180	169	Average
5072.54	51.66	51.14	74	-22.34	31.52	6.27	37.27	180	169	Peak
5260	103.01	102.2			31.65	6.43	37.27	180	169	Average
5260	111.08	110.27			31.65	6.43	37.27	180	169	Peak
5350.44	41.18	40.19	54	-12.82	31.7	6.47	37.18	180	169	Average
5350.44	52.96	51.97	74	-21.04	31.7	6.47	37.18	180	169	Peak
*10520	57.91	60.71	68.2	-10.29	39.66	10.27	52.73	146	261	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5141.66	39.49	38.9	54	-14.51	31.56	6.33	37.3	195	88	Average
5141.66	51.4	50.81	74	-22.6	31.56	6.33	37.3	195	88	Peak
5260	100.36	99.55			31.65	6.43	37.27	195	88	Average
5260	108.48	107.67			31.65	6.43	37.27	195	88	Peak
5351.65	39.41	38.42	54	-14.59	31.7	6.47	37.18	195	88	Average
5351.65	51.25	50.26	74	-22.75	31.7	6.47	37.18	195	88	Peak
*10520	58.44	61.24	68.2	-9.76	39.66	10.27	52.73	226	137	Peak

Remarks:

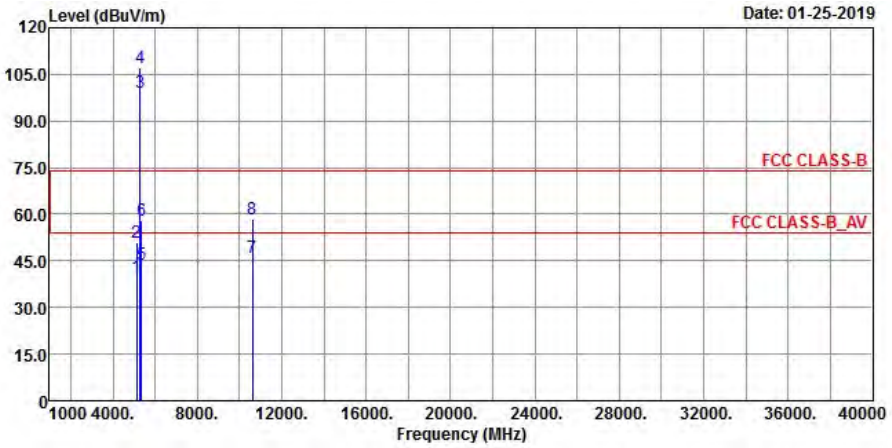
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5260 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



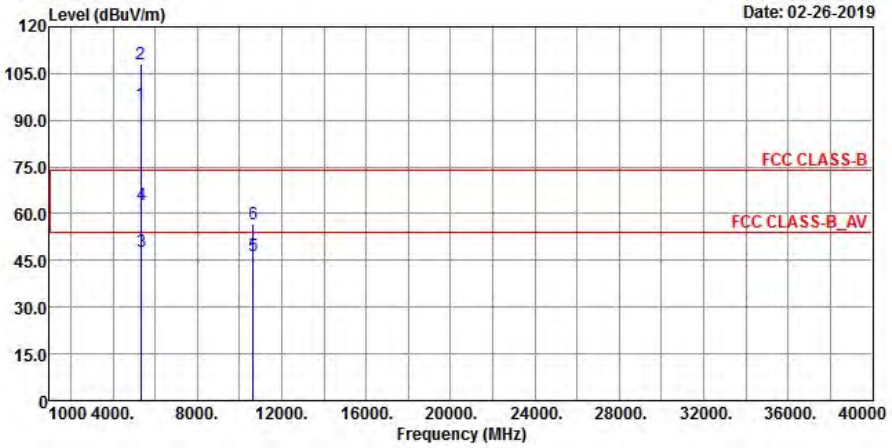
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5110.88	40.52	39.96	54	-13.48	31.54	6.3	37.28	185	168	Average
5110.88	52.14	51.58	74	-21.86	31.54	6.3	37.28	185	168	Peak
5300	102.21	101.27			31.67	6.46	37.19	185	168	Average
5300	110.71	109.77			31.67	6.46	37.19	185	168	Peak
5350.11	47.76	46.77	54	-6.24	31.7	6.47	37.18	185	168	Average
5350.11	62.04	61.05	74	-11.96	31.7	6.47	37.18	185	168	Peak
10600	46.28	49.11	54	-7.72	39.85	10.43	53.11	174	148	Average
10600	58.16	60.99	74	-15.84	39.85	10.43	53.11	174	148	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5111.06	39.67	39.11	54	-14.33	31.54	6.3	37.28	170	88	Average
5111.06	50.86	50.3	74	-23.14	31.54	6.3	37.28	170	88	Peak
5300	99.22	98.28			31.67	6.46	37.19	170	88	Average
5300	106.98	106.04			31.67	6.46	37.19	170	88	Peak
5350.11	44.05	43.06	54	-9.95	31.7	6.47	37.18	170	88	Average
5350.11	58.18	57.19	74	-15.82	31.7	6.47	37.18	170	88	Peak
10600	45.99	48.82	54	-8.01	39.85	10.43	53.11	185	203	Average
10600	58.27	61.1	74	-15.73	39.85	10.43	53.11	185	203	Peak

Remarks:

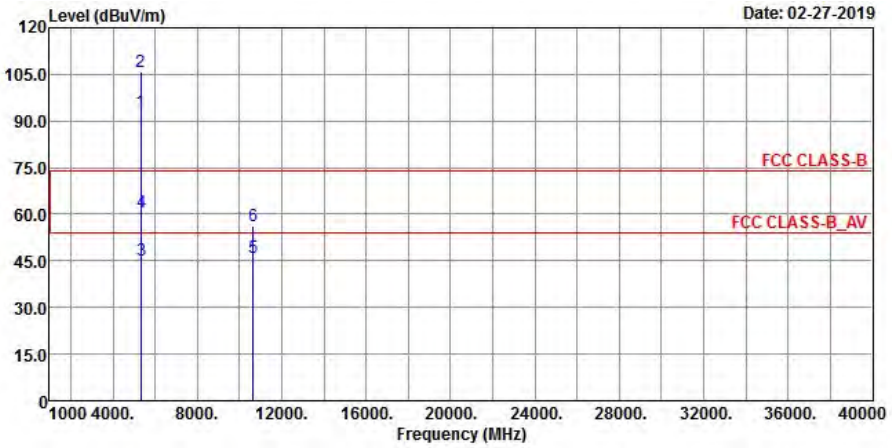
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



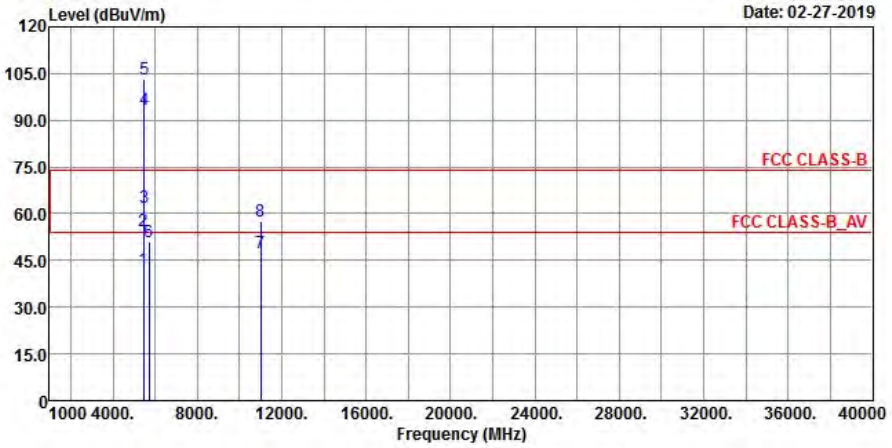
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	95.3	94.35			31.68	6.46	37.19	188	168	Average
5320	108	107.05			31.68	6.46	37.19	188	168	Peak
5352.31	47.73	46.74	54	-6.27	31.7	6.47	37.18	188	168	Average
5352.31	63.06	62.07	74	-10.94	31.7	6.47	37.18	188	168	Peak
10640	46.7	49.48	54	-7.3	39.93	10.36	53.07	158	152	Average
10640	56.7	59.48	74	-17.3	39.93	10.36	53.07	158	152	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	92.93	91.98			31.68	6.46	37.19	176	72	Average
5320	105.62	104.67			31.68	6.46	37.19	176	72	Peak
5351.19	45.27	44.28	54	-8.73	31.7	6.47	37.18	176	72	Average
5351.19	60.88	59.89	74	-13.12	31.7	6.47	37.18	176	72	Peak
10640	46.11	48.89	54	-7.89	39.93	10.36	53.07	127	63	Average
10640	56.29	59.07	74	-17.71	39.93	10.36	53.07	127	63	Peak

Remarks:

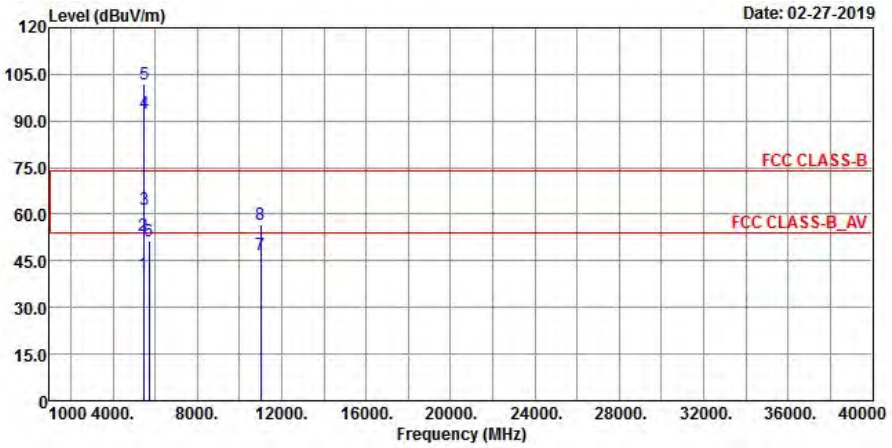
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5320 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



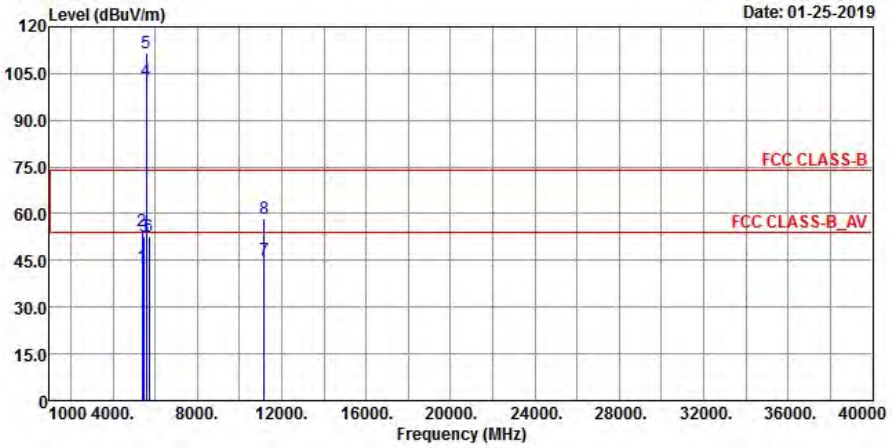
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5460	42.19	40.99	54	-11.81	31.77	6.51	37.08	162	168	Average
5460	54.31	53.11	74	-19.69	31.77	6.51	37.08	162	168	Peak
*5470	61.78	60.55	68.2	-6.42	31.79	6.52	37.08	162	168	Peak
5500	93.51	92.19			31.81	6.54	37.03	162	168	Average
5500	103.03	101.71			31.81	6.54	37.03	162	168	Peak
*5725	50.93	49.42	68.2	-17.27	32.18	6.76	37.43	162	168	Peak
11000	47.21	49.11	54	-6.79	40.73	10.4	53.03	128	209	Average
11000	57.49	59.39	74	-16.51	40.73	10.4	53.03	128	209	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.77	40.92	39.72	54	-13.08	31.77	6.51	37.08	176	70	Average
5459.77	53.19	51.99	74	-20.81	31.77	6.51	37.08	176	70	Peak
*5470	61.43	75.03	68.2	-6.77	31.79	7.23	52.62	176	70	Peak
5500	92.43	91.11			31.81	6.54	37.03	176	70	Average
5500	101.75	100.43			31.81	6.54	37.03	176	70	Peak
*5725	51.16	49.65	68.2	-17.04	32.18	6.76	37.43	176	70	Peak
11000	46.89	48.79	54	-7.11	40.73	10.4	53.03	161	174	Average
11000	56.52	58.42	74	-17.48	40.73	10.4	53.03	161	174	Peak

Remarks:

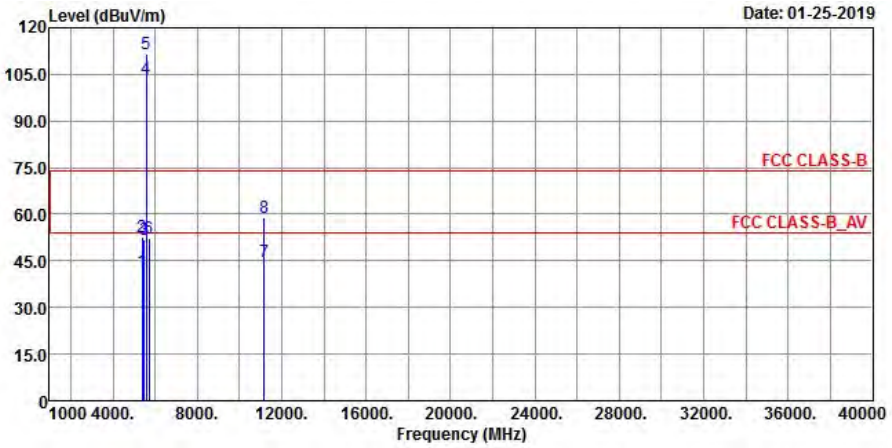
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5500 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



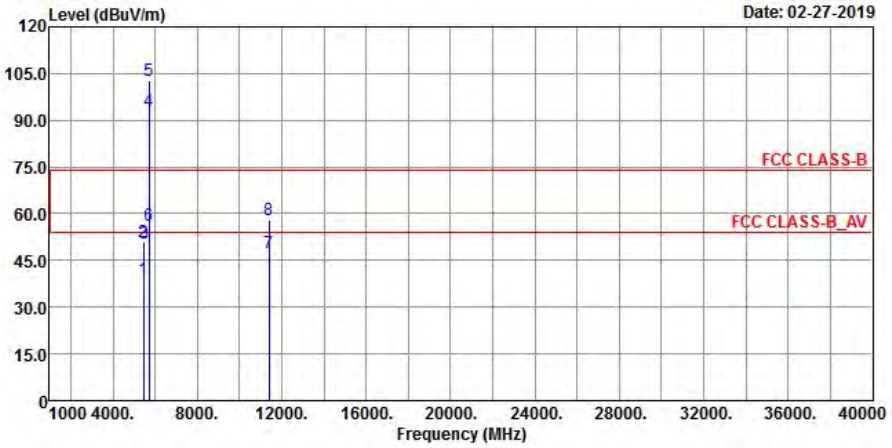
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5380.56	42.76	41.74	54	-11.24	31.73	6.47	37.18	153	133	Average
5380.56	54.25	53.23	74	-19.75	31.73	6.47	37.18	153	133	Peak
*5470	52.61	51.38	68.2	-15.59	31.79	6.52	37.08	153	133	Peak
5580	102.58	101.17			31.92	6.65	37.16	153	133	Average
5580	111.43	110.02			31.92	6.65	37.16	153	133	Peak
*5725	52.55	51.04	68.2	-15.65	32.18	6.76	37.43	153	133	Peak
11160	44.98	46.68	54	-9.02	40.56	10.52	52.78	194	133	Average
11160	58.26	59.96	74	-15.74	40.56	10.52	52.78	194	133	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5380.56	41.81	40.79	54	-12.19	31.73	6.47	37.18	160	64	Average
5380.56	52.72	51.7	74	-21.28	31.73	6.47	37.18	160	64	Peak
*5470	51.81	50.58	68.2	-16.39	31.79	6.52	37.08	160	64	Peak
5580	103.68	102.27			31.92	6.65	37.16	160	64	Average
5580	111.75	110.34			31.92	6.65	37.16	160	64	Peak
*5725	52.17	50.66	68.2	-16.03	32.18	6.76	37.43	160	64	Peak
11160	44.52	46.22	54	-9.48	40.56	10.52	52.78	124	86	Average
11160	58.81	60.51	74	-15.19	40.56	10.52	52.78	124	86	Peak

Remarks:

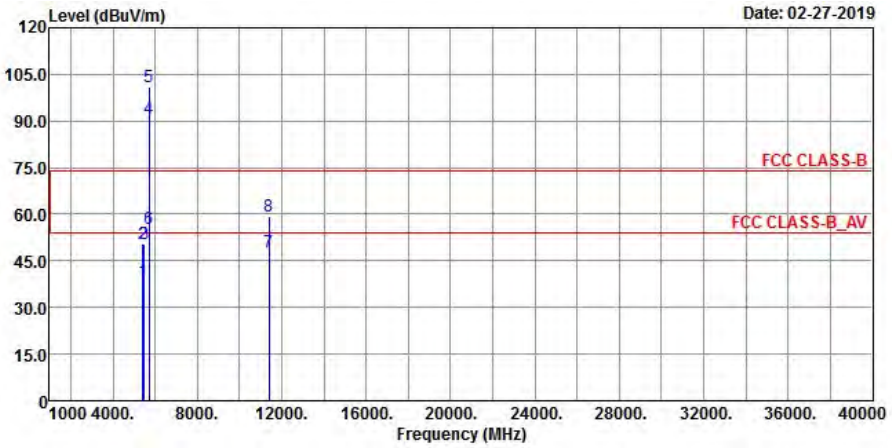
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5580 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



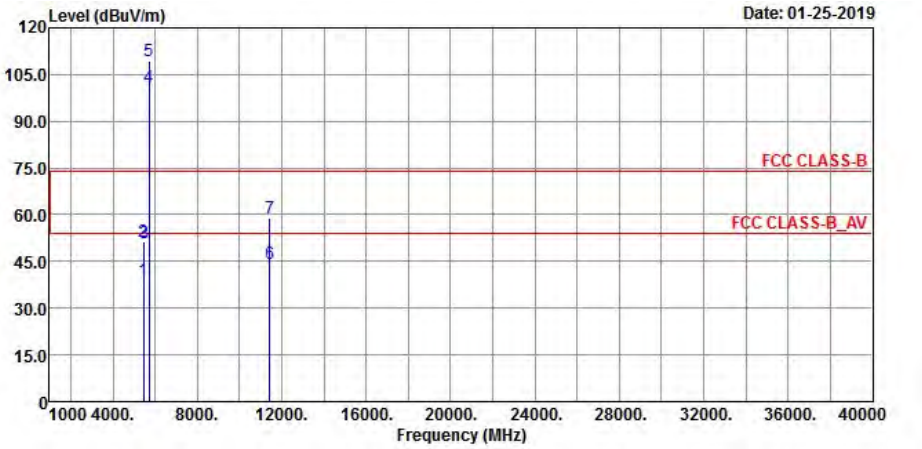
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5460	39.05	37.85	54	-14.95	31.77	6.51	37.08	174	174	Average
5460	51.03	49.83	74	-22.97	31.77	6.51	37.08	174	174	Peak
*5470	50.28	49.05	68.2	-17.92	31.79	6.52	37.08	174	174	Peak
5700	93.16	91.71			32.12	6.73	37.4	174	174	Average
5700	102.8	101.35			32.12	6.73	37.4	174	174	Peak
*5725	56.16	54.65	68.2	-12.04	32.18	6.76	37.43	174	174	Peak
11400	47.47	49.37	54	-6.53	40.33	10.47	52.7	183	116	Average
11400	57.81	59.71	74	-16.19	40.33	10.47	52.7	183	116	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5426.48	38.61	37.5	54	-15.39	31.75	6.49	37.13	183	77	Average
5426.48	50.57	49.46	74	-23.43	31.75	6.49	37.13	183	77	Peak
*5470	50.43	49.2	68.2	-17.77	31.79	6.52	37.08	183	77	Peak
5700	90.82	89.37			32.12	6.73	37.4	183	77	Average
5700	101.07	99.62			32.12	6.73	37.4	183	77	Peak
*5725	55.38	53.87	68.2	-12.82	32.18	6.76	37.43	183	77	Peak
11400	47.67	49.57	54	-6.33	40.33	10.47	52.7	162	198	Average
11400	59.21	61.11	74	-14.79	40.33	10.47	52.7	162	198	Peak

Remarks:

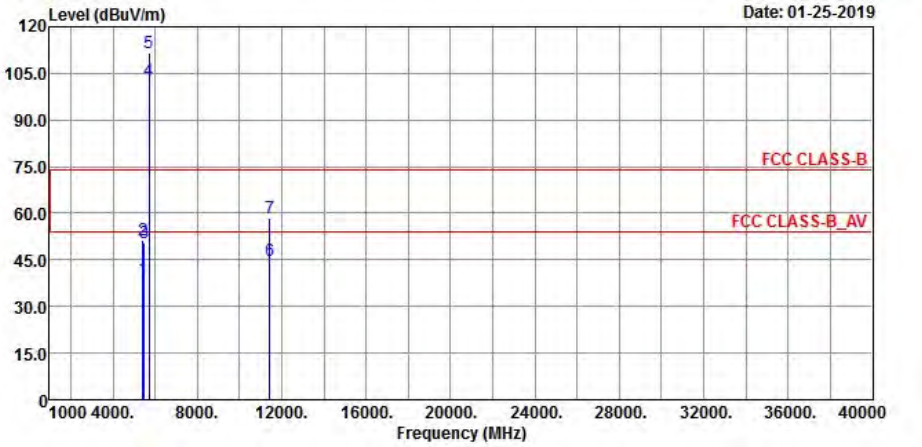
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5700 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 144	**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**	Jisyong Wang

Horizontal



Vertical



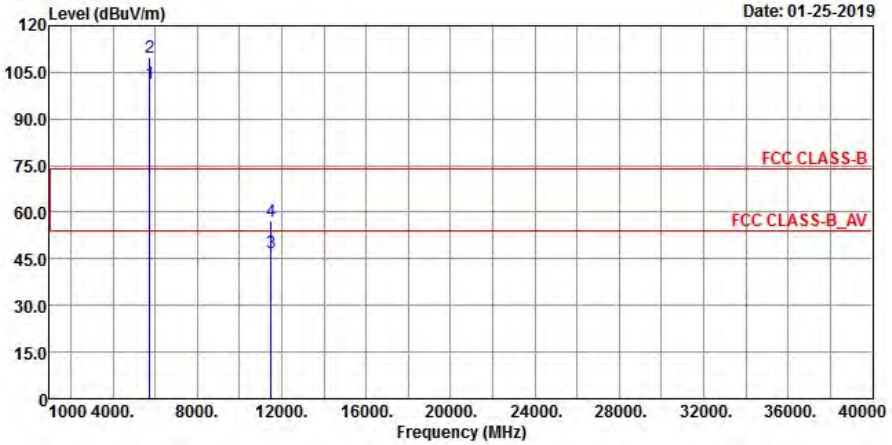
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5454.64	38.9	37.7	54	-15.1	31.77	6.51	37.08	252	153	Average
5454.64	51.56	50.36	74	-22.44	31.77	6.51	37.08	252	153	Peak
*5470	50.93	49.7	68.2	-17.27	31.79	6.52	37.08	252	153	Peak
5720	100.83	99.33			32.18	6.75	37.43	252	153	Average
5720	109.25	107.75			32.18	6.75	37.43	252	153	Peak
11440	44.4	46.28	54	-9.6	40.3	10.55	52.73	176	159	Average
11440	58.76	60.64	74	-15.24	40.3	10.55	52.73	176	159	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5433.36	39.02	37.9	54	-14.98	31.76	6.49	37.13	170	62	Average
5433.36	51.42	50.3	74	-22.58	31.76	6.49	37.13	170	62	Peak
*5470	50.39	49.16	68.2	-17.81	31.79	6.52	37.08	170	62	Peak
5720	102.93	101.43			32.18	6.75	37.43	170	62	Average
5720	111.65	110.15			32.18	6.75	37.43	170	62	Peak
11440	44.74	46.62	54	-9.26	40.3	10.55	52.73	128	55	Average
11440	58.36	60.24	74	-15.64	40.3	10.55	52.73	128	55	Peak

Remarks:

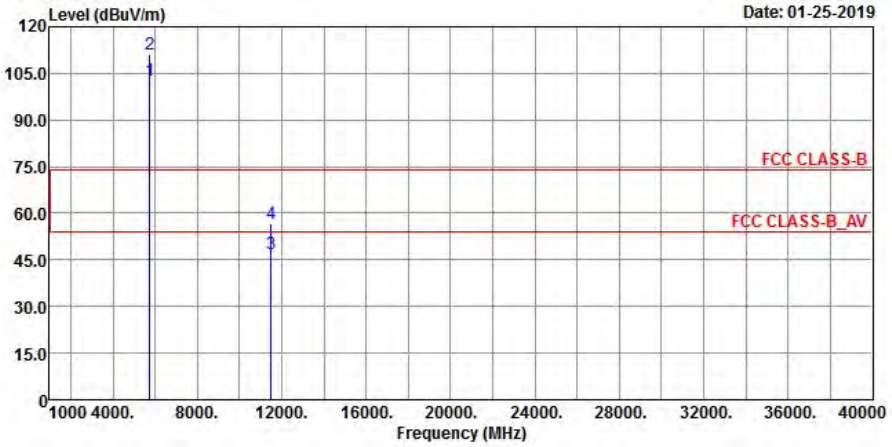
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5720 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

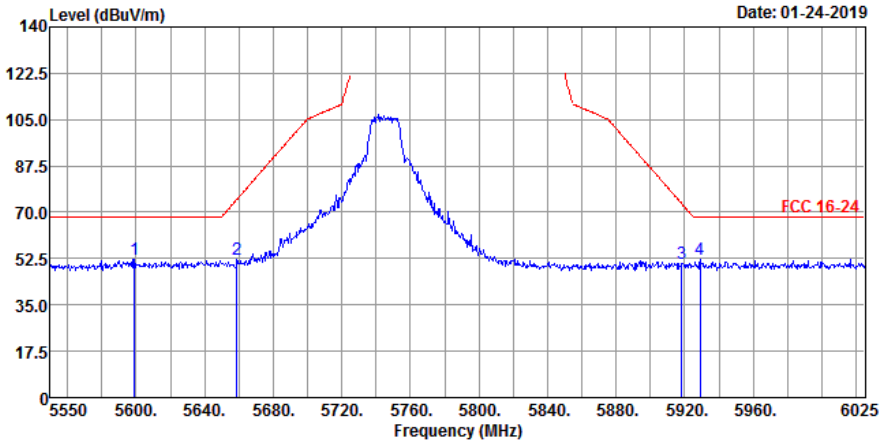
<Spurious Emission>
Horizontal



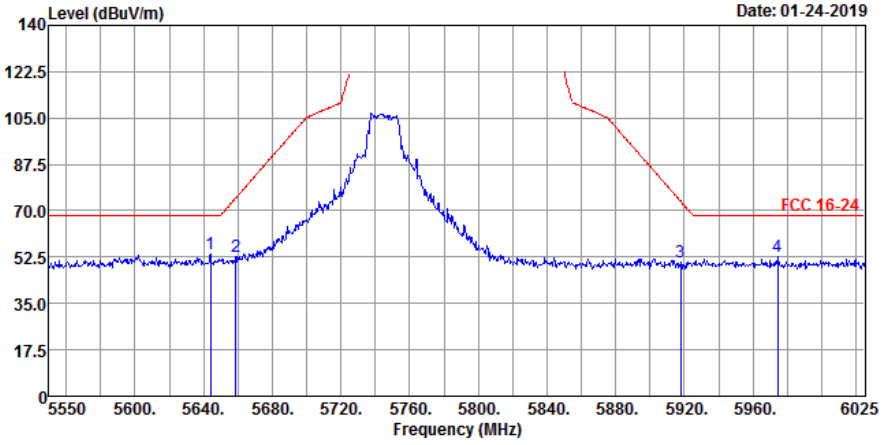
Vertical



<Out of Band Emission (OOBE)>
Horizontal



Vertical



<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	101.19	99.67			32.21	6.78	37.47	158	174	Average
5745	109.71	108.19			32.21	6.78	37.47	158	174	Peak
11490	47.15	49.02	54	-6.85	40.25	10.66	52.78	148	233	Average
11490	57.04	58.91	74	-16.96	40.25	10.66	52.78	148	233	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	102.69	101.17			32.21	6.78	37.47	158	55	Average
5745	111.36	109.84			32.21	6.78	37.47	158	55	Peak
11490	46.94	48.81	54	-7.06	40.25	10.66	52.78	163	117	Average
11490	56.71	58.58	74	-17.29	40.25	10.66	52.78	163	117	Peak

<Out of Band Emission (OOBE)>

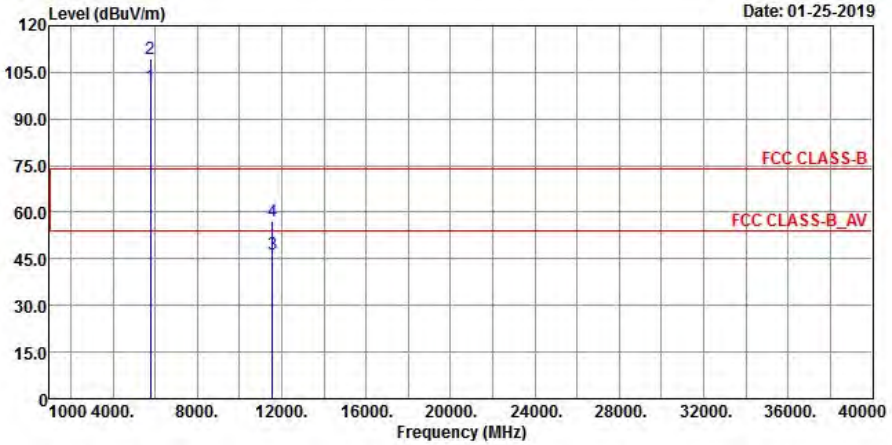
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5598.925	52.32	50.82	68.2	-15.88	31.98	6.68	37.16	158	174	Peak
5658.775	52.25	50.82	74.72	-22.47	32.06	6.71	37.34	158	174	Peak
5918.125	50.88	49.03	73.27	-22.39	32.49	6.86	37.5	158	174	Peak
5929.05	52.32	50.44	68.2	-15.88	32.52	6.86	37.5	158	174	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5644.05	53.79	52.33	68.2	-14.41	32.04	6.7	37.28	158	55	Peak
5658.775	52.76	51.33	74.72	-21.96	32.06	6.71	37.34	158	55	Peak
5917.65	50.64	48.79	73.62	-22.98	32.49	6.86	37.5	158	55	Peak
5974.175	52.44	50.47	68.2	-15.76	32.6	6.88	37.51	158	55	Peak

Remarks:

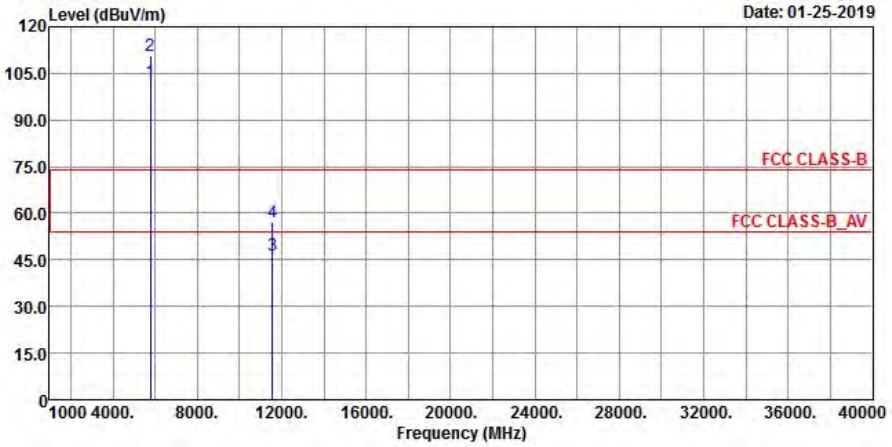
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5745 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

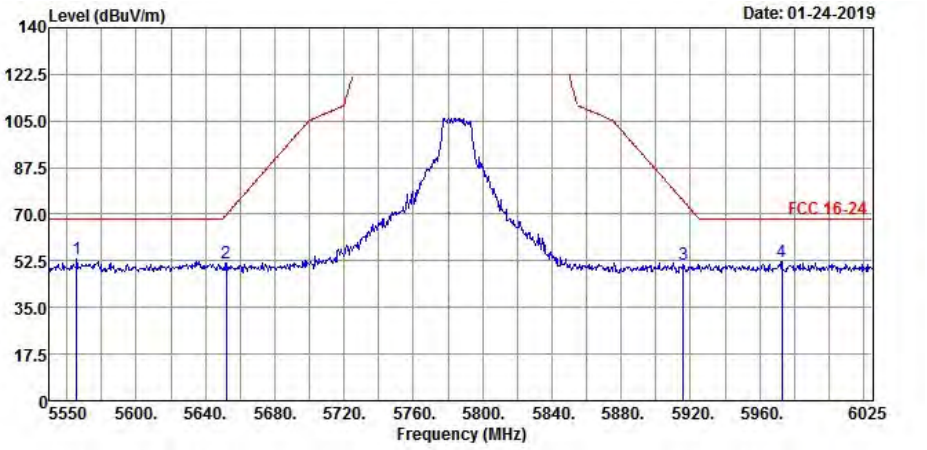
<Spurious Emission>
Horizontal



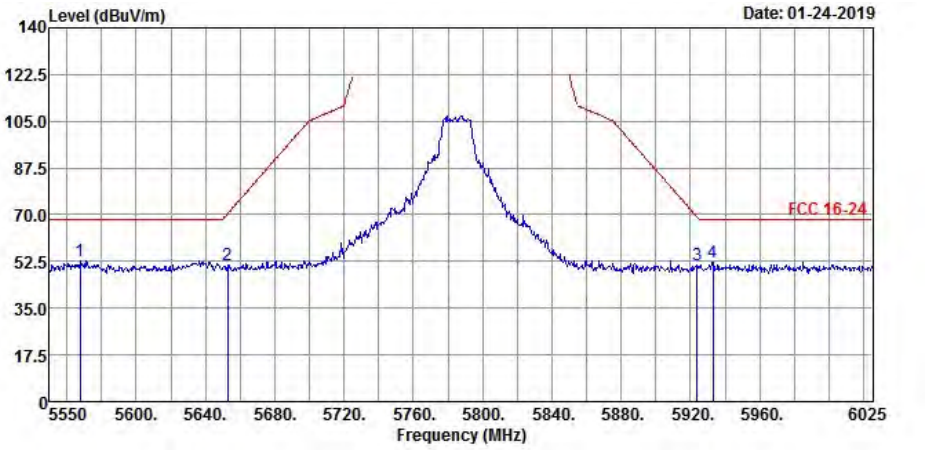
Vertical



<Out of Band Emission (OOBE)>
Horizontal



Vertical



<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	100.59	99.05			32.26	6.82	37.54	179	175	Average
5785	109.15	107.61			32.26	6.82	37.54	179	175	Peak
11570	46.67	48.79	54	-7.33	40.13	10.76	53.01	192	207	Average
11570	56.91	59.03	74	-17.09	40.13	10.76	53.01	192	207	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	102.39	100.85			32.26	6.82	37.54	161	45	Average
5785	110.67	109.13			32.26	6.82	37.54	161	45	Peak
11570	46.35	48.47	54	-7.65	40.13	10.76	53.01	159	226	Average
11570	57.12	59.24	74	-16.88	40.13	10.76	53.01	159	226	Peak

<Out of Band Emission (OOBE)>

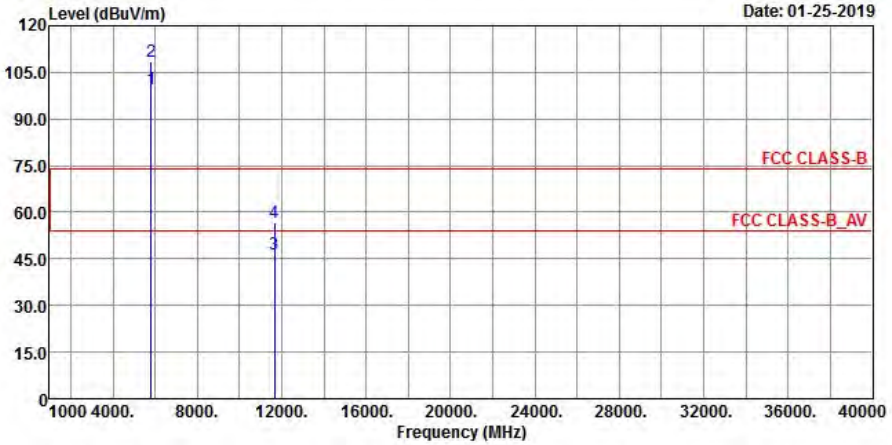
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5565.675	53.22	51.79	68.2	-14.98	31.92	6.63	37.12	179	175	Peak
5652.125	51.62	50.13	69.78	-18.16	32.06	6.71	37.28	179	175	Peak
5915.75	51.32	49.47	75.02	-23.7	32.49	6.86	37.5	179	175	Peak
5972.75	52.03	50.06	68.2	-16.17	32.6	6.88	37.51	179	175	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5567.575	52.81	51.38	68.2	-15.39	31.92	6.63	37.12	161	45	Peak
5652.6	51.38	49.89	70.13	-18.75	32.06	6.71	37.28	161	45	Peak
5923.825	50.99	49.11	69.07	-18.08	32.52	6.86	37.5	161	45	Peak
5932.85	52.44	50.56	68.2	-15.76	32.52	6.86	37.5	161	45	Peak

Remarks:

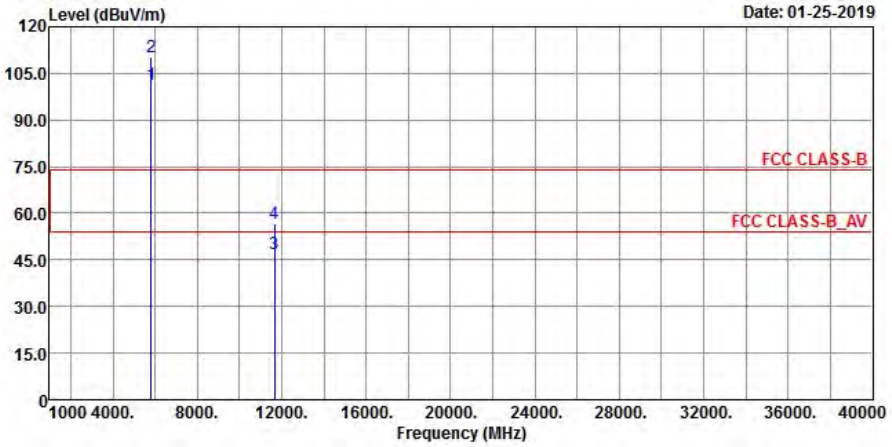
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5785 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

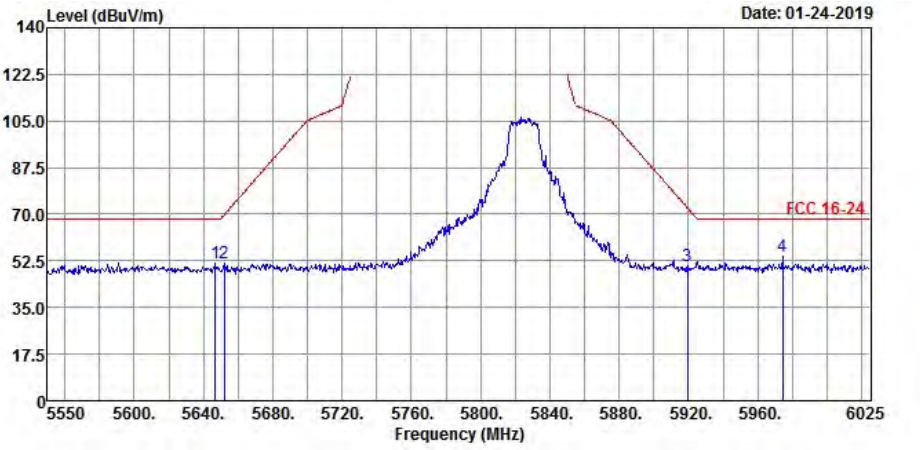
<Spurious Emission>
Horizontal



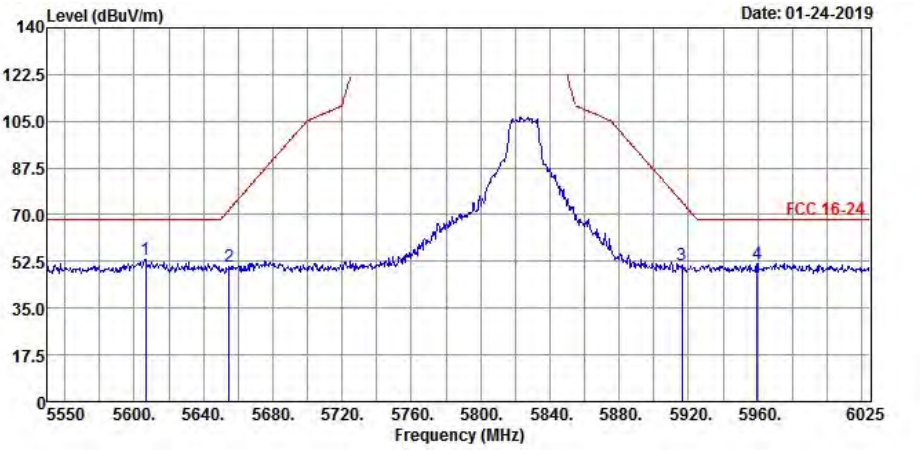
Vertical



<Out of Band Emission (OOBE)>
Horizontal



Vertical



<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	99.69	98.03			32.35	6.84	37.53	138	189	Average
5825	108.69	107.03			32.35	6.84	37.53	138	189	Peak
11650	46.42	48.73	54	-7.58	40.03	10.8	53.14	176	186	Average
11650	56.48	58.79	74	-17.52	40.03	10.8	53.14	176	186	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	101.29	99.63			32.35	6.84	37.53	146	60	Average
5825	110.16	108.5			32.35	6.84	37.53	146	60	Peak
11650	46.74	49.05	54	-7.26	40.03	10.8	53.14	182	166	Average
11650	56.76	59.07	74	-17.24	40.03	10.8	53.14	182	166	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5646.9	51.91	50.45	68.2	-16.29	32.04	6.7	37.28	138	189	Peak
5652.125	51.83	50.34	69.78	-17.95	32.06	6.71	37.28	138	189	Peak
5919.55	50.48	48.63	72.22	-21.74	32.49	6.86	37.5	138	189	Peak
5974.175	54.47	52.5	68.2	-13.73	32.6	6.88	37.51	138	189	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5606.525	52.96	51.52	68.2	-15.24	31.98	6.68	37.22	146	60	Peak
5654.975	50.87	49.44	71.9	-21.03	32.06	6.71	37.34	146	60	Peak
5916.225	51.21	49.36	74.67	-23.46	32.49	6.86	37.5	146	60	Peak
5959.45	51.64	49.7	68.2	-16.56	32.57	6.87	37.5	146	60	Peak

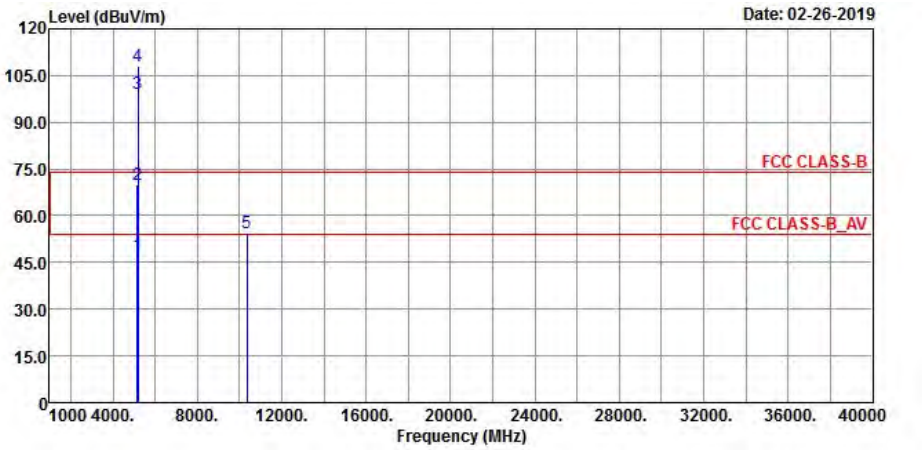
Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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

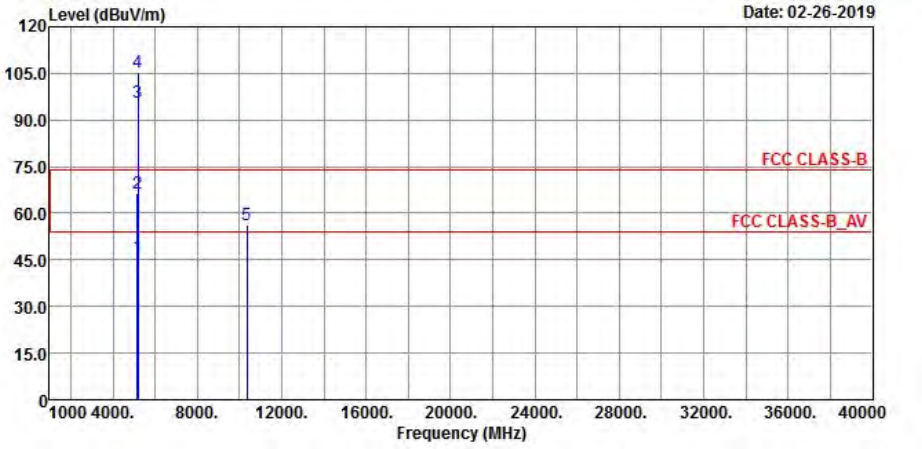
802.11n (HT20)

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**	Jisyong Wang

Horizontal



Vertical



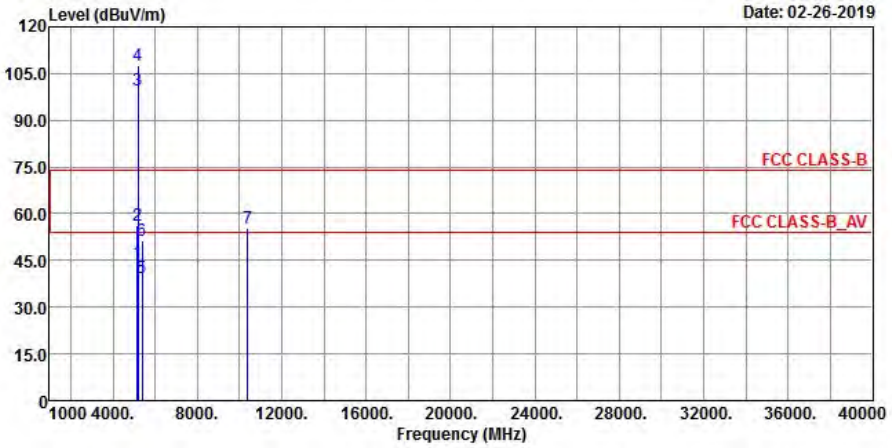
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.4	47.18	46.6	54	-6.82	31.56	6.34	37.32	185	166	Average
5149.4	69.89	69.31	74	-4.11	31.56	6.34	37.32	185	166	Peak
5180	98.97	98.35			31.59	6.37	37.34	185	166	Average
5180	108.06	107.44			31.59	6.37	37.34	185	166	Peak
*10360	54.67	57.43	68.2	-13.53	39.48	10.21	52.45	176	159	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.68	46.05	45.47	54	-7.95	31.56	6.34	37.32	164	86	Average
5149.68	66.39	65.81	74	-7.61	31.56	6.34	37.32	164	86	Peak
5180	95.69	95.07			31.59	6.37	37.34	164	86	Average
5180	105.28	104.66			31.59	6.37	37.34	164	86	Peak
*10360	56.44	59.2	68.2	-11.76	39.48	10.21	52.45	128	179	Peak

Remarks:

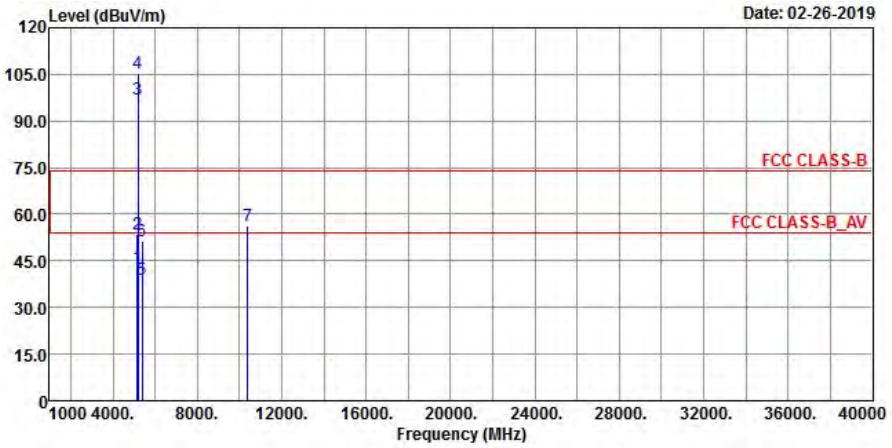
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5180 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



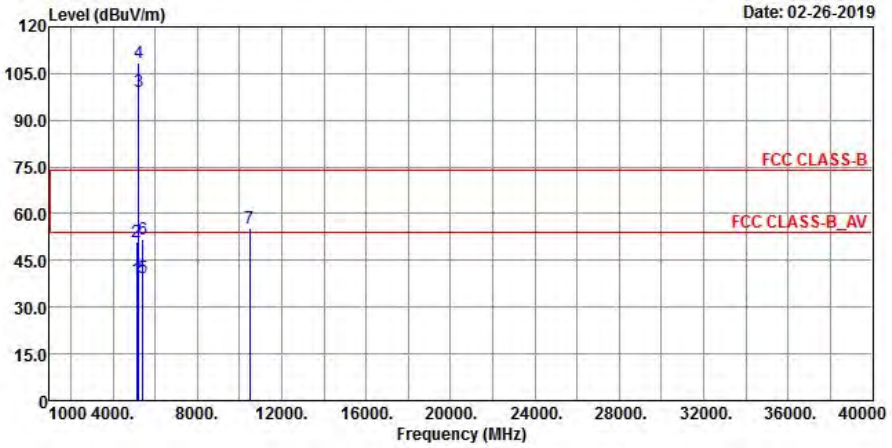
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.58	44.15	43.57	54	-9.85	31.56	6.34	37.32	187	167	Average
5149.58	56.11	55.53	74	-17.89	31.56	6.34	37.32	187	167	Peak
5200	99.49	98.86			31.6	6.39	37.36	187	167	Average
5200	107.77	107.14			31.6	6.39	37.36	187	167	Peak
5384.54	39.41	38.39	54	-14.59	31.73	6.47	37.18	187	167	Average
5384.54	51.52	50.5	74	-22.48	31.73	6.47	37.18	187	167	Peak
*10400	55.56	58.3	68.2	-12.64	39.51	10.2	52.45	195	206	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.75	42.88	42.3	54	-11.12	31.56	6.34	37.32	178	71	Average
5149.75	53.59	53.01	74	-20.41	31.56	6.34	37.32	178	71	Peak
5200	96.95	96.32			31.6	6.39	37.36	178	71	Average
5200	105.22	104.59			31.6	6.39	37.36	178	71	Peak
5399.94	39	37.97	54	-15	31.74	6.47	37.18	178	71	Average
5399.94	51.16	50.13	74	-22.84	31.74	6.47	37.18	178	71	Peak
*10400	56.22	58.96	68.2	-11.98	39.51	10.2	52.45	147	236	Peak

Remarks:

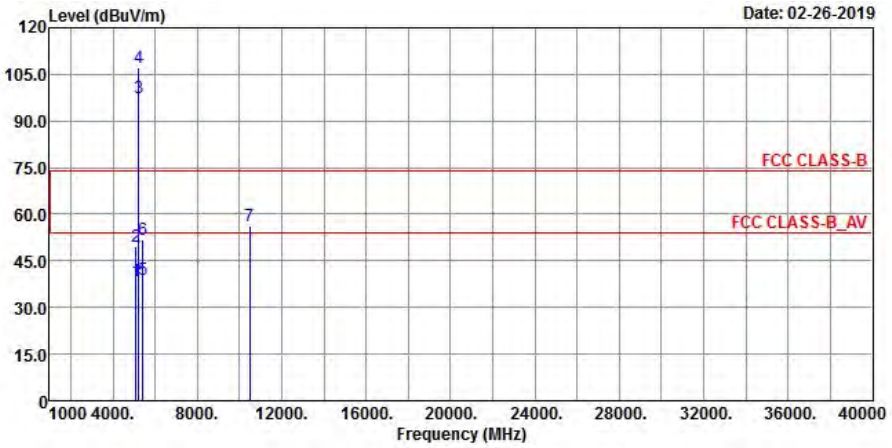
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5200 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



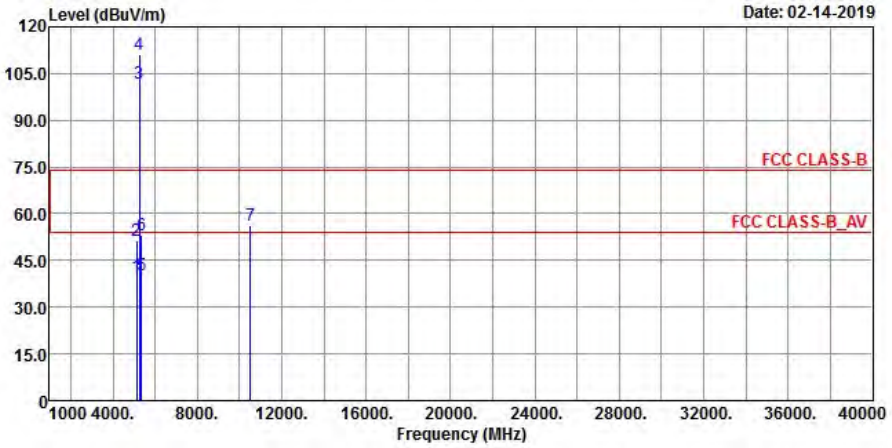
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5134.1	38.92	38.35	54	-15.08	31.55	6.32	37.3	197	169	Average
5134.1	50.99	50.42	74	-23.01	31.55	6.32	37.3	197	169	Peak
5240	99.19	98.47			31.62	6.42	37.32	197	169	Average
5240	108.3	107.58			31.62	6.42	37.32	197	169	Peak
5426.45	39.57	38.46	54	-14.43	31.75	6.49	37.13	197	169	Average
5426.45	51.8	50.69	74	-22.2	31.75	6.49	37.13	197	169	Peak
*10480	55.55	58.39	68.2	-12.65	39.6	10.22	52.66	177	230	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5087.12	38.5	37.97	54	-15.5	31.52	6.28	37.27	185	79	Average
5087.12	49.56	49.03	74	-24.44	31.52	6.28	37.27	185	79	Peak
5240	97.55	96.83			31.62	6.42	37.32	185	79	Average
5240	107.03	106.31			31.62	6.42	37.32	185	79	Peak
5427.77	39.08	37.97	54	-14.92	31.75	6.49	37.13	185	79	Average
5427.77	51.61	50.5	74	-22.39	31.75	6.49	37.13	185	79	Peak
*10480	56.04	58.88	68.2	-12.16	39.6	10.22	52.66	136	251	Peak

Remarks:

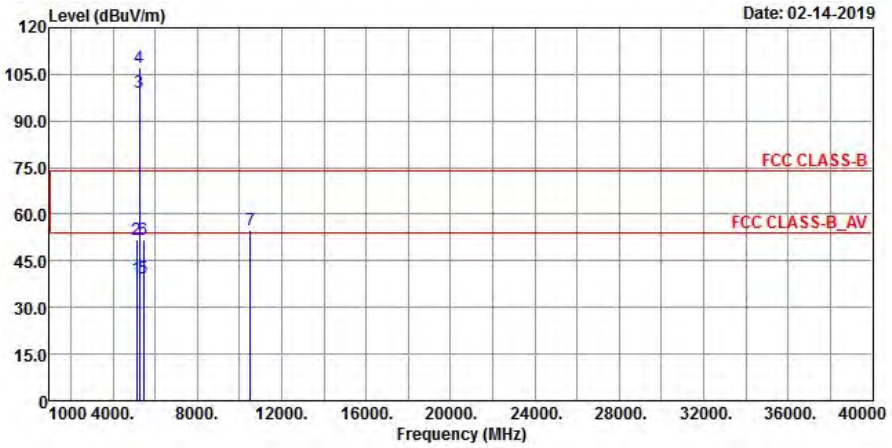
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5240 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



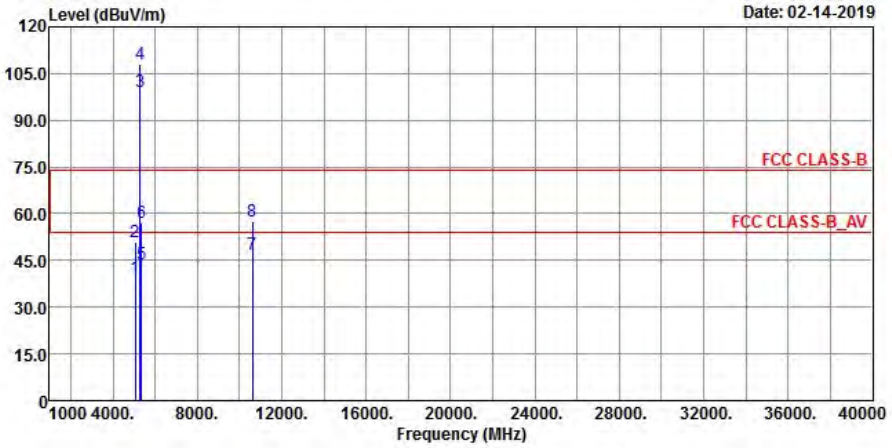
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5121.86	39.67	39.12	54	-14.33	31.54	6.31	37.3	192	169	Average
5121.86	51.45	50.9	74	-22.55	31.54	6.31	37.3	192	169	Peak
5260	102	101.19			31.65	6.43	37.27	192	169	Average
5260	111	110.19			31.65	6.43	37.27	192	169	Peak
5356.71	40.15	39.16	54	-13.85	31.7	6.47	37.18	192	169	Average
5356.71	53.03	52.04	74	-20.97	31.7	6.47	37.18	192	169	Peak
*10520	56.35	59.15	68.2	-11.85	39.66	10.27	52.73	162	314	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5133.92	39.27	38.7	54	-14.73	31.55	6.32	37.3	188	88	Average
5133.92	52.01	51.44	74	-21.99	31.55	6.32	37.3	188	88	Peak
5260	99.33	98.52			31.65	6.43	37.27	188	88	Average
5260	107.2	106.39			31.65	6.43	37.27	188	88	Peak
5446.47	39.26	38.12	54	-14.74	31.77	6.5	37.13	188	88	Average
5446.47	51.6	50.46	74	-22.4	31.77	6.5	37.13	188	88	Peak
*10520	55.05	57.85	68.2	-13.15	39.66	10.27	52.73	158	181	Peak

Remarks:

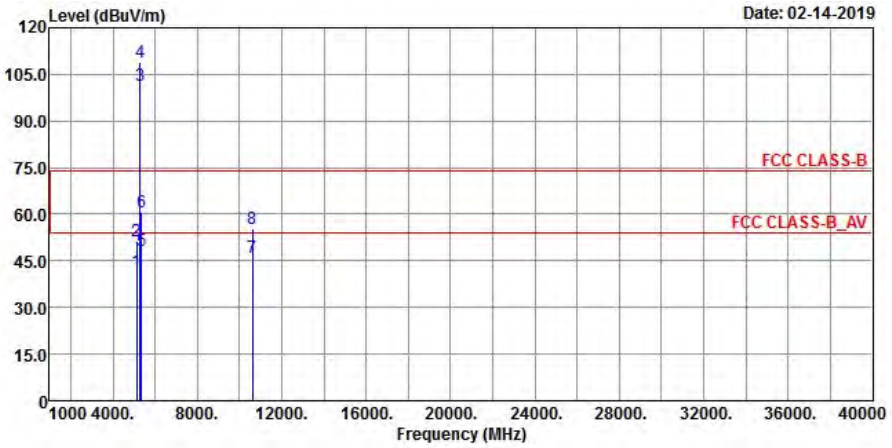
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5260 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



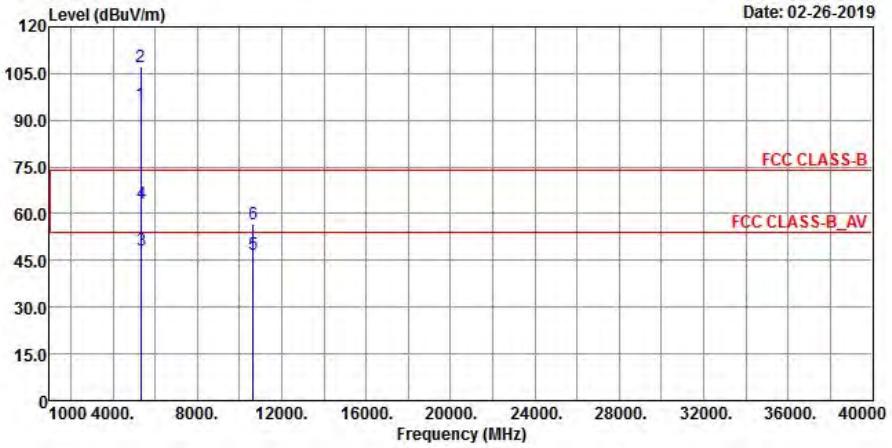
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5071.1	39.23	38.72	54	-14.77	31.51	6.27	37.27	242	167	Average
5071.1	51.11	50.6	74	-22.89	31.51	6.27	37.27	242	167	Peak
5300	99.11	98.17			31.67	6.46	37.19	242	167	Average
5300	107.96	107.02			31.67	6.46	37.19	242	167	Peak
5350.66	43.96	42.97	54	-10.04	31.7	6.47	37.18	242	167	Average
5350.66	57.24	56.25	74	-16.76	31.7	6.47	37.18	242	167	Peak
10600	46.96	49.79	54	-7.04	39.85	10.43	53.11	194	206	Average
10600	57.37	60.2	74	-16.63	39.85	10.43	53.11	194	206	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5138.06	41.79	41.21	54	-12.21	31.55	6.33	37.3	180	71	Average
5138.06	51.45	50.87	74	-22.55	31.55	6.33	37.3	180	71	Peak
5300	101.61	100.67			31.67	6.46	37.19	180	71	Average
5300	108.84	107.9			31.67	6.46	37.19	180	71	Peak
5351.43	48.06	47.07	54	-5.94	31.7	6.47	37.18	180	71	Average
5351.43	60.76	59.77	74	-13.24	31.7	6.47	37.18	180	71	Peak
10600	46.2	49.03	54	-7.8	39.85	10.43	53.11	178	251	Average
10600	55.53	58.36	74	-18.47	39.85	10.43	53.11	178	251	Peak

Remarks:

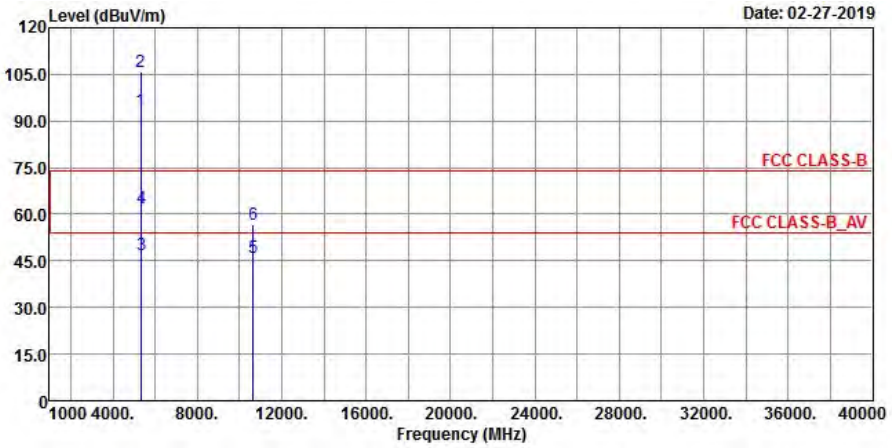
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



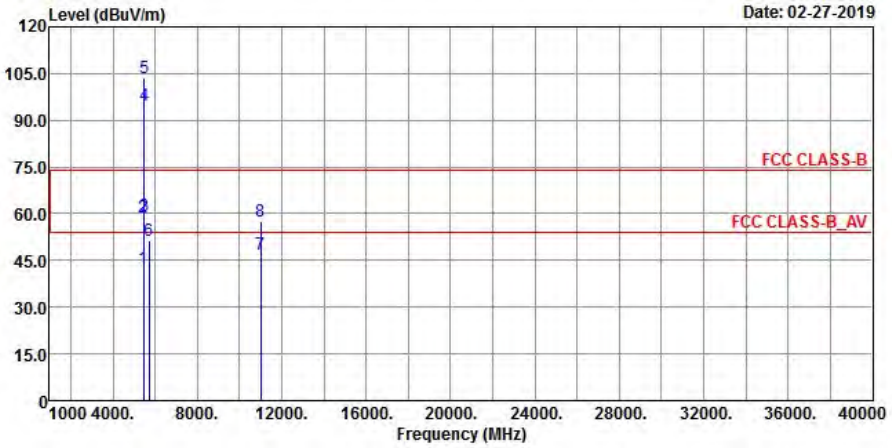
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	95.12	94.17			31.68	6.46	37.19	177	169	Average
5320	107.24	106.29			31.68	6.46	37.19	177	169	Peak
5350	48.15	47.16	54	-5.85	31.7	6.47	37.18	177	169	Average
5350	63.23	62.24	74	-10.77	31.7	6.47	37.18	177	169	Peak
10640	46.9	49.68	54	-7.1	39.93	10.36	53.07	111	162	Average
10640	56.9	59.68	74	-17.1	39.93	10.36	53.07	111	162	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	93.47	92.52			31.68	6.46	37.19	167	81	Average
5320	106.01	105.06			31.68	6.46	37.19	167	81	Peak
5351.23	46.72	45.73	54	-7.28	31.7	6.47	37.18	167	81	Average
5351.23	61.95	60.96	74	-12.05	31.7	6.47	37.18	167	81	Peak
10640	46.09	48.87	54	-7.91	39.93	10.36	53.07	149	255	Average
10640	56.6	59.38	74	-17.4	39.93	10.36	53.07	149	255	Peak

Remarks:

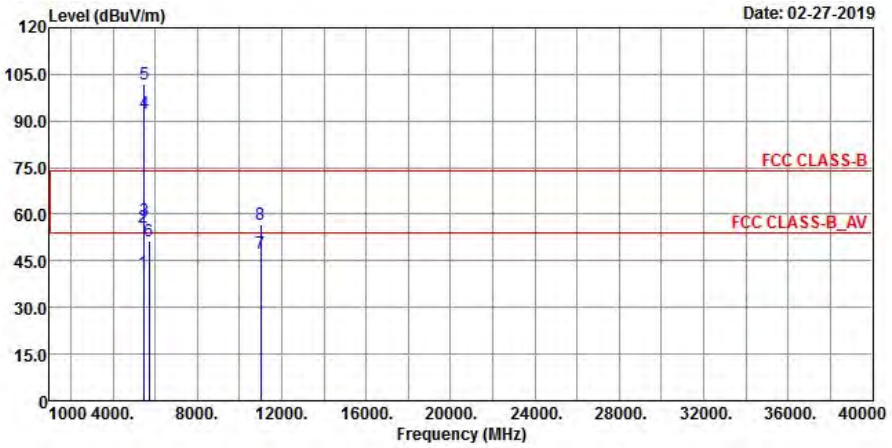
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5320 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



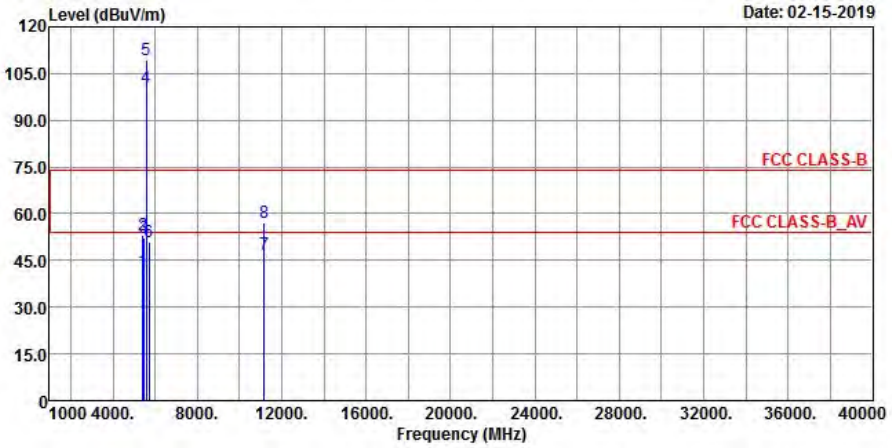
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5460	42.51	41.31	54	-11.49	31.77	6.51	37.08	159	170	Average
5460	58.83	57.63	74	-15.17	31.77	6.51	37.08	159	170	Peak
*5470	59.36	58.13	68.2	-8.84	31.79	6.52	37.08	159	170	Peak
5500	94.73	93.41			31.81	6.54	37.03	159	170	Average
5500	103.76	102.44			31.81	6.54	37.03	159	170	Peak
*5725	51.23	49.72	68.2	-16.97	32.18	6.76	37.43	159	170	Peak
11000	47.13	49.03	54	-6.87	40.73	10.4	53.03	190	117	Average
11000	57.36	59.26	74	-16.64	40.73	10.4	53.03	190	117	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5458.77	41.24	40.04	54	-12.76	31.77	6.51	37.08	166	92	Average
5458.77	55.66	54.46	74	-18.34	31.77	6.51	37.08	166	92	Peak
*5470	57.96	56.73	68.2	-10.24	31.79	6.52	37.08	166	92	Peak
5500	92.46	91.14			31.81	6.54	37.03	166	92	Average
5500	101.98	100.66			31.81	6.54	37.03	166	92	Peak
*5725	51.37	49.86	68.2	-16.83	32.18	6.76	37.43	166	92	Peak
11000	47.25	49.15	54	-6.75	40.73	10.4	53.03	185	191	Average
11000	56.84	58.74	74	-17.16	40.73	10.4	53.03	185	191	Peak

Remarks:

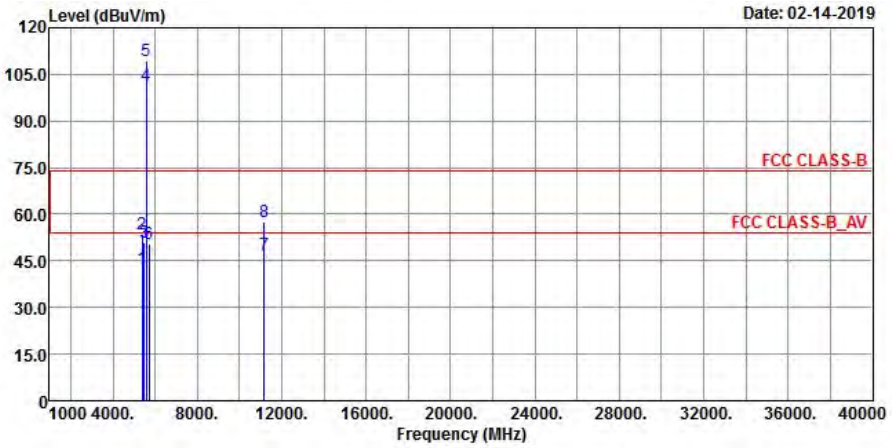
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5500 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



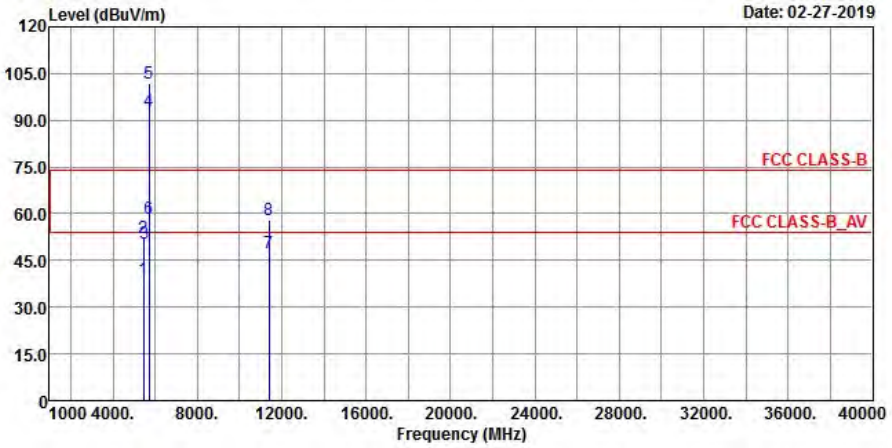
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5430.8	41.84	40.72	54	-12.16	31.76	6.49	37.13	173	170	Average
5430.8	53.14	52.02	74	-20.86	31.76	6.49	37.13	173	170	Peak
*5470	52.3	51.07	68.2	-15.9	31.79	6.52	37.08	173	170	Peak
5580	100.4	98.99			31.92	6.65	37.16	173	170	Average
5580	109.52	108.11			31.92	6.65	37.16	173	170	Peak
*5725	50.86	49.35	68.2	-17.34	32.18	6.76	37.43	173	170	Peak
11160	47.16	48.86	54	-6.84	40.56	10.52	52.78	169	225	Average
11160	57.32	59.02	74	-16.68	40.56	10.52	52.78	169	225	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5377.36	42.57	41.56	54	-11.43	31.72	6.47	37.18	159	54	Average
5377.36	53.5	52.49	74	-20.5	31.72	6.47	37.18	159	54	Peak
*5470	51.08	49.85	68.2	-17.12	31.79	6.52	37.08	159	54	Peak
5580	101.62	100.21			31.92	6.65	37.16	159	54	Average
5580	109.19	107.78			31.92	6.65	37.16	159	54	Peak
*5725	50.43	48.92	68.2	-17.77	32.18	6.76	37.43	159	54	Peak
11160	46.86	48.56	54	-7.14	40.56	10.52	52.78	184	137	Average
11160	57.69	59.39	74	-16.31	40.56	10.52	52.78	184	137	Peak

Remarks:

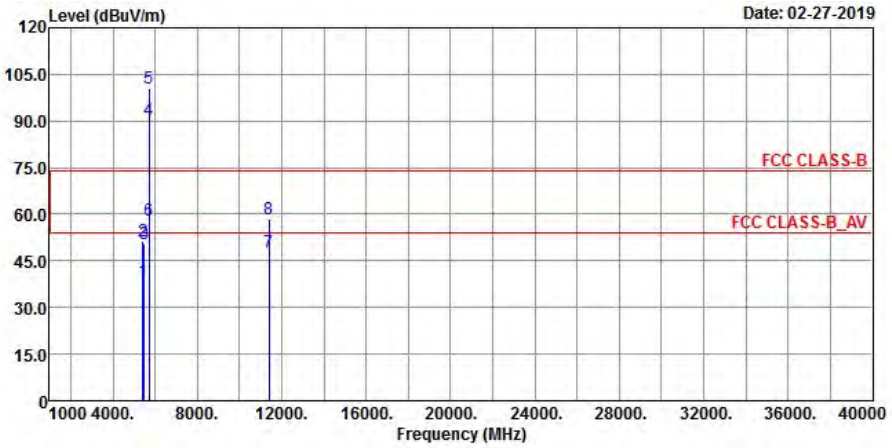
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5580 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



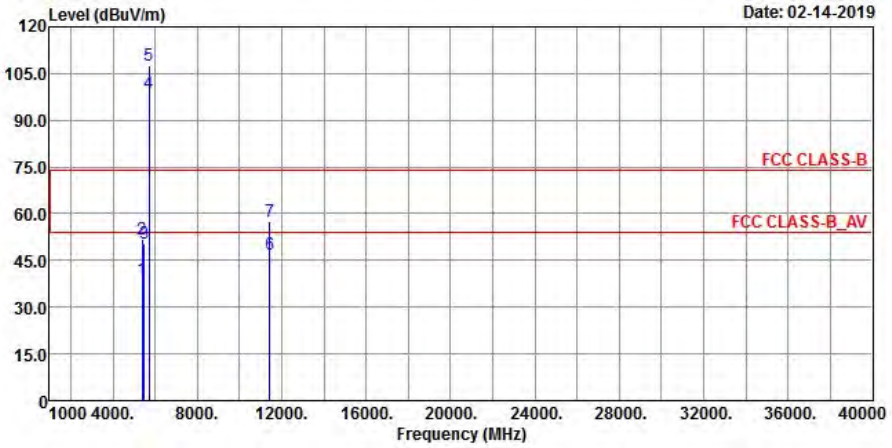
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5460	39.06	37.86	54	-14.94	31.77	6.51	37.08	171	174	Average
5460	52.07	50.87	74	-21.93	31.77	6.51	37.08	171	174	Peak
*5470	50.41	49.18	68.2	-17.79	31.79	6.52	37.08	171	174	Peak
5700	92.97	91.52			32.12	6.73	37.4	171	174	Average
5700	101.91	100.46			32.12	6.73	37.4	171	174	Peak
*5725	58.65	57.14	68.2	-9.55	32.18	6.76	37.43	171	174	Peak
11400	47.59	49.49	54	-6.41	40.33	10.47	52.7	162	255	Average
11400	57.89	59.79	74	-16.11	40.33	10.47	52.7	162	255	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5422.16	38.56	37.5	54	-15.44	31.75	6.49	37.18	189	65	Average
5422.16	51.42	50.36	74	-22.58	31.75	6.49	37.18	189	65	Peak
*5470	50.61	49.38	68.2	-17.59	31.79	6.52	37.08	189	65	Peak
5700	90.53	89.08			32.12	6.73	37.4	189	65	Average
5700	100.49	99.04			32.12	6.73	37.4	189	65	Peak
*5725	57.89	56.38	68.2	-10.31	32.18	6.76	37.43	189	65	Peak
11400	47.71	49.61	54	-6.29	40.33	10.47	52.7	185	146	Average
11400	58.25	60.15	74	-15.75	40.33	10.47	52.7	185	146	Peak

Remarks:

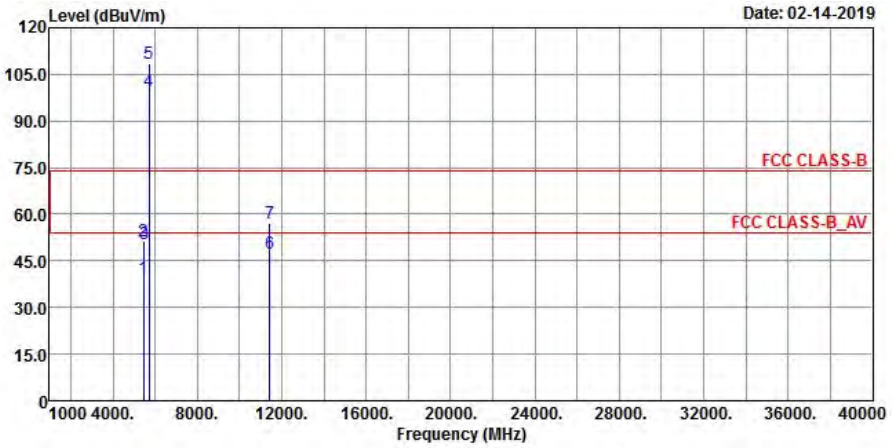
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5700 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 144	**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**	Jisyong Wang

Horizontal



Vertical



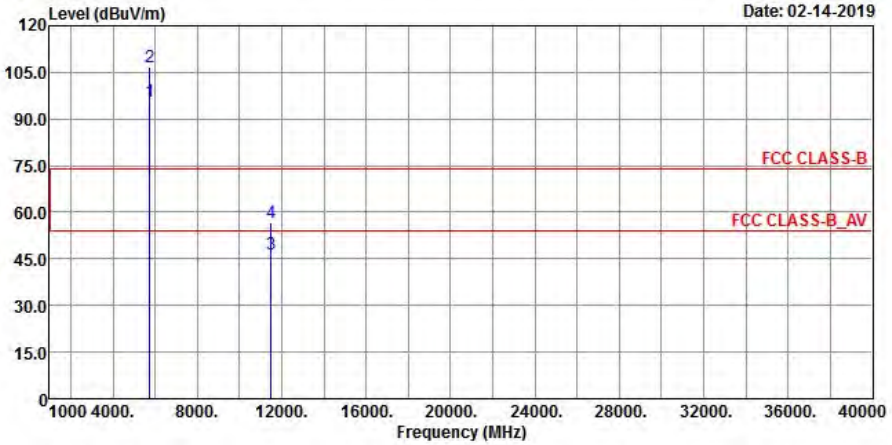
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5379.44	38.9	37.88	54	-15.1	31.73	6.47	37.18	245	144	Average
5379.44	51.81	50.79	74	-22.19	31.73	6.47	37.18	245	144	Peak
*5470	50.4	49.17	68.2	-17.8	31.79	6.52	37.08	245	144	Peak
5720	98.62	97.12			32.18	6.75	37.43	245	144	Average
5720	107.54	106.04			32.18	6.75	37.43	245	144	Peak
11440	46.74	48.62	54	-7.26	40.3	10.55	52.73	145	198	Average
11440	57.41	59.29	74	-16.59	40.3	10.55	52.73	145	198	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5460	39.38	38.18	54	-14.62	31.77	6.51	37.08	173	46	Average
5460	51.33	50.13	74	-22.67	31.77	6.51	37.08	173	46	Peak
*5470	50.56	49.33	68.2	-17.64	31.79	6.52	37.08	173	46	Peak
5720	99.68	98.18			32.18	6.75	37.43	173	46	Average
5720	108.44	106.94			32.18	6.75	37.43	173	46	Peak
11440	47.38	49.26	54	-6.62	40.3	10.55	52.73	217	186	Average
11440	57.11	58.99	74	-16.89	40.3	10.55	52.73	217	186	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5720 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**	Jisyong Wang

<Spurious Emission>
Horizontal



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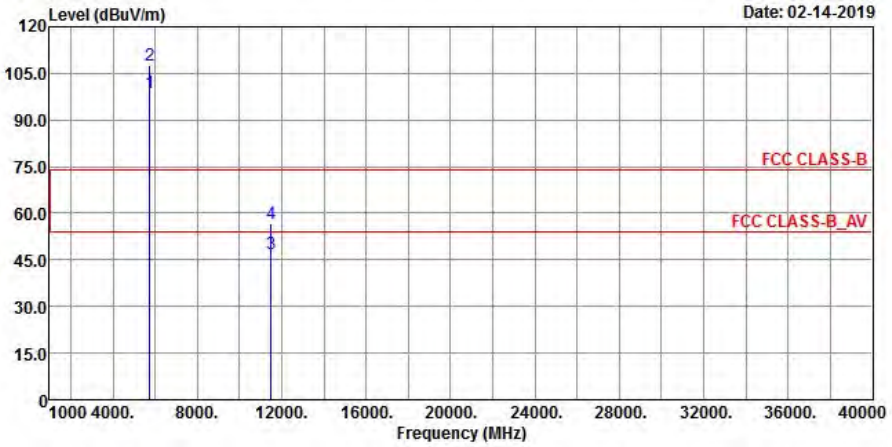

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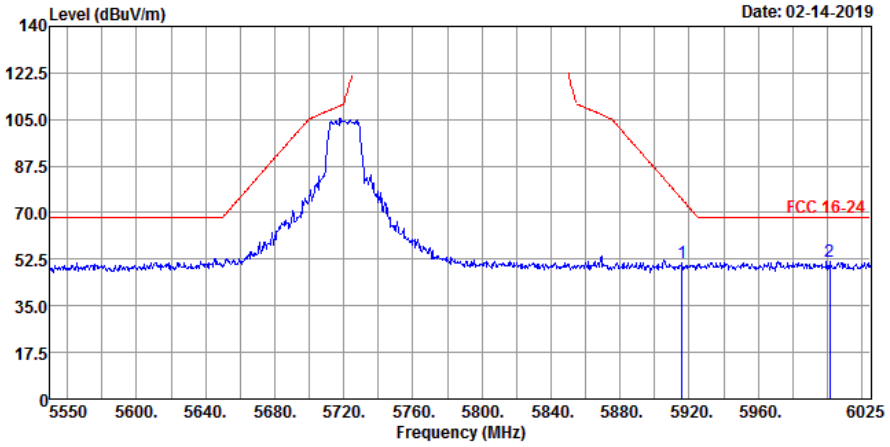

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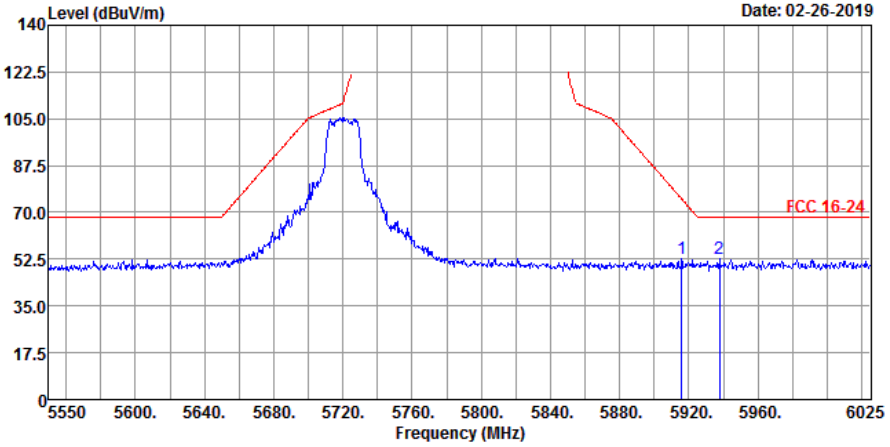


<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	95.72	94.2			32.21	6.78	37.47	257	148	Average
5745	106.7	105.18			32.21	6.78	37.47	257	148	Peak
11490	46.27	48.14	54	-7.73	40.25	10.66	52.78	157	236	Average
11490	56.65	58.52	74	-17.35	40.25	10.66	52.78	157	236	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	98.56	97.04			32.21	6.78	37.47	175	44	Average
5745	107.4	105.88			32.21	6.78	37.47	175	44	Peak
11490	46.73	48.6	54	-7.27	40.25	10.66	52.78	146	231	Average
11490	56.89	58.76	74	-17.11	40.25	10.66	52.78	146	231	Peak

<Out of Band Emission (OOBE)>

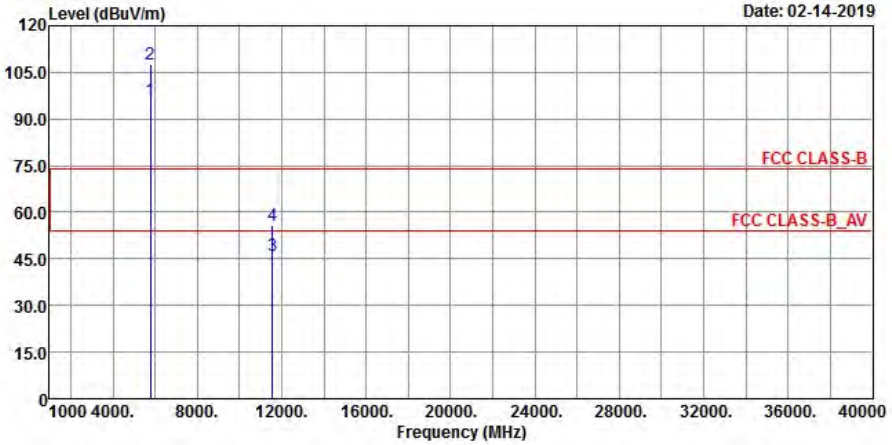
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5585.625	52.35	50.9	68.2	-15.85	31.95	6.66	37.16	257	148	Peak
5659.25	51.9	50.47	75.07	-23.17	32.06	6.71	37.34	257	148	Peak
5922.875	51.93	50.05	69.77	-17.84	32.52	6.86	37.5	257	148	Peak
5975.6	52.82	50.85	68.2	-15.38	32.6	6.88	37.51	257	148	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5597.5	52.2	50.73	68.2	-16	31.95	6.68	37.16	175	44	Peak
5656.875	50.65	49.22	73.31	-22.66	32.06	6.71	37.34	175	44	Peak
5921.45	51.2	49.35	70.82	-19.62	32.49	6.86	37.5	175	44	Peak
5982.725	52.14	50.17	68.2	-16.06	32.6	6.88	37.51	175	44	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Jisyong Wang

<Spurious Emission>
Horizontal



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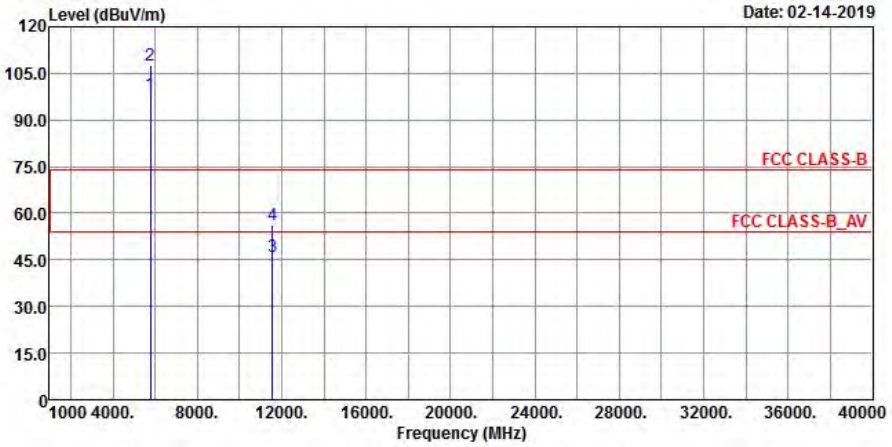
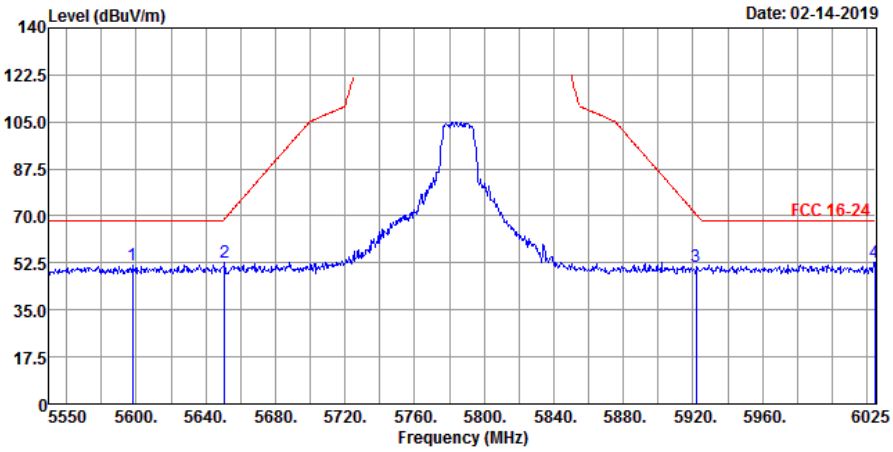
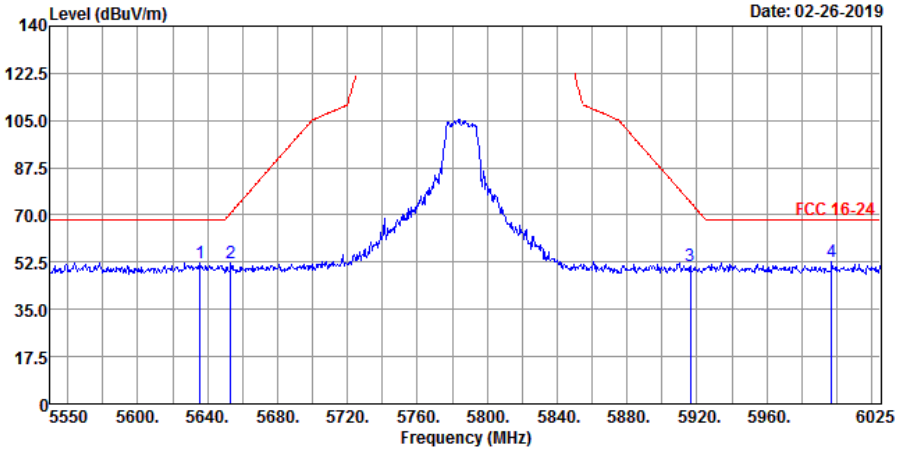


<Out of Band Emission (OOBE)>
Horizontal



Vertical



<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	95.87	94.33			32.26	6.82	37.54	238	157	Average
5785	107.66	106.12			32.26	6.82	37.54	238	157	Peak
11570	45.88	48	54	-8.12	40.13	10.76	53.01	181	220	Average
11570	55.79	57.91	74	-18.21	40.13	10.76	53.01	181	220	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	98.38	96.84			32.26	6.82	37.54	173	42	Average
5785	107.52	105.98			32.26	6.82	37.54	173	42	Peak
11570	46.07	48.19	54	-7.93	40.13	10.76	53.01	156	104	Average
11570	56.19	58.31	74	-17.81	40.13	10.76	53.01	156	104	Peak

<Out of Band Emission (OOBE)>

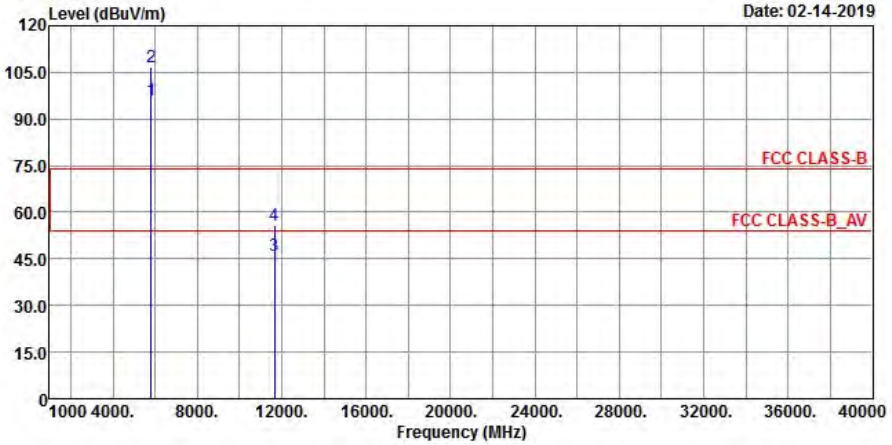
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5597.975	51.81	50.34	68.2	-16.39	31.95	6.68	37.16	238	157	Peak
5650.7	52.65	51.16	68.72	-16.07	32.06	6.71	37.28	238	157	Peak
5921.925	51.22	49.34	70.47	-19.25	32.52	6.86	37.5	238	157	Peak
6024.525	52.77	50.65	68.2	-15.43	32.72	6.9	37.5	238	157	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5635.5	52.19	50.73	68.2	-16.01	32.04	6.7	37.28	173	42	Peak
5653.075	52.3	50.81	70.49	-18.19	32.06	6.71	37.28	173	42	Peak
5916.225	50.93	49.08	74.67	-23.74	32.49	6.86	37.5	173	42	Peak
5996.975	52.64	50.63	68.2	-15.56	32.63	6.89	37.51	173	42	Peak

Remarks:

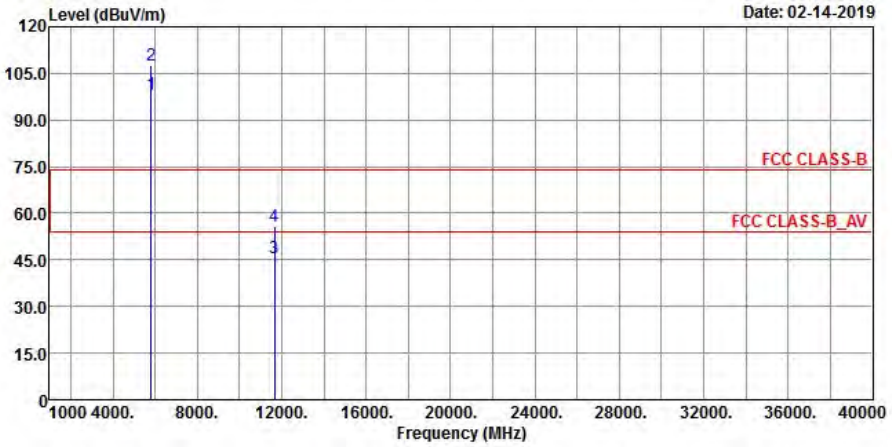
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5785 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

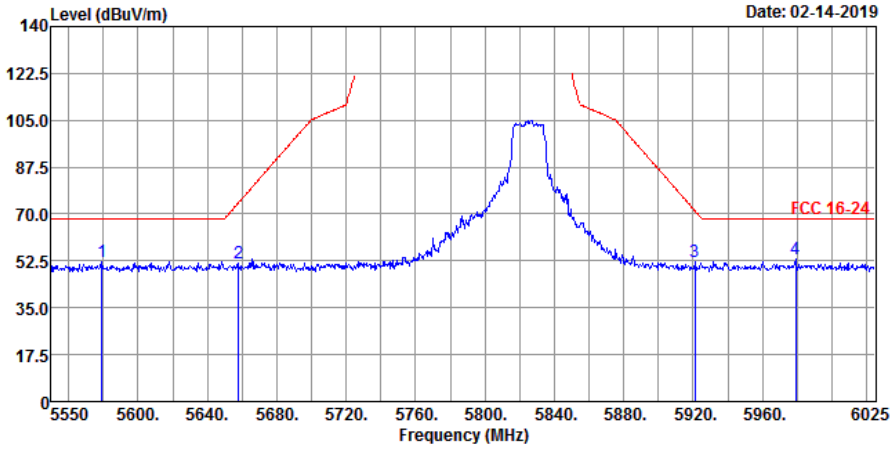
<Spurious Emission>
Horizontal



Vertical



<Out of Band Emission (OOBE)>
Horizontal



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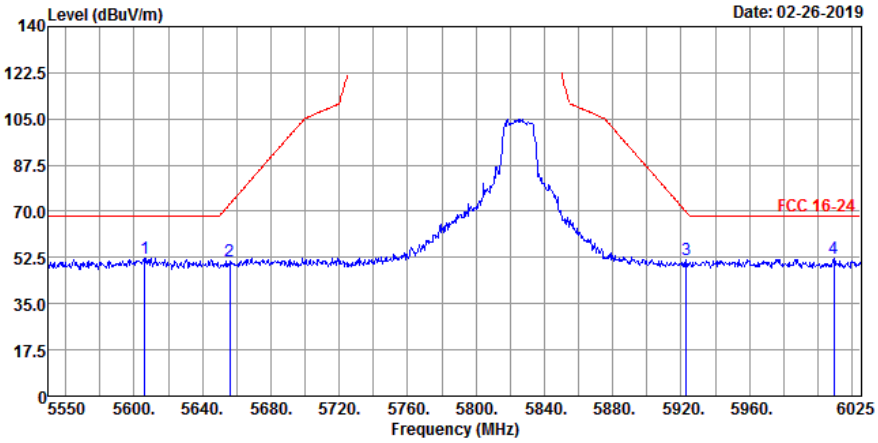


<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	95.87	94.21			32.35	6.84	37.53	210	188	Average
5825	106.81	105.15			32.35	6.84	37.53	210	188	Peak
11650	46.13	48.44	54	-7.87	40.03	10.8	53.14	179	134	Average
11650	55.92	58.23	74	-18.08	40.03	10.8	53.14	179	134	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	98.49	96.83			32.35	6.84	37.53	172	40	Average
5825	107.63	105.97			32.35	6.84	37.53	172	40	Peak
11650	45.75	48.06	54	-8.25	40.03	10.8	53.14	182	195	Average
11650	55.63	57.94	74	-18.37	40.03	10.8	53.14	182	195	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5578.975	52.12	50.71	68.2	-16.08	31.92	6.65	37.16	210	188	Peak
5657.825	51.42	49.99	74.01	-22.59	32.06	6.71	37.34	210	188	Peak
5920.975	52.29	50.44	71.17	-18.88	32.49	6.86	37.5	210	188	Peak
5978.925	53.1	51.13	68.2	-15.1	32.6	6.88	37.51	210	188	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5606.05	52.43	50.99	68.2	-15.77	31.98	6.68	37.22	172	40	Peak
5655.925	51.35	49.92	72.6	-21.25	32.06	6.71	37.34	172	40	Peak
5922.875	51.75	49.87	69.77	-18.02	32.52	6.86	37.5	172	40	Peak
6009.325	52.25	50.2	68.2	-15.95	32.67	6.89	37.51	172	40	Peak

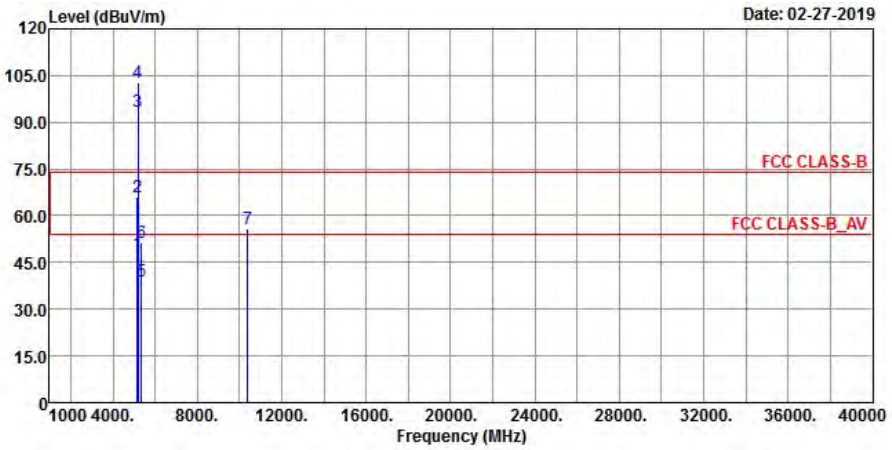
Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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

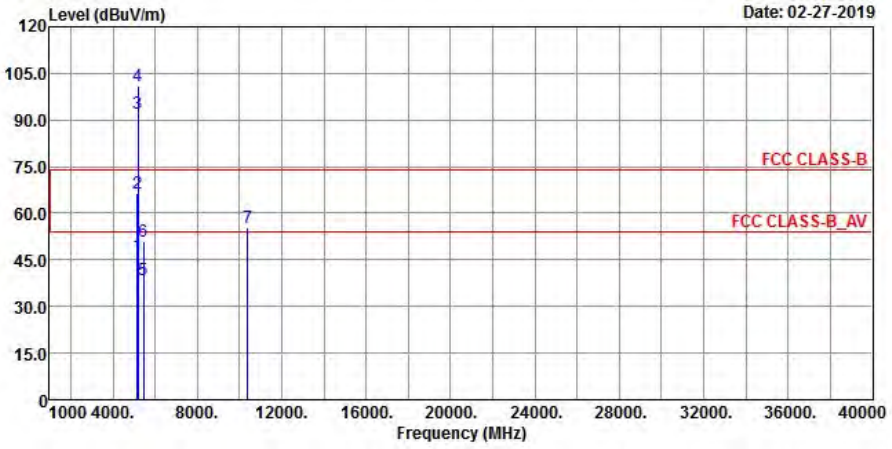
802.11n (HT40)

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**	Jisyong Wang

Horizontal



Vertical



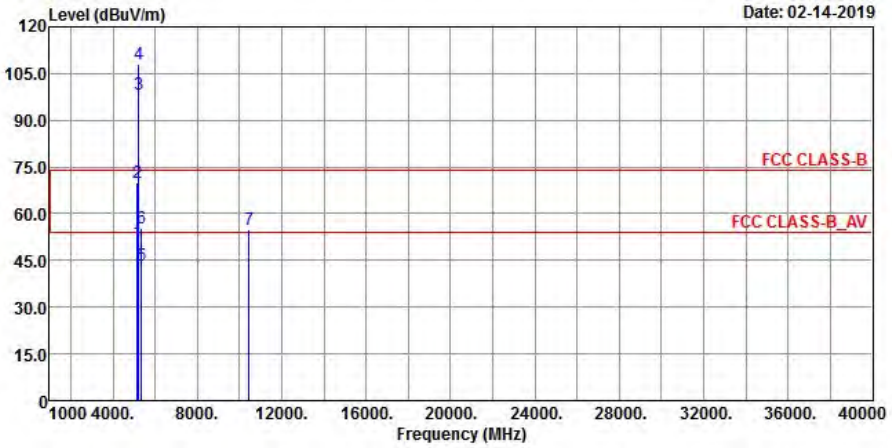
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.94	47.72	47.14	54	-6.28	31.56	6.34	37.32	189	167	Average
5149.94	65.76	65.18	74	-8.24	31.56	6.34	37.32	189	167	Peak
5190	93.37	92.74			31.59	6.38	37.34	189	167	Average
5190	102.71	102.08			31.59	6.38	37.34	189	167	Peak
5350	38.96	37.97	54	-15.04	31.7	6.47	37.18	189	167	Average
5350	51.23	50.24	74	-22.77	31.7	6.47	37.18	189	167	Peak
*10380	55.84	58.58	68.2	-12.36	39.5	10.21	52.45	120	281	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.94	46.46	45.88	54	-7.54	31.56	6.34	37.32	196	85	Average
5149.94	66.26	65.68	74	-7.74	31.56	6.34	37.32	196	85	Peak
5190	92	91.37			31.59	6.38	37.34	196	85	Average
5190	100.89	100.26			31.59	6.38	37.34	196	85	Peak
5446.91	38.6	37.46	54	-15.4	31.77	6.5	37.13	196	85	Average
5446.91	51.08	49.94	74	-22.92	31.77	6.5	37.13	196	85	Peak
*10380	55.23	57.97	68.2	-12.97	39.5	10.21	52.45	169	237	Peak

Remarks:

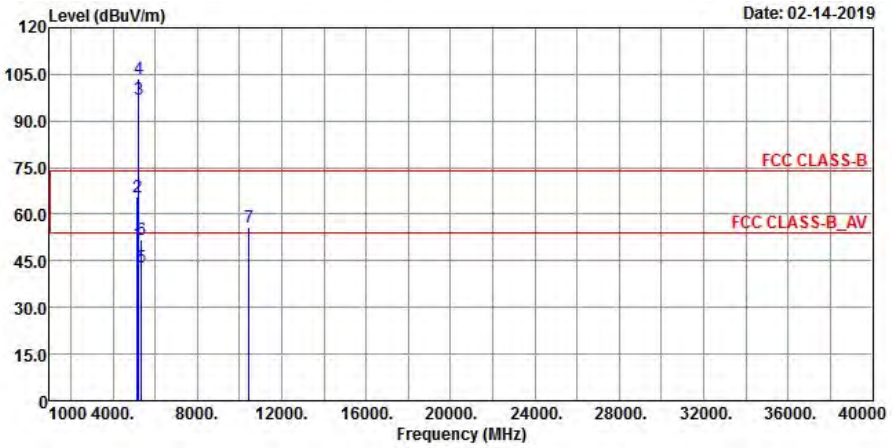
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5190 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



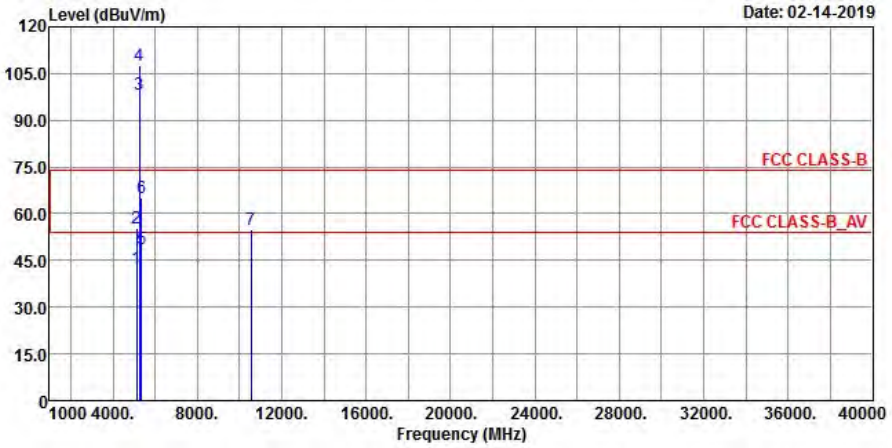
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5148.5	50.78	50.2	54	-3.22	31.56	6.34	37.32	187	168	Average
5148.5	70.01	69.43	74	-3.99	31.56	6.34	37.32	187	168	Peak
5230	98.48	97.77			31.62	6.41	37.32	187	168	Average
5230	108.09	107.38			31.62	6.41	37.32	187	168	Peak
5352.2	43.26	42.27	54	-10.74	31.7	6.47	37.18	187	168	Average
5352.2	55.54	54.55	74	-18.46	31.7	6.47	37.18	187	168	Peak
*10460	55.02	57.82	68.2	-13.18	39.57	10.22	52.59	157	233	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5150	50.36	49.78	54	-3.64	31.56	6.34	37.32	200	73	Average
5150	65.35	64.77	74	-8.65	31.56	6.34	37.32	200	73	Peak
5230	97.05	96.34			31.62	6.41	37.32	200	73	Average
5230	103.41	102.7			31.62	6.41	37.32	200	73	Peak
5350	43.08	42.09	54	-10.92	31.7	6.47	37.18	200	73	Average
5350	51.81	50.82	74	-22.19	31.7	6.47	37.18	200	73	Peak
*10460	55.64	58.44	68.2	-12.56	39.57	10.22	52.59	149	261	Peak

Remarks:

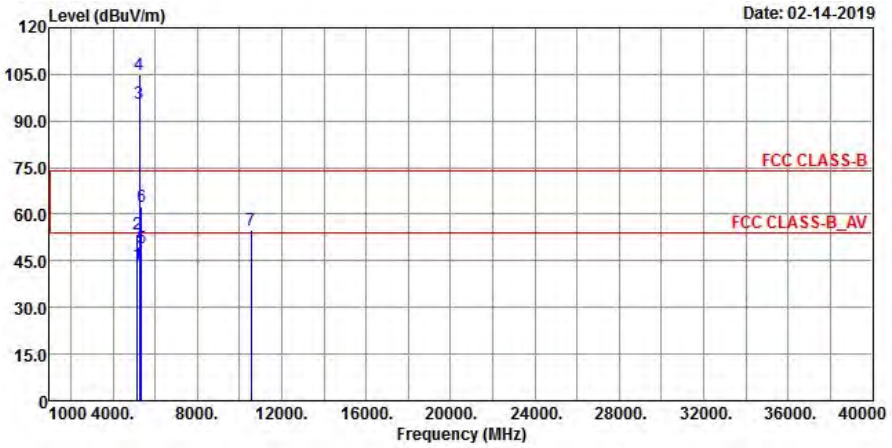
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5230 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



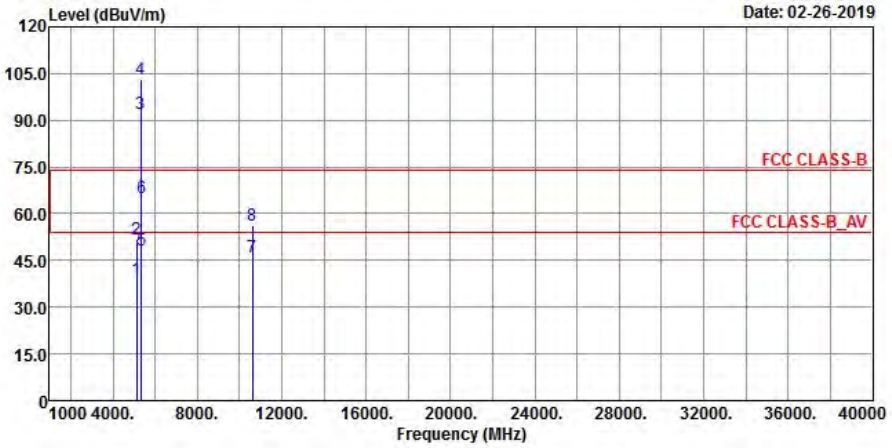
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5138.24	42.51	41.93	54	-11.49	31.55	6.33	37.3	192	166	Average
5138.24	55.15	54.57	74	-18.85	31.55	6.33	37.3	192	166	Peak
5270	98.21	97.39			31.65	6.44	37.27	192	166	Average
5270	107.63	106.81			31.65	6.44	37.27	192	166	Peak
5350.66	48.69	47.7	54	-5.31	31.7	6.47	37.18	192	166	Average
5350.66	65.02	64.03	74	-8.98	31.7	6.47	37.18	192	166	Peak
*10540	54.99	57.84	68.2	-13.21	39.7	10.31	52.86	169	233	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5148.14	43.96	43.38	54	-10.04	31.56	6.34	37.32	173	87	Average
5148.14	53.47	52.89	74	-20.53	31.56	6.34	37.32	173	87	Peak
5270	95.71	94.89			31.65	6.44	37.27	173	87	Average
5270	104.79	103.97			31.65	6.44	37.27	173	87	Peak
5350.77	49.24	48.25	54	-4.76	31.7	6.47	37.18	173	87	Average
5350.77	62.33	61.34	74	-11.67	31.7	6.47	37.18	173	87	Peak
*10540	55.02	57.87	68.2	-13.18	39.7	10.31	52.86	147	209	Peak

Remarks:

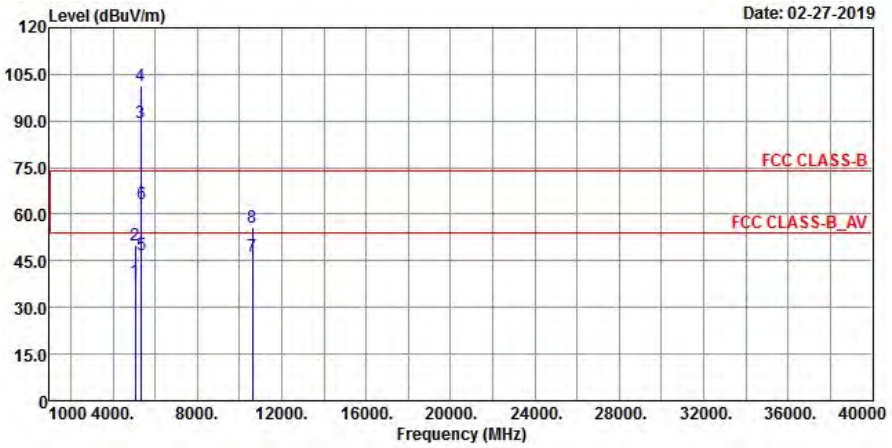
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5270 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



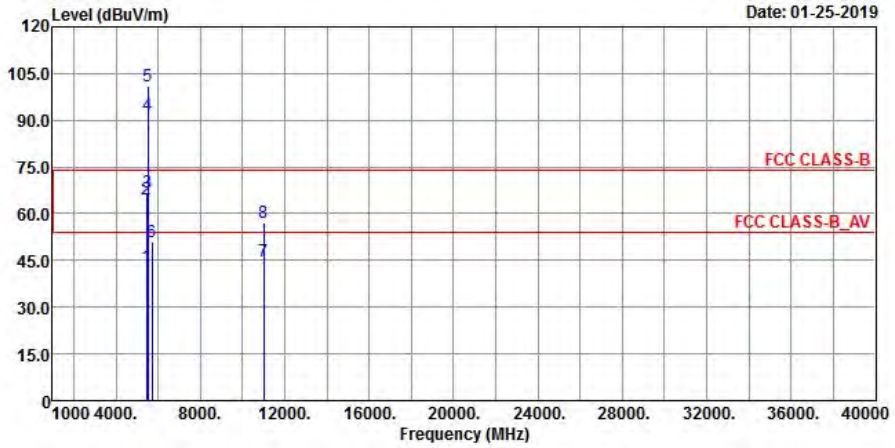
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5120.42	38.82	38.27	54	-15.18	31.54	6.31	37.3	168	167	Average
5120.42	51.83	51.28	74	-22.17	31.54	6.31	37.3	168	167	Peak
5310	92.06	91.11			31.68	6.46	37.19	168	167	Average
5310	103.07	102.12			31.68	6.46	37.19	168	167	Peak
5350	48.11	47.12	54	-5.89	31.7	6.47	37.18	168	167	Average
5350	64.9	63.91	74	-9.1	31.7	6.47	37.18	168	167	Peak
10620	46.19	49	54	-7.81	39.89	10.39	53.09	185	165	Average
10620	56.2	59.01	74	-17.8	39.89	10.39	53.09	185	165	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5068.58	38.5	38	54	-15.5	31.51	6.26	37.27	184	65	Average
5068.58	50.04	49.54	74	-23.96	31.51	6.26	37.27	184	65	Peak
5310	89.25	88.3			31.68	6.46	37.19	184	65	Average
5310	101.58	100.63			31.68	6.46	37.19	184	65	Peak
5351.65	46.83	45.84	54	-7.17	31.7	6.47	37.18	184	65	Average
5351.65	63.22	62.23	74	-10.78	31.7	6.47	37.18	184	65	Peak
10620	46.55	49.36	54	-7.45	39.89	10.39	53.09	154	237	Average
10620	55.98	58.79	74	-18.02	39.89	10.39	53.09	154	237	Peak

Remarks:

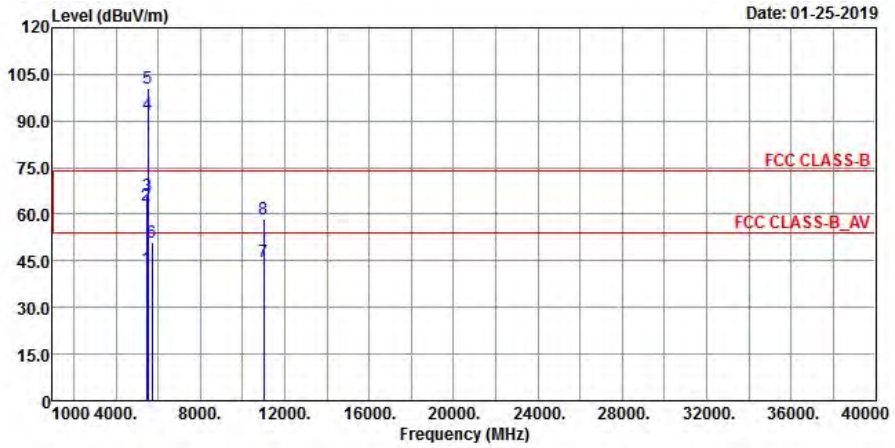
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5310 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



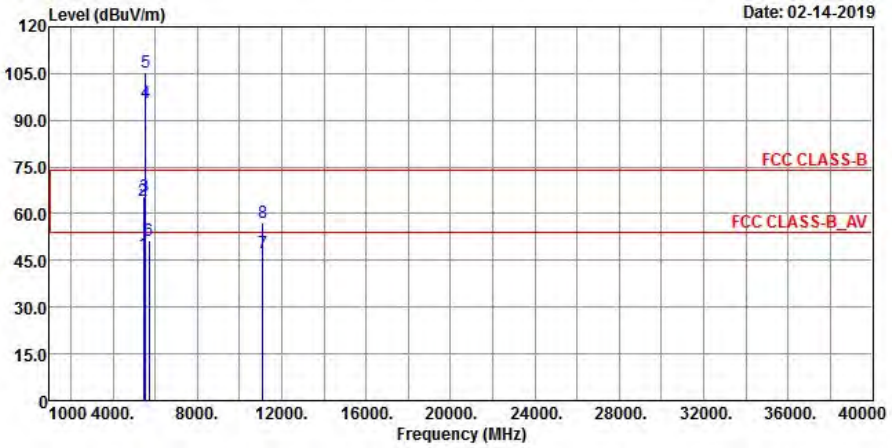
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.92	43.1	41.9	54	-10.9	31.77	6.51	37.08	179	179	Average
5459.92	64.57	63.37	74	-9.43	31.77	6.51	37.08	179	179	Peak
*5470	66.65	65.42	68.2	-1.55	31.79	6.52	37.08	179	179	Peak
5510	91.86	90.56			31.81	6.55	37.06	179	179	Average
5510	100.8	99.5			31.81	6.55	37.06	179	179	Peak
*5725	50.78	49.27	68.2	-17.42	32.18	6.76	37.43	179	179	Peak
11020	44.7	46.53	54	-9.3	40.71	10.41	52.95	158	36	Average
11020	57.06	58.89	74	-16.94	40.71	10.41	52.95	158	36	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5460	42.33	41.13	54	-11.67	31.77	6.51	37.08	165	68	Average
5460	62.94	61.74	74	-11.06	31.77	6.51	37.08	165	68	Peak
*5470	65.96	64.73	68.2	-2.24	31.79	6.52	37.08	165	68	Peak
5510	92.06	90.76			31.81	6.55	37.06	165	68	Average
5510	100.7	99.4			31.81	6.55	37.06	165	68	Peak
*5725	51.14	49.63	68.2	-17.06	32.18	6.76	37.43	165	68	Peak
11020	44.53	46.36	54	-9.47	40.71	10.41	52.95	134	167	Average
11020	58.43	60.26	74	-15.57	40.71	10.41	52.95	134	167	Peak

Remarks:

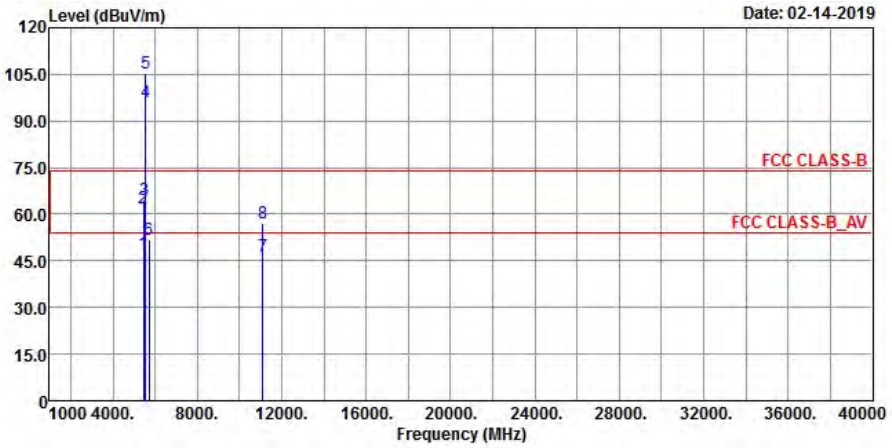
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5510 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



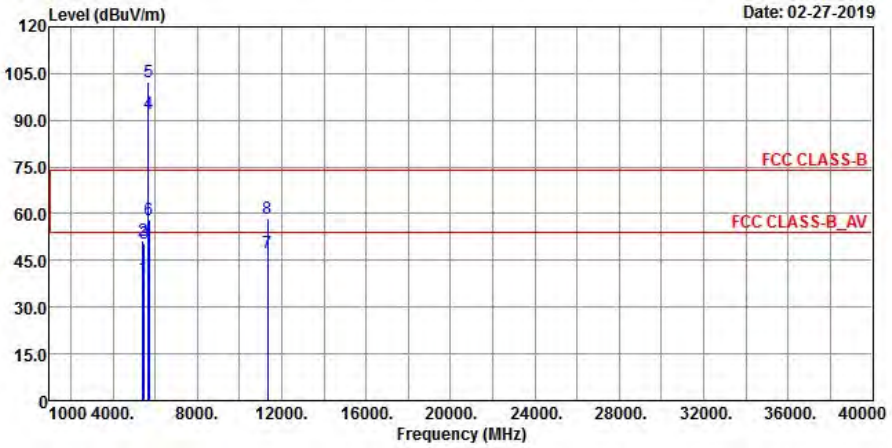
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5450.32	46.74	45.54	54	-7.26	31.77	6.51	37.08	168	118	Average
5450.32	64.34	63.14	74	-9.66	31.77	6.51	37.08	168	118	Peak
*5470	65.7	64.47	68.2	-2.5	31.79	6.52	37.08	168	118	Peak
5550	95.67	94.26			31.89	6.61	37.09	168	118	Average
5550	105.27	103.86			31.89	6.61	37.09	168	118	Peak
*5725	51.39	49.88	68.2	-16.81	32.18	6.76	37.43	168	118	Peak
11100	47.31	48.92	54	-6.69	40.63	10.47	52.71	179	201	Average
11100	56.92	58.53	74	-17.08	40.63	10.47	52.71	179	201	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5449.2	47.4	46.26	54	-6.6	31.77	6.5	37.13	159	52	Average
5449.2	61.97	60.83	74	-12.03	31.77	6.5	37.13	159	52	Peak
*5470	64.43	63.2	68.2	-3.77	31.79	6.52	37.08	159	52	Peak
5550	95.93	94.52			31.89	6.61	37.09	159	52	Average
5550	105.26	103.85			31.89	6.61	37.09	159	52	Peak
*5725	51.7	50.19	68.2	-16.5	32.18	6.76	37.43	159	52	Peak
11100	46.58	48.19	54	-7.42	40.63	10.47	52.71	215	103	Average
11100	57.24	58.85	74	-16.76	40.63	10.47	52.71	215	103	Peak

Remarks:

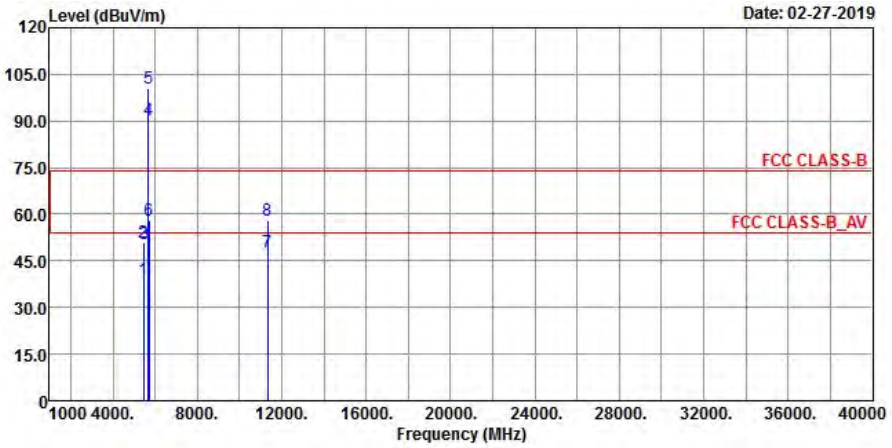
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5550 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



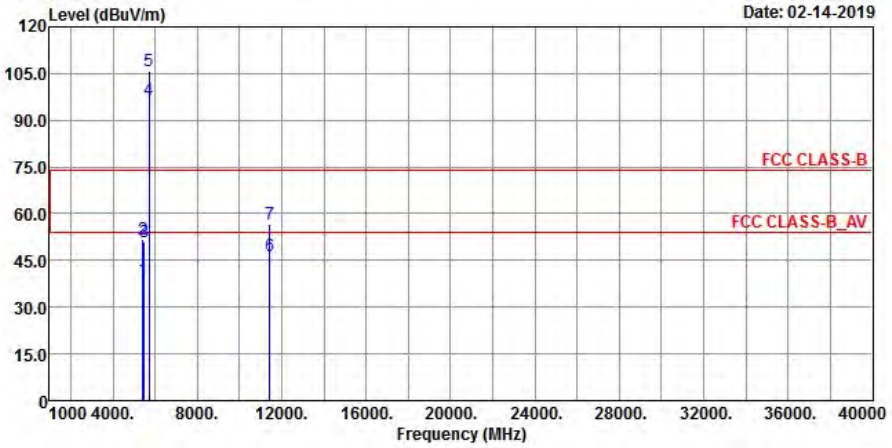
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5411.44	39.36	38.32	54	-14.64	31.74	6.48	37.18	140	123	Average
5411.44	51.41	50.37	74	-22.59	31.74	6.48	37.18	140	123	Peak
*5470	50.58	49.35	68.2	-17.62	31.79	6.52	37.08	140	123	Peak
5670	92.21	90.74			32.09	6.72	37.34	140	123	Average
5670	102.08	100.61			32.09	6.72	37.34	140	123	Peak
*5725	57.82	56.31	68.2	-10.38	32.18	6.76	37.43	140	123	Peak
11340	47.45	49.25	54	-6.55	40.4	10.52	52.72	124	308	Average
11340	58.25	60.05	74	-15.75	40.4	10.52	52.72	124	308	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5440.72	38.78	37.65	54	-15.22	31.76	6.5	37.13	163	109	Average
5440.72	51.11	49.98	74	-22.89	31.76	6.5	37.13	163	109	Peak
*5470	50.67	49.44	68.2	-17.53	31.79	6.52	37.08	163	109	Peak
5670	90.38	88.91			32.09	6.72	37.34	163	109	Average
5670	100.32	98.85			32.09	6.72	37.34	163	109	Peak
*5725	58.15	56.64	68.2	-10.05	32.18	6.76	37.43	163	109	Peak
11340	47.7	49.5	54	-6.3	40.4	10.52	52.72	179	211	Average
11340	57.82	59.62	74	-16.18	40.4	10.52	52.72	179	211	Peak

Remarks:

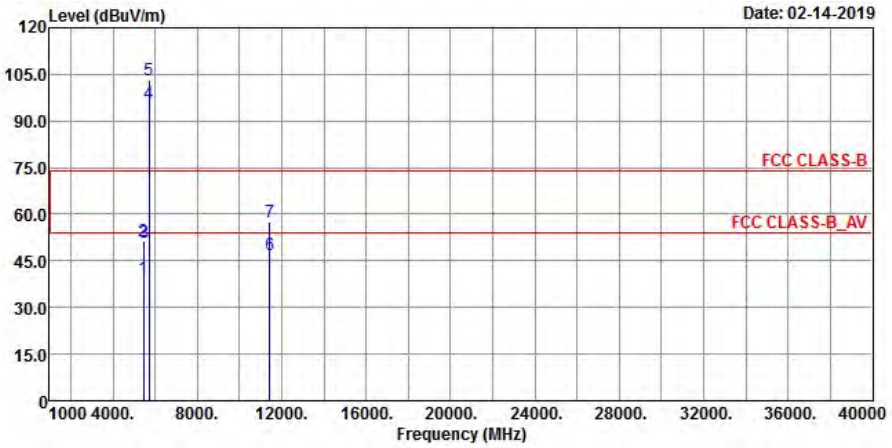
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5670 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 142	**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**	Jisyong Wang

Horizontal



Vertical



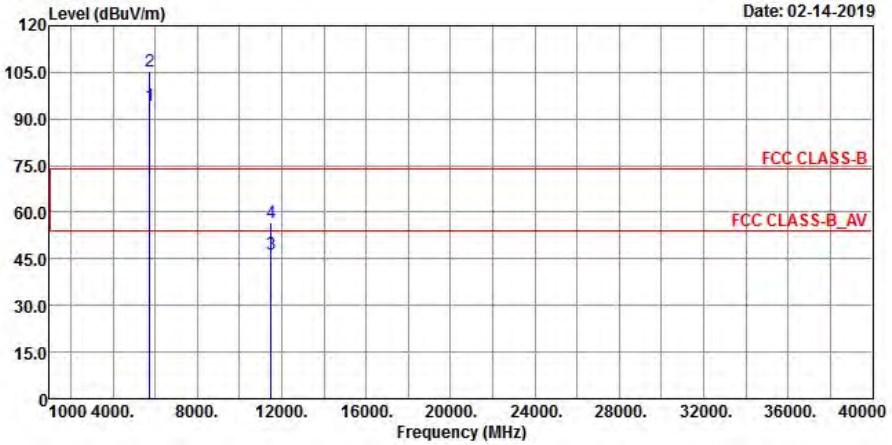
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5405.84	39.15	38.12	54	-14.85	31.74	6.47	37.18	186	177	Average
5405.84	51.76	50.73	74	-22.24	31.74	6.47	37.18	186	177	Peak
*5470	50.9	49.67	68.2	-17.3	31.79	6.52	37.08	186	177	Peak
5710	96.34	94.88			32.15	6.74	37.43	186	177	Average
5710	106.05	104.59			32.15	6.74	37.43	186	177	Peak
11420	46.4	48.31	54	-7.6	40.31	10.51	52.73	167	306	Average
11420	56.82	58.73	74	-17.18	40.31	10.51	52.73	167	306	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5460	39.28	38.08	54	-14.72	31.77	6.51	37.08	175	48	Average
5460	51.45	50.25	74	-22.55	31.77	6.51	37.08	175	48	Peak
*5470	50.91	49.68	68.2	-17.29	31.79	6.52	37.08	175	48	Peak
5710	95.56	94.1			32.15	6.74	37.43	175	48	Average
5710	103.28	101.82			32.15	6.74	37.43	175	48	Peak
11420	47.13	49.04	54	-6.87	40.31	10.51	52.73	157	258	Average
11420	57.48	59.39	74	-16.52	40.31	10.51	52.73	157	258	Peak

Remarks:

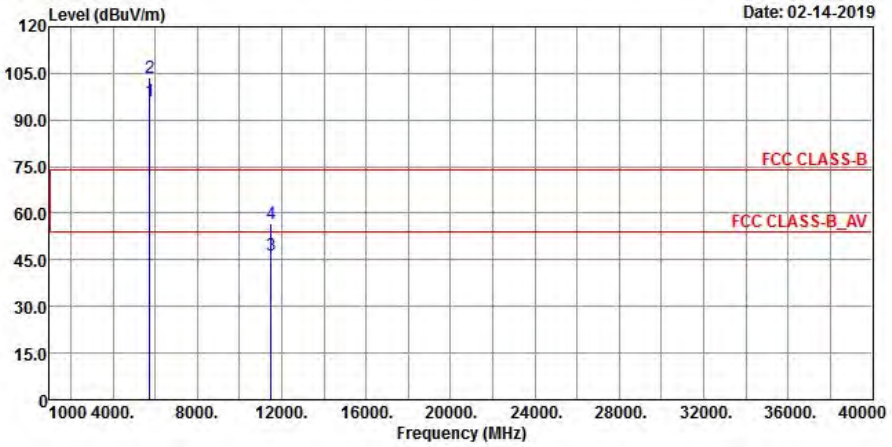
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5710 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

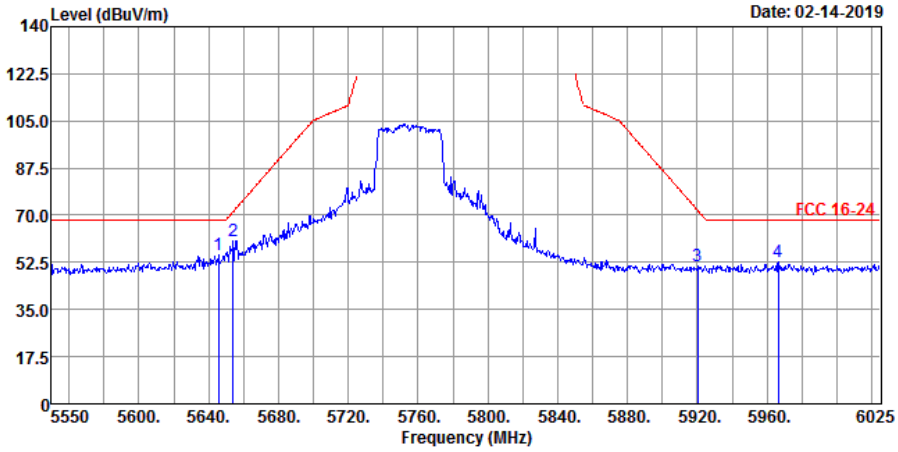
<Spurious Emission>
Horizontal



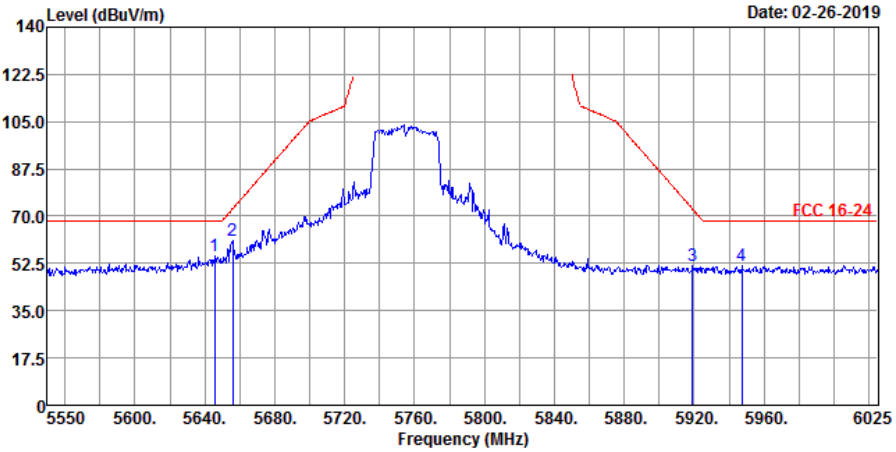
Vertical



<Out of Band Emission (OOBE)>
Horizontal



Vertical



<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5755	94.22	92.67			32.23	6.79	37.47	205	157	Average
5755	105.43	103.88			32.23	6.79	37.47	205	157	Peak
11510	46.28	48.17	54	-7.72	40.23	10.69	52.81	220	154	Average
11510	56.54	58.43	74	-17.46	40.23	10.69	52.81	220	154	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5755	96.16	94.61			32.23	6.79	37.47	170	40	Average
5755	103.74	102.19			32.23	6.79	37.47	170	40	Peak
11510	46.64	48.53	54	-7.36	40.23	10.69	52.81	179	206	Average
11510	56.82	58.71	74	-17.18	40.23	10.69	52.81	179	206	Peak

<Out of Band Emission (OOBE)>

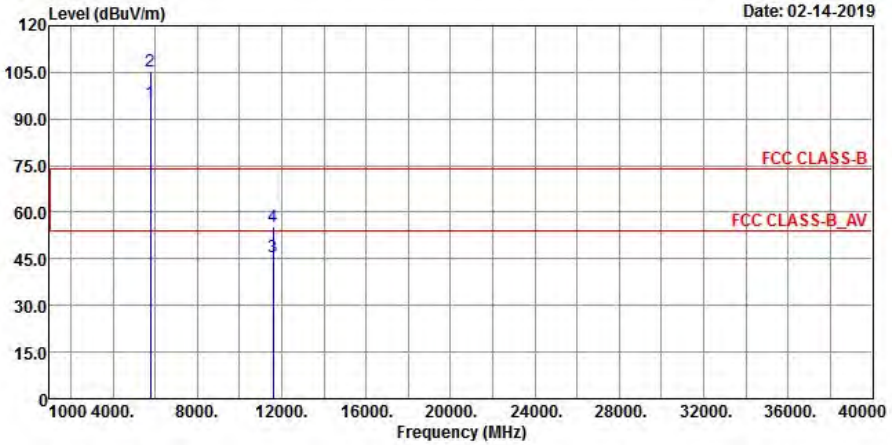
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5645.475	55.51	54.05	68.2	-12.69	32.04	6.7	37.28	205	157	Peak
5654.025	60.57	59.14	71.19	-10.62	32.06	6.71	37.34	205	157	Peak
5920.025	51.39	49.54	71.87	-20.48	32.49	6.86	37.5	205	157	Peak
5966.575	52.65	50.71	68.2	-15.55	32.57	6.88	37.51	205	157	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5645.475	55.03	53.57	68.2	-13.17	32.04	6.7	37.28	170	40	Peak
5655.925	60.85	59.42	72.6	-11.75	32.06	6.71	37.34	170	40	Peak
5919.075	51.58	49.73	72.57	-20.99	32.49	6.86	37.5	170	40	Peak
5947.1	51.86	49.94	68.2	-16.34	32.55	6.87	37.5	170	40	Peak

Remarks:

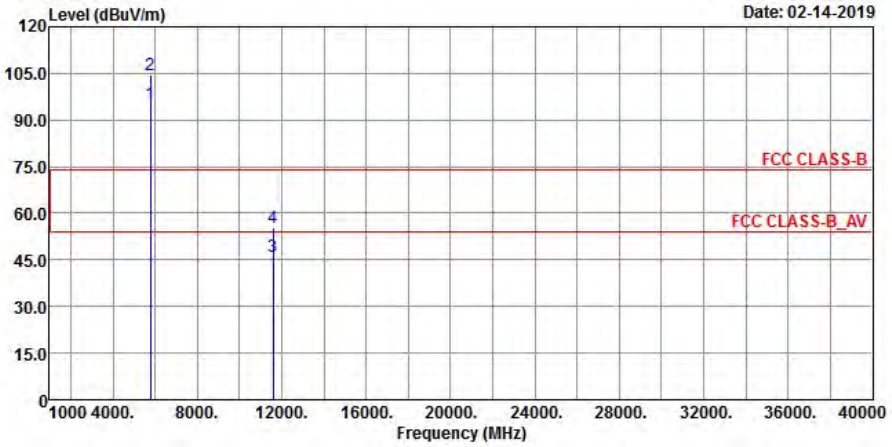
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5755 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

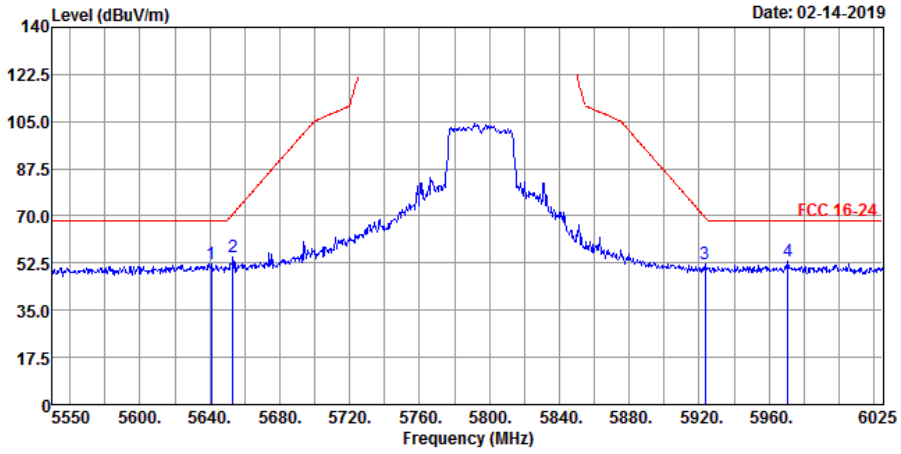
<Spurious Emission>
Horizontal



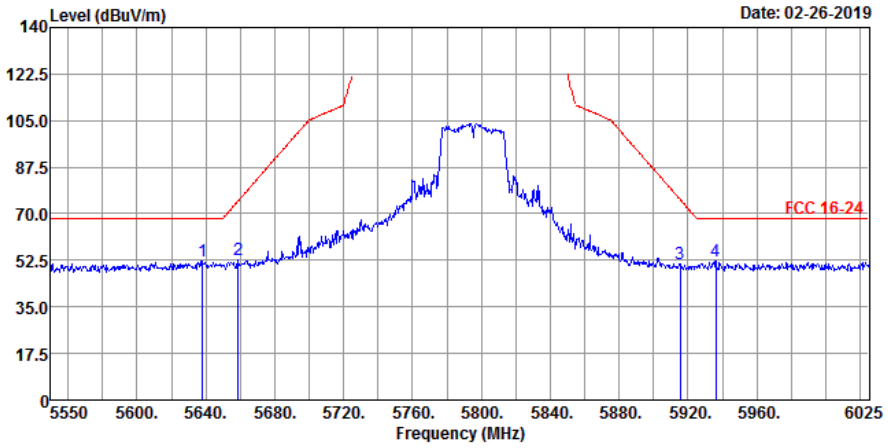
Vertical



<Out of Band Emission (OOBE)>
Horizontal



Vertical



<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5795	95.22	93.64			32.29	6.83	37.54	199	158	Average
5795	105.55	103.97			32.29	6.83	37.54	199	158	Peak
11590	45.46	47.58	54	-8.54	40.11	10.78	53.01	161	204	Average
11590	55.55	57.67	74	-18.45	40.11	10.78	53.01	161	204	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5795	95.01	93.43			32.29	6.83	37.54	148	40	Average
5795	104.57	102.99			32.29	6.83	37.54	148	40	Peak
11590	45.97	48.09	54	-8.03	40.11	10.78	53.01	194	108	Average
11590	55.52	57.64	74	-18.48	40.11	10.78	53.01	194	108	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5640.725	52.28	50.82	68.2	-15.92	32.04	6.7	37.28	199	158	Peak
5653.075	54.55	53.06	70.49	-15.94	32.06	6.71	37.28	199	158	Peak
5923.35	51.97	50.09	69.42	-17.45	32.52	6.86	37.5	199	158	Peak
5970.85	53.26	51.32	68.2	-14.94	32.57	6.88	37.51	199	158	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5637.875	52.41	50.95	68.2	-15.79	32.04	6.7	37.28	148	40	Peak
5658.775	52.78	51.35	74.72	-21.94	32.06	6.71	37.34	148	40	Peak
5915.275	51.18	49.33	75.37	-24.19	32.49	6.86	37.5	148	40	Peak
5936.175	52.09	50.21	68.2	-16.11	32.52	6.86	37.5	148	40	Peak

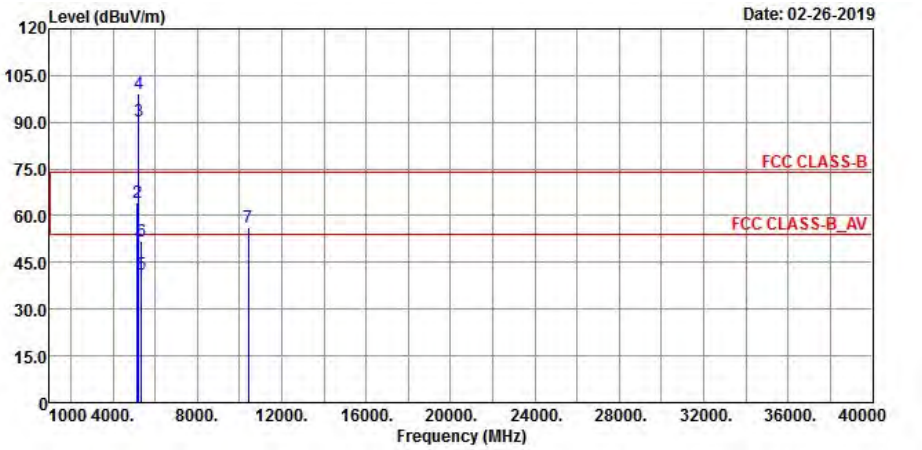
Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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

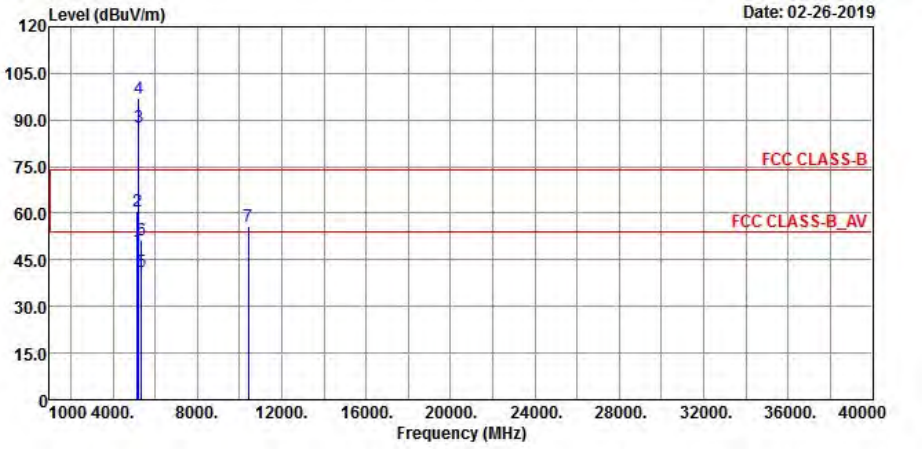
802.11ac (VHT80)

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**	Jisyong Wang

Horizontal



Vertical



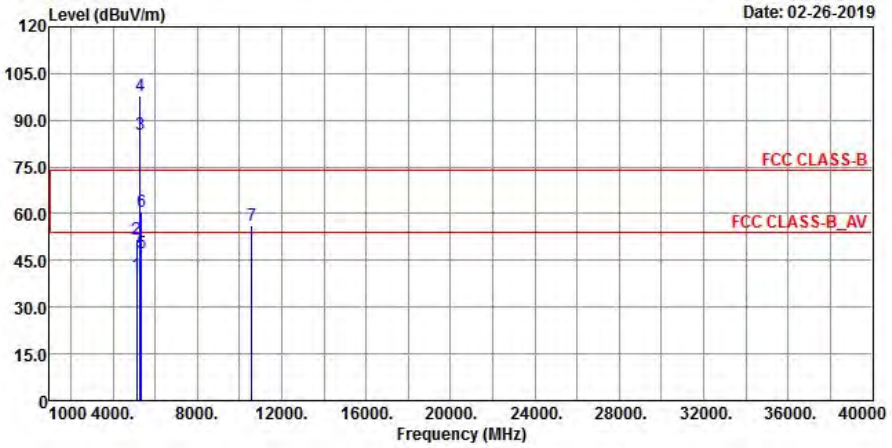
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5145.8	49.79	49.21	54	-4.21	31.56	6.34	37.32	173	165	Average
5145.8	64.17	63.59	74	-9.83	31.56	6.34	37.32	173	165	Peak
5210	90.16	89.51			31.61	6.4	37.36	173	165	Average
5210	99.19	98.54			31.61	6.4	37.36	173	165	Peak
5368.59	41.2	40.21	54	-12.8	31.7	6.47	37.18	173	165	Average
5368.59	51.74	50.73	74	-22.26	31.72	6.47	37.18	173	165	Peak
*10420	56.35	59.06	68.2	-11.85	39.53	10.21	52.45	152	103	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.51	48.31	47.73	54	-5.69	31.56	6.34	37.32	179	87	Average
5149.51	60.78	60.2	74	-13.22	31.56	6.34	37.32	179	87	Peak
5210	87.79	87.14			31.61	6.4	37.36	179	87	Average
5210	96.97	96.32			31.61	6.4	37.36	179	87	Peak
5355.17	41.07	40.08	54	-12.93	31.7	6.47	37.18	179	87	Average
5355.17	51.45	50.46	74	-22.55	31.7	6.47	37.18	179	87	Peak
*10420	55.75	58.46	68.2	-12.45	39.53	10.21	52.45	162	217	Peak

Remarks:

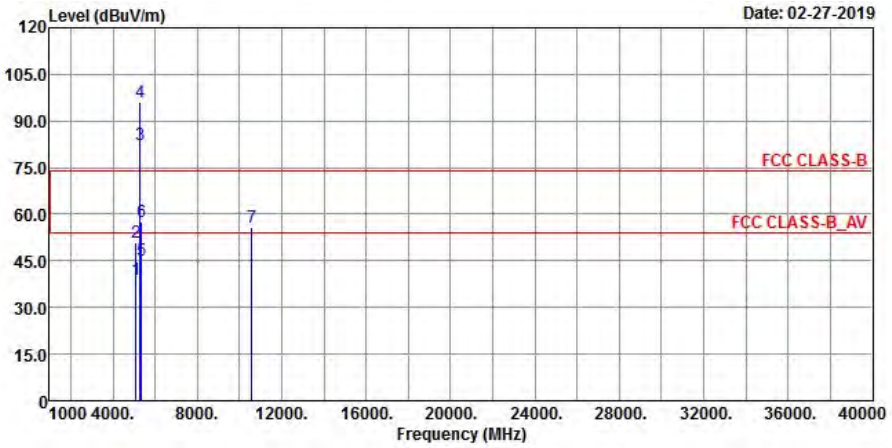
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5210 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



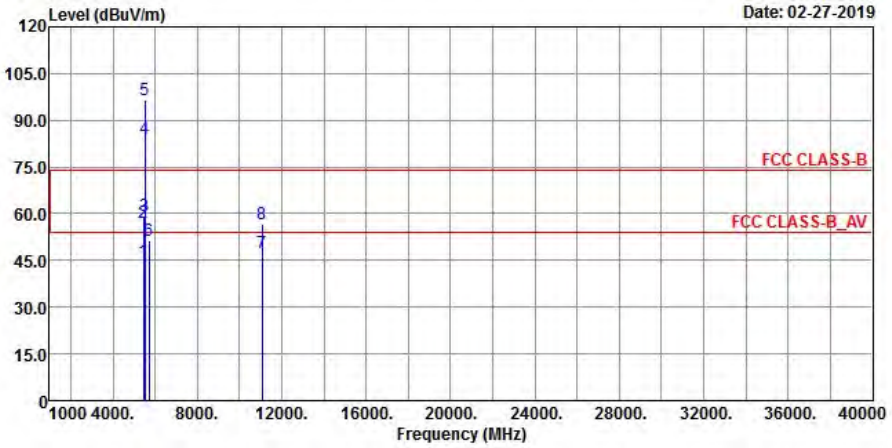
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5113.4	40.13	39.57	54	-13.87	31.54	6.3	37.28	174	166	Average
5113.4	51.99	51.43	74	-22.01	31.54	6.3	37.28	174	166	Peak
5290	85.65	84.77			31.66	6.45	37.23	174	166	Average
5290	97.86	96.98			31.66	6.45	37.23	174	166	Peak
5360.56	47.57	46.56	54	-6.43	31.72	6.47	37.18	174	166	Average
5360.56	60.75	59.74	74	-13.25	31.72	6.47	37.18	174	166	Peak
*10580	56.18	59.09	68.2	-12.02	39.81	10.39	53.11	158	251	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5097.02	39.06	38.52	54	-14.94	31.53	6.29	37.28	182	67	Average
5097.02	50.72	50.18	74	-23.28	31.53	6.29	37.28	182	67	Peak
5290	82.18	81.3			31.66	6.45	37.23	182	67	Average
5290	96.14	95.26			31.66	6.45	37.23	182	67	Peak
5352.46	45.02	44.03	54	-8.98	31.7	6.47	37.18	182	67	Average
5352.46	57.53	56.54	74	-16.47	31.7	6.47	37.18	182	67	Peak
*10580	55.62	58.53	68.2	-12.58	39.81	10.39	53.11	166	103	Peak

Remarks:

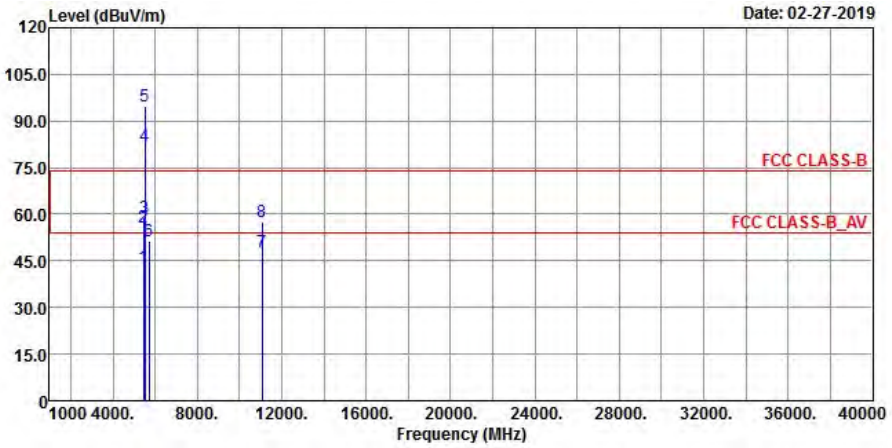
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5290 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



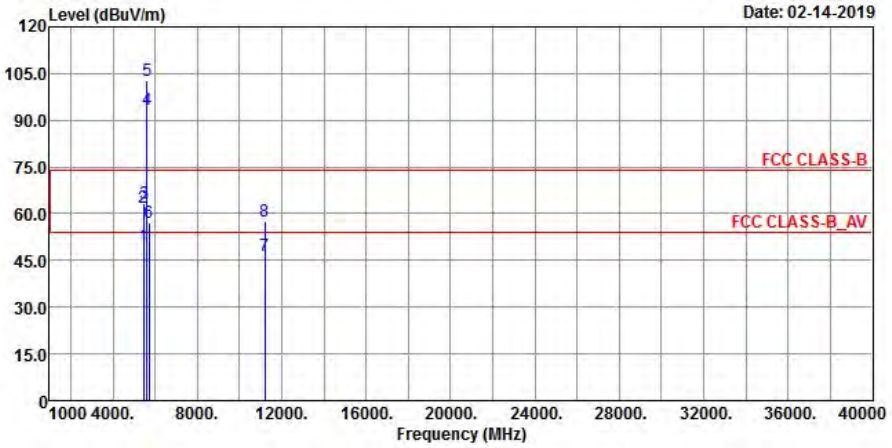
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5458.8	44.65	43.45	54	-9.35	31.77	6.51	37.08	162	121	Average
5458.8	57.32	56.12	74	-16.68	31.77	6.51	37.08	162	121	Peak
*5470	59.52	58.29	68.2	-8.68	31.79	6.52	37.08	162	121	Peak
5530	84.32	82.99			31.84	6.58	37.09	162	121	Average
5530	96.39	95.06			31.84	6.58	37.09	162	121	Peak
*5725	51.26	49.75	68.2	-16.94	32.18	6.76	37.43	162	121	Peak
11060	47.19	48.88	54	-6.81	40.66	10.44	52.79	135	271	Average
11060	56.85	58.54	74	-17.15	40.66	10.44	52.79	135	271	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.86	42.77	41.57	54	-11.23	31.77	6.51	37.08	147	102	Average
5459.86	55.93	54.73	74	-18.07	31.77	6.51	37.08	147	102	Peak
*5470	58.93	57.7	68.2	-9.27	31.79	6.52	37.08	147	102	Peak
5530	81.76	80.43			31.84	6.58	37.09	147	102	Average
5530	94.54	93.21			31.84	6.58	37.09	147	102	Peak
*5725	51.38	49.87	68.2	-16.82	32.18	6.76	37.43	147	102	Peak
11060	47.73	49.42	54	-6.27	40.66	10.44	52.79	178	114	Average
11060	57.59	59.28	74	-16.41	40.66	10.44	52.79	178	114	Peak

Remarks:

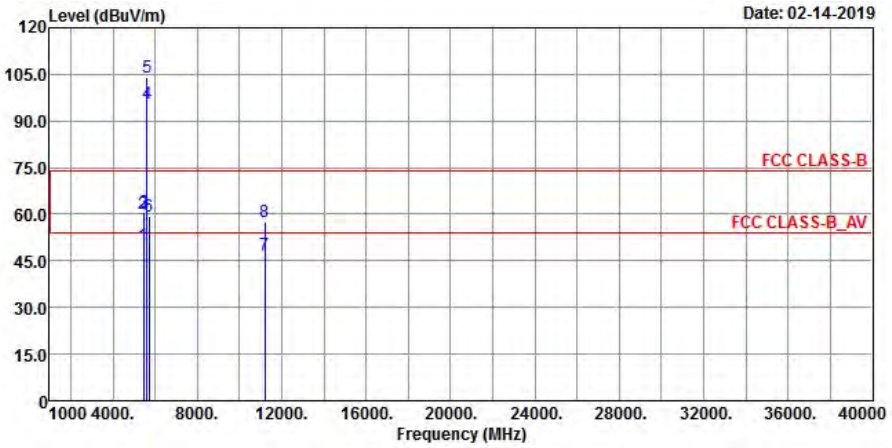
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5530 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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**	Jisyong Wang

Horizontal



Vertical



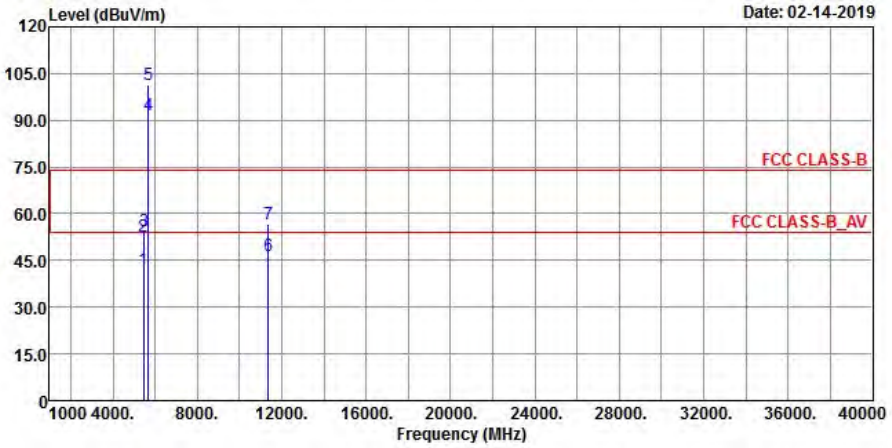
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5458.48	49.6	48.4	54	-4.4	31.77	6.51	37.08	135	129	Average
5458.48	62.13	60.93	74	-11.87	31.77	6.51	37.08	135	129	Peak
*5470	63.49	62.26	68.2	-4.71	31.79	6.52	37.08	135	129	Peak
5610	93.61	92.17			31.98	6.68	37.22	135	129	Average
5610	102.79	101.35			31.98	6.68	37.22	135	129	Peak
*5725	56.97	55.46	68.2	-11.23	32.18	6.76	37.43	135	129	Peak
11220	46.61	48.36	54	-7.39	40.51	10.55	52.81	154	219	Average
11220	57.75	59.5	74	-16.25	40.51	10.55	52.81	154	219	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5453.04	49.94	48.74	54	-4.06	31.77	6.51	37.08	158	43	Average
5453.04	60.23	59.03	74	-13.77	31.77	6.51	37.08	158	43	Peak
*5470	60.83	59.6	68.2	-7.37	31.79	6.52	37.08	158	43	Peak
5610	95.51	94.07			31.98	6.68	37.22	158	43	Average
5610	104.08	102.64			31.98	6.68	37.22	158	43	Peak
*5725	59.48	57.97	68.2	-8.72	32.18	6.76	37.43	158	43	Peak
11220	47.02	48.77	54	-6.98	40.51	10.55	52.81	137	206	Average
11220	57.37	59.12	74	-16.63	40.51	10.55	52.81	137	206	Peak

Remarks:

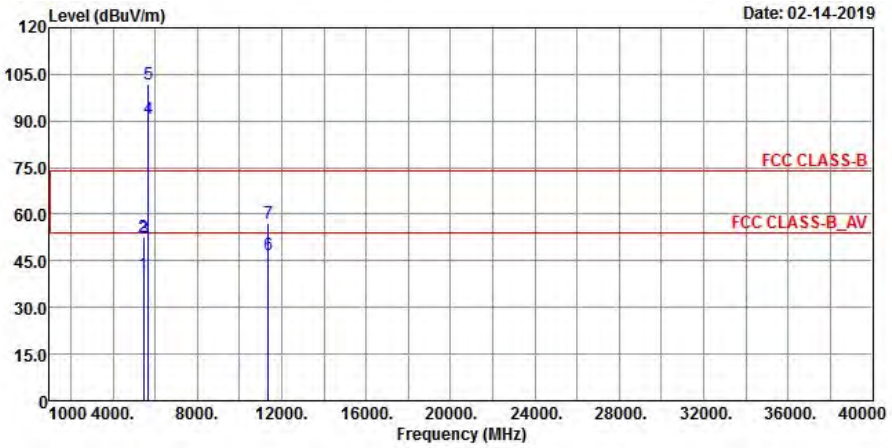
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5610 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 138	**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**	Jisyong Wang

Horizontal



Vertical



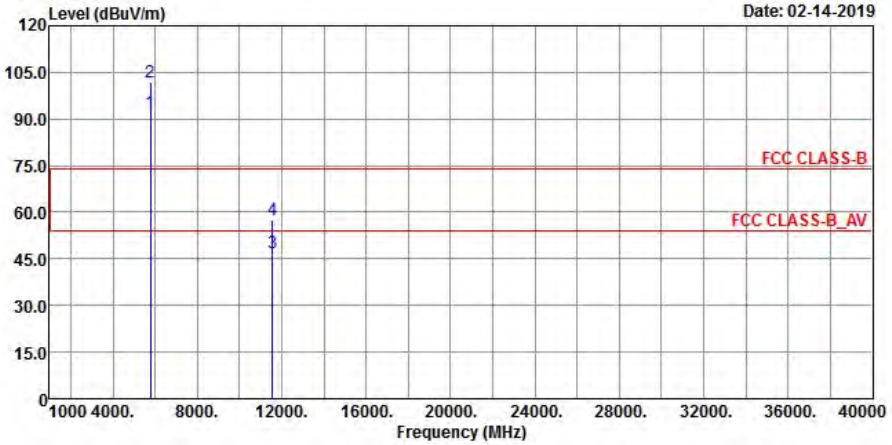
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5440.08	42.07	40.94	54	-11.93	31.76	6.5	37.13	158	124	Average
5440.08	52.89	51.76	74	-21.11	31.76	6.5	37.13	158	124	Peak
5470	54.4	53.17	74	-19.6	31.79	6.52	37.08	158	124	Peak
5690	91.79	90.35			32.12	6.72	37.4	158	124	Average
5690	101.27	99.83			32.12	6.72	37.4	158	124	Peak
11380	46.55	48.42	54	-7.45	40.35	10.49	52.71	156	281	Average
11380	56.83	58.7	74	-17.17	40.35	10.49	52.71	156	281	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5460.08	40.59	39.39	54	-13.41	31.77	6.51	37.08	174	47	Average
5460.08	52.69	51.49	74	-21.31	31.77	6.51	37.08	174	47	Peak
5470	52.36	51.13	74	-21.64	31.79	6.52	37.08	174	47	Peak
5690	90.86	89.42			32.12	6.72	37.4	174	47	Average
5690	101.97	100.53			32.12	6.72	37.4	174	47	Peak
11380	46.85	48.72	54	-7.15	40.35	10.49	52.71	189	276	Average
11380	57.15	59.02	74	-16.85	40.35	10.49	52.71	189	276	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5690 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**	Jisyong Wang

<Spurious Emission>
Horizontal



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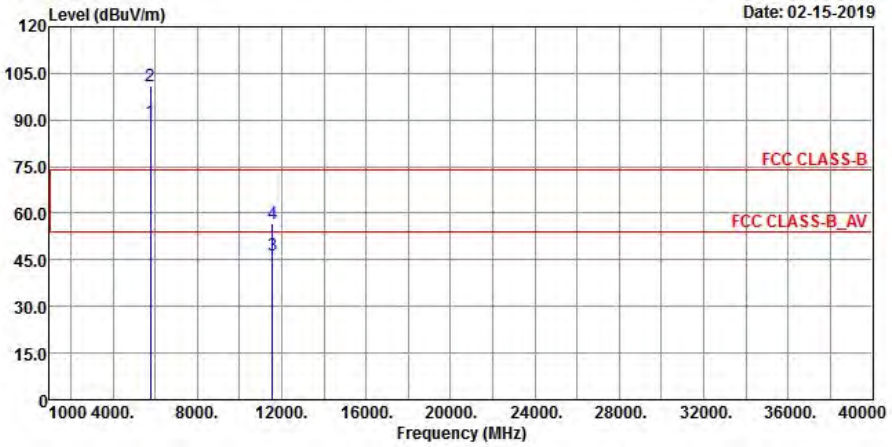
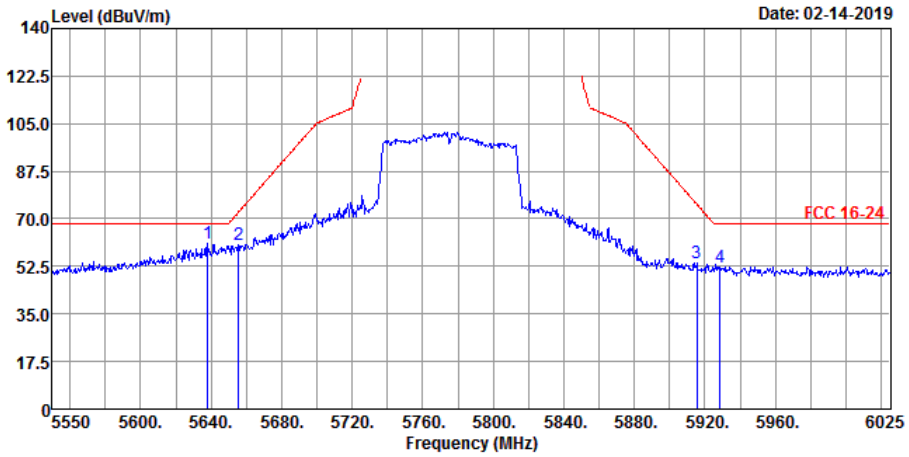
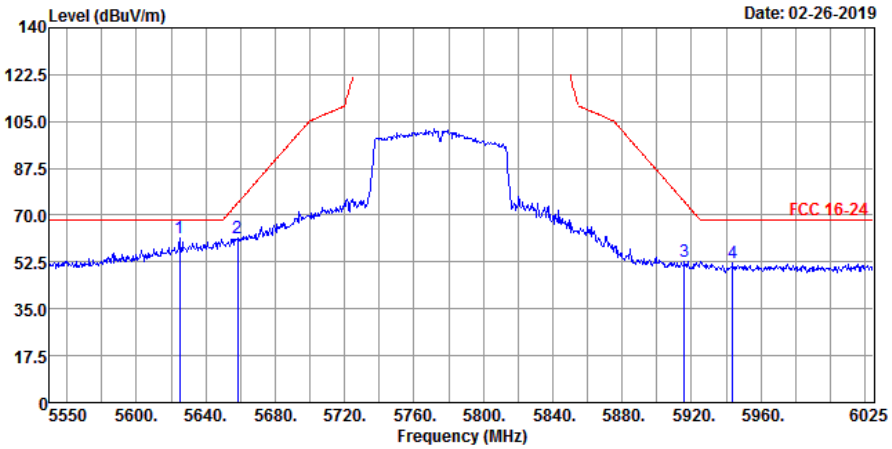


<Out of Band Emission (OOBE)>
Horizontal



Vertical



<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5775	92.09	90.52			32.26	6.81	37.5	231	154	Average
5775	101.89	100.32			32.26	6.81	37.5	231	154	Peak
11550	47.16	49.2	54	-6.84	40.16	10.74	52.94	197	241	Average
11550	57.52	59.56	74	-16.48	40.16	10.74	52.94	197	241	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5775	89.58	88.01			32.26	6.81	37.5	173	45	Average
5775	101.1	99.53			32.26	6.81	37.5	173	45	Peak
11550	46.54	48.58	54	-7.46	40.16	10.74	52.94	181	246	Average
11550	56.69	58.73	74	-17.31	40.16	10.74	52.94	181	246	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5637.875	61.08	59.62	68.2	-7.12	32.04	6.7	37.28	231	154	Peak
5655.45	60.52	59.09	72.25	-11.73	32.06	6.71	37.34	231	154	Peak
5915.275	53.97	52.12	75.37	-21.4	32.49	6.86	37.5	231	154	Peak
5928.575	52.32	50.44	68.2	-15.88	32.52	6.86	37.5	231	154	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5625.05	61.61	60.13	68.2	-6.59	32.01	6.69	37.22	173	45	Peak
5658.3	61.36	59.93	74.36	-13	32.06	6.71	37.34	173	45	Peak
5915.75	52.88	51.03	75.02	-22.14	32.49	6.86	37.5	173	45	Peak
5943.775	52.02	50.1	68.2	-16.18	32.55	6.87	37.5	173	45	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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:

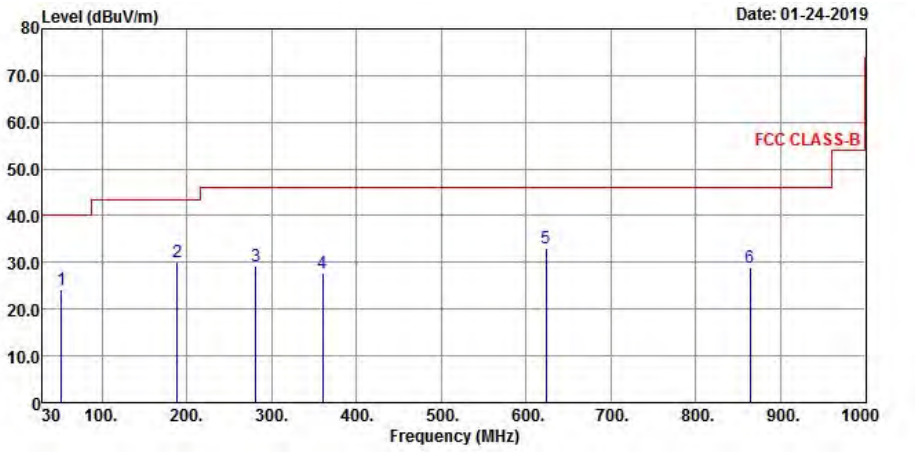
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

30 MHz ~ 1 GHz Worst-Case Data:

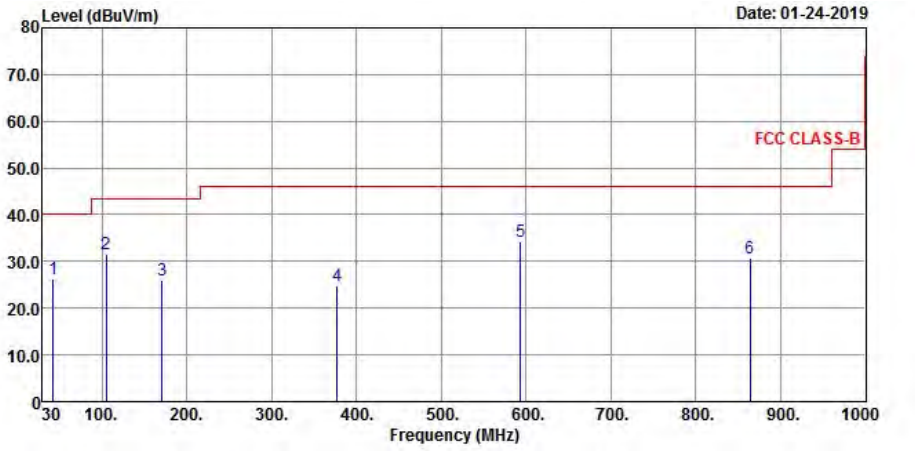
802.11n (HT40)

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**	Jisyong Wang

Horizontal



Vertical



Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
52.31	24.14	42.16	40	-15.86	12.76	0.54	31.32	125	203	Peak
189.08	30.04	50.44	43.5	-13.46	10.12	1.17	31.69	104	157	Peak
281.23	29.12	46.95	46	-16.88	12.4	1.58	31.81	137	93	Peak
359.8	27.85	43.52	46	-18.15	14.38	1.92	31.97	124	157	Peak
623.64	33.07	42.34	46	-12.93	19.89	3	32.16	131	288	Peak
864.2	29	33.99	46	-17	23.05	3.9	31.94	119	101	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
42.61	26.32	43.32	40	-13.68	13.58	0.5	31.08	167	105	Peak
104.69	31.66	53.26	43.5	-11.84	9.53	0.77	31.9	178	104	Peak
170.65	25.84	44.84	43.5	-17.66	11.67	1.07	31.74	189	306	Peak
377.26	24.85	40	46	-21.15	14.8	1.99	31.94	194	124	Peak
593.57	34.36	44.21	46	-11.64	19.46	2.87	32.18	194	59	Peak
864.2	30.73	35.72	46	-15.27	23.05	3.9	31.94	194	139	Peak

Remarks:

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Jan. 03, 2019	Jan. 02, 2020
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Sep. 05, 2018	Sep. 04, 2019
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100104	Dec. 18, 2018	Dec. 17, 2019
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Aug. 13, 2018	Aug. 12, 2019
Software ADT	BV ADT_Cond_ V7.3.7.4	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 HwaYa Shielded Room 2.
3. The VCCI Site Registration No. is C-2047.

4.2.3 Test Procedures

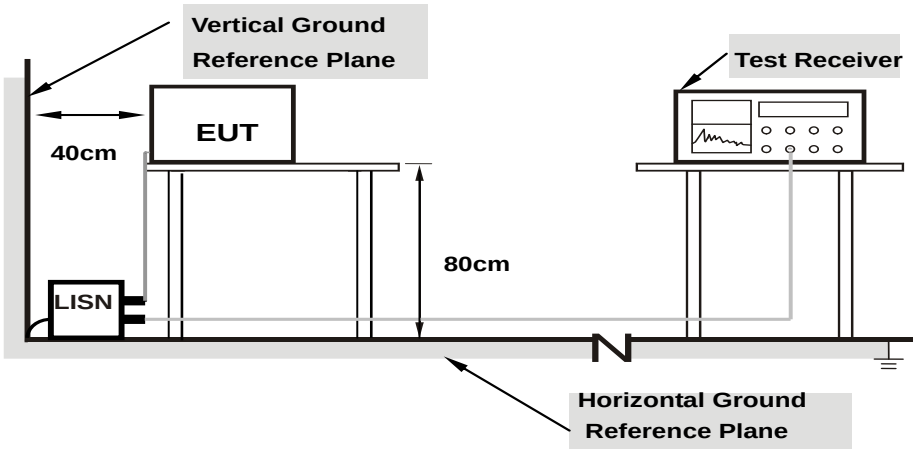
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

Note: All modes of operation were investigated and the worst-case emissions are reported.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

4.2.6 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.

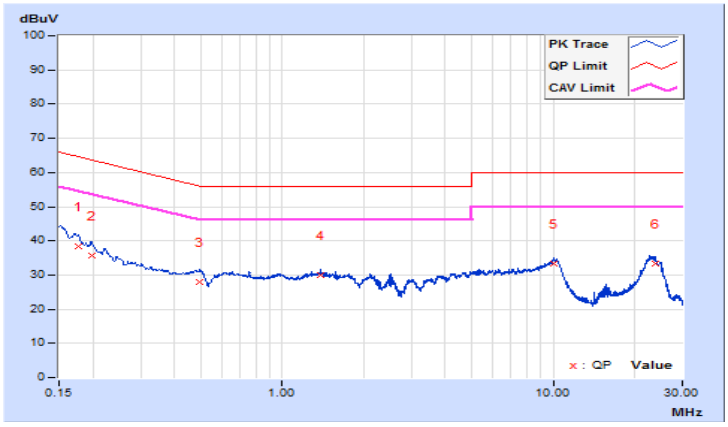
4.2.7 Test Results

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Jisyong Wang	Test Date	2019/1/27

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17605	10.06	28.33	8.37	38.39	18.43	64.67	54.67	-26.28	-36.24
2	0.19721	10.06	25.54	7.37	35.60	17.43	63.73	53.73	-28.13	-36.30
3	0.49690	10.06	18.00	4.89	28.06	14.95	56.05	46.05	-27.99	-31.10
4	1.38750	10.07	19.81	4.63	29.88	14.70	56.00	46.00	-26.12	-31.30
5	10.05900	10.29	22.99	4.44	33.28	14.73	60.00	50.00	-26.72	-35.27
6	23.74575	10.42	23.02	3.86	33.44	14.28	60.00	50.00	-26.56	-35.72

Remarks:

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

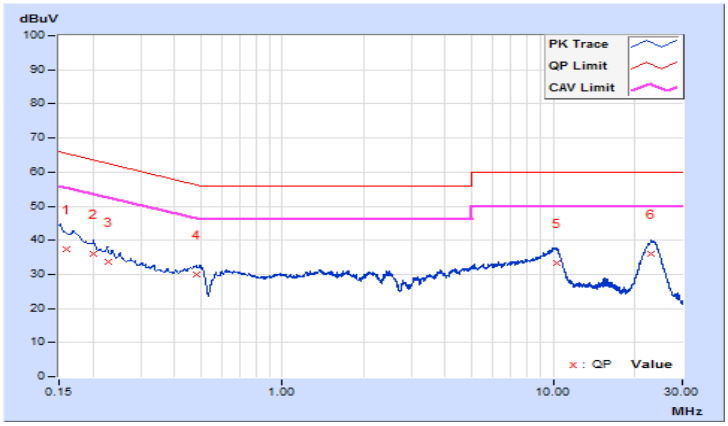


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Jisyong Wang	Test Date	2019/1/27

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15900	10.06	27.45	8.11	37.51	18.17	65.52	55.52	-28.01	-37.35
2	0.20175	10.07	25.99	6.56	36.06	16.63	63.54	53.54	-27.48	-36.91
3	0.22683	10.07	23.74	6.69	33.81	16.76	62.56	52.56	-28.75	-35.80
4	0.48013	10.07	19.82	6.03	29.89	16.10	56.34	46.34	-26.45	-30.24
5	10.26150	10.37	22.98	6.20	33.35	16.57	60.00	50.00	-26.65	-33.43
6	**22.98750**	**10.58**	**25.61**	**6.37**	**36.19**	**16.95**	**60.00**	**50.00**	**-23.81**	**-33.05**

Remarks:

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

Operation Band	EUT Category		Limit
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p ≦ 125 mW (21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
		Indoor Access Point	1 Watt (30 dBm)
	√	Mobile and Portable client device	250 mW (24 dBm)
U-NII-2A	√		250 mW (24 dBm) or 11 dBm + 10 log B*
U-NII-2C	√		250 mW (24 dBm) or 11 dBm + 10 log B*
U-NII-3	√		1 Watt (30 dBm)

*B is the 26 dB emission bandwidth in megahertz

Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

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

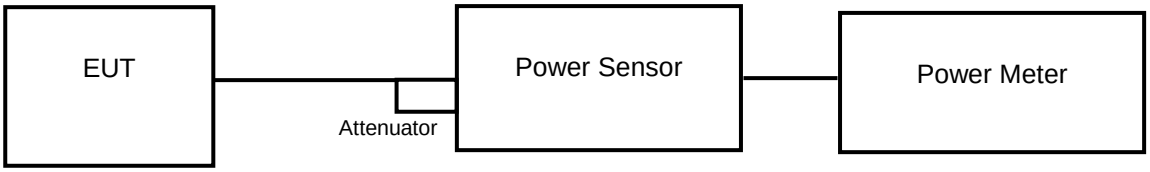
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};

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

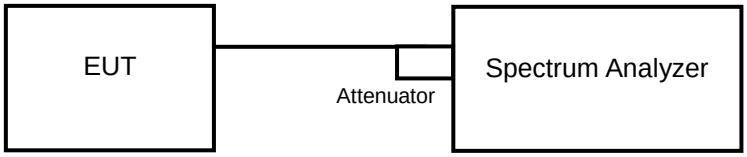
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

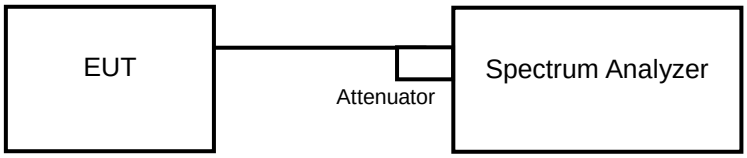
<Power Output Measurement>



or



<26 dB Bandwidth>



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

Average Power Measurement

<802.11a, 802.11n (HT20), 802.11n (HT40)>

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

<802.11ac (VHT80)>

a. Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99 % occupied bandwidth) of the signal.
b. Set sweep trigger to “free run”.
c. Set RBW = 1 MHz.
d. Set VBW ≥ 3 MHz
e. Number of points in sweep ≥ 2 Span / RBW.
f. Sweep time ≤ (number of points in sweep) * T
g. Using emission bandwidth to determine the frequency span for integration the channel bandwidth.
h. Detector = RMS.
i. Trace mode = max hold.
j. Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

26 dB Bandwidth

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 Test Results

Power Output:

802.11a

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	33.343	15.23	24	Pass
40	5200	34.198	15.34	24	Pass
48	5240	33.884	15.30	24	Pass
52	5260	76.208	18.82	24	Pass
60	5300	75.509	18.78	24	Pass
64	5320	31.769	15.02	24	Pass
100	5500	16.866	12.27	24	Pass
116	5580	75.162	18.76	24	Pass
140	5700	12.19	10.86	24	Pass
144	5720	74.817	18.74	24	Pass
149	5745	75.509	18.78	30	Pass
157	5785	78.343	18.94	30	Pass
165	5825	75.162	18.76	30	Pass

Note:

For U-NII-2A, U-NII-2C Band:

1. 11 dBm + 10log (31.29) = 25.95 dBm > 24 dBm.
2. 11 dBm + 10log (27.29) = 25.36 dBm > 24 dBm.
3. 11 dBm + 10log (21.45) = 24.31 dBm > 24 dBm.
4. 11 dBm + 10log (21.56) = 24.34 dBm > 24 dBm.
5. 11 dBm + 10log (30.45) = 25.84 dBm > 24 dBm.
6. 11 dBm + 10log (21.64) = 24.35 dBm > 24 dBm.
7. 11 dBm + 10log (21.36) = 24.30 dBm > 24 dBm.

802.11n (HT20)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	32.961	15.18	24	Pass
40	5200	37.239	15.71	24	Pass
48	5240	36.813	15.66	24	Pass
52	5260	56.364	17.51	24	Pass
60	5300	56.754	17.54	24	Pass
64	5320	36.308	15.60	24	Pass
100	5500	18.072	12.57	24	Pass
116	5580	55.847	17.47	24	Pass
140	5700	13.305	11.24	24	Pass
144	5720	55.335	17.43	23.81	Pass
149	5745	55.976	17.48	30	Pass
157	5785	55.335	17.43	30	Pass
165	5825	56.494	17.52	30	Pass

Note:

For U-NII-2A, U-NII-2C Band:

1. 11 dBm + 10log (21.88) = 24.40 dBm > 24 dBm.
2. 11 dBm + 10log (23.18) = 24.65 dBm > 24 dBm.
3. 11 dBm + 10log (21.84) = 24.39 dBm > 24 dBm.
4. 11 dBm + 10log (21.76) = 24.38 dBm > 24 dBm.
5. 11 dBm + 10log (28.22) = 25.51 dBm > 24 dBm.
6. 11 dBm + 10log (22.14) = 24.45 dBm > 24 dBm.
7. 11 dBm + 10log (19.08) = 23.81 dBm < 24 dBm.

802.11n (HT40)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	18.113	12.58	24	Pass
46	5230	47.098	16.73	24	Pass
54	5270	45.814	16.61	24	Pass
62	5310	14.488	11.61	24	Pass
102	5510	11.041	10.43	24	Pass
110	5550	43.853	16.42	24	Pass
134	5670	29.309	14.67	24	Pass
142	5710	43.652	16.40	24	Pass
151	5755	47.206	16.74	30	Pass
159	5795	45.92	16.62	30	Pass

Note:

For U-NII-2A, U-NII-2C Band:

1. 11 dBm + 10log (74.01) = 29.69 dBm > 24 dBm.
2. 11 dBm + 10log (41.08) = 27.14 dBm > 24 dBm.
3. 11 dBm + 10log (41.31) = 27.16 dBm > 24 dBm.
4. 11 dBm + 10log (74.81) = 29.74 dBm > 24 dBm.
5. 11 dBm + 10log (72.36) = 29.59 dBm > 24 dBm.
6. 11 dBm + 10log (51.42) = 28.11 dBm > 24 dBm.

802.11ac (VHT80)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
42	5210	13.428	11.28	24	Pass
58	5290	10.814	10.34	24	Pass
106	5530	11.535	10.62	24	Pass
122	5610	43.251	16.36	24	Pass
138	5690	42.855	16.32	24	Pass
155	5775	42.855	16.32	30	Pass

Note:

For U-NII-2A, U-NII-2C Band:

1. 11 dBm + 10log (81.96) = 30.14 dBm > 24 dBm.
2. 11 dBm + 10log (81.99) = 30.14 dBm > 24 dBm.
3. 11 dBm + 10log (97.71) = 30.90 dBm > 24 dBm.
4. 11 dBm + 10log (92.46) = 30.66 dBm > 24 dBm.

26 dB Bandwidth:

802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	21.61
40	5200	21.57
48	5240	21.67
52	5260	31.29
60	5300	27.29
64	5320	21.45
100	5500	21.56
116	5580	30.45
140	5700	21.64
144	5720 (U-NII-2C)	21.36
144	5720 (U-NII-3)	9.20

802.11n (HT20)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	21.84
40	5200	22.00
48	5240	21.82
52	5260	21.88
60	5300	23.18
64	5320	21.84
100	5500	21.76
116	5580	28.22
140	5700	22.14
144	5720 (U-NII-2C)	19.08
144	5720 (U-NII-3)	8.80

802.11n (HT40)

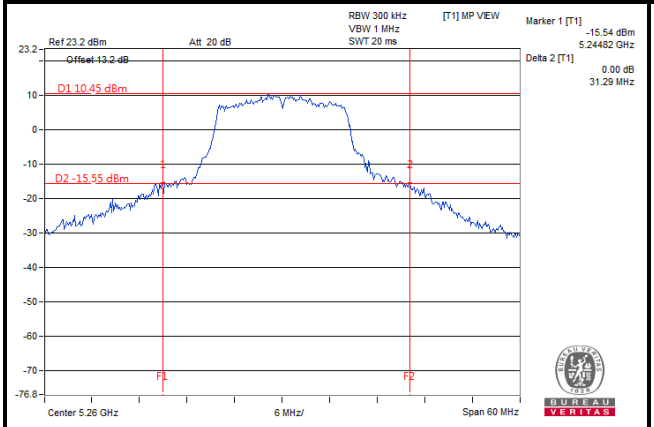
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
38	5190	41.33
46	5230	73.88
54	5270	74.01
62	5310	41.08
102	5510	41.31
110	5550	74.81
134	5670	72.36
142	5710 (U-NII-2C)	51.42
142	5710 (U-NII-3)	22.88

802.11ac (VHT80)

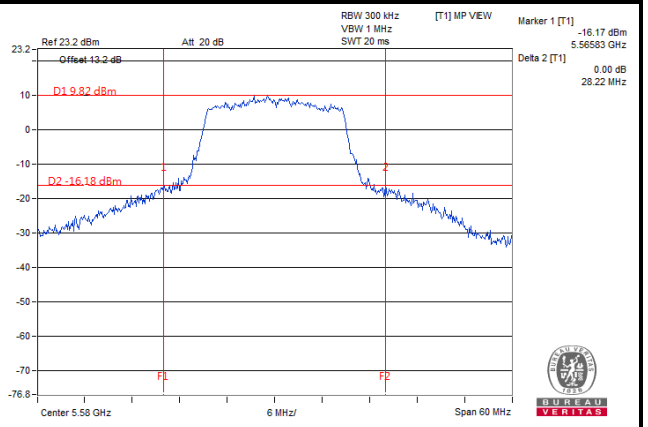
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
42	5210	81.62
58	5290	81.96
106	5530	81.99
122	5610	97.71
138	5690 (U-NII-2C)	92.46
138	5690 (U-NII-3)	20.04

Spectrum Plot of Worst Value

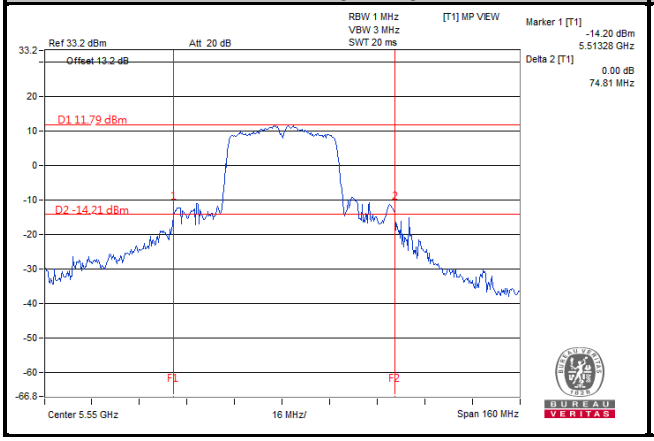
802.11a



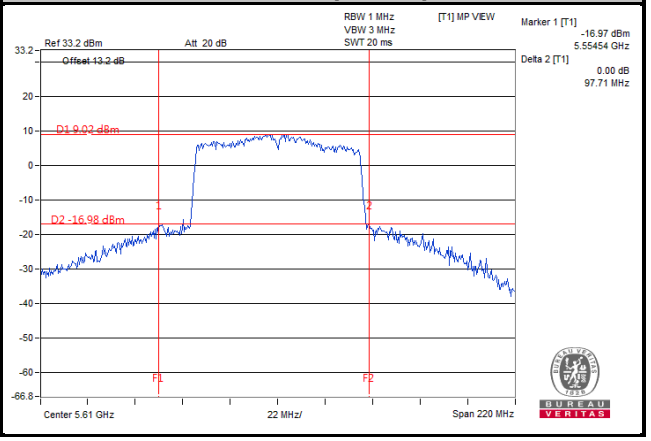
802.11n (HT20)



802.11n (HT40)

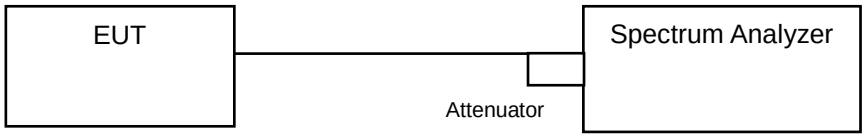


802.11ac (VHT80)



4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Test Results

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	16.92
40	5200	16.68
48	5240	16.92
52	5260	17.40
60	5300	17.40
64	5320	16.92
100	5500	16.92
116	5580	17.64
140	5700	16.92
144	5720 (U-NII-2C)	13.52
144	5720 (U-NII-3)	3.40
149	5745	18.27
157	5785	18.18
165	5825	17.98

802.11n (HT20)

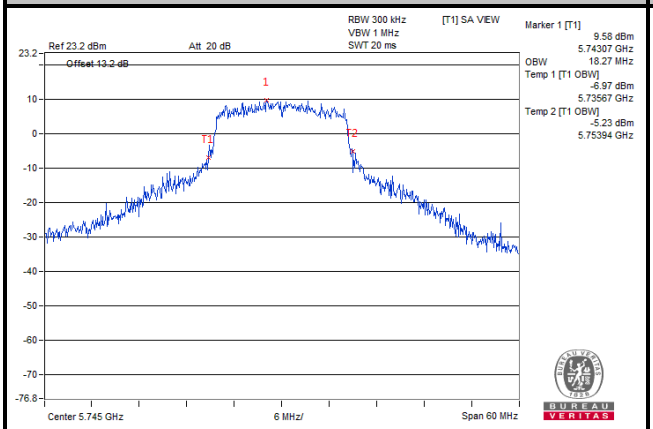
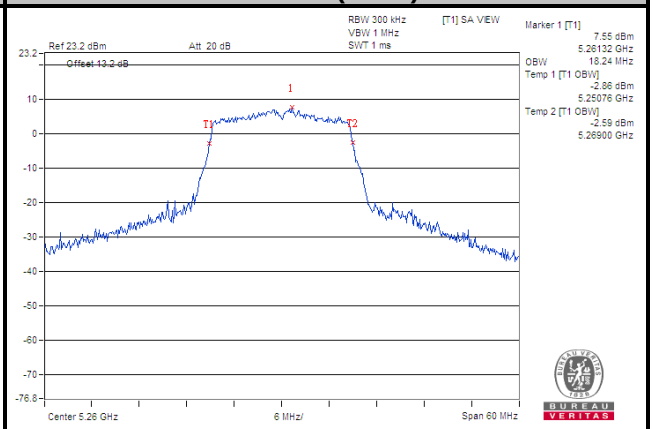
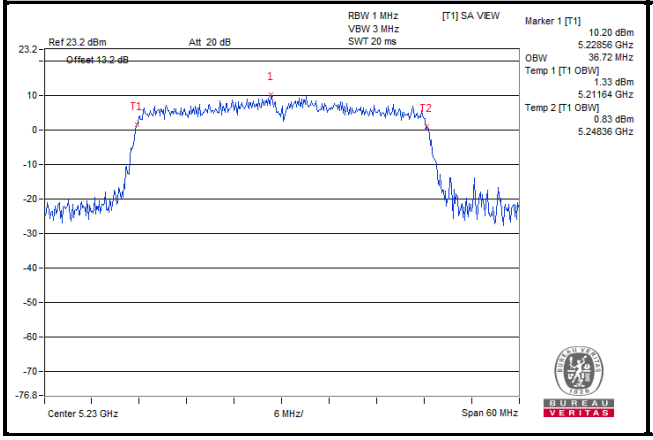
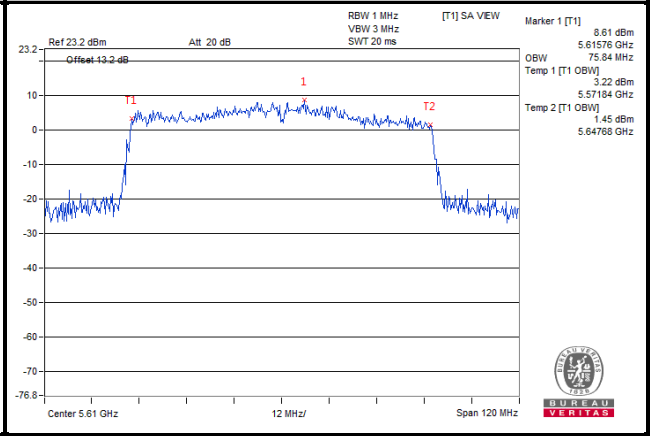
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	18.00
40	5200	17.88
48	5240	17.88
52	5260	18.24
60	5300	18.24
64	5320	18.00
100	5500	18.00
116	5580	18.12
140	5700	17.76
144	5720 (U-NII-2C)	14.00
144	5720 (U-NII-3)	3.76
149	5745	18.17
157	5785	18.17
165	5825	18.17

802.11n (HT40)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
38	5190	36.48
46	5230	36.72
54	5270	36.60
62	5310	36.60
102	5510	36.60
110	5550	36.72
134	5670	36.48
142	5710 (U-NII-2C)	33.48
142	5710 (U-NII-3)	3.36
151	5755	36.64
159	5795	36.64

802.11ac (VHT80)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
42	5210	75.60
58	5290	75.36
106	5530	75.60
122	5610	75.84
138	5690 (U-NII-2C)	73.16
138	5690 (U-NII-3)	2.68
155	5775	75.77

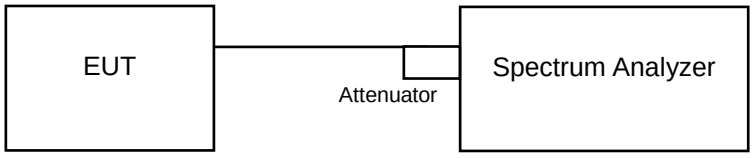
Spectrum Plot of Worst Value	
802.11a	802.11n (HT20)
	
802.11n (HT40)	802.11ac (VHT80)
	

4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

Operation Band	EUT Category		Limit
U-NII-1		Outdoor Access Point	17 dBm/MHz
		Fixed point-to-point Access Point	
		Indoor Access Point	
	√	Mobile and Portable client device	11 dBm/MHz
U-NII-2A	√		11 dBm/MHz
U-NII-2C	√		11 dBm/MHz
U-NII-3	√		30 dBm/500 kHz

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.5.4 Test Procedures

For U-NII-1, U-NII-2A, U-NII-2C band:

Using method SA-2

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW ≥ 3 RBW, Detector = RMS
3. Sweep time = auto, trigger set to “free run”.
4. Trace average at least 100 traces in power averaging mode.
5. Record the max value and add 10 log (1/duty cycle)

※For U-NII-3:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW ≥ 1 RBW, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(500 kHz / 300 kHz).
5. Sweep time = auto, trigger set to “free run”.
6. Trace average at least 100 traces in power averaging mode.
7. Record the max value and add 10 log (1/duty cycle)

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.5.7 Test Results

802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
36	5180	1.50	0.32	1.82	11	Pass
40	5200	1.46	0.32	1.78	11	Pass
48	5240	1.32	0.32	1.64	11	Pass
52	5260	5.61	0.32	5.93	11	Pass
60	5300	5.37	0.32	5.69	11	Pass
64	5320	1.49	0.32	1.81	11	Pass
100	5500	-0.75	0.32	-0.43	11	Pass
116	5580	6.16	0.32	6.48	11	Pass
140	5700	-2.04	0.32	-1.72	11	Pass
144	5720 (U-NII-2C)	6.12	0.32	6.44	11	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
36	5180	0.95	0.43	1.38	11	Pass
40	5200	1.21	0.43	1.64	11	Pass
48	5240	1.08	0.43	1.51	11	Pass
52	5260	0.66	0.43	1.09	11	Pass
60	5300	0.87	0.43	1.30	11	Pass
64	5320	0.88	0.43	1.31	11	Pass
100	5500	-1.08	0.43	-0.65	11	Pass
116	5580	4.41	0.43	4.84	11	Pass
140	5700	-2.42	0.43	-1.99	11	Pass
144	5720 (U-NII-2C)	4.09	0.43	4.52	11	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

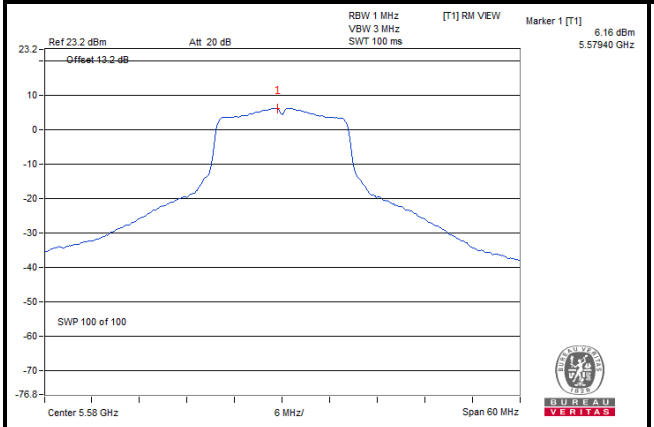
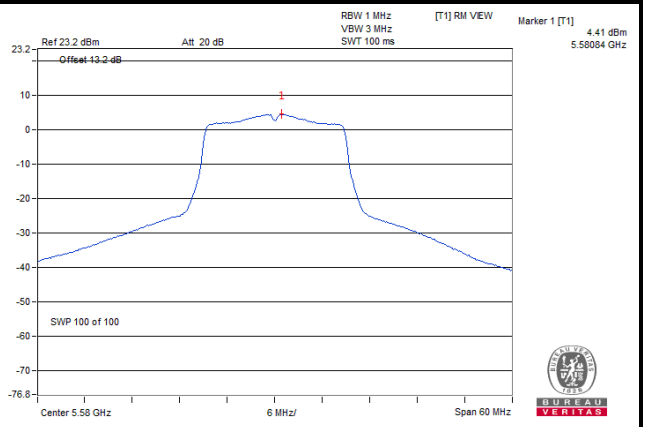
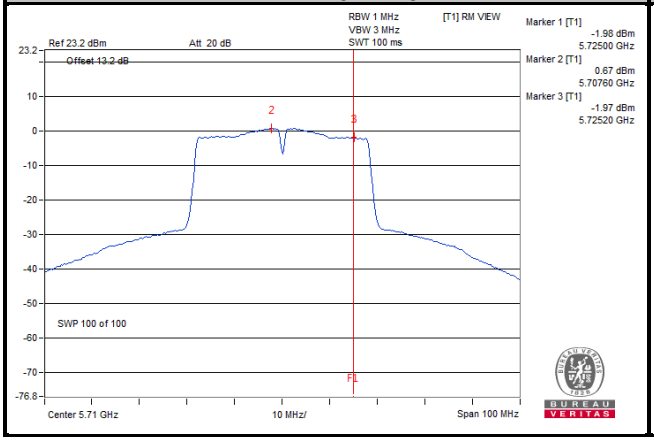
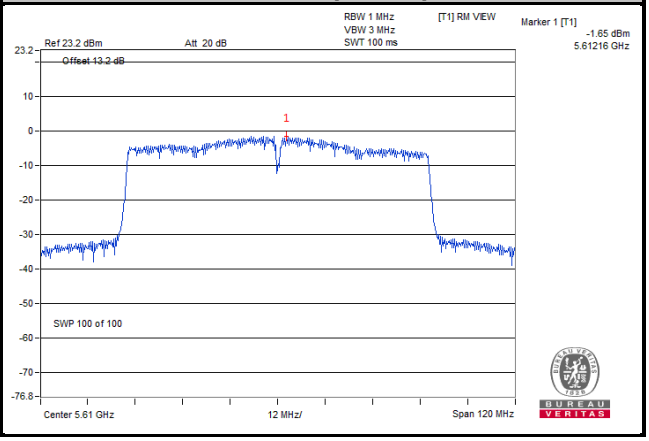
Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
38	5190	-4.35	0.68	-3.67	11	Pass
46	5230	-0.63	0.68	0.05	11	Pass
54	5270	-0.34	0.68	0.34	11	Pass
62	5310	-5.52	0.68	-4.84	11	Pass
102	5510	-5.03	0.68	-4.35	11	Pass
110	5550	0.20	0.68	0.88	11	Pass
134	5670	-1.60	0.68	-0.92	11	Pass
142	5710 (U-NII-2C)	0.67	0.68	1.35	11	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
42	5210	-9.45	1.20	-8.25	11	Pass
58	5290	-9.93	1.20	-8.73	11	Pass
106	5530	-8.74	1.20	-7.54	11	Pass
122	5610	-1.65	1.20	-0.45	11	Pass
138	5690 (U-NII-2C)	-2.52	1.20	-1.32	11	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a	802.11n (HT20)
	
802.11n (HT40)	802.11ac (VHT80)
	

For U-NII-3 Band

802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
		(dBm/300 kHz)	(dBm/500 kHz)				
144	5720 (U-NII-3)	-4.33	-2.11	0.32	-1.79	30	Pass
149	5745	-1.84	0.38	0.32	0.70	30	Pass
157	5785	-2.37	-0.15	0.32	0.17	30	Pass
165	5825	-2.51	-0.29	0.32	0.03	30	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Channel	Frequency (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
		(dBm/300 kHz)	(dBm/500 kHz)				
144	5720 (U-NII-3)	-6.40	-4.18	0.43	-3.75	30	Pass
149	5745	-3.86	-1.64	0.43	-1.21	30	Pass
157	5785	-4.18	-1.96	0.43	-1.53	30	Pass
165	5825	-4.42	-2.20	0.43	-1.77	30	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

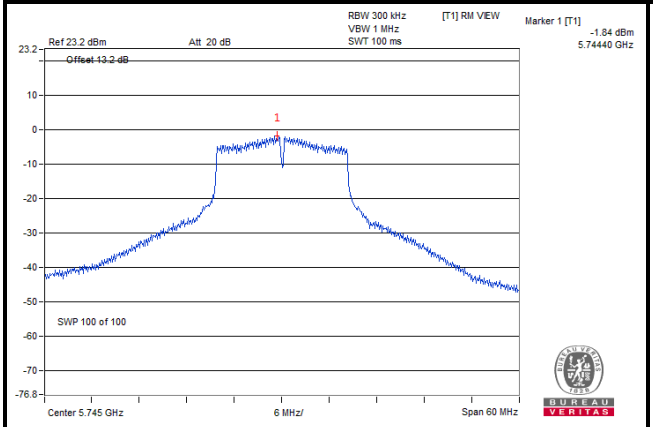
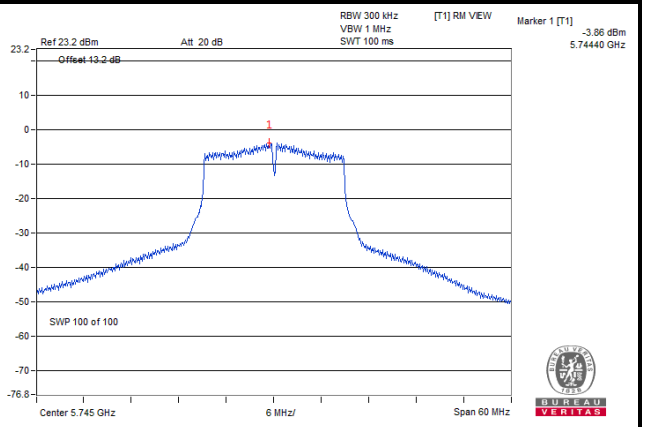
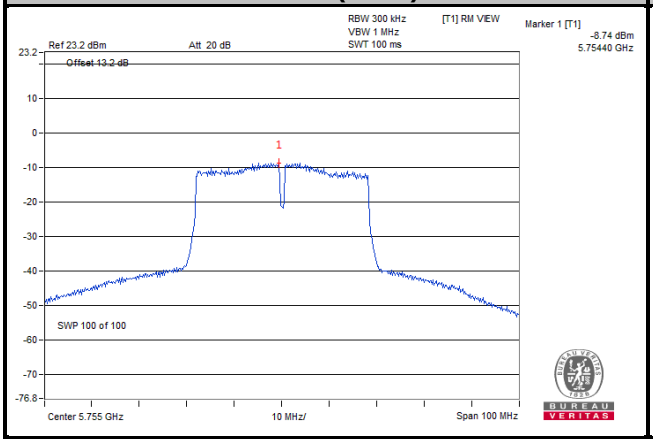
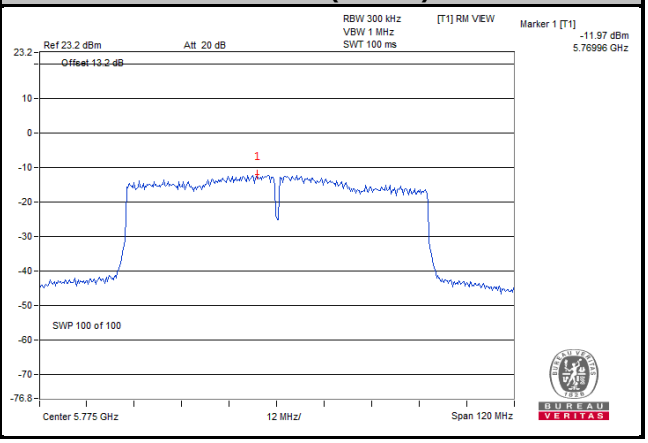
Channel	Frequency (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
		(dBm/300 kHz)	(dBm/500 kHz)				
142	5710 (U-NII-3)	-10.75	-8.53	0.68	-7.85	30	Pass
151	5755	-8.74	-6.52	0.68	-5.84	30	Pass
159	5795	-8.89	-6.67	0.68	-5.99	30	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Channel	Frequency (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
		(dBm/300 kHz)	(dBm/500 kHz)				
138	5690 (U-NII-3)	-15.28	-13.06	1.20	-11.86	30	Pass
155	5775	-11.97	-9.75	1.20	-8.55	30	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

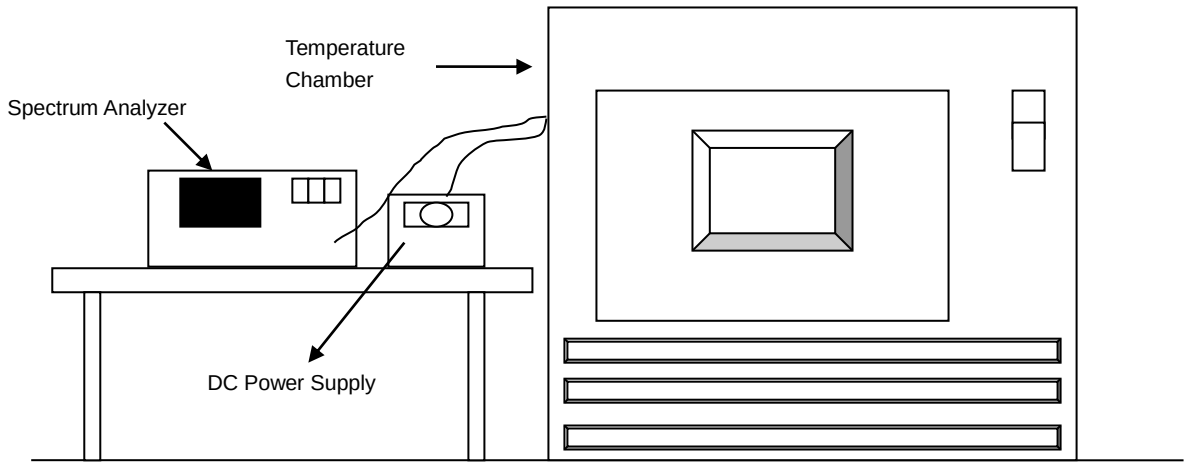
Spectrum Plot of Worst Value	
802.11a	**802.11n (HT20)**
	
802.11n (HT40)	**802.11ac (VHT80)**
	

4.6 Frequency Stability

4.6.1 Limit of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.6.4 Test Procedure

a. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
b. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10 dB lower than the measured peak value.
c. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

Set the EUT transmit at un-modulation mode to test frequency stability.

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
50	120	5180.0124	PASS	5180.0119	PASS	5180.0132	PASS	5180.0132	PASS
40	120	5180.0244	PASS	5180.0271	PASS	5180.0238	PASS	5180.0241	PASS
30	120	5180.0161	PASS	5180.0169	PASS	5180.0167	PASS	5180.0171	PASS
20	120	5179.988	PASS	5179.9855	PASS	5179.988	PASS	5179.9869	PASS
10	120	5179.9831	PASS	5179.9844	PASS	5179.9831	PASS	5179.9876	PASS
0	120	5180.0189	PASS	5180.0175	PASS	5180.018	PASS	5180.0216	PASS
-10	120	5179.974	PASS	5179.9754	PASS	5179.9754	PASS	5179.974	PASS
-20	120	5179.9939	PASS	5179.9924	PASS	5179.9955	PASS	5179.9926	PASS
-30	120	5180.0205	PASS	5180.022	PASS	5180.0201	PASS	5180.0218	PASS

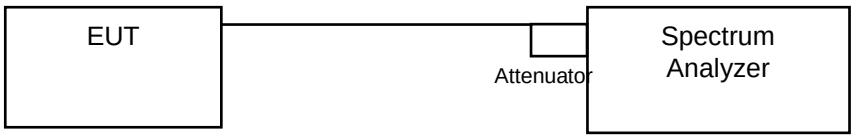
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5179.9871	PASS	5179.9855	PASS	5179.987	PASS	5179.9867	PASS
	120	5179.988	PASS	5179.9855	PASS	5179.988	PASS	5179.9869	PASS
	102	5179.9874	PASS	5179.9863	PASS	5179.9887	PASS	5179.9868	PASS

4.7 6 dB Bandwidth Measurement

4.7.1 Limits of 6 dB Bandwidth Measurement

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.7.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
144	5720 (U-NII-3)	2.94	0.5	Pass
149	5745	16.08	0.5	Pass
157	5785	16.11	0.5	Pass
165	5825	16.12	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
144	5720 (U-NII-3)	3.80	0.5	Pass
149	5745	17.33	0.5	Pass
157	5785	17.32	0.5	Pass
165	5825	17.33	0.5	Pass

802.11n (HT40)

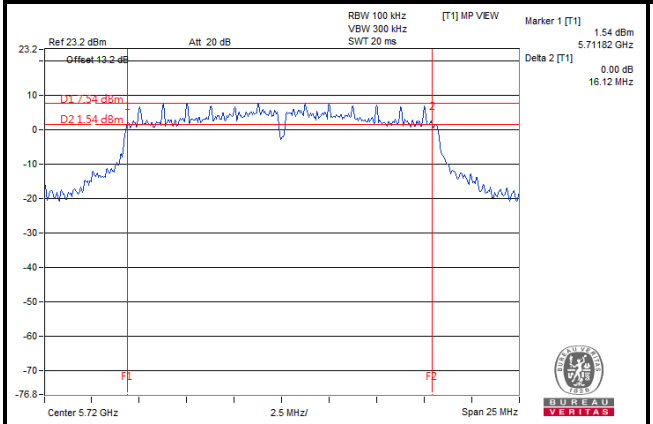
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
142	5710 (U-NII-3)	2.92	0.5	Pass
151	5755	35.56	0.5	Pass
159	5795	35.85	0.5	Pass

802.11ac (VHT80)

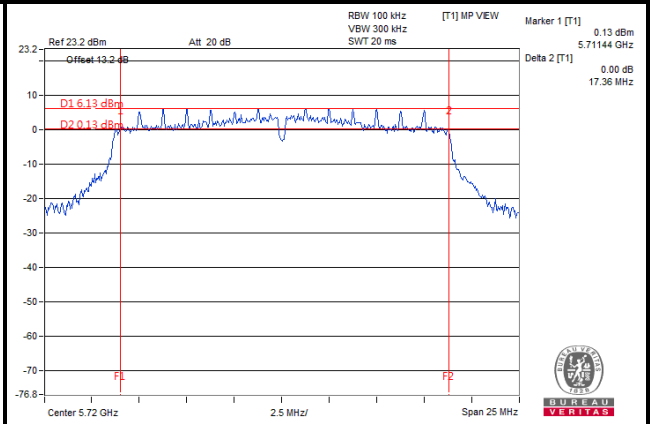
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
138	5690 (U-NII-3)	2.74	0.5	Pass
155	5775	75.77	0.5	Pass

Spectrum Plot of Worst Value

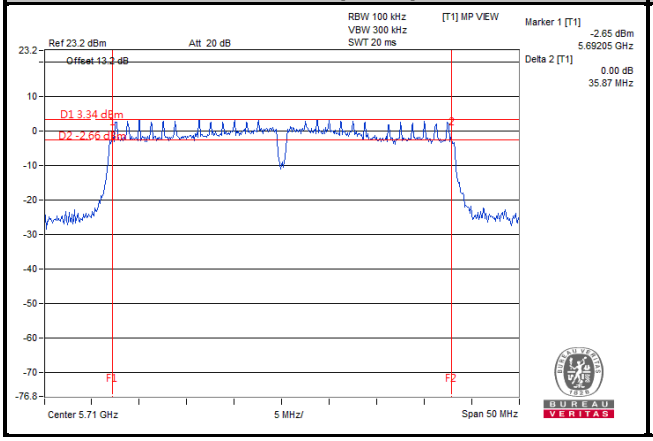
802.11a



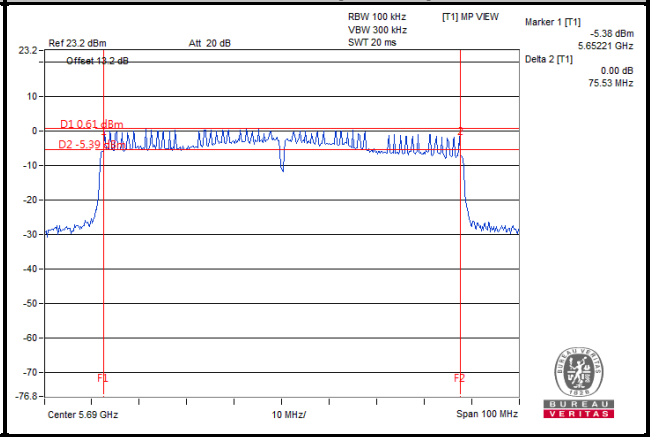
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

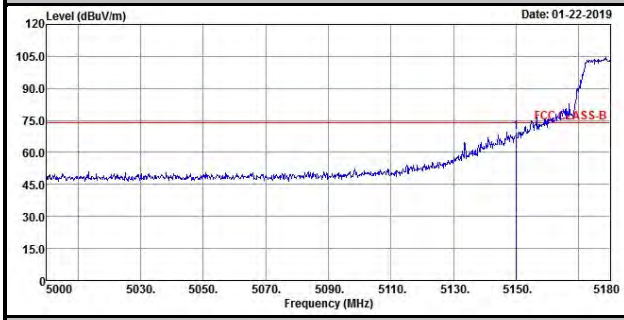
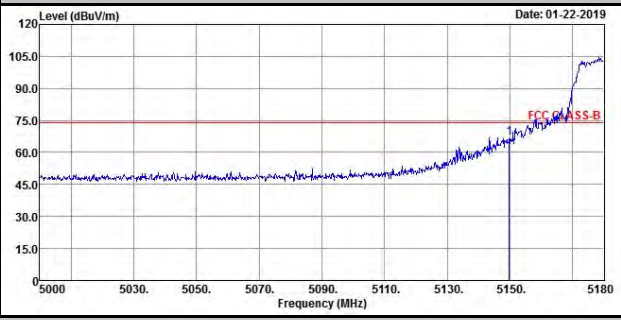
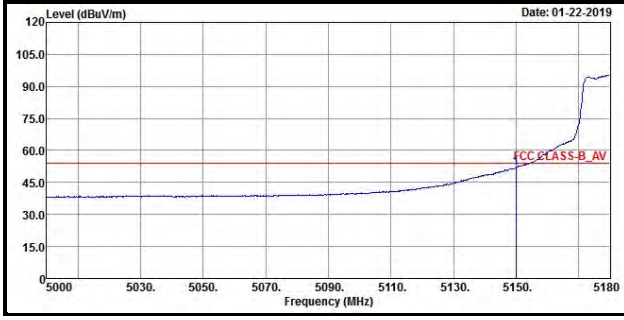
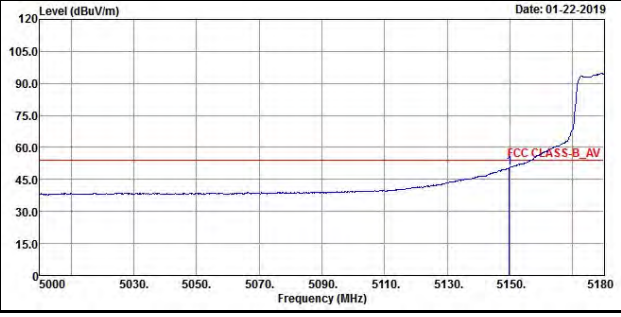


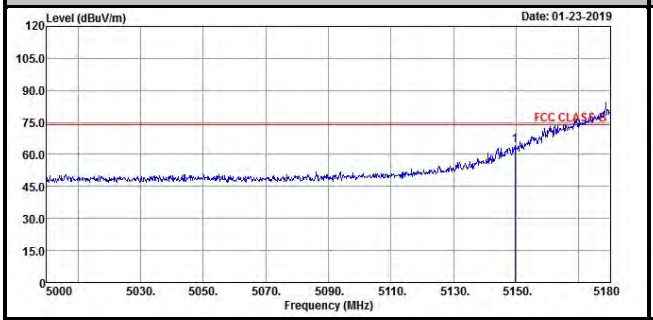
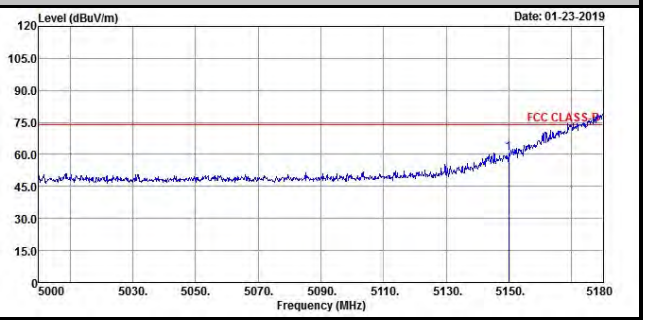
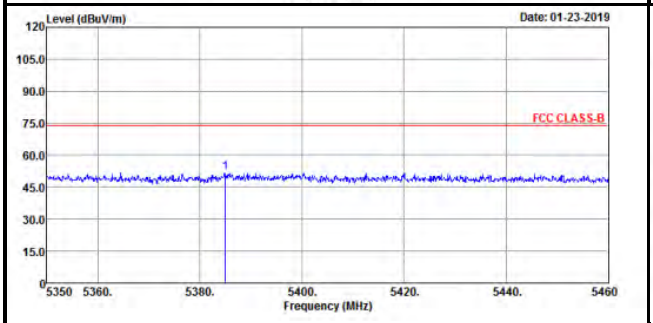
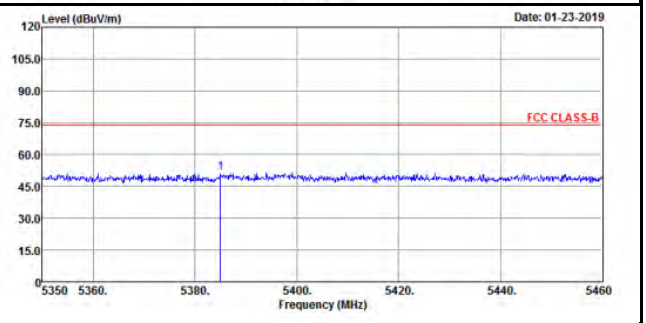
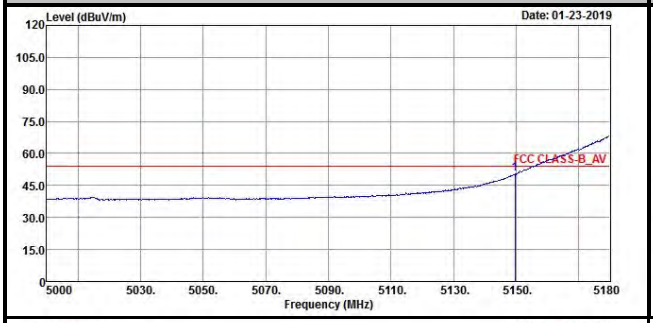
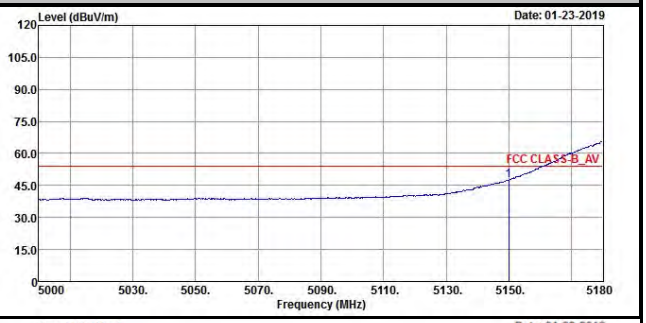
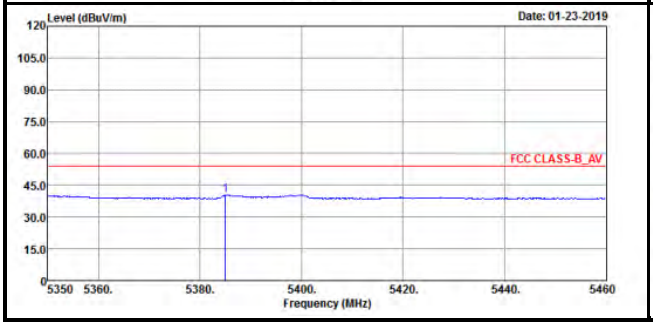
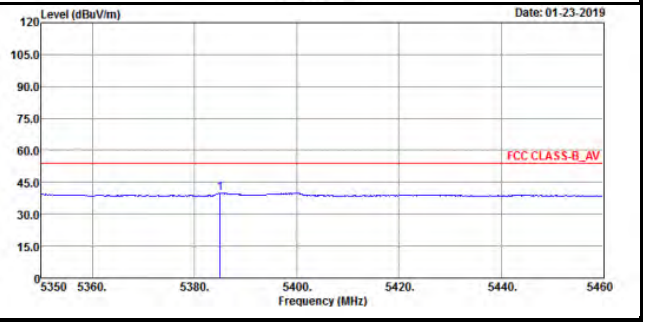
5 Pictures of Test Arrangements

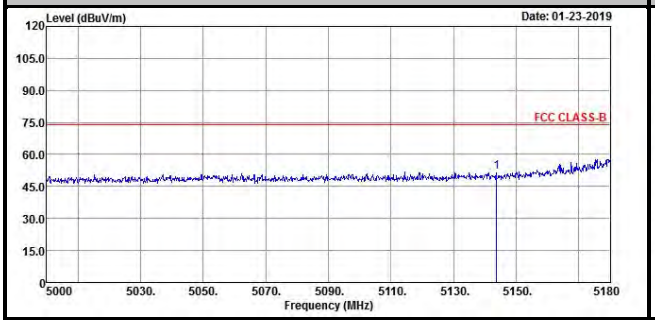
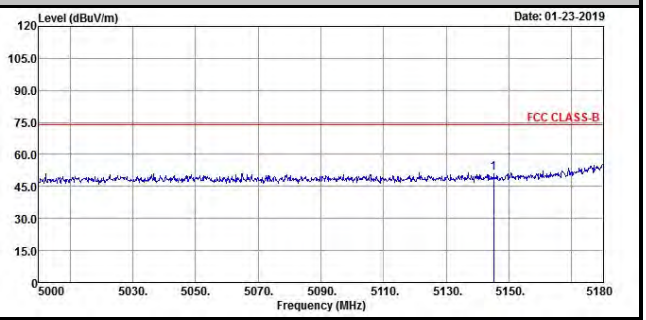
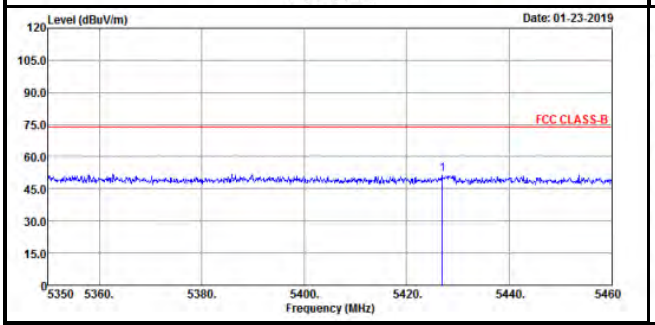
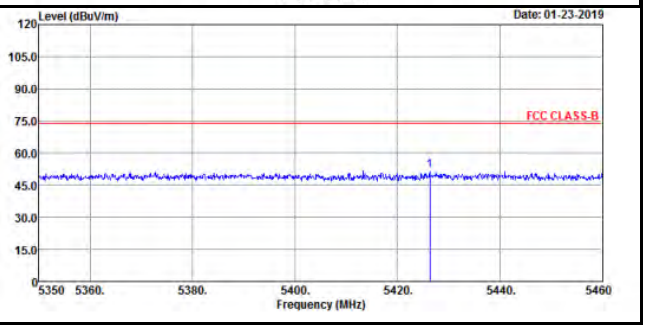
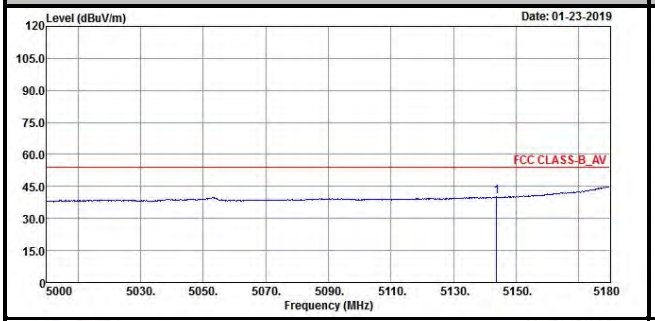
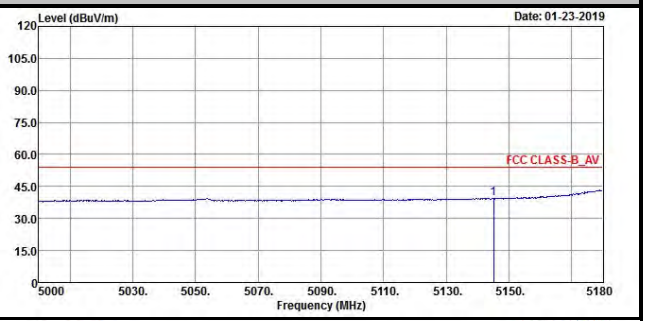
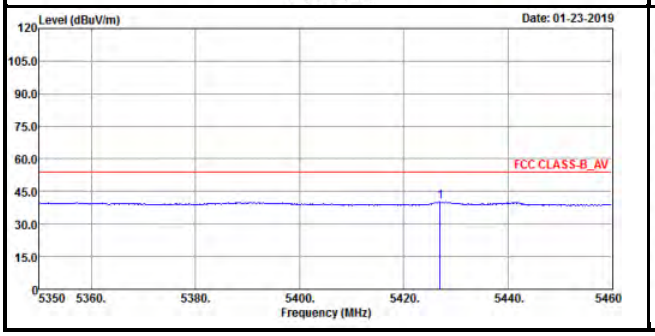
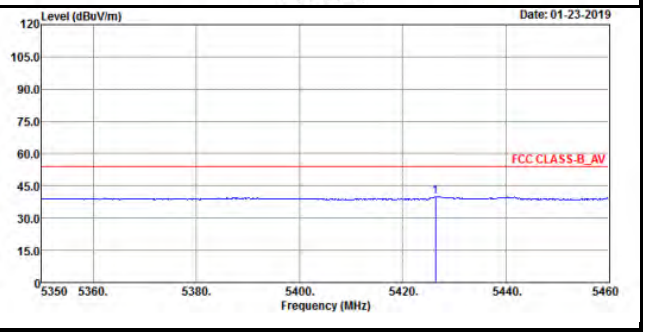
Please refer to the attached file (Test Setup Photo).

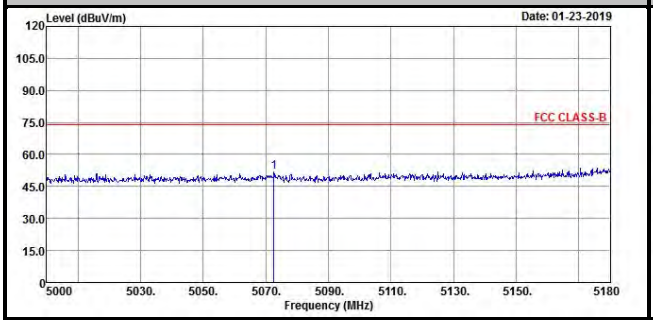
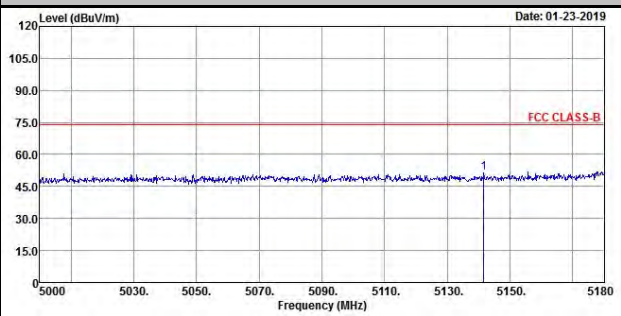
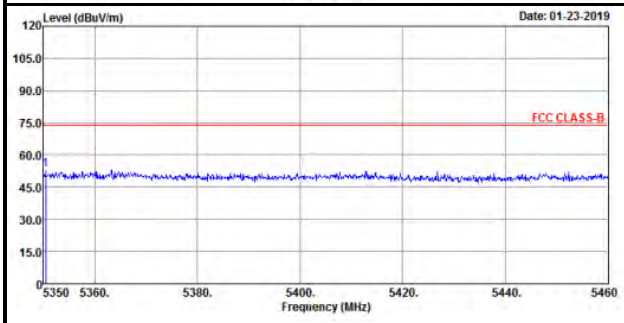
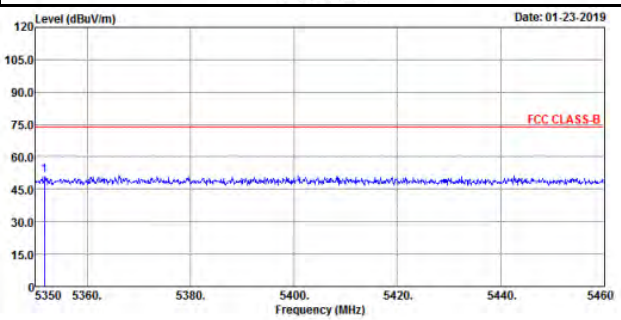
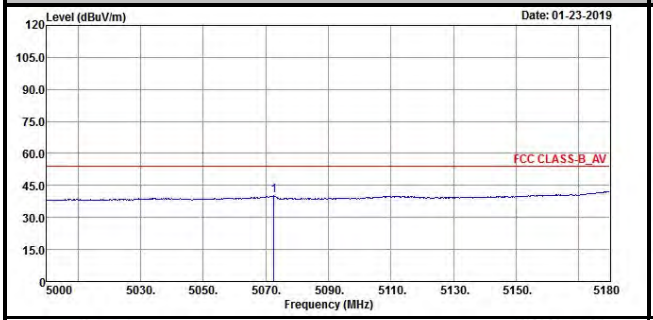
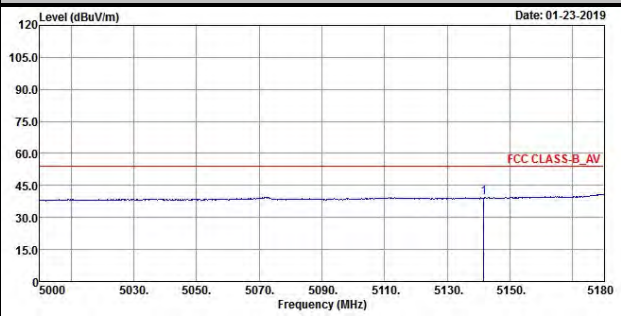
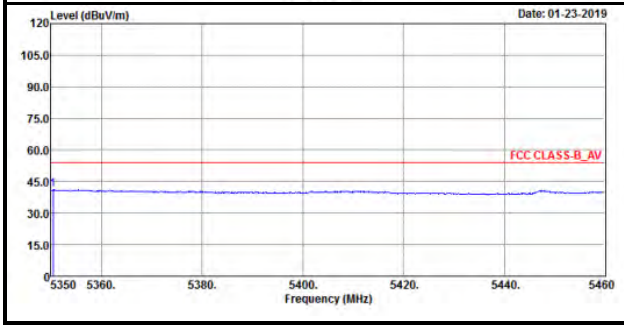
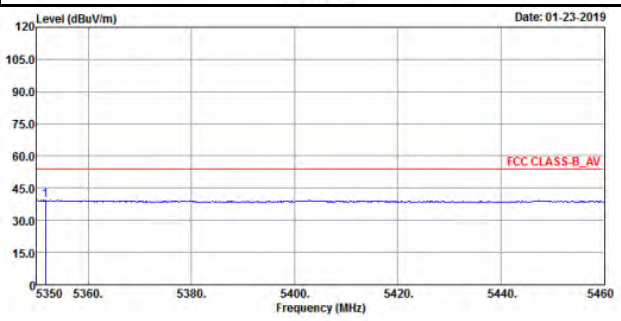
Annex A- Band-edge measurement (For U-NII-1, U-NII-2A, U-NII-2C band)

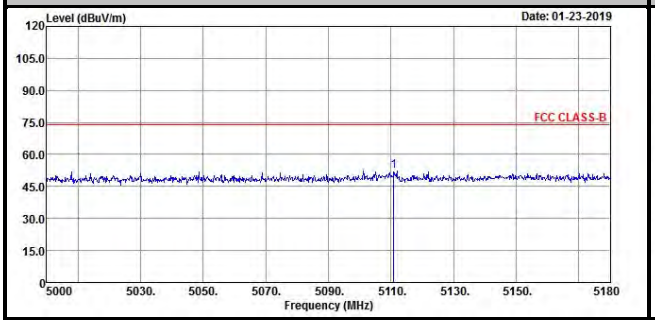
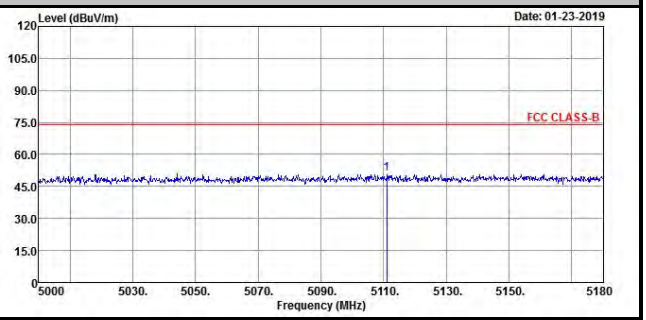
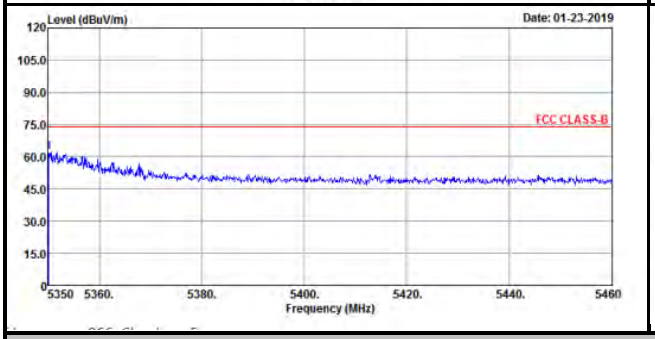
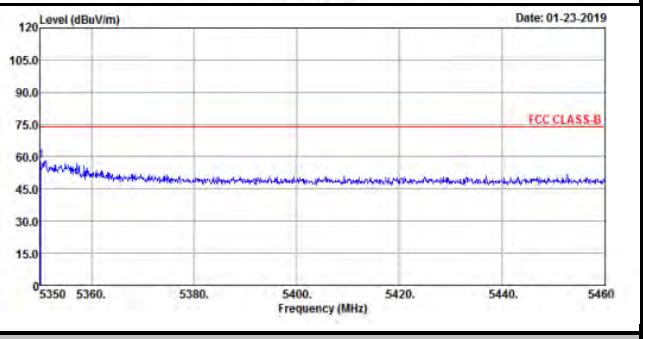
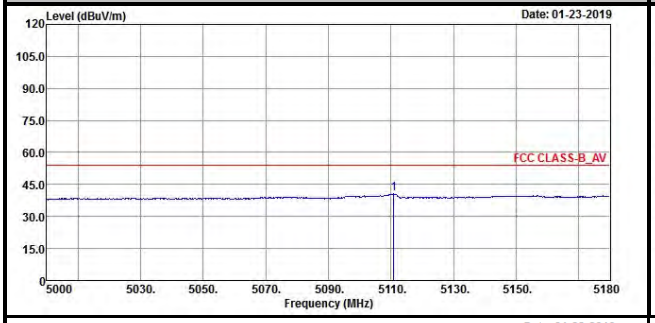
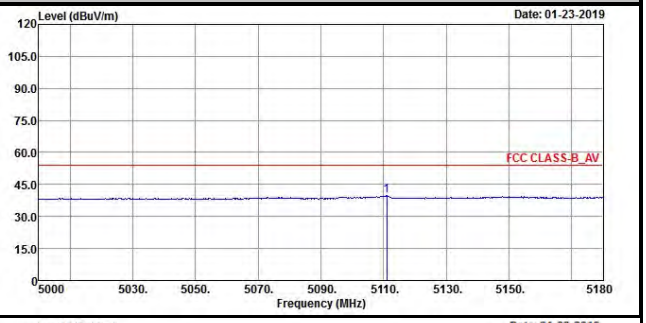
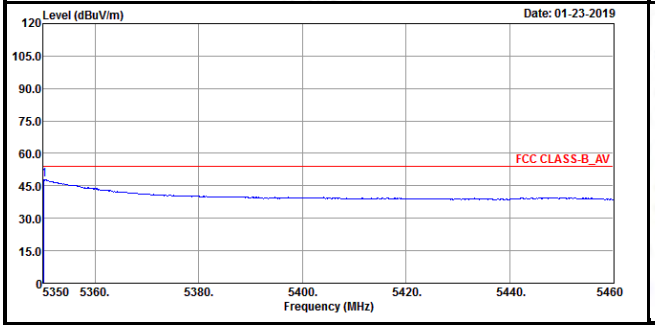
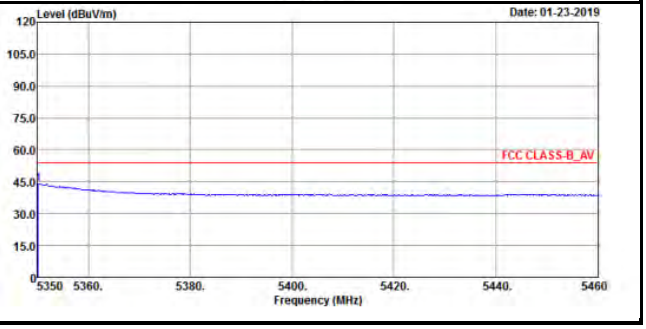
802.11a

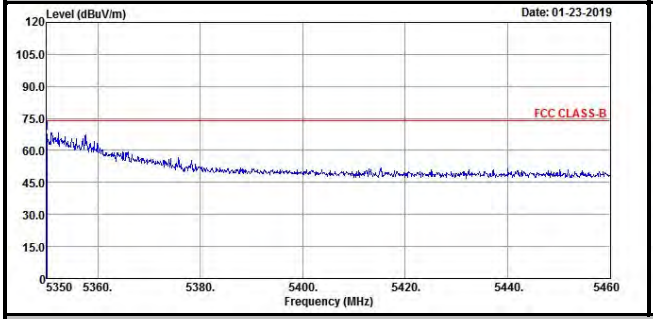
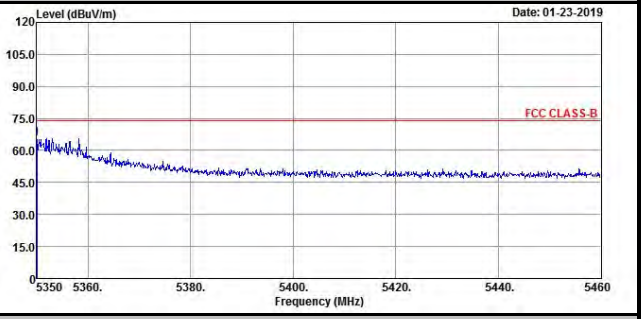
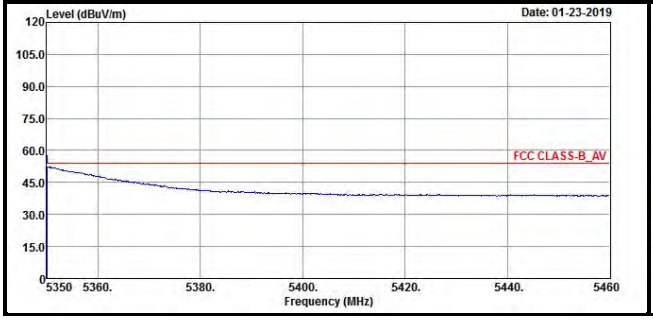
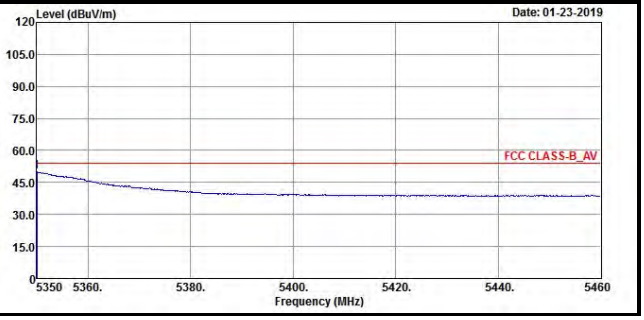
Ch 36	
Peak	
Horizontal	Vertical
	
Average	
Horizontal	Vertical
	

Ch 40	
Peak	
Horizontal	Vertical
	
	
Average	
Horizontal	Vertical
	
	

Ch 48	
Peak	
Horizontal	Vertical
	
	
Average	
Horizontal	Vertical
	
	

Ch 52	
Peak	
Horizontal	Vertical
	
	
Average	
Horizontal	Vertical
	
	

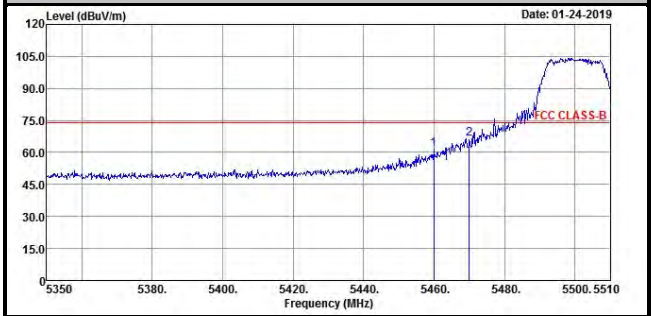
Ch 60	
Peak	
Horizontal	Vertical
	
	
Average	
Horizontal	Vertical
	
	

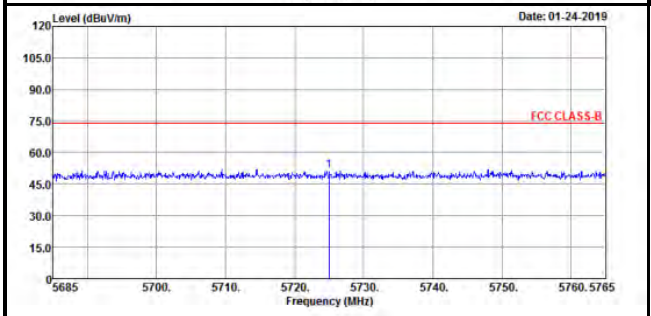
Ch 64	
Peak	
Horizontal	**Vertical**
	
Average	
Horizontal	**Vertical**
	

Ch 100

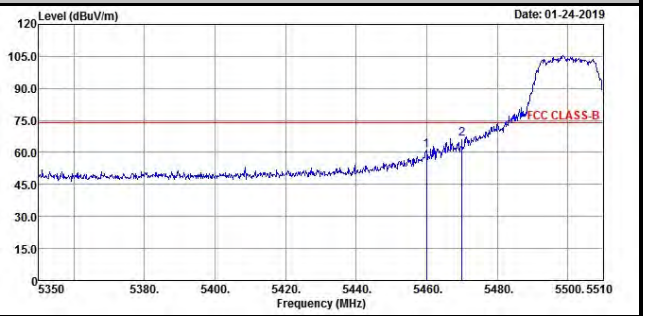
Peak

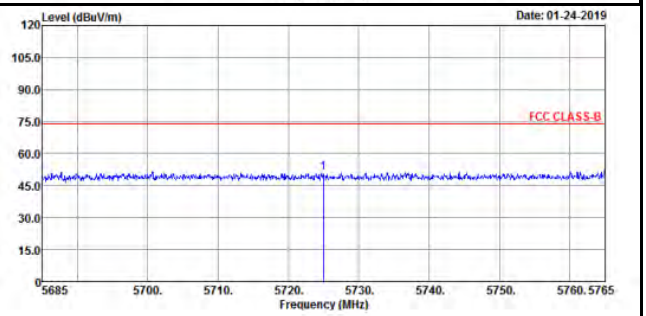
Horizontal





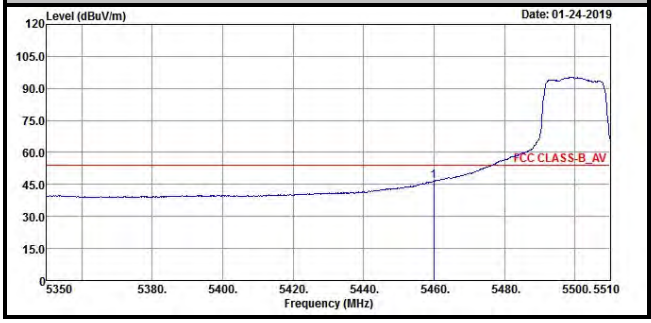
Vertical



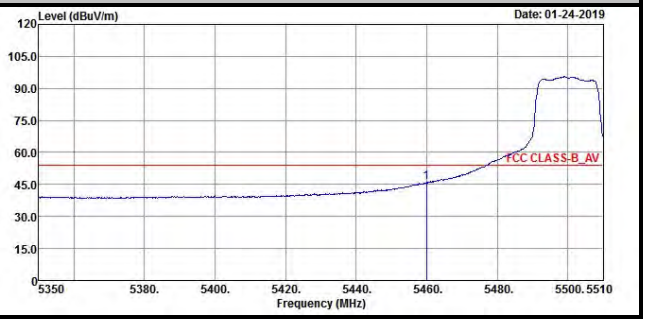


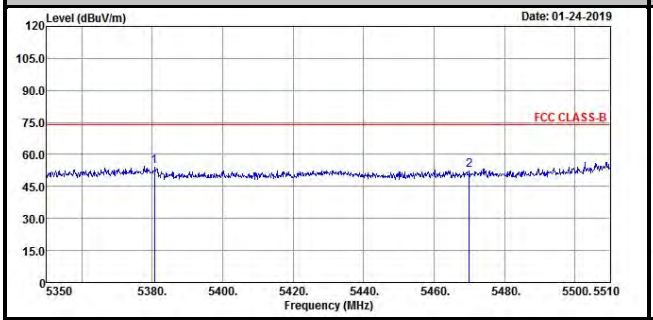
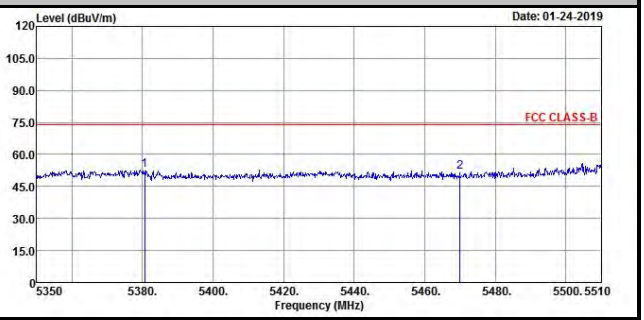
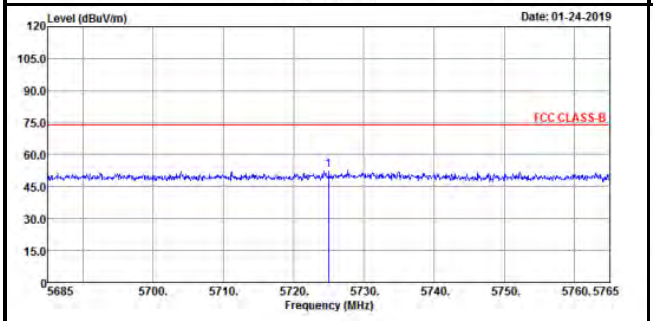
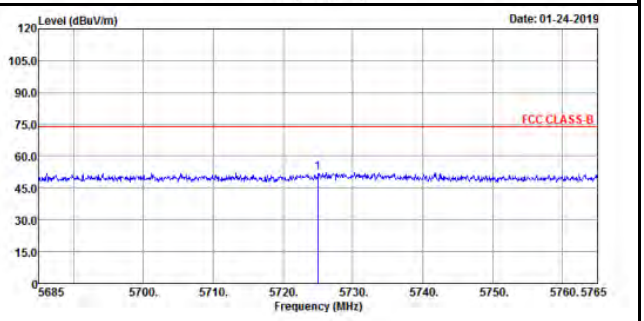
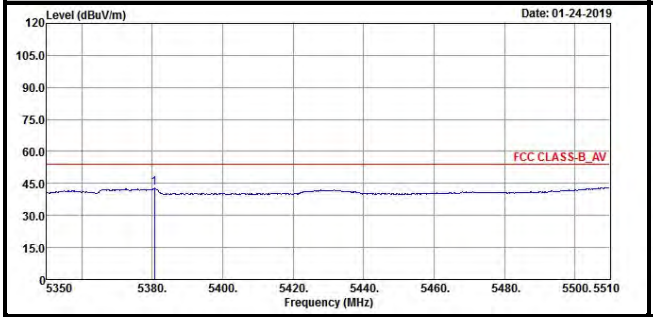
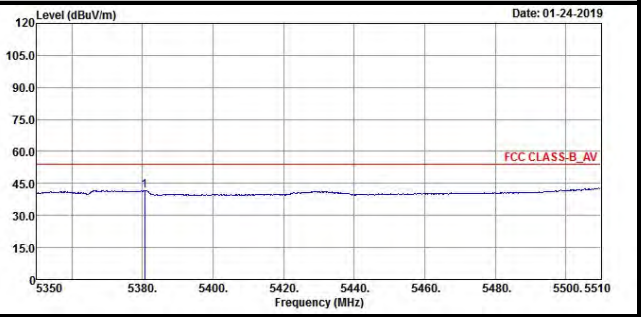
Average

Horizontal



Vertical

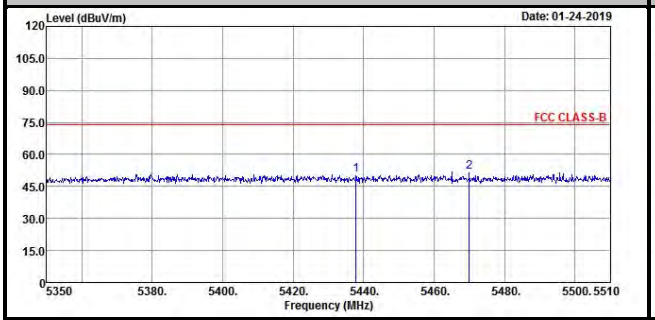


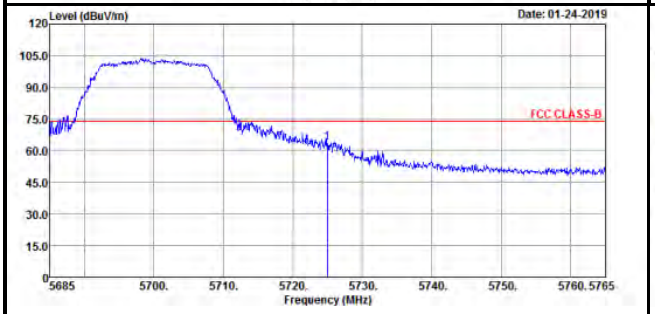
Ch 116	
Peak	
Horizontal	Vertical
	
	
Average	
Horizontal	Vertical
	

Ch 140

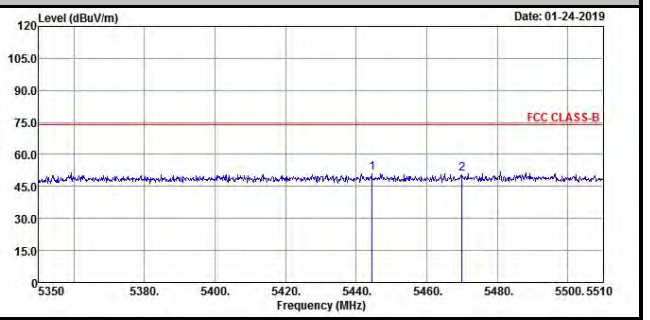
Peak

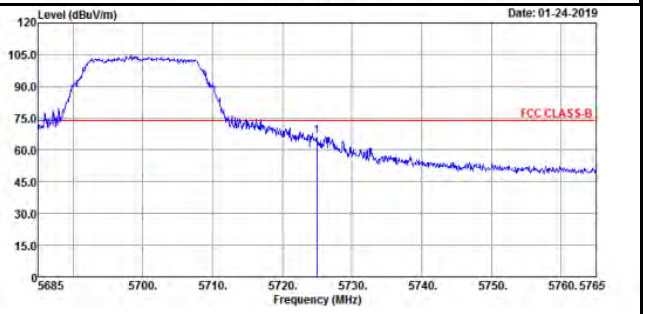
Horizontal





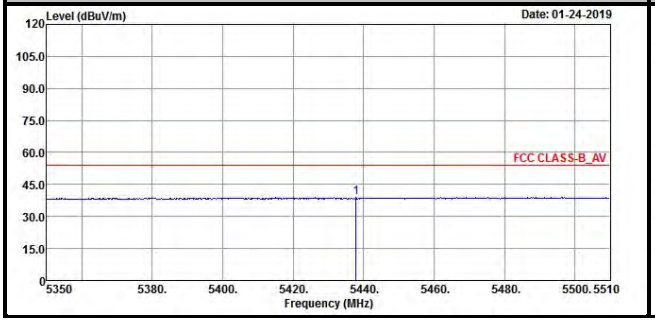
Vertical



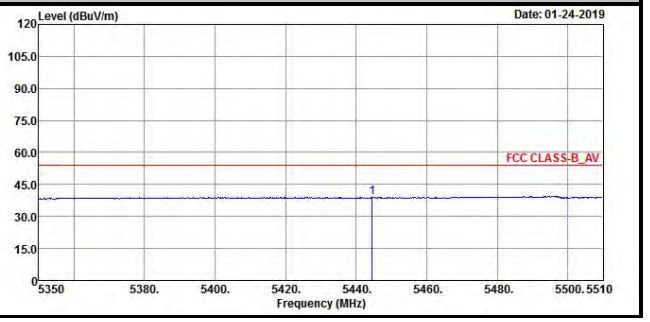


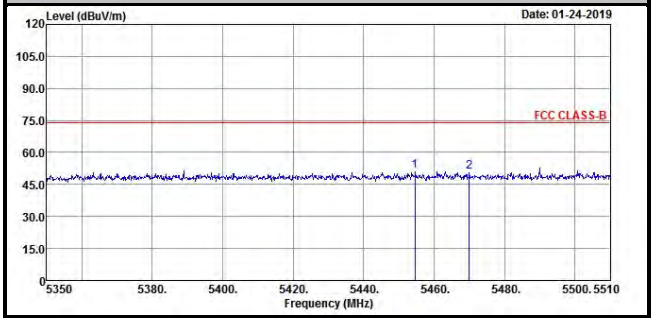
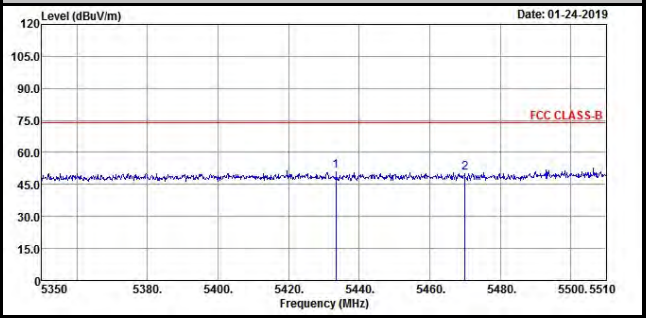
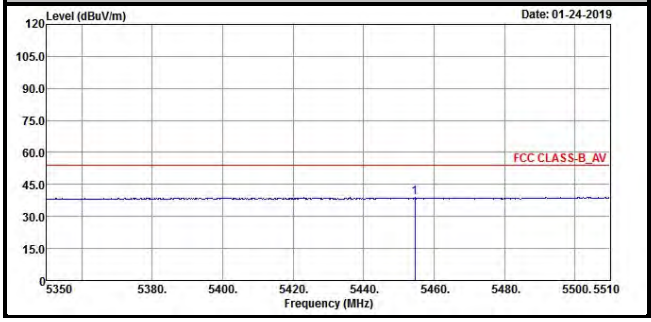
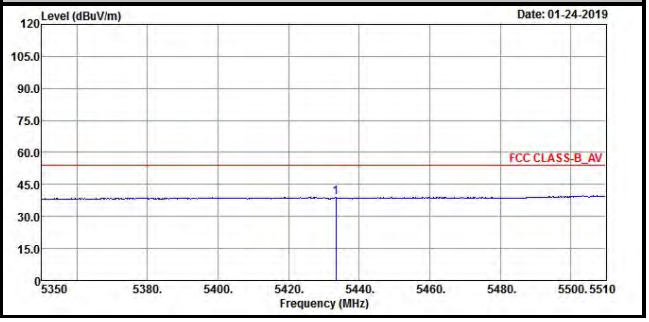
Average

Horizontal

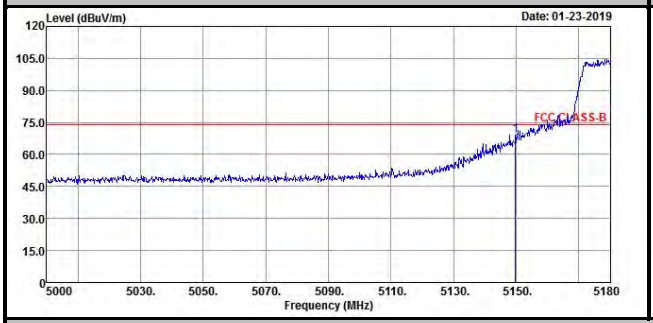
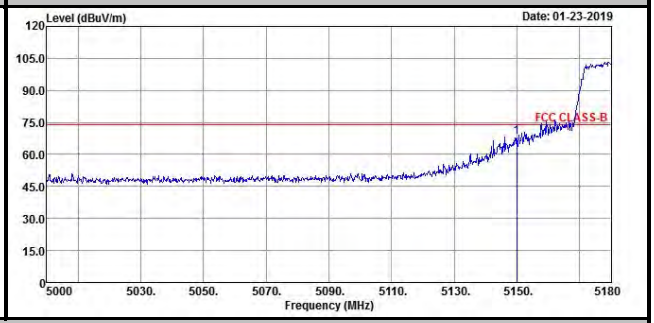
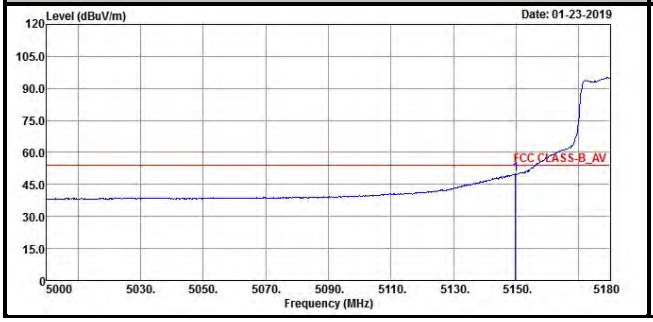
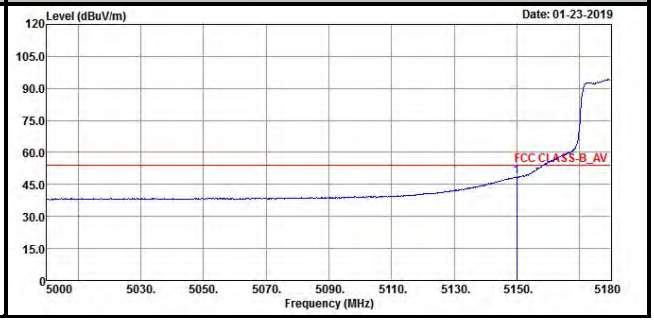


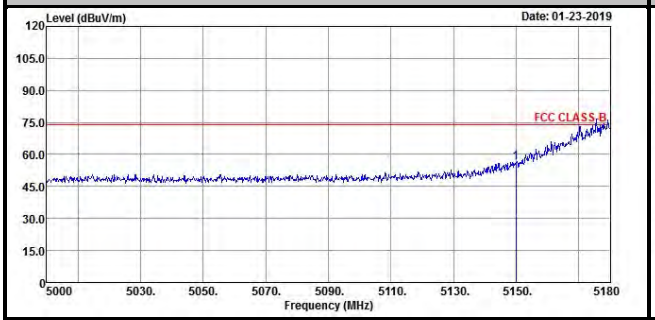
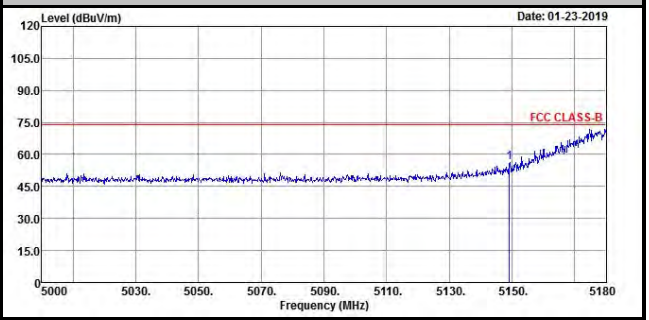
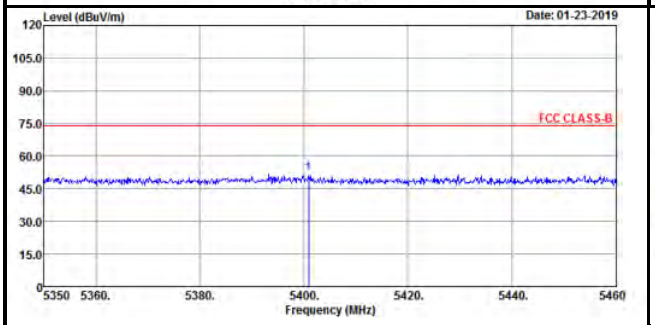
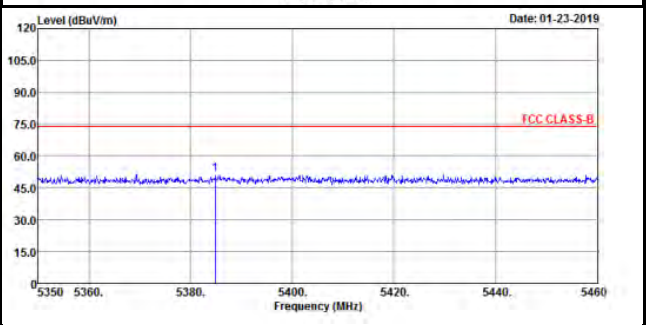
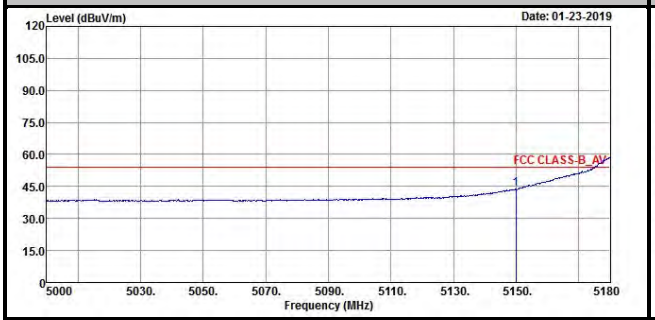
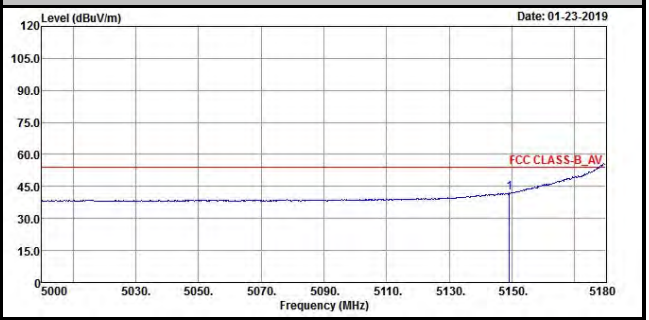
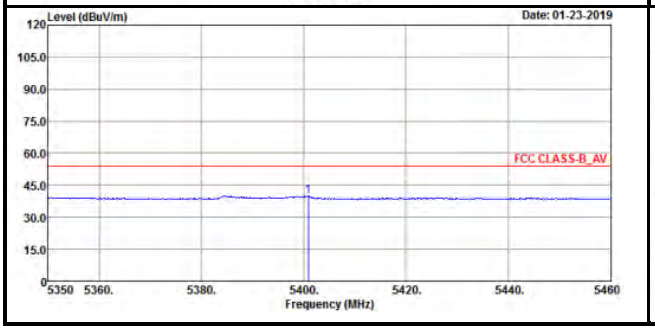
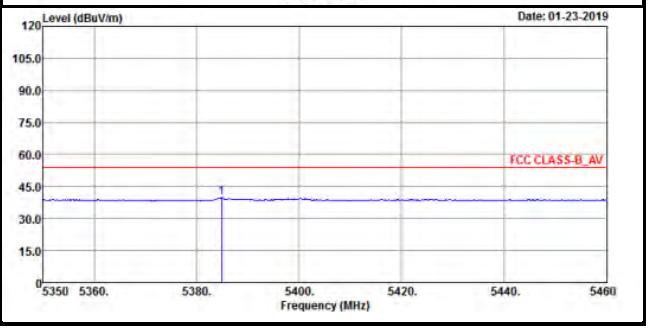
Vertical

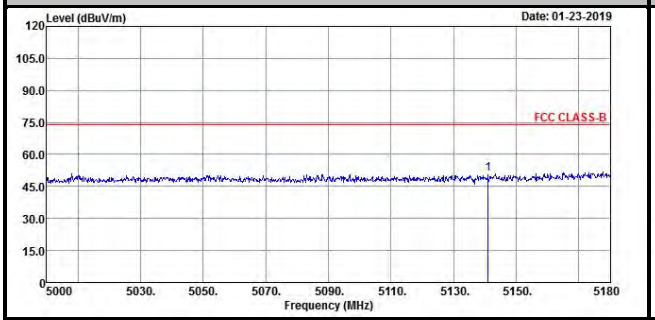
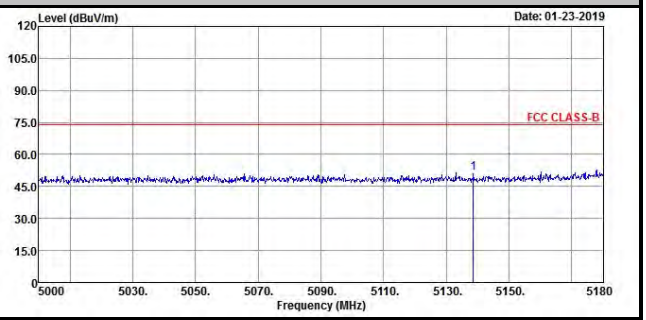
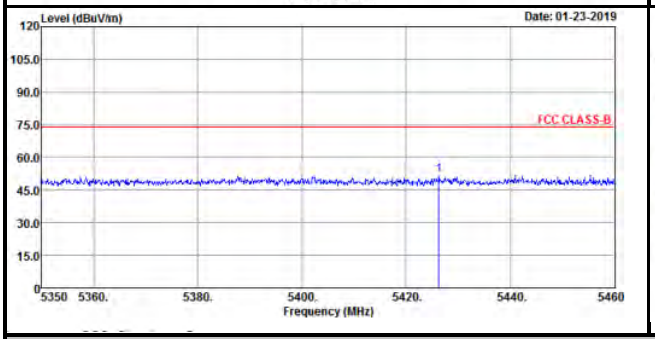
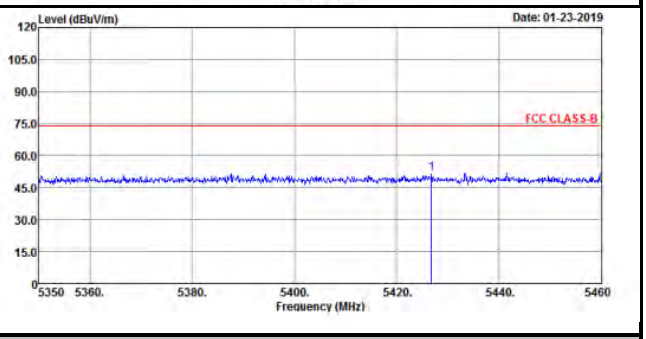
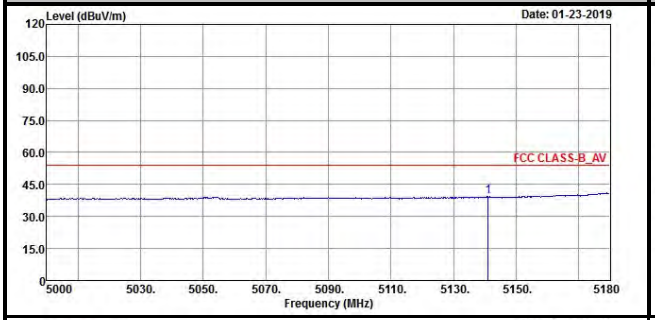
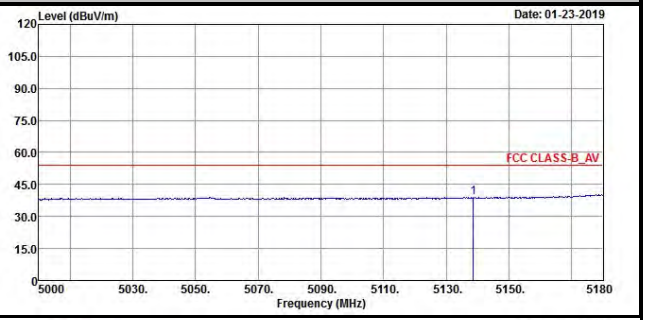
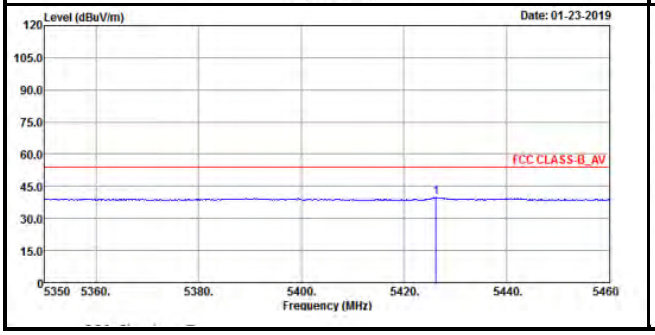
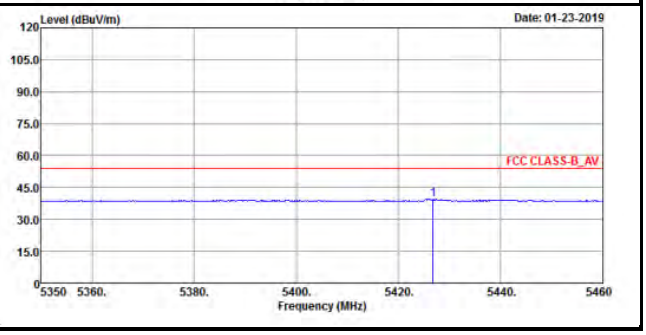


Ch 144	
Peak	
Horizontal	**Vertical**
	
Average	
Horizontal	**Vertical**
	

802.11n (HT20)

Ch 36	
Peak	
Horizontal	Vertical
	
Average	
Horizontal	Vertical
	

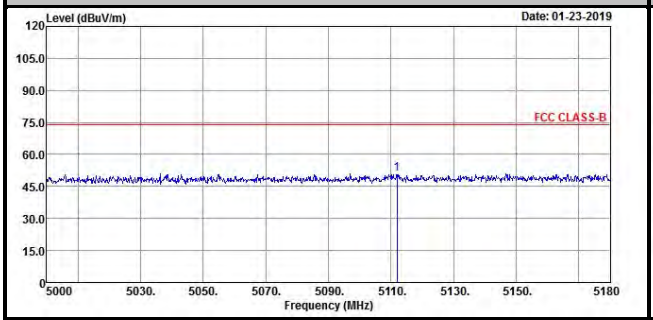
Ch 40	
Peak	
Horizontal	Vertical
	
	
Average	
Horizontal	Vertical
	
	

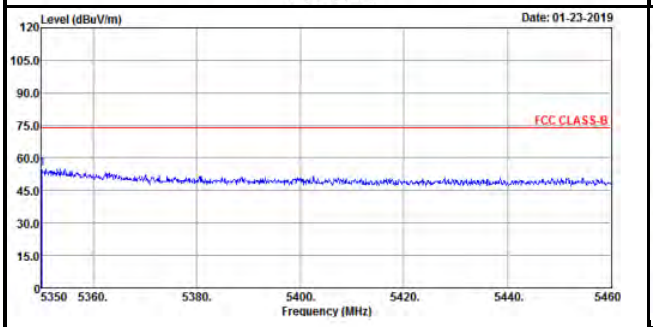
Ch 48	
Peak	
Horizontal	Vertical
	
	
Average	
Horizontal	Vertical
	
	

Ch 52

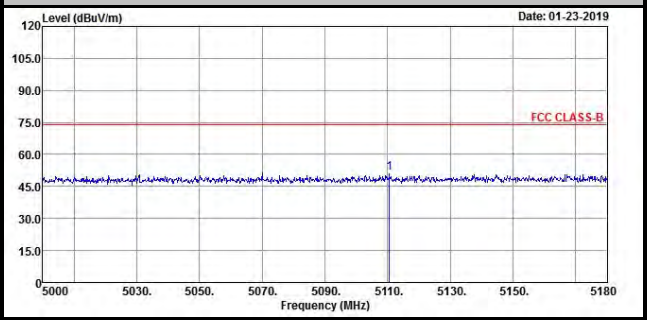
Peak

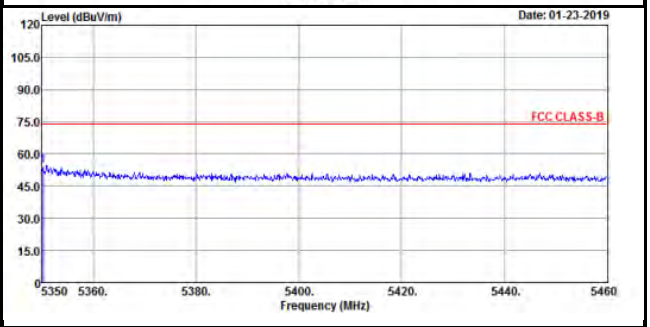
Horizontal





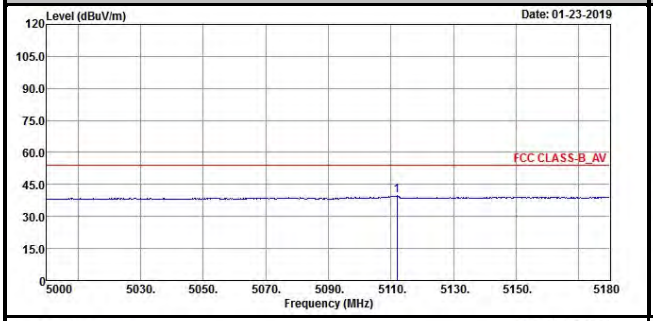
Vertical

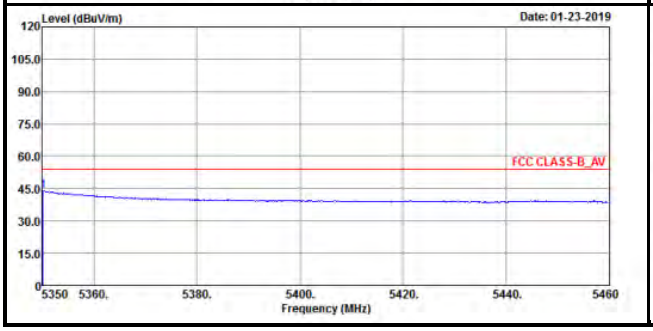




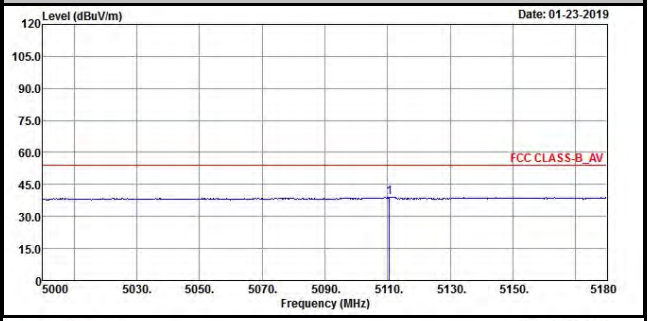
Average

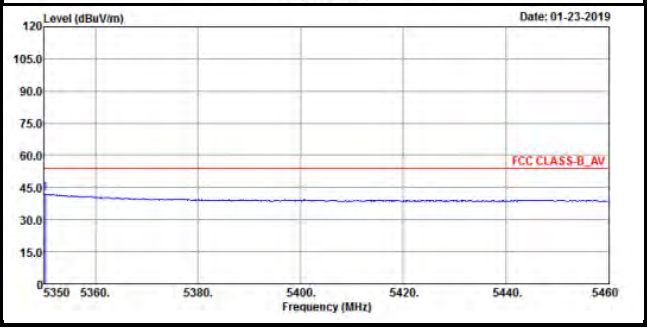
Horizontal

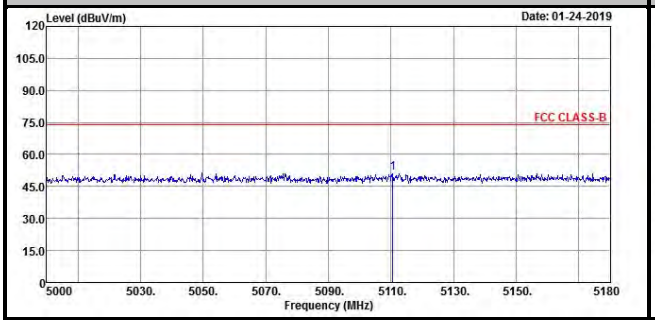
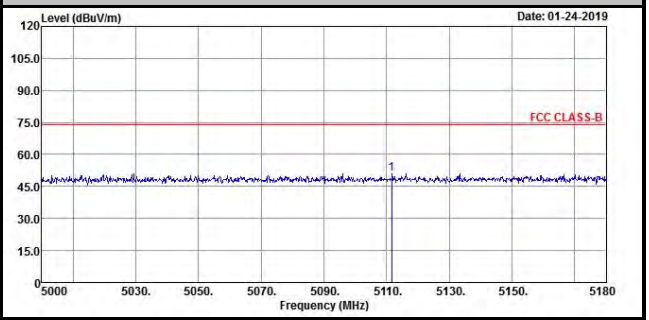
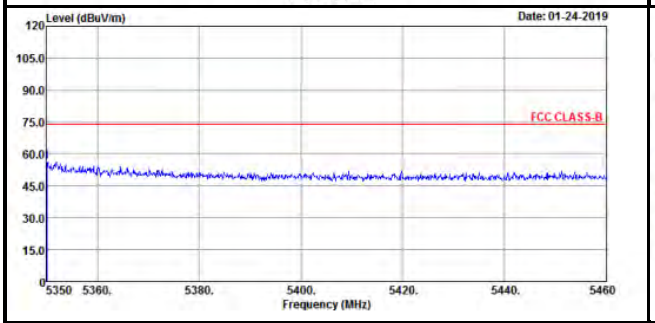
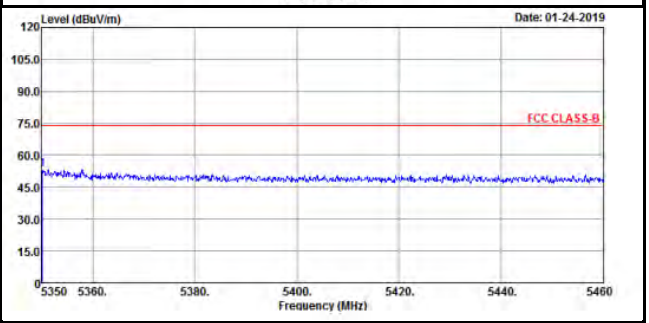




Vertical





Ch 60	
Peak	
Horizontal	Vertical
	
	
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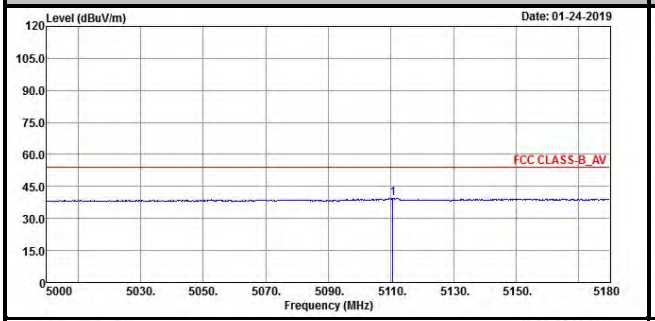
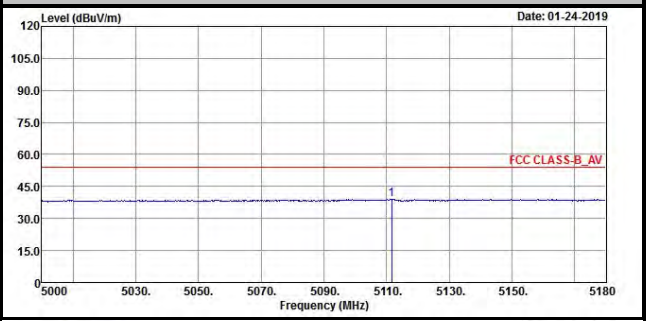
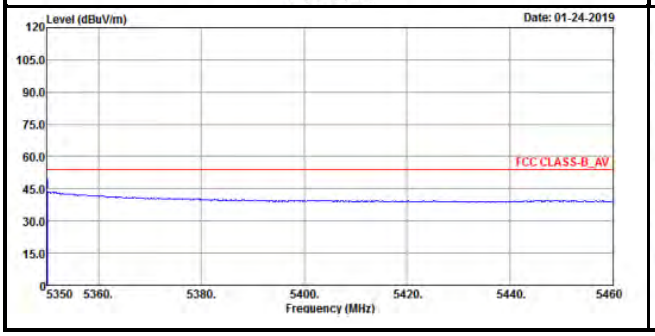
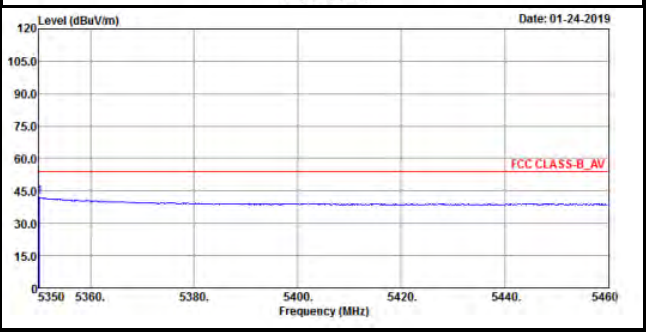
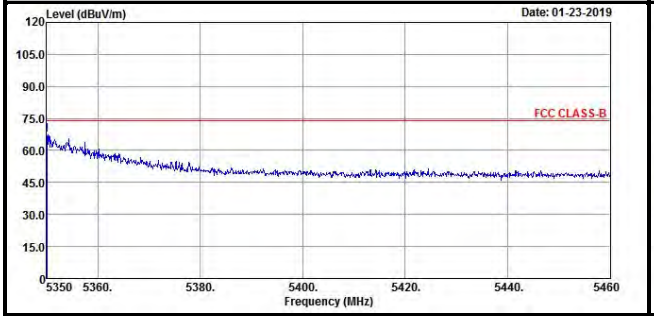
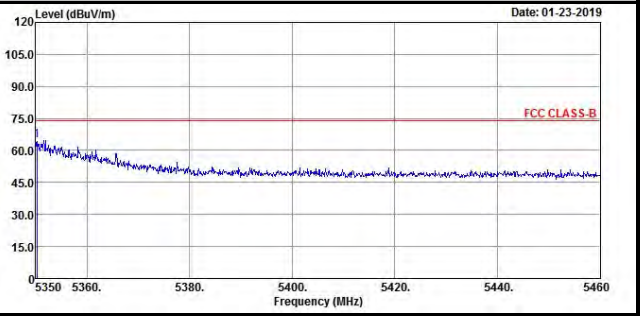
Horizontal	Vertical
	
	

Ch 64	
Peak	
Horizontal	Vertical
	
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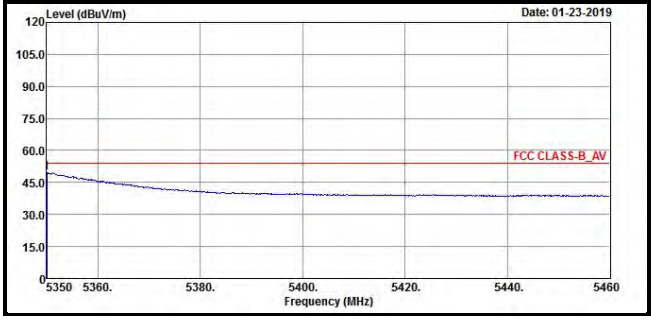
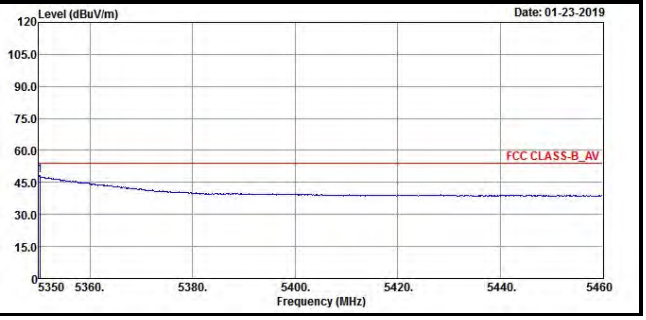
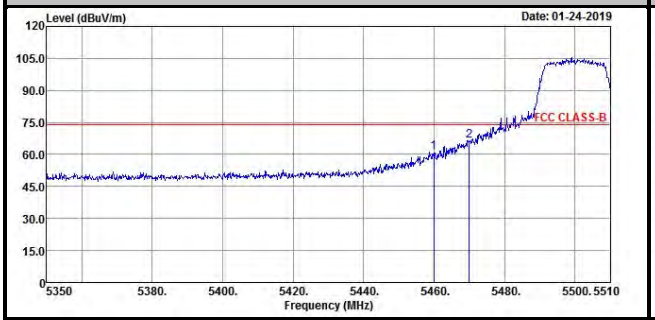
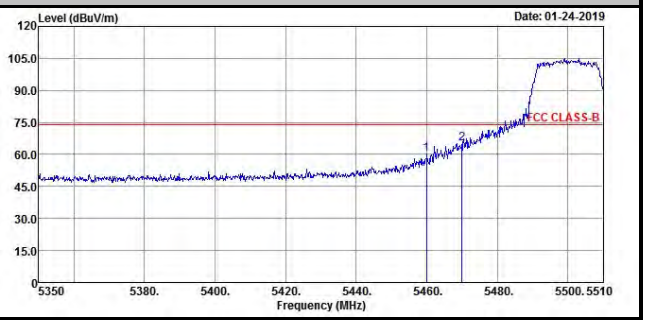
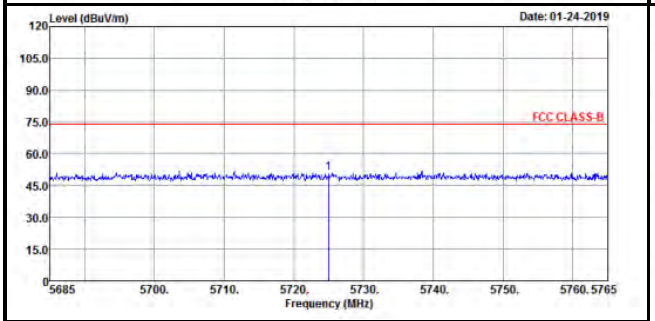
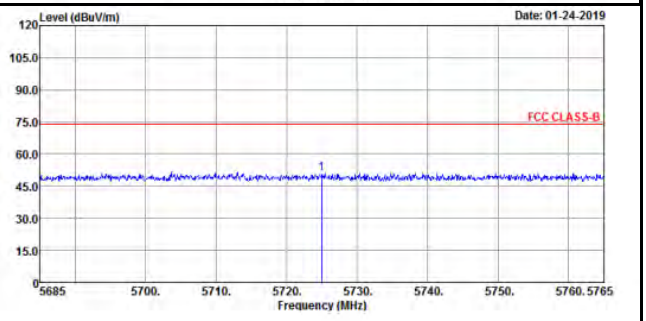
Horizontal	Vertical
	

Ch 100	
Peak	
Horizontal	Vertical
	
	
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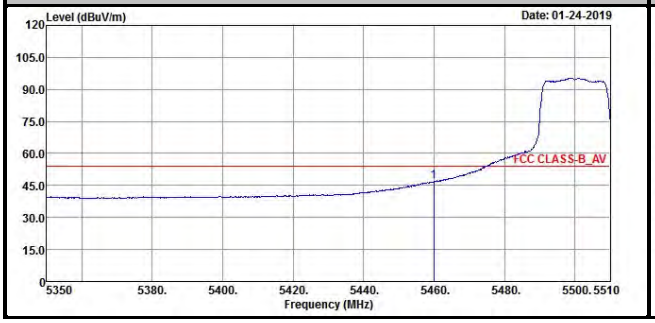
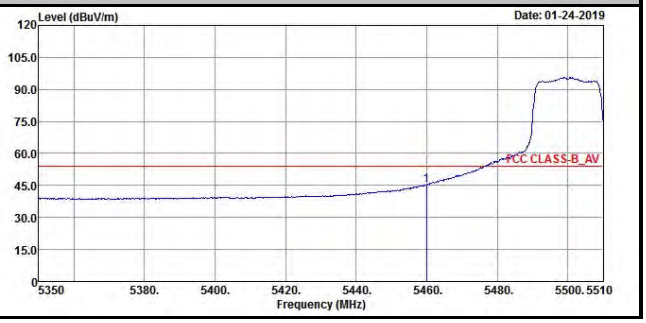
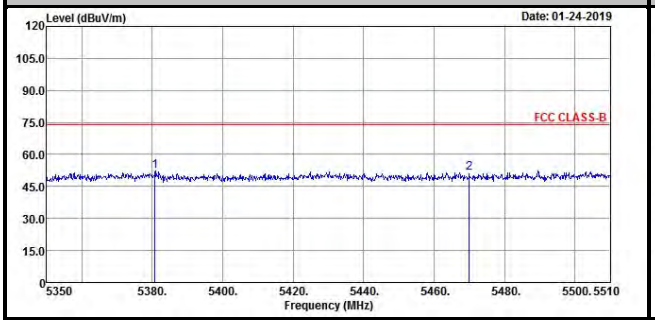
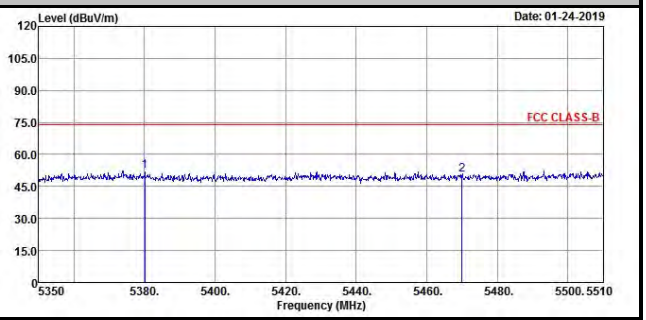
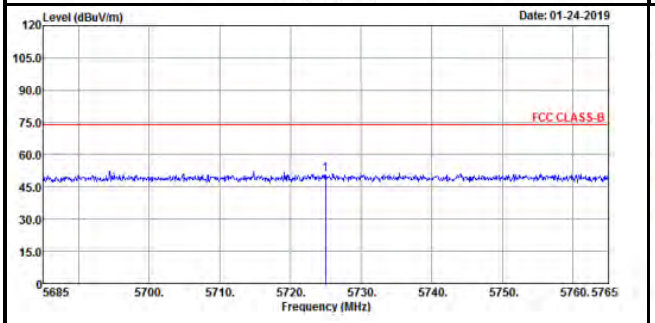
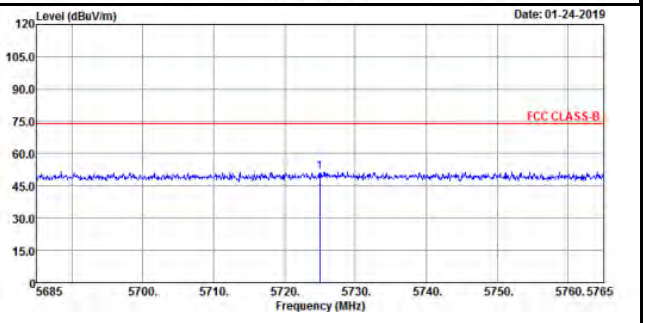
Horizontal	Vertical
	

Ch 116	
Peak	
Horizontal	Vertical
	
	
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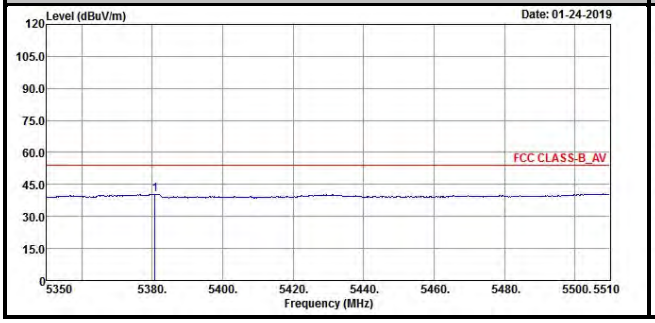
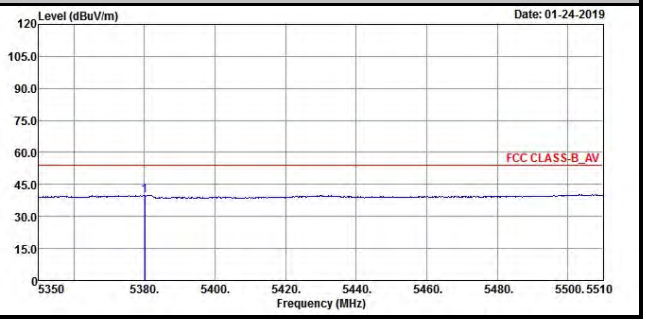
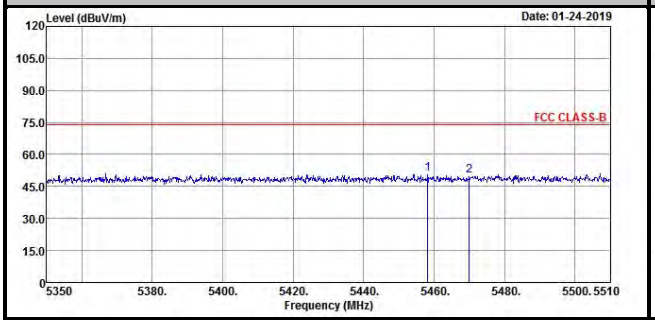
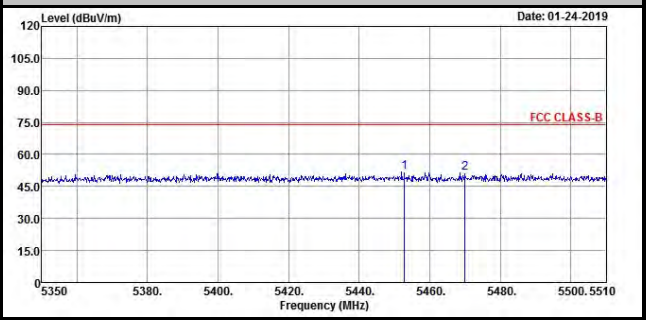
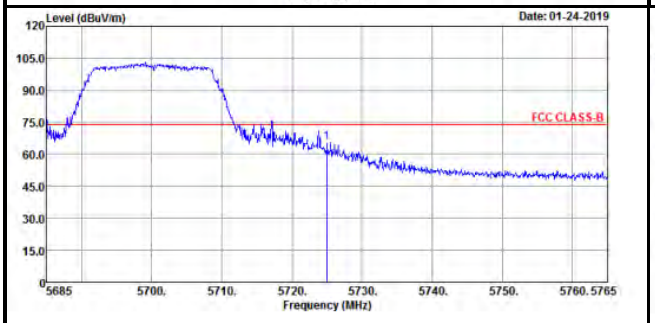
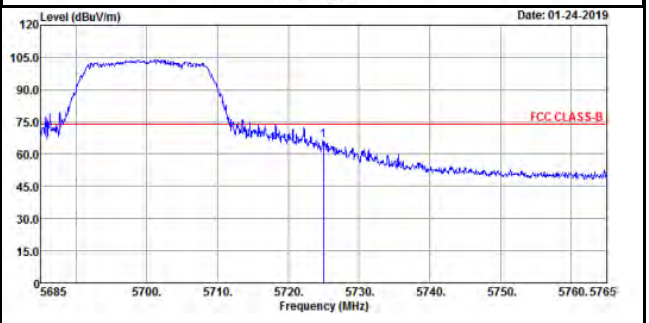
Horizontal	Vertical
	

Ch 140	
Peak	
Horizontal	Vertical
	
	
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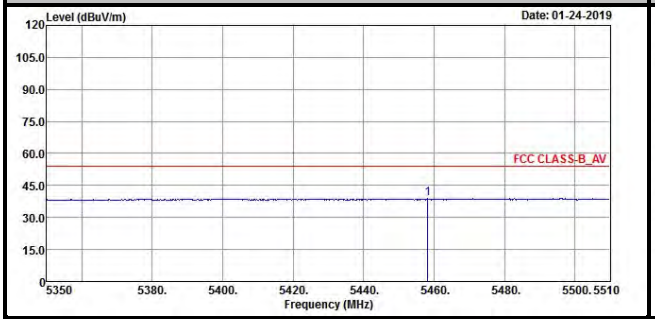
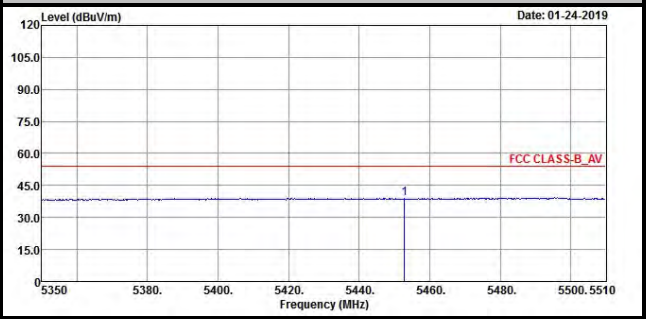
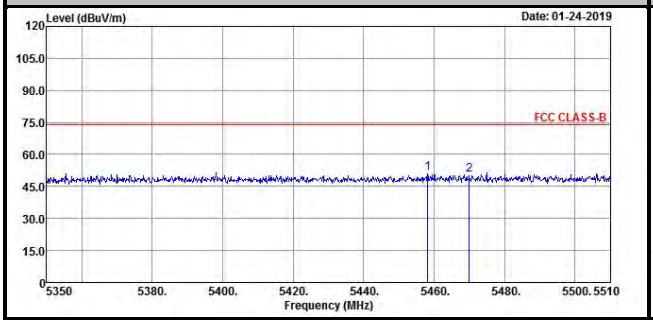
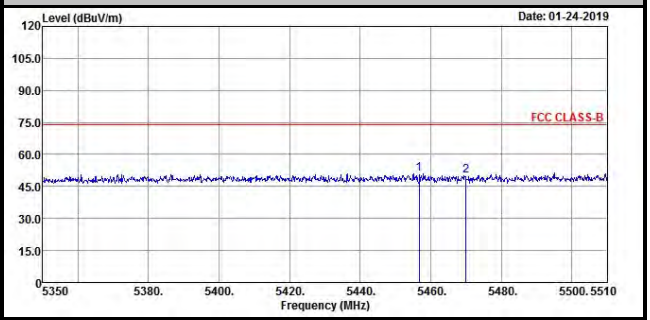
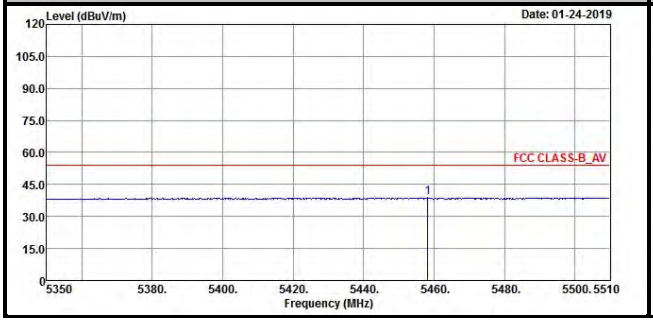
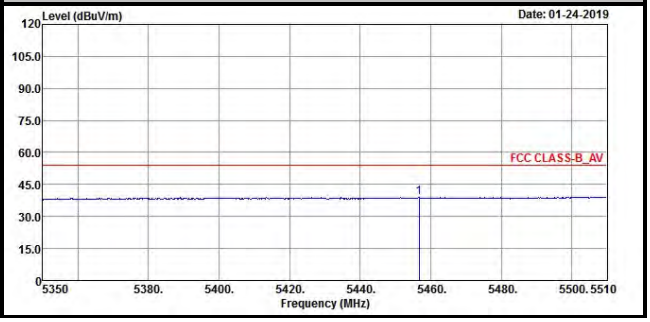
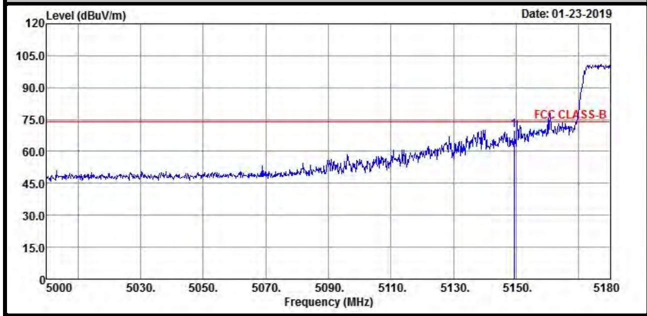
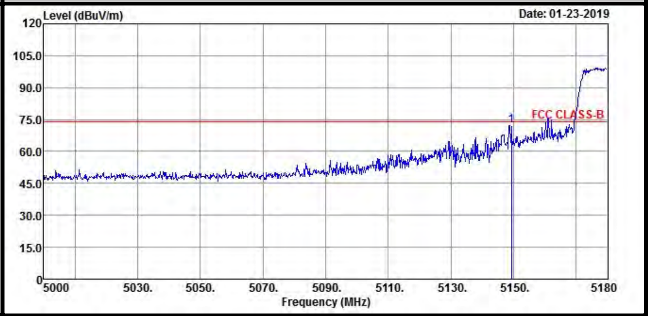
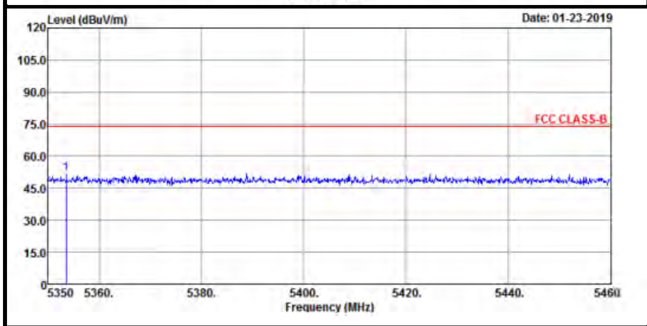
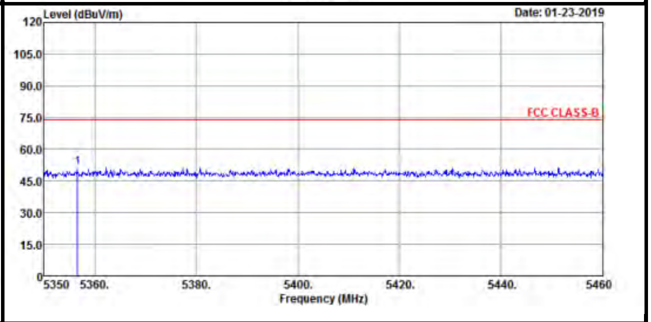
Horizontal	Vertical
	

Ch 144	
Peak	
Horizontal	Vertical
	
Average	
Horizontal	Vertical
	

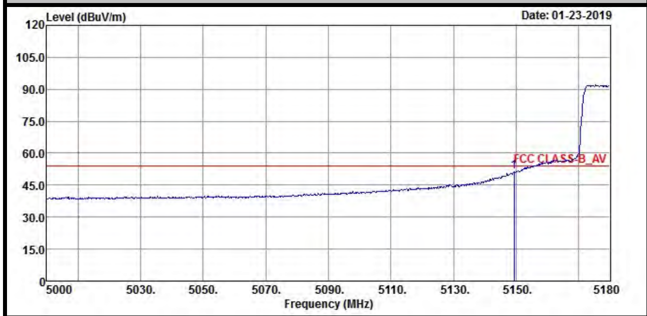
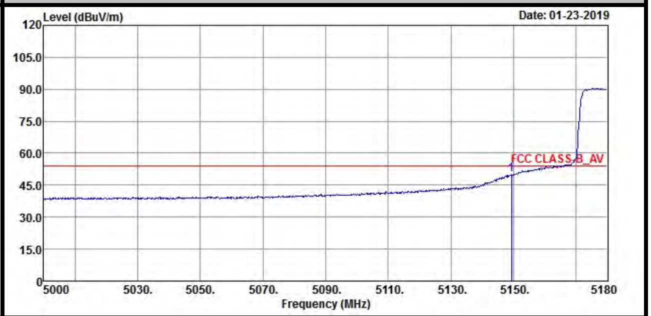
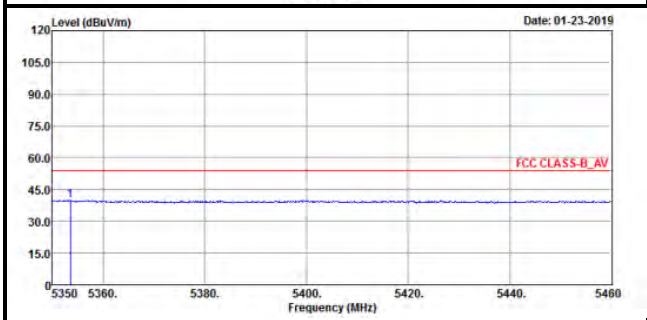
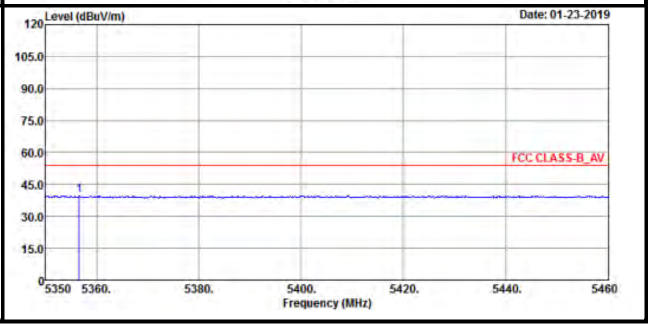
802.11n (HT40)

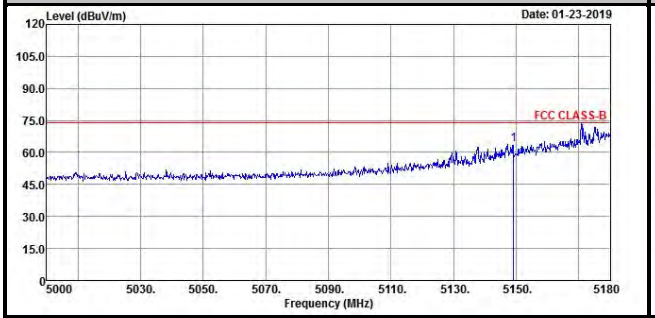
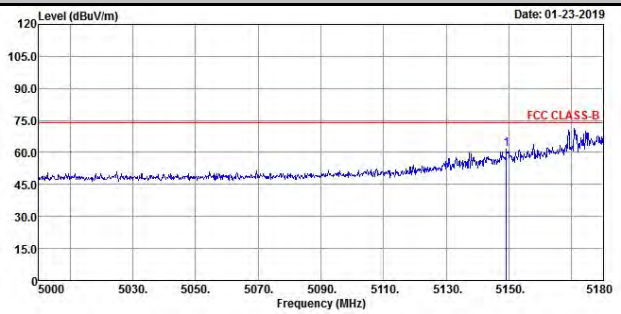
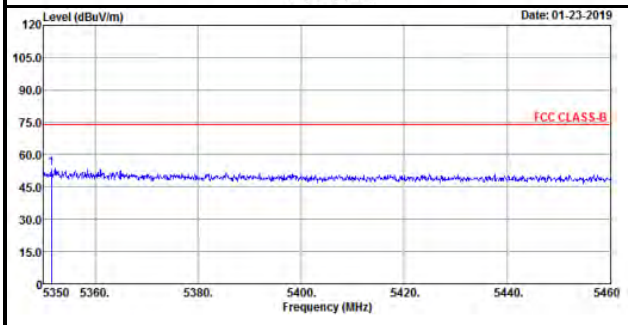
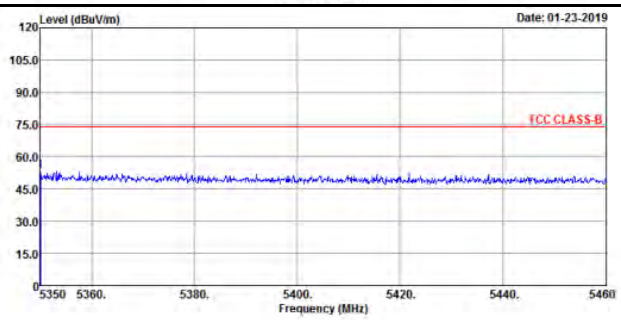
Ch 38

Peak

Horizontal	Vertical
	
	

Average

Horizontal	Vertical
	
	

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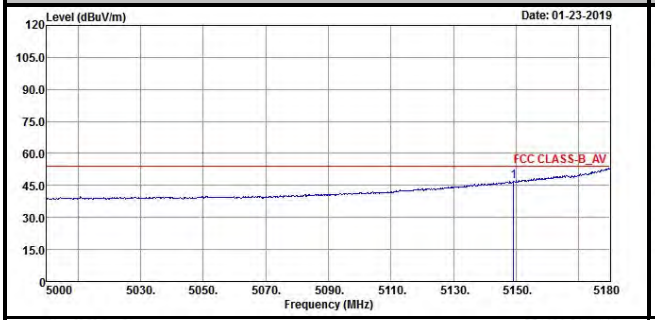
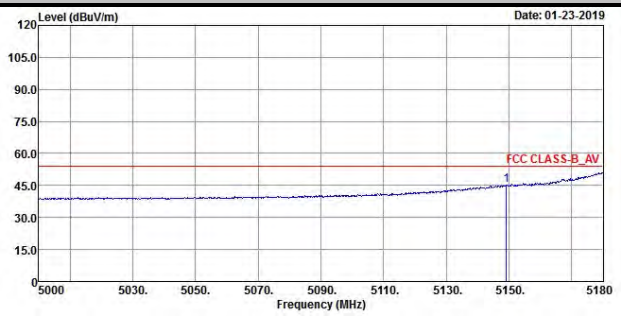
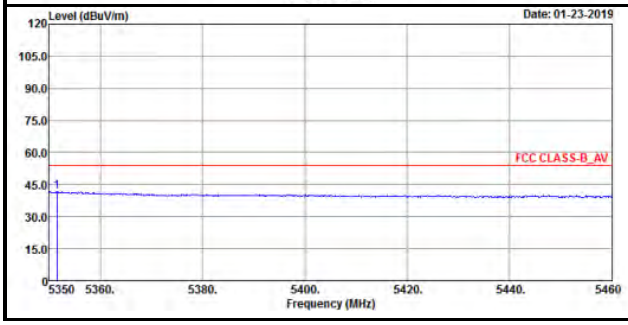
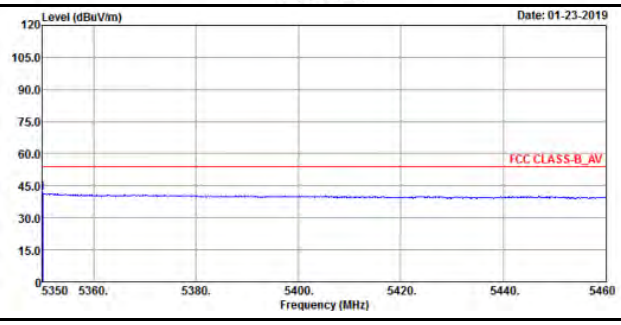
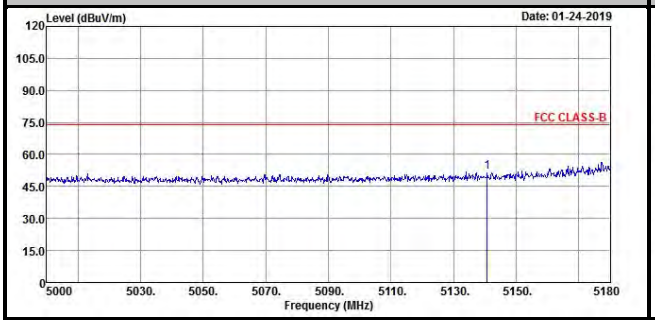
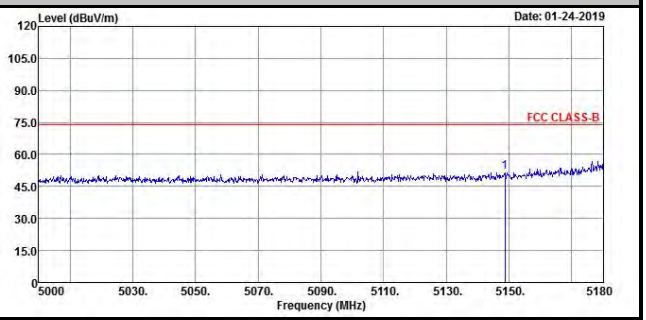
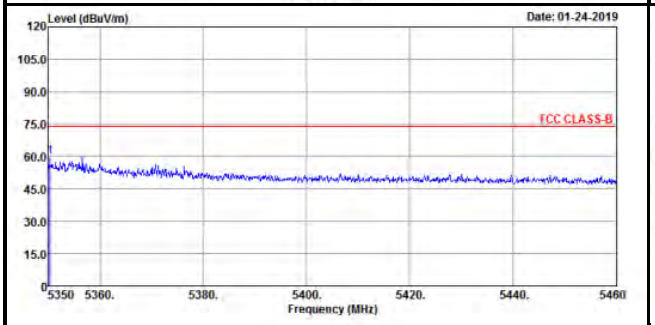
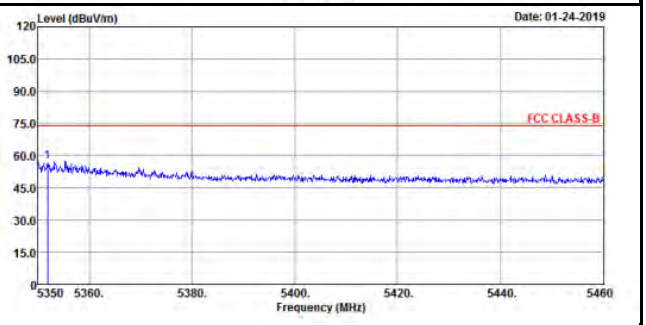
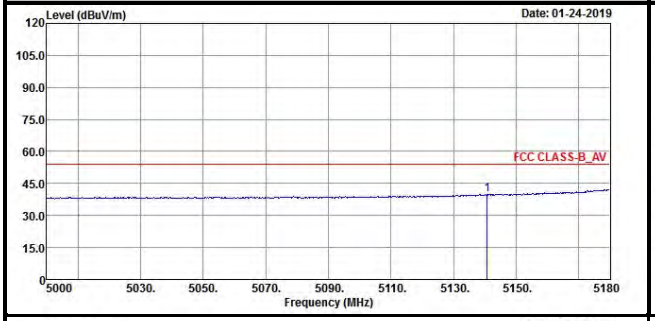
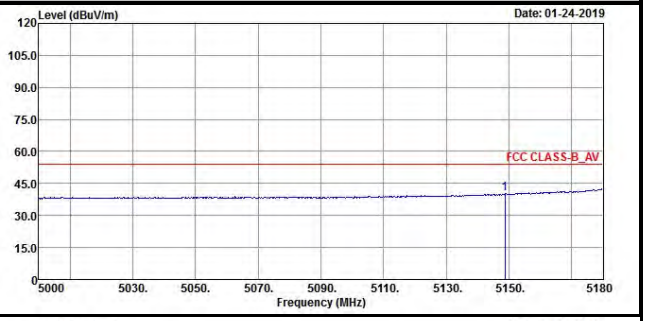
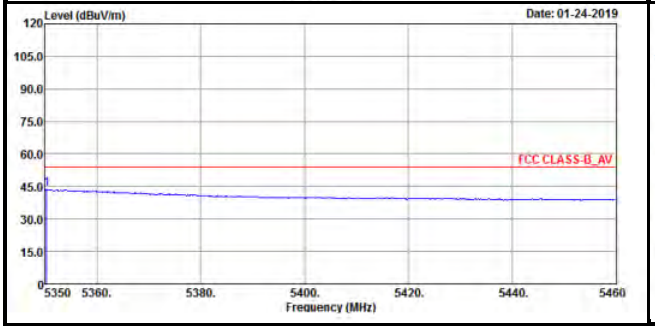
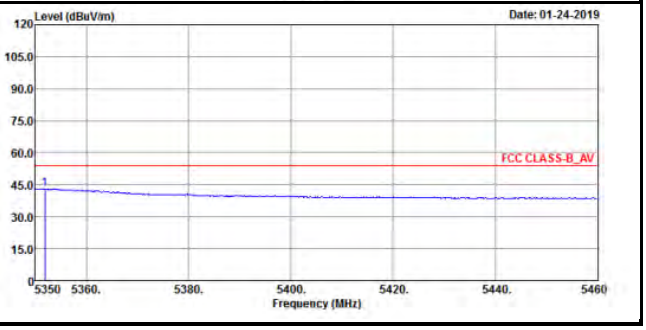
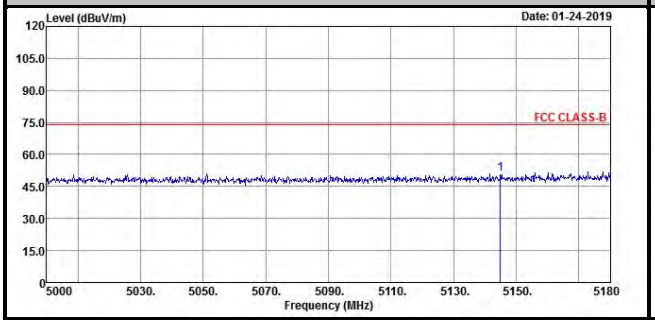
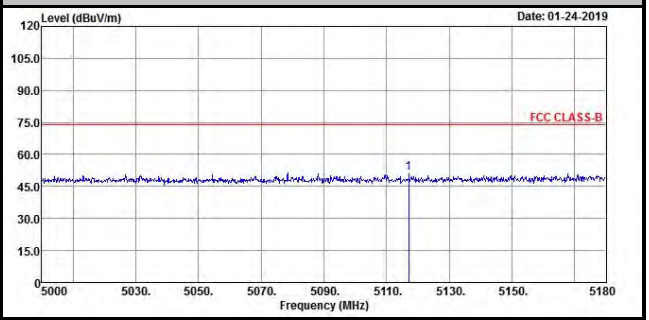
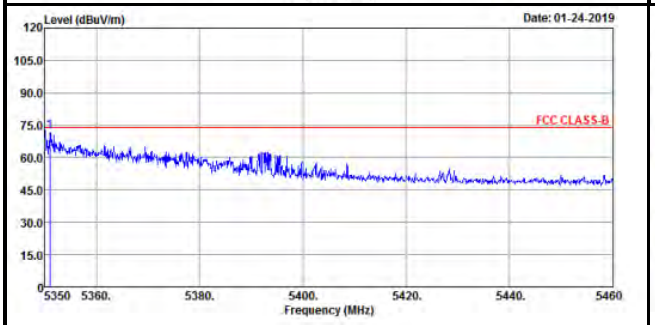
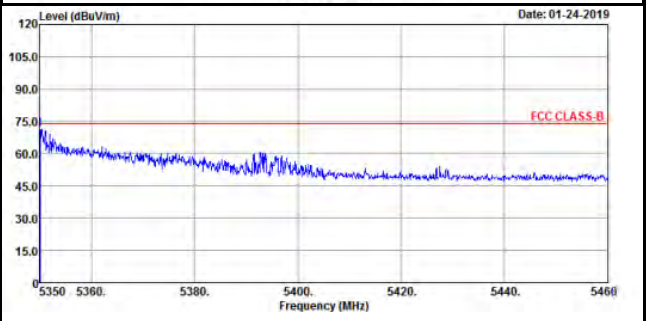
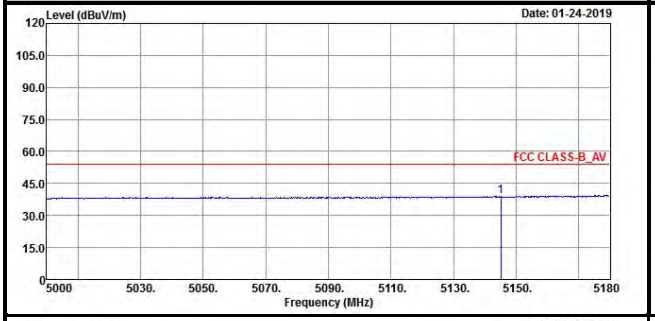
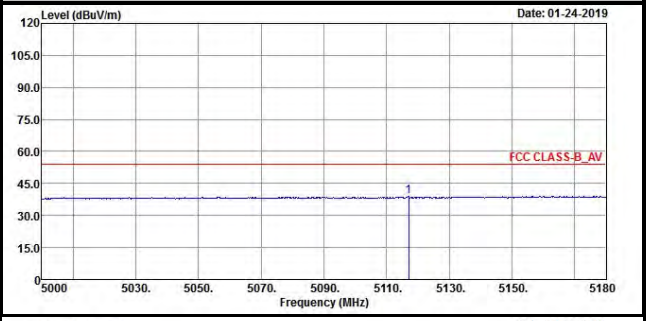
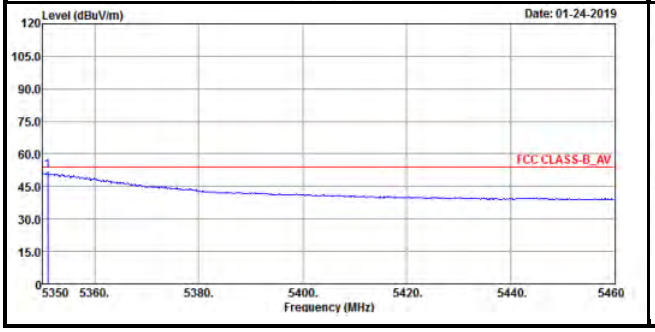
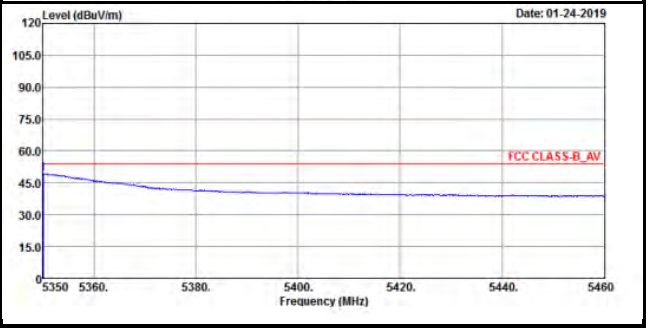
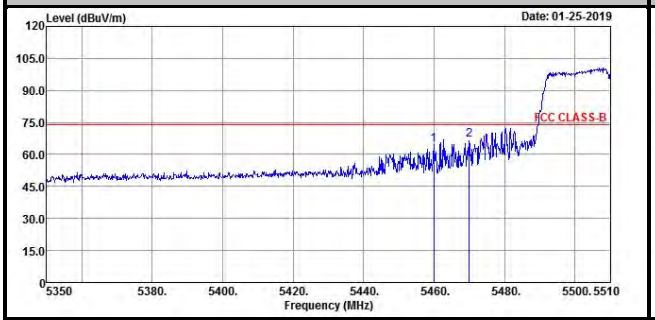
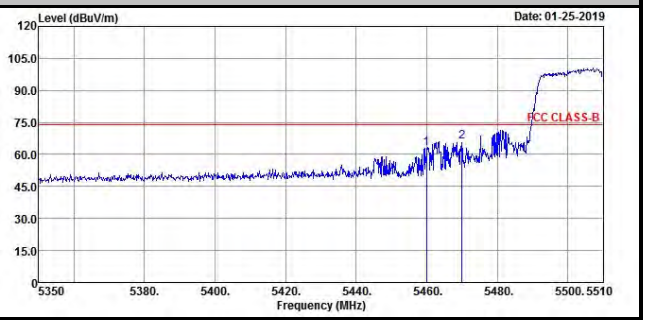
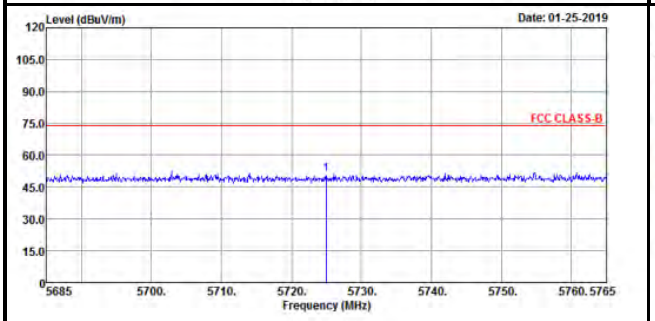
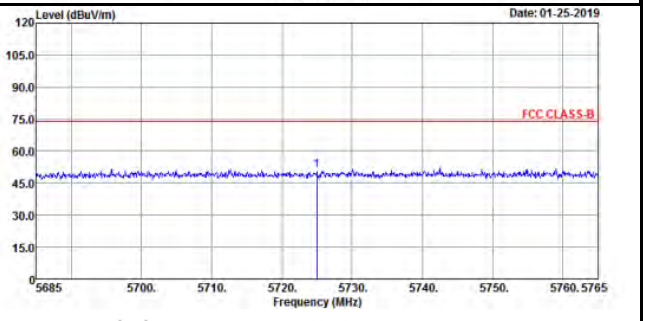
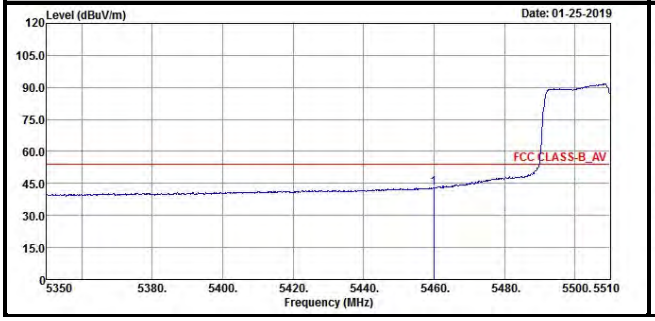
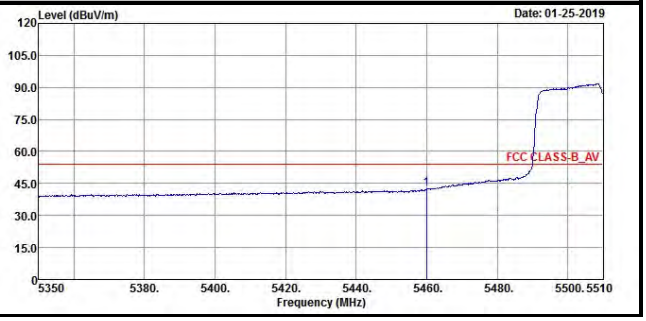
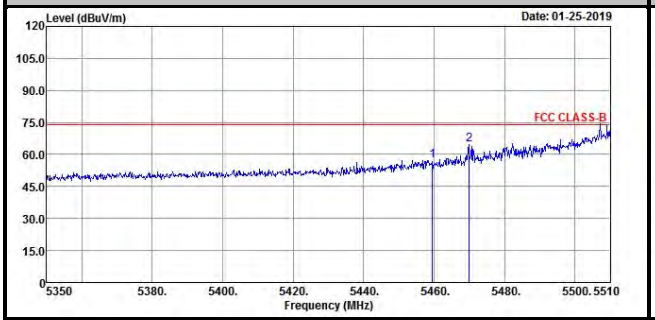
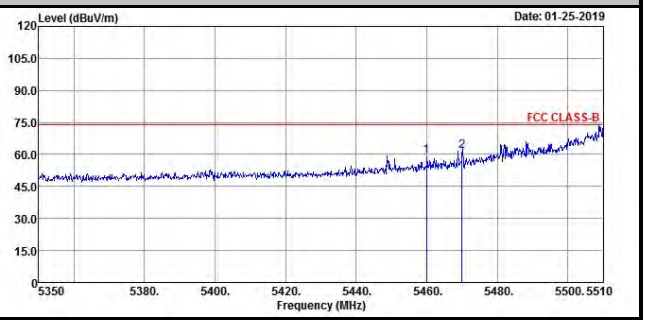
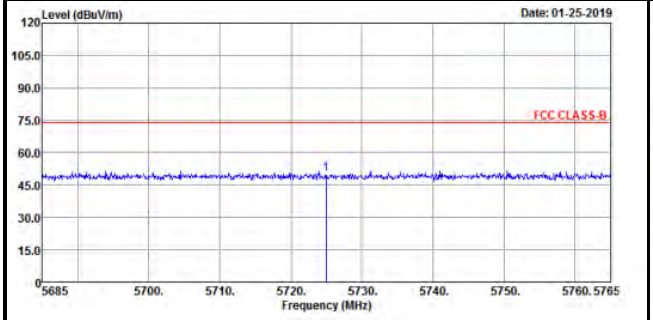
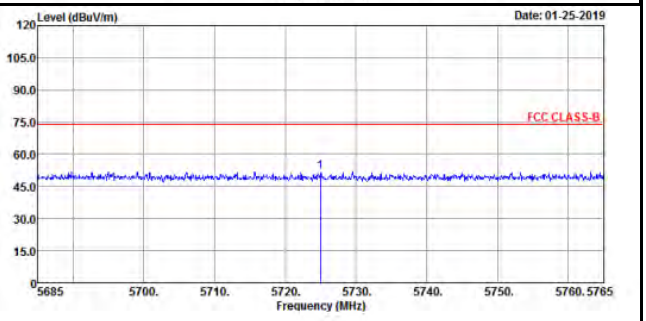
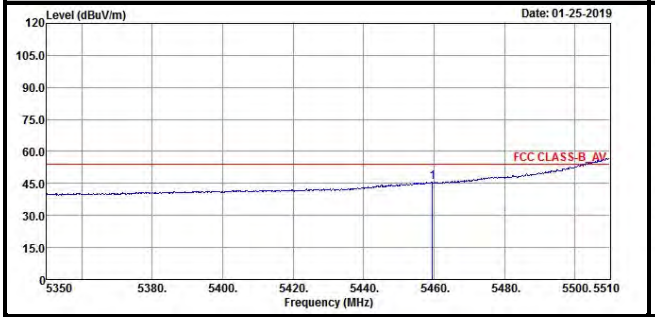
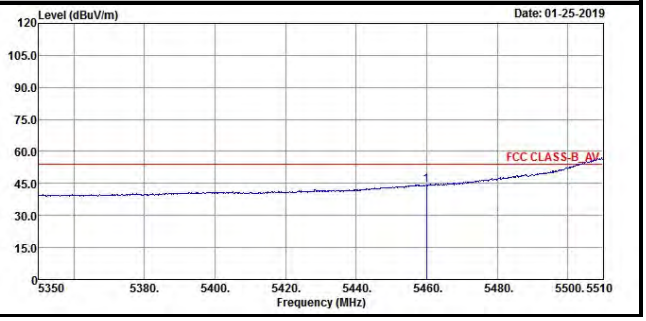
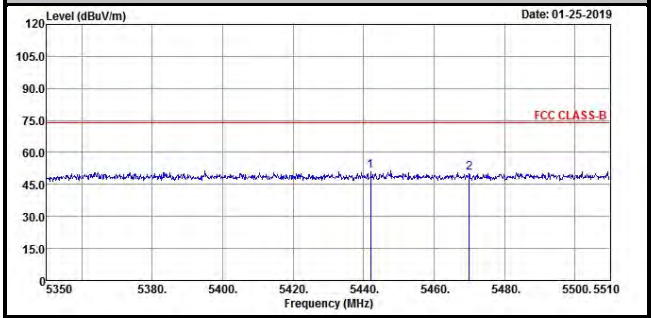
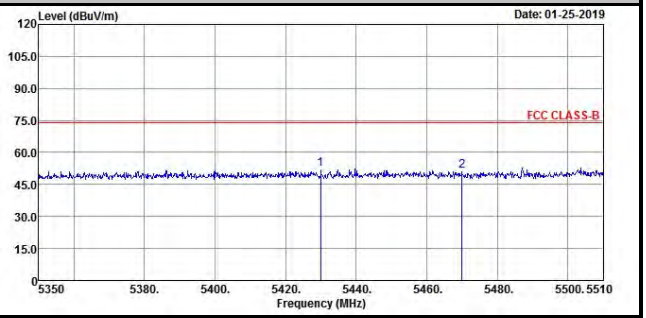
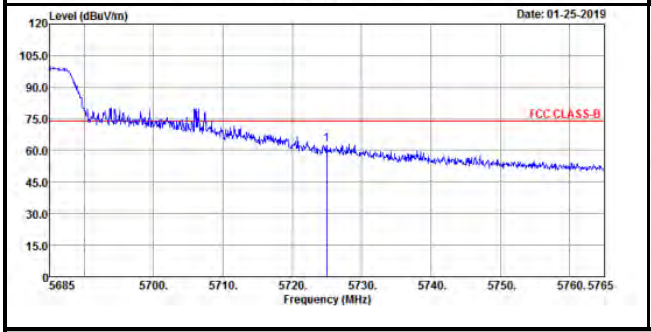
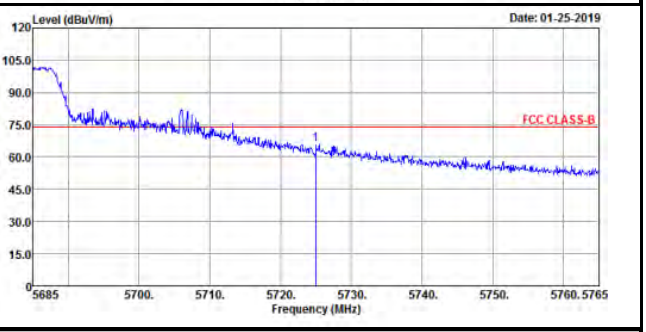
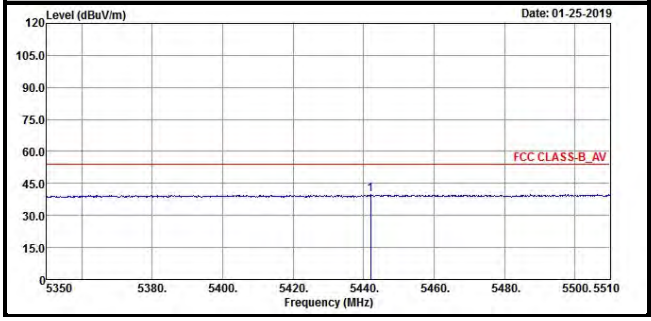
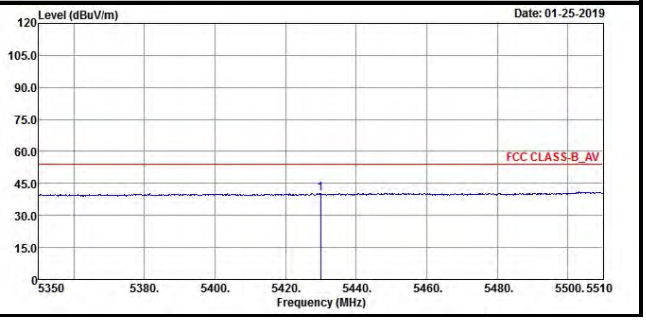
Horizontal	**Vertical**
	
	

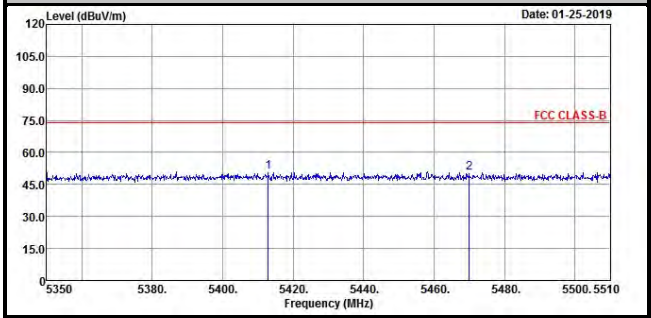
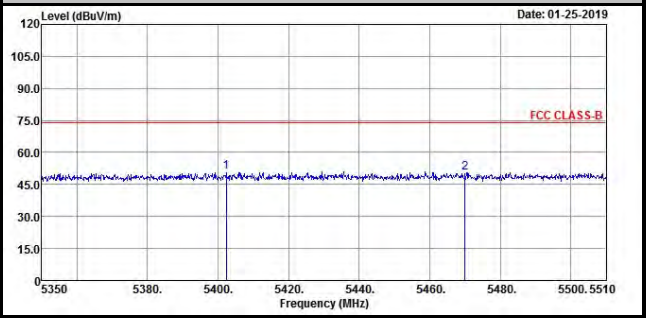
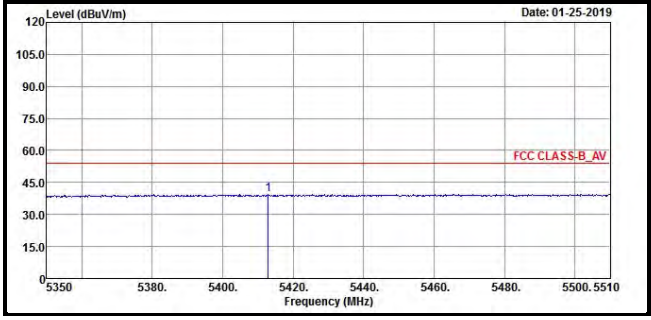
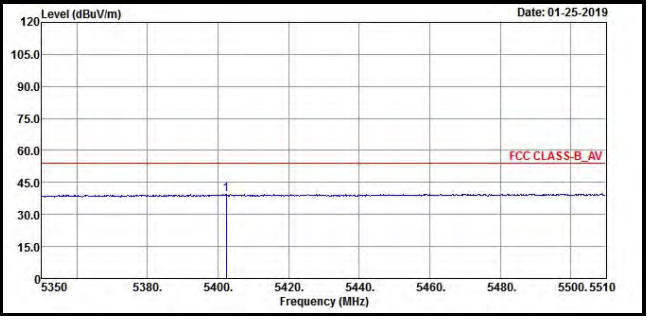
Ch 54	
Peak	
Horizontal	Vertical
	
	
Average	
Horizontal	Vertical
	
	

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**
	

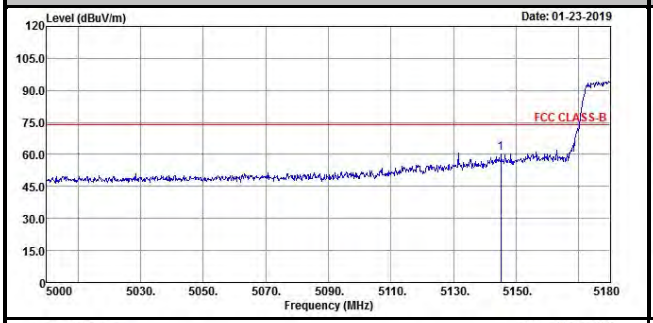
Ch 142	
Peak	
Horizontal	Vertical
	
Average	
Horizontal	Vertical
	

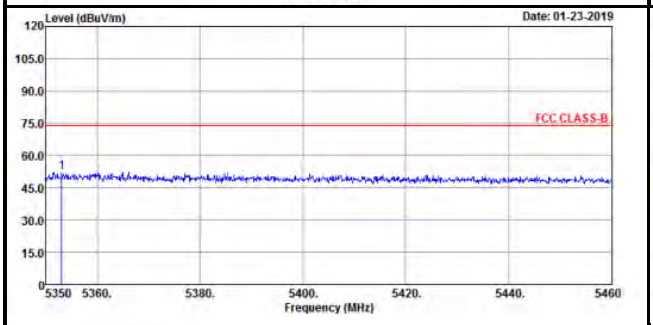
802.11ac (VHT80)

Ch 42

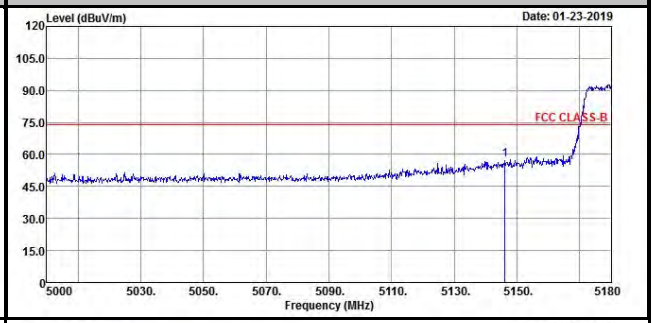
Peak

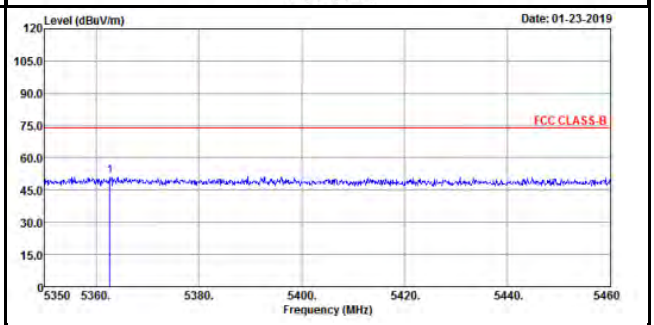
Horizontal





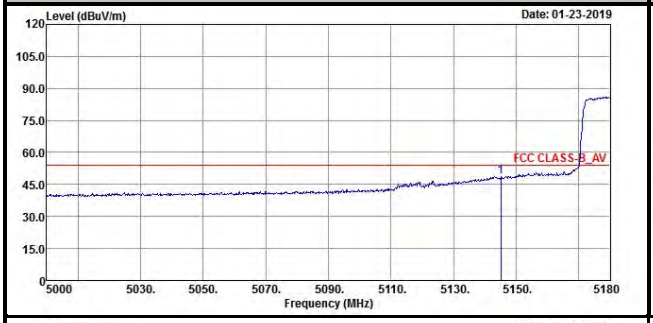
Vertical

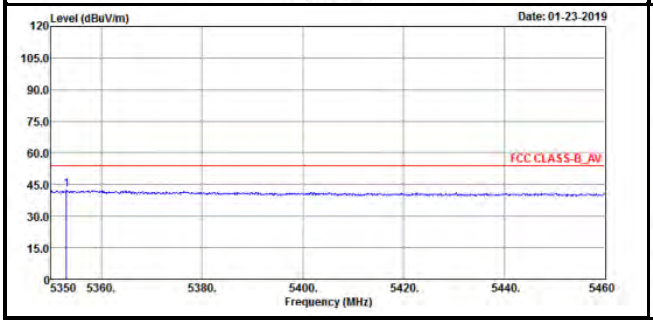




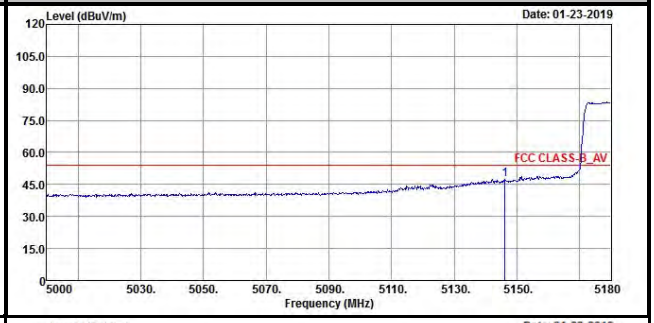
Average

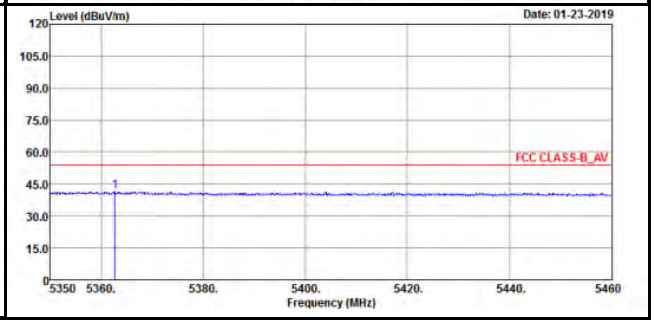
Horizontal

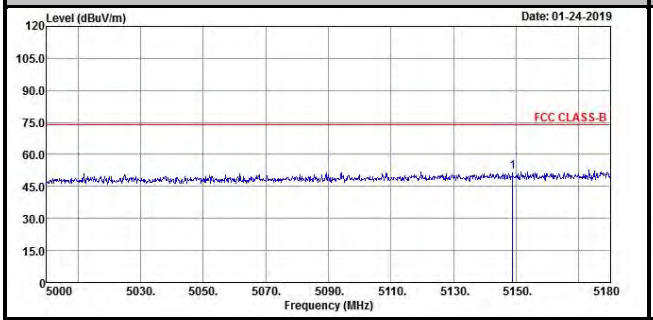
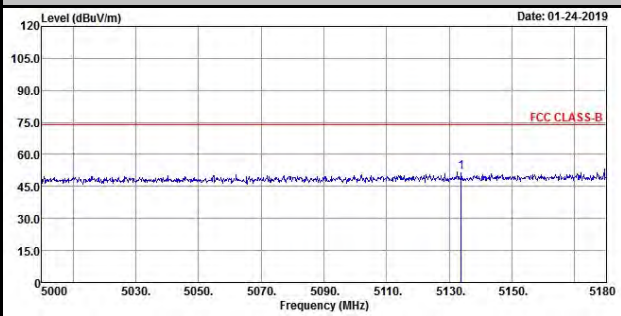
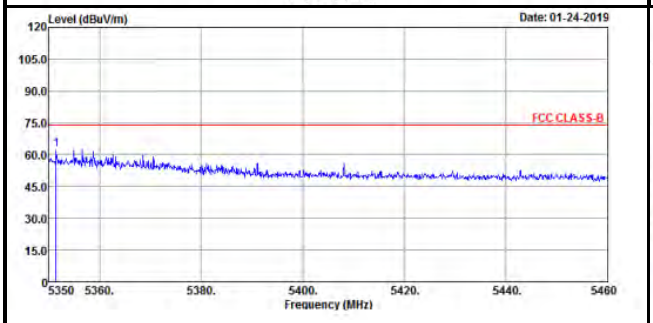
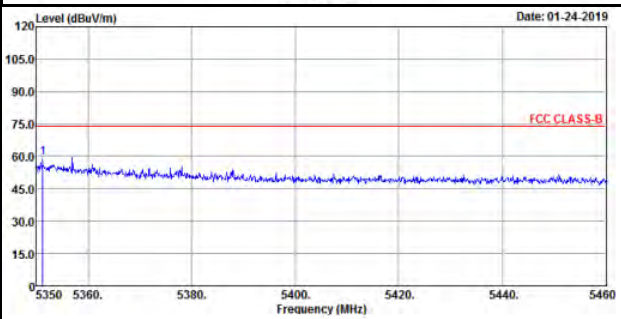
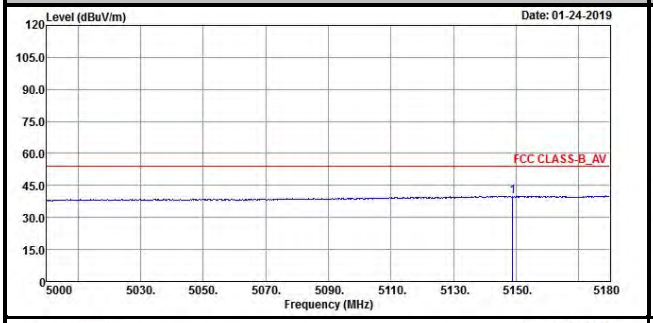
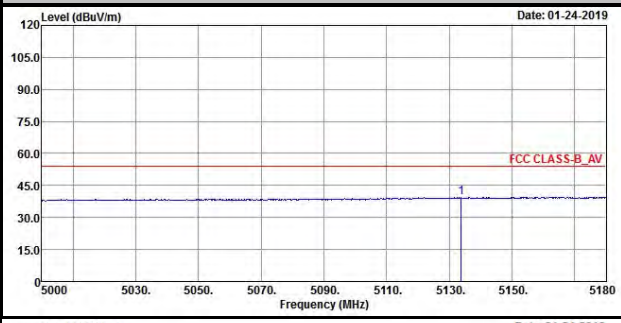
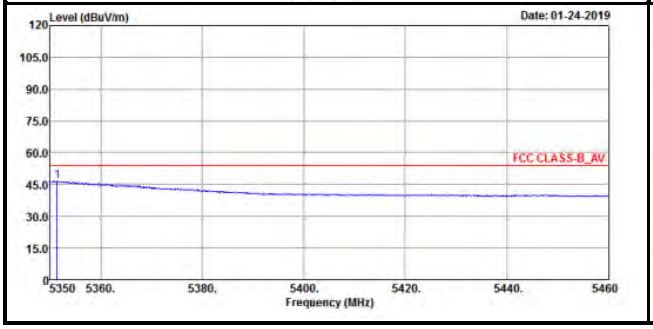
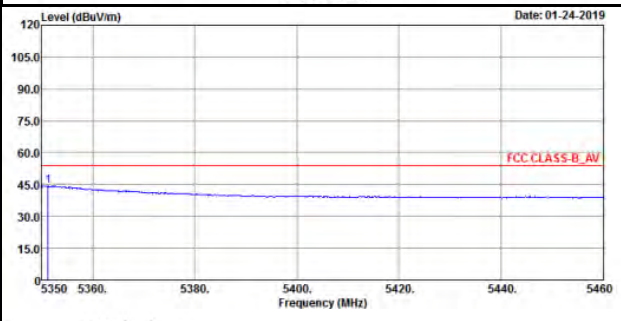


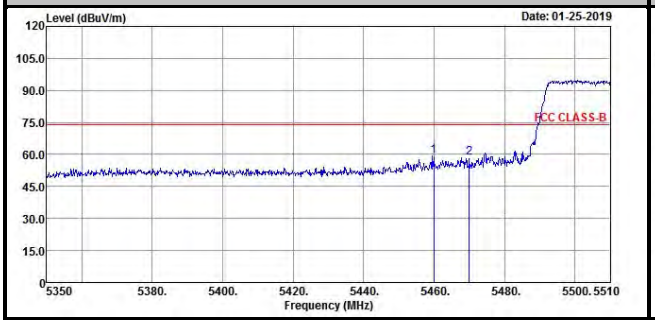
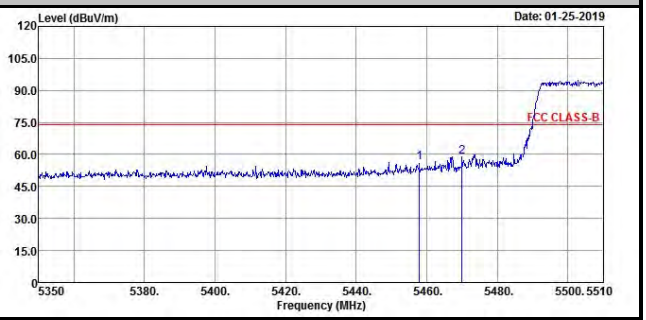
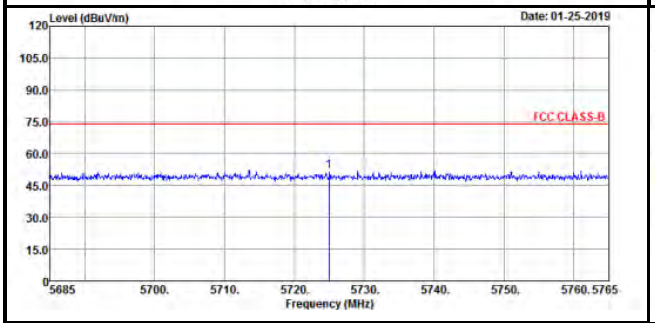
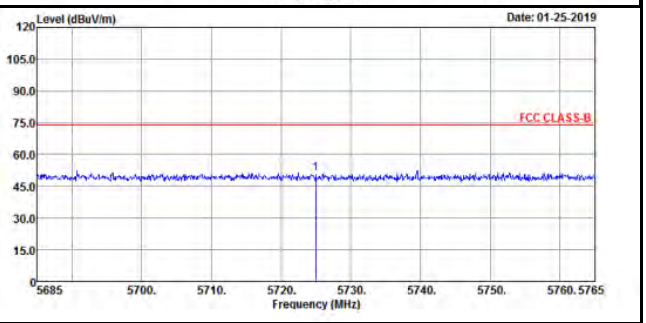
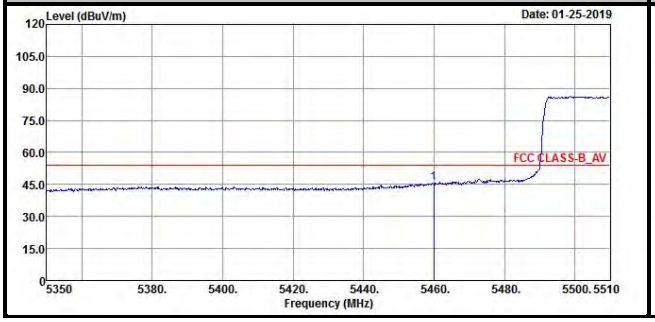
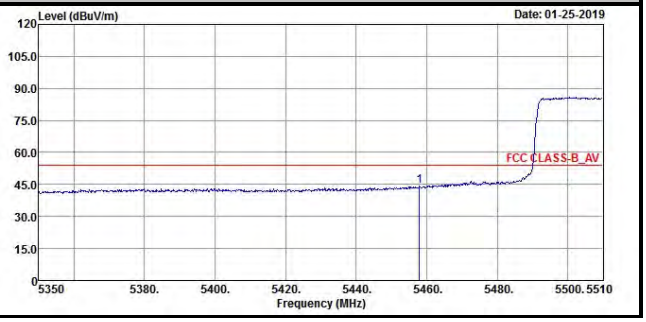


Vertical





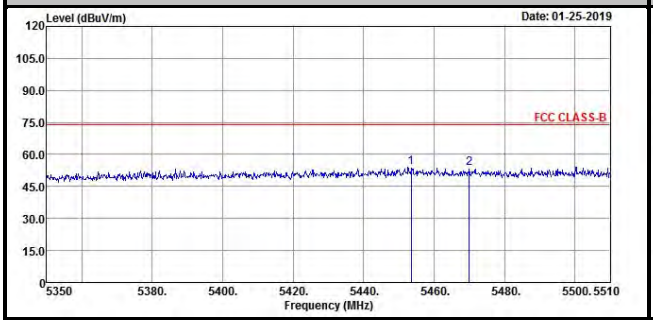
Ch 58	
Peak	
Horizontal	Vertical
	
	
Average	
Horizontal	Vertical
	
	

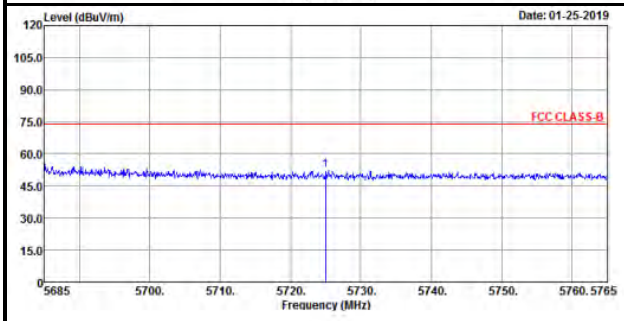
Ch 106	
Peak	
Horizontal	**Vertical**
	
	
Average	
Horizontal	**Vertical**
	

Ch 122

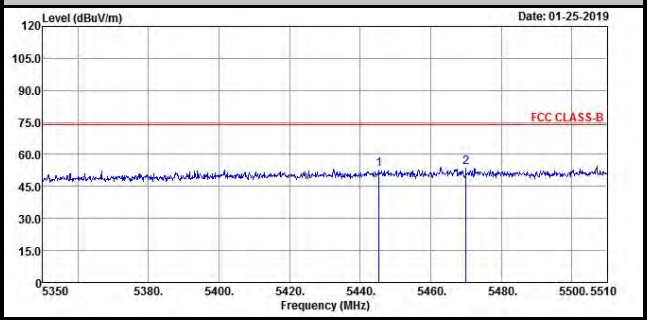
Peak

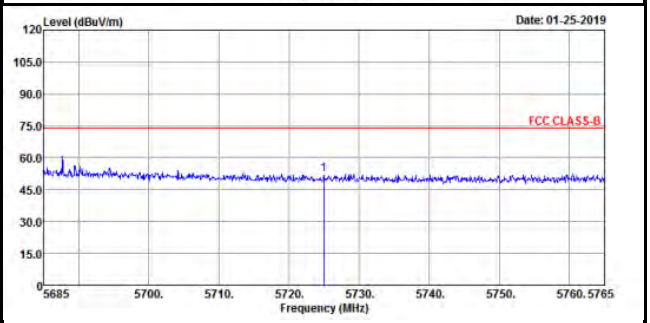
Horizontal





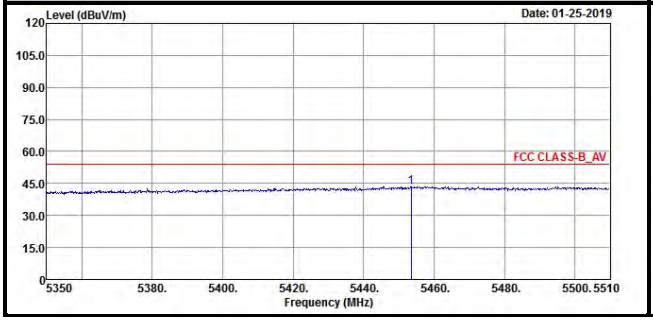
Vertical



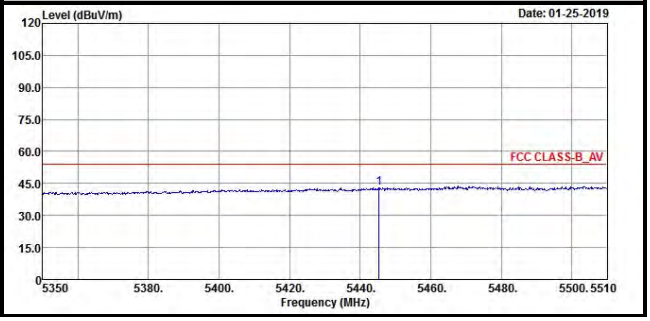


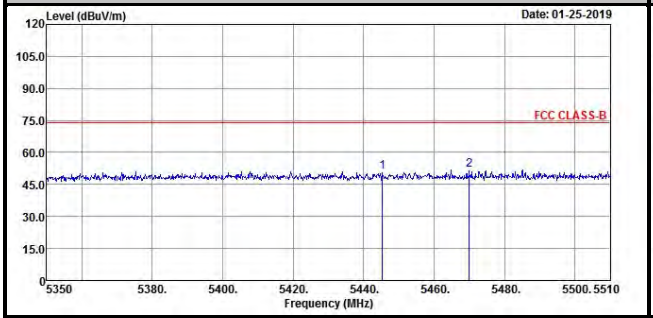
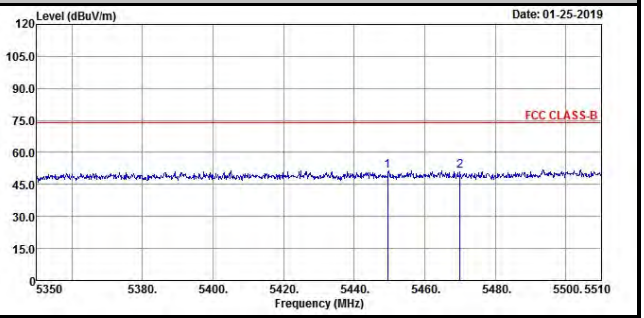
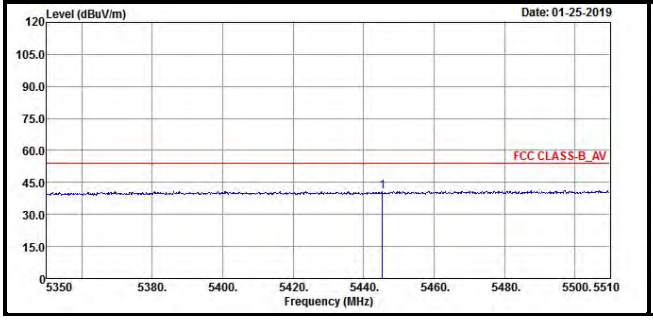
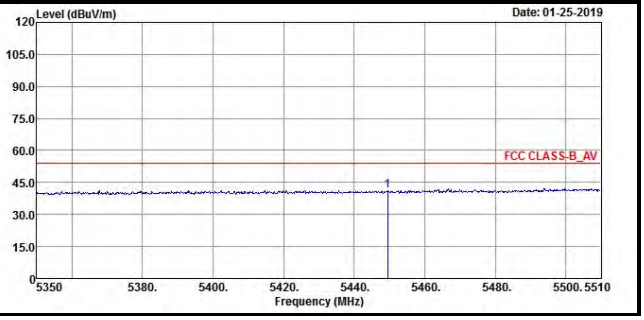
Average

Horizontal



Vertical



Ch 138	
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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Email: service.adt@tw.bureauveritas.com
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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