

Partial FCC Test Report

Report No.: RF180102C25-3

Test Model: QCNFA324

Received Date: Jan. 02, 2018

Test Date: Jan. 05, 2018 ~ Feb. 12, 2018

Issued Date: Feb. 22, 2018

Applicant: Qualcomm Atheros Inc.

Address: 1700 Technology Drive, San Jose, CA 95110

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
RF180102C25-3	Original Release	Feb. 22, 2018

1 Certificate of Conformity

Product: 2X2 802.11A/B/G/N/AC WiFi + Bluetooth Module

Brand: Qualcomm Atheros

Test Model: QCNFA324

Sample Status: Identical Prototype

Applicant: Qualcomm Atheros Inc.

Test Date: Jan. 05, 2018 ~ Feb. 12, 2018

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 EMC characteristics under the conditions specified in this report.

Prepared by : Evonne Liu, **Date:** Feb. 22, 2018
Evonne Liu / Specialist

Approved by : Dylan Chiou, **Date:** Feb. 22, 2018
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) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -3.36 dB at 5149.7 MHz

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Radiated Emissions up to 1 GHz	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	2X2 802.11A/B/G/N/AC WiFi + Bluetooth Module
Brand	Qualcomm Atheros
Test Model	QCNFA324
Status of EUT	Identical Prototype
Power Supply Rating	19.5 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 MCS7 802.11ac: up to V9
Operating Frequency	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5700 MHz, 5745 ~ 5825 MHz
Number of Channel	5180 ~ 5240 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80) 5260 ~ 5320 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80) 5500 ~ 5700 MHz: 11 for 802.11a, 802.11n (HT20) 5 for 802.11n (HT40) 2 for 802.11ac (VHT80) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80)
Antenna Type	Refer to Note as below
Antenna Connector	N/A
Accessory Device	N/A
Data Cable Supplied	N/A

Note:

1. The EUT was installed in Portable Computer (Brand: DELL, Model: P73F).
2. The antenna information is listed as below.

EUT Config.	Ant. Type	Manufacturer	Parts Number	Type		Antenna Gain			
						WLAN 2.4 GHz	WLAN 5.15~5.35 GHz	WLAN 5.47~5.725 GHz	WLAN 5.725~5.875 GHz
1	SLOT	TE Connectivity	Main Ant.: 2195588-1 Aux Ant.: 2195588-1	NB mode	Main	2.43	-0.12	-0.19	-4.74
					Aux.	2.82	-0.37	0.16	-3.95
				Tablet mode	Main	-2.29	0.68	-1.10	0.32
					Aux.	-0.38	1.21	0.88	-2.03
2	SLOT	Hong-Bo Co., Ltd.	Main Ant.: 260-24200 Aux Ant.: 260-24200	NB mode	Main	0.66	0.66	-0.67	-3.62
					Aux.	-0.58	-0.59	-2.32	-3.61
				Tablet mode	Main	2.83	-0.52	-2.69	-2.24
					Aux.	2.40	1.18	-2.65	-3.39

*For the actual test configuration, therefore chosen NB mode for the final test and presented in the test report.

3. The End-product contains following accessory devices.

Product	Brand	Model	Description
Adapter	DELL	DA130PM170	I/P: 100-240 Vac, 50-60 Hz, 1.8 A O/P: 5 Vdc, 1 A or 20 Vdc, 6.5 A (1.8M/0core)
Battery	DELL	8NOT7	13.275Vdc, 6254mAh

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

3.2 Description of Test Modes

For 5180 ~ 5240 MHz

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
42	5210

For 5260 ~ 5320 MHz

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
58	5290

For 5500 ~ 5700 MHz

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

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

5 channels are provided for 802.11n (HT40):

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

2 channels are provided for 802.11ac (VHT80):

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

For 5745 ~ 5825 MHz:

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
155	5775

3.2.1 Test Mode Applicability and Tested Channel Detail

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

Where **RE≥1G**: Radiated Emission above 1 GHz **RE<1G**: Radiated Emission below 1 GHz

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, 44, 48	OFDM	BPSK	6.0
		802.11n (VHT20)	36 to 48	36, 44, 48	OFDM	BPSK	MCS0
		802.11n (VHT40)	38 to 46	38, 46	OFDM	BPSK	MCS0
		802.11ac (VHT80)	42	42	OFDM	BPSK	MCS0
	5260-5320	802.11a	52 to 64	52, 60, 64	OFDM	BPSK	6.0
		802.11n (VHT20)	52 to 64	52, 60, 64	OFDM	BPSK	MCS0
		802.11n (VHT40)	54 to 62	54, 62	OFDM	BPSK	MCS0
		802.11ac (VHT80)	58	58	OFDM	BPSK	MCS0
	5500-5700	802.11a	100 to 140	100, 116, 140	OFDM	BPSK	6.0
		802.11n (VHT20)	100 to 140	100, 116, 140	OFDM	BPSK	MCS0
		802.11n (VHT40)	102 to 134	102, 110, 134	OFDM	BPSK	MCS0
		802.11ac (VHT80)	106 to 122	106, 122	OFDM	BPSK	MCS0
	5745-5825	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
		802.11n (VHT20)	149 to 165	149, 157, 165	OFDM	BPSK	MCS0
		802.11n (VHT40)	151 to 159	151, 159	OFDM	BPSK	MCS0
		802.11ac (VHT80)	155	155	OFDM	BPSK	MCS0

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)
-	5180-5240	802.11n (VHT40)	38 to 46	38	OFDM	BPSK	MCS0

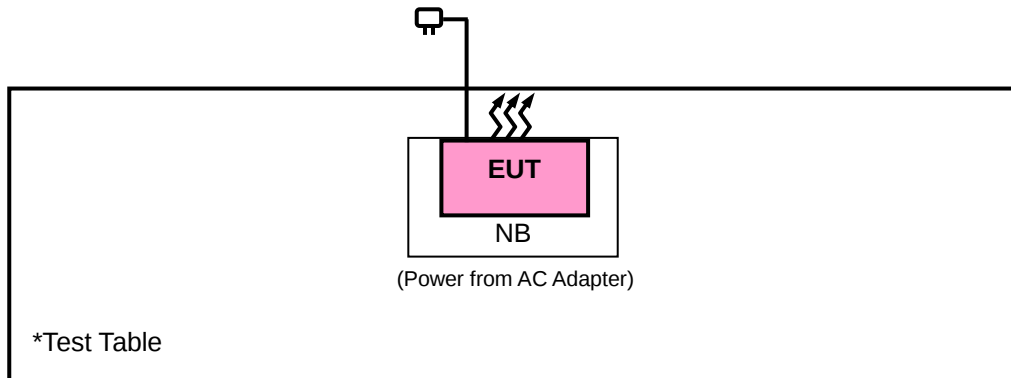
Test Condition:

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

3.3 Description of Support Units

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

3.3.1 Configuration of System under Test



3.4 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)

789033 D02 General UNII Test Procedures New Rules v02

644545 D01 Guidance for IEEE 802.11ac v01r02

662911 D01 Multiple Transmitter Output 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. Other emissions shall be at least 20 dB below the highest level of the desired power:

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 v01r04		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:

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

4.1.3 VTest Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent	N9038A	MY51210203	Feb. 17, 2017	Feb. 16, 2018
Spectrum Analyzer Agilent	N9010A	MY52220314	Nov. 24, 2017	Nov. 23, 2018
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Jan. 11, 2018	Jan. 10, 2019
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Dec. 06, 2017	Dec. 05, 2018
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Dec. 12, 2017	Dec. 11, 2018
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 01, 2017	Nov. 30, 2018
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 17, 2017	Apr. 16, 2018
Loop Antenna	HLA 6121	45745	May 19, 2017	May 18, 2018
Preamplifier EMCI	EMC001340	980201	Dec. 01, 2017	Nov. 30, 2018
Bluetooth Tester	CBT	100946	Jul. 29, 2016	Jul. 28, 2018
Preamplifier EMCI	EMC 012645	980115	Oct. 20, 2017	Oct. 19, 2018
Preamplifier EMCI	EMC 184045	980116	Oct. 20, 2017	Oct. 19, 2018
Preamplifier EMCI	EMC 330H	980112	Oct. 13, 2017	Oct. 12, 2018
Power Meter Anritsu	ML2495A	1232002	Dec. 07, 2017	Dec. 06, 2018
Power Sensor Anritsu	MA2411B	1207325	Dec. 07, 2017	Dec. 06, 2018
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4 2950114	Oct. 20, 2017	Oct. 19, 2018
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 20, 2017	Oct. 19, 2018
RF Coaxial Cable Worken	8D-FB	Cable-Ch10-01	Oct. 20, 2017	Oct. 19, 2018
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 IC7450F-10.

4.1.4 Test Procedures

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 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:

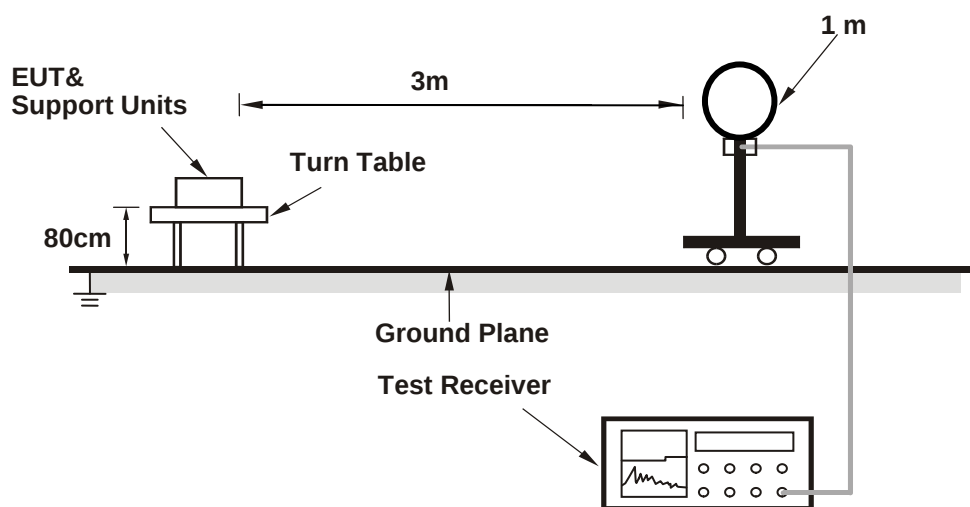
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz & 360 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1/T for Average (Duty cycle < 98 %) detection at frequency above 1 GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz (Duty cycle ≥ 98 %) for Average detection (AV) at frequency above 1 GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.1.5 Deviation from Test Standard

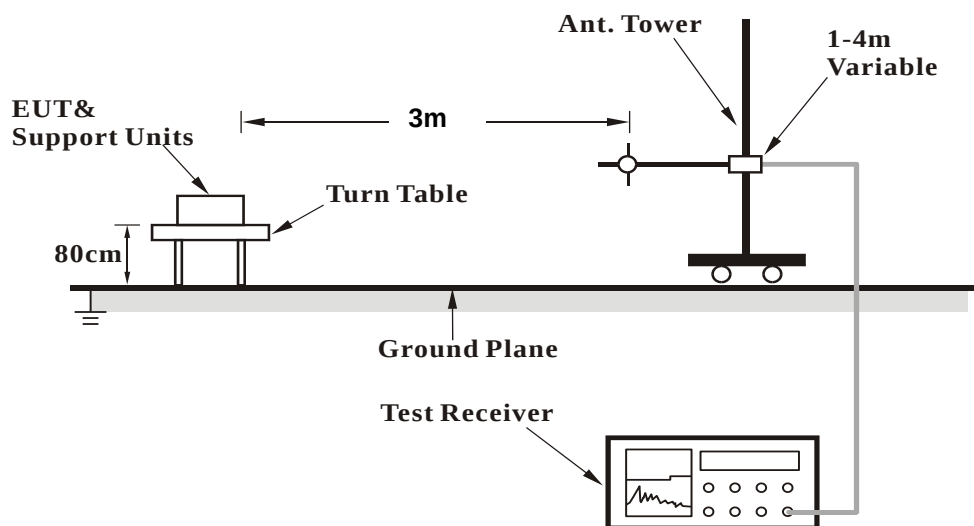
No deviation.

4.1.6 Test Set Up

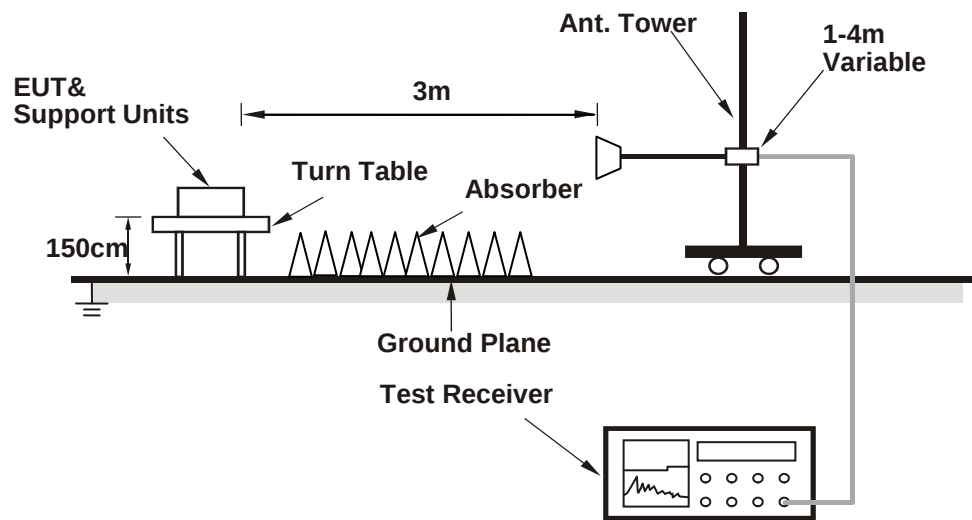
<Radiated emission below 30 MHz>



<Frequency Range below 1 GHz>



<Frequency Range above 1 GHz>



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

4.1.7 EUT Operating Conditions

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

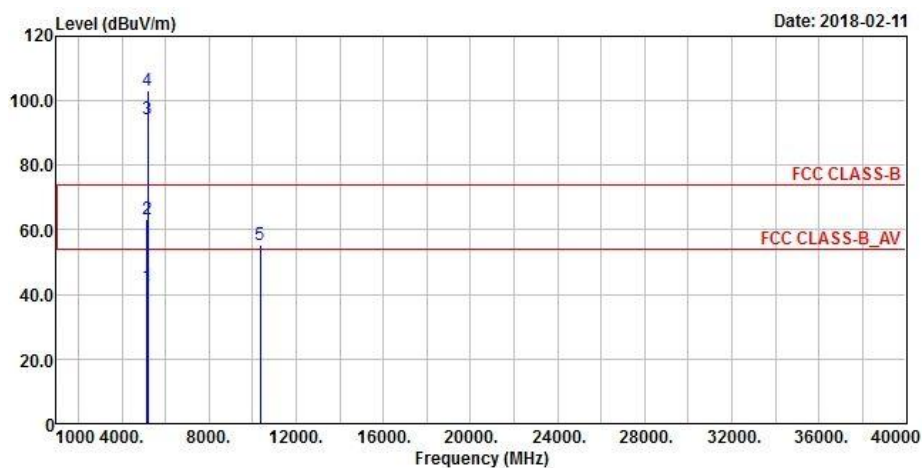
4.1.8 Test Results

Above 1 GHz Data :

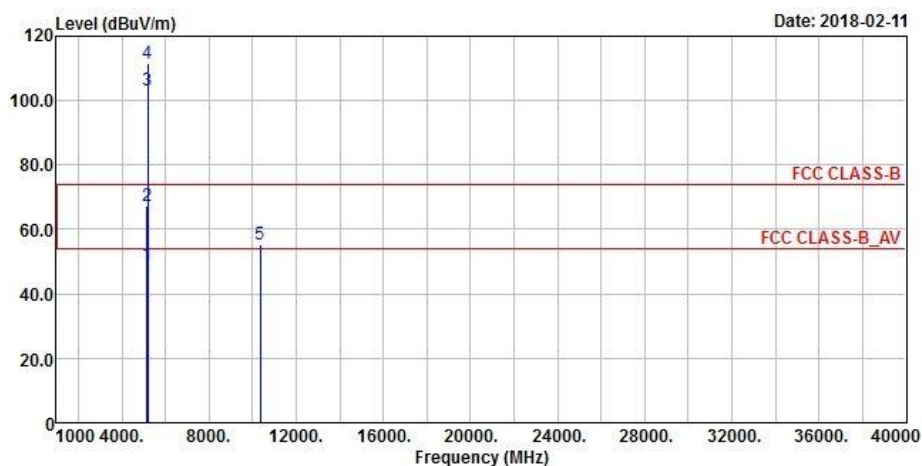
802.11a

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	Jisyoung Wang

Horizontal



Vertical



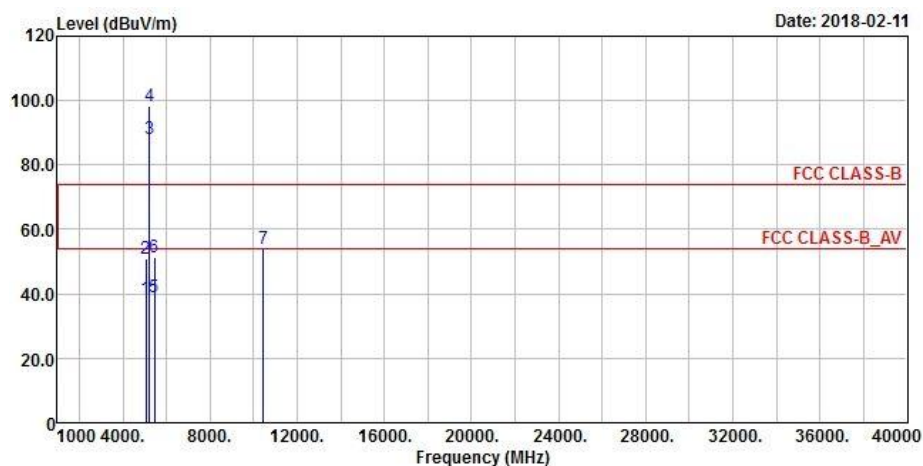
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5147.06	42.6	42.02	54	-11.4	31.56	6.34	37.32	226	112	Average
5147.06	63.17	62.59	74	-10.83	31.56	6.34	37.32	226	112	Peak
5180	94.21	93.59			31.59	6.37	37.34	226	112	Average
5180	103.21	102.59			31.59	6.37	37.34	226	112	Peak
*10360	55.21	57.97	68.2	-12.99	39.48	10.21	52.45	145	215	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	49.05	48.47	54	-4.95	31.56	6.34	37.32	225	320	Average
5149.94	67.32	66.74	74	-6.68	31.56	6.34	37.32	225	320	Peak
5180	103.28	102.66			31.59	6.37	37.34	225	320	Average
5180	111.63	111.01			31.59	6.37	37.34	225	320	Peak
*10360	55.16	57.92	68.2	-13.04	39.48	10.21	52.45	116	56	Peak

Remarks:

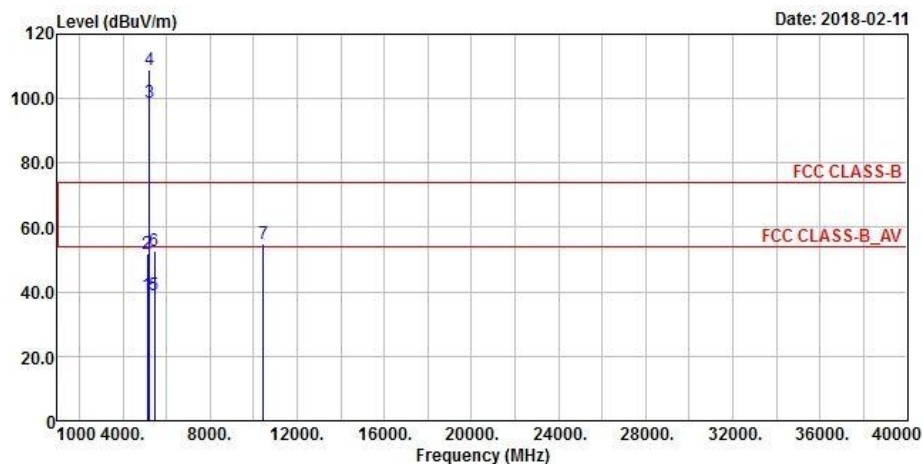
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5180 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		Measurement Detail	
Channel	Channel 44	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	Jisyoung Wang

Horizontal



Vertical



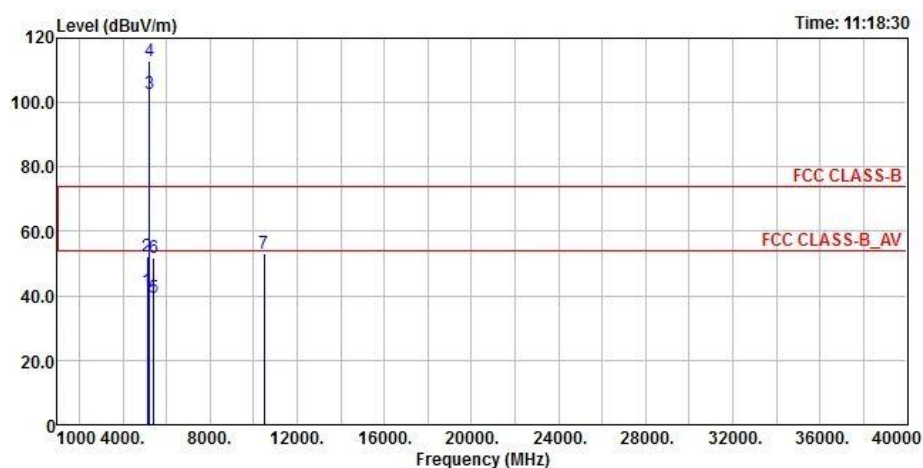
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5077.58	38.52	37.3	54	-15.48	31.52	6.97	37.27	200	72	Average
5077.58	50.84	49.62	74	-23.16	31.52	6.97	37.27	200	72	Peak
5220	88.32	86.96			31.61	7.11	37.36	200	72	Average
5220	98.34	96.98			31.61	7.11	37.36	200	72	Peak
5446.36	38.8	36.95	54	-15.2	31.77	7.21	37.13	200	72	Average
5446.36	51.3	49.45	74	-22.7	31.77	7.21	37.13	200	72	Peak
*10440	54.2	42.42	68.2	-14	39.55	10.21	37.98	145	215	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	37.74	54	-15	31.54	7	37.28	139	226	Average
5111.06	51.62	50.36	74	-22.38	31.54	7	37.28	139	226	Peak
5220	98.82	97.46			31.61	7.11	37.36	139	226	Average
5220	108.83	107.47			31.61	7.11	37.36	139	226	Peak
5455.05	38.97	37.06	54	-15.03	31.77	7.22	37.08	139	226	Average
5455.05	52.5	50.59	74	-21.5	31.77	7.22	37.08	139	226	Peak
*10440	54.9	43.12	68.2	-13.3	39.55	10.21	37.98	116	56	Peak

Remarks:

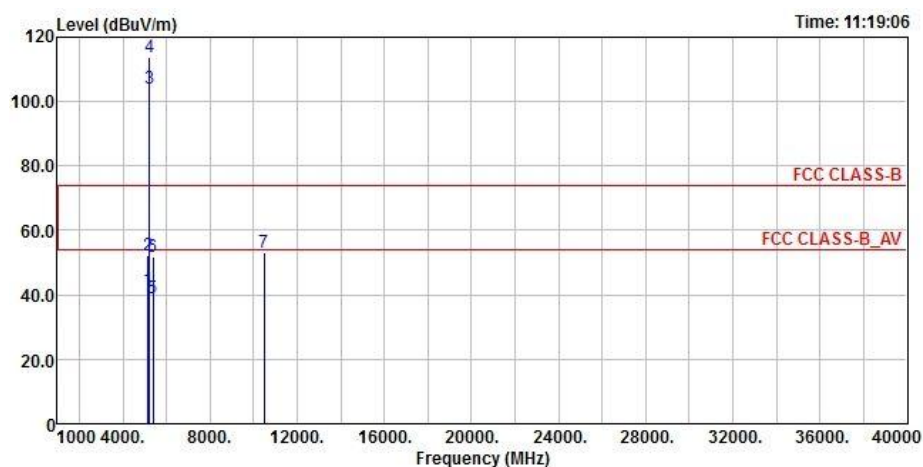
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5220 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



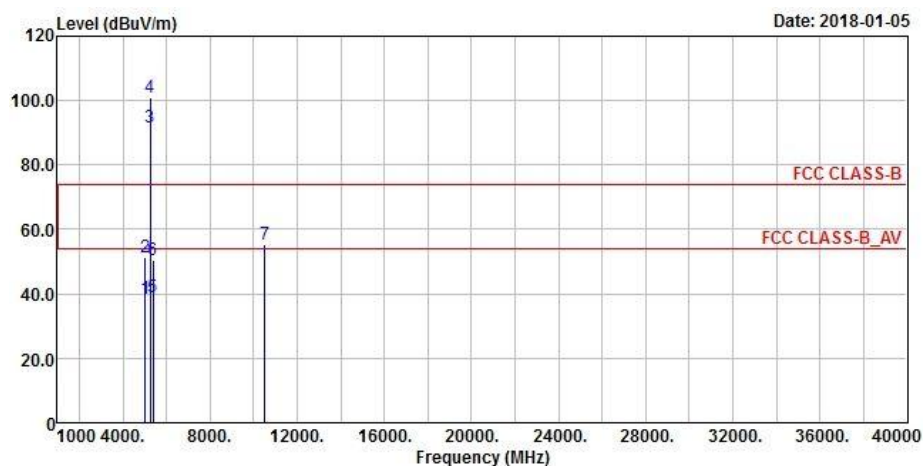
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5050.94	38.49	38	54	-15.51	31.49	6.25	37.25	197	70	Average
5050.94	51.06	50.57	74	-22.94	31.49	6.25	37.25	197	70	Peak
5240	90.4	89.68			31.62	6.42	37.32	197	70	Average
5240	100.8	100.08			31.62	6.42	37.32	197	70	Peak
5444.38	38.8	37.67	54	-15.2	31.76	6.5	37.13	197	70	Average
5444.38	51.21	50.08	74	-22.79	31.76	6.5	37.13	197	70	Peak
*10480	54.2	56.96	68.2	-14	39.55	10.21	52.52	145	215	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
5143.46	39	38.41	54	-15	31.56	6.33	37.3	122	220	Average
5143.46	51.27	50.68	74	-22.73	31.56	6.33	37.3	122	220	Peak
5240	99.56	98.84			31.62	6.42	37.32	122	220	Average
5240	109.87	109.15			31.62	6.42	37.32	122	220	Peak
5391.69	38.83	37.81	54	-15.17	31.73	6.47	37.18	122	220	Average
5391.69	51.66	50.64	74	-22.34	31.73	6.47	37.18	122	220	Peak
*10480	54.9	57.66	68.2	-13.3	39.55	10.21	52.52	116	56	Peak

Remarks:

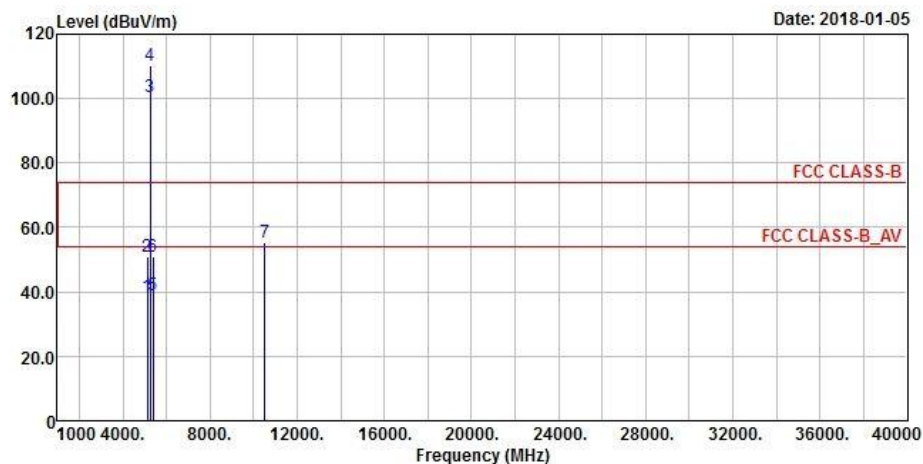
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5240 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



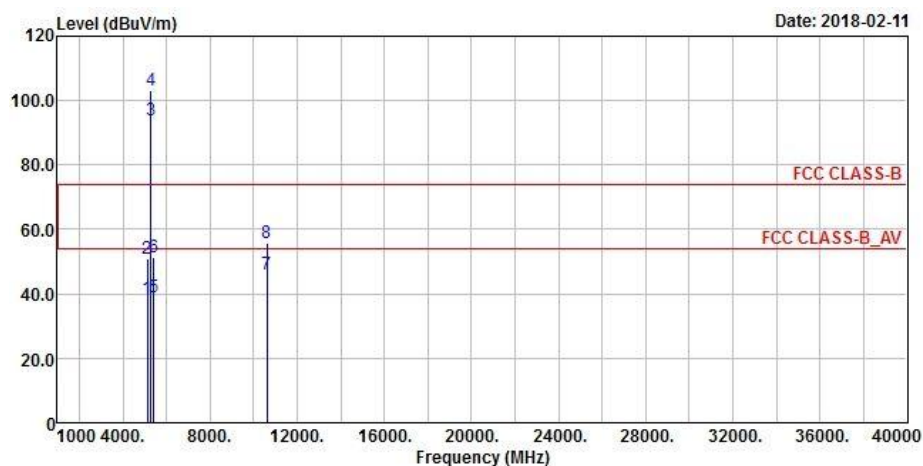
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5027.36	38.54	37.37	54	-15.46	31.48	6.93	37.24	191	70	Average
5027.36	51.52	50.35	74	-22.48	31.48	6.93	37.24	191	70	Peak
5260	91.68	90.15			31.65	7.15	37.27	191	70	Average
5260	101.09	99.56			31.65	7.15	37.27	191	70	Peak
5403.79	38.97	37.24	54	-15.03	31.74	7.17	37.18	191	70	Average
5403.79	50.6	48.87	74	-23.4	31.74	7.17	37.18	191	70	Peak
*10520	55.21	43.45	68.2	-12.99	39.66	10.27	38.17	145	215	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
5130.68	38.74	38.17	54	-15.26	31.55	6.32	37.3	142	222	Average
5130.68	50.92	50.35	74	-23.08	31.55	6.32	37.3	142	222	Peak
5260	100.44	99.63			31.65	6.43	37.27	142	222	Average
5260	110.42	109.61			31.65	6.43	37.27	142	222	Peak
5389.6	39.13	38.11	54	-14.87	31.73	6.47	37.18	142	222	Average
5389.6	51.11	50.09	74	-22.89	31.73	6.47	37.18	142	222	Peak
*10520	55.16	57.96	68.2	-13.04	39.66	10.27	52.73	116	56	Peak

Remarks:

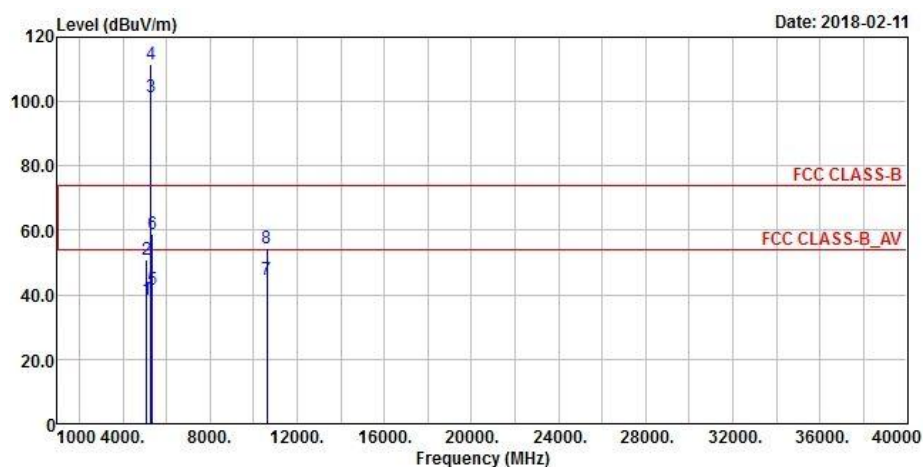
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5260 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



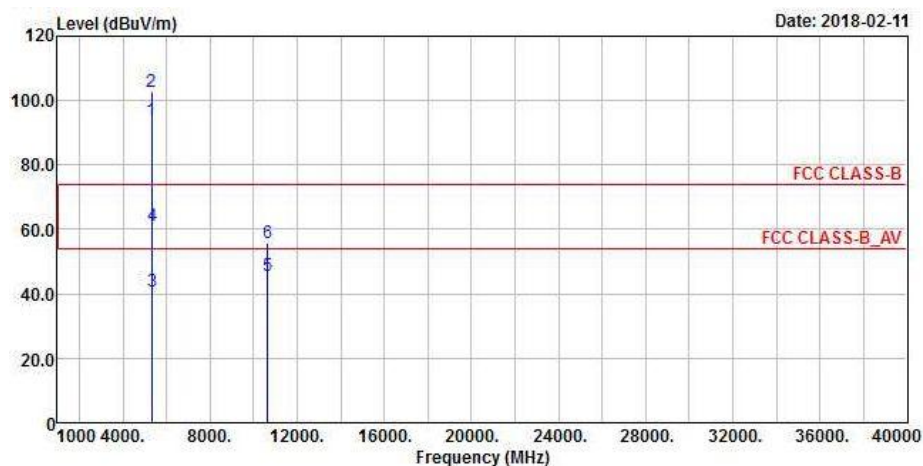
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5125.1	38.55	37.98	54	-15.45	31.55	6.32	37.3	202	68	Average
5125.1	51	50.43	74	-23	31.55	6.32	37.3	202	68	Peak
5300	94.09	93.15			31.67	6.46	37.19	202	68	Average
5300	103.19	102.25			31.67	6.46	37.19	202	68	Peak
5414.02	38.88	37.83	54	-15.12	31.75	6.48	37.18	202	68	Average
5414.02	51.33	50.28	74	-22.67	31.75	6.48	37.18	202	68	Peak
10600	45.86	48.69	54	-8.14	39.85	10.43	53.11	256	123	Average
10600	55.84	58.67	74	-18.16	39.85	10.43	53.11	256	123	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
5109.26	38.71	38.15	54	-15.29	31.54	6.3	37.28	140	223	Average
5109.26	51.09	50.53	74	-22.91	31.54	6.3	37.28	140	223	Peak
5300	101.54	100.6			31.67	6.46	37.19	140	223	Average
5300	111.55	110.61			31.67	6.46	37.19	140	223	Peak
5350.11	41.76	40.77	54	-12.24	31.7	6.47	37.18	140	223	Average
5350.11	58.7	57.71	74	-15.3	31.7	6.47	37.18	140	223	Peak
10600	44.66	47.49	54	-9.34	39.85	10.43	53.11	123	256	Average
10600	54.66	57.49	74	-19.34	39.85	10.43	53.11	123	256	Peak

Remarks:

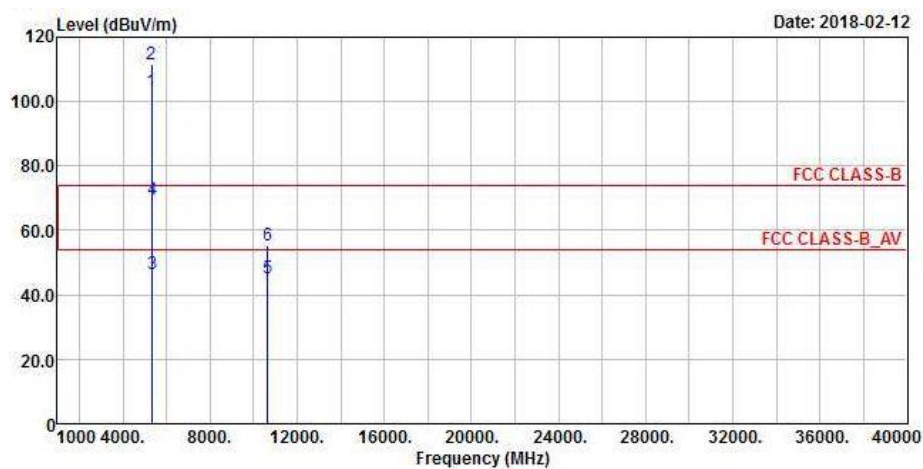
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



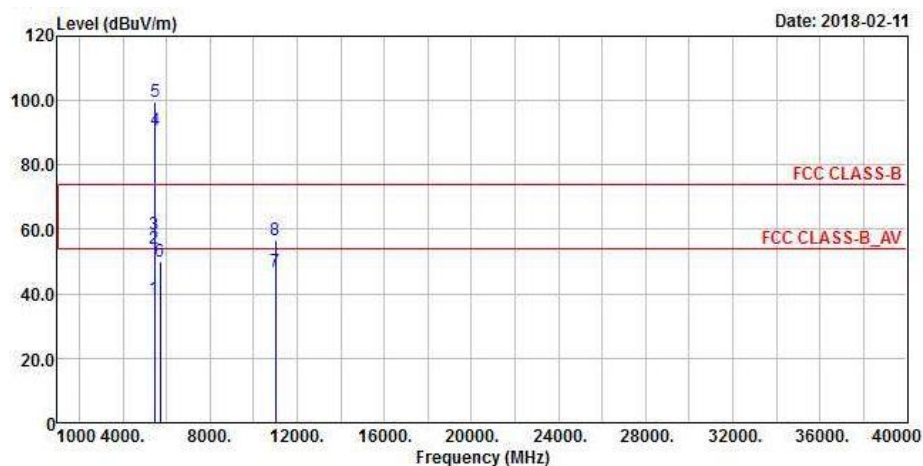
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	93.86	92.91			31.68	6.46	37.19	205	66	Average
5320	102.7	101.75			31.68	6.46	37.19	205	66	Peak
5351.43	40.66	39.67	54	-13.34	31.7	6.47	37.18	205	66	Average
5351.43	61.14	60.15	74	-12.86	31.7	6.47	37.18	205	66	Peak
10640	45.52	48.3	54	-8.48	39.93	10.36	53.07	111	123	Average
10640	55.59	58.37	74	-18.41	39.93	10.36	53.07	111	123	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	103.37	102.42			31.68	6.46	37.19	235	318	Average
5320	111.76	110.81			31.68	6.46	37.19	235	318	Peak
5350.11	46.5	45.51	54	-7.5	31.7	6.47	37.18	235	318	Average
5350.11	69.56	68.57	74	-4.44	31.7	6.47	37.18	235	318	Peak
10640	45.32	48.1	54	-8.68	39.93	10.36	53.07	236	251	Average
10640	55.4	58.18	74	-18.6	39.93	10.36	53.07	236	251	Peak

Remarks:

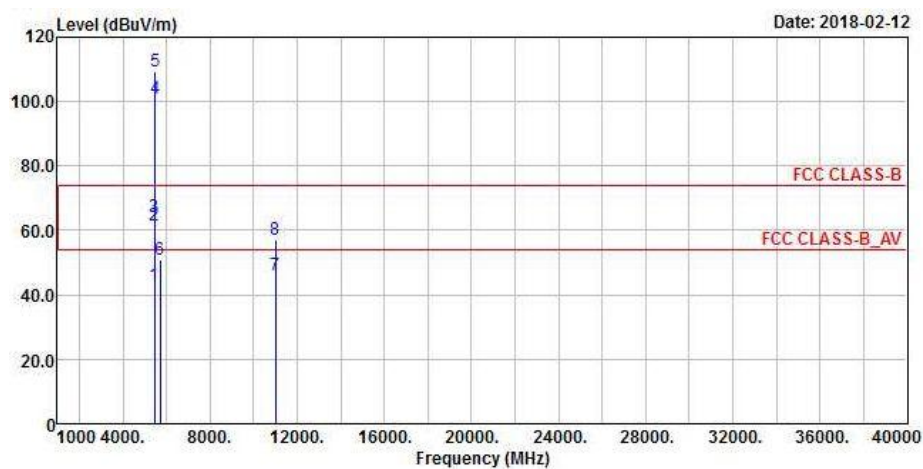
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5320 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



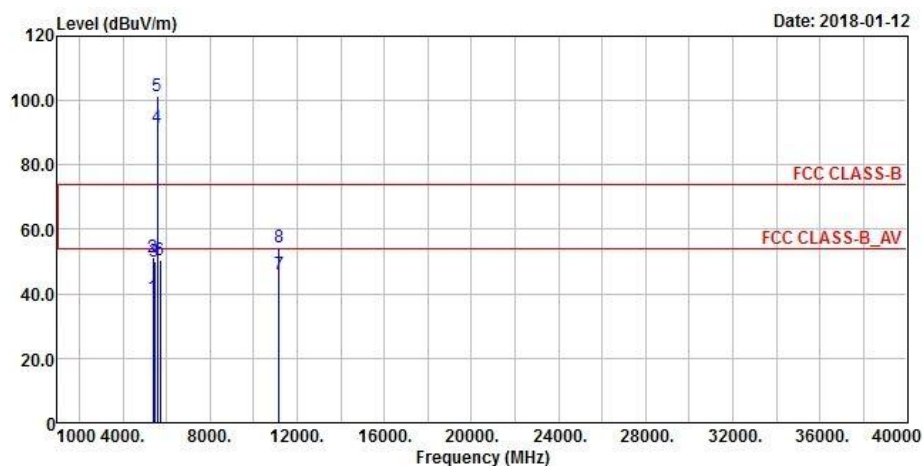
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5456.56	38.62	37.42	54	-15.38	31.77	6.51	37.08	219	122	Average
5456.56	54.2	53	74	-19.8	31.77	6.51	37.08	219	122	Peak
*5462.16	58.39	57.19	68.2	-9.81	31.77	6.51	37.08	219	122	Peak
5500	90.74	89.42			31.81	6.54	37.03	219	122	Average
5500	99.54	98.22			31.81	6.54	37.03	219	122	Peak
*5727.56	50.05	48.54	68.2	-18.15	32.18	6.76	37.43	219	122	Peak
11000	46.75	48.65	54	-7.25	40.73	10.4	53.03	152	236	Average
11000	56.81	58.71	74	-17.19	40.73	10.4	53.03	152	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
5458.96	42.94	41.74	54	-11.06	31.77	6.51	37.08	215	319	Average
5458.96	61.73	60.53	74	-12.27	31.77	6.51	37.08	215	319	Peak
*5467.28	64.01	62.78	68.2	-4.19	31.79	6.52	37.08	215	319	Peak
5500	100.74	99.42			31.81	6.54	37.03	215	319	Average
5500	109.32	108			31.81	6.54	37.03	215	319	Peak
*5727.72	50.86	49.35	68.2	-17.34	32.18	6.76	37.43	215	319	Peak
11000	46.11	48.01	54	-7.89	40.73	10.4	53.03	203	211	Average
11000	56.98	58.88	74	-17.02	40.73	10.4	53.03	203	211	Peak

Remarks:

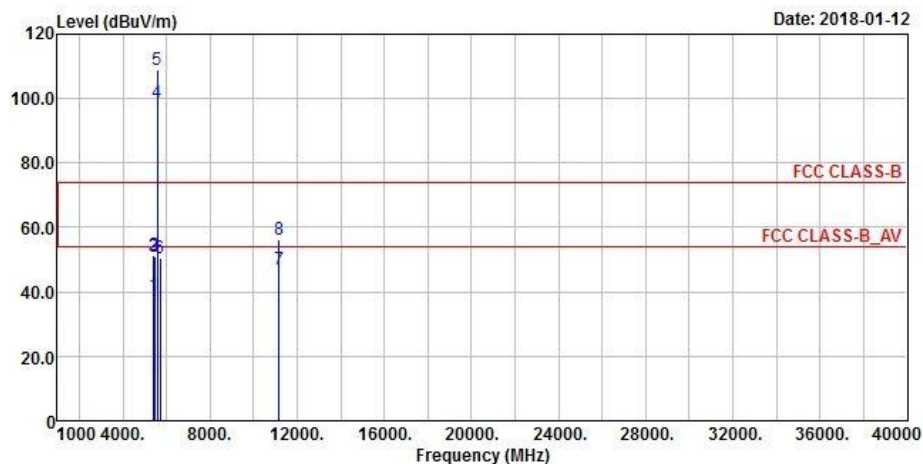
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5500 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



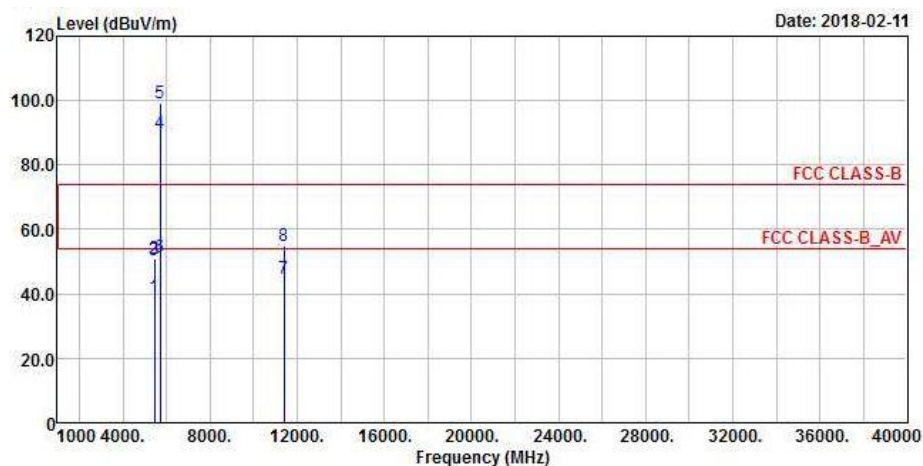
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5379.16	38.86	37.84	54	-15.14	31.73	6.47	37.18	243	118	Average
5379.16	51.57	50.55	74	-22.43	31.73	6.47	37.18	243	118	Peak
*5470	49.96	48.76	68.2	-18.24	31.77	6.51	37.08	243	118	Peak
5580	91.48	90.07			31.92	6.65	37.16	243	118	Average
5580	101.48	100.07			31.92	6.65	37.16	243	118	Peak
*5725	50.69	49.18	68.2	-17.51	32.18	6.76	37.43	243	118	Peak
11160	46.05	47.75	54	-7.95	40.56	10.52	52.78	117	85	Average
11160	54.68	56.38	74	-19.32	40.56	10.52	52.78	117	85	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
5418.8	39.09	38.04	54	-14.91	31.75	6.48	37.18	151	225	Average
5418.8	51.19	50.14	74	-22.81	31.75	6.48	37.18	151	225	Peak
*5470	50.79	49.56	68.2	-17.41	31.79	6.52	37.08	151	225	Peak
5580	98.81	97.4			31.92	6.65	37.16	151	225	Average
5580	108.94	107.53			31.92	6.65	37.16	151	225	Peak
*5725	50.32	48.81	68.2	-17.88	32.18	6.76	37.43	151	225	Peak
11160	47.16	48.86	54	-6.84	40.56	10.52	52.78	123	59	Average
11160	56.21	57.91	74	-17.79	40.56	10.52	52.78	123	59	Peak

Remarks:

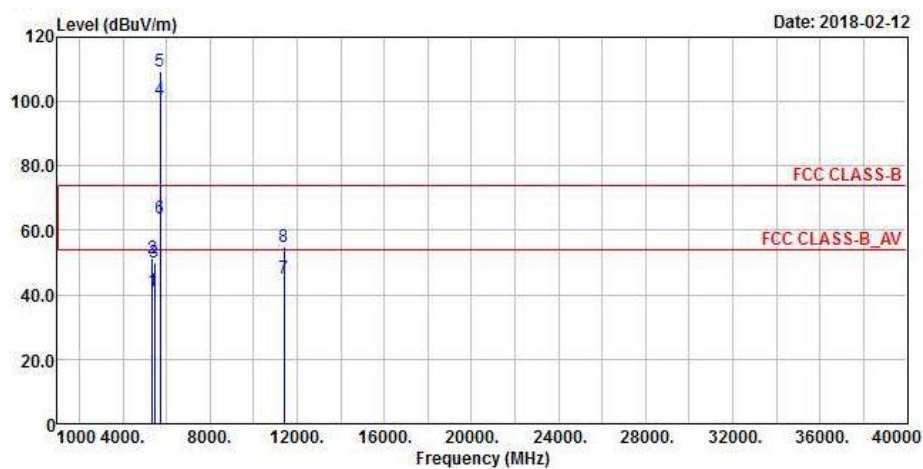
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5580 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



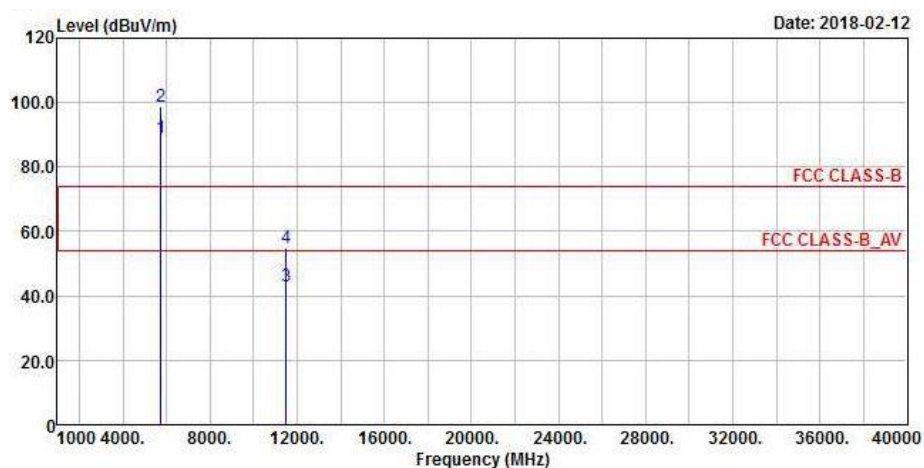
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5451.12	38.75	37.55	54	-15.25	31.77	6.51	37.08	206	112	Average
5451.12	51.07	49.87	74	-22.93	31.77	6.51	37.08	206	112	Peak
5466.48	50.3	49.07	68.2	-17.9	31.79	6.52	37.08	206	112	Peak
5700	89.9	88.45			32.12	6.73	37.4	206	112	Average
5700	99.28	97.83			32.12	6.73	37.4	206	112	Peak
5726.6	51.4	49.89	68.2	-16.8	32.18	6.76	37.43	206	112	Peak
11400	44.62	46.52	54	-9.38	40.33	10.47	52.7	165	236	Average
11400	54.72	56.62	74	-19.28	40.33	10.47	52.7	165	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
5354.64	41.01	40.02	54	-12.99	31.7	6.47	37.18	214	320	Average
5354.64	51.51	50.52	74	-22.49	31.7	6.47	37.18	214	320	Peak
5466.64	49.84	48.61	68.2	-18.36	31.79	6.52	37.08	214	320	Peak
5700	100.4	98.95			32.12	6.73	37.4	214	320	Average
5700	109.59	108.14			32.12	6.73	37.4	214	320	Peak
5726.44	63.8	62.29	68.2	-4.4	32.18	6.76	37.43	214	320	Peak
11400	45.12	47.02	54	-8.88	40.33	10.47	52.7	256	231	Average
11400	55.12	57.02	74	-18.88	40.33	10.47	52.7	256	231	Peak

Remarks:

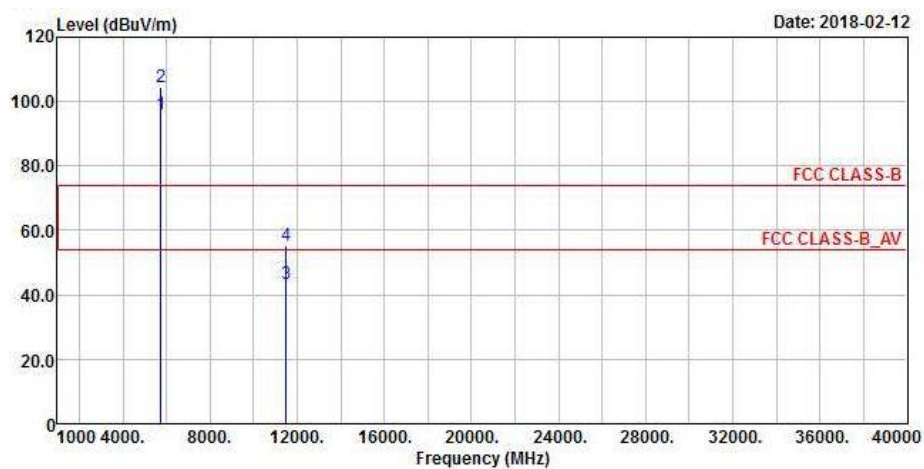
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5700 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

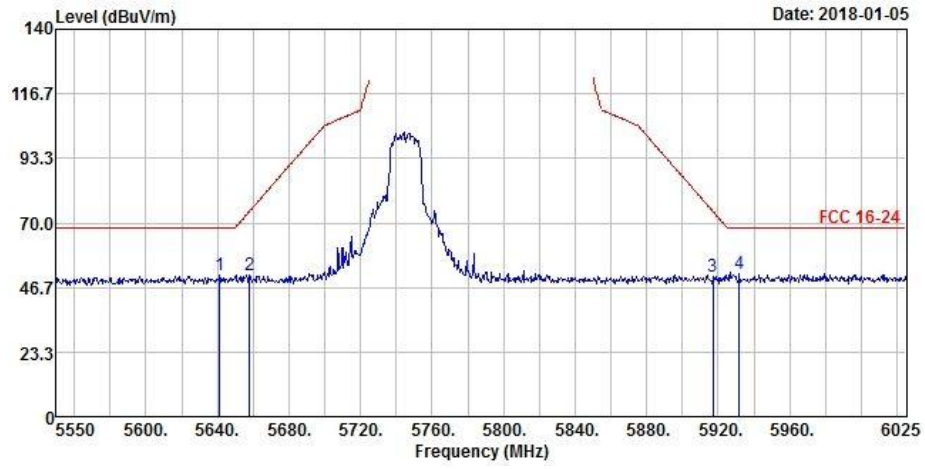
Horizontal



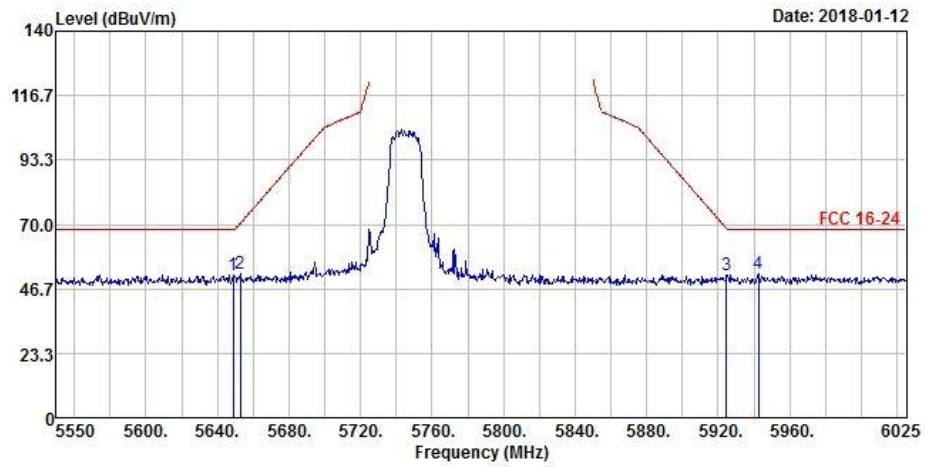
Vertical



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	88.84	87.32			32.21	6.78	37.47	128	265	Average
5745	98.79	97.27			32.21	6.78	37.47	128	265	Peak
11490	43.07	44.94	54	-10.93	40.25	10.66	52.78	111	187	Average
11490	55.09	56.96	74	-18.91	40.25	10.66	52.78	111	187	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	95.88	94.36			32.21	6.78	37.47	226	319	Average
5745	104.47	102.95			32.21	6.78	37.47	226	319	Peak
11490	43.22	45.09	54	-10.78	40.25	10.66	52.78	203	256	Average
11490	55.22	57.09	74	-18.78	40.25	10.66	52.78	203	256	Peak

<Out of Band Emission (OOBE)>

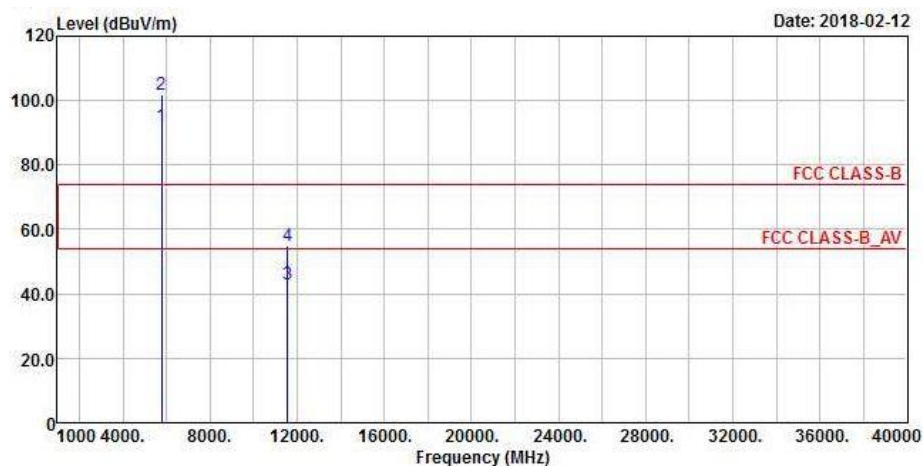
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5641.2	50.99	49.53	68.2	-17.21	32.04	6.7	37.28	128	265	Peak
5657.825	51.12	49.69	74.01	-22.89	32.06	6.71	37.34	128	265	Peak
5917.175	50.78	48.93	73.97	-23.19	32.49	6.86	37.5	128	265	Peak
5931.9	51.6	49.72	68.2	-16.6	32.52	6.86	37.5	128	265	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
5648.8	51.73	50.27	68.2	-16.47	32.04	6.7	37.28	226	319	Peak
5652.6	52.13	50.64	70.13	-18	32.06	6.71	37.28	226	319	Peak
5924.775	51.76	49.88	68.37	-16.61	32.52	6.86	37.5	226	319	Peak
5942.35	51.94	50.02	68.2	-16.26	32.55	6.87	37.5	226	319	Peak

Remarks:

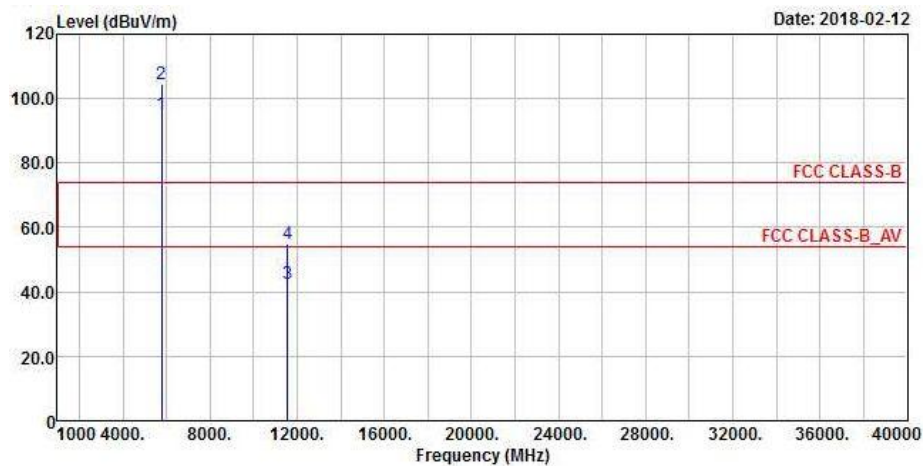
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5745 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

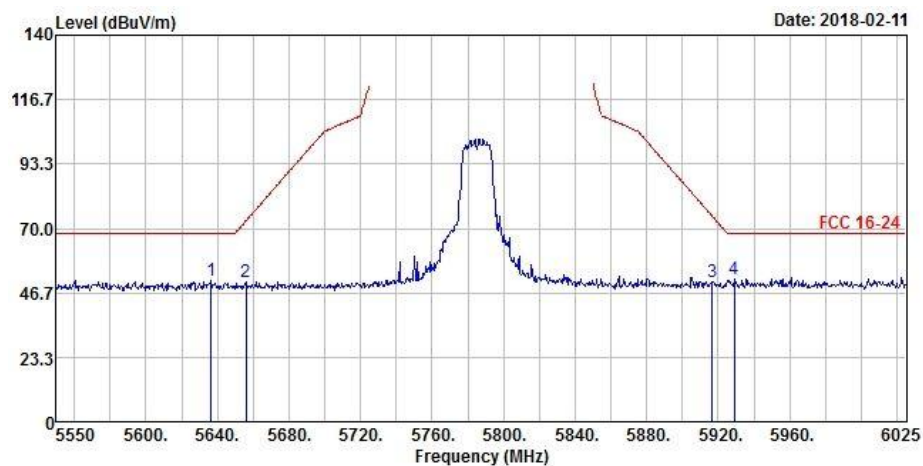
Horizontal



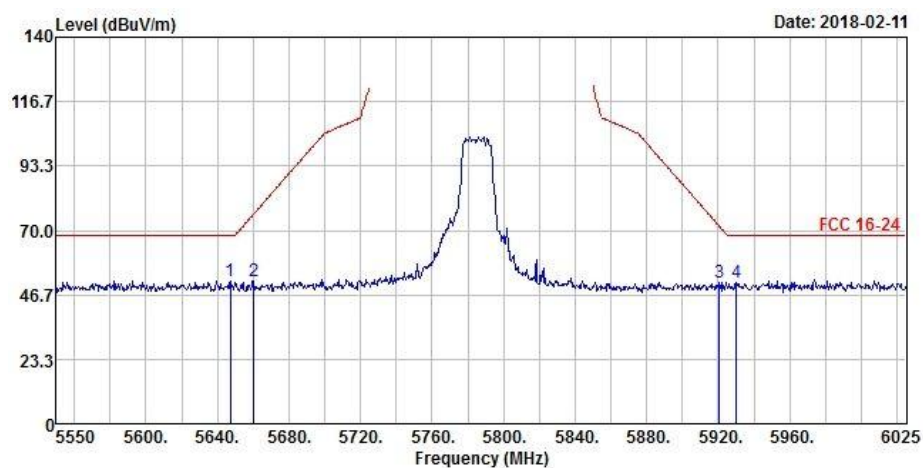
Vertical



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	91.94	90.4			32.26	6.82	37.54	207	6	Average
5785	101.98	100.44			32.26	6.82	37.54	207	6	Peak
11570	43	45.12	54	-11	40.13	10.76	53.01	203	256	Average
11570	55.12	57.24	74	-18.88	40.13	10.76	53.01	203	256	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	95.05	93.51			32.26	6.82	37.54	128	224	Average
5785	104.63	103.09			32.26	6.82	37.54	128	224	Peak
11570	42.53	44.65	54	-11.47	40.13	10.76	53.01	203	256	Average
11570	54.84	56.96	74	-19.16	40.13	10.76	53.01	203	256	Peak

<Out of Band Emission (OOBE)>

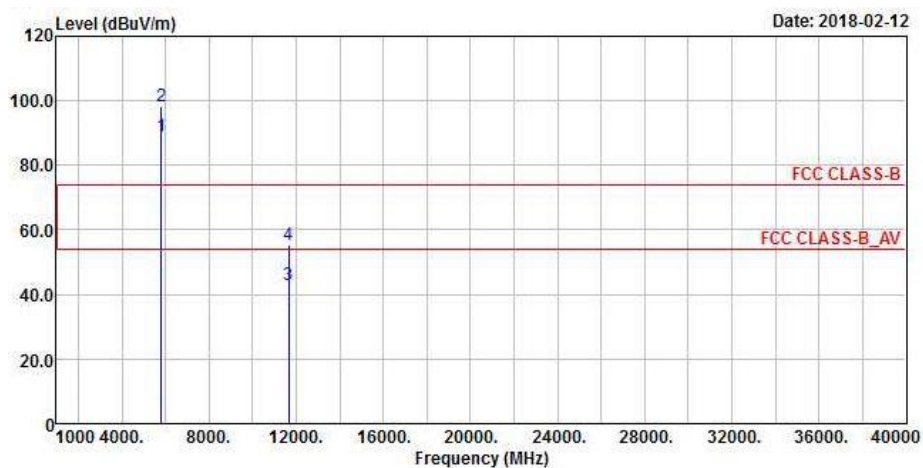
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5636.45	50.98	49.52	68.2	-17.22	32.04	6.7	37.28	207	6	Peak
5655.925	50.45	49.02	72.6	-22.15	32.06	6.71	37.34	207	6	Peak
5916.7	50.5	48.65	74.32	-23.82	32.49	6.86	37.5	207	6	Peak
5929.05	51.85	49.97	68.2	-16.35	32.52	6.86	37.5	207	6	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
5647.375	51.67	50.21	68.2	-16.53	32.04	6.7	37.28	128	224	Peak
5660.2	51.86	50.43	75.77	-23.91	32.06	6.71	37.34	128	224	Peak
5920.5	51.2	49.35	71.52	-20.32	32.49	6.86	37.5	128	224	Peak
5930	51.12	49.24	68.2	-17.08	32.52	6.86	37.5	128	224	Peak

Remarks:

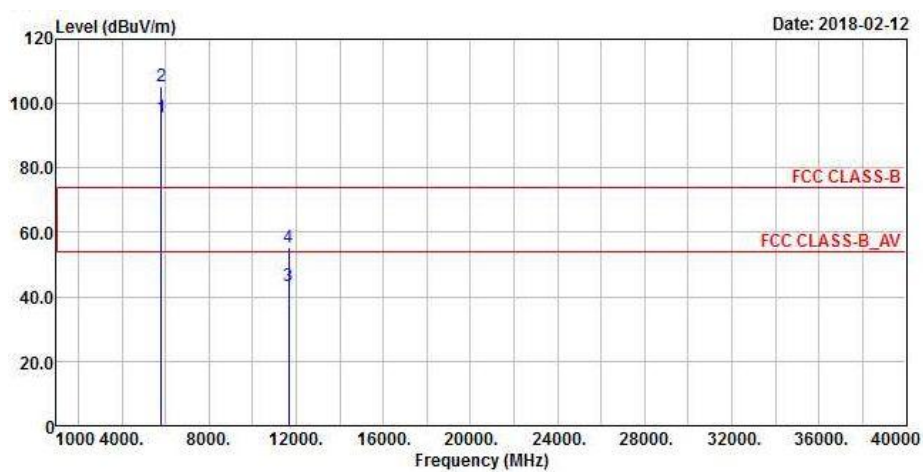
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5785 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

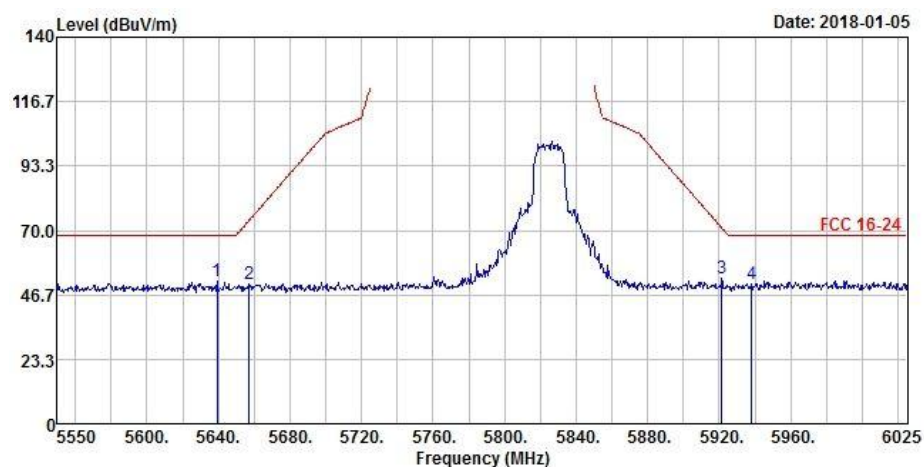
Horizontal



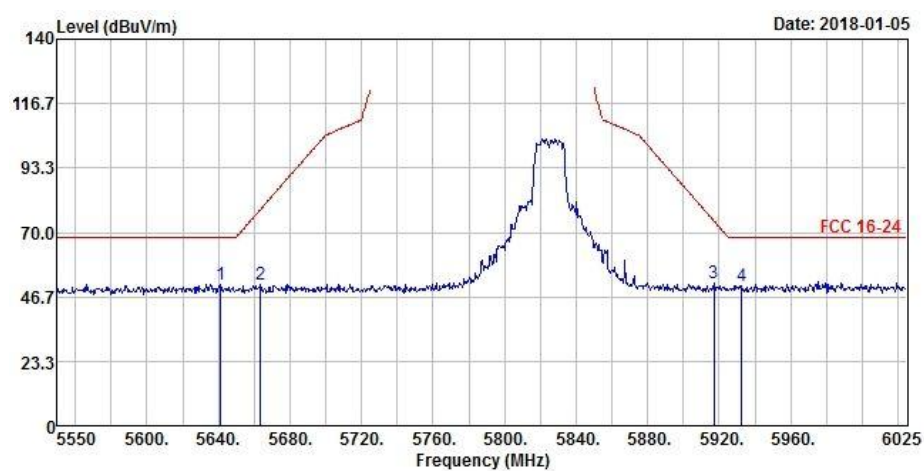
Vertical



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	89.15	87.49			32.35	6.84	37.53	133	251	Average
5825	98.47	96.81			32.35	6.84	37.53	133	251	Peak
11650	43.09	45.4	54	-10.91	40.03	10.8	53.14	102	236	Average
11650	55.19	57.5	74	-18.81	40.03	10.8	53.14	102	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
5825	95.82	94.16			32.35	6.84	37.53	168	40	Average
5825	105.25	103.59			32.35	6.84	37.53	168	40	Peak
11650	43.31	45.62	54	-10.69	40.03	10.8	53.14	111	145	Average
11650	55.32	57.63	74	-18.68	40.03	10.8	53.14	111	145	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
5639.3	51.41	49.95	68.2	-16.79	32.04	6.7	37.28	133	251	Peak
5657.35	50.8	49.37	73.66	-22.86	32.06	6.71	37.34	133	251	Peak
5921.45	52.63	50.78	70.82	-18.19	32.49	6.86	37.5	133	251	Peak
5938.075	50.87	48.98	68.2	-17.33	32.52	6.87	37.5	133	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
5641.2	51.17	49.71	68.2	-17.03	32.04	6.7	37.28	168	40	Peak
5663.525	51.19	49.76	78.24	-27.05	32.06	6.71	37.34	168	40	Peak
5917.175	51.56	49.71	73.97	-22.41	32.49	6.86	37.5	168	40	Peak
5932.375	50.72	48.84	68.2	-17.48	32.52	6.86	37.5	168	40	Peak

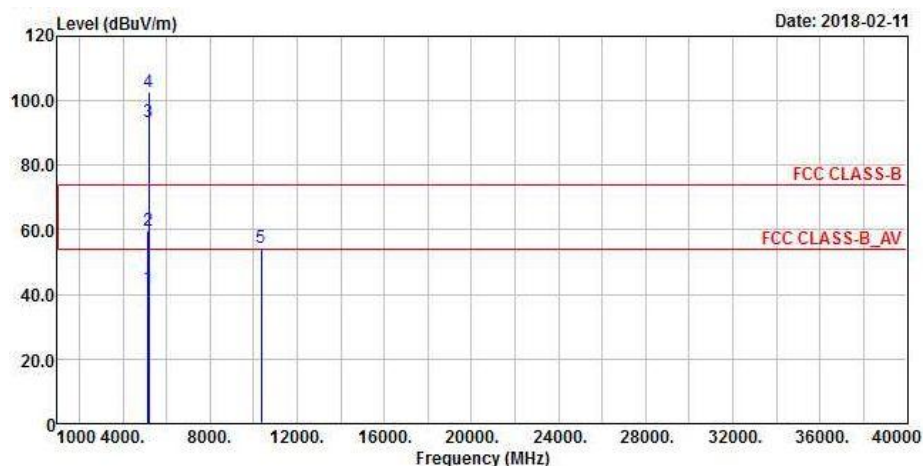
Remarks:

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

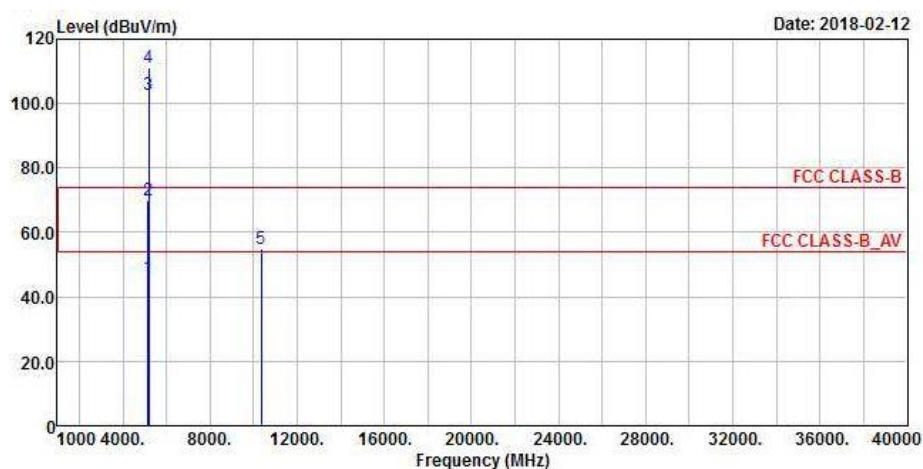
802.11ac (VHT20)

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	Jisyoung Wang

Horizontal



Vertical



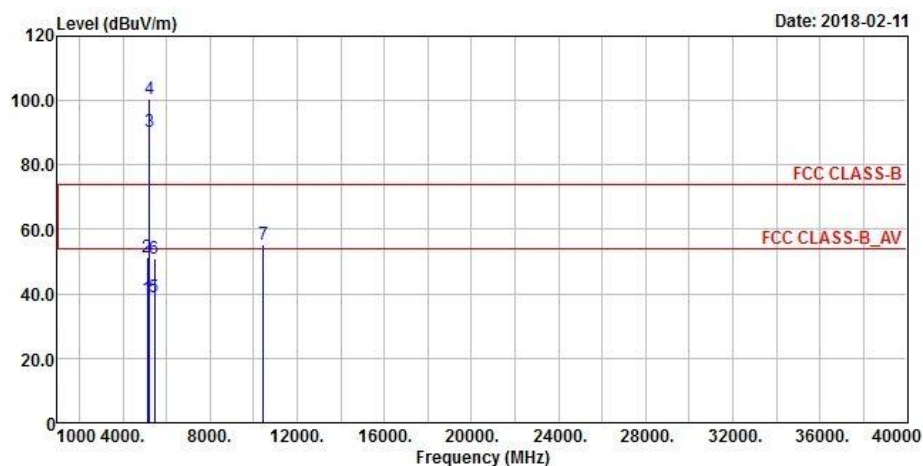
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5146.7	42.16	41.58	54	-11.84	31.56	6.34	37.32	205	114	Average
5146.7	59.92	59.34	74	-14.08	31.56	6.34	37.32	205	114	Peak
5180	93.46	92.84			31.59	6.37	37.34	205	114	Average
5180	102.84	102.22			31.59	6.37	37.34	205	114	Peak
*10360	54.36	57.12	68.2	-13.84	39.48	10.21	52.45	111	123	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
5149.4	46.18	45.6	54	-7.82	31.56	6.34	37.32	232	317	Average
5149.4	69.98	69.4	74	-4.02	31.56	6.34	37.32	232	317	Peak
5180	102.63	102.01			31.59	6.37	37.34	232	317	Average
5180	111	110.38			31.59	6.37	37.34	232	317	Peak
*10360	54.9	57.66	68.2	-13.3	39.48	10.21	52.45	111	132	Peak

Remarks:

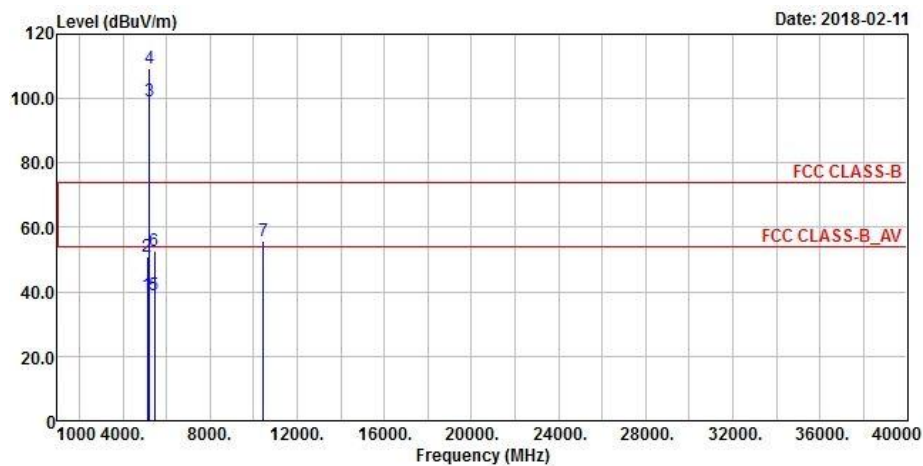
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5180 MHz: Fundamental Frequency
3. *: Out of Restricted Band

EUT Test Condition		Measurement Detail	
Channel	Channel 44	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	Jisyoung Wang

Horizontal



Vertical



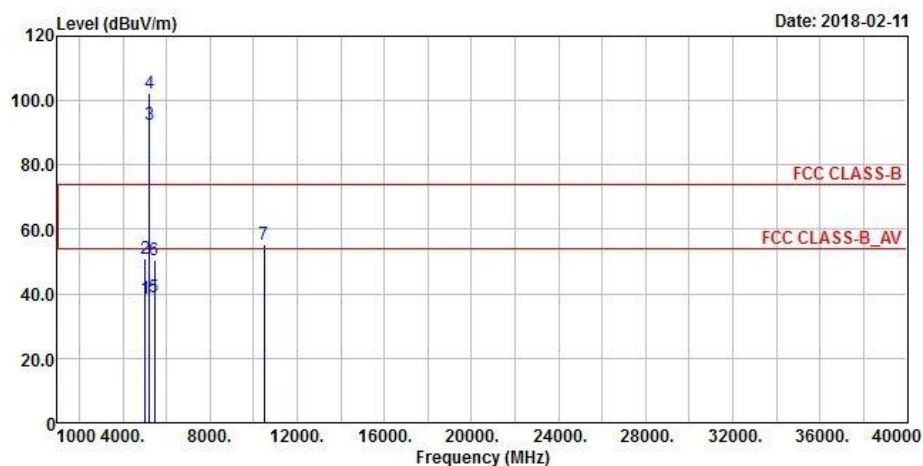
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5129.06	38.54	37.97	54	-15.46	31.55	6.32	37.3	208	77	Average
5129.06	51.21	50.64	74	-22.79	31.55	6.32	37.3	208	77	Peak
5220	90.52	89.87			31.61	6.4	37.36	208	77	Average
5220	100.54	99.89			31.61	6.4	37.36	208	77	Peak
5446.03	38.84	37.7	54	-15.16	31.77	6.5	37.13	208	77	Average
5446.03	50.72	49.58	74	-23.28	31.77	6.5	37.13	208	77	Peak
*10440	55.2	57.96	68.2	-13	39.48	10.21	52.45	122	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
5124.92	38.95	38.39	54	-15.05	31.55	6.31	37.3	132	224	Average
5124.92	50.89	50.33	74	-23.11	31.55	6.31	37.3	132	224	Peak
5220	99.28	98.63			31.61	6.4	37.36	132	224	Average
5220	109.31	108.66			31.61	6.4	37.36	132	224	Peak
5449.55	38.94	37.8	54	-15.06	31.77	6.5	37.13	132	224	Average
5449.55	52.62	51.48	74	-21.38	31.77	6.5	37.13	132	224	Peak
*10440	55.63	58.39	68.2	-12.57	39.48	10.21	52.45	165	236	Peak

Remarks:

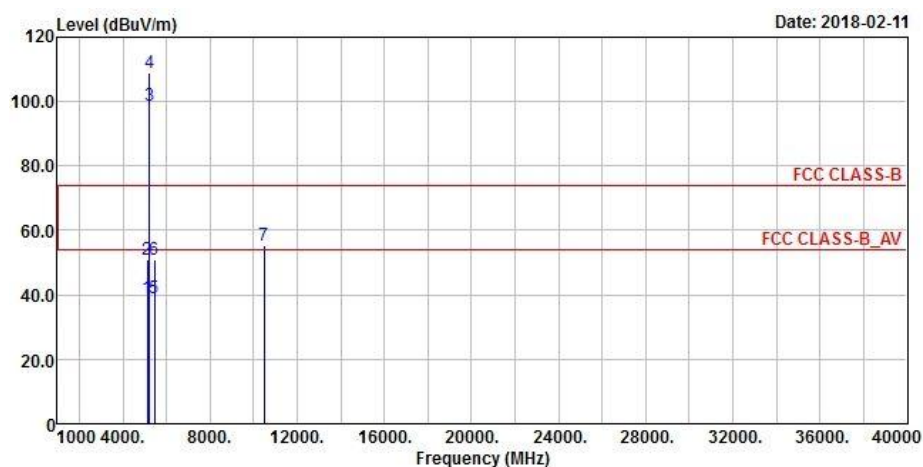
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5220 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



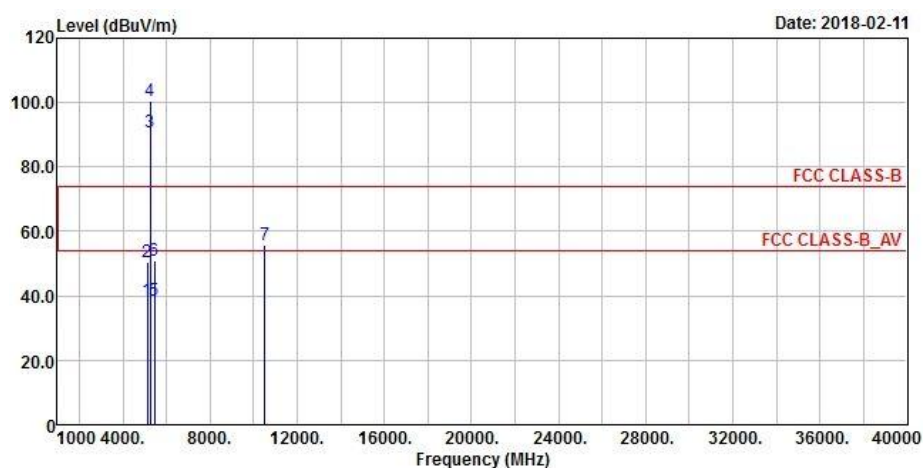
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5018.72	38.66	37.51	54	-15.34	31.47	6.92	37.24	198	69	Average
5018.72	50.72	49.57	74	-23.28	31.47	6.92	37.24	198	69	Peak
5240	92.4	90.97			31.62	7.13	37.32	198	69	Average
5240	102.18	100.75			31.62	7.13	37.32	198	69	Peak
5448.32	38.86	37.01	54	-15.14	31.77	7.21	37.13	198	69	Average
5448.32	50.51	48.66	74	-23.49	31.77	7.21	37.13	198	69	Peak
*10480	55.3	43.59	68.2	-12.9	39.6	10.22	38.11	325	123	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
5138.96	38.95	37.67	54	-15.05	31.55	7.03	37.3	141	225	Average
5138.96	50.88	49.6	74	-23.12	31.55	7.03	37.3	141	225	Peak
5240	98.73	97.3			31.62	7.13	37.32	141	225	Average
5240	108.74	107.31			31.62	7.13	37.32	141	225	Peak
5450.21	38.98	37.07	54	-15.02	31.77	7.22	37.08	141	225	Average
5450.21	50.75	48.84	74	-23.25	31.77	7.22	37.08	141	225	Peak
*10480	55.3	43.59	68.2	-12.9	39.6	10.22	38.11	111	132	Peak

Remarks:

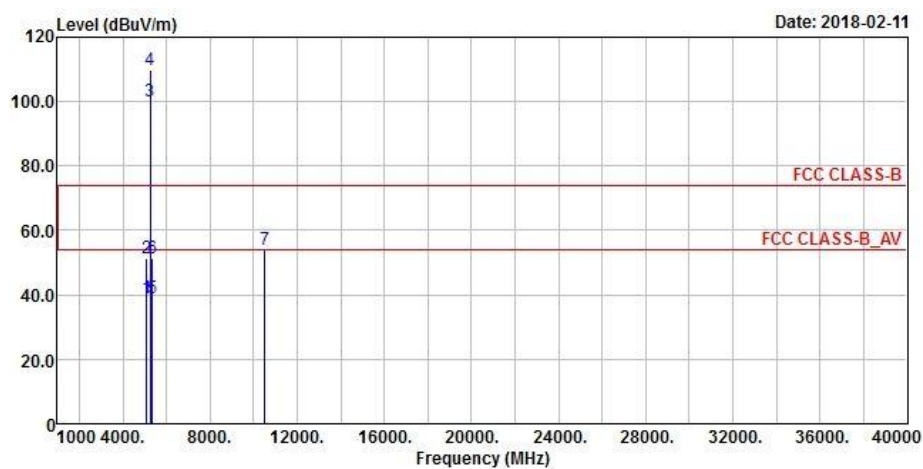
- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5240 MHz: Fundamental Frequency
- *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



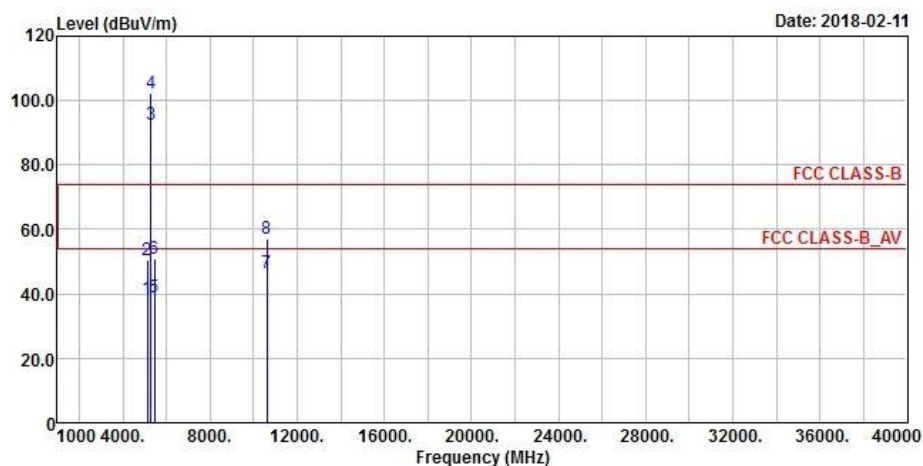
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5140.4	38.43	37.84	54	-15.57	31.56	6.33	37.3	183	68	Average
5140.4	50.67	50.08	74	-23.33	31.56	6.33	37.3	183	68	Peak
5260	90.77	89.96			31.65	6.43	37.27	183	68	Average
5260	100.35	99.54			31.65	6.43	37.27	183	68	Peak
5446.8	38.74	37.6	54	-15.26	31.77	6.5	37.13	183	68	Average
5446.8	50.91	49.77	74	-23.09	31.77	6.5	37.13	183	68	Peak
*10520	55.8	58.6	74	68.2	-9.6	10.27	52.73	123	256	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
5102.96	38.79	38.25	54	-15.21	31.53	6.29	37.28	120	223	Average
5102.96	51.22	50.68	74	-22.78	31.53	6.29	37.28	120	223	Peak
5260	99.97	99.16			31.65	6.43	37.27	120	223	Average
5260	109.89	109.08			31.65	6.43	37.27	120	223	Peak
5356.05	39.01	38.02	54	-14.99	31.7	6.47	37.18	120	223	Average
5356.05	51.27	50.28	74	-22.73	31.7	6.47	37.18	120	223	Peak
*10520	54.1	56.9	74	68.2	-11.3	10.27	52.73	116	123	Peak

Remarks:

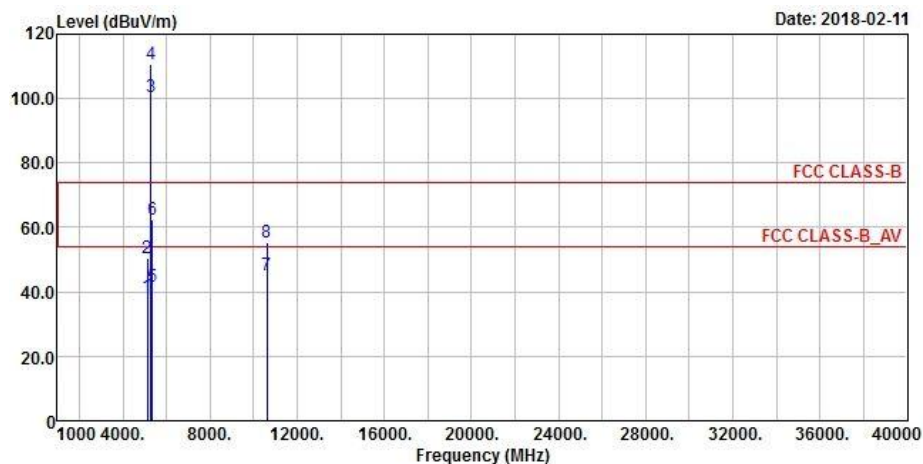
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5260 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung 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
5135	38.55	37.98	54	-15.45	31.55	6.32	37.3	205	68	Average
5135	50.49	49.92	74	-23.51	31.55	6.32	37.3	205	68	Peak
5300	92.38	91.44			31.67	6.46	37.19	205	68	Average
5300	102.19	101.25			31.67	6.46	37.19	205	68	Peak
5447.68	38.89	37.75	54	-15.11	31.77	6.5	37.13	205	68	Average
5447.68	51.08	49.94	74	-22.92	31.77	6.5	37.13	205	68	Peak
10600	46.42	49.25	54	-7.58	39.85	10.43	53.11	203	256	Average
10600	57.02	59.85	74	-16.98	39.85	10.43	53.11	203	256	Peak

Antenna Polarity & Test Distance: Vertical at 3 m

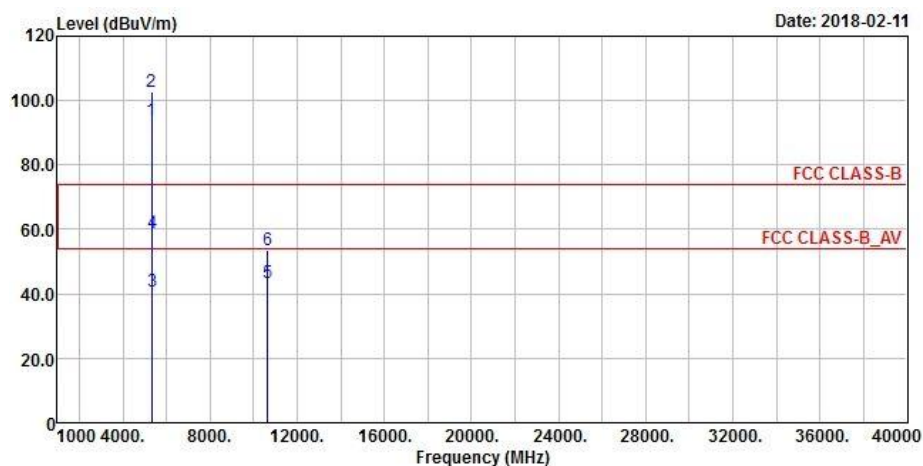
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5126.54	38.62	38.05	54	-15.38	31.55	6.32	37.3	146	222	Average
5126.54	50.61	50.04	74	-23.39	31.55	6.32	37.3	146	222	Peak
5300	100.69	99.75			31.67	6.46	37.19	146	222	Average
5300	110.87	109.93			31.67	6.46	37.19	146	222	Peak
5350	41.73	40.74	54	-12.27	31.7	6.47	37.18	146	222	Average
5350	62.44	61.45	74	-11.56	31.7	6.47	37.18	146	222	Peak
10600	45.27	48.1	54	-8.73	39.85	10.43	53.11	125	123	Average
10600	55.47	58.3	74	-18.53	39.85	10.43	53.11	125	123	Peak

Remarks:

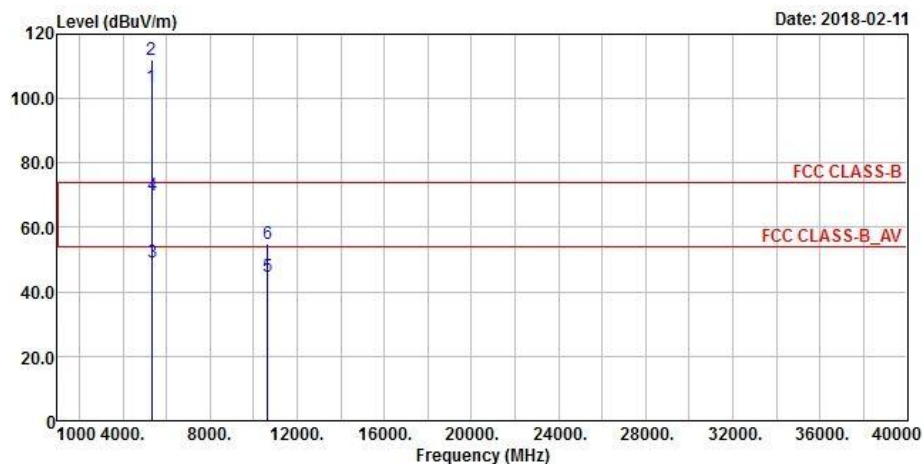
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



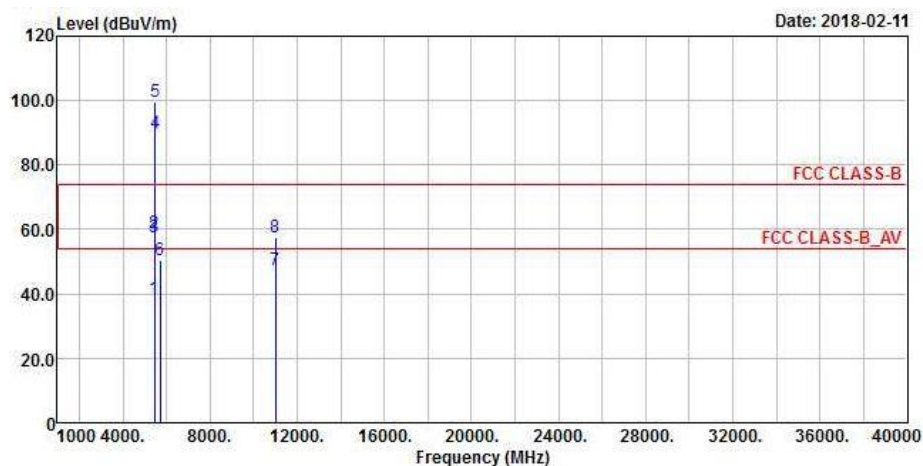
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	93.83	92.88			31.68	6.46	37.19	213	66	Average
5320	102.73	101.78			31.68	6.46	37.19	213	66	Peak
5355.83	40.63	39.64	54	-13.37	31.7	6.47	37.18	213	66	Average
5355.83	58.95	57.96	74	-15.05	31.7	6.47	37.18	213	66	Peak
10640	43.58	46.36	54	-10.42	39.93	10.36	53.07	222	232	Average
10640	53.74	56.52	74	-20.26	39.93	10.36	53.07	222	232	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	103.49	102.54			31.68	6.46	37.19	211	316	Average
5320	112.14	111.19			31.68	6.46	37.19	211	316	Peak
5350.33	49.12	48.13	54	-4.88	31.7	6.47	37.18	211	316	Average
5350.33	69.99	69	74	-4.01	31.7	6.47	37.18	211	316	Peak
10640	44.74	47.52	54	-9.26	39.93	10.36	53.07	136	256	Average
10640	54.85	57.63	74	-19.15	39.93	10.36	53.07	136	256	Peak

Remarks:

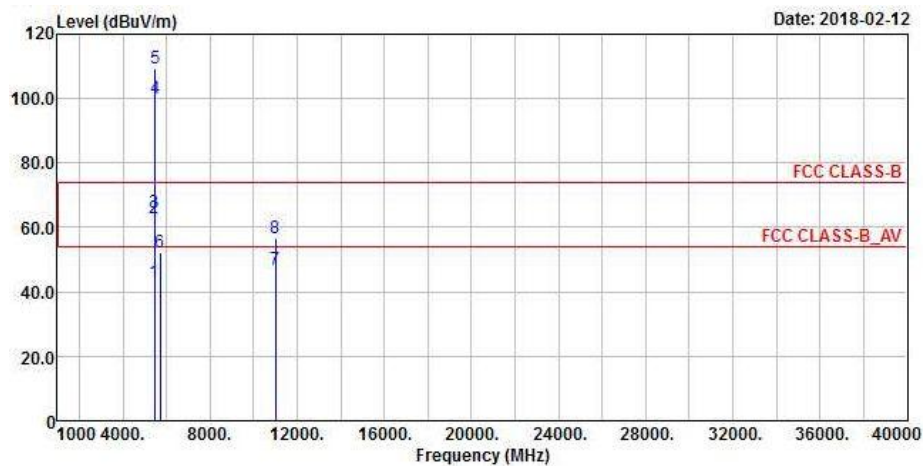
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5320 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



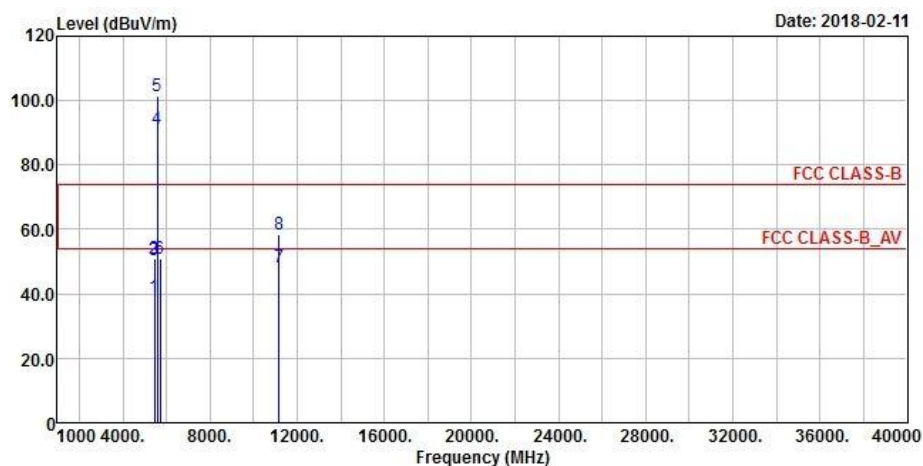
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5457.84	38.72	37.52	54	-15.28	31.77	6.51	37.08	216	122	Average
5457.84	58.78	57.58	74	-15.22	31.77	6.51	37.08	216	122	Peak
*5464.4	57.44	56.21	68.2	-10.76	31.79	6.52	37.08	216	122	Peak
5500	89.91	88.59			31.81	6.54	37.03	216	122	Average
5500	99.44	98.12			31.81	6.54	37.03	216	122	Peak
*5729.32	50.51	49	68.2	-17.69	32.18	6.76	37.43	216	122	Peak
11000	47.4	49.3	54	-6.6	40.73	10.4	53.03	174	156	Average
11000	57.4	59.3	74	-16.6	40.73	10.4	53.03	174	156	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
5457.68	43.1	41.9	54	-10.9	31.77	6.51	37.08	211	322	Average
5457.68	63.06	61.86	74	-10.94	31.77	6.51	37.08	211	322	Peak
*5464.88	64.65	63.42	68.2	-3.55	31.79	6.52	37.08	211	322	Peak
5500	100.28	98.96			31.81	6.54	37.03	211	322	Average
5500	109.35	108.03			31.81	6.54	37.03	211	322	Peak
*5726.28	52.25	50.74	68.2	-15.95	32.18	6.76	37.43	211	322	Peak
11000	46.89	48.79	54	-7.11	40.73	10.4	53.03	302	256	Average
11000	56.88	58.78	74	-17.12	40.73	10.4	53.03	302	256	Peak

Remarks:

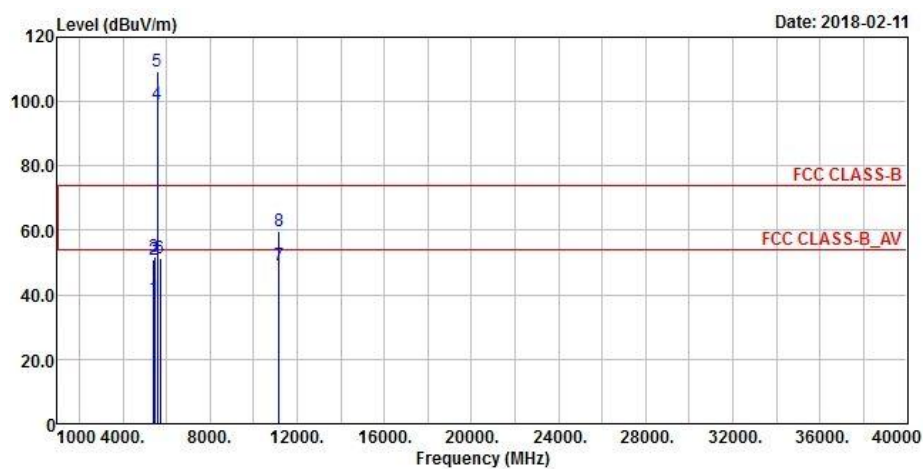
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5500 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



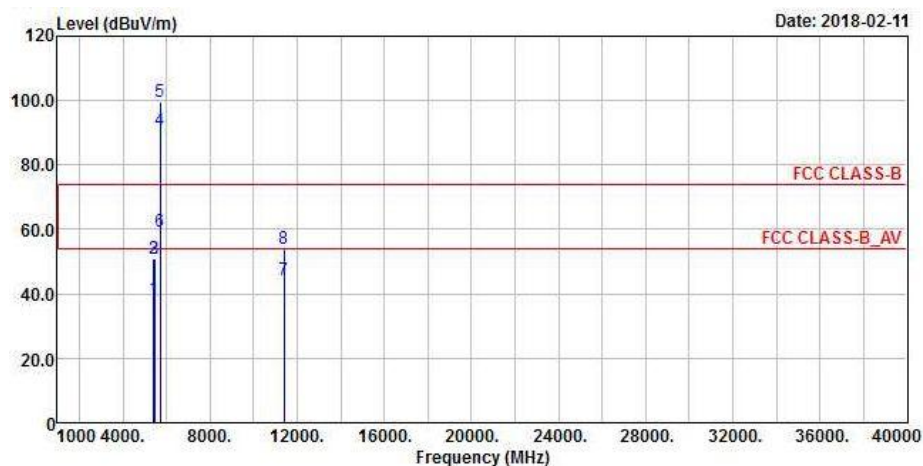
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5451.92	38.84	37.64	54	-15.16	31.77	6.51	37.08	223	117	Average
5451.92	51	49.8	74	-23	31.77	6.51	37.08	223	117	Peak
*5470	50.37	49.17	68.2	-17.83	31.77	6.51	37.08	223	117	Peak
5580	91.16	89.75			31.92	6.65	37.16	223	117	Average
5580	101.19	99.78			31.92	6.65	37.16	223	117	Peak
*5725	50.87	49.36	68.2	-17.33	32.18	6.76	37.43	223	117	Peak
11160	48.47	50.17	54	-5.53	40.56	10.52	52.78	132	256	Average
11160	58.56	60.26	74	-15.44	40.56	10.52	52.78	132	256	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
5428.88	39.12	38	54	-14.88	31.76	6.49	37.13	137	221	Average
5428.88	50.97	49.85	74	-23.03	31.76	6.49	37.13	137	221	Peak
*5470	51.72	50.5	68.2	-16.48	31.79	6.51	37.08	137	221	Peak
5580	99.14	97.73			31.92	6.65	37.16	137	221	Average
5580	109.55	108.14			31.92	6.65	37.16	137	221	Peak
*5725	51.44	49.93	68.2	-16.76	32.18	6.76	37.43	137	221	Peak
11160	49.33	51.03	54	-4.67	40.56	10.52	52.78	201	236	Average
11160	59.67	61.37	74	-14.33	40.56	10.52	52.78	201	236	Peak

Remarks:

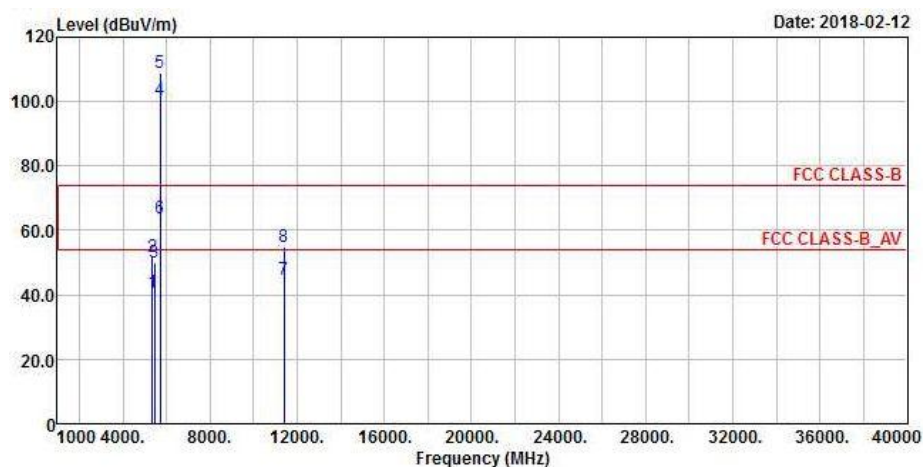
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5580 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



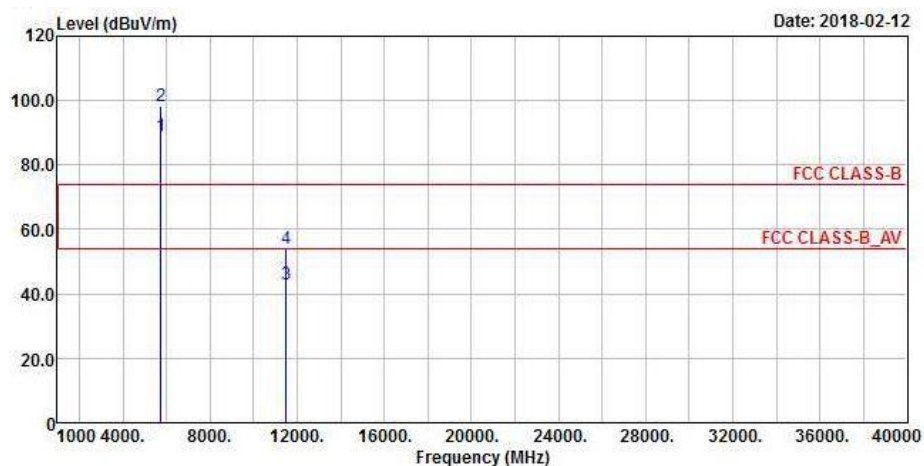
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5419.44	38.72	37.67	54	-15.28	31.75	6.48	37.18	205	125	Average
5419.44	51.07	50.02	74	-22.93	31.75	6.48	37.18	205	125	Peak
*5466	50.78	49.55	68.2	-17.42	31.79	6.52	37.08	205	125	Peak
5700	90.64	89.19			32.12	6.73	37.4	205	125	Average
5700	99.41	97.96			32.12	6.73	37.4	205	125	Peak
*5725	59.38	57.87	68.2	-8.82	32.18	6.76	37.43	205	125	Peak
11400	44.3	46.2	54	-9.7	40.33	10.47	52.7	201	256	Average
11400	54.2	56.1	74	-19.8	40.33	10.47	52.7	201	256	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
5351.6	40.52	39.53	54	-13.48	31.7	6.47	37.18	211	317	Average
5351.6	51.7	50.71	74	-22.3	31.7	6.47	37.18	211	317	Peak
*5463.44	50.18	48.96	68.2	-18.02	31.79	6.51	37.08	211	317	Peak
5700	100.49	99.04			32.12	6.73	37.4	207	318	Average
5700	108.76	107.31			32.12	6.73	37.4	207	318	Peak
*5726.76	63.88	62.37	68.2	-4.32	32.18	6.76	37.43	211	317	Peak
11400	44.69	46.59	54	-9.31	40.33	10.47	52.7	295	123	Average
11400	55.06	56.96	74	-18.94	40.33	10.47	52.7	295	123	Peak

Remarks:

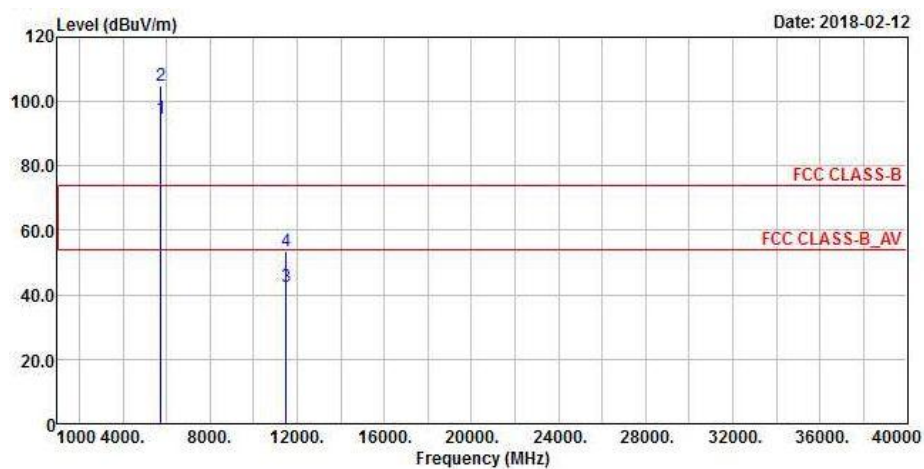
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5700 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

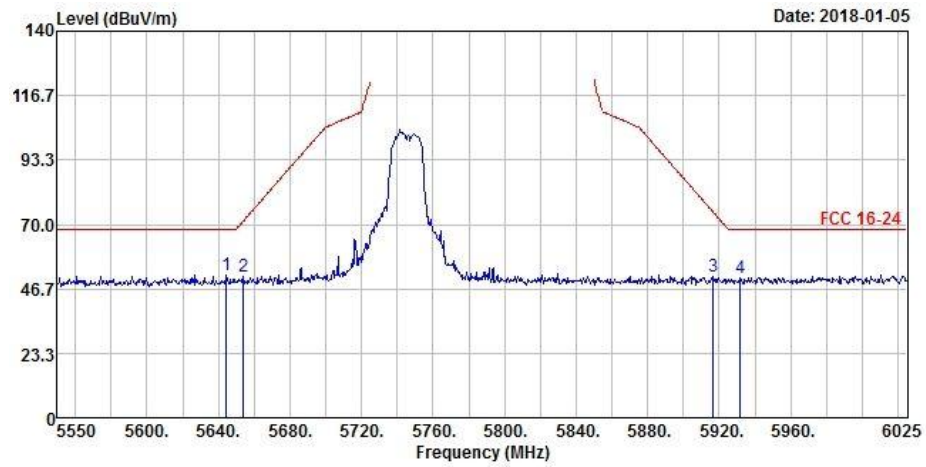
Horizontal



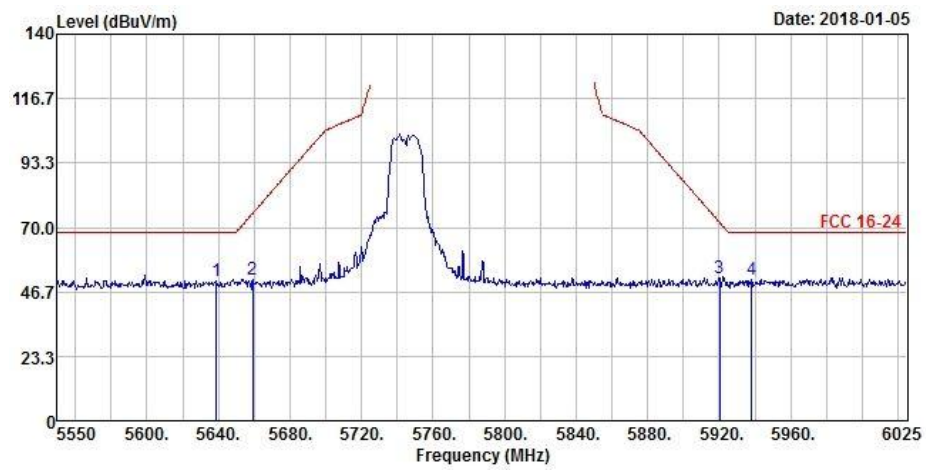
Vertical



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	88.95	87.43			32.21	6.78	37.47	142	259	Average
5745	98.42	96.9			32.21	6.78	37.47	142	259	Peak
11490	42.87	44.74	54	-11.13	40.25	10.66	52.78	123	256	Average
11490	53.97	55.84	74	-20.03	40.25	10.66	52.78	123	256	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	94.84	93.32			32.21	6.78	37.47	183	35	Average
5745	104.91	103.39			32.21	6.78	37.47	183	35	Peak
11490	42.44	44.31	54	-11.56	40.25	10.66	52.78	201	236	Average
11490	53.47	55.34	74	-20.53	40.25	10.66	52.78	201	236	Peak

<Out of Band Emission (OOBE)>

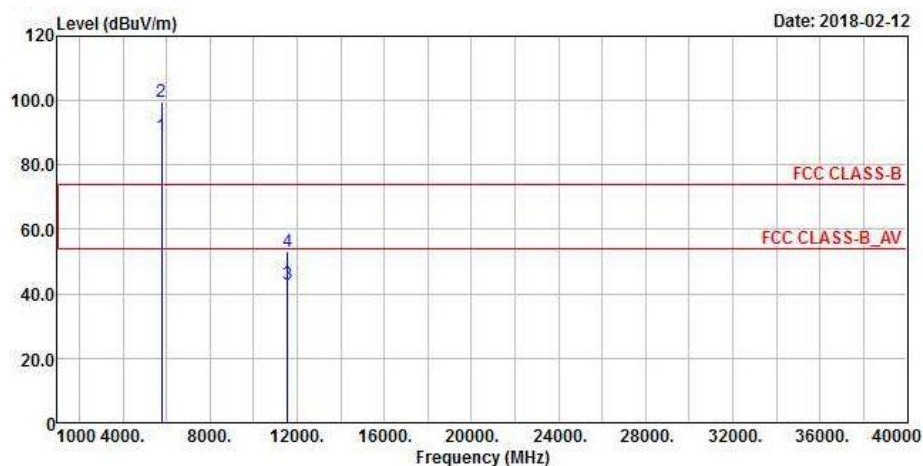
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5644.525	51.66	50.2	68.2	-16.54	32.04	6.7	37.28	142	259	Peak
5654.025	50.95	49.52	71.19	-20.24	32.06	6.71	37.34	142	259	Peak
5916.7	50.91	49.06	74.32	-23.41	32.49	6.86	37.5	142	259	Peak
5931.9	50.46	48.58	68.2	-17.74	32.52	6.86	37.5	142	259	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
5638.825	50.49	49.03	68.2	-17.71	32.04	6.7	37.28	183	35	Peak
5659.25	50.91	49.48	75.07	-24.16	32.06	6.71	37.34	183	35	Peak
5920.025	51.77	49.92	71.87	-20.1	32.49	6.86	37.5	183	35	Peak
5938.075	51.12	49.23	68.2	-17.08	32.52	6.87	37.5	183	35	Peak

Remarks:

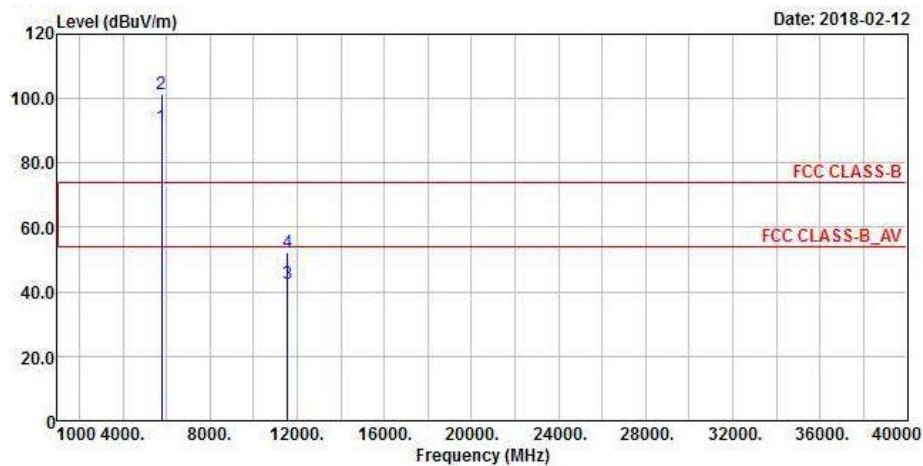
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5745 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

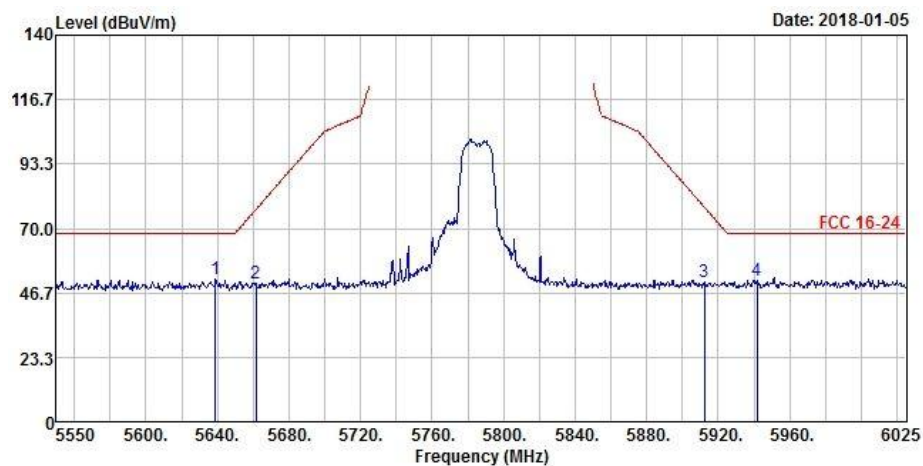
Horizontal



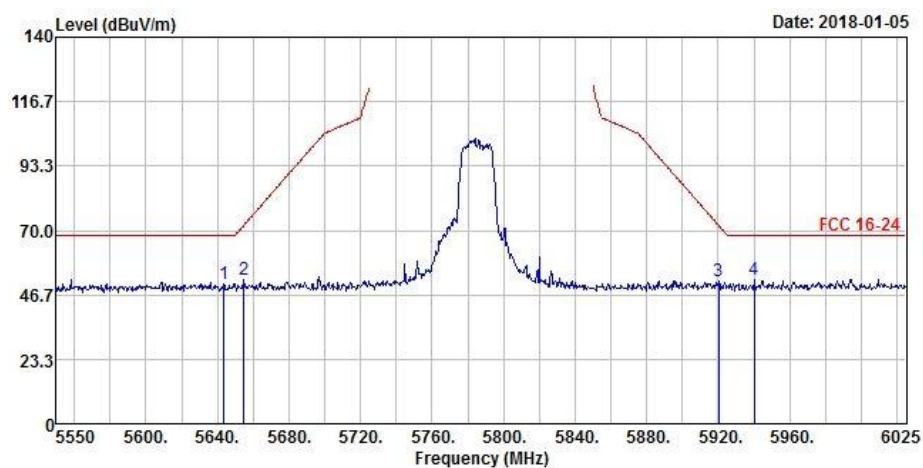
Vertical



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	89.18	87.64			32.26	6.82	37.54	123	255	Average
5785	99.45	97.91			32.26	6.82	37.54	123	255	Peak
11570	43.11	45.23	54	-10.89	40.13	10.76	53.01	201	236	Average
11570	53.18	55.3	74	-20.82	40.13	10.76	53.01	201	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
5785	91.07	89.53			32.26	6.82	37.54	185	26	Average
5785	101.45	99.91			32.26	6.82	37.54	185	26	Peak
11570	42.51	44.63	54	-11.49	40.13	10.76	53.01	111	165	Average
11570	52.34	54.46	74	-21.66	40.13	10.76	53.01	111	165	Peak

<Out of Band Emission (OOBE)>

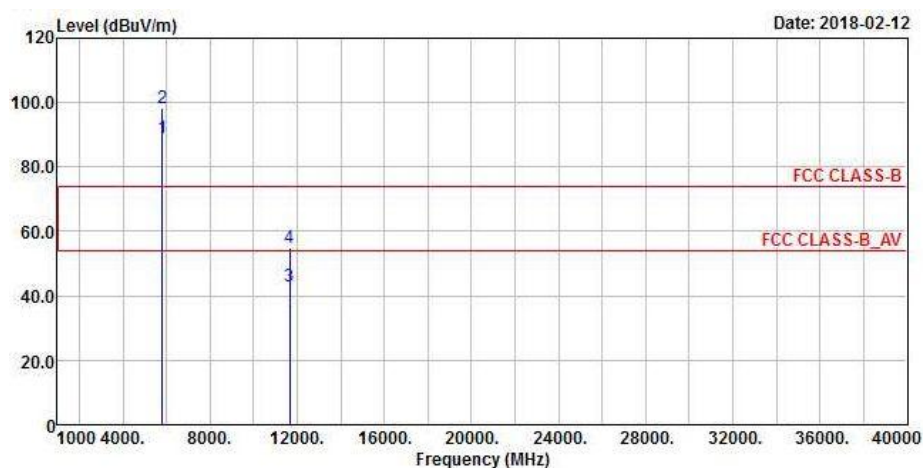
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5638.825	51.67	50.21	68.2	-16.53	32.04	6.7	37.28	123	255	Peak
5661.625	50.3	48.87	76.83	-26.53	32.06	6.71	37.34	123	255	Peak
5912.425	50.67	48.83	77.48	-26.81	32.49	6.85	37.5	123	255	Peak
5941.875	51.38	49.46	68.2	-16.82	32.55	6.87	37.5	123	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
5643.575	50.4	48.94	68.2	-17.8	32.04	6.7	37.28	185	26	Peak
5654.975	51.95	50.52	71.9	-19.95	32.06	6.71	37.34	185	26	Peak
5920.025	51.46	49.61	71.87	-20.41	32.49	6.86	37.5	185	26	Peak
5939.975	52	50.08	68.2	-16.2	32.55	6.87	37.5	185	26	Peak

Remarks:

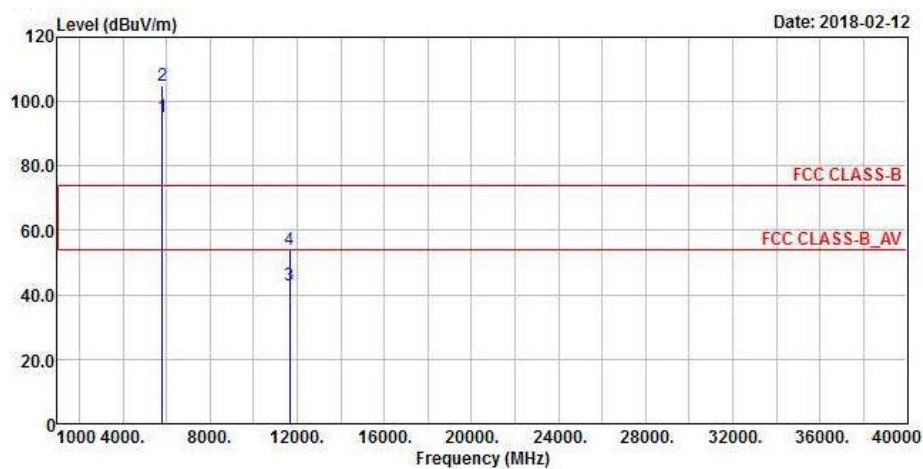
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5785 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

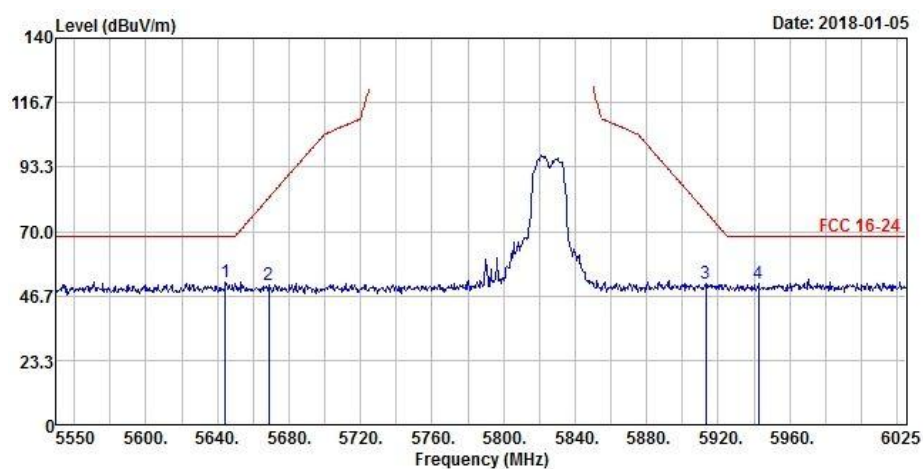
Horizontal



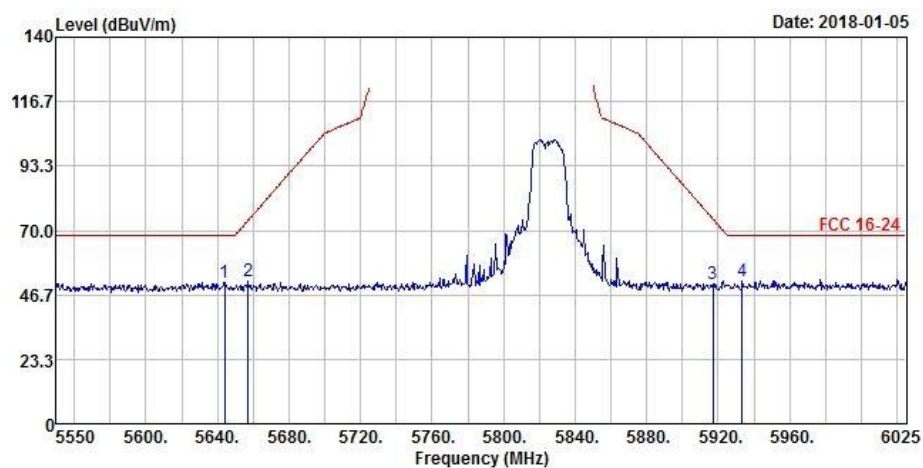
Vertical



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	88.82	87.16			32.35	6.84	37.53	136	256	Average
5825	98.2	96.54			32.35	6.84	37.53	136	256	Peak
11650	43.1	45.41	54	-10.9	40.03	10.8	53.14	302	256	Average
11650	54.92	57.23	74	-19.08	40.03	10.8	53.14	302	256	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	95.16	93.5			32.35	6.84	37.53	169	40	Average
5825	105.06	103.4			32.35	6.84	37.53	169	40	Peak
11650	43.01	45.32	54	-10.99	40.03	10.8	53.14	105	256	Average
11650	54.21	56.52	74	-19.79	40.03	10.8	53.14	105	256	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
5644.525	51.44	49.98	68.2	-16.76	32.04	6.7	37.28	128	265	Peak
5668.75	50.39	48.93	82.11	-31.72	32.09	6.71	37.34	128	265	Peak
5912.9	51.33	49.48	77.13	-25.8	32.49	6.86	37.5	128	265	Peak
5942.35	51.01	49.09	68.2	-17.19	32.55	6.87	37.5	128	265	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	51.19	49.73	68.2	-17.01	32.04	6.7	37.28	169	40	Peak
5657.35	51.56	50.13	73.66	-22.1	32.06	6.71	37.34	169	40	Peak
5917.175	50.61	48.76	73.97	-23.36	32.49	6.86	37.5	169	40	Peak
5933.325	51.88	50	68.2	-16.32	32.52	6.86	37.5	169	40	Peak

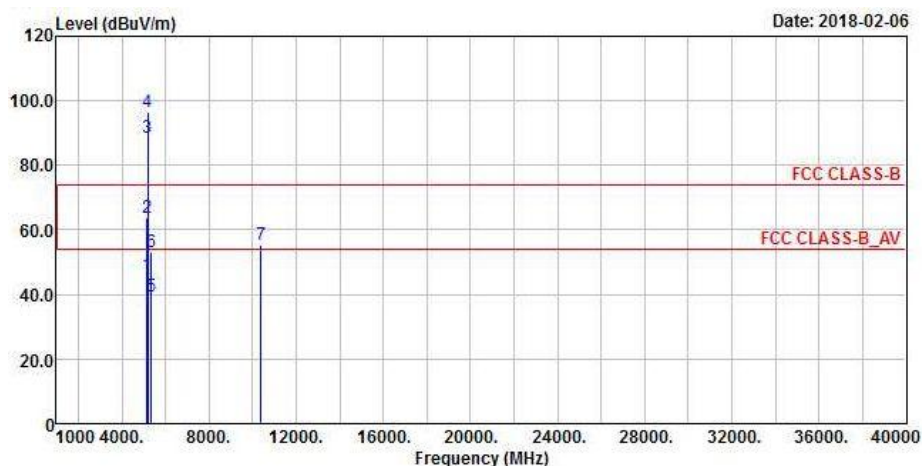
Remarks:

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

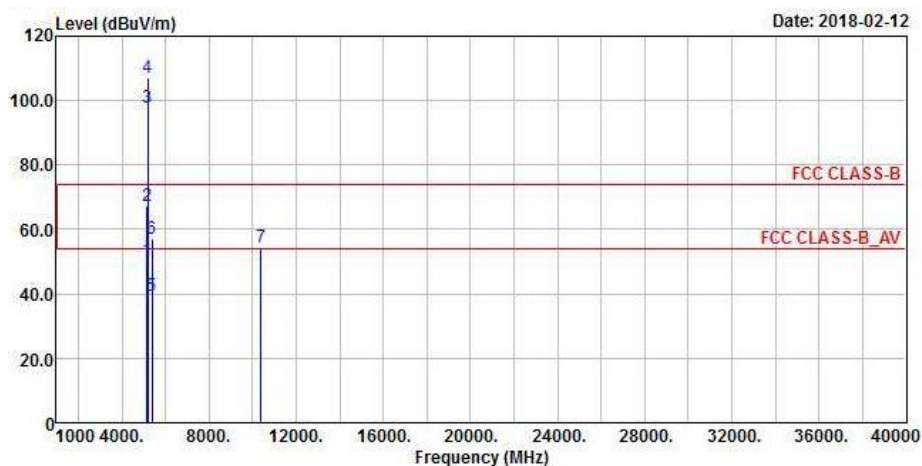
802.11ac (VHT40)

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	Jisyoung Wang

Horizontal



Vertical



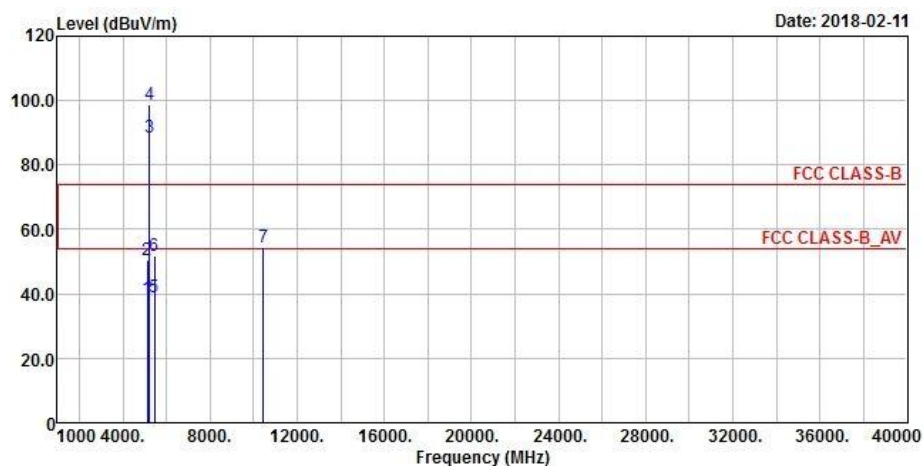
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5145.05	45.85	45.27	54	-8.15	31.56	6.34	37.32	213	113	Average
5145.05	63.6	63.02	74	-10.4	31.56	6.34	37.32	213	113	Peak
5190	88.43	87.8			31.59	6.38	37.34	213	113	Average
5190	96.45	95.82			31.59	6.38	37.34	213	113	Peak
5357.92	39.23	38.24	54	-14.77	31.7	6.47	37.18	213	113	Average
5357.92	53.2	52.21	74	-20.8	31.7	6.47	37.18	213	113	Peak
*10380	55.15	57.89	68.2	-13.05	39.5	10.21	52.45	145	215	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
5149.7	50.64	50.06	54	-3.36	31.56	6.34	37.32	223	315	Average
5149.7	67.19	66.61	74	-6.81	31.56	6.34	37.32	223	315	Peak
5190	97.86	97.23			31.59	6.38	37.34	223	315	Average
5190	107.08	106.45			31.59	6.38	37.34	223	315	Peak
5390.81	39.39	38.37	54	-14.61	31.73	6.47	37.18	223	315	Average
5390.81	57.31	56.29	74	-16.69	31.73	6.47	37.18	223	315	Peak
*10380	54.37	57.11	68.2	-13.83	39.5	10.21	52.45	145	215	Peak

Remarks:

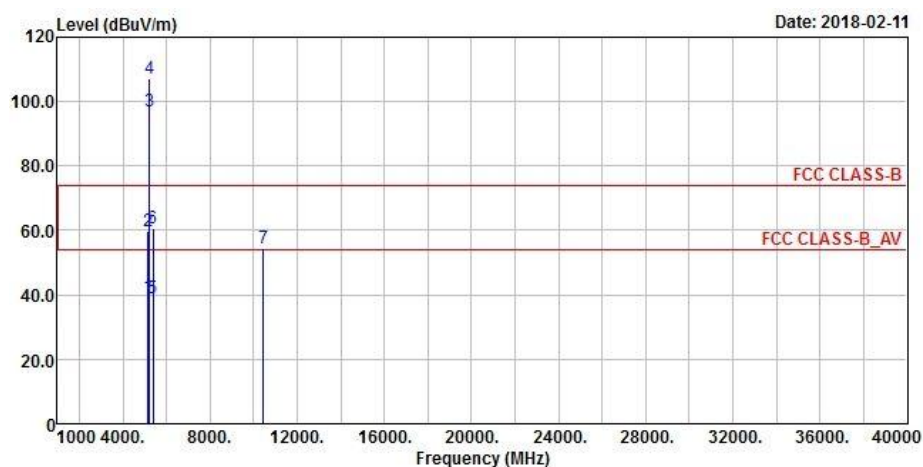
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5190 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



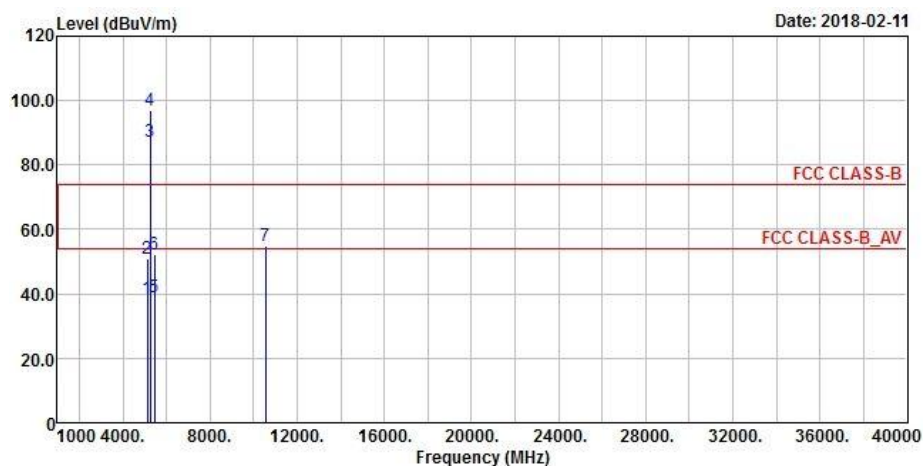
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5126.9	38.66	38.09	54	-15.34	31.55	6.32	37.3	202	70	Average
5126.9	50.7	50.13	74	-23.3	31.55	6.32	37.3	202	70	Peak
5230	88.72	88.01			31.62	6.41	37.32	202	70	Average
5230	98.72	98.01			31.62	6.41	37.32	202	70	Peak
5443.06	38.8	37.67	54	-15.2	31.76	6.5	37.13	202	70	Average
5443.06	51.9	50.77	74	-22.1	31.76	6.5	37.13	202	70	Peak
*10460	54.35	57.15	68.2	-13.85	39.57	10.22	52.59	200	203	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	39.29	38.71	54	-14.71	31.56	6.34	37.32	140	217	Average
5149.94	59.99	59.41	74	-14.01	31.56	6.34	37.32	140	217	Peak
5230	97.19	96.48			31.62	6.41	37.32	140	217	Average
5230	107.2	106.49			31.62	6.41	37.32	140	217	Peak
5374.64	38.93	37.92	54	-15.07	31.72	6.47	37.18	140	217	Average
5374.64	60.6	59.59	74	-13.4	31.72	6.47	37.18	140	217	Peak
*10460	54.32	57.12	68.2	-13.88	39.57	10.22	52.59	165	123	Peak

Remarks:

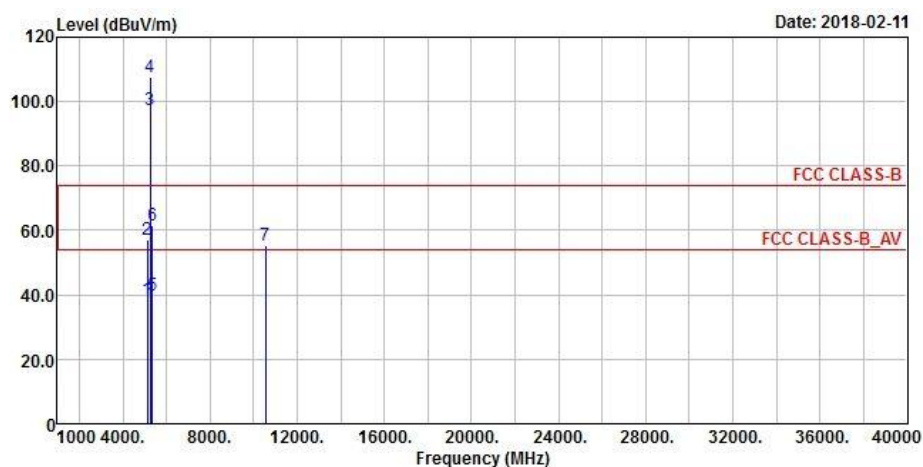
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5230 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



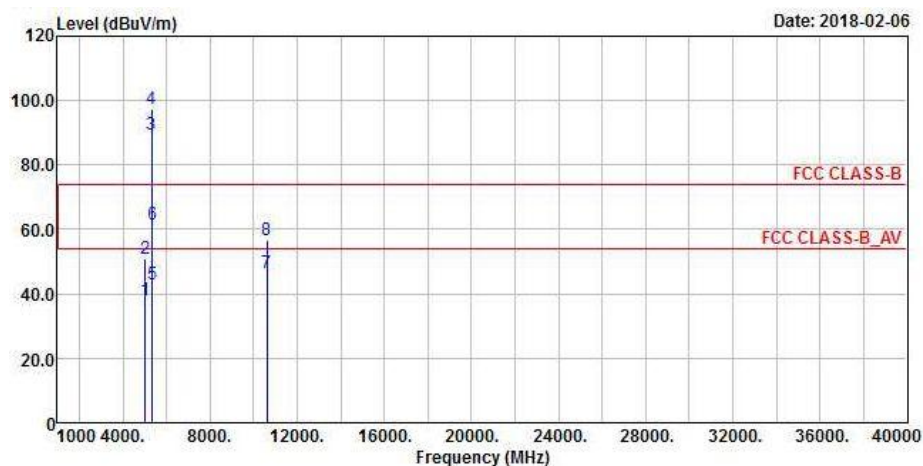
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5125.82	38.5	37.93	54	-15.5	31.55	6.32	37.3	222	75	Average
5125.82	50.79	50.22	74	-23.21	31.55	6.32	37.3	222	75	Peak
5270	87.34	86.52			31.65	6.44	37.27	222	75	Average
5270	97.14	96.32			31.65	6.44	37.27	222	75	Peak
5448.78	38.84	37.7	54	-15.16	31.77	6.5	37.13	222	75	Average
5448.78	52.37	51.23	74	-21.63	31.77	6.5	37.13	222	75	Peak
*10540	54.81	57.66	68.2	-13.39	39.7	10.31	52.86	201	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
5140.22	38.73	38.14	54	-15.27	31.56	6.33	37.3	139	216	Average
5140.22	57.21	56.62	74	-16.79	31.56	6.33	37.3	139	216	Peak
5270	97.61	96.79			31.65	6.44	37.27	139	216	Average
5270	107.8	106.98			31.65	6.44	37.27	139	216	Peak
5363.09	39.95	38.94	54	-14.05	31.72	6.47	37.18	139	216	Average
5363.09	61.71	60.7	74	-12.29	31.72	6.47	37.18	139	216	Peak
*10540	55.24	58.09	68.2	-12.96	39.7	10.31	52.86	222	265	Peak

Remarks:

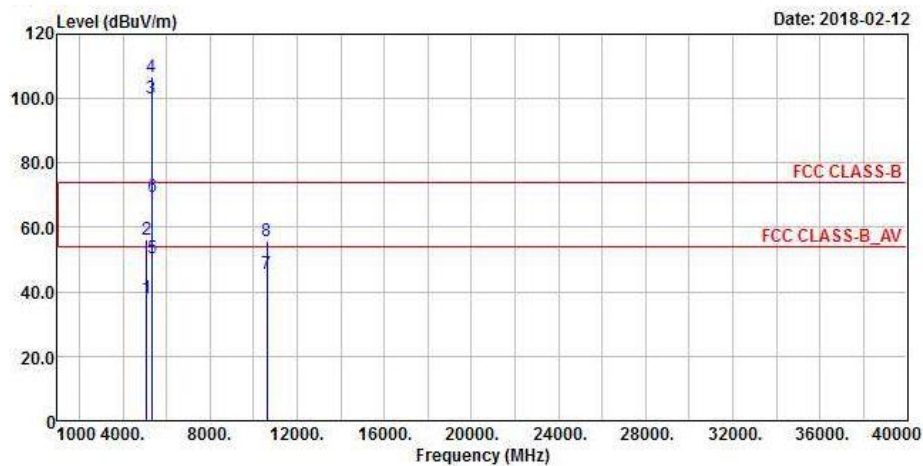
- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5270 MHz: Fundamental Frequency
- *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



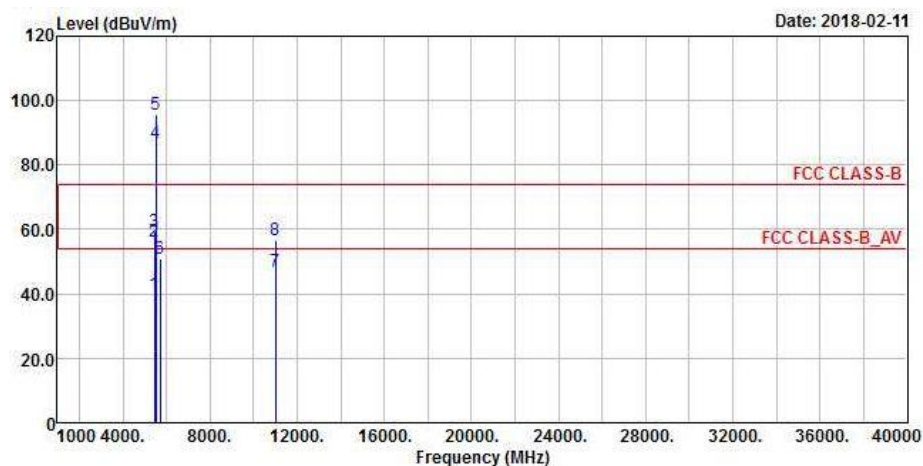
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5038.25	38.03	37.54	54	-15.97	31.49	6.24	37.24	217	71	Average
5038.25	51.08	50.59	74	-22.92	31.49	6.24	37.24	217	71	Peak
5310	89.26	88.31			31.68	6.46	37.19	217	71	Average
5310	97.49	96.54			31.68	6.46	37.19	217	71	Peak
5351.76	43	42.01	54	-11	31.7	6.47	37.18	217	71	Average
5351.76	61.55	60.56	74	-12.45	31.7	6.47	37.18	217	71	Peak
10620	46.42	49.23	54	-7.58	39.89	10.39	53.09	125	236	Average
10620	56.56	59.37	74	-17.44	39.89	10.39	53.09	125	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
5101.1	38.17	37.63	54	-15.83	31.53	6.29	37.28	233	318	Average
5101.1	56.42	55.88	74	-17.58	31.53	6.29	37.28	233	318	Peak
5310	100.02	99.07			31.68	6.46	37.19	233	318	Average
5310	106.87	105.92			31.68	6.46	37.19	233	318	Peak
5356.6	50.55	49.56	54	-3.45	31.7	6.47	37.18	233	318	Average
5356.6	69.33	68.34	74	-4.67	31.7	6.47	37.18	233	318	Peak
10620	45.44	48.25	54	-8.56	39.89	10.39	53.09	232	214	Average
10620	55.63	58.44	74	-18.37	39.89	10.39	53.09	232	214	Peak

Remarks:

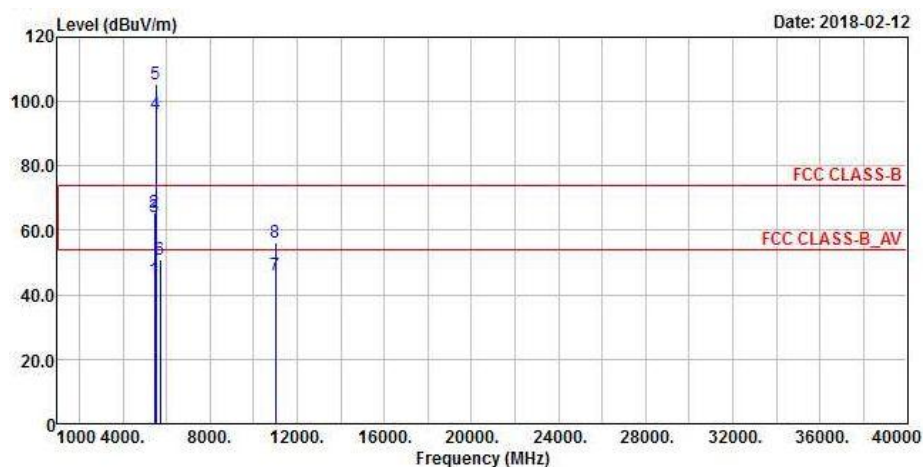
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5310 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



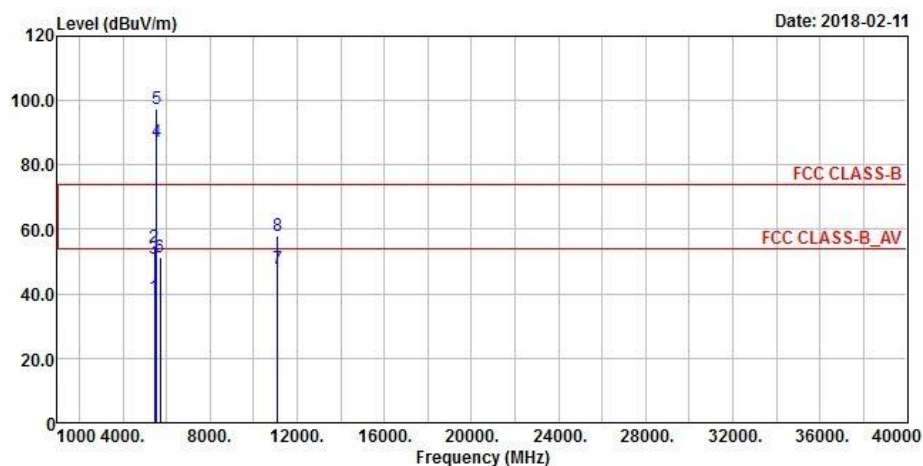
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5455.28	40.06	38.86	54	-13.94	31.77	6.51	37.08	214	120	Average
5455.28	56.32	55.12	74	-17.68	31.77	6.51	37.08	214	120	Peak
*5467.76	59.38	58.15	68.2	-8.82	31.79	6.52	37.08	214	120	Peak
5510	86.68	85.38			31.81	6.55	37.06	214	120	Average
5510	95.75	94.45			31.81	6.55	37.06	214	120	Peak
*5729.72	50.8	49.29	68.2	-17.4	32.18	6.76	37.43	214	120	Peak
11020	46.81	48.64	54	-7.19	40.71	10.41	52.95	111	132	Average
11020	56.8	58.63	74	-17.2	40.71	10.41	52.95	111	132	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	44.91	43.71	54	-9.09	31.77	6.51	37.08	211	319	Average
5453.04	65.46	64.26	74	-8.54	31.77	6.51	37.08	211	319	Peak
*5469.36	64.38	63.15	68.2	-3.82	31.79	6.52	37.08	211	319	Peak
5510	96.18	94.88			31.81	6.55	37.06	211	319	Average
5510	105.21	103.91			31.81	6.55	37.06	211	319	Peak
*5726.92	51.13	49.62	68.2	-17.07	32.18	6.76	37.43	211	319	Peak
11020	46.04	47.87	54	-7.96	40.71	10.41	52.95	203	256	Average
11020	56.14	57.97	74	-17.86	40.71	10.41	52.95	203	256	Peak

Remarks:

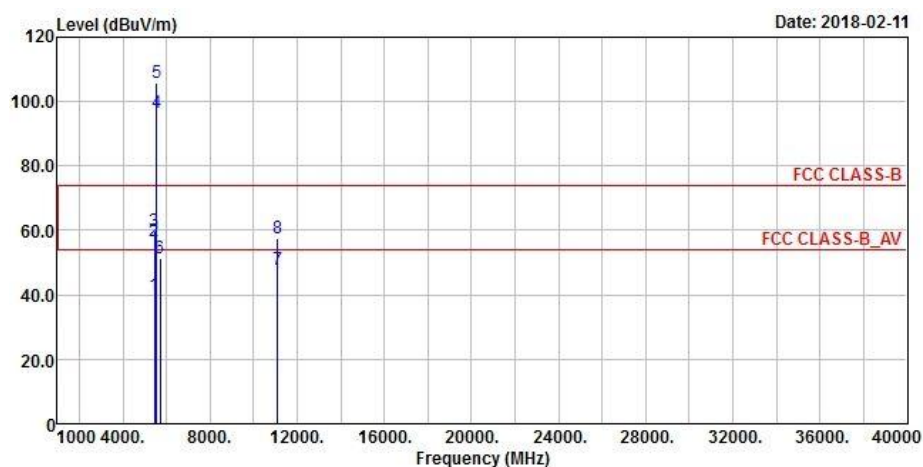
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5510 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



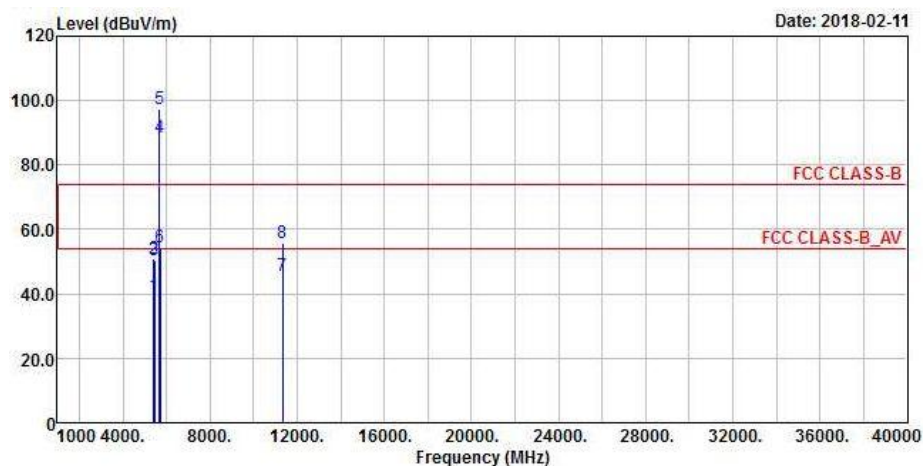
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5452.72	38.93	37.73	54	-15.07	31.77	6.51	37.08	224	117	Average
5452.72	54.66	53.46	74	-19.34	31.77	6.51	37.08	224	117	Peak
*5470	50.89	49.69	68.2	-17.31	31.77	6.51	37.08	224	117	Peak
5550	87.19	85.78			31.89	6.61	37.09	224	117	Average
5550	97.48	96.07			31.89	6.61	37.09	224	117	Peak
*5725	51.16	49.65	68.2	-17.04	32.18	6.76	37.43	224	117	Peak
11100	47.91	49.52	54	-6.09	40.63	10.47	52.71	102	236	Average
11100	58.02	59.63	74	-15.98	40.63	10.47	52.71	102	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
5447.6	39.7	38.56	54	-14.3	31.77	6.5	37.13	125	225	Average
5447.6	56.54	55.4	74	-17.46	31.77	6.5	37.13	125	225	Peak
*5470	60	58.78	68.2	-8.2	31.79	6.51	37.08	125	225	Peak
5550	96.46	95.05			31.89	6.61	37.09	125	225	Average
5550	105.8	104.39			31.89	6.61	37.09	125	225	Peak
*5725	51.32	49.81	68.2	-16.88	32.18	6.76	37.43	125	225	Peak
11100	47.64	49.25	54	-6.36	40.63	10.47	52.71	185	163	Average
11100	57.46	59.07	74	-16.54	40.63	10.47	52.71	185	163	Peak

Remarks:

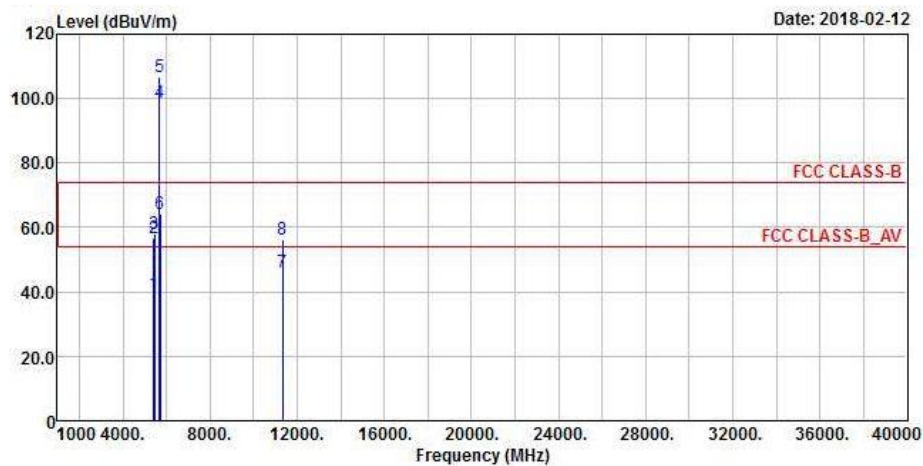
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5550 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



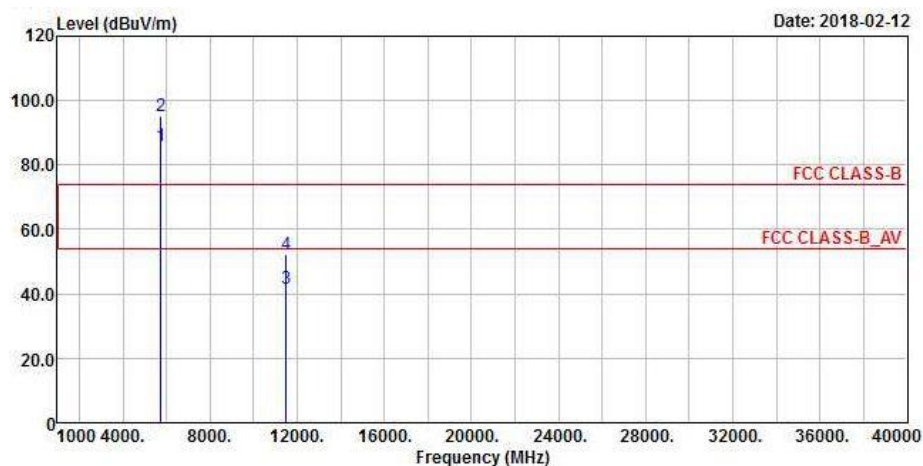
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5410	39.29	38.25	54	-14.71	31.74	6.48	37.18	213	125	Average
5410	51.05	50.01	74	-22.95	31.74	6.48	37.18	213	125	Peak
*5461.68	50.46	49.26	68.2	-17.74	31.77	6.51	37.08	213	125	Peak
5670	88.4	86.93			32.09	6.72	37.34	213	125	Average
5670	97.57	96.1			32.09	6.72	37.34	213	125	Peak
*5727.56	54.43	52.92	68.2	-13.77	32.18	6.76	37.43	213	125	Peak
11340	45.83	47.63	54	-8.17	40.4	10.52	52.72	201	236	Average
11340	55.83	57.63	74	-18.17	40.4	10.52	52.72	201	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
5434	39.33	38.21	54	-14.67	31.76	6.49	37.13	211	319	Average
5434	56.61	55.49	74	-17.39	31.76	6.49	37.13	211	319	Peak
*5466.48	58.23	57	68.2	-9.97	31.79	6.52	37.08	211	319	Peak
5670	98.72	97.25			32.09	6.72	37.34	211	319	Average
5670	106.78	105.31			32.09	6.72	37.34	211	319	Peak
*5725.64	64.18	62.67	68.2	-4.02	32.18	6.76	37.43	211	319	Peak
11340	45.88	47.68	54	-8.12	40.4	10.52	52.72	206	222	Average
11340	56.16	57.96	74	-17.84	40.4	10.52	52.72	206	222	Peak

Remarks:

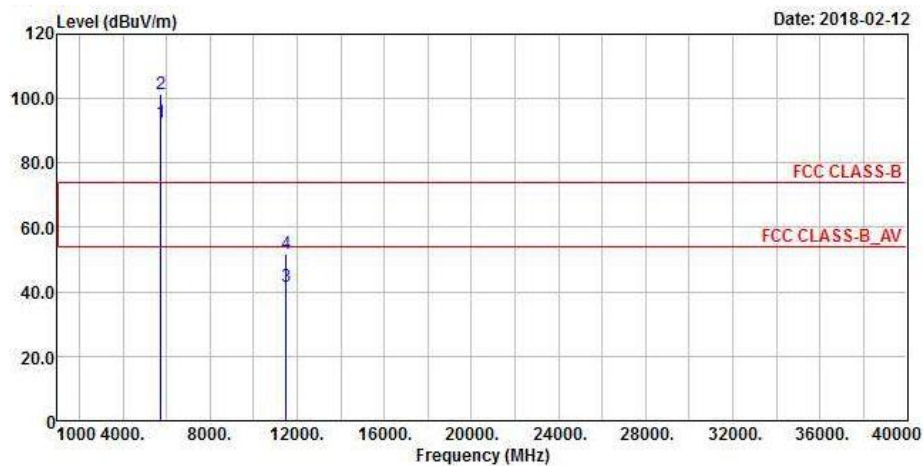
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5670 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

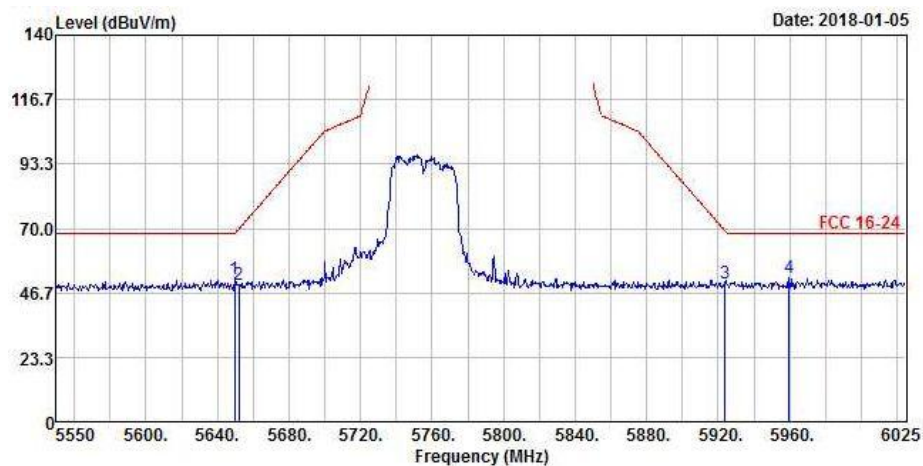
Horizontal



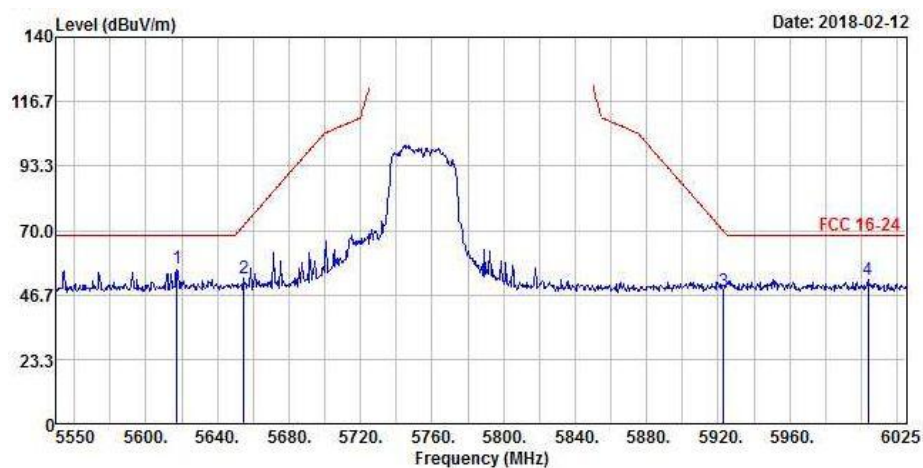
Vertical



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	85.9	84.35			32.23	6.79	37.47	196	108	Average
5755	95.12	93.57			32.23	6.79	37.47	196	108	Peak
11510	41.47	43.36	54	-12.53	40.23	10.69	52.81	125	236	Average
11510	52.42	54.31	74	-21.58	40.23	10.69	52.81	125	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
5755	92.5	90.95			32.23	6.79	37.47	237	317	Average
5755	101.19	99.64			32.23	6.79	37.47	237	317	Peak
11510	41.74	43.63	54	-12.26	40.23	10.69	52.81	201	236	Average
11510	52.03	53.92	74	-21.97	40.23	10.69	52.81	201	236	Peak

<Out of Band Emission (OOBE)>

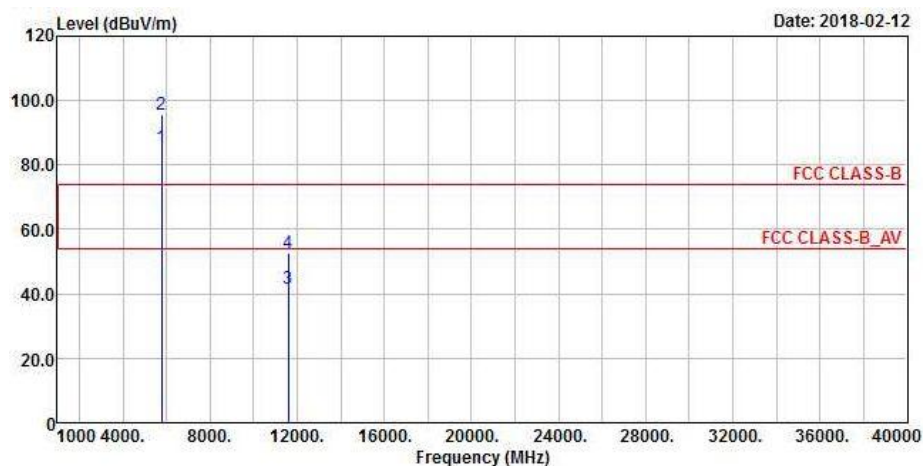
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5649.75	51.41	49.93	68.2	-16.79	32.06	6.7	37.28	196	108	Peak
5652.125	49.44	47.95	69.78	-20.34	32.06	6.71	37.28	196	108	Peak
5923.825	50.29	48.41	69.07	-18.78	32.52	6.86	37.5	196	108	Peak
5959.45	52.05	50.11	68.2	-16.15	32.57	6.87	37.5	196	108	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
5617.45	56.27	54.79	68.2	-11.93	32.01	6.69	37.22	237	317	Peak
5654.975	52.54	51.11	71.9	-19.36	32.06	6.71	37.34	237	317	Peak
5922.875	48.29	46.41	69.77	-21.48	32.52	6.86	37.5	237	317	Peak
6003.625	51.99	49.98	68.2	-16.21	32.63	6.89	37.51	237	317	Peak

Remarks:

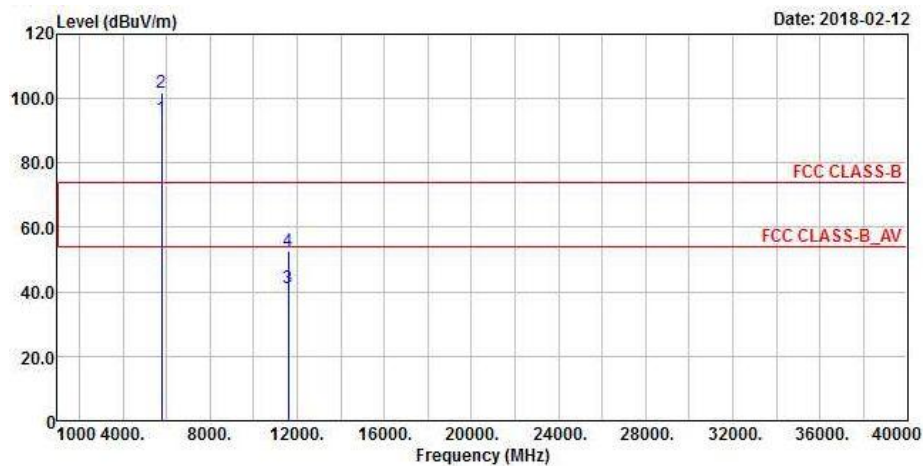
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5755 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

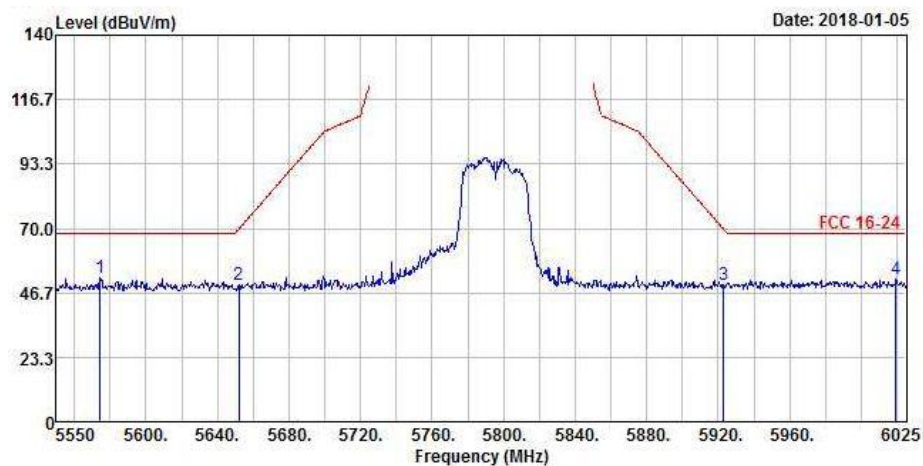
Horizontal



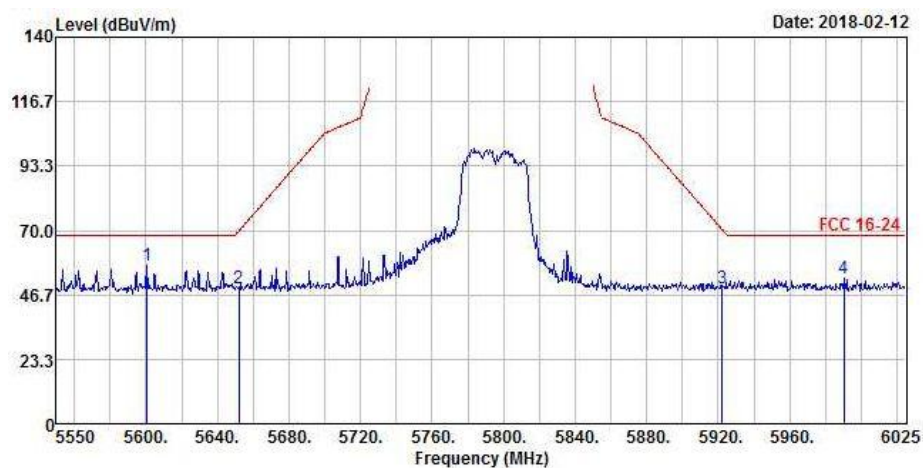
Vertical



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	85.34	83.76			32.29	6.83	37.54	199	108	Average
5795	95.62	94.04			32.29	6.83	37.54	199	108	Peak
11590	41.5	43.62	54	-12.5	40.11	10.78	53.01	145	185	Average
11590	52.52	54.64	74	-21.48	40.11	10.78	53.01	145	185	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	93.72	92.14			32.29	6.83	37.54	233	320	Average
5795	101.72	100.14			32.29	6.83	37.54	233	320	Peak
11590	41.12	43.24	54	-12.88	40.11	10.78	53.01	274	111	Average
11590	52.5	54.62	74	-21.5	40.11	10.78	53.01	274	111	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
5574.225	51.92	50.48	68.2	-16.28	31.92	6.64	37.12	199	108	Peak
5652.125	49.81	48.32	69.78	-19.97	32.06	6.71	37.28	199	108	Peak
5922.875	49.72	47.84	69.77	-20.05	32.52	6.86	37.5	199	108	Peak
6019.3	51.55	49.48	68.2	-16.65	32.67	6.9	37.5	199	108	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
5600.825	57.09	55.59	68.2	-11.11	31.98	6.68	37.16	233	320	Peak
5652.125	49.29	47.8	69.78	-20.49	32.06	6.71	37.28	233	320	Peak
5922.4	49.33	47.45	70.12	-20.79	32.52	6.86	37.5	233	320	Peak
5990.325	52.89	50.88	68.2	-15.31	32.63	6.89	37.51	233	320	Peak

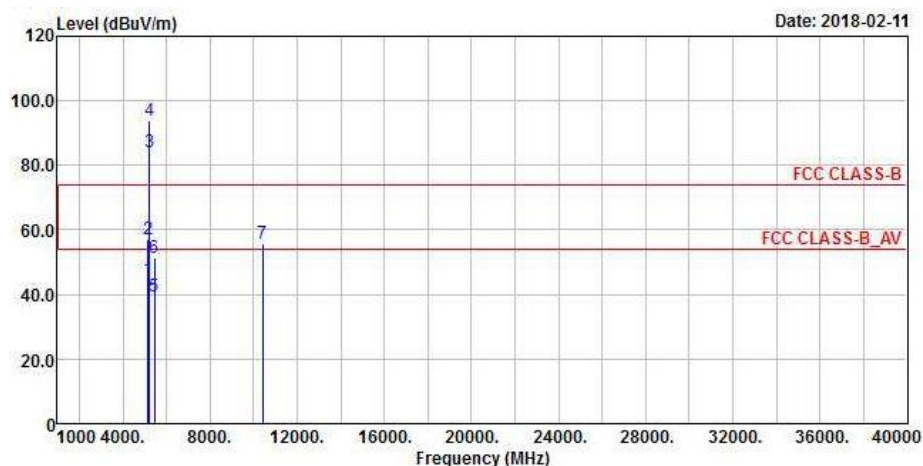
Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5795 MHz: Fundamental Frequency
- *: Out of Restricted Band

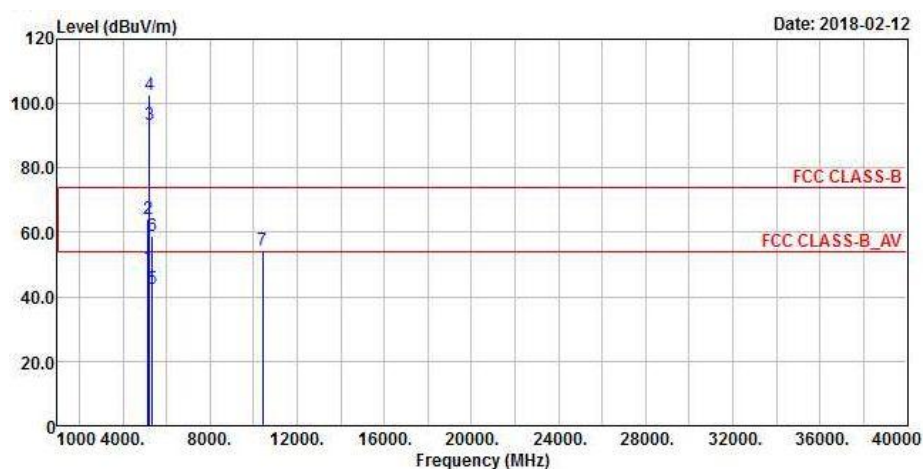
802.11ac (VHT80)

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	Jisyoung Wang

Horizontal



Vertical



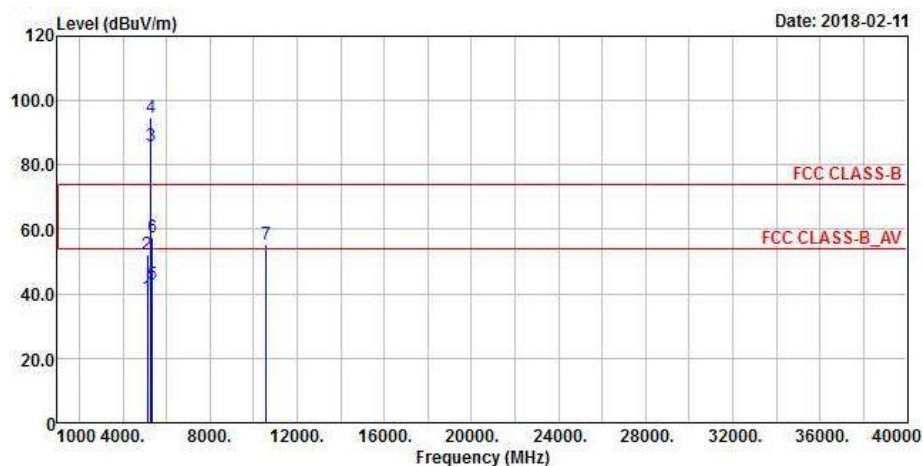
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5146.25	44.52	43.94	54	-9.48	31.56	6.34	37.32	202	115	Average
5146.25	56.91	56.33	74	-17.09	31.56	6.34	37.32	202	115	Peak
5210	84.33	83.68			31.61	6.4	37.36	202	115	Average
5210	93.85	93.2			31.61	6.4	37.36	202	115	Peak
5451.97	39.54	38.34	54	-14.46	31.77	6.51	37.08	202	115	Average
5451.97	51.39	50.19	74	-22.61	31.77	6.51	37.08	202	115	Peak
*10420	55.82	58.53	68.2	-12.38	39.53	10.21	52.45	123	256	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
5144.6	49.29	48.72	54	-4.71	31.56	6.33	37.32	235	317	Average
5144.6	64.4	63.83	74	-9.6	31.56	6.33	37.32	235	317	Peak
5210	93.42	92.77			31.61	6.4	37.36	235	317	Average
5210	102.73	102.08			31.61	6.4	37.36	235	317	Peak
5350.66	42.46	41.47	54	-11.54	31.7	6.47	37.18	235	317	Average
5350.66	58.9	57.91	74	-15.1	31.7	6.47	37.18	235	317	Peak
*10420	54.45	57.16	68.2	-13.75	39.53	10.21	52.45	102	256	Peak

Remarks:

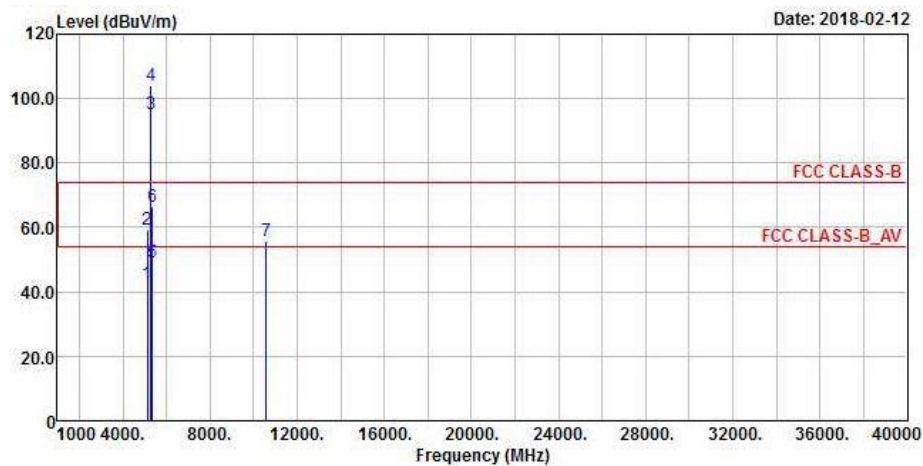
- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5210 MHz: Fundamental Frequency
- *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



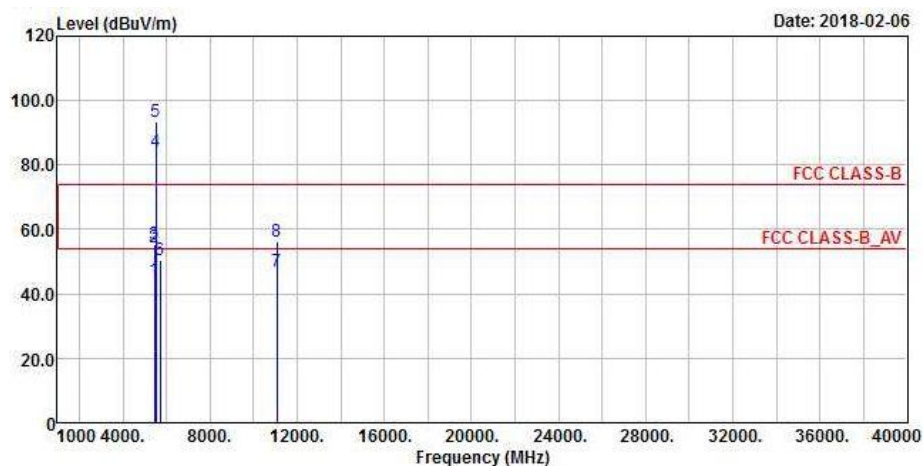
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5136.35	39.01	38.43	54	-14.99	31.55	6.33	37.3	217	66	Average
5136.35	52.12	51.54	74	-21.88	31.55	6.33	37.3	217	66	Peak
5290	85.97	85.09			31.66	6.45	37.23	217	66	Average
5290	94.79	93.91			31.66	6.45	37.23	217	66	Peak
5364.08	43.07	42.06	54	-10.93	31.72	6.47	37.18	217	66	Average
5364.08	57.47	56.46	74	-16.53	31.72	6.47	37.18	217	66	Peak
*10580	55.49	58.4	68.2	-12.71	39.81	10.39	53.11	123	256	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
5111.3	42.58	42.02	54	-11.42	31.54	6.3	37.28	217	317	Average
5111.3	59.38	58.82	74	-14.62	31.54	6.3	37.28	217	317	Peak
5290	95.02	94.14			31.66	6.45	37.23	217	317	Average
5290	104.22	103.34			31.66	6.45	37.23	217	317	Peak
5350.11	49.36	48.37	54	-4.64	31.7	6.47	37.18	217	317	Average
5350.11	66.22	65.23	74	-7.78	31.7	6.47	37.18	217	317	Peak
*10580	55.69	58.6	68.2	-12.51	39.81	10.39	53.11	203	251	Peak

Remarks:

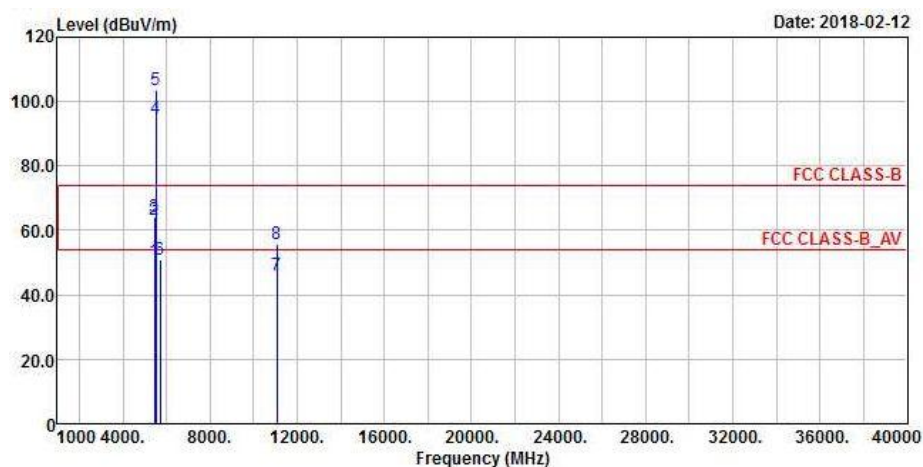
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5290 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



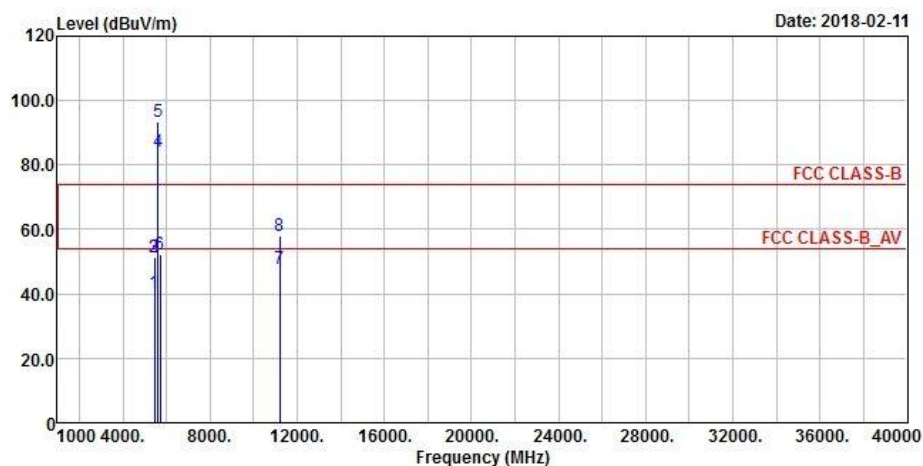
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5455.12	44.15	42.95	54	-9.85	31.77	6.51	37.08	199	117	Average
5455.12	54.64	53.44	74	-19.36	31.77	6.51	37.08	199	117	Peak
*5465.84	55.51	54.28	68.2	-12.69	31.79	6.52	37.08	199	117	Peak
5530	83.99	82.66			31.84	6.58	37.09	199	117	Average
5530	93.6	92.27			31.84	6.58	37.09	199	117	Peak
*5729.8	50.52	49.01	68.2	-17.68	32.18	6.76	37.43	199	117	Peak
11060	46.95	48.64	54	-7.05	40.66	10.44	52.79	201	256	Average
11060	56.42	58.11	74	-17.58	40.66	10.44	52.79	201	256	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
5450.64	50.58	49.38	54	-3.42	31.77	6.51	37.08	211	319	Average
5450.64	63.43	62.23	74	-10.57	31.77	6.51	37.08	211	319	Peak
*5467.28	64.18	62.95	68.2	-4.02	31.79	6.52	37.08	211	319	Peak
5530	94.54	93.21			31.84	6.58	37.09	211	319	Average
5530	103.6	102.27			31.84	6.58	37.09	211	319	Peak
*5729.96	51.13	49.62	68.2	-17.07	32.18	6.76	37.43	211	319	Peak
11060	45.84	47.53	54	-8.16	40.66	10.44	52.79	203	256	Average
11060	55.94	57.63	74	-18.06	40.66	10.44	52.79	203	256	Peak

Remarks:

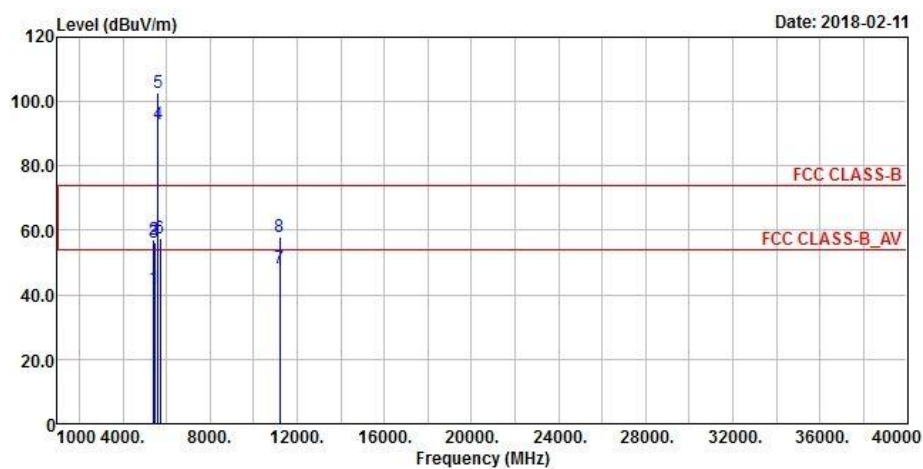
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5530 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

Horizontal



Vertical



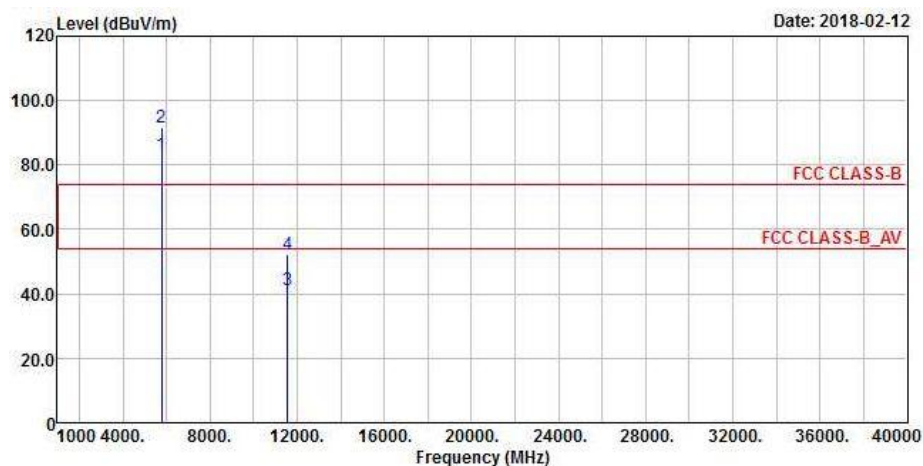
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5438.96	40.16	39.03	54	-13.84	31.76	6.5	37.13	188	108	Average
5438.96	51.4	50.27	74	-22.6	31.76	6.5	37.13	188	108	Peak
*5470	51.53	50.3	68.2	-16.67	31.79	6.52	37.08	188	108	Peak
5610	84	82.56			31.98	6.68	37.22	188	108	Average
5610	93.29	91.85			31.98	6.68	37.22	188	108	Peak
*5725	52.39	50.88	68.2	-15.81	32.18	6.76	37.43	188	108	Peak
11220	47.77	49.52	54	-6.23	40.51	10.55	52.81	111	132	Average
11220	57.88	59.63	74	-16.12	40.51	10.55	52.81	111	132	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
5428.72	41.88	40.76	54	-12.12	31.76	6.49	37.13	217	316	Average
5428.72	57.3	56.18	74	-16.7	31.76	6.49	37.13	217	316	Peak
*5470	56.29	55.06	68.2	-11.91	31.79	6.52	37.08	217	316	Peak
5610	92.79	91.35			31.98	6.68	37.22	217	316	Average
5610	102.52	101.08			31.98	6.68	37.22	217	316	Peak
*5725	57.44	55.93	68.2	-10.76	32.18	6.76	37.43	217	316	Peak
11220	48.1	49.85	54	-5.9	40.51	10.55	52.81	203	256	Average
11220	58.22	59.97	74	-15.78	40.51	10.55	52.81	203	256	Peak

Remarks:

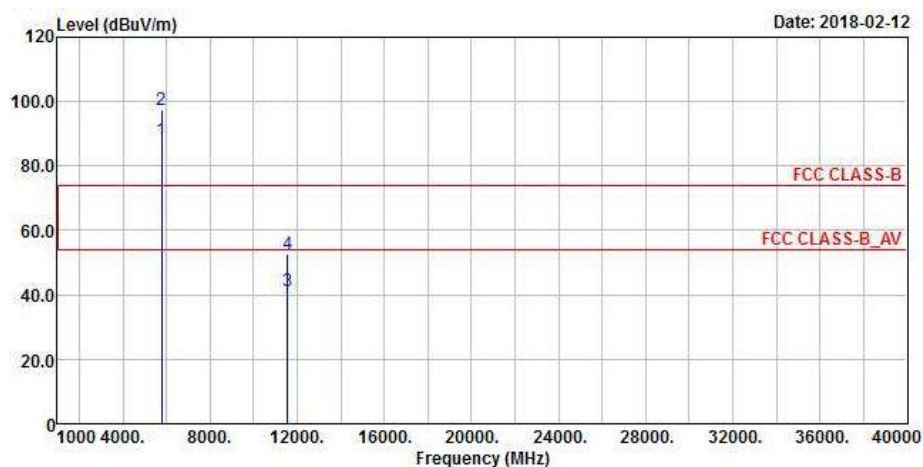
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5610 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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	Jisyoung Wang

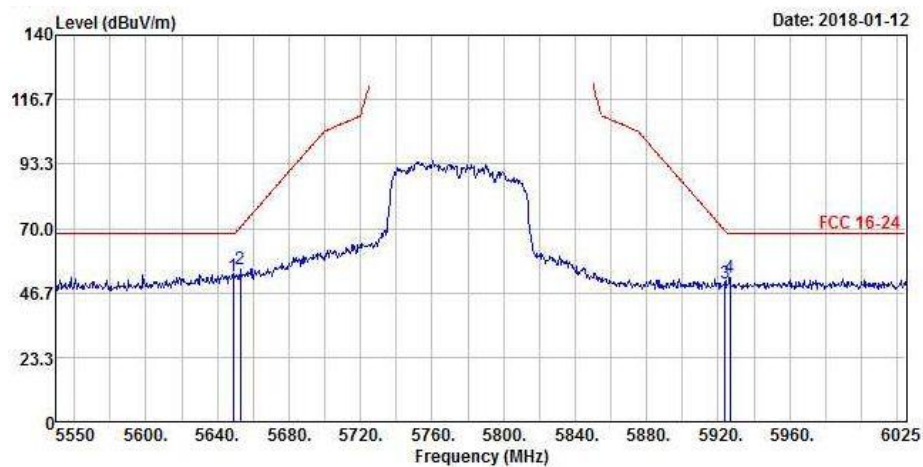
Horizontal



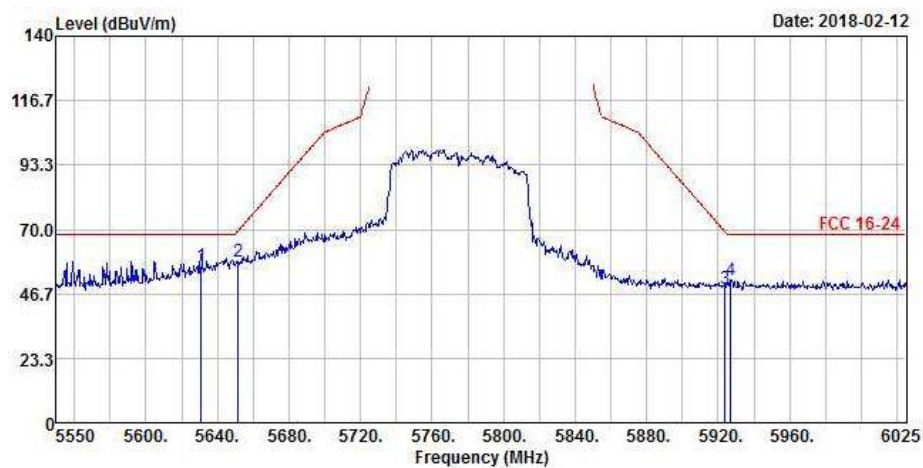
Vertical



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	83.2	81.63			32.26	6.81	37.5	197	108	Average
5775	91.78	90.21			32.26	6.81	37.5	197	108	Peak
11550	41.2	43.24	54	-12.8	40.16	10.74	52.94	125	236	Average
11550	52.47	54.51	74	-21.53	40.16	10.74	52.94	125	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
5775	88.19	86.62			32.26	6.81	37.5	239	319	Average
5775	97.45	95.88			32.26	6.81	37.5	239	319	Peak
11550	41.3	43.34	54	-12.7	40.16	10.74	52.94	285	265	Average
11550	52.59	54.63	74	-21.41	40.16	10.74	52.94	285	265	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
5648.8	52.88	51.42	68.2	-15.32	32.04	6.7	37.28	197	108	Peak
5652.6	55.16	53.67	70.13	-14.97	32.06	6.71	37.28	197	108	Peak
5923.825	50.26	48.38	69.07	-18.81	32.52	6.86	37.5	197	108	Peak
5926.675	52.15	50.27	68.2	-16.05	32.52	6.86	37.5	197	108	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
5630.75	57.08	55.65	68.2	-11.12	32.01	6.7	37.28	239	319	Peak
5651.65	58.18	56.69	69.43	-11.25	32.06	6.71	37.28	239	319	Peak
5923.825	48.76	46.88	69.07	-20.31	32.52	6.86	37.5	239	319	Peak
5927.15	51.73	49.85	68.2	-16.47	32.52	6.86	37.5	239	319	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

9 kHz ~ 30 MHz Data:

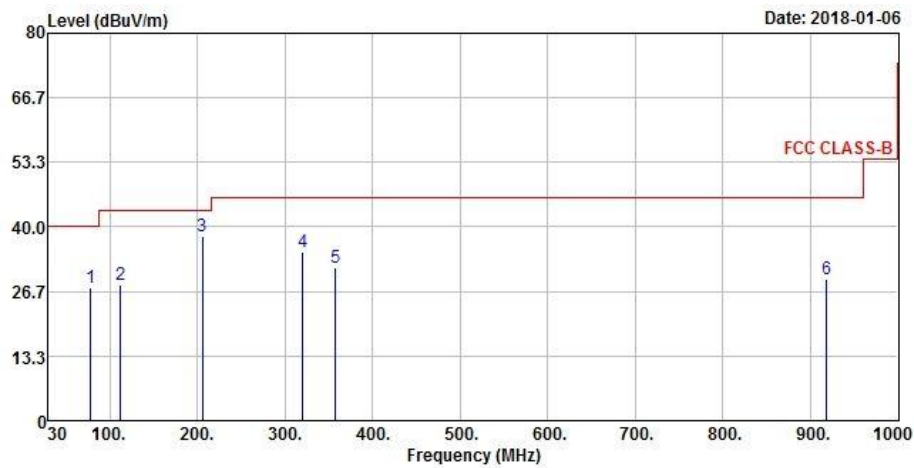
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

30 MHz ~ 1 GHz Worst-Case Data:

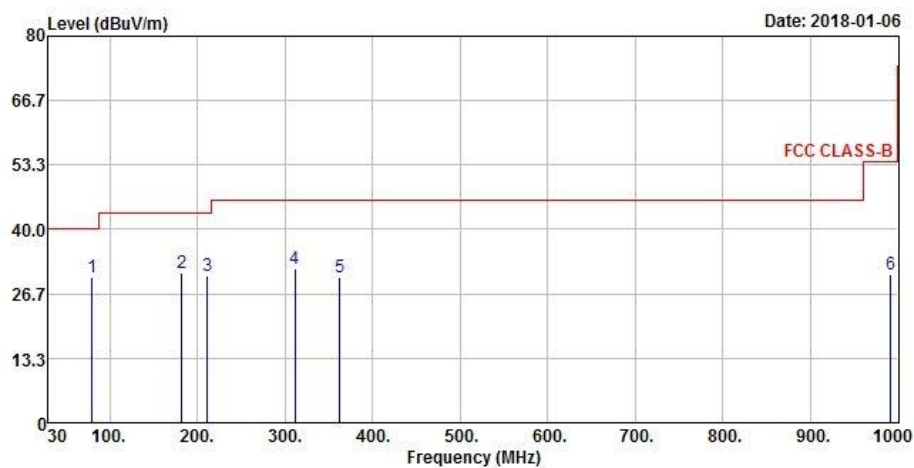
802.11n (HT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 38	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	Jisyoung 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
78.5	27.53	49.82	40	-12.47	8.61	0.67	31.57	201	125	Peak
112.45	28.12	48.91	43.5	-15.38	10.27	0.8	31.86	201	145	Peak
205.57	38.05	58.86	43.5	-5.45	9.6	1.26	31.67	201	256	Peak
320.03	34.92	51.63	46	-11.08	13.43	1.75	31.89	111	132	Peak
357.86	31.66	47.35	46	-14.34	14.33	1.92	31.94	111	145	Peak
918.52	29.21	33.48	46	-16.79	23.61	4.13	32.01	222	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
79.47	30.26	52.76	40	-9.74	8.37	0.67	31.54	201	125	Peak
182.29	31.01	51.09	43.5	-12.49	10.6	1.13	31.81	111	125	Peak
211.39	30.4	50.86	43.5	-13.1	9.85	1.29	31.6	201	125	Peak
311.3	31.9	48.91	46	-14.1	13.22	1.71	31.94	111	185	Peak
362.71	29.99	45.56	46	-16.01	14.45	1.94	31.96	325	265	Peak
991.27	30.59	33.92	54	-23.41	24.02	4.4	31.75	111	125	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value

5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

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

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

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Web Site: www.bureauveritas-adt.com

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

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