

Partial FCC Test Report

Report No.: RF181222C02D-1

FCC ID: PPD-QCNFA344AH

Test Model: QCNFA344A

Received Date: Oct. 25, 2018

Test Date: Oct. 25, 2018 ~ Jan. 30, 2019

Issued Date: Feb. 01, 2019

Applicant: Qualcomm Atheros, Inc.

Address: 1700 Technology Dr San Jose, CA 95110

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

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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
RF181222C02D-1	Original Release	Feb. 01, 2019

1 Certificate of Conformity

Product: 802.11a/b/g/n/ac + BT 4.1 M.2 2230 Type Card

Brand: Qualcomm Atheros

Test Model: QCNFA344A

Sample Status: Engineering Sample

Applicant: Qualcomm Atheros, Inc.

Test Date: Oct. 25, 2018 ~ Jan. 30, 2019

Standards: 47 CFR FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10:2013

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

Prepared by : Gina Liu, **Date:** Feb. 01, 2019
Gina Liu / Specialist

Approved by : Dylan Chiou, **Date:** Feb. 01, 2019
Dylan Chiou / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -11.70 dB at 0.55225 MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.15 dB at 5725 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only
15.407(a)(1/2/3)	Peak Power Spectral Density	N/A	Refer to Note 1
15.407(e)	6 dB Bandwidth	N/A	Refer to Note 1
15.407(g)	Frequency Stability	N/A	Refer to Note 1
15.203	Antenna Requirement	N/A	Refer to Note 1

Note:

1. This report is a partial report, only test item of Conducted Emissions, Radiated Emissions and Average Power were performed for this report. Other testing data please refer to BV CPS report no.: RF150107E06B-1 for module (Brand: Qualcomm Atheros, Model: QCNFA344A).
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.44 dB
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	802.11a/b/g/n/ac + BT 4.1 M.2 2230 Type Card
Brand	Qualcomm Atheros
Test Model	QCNFA344A
Status of EUT	Engineering Sample
Power Supply Rating	3.3 Vdc (host equipment)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0 Mbps 802.11n: up to 300.0Mbps 802.11ac: up to 866.7Mbps
Operating Frequency	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5720 MHz, 5745 ~ 5825 MHz
Number of Channel	5180 ~ 5240 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80) 5260 ~ 5320 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80) 5500 ~ 5720 MHz: 12 for 802.11a, 802.11n (HT20) 6 for 802.11n (HT40) 3 for 802.11ac (VHT80) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80)
Output Power	54.22 mW for 5180 ~ 5240 MHz 54.60 mW for 5260 ~ 5320 MHz 53.39 mW for 5500 ~ 5700 MHz 55.49 mW for 5745 ~ 5825 MHz
Antenna Type	Refer to Note as below
Antenna Connector	N/A
Accessory Device	N/A
Data Cable Supplied	N/A

Note:

- The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and two receivers.

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

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

2. The EUT was installed in a specific End-product.

Equipment Name	Brand Name	Model Name	Difference
Notebook Computer	Lenovo	Lenovo 14w*****, 81MQ*****, Lenovo 14e Chromebook*****, 81MH***** (*=0~9, A~Z, a~z, "-" or blank, for marketing use only, with no impact on RF compliance of the product)	All models are electrically identical, different model names are for marketing purpose.

3. The antenna information is listed as below.

Antenna Type	Manufacturer	Parts Number	Antenna Gain			
			BT/WLAN 2.4 GHz	WLAN 5.15~5.35 GHz	WLAN 5.47~5.725 GHz	WLAN 5.725~5.85 GHz
PIFA	High-Tek Electronics Co., Ltd.	Main Ant.: 0ACCN018024N	Main: -0.56	Main: -0.05	Main: -0.73	Main: -1.98
		Aux Ant.: 0ACCN018025N	Aux.: -2.41	Aux.: -1.14	Aux.: -1.79	Aux.: -3.33
PIFA	Yageo Corporation	Main Ant.: ANTA0LC13081WLAN1 (DC330029600)	Main: -0.59	Main: -0.34	Main: -2.43	Main: -2.01
		Aux Ant.: ANTA0LC13081WLAN2 (DC330029610)	Aux.: -0.69	Aux.: -0.08	Aux.: -0.76	Aux.: -4.32

4. The End-product contains following accessory devices.

Product	Brand	Model	Description
Adapter	Lenovo	ADLX45YLC3D	I/P: 100-240 Vac, 50-60 Hz, 1300 mA O/P: 20 Vdc, 2.25 A / 15 Vdc, 3.0A / 9Vdc, 2.0 A / 5 Vdc, 2.0 A
Battery	Lenovo	L18D3PG2	11.52 Vdc, 4955 mAh

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

3.2 Description of Test Modes

For 5180 ~ 5240 MHz

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
42	5210

For 5260 ~ 5320 MHz

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
58	5290

For 5500 ~ 5720 MHz

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

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

6 channels are provided for 802.11n (HT40):

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

3 channels are provided for 802.11ac (VHT80):

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

For 5745 ~ 5825 MHz:

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
155	5775

3.2.1 Test Mode Applicability and Tested Channel Detail

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

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

RE<1G: Radiated Emission below 1 GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

Note:

1. The EUT had been pre-tested on the positioned of Laptop mode and Tablet mode. The worst case was found when positioned on **Laptop mode**.

2. “-” means no effect.

Radiated Emission Test (Above 1 GHz):

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

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11a	36 to 48	36, 40, 48	OFDM	BPSK	6.0
-		802.11n (HT20)	36 to 48	36, 40, 48	OFDM	BPSK	6.5
-		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	13.5
-		802.11ac (VHT80)	42	42	OFDM	BPSK	29.3
-	5260-5320	802.11a	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-		802.11n (HT20)	52 to 64	52, 60, 64	OFDM	BPSK	6.5
-		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	13.5
-		802.11ac (VHT80)	58	58	OFDM	BPSK	29.3
-	5500-5720	802.11a	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.0
-		802.11n (HT20)	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
-		802.11n (HT40)	102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
-		802.11ac (VHT80)	106 to 138	106, 122, 138	OFDM	BPSK	29.3
-	5745-5825	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-		802.11n (HT20)	149 to 165	149, 157, 165	OFDM	BPSK	6.5
-		802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	13.5
-		802.11ac (VHT80)	155	155	OFDM	BPSK	29.3

Radiated Emission Test (Below 1 GHz):

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

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11ac (VHT80)	42	42	OFDM	BPSK	29.3

Power Line Conducted Emission Test:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11ac (VHT80)	42	42	OFDM	BPSK	29.3

Test Condition:

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

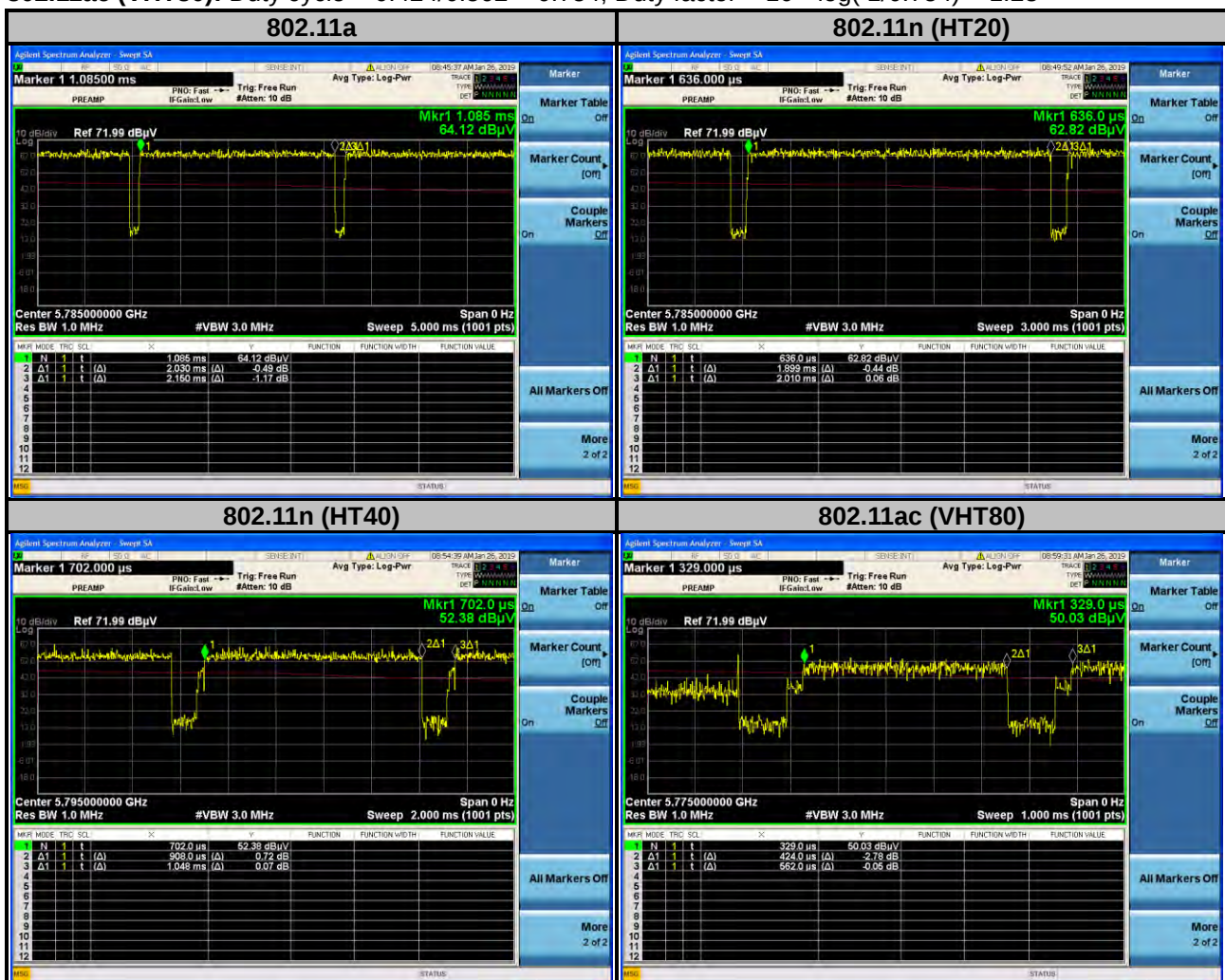
3.3 Duty Cycle of Test Signal

802.11a: Duty cycle = $2.030/2.150 = 0.944$, Duty factor = $10 * \log(1/0.944) = 0.25$

802.11n (HT20): Duty cycle = $1.899/2.010 = 0.945$, Duty factor = $10 * \log(1/0.945) = 0.25$

802.11n (HT40): Duty cycle = $0.908/1.048 = 0.866$, Duty factor = $10 * \log(1/0.866) = 0.62$

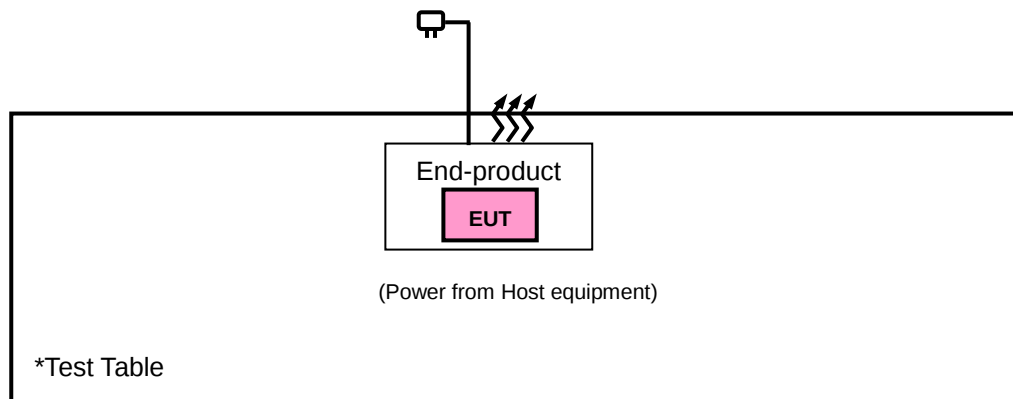
802.11ac (VHT80): Duty cycle = $0.424/0.562 = 0.754$, Duty factor = $10 * \log(1/0.754) = 1.23$



3.4 Description of Support Units

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

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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

FCC Part 15, Subpart E (15.407)

KDB 789033 D02 General UNII Test Procedures New Rules v02r01

KDB 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.

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

Note:

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

4.1.2 Limits of Unwanted Emission Out of the Restricted Bands

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

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

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

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

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

Note:

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

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

4.1.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent	N9038A	MY51210203	Mar. 16, 2018	Mar. 15, 2019
Spectrum Analyzer Agilent	N9010A	MY52220314	Nov. 22, 2017	Nov. 21, 2018
			Dec. 13, 2018	Dec. 12, 2019
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Jan. 11, 2018	Jan. 10, 2019
Broadband Horn Antenna SCHWARZBECK	BBHA 9170	148	Dec. 13, 2017	Dec. 12, 2018
			Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-969	Dec. 12, 2017	Dec. 11, 2018
			Nov. 25, 2018	Nov. 24, 2019
BILOG Antenna SCHWARZBECK	VULB 9168	9168-472	Dec. 06, 2017	Dec. 05, 2018
			Nov. 23, 2018	Nov. 22, 2019
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 16, 2018	Apr. 15, 2019
Loop Antenna	EM-6879	269	Sep. 07, 2018	Sep. 06, 2019
Preamplifier EMCI	EMC001340	980201	Oct. 12, 2018	Oct. 11, 2019
Preamplifier EMCI	EMC 012645	980115	Oct. 12, 2018	Oct. 11, 2019
Preamplifier EMCI	EMC 184045	980116	Oct. 12, 2018	Oct. 11, 2019
Preamplifier EMCI	EMC 330H	980112	Oct. 12, 2018	Oct. 11, 2019
Power Meter Anritsu	ML2495A	1012010	Sep. 05, 2018	Sep. 04, 2019
Power Sensor Anritsu	MA2411B	1315050	Sep. 04, 2018	Sep. 03, 2019
RF Coaxial Cable HUBER+SUHNNER	EMC104-SM-SM-800 0&3000	140811+170717	Oct. 12, 2018	Oct. 11, 2019
RF Coaxial Cable HUBER+SUHNNER	SUCOFLEX 104	EMC104-SM-SM-100 0(140807)	Oct. 12, 2018	Oct. 11, 2019
RF Coaxial Cable WOKEN	8D-FB	Cable-Ch10-01	Oct. 12, 2018	Oct. 11, 2019
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
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
Temperature & Humidity Chamber	GTH-120-40-CP-AR	MAA1306-019	Sep. 05, 2018	Sep. 04, 2019
DC Power Supply Topward	33010D	807748	NA	NA
Digital Multimeter Fluke	87-III	70360742	Jun. 29, 2018	Jun. 28, 2019

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 10.
3. The horn antenna and preamplifier (model: EMC 184045) are used only for the measurement of emission frequency above 1 GHz if tested.
4. The IC Site Registration No. is 7450F-10.

4.1.4 Test Procedures

For Radiated Emission below 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Both Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

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

For Radiated Emission above 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30 MHz ~ 1 GHz) / 1.5 meters (for above 1 GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

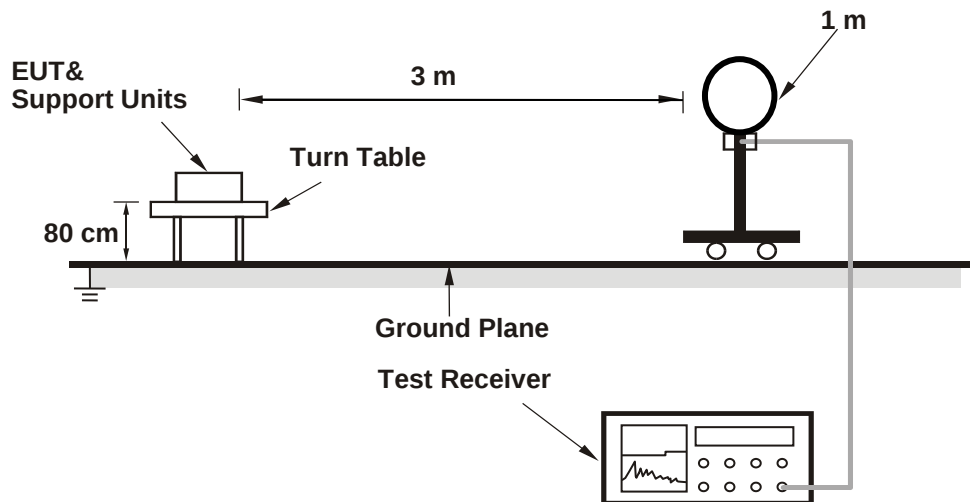
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10 Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1 GHz.
(11a: RBW = 1 MHz, VBW = 1 kHz ; 11n (HT20): RBW = 1 MHz, VBW = 1 kHz ;
11n (HT40): RBW = 1 MHz, VBW = 1 KHz ; 11ac (VHT80): RBW = 1 MHz, VBW = 3 kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.5 Deviation from Test Standard

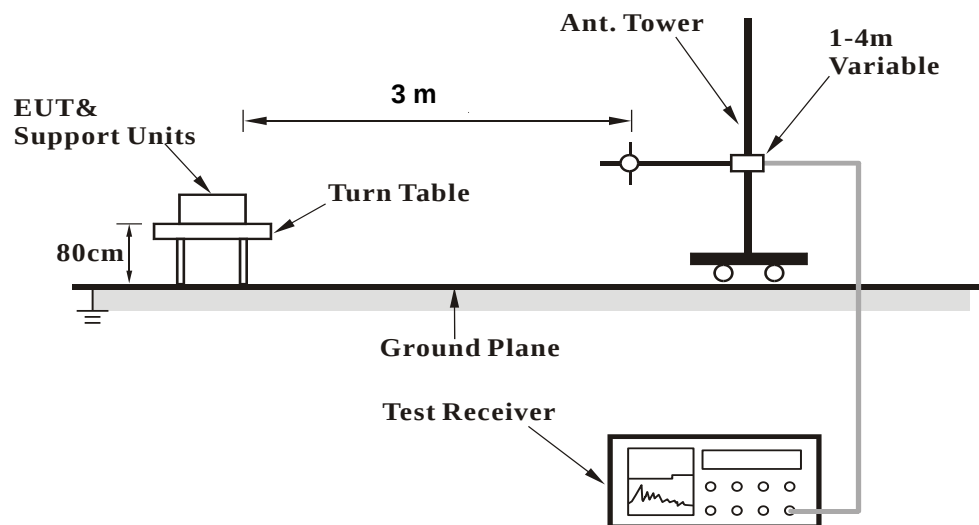
No deviation.

4.1.6 Test Setup

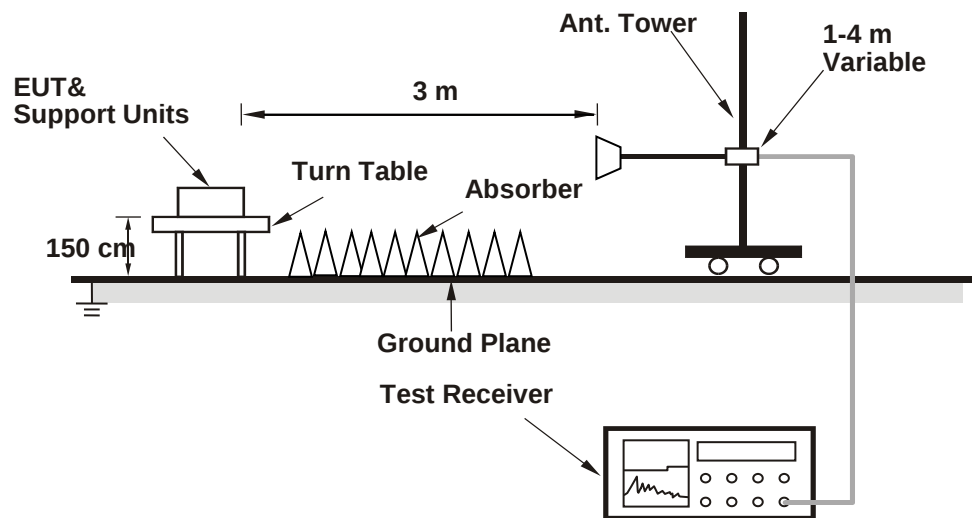
<Radiated Emission below 30 MHz>



<Radiated Emission 30 MHz to 1 GHz>



<Radiated Emission above 1 GHz>



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

4.1.7 EUT Operating Conditions

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

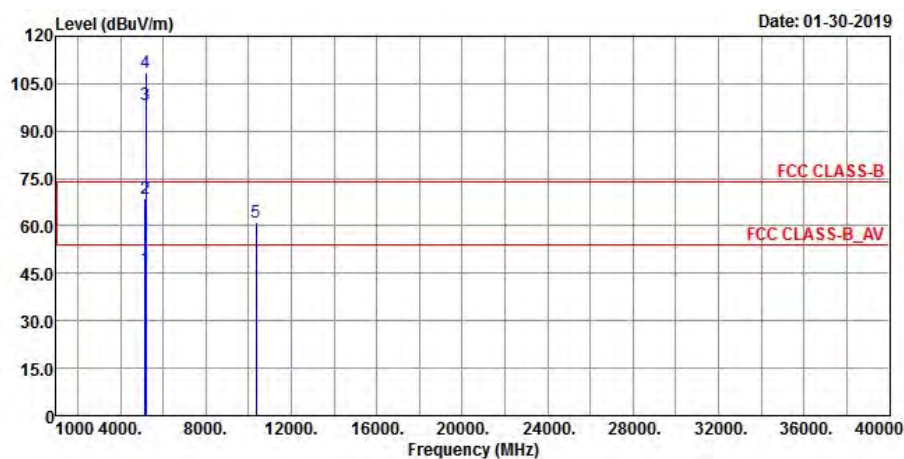
4.1.8 Test Results

Above 1 GHz Data :

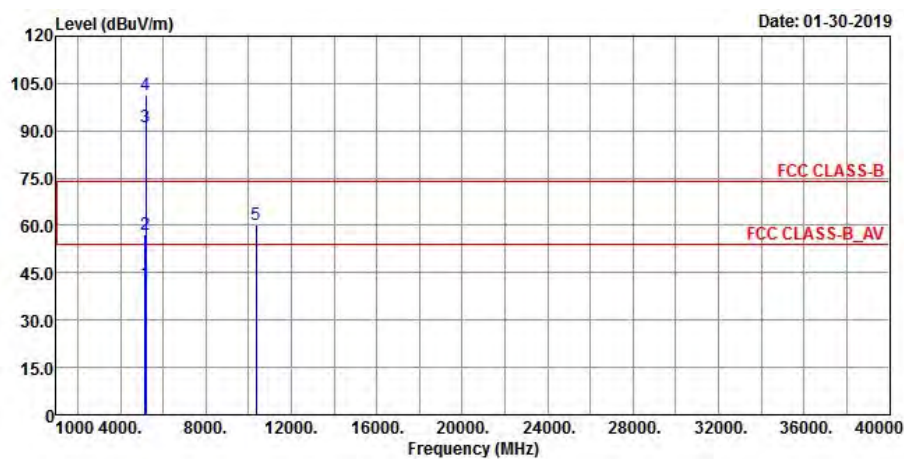
802.11a

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



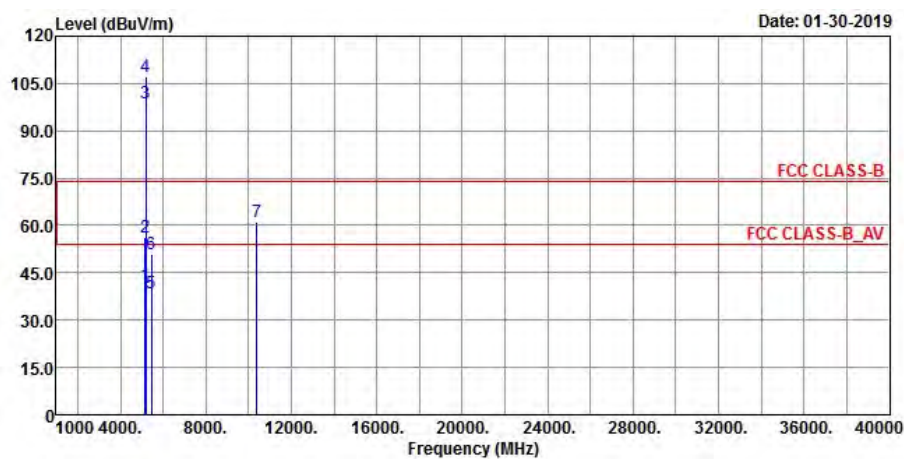
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.58	46.63	46.05	54	-7.37	31.56	6.34	37.32	161	328	Average
5149.58	68.64	68.06	74	-5.36	31.56	6.34	37.32	161	328	Peak
5180	98.44	97.82			31.59	6.37	37.34	161	328	Average
5180	108.44	107.82			31.59	6.37	37.34	161	328	Peak
*10360	61.1	63.86	68.2	-7.1	39.48	10.21	52.45	125	73	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	41.72	41.14	54	-12.28	31.56	6.34	37.32	102	190	Average
5149.94	57.17	56.59	74	-16.83	31.56	6.34	37.32	102	190	Peak
5180	91.36	90.74			31.59	6.37	37.34	102	190	Average
5180	101.44	100.82			31.59	6.37	37.34	102	190	Peak
*10360	60.3	63.06	68.2	-7.9	39.48	10.21	52.45	107	302	Peak

Remarks:

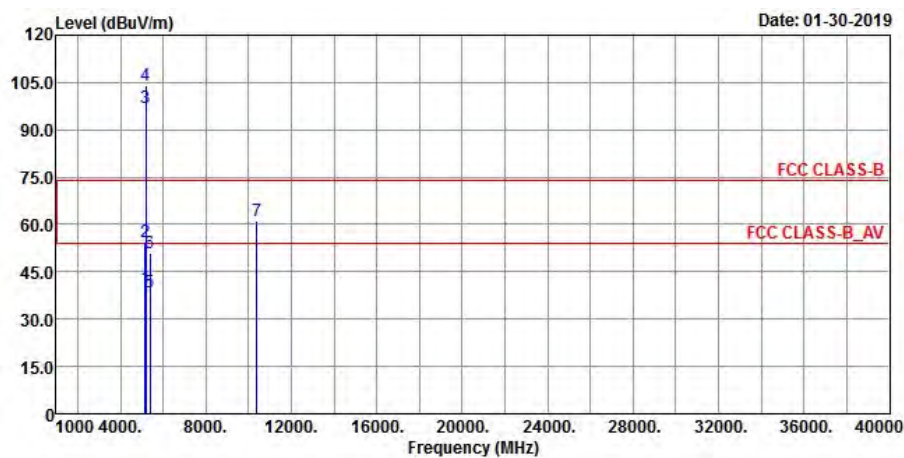
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5180 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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

Horizontal



Vertical



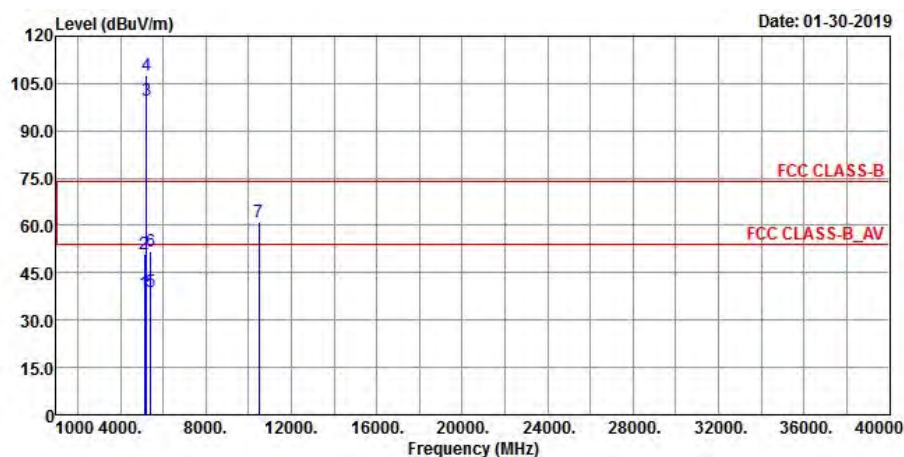
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.94	41.18	40.6	54	-12.82	31.56	6.34	37.32	100	350	Average
5149.94	56.07	55.49	74	-17.93	31.56	6.34	37.32	100	350	Peak
5200	98.79	98.16			31.6	6.39	37.36	100	350	Average
5200	106.94	106.31			31.6	6.39	37.36	100	350	Peak
5449.66	38.74	37.6	54	-15.26	31.77	6.5	37.13	100	350	Average
5449.66	50.9	49.76	74	-23.1	31.77	6.5	37.13	100	350	Peak
*10400	61.26	64	68.2	-6.94	39.51	10.2	52.45	112	83	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	39.69	39.11	54	-14.31	31.56	6.34	37.32	120	357	Average
5149.94	54.66	54.08	74	-19.34	31.56	6.34	37.32	120	357	Peak
5200	96.82	96.19			31.6	6.39	37.36	120	357	Average
5200	103.92	103.29			31.6	6.39	37.36	120	357	Peak
5392.24	38.71	37.69	54	-15.29	31.73	6.47	37.18	120	357	Average
5392.24	50.9	49.88	74	-23.1	31.73	6.47	37.18	120	357	Peak
*10400	61.03	63.77	68.2	-7.17	39.51	10.2	52.45	115	286	Peak

Remarks:

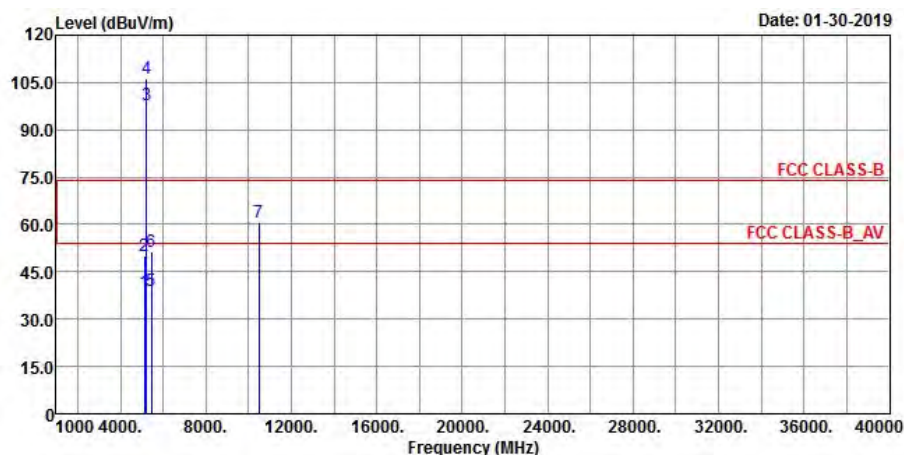
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5200 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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

Horizontal



Vertical



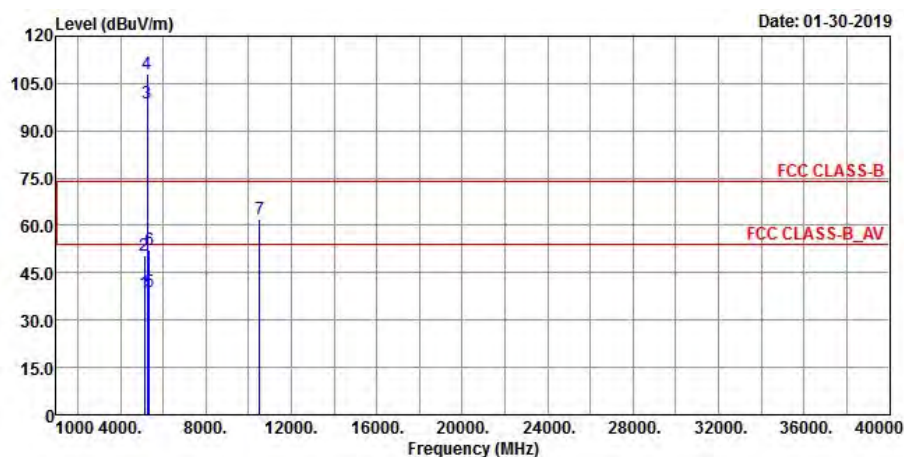
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5139.68	38.67	38.08	54	-15.33	31.56	6.33	37.3	157	345	Average
5139.68	50.71	50.12	74	-23.29	31.56	6.33	37.3	157	345	Peak
5240	99.64	98.92			31.62	6.42	37.32	157	345	Average
5240	107.61	106.89			31.62	6.42	37.32	157	345	Peak
5418.86	38.88	37.83	54	-15.12	31.75	6.48	37.18	157	345	Average
5418.86	51.95	50.9	74	-22.05	31.75	6.48	37.18	157	345	Peak
*10480	61.32	64.16	68.2	-6.88	39.6	10.22	52.66	117	61	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
5135.72	38.56	37.98	54	-15.44	31.55	6.33	37.3	149	0	Average
5135.72	49.95	49.37	74	-24.05	31.55	6.33	37.3	149	0	Peak
5240	98.04	97.32			31.62	6.42	37.32	149	0	Average
5240	106.29	105.57			31.62	6.42	37.32	149	0	Peak
5459.67	38.76	37.56	54	-15.24	31.77	6.51	37.08	149	0	Average
5459.67	51.5	50.3	74	-22.5	31.77	6.51	37.08	149	0	Peak
*10480	60.67	63.51	68.2	-7.53	39.6	10.22	52.66	102	330	Peak

Remarks:

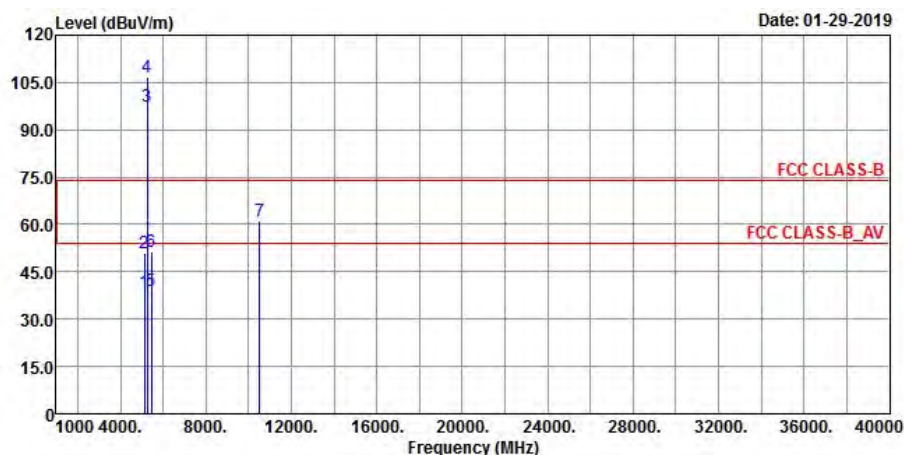
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5240 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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

Horizontal



Vertical



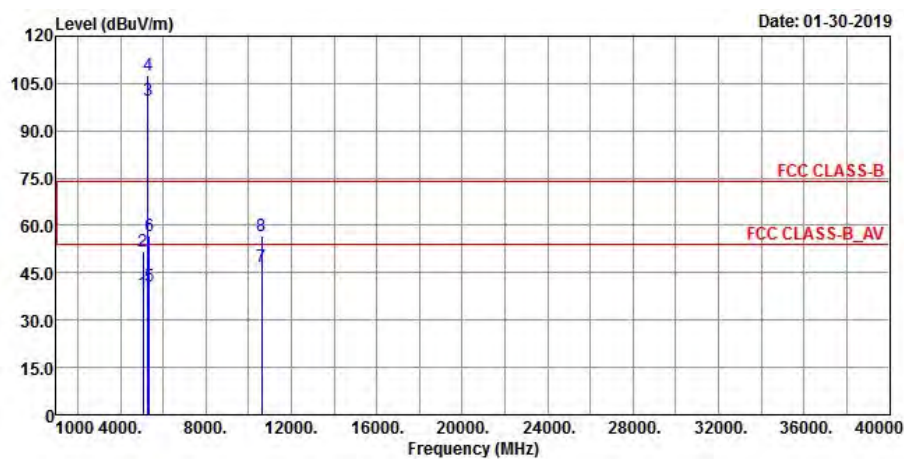
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5116.1	38.57	38	54	-15.43	31.54	6.31	37.28	154	346	Average
5116.1	50.3	49.73	74	-23.7	31.54	6.31	37.28	154	346	Peak
5260	98.9	98.09			31.65	6.43	37.27	154	346	Average
5260	108.12	107.31			31.65	6.43	37.27	154	346	Peak
5360.23	38.84	37.85	54	-15.16	31.7	6.47	37.18	154	346	Average
5360.23	52.06	51.07	74	-21.94	31.7	6.47	37.18	154	346	Peak
*10520	62.02	64.82	68.2	-6.18	39.66	10.27	52.73	113	59	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
5139.5	38.59	38	54	-15.41	31.56	6.33	37.3	111	0	Average
5139.5	50.73	50.14	74	-23.27	31.56	6.33	37.3	111	0	Peak
5260	97.53	96.72			31.65	6.43	37.27	111	0	Average
5260	106.75	105.94			31.65	6.43	37.27	111	0	Peak
5449.66	38.8	37.66	54	-15.2	31.77	6.5	37.13	111	0	Average
5449.66	51.21	50.07	74	-22.79	31.77	6.5	37.13	111	0	Peak
*10520	61.2	64	68.2	-7	39.66	10.27	52.73	100	329	Peak

Remarks:

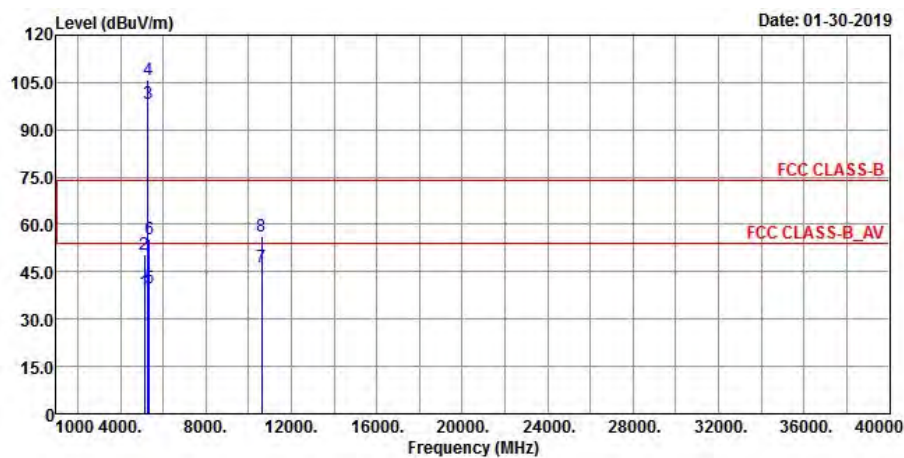
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5260 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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

Horizontal



Vertical



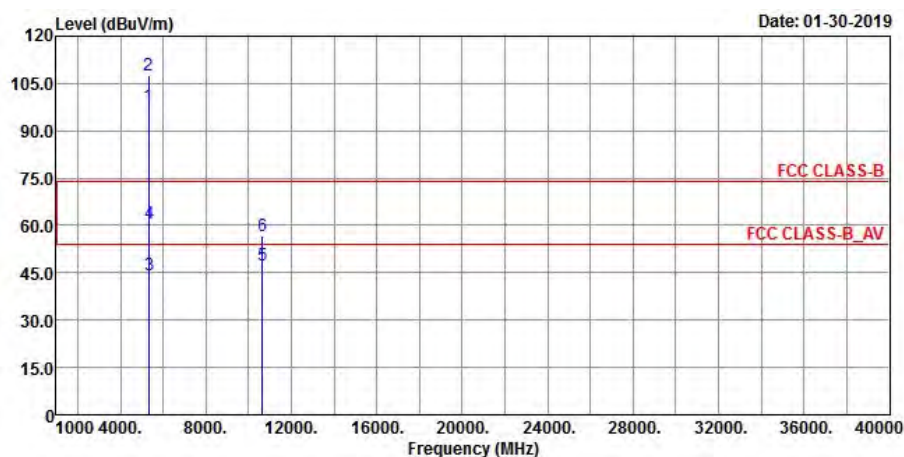
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5076.14	38.64	38.12	54	-15.36	31.52	6.27	37.27	144	345	Average
5076.14	51.63	51.11	74	-22.37	31.52	6.27	37.27	144	345	Peak
5300	99.48	98.54			31.67	6.46	37.19	144	345	Average
5300	107.8	106.86			31.67	6.46	37.19	144	345	Peak
5350.88	40.66	39.67	54	-13.34	31.7	6.47	37.18	144	345	Average
5350.88	56.56	55.57	74	-17.44	31.7	6.47	37.18	144	345	Peak
10600	46.83	49.66	54	-7.17	39.85	10.43	53.11	123	56	Average
10600	56.85	59.68	74	-17.15	39.85	10.43	53.11	123	56	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
5136.62	38.61	38.03	54	-15.39	31.55	6.33	37.3	124	0	Average
5136.62	50.44	49.86	74	-23.56	31.55	6.33	37.3	124	0	Peak
5300	98.3	97.36			31.67	6.46	37.19	124	0	Average
5300	105.9	104.96			31.67	6.46	37.19	124	0	Peak
5350.77	39.97	38.98	54	-14.03	31.7	6.47	37.18	124	0	Average
5350.77	55.45	54.46	74	-18.55	31.7	6.47	37.18	124	0	Peak
10600	46.32	49.15	54	-7.68	39.85	10.43	53.11	126	331	Average
10600	56.28	59.11	74	-17.72	39.85	10.43	53.11	126	331	Peak

Remarks:

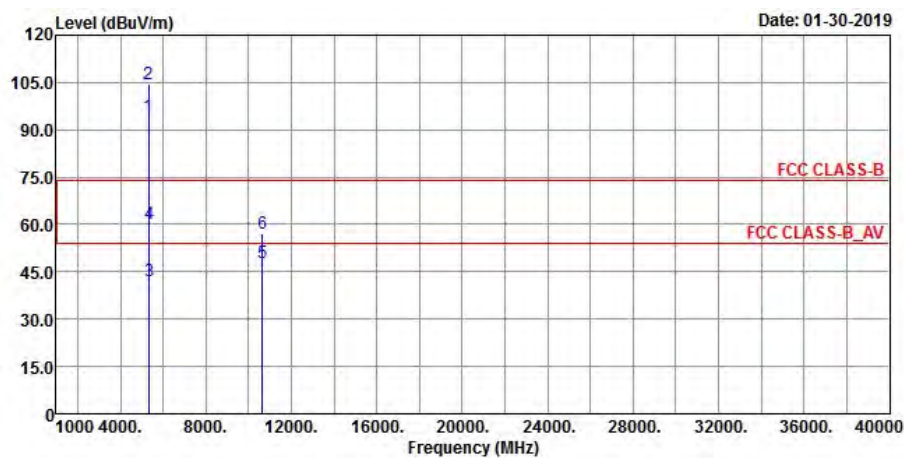
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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

Horizontal



Vertical



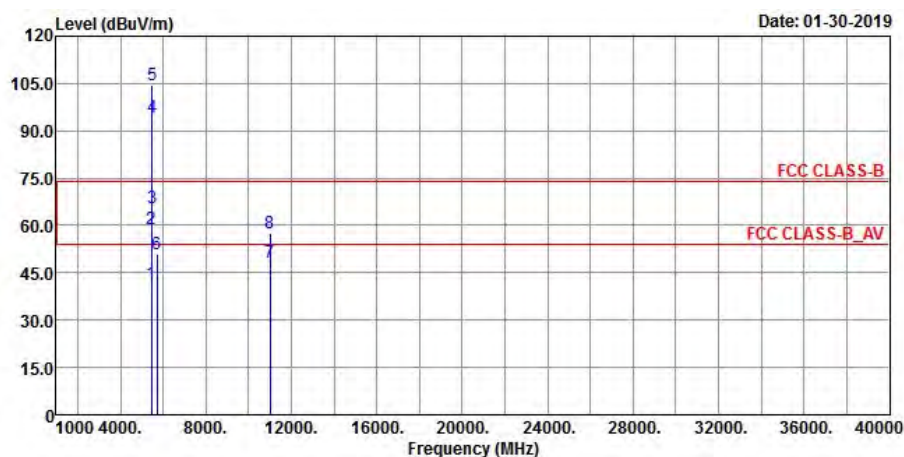
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	97.74	96.79			31.68	6.46	37.19	162	327	Average
5320	107.74	106.79			31.68	6.46	37.19	162	327	Peak
5350.66	44.15	43.16	54	-9.85	31.7	6.47	37.18	162	327	Average
5350.66	60.73	59.74	74	-13.27	31.7	6.47	37.18	162	327	Peak
10640	47.33	50.11	54	-6.67	39.93	10.36	53.07	135	82	Average
10640	56.67	59.45	74	-17.33	39.93	10.36	53.07	135	82	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	94.34	93.39			31.68	6.46	37.19	163	1	Average
5320	104.35	103.4			31.68	6.46	37.19	163	1	Peak
5353.85	42.16	41.17	54	-11.84	31.7	6.47	37.18	163	1	Average
5353.85	60.01	59.02	74	-13.99	31.7	6.47	37.18	163	1	Peak
10640	47.8	50.58	54	-6.2	39.93	10.36	53.07	121	326	Average
10640	57.22	60	74	-16.78	39.93	10.36	53.07	121	326	Peak

Remarks:

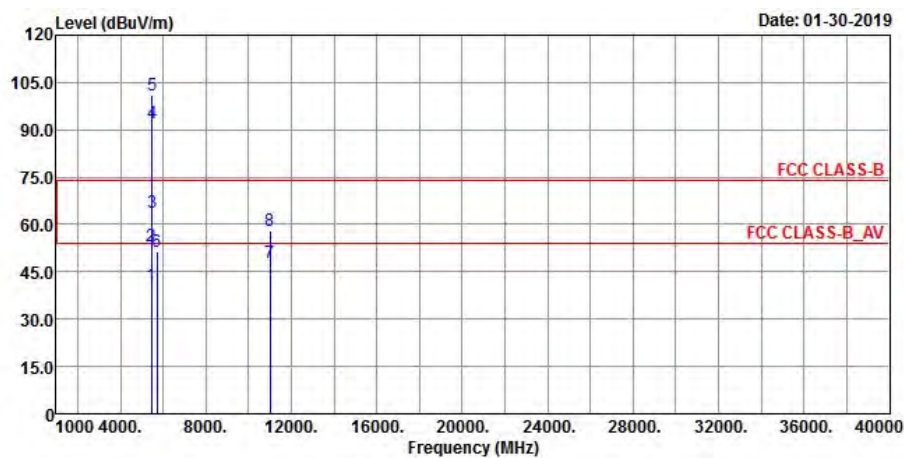
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5320 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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

Horizontal



Vertical



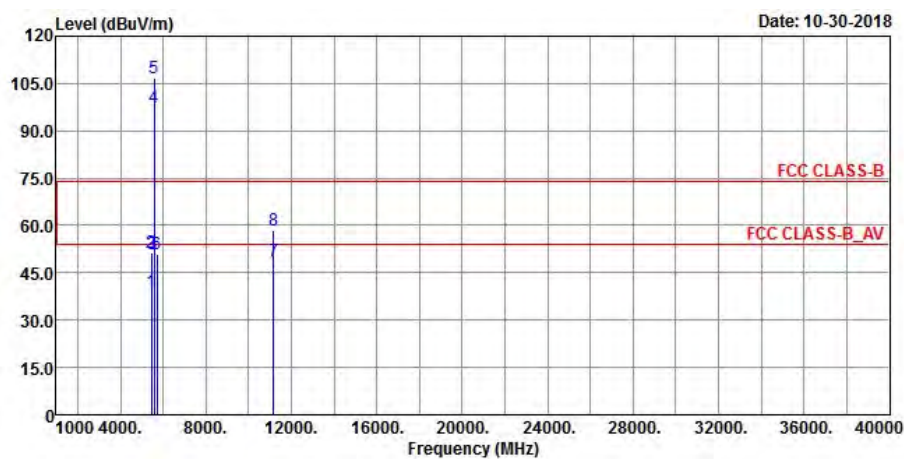
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5457.52	41.54	40.34	54	-12.46	31.77	6.51	37.08	152	334	Average
5457.52	58.75	57.55	74	-15.25	31.77	6.51	37.08	152	334	Peak
*5470	65.57	64.34	68.2	-2.63	31.79	6.52	37.08	152	334	Peak
5500	94.45	93.13			31.81	6.54	37.03	152	334	Average
5500	104.49	103.17			31.81	6.54	37.03	152	334	Peak
*5725	51.14	49.63	68.2	-17.06	32.18	6.76	37.43	152	334	Peak
11000	48.21	50.11	54	-5.79	40.73	10.4	53.03	126	79	Average
11000	57.64	59.54	74	-16.36	40.73	10.4	53.03	126	79	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.76	40.76	39.56	54	-13.24	31.77	6.51	37.08	169	352	Average
5459.76	52.96	51.76	74	-21.04	31.77	6.51	37.08	169	352	Peak
*5470	63.58	62.35	68.2	-4.62	31.79	6.52	37.08	169	352	Peak
5500	92.15	90.83			31.81	6.54	37.03	169	352	Average
5500	101.15	99.83			31.81	6.54	37.03	169	352	Peak
*5725	51.22	49.71	68.2	-16.98	32.18	6.76	37.43	169	352	Peak
11000	47.88	49.78	54	-6.12	40.73	10.4	53.03	137	334	Average
11000	57.88	59.78	74	-16.12	40.73	10.4	53.03	137	334	Peak

Remarks:

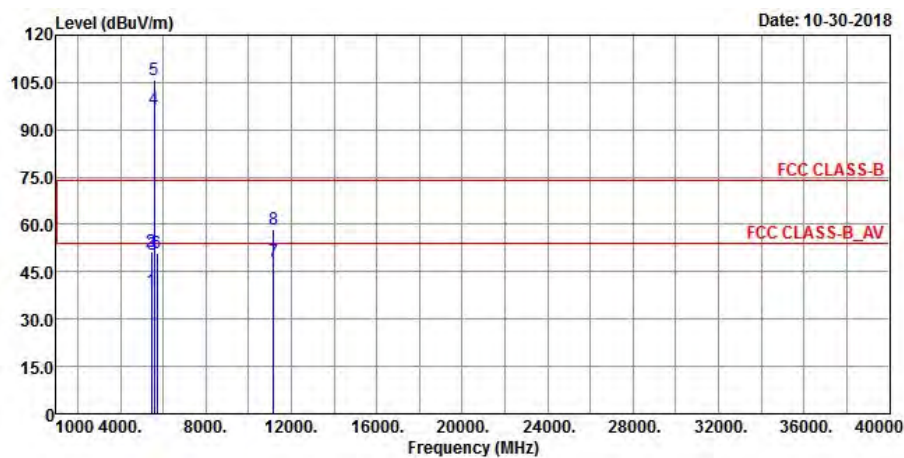
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5500 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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

Horizontal



Vertical



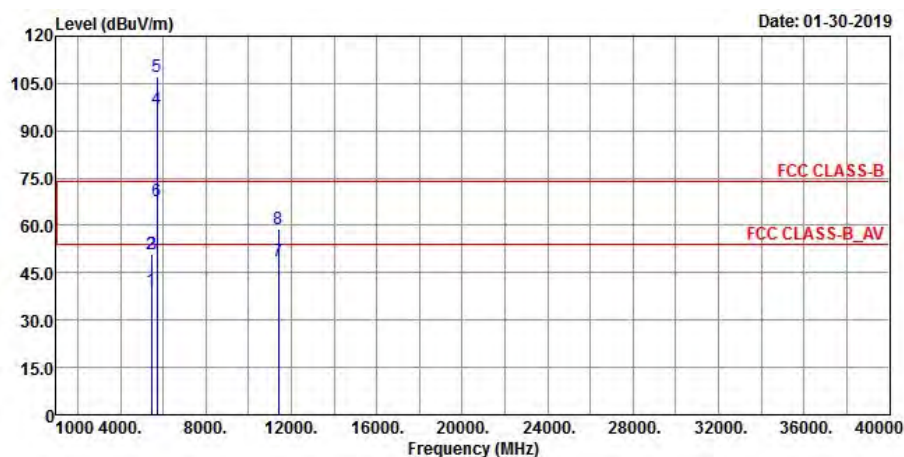
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5446.64	39	37.86	54	-15	31.77	6.5	37.13	151	342	Average
5446.64	51.49	50.35	74	-22.51	31.77	6.5	37.13	151	342	Peak
*5470	50.79	49.56	68.2	-17.41	31.79	6.52	37.08	151	342	Peak
5580	97.5	96.09			31.92	6.65	37.16	151	342	Average
5580	106.59	105.18			31.92	6.65	37.16	151	342	Peak
*5725	50.97	49.46	68.2	-17.23	32.18	6.76	37.43	151	342	Peak
11160	48.51	50.21	54	-5.49	40.56	10.52	52.78	152	111	Average
11160	58.53	60.23	74	-15.47	40.56	10.52	52.78	152	111	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
5458.48	38.79	37.59	54	-15.21	31.77	6.51	37.08	133	13	Average
5458.48	51.44	50.24	74	-22.56	31.77	6.51	37.08	133	13	Peak
*5470	50.55	49.32	68.2	-17.65	31.79	6.52	37.08	133	13	Peak
5580	96.48	95.07			31.92	6.65	37.16	133	13	Average
5580	105.89	104.48			31.92	6.65	37.16	133	13	Peak
*5725	50.78	49.27	68.2	-17.42	32.18	6.76	37.43	133	13	Peak
11160	48.47	50.17	54	-5.53	40.56	10.52	52.78	102	222	Average
11160	58.49	60.19	74	-15.51	40.56	10.52	52.78	102	222	Peak

Remarks:

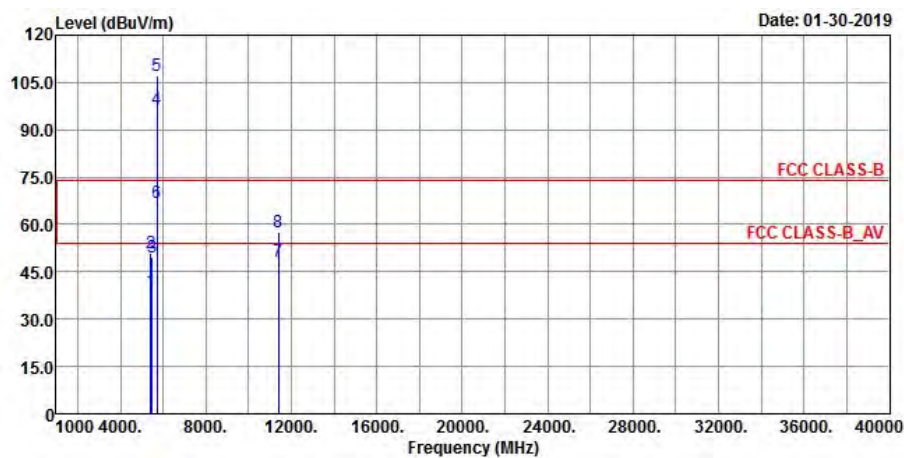
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5580 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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

Horizontal



Vertical



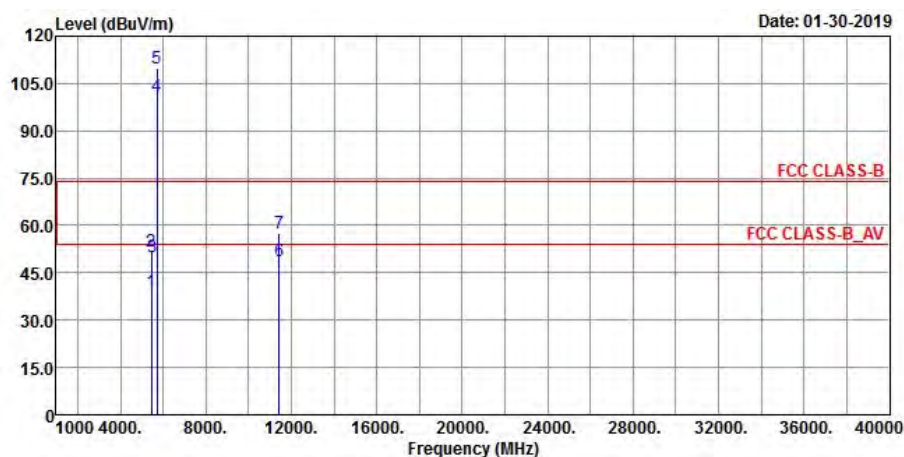
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5446.16	39.33	38.19	54	-14.67	31.77	6.5	37.13	168	342	Average
5446.16	51.07	49.93	74	-22.93	31.77	6.5	37.13	168	342	Peak
*5470	51.08	49.85	68.2	-17.12	31.79	6.52	37.08	168	342	Peak
5700	96.87	95.42			32.12	6.73	37.4	168	342	Average
5700	107.37	105.92			32.12	6.73	37.4	168	342	Peak
*5725	67.55	66.04	68.2	-0.65	32.18	6.76	37.43	168	342	Peak
11400	48.61	50.51	54	-5.39	40.33	10.47	52.7	134	75	Average
11400	58.96	60.86	74	-15.04	40.33	10.47	52.7	134	75	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
5413.52	38.98	37.93	54	-15.02	31.75	6.48	37.18	155	8	Average
5413.52	50.82	49.77	74	-23.18	31.75	6.48	37.18	155	8	Peak
*5470	49.77	48.54	68.2	-18.43	31.79	6.52	37.08	155	8	Peak
5700	96.36	94.91			32.12	6.73	37.4	155	8	Average
5700	107.08	105.63			32.12	6.73	37.4	155	8	Peak
*5725	66.69	65.18	68.2	-1.51	32.18	6.76	37.43	155	8	Peak
11400	48.26	50.16	54	-5.74	40.33	10.47	52.7	209	317	Average
11400	57.68	59.58	74	-16.32	40.33	10.47	52.7	209	317	Peak

Remarks:

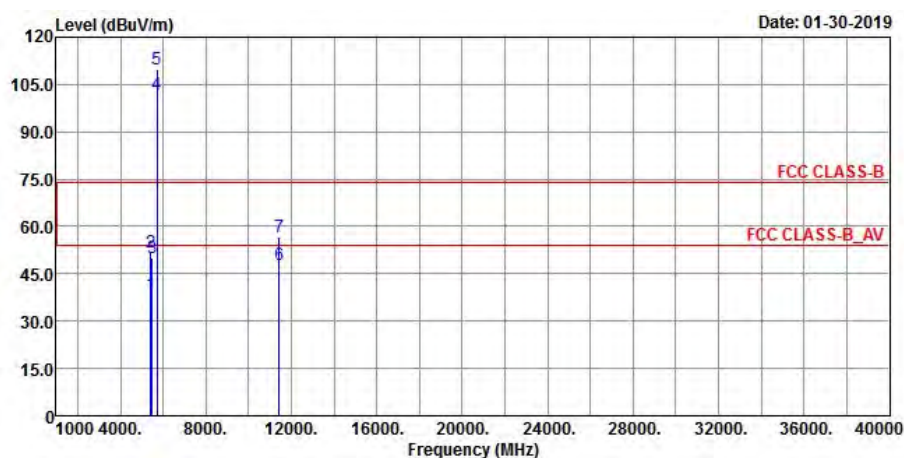
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5700 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 144	Frequency Range	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Thomas Wei

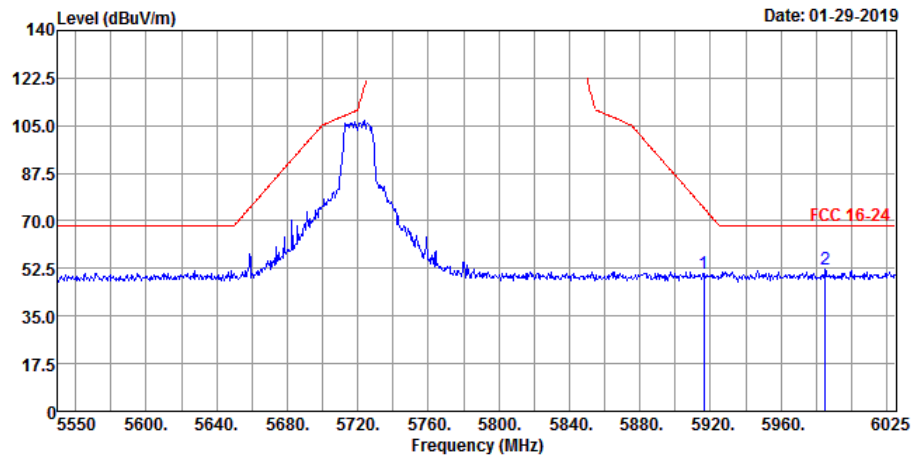
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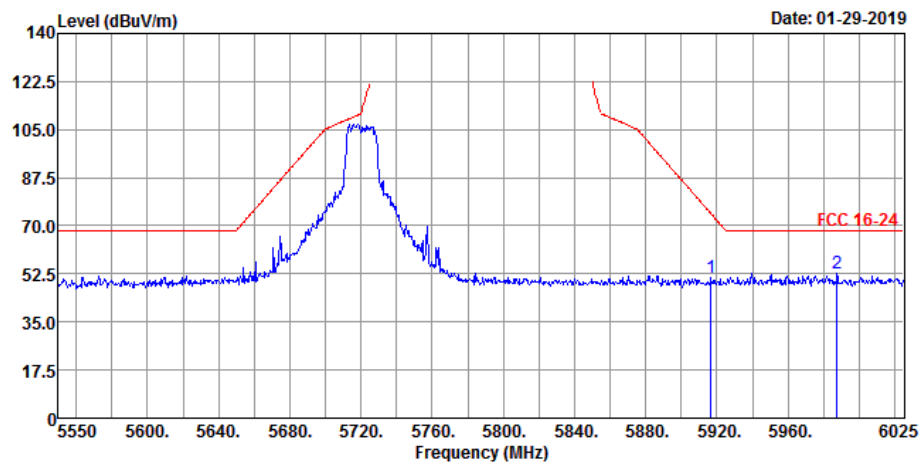
Vertical



<Out of Band Emission (OOBE)> Horizontal



Vertical



<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5451.12	38.79	37.59	54	-15.21	31.77	6.51	37.08	163	340	Average
5451.12	51.7	50.5	74	-22.3	31.77	6.51	37.08	163	340	Peak
*5470	49.88	48.65	68.2	-18.32	31.79	6.52	37.08	163	340	Peak
5720	100.93	99.43			32.18	6.75	37.43	163	340	Average
5720	110	108.5			32.18	6.75	37.43	163	340	Peak
11440	48.92	50.8	54	-5.08	40.3	10.55	52.73	120	64	Average
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
5427.28	38.7	37.59	54	-15.3	31.75	6.49	37.13	151	12	Average
5427.28	51.85	50.74	74	-22.15	31.75	6.49	37.13	151	12	Peak
*5470	50.1	48.87	68.2	-18.1	31.79	6.52	37.08	151	12	Peak
5720	101.74	100.24			32.18	6.75	37.43	151	12	Average
5720	109.93	108.43			32.18	6.75	37.43	151	12	Peak
11440	48	49.88	54	-6	40.3	10.55	52.73	100	344	Average

<Out of Band Emission (OOBE)>

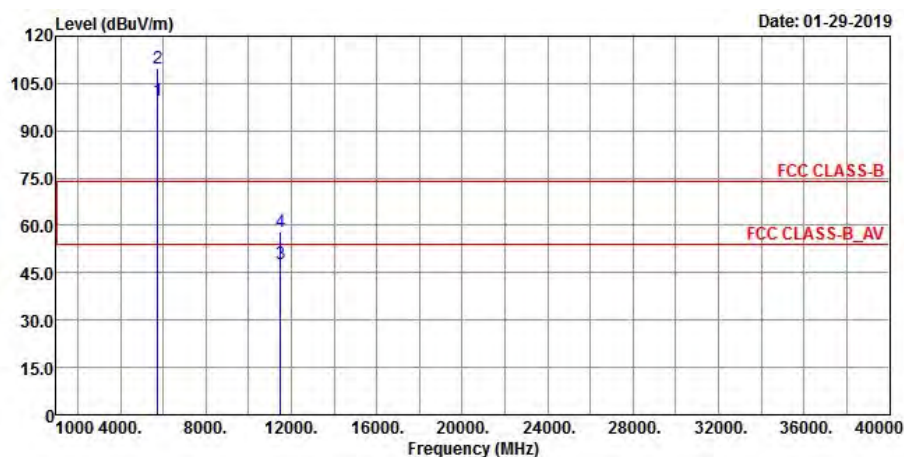
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5916.225	50.59	48.74	74.67	-24.08	32.49	6.86	37.5	163	340	Peak
5985.1	52.27	50.3	68.2	-15.93	32.6	6.88	37.51	163	340	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
5916.7	51.09	49.24	74.32	-23.23	32.49	6.86	37.5	151	12	Peak
5987.475	52.54	50.57	68.2	-15.66	32.6	6.88	37.51	151	12	Peak

Remarks:

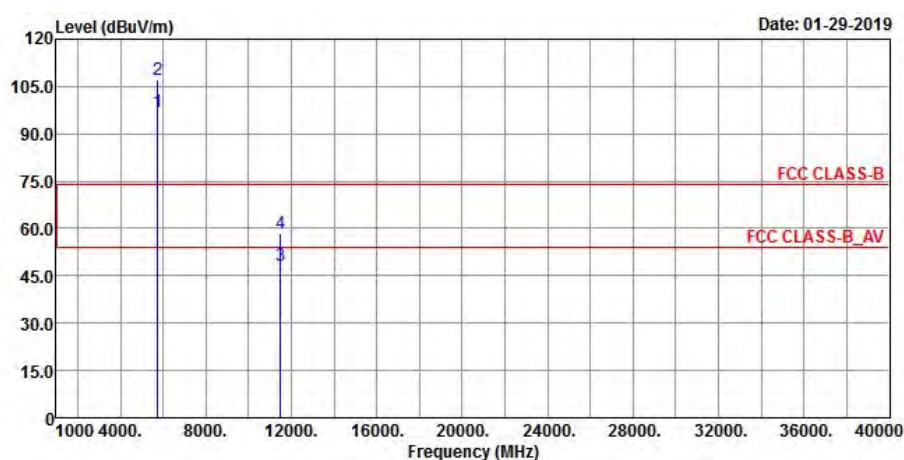
- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5720 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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

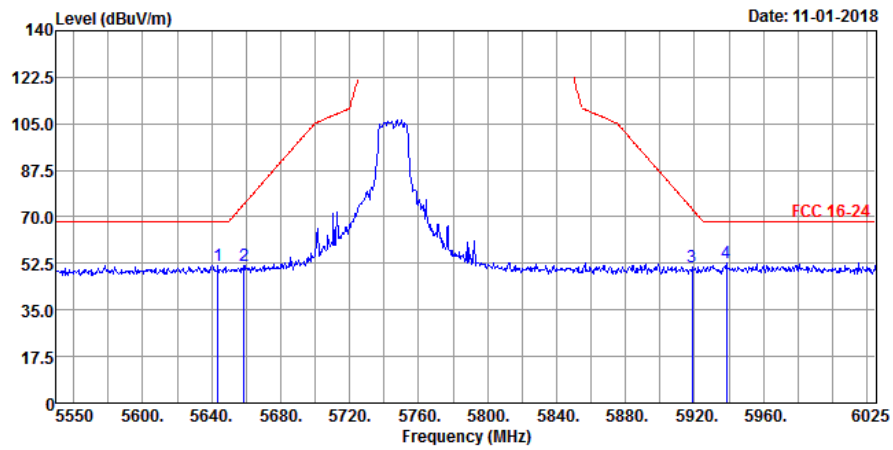
<Spurious Emission> Horizontal



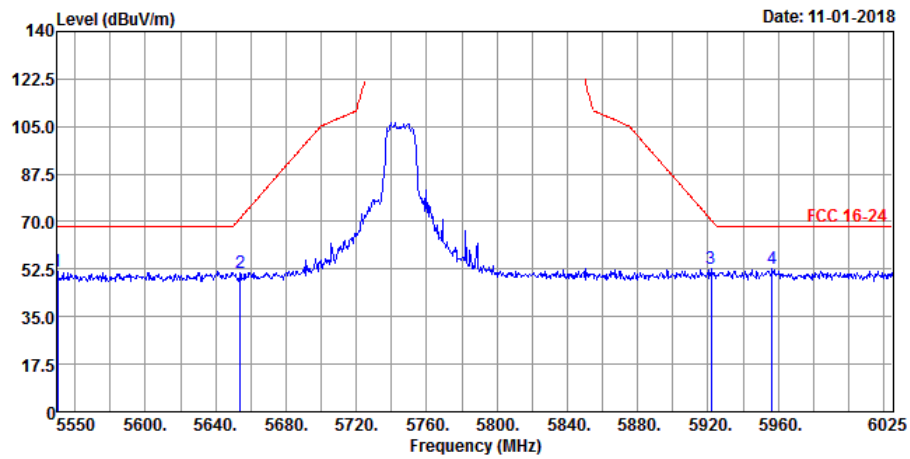
Vertical



<Out of Band Emission (OOBE)> Horizontal



Vertical



<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	99.84	98.32			32.21	6.78	37.47	156	342	Average
5745	109.84	108.32			32.21	6.78	37.47	156	342	Peak
11490	47.87	49.74	54	-6.13	40.25	10.66	52.78	142	66	Average
11490	57.85	59.72	74	-16.15	40.25	10.66	52.78	142	66	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	97.11	95.59			32.21	6.78	37.47	146	17	Average
5745	107.11	105.59			32.21	6.78	37.47	146	17	Peak
11490	48.06	49.93	54	-5.94	40.25	10.66	52.78	103	320	Average
11490	58.45	60.32	74	-15.55	40.25	10.66	52.78	103	320	Peak

<Out of Band Emission (OOBE)>

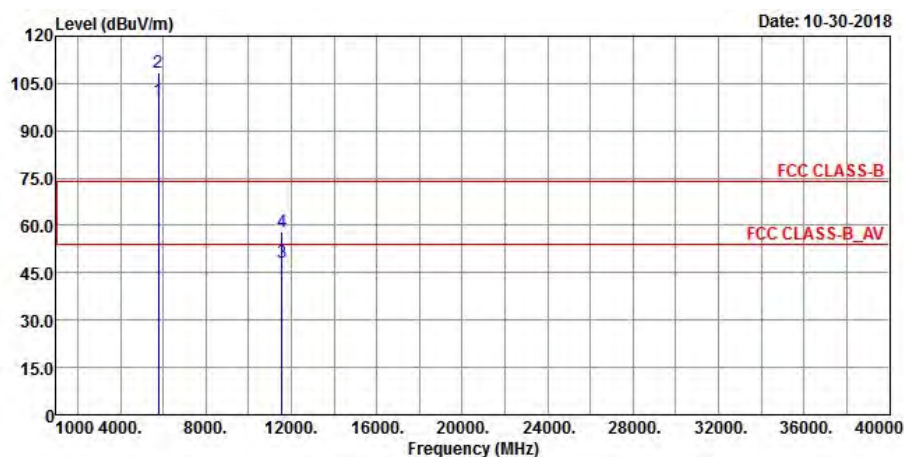
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5643.575	51.54	50.08	68.2	-16.66	32.04	6.7	37.28	156	342	Peak
5658.775	51.79	50.36	74.72	-22.93	32.06	6.71	37.34	156	342	Peak
5918.6	51.16	49.31	72.92	-21.76	32.49	6.86	37.5	156	342	Peak
5938.55	52.57	50.65	68.2	-15.63	32.55	6.87	37.5	156	342	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
5550	51.6	50.19	68.2	-16.6	31.89	6.61	37.09	146	17	Peak
5654.025	51.25	49.82	71.19	-19.94	32.06	6.71	37.34	146	17	Peak
5921.925	52.54	50.66	70.47	-17.93	32.52	6.86	37.5	146	17	Peak
5956.6	52.54	50.6	68.2	-15.66	32.57	6.87	37.5	146	17	Peak

Remarks:

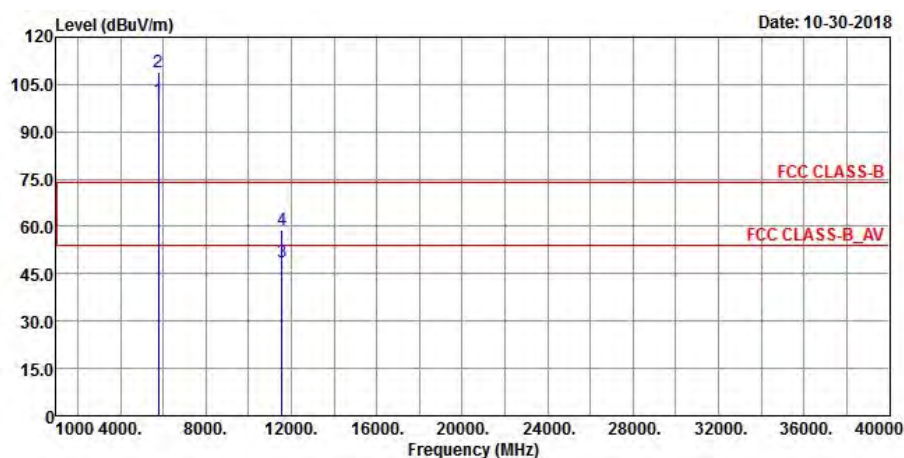
- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5745 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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

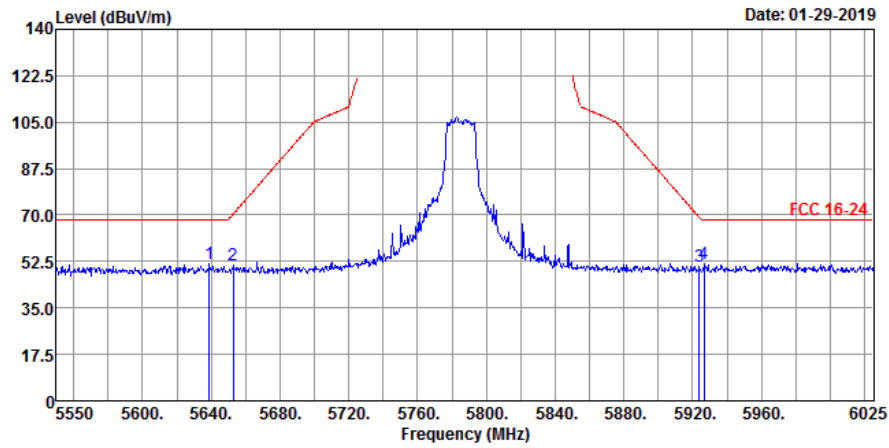
<Spurious Emission> Horizontal



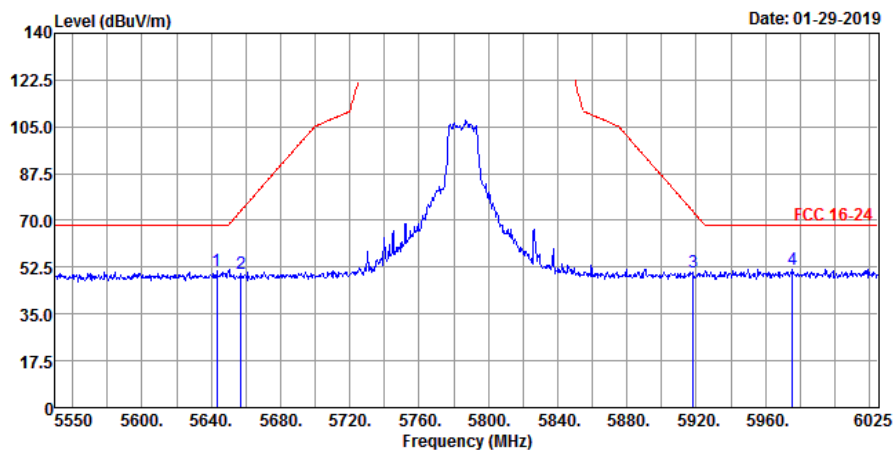
Vertical



<Out of Band Emission (OOBE)> Horizontal



Vertical



<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	99.84	98.3			32.26	6.82	37.54	151	342	Average
5785	108.33	106.79			32.26	6.82	37.54	151	342	Peak
11570	48.11	50.23	54	-5.89	40.13	10.76	53.01	152	123	Average
11570	57.81	59.93	74	-16.19	40.13	10.76	53.01	152	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
5785	99.97	98.43			32.26	6.82	37.54	185	12	Average
5785	109.07	107.53			32.26	6.82	37.54	185	12	Peak
11570	48.78	50.9	54	-5.22	40.13	10.76	53.01	256	231	Average
11570	58.84	60.96	74	-15.16	40.13	10.76	53.01	256	231	Peak

<Out of Band Emission (OOBE)>

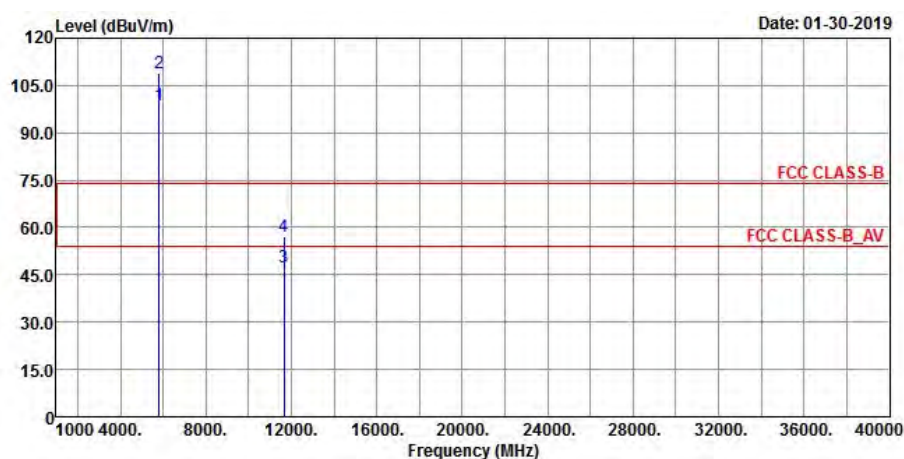
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5638.825	51.62	50.16	68.2	-16.58	32.04	6.7	37.28	151	342	Peak
5652.6	50.95	49.46	70.13	-19.18	32.06	6.71	37.28	151	342	Peak
5923.825	50.59	48.71	69.07	-18.48	32.52	6.86	37.5	151	342	Peak
5926.675	51.57	49.69	68.2	-16.63	32.52	6.86	37.5	151	342	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
5643.1	51.08	49.62	68.2	-17.12	32.04	6.7	37.28	185	12	Peak
5657.35	50.21	48.78	73.66	-23.45	32.06	6.71	37.34	185	12	Peak
5918.125	50.6	48.75	73.27	-22.67	32.49	6.86	37.5	185	12	Peak
5975.6	51.9	49.93	68.2	-16.3	32.6	6.88	37.51	185	12	Peak

Remarks:

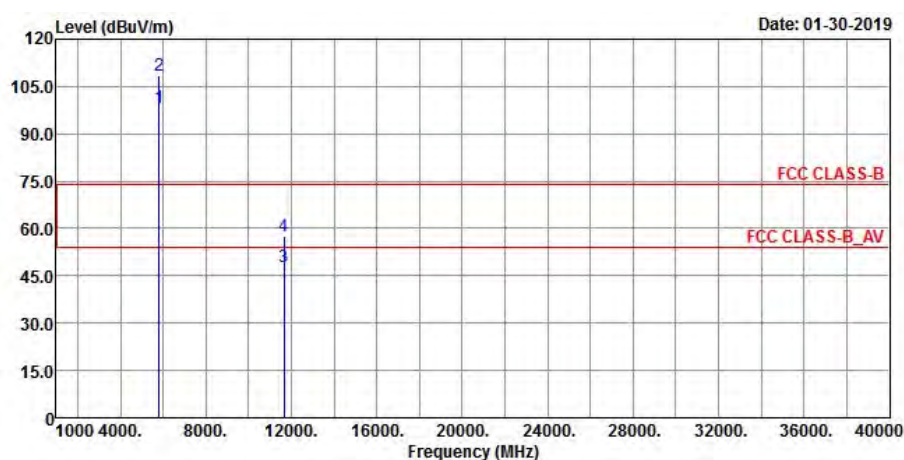
- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5785 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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

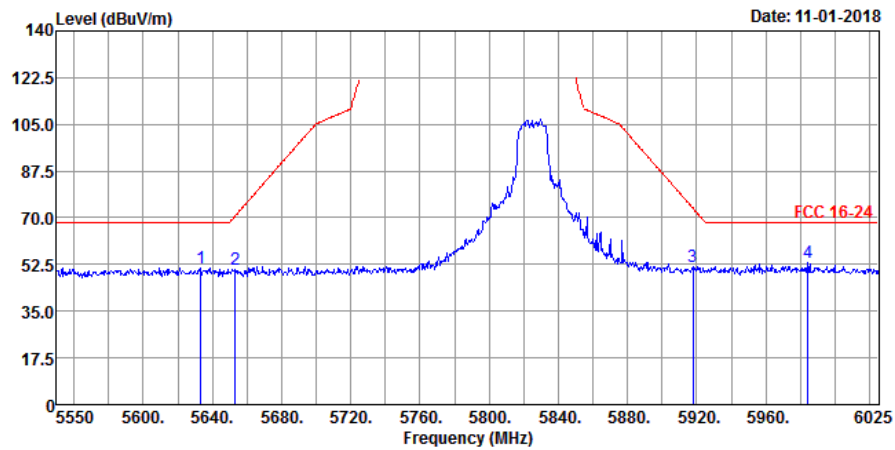
<Spurious Emission> Horizontal



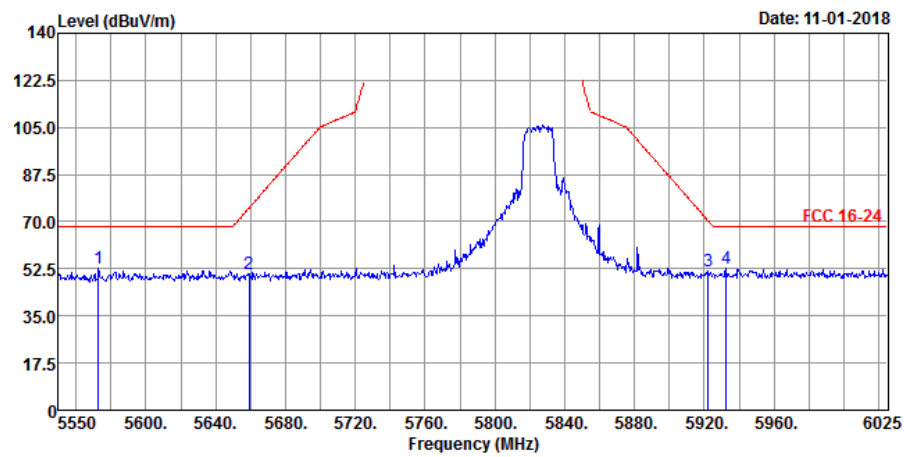
Vertical



<Out of Band Emission (OOBE)> Horizontal



Vertical



<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	98.89	97.23			32.35	6.84	37.53	118	342	Average
5825	108.96	107.3			32.35	6.84	37.53	118	342	Peak
11650	47.31	49.62	54	-6.69	40.03	10.8	53.14	145	167	Average
11650	56.96	59.27	74	-17.04	40.03	10.8	53.14	145	167	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	98.49	96.83			32.35	6.84	37.53	142	5	Average
5825	108.53	106.87			32.35	6.84	37.53	142	5	Peak
11650	47.82	50.13	54	-6.18	40.03	10.8	53.14	125	271	Average
11650	57.6	59.91	74	-16.4	40.03	10.8	53.14	125	271	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
5633.125	51.31	49.85	68.2	-16.89	32.04	6.7	37.28	118	342	Peak
5653.075	50.83	49.34	70.49	-19.66	32.06	6.71	37.28	118	342	Peak
5917.65	51.59	49.74	73.62	-22.03	32.49	6.86	37.5	118	342	Peak
5984.15	52.97	51	68.2	-15.23	32.6	6.88	37.51	118	342	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
5572.8	52.57	51.13	68.2	-15.63	31.92	6.64	37.12	142	5	Peak
5659.25	50.85	49.42	75.07	-24.22	32.06	6.71	37.34	142	5	Peak
5922.4	51.5	49.62	70.12	-18.62	32.52	6.86	37.5	142	5	Peak
5932.375	52.5	50.62	68.2	-15.7	32.52	6.86	37.5	142	5	Peak

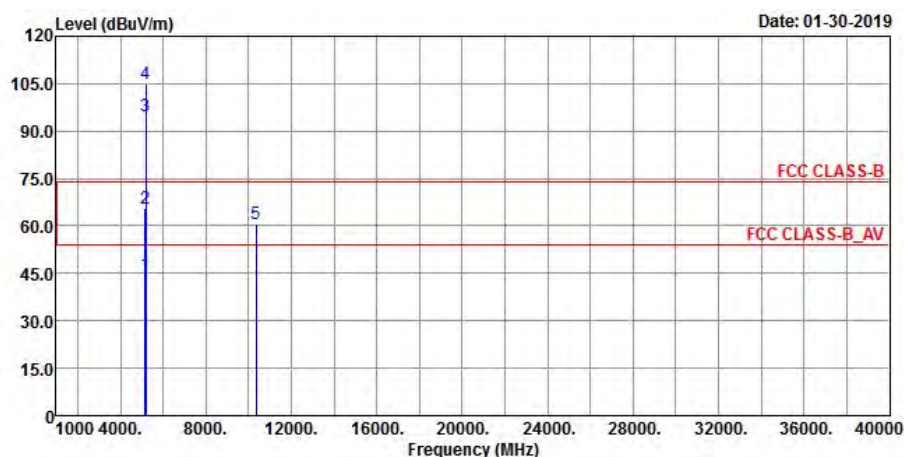
Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5825 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

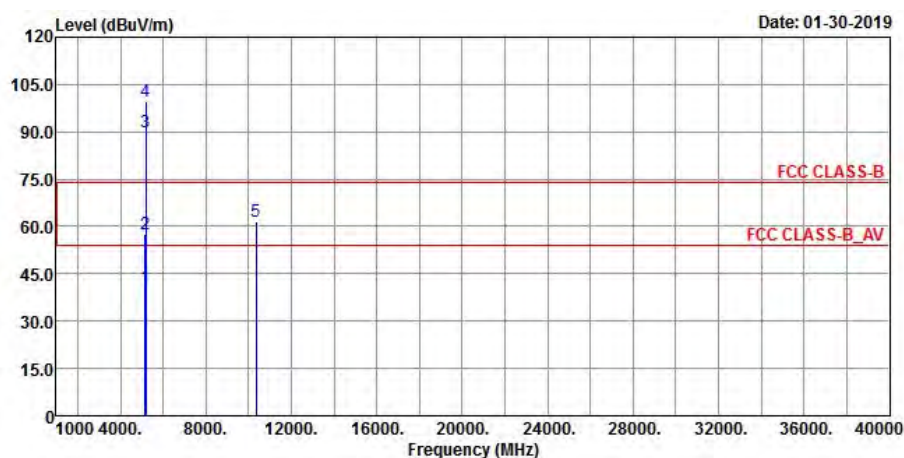
802.11n (HT20)

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

Horizontal



Vertical



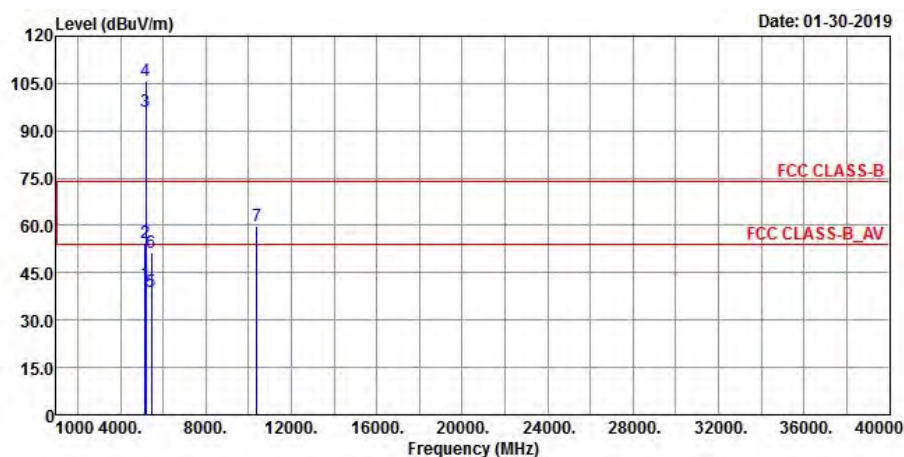
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.76	44.55	43.97	54	-9.45	31.56	6.34	37.32	149	346	Average
5149.76	65.37	64.79	74	-8.63	31.56	6.34	37.32	149	346	Peak
5180	94.97	94.35			31.59	6.37	37.34	149	346	Average
5180	104.98	104.36			31.59	6.37	37.34	149	346	Peak
*10360	60.55	63.31	68.2	-7.65	39.48	10.21	52.45	131	69	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
5149.58	40.7	40.12	54	-13.3	31.56	6.34	37.32	101	190	Average
5149.58	57.77	57.19	74	-16.23	31.56	6.34	37.32	101	190	Peak
5180	89.7	89.08			31.59	6.37	37.34	101	190	Average
5180	99.7	99.08			31.59	6.37	37.34	101	190	Peak
*10360	61.73	64.49	68.2	-6.47	39.48	10.21	52.45	215	330	Peak

Remarks:

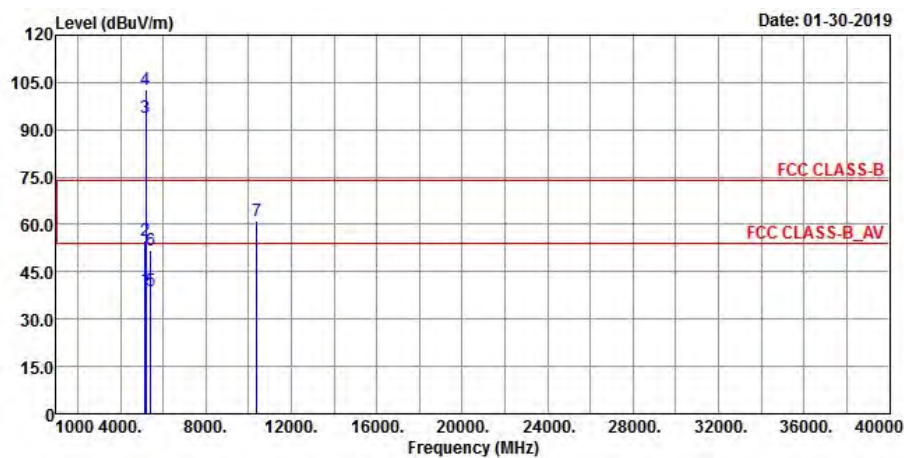
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5180 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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

Horizontal



Vertical



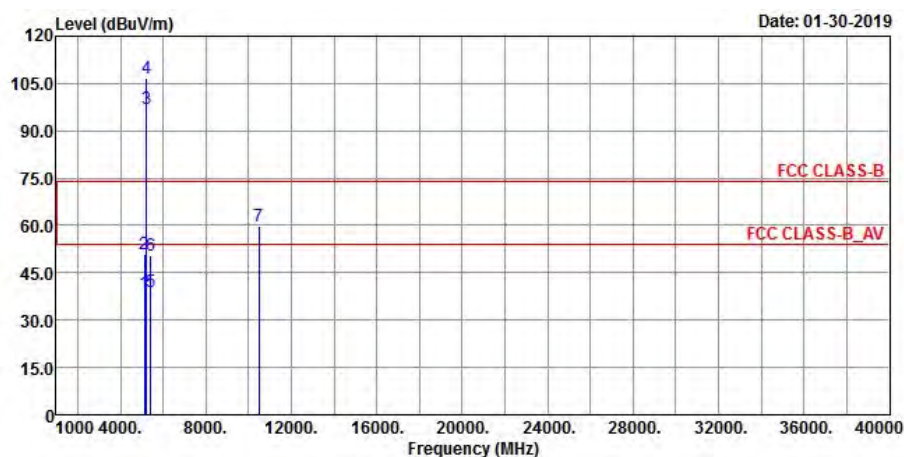
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.76	41.46	40.88	54	-12.54	31.56	6.34	37.32	140	348	Average
5149.76	54.67	54.09	74	-19.33	31.56	6.34	37.32	140	348	Peak
5200	96.2	95.57			31.6	6.39	37.36	140	348	Average
5200	105.81	105.18			31.6	6.39	37.36	140	348	Peak
5445.37	38.77	37.64	54	-15.23	31.76	6.5	37.13	140	348	Average
5445.37	51.53	50.4	74	-22.47	31.76	6.5	37.13	140	348	Peak
*10400	59.76	62.5	68.2	-8.44	39.51	10.2	52.45	127	74	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5148.68	39.61	39.03	54	-14.39	31.56	6.34	37.32	128	358	Average
5148.68	55.09	54.51	74	-18.91	31.56	6.34	37.32	128	358	Peak
5200	93.89	93.26			31.6	6.39	37.36	128	358	Average
5200	102.81	102.18			31.6	6.39	37.36	128	358	Peak
5426.01	38.85	37.74	54	-15.15	31.75	6.49	37.13	128	358	Average
5426.01	51.69	50.58	74	-22.31	31.75	6.49	37.13	128	358	Peak
*10400	60.94	63.68	68.2	-7.26	39.51	10.2	52.45	206	310	Peak

Remarks:

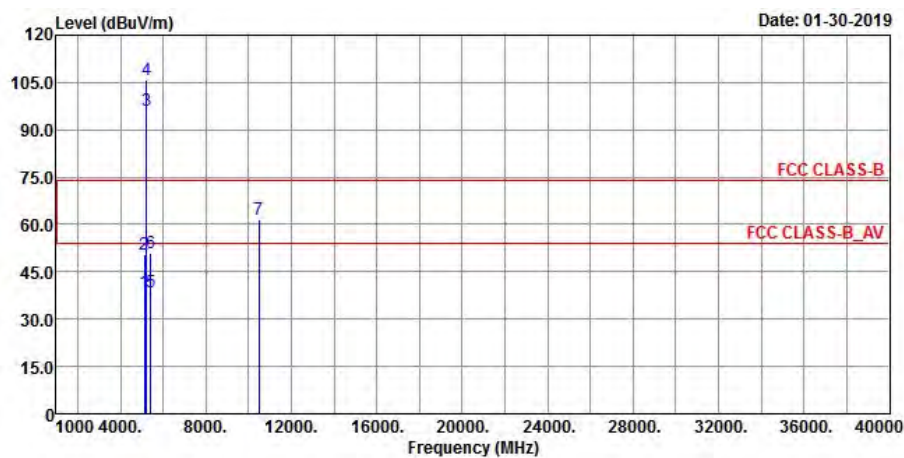
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5200 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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

Horizontal



Vertical



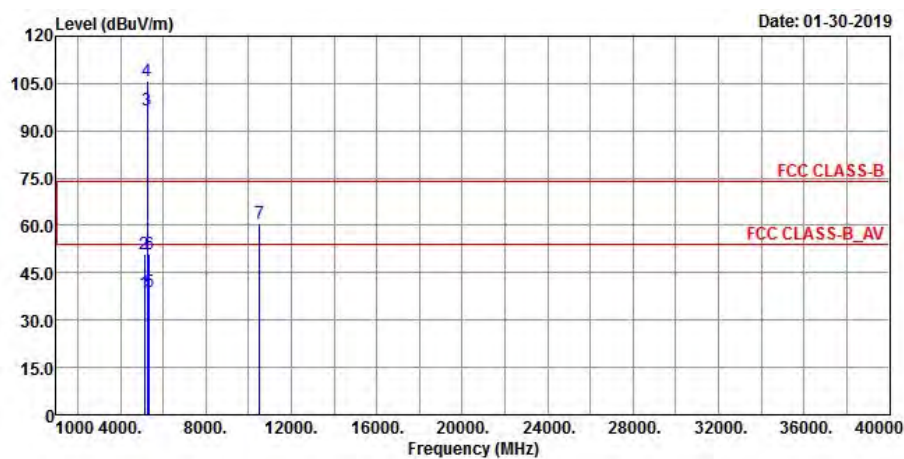
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5131.04	38.6	38.03	54	-15.4	31.55	6.32	37.3	146	346	Average
5131.04	50.95	50.38	74	-23.05	31.55	6.32	37.3	146	346	Peak
5240	97.14	96.42			31.62	6.42	37.32	146	346	Average
5240	106.89	106.17			31.62	6.42	37.32	146	346	Peak
5422.71	38.77	37.71	54	-15.23	31.75	6.49	37.18	146	346	Average
5422.71	50.49	49.43	74	-23.51	31.75	6.49	37.18	146	346	Peak
*10480	59.77	62.61	68.2	-8.43	39.6	10.22	52.66	119	62	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
5132.3	38.51	37.94	54	-15.49	31.55	6.32	37.3	126	360	Average
5132.3	50.67	50.1	74	-23.33	31.55	6.32	37.3	126	360	Peak
5240	95.94	95.22			31.62	6.42	37.32	126	360	Average
5240	105.74	105.02			31.62	6.42	37.32	126	360	Peak
5416	38.69	37.64	54	-15.31	31.75	6.48	37.18	126	360	Average
5416	50.9	49.85	74	-23.1	31.75	6.48	37.18	126	360	Peak
*10480	61.37	64.21	68.2	-6.83	39.6	10.22	52.66	227	322	Peak

Remarks:

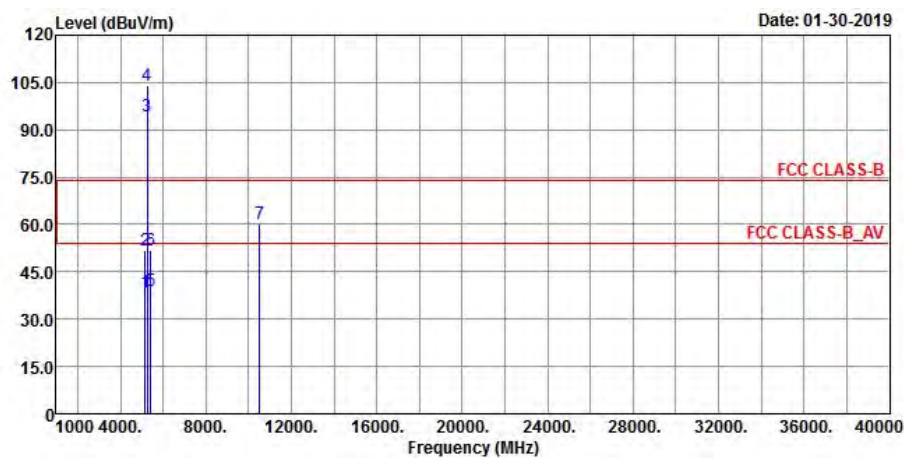
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5240 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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

Horizontal



Vertical



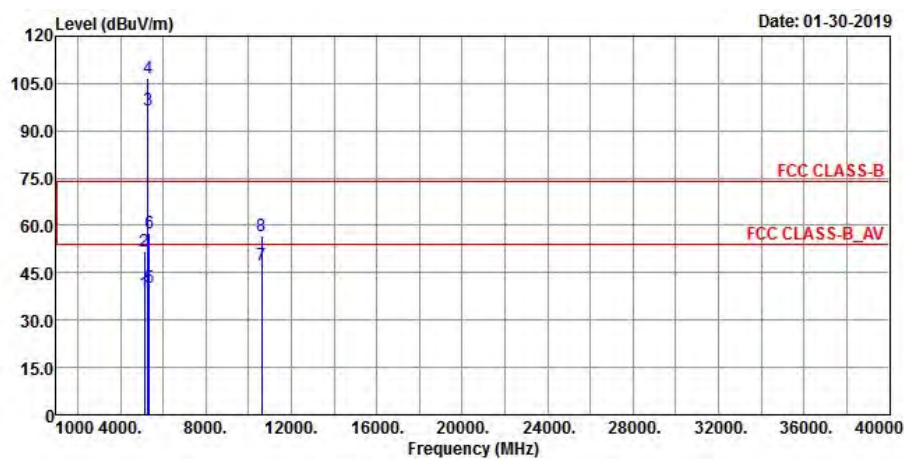
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5131.04	38.69	38.12	54	-15.31	31.55	6.32	37.3	137	346	Average
5131.04	50.89	50.32	74	-23.11	31.55	6.32	37.3	137	346	Peak
5260	96.48	95.67			31.65	6.43	37.27	137	346	Average
5260	105.78	104.97			31.65	6.43	37.27	137	346	Peak
5356.49	38.79	37.8	54	-15.21	31.7	6.47	37.18	137	346	Average
5356.49	51.07	50.08	74	-22.93	31.7	6.47	37.18	137	346	Peak
*10520	60.72	63.52	68.2	-7.48	39.66	10.27	52.73	113	67	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
5143.28	38.56	37.97	54	-15.44	31.56	6.33	37.3	133	0	Average
5143.28	51.9	51.31	74	-22.1	31.56	6.33	37.3	133	0	Peak
5260	94.39	93.58			31.65	6.43	37.27	133	0	Average
5260	104	103.19			31.65	6.43	37.27	133	0	Peak
5422.82	38.8	37.74	54	-15.2	31.75	6.49	37.18	133	0	Average
5422.82	51.73	50.67	74	-22.27	31.75	6.49	37.18	133	0	Peak
*10520	60.05	62.85	68.2	-8.15	39.66	10.27	52.73	117	328	Peak

Remarks:

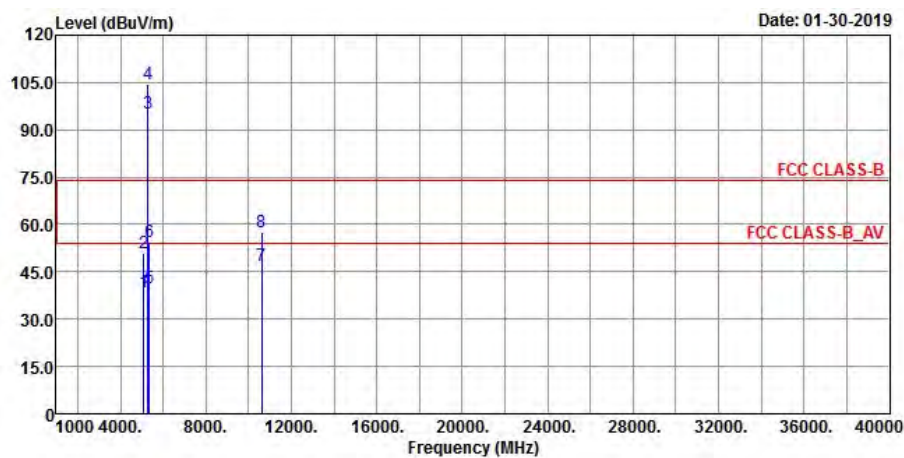
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5260 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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

Horizontal



Vertical



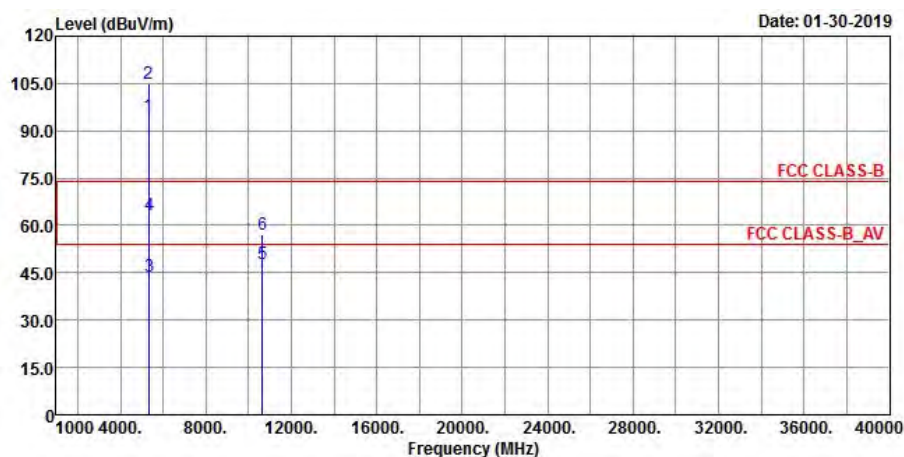
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5139.32	38.68	38.1	54	-15.32	31.55	6.33	37.3	134	345	Average
5139.32	51.6	51.02	74	-22.4	31.55	6.33	37.3	134	345	Peak
5300	96.53	95.59			31.67	6.46	37.19	134	345	Average
5300	106.6	105.66			31.67	6.46	37.19	134	345	Peak
5351.21	40.52	39.53	54	-13.48	31.7	6.47	37.18	134	345	Average
5351.21	57.57	56.58	74	-16.43	31.7	6.47	37.18	134	345	Peak
10600	47.58	50.41	54	-6.42	39.85	10.43	53.11	146	103	Average
10600	56.8	59.63	74	-17.2	39.85	10.43	53.11	146	103	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5079.38	38.5	37.98	54	-15.5	31.52	6.27	37.27	139	0	Average
5079.38	50.96	50.44	74	-23.04	31.52	6.27	37.27	139	0	Peak
5300	95.13	94.19			31.67	6.46	37.19	139	0	Average
5300	104.58	103.64			31.67	6.46	37.19	139	0	Peak
5350.11	39.95	38.96	54	-14.05	31.7	6.47	37.18	139	0	Average
5350.11	54.45	53.46	74	-19.55	31.7	6.47	37.18	139	0	Peak
10600	46.92	49.75	54	-7.08	39.85	10.43	53.11	127	341	Average
10600	57.56	60.39	74	-16.44	39.85	10.43	53.11	127	341	Peak

Remarks:

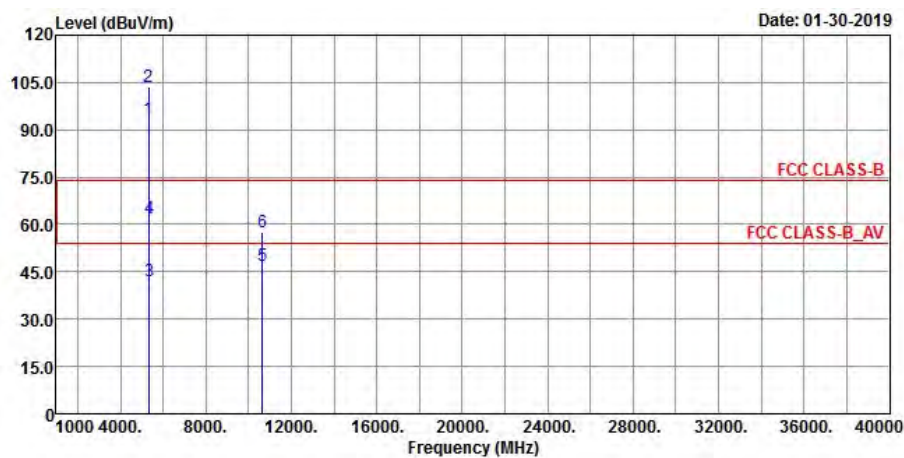
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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

Horizontal



Vertical



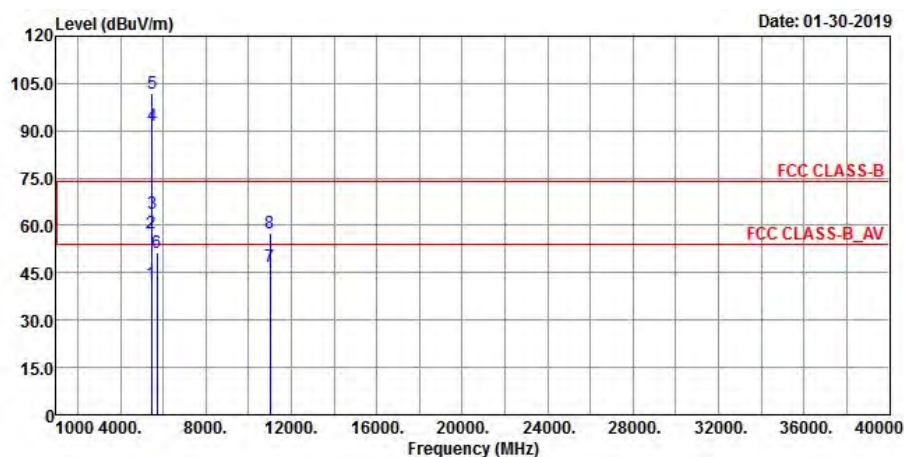
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	94.94	93.99			31.68	6.46	37.19	153	329	Average
5320	104.95	104			31.68	6.46	37.19	153	329	Peak
5350.55	44.04	43.05	54	-9.96	31.7	6.47	37.18	153	329	Average
5350.55	63.52	62.53	74	-10.48	31.7	6.47	37.18	153	329	Peak
10640	47.72	50.5	54	-6.28	39.93	10.36	53.07	138	55	Average
10640	57.15	59.93	74	-16.85	39.93	10.36	53.07	138	55	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	93.54	92.59			31.68	6.46	37.19	163	2	Average
5320	103.56	102.61			31.68	6.46	37.19	163	2	Peak
5353.96	42.03	41.04	54	-11.97	31.7	6.47	37.18	163	2	Average
5353.96	62.03	61.04	74	-11.97	31.7	6.47	37.18	163	2	Peak
10640	46.84	49.62	54	-7.16	39.93	10.36	53.07	213	301	Average
10640	57.5	60.28	74	-16.5	39.93	10.36	53.07	213	301	Peak

Remarks:

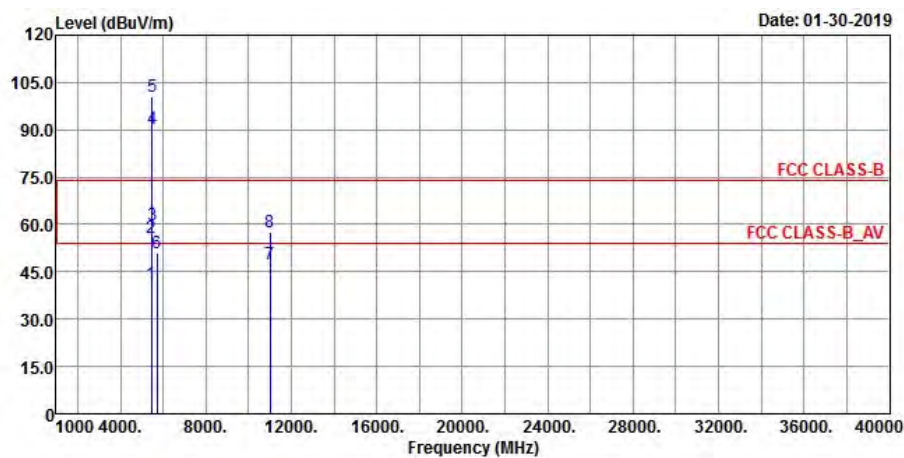
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5320 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 100	Frequency Range	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	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
5458.96	41.51	40.31	54	-12.49	31.77	6.51	37.08	163	347	Average
5458.96	57.45	56.25	74	-16.55	31.77	6.51	37.08	163	347	Peak
*5470	63.94	62.71	68.2	-4.26	31.79	6.52	37.08	163	347	Peak
5500	91.73	90.41			31.81	6.54	37.03	163	347	Average
5500	101.73	100.41			31.81	6.54	37.03	163	347	Peak
*5725	51.28	49.77	68.2	-16.92	32.18	6.76	37.43	163	347	Peak
11000	46.79	48.69	54	-7.21	40.73	10.4	53.03	161	137	Average
11000	57.37	59.27	74	-16.63	40.73	10.4	53.03	161	137	Peak

Antenna Polarity & Test Distance: Vertical at 3 m

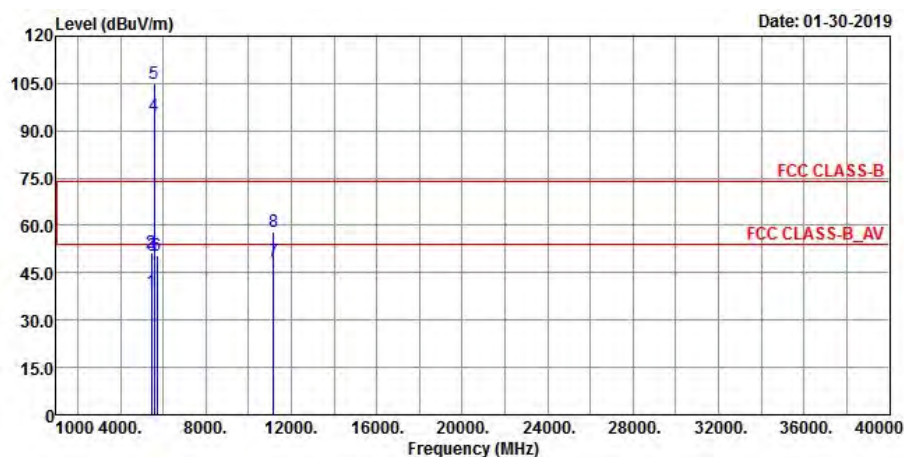
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.76	41.07	39.87	54	-12.93	31.77	6.51	37.08	164	356	Average
5459.76	55.95	54.75	74	-18.05	31.77	6.51	37.08	164	356	Peak
*5470	59.75	58.52	68.2	-8.45	31.79	6.52	37.08	164	356	Peak
5500	90.38	89.06			31.81	6.54	37.03	164	356	Average
5500	100.38	99.06			31.81	6.54	37.03	164	356	Peak
*5725	50.77	49.26	68.2	-17.43	32.18	6.76	37.43	164	356	Peak
11000	47.27	49.17	54	-6.73	40.73	10.4	53.03	191	255	Average
11000	57.77	59.67	74	-16.23	40.73	10.4	53.03	191	255	Peak

Remarks:

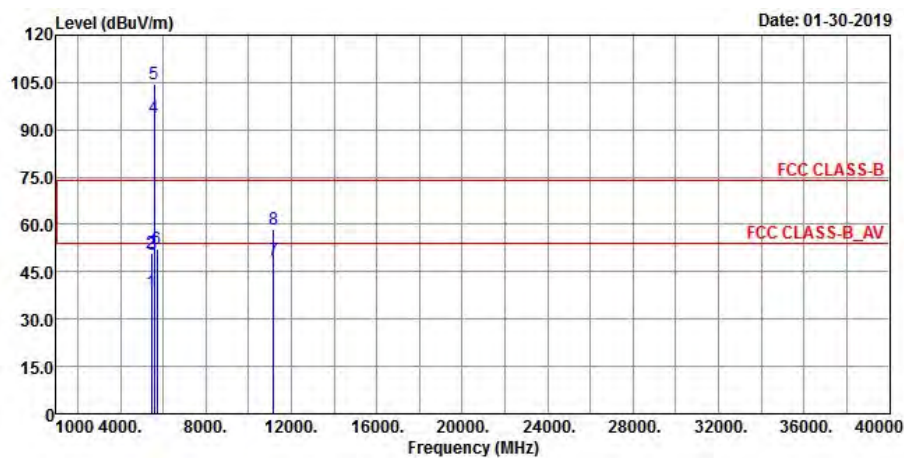
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5500 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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

Horizontal



Vertical



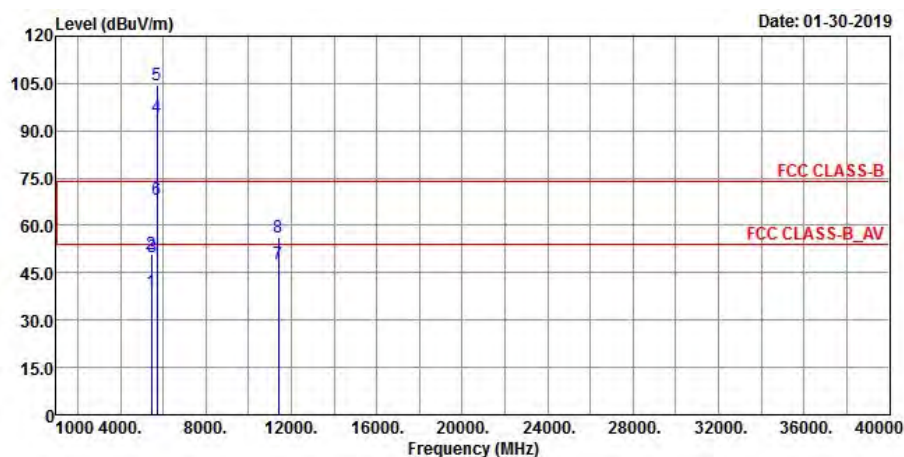
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.92	38.86	37.66	54	-15.14	31.77	6.51	37.08	150	343	Average
5459.92	51.52	50.32	74	-22.48	31.77	6.51	37.08	150	343	Peak
*5470	50.28	49.05	68.2	-17.92	31.79	6.52	37.08	150	343	Peak
5580	94.95	93.54			31.92	6.65	37.16	150	343	Average
5580	104.78	103.37			31.92	6.65	37.16	150	343	Peak
*5725	50.6	49.09	68.2	-17.6	32.18	6.76	37.43	150	343	Peak
11160	48.67	50.37	54	-5.33	40.56	10.52	52.78	142	59	Average
11160	57.92	59.62	74	-16.08	40.56	10.52	52.78	142	59	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
5452.4	38.72	37.52	54	-15.28	31.77	6.51	37.08	145	13	Average
5452.4	50.76	49.56	74	-23.24	31.77	6.51	37.08	145	13	Peak
*5470	50.48	49.25	68.2	-17.72	31.79	6.52	37.08	145	13	Peak
5580	93.68	92.27			31.92	6.65	37.16	145	13	Average
5580	104.33	102.92			31.92	6.65	37.16	145	13	Peak
*5725	52.24	50.73	68.2	-15.96	32.18	6.76	37.43	145	13	Peak
11160	48.5	50.2	54	-5.5	40.56	10.52	52.78	231	325	Average
11160	58.48	60.18	74	-15.52	40.56	10.52	52.78	231	325	Peak

Remarks:

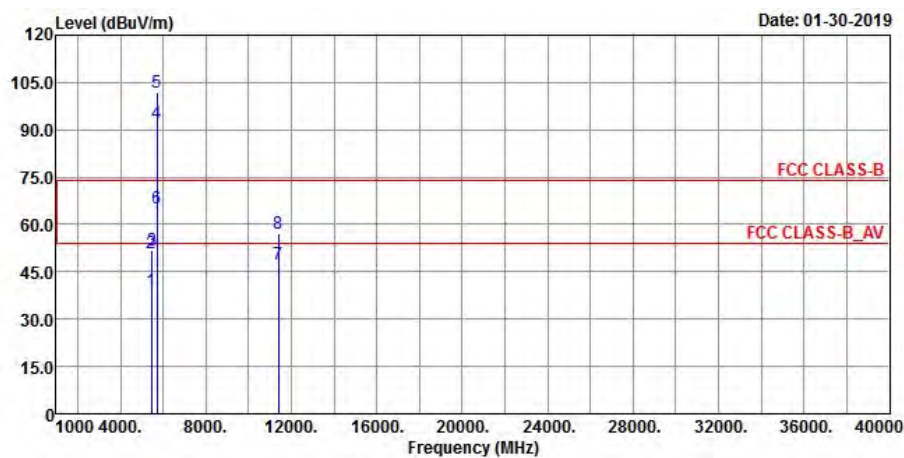
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5580 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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

Horizontal



Vertical



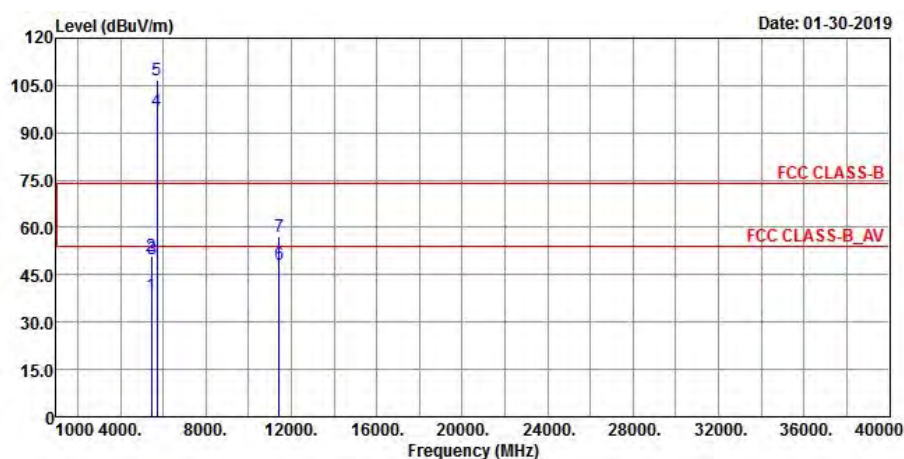
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5444.72	39.06	37.93	54	-14.94	31.76	6.5	37.13	155	342	Average
5444.72	51.06	49.93	74	-22.94	31.76	6.5	37.13	155	342	Peak
*5470	50.05	48.82	68.2	-18.15	31.79	6.52	37.08	155	342	Peak
5700	94.45	93			32.12	6.73	37.4	155	342	Average
5700	104.5	103.05			32.12	6.73	37.4	155	342	Peak
*5725	68.05	66.54	68.2	-0.15	32.18	6.76	37.43	155	342	Peak
11400	47.89	49.79	54	-6.11	40.33	10.47	52.7	124	60	Average
11400	56.12	58.02	74	-17.88	40.33	10.47	52.7	124	60	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
5451.6	39.02	37.82	54	-14.98	31.77	6.51	37.08	142	11	Average
5451.6	51.14	49.94	74	-22.86	31.77	6.51	37.08	142	11	Peak
*5470	51.65	50.42	68.2	-16.55	31.79	6.52	37.08	142	11	Peak
5700	91.91	90.46			32.12	6.73	37.4	142	11	Average
5700	101.92	100.47			32.12	6.73	37.4	142	11	Peak
*5725	64.99	63.48	68.2	-3.21	32.18	6.76	37.43	142	11	Peak
11400	47.33	49.23	54	-6.67	40.33	10.47	52.7	130	277	Average
11400	57.15	59.05	74	-16.85	40.33	10.47	52.7	130	277	Peak

Remarks:

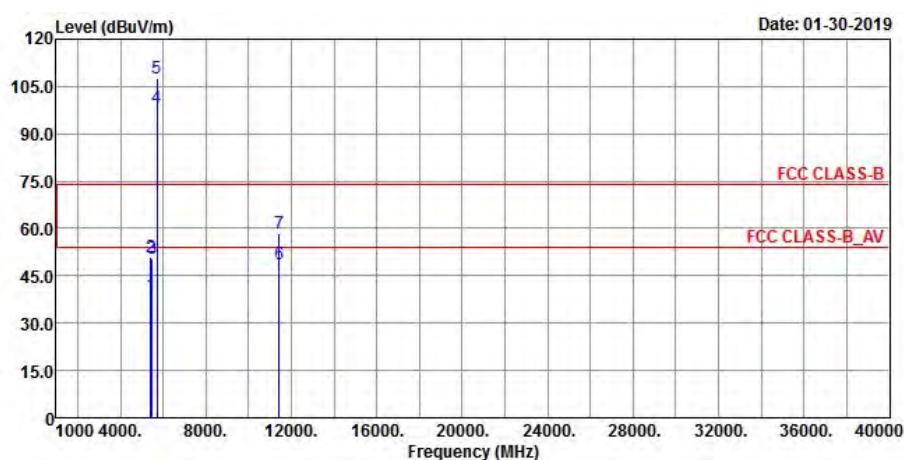
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5700 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 144	Frequency Range	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Thomas Wei

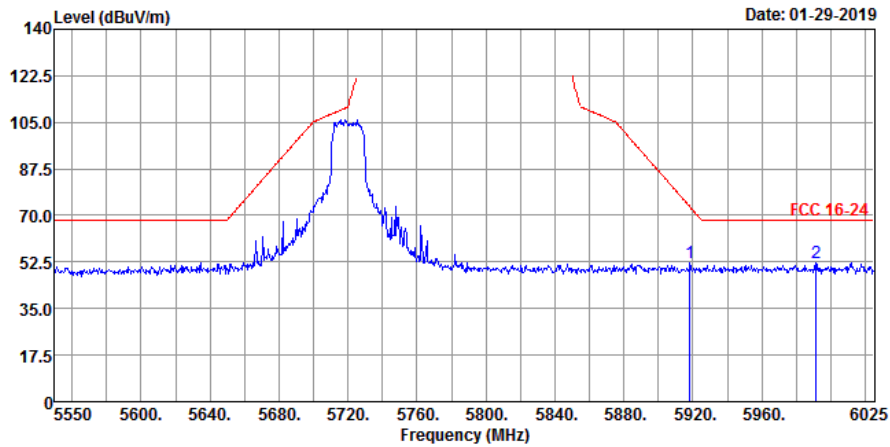
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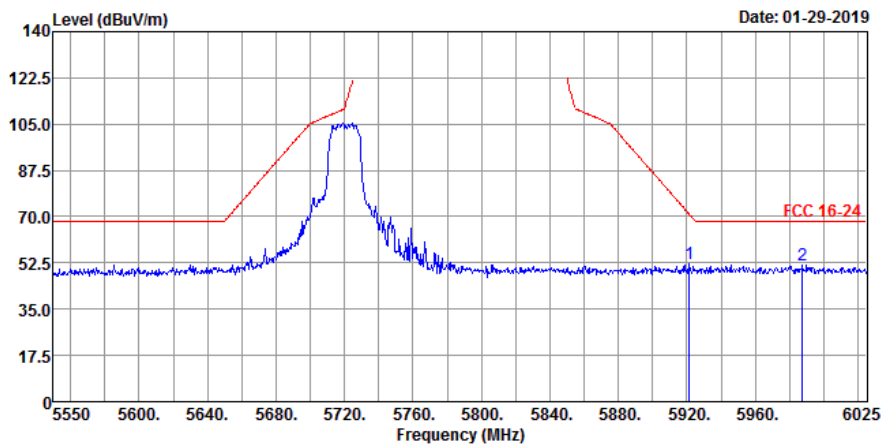
Vertical



<Out of Band Emission (OOBE)> Horizontal



Vertical



<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5430.32	38.78	37.66	54	-15.22	31.76	6.49	37.13	126	341	Average
5430.32	50.98	49.86	74	-23.02	31.76	6.49	37.13	126	341	Peak
*5470	50.42	49.19	68.2	-17.78	31.79	6.52	37.08	126	341	Peak
5720	98.23	96.73			32.18	6.75	37.43	126	341	Average
5720	107.43	105.93			32.18	6.75	37.43	126	341	Peak
11440	48.84	50.72	54	-5.16	40.3	10.55	52.73	136	331	Average
11440	58.59	60.47	74	-15.41	40.3	10.55	52.73	136	331	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
5455.6	38.71	37.51	54	-15.29	31.77	6.51	37.08	126	18	Average
5455.6	50.8	49.6	74	-23.2	31.77	6.51	37.08	126	18	Peak
*5470	50.15	48.92	68.2	-18.05	31.79	6.52	37.08	126	18	Peak
5720	97.03	95.53			32.18	6.75	37.43	126	18	Average
5720	106.92	105.42			32.18	6.75	37.43	126	18	Peak
11440	48.14	50.02	54	-5.86	40.3	10.55	52.73	112	38	Average
11440	57.31	59.19	74	-16.69	40.3	10.55	52.73	112	38	Peak

<Out of Band Emission (OOBE)>

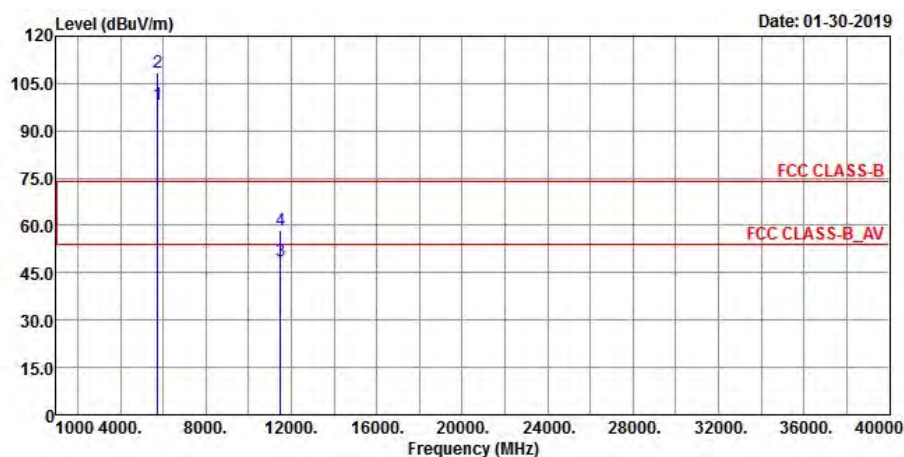
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5918.125	52.27	50.42	73.27	-21	32.49	6.86	37.5	126	341	Peak
5991.275	52.03	50.02	68.2	-16.17	32.63	6.89	37.51	126	341	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
5921.45	52.17	50.32	70.82	-18.65	32.49	6.86	37.5	126	18	Peak
5987.475	51.81	49.84	68.2	-16.39	32.6	6.88	37.51	126	18	Peak

Remarks:

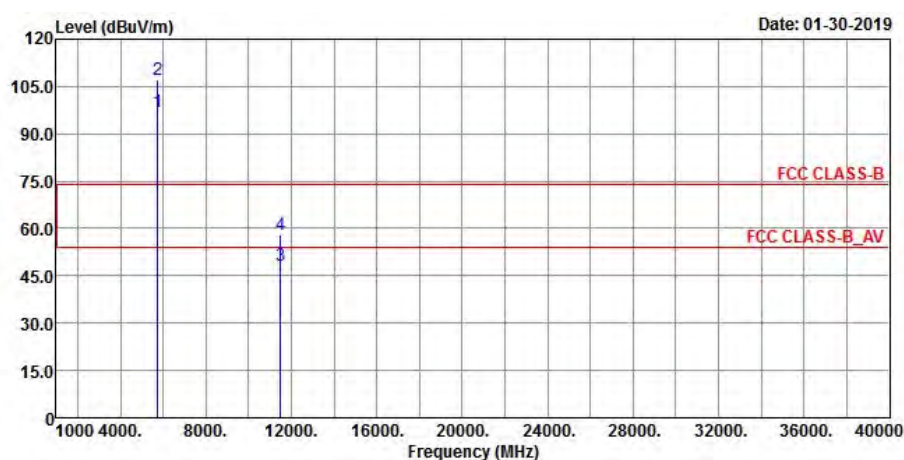
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5720 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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

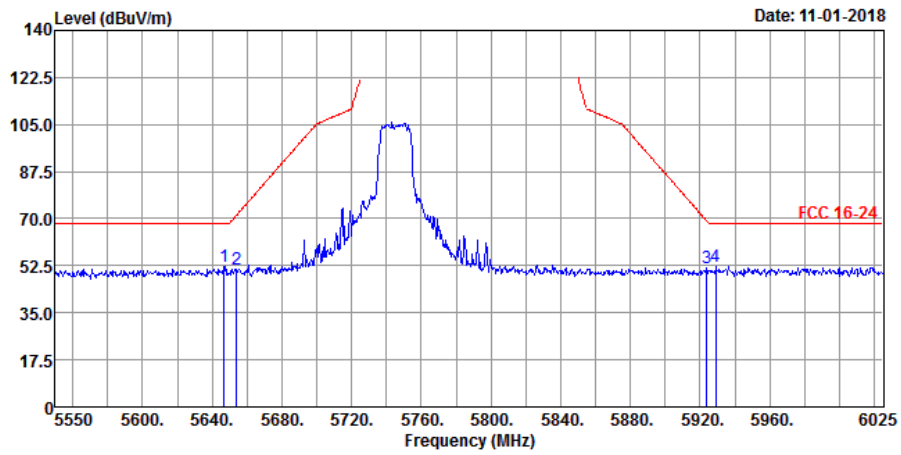
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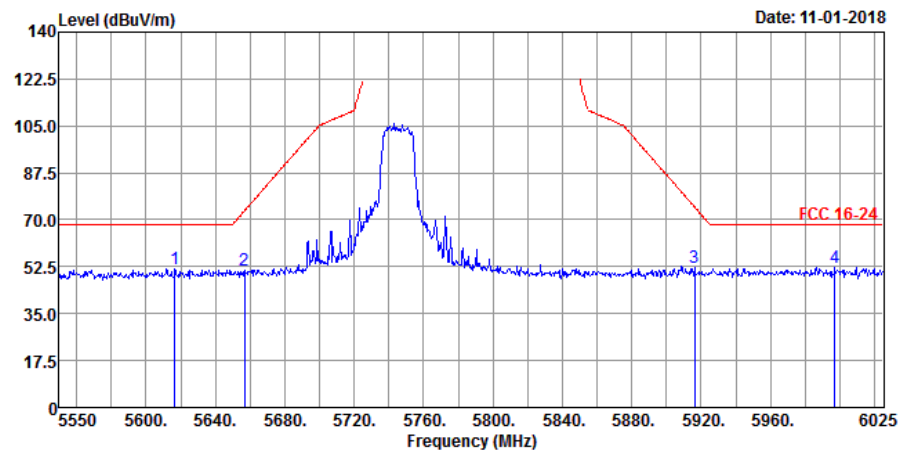
Vertical



<Out of Band Emission (OOBE)> Horizontal



Vertical



<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	98.49	96.97			32.21	6.78	37.47	147	343	Average
5745	108.34	106.82			32.21	6.78	37.47	147	343	Peak
11490	48.53	50.4	54	-5.47	40.25	10.66	52.78	132	284	Average
11490	58.61	60.48	74	-15.39	40.25	10.66	52.78	132	284	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	97.12	95.6			32.21	6.78	37.47	128	12	Average
5745	107.3	105.78			32.21	6.78	37.47	128	12	Peak
11490	48.23	50.1	54	-5.77	40.25	10.66	52.78	115	103	Average
11490	57.94	59.81	74	-16.06	40.25	10.66	52.78	115	103	Peak

<Out of Band Emission (OOBE)>

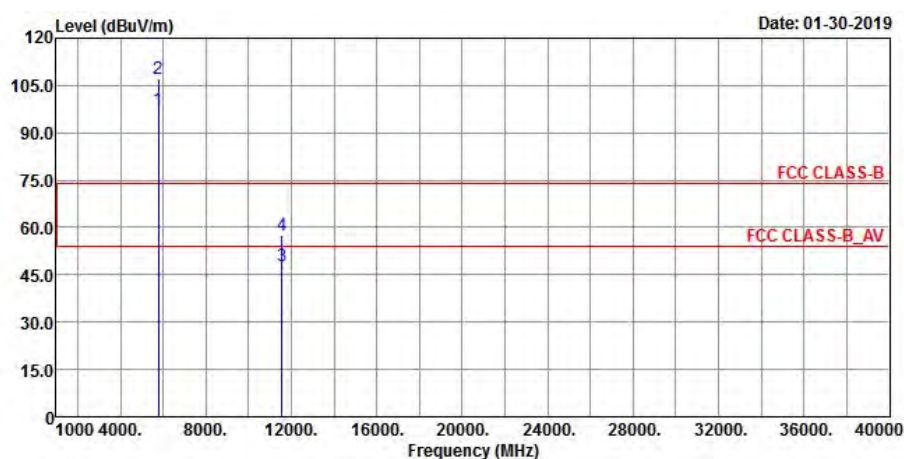
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5646.9	52.07	50.61	68.2	-16.13	32.04	6.7	37.28	147	343	Peak
5654.025	51.22	49.79	71.19	-19.97	32.06	6.71	37.34	147	343	Peak
5923.825	51.6	49.72	69.07	-17.47	32.52	6.86	37.5	147	343	Peak
5929.05	52.05	50.17	68.2	-16.15	32.52	6.86	37.5	147	343	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
5616.5	51.52	50.04	68.2	-16.68	32.01	6.69	37.22	128	12	Peak
5656.875	51.39	49.96	73.31	-21.92	32.06	6.71	37.34	128	12	Peak
5916.225	51.98	50.13	74.67	-22.69	32.49	6.86	37.5	128	12	Peak
5996.975	52.03	50.02	68.2	-16.17	32.63	6.89	37.51	128	12	Peak

Remarks:

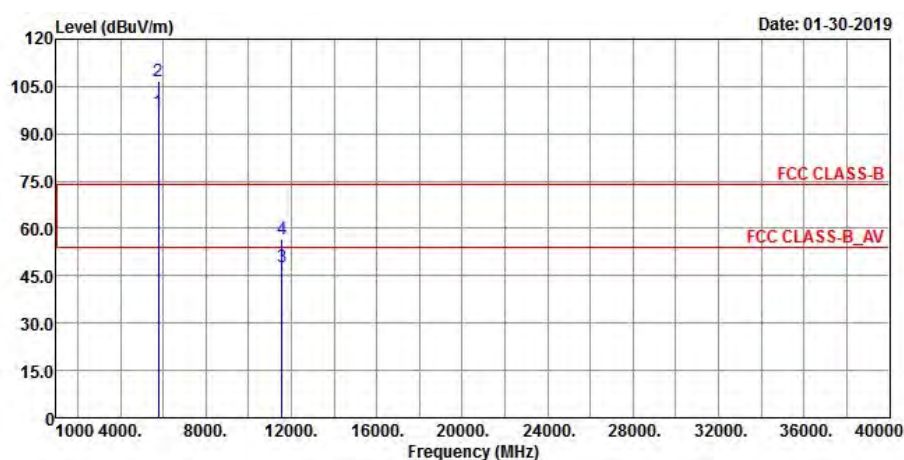
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5745 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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

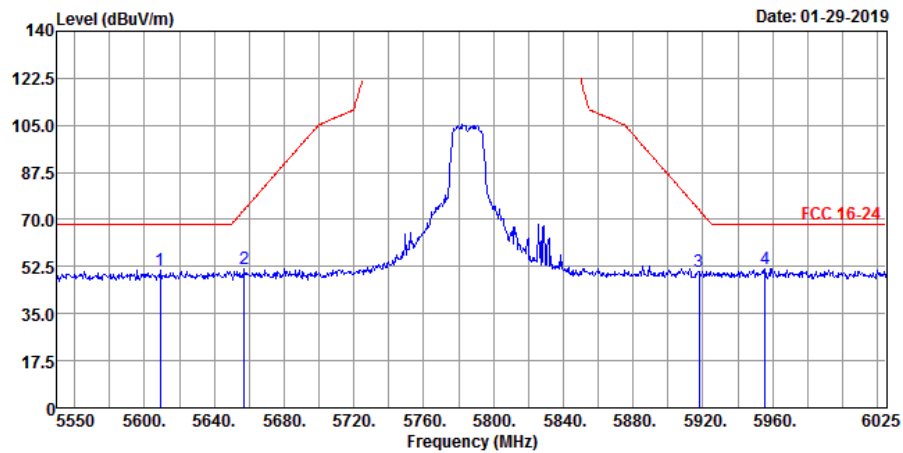
<Spurious Emission> Horizontal



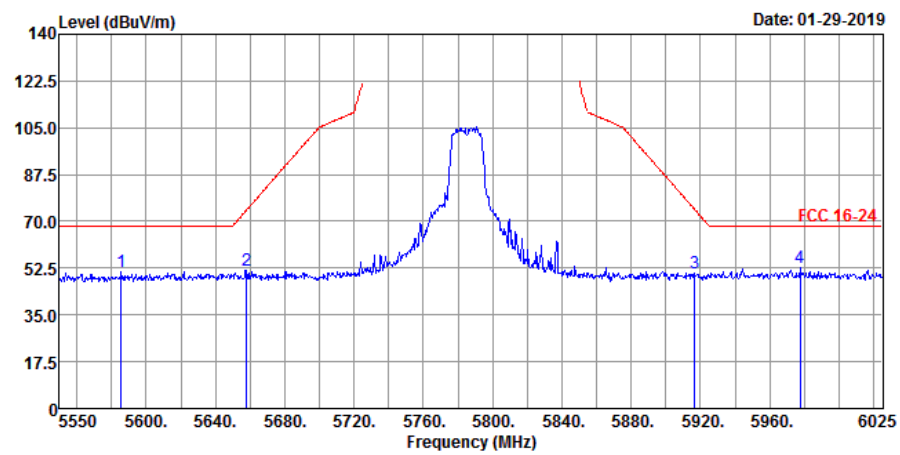
Vertical



<Out of Band Emission (OOBE)> Horizontal



Vertical



<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	97.33	95.79			32.26	6.82	37.54	117	342	Average
5785	106.95	105.41			32.26	6.82	37.54	117	342	Peak
11570	48.02	50.14	54	-5.98	40.13	10.76	53.01	132	298	Average
11570	57.76	59.88	74	-16.24	40.13	10.76	53.01	132	298	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	96.94	95.4			32.26	6.82	37.54	169	12	Average
5785	106.87	105.33			32.26	6.82	37.54	169	12	Peak
11570	47.65	49.77	54	-6.35	40.13	10.76	53.01	170	142	Average
11570	56.83	58.95	74	-17.17	40.13	10.76	53.01	170	142	Peak

<Out of Band Emission (OOBE)>

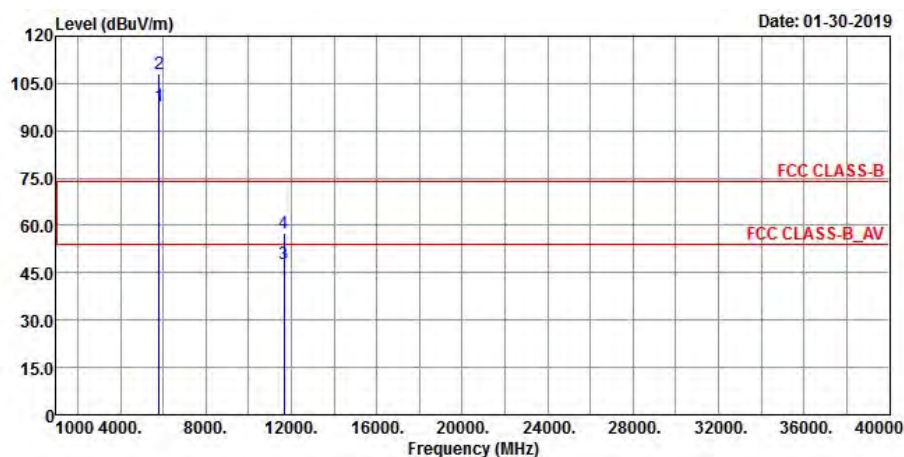
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5608.9	51.19	49.75	68.2	-17.01	31.98	6.68	37.22	117	342	Peak
5657.35	51.6	50.17	73.66	-22.06	32.06	6.71	37.34	117	342	Peak
5917.65	50.79	48.94	73.62	-22.83	32.49	6.86	37.5	117	342	Peak
5955.65	51.58	49.64	68.2	-16.62	32.57	6.87	37.5	117	342	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
5585.625	50.93	49.48	68.2	-17.27	31.95	6.66	37.16	169	12	Peak
5657.825	51.7	50.27	74.01	-22.31	32.06	6.71	37.34	169	12	Peak
5916.7	50.46	48.61	74.32	-23.86	32.49	6.86	37.5	169	12	Peak
5977.5	52.83	50.86	68.2	-15.37	32.6	6.88	37.51	169	12	Peak

Remarks:

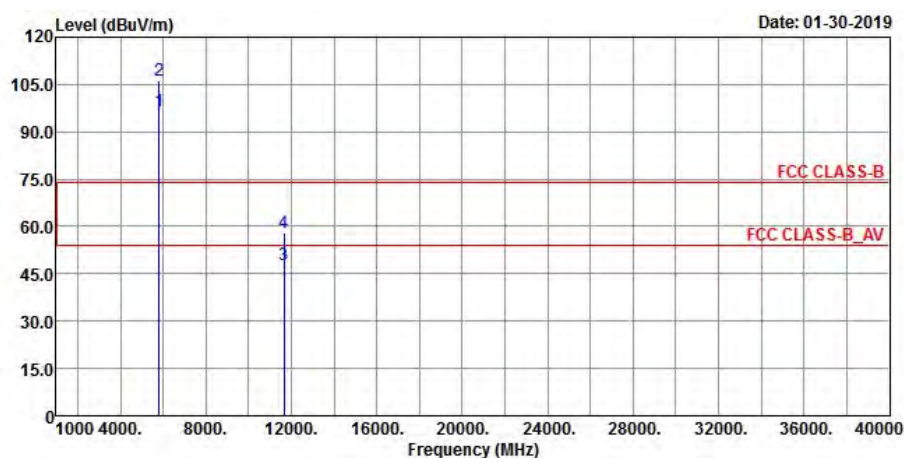
- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5785 MHz: Fundamental Frequency
- *: Out of Restricted Band
- The emission levels of other frequencies were very low against the limit

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

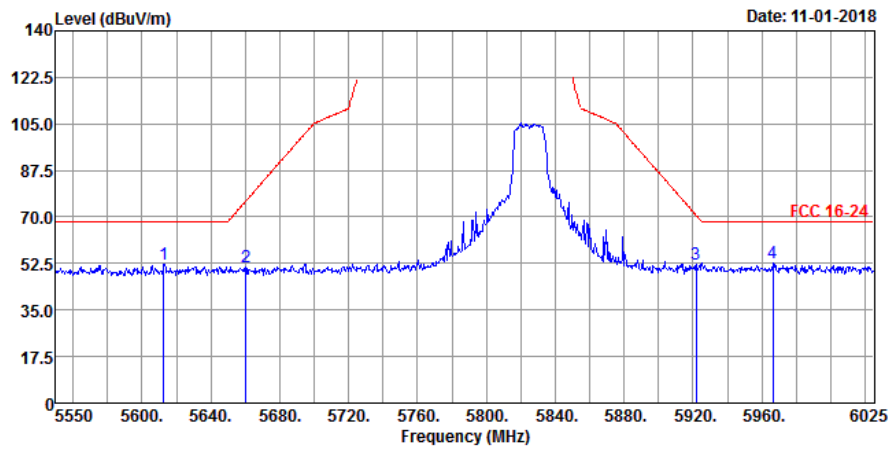
<Spurious Emission> Horizontal



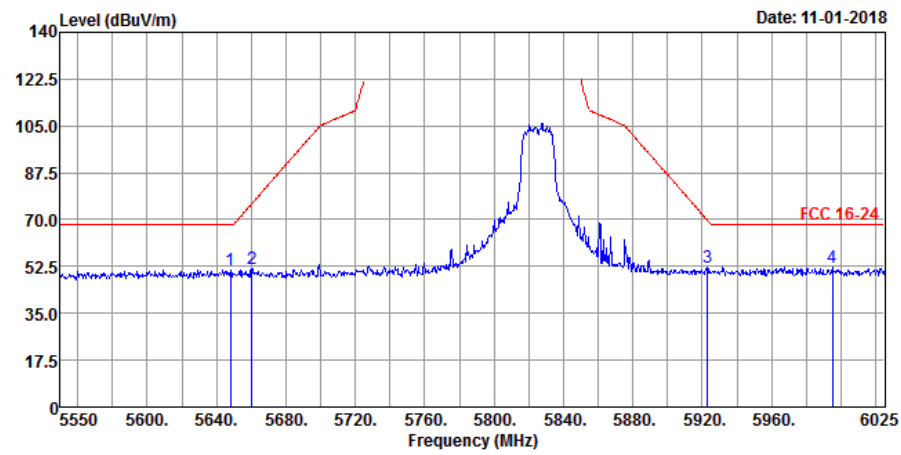
Vertical



<Out of Band Emission (OOBE)> Horizontal



Vertical



<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	97.99	96.33			32.35	6.84	37.53	139	340	Average
5825	107.99	106.33			32.35	6.84	37.53	139	340	Peak
11650	47.93	50.24	54	-6.07	40.03	10.8	53.14	156	314	Average
11650	57.4	59.71	74	-16.6	40.03	10.8	53.14	156	314	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	96.32	94.66			32.35	6.84	37.53	128	5	Average
5825	106.33	104.67			32.35	6.84	37.53	128	5	Peak
11650	47.62	49.93	54	-6.38	40.03	10.8	53.14	146	217	Average
11650	57.84	60.15	74	-16.16	40.03	10.8	53.14	146	217	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
5612.7	52.3	50.85	68.2	-15.9	31.98	6.69	37.22	139	340	Peak
5660.2	51.29	49.86	75.77	-24.48	32.06	6.71	37.34	139	340	Peak
5921.925	52.15	50.27	70.47	-18.32	32.52	6.86	37.5	139	340	Peak
5966.575	52.47	50.53	68.2	-15.73	32.57	6.88	37.51	139	340	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
5647.85	51.15	49.69	68.2	-17.05	32.04	6.7	37.28	128	5	Peak
5660.2	51.79	50.36	75.77	-23.98	32.06	6.71	37.34	128	5	Peak
5922.875	52.19	50.31	69.77	-17.58	32.52	6.86	37.5	128	5	Peak
5995.075	52.16	50.15	68.2	-16.04	32.63	6.89	37.51	128	5	Peak

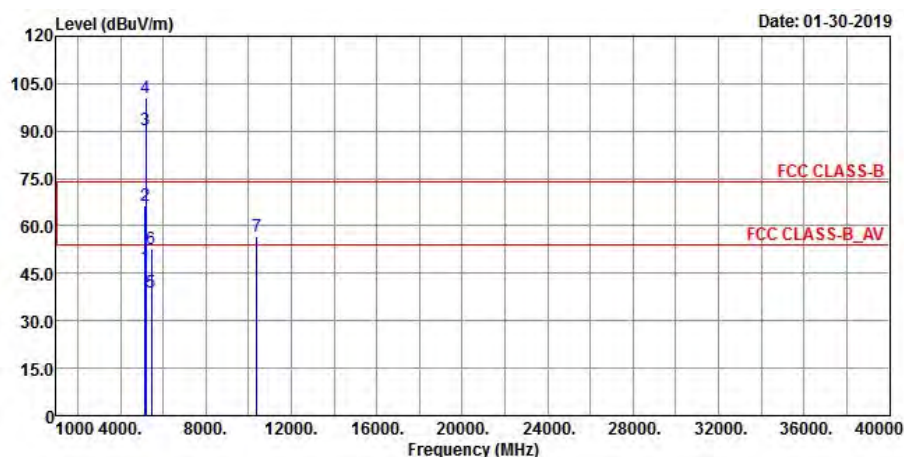
Remarks:

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

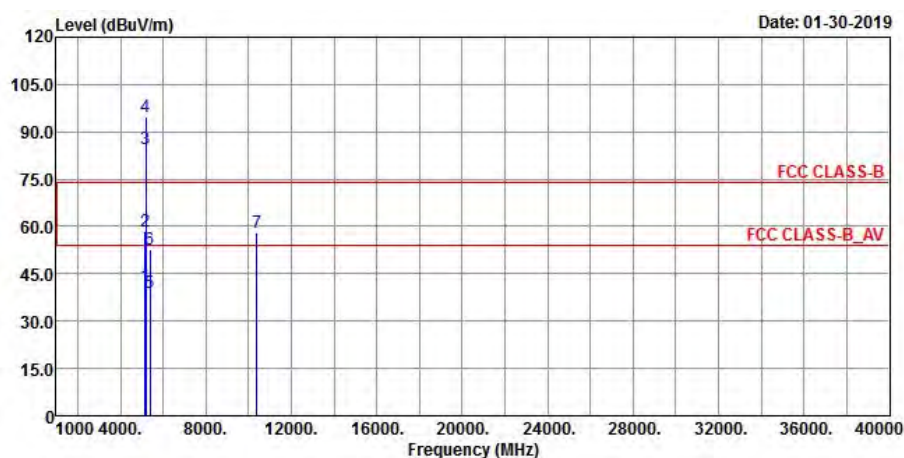
802.11n (HT40)

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

Horizontal



Vertical



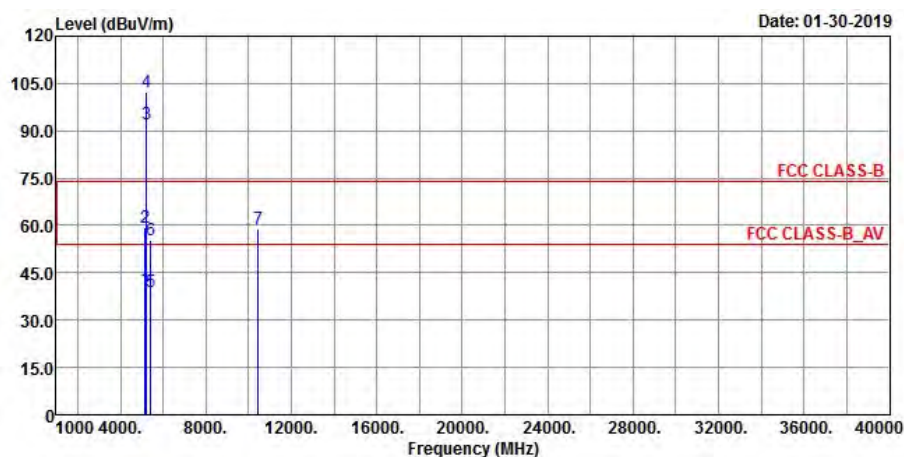
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.94	47.04	46.46	54	-6.96	31.56	6.34	37.32	143	345	Average
5149.94	66.25	65.67	74	-7.75	31.56	6.34	37.32	143	345	Peak
5190	90.43	89.8			31.59	6.38	37.34	143	345	Average
5190	100.44	99.81			31.59	6.38	37.34	143	345	Peak
5452.08	39	37.8	54	-15	31.77	6.51	37.08	143	345	Average
5452.08	52.8	51.6	74	-21.2	31.77	6.51	37.08	143	345	Peak
*10380	56.76	59.5	68.2	-11.44	39.5	10.21	52.45	114	72	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	41.38	40.8	54	-12.62	31.56	6.34	37.32	101	189	Average
5149.94	58.61	58.03	74	-15.39	31.56	6.34	37.32	101	189	Peak
5190	84.65	84.02			31.59	6.38	37.34	101	189	Average
5190	94.65	94.02			31.59	6.38	37.34	101	189	Peak
5404.34	38.95	37.92	54	-15.05	31.74	6.47	37.18	101	189	Average
5404.34	52.86	51.83	74	-21.14	31.74	6.47	37.18	101	189	Peak
*10380	58.02	60.76	68.2	-10.18	39.5	10.21	52.45	219	325	Peak

Remarks:

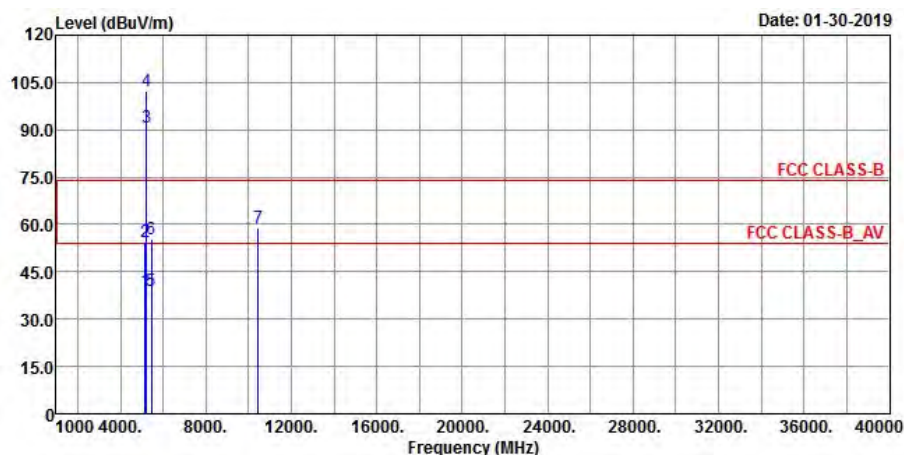
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5190 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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

Horizontal



Vertical



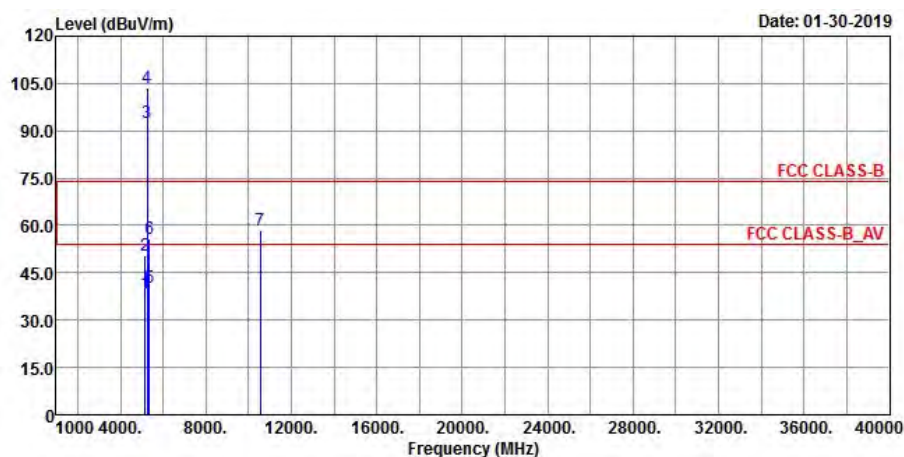
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5146.52	39.72	39.14	54	-14.28	31.56	6.34	37.32	146	349	Average
5146.52	59.53	58.95	74	-14.47	31.56	6.34	37.32	146	349	Peak
5230	91.93	91.22			31.62	6.41	37.32	146	349	Average
5230	102.22	101.51			31.62	6.41	37.32	146	349	Peak
5425.68	38.75	37.64	54	-15.25	31.75	6.49	37.13	146	349	Average
5425.68	55.35	54.24	74	-18.65	31.75	6.49	37.13	146	349	Peak
*10460	58.92	61.72	68.2	-9.28	39.57	10.22	52.59	122	65	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5148.32	38.98	38.4	54	-15.02	31.56	6.34	37.32	126	360	Average
5148.32	54.28	53.7	74	-19.72	31.56	6.34	37.32	126	360	Peak
5230	90.83	90.12			31.62	6.41	37.32	126	360	Average
5230	102.19	101.48			31.62	6.41	37.32	126	360	Peak
5459.45	38.82	37.62	54	-15.18	31.77	6.51	37.08	126	360	Average
5459.45	55.32	54.12	74	-18.68	31.77	6.51	37.08	126	360	Peak
*10460	58.68	61.48	68.2	-9.52	39.57	10.22	52.59	127	326	Peak

Remarks:

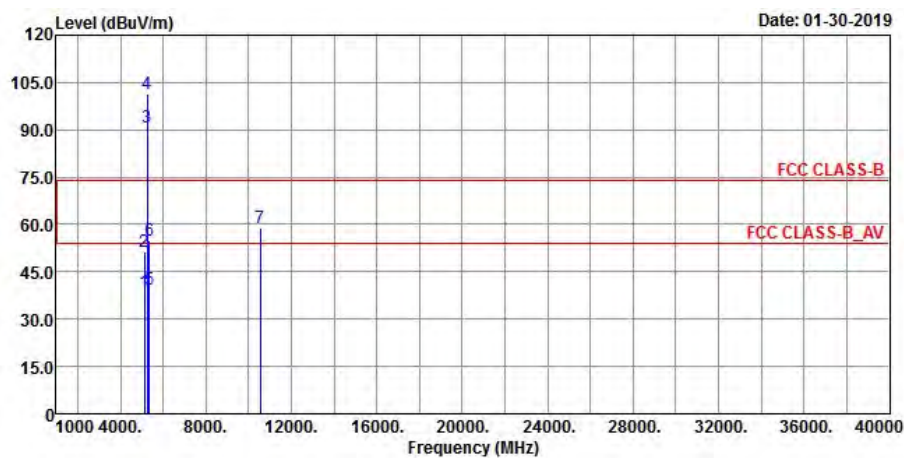
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5230 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

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

Horizontal



Vertical



Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.76	38.66	38.08	54	-15.34	31.56	6.34	37.32	153	346	Average
5149.76	50.26	49.68	74	-23.74	31.56	6.34	37.32	153	346	Peak
5270	92.59	91.77			31.65	6.44	37.27	153	346	Average
5270	103.5	102.68			31.65	6.44	37.27	153	346	Peak
5350.22	40.11	39.12	54	-13.89	31.7	6.47	37.18	153	346	Average
5350.22	55.97	54.98	74	-18.03	31.7	6.47	37.18	153	346	Peak
*10540	58.56	61.41	68.2	-9.64	39.7	10.31	52.86	128	69	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
5132.66	38.59	38.02	54	-15.41	31.55	6.32	37.3	134	360	Average
5132.66	51.35	50.78	74	-22.65	31.55	6.32	37.3	134	360	Peak
5270	90.84	90.02			31.65	6.44	37.27	134	360	Average
5270	101.53	100.71			31.65	6.44	37.27	134	360	Peak
5352.97	39.63	38.64	54	-14.37	31.7	6.47	37.18	134	360	Average
5352.97	54.99	54	74	-19.01	31.7	6.47	37.18	134	360	Peak
*10540	58.92	61.77	68.2	-9.28	39.7	10.31	52.86	142	279	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
- The emission levels of other frequencies were very low against the limit