FCC Test Report

Report No.: RF170314C20-3

FCC ID: ZQAT40

Test Model: A0063

Received Date: Mar. 14, 2017

Test Date: Mar. 23, 2017 ~ Aug. 25, 2017

Issued Date: Aug. 25, 2017

Applicant: Nest Labs Inc.

Address: 3400 Hillview Ave, Palo Alto, CA 94304

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

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C)

Test Location: No.19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan, R.O.C.

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Release Control Record

Issue No.	Description	Date Issued
RF170314C20-3	Original Release	Aug. 25, 2017

1 Certificate of Conformity

Product: Nest Thermostat E

Brand: Nest

Test Model: A0063

Sample Status: Production Unit

Applicant: Nest Labs Inc.

Test Date: Mar. 23, 2017 ~ Aug. 25, 2017

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

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

Prepared by : Rona Chen , **Date:** Aug. 25, 2017

Rona Chen / Specialist

Approved by : David Huang , **Date:** Aug. 25, 2017

David Huang / 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 -15.77 dB at 0.17000 MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.01 dB at 5724.2 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

*For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOBE test plots were recorded in section 4.1.8.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.44 dB
Radiated Emissions up to 1 GHz	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	Nest Thermostat E
Brand	Nest
Test Model	A0063
Status of EUT	Production Unit
Power Supply Rating	3.7 Vdc (Li-ion battery) 24 Vac (Home System Breaker Box)
Modulation Type	64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0 Mbps 802.11n: up to MCS7
Operating Frequency	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5700 MHz, 5745 ~ 5825 MHz
Number of Channel	5180 ~ 5240 MHz: 4 for 802.11a, 802.11n (HT20) 5260 ~ 5320 MHz: 4 for 802.11a, 802.11n (HT20) 5500 ~ 5700 MHz: 11 for 802.11a, 802.11n (HT20) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20)
Output Power	44.463 mW for 5180 ~ 5240 MHz 43.551 mW for 5260 ~ 5320 MHz 34.914 mW for 5500 ~ 5700 MHz 34.198 mW for 5745 ~ 5825 MHz
Antenna Type	IFA antenna with -1.86 dBi gain (5180 ~ 5240 MHz) IFA antenna with -1.57 dBi gain (5260 ~ 5320 MHz) IFA antenna with -0.14 dBi gain (5500 ~ 5700 MHz) IFA antenna with -0.57 dBi gain (5745 ~ 5825 MHz)
Antenna Connector	N/A
Accessory Device	Refer to Note as below
Data Cable Supplied	Refer to Note as below

Note:

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

Modulation Mode	Tx Function
802.11a	1TX
802.11n (HT20)	1TX

2. The EUT contains following accessory devices.

Product	Brand	Model	Description
Battery	ATL	N/A	3.7 Vdc, 570 mAh

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

3.2 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

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

For 5500 ~ 5700 MHz

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

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

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		

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	EUT with USB Charger
B	-	√	-	√	EUT with Home System Breaker Box

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

NOTE: 1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane** for U-NII-1, U-NII-2A, and U-NII-2C / **X-plane** for U-NII-3
2. The EUT had been verified Mode A and Mode B. And Mode A had the worse result. Therefore, Mode A was chosen for full test, Mode B was tested on RE<1G test and PLC test.
3. "-"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)
A	5180-5240	802.11a	36 to 48	36, 44, 48	OFDM	BPSK	6.0
		802.11n (HT20)	36 to 48	36, 44, 48	OFDM	BPSK	MCS0
A	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	MCS0
A	5500-5700	802.11a	100 to 140	100, 116, 140	OFDM	BPSK	6.0
		802.11n (HT20)	100 to 140	100, 116, 140	OFDM	BPSK	MCS0
A	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	MCS0

Radiated Emission Test (Below 1 GHz):

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

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
A	5180-5240	802.11n (HT20)	36 to 48	36	OFDM	BPSK	MCS0
A	5260-5320	802.11n (HT20)	52 to 64	64	OFDM	BPSK	MCS0
A, B	5500-5700	802.11n (HT20)	100 to 140	140	OFDM	BPSK	MCS0
A	5745-5825	802.11n (HT20)	149 to 165	149	OFDM	BPSK	MCS0

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)
A, B	5500-5700	802.11n (HT20)	100 to 140	140	OFDM	BPSK	MCS0

Antenna Port Conducted Measurement:

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

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

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
A	5180-5240	802.11a	36 to 48	36, 44, 48	OFDM	BPSK	6.0
		802.11n (HT20)	36 to 48	36, 44, 48	OFDM	BPSK	MCS0
A	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	MCS0
A	5500-5700	802.11a	100 to 140	100, 116, 140	OFDM	BPSK	6.0
		802.11n (HT20)	100 to 140	100, 116, 140	OFDM	BPSK	MCS0
A	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	MCS0

Test Condition:

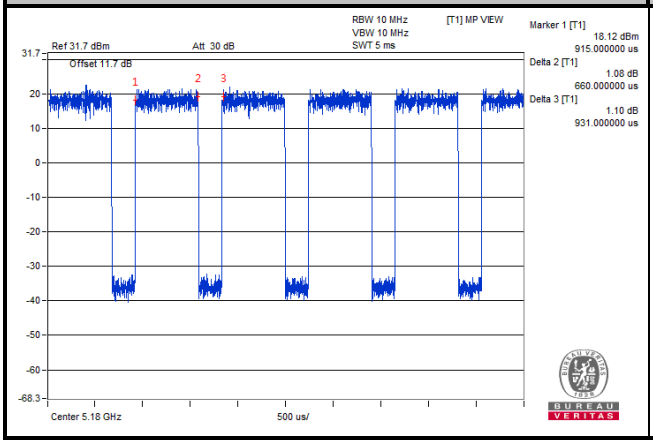
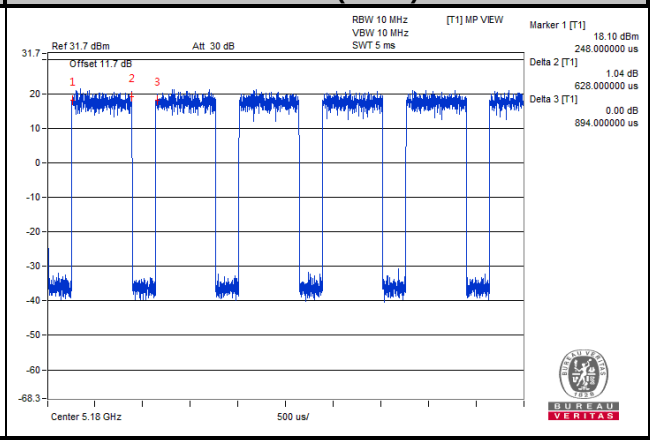
Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Gavin Wu
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Gavin Wu
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Han Wu
APCM	25 deg. C, 65 % RH	3.7 Vdc	Wayne Lin

3.3 Duty Cycle of Test Signal

MODULATION TYPE: BPSK

802.11a: Duty cycle = 0.660/0.931 = 0.709, Duty factor = 10 * log(1/0.709) = 1.49

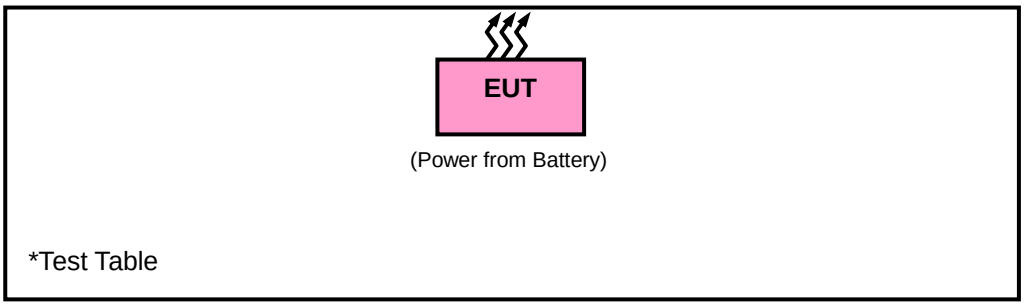
802.11n (HT20): Duty cycle = 0.628/0.894 = 0.702, Duty factor = 10 * log(1/0.702) = 1.53

802.11a	802.11n (HT20)
	

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)
789033 D02 General UNII Test Procedures New Rules v01r04
ANSI C63.10-2013

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

Note: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20 dB below the highest level of the desired power:

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

Note:

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

4.1.2 Limits of Unwanted Emission Out of the Restricted Bands

Applicable To		Limit	
789033 D02 General UNII Test Procedures New Rules v01r04		Field Strength at 3 m	
		PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	**Applicable To**	**EIRP Limit**	**Equivalent Field Strength at 3 m**
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK:-27 (dBm/MHz) *1 PK:10 (dBm/MHz) *2 PK:15.6 (dBm/MHz) *3 PK:27 (dBm/MHz) *4	PK: 68.2 (dBμV/m) *1 PK:105.2 (dBμV/m) *2 PK: 110.8 (dBμV/m) *3 PK:122.2 (dBμV/m) *4
	15.407(b)(4)(ii)	Emission limits in section 15.247(d)	

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

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

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

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

Note:

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

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

4.1.3 Test Instruments

Description & Manaufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent	N9038A	MY51210203	Feb. 17, 2017	Feb. 16, 2018
Spectrum Analyzer Agilent	N9010A	MY52220314	Dec. 16, 2016	Dec. 15, 2017
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 13, 2016	Dec. 12, 2017
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Dec. 26, 2016	Dec. 27, 2017
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Dec. 12, 2016	Dec. 13, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 14, 2016	Dec. 13, 2017
Fixed Attenuator Mini-Circuits	BW-N10W5+	NA	Jul. 08, 2016	Jul. 07, 2017
Fixed Attenuator Woken	MDCS18N-10	MDCS18N-10-01	Apr. 17, 2017	Apr. 16, 2018
Loop Antenna	EM-6879	269	Aug. 11, 2016	Aug. 10, 2017
Loop Antenna TESEQ	HLA 6121	45745	May 19, 2017	May 18, 2018
Preamplifier EMCI	EMC 012645	980115	Oct. 21, 2016	Oct. 20, 2017
Preamplifier EMCI	EMC 184045	980116	Oct. 21, 2016	Oct. 20, 2017
Preamplifier EMCI	EMC 330H	980112	Oct. 21, 2016	Oct. 20, 2017
Power Meter Anritsu	ML2495A	1232002	Sep. 08, 2016	Sep. 07, 2017
Power Sensor Anritsu	MA2411B	1207325	Sep. 08, 2016	Sep. 07, 2017
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4 2950114	Oct. 21, 2016	Oct. 20, 2017
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 21, 2016	Oct. 20, 2017
RF Coaxial Cable Worken	8D-FB	Cable-Ch10-01	Oct. 21, 2016	Oct. 20, 2017
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. 02, 2016	Sep. 01, 2017
DC Power Supply Topward	33010D	807748	Oct. 25, 2016	Oct. 24, 2018
Digital Multimeter Fluke	87-III	70360742	Jul. 01, 2016	Jun. 30, 2017
			Jun. 30, 2017	May 31, 2018

Note:

1. The calibration interval of the above test instruments is 12 / 24 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 FCC Site Registration No. is TW2021.
5. The IC Site Registration No. is IC7450F-10.

4.1.4 Test Procedures

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

Note:

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

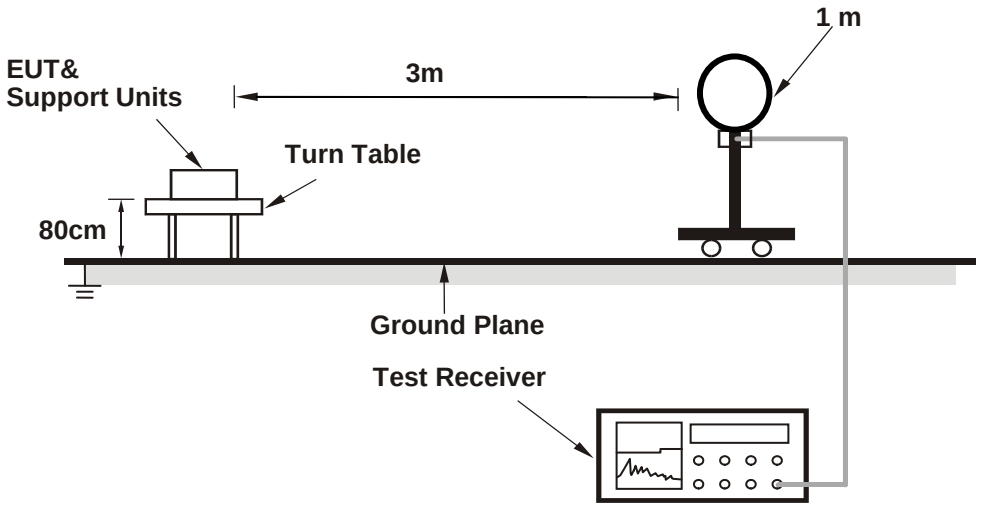
<table>
<tr><th colspan="4">Test Setting</th></tr>
<tr><td>Bandedge Emissions</td><td colspan="3">RBW / VBW</td></tr>
<tr><td>(Non-restricted Band)</td><td colspan="3">100k / 300k</td></tr>
<tr><td rowspan="2">(Restricted Band)</td><td>802.11a</td><td rowspan="2">Average: 1M / 3k</td><td rowspan="2">Peak: 1M / 3M</td></tr>
<tr><td>802.11n
(20MHz)</td></tr>
</table>

4.1.5 Deviation from Test Standard

No deviation.

4.1.6 Test Set Up

<Radiated emission below 30MHz>



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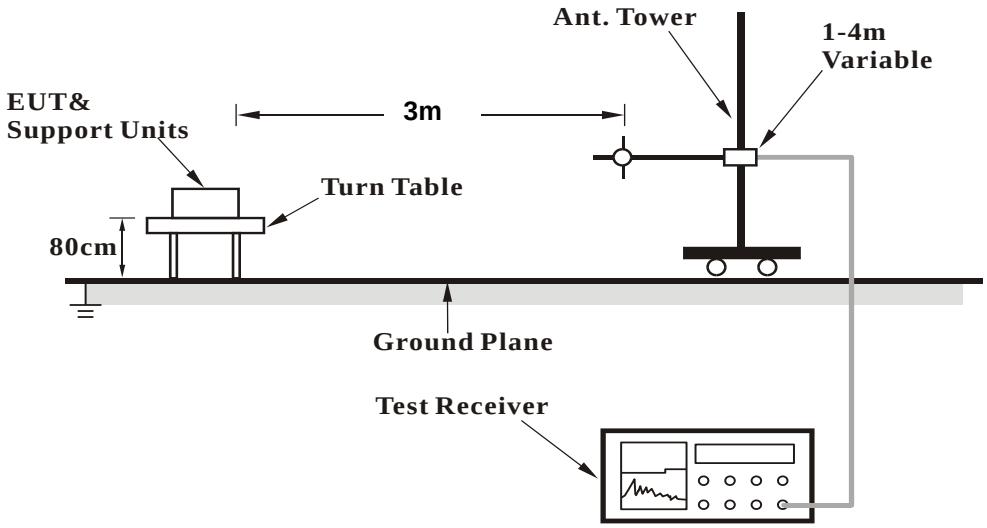
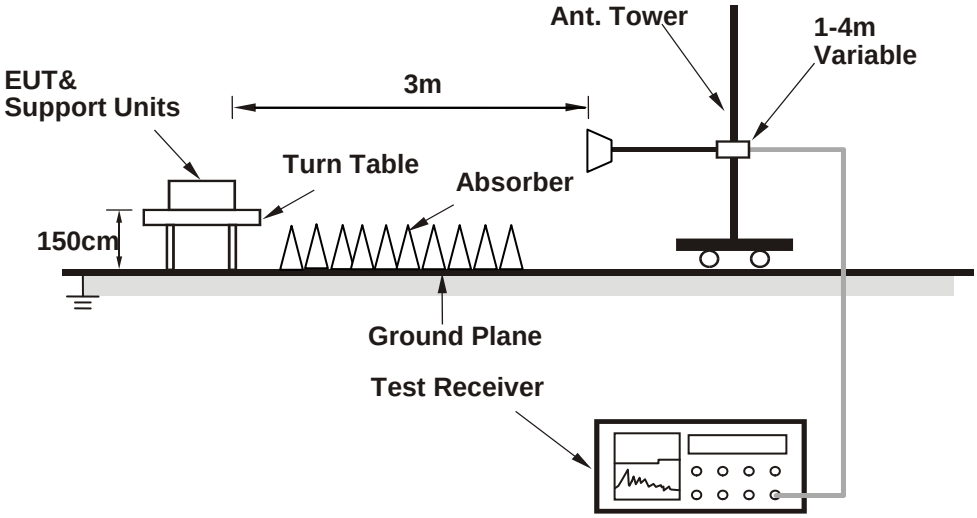


<Frequency Range above 1 GHz>



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

4.1.7 EUT Operating Conditions

a. Placed the EUT on a testing table.

b. Use the software to control the EUT under transmission condition continuously at specific channel frequency.

4.1.8 Test Results

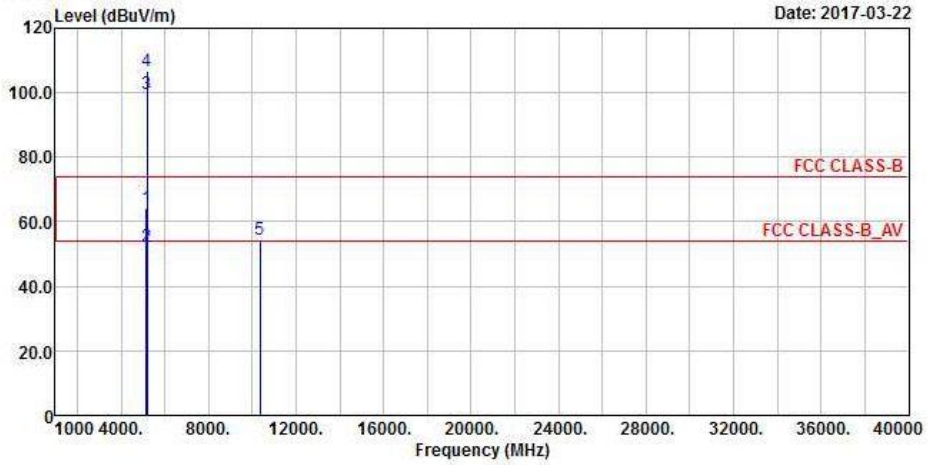
Above 1 GHz Data：

Mode A

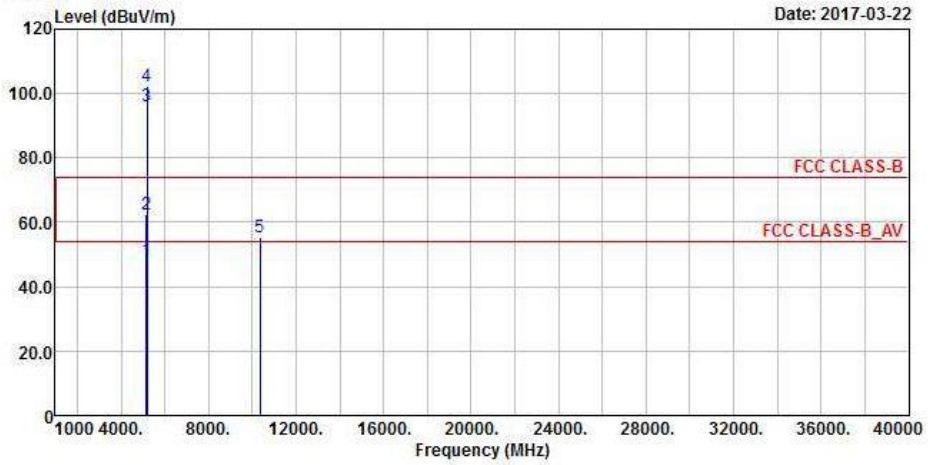
802.11a

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**	Gavin Wu

Horizontal



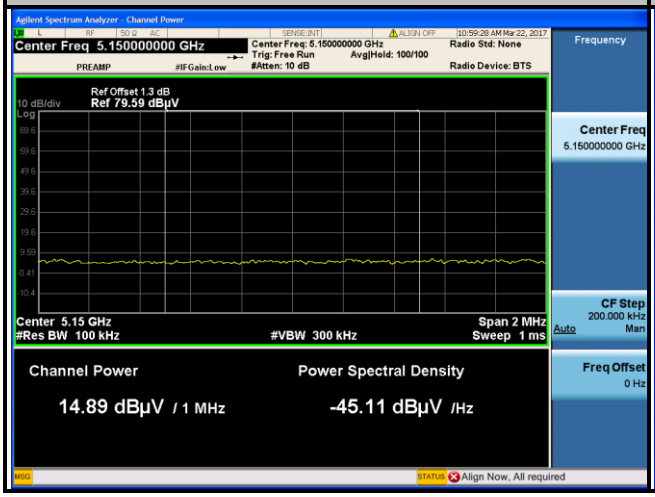
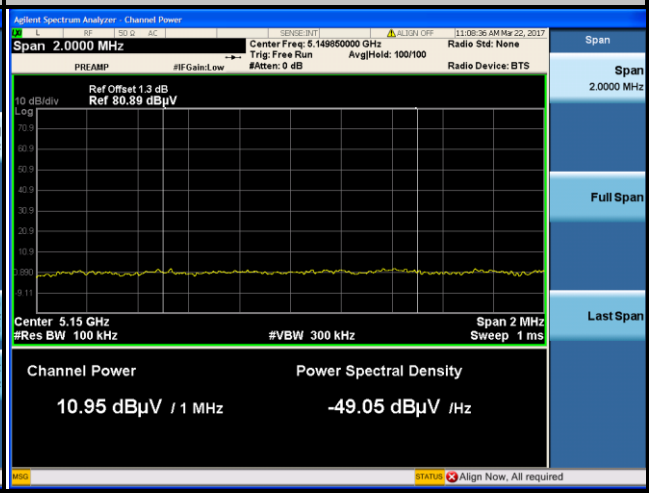
Vertical



Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5145.05	64.17	63.97	74	-9.83	31.32	6.2	37.32	200	217	Peak
#5150	52.41	52.21	54	-1.59	31.32	6.2	37.32	200	217	Average
5180	99.73	99.5			31.35	6.22	37.34	200	217	Average
5180	106.63	106.4			31.35	6.22	37.34	200	217	Peak
*10360	54.44	58.34	68.2	-13.76	39.19	9.05	52.14	100	11	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
#5149.85	48.47	48.27	54	-5.53	31.32	6.2	37.32	195	125	Average
5150	62.33	62.13	74	-11.67	31.32	6.2	37.32	195	125	Peak
5180	96.05	95.82			31.35	6.22	37.34	195	125	Average
5180	102.38	102.15			31.35	6.22	37.34	195	125	Peak
*10360	55.19	59.09	68.2	-13.01	39.19	9.05	52.14	100	26	Peak

Remarks:

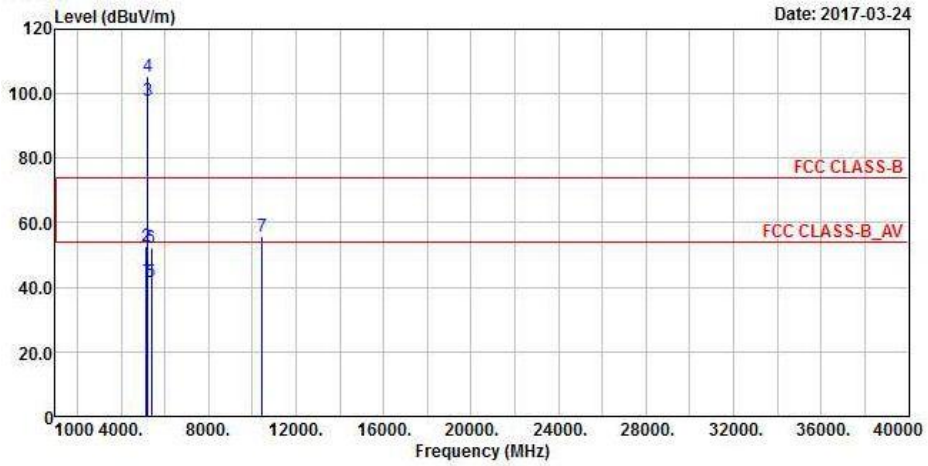
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5180 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. #: Per Section KDB 789033 D02v01r04 section (II)(G)(3)(d)(ii), the Integration method was used to determine compliance with the out-of-band emissions limits.

Horizontal	Vertical
	

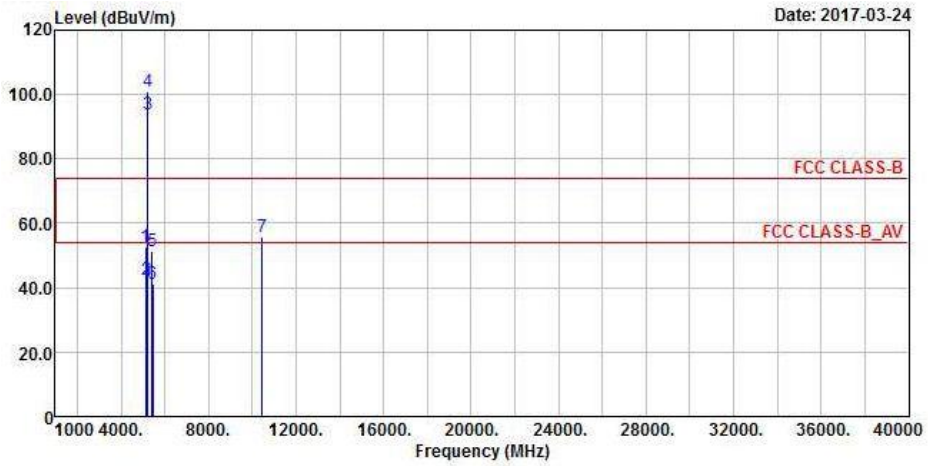
Remarks: Read Level = Channel Power+ Preamp Factor

EUT Test Condition		Measurement Detail	
Channel	Channel 44	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Gavin Wu

Horizontal



Vertical



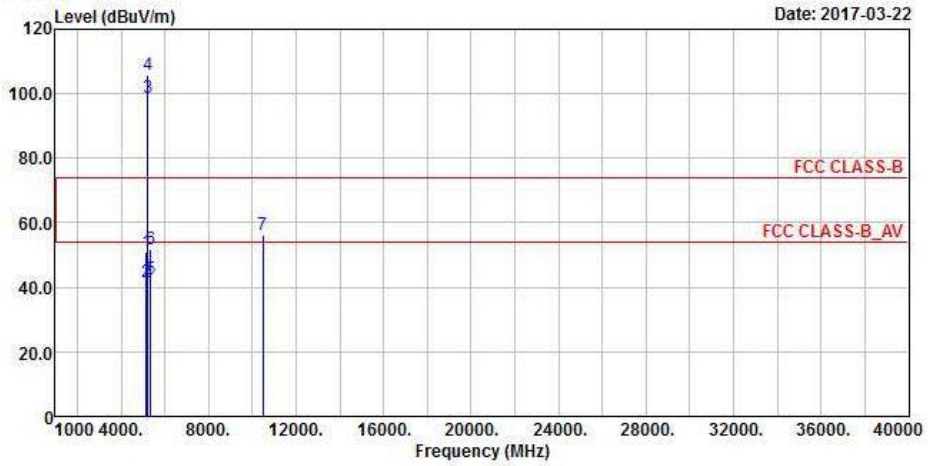
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5147.15	42.66	42.46	54	-11.34	31.32	6.2	37.32	202	223	Average
5147.6	52.79	52.59	74	-21.21	31.32	6.2	37.32	202	223	Peak
5220	98.04	97.79			31.37	6.24	37.36	202	223	Average
5220	105.41	105.16			31.37	6.24	37.36	202	223	Peak
5374.97	41.47	40.85	54	-12.53	31.49	6.31	37.18	202	223	Average
5381.46	52.08	51.44	74	-21.92	31.51	6.31	37.18	202	223	Peak
*10440	55.71	59.81	68.2	-12.49	39.29	9.09	52.48	102	19	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
5143.1	52.69	52.47	74	-21.31	31.32	6.2	37.3	195	108	Peak
5148.2	42.34	42.14	54	-11.66	31.32	6.2	37.32	195	108	Average
5220	93.82	93.57			31.37	6.24	37.36	195	108	Average
5220	101.11	100.86			31.37	6.24	37.36	195	108	Peak
5411.27	51.18	50.52	74	-22.82	31.52	6.32	37.18	195	108	Peak
5437.67	41	40.24	54	-13	31.55	6.34	37.13	195	108	Average
*10440	55.62	59.72	68.2	-12.58	39.29	9.09	52.48	103	37	Peak

Remarks:

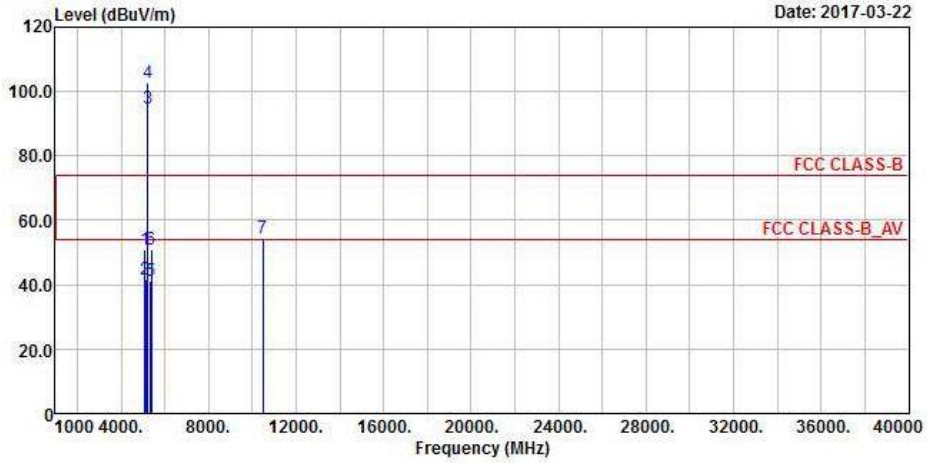
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5220 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

Horizontal



Vertical



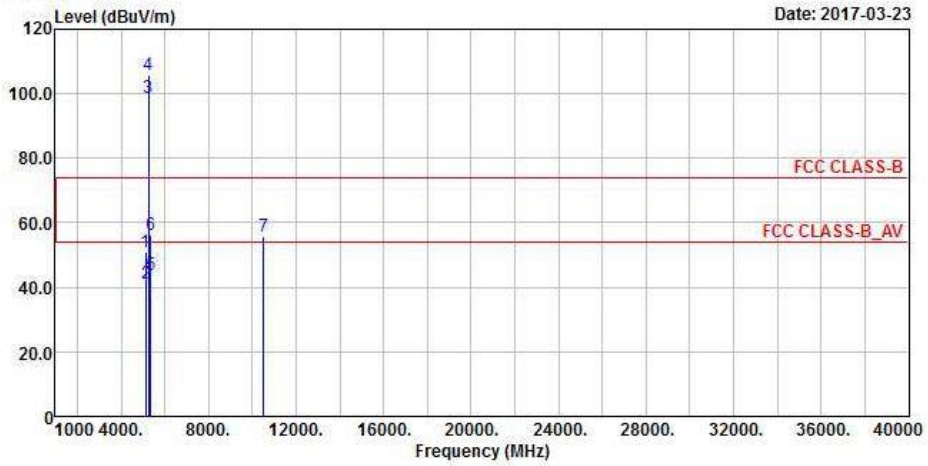
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5147.45	50.72	50.52	74	-23.28	31.32	6.2	37.32	198	216	Peak
5150	41.63	41.43	54	-12.37	31.32	6.2	37.32	198	216	Average
5240	98.56	98.24			31.39	6.25	37.32	198	216	Average
5240	105.66	105.34			31.39	6.25	37.32	198	216	Peak
5350.22	42.48	41.89	54	-11.52	31.48	6.29	37.18	198	216	Average
5356.27	51.99	51.4	74	-22.01	31.48	6.29	37.18	198	216	Peak
*10480	56.1	60.35	68.2	-12.1	39.37	9.09	52.71	100	166	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
5104.85	51.06	50.87	74	-22.94	31.28	6.19	37.28	191	126	Peak
5139.95	41.57	41.35	54	-12.43	31.32	6.2	37.3	191	126	Average
5240	94.91	94.59			31.39	6.25	37.32	191	126	Average
5240	102.84	102.52			31.39	6.25	37.32	191	126	Peak
5352.97	41.11	40.52	54	-12.89	31.48	6.29	37.18	191	126	Average
5376.95	50.86	50.24	74	-23.14	31.49	6.31	37.18	191	126	Peak
*10480	54.54	58.79	68.2	-13.66	39.37	9.09	52.71	100	258	Peak

Remarks:

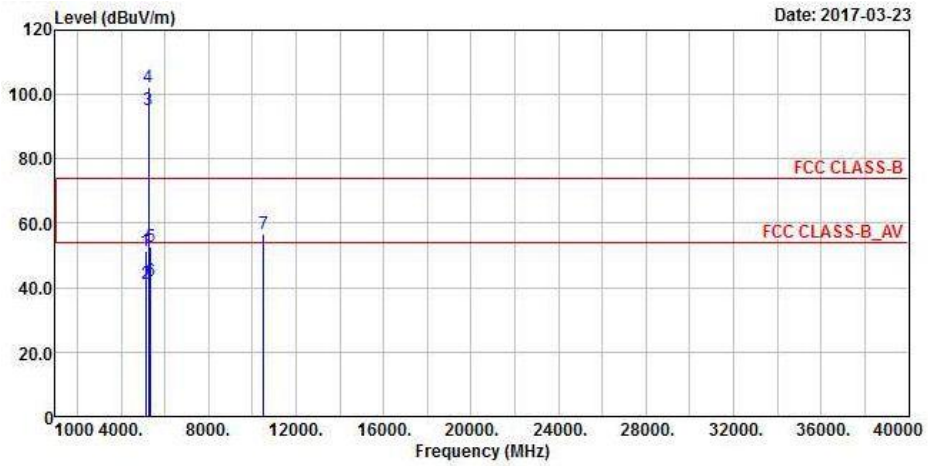
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5240 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

Horizontal



Vertical



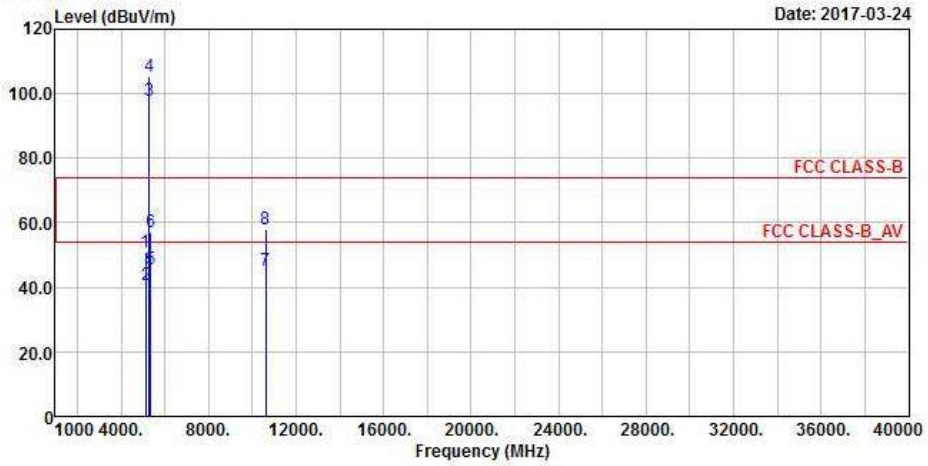
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5137.4	50.85	50.64	74	-23.15	31.31	6.2	37.3	198	225	Peak
5147.75	41.35	41.15	54	-12.65	31.32	6.2	37.32	198	225	Average
5260	98.92	98.53			31.41	6.25	37.27	198	225	Average
5260	106.02	105.63			31.41	6.25	37.27	198	225	Peak
5369.25	44.02	43.4	54	-9.98	31.49	6.31	37.18	198	225	Average
5369.47	56.31	55.69	74	-17.69	31.49	6.31	37.18	198	225	Peak
*10520	55.6	59.88	68.2	-12.6	39.43	9.12	52.83	100	88	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
5122.4	51.16	50.98	74	-22.84	31.29	6.19	37.3	191	133	Peak
5149.55	41.16	40.96	54	-12.84	31.32	6.2	37.32	191	133	Average
5260	95.02	94.63			31.41	6.25	37.27	191	133	Average
5260	102.3	101.91			31.41	6.25	37.27	191	133	Peak
5350.77	52.69	52.1	74	-21.31	31.48	6.29	37.18	191	133	Peak
5365.84	42.07	41.45	54	-11.93	31.49	6.31	37.18	191	133	Average
*10520	56.63	60.91	68.2	-11.57	39.43	9.12	52.83	100	33	Peak

Remarks:

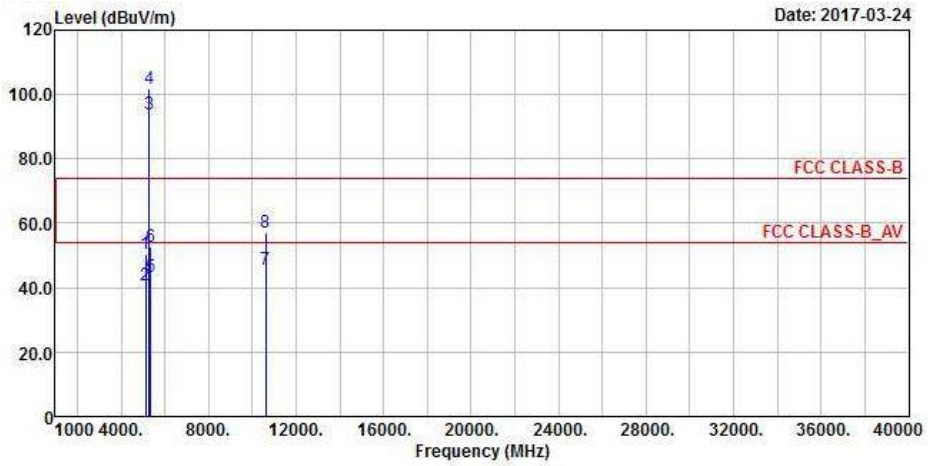
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5260 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

Horizontal



Vertical



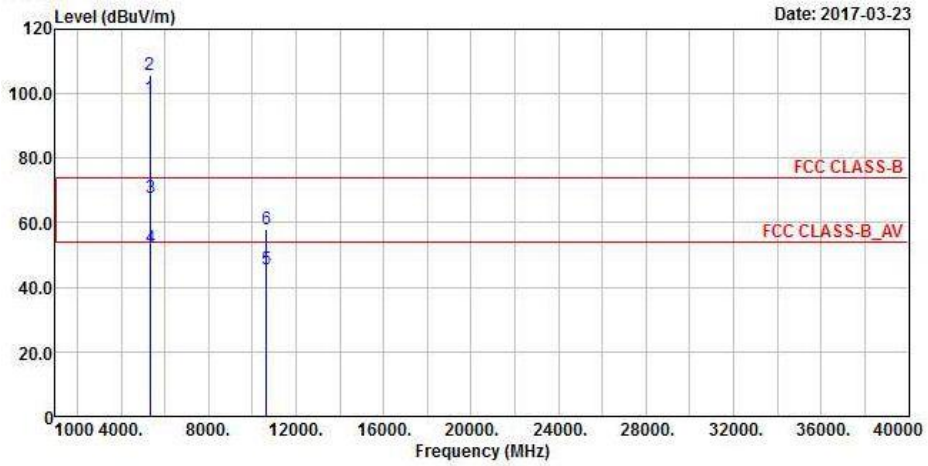
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5132.45	51.03	50.82	74	-22.97	31.31	6.2	37.3	182	218	Peak
5144.3	40.69	40.49	54	-13.31	31.32	6.2	37.32	182	218	Average
5300	97.92	97.4			31.44	6.27	37.19	182	218	Average
5300	105.38	104.86			31.44	6.27	37.19	182	218	Peak
5350.22	45.56	44.97	54	-8.44	31.48	6.29	37.18	182	218	Average
5356.93	57.02	56.43	74	-16.98	31.48	6.29	37.18	182	218	Peak
10600	45.27	48.95	54	-8.73	39.57	9.16	52.41	300	360	Average
10600	57.86	61.54	74	-16.14	39.57	9.16	52.41	300	360	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
5122.55	50.7	50.5	74	-23.3	31.31	6.19	37.3	173	134	Peak
5133.95	40.66	40.45	54	-13.34	31.31	6.2	37.3	173	134	Average
5300	94.04	93.52			31.44	6.27	37.19	173	134	Average
5300	101.74	101.22			31.44	6.27	37.19	173	134	Peak
5350.11	43.33	42.74	54	-10.67	31.48	6.29	37.18	173	134	Average
5351.98	52.56	51.97	74	-21.44	31.48	6.29	37.18	173	134	Peak
10600	45.43	49.11	54	-8.57	39.57	9.16	52.41	100	95	Average
10600	57.05	60.73	74	-16.95	39.57	9.16	52.41	100	95	Peak

Remarks:

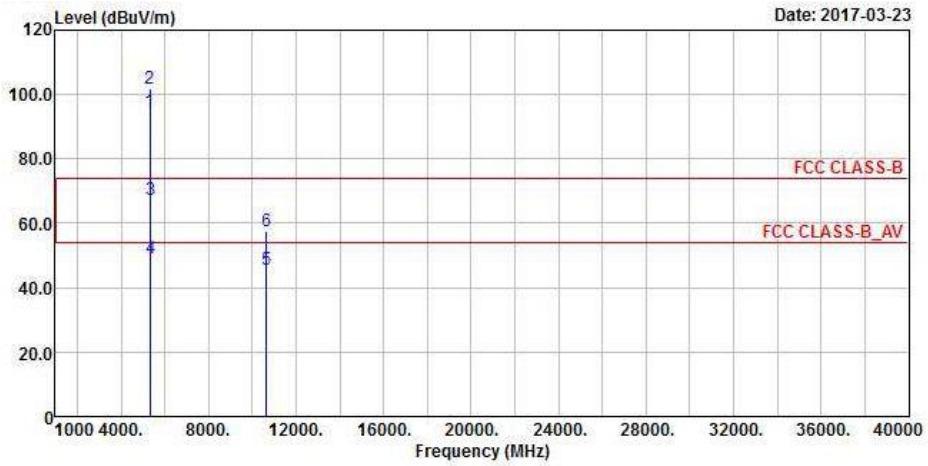
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

Horizontal



Vertical



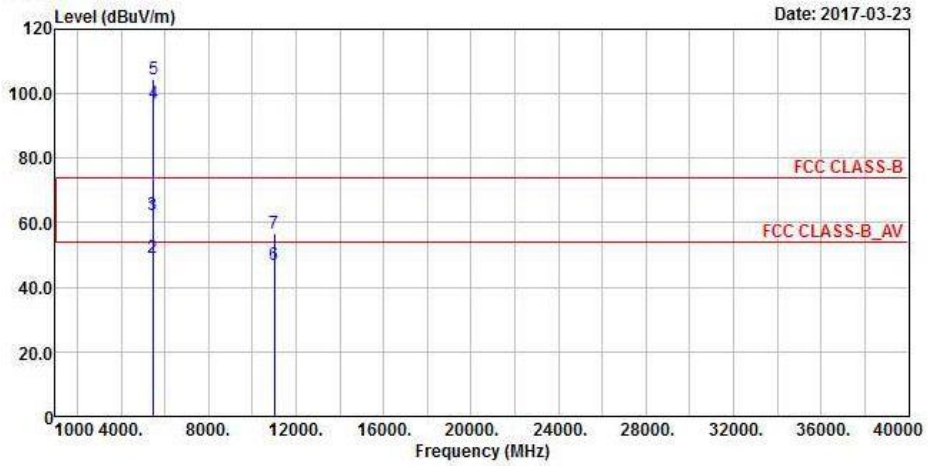
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	98.74	98.19			31.45	6.29	37.19	198	223	Average
5320	105.85	105.3			31.45	6.29	37.19	198	223	Peak
5350.33	67.87	67.28	74	-6.13	31.48	6.29	37.18	198	223	Peak
5350.44	52.43	51.84	54	-1.57	31.48	6.29	37.18	198	223	Average
10640	45.67	49.12	54	-8.33	39.62	9.2	52.27	100	89	Average
10640	57.88	61.33	74	-16.12	39.62	9.2	52.27	100	89	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	94.9	94.35			31.45	6.29	37.19	193	138	Average
5320	102.05	101.5			31.45	6.29	37.19	193	138	Peak
5350	67.31	66.72	74	-6.69	31.48	6.29	37.18	193	138	Peak
5350.55	49.32	48.73	54	-4.68	31.48	6.29	37.18	193	138	Average
10640	45.68	49.13	54	-8.32	39.62	9.2	52.27	101	233	Average
10640	57.37	60.82	74	-16.63	39.62	9.2	52.27	101	233	Peak

Remarks:

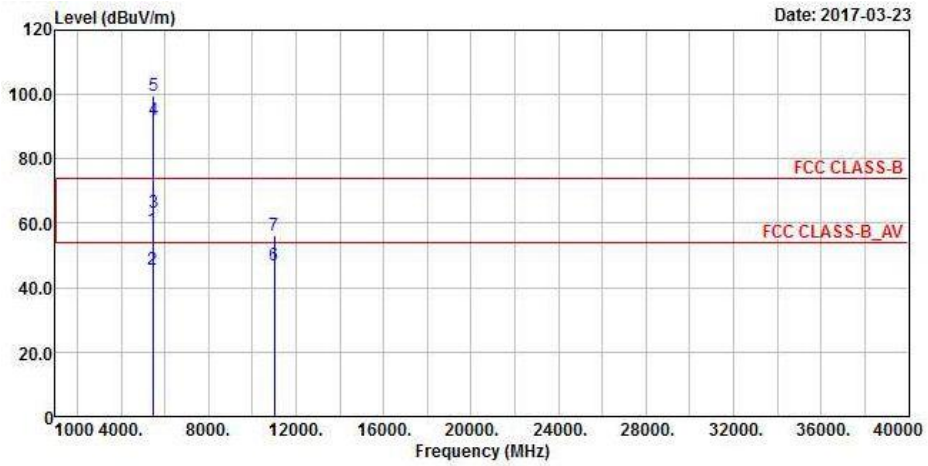
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5320 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

Horizontal



Vertical



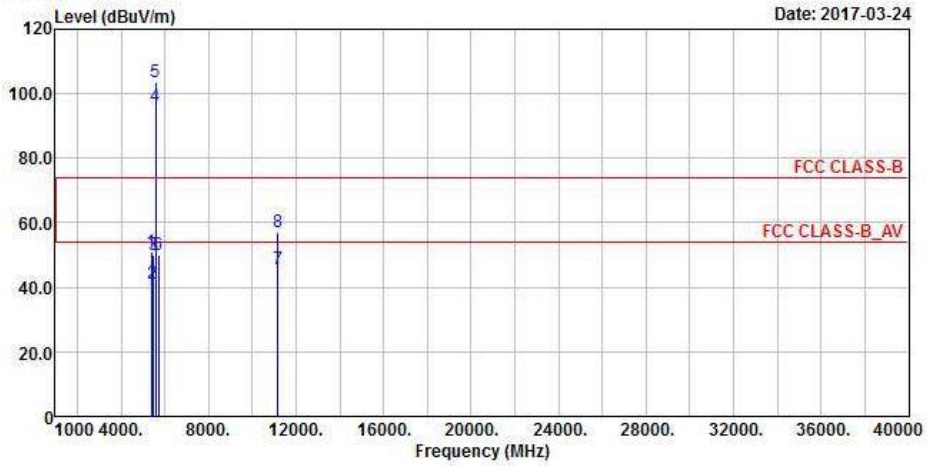
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5457.36	61.99	61.17	74	-12.01	31.56	6.34	37.08	182	217	Peak
5459.44	49.05	48.23	54	-4.95	31.56	6.34	37.08	182	217	Average
*5468.88	62.52	61.69	68.2	-5.68	31.57	6.34	37.08	182	217	Peak
5500	97.18	96.25			31.6	6.36	37.03	182	217	Average
5500	104.51	103.58			31.6	6.36	37.03	182	217	Peak
11000	46.85	50.75	54	-7.15	40.2	9.35	53.45	102	38	Average
11000	56.69	60.59	74	-17.31	40.2	9.35	53.45	102	38	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
5459.12	58.02	57.2	74	-15.98	31.56	6.34	37.08	162	162	Peak
5460.08	45.51	44.69	54	-8.49	31.56	6.34	37.08	162	162	Average
*5470.64	63.15	62.32	68.2	-5.05	31.57	6.34	37.08	162	162	Peak
5500	92.17	91.24			31.6	6.36	37.03	162	162	Average
5500	99.64	98.71			31.6	6.36	37.03	162	162	Peak
11000	46.95	50.85	54	-7.05	40.2	9.35	53.45	105	77	Average
11000	56.23	60.13	74	-17.77	40.2	9.35	53.45	105	77	Peak

Remarks:

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

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

Horizontal



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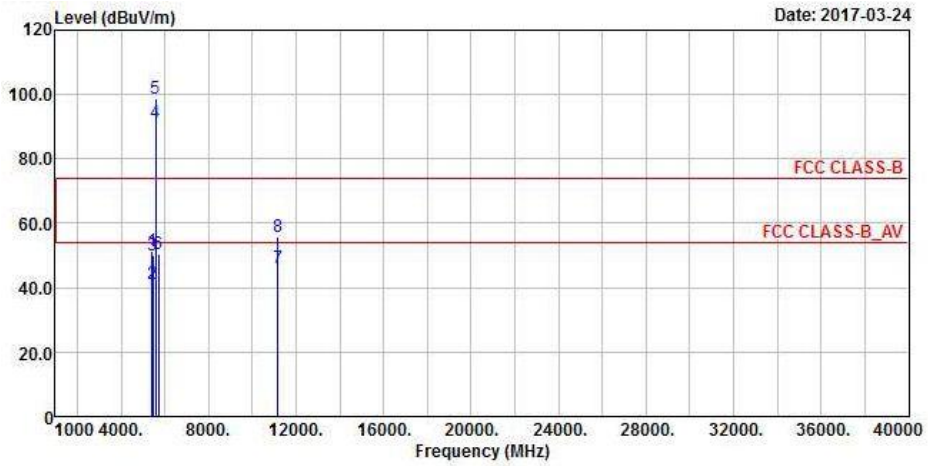


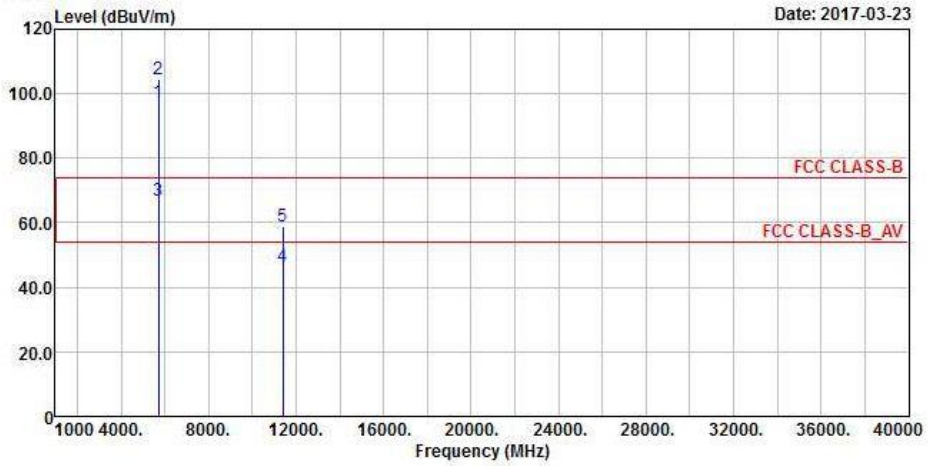
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5378.96	50.77	50.13	74	-23.23	31.51	6.31	37.18	209	82	Peak
5453.68	41.12	40.3	54	-12.88	31.56	6.34	37.08	209	82	Average
*5470.64	50.16	49.33	68.2	-18.04	31.57	6.34	37.08	209	82	Peak
5580	96.09	95.05			31.71	6.49	37.16	209	82	Average
5580	103.48	102.44			31.71	6.49	37.16	209	82	Peak
*5725.56	50.1	48.82	68.2	-18.1	31.96	6.75	37.43	209	82	Peak
11160	45.58	49.3	54	-8.42	40.1	9.57	53.39	104	34	Average
11160	56.91	60.63	74	-17.09	40.1	9.57	53.39	104	34	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
5429.04	51.3	50.56	74	-22.7	31.55	6.32	37.13	203	266	Peak
5439.92	40.99	40.23	54	-13.01	31.55	6.34	37.13	203	266	Average
*5469.2	50.06	49.23	68.2	-18.14	31.57	6.34	37.08	203	266	Peak
5580	91.19	90.15			31.71	6.49	37.16	203	266	Average
5580	98.72	97.68			31.71	6.49	37.16	203	266	Peak
*5725.56	50.51	49.23	68.2	-17.69	31.96	6.75	37.43	203	266	Peak
11160	46.18	49.9	54	-7.82	40.1	9.57	53.39	105	79	Average
11160	55.66	59.38	74	-18.34	40.1	9.57	53.39	105	79	Peak

Remarks:

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

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

Horizontal



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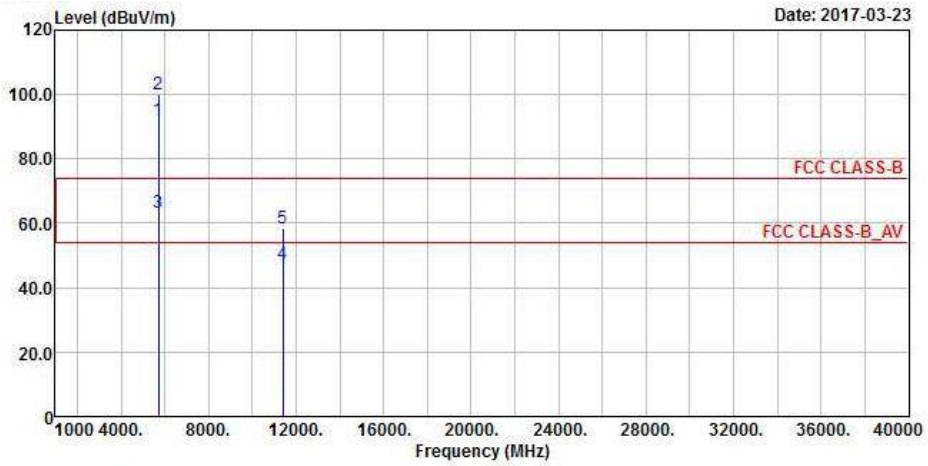


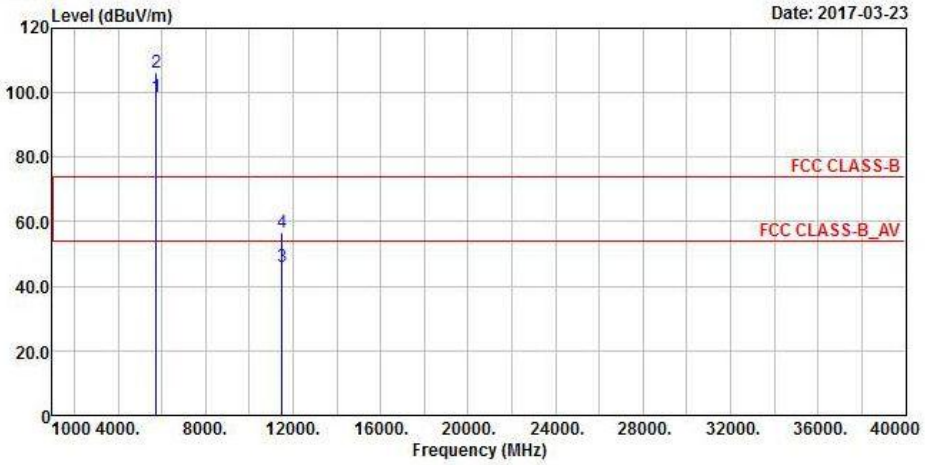
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5700	97.31	96.12			31.9	6.69	37.4	199	234	Average
5700	104.65	103.46			31.9	6.69	37.4	199	234	Peak
*5725.48	67.03	65.75	68.2	-1.17	31.96	6.75	37.43	199	234	Peak
11400	46.5	48.76	54	-7.5	39.96	9.91	52.13	100	88	Average
11400	58.72	60.98	74	-15.28	39.96	9.91	52.13	100	88	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
5700	92.23	91.04			31.9	6.69	37.4	163	158	Average
5700	99.92	98.73			31.9	6.69	37.4	163	158	Peak
*5724.52	63.53	62.31	68.2	-4.67	31.96	6.69	37.43	163	158	Peak
11400	47.5	49.76	54	-6.5	39.96	9.91	52.13	103	48	Average
11400	58.54	60.8	74	-15.46	39.96	9.91	52.13	103	48	Peak

Remarks:

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

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

<Spurious Emission>
Horizontal



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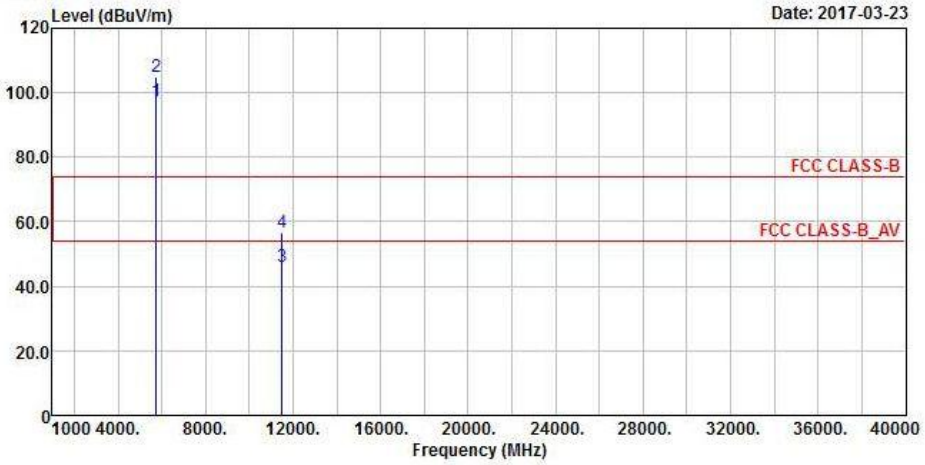

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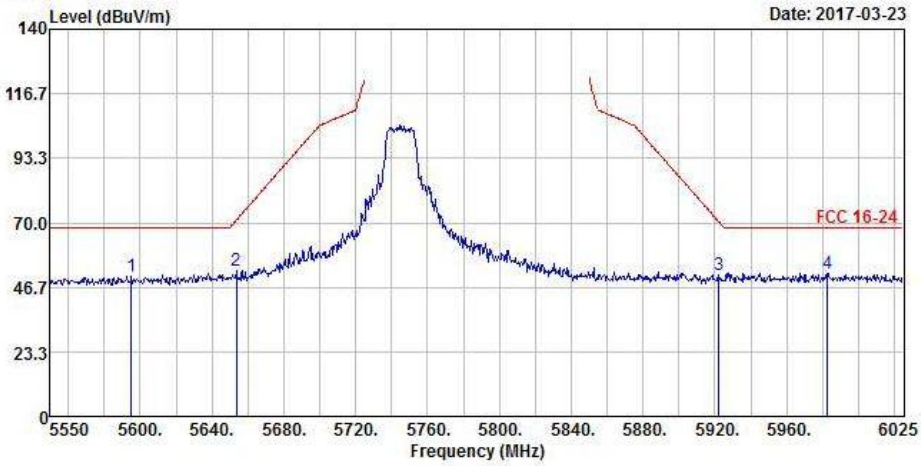

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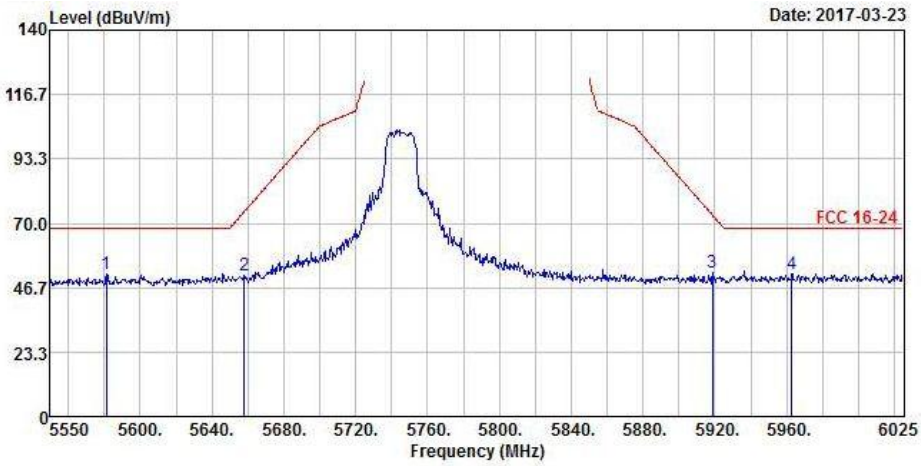


<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	98.73	97.46			31.99	6.75	37.47	199	55	Average
5745	106.2	104.93			31.99	6.75	37.47	199	55	Peak
11490	46.05	48.94	54	-7.95	39.91	10.03	52.83	105	89	Average
11490	56.88	59.77	74	-17.12	39.91	10.03	52.83	105	89	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	97.52	96.25			31.99	6.75	37.47	186	122	Average
5745	104.94	103.67			31.99	6.75	37.47	186	122	Peak
11490	45.95	48.84	54	-8.05	39.91	10.03	52.83	101	38	Average
11490	56.83	59.72	74	-17.17	39.91	10.03	52.83	101	38	Peak

<Ouf of Band Emission (OOBE)>

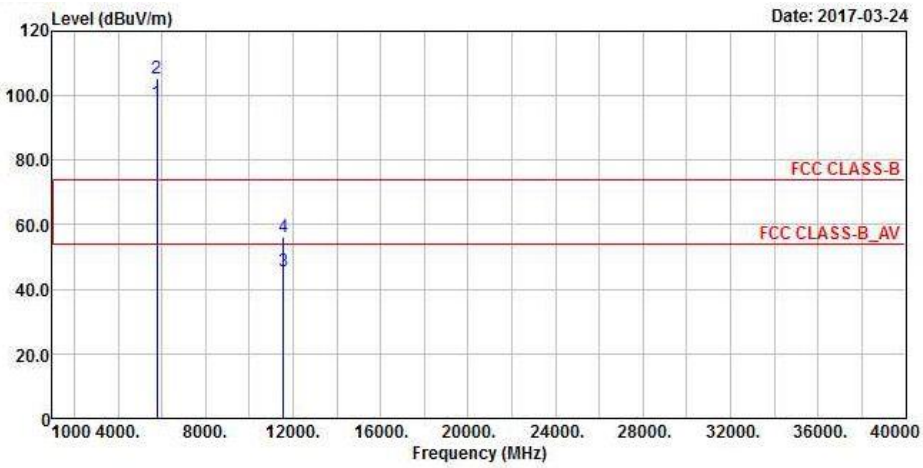
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5595.125	50.7	49.63	68.2	-17.5	31.74	6.49	37.16	199	55	Peak
5653.55	52.68	51.49	70.84	-18.16	31.85	6.62	37.28	199	55	Peak
5922.4	51.32	49.52	70.12	-18.8	32.29	7.01	37.5	199	55	Peak
5982.725	51.8	49.86	68.2	-16.4	32.37	7.08	37.51	199	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
5581.35	51.48	50.44	68.2	-16.72	31.71	6.49	37.16	186	122	Peak
5657.825	51.31	50.18	74.01	-22.7	31.85	6.62	37.34	186	122	Peak
5918.6	51.99	50.22	72.92	-20.93	32.26	7.01	37.5	186	122	Peak
5962.775	51.76	49.85	68.2	-16.44	32.34	7.08	37.51	186	122	Peak

Remarks:

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

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

<Spurious Emission>
Horizontal



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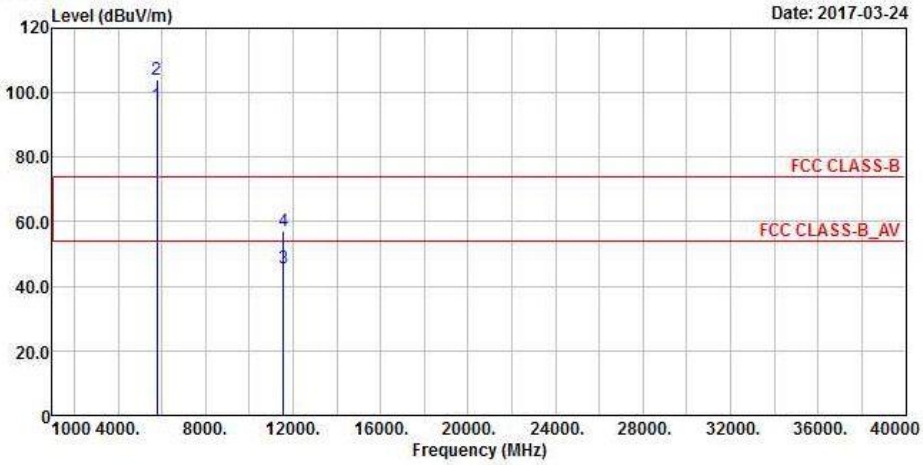

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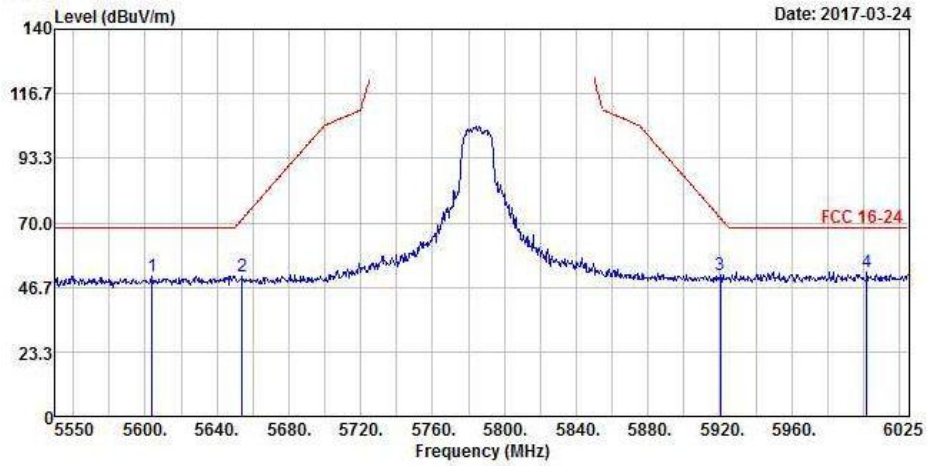

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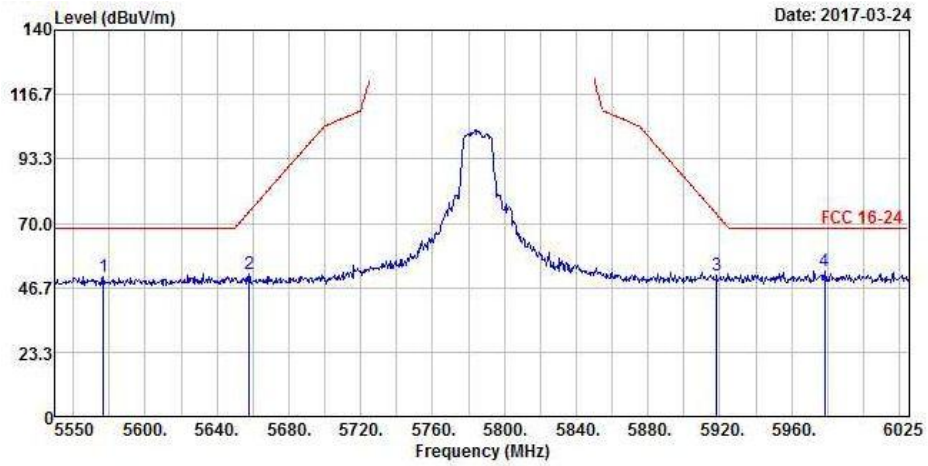


<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	97.94	96.62			32.04	6.82	37.54	186	52	Average
5785	105.17	103.85			32.04	6.82	37.54	186	52	Peak
11570	45.77	49.23	54	-8.23	39.78	10.09	53.33	109	123	Average
11570	56.18	59.64	74	-17.82	39.78	10.09	53.33	109	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	96.08	94.76			32.04	6.82	37.54	189	306	Average
5785	104.02	102.7			32.04	6.82	37.54	189	306	Peak
11570	45.6	49.06	54	-8.4	39.78	10.09	53.33	105	32	Average
11570	57.23	60.69	74	-16.77	39.78	10.09	53.33	105	32	Peak

<Ouf of Band Emission (OOBE)>

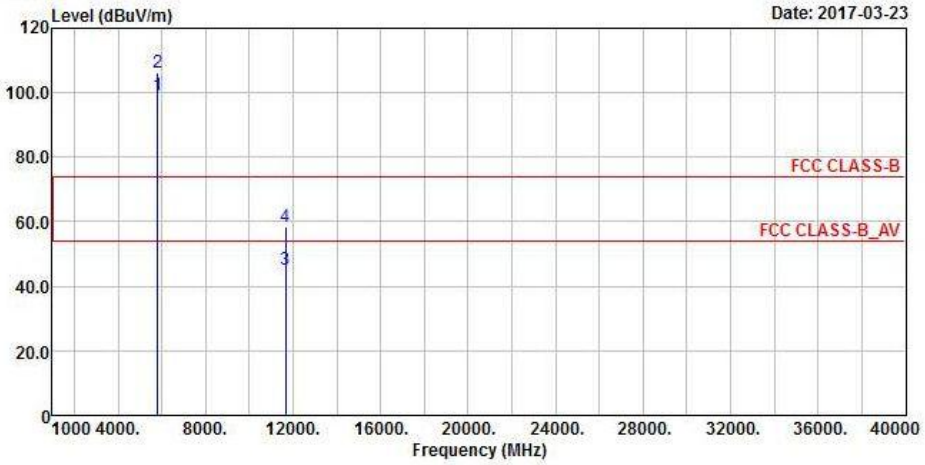
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5603.675	50.8	49.69	68.2	-17.4	31.77	6.56	37.22	186	52	Peak
5654.025	50.51	49.38	71.19	-20.68	31.85	6.62	37.34	186	52	Peak
5920.025	51.33	49.56	71.87	-20.54	32.26	7.01	37.5	186	52	Peak
6001.725	52.28	50.25	68.2	-15.92	32.4	7.14	37.51	186	52	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
5576.6	50.82	49.74	68.2	-17.38	31.71	6.49	37.12	189	306	Peak
5657.825	51.45	50.32	74.01	-22.56	31.85	6.62	37.34	189	306	Peak
5918.125	51.06	49.29	73.27	-22.21	32.26	7.01	37.5	189	306	Peak
5978.45	52.88	50.94	68.2	-15.32	32.37	7.08	37.51	189	306	Peak

Remarks:

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

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

<Spurious Emission>
Horizontal



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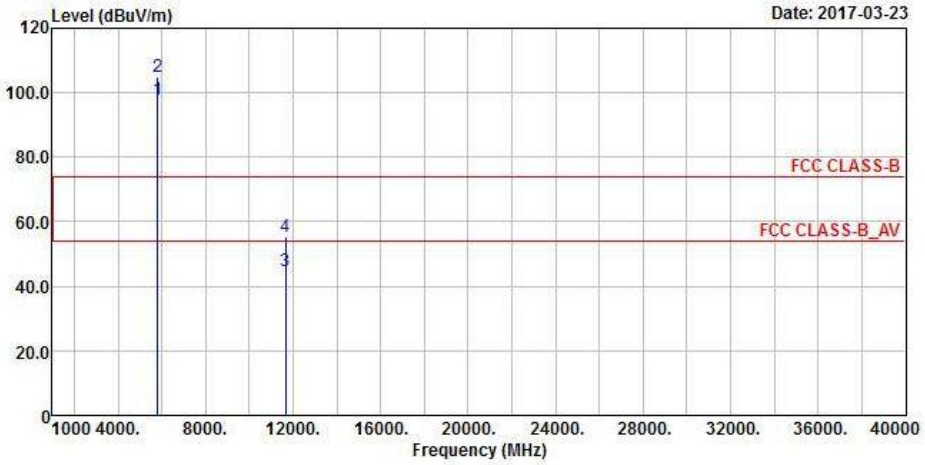

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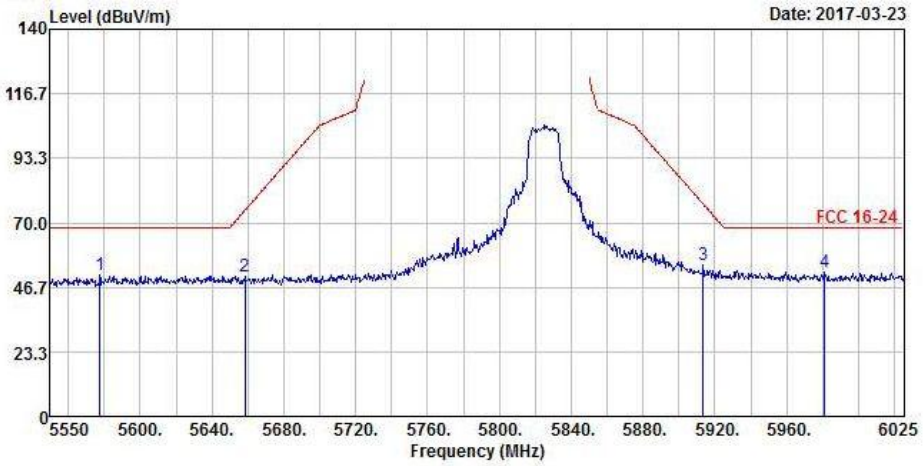
Horizontal



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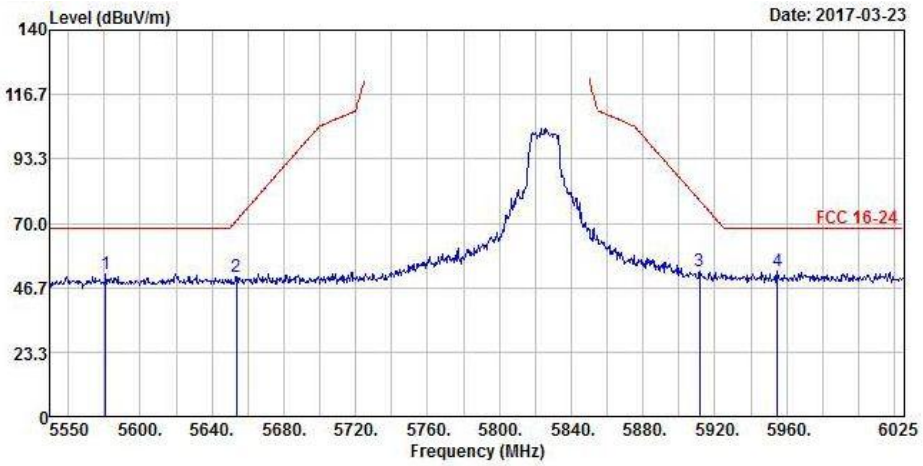


<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	99.12	97.65			32.12	6.88	37.53	199	53	Average
5825	106.34	104.87			32.12	6.88	37.53	199	53	Peak
11650	45.31	48.86	54	-8.69	39.65	10.15	53.35	106	98	Average
11650	58.42	61.97	74	-15.58	39.65	10.15	53.35	106	98	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	97.77	96.3			32.12	6.88	37.53	186	120	Average
5825	104.98	103.51			32.12	6.88	37.53	186	120	Peak
11650	44.58	48.13	54	-9.42	39.65	10.15	53.35	101	41	Average
11650	55.55	59.1	74	-18.45	39.65	10.15	53.35	101	41	Peak

<Ouf 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
5577.55	50.98	49.94	68.2	-17.22	31.71	6.49	37.16	199	53	Peak
5658.3	50.82	49.69	74.36	-23.54	31.85	6.62	37.34	199	53	Peak
5913.375	54.65	52.88	76.77	-22.12	32.26	7.01	37.5	199	53	Peak
5981.3	52.05	50.11	68.2	-16.15	32.37	7.08	37.51	199	53	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
5580.875	51.56	50.52	68.2	-16.64	31.71	6.49	37.16	186	120	Peak
5653.55	50.48	49.29	70.84	-20.36	31.85	6.62	37.28	186	120	Peak
5911.475	52.58	50.81	78.18	-25.6	32.26	7.01	37.5	186	120	Peak
5954.7	52.57	50.67	68.2	-15.63	32.32	7.08	37.5	186	120	Peak

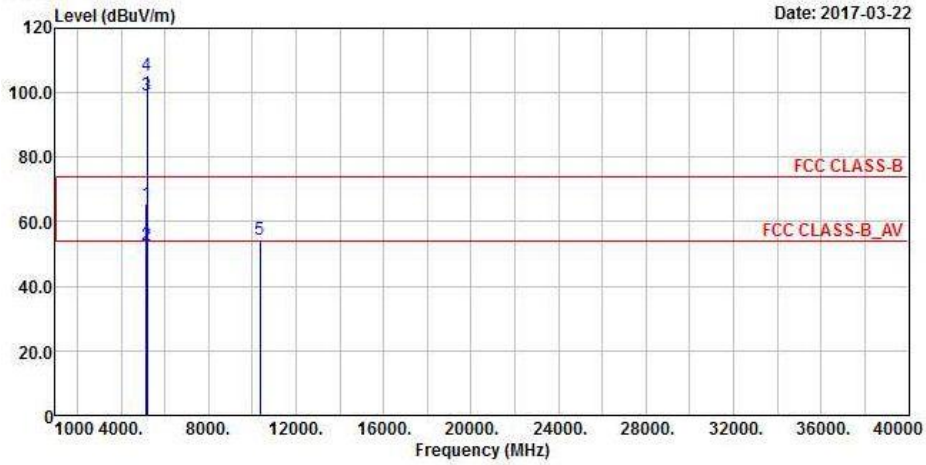
Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5825 MHz: Fundamental Frequency
3. *: Out of Restricted Band

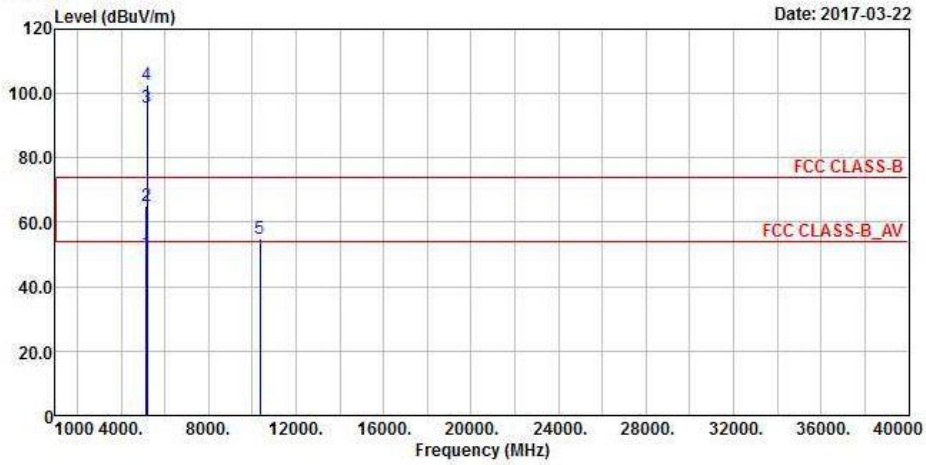
802.11n (HT20)

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**	Gavin Wu

Horizontal



Vertical

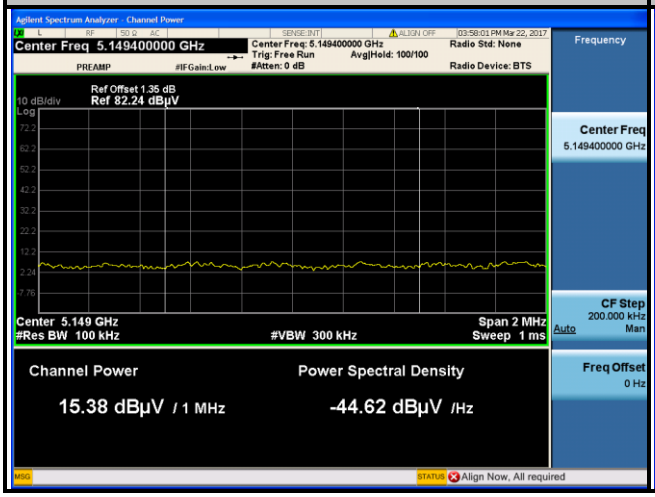


Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5148.65	65.52	65.32	74	-8.48	31.32	6.2	37.32	201	214	Peak
#5149.4	52.9	52.7	54	-1.1	31.32	6.2	37.32	201	214	Average
5180	99.13	98.9			31.35	6.22	37.34	201	214	Average
5180	105.55	105.32			31.35	6.22	37.34	201	214	Peak
*10360	54.35	58.25	68.2	-13.85	39.19	9.05	52.14	100	174	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
#5148.8	50.33	50.13	54	-3.67	31.32	6.2	37.32	192	130	Average
5149.4	64.95	64.75	74	-9.05	31.32	6.2	37.32	192	130	Peak
5180	95.82	95.59			31.35	6.22	37.34	192	130	Average
5180	102.78	102.55			31.35	6.22	37.34	192	130	Peak
*10360	54.95	58.85	68.2	-13.25	39.19	9.05	52.14	100	201	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. #: Per Section KDB 789033 D02v01r04 section (II)(G)(3)(d)(ii), the Integration method was used to determine compliance with the out-of-band emissions limits.

Horizontal



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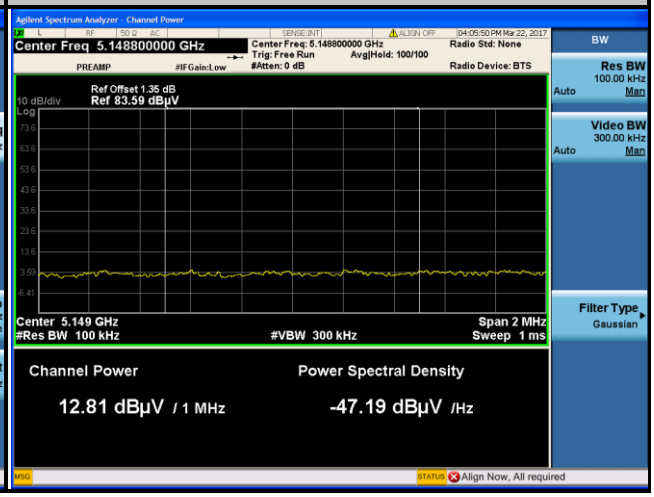
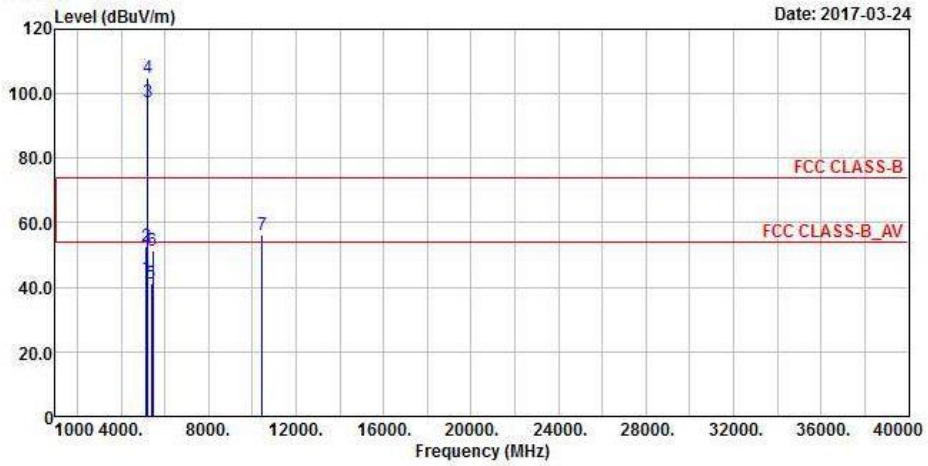


Remarks: Read Level = Channel Power+ Preamp Factor

EUT Test Condition		Measurement Detail	
Channel	Channel 44	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Gavin Wu

Horizontal



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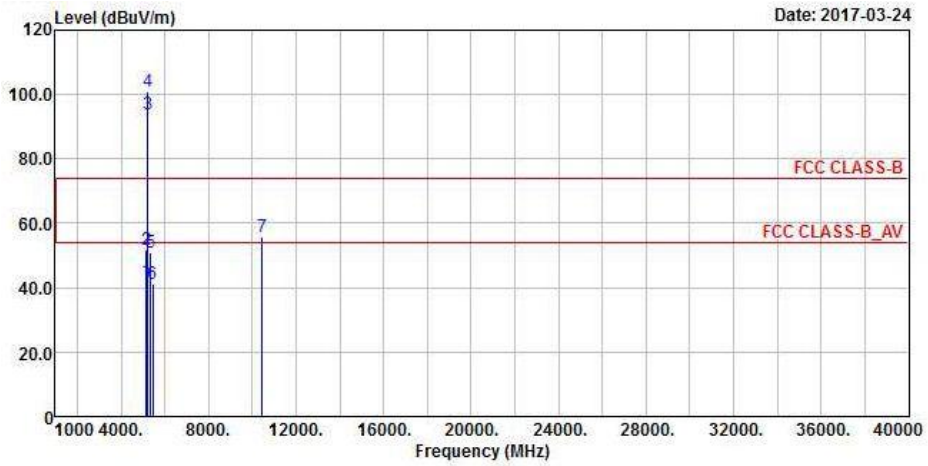


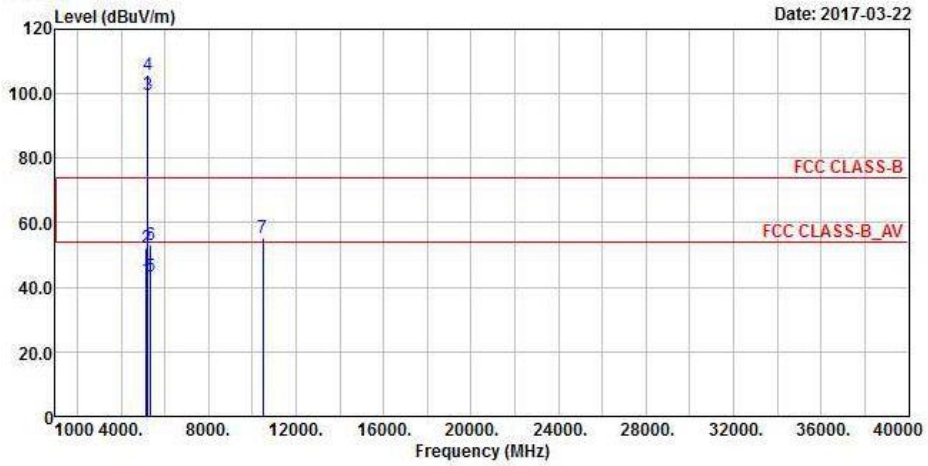
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5146.7	42.78	42.58	54	-11.22	31.32	6.2	37.32	202	220	Average
5147.3	52.52	52.32	74	-21.48	31.32	6.2	37.32	202	220	Peak
5220	97.63	97.38			31.37	6.24	37.36	202	220	Average
5220	105.04	104.79			31.37	6.24	37.36	202	220	Peak
5375.19	41.35	40.73	54	-12.65	31.49	6.31	37.18	202	220	Average
5451.75	51.35	50.53	74	-22.65	31.56	6.34	37.08	202	220	Peak
*10440	56.25	60.35	68.2	-11.95	39.29	9.09	52.48	101	15	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
5145.5	42	41.8	54	-12	31.32	6.2	37.32	196	106	Average
5149.25	51.81	51.61	74	-22.19	31.32	6.2	37.32	196	106	Peak
5220	93.82	93.57			31.37	6.24	37.36	196	106	Average
5220	101.14	100.89			31.37	6.24	37.36	196	106	Peak
5361.44	51.02	50.4	74	-22.98	31.49	6.31	37.18	196	106	Peak
5438	41.02	40.26	54	-12.98	31.55	6.34	37.13	196	106	Average
*10440	55.72	59.82	68.2	-12.48	39.29	9.09	52.48	100	42	Peak

Remarks:

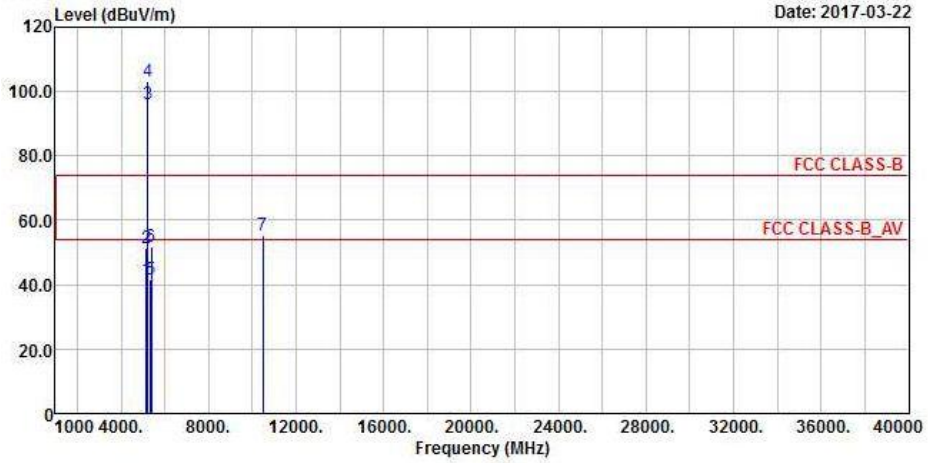
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5220 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

Horizontal



Vertical



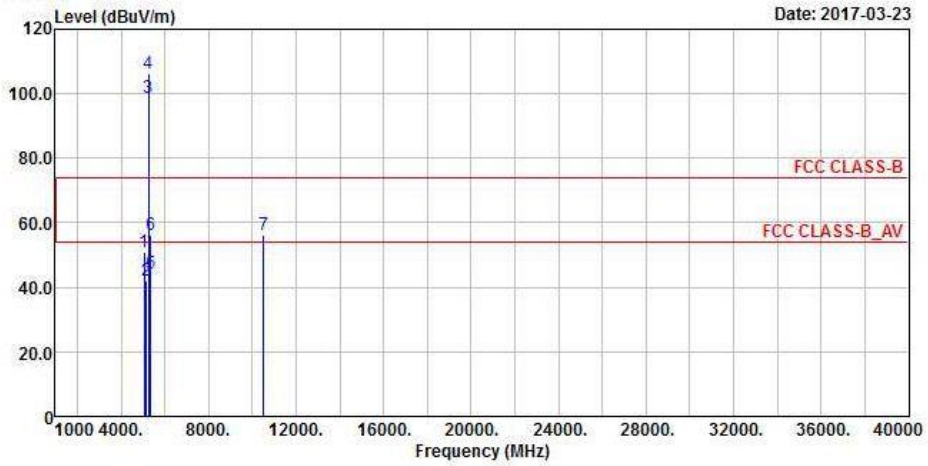
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.25	42.31	42.11	54	-11.69	31.32	6.2	37.32	206	214	Average
5149.7	52.18	51.98	74	-21.82	31.32	6.2	37.32	206	214	Peak
5240	99.58	99.26			31.39	6.25	37.32	206	214	Average
5240	105.99	105.67			31.39	6.25	37.32	206	214	Peak
5350.88	43.43	42.84	54	-10.57	31.48	6.29	37.18	206	214	Average
5352.86	53.23	52.64	74	-20.77	31.48	6.29	37.18	206	214	Peak
*10480	55.49	59.74	68.2	-12.71	39.37	9.09	52.71	100	128	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
5146.85	41.53	41.33	54	-12.47	31.32	6.2	37.32	191	130	Average
5149.4	51.19	50.99	74	-22.81	31.32	6.2	37.32	191	130	Peak
5240	96.14	95.82			31.39	6.25	37.32	191	130	Average
5240	103.2	102.88			31.39	6.25	37.32	191	130	Peak
5356.05	41.78	41.19	54	-12.22	31.48	6.29	37.18	191	130	Average
5391.8	51.86	51.22	74	-22.14	31.51	6.31	37.18	191	130	Peak
*10480	55.48	59.73	68.2	-12.72	39.37	9.09	52.71	100	136	Peak

Remarks:

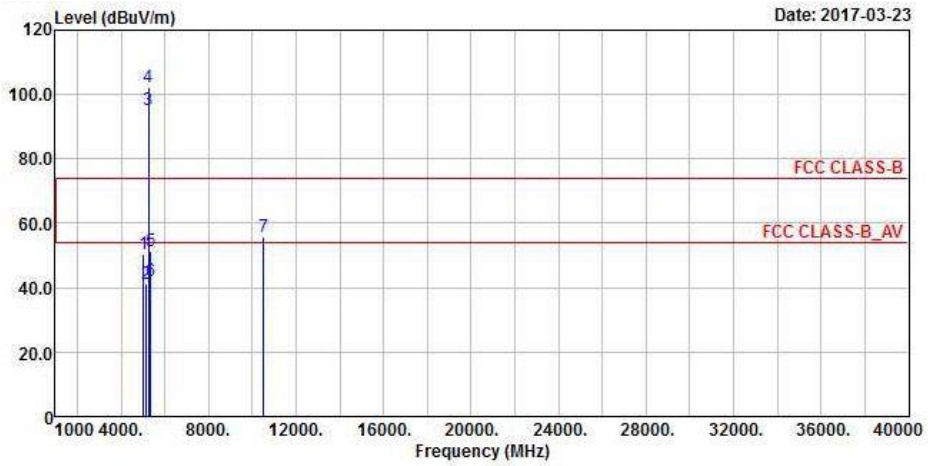
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5240 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

Horizontal



Vertical



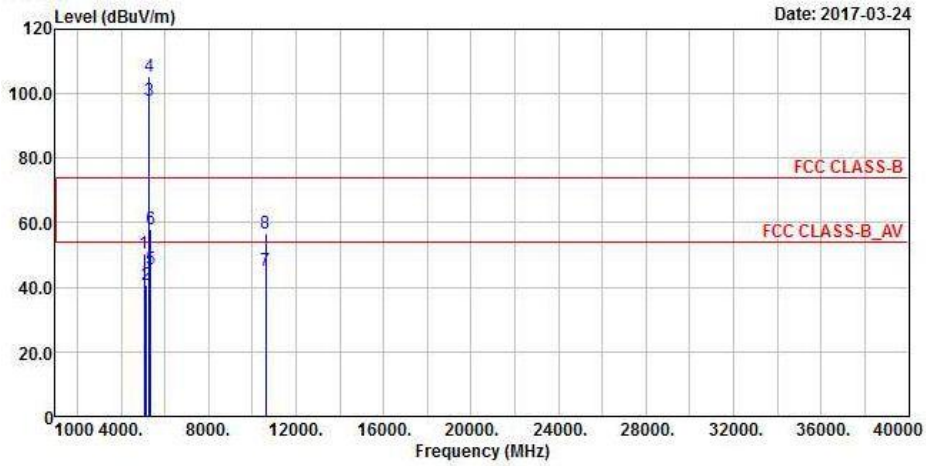
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5068.85	51.08	50.93	74	-22.92	31.25	6.17	37.27	198	222	Peak
5150	41.97	41.77	54	-12.03	31.32	6.2	37.32	198	222	Average
5260	98.91	98.52			31.41	6.25	37.27	198	222	Average
5260	106.2	105.81			31.41	6.25	37.27	198	222	Peak
5366.5	44.11	43.49	54	-9.89	31.49	6.31	37.18	198	222	Average
5369.69	56.13	55.51	74	-17.87	31.49	6.31	37.18	198	222	Peak
*10520	56.09	60.37	68.2	-12.11	39.43	9.12	52.83	100	91	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
5017.85	50.56	50.44	74	-23.44	31.21	6.15	37.24	191	136	Peak
5148.05	41.12	40.92	54	-12.88	31.32	6.2	37.32	191	136	Average
5260	95.25	94.86			31.41	6.25	37.27	191	136	Average
5260	102.4	102.01			31.41	6.25	37.27	191	136	Peak
5352.97	51.55	50.96	74	-22.45	31.48	6.29	37.18	191	136	Peak
5362.43	41.88	41.26	54	-12.12	31.49	6.31	37.18	191	136	Average
*10520	55.63	59.91	68.2	-12.57	39.43	9.12	52.83	100	39	Peak

Remarks:

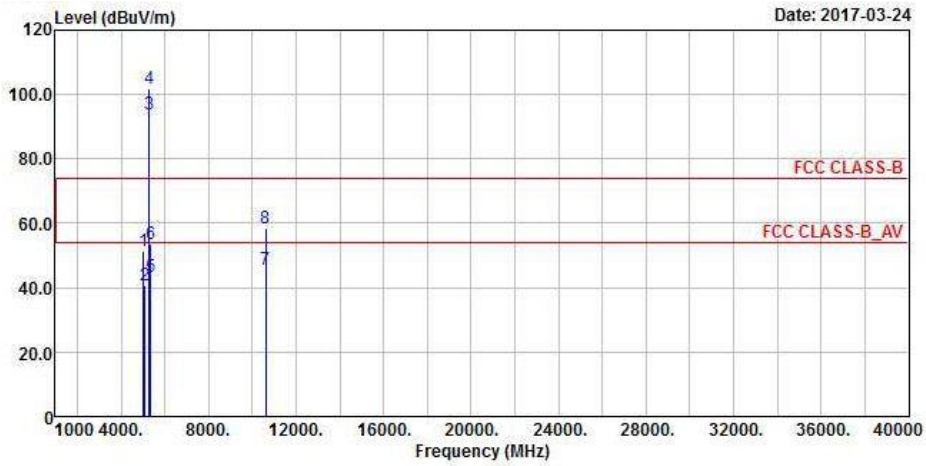
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5260 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

Horizontal



Vertical



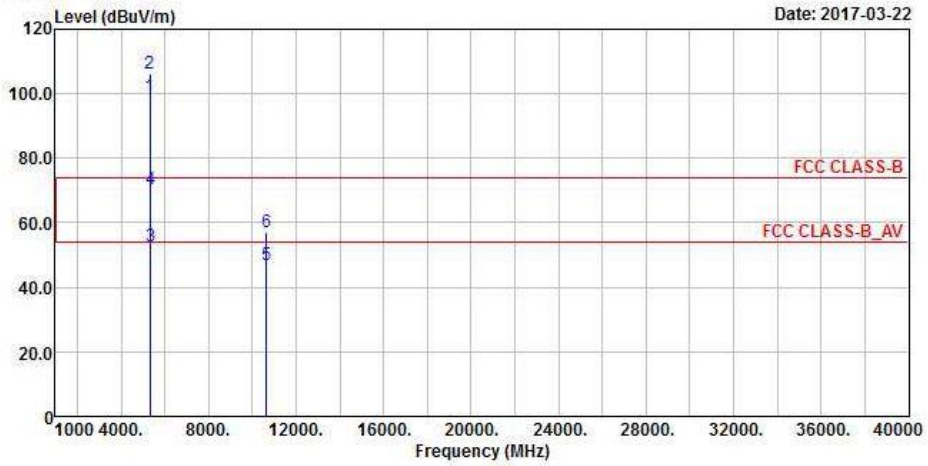
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5066.6	50.49	50.32	74	-23.51	31.25	6.17	37.25	181	216	Peak
5147.15	40.7	40.5	54	-13.3	31.32	6.2	37.32	181	216	Average
5300	97.88	97.36			31.44	6.27	37.19	181	216	Average
5300	105.21	104.69			31.44	6.27	37.19	181	216	Peak
5352.09	45.65	45.06	54	-8.35	31.48	6.29	37.18	181	216	Average
5357.48	57.98	57.37	74	-16.02	31.48	6.31	37.18	181	216	Peak
10600	45.09	48.77	54	-8.91	39.57	9.16	52.41	100	47	Average
10600	56.82	60.5	74	-17.18	39.57	9.16	52.41	100	47	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
5013.8	51.21	51.08	74	-22.79	31.21	6.15	37.23	173	132	Peak
5090.45	40.69	40.49	54	-13.31	31.28	6.19	37.27	173	132	Average
5300	93.92	93.4			31.44	6.27	37.19	173	132	Average
5300	101.79	101.27			31.44	6.27	37.19	173	132	Peak
5350.88	43.44	42.85	54	-10.56	31.48	6.29	37.18	173	132	Average
5364.41	53.74	53.12	74	-20.26	31.49	6.31	37.18	173	132	Peak
10600	45.39	49.07	54	-8.61	39.57	9.16	52.41	100	72	Average
10600	58.34	62.02	74	-15.66	39.57	9.16	52.41	100	72	Peak

Remarks:

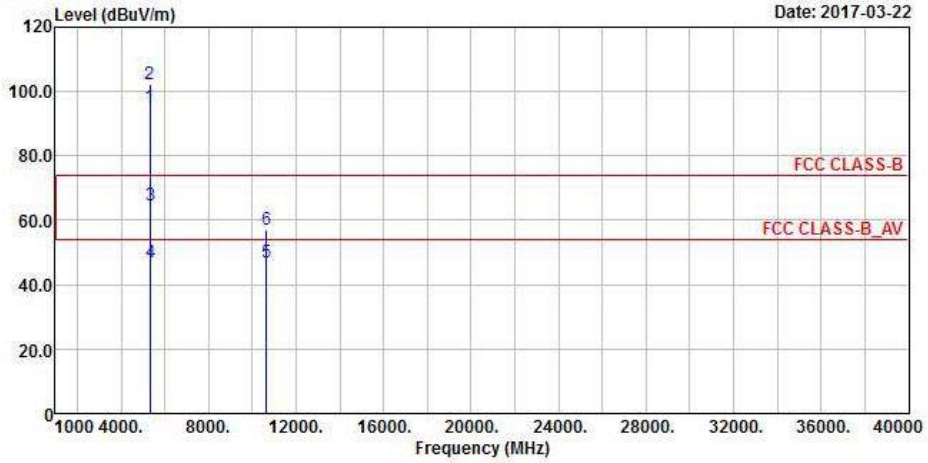
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

Horizontal



Vertical



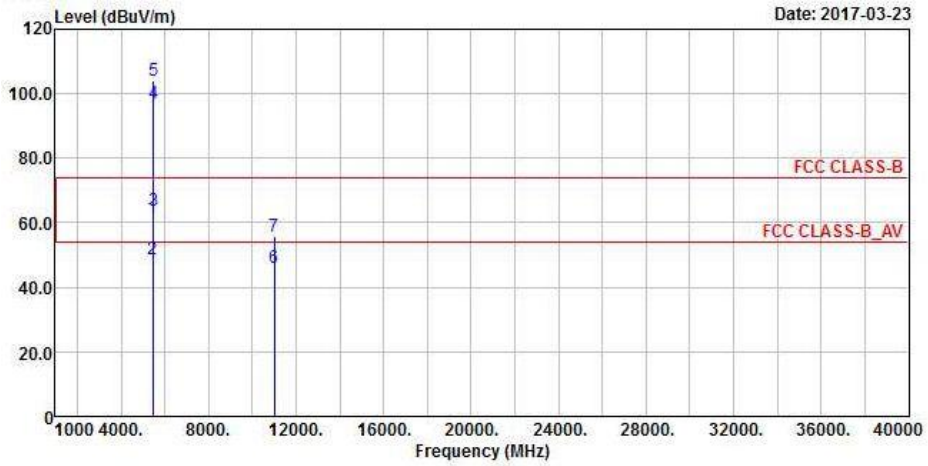
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	99.04	98.49			31.45	6.29	37.19	198	219	Average
5320	106.1	105.55			31.45	6.29	37.19	198	219	Peak
5350.22	52.63	52.04	54	-1.37	31.48	6.29	37.18	198	219	Average
5353.74	70.2	69.61	74	-3.8	31.48	6.29	37.18	198	219	Peak
10640	47.14	50.59	54	-6.86	39.62	9.2	52.27	108	255	Average
10640	57.14	60.59	74	-16.86	39.62	9.2	52.27	108	255	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	95.05	94.5			31.45	6.29	37.19	191	135	Average
5320	102.14	101.59			31.45	6.29	37.19	191	135	Peak
5350.11	64.61	64.02	74	-9.39	31.48	6.29	37.18	191	135	Peak
5351.54	46.97	46.38	54	-7.03	31.48	6.29	37.18	191	135	Average
10640	46.84	50.29	54	-7.16	39.62	9.2	52.27	105	331	Average
10640	57.29	60.74	74	-16.71	39.62	9.2	52.27	105	331	Peak

Remarks:

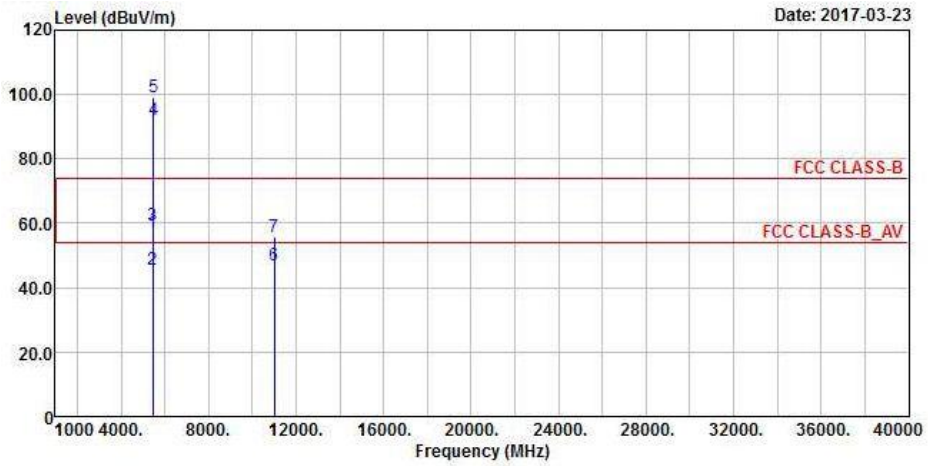
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5320 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

Horizontal



Vertical



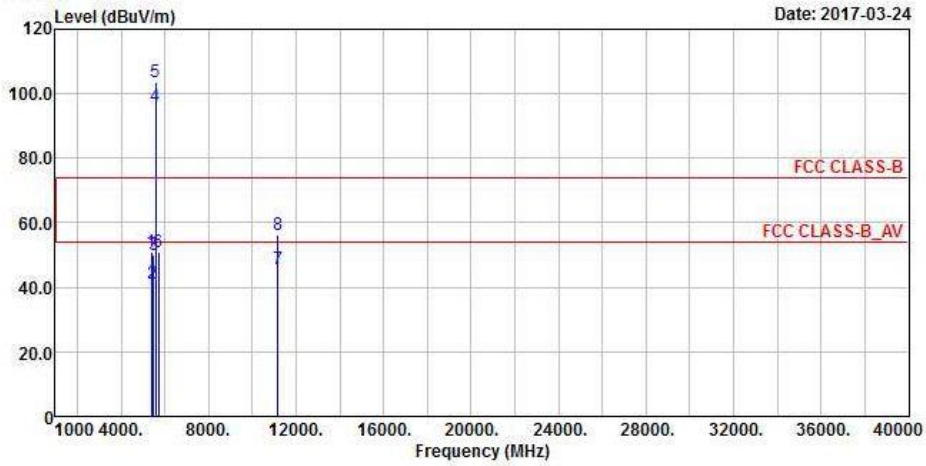
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5450.96	61.38	60.56	74	-12.62	31.56	6.34	37.08	200	235	Peak
5458.96	48.77	47.95	54	-5.23	31.56	6.34	37.08	200	235	Average
*5470.8	63.79	62.96	68.2	-4.41	31.57	6.34	37.08	200	235	Peak
5500	97	96.07			31.6	6.36	37.03	200	235	Average
5500	104.15	103.22			31.6	6.36	37.03	200	235	Peak
11000	46.26	50.16	54	-7.74	40.2	9.35	53.45	102	45	Average
11000	56.01	59.91	74	-17.99	40.2	9.35	53.45	102	45	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5450	57.1	56.28	74	-16.9	31.56	6.34	37.08	161	160	Peak
5459.92	45.4	44.58	54	-8.6	31.56	6.34	37.08	161	160	Average
*5469.68	59.37	58.54	68.2	-8.83	31.57	6.34	37.08	161	160	Peak
5500	92	91.07			31.6	6.36	37.03	161	160	Average
5500	99.29	98.36			31.6	6.36	37.03	161	160	Peak
11000	47.05	50.95	54	-6.95	40.2	9.35	53.45	106	87	Average
11000	55.98	59.88	74	-18.02	40.2	9.35	53.45	106	87	Peak

Remarks:

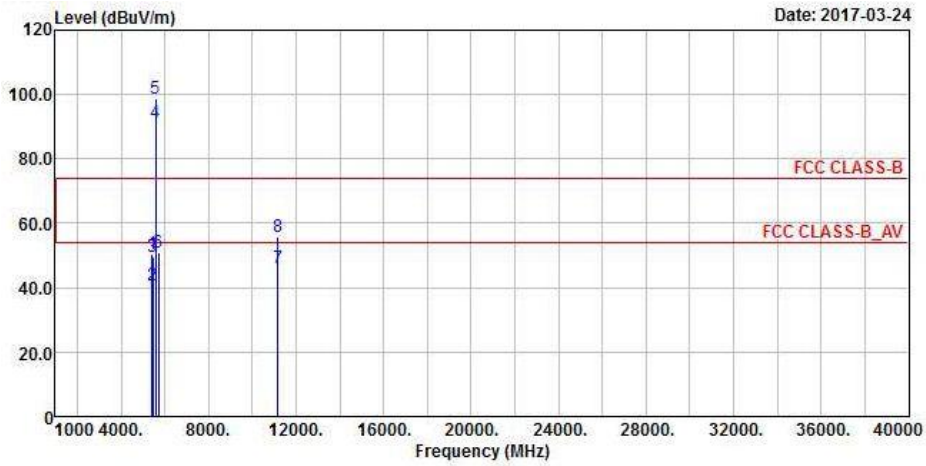
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5500 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

Horizontal



Vertical



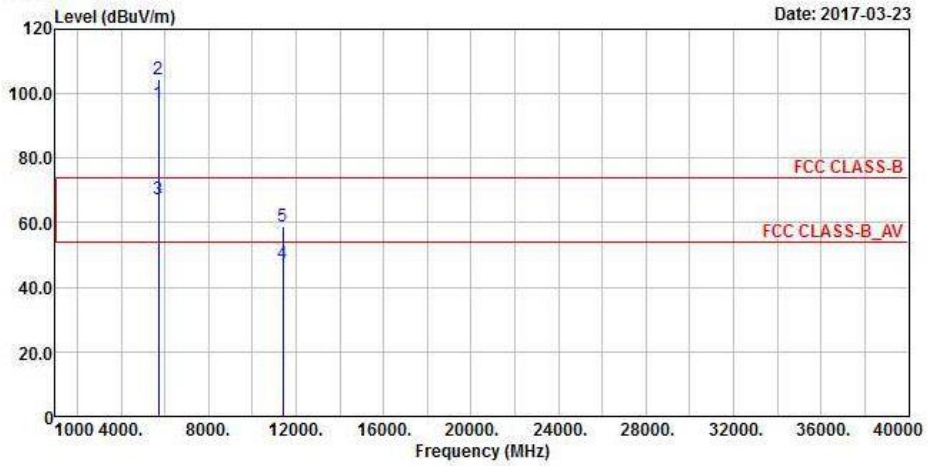
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5387.28	50.97	50.33	74	-23.03	31.51	6.31	37.18	206	83	Peak
5450.16	41.19	40.37	54	-12.81	31.56	6.34	37.08	206	83	Average
*5470.16	49.94	49.11	68.2	-18.26	31.57	6.34	37.08	206	83	Peak
5580	96.18	95.14			31.71	6.49	37.16	206	83	Average
5580	103.56	102.52			31.71	6.49	37.16	206	83	Peak
*5725.24	50.98	49.7	68.2	-17.22	31.96	6.75	37.43	206	83	Peak
11160	45.67	49.39	54	-8.33	40.1	9.57	53.39	109	29	Average
11160	56.03	59.75	74	-17.97	40.1	9.57	53.39	109	29	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
5411.6	50.49	49.82	74	-23.51	31.53	6.32	37.18	204	264	Peak
5435.92	40.94	40.2	54	-13.06	31.55	6.32	37.13	204	264	Average
*5469.36	49.39	48.56	68.2	-18.81	31.57	6.34	37.08	204	264	Peak
5580	91.42	90.38			31.71	6.49	37.16	204	264	Average
5580	98.83	97.79			31.71	6.49	37.16	204	264	Peak
*5725.96	50.84	49.56	68.2	-17.36	31.96	6.75	37.43	204	264	Peak
11160	46.22	49.94	54	-7.78	40.1	9.57	53.39	108	61	Average
11160	55.75	59.47	74	-18.25	40.1	9.57	53.39	108	61	Peak

Remarks:

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

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

Horizontal



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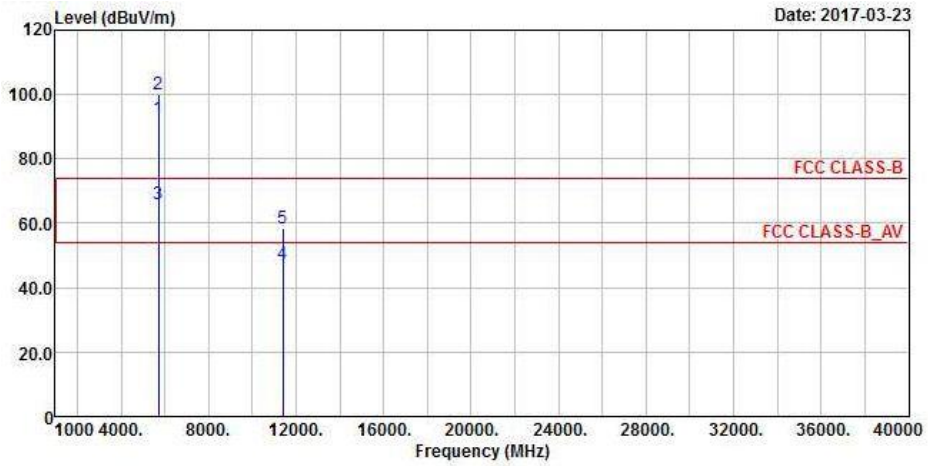


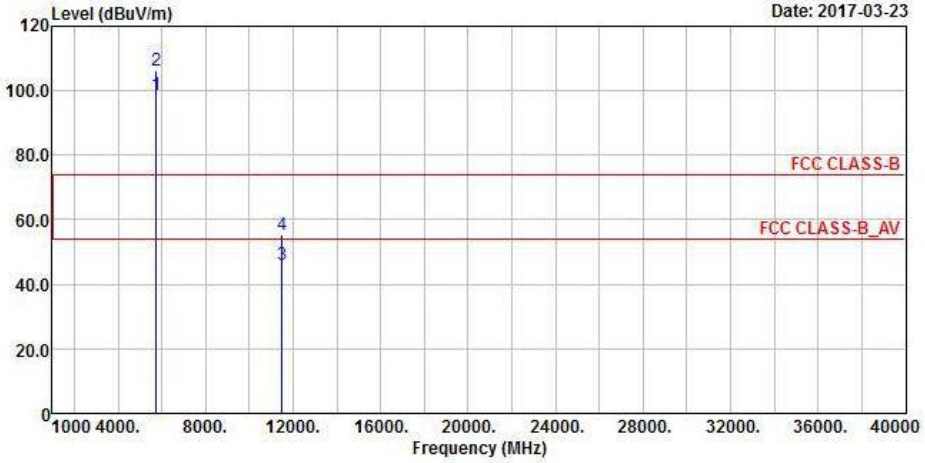
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5700	96.94	95.75			31.9	6.69	37.4	200	232	Average
5700	104.44	103.25			31.9	6.69	37.4	200	232	Peak
***5724.2**	**67.19**	**65.97**	**68.2**	**-1.01**	**31.96**	**6.69**	**37.43**	**200**	**232**	**Peak**
11400	47.5	49.76	54	-6.5	39.96	9.91	52.13	100	78	Average
11400	59.04	61.3	74	-14.96	39.96	9.91	52.13	100	78	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**
5700	92.51	91.32			31.9	6.69	37.4	163	163	Average
5700	99.9	98.71			31.9	6.69	37.4	163	163	Peak
*5724.44	65.89	64.67	68.2	-2.31	31.96	6.69	37.43	163	163	Peak
11400	47.2	49.46	54	-6.8	39.96	9.91	52.13	101	79	Average
11400	58.42	60.68	74	-15.58	39.96	9.91	52.13	101	79	Peak

Remarks:

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

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

<Spurious Emission>
Horizontal



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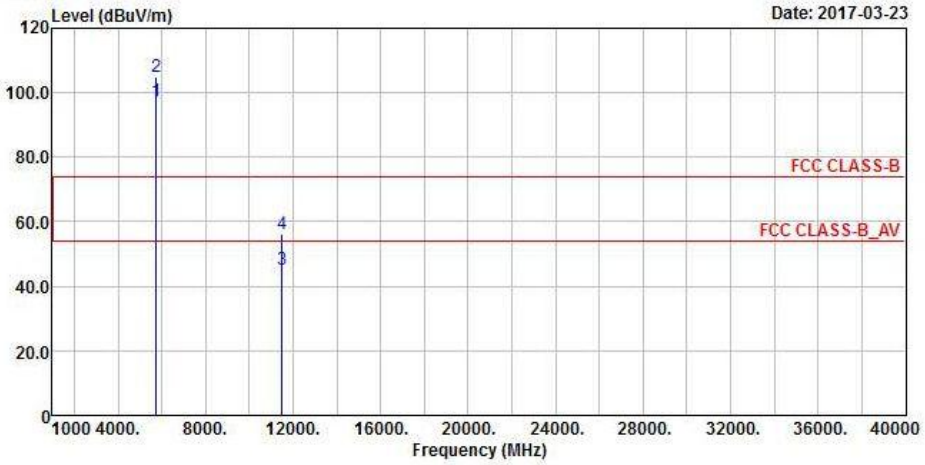

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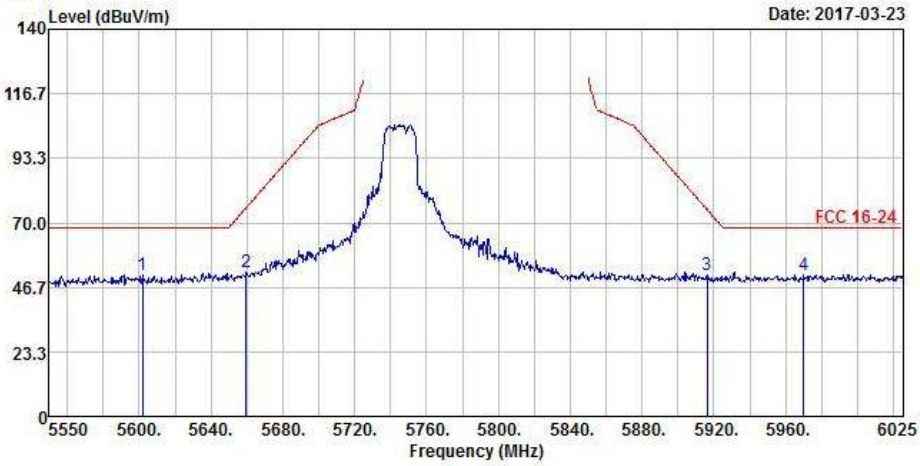

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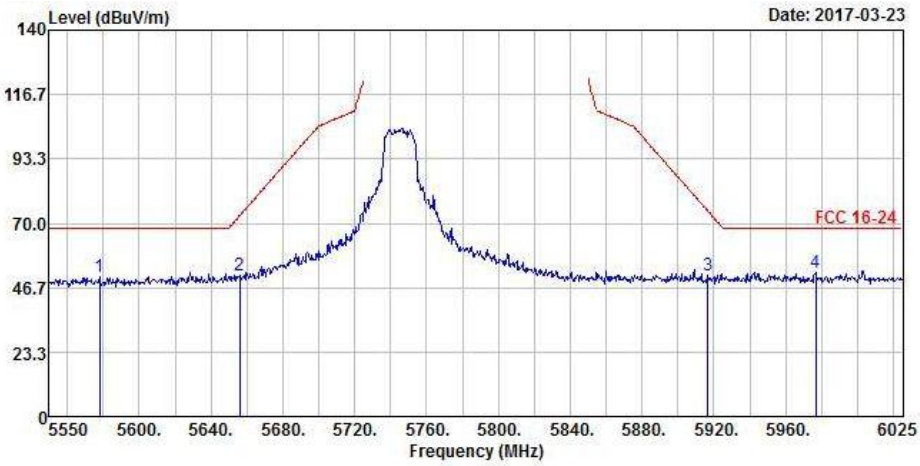


<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	98.85	97.58			31.99	6.75	37.47	199	57	Average
5745	106.1	104.83			31.99	6.75	37.47	199	57	Peak
11490	46.06	48.95	54	-7.94	39.91	10.03	52.83	102	85	Average
11490	55.5	58.39	74	-18.5	39.91	10.03	52.83	102	85	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	97.5	96.23			31.99	6.75	37.47	187	121	Average
5745	104.99	103.72			31.99	6.75	37.47	187	121	Peak
11490	45.26	48.15	54	-8.74	39.91	10.03	52.83	102	40	Average
11490	56.43	59.32	74	-17.57	39.91	10.03	52.83	102	40	Peak

<Ouf of Band Emission (OOBE)>

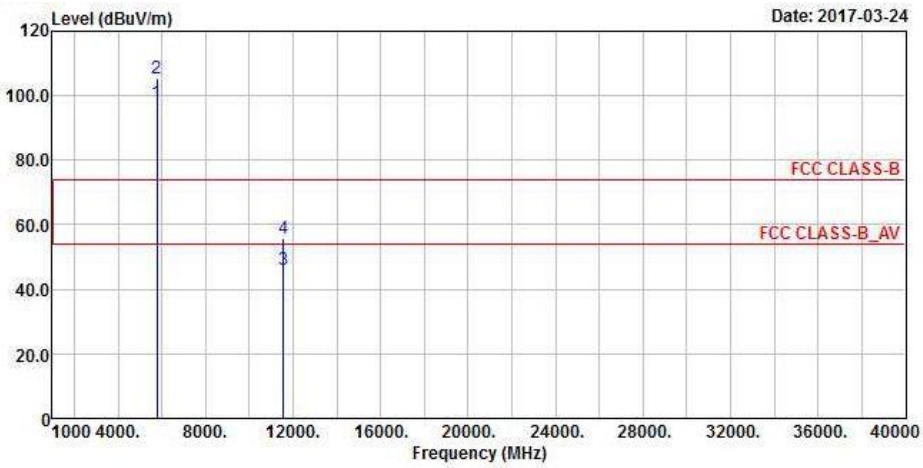
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5601.775	51.06	49.89	68.2	-17.14	31.77	6.56	37.16	199	57	Peak
5659.725	52.01	50.88	75.42	-23.41	31.85	6.62	37.34	199	57	Peak
5916.225	50.93	49.16	74.67	-23.74	32.26	7.01	37.5	199	57	Peak
5969.9	51.09	49.18	68.2	-17.11	32.34	7.08	37.51	199	57	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
5578.025	50.49	49.45	68.2	-17.71	31.71	6.49	37.16	187	121	Peak
5655.925	51.3	50.17	72.6	-21.3	31.85	6.62	37.34	187	121	Peak
5916.7	51.14	49.37	74.32	-23.18	32.26	7.01	37.5	187	121	Peak
5976.55	52.21	50.27	68.2	-15.99	32.37	7.08	37.51	187	121	Peak

Remarks:

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

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

<Spurious Emission>
Horizontal



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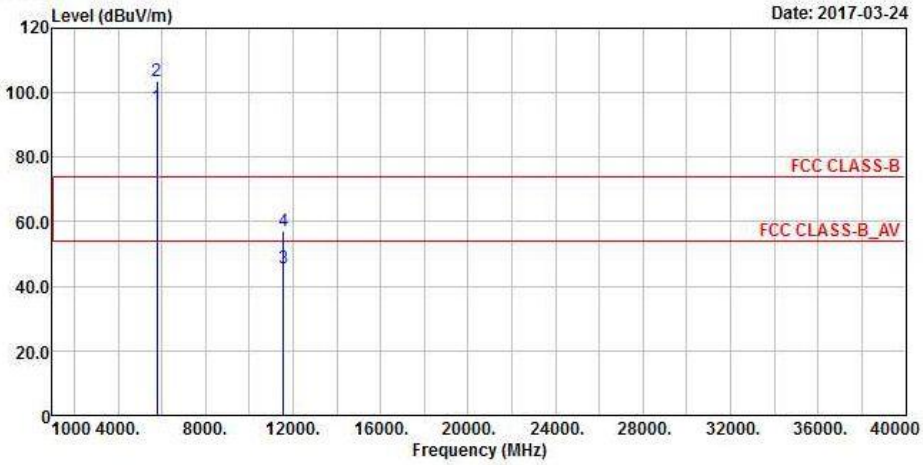

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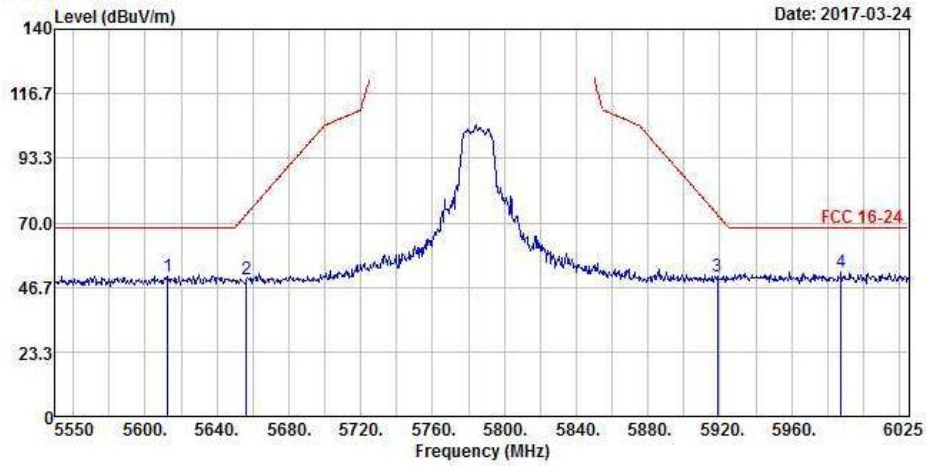

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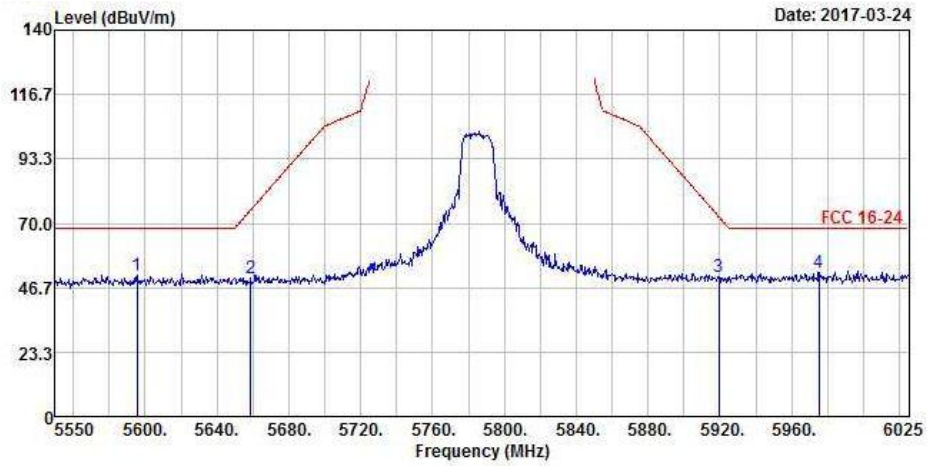


<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	98.07	96.75			32.04	6.82	37.54	188	51	Average
5785	105.35	104.03			32.04	6.82	37.54	188	51	Peak
11570	46.22	49.68	54	-7.78	39.78	10.09	53.33	102	127	Average
11570	55.68	59.14	74	-18.32	39.78	10.09	53.33	102	127	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	95.84	94.52			32.04	6.82	37.54	190	304	Average
5785	103.82	102.5			32.04	6.82	37.54	190	304	Peak
11570	45.77	49.23	54	-8.23	39.78	10.09	53.33	103	27	Average
11570	57	60.46	74	-17	39.78	10.09	53.33	103	27	Peak

<Ouf of Band Emission (OOBE)>

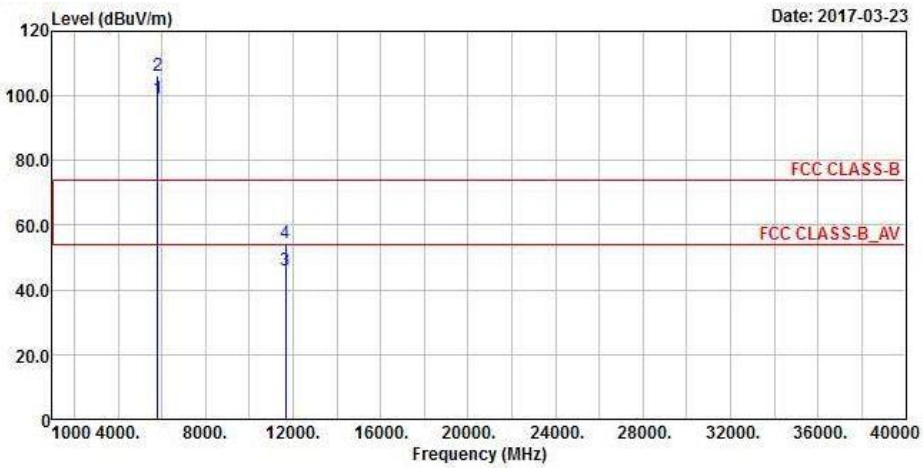
Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5612.7	50.76	49.65	68.2	-17.44	31.77	6.56	37.22	188	51	Peak
5656.4	49.52	48.39	72.95	-23.43	31.85	6.62	37.34	188	51	Peak
5918.6	50.56	48.79	72.92	-22.36	32.26	7.01	37.5	188	51	Peak
5987.475	52.1	50.1	68.2	-16.1	32.37	7.14	37.51	188	51	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
5595.6	51.25	50.18	68.2	-16.95	31.74	6.49	37.16	190	304	Peak
5658.775	50.15	49.02	74.72	-24.57	31.85	6.62	37.34	190	304	Peak
5919.55	50.76	48.99	72.22	-21.46	32.26	7.01	37.5	190	304	Peak
5975.125	52.26	50.32	68.2	-15.94	32.37	7.08	37.51	190	304	Peak

Remarks:

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

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

<Spurious Emission>
Horizontal



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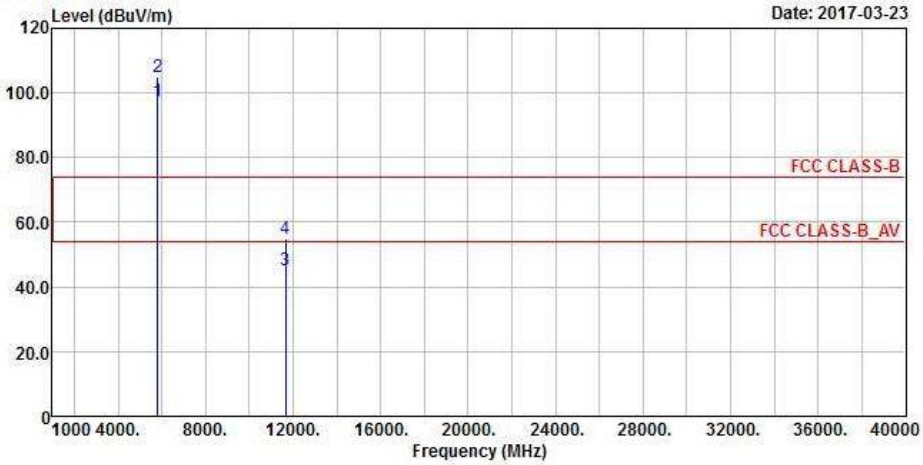

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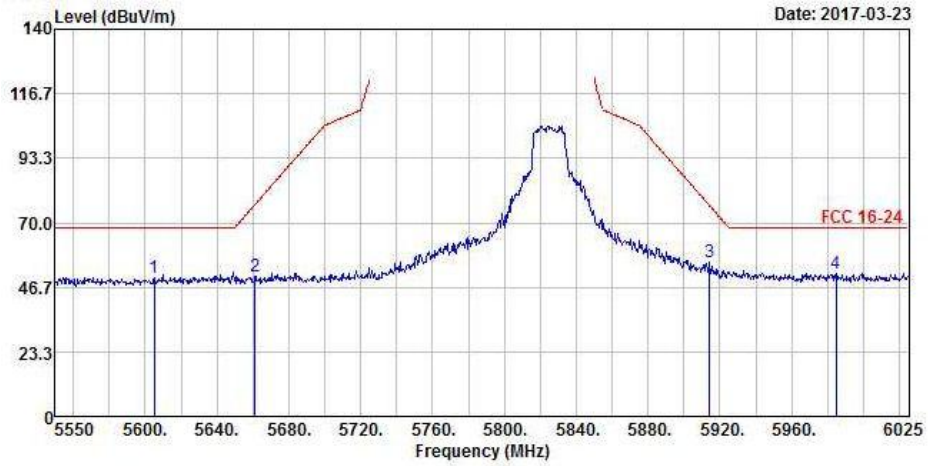
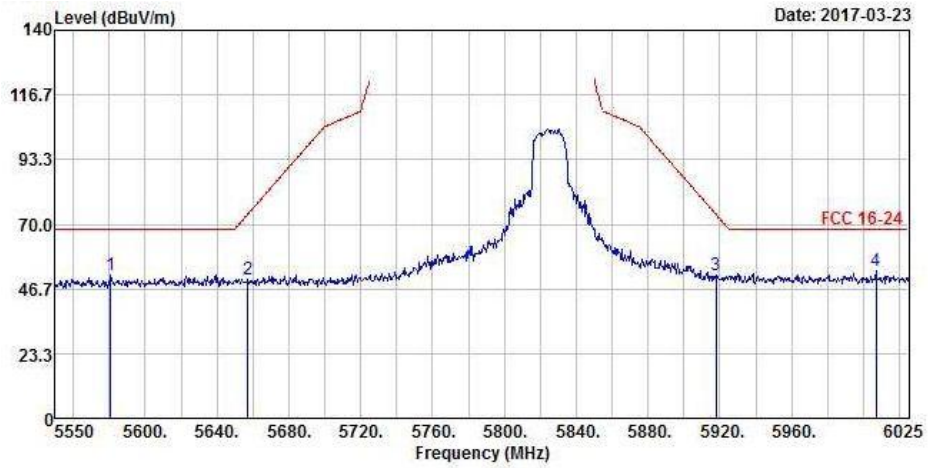
Horizontal



Vertical



<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	99.09	97.62			32.12	6.88	37.53	199	54	Average
5825	106.17	104.7			32.12	6.88	37.53	199	54	Peak
11650	46.21	49.76	54	-7.79	39.65	10.15	53.35	104	78	Average
11650	54.27	57.82	74	-19.73	39.65	10.15	53.35	104	78	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	97.63	96.16			32.12	6.88	37.53	187	119	Average
5825	104.82	103.35			32.12	6.88	37.53	187	119	Peak
11650	45.32	48.87	54	-8.68	39.65	10.15	53.35	100	35	Average
11650	54.99	58.54	74	-19.01	39.65	10.15	53.35	100	35	Peak

<Ouf 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
5605.1	50.25	49.14	68.2	-17.95	31.77	6.56	37.22	199	54	Peak
5661.15	50.53	49.4	76.48	-25.95	31.85	6.62	37.34	199	54	Peak
5914.325	55.8	54.03	76.07	-20.27	32.26	7.01	37.5	199	54	Peak
5984.625	51.51	49.51	68.2	-16.69	32.37	7.14	37.51	199	54	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
5580.875	51.52	50.48	68.2	-16.68	31.71	6.49	37.16	187	119	Peak
5657.35	50.06	48.93	73.66	-23.6	31.85	6.62	37.34	187	119	Peak
5917.65	51.81	50.04	73.62	-21.81	32.26	7.01	37.5	187	119	Peak
6006.95	53	50.92	68.2	-15.2	32.45	7.14	37.51	187	119	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

9 kHz ~ 30 MHz DATA:

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

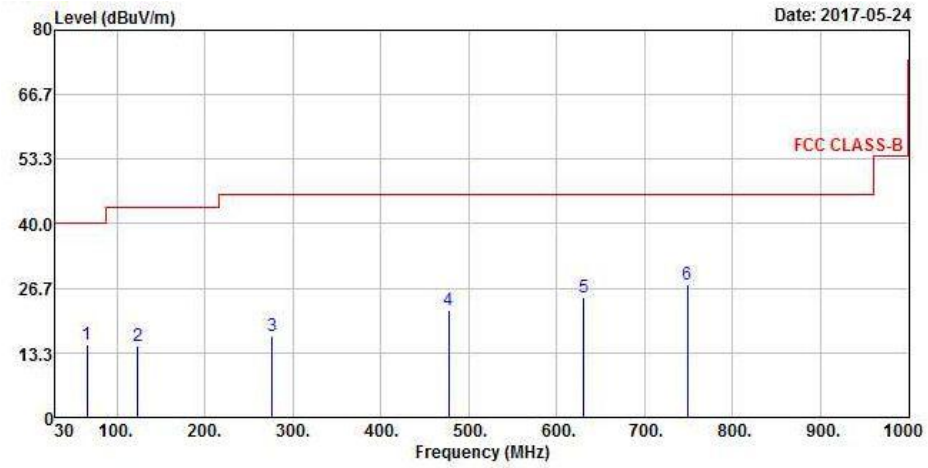
30 MHz ~ 1 GHz WORST-CASE DATA:

Mode A

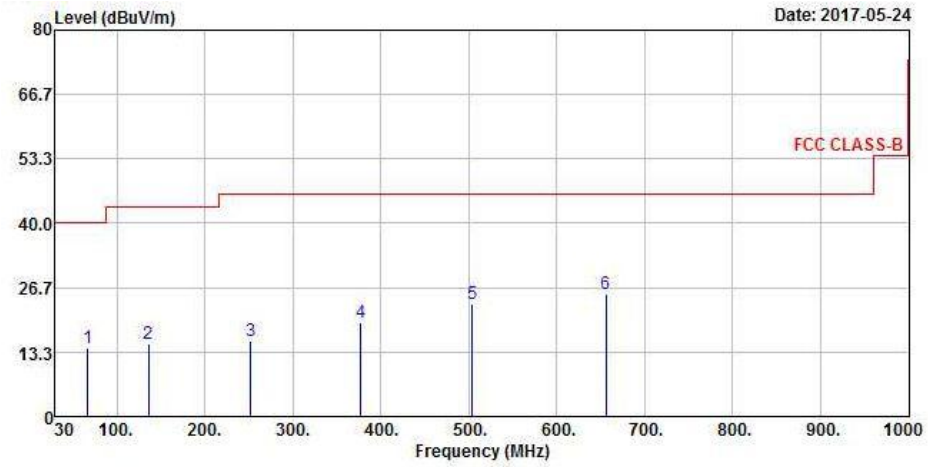
802.11n (HT20)

EUT Test Condition		Measurement Detail	
Channel	Channel 36	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Gavin Wu

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
65.89	14.91	34.46	40	-25.09	11.24	0.85	31.64	102	336	Peak
124.09	14.9	34.36	43.5	-28.6	11.28	1.15	31.89	130	197	Peak
276.38	16.78	34.86	46	-29.22	12.25	1.57	31.9	110	11	Peak
477.17	22.1	35.04	46	-23.9	16.87	2.05	31.86	138	203	Peak
630.43	24.84	34.7	46	-21.16	19.97	2.31	32.14	139	238	Peak
748.77	27.57	34.86	46	-18.43	21.5	2.53	31.32	111	177	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
66.86	14.29	34	40	-25.71	11.12	0.85	31.68	103	340	Peak
135.73	15.1	33.62	43.5	-28.4	12.08	1.14	31.74	108	52	Peak
252.13	15.58	34.47	46	-30.42	11.54	1.49	31.92	113	199	Peak
377.26	19.46	34.75	46	-26.54	14.8	1.85	31.94	137	127	Peak
504.33	23.29	35.38	46	-22.71	17.42	2.1	31.61	119	233	Peak
655.65	25.38	34.71	46	-20.62	20.28	2.37	31.98	118	147	Peak

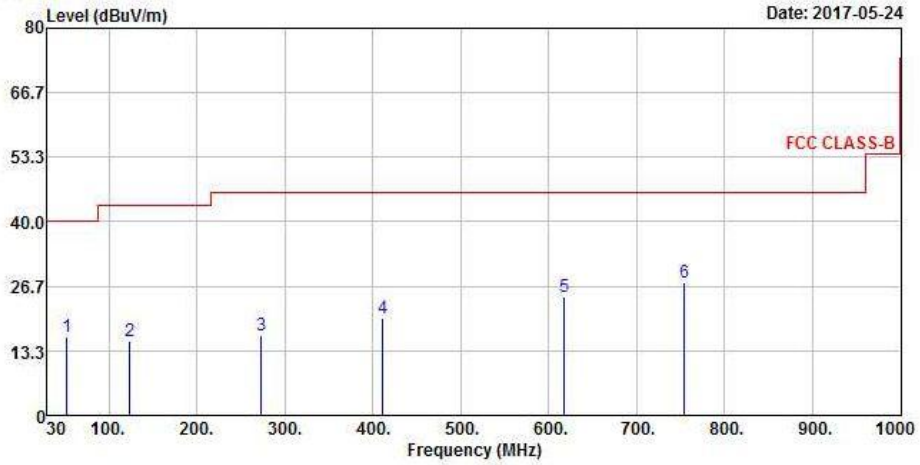
Remarks:

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

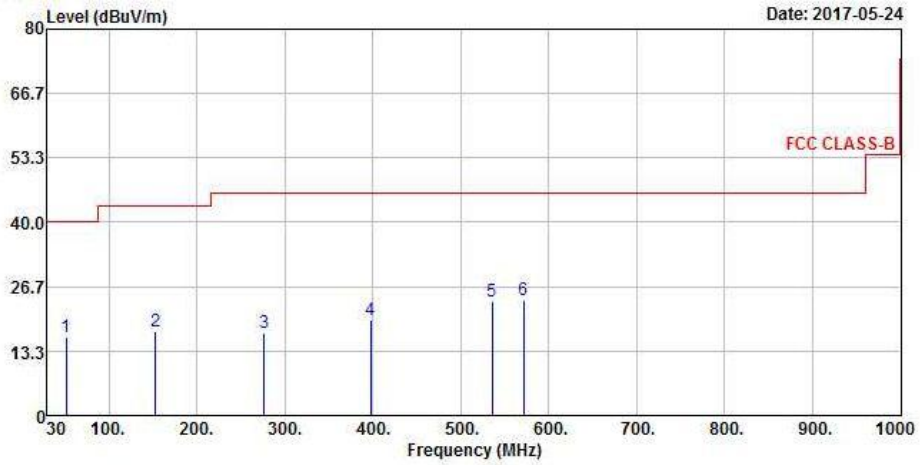
802.11n (HT20)

EUT Test Condition		Measurement Detail	
Channel	Channel 64	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Gavin Wu

Horizontal



Vertical



Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
52.31	16.36	34.2	40	-23.64	12.76	0.72	31.32	101	16	Peak
124.09	15.26	34.72	43.5	-28.24	11.28	1.15	31.89	100	338	Peak
273.47	16.58	34.8	46	-29.42	12.17	1.56	31.95	110	211	Peak
411.21	20.13	34.64	46	-25.87	15.56	1.93	32	124	6	Peak
617.82	24.61	34.65	46	-21.39	19.82	2.29	32.15	118	256	Peak
754.59	27.5	34.74	46	-18.5	21.59	2.54	31.37	105	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
51.34	16.28	34.01	40	-23.72	12.87	0.71	31.31	136	331	Peak
153.19	17.3	35.16	43.5	-26.2	12.72	1.11	31.69	129	146	Peak
276.38	17	35.08	46	-29	12.25	1.57	31.9	135	327	Peak
397.63	19.85	34.78	46	-26.15	15.28	1.9	32.11	118	61	Peak
535.37	23.53	34.96	46	-22.47	18.13	2.15	31.71	115	356	Peak
571.26	23.86	34.78	46	-22.14	18.95	2.21	32.08	106	309	Peak

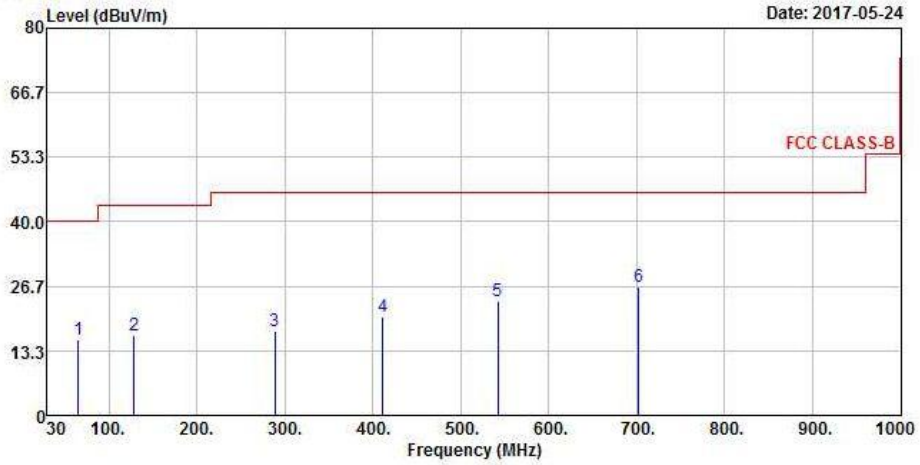
Remarks:

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

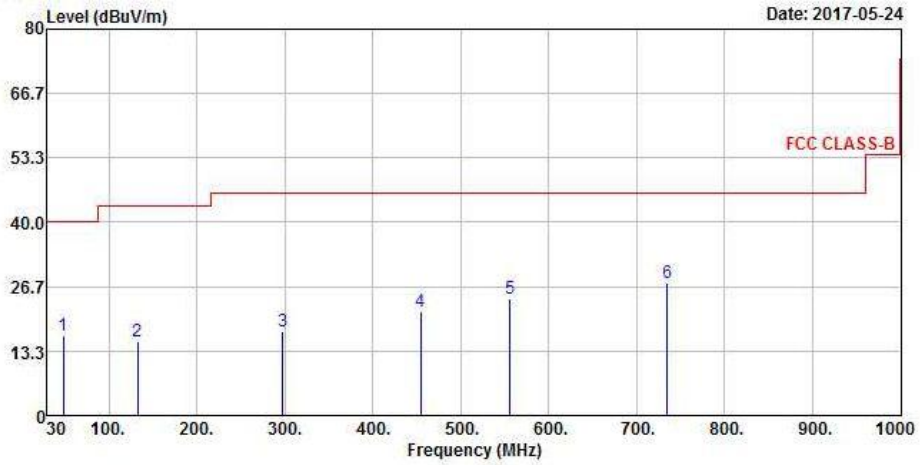
802.11n (HT20)

EUT Test Condition		Measurement Detail	
Channel	Channel 140	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Gavin Wu

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
64.92	15.63	35.03	40	-24.37	11.35	0.84	31.59	128	166	Peak
128.94	16.62	35.75	43.5	-26.88	11.61	1.14	31.88	121	32	Peak
288.99	17.4	34.84	46	-28.6	12.63	1.61	31.68	123	1	Peak
411.21	20.49	35	46	-25.51	15.56	1.93	32	104	134	Peak
542.16	23.5	34.83	46	-22.5	18.28	2.16	31.77	123	135	Peak
702.21	26.52	35	46	-19.48	20.85	2.45	31.78	109	238	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
48.43	16.51	33.89	40	-23.49	13.18	0.69	31.25	118	116	Peak
132.82	15.49	34.28	43.5	-28.01	11.88	1.14	31.81	133	351	Peak
297.72	17.53	34.83	46	-28.47	12.88	1.63	31.81	134	80	Peak
454.86	21.59	35.16	46	-24.41	16.43	1.99	31.99	121	325	Peak
555.74	24.09	35.34	46	-21.91	18.59	2.18	32.02	118	182	Peak
735.19	27.42	35.13	46	-18.58	21.31	2.51	31.53	102	7	Peak

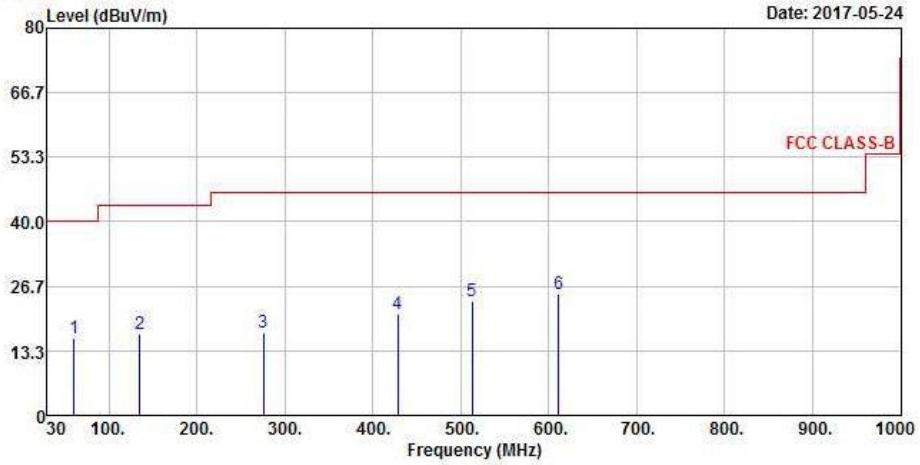
Remarks:

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

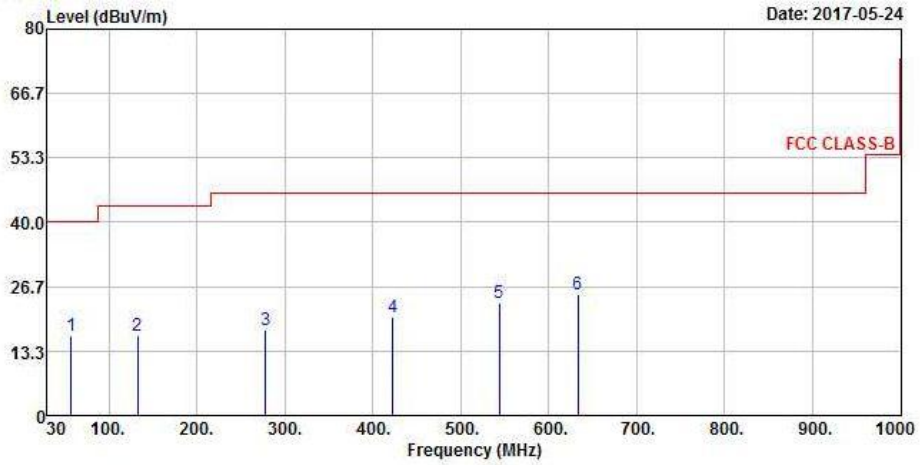
802.11n (HT20)

EUT Test Condition		Measurement Detail	
Channel	Channel 149	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Gavin Wu

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
60.07	15.86	34.47	40	-24.14	11.94	0.81	31.36	136	304	Peak
134.76	16.83	35.44	43.5	-26.67	12.01	1.14	31.76	125	135	Peak
275.41	17.2	35.34	46	-28.8	12.22	1.56	31.92	100	292	Peak
428.67	20.87	35.02	46	-25.13	15.91	1.95	32.01	129	343	Peak
513.06	23.73	35.57	46	-22.27	17.62	2.12	31.58	140	304	Peak
611.03	24.99	35.06	46	-21.01	19.74	2.28	32.09	126	21	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
57.16	16.53	34.86	40	-23.47	12.25	0.77	31.35	131	133	Peak
132.82	16.63	35.42	43.5	-26.87	11.88	1.14	31.81	138	9	Peak
278.32	17.82	35.79	46	-28.18	12.31	1.58	31.86	115	108	Peak
422.85	20.32	34.63	46	-25.68	15.79	1.94	32.04	103	102	Peak
544.1	23.4	34.72	46	-22.6	18.33	2.17	31.82	123	14	Peak
633.34	25.06	34.85	46	-20.94	20.01	2.32	32.12	114	321	Peak

Remarks:

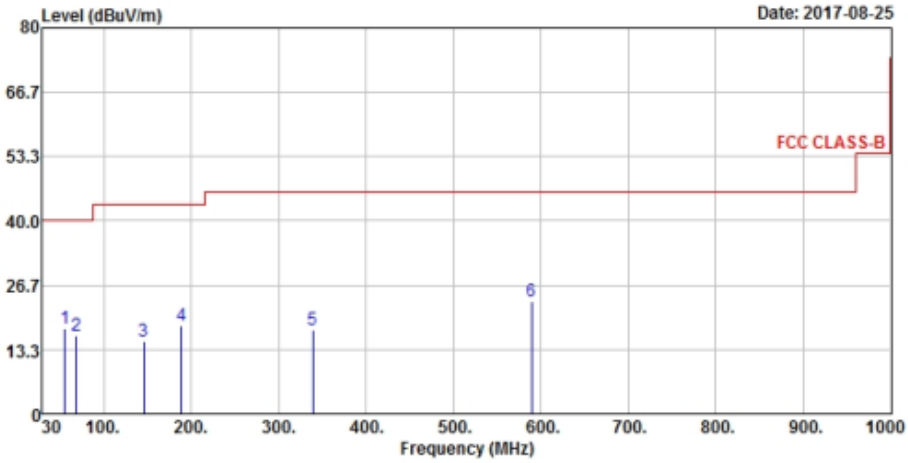
1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value

Mode B

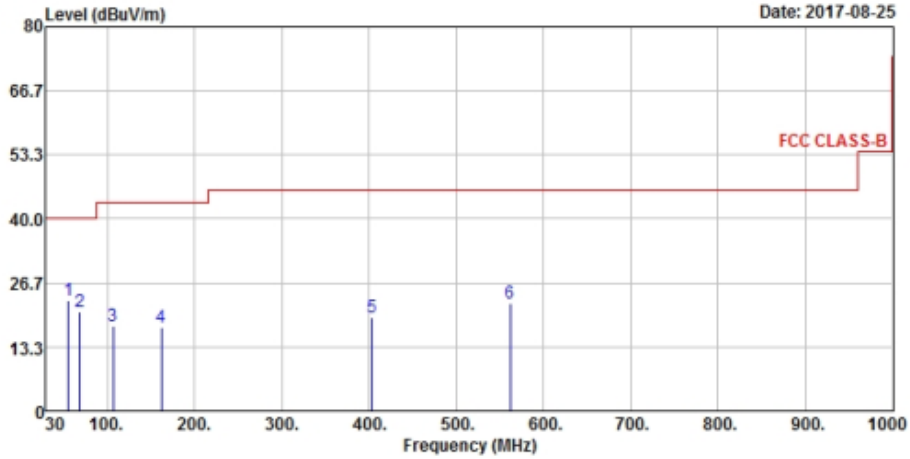
802.11n (HT20)

EUT Test Condition		Measurement Detail	
Channel	Channel 140	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Gavin Wu

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
55.22	17.71	36.03	40	-22.29	12.45	0.56	31.33	124	243	Peak
68.8	16.33	36.58	40	-23.67	10.89	0.63	31.77	107	23	Peak
145.43	15.12	33.24	43.5	-28.38	12.54	0.96	31.62	125	251	Peak
189.08	18.42	38.82	43.5	-25.08	10.12	1.17	31.69	119	50	Peak
339.43	17.31	33.41	46	-28.69	13.89	1.83	31.82	100	129	Peak
589.69	23.44	33.36	46	-22.56	19.37	2.85	32.14	126	163	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
55.22	22.93	41.25	40	-17.07	12.45	0.56	31.33	139	121	Peak
68.8	20.76	41.01	40	-19.24	10.89	0.63	31.77	115	226	Peak
106.63	17.76	39.15	43.5	-25.74	9.71	0.78	31.88	103	254	Peak
161.92	17.42	35.7	43.5	-26.08	12.54	1.03	31.85	117	288	Peak
403.45	19.6	34.17	46	-26.4	15.41	2.1	32.08	104	36	Peak
561.56	22.56	33.16	46	-23.44	18.72	2.74	32.06	138	37	Peak

Remarks:

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

4.2.2 Test Instruments

Description & Manaufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 21, 2016	Nov. 20, 2017
RF signal cable Woken	5D-FB	Cable-cond1-01	Dec. 22, 2016	Dec. 21, 2017
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Mar. 10, 2017	Mar. 09, 2018
LISN ROHDE & SCHWARZ (Peripheral)	ENV216	101196	Apr. 20, 2017	Apr. 19, 2018
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

Note:
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 1.
3. The VCCI Site Registration No. is C-2040.

4.2.3 Test Procedures

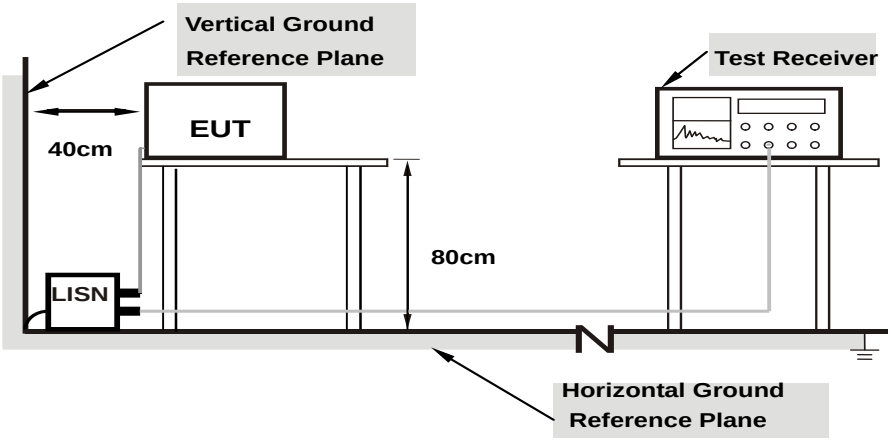
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/50 uH of coupling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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

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

4.2.7 Test Results

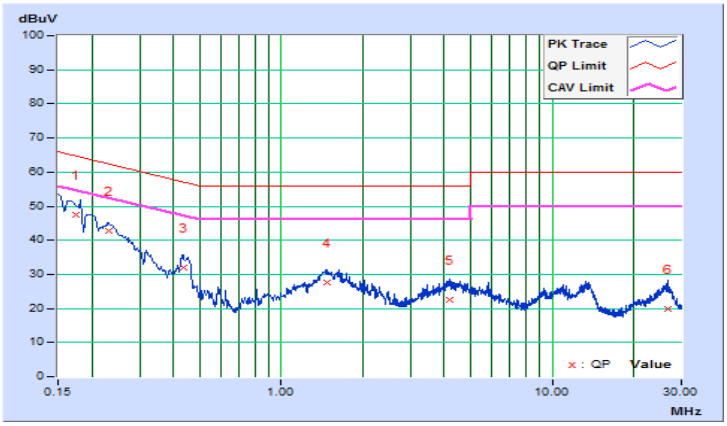
Mode A

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	26℃, 72%RH
Tested by	Han Wu	Test Date	2017/8/22

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17400	10.36	37.19	19.64	47.55	30.00	64.77	54.77	-17.22	-24.77
2	0.22985	10.37	32.55	20.87	42.92	31.24	62.46	52.46	-19.54	-21.22
3	0.43370	10.40	21.65	12.38	32.05	22.78	57.18	47.18	-25.13	-24.40
4	1.47400	10.43	17.15	11.19	27.58	21.62	56.00	46.00	-28.42	-24.38
5	4.19800	10.58	12.02	6.71	22.60	17.29	56.00	46.00	-33.40	-28.71
6	26.80200	11.57	8.32	3.76	19.89	15.33	60.00	50.00	-40.11	-34.67

Remarks:

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

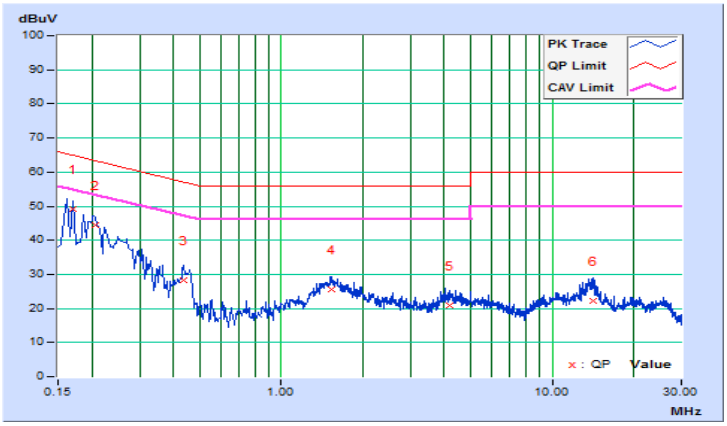


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	26℃, 72%RH
Tested by	Han Wu	Test Date	2017/8/22

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.17000**	**10.12**	**39.07**	**23.04**	**49.19**	**33.16**	**64.96**	**54.96**	**-15.77**	**-21.80**
2	0.20600	10.14	34.17	18.85	44.31	28.99	63.37	53.37	-19.06	-24.38
3	0.43484	10.16	18.04	8.32	28.20	18.48	57.16	47.16	-28.96	-28.68
4	1.53000	10.20	15.40	9.65	25.60	19.85	56.00	46.00	-30.40	-26.15
5	4.18600	10.35	10.56	5.72	20.91	16.07	56.00	46.00	-35.09	-29.93
6	14.25800	10.72	11.41	4.56	22.13	15.28	60.00	50.00	-37.87	-34.72

Remarks:

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



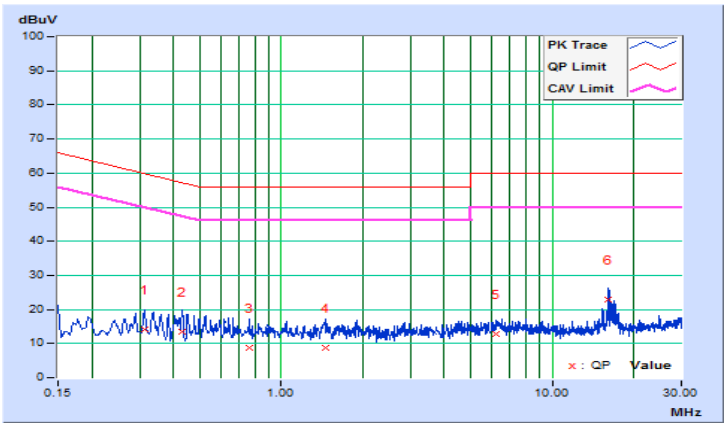
Mode B

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	26℃, 72%RH
Tested by	Han Wu	Test Date	2017/8/22

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.31365	10.39	3.91	-2.34	14.30	8.05	59.87	49.87	-45.57	-41.82
2	0.42802	10.40	3.02	-2.90	13.42	7.50	57.29	47.29	-43.87	-39.79
3	0.76215	10.40	-1.61	-4.51	8.79	5.89	56.00	46.00	-47.21	-40.11
4	1.45000	10.43	-1.61	-4.45	8.82	5.98	56.00	46.00	-47.18	-40.02
5	6.24600	10.67	2.17	-2.25	12.84	8.42	60.00	50.00	-47.16	-41.58
6	16.16600	11.15	11.77	10.03	22.92	21.18	60.00	50.00	-37.08	-28.82

Remarks:

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

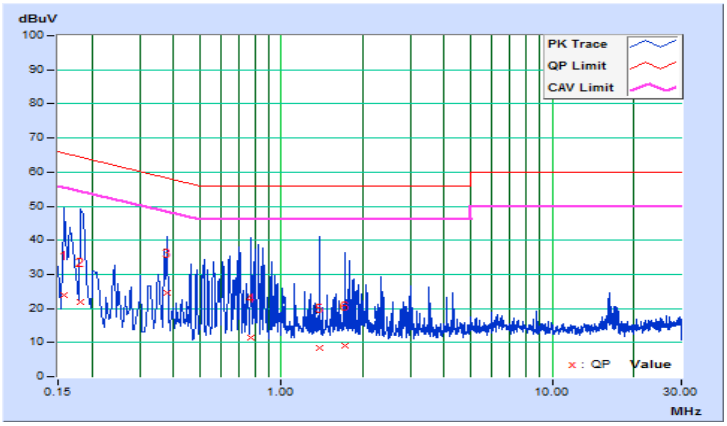


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	26℃, 72%RH
Tested by	Han Wu	Test Date	2017/8/22

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15811	10.11	13.85	-0.21	23.96	9.90	65.56	55.56	-41.60	-45.66
2	0.18180	10.13	11.59	-1.26	21.72	8.87	64.40	54.40	-42.68	-45.53
3	0.37800	10.16	14.51	-0.94	24.67	9.22	58.32	48.32	-33.65	-39.10
4	0.77023	10.17	1.23	-4.17	11.40	6.00	56.00	46.00	-44.60	-40.00
5	1.38968	10.19	-1.70	-4.48	8.49	5.71	56.00	46.00	-47.51	-40.29
6	1.71800	10.21	-1.01	-3.98	9.20	6.23	56.00	46.00	-46.80	-39.77

Remarks:

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



4.3 Transmit Power Measurment

4.3.1 Limits of Transmit Power Measurement

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

*B is the 26 dB emission bandwidth in megahertz

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

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

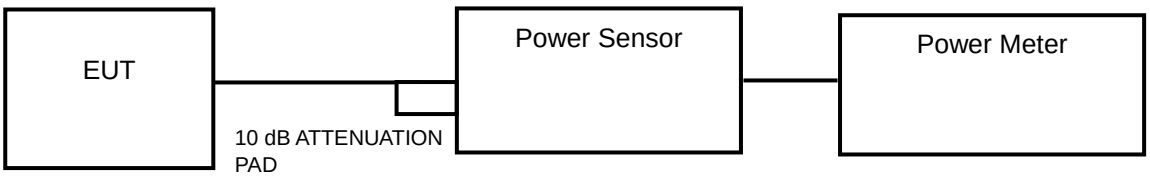
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};

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

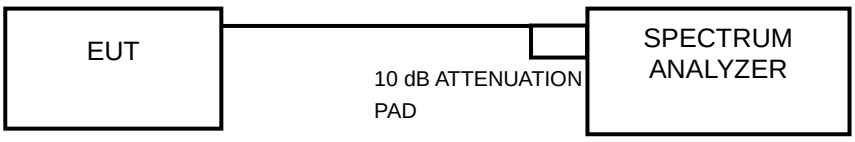
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

<Power Output Measurement>



<26 dB Bandwidth>



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

Average Power Measurement

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

26 dB Bandwidth

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

4.3.5 Deviation fromTest Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

Power Output:

802.11a

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	44.463	16.48	24	Pass
44	5220	36.644	15.64	24	Pass
48	5240	43.451	16.38	24	Pass
52	5260	43.551	16.39	24	Pass
60	5300	34.514	15.38	24	Pass
64	5320	40.179	16.04	24	Pass
100	5500	34.914	15.43	24	Pass
116	5580	26.002	14.15	24	Pass
140	5700	26.792	14.28	24	Pass
149	5745	34.198	15.34	30	Pass
157	5785	26.977	14.31	30	Pass
165	5825	32.211	15.08	30	Pass

Note:

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

1. 11 dBm + 10log (24.26) = 24.85 dBm > 24 dBm.
2. 11 dBm + 10log (22.71) = 24.56 dBm > 24 dBm.
3. 11 dBm + 10log (26.99) = 25.31 dBm > 24 dBm.
4. 11 dBm + 10log (22.89) = 24.60 dBm > 24 dBm.
5. 11 dBm + 10log (20.76) = 24.17 dBm > 24 dBm.
6. 11 dBm + 10log (21.56) = 24.34 dBm > 24 dBm.

802.11n (HT20)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	43.853	16.42	24	Pass
44	5220	35.892	15.55	24	Pass
48	5240	41.591	16.19	24	Pass
52	5260	42.462	16.28	24	Pass
60	5300	33.42	15.24	24	Pass
64	5320	39.719	15.99	24	Pass
100	5500	34.435	15.37	24	Pass
116	5580	26.062	14.16	24	Pass
140	5700	25.882	14.13	24	Pass
149	5745	33.651	15.27	30	Pass
157	5785	26.424	14.22	30	Pass
165	5825	31.117	14.93	30	Pass

Note:

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

1. 11 dBm + 10log (28.94) = 25.61 dBm > 24 dBm.
2. 11 dBm + 10log (22.58) = 24.54 dBm > 24 dBm.
3. 11 dBm + 10log (25.61) = 25.08 dBm > 24 dBm.
4. 11 dBm + 10log (26.72) = 25.27 dBm > 24 dBm.
5. 11 dBm + 10log (20.92) = 24.21 dBm > 24 dBm.
6. 11 dBm + 10log (24.04) = 24.81 dBm > 24 dBm.

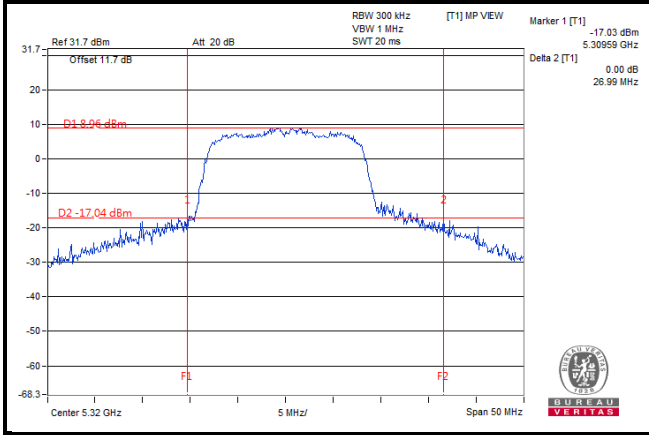
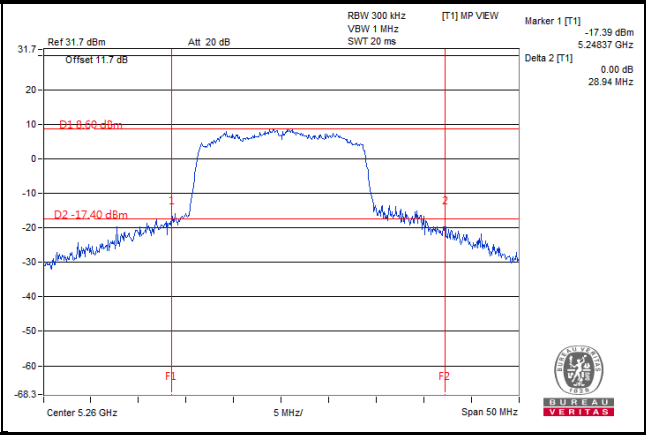
26 dB Bandwidth:

802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	25.56
44	5220	21.40
48	5240	24.64
52	5260	24.26
60	5300	22.71
64	5320	26.99
100	5500	22.89
116	5580	20.76
140	5700	21.56

802.11n (HT20)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	28.92
44	5220	24.09
48	5240	26.65
52	5260	28.94
60	5300	22.58
64	5320	25.61
100	5500	26.72
116	5580	20.92
140	5700	24.04

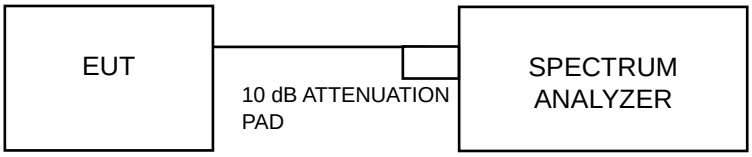
Spectrum Plot of Worst Value	
802.11a	**802.11n (HT20)**
	

4.4 Peak Power Spectral Density Measurement

4.4.1 Limits of Peak Power Spectral Density Measurement

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

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.4.4 Test Procedures

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

Using method SA-2

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

※For U-NII-3 band:

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

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

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

4.4.7 Test Results

For U-NII-1, U-NII-2A, U-NII-2C Band

802.11a

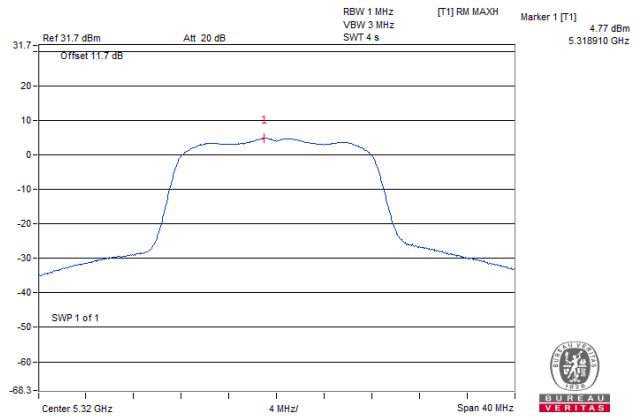
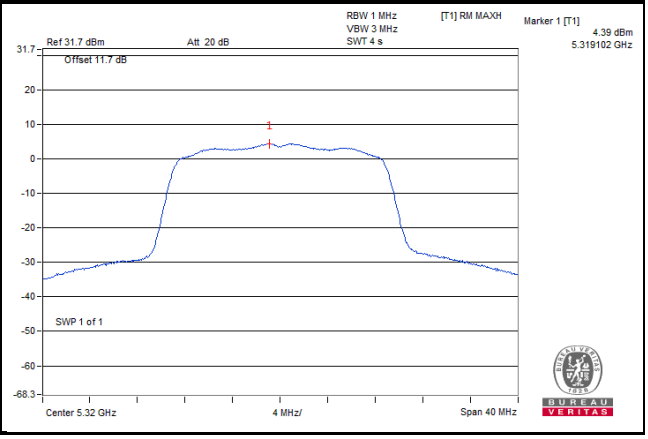
Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
36	5180	4.26	1.49	5.75	11	Pass
44	5220	3.36	1.49	4.85	11	Pass
48	5240	4.20	1.49	5.69	11	Pass
52	5260	4.42	1.49	5.91	11	Pass
60	5300	3.97	1.49	5.46	11	Pass
64	5320	4.77	1.49	6.26	11	Pass
100	5500	3.70	1.49	5.19	11	Pass
116	5580	2.42	1.49	3.91	11	Pass
140	5700	2.24	1.49	3.73	11	Pass

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

802.11n (HT20)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
36	5180	3.85	1.53	5.38	11	Pass
44	5220	3.13	1.53	4.66	11	Pass
48	5240	4.03	1.53	5.56	11	Pass
52	5260	4.32	1.53	5.85	11	Pass
60	5300	3.55	1.53	5.08	11	Pass
64	5320	4.39	1.53	5.92	11	Pass
100	5500	3.90	1.53	5.43	11	Pass
116	5580	2.92	1.53	4.45	11	Pass
140	5700	1.98	1.53	3.51	11	Pass

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

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

For U-NII-3 Band

802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/500 kHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
149	5745	-1.26	1.49	0.23	30	Pass
157	5785	-2.30	1.49	-0.81	30	Pass
165	5825	-1.04	1.49	0.45	30	Pass

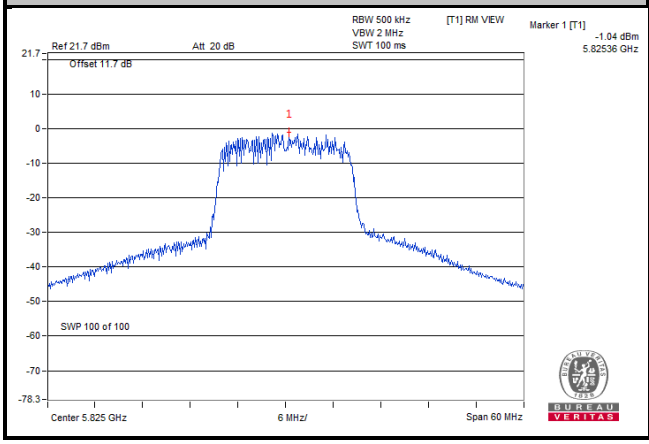
Note: Refer to section 3.3 for duty cycle spectrum plot.

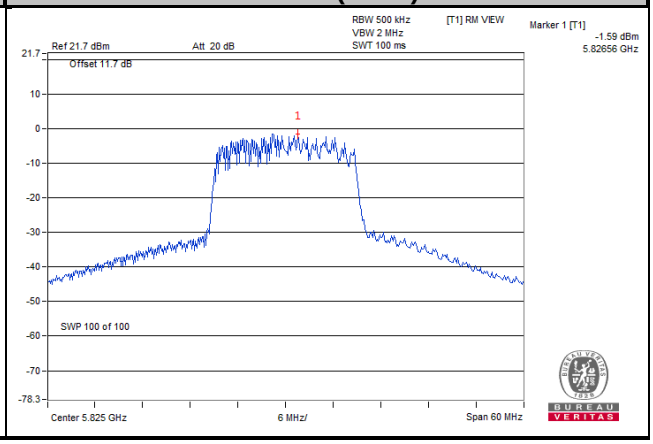
802.11n (HT20)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/500 kHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
149	5745	-1.87	1.53	-0.34	30	Pass
157	5785	-3.09	1.53	-1.56	30	Pass
165	5825	-1.59	1.53	-0.06	30	Pass

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

Spectrum Plot of Worst Value	
802.11a	802.11n (HT20)



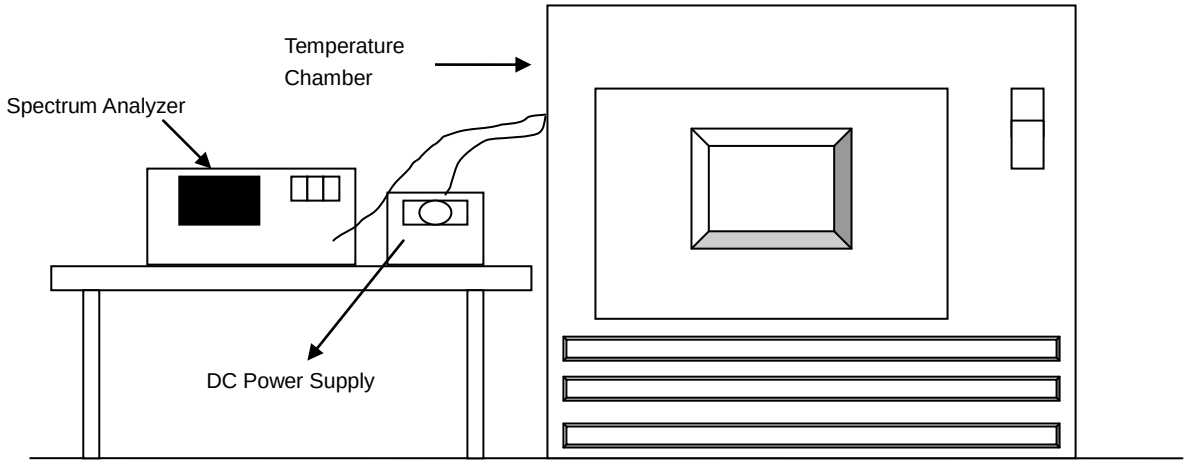


4.5 Frequency Stability

4.5.1 Limit of Frequency Stability Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.5.4 Test Procedure

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

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

4.5.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
50	3.7	5179.9819	-3.49	5179.9805	-3.76	5179.9838	-3.13	5179.9798	-3.90
40	3.7	5180.0159	3.07	5180.021	4.05	5180.0177	3.42	5180.0173	3.34
30	3.7	5180.0004	0.08	5180.0037	0.71	5180.0005	0.10	5180.0017	0.33
20	3.7	5179.9795	-3.96	5179.9785	-4.15	5179.9787	-4.11	5179.9788	-4.09
10	3.7	5180.0246	4.75	5180.0228	4.40	5180.0252	4.86	5180.0259	5.00
0	3.7	5179.9763	-4.58	5179.9762	-4.59	5179.9749	-4.85	5179.9731	-5.19
-10	3.7	5180.0103	1.99	5180.0128	2.47	5180.0087	1.68	5180.0113	2.18
-20	3.7	5179.9896	-2.01	5179.9897	-1.99	5179.99	-1.93	5179.9894	-2.05
-30	3.7	5180.0054	1.04	5180.0026	0.50	5180.0025	0.48	5180.0057	1.10

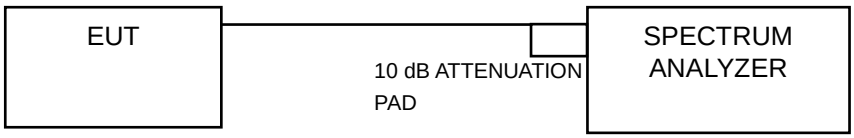
Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	4.255	5179.9791	-4.03	5179.9794	-3.98	5179.9794	-3.98	5179.9782	-4.21
	3.7	5179.9795	-3.96	5179.9785	-4.15	5179.9787	-4.11	5179.9788	-4.09
	3.145	5179.9801	-3.84	5179.9777	-4.31	5179.9779	-4.27	5179.978	-4.25

4.6 6 dB Bandwidth Measurment

4.6.1 Limits of 6 dB Bandwidth Measurement

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.6.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

802.11a

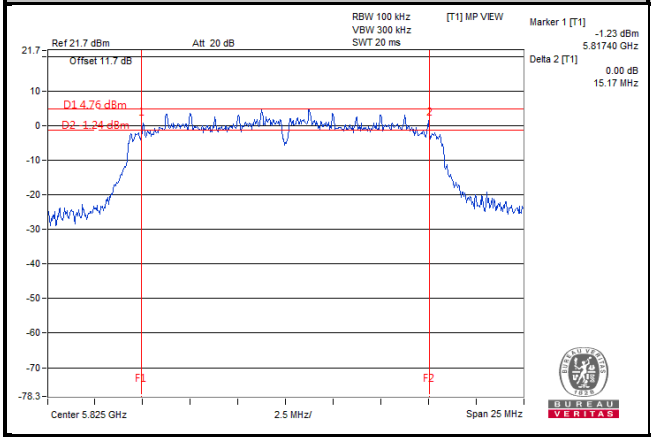
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	15.15	0.5	Pass
157	5785	15.17	0.5	Pass
165	5825	15.17	0.5	Pass

802.11n (HT20)

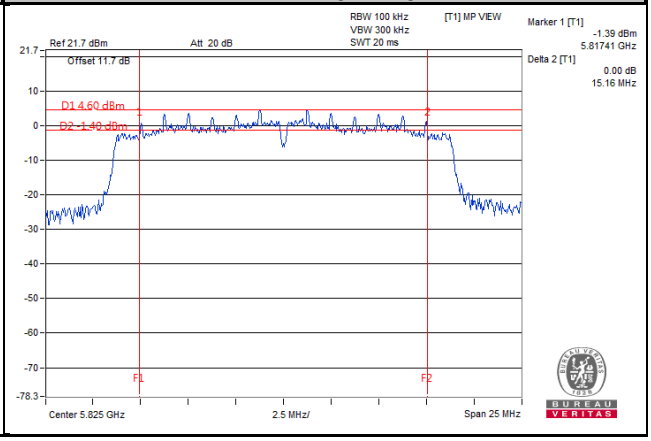
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	15.15	0.5	Pass
157	5785	15.16	0.5	Pass
165	5825	15.16	0.5	Pass

Spectrum Plot of Worst Value

802.11a



802.11n (HT20)



5 Pictures of Test Arrangements

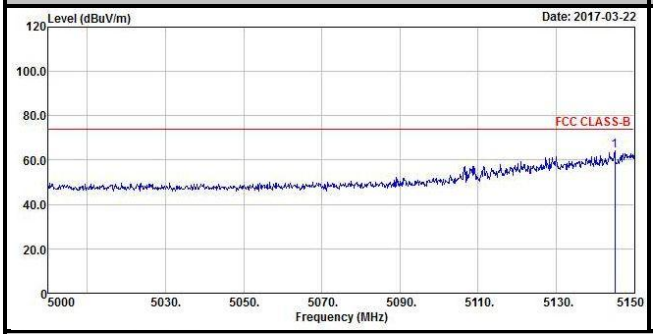
Please refer to the attached file (Test Setup Photo).

Annex A- Radiated Bandedge Plots

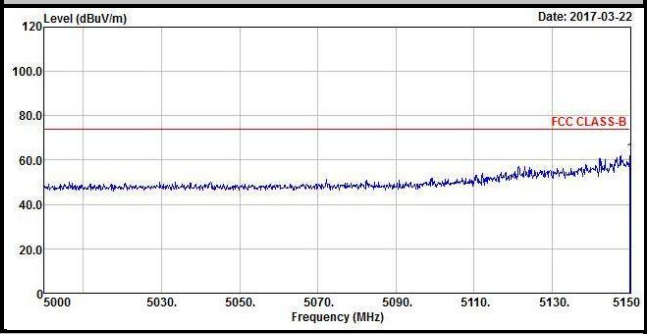
802.11a

Ch 36 (Peak)

Horizontal

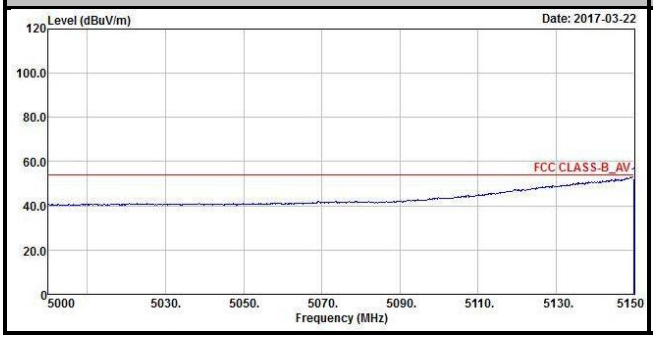


Vertical

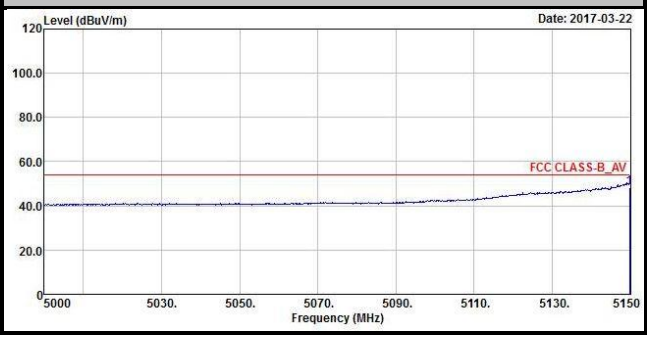


Ch 36 (Average)

Horizontal

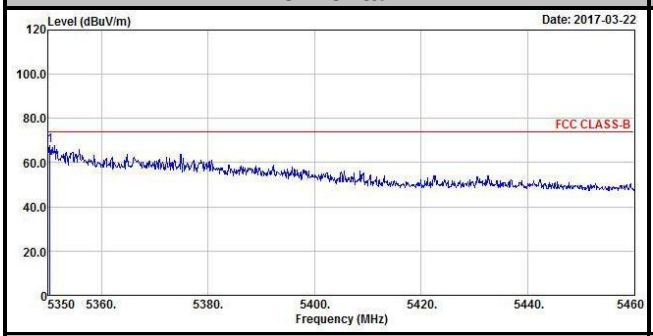


Vertical

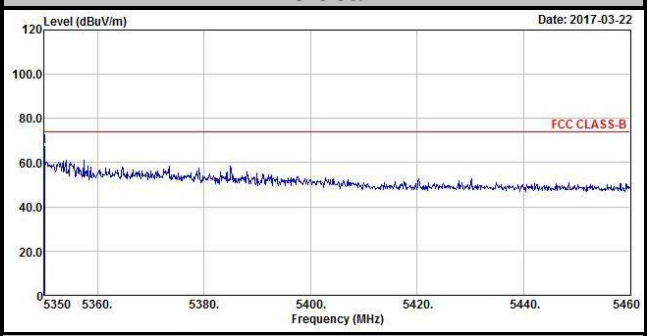


Ch 64 (Peak)

Horizontal

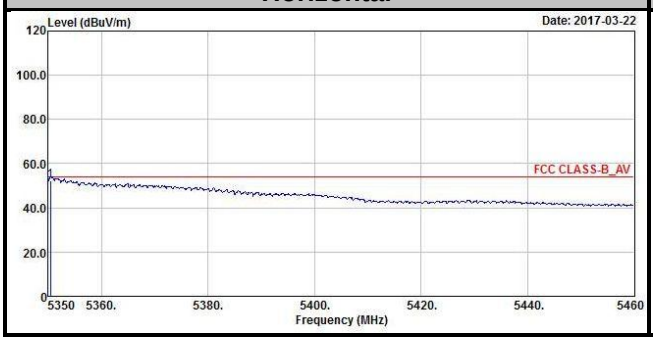


Vertical

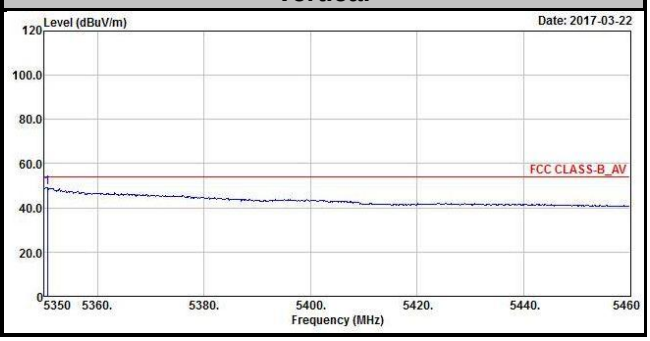


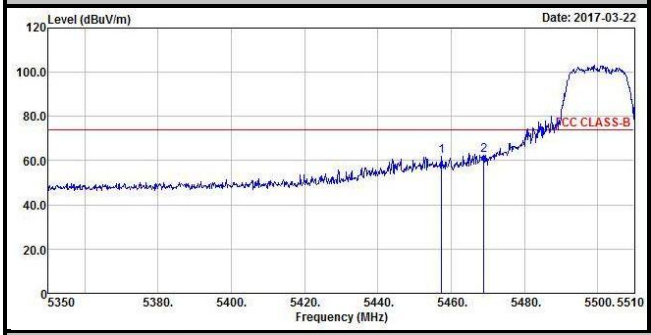
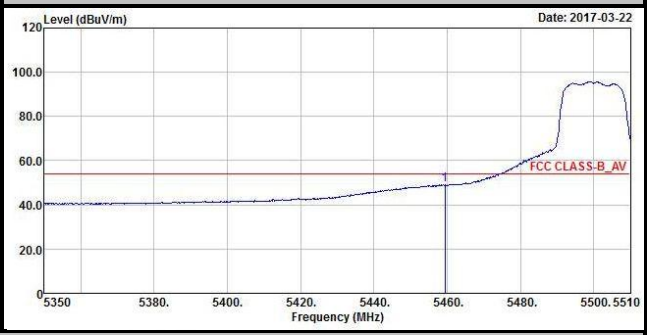
Ch 64 (Average)

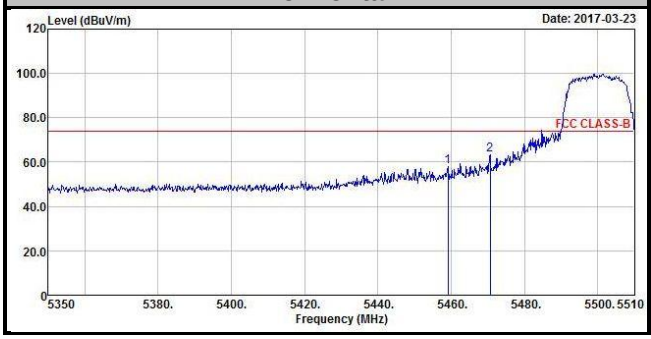
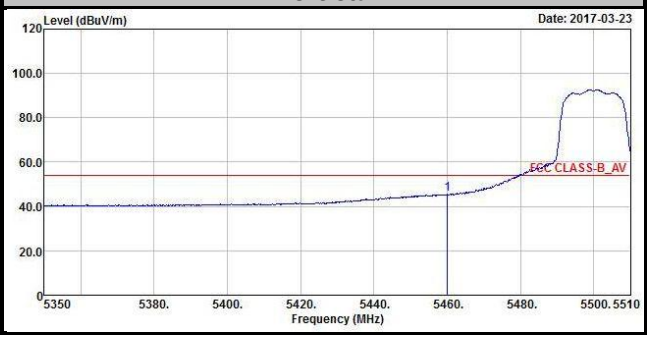
Horizontal

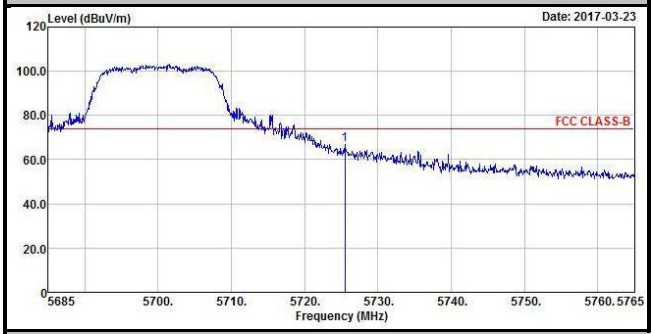
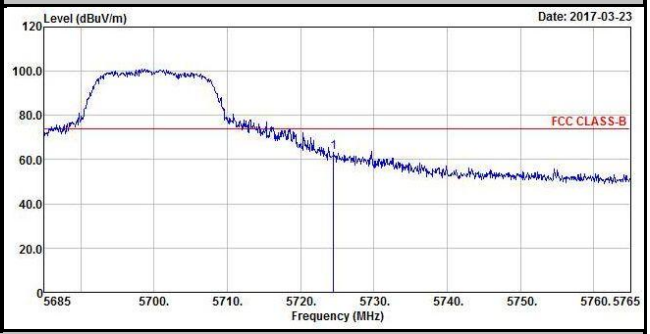


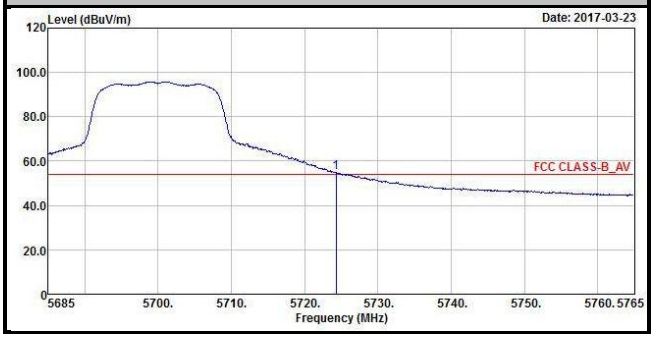
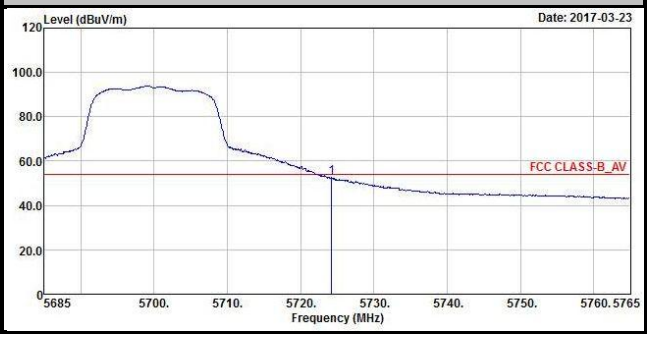
Vertical



Ch 100 (Peak)	
Horizontal	**Vertical**
	

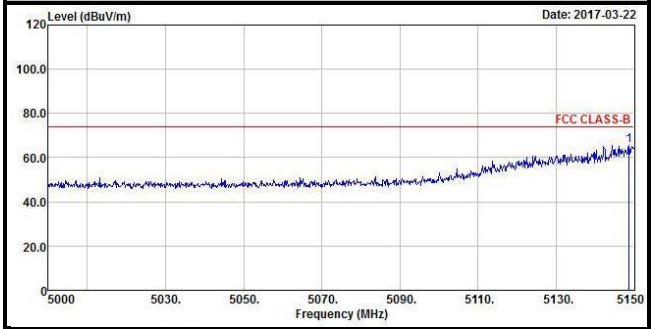
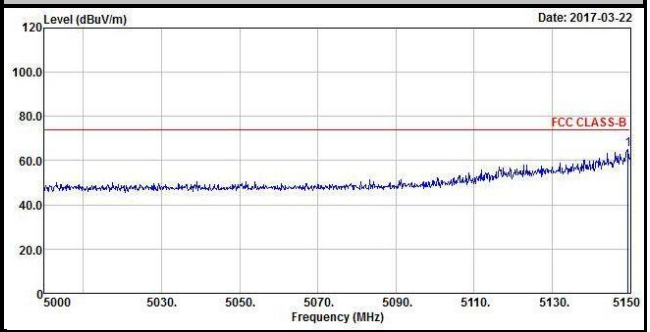
Ch 100 (Average)	
Horizontal	**Vertical**
	

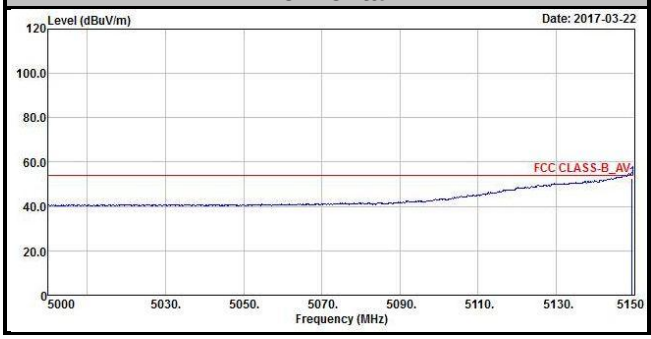
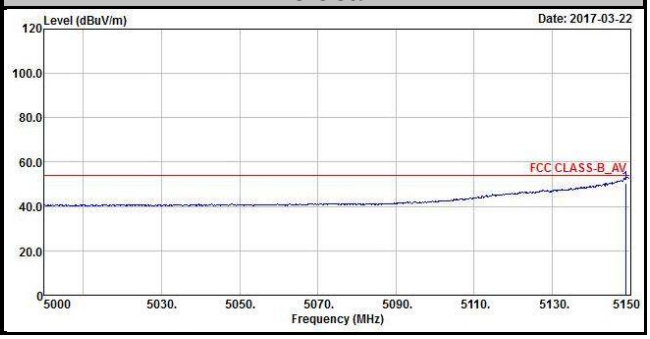
Ch 140 (Peak)	
Horizontal	**Vertical**
	

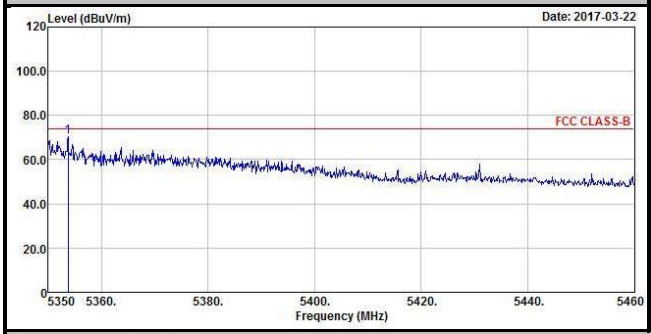
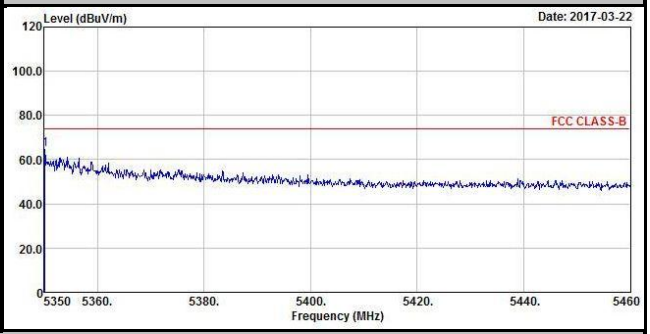
Ch 140 (Average)	
Horizontal	**Vertical**
	

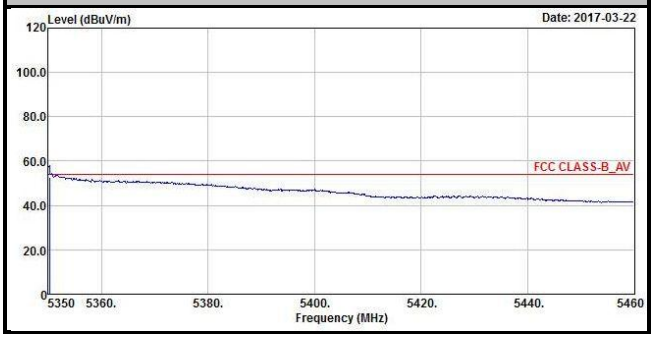
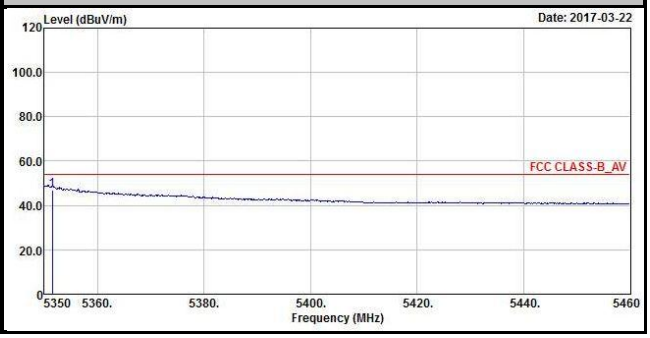
Note: The frequency point is out of restricted band, so it is not applicable for average limit.

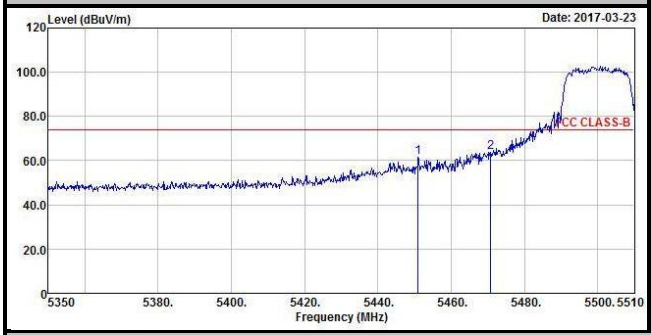
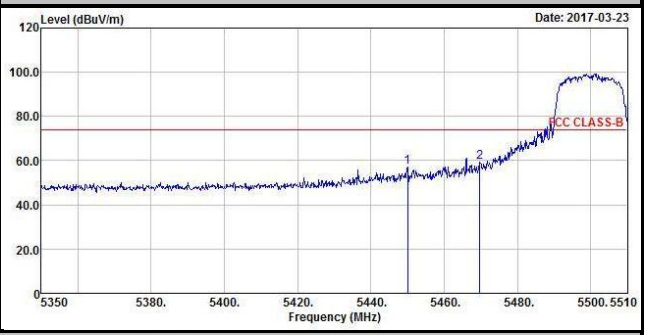
802.11n (HT20)

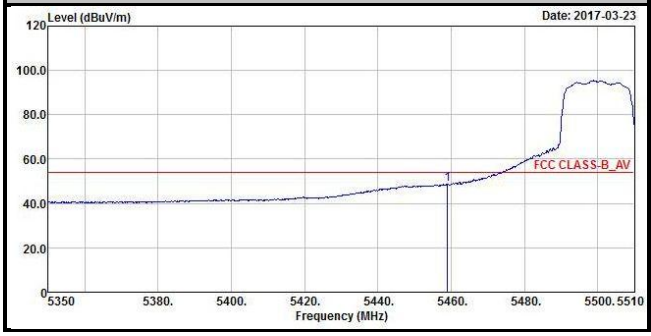
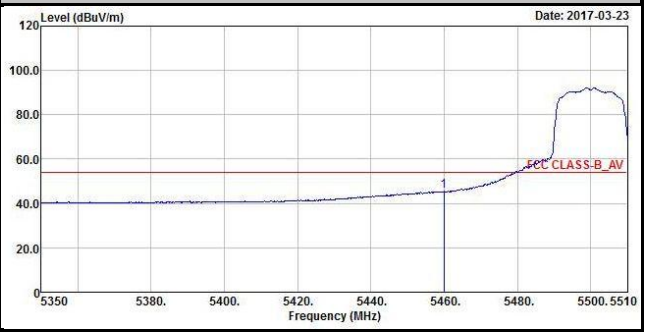
Ch 36 (Peak)	
Horizontal	Vertical
	

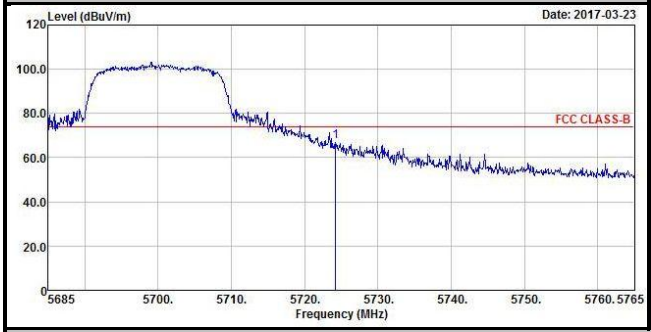
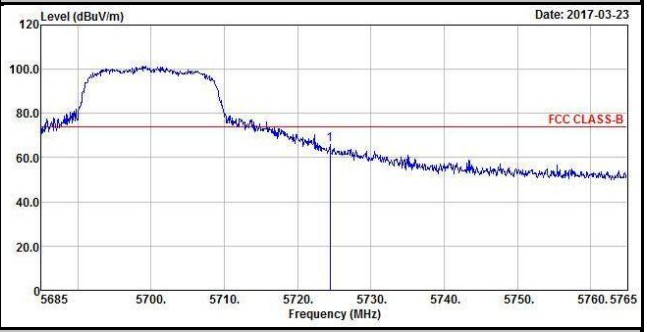
Ch 36 (Average)	
Horizontal	Vertical
	

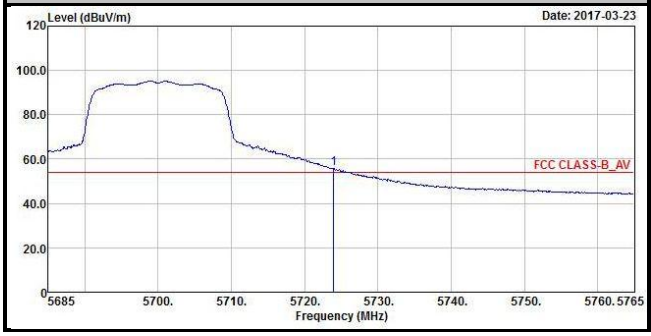
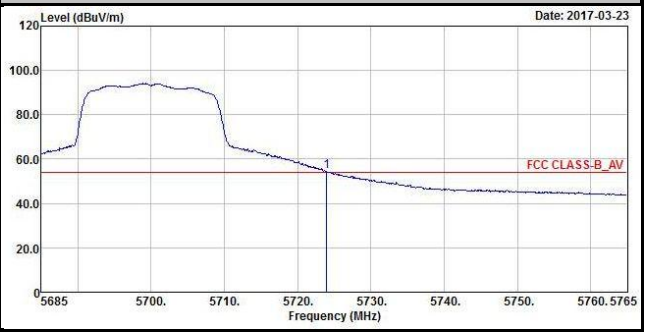
Ch 64 (Peak)	
Horizontal	Vertical
	

Ch 64 (Average)	
Horizontal	Vertical
	

Ch 100 (Peak)	
Horizontal	**Vertical**
	

Ch 100 (Average)	
Horizontal	**Vertical**
	

Ch 140 (Peak)	
Horizontal	**Vertical**
	

Ch 140 (Average)	
Horizontal	**Vertical**
	

Note: The frequency point is out of restricted band, so it is not applicable for average limit.

Appendix – Information on the Testing Laboratories

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

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

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Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

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

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