Partial FCC Test Report

Report No.:	RF191114C18
FCC ID:	PPD-QCNFA344AH
Test Model:	QCNFA344A
Received Date:	Nov. 14, 2019
Test Date:	Jan. 08, 2020~Feb. 28, 2020
Issued Date:	Mar. 05, 2020
Applicant:	Qualcomm Atheros, Inc.
Address:	1700 Technology Drive, San Jose, CA 95110
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No.215, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan
FCC Registration / Designation Number:	427177 / TW0011

Testing Laboratory
2021

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Release Control Record

Issue No.	Description	Date Issued
RF191114C18	Original Release	Mar. 05, 2020

1 Certificate of Conformity

Product:	802.11a/b/g/n/ac + BT 4.1 M.2 2230 Type Card
Brand:	Qualcomm Atheros
Test Model:	QCNFA344A
Sample Status:	Engineering Sample
Applicant:	Qualcomm Atheros, Inc.
Test Date:	Jan. 08, 2020~Feb. 28, 2020
Standards:	47 CFR FCC Part 15, Subpart C (Section 15.247) ANSI C63.10:2013

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

Prepared by : Shelly Hsueh , **Date:** Mar. 05, 2020

Shelly Hsueh / Specialist

Approved by : , **Date:** Mar. 05, 2020

Dylan Chiou / Senior Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
FCC Clause	**Test Item**	**Result**	**Remarks**
15.207	AC Power Conducted Emission	N/A	Refer to Note 1
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1 dB at 2389.47 MHz.
15.247(d)	Antenna Port Emission	N/A	Refer to Note 1
15.247(a)(2)	6 dB Bandwidth	N/A	Refer to Note 1
---	Occupied Bandwidth Measurement	N/A	Refer to Note 1
15.247(b)	Conducted power	N/A	Refer to Note 1
15.247(e)	Power Spectral Density	N/A	Refer to Note 1
15.203	Antenna Requirement	N/A	Refer to Note 1

Note:

1. This report is a partial report according to customer requirements, only test item of Radiated Emissions (above 1GHz) Harmonic and Band Edge Measurement were performed for this report. Other testing data please refer to BV CPS report no.: RF150107E06B for module (Brand: Qualcomm Atheros, Model: QCNFA344A).
2. For 2.4G band compliance with rule 15.247(d)of the band-edge items, the test plots were recorded in Annex A. Test Procedures refer to report 4.1.3.
3. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

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

Measurement	**Frequency**	**Expanded Uncertainty (k=2) (±)**
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	1.0121 dB
	18 GHz ~ 40 GHz	1.1508 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	802.11a/b/g/n/ac + BT 4.1 M.2 2230 Type Card
Brand	Qualcomm Atheros
Test Model	QCNFA344A
Status of EUT	Engineering Sample
Nominal Voltage	20.0 Vdc (adapter)
Modulation Type	CCK, DQPSK, DBPSK for DSSS 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: 11.0 / 5.5 / 2.0 / 1.0 Mbps 802.11g: 54.0 / 48.0 / 36.0 / 24.0 / 18.0 / 12.0 / 9.0 / 6.0 Mbps 802.11n: up to 400.0 Mbps
Operating Frequency	2412 ~ 2472 MHz
Number of Channel	13 for 802.11b, 802.11g, 802.11n (HT20/VHT20) 9 for 802.11n (HT40/VHT40)
Antenna Type	Refer to Note as below
Antenna Connector	N/A
Accessory Device	Refer to Note as below
Data Cable Supplied	N/A

Note:

1. The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitter and two receiver.

Modulation Mode	Tx Function
802.11b	2TX
802.11g	2TX
802.11n (HT20/VHT20)	2TX
802.11n (HT40/VHT40)	2TX

2. The WLAN/BT module (Brand: Qualcomm Atheros, Model: QCNFA344A) was installed in the EUT.

3. The antenna information is listed as below.

No.	Antenna Type	Manufacturer	Parts Number	Antenna Gain (dBi)				
				BT	WLAN 2.4 GHz	WLAN 5.15~5.35 GHz	WLAN 5.47~5.725 GHz	WLAN 5.725~5.85 GHz
1	PIFA	Wistron Neweb Corporation	Main Antenna: DQ6615G8600 (81EAA615.G86) Aux. Antenna: DQ6615G8600 (81EAA615.G86)	Aux.: -1.18	Main: -1.80 Aux.: -1.18	Main: -0.26 Aux.: -0.15	Main: -1.13 Aux.: -2.01	Main: -0.80 Aux.: -2.01
2		Wistron Neweb Corporation	Main Antenna: DQ6615G9300 (81EAA615.G93) Aux. Antenna: DQ6615G9300 (81EAA615.G93)	Aux.: -0.53	Main: -2.27 Aux.: -0.53	Main: -0.53 Aux.: -0.29	Main: -1.55 Aux.: -0.82	Main: -1.19 Aux.: -0.99
3		High-Tek Electronics Co., Ltd	Main Antenna: DQ60ACQD063 (0ACQD019089N) Aux. Antenna: DQ60ACQD063 (0ACQD019089N)	Aux.: 0.75	Main: -1.71 Aux.: 0.75	Main: -0.03 Aux.: -0.5	Main: 1.88 Aux.: 0.27	Main: 2.8 Aux.: 0.27
4		High-Tek Electronics Co., Ltd	Main Antenna: DQ60ACQD064 (0ACQD019069N) Aux. Antenna: DQ60ACQD064 (0ACQD019069N)	Aux.: -0.86	Main: 0.05 Aux.: -0.86	Main: 1.74 Aux.: -0.71	Main: 2.27 Aux.: 0.92	Main: 2.87 Aux.: 0.13

4. The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter	Lenovo	ADLX65YCC3D	I/P: 100-240 Vac, 50-60 Hz, 1.8 A O/P: 20V, 3.25A / 15V, 3A / 9V, 2A / 5V, 2A 1.75M/0core
Adapter	Lenovo	ADLX65YDC3D	I/P: 100-240 Vac, 50-60 Hz, 1.8 A O/P: 20V, 3.25A / 15V, 3A / 9V, 2A / 5V, 2A 1.8M/0core

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

3.2 Description of Test Modes

13 channels are provided for 802.11b, 802.11g and 802.11n (HT20/VHT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	8	2447
2	2417	9	2452
3	2422	10	2457
4	2427	11	2462
5	2432	12	2467
6	2437	13	2472
7	2442		

9 channels are provided for 802.11n (HT40/VHT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
3	2422	8	2447
4	2427	9	2452
5	2432	10	2457
6	2437	11	2462
7	2442		

3.2.1 Test Mode Applicability and Tested Channel Detail

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

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

NOTE: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane**.
NOTE: "-"means no effect.

Radiated Emission Test (Above 1 GHz):

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

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)	Test Item
-	802.11b	1 to 13	6, 12, 13	DSSS	DBPSK	1.0	Harmonic
-	802.11g	1 to 13	1, 11, 12, 13	OFDM	BPSK	6.0	Band Edge
-	802.11n (HT20)	1 to 13	1, 11, 12, 13	OFDM	BPSK	6.5	Band Edge
-	802.11n (HT40)	3 to 11	3, 9, 10, 11	OFDM	BPSK	13.5	Band Edge

Test Condition:

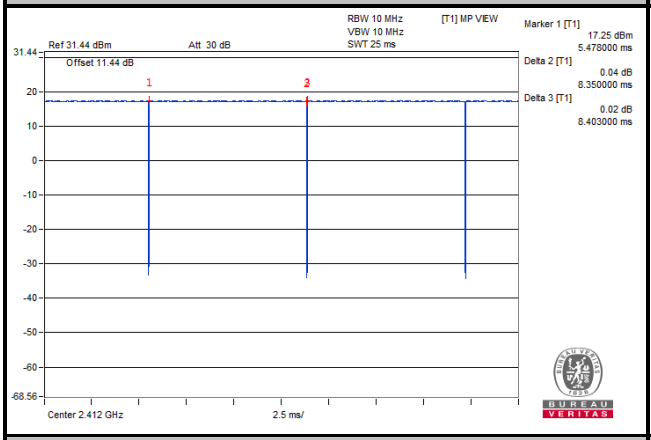
Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Charles Hsiao

3.3 Duty Cycle of Test Signal

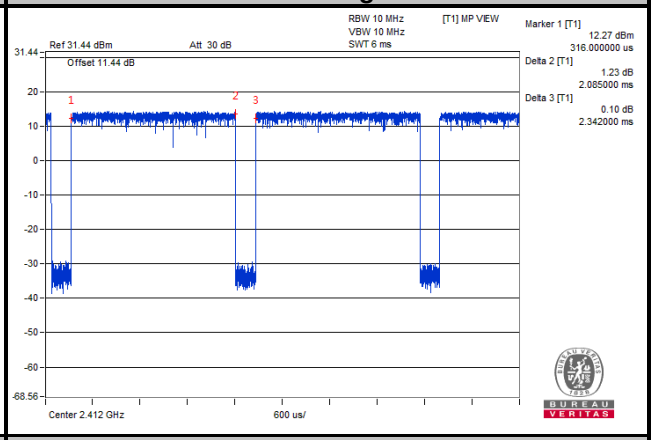
Duty cycle of test signal is ≥ 98 %, duty factor is not required.
Duty cycle of test signal is < 98 %, duty factor shall be considered.

802.11b: Duty cycle = 8.35/8.403 = 0.994
802.11g: Duty cycle = 2.085/2.342 = 0.890, Duty factor = 10 * log(1/0.890) = 0.506
802.11n (HT20): Duty cycle = 3.978/4.026 = 0.988
802.11n (HT40): Duty cycle = 3.978/4.059 = 0.980

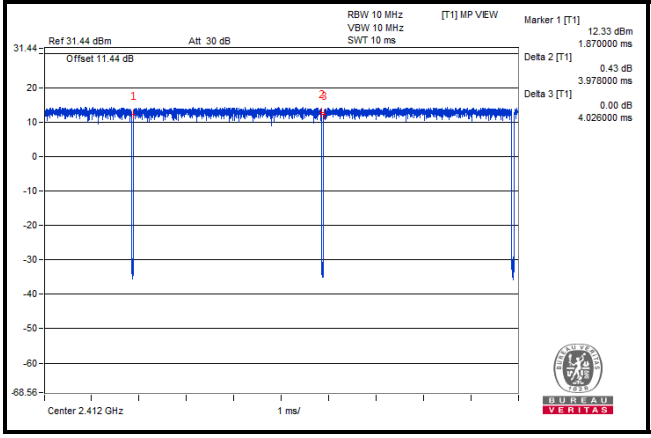
802.11b



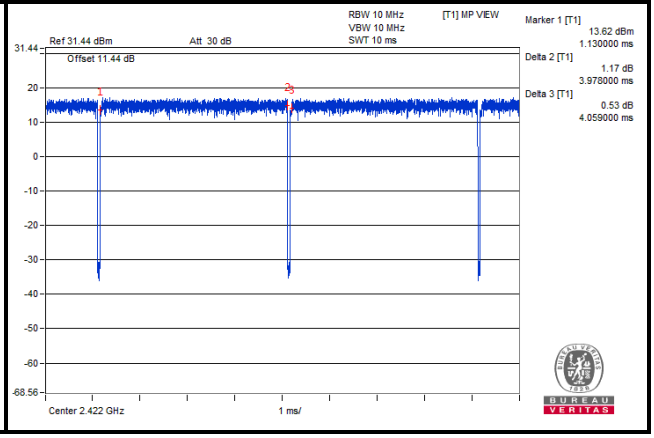
802.11g



802.11n (HT20)



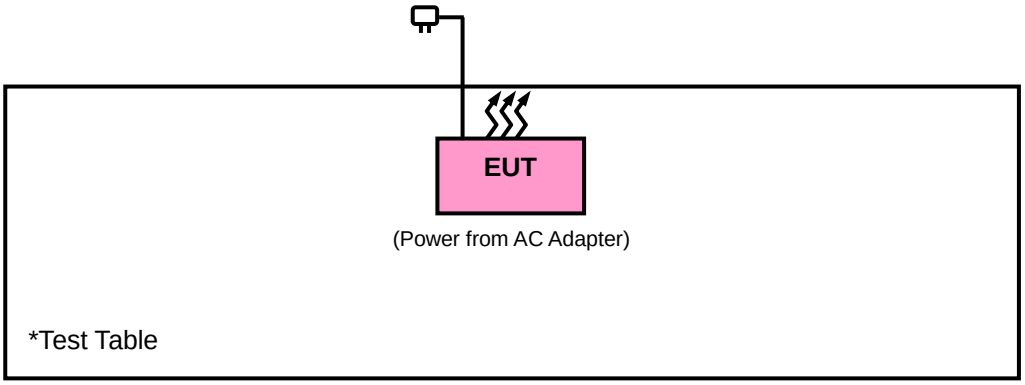
802.11n (HT40)



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 C (15.247)
KDB 558074 D01 15.247 Meas Guidance v05r02
ANSI C63.10-2013

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

NOTE:

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent Technologies	N9038A	MY52260177	Aug. 26, 2019	Aug. 25, 2020
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Apr. 15, 2019	Apr. 14, 2020
HORN Antenna ETS-Lindgren	3117	00143293	Nov. 24, 2019	Nov. 23, 2020
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Nov. 24, 2019	Nov. 23, 2020
BILOG Antenna SCHWARZBECK	VULB 9168	9168-616	Nov. 12, 2019	Nov. 11, 2020
Loop Antenna	EM-6879	269	Sep. 16, 2019	Sep. 15, 2020
Preamplifier Agilent	310N	187226	Jun. 18, 2019	Jun. 17, 2020
Preamplifier Agilent	83017A	MY39501357	Jun. 18, 2019	Jun. 17, 2020
Preamplifier EMCI	EMC 184045	980116	Oct. 08, 2019	Oct. 07, 2020
RF signal cable ETS-LINDGREN	5D-FB	Cable-CH1-01(RFC-SMS-100-SMS-120+RFC-SMS-100-SMS-400)	Jun. 18, 2019	Jun. 17, 2020
RF signal cable ETS-LINDGREN	8D-FB	Cable-CH1-02(RFC-SMS-100-SMS-24)	Jun. 18, 2019	Jun. 17, 2020
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Software BV ADT	E3 8.130425b	NA	NA	NA
Antenna Tower MF	NA	NA	NA	NA
Turn Table MF	NA	NA	NA	NA
Antenna Tower &Turn Table Controller MF	MF-7802	NA	NA	NA

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

4.1.3 Test Procedures

For Radiated Emission below 30 MHz

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

Note:

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

For Radiated Emission above 30 MHz

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

Note:

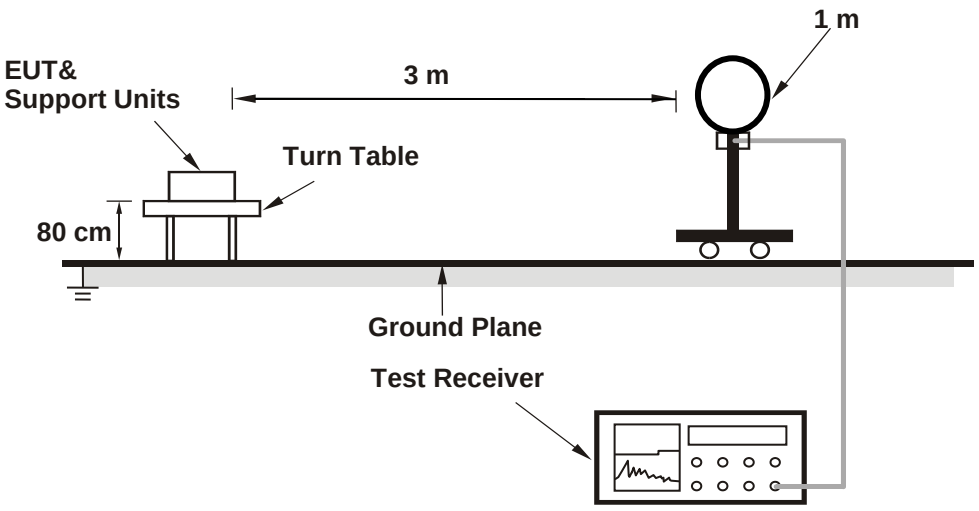
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK)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

4.1.4 Deviation from Test Standard

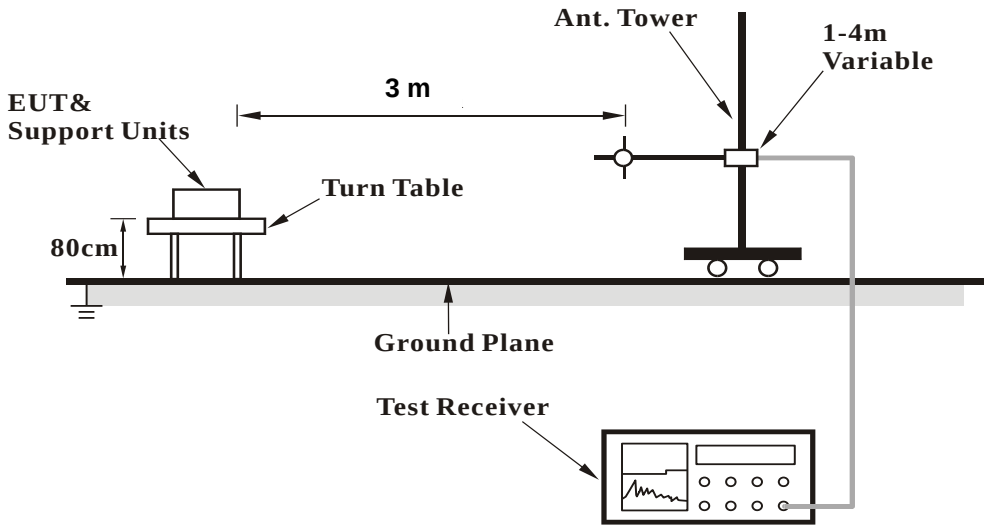
No deviation.

4.1.5 Test Set Up

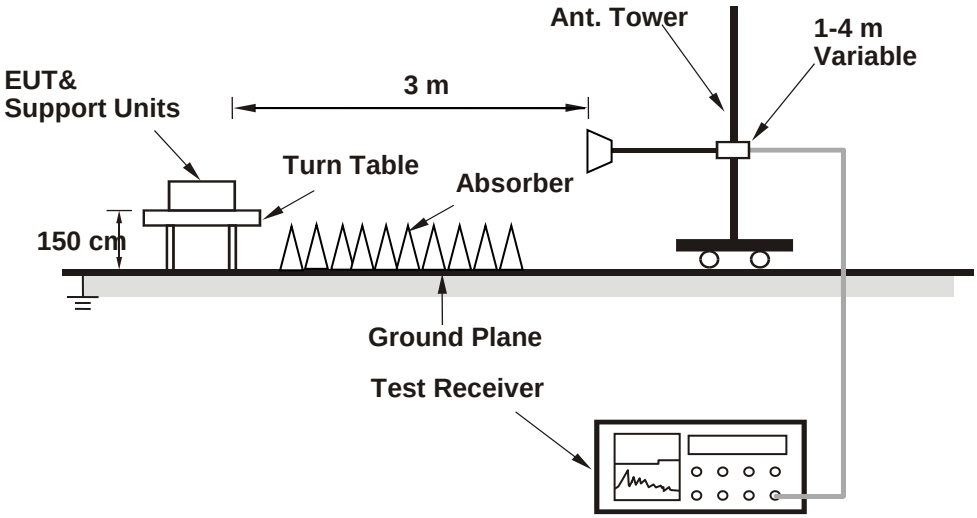
<Radiated Emission below 30 MHz>



<Radiated Emission 30 MHz to 1 GHz>



<Radiated Emission above 1 GHz>



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

4.1.6 EUT Operating Conditions

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

4.1.7 Test Results

Above 1 GHz Data：

802.11b

EUT Test Condition		Measurement Detail	
Channel	Channel 6	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
4874	42.46	32.25	10.21	54	-11.54	102	214	Average
4874	48.48	38.27	10.21	74	-25.52	102	214	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
4874	45.79	35.58	10.21	54	-8.21	100	265	Average
4874	50.84	40.63	10.21	74	-23.16	100	265	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 2437 MHz: Fundamental frequency.
3. The emission levels of other frequencies were very low against the limit.

EUT Test Condition		Measurement Detail	
Channel	Channel 12	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*2467	83.55	78.92	4.63			202	142	Average
*2467	86.53	81.9	4.63			202	142	Peak
2483.5	40.68	36.02	4.66	54	-13.32	202	142	Average
2483.5	51.67	47.01	4.66	74	-22.33	202	142	Peak
4934	41.54	31.28	10.26	54	-12.46	123	3	Average
4934	47.79	37.53	10.26	74	-26.21	123	3	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*2467	87.48	82.85	4.63			220	191	Average
*2467	90.06	85.43	4.63			220	191	Peak
2483.5	41.66	37	4.66	54	-12.34	220	191	Average
2483.5	52.43	47.77	4.66	74	-21.57	220	191	Peak
4934	41.75	31.49	10.26	54	-12.25	118	245	Average
4934	48.12	37.86	10.26	74	-25.88	118	245	Peak

Remarks:

1. Emission Level = Read Level + Factor

   Margin value = Emission level – Limit value

2. 2467 MHz: Fundamental frequency.

3. The emission levels of other frequencies were very low against the limit.

4." * ": Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 13	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*2472	83.33	78.69	4.64			202	142	Average
*2472	86.81	82.17	4.64			202	142	Peak
2483.5	40.55	35.89	4.66	54	-13.45	202	142	Average
2483.5	51.92	47.26	4.66	74	-22.08	202	142	Peak
4944	41.95	31.6	10.35	54	-12.05	188	196	Average
4944	48.07	37.72	10.35	74	-25.93	188	196	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*2472	86.54	81.9	4.64			220	191	Average
*2472	89.87	85.23	4.64			220	191	Peak
2483.5	41.82	37.16	4.66	54	-12.18	220	191	Average
2483.5	51.94	47.28	4.66	74	-22.06	220	191	Peak
4944	41.86	31.51	10.35	54	-12.14	113	310	Average
4944	47.33	36.98	10.35	74	-26.67	113	310	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 2472 MHz: Fundamental frequency.
3. The emission levels of other frequencies were very low against the limit.
4." * ": Fundamental frequency.

802.11g

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.92	52.89	48.39	4.5	54	-1.11	231	27	Average
2389.92	61.99	57.49	4.5	74	-12.01	231	27	Peak
*2412	102.59	98.04	4.55			245	28	Average
*2412	109.93	105.38	4.55			245	28	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.83	45.31	40.81	4.5	54	-8.69	172	251	Average
2389.83	54.05	49.55	4.5	74	-19.95	172	251	Peak
*2412	95.87	91.32	4.55			172	251	Average
*2412	102.22	97.67	4.55			172	251	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 2412 MHz: Fundamental frequency.
3. The emission levels of other frequencies were very low against the limit.
4. " * ": Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 11	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*2462	102.14	97.52	4.62			245	28	Average
*2462	109.27	104.65	4.62			245	28	Peak
2483.56	51.65	46.99	4.66	54	-2.35	245	334	Average
2483.56	61.38	56.72	4.66	74	-12.62	245	334	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*2462	95.87	91.25	4.62			172	251	Average
*2462	102.95	98.33	4.62			172	251	Peak
2483.56	46.95	42.29	4.66	54	-7.05	172	251	Average
2483.56	57.85	53.19	4.66	74	-16.15	172	251	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 2462 MHz: Fundamental frequency.
3. The emission levels of other frequencies were very low against the limit.
4. " * ": Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 12	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*2467	72.36	67.73	4.63			202	142	Average
*2467	79.5	74.87	4.63			202	142	Peak
2483.5	40.6	35.94	4.66	54	-13.4	202	142	Average
2483.5	52.3	47.64	4.66	74	-21.7	202	142	Peak
4934	41.7	31.44	10.26	54	-12.3	180	25	Average
4934	47.8	37.54	10.26	74	-26.2	180	25	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*2467	75.44	70.81	4.63			220	191	Average
*2467	82.73	78.1	4.63			220	191	Peak
2483.5	40.54	35.88	4.66	54	-13.46	220	191	Average
2483.5	51.24	46.58	4.66	74	-22.76	220	191	Peak
4934	41.75	31.49	10.26	54	-12.25	170	177	Average
4934	48.02	37.76	10.26	74	-25.98	170	177	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 2467 MHz: Fundamental frequency.
3. The emission levels of other frequencies were very low against the limit.
4. " * ": Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 13	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*2472	72.44	67.8	4.64			202	142	Average
*2472	79.15	74.51	4.64			202	142	Peak
2483.5	41.6	36.94	4.66	54	-12.4	202	142	Average
2483.5	53.16	48.5	4.66	74	-20.84	202	142	Peak
4944	42.75	32.4	10.35	54	-11.25	153	9	Average
4944	47.85	37.5	10.35	74	-26.15	153	9	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*2472	75.44	70.8	4.64			220	191	Average
*2472	82.32	77.68	4.64			220	191	Peak
2483.5	42.81	38.15	4.66	54	-11.19	220	191	Average
2483.5	52.31	47.65	4.66	74	-21.69	220	191	Peak
4944	42.92	32.57	10.35	54	-11.08	142	188	Average
4944	47.83	37.48	10.35	74	-26.17	142	188	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 2472 MHz: Fundamental frequency.
3. The emission levels of other frequencies were very low against the limit.
4. " * ": Fundamental frequency.

802.11n (HT20)

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

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.92	52.82	48.32	4.5	54	-1.18	231	27	Average
2389.92	62.71	58.21	4.5	74	-11.29	231	27	Peak
*2412	102.79	98.24	4.55			245	27	Average
*2412	109.05	104.5	4.55			245	27	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.92	44.39	39.89	4.5	54	-9.61	172	251	Average
2389.92	55.87	51.37	4.5	74	-18.13	172	251	Peak
*2412	95.66	91.11	4.55			172	251	Average
*2412	102.03	97.48	4.55			172	251	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 2412 MHz: Fundamental frequency.
3. The emission levels of other frequencies were very low against the limit.
4. " * ": Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 11	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*2462	95.78	91.16	4.62			172	251	Average
*2462	102	97.38	4.62			172	251	Peak
2483.52	46.62	41.96	4.66	54	-7.38	172	251	Average
2483.52	57.66	53	4.66	74	-16.34	172	251	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*2462	102.19	97.57	4.62			245	28	Average
*2462	109.11	104.49	4.62			245	28	Peak
2483.52	52.05	47.39	4.66	54	-1.95	245	334	Average
2483.52	63.69	59.03	4.66	74	-10.31	245	334	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 2462 MHz: Fundamental frequency.
3. The emission levels of other frequencies were very low against the limit.
4. " * ": Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 12	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*2467	69.44	64.81	4.63			202	142	Average
*2467	76.21	71.58	4.63			202	142	Peak
2483.5	40.75	36.09	4.66	54	-13.25	202	142	Average
2483.5	51.37	46.71	4.66	74	-22.63	202	142	Peak
4934	41.73	31.47	10.26	54	-12.27	131	111	Average
4934	47.8	37.54	10.26	74	-26.2	131	111	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*2467	73.15	68.52	4.63			220	191	Average
*2467	80.86	76.23	4.63			220	191	Peak
2483.5	41.64	36.98	4.66	54	-12.36	220	191	Average
2483.5	51.76	47.1	4.66	74	-22.24	220	191	Peak
4934	41.75	31.49	10.26	54	-12.25	166	34	Average
4934	47.79	37.53	10.26	74	-26.21	166	34	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 2467 MHz: Fundamental frequency.
3. The emission levels of other frequencies were very low against the limit.
4. " * ": Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 13	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*2472	70.41	65.77	4.64			202	142	Average
*2472	77.31	72.67	4.64			202	142	Peak
2483.5	40.55	35.89	4.66	54	-13.45	202	142	Average
2483.5	51.86	47.2	4.66	74	-22.14	202	142	Peak
4944	41.87	31.52	10.35	54	-12.13	143	2	Average
4944	46.57	36.22	10.35	74	-27.43	143	2	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*2472	73.16	68.52	4.64			220	191	Average
*2472	80.48	75.84	4.64			220	191	Peak
2483.5	40.94	36.28	4.66	54	-13.06	220	191	Average
2483.5	51.57	46.91	4.66	74	-22.43	220	191	Peak
4944	41.81	31.46	10.35	54	-12.19	152	222	Average
4944	48.21	37.86	10.35	74	-25.79	152	222	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 2472 MHz: Fundamental frequency.
3. The emission levels of other frequencies were very low against the limit.
4. " * ": Fundamental frequency.

802.11n (HT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 3	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.47	**53**	**48.51**	**4.49**	**54**	**-1**	**230**	**21**	**Average**
2389.47	67.13	62.64	4.49	74	-6.87	230	21	Peak
*2422	96.87	92.31	4.56			245	27	Average
*2422	103.49	98.93	4.56			245	27	Peak
2483.64	42.97	38.31	4.66	54	-11.03	245	27	Average
2483.64	56.92	52.26	4.66	74	-17.08	245	27	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.11	43.16	38.67	4.49	54	-10.84	172	251	Average
2389.11	57.94	53.45	4.49	74	-16.06	172	251	Peak
*2422	89.85	85.29	4.56			172	251	Average
*2422	96.52	91.96	4.56			172	251	Peak
2485.48	42.07	37.41	4.66	54	-11.93	172	251	Average
2485.48	53.58	48.92	4.66	74	-20.42	172	251	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 2422 MHz: Fundamental frequency.
3. The emission levels of other frequencies were very low against the limit.
4. " * ": Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 9	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2389.2	42.91	38.42	4.49	54	-11.09	245	27	Average
2389.2	61.61	57.12	4.49	74	-12.39	245	27	Peak
*2452	95.61	91.01	4.6			245	27	Average
*2452	102.77	98.17	4.6			245	27	Peak
2483.72	52.53	47.87	4.66	54	-1.47	268	31	Average
2483.72	64.98	60.32	4.66	74	-9.02	268	31	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2383.62	40.53	36.06	4.47	54	-13.47	172	251	Average
2383.62	54.88	50.41	4.47	74	-19.12	172	251	Peak
*2452	88.41	83.81	4.6			172	251	Average
*2452	95.03	90.43	4.6			172	251	Peak
2486.96	45.56	40.9	4.66	54	-8.44	172	251	Average
2486.96	59.22	54.56	4.66	74	-14.78	172	251	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 2452 MHz: Fundamental frequency.
3. The emission levels of other frequencies were very low against the limit.
4. " * ": Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 10	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2390	39.99	35.49	4.5	54	-14.01	202	142	Average
2390	51.31	46.81	4.5	74	-22.69	202	142	Peak
*2457	76.48	71.86	4.62			202	142	Average
*2457	83.49	78.87	4.62			202	142	Peak
2483.5	40.86	36.2	4.66	54	-13.14	202	142	Average
2483.5	52.28	47.62	4.66	74	-21.72	202	142	Peak
4914	41.63	31.48	10.15	54	-12.37	164	4	Average
4914	46.78	36.63	10.15	74	-27.22	164	4	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2390	40	35.5	4.5	54	-14	220	191	Average
2390	51.16	46.66	4.5	74	-22.84	220	191	Peak
*2457	79.48	74.86	4.62			220	191	Average
*2457	86.42	81.8	4.62			220	191	Peak
2483.5	41.65	36.99	4.66	54	-12.35	220	191	Average
2483.5	53.54	48.88	4.66	74	-20.46	220	191	Peak
4914	41.51	31.36	10.15	54	-12.49	134	45	Average
4914	47.34	37.19	10.15	74	-26.66	134	45	Peak

Remarks:

1. Emission Level = Read Level + Factor

   Margin value = Emission level – Limit value

2. 2457 MHz: Fundamental frequency.

3. The emission levels of other frequencies were very low against the limit.

4. " * ": Fundamental frequency.

EUT Test Condition		Measurement Detail	
Channel	Channel 11	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Charles Hsiao

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2390	40.07	35.57	4.5	54	-13.93	202	142	Average
2390	50.94	46.44	4.5	74	-23.06	202	142	Peak
*2462	67.44	62.82	4.62			202	142	Average
*2462	74.65	70.03	4.62			202	142	Peak
2483.5	40.56	35.9	4.66	54	-13.44	202	142	Average
2483.5	51.58	46.92	4.66	74	-22.42	202	142	Peak
4924	41.49	31.24	10.25	54	-12.51	170	78	Average
4924	47.29	37.04	10.25	74	-26.71	170	78	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2390	39.99	35.49	4.5	54	-14.01	220	191	Average
2390	51.57	47.07	4.5	74	-22.43	220	191	Peak
*2462	70.14	65.52	4.62			220	191	Average
*2462	77.82	73.2	4.62			220	191	Peak
2483.5	41	36.34	4.66	54	-13	220	191	Average
2483.5	52.61	47.95	4.66	74	-21.39	220	191	Peak
4924	41.59	31.34	10.25	54	-12.41	157	111	Average
4924	46.85	36.6	10.25	74	-27.15	157	111	Peak

Remarks:

1. Emission Level = Read Level + Factor

   Margin value = Emission level – Limit value

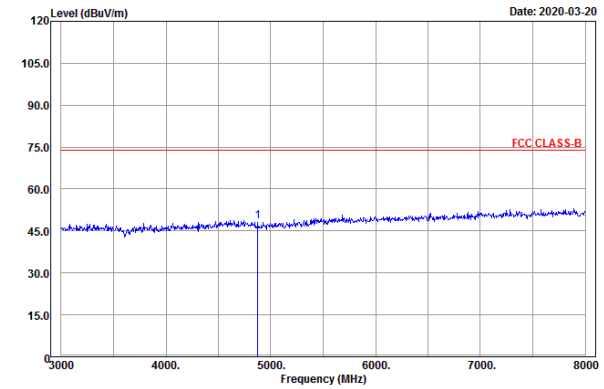
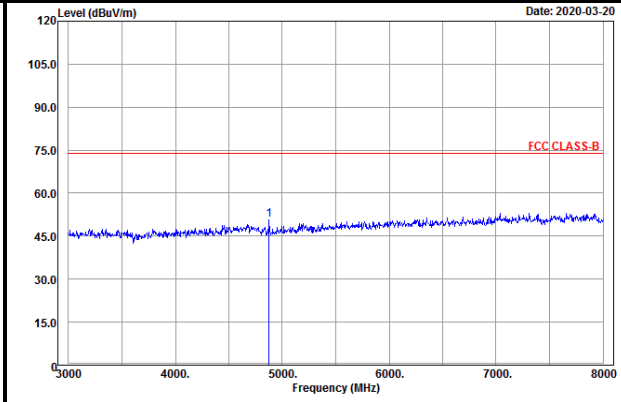
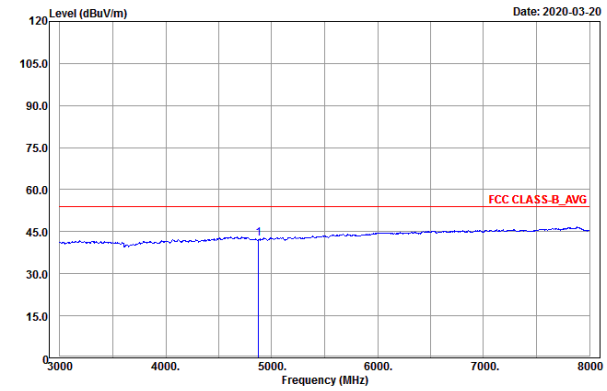
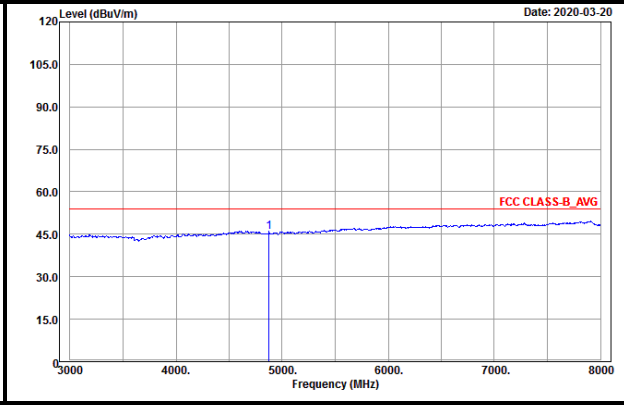
2. 2462 MHz: Fundamental frequency.

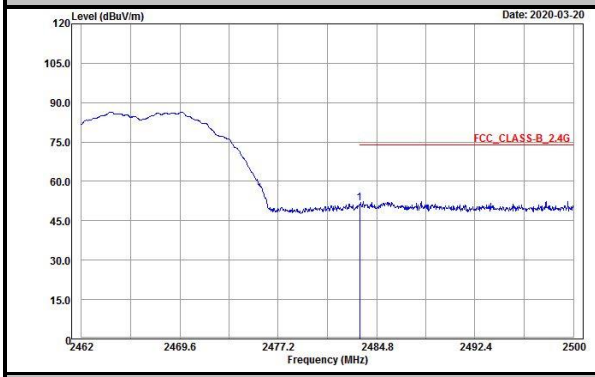
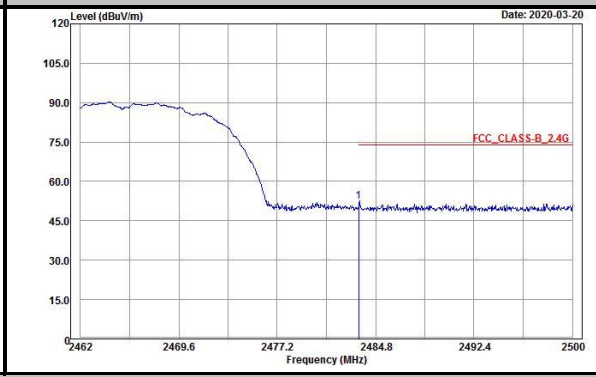
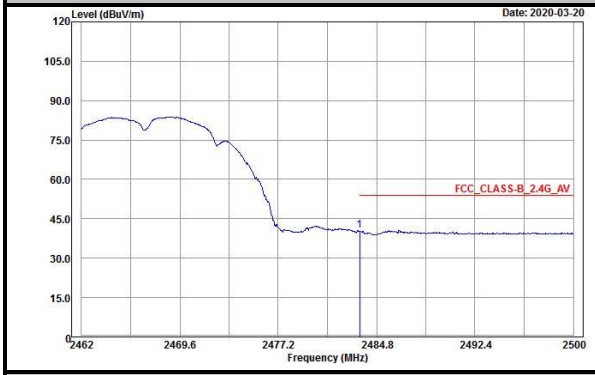
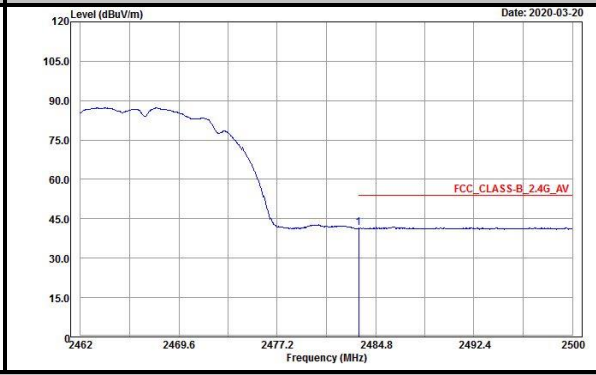
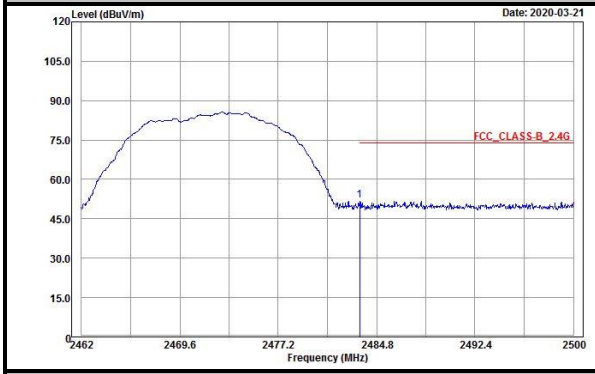
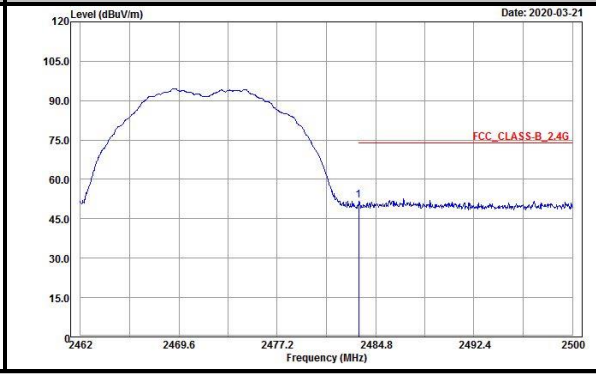
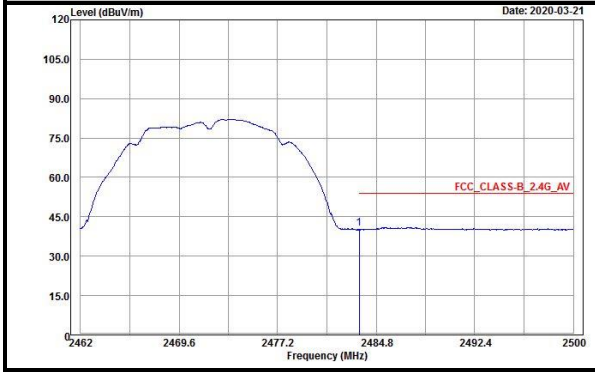
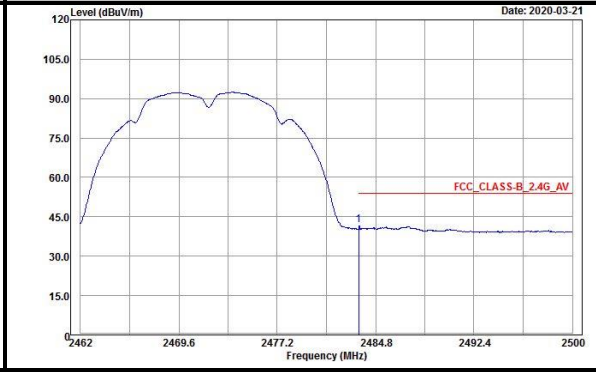
3. The emission levels of other frequencies were very low against the limit.

4. " * ": Fundamental frequency.

Annex A- Band-edge measurement

802.11b

Ch 6	
Peak	
Horizontal	Vertical
	
Average	
Horizontal	Vertical
	

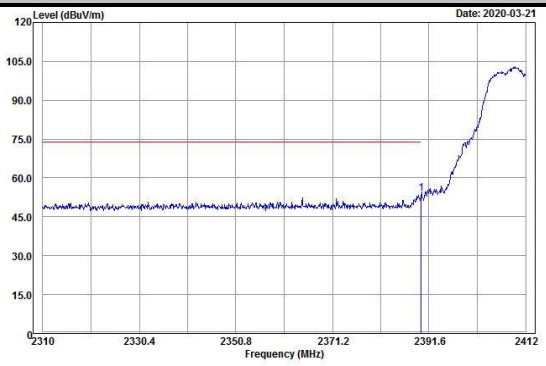
Ch 12	
Peak	
Horizontal	Vertical
	
Average	
Horizontal	Vertical
	
Ch 13	
Peak	
Horizontal	Vertical
	
Average	
Horizontal	Vertical
	

802.11g

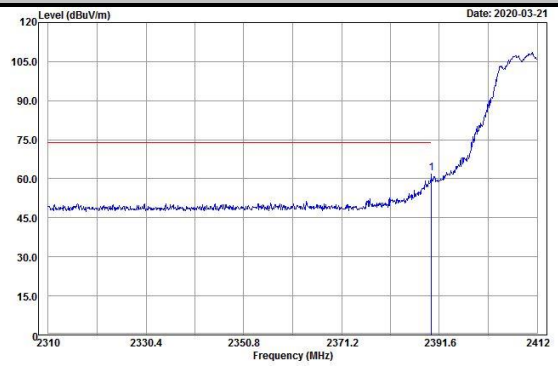
Ch 1

Peak

Horizontal

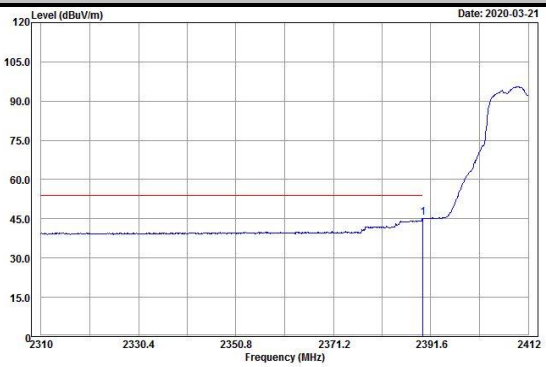


Vertical

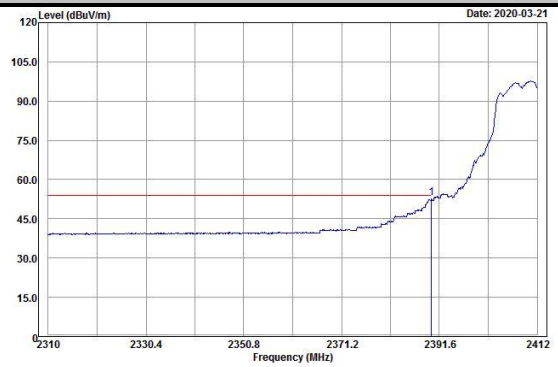


Average

Horizontal



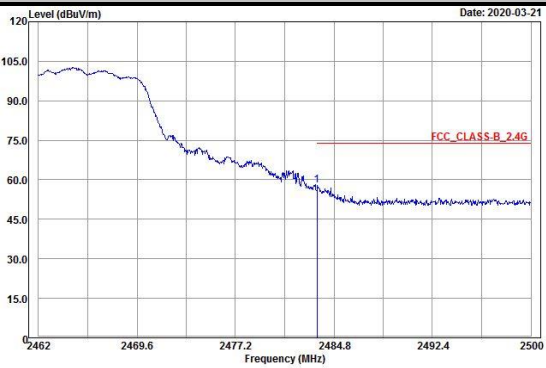
Vertical



Ch 11

Peak

Horizontal



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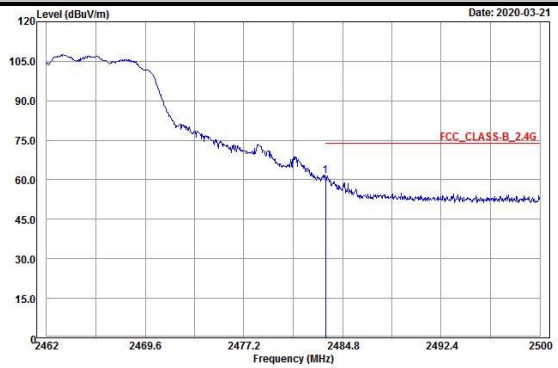
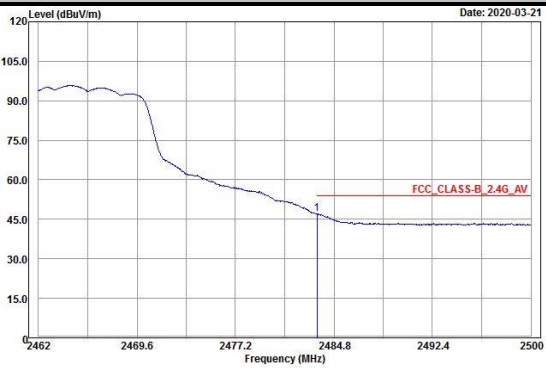
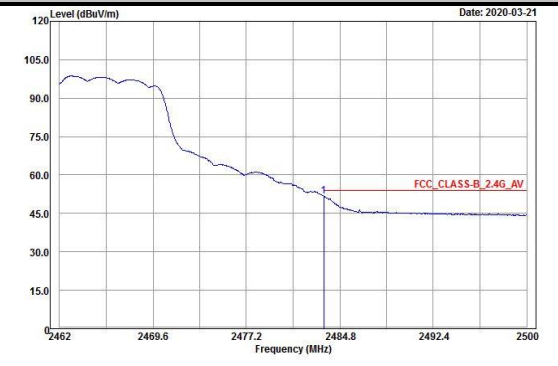


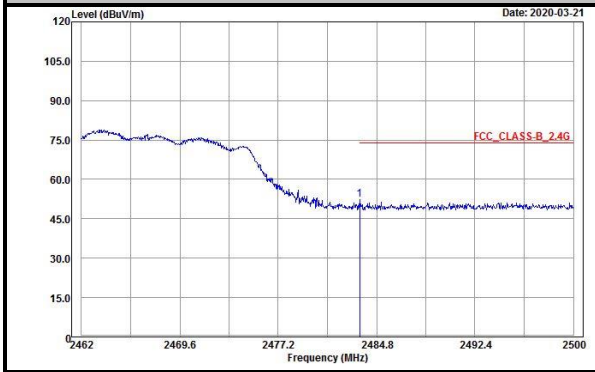
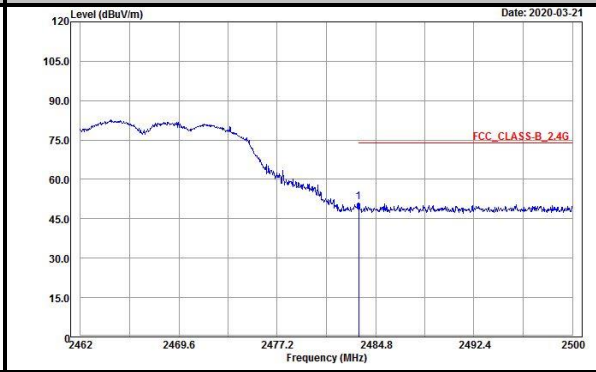
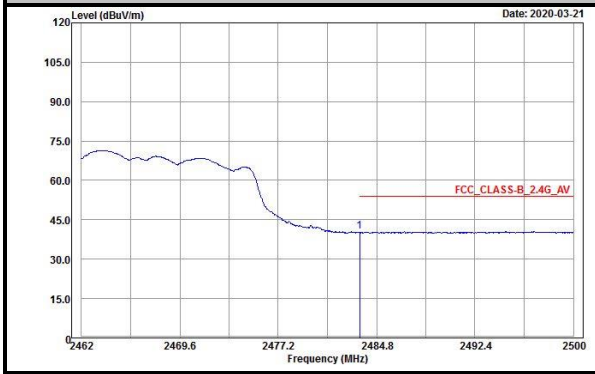
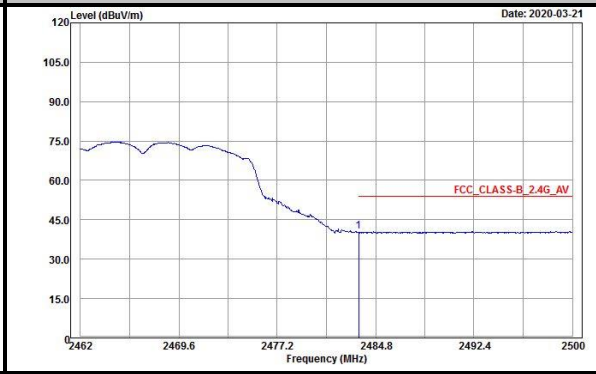
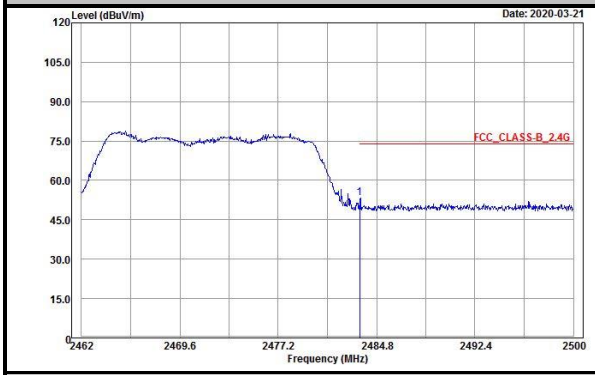
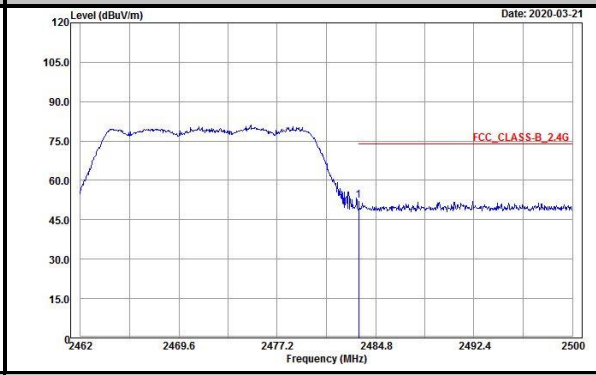
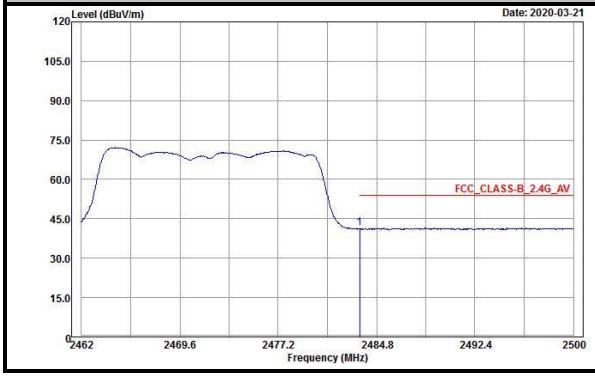
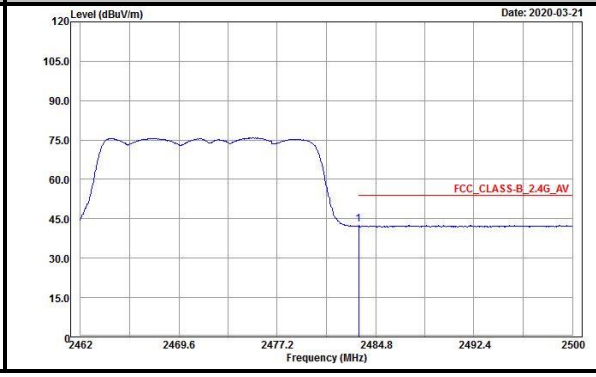
Average

Horizontal



Vertical

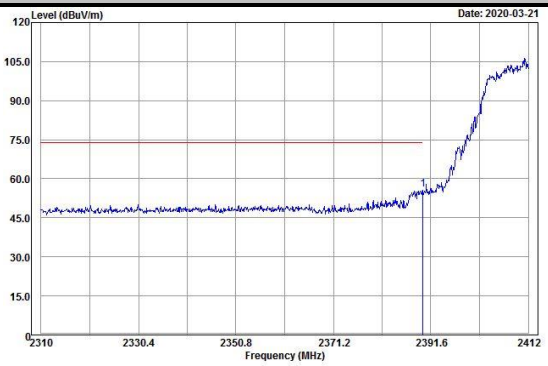
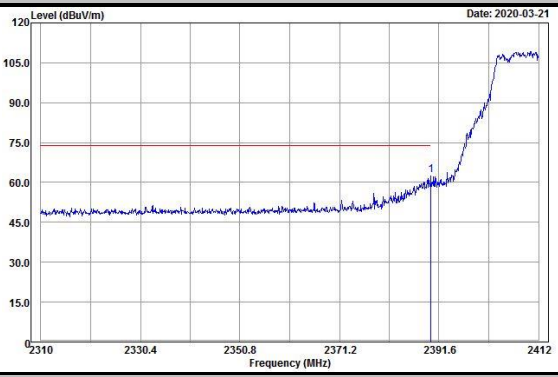


Ch 12	
Peak	
Horizontal	Vertical
	
Average	
Horizontal	Vertical
	
Ch 13	
Peak	
Horizontal	Vertical
	
Average	
Horizontal	Vertical
	

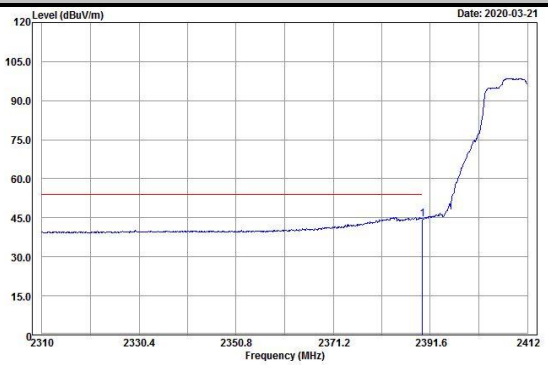
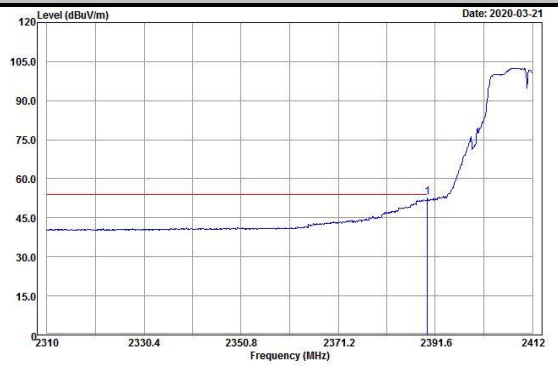
802.11n (HT20)

Ch 1

Peak

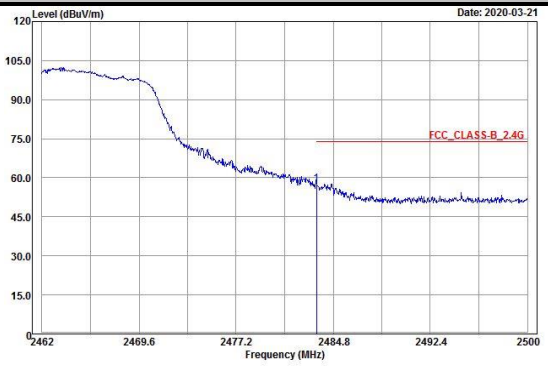
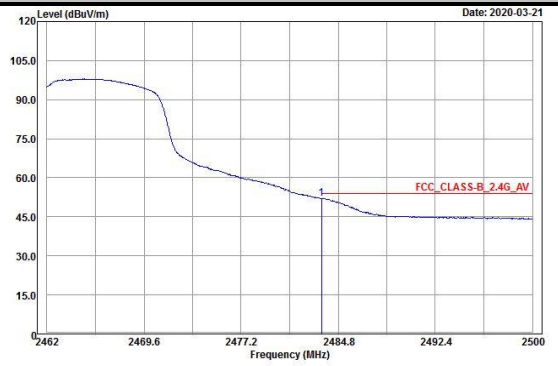
Horizontal	Vertical
	

Average

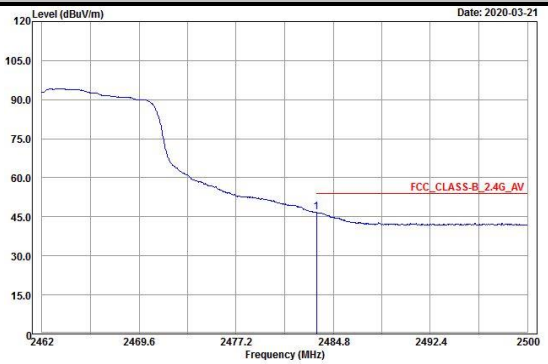
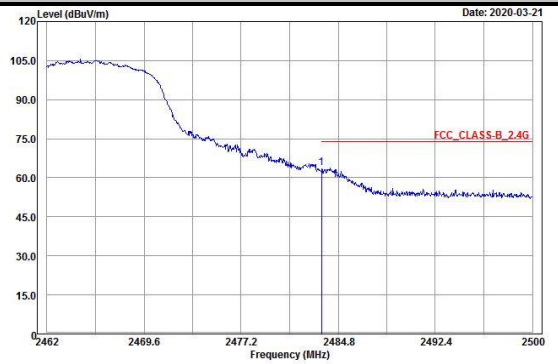
Horizontal	Vertical
	

Ch 11

Peak

Horizontal	Vertical
	

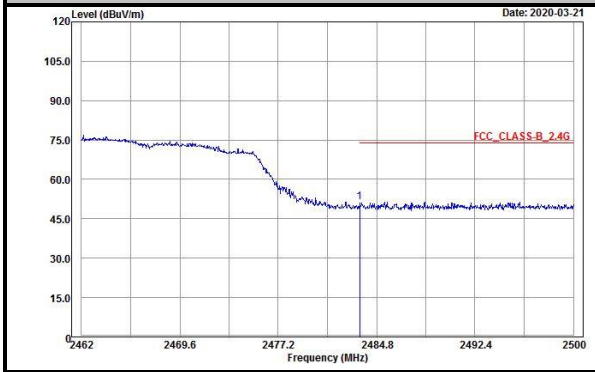
Average

Horizontal	Vertical
	

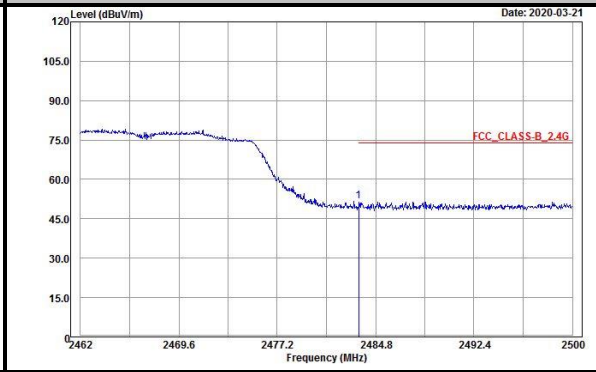
Ch 12

Peak

Horizontal

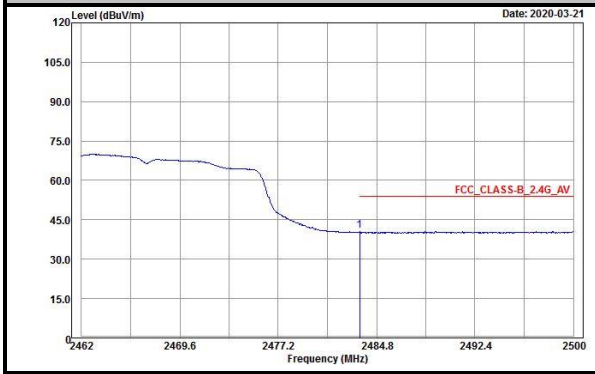


Vertical

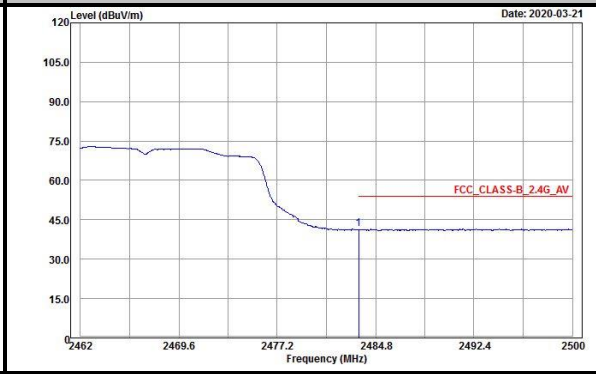


Average

Horizontal



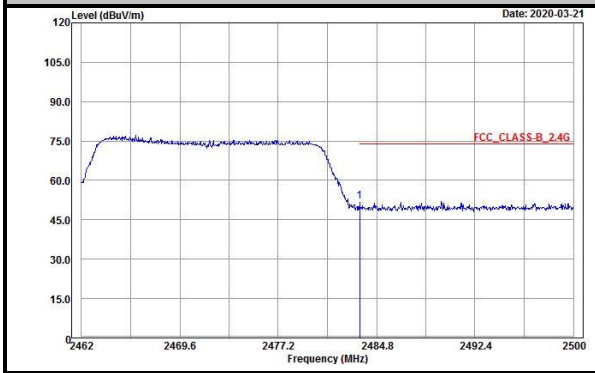
Vertical



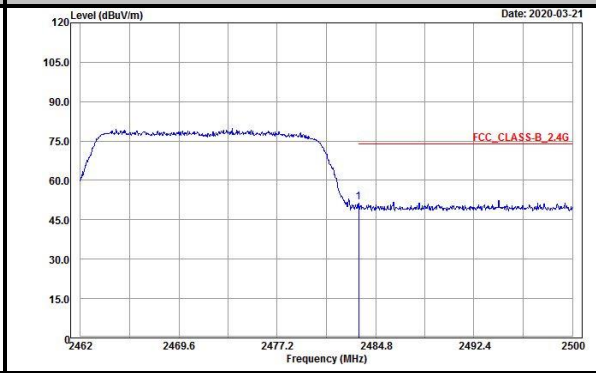
Ch 13

Peak

Horizontal

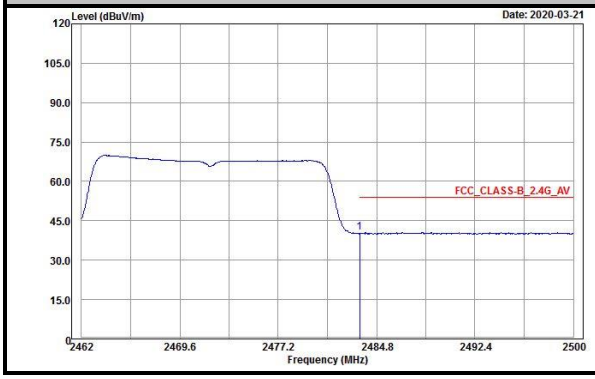


Vertical

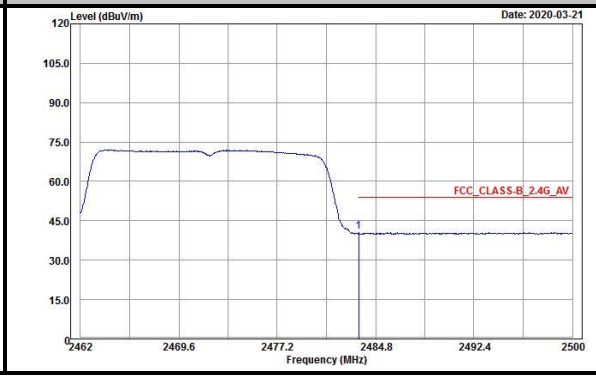


Average

Horizontal



Vertical

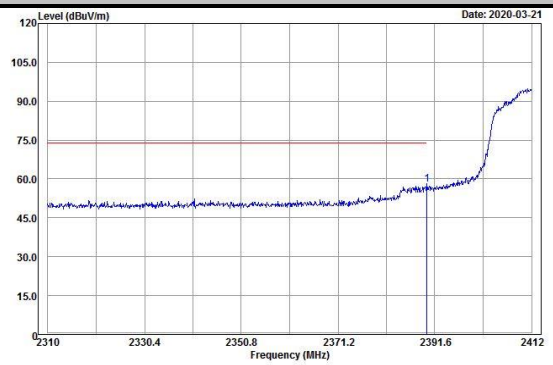


802.11n (HT40)

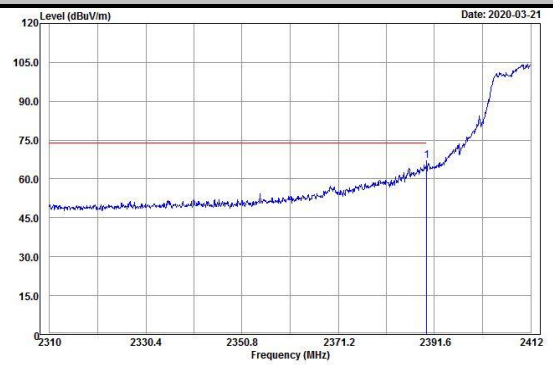
Ch 3

Peak

Horizontal

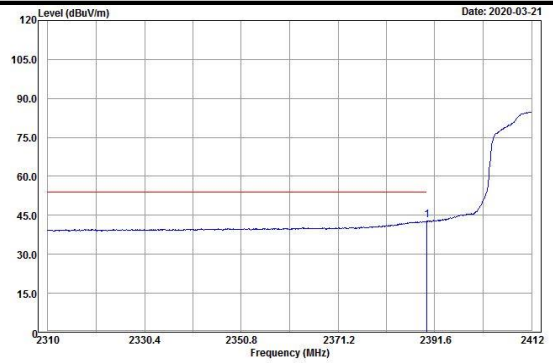


Vertical

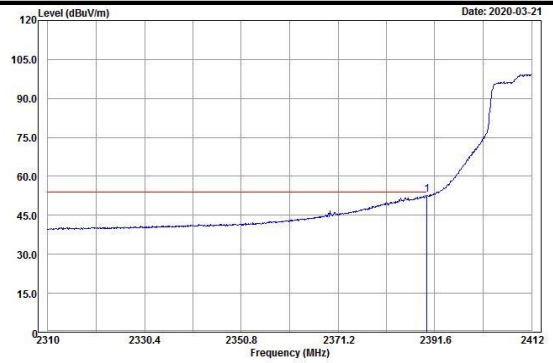


Average

Horizontal



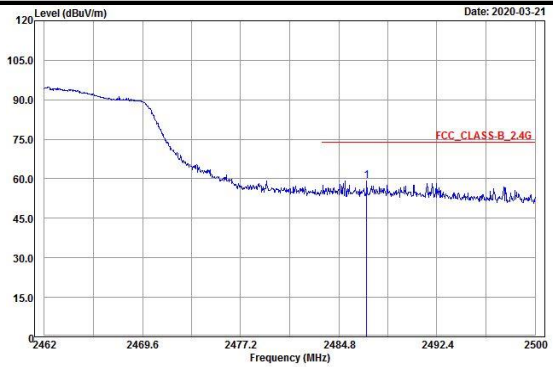
Vertical



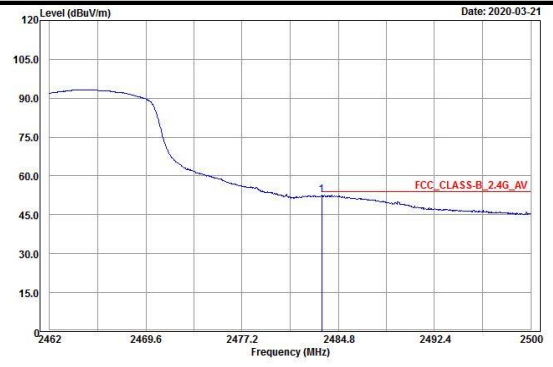
Ch 9

Peak

Horizontal

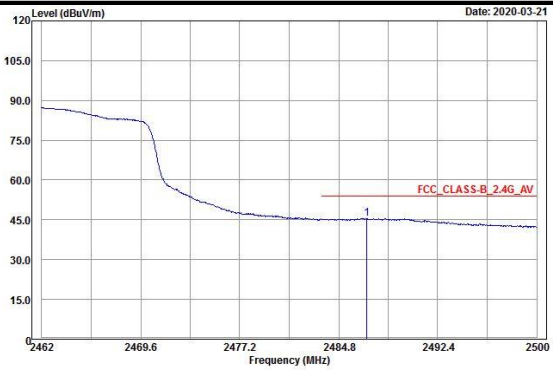


Vertical

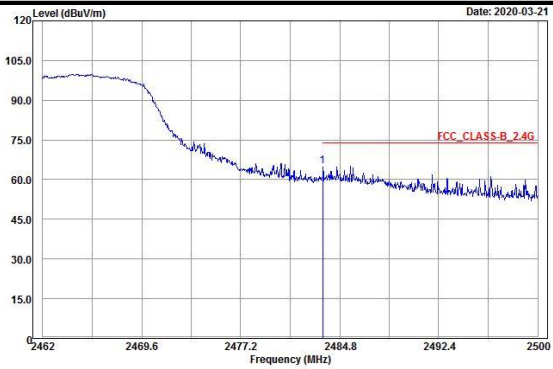


Average

Horizontal



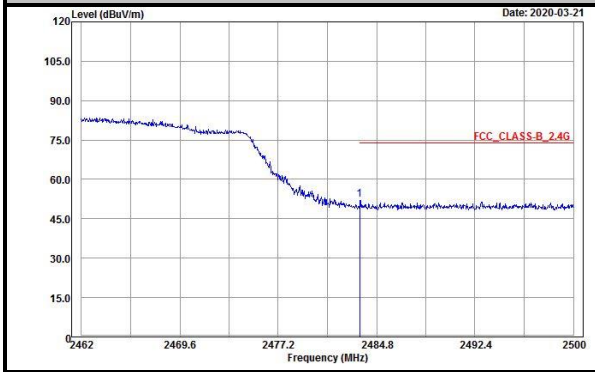
Vertical



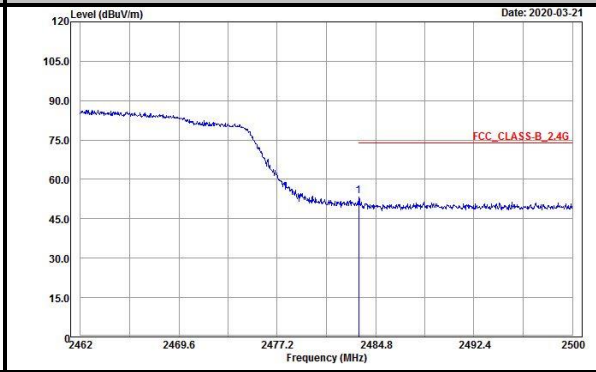
Ch 10

Peak

Horizontal

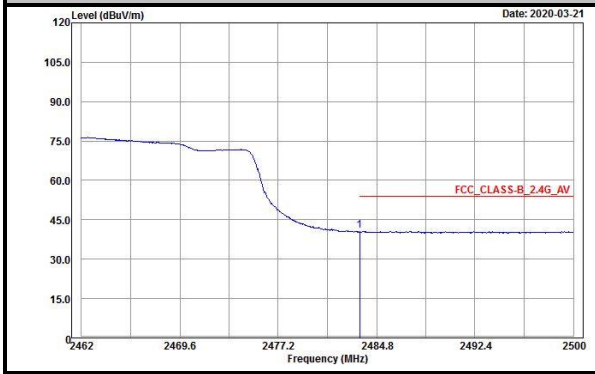


Vertical

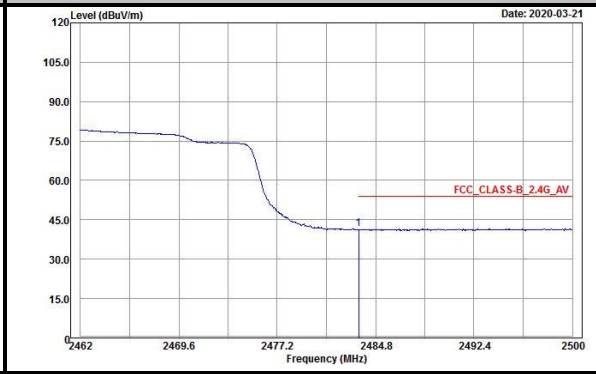


Average

Horizontal



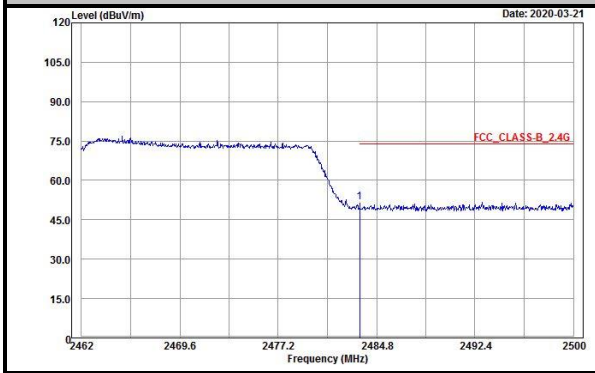
Vertical



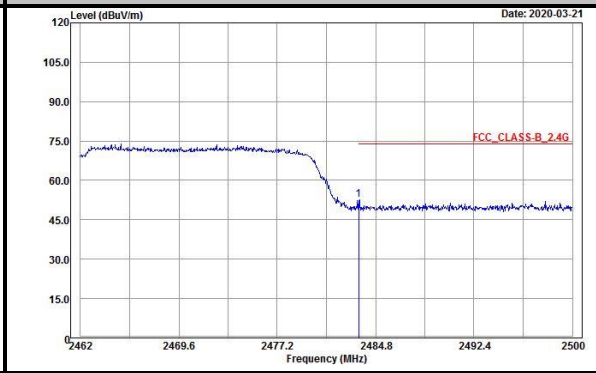
Ch 11

Peak

Horizontal

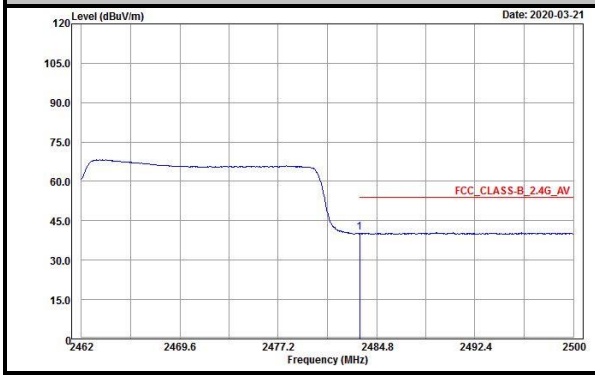


Vertical

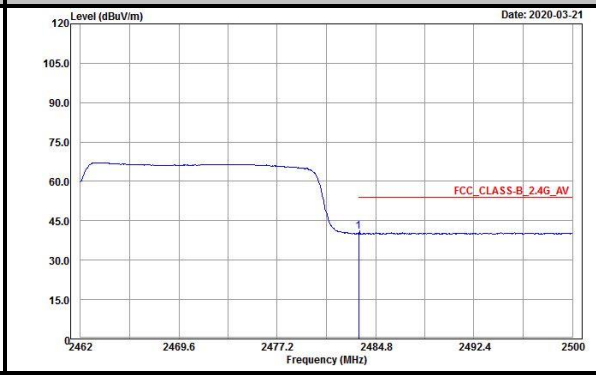


Average

Horizontal



Vertical



Annex B- Conducted Output Power Measurement

802.11b

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	16.98	16.78	97.532	19.89
6	2437	16.79	16.82	95.837	19.82
11	2462	16.99	16.71	96.885	19.86
12	2467	12.35	12.26	34.006	15.32
13	2472	11.45	11.36	27.641	14.42

802.11g

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	16.87	16.74	95.847	19.82
6	2437	16.71	16.67	93.333	19.70
11	2462	16.92	16.70	95.977	19.82
12	2467	2.82	2.77	3.807	5.81
13	2472	1.93	1.85	3.091	4.90

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	16.82	16.76	95.508	19.80
6	2437	16.74	16.62	93.126	19.69
11	2462	15.88	15.70	75.879	18.80
12	2467	1.83	1.76	3.024	4.81
13	2472	1.76	1.70	2.979	4.74

802.11n (HT40)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
3	2422	13.80	13.72	47.539	16.77
6	2437	16.72	16.66	93.334	19.70
9	2452	10.86	10.76	24.102	13.82
10	2457	10.85	10.67	23.83	13.77
11	2462	2.13	2.11	3.259	5.13

Appendix – Information of the Testing Laboratories

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

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

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

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

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