

# TEST REPORT

## CERTIFICATE OF CONFORMITY

**Standard:** 47 CFR FCC Part 15, Subpart C (Section 15.247)  
**Report No.:** RFBECO-WTW-P21060006A  
**FCC ID:** TLZ-CM358SM  
**Test Model:** AW-CM358AN  
**Series Model:** AW-CM358SM, AW-CM358  
**Received Date:** 2022/3/10  
**Test Date:** 2022/8/29 ~ 2022/9/7  
**Issued Date:** 2022/9/29

**Applicant:** AzureWave Technologies, Inc.

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

**Lab Address:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan

**Test Location:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan

**FCC Registration /** 723255 / TW2022

**Designation Number:**

**Approved by:** \_\_\_\_\_

May Chen / Manager

**Date:** \_\_\_\_\_

2022/9/29

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Prepared by : Cherry Chuo / Specialist



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## Table of Contents

<b>Release Control Record</b> .....	<b>3</b>
<b>1 Certificate</b> .....	<b>4</b>
<b>2 Summary of Test Results</b> .....	<b>5</b>
2.1 Measurement Uncertainty .....	5
2.2 Supplementary Information .....	5
<b>3 General Information</b> .....	<b>6</b>
3.1 General Description .....	6
3.2 Antenna Description of EUT .....	7
3.3 Channel List .....	8
3.4 Test Mode Applicability and Tested Channel Detail .....	9
3.5 Duty Cycle of Test Signal .....	10
3.6 Test Program Used and Operation Descriptions .....	11
3.7 Connection Diagram of EUT and Peripheral Devices .....	11
3.8 Configuration of Peripheral Devices and Cable Connections .....	12
<b>4 Test Instruments</b> .....	<b>13</b>
4.1 RF Output Power .....	13
4.2 AC Power Conducted Emissions .....	13
4.3 Unwanted Emissions below 1 GHz .....	14
4.4 Unwanted Emissions above 1 GHz .....	15
<b>5 Limits of Test Items</b> .....	<b>16</b>
5.1 RF Output Power .....	16
5.2 AC Power Conducted Emissions .....	16
5.3 Unwanted Emissions below 1 GHz .....	16
5.4 Unwanted Emissions above 1 GHz .....	16
<b>6 Test Arrangements</b> .....	<b>17</b>
6.1 RF Output Power .....	17
6.1.1 Test Setup .....	17
6.1.2 Test Procedure .....	17
6.2 AC Power Conducted Emissions .....	17
6.2.1 Test Setup .....	17
6.2.2 Test Procedure .....	17
6.3 Unwanted Emissions below 1 GHz .....	18
6.3.1 Test Setup .....	18
6.3.2 Test Procedure .....	19
6.4 Unwanted Emissions above 1 GHz .....	20
6.4.1 Test Setup .....	20
6.4.2 Test Procedure .....	20
<b>7 Test Results of Test Item</b> .....	<b>21</b>
7.1 RF Output Power .....	21
7.2 AC Power Conducted Emissions .....	23
7.3 Unwanted Emissions below 1 GHz .....	25
7.4 Unwanted Emissions above 1 GHz .....	27
<b>8 Pictures of Test Arrangements</b> .....	<b>55</b>
<b>9 Information of the Testing Laboratories</b> .....	<b>56</b>



## Release Control Record

Issue No.	Description	Date Issued
RFBECO-WTW-P21060006A	Original release.	2022/9/29

## 1 Certificate

**Product:** IEEE 802.11a/b/g/n/ac WLAN with Bluetooth 5 Combo Stamp Module

**Brand:** AzureWave

**Test Model:** AW-CM358AN

**Series Model:** AW-CM358SM, AW-CM358

**Sample Status:** Engineering sample

**Applicant:** AzureWave Technologies, Inc.

**Test Date:** 2022/8/29 ~ 2022/9/7

**Standard:** 47 CFR FCC Part 15, Subpart C (Section 15.247)

**Measurement** ANSI C63.10-2013

**procedure:** KDB 558074 D01 15.247 Meas Guidance v05r02

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.

## 2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
Standard / Clause	Test Item	Result	Remark
15.247(b)	RF Output Power	Pass	Meet the requirement of limit.
15.247(e)	Power Spectral Density	NA	Refer to Note 1 below
15.247(a)(2)	6 dB Bandwidth	NA	Refer to Note 1 below
15.247(d)	Conducted Out of Band Emissions	NA	Refer to Note 1 below
15.207	AC Power Conducted Emissions	Pass	Minimum passing margin is -16.00 dB at 0.15541 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -3.2 dB at 359.99, 576.00 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.4 dB at 2483.50 MHz
15.203	Antenna Requirement	Pass	Antenna connector is i-pex(MHF) not a standard connector.

### Notes:

1. RF Output Power, AC Power Conducted Emissions and Unwanted Emissions were performed for this addendum. The others testing data refer to original test report.
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

### 2.1 Measurement Uncertainty

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

Measurement	Specification	Expanded Uncertainty (k=2) (±)
AC Power Conducted Emissions	150 kHz ~ 30 MHz	1.9 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.1 dB
	30 MHz ~ 1 GHz	5.5 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	5.1 dB
	18 GHz ~ 40 GHz	5.3 dB

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

### 2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

### 3 General Information

#### 3.1 General Description

Product	IEEE 802.11a/b/g/n/ac WLAN with Bluetooth 5 Combo Stamp Module
Brand	AzureWave
Test Model	AW-CM358AN
Series Model	AW-CM358SM, AW-CM358
Status of EUT	Engineering sample
Power Supply Rating	3.3 Vdc from host equipment
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11g: up to 54Mbps 802.11n: up to 150Mbps
Operating Frequency	2.412 GHz ~ 2.462 GHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20): 11 802.11n (HT40): 7
Output Power	514.044 mW (27.11 dBm)

Note:

- This report is prepared for FCC Class II permissive change. The difference compared with the Report No.: RFBECO-WTW-P21060006 design is as the following information:
  - ◆ Add model name. (Refer to Note 4)
  - ◆ Add PCB antenna. Digital element with antenna related item. Does not affect RF (Refer to Section 3.2)
- According to above conditions and the applicant's requirements, only RF Output Power, AC Power Conducted Emissions and Unwanted Emissions test items need to be performed. All data for meeting the requirement is verified.
- WLAN (2.4GHz), WLAN (5GHz) and Bluetooth technology can't transmit at same time.
- All models are listed as below.

Original		
Brand	Model	Difference
AzureWave	AW-CM358SM	All models are electrically identical, different model names are for marketing purpose.
	AW-CM358	
Newly		
Brand	Model	Difference
AzureWave	AW-CM358AN	Extend PCBA (Digital element with antenna related item) and add antenna on board.

Note: All models share the same internal PCB layout and are electrically identical. The only difference is in antenna as noted above.

From the above models, model: AW-CM358AN was selected as representative model for the test and its data was recorded in this report.

- 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 Antenna Description of EUT

1. The antenna information is listed as below.

<b>Original</b>					
Brand	Model	Ant. Net Gain (dBi)	Frequency range (GHz)	Antenna Type	Connector Type
MAG.LAYERS	MSA-4008-25GC1-A2	2.98	2.4~2.4835	PIFA	i-pex(MHF)
		5.16	5.15~5.85		
<b>Newly</b>					
Brand	Model	Ant. Net Gain (dBi)	Frequency range (GHz)	Antenna Type	Connector Type
AzureWave	AW-CM358AN	3.4	2.4~2.4835	PCB	None
		3.4	5.15~5.85		

\* Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

2. The EUT incorporates a SISO function:

<b>2.4GHz Band</b>		
<b>MODULATION MODE</b>	<b>TX &amp; RX CONFIGURATION</b>	
<b>802.11b</b>	1TX	1RX
<b>802.11g</b>	1TX	1RX
<b>802.11n (HT20)</b>	1TX	1RX
<b>802.11n (HT40)</b>	1TX	1RX

### 3.3 Channel List

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

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

7 channels are provided for 802.11n (HT40):

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



### 3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. Add PCB Ant. EUT can be used in the following ways: X-axis/ Y-axis/ Z-axis/. Pre-scan these ways and find the worst case as a representative test condition.
Worst Case:	1. PCB Ant. Worst Condition: For Unwanted Emission below 1 GHz: X-axis , For Unwanted Emission above 1 GHz: Y-axis. 2. 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:

Test Item	Mode	Tested Channel	Modulation	Data Rate Parameter
RF Output Power	802.11b	1, 6, 11	DBPSK	1Mb/s
	802.11g	1, 6, 11	BPSK	6Mb/s
	802.11n (HT20)	1, 6, 11	BPSK	MCS0
	802.11n (HT40)	3, 6, 9	BPSK	MCS0
AC Power Conducted Emissions	802.11n (HT20)	6	BPSK	MCS0
Unwanted Emissions below 1 GHz	802.11n (HT20)	6	BPSK	MCS0
Unwanted Emissions above 1 GHz	802.11b	1, 6, 11	DBPSK	1Mb/s
	802.11g	1, 6, 11	BPSK	6Mb/s
	802.11n (HT20)	1, 6, 11	BPSK	MCS0
	802.11n (HT40)	3, 6, 9	BPSK	MCS0

### 3.5 Duty Cycle of Test Signal

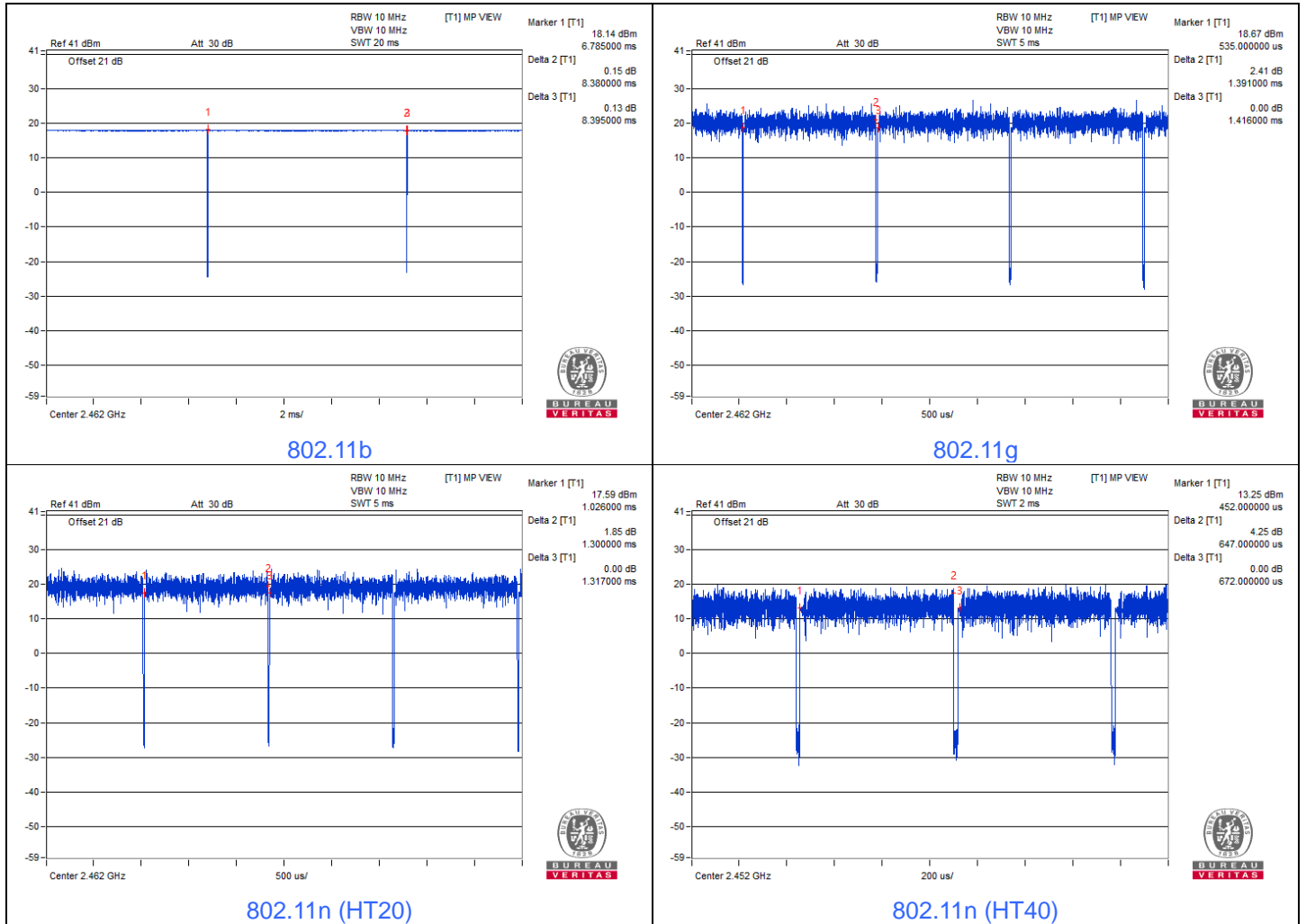
Duty cycle of test signal is  $\geq 98\%$ , duty factor is not required.  
 Duty cycle of test signal is  $< 98\%$ , duty factor shall be considered.

**802.11b:** Duty cycle =  $8.38 \text{ ms} / 8.395 \text{ ms} \times 100\% = 99.8\%$

**802.11g:** Duty cycle =  $1.391 \text{ ms} / 1.416 \text{ ms} \times 100\% = 98.2\%$

**802.11n (HT20):** Duty cycle =  $1.3 \text{ ms} / 1.317 \text{ ms} \times 100\% = 98.7\%$

**802.11n (HT40):** Duty cycle =  $0.647 \text{ ms} / 0.672 \text{ ms} \times 100\% = 96.3\%$ , duty factor =  $10 * \log (1/\text{Duty cycle}) = 0.16 \text{ dB}$

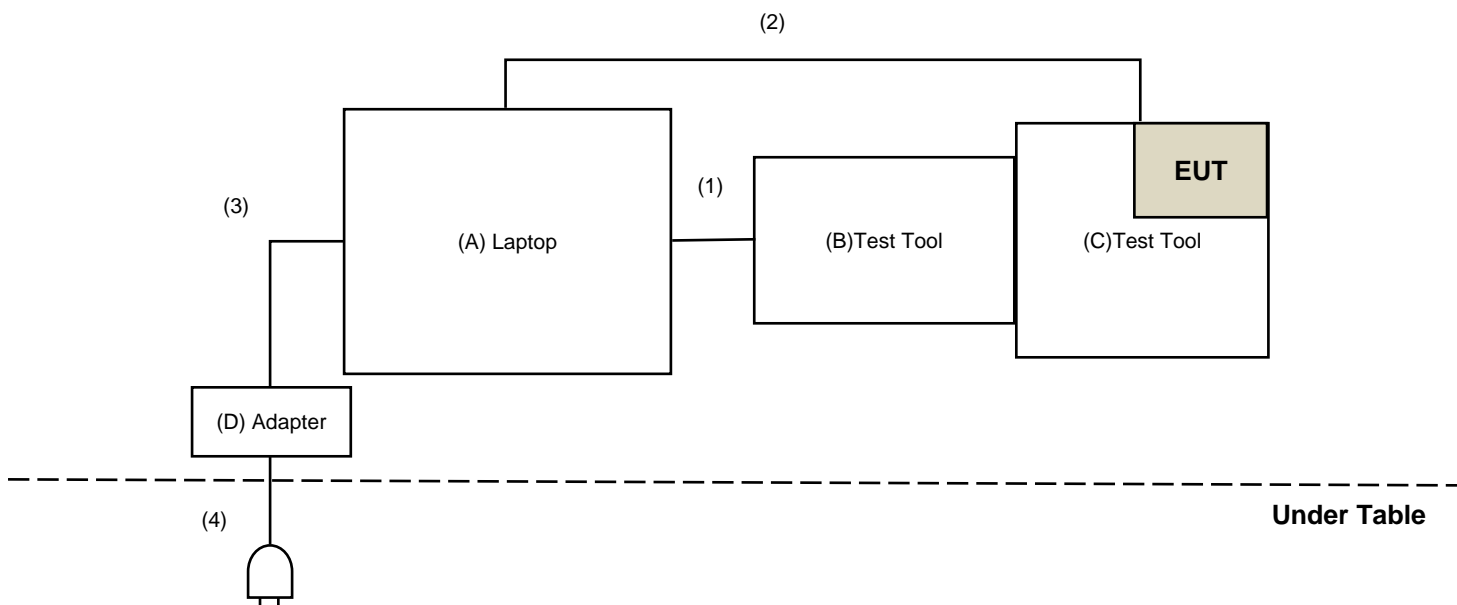


### 3.6 Test Program Used and Operation Descriptions

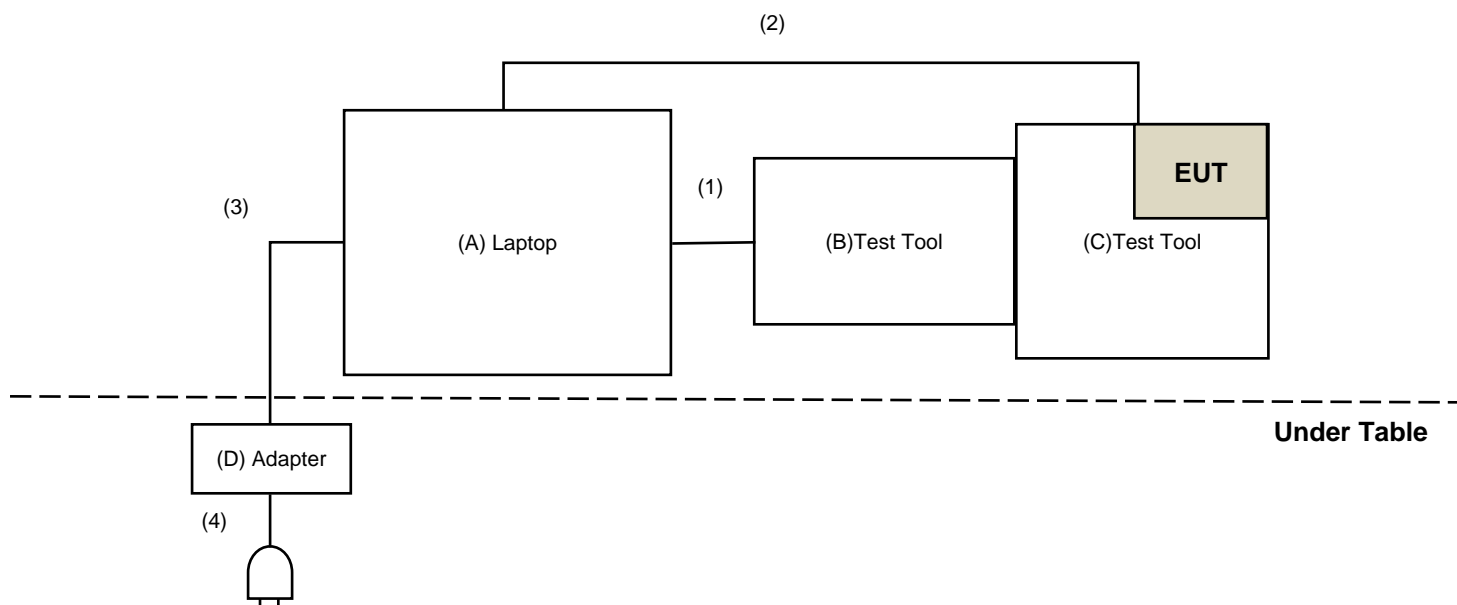
Controlling software (RF Tool name: DutApiSisoACDualf.exe 1.0.0.164) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

### 3.7 Connection Diagram of EUT and Peripheral Devices

#### For AC Power Conducted Emission test



#### For Unwanted Emission test



### 3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Laptop	Sony	PCG-61711P	N/A	N/A	Supplied by applicant
B	Test Tool	Azure Wave	N/A	N/A	N/A	Supplied by applicant
C	Test Tool	Azure Wave	N/A	N/A	N/A	Supplied by applicant
D	Adapter	Sony	VGP-AC19V41	N/A	N/A	Supplied by applicant

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	USB Type B Cable	1	1.8	Yes	0	Provided by Lab
2	USB Type B Cable	1	1.8	Yes	0	Provided by Lab
3	DC Cable	1	0.8	No	0	Supplied by applicant
4	AC Cable	1	1.8	No	0	Supplied by applicant

## 4 Test Instruments

The calibration interval of the all test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.1 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Power Meter Anritsu	ML2495A	1529002	2022/6/22	2023/6/21
Pulse Power Sensor Anritsu	MA2411B	1726434	2022/6/22	2023/6/21

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2022/9/7

### 4.2 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohms Terminator	50	3	2021/10/27	2022/10/26
Fixed attenuator STI	STI02-2200-10	005	2022/8/24	2023/8/23
LISN R&S	ESH3-Z5	848773/004	2021/10/29	2022/10/28
RF Coaxial Cable JYEBO	5D-FB	COCCAB-001	2022/8/24	2023/8/23
Software BVADT	BVADT_Cond_V7.3.7.4	N/A	N/A	N/A
TEST RECEIVER R&S	ESCS 30	847124/029	2021/10/13	2022/10/12

Notes:

1. The test was performed in Conduction 1
2. Tested Date: 2022/9/5

### 4.3 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-03	2022/1/10	2023/1/9
LOOP ANTENNA Electro-Metrics	EM-6879	264	2022/3/18	2023/3/17
Pre_Amplifier Agilent	8447D	2944A10636	2022/3/19	2023/3/18
Pre_Amplifier EMCI	EMC330N	980701	2022/3/8	2023/3/7
RF Coaxial Cable COMMATE/PEWC	8D	966-4-1	2022/3/8	2023/3/7
		966-4-2	2022/3/8	2023/3/7
		966-4-3	2022/3/8	2023/3/7
RF Coaxial Cable JYEBO	5D-FB	LOOPCAB-001	2022/1/6	2023/1/5
		LOOPCAB-002	2022/1/6	2023/1/5
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A
Test Receiver Agilent	N9038A	MY51210202	2021/11/19	2022/11/18
Trilog Broadband Antenna Schwarzbeck	VULB 9168	9168-406	2021/10/27	2022/10/26

Notes:

1. The test was performed in 966 Chamber No. 4.
2. Tested Date: 2022/9/5

#### 4.4 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-783	2021/11/14	2022/11/13
	BBHA 9170	9170-739	2021/11/14	2022/11/13
Pre_Amplifier EMCI	EMC 12630 SE	980638	2022/4/5	2023/4/4
	EMC184045SE	980387	2022/1/10	2023/1/9
RF Cable-Frequency Range : 1- 26.5GHz EMCI	EMC104-SM-SM-1200	160922	2021/12/24	2022/12/23
RF Cable-Frequency range: 1- 40GHz EMCI	EMC102-KM-KM-1200	160924	2022/1/10	2023/1/9
RF Coaxial Cable EMCI	EMC-KM-KM-4000	200214	2022/3/8	2023/3/7
	EMC104-SM-SM-2000	180502	2022/4/25	2023/4/24
	EMC104-SM-SM-6000	210704	2021/11/9	2022/11/8
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A
Test Receiver Agilent	N9038A	MY51210202	2021/11/19	2022/11/18

Notes:

1. The test was performed in 966 Chamber No. 4.
2. Tested Date: 2022/8/29 ~ 2022/9/5

## 5 Limits of Test Items

### 5.1 RF Output Power

For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30 dBm)

### 5.2 AC Power Conducted Emissions

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

Notes:

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.

### 5.3 Unwanted Emissions below 1 GHz

Radiated emissions up to 1 GHz 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

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).

### 5.4 Unwanted Emissions above 1 GHz

Radiated emissions above 1 GHz 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)
Above 960	500	3

Notes:

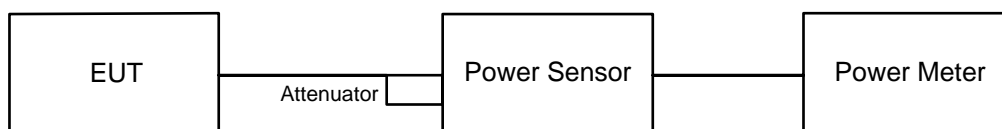
1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted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



## 6 Test Arrangements

### 6.1 RF Output Power

#### 6.1.1 Test Setup



#### 6.1.2 Test Procedure

##### Peak Power:

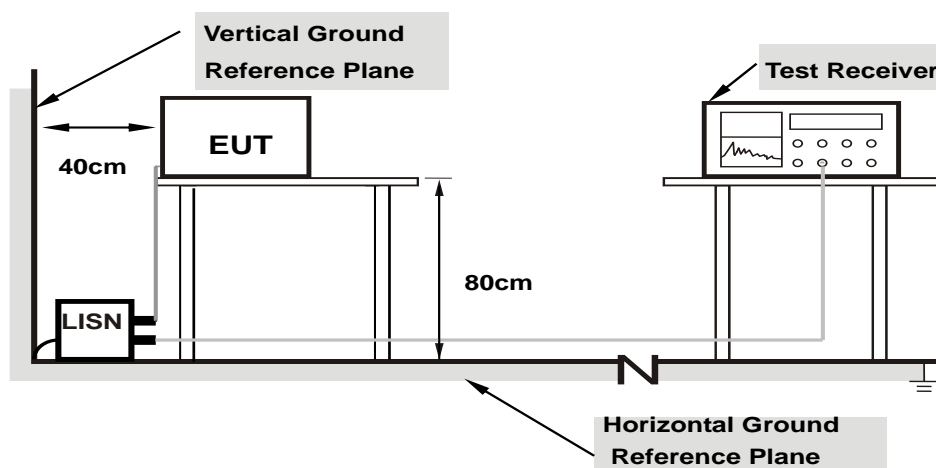
A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor. Record the power level.

##### Average Power:

Average power sensor was 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.

### 6.2 AC Power Conducted Emissions

#### 6.2.1 Test Setup



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

#### 6.2.2 Test Procedure

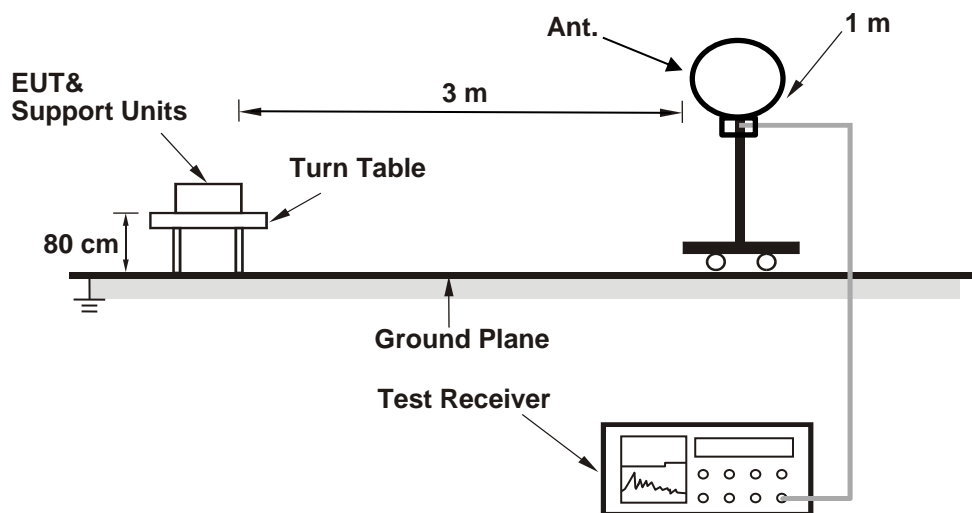
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50 uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz-30 MHz.

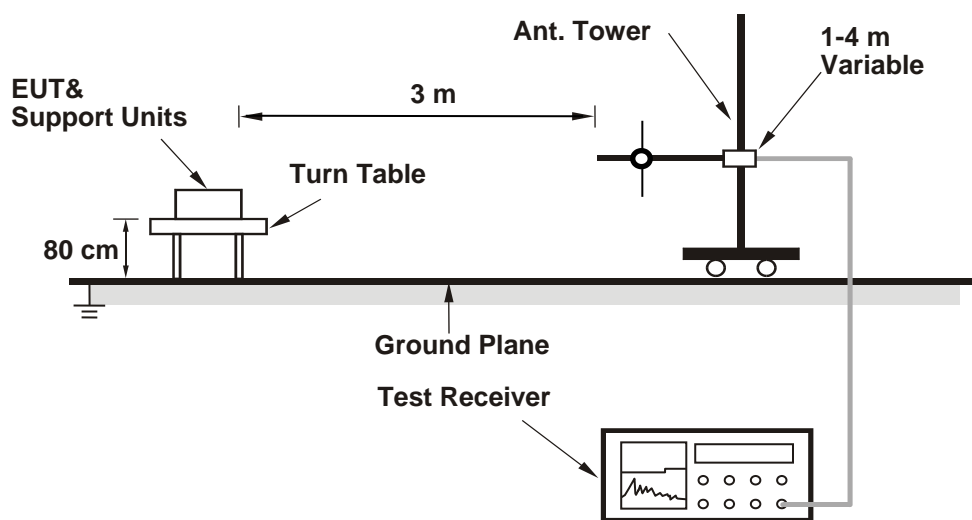
### 6.3 Unwanted Emissions below 1 GHz

#### 6.3.1 Test Setup

##### For Radiated emission below 30 MHz



##### For Radiated emission above 30 MHz



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

### 6.3.2 Test Procedure

#### 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 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. 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, except for the frequency band (9 kHz to 90 kHz and 110 kHz to 490 kHz) set to average detect function and peak detect function.

#### Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 200 Hz at frequency below 150 kHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz or 10 kHz at frequency (150 kHz to 30 MHz).
3. All modes of operation were investigated and the worst-case emissions are reported.

#### For Radiated emission above 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters 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.

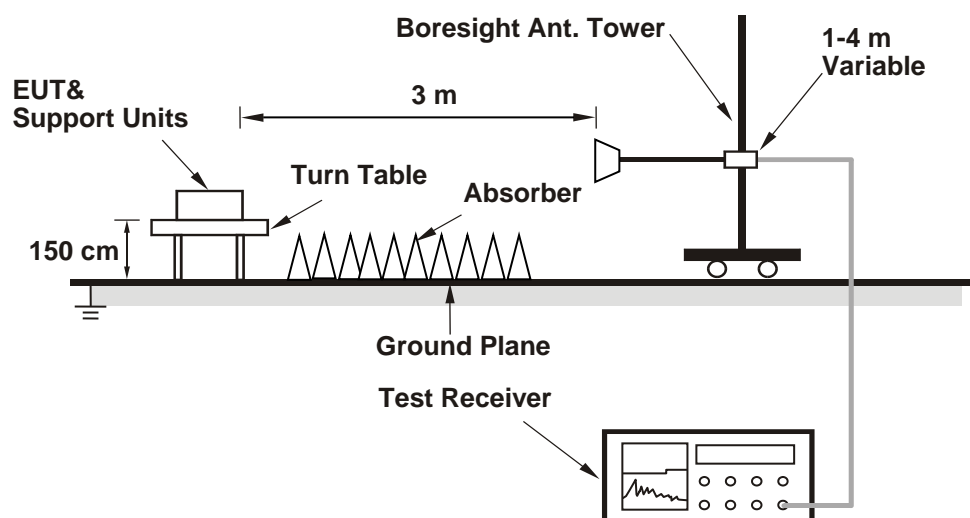
#### Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

## 6.4 Unwanted Emissions above 1 GHz

### 6.4.1 Test Setup

#### For Radiated emission above 1 GHz



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

### 6.4.2 Test Procedure

- The EUT was placed on the top of a rotating table 1.5 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- 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.
- 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.
- The test-receiver system was set to peak and average detects 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.

#### Notes:

- The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) and Average detection (AV) at frequency above 1 GHz.
- For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is  $\geq 1/T$  (Duty cycle < 98%) or 10 Hz (Duty cycle  $\geq 98\%$ ) for Average detection (AV) at frequency above 1 GHz.
- All modes of operation were investigated and the worst-case emissions are reported.

## 7 Test Results of Test Item

### 7.1 RF Output Power

Input Power:	3.3 Vdc	Environmental Conditions:	25°C, 63% RH	Tested By:	Eric Peng
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#### For Peak Power

##### 802.11b

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
1	2412	69.663	18.43	30	Pass
6	2437	69.183	18.40	30	Pass
11	2462	69.502	18.42	30	Pass

Note: The antenna gain is 3.4 dBi < 6 dBi, so the output power limit shall not be reduced.

##### 802.11g

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
1	2412	501.187	27.00	30	Pass
6	2437	505.825	27.04	30	Pass
11	2462	514.044	27.11	30	Pass

Note: The antenna gain is 3.4 dBi < 6 dBi, so the output power limit shall not be reduced.

##### 802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
1	2412	438.531	26.42	30	Pass
6	2437	494.311	26.94	30	Pass
11	2462	447.713	26.51	30	Pass

Note: The antenna gain is 3.4 dBi < 6 dBi, so the output power limit shall not be reduced.

##### 802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
3	2422	175.792	22.45	30	Pass
6	2437	457.088	26.60	30	Pass
9	2452	276.058	24.41	30	Pass

Note: The antenna gain is 3.4 dBi < 6 dBi, so the output power limit shall not be reduced.

## For Average Power

### 802.11b

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	38.282	15.83
6	2437	37.757	15.77
11	2462	38.726	15.88

### 802.11g

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	58.749	17.69
6	2437	92.897	19.68
11	2462	59.293	17.73

### 802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	48.084	16.82
6	2437	97.949	19.91
11	2462	49.317	16.93

### 802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
3	2422	15.922	12.02
6	2437	75.858	18.80
9	2452	38.905	15.90

## 7.2 AC Power Conducted Emissions

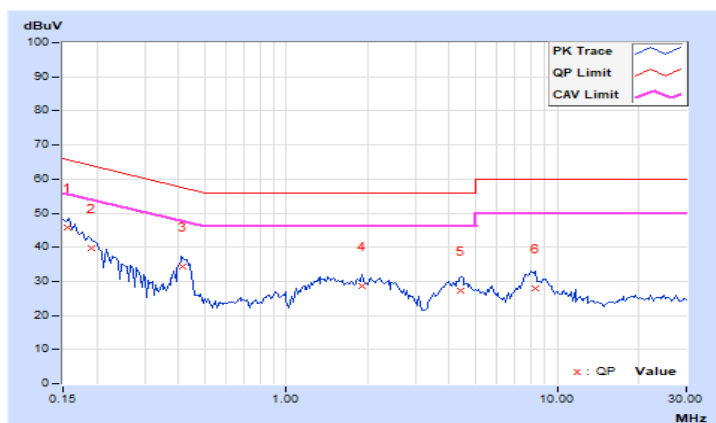
RF Mode	TX 802.11n (HT20)	Channel	CH 6 : 2437 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 65% RH
Tested By	Tom Yang		

### 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	0.15543	9.94	35.96	17.71	45.90	27.65	65.70	55.70	-19.80	-28.05
2	0.19015	9.95	29.94	12.56	39.89	22.51	64.03	54.03	-24.14	-31.52
3	0.41473	9.95	24.26	14.71	34.21	24.66	57.55	47.55	-23.34	-22.89
4	1.89254	10.02	18.53	12.16	28.55	22.18	56.00	46.00	-27.45	-23.82
5	4.41865	10.17	16.96	10.15	27.13	20.32	56.00	46.00	-28.87	-25.68
6	8.33762	10.41	17.69	8.74	28.10	19.15	60.00	50.00	-31.90	-30.85

#### 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

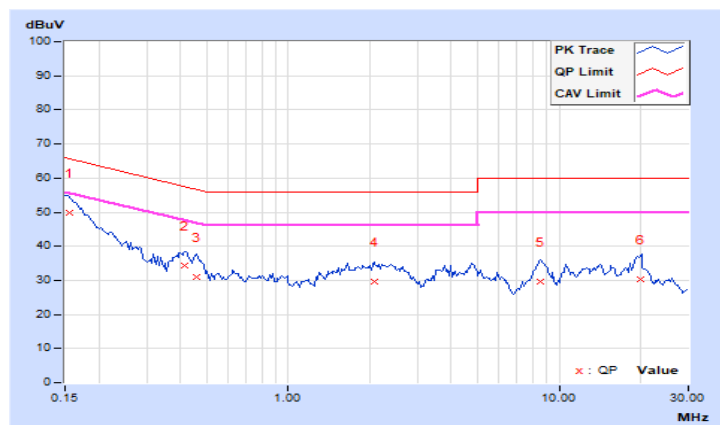


<b>RF Mode</b>	TX 802.11n (HT20)	<b>Channel</b>	CH 6 : 2437 MHz
<b>Frequency Range</b>	150 kHz ~ 30 MHz	<b>Detector Function &amp; Resolution Bandwidth</b>	Quasi-Peak (QP) / Average (AV), 9 kHz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 65% RH
<b>Tested By</b>	Tom Yang		

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	0.15541	9.95	39.76	23.93	49.71	33.88	65.71	55.71	-16.00	-21.83
2	0.41534	9.96	24.43	18.56	34.39	28.52	57.54	47.54	-23.15	-19.02
3	0.46155	9.96	20.86	13.84	30.82	23.80	56.66	46.66	-25.84	-22.86
4	2.08015	10.03	19.76	14.81	29.79	24.84	56.00	46.00	-26.21	-21.16
5	8.54013	10.34	19.26	10.34	29.60	20.68	60.00	50.00	-30.40	-29.32
6	20.09157	10.92	19.26	14.33	30.18	25.25	60.00	50.00	-29.82	-24.75

**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





### 7.3 Unwanted Emissions below 1 GHz

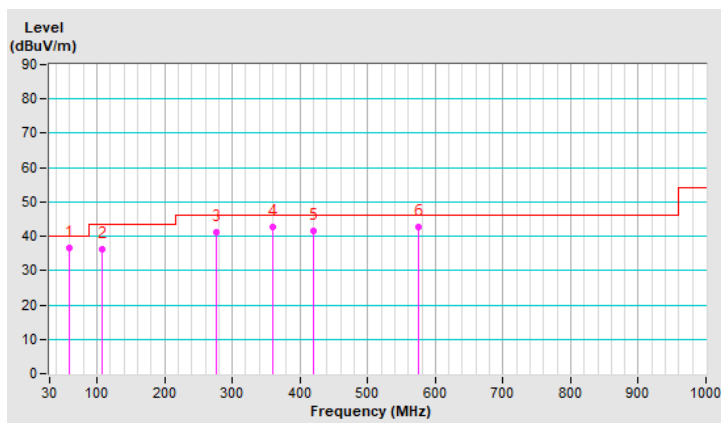
RF Mode	TX 802.11n (HT20)	Channel	CH 6 : 2437 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 65% RH
Tested By	Tom Yang		

#### Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	60.00	36.7 QP	40.0	-3.3	2.00 H	249	49.7	-13.0
2	108.05	36.2 QP	43.5	-7.3	2.00 H	53	51.1	-14.9
3	275.99	41.2 QP	46.0	-4.8	1.50 H	352	52.4	-11.2
4	<b>359.99</b>	<b>42.8 QP</b>	<b>46.0</b>	<b>-3.2</b>	<b>1.00 H</b>	<b>217</b>	<b>51.6</b>	<b>-8.8</b>
5	419.95	41.4 QP	46.0	-4.6	2.00 H	273	48.1	-6.7
6	<b>576.00</b>	<b>42.8 QP</b>	<b>46.0</b>	<b>-3.2</b>	<b>3.00 H</b>	<b>304</b>	<b>45.6</b>	<b>-2.8</b>

#### Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

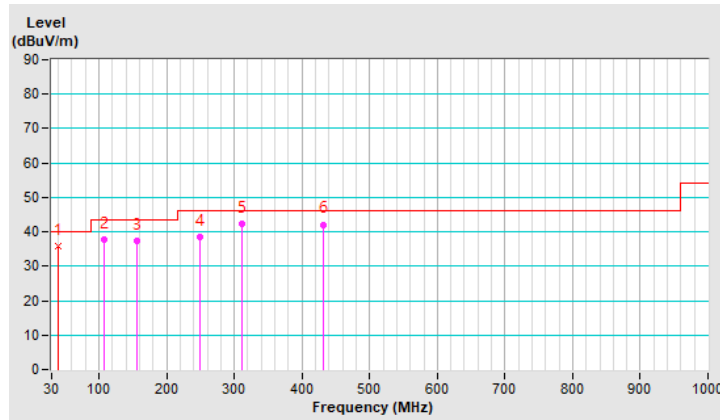


<b>RF Mode</b>	TX 802.11n (HT20)	<b>Channel</b>	CH 6 : 2437 MHz
<b>Frequency Range</b>	9 kHz ~ 1 GHz	<b>Detector Function &amp; Bandwidth</b>	(QP) RB = 120kHz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 65% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	39.41	35.7 QP	40.0	-4.3	1.00 V	227	48.6	-12.9
2	107.99	37.9 QP	43.5	-5.6	1.50 V	66	52.8	-14.9
3	155.99	37.2 QP	43.5	-6.3	1.00 V	133	48.8	-11.6
4	250.02	38.4 QP	46.0	-7.6	2.00 V	76	50.8	-12.4
5	312.00	42.3 QP	46.0	-3.7	2.00 V	53	52.3	-10.0
6	431.93	42.1 QP	46.0	-3.9	1.00 V	23	48.3	-6.2

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



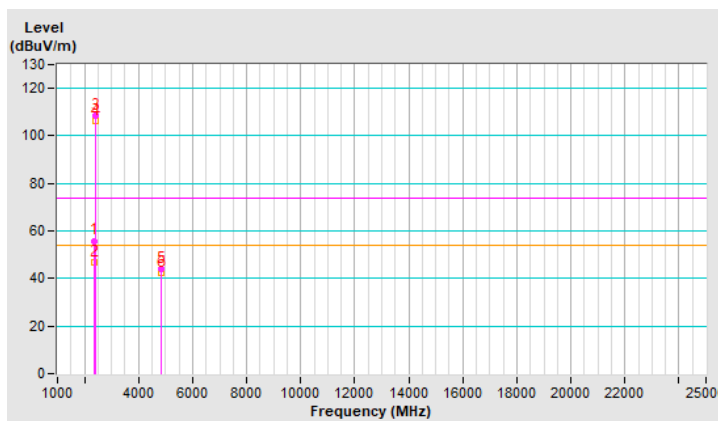
### 7.4 Unwanted Emissions above 1 GHz

<b>RF Mode</b>	TX 802.11b	<b>Channel</b>	CH 1 : 2412 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2374.33	55.9 PK	74.0	-18.1	1.08 H	148	60.4	-4.5
2	2374.33	46.7 AV	54.0	-7.3	1.08 H	148	51.2	-4.5
3	*2412.00	108.3 PK			1.08 H	148	112.8	-4.5
4	*2412.00	106.1 AV			1.08 H	148	110.6	-4.5
5	4824.00	44.0 PK	74.0	-30.0	2.67 H	37	44.2	-0.2
6	4824.00	42.2 AV	54.0	-11.8	2.67 H	37	42.4	-0.2

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency, the limit was restricted at the RF Output Power.

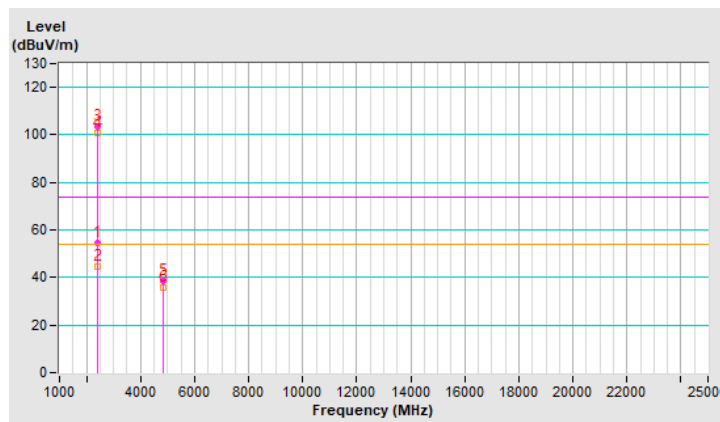


<b>RF Mode</b>	TX 802.11b	<b>Channel</b>	CH 1 : 2412 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2387.62	54.5 PK	74.0	-19.5	1.26 V	83	59.0	-4.5
2	2387.62	44.7 AV	54.0	-9.3	1.26 V	83	49.2	-4.5
3	*2412.00	103.4 PK			1.26 V	83	107.9	-4.5
4	*2412.00	101.0 AV			1.26 V	83	105.5	-4.5
5	4824.00	38.7 PK	74.0	-35.3	2.07 V	298	38.9	-0.2
6	4824.00	36.0 AV	54.0	-18.0	2.07 V	298	36.2	-0.2

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.

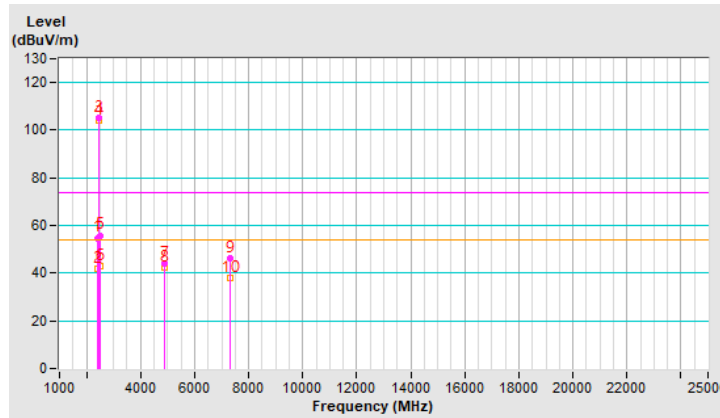


<b>RF Mode</b>	TX 802.11b	<b>Channel</b>	CH 6 : 2437 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	54.8 PK	74.0	-19.2	1.10 H	147	59.3	-4.5
2	2390.00	41.8 AV	54.0	-12.2	1.10 H	147	46.3	-4.5
3	*2437.00	105.1 PK			1.10 H	147	109.6	-4.5
4	*2437.00	104.3 AV			1.10 H	147	108.8	-4.5
5	2483.50	55.9 PK	74.0	-18.1	1.10 H	147	60.4	-4.5
6	2483.50	42.7 AV	54.0	-11.3	1.10 H	147	47.2	-4.5
7	4874.00	44.2 PK	74.0	-29.8	2.66 H	28	44.4	-0.2
8	4874.00	42.5 AV	54.0	-11.5	2.66 H	28	42.7	-0.2
9	7311.00	46.3 PK	74.0	-27.7	1.52 H	32	40.2	6.1
10	7311.00	37.9 AV	54.0	-16.1	1.52 H	32	31.8	6.1

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.

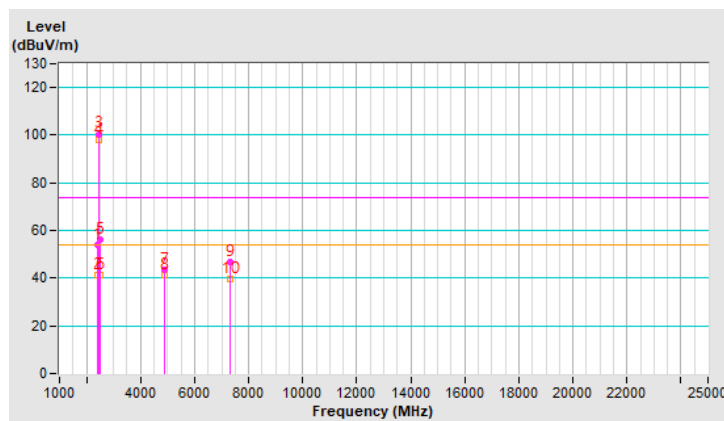


<b>RF Mode</b>	TX 802.11b	<b>Channel</b>	CH 6 : 2437 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	53.8 PK	74.0	-20.2	1.08 V	113	58.3	-4.5
2	2390.00	41.3 AV	54.0	-12.7	1.08 V	113	45.8	-4.5
3	*2437.00	100.5 PK			1.08 V	113	105.0	-4.5
4	*2437.00	98.1 AV			1.08 V	113	102.6	-4.5
5	2483.50	56.2 PK	74.0	-17.8	1.08 V	113	60.7	-4.5
6	2483.50	41.4 AV	54.0	-12.6	1.08 V	113	45.9	-4.5
7	4874.00	43.5 PK	74.0	-30.5	2.06 V	307	43.7	-0.2
8	4874.00	41.2 AV	54.0	-12.8	2.06 V	307	41.4	-0.2
9	7311.00	46.7 PK	74.0	-27.3	2.01 V	353	40.6	6.1
10	7311.00	39.8 AV	54.0	-14.2	2.01 V	353	33.7	6.1

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency, the limit was restricted at the RF Output Power.

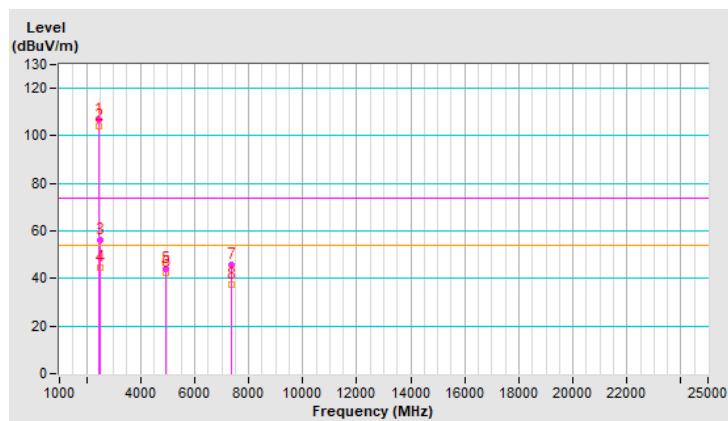


<b>RF Mode</b>	TX 802.11b	<b>Channel</b>	CH 11 : 2462 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	106.6 PK			1.41 H	144	111.1	-4.5
2	*2462.00	104.2 AV			1.41 H	144	108.7	-4.5
3	2483.50	56.1 PK	74.0	-17.9	1.41 H	144	60.6	-4.5
4	2483.50	44.6 AV	54.0	-9.4	1.41 H	144	49.1	-4.5
5	4924.00	43.9 PK	74.0	-30.1	2.71 H	44	43.9	0.0
6	4924.00	42.4 AV	54.0	-11.6	2.71 H	44	42.4	0.0
7	7386.00	45.8 PK	74.0	-28.2	1.53 H	25	39.4	6.4
8	7386.00	37.5 AV	54.0	-16.5	1.53 H	25	31.1	6.4

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency, the limit was restricted at the RF Output Power.

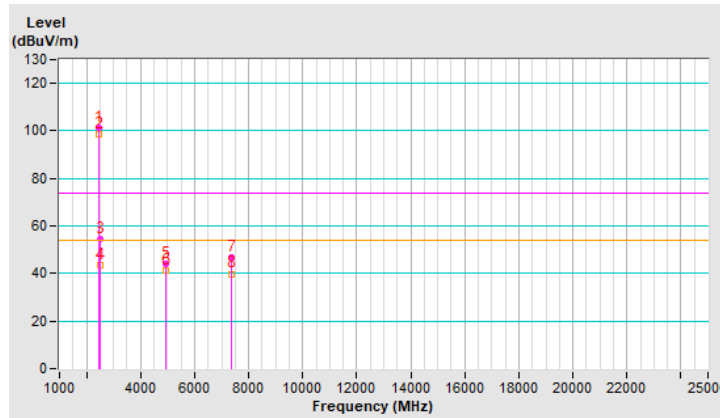


<b>RF Mode</b>	TX 802.11b	<b>Channel</b>	CH 11 : 2462 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	101.1 PK			1.03 V	88	105.6	-4.5
2	*2462.00	98.7 AV			1.03 V	88	103.2	-4.5
3	2483.50	54.6 PK	74.0	-19.4	1.03 V	88	59.1	-4.5
4	2483.50	43.5 AV	54.0	-10.5	1.03 V	88	48.0	-4.5
5	4924.00	43.8 PK	74.0	-30.2	2.10 V	311	43.8	0.0
6	4924.00	41.3 AV	54.0	-12.7	2.10 V	311	41.3	0.0
7	7386.00	46.9 PK	74.0	-27.1	2.02 V	357	40.5	6.4
8	7386.00	39.9 AV	54.0	-14.1	2.02 V	357	33.5	6.4

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency, the limit was restricted at the RF Output Power.



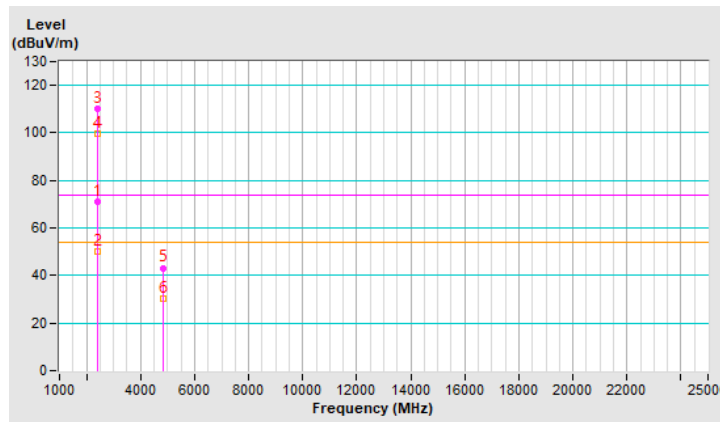


<b>RF Mode</b>	TX 802.11g	<b>Channel</b>	CH 1 : 2412 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	71.1 PK	74.0	-2.9	2.02 H	146	75.6	-4.5
2	2390.00	50.3 AV	54.0	-3.7	2.02 H	146	54.8	-4.5
3	*2412.00	110.0 PK			2.02 H	146	114.5	-4.5
4	*2412.00	99.7 AV			2.02 H	146	104.2	-4.5
5	4824.00	43.2 PK	74.0	-30.8	2.42 H	39	43.4	-0.2
6	4824.00	30.1 AV	54.0	-23.9	2.42 H	39	30.3	-0.2

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.

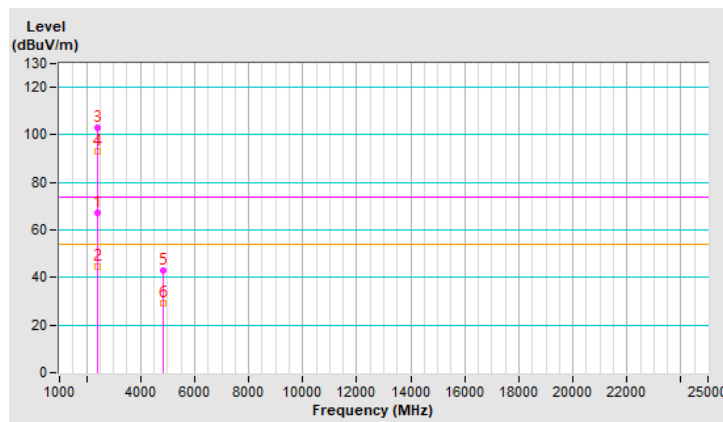


<b>RF Mode</b>	TX 802.11g	<b>Channel</b>	CH 1 : 2412 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	67.4 PK	74.0	-6.6	1.82 V	319	71.9	-4.5
2	2390.00	44.6 AV	54.0	-9.4	1.82 V	319	49.1	-4.5
3	*2412.00	102.9 PK			1.82 V	319	107.4	-4.5
4	*2412.00	93.2 AV			1.82 V	319	97.7	-4.5
5	4824.00	42.8 PK	74.0	-31.2	1.05 V	348	43.0	-0.2
6	4824.00	29.3 AV	54.0	-24.7	1.05 V	348	29.5	-0.2

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.

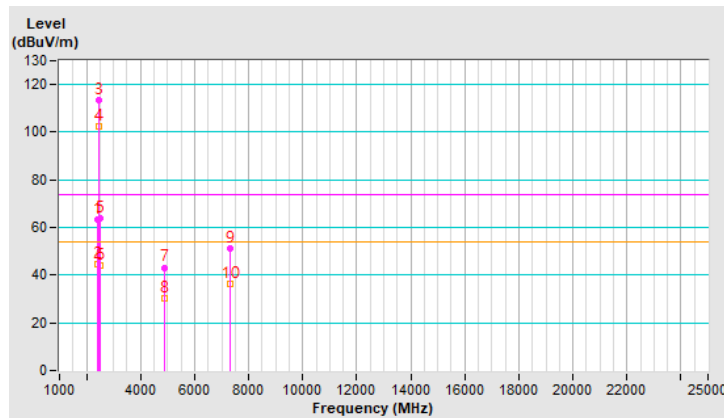


<b>RF Mode</b>	TX 802.11g	<b>Channel</b>	CH 6 : 2437 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	63.4 PK	74.0	-10.6	2.02 H	168	67.9	-4.5
2	2390.00	44.6 AV	54.0	-9.4	2.02 H	168	49.1	-4.5
3	*2437.00	113.4 PK			2.02 H	168	117.9	-4.5
4	*2437.00	102.2 AV			2.02 H	168	106.7	-4.5
5	2483.50	64.0 PK	74.0	-10.0	2.02 H	168	68.5	-4.5
6	2483.50	43.8 AV	54.0	-10.2	2.02 H	168	48.3	-4.5
7	4874.00	43.2 PK	74.0	-30.8	2.45 H	41	43.4	-0.2
8	4874.00	30.2 AV	54.0	-23.8	2.45 H	41	30.4	-0.2
9	7311.00	51.2 PK	74.0	-22.8	1.98 H	32	45.1	6.1
10	7311.00	36.2 AV	54.0	-17.8	1.98 H	32	30.1	6.1

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency, the limit was restricted at the RF Output Power.

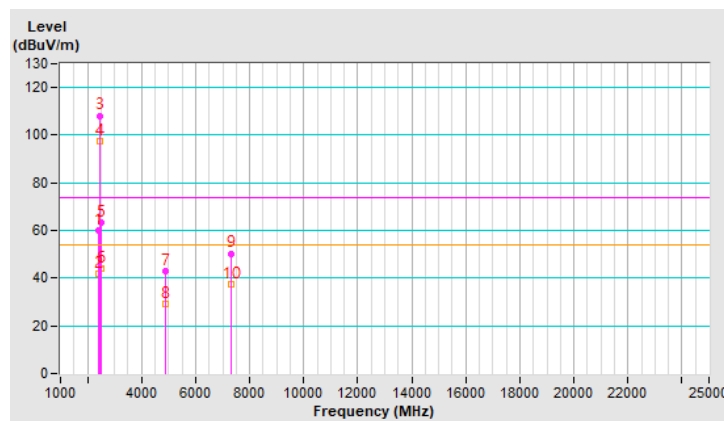


<b>RF Mode</b>	TX 802.11g	<b>Channel</b>	CH 6 : 2437 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	60.2 PK	74.0	-13.8	1.02 V	120	64.7	-4.5
2	2390.00	41.9 AV	54.0	-12.1	1.02 V	120	46.4	-4.5
3	*2437.00	108.2 PK			1.02 V	120	112.7	-4.5
4	*2437.00	97.3 AV			1.02 V	120	101.8	-4.5
5	2483.50	63.1 PK	74.0	-10.9	1.02 V	120	67.6	-4.5
6	2483.50	44.0 AV	54.0	-10.0	1.02 V	120	48.5	-4.5
7	4874.00	42.8 PK	74.0	-31.2	1.04 V	344	43.0	-0.2
8	4874.00	29.4 AV	54.0	-24.6	1.04 V	344	29.6	-0.2
9	7311.00	50.4 PK	74.0	-23.6	2.00 V	350	44.3	6.1
10	7311.00	37.2 AV	54.0	-16.8	2.00 V	350	31.1	6.1

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency, the limit was restricted at the RF Output Power.

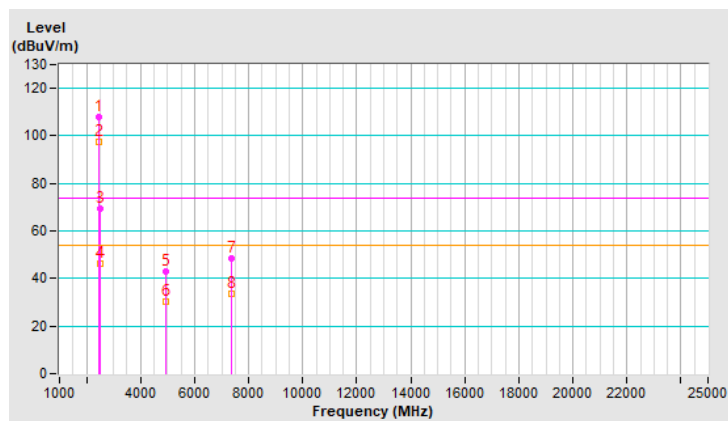


<b>RF Mode</b>	TX 802.11g	<b>Channel</b>	CH 11 : 2462 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	107.9 PK			1.48 H	139	112.4	-4.5
2	*2462.00	97.7 AV			1.48 H	139	102.2	-4.5
3	2483.50	69.4 PK	74.0	-4.6	1.48 H	139	73.9	-4.5
4	2483.50	46.4 AV	54.0	-7.6	1.48 H	139	50.9	-4.5
5	4924.00	42.9 PK	74.0	-31.1	2.43 H	51	42.9	0.0
6	4924.00	30.1 AV	54.0	-23.9	2.43 H	51	30.1	0.0
7	7386.00	48.5 PK	74.0	-25.5	1.96 H	30	42.1	6.4
8	7386.00	33.5 AV	54.0	-20.5	1.96 H	30	27.1	6.4

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency, the limit was restricted at the RF Output Power.

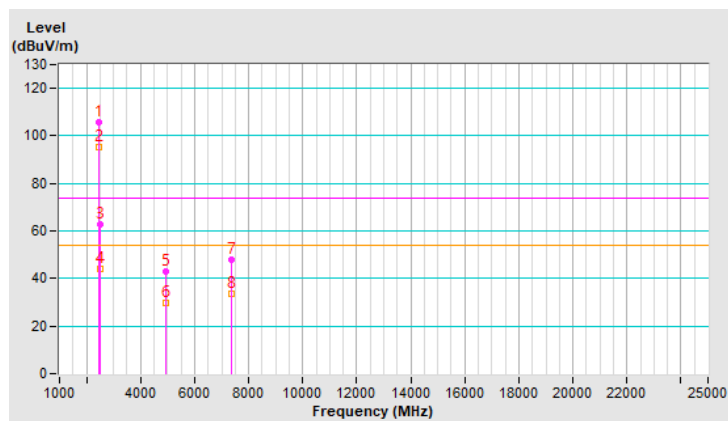


<b>RF Mode</b>	TX 802.11g	<b>Channel</b>	CH 11 : 2462 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	105.6 PK			1.04 V	119	110.1	-4.5
2	*2462.00	95.5 AV			1.04 V	119	100.0	-4.5
3	2483.50	63.0 PK	74.0	-11.0	1.04 V	119	67.5	-4.5
4	2483.50	43.9 AV	54.0	-10.1	1.04 V	119	48.4	-4.5
5	4924.00	42.9 PK	74.0	-31.1	1.08 V	353	42.9	0.0
6	4924.00	29.5 AV	54.0	-24.5	1.08 V	353	29.5	0.0
7	7386.00	47.9 PK	74.0	-26.1	1.96 V	2	41.5	6.4
8	7386.00	33.8 AV	54.0	-20.2	1.96 V	2	27.4	6.4

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency, the limit was restricted at the RF Output Power.

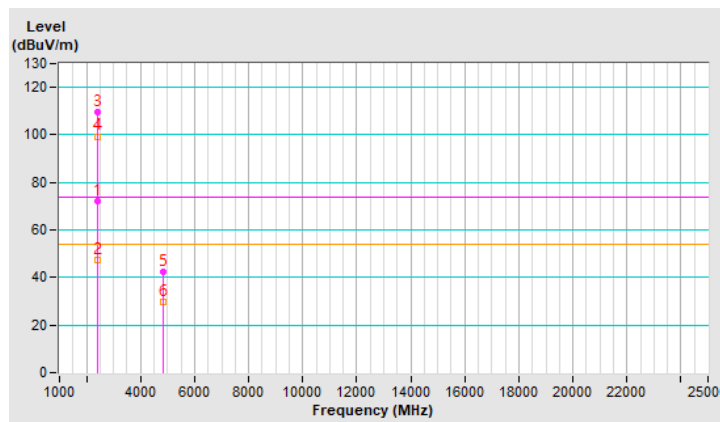


<b>RF Mode</b>	TX 802.11n (HT20)	<b>Channel</b>	CH 1 : 2412 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	72.2 PK	74.0	-1.8	1.32 H	146	76.7	-4.5
2	2390.00	47.4 AV	54.0	-6.6	1.32 H	146	51.9	-4.5
3	*2412.00	109.5 PK			1.32 H	146	114.0	-4.5
4	*2412.00	99.4 AV			1.32 H	146	103.9	-4.5
5	4824.00	42.4 PK	74.0	-31.6	2.38 H	44	42.6	-0.2
6	4824.00	29.5 AV	54.0	-24.5	2.38 H	44	29.7	-0.2

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.

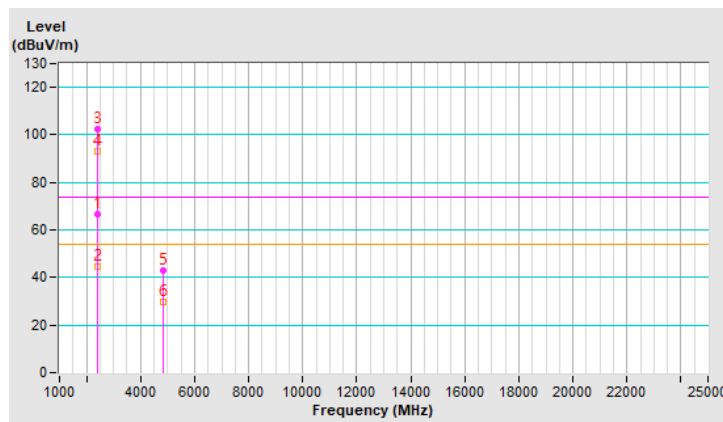


<b>RF Mode</b>	TX 802.11n (HT20)	<b>Channel</b>	CH 1 : 2412 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	66.6 PK	74.0	-7.4	2.11 V	11	71.1	-4.5
2	2390.00	44.5 AV	54.0	-9.5	2.11 V	11	49.0	-4.5
3	*2412.00	102.5 PK			2.11 V	11	107.0	-4.5
4	*2412.00	93.2 AV			2.11 V	11	97.7	-4.5
5	4824.00	43.0 PK	74.0	-31.0	1.08 V	3	43.2	-0.2
6	4824.00	29.6 AV	54.0	-24.4	1.08 V	3	29.8	-0.2

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.



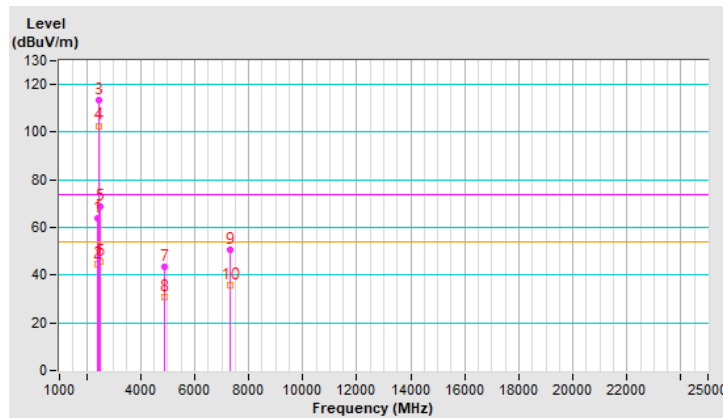


<b>RF Mode</b>	TX 802.11n (HT20)	<b>Channel</b>	CH 6 : 2437 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	63.9 PK	74.0	-10.1	1.31 H	148	68.4	-4.5
2	2390.00	44.8 AV	54.0	-9.2	1.31 H	148	49.3	-4.5
3	*2437.00	113.3 PK			1.31 H	148	117.8	-4.5
4	*2437.00	102.7 AV			1.31 H	148	107.2	-4.5
5	2483.50	68.9 PK	74.0	-5.1	1.31 H	148	73.4	-4.5
6	2483.50	45.9 AV	54.0	-8.1	1.31 H	148	50.4	-4.5
7	4874.00	43.4 PK	74.0	-30.6	2.42 H	43	43.6	-0.2
8	4874.00	30.6 AV	54.0	-23.4	2.42 H	43	30.8	-0.2
9	7311.00	50.5 PK	74.0	-23.5	1.99 H	30	44.4	6.1
10	7311.00	35.8 AV	54.0	-18.2	1.99 H	30	29.7	6.1

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency, the limit was restricted at the RF Output Power.

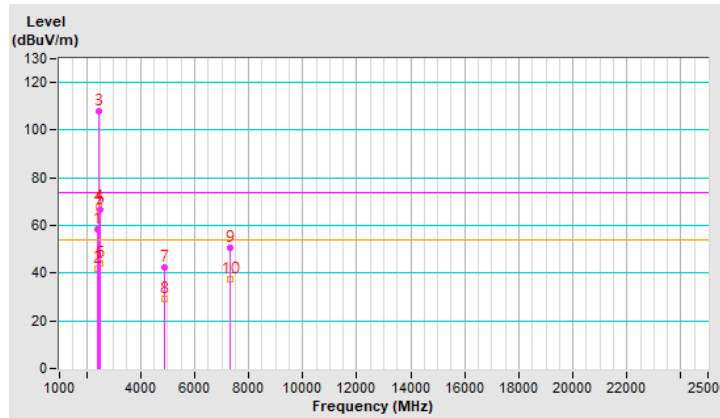


<b>RF Mode</b>	TX 802.11n (HT20)	<b>Channel</b>	CH 6 : 2437 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	58.6 PK	74.0	-15.4	1.10 V	212	63.1	-4.5
2	2390.00	41.8 AV	54.0	-12.2	1.10 V	212	46.3	-4.5
3	*2437.00	108.0 PK			1.10 V	212	112.5	-4.5
4	*2437.00	67.6 AV			1.10 V	212	72.1	-4.5
5	2483.50	66.4 PK	74.0	-7.6	1.10 V	212	70.9	-4.5
6	2483.50	43.9 AV	54.0	-10.1	1.10 V	212	48.4	-4.5
7	4874.00	42.6 PK	74.0	-31.4	1.06 V	340	42.8	-0.2
8	4874.00	29.1 AV	54.0	-24.9	1.06 V	340	29.3	-0.2
9	7311.00	50.7 PK	74.0	-23.3	1.99 V	346	44.6	6.1
10	7311.00	37.2 AV	54.0	-16.8	1.99 V	346	31.1	6.1

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency, the limit was restricted at the RF Output Power.

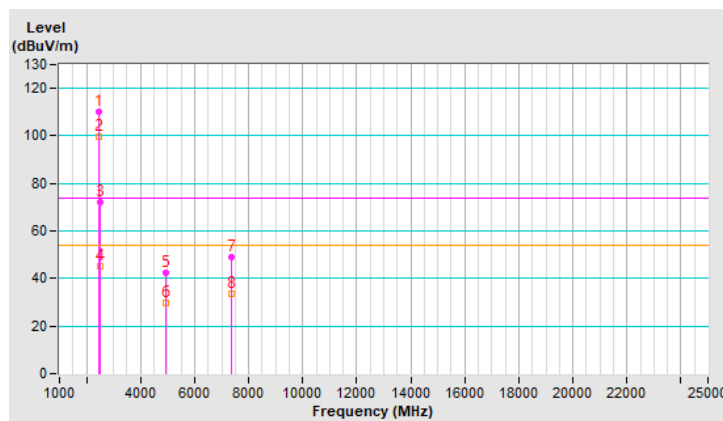


<b>RF Mode</b>	TX 802.11n (HT20)	<b>Channel</b>	CH 11 : 2462 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	110.0 PK			1.29 H	148	114.5	-4.5
2	*2462.00	99.7 AV			1.29 H	148	104.2	-4.5
3	2483.50	72.3 PK	74.0	-1.7	1.29 H	148	76.8	-4.5
4	2483.50	45.4 AV	54.0	-8.6	1.29 H	148	49.9	-4.5
5	4924.00	42.6 PK	74.0	-31.4	2.40 H	40	42.6	0.0
6	4924.00	29.7 AV	54.0	-24.3	2.40 H	40	29.7	0.0
7	7386.00	49.1 PK	74.0	-24.9	1.91 H	36	42.7	6.4
8	7386.00	33.8 AV	54.0	-20.2	1.91 H	36	27.4	6.4

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.

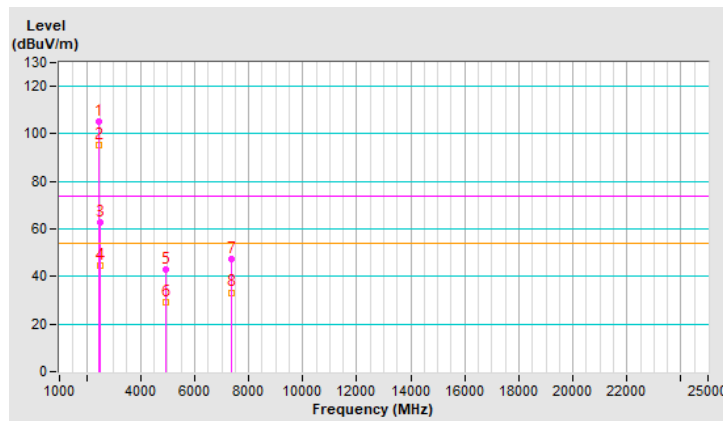


<b>RF Mode</b>	TX 802.11n (HT20)	<b>Channel</b>	CH 11 : 2462 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	105.1 PK			1.04 V	121	109.6	-4.5
2	*2462.00	95.5 AV			1.04 V	121	100.0	-4.5
3	2483.50	62.7 PK	74.0	-11.3	1.04 V	121	67.2	-4.5
4	2483.50	44.5 AV	54.0	-9.5	1.04 V	121	49.0	-4.5
5	4924.00	42.8 PK	74.0	-31.2	1.13 V	7	42.8	0.0
6	4924.00	29.4 AV	54.0	-24.6	1.13 V	7	29.4	0.0
7	7386.00	47.3 PK	74.0	-26.7	1.90 V	358	40.9	6.4
8	7386.00	33.3 AV	54.0	-20.7	1.90 V	358	26.9	6.4

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency, the limit was restricted at the RF Output Power.

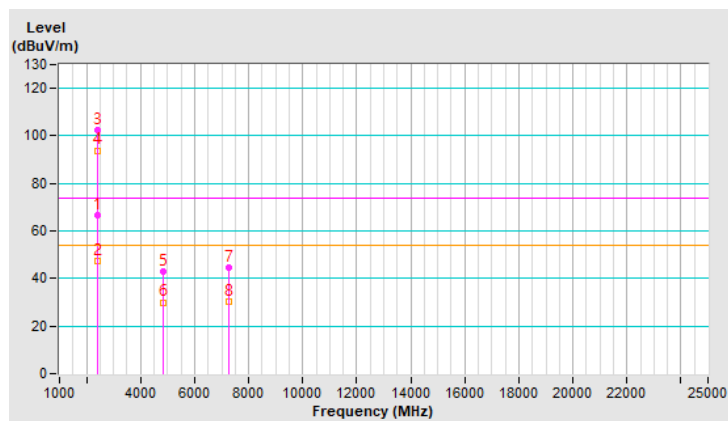


<b>RF Mode</b>	TX 802.11n (HT40)	<b>Channel</b>	CH 3 : 2422 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	66.6 PK	74.0	-7.4	1.31 H	141	71.1	-4.5
2	2390.00	47.2 AV	54.0	-6.8	1.31 H	141	51.7	-4.5
3	*2422.00	102.5 PK			1.31 H	141	107.0	-4.5
4	*2422.00	93.9 AV			1.31 H	141	98.4	-4.5
5	4844.00	43.0 PK	74.0	-31.0	2.31 H	43	43.3	-0.3
6	4844.00	30.0 AV	54.0	-24.0	2.31 H	43	30.3	-0.3
7	7266.00	44.7 PK	74.0	-29.3	1.84 H	28	38.7	6.0
8	7266.00	30.2 AV	54.0	-23.8	1.84 H	28	24.2	6.0

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency, the limit was restricted at the RF Output Power.

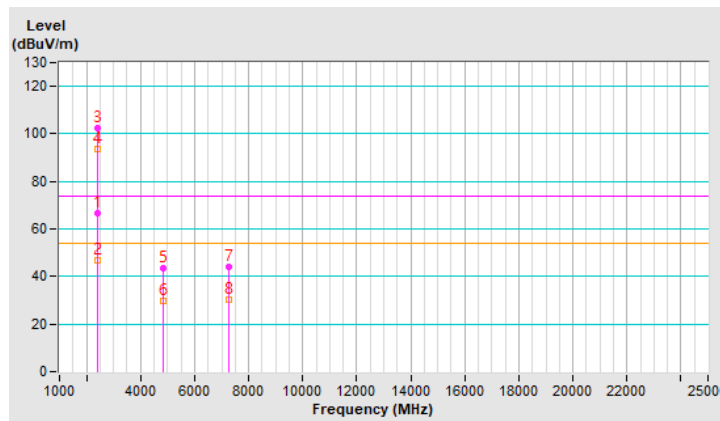


<b>RF Mode</b>	TX 802.11n (HT40)	<b>Channel</b>	CH 3 : 2422 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	66.5 PK	74.0	-7.5	1.09 V	118	71.0	-4.5
2	2390.00	46.7 AV	54.0	-7.3	1.09 V	118	51.2	-4.5
3	*2422.00	102.4 PK			1.09 V	118	106.9	-4.5
4	*2422.00	93.8 AV			1.09 V	118	98.3	-4.5
5	4844.00	43.6 PK	74.0	-30.4	1.08 V	357	43.9	-0.3
6	4844.00	29.7 AV	54.0	-24.3	1.08 V	357	30.0	-0.3
7	7266.00	44.0 PK	74.0	-30.0	2.00 V	359	38.0	6.0
8	7266.00	30.1 AV	54.0	-23.9	2.00 V	359	24.1	6.0

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency, the limit was restricted at the RF Output Power.

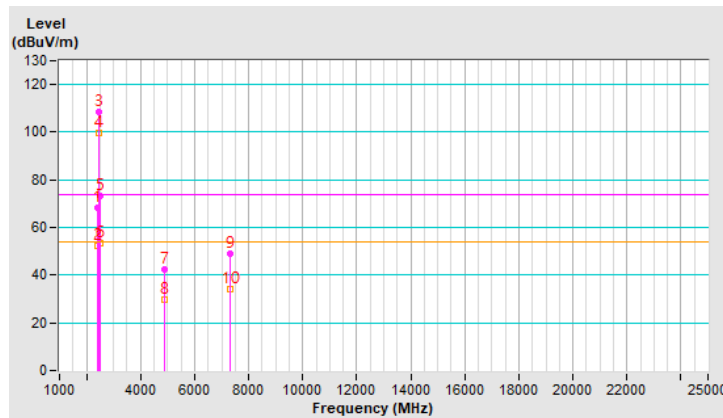


<b>RF Mode</b>	TX 802.11n (HT40)	<b>Channel</b>	CH 6 : 2437 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	68.1 PK	74.0	-5.9	1.29 H	140	72.6	-4.5
2	2390.00	52.2 AV	54.0	-1.8	1.29 H	140	56.7	-4.5
3	*2437.00	108.4 PK			1.29 H	140	112.9	-4.5
4	*2437.00	99.9 AV			1.29 H	140	104.4	-4.5
5	2483.50	73.3 PK	74.0	-0.7	1.29 H	140	77.8	-4.5
<b>6</b>	<b>2483.50</b>	<b>53.6 AV</b>	<b>54.0</b>	<b>-0.4</b>	<b>1.29 H</b>	<b>140</b>	<b>58.1</b>	<b>-4.5</b>
7	4874.00	42.5 PK	74.0	-31.5	2.34 H	41	42.7	-0.2
8	4874.00	29.5 AV	54.0	-24.5	2.34 H	41	29.7	-0.2
9	7311.00	49.0 PK	74.0	-25.0	1.89 H	44	42.9	6.1
10	7311.00	33.9 AV	54.0	-20.1	1.89 H	44	27.8	6.1

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.

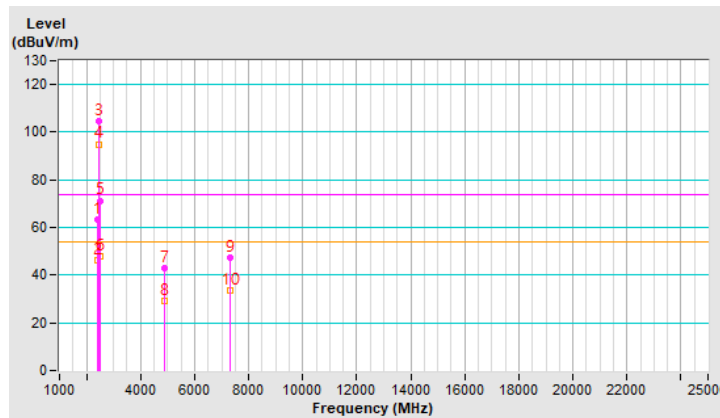


<b>RF Mode</b>	TX 802.11n (HT40)	<b>Channel</b>	CH 6 : 2437 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	63.2 PK	74.0	-10.8	1.02 V	118	67.7	-4.5
2	2390.00	46.2 AV	54.0	-7.8	1.02 V	118	50.7	-4.5
3	*2437.00	104.6 PK			1.02 V	118	109.1	-4.5
4	*2437.00	95.0 AV			1.02 V	118	99.5	-4.5
5	2483.50	71.3 PK	74.0	-2.7	1.02 V	118	75.8	-4.5
6	2483.50	48.0 AV	54.0	-6.0	1.02 V	118	52.5	-4.5
7	4874.00	42.9 PK	74.0	-31.1	1.09 V	6	43.1	-0.2
8	4874.00	29.3 AV	54.0	-24.7	1.09 V	6	29.5	-0.2
9	7311.00	47.6 PK	74.0	-26.4	1.87 V	358	41.5	6.1
10	7311.00	33.4 AV	54.0	-20.6	1.87 V	358	27.3	6.1

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.



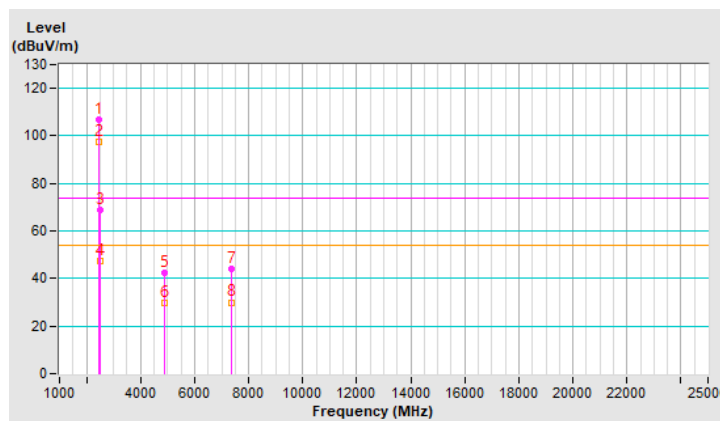


<b>RF Mode</b>	TX 802.11n (HT40)	<b>Channel</b>	CH 9 : 2452 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2452.00	106.6 PK			1.31 H	147	111.1	-4.5
2	*2452.00	97.4 AV			1.31 H	147	101.9	-4.5
3	2483.50	68.6 PK	74.0	-5.4	1.31 H	147	73.1	-4.5
4	2483.50	47.3 AV	54.0	-6.7	1.31 H	147	51.8	-4.5
5	4904.00	42.5 PK	74.0	-31.5	2.32 H	47	42.6	-0.1
6	4904.00	29.7 AV	54.0	-24.3	2.32 H	47	29.8	-0.1
7	7356.00	44.3 PK	74.0	-29.7	1.84 H	31	38.1	6.2
8	7356.00	30.0 AV	54.0	-24.0	1.84 H	31	23.8	6.2

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.

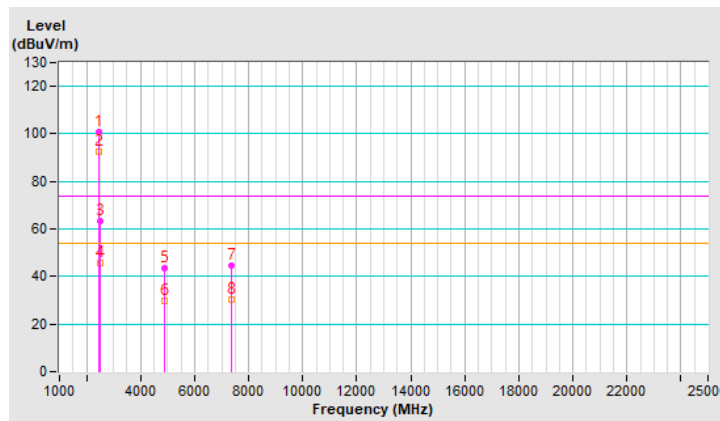


<b>RF Mode</b>	TX 802.11n (HT40)	<b>Channel</b>	CH 9 : 2452 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 66% RH
<b>Tested By</b>	Tom Yang		

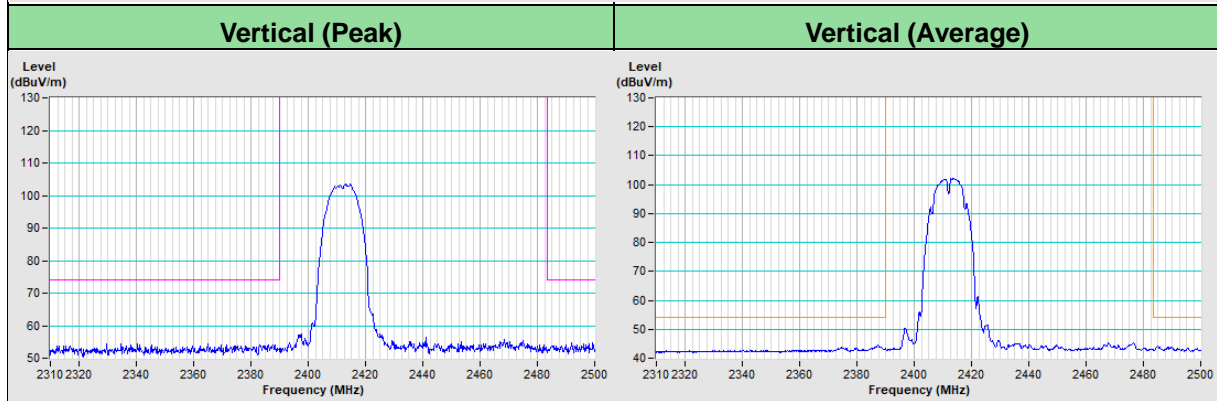
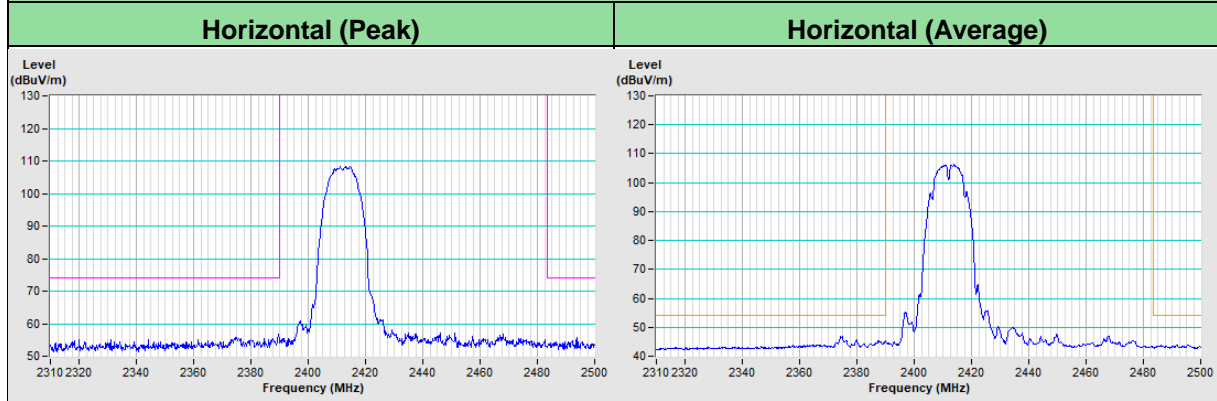
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2452.00	100.9 PK			1.07 V	119	105.4	-4.5
2	*2452.00	92.5 AV			1.07 V	119	97.0	-4.5
3	2483.50	63.5 PK	74.0	-10.5	1.07 V	119	68.0	-4.5
4	2483.50	45.7 AV	54.0	-8.3	1.07 V	119	50.2	-4.5
5	4904.00	43.4 PK	74.0	-30.6	1.04 V	344	43.5	-0.1
6	4904.00	29.5 AV	54.0	-24.5	1.04 V	344	29.6	-0.1
7	7356.00	44.4 PK	74.0	-29.6	2.01 V	344	38.2	6.2
8	7356.00	30.3 AV	54.0	-23.7	2.01 V	344	24.1	6.2

**Remarks:**

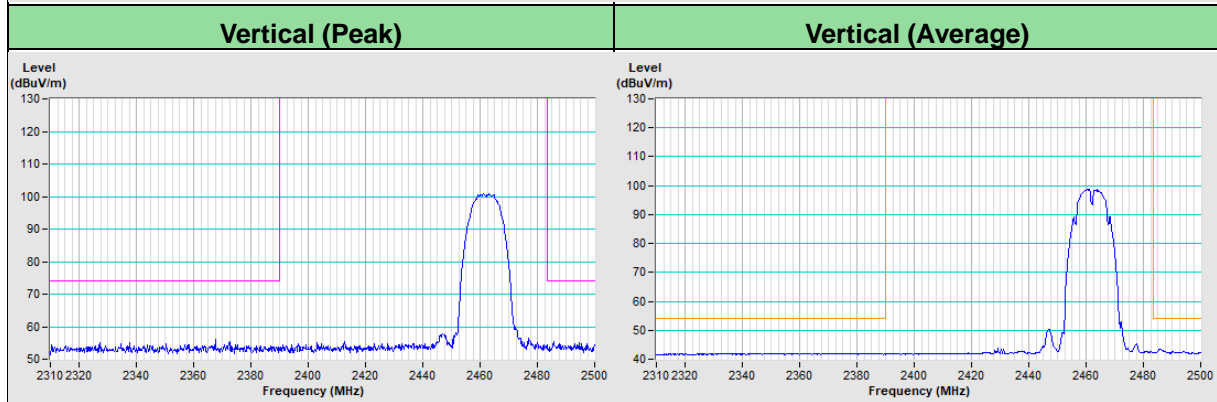
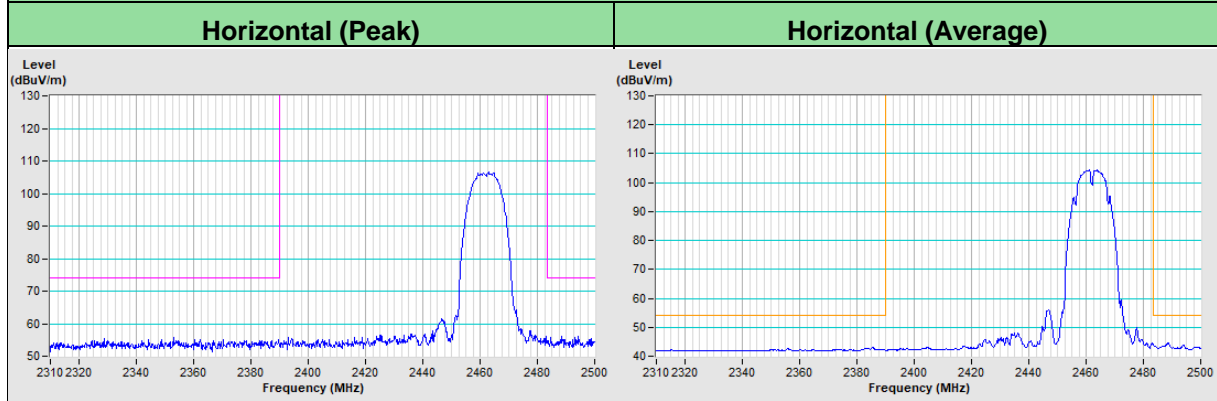
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.



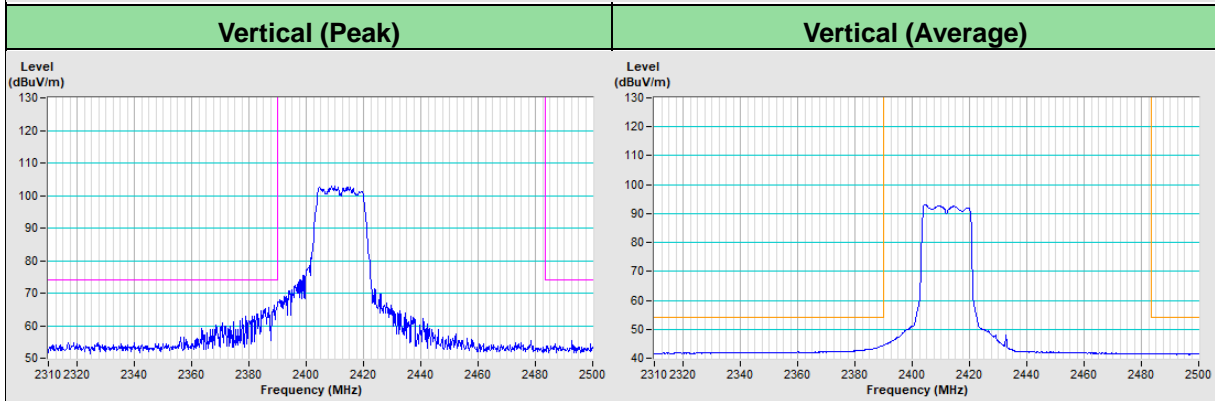
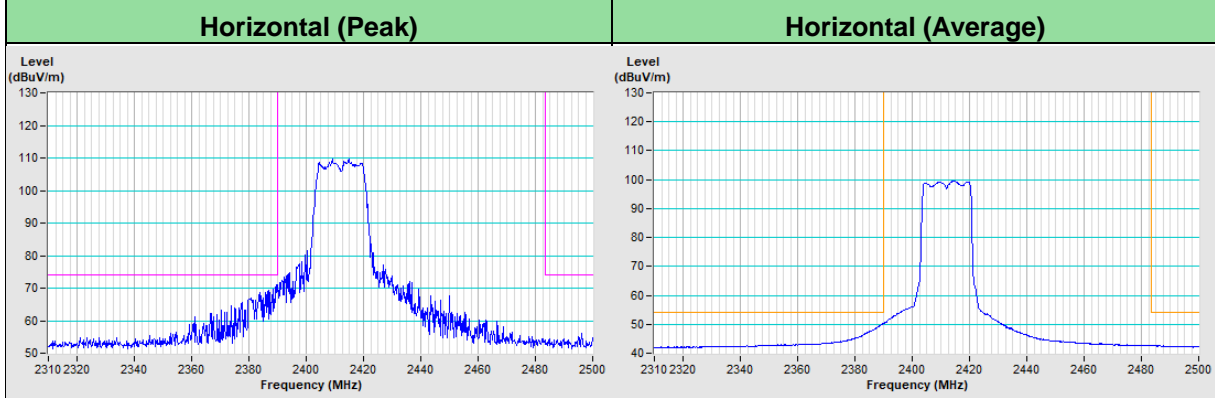
### 802.11b Channel 1



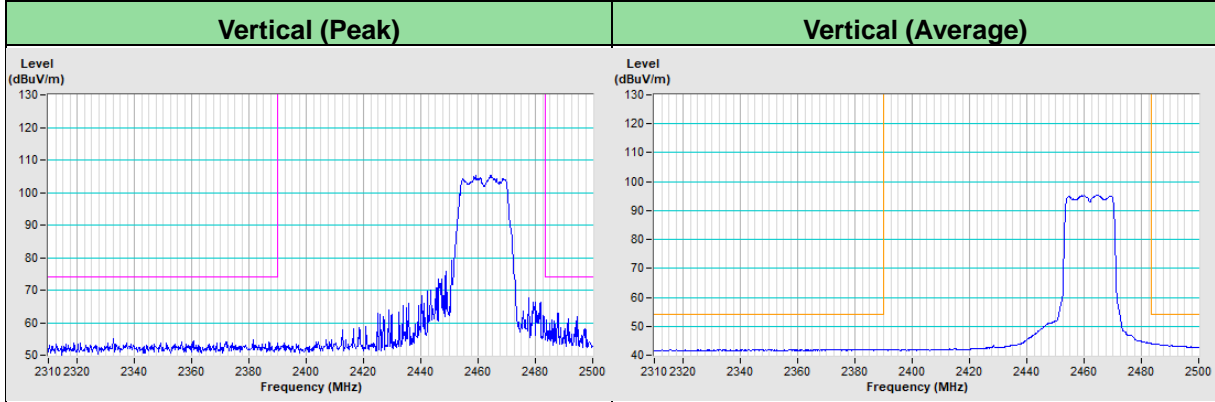
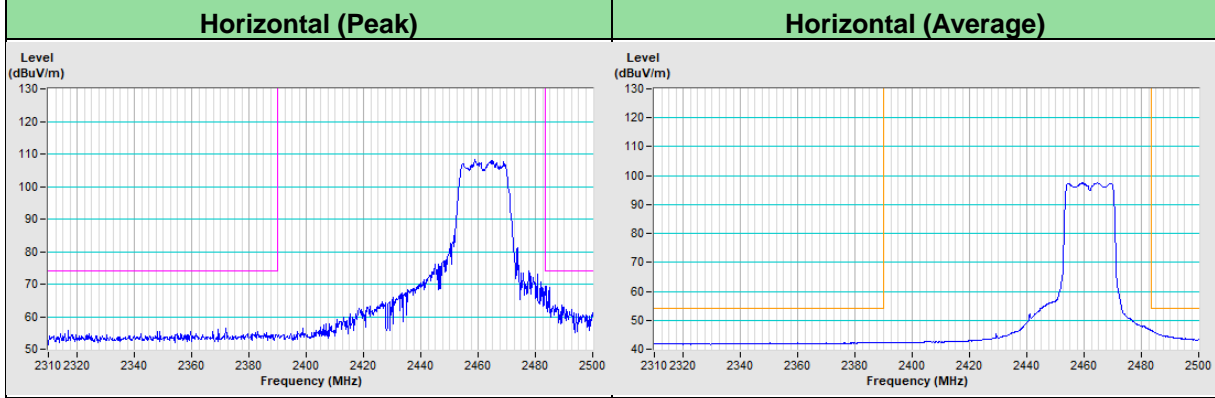
### 802.11b Channel 11



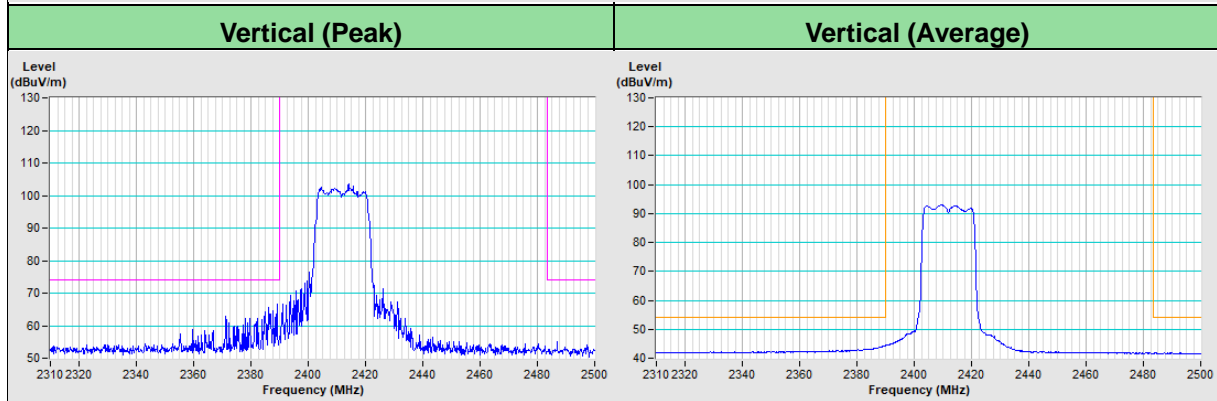
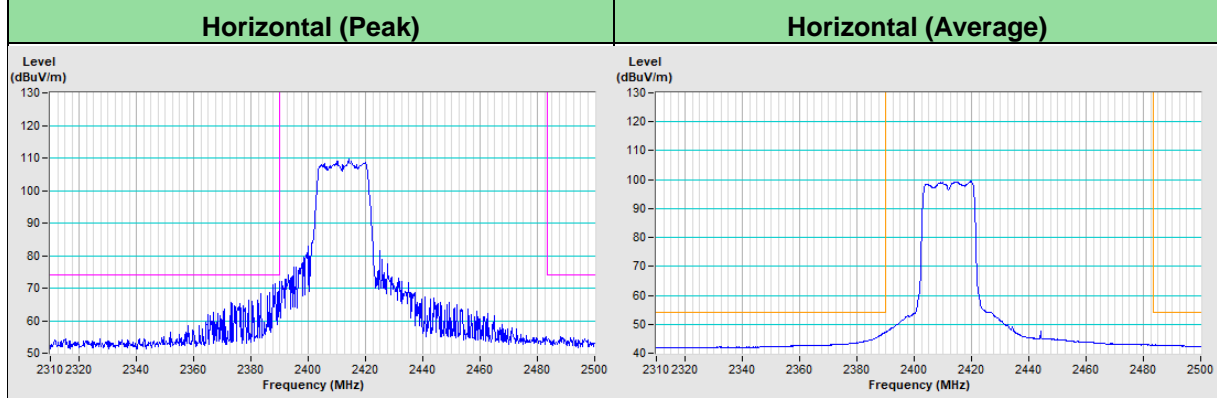
### 802.11g Channel 1



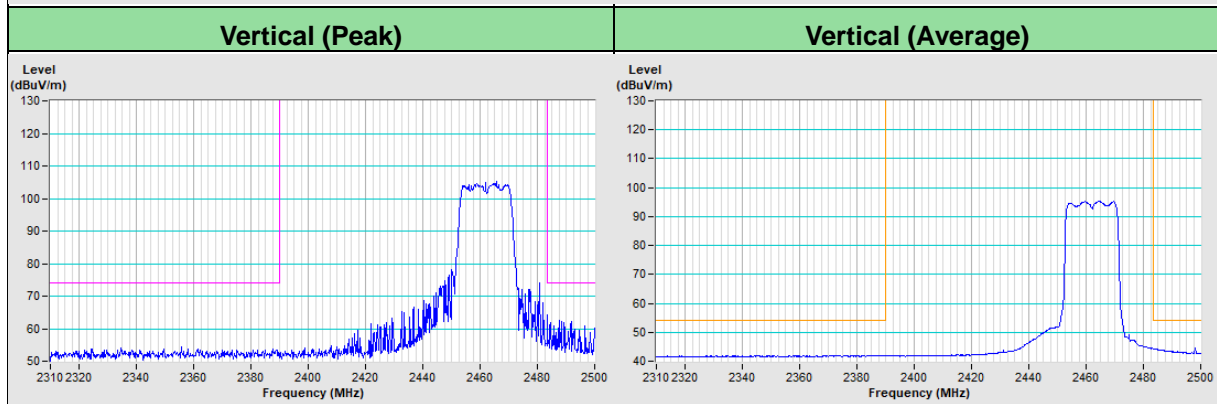
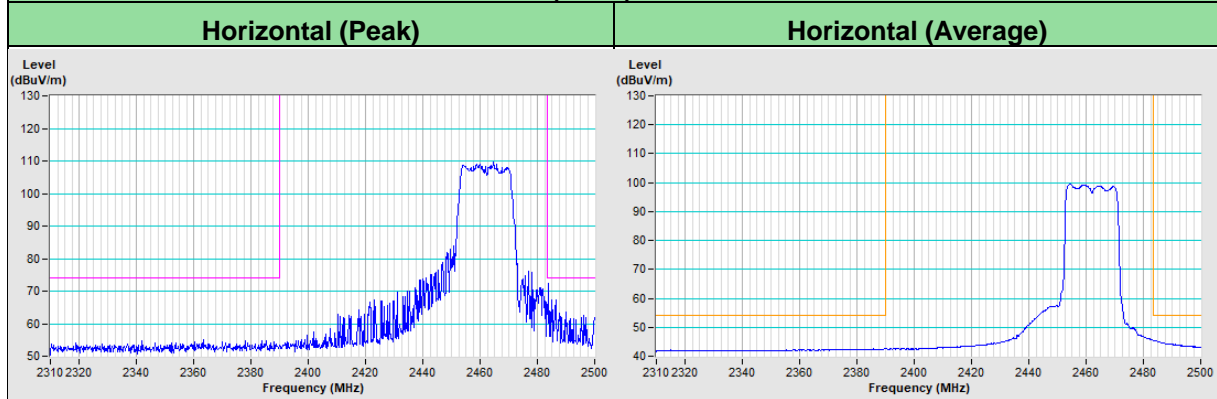
### 802.11g Channel 11



### 802.11n (HT20) Channel 1

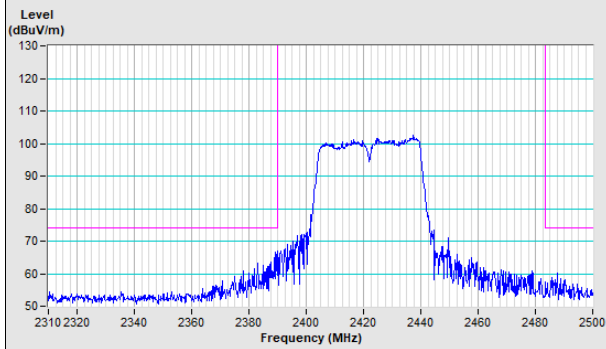


### 802.11n (HT20) Channel 11

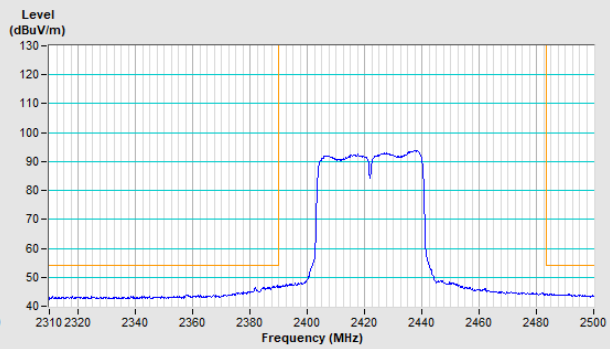


### 802.11n (HT40) Channel 3

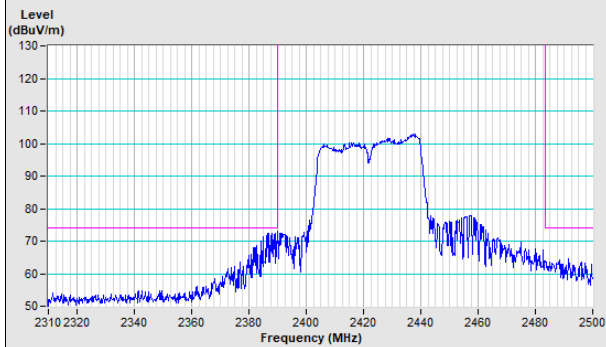
#### Horizontal (Peak)



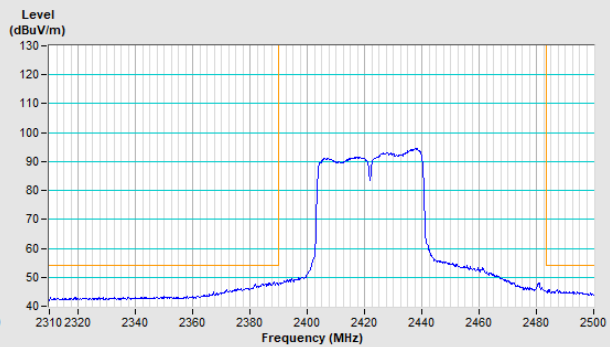
#### Horizontal (Average)



#### Vertical (Peak)

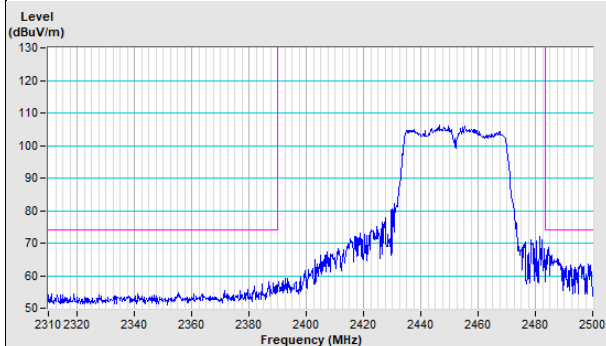


#### Vertical (Average)

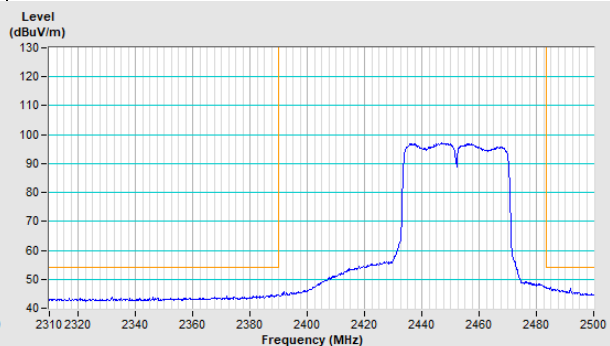


### 802.11n (HT40) Channel 9

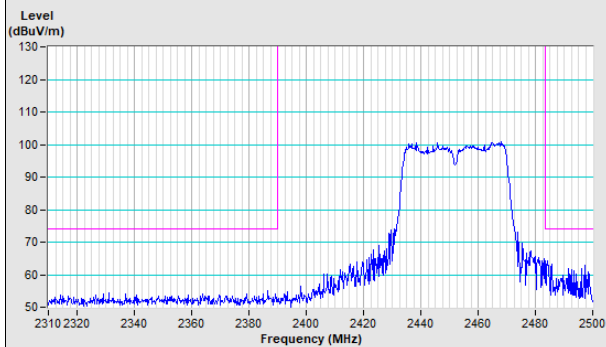
#### Horizontal (Peak)



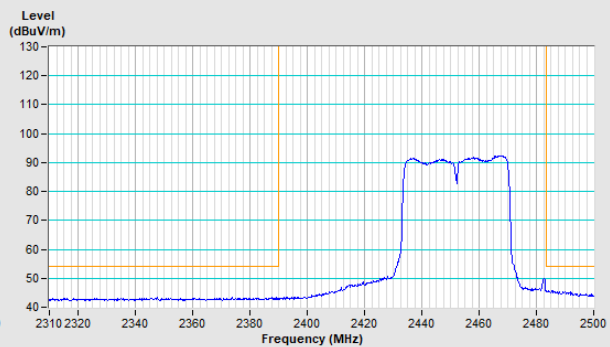
#### Horizontal (Average)



#### Vertical (Peak)



#### Vertical (Average)



## 8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

## 9 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:

**Lin Kou EMC/RF Lab**

Tel: 886-2-26052180

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**Hsin Chu EMC/RF/Telecom Lab**

Tel: 886-3-6668565

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Fax: 886-3-3270892

**Email:** [service.adt@bureauveritas.com](mailto:service.adt@bureauveritas.com)

**Web Site:** <http://ee.bureauveritas.com.tw>

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

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