

TEST REPORT

CERTIFICATE OF CONFORMITY

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

Report No.: RFBAOZ-WTW-P22120051

FCC ID: 2ADX1-SBCH10

Product: CHIME

Brand: SKYBELL

Model No.: CHIME

Received Date: 2022/12/20

Test Date: 2023/3/1 ~ 2023/3/15

Issued Date: 2023/5/25

Applicant: SkyBell Technologies Inc.

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

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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: _____, **Date:** 2023/5/25
May Chen / Manager

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Prepared by : Luna Yu / Specialist



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Table of Contents

Release Control Record	4
1 Certificate.....	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty	6
2.2 Supplementary Information	6
3 General Information	7
3.1 General Description	7
3.2 Antenna Description of EUT	8
3.3 Channel List	9
3.4 Test Mode Applicability and Tested Channel Detail	10
3.5 Duty Cycle of Test Signal	11
3.6 Test Program Used and Operation Descriptions	13
3.7 Connection Diagram of EUT and Peripheral Devices	13
3.8 Configuration of Peripheral Devices and Cable Connections	13
4 Test Instruments	14
4.1 RF Output Power	14
4.2 Power Spectral Density	14
4.3 6 dB Bandwidth	14
4.4 Conducted Out of Band Emissions	14
4.5 AC Power Conducted Emissions	15
4.6 Unwanted Emissions below 1 GHz	15
4.7 Unwanted Emissions above 1 GHz	16
5 Limits of Test Items.....	17
5.1 RF Output Power	17
5.2 Power Spectral Density	17
5.3 6 dB Bandwidth	17
5.4 Conducted Out of Band Emissions	17
5.5 AC Power Conducted Emissions	17
5.6 Unwanted Emissions below 1 GHz	17
5.7 Unwanted Emissions above 1 GHz	18
6 Test Arrangements	19
6.1 RF Output Power	19
6.1.1 Test Setup	19
6.1.2 Test Procedure	19
6.2 Power Spectral Density	19
6.2.1 Test Setup	19
6.2.2 Test Procedure	19
6.3 6 dB Bandwidth	20
6.3.1 Test Setup	20
6.3.2 Test Procedure	20
6.4 Conducted Out of Band Emissions	20
6.4.1 Test Setup	20
6.4.2 Test Procedure	20
6.5 AC Power Conducted Emissions	21
6.5.1 Test Setup	21
6.5.2 Test Procedure	21
6.6 Unwanted Emissions below 1 GHz	22
6.6.1 Test Setup	22
6.6.2 Test Procedure	23
6.7 Unwanted Emissions above 1 GHz	24
6.7.1 Test Setup	24
6.7.2 Test Procedure	24
7 Test Results of Test Item	25

7.1	RF Output Power	25
7.2	Power Spectral Density	27
7.3	6 dB Bandwidth	29
7.4	Conducted Out of Band Emissions	31
7.5	AC Power Conducted Emissions	35
7.6	Unwanted Emissions below 1 GHz	37
7.7	Unwanted Emissions above 1 GHz	39
8	Pictures of Test Arrangements	67
9	Information of the Testing Laboratories	68

Release Control Record

Issue No.	Description	Date Issued
RFBAOZ-WTW-P22120051	Original release.	2023/5/25

1 Certificate

Product: CHIME

Brand: SKYBELL

Test Model: CHIME

Sample Status: Engineering sample

Applicant: SkyBell Technologies Inc.

Test Date: 2023/3/1 ~ 2023/3/15

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	Pass	Meet the requirement of limit.
15.247(a)(2)	6 dB Bandwidth	Pass	Meet the requirement of limit.
15.247(d)	Conducted Out of Band Emissions	Pass	Meet the requirement of limit.
15.207	AC Power Conducted Emissions	Pass	Minimum passing margin is -9.96 dB at 0.45859 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -12.4 dB at 260.37 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.3 dB at 2390.00 MHz
15.203	Antenna Requirement	Pass	Antenna connector is IPEX not a standard connector.

Note: 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) (±)
Conducted Out of Band Emissions	9 kHz ~ 40 GHz	2.5 dB
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	5.1 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	5.0 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	CHIME
Brand	SKYBELL
Test Model	CHIME
Status of EUT	Engineering sample
Power Supply Rating	100-240 Vav, 50-60 Hz
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: up to 11 Mbps 802.11g: up to 54 Mbps 802.11n: up to 150 Mbps
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	368.978 mW (25.67 dBm)

Note:

1. There are Bluetooth and WLAN (2.4 GHz) technology used for the EUT.
2. Bluetooth and WLAN (2.4 GHz) technology cannot transmit at same time.
3. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Antenna No.	Model	Antenna Net Gain (dBi)	Frequency Range (MHz)	Antenna Type	Connector Type	Cable Length (cm)
1	2.00005749	1.1	2400~2500	Dipole	IPEX	8.5

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

2. The EUT incorporates a SISO function:

2.4 GHz Band		
Modulation Mode	TX & RX Configuration	
802.11b	1TX	1RX
802.11g	1TX	1RX
802.11n (HT20)	1TX	1RX
802.11n (HT40)	1TX	1RX

3.3 Channel List

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

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

7 channels are provided for 802.11n (HT40):

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

3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. 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. 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).
Worst Case:	1. X-axis / Y-axis / Z-axis Worst Condition: Y-axis

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 / Power Spectral Density	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
6 dB Bandwidth / Conducted Out of Band Emissions	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	802.11b	1	DBPSK	1Mb/s
Unwanted Emissions below 1 GHz	802.11b	1	DBPSK	1Mb/s
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

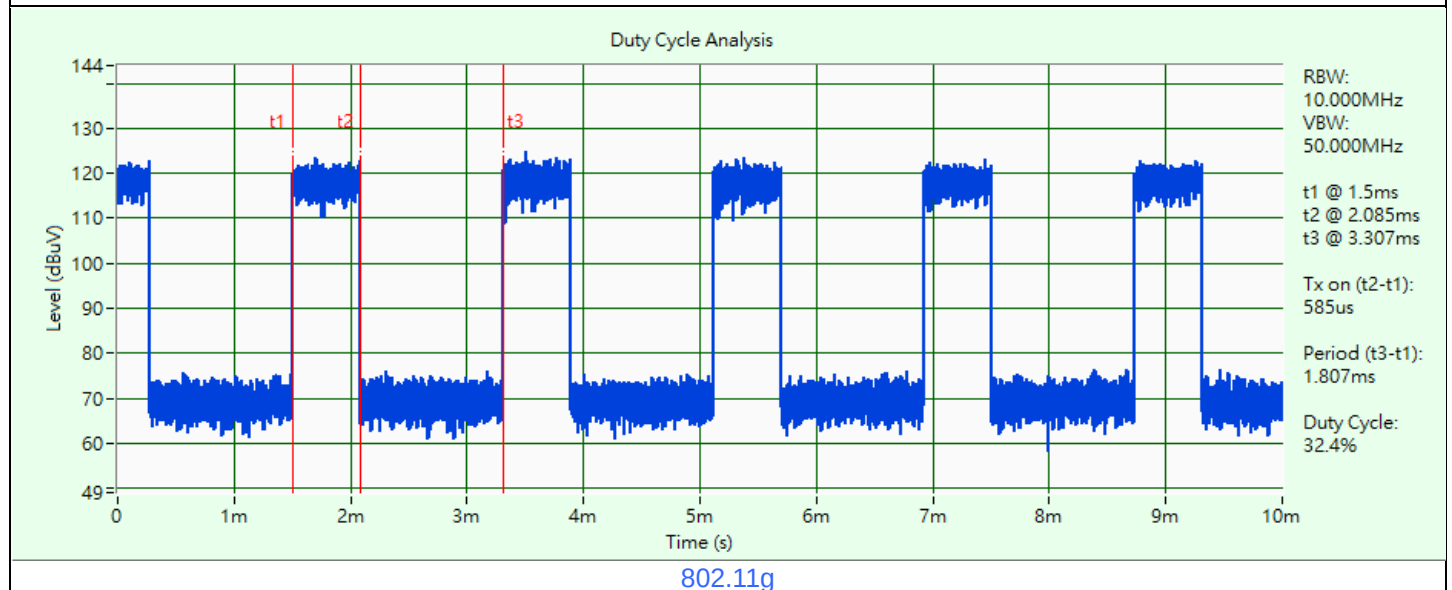
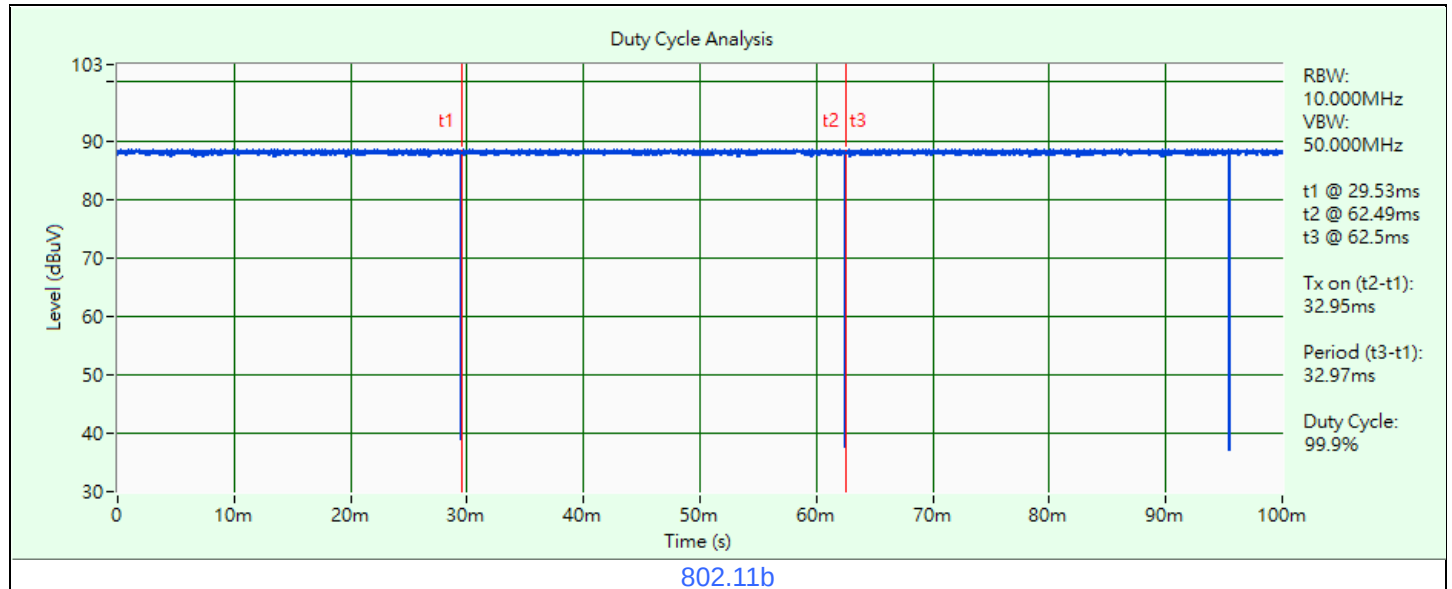
3.5 Duty Cycle of Test Signal

802.11b: Duty cycle = 32.95 ms / 32.97 ms x 100% = 99.9%

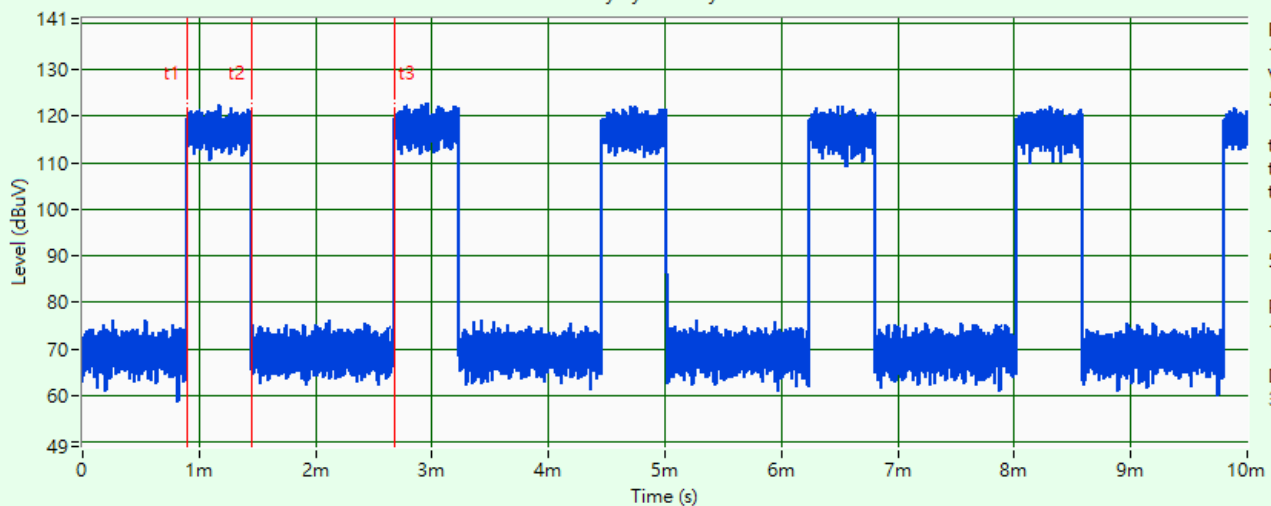
802.11g: Duty cycle = 0.585 ms / 1.807 ms x 100% = 32.4%, duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 4.90 \text{ dB}$

802.11n (HT20): Duty cycle = 0.56 ms / 1.782 ms x 100% = 31.4%, duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 5.03 \text{ dB}$

802.11n (HT40): Duty cycle = 0.561 ms / 1.783 ms x 100% = 31.5%, duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 5.02 \text{ dB}$

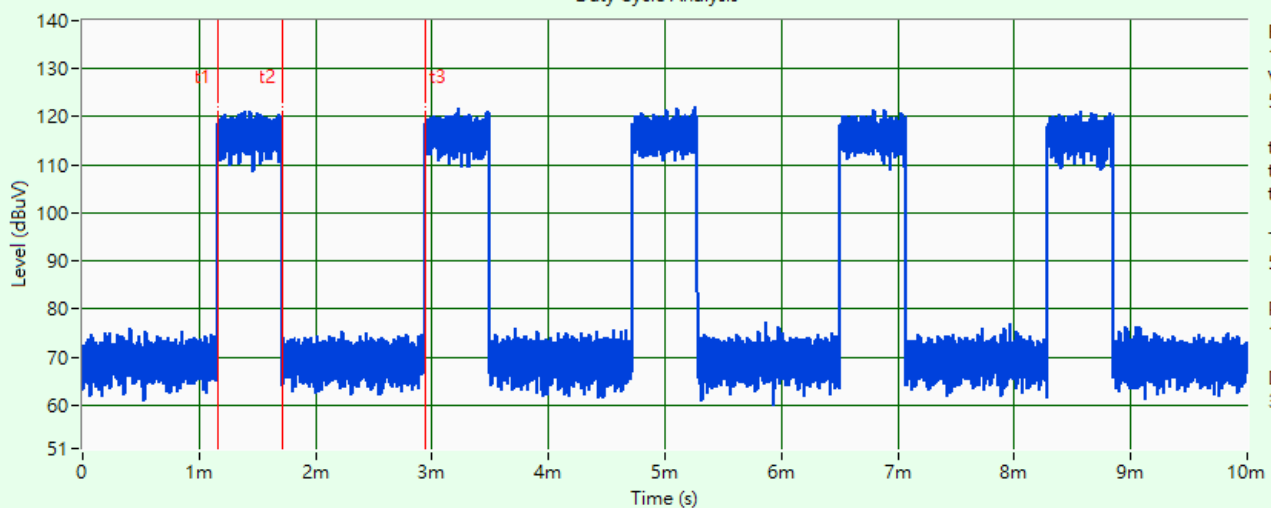


Duty Cycle Analysis



802.11n (HT20)

Duty Cycle Analysis

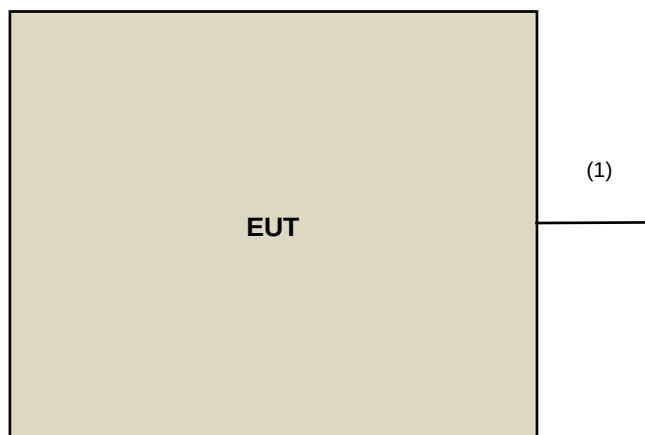


802.11n (HT40)

3.6 Test Program Used and Operation Descriptions

Controlling software (EspRFTestTool_v2.9_Manual) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.7 Connection Diagram of EUT and Peripheral Devices



3.8 Configuration of Peripheral Devices and Cable Connections

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	Console Cable	1	0.05	No	0	Supplied by applicant (for RF Setup)

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
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2022/4/5	2023/4/4
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2023/3/14

4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2022/4/5	2023/4/4
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer Keysight	N9020B	MY60112409	2023/2/18	2024/2/17

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2023/3/14

4.3 6 dB Bandwidth

Refer to section 4.2 to get information of the instruments.

4.4 Conducted Out of Band Emissions

Refer to section 4.2 to get information of the instruments.

4.5 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal resistance	N/A	EMC-01	2022/9/27	2023/9/26
Fixed attenuator STI	STI02-2200-10	005	2022/8/24	2023/8/23
LISN R&S	ESH3-Z5	848773/004	2022/10/18	2023/10/17
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	2022/10/14	2023/10/13

Notes:

1. The test was performed in Conduction 1
2. Tested Date: 2023/3/15

4.6 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Bilog Antenna Schwarzbeck	VULB 9168	9168-0942	2022/10/20	2023/10/19
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-01	2022/12/28	2023/12/27
LOOP ANTENNA Electro-Metrics	EM-6879	264	2022/3/18	2023/3/17
Pre_Amplifier EMCI	EMC001340	980142	2022/6/2	2023/6/1
Pre_Amplifier(20M-3G) EMCI	EMC330N	980852	2023/2/20	2024/2/19
RF Coaxial Cable COMMATE/PEWC	8D	966-6-1	2022/4/25	2023/4/24
		966-6-2	2022/4/25	2023/4/24
		966-6-3	2022/4/25	2023/4/24
RF Coaxial Cable JYEBO	5D-FB	LOOPCAB-001	2022/12/19	2023/12/18
		LOOPCAB-002	2022/12/19	2023/12/18
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A
Spectrum Analyzer Keysight	N9020B	MY60112410	2023/3/6	2024/3/5
Test Receiver KEYSIGHT	N9038A	MY59050100	2022/6/20	2023/6/19

Notes:

1. The test was performed in 966 Chamber No. 6.
2. Tested Date: 2023/3/15

4.7 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-2035	2022/11/13	2023/11/12
	BBHA 9170	BBHA9170519	2022/11/13	2023/11/12
Pre_Amplifier EMCI	EMC12630SE	980385	2022/8/15	2023/8/14
	EMC184045SE	980387	2022/12/28	2023/12/27
RF Cable EMCI	EMC104-SM-SM-1300	210205	2022/5/10	2023/5/9
RF Cable-Frequency range: 1- 40GHz EMCI	EMC102-KM-KM-1200	160924	2022/12/28	2023/12/27
RF Coaxial Cable EMCI	EMC-KM-KM-4000	200214	2023/2/20	2024/2/19
	EMC101G-KM-KM-10000	210708	2022/11/4	2023/11/3
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A
Spectrum Analyzer Keysight	N9020B	MY60112410	2022/3/13 2023/3/6	2023/3/12 2024/3/5
Test Receiver KEYSIGHT	N9038A	MY59050100	2022/6/20	2023/6/19

Notes:

1. The test was performed in 966 Chamber No. 6.
2. Tested Date: 2023/3/1 ~ 2023/3/15

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 Power Spectral Density

The Maximum of Power Spectral Density Measurement is 8 dBm in any 3 kHz.

5.3 6 dB Bandwidth

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

5.4 Conducted Out of Band Emissions

Below 20 dB of the highest emission level of operating band (in 100 kHz Resolution Bandwidth).

5.5 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.

5.6 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).

5.7 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

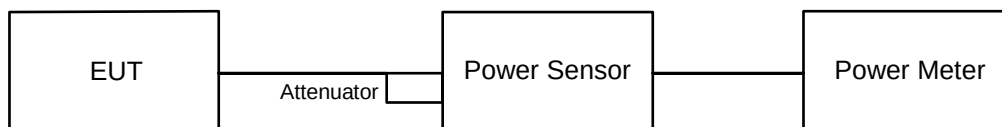
Notes:

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:

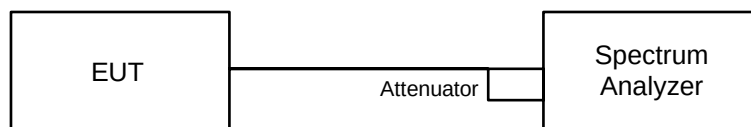
A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor. Record the power level.

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 Power Spectral Density

6.2.1 Test Setup

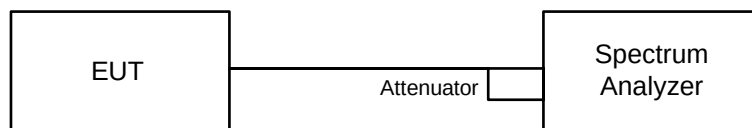


6.2.2 Test Procedure

- a. Set analyzer center frequency to DTS channel center frequency.
- b. Set the span to 1.5 times the DTS bandwidth.
- c. Set the RBW to: 3 kHz.
- d. Set the VBW $\geq 3 \times$ RBW.
- e. Detector = peak.
- f. Sweep time = auto couple.
- g. Trace mode = max hold.
- h. Allow trace to fully stabilize.
- i. Use the peak marker function to determine the maximum amplitude level within the RBW.

6.3 6 dB Bandwidth

6.3.1 Test Setup

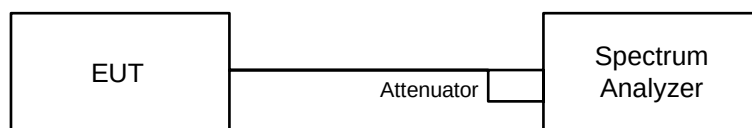


6.3.2 Test Procedure

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

6.4 Conducted Out of Band Emissions

6.4.1 Test Setup



6.4.2 Test Procedure

MEASUREMENT PROCEDURE REF

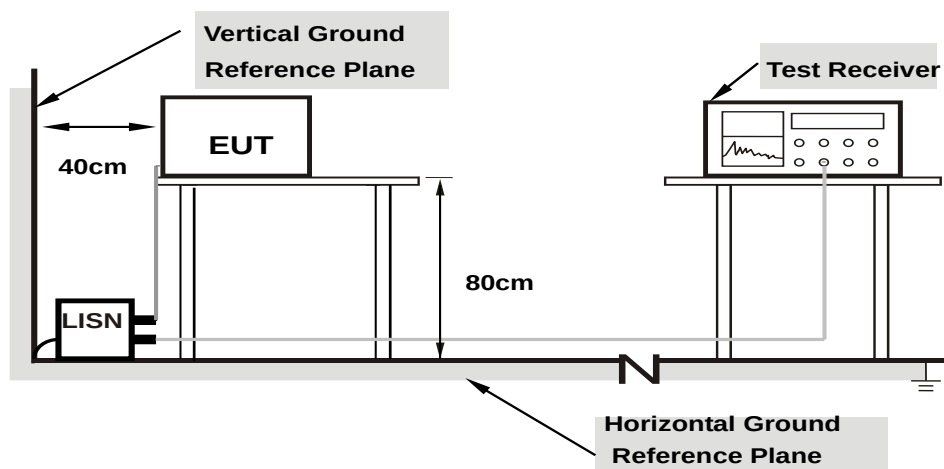
- Set the RBW = 100 kHz.
- Set the VBW ≥ 300 kHz.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

- Set RBW = 100 kHz.
- Set VBW ≥ 300 kHz.
- Detector = peak.
- Sweep = auto couple.
- Trace Mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level.

6.5 AC Power Conducted Emissions

6.5.1 Test Setup



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

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

6.5.2 Test Procedure

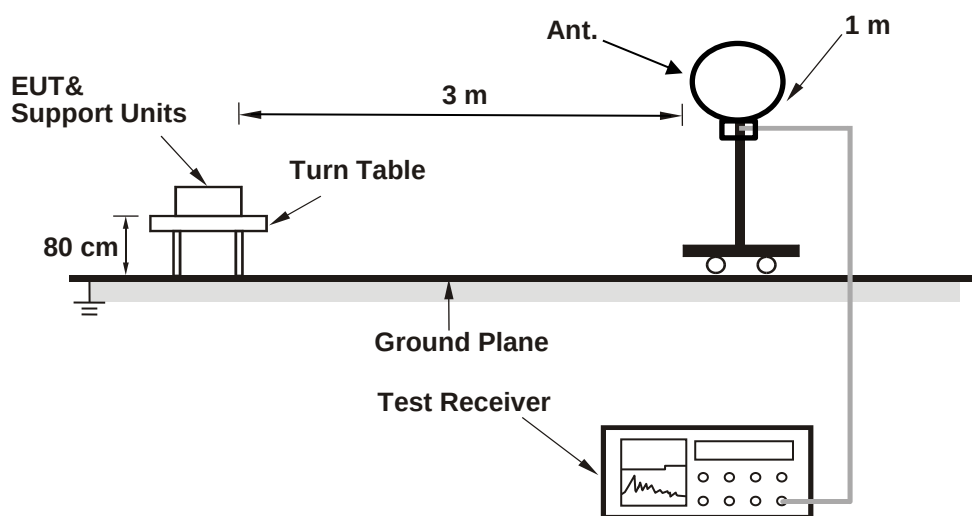
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The 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.

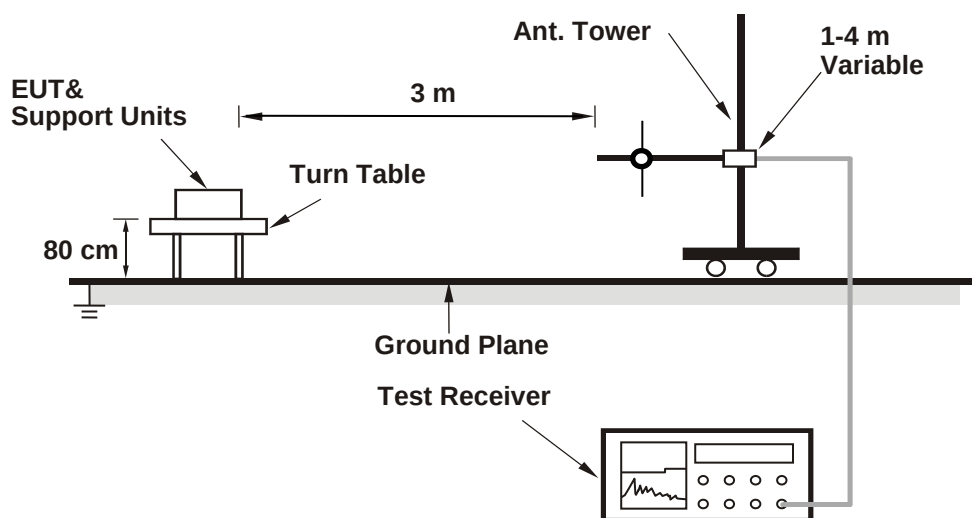
6.6 Unwanted Emissions below 1 GHz

6.6.1 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).

6.6.2 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

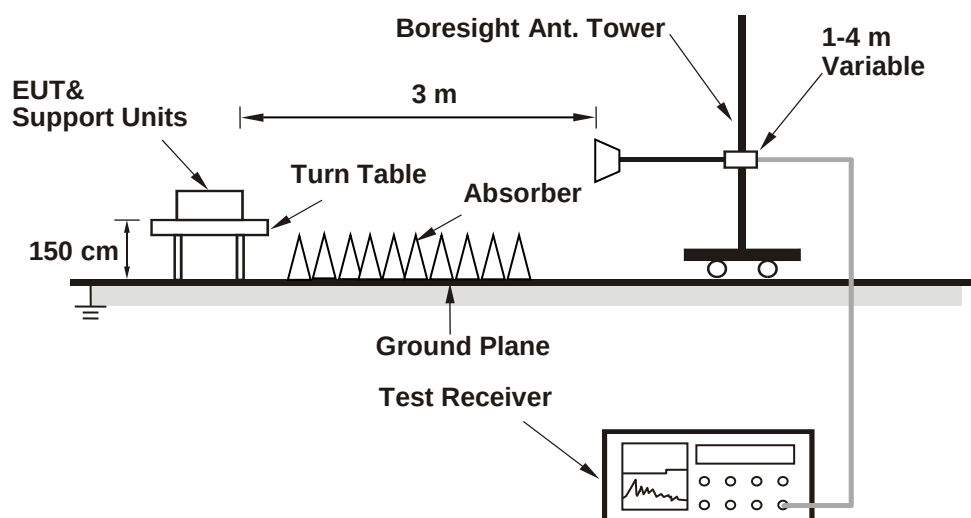
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the 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.

6.7 Unwanted Emissions above 1 GHz

6.7.1 Test Setup



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

6.7.2 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:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Katina Lu
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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	178.649	22.52	30	Pass
6	2437	150.661	21.78	30	Pass
11	2462	148.594	21.72	30	Pass

Note: The antenna gain is 1.1 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	272.27	24.35	30	Pass
6	2437	368.978	25.67	30	Pass
11	2462	284.446	24.54	30	Pass

Note: The antenna gain is 1.1 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	273.527	24.37	30	Pass
6	2437	351.56	25.46	30	Pass
11	2462	283.139	24.52	30	Pass

Note: The antenna gain is 1.1 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	345.144	25.38	30	Pass
6	2437	350.752	25.45	30	Pass
9	2452	357.273	25.53	30	Pass

Note: The antenna gain is 1.1 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	100.231	20.01
6	2437	81.47	19.11
11	2462	80.91	19.08

802.11g

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	42.855	16.32
6	2437	89.536	19.52
11	2462	45.186	16.55

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	42.855	16.32
6	2437	73.282	18.65
11	2462	42.756	16.31

802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
3	2422	72.111	18.58
6	2437	73.79	18.68
9	2452	75.336	18.77

7.2 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Katina Lu
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802.11b

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
1	2412	-2.63	8	Pass
6	2437	-3.36	8	Pass
11	2462	-2.55	8	Pass

Note: The antenna gain is 1.1 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11g

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
1	2412	-9.80	8	Pass
6	2437	-6.27	8	Pass
11	2462	-8.73	8	Pass

Note: The antenna gain is 1.1 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
1	2412	-9.10	8	Pass
6	2437	-6.32	8	Pass
11	2462	-8.65	8	Pass

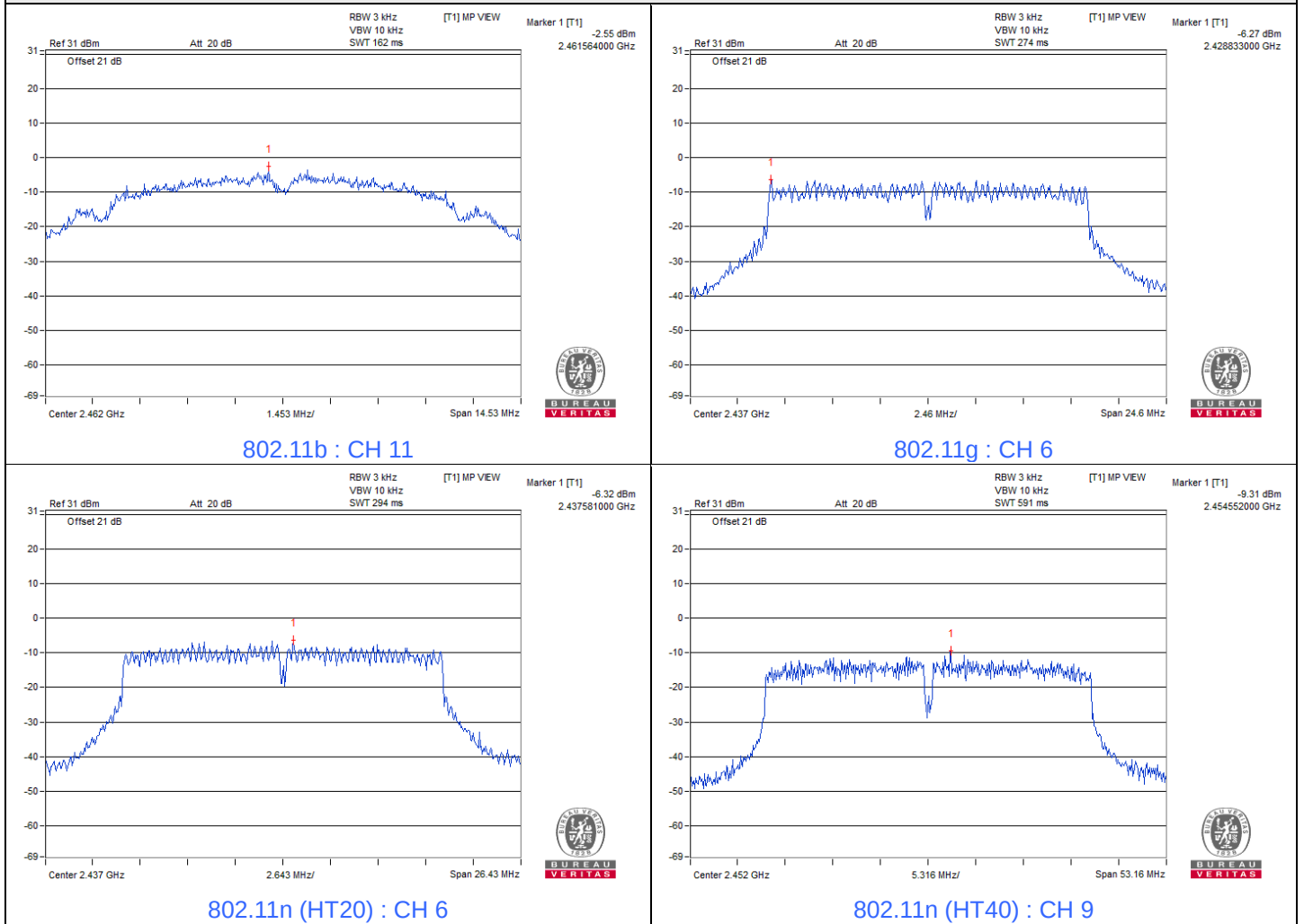
Note: The antenna gain is 1.1 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11n (HT40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
3	2422	-10.04	8	Pass
6	2437	-11.00	8	Pass
9	2452	-9.31	8	Pass

Note: The antenna gain is 1.1 dBi < 6 dBi, so the power density limit shall not be reduced.

Spectrum Plot of Maximum Value



7.3 6 dB Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Katina Lu
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802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
1	2412	9.51	0.5	Pass
6	2437	8.95	0.5	Pass
11	2462	9.69	0.5	Pass

802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
1	2412	16.41	0.5	Pass
6	2437	16.4	0.5	Pass
11	2462	16.42	0.5	Pass

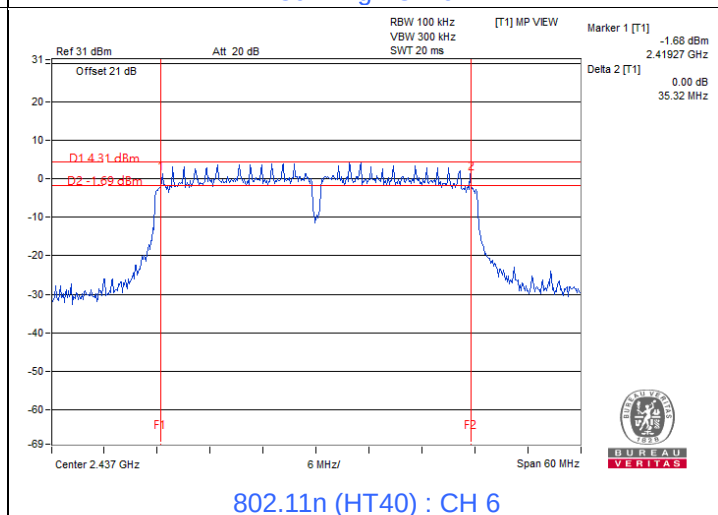
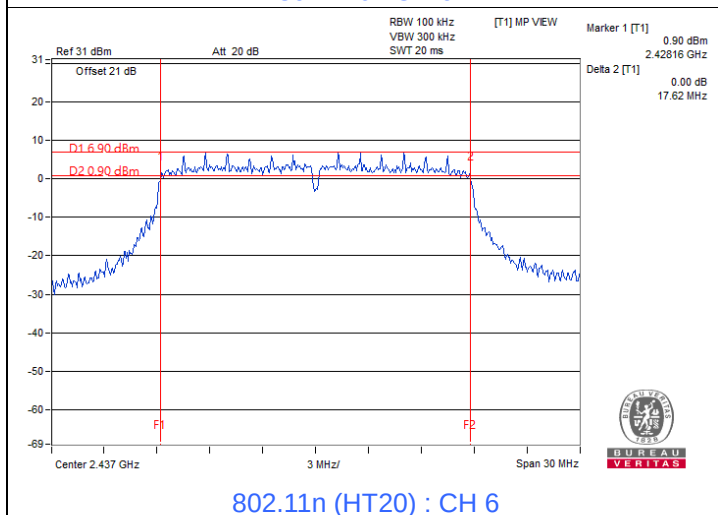
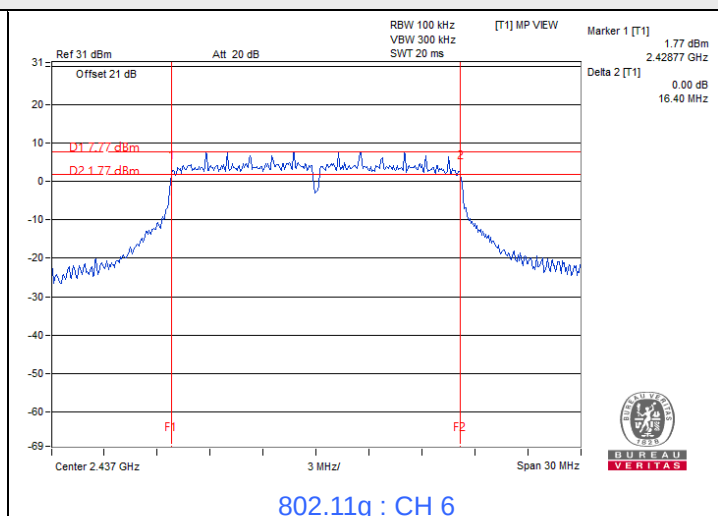
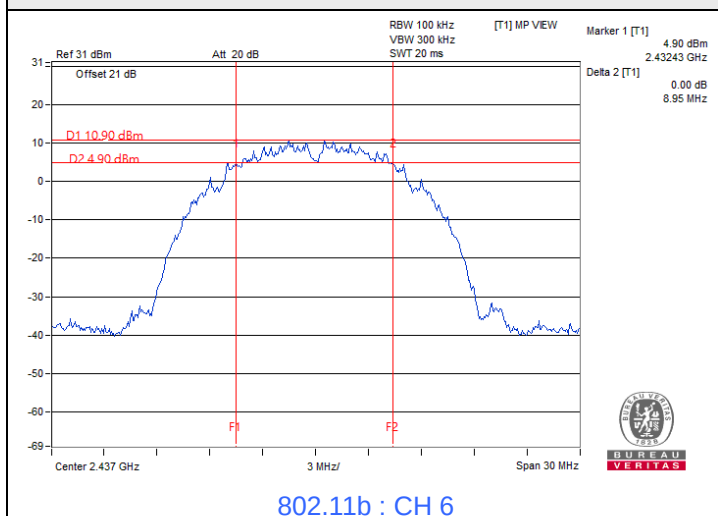
802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
1	2412	17.63	0.5	Pass
6	2437	17.62	0.5	Pass
11	2462	17.63	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
3	2422	35.33	0.5	Pass
6	2437	35.32	0.5	Pass
9	2452	35.44	0.5	Pass

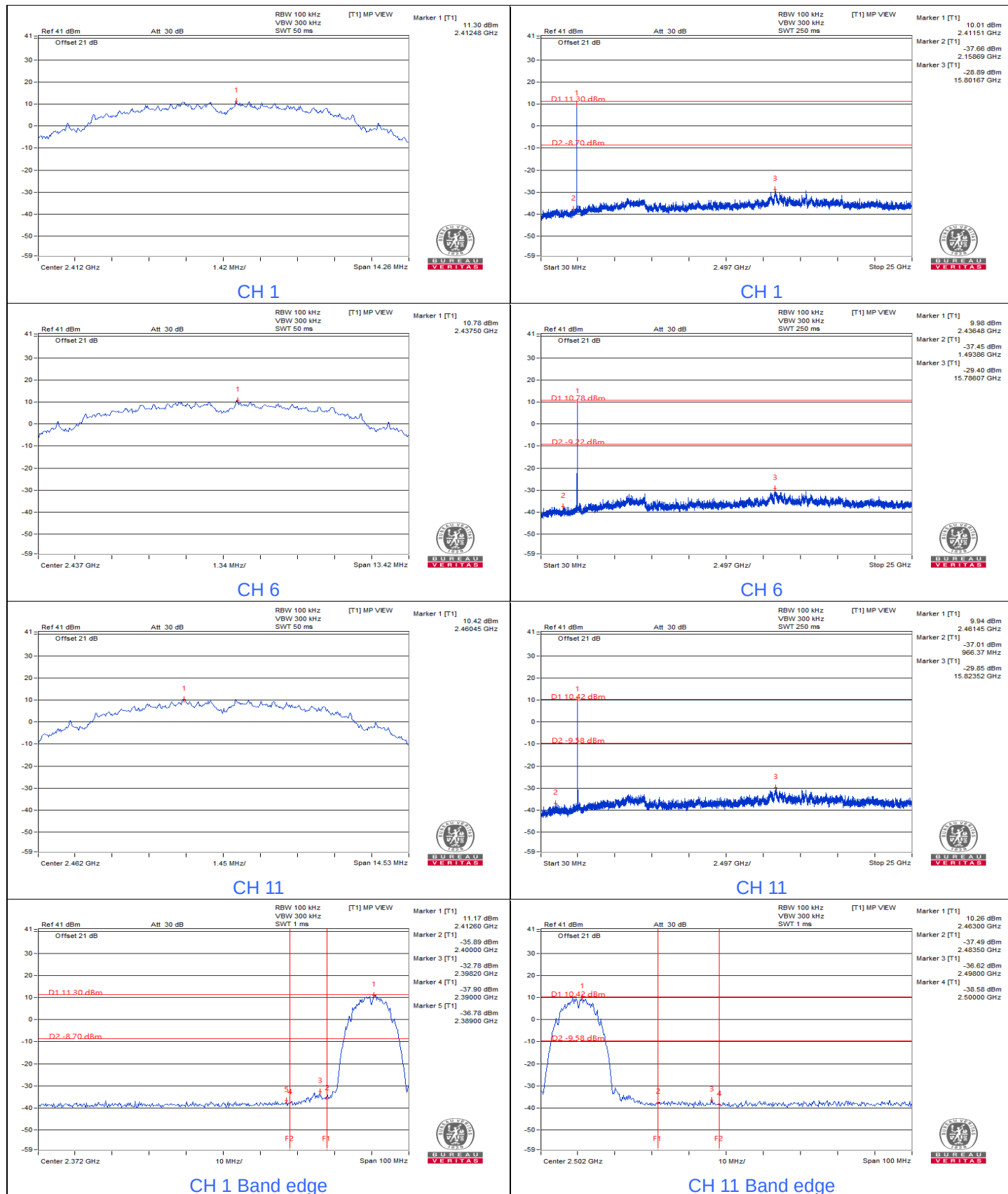
Spectrum Plot of Minimum Value



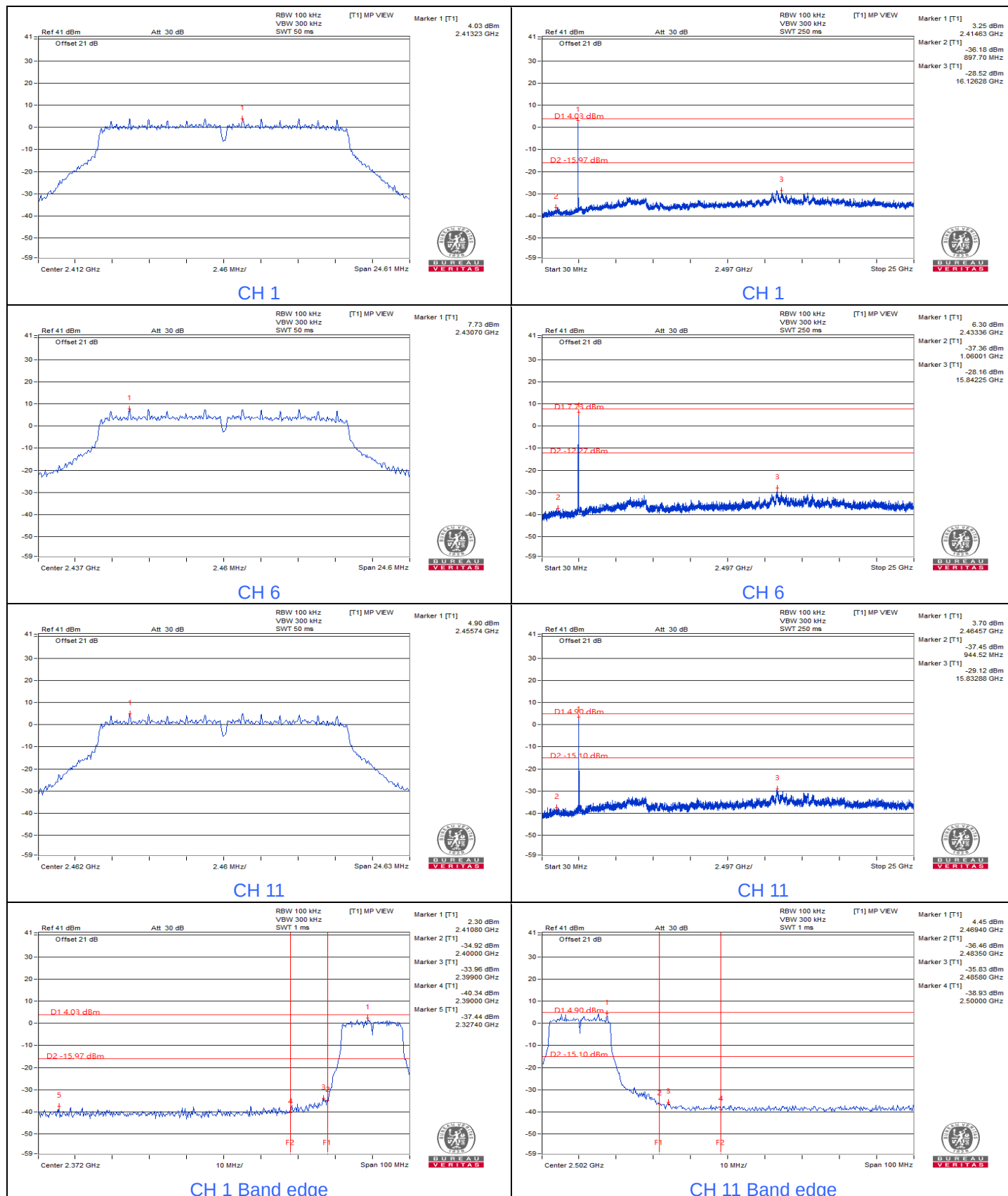
7.4 Conducted Out of Band Emissions

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Katina Lu
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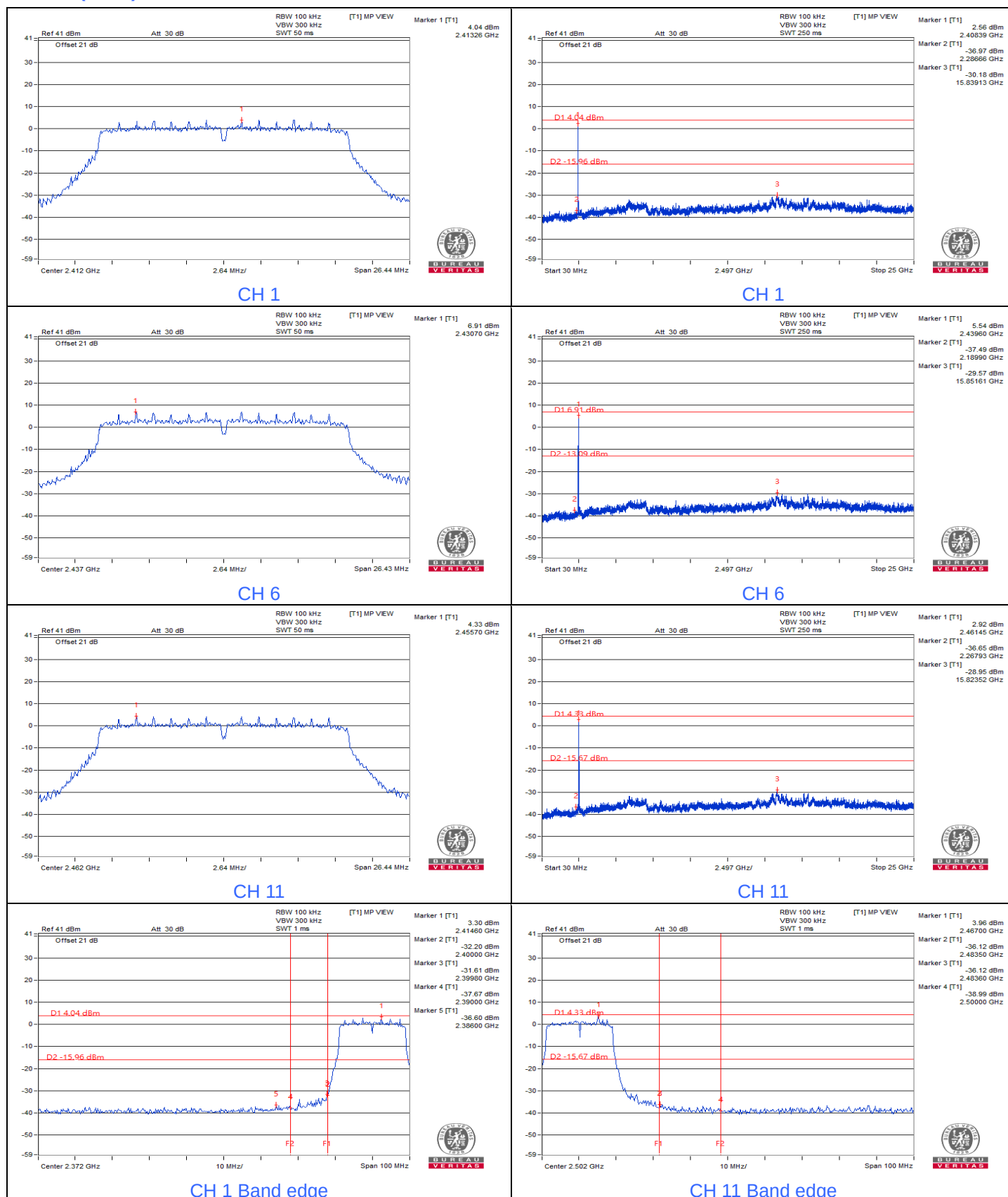
802.11b



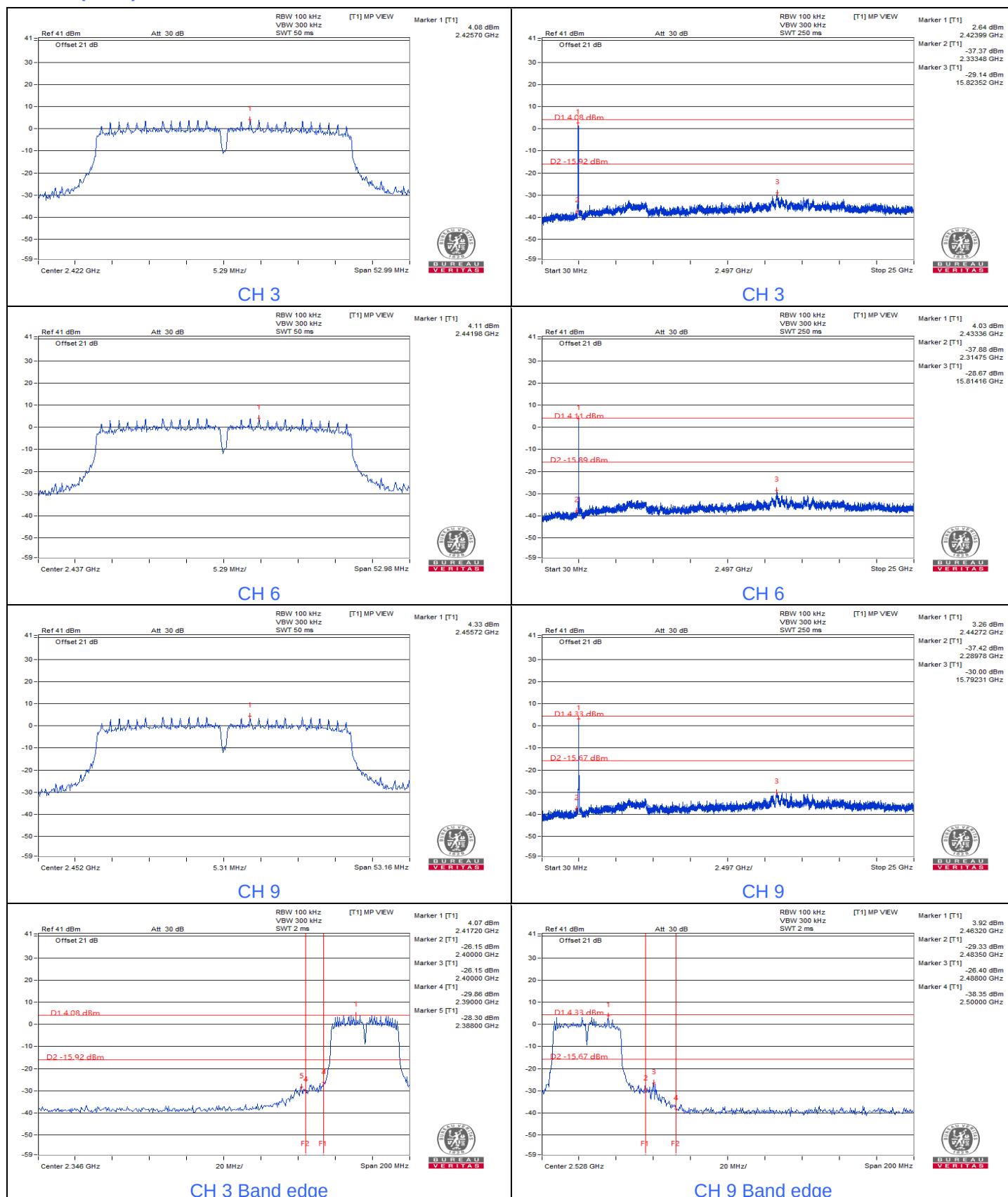
802.11g



802.11n (HT20)



802.11n (HT40)



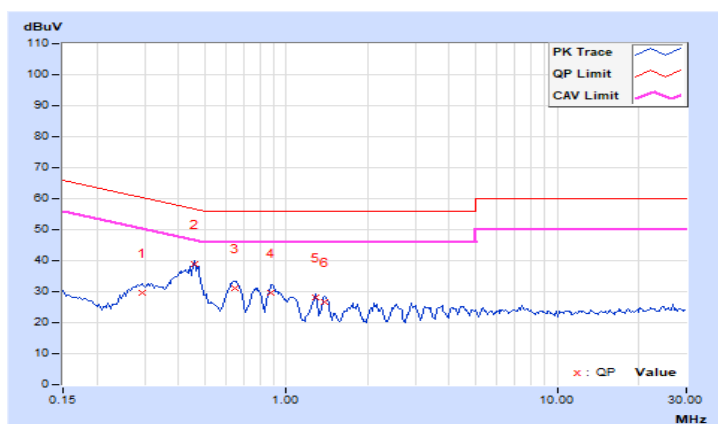
7.5 AC Power Conducted Emissions

RF Mode	802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Carter Lin		

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	0.29453	9.96	19.78	15.88	29.74	25.84	60.40	50.40	-30.66	-24.56
2	0.45859	9.97	28.87	26.79	38.84	36.76	56.72	46.72	-17.88	-9.96
3	0.65000	9.98	21.31	17.01	31.29	26.99	56.00	46.00	-24.71	-19.01
4	0.87859	9.99	19.51	16.31	29.50	26.30	56.00	46.00	-26.50	-19.70
5	1.28125	10.01	18.00	15.11	28.01	25.12	56.00	46.00	-27.99	-20.88
6	1.39063	10.02	16.81	14.54	26.83	24.56	56.00	46.00	-29.17	-21.44

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

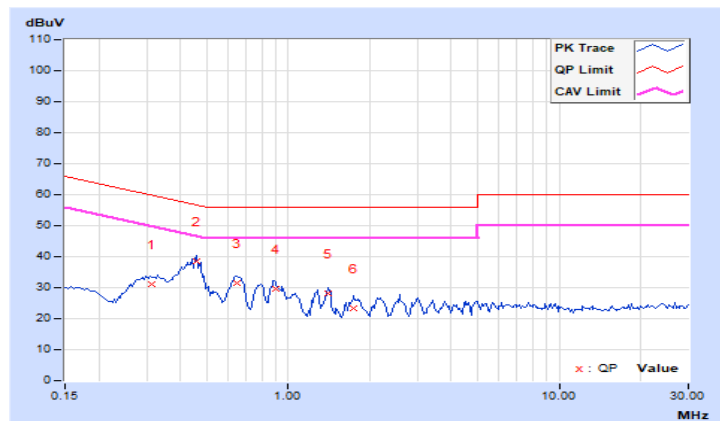


RF Mode	802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Carter Lin		

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	0.31406	9.94	21.17	17.72	31.11	27.66	59.86	49.86	-28.75	-22.20
2	0.45859	9.94	28.68	26.66	38.62	36.60	56.72	46.72	-18.10	-10.12
3	0.65000	9.95	21.38	17.23	31.33	27.18	56.00	46.00	-24.67	-18.82
4	0.89609	9.96	19.63	17.24	29.59	27.20	56.00	46.00	-26.41	-18.80
5	1.40625	9.99	18.24	15.62	28.23	25.61	56.00	46.00	-27.77	-20.39
6	1.73828	10.01	13.49	10.00	23.50	20.01	56.00	46.00	-32.50	-25.99

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



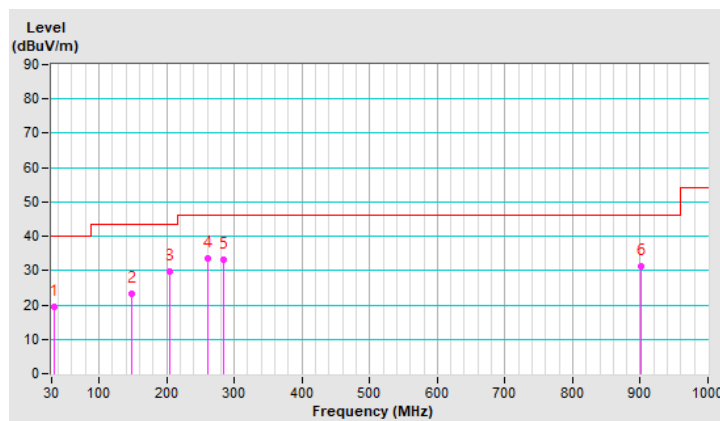
7.6 Unwanted Emissions below 1 GHz

RF Mode	802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 72% RH
Tested By	Nick Tsou		

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	33.42	19.3 QP	40.0	-20.7	1.50 H	1	32.9	-13.6
2	148.49	23.4 QP	43.5	-20.1	1.50 H	59	35.9	-12.5
3	205.21	29.6 QP	43.5	-13.9	1.50 H	236	45.8	-16.2
4	260.37	33.6 QP	46.0	-12.4	1.00 H	102	47.3	-13.7
5	284.53	33.3 QP	46.0	-12.7	1.00 H	105	45.8	-12.5
6	900.79	31.3 QP	46.0	-14.7	1.00 H	200	32.1	-0.8

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.

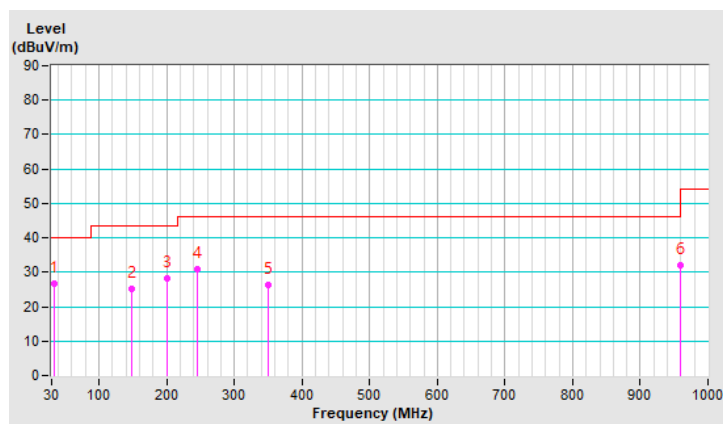


RF Mode	802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 72% RH
Tested By	Nick Tsou		

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	33.13	26.7 QP	40.0	-13.3	1.00 V	117	40.4	-13.7
2	148.49	25.1 QP	43.5	-18.4	1.00 V	360	37.6	-12.5
3	200.45	28.3 QP	43.5	-15.2	1.50 V	163	44.4	-16.1
4	245.41	30.8 QP	46.0	-15.2	1.00 V	226	44.9	-14.1
5	350.80	26.3 QP	46.0	-19.7	1.00 V	131	37.3	-11.0
6	959.21	32.0 QP	46.0	-14.0	3.00 V	140	31.9	0.1

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 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.



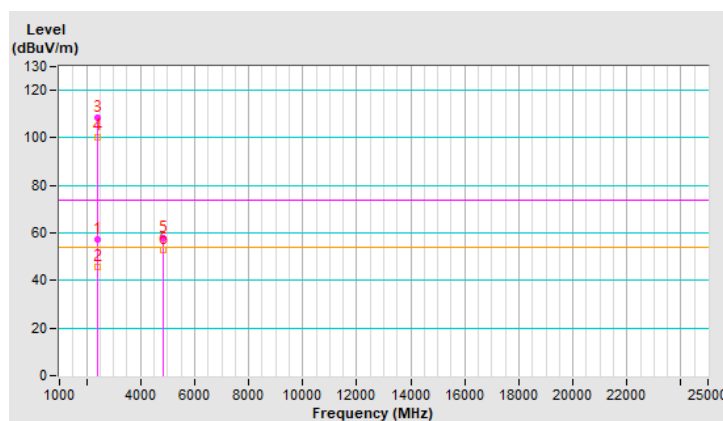
7.7 Unwanted Emissions above 1 GHz

RF Mode	802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	57.2 PK	74.0	-16.8	2.39 H	266	59.6	-2.4
2	2390.00	45.7 AV	54.0	-8.3	2.39 H	266	48.1	-2.4
3	*2412.00	108.4 PK			2.39 H	266	110.8	-2.4
4	*2412.00	100.5 AV			2.39 H	266	102.9	-2.4
5	4824.00	57.6 PK	74.0	-16.4	2.11 H	280	54.9	2.7
6	4824.00	53.0 AV	54.0	-1.0	2.11 H	280	50.3	2.7

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.

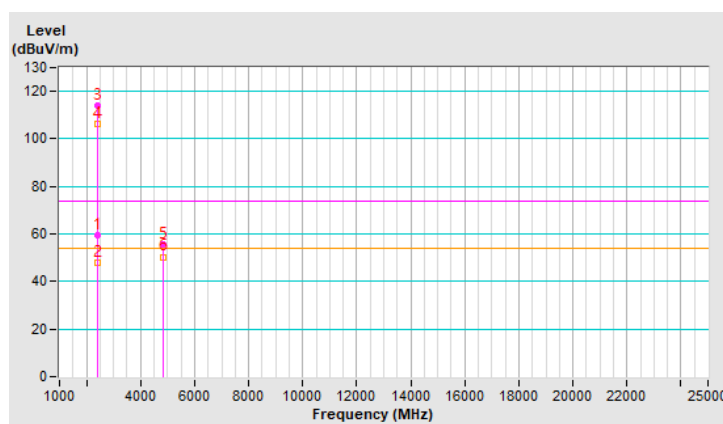


RF Mode	802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	59.4 PK	74.0	-14.6	1.00 V	70	61.8	-2.4
2	2390.00	47.9 AV	54.0	-6.1	1.00 V	70	50.3	-2.4
3	*2412.00	114.2 PK			1.00 V	70	116.6	-2.4
4	*2412.00	106.5 AV			1.00 V	70	108.9	-2.4
5	4824.00	55.8 PK	74.0	-18.2	1.90 V	313	53.1	2.7
6	4824.00	50.4 AV	54.0	-3.6	1.90 V	313	47.7	2.7

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.

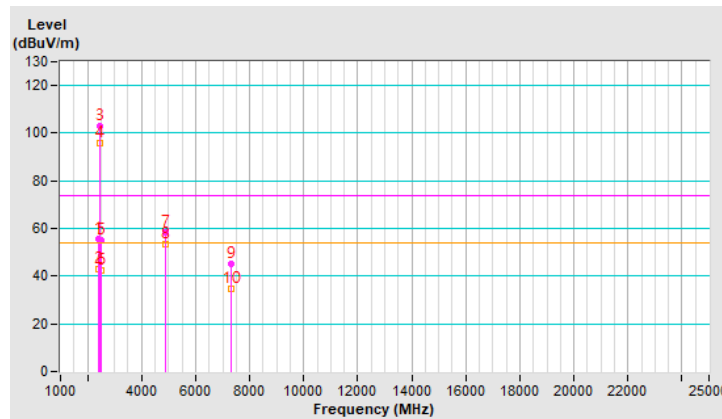


RF Mode	802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	55.5 PK	74.0	-18.5	1.44 H	297	57.9	-2.4
2	2390.00	42.8 AV	54.0	-11.2	1.44 H	297	45.2	-2.4
3	*2437.00	103.1 PK			1.44 H	297	105.4	-2.3
4	*2437.00	95.6 AV			1.44 H	297	97.9	-2.3
5	2483.50	54.9 PK	74.0	-19.1	1.44 H	297	57.2	-2.3
6	2483.50	42.5 AV	54.0	-11.5	1.44 H	297	44.8	-2.3
7	4874.00	58.4 PK	74.0	-15.6	2.28 H	238	55.7	2.7
8	4874.00	53.5 AV	54.0	-0.5	2.28 H	238	50.8	2.7
9	7311.00	45.1 PK	74.0	-28.9	1.90 H	142	36.7	8.4
10	7311.00	34.9 AV	54.0	-19.1	1.90 H	142	26.5	8.4

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.

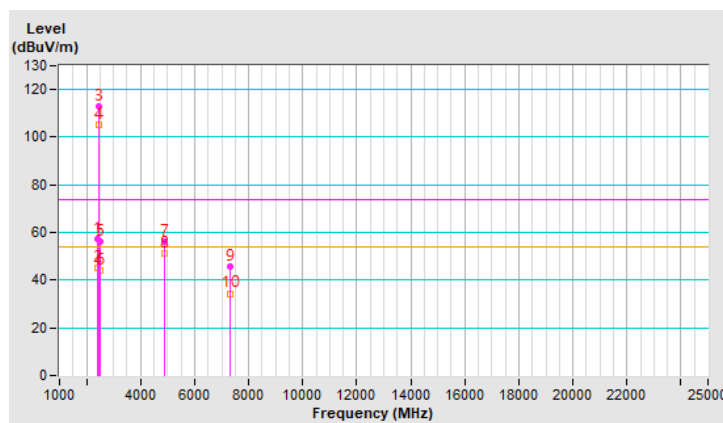


RF Mode	802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	57.2 PK	74.0	-16.8	1.59 V	45	59.6	-2.4
2	2390.00	45.0 AV	54.0	-9.0	1.59 V	45	47.4	-2.4
3	*2437.00	113.0 PK			1.59 V	45	115.3	-2.3
4	*2437.00	105.0 AV			1.59 V	45	107.3	-2.3
5	2483.50	56.1 PK	74.0	-17.9	1.59 V	45	58.4	-2.3
6	2483.50	44.3 AV	54.0	-9.7	1.59 V	45	46.6	-2.3
7	4874.00	56.0 PK	74.0	-18.0	1.91 V	329	53.3	2.7
8	4874.00	51.1 AV	54.0	-2.9	1.91 V	329	48.4	2.7
9	7311.00	45.9 PK	74.0	-28.1	1.59 V	200	37.5	8.4
10	7311.00	34.4 AV	54.0	-19.6	1.59 V	200	26.0	8.4

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.

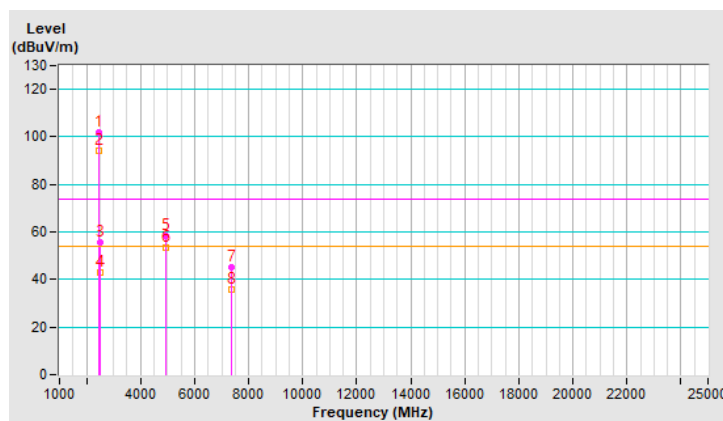


RF Mode	802.11b	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	102.1 PK			3.33 H	308	104.4	-2.3
2	*2462.00	94.3 AV			3.33 H	308	96.6	-2.3
3	2497.00	55.7 PK	74.0	-18.3	3.33 H	308	58.1	-2.4
4	2497.00	42.8 AV	54.0	-11.2	3.33 H	308	45.2	-2.4
5	4924.00	58.4 PK	74.0	-15.6	2.86 H	246	55.6	2.8
6	4924.00	53.6 AV	54.0	-0.4	2.86 H	246	50.8	2.8
7	7386.00	45.0 PK	74.0	-29.0	1.92 H	150	36.7	8.3
8	7386.00	36.0 AV	54.0	-18.0	1.92 H	150	27.7	8.3

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.

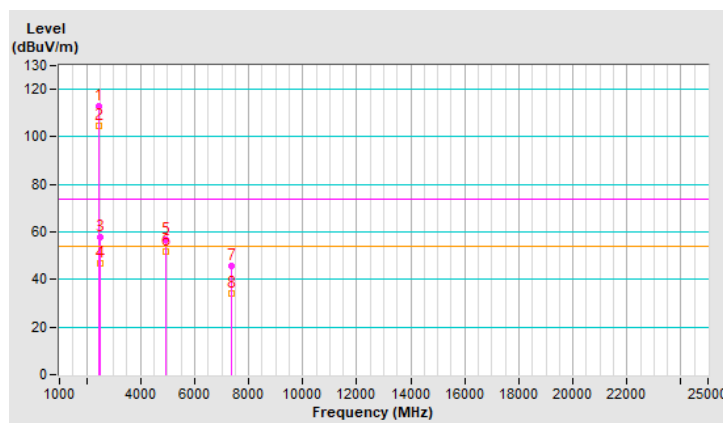


RF Mode	802.11b	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	112.8 PK			1.12 V	55	115.1	-2.3
2	*2462.00	104.8 AV			1.12 V	55	107.1	-2.3
3	2497.00	58.0 PK	74.0	-16.0	1.12 V	55	60.4	-2.4
4	2497.00	46.8 AV	54.0	-7.2	1.12 V	55	49.2	-2.4
5	4924.00	56.5 PK	74.0	-17.5	1.76 V	334	53.7	2.8
6	4924.00	51.6 AV	54.0	-2.4	1.76 V	334	48.8	2.8
7	7386.00	45.6 PK	74.0	-28.4	1.51 V	208	37.3	8.3
8	7386.00	33.9 AV	54.0	-20.1	1.51 V	208	25.6	8.3

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.

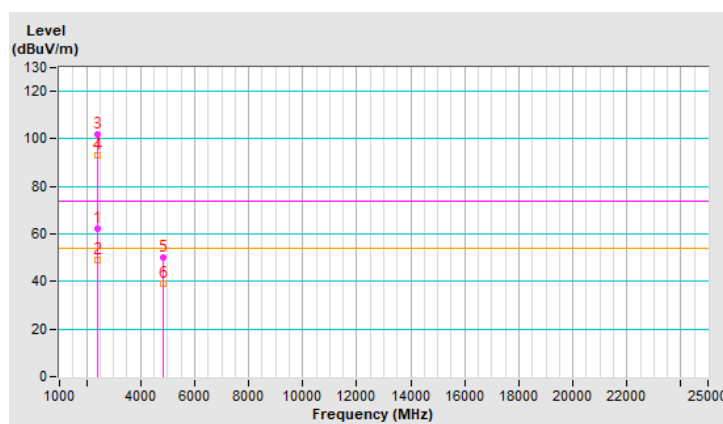


RF Mode	802.11g	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	62.0 PK	74.0	-12.0	1.04 H	149	64.4	-2.4
2	2390.00	49.1 AV	54.0	-4.9	1.04 H	149	51.5	-2.4
3	*2412.00	102.0 PK			1.04 H	149	104.4	-2.4
4	*2412.00	93.0 AV			1.04 H	149	95.4	-2.4
5	4824.00	50.2 PK	74.0	-23.8	2.26 H	199	47.5	2.7
6	4824.00	39.0 AV	54.0	-15.0	2.26 H	199	36.3	2.7

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.

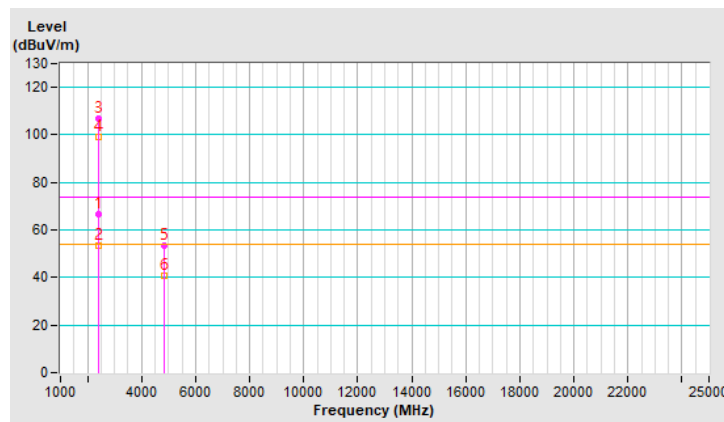


RF Mode	802.11g	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	66.4 PK	74.0	-7.6	1.00 V	65	68.8	-2.4
2	2390.00	53.2 AV	54.0	-0.8	1.00 V	65	55.6	-2.4
3	*2412.00	106.9 PK			1.00 V	65	109.3	-2.4
4	*2412.00	99.2 AV			1.00 V	65	101.6	-2.4
5	4824.00	53.2 PK	74.0	-20.8	2.52 V	297	50.5	2.7
6	4824.00	40.5 AV	54.0	-13.5	2.52 V	297	37.8	2.7

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.

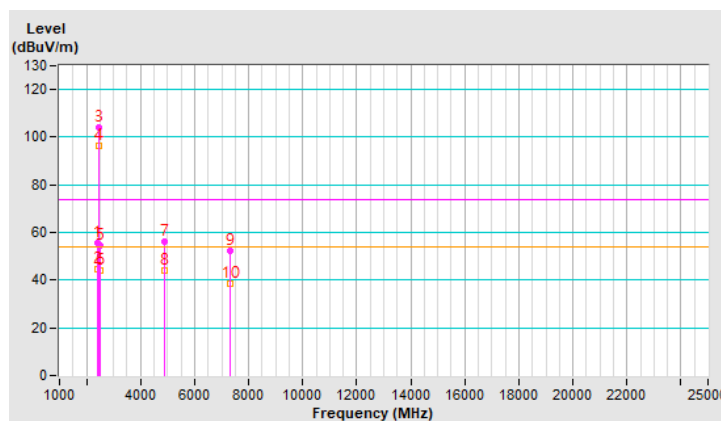


RF Mode	802.11g	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	55.6 PK	74.0	-18.4	2.26 H	303	58.0	-2.4
2	2390.00	44.6 AV	54.0	-9.4	2.26 H	303	47.0	-2.4
3	*2437.00	104.0 PK			2.26 H	303	106.3	-2.3
4	*2437.00	96.4 AV			2.26 H	303	98.7	-2.3
5	2483.50	54.3 PK	74.0	-19.7	2.26 H	303	56.6	-2.3
6	2483.50	43.8 AV	54.0	-10.2	2.26 H	303	46.1	-2.3
7	4874.00	56.1 PK	74.0	-17.9	1.64 H	197	53.4	2.7
8	4874.00	44.0 AV	54.0	-10.0	1.64 H	197	41.3	2.7
9	7311.00	52.3 PK	74.0	-21.7	1.26 H	134	43.9	8.4
10	7311.00	38.5 AV	54.0	-15.5	1.26 H	134	30.1	8.4

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.

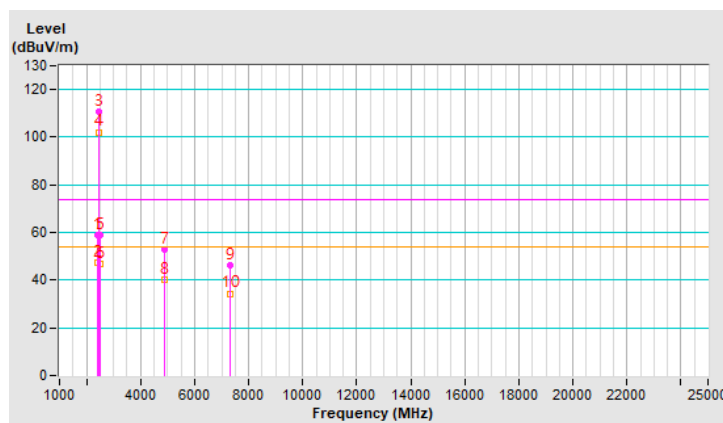


RF Mode	802.11g	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	59.1 PK	74.0	-14.9	1.62 V	44	61.5	-2.4
2	2390.00	47.4 AV	54.0	-6.6	1.62 V	44	49.8	-2.4
3	*2437.00	110.5 PK			1.62 V	44	112.8	-2.3
4	*2437.00	102.2 AV			1.62 V	44	104.5	-2.3
5	2483.50	58.8 PK	74.0	-15.2	1.62 V	44	61.1	-2.3
6	2483.50	46.6 AV	54.0	-7.4	1.62 V	44	48.9	-2.3
7	4874.00	53.1 PK	74.0	-20.9	2.50 V	316	50.4	2.7
8	4874.00	40.1 AV	54.0	-13.9	2.50 V	316	37.4	2.7
9	7311.00	46.1 PK	74.0	-27.9	1.54 V	208	37.7	8.4
10	7311.00	34.4 AV	54.0	-19.6	1.54 V	208	26.0	8.4

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.

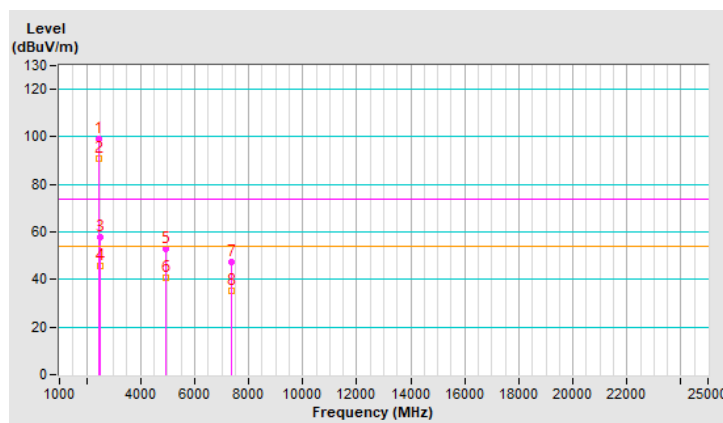


RF Mode	802.11g	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	99.3 PK			3.70 H	331	101.6	-2.3
2	*2462.00	90.9 AV			3.70 H	331	93.2	-2.3
3	2483.50	57.7 PK	74.0	-16.3	3.70 H	331	60.0	-2.3
4	2483.50	45.6 AV	54.0	-8.4	3.70 H	331	47.9	-2.3
5	4924.00	52.7 PK	74.0	-21.3	3.66 H	180	49.9	2.8
6	4924.00	40.6 AV	54.0	-13.4	3.66 H	180	37.8	2.8
7	7386.00	47.1 PK	74.0	-26.9	2.35 H	119	38.8	8.3
8	7386.00	35.3 AV	54.0	-18.7	2.35 H	119	27.0	8.3

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.

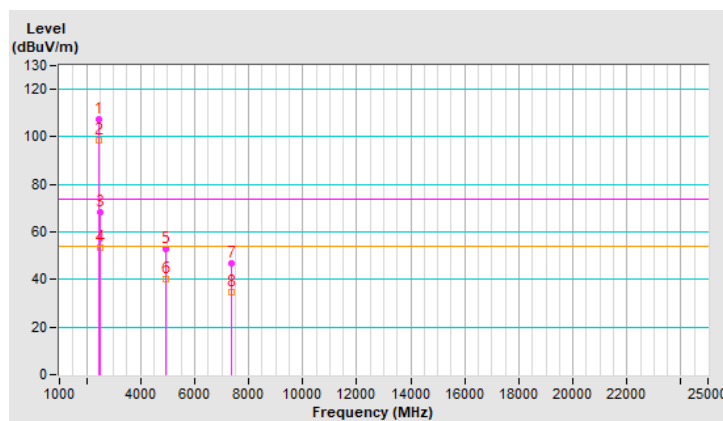


RF Mode	802.11g	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	107.5 PK			1.44 V	59	109.8	-2.3
2	*2462.00	98.5 AV			1.44 V	59	100.8	-2.3
3	2483.50	68.3 PK	74.0	-5.7	1.44 V	59	70.6	-2.3
4	2483.50	53.4 AV	54.0	-0.6	1.44 V	59	55.7	-2.3
5	4924.00	52.9 PK	74.0	-21.1	2.56 V	315	50.1	2.8
6	4924.00	40.0 AV	54.0	-14.0	2.56 V	315	37.2	2.8
7	7386.00	47.0 PK	74.0	-27.0	1.53 V	208	38.7	8.3
8	7386.00	34.9 AV	54.0	-19.1	1.53 V	208	26.6	8.3

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.

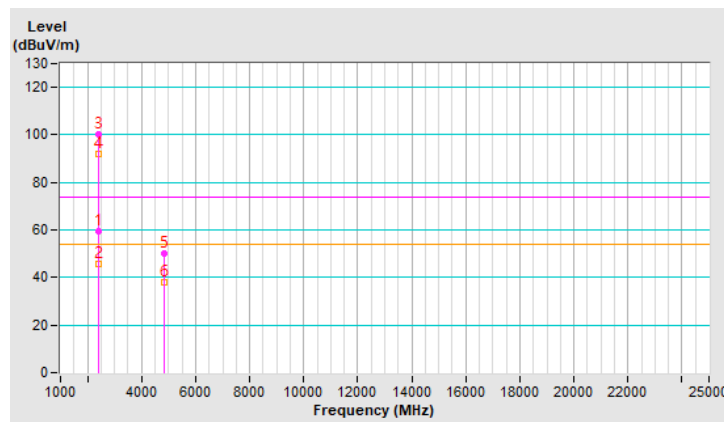


RF Mode	802.11n (HT20)	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	59.7 PK	74.0	-14.3	1.44 H	317	62.1	-2.4
2	2390.00	45.8 AV	54.0	-8.2	1.44 H	317	48.2	-2.4
3	*2412.00	100.1 PK			1.44 H	317	102.5	-2.4
4	*2412.00	91.7 AV			1.44 H	317	94.1	-2.4
5	4824.00	50.1 PK	74.0	-23.9	3.45 H	198	47.4	2.7
6	4824.00	38.2 AV	54.0	-15.8	3.45 H	198	35.5	2.7

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.

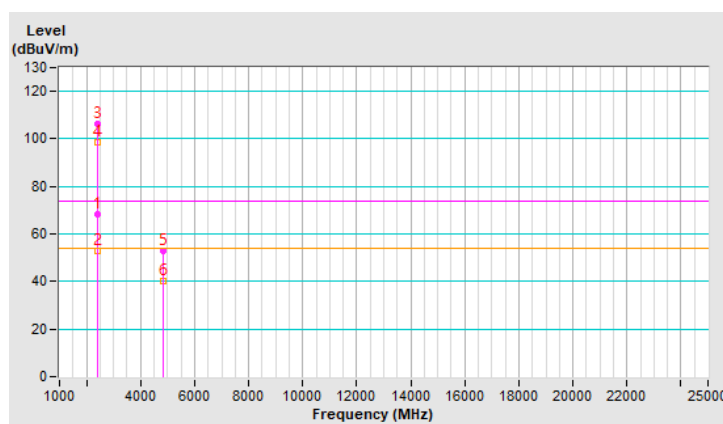


RF Mode	802.11n (HT20)	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	68.1 PK	74.0	-5.9	1.52 V	58	70.5	-2.4
2	2390.00	53.1 AV	54.0	-0.9	1.52 V	58	55.5	-2.4
3	*2412.00	106.2 PK			1.52 V	58	108.6	-2.4
4	*2412.00	98.4 AV			1.52 V	58	100.8	-2.4
5	4824.00	53.1 PK	74.0	-20.9	2.54 V	311	50.4	2.7
6	4824.00	40.3 AV	54.0	-13.7	2.54 V	311	37.6	2.7

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.

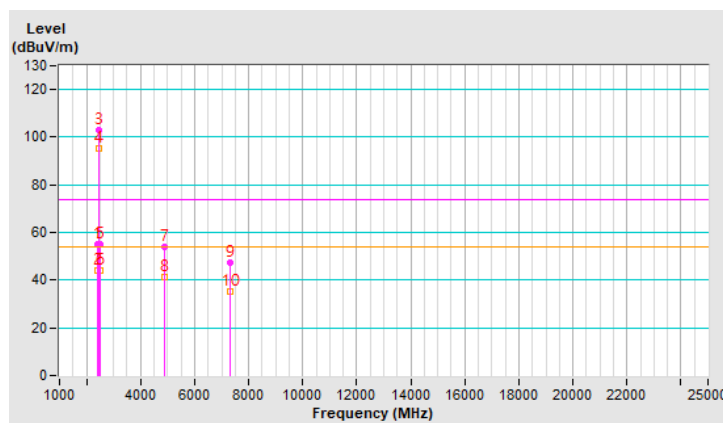


RF Mode	802.11n (HT20)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	55.1 PK	74.0	-18.9	2.22 H	346	57.5	-2.4
2	2390.00	44.2 AV	54.0	-9.8	2.22 H	346	46.6	-2.4
3	*2437.00	102.9 PK			2.22 H	346	105.2	-2.3
4	*2437.00	95.1 AV			2.22 H	346	97.4	-2.3
5	2483.50	55.1 PK	74.0	-18.9	2.22 H	346	57.4	-2.3
6	2483.50	43.8 AV	54.0	-10.2	2.22 H	346	46.1	-2.3
7	4874.00	53.9 PK	74.0	-20.1	1.73 H	197	51.2	2.7
8	4874.00	41.3 AV	54.0	-12.7	1.73 H	197	38.6	2.7
9	7311.00	47.1 PK	74.0	-26.9	2.41 H	138	38.7	8.4
10	7311.00	35.3 AV	54.0	-18.7	2.41 H	138	26.9	8.4

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.

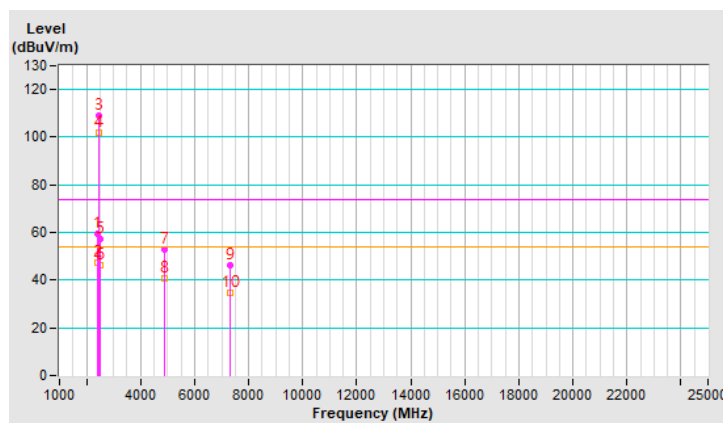


RF Mode	802.11n (HT20)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	59.5 PK	74.0	-14.5	1.65 V	53	61.9	-2.4
2	2390.00	47.1 AV	54.0	-6.9	1.65 V	53	49.5	-2.4
3	*2437.00	109.1 PK			1.65 V	53	111.4	-2.3
4	*2437.00	101.7 AV			1.65 V	53	104.0	-2.3
5	2483.50	57.3 PK	74.0	-16.7	1.65 V	53	59.6	-2.3
6	2483.50	46.5 AV	54.0	-7.5	1.65 V	53	48.8	-2.3
7	4874.00	53.1 PK	74.0	-20.9	2.57 V	300	50.4	2.7
8	4874.00	40.6 AV	54.0	-13.4	2.57 V	300	37.9	2.7
9	7311.00	46.5 PK	74.0	-27.5	1.51 V	212	38.1	8.4
10	7311.00	34.7 AV	54.0	-19.3	1.51 V	212	26.3	8.4

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.

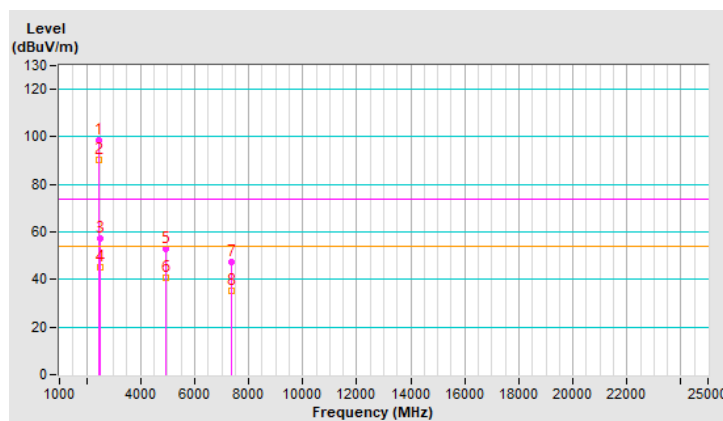


RF Mode	802.11n (HT20)	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	98.5 PK			1.77 H	326	100.8	-2.3
2	*2462.00	90.3 AV			1.77 H	326	92.6	-2.3
3	2483.50	57.1 PK	74.0	-16.9	1.77 H	326	59.4	-2.3
4	2483.50	45.3 AV	54.0	-8.7	1.77 H	326	47.6	-2.3
5	4924.00	52.7 PK	74.0	-21.3	3.62 H	185	49.9	2.8
6	4924.00	40.7 AV	54.0	-13.3	3.62 H	185	37.9	2.8
7	7386.00	47.2 PK	74.0	-26.8	2.30 H	127	38.9	8.3
8	7386.00	35.4 AV	54.0	-18.6	2.30 H	127	27.1	8.3

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.

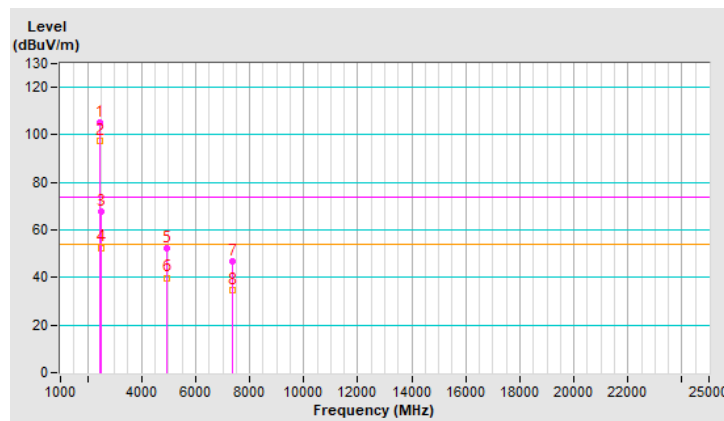


RF Mode	802.11n (HT20)	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	105.2 PK			1.34 V	59	107.5	-2.3
2	*2462.00	97.4 AV			1.34 V	59	99.7	-2.3
3	2483.50	67.9 PK	74.0	-6.1	1.34 V	59	70.2	-2.3
4	2483.50	52.6 AV	54.0	-1.4	1.34 V	59	54.9	-2.3
5	4924.00	52.4 PK	74.0	-21.6	2.51 V	322	49.6	2.8
6	4924.00	39.9 AV	54.0	-14.1	2.51 V	322	37.1	2.8
7	7386.00	46.8 PK	74.0	-27.2	1.46 V	213	38.5	8.3
8	7386.00	34.8 AV	54.0	-19.2	1.46 V	213	26.5	8.3

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.

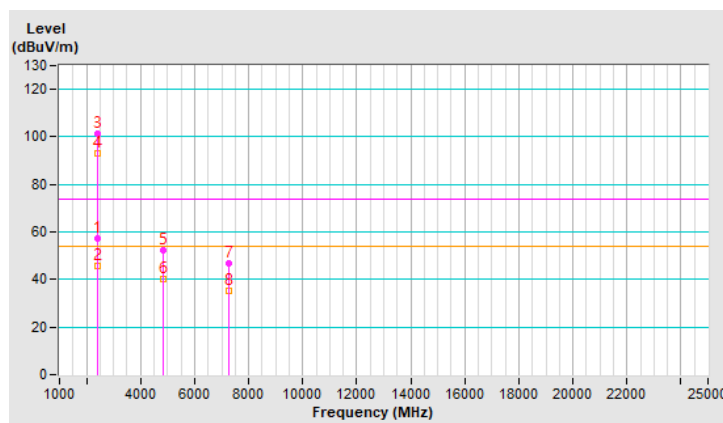


RF Mode	802.11n (HT40)	Channel	CH 3 : 2422 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	57.5 PK	74.0	-16.5	1.38 H	315	59.9	-2.4
2	2390.00	45.9 AV	54.0	-8.1	1.38 H	315	48.3	-2.4
3	*2422.00	101.3 PK			1.38 H	315	103.7	-2.4
4	*2422.00	93.2 AV			1.38 H	315	95.6	-2.4
5	4844.00	52.4 PK	74.0	-21.6	3.61 H	194	49.7	2.7
6	4844.00	40.4 AV	54.0	-13.6	3.61 H	194	37.7	2.7
7	7266.00	47.0 PK	74.0	-27.0	2.33 H	136	38.5	8.5
8	7266.00	35.2 AV	54.0	-18.8	2.33 H	136	26.7	8.5

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.

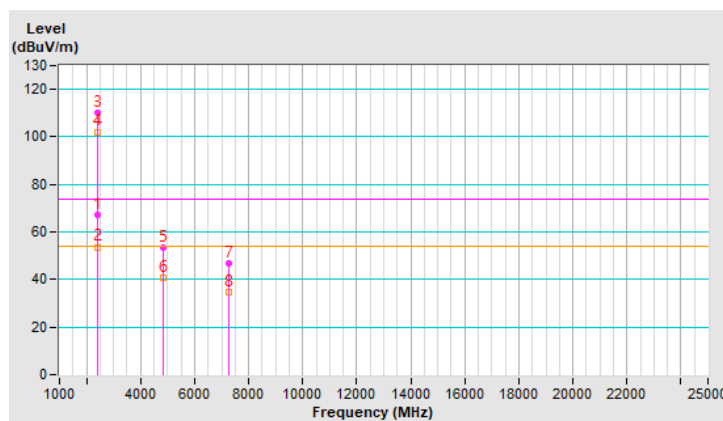


RF Mode	802.11n (HT40)	Channel	CH 3 : 2422 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	67.1 PK	74.0	-6.9	1.34 V	44	69.5	-2.4
2	2390.00	53.7 AV	54.0	-0.3	1.34 V	44	56.1	-2.4
3	*2422.00	110.2 PK			1.34 V	44	112.6	-2.4
4	*2422.00	102.2 AV			1.34 V	44	104.6	-2.4
5	4844.00	53.5 PK	74.0	-20.5	2.58 V	316	50.8	2.7
6	4844.00	40.5 AV	54.0	-13.5	2.58 V	316	37.8	2.7
7	7266.00	46.7 PK	74.0	-27.3	1.56 V	204	38.2	8.5
8	7266.00	34.6 AV	54.0	-19.4	1.56 V	204	26.1	8.5

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.

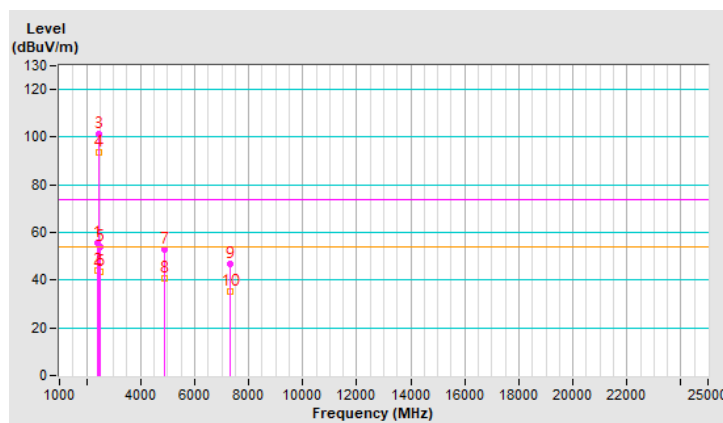


RF Mode	802.11n (HT40)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	55.5 PK	74.0	-18.5	1.54 H	306	57.9	-2.4
2	2390.00	43.8 AV	54.0	-10.2	1.54 H	306	46.2	-2.4
3	*2437.00	101.5 PK			1.54 H	306	103.8	-2.3
4	*2437.00	93.5 AV			1.54 H	306	95.8	-2.3
5	2483.50	54.2 PK	74.0	-19.8	1.54 H	306	56.5	-2.3
6	2483.50	43.5 AV	54.0	-10.5	1.54 H	306	45.8	-2.3
7	4874.00	52.8 PK	74.0	-21.2	3.63 H	200	50.1	2.7
8	4874.00	40.8 AV	54.0	-13.2	3.63 H	200	38.1	2.7
9	7311.00	46.9 PK	74.0	-27.1	2.27 H	135	38.5	8.4
10	7311.00	35.2 AV	54.0	-18.8	2.27 H	135	26.8	8.4

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.

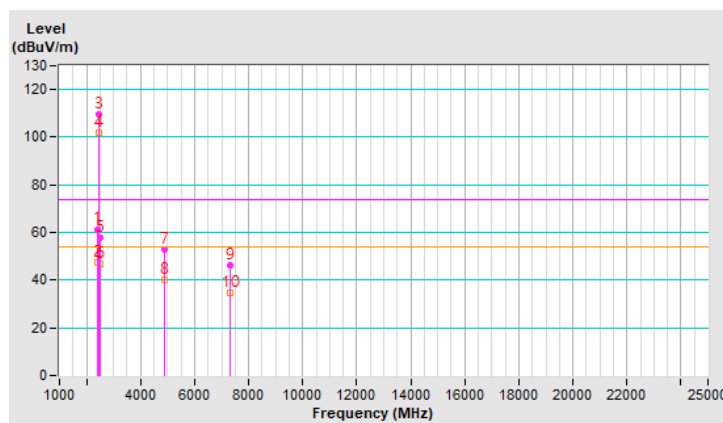


RF Mode	802.11n (HT40)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	61.4 PK	74.0	-12.6	1.21 V	48	63.8	-2.4
2	2390.00	47.3 AV	54.0	-6.7	1.21 V	48	49.7	-2.4
3	*2437.00	109.6 PK			1.21 V	48	111.9	-2.3
4	*2437.00	101.7 AV			1.21 V	48	104.0	-2.3
5	2483.50	57.6 PK	74.0	-16.4	1.21 V	48	59.9	-2.3
6	2483.50	46.8 AV	54.0	-7.2	1.21 V	48	49.1	-2.3
7	4874.00	53.0 PK	74.0	-21.0	2.53 V	308	50.3	2.7
8	4874.00	40.3 AV	54.0	-13.7	2.53 V	308	37.6	2.7
9	7311.00	46.5 PK	74.0	-27.5	1.52 V	216	38.1	8.4
10	7311.00	34.5 AV	54.0	-19.5	1.52 V	216	26.1	8.4

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.

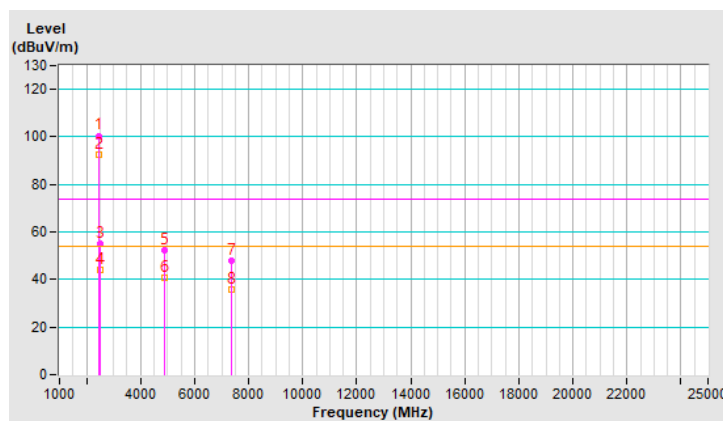


RF Mode	802.11n (HT40)	Channel	CH 9 : 2452 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	100.5 PK			2.76 H	333	102.8	-2.3
2	*2452.00	92.6 AV			2.76 H	333	94.9	-2.3
3	2483.50	55.3 PK	74.0	-18.7	2.76 H	333	57.6	-2.3
4	2483.50	44.3 AV	54.0	-9.7	2.76 H	333	46.6	-2.3
5	4904.00	52.5 PK	74.0	-21.5	3.64 H	183	49.8	2.7
6	4904.00	40.5 AV	54.0	-13.5	3.64 H	183	37.8	2.7
7	7356.00	47.7 PK	74.0	-26.3	2.33 H	123	39.3	8.4
8	7356.00	35.7 AV	54.0	-18.3	2.33 H	123	27.3	8.4

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.

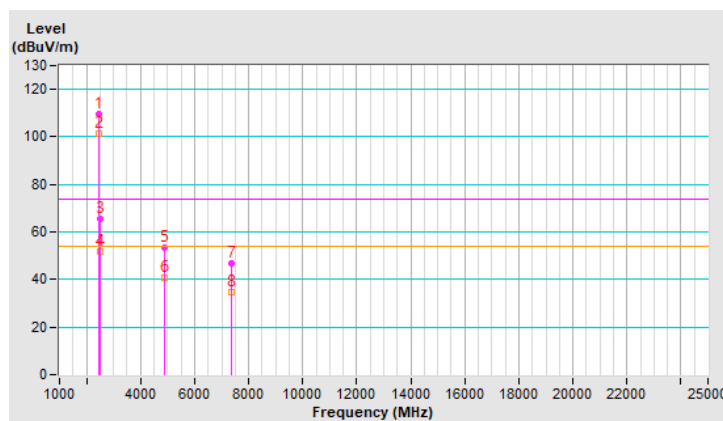


RF Mode	802.11n (HT40)	Channel	CH 9 : 2452 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nick Tsou		

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	109.5 PK			1.15 V	65	111.8	-2.3
2	*2452.00	101.2 AV			1.15 V	65	103.5	-2.3
3	2483.50	65.7 PK	74.0	-8.3	1.15 V	65	68.0	-2.3
4	2483.50	51.6 AV	54.0	-2.4	1.15 V	65	53.9	-2.3
5	4904.00	53.5 PK	74.0	-20.5	2.55 V	294	50.8	2.7
6	4904.00	40.7 AV	54.0	-13.3	2.55 V	294	38.0	2.7
7	7356.00	46.7 PK	74.0	-27.3	1.58 V	217	38.3	8.4
8	7356.00	34.6 AV	54.0	-19.4	1.58 V	217	26.2	8.4

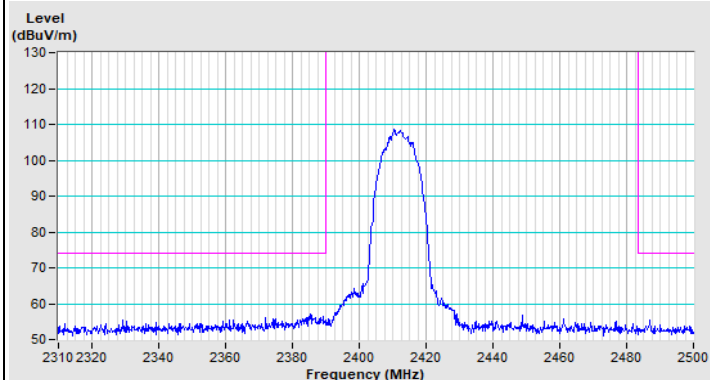
Remarks:

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.

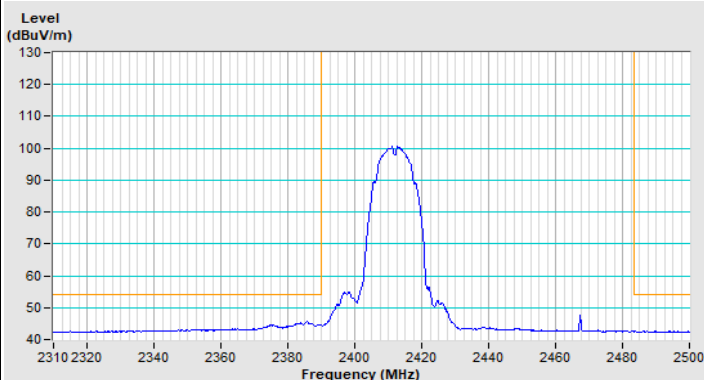


Plot of Band Edge

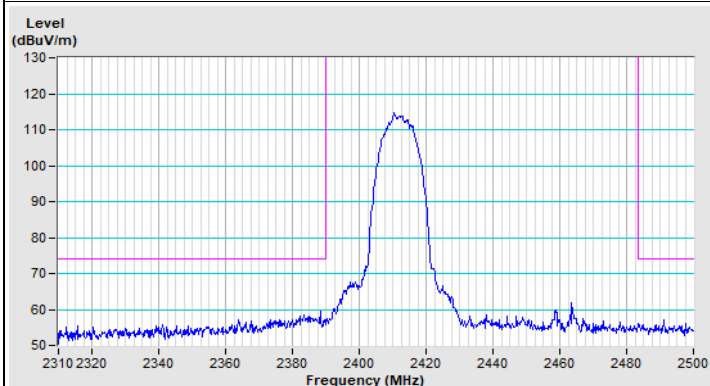
802.11b Channel 1



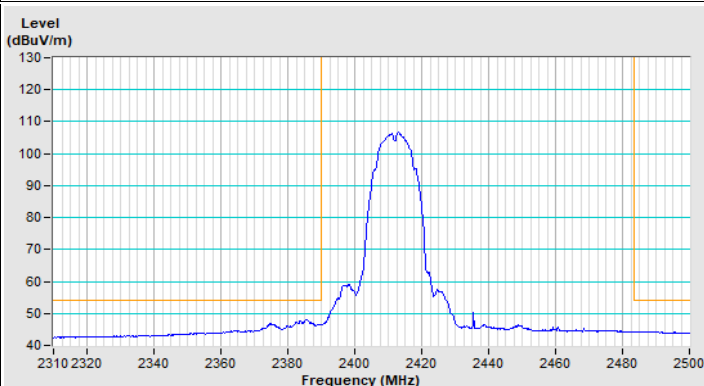
Horizontal (Peak)



Horizontal (Average)

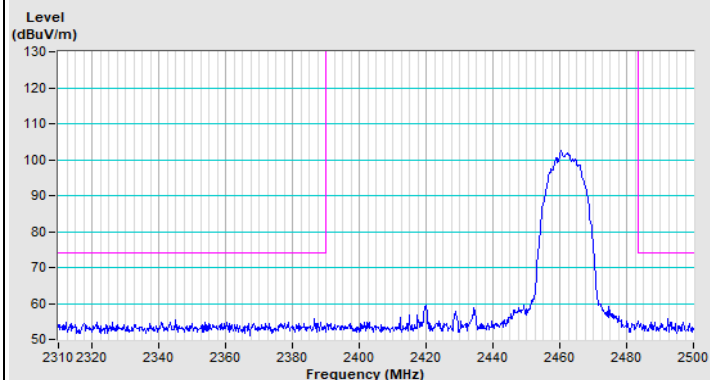


Vertical (Peak)

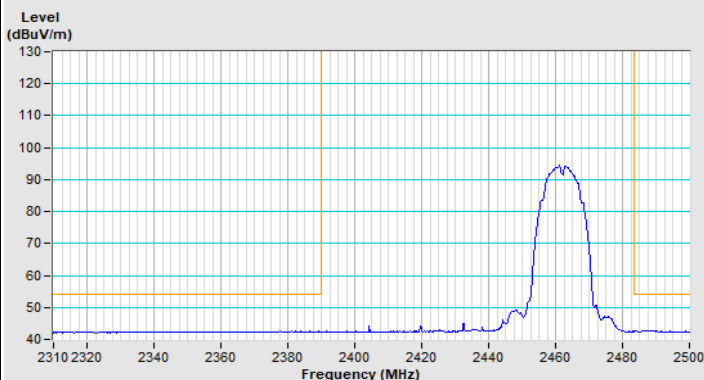


Vertical (Average)

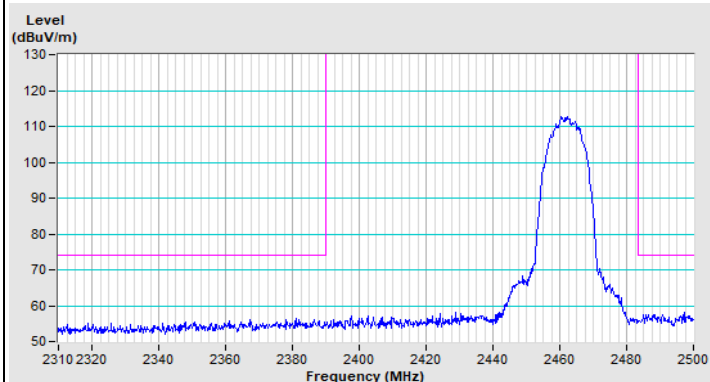
802.11b Channel 11



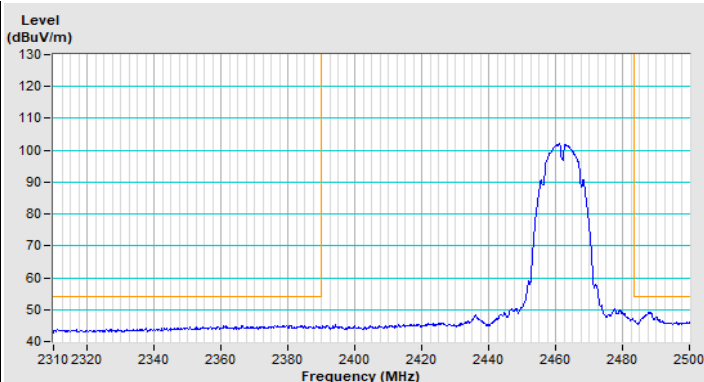
Horizontal (Peak)



Horizontal (Average)

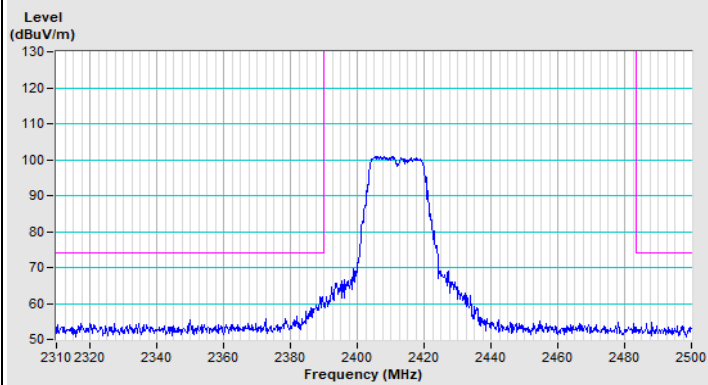


Vertical (Peak)

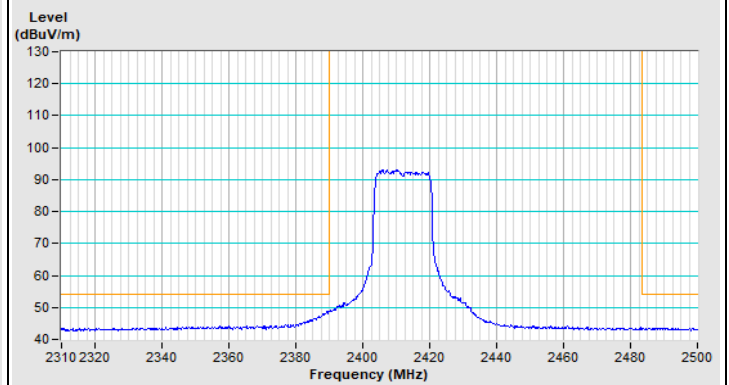


Vertical (Average)

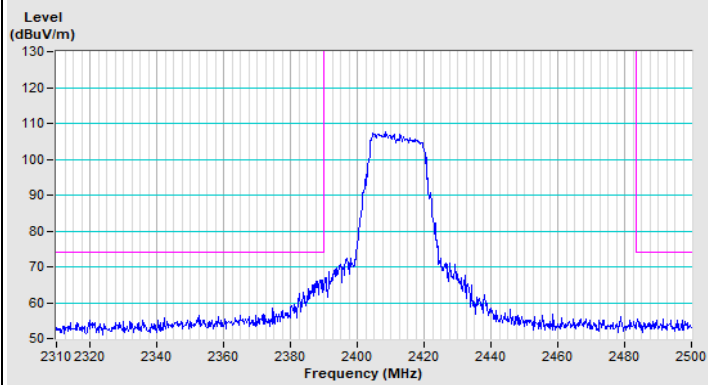
802.11g Channel 1



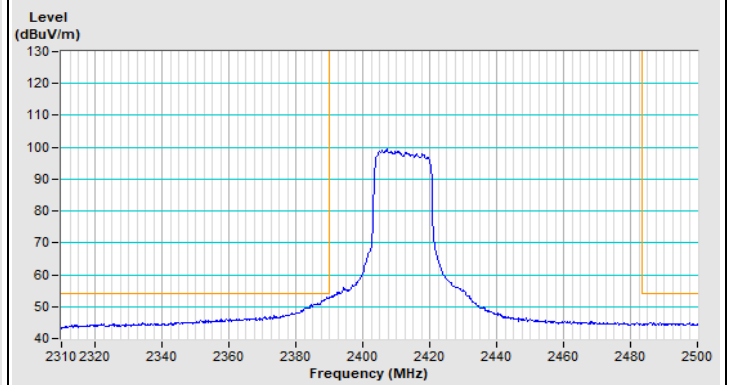
Horizontal (Peak)



Horizontal (Average)

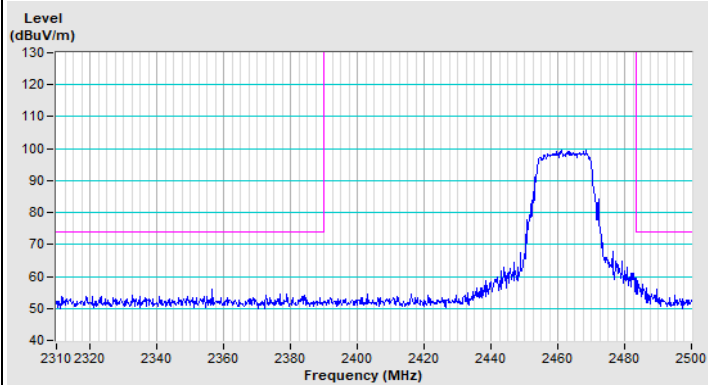


Vertical (Peak)

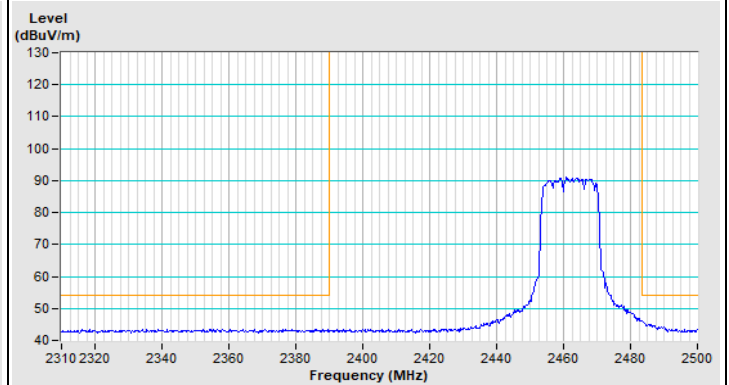


Vertical (Average)

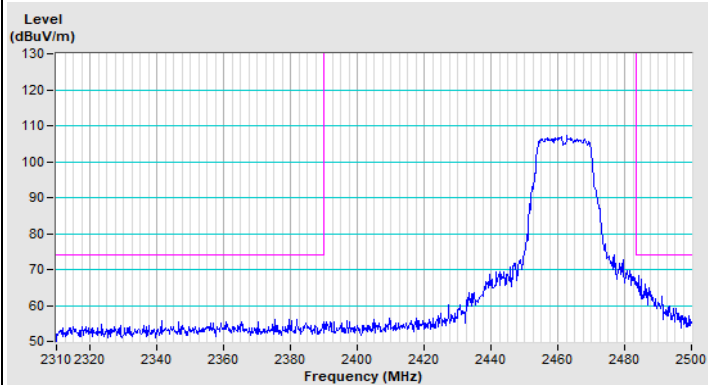
802.11g Channel 11



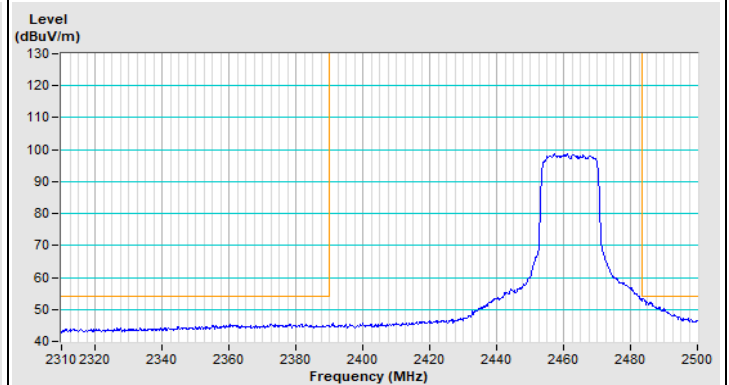
Horizontal (Peak)



Horizontal (Average)

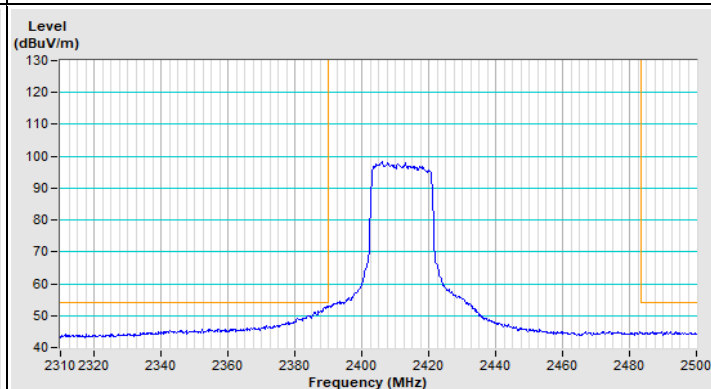
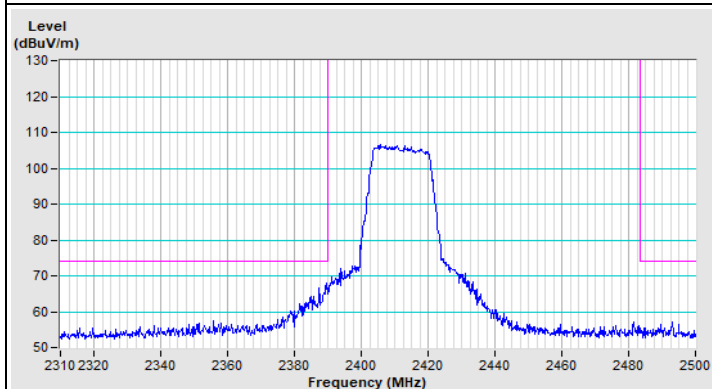
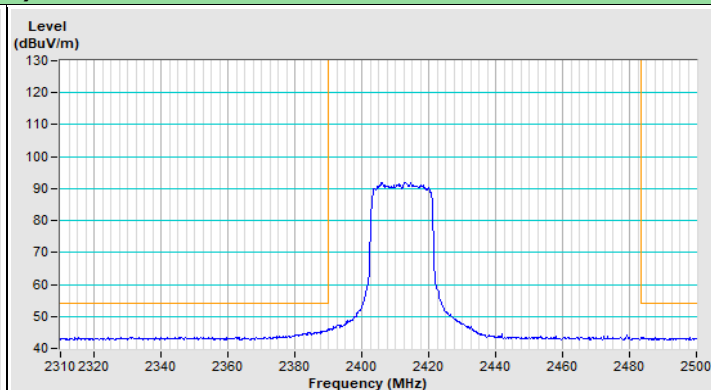
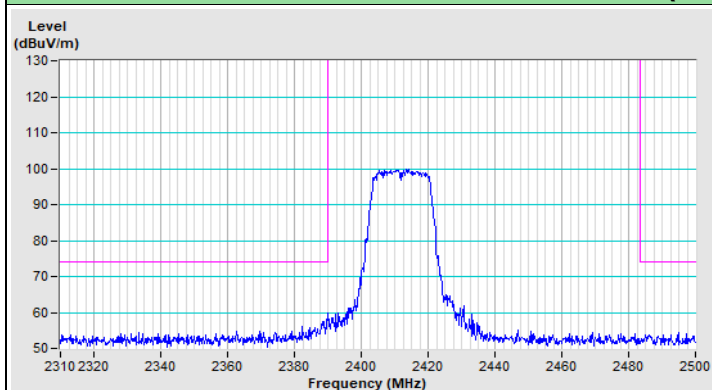


Vertical (Peak)

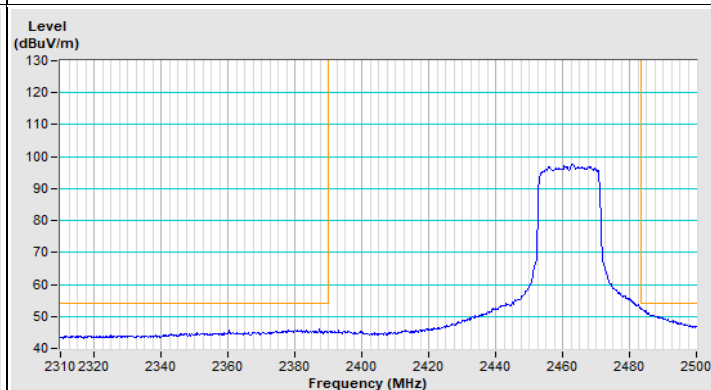
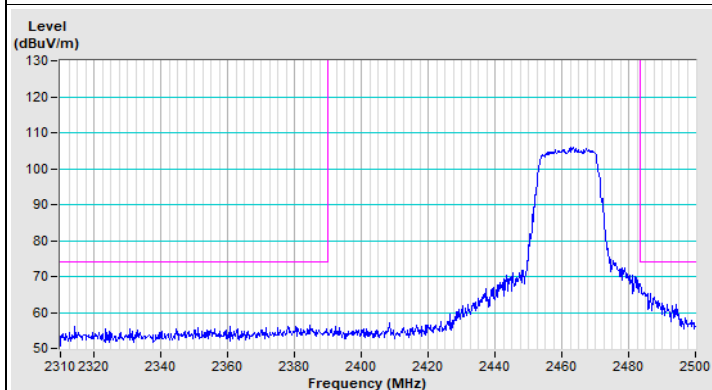
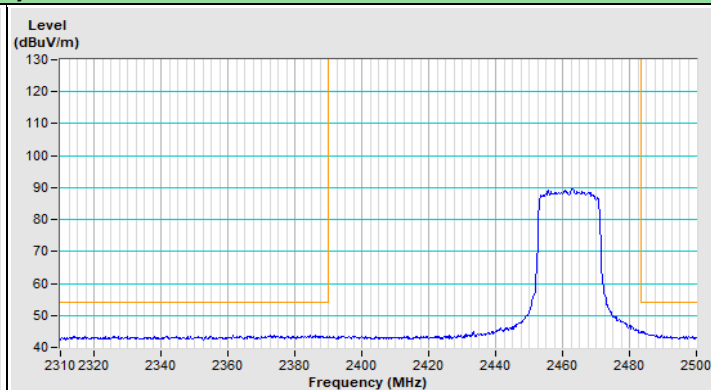
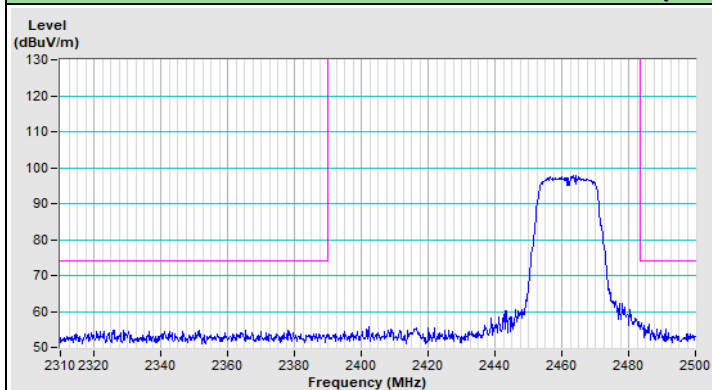


Vertical (Average)

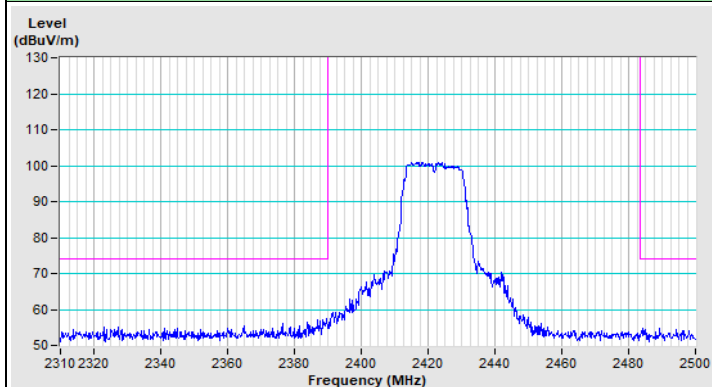
802.11n (HT20) Channel 1



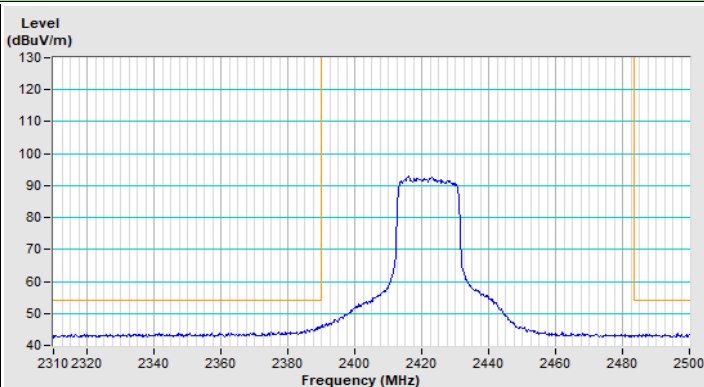
802.11n (HT20) Channel 11



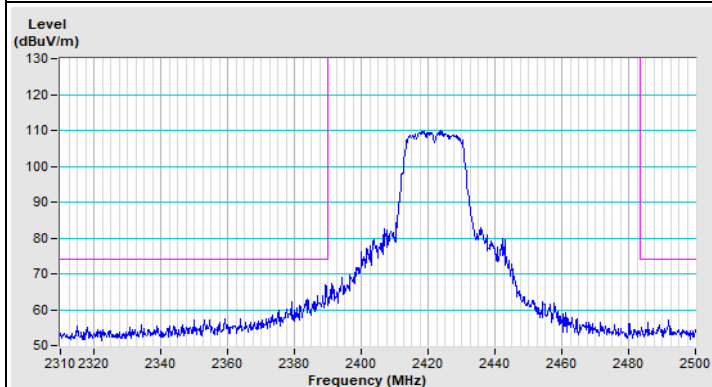
802.11n (HT40) Channel 3



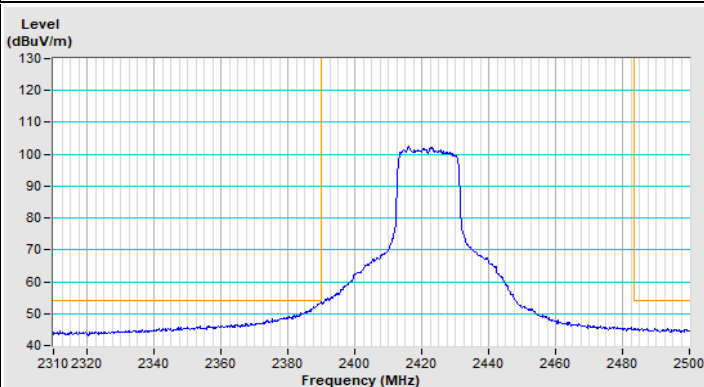
Horizontal (Peak)



Horizontal (Average)

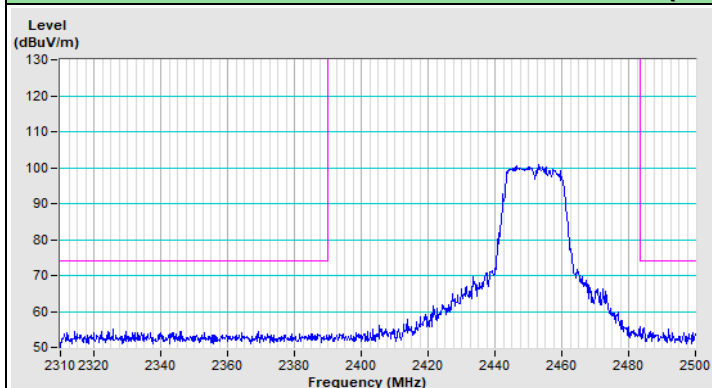


Vertical (Peak)

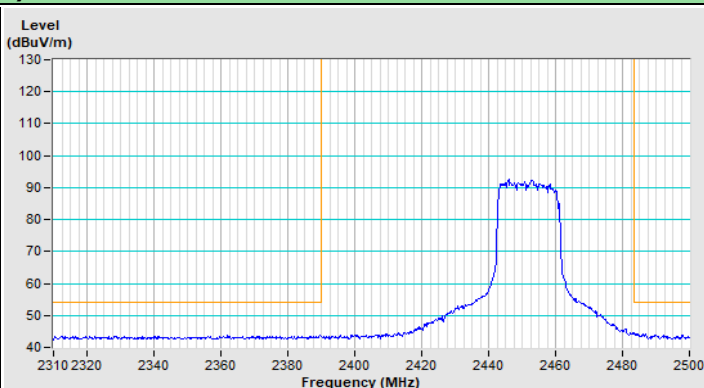


Vertical (Average)

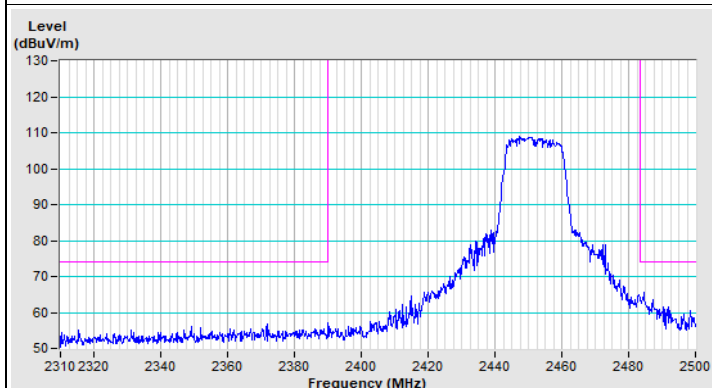
802.11n (HT40) Channel 9



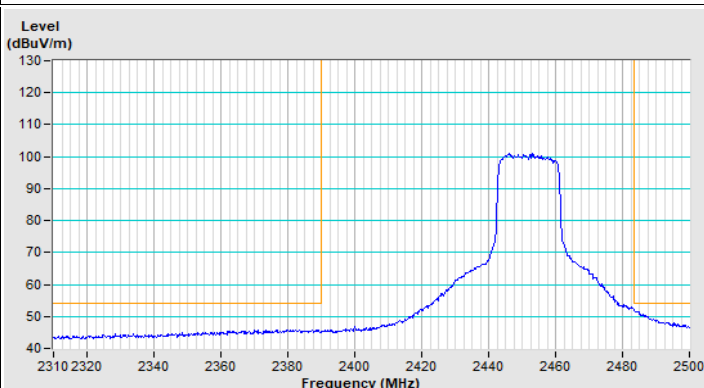
Horizontal (Peak)



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.

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

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