

# TEST REPORT

## CERTIFICATE OF CONFORMITY

**Standard:** 47 CFR FCC Part 15, Subpart C (Section 15.247)  
**Report No.:** RFBERD-WTW-P21100651A-2  
**FCC ID:** COF-WMBACBM25  
**Product:** 802.11a/b/g/n/ac + BT 4.1 Module  
**Brand:** USI  
**Model No.:** WM-BAC-BM-25-FF3  
**Series Model:** WM-BAC-BM-25, WM-BAC-BM-25\_FF2  
**Received Date:** 2023/4/14  
**Test Date:** 2023/4/24 ~ 2023/5/23  
**Issued Date:** 2023/6/16

**Applicant:** Universal Global Scientific Industrial Co., Ltd.

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

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**FCC Registration /** 788550 / TW0003

**Designation Number:**

**Approved by:**

Jeremy Lin

Jeremy Lin / Project Engineer

**Date:**

2023/6/16

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Prepared by : Gina Liu / Specialist



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## Release Control Record

| Issue No.               | Description      | Date Issued |
|-------------------------|------------------|-------------|
| RFBERD-WTW-P21100651A-2 | Original Release | 2023/6/16   |

## 1 Certificate

**Product:** 802.11a/b/g/n/ac + BT 4.1 Module

**Brand:** USI

**Test Model:** WM-BAC-BM-25-FF3

**Series Model:** WM-BAC-BM-25, WM-BAC-BM-25\_FF2

**Sample Status:** Engineering Sample

**Applicant:** Universal Global Scientific Industrial Co., Ltd.

**Test Date:** 2023/4/24 ~ 2023/5/23

**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          | N/A    | Refer to Note                                    |
| 15.247(a)(2)                                   | 6 dB Bandwidth                  | N/A    | Refer to Note                                    |
| 15.247(d)                                      | Conducted Out of Band Emissions | N/A    | Refer to Note                                    |
| 15.207                                         | AC Power Conducted Emissions    | N/A    | Refer to Note                                    |
| 15.205 /<br>15.209 /<br>15.247(d)              | Unwanted Emissions below 1 GHz  | Pass   | Minimum passing margin is -4.1 dB at 42.61 MHz   |
| 15.205 /<br>15.209 /<br>15.247(d)              | Unwanted Emissions above 1 GHz  | Pass   | Minimum passing margin is -0.3 dB at 2483.50 MHz |
| 15.203                                         | Antenna Requirement             | Pass   | No antenna connector is used.                    |

Note:

- Only test item of Radiated Emissions and Conducted Power were performed for this report. Other testing data please refer to original report no.: RF190103E03.
- 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)<br>(±) |
|--------------------------------|-----------------|-----------------------------------|
| Unwanted Emissions below 1 GHz | 9 kHz ~ 30 MHz  | 2.44 dB                           |
|                                | 30 MHz ~ 1 GHz  | 2.95 dB                           |
| Unwanted Emissions above 1 GHz | 1 GHz ~ 18 GHz  | 2.26 dB                           |
|                                | 18 GHz ~ 40 GHz | 1.94 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               | 802.11a/b/g/n/ac + BT 4.1 Module                                                                                                       |
| Brand                 | USI                                                                                                                                    |
| Test Model            | WM-BAC-BM-25-FF3                                                                                                                       |
| Series Model          | WM-BAC-BM-25, WM-BAC-BM-25_FF2                                                                                                         |
| Status of EUT         | Engineering Sample                                                                                                                     |
| Power Supply Rating   | 3.6 Vdc (host equipment)                                                                                                               |
| Modulation Type       | CCK, DQPSK, DBPSK for DSSS<br>64QAM, 16QAM, QPSK, BPSK for OFDM                                                                        |
| Modulation Technology | DSSS, OFDM                                                                                                                             |
| Transfer Rate         | 802.11b: 11.0 / 5.5 / 2.0 / 1.0 Mbps<br>802.11g: 54.0 / 48.0 / 36.0 / 24.0 / 18.0 / 12.0 / 9.0 / 6.0 Mbps<br>802.11n: up to 150.0 Mbps |
| Operating Frequency   | 2.412 GHz ~ 2.462 GHz                                                                                                                  |
| Number of Channel     | 11 for 802.11b, 802.11g, 802.11n (HT20)<br>7 for 802.11n (HT40)                                                                        |
| Output Power          | 278.612 mW (24.45 dBm)                                                                                                                 |

Note:

1. This report is prepared for FCC class II permissive change. This report is issued as a supplementary report to BV CPS report no. RF190103E03 and RFBERD-WTW-P21100651-2. The difference compared with original report is listed as below, only test item of Radiated Emissions and Maximum Peak Output Power were performed for this report.

- Added one Model Name: WM-BAC-BM-25-FF3
- Change Ant. Matching , power reduce

2. All models are listed as below.

| Brand | Model            | Difference                                                                              |
|-------|------------------|-----------------------------------------------------------------------------------------|
| USI   | WM-BAC-BM-25     | All models are electrically identical, different model names are for marketing purpose. |
|       | WM-BAC-BM-25_FF2 |                                                                                         |
|       | WM-BAC-BM-25-FF3 |                                                                                         |

3. There are WLAN and Bluetooth technology used for the EUT.

4. Simultaneously transmission condition.

| Condition | Technology  |           |
|-----------|-------------|-----------|
| 1         | WLAN 2.4GHz | Bluetooth |
| 2         | WLAN 5GHz   | Bluetooth |

5. 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.

| Brand | Model             | Antenna Net Gain(dBi) | Frequency range (GHz) | Antenna Type         | Connector Type |
|-------|-------------------|-----------------------|-----------------------|----------------------|----------------|
| YANGO | ANT3216A063R2455A | 1.59                  | 2.4~2.4835            | Ceramic Chip Antenna | none           |
|       |                   | 2.23                  | 5.15~5.85             |                      |                |

\* 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

|                    |                                                                                                                                                   |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Pre-Scan:</b>   | EUT can be used in the following ways: X-axis/ Y-axis/ Z-axis. Pre-scan in these ways and find the worst case as a representative test condition. |
| <b>Worst Case:</b> | The worst case was found when positioned on Y-axis.                                                                                               |

| Test Item     | Mode           | Tested Channel | Modulation | Data Rate |
|---------------|----------------|----------------|------------|-----------|
| 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       | 6.5Mb/s   |
|               | 802.11n (HT40) | 3, 6, 9        | BPSK       | 13.5Mb/s  |
| RE Below 1GHz | 802.11g        | 6              | BPSK       | 6Mb/s     |
| RE Above 1GHz | 802.11b        | 1, 6, 11       | DBPSK      | 1Mb/s     |
|               | 802.11g        | 1, 6, 11       | BPSK       | 6Mb/s     |
|               | 802.11n (HT20) | 1, 6, 11       | BPSK       | 6.5Mb/s   |
|               | 802.11n (HT40) | 3, 6, 9        | BPSK       | 13.5Mb/s  |

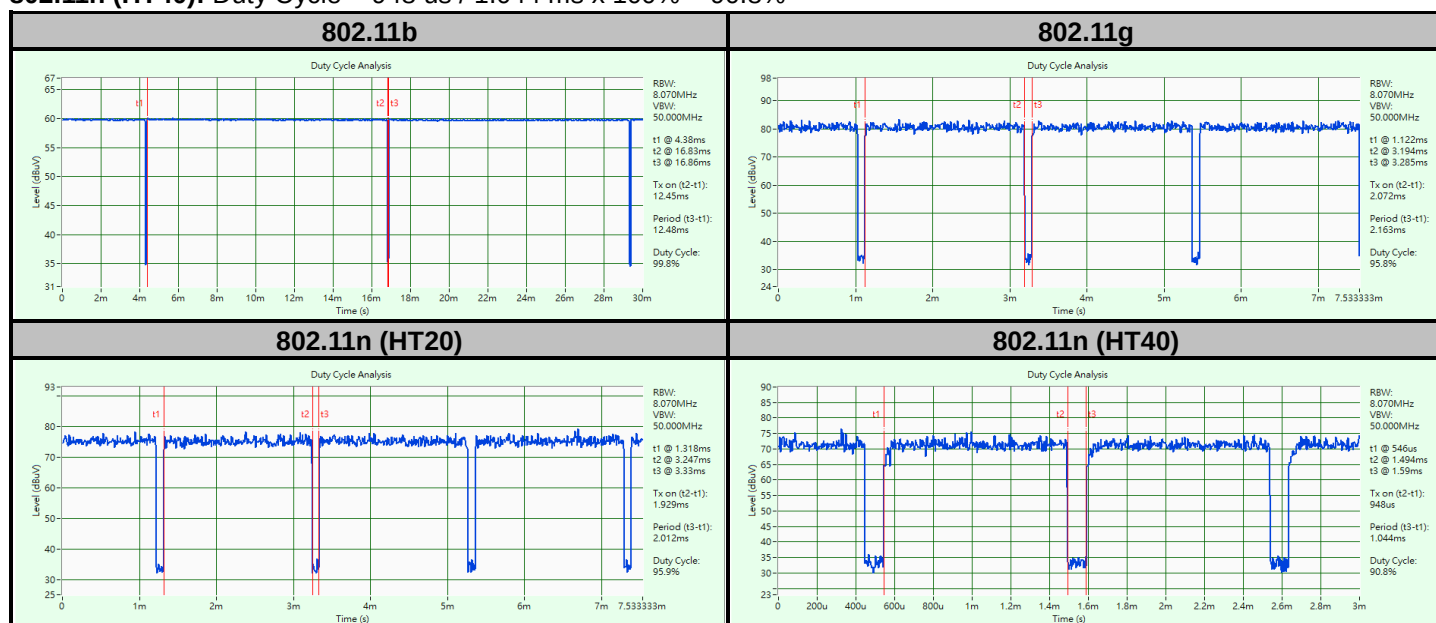
### 3.5 Duty Cycle of Test Signal

**802.11b:** Duty Cycle = 12.45 ms / 12.48 ms x 100% = 99.8%

**802.11g:** Duty Cycle = 2.072 ms / 2.163 ms x 100% = 95.8%

**802.11n (HT20):** Duty Cycle = 1.929 ms / 2.012 ms x 100% = 95.9%

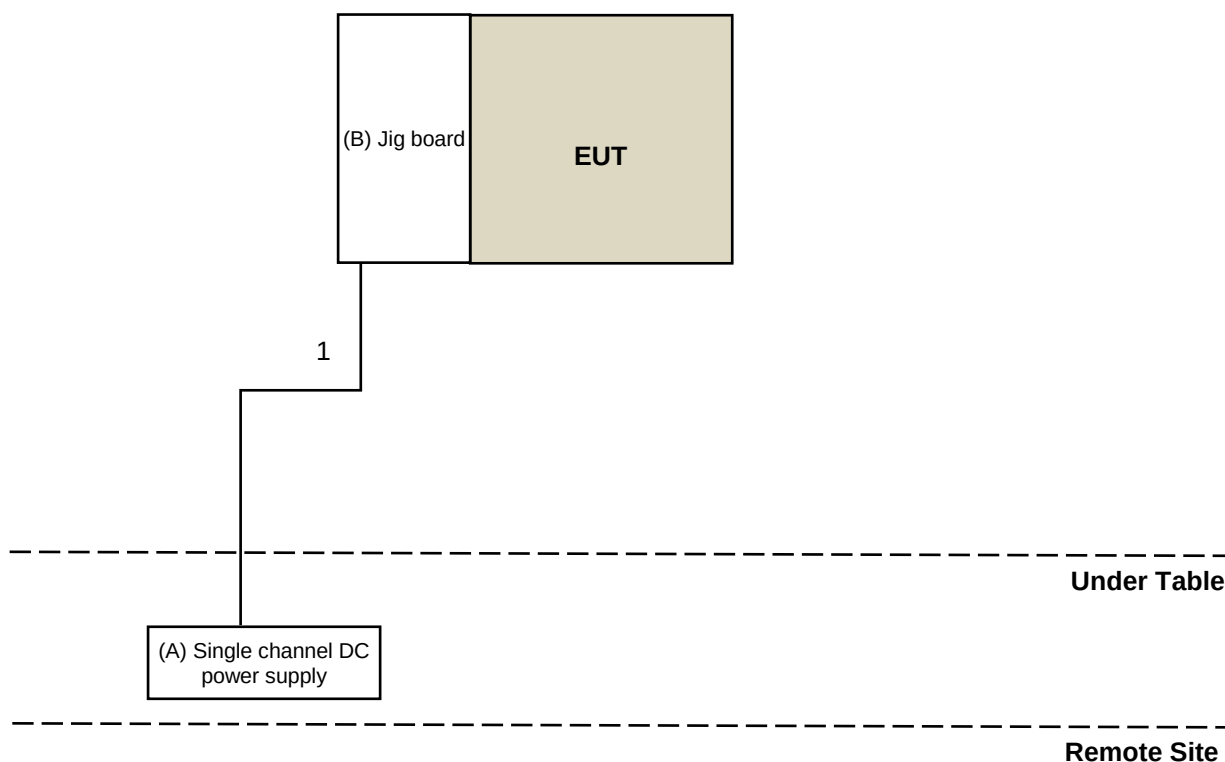
**802.11n (HT40):** Duty Cycle = 948 us / 1.044 ms x 100% = 90.8%



### 3.6 Test Program Used and Operation Descriptions

Controlling software Terminal Ver 3.18.3 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 | Product                        | Brand              | Model No. | Serial No.    | FCC ID | Remarks               |
|----|--------------------------------|--------------------|-----------|---------------|--------|-----------------------|
| A  | Single channel DC power supply | JIN YIH Technology | SP3051    | SP30512113422 | N/A    | Provided by Lab       |
| B  | Jig board                      | N/A                | N/A       | N/A           | N/A    | Supplied by applicant |

| ID | Cable Descriptions | Qty. | Length (m) | Shielding (Yes/No) | Cores (Qty.) | Remarks         |
|----|--------------------|------|------------|--------------------|--------------|-----------------|
| 1  | DC Cable           | 1    | 1.8        | N                  | 0            | Provided by Lab |

## 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<br>Manufacturer              | Model No. | Serial No.                                  | Calibrated<br>Date | Calibrated<br>Until |
|------------------------------------------|-----------|---------------------------------------------|--------------------|---------------------|
| USB Wideband Power<br>Sensor<br>KEYSIGHT | U2021XA   | MY55050005/MY55190004/MY55190007/MY55210005 | 2022/7/13          | 2023/7/12           |

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2023/5/23

### 4.2 Unwanted Emissions below 1 GHz

| Description<br>Manufacturer       | Model No.                    | Serial No.    | Calibrated<br>Date | Calibrated<br>Until |
|-----------------------------------|------------------------------|---------------|--------------------|---------------------|
| Antenna Tower &Turn<br>Max-Full   | MFA-440H                     | AT93021705    | N/A                | N/A                 |
| Bi_Log Antenna<br>Schwarzbeck     | VULB 9168                    | 9168-472      | 2022/10/21         | 2023/10/20          |
| EXA Signal Analyzer<br>Agilent    | N9010A                       | MY52220207    | 2023/1/3           | 2024/1/2            |
| Loop Antenna<br>Electro-Metrics   | EM-6879                      | 269           | 2022/9/19          | 2023/9/18           |
| Loop Antenna<br>TESEQ             | HLA 6121                     | 45745         | 2022/7/27          | 2023/7/26           |
| MXE EMI Receiver<br>KEYSIGHT      | N9038A                       | MY55420137    | 2023/5/3           | 2024/5/2            |
| Preamplifier<br>EMCI              | EMC 330H                     | 980112        | 2022/10/1          | 2023/9/30           |
|                                   | EMC001340                    | 980201        | 2022/9/23          | 2023/9/22           |
| RF Coaxial Cable<br>EMCI          | 5D-NM-BM                     | 140903+140902 | 2023/1/7           | 2024/1/6            |
| RF Coaxial Cable<br>WORKEN        | 8D-FB                        | Cable-Ch10-01 | 2022/10/1          | 2023/9/30           |
| Software<br>BV ADT                | ADT_Radiated_<br>V7.6.15.9.5 | N/A           | N/A                | N/A                 |
| Turn Table<br>Max-Full            | MFT-201SS                    | N/A           | N/A                | N/A                 |
| Turn Table Controller<br>Max-Full | MG-7802                      | N/A           | N/A                | N/A                 |

Notes:

1. The test was performed in HY - 966 chamber 5.
2. Tested Date: 2023/5/10

#### 4.3 Unwanted Emissions above 1 GHz

| Description<br>Manufacturer           | Model No.                | Serial No.                | Calibrated<br>Date | Calibrated<br>Until |
|---------------------------------------|--------------------------|---------------------------|--------------------|---------------------|
| Antenna Tower & Turn<br>Max-Full      | MFA-440H                 | AT93021705                | N/A                | N/A                 |
| Boresight antenna tower fixture<br>BV | BAF-02                   | 7                         | N/A                | N/A                 |
| EXA Signal Analyzer<br>Agilent        | N9010A                   | MY52220207                | 2023/1/3           | 2024/1/2            |
| Horn Antenna<br>Schwarzbeck           | BBHA 9120D               | 9120D-969                 | 2022/11/13         | 2023/11/12          |
|                                       | BBHA 9170                | 148                       | 2022/11/13         | 2023/11/12          |
| MXE EMI Receiver<br>KEYSIGHT          | N9038A                   | MY51210129                | 2023/03/24         | 2024/03/23          |
| Notch Filter<br>MICRO-TRONICS         | BRM17690                 | 004                       | 2023/1/11          | 2024/1/10           |
|                                       | BRM50716                 | 060                       | 2023/1/11          | 2024/1/10           |
| Preamplifier<br>EMCI                  | EMC 012645               | 980115                    | 2022/10/1          | 2023/9/30           |
|                                       | EMC 184045               | 980116                    | 2022/10/1          | 2023/9/30           |
| RF Coaxial Cable<br>EMCI              | EMC102-KM-KM-600         | 150928                    | 2022/7/9           | 2023/7/8            |
|                                       | EMC102-KM-KM-3000        | 150929                    | 2022/7/9           | 2023/7/8            |
|                                       | EMC104-SM-SM-8000+3000   | 171005                    | 2022/10/1          | 2023/9/30           |
| RF Coaxial Cable<br>HUBER SUHNER      | SUCOFLEX 104             | EMC104-SM-SM-1000(140807) | 2022/10/1          | 2023/9/30           |
| Software<br>BV ADT                    | ADT_Radiated_V7.6.15.9.5 | N/A                       | N/A                | N/A                 |
| Turn Table<br>Max-Full                | MFT-201SS                | N/A                       | N/A                | N/A                 |
| Turn Table Controller<br>Max-Full     | MG-7802                  | N/A                       | N/A                | N/A                 |

Notes:

1. The test was performed in HY - 966 chamber 5.
2. Tested Date: 2023/4/24 ~ 2023/5/22

## 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 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<br>(MHz) | Field Strength<br>(microvolts/meter) | Measurement Distance<br>(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).

### 5.3 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<br>(MHz) | Field Strength<br>(microvolts/meter) | Measurement Distance<br>(meters) |
|----------------------|--------------------------------------|----------------------------------|
| Above 960            | 500                                  | 3                                |

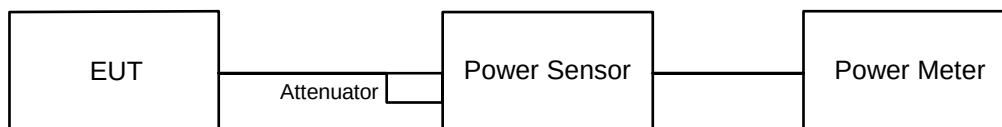
Notes:

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.

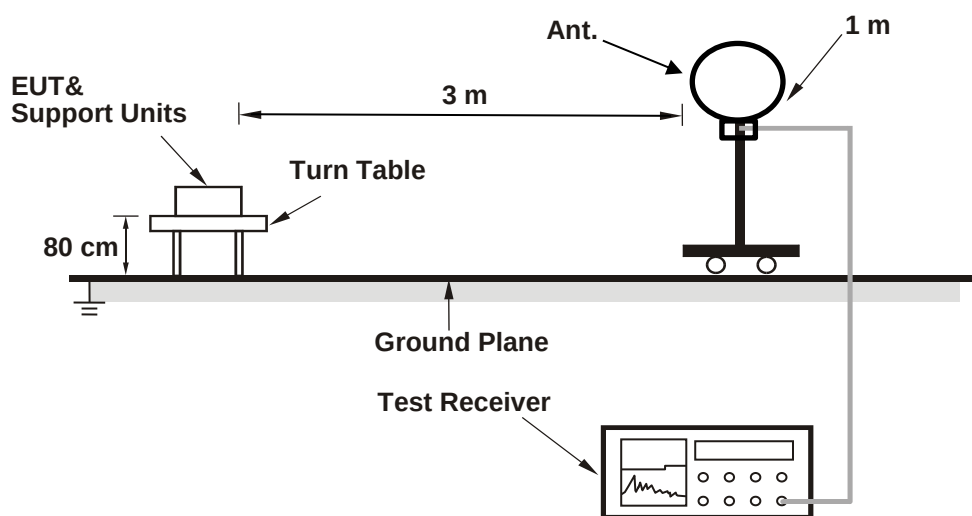
##### Average Power:

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.

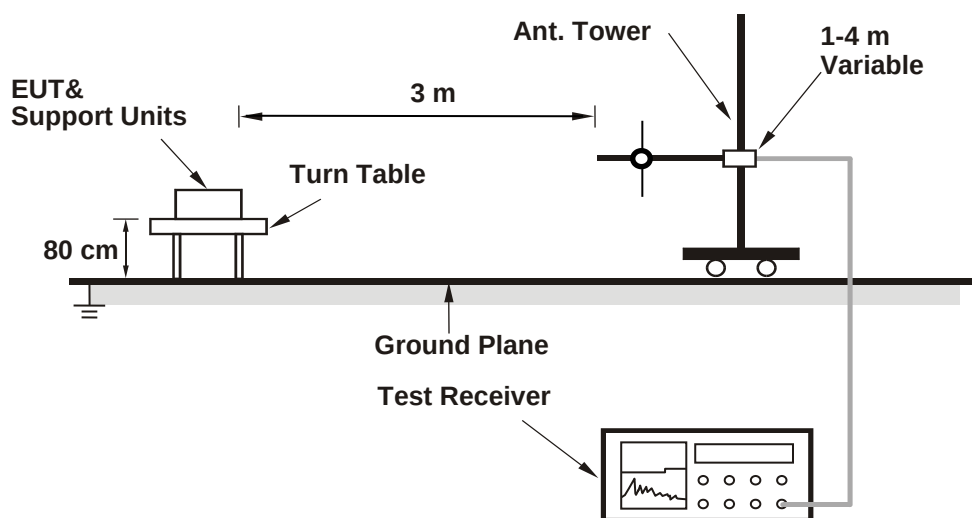
## 6.2 Unwanted Emissions below 1 GHz

### 6.2.1 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).

## 6.2.2 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

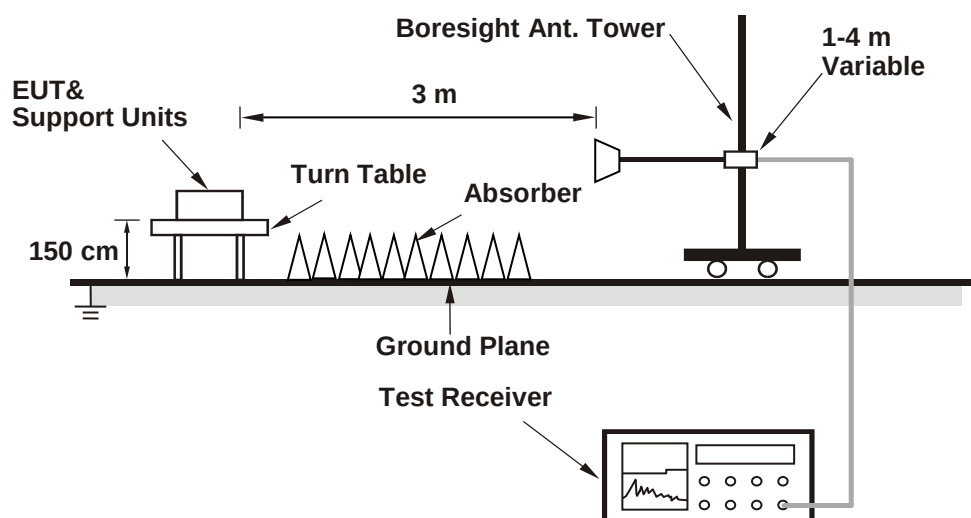
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the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

## 6.3 Unwanted Emissions above 1 GHz

### 6.3.1 Test Setup



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

### 6.3.2 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: | 3.6 Vdc | Environmental Conditions: | 25°C, 60% RH | Tested By: | Ivan Tseng |
|--------------|---------|---------------------------|--------------|------------|------------|

#### For Peak Power

##### 802.11b

| Chan. | Chan. Freq. (MHz) | Peak Power (mW) | Peak Power (dBm) | Power Limit (dBm) | Test Result |
|-------|-------------------|-----------------|------------------|-------------------|-------------|
| 1     | 2412              | 104.232         | 20.18            | 30                | Pass        |
| 6     | 2437              | 201.372         | 23.04            | 30                | Pass        |
| 11    | 2462              | 107.152         | 20.30            | 30                | Pass        |

Note: The antenna gain is 1.59 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              | 198.609         | 22.98            | 30                | Pass        |
| 6     | 2437              | 263.633         | 24.21            | 30                | Pass        |
| 11    | 2462              | 204.174         | 23.10            | 30                | Pass        |

Note: The antenna gain is 1.59 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              | 208.449         | 23.19            | 30                | Pass        |
| 6     | 2437              | 278.612         | 24.45            | 30                | Pass        |
| 11    | 2462              | 178.649         | 22.52            | 30                | Pass        |

Note: The antenna gain is 1.59 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              | 104.232         | 20.18            | 30                | Pass        |
| 6     | 2437              | 212.814         | 23.28            | 30                | Pass        |
| 9     | 2452              | 95.499          | 19.80            | 30                | Pass        |

Note: The antenna gain is 1.59 dBi < 6 dBi, so the output power limit shall not be reduced.

## For Average Power

### 802.11b

| Chan. | Chan. Freq.<br>(MHz) | Average Power (mW) | Average Power (dBm) |
|-------|----------------------|--------------------|---------------------|
| 1     | 2412                 | 52.723             | 17.22               |
| 6     | 2437                 | 106.66             | 20.28               |
| 11    | 2462                 | 52.481             | 17.20               |

### 802.11g

| Chan. | Chan. Freq.<br>(MHz) | Average Power (mW) | Average Power (dBm) |
|-------|----------------------|--------------------|---------------------|
| 1     | 2412                 | 31.623             | 15.00               |
| 6     | 2437                 | 93.541             | 19.71               |
| 11    | 2462                 | 25.351             | 14.04               |

### 802.11n (HT20)

| Chan. | Chan. Freq.<br>(MHz) | Average Power (mW) | Average Power (dBm) |
|-------|----------------------|--------------------|---------------------|
| 1     | 2412                 | 31.623             | 15.00               |
| 6     | 2437                 | 87.297             | 19.41               |
| 11    | 2462                 | 27.04              | 14.32               |

### 802.11n (HT40)

| Chan. | Chan. Freq.<br>(MHz) | Average Power (mW) | Average Power (dBm) |
|-------|----------------------|--------------------|---------------------|
| 3     | 2422                 | 14.655             | 11.66               |
| 6     | 2437                 | 32.285             | 15.09               |
| 9     | 2452                 | 14.757             | 11.69               |

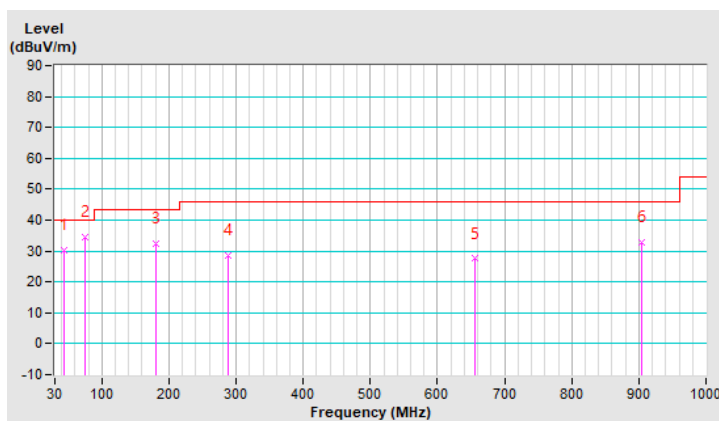
## 7.2 Unwanted Emissions below 1 GHz

|                 |                |                               |                  |
|-----------------|----------------|-------------------------------|------------------|
| RF Mode         | 802.11g        | Channel                       | CH 6 : 2437 MHz  |
| Frequency Range | 30 MHz ~ 1 GHz | Detector Function & Bandwidth | (QP) RB = 120kHz |
| Input Power     | 120 Vac, 60 Hz | Environmental Conditions      | 21.3°C, 65.2% RH |
| Tested By       | Vincent Chen   |                               |                  |

| 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                                                    | 43.58           | 30.1 QP                 | 40.0           | -9.9        | 1.50 H             | 72                   | 42.5             | -12.4                    |
| 2                                                    | 74.62           | 34.5 QP                 | 40.0           | -5.5        | 2.00 H             | 109                  | 49.8             | -15.3                    |
| 3                                                    | 180.35          | 32.5 QP                 | 43.5           | -11.0       | 2.00 H             | 266                  | 46.6             | -14.1                    |
| 4                                                    | 288.99          | 28.6 QP                 | 46.0           | -17.4       | 1.00 H             | 241                  | 40.7             | -12.1                    |
| 5                                                    | 655.65          | 27.5 QP                 | 46.0           | -18.5       | 1.00 H             | 178                  | 31.9             | -4.4                     |
| 6                                                    | 904.94          | 32.9 QP                 | 46.0           | -13.1       | 1.50 H             | 138                  | 33.9             | -1.0                     |

### 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 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.

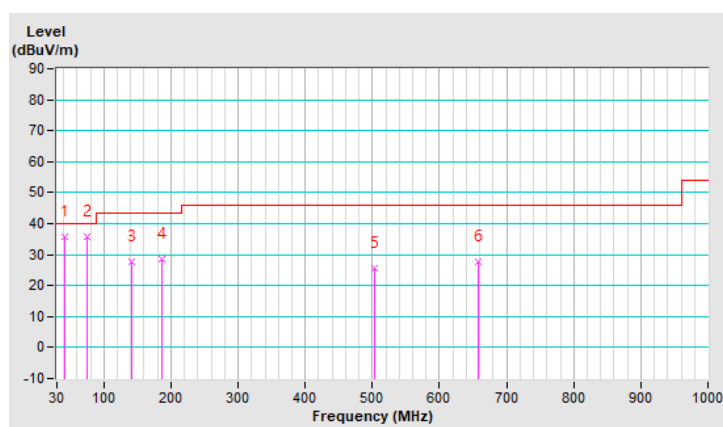


|                 |                |                               |                  |
|-----------------|----------------|-------------------------------|------------------|
| RF Mode         | 802.11g        | Channel                       | CH 6 : 2437 MHz  |
| Frequency Range | 30 MHz ~ 1 GHz | Detector Function & Bandwidth | (QP) RB = 120kHz |
| Input Power     | 120 Vac, 60 Hz | Environmental Conditions      | 21.3°C, 65.2% RH |
| Tested By       | Vincent Chen   |                               |                  |

| 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                                                  | 42.61           | 35.9 QP                 | 40.0           | -4.1        | 1.00 V             | 2                    | 48.2             | -12.3                    |
| 2                                                  | 74.62           | 35.8 QP                 | 40.0           | -4.2        | 1.50 V             | 2                    | 51.1             | -15.3                    |
| 3                                                  | 141.55          | 27.8 QP                 | 43.5           | -15.7       | 1.50 V             | 2                    | 40.4             | -12.6                    |
| 4                                                  | 187.14          | 28.5 QP                 | 43.5           | -15.0       | 2.00 V             | 150                  | 43.3             | -14.8                    |
| 5                                                  | 503.36          | 25.7 QP                 | 46.0           | -20.3       | 2.00 V             | 3                    | 32.5             | -6.8                     |
| 6                                                  | 658.56          | 27.7 QP                 | 46.0           | -18.3       | 1.50 V             | 342                  | 32.1             | -4.4                     |

#### 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 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.



### 7.3 Unwanted Emissions above 1 GHz

|                        |                |                                          |                                                            |
|------------------------|----------------|------------------------------------------|------------------------------------------------------------|
| <b>RF Mode</b>         | 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<br>(AV) RB = 1 MHz, VB = 10 Hz |
| <b>Input Power</b>     | 120 Vac, 60 Hz | <b>Environmental Conditions</b>          | 22.7°C, 67.2% RH                                           |
| <b>Tested By</b>       | Vincent Chen   |                                          |                                                            |

| 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         | 54.4 PK                 | 74.0           | -19.6       | 2.21 H             | 174                  | 56.9             | -2.5                     |
| 2                                                    | 2390.00         | 43.8 AV                 | 54.0           | -10.2       | 2.21 H             | 174                  | 46.3             | -2.5                     |
| 3                                                    | *2412.00        | 97.6 PK                 |                |             | 2.21 H             | 174                  | 63.4             | 34.2                     |
| 4                                                    | *2412.00        | 95.5 AV                 |                |             | 2.21 H             | 174                  | 61.3             | 34.2                     |
| 5                                                    | 4824.00         | 54.6 PK                 | 74.0           | -19.4       | 1.86 H             | 320                  | 58.8             | -4.2                     |
| 6                                                    | 4824.00         | 48.7 AV                 | 54.0           | -5.3        | 1.86 H             | 320                  | 52.9             | -4.2                     |
| 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       | 1.41 V             | 170                  | 61.9             | -2.5                     |
| 2                                                    | 2390.00         | 52.9 AV                 | 54.0           | -1.1        | 1.41 V             | 170                  | 55.4             | -2.5                     |
| 3                                                    | *2412.00        | 105.9 PK                |                |             | 1.41 V             | 170                  | 71.7             | 34.2                     |
| 4                                                    | *2412.00        | 103.7 AV                |                |             | 1.41 V             | 170                  | 69.5             | 34.2                     |
| 5                                                    | 4824.00         | 53.7 PK                 | 74.0           | -20.3       | 2.32 V             | 166                  | 57.9             | -4.2                     |
| 6                                                    | 4824.00         | 46.5 AV                 | 54.0           | -7.5        | 2.32 V             | 166                  | 50.7             | -4.2                     |

#### 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>         | 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<br>(AV) RB = 1 MHz, VB = 10 Hz |
| <b>Input Power</b>     | 120 Vac, 60 Hz | <b>Environmental Conditions</b>          | 22.7°C, 67.2% RH                                           |
| <b>Tested By</b>       | Vincent Chen   |                                          |                                                            |

| 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                                                    | *2437.00        | 103.4 PK                |                |             | 1.23 H             | 95                   | 69.1             | 34.3                     |
| 2                                                    | *2437.00        | 101.4 AV                |                |             | 1.23 H             | 95                   | 67.1             | 34.3                     |
| 3                                                    | 4874.00         | 53.9 PK                 | 74.0           | -20.1       | 1.97 H             | 342                  | 58.2             | -4.3                     |
| 4                                                    | 4874.00         | 48.3 AV                 | 54.0           | -5.7        | 1.97 H             | 342                  | 52.6             | -4.3                     |
| 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                                                    | *2437.00        | 109.5 PK                |                |             | 1.52 V             | 27                   | 75.2             | 34.3                     |
| 2                                                    | *2437.00        | 107.4 AV                |                |             | 1.52 V             | 27                   | 73.1             | 34.3                     |
| 3                                                    | 4874.00         | 53.7 PK                 | 74.0           | -20.3       | 2.05 V             | 147                  | 58.0             | -4.3                     |
| 4                                                    | 4874.00         | 48.1 AV                 | 54.0           | -5.9        | 2.05 V             | 147                  | 52.4             | -4.3                     |

**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.

|                        |                |                                          |                                                            |
|------------------------|----------------|------------------------------------------|------------------------------------------------------------|
| <b>RF Mode</b>         | 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<br>(AV) RB = 1 MHz, VB = 10 Hz |
| <b>Input Power</b>     | 120 Vac, 60 Hz | <b>Environmental Conditions</b>          | 22.7°C, 67.2% RH                                           |
| <b>Tested By</b>       | Vincent Chen   |                                          |                                                            |

| 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        | 102.5 PK                |                |             | 2.52 H             | 54                   | 68.1             | 34.4                     |
| 2                                                    | *2462.00        | 100.5 AV                |                |             | 2.52 H             | 54                   | 66.1             | 34.4                     |
| 3                                                    | 2483.50         | 56.0 PK                 | 74.0           | -18.0       | 2.52 H             | 54                   | 21.6             | 34.4                     |
| 4                                                    | 2483.50         | 50.2 AV                 | 54.0           | -3.8        | 2.52 H             | 54                   | 15.8             | 34.4                     |
| 5                                                    | 4924.00         | 53.2 PK                 | 74.0           | -20.8       | 3.33 H             | 178                  | 55.4             | -2.2                     |
| 6                                                    | 4924.00         | 45.1 AV                 | 54.0           | -8.9        | 3.33 H             | 178                  | 47.3             | -2.2                     |
| 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        | 106.2 PK                |                |             | 2.28 V             | 339                  | 71.8             | 34.4                     |
| 2                                                    | *2462.00        | 104.1 AV                |                |             | 2.28 V             | 339                  | 69.7             | 34.4                     |
| 3                                                    | 2483.50         | 59.2 PK                 | 74.0           | -14.8       | 2.28 V             | 339                  | 24.8             | 34.4                     |
| 4                                                    | 2483.50         | 53.0 AV                 | 54.0           | -1.0        | 2.28 V             | 339                  | 18.6             | 34.4                     |
| 5                                                    | 4924.00         | 54.0 PK                 | 74.0           | -20.0       | 2.41 V             | 165                  | 56.2             | -2.2                     |
| 6                                                    | 4924.00         | 46.3 AV                 | 54.0           | -7.7        | 2.41 V             | 165                  | 48.5             | -2.2                     |

**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>         | 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<br>(AV) RB = 1 MHz, VB = 510 Hz |
| <b>Input Power</b>     | 120 Vac, 60 Hz | <b>Environmental Conditions</b>          | 22.7°C, 67.2% RH                                            |
| <b>Tested By</b>       | Vincent Chen   |                                          |                                                             |

| 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         | 61.9 PK                 | 74.0           | -12.1       | 1.18 H             | 94                   | 64.4             | -2.5                     |
| 2                                                    | 2390.00         | 48.6 AV                 | 54.0           | -5.4        | 1.18 H             | 94                   | 51.1             | -2.5                     |
| 3                                                    | *2412.00        | 101.1 PK                |                |             | 1.18 H             | 94                   | 66.9             | 34.2                     |
| 4                                                    | *2412.00        | 93.7 AV                 |                |             | 1.18 H             | 94                   | 59.5             | 34.2                     |
| 5                                                    | 4824.00         | 50.1 PK                 | 74.0           | -23.9       | 3.21 H             | 152                  | 54.3             | -4.2                     |
| 6                                                    | 4824.00         | 40.4 AV                 | 54.0           | -13.6       | 3.21 H             | 152                  | 44.6             | -4.2                     |
| 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         | 66.2 PK                 | 74.0           | -7.8        | 1.35 V             | 26                   | 68.7             | -2.5                     |
| 2                                                    | 2390.00         | 53.0 AV                 | 54.0           | -1.0        | 1.35 V             | 26                   | 55.5             | -2.5                     |
| 3                                                    | *2412.00        | 107.0 PK                |                |             | 1.35 V             | 26                   | 72.8             | 34.2                     |
| 4                                                    | *2412.00        | 99.6 AV                 |                |             | 1.35 V             | 26                   | 65.4             | 34.2                     |
| 5                                                    | 4824.00         | 51.0 PK                 | 74.0           | -23.0       | 2.32 V             | 167                  | 55.2             | -4.2                     |
| 6                                                    | 4824.00         | 41.2 AV                 | 54.0           | -12.8       | 2.32 V             | 167                  | 45.4             | -4.2                     |

**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>         | 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<br>(AV) RB = 1 MHz, VB = 510 Hz |
| <b>Input Power</b>     | 120 Vac, 60 Hz | <b>Environmental Conditions</b>          | 22.7°C, 67.2% RH                                            |
| <b>Tested By</b>       | Vincent Chen   |                                          |                                                             |

| 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                                                    | *2437.00        | 107.3 PK                |                |             | 1.21 H             | 95                   | 73.0             | 34.3                     |
| 2                                                    | *2437.00        | 100.0 AV                |                |             | 1.21 H             | 95                   | 65.7             | 34.3                     |
| 3                                                    | 4874.00         | 50.0 PK                 | 74.0           | -24.0       | 3.11 H             | 145                  | 54.3             | -4.3                     |
| 4                                                    | 4874.00         | 40.2 AV                 | 54.0           | -13.8       | 3.11 H             | 145                  | 44.5             | -4.3                     |
| 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                                                    | *2437.00        | 114.4 PK                |                |             | 1.50 V             | 28                   | 80.1             | 34.3                     |
| 2                                                    | *2437.00        | 106.9 AV                |                |             | 1.50 V             | 28                   | 72.6             | 34.3                     |
| 3                                                    | 4874.00         | 51.0 PK                 | 74.0           | -23.0       | 2.32 V             | 164                  | 55.3             | -4.3                     |
| 4                                                    | 4874.00         | 40.9 AV                 | 54.0           | -13.1       | 2.32 V             | 164                  | 45.2             | -4.3                     |

**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.

|                        |                |                                          |                                                             |
|------------------------|----------------|------------------------------------------|-------------------------------------------------------------|
| <b>RF Mode</b>         | 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<br>(AV) RB = 1 MHz, VB = 510 Hz |
| <b>Input Power</b>     | 120 Vac, 60 Hz | <b>Environmental Conditions</b>          | 22.7°C, 67.2% RH                                            |
| <b>Tested By</b>       | Vincent Chen   |                                          |                                                             |

| 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        | 104.9 PK                |                |             | 1.56 H             | 36                   | 70.5             | 34.4                     |
| 2                                                    | *2462.00        | 97.5 AV                 |                |             | 1.56 H             | 36                   | 63.1             | 34.4                     |
| 3                                                    | 2483.50         | 63.4 PK                 | 74.0           | -10.6       | 1.56 H             | 36                   | 29.0             | 34.4                     |
| 4                                                    | 2483.50         | 50.0 AV                 | 54.0           | -4.0        | 1.56 H             | 36                   | 15.6             | 34.4                     |
| 5                                                    | 4924.00         | 52.4 PK                 | 74.0           | -21.6       | 2.20 H             | 198                  | 54.6             | -2.2                     |
| 6                                                    | 4924.00         | 42.3 AV                 | 54.0           | -11.7       | 2.20 H             | 198                  | 44.5             | -2.2                     |
| 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        | 109.3 PK                |                |             | 2.24 V             | 337                  | 74.9             | 34.4                     |
| 2                                                    | *2462.00        | 101.9 AV                |                |             | 2.24 V             | 337                  | 67.5             | 34.4                     |
| 3                                                    | 2483.50         | 67.3 PK                 | 74.0           | -6.7        | 2.24 V             | 337                  | 32.9             | 34.4                     |
| 4                                                    | 2483.50         | 52.9 AV                 | 54.0           | -1.1        | 2.24 V             | 337                  | 18.5             | 34.4                     |
| 5                                                    | 4924.00         | 53.4 PK                 | 74.0           | -20.6       | 2.23 V             | 158                  | 55.6             | -2.2                     |
| 6                                                    | 4924.00         | 43.0 AV                 | 54.0           | -11.0       | 2.23 V             | 158                  | 45.2             | -2.2                     |

**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>         | 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<br>(AV) RB = 1 MHz, VB = 1 kHz |
| <b>Input Power</b>     | 120 Vac, 60 Hz | <b>Environmental Conditions</b>          | 22.7°C, 67.2% RH                                           |
| <b>Tested By</b>       | Vincent Chen   |                                          |                                                            |

| 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         | 62.3 PK                 | 74.0           | -11.7       | 1.26 H             | 33                   | 28.2             | 34.1                     |
| 2                                                    | 2390.00         | 46.6 AV                 | 54.0           | -7.4        | 1.26 H             | 33                   | 12.5             | 34.1                     |
| 3                                                    | *2412.00        | 102.3 PK                |                |             | 1.26 H             | 33                   | 68.1             | 34.2                     |
| 4                                                    | *2412.00        | 94.2 AV                 |                |             | 1.26 H             | 33                   | 60.0             | 34.2                     |
| 5                                                    | 4824.00         | 52.0 PK                 | 74.0           | -22.0       | 3.52 H             | 177                  | 54.2             | -2.2                     |
| 6                                                    | 4824.00         | 42.5 AV                 | 54.0           | -11.5       | 3.52 H             | 177                  | 44.7             | -2.2                     |
| 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         | 68.8 PK                 | 74.0           | -5.2        | 2.30 V             | 332                  | 34.7             | 34.1                     |
| 2                                                    | 2390.00         | 53.0 AV                 | 54.0           | -1.0        | 2.30 V             | 332                  | 18.9             | 34.1                     |
| 3                                                    | *2412.00        | 107.9 PK                |                |             | 2.30 V             | 332                  | 73.7             | 34.2                     |
| 4                                                    | *2412.00        | 99.6 AV                 |                |             | 2.30 V             | 332                  | 65.4             | 34.2                     |
| 5                                                    | 4824.00         | 53.1 PK                 | 74.0           | -20.9       | 3.32 V             | 157                  | 55.3             | -2.2                     |
| 6                                                    | 4824.00         | 42.9 AV                 | 54.0           | -11.1       | 3.32 V             | 157                  | 45.1             | -2.2                     |

**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>         | 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<br>(AV) RB = 1 MHz, VB = 1 kHz |
| <b>Input Power</b>     | 120 Vac, 60 Hz | <b>Environmental Conditions</b>          | 22.7°C, 67.2% RH                                           |
| <b>Tested By</b>       | Vincent Chen   |                                          |                                                            |

| 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                                                    | *2437.00        | 107.2 PK                |                |             | 1.21 H             | 94                   | 72.9             | 34.3                     |
| 2                                                    | *2437.00        | 99.7 AV                 |                |             | 1.21 H             | 94                   | 65.4             | 34.3                     |
| 3                                                    | 4874.00         | 50.1 PK                 | 74.0           | -23.9       | 3.25 H             | 177                  | 54.4             | -4.3                     |
| 4                                                    | 4874.00         | 40.5 AV                 | 54.0           | -13.5       | 3.25 H             | 177                  | 44.8             | -4.3                     |
| 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                                                    | *2437.00        | 113.3 PK                |                |             | 1.51 V             | 25                   | 79.0             | 34.3                     |
| 2                                                    | *2437.00        | 105.8 AV                |                |             | 1.51 V             | 25                   | 71.5             | 34.3                     |
| 3                                                    | 4874.00         | 51.1 PK                 | 74.0           | -22.9       | 2.36 V             | 152                  | 55.4             | -4.3                     |
| 4                                                    | 4874.00         | 41.0 AV                 | 54.0           | -13.0       | 2.36 V             | 152                  | 45.3             | -4.3                     |

**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.

|                        |                |                                          |                                                            |
|------------------------|----------------|------------------------------------------|------------------------------------------------------------|
| <b>RF Mode</b>         | 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<br>(AV) RB = 1 MHz, VB = 1 kHz |
| <b>Input Power</b>     | 120 Vac, 60 Hz | <b>Environmental Conditions</b>          | 22.7°C, 67.2% RH                                           |
| <b>Tested By</b>       | Vincent Chen   |                                          |                                                            |

| 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        | 105.5 PK                |                |             | 1.59 H             | 38                   | 71.1             | 34.4                     |
| 2                                                    | *2462.00        | 97.5 AV                 |                |             | 1.59 H             | 38                   | 63.1             | 34.4                     |
| 3                                                    | 2483.50         | 67.6 PK                 | 74.0           | -6.4        | 1.59 H             | 38                   | 33.2             | 34.4                     |
| 4                                                    | 2483.50         | 49.3 AV                 | 54.0           | -4.7        | 1.59 H             | 38                   | 14.9             | 34.4                     |
| 5                                                    | 4924.00         | 53.1 PK                 | 74.0           | -20.9       | 2.03 H             | 158                  | 55.3             | -2.2                     |
| 6                                                    | 4924.00         | 43.0 AV                 | 54.0           | -11.0       | 2.03 H             | 158                  | 45.2             | -2.2                     |
| 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        | 111.2 PK                |                |             | 2.25 V             | 336                  | 76.8             | 34.4                     |
| 2                                                    | *2462.00        | 102.1 AV                |                |             | 2.25 V             | 336                  | 67.7             | 34.4                     |
| 3                                                    | 2483.50         | 71.1 PK                 | 74.0           | -2.9        | 2.25 V             | 336                  | 36.7             | 34.4                     |
| 4                                                    | 2483.50         | 52.8 AV                 | 54.0           | -1.2        | 2.25 V             | 336                  | 18.4             | 34.4                     |
| 5                                                    | 4924.00         | 53.1 PK                 | 74.0           | -20.9       | 1.52 V             | 229                  | 55.3             | -2.2                     |
| 6                                                    | 4924.00         | 43.0 AV                 | 54.0           | -11.0       | 1.52 V             | 229                  | 45.2             | -2.2                     |

**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>         | 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<br>(AV) RB = 1 MHz, VB = 2 kHz |
| <b>Input Power</b>     | 120 Vac, 60 Hz | <b>Environmental Conditions</b>          | 22.7°C, 67.2% RH                                           |
| <b>Tested By</b>       | Vincent Chen   |                                          |                                                            |

| 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         | 63.6 PK                 | 74.0           | -10.4       | 1.12 H             | 96                   | 29.5             | 34.1                     |
| 2                                                    | 2390.00         | 46.8 AV                 | 54.0           | -7.2        | 1.12 H             | 96                   | 12.7             | 34.1                     |
| 3                                                    | *2422.00        | 95.3 PK                 |                |             | 1.12 H             | 96                   | 61.1             | 34.2                     |
| 4                                                    | *2422.00        | 87.8 AV                 |                |             | 1.12 H             | 96                   | 53.6             | 34.2                     |
| 5                                                    | 4844.00         | 50.1 PK                 | 74.0           | -23.9       | 3.25 H             | 252                  | 54.3             | -4.2                     |
| 6                                                    | 4844.00         | 40.0 AV                 | 54.0           | -14.0       | 3.25 H             | 252                  | 44.2             | -4.2                     |
| 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         | 66.1 PK                 | 74.0           | -7.9        | 1.60 V             | 26                   | 32.0             | 34.1                     |
| 2                                                    | 2390.00         | 52.7 AV                 | 54.0           | -1.3        | 1.60 V             | 26                   | 18.6             | 34.1                     |
| 3                                                    | *2422.00        | 101.3 PK                |                |             | 1.60 V             | 26                   | 67.1             | 34.2                     |
| 4                                                    | *2422.00        | 93.6 AV                 |                |             | 1.60 V             | 26                   | 59.4             | 34.2                     |
| 5                                                    | 4844.00         | 51.4 PK                 | 74.0           | -22.6       | 2.06 V             | 208                  | 55.6             | -4.2                     |
| 6                                                    | 4844.00         | 41.1 AV                 | 54.0           | -12.9       | 2.06 V             | 208                  | 45.3             | -4.2                     |

**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.

|                 |                |                               |                                                            |
|-----------------|----------------|-------------------------------|------------------------------------------------------------|
| 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<br>(AV) RB = 1 MHz, VB = 2 kHz |
| Input Power     | 120 Vac, 60 Hz | Environmental Conditions      | 22.7°C, 67.2% RH                                           |
| Tested By       | Vincent Chen   |                               |                                                            |

| 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         | 63.0 PK                 | 74.0           | -11.0       | 1.18 H             | 94                   | 28.9             | 34.1                     |
| 2                                                    | 2390.00         | 46.5 AV                 | 54.0           | -7.5        | 1.18 H             | 94                   | 12.4             | 34.1                     |
| 3                                                    | *2437.00        | 99.0 PK                 |                |             | 1.18 H             | 94                   | 64.7             | 34.3                     |
| 4                                                    | *2437.00        | 91.5 AV                 |                |             | 1.18 H             | 94                   | 57.2             | 34.3                     |
| 5                                                    | 2483.50         | 64.1 PK                 | 74.0           | -9.9        | 1.18 H             | 94                   | 29.7             | 34.4                     |
| 6                                                    | 2483.50         | 47.4 AV                 | 54.0           | -6.6        | 1.18 H             | 94                   | 13.0             | 34.4                     |
| 7                                                    | 4874.00         | 50.0 PK                 | 74.0           | -24.0       | 2.23 H             | 196                  | 54.3             | -4.3                     |
| 8                                                    | 4874.00         | 39.9 AV                 | 54.0           | -14.1       | 2.23 H             | 196                  | 44.2             | -4.3                     |
| 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         | 68.2 PK                 | 74.0           | -5.8        | 1.50 V             | 27                   | 34.1             | 34.1                     |
| 2                                                    | 2390.00         | 52.9 AV                 | 54.0           | -1.1        | 1.50 V             | 27                   | 18.8             | 34.1                     |
| 3                                                    | *2437.00        | 105.7 PK                |                |             | 1.50 V             | 27                   | 71.4             | 34.3                     |
| 4                                                    | *2437.00        | 97.9 AV                 |                |             | 1.50 V             | 27                   | 63.6             | 34.3                     |
| 5                                                    | 2483.50         | 70.3 PK                 | 74.0           | -3.7        | 1.50 V             | 27                   | 35.9             | 34.4                     |
| 6                                                    | 2483.50         | 53.7 AV                 | 54.0           | -0.3        | 1.50 V             | 27                   | 19.3             | 34.4                     |
| 7                                                    | 4874.00         | 51.4 PK                 | 74.0           | -22.6       | 1.96 V             | 238                  | 55.7             | -4.3                     |
| 8                                                    | 4874.00         | 41.0 AV                 | 54.0           | -13.0       | 1.96 V             | 238                  | 45.3             | -4.3                     |

#### 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.

|                        |                |                                          |                                                            |
|------------------------|----------------|------------------------------------------|------------------------------------------------------------|
| <b>RF Mode</b>         | 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<br>(AV) RB = 1 MHz, VB = 2 kHz |
| <b>Input Power</b>     | 120 Vac, 60 Hz | <b>Environmental Conditions</b>          | 22.7°C, 67.2% RH                                           |
| <b>Tested By</b>       | Vincent Chen   |                                          |                                                            |

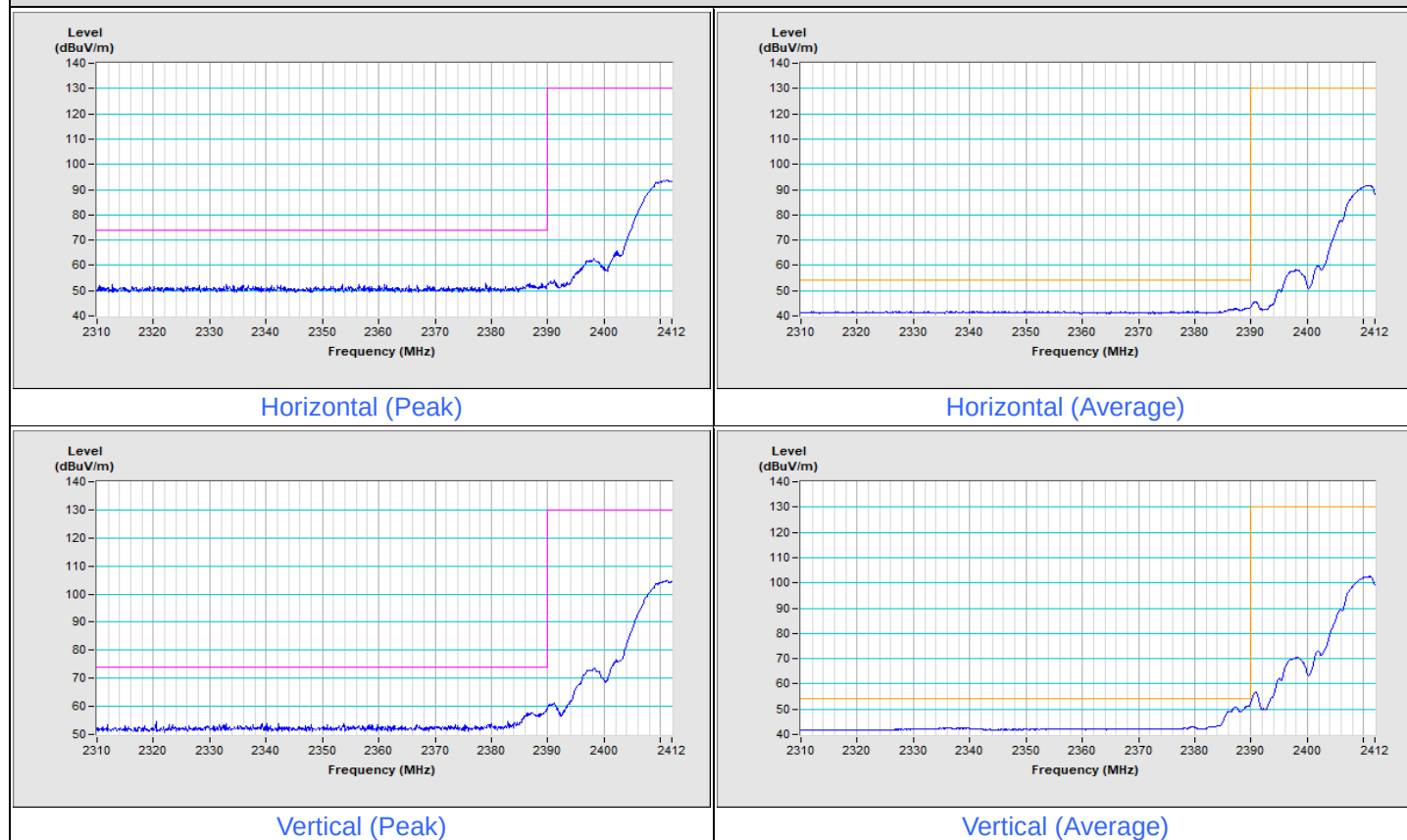
| Antenna Polarity & Test Distance : Horizontal at 3 m |                 |                         |                |             |                    |                      |                  |                          |
|------------------------------------------------------|-----------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 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        | 98.9 PK                 |                |             | 2.61 H             | 135                  | 64.5             | 34.4                     |
| 2                                                    | *2452.00        | 91.3 AV                 |                |             | 2.61 H             | 135                  | 56.9             | 34.4                     |
| 3                                                    | 2483.50         | 63.2 PK                 | 74.0           | -10.8       | 2.61 H             | 135                  | 28.8             | 34.4                     |
| 4                                                    | 2483.50         | 48.7 AV                 | 54.0           | -5.3        | 2.61 H             | 135                  | 14.3             | 34.4                     |
| 5                                                    | 4904.00         | 52.6 PK                 | 74.0           | -21.4       | 2.28 H             | 174                  | 54.6             | -2.0                     |
| 6                                                    | 4904.00         | 42.4 AV                 | 54.0           | -11.6       | 2.28 H             | 174                  | 44.4             | -2.0                     |
| 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        | 104.4 PK                |                |             | 2.21 V             | 337                  | 70.0             | 34.4                     |
| 2                                                    | *2452.00        | 96.8 AV                 |                |             | 2.21 V             | 337                  | 62.4             | 34.4                     |
| 3                                                    | 2483.50         | 67.7 PK                 | 74.0           | -6.3        | 2.21 V             | 337                  | 33.3             | 34.4                     |
| 4                                                    | 2483.50         | 52.9 AV                 | 54.0           | -1.1        | 2.21 V             | 337                  | 18.5             | 34.4                     |
| 5                                                    | 4904.00         | 53.5 PK                 | 74.0           | -20.5       | 1.65 V             | 252                  | 55.5             | -2.0                     |
| 6                                                    | 4904.00         | 43.6 AV                 | 54.0           | -10.4       | 1.65 V             | 252                  | 45.6             | -2.0                     |

**Remarks:**

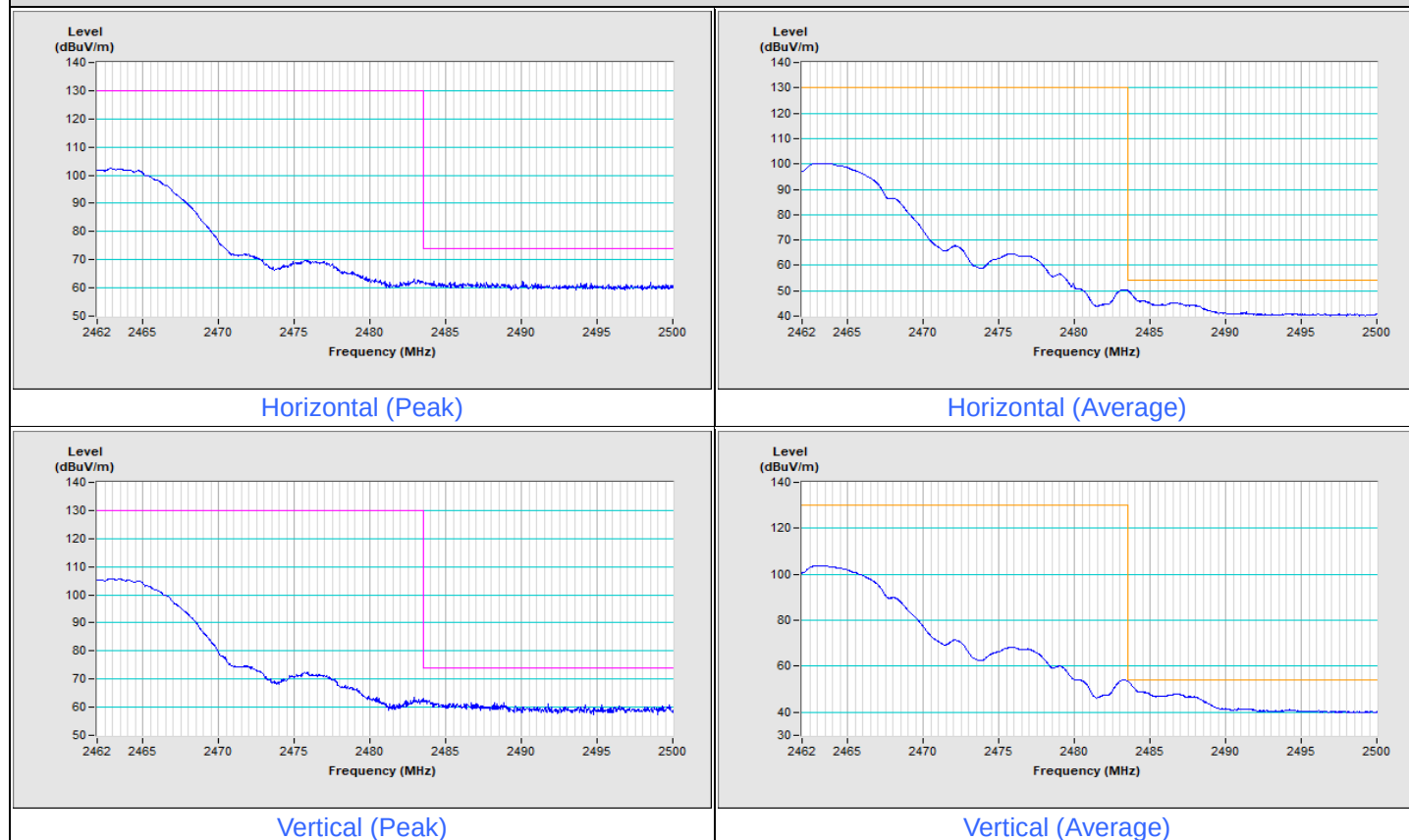
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency,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

## Plot of Band Edge

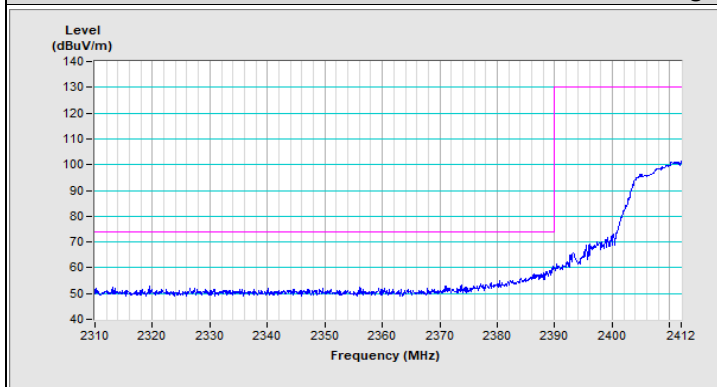
802.11b Channel 1



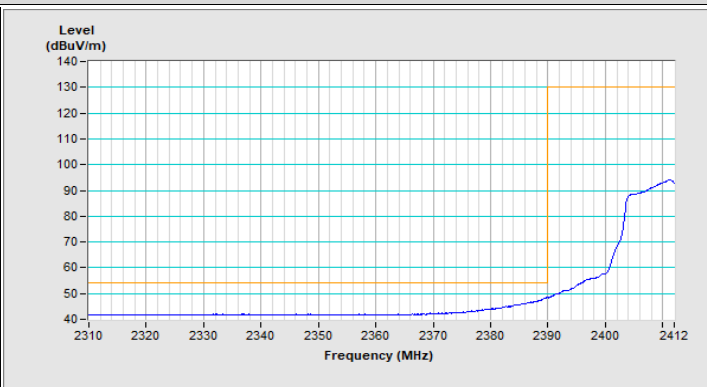
802.11b Channel 11



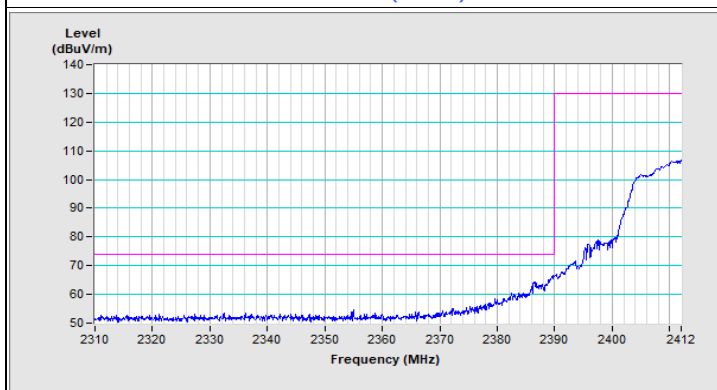
### 802.11g Channel 1



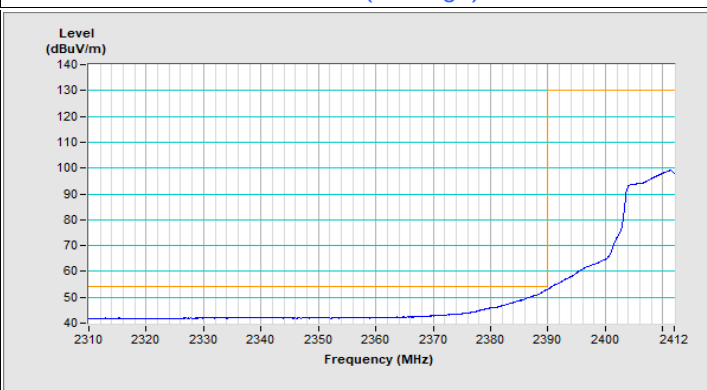
Horizontal (Peak)



Horizontal (Average)

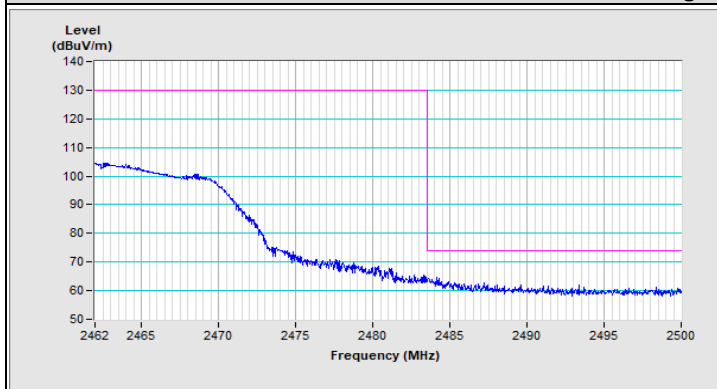


Vertical (Peak)

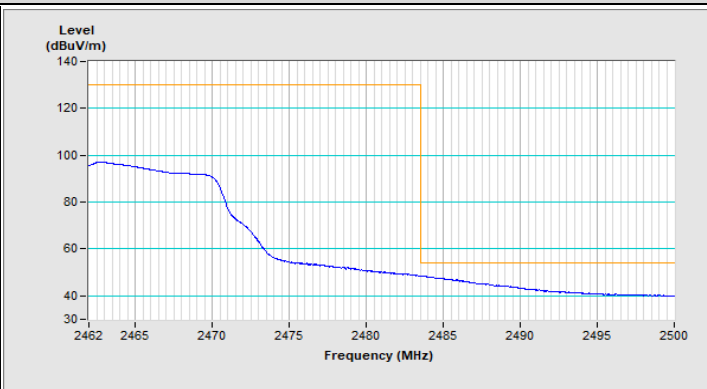


Vertical (Average)

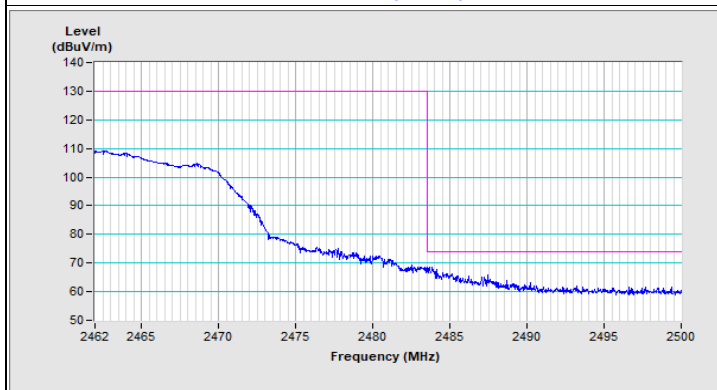
### 802.11g Channel 11



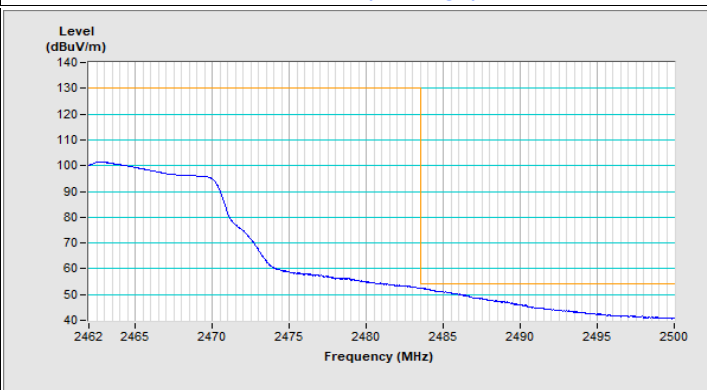
Horizontal (Peak)



Horizontal (Average)

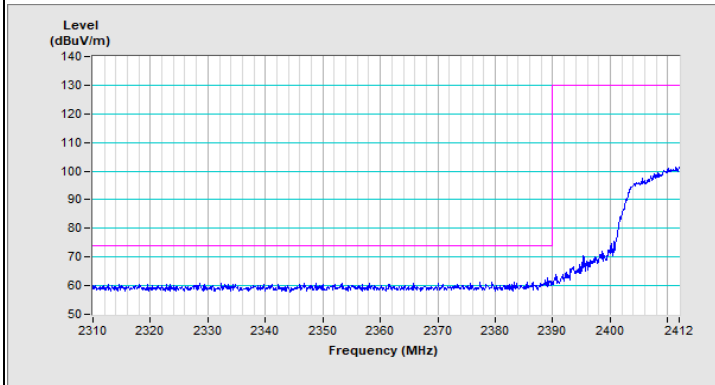


Vertical (Peak)

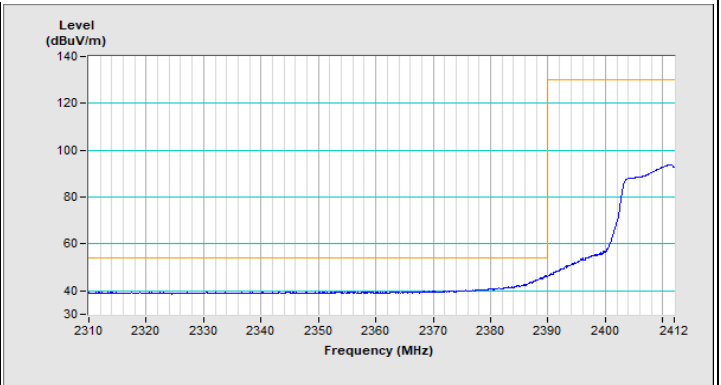


Vertical (Average)

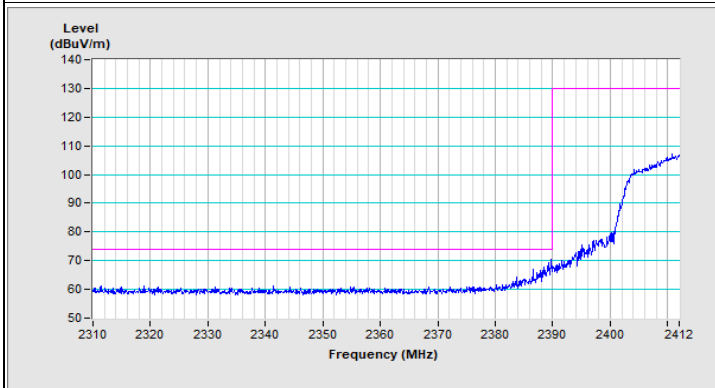
### 802.11n (HT20) Channel 1



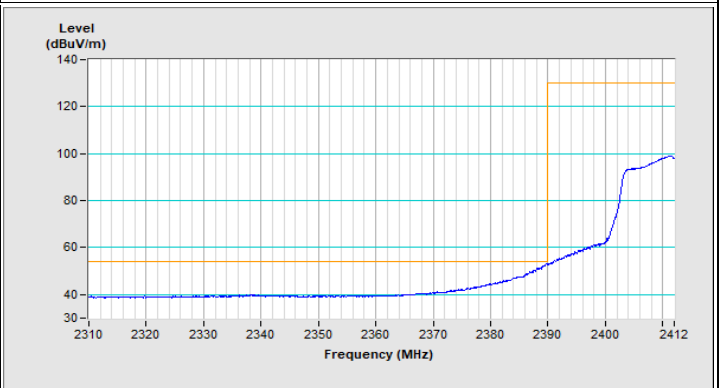
Horizontal (Peak)



Horizontal (Average)

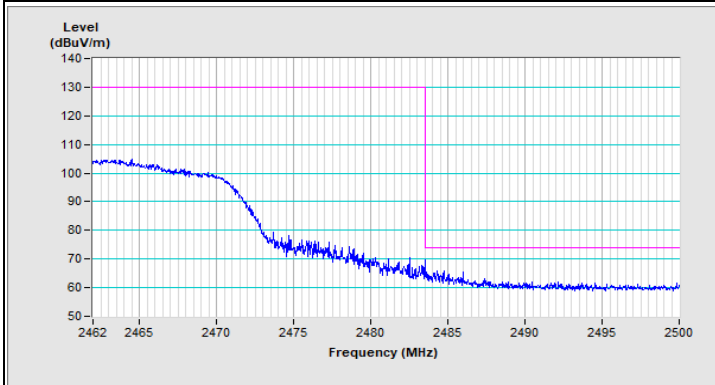


Vertical (Peak)

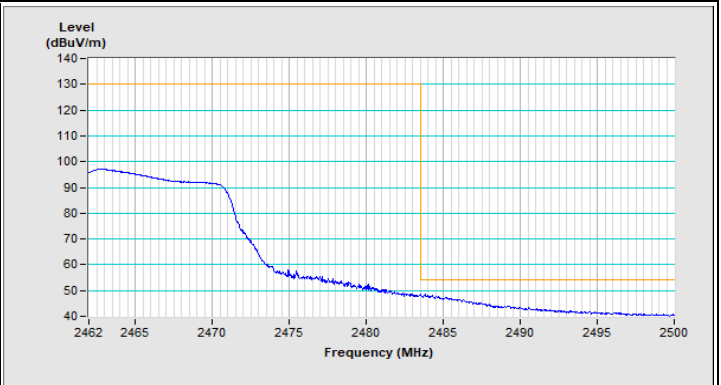


Vertical (Average)

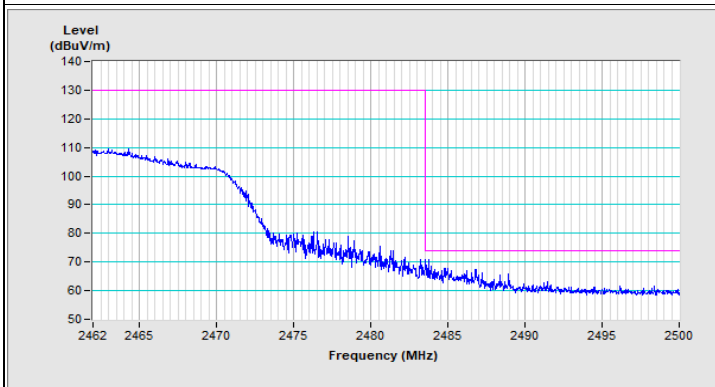
### 802.11n (HT20) Channel 11



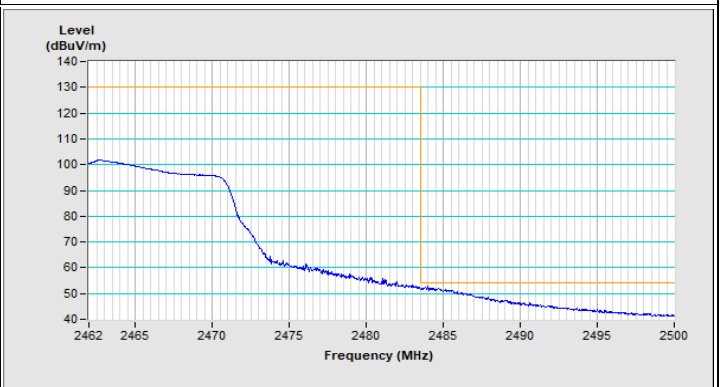
Horizontal (Peak)



Horizontal (Average)

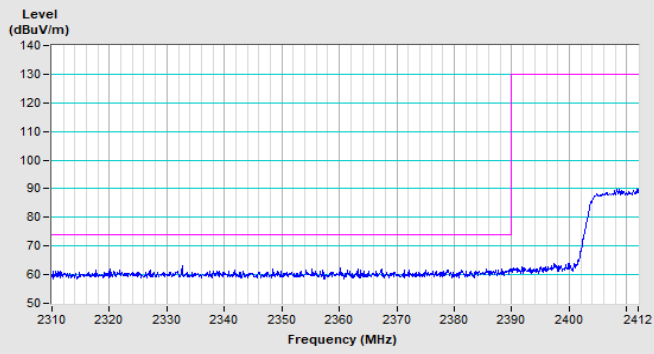


Vertical (Peak)

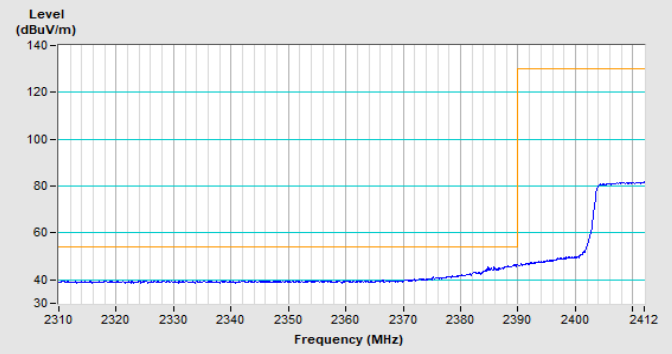


Vertical (Average)

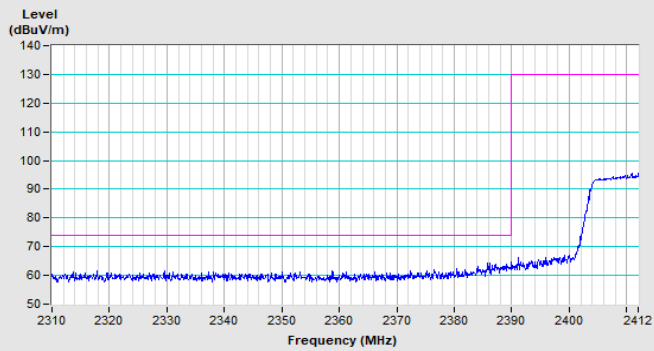
### 802.11n (HT40) Channel 3



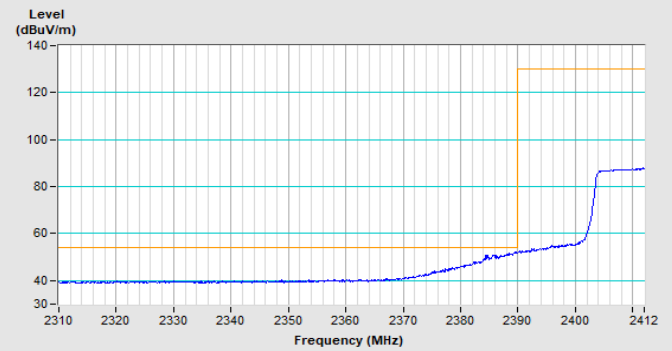
Horizontal (Peak)



Horizontal (Average)

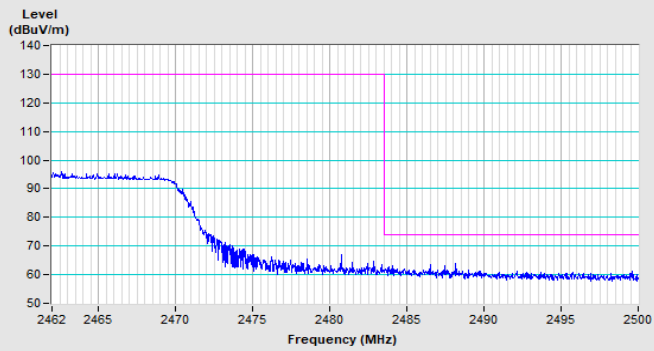


Vertical (Peak)

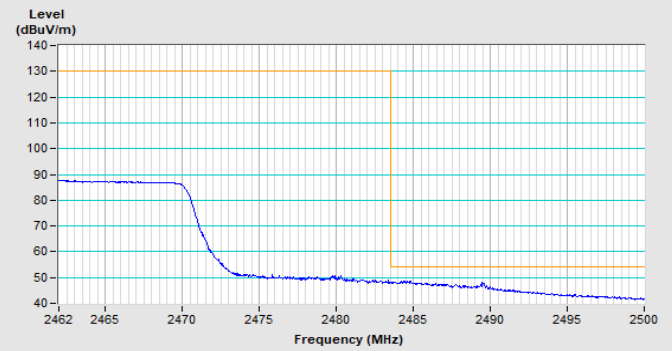


Vertical (Average)

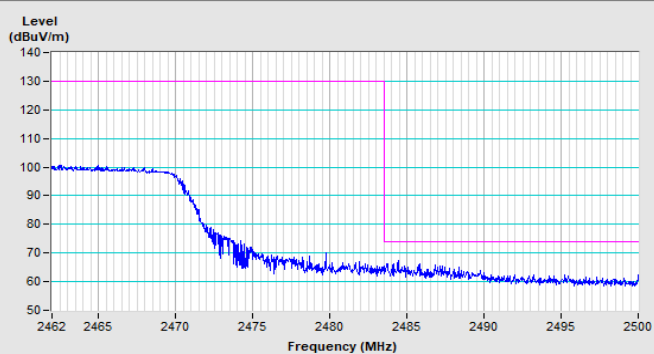
### 802.11n (HT40) Channel 9



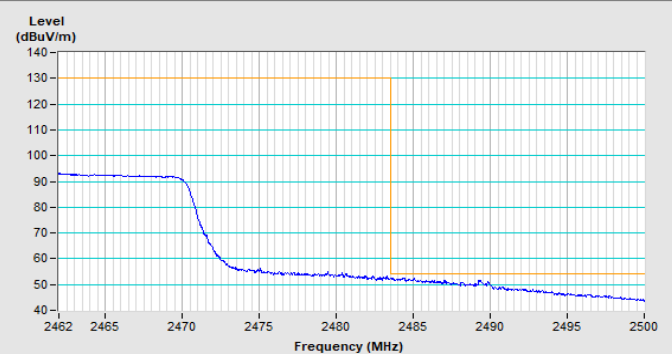
Horizontal (Peak)



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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