

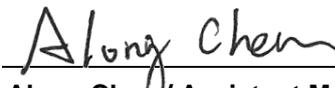
# FCC Test Report

**FCC ID** : IPH- A03408  
**Equipment** : Marine Stereo  
**Model No.** : A03408  
**Brand Name** : FUSION  
**Applicant** : Garmin International, Inc.  
**Address** : 1200 E. 151st Street Olathe, KS 66062 United States  
**Standard** : 47 CFR FCC Part 15.247  
**Received Date** : Oct. 07, 2021  
**Tested Date** : Mar. 14 ~ Mar. 29, 2022

We, International Certification Corporation, would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:

Approved by:

  
\_\_\_\_\_  
Along Chen / Assistant Manager

  
\_\_\_\_\_  
Gary Chang / Manager

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**APPENDIX A. 6DB AND OCCUPIED BANDWIDTH**

**APPENDIX B. CONDUCTED OUTPUT POWER**

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**APPENDIX D. UNWANTED EMISSIONS INTO RESTRICTED FREQUENCY BANDS**

**APPENDIX E. EMISSIONS IN NON-RESTRICTED FREQUENCY BANDS**

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## Release Record

| Report No.    | Version | Description   | Issued Date  |
|---------------|---------|---------------|--------------|
| FR7N3001-05AC | Rev. 01 | Initial issue | May 31, 2022 |

## Summary of Test Results

| FCC Rules           | Test Items                        | Measured  | Result |
|---------------------|-----------------------------------|---|--------|
| 15.207              | AC Power Line Conducted Emissions | Note <sup>1</sup>                                       | N/A    |
| 15.247(d)<br>15.209 | Radiated Emissions                | [dBuV/m at 3m]: 60.07MHz<br>38.13 (Margin -1.87dB) - QP | Pass   |
| 15.247(b)(3)        | Conducted Output Power            | Max Power [dBm]: 23.49                                  | Pass   |
| 15.247(a)(2)        | 6dB Bandwidth                     | Meet the requirement of limit                           | Pass   |
| 15.247(e)           | Power Spectral Density            | Meet the requirement of limit                           | Pass   |
| 15.203              | Antenna Requirement               | Meet the requirement of limit                           | Pass   |

N/A means Not Applicable.

Note<sup>1</sup>: The EUT consumes DC power, so the test is not required.

### Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

### Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

# 1 General Description

## 1.1 Information

### 1.1.1 Specification of the Equipment under Test (EUT)

| RF General Information |                  |                 |                |                                    |                 |
|------------------------|------------------|-----------------|----------------|------------------------------------|-----------------|
| Frequency Range (MHz)  | IEEE Std. 802.11 | Ch. Freq. (MHz) | Channel Number | Transmit Chains (N <sub>TX</sub> ) | Data Rate / MCS |
| 2400-2483.5            | b                | 2412-2462       | 1-11 [11]      | 1                                  | 1-11 Mbps       |
| 2400-2483.5            | g                | 2412-2462       | 1-11 [11]      | 1                                  | 6-54 Mbps       |

Note 1: RF output power specifies that Maximum Peak Conducted Output Power.  
 Note 2: 802.11b uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.  
 Note 3: 802.11g uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.

### 1.1.2 Antenna Details

| Ant. No. | Type | Gain (dBi) | Connector | Remark |
|----------|------|------------|-----------|--------|
| 1        | PIFA | 5.13       | N/A       | ---    |

### 1.1.3 Power Supply Type of Equipment under Test (EUT)

|                   |       |
|-------------------|-------|
| Power Supply Type | 12Vdc |
|-------------------|-------|

### 1.1.4 Accessories

| No. | Equipment     | Description   |
|-----|---------------|---|
| 1   | Power cable   | Brand: FUSION<br>Model: Garmin/320-01021-01<br>Line: 0.2m non-shielded without core |
| 2   | Audio cable   | Brand: FUSION<br>Model: Garmin/320-01022-01<br>Line: 0.2m shielded without core     |
| 3   | Audio cable   | Brand: FUSION<br>Model: Garmin/320-01022-02<br>Line: 0.2m shielded without core     |
| 4   | NMEA 2M cable | Brand: FUSION<br>Model: Garmin/320-00387-00<br>Line: 2.1m shielded without core     |

### 1.1.5 Channel List

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

### 1.1.6 Test Tool and Duty Cycle

| Test Tool                  | WiFi Test, Version:V5.52 |                |                  |
|----------------------------|--------------------------|----------------|------------------|
| Duty Cycle and Duty Factor | Mode                     | Duty Cycle (%) | Duty Factor (dB) |
|                            | 11b                      | 99.67          | 0.01             |
|                            | 11g                      | 94.31          | 0.25             |

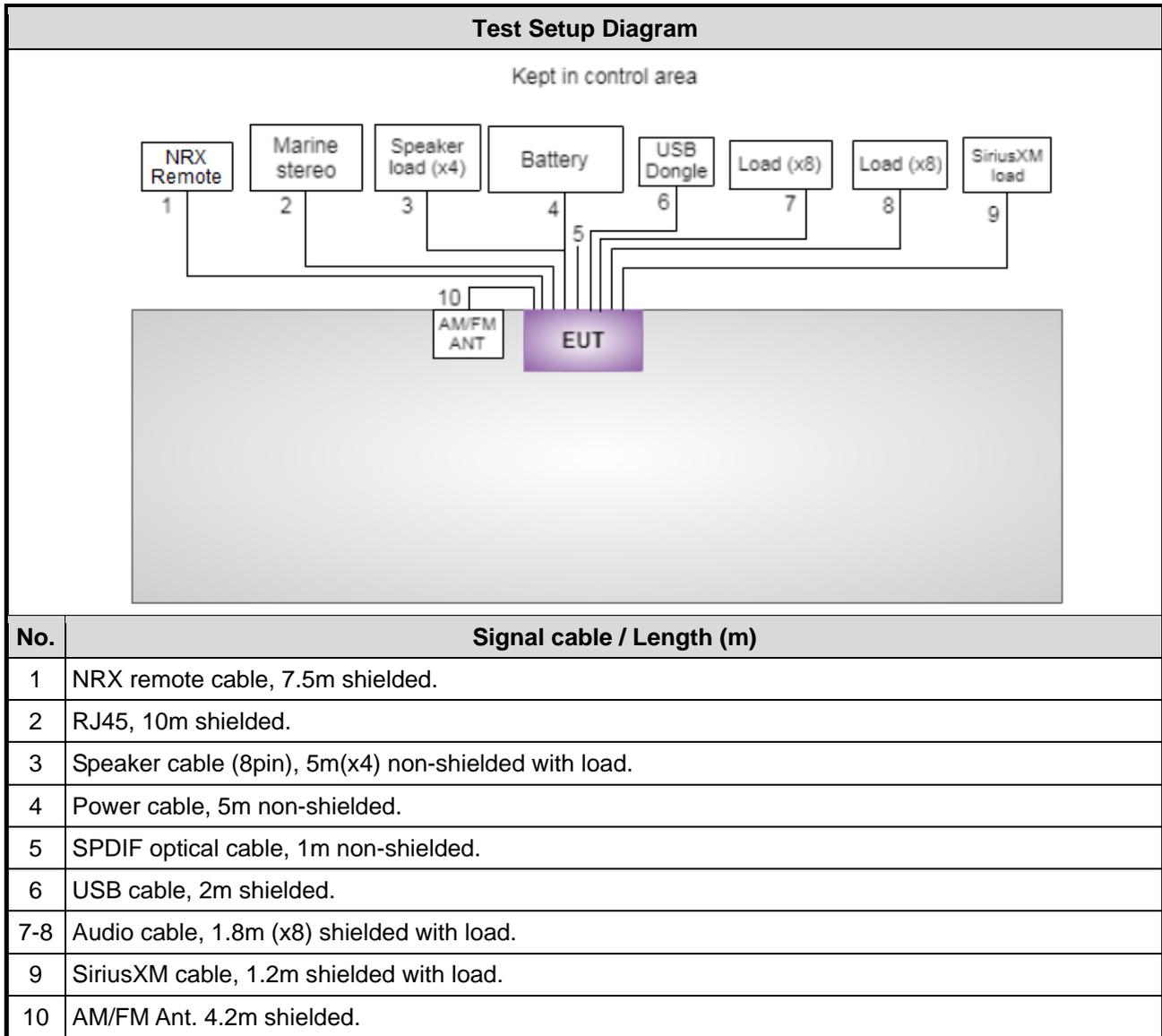
### 1.1.7 Power Index of Test Tool

| Modulation Mode | Test Frequency (MHz) | Power Index |
|-----------------|----------------------|-------------|
| 11b             | 2412                 | 12          |
| 11b             | 2437                 | 12          |
| 11b             | 2462                 | 12          |
| 11g             | 2412                 | 12          |
| 11g             | 2437                 | 12          |
| 11g             | 2462                 | 12          |

## 1.2 Local Support Equipment List

| Support Equipment List |                   |            |            |        |                        |
|------------------------|-------------------|------------|------------|--------|------------------------|
| No.                    | Equipment         | Brand      | Model      | FCC ID | Remarks                |
| 1                      | Battery           | YUASA      | 36B20R(S)  | ---    | ---                    |
| 2                      | SiriusXM          | ---        | ---        | ---    | Provided by applicant. |
| 3                      | Load (x16)        | ---        | ---        | ---    | Provided by applicant. |
| 4                      | USB Dongle        | Strontium  | Pollex 4 G | ---    | Provided by applicant. |
| 5                      | AM/FM ANT         | Techbrands | AR-3250    | ---    | Provided by applicant. |
| 6                      | Speaker load (x4) | FUSION     | L25J4R0E   | ---    | Provided by applicant. |
| 7                      | NRX Remote        | Fusion     | MS-NRX300  | ---    | Provided by applicant. |
| 8                      | Marine stereo     | FUSION     | MS-RA770   | ---    | Provided by applicant. |

### 1.3 Test Setup Chart



## 1.4 The Equipment List

| Test Item               | Radiated Emission          |                           |                  |                  |                   |
|-------------------------|----------------------------|---------------------------|------------------|------------------|-------------------|
| Test Site               | 966 chamber1 / (03CH01-WS) |                           |                  |                  |                   |
| Tested Date             | Mar. 25 ~ Mar. 29, 2022    |                           |                  |                  |                   |
| Instrument              | Brand                      | Model No.                 | Serial No.       | Calibration Date | Calibration Until |
| Receiver                | R&S                        | ESR3                      | 101657           | Mar. 15, 2022    | Mar. 14, 2023     |
| Spectrum Analyzer       | R&S                        | FSV40                     | 101063           | Apr. 19, 2021    | Apr. 18, 2022     |
| Loop Antenna            | R&S                        | HFH2-Z2                   | 100330           | Nov. 08, 2021    | Nov. 07, 2022     |
| Bilog Antenna           | SCHWARZBECK                | VULB9168                  | VULB9168-522     | Jun. 30, 2021    | Jun. 29, 2022     |
| Horn Antenna<br>1G-18G  | SCHWARZBECK                | BBHA 9120 D               | BBHA 9120 D 1096 | Dec. 03, 2021    | Dec. 02, 2022     |
| Horn Antenna<br>18G-40G | SCHWARZBECK                | BBHA 9170                 | BBHA 9170508     | Jan. 11, 2022    | Jan. 10, 2023     |
| Preamplifier            | EMC                        | EMC02325                  | 980225           | Jun. 29, 2021    | Jun. 28, 2022     |
| Preamplifier            | Agilent                    | 83017A                    | MY39501308       | Sep. 28, 2021    | Sep. 27, 2022     |
| Preamplifier            | EMC                        | EMC184045B                | 980192           | Jul. 14, 2021    | Jul. 13, 2022     |
| Loop Antenna Cable      | KOAX KABEL                 | 101354-BW                 | 101354-BW        | Oct. 05, 2021    | Oct. 04, 2022     |
| LF cable 3M             | Woken                      | CFD400NL-LW               | CFD400NL-001     | Oct. 05, 2021    | Oct. 04, 2022     |
| LF cable 11M            | EMC                        | EMCCFD400-NW-N<br>W-11000 | 200801           | Oct. 05, 2021    | Oct. 04, 2022     |
| LF cable 1M             | EMC                        | EMCCFD400-NM-N<br>M-1000  | 160502           | Oct. 05, 2021    | Oct. 04, 2022     |
| RF Cable                | EMC                        | EMC104-35M-35M-<br>8000   | 210920           | Oct. 05, 2021    | Oct. 04, 2022     |
| RF Cable                | HUBER+SUHNER               | SUCOFLEX104               | MY16019/4        | Oct. 05, 2021    | Oct. 04, 2022     |
| Measurement<br>Software | AUDIX                      | e3                        | 6.120210g        | NA               | NA                |

Note: Calibration Interval of instruments listed above is one year.

| Test Item               | RF Conducted  |                 |            |                  |                   |
|-------------------------|---------------|-----------------|------------|------------------|-------------------|
| Test Site               | (TH01-WS)     |                 |            |                  |                   |
| Tested Date             | Mar. 14, 2022 |                 |            |                  |                   |
| Instrument              | Brand         | Model No.       | Serial No. | Calibration Date | Calibration Until |
| Spectrum Analyzer       | R&S           | FSV40           | 101498     | Nov. 29, 2021    | Nov. 28, 2022     |
| Power Meter             | Anritsu       | ML2495A         | 1241002    | Nov. 07, 2021    | Nov. 06, 2022     |
| Power Sensor            | Anritsu       | MA2411B         | 1207366    | Nov. 07, 2021    | Nov. 06, 2022     |
| Measurement<br>Software | Sporton       | SENSE-15247_DTS | V5.10      | NA               | NA                |

Note: Calibration Interval of instruments listed above is one year.

## 1.5 Test Standards

47 CFR FCC Part 15.247

ANSI C63.10-2013

## 1.6 Reference Guidance

FCC KDB 558074 D01 15.247 Meas Guidance v05r02

## 1.7 Deviation from Test Standard and Measurement Procedure

None

## 1.8 Measurement Uncertainty

The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor ( $k=2$ )).

| Measurement Uncertainty        |                 |
|--------------------------------|-----------------|
| Parameters                     | Uncertainty     |
| Bandwidth                      | $\pm 34.130$ Hz |
| Conducted power                | $\pm 0.808$ dB  |
| Power density                  | $\pm 0.583$ dB  |
| Conducted emission             | $\pm 2.715$ dB  |
| Radiated emission $\leq 1$ GHz | $\pm 3.41$ dB   |
| Radiated emission $> 1$ GHz    | $\pm 4.59$ dB   |

## 2 Test Configuration

### 2.1 Testing Facility

|                             |  |
|-----------------------------|--|
| <b>Test Laboratory</b>      | International Certification Corporation  |
| <b>Test Site</b>            | 03CH01-WS, TH01-WS   |
| <b>Address of Test Site</b> | No.3-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.) |

- FCC Designation No.: TW2732
- FCC site registration No.: 181692
- ISED#: 10807A
- CAB identifier: TW2732

### 2.2 The Worst Test Modes and Channel Details

| Test item   | Modulation Mode | Test Frequency (MHz)                     | Data Rate        | Test Configuration |
|---|-----------------|--|------------------|--------------------|
| Radiated Emissions $\leq 1$ GHz   | 11g             | 2412                                     | 6 Mbps           | ---                |
| Radiated Emissions $> 1$ GHz<br>Conducted Output Power<br>6dB bandwidth<br>Power spectral density | 11b<br>11g      | 2412 / 2437 / 2462<br>2412 / 2437 / 2462 | 1 Mbps<br>6 Mbps | ---                |

### 3 Transmitter Test Results

#### 3.1 6dB and Occupied Bandwidth

##### 3.1.1 Limit of 6dB Bandwidth

The minimum 6dB bandwidth shall be at least 500 kHz.

##### 3.1.2 Test Procedures

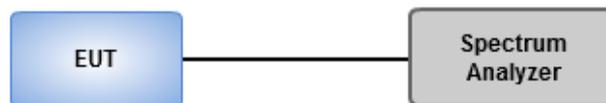
###### 6dB Bandwidth

1. Set resolution bandwidth (RBW) = 100 kHz, Video bandwidth = 300 kHz.
2. Detector = Peak, Trace mode = max hold.
3. Sweep = auto couple, Allow the trace to stabilize.
4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6dB relative to the maximum level measured in the fundamental emission.

###### Occupied Bandwidth

1. Set resolution bandwidth (RBW) = 1% ~ 5 % of OBW, Video bandwidth = 3 x RBW
2. Detector = Sample, Trace mode = max hold.
3. Sweep = auto couple, Allow the trace to stabilize.
4. Use the OBW measurement function of spectrum analyzer to measure the occupied bandwidth.

##### 3.1.3 Test Setup



##### 3.1.4 Test Results

|                          |            |                  |            |
|--------------------------|------------|------------------|------------|
| <b>Ambient Condition</b> | 24°C / 66% | <b>Tested By</b> | Aska Huang |
|--------------------------|------------|------------------|------------|

Refer to Appendix A.

## 3.2 Conducted Output Power

### 3.2.1 Limit of Conducted Output Power

Conducted power shall not exceed 1Watt.

Antenna gain  $\leq$  6dBi, no any corresponding reduction is in output power limit.

Antenna gain  $>$  6dBi

Non Fixed, point to point operations.

The conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dB

Fixed, point to point operations

Systems operating in the 2400–2483.5 MHz band that are used exclusively for fixed, point-to-point Operations, maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

### 3.2.2 Test Procedures

A broadband RF power meter is used for output power measurement. The video bandwidth of power meter is greater than DTS bandwidth of EUT. If duty cycle of test signal is not 100 %, trigger and gating function of power meter will be enabled to capture transmission burst for measuring output power.

### 3.2.3 Test Setup



### 3.2.4 Test Results

|                          |            |                  |            |
|--------------------------|------------|------------------|------------|
| <b>Ambient Condition</b> | 24°C / 66% | <b>Tested By</b> | Aska Huang |
|--------------------------|------------|------------------|------------|

Refer to Appendix B

### 3.3 Power Spectral Density

#### 3.3.1 Limit of Power Spectral Density

Power spectral density shall not be greater than 8 dBm in any 3 kHz band.

#### 3.3.2 Test Procedures

##### Peak PSD

1. Set the RBW = 3 kHz, VBW = 10 kHz.
2. Detector = Peak, Sweep time = auto couple.
3. Trace mode = max hold, allow trace to fully stabilize.
4. Use the peak marker function to determine the maximum amplitude level.

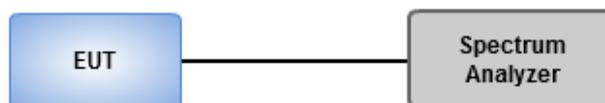
##### Average PSD, duty cycle $\geq$ 98%

1. Set the RBW = 30 kHz, VBW = 100 kHz.
2. Detector = RMS, Sweep time = auto couple.
3. Sweep time = auto couple.
4. Employ trace averaging (RMS) mode over a minimum of 100 traces.
5. Use the peak marker function to determine the maximum amplitude level.

##### Average PSD, duty cycle $<$ 98%

1. Set the RBW = 30 kHz, VBW = 100 kHz. Detector = RMS.
2. Set the sweep time to:  $\geq 10$  (number of measurement points in sweep) x (total on/off period of the transmitted signal).
3. Perform the measurement over a single sweep.
4. Use the peak marker function to determine the maximum amplitude level.
5. Add  $10 \log (1/x)$ , where x is the duty cycle.

#### 3.3.3 Test Setup



#### 3.3.4 Test Results

|                          |            |                  |            |
|--------------------------|------------|------------------|------------|
| <b>Ambient Condition</b> | 24°C / 66% | <b>Tested By</b> | Aska Huang |
|--------------------------|------------|------------------|------------|

Refer to Appendix C.

### 3.4 Unwanted Emissions into Restricted Frequency Bands

#### 3.4.1 Limit of Unwanted Emissions into Restricted Frequency Bands

| Restricted Band Emissions Limit |                       |                         |                      |
|---------------------------------|-----------------------|-------------------------|----------------------|
| Frequency Range (MHz)           | Field Strength (uV/m) | Field Strength (dBuV/m) | Measure Distance (m) |
| 0.009~0.490                     | 2400/F(kHz)           | 48.5 - 13.8             | 300                  |
| 0.490~1.705                     | 24000/F(kHz)          | 33.8 - 23               | 30                   |
| 1.705~30.0                      | 30                    | 29                      | 30                   |
| 30~88                           | 100                   | 40                      | 3                    |
| 88~216                          | 150                   | 43.5                    | 3                    |
| 216~960                         | 200                   | 46                      | 3                    |
| Above 960                       | 500                   | 54                      | 3                    |

**Note 1:**  
Qusai-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit

**Note 2:**  
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

#### 3.4.2 Test Procedures

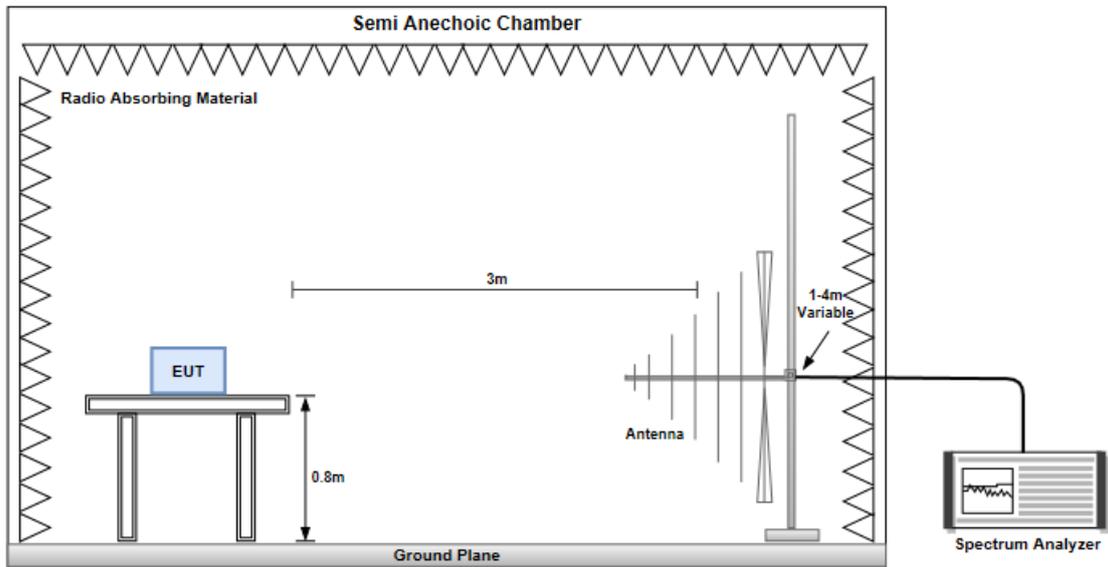
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

Note:

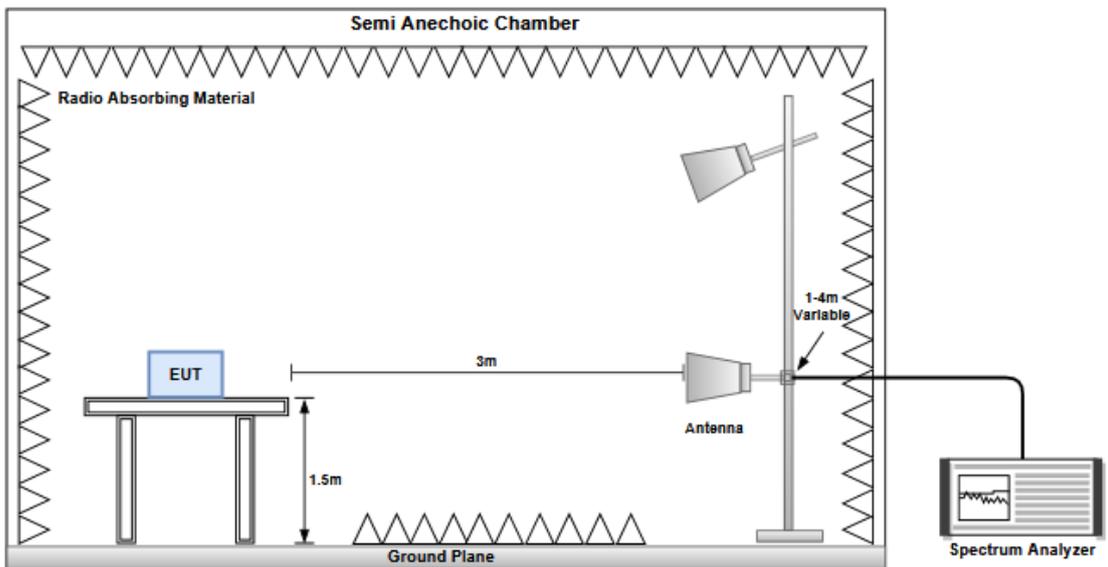
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above 1GHz.

### 3.4.3 Test Setup

#### Radiated Emissions below 1 GHz



#### Radiated Emissions above 1 GHz



### 3.4.4 Test Results

Refer to Appendix D.

## 3.5 Emissions in Non-Restricted Frequency Bands

### 3.5.1 Emissions in Non-Restricted Frequency Bands Limit

Peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz.

### 3.5.2 Test Procedures

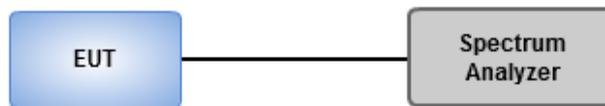
#### Reference level measurement

1. Set RBW=100kHz, VBW = 300kHz , Detector = Peak, Sweep time = Auto
2. Trace = max hold , Allow Trace to fully stabilize
3. Use the peak marker function to determine the maximum PSD level

#### Emission level measurement

1. Set RBW=100kHz, VBW = 300kHz , Detector = Peak, Sweep time = Auto
2. Trace = max hold , Allow Trace to fully stabilize
3. Scan Frequency range is up to 25GHz
4. Use the peak marker function to determine the maximum amplitude level

### 3.5.3 Test Setup



### 3.5.4 Test Results

|                          |            |                  |            |
|--------------------------|------------|------------------|------------|
| <b>Ambient Condition</b> | 24°C / 66% | <b>Tested By</b> | Aska Huang |
|--------------------------|------------|------------------|------------|

Refer to Appendix E.

## 4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corporation (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

### **Linkou**

Tel: 886-2-2601-1640

No.30-2, Ding Fwu Tsuen, Lin Kou  
District, New Taipei City, Taiwan  
(R.O.C.)

### **Kwei Shan**

Tel: 886-3-271-8666

No.3-1, Lane 6, Wen San 3rd  
St., Kwei Shan Dist., Tao Yuan  
City 33381, Taiwan (R.O.C.)  
No.2-1, Lane 6, Wen San 3rd  
St., Kwei Shan Dist., Tao Yuan  
City 33381, Taiwan (R.O.C.)

### **Kwei Shan Site II**

Tel: 886-3-271-8640

No.14-1, Lane 19, Wen San 3rd  
St., Kwei Shan Dist., Tao Yuan  
City 333, Taiwan (R.O.C.)

If you have any suggestion, please feel free to contact us as below information.

Tel: 886-3-271-8666

Fax: 886-3-318-0345

Email: ICC\_Service@icertifi.com.tw

==END==

**Summary**

| Mode                     | Max-N dB<br>(Hz) | Max-OBW<br>(Hz) | ITU-Code | Min-N dB<br>(Hz) | Min-OBW<br>(Hz) |
|--------------------------|------------------|-----------------|----------|------------------|-----------------|
| 2.4-2.4835GHz            | -                | -               | -        | -                | -               |
| 802.11b_Nss1,(1Mbps)_1TX | 8.551M           | 11.795M         | 11M8G1D  | 7.536M           | 11.505M         |
| 802.11g_Nss1,(6Mbps)_1TX | 16.377M          | 16.57M          | 16M6D1D  | 15.942M          | 16.498M         |

**Max-N dB** = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;  
**Min-N dB** = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

**Result**

| Mode                     | Result | Limit<br>(Hz) | Port 1-N dB<br>(Hz) | Port 1-OBW<br>(Hz) |
|--------------------------|--------|---------------|---------------------|--------------------|
| 802.11b_Nss1,(1Mbps)_1TX | -      | -             | -                   | -                  |
| 2412MHz                  | Pass   | 500k          | 7.971M              | 11.795M            |
| 2437MHz                  | Pass   | 500k          | 7.536M              | 11.505M            |
| 2462MHz                  | Pass   | 500k          | 8.551M              | 11.795M            |
| 802.11g_Nss1,(6Mbps)_1TX | -      | -             | -                   | -                  |
| 2412MHz                  | Pass   | 500k          | 16.377M             | 16.57M             |
| 2437MHz                  | Pass   | 500k          | 16.377M             | 16.57M             |
| 2462MHz                  | Pass   | 500k          | 15.942M             | 16.498M            |

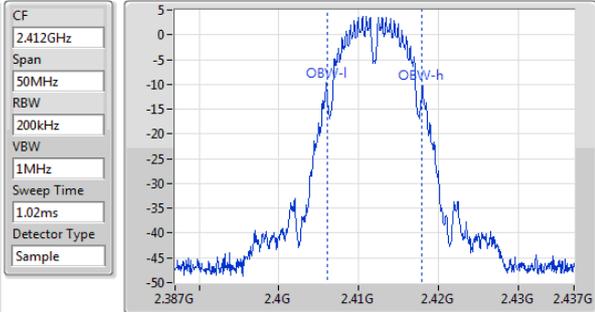
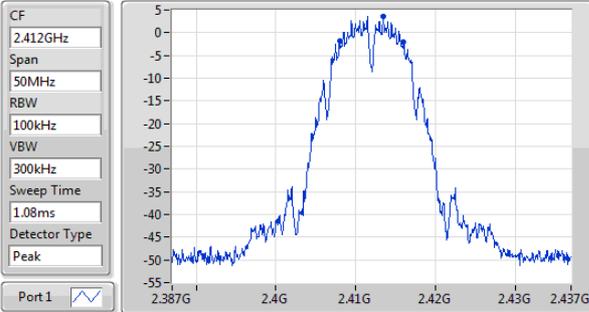
**Port X-N dB** = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;



802.11b\_Nss1,(1Mbps)\_1TX

EBW

2412MHz

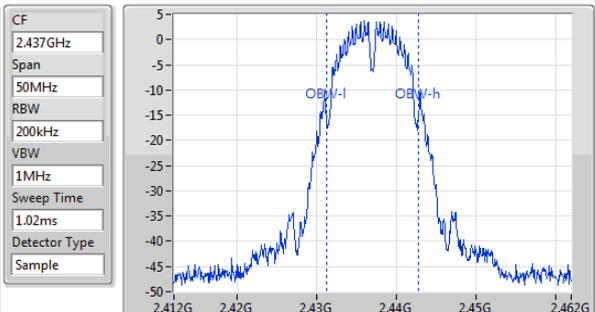
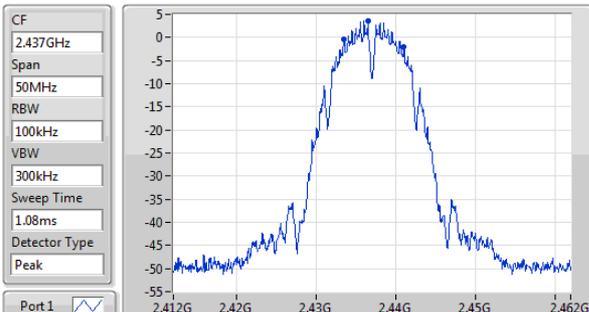


| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---------|------------|------------|---------|------------|------------|-----------|------|
| 7.971M  | 2.408014G  | 2.415986G  | 11.795M | 2.406067G  | 2.417861G  | 500k      | 1    |

802.11b\_Nss1,(1Mbps)\_1TX

EBW

2437MHz

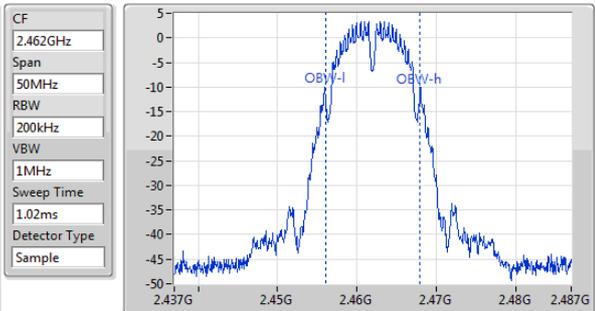
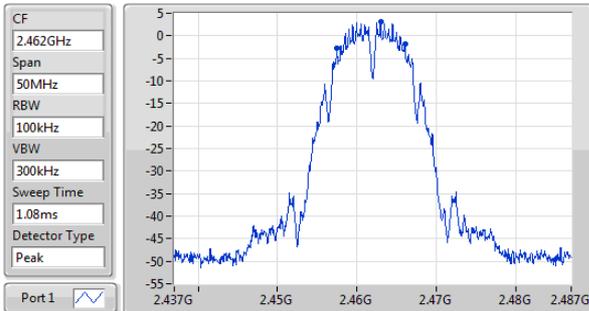


| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---------|------------|------------|---------|------------|------------|-----------|------|
| 7.536M  | 2.433449G  | 2.440986G  | 11.505M | 2.431211G  | 2.442716G  | 500k      | 1    |

802.11b\_Nss1,(1Mbps)\_1TX

EBW

2462MHz



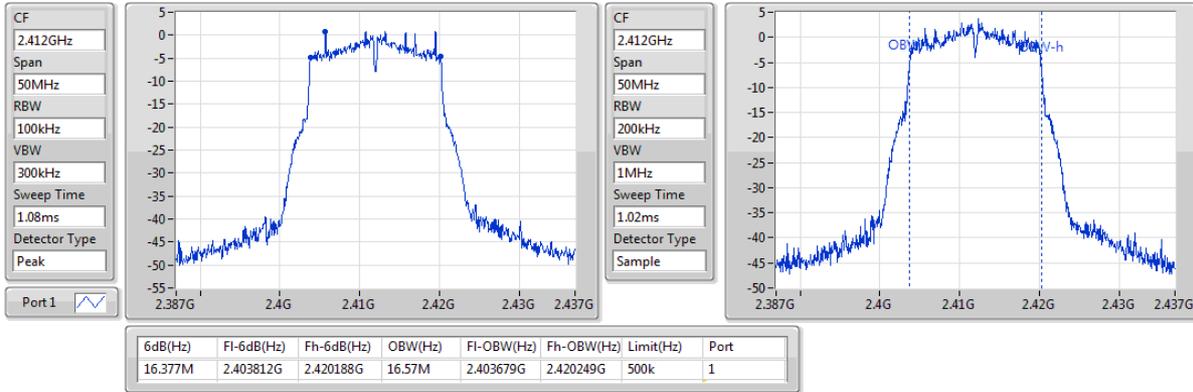
| 6dB(Hz) | Fl-6dB(Hz) | Fh-6dB(Hz) | OBW(Hz) | Fl-OBW(Hz) | Fh-OBW(Hz) | Limit(Hz) | Port |
|---------|------------|------------|---------|------------|------------|-----------|------|
| 8.551M  | 2.457507G  | 2.466058G  | 11.795M | 2.456067G  | 2.467861G  | 500k      | 1    |



802.11g\_Nss1,(6Mbps)\_1TX

EBW

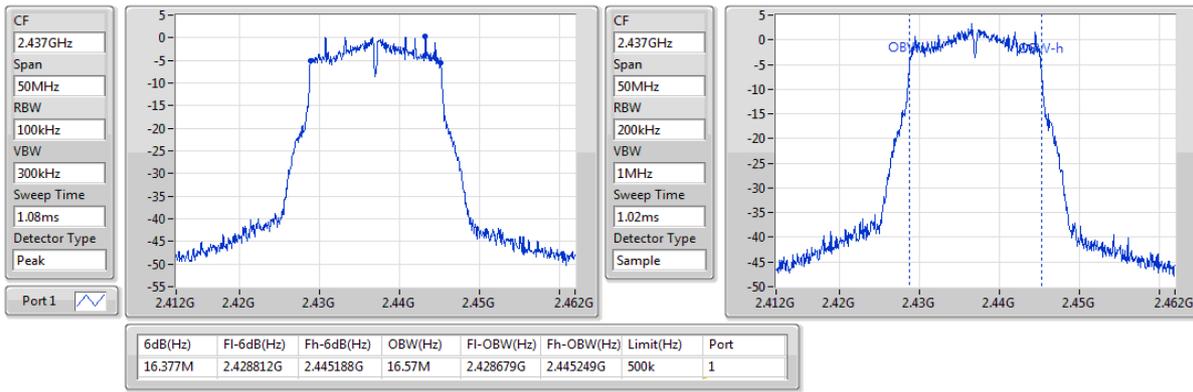
2412MHz



802.11g\_Nss1,(6Mbps)\_1TX

EBW

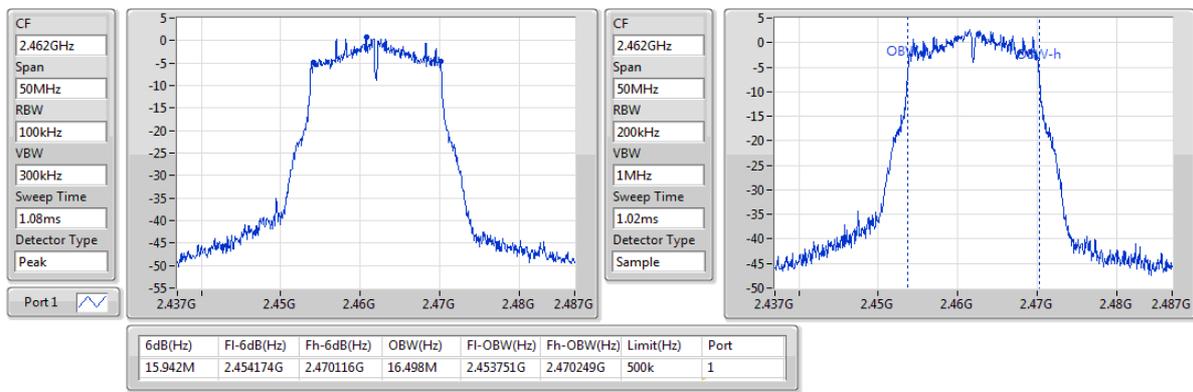
2437MHz



802.11g\_Nss1,(6Mbps)\_1TX

EBW

2462MHz





## CONDUCTED OUTPUT POWER( AVERAGE)

Appendix B

### Summary

| Mode                     | Total Power (dBm) | Total Power (W) |
|--------------------------|-------------------|-----------------|
| 2.4-2.4835GHz            | -                 | -               |
| 802.11b_Nss1,(1Mbps)_1TX | 12.32             | 0.01706         |
| 802.11g_Nss1,(6Mbps)_1TX | 12.97             | 0.01982         |

### Result

| Mode                     | Result | DG (dBi) | Port 1 (dBm) | Total Power (dBm) | Power Limit (dBm) | EIRP (dBm) | EIRP Limit (dBm) |
|--------------------------|--------|----------|--------------|-------------------|-------------------|------------|------------------|
| 802.11b_Nss1,(1Mbps)_1TX | -      | -        | -            | -                 | -                 | -          | -                |
| 2412MHz                  | Pass   | 5.13     | 12.15        | 12.15             | -                 | 17.28      | -                |
| 2437MHz                  | Pass   | 5.13     | 12.12        | 12.12             | -                 | 17.25      | -                |
| 2462MHz                  | Pass   | 5.13     | 12.32        | 12.32             | -                 | 17.45      | -                |
| 802.11g_Nss1,(6Mbps)_1TX | -      | -        | -            | -                 | -                 | -          | -                |
| 2412MHz                  | Pass   | 5.13     | 12.95        | 12.95             | -                 | 18.08      | -                |
| 2437MHz                  | Pass   | 5.13     | 12.93        | 12.93             | -                 | 18.06      | -                |
| 2462MHz                  | Pass   | 5.13     | 12.97        | 12.97             | -                 | 18.10      | -                |

DG = Directional Gain; Port X = Port X output power

Note : Conducted average output power is for reference only

**CONDUCTED OUTPUT POWER(PEAK)****Appendix B****Summary**

| Mode                     | Total Power (dBm) | Total Power (W) |
|--------------------------|-------------------|-----------------|
| 2.4-2.4835GHz            | -                 | -               |
| 802.11b_Nss1,(1Mbps)_1TX | 15.17             | 0.03289         |
| 802.11g_Nss1,(6Mbps)_1TX | 23.49             | 0.22336         |

**Result**

| Mode                     | Result | DG (dBi) | Port 1 (dBm) | Total Power (dBm) | Power Limit (dBm) | EIRP (dBm) | EIRP Limit (dBm) |
|--------------------------|--------|----------|--------------|-------------------|-------------------|------------|------------------|
| 802.11b_Nss1,(1Mbps)_1TX | -      | -        | -            | -                 | -                 | -          | -                |
| 2412MHz                  | Pass   | 5.13     | 15.17        | 15.17             | 30.00             | 20.30      | 36.00            |
| 2437MHz                  | Pass   | 5.13     | 15.13        | 15.13             | 30.00             | 20.26      | 36.00            |
| 2462MHz                  | Pass   | 5.13     | 15.16        | 15.16             | 30.00             | 20.29      | 36.00            |
| 802.11g_Nss1,(6Mbps)_1TX | -      | -        | -            | -                 | -                 | -          | -                |
| 2412MHz                  | Pass   | 5.13     | 23.49        | 23.49             | 30.00             | 28.62      | 36.00            |
| 2437MHz                  | Pass   | 5.13     | 23.05        | 23.05             | 30.00             | 28.18      | 36.00            |
| 2462MHz                  | Pass   | 5.13     | 23.48        | 23.48             | 30.00             | 28.61      | 36.00            |

**DG** = Directional Gain; **Port X** = Port X output power



Summary

| Mode                     | PD<br>(dBm/RBW) |
|--------------------------|-----------------|
| 2.4-2.4835GHz            | -               |
| 802.11b_Nss1,(1Mbps)_1TX | -10.70          |
| 802.11g_Nss1,(6Mbps)_1TX | -10.90          |

RBW= 3 kHz

Result

| Mode                     | Result | DG<br>(dBi) | Port 1<br>(dBm/RBW) | PD<br>(dBm/RBW) | PD Limit<br>(dBm/RBW) |
|--------------------------|--------|-------------|---------------------|-----------------|-----------------------|
| 802.11b_Nss1,(1Mbps)_1TX | -      | -           | -                   | -               | -                     |
| 2412MHz                  | Pass   | 5.13        | -10.70              | -10.70          | 8.00                  |
| 2437MHz                  | Pass   | 5.13        | -11.31              | -11.31          | 8.00                  |
| 2462MHz                  | Pass   | 5.13        | -10.70              | -10.70          | 8.00                  |
| 802.11g_Nss1,(6Mbps)_1TX | -      | -           | -                   | -               | -                     |
| 2412MHz                  | Pass   | 5.13        | -12.00              | -12.00          | 8.00                  |
| 2437MHz                  | Pass   | 5.13        | -11.32              | -11.32          | 8.00                  |
| 2462MHz                  | Pass   | 5.13        | -10.90              | -10.90          | 8.00                  |

DG = Directional Gain;

PD = Power density; Port X = Port X power density;

RBW= 3 kHz



802.11b\_Nss1,(1Mbps)\_1TX

PSD

2412MHz

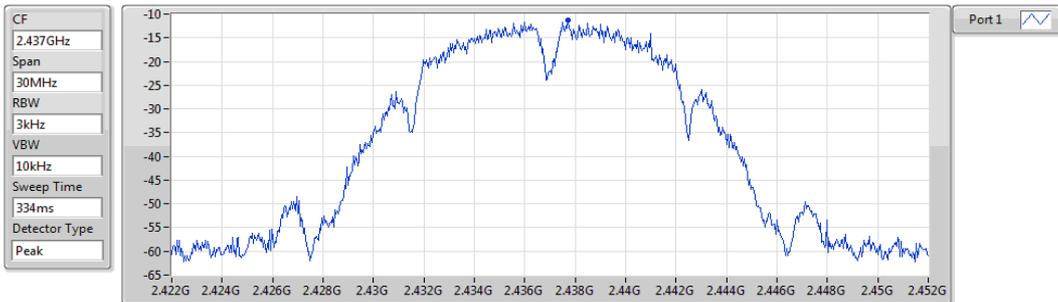


| Sum       | PD        | Port 1    |
|-----------|-----------|-----------|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -10.70    | -10.70    | -10.70    |

802.11b\_Nss1,(1Mbps)\_1TX

PSD

2437MHz

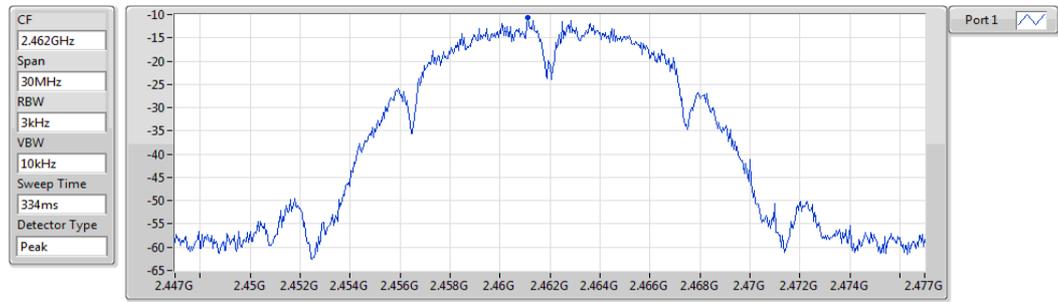


| Sum       | PD        | Port 1    |
|-----------|-----------|-----------|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -11.31    | -11.31    | -11.31    |

802.11b\_Nss1,(1Mbps)\_1TX

PSD

2462MHz



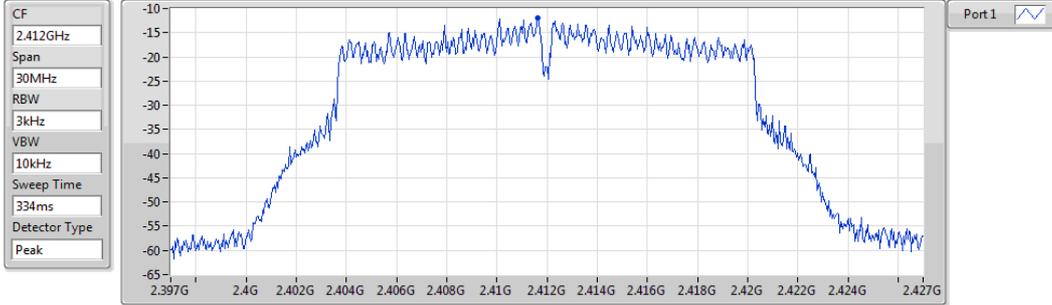
| Sum       | PD        | Port 1    |
|-----------|-----------|-----------|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -10.70    | -10.70    | -10.70    |



802.11g\_Nss1,(6Mbps)\_1TX

PSD

2412MHz

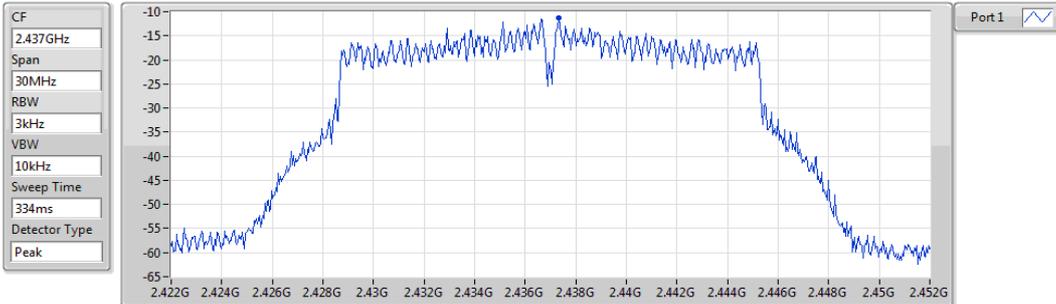


| Sum       | PD        | Port 1    |
|-----------|-----------|-----------|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -12.00    | -12.00    | -12.00    |

802.11g\_Nss1,(6Mbps)\_1TX

PSD

2437MHz

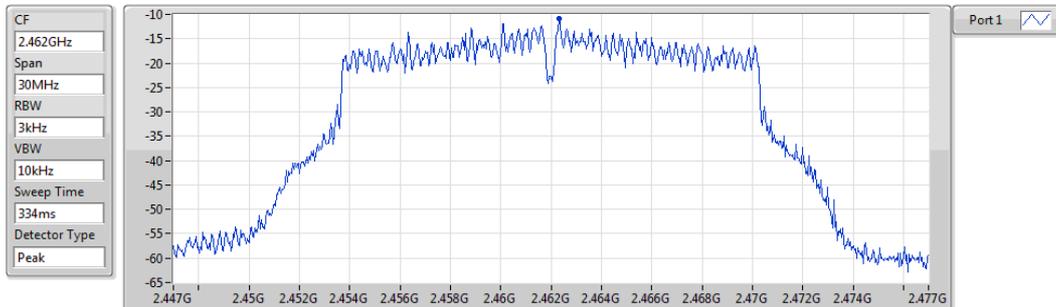


| Sum       | PD        | Port 1    |
|-----------|-----------|-----------|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -11.32    | -11.32    | -11.32    |

802.11g\_Nss1,(6Mbps)\_1TX

PSD

2462MHz



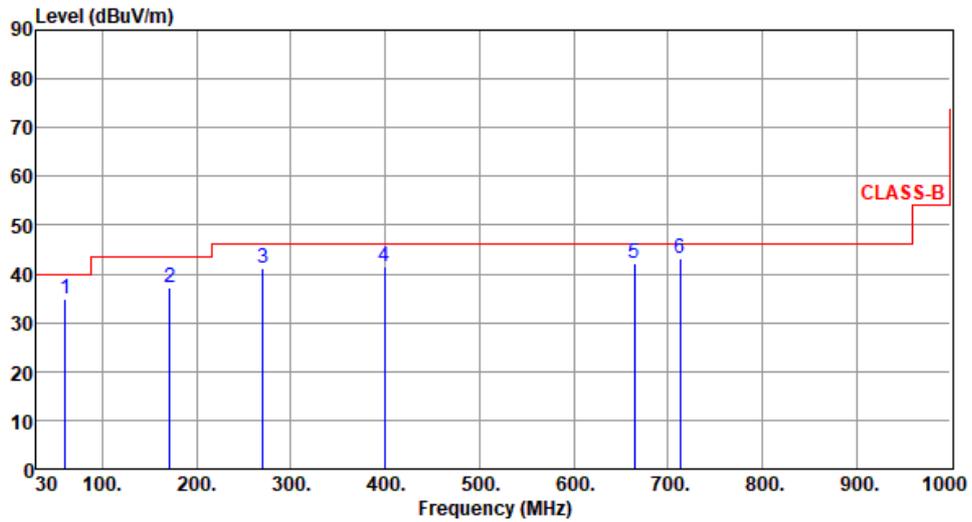
| Sum       | PD        | Port 1    |
|-----------|-----------|-----------|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -10.90    | -10.90    | -10.90    |



Transmitter Radiated Unwanted Emissions (Below 1GHz)

|              |            |                  |      |
|--------------|------------|------------------|------|
| Modulation   | 11g        | Test Freq. (MHz) | 2412 |
| Polarization | Horizontal |                  |      |

Test By :Brad Wu      Temperature(°C):23      Humidity(%):66



|   | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB/m | Remark | ANT High cm | Turn Table deg |
|---|-----------|-----------------------|--------------|-----------|-----------------|-------------|--------|-------------|----------------|
| 1 | 61.04     | 34.89                 | 40.00        | -5.11     | 44.25           | -9.36       | Peak   | ---         | ---            |
| 2 | 171.62    | 37.14                 | 43.50        | -6.36     | 46.29           | -9.15       | Peak   | ---         | ---            |
| 3 | 270.56    | 41.34                 | 46.00        | -4.66     | 50.42           | -9.08       | Peak   | ---         | ---            |
| 4 | 399.57    | 41.57                 | 46.00        | -4.43     | 47.36           | -5.79       | Peak   | ---         | ---            |
| 5 | 664.38    | 42.19                 | 46.00        | -3.81     | 42.55           | -0.36       | Peak   | ---         | ---            |
| 6 | 712.88    | 43.02                 | 46.00        | -2.98     | 42.62           | 0.40        | Peak   | ---         | ---            |

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor\* (dB/m)

\*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

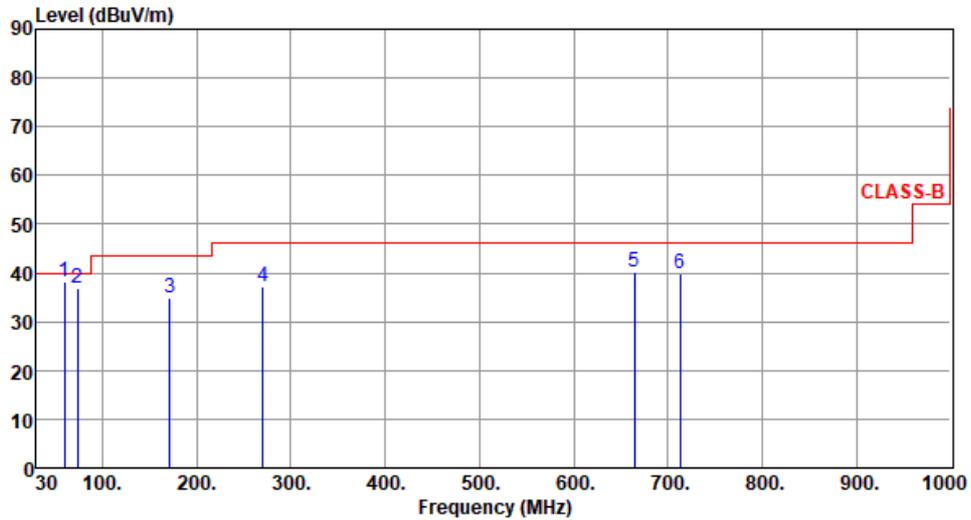
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.



**UNWANTED EMISSIONS INTO RESTRICTED FREQUENCY BANDS Appendix D**

|                     |          |                         |      |
|---------------------|----------|-------------------------|------|
| <b>Modulation</b>   | 11g      | <b>Test Freq. (MHz)</b> | 2412 |
| <b>Polarization</b> | Vertical |                         |      |

Test By :Brad Wu      Temperature(°C):23      Humidity(%):66



|   | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB/m | Remark | ANT High cm | Turn Table deg |
|---|-----------|-----------------------|--------------|-----------|-----------------|-------------|--------|-------------|----------------|
| 1 | 60.07     | 38.13                 | 40.00        | -1.87     | 47.30           | -9.17       | QP     | 100         | 245            |
| 2 | 73.65     | 36.92                 | 40.00        | -3.08     | 48.78           | -11.86      | Peak   | ---         | ---            |
| 3 | 171.62    | 34.71                 | 43.50        | -8.79     | 43.86           | -9.15       | Peak   | ---         | ---            |
| 4 | 270.56    | 37.17                 | 46.00        | -8.83     | 46.25           | -9.08       | Peak   | ---         | ---            |
| 5 | 664.38    | 40.21                 | 46.00        | -5.79     | 40.57           | -0.36       | Peak   | ---         | ---            |
| 6 | 712.88    | 39.73                 | 46.00        | -6.27     | 39.33           | 0.40        | Peak   | ---         | ---            |

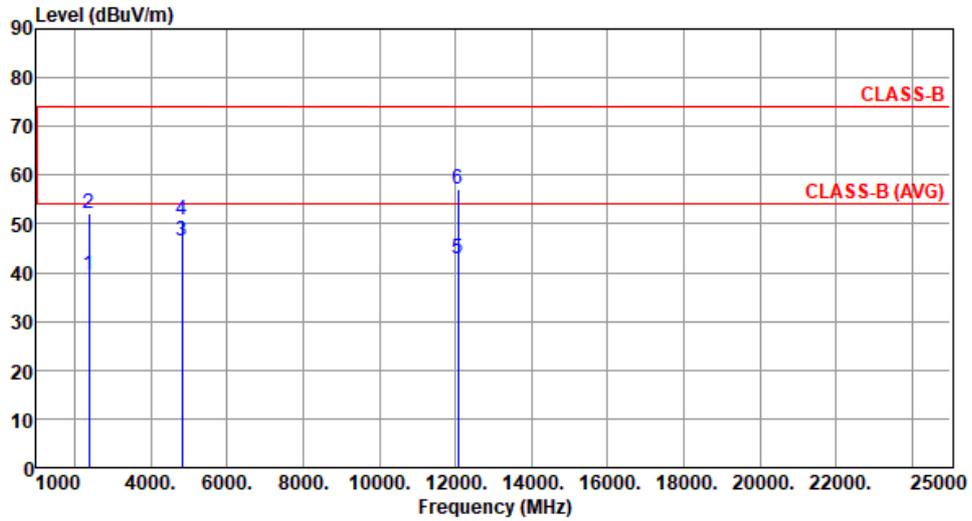
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor\* (dB/m)  
 \*Factor includes antenna factor , cable loss and amplifier gain  
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).  
 Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.



Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11b

|              |            |                  |      |
|--------------|------------|------------------|------|
| Modulation   | 11b        | Test Freq. (MHz) | 2412 |
| Polarization | Horizontal |                  |      |

Test By :Brad Wu      Temperature(°C):25      Humidity(%):64



|   | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB/m | Remark  | ANT High cm | Turn Table deg |
|---|-----------|-----------------------|--------------|-----------|-----------------|-------------|---------|-------------|----------------|
| 1 | 2390.00   | 39.37                 | 54.00        | -14.63    | 42.12           | -2.75       | Average | 299         | 42             |
| 2 | 2390.00   | 52.19                 | 74.00        | -21.81    | 54.94           | -2.75       | Peak    | 299         | 42             |
| 3 | 4824.00   | 46.37                 | 54.00        | -7.63     | 42.23           | 4.14        | Average | 100         | 358            |
| 4 | 4824.00   | 50.72                 | 74.00        | -23.28    | 46.58           | 4.14        | Peak    | 100         | 358            |
| 5 | 12060.00  | 42.77                 | 54.00        | -11.23    | 28.98           | 13.79       | Average | 100         | 13             |
| 6 | 12060.00  | 56.99                 | 74.00        | -17.01    | 43.20           | 13.79       | Peak    | 100         | 13             |

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor\* (dB/m)

\*Factor includes antenna factor , cable loss and amplifier gain

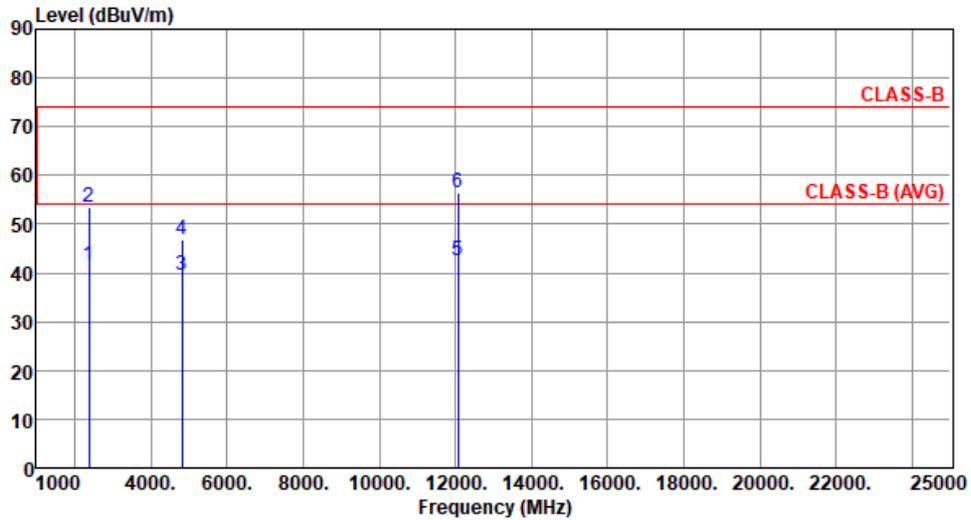
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



**UNWANTED EMISSIONS INTO RESTRICTED FREQUENCY BANDS Appendix D**

|                     |          |                         |      |
|---------------------|----------|-------------------------|------|
| <b>Modulation</b>   | 11b      | <b>Test Freq. (MHz)</b> | 2412 |
| <b>Polarization</b> | Vertical |                         |      |

Test By :Brad Wu      Temperature(°C):25      Humidity(%):64



|   | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB/m | Remark  | ANT High cm | Turn Table deg |
|---|-----------|-----------------------|--------------|-----------|-----------------|-------------|---------|-------------|----------------|
| 1 | 2390.00   | 41.38                 | 54.00        | -12.62    | 44.13           | -2.75       | Average | 123         | 100            |
| 2 | 2390.00   | 53.44                 | 74.00        | -20.56    | 56.19           | -2.75       | Peak    | 123         | 100            |
| 3 | 4824.00   | 39.68                 | 54.00        | -14.32    | 35.54           | 4.14        | Average | 109         | 271            |
| 4 | 4824.00   | 46.78                 | 74.00        | -27.22    | 42.64           | 4.14        | Peak    | 109         | 271            |
| 5 | 12060.00  | 42.57                 | 54.00        | -11.43    | 28.78           | 13.79       | Average | 100         | 45             |
| 6 | 12060.00  | 56.60                 | 74.00        | -17.40    | 42.81           | 13.79       | Peak    | 100         | 45             |

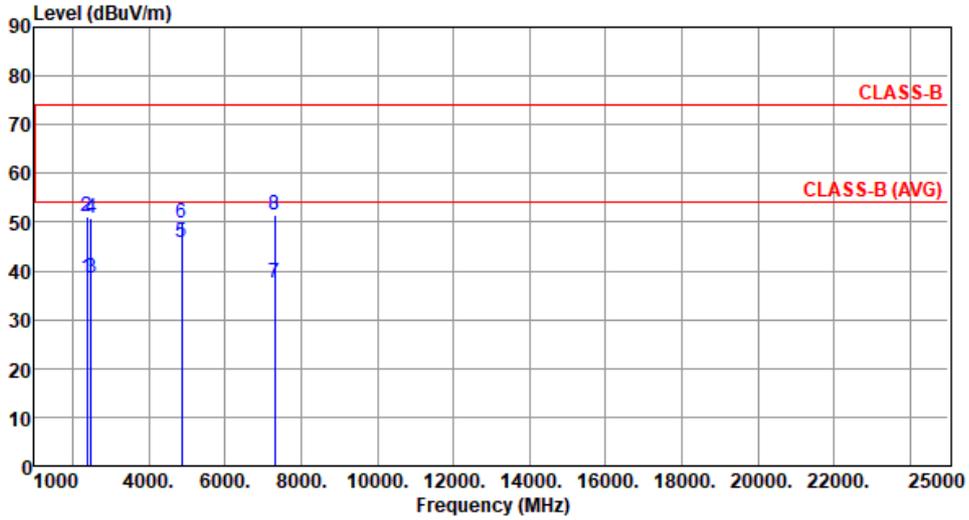
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor\* (dB/m)  
 \*Factor includes antenna factor , cable loss and amplifier gain  
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



**UNWANTED EMISSIONS INTO RESTRICTED FREQUENCY BANDS Appendix D**

|                     |            |                         |      |
|---------------------|------------|-------------------------|------|
| <b>Modulation</b>   | 11b        | <b>Test Freq. (MHz)</b> | 2437 |
| <b>Polarization</b> | Horizontal |                         |      |

Test By :Brad Wu      Temperature(°C):25      Humidity(%):64



|   | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB/m | Remark  | ANT High cm | Turn Table deg |
|---|-----------|-----------------------|--------------|-----------|-----------------|-------------|---------|-------------|----------------|
| 1 | 2390.00   | 38.68                 | 54.00        | -15.32    | 41.43           | -2.75       | Average | 308         | 41             |
| 2 | 2390.00   | 50.98                 | 74.00        | -23.02    | 53.73           | -2.75       | Peak    | 308         | 41             |
| 3 | 2483.50   | 38.64                 | 54.00        | -15.36    | 41.34           | -2.70       | Average | 308         | 41             |
| 4 | 2483.50   | 50.84                 | 74.00        | -23.16    | 53.54           | -2.70       | Peak    | 308         | 41             |
| 5 | 4874.00   | 45.71                 | 54.00        | -8.29     | 41.58           | 4.13        | Average | 100         | 2              |
| 6 | 4874.00   | 49.74                 | 74.00        | -24.26    | 45.61           | 4.13        | Peak    | 100         | 2              |
| 7 | 7311.00   | 37.39                 | 54.00        | -16.61    | 28.11           | 9.28        | Average | 100         | 15             |
| 8 | 7311.00   | 51.32                 | 74.00        | -22.68    | 42.04           | 9.28        | Peak    | 100         | 15             |

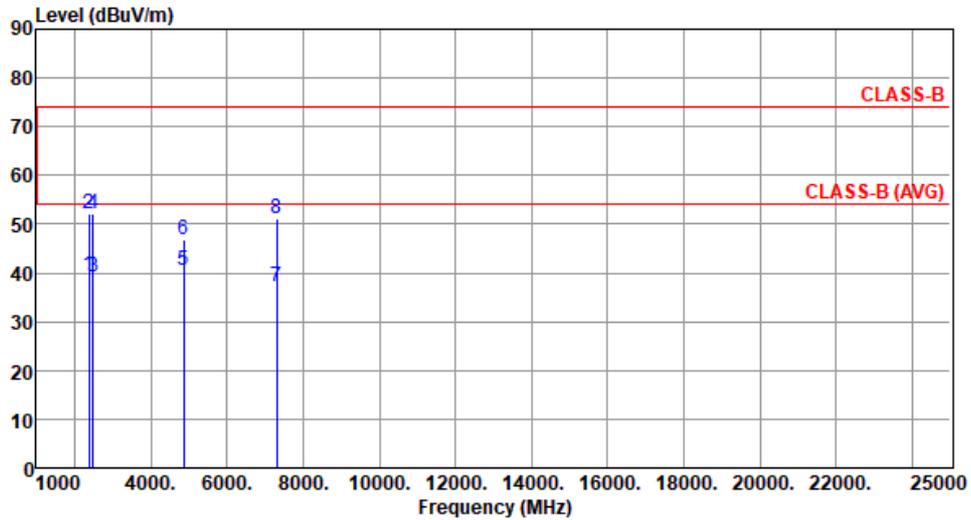
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor\* (dB/m)  
 \*Factor includes antenna factor , cable loss and amplifier gain  
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



**UNWANTED EMISSIONS INTO RESTRICTED FREQUENCY BANDS Appendix D**

|                     |          |                         |      |
|---------------------|----------|-------------------------|------|
| <b>Modulation</b>   | 11b      | <b>Test Freq. (MHz)</b> | 2437 |
| <b>Polarization</b> | Vertical |                         |      |

Test By :Brad Wu      Temperature(°C):25      Humidity(%):64



|   | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB/m | Remark  | ANT High cm | Turn Table deg |
|---|-----------|-----------------------|--------------|-----------|-----------------|-------------|---------|-------------|----------------|
| 1 | 2390.00   | 39.47                 | 54.00        | -14.53    | 42.22           | -2.75       | Average | 102         | 95             |
| 2 | 2390.00   | 52.27                 | 74.00        | -21.73    | 55.02           | -2.75       | Peak    | 102         | 95             |
| 3 | 2483.50   | 39.20                 | 54.00        | -14.80    | 41.90           | -2.70       | Average | 102         | 95             |
| 4 | 2483.50   | 52.15                 | 74.00        | -21.85    | 54.85           | -2.70       | Peak    | 102         | 95             |
| 5 | 4874.00   | 40.42                 | 54.00        | -13.58    | 36.29           | 4.13        | Average | 100         | 268            |
| 6 | 4874.00   | 46.99                 | 74.00        | -27.01    | 42.86           | 4.13        | Peak    | 100         | 268            |
| 7 | 7311.00   | 37.21                 | 54.00        | -16.79    | 27.93           | 9.28        | Average | 100         | 19             |
| 8 | 7311.00   | 51.18                 | 74.00        | -22.82    | 41.90           | 9.28        | Peak    | 100         | 19             |

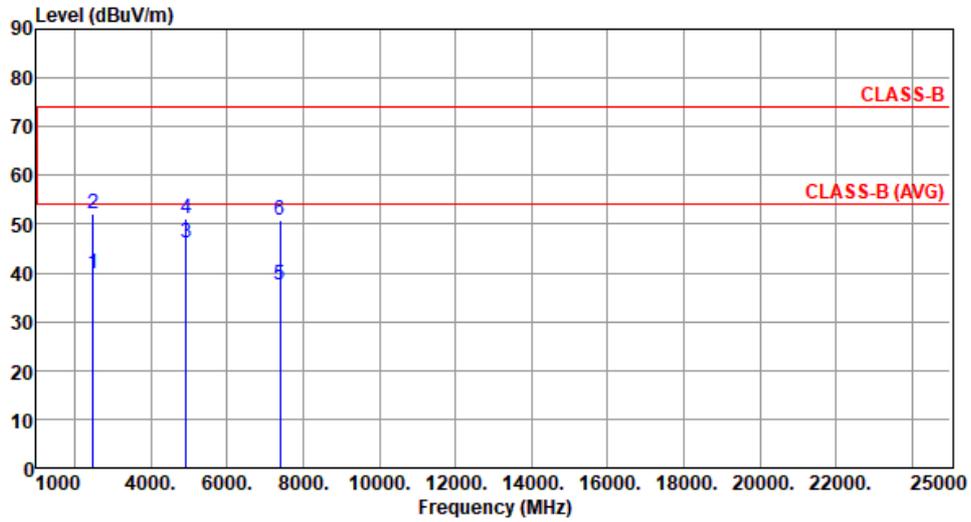
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor\* (dB/m)  
 \*Factor includes antenna factor , cable loss and amplifier gain  
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



**UNWANTED EMISSIONS INTO RESTRICTED FREQUENCY BANDS Appendix D**

|                     |            |                         |      |
|---------------------|------------|-------------------------|------|
| <b>Modulation</b>   | 11b        | <b>Test Freq. (MHz)</b> | 2462 |
| <b>Polarization</b> | Horizontal |                         |      |

Test By :Brad Wu      Temperature(°C):25      Humidity(%):64



|   | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB/m | Remark  | ANT High cm | Turn Table deg |
|---|-----------|-----------------------|--------------|-----------|-----------------|-------------|---------|-------------|----------------|
| 1 | 2483.50   | 40.02                 | 54.00        | -13.98    | 42.72           | -2.70       | Average | 291         | 39             |
| 2 | 2483.50   | 52.19                 | 74.00        | -21.81    | 54.89           | -2.70       | Peak    | 291         | 39             |
| 3 | 4924.00   | 46.04                 | 54.00        | -7.96     | 41.98           | 4.06        | Average | 100         | 355            |
| 4 | 4924.00   | 51.01                 | 74.00        | -22.99    | 46.95           | 4.06        | Peak    | 100         | 355            |
| 5 | 7386.00   | 37.66                 | 54.00        | -16.34    | 28.41           | 9.25        | Average | 100         | 26             |
| 6 | 7386.00   | 50.93                 | 74.00        | -23.07    | 41.68           | 9.25        | Peak    | 100         | 26             |

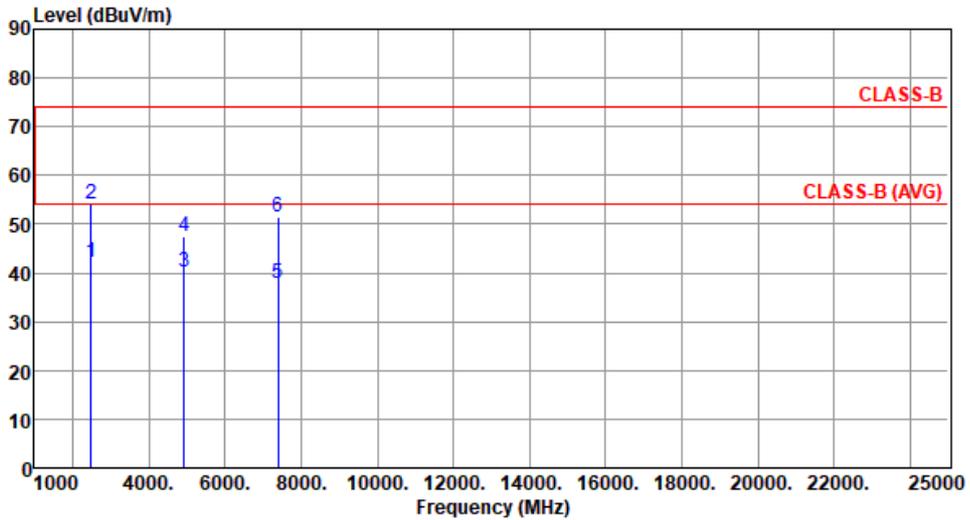
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor\* (dB/m)  
 \*Factor includes antenna factor , cable loss and amplifier gain  
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



**UNWANTED EMISSIONS INTO RESTRICTED FREQUENCY BANDS Appendix D**

|                     |          |                         |      |
|---------------------|----------|-------------------------|------|
| <b>Modulation</b>   | 11b      | <b>Test Freq. (MHz)</b> | 2462 |
| <b>Polarization</b> | Vertical |                         |      |

Test By :Brad Wu      Temperature(°C):25      Humidity(%):64



|   | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB/m | Remark  | ANT High cm | Turn Table deg |
|---|-----------|-----------------------|--------------|-----------|-----------------|-------------|---------|-------------|----------------|
| 1 | 2483.50   | 42.08                 | 54.00        | -11.92    | 44.78           | -2.70       | Average | 103         | 86             |
| 2 | 2483.50   | 54.30                 | 74.00        | -19.70    | 57.00           | -2.70       | Peak    | 103         | 86             |
| 3 | 4924.00   | 40.28                 | 54.00        | -13.72    | 36.22           | 4.06        | Average | 100         | 267            |
| 4 | 4924.00   | 47.64                 | 74.00        | -26.36    | 43.58           | 4.06        | Peak    | 100         | 267            |
| 5 | 7386.00   | 37.86                 | 54.00        | -16.14    | 28.61           | 9.25        | Average | 100         | 22             |
| 6 | 7386.00   | 51.40                 | 74.00        | -22.60    | 42.15           | 9.25        | Peak    | 100         | 22             |

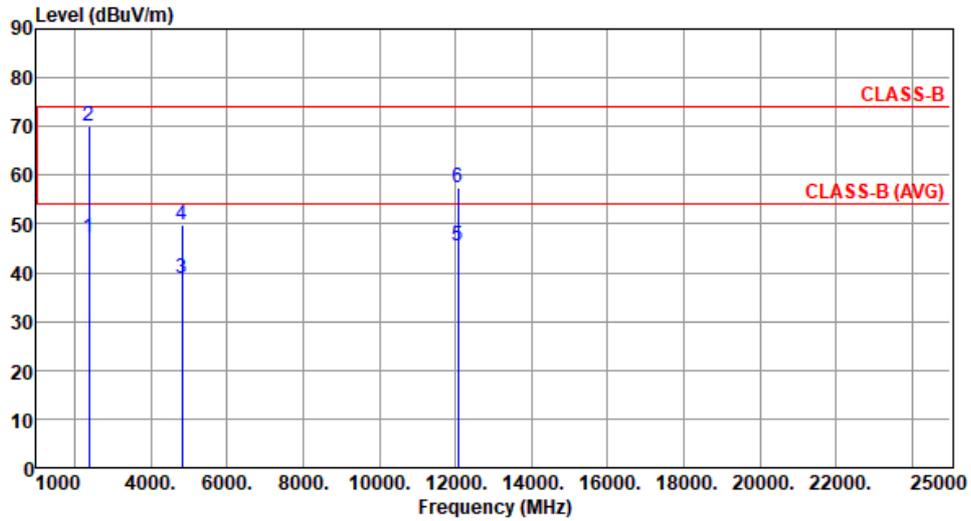
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor\* (dB/m)  
 \*Factor includes antenna factor , cable loss and amplifier gain  
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11g

|              |            |                  |      |
|--------------|------------|------------------|------|
| Modulation   | 11g        | Test Freq. (MHz) | 2412 |
| Polarization | Horizontal |                  |      |

Test By :Akun Chung      Temperature(°C):25      Humidity(%):64



|   | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB/m | Remark  | ANT High cm | Turn Table deg |
|---|-----------|-----------------------|--------------|-----------|-----------------|-------------|---------|-------------|----------------|
| 1 | 2390.00   | 47.05                 | 54.00        | -6.95     | 49.80           | -2.75       | Average | 287         | 41             |
| 2 | 2390.00   | 70.16                 | 74.00        | -3.84     | 72.91           | -2.75       | Peak    | 287         | 41             |
| 3 | 4824.00   | 38.93                 | 54.00        | -15.07    | 34.79           | 4.14        | Average | 100         | 355            |
| 4 | 4824.00   | 49.97                 | 74.00        | -24.03    | 45.83           | 4.14        | Peak    | 100         | 355            |
| 5 | 12060.00  | 45.52                 | 54.00        | -8.48     | 31.73           | 13.79       | Average | 100         | 351            |
| 6 | 12060.00  | 57.51                 | 74.00        | -16.49    | 43.72           | 13.79       | Peak    | 100         | 351            |

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor\* (dB/m)

\*Factor includes antenna factor , cable loss and amplifier gain

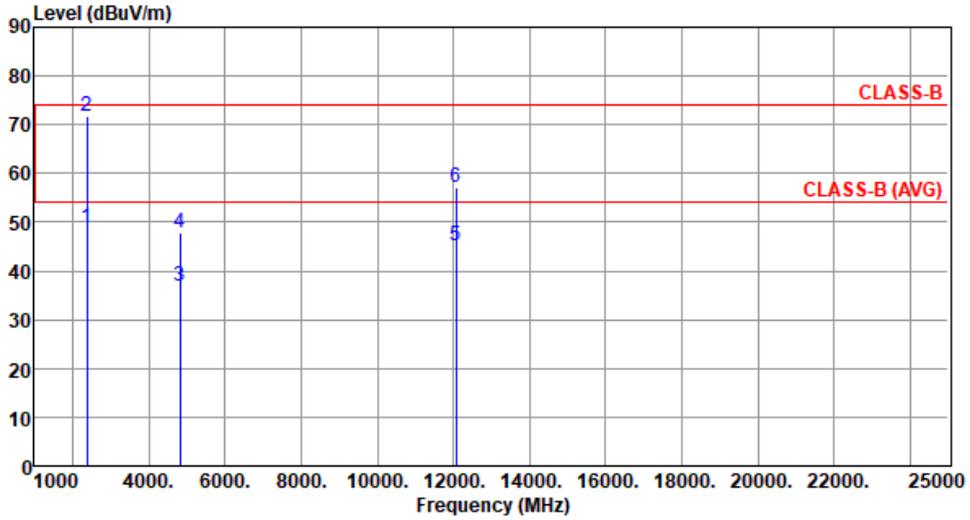
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



**UNWANTED EMISSIONS INTO RESTRICTED FREQUENCY BANDS Appendix D**

|                     |          |                         |      |
|---------------------|----------|-------------------------|------|
| <b>Modulation</b>   | 11g      | <b>Test Freq. (MHz)</b> | 2412 |
| <b>Polarization</b> | Vertical |                         |      |

Test By :Akun Chung      Temperature(°C):25      Humidity(%):64



|   | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB/m | Remark  | ANT High cm | Turn Table deg |
|---|-----------|-----------------------|--------------|-----------|-----------------|-------------|---------|-------------|----------------|
| 1 | 2390.00   | 48.83                 | 54.00        | -5.17     | 51.58           | -2.75       | Average | 114         | 97             |
| 2 | 2390.00   | 71.70                 | 74.00        | -2.30     | 74.45           | -2.75       | Peak    | 114         | 97             |
| 3 | 4824.00   | 36.93                 | 54.00        | -17.07    | 32.79           | 4.14        | Average | 100         | 277            |
| 4 | 4824.00   | 47.85                 | 74.00        | -26.15    | 43.71           | 4.14        | Peak    | 100         | 277            |
| 5 | 12060.00  | 45.15                 | 54.00        | -8.85     | 31.36           | 13.79       | Average | 100         | 290            |
| 6 | 12060.00  | 57.28                 | 74.00        | -16.72    | 43.49           | 13.79       | Peak    | 100         | 290            |

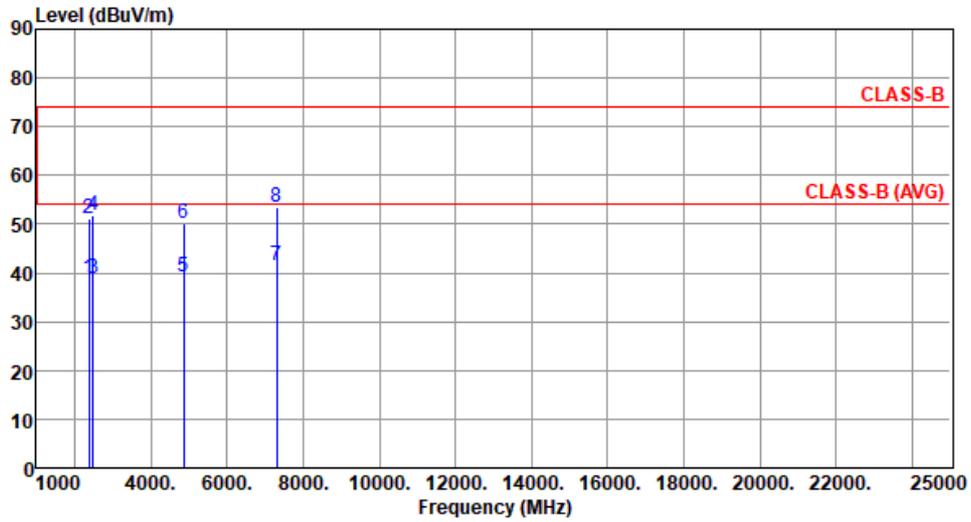
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor\* (dB/m)  
 \*Factor includes antenna factor , cable loss and amplifier gain  
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



**UNWANTED EMISSIONS INTO RESTRICTED FREQUENCY BANDS Appendix D**

|                     |            |                         |      |
|---------------------|------------|-------------------------|------|
| <b>Modulation</b>   | 11g        | <b>Test Freq. (MHz)</b> | 2437 |
| <b>Polarization</b> | Horizontal |                         |      |

Test By :Akun Chung      Temperature(°C):25      Humidity(%):64



|   | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB/m | Remark  | ANT High cm | Turn Table deg |
|---|-----------|-----------------------|--------------|-----------|-----------------|-------------|---------|-------------|----------------|
| 1 | 2390.00   | 38.73                 | 54.00        | -15.27    | 41.48           | -2.75       | Average | 295         | 42             |
| 2 | 2390.00   | 51.08                 | 74.00        | -22.92    | 53.83           | -2.75       | Peak    | 295         | 42             |
| 3 | 2483.50   | 38.82                 | 54.00        | -15.18    | 41.52           | -2.70       | Average | 295         | 42             |
| 4 | 2483.50   | 51.78                 | 74.00        | -22.22    | 54.48           | -2.70       | Peak    | 295         | 42             |
| 5 | 4874.00   | 39.20                 | 54.00        | -14.80    | 35.07           | 4.13        | Average | 103         | 348            |
| 6 | 4874.00   | 50.18                 | 74.00        | -23.82    | 46.05           | 4.13        | Peak    | 103         | 348            |
| 7 | 7311.00   | 41.54                 | 54.00        | -12.46    | 32.26           | 9.28        | Average | 100         | 352            |
| 8 | 7311.00   | 53.53                 | 74.00        | -20.47    | 44.25           | 9.28        | Peak    | 100         | 352            |

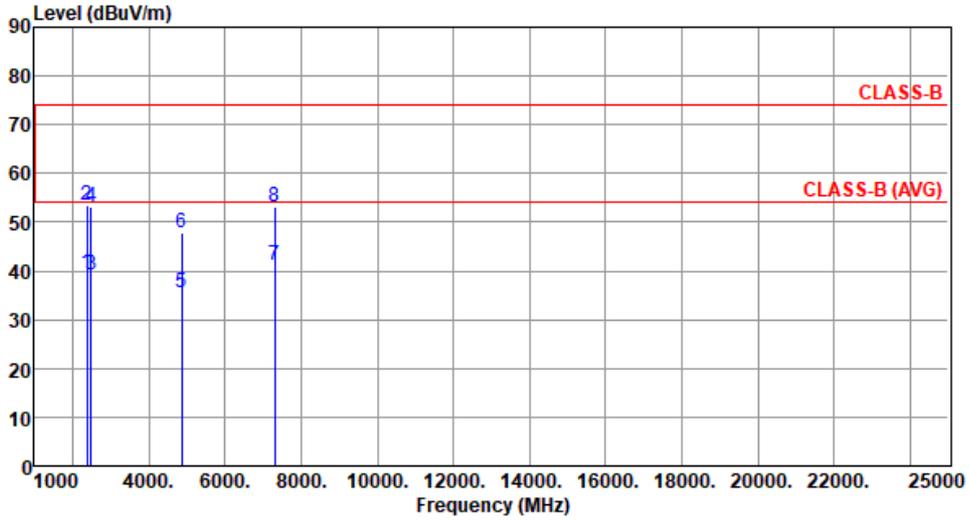
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor\* (dB/m)  
 \*Factor includes antenna factor , cable loss and amplifier gain  
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



**UNWANTED EMISSIONS INTO RESTRICTED FREQUENCY BANDS Appendix D**

|                     |          |                         |      |
|---------------------|----------|-------------------------|------|
| <b>Modulation</b>   | 11g      | <b>Test Freq. (MHz)</b> | 2437 |
| <b>Polarization</b> | Vertical |                         |      |

Test By :Akun Chung      Temperature(°C):25      Humidity(%):64



|   | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB/m | Remark  | ANT High cm | Turn Table deg |
|---|-----------|-----------------------|--------------|-----------|-----------------|-------------|---------|-------------|----------------|
| 1 | 2390.00   | 39.48                 | 54.00        | -14.52    | 42.23           | -2.75       | Average | 122         | 100            |
| 2 | 2390.00   | 53.37                 | 74.00        | -20.63    | 56.12           | -2.75       | Peak    | 122         | 100            |
| 3 | 2483.50   | 39.30                 | 54.00        | -14.70    | 42.00           | -2.70       | Average | 122         | 100            |
| 4 | 2483.50   | 53.20                 | 74.00        | -20.80    | 55.90           | -2.70       | Peak    | 122         | 100            |
| 5 | 4874.00   | 35.69                 | 54.00        | -18.31    | 31.56           | 4.13        | Average | 100         | 274            |
| 6 | 4874.00   | 47.72                 | 74.00        | -26.28    | 43.59           | 4.13        | Peak    | 100         | 274            |
| 7 | 7311.00   | 41.19                 | 54.00        | -12.81    | 31.91           | 9.28        | Average | 100         | 280            |
| 8 | 7311.00   | 53.16                 | 74.00        | -20.84    | 43.88           | 9.28        | Peak    | 100         | 280            |

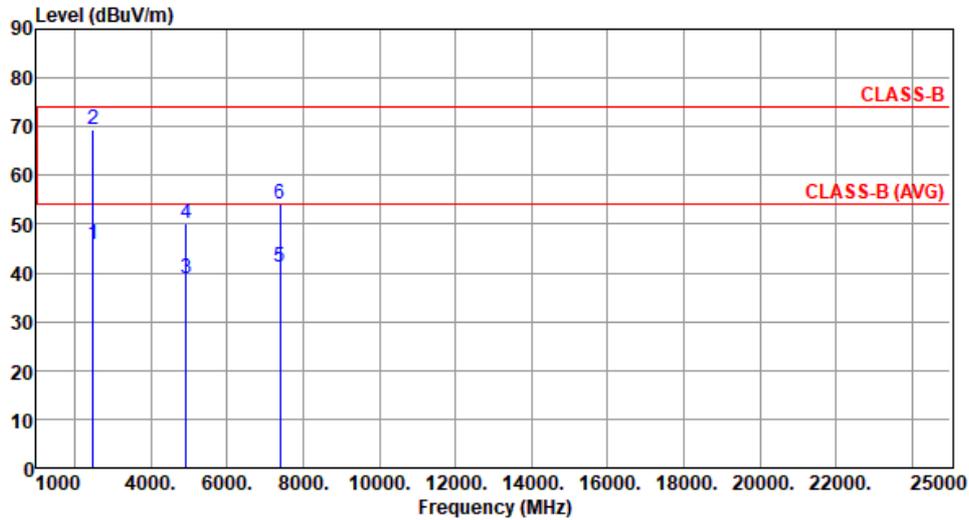
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor\* (dB/m)  
 \*Factor includes antenna factor , cable loss and amplifier gain  
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



**UNWANTED EMISSIONS INTO RESTRICTED FREQUENCY BANDS Appendix D**

|                     |            |                         |      |
|---------------------|------------|-------------------------|------|
| <b>Modulation</b>   | 11g        | <b>Test Freq. (MHz)</b> | 2462 |
| <b>Polarization</b> | Horizontal |                         |      |

Test By :Akun Chung      Temperature(°C):25      Humidity(%):64



|   | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB/m | Remark  | ANT High cm | Turn Table deg |
|---|-----------|-----------------------|--------------|-----------|-----------------|-------------|---------|-------------|----------------|
| 1 | 2483.50   | 45.75                 | 54.00        | -8.25     | 48.45           | -2.70       | Average | 296         | 44             |
| 2 | 2483.50   | 69.27                 | 74.00        | -4.73     | 71.97           | -2.70       | Peak    | 296         | 44             |
| 3 | 4924.00   | 38.73                 | 54.00        | -15.27    | 34.67           | 4.06        | Average | 100         | 349            |
| 4 | 4924.00   | 50.08                 | 74.00        | -23.92    | 46.02           | 4.06        | Peak    | 100         | 349            |
| 5 | 7386.00   | 41.17                 | 54.00        | -12.83    | 31.92           | 9.25        | Average | 100         | 351            |
| 6 | 7386.00   | 54.20                 | 74.00        | -19.80    | 44.95           | 9.25        | Peak    | 100         | 351            |

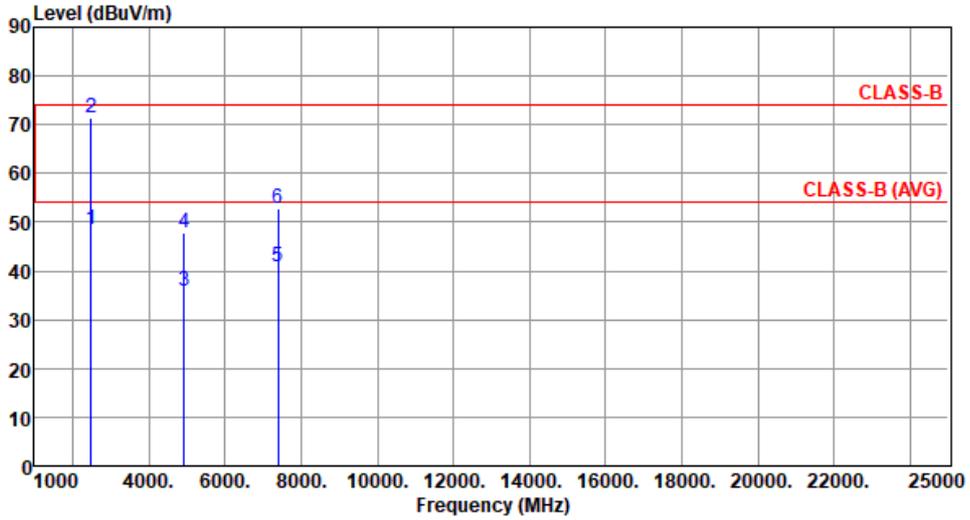
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor\* (dB/m)  
 \*Factor includes antenna factor , cable loss and amplifier gain  
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



**UNWANTED EMISSIONS INTO RESTRICTED FREQUENCY BANDS Appendix D**

|                     |          |                         |      |
|---------------------|----------|-------------------------|------|
| <b>Modulation</b>   | 11g      | <b>Test Freq. (MHz)</b> | 2462 |
| <b>Polarization</b> | Vertical |                         |      |

Test By :Akun Chung      Temperature(°C):25      Humidity(%):64



|   | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB/m | Remark  | ANT High cm | Turn Table deg |
|---|-----------|-----------------------|--------------|-----------|-----------------|-------------|---------|-------------|----------------|
| 1 | 2483.50   | 48.41                 | 54.00        | -5.59     | 51.11           | -2.70       | Average | 126         | 103            |
| 2 | 2483.50   | 71.41                 | 74.00        | -2.59     | 74.11           | -2.70       | Peak    | 126         | 103            |
| 3 | 4924.00   | 35.78                 | 54.00        | -18.22    | 31.72           | 4.06        | Average | 100         | 278            |
| 4 | 4924.00   | 47.76                 | 74.00        | -26.24    | 43.70           | 4.06        | Peak    | 100         | 278            |
| 5 | 7386.00   | 40.93                 | 54.00        | -13.07    | 31.68           | 9.25        | Average | 100         | 283            |
| 6 | 7386.00   | 52.93                 | 74.00        | -21.07    | 43.68           | 9.25        | Peak    | 100         | 283            |

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor\* (dB/m)  
 \*Factor includes antenna factor , cable loss and amplifier gain  
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

