

# **FCC TEST REPORT**

**for**

## **47 CFR Part 15 Subpart C**

**Equipment : 802.11g WIRELESS LAN PCI CARD**

**Trade (Model) Name : EDIMAX (EW-7128G)**

**GLP (GWA-E18G)**

**FCC ID : NDD9571280405**

**Filing Type : Certification**

**Applicant : EDIMAX Technology Co., Ltd.**  
No. 3, Wu Chuan 3rd Road, Wu-Ku  
Industrial Park, Taipei Hsien, Taiwan.

- The test result refers exclusively to the test presented test model / sample.
- Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.
- **Certificate or Test Report must not be used by the applicant to claim the product in this test report endorsement by NVLAP or any agency of U.S. government.**

***SPORTON International Inc.***

6F, No.106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

## Table of Contents

|                                                            |                |
|------------------------------------------------------------|----------------|
| History of this test report.....                           | ii             |
| <b>CERTIFICATE OF COMPLIANCE.....</b>                      | <b>1</b>       |
| <b>1. General Description of Equipment under Test.....</b> | <b>2</b>       |
| 1.1. Applicant .....                                       | 2              |
| 1.2. Manufacturer .....                                    | 2              |
| 1.3. Basic Description of Equipment under Test .....       | 2              |
| 1.4. Feature of Equipment under Test .....                 | 3              |
| <b>2 Test Configuration of Equipment under Test.....</b>   | <b>4</b>       |
| 2.1. Test Manner .....                                     | 4              |
| 2.2. Description of Test System .....                      | 4              |
| 2.3. Connection Diagram of Test System .....               | 5              |
| <b>3 Operation of Equipment under Test.....</b>            | <b>6</b>       |
| <b>4 General Information of Test.....</b>                  | <b>7</b>       |
| 4.1. Test Voltage .....                                    | 7              |
| 4.2. Standard for Methods of Measurement.....              | 7              |
| 4.3. Test in Compliance with .....                         | 7              |
| 4.4. Frequency Range Investigated .....                    | 7              |
| 4.5. Test Distance .....                                   | 7              |
| <b>5 Report of Measurements and Examinations .....</b>     | <b>8</b>       |
| 5.1. List of Measurements and Examinations .....           | 8              |
| 5.2. 6dB Bandwidth .....                                   | 9              |
| 5.3. Power Spectral Density .....                          | 17             |
| 5.4. Band Edges Measurement.....                           | 25             |
| 5.5. Peak Output Power .....                               | 39             |
| <b>6. Test of Conducted Emission.....</b>                  | <b>41</b>      |
| 6.1. Major Measuring Instruments.....                      | 41             |
| 6.2. Test Procedures .....                                 | 41             |
| 6.3. Test Result of Conducted Emission .....               | 42             |
| <b>7. Test of Radiated Emission.....</b>                   | <b>44</b>      |
| 7.1. Major Measuring Instruments.....                      | 44             |
| 7.2. Test Procedures .....                                 | 45             |
| 7.3. Typical Test Setup Layout of Radiated Emission.....   | 45             |
| 7.4. Test Result of Radiated Emission .....                | 46             |
| <b>8. Antenna Requirements .....</b>                       | <b>96</b>      |
| 8.1. Standard Applicable .....                             | 96             |
| 8.2. Antenna Connected Construction .....                  | 96             |
| <b>9. RF Exposure.....</b>                                 | <b>97</b>      |
| 9.1. Limit For Maximum Permissible Exposure (MPE).....     | 97             |
| 9.2. MPE Calculations.....                                 | 98             |
| 9.3. FCC Radiation Exposure Statement.....                 | 99             |
| <b>10. List of Measuring Equipments Used .....</b>         | <b>100</b>     |
| <b>11. Uncertainty Measurement.....</b>                    | <b>101</b>     |
| <b>Appendix A. External Photograph of EUT.....</b>         | <b>A1 ~ A6</b> |
| <b>Appendix B. Internal Photograph of EUT.....</b>         | <b>B1 ~ B7</b> |
| <b>Appendix C. Setup Photograph .....</b>                  | <b>C1 ~ C3</b> |

## History of this test report

Original Report Issue Date: June 16, 2004

☒ No additional attachment.

☐ Additional attachment were issued as following record:

| Attachment No. | Issue Date | Description |
|----------------|------------|-------------|
|                |            |             |
|                |            |             |
|                |            |             |
|                |            |             |
|                |            |             |
|                |            |             |
|                |            |             |
|                |            |             |
|                |            |             |
|                |            |             |
|                |            |             |
|                |            |             |
|                |            |             |
|                |            |             |

**CERTIFICATE OF COMPLIANCE**  
**for**  
**47 CFR Part 15 Subpart C**

**Equipment : 802.11g WIRELESS LAN PCI CARD**

**Trade (Model) Name : EDIMAX (EW-7128G)**

**GLP (GWA-E18G)**

**FCC ID : NDD9571280405**

**Filing Type : Certification**

**Applicant : EDIMAX Technology Co., Ltd.**  
No. 3, Wu Chuan 3rd Road, Wu-Ku  
Industrial Park, Taipei Hsien, Taiwan.

**I HEREBY CERTIFY THAT :**

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4 - 2001** and the equipment under test was **passed** all test items required in FCC Part 15 subpart C, relative to the equipment under test. Testing was carried out on June 14, 2004 at **SPORTON International Inc. LAB.**



Daniel Lee

Manager

***SPORTON International Inc.***

6F, No.106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

***SPORTON International Inc.***

TEL : 886-2-2696-2468

FAX : 886-2-2696-2255

FCC ID : NDD9571280405

Page No. : 1 of 102

Issued Date : June 16, 2004

## **1. General Description of Equipment under Test**

### **1.1. Applicant**

**EDIMAX Technology Co., Ltd.**

No. 3, Wu Chuan 3rd Road, Wu-Ku Industrial Park, Taipei Hsien, Taiwan.

### **1.2 Manufacturer**

**EDIMAX Technology Co., Ltd.**

No. 3, Wu Chuan 3rd Road, Wu-Ku Industrial Park, Taipei Hsien, Taiwan.

### **1.3 Basic Description of Equipment under Test**

Equipment : 802.11g WIRELESS LAN PCI CARD  
Trade (Model) Name : EDIMAX (EW-7128G)  
GLP (GWA-E18G)  
FCC ID : NDD9571280405  
Power Supply Type : 3.3V

## 1.4 Feature of Equipment under Test

| Product Feature & Specification                          |                                                                    |   |              |   |
|----------------------------------------------------------|--------------------------------------------------------------------|---|--------------|---|
| 1. Host/Radio interface                                  | 32-bit PCI V2.2-2.1                                                |   |              |   |
| 2. Modulation Type/Data Rate                             | 802.11b: BPSK,QPSK,CCK<br>802.11g: OFDM,WITH BPSK,QPSK,16QAM,64QAM |   |              |   |
| 3. Freq.Range/Carrier Freqs.                             | 2400 MHz ~ 2483.5 MHz                                              |   |              |   |
| 4. Number of Channels                                    | USA/Canada: 11                                                     | V | European: 13 |   |
|                                                          | Japan: 13, 14                                                      |   | Other:       |   |
| 5. Carrier Frequency of each channel                     | 2412 MHz +(n-1)*5 MHz, n= 1~11                                     |   |              |   |
| 6. Maximum Output Power to Antenna<br>(Normal Condition) | 802.11b:18dBm<br>802.11g:15dBm                                     |   |              |   |
| 7. Channel Spacing                                       | 5 MHz                                                              |   |              |   |
| 8. Type of Antenna Connector                             | RP-SMA                                                             |   |              |   |
| 9. Antenna Type                                          | External detachable dipole antenna                                 |   |              |   |
| 10. Antenna Gain                                         | 2 dBi                                                              |   |              |   |
| 11. Function Type                                        | Transmitter                                                        |   | Transceiver  | V |
| 12. Attached Data Cables(length, shield)                 | N/A                                                                |   |              |   |
| 13. Power Rating (DC/AC , Voltage)                       | DC 5V                                                              |   |              |   |
| 14. Duty Cycle                                           | N/A                                                                |   |              |   |
| 15. Temperature / Humidity Range                         | 0°C to 55°C<br>Max TO 95%                                          |   |              |   |

## 2 Test Configuration of Equipment under Test

### 2.1 Test Manner

- a. The EUT has been associated with peripherals pursuant to ANSI C63.4-2001 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.
- b. The complete test system included COMPAQ PC, VIEWSONIC Monitor, LOGITECH PS2 Keyboard, LOGITECH USB Mouse, EPSON Printer, ACEEX MODEM and EUT for EMI test.
- c. The EUT can operate on eleven channels from 2412MHz to 2462MHz. (as listed in section 1.4).
- d. The following test modes were tested for conduction test:

Mode 1: Operating

The following test modes were tested for radiation test:

Mode 1: 11b TX CH01 (2412MHz)

Mode 2: 11b TX CH06 (2437MHz)

Mode 3: 11b TX CH11 (2462MHz)

Mode 4: 11g TX CH01 (2412MHz)

Mode 5: 11g TX CH06 (2437MHz)

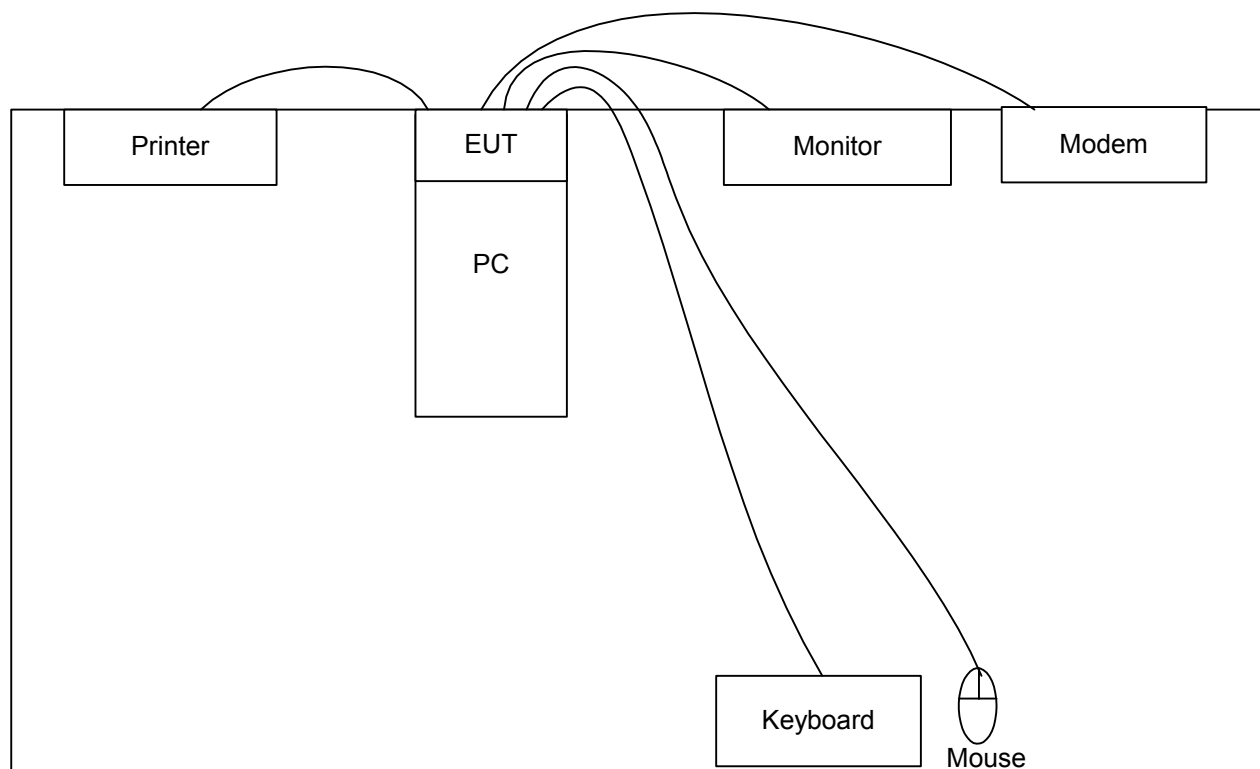
Mode 6: 11g TX CH11 (2462MHz)

- e. Frequency range investigated: conduction 150 kHz to 30 MHz, radiation 30 MHz to 25000MHz.

### 2.2 Description of Test System

| Item | Asset                   | Model Name       | Power Cord      | S/N    |
|------|-------------------------|------------------|-----------------|--------|
| 1.   | PC (COMPAQ)             | D380MX           | N/A             | SP0021 |
| 2.   | Monitor (VIEWSONIC)     | VCDTS21553-3P    | Shielded, 1.7m  | SP0023 |
| 3.   | PS2 Keyboard (LOGITECH) | Y-SJ17           | Shielded, 1.7m  | SP0027 |
| 4.   | USB Mouse (LOGITECH)    | M-BE58           | Shielded, 1.7m  | SP0031 |
| 5.   | Printer (EPSON)         | STYLUS COLRO 680 | Shielded, 1.35m | SP0035 |
| 6.   | MODEM (ACEEX)           | DM141            | Shielded, 1.15m | SP0039 |

### 2.3 Connection Diagram of Test System



### **3 Operation of Equipment under Test**

An executive program, EMCTEST.EXE on Win XP continuously generating a complete line of "H" pattern, was used as the test software.

The program was executed as follows:

- a. Turn on the power of all equipment.
- b. The PC reads the test program from the hard disk drive and runs it.
- c. The PC sends "H" messages to the monitor, and the monitor displays "H" patterns on the screen.
- d. The PC sends "H" messages to the printer, then the printer prints them on the paper.
- e. The PC sends "H" messages to the internal hard disk , and the hard disk reads and writes the message.
- f. Repeat the steps from c to e.

At the same time, the following program was executed:

"RT2800.EXE" sends continuous transmitting.

## **4 General Information of Test**

Test Site Location : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park,  
Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.  
TEL : 886-3-327-3456  
FAX : 886-3-318-0055  
Test Site No : CO01-HY, 03CH03-HY

### **4.1 Test Voltage**

110V/ 60Hz

### **4.2 Standard for Methods of Measurement**

ANSI C63.4-2001

### **4.3 Test in Compliance with**

47 CFR Part 15 Subpart C

### **4.4 Frequency Range Investigated**

- a. Conduction: from 150 kHz to 30 MHz
- b. Radiation: from 30 MHz to 25000 MHz

### **4.5 Test Distance**

The test distance of radiated emission from antenna to EUT is 3 m.

## **5 Report of Measurements and Examinations**

### **5.1 List of Measurements and Examinations**

| FCC Rule               | Description of Test                      | Result |
|------------------------|------------------------------------------|--------|
| 15.207                 | Conducted Emission                       | Pass   |
| 15.247(a)(2)           | 6dB Bandwidth                            | Pass   |
| 15.247(b)              | Maximum Peak Output Power                | Pass   |
| 15.209(a)              | Radiated Emission                        | Pass   |
| 15.247 (c)             | 100kHz Bandwidth of Frequency Band Edges | Pass   |
| 15.247(d)              | Power Spectral Density                   | Pass   |
| 15.203<br>15.247(B)(4) | Antenna Requirement                      | Pass   |
| 1.1307<br>2.1091       | RF Exposure                              | Pass   |

## 5.2 6dB Bandwidth

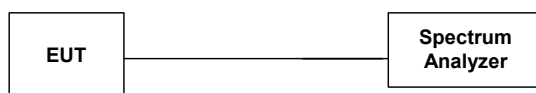
### 5.2.1 Measuring Instruments :

As described in chapter 7 of this test report.

### 5.2.2 Test Procedure :

1. The transmitter output was connected to the spectrum analyzer directly.
2. Set RBW of spectrum analyzer to 100kHz and VBW to 100kHz.
3. The 6 dB bandwidth is defined as the frequency range where the power is higher than the peak power minus 6dB.

### 5.2.3 Test Setup Layout :



### 5.2.4 Test Result :

- Mode 1~3 : WLAN 802.11b
- Temperature : 23°C
- Relative Humidity : 53%

| Channel | Frequency<br>( MHz ) | 6dB Emission bandwidth<br>( MHz ) | Limits<br>( MHz ) | Plot<br>Ref. No. |
|---------|----------------------|-----------------------------------|-------------------|------------------|
| 01      | 2412                 | 11.96                             | 0.5               | Mode 1           |
| 06      | 2437                 | 11.96                             | 0.5               | Mode 2           |
| 11      | 2462                 | 11.96                             | 0.5               | Mode 3           |

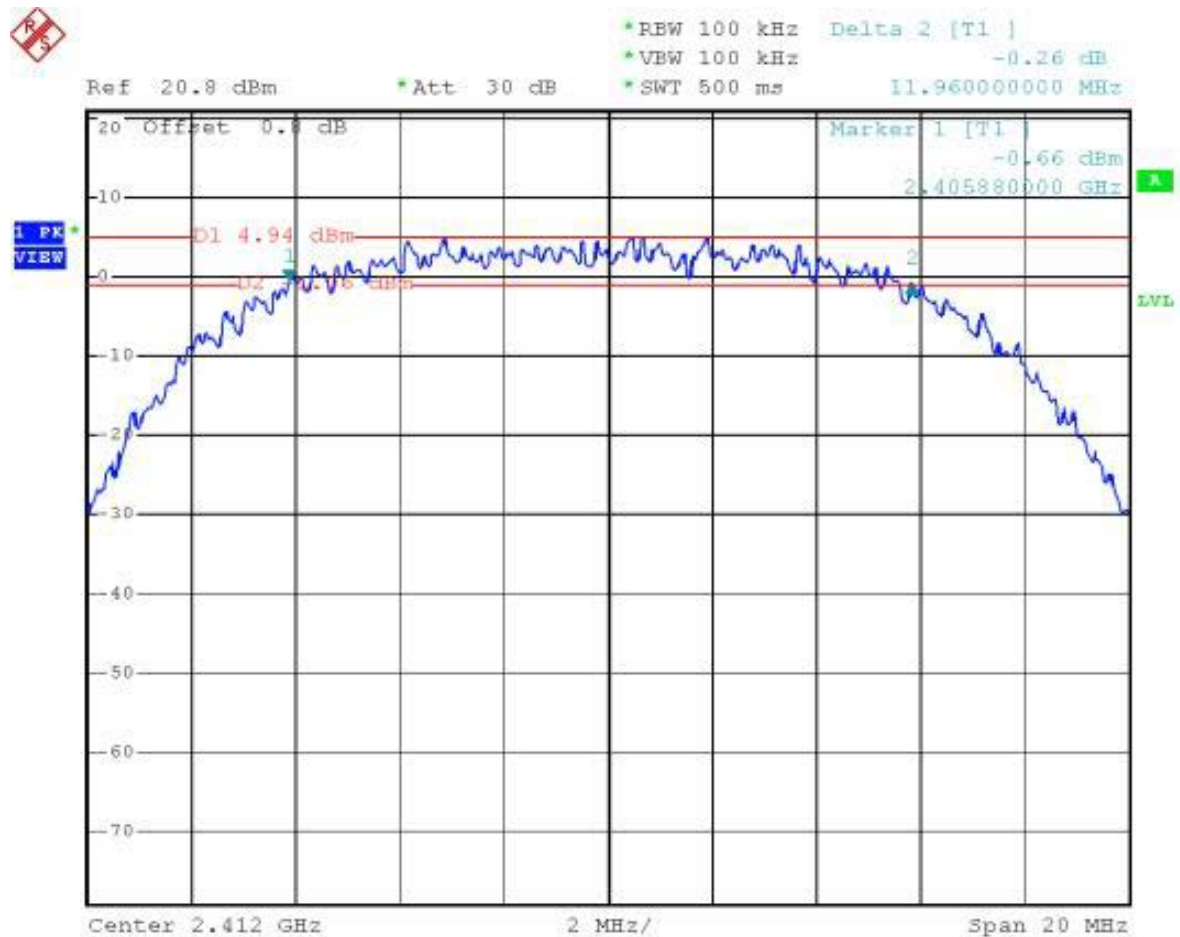
**5.2.5 Test Result :**

- Mode 4~6 : WLAN 802.11g
- Temperature : 23℃
- Relative Humidity : 53%

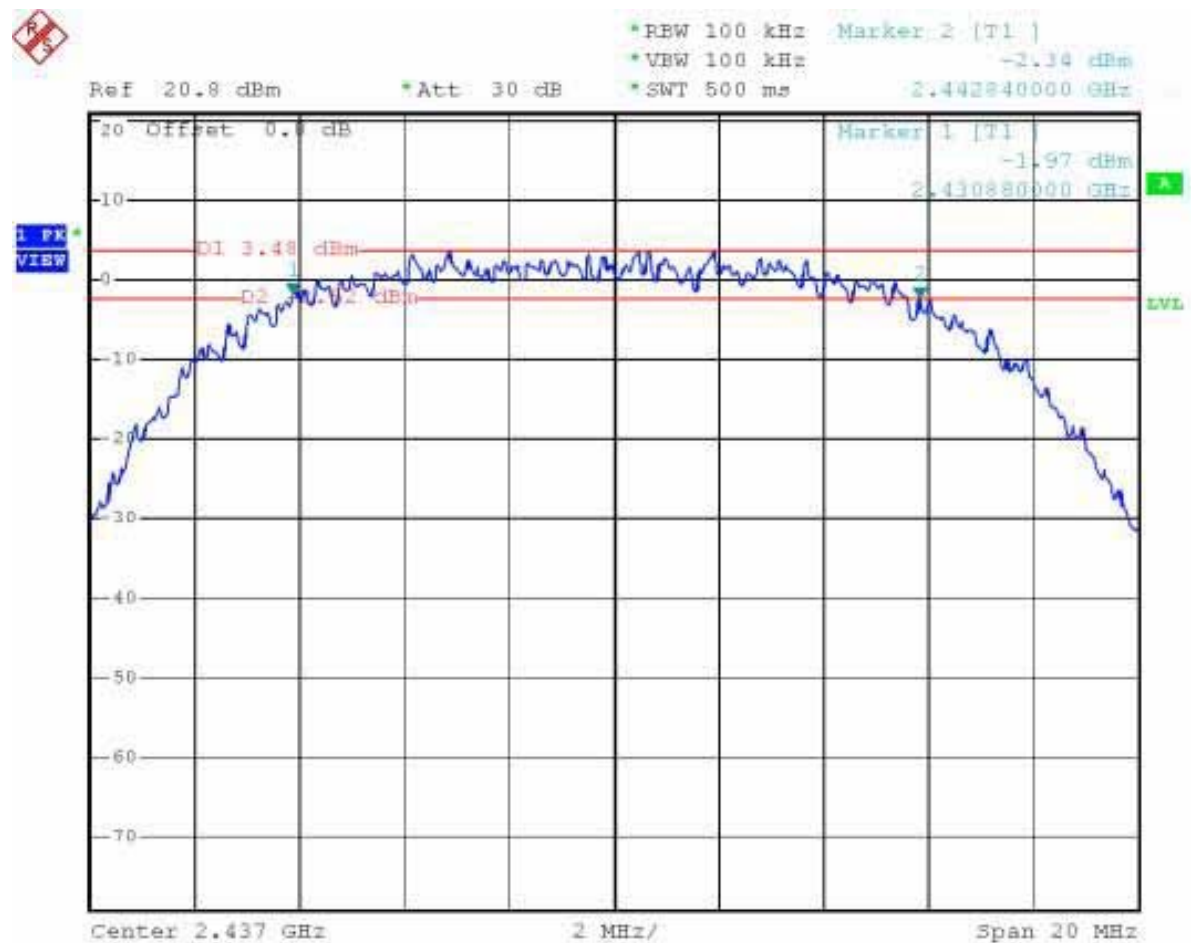
| Channel | Frequency<br>( MHz ) | 6dB Emission bandwidth<br>( MHz ) | Limits<br>( MHz ) | Plot<br>Ref. No. |
|---------|----------------------|-----------------------------------|-------------------|------------------|
| 01      | 2412                 | 16.52                             | 0.5               | Mode 4           |
| 06      | 2437                 | 16.52                             | 0.5               | Mode 5           |
| 11      | 2462                 | 16.52                             | 0.5               | Mode 6           |

## 5.2.6 6dB Bandwidth

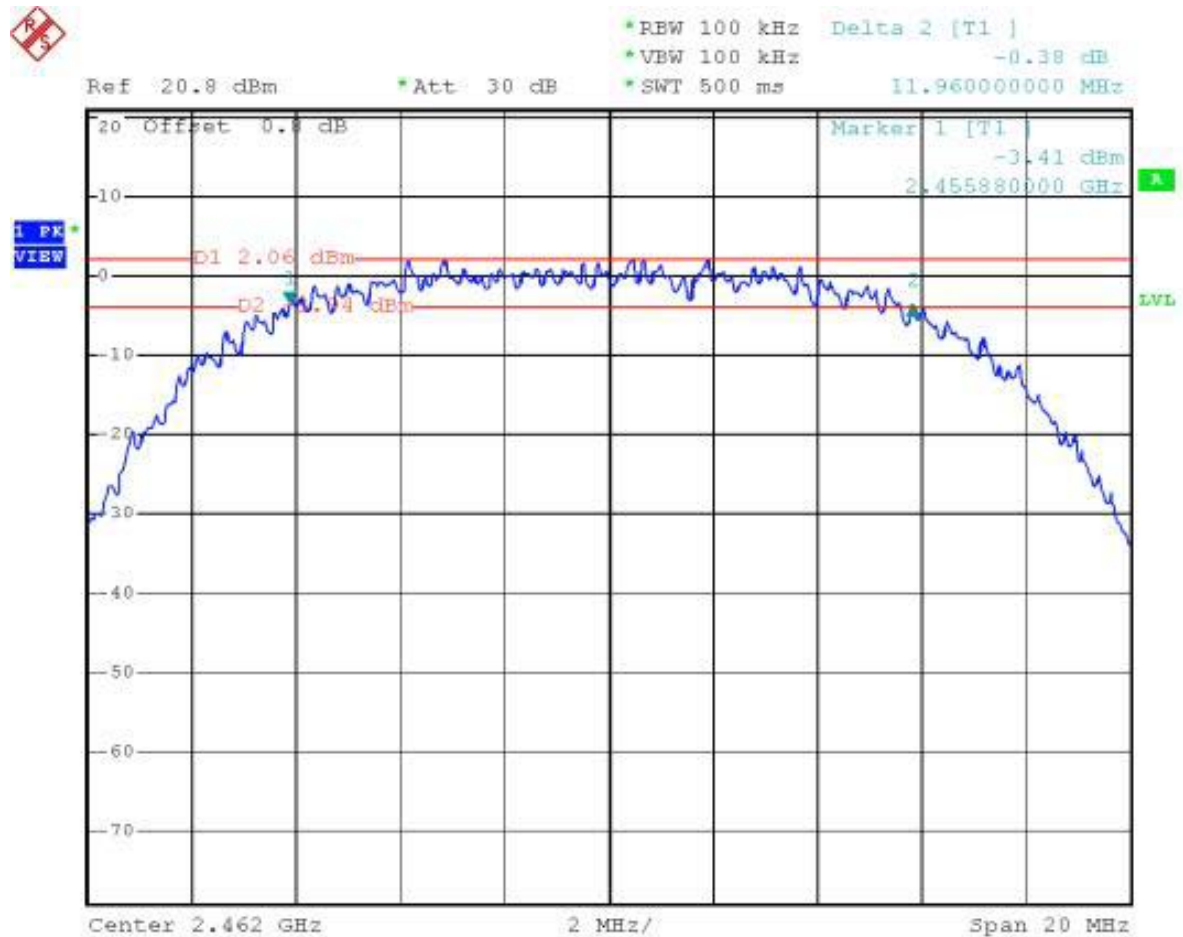
Mode 1 : 802.11b CH01 (2412MHz)



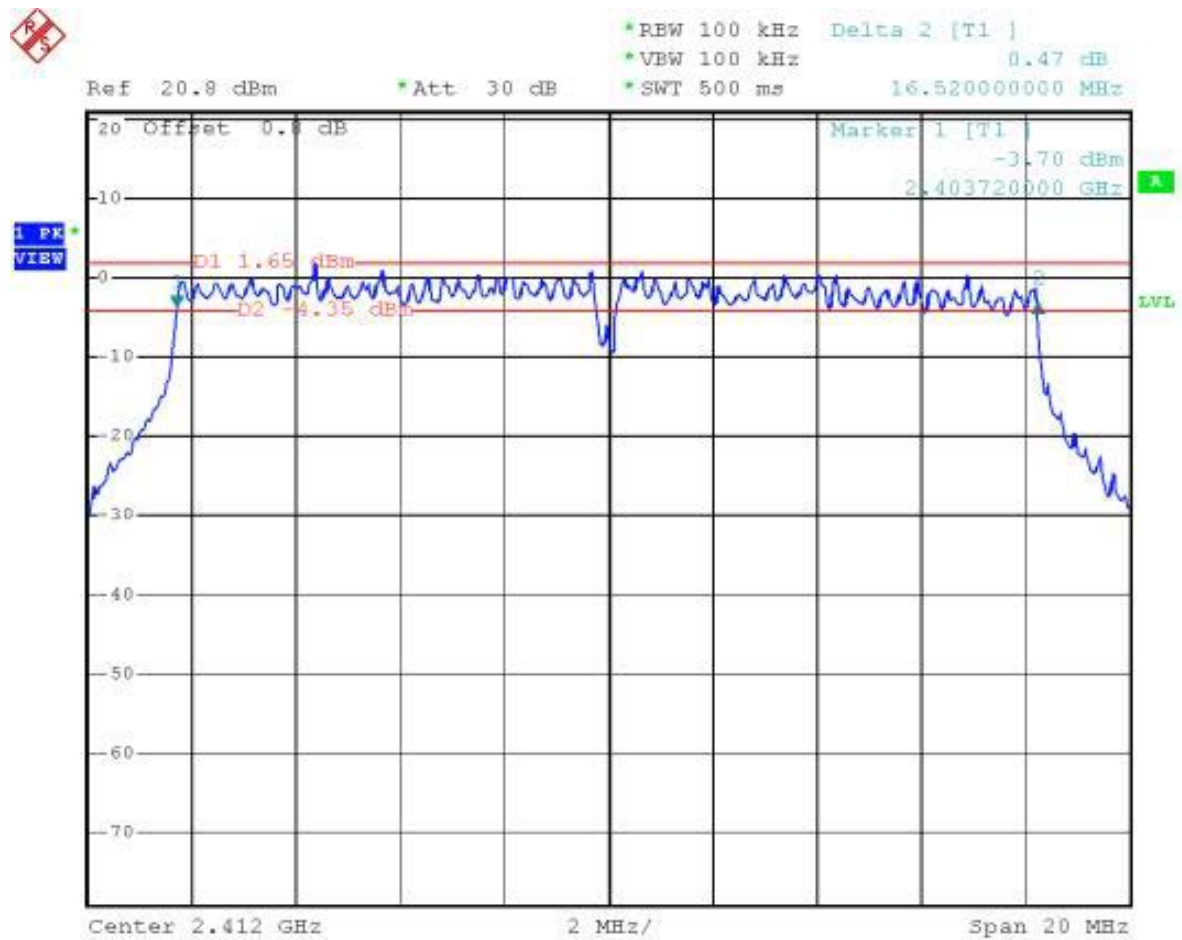
Mode 2 : 802.11b CH06 (2437MHz)



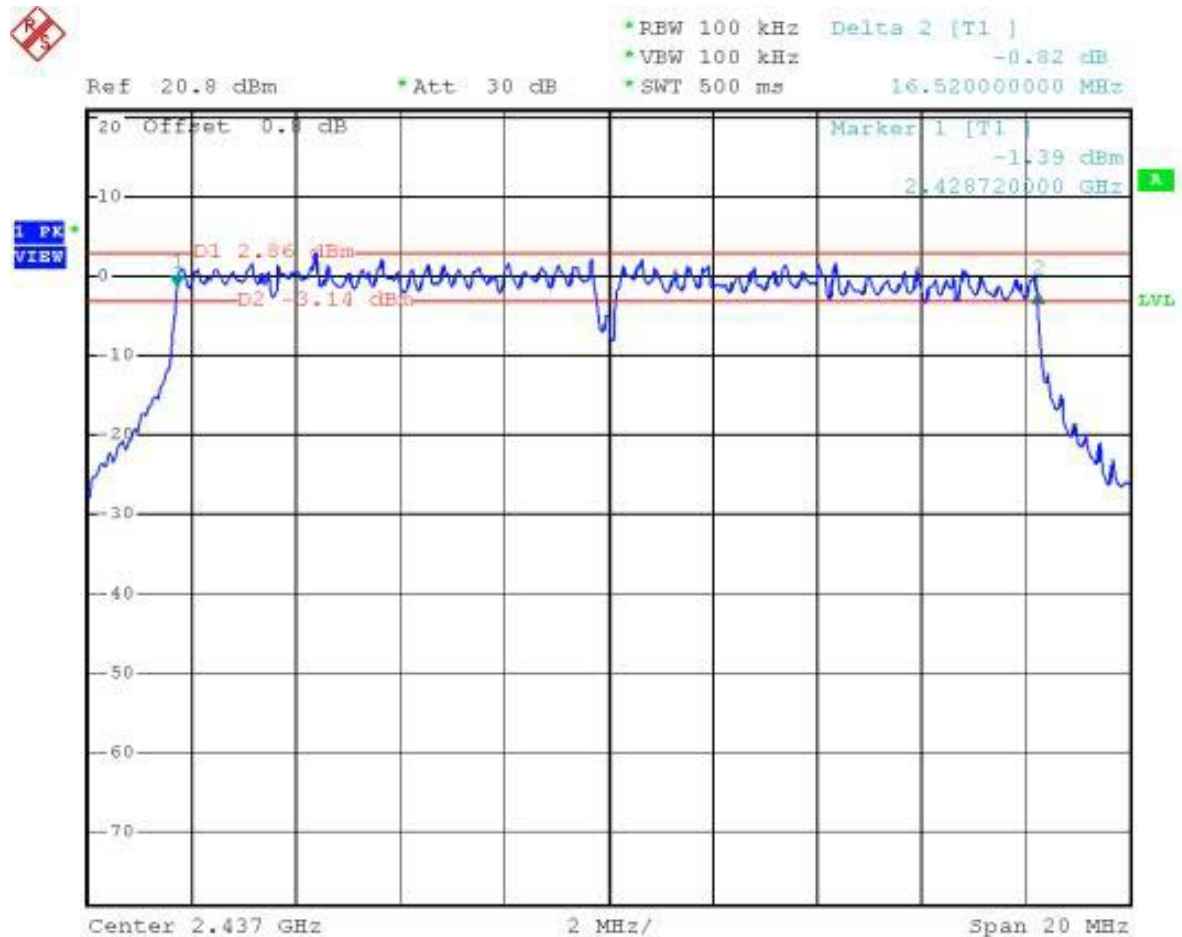
## Mode 3 : 802.11b CH11(2462MHz)



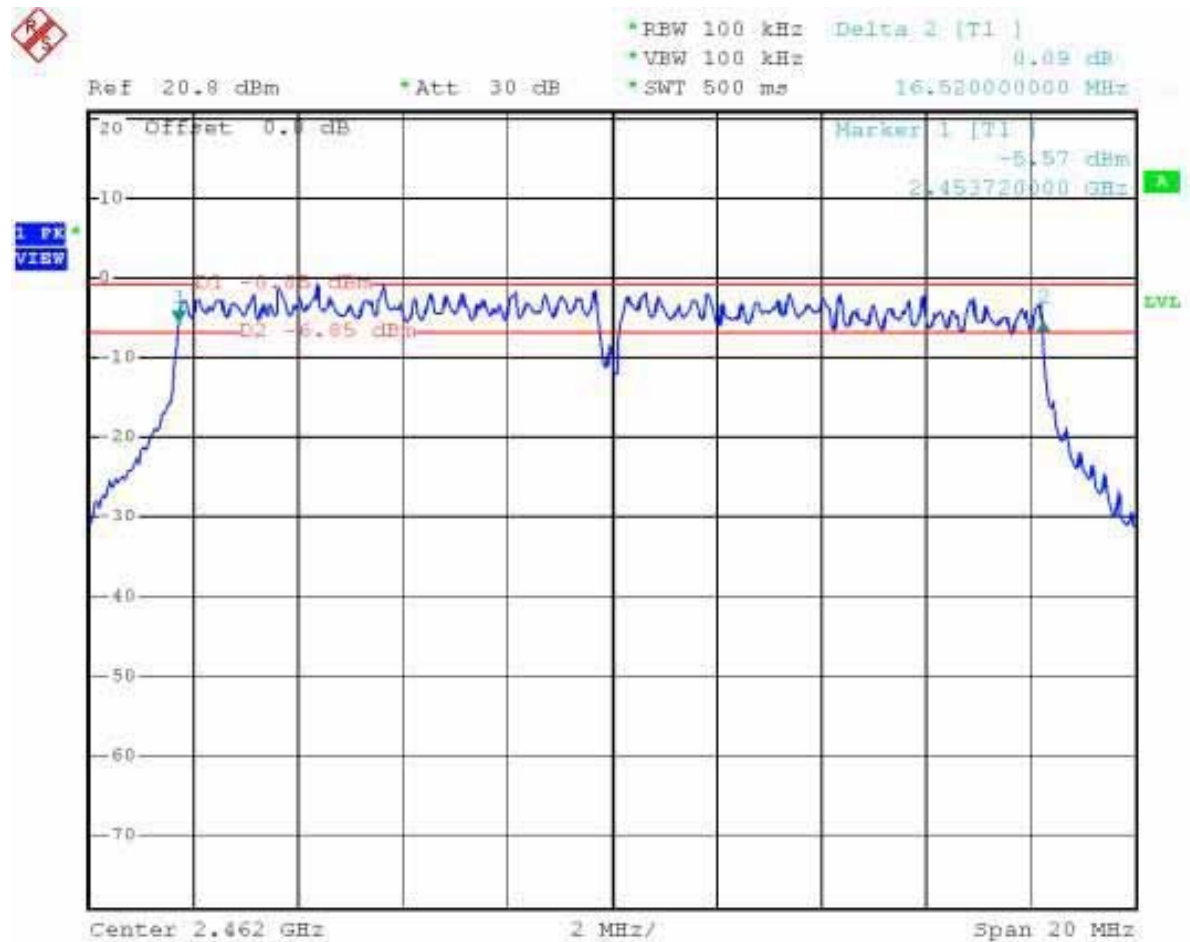
Mode 4 : 802.11g CH01 (2412MHz)



Mode 5 : 802.11g CH06 (2437MHz)



Mode 6 : 802.11g CH11(2462MHz)



### 5.3 Power Spectral Density

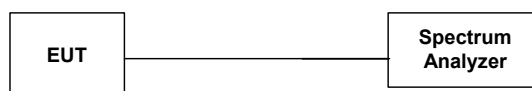
#### 5.3.1 Measuring Instruments :

As described in chapter 7 of this test report.

#### 5.3.2 Test Procedure :

1. The transmitter output was connected to spectrum analyzer directly.
2. The spectrum analyzer's resolution bandwidth was set at 3kHz RBW and 30kHz VBW as that of the fundamental frequency. Set the sweep time=span/3kHz.
3. The power spectral density was measured and recorded.
4. The sweep time is allowed to be longer than span/3kHz for a full response of the mixer in the spectrum analyzer.

#### 5.3.3 Test Setup Layout :



#### 5.3.4 Test Result :

- Mode 1~3: WLAN 802.11b
- Temperature : 23°C
- Relative Humidity : 53%

| Channel | Frequency<br>(MHz) | Power Spectral Density<br>(dBm) | Limits<br>(dBm ) | Plot<br>Ref. No. |
|---------|--------------------|---------------------------------|------------------|------------------|
| 01      | 2412               | -8.80                           | 8                | Mode 1           |
| 06      | 2437               | -10.04                          | 8                | Mode 2           |
| 11      | 2462               | -11.54                          | 8                | Mode 3           |

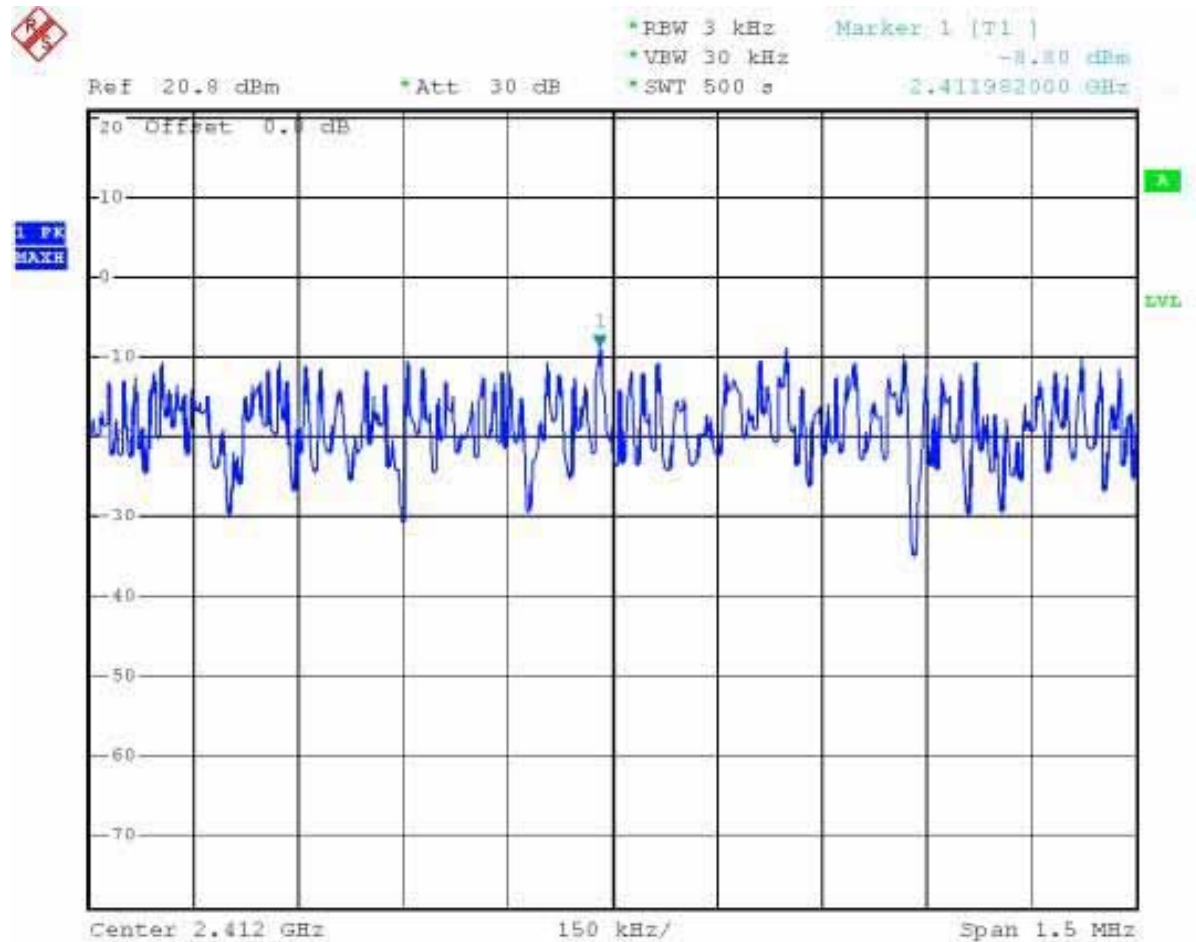
## 5.3.5 Test Result :

- Mode 4~6: WLAN 802.11g
- Temperature : 25°C,
- Relative Humidity : 52%

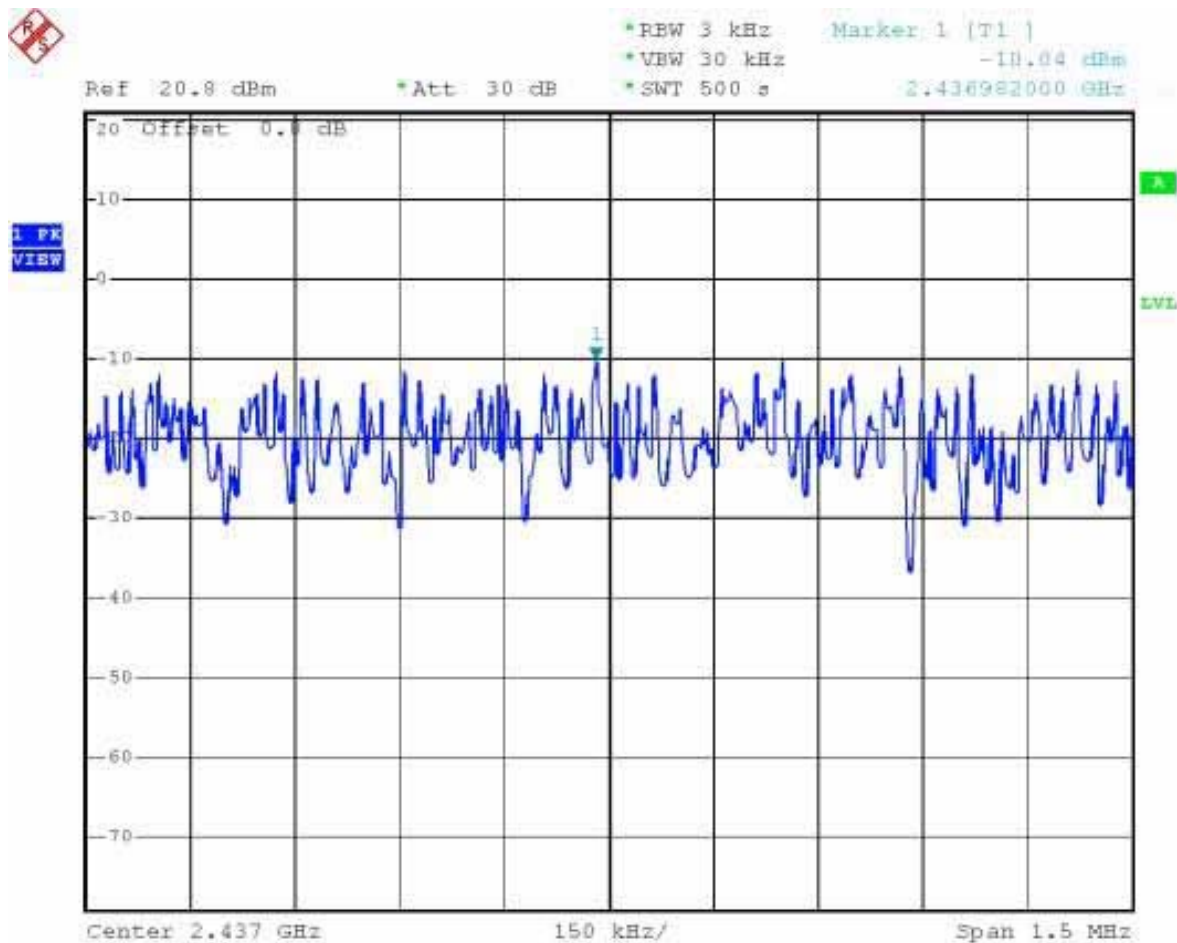
| Channel | Frequency<br>(MHz) | Power Spectral Density<br>(dBm) | Limits<br>(dBm ) | Plot<br>Ref. No. |
|---------|--------------------|---------------------------------|------------------|------------------|
| 01      | 2412               | -12.54                          | 8                | Mode 4           |
| 06      | 2437               | -13.09                          | 8                | Mode 5           |
| 11      | 2462               | -14.66                          | 8                | Mode 6           |

## 5.3.6 Power Spectral Density

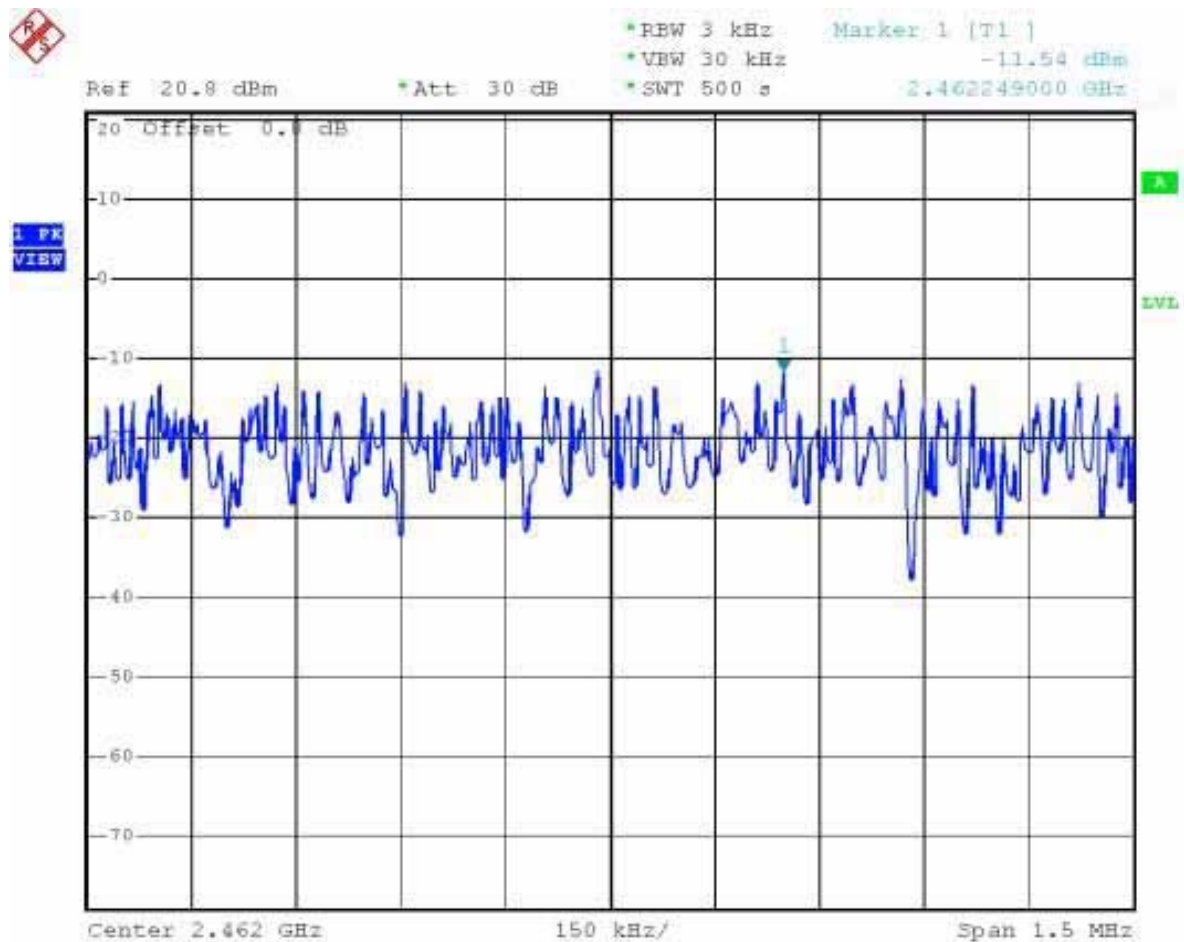
Mode 1 : 802.11b CH01(2412MHz)



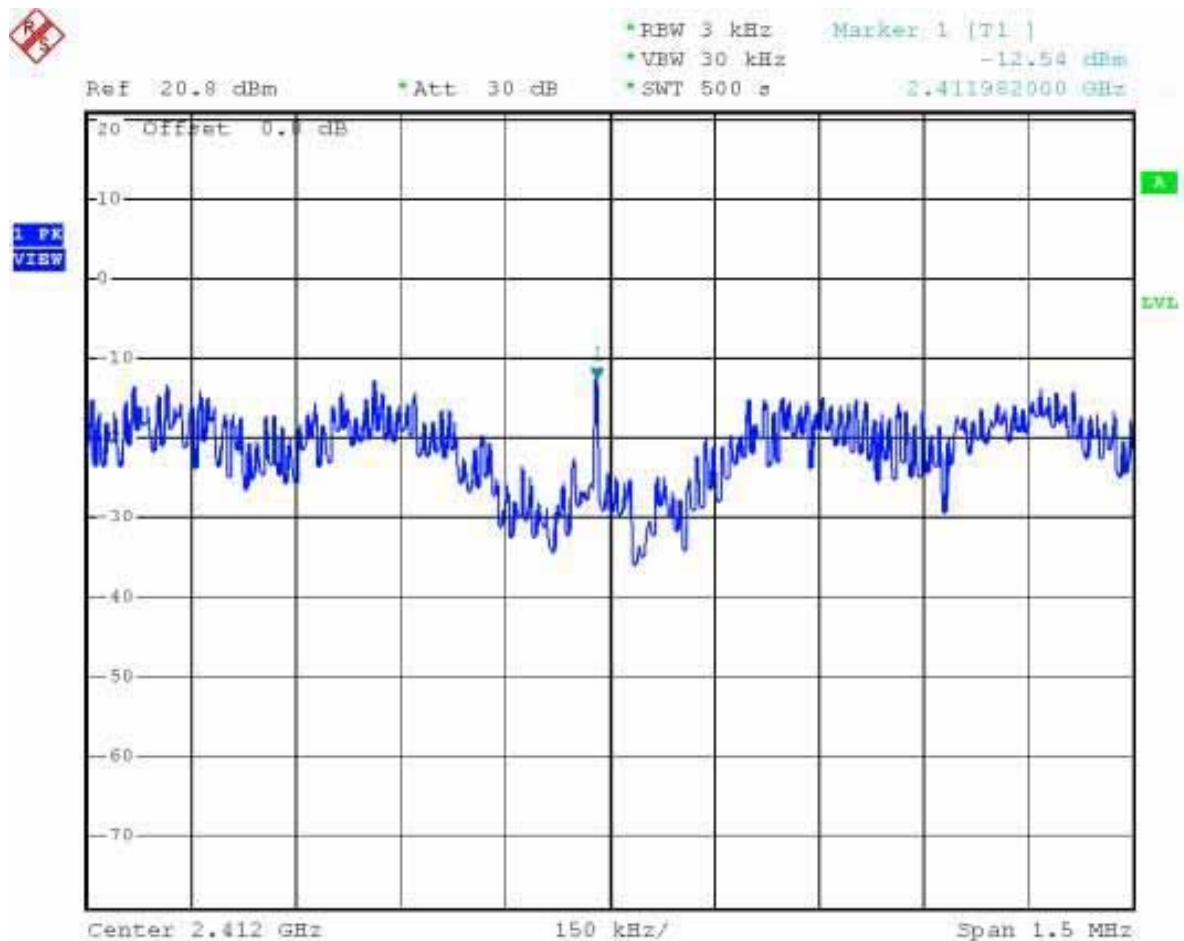
Mode 2 : 802.11b CH06 (2437MHz)



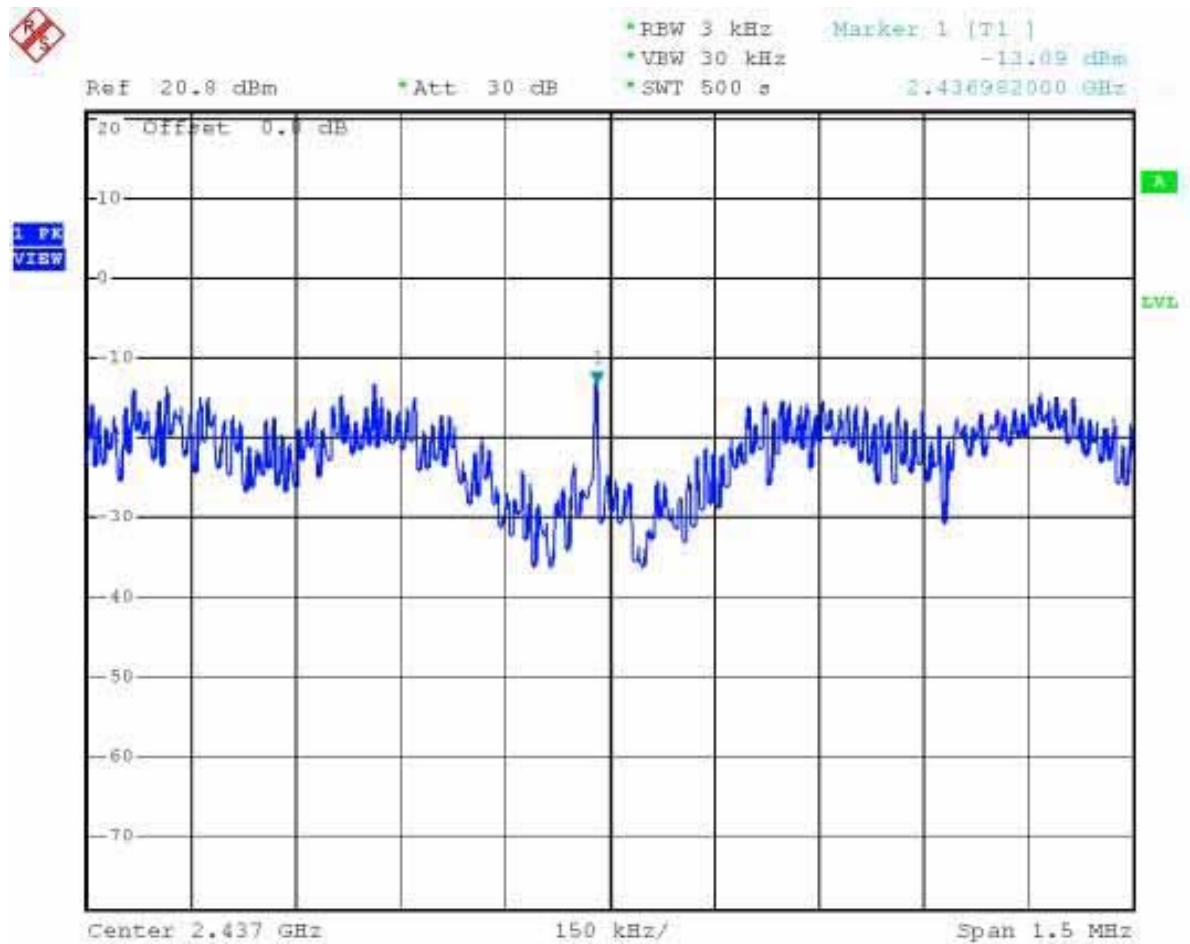
Mode 3 : 802.11b CH11 (2462MHz)



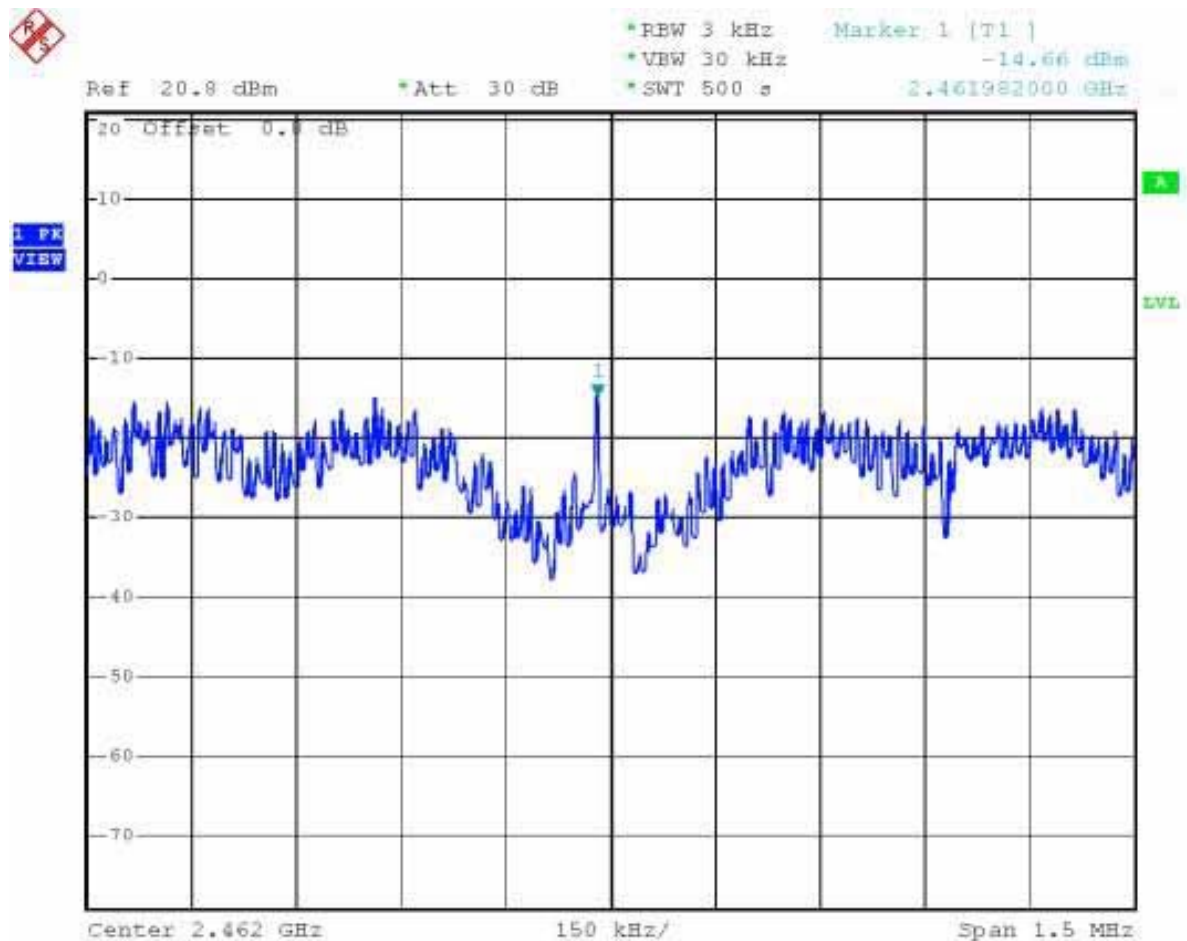
Mode 4 : 802.11g CH01(2412MHz)



Mode 5 : 802.11g CH06 (2437MHz)



## Mode 6 : 802.11g CH11 (2462MHz)



## 5.4 Band Edges Measurement

### 5.4.1 Measuring Instruments :

As described in chapter 7 of this test report.

### 5.4.2 Test Procedure :

1. The transmitter output was connected to the spectrum analyzer via a low lose cable.
2. Set both RBW and VBW of spectrum analyzer to 100kHz with suitable frequency span including 100 kHz bandwidth from band edge.
3. The band edges was measured and recorded.

### 5.4.3 Test Result :

- Mode 1 and 3 : WLAN 802.11b
- Temperature : 23°C
- Relative Humidity : 53%
- Test Result in lower band (Channel 1) : PASS
- Test Result in higher band (Channel 11) : PASS

### 5.4.4 Note on Band Edge Emission

The band edge emission shows 47.00 dB delta between carrier maximum power and local maximum emission in the restricted band (2.390GHz).

The band edge emission shows 49.21 dB delta between carrier maximum power and local maximum emission in the restricted band (2.4835GHz)

### 802.11b

| Channel | Polarity | The emission of carrier power strength | Frequency | The emission of band edge power strength | Limit          | Margin | Remark  | Result |
|---------|----------|----------------------------------------|-----------|------------------------------------------|----------------|--------|---------|--------|
|         |          | (dB $\mu$ V/m)                         | (MHz)     | (dB $\mu$ V/m)                           | (dB $\mu$ V/m) | (dB)   |         |        |
| 01      | H        | 106.12                                 | 2400.00   | 59.12                                    | 74             | -14.88 | Peak    | Pass   |
|         | H        | 92.19                                  | 2400.00   | 45.19                                    | 54             | -8.81  | Average | Pass   |
|         | V        | 116.61                                 | 2400.00   | 69.61                                    | 74             | -4.39  | Peak    | Pass   |
|         | V        | 100.64                                 | 2400.00   | 53.64                                    | 54             | -0.36  | Average | Pass   |
| 11      | H        | 106.81                                 | 2486.5    | 57.6                                     | 74             | -16.4  | Peak    | Pass   |
|         | H        | 92.32                                  | 2486.5    | 43.11                                    | 54             | -10.89 | Average | Pass   |
|         | V        | 115.81                                 | 2486.5    | 66.6                                     | 74             | -7.4   | Peak    | Pass   |
|         | V        | 99.92                                  | 2486.5    | 50.71                                    | 54             | -3.29  | Average | Pass   |

**5.4.5 Test Result :**

- Mode 4 and 6 : WLAN 802.11g
- Temperature : 23°C
- Relative Humidity : 53%
- Test Result in lower band (Channel 1) : PASS
- Test Result in higher band (Channel 11) : PASS

**5.4.6 Note on Band Edge Emission**

The band edge emission shows 42.77 dB delta between carrier maximum power and local maximum emission in the restricted band (2.390GHz).

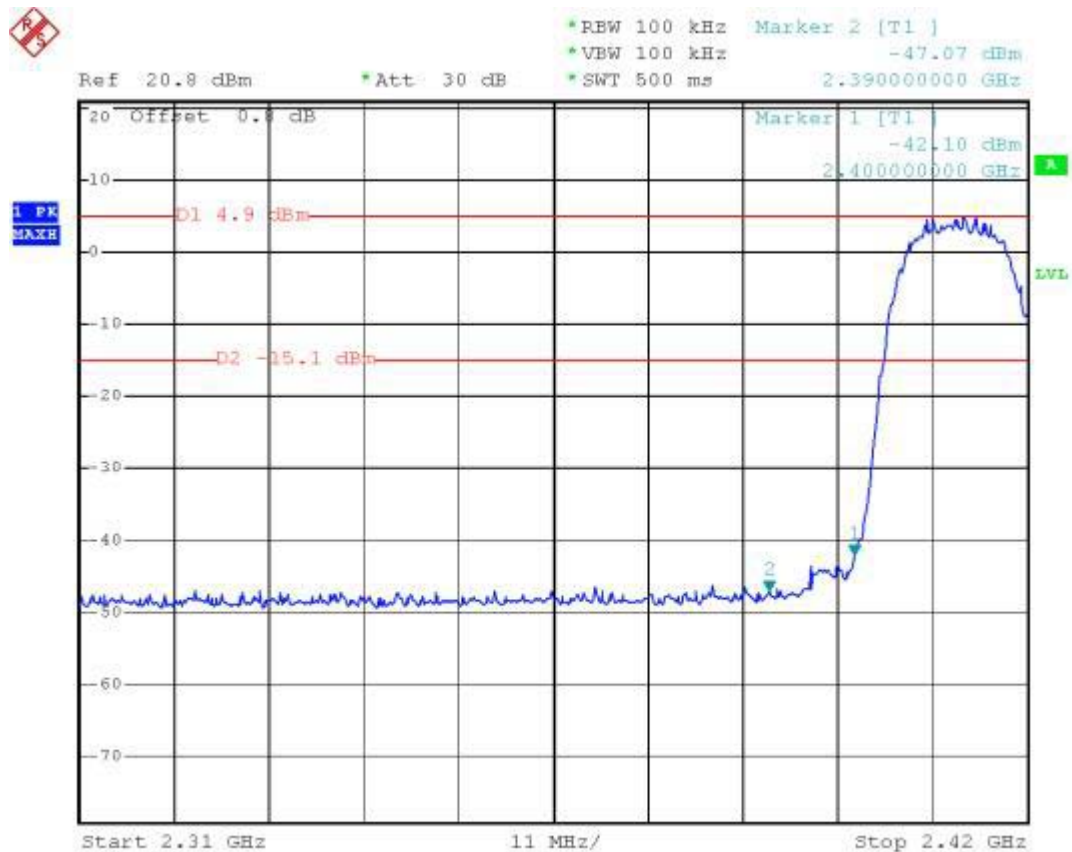
The band edge emission shows 46.37 dB delta between carrier maximum power and local maximum emission in the restricted band (2.4835GHz).

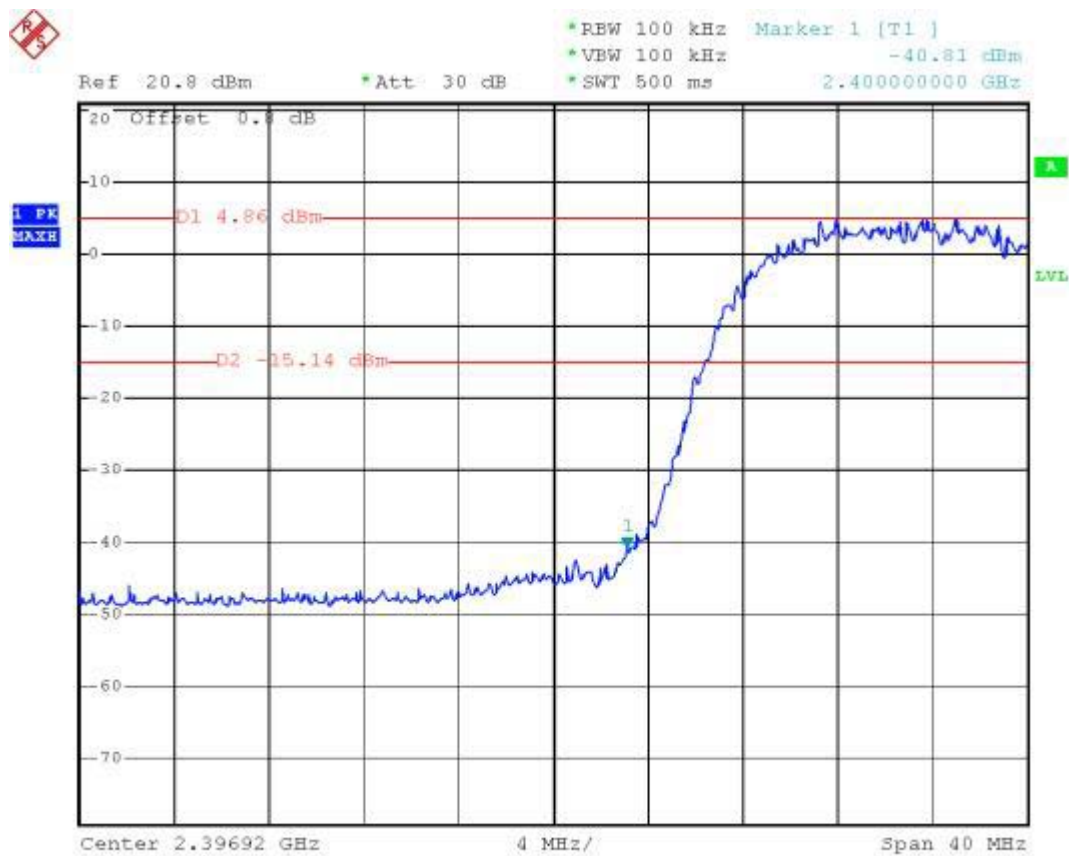
**802.11g**

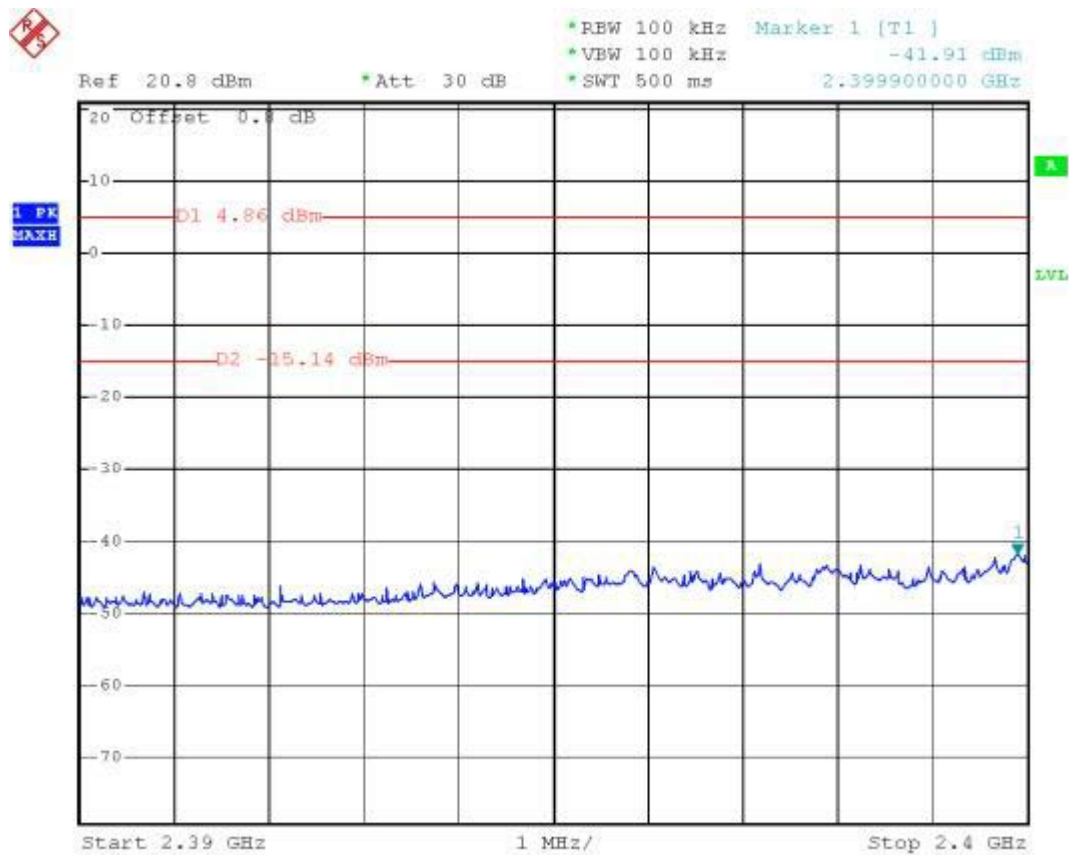
| Channel | Polarity | The emission of<br>carrier power<br>strength | Frequency | The emission of<br>band edge power<br>strength | Limit | Margin | Remark  | Result |
|---------|----------|----------------------------------------------|-----------|------------------------------------------------|-------|--------|---------|--------|
|         |          | (dB $\mu$ V/m)                               |           | (dB $\mu$ V/m)                                 |       |        |         |        |
| 01      | V        | 105.5                                        | 2400      | 62.73                                          | 74    | -11.27 | Peak    | Pass   |
|         | V        | 91.87                                        | 2400      | 49.1                                           | 54    | -4.9   | Average | Pass   |
|         | H        | 112.72                                       | 2400      | 69.95                                          | 74    | -4.05  | Peak    | Pass   |
|         | H        | 96.07                                        | 2400      | 53.3                                           | 54    | -0.7   | Average | Pass   |
| 11      | V        | 104.55                                       | 2483.7    | 58.18                                          | 74    | -15.82 | Peak    | Pass   |
|         | V        | 90.19                                        | 2483.7    | 43.82                                          | 54    | -10.18 | Average | Pass   |
|         | H        | 109.49                                       | 2483.7    | 63.12                                          | 74    | -10.88 | Peak    | Pass   |
|         | H        | 95.24                                        | 2483.7    | 48.87                                          | 54    | -5.13  | Average | Pass   |

## 5.4.7 Band Edge Ruled

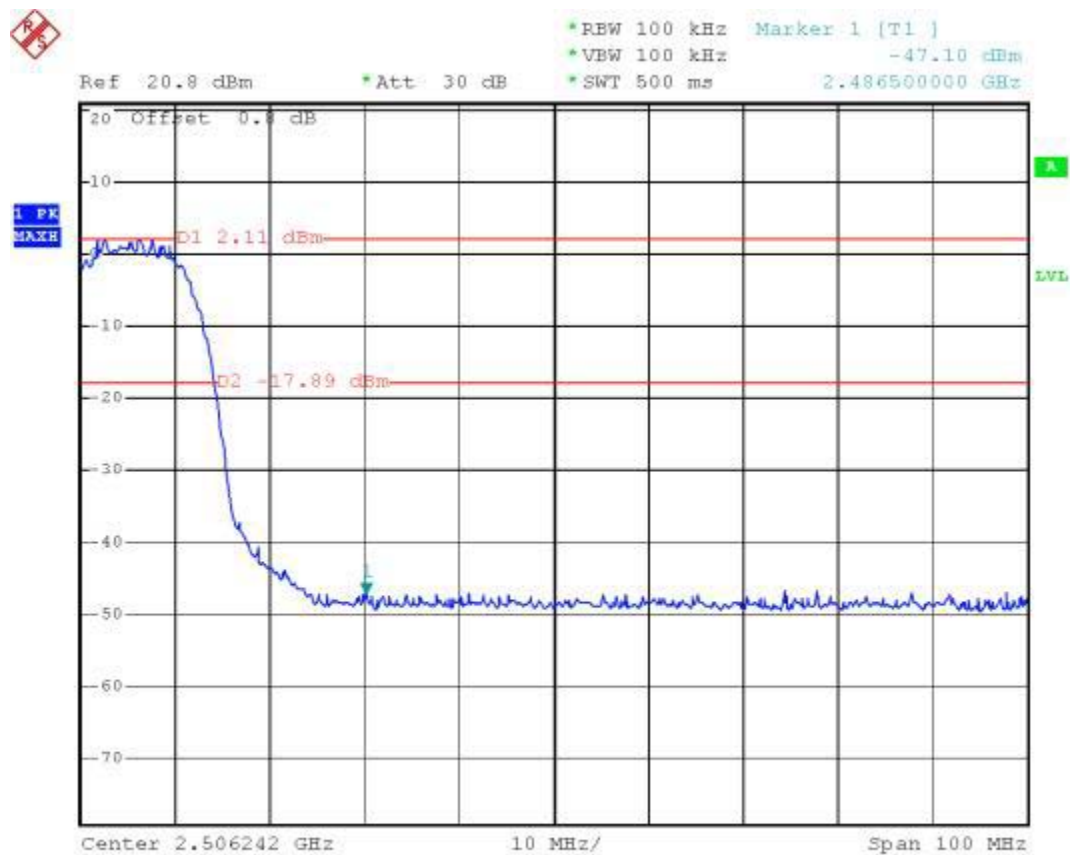
Mode1 : 802.11b CH01 (2412MHz)

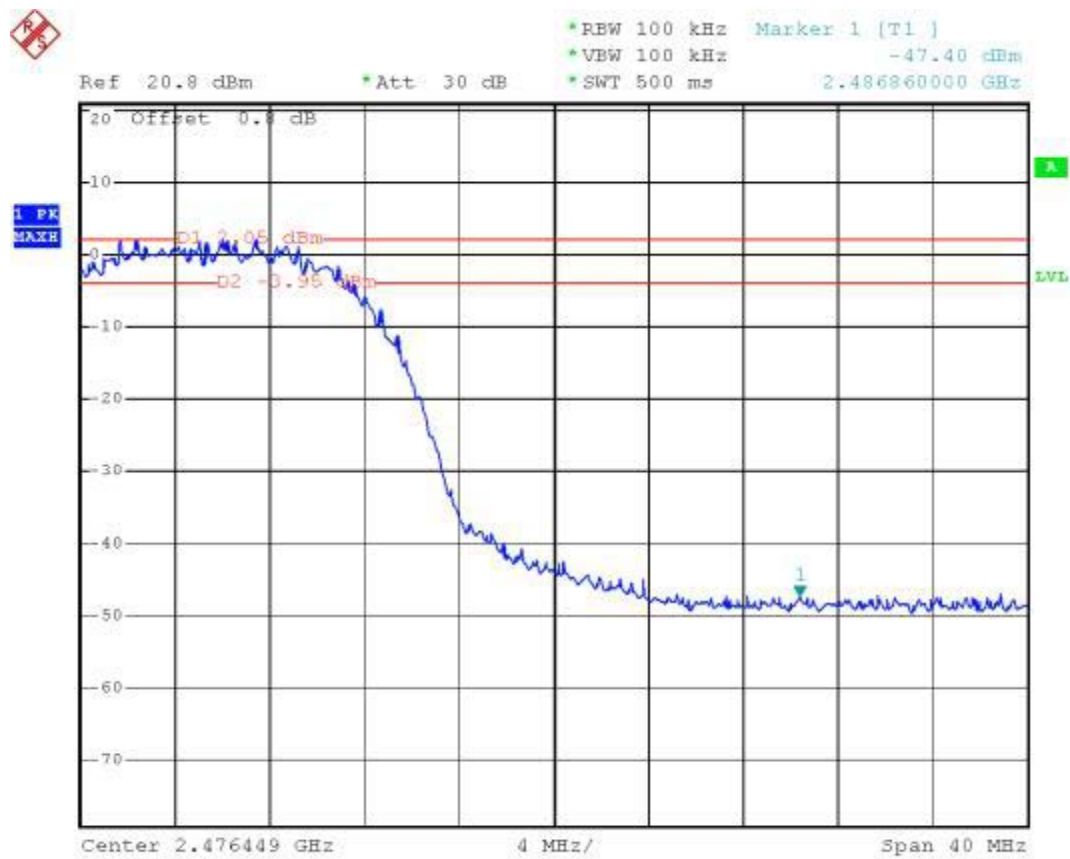


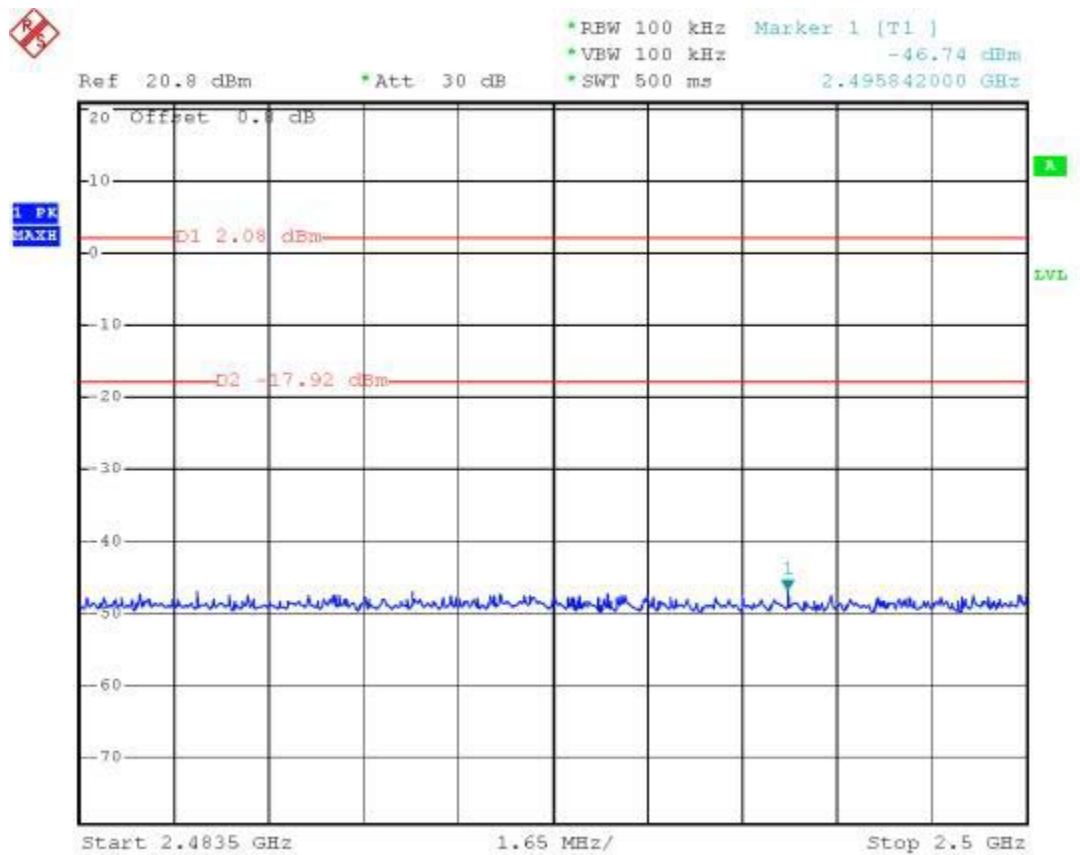




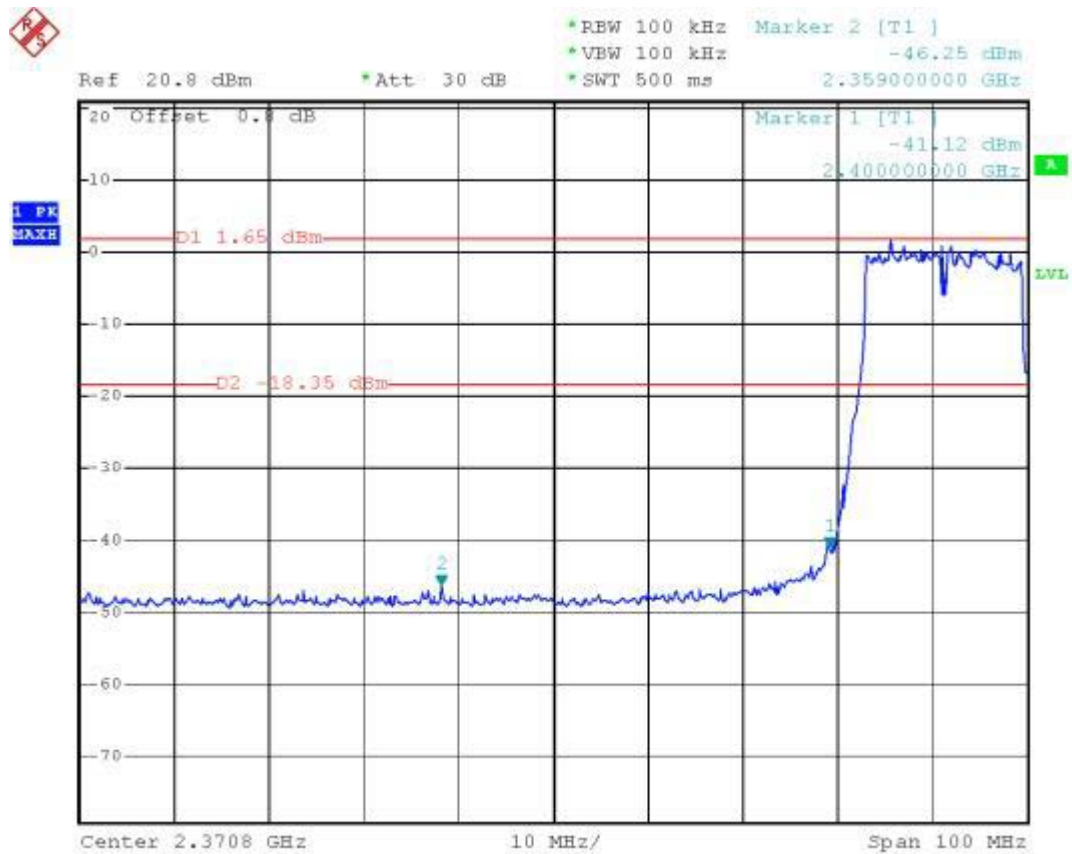
## Mode 2 : 802.11b CH11 (2462MHz)

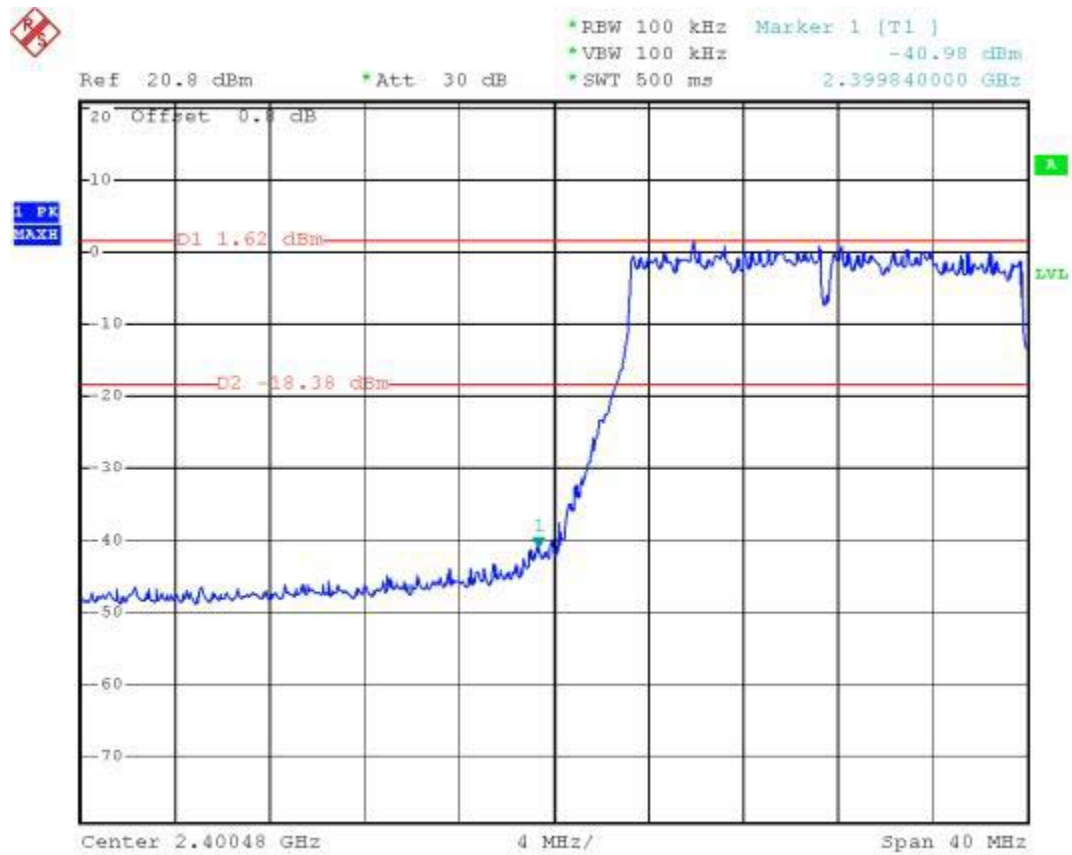


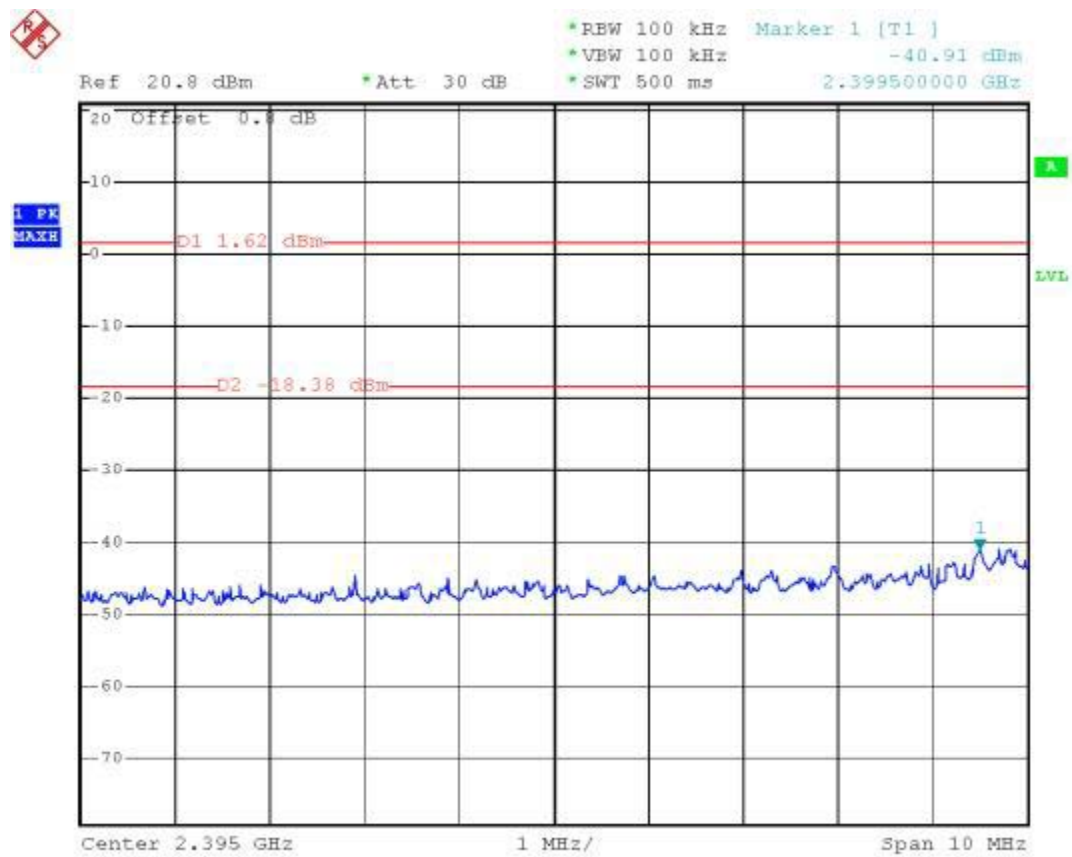




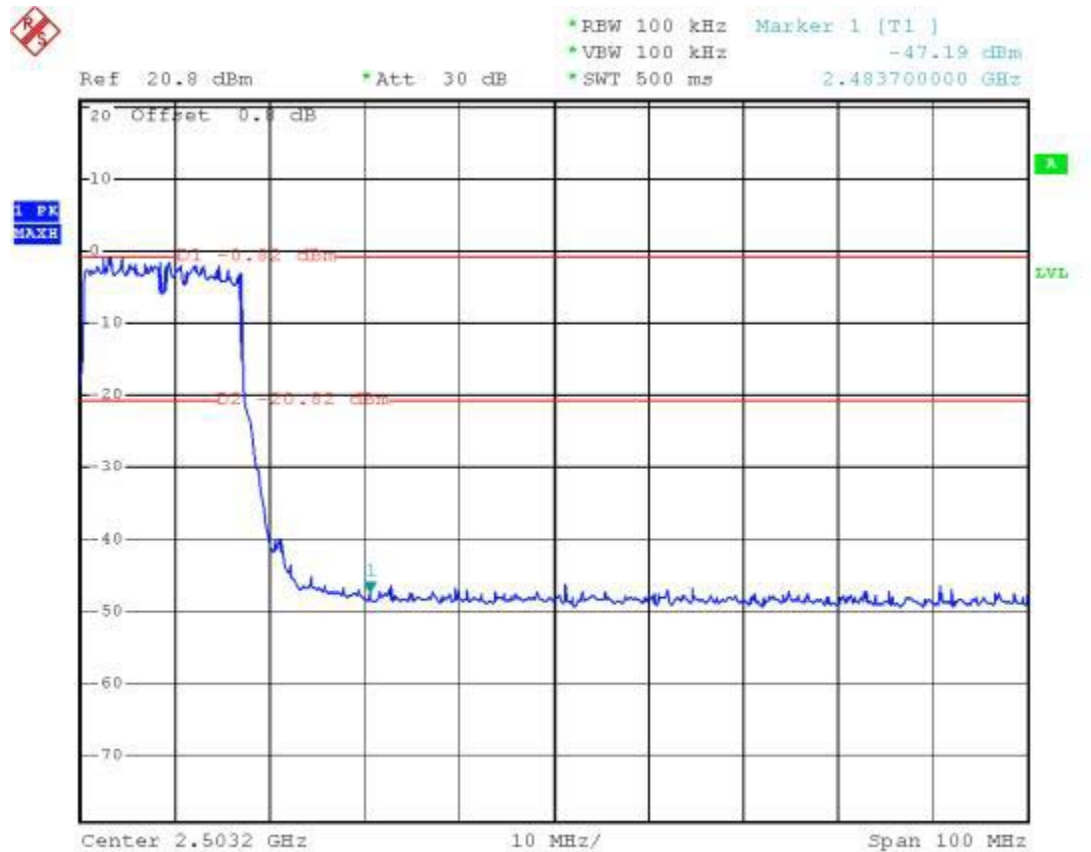
Mode3 : 802.11g CH01 (2412MHz)

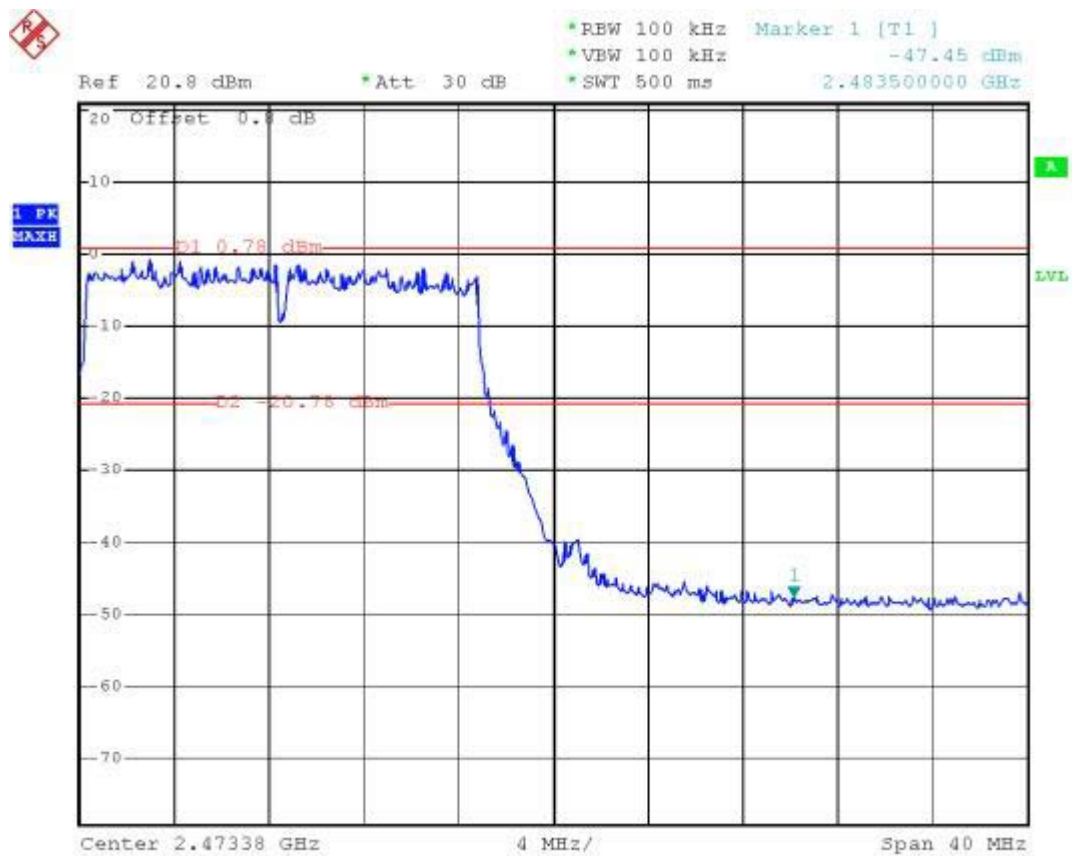


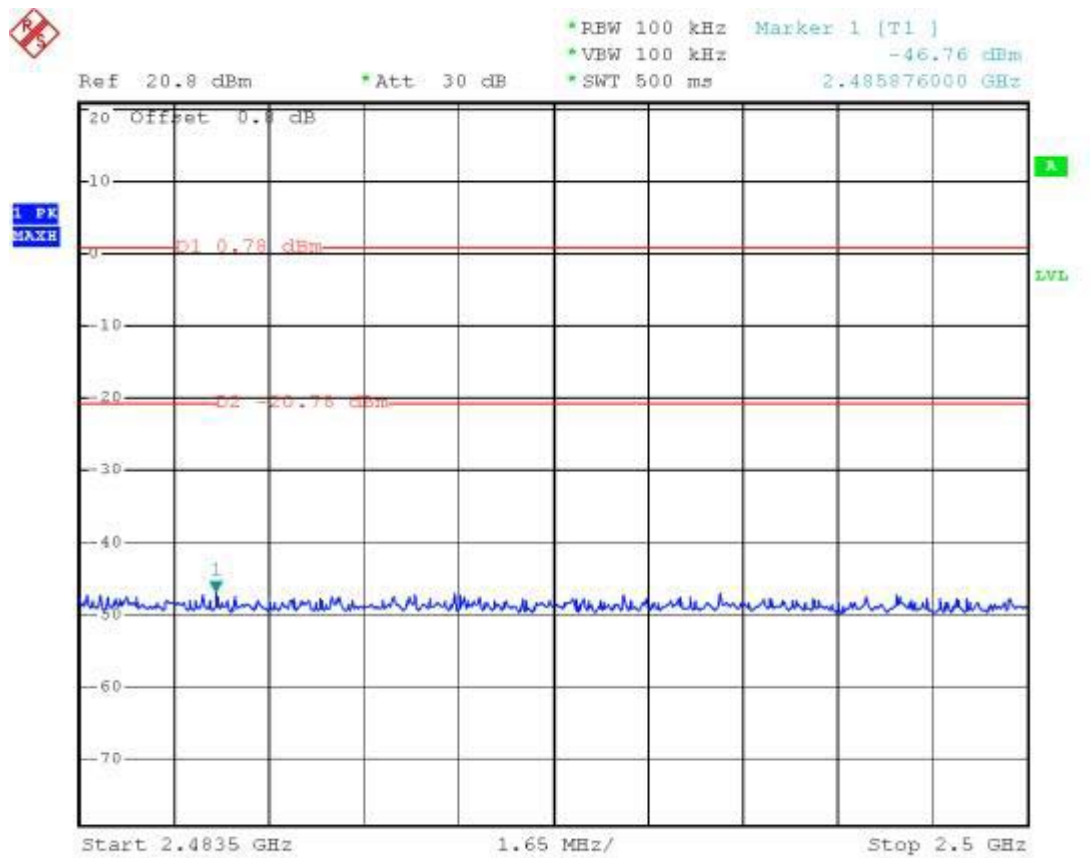




## Mode 4 : 802.11g CH11 (2462MHz)







## 5.5 Peak Output Power

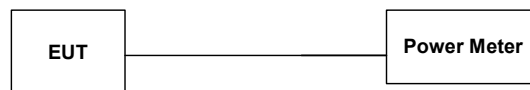
### 5.5.1 Measuring Instruments :

As described in chapter 7 of this test report.

### 5.5.2 Test Procedure :

The antenna port ( RF output ) of the EUT was connected to the input ( RF input ) of a power meter.  
The power is equal to the reading level on power meter plus cable loss at the EUT antenna terminal.

### 5.5.3 Test Setup Layout :



### 5.5.4 Test Result :

- Mode 1~3 : WLAN 802.11b
- Temperature : 23°C
- Relative Humidity : 53%

| Channel | Frequency<br>(MHz) | Measured Output Power<br>(dBm) | Limits<br>(Watt/dBm ) |
|---------|--------------------|--------------------------------|-----------------------|
| 01      | 2412               | 16.3                           | 1W/30 dBm             |
| 06      | 2437               | 16.4                           | 1W/30 dBm             |
| 11      | 2462               | 16.1                           | 1W/30 dBm             |

## 5.5.5 Test Result :

- Mode 4~6 : WLAN 802.11g
- Temperature : 23℃
- Relative Humidity : 53%

| Channel | Frequency<br>(MHz) | Measured Output Power<br>(dBm) | Limits<br>(Watt/dBm ) |
|---------|--------------------|--------------------------------|-----------------------|
| 01      | 2412               | 17.1                           | 1W/30 dBm             |
| 06      | 2437               | 17.03                          | 1W/30 dBm             |
| 11      | 2462               | 16.82                          | 1W/30 dBm             |

## **6. Test of Conducted Emission**

Conducted emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 kHz and return leads of the EUT according to the methods defined in ANSI C63.4-2001 Section 3.1. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

### **6.1. Major Measuring Instruments**

|                 |               |
|-----------------|---------------|
| ● Test Receiver | (R&S ESCS 30) |
| Attenuation     | 10 dB         |
| Start Frequency | 0.15 MHz      |
| Stop Frequency  | 30 MHz        |
| IF Bandwidth    | 9 kHz         |

### **6.2. Test Procedures**

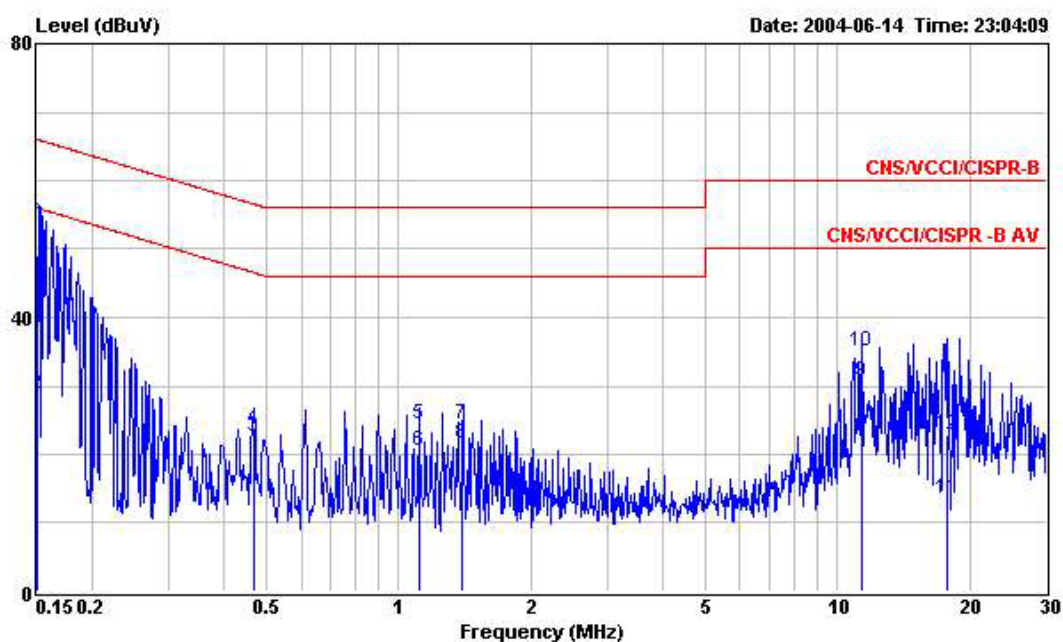
- a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- b. Connect EUT to the power port of the line impedance stabilization network (LISN).
- c. All the support units are connect to the other LISN.
- d. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- e. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
- f. Both sides of AC line were checked for maximum conducted interference.
- g. The frequency range from 150 kHz to 30 MHz was searched.
- h. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

### 6.3. Test Result of Conducted Emission

#### 6.3.1 Frequency Range of Test : 150kHz to 30 MHz

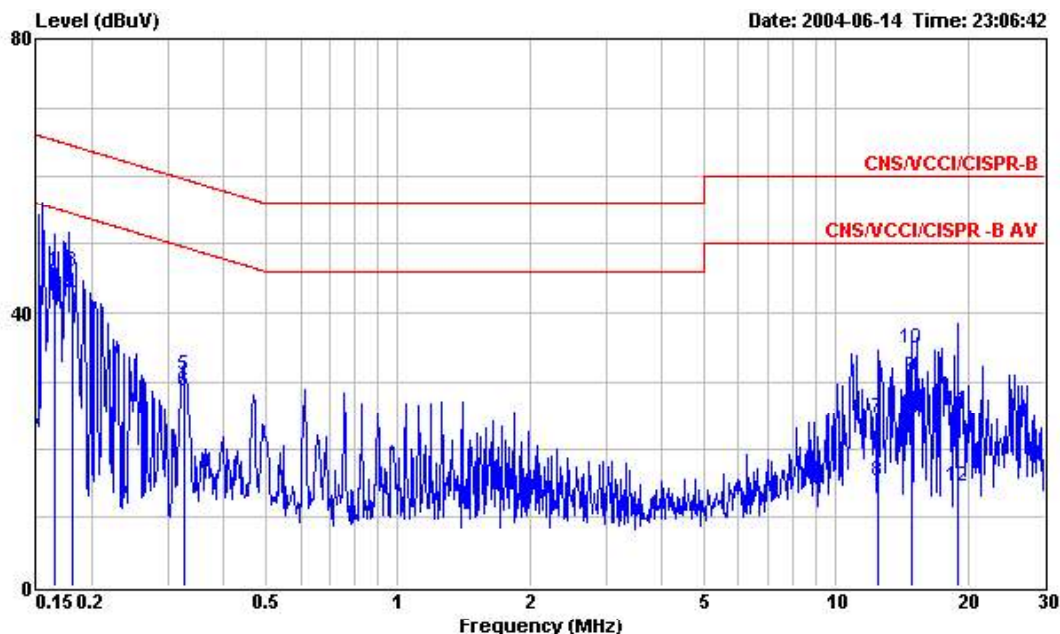
- Test Mode : Mode 1 Operating
- Temperature : 23°C
- Relative Humidity : 53%

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : CO01-HY  
 Condition : CNS/VCCI/CISPR-B 2003 2001/008 LINE  
 EUT : WLAN  
 Power : 110W/60Hz  
 Model : EW-7128G  
 Memo : Link Mode  
 : Dipole

|    | Freq   | Level | Over   | Limit | Read  | Probe  | Cable |         |
|----|--------|-------|--------|-------|-------|--------|-------|---------|
|    | MHz    | dBuV  | Limit  | Line  | Level | Factor | Loss  | Remark  |
|    | MHz    | dBuV  | dB     | dBuV  | dBuV  | dB     | dB    |         |
| 1  | 0.150  | 49.22 | -16.78 | 66.00 | 49.11 | 0.10   | 0.01  | QP      |
| 2  | 0.150  | 28.83 | -27.17 | 56.00 | 28.72 | 0.10   | 0.01  | Average |
| 3  | 0.469  | 22.52 | -24.01 | 46.53 | 22.36 | 0.10   | 0.06  | Average |
| 4  | 0.469  | 23.58 | -32.95 | 56.53 | 23.42 | 0.10   | 0.06  | QP      |
| 5  | 1.114  | 24.50 | -31.50 | 56.00 | 24.32 | 0.10   | 0.08  | QP      |
| 6  | 1.114  | 20.57 | -25.43 | 46.00 | 20.39 | 0.10   | 0.08  | Average |
| 7  | 1.400  | 24.40 | -31.60 | 56.00 | 24.22 | 0.10   | 0.08  | QP      |
| 8  | 1.400  | 21.68 | -24.32 | 46.00 | 21.50 | 0.10   | 0.08  | Average |
| 9  | 11.391 | 30.60 | -19.40 | 50.00 | 30.24 | 0.20   | 0.16  | Average |
| 10 | 11.391 | 35.02 | -24.98 | 60.00 | 34.66 | 0.20   | 0.16  | QP      |
| 11 | 17.750 | 13.56 | -36.44 | 50.00 | 13.10 | 0.26   | 0.20  | Average |
| 12 | 17.750 | 22.87 | -37.13 | 60.00 | 22.41 | 0.26   | 0.20  | QP      |



Site : CO01-HY  
 Condition : CNS/VCCI/CISPR-B 2003 2001/008 NEUTRAL  
 EUT : WLAN  
 Power : 110V/60Hz  
 Model : EW-7128G  
 Memo : Link Mode  
 : Dipole

|    | Freq   | Level | Over   | Limit | Read  | Probe  | Cable |         |
|----|--------|-------|--------|-------|-------|--------|-------|---------|
|    | MHz    | dBuV  | Limit  | Line  | Level | Factor | Loss  | Remark  |
|    |        |       | dB     | dBuV  | dBuV  | dB     | dB    |         |
| 1  | 0.164  | 45.90 | -19.35 | 65.25 | 45.79 | 0.10   | 0.01  | QP      |
| 2  | 0.164  | 42.28 | -12.97 | 55.25 | 42.17 | 0.10   | 0.01  | Average |
| 3  | 0.181  | 45.99 | -18.47 | 64.46 | 45.89 | 0.10   | 0.00  | QP      |
| 4  | 0.181  | 42.32 | -12.14 | 54.46 | 42.22 | 0.10   | 0.00  | Average |
| 5  | 0.325  | 31.00 | -28.58 | 59.58 | 30.86 | 0.10   | 0.04  | QP      |
| 6  | 0.325  | 28.45 | -21.13 | 49.58 | 28.31 | 0.10   | 0.04  | Average |
| 7  | 12.450 | 24.63 | -35.37 | 60.00 | 24.20 | 0.25   | 0.18  | QP      |
| 8  | 12.450 | 15.31 | -34.69 | 50.00 | 14.88 | 0.25   | 0.18  | Average |
| 9  | 14.909 | 30.59 | -19.41 | 50.00 | 30.08 | 0.30   | 0.21  | Average |
| 10 | 14.909 | 34.79 | -25.21 | 60.00 | 34.28 | 0.30   | 0.21  | QP      |
| 11 | 18.920 | 25.70 | -34.30 | 60.00 | 25.20 | 0.30   | 0.20  | QP      |
| 12 | 18.920 | 14.59 | -35.41 | 50.00 | 14.09 | 0.30   | 0.20  | Average |

Test Engineer : 

Jay

## 7. Test of Radiated Emission

Radiated emissions from 30 MHz to 25 GHz were measured according to the methods defined in ANSI C63.4-2001. The EUT was placed, 0.8 meter above the ground plane, as shown in section 5.6.3. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions

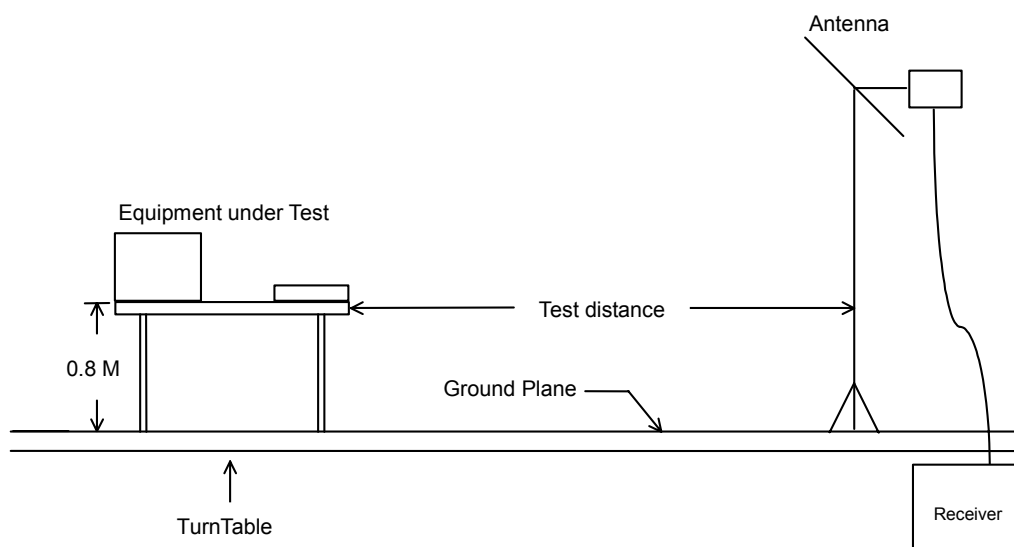
### 7.1. Major Measuring Instruments

- Amplifier (MITEQ AFS44 )
  - RF Gain 40 dB
  - Signal Input 100 MHz to 26.5 GHz
  
- Amplifier (HP8447D)
  - RF Gain 30 dB
  - Signal Input 100 MHz to 1.3 GHz
  
- Spectrum analyzer ( R&S FSP40 )
  - Attenuation 10 dB
  - Start Frequency 1 GHz
  - Stop Frequency 25 GHz
  - Resolution Bandwidth 1 MHz
  - Video Bandwidth 1 MHz
  - Signal Input 9 kHz to 40 GHz
  
- Spectrum analyzer ( R&S FSP40 )
  - Attenuation 10 dB
  - Start Frequency 30MHz
  - Stop Frequency 1 GHz
  - Resolution Bandwidth 120 KHz
  - Video Bandwidth 300KHz
  - Signal Input 9 kHz to 40 GHz

## 7.2. Test Procedures

1. The EUT was placed on a rotatable table top 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
7. For testing below 1GHz, If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the quasi-peak method and reported.
8. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

## 7.3. Typical Test Setup Layout of Radiated Emission

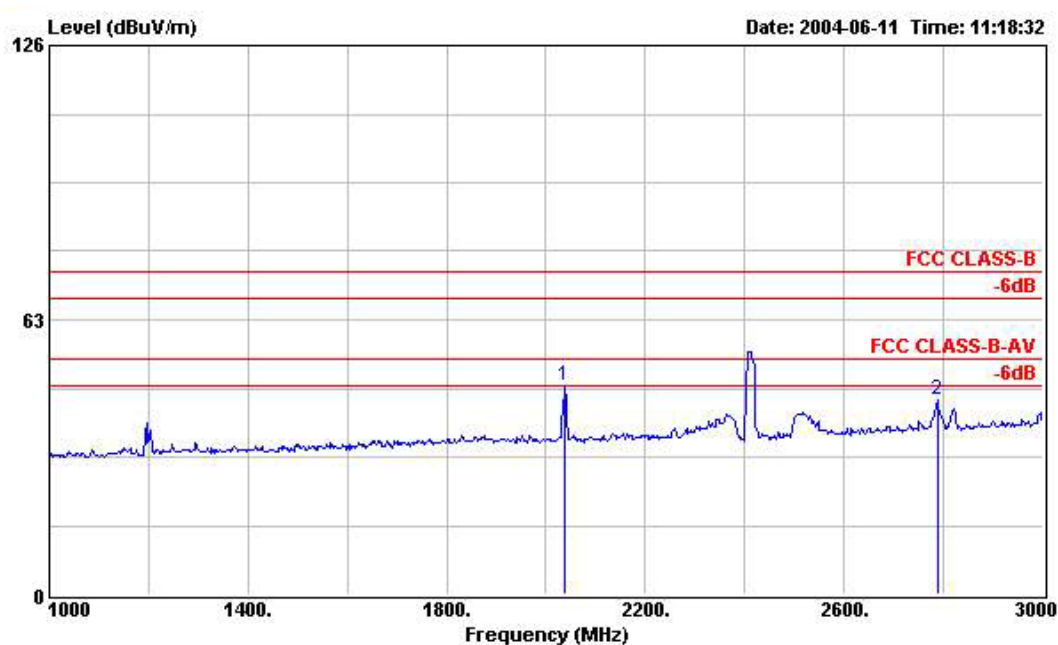


## 7.4. Test Result of Radiated Emission

### 7.4.1 Test Mode: Mode 1 (11b TX CH01)

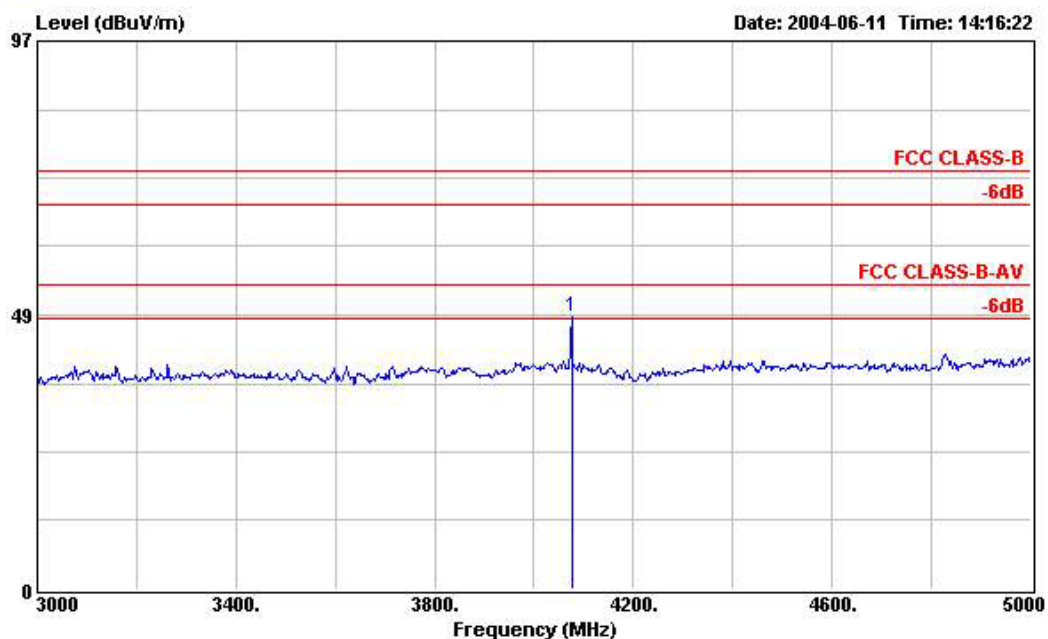
- Test Distance : 3 m
- Temperature : 23°C
- Relative Humidity :53%
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading : Probe Factor + Cable Loss + Read Level - Preamp Factor = Level

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : 03CH03-HY  
 Condition : FCC CLASS-B 3m HORN-ANT-6821 HORIZONTAL  
 EUT : WLAN  
 Power : AC 110V / 60Hz  
 Model : EW-7128G  
 Memo : 11b TX CH01 2412MHz  
 Dipole

|   | Freq     | Level  | Over Limit | Limit Line | Read Level | Probe Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|------------|--------------|------------|---------------|--------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV       | dB           | dB         | dB            |        | cm      | deg       |
| 1 | 2038.000 | 47.94  | -26.06     | 74.00      | 60.01      | 27.21        | 1.65       | 40.93         | Peak   | ---     | ---       |
| 2 | 2788.000 | 44.73  | -29.27     | 74.00      | 54.52      | 29.46        | 1.95       | 41.20         | Peak   | ---     | ---       |

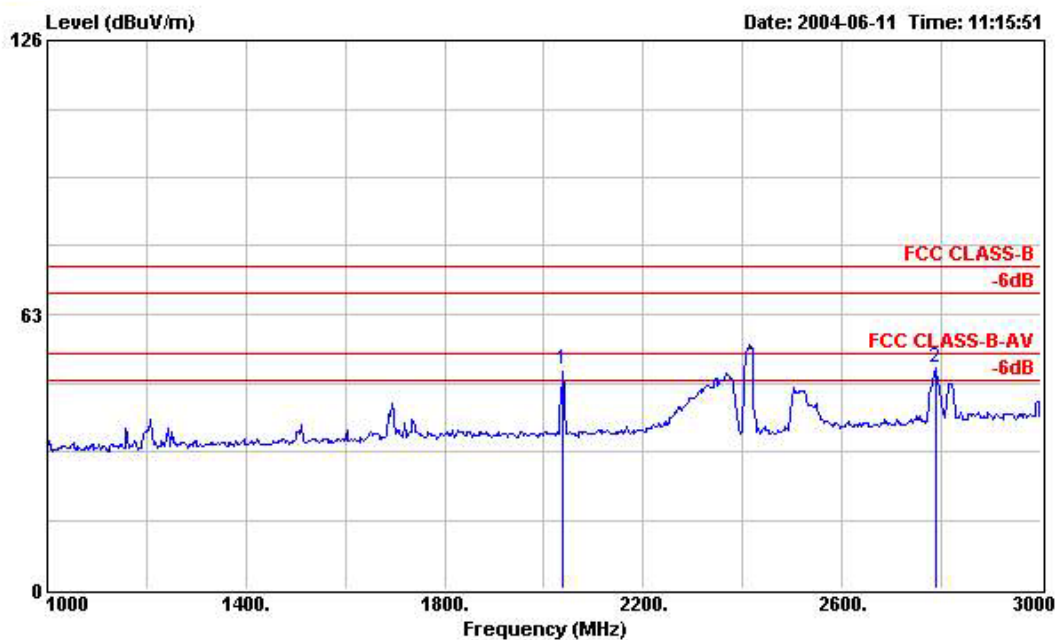


Site : 03CH03-HY  
 Condition : FCC CLASS-B 3m HORN-ANT-6821 HORIZONTAL  
 EUT : WLAN  
 Power : AC 110V / 60Hz  
 Model : EW-7128G  
 Memo : 11b TX CH01 2412MHz  
 : Dipole

| Freq | Level    | Over  | Limit  | Read  | Probe  | Cable | Preamp | Remark     | Ant | Table |
|------|----------|-------|--------|-------|--------|-------|--------|------------|-----|-------|
| MHz  | dBuV/m   | Limit | Line   | Level | Factor | Loss  | Factor |            | Pos | Pos   |
|      |          | dB    | dBuV/m | dBuV  | dB     | dB    | dB     |            | cm  | deg   |
| 1    | 4076.000 | 48.07 | -25.93 | 74.00 | 54.43  | 32.66 | 2.55   | 41.57 Peak | --- | ---   |

For 4.076GHz ~ 25GHz

Frequency from 4076MHz to 25000MHz, the emission emitted by the EUT is too low to be measured.

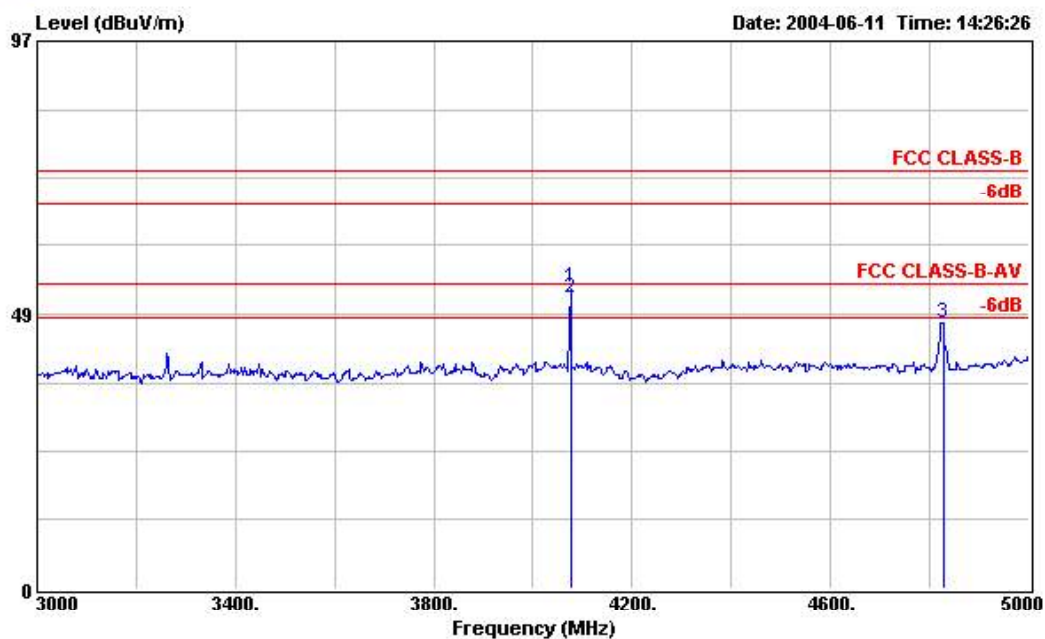


Site : 03CH03-HY  
 Condition : FCC CLASS-B 3m HORN-ANT-6821 VERTICAL  
 EUT : WLAN  
 Power : AC 110V / 60Hz  
 Model : EW-7128G  
 Memo : 11b TX CH01 2412MHz  
       : Dipole

|   | Freq     | Level  | Over<br>Limit | Limit<br>Line | Read<br>Level | Probe<br>Factor | Cable<br>Loss | Preamp<br>Factor | Remark | Ant<br>Pos | Table<br>Pos |
|---|----------|--------|---------------|---------------|---------------|-----------------|---------------|------------------|--------|------------|--------------|
|   | MHz      | dBuV/m | dB            | dBuV/m        | dBuV          | dB              | dB            | dB               |        | cm         | deg          |
| 1 | 2038.000 | 50.27  | -23.73        | 74.00         | 62.34         | 27.21           | 1.65          | 40.93            | Peak   | ---        | ---          |
| 2 | 2788.000 | 50.70  | -23.30        | 74.00         | 60.49         | 29.46           | 1.95          | 41.20            | Peak   | ---        | ---          |

# FCC TEST REPORT

Report No. :F452063

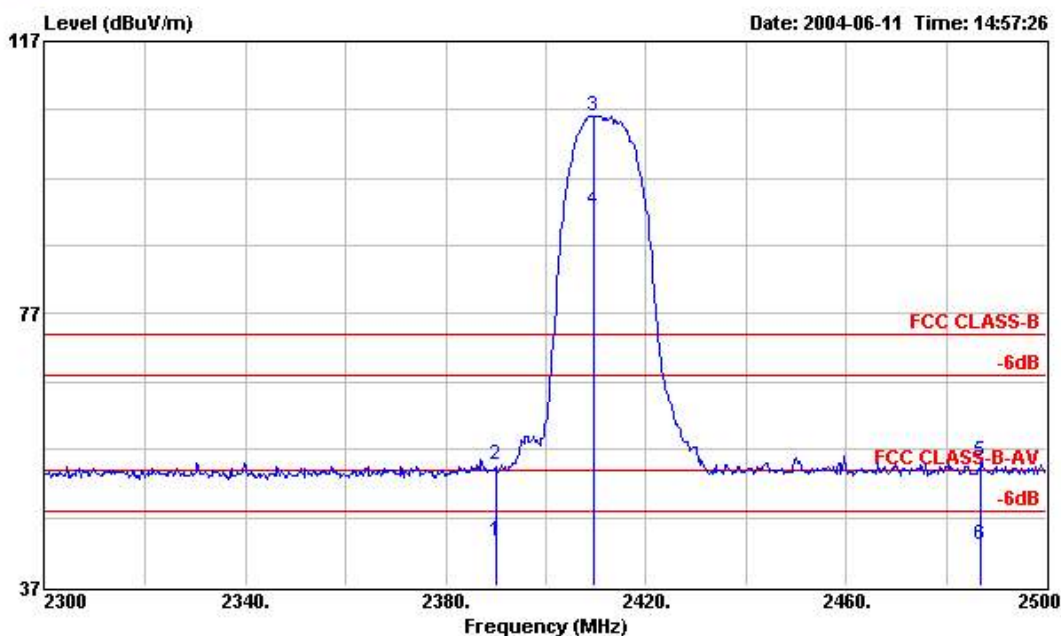


Site : 03CH03-HY  
 Condition : FCC CLASS-B 3m HORN-ANT-6821 VERTICAL  
 EUT : WLAN  
 Power : AC 110V / 60Hz  
 Model : EW-7128G  
 Memo : 11b TX CH01 2412MHz  
 Dipole

|   | Freq     | Level  | Over   | Limit  | Read  | Probe  | Cable | Preamp |         | Ant | Table |
|---|----------|--------|--------|--------|-------|--------|-------|--------|---------|-----|-------|
|   | MHz      | dBuV/m | Limit  | Line   | Level | Factor | Loss  | Factor | Remark  | Pos | Pos   |
|   | MHz      | dBuV/m | dB     | dBuV/m | dBuV  | dB     | dB    | dB     |         | cm  | deg   |
| 1 | 4076.000 | 53.34  | -20.66 | 74.00  | 59.70 | 32.66  | 2.55  | 41.57  | Peak    | --- | ---   |
| 2 | 4076.000 | 51.45  | -2.55  | 54.00  | 57.81 | 32.66  | 2.55  | 41.57  | Average | 100 | 218   |
| 3 | 4828.000 | 47.08  | -26.92 | 74.00  | 53.73 | 33.24  | 2.49  | 42.38  | Peak    | --- | ---   |

For 4.828GHz ~ 25GHz

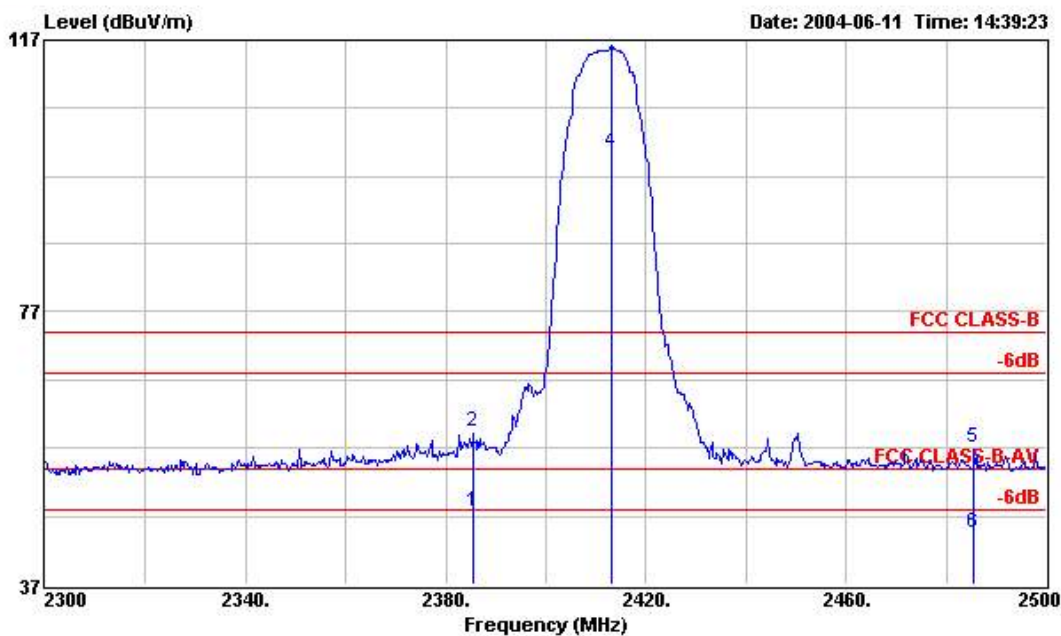
Frequency from 4828MHz to 25000MHz, the emission emitted by the EUT is too low to be measured.



Site : 03CH03-HY  
 Condition : FCC CLASS-B 3m HORN-ANT-6821 HORIZONTAL  
 EUT : WLAN  
 Power : AC 110V / 60Hz  
 Model : EW-7128G  
 Memo : 11b TX CH01 2412MHz  
       : Dipole

|     | Freq     | Level  | Over<br>Limit | Limit<br>Line | Read<br>Level | Probe<br>Factor | Cable<br>Loss | Preamp<br>Factor | Remark  | Ant<br>Pos | Table<br>Pos |
|-----|----------|--------|---------------|---------------|---------------|-----------------|---------------|------------------|---------|------------|--------------|
|     | MHz      | dBuV/m | dB            | dBuV/m        | dBuV          | dB              | dB            | dB               |         | cm         | deg          |
| 1   | 2390.000 | 43.43  | -10.57        | 54.00         | 13.57         | 28.14           | 1.72          | 0.00             | Average | 100        | 300          |
| 2   | 2390.000 | 54.74  | -19.26        | 74.00         | 24.88         | 28.14           | 1.72          | 0.00             | Peak    | ---        | ---          |
| 3 X | 2409.600 | 106.12 |               |               | 76.19         | 28.19           | 1.74          | 0.00             | Peak    | ---        | ---          |
| 4 X | 2409.600 | 92.19  |               |               | 62.26         | 28.19           | 1.74          | 0.00             | Average | 100        | 343          |
| 5   | 2487.000 | 55.15  | -18.85        | 74.00         | 24.96         | 28.40           | 1.79          | 0.00             | Peak    | ---        | ---          |
| 6   | 2487.000 | 43.09  | -10.91        | 54.00         | 12.90         | 28.40           | 1.79          | 0.00             | Average | 100        | 342          |

Remark: The "X" represent a fundamental frequency.



Site : 03CH03-HY  
 Condition : FCC CLASS-B 3m HORN-ANT-6821 VERTICAL  
 EUT : WLAN  
 Power : AC 110V / 60Hz  
 Model : EW-7128G  
 Memo : 11b TX CH01 2412MHz  
 Dipole

|     | Freq     | Level  | Over Limit | Limit Line | Read Level | Probe Factor | Cable Loss | Preamplifier Factor | Remark  | Ant Pos | Table Pos |
|-----|----------|--------|------------|------------|------------|--------------|------------|---------------------|---------|---------|-----------|
|     | MHz      | dBuV/m | dB         | dBuV/m     | dBuV       | dB           | dB         | dB                  |         | cm      | deg       |
| 1   | 2385.380 | 47.74  | -6.26      | 54.00      | 17.89      | 28.13        | 1.72       | 0.00                | Average | 121     | 320       |
| 2   | 2385.380 | 59.51  | -14.49     | 74.00      | 29.66      | 28.13        | 1.72       | 0.00                | Peak    | ---     | ---       |
| 3 X | 2413.200 | 116.61 |            |            | 86.67      | 28.20        | 1.74       | 0.00                | Peak    | ---     | ---       |
| 4 X | 2413.200 | 100.64 |            |            | 70.70      | 28.20        | 1.74       | 0.00                | Average | 112     | 342       |
| 5   | 2485.480 | 57.03  | -16.97     | 74.00      | 26.85      | 28.39        | 1.79       | 0.00                | Peak    | ---     | ---       |
| 6   | 2485.480 | 44.68  | -9.32      | 54.00      | 14.50      | 28.39        | 1.79       | 0.00                | Average | 110     | 337       |

Remark: The "X" represent a fundamental frequency.

## ■ Field strength of fundamental and harmonics

| Frequency | Antenna  | Cable  | Reading  | Preamp | Limits     | Emission   | Margin | Detect |         |
|-----------|----------|--------|----------|--------|------------|------------|--------|--------|---------|
| Polarity  | Factor   | Loss   |          | Factor |            |            |        |        |         |
| ( MHz )   | ( dB/m ) | ( dB ) | ( dBuV ) | (dB)   | ( dBuV/m ) | ( dBuV/m ) | ( dB ) | Mode   |         |
| 2409.600  | H        | 28.19  | 1.74     | 76.19  | 0.00       | -          | 106.12 | -      | Peak    |
| 2409.600  | H        | 28.19  | 1.74     | 62.26  | 0.00       | -          | 92.19  | -      | AV      |
| 2413.200  | V        | 28.20  | 1.74     | 86.67  | 0.00       | -          | 116.61 | -      | Peak    |
| 2413.200  | V        | 28.20  | 1.74     | 70.70  | 0.00       | -          | 100.64 | -      | AV      |
| 4076.000  | H        | 32.66  | 2.55     | 12.86  | 41.57      | 74.00      | 48.07  | -25.93 | Peak    |
| 4076.000  | V        | 32.66  | 2.55     | 18.13  | 41.57      | 74.00      | 53.34  | -20.66 | Peak    |
| 4076.000  | V        | 32.66  | 2.55     | 16.24  | 41.57      | 54.00      | 51.45  | -2.55  | AV      |
| 4828.000  | V        | 33.24  | 2.49     | 11.35  | 42.38      | 74.00      | 47.08  | -26.92 | Peak    |
| 7236.000  | V/H      | -      | -        | -      | -          | -          | -      | -      | AV/Peak |
| 9648.000  | V/H      | -      | -        | -      | -          | -          | -      | -      | AV/Peak |
| 12060.000 | V/H      | -      | -        | -      | -          | -          | -      | -      | AV/Peak |
| 14472.000 | V/H      | -      | -        | -      | -          | -          | -      | -      | AV/Peak |
| 16884.000 | V/H      | -      | -        | -      | -          | -          | -      | -      | AV/Peak |
| 19296.000 | V/H      | -      | -        | -      | -          | -          | -      | -      | AV/Peak |
| 21708.000 | V/H      | -      | -        | -      | -          | -          | -      | -      | AV/Peak |
| 24120.000 | V/H      | -      | -        | -      | -          | -          | -      | -      | AV/Peak |

## Remark:

1. The emission emitted by the EUT is too low to be measured except the emission listed above,
2. Reading = Reading on SA-Preamp Factor

Test Engineer :

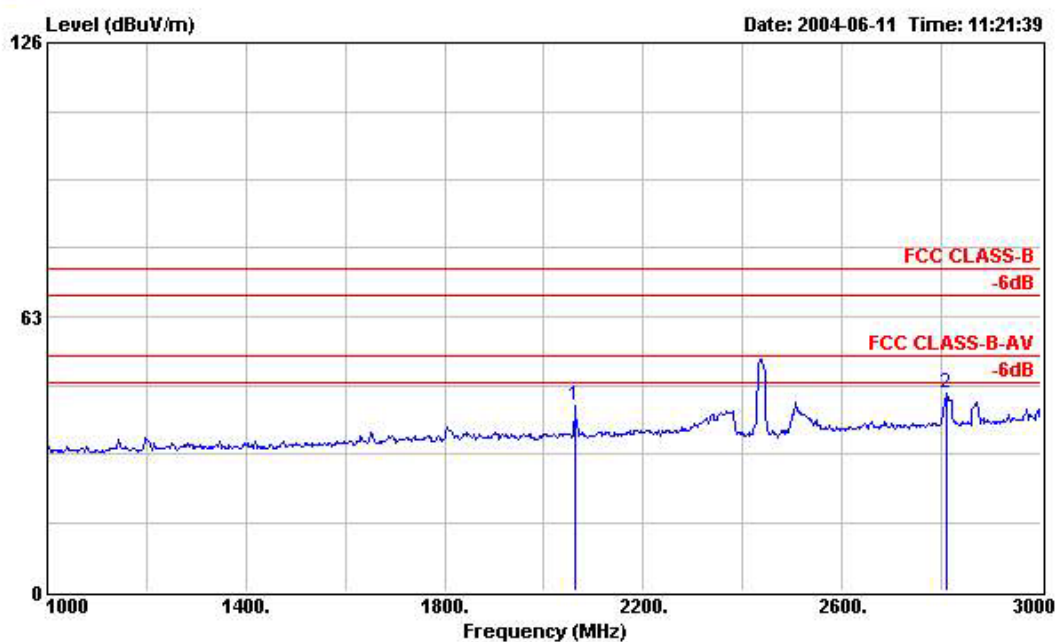


Jay

## 7.4.2 Test Mode: Mode 2 (11b TX CH06)

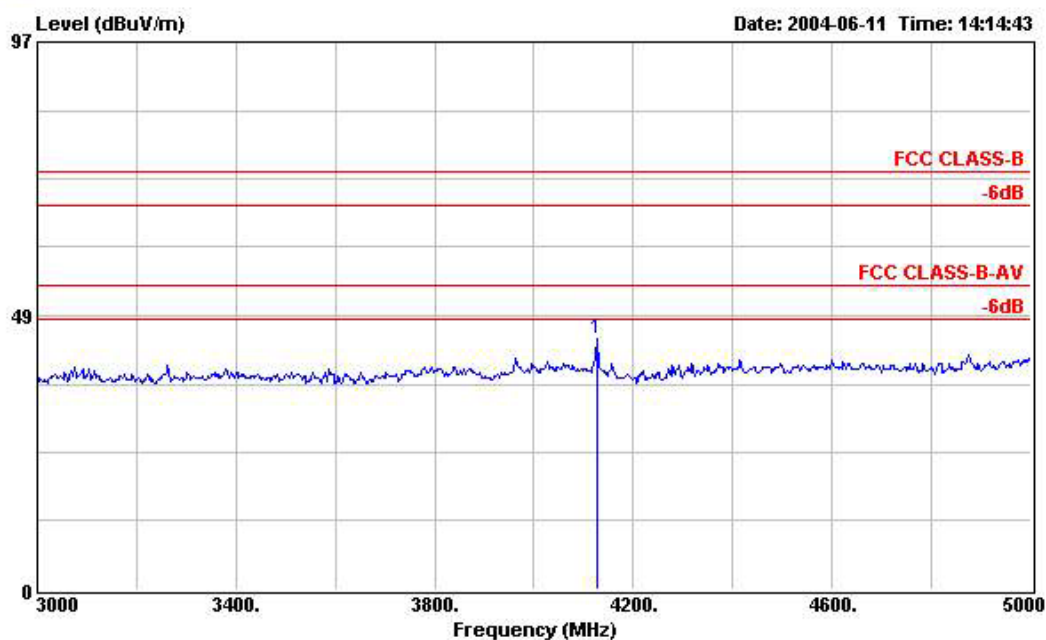
- Test Distance : 3 m
- Temperature : 23°C
- Relative Humidity :53%
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading : Probe Factor + Cable Loss + Read Level - Preamp Factor = Level

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : 03CH03-HY  
 Condition : FCC CLASS-B 3m HORN-ANT-6821 HORIZONTAL  
 EUT : WLAN  
 Power : AC 110V / 60Hz  
 Model : EW-7128G  
 Memo : 11b TX CH06 2437MHz  
       : Dipole

|   | Freq     | Level  | Over   | Limit  | Read  | Probe  | Cable | Preamp |        | Ant | Table |
|---|----------|--------|--------|--------|-------|--------|-------|--------|--------|-----|-------|
|   | MHz      | dBuV/m | Limit  | Line   | Level | Factor | Loss  | Factor | Remark | Pos | Pos   |
|   | MHz      | dBuV/m | dB     | dBuV/m | dBuV  | dB     | dB    | dB     |        | cm  | deg   |
| 1 | 2062.000 | 42.39  | -31.61 | 74.00  | 54.40 | 27.27  | 1.66  | 40.94  | Peak   | --- | ---   |
| 2 | 2812.000 | 45.49  | -28.51 | 74.00  | 55.19 | 29.54  | 1.96  | 41.20  | Peak   | --- | ---   |



Site : 03CH03-HY  
Condition : FCC CLASS-B 3m HORN-ANT-6821 HORIZONTAL  
EUT : WLAN  
Power : AC 110V / 60Hz  
Model : EW-7128G  
Memo : 11b TX CH06 2437MHz  
Dipole

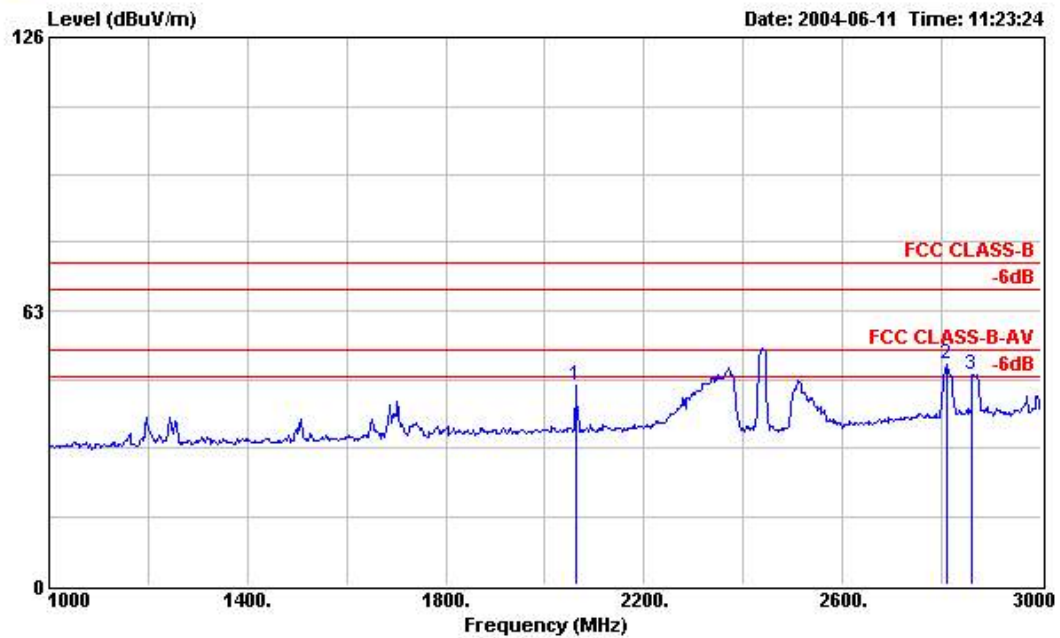
|   | Freq     | Level  | Over   | Limit  | Read  | Probe  | Cable | Preamp |        | Ant | Table |
|---|----------|--------|--------|--------|-------|--------|-------|--------|--------|-----|-------|
|   | MHz      | dBuV/m | Limit  | Line   | Level | Factor | Loss  | Factor | Remark | Pos | Pos   |
|   | MHz      | dBuV/m | dB     | dBuV/m | dBuV  | dB     | dB    | dB     |        | cm  | deg   |
| 1 | 4126.000 | 44.51  | -29.49 | 74.00  | 50.99 | 32.64  | 2.49  | 41.61  | Peak   | --- | ---   |

For 4.126GHz ~ 25GHz

Frequency from 4126MHz to 25000MHz, the emission emitted by the EUT is too low to be measured.

# FCC TEST REPORT

Report No. :F452063



Site : 03CH03-HY  
 Condition : FCC CLASS-B 3m HORN-ANT-6821 VERTICAL  
 EUT : WLAN  
 Power : AC 110V / 60Hz  
 Model : EW-7128G  
 Memo : 11b TX CH06 2437MHz  
 Dipole

|   | Freq     | Level  | Over Limit | Limit Line | Read Level | Probe Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|------------|--------------|------------|---------------|--------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV       | dB           | dB         | dB            |        | cm      | deg       |
| 1 | 2062.000 | 45.89  | -28.11     | 74.00      | 57.90      | 27.27        | 1.66       | 40.94         | Peak   | ---     | ---       |
| 2 | 2812.000 | 50.80  | -23.20     | 74.00      | 60.50      | 29.54        | 1.96       | 41.20         | Peak   | ---     | ---       |
| 3 | 2862.000 | 48.30  | -25.70     | 74.00      | 57.83      | 29.72        | 1.95       | 41.20         | Peak   | ---     | ---       |

**SPORTON International Inc.**

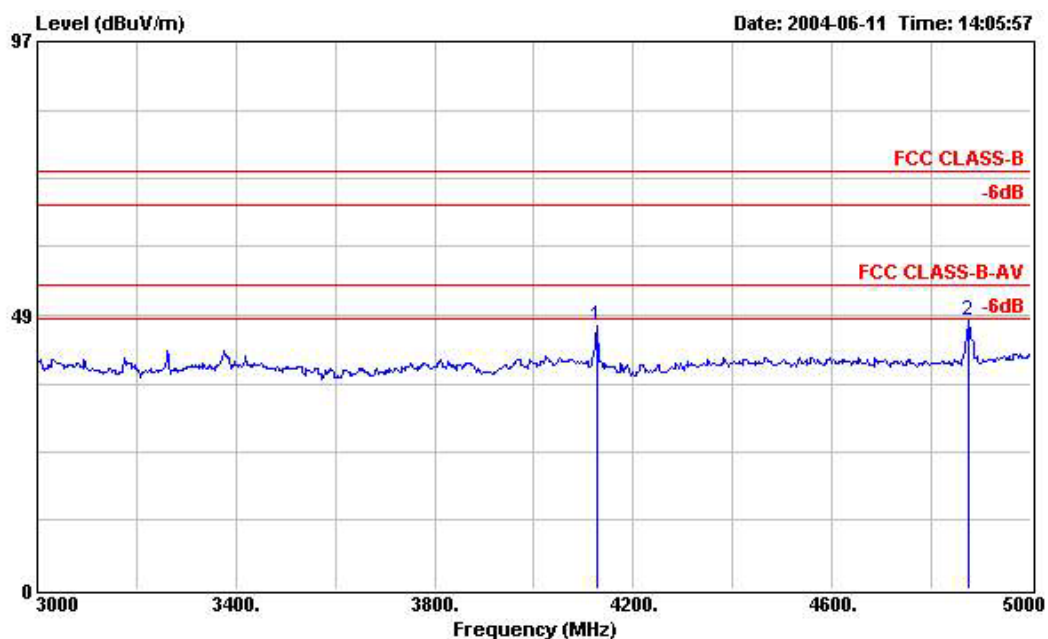
TEL : 886-2-2696-2468

FAX : 886-2-2696-2255

FCC ID : NDD9571280405

Page No. : 55 of 102

Issued Date : June 16, 2004

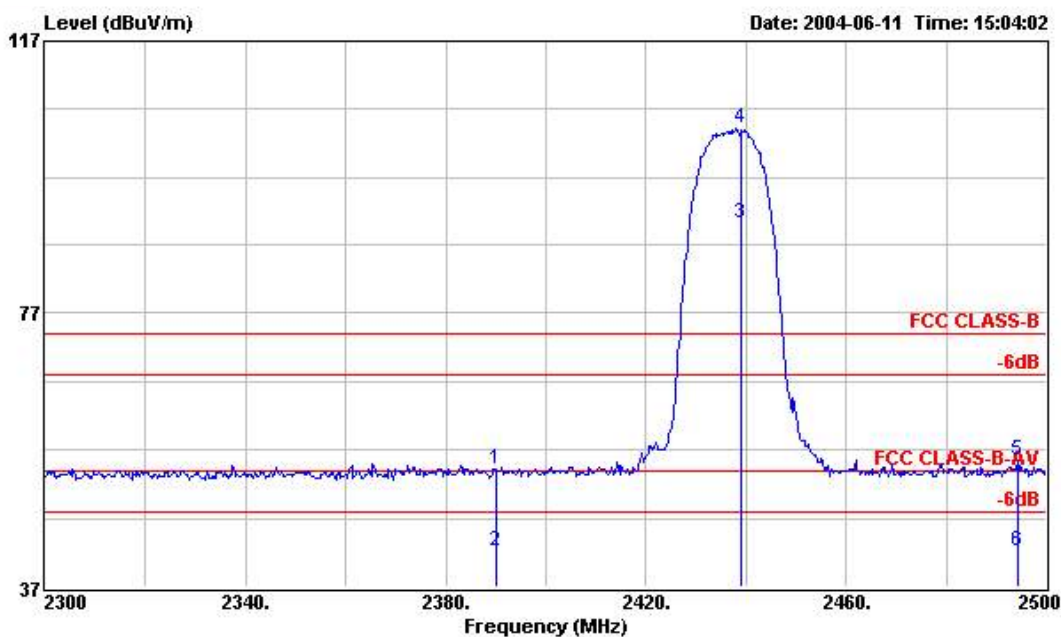


Site : 03CH03-HY  
 Condition : FCC CLASS-B 3m HORN-ANT-6821 VERTICAL  
 EUT : WLAN  
 Power : AC 110V / 60Hz  
 Model : EW-7128G  
 Memo : 11b TX CH06 2437MHz  
       : Dipole

|   | Freq     | Level  | Over   | Limit  | Read  | Probe  | Cable | Preamp |        | Ant | Table |
|---|----------|--------|--------|--------|-------|--------|-------|--------|--------|-----|-------|
|   | MHz      | dBuV/m | Limit  | Line   | Level | Factor | Loss  | Factor | Remark | Pos | Pos   |
|   | MHz      | dBuV/m | dB     | dBuV/m | dBuV  | dB     | dB    | dB     |        | cm  | deg   |
| 1 | 4126.000 | 46.54  | -27.46 | 74.00  | 53.02 | 32.64  | 2.49  | 41.61  | Peak   | --- | ---   |
| 2 | 4876.000 | 47.40  | -26.60 | 74.00  | 53.97 | 33.35  | 2.52  | 42.44  | Peak   | --- | ---   |

For 4.876GHz ~ 25GHz

Frequency from 4876MHz to 25000MHz, the emission emitted by the EUT is too low to be measured.



Site : 03CH03-HY  
 Condition : FCC CLASS-B 3m HORN-ANT-6821 HORIZONTAL  
 EUT : WLAN  
 Power : AC 110V / 60Hz  
 Model : EW-7128G  
 Memo : 11b TX CH06 2437MHz  
 Dipole

|     | Freq     | Level  | Over   | Limit  | Read  | Probe  | Cable | Preamp |         | Ant | Table |
|-----|----------|--------|--------|--------|-------|--------|-------|--------|---------|-----|-------|
|     | MHz      | dBuV/m | Limit  | Line   | Level | Factor | Loss  | Factor | Remark  | Pos | Pos   |
|     |          |        | dB     | dBuV/m | dBuV  | dB     | dB    | dB     |         | cm  | deg   |
| 1   | 2390.000 | 54.10  | -19.90 | 74.00  | 24.24 | 28.14  | 1.72  | 0.00   | Peak    | --- | ---   |
| 2   | 2390.000 | 42.10  | -11.90 | 54.00  | 12.24 | 28.14  | 1.72  | 0.00   | Average | 100 | 348   |
| 3 X | 2439.160 | 90.05  |        |        | 60.01 | 28.27  | 1.77  | 0.00   | Average | 100 | 331   |
| 4 X | 2439.160 | 104.35 |        |        | 74.31 | 28.27  | 1.77  | 0.00   | Peak    | --- | ---   |
| 5   | 2494.200 | 55.61  | -18.39 | 74.00  | 25.42 | 28.40  | 1.79  | 0.00   | Peak    | --- | ---   |
| 6   | 2494.200 | 42.17  | -11.83 | 54.00  | 11.98 | 28.40  | 1.79  | 0.00   | Average | 100 | 343   |

Remark: The "X" represent a fundamental frequency.