

# **FCC Test Report**

For

**Bluetooth Speaker**

**Trade Name : JS**  
**Model No. : JS1219WA**  
**FCC ID : TQYBSJS1219WA00**  
**IC ID : 6208A-B1219WA0**  
**Report No. : RF-A25-0601-205**  
**Date of Receipt : May 8, 2006**  
**Date of Report : May 15,2006**

Prepared for

**JAZZ HIPSTER CORPORATION**

**2Fd, No.512, Yuan-San Rd., Chung-Ho City, Taipei Hsien, Taiwan, R.O.C.**

Prepared by



**Central Research Technology Co.**  
**EMC Test Laboratory**

**No.11, Lane41, Fushuen St., Jungshan Chiu, Taipei, Taiwan, 104, R.O.C.**



NVLAP LAB CODE 200575-0

**This report shall not be reproduced except in full, without written approval of Central Research Technology Co.. It may be duplicated completely in its entirety for legal use with the permission of the applicant. It should not be used to claim product endorsement by NVLAP or any U.S. government agency. The test result in the report applies only to the sample tested.**

# Certification of Compliance

Equipment under Test : Bluetooth Speaker  
Trade Name : JS  
Model No. : JS1219WA  
FCC ID : TQYBSJS1219WA00  
IC ID : 6208A-B1219WA0  
Manufacturer : Shiyu Electronics (SZ) Co.,Ltd  
Applicant : JAZZ HIPSTER CORPORATION  
Address : 2Fd, No.512, Yuan-San Rd., Chung-Ho City, Taipei Hsien,  
Taiwan, R.O.C.  
Applicable Standards : 47 CFR part 15, Subpart C  
RSS-210 Issue 6  
Date of Testing : May 9~12, 2006  
Deviation : N/A  
Condition of Test Sample : Prototype



We, **Central Research Technology Co.**, hereby certify that one sample of the designated product was tested in our facility during the period mentioned above. The test records, data evaluation and Equipment Under Test (EUT) configurations shown in the present report are true and accurate representation of the measurements of the sample's RF characteristics under the conditions herein specified.

The test results show that the EUT as described in the present report is in compliance with the requirements set forth in the standards mentioned above and apply to the tested sample identified in the present report only. The test report shall not be reproduced, except in its entirety, without the written approval of Central Research Technology Co.

PREPARED BY : Cathy Chen , DATE : May 15, 2006  
(Cathy Chen/RF Engineer)  
CHECKED BY : Sam Chien , DATE : May 15, 2006  
(Sam Chien/Technical Manager)  
APPROVED BY : J. Y. Shih , DATE : May 15, 2006  
(Tsun-Yu Shih/Laboratory Head)

## Contents

|          |                                                          |           |
|----------|----------------------------------------------------------|-----------|
| <b>1</b> | <b>General Description .....</b>                         | <b>5</b>  |
| 1.1      | General Description of EUT .....                         | 5         |
| 1.2      | Characteristic of E.U.T. ....                            | 5         |
| 1.3      | Test Methodology .....                                   | 5         |
| 1.4      | Requirement for Compliance .....                         | 6         |
| 1.5      | Layout of Setup .....                                    | 9         |
| 1.6      | Test Facility .....                                      | 10        |
| 1.7      | Measurement Uncertainty .....                            | 11        |
| <b>2</b> | <b>Maximum Peak Output Power .....</b>                   | <b>12</b> |
| 2.1      | Applied standard .....                                   | 12        |
| 2.2      | Measurement Procedure .....                              | 12        |
| 2.3      | Test configuration .....                                 | 13        |
| 2.4      | Test Instruments .....                                   | 14        |
| 2.5      | Test Data .....                                          | 15        |
| <b>3</b> | <b>Band Edge .....</b>                                   | <b>21</b> |
| 3.1      | Applied standard .....                                   | 21        |
| 3.2      | Measurement Procedure .....                              | 21        |
| 3.3      | Test configuration .....                                 | 21        |
| 3.4      | Test Instruments .....                                   | 22        |
| 3.5      | Test Data .....                                          | 24        |
| <b>4</b> | <b>Hopping Channel Carrier Frequencies Spacing .....</b> | <b>35</b> |
| 4.1      | Applied standard .....                                   | 35        |
| 4.2      | Measurement Procedure .....                              | 35        |
| 4.3      | Test configuration .....                                 | 35        |
| 4.4      | Test Instruments .....                                   | 36        |
| 4.5      | Test Data .....                                          | 37        |
| <b>5</b> | <b>Number of Hopping Channels.....</b>                   | <b>41</b> |
| 5.1      | Applied standard .....                                   | 41        |
| 5.2      | Measurement Procedure .....                              | 41        |
| 5.3      | Test configuration .....                                 | 41        |
| 5.4      | Test Instruments .....                                   | 41        |
| 5.5      | Test Data .....                                          | 42        |
| <b>6</b> | <b>Radiated Emission .....</b>                           | <b>43</b> |

|     |                                      |     |
|-----|--------------------------------------|-----|
| 6.1 | Applied standard .....               | 43  |
| 6.2 | Measurement Procedure .....          | 43  |
| 6.3 | Test configuration .....             | 45  |
| 6.4 | Test Instruments .....               | 46  |
| 6.5 | Test Data .....                      | 48  |
| 7   | Dwell Time .....                     | 144 |
| 7.1 | Applied standard .....               | 144 |
| 7.2 | Measurement Procedure .....          | 144 |
| 7.3 | Test configuration .....             | 145 |
| 7.4 | Test Instruments .....               | 145 |
| 7.5 | Test Data .....                      | 146 |
| 8   | Conducted Emission Measurement ..... | 149 |
| 8.1 | Applied standard .....               | 149 |
| 8.2 | Measurement Procedure .....          | 149 |
| 8.3 | Test configuration .....             | 150 |
| 8.4 | Test Instruments .....               | 150 |
| 8.5 | Test Data .....                      | 152 |
| 9   | Antenna Requirement .....            | 164 |
| 9.1 | Applied standard .....               | 164 |
| 9.2 | Antenna Information .....            | 164 |
| 9.3 | Result .....                         | 164 |

**Attachment 1 – Photographs of the Test Configurations**

**Attachment 2 – External Photographs of EUT**

**Attachment 3 – Internal Photographs of EUT**

## **1 General Description**

### **1.1 General Description of EUT**

Equipment underTest : Bluetooth Speaker  
Model No. : JS1219WA  
FCC ID : TQYBSJS1219WA00  
IC ID : 6208A-B1219WA0  
Power in : Battery:5Vdc; Adaptor:100~240Vac,50Hz/60Hz  
Test Voltage : Battery:6Vdc(batteries\*4); Adaptor:120Vac/60Hz

### **1.2 Characteristic of E.U.T.**

Frequency Range : 2400~2483.5MHz  
Channel Numbers : 79  
Function Modulation : GFSK

The EUT contains a bluetooth function is used to transmit both control command and data. Please refer to the user's manual for the details.

Perform the function of EUT continuously by executing the test program – Zsound Utility supplied by its manufacturer.

### **1.3 Test Methodology**

For this EUT, both conducted and radiated emissions were performed according to the procrdures illustrated in ANSI C63.4 and other required measurements were illustrated in separate sections of this test report for detail.

## 1.4 Requirement for Compliance

### (1) Conduction Emission Requirement

For intentional device, according to §15.207(a) line conduction emission limit is as below table.

| Frequency of Emission (MHz) | Conducted Limit (dBuV) |           |
|-----------------------------|------------------------|-----------|
|                             | Quasi-peak             | Average   |
| 0.15 – 0.5                  | 66 to 56*              | 56 to 46* |
| 0.5 - 5                     | 56                     | 46        |
| 5 - 30                      | 60                     | 50        |

\* Decreases with the logarithm of the frequency.

### (2) Radiated Emission Requirement

For intentional device, according to §15.209, the general requirement of field strength of radiated emissions from intentional radiator at a distance of 3 meters shall not exceed the below table.

| Frequency (MHz) | Measurement Distance (m) | Field Strength (uV/m) | Field Strength (dBuV/m) |
|-----------------|--------------------------|-----------------------|-------------------------|
| 30 – 88         | 3                        | 100                   | 40.0                    |
| 88 – 216        | 3                        | 150                   | 43.5                    |
| 216 – 960       | 3                        | 200                   | 46.0                    |
| above 960       | 3                        | 500                   | 54.0                    |

Note 1- The lower limit shall apply at the transition frequency.

### (3) Hopping Channel Carrier Frequencies Separation and 20dB Bandwidth

According to 15.247(a)(1), frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

**(4) Dwell Time on Each Channel**

According to 15.247(a)(1)(iii), frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 non-overlapping channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

**(5) Maximum Peak Output Power**

According to 15.247(b)(1), for frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

**(6) 100kHz Bandedge**

According to 15.247(d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

## (7) Restricted Band

| Frequency (MHz)            | Frequency (MHz)       | Frequency (MHz) | Frequency (MHz) |
|----------------------------|-----------------------|-----------------|-----------------|
| 0.090 - 0.110              | 16.42 - 16.423        | 399.9 - 410     | 4.5 - 5.15      |
| <sup>1</sup> 0.495 - 0.505 | 16.69475 - 16.69525   | 608 - 614       | 5.35 - 5.46     |
| <sup>2</sup> 1735 - 2.1905 | 16.80425 - 16.80475   | 960 - 1240      | 7.25 - 7.75     |
| 4.125 - 4.128              | 25.5 - 25.67          | 1300 - 1427     | 8.025 - 8.5     |
| 4.17725 - 4.17775          | 37.5 - 38.25          | 1435 - 1626.5   | 9.0 - 9.2       |
| 4.20725 - 4.20775          | 73 - 74.6             | 1645.5 - 1646.5 | 9.3 - 9.5       |
| 6.215 - 6.218              | 74.8 - 75.2           | 1660 - 1710     | 10.6 - 12.7     |
| 6.26775 - 6.26825          | 108 - 121.94          | 1718.8 - 1722.2 | 13.25 - 13.4    |
| 6.31175 - 6.31225          | 123 - 138             | 2200 - 2300     | 14.47 - 14.5    |
| 8.291 - 8.294              | 149.9 - 150.05        | 2310 - 2390     | 15.35 - 16.2    |
| 8.362 - 8.366              | 156.52475 - 156.52525 | 2483.5 - 2500   | 17.7 - 21.4     |
| 8.37625 - 8.38675          | 156.7 - 156.9         | 2690 - 2900     | 22.01 - 23.12   |
| 8.41425 - 8.41475          | 162.0125 - 167.17     | 3260 - 3267     | 23.6 - 24.0     |
| 12.29 - 12.293             | 167.72 - 173.2        | 3332 - 3339     | 31.2 - 31.8     |
| 12.51975 - 12.52025        | 240 - 285             | 3345.8 - 3358   | 36.43 - 36.5    |
| 12.57675 - 12.57725        | 322 - 335.4           | 3600 - 4400     | (2)             |
| 13.36 - 13.41              |                       |                 |                 |

<sup>1</sup> Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

<sup>2</sup> Above 38.6

## 1.5 Layout of Setup



### The Support Units :

| No. | Unit | Model No./ Serial No. | Trade Name | Power Code | Supported by lab. |
|-----|------|-----------------------|------------|------------|-------------------|
| NA  | *    | *                     | *          | *          | *                 |

### Connecting Cables :

| No. | Cable | Length | Shielded | Core | Shielded Backshell | Supported by lab. | Note |
|-----|-------|--------|----------|------|--------------------|-------------------|------|
| NA  | *     | *      | *        | *    | *                  | *                 | *    |

### Justification :

For both conducted and radiated emission below 1GHz, the system was configured for typical fashion as a customer could normal use it. The peripherals other than EUT was connected in normally standing by situation. Measurement was performed under the conduction that a computer program was excited to simulate data communication of EUT, and the transmission rate was setup maximum allowed by EUT.

For line conducted emission, only measurement of TX/RX and Charge mode operated, for the digital circuits portion also function normally whenever TX or RX is operated. For radiated emission, measurement of radiated emission from digital circuit is performed with channel 0, Channel 39 and channel 78 by transmitting mode.

## 1.6 Test Facility

| Test Site                               | Type of Test Site                         | Descriptions                                                                                                     |
|-----------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> TR1 | 10m semi-anechoic chamber<br>(23m×14m×9m) | Complying with the NSA requirements in documents CISPR 22 and ANSI C63.4. for the radiated emission measurement. |
| <input checked="" type="checkbox"/> TR4 | Shielding Room<br>(5m×3m×3m)              | For the RF conducted emission measurement.                                                                       |
| <input checked="" type="checkbox"/> TR5 | Shielding Room<br>(8m×5m×4m)              | For the Line conducted emission measurement.                                                                     |

## Test Laboratory Competence Information

Central Research Technology Co. has been accredited/filed/authorized by the agencies listed in the following table.

| Certificate               | Nation             | Agency | Code                                                                   | Mark                          |
|---------------------------|--------------------|--------|------------------------------------------------------------------------|-------------------------------|
| Accreditation Certificate | USA                | NVLAP  | 200575-0                                                               | ISO/IEC 17025                 |
|                           | R.O.C.<br>(Taiwan) | CNLA   | 0905                                                                   | ISO/IEC 17025                 |
|                           | R.O.C.<br>(Taiwan) | BSMI   | SL2-IN-E-0033,<br>SL2-IS-E-0033,<br>SL2-R1/R2-E-0033,<br>SL2-A1-E-0033 | ISO/IEC 17025                 |
| Site Filing Document      | USA                | FCC    | 474046                                                                 | Test facility list & NSA Data |
|                           | Canada             | IC     | 4699A                                                                  | Test facility list & NSA Data |
|                           | Japan              | VCCI   | R-1527,C-1609,T-131                                                    | Test facility list & NSA Data |
| Authorization Certificate | Norway             | Nemko  | ELA 212                                                                | ISO/IEC 17025                 |

The copy of each certificate can be downloaded from our web site: [www.crc-lab.com](http://www.crc-lab.com)

## 1.7 Measurement Uncertainty

All the measurement uncertainty evaluation procedures in this report are base on ETSI TR 100 028-1, 100 028-2,and ETSI TR 102 273-3. The assessed measurement uncertainties are:

| Test Item                      | Measurement Uncertainty             |
|--------------------------------|-------------------------------------|
| Peak Output Power              | Horizontal 4.56dB ; Vertical 4.62dB |
| 100kHz Bandedge                | Horizontal 4.56dB ; Vertical 4.62dB |
| Carrier Frequencies Separation | 2.21 Hz                             |
| Unwanted Emission (below 1GHz) | Horizontal 4.05dB ; Vertical 4.08dB |
| Unwanted Emission (above 1GHz) | Horizontal 4.56dB ; Vertical 4.62dB |
| Dwell time                     | 2%                                  |
| Line Conducted Emission        | 2.26dB                              |

## **2 Maximum Peak Output Power**

**Result:** Pass

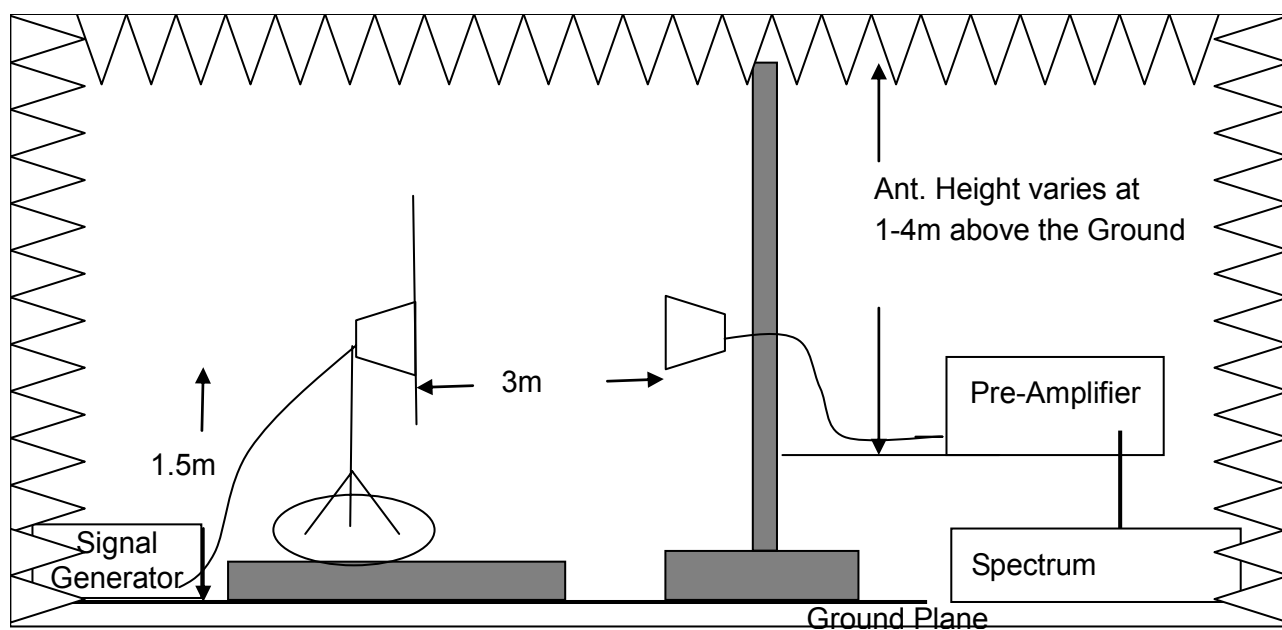
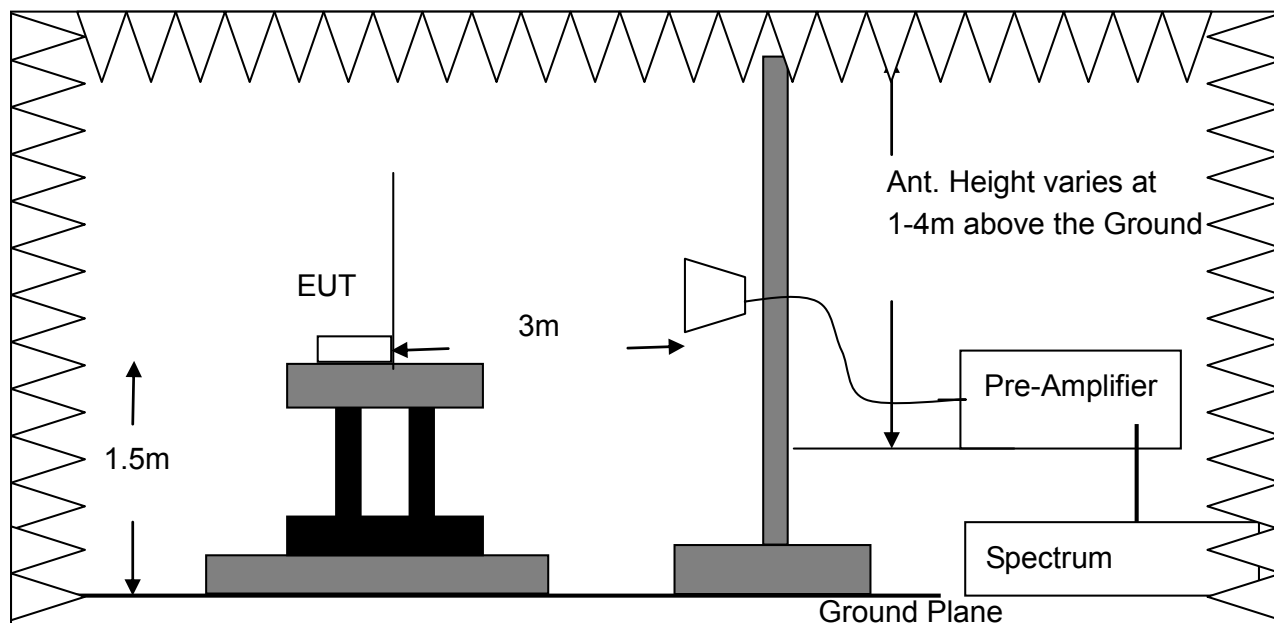
### **2.1 Applied standard**

According to 15.247(b)(1), for frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

### **2.2 Measurement Procedure**

- a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.
- b. A software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel frequencies individually.
- c. Rapidly sweep the signal in the fundamental frequency band by using the spectrum analyzer through the Maximum-peak detector.
- d. Rotate the EUT from 0° to 360° and position the receiving antenna at heights from 1 to 4 meters above the reference ground plane continuously to determine highest emission levels and record it.
- e. Change the receiving antenna to another polarization to measure radiated emission by following step d again.
- f. The EUT is replayed by substitution antenna which is connented to a signal generator. The signal generator adjusted until the level , record by step d., is again measured on receiving device. Record the level.

## 2.3 Test configuration



## 2.4 Test Instruments

| Test Site and Equipment    | Manufacturer | Model No./ Serial No.         | Last Calibration Date | Calibration Due Date |
|----------------------------|--------------|-------------------------------|-----------------------|----------------------|
| Horn Antenna               | AH           | SAS-571/<br>632               | Aug. 11,2005          | Aug. 11, 2006        |
| Horn Antenna               | R&S          | HF906/<br>359287/002          | Aug. 11,2005          | Aug. 11, 2006        |
| Pre-Amplifier              | MITEQ        | JS4-00101800-28-5<br>A/742229 | August 3, 2005        | Aug. 3, 2006         |
| Spectrum                   | R&S          | FSP40/<br>10031               | June 16,2005          | June 16, 2006        |
| Signal Generator           | R&S          | SMP03/<br>835675/005          | June 16,2005          | June 16, 2006        |
| 3m Semi - anechoic Chamber | TRC          | TR10                          | March 31,2006         | March 31, 2007       |

Note:

1. The calibrations are traceable to NML/ROC.
2. NCR:No Calibration Required.
3. The calibration date of the semi-anechoic chamber listed above is the date of NSA measurement.

### Instrument Setting

| RBW    | VBW    | Detector | Trace   | Comment |
|--------|--------|----------|---------|---------|
| 100kHz | 300kHz | Peak     | Maxhold |         |

### Climatic Condition

Ambient Temperature : 25°C ;

Relative Humidity : 72%

## 2.5 Test Data

Test Mode : Continuously Transmitting

Power in : Adaptor

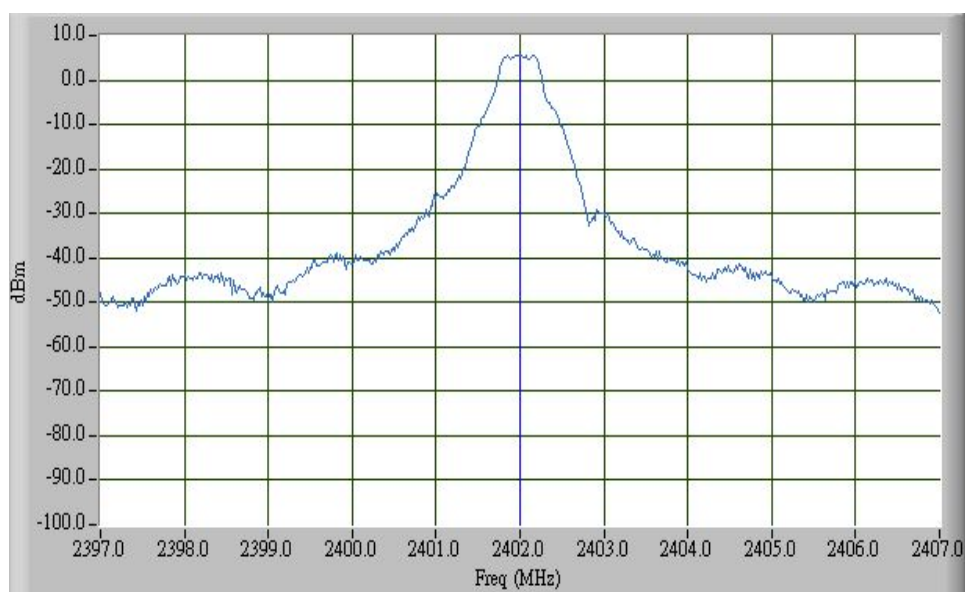
Tester : Bill

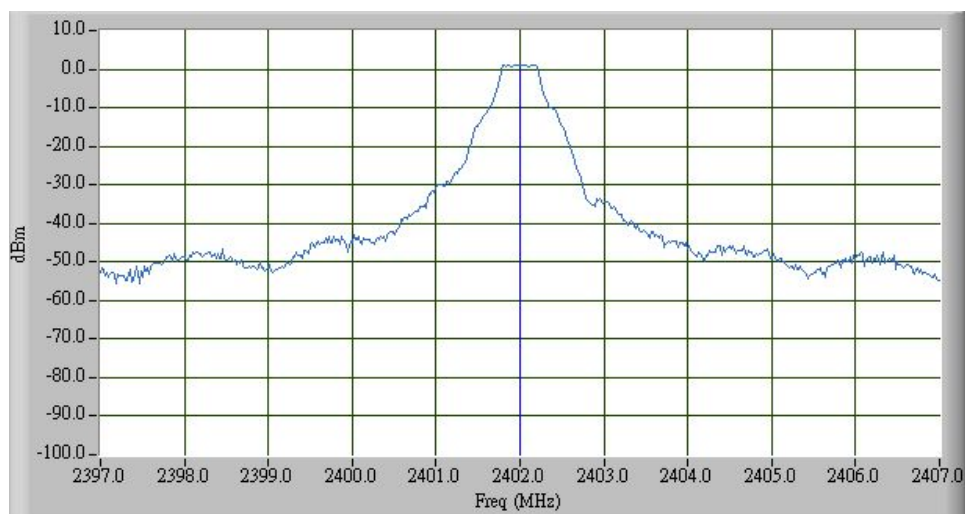
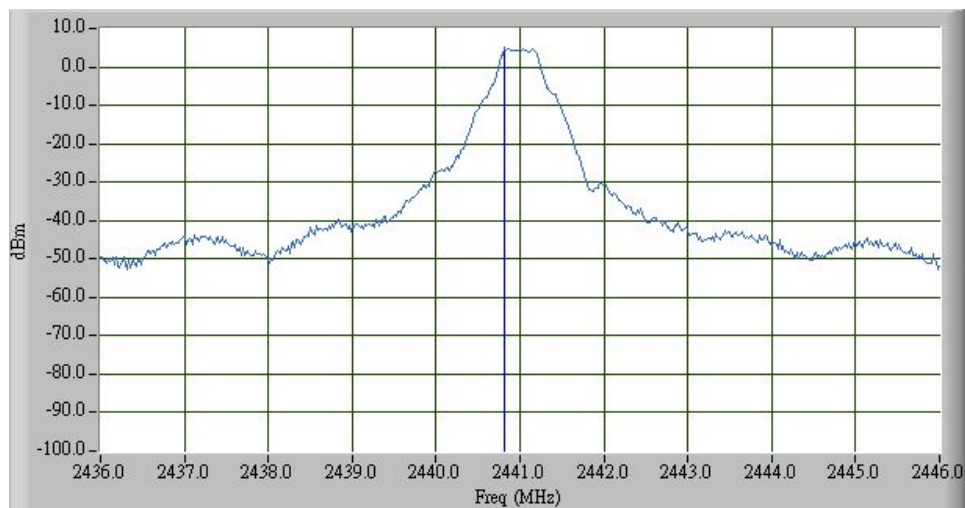
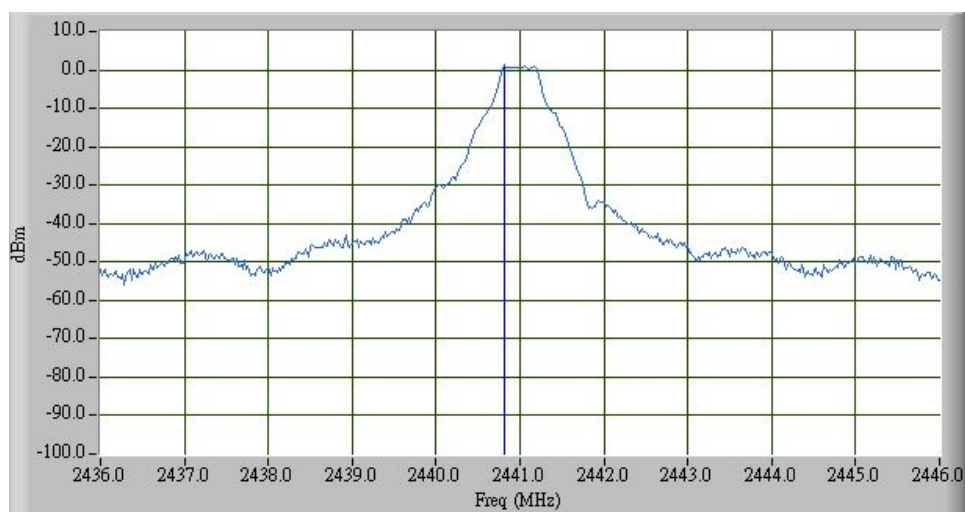
| Operating Frequency (MHz) | Reading Data (dBm) | Output Power of S.G. (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Polarization |
|---------------------------|--------------------|----------------------------|------------------------|------------|-------------|-------------|--------------|
| 2402MHz                   | -4.73              | -2.48                      | 8.12                   | 5.64       | 30          | 24.36       | Vertical     |
|                           | -8.90              | -6.89                      | 8.12                   | 1.23       | 30          | 28.77       | Horizontal   |
| 2441MHz                   | -5.90              | -3.09                      | 8.16                   | 5.06       | 30          | 24.94       | Vertical     |
|                           | -8.93              | -6.87                      | 8.16                   | 1.28       | 30          | 28.72       | Horizontal   |
| 2480MHz                   | -8.66              | -5.79                      | 8.16                   | 2.37       | 30          | 27.63       | Vertical     |
|                           | -12.04             | -9.86                      | 8.16                   | -1.70      | 30          | 31.70       | Horizontal   |

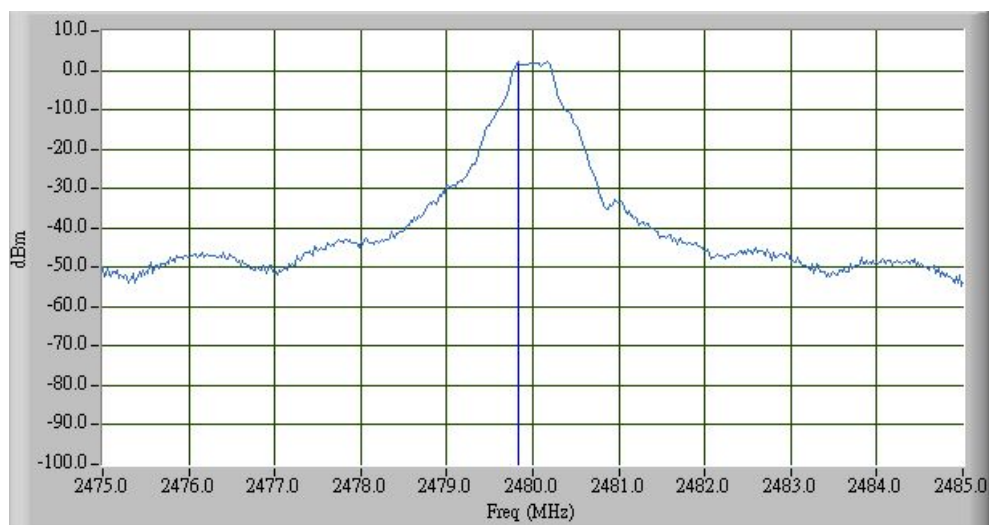
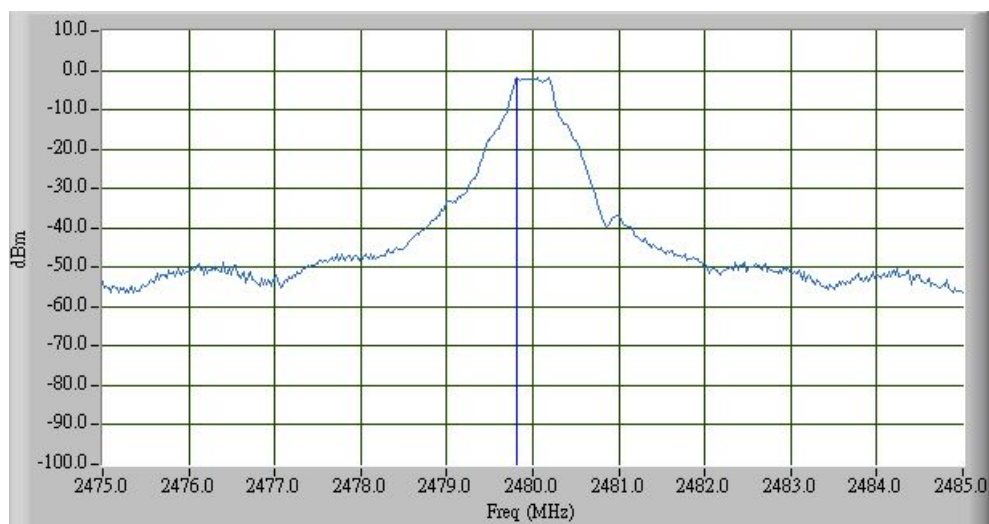
Note:

1. Correction Factor (dB)= Gain of TX Antenna – Cable Loss of cable + Pre-Amplifier
2. EIRP (dBm)= Output power of S.G. + Correction Factor
3. Margin (dB)= Limit – EIRP
4. "\*" means the emission level is too low to measure.

### Low Channel (2402MHz), Vertical Polarization



**Low Channel (2402MHz), Horizontal Polarization****Middle Channel (2441MHz), Vertical Polarization****Middle Channel (2441MHz), Horizontal Polarization**

**High Channel (2480MHz), Vertical Polarization****High Channel (2480MHz), Horizontal Polarization**

Test Mode : Continuously Transmitting

Power in : Batteries

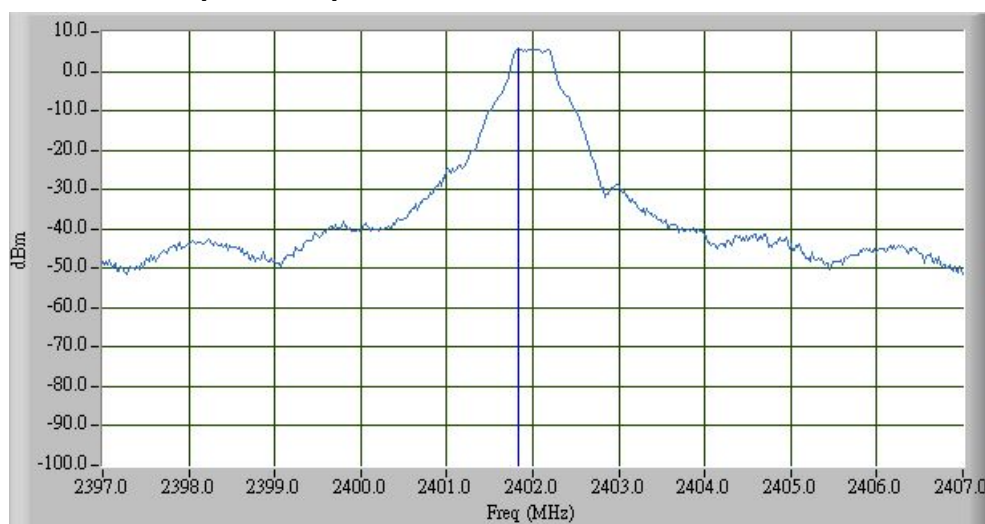
Tester : Bill

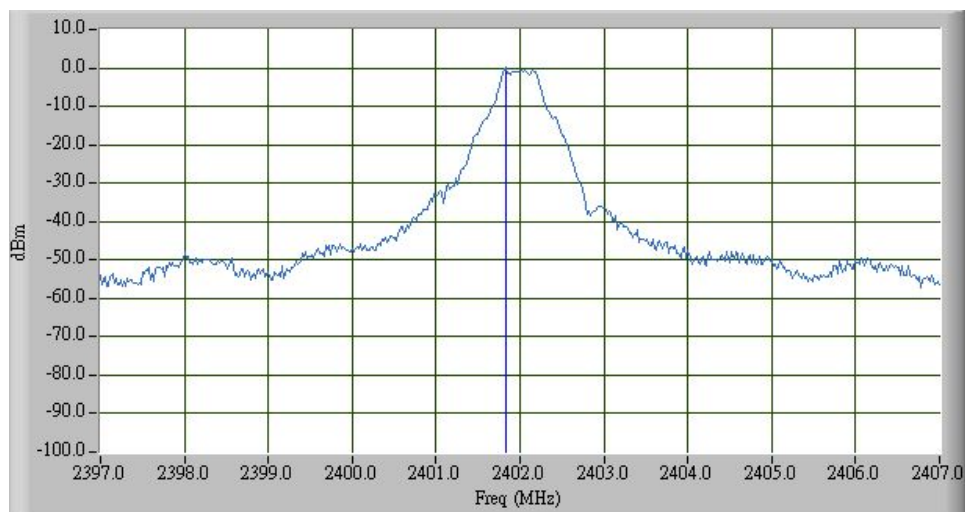
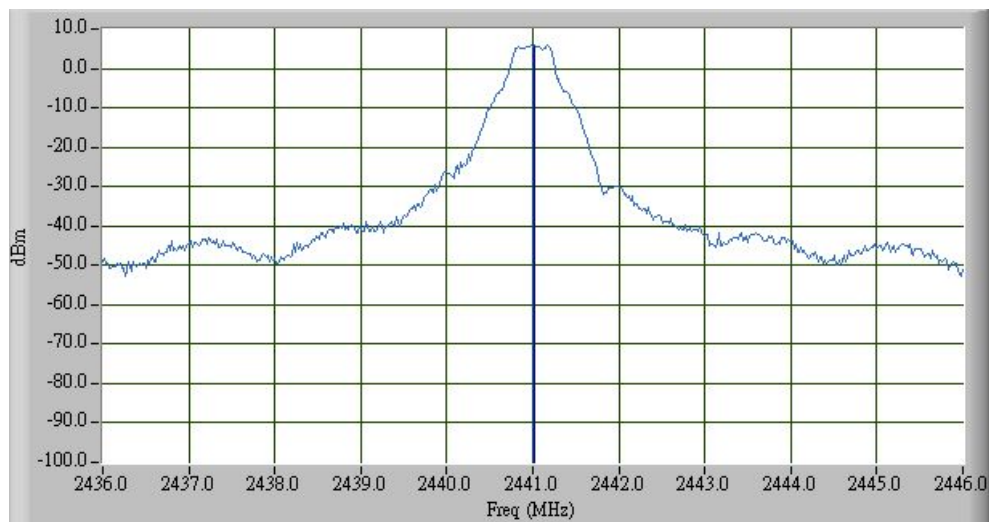
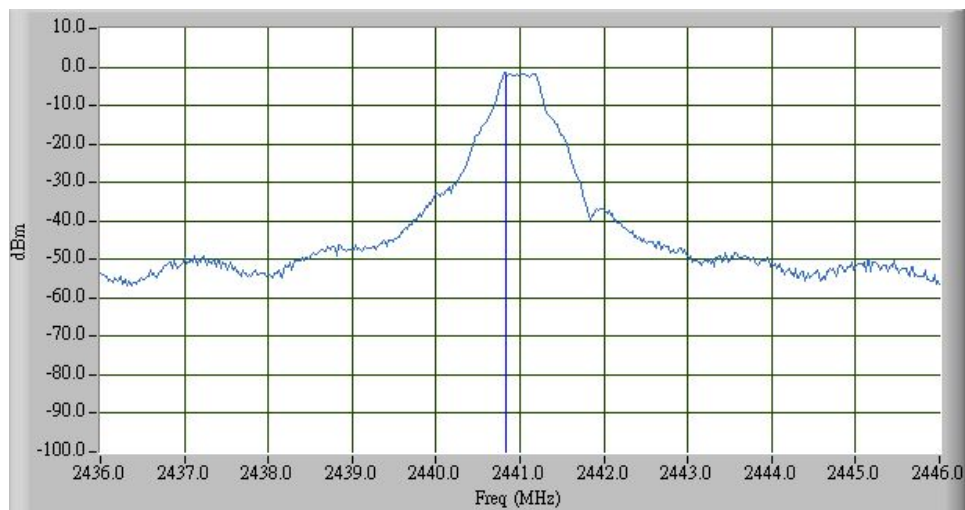
| Operating Frequency (MHz) | DC Voltage (Volt) | Reading Data (dBm) | Output Power of S.G. (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Polarization |
|---------------------------|-------------------|--------------------|----------------------------|------------------------|------------|-------------|-------------|--------------|
| 2402MHz                   | 6.00              | -4.31              | -2.06                      | 8.12                   | 6.06       | 30          | 23.94       | Vertical     |
|                           | 6.00              | -10.03             | -8.02                      | 8.12                   | 0.10       | 30          | 29.90       | Horizontal   |
| 2441MHz                   | 6.00              | -5.13              | -2.32                      | 8.16                   | 5.83       | 30          | 24.17       | Vertical     |
|                           | 6.00              | -11.50             | -9.44                      | 8.16                   | -1.29      | 30          | 31.29       | Horizontal   |
| 2480MHz                   | 6.00              | -6.32              | -3.44                      | 8.16                   | 4.72       | 30          | 25.28       | Vertical     |
|                           | 6.00              | -12.16             | -9.99                      | 8.16                   | -1.83      | 30          | 31.83       | Horizontal   |

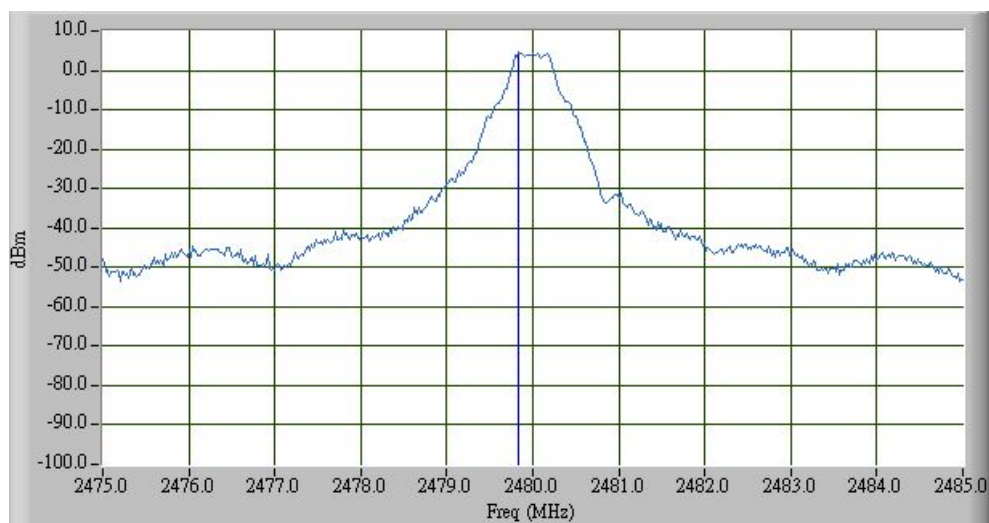
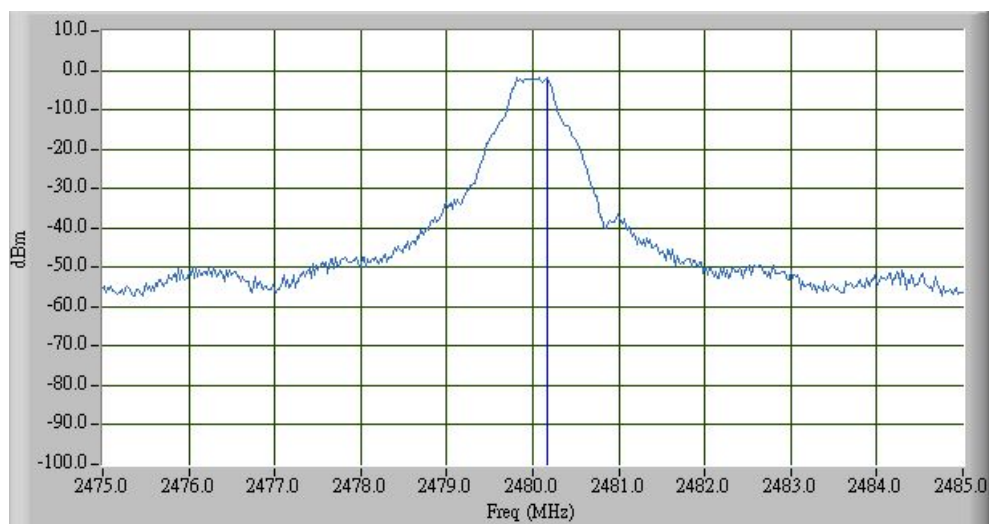
Note:

1. Correction Factor (dB)= Gain of TX Antenna – Cable Loss of cable + Pre-Amplifier
2. EIRP (dBm)= Output power of S.G. + Correction Factor
3. Margin (dB)= Limit – EIRP
4. "\*" means the emission level is too low to measure.

## Low Channel (2402MHz), Vertical Polarization



**Low Channel (2402MHz), Horizontal Polarization****Middle Channel (2441MHz), Vertical Polarization****Middle Channel (2441MHz), Horizontal Polarization**

**High Channel (2480MHz), Vertical Polarization****High Channel (2480MHz), Horizontal Polarization**

### 3 Band Edge

Result: Pass

#### 3.1 Applied standard

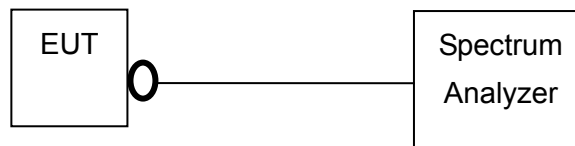
According to 15.247(d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

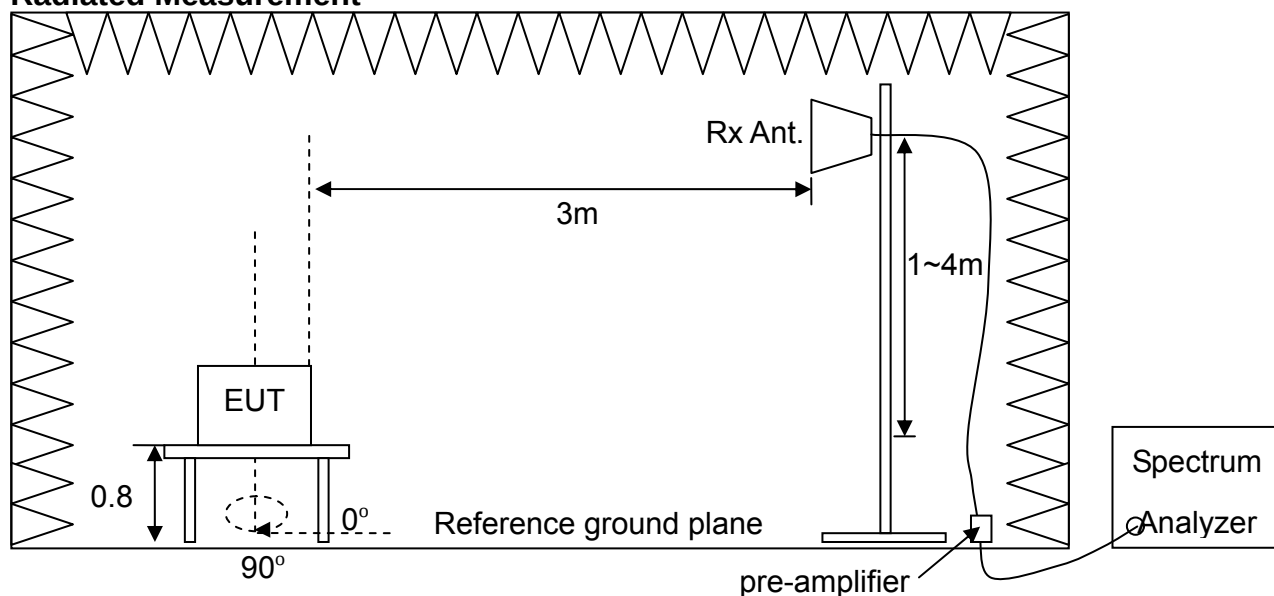
#### 3.2 Measurement Procedure

- a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.
- b. A software provided by client enabled the EUT to transmit data at at lowest and highest channel frequencies individually.
- c. Measure the band edge and compare with the required limit.

#### 3.3 Test configuration

##### Conducted Measurement



**Radiated Measurement****3.4 Test Instruments**

| Test Site and Equipment | Manufacturer | Model No./ Serial No.      | Last Calibration Date | Calibration Due Date |
|-------------------------|--------------|----------------------------|-----------------------|----------------------|
| Semi-anechoic Chamber   | ETS.LINDGREN | TR1/ 17627-B               | April 9, 2006         | April 9, 2007        |
| Shielded Room           | ETS.LINDGREN | TR4/ 15353-E               | NCR                   | NCR                  |
| Spectrum Analyzer       | R&S          | FSP40/ 100031              | June 16, 2005         | June 16, 2006        |
| Spectrum Analyzer       | Agilent      | E4407B/ MY45106795         | March 3, 2005         | March 3, 2007        |
| Antenna                 | R&S          | HF906/ 359287/001          | Aug. 11, 2005         | Aug. 11, 2006        |
| Pre-amplifier           | MITEQ        | JS4-00101800-28-5 A/742229 | Aug. 3, 2005          | Aug. 3, 2006         |

Note:

1. The calibrations are traceable to NML/ROC.
2. NCR: No Calibration Required.
3. The calibration date of the semi-anechoic chamber listed above is the date of NSA measurement.

**Instrument Setting**

| RBW    | VBW    | Detector | Trace   | Comment                         |
|--------|--------|----------|---------|---------------------------------|
| 100kHz | 300kHz | Peak     | Maxhold | Conducted Measurement           |
| 1MHz   | 3MHz   | Peak     | Maxhold | Radiated Measurement Peak       |
| 1MHz   | 10Hz   | Peak     | Maxhold | Radiated Measurement<br>Average |

**Climatic Condition**

Ambient Temperature : 25°C ;      Relative Humidity : 72%

### 3.5 Test Data

#### Conducted Measurement

Test Mode : Continuously Transmitting

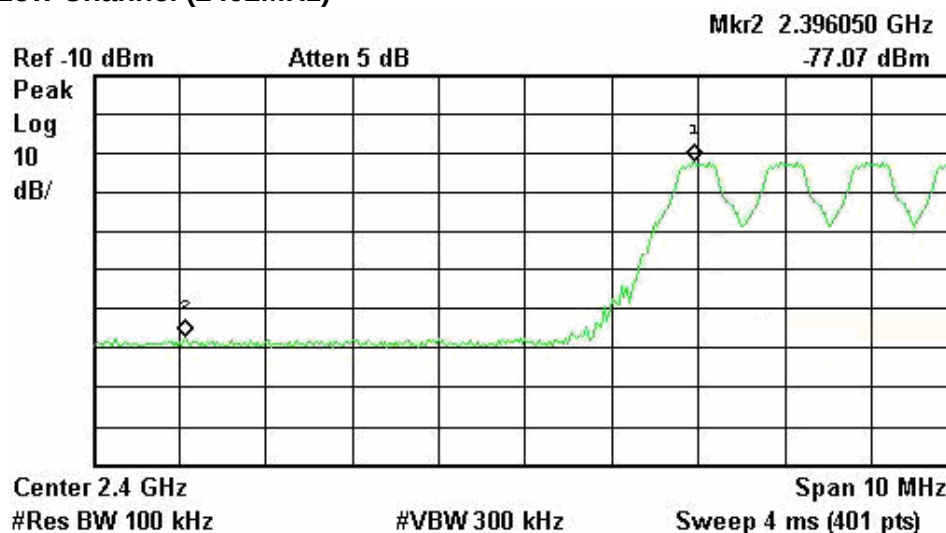
Tester : Bill

| Operating Frequency (MHz) | Maximum Emission Level (dBm) | Emission Frequency (MHz) | Emission Outside of the band (dBm) | Attenuation (dB) | Limit (dB) | Margin (dB) |
|---------------------------|------------------------------|--------------------------|------------------------------------|------------------|------------|-------------|
| 2402                      | -31.94                       | 2.3960                   | -77.07                             | 45.13            | 20         | 25.13       |
| 2480                      | -35.11                       | 2.4840                   | -77.31                             | 42.20            | 20         | 22.20       |

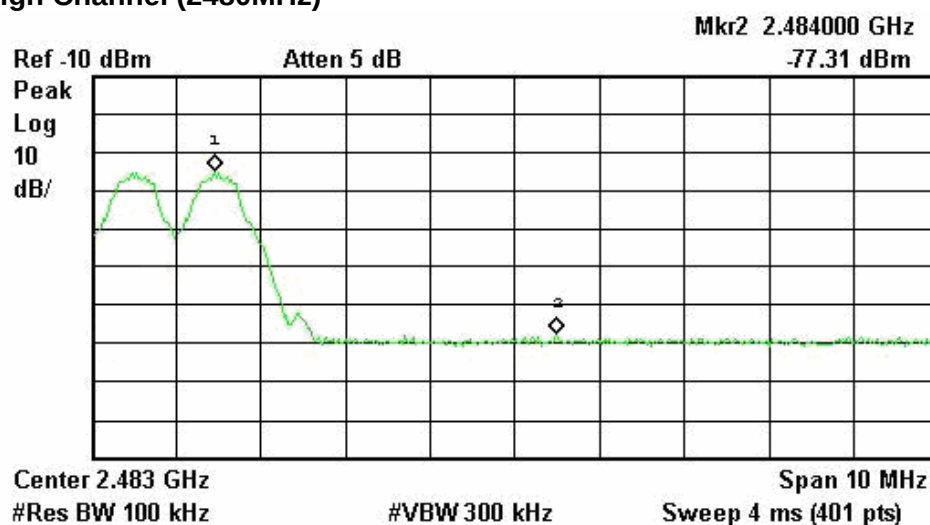
Note:

1. Attenuation (dB) = Maximum Emission Level - Emission Outside of the band
2. Margin (dB) = Attenuation – Limit

#### Low Channel (2402MHz)



#### High Channel (2480MHz)



## Radiated Measurement

Test Mode : Continuously Transmitting

Power in : Adaptor

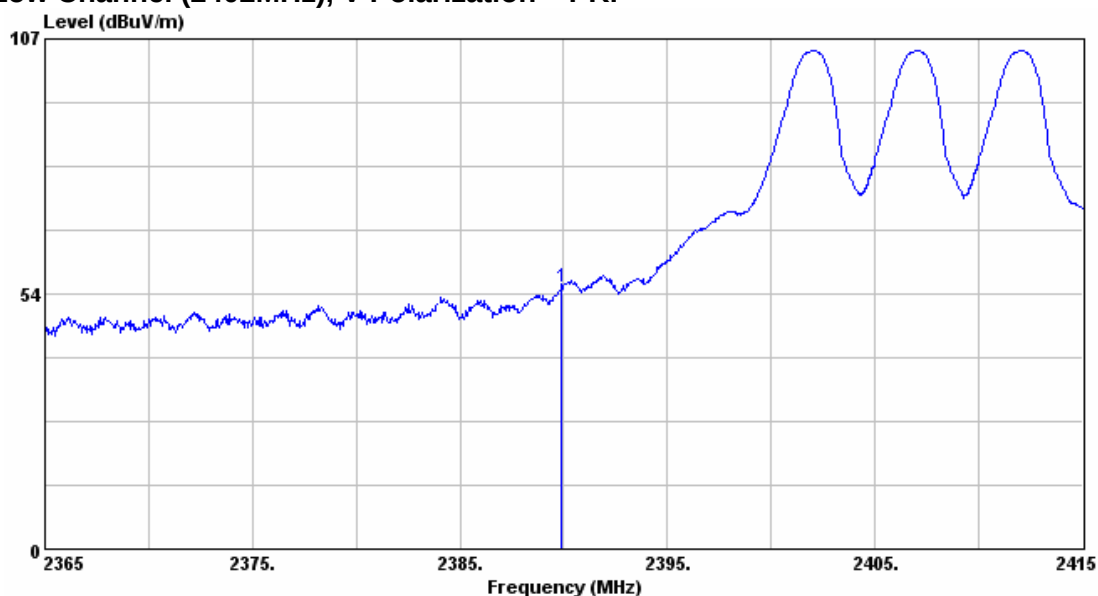
Tester : Bill

| Operating Frequency (MHz) | Antenna Polarization | Frequency (MHz) | Reading Data (dBuV) |       | Correction Factor (dB/m) | Emission (dBuV/m) |       | Limit (dBuV/m) |       | Margin (dB) |       |
|---------------------------|----------------------|-----------------|---------------------|-------|--------------------------|-------------------|-------|----------------|-------|-------------|-------|
|                           |                      |                 | PK.                 | AV.   |                          | PK.               | AV.   | PK.            | AV.   | PK.         | AV.   |
| 2402                      | V                    | 2389.85         | 53.87               | 33.26 | 0.50                     | 54.37             | 33.76 | 74.00          | 54.00 | 19.63       | 20.24 |
| 2402                      | H                    | 2390.0          | 50.34               | 32.00 | 0.50                     | 50.84             | 32.50 | 74.00          | 54.00 | 23.16       | 21.5  |
| 2480                      | V                    | 2483.5          | 65.73               | 36.86 | 0.42                     | 66.15             | 37.28 | 74.00          | 54.00 | 7.85        | 16.72 |
| 2480                      | H                    | 2483.5          | 60.74               | 34.22 | 0.42                     | 61.16             | 34.64 | 74.00          | 54.00 | 12.84       | 19.36 |

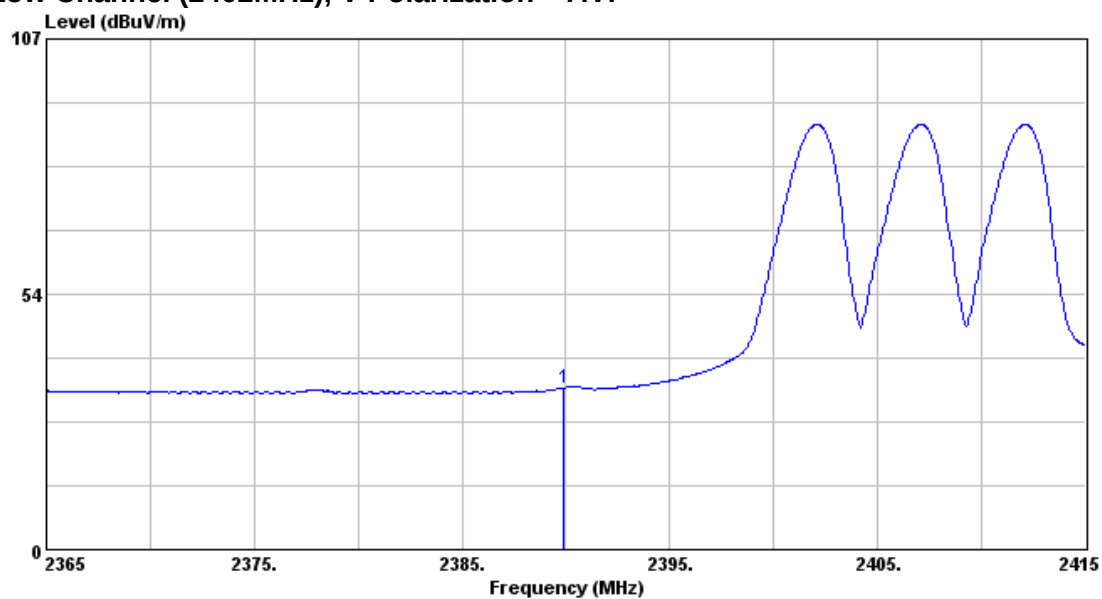
Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission (dBuV/m) = Reading Data + Correction Factor
3. Margin(dB) = Limit – Emission
4. “\*” : The emission is too low to be measured.

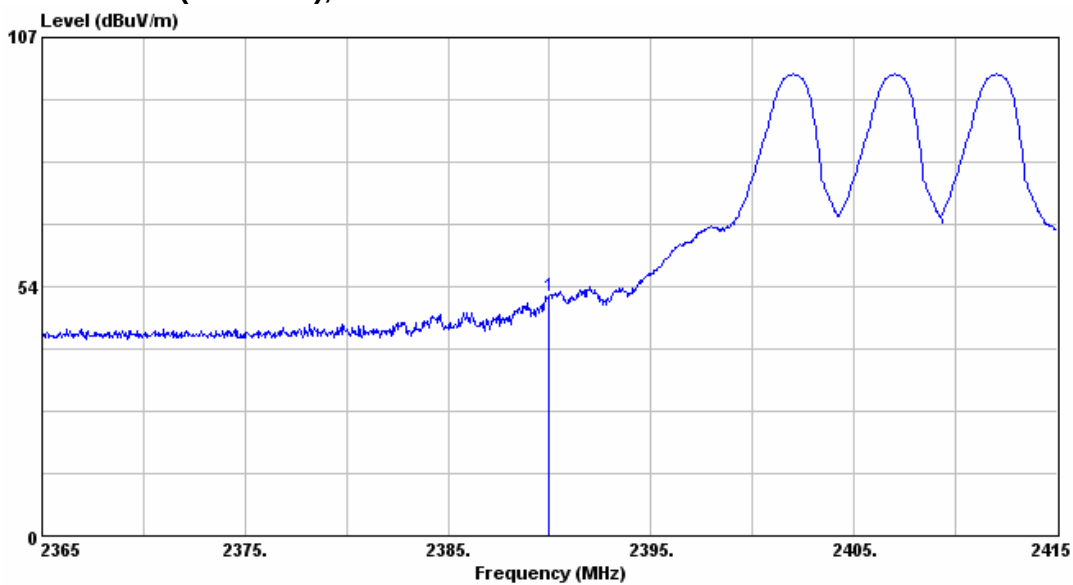
## Low Channel (2402MHz), V Polarization – PK.



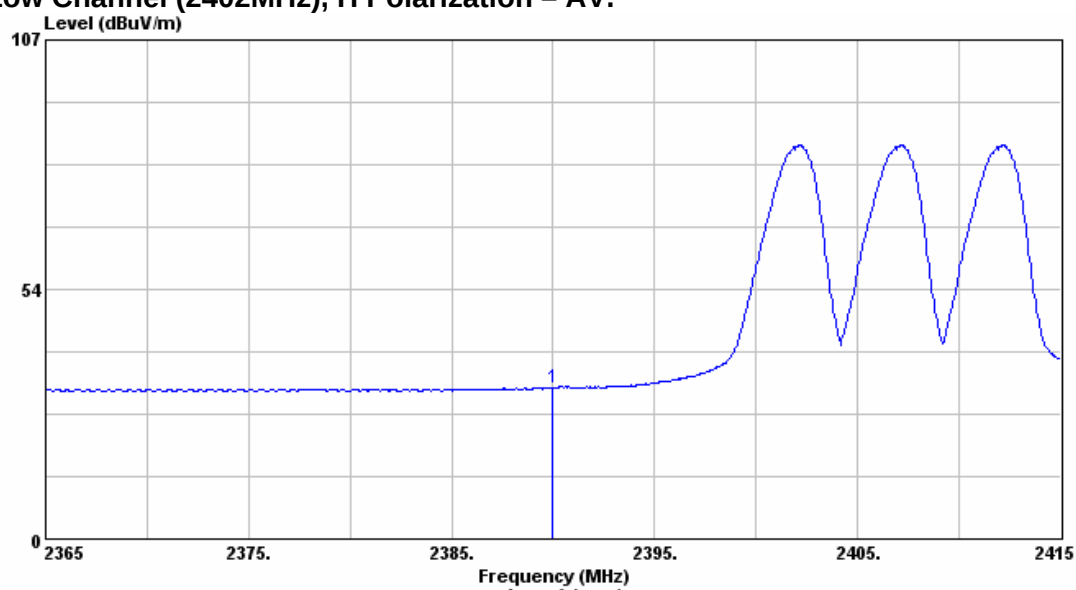
## Low Channel (2402MHz), V Polarization – AV.



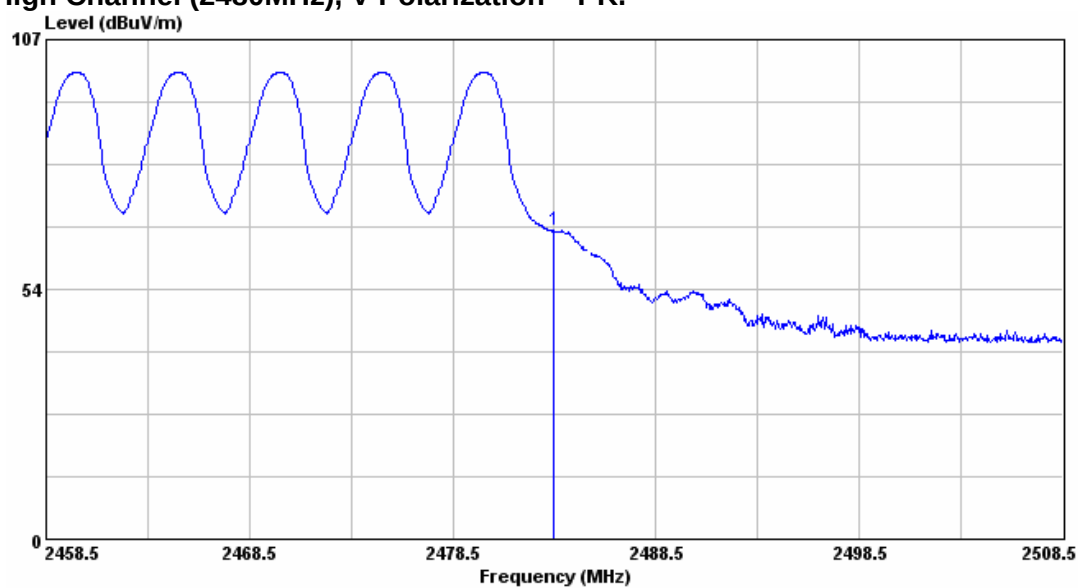
## Low Channel (2402MHz), H Polarization – PK.



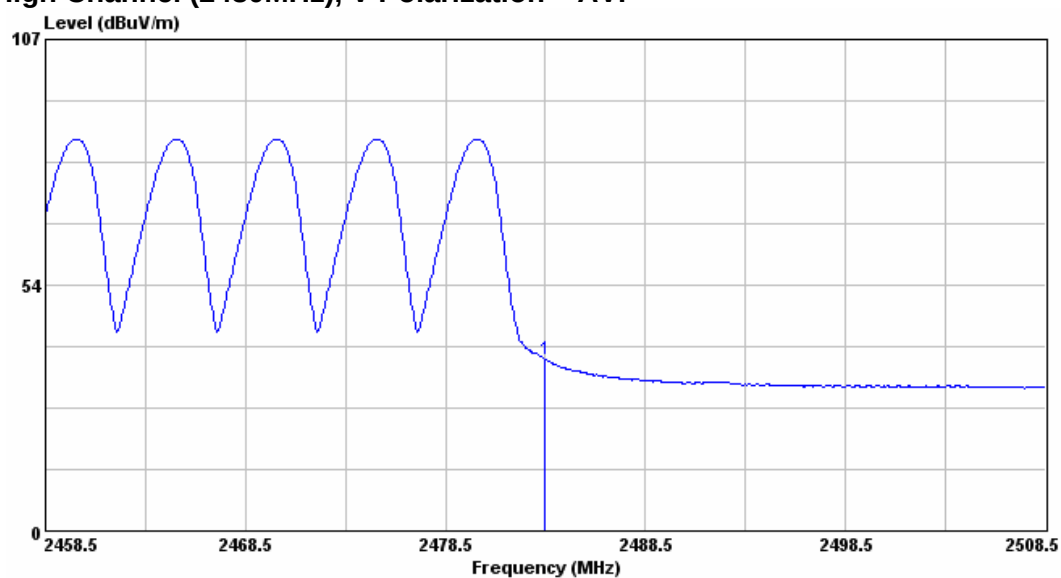
## Low Channel (2402MHz), H Polarization – AV.



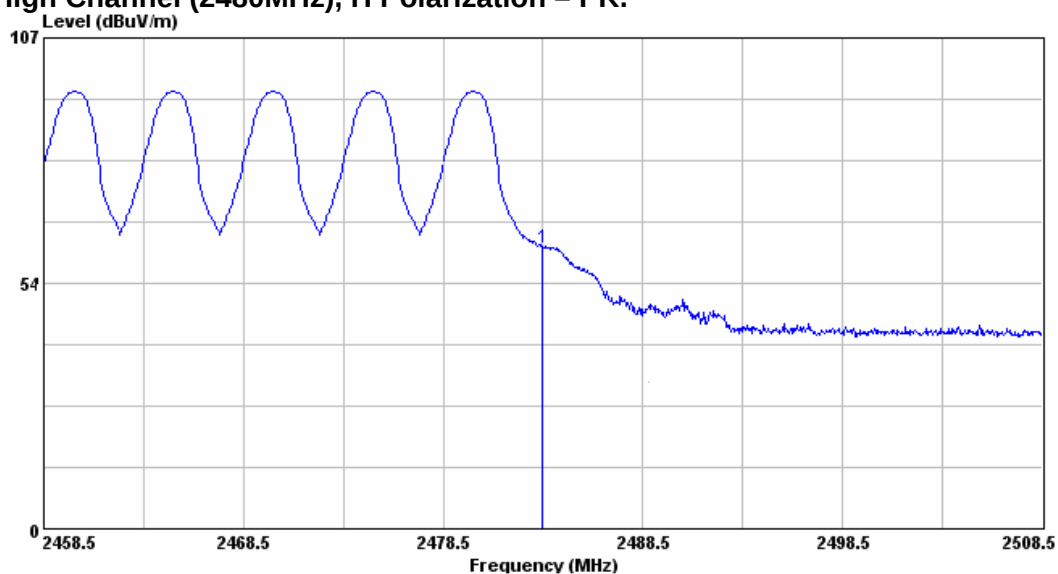
## High Channel (2480MHz), V Polarization – PK.



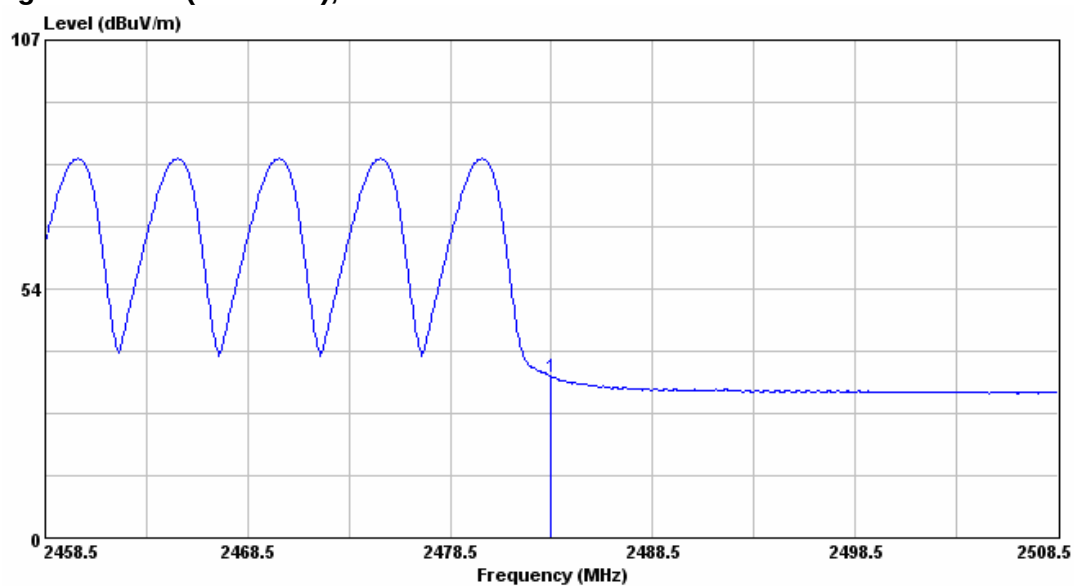
## High Channel (2480MHz), V Polarization – AV.



## High Channel (2480MHz), H Polarization – PK.



## High Channel (2480MHz), H Polarization – AV.



Test Mode : Continuously Transmitting

Power in : Batteries

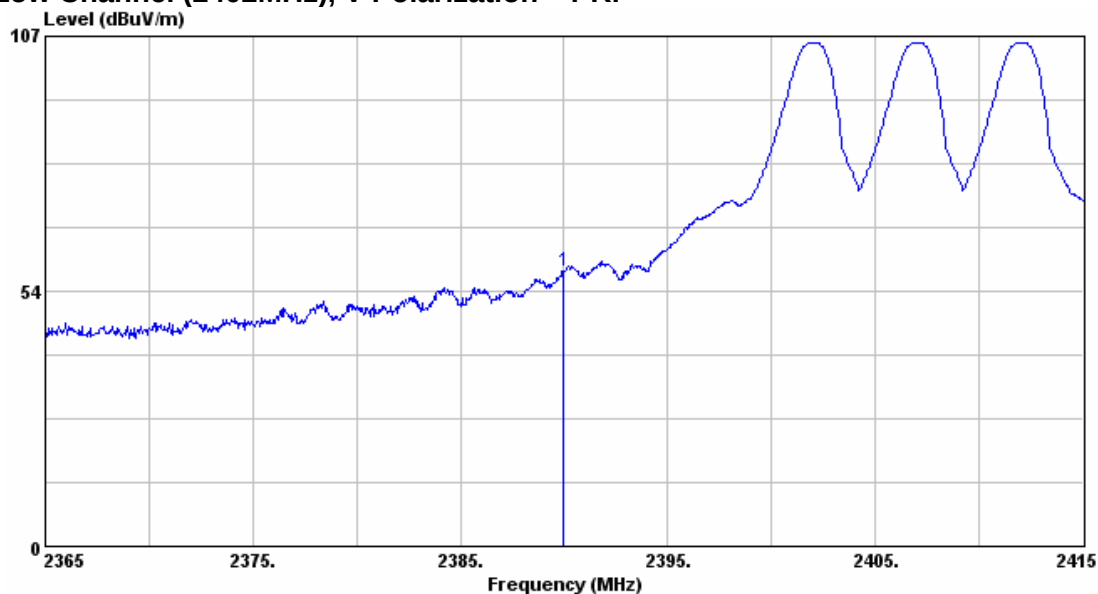
Tester : Bill

| Operating Frequency (MHz) | Antenna Polarization | Frequency (MHz) | Reading Data (dBuV) |       | Correction Factor (dB/m) | Emission (dBuV/m) |       | Limit (dBuV/m) |       | Margin (dB) |       |
|---------------------------|----------------------|-----------------|---------------------|-------|--------------------------|-------------------|-------|----------------|-------|-------------|-------|
|                           |                      |                 | PK.                 | AV.   |                          | PK.               | AV.   | PK.            | AV.   | PK.         | AV.   |
| 2402                      | V                    | 2389.90         | 57.17               | 34.13 | 0.50                     | 57.67             | 34.63 | 74.00          | 54.00 | 16.33       | 19.37 |
| 2402                      | H                    | 2390.00         | 49.80               | 32.01 | 0.50                     | 50.30             | 32.51 | 74.00          | 54.00 | 23.70       | 21.49 |
| 2480                      | V                    | 2483.50         | 65.80               | 36.54 | 0.42                     | 66.21             | 36.95 | 74.00          | 54.00 | 7.79        | 17.05 |
| 2480                      | H                    | 2483.50         | 61.18               | 34.31 | 0.42                     | 61.60             | 34.73 | 74.00          | 54.00 | 12.40       | 19.27 |

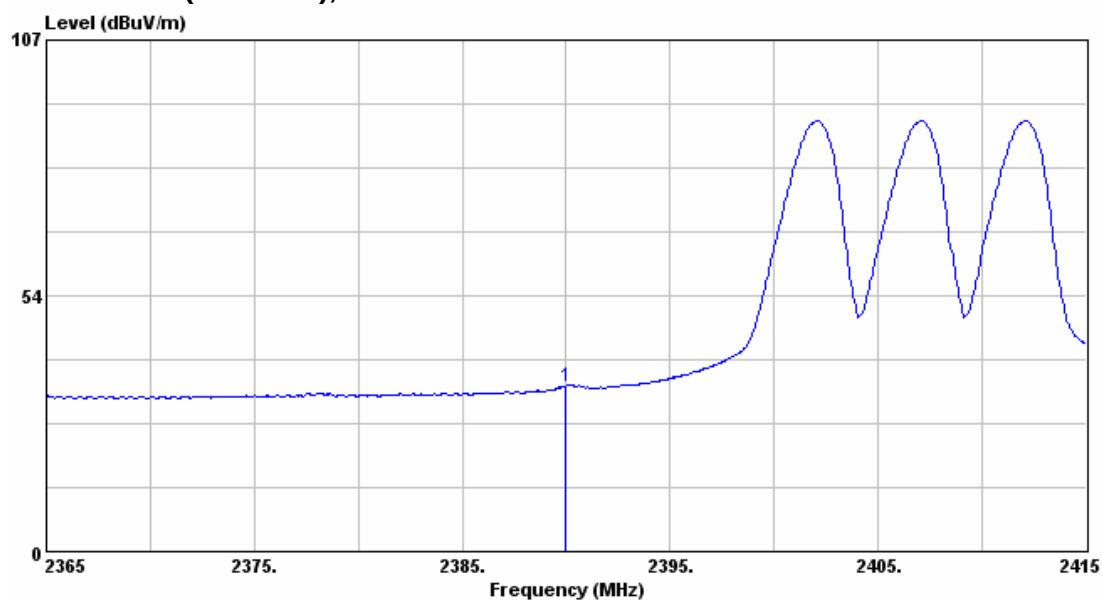
Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission (dBuV/m) = Reading Data + Correction Factor
3. Margin(dB) = Limit – Emission
4. “\*” : The emission is too low to be measured.

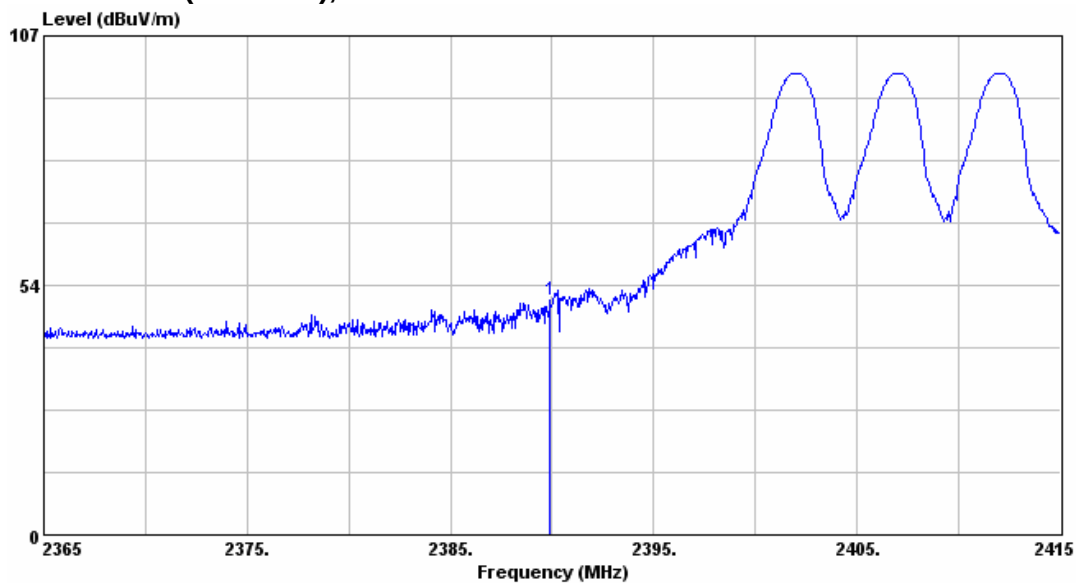
## Low Channel (2402MHz), V Polarization – PK.



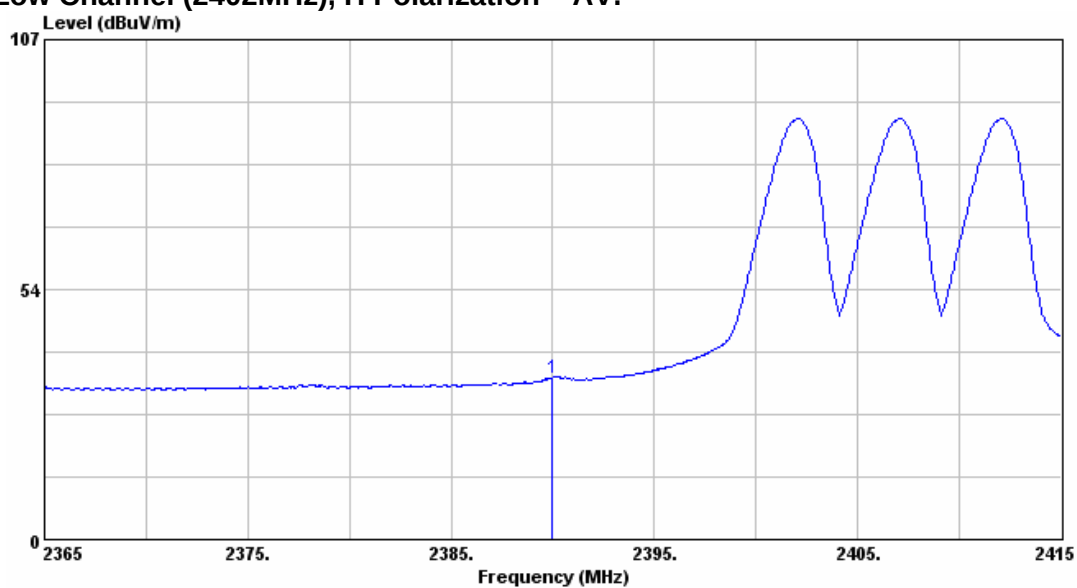
## Low Channel (2402MHz), V Polarization – AV.



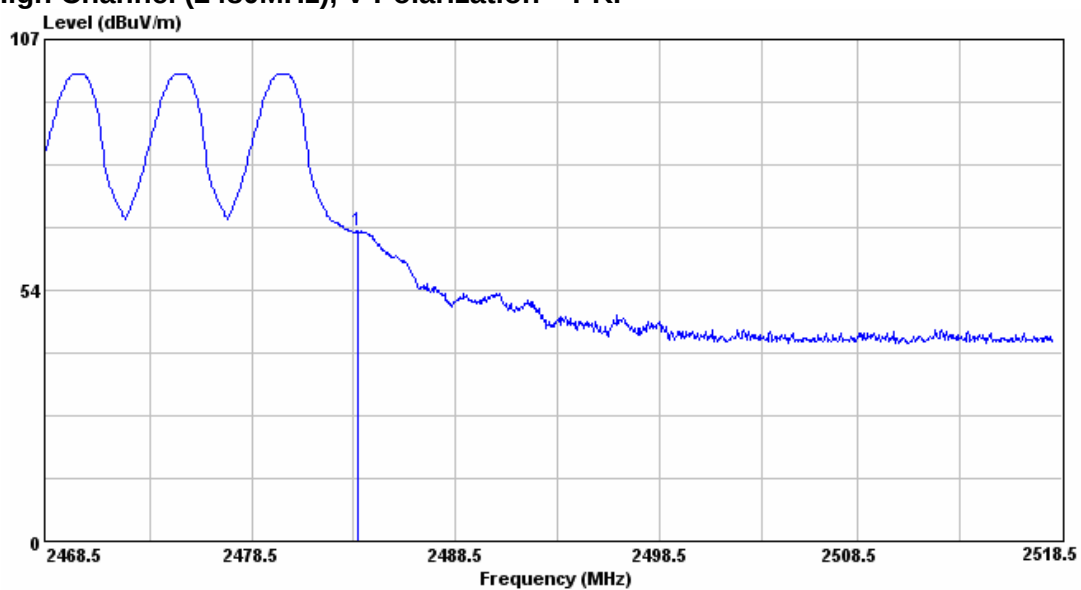
## Low Channel (2402MHz), H Polarization – PK.



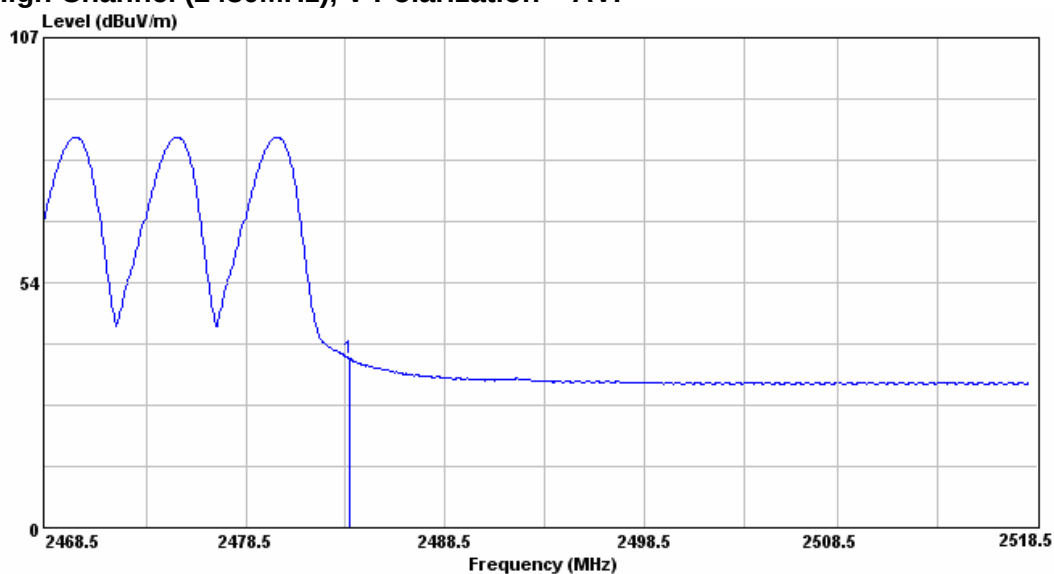
## Low Channel (2402MHz), H Polarization – AV.



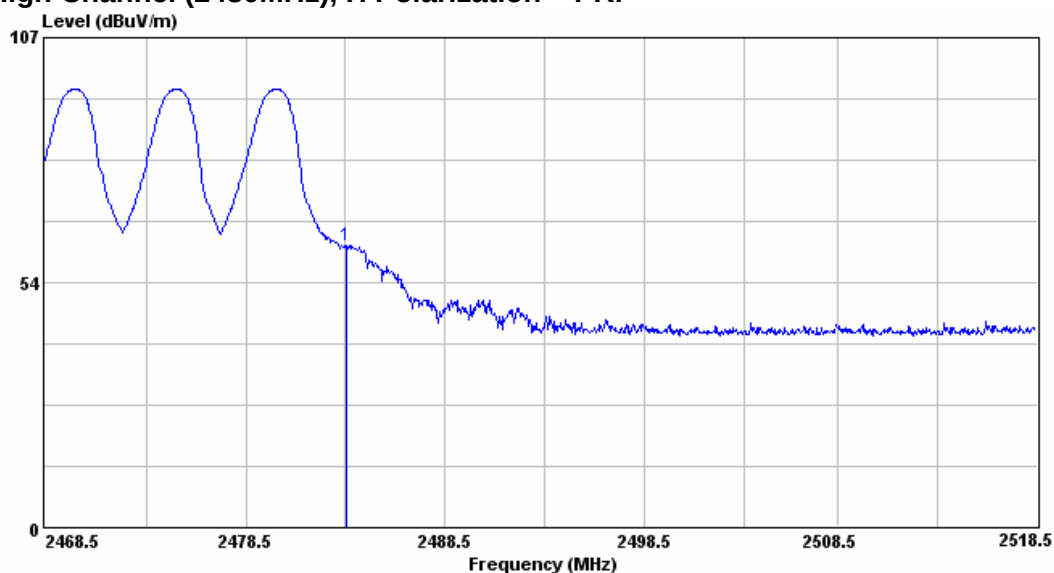
## High Channel (2480MHz), V Polarization – PK.



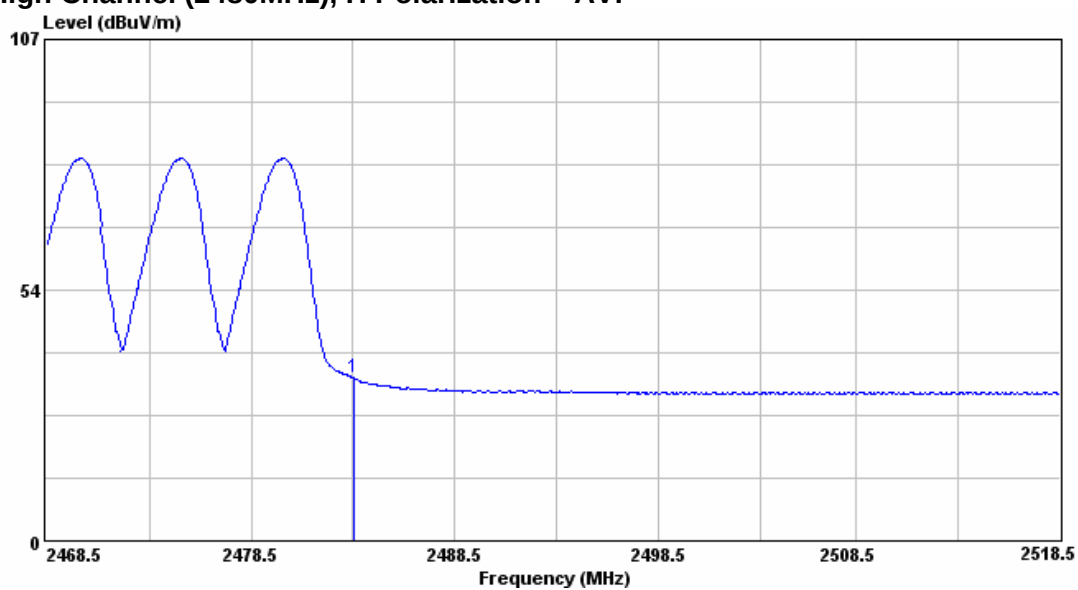
## High Channel (2480MHz), V Polarization – AV.



## High Channel (2480MHz), H Polarization – PK.



## High Channel (2480MHz), H Polarization – AV.



## **4 Hopping Channel Carrier Frequencies Spacing**

**Result: Pass**

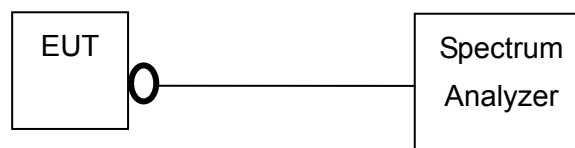
### **4.1 Applied standard**

According to 15.247(a)(1), frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

### **4.2 Measurement Procedure**

- a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.
- b. A software provided by client enabled the EUT to transmit data at lowest, middle and highest channel frequencies individually.
- c. Measurement the 20dB bandwidth and compare with 25kHz to determine the required carrier frequency spacing.
- d. Measure frequency spacing and compare with the required limit.

### **4.3 Test configuration**



**4.4 Test Instruments**

| <b>Test Site and Equipment</b> | <b>Manufacturer</b> | <b>Model No./ Serial No.</b> | <b>Last Calibration Date</b> | <b>Calibration Due Date</b> |
|--------------------------------|---------------------|------------------------------|------------------------------|-----------------------------|
| Shielded Room                  | ETS.LINDGREN        | TR4/<br>15353-F              | NCR                          | NCR                         |
| Spectrum Analyzer              | Agilent             | E4407B/<br>MY45106795        | March 3,2006                 | March 3,2007                |

Note:

1. The calibrations are traceable to NML/ROC.
2. NCR:No Calibration Required.

**Instrument Setting**

| <b>RBW</b> | <b>VBW</b> | <b>Detector</b> | <b>Trace</b> | <b>Comment</b>  |
|------------|------------|-----------------|--------------|-----------------|
| 10kHz      | 100kHz     | Peak            | Maxhold      | 20dB Bandwidth  |
| 30kHz      | 100kHz     | Peak            | Maxhold      | Carrier Spacing |

**Climatic Condition**

Ambient Temperature : 25°C ; Relative Humidity : 72%

## 4.5 Test Data

## 20dB bandwidth

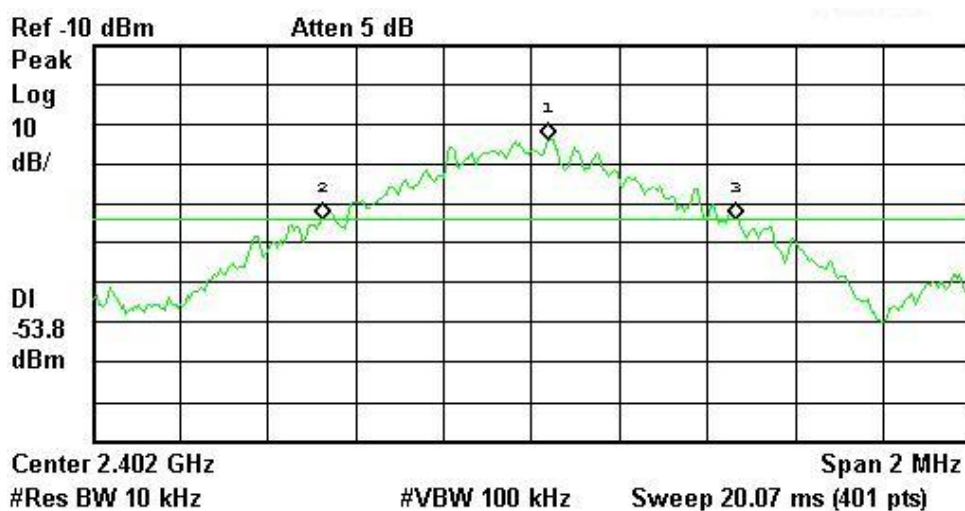
Test Mode : Continuously Transmitting

Tester : Bill

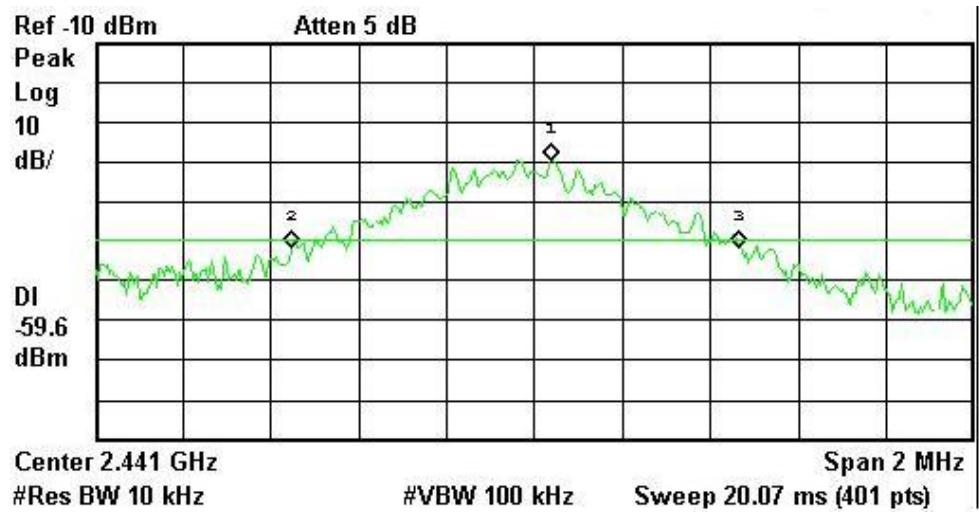
| Operating Frequency<br>(MHz) | 20dB Bandwidth<br>(kHz) |
|------------------------------|-------------------------|
| 2402                         | 940                     |
| 2441                         | 940                     |
| 2480                         | 935                     |

Measured 20dB bandwidth is 940 KHz. According to 15.247(a)(1), hopping channel carrier frequencies spacing should be greater than 940kHz.

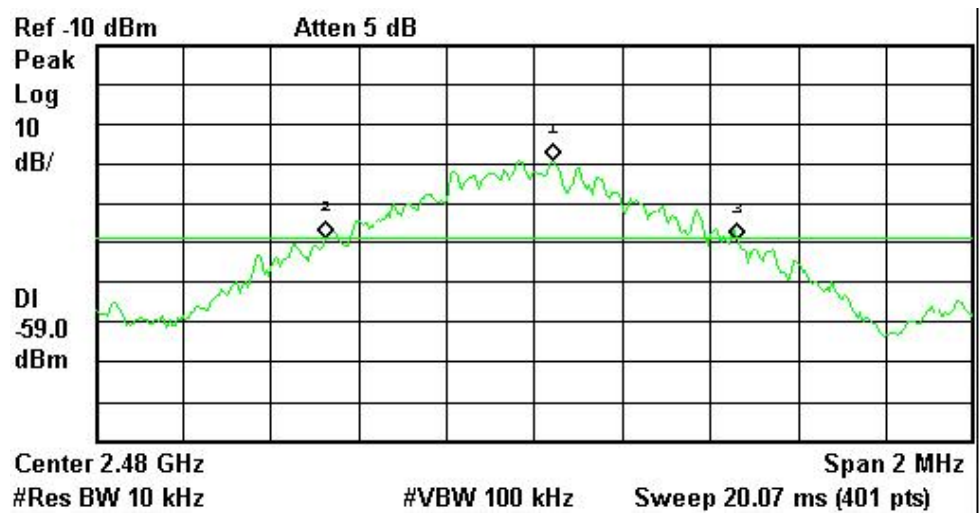
## Low Channel (2402MHz)



Middle Channel (2441MHz)



High Channel (2480MHz)



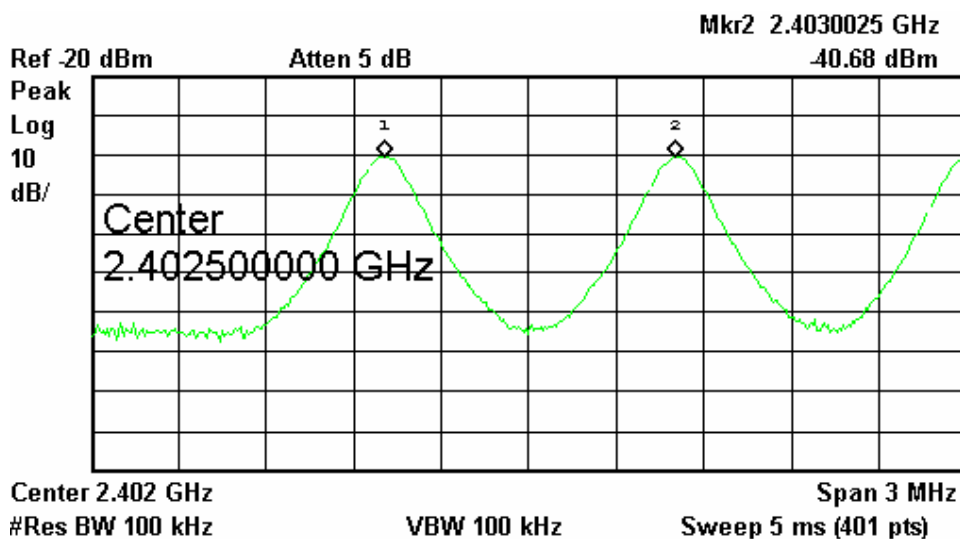
## Hopping Channel Carrier Frequencies spacing

Test Mode : Continuously Transmitting

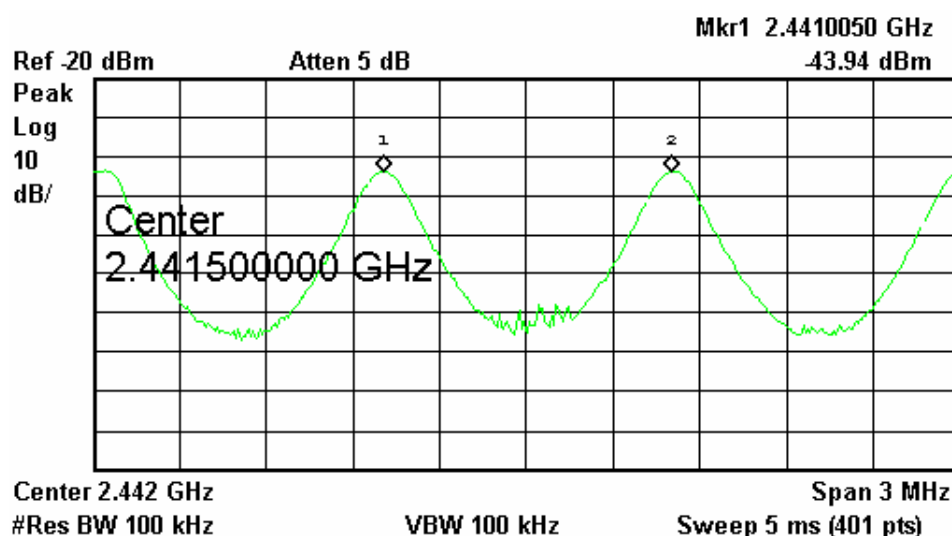
Tester : Bill

| Operating Frequency (MHz) | Carrier Spacing (kHz) | Limit (kHz) | Margin (kHz) |
|---------------------------|-----------------------|-------------|--------------|
| 2402                      | 1005                  | 940         | 65           |
| 2441                      | 1005                  | 940         | 65           |
| 2480                      | 1005                  | 940         | 65           |

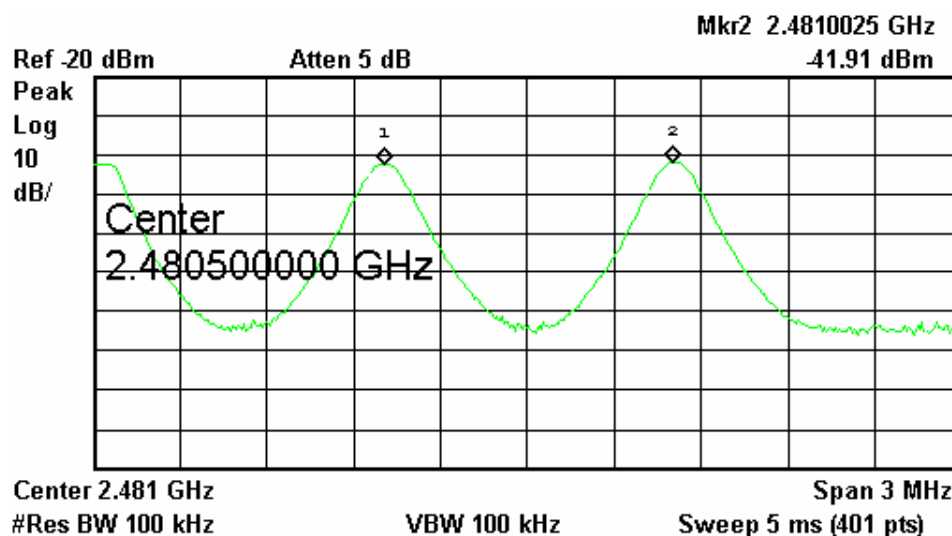
## Low Channel (2402MHz)



## Middle Channel (2441MHz)



## High Channel (2480MHz)



## 5 Number of Hopping Channels

Result: 79 Hopping Channels

### 5.1 Applied standard

According to 15.247(b)(1), for frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

### 5.2 Measurement Procedure

- a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.
- b. A software provided by client enabled the EUT to transmit data at all channels.
- c. Measure number of hopping channels and compare with the required limit.

### 5.3 Test configuration

See section 4.3.

### 5.4 Test Instruments

See section 4.4.

#### Instrument Setting

| RBW  | VBW  | Detector | Trace   | Comment |
|------|------|----------|---------|---------|
| 1MHz | 3MHz | Peak     | Maxhold |         |

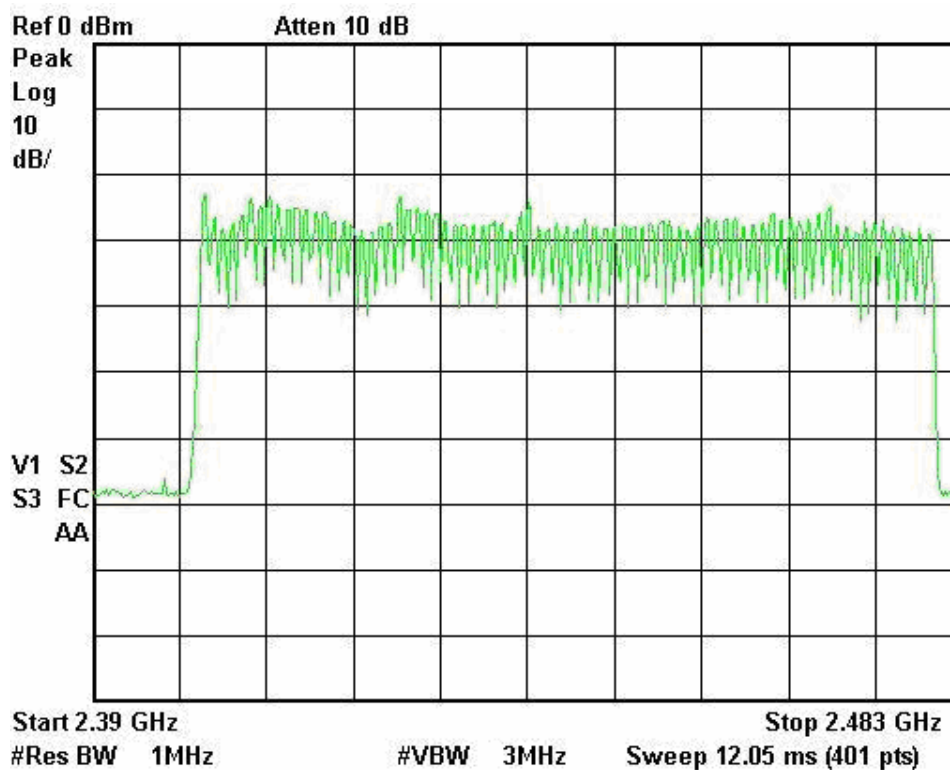
#### Climatic Condition

Ambient Temperature : 25°C ;      Relative Humidity : 72%

## 5.5 Test Data

Test Mode : Continuously Transmitting

Tester : Bill



## **6 Radiated Emission**

**Result:** Pass

### **6.1 Applied standard**

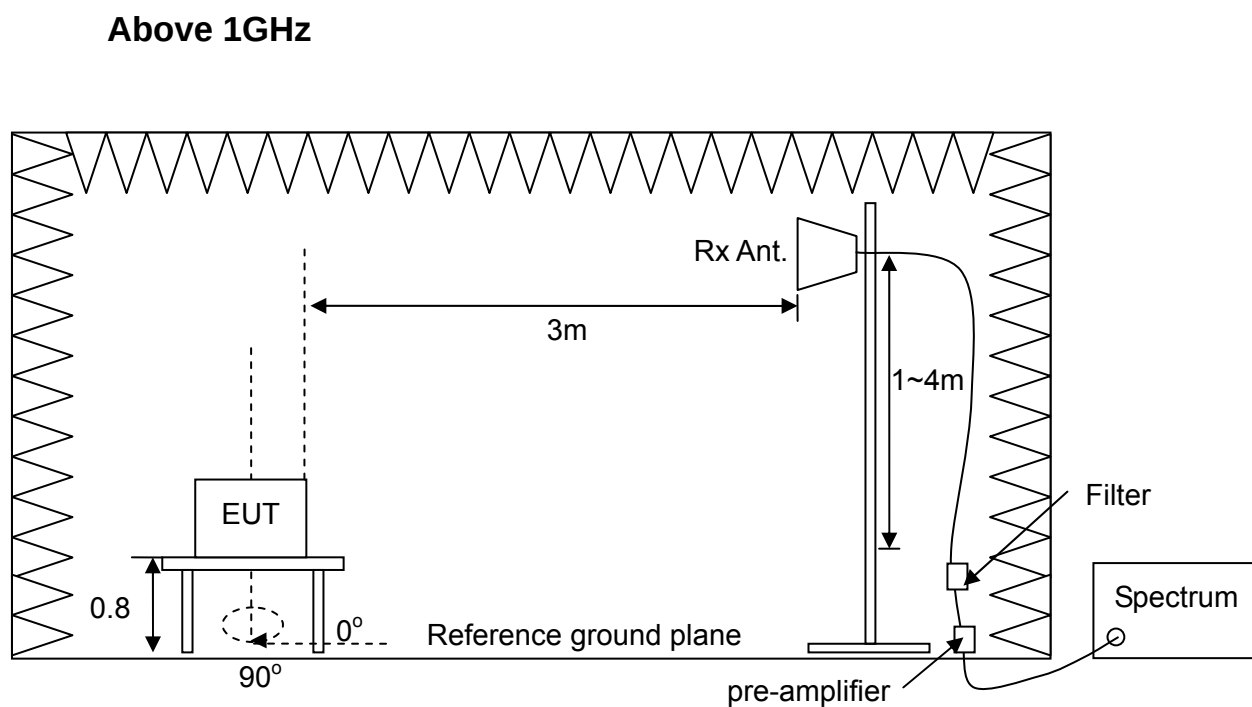
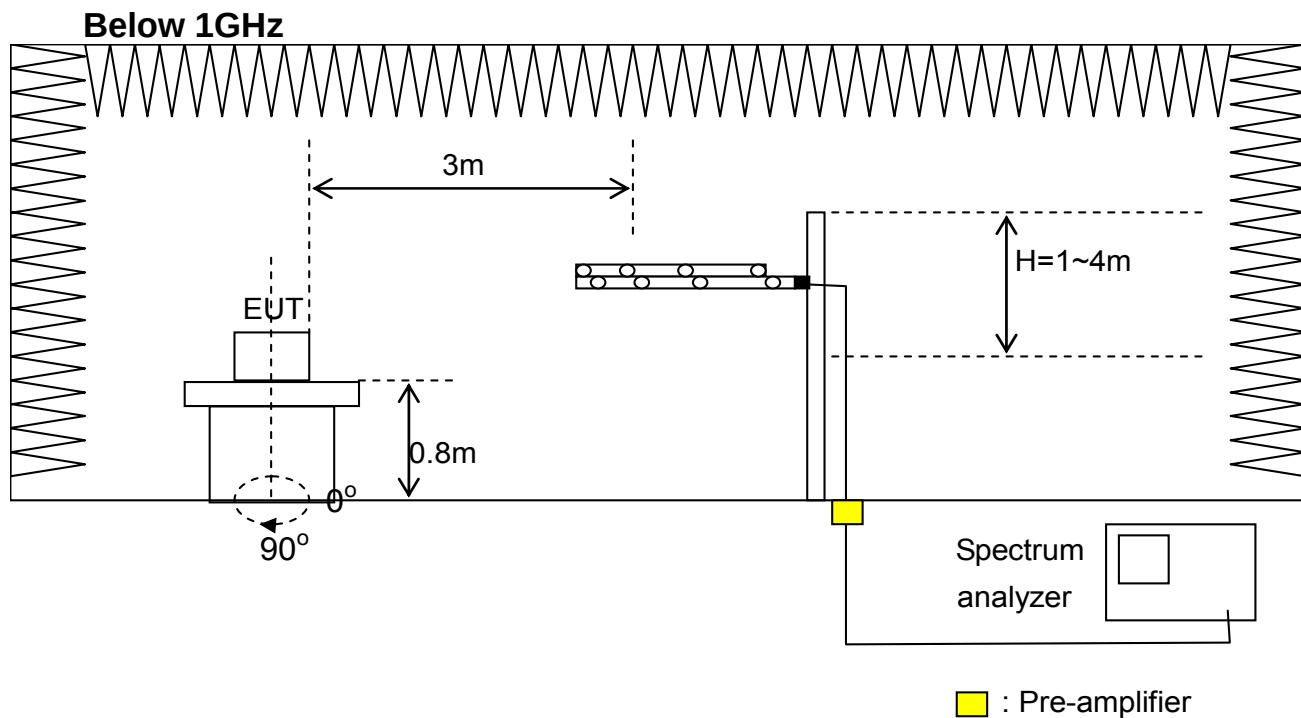
According to 15.247(c), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

### **6.2 Measurement Procedure**

- a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.
- b. A software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel frequencies individually.
- c. If the EUT is tabletop equipment, it was placed on a wooden table with a height of 0.8 meters above the reference ground plane in the semi-anechoic chamber. If the EUT is floor-standing equipment, it was placed on a non-conducted support with a height of 12 millimeters above the reference ground plane in the semi-anechoic chamber.
- d. The EUT was set 3m away from the interference receiving antenna.
- e. Rapidly sweep the signal in the test frequency range by using the spectrum through the Maximum-peak detector.
- f. Rotate the EUT from 0° to 360° and position the receiving antenna at heights from 1 to 4 meters above the reference ground plane continuously to determine at least six frequencies associated with higher emission levels and record them.
- g. Then measure each frequency found from step f. by using the spectrum with rotating the EUT and positioning the receiving antenna height to determine the maximum level.
- h. For measurement of frequency below 1000MHz, set the receiver detector to be Quasi-Peak per CISPR 16-1 to find out the maximum level occurred.

- i. For measurement of frequency above 1000MHz, set the spectrum detector to be Peak or Average to find out the maximum level occurred, if any.
- j. Record frequency, azimuth angle of the turntable, height, and polarization of the receiving antenna and compare the maximum level with the required limit.
- k. Change the receiving antenna to another polarization to measure radiated emission by following step e. to j. again.
- l. If the peak emission level below 1000MHz measured from step f. is 4dB lower than the limit specified, then the emission values presented will be the peak value only. Otherwise, accurate Q.P. value will be measured and presented.
- m. If the peak emission level above 1000MHz measured from step f. is 20dB lower than the limit specified, then the emission values presented will be the peak value only. Otherwise, accurate A.V. value will be measured and presented.

## 6.3 Test configuration



## 6.4 Test Instruments

| Test Site and Equipment | Manufacturer | Model No./ Serial No.           | Last Calibration Date | Calibration Due Date |
|-------------------------|--------------|---------------------------------|-----------------------|----------------------|
| Semi-anechoic Chamber   | ETS.LINDGREN | TR1/<br>17627-B                 | April 9, 2006         | April 9, 2007        |
| Test Receiver           | R&S          | ESCS30/<br>836858/020           | July 30, 2005         | July 30, 2006        |
| Spectrum Analyzer*      | R&S          | FSP40/<br>100031                | June 16, 2005         | June 16, 2006        |
| Antenna                 | R&S          | HL562/<br>360543/010            | July 7, 2005          | July 7, 2006         |
| Antenna*                | R&S          | HF906/<br>359287/002            | Aug, 11, 2005         | Aug. 11, 2006        |
| Antenna*                | EMCO         | 3116/<br>20552                  | Dec. 13, 2005         | Dec. 13, 2006        |
| Pre-amplifier*          | MITEQ        | JS4-00101800-28-5<br>A/742229   | August 3, 2005        | Aug. 3, 2006         |
| Pre-amplifier*          | MITEQ        | JS4-18002600-30-5<br>A/ 741923  | June 27, 2005         | June 27, 2006        |
| Pre-amplifier*          | MITEQ        | AMF-6F-260400-33<br>-8P/ 928336 | June 27, 2005         | June 27, 2006        |
| Pre-amplifier           | Mini Circuit | ZKL-2/<br>002                   | April 9, 2006         | April 9, 2007        |
| High-Pass Filter*       | MCI          | H04G13G1/<br>2467-01            | March 31, 2005        | March 31, 2006       |

Note:

1. “\*” : These instruments are used only for the measurement of emission frequency above 1000MHz.
2. The calibrations are traceable to NML/ROC.
3. NCR : No Calibration Required.
4. The calibration date of the semi-anechoic chamber listed above is the date of NSA measurement.

## Instrument Setting

| RBW    | VBW  | Detector   | Trace   | Comment                |
|--------|------|------------|---------|------------------------|
| 120kHz | N/A  | Quasi-Peak | Maxhold | Below 1GHz             |
| 1MHz   | 3MHz | Peak       | Maxhold | Above 1GHz,<br>Peak    |
| 1MHz   | 10Hz | Peak       | Maxhold | Above 1GHz,<br>Average |

**Climatic Condition**

Ambient Temperature : 25°C ;

Relative Humidity : 72%

## 6.5 Test Data

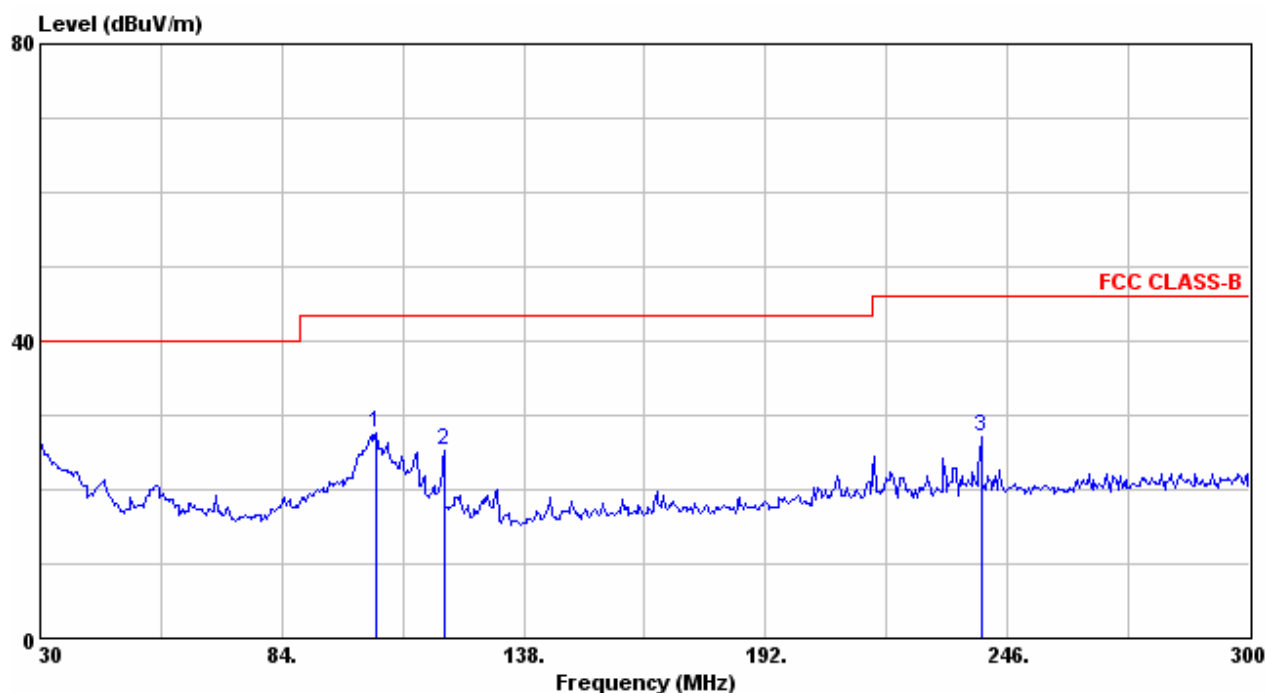
### Radiated Emission Measurement below 1000MHz

Test Mode : Channel 0(2402MHz), Continuously Transmitting  
 Power in : Adaptor  
 Test Distance : 3m Tester : Bill  
 Polarization : Vertical Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 105.06             | 48.98                  | -21.28                      | 27.70                      | 43.50             | 15.80          |
| 2 | 120.18             | 47.67                  | -22.43                      | 25.24                      | 43.50             | 18.26          |
| 3 | 240.06             | 43.78                  | -16.78                      | 27.00                      | 46.00             | 19.00          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Mode : Channel 0(2402MHz), Continuously Transmitting

Power in : Adaptor

Test Distance : 3m

Tester : Bill

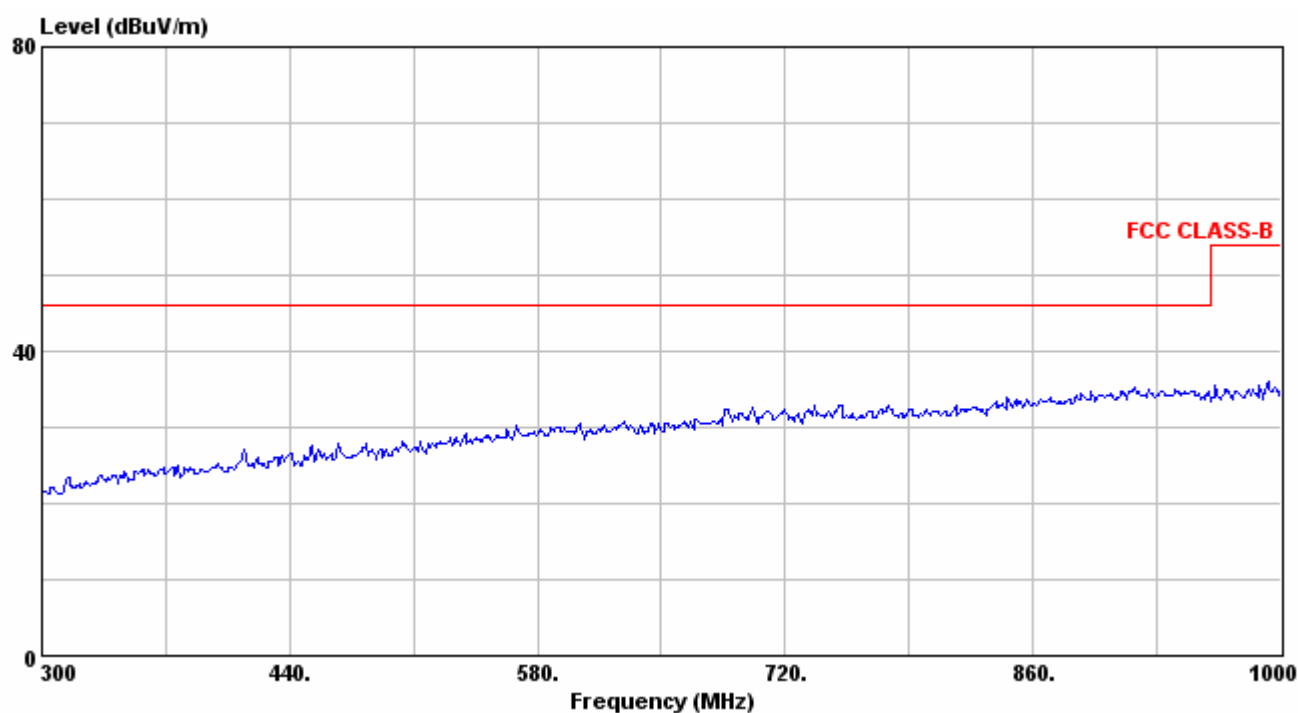
Polarization : Vertical

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Mode : Channel 0(2402MHz), Continuously Transmitting

Power in : Adaptor

Test Distance : 3m

Tester : Bill

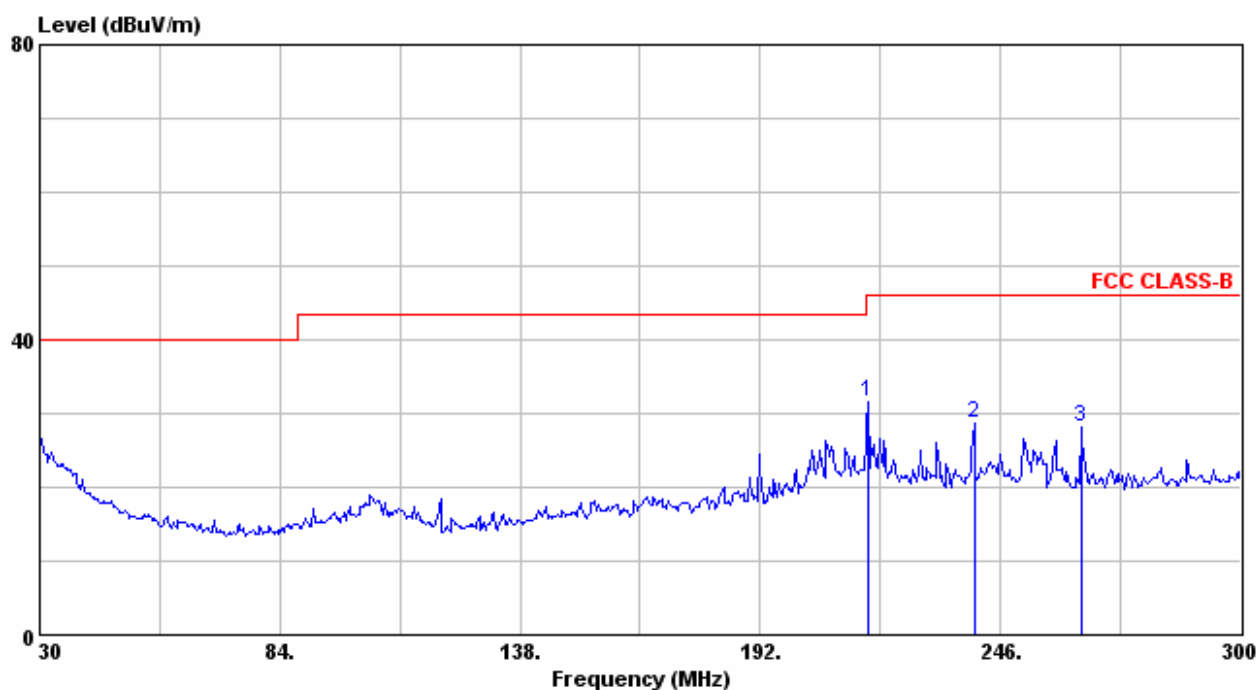
Polarization : Horizontal

Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 216.30             | 49.07                  | -17.51                      | 31.56                      | 46.00             | 14.44          |
| 2 | 240.06             | 45.56                  | -16.78                      | 28.78                      | 46.00             | 17.22          |
| 3 | 264.09             | 44.11                  | -15.90                      | 28.21                      | 46.00             | 17.79          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Mode : Channel 0(2402MHz), Continuously Transmitting

Power in : Adaptor

Test Distance : 3m

Tester : Bill

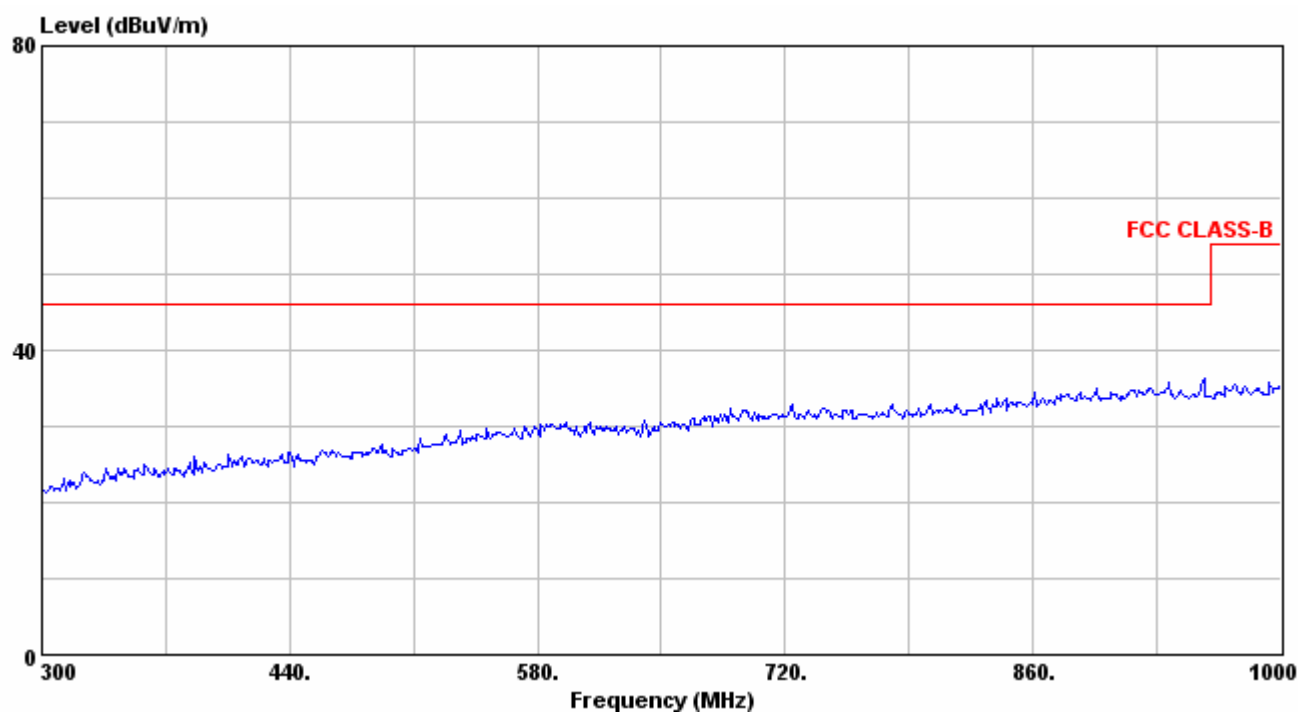
Polarization : Horizontal

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Mode : Channel 39(2441MHz), Continuously Transmitting

Power in : Adaptor

Test Distance : 3m

Tester : Bill

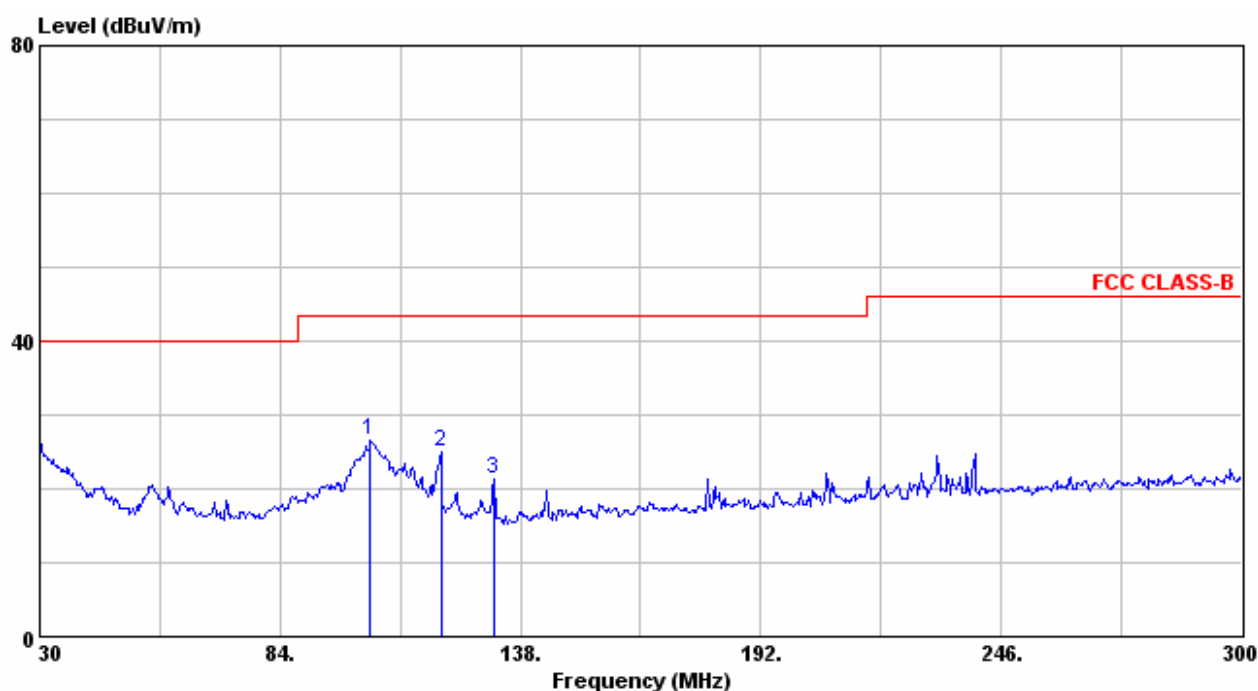
Polarization : Vertical

Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 104.25             | 47.76                  | -21.19                      | 26.57                      | 43.50             | 16.93          |
| 2 | 120.18             | 47.45                  | -22.43                      | 25.02                      | 43.50             | 18.48          |
| 3 | 132.06             | 43.17                  | -21.83                      | 21.34                      | 43.50             | 22.16          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Mode : Channel 39(2441MHz), Continuously Transmitting

Power in : Adaptor

Test Distance : 3m

Tester : Bill

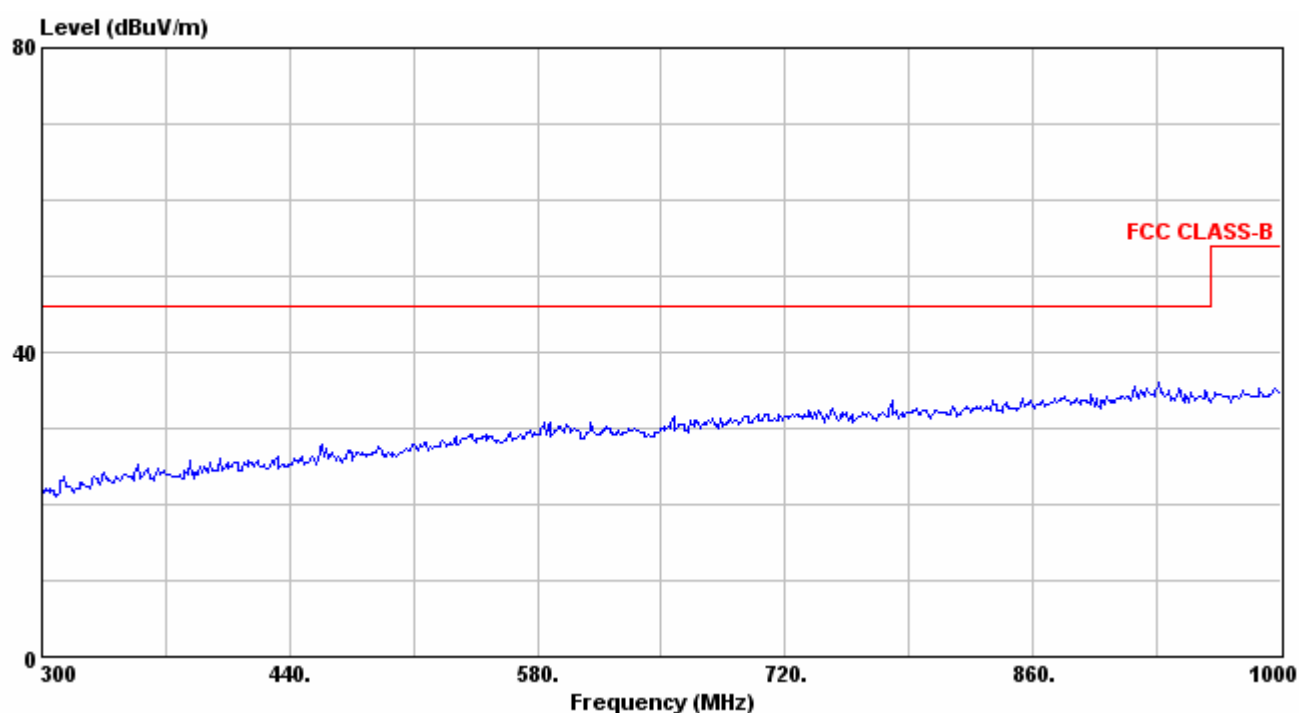
Polarization : Vertical

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Mode : Channel 39(2441MHz), Continuously Transmitting

Power in : Adaptor

Test Distance : 3m

Tester : Bill

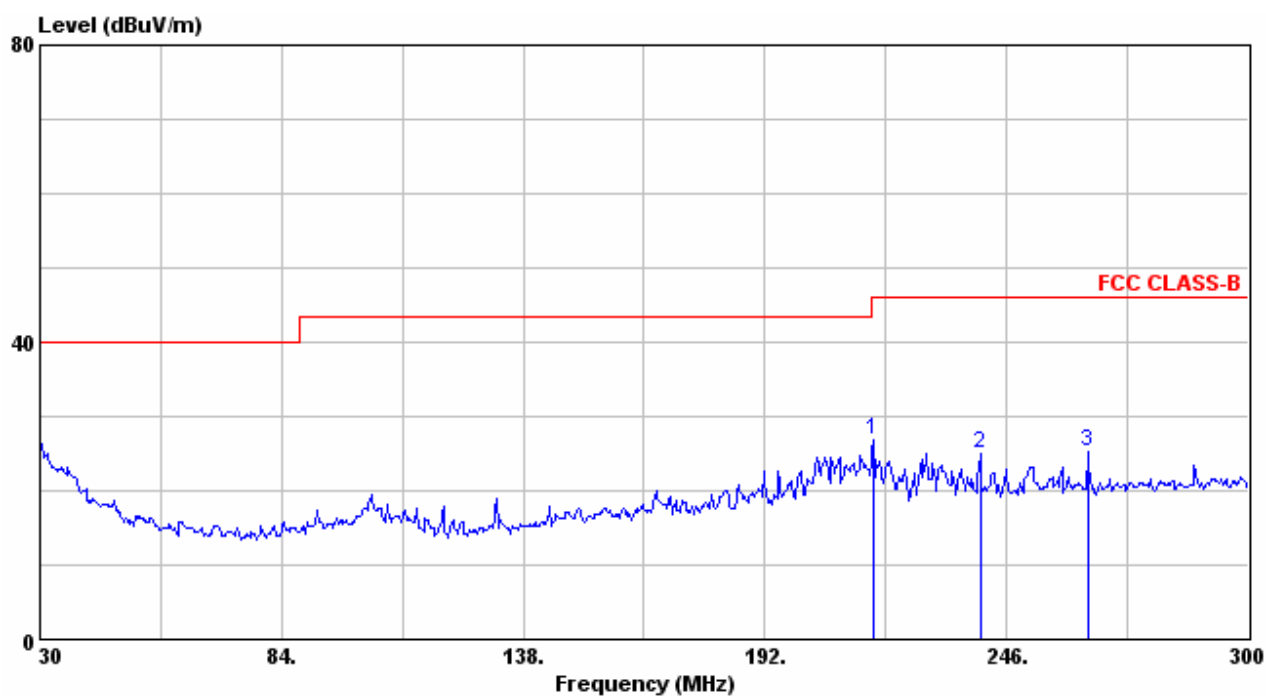
Polarization : Horizontal

Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 216.30             | 44.46                  | -17.51                      | 26.95                      | 46.00             | 19.05          |
| 2 | 240.06             | 41.74                  | -16.78                      | 24.96                      | 46.00             | 21.04          |
| 3 | 264.09             | 41.05                  | -15.90                      | 25.15                      | 46.00             | 20.85          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Mode : Channel 39(2441MHz), Continuously Transmitting

Power in : Adaptor

Test Distance : 3m

Tester : Bill

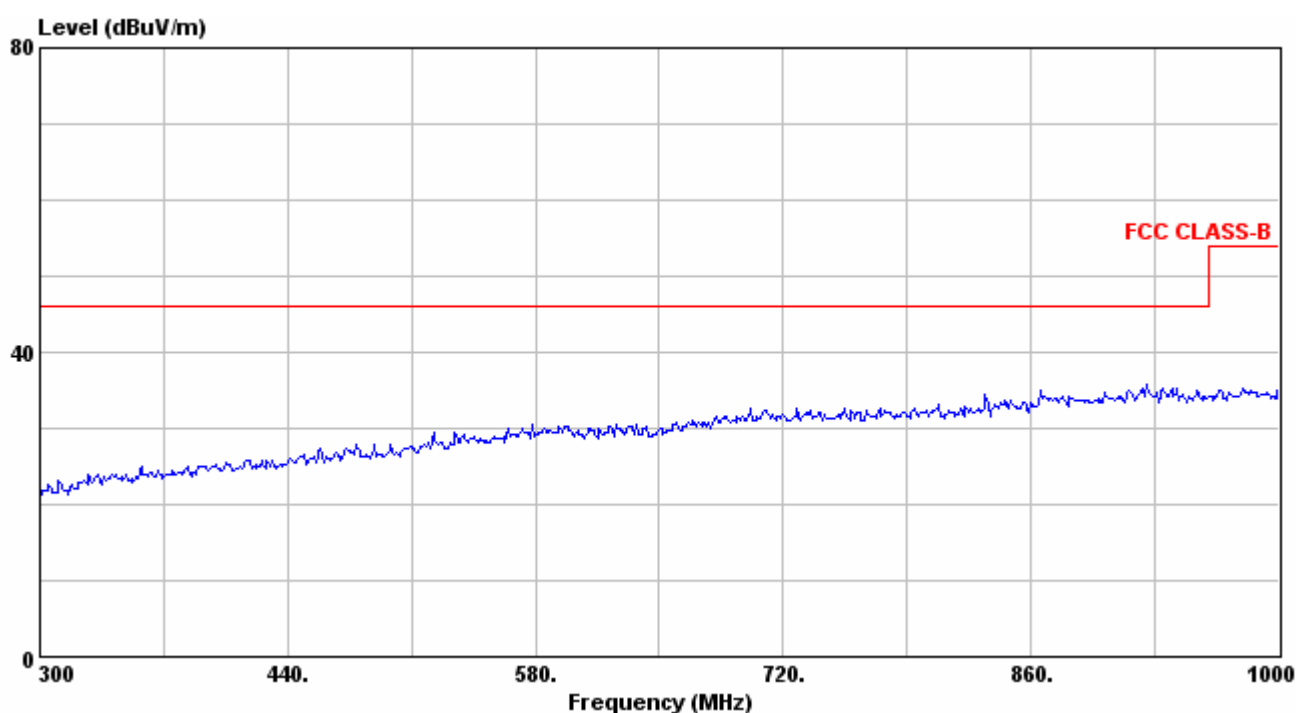
Polarization : Horizontal

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 78(2480MHz), Continuously Transmitting

Power in : Adaptor

Test Distance : 3m

Tester : Bill

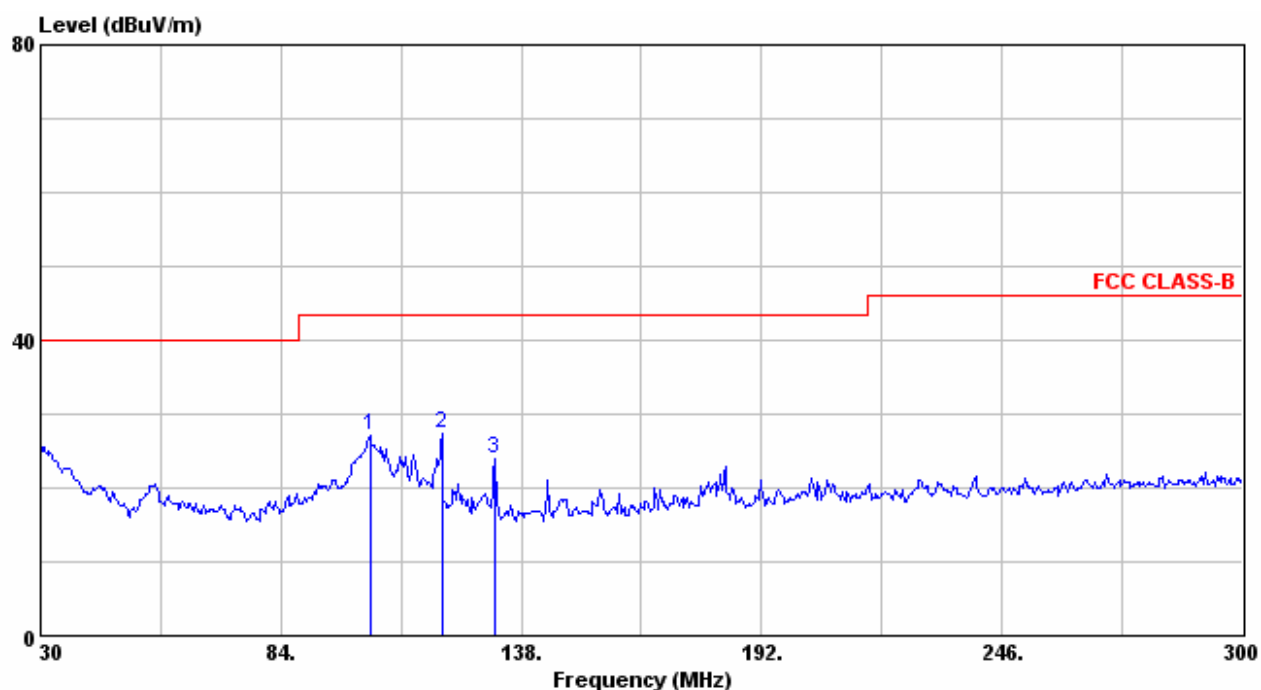
Polarization : Vertical

Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 103.98             | 48.14                  | -21.16                      | 26.98                      | 43.50             | 16.52          |
| 2 | 120.18             | 49.87                  | -22.43                      | 27.44                      | 43.50             | 16.06          |
| 3 | 132.06             | 45.83                  | -21.83                      | 24.00                      | 43.50             | 19.50          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 78(2480MHz), Continuously Transmitting

Power in : Adaptor

Test Distance : 3m

Tester : Bill

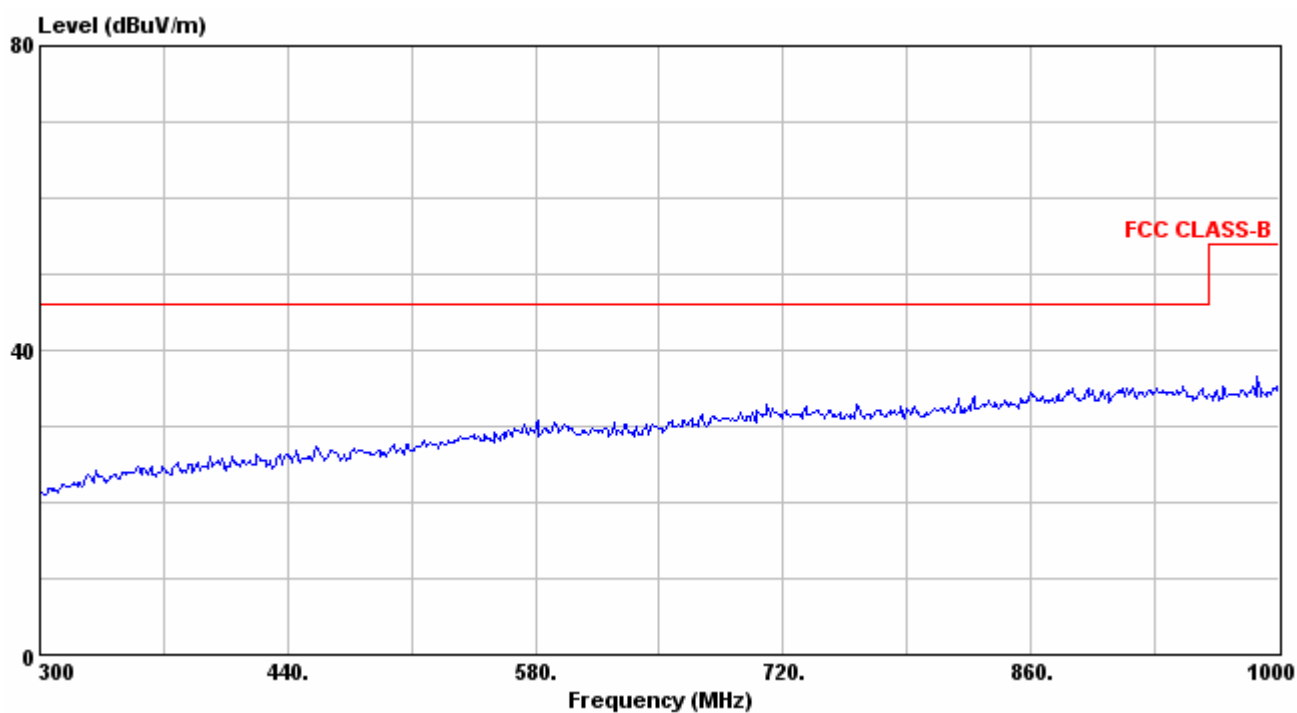
Polarization : Vertical

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



est Model : Channel 78(2480MHz), Continuously Transmitting

Power in : Adaptor

Test Distance : 3m

Tester : Bill

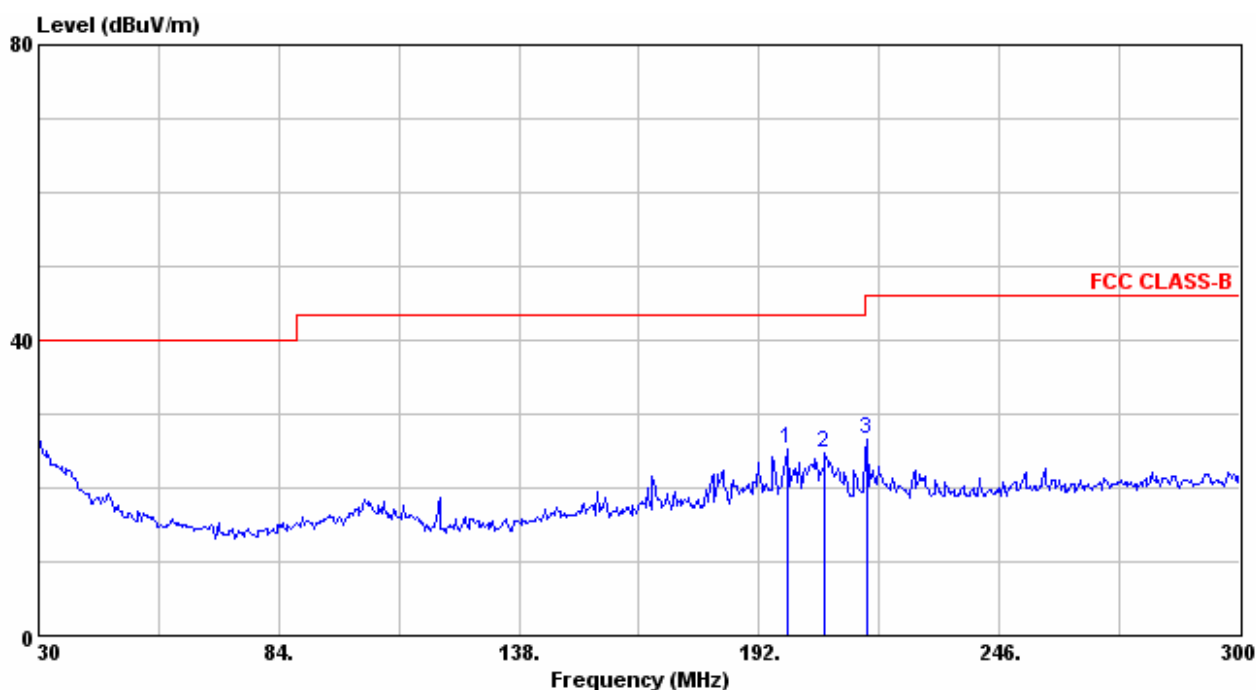
Polarization : Horizontal

Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 198.21             | 43.43                  | -18.21                      | 25.22                      | 43.50             | 18.28          |
| 2 | 206.85             | 42.57                  | -17.83                      | 24.74                      | 43.50             | 18.76          |
| 3 | 216.30             | 44.09                  | -17.51                      | 26.58                      | 46.00             | 19.42          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 78(2480MHz), Continuously Transmitting

Power in : Adaptor

Test Distance : 3m

Tester : Bill

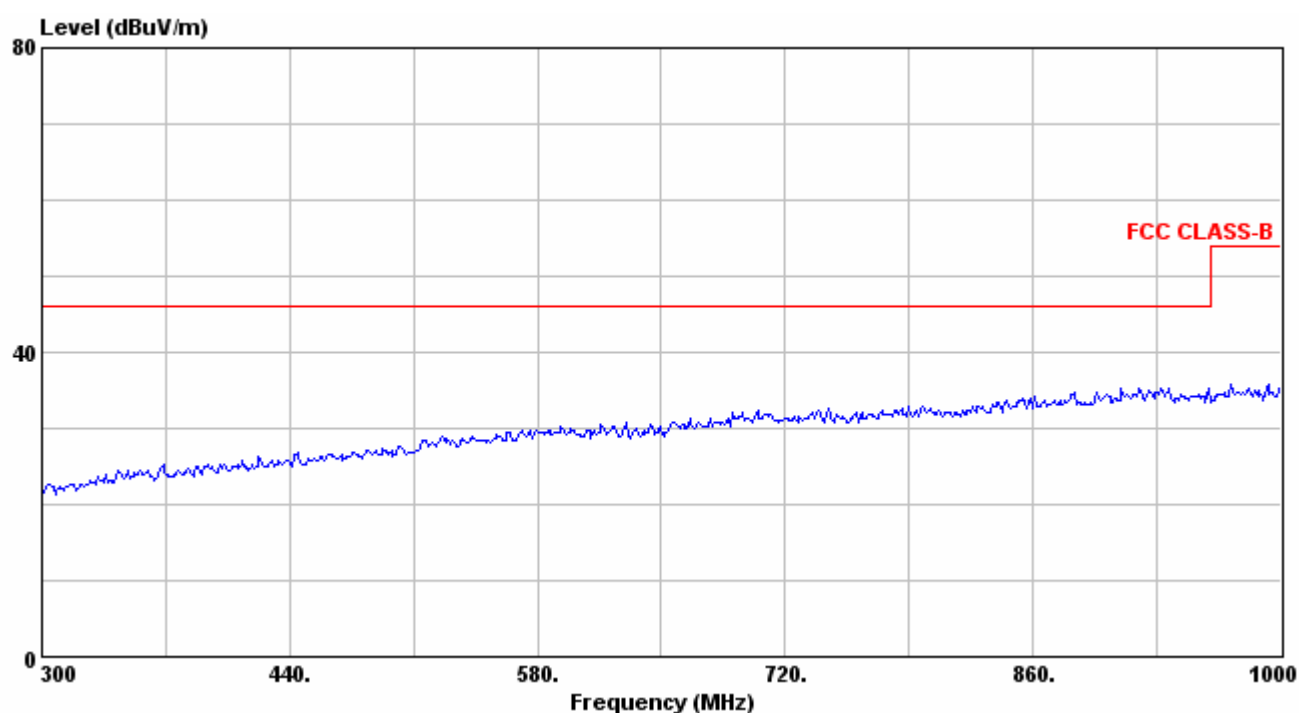
Polarization : Horizontal

Frequency Range: 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Mode : Channel 0(2402MHz), Continuously Transmitting

Power in : Batteries

Test Distance : 3m

Tester : Bill

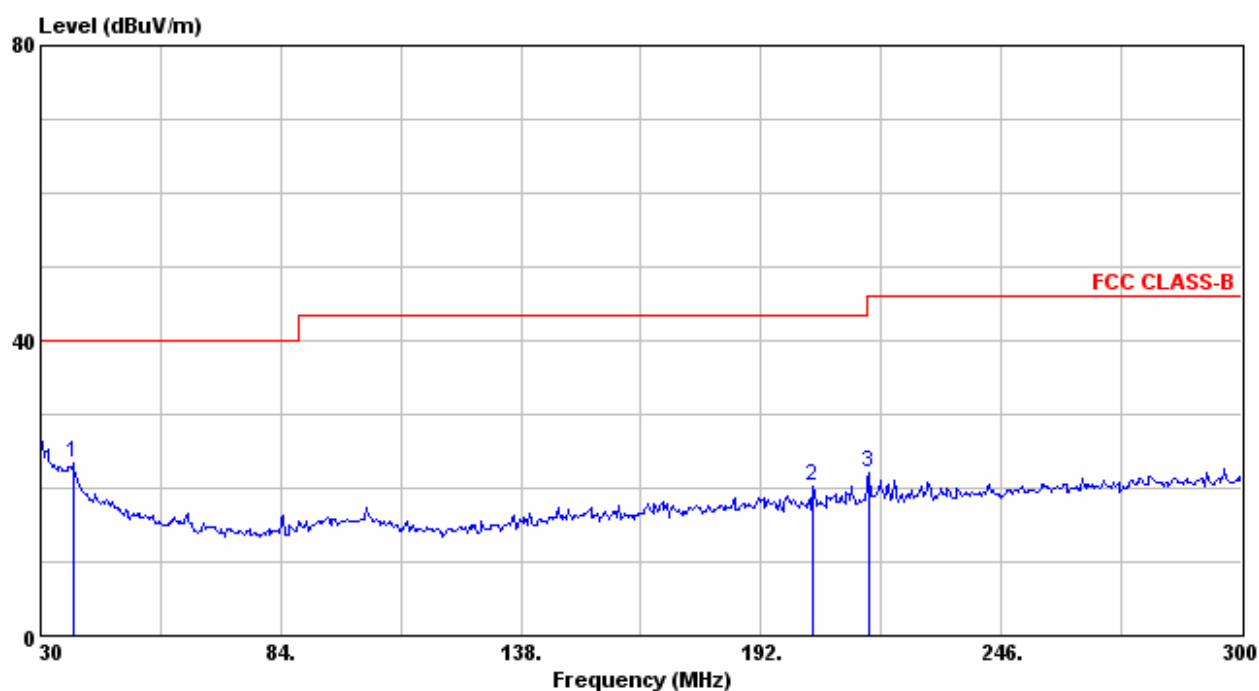
Polarization : Vertical

Frequency Range : 30MHz~300MHz

|   | Frequency (MHz) | Reading Data (dBuV) | Correction Factor (dB/m) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) |
|---|-----------------|---------------------|--------------------------|-------------------------|----------------|-------------|
| 1 | 37.29           | 39.72               | -16.36                   | 23.36                   | 40.00          | 16.64       |
| 2 | 203.61          | 38.38               | -18.00                   | 20.38                   | 43.50          | 23.12       |
| 3 | 216.30          | 39.56               | -17.51                   | 22.05                   | 46.00          | 23.95       |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Mode : Channel 0(2402MHz), Continuously Transmitting

Power in : Batteries

Test Distance : 3m

Tester : Bill

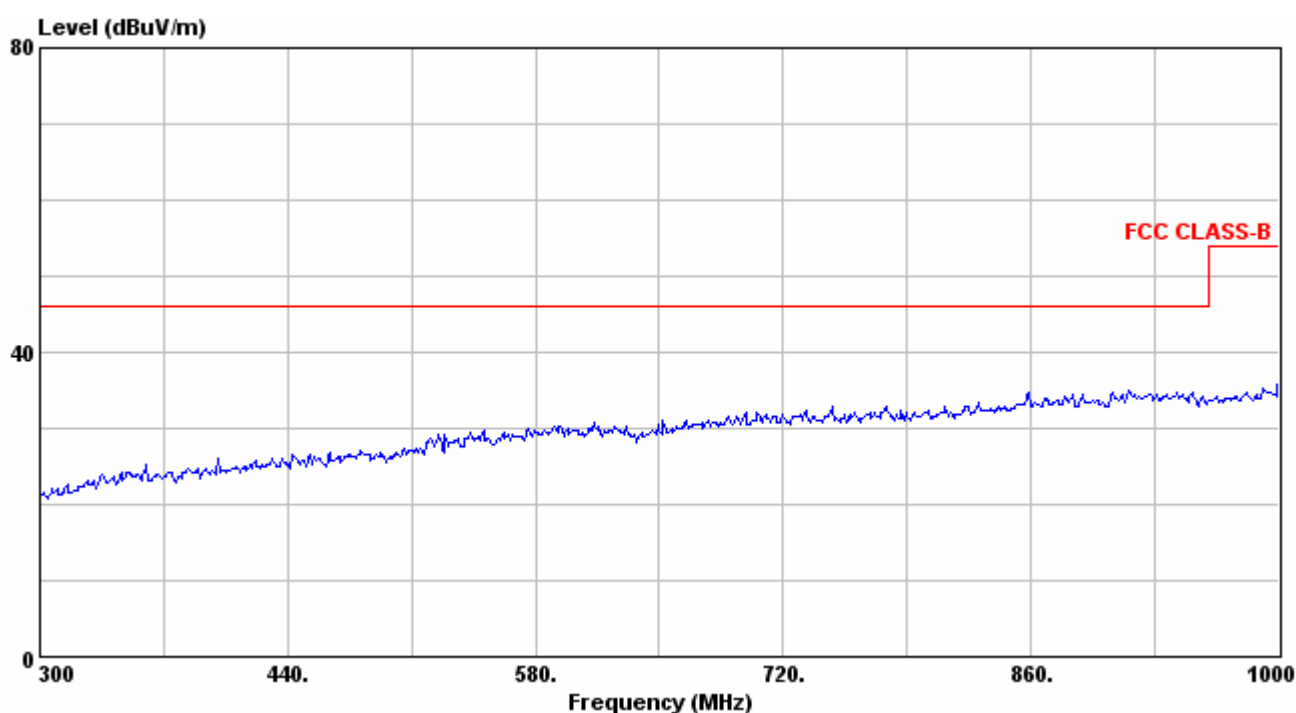
Polarization : Vertical

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Mode : Channel 0(2402MHz), Continuously Transmitting

Power in : Batteries

Test Distance : 3m

Tester : Bill

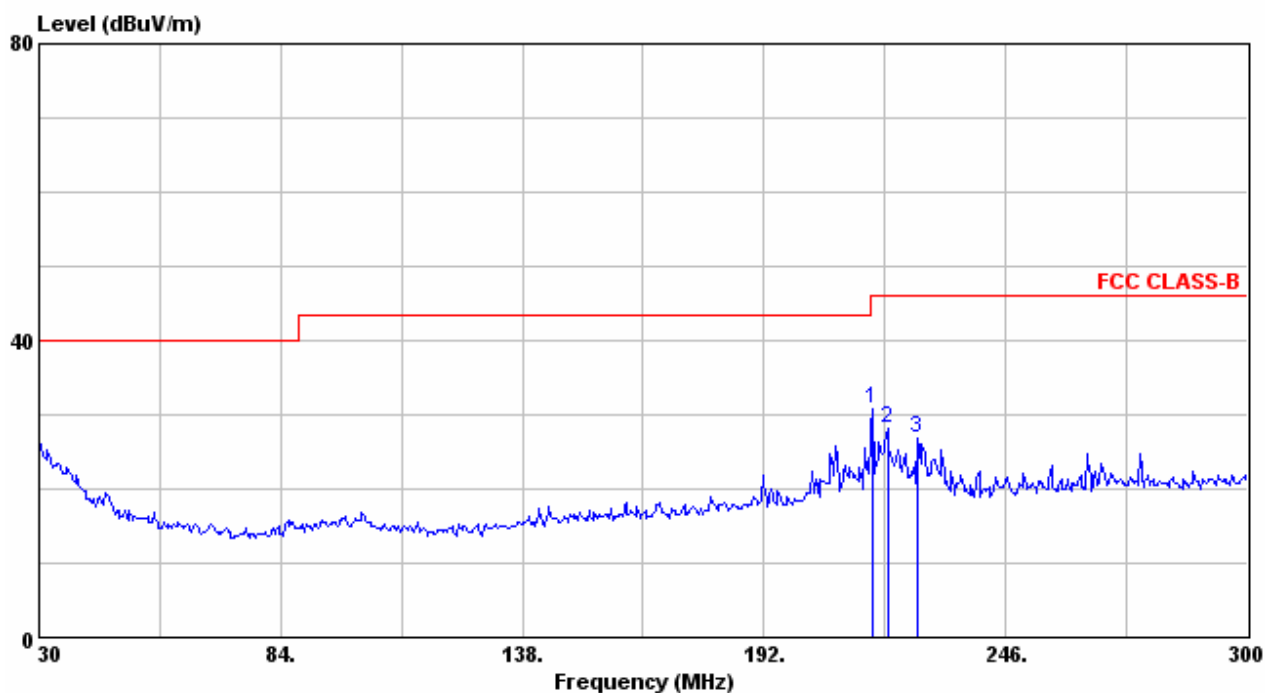
Polarization : Horizontal

Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 216.30             | 48.22                  | -17.51                      | 30.71                      | 46.00             | 15.29          |
| 2 | 219.54             | 45.50                  | -17.45                      | 28.05                      | 46.00             | 17.95          |
| 3 | 226.29             | 44.01                  | -17.05                      | 26.96                      | 46.00             | 19.04          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Mode : Channel 0(2402MHz), Continuously Transmitting

Power in : Batteries

Test Distance : 3m

Tester : Bill

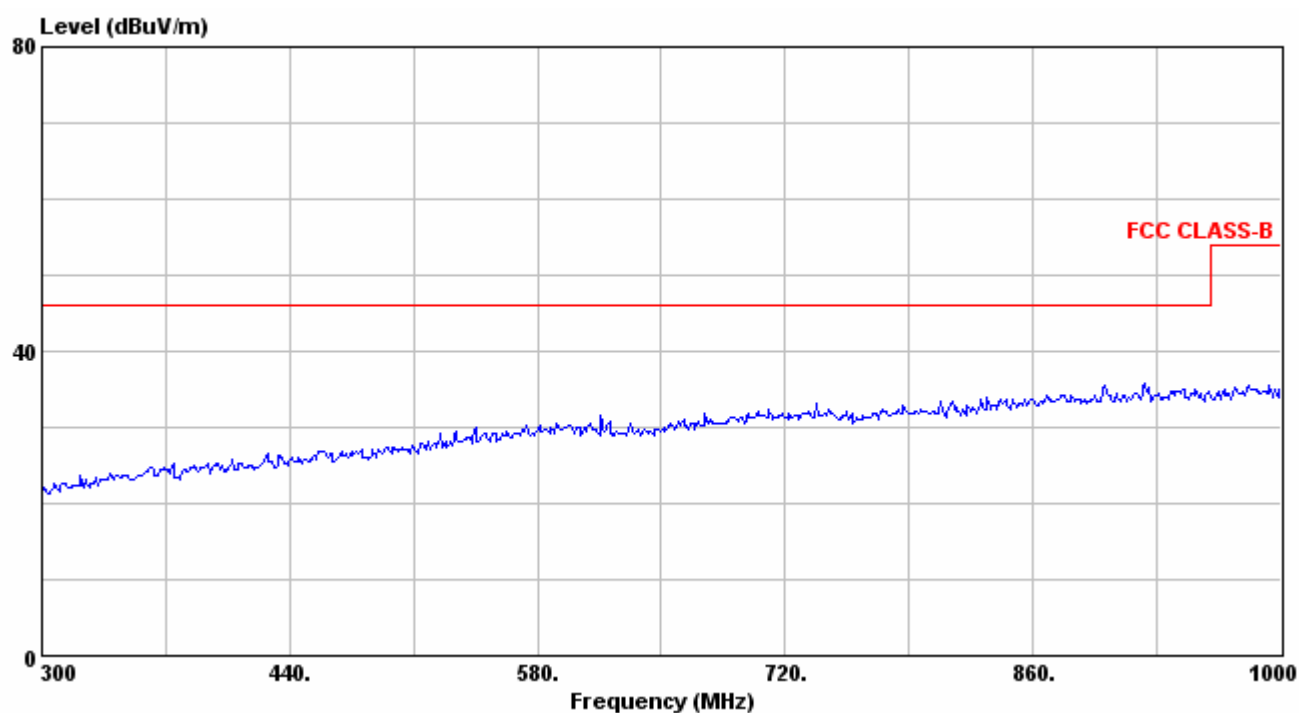
Polarization : Horizontal

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Mode : Channel 39(2441MHz), Continuously Transmitting

Power in : Batteries

Test Distance : 3m

Tester : Bill

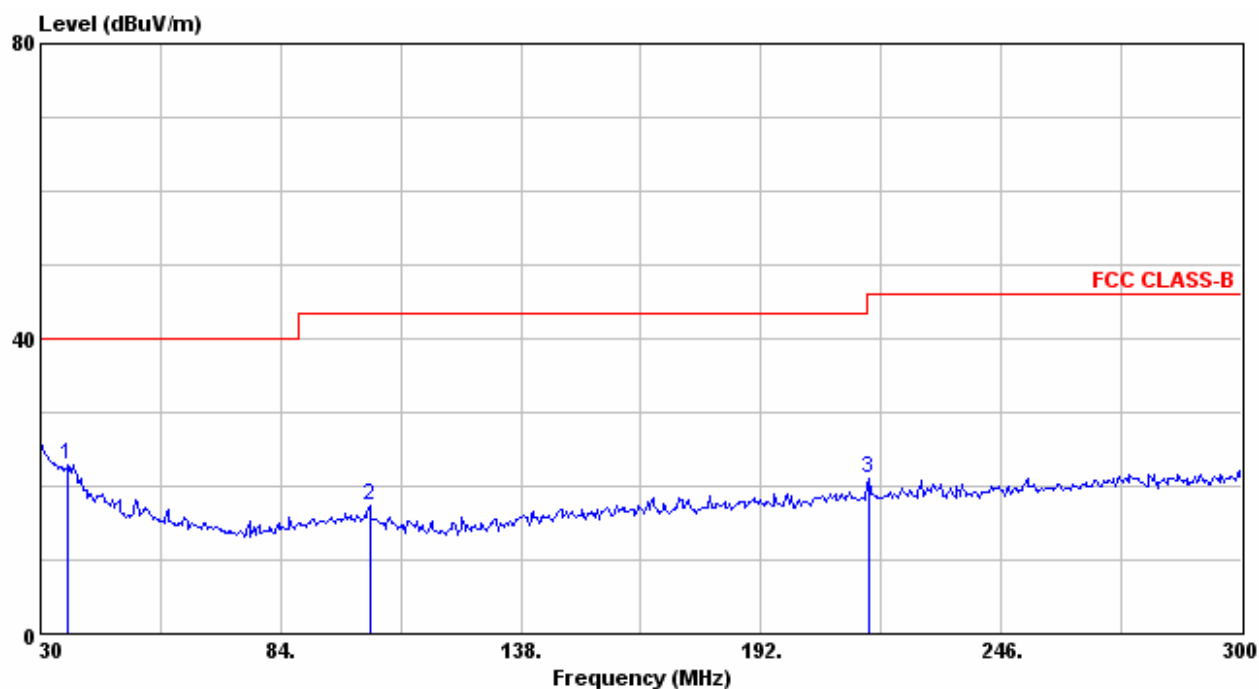
Polarization : Vertical

Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 36.21              | 38.75                  | -15.73                      | 23.02                      | 40.00             | 16.98          |
| 2 | 103.98             | 38.43                  | -21.16                      | 17.27                      | 43.50             | 26.23          |
| 3 | 216.30             | 38.51                  | -17.51                      | 21.00                      | 46.00             | 25.00          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Mode : Channel 39(2441MHz), Continuously Transmitting

Power in : Batteries

Test Distance : 3m

Tester : Bill

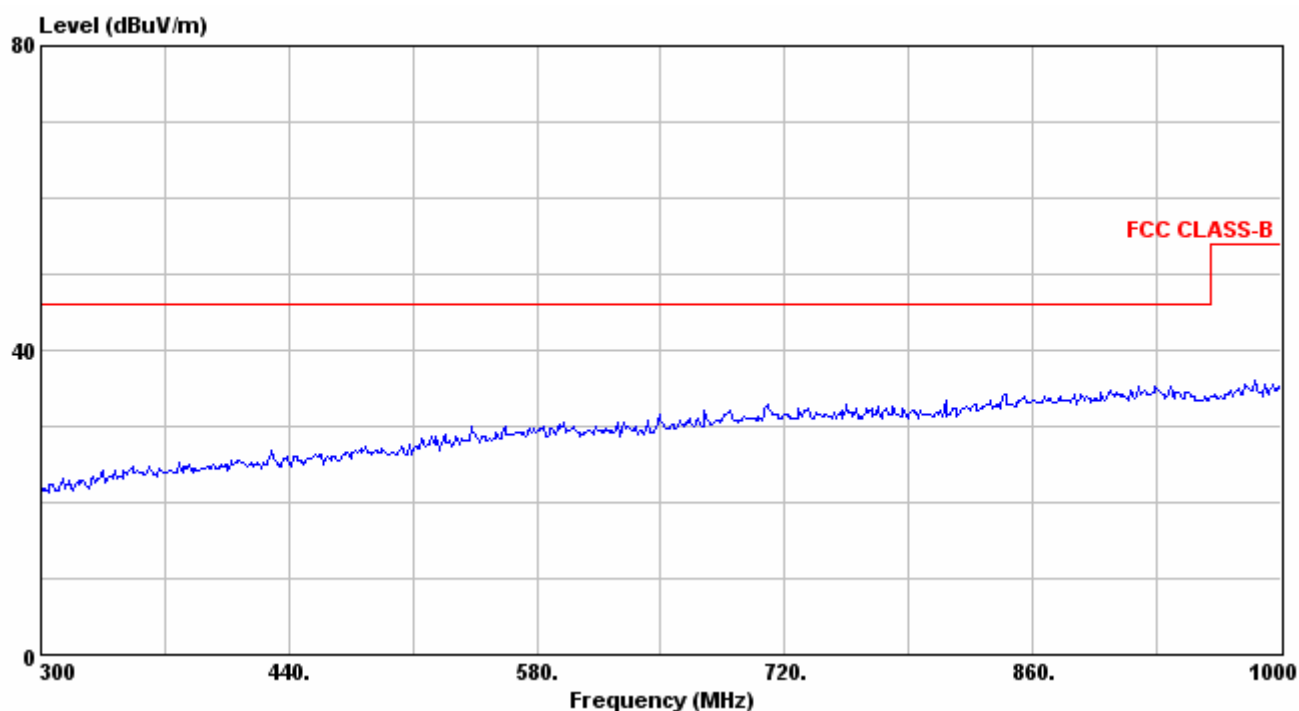
Polarization : Vertical

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Mode : Channel 39(2441MHz), Continuously Transmitting

Power in : Batteries

Test Distance : 3m

Tester : Bill

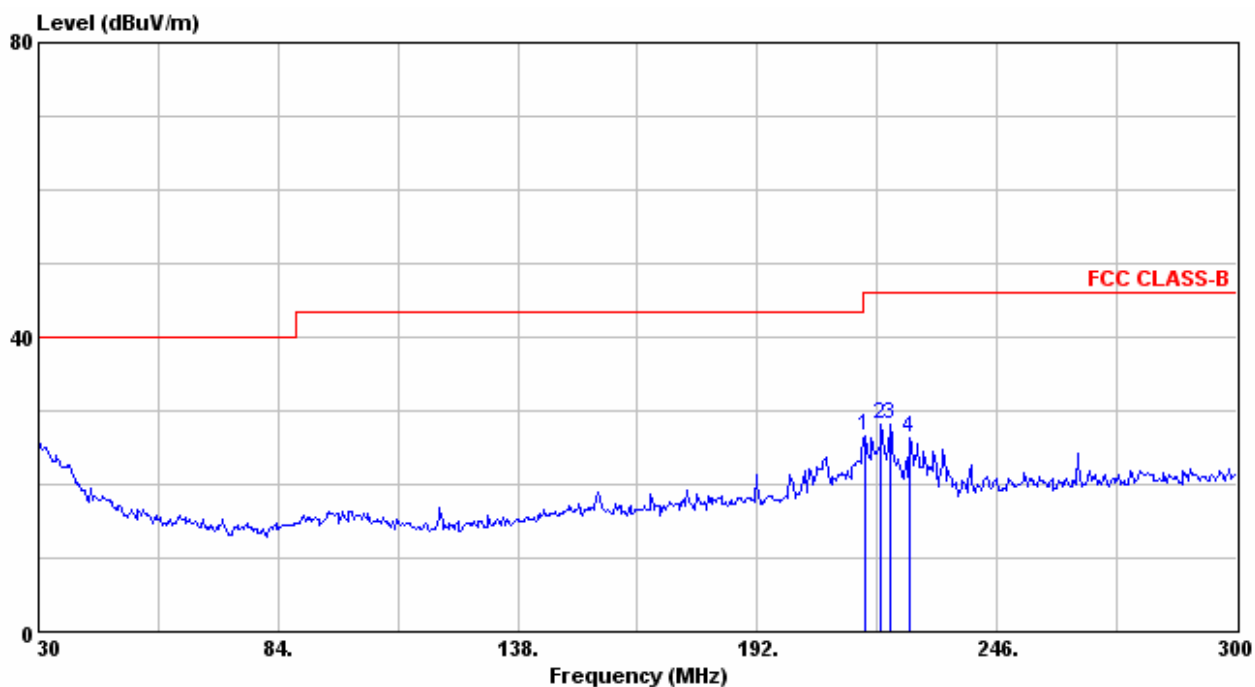
Polarization : Horizontal

Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 216.30             | 44.10                  | -17.51                      | 26.59                      | 46.00             | 19.41          |
| 2 | 219.81             | 45.65                  | -17.43                      | 28.22                      | 46.00             | 17.78          |
| 3 | 221.97             | 45.52                  | -17.31                      | 28.21                      | 46.00             | 17.79          |
| 4 | 226.29             | 43.48                  | -17.05                      | 26.43                      | 46.00             | 19.57          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Mode : Channel 39(2441MHz), Continuously Transmitting

Power in : Batteries

Test Distance : 3m

Tester : Bill

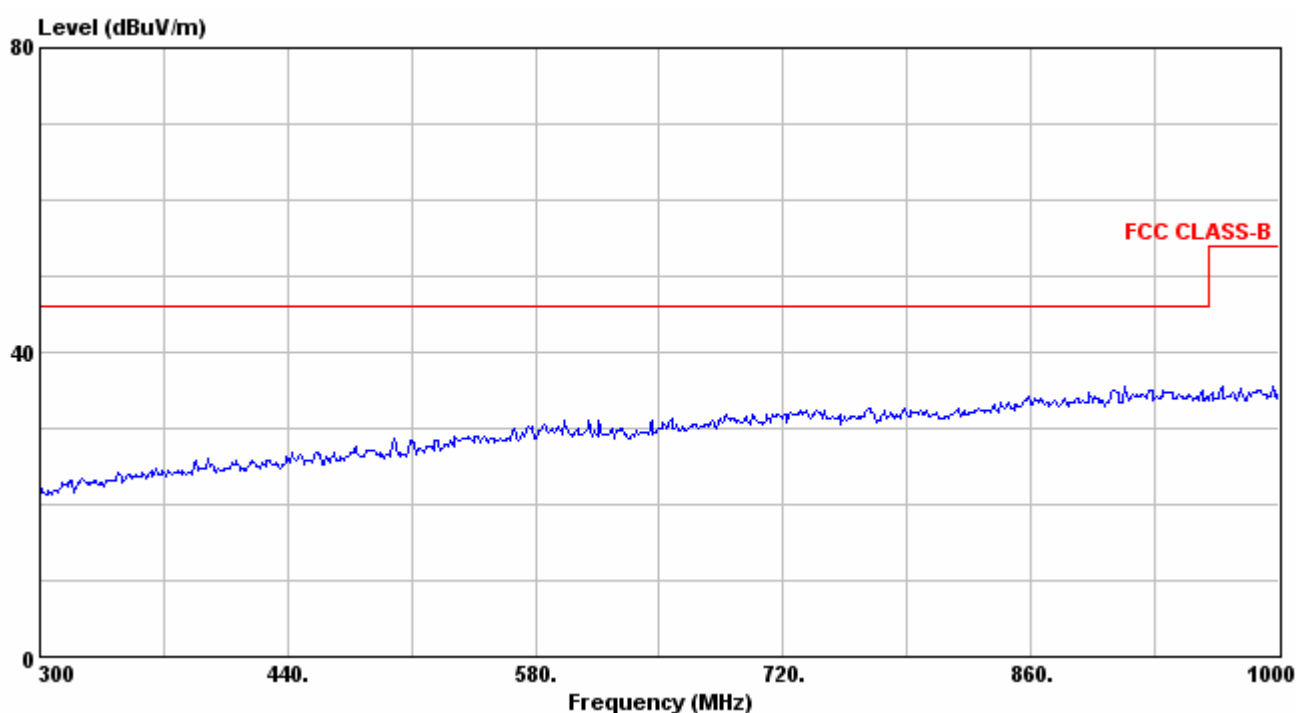
Polarization : Horizontal

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 78(2480MHz), Continuously Transmitting

Power in : Batteries

Test Distance : 3m

Tester : Bill

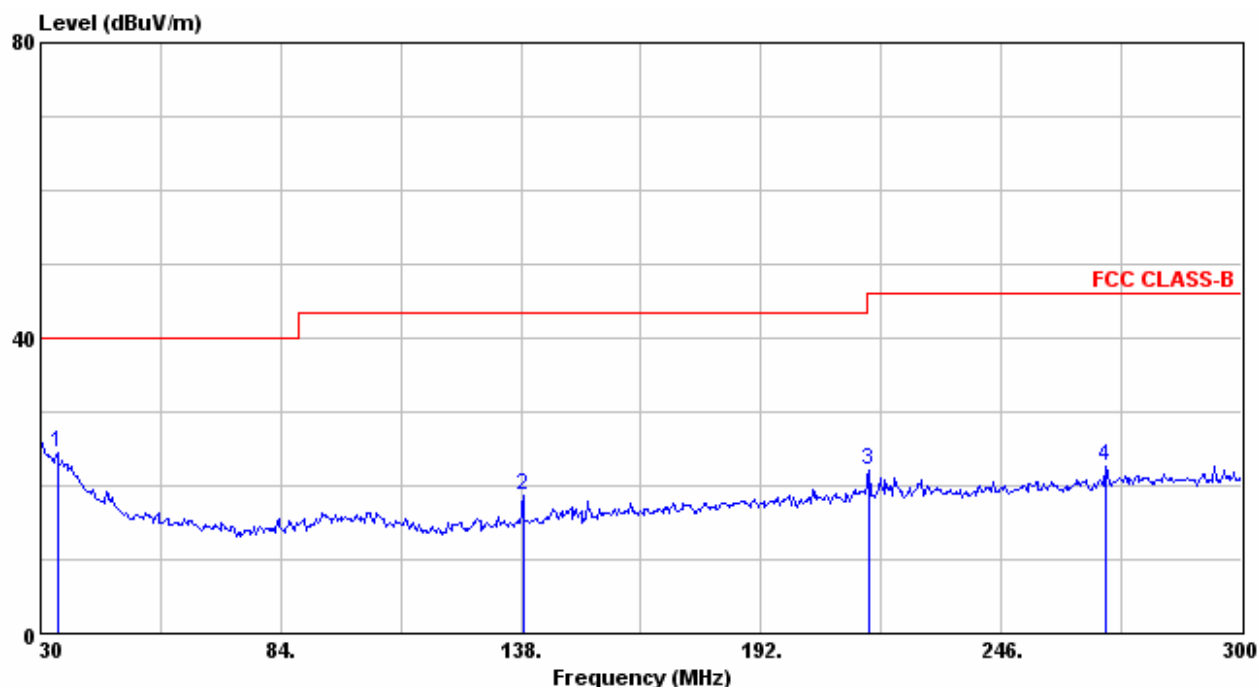
Polarization : Vertical

Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 33.78              | 38.71                  | -14.31                      | 24.40                      | 40.00             | 15.60          |
| 2 | 138.54             | 39.93                  | -21.34                      | 18.59                      | 43.50             | 24.66          |
| 3 | 216.30             | 39.56                  | -17.51                      | 22.05                      | 46.00             | 23.95          |
| 4 | 269.49             | 38.24                  | -15.63                      | 22.61                      | 46.00             | 23.39          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 78(2480MHz), Continuously Transmitting

Power in : Batteries

Test Distance : 3m

Tester : Bill

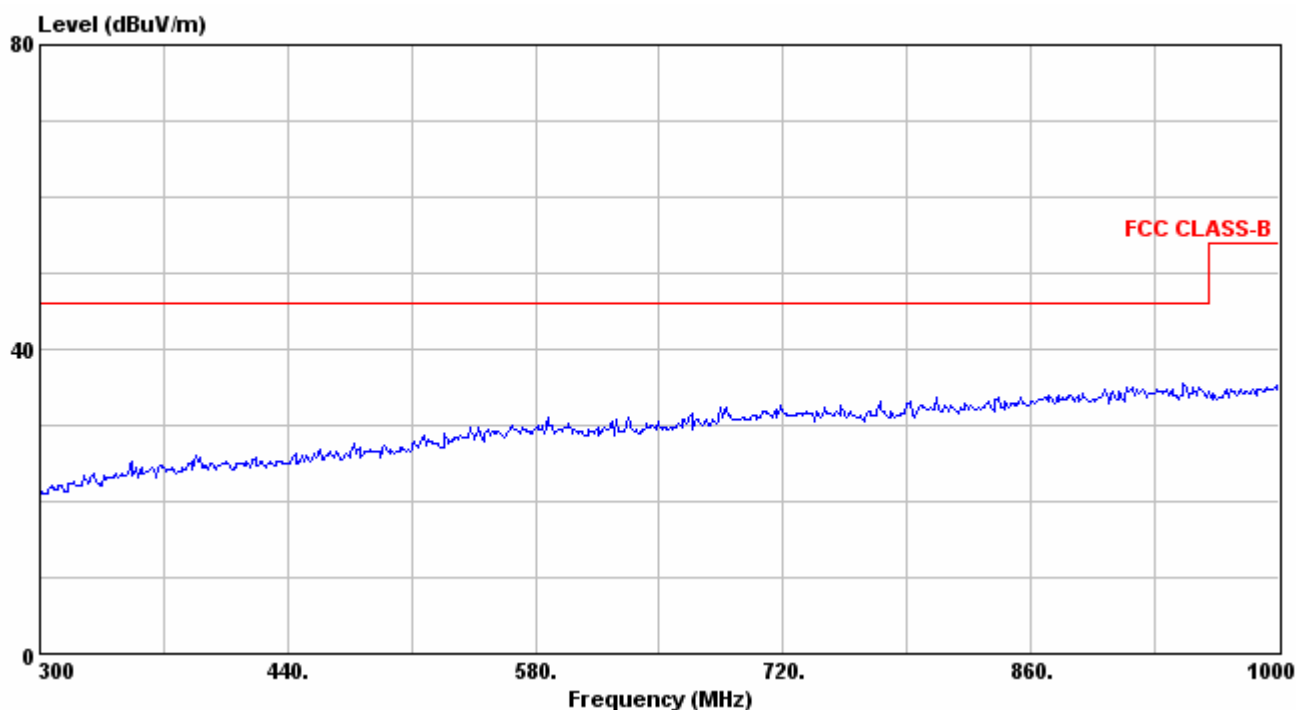
Polarization : Vertical

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



est Model : Channel 78(2480MHz), Continuously Transmitting

Power in : Batteries

Test Distance : 3m

Tester : Bill

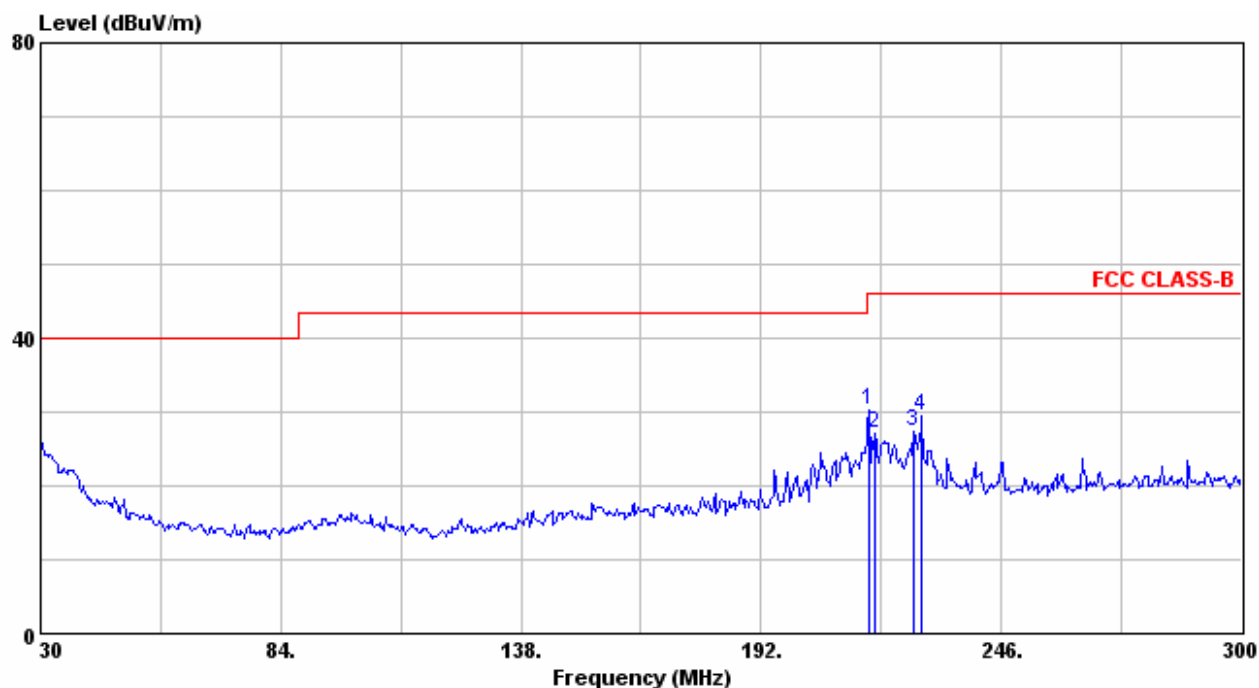
Polarization : Horizontal

Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 216.30             | 47.75                  | -17.51                      | 30.24                      | 46.00             | 15.76          |
| 2 | 217.65             | 44.69                  | -17.49                      | 27.20                      | 46.00             | 18.80          |
| 3 | 226.29             | 44.33                  | -17.05                      | 27.28                      | 46.00             | 18.72          |
| 4 | 228.18             | 46.33                  | -16.95                      | 29.38                      | 46.00             | 16.62          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.

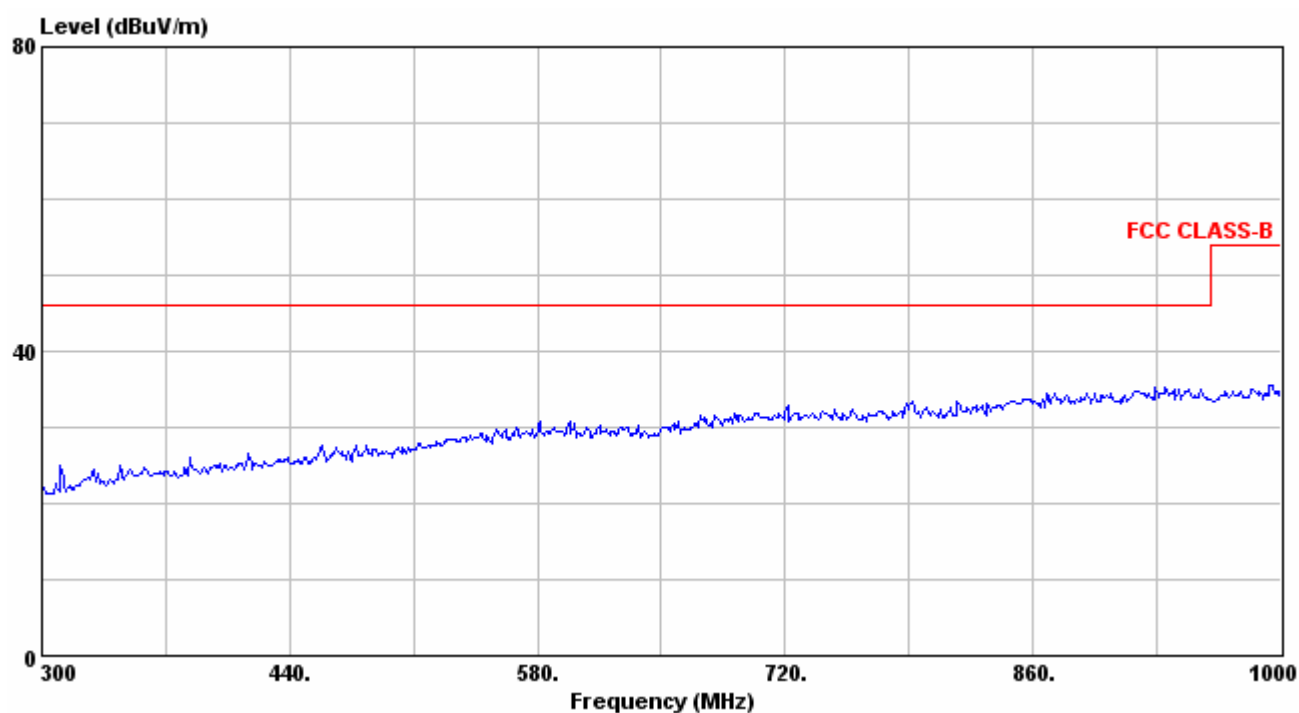


**Test Model** : Channel 78(2480MHz), Continuously Transmitting  
**Power in** : Batteries  
**Test Distance** : 3m **Tester** : Bill  
**Polarization** : Horizontal **Frequency Range**: 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 0(2402MHz), Continuously Receiving

Power in : Adaptor

Test Distance : 3m

Tester : Bill

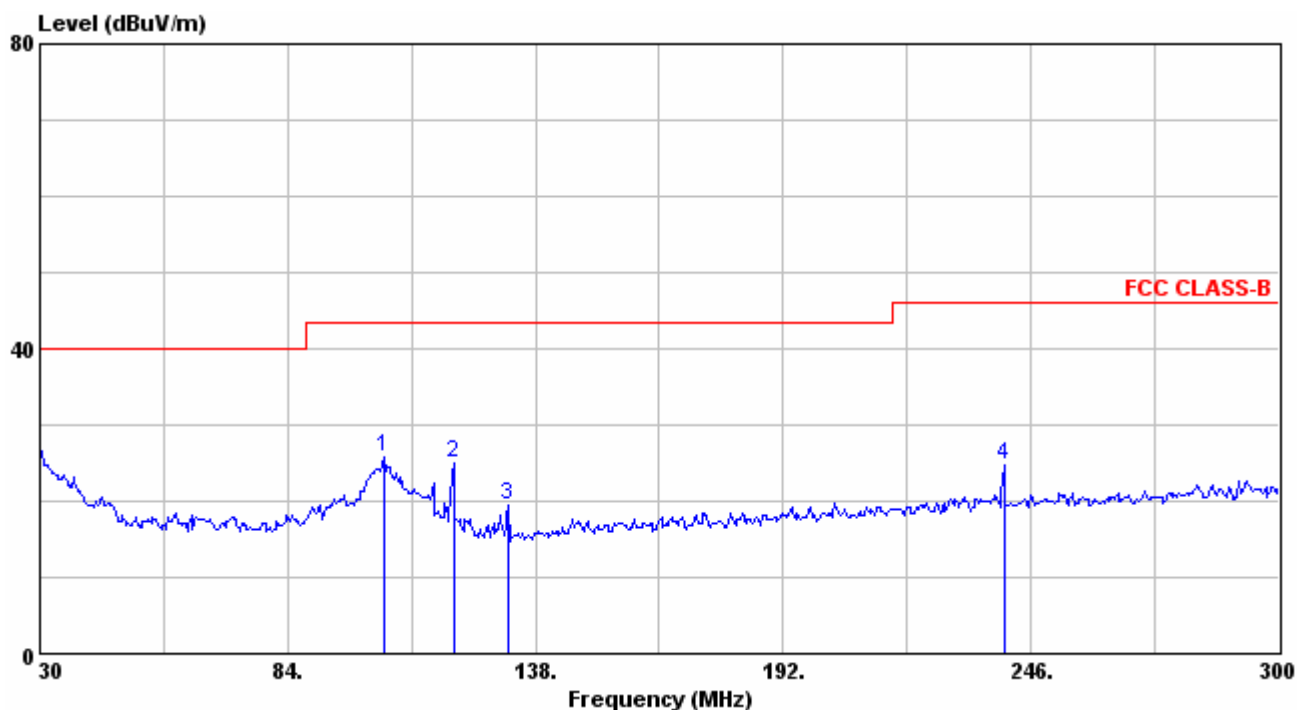
Antenna Polarization: Vertical

Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 105.06             | 47.02                  | -21.28                      | 25.74                      | 43.50             | 17.76          |
| 2 | 120.18             | 47.32                  | -22.43                      | 24.89                      | 43.50             | 18.61          |
| 3 | 132.06             | 41.31                  | -21.83                      | 19.48                      | 43.50             | 24.02          |
| 4 | 240.06             | 41.52                  | -16.78                      | 24.74                      | 46.00             | 21.26          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 0(2402MHz), Continuously Receiving

Power in : Adaptor

Test Distance : 3m

Tester : Bill

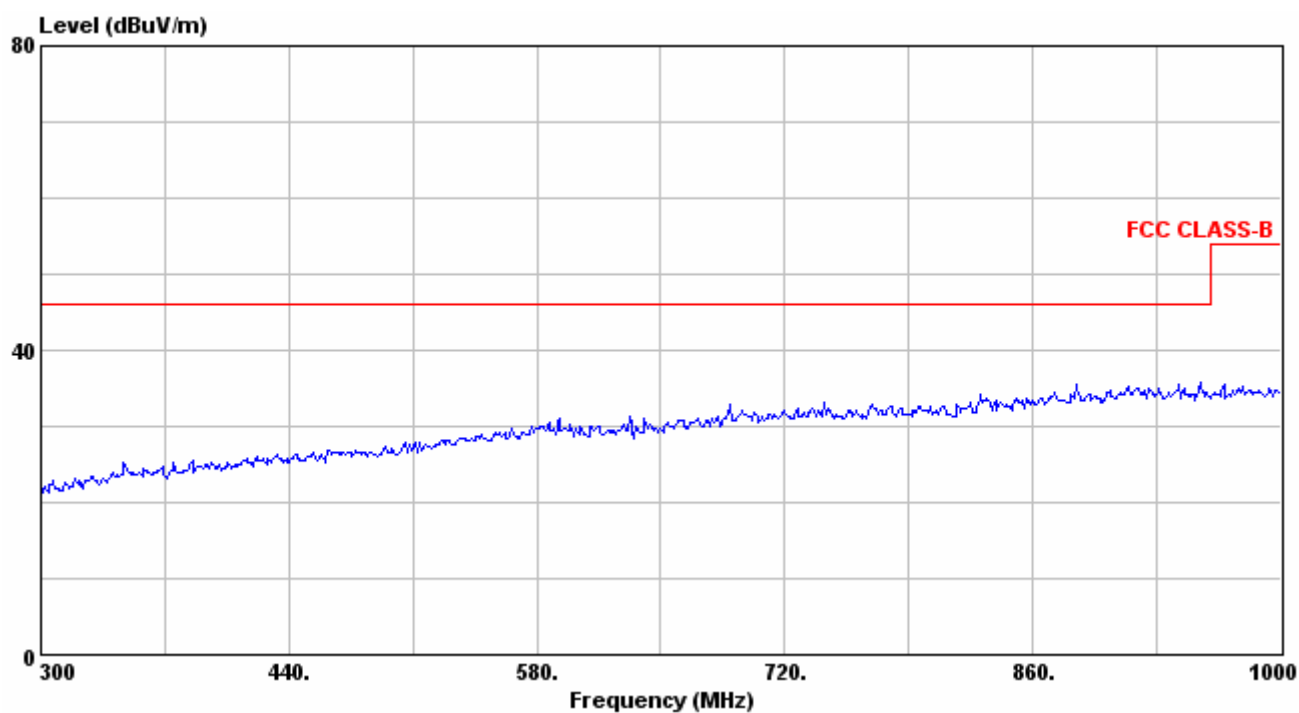
Antenna Polarization: Vertical

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Mode : Channel 0(2402MHz), Continuously Receiving

Power in : Adaptor

Test Distance : 3m

Tester : Bill

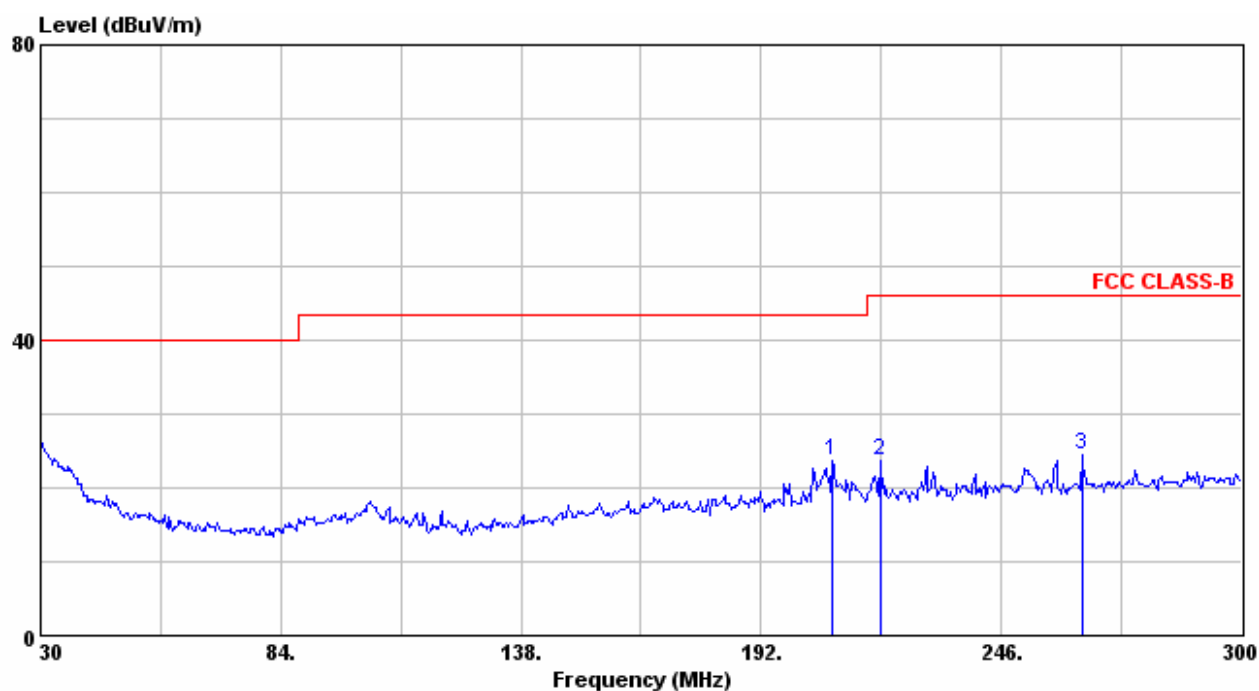
Polarization : Horizontal

Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 207.93             | 41.57                  | -17.78                      | 23.79                      | 43.50             | 19.71          |
| 2 | 218.73             | 41.26                  | -17.47                      | 23.79                      | 46.00             | 22.21          |
| 3 | 264.09             | 40.34                  | -15.90                      | 24.44                      | 46.00             | 21.56          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Mode : Channel 0(2402MHz), Continuously Receiving

Power in : Adaptor

Test Distance : 3m

Tester : Bill

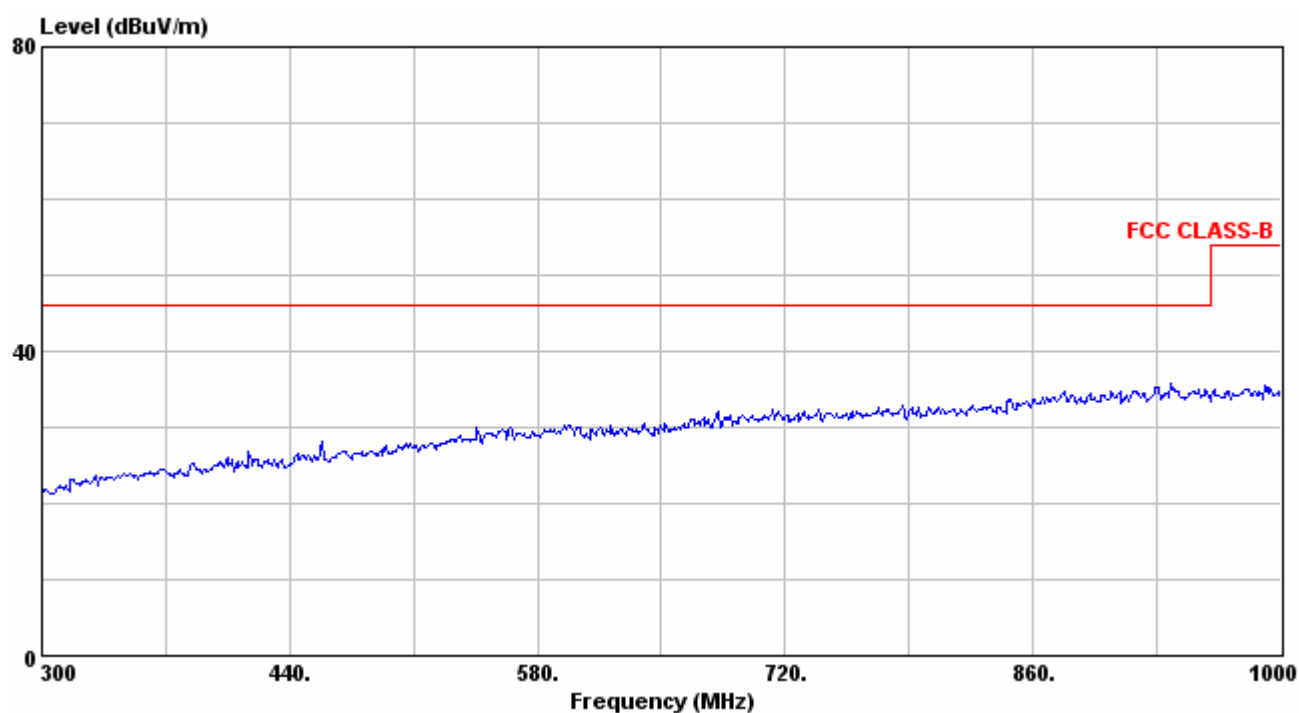
Polarization : Horizontal

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 39(2441MHz), Continuously Receiving

Power in : Adaptor

Test Distance : 3m

Tester : Bill

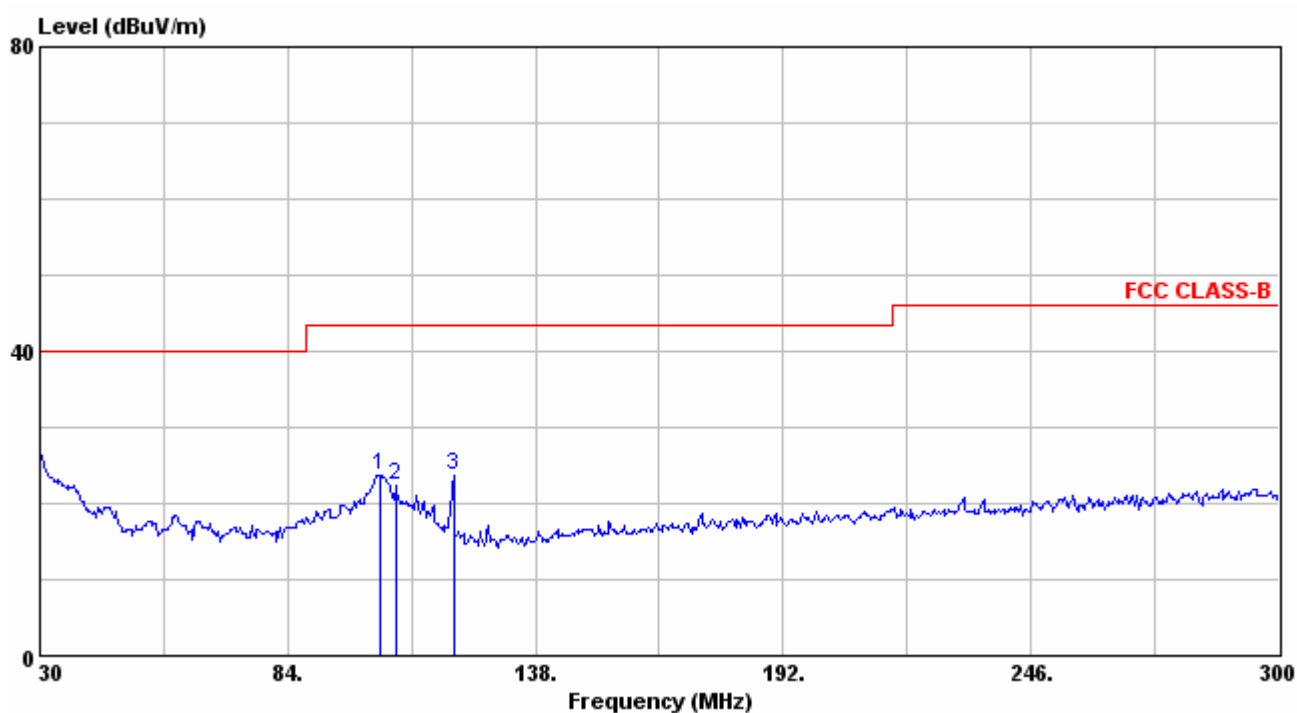
Antenna Polarization: Vertical

Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 104.25             | 45.00                  | -21.19                      | 23.81                      | 43.50             | 19.69          |
| 2 | 107.49             | 43.90                  | -21.54                      | 22.36                      | 43.50             | 21.14          |
| 3 | 120.18             | 46.18                  | -22.43                      | 23.75                      | 43.50             | 19.75          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 39(2441MHz), Continuously Receiving

Power in : Adaptor

Test Distance : 3m

Tester : Bill

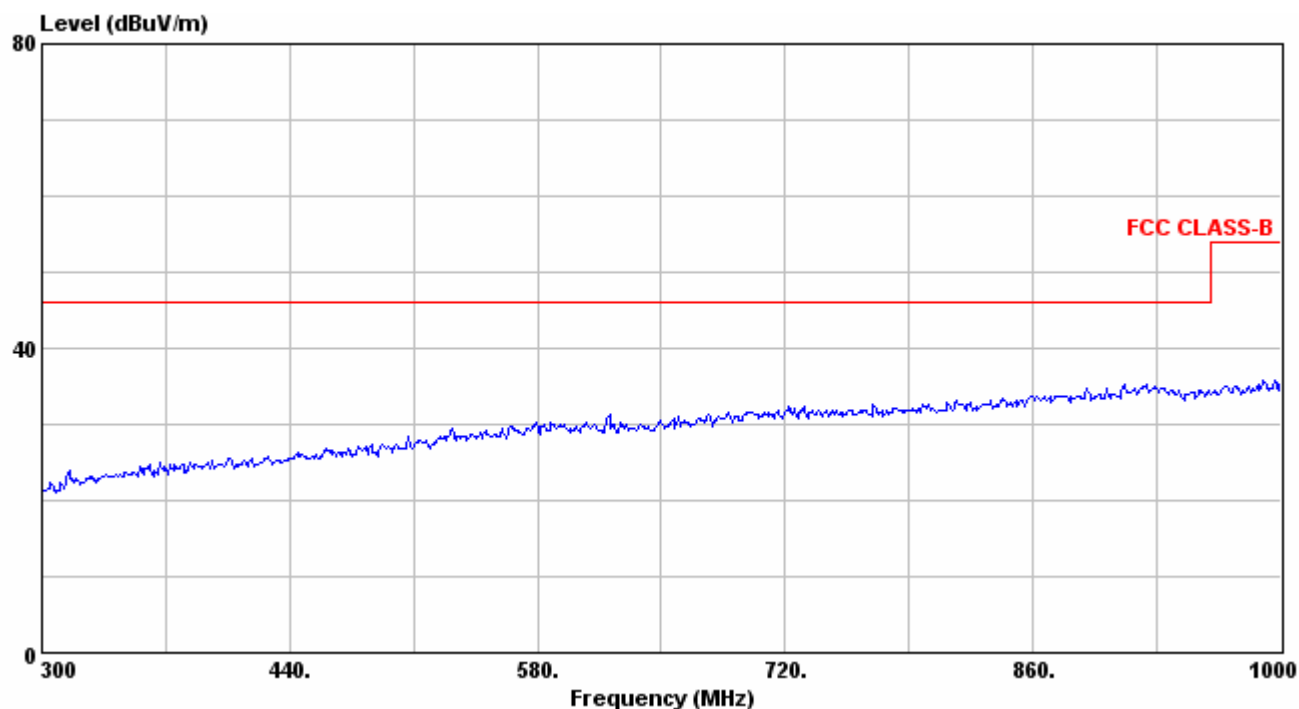
Antenna Polarization: Vertical

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 39(2441MHz), Continuously Receiving

Power in : Adaptor

Test Distance : 3m

Tester : Bill

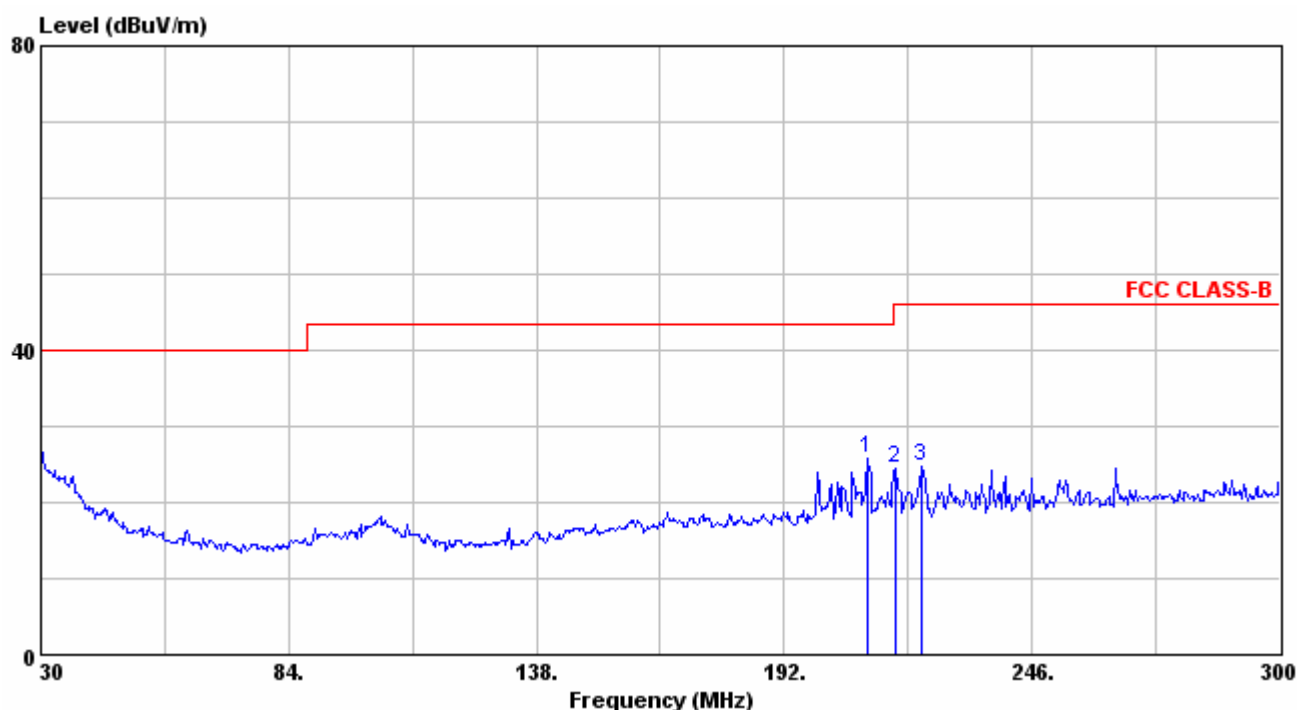
Antenna Polarization: Horizontal

Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 210.09             | 43.37                  | -17.66                      | 25.71                      | 43.50             | 17.79          |
| 2 | 216.30             | 42.10                  | -17.51                      | 24.59                      | 46.00             | 21.41          |
| 3 | 221.97             | 42.05                  | -17.31                      | 24.74                      | 46.00             | 21.26          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 39(2441MHz), Continuously Receiving

Power in : Adaptor

Test Distance : 3m

Tester : Bill

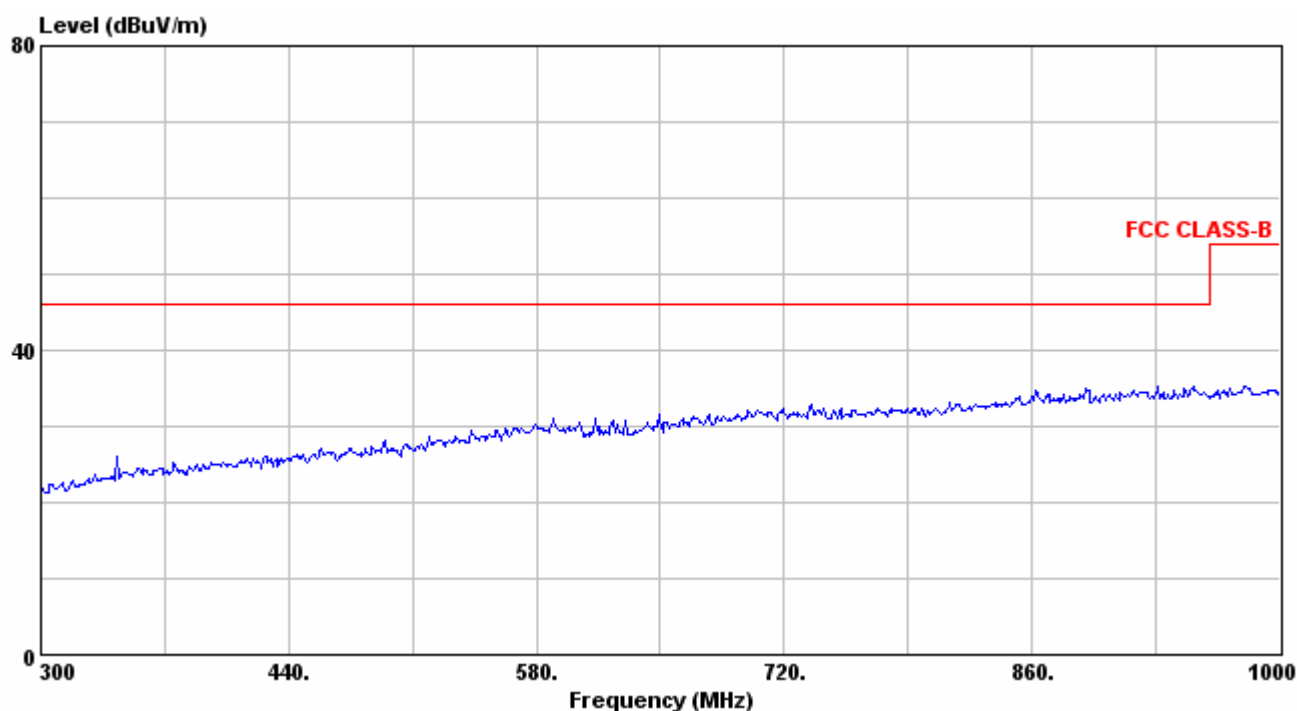
Antenna Polarization: Horizontal

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 78(2480MHz), Continuously Receiving

Power in : Adaptor

Test Distance : 3m

Tester : Bill

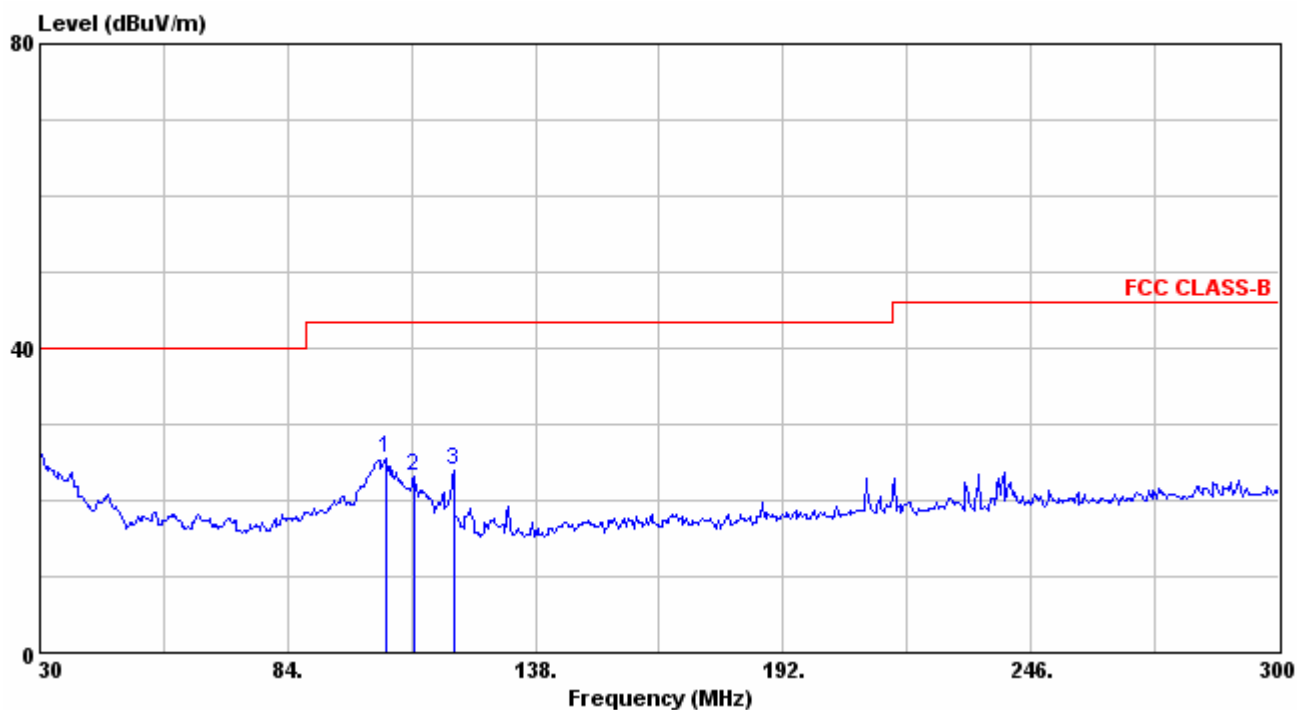
Antenna Polarization: Vertical

Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 105.33             | 46.89                  | -21.31                      | 25.58                      | 43.50             | 17.92          |
| 2 | 111.54             | 45.18                  | -21.91                      | 23.27                      | 43.50             | 20.23          |
| 3 | 120.18             | 46.48                  | -22.43                      | 24.05                      | 43.50             | 19.45          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 78(2480MHz), Continuously Receiving

Power in : Adaptor

Test Distance : 3m

Tester : Bill

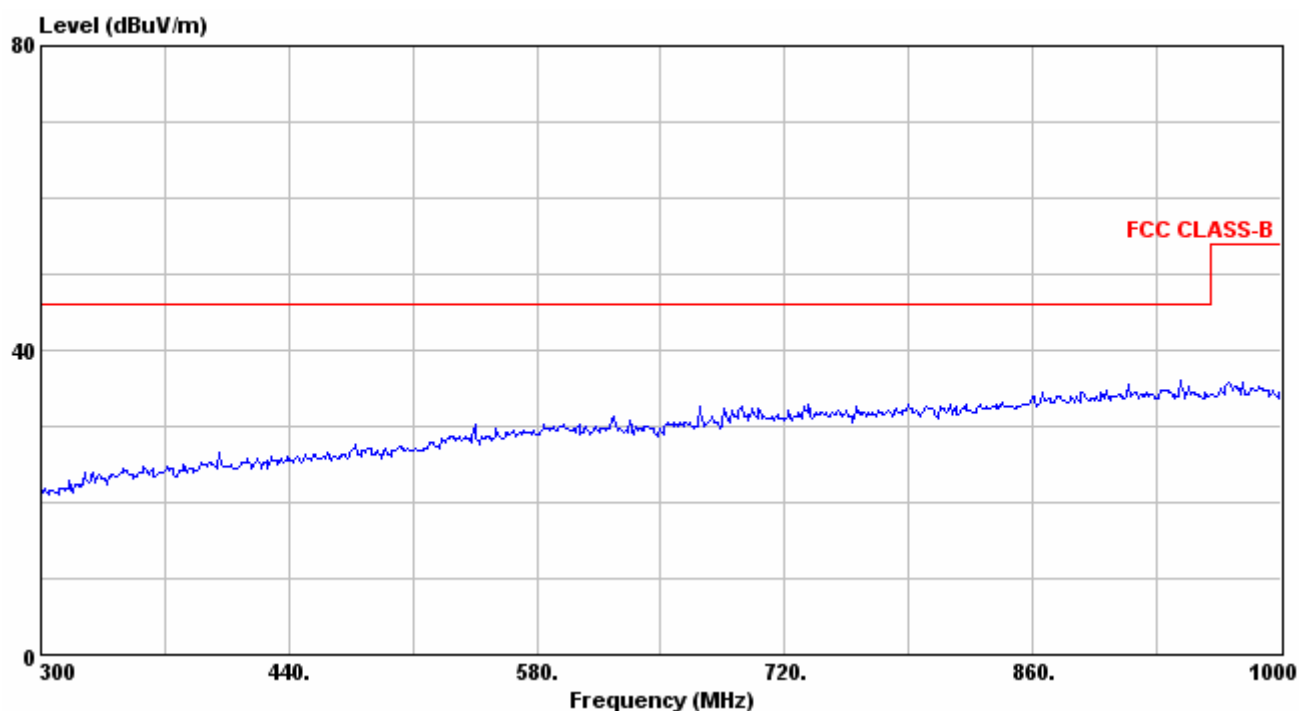
Antenna Polarization: Vertical

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 78(2480MHz), Continuously Receiving

Power in : Adaptor

Test Distance : 3m

Tester : Bill

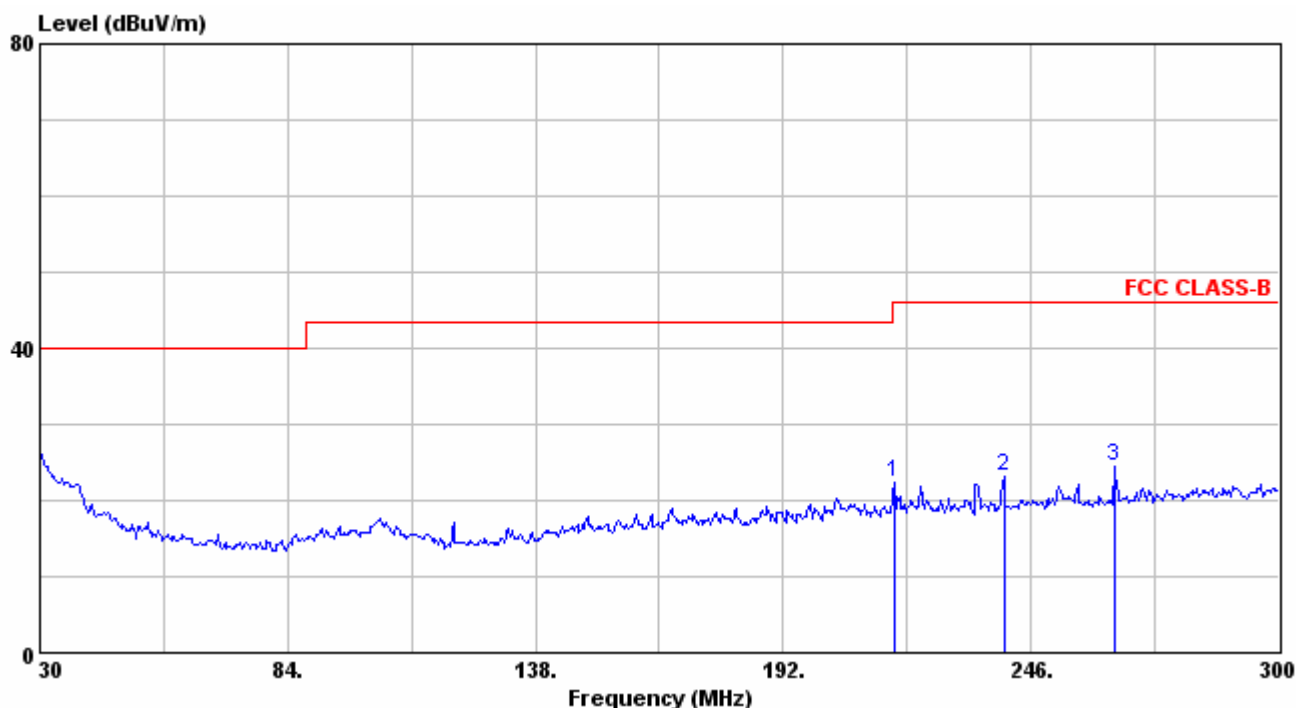
Antenna Polarization: Horizontal

Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 216.30             | 39.89                  | -17.51                      | 22.38                      | 46.00             | 23.62          |
| 2 | 240.06             | 40.00                  | -16.78                      | 23.22                      | 46.00             | 22.78          |
| 3 | 264.09             | 40.38                  | -15.90                      | 24.48                      | 46.00             | 21.52          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 78(2480MHz), Continuously Receiving

Power in : Adaptor

Test Distance : 3m

Tester : Bill

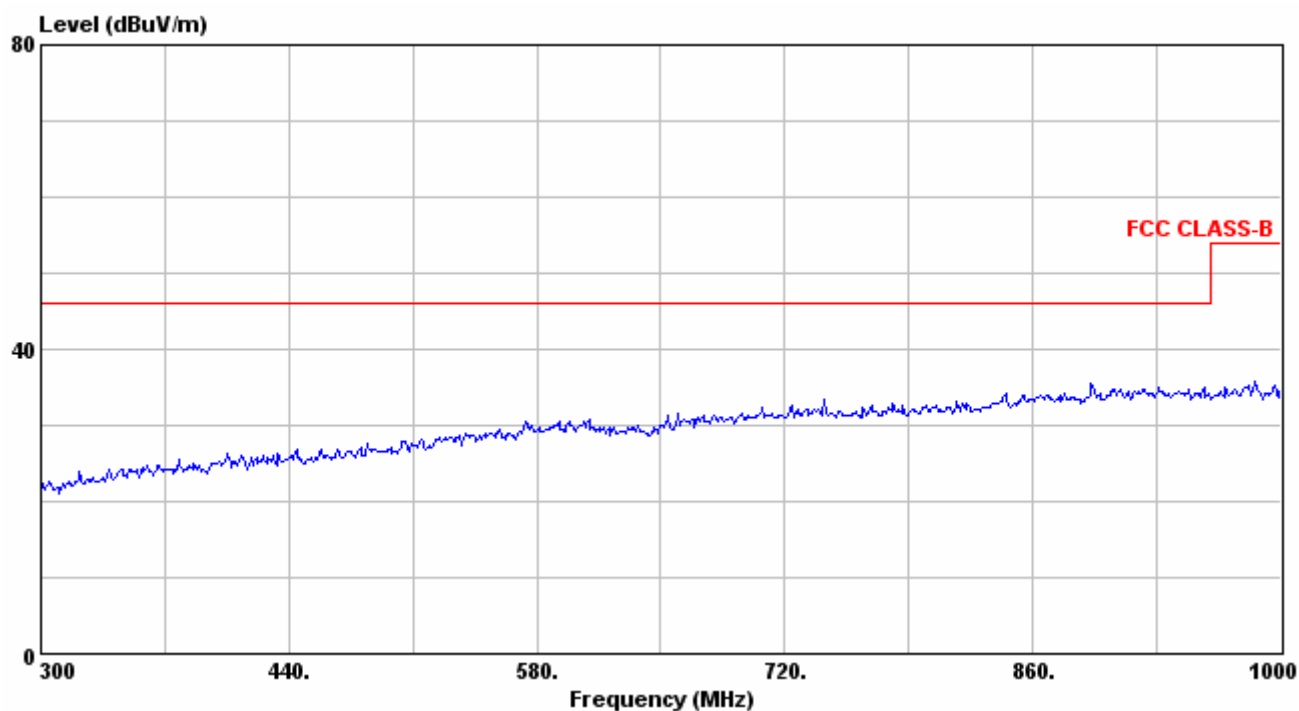
Antenna Polarization: Horizontal

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 0(2402MHz), Continuously Receiving

Power in : Batteries

Test Distance : 3m

Tester : Bill

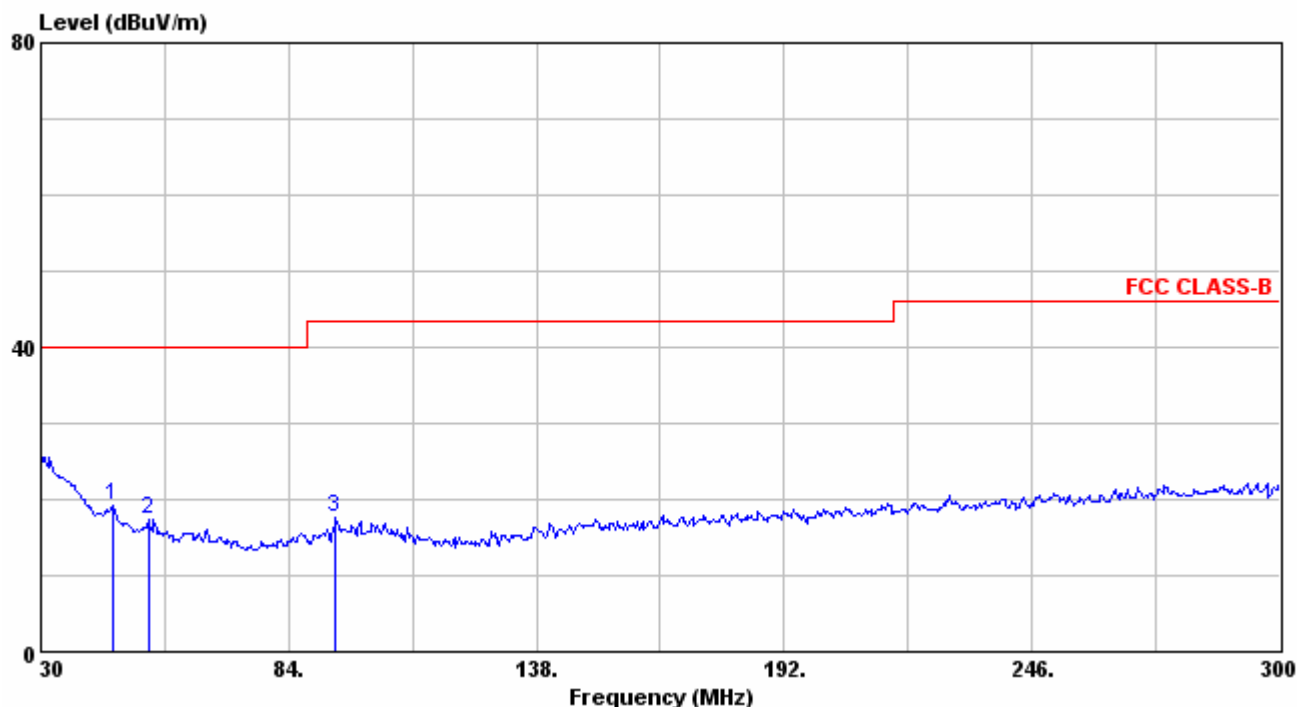
Antenna Polarization: Vertical

Frequency Range : 30MHz~300MHz

|   | Frequency (MHz) | Reading Data (dBuV) | Correction Factor (dB/m) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) |
|---|-----------------|---------------------|--------------------------|-------------------------|----------------|-------------|
| 1 | 45.66           | 39.06               | -19.85                   | 19.21                   | 40.00          | 20.79       |
| 2 | 53.49           | 38.82               | -21.33                   | 17.49                   | 40.00          | 22.51       |
| 3 | 94.26           | 38.72               | -21.18                   | 17.54                   | 43.50          | 25.96       |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 0(2402MHz), Continuously Receiving

Power in : Batteries

Test Distance : 3m

Tester : Bill

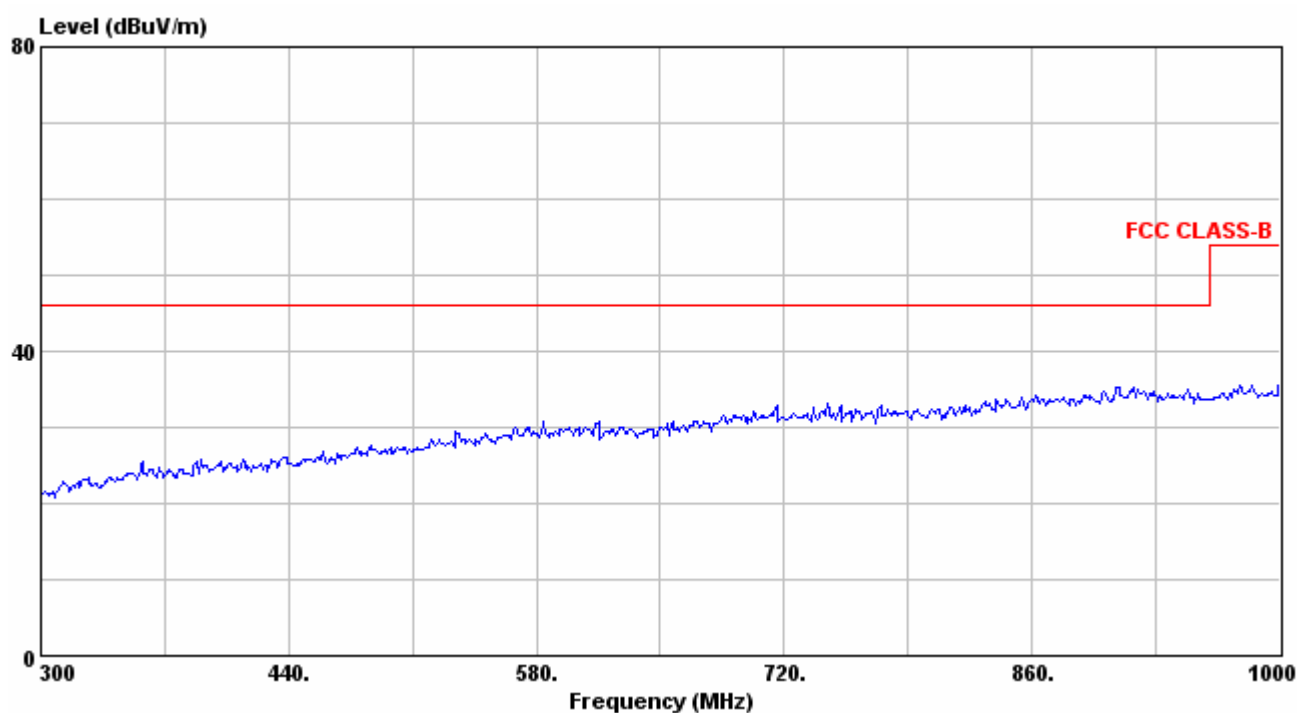
Antenna Polarization: Vertical

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Mode : Channel 0(2402MHz), Continuously Receiving

Power in : Batteries

Test Distance : 3m

Tester : Bill

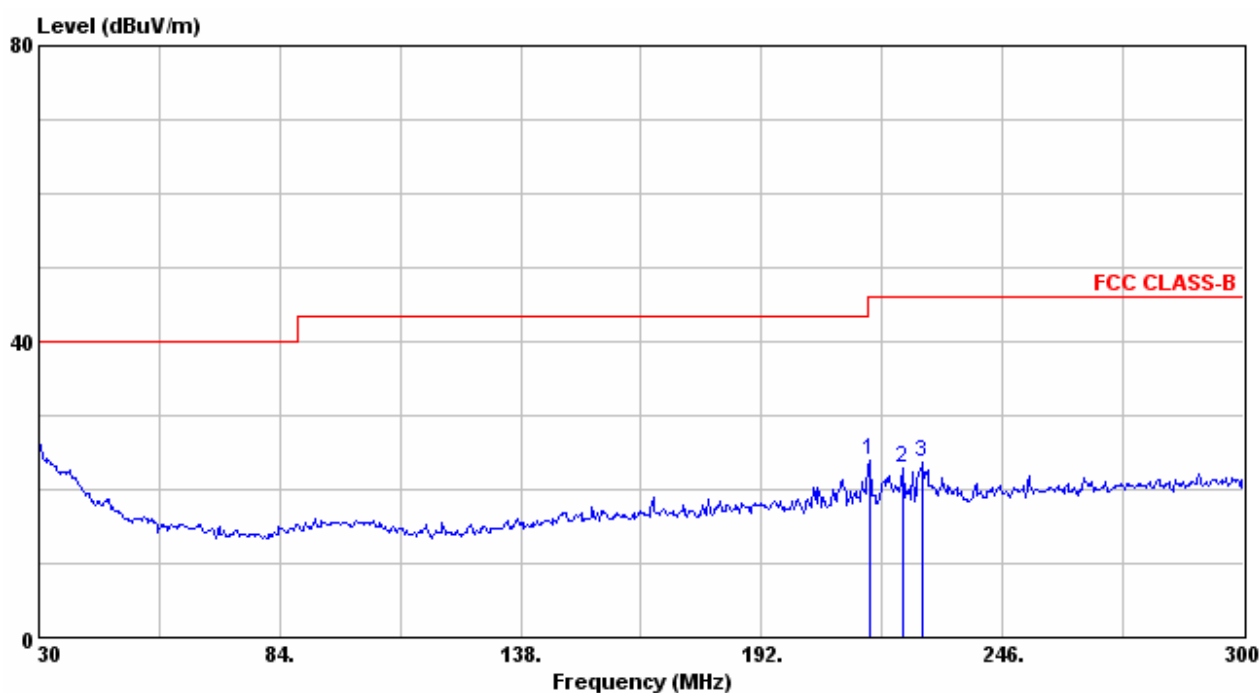
Polarization : Horizontal

Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 216.30             | 41.54                  | -17.51                      | 24.03                      | 46.00             | 21.97          |
| 2 | 223.86             | 40.17                  | -17.20                      | 22.97                      | 46.00             | 23.03          |
| 3 | 228.18             | 40.64                  | -16.95                      | 23.69                      | 46.00             | 22.31          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Mode : Channel 0(2402MHz), Continuously Receiving

Power in : Batteries

Test Distance : 3m

Tester : Bill

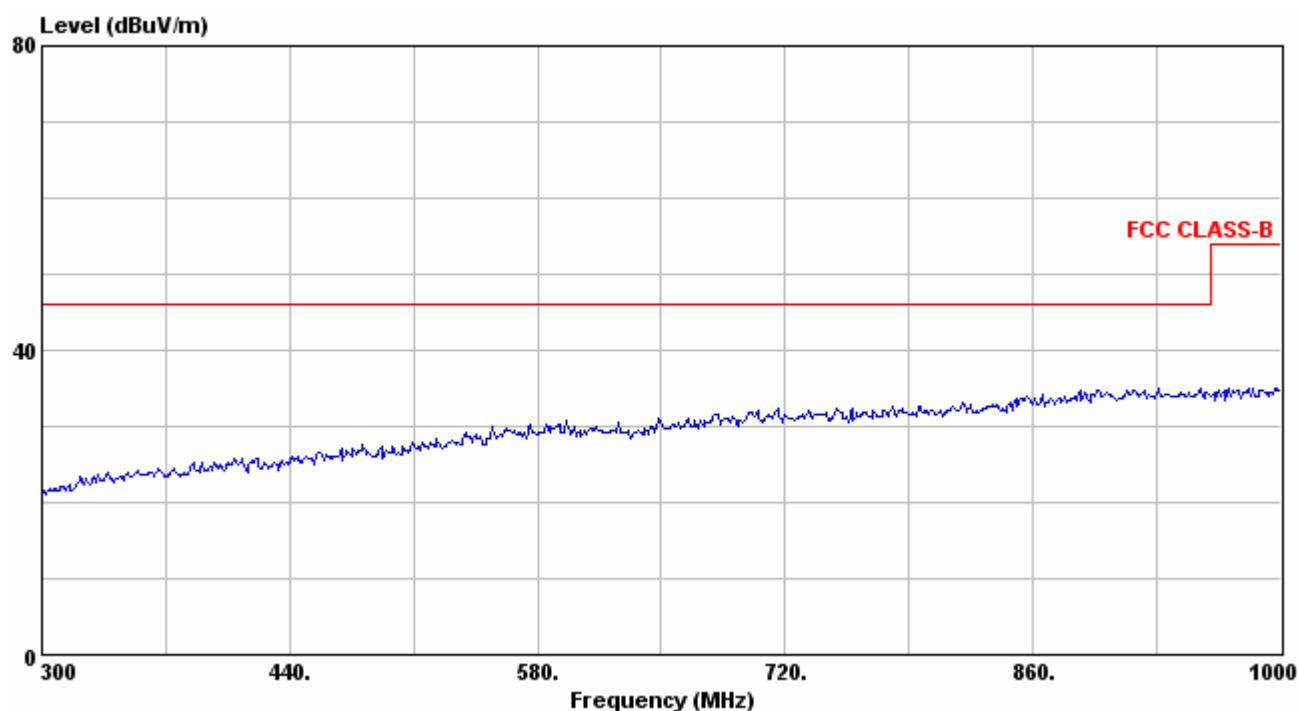
Polarization : Horizontal

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 39(2441MHz), Continuously Receiving

Power in : Batteries

Test Distance : 3m

Tester : Bill

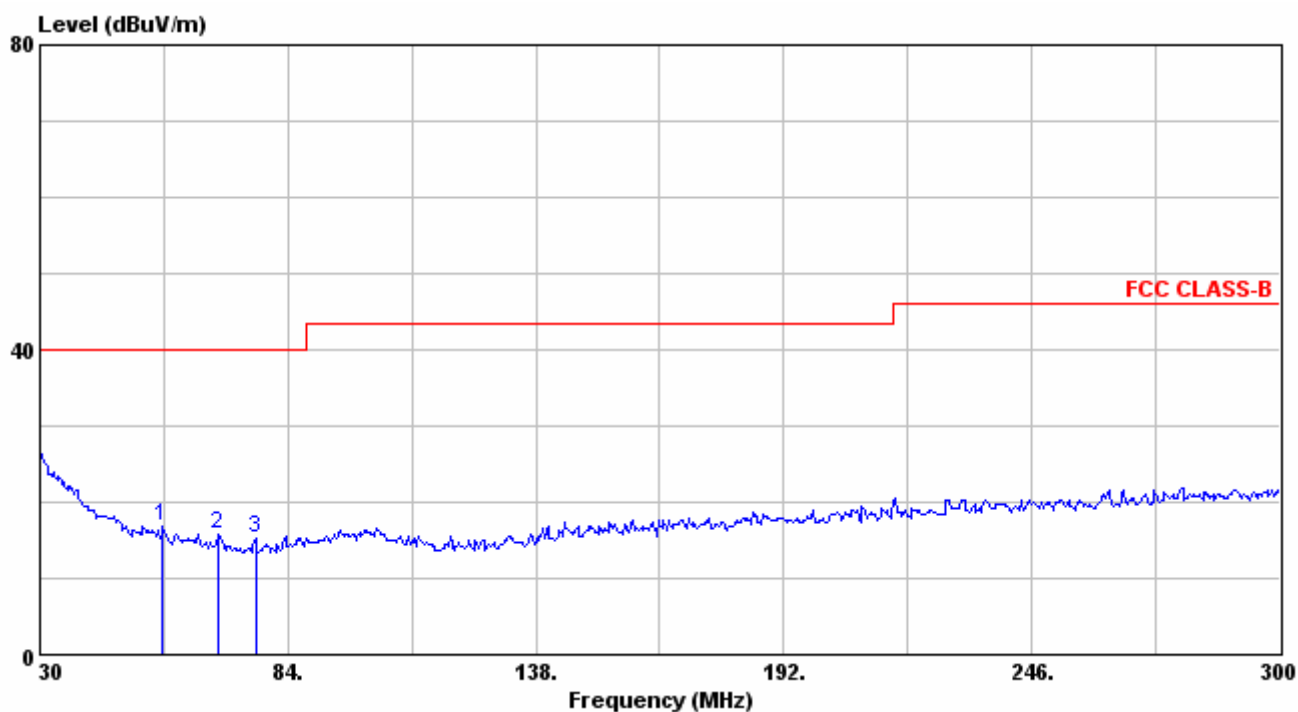
Antenna Polarization: Vertical

Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 56.73              | 38.50                  | -21.74                      | 16.76                      | 40.00             | 23.24          |
| 2 | 68.61              | 38.54                  | -22.65                      | 15.89                      | 40.00             | 24.11          |
| 3 | 76.98              | 38.18                  | -22.79                      | 15.39                      | 40.00             | 24.61          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 39(2441MHz), Continuously Receiving

Power in : Batteries

Test Distance : 3m

Tester : Bill

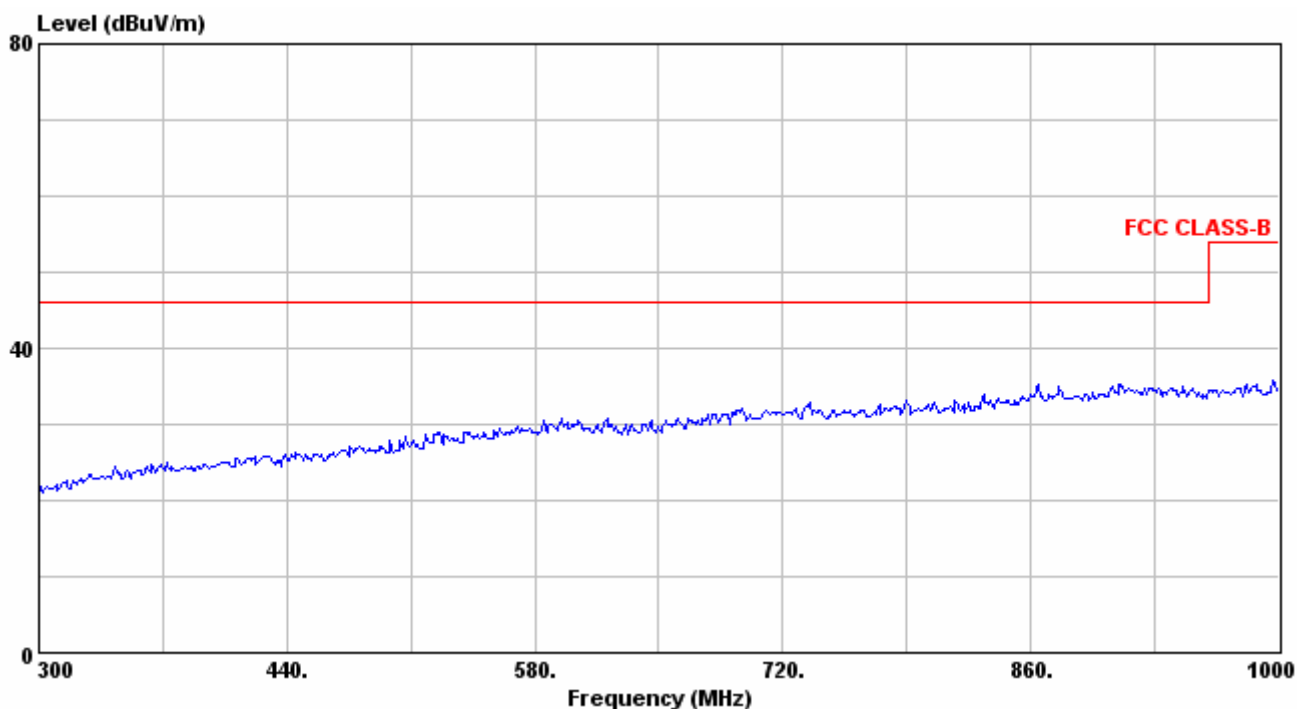
Antenna Polarization: Vertical

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 39(2441MHz), Continuously Receiving

Power in : Batteries

Test Distance : 3m

Tester : Bill

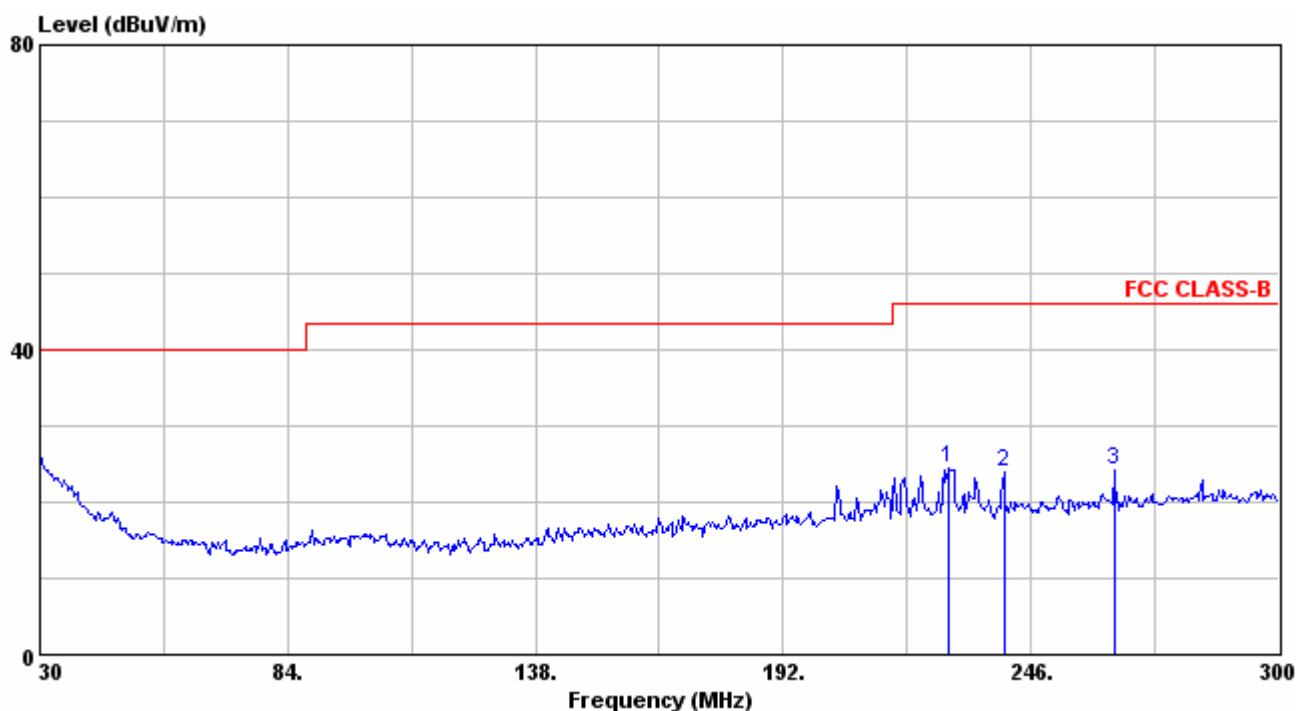
Antenna Polarization: Horizontal

Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 228.18             | 41.46                  | -16.95                      | 24.51                      | 46.00             | 21.49          |
| 2 | 240.06             | 40.74                  | -16.78                      | 23.96                      | 46.00             | 22.04          |
| 3 | 264.09             | 40.02                  | -15.90                      | 24.12                      | 46.00             | 21.88          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 39(2441MHz), Continuously Receiving

Power in : Batteries

Test Distance : 3m

Tester : Bill

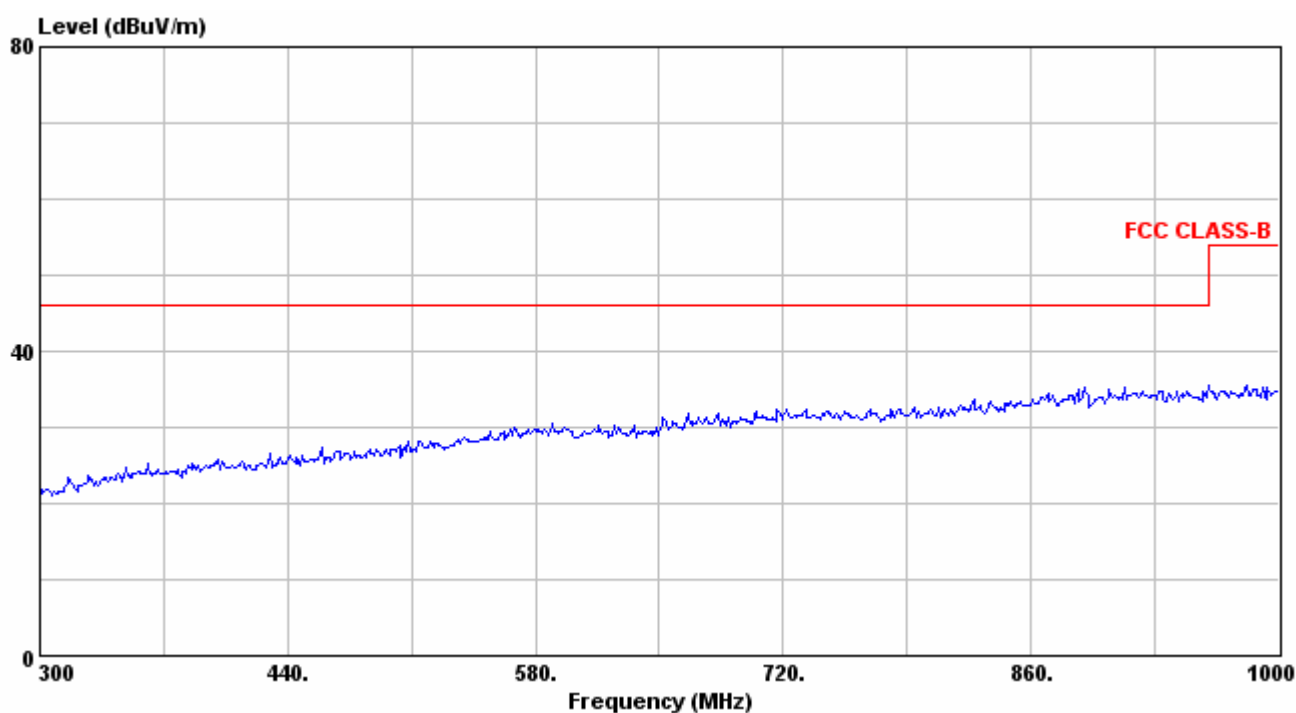
Antenna Polarization: Horizontal

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 78(2480MHz), Continuously Receiving

Power in : Batteries

Test Distance : 3m

Tester : Bill

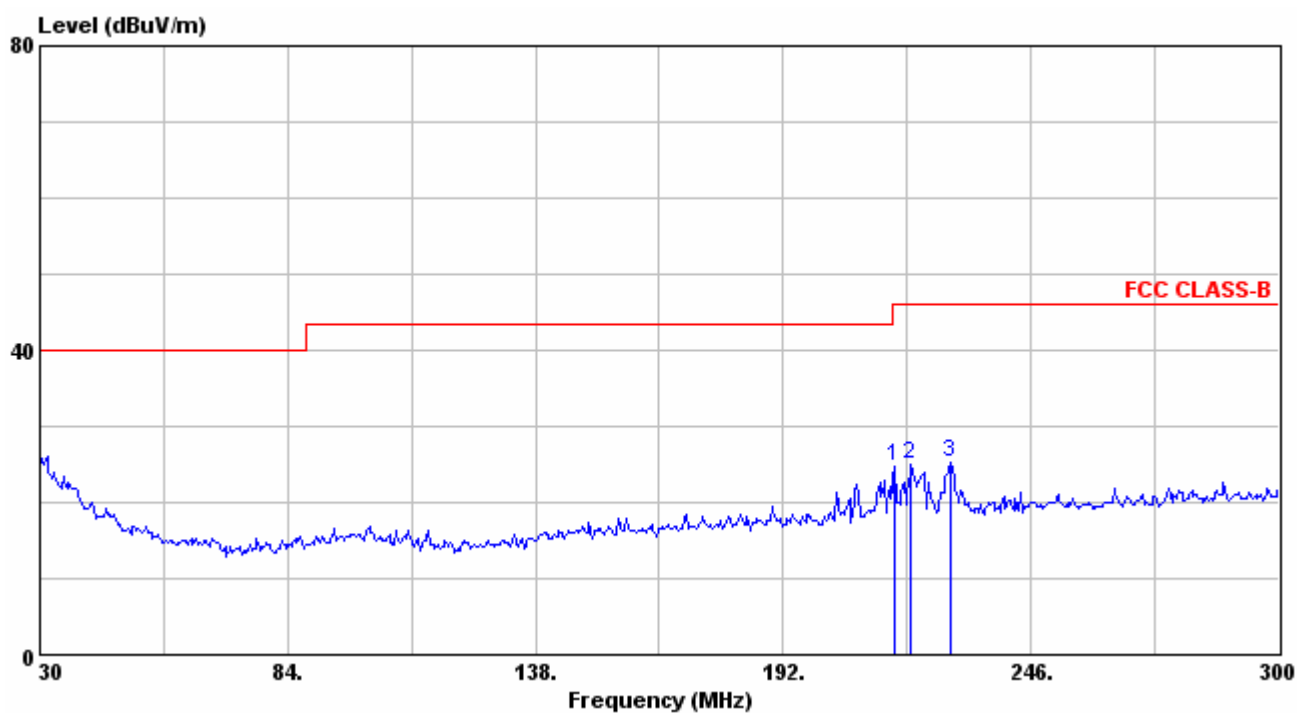
Antenna Polarization: Vertical

Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 216.30             | 42.13                  | -17.51                      | 24.62                      | 46.00             | 21.38          |
| 2 | 219.81             | 42.46                  | -17.43                      | 25.03                      | 46.00             | 20.97          |
| 3 | 228.45             | 42.31                  | -16.92                      | 25.39                      | 46.00             | 20.61          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 78(2480MHz), Continuously Receiving

Power in : Batteries

Test Distance : 3m

Tester : Bill

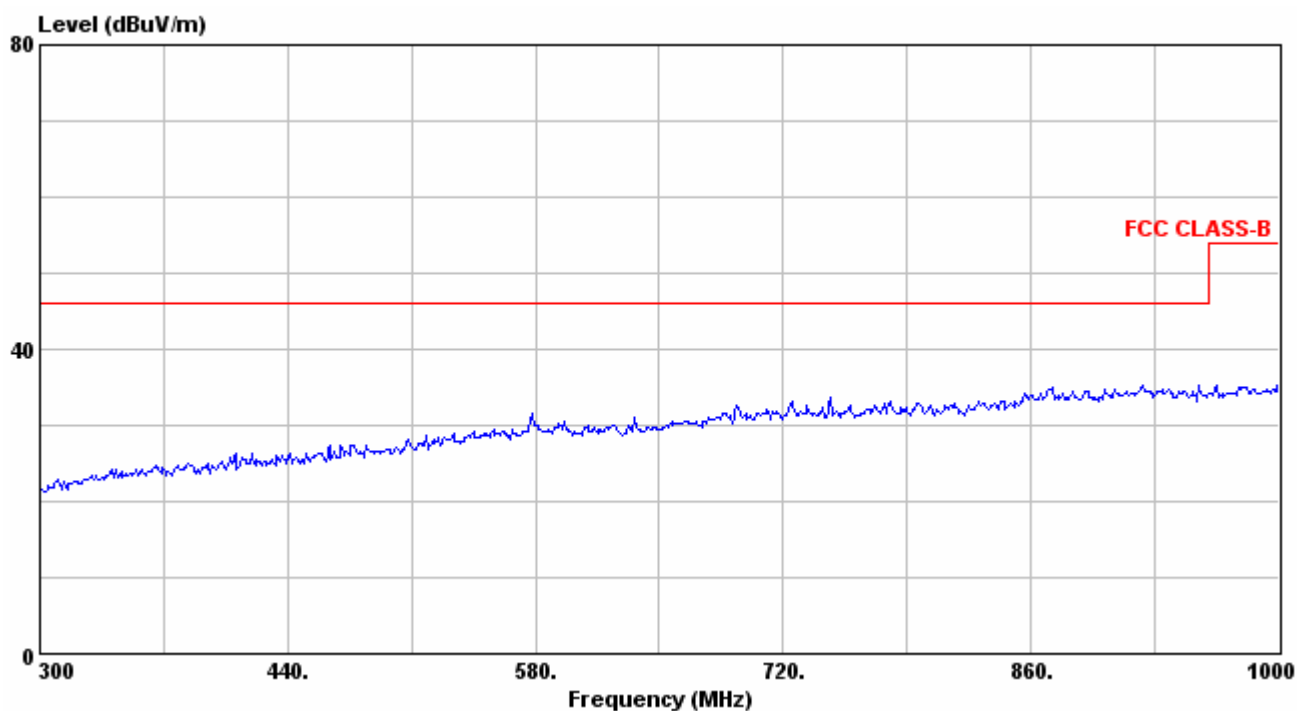
Antenna Polarization: Vertical

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 78(2480MHz), Continuously Receiving

Power in : Batteries

Test Distance : 3m

Tester : Bill

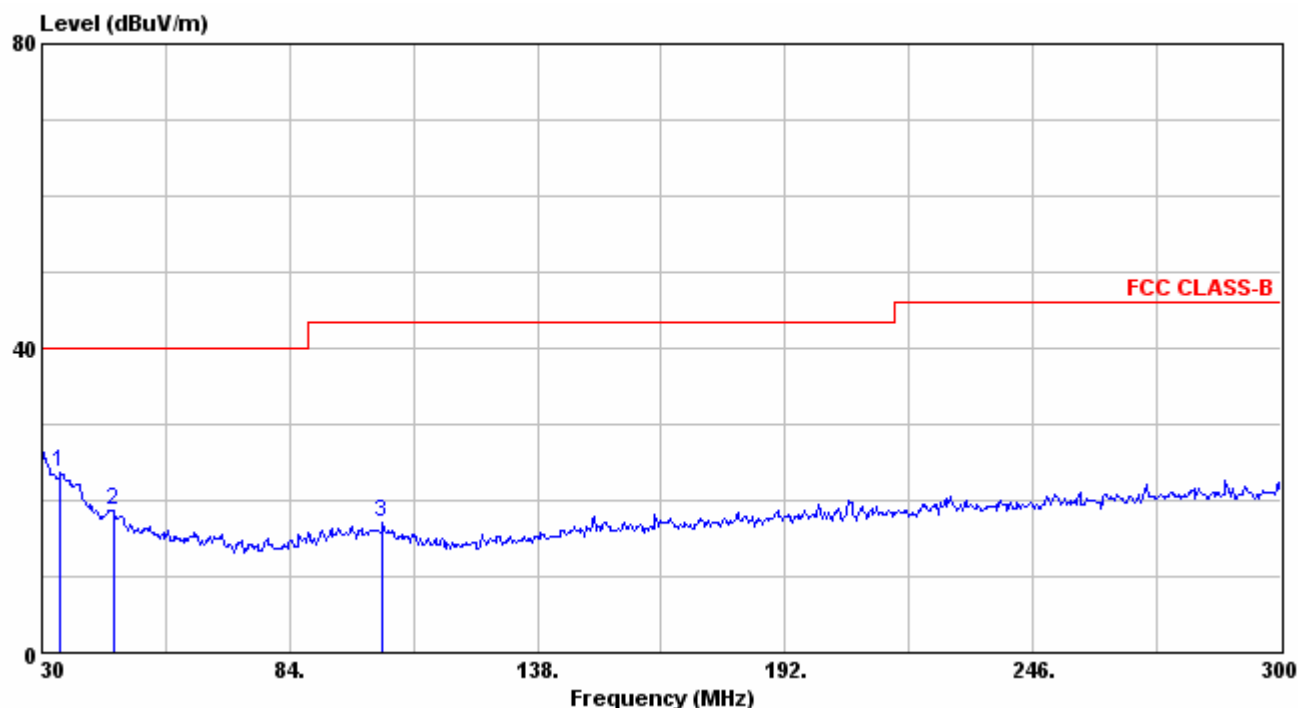
Antenna Polarization: Horizontal

Frequency Range : 30MHz~300MHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | 34.05              | 38.08                  | -14.46                      | 23.62                      | 40.00             | 16.38          |
| 2 | 45.66              | 38.66                  | -19.85                      | 18.81                      | 40.00             | 21.19          |
| 3 | 104.25             | 38.17                  | -21.19                      | 16.98                      | 43.50             | 26.52          |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



Test Model : Channel 78(2480MHz), Continuously Receiving

Power in : Batteries

Test Distance : 3m

Tester : Bill

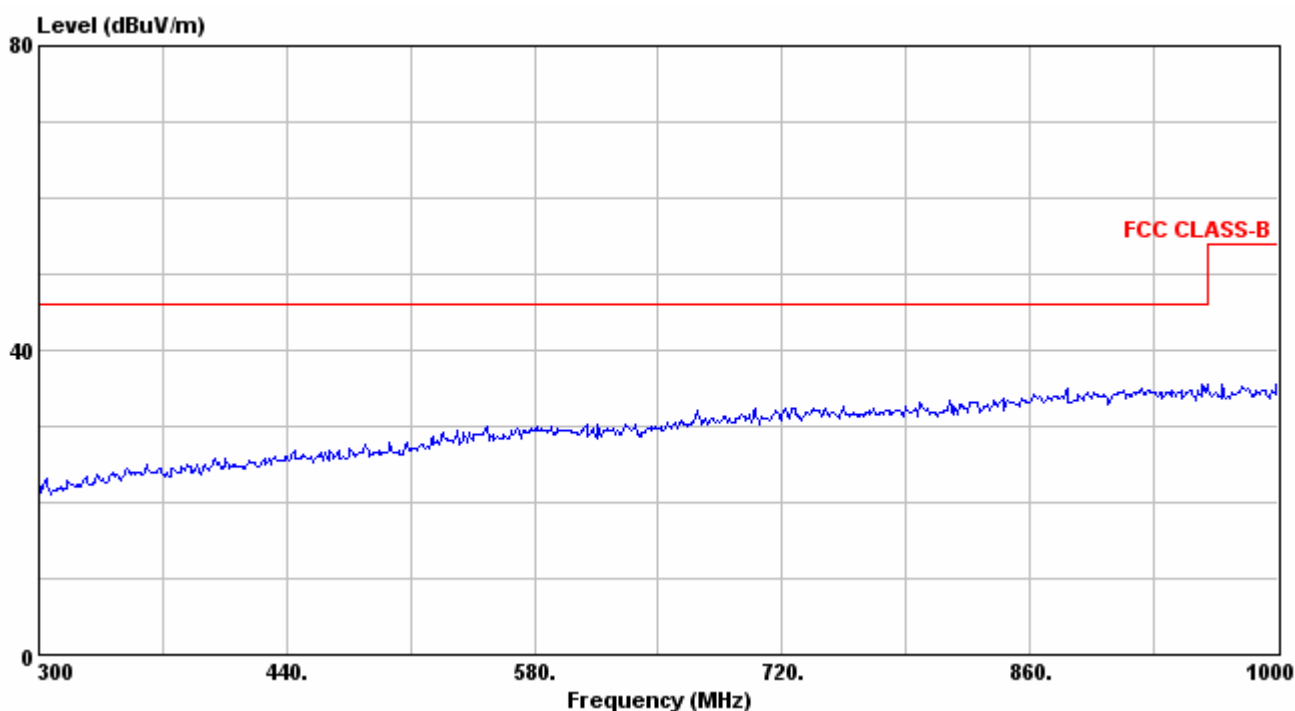
Antenna Polarization: Horizontal

Frequency Range : 300MHz~1GHz

|   | Frequency<br>(MHz) | Reading Data<br>(dBuV) | Correction Factor<br>(dB/m) | Emission Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---|--------------------|------------------------|-----------------------------|----------------------------|-------------------|----------------|
| 1 | *                  | *                      | *                           | *                          | *                 | *              |

Note:

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Emission Level
4. “\*”: The emission is too low to be measured.



## Radiated Emission Measurement above 1000MHz

Test Model : Channel 0(2402MHz), Continuously Transmitting

Power in : Adaptor

Test Distance : 3m

Tester : Bill

Antenna Polarization : Vertical

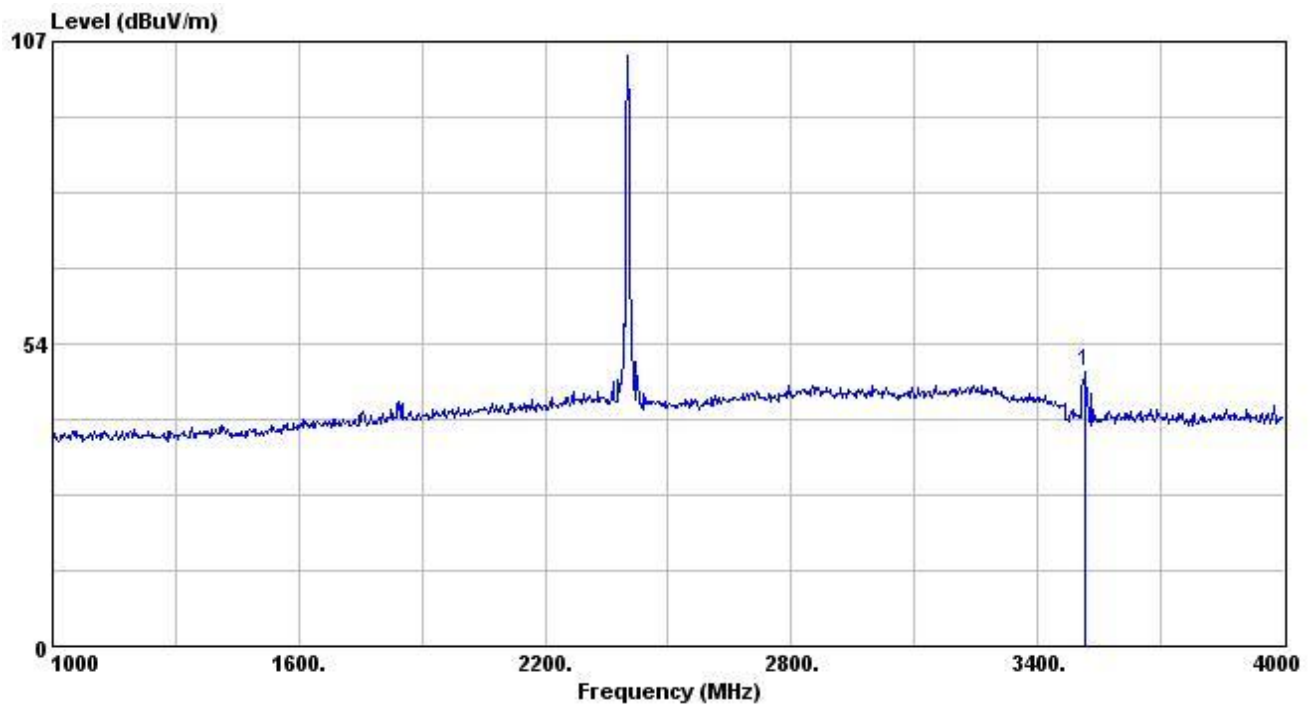
Frequency Range :1GHz~25GHz

|    | Frequency<br>(MHz) | Reading Data<br>(dBuV) |     | Correction<br>Factor<br>(dB/m) | Emission Level<br>(dBuV/m) |     | Limit<br>(dBuV/m) |     | Margin (dB) |     |
|----|--------------------|------------------------|-----|--------------------------------|----------------------------|-----|-------------------|-----|-------------|-----|
|    |                    | PK.                    | AV. |                                | PK.                        | AV. | PK.               | AV. | PK.         | AV. |
| 1  | 3517               | 47.07                  | *   | 1.38                           | 48.45                      | *   | 74                | 54  | 25.55       | *   |
| 2  | 4804               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 3  | 7206               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 4  | 9608               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 5  | 12010              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 6  | 14412              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 7  | 16814              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 8  | 19216              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 9  | 21618              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 10 | 24020              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 11 | 25000              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |

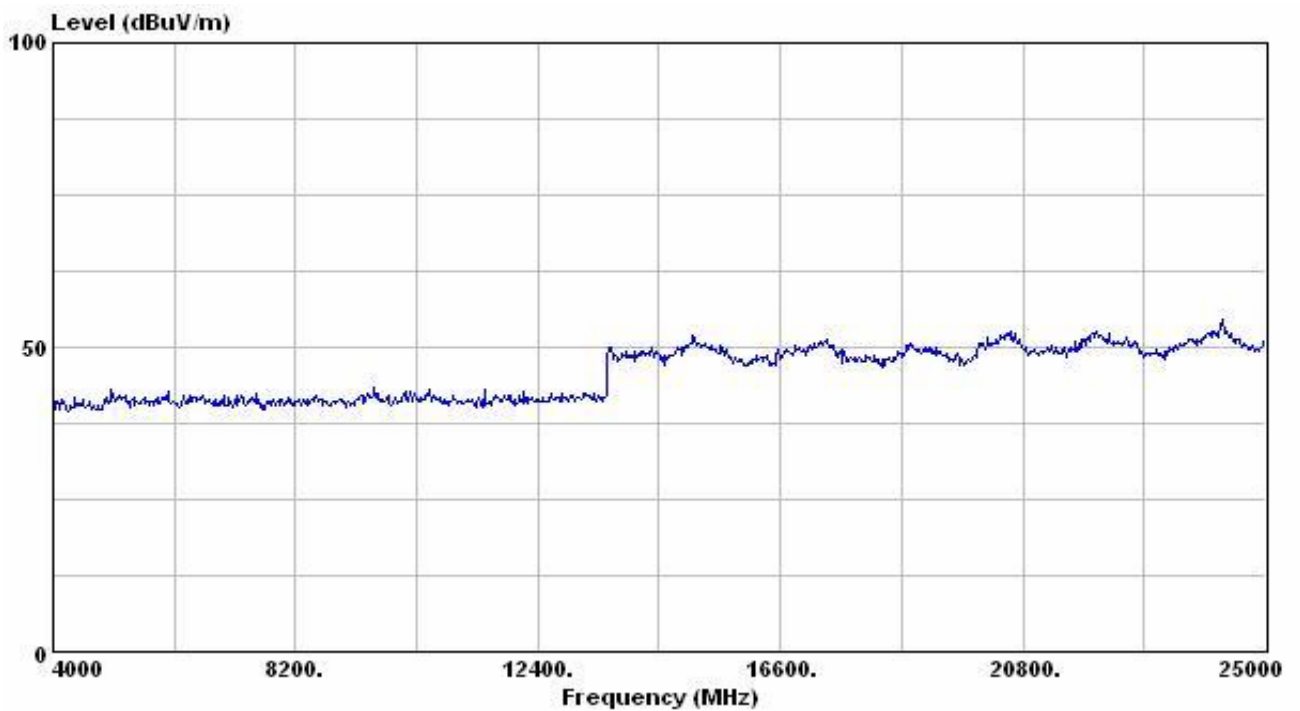
Note:

1. Emission Level (dBuV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

## 1GHz~4GHz



## 4GHz~25GHz



Test Model : Channel 0(2402MHz), Continuously Transmitting

Power in : Adaptor

Test Distance : 3m

Tester : Bill

Antenna Polarization : Horizontal

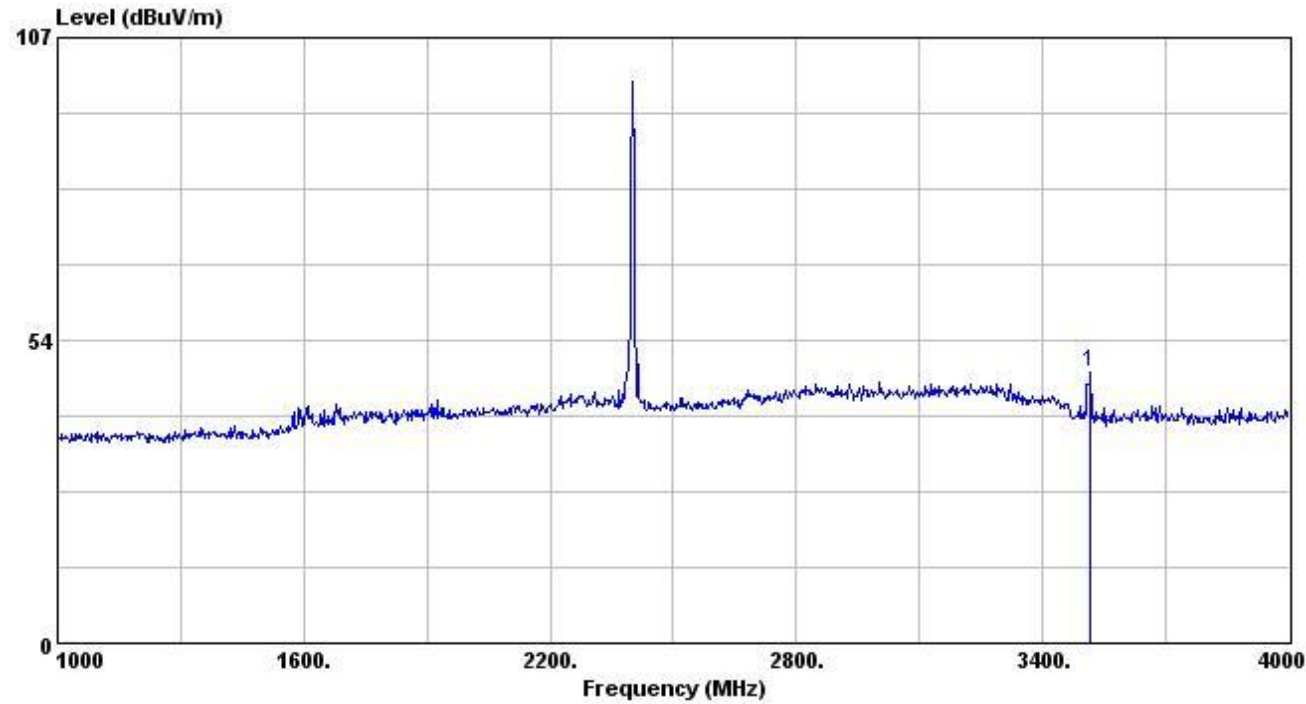
Frequency Range :1GHz~25GHz

|    | Frequency<br>(MHz) | Reading Data<br>(dBuV) |     | Correction<br>Factor<br>(dB/m) | Emission Level<br>(dBuV/m) |     | Limit<br>(dBuV/m) |     | Margin (dB) |     |
|----|--------------------|------------------------|-----|--------------------------------|----------------------------|-----|-------------------|-----|-------------|-----|
|    |                    | PK.                    | AV. |                                | PK.                        | AV. | PK.               | AV. | PK.         | AV. |
| 1  | 3517               | 46.44                  | *   | 1.38                           | 47.82                      | *   | 74                | 54  | 26.18       | *   |
| 2  | 4804               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 3  | 7206               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 4  | 9608               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 5  | 12010              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 6  | 14412              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 7  | 16814              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 8  | 19216              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 9  | 21618              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 10 | 24020              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 11 | 25000              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |

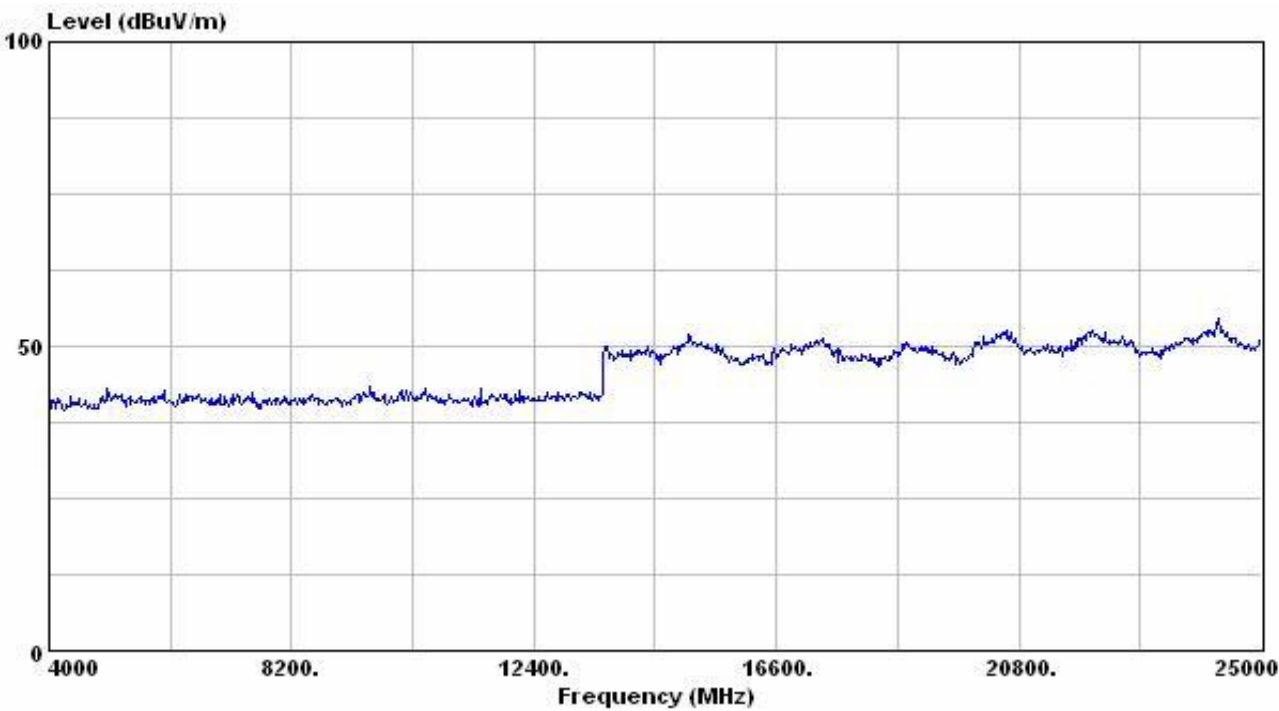
Note:

1. Emission Level (dBuV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

1GHz~4GHz



4GHz~25GHz



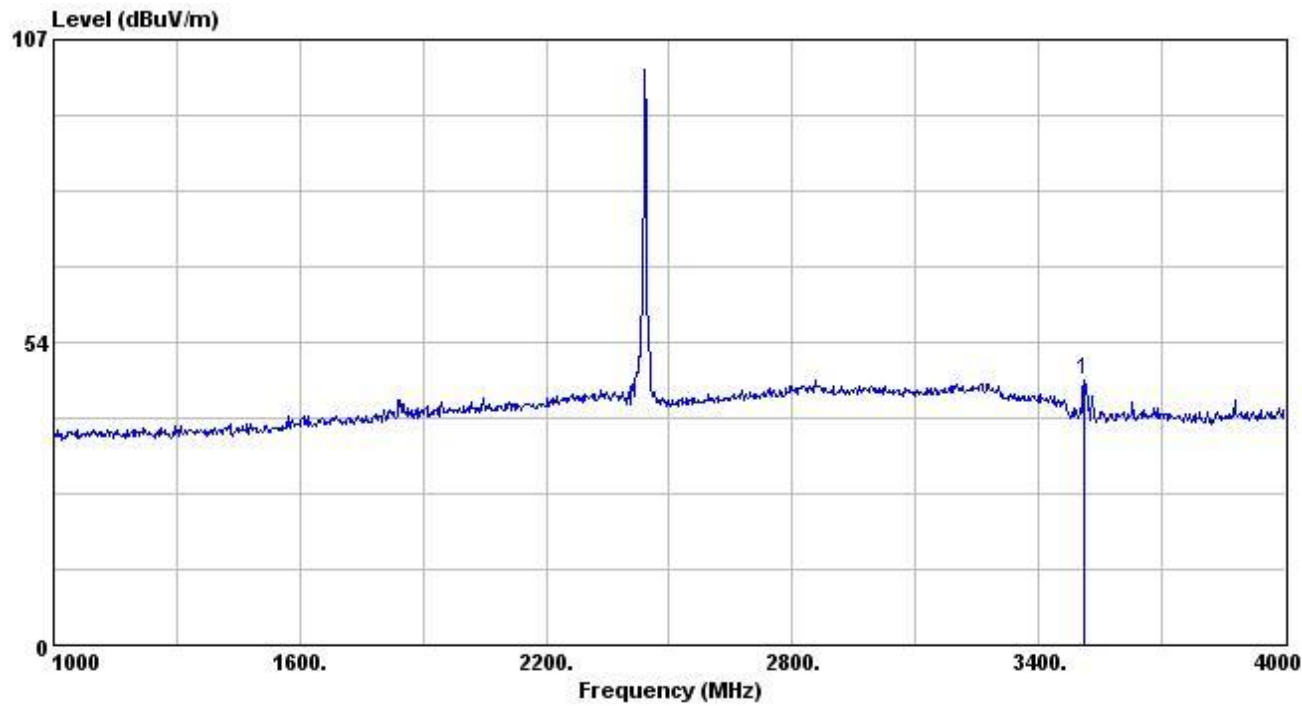
Test Model : Channel 39(2441MHz), Continuously Transmitting  
 Power in : Adaptor  
 Test Distance : 3m Tester : Bill  
 Antenna Polarization : Vertical Frequency Range :1GHz~25GHz

|    | Frequency<br>(MHz) | Reading Data<br>(dBuV) |     | Correction<br>Factor<br>(dB/m) | Emission Level<br>(dBuV/m) |     | Limit<br>(dBuV/m) |     | Margin (dB) |     |
|----|--------------------|------------------------|-----|--------------------------------|----------------------------|-----|-------------------|-----|-------------|-----|
|    |                    | PK.                    | AV. |                                | PK.                        | AV. | PK.               | AV. | PK.         | AV. |
| 1  | 3511               | 45.31                  | *   | 1.34                           | 46.65                      | *   | 74                | 54  | 28.28       | *   |
| 2  | 4882               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 3  | 7323               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 4  | 9764               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 5  | 12205              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 6  | 14646              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 7  | 17087              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 8  | 19528              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 9  | 21969              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 10 | 24410              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 11 | 25000              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |

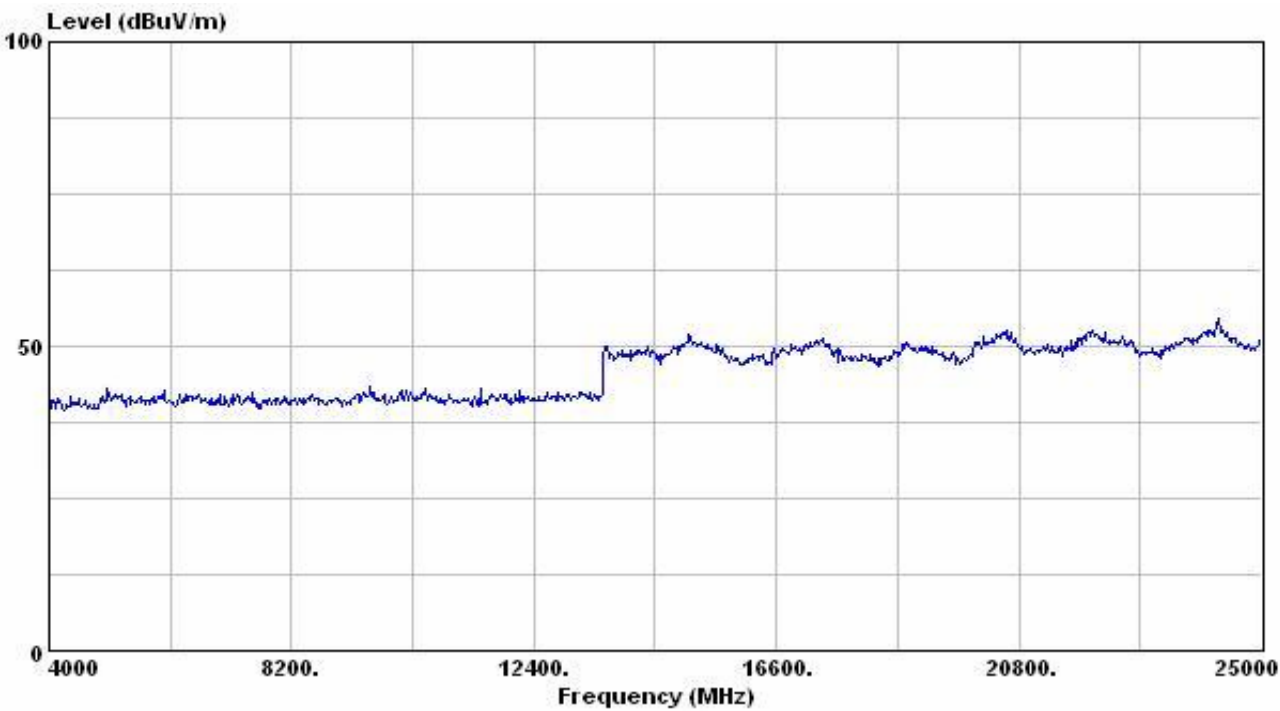
Note:

1. Emission Level (dBuV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

1GHz~4GHz



4GHz~25GHz



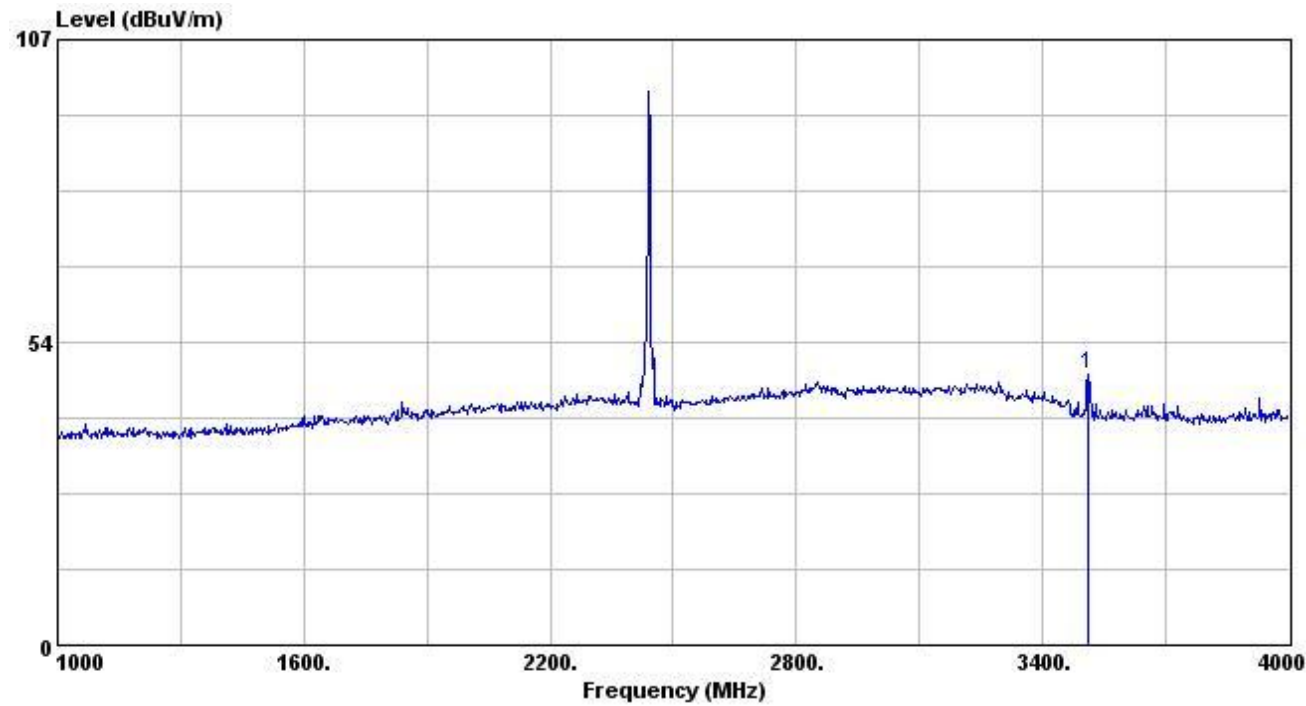
Test Model : Channel 39(2441MHz), Continuously Transmitting  
 Power in : Adaptor  
 Test Distance : 3m Tester : Bill  
 Antenna Polarization : Horizontal Frequency Range :1GHz~25GHz

|    | Frequency (MHz) | Reading Data (dBUV) |     | Correction Factor (dB/m) | Emission Level (dBUV/m) |     | Limit (dBUV/m) |     | Margin (dB) |     |
|----|-----------------|---------------------|-----|--------------------------|-------------------------|-----|----------------|-----|-------------|-----|
|    |                 | PK.                 | AV. |                          | PK.                     | AV. | PK.            | AV. | PK.         | AV. |
| 1  | 3511            | 46.62               | *   | 1.34                     | 47.96                   | *   | 74             | 54  | 26.04       | *   |
| 2  | 4882            | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 3  | 7323            | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 4  | 9764            | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 5  | 12205           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 6  | 14646           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 7  | 17087           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 8  | 19528           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 9  | 21969           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 10 | 24410           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 11 | 25000           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |

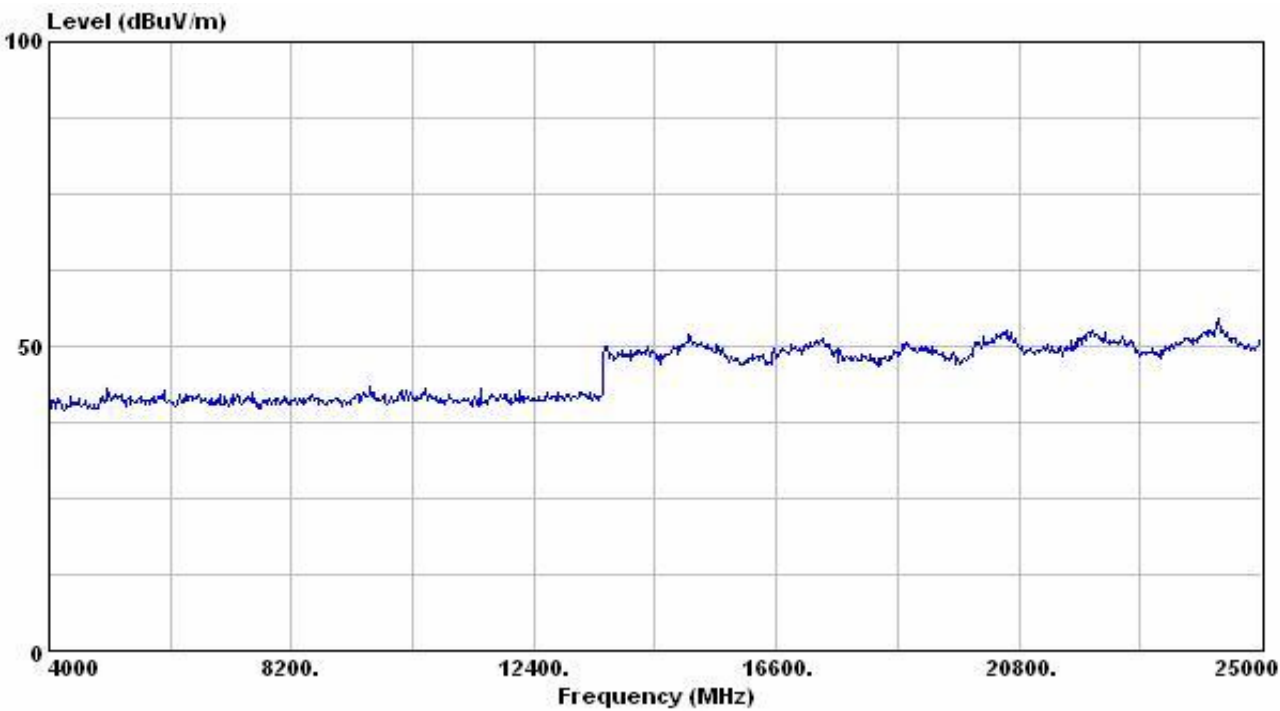
Note:

1. Emission Level (dBUV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

1GHz~4GHz



4GHz~25GHz



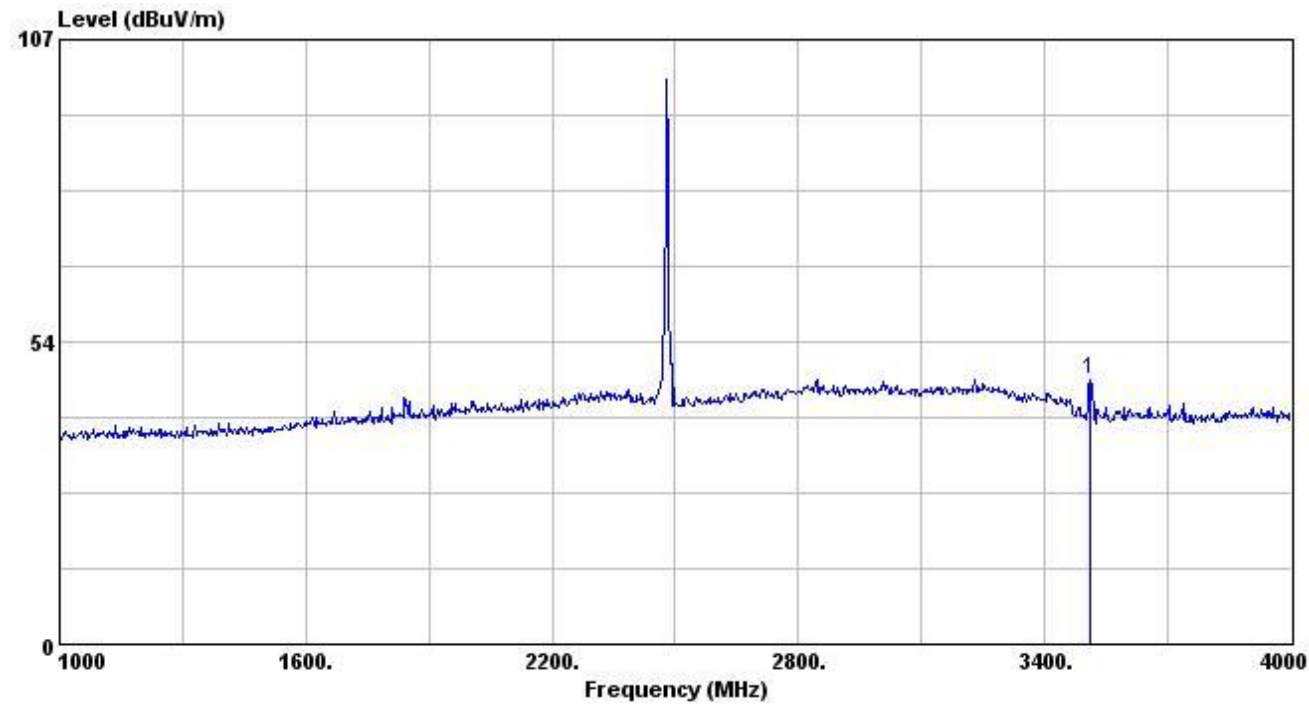
Test Model : Channel 78(2480MHz), Continuously Transmitting  
 Power in : Adaptor  
 Test Distance : 3m Tester : Bill  
 Antenna Polarization : Vertical Frequency Range :1GHz~25GHz

|    | Frequency<br>(MHz) | Reading Data<br>(dBuV) |     | Correction<br>Factor<br>(dB/m) | Emission Level<br>(dBuV/m) |     | Limit<br>(dBuV/m) |     | Margin (dB) |     |
|----|--------------------|------------------------|-----|--------------------------------|----------------------------|-----|-------------------|-----|-------------|-----|
|    |                    | PK.                    | AV. |                                | PK.                        | AV. | PK.               | AV. | PK.         | AV. |
| 1  | 3511               | 45.30                  | *   | 1.34                           | 46.64                      | *   | 74                | 54  | 27.36       | *   |
| 2  | 4960               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 3  | 7440               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 4  | 9920               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 5  | 12400              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 6  | 14880              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 7  | 17360              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 8  | 19840              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 9  | 22320              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 10 | 24800              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 11 | 25000              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |

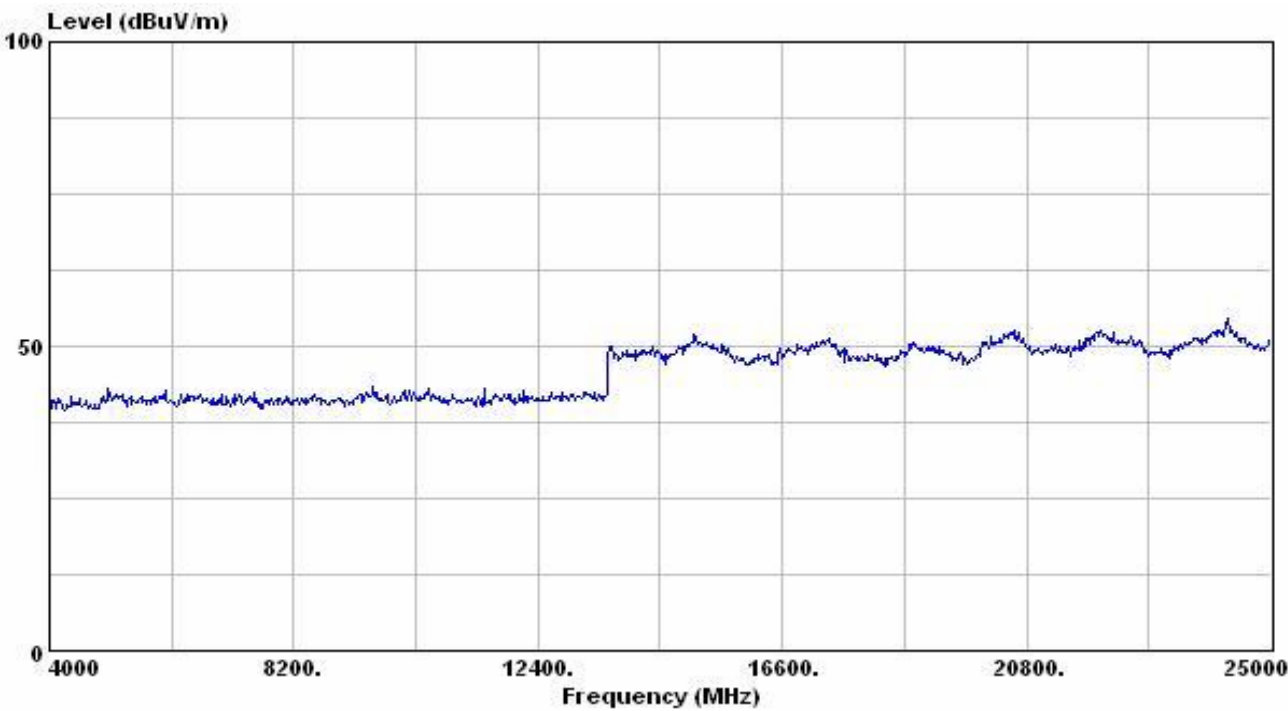
Note:

1. Emission Level (dBuV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

1GHz~4GHz



4GHz~25GHz



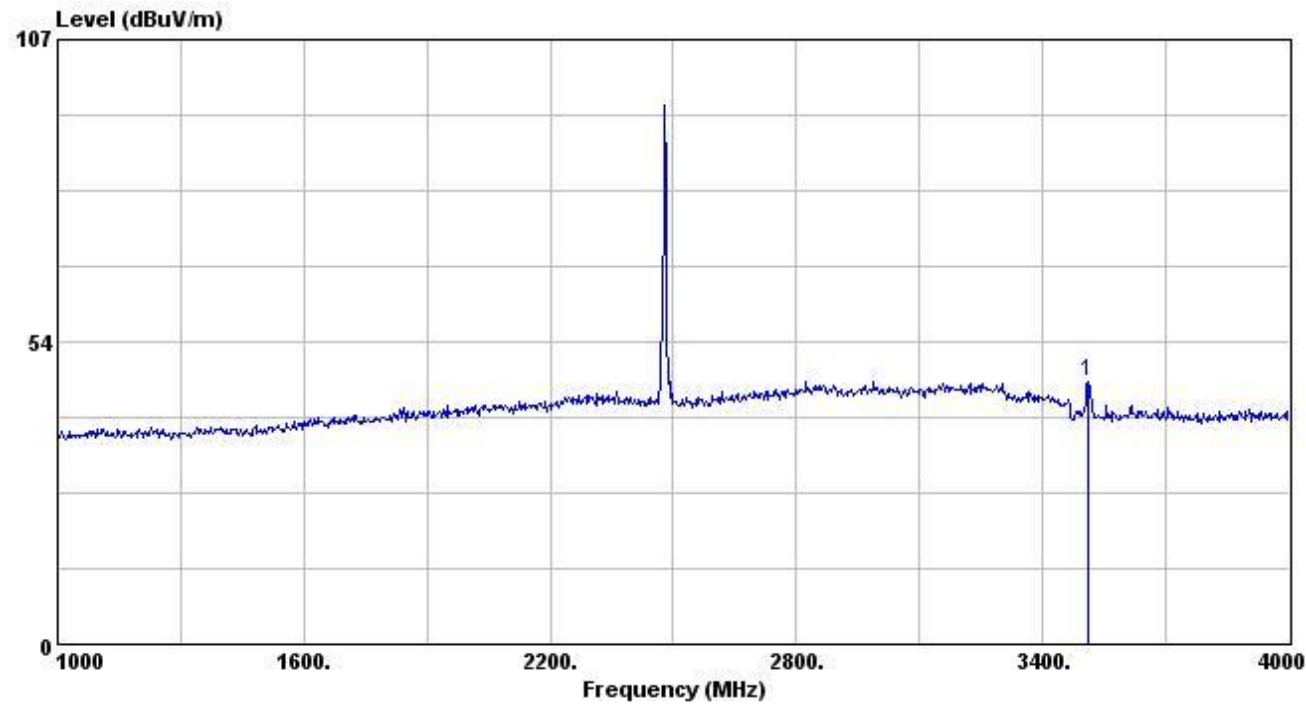
Test Model : Channel 78(2480MHz), Continuously Transmitting  
 Power in : Adaptor  
 Test Distance : 3m Tester : Bill  
 Antenna Polarization : Horizontal Frequency Range :1GHz~25GHz

|    | Frequency (MHz) | Reading Data (dBUV) |     | Correction Factor (dB/m) | Emission Level (dBUV/m) |     | Limit (dBUV/m) |     | Margin (dB) |     |
|----|-----------------|---------------------|-----|--------------------------|-------------------------|-----|----------------|-----|-------------|-----|
|    |                 | PK.                 | AV. |                          | PK.                     | AV. | PK.            | AV. | PK.         | AV. |
| 1  | 3511            | 45.27               | *   | 1.34                     | 46.61                   | *   | 74             | 54  | 27.39       | *   |
| 2  | 4960            | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 3  | 7440            | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 4  | 9920            | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 5  | 12400           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 6  | 14880           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 7  | 17360           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 8  | 19840           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 9  | 22320           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 10 | 24800           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 11 | 25000           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |

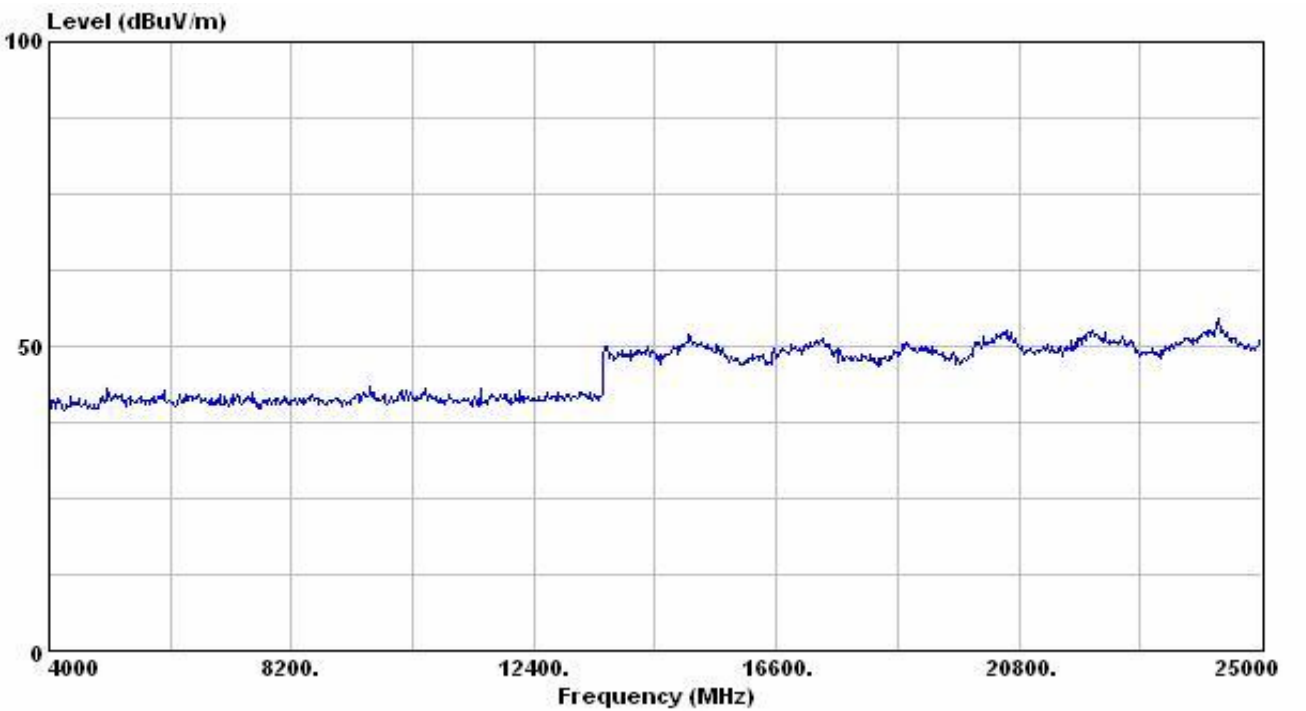
Note:

1. Emission Level (dBUV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

1GHz~4GHz



4GHz~25GHz



Test Model : Channel 0(2402MHz), Continuously Transmitting

Power in : Batteries

Test Distance : 3m

Tester : Bill

Antenna Polarization : Vertical

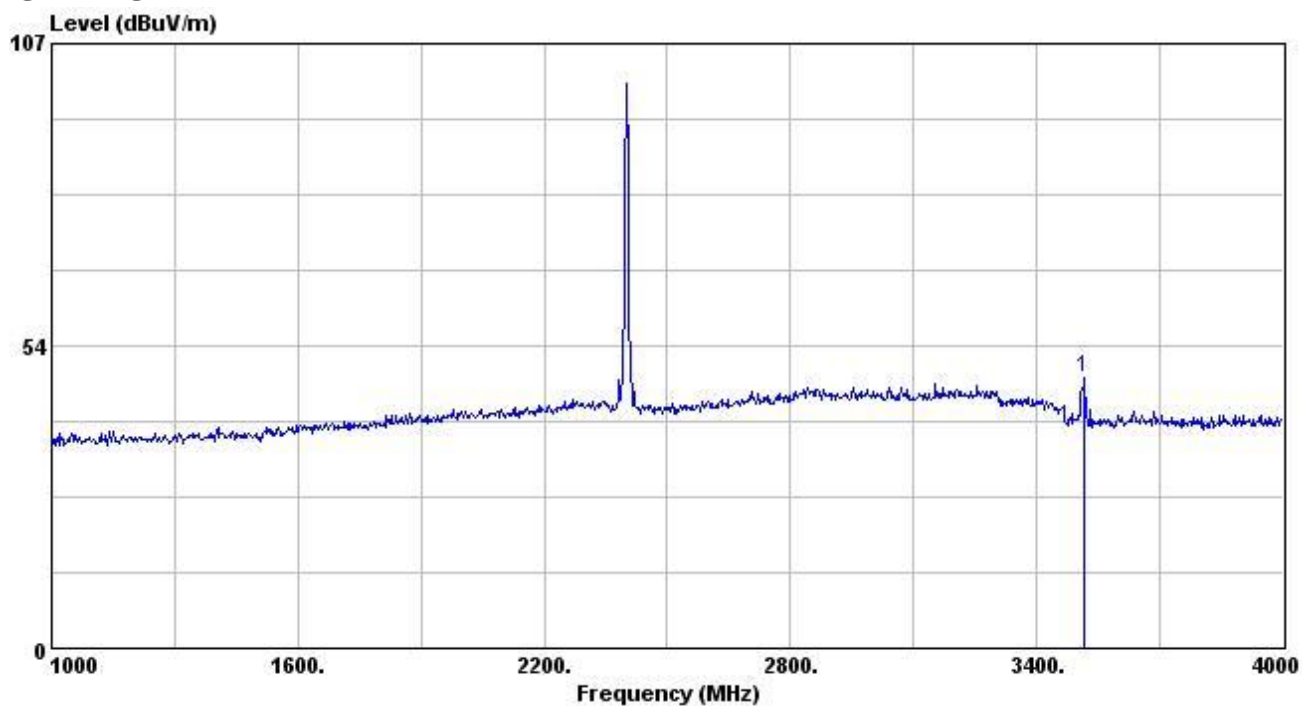
Frequency Range :1GHz~25GHz

|    | Frequency<br>(MHz) | Reading Data<br>(dBuV) |     | Correction<br>Factor<br>(dB/m) | Emission Level<br>(dBuV/m) |     | Limit<br>(dBuV/m) |     | Margin (dB) |     |
|----|--------------------|------------------------|-----|--------------------------------|----------------------------|-----|-------------------|-----|-------------|-----|
|    |                    | PK.                    | AV. |                                | PK.                        | AV. | PK.               | AV. | PK.         | AV. |
| 1  | 3517               | 46.42                  | *   | 1.38                           | 47.80                      | *   | 74                | 54  | 26.20       | *   |
| 2  | 4804               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 3  | 7206               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 4  | 9608               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 5  | 12010              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 6  | 14412              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 7  | 16814              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 8  | 19216              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 9  | 21618              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 10 | 24020              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 11 | 25000              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |

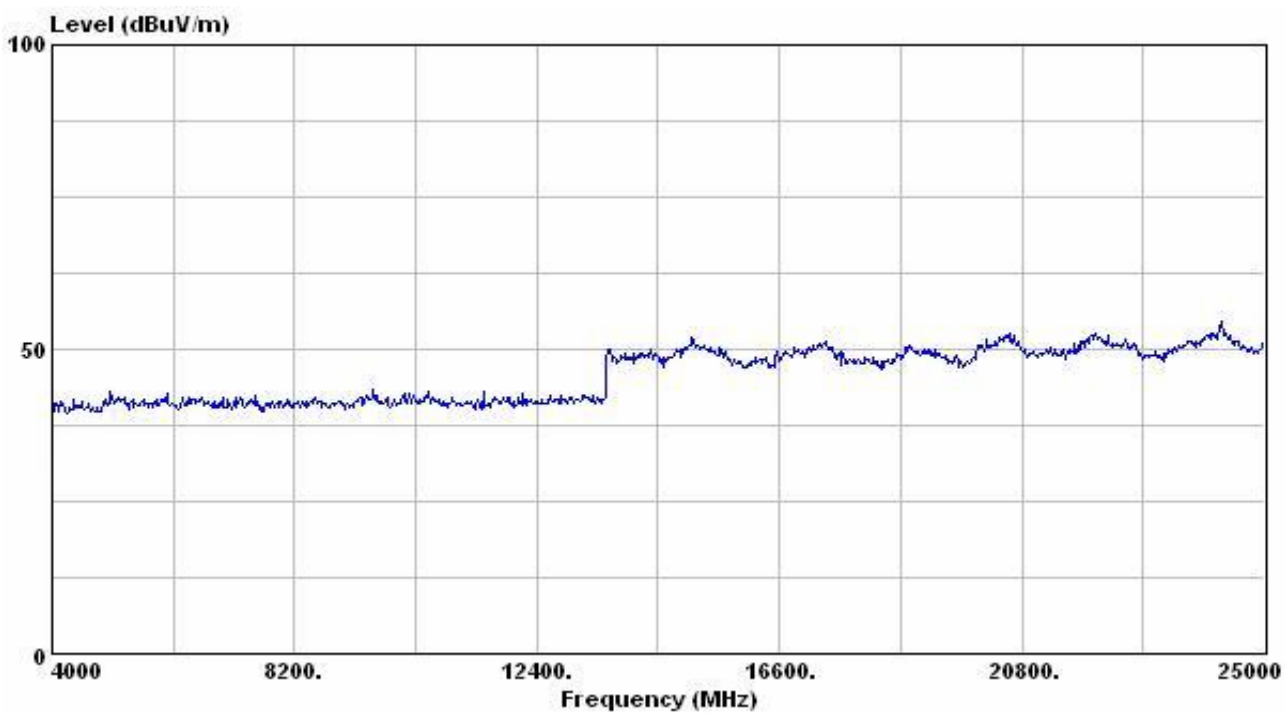
Note:

1. Emission Level (dBuV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

## 1GHz~4GHz



## 4GHz~25GHz



Test Model : Channel 0(2402MHz), Continuously Transmitting

Power in : Batteries

Test Distance : 3m

Tester : Bill

Antenna Polarization : Horizontal

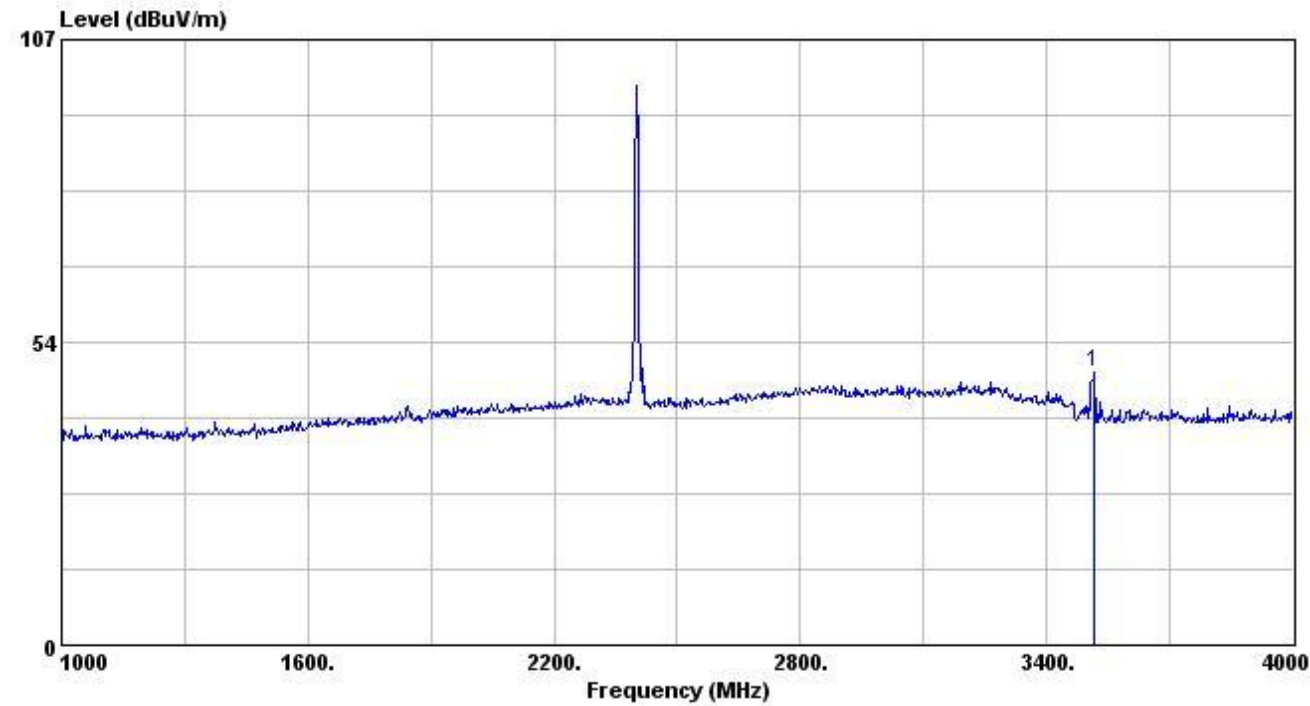
Frequency Range :1GHz~25GHz

|    | Frequency<br>(MHz) | Reading Data<br>(dBuV) |     | Correction<br>Factor<br>(dB/m) | Emission Level<br>(dBuV/m) |     | Limit<br>(dBuV/m) |     | Margin (dB) |     |
|----|--------------------|------------------------|-----|--------------------------------|----------------------------|-----|-------------------|-----|-------------|-----|
|    |                    | PK.                    | AV. |                                | PK.                        | AV. | PK.               | AV. | PK.         | AV. |
| 1  | 3517               | 45.80                  | *   | 1.38                           | 47.18                      | *   | 74                | 54  | 26.82       | *   |
| 2  | 4804               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 3  | 7206               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 4  | 9608               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 5  | 12010              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 6  | 14412              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 7  | 16814              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 8  | 19216              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 9  | 21618              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 10 | 24020              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 11 | 25000              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |

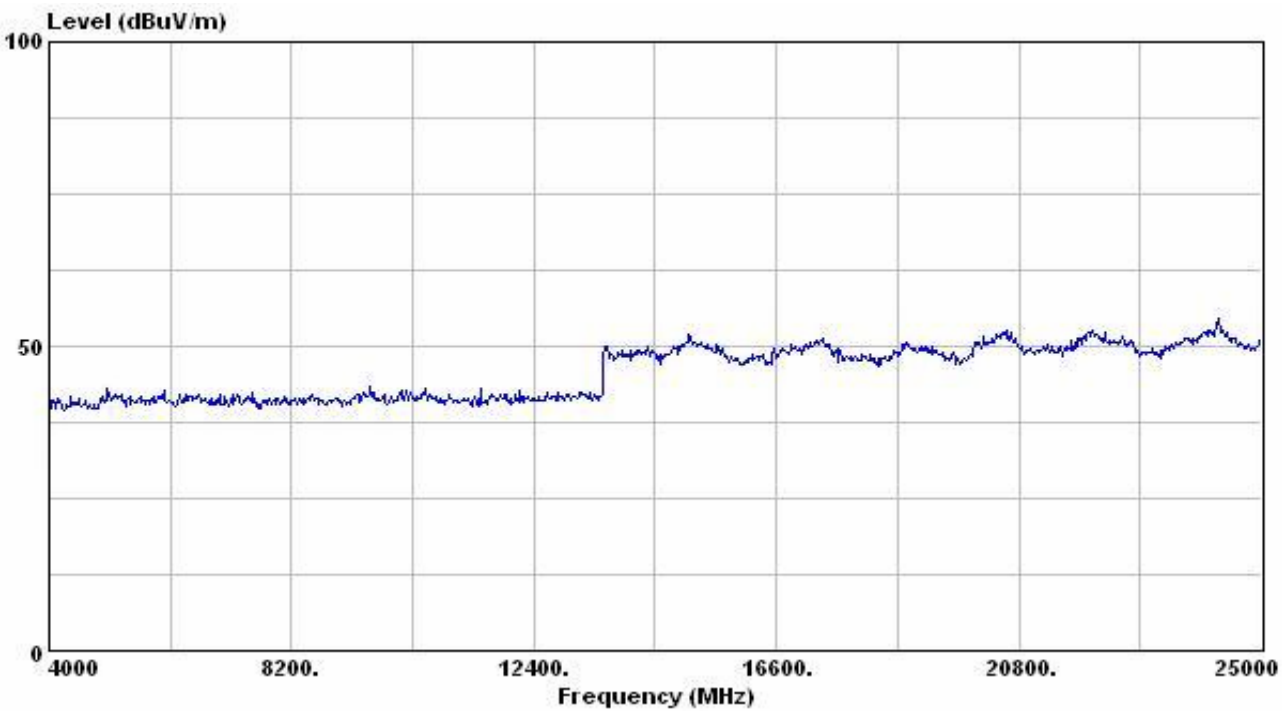
Note:

1. Emission Level (dBuV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

1GHz~4GHz



4GHz~25GHz



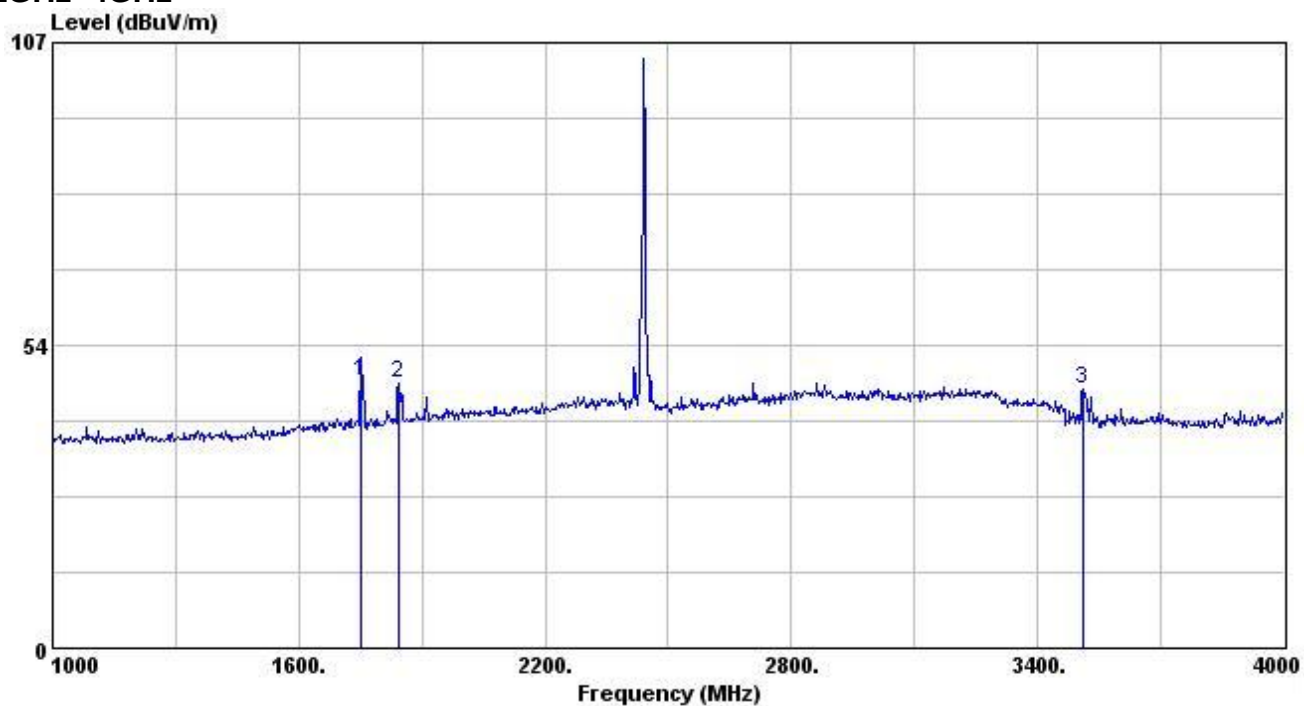
Test Model : Channel 39(2441MHz), Continuously Transmitting  
 Power in : Batteries  
 Test Distance : 3m Tester : Bill  
 Antenna Polarization : Vertical Frequency Range :1GHz~25GHz

|    | Frequency (MHz) | Reading Data (dBUV) |     | Correction Factor (dB/m) | Emission Level (dBUV/m) |     | Limit (dBUV/m) |     | Margin (dB) |     |
|----|-----------------|---------------------|-----|--------------------------|-------------------------|-----|----------------|-----|-------------|-----|
|    |                 | PK.                 | AV. |                          | PK.                     | AV. | PK.            | AV. | PK.         | AV. |
| 1  | 1750            | 49.76               | *   | -2.45                    | 47.31                   | *   | 74             | 54  | 26.69       | *   |
| 2  | 1843            | 48.25               | *   | -1.56                    | 46.69                   | *   | 74             | 54  | 27.31       | *   |
| 3  | 3511            | 44.27               | *   | 1.34                     | 45.61                   | *   | 74             | 54  | 28.39       | *   |
| 4  | 4882            | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 5  | 7323            | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 6  | 9764            | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 7  | 12205           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 8  | 14646           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 9  | 17087           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 10 | 19528           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 11 | 21969           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 12 | 24410           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 13 | 25000           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |

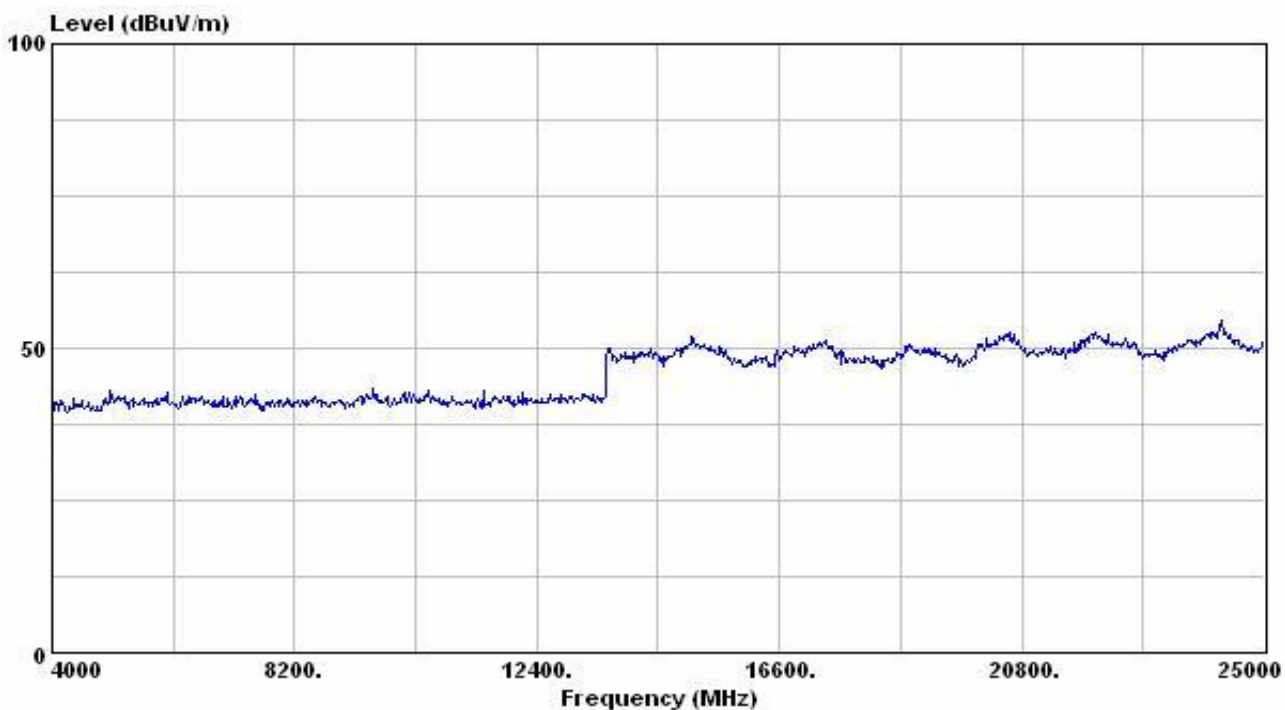
Note:

1. Emission Level (dBUV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

## 1GHz~4GHz



## 4GHz~25GHz



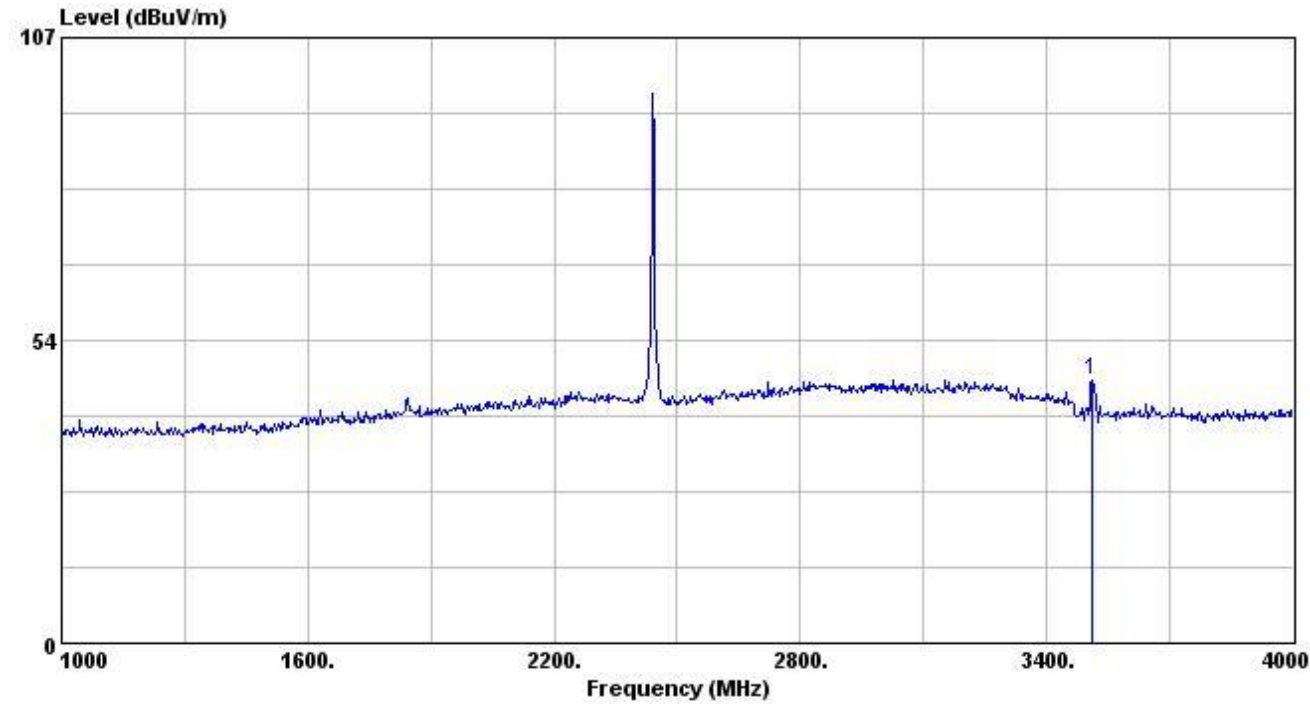
**Test Model** : Channel 39(2441MHz), Continuously Transmitting  
**Power in** : Batteries  
**Test Distance** : 3m **Tester** : Bill  
**Antenna Polarization** : Horizontal **Frequency Range** :1GHz~25GHz

|    | Frequency (MHz) | Reading Data (dBUV) |     | Correction Factor (dB/m) | Emission Level (dBUV/m) |     | Limit (dBUV/m) |     | Margin (dB) |     |
|----|-----------------|---------------------|-----|--------------------------|-------------------------|-----|----------------|-----|-------------|-----|
|    |                 | PK.                 | AV. |                          | PK.                     | AV. | PK.            | AV. | PK.         | AV. |
| 1  | 3511            | 45.25               | *   | 1.34                     | 46.59                   | *   | 74             | 54  | 27.41       | *   |
| 2  | 4882            | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 3  | 7323            | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 4  | 9764            | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 5  | 12205           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 6  | 14646           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 7  | 17087           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 8  | 19528           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 9  | 21969           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 10 | 24410           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |
| 11 | 25000           | *                   | *   | *                        | *                       | *   | 74             | 54  | *           | *   |

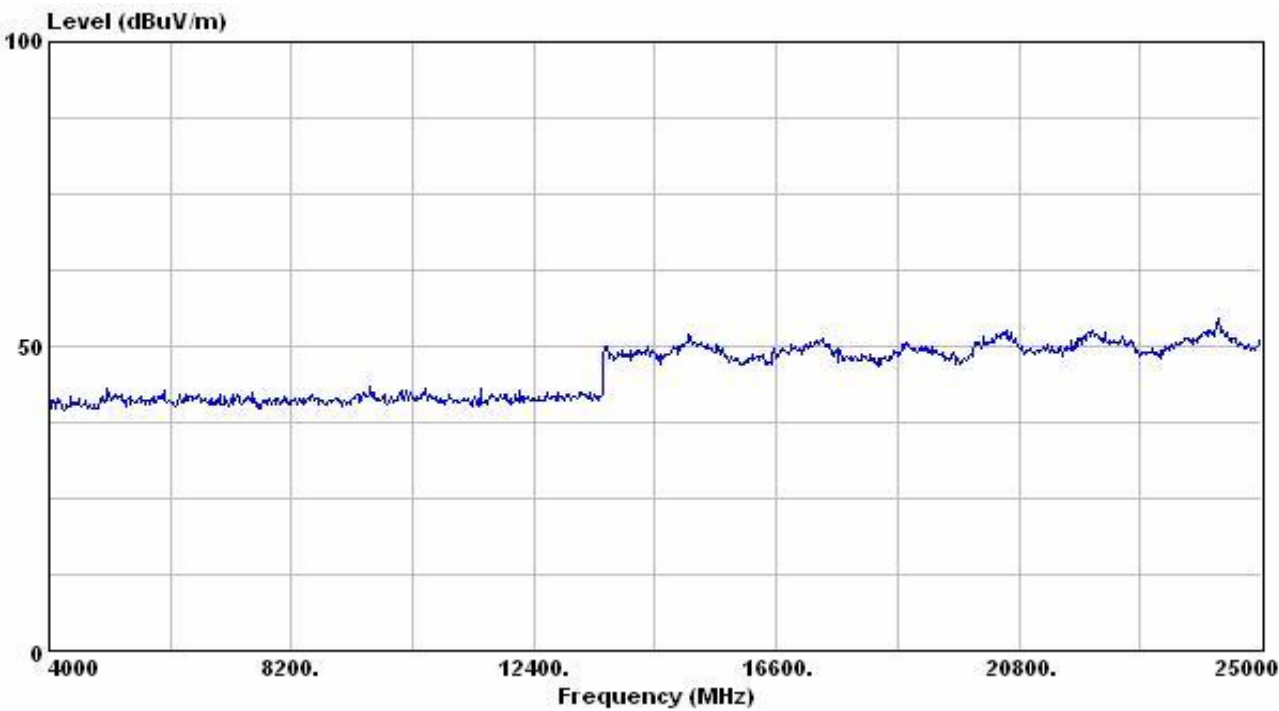
Note:

1. Emission Level (dBUV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

1GHz~4GHz



4GHz~25GHz



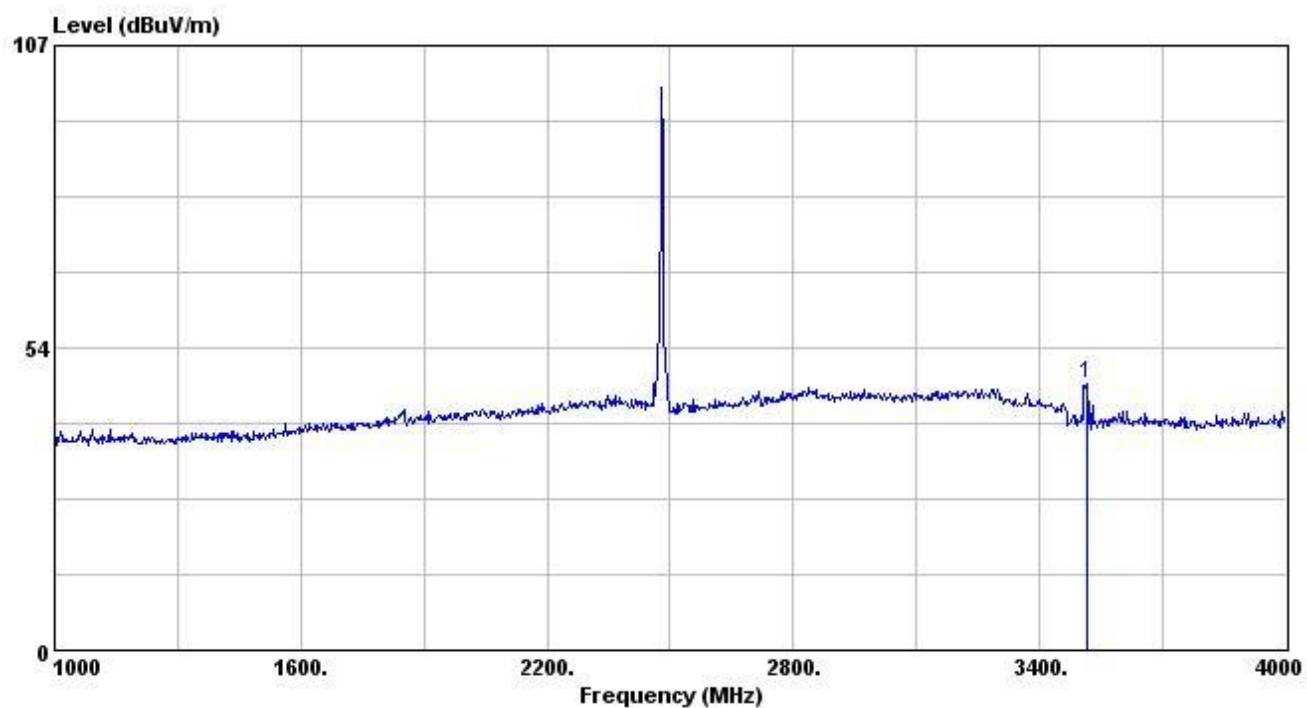
Test Model : Channel 78(2480MHz), Continuously Transmitting  
 Power in : Batteries  
 Test Distance : 3m Tester : Bill  
 Antenna Polarization : Vertical Frequency Range :1GHz~25GHz

|    | Frequency<br>(MHz) | Reading Data<br>(dBuV) |     | Correction<br>Factor<br>(dB/m) | Emission Level<br>(dBuV/m) |     | Limit<br>(dBuV/m) |     | Margin (dB) |     |
|----|--------------------|------------------------|-----|--------------------------------|----------------------------|-----|-------------------|-----|-------------|-----|
|    |                    | PK.                    | AV. |                                | PK.                        | AV. | PK.               | AV. | PK.         | AV. |
| 1  | 3517               | 45.72                  | *   | 1.38                           | 47.10                      | *   | 74                | 54  | 26.90       | *   |
| 2  | 4960               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 3  | 7440               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 4  | 9920               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 5  | 12400              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 6  | 14880              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 7  | 17360              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 8  | 19840              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 9  | 22320              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 10 | 24800              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 11 | 25000              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |

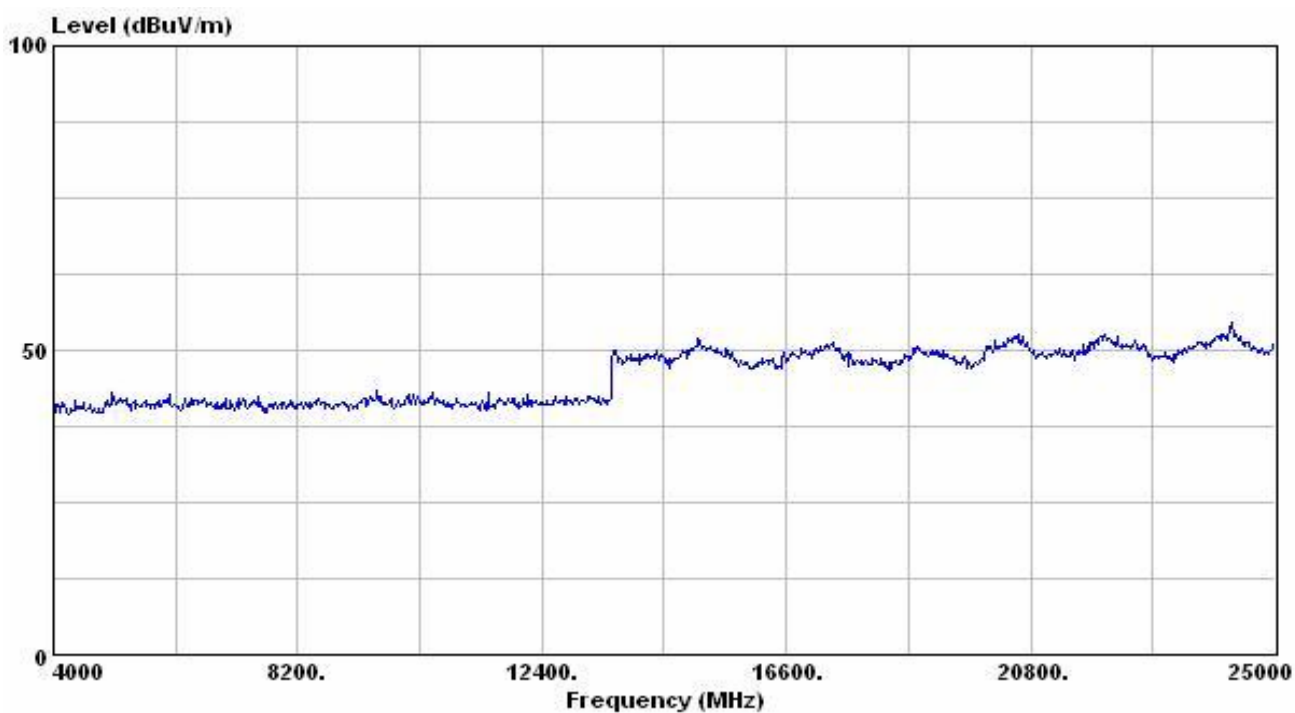
Note:

1. Emission Level (dBuV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

## 1GHz~4GHz



## 4GHz~25GHz



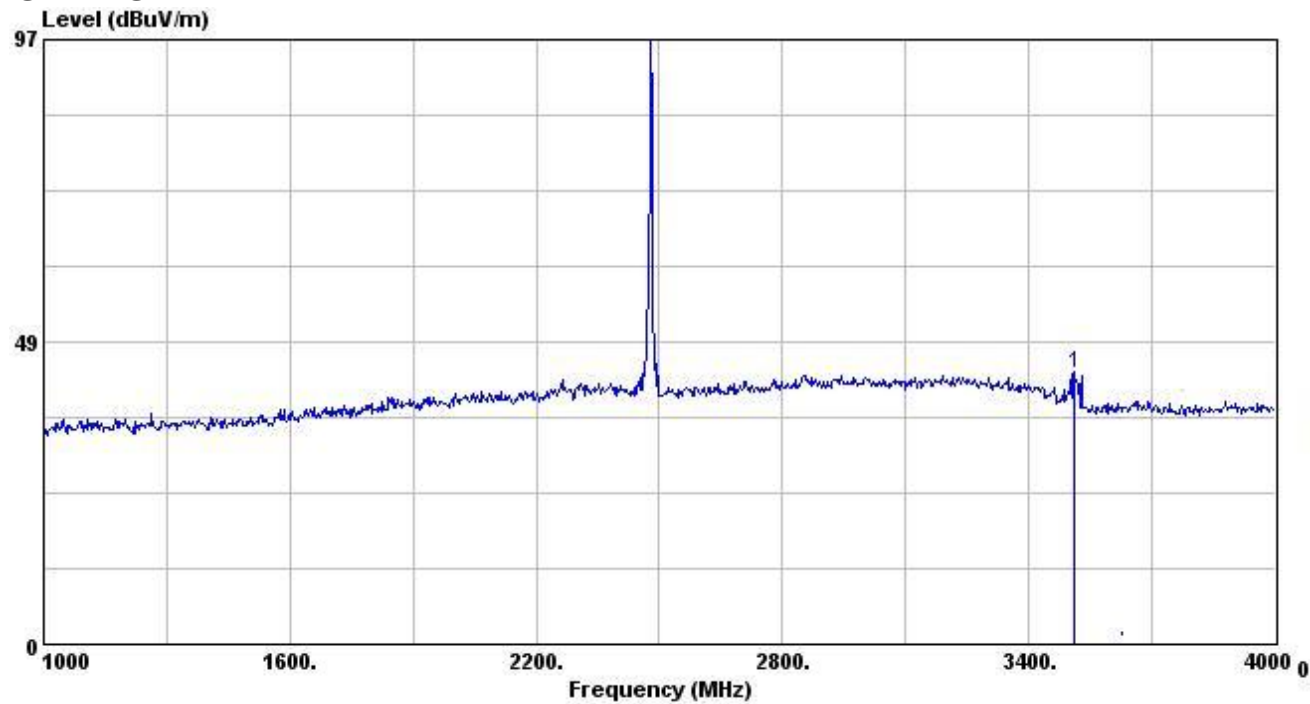
Test Model : Channel 78(2480MHz), Continuously Transmitting  
 Power in : Batteries  
 Test Distance : 3m Tester : Bill  
 Antenna Polarization : Horizontal Frequency Range :1GHz~25GHz

|    | Frequency<br>(MHz) | Reading Data<br>(dBuV) |     | Correction<br>Factor<br>(dB/m) | Emission Level<br>(dBuV/m) |     | Limit<br>(dBuV/m) |     | Margin (dB) |     |
|----|--------------------|------------------------|-----|--------------------------------|----------------------------|-----|-------------------|-----|-------------|-----|
|    |                    | PK.                    | AV. |                                | PK.                        | AV. | PK.               | AV. | PK.         | AV. |
| 1  | 3511               | 44.17                  | *   | 1.34                           | 45.51                      | *   | 74                | 54  | 28.49       | *   |
| 2  | 4960               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 3  | 7440               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 4  | 9920               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 5  | 12400              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 6  | 14880              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 7  | 17360              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 8  | 19840              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 9  | 22320              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 10 | 24800              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 11 | 25000              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |

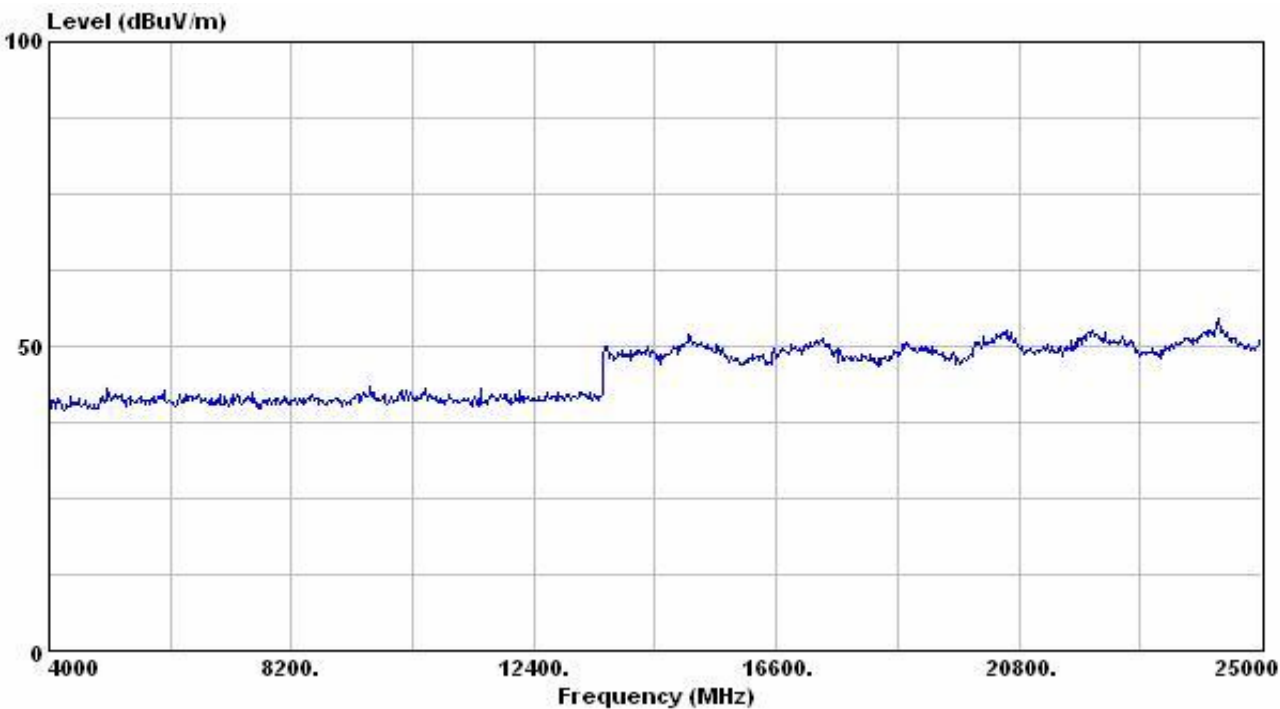
Note:

1. Emission Level (dBuV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

1GHz~4GHz



4GHz~25GHz



Test Model : Channel 0(2402MHz), Continuously Receiving

Power in : Adaptor

Test Distance : 3m

Tester : Bill

Antenna Polarization : Vertical

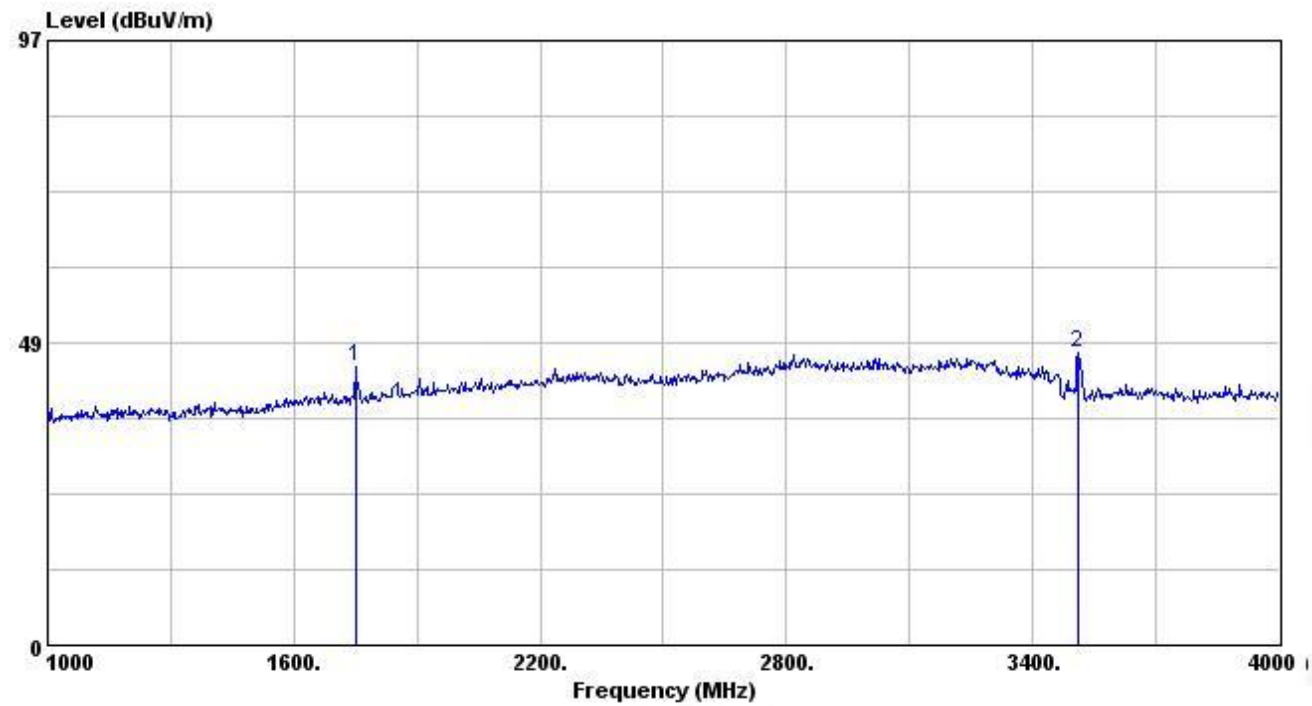
Frequency Range :1GHz~25GHz

|    | Frequency<br>(MHz) | Reading Data<br>(dBuV) |     | Correction<br>Factor<br>(dB/m) | Emission Level<br>(dBuV/m) |     | Limit<br>(dBuV/m) |     | Margin (dB) |     |
|----|--------------------|------------------------|-----|--------------------------------|----------------------------|-----|-------------------|-----|-------------|-----|
|    |                    | PK.                    | AV. |                                | PK.                        | AV. | PK.               | AV. | PK.         | AV. |
| 1  | 1750               | 47.06                  | *   | -2.45                          | 44.61                      | *   | 74                | 54  | 29.39       | *   |
| 2  | 3511               | 45.61                  | *   | 1.34                           | 46.95                      | *   | 74                | 54  | 27.05       | *   |
| 3  | 4804               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 4  | 7206               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 5  | 9608               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 6  | 12010              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 7  | 14412              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 8  | 16814              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 9  | 19216              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 10 | 21618              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 11 | 24020              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 12 | 25000              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |

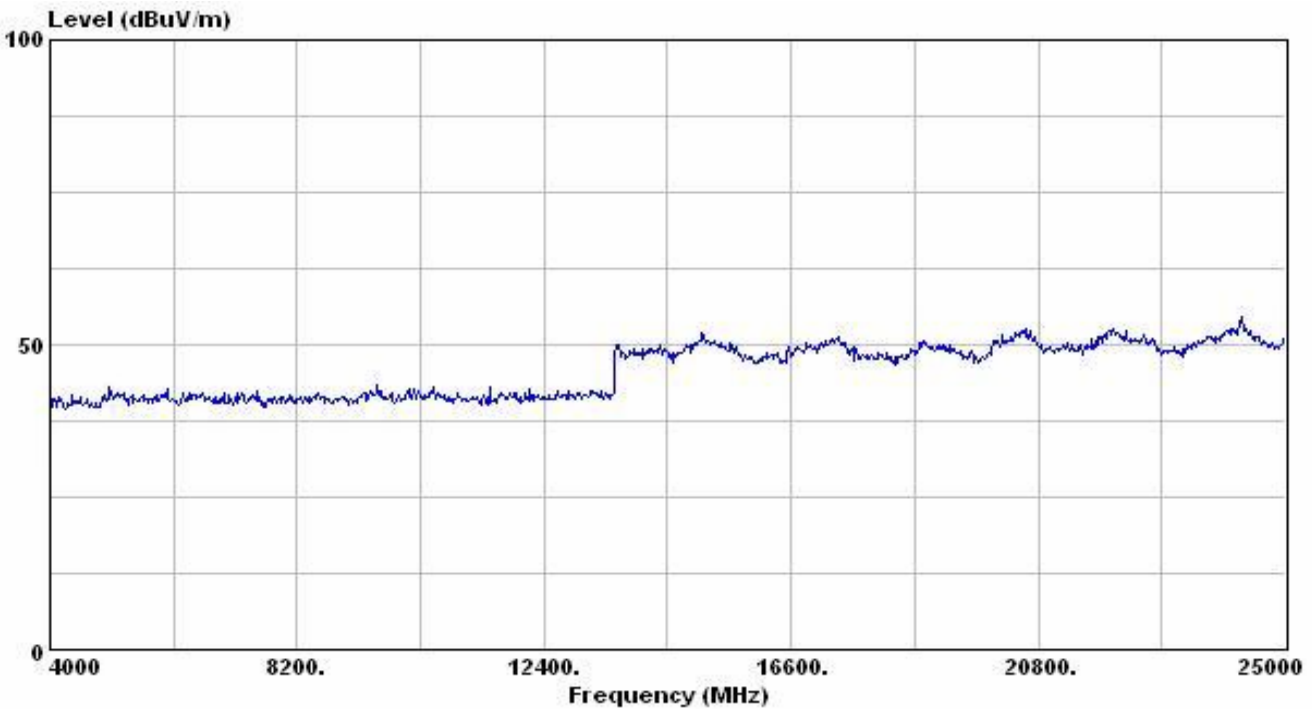
Note:

1. Emission Level (dBuV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

1GHz~4GHz



4GHz~25GHz



Test Model : Channel 0(2402MHz), Continuously Receiving

Power in : Adaptor

Test Distance : 3m

Tester : Bill

Antenna Polarization : Horizontal

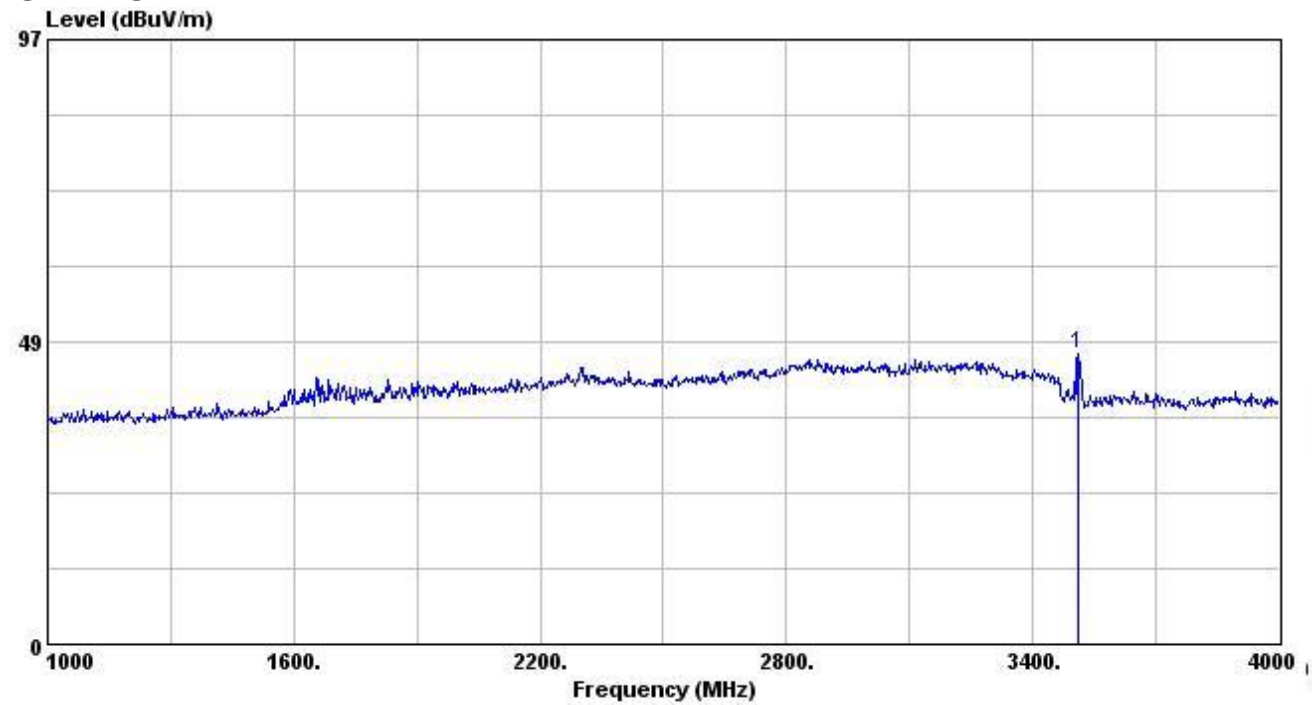
Frequency Range :1GHz~25GHz

|    | Frequency<br>(MHz) | Reading Data<br>(dBuV) |     | Correction<br>Factor<br>(dB/m) | Emission Level<br>(dBuV/m) |     | Limit<br>(dBuV/m) |     | Margin (dB) |     |
|----|--------------------|------------------------|-----|--------------------------------|----------------------------|-----|-------------------|-----|-------------|-----|
|    |                    | PK.                    | AV. |                                | PK.                        | AV. | PK.               | AV. | PK.         | AV. |
| 1  | 3511               | 45.33                  | *   | 1.34                           | 46.67                      | *   | 74                | 54  | 27.33       | *   |
| 2  | 4804               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 3  | 7206               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 4  | 9608               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 5  | 12010              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 6  | 14412              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 7  | 16814              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 8  | 19216              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 9  | 21618              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 10 | 24020              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 11 | 25000              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |

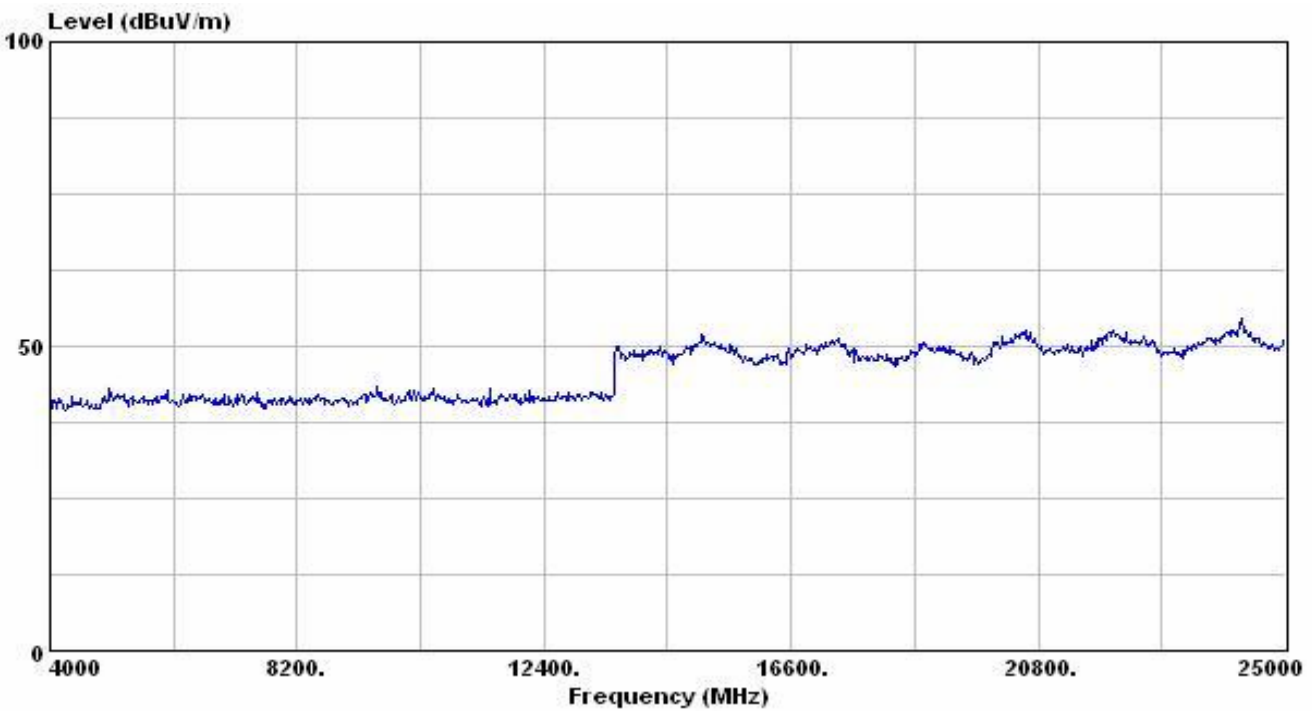
Note:

1. Emission Level (dBuV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

1GHz~4GHz



4GHz~25GHz



Test Model : Channel 39(2441MHz), Continuously Receiving

Power in : Adaptor

Test Distance : 3m

Tester : Bill

Antenna Polarization : Vertical

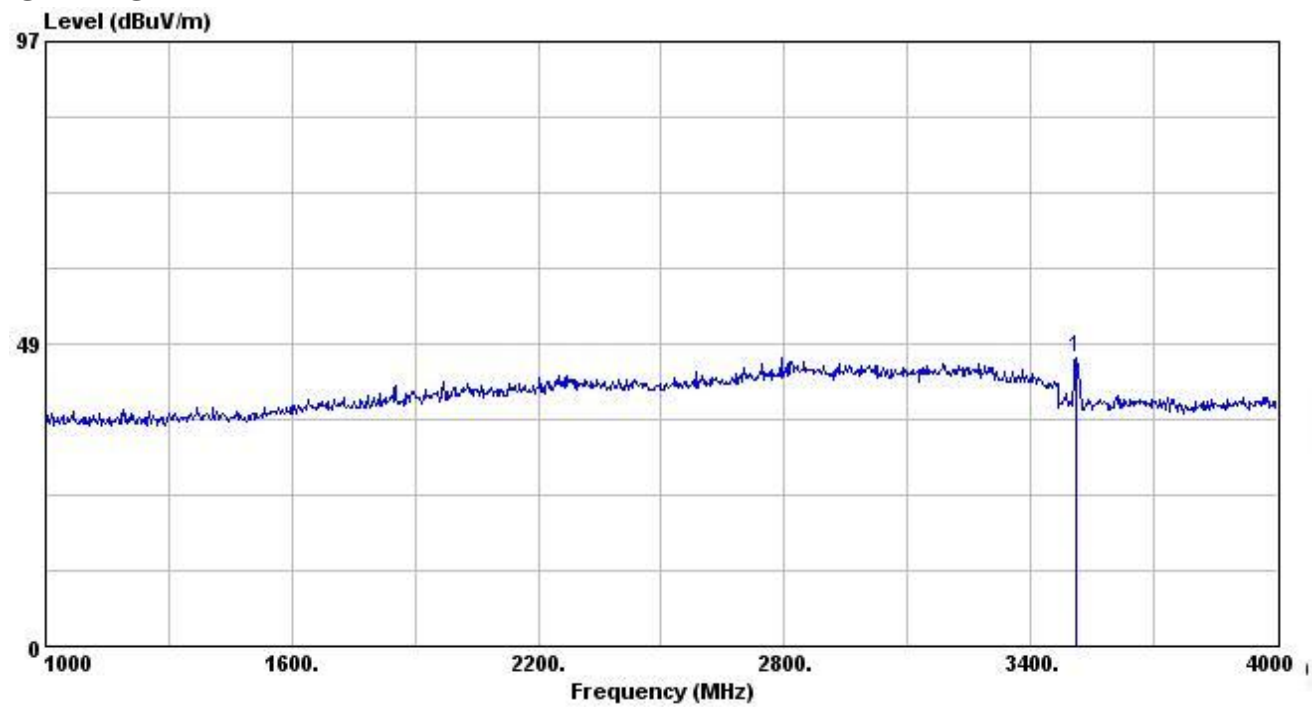
Frequency Range :1GHz~25GHz

|    | Frequency<br>(MHz) | Reading Data<br>(dBuV) |     | Correction<br>Factor<br>(dB/m) | Emission Level<br>(dBuV/m) |     | Limit<br>(dBuV/m) |     | Margin (dB) |     |
|----|--------------------|------------------------|-----|--------------------------------|----------------------------|-----|-------------------|-----|-------------|-----|
|    |                    | PK.                    | AV. |                                | PK.                        | AV. | PK.               | AV. | PK.         | AV. |
| 1  | 3511               | 44.82                  | *   | 1.34                           | 46.16                      | *   | 74                | 54  | 27.84       | *   |
| 2  | 4882               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 3  | 7323               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 4  | 9764               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 5  | 12205              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 6  | 14646              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 7  | 17087              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 8  | 19528              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 9  | 21969              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 10 | 24410              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 11 | 25000              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |

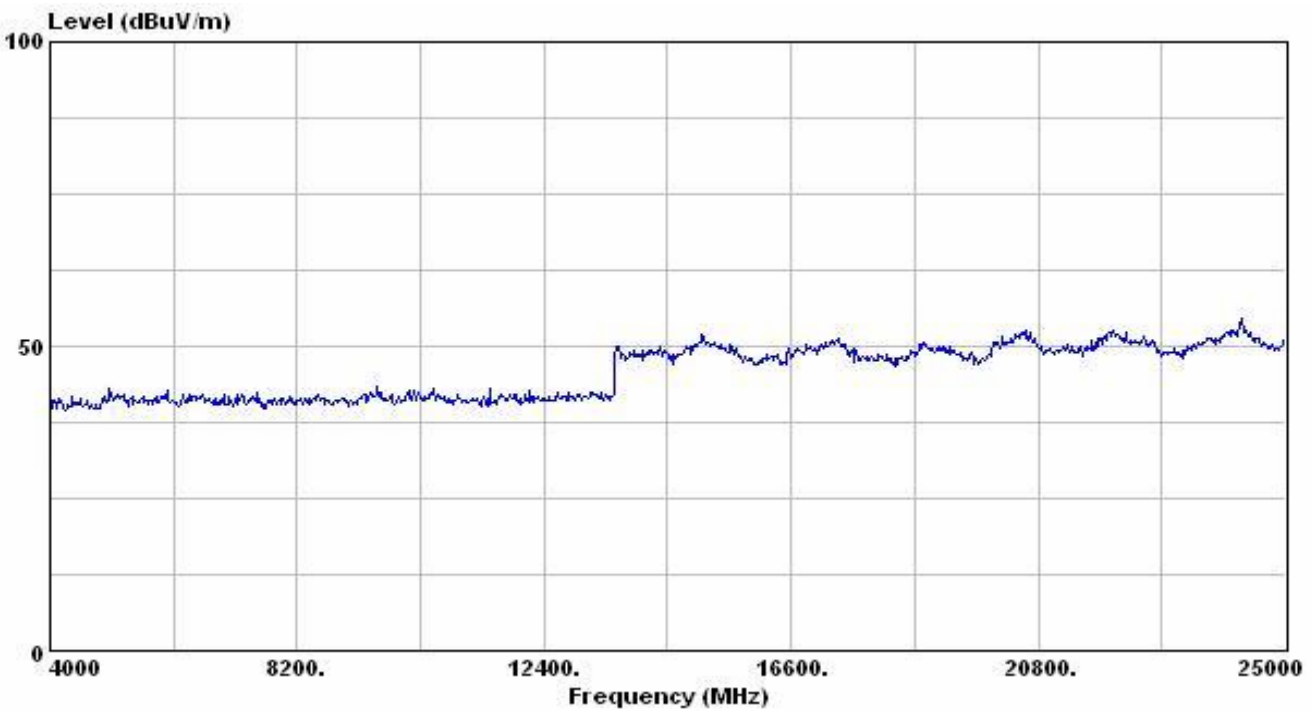
Note:

1. Emission Level (dBuV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

1GHz~4GHz



4GHz~25GHz



Test Model : Channel 39(2441MHz), Continuously Receiving

Power in : Adaptor

Test Distance : 3m

Tester : Bill

Antenna Polarization : Horizontal

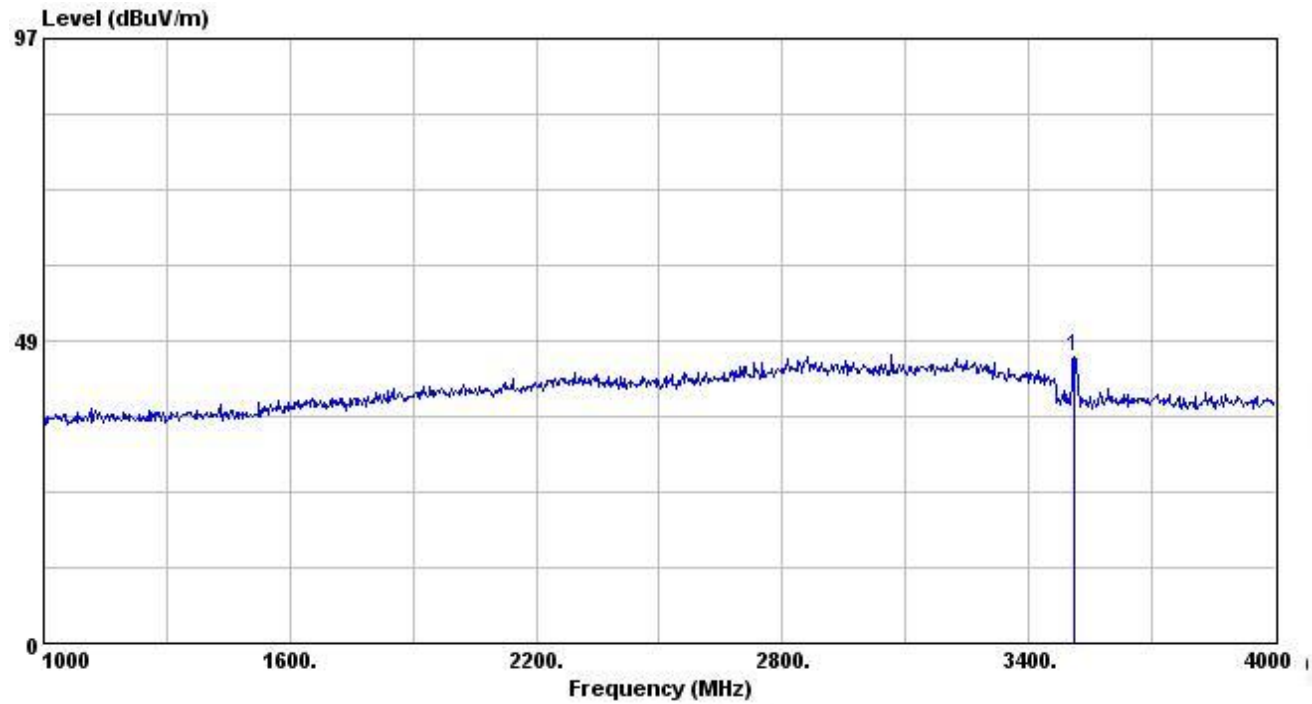
Frequency Range :1GHz~25GHz

|    | Frequency<br>(MHz) | Reading Data<br>(dBuV) |     | Correction<br>Factor<br>(dB/m) | Emission Level<br>(dBuV/m) |     | Limit<br>(dBuV/m) |     | Margin (dB) |     |
|----|--------------------|------------------------|-----|--------------------------------|----------------------------|-----|-------------------|-----|-------------|-----|
|    |                    | PK.                    | AV. |                                | PK.                        | AV. | PK.               | AV. | PK.         | AV. |
| 1  | 3511               | 44.58                  | *   | 1.34                           | 45.92                      | *   | 74                | 54  | 28.08       | *   |
| 2  | 4882               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 3  | 7323               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 4  | 9764               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 5  | 12205              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 6  | 14646              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 7  | 17087              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 8  | 19528              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 9  | 21969              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 10 | 24410              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 11 | 25000              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |

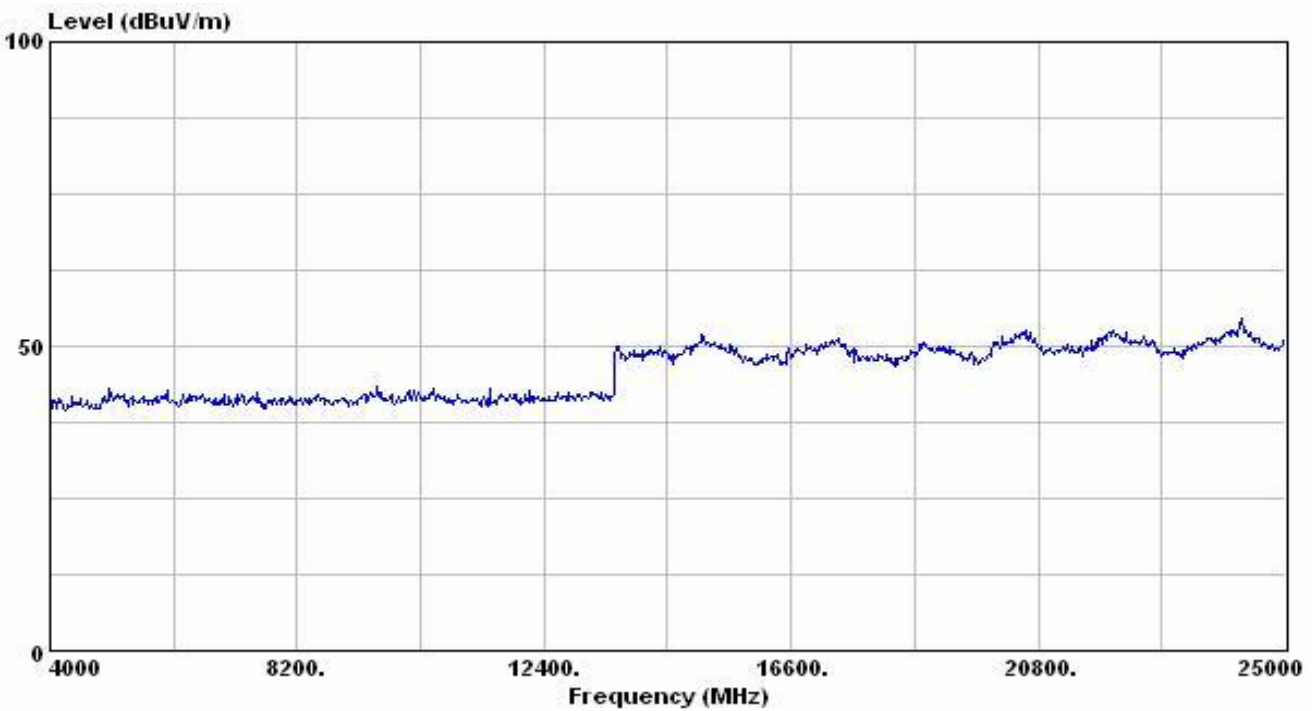
Note:

1. Emission Level (dBuV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

1GHz~4GHz



4GHz~25GHz



Test Model : Channel 78(2480MHz), Continuously Receiving

Power in : Adaptor

Test Distance : 3m

Tester : Bill

Antenna Polarization : Vertical

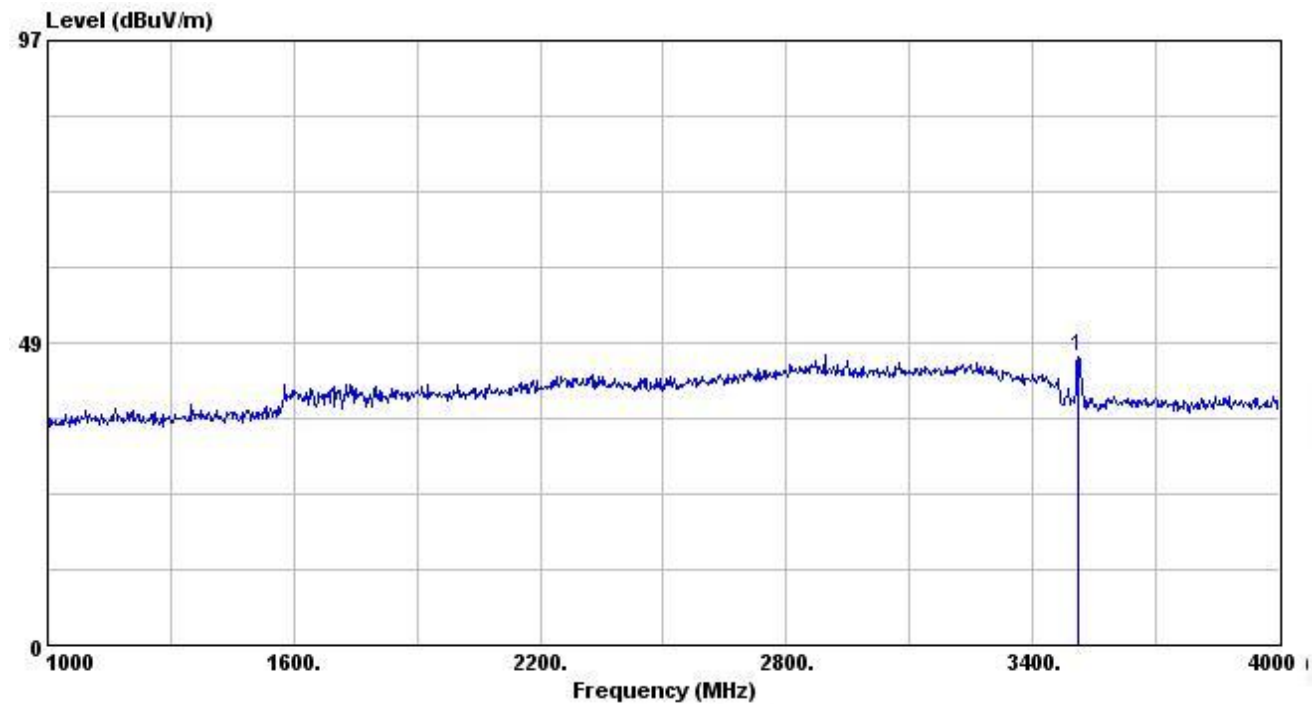
Frequency Range :1GHz~25GHz

|    | Frequency<br>(MHz) | Reading Data<br>(dBuV) |     | Correction<br>Factor<br>(dB/m) | Emission Level<br>(dBuV/m) |     | Limit<br>(dBuV/m) |     | Margin (dB) |     |
|----|--------------------|------------------------|-----|--------------------------------|----------------------------|-----|-------------------|-----|-------------|-----|
|    |                    | PK.                    | AV. |                                | PK.                        | AV. | PK.               | AV. | PK.         | AV. |
| 1  | 3511               | 44.82                  | *   | 1.34                           | 46.16                      | *   | 74                | 54  | 27.84       | *   |
| 2  | 4960               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 3  | 7440               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 4  | 9920               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 5  | 12400              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 6  | 14880              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 7  | 17360              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 8  | 19840              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 9  | 22320              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 10 | 24800              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 11 | 25000              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |

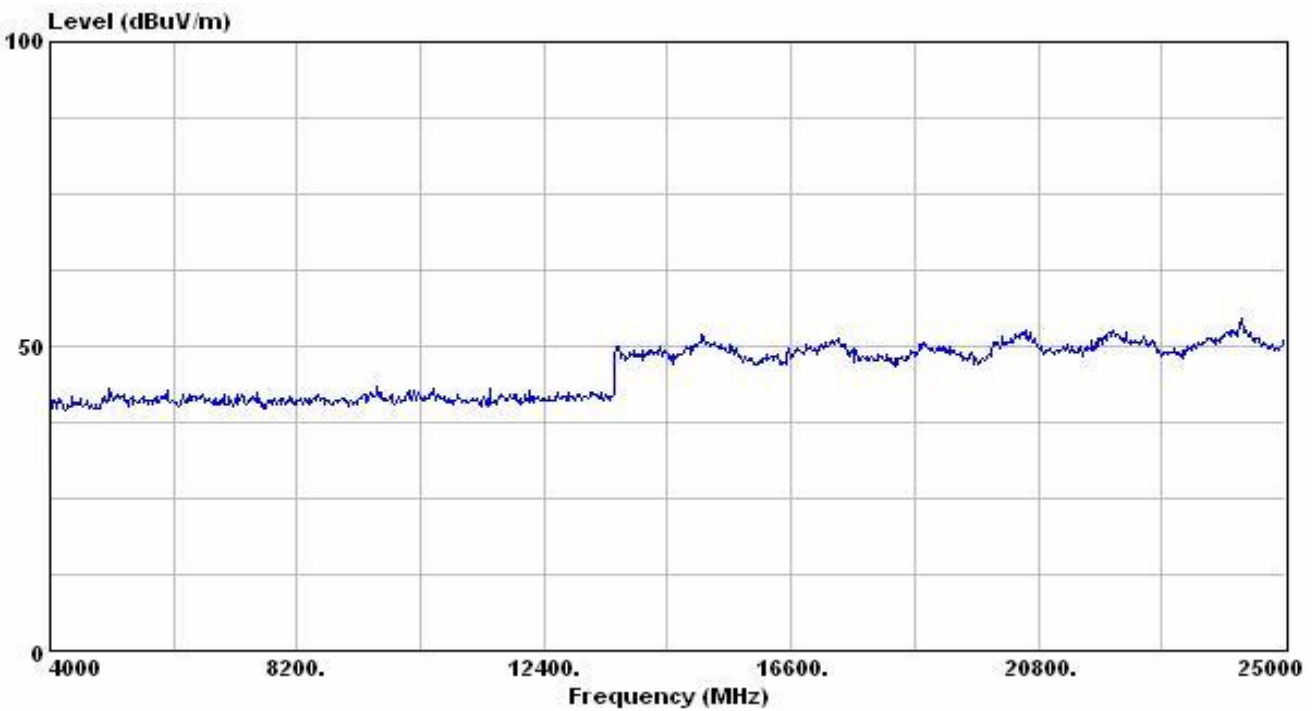
Note:

1. Emission Level (dBuV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

1GHz~4GHz



4GHz~25GHz



Test Model : Channel 78(2480MHz), Continuously Receiving

Power in : Adaptor

Test Distance : 3m

Tester : Bill

Antenna Polarization : Horizontal

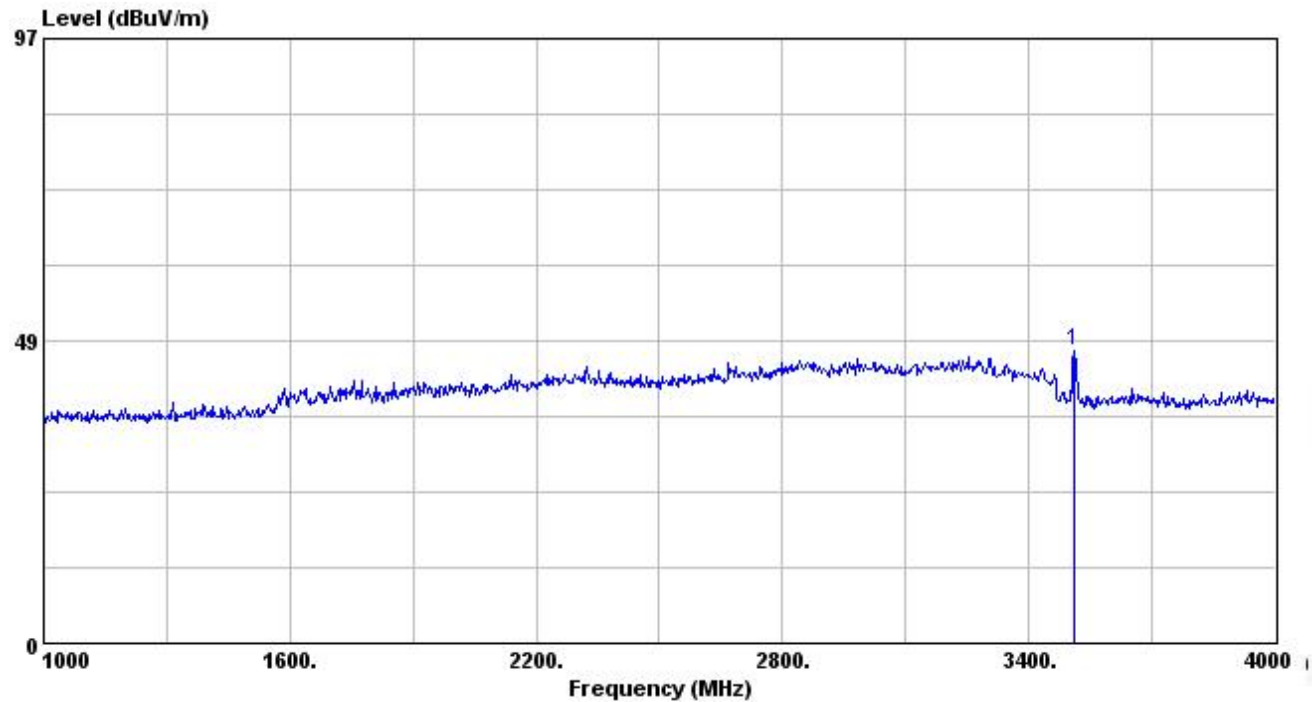
Frequency Range :1GHz~25GHz

|    | Frequency<br>(MHz) | Reading Data<br>(dBuV) |     | Correction<br>Factor<br>(dB/m) | Emission Level<br>(dBuV/m) |     | Limit<br>(dBuV/m) |     | Margin (dB) |     |
|----|--------------------|------------------------|-----|--------------------------------|----------------------------|-----|-------------------|-----|-------------|-----|
|    |                    | PK.                    | AV. |                                | PK.                        | AV. | PK.               | AV. | PK.         | AV. |
| 1  | 3511               | 45.60                  | *   | 1.34                           | 46.94                      | *   | 74                | 54  | 27.06       | *   |
| 2  | 4960               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 3  | 7440               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 4  | 9920               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 5  | 12400              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 6  | 14880              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 7  | 17360              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 8  | 19840              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 9  | 22320              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 10 | 24800              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 11 | 25000              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |

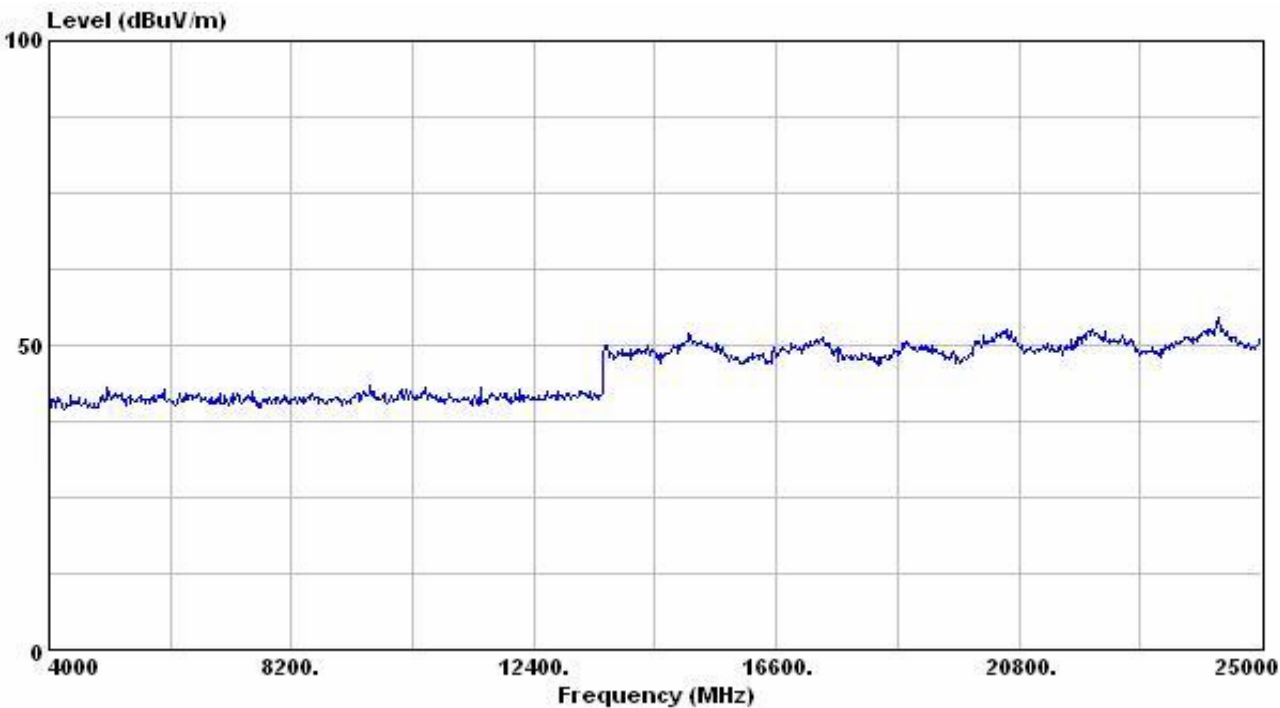
Note:

1. Emission Level (dBuV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

1GHz~4GHz



4GHz~25GHz



Test Model : Channel 0(2402MHz), Continuously Receiving

Power in : Batteries

Test Distance : 3m

Tester : Bill

Antenna Polarization : Vertical

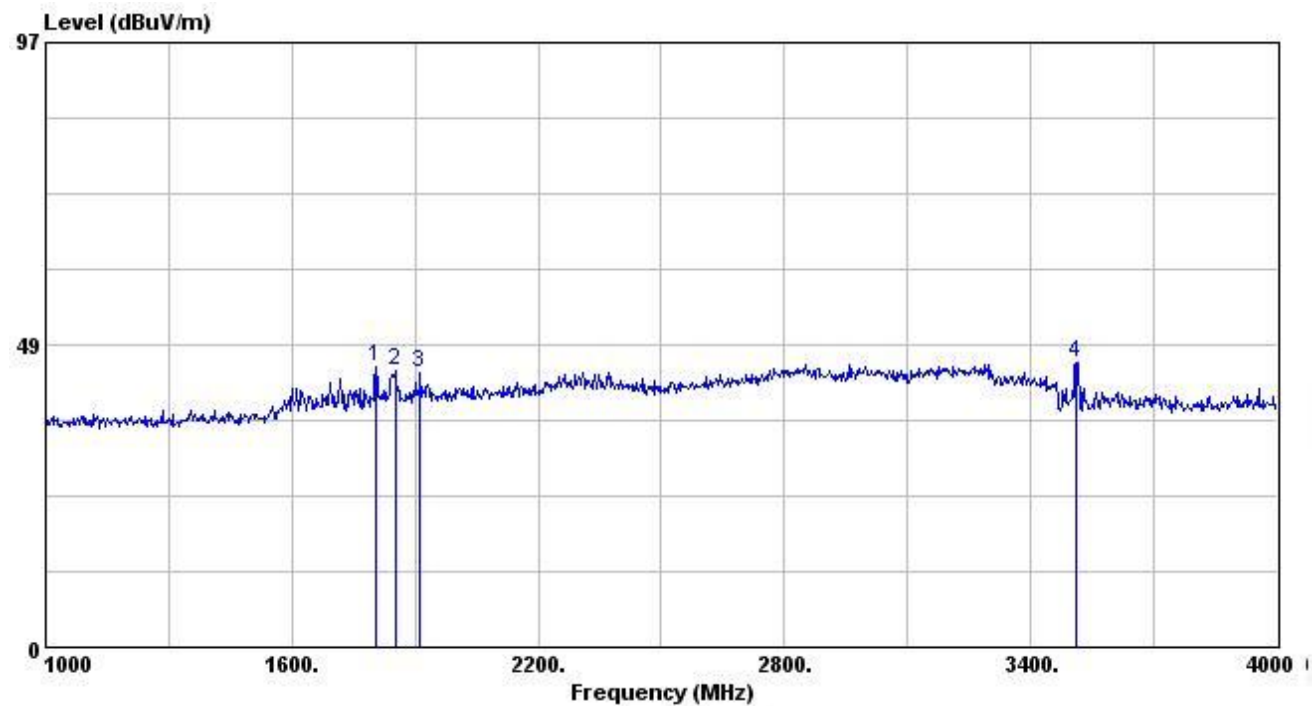
Frequency Range :1GHz~25GHz

|    | Frequency<br>(MHz) | Reading Data<br>(dBuV) |     | Correction<br>Factor<br>(dB/m) | Emission Level<br>(dBuV/m) |     | Limit<br>(dBuV/m) |     | Margin (dB) |     |
|----|--------------------|------------------------|-----|--------------------------------|----------------------------|-----|-------------------|-----|-------------|-----|
|    |                    | PK.                    | AV. |                                | PK.                        | AV. | PK.               | AV. | PK.         | AV. |
| 1  | 1804               | 47.06                  | *   | -1.99                          | 45.07                      | *   | 74                | 54  | 28.93       | *   |
| 2  | 1852               | 45.87                  | *   | -1.48                          | 44.39                      | *   | 74                | 54  | 29.61       | *   |
| 3  | 1912               | 45.08                  | *   | -1.09                          | 43.99                      | *   | 74                | 54  | 30.01       | *   |
| 4  | 3511               | 44.33                  | *   | 1.34                           | 45.67                      | *   | 74                | 54  | 28.33       | *   |
| 5  | 4804               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 6  | 7206               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 7  | 9608               | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 8  | 12010              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 9  | 14412              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 10 | 16814              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 11 | 19216              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 12 | 21618              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 13 | 24020              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |
| 14 | 25000              | *                      | *   | *                              | *                          | *   | 74                | 54  | *           | *   |

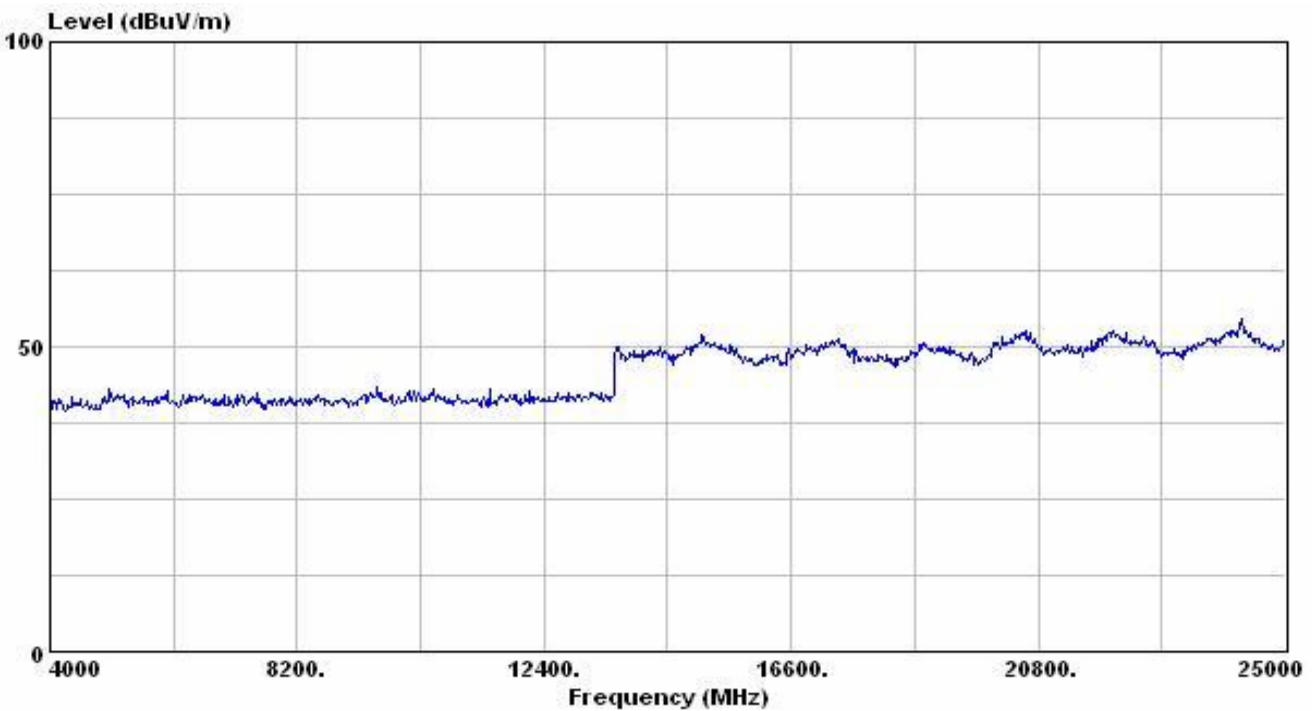
Note:

1. Emission Level (dBuV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

1GHz~4GHz



4GHz~25GHz



Test Model : Channel 0(2402MHz), Continuously Receiving

Power in :Batteries

Test Distance : 3m

Tester : Bill

Antenna Polarization : Horizontal

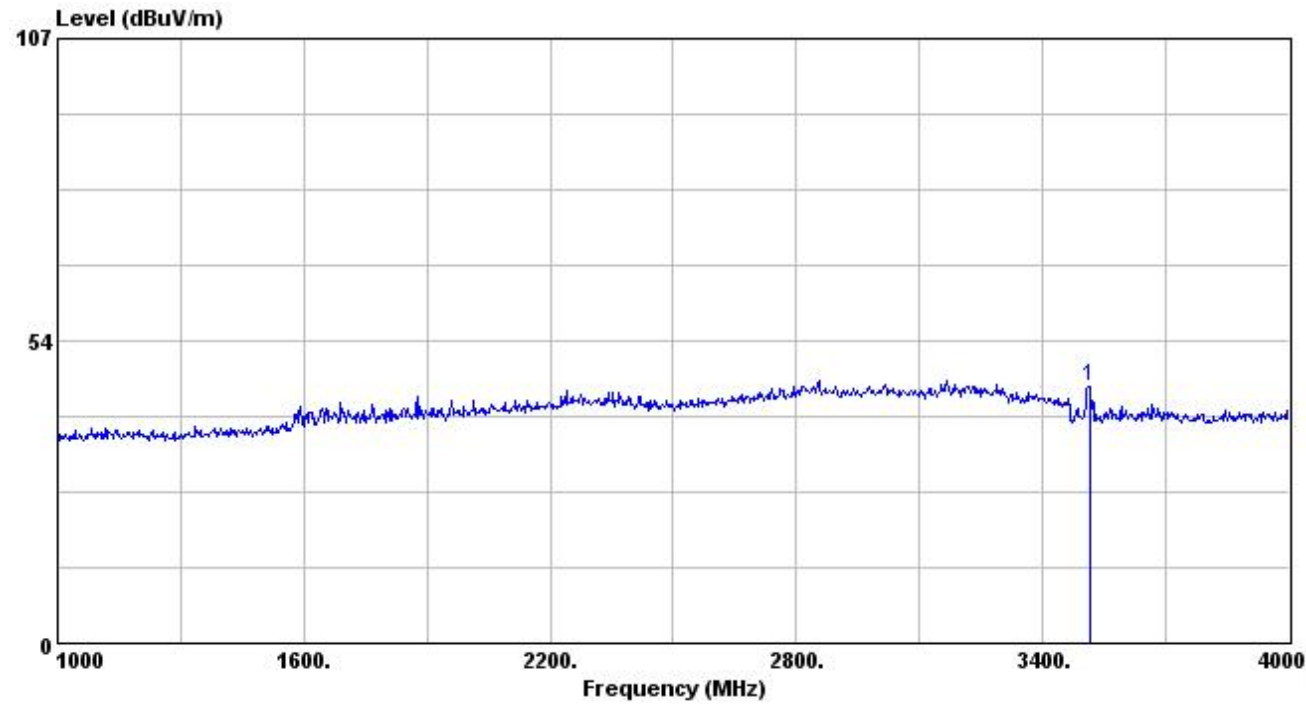
Frequency Range :1GHz~25GHz

|    | Frequency<br>(MHz) | Reading Data<br>(dBuV) |     | Correction<br>Factor<br>(dB/m) | Emission Level<br>(dBuV/m) |     | Limit<br>(dBuV/m) |       | Margin (dB) |     |
|----|--------------------|------------------------|-----|--------------------------------|----------------------------|-----|-------------------|-------|-------------|-----|
|    |                    | PK.                    | AV. |                                | PK.                        | AV. | PK.               | AV.   | PK.         | AV. |
| 1  | 3514               | 44.21                  | *   | 1.36                           | 45.57                      | *   | 74.00             | 54.00 | 28.43       | *   |
| 2  | 4804               | *                      | *   | *                              | *                          | *   | 74                | 54    | *           | *   |
| 3  | 7206               | *                      | *   | *                              | *                          | *   | 74                | 54    | *           | *   |
| 4  | 9608               | *                      | *   | *                              | *                          | *   | 74                | 54    | *           | *   |
| 5  | 12010              | *                      | *   | *                              | *                          | *   | 74                | 54    | *           | *   |
| 6  | 14412              | *                      | *   | *                              | *                          | *   | 74                | 54    | *           | *   |
| 7  | 16814              | *                      | *   | *                              | *                          | *   | 74                | 54    | *           | *   |
| 8  | 19216              | *                      | *   | *                              | *                          | *   | 74                | 54    | *           | *   |
| 9  | 21618              | *                      | *   | *                              | *                          | *   | 74                | 54    | *           | *   |
| 10 | 24020              | *                      | *   | *                              | *                          | *   | 74                | 54    | *           | *   |
| 11 | 25000              | *                      | *   | *                              | *                          | *   | 74                | 54    | *           | *   |

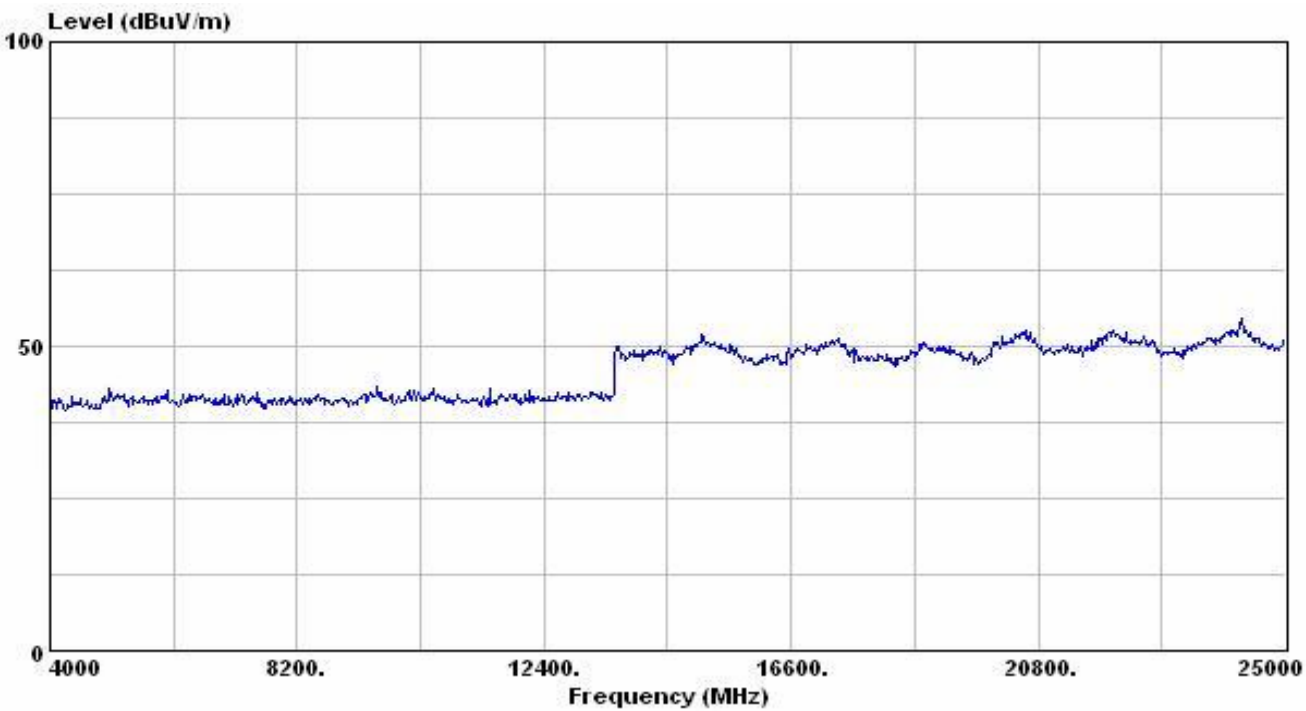
Note:

1. Emission Level (dBuV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

1GHz~4GHz



4GHz~25GHz



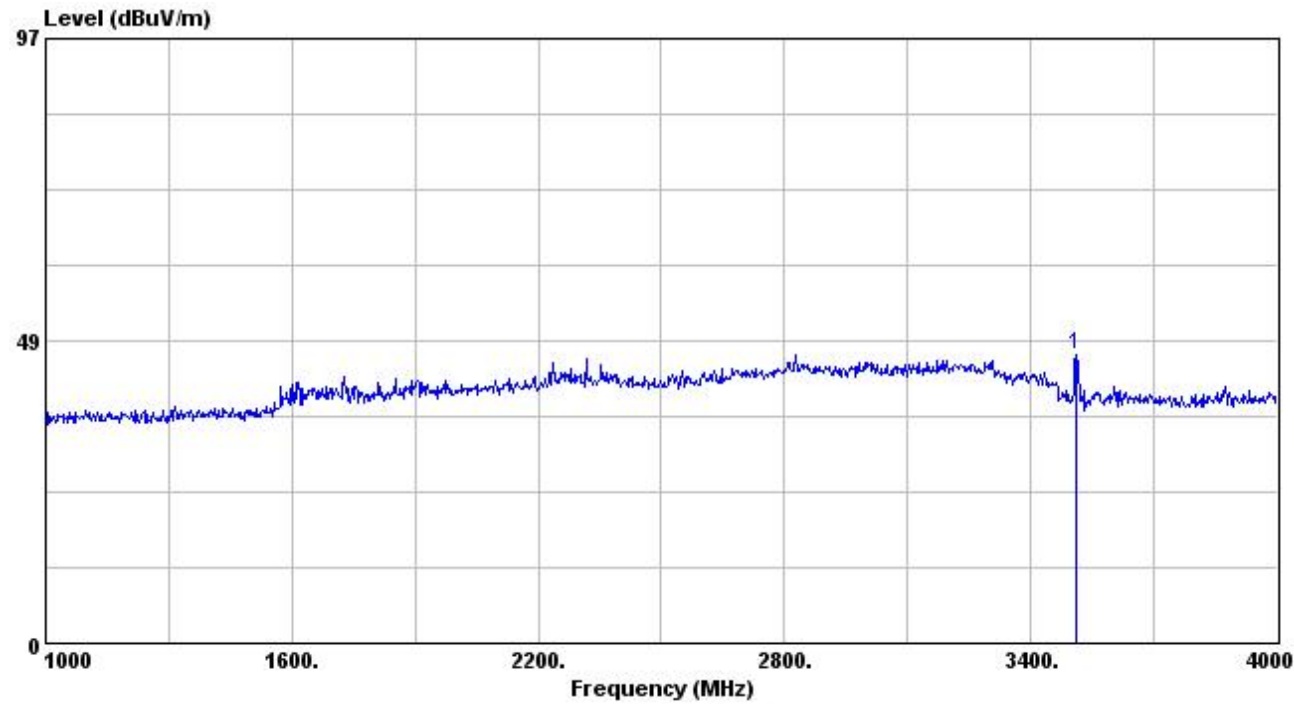
Test Model : Channel 39(2441MHz), Continuously Receiving  
 Power in : Batteries  
 Test Distance : 3m Tester : Bill  
 Antenna Polarization : Vertical Frequency Range :1GHz~25GHz

|    | Frequency (MHz) | Reading Data (dBUV) |     | Correction Factor (dB/m) | Emission Level (dBUV/m) |     | Limit (dBUV/m) |       | Margin (dB) |     |
|----|-----------------|---------------------|-----|--------------------------|-------------------------|-----|----------------|-------|-------------|-----|
|    |                 | PK.                 | AV. |                          | PK.                     | AV. | PK.            | AV.   | PK.         | AV. |
| 1  | 3511            | 44.91               | *   | 1.34                     | 46.25                   | *   | 74.00          | 54.00 | 27.75       | *   |
| 2  | 4882            | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 3  | 7323            | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 4  | 9764            | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 5  | 12205           | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 6  | 14646           | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 7  | 17087           | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 8  | 19528           | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 9  | 21969           | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 10 | 24410           | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 11 | 25000           | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |

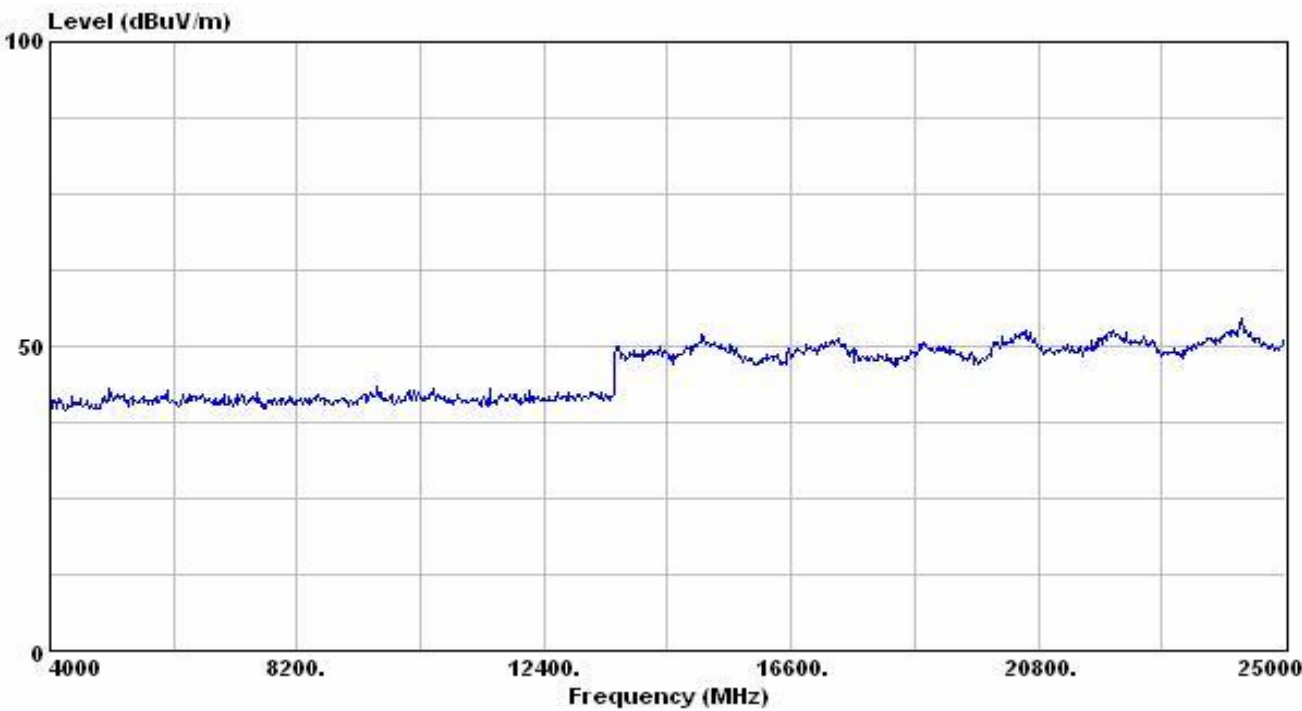
Note:

1. Emission Level (dBUV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

1GHz~4GHz



4GHz~25GHz



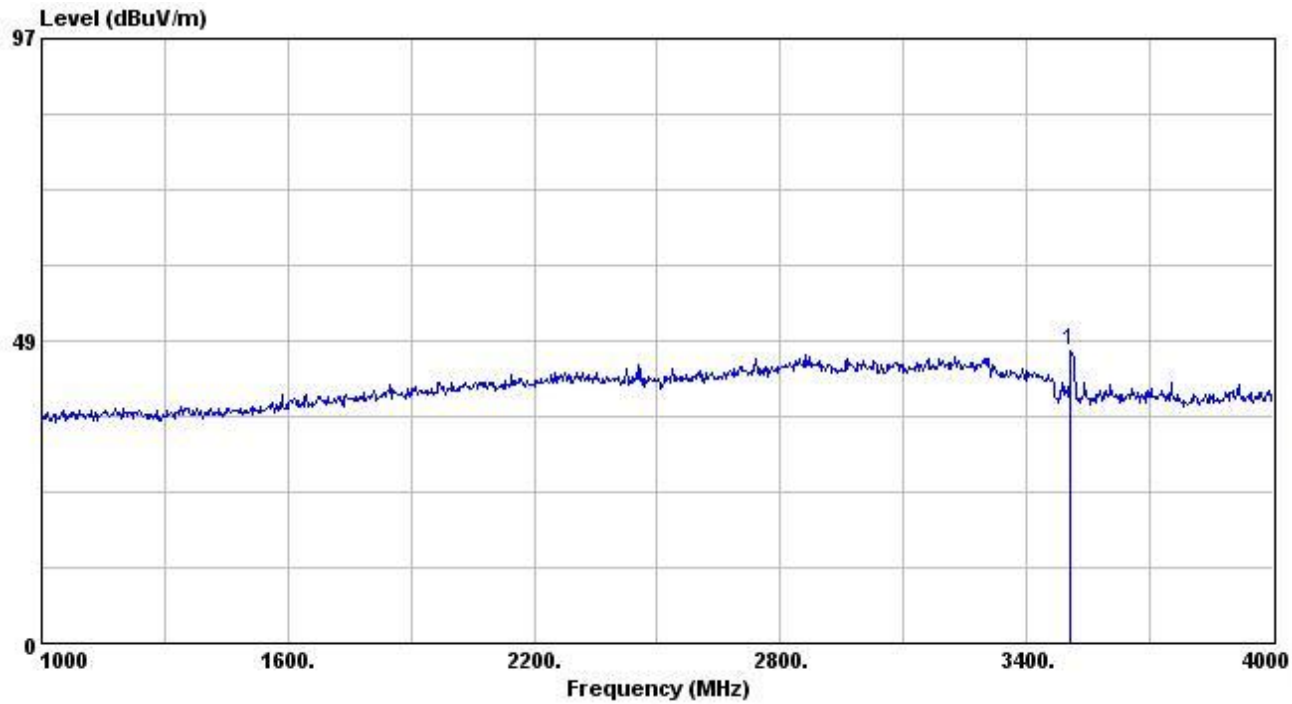
Test Model : Channel 39(2441MHz), Continuously Receiving  
 Power in : Batteries  
 Test Distance : 3m Tester : Bill  
 Antenna Polarization : Horizontal Frequency Range :1GHz~25GHz

|    | Frequency (MHz) | Reading Data (dBUV) |     | Correction Factor (dB/m) | Emission Level (dBUV/m) |     | Limit (dBUV/m) |       | Margin (dB) |     |
|----|-----------------|---------------------|-----|--------------------------|-------------------------|-----|----------------|-------|-------------|-----|
|    |                 | PK.                 | AV. |                          | PK.                     | AV. | PK.            | AV.   | PK.         | AV. |
| 1  | 3508            | 45.48               | *   | 1.32                     | 46.80                   | *   | 74.00          | 54.00 | 27.20       | *   |
| 2  | 4882            | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 3  | 7323            | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 4  | 9764            | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 5  | 12205           | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 6  | 14646           | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 7  | 17087           | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 8  | 19528           | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 9  | 21969           | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 10 | 24410           | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 11 | 25000           | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |

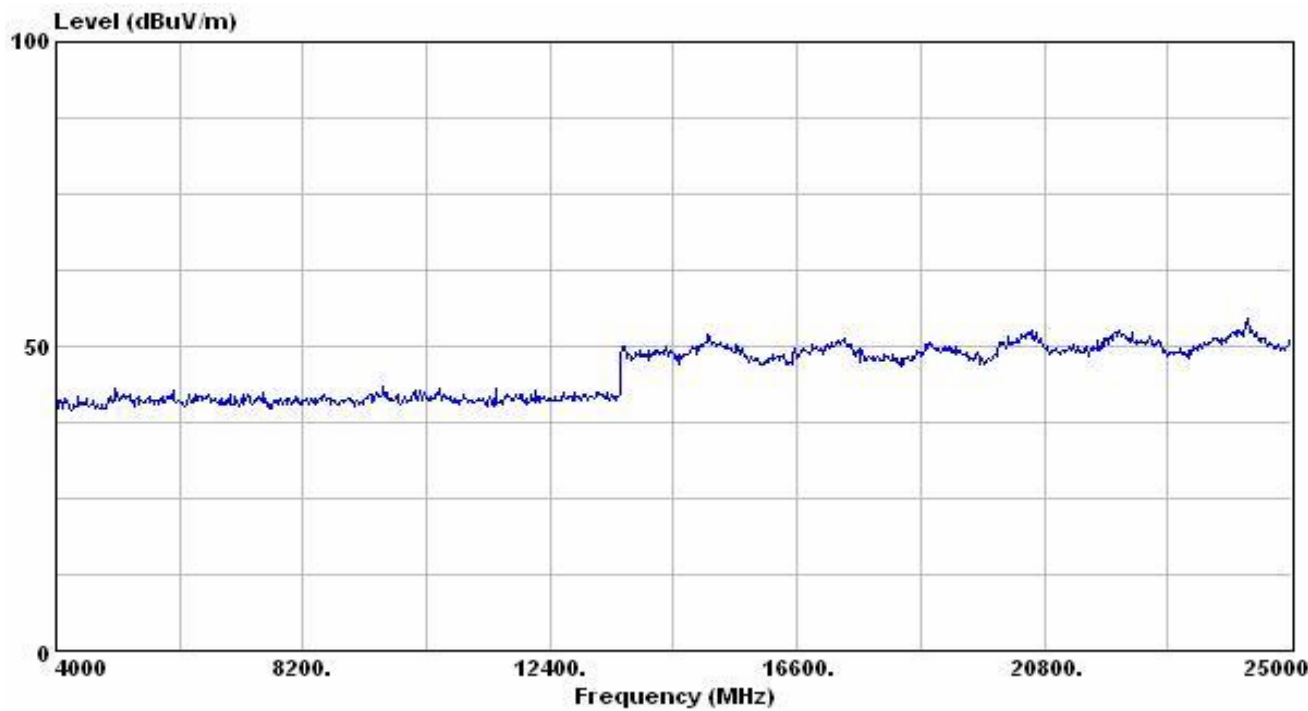
Note:

1. Emission Level (dBUV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

1GHz~4GHz



4GHz~25GHz



Test Model : Channel 78(2480MHz), Continuously Receiving

Power in : Batteries

Test Distance : 3m

Tester : Bill

Antenna Polarization : Vertical

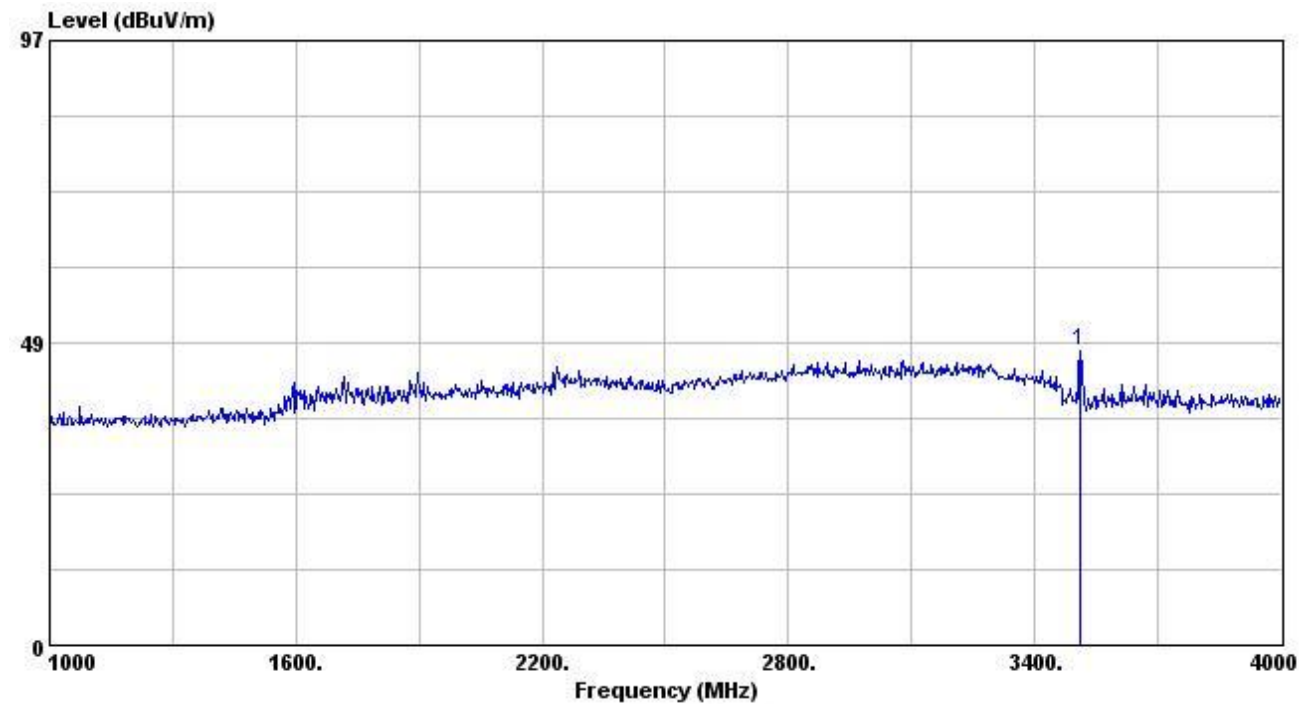
Frequency Range :1GHz~25GHz

|    | Frequency<br>(MHz) | Reading Data<br>(dBuV) |     | Correction<br>Factor<br>(dB/m) | Emission Level<br>(dBuV/m) |     | Limit<br>(dBuV/m) |       | Margin (dB) |     |
|----|--------------------|------------------------|-----|--------------------------------|----------------------------|-----|-------------------|-------|-------------|-----|
|    |                    | PK.                    | AV. |                                | PK.                        | AV. | PK.               | AV.   | PK.         | AV. |
| 1  | 3511               | 45.92                  | *   | 1.34                           | 47.26                      | *   | 74.00             | 54.00 | 26.74       | *   |
| 2  | 4960               | *                      | *   | *                              | *                          | *   | 74                | 54    | *           | *   |
| 3  | 7440               | *                      | *   | *                              | *                          | *   | 74                | 54    | *           | *   |
| 4  | 9920               | *                      | *   | *                              | *                          | *   | 74                | 54    | *           | *   |
| 5  | 12400              | *                      | *   | *                              | *                          | *   | 74                | 54    | *           | *   |
| 6  | 14880              | *                      | *   | *                              | *                          | *   | 74                | 54    | *           | *   |
| 7  | 17360              | *                      | *   | *                              | *                          | *   | 74                | 54    | *           | *   |
| 8  | 19840              | *                      | *   | *                              | *                          | *   | 74                | 54    | *           | *   |
| 9  | 22320              | *                      | *   | *                              | *                          | *   | 74                | 54    | *           | *   |
| 10 | 24800              | *                      | *   | *                              | *                          | *   | 74                | 54    | *           | *   |
| 11 | 25000              | *                      | *   | *                              | *                          | *   | 74                | 54    | *           | *   |

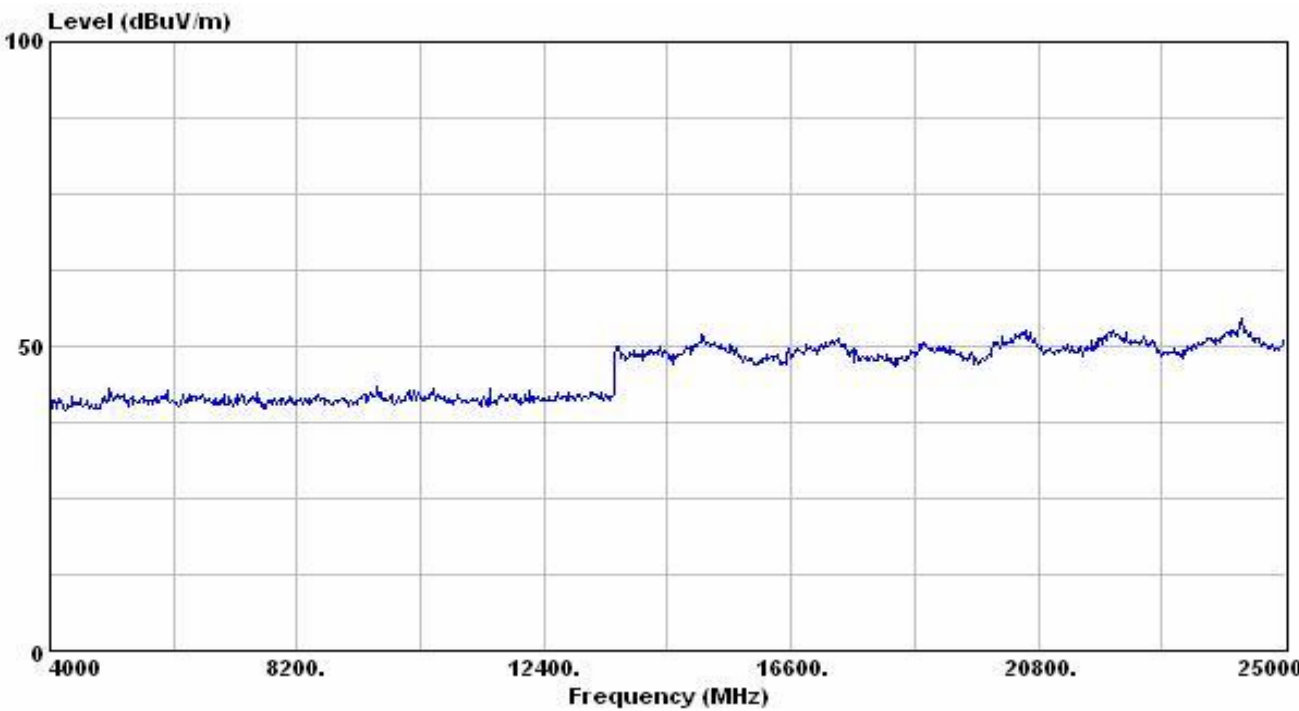
Note:

1. Emission Level (dBuV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

1GHz~4GHz



4GHz~25GHz



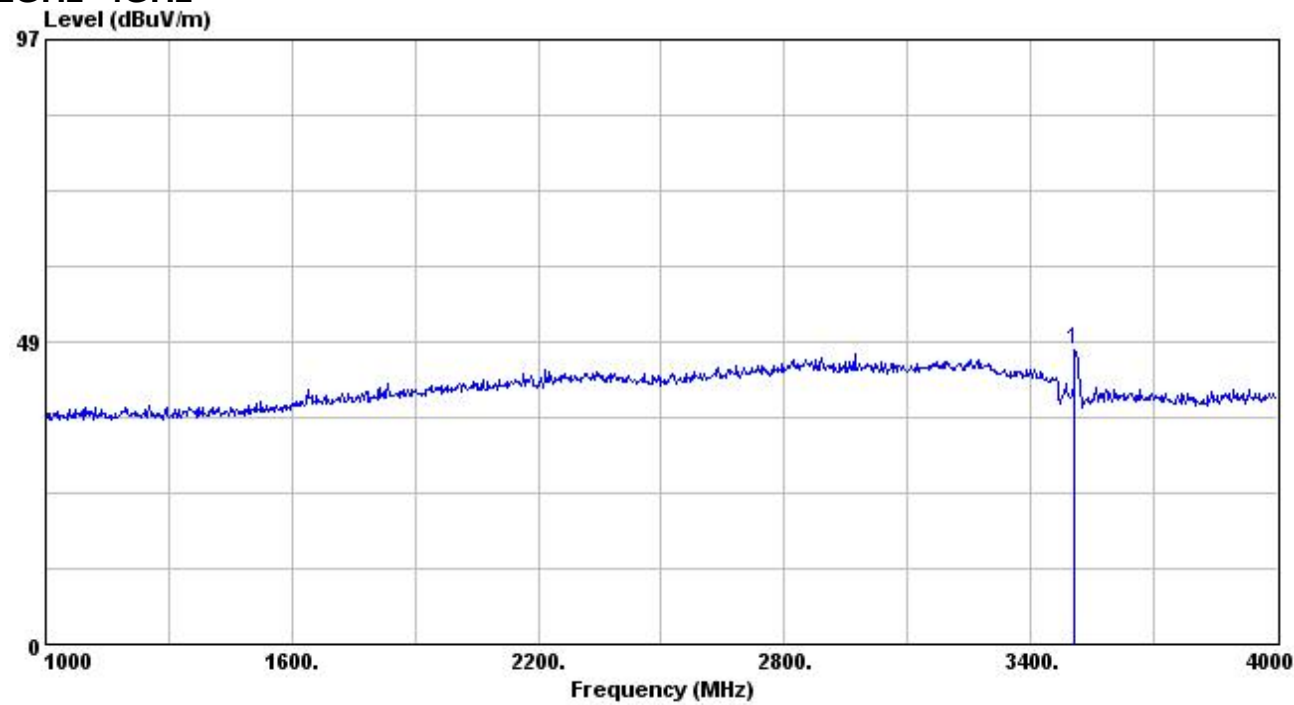
**Test Model** : Channel 78(2480MHz), Continuously Receiving  
**Power in** : Batteries  
**Test Distance** : 3m **Tester** : Bill  
**Antenna Polarization** : Horizontal **Frequency Range** :1GHz~25GHz

|    | Frequency (MHz) | Reading Data (dBUV) |     | Correction Factor (dB/m) | Emission Level (dBUV/m) |     | Limit (dBUV/m) |       | Margin (dB) |     |
|----|-----------------|---------------------|-----|--------------------------|-------------------------|-----|----------------|-------|-------------|-----|
|    |                 | PK.                 | AV. |                          | PK.                     | AV. | PK.            | AV.   | PK.         | AV. |
| 1  | 3508            | 45.91               | *   | 1.32                     | 47.23                   | *   | 74.00          | 54.00 | 26.77       | *   |
| 2  | 4960            | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 3  | 7440            | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 4  | 9920            | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 5  | 12400           | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 6  | 14880           | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 7  | 17360           | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 8  | 19840           | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 9  | 22320           | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 10 | 24800           | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |
| 11 | 25000           | *                   | *   | *                        | *                       | *   | 74             | 54    | *           | *   |

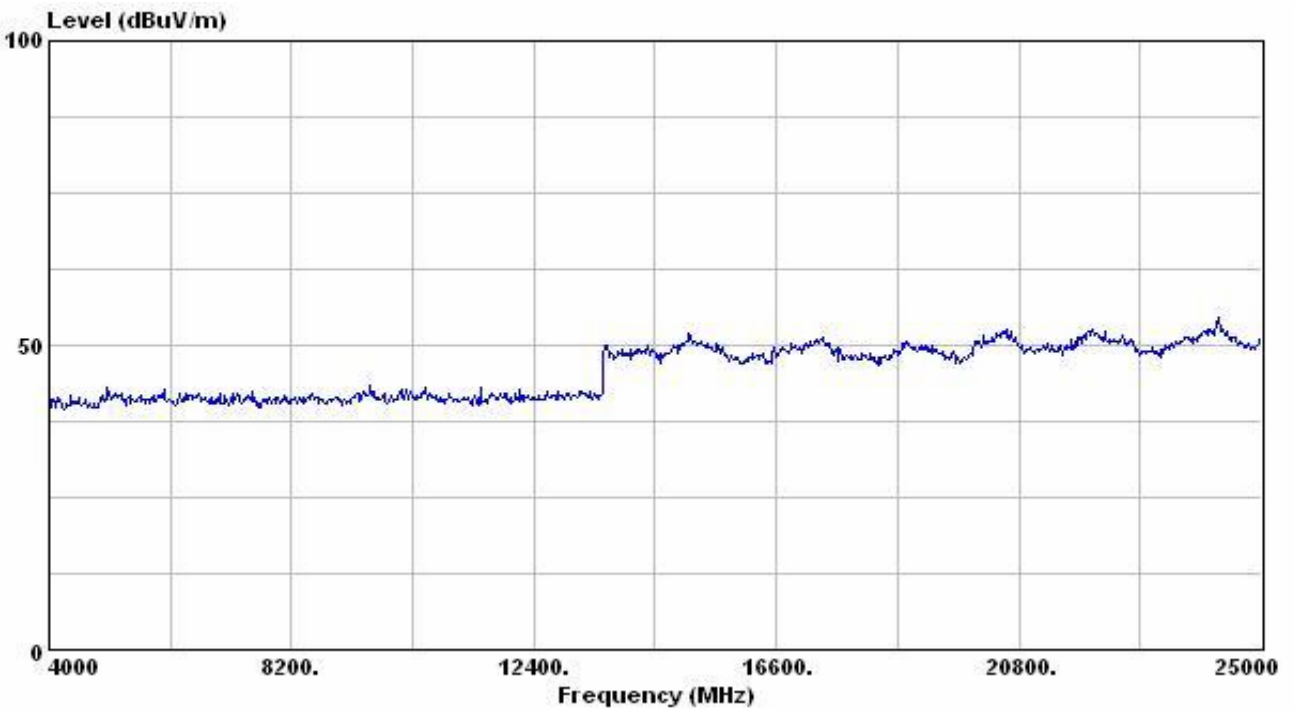
Note:

1. Emission Level (dBUV/m) = Reading Data + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Pre-amplifier.
3. Margin (dB) = Limit–Emission Level.
4. PK. and AV. are abbreviation of peak and average respectively.
5. “\*”: The emission is too low to be measured.

1GHz~4GHz



4GHz~25GHz



## **7 Dwell Time**

**Result:** Pass

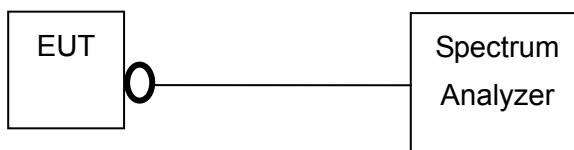
### **7.1 Applied standard**

According to 15.247(a)(1)(iii), frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 non-overlapping channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

### **7.2 Measurement Procedure**

- a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.
- b. A software provided by client enabled the EUT to transmit data with the same packet type and measure the single packet duration time.
- c. Change the transmitting packet type and repeat the step b
- d. Calculate the dwell time and compare with the required limit.

### 7.3 Test configuration



### 7.4 Test Instruments

| Test Site and Equipment | Manufacturer | Model No./ Serial No. | Last Calibration Date | Calibration Due Date |
|-------------------------|--------------|-----------------------|-----------------------|----------------------|
| Shielded Room           | ETS.LINDGREN | TR4/<br>15353-F       | NCR                   | NCR                  |
| Spectrum Analyzer       | Agilent      | E4407B/<br>MY45106795 | March 3,2006          | March 3,2007         |

Note:

1. The calibrations are traceable to NML/ROC.
2. NCR: No Calibration Required.

### Instrument Setting

| RBW  | VBW  | Span | Detector | Comment |
|------|------|------|----------|---------|
| 1MHz | 3MHz | 0Hz  | Peak     |         |

### Climatic Condition

Ambient Temperature : 25°C ;

Relative Humidity : 72%

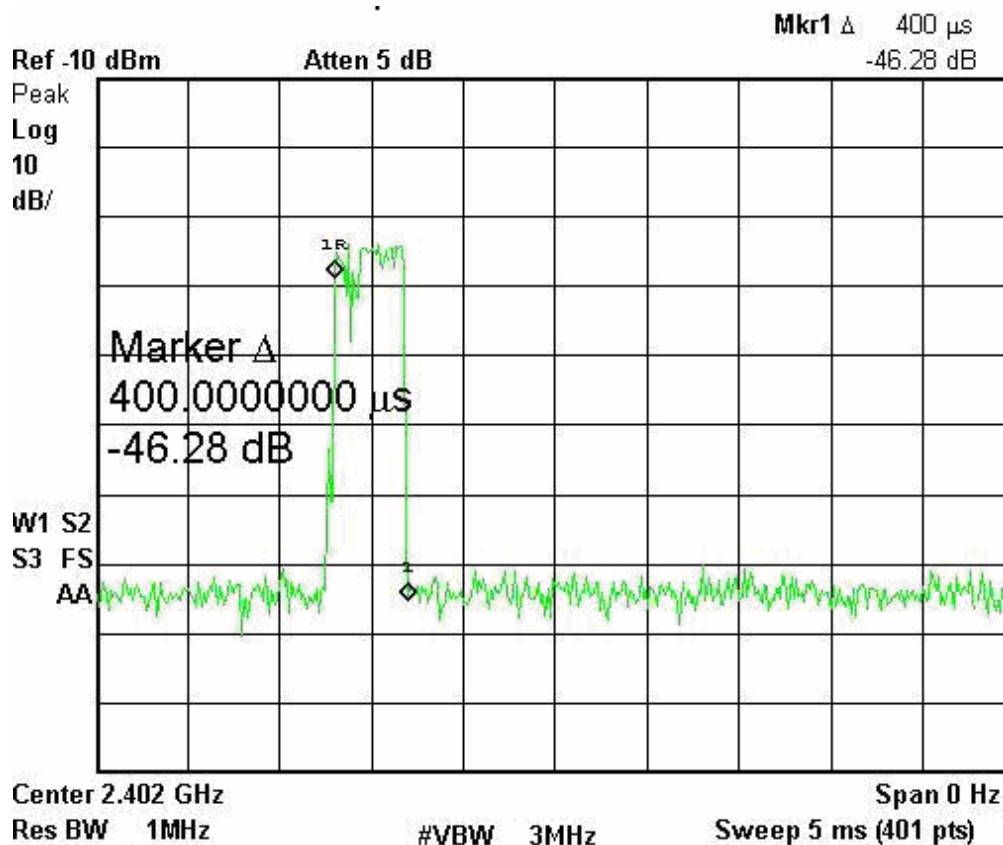
**7.5 Test Data****Test Mode : Continuously Transmitting****Tester : Bill**

| <b>Operating Frequency (MHz)</b> | <b>Data Type</b> | <b>Single Packet Duration Time (ms)</b> | <b>Hopping Repetition Rate (1/s)</b> | <b>Dwell Time (ms)</b> | <b>Limit (ms)</b> | <b>Margin (ms)</b> |
|----------------------------------|------------------|-----------------------------------------|--------------------------------------|------------------------|-------------------|--------------------|
| 2402                             | DH1              | 0.400                                   | 10.13                                | 128.04                 | 400               | 271.96             |
| 2402                             | DH3              | 1.675                                   | 5.06                                 | 267.83                 | 400               | 132.17             |
| 2402                             | DH5              | 2.950                                   | 3.38                                 | 315.08                 | 400               | 84.92              |

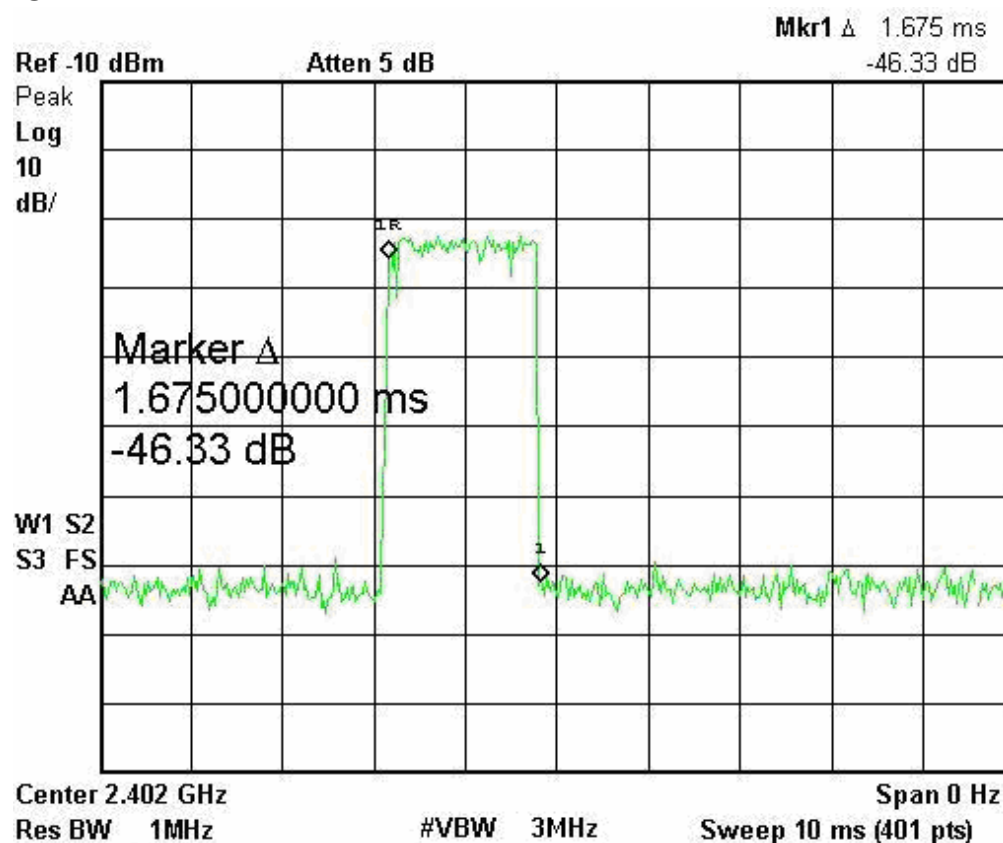
Note:

1. Hopping Cycle(second) =  $79 \times 0.4 = 31.6$
2. Hopping Repetition Rate(1/s) :DH1= $1600/79/2=10.13$  ; DH3= $1600/79/4=5.06$   
DH5= $1600/79/6=3.38$
3. Dwell Time (ms) = Single Packet Duration Time X Hopping repetition Rate X Hopping Cycle
4. Margin (ms) = Limit – Dwell Time

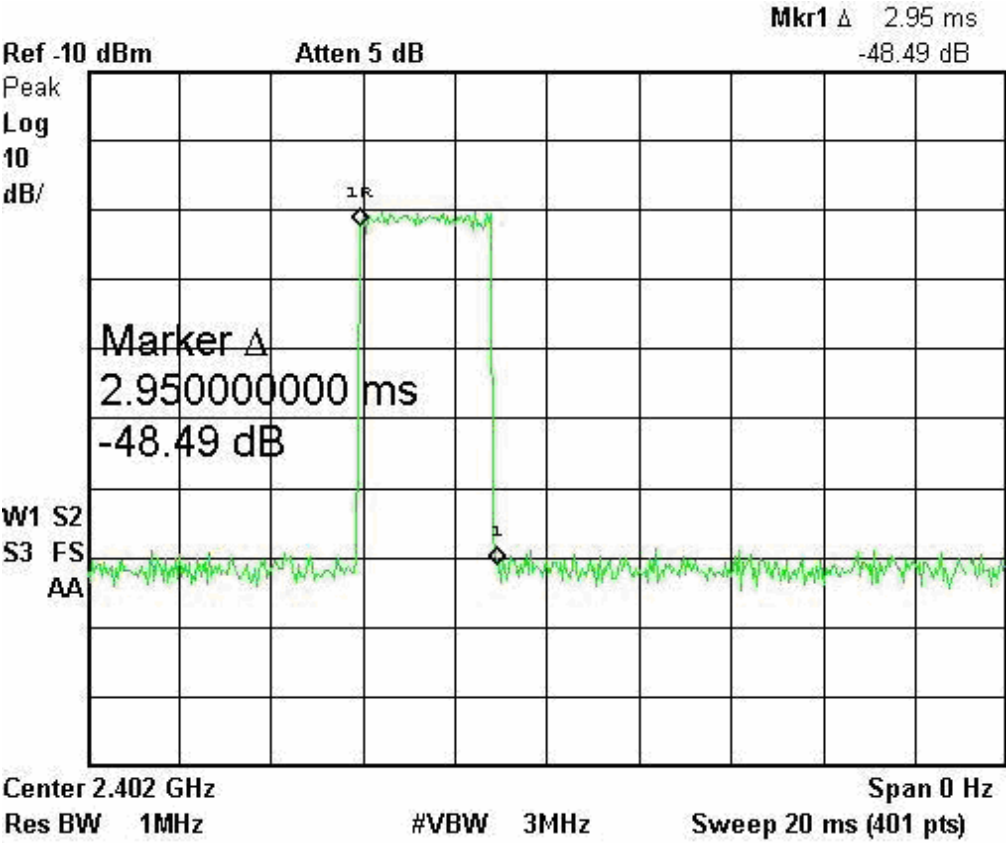
## DH1



## DH3



DH5



## 8 Conducted Emission Measurement

Result: Pass

### 8.1 Applied standard

For intentional device, according to §15.207(a) line conduction emission limit is as below table.

| Frequency of Emission (MHz) | Conducted Limit (dBuV) |           |
|-----------------------------|------------------------|-----------|
|                             | Quasi-peak             | Average   |
| 0.15 – 0.5                  | 66 to 56*              | 56 to 46* |
| 0.5 - 5                     | 56                     | 46        |
| 5 - 30                      | 60                     | 50        |

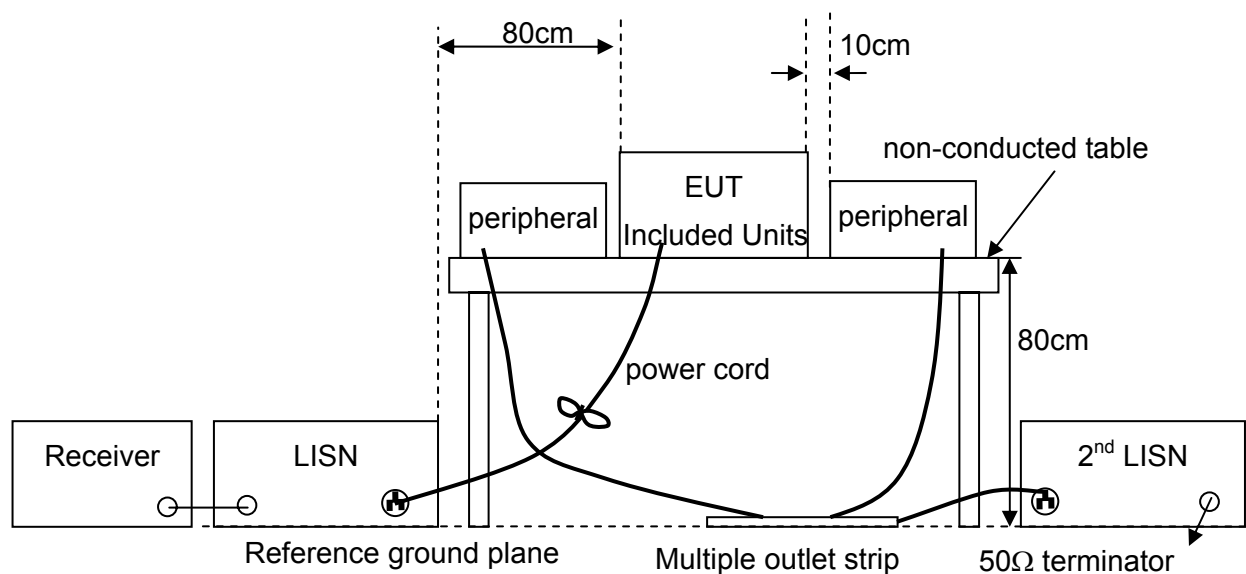
\* Decreases with the logarithm of the frequency.

### 8.2 Measurement Procedure

- The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.
- If the EUT is tabletop equipment, it was placed on a wooden table with a height of 0.8 meters above the reference ground plane and 0.4 meters from the conducting wall of the shielded room. Also if the EUT is floor-standing equipment, it was placed on a non-conducted support with a height of 12 millimeters above the reference ground plane.
- Connect the EUT's power source to the appropriate power mains through the LISN.
- All the other peripherals are connected to the 2<sup>nd</sup> LISN, if any.
- The LISN was placed 0.8 meters from the EUT and at least 0.8 meters from other units and other metal planes.
- Measure the conducted emissions on each power line (Neutral Line and Line 1 – Hot side) of the EUT's power source by using the test receiver connected to the coupling RF output port of LISN.
- Rapidly scan the signal from 150kHz to 30MHz by using the receiver through the Maximum-Peak detector to determine those frequencies associated with higher emission levels for each measured line.
- Then measure the maximum level of conducted disturbance for each frequency found from step g. by using the receiver through the Quasi-Peak and Average detectors per CISPR 16-1.

- i. Record the level for each frequency and compare with the required limit.

### 8.3 Test configuration



### 8.4 Test Instruments

| Test Site and Equipment | Manufacturer | Model No./Serial No.       | Last Calibration Date | Calibration Due Date |
|-------------------------|--------------|----------------------------|-----------------------|----------------------|
| Test Receiver           | R&S          | ESCS 30/ <b>836858/021</b> | Jan. 11, 2006         | Jan. 11, 2007        |
| LISN                    | R&S          | ESH2-Z5/ <b>836613/001</b> | Jan. 5, 2006          | Jan. 5, 2007         |
| 2nd LISN                | R&S          | ENV4200/ <b>833209/010</b> | Jan. 5, 2006          | Jan. 5, 2007         |
| 50Ω terminator          | N/A          | N/A/ <b>001</b>            | Sept. 7, 2005         | Sept. 7, 2006        |
| Shielded room           | ETS.LINDGREN | TR5/ <b>15353-F</b>        | NCR                   | NCR                  |

Note:

1. The calibrations are traceable to NML/ROC.
2. NCR : No Calibration Required.

**Instrument Setting**

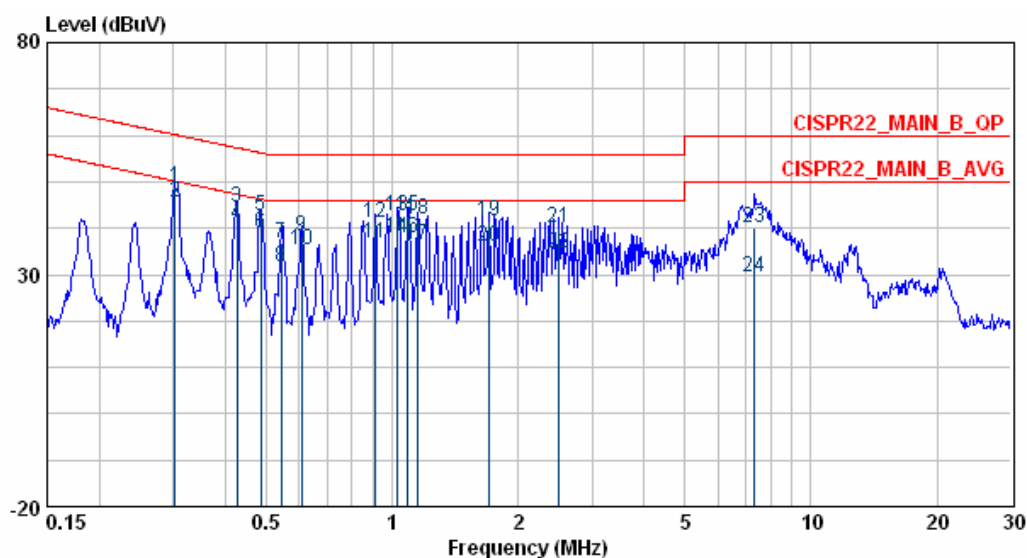
| IF BW | Measurement Time | Detector             | Trace   | Comment |
|-------|------------------|----------------------|---------|---------|
| 9kHz  | 1 second         | Quasi-Peak / Average | Maxhold |         |

**Climatic Condition**

Ambient Temperature : 25°C ;      Relative Humidity : 72%

## 8.5 Test Data

Test Mode : Continuously Transmitting, 2402MHz  
 Frequency Range : 150kHz~30MHz Phase : Line  
 Tester : CDC

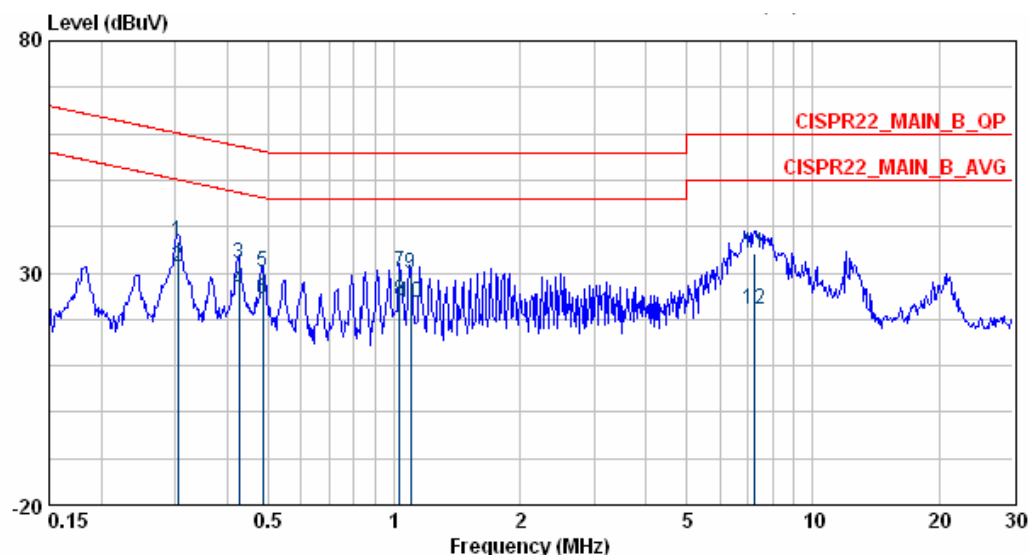


|    | Freq | Level | Factor | Read Level | Limit Line | Over Limit | Ant Pos | Pol/Phase | Remark  |
|----|------|-------|--------|------------|------------|------------|---------|-----------|---------|
|    | MHz  | dBuV  | dB     | dBuV       | dBuV       | dB         | cm      |           |         |
| 1  | 0.30 | 48.69 | 0.16   | 48.53      | 60.15      | -11.46     | ---     | LINE      | QP      |
| 2  | 0.30 | 45.46 | 0.16   | 45.30      | 50.15      | -4.69      | ---     | LINE      | AVERAGE |
| 3  | 0.43 | 44.32 | 0.18   | 44.14      | 57.33      | -13.01     | ---     | LINE      | QP      |
| 4  | 0.43 | 40.90 | 0.18   | 40.72      | 47.33      | -6.43      | ---     | LINE      | AVERAGE |
| 5  | 0.49 | 42.60 | 0.20   | 42.40      | 56.23      | -13.63     | ---     | LINE      | QP      |
| 6  | 0.49 | 38.86 | 0.20   | 38.66      | 46.23      | -7.37      | ---     | LINE      | AVERAGE |
| 7  | 0.54 | 36.61 | 0.20   | 36.41      | 56.00      | -19.39     | ---     | LINE      | QP      |
| 8  | 0.54 | 31.52 | 0.20   | 31.32      | 46.00      | -14.48     | ---     | LINE      | AVERAGE |
| 9  | 0.61 | 38.41 | 0.20   | 38.21      | 56.00      | -17.59     | ---     | LINE      | QP      |
| 10 | 0.61 | 35.21 | 0.20   | 35.01      | 46.00      | -10.79     | ---     | LINE      | AVERAGE |
| 11 | 0.91 | 36.88 | 0.27   | 36.61      | 46.00      | -9.12      | ---     | LINE      | AVERAGE |
| 12 | 0.91 | 41.11 | 0.27   | 40.84      | 56.00      | -14.89     | ---     | LINE      | QP      |
| 13 | 1.03 | 42.53 | 0.29   | 42.24      | 56.00      | -13.47     | ---     | LINE      | QP      |
| 14 | 1.03 | 37.91 | 0.29   | 37.62      | 46.00      | -8.09      | ---     | LINE      | AVERAGE |
| 15 | 1.09 | 42.56 | 0.29   | 42.27      | 56.00      | -13.44     | ---     | LINE      | QP      |
| 16 | 1.09 | 37.77 | 0.29   | 37.48      | 46.00      | -8.23      | ---     | LINE      | AVERAGE |
| 17 | 1.15 | 36.46 | 0.30   | 36.16      | 46.00      | -9.54      | ---     | LINE      | AVERAGE |
| 18 | 1.15 | 41.98 | 0.30   | 41.68      | 56.00      | -14.02     | ---     | LINE      | QP      |
| 19 | 1.70 | 41.56 | 0.32   | 41.24      | 56.00      | -14.44     | ---     | LINE      | QP      |
| 20 | 1.70 | 35.90 | 0.32   | 35.58      | 46.00      | -10.10     | ---     | LINE      | AVERAGE |
| 21 | 2.49 | 40.18 | 0.38   | 39.80      | 56.00      | -15.82     | ---     | LINE      | QP      |
| 22 | 2.49 | 34.42 | 0.38   | 34.04      | 46.00      | -11.58     | ---     | LINE      | AVERAGE |
| 23 | 7.33 | 40.20 | 0.70   | 39.50      | 60.00      | -19.80     | ---     | LINE      | QP      |
| 24 | 7.33 | 29.63 | 0.70   | 28.93      | 50.00      | -20.37     | ---     | LINE      | AVERAGE |

Note:

1. Emission Level = Reading Data + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Over Limit = Limit - Emission level.
4. Q.P. and AV. are abbreviation of quasi-peak and average respectively.
5. If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the EUT shall be deemed to meet both limits.

**Test Mode** : Continuously Transmitting, 2402MHz  
**Frequency Range** : 150kHz~30MHz **Phase** : Neutral  
**Tester** : CDC

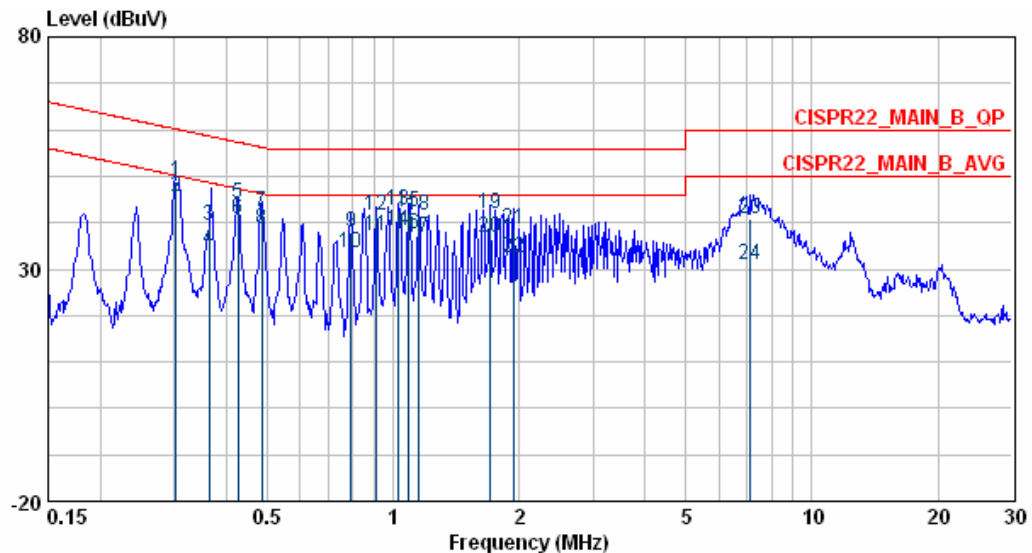


|    | Freq | Level | Factor | Read Level | Limit Line | Over Limit | Ant Pos | Pol/Phase | Remark  |
|----|------|-------|--------|------------|------------|------------|---------|-----------|---------|
|    | MHz  | dBuV  | dB     | dBuV       | dBuV       | dB         | cm      |           |         |
| 1  | 0.31 | 36.90 | 0.21   | 36.69      | 60.10      | -23.20     | ---     | NEUTRAL   | QP      |
| 2  | 0.31 | 31.37 | 0.21   | 31.16      | 50.10      | -18.73     | ---     | NEUTRAL   | AVERAGE |
| 3  | 0.43 | 31.99 | 0.27   | 31.72      | 57.33      | -25.34     | ---     | NEUTRAL   | QP      |
| 4  | 0.43 | 26.32 | 0.27   | 26.05      | 47.33      | -21.01     | ---     | NEUTRAL   | AVERAGE |
| 5  | 0.49 | 30.34 | 0.28   | 30.06      | 56.23      | -25.89     | ---     | NEUTRAL   | QP      |
| 6  | 0.49 | 24.24 | 0.28   | 23.96      | 46.23      | -21.99     | ---     | NEUTRAL   | AVERAGE |
| 7  | 1.03 | 30.03 | 0.29   | 29.74      | 56.00      | -25.97     | ---     | NEUTRAL   | QP      |
| 8  | 1.03 | 23.82 | 0.29   | 23.53      | 46.00      | -22.18     | ---     | NEUTRAL   | AVERAGE |
| 9  | 1.09 | 29.84 | 0.29   | 29.55      | 56.00      | -26.16     | ---     | NEUTRAL   | QP      |
| 10 | 1.09 | 23.67 | 0.29   | 23.38      | 46.00      | -22.33     | ---     | NEUTRAL   | AVERAGE |
| 11 | 7.25 | 34.28 | 0.64   | 33.64      | 60.00      | -25.72     | ---     | NEUTRAL   | QP      |
| 12 | 7.25 | 22.00 | 0.64   | 21.36      | 50.00      | -28.00     | ---     | NEUTRAL   | AVERAGE |

Note:

1. Emission Level = Reading Data + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Over Limit = Limit - Emission level.
4. P.K., Q.P. and AV. are abbreviation of peak, quasi-peak and average respectively.
5. If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the EUT shall be deemed to meet both limits.

Test Mode : Continuously Transmitting, 2441MHz  
 Frequency Range : 150kHz~30MHz Phase : Line  
 Tester : CDC



|    | Freq | Level | Factor | Read  | Limit | Over   | Ant |           |         |
|----|------|-------|--------|-------|-------|--------|-----|-----------|---------|
|    | MHz  | dBuV  | dB     | Level | Line  | Limit  | Pos | Pol/Phase | Remark  |
|    |      |       |        | dBuV  | dBuV  | dB     | cm  |           |         |
| 1  | 0.30 | 48.73 | 0.16   | 48.57 | 60.17 | -11.44 | --- | LINE      | QP      |
| 2  | 0.30 | 45.69 | 0.16   | 45.53 | 50.17 | -4.48  | --- | LINE      | AVERAGE |
| 3  | 0.36 | 39.32 | 0.17   | 39.15 | 58.65 | -19.34 | --- | LINE      | QP      |
| 4  | 0.36 | 34.23 | 0.17   | 34.06 | 48.65 | -14.43 | --- | LINE      | AVERAGE |
| 5  | 0.43 | 43.95 | 0.18   | 43.77 | 57.33 | -13.38 | --- | LINE      | QP      |
| 6  | 0.43 | 40.70 | 0.18   | 40.52 | 47.33 | -6.63  | --- | LINE      | AVERAGE |
| 7  | 0.49 | 42.26 | 0.20   | 42.06 | 56.23 | -13.97 | --- | LINE      | QP      |
| 8  | 0.49 | 38.47 | 0.20   | 38.27 | 46.23 | -7.76  | --- | LINE      | AVERAGE |
| 9  | 0.79 | 37.99 | 0.24   | 37.75 | 56.00 | -18.01 | --- | LINE      | QP      |
| 10 | 0.79 | 33.32 | 0.24   | 33.08 | 46.00 | -12.68 | --- | LINE      | AVERAGE |
| 11 | 0.91 | 37.26 | 0.27   | 36.99 | 46.00 | -8.74  | --- | LINE      | AVERAGE |
| 12 | 0.91 | 41.39 | 0.27   | 41.12 | 56.00 | -14.61 | --- | LINE      | QP      |
| 13 | 1.03 | 42.69 | 0.29   | 42.40 | 56.00 | -13.31 | --- | LINE      | QP      |
| 14 | 1.03 | 38.34 | 0.29   | 38.05 | 46.00 | -7.66  | --- | LINE      | AVERAGE |
| 15 | 1.09 | 42.36 | 0.29   | 42.07 | 56.00 | -13.64 | --- | LINE      | QP      |
| 16 | 1.09 | 37.42 | 0.29   | 37.13 | 46.00 | -8.58  | --- | LINE      | AVERAGE |
| 17 | 1.15 | 36.63 | 0.30   | 36.33 | 46.00 | -9.37  | --- | LINE      | AVERAGE |
| 18 | 1.15 | 41.62 | 0.30   | 41.32 | 56.00 | -14.38 | --- | LINE      | QP      |
| 19 | 1.70 | 41.73 | 0.32   | 41.41 | 56.00 | -14.27 | --- | LINE      | QP      |
| 20 | 1.70 | 36.82 | 0.32   | 36.50 | 46.00 | -9.18  | --- | LINE      | AVERAGE |
| 21 | 1.94 | 38.65 | 0.33   | 38.32 | 56.00 | -17.35 | --- | LINE      | QP      |
| 22 | 1.94 | 32.53 | 0.33   | 32.20 | 46.00 | -13.47 | --- | LINE      | AVERAGE |
| 23 | 7.14 | 40.76 | 0.68   | 40.08 | 60.00 | -19.24 | --- | LINE      | QP      |
| 24 | 7.14 | 30.81 | 0.68   | 30.13 | 50.00 | -19.19 | --- | LINE      | AVERAGE |

Note:

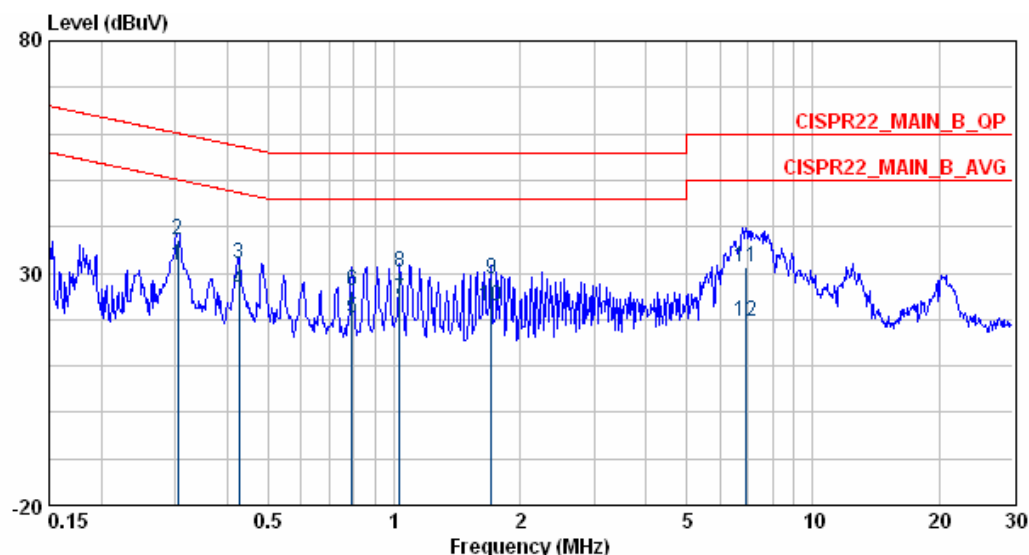
1. Emission Level = Reading Data + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Over Limit = Limit-Emission level.
4. Q.P. and AV. are abbreviation of quasi-peak and average respectively.
5. If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the EUT shall be deemed to meet both limits.

Test Mode : Continuously Transmitting, 2441MHz

Frequency Range : 150kHz~30MHz

Phase : Neutral

Tester : CDC

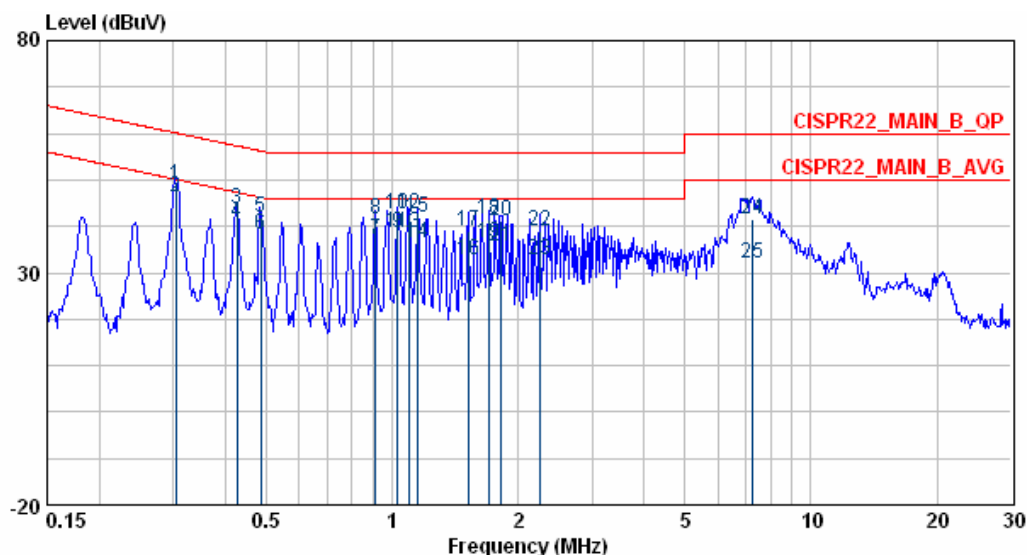


|    | Freq | Level | Factor | Read Level | Limit Line | Over Limit | Ant Pos | Pol/Phase | Remark  |
|----|------|-------|--------|------------|------------|------------|---------|-----------|---------|
|    | MHz  | dBuV  | dB     | dBuV       | dBuV       | dB         | cm      |           |         |
| 1  | 0.31 | 31.61 | 0.21   | 31.40      | 50.10      | -18.49     | ---     | NEUTRAL   | AVERAGE |
| 2  | 0.31 | 37.21 | 0.21   | 37.00      | 60.10      | -22.89     | ---     | NEUTRAL   | QP      |
| 3  | 0.43 | 31.85 | 0.27   | 31.58      | 57.33      | -25.48     | ---     | NEUTRAL   | QP      |
| 4  | 0.43 | 26.21 | 0.27   | 25.94      | 47.33      | -21.12     | ---     | NEUTRAL   | AVERAGE |
| 5  | 0.79 | 20.13 | 0.27   | 19.86      | 46.00      | -25.87     | ---     | NEUTRAL   | AVERAGE |
| 6  | 0.79 | 26.24 | 0.27   | 25.97      | 56.00      | -29.76     | ---     | NEUTRAL   | QP      |
| 7  | 1.03 | 24.19 | 0.29   | 23.90      | 46.00      | -21.81     | ---     | NEUTRAL   | AVERAGE |
| 8  | 1.03 | 30.34 | 0.29   | 30.05      | 56.00      | -25.66     | ---     | NEUTRAL   | QP      |
| 9  | 1.70 | 28.81 | 0.32   | 28.49      | 56.00      | -27.19     | ---     | NEUTRAL   | QP      |
| 10 | 1.70 | 22.89 | 0.32   | 22.57      | 46.00      | -23.11     | ---     | NEUTRAL   | AVERAGE |
| 11 | 6.91 | 31.42 | 0.62   | 30.80      | 60.00      | -28.58     | ---     | NEUTRAL   | QP      |
| 12 | 6.91 | 19.51 | 0.62   | 18.89      | 50.00      | -30.49     | ---     | NEUTRAL   | AVERAGE |

Note:

1. Emission Level = Reading Data + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Over Limit = Limit - Emission level.
4. P.K., Q.P. and AV. are abbreviation of peak, quasi-peak and average respectively.
5. If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the EUT shall be deemed to meet both limits.

Test Mode : Continuously Transmitting, 2480MHz  
 Frequency Range : 150kHz~30MHz Phase : Line  
 Tester : CDC

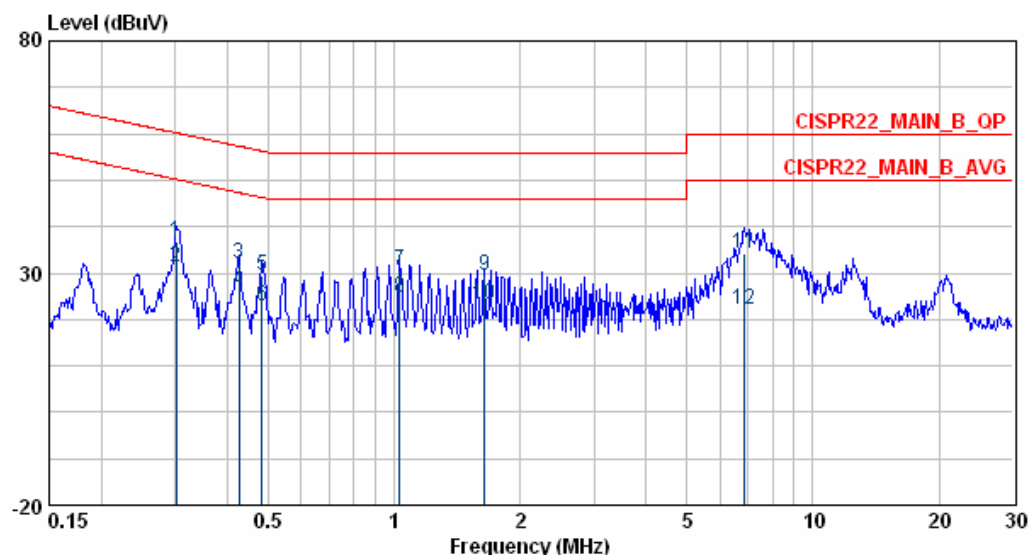


|    | Freq | Level | Factor | Read Level | Limit Line | Over Limit | Ant Pos | Pol/Phase | Remark  |
|----|------|-------|--------|------------|------------|------------|---------|-----------|---------|
|    | MHz  | dBuV  | dB     | dBuV       | dBuV       | dB         | cm      |           |         |
| 1  | 0.31 | 49.02 | 0.16   | 48.86      | 60.10      | -11.08     | ---     | LINE      | QP      |
| 2  | 0.31 | 46.20 | 0.16   | 46.04      | 50.10      | -3.90      | ---     | LINE      | AVERAGE |
| 3  | 0.43 | 43.73 | 0.18   | 43.55      | 57.33      | -13.60     | ---     | LINE      | QP      |
| 4  | 0.43 | 40.70 | 0.18   | 40.52      | 47.33      | -6.63      | ---     | LINE      | AVERAGE |
| 5  | 0.49 | 42.09 | 0.20   | 41.89      | 56.23      | -14.14     | ---     | LINE      | QP      |
| 6  | 0.49 | 38.29 | 0.20   | 38.09      | 46.23      | -7.94      | ---     | LINE      | AVERAGE |
| 7  | 0.91 | 37.21 | 0.27   | 36.94      | 46.00      | -8.79      | ---     | LINE      | AVERAGE |
| 8  | 0.91 | 41.43 | 0.27   | 41.16      | 56.00      | -14.57     | ---     | LINE      | QP      |
| 9  | 1.03 | 38.56 | 0.29   | 38.27      | 46.00      | -7.44      | ---     | LINE      | AVERAGE |
| 10 | 1.03 | 42.63 | 0.29   | 42.34      | 56.00      | -13.37     | ---     | LINE      | QP      |
| 11 | 1.03 | 38.56 | 0.29   | 38.27      | 46.00      | -7.44      | ---     | LINE      | AVERAGE |
| 12 | 1.09 | 42.66 | 0.29   | 42.37      | 56.00      | -13.34     | ---     | LINE      | QP      |
| 13 | 1.09 | 38.53 | 0.29   | 38.24      | 46.00      | -7.47      | ---     | LINE      | AVERAGE |
| 14 | 1.15 | 36.52 | 0.30   | 36.22      | 46.00      | -9.48      | ---     | LINE      | AVERAGE |
| 15 | 1.15 | 41.74 | 0.30   | 41.44      | 56.00      | -14.26     | ---     | LINE      | QP      |
| 16 | 1.52 | 32.67 | 0.31   | 32.36      | 46.00      | -13.33     | ---     | LINE      | AVERAGE |
| 17 | 1.52 | 38.90 | 0.31   | 38.59      | 56.00      | -17.10     | ---     | LINE      | QP      |
| 18 | 1.70 | 41.59 | 0.32   | 41.27      | 56.00      | -14.41     | ---     | LINE      | QP      |
| 19 | 1.70 | 36.55 | 0.32   | 36.23      | 46.00      | -9.45      | ---     | LINE      | AVERAGE |
| 20 | 1.82 | 41.00 | 0.32   | 40.68      | 56.00      | -15.00     | ---     | LINE      | QP      |
| 21 | 1.82 | 35.54 | 0.32   | 35.22      | 46.00      | -10.46     | ---     | LINE      | AVERAGE |
| 22 | 2.25 | 39.15 | 0.35   | 38.80      | 56.00      | -16.85     | ---     | LINE      | QP      |
| 23 | 2.25 | 32.74 | 0.35   | 32.39      | 46.00      | -13.26     | ---     | LINE      | AVERAGE |
| 24 | 7.25 | 41.71 | 0.69   | 41.02      | 60.00      | -18.29     | ---     | LINE      | QP      |
| 25 | 7.25 | 31.84 | 0.69   | 31.15      | 50.00      | -18.16     | ---     | LINE      | AVERAGE |

## Note:

1. Emission Level = Reading Data + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Over Limit = Limit-Emission level.
4. Q.P. and AV. are abbreviation of quasi-peak and average respectively.
5. If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the EUT shall be deemed to meet both limits.

**Test Mode** : Continuously Transmitting, 2480MHz  
**Frequency Range** : 150kHz~30MHz **Phase** : Neutral  
**Tester** : CDC

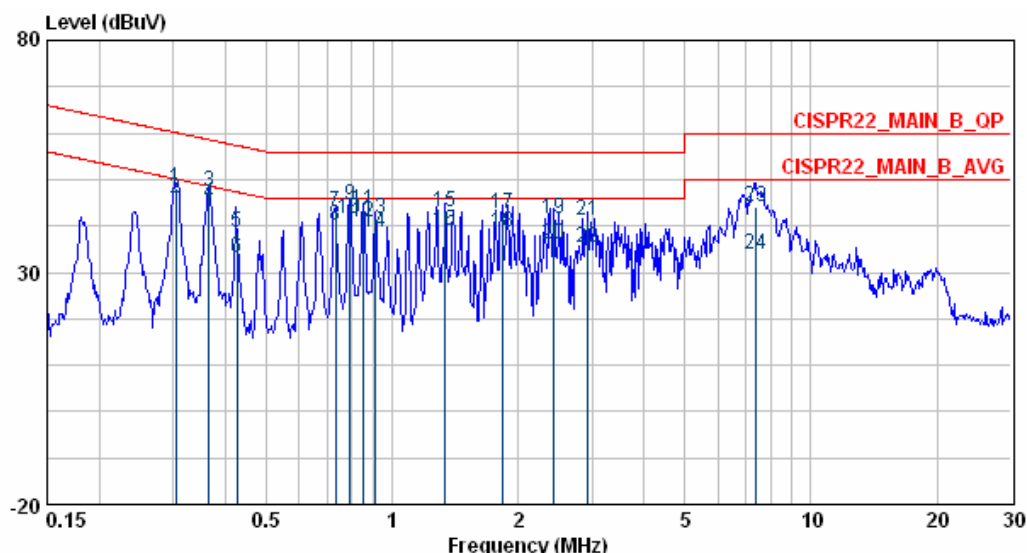


|    | Freq | Level | Factor | Read Level | Limit Line | Over Limit | Ant Pos | Pol/Phase | Remark  |
|----|------|-------|--------|------------|------------|------------|---------|-----------|---------|
|    | MHz  | dBuV  | dB     | dBuV       | dBuV       | dB         | cm      |           |         |
| 1  | 0.30 | 36.84 | 0.21   | 36.63      | 60.19      | -23.35     | ---     | NEUTRAL   | QP      |
| 2  | 0.30 | 31.32 | 0.21   | 31.11      | 50.19      | -18.87     | ---     | NEUTRAL   | AVERAGE |
| 3  | 0.43 | 31.85 | 0.27   | 31.58      | 57.33      | -25.48     | ---     | NEUTRAL   | QP      |
| 4  | 0.43 | 26.21 | 0.27   | 25.94      | 47.33      | -21.12     | ---     | NEUTRAL   | AVERAGE |
| 5  | 0.48 | 29.30 | 0.28   | 29.02      | 56.27      | -26.97     | ---     | NEUTRAL   | QP      |
| 6  | 0.48 | 22.82 | 0.28   | 22.54      | 46.27      | -23.45     | ---     | NEUTRAL   | AVERAGE |
| 7  | 1.03 | 30.68 | 0.29   | 30.39      | 56.00      | -25.32     | ---     | NEUTRAL   | QP      |
| 8  | 1.03 | 24.69 | 0.29   | 24.40      | 46.00      | -21.31     | ---     | NEUTRAL   | AVERAGE |
| 9  | 1.64 | 29.57 | 0.32   | 29.25      | 56.00      | -26.43     | ---     | NEUTRAL   | QP      |
| 10 | 1.64 | 23.32 | 0.32   | 23.00      | 46.00      | -22.68     | ---     | NEUTRAL   | AVERAGE |
| 11 | 6.88 | 34.04 | 0.62   | 33.42      | 60.00      | -25.96     | ---     | NEUTRAL   | QP      |
| 12 | 6.88 | 22.23 | 0.62   | 21.61      | 50.00      | -27.77     | ---     | NEUTRAL   | AVERAGE |

Note:

1. Emission Level = Reading Data + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Over Limit = Limit - Emission level.
4. P.K., Q.P. and AV. are abbreviation of peak, quasi-peak and average respectively.
5. If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the EUT shall be deemed to meet both limits.

Test Mode : Continuously Receiving, 2402MHz  
 Frequency Range : 150kHz~30MHz Phase : Line  
 Tester : CDC

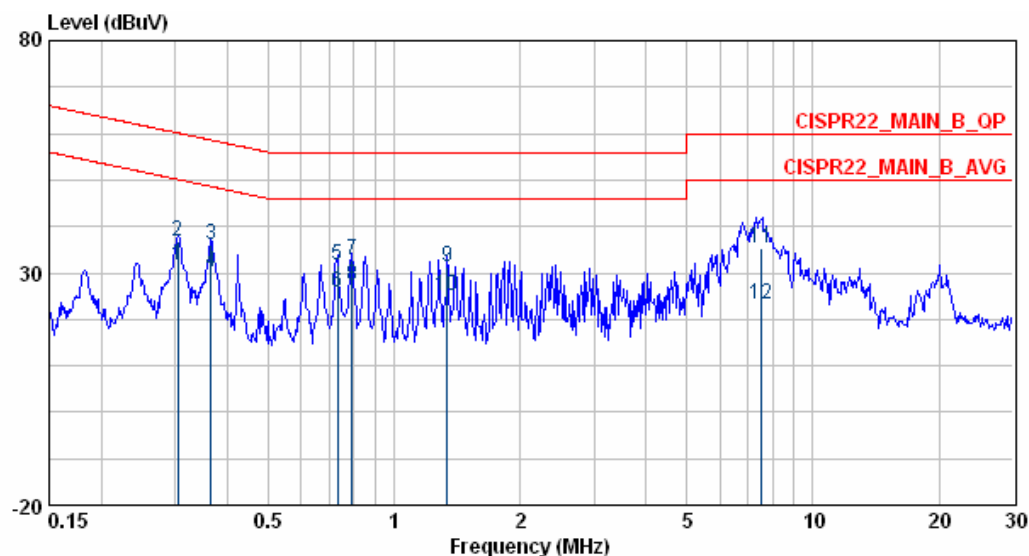


|    | Freq | Level | Factor | Read  | Limit | Over   | Ant |           |         |
|----|------|-------|--------|-------|-------|--------|-----|-----------|---------|
|    | MHz  | dBuV  | dB     | Level | Line  | Limit  | Pos | Pol/Phase | Remark  |
|    | MHz  | dBuV  | dB     | dBuV  | dBuV  | dB     | cm  |           |         |
| 1  | 0.30 | 48.22 | 0.16   | 48.06 | 60.13 | -11.91 | --- | LINE      | QP      |
| 2  | 0.30 | 45.91 | 0.16   | 45.75 | 50.13 | -4.22  | --- | LINE      | AVERAGE |
| 3  | 0.37 | 47.45 | 0.17   | 47.28 | 58.61 | -11.16 | --- | LINE      | QP      |
| 4  | 0.37 | 44.70 | 0.17   | 44.53 | 48.61 | -3.91  | --- | LINE      | AVERAGE |
| 5  | 0.43 | 38.50 | 0.18   | 38.32 | 57.32 | -18.82 | --- | LINE      | QP      |
| 6  | 0.43 | 33.23 | 0.18   | 33.05 | 47.32 | -14.09 | --- | LINE      | AVERAGE |
| 7  | 0.73 | 42.98 | 0.23   | 42.75 | 56.00 | -13.02 | --- | LINE      | QP      |
| 8  | 0.73 | 39.97 | 0.23   | 39.74 | 46.00 | -6.03  | --- | LINE      | AVERAGE |
| 9  | 0.79 | 44.29 | 0.24   | 44.05 | 56.00 | -11.71 | --- | LINE      | QP      |
| 10 | 0.79 | 41.49 | 0.24   | 41.25 | 46.00 | -4.51  | --- | LINE      | AVERAGE |
| 11 | 0.85 | 43.44 | 0.25   | 43.19 | 56.00 | -12.56 | --- | LINE      | QP      |
| 12 | 0.85 | 40.73 | 0.25   | 40.48 | 46.00 | -5.27  | --- | LINE      | AVERAGE |
| 13 | 0.91 | 41.43 | 0.27   | 41.16 | 56.00 | -14.57 | --- | LINE      | QP      |
| 14 | 0.91 | 38.56 | 0.27   | 38.29 | 46.00 | -7.44  | --- | LINE      | AVERAGE |
| 15 | 1.34 | 43.15 | 0.31   | 42.84 | 56.00 | -12.85 | --- | LINE      | QP      |
| 16 | 1.34 | 38.96 | 0.31   | 38.65 | 46.00 | -7.04  | --- | LINE      | AVERAGE |
| 17 | 1.83 | 42.76 | 0.32   | 42.44 | 56.00 | -13.24 | --- | LINE      | QP      |
| 18 | 1.83 | 38.55 | 0.32   | 38.23 | 46.00 | -7.45  | --- | LINE      | AVERAGE |
| 19 | 2.43 | 41.62 | 0.37   | 41.25 | 56.00 | -14.38 | --- | LINE      | QP      |
| 20 | 2.43 | 36.17 | 0.37   | 35.80 | 46.00 | -9.83  | --- | LINE      | AVERAGE |
| 21 | 2.92 | 41.04 | 0.42   | 40.62 | 56.00 | -14.96 | --- | LINE      | QP      |
| 22 | 2.92 | 35.49 | 0.42   | 35.07 | 46.00 | -10.51 | --- | LINE      | AVERAGE |
| 23 | 7.37 | 44.04 | 0.70   | 43.34 | 60.00 | -15.96 | --- | LINE      | QP      |
| 24 | 7.37 | 33.97 | 0.70   | 33.27 | 50.00 | -16.03 | --- | LINE      | AVERAGE |

## Note:

1. Emission Level = Reading Data + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Over Limit = Limit-Emission level.
4. Q.P. and AV. are abbreviation of quasi-peak and average respectively.
5. If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the EUT shall be deemed to meet both limits.

**Test Mode** : Continuously Receiving, 2402MHz  
**Frequency Range** : 150kHz~30MHz **Phase** : Neutral  
**Tester** : CDC

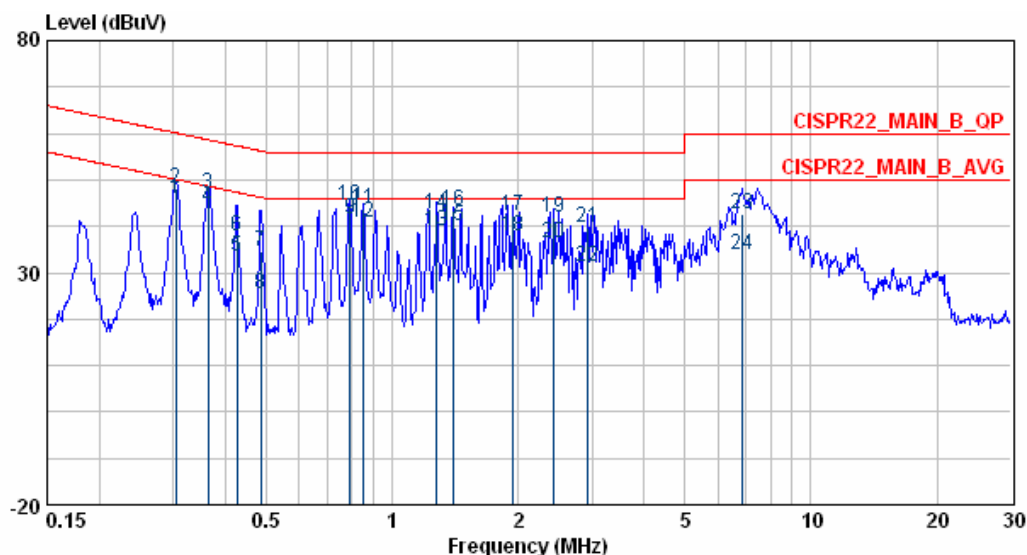


|    | Freq | Level | Factor | Read Level | Limit Line | Over Limit | Ant Pos | Pol/Phase | Remark  |
|----|------|-------|--------|------------|------------|------------|---------|-----------|---------|
|    | MHz  | dBuV  | dB     | dBuV       | dBuV       | dB         | cm      |           |         |
| 1  | 0.31 | 31.47 | 0.21   | 31.26      | 50.10      | -18.63     | ---     | NEUTRAL   | AVERAGE |
| 2  | 0.31 | 36.88 | 0.21   | 36.67      | 60.10      | -23.22     | ---     | NEUTRAL   | QP      |
| 3  | 0.37 | 35.91 | 0.25   | 35.66      | 58.61      | -22.70     | ---     | NEUTRAL   | QP      |
| 4  | 0.37 | 30.31 | 0.25   | 30.06      | 48.61      | -18.30     | ---     | NEUTRAL   | AVERAGE |
| 5  | 0.73 | 31.53 | 0.27   | 31.26      | 56.00      | -24.47     | ---     | NEUTRAL   | QP      |
| 6  | 0.73 | 25.91 | 0.27   | 25.64      | 46.00      | -20.09     | ---     | NEUTRAL   | AVERAGE |
| 7  | 0.79 | 32.72 | 0.27   | 32.45      | 56.00      | -23.28     | ---     | NEUTRAL   | QP      |
| 8  | 0.79 | 27.20 | 0.27   | 26.93      | 46.00      | -18.80     | ---     | NEUTRAL   | AVERAGE |
| 9  | 1.34 | 31.15 | 0.31   | 30.84      | 56.00      | -24.85     | ---     | NEUTRAL   | QP      |
| 10 | 1.34 | 24.90 | 0.31   | 24.59      | 46.00      | -21.10     | ---     | NEUTRAL   | AVERAGE |
| 11 | 7.55 | 35.46 | 0.65   | 34.81      | 60.00      | -24.54     | ---     | NEUTRAL   | QP      |
| 12 | 7.55 | 23.27 | 0.65   | 22.62      | 50.00      | -26.73     | ---     | NEUTRAL   | AVERAGE |

Note:

1. Emission Level = Reading Data + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Over Limit = Limit - Emission level.
4. P.K., Q.P. and AV. are abbreviation of peak, quasi-peak and average respectively.
5. If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the EUT shall be deemed to meet both limits.

Test Mode : Continuously Receiving, 2441MHz  
 Frequency Range : 150kHz~30MHz Phase : Line  
 Tester : CDC

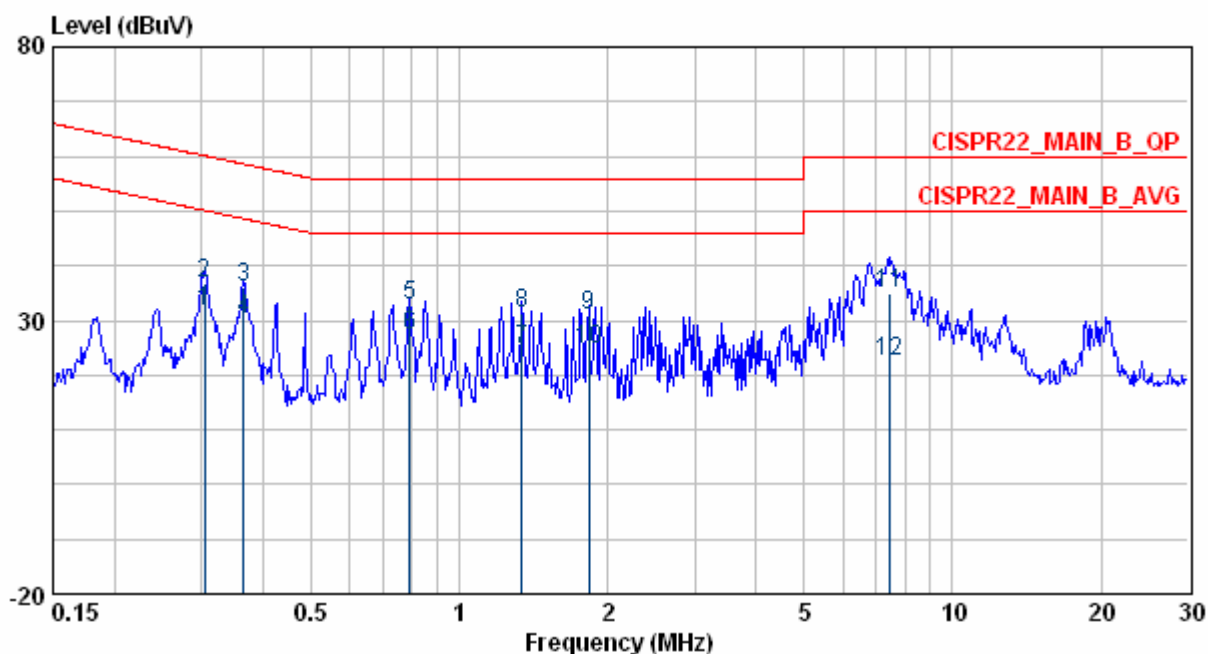


|    | Freq | Level | Factor | Read Level | Limit Line | Over Limit | Ant Pos | Pol/Phase | Remark  |
|----|------|-------|--------|------------|------------|------------|---------|-----------|---------|
|    | MHz  | dBuV  | dB     | dBuV       | dBuV       | dB         | cm      |           |         |
| 1  | 0.31 | 45.83 | 0.16   | 45.67      | 50.10      | -4.27      | ---     | LINE      | AVERAGE |
| 2  | 0.31 | 48.26 | 0.16   | 48.10      | 60.10      | -11.84     | ---     | LINE      | QP      |
| 3  | 0.36 | 46.86 | 0.17   | 46.69      | 58.65      | -11.79     | ---     | LINE      | QP      |
| 4  | 0.36 | 44.00 | 0.17   | 43.83      | 48.65      | -4.65      | ---     | LINE      | AVERAGE |
| 5  | 0.43 | 33.46 | 0.18   | 33.28      | 47.33      | -13.87     | ---     | LINE      | AVERAGE |
| 6  | 0.43 | 38.02 | 0.18   | 37.84      | 57.33      | -19.31     | ---     | LINE      | QP      |
| 7  | 0.49 | 34.54 | 0.20   | 34.34      | 56.23      | -21.69     | ---     | LINE      | QP      |
| 8  | 0.49 | 25.33 | 0.20   | 25.13      | 46.23      | -20.90     | ---     | LINE      | AVERAGE |
| 9  | 0.79 | 41.55 | 0.24   | 41.31      | 46.00      | -4.45      | ---     | LINE      | AVERAGE |
| 10 | 0.79 | 44.29 | 0.24   | 44.05      | 56.00      | -11.71     | ---     | LINE      | QP      |
| 11 | 0.85 | 43.68 | 0.25   | 43.43      | 56.00      | -12.32     | ---     | LINE      | QP      |
| 12 | 0.85 | 40.92 | 0.25   | 40.67      | 46.00      | -5.08      | ---     | LINE      | AVERAGE |
| 13 | 1.28 | 39.13 | 0.30   | 38.83      | 46.00      | -6.87      | ---     | LINE      | AVERAGE |
| 14 | 1.28 | 42.77 | 0.30   | 42.47      | 56.00      | -13.23     | ---     | LINE      | QP      |
| 15 | 1.40 | 40.24 | 0.31   | 39.93      | 46.00      | -5.76      | ---     | LINE      | AVERAGE |
| 16 | 1.40 | 43.40 | 0.31   | 43.09      | 56.00      | -12.60     | ---     | LINE      | QP      |
| 17 | 1.95 | 42.09 | 0.33   | 41.76      | 56.00      | -13.91     | ---     | LINE      | QP      |
| 18 | 1.95 | 37.96 | 0.33   | 37.63      | 46.00      | -8.04      | ---     | LINE      | AVERAGE |
| 19 | 2.43 | 41.75 | 0.37   | 41.38      | 56.00      | -14.25     | ---     | LINE      | QP      |
| 20 | 2.43 | 36.29 | 0.37   | 35.92      | 46.00      | -9.71      | ---     | LINE      | AVERAGE |
| 21 | 2.93 | 39.85 | 0.42   | 39.43      | 56.00      | -16.15     | ---     | LINE      | QP      |
| 22 | 2.93 | 31.11 | 0.42   | 30.69      | 46.00      | -14.89     | ---     | LINE      | AVERAGE |
| 23 | 6.88 | 42.65 | 0.67   | 41.98      | 60.00      | -17.35     | ---     | LINE      | QP      |
| 24 | 6.88 | 33.86 | 0.67   | 33.19      | 50.00      | -16.14     | ---     | LINE      | AVERAGE |

## Note:

1. Emission Level = Reading Data + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Over Limit = Limit-Emission level.
4. Q.P. and AV. are abbreviation of quasi-peak and average respectively.
5. If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the EUT shall be deemed to meet both limits.

**Test Mode** : Continuously Receiving, 2441MHz  
**Frequency Range** : 150kHz~30MHz **Phase** : Neutral  
**Tester** : CDC

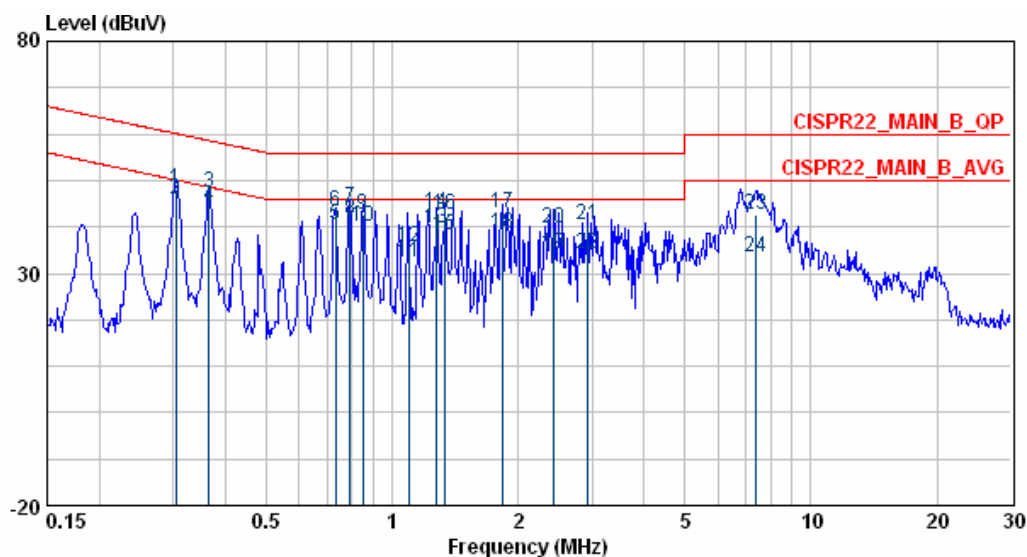


|    | Freq | Level | Factor | Read Level | Limit Line | Over Limit | Ant Pos | Pol/Phase | Remark  |
|----|------|-------|--------|------------|------------|------------|---------|-----------|---------|
|    | MHz  | dBuV  | dB     | dBuV       | dBuV       | dB         | cm      |           |         |
| 1  | 0.31 | 31.47 | 0.21   | 31.26      | 50.10      | -18.63     | ---     | NEUTRAL   | AVERAGE |
| 2  | 0.31 | 36.92 | 0.21   | 36.71      | 60.10      | -23.18     | ---     | NEUTRAL   | QP      |
| 3  | 0.37 | 35.97 | 0.25   | 35.72      | 58.61      | -22.64     | ---     | NEUTRAL   | QP      |
| 4  | 0.37 | 30.36 | 0.25   | 30.11      | 48.61      | -18.25     | ---     | NEUTRAL   | AVERAGE |
| 5  | 0.79 | 32.78 | 0.27   | 32.51      | 56.00      | -23.22     | ---     | NEUTRAL   | QP      |
| 6  | 0.79 | 27.25 | 0.27   | 26.98      | 46.00      | -18.75     | ---     | NEUTRAL   | AVERAGE |
| 7  | 1.34 | 24.69 | 0.31   | 24.38      | 46.00      | -21.31     | ---     | NEUTRAL   | AVERAGE |
| 8  | 1.34 | 31.19 | 0.31   | 30.88      | 56.00      | -24.81     | ---     | NEUTRAL   | QP      |
| 9  | 1.83 | 30.76 | 0.32   | 30.44      | 56.00      | -25.24     | ---     | NEUTRAL   | QP      |
| 10 | 1.83 | 24.85 | 0.32   | 24.53      | 46.00      | -21.15     | ---     | NEUTRAL   | AVERAGE |
| 11 | 7.49 | 35.03 | 0.65   | 34.38      | 60.00      | -24.97     | ---     | NEUTRAL   | QP      |
| 12 | 7.49 | 22.48 | 0.65   | 21.83      | 50.00      | -27.52     | ---     | NEUTRAL   | AVERAGE |

Note:

1. Emission Level = Reading Data + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Over Limit = Limit - Emission level.
4. P.K., Q.P. and AV. are abbreviation of peak, quasi-peak and average respectively.
5. If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the EUT shall be deemed to meet both limits.

Test Mode : Continuously Receiving, 2480MHz  
 Frequency Range : 150kHz~30MHz Phase : Line  
 Tester : CDC



|    | Freq | Level | Factor | Read Level | Limit Line | Over Limit | Ant Pos | Pol/Phase | Remark  |
|----|------|-------|--------|------------|------------|------------|---------|-----------|---------|
|    | MHz  | dBuV  | dB     | dBuV       | dBuV       | dB         | cm      |           |         |
| 1  | 0.31 | 48.18 | 0.16   | 48.02      | 60.10      | -11.92     | ---     | LINE      | QP      |
| 2  | 0.31 | 45.77 | 0.16   | 45.61      | 50.10      | -4.33      | ---     | LINE      | AVERAGE |
| 3  | 0.37 | 47.47 | 0.17   | 47.30      | 58.61      | -11.14     | ---     | LINE      | QP      |
| 4  | 0.37 | 44.54 | 0.17   | 44.37      | 48.61      | -4.07      | ---     | LINE      | AVERAGE |
| 5  | 0.73 | 40.47 | 0.23   | 40.24      | 46.00      | -5.53      | ---     | LINE      | AVERAGE |
| 6  | 0.73 | 43.36 | 0.23   | 43.13      | 56.00      | -12.64     | ---     | LINE      | QP      |
| 7  | 0.79 | 44.11 | 0.24   | 43.87      | 56.00      | -11.89     | ---     | LINE      | QP      |
| 8  | 0.79 | 41.37 | 0.24   | 41.13      | 46.00      | -4.63      | ---     | LINE      | AVERAGE |
| 9  | 0.85 | 42.79 | 0.25   | 42.54      | 56.00      | -13.21     | ---     | LINE      | QP      |
| 10 | 0.85 | 40.17 | 0.25   | 39.92      | 46.00      | -5.83      | ---     | LINE      | AVERAGE |
| 11 | 1.10 | 32.34 | 0.29   | 32.05      | 46.00      | -13.66     | ---     | LINE      | AVERAGE |
| 12 | 1.10 | 35.73 | 0.29   | 35.44      | 56.00      | -20.27     | ---     | LINE      | QP      |
| 13 | 1.28 | 39.69 | 0.30   | 39.39      | 46.00      | -6.31      | ---     | LINE      | AVERAGE |
| 14 | 1.28 | 43.18 | 0.30   | 42.88      | 56.00      | -12.82     | ---     | LINE      | QP      |
| 15 | 1.34 | 38.28 | 0.31   | 37.97      | 46.00      | -7.72      | ---     | LINE      | AVERAGE |
| 16 | 1.34 | 42.54 | 0.31   | 42.23      | 56.00      | -13.46     | ---     | LINE      | QP      |
| 17 | 1.83 | 42.87 | 0.32   | 42.55      | 56.00      | -13.13     | ---     | LINE      | QP      |
| 18 | 1.83 | 38.72 | 0.32   | 38.40      | 46.00      | -7.28      | ---     | LINE      | AVERAGE |
| 19 | 2.43 | 34.11 | 0.37   | 33.74      | 46.00      | -11.89     | ---     | LINE      | AVERAGE |
| 20 | 2.43 | 39.80 | 0.37   | 39.43      | 56.00      | -16.20     | ---     | LINE      | QP      |
| 21 | 2.93 | 40.27 | 0.42   | 39.85      | 56.00      | -15.73     | ---     | LINE      | QP      |
| 22 | 2.93 | 34.38 | 0.42   | 33.96      | 46.00      | -11.62     | ---     | LINE      | AVERAGE |
| 23 | 7.37 | 42.68 | 0.70   | 41.98      | 60.00      | -17.32     | ---     | LINE      | QP      |
| 24 | 7.37 | 33.50 | 0.70   | 32.80      | 50.00      | -16.50     | ---     | LINE      | AVERAGE |

## Note:

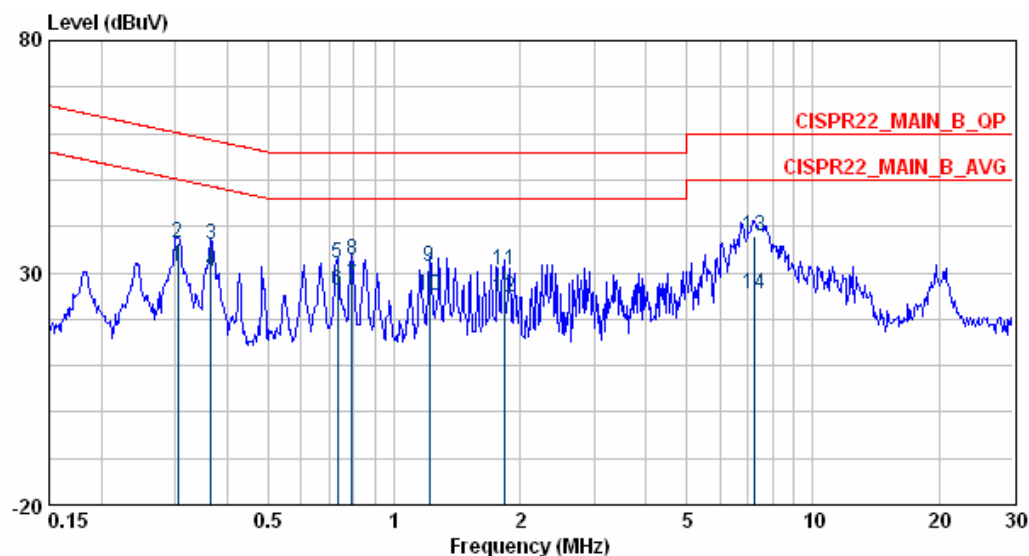
1. Emission Level = Reading Data + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Over Limit = Limit-Emission level.
4. Q.P. and AV. are abbreviation of quasi-peak and average respectively.
5. If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the EUT shall be deemed to meet both limits.

Test Mode : Continuously Receiving, 2480MHz

Frequency Range : 150kHz~30MHz

Phase : Neutral

Tester : CDC



|    | Freq | Level | Factor | Read  | Limit | Over   | Ant |           |         |
|----|------|-------|--------|-------|-------|--------|-----|-----------|---------|
|    | MHz  | dBuV  | dB     | Level | Line  | Limit  | Pos | Pol/Phase | Remark  |
|    |      |       |        | dBuV  | dBuV  | dB     | cm  |           |         |
| 1  | 0.31 | 31.17 | 0.21   | 30.96 | 50.10 | -18.93 | --- | NEUTRAL   | AVERAGE |
| 2  | 0.31 | 36.58 | 0.21   | 36.37 | 60.10 | -23.52 | --- | NEUTRAL   | QP      |
| 3  | 0.37 | 35.89 | 0.25   | 35.64 | 58.61 | -22.72 | --- | NEUTRAL   | QP      |
| 4  | 0.37 | 30.31 | 0.25   | 30.06 | 48.61 | -18.30 | --- | NEUTRAL   | AVERAGE |
| 5  | 0.73 | 32.00 | 0.27   | 31.73 | 56.00 | -24.00 | --- | NEUTRAL   | QP      |
| 6  | 0.73 | 26.31 | 0.27   | 26.04 | 46.00 | -19.69 | --- | NEUTRAL   | AVERAGE |
| 7  | 0.79 | 27.20 | 0.27   | 26.93 | 46.00 | -18.80 | --- | NEUTRAL   | AVERAGE |
| 8  | 0.79 | 32.58 | 0.27   | 32.31 | 56.00 | -23.42 | --- | NEUTRAL   | QP      |
| 9  | 1.22 | 31.24 | 0.30   | 30.94 | 56.00 | -24.76 | --- | NEUTRAL   | QP      |
| 10 | 1.22 | 25.14 | 0.30   | 24.84 | 46.00 | -20.86 | --- | NEUTRAL   | AVERAGE |
| 11 | 1.83 | 30.70 | 0.32   | 30.38 | 56.00 | -25.30 | --- | NEUTRAL   | QP      |
| 12 | 1.83 | 24.51 | 0.32   | 24.19 | 46.00 | -21.49 | --- | NEUTRAL   | AVERAGE |
| 13 | 7.25 | 37.87 | 0.64   | 37.23 | 60.00 | -22.13 | --- | NEUTRAL   | QP      |
| 14 | 7.25 | 25.40 | 0.64   | 24.76 | 50.00 | -24.60 | --- | NEUTRAL   | AVERAGE |

Note:

1. Emission Level = Reading Data + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Over Limit = Limit - Emission level.
4. P.K., Q.P. and AV. are abbreviation of peak, quasi-peak and average respectively.
5. If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the EUT shall be deemed to meet both limits.

## 9 Antenna Requirement

### 9.1 Applied standard

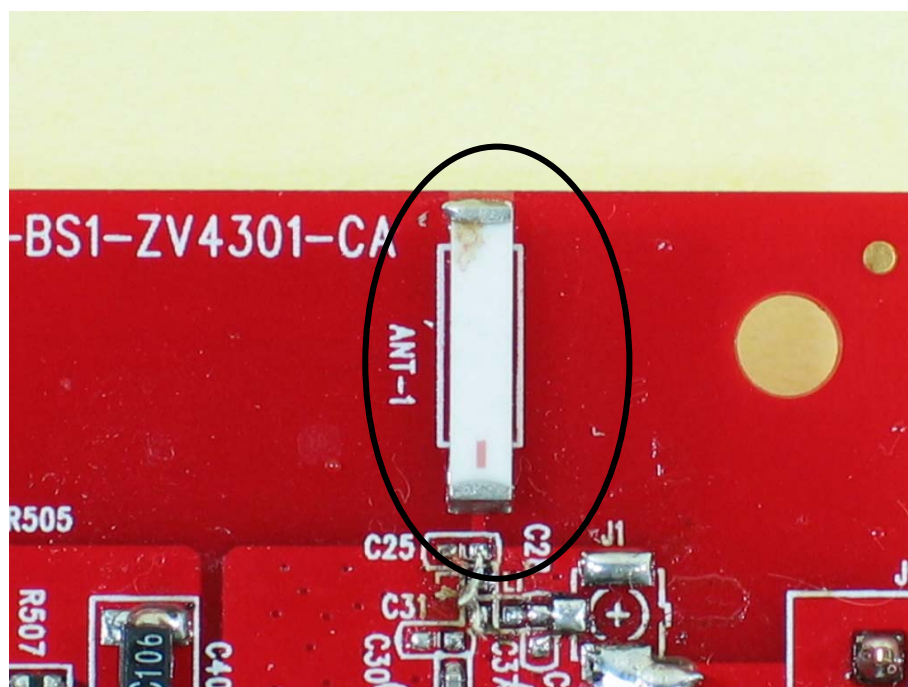
According to 15.247(b)(4), The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi

### 9.2 Antenna Information

This antenna's relative information as follow:

| Brand  | Model         | Frequency Range (MHz) | Gain (dBi) | Comment |
|--------|---------------|-----------------------|------------|---------|
| WHA YU | C815-510005-A | 2400 ~ 2483.5         | 1.8        |         |

Antenna Position:



### 9.3 Result

Gain of the antenn is less than 6dBi.