

APPLICATION FOR CERTIFICATION

On Behalf of

GOOD WAY TECHNOLOGY CO., LTD.

USB TV Dongle

Model No. : WD9007Y1

Brand : Good Way

FCC ID : SW8WD9007

Prepared for

**GOOD WAY TECHNOLOGY CO., LTD.**

3F, No. 135, Lane 235, Pau Chiao Rd., Hsin-Tien City, Taipei Hsien, Taiwan, R.O.C.

Prepared by

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Report Number : ACWE-F1003001

Date of Test : Feb.25~Mar.02, 2010

Date of Report : Mar. 03, 2010

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**TEST REPORT CERTIFICATION**

Applicant : GOOD WAY TECHNOLOGY CO., LTD.  
 Manufacturer : Good Way Electronic (KunShan) Co., Ltd  
 EUT Description : USB TV Dongle  
 FCC ID : SW8WD9007  
 (A) Model No. : WD9007Y1  
 (B) BRAND : Good Way  
 (C) POWER SUPPLY : DC 5.0V (Via PC System)

**Applicable Standards:**

FCC RULES AND REGULATIONS PART 15 SUBPART C, Sep. 2008  
 ANSI C63.4/2003  
 DA 00-705

The device described above was tested by Audix Technology (Wujiang) Co., Ltd. EMC Dept. to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the FCC Part 15 subpart C section 15.205, 15.207, 15.209 & 15.247 limits.

The measurement results are contained in this test report and Audix Technology (Wujiang) Co., Ltd. EMC Dept. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC limits.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Audix Technology (Wujiang) Co., Ltd. EMC Dept.

Date of Test : Feb.25~Mar.02, 2010

Prepared by :

  
 (Candy Tang/Senior Assistant)

Reviewer :

  
 (Kin Lin/Section Manager)

Approved & Authorized Signer :

  
 (Allen Wang/Senior Manager)

# 1. SUMMARY OF MEASUREMENTS AND RESULTS

The EUT have been tested according to the applicable standards as referenced below.

| Description of Test Item                       | Standard                          | Results |
|--|-----------------------------------|---------|
| CONDUCTED EMISSION                             | Section 15.207                    | PASS    |
| RADIATED EMISSION                              | Section 15.209&<br>Section 15.205 | PASS    |
| 20 dB BANDWIDTH                                | Section 15.247(a)(2)              | PASS    |
| MAXIMUM PEAK OUTPUT POWER                      | Section 15.247(b)(3)              | PASS    |
| BAND EDGES                                     | Section 15.247(d)                 | PASS    |
| CARRIER FREQUENCY<br>SEPERATION<br>MEASUREMENT | Section 15.247(a)(1)              | PASS    |
| TIME OF OCCUPANCY<br>MEASUREMENT               | Section 15.247(a)(1)(iii)         | PASS    |
| NUMBER OF HOPPING CHANNELS<br>MEASUREMENT      | Section 15.247(a)(1)(iii)         | PASS    |
| MPE CALCULATION                                | Part 2: Section 2.1091            | PASS    |

**Note:** The EUT was pre-tested under the following modes:

| Test Mode     | USB Orientation      |
|---------------|----------------------|
| <b>Mode A</b> | <b>Horizontal-UP</b> |
| Mode B        | Horizontal-Down      |
| Mode C        | Vertical-Left        |
| Mode D        | Vertical-Right       |

From the above modes, the worst emission level was found in **Mode A**. Therefore only the test data of the mode were recorded in this report individually.

## 2. GENERAL INFORMATION

### 2.1. Description of Device (EUT)

|                           |   |  |
|---------------------------|---|--|
| Description               | : | USB TV Dongle  |
| Model No.                 | : | WD9007Y1   |
| FCC ID                    | : | SW8WD9007  |
| Brand                     | : | Good Way   |
| Applicant                 | : | GOOD WAY TECHNOLOGY CO., LTD.<br>3F, No. 135, Lane 235, Pau Chiao Rd., Hsin-Tien City,<br>Taipei Hsien, Taiwan, R.O.C. |
| Manufacturer              | : | Good Way Electronic (KunShan) Co., Ltd<br>366 North Changjiang Road, Kunshan City, Suzhou, CN                          |
| Radio Technology          | : | FHSS   |
| Antenna Gain              | : | 2.0dBi   |
| Frequency Range           | : | 2400MHz ~ 2483.5MHz  |
| Tested Frequency          | : | 2406MHz (Channel 1)<br>2446MHz (Channel 8)<br>2472MHz (Channel 15)   |
| Date of Receipt of Sample | : | Jan. 28, 2010  |
| Date of Test              | : | Feb.25~Mar.02, 2010  |

### 2.2. Operating Condition of EUT

2.2.1. Set up the EUT as test setup diagram.

2.2.2. Drive the test software “EMI Test for Roger, Version: 6.0.81.69”, set to the test channel, and the PC player sent 1kHz audio signal to Wireless Stereo Headphones though USB TV Dongle (EUT).

### 2.3. Description of Test Facility

|                      |   |  |
|----------------------|---|--|
| Name of Firm         | : | Audix Technology (Wujiang) Co., Ltd. EMC Dept.   |
| Site Location        | : | No. 1289 Jiangxing East Road, the Eastern Part of Wujiang Economic Development Zone<br>Jiangsu China 215200  |
| Test Facilities      | : | <b>No. 1 conducted shielding enclosure</b><br>FCC filing on Sep. 13, 2006<br>Registration No.: 252588<br><b>No.1 10m semi-anechoic chamber</b><br><b>RF Fully anechoic chamber</b> |
| NVLAP Lab Code       | : | 200786-0<br>(NVLAP is a NATA accredited body under Mutual Recognition Agreement)<br>Date of validity : Oct.01, 2010  |
| DAR-Registration No. | : | DAT-P-264/07-00<br>Date of validity : Dec.15, 2012   |

### 2.4. Measurement Uncertainty

| Test Item                        | Uncertainty         |
|----------------------------------|---------------------|
| Conduction Test                  | ±2.81dB             |
| Radiation Test<br>(Distance: 3m) | ±2.90dB(Horizontal) |
|                                  | ±2.90dB (Vertical)  |

Remark: Uncertainty =  $ku_c(y)$

| Test Item                 | Uncertainty                  |
|---------------------------|------------------------------|
| 6 dB Bandwidth            | $\pm 2.8 \times 10^{-6}$ MHz |
| Maximum Peak Output Power | ± 0.33dB                     |
| Band Edges                | ± 0.208dBm                   |
| Power Spectral Density    | ± 0.34dB                     |
| Emission Limitations      | ± 0.208dBm                   |

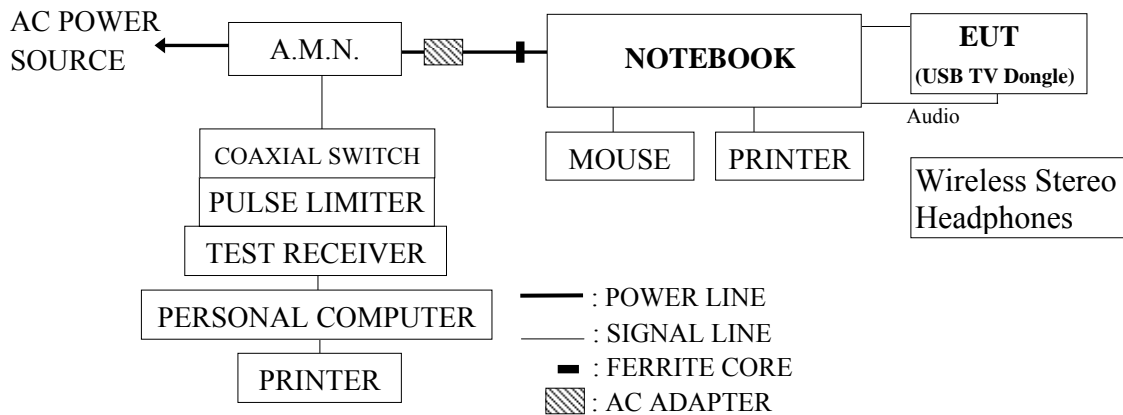
Note: The measurement uncertainty was estimated by CISPR 16-4“Uncertainty in EMC measurements”- First Edition May, 2003.

### 3. CONDUCTED EMISSION MEASUREMENT

#### 3.1. Test Equipment

| Item | Type               | Manufacturer | Model No. | Serial No. | Last Cal.  | Next Cal.  |
|------|--------------------|--------------|-----------|------------|------------|------------|
| 1.   | Test Receiver      | R & S        | ESCI      | 100352     | 2010-01-05 | 2011-01-04 |
| 2.   | A.M.N              | R & S        | ESH2-Z5   | 100153     | 2009-03-25 | 2010-03-24 |
| 3.   | L.I.S.N.           | Kyoritsu     | KNW-407   | 8-1793-4   | 2009-08-11 | 2010-08-10 |
| 4.   | Pulse Limiter      | R&S          | ESH3-Z2   | 100605     | 2009-08-11 | 2010-08-10 |
| 5.   | 50Ω Coaxial Switch | Anritsu      | MP59B     | 6200547934 | 2009-08-11 | 2010-08-10 |
| 6.   | 50ohm Terminator   | N/A          | N/A       | N/A        | 2009-03-25 | 2010-03-24 |

#### 3.2. Block Diagram of Test Setup



#### 3.3. Power line Conducted Emission Limit (FCC Part15 section 15.207)

| Frequency       | Maximum RF Line Voltage |               |
|-----------------|-------------------------|---------------|
|                 | Quasi-Peak Level        | Average Level |
| 150kHz ~ 500kHz | 66 ~ 56 dBμV            | 56 ~ 46 dBμV  |
| 500kHz ~ 5MHz   | 56 dBμV                 | 46 dBμV       |
| 5MHz ~ 30MHz    | 60 dBμV                 | 50 dBμV       |

Remark 1: If the average limit is met when using a Quasi-Peak detector, the EUT shall be deemed to meet both limits and measurement with the average detector is unnecessary.

2: The lower limit applies at the band edges.



### 3.4. Test Procedure

The measuring process is according to ANSI C63.4 and laboratory internal procedure TKC-301-015.

In the conducted emission measurement, the EUT and all peripheral devices were set up on a non-metallic table which was 0.8 meters height above the ground plane, and 0.4 meters far away from the vertical plane. The EUT (installed in PC system) was powered by AC mains through Artificial Mains Network (A.M.N), other peripheral devices were powered by AC mains through the second Line Impedance Stabilization Network (L.I.S.N). For the measurement, the A.M.N measuring port was terminated by a 50Ω measuring equipment and the second L.I.S.N measuring port was terminated by a 50Ω resistive load. All measurements were done on the phase and neutral line of the EUT's power cord. All cables or wires placement were verified to find out the maximum emission.

The bandwidth of measuring receiver was set at 9 kHz.

The required frequency band (0.15 MHz ~ 30 MHz) was pre-scanned with peak detector, the final measurement was measured with quasi-peak detector and average detector. (If the average limit is met when using a quasi-peak detector, the average detector is necessary).

The emission level is calculated automatically by the test system which uses the following equation:

Emission level (dBμV) = Meter-Reading (dBμV) + A.M.N factor (dB) + Cable loss (dB).

(Cable loss include pulse limiter loss)

### 3.5. Conducted Emission Measurement Results

#### **PASSED.**

(All the emissions not reported below are too low against the prescribed limits.)

EUT was performed during this section testing and all the test results are attached in next pages.

Test Date : Mar.02, 2010      Temperature : 21.6      Humidity : 41%

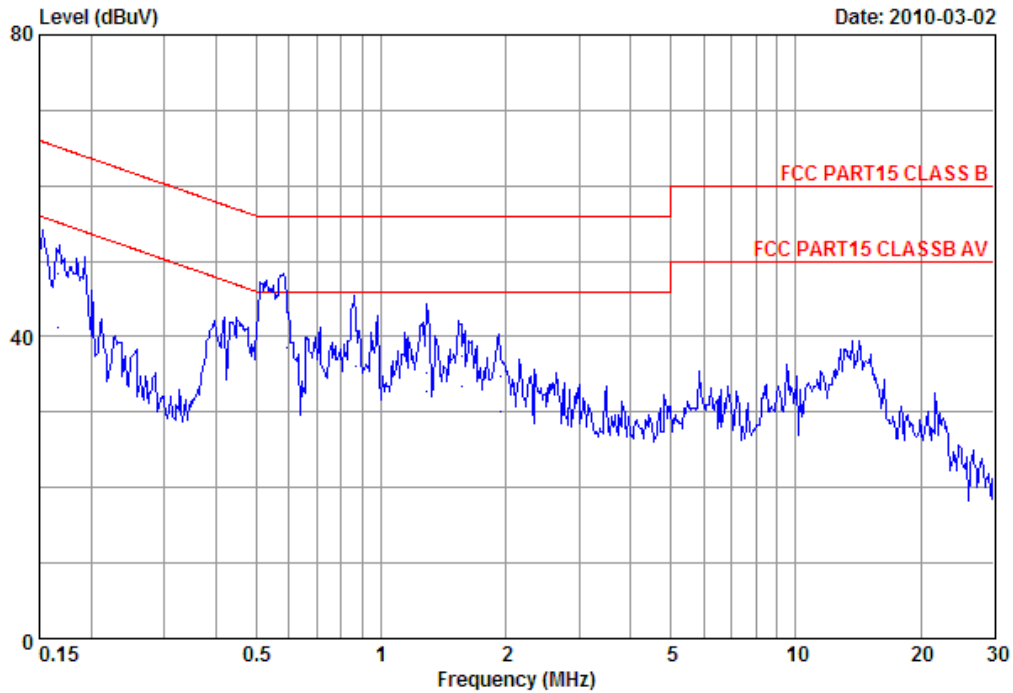
| Test Condition | Reference Test Data No. |      |
|----------------|-------------------------|------|
|                | Neutral                 | Line |
| Working        | # 3                     | # 4  |

NOTE - The worst emission is detected at 0.54 MHz with corrected signal level with QP & AV detector of 39.58 dBμV (limit is 46.00 dBμV), when the Line of the EUT is connected to LISN.



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Data: 3 File: D:\2010 Test Data\Report\G1001001-G1001050\G1001016.EM6 (4) Date: 2010-03-02



Site no. : No.1 Conducted Shielding Enclosure Data No. : 3  
 AMN / LISN : ESH2-Z5 LISN Phase : NEUTRAL  
 Limit : FCC PART15 CLASS B  
 Env. / Ins. : 21.6°C&41%/ESCI Engineer : Kevin  
 EUT : USB TV Dongle  
 M/N : WD9007Y1  
 Power Rating: USB 5V  
 Test Mode : Working  
 Memo :

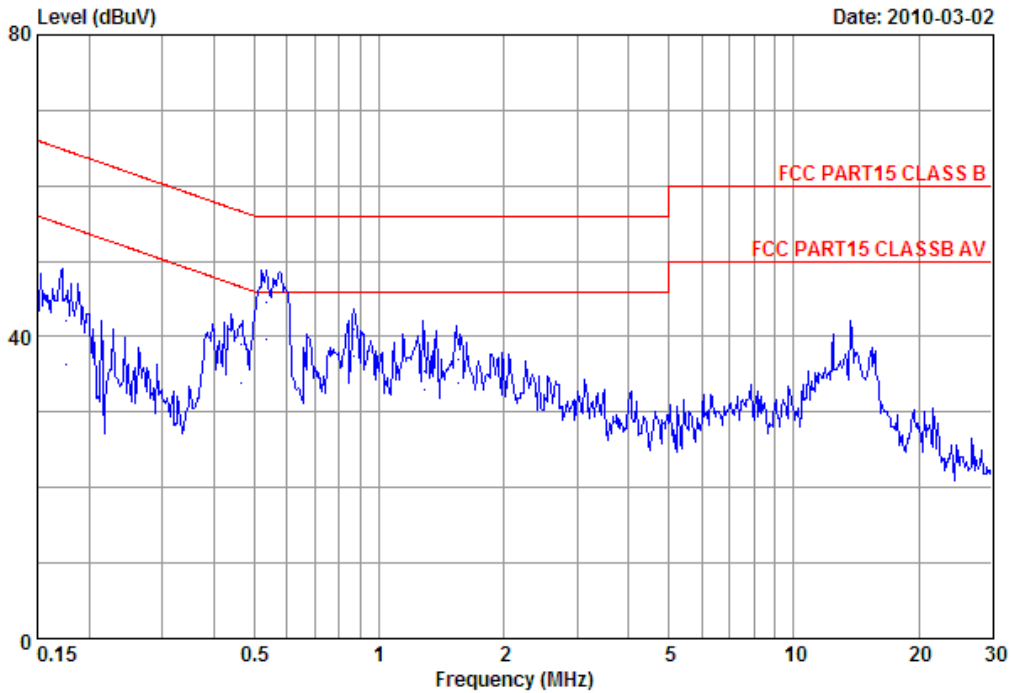
|    | Freq.<br>(MHz) | LISN<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV) | Limits<br>(dBuV) | Margin<br>(dB) | Remark  |
|----|----------------|------------------------|-----------------------|-------------------|-----------------------------|------------------|----------------|---------|
| 1  | 0.17           | 0.14                   | 9.73                  | 38.50             | 48.37                       | 65.18            | 16.81          | QP      |
| 2  | 0.17           | 0.14                   | 9.73                  | 31.40             | 41.27                       | 55.18            | 13.91          | Average |
| 3  | 0.59           | 0.16                   | 9.84                  | 33.20             | 43.20                       | 56.00            | 12.80          | QP      |
| 4  | 0.59           | 0.16                   | 9.84                  | 28.50             | 38.50                       | 46.00            | 7.50           | Average |
| 5  | 0.87           | 0.18                   | 9.82                  | 26.10             | 36.10                       | 46.00            | 9.90           | Average |
| 6  | 0.87           | 0.18                   | 9.82                  | 30.80             | 40.80                       | 56.00            | 15.20          | QP      |
| 7  | 1.29           | 0.18                   | 9.84                  | 25.10             | 35.12                       | 56.00            | 20.88          | QP      |
| 8  | 1.29           | 0.18                   | 9.84                  | 22.80             | 32.82                       | 46.00            | 13.18          | Average |
| 9  | 1.56           | 0.19                   | 9.85                  | 27.50             | 37.54                       | 56.00            | 18.46          | QP      |
| 10 | 1.56           | 0.19                   | 9.85                  | 23.30             | 33.34                       | 46.00            | 12.66          | Average |
| 11 | 1.94           | 0.19                   | 9.88                  | 20.10             | 30.17                       | 46.00            | 15.83          | Average |
| 12 | 1.94           | 0.19                   | 9.88                  | 24.70             | 34.77                       | 56.00            | 21.23          | QP      |

Remarks: 1.Emission Level= LISN Factor + Cable Loss + Reading.  
 2.If the average limit is met when using a quasi-peak detector,  
 the EUT shall be deemed to meet both limits and measurement  
 with average detector is unnecessary.



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Data: 4 File: D:\2010 Test Data\Report\G1001001-G1001050\G1001016.EM6 (4) Date: 2010-03-02



Site no. : No.1 Conducted Shielding Enclosure Data No. : 4  
 AMN / LISN : ESH2-Z5 LISN Phase : LINE  
 Limit : FCC PART15 CLASS B  
 Env. / Ins. : 21.6°C&41%/ESCI Engineer : Kevin  
 EUT : USB TV Dongle  
 M/N : WD9007Y1  
 Power Rating: USB 5V  
 Test Mode : Working  
 Memo :

|    | Freq.<br>(MHz) | LISN<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV) | Limits<br>(dBuV) | Margin<br>(dB) | Remark  |
|----|----------------|------------------------|-----------------------|-------------------|-----------------------------|------------------|----------------|---------|
| 1  | 0.18           | 0.10                   | 9.72                  | 32.30             | 42.12                       | 64.67            | 22.55          | QP      |
| 2  | 0.18           | 0.10                   | 9.72                  | 26.40             | 36.22                       | 54.67            | 18.45          | Average |
| 3  | 0.46           | 0.14                   | 9.84                  | 23.99             | 33.97                       | 46.64            | 12.67          | Average |
| 4  | 0.46           | 0.14                   | 9.84                  | 28.99             | 38.97                       | 56.64            | 17.67          | QP      |
| 5  | 0.54           | 0.14                   | 9.84                  | 29.60             | 39.58                       | 46.00            | 6.42           | Average |
| 6  | 0.54           | 0.14                   | 9.84                  | 34.60             | 44.58                       | 56.00            | 11.42          | QP      |
| 7  | 0.87           | 0.15                   | 9.82                  | 31.10             | 41.07                       | 56.00            | 14.93          | QP      |
| 8  | 0.87           | 0.15                   | 9.82                  | 27.50             | 37.47                       | 46.00            | 8.53           | Average |
| 9  | 1.29           | 0.16                   | 9.84                  | 22.89             | 32.89                       | 46.00            | 13.11          | Average |
| 10 | 1.29           | 0.16                   | 9.84                  | 25.49             | 35.49                       | 46.00            | 10.51          | Average |
| 11 | 1.56           | 0.16                   | 9.85                  | 23.91             | 33.92                       | 46.00            | 12.08          | Average |
| 12 | 1.56           | 0.16                   | 9.85                  | 27.01             | 37.02                       | 56.00            | 18.98          | QP      |

Remarks: 1.Emission Level= LISN Factor + Cable Loss + Reading.  
 2.If the average limit is met when using a quasi-peak detector,  
 the EUT shall be deemed to meet both limits and measurement  
 with average detector is unnecessary.

## 4. RADIATED EMISSION MEASUREMENT

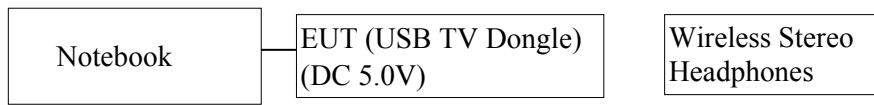
### 4.1. Test Equipment

The following test equipment was used during the radiated emission measurement:

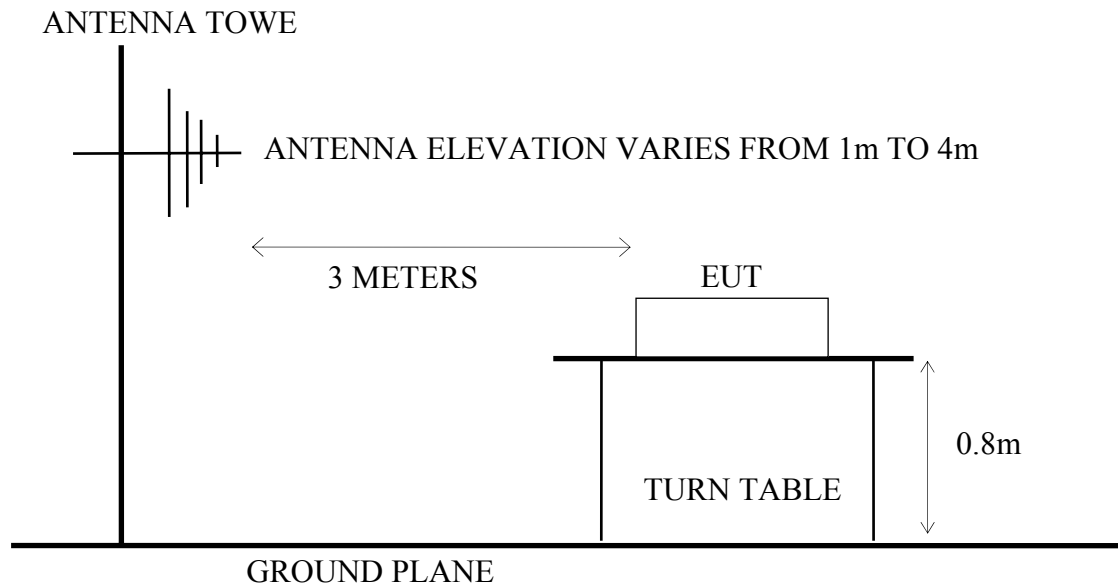
| Item | Type               | Manufacturer | Model No. | Serial No.            | Last Cal.  | Next Cal.  |
|------|--------------------|--------------|-----------|-----------------------|------------|------------|
| 1.   | Preamplifier       | Agilent      | 8447D     | 2944A10921            | 2009-08-14 | 2010-08-13 |
| 2.   | Spectrum Analyzer  | Agilent      | E7405A    | MY45107604            | 2009-03-25 | 2010-03-24 |
| 3.   | Bi-log Antenna     | Schaffner    | CBL6112D  | 22250                 | 2009-06-10 | 2010-06-09 |
| 4.   | Test Receiver      | R&S          | ESCI      | 100361                | 2010-01-05 | 2011-01-04 |
| 5.   | 50Ω Coaxial Switch | Anritsu      | MP59B     | 6200547935            | 2009-08-14 | 2010-08-13 |
| 6.   | RF Cable #1        | Yuhang CSYH  | cable-3m  | 001<br>(Length: 0.5m) | 2009-08-14 | 2010-08-13 |
| 7.   | RF Cable #2        | Yuhang CSYH  | cable-3m  | 002<br>(Length: 0.5m) | 2009-08-14 | 2010-08-13 |
| 8.   | RF Cable #3        | Yuhang CSYH  | cable-3m  | 003<br>(Length: 3.0m) | 2009-08-14 | 2010-08-13 |

### 4.2. Block Diagram of Test Setup (At 3M Semi-Anechoic chamber)

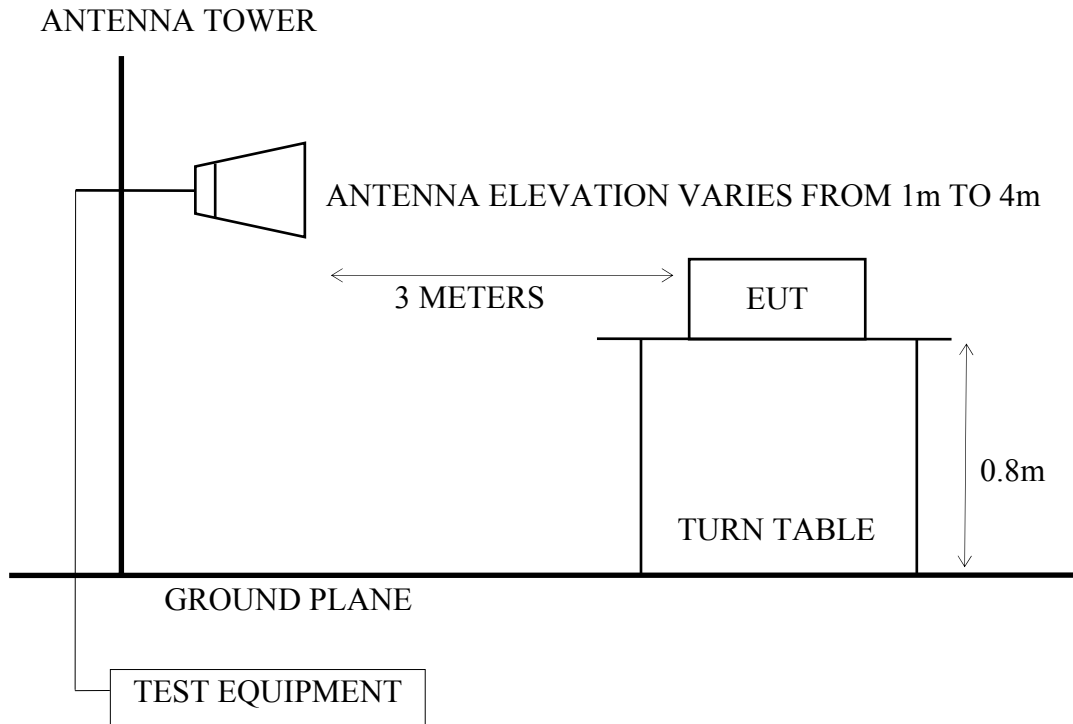
#### 4.2.1. Block Diagram of Test Setup between EUT and simulators



#### 4.2.2. 3m Semi-Anechoic Chamber Setup Diagram (For 30-1000MHz)



4.2.3. 3m Semi-Anechoic Chamber Setup Diagram (For above 1GHz)



4.3. Radiated Emission Limits (FCC Part15 section 15.209)

4.3.1. §15.109/CISPR 22, Class B Radiated Emission Limits

| FREQUENCY (MHz) | DISTANCE (Meters) | FIELD STRENGTHS LIMITS (dBμV/m) |
|-----------------|-------------------|---------------------------------|
| 30 ~ 230        | 3                 | 40                              |
| 230 ~ 1000      | 3                 | 47                              |

- Note :
- (1) The tighter limit applies at the edge between two frequency bands.
  - (2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the E.U.T.

4.3.2. §15.109/CISPR 22, Class B Radiated Emission Limits

| Frequency MHz | Distance Meters | Field Strengths Limits                      |        |
|---------------|-----------------|---|--------|
|               |                 | μV/m  | dBμV/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   |
| Above 1000    | 3               | 74.0 dBμV/m (Peak)<br>54.0 dBμV/m (Average) |        |

- Remark :
- (1) Emission level (dBμV/m) = 20 log Emission level (μV/m)
  - (2) The tighter limit applies at the edge between two frequency bands.
  - (3) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
  - (4) The limits in this table are based on CFR 47 Part 15.205(a)(b) and Part 15.209 (a).
  - (5) The over 1GHz limit, FCC limit is used based on CFR 47 Part 15.35 (b) and Part 15.205(b) & Part 15.209(e) and Part 15.207(c).

#### 4.4. Test Procedure

The measuring process is according to ANSI C63.4 and laboratory internal procedure TKC-301-024.

In the radiated disturbance measurement, the EUT and all simulators were set up on a non-metallic turn table which was 0.8 meters above the ground plane. Measurement distance between EUT and receiving antennas was set at 10 meters at 30MHz~1000MHz and 3 meters at 1000MHz~6000MHz. The specified distance is the distance between the antennas and the closest periphery of EUT. During the radiated measurement, the EUT was rotated 360° and receiving antennas were moved from 1 ~ 4 meters for finding maximum emission. Two receiving antennas were used for both horizontal and vertical polarization detection for 30MHz~1GHz, One receiving antennas was used for both horizontal and vertical polarization detection for 1GHz~6GHz (the absorbing material was added when testing of 1GHz~6GHz was done). All cables or wires placement were verified to find out the maximum emission.

The bandwidth of measuring receiver (or spectrum analyzer) was set to:

RBW (120 kHz), VBW (300 kHz) for QP detector below 1GHz  
 RBW (1 MHz), VBW (1MHz) for Peak detector above 1GHz  
 RBW (1 MHz), VBW (10 Hz) for Average detector above 1GHz

which is defined against CISPR16-1-1 6.2.1 section.

The required frequency band (30 MHz ~ 6000 MHz) was pre-scanned with peak detector; all final measurements were measured with quasi-peak detector below 1GHz, measured with average detector and peak detector above 1GHz.

The emission level is calculated automatically by the test system which uses the following equation:

1. For 30-1000MHz measurement:  

$$\text{Emission Level (dB}\mu\text{V/m)} = \text{Meter-Reading (dB}\mu\text{V)} + \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)}$$
2. For 1000-6000MHz measurement:  

$$\text{Emission Level (dB}\mu\text{V/m)} = \text{Meter-Reading (dB}\mu\text{V)} + \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} - \text{Pre-amplifier factor (dB}\mu\text{V)}$$

4.5. Test Results

**PASSED.** All the emissions not reported below are too low against the official limits.

Test Date : Mar. 01, 2010                      Temperature : 20.7                      Humidity : 44%

**For Frequency Range 30MHz~1000MHz:**

The EUT with following test modes were performed during this section testing and all the test results are listed in section 4.6.1.

| No. | Test Unit   | Test Mode and Frequency |                | Reference Test Data No. |          |
|-----|-------------|-------------------------|----------------|-------------------------|----------|
|     |             |                         |                | Horizontal              | Vertical |
| 1.  | System      | Working                 |                | # 1                     | # 2      |
| 2.  | Transmitter | Transmitting            | 2406MHz (CH1)  | # 3                     | # 4      |
| 3.  |             |                         | 2442MHz (CH8)  | # 5                     | # 6      |
| 4.  |             |                         | 2472MHz (CH15) | # 7                     | # 8      |

\* Above all final readings were measured with Quasi-Peak detector.

**For Frequency above 1GHz:**

The EUT with following test modes were performed during this section testing and all the test results are listed in section 4.6.2.

| No. | Test Mode and Frequency |                |
|-----|-------------------------|----------------|
| 1.  | Transmitting            | 2406MHz (CH1)  |
| 2.  |                         | 2442MHz (CH8)  |
| 3.  |                         | 2472MHz (CH15) |

**For Restricted Bands:**

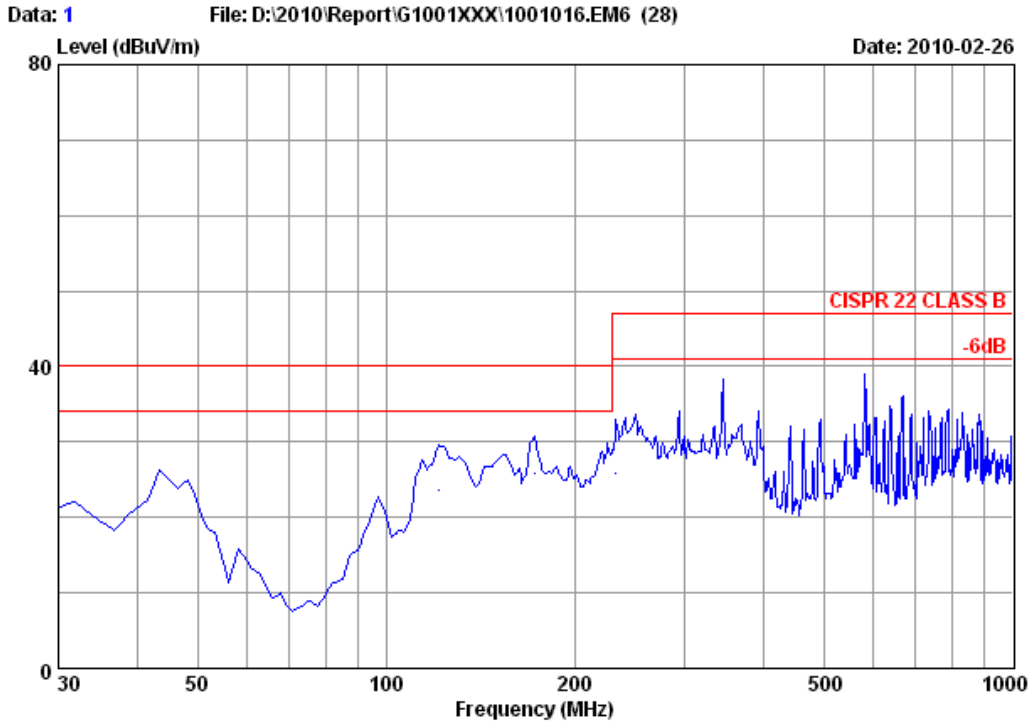
The EUT was tested in restricted bands and all the test results are listed in section 3.6.3. (The restricted bands defined in part 15.205(a))

| No. | Test Mode and Frequency |                    | Reference Test Data No. |            |
|-----|-------------------------|--------------------|-------------------------|------------|
|     |                         |                    | Horizontal              | Vertical   |
| 1.  | Transmitting            | 2403.328MHz (CH1)  | # 13, # 14              | # 15, # 16 |
| 2.  |                         | 2479.104MHz (CH15) | # 9, # 10               | # 11, # 12 |

4.5.1. Radiated Emission Measurement Results



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Site NO. : 3M Semi-Anechoic Chamber Data NO. : 1  
 Dis. / Ant. : 3m BILOG 6112D(22250) Ant. pol. : HORIZONTAL  
 Limit : CISPR 22 CLASS B  
 Env. / Ins. : 18.7\*C&45%/ESCI Engineer : Leesen  
 EUT : USB TV Dongle  
 M/N : WD9007Y1  
 Power Rating : DC 5V by USB  
 Test Mode : working  
 Memo :

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 121.18         | 12.10                    | 0.95                  | 10.49             | 23.54                         | 40.00              | 16.46          | QP     |
| 2 | 172.59         | 8.77                     | 1.08                  | 15.90             | 25.75                         | 40.00              | 14.25          | QP     |
| 3 | 231.76         | 10.60                    | 1.46                  | 13.89             | 25.95                         | 47.00              | 21.05          | QP     |
| 4 | 344.28         | 14.23                    | 1.70                  | 17.48             | 33.41                         | 47.00              | 13.59          | QP     |
| 5 | 581.93         | 18.32                    | 2.33                  | 13.44             | 34.09                         | 47.00              | 12.91          | QP     |
| 6 | 667.29         | 18.70                    | 2.64                  | 8.69              | 30.03                         | 47.00              | 16.97          | QP     |

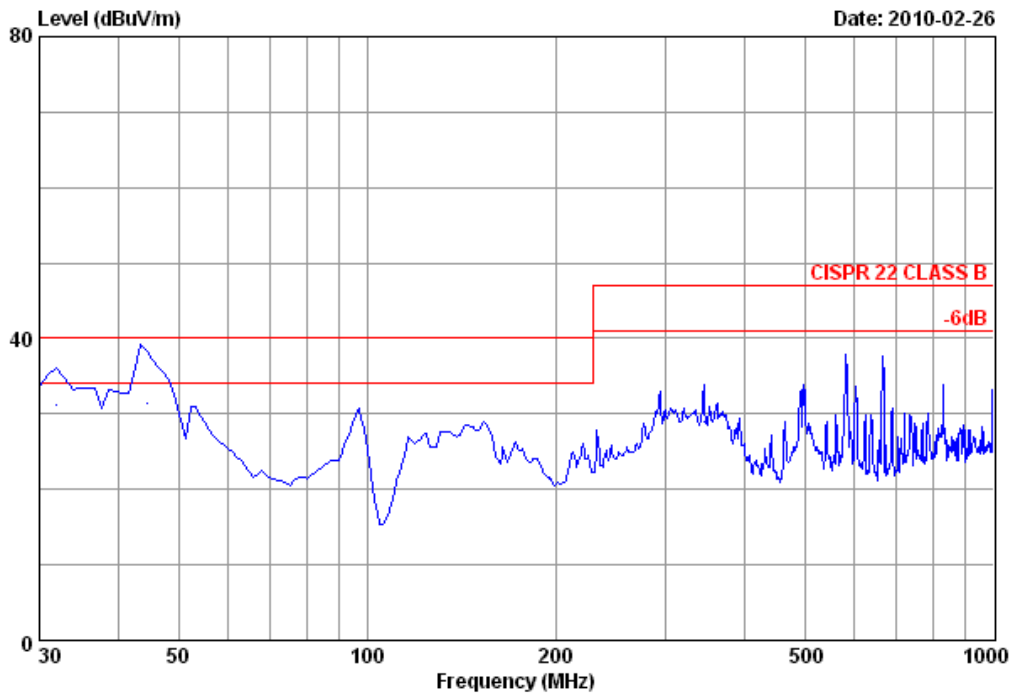
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.





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Data: 2 File: D:\2010\Report\G1001XXX\1001016.EM6 (28) Date: 2010-02-26



Site NO. : 3M Semi-Anechoic Chamber Data NO. : 2  
 Dis. / Ant. : 3m BILOG 6112D(22250) Ant. pol. : VERTICAL  
 Limit : CISPR 22 CLASS B  
 Env. / Ins. : 18.7\*C&45%/ESCI Engineer : Leesen  
 EUT : USB TV Dongle  
 M/N : WD9007Y1  
 Power Rating : DC 5V by USB  
 Test Mode : working  
 Memo :

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 31.94          | 19.20                    | 0.42                  | 11.56             | 31.18                         | 40.00              | 8.82           | QP     |
| 2 | 44.70          | 12.09                    | 0.55                  | 18.70             | 31.34                         | 40.00              | 8.66           | QP     |
| 3 | 344.28         | 14.23                    | 1.70                  | 12.95             | 28.88                         | 47.00              | 18.12          | QP     |
| 4 | 581.93         | 18.32                    | 2.33                  | 13.22             | 33.87                         | 47.00              | 13.13          | QP     |
| 5 | 664.38         | 18.70                    | 2.63                  | 12.35             | 33.68                         | 47.00              | 13.32          | QP     |
| 6 | 829.28         | 20.67                    | 2.84                  | 5.26              | 28.77                         | 47.00              | 18.23          | QP     |

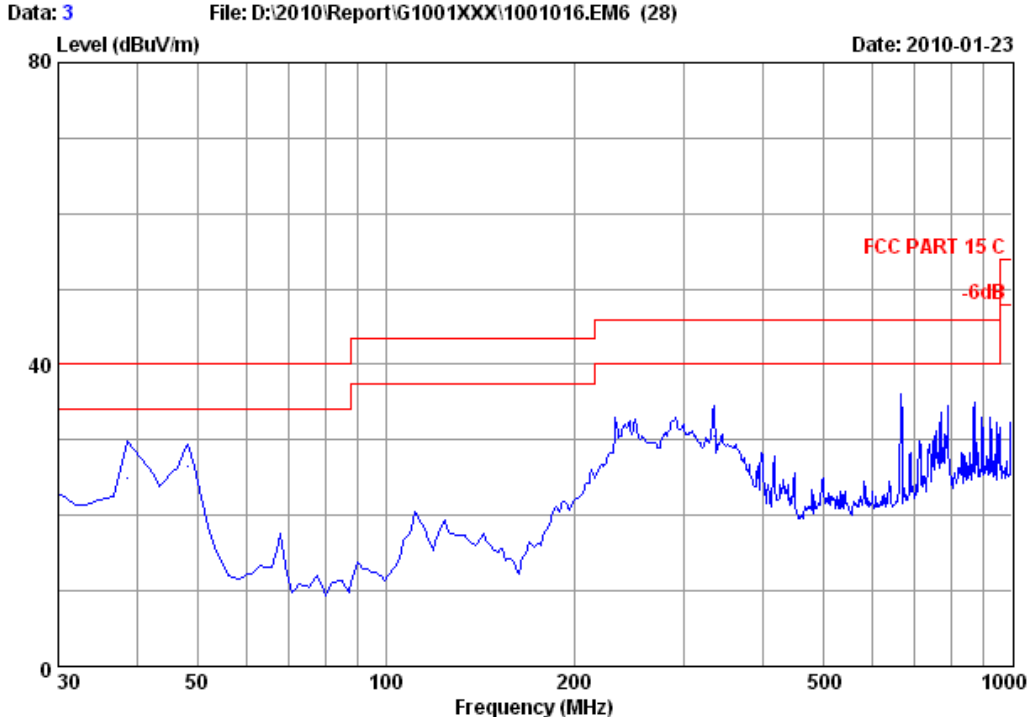
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

4.5.2. Spurious Emission Measurement Results in restricted band (FCC Part 15, 15.205)

4.5.2.1. 30MHz~ 1000MHz Frequency Range Measurement Result



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Site NO. : 3M Semi-Anechoic Chamber Data NO. : 3  
 Dis. / Ant. : 3m BIL 6112D-22250 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 C  
 Env. / Ins. : 23.6C&45%/ESCI Engineer : Leesen  
 EUT : USB TV Dongle  
 M/N : WD9007Y1  
 Power Rating : DC5V by USB  
 Test Mode : TX  
 Memo : CH1

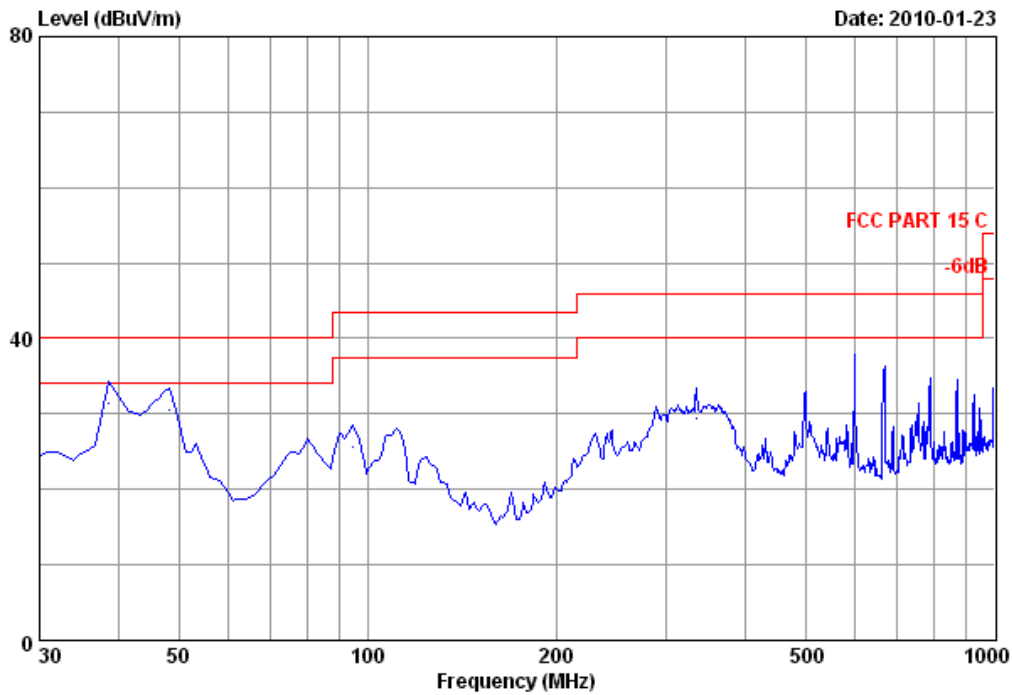
|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 38.73          | 0.00                     | 0.00                  | 24.95             | 24.95                         | 40.00              | 15.05          | QP     |
| 2 | 48.43          | 0.00                     | 0.00                  | 26.47             | 26.47                         | 40.00              | 13.53          | QP     |
| 3 | 232.73         | 0.00                     | 0.00                  | 30.08             | 30.08                         | 46.00              | 15.92          | QP     |
| 4 | 334.58         | 0.00                     | 0.00                  | 30.60             | 30.60                         | 46.00              | 15.40          | QP     |
| 5 | 664.38         | 0.00                     | 0.00                  | 33.05             | 33.05                         | 46.00              | 12.95          | QP     |
| 6 | 870.99         | 0.00                     | 0.00                  | 31.07             | 31.07                         | 46.00              | 14.93          | QP     |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 4 File: D:\2010\Report\G1001XXX\1001016.EM6 (28)



Site NO. : 3M Semi-Anechoic Chamber Data NO. : 4  
 Dis. / Ant. : 3m BIL 6112D-22250 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 C  
 Env. / Ins. : 23.6C&45%/ESCI Engineer : Leesen  
 EUT : USB TV Dongle  
 M/N : WD9007Y1  
 Power Rating : DC5V by USB  
 Test Mode : TX  
 Memo : CH1

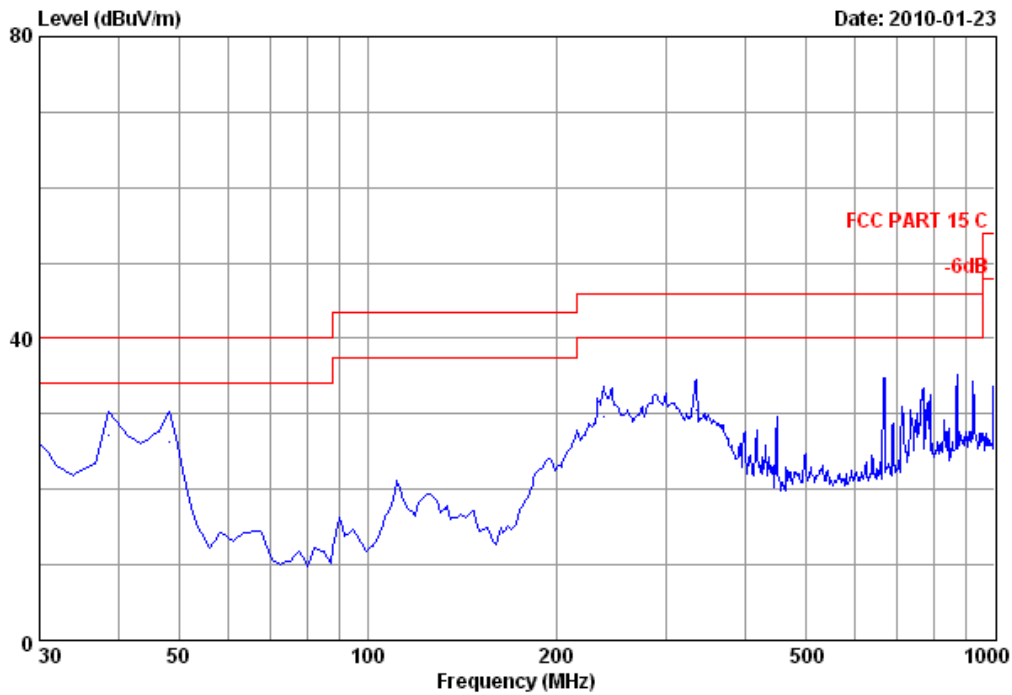
|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 38.73          | 0.00                     | 0.00                  | 31.43             | 31.43                         | 40.00              | 8.57           | QP     |
| 2 | 48.43          | 0.00                     | 0.00                  | 30.48             | 30.48                         | 40.00              | 9.52           | QP     |
| 3 | 94.99          | 0.00                     | 0.00                  | 25.59             | 25.59                         | 43.50              | 17.91          | QP     |
| 4 | 334.58         | 0.00                     | 0.00                  | 29.40             | 29.40                         | 46.00              | 16.60          | QP     |
| 5 | 599.39         | 0.00                     | 0.00                  | 34.90             | 34.90                         | 46.00              | 11.10          | QP     |
| 6 | 667.29         | 0.00                     | 0.00                  | 32.38             | 32.38                         | 46.00              | 13.62          | QP     |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 5 File: D:\2010\Report\G1001XXX\1001016.EM6 (28)



Site NO. : 3M Semi-Anechoic Chamber Data NO. : 5  
 Dis. / Ant. : 3m BIL 6112D-22250 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 C  
 Env. / Ins. : 23.6C&45%/ESCI Engineer : Leesen  
 EUT : USB TV Dongle  
 M/N : WD9007Y1  
 Power Rating : DC5V by USB  
 Test Mode : TX  
 Memo : CH8

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 38.73          | 0.00                     | 0.00                  | 27.21             | 27.21                         | 40.00              | 12.79          | QP     |
| 2 | 48.43          | 0.00                     | 0.00                  | 26.37             | 26.37                         | 40.00              | 13.63          | QP     |
| 3 | 237.58         | 0.00                     | 0.00                  | 29.65             | 29.65                         | 46.00              | 16.35          | QP     |
| 4 | 334.58         | 0.00                     | 0.00                  | 30.55             | 30.55                         | 46.00              | 15.45          | QP     |
| 5 | 667.29         | 0.00                     | 0.00                  | 31.75             | 31.75                         | 46.00              | 14.25          | QP     |
| 6 | 870.99         | 0.00                     | 0.00                  | 31.19             | 31.19                         | 46.00              | 14.81          | QP     |

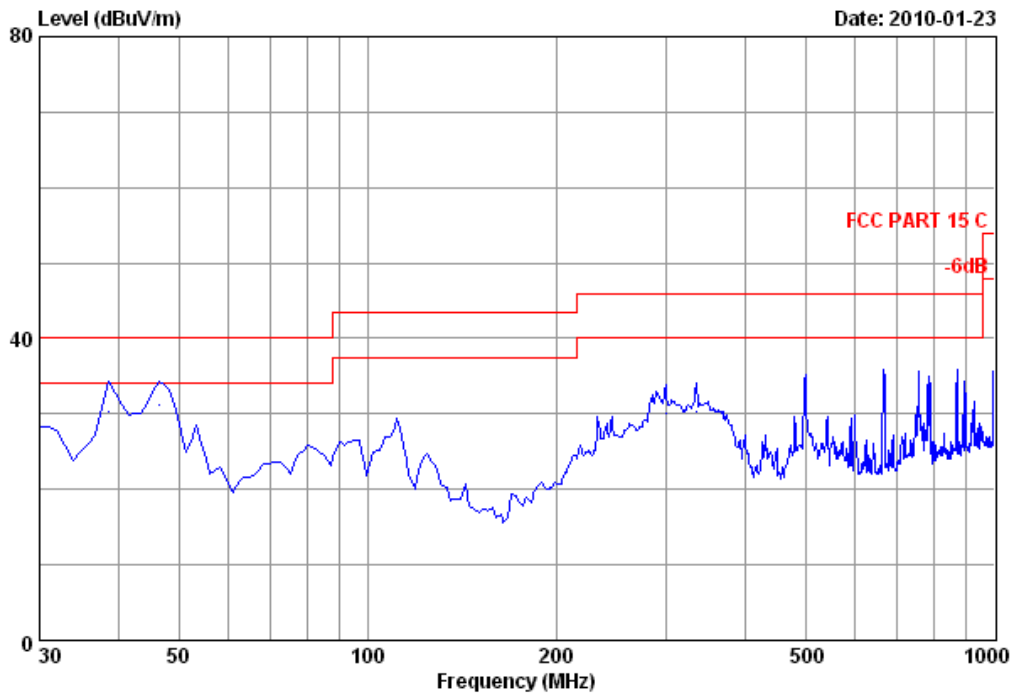
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 6 File: D:\2010\Report\G1001XXX\1001016.EM6 (28)

Date: 2010-01-23



Site NO. : 3M Semi-Anechoic Chamber Data NO. : 6  
 Dis. / Ant. : 3m BIL 6112D-22250 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 C  
 Env. / Ins. : 23.6C&45%/ESCI Engineer : Leesen  
 EUT : USB TV Dongle  
 M/N : WD9007Y1  
 Power Rating : DC5V by USB  
 Test Mode : TX  
 Memo : CH8

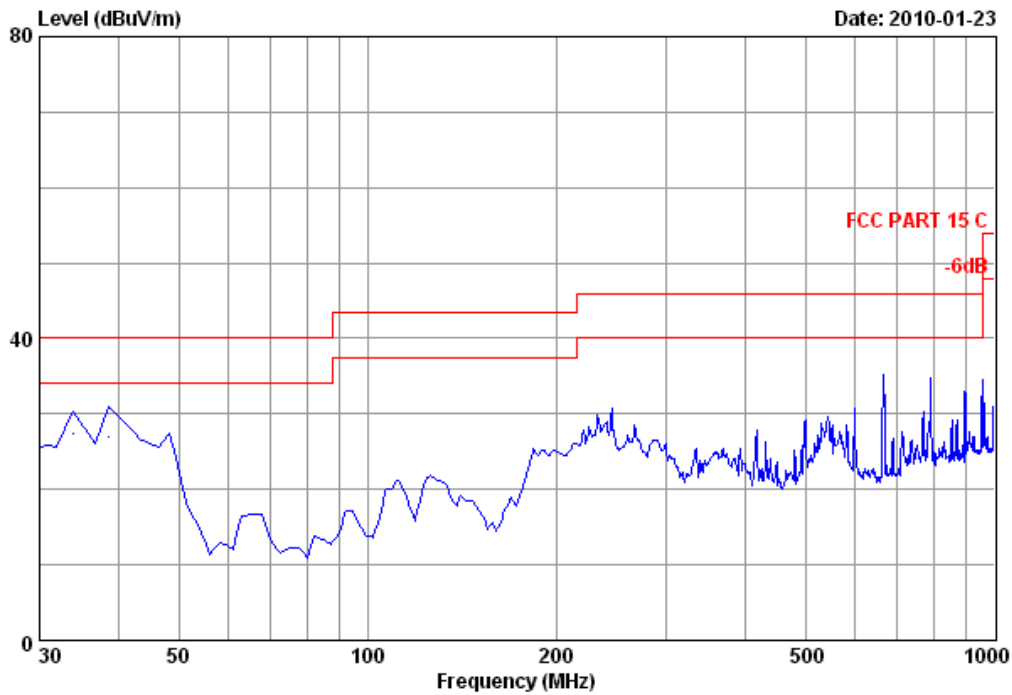
|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 38.73          | 0.00                     | 0.00                  | 30.25             | 30.25                         | 40.00              | 9.75           | QP     |
| 2 | 46.49          | 0.00                     | 0.00                  | 31.30             | 31.30                         | 40.00              | 8.70           | QP     |
| 3 | 298.69         | 0.00                     | 0.00                  | 29.98             | 29.98                         | 46.00              | 16.02          | QP     |
| 4 | 334.58         | 0.00                     | 0.00                  | 30.20             | 30.20                         | 46.00              | 15.80          | QP     |
| 5 | 499.48         | 0.00                     | 0.00                  | 31.18             | 31.18                         | 46.00              | 14.82          | QP     |
| 6 | 664.38         | 0.00                     | 0.00                  | 31.92             | 31.92                         | 46.00              | 14.08          | QP     |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 7 File: D:\2010\Report\G1001XXX\1001016.EM6 (28)



Site NO. : 3M Semi-Anechoic Chamber Data NO. : 7  
 Dis. / Ant. : 3m BIL 6112D-22250 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 C  
 Env. / Ins. : 23.6C&45%/ESCI Engineer : Leesen  
 EUT : USB TV Dongle  
 M/N : WD9007Y1  
 Power Rating : DC5V by USB  
 Test Mode : TX  
 Memo : CH15

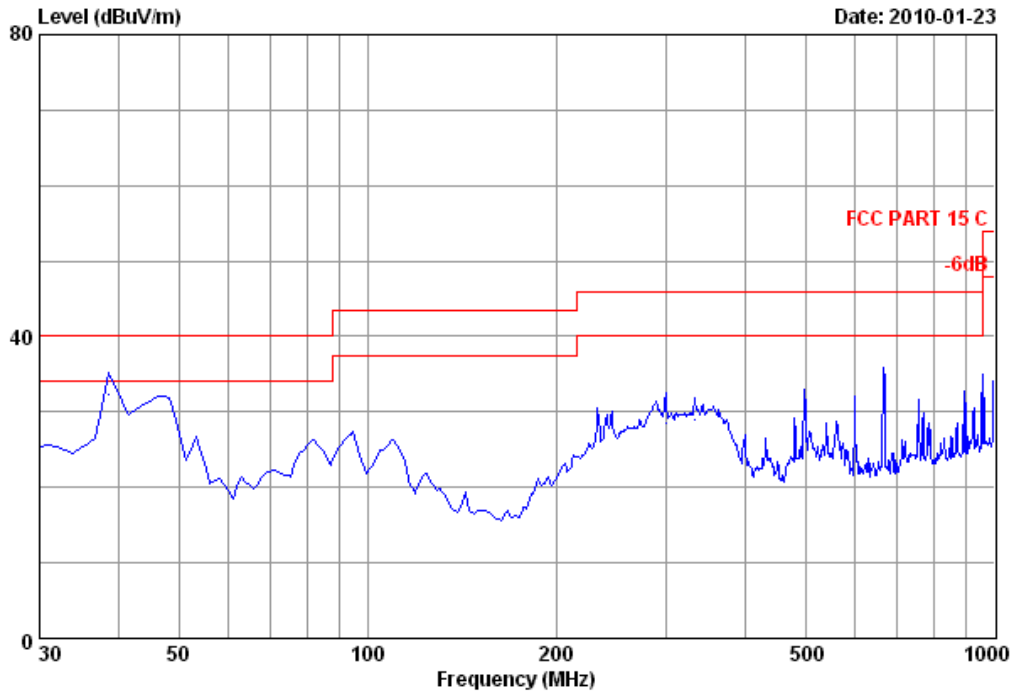
|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 33.88          | 0.00                     | 0.00                  | 27.33             | 27.33                         | 40.00              | 12.67          | QP     |
| 2 | 38.73          | 0.00                     | 0.00                  | 27.05             | 27.05                         | 40.00              | 12.95          | QP     |
| 3 | 245.34         | 0.00                     | 0.00                  | 27.79             | 27.79                         | 46.00              | 18.21          | QP     |
| 4 | 664.38         | 0.00                     | 0.00                  | 31.15             | 31.15                         | 46.00              | 14.85          | QP     |
| 5 | 790.48         | 0.00                     | 0.00                  | 31.78             | 31.78                         | 46.00              | 14.22          | QP     |
| 6 | 955.38         | 0.00                     | 0.00                  | 30.65             | 30.65                         | 46.00              | 15.35          | QP     |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



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Data: 8 File: D:\2010\Report\G1001XXX\1001016.EM6 (28) Date: 2010-01-23



Site NO. : 3M Semi-Anechoic Chamber Data NO. : 8  
 Dis. / Ant. : 3m BIL 6112D-22250 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 C  
 Env. / Ins. : 23.6C&45%/ESCI Engineer : Leesen  
 EUT : USB TV Dongle  
 M/N : WD9007Y1  
 Power Rating : DC5V by USB  
 Test Mode : TX  
 Memo : CH15

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 38.73          | 0.00                     | 0.00                  | 32.24             | 32.24                         | 40.00              | 7.76           | QP     |
| 2 | 298.69         | 0.00                     | 0.00                  | 28.58             | 28.58                         | 46.00              | 17.42          | QP     |
| 3 | 332.64         | 0.00                     | 0.00                  | 28.86             | 28.86                         | 46.00              | 17.14          | QP     |
| 4 | 497.54         | 0.00                     | 0.00                  | 28.88             | 28.88                         | 46.00              | 17.12          | QP     |
| 5 | 664.38         | 0.00                     | 0.00                  | 31.88             | 31.88                         | 46.00              | 14.12          | QP     |
| 6 | 955.38         | 0.00                     | 0.00                  | 31.88             | 31.88                         | 46.00              | 14.12          | QP     |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

4.5.2.2. Above 1GHz Frequency Range Measurement Results

Data of Test: Mar. 01, 2010 Ambient temperature: 20.7 Relative humidity: 44%  
 Test Frequency band: TX CH1 2406MHz

Horizontal

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Preamp Factor (dB) | Cable Loss (dB) | Limit Line (dBuV/m) | Level (dBuV/m) | Margin (dB) | Remark  |
|-----------------|-------------------|-----------------------|--------------------|-----------------|---------------------|----------------|-------------|---------|
| 4812            | 38.43             | 34.68                 | 33.4               | 10.46           | 74                  | 50.17          | 23.83       | Peak    |
| 7218            | 38.31             | 38.23                 | 34.28              | 13.6            | 74                  | 55.86          | 18.14       |         |
| 9624            | 37.24             | 38.78                 | 35.55              | 15.22           | 74                  | 55.69          | 18.31       |         |
| 4812            | 30.34             | 34.68                 | 33.4               | 10.46           | 54                  | 42.08          | 11.92       | Average |
| 7218            | 32.64             | 38.23                 | 34.28              | 13.6            | 54                  | 50.19          | 3.81        |         |
| 9624            | 30.86             | 38.78                 | 35.55              | 15.22           | 54                  | 49.31          | 4.69        |         |

Remark : 1. Emission Level = Antenna factor + Cable Loss + Meter Reading.  
 2. Measurement was up to 25GHz, but the emissions level were too low against the official limit and not report.

Vertical

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Preamp Factor (dB) | Cable Loss (dB) | Limit Line (dBuV/m) | Level (dBuV/m) | Margin (dB) | Remark  |
|-----------------|-------------------|-----------------------|--------------------|-----------------|---------------------|----------------|-------------|---------|
| 4812            | 37.04             | 34.68                 | 33.4               | 10.46           | 74                  | 48.78          | 25.22       | Peak    |
| 7218            | 37.73             | 38.23                 | 34.28              | 13.6            | 74                  | 55.28          | 18.72       |         |
| 9624            | 36.98             | 38.78                 | 35.55              | 15.22           | 74                  | 55.43          | 18.57       |         |
| 4812            | 32.55             | 34.68                 | 33.4               | 10.46           | 54                  | 44.29          | 9.71        | Average |
| 7218            | 33.48             | 38.23                 | 34.28              | 13.6            | 54                  | 51.03          | 2.97        |         |
| 9624            | 32.55             | 38.78                 | 35.55              | 15.22           | 54                  | 51             | 3           |         |

Remark : 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading.  
 2. Measurement was up to 25GHz, but the emissions level were too low against the official limit and not report.

4.5.2.3. Data of Test: Mar. 01, 2010 Ambient temperature: 20.7 Relative humidity: 44%  
 Test Frequency band: TX CH8 2446MHz

Horizontal

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Preamp Factor (dB) | Cable Loss (dB) | Limit Line (dBuV/m) | Level (dBuV/m) | Margin (dB) | Remark  |
|-----------------|-------------------|-----------------------|--------------------|-----------------|---------------------|----------------|-------------|---------|
| 4876            | 44.46             | 35.23                 | 33.4               | 10.45           | 74                  | 56.74          | 17.26       | Peak    |
| 7338            | 36.85             | 38.57                 | 34.38              | 13.65           | 74                  | 54.69          | 19.31       |         |
| 9784            | 36.37             | 38.61                 | 35.49              | 15.35           | 74                  | 54.84          | 19.16       |         |
| 4891.5          | 39.59             | 35.37                 | 33.4               | 10.45           | 54                  | 52.01          | 1.99        | Average |
| 7338            | 32.15             | 38.57                 | 34.38              | 13.65           | 54                  | 49.99          | 4.01        |         |
| 9784            | 31.98             | 38.61                 | 35.49              | 15.35           | 54                  | 50.45          | 3.55        |         |

Remark : 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading.  
 2. Measurement was up to 25GHz, but the emissions level were too low against the official limit and not report.



Vertical

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Preamp Factor (dB) | Cable Loss (dB) | Limit Line (dBuV/m) | Level (dBuV/m) | Margin (dB) | Remark  |
|-----------------|-------------------|-----------------------|--------------------|-----------------|---------------------|----------------|-------------|---------|
| 4892            | 37.39             | 35.37                 | 33.4               | 10.45           | 74                  | 49.81          | 24.19       | Peak    |
| 7338            | 36.53             | 38.57                 | 34.38              | 13.65           | 74                  | 54.37          | 19.63       |         |
| 9788            | 35.93             | 38.61                 | 35.48              | 15.35           | 74                  | 54.41          | 19.59       |         |
| 4892            | 28.87             | 35.37                 | 33.4               | 10.45           | 54                  | 41.29          | 12.71       | Average |
| 7338            | 30.42             | 38.57                 | 34.38              | 13.65           | 54                  | 48.26          | 5.74        |         |
| 9788            | 28.78             | 38.61                 | 35.48              | 15.35           | 54                  | 47.26          | 6.74        |         |

Remark : 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading.

2. Measurement was up to 25GHz, but the emissions level were too low against the official limit and not report.

4.5.2.4. Data of Test: Mar. 01, 2010 Ambient temperature: 20.7 Relative humidity: 44%  
 Test Frequency band: TX CH15 2472MHz

Horizontal

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Preamp Factor (dB) | Cable Loss (dB) | Limit Line (dBuV/m) | Level (dBuV/m) | Margin (dB) | Remark  |
|-----------------|-------------------|-----------------------|--------------------|-----------------|---------------------|----------------|-------------|---------|
| 4944            | 37.66             | 35.79                 | 33.4               | 10.91           | 74                  | 50.96          | 23.04       | Peak    |
| 7416            | 36.08             | 38.76                 | 34.44              | 14.11           | 74                  | 54.51          | 19.49       |         |
| 9888            | 34.84             | 38.5                  | 35.44              | 15.85           | 74                  | 53.75          | 20.25       |         |
| 4944            | 23.64             | 35.79                 | 33.4               | 10.91           | 54                  | 36.94          | 17.06       | Average |
| 7416            | 30.55             | 38.76                 | 34.44              | 14.11           | 54                  | 48.98          | 5.02        |         |
| 9888            | 29.99             | 38.5                  | 35.44              | 15.85           | 54                  | 47.9           | 6.1         |         |

Remark : 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading.

2. Measurement was up to 25GHz, but the emissions level were too low against the official limit and not report.

Vertical

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Preamp Factor (dB) | Cable Loss (dB) | Limit Line (dBuV/m) | Level (dBuV/m) | Margin (dB) | Remark  |
|-----------------|-------------------|-----------------------|--------------------|-----------------|---------------------|----------------|-------------|---------|
| 4944            | 37.48             | 35.79                 | 33.4               | 10.91           | 74                  | 50.78          | 23.22       | Peak    |
| 7416            | 36.55             | 38.76                 | 34.44              | 14.11           | 74                  | 54.98          | 19.02       |         |
| 9888            | 35.94             | 38.5                  | 35.44              | 15.85           | 74                  | 54.85          | 19.15       |         |
| 4944            | 30.56             | 35.79                 | 33.4               | 10.91           | 54                  | 43.86          | 10.14       | Average |
| 7416            | 29.56             | 38.76                 | 34.44              | 14.11           | 54                  | 47.99          | 6.01        |         |
| 9888            | 29.88             | 38.5                  | 35.44              | 15.85           | 54                  | 48.79          | 5.21        |         |

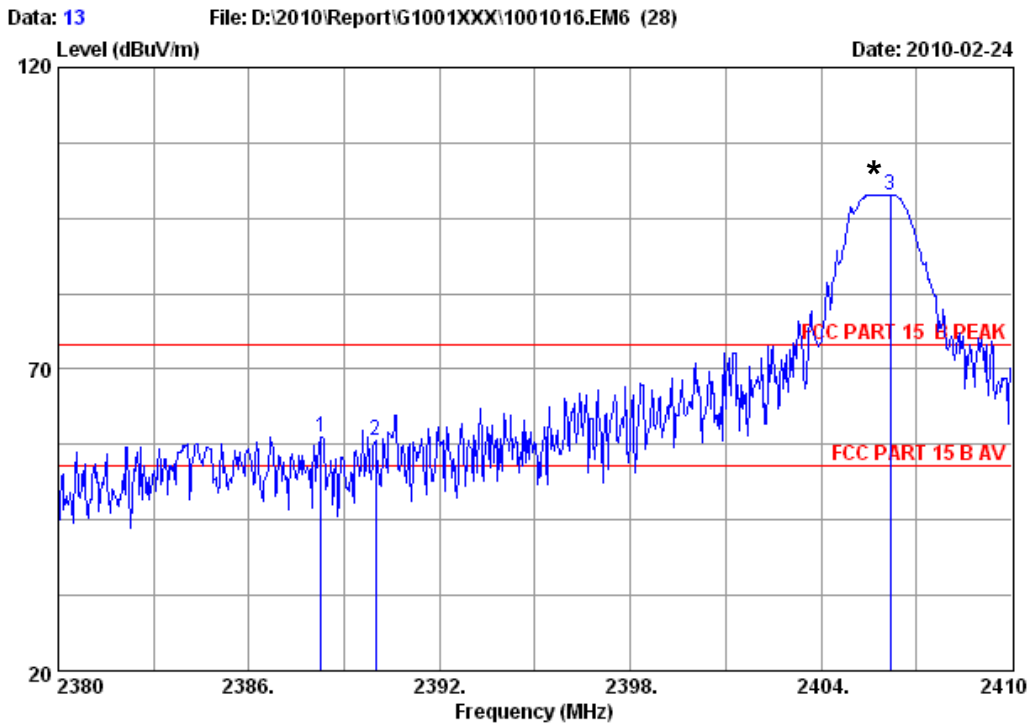
Remark : 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading.

2. Measurement was up to 25GHz, but the emissions level were too low against the official limit and not report.

4.5.3. Restricted Bands Measurement Results



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Site NO. : 3M Semi-Anechoic Chamber Data NO. : 13  
 Dis. / Ant. : 3m HORN 3115(62961) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 B PEAK  
 Env. / Ins. : 17.9\*C&52%/ESCI Engineer : Leesen  
 EUT : USB TV Dongle  
 M/N : WD9007Y1  
 Power Rating : DC5V by USB  
 Test Mode : TX  
 Memo : CH1

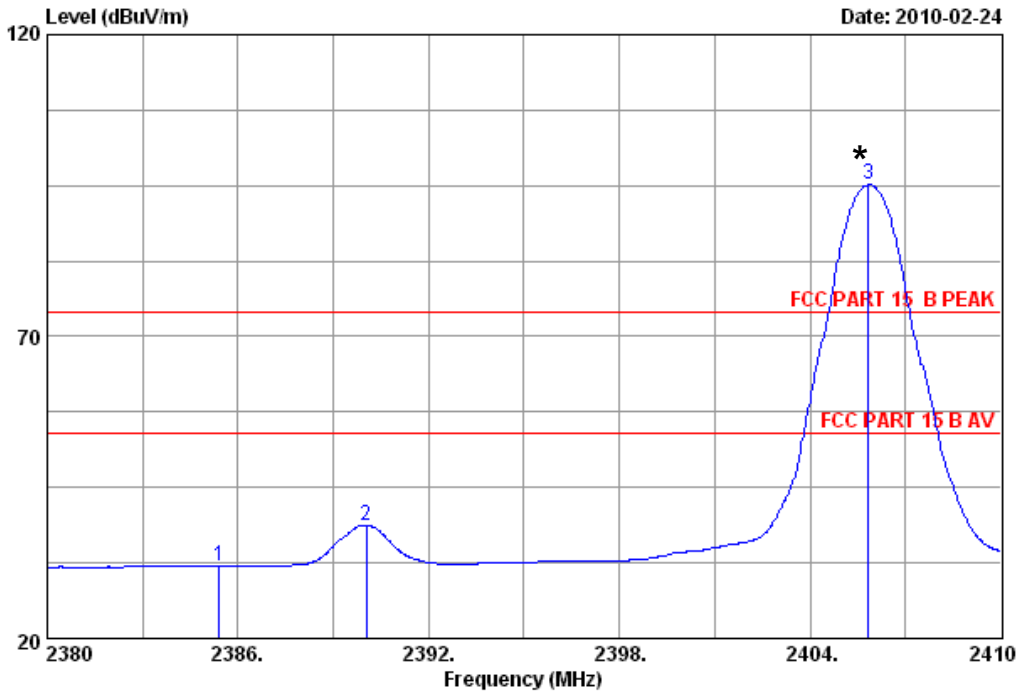
|     | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1   | 2388.28        | 29.26                    | 7.51                  | 55.62             | 58.69                         | 74.00              | 15.31          | Peak   |
| 2   | 2390.00        | 29.26                    | 7.51                  | 55.22             | 58.29                         | 74.00              | 15.71          | Peak   |
| * 3 | 2406.19        | 29.28                    | 7.55                  | 95.83             | 98.96                         | 74.00              | -24.96         | Peak   |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.  
 3. "\*"The fundamental frequency emission emanating from the intentional radio components such as wireless LAN, Bluetooth module were exempted, which is subjected to Subpart C of FCC.



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Data: 14 File: D:\2010\Report\G1001XXX\1001016.EM6 (28) Date: 2010-02-24



Site NO. : 3M Semi-Anechoic Chamber Data NO. : 14  
 Dis. / Ant. : 3m HORN 3115(62961) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 B PEAK  
 Env. / Ins. : 17.9\*C&52%/ESCI Engineer : Leesen  
 EUT : USB TV Dongle  
 M/N : WD9007Y1  
 Power Rating : DC5V by USB  
 Test Mode : TX  
 Memo : CH1

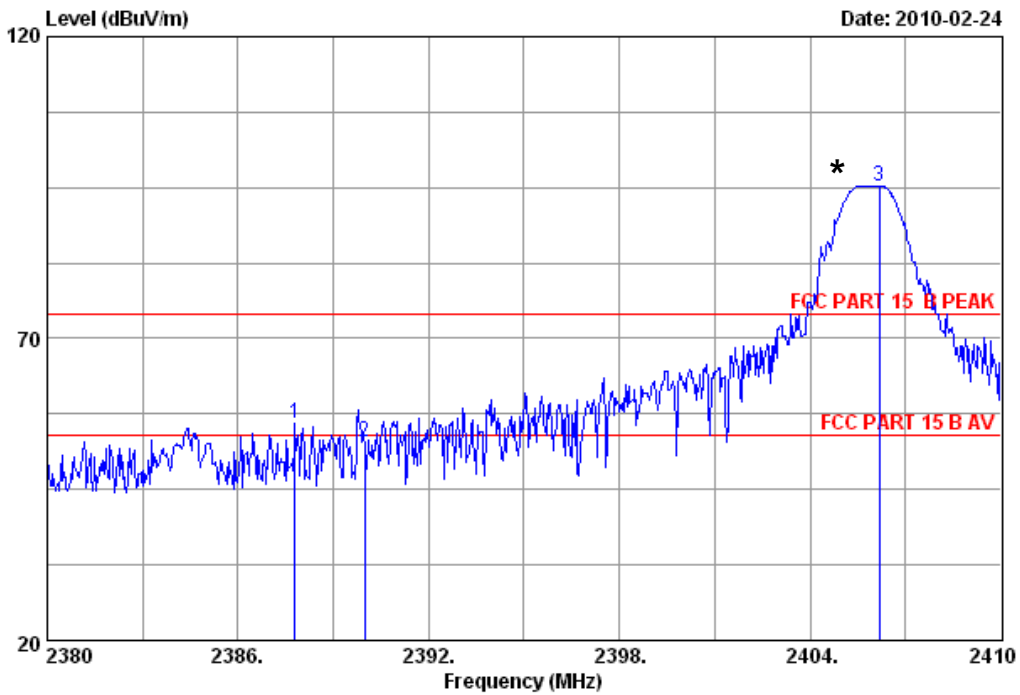
|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark  |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|---------|
|   | 1 2385.40      | 29.23                    | 7.47                  | 29.02             | 32.02                         | 54.00              | 21.98          | Average |
|   | 2 2390.05      | 29.26                    | 7.51                  | 35.71             | 38.78                         | 54.00              | 15.22          | Average |
| * | 3 2405.83      | 29.28                    | 7.55                  | 92.04             | 95.17                         | 54.00              | -41.17         | Average |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.  
 3. "\*"The fundamental frequency emission emanating from the intentional radio components such as wireless LAN, Bluetooth module were exempted, which is subjected to Subpart C of FCC.



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Data: 15 File: D:\2010\Report\G1001XXX\1001016.EM6 (28) Date: 2010-02-24



Site NO. : 3M Semi-Anechoic Chamber Data NO. : 15  
 Dis. / Ant. : 3m HORN 3115(62961) Ant. pol. : VERTICAL  
 Limit : FCC PART 15 B PEAK  
 Env. / Ins. : 17.9\*C&52%/ESCI Engineer : Leesen  
 EUT : USB TV Dongle  
 M/N : WD9007Y1  
 Power Rating : DC5V by USB  
 Test Mode : TX  
 Memo : CH1

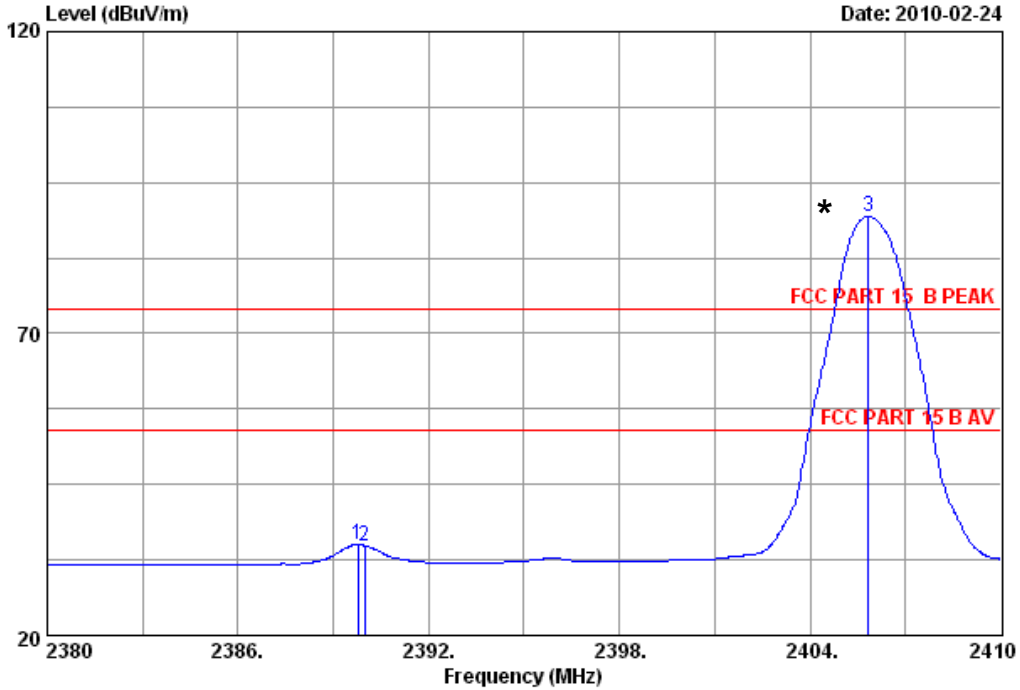
|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
|   | 1 2387.80      | 29.26                    | 7.51                  | 52.73             | 55.80                         | 74.00              | 18.20          | Peak   |
|   | 2 2390.00      | 29.26                    | 7.51                  | 49.91             | 52.98                         | 74.00              | 21.02          | Peak   |
| * | 3 2406.19      | 29.28                    | 7.55                  | 92.21             | 95.34                         | 74.00              | -21.34         | Peak   |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.  
 3. "\*"The fundamental frequency emission emanating from the intentional radio components such as wireless LAN, Bluetooth module were exempted, which is subjected to Subpart C of FCC.



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Data: 16 File: D:\2010\Report\G1001XXX\1001016.EM6 (28) Date: 2010-02-24



Site NO. : 3M Semi-Anechoic Chamber Data NO. : 16  
 Dis. / Ant. : 3m HORN 3115(62961) Ant. pol. : VERTICAL  
 Limit : FCC PART 15 B PEAK  
 Env. / Ins. : 17.9\*C&52%/ESCI Engineer : Leesen  
 EUT : USB TV Dongle  
 M/N : WD9007Y1  
 Power Rating : DC5V by USB  
 Test Mode : TX  
 Memo : CH1

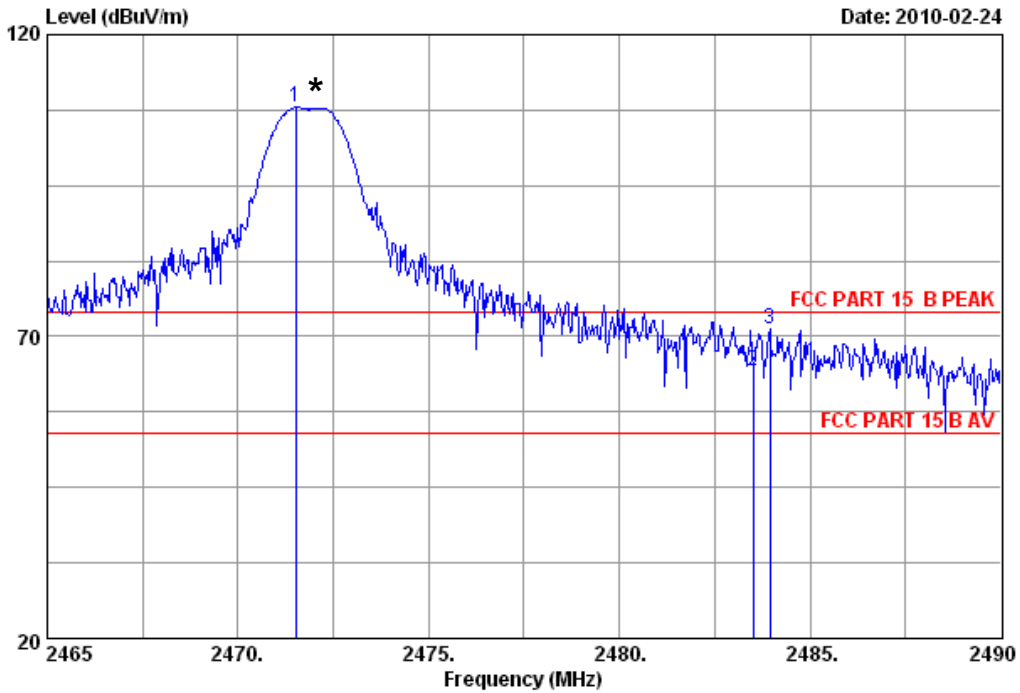
|     | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark  |
|-----|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|---------|
| 1   | 2389.78        | 29.26                    | 7.51                  | 31.94             | 35.01                         | 54.00              | 18.99          | Average |
| 2   | 2390.00        | 29.26                    | 7.51                  | 31.78             | 34.85                         | 54.00              | 19.15          | Average |
| * 3 | 2405.83        | 29.28                    | 7.55                  | 86.32             | 89.45                         | 54.00              | -35.45         | Average |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.  
 3. "\*"The fundamental frequency emission emanating from the intentional radio components such as wireless LAN, Bluetooth module were exempted, which is subjected to Subpart C of FCC.



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Data: 9 File: D:\2010\Report\G1001XXX\1001016.EM6 (28) Date: 2010-02-24



Site NO. : 3M Semi-Anechoic Chamber Data NO. : 9  
 Dis. / Ant. : 3m HORN 3115(62961) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 B PEAK  
 Env. / Ins. : 17.9\*C&52%/ESCI Engineer : Leesen  
 EUT : USB TV Dongle  
 M/N : WD9007Y1  
 Power Rating : DC5V by USB  
 Test Mode : TX  
 Memo : CH15

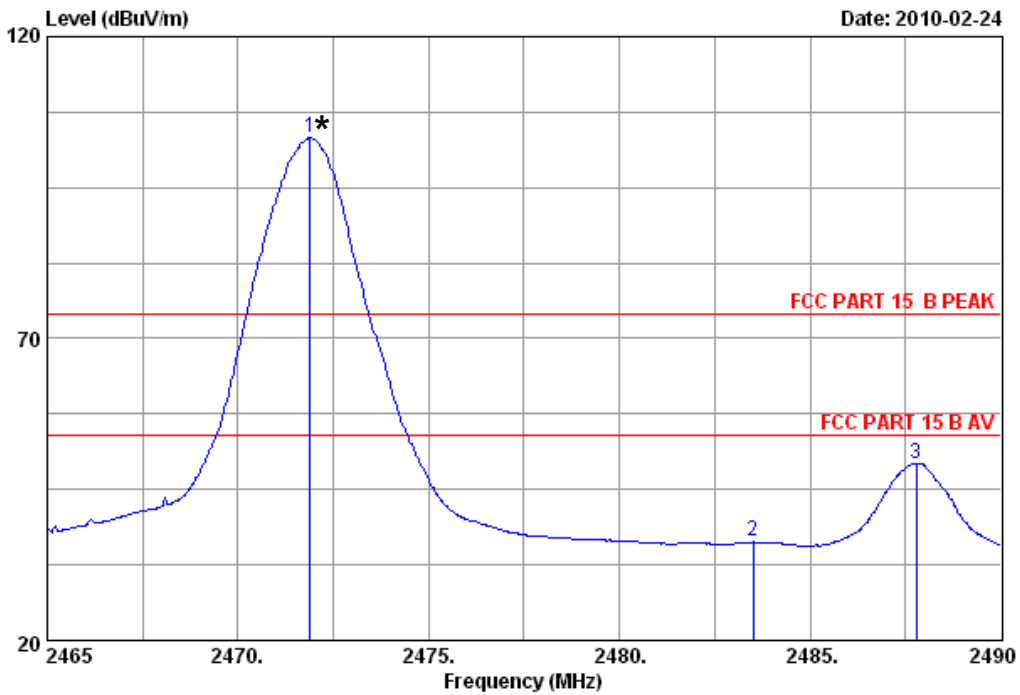
|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| * | 1 2471.53      | 29.38                    | 7.73                  | 104.54            | 107.95                        | 74.00              | -33.95         | Peak   |
|   | 2 2483.50      | 29.38                    | 7.73                  | 60.88             | 64.29                         | 74.00              | 9.71           | Peak   |
|   | 3 2483.95      | 29.38                    | 7.73                  | 67.91             | 71.32                         | 74.00              | 2.68           | Peak   |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.  
 3. "\*"The fundamental frequency emission emanating from the intentional radio components such as wireless LAN, Bluetooth module were exempted, which is subjected to Subpart C of FCC.



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Data: 10 File: D:\2010\Report\G1001XXX\1001016.EM6 (28) Date: 2010-02-24



Site NO. : 3M Semi-Anechoic Chamber Data NO. : 10  
 Dis. / Ant. : 3m HORN 3115(62961) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 B PEAK  
 Env. / Ins. : 17.9\*C&52%/ESCI Engineer : Leesen  
 EUT : USB TV Dongle  
 M/N : WD9007Y1  
 Power Rating : DC5V by USB  
 Test Mode : TX  
 Memo : CH15

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark  |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|---------|
| * | 1 2471.90      | 29.38                    | 7.73                  | 99.89             | 103.30                        | 54.00              | -49.30         | Average |
|   | 2 2483.50      | 29.38                    | 7.73                  | 32.89             | 36.30                         | 54.00              | 17.70          | Average |
|   | 3 2487.78      | 29.40                    | 7.77                  | 45.85             | 49.32                         | 54.00              | 4.68           | Average |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.  
 3. "\*"The fundamental frequency emission emanating from the intentional radio components such as wireless LAN, Bluetooth module were exempted, which is subjected to Subpart C of FCC.

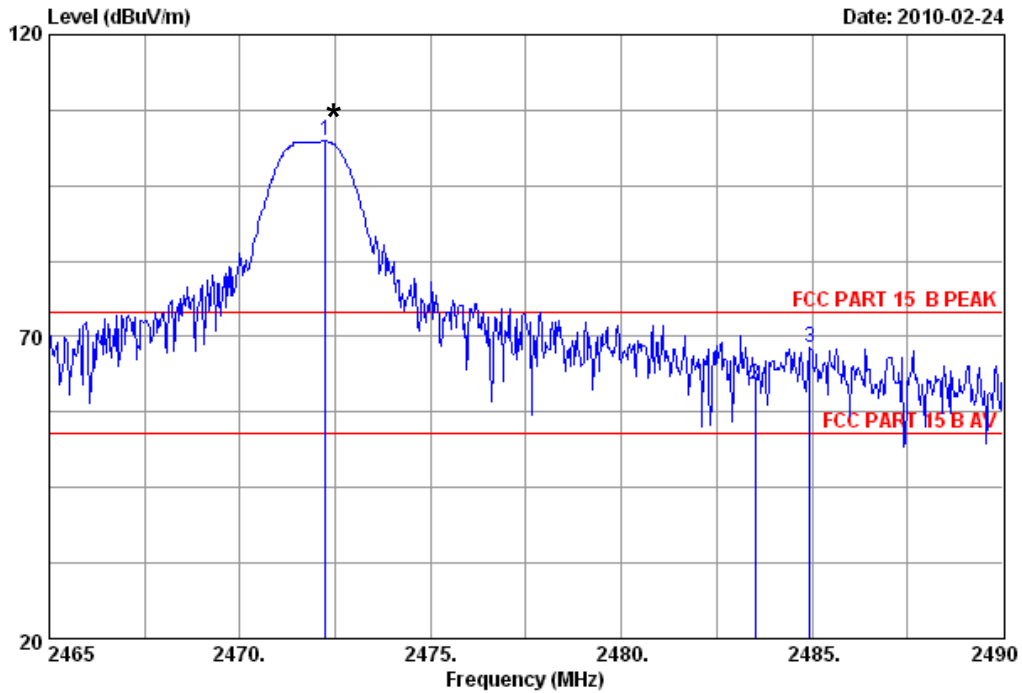


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Data: 11

File: D:\2010\Report\G1001XXX\1001016.EM6 (28)

Date: 2010-02-24



Site NO. : 3M Semi-Anechoic Chamber      Data NO. : 11  
 Dis. / Ant. : 3m HORN 3115(62961)      Ant. pol. : VERTICAL  
 Limit : FCC PART 15 B PEAK  
 Env. / Ins. : 17.9\*C&52%/ESCI      Engineer : Leesen  
 EUT : USB TV Dongle  
 M/N : WD9007Y1  
 Power Rating : DC5V by USB  
 Test Mode : TX  
 Memo : CH15

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| * | 1 2472.25      | 29.38                    | 7.73                  | 99.01             | 102.42                        | 74.00              | -28.42         | Peak   |
|   | 2 2483.50      | 29.38                    | 7.73                  | 58.64             | 62.05                         | 74.00              | 11.95          | Peak   |
|   | 3 2484.95      | 29.38                    | 7.73                  | 64.80             | 68.21                         | 74.00              | 5.79           | Peak   |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.  
 3. "\*"The fundamental frequency emission emanating from the intentional radio components such as wireless LAN, Bluetooth module were exempted, which is subjected to Subpart C of FCC.



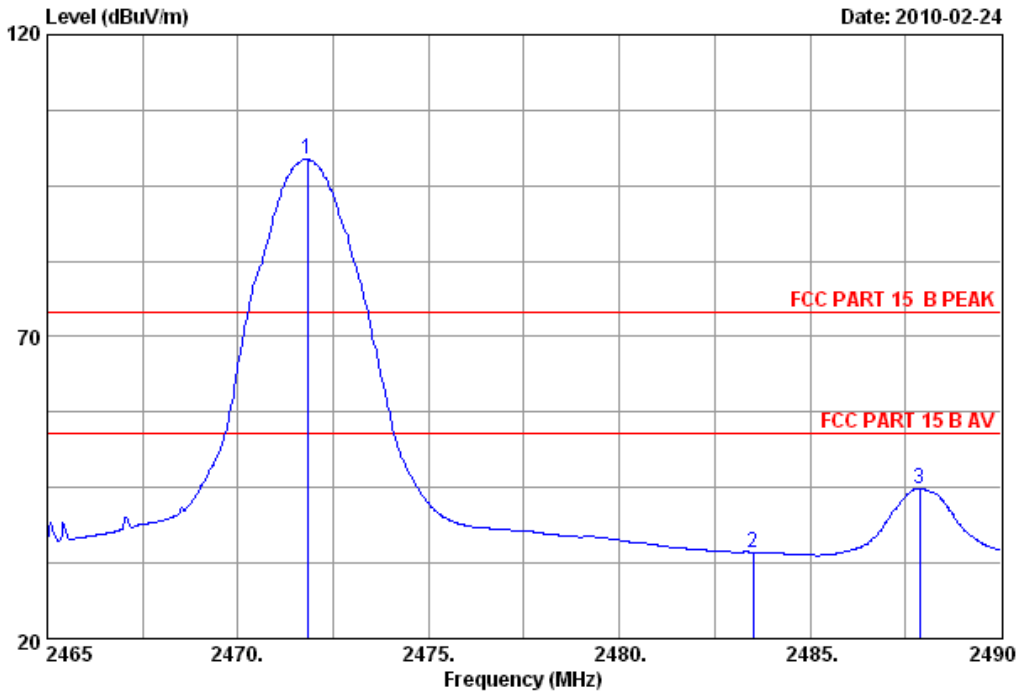


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Data: 12

File: D:\2010\Report\G1001XXX\1001016.EM6 (28)

Date: 2010-02-24



Site NO. : 3M Semi-Anechoic Chamber      Data NO. : 12  
 Dis. / Ant. : 3m HORN 3115(62961)      Ant. pol. : VERTICAL  
 Limit : FCC PART 15 B PEAK  
 Env. / Ins. : 17.9\*C&52%/ESCI      Engineer : Leesen  
 EUT : USB TV Dongle  
 M/N : WD9007Y1  
 Power Rating : DC5V by USB  
 Test Mode : TX  
 Memo : CH15

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark  |
|---|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|---------|
| 1 | 2471.83        | 29.38                    | 7.73                  | 95.95             | 99.36                         | 54.00              | -45.36         | Average |
| 2 | 2483.50        | 29.38                    | 7.73                  | 30.88             | 34.29                         | 54.00              | 19.71          | Average |
| 3 | 2487.88        | 29.40                    | 7.77                  | 41.38             | 44.85                         | 54.00              | 9.15           | Average |

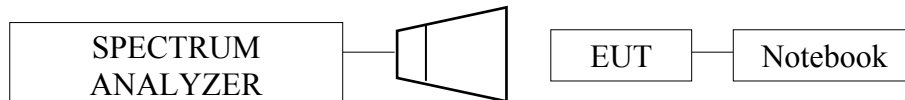
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.  
 3. "\*"The fundamental frequency emission emanating from the intentional radio components such as wireless LAN, Bluetooth module were exempted, which is subjected to Subpart C of FCC.

## 5. 20 dB BANDWIDTH MEASUREMENT

### 5.1. Test Equipment

| Item | Type              | Manufacturer | Model No. | Serial No. | Last Cal.  | Next Cal.  |
|------|-------------------|--------------|-----------|------------|------------|------------|
| 1.   | Spectrum Analyzer | Agilent      | E4447A    | MY45300136 | 2010.01.08 | 2011.01.07 |
| 2.   | Horn Antenna      | ESCO         | 3115      | 62960      | 2009.05.20 | 2010.05.19 |

### 5.2. Block Diagram of Test Setup



— : SIGNAL LINE

### 5.3. Specification Limits (§15.247(a)(1))

Alternatively, frequency hopping systems operating in the 2400-2483.5MHz band may have hopping channel carrier frequencies that are separated by 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater.

### 5.4. Test Procedure

Set the EUT in transmitting mode.

Set the spectrum analyzer as center frequency = middle of hopping channel, Peak detector, RBW = 100 kHz, VBW = 100 kHz, Span = 5MHz, Sweep = auto. Max hold

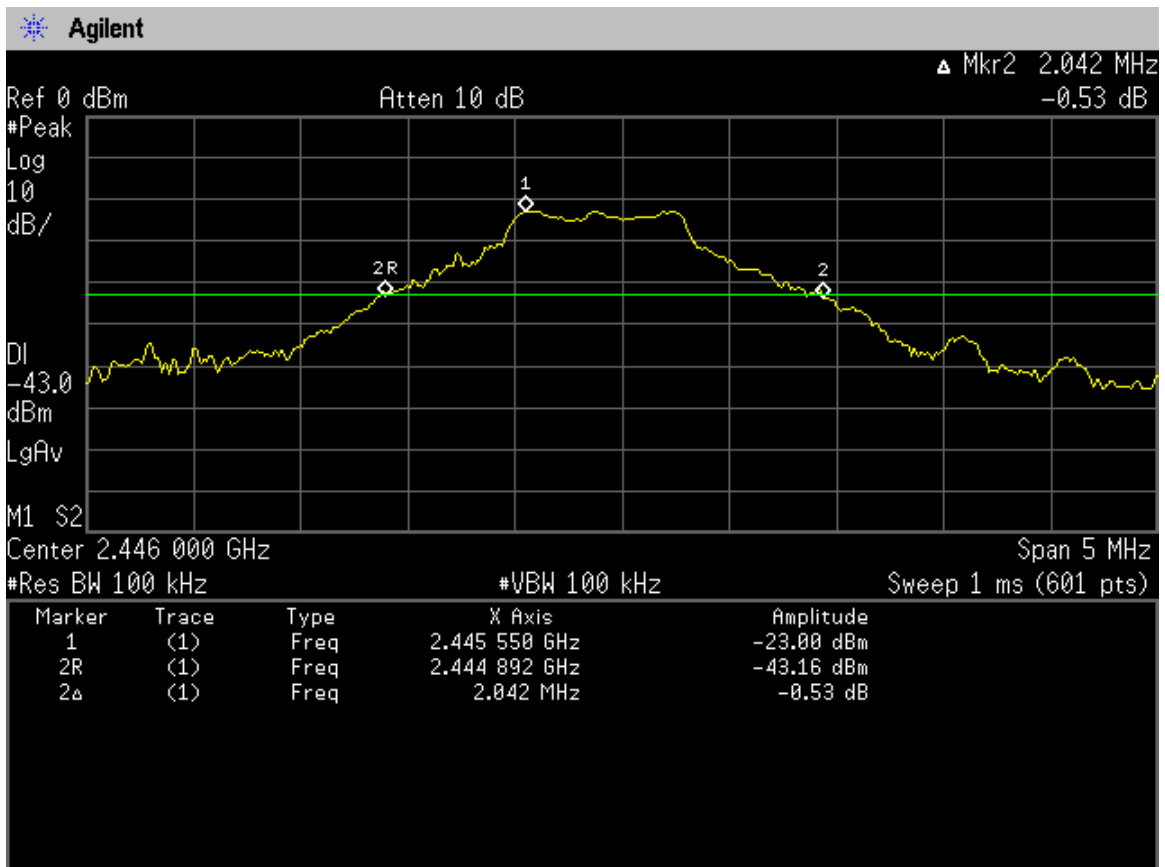
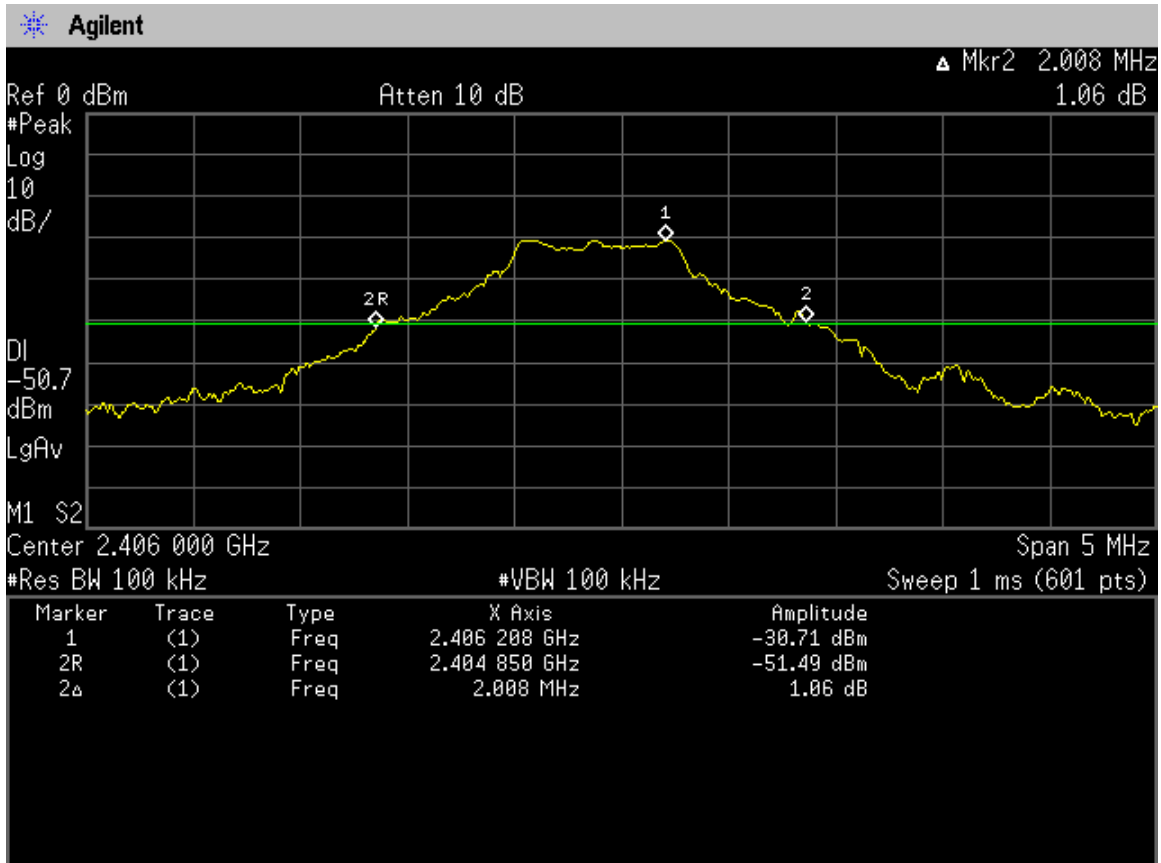
Use the marker-to-peak function to set the marker to the peak of the emission. Use the Display line set to 20 dB down of the emission. Set another marker to the side of the emission, Reset the marker-delta function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is the 20 dB bandwidth of the emission.

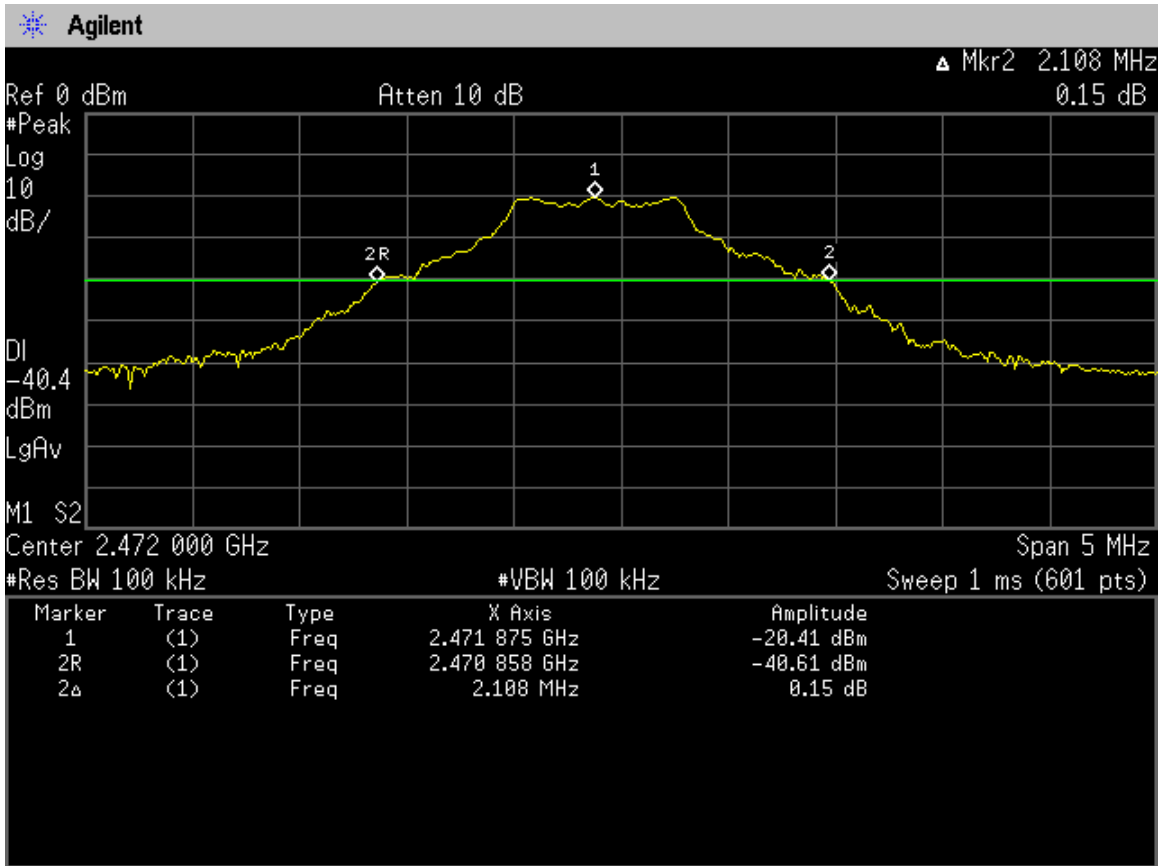
### 5.5. Test Results

**PASSED.** All the test results are attached in next pages.

Test Date: Feb. 25, 2010    Temperature: 20.8    Humidity: 54 %

| No. | Channel | Test Frequency | 20dB Bandwidth   | 2/3<br>(20dB Bandwidth) |
|-----|---------|----------------|------------------|-------------------------|
| 1.  | 1       | 2406 MHz       | <b>2.008 MHz</b> | <b>1.387MHz</b>         |
| 2.  | 8       | 2446 MHz       | <b>2.042 MHz</b> | <b>1.361MHz</b>         |
| 3.  | 15      | 2472 MHz       | <b>2.108 MHz</b> | <b>1.405MHz</b>         |





## 6. CARRIER FREQUENCY SEPARATION MEASUREMENT

### 6.1. Test Equipment

| Item | Type              | Manufacturer | Model No. | Serial No. | Last Cal.  | Next Cal.  |
|------|-------------------|--------------|-----------|------------|------------|------------|
| 1.   | Spectrum Analyzer | Agilent      | E4447A    | MY45300136 | 2010.01.08 | 2011.01.07 |
| 2.   | Horn Antenna      | ESCO         | 3115      | 62960      | 2009.05.20 | 2010.05.19 |

### 6.2. Block Diagram of Test Setup

The same as section 5.2.

### 6.3. Specification Limits (§15.247(a)(1)(iii))

Alternatively, frequency hopping systems operating in the 2400-2483.5MHz band may have hopping channel carrier frequencies that are separated by 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater.

### 6.4. Test Procedure

Set the EUT in transmitting mode.

Set the spectrum analyzer as center frequency = middle of first two hopping channel, Peak detector, RBW = 100kHz, VBW = 100kHz, Span = 10MHz, Sweep = auto. Max hold.

Use the marker-delta function, mark peaks of the two hopping channel and record the 2 peaks frequency. The marker-delta reading at this point is the carrier frequency separation.

### 6.5. Test Results

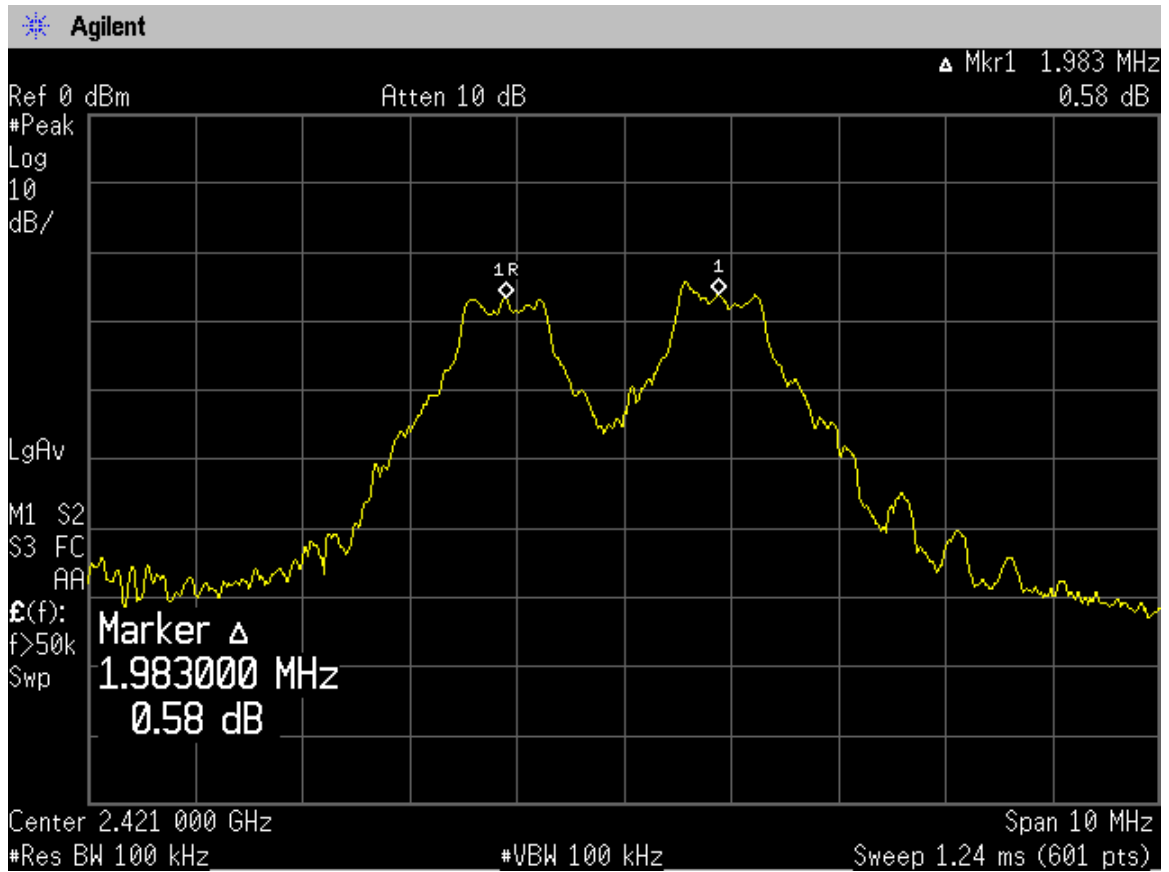
**PASSED.** The testing data was attached in the next pages.

Test Date: Feb. 25, 2010    Temperature : 20.8    Humidity : 54 %

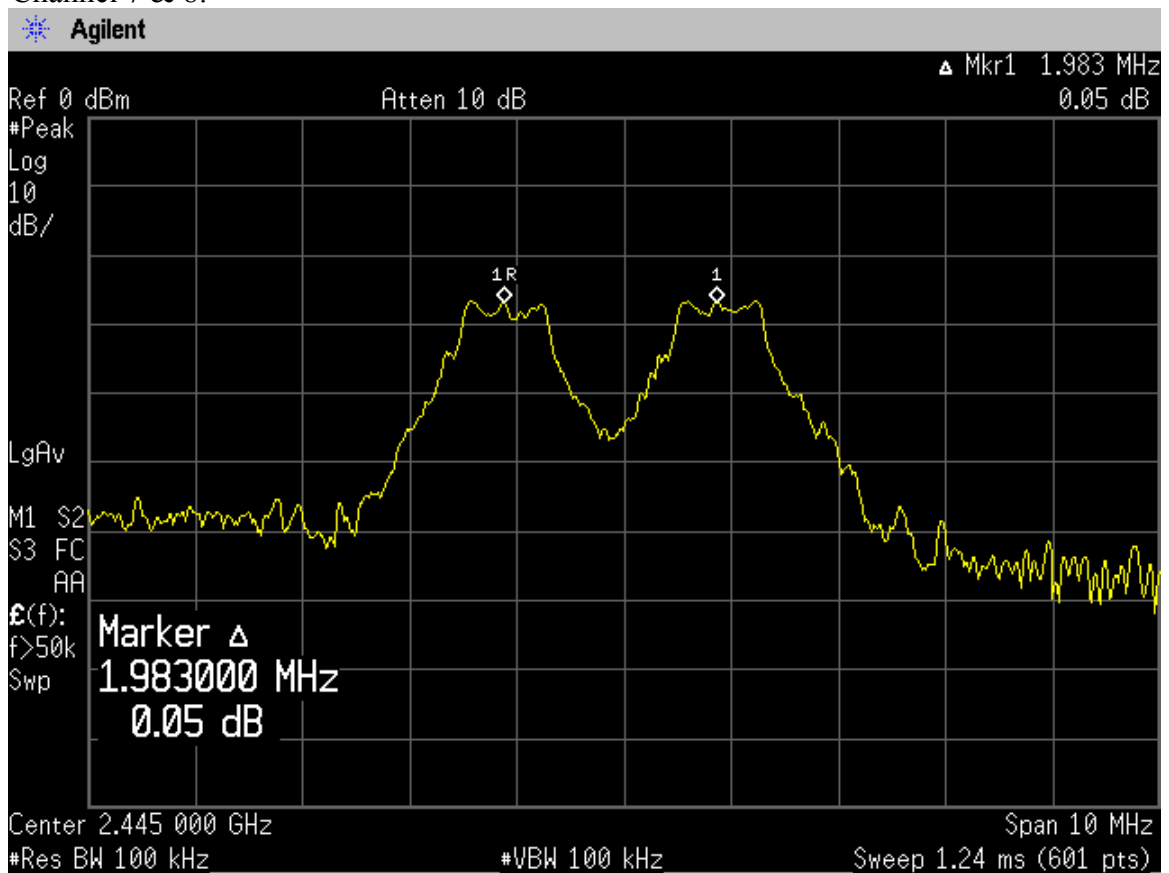
The minimum adjacent channel carrier frequency separation: 1.983MHz.

[Above values have met the requirement as specified in section 4.3: frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.]

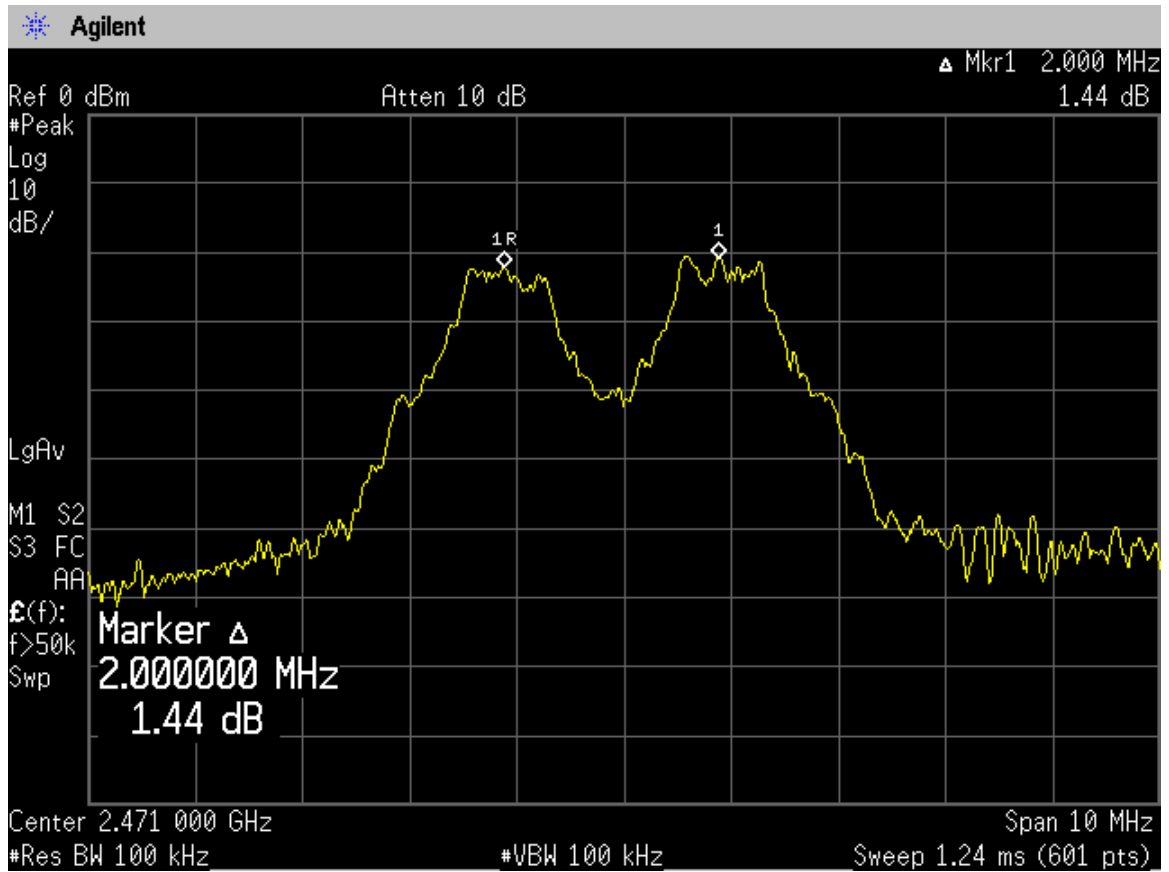
Channel 2 & 3:



Channel 7 & 8:



Channel 14 &15:



## 7. TIME OF OCCUPANCY MEASUREMENT

### 7.1. Test Equipment

| Item | Type              | Manufacturer | Model No. | Serial No. | Last Cal.  | Next Cal.  |
|------|-------------------|--------------|-----------|------------|------------|------------|
| 1.   | Spectrum Analyzer | Agilent      | E4447A    | MY45300136 | 2010.01.08 | 2011.01.07 |
| 2.   | Horn Antenna      | ESCO         | 3115      | 62960      | 2009.05.20 | 2010.05.19 |

### 7.2. Block Diagram of Test Setup

The same as section 5.2.

### 7.3. Specification Limits (§15.247(a)(1)(iii))

Frequency hopping systems in the 2400-2483.5MHz 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 number of hopping channels employed.

### 7.4. Test Procedure

Set the EUT in hopping transmitting mode.

Set the spectrum analyzer as center frequency = center of hopping channel, RBW=1MHz

VBW=1MHz, Span = 0Hz, Sweep Time = capture the entire dwell time per hopping channel.

Use the marker-delta function, mark the two side of the emission.

Reset the Sweep time = 1s, Max hold, account the number of emission.

### 7.5. Test Results

**PASSED.** The testing data was attached in the next pages.

Test Date: Feb. 25, 2010    Temperature: 20.8    Humidity: 54 %

Duty cycle: 15 channels\*0.4 seconds = 6 seconds

**Test Frequency: 2406MHz**

For per second of 17 channels appearance, the longest time of occupancy for each of 6 seconds is:

$17 \text{ channels} * 6 \text{ seconds} * 3.695\text{ms} = 376.89\text{ms} (<400\text{ms})$

**Test Frequency: 2442MHz**

For per second of 17 channels appearance, the longest time of occupancy for each of 6 seconds is:

$17 \text{ channels} * 6 \text{ seconds} * 3.71\text{ms} = 378.42\text{ms} (<400\text{ms})$

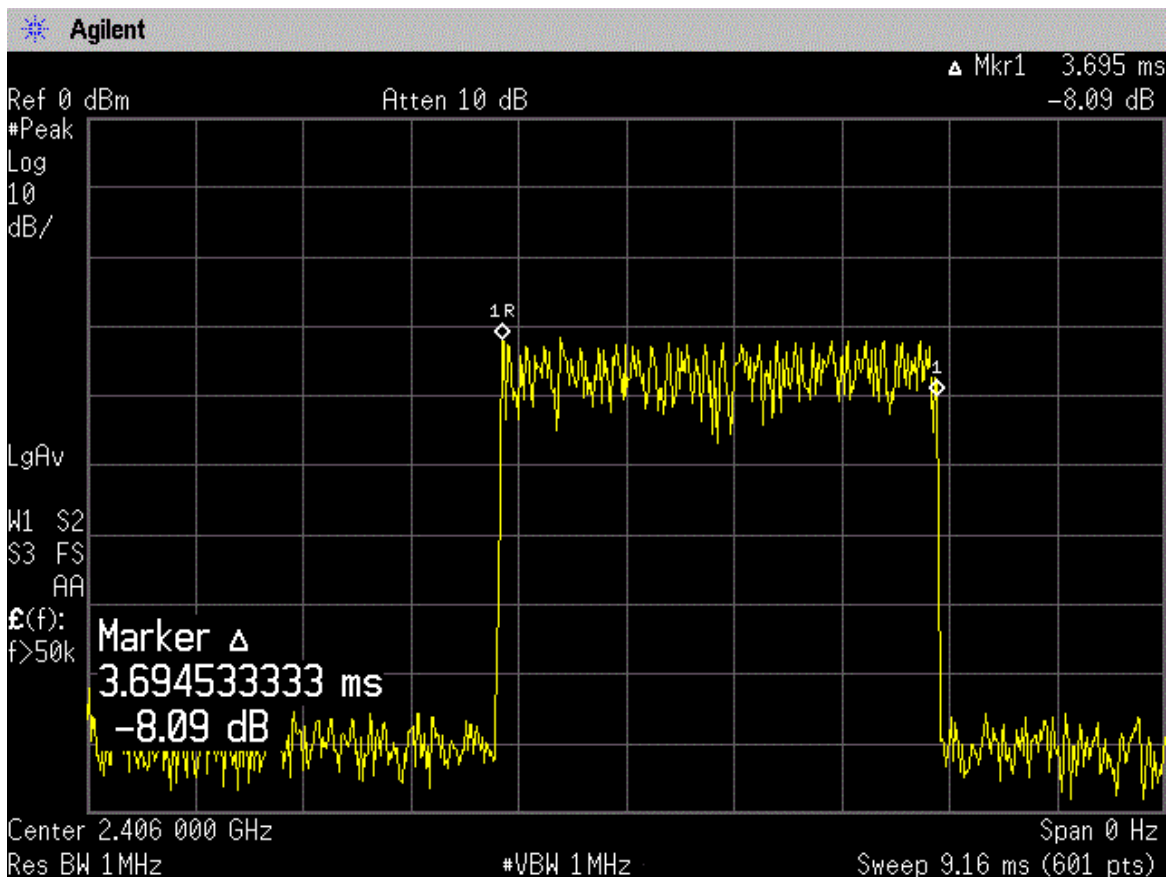
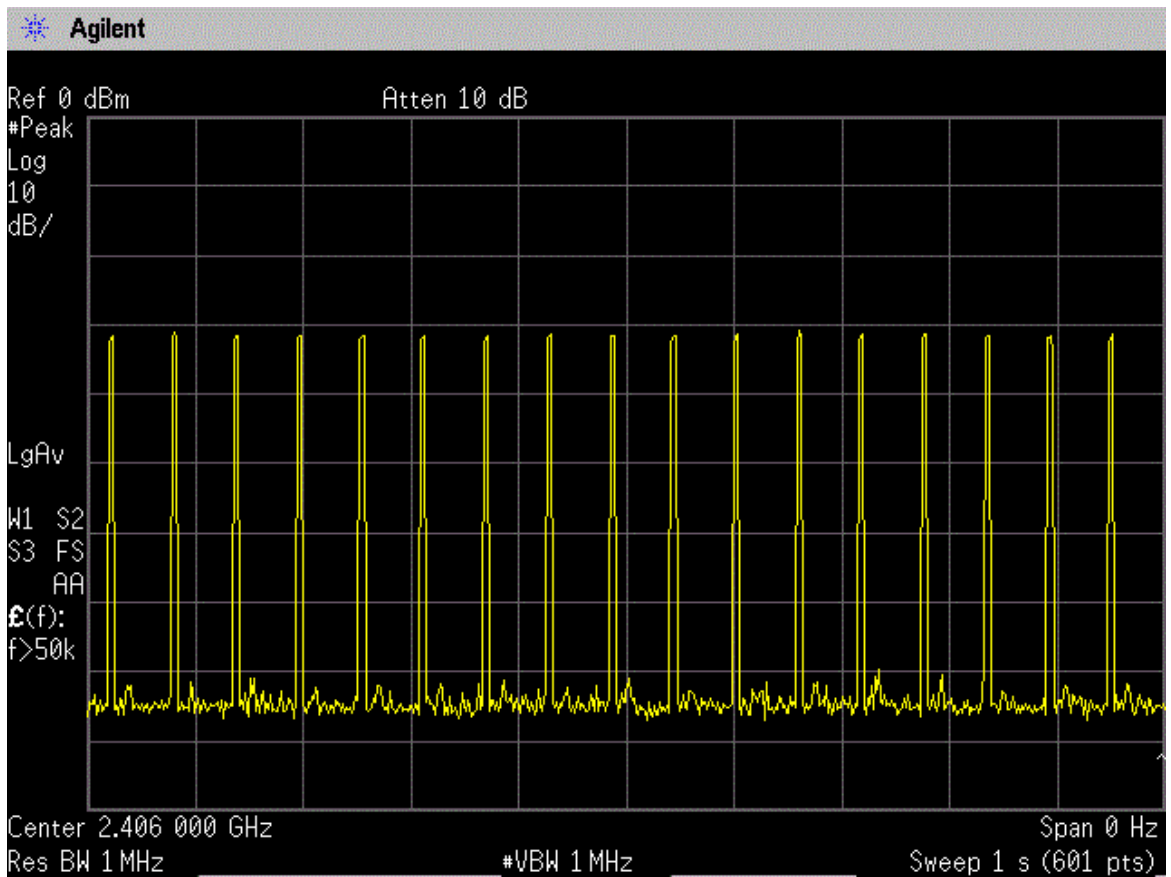
**Test Frequency: 2472MHz**

For per second of 17 channels appearance, the longest time of occupancy for each of 6 seconds is:

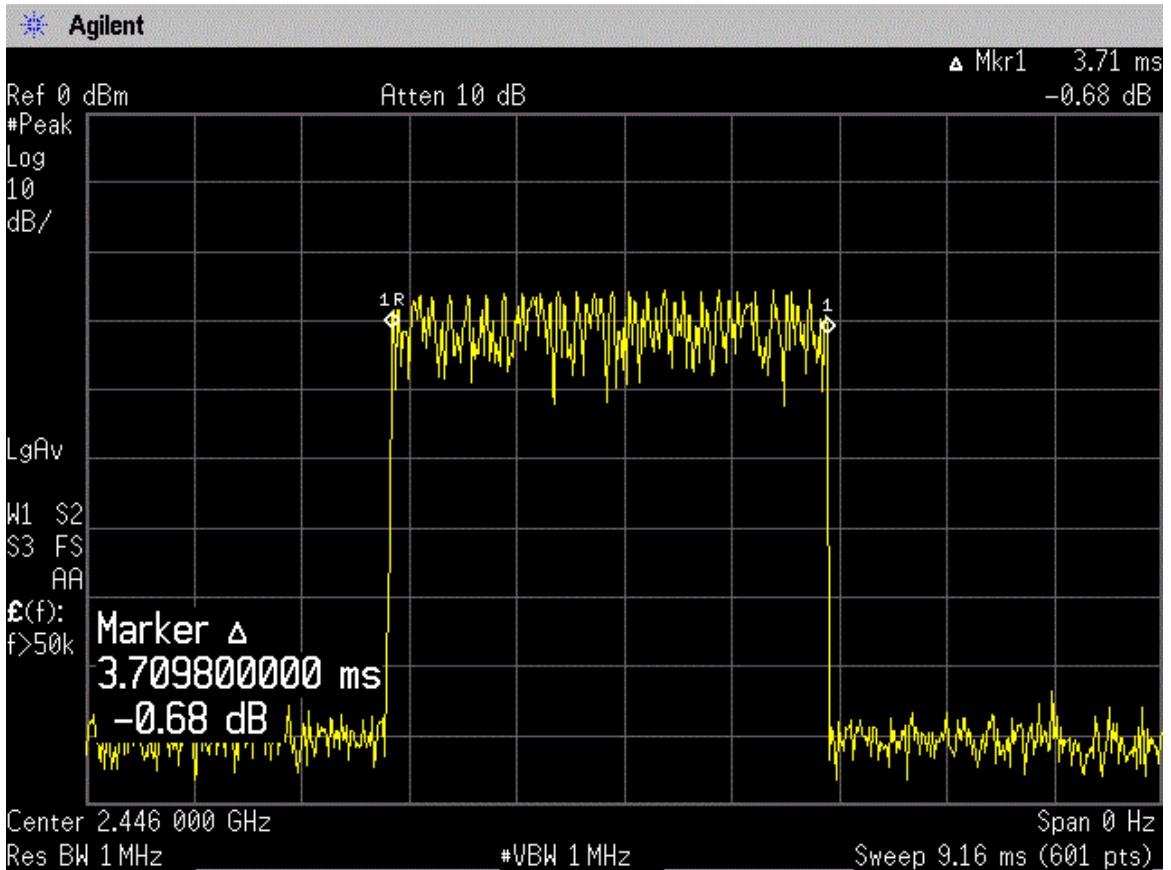
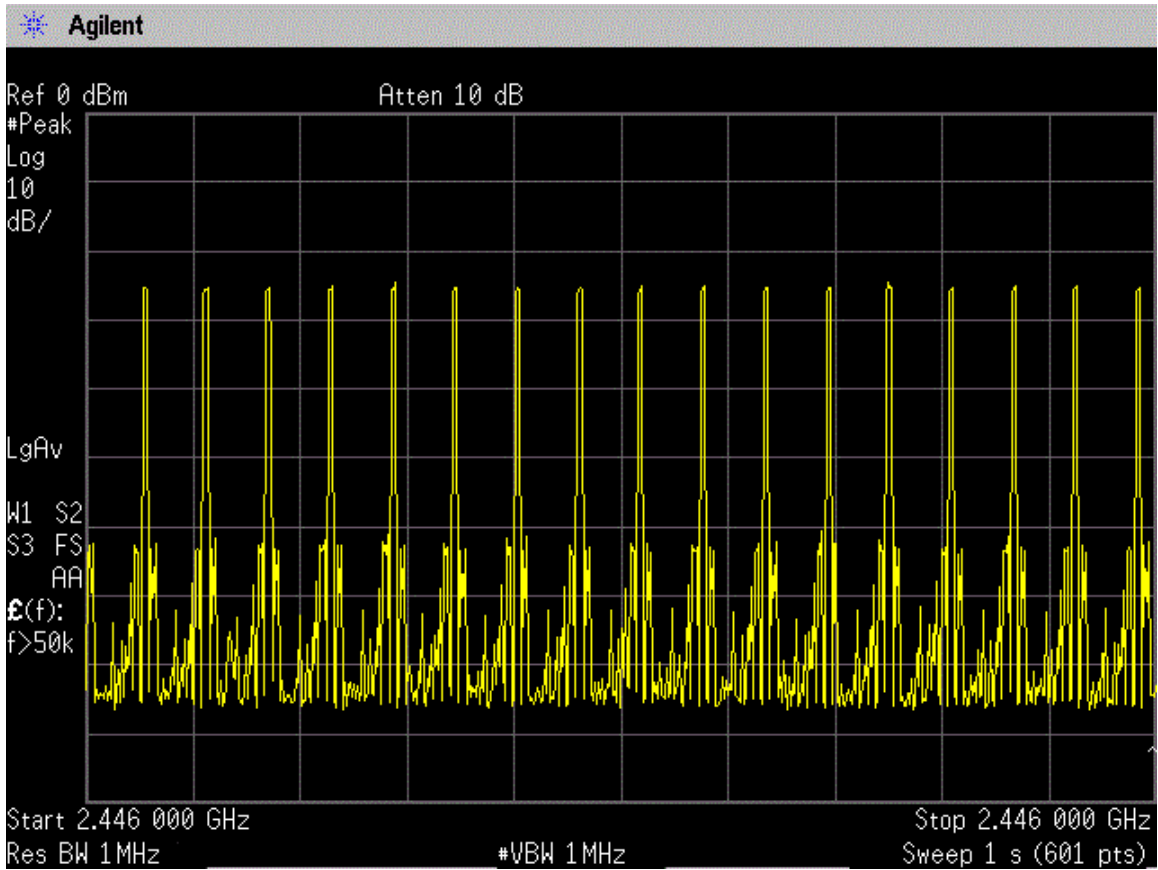
$17 \text{ channels} * 6 \text{ seconds} * 3.71\text{ms} = 378.42\text{ms} (<400\text{ms})$



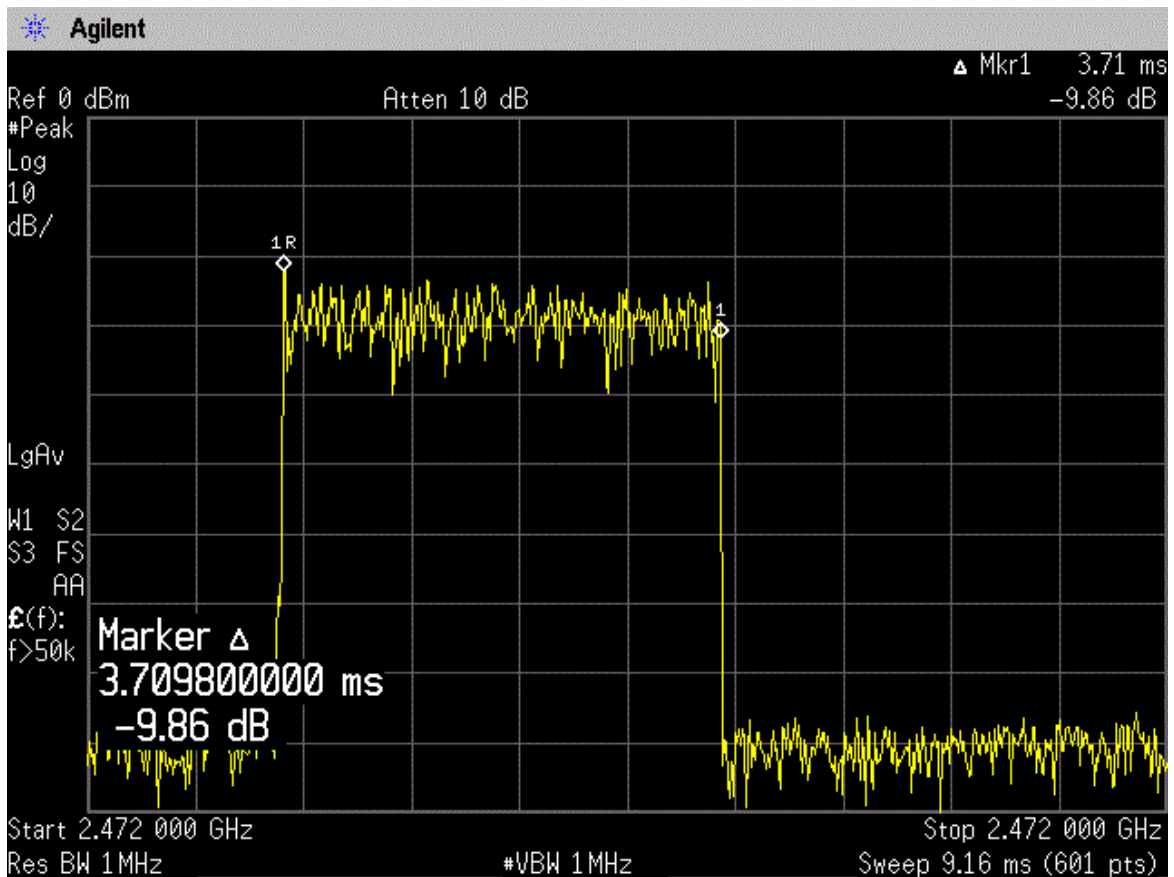
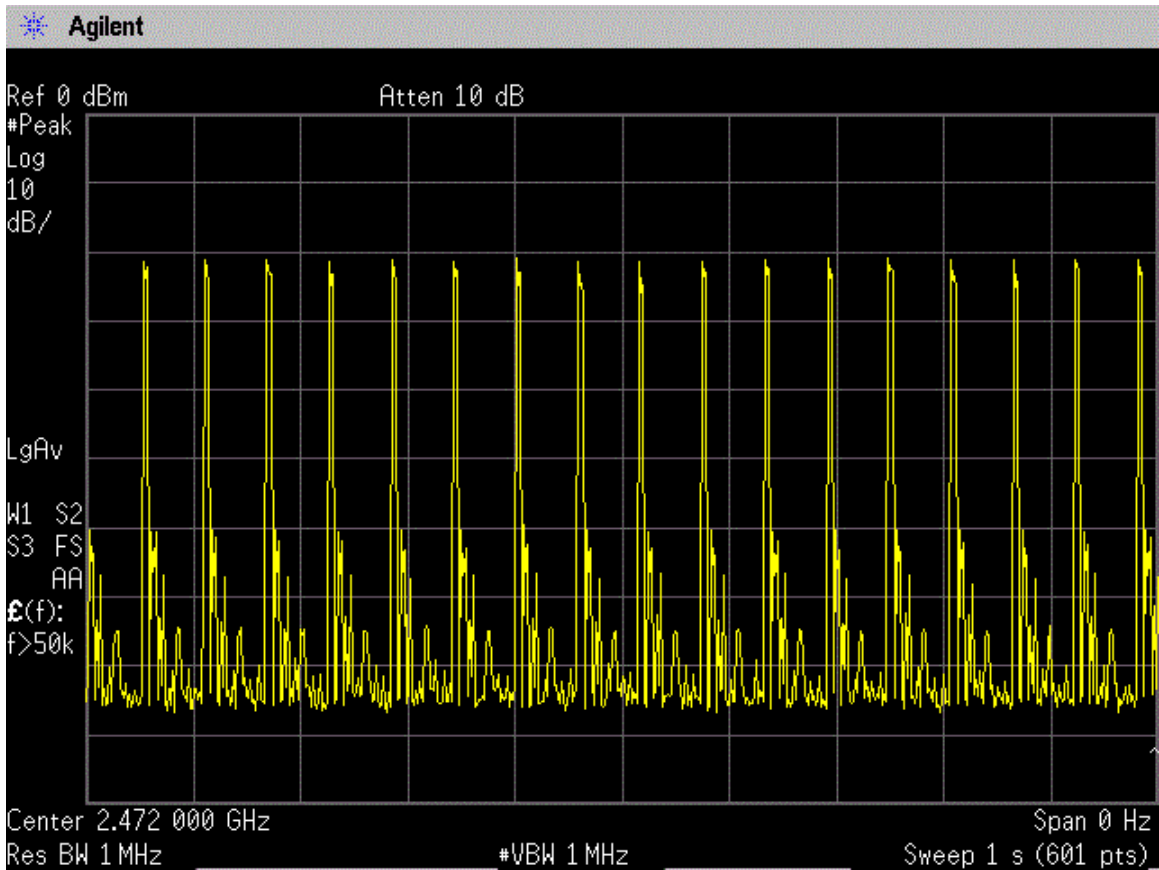
7.5.1. Channel 1, Test Frequency: 2406 MHz



7.5.2. Channel 8, Test Frequency: 2446 MHz



7.5.3. Channel 15, Test Frequency: 2472 MHz



## 8. NUMBER OF HOPPING CHANNELS MEASUREMENT

### 8.1. Test Equipment

| Item | Type              | Manufacturer | Model No. | Serial No. | Last Cal.  | Next Cal.  |
|------|-------------------|--------------|-----------|------------|------------|------------|
| 1.   | Spectrum Analyzer | Agilent      | E4447A    | MY45300136 | 2010.01.08 | 2011.01.07 |
| 2.   | Horn Antenna      | ESCO         | 3115      | 62960      | 2009.05.20 | 2010.05.19 |

### 8.2. Block Diagram of Test Setup

The same as section 5.2.

### 8.3. Specification Limits (§15.247(a)(1)(iii))

Frequency hopping systems which use fewer than 20 hopping frequencies may employ intelligent hopping techniques to avoid interference to other transmissions. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 non-overlapping channels.

### 8.4. Test Procedure

Set the EUT in hopping transmitting mode.

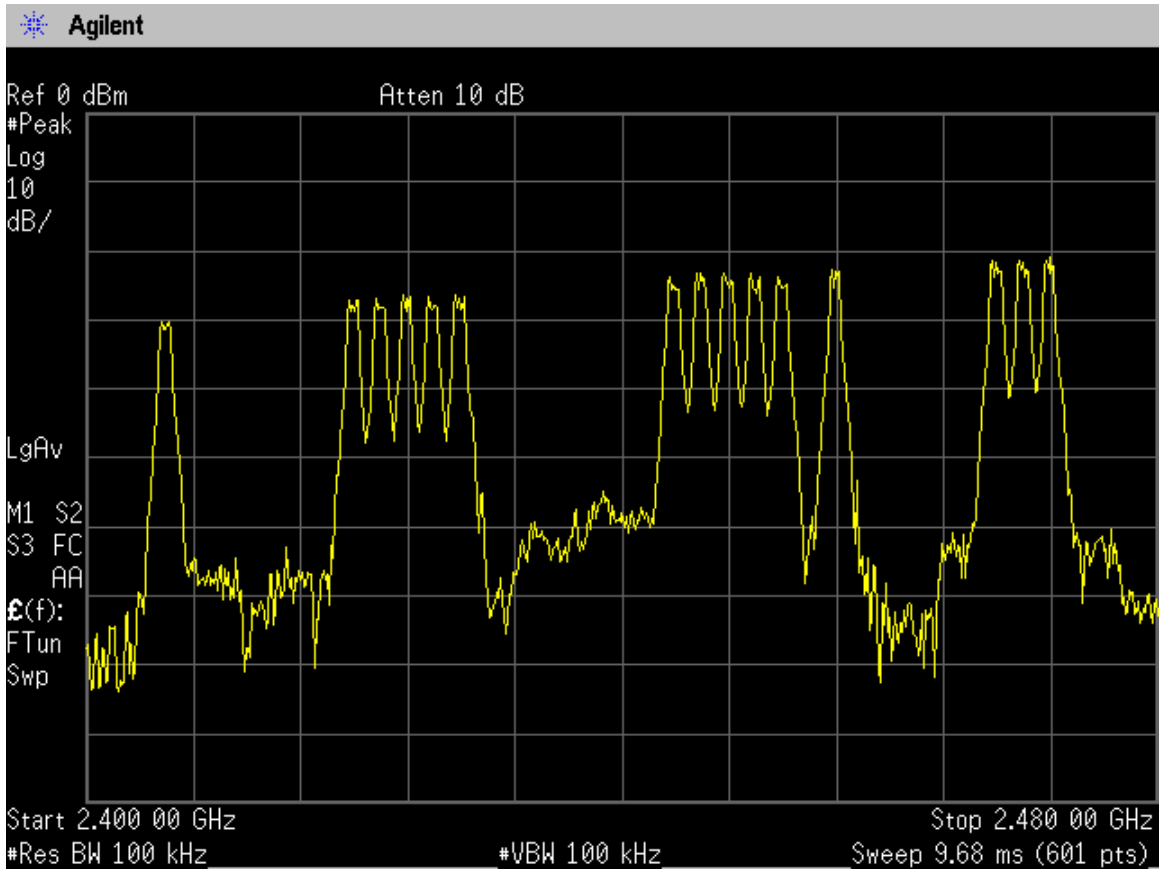
Set the spectrum analyzer as Start = 2400MHz, Stop = 2483.5MHz, Peak detector, RBW = 100 kHz, VBW = 100 kHz, Sweep = auto.

Max hold, View and count how many channel in the band.

### 8.5. Test Results

**PASSED.** The test results are attached in next page.

The number of hopping channel is 15.

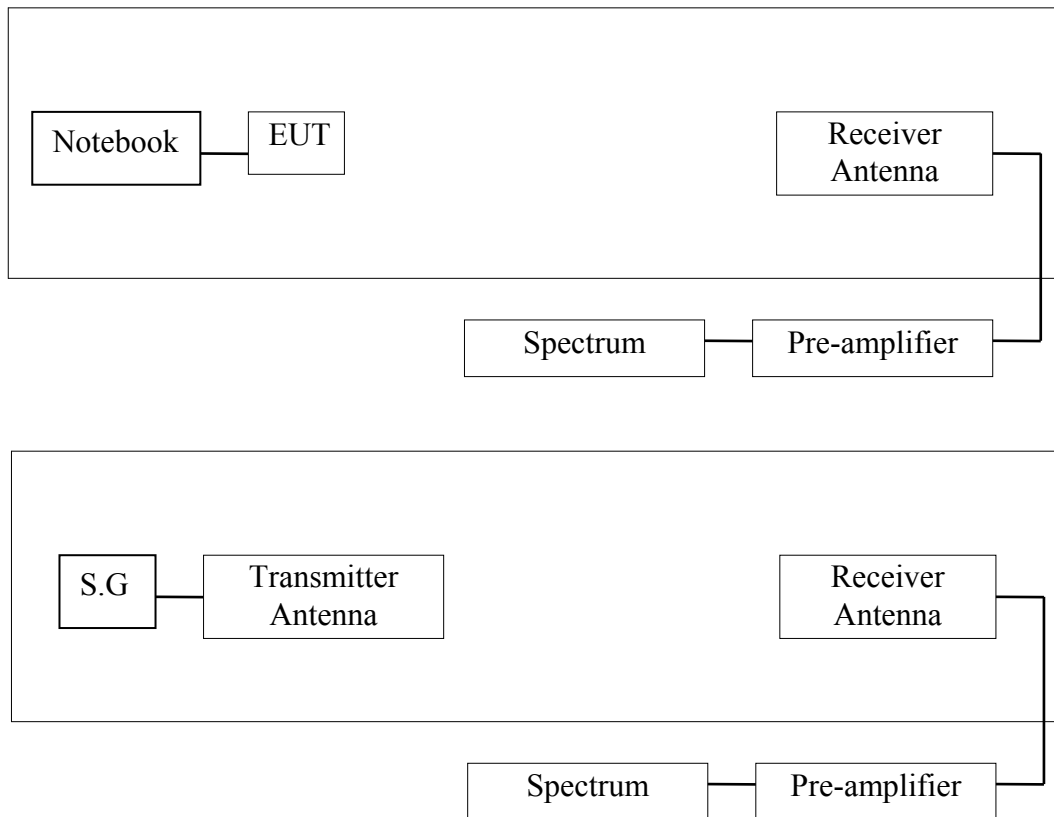


## 9. MAXIMUM PEAK OUTPUT POWER MEASUREMENT

### 9.1. Test Equipment

| Item | Type                        | Manufacturer | Model No.    | Serial No. | Last Cal.  | Next Cal.  |
|------|-----------------------------|--------------|--------------|------------|------------|------------|
| 1.   | Spectrum Analyzer           | Agilent      | E4447A       | MY45300134 | 2009.04.07 | 2010.04.06 |
| 2.   | HP Series                   | Titech       | MHQ-120CLUB  | A60614     | 2009.07.29 | 2010.07.28 |
| 3.   | Horn Antenna                | ESCO         | 3115         | 62960      | 2009.05.20 | 2010.05.19 |
| 4.   | PSG Analog Signal Generator | Agilent      | E8257D       | MY46130040 | 2009.04.07 | 2010.04.06 |
| 5.   | Preamplifier                | Agilent      | 8447D        | 2944A10924 | 2009.05.11 | 2010.05.10 |
| 6.   | Horn Antenna                | ESCO         | 3115         | 62960      | 2009.05.20 | 2010.05.19 |
| 7.   | Horn Antenna                | ESCO         | 3115         | 62961      | 2009.05.20 | 2010.05.19 |
| 8.   | Cable                       | Huber+Suhner | SUCOFLEX 102 | 29052      | 2009.04.01 | 2010.03.31 |

### 9.2. Block Diagram of Test Setup



### 9.3. Specification Limits (§15.247(b)-(1))

The Limits of maximum Peak Output Power for frequency hopping systems in 2400-2483.5MHz is: 0.125Watt. (21dBm).

## 9.4. Test procedure

Set the EUT in transmitting mode.

Set the spectrum analyzer as center frequency = center of the hopping channel, Peak detector, Span = 10MHz, RBW = 3MHz, VBW = 3MHz, Sweep Time = auto, Max hold. Set the marker to the peak emission.

Using measurement arrangement No.2, the substitution antenna shall replace the transmitter antenna in the same position and in vertical polarization. The frequency of the signal generator shall be adjusted to the measurement frequency. The test antenna shall be raised or lowered, if necessary, to ensure that the maximum signal is still received. The input signal to the substitution antenna shall be adjusted in level until an equal or a known related level to that detected from the transmitter is obtained in the test receiver; the radiated power is equal to the power supplied by the signal generator, increased by the known relationship if necessary and after corrections due to the gain of the substitution antenna and the cable loss between the signal generator and the substitution antenna.

This measurement shall be repeated with horizontal polarization.

Maximum Output Power = S.G. Output Power – Cable Loss + Ant.Gain

## 9.5. Test Results

**PASSED.** All the test results are attached in next pages.

Test Date: Feb. 25, 2010    Temperature: 20.8    Humidity: 54 %

| Test Condition   |             | Transmitter Output Power(dBm EIRP) |                  |                  |                   |
|------------------|-------------|------------------------------------|------------------|------------------|-------------------|
| Temperature (*C) | Voltage (V) | Ant. Pol.                          | CH 1<br>2406 MHz | CH 8<br>2446 MHz | CH 15<br>2472 MHz |
| 25               | 5V          | H                                  | 0.42             | 0.92             | 3.03              |
|                  |             | V                                  | 0.53             | 0.9              | 4.39              |

## 10. MPE CALCULATIONS

Systems operating under the provision of 47 CFR 1.1307(b)(1) shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the FCC guidelines.

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the user or nearby persons and can therefore be considered a mobile transmitter per 47 CFR 2.1091(b). The MPE calculation for this exposure is shown below.

**Using the Antennas with highest output power:**

**The peak radiated output power (E.I.R.P) is calculated as follows:**

| Frequency (GHz) | EIRP (dBm) | EIRP (mw) |
|-----------------|------------|-----------|
| 2.472           | 4.39       | 2.75      |

$EIRP = P + G$  Where P = Power input to the antenna (mW). G = Power gain of the antenna (dBi)

**Power density at the specific separation:**

| Frequency (GHz) | Maximum Power Spectral Density $S=EIRP/(4\pi R^2)$ (mW/cm <sup>2</sup> ) | Maximum Power Spectral Density Limit (mW/cm <sup>2</sup> ) |
|-----------------|--|--|
| 2.472           | 0.000547   | 1.00   |

$$S = EIRP/(4\pi R^2)$$

S = Maximum power density (mW/cm<sup>2</sup>)

EIRP = Radiated Output Power (mW).

R = Distance to the center of the radiation of the antenna (20cm = limit for MPE)

The maximum permissible exposure (MPE) for the general population is 1mW/cm<sup>2</sup>.

The power density at 20cm does not exceed the 1mW/cm<sup>2</sup> limit. Therefore, the exposure condition is compliant with FCC rules.



## 11. BAND EDGES MEASUREMENT

### 11.1. Test Equipment

| Item | Type              | Manufacturer | Model No. | Serial No. | Last Cal.  | Next Cal.  |
|------|-------------------|--------------|-----------|------------|------------|------------|
| 1.   | Spectrum Analyzer | Agilent      | E4447A    | MY45300136 | 2010.01.08 | 2011.01.07 |
| 2.   | Horn Antenna      | ESCO         | 3115      | 62960      | 2009.05.20 | 2010.05.19 |

### 11.2. Block Diagram of Test Setup

The same as section 5.2.

### 11.3. Specification Limits (§15.247(c))

In any 100kHz 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 20dB below that in the 100kHz 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 restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (See Section 15.205(c)). ( This test result attaching to §3.6.3)

### 11.4. Test Procedure

Set the EUT in transmitting mode on channel 1.

Set the spectrum analyzer as Center Frequency = 2400MHz, Peak detector, RBW = 300kHz, VBW = 300kHz, Span=300 kHz, Sweep Time = auto, Max hold. Use the marker-to-peak function to set the marker to the peak of the emission. Use the Display line set to 20 dB down of the emission. Set another marker to 2390MHz.

Set the EUT in transmitting mode on channel 15 and repeat above procedures. Set another marker to 2483.5MHz.

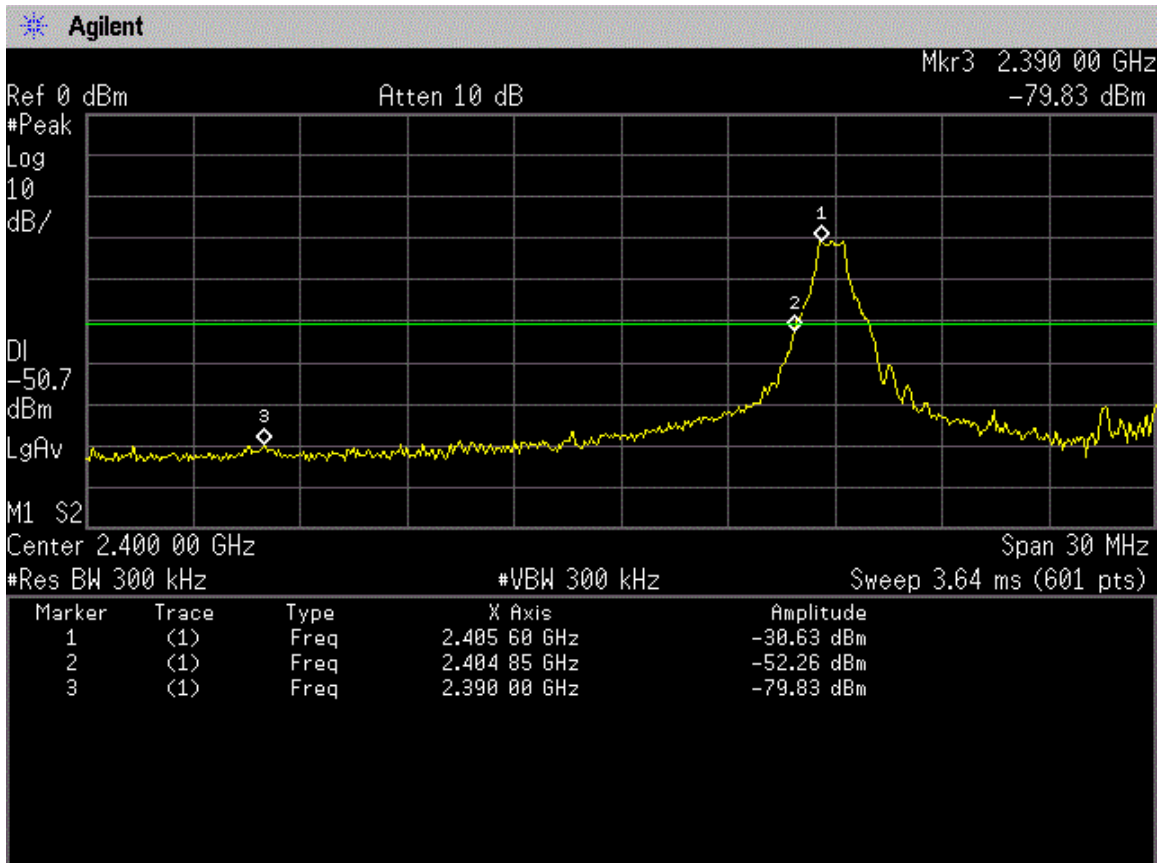
### 11.5. Test Results

**PASSED.** All the test results are attached in next pages.

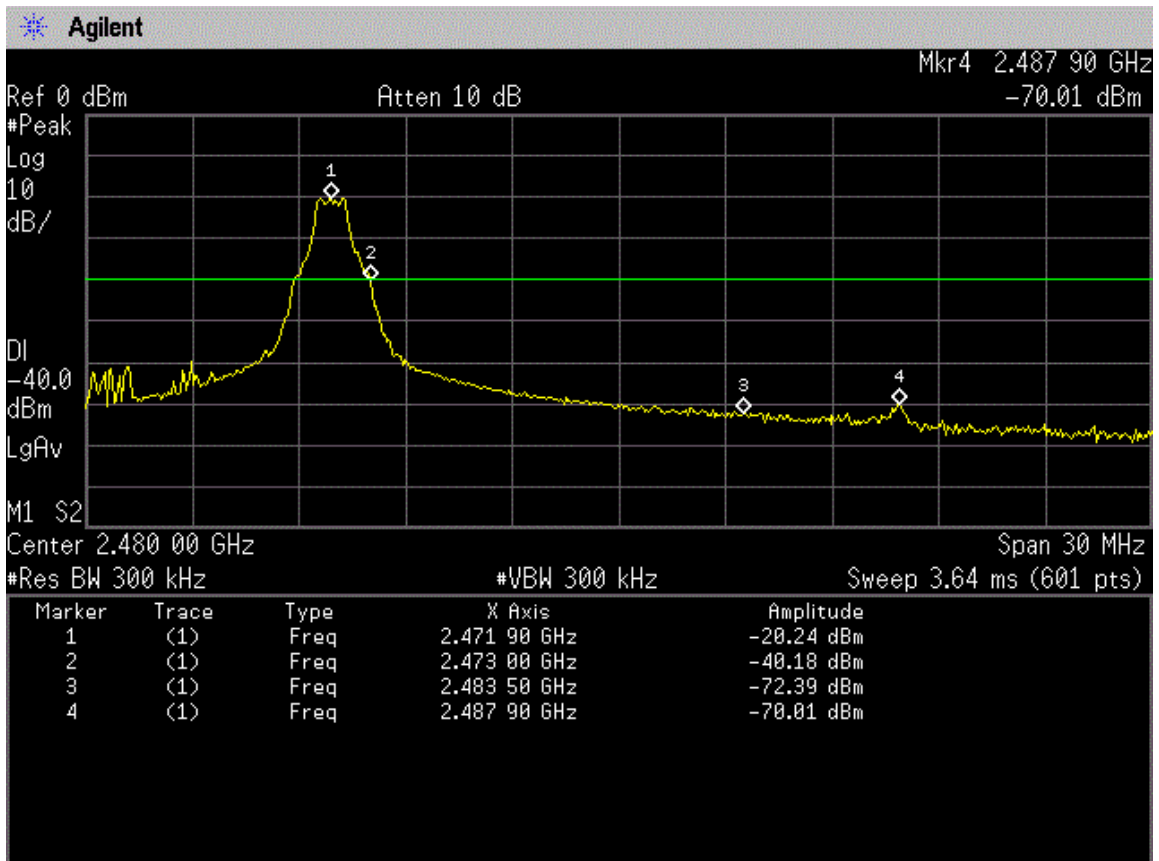
Test Date: Feb. 25, 2010    Temperature: 20.8    Humidity: 54 %

1. Upper Band edge: The highest emission level is – 72.39dBm on 2.4835GHz.
2. Below Band edge: The highest emission level is – 79.83dBm on 2.39000GHz.

11.5.1. Below Band edge



11.5.2. Upper Band edge



## 12. DEVIATION TO TEST SPECIFICATIONS

【NONE】