



## Test Report

Product Name : 802.11g Wireless ADSL2+ 4-port Gateway  
Model No. : P-660HW-D1 v2, P-660HW-D1 v2, P-660HW-D1 v2, 401619  
FCC ID. : I88P660HWD1V2

Applicant : ZyXEL Communications Corporation  
Address : No. 6, Innovation Rd II, Science-Based Industrial Park,  
Hsin-Chu, Taiwan, R.O.C.

Date of Receipt : 2006/09/12  
Issued Date : 2006/10/05  
Report No. : 069H035-RF-US-P05V01

The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

# Test Report Certification

Issued Date : 2006/10/05

Report No. : 069H035-RF-US-P05V01



Product Name : 802.11g Wireless ADSL2+ 4-port Gateway

Applicant : ZyXEL Communications Corporation

Address : No. 6, Innovation Rd II, Science-Based Industrial Park,  
Hsin-Chu, Taiwan, R.O.C.

Manufacturer : ZyXEL Communications (Wuxi) Corp

Model No. : P-660HW-D1 v2, P-660HW-D1 v2, P-660HW-D1 v2, 401619

FCC ID. : I88P660HWD1V2

Rated Voltage : AC 120 V / 60 Hz

EUT Voltage : AC 120 V / 60 Hz

Trade Name : ZyXEL

Applicable Standard : FCC CFR Title 47 Part 15 Subpart C Section 15.247

Test Result : Complied

The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

Documented By : Sandy Chuang  
( Sandy Chuang )

Reviewed By : Eric Lee  
( Eric Lee )

Approved By : Roy Wang  
( Roy Wang )

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## 1. General Information

### 1.1. EUT Description

|                                   |                                                       |
|-----------------------------------|-------------------------------------------------------|
| Product Name                      | 802.11g Wireless ADSL2+ 4-port Gateway                |
| Trade Name                        | ZyXEL                                                 |
| Model No.                         | P-660HW-D1 v2, P-660HW-D1 v2, P-660HW-D1 v2, 401619   |
| Frequency Range                   | 2412~2462MHz                                          |
| Channel Number                    | 11                                                    |
| Type of Modulation (IEEE 802.11b) | Direct Sequence Spread Spectrum (DSSS)                |
| Type of Modulation (IEEE 802.11g) | Orthogonal Frequency Division Multiplexing (OFDM)     |
| Data Speed (IEEE 802.11b)         | 1Mbps, 2Mbps, 5.5Mbps, 11Mbps                         |
| Data Speed (IEEE 802.11g)         | 6Mbps,9Mbps,12Mbps,18Mbps,24Mbps,36Mbps,48Mbps,54Mbps |
| Antenna Gain                      | Auto                                                  |
| Channel Control                   | Dipole                                                |
| Antenna Type                      | 3 dBi                                                 |

| Component     |                                                                                      |
|---------------|--------------------------------------------------------------------------------------|
| Power Adapter | OEM, AA-121A<br>I/P: 120Vac, 60Hz<br>O/P: 12Vdc, 1A<br>Cable Out: Non-Shielded, 1.8m |

| Working Frequency of Each Channel |           |         |           |         |           |         |           |
|-----------------------------------|-----------|---------|-----------|---------|-----------|---------|-----------|
| Channel                           | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 001                               | 2412 MHz  | 002     | 2417 MHz  | 003     | 2422 MHz  | 004     | 2427 MHz  |
| 005                               | 2432 MHz  | 006     | 2437 MHz  | 007     | 2442 MHz  | 008     | 2447 MHz  |
| 009                               | 2452 MHz  | 010     | 2457 MHz  | 011     | 2462 MHz  |         |           |

#### Note:

1. This device is a 802.11g Wireless ADSL2+ 4-port Gateway included a 2.4GHz receiving function, and 2.4GHz transmitting function.
2. The variation of model number is for different strategy of marketing and Firmware.
3. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.247 for spread spectrum devices.
4. Regards to the frequency band operation; the lowest 、middle and highest frequency of channel were selected to perform the test, and then shown on this report.
5. This device is a composite device in accordance with Part 15 regulations. The function receiving was measured and made a test report that the report number is 069H035-RF-US-P01V02 under Declaration of Conformity.

### 1.3. Test Mode

QuieTek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

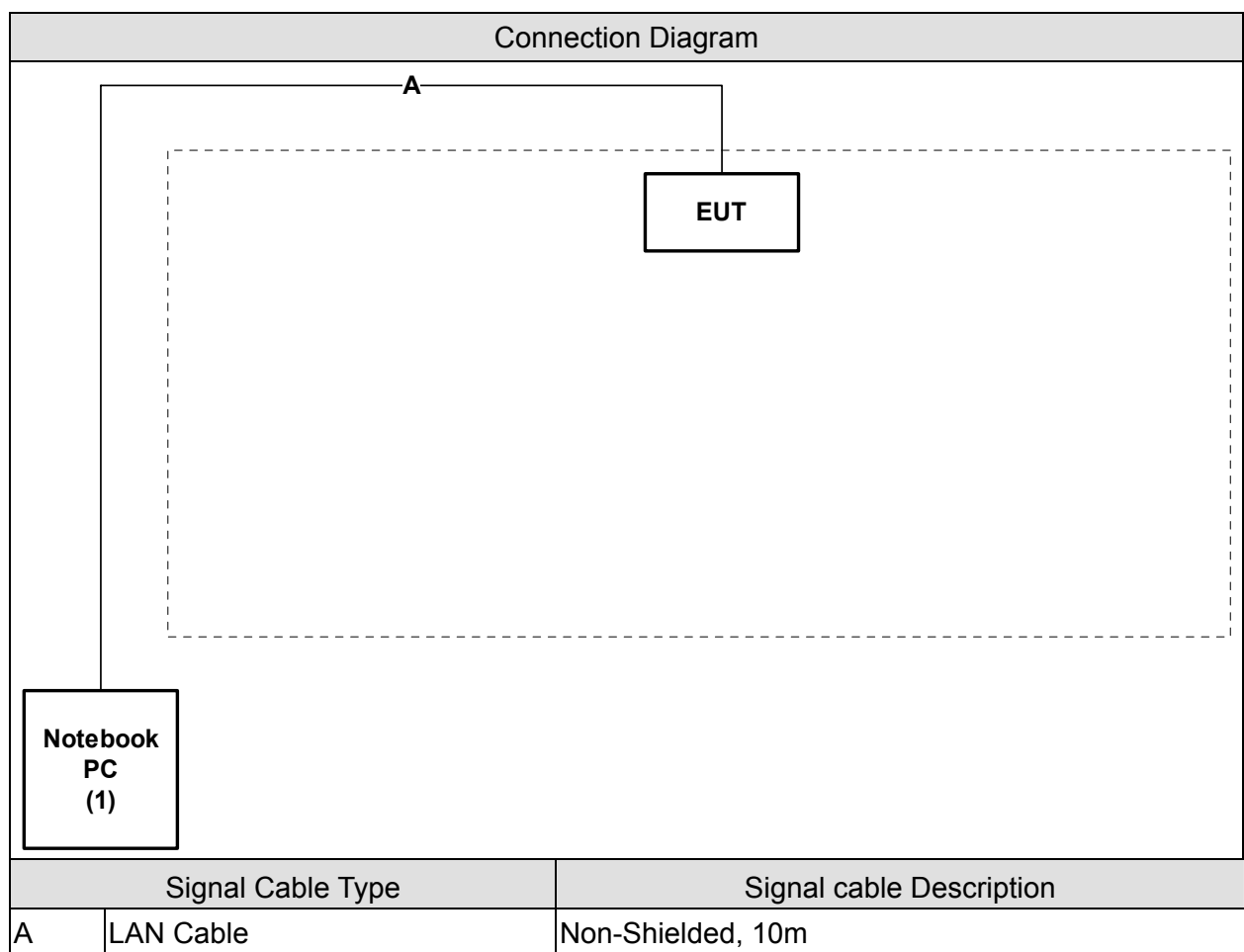
|                 |                  |
|-----------------|------------------|
| Pre-Test Mode   |                  |
| EMI             | Mode 1: Transmit |
| Final Test Mode |                  |
| EMI             | Mode 1: Transmit |

#### 1.4. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

| Product       | Manufacturer | Model No.     | Serial No. | FCC ID | Power Cord                                |
|---------------|--------------|---------------|------------|--------|-------------------------------------------|
| 1 Notebook PC | DELL         | LATITUDE D400 | N/A        | DoC    | Non-shielded, 1.7m, a ferrite core bonded |

#### 1.5. Configuration of tested System



## 1.6. EUT Exercise Software

|   |                                                  |
|---|--------------------------------------------------|
| 1 | Setup the EUT and simulators as shown on 1.4     |
| 2 | Turn on the power of all equipment.              |
| 3 | Notebook PC reads data from disk.                |
| 4 | Data will be receiving through EUT.              |
| 5 | The receive status will be shown on the monitor. |
| 6 | Repeat the above procedure (2) to (4)            |

## 1.7. Test Facility

Ambient conditions in the laboratory:

| Items                      | Test Item                                         | Required (IEC 68-1) | Actual   |
|----------------------------|---------------------------------------------------|---------------------|----------|
| Temperature (°C)           | FCC PART 15 C 15.247<br>Band Edge (FHSS)          | 15 - 35             | 20       |
| Humidity (%RH)             |                                                   | 25 - 75             | 50       |
| Barometric pressure (mbar) |                                                   | 860 - 1060          | 950-1000 |
| Temperature (°C)           | FCC PART 15 C 15.247<br>Channel Of Number (FHSS)  | 15 - 35             | 25       |
| Humidity (%RH)             |                                                   | 25 - 75             | 53       |
| Barometric pressure (mbar) |                                                   | 860 - 1060          | 950-1000 |
| Temperature (°C)           | FCC PART 15 C 15.247<br>Channel Separation (FHSS) | 15 - 35             | 25       |
| Humidity (%RH)             |                                                   | 25 - 75             | 53       |
| Barometric pressure (mbar) |                                                   | 860 - 1060          | 950-1000 |
| Temperature (°C)           | FCC PART 15 C 15.247<br>Dwell Time (FHSS)         | 15 - 35             | 25       |
| Humidity (%RH)             |                                                   | 25 - 75             | 53       |
| Barometric pressure (mbar) |                                                   | 860 - 1060          | 950-1000 |
| Temperature (°C)           | FCC PART 15 C 15.247<br>Occupied Bandwidth (FHSS) | 15 - 35             | 25       |
| Humidity (%RH)             |                                                   | 25 - 75             | 53       |
| Barometric pressure (mbar) |                                                   | 860 - 1060          | 950-1000 |
| Temperature (°C)           | FCC PART 15 C 15.247<br>Peak Power Output (FHSS)  | 15 - 35             | 25       |
| Humidity (%RH)             |                                                   | 25 - 75             | 53       |
| Barometric pressure (mbar) |                                                   | 860 - 1060          | 950-1000 |
| Temperature (°C)           | FCC PART 15 C 15.247<br>Radiated Emission (FHSS)  | 15 - 35             | 25       |
| Humidity (%RH)             |                                                   | 25 - 75             | 53       |
| Barometric pressure (mbar) |                                                   | 860 - 1060          | 950-1000 |

## Site Description:

January 24, 2005 File on  
Federal Communications Commission  
Laboratory Division  
7435 Oakland Mills Road  
Columbia, MD 21046  
Registration Number: 365520



Accredited by CNLA  
Accreditation Number: 1313  
Effective through: September 27, 2007



**1313**  
**ILAC MRA**

Accredited by NVLAP  
NVLAP Lab Code: 200347-0  
Effective through: September 30, 2006



Site Name: Quietek Corporation

Site Address: No.75-1, Wang-Yeh Valley, Yung-Hsing,  
Chiung-Lin, Hsin-Chu County,  
Taiwan, R.O.C.  
TEL : 886-3-592-8858 / FAX : 886-3-592-8859  
E-Mail : [service@quietek.com](mailto:service@quietek.com)

## 2. Peak Power Output

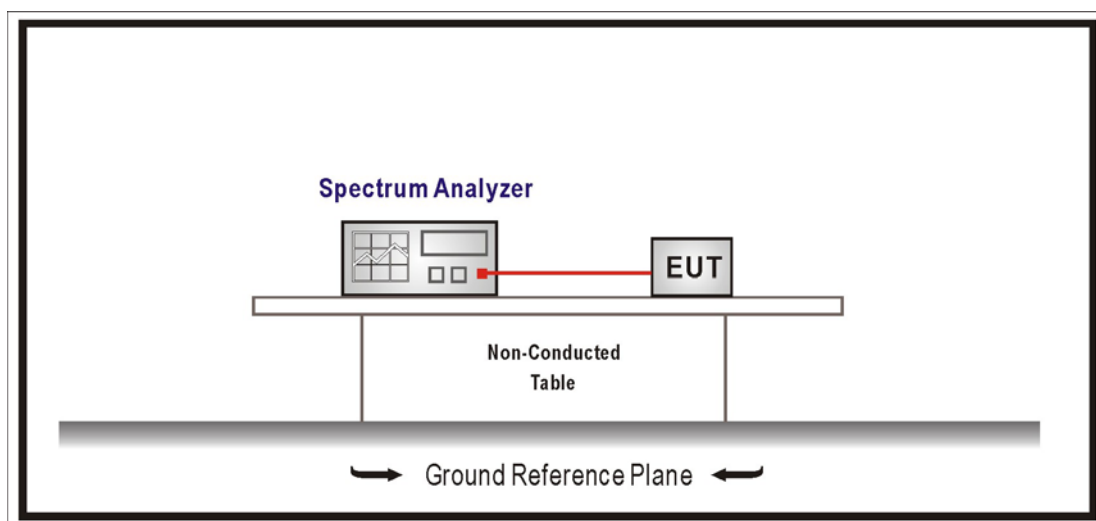
### 2.1. Test Equipment

The following test equipment are used during the test:

| Item | Equipment         | Manufacturer | Model No. / Serial No. | Last Cal.  |
|------|-------------------|--------------|------------------------|------------|
| 1    | Spectrum Analyzer | R & S        | FSP / 100561           | Mar., 2006 |
| 2    | No.1 OATS         |              |                        | Sep., 2006 |

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

### 2.2. Test Setup



### 2.3. Limits

For frequency hopping systems operating in the 902-928 MHz band: 1 Watt for systems employing at least 50 hopping channels; and, 0.25 Watts for systems employing less than 50 hopping channels.

For frequency hopping systems in the 2400-2483.5 MHz band employing at least 75 hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1Watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 Watt.

### 2.4. Test Specification

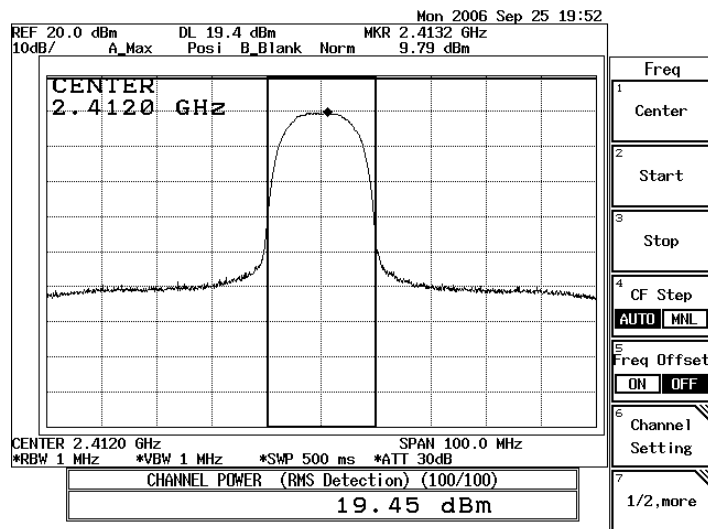
According to FCC Part 15 Subpart C Paragraph 15.247: 2004

## 2.5. Test Result

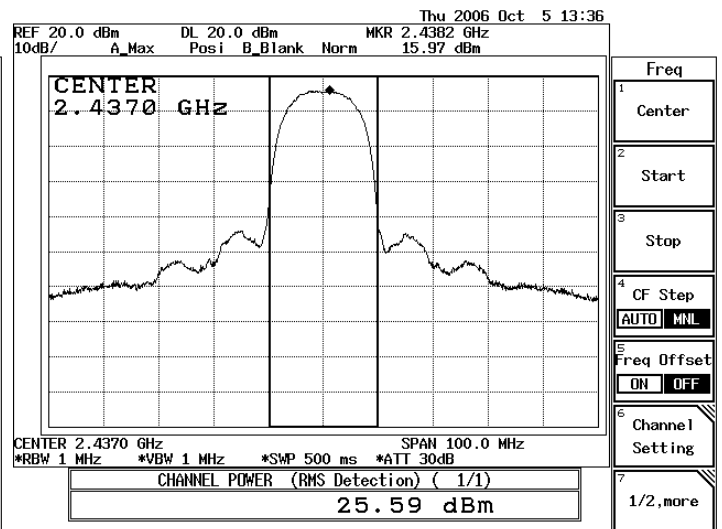
|              |                                        |           |           |
|--------------|----------------------------------------|-----------|-----------|
| Product      | 802.11g Wireless ADSL2+ 4-port Gateway |           |           |
| Test Item    | Peak Power Output                      |           |           |
| Test Mode    | Mode 1: Transmit                       |           |           |
| Date of Test | 2006/09/26                             | Test Site | No.1 OATS |

| IEEE 802.11b |                 |                     |                |        |
|--------------|-----------------|---------------------|----------------|--------|
| Channel No.  | Frequency (MHz) | Measure Level (dBm) | Limit (dBm)    | Result |
| 1            | 2412            | 19.45               | 1Watt = 30 dBm | Pass   |
| 6            | 2437            | 25.59               | 1Watt= 30 dBm  | Pass   |
| 11           | 2462            | 19.24               | 1Watt= 30 dBm  | Pass   |

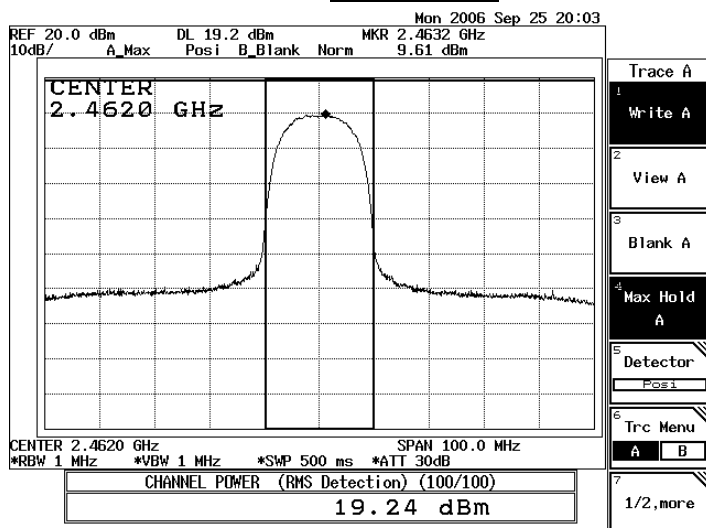
**Channel 1**



**Channel 6**



**Channel 11**

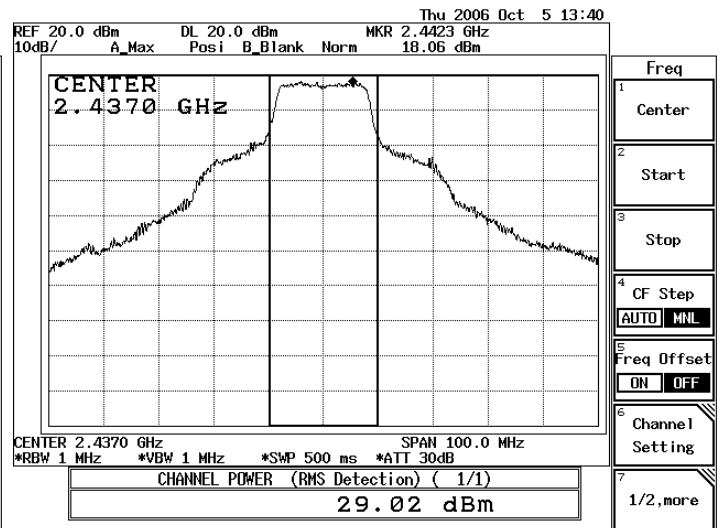
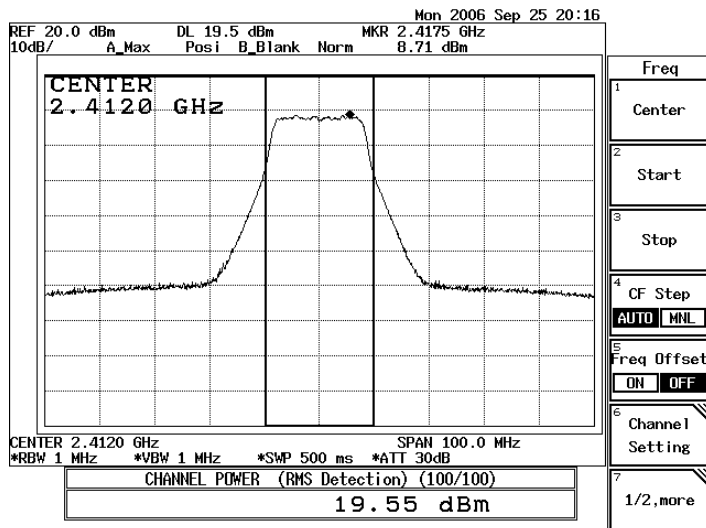


|              |                                        |           |           |
|--------------|----------------------------------------|-----------|-----------|
| Product      | 802.11g Wireless ADSL2+ 4-port Gateway |           |           |
| Test Item    | Peak Power Output                      |           |           |
| Test Mode    | Mode 1: Transmit                       |           |           |
| Date of Test | 2006/09/26                             | Test Site | No.1 OATS |

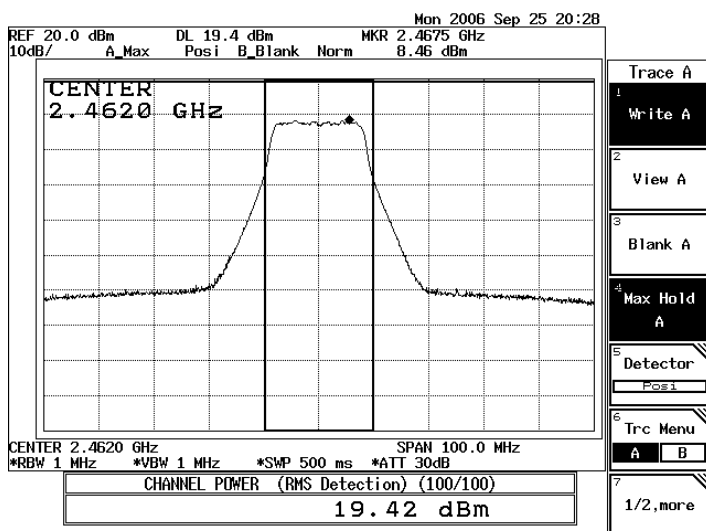
| IEEE 802.11g |                 |                     |                |        |
|--------------|-----------------|---------------------|----------------|--------|
| Channel No.  | Frequency (MHz) | Measure Level (dBm) | Limit (dBm)    | Result |
| 1            | 2412            | 19.55               | 1Watt = 30 dBm | Pass   |
| 6            | 2437            | 29.02               | 1Watt= 30 dBm  | Pass   |
| 11           | 2462            | 19.42               | 1Watt= 30 dBm  | Pass   |

**Channel 1**

**Channel 6**



**Channel 11**



### 3. Conducted Emission

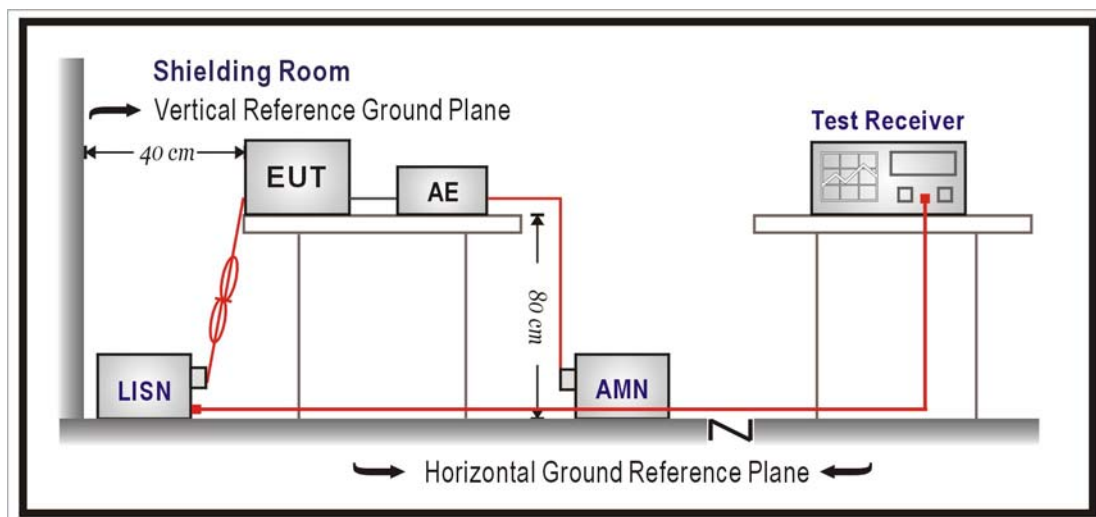
#### 3.1. Test Equipment

The following test equipment are used during the test:

| Item | Equipment                | Manufacturer | Model No. / Serial No. | Last Cal.  | Remark      |
|------|--------------------------|--------------|------------------------|------------|-------------|
| 1    | Test Receiver            | R & S        | ESCS 30/825442/018     | Sep., 2006 |             |
| 2    | Artificial Mains Network | R & S        | ENV4200/848411/10      | Feb., 2006 | Peripherals |
| 3    | LISN                     | R & S        | ESH3-Z5/825562/002     | Feb., 2006 | EUT         |
| 4    | Pulse Limiter            | R & S        | ESH3-Z2/357.8810.52    | Feb., 2006 |             |
| 5    | No.2 Shielded Room       |              |                        | N/A        |             |

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

#### 3.2. Test Setup



### 3.3. Limits

| FCC Part 15 Subpart C Paragraph 15.207 Limits (dBUV) |       |       |
|------------------------------------------------------|-------|-------|
| Frequency<br>MHz                                     | QP    | AV    |
| 0.15 - 0.50                                          | 66-56 | 56-46 |
| 0.50-5.0                                             | 56    | 46    |
| 5.0 - 30                                             | 60    | 50    |

Remarks : In the above table, the tighter limit applies at the band edges.

### 3.4. Test Procedure

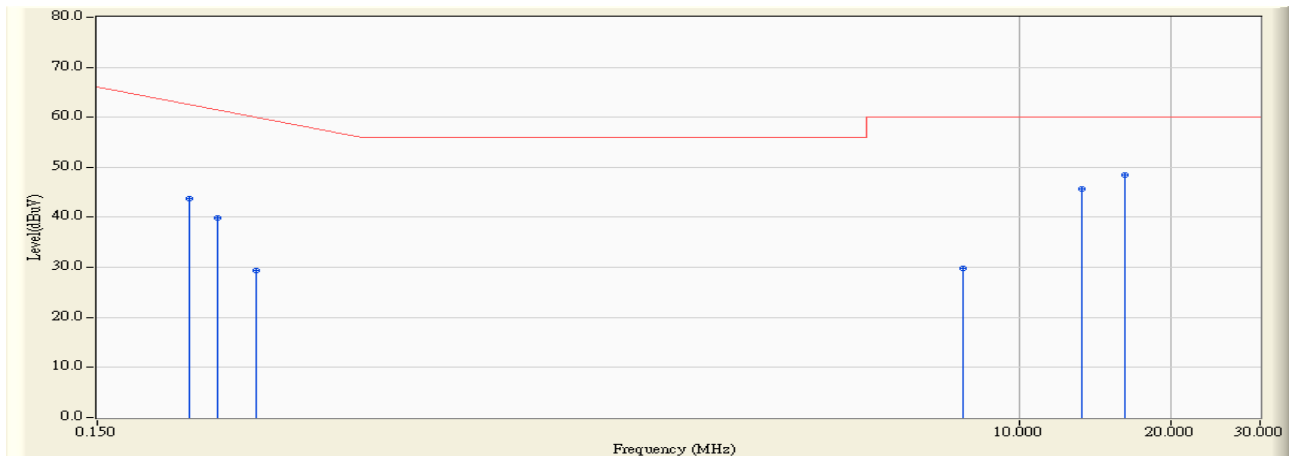
The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.) Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement. Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

### 3.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.207: 2005

### 3.6. Test Result

|                                             |                                   |
|---------------------------------------------|-----------------------------------|
| Site : QuieTek Shielding Room2              | Time : 2006/09/26 - 15:19         |
| Limit : CISPR_B_00M_QP                      | Margin : 0                        |
| EUT : 802.11G Wireless ADSL 2+4port Gateway | Probe : SR3_LISN(16A) - Line1     |
| Power : AC 120V/60Hz                        | Note : Mode 1: Transmit (802.11b) |

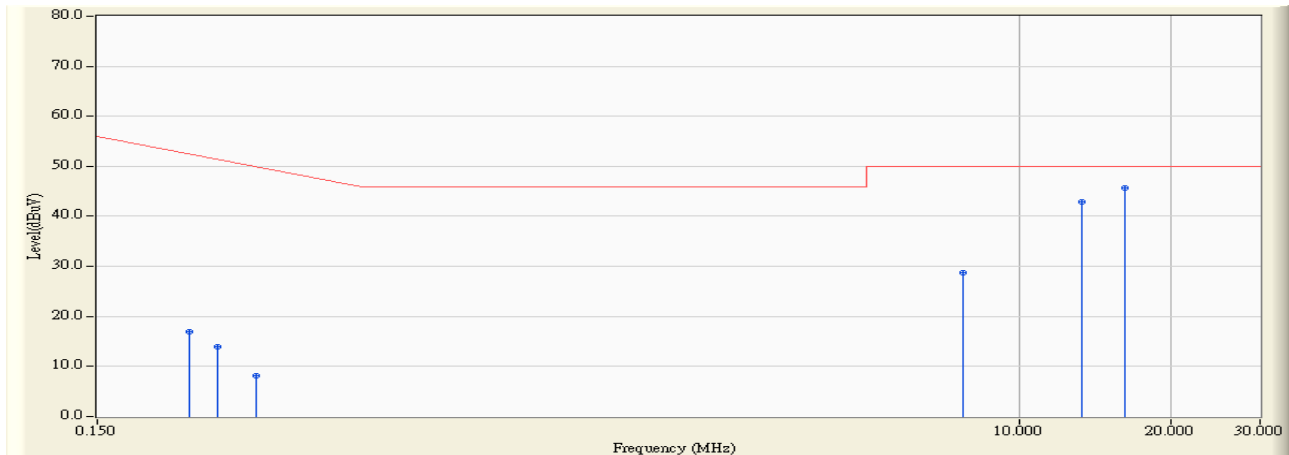


|   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV) | Margin (dB) | Limit (dBuV) | Detector Type |
|---|-----------------|---------------------|----------------------|----------------------|-------------|--------------|---------------|
| 1 | 0.228           | 0.260               | 43.470               | 43.730               | -20.041     | 63.771       | QUASIPeAK     |
| 2 | 0.259           | 0.264               | 39.690               | 39.954               | -22.932     | 62.886       | QUASIPeAK     |
| 3 | 0.310           | 0.280               | 29.050               | 29.331               | -32.098     | 61.429       | QUASIPeAK     |
| 4 | 7.736           | 1.300               | 28.490               | 29.790               | -30.210     | 60.000       | QUASIPeAK     |
| 5 | 13.357          | 1.622               | 44.030               | 45.652               | -14.348     | 60.000       | QUASIPeAK     |
| 6 | * 16.228        | 1.770               | 46.680               | 48.450               | -11.550     | 60.000       | QUASIPeAK     |

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

|                                             |                                   |
|---------------------------------------------|-----------------------------------|
| Site : QuieTek Shielding Room2              | Time : 2006/09/26 - 15:19         |
| Limit : CISPR_B_00M_AV                      | Margin : 0                        |
| EUT : 802.11G Wireless ADSL 2+4port Gateway | Probe : SR3_LISN(16A) - Line1     |
| Power : AC 120V/60Hz                        | Note : Mode 1: Transmit (802.11b) |

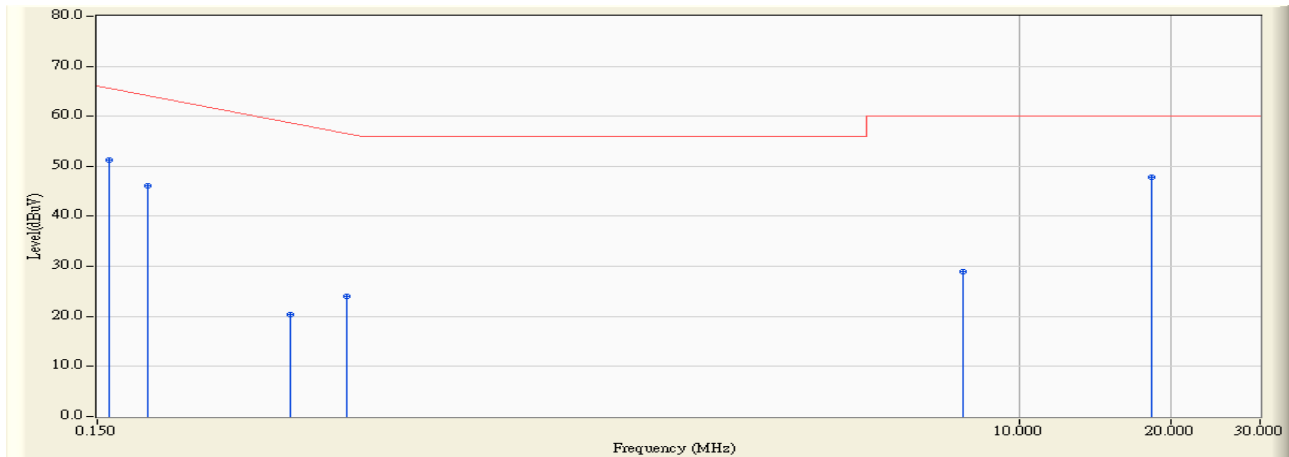


|   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV) | Margin (dB) | Limit (dBuV) | Detector Type |
|---|-----------------|---------------------|----------------------|----------------------|-------------|--------------|---------------|
| 1 | 0.228           | 0.260               | 16.690               | 16.950               | -36.821     | 53.771       | AVERAGE       |
| 2 | 0.259           | 0.264               | 13.600               | 13.864               | -39.022     | 52.886       | AVERAGE       |
| 3 | 0.310           | 0.280               | 7.910                | 8.191                | -43.238     | 51.429       | AVERAGE       |
| 4 | 7.736           | 1.300               | 27.350               | 28.650               | -21.350     | 50.000       | AVERAGE       |
| 5 | 13.357          | 1.622               | 41.250               | 42.872               | -7.128      | 50.000       | AVERAGE       |
| 6 | * 16.228        | 1.770               | 43.940               | 45.710               | -4.290      | 50.000       | AVERAGE       |

## Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

|                                             |                                   |
|---------------------------------------------|-----------------------------------|
| Site : QuieTek Shielding Room2              | Time : 2006/09/26 - 15:25         |
| Limit : CISPR_B_00M_QP                      | Margin : 0                        |
| EUT : 802.11G Wireless ADSL 2+4port Gateway | Probe : SR3_LISN(16A) - Line2     |
| Power : AC 120V/60Hz                        | Note : Mode 1: Transmit (802.11b) |

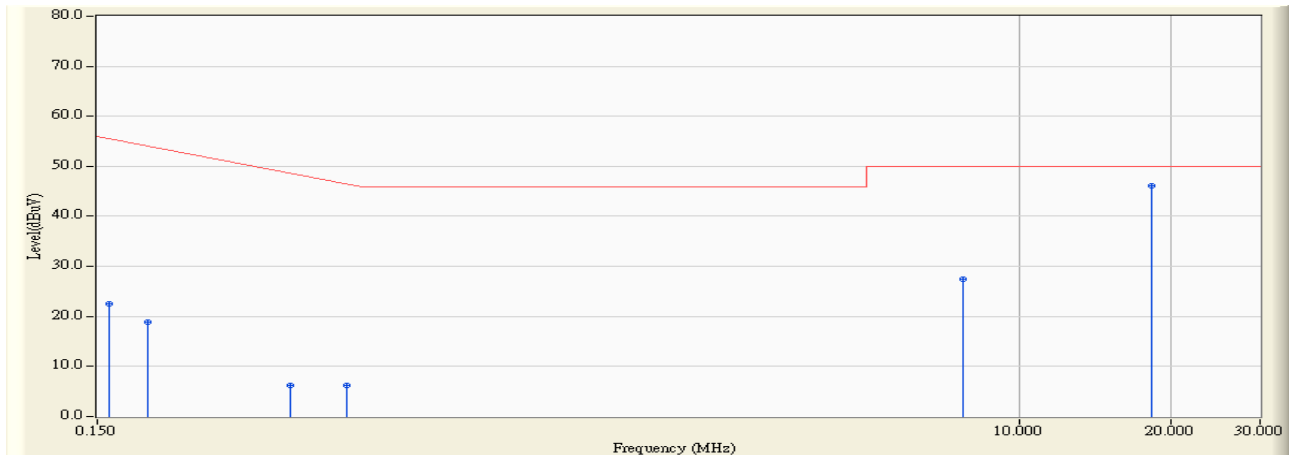


|   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV) | Margin (dB) | Limit (dBuV) | Detector Type |
|---|-----------------|---------------------|----------------------|----------------------|-------------|--------------|---------------|
| 1 | 0.158           | 0.140               | 51.200               | 51.340               | -14.431     | 65.771       | QUASIPeAK     |
| 2 | 0.189           | 0.150               | 45.860               | 46.010               | -18.876     | 64.886       | QUASIPeAK     |
| 3 | 0.361           | 0.190               | 20.230               | 20.420               | -39.551     | 59.971       | QUASIPeAK     |
| 4 | 0.466           | 0.203               | 23.880               | 24.083               | -32.888     | 56.971       | QUASIPeAK     |
| 5 | 7.736           | 0.620               | 28.330               | 28.950               | -31.050     | 60.000       | QUASIPeAK     |
| 6 | * 18.246        | 0.890               | 46.910               | 47.800               | -12.200     | 60.000       | QUASIPeAK     |

## Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

|                                             |                                   |
|---------------------------------------------|-----------------------------------|
| Site : QuieTek Shielding Room2              | Time : 2006/09/26 - 15:25         |
| Limit : CISPR_B_00M_AV                      | Margin : 0                        |
| EUT : 802.11G Wireless ADSL 2+4port Gateway | Probe : SR3_LISN(16A) - Line2     |
| Power : AC 120V/60Hz                        | Note : Mode 1: Transmit (802.11b) |

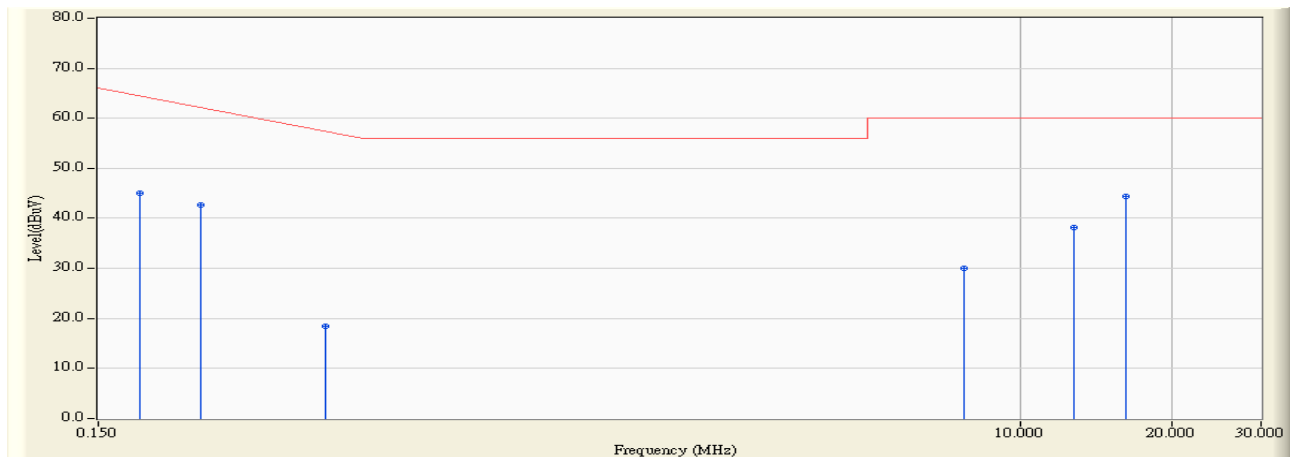


|   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV) | Margin (dB) | Limit (dBuV) | Detector Type |
|---|-----------------|---------------------|----------------------|----------------------|-------------|--------------|---------------|
| 1 | 0.158           | 0.140               | 22.420               | 22.560               | -33.211     | 55.771       | AVERAGE       |
| 2 | 0.189           | 0.150               | 18.650               | 18.800               | -36.086     | 54.886       | AVERAGE       |
| 3 | 0.361           | 0.190               | 5.990                | 6.180                | -43.791     | 49.971       | AVERAGE       |
| 4 | 0.466           | 0.203               | 6.080                | 6.283                | -40.688     | 46.971       | AVERAGE       |
| 5 | 7.736           | 0.620               | 26.790               | 27.410               | -22.590     | 50.000       | AVERAGE       |
| 6 | * 18.246        | 0.890               | 45.320               | 46.210               | -3.790      | 50.000       | AVERAGE       |

## Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

|                                             |                                   |
|---------------------------------------------|-----------------------------------|
| Site : QuieTek Shielding Room2              | Time : 2006/09/26 - 15:41         |
| Limit : CISPR_B_00M_QP                      | Margin : 0                        |
| EUT : 802.11G Wireless ADSL 2+4port Gateway | Probe : SR3_LISN(16A) - Line1     |
| Power : AC 120V/60Hz                        | Note : Mode 1: Transmit (802.11g) |

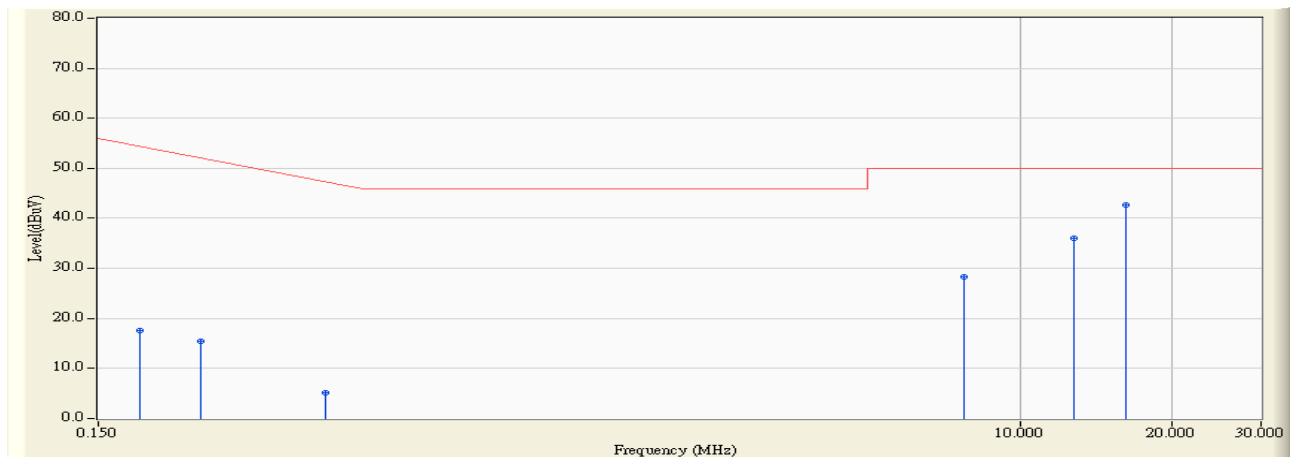


|   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV) | Margin (dB) | Limit (dBuV) | Detector Type |
|---|-----------------|---------------------|----------------------|----------------------|-------------|--------------|---------------|
| 1 | 0.181           | 0.247               | 44.700               | 44.947               | -20.167     | 65.114       | QUASIPeAK     |
| 2 | 0.240           | 0.260               | 42.430               | 42.690               | -20.739     | 63.429       | QUASIPeAK     |
| 3 | 0.423           | 0.555               | 17.840               | 18.395               | -39.805     | 58.200       | QUASIPeAK     |
| 4 | 7.740           | 1.300               | 28.790               | 30.090               | -29.910     | 60.000       | QUASIPeAK     |
| 5 | 12.810          | 1.347               | 36.800               | 38.147               | -21.853     | 60.000       | QUASIPeAK     |
| 6 | * 16.228        | 1.770               | 42.530               | 44.300               | -15.700     | 60.000       | QUASIPeAK     |

## Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

|                                             |                                   |
|---------------------------------------------|-----------------------------------|
| Site : QuieTek Shielding Room2              | Time : 2006/09/26 - 15:41         |
| Limit : CISPR_B_00M_AV                      | Margin : 0                        |
| EUT : 802.11G Wireless ADSL 2+4port Gateway | Probe : SR3_LISN(16A) - Line1     |
| Power : AC 120V/60Hz                        | Note : Mode 1: Transmit (802.11g) |

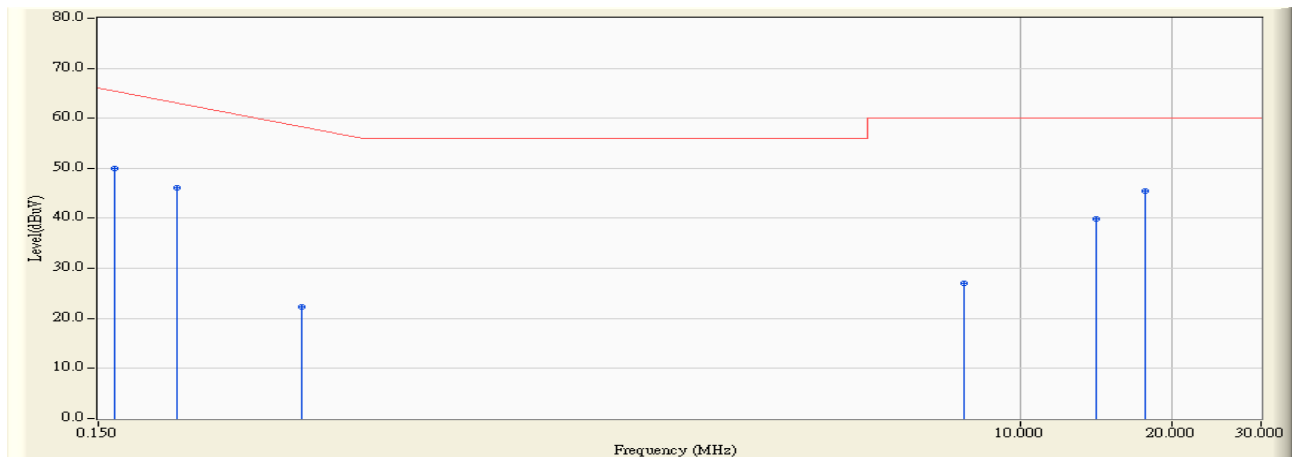


|   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV) | Margin (dB) | Limit (dBuV) | Detector Type |
|---|-----------------|---------------------|----------------------|----------------------|-------------|--------------|---------------|
| 1 | 0.181           | 0.247               | 17.440               | 17.687               | -37.427     | 55.114       | AVERAGE       |
| 2 | 0.240           | 0.260               | 15.190               | 15.450               | -37.979     | 53.429       | AVERAGE       |
| 3 | 0.423           | 0.555               | 4.620                | 5.175                | -43.025     | 48.200       | AVERAGE       |
| 4 | 7.740           | 1.300               | 27.100               | 28.400               | -21.600     | 50.000       | AVERAGE       |
| 5 | 12.810          | 1.347               | 34.790               | 36.137               | -13.863     | 50.000       | AVERAGE       |
| 6 | * 16.228        | 1.770               | 40.940               | 42.710               | -7.290      | 50.000       | AVERAGE       |

## Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

|                                             |                                   |
|---------------------------------------------|-----------------------------------|
| Site : QuieTek Shielding Room2              | Time : 2006/09/26 - 15:46         |
| Limit : CISPR_B_00M_QP                      | Margin : 0                        |
| EUT : 802.11G Wireless ADSL 2+4port Gateway | Probe : SR3_LISN(16A) - Line2     |
| Power : AC 120V/60Hz                        | Note : Mode 1: Transmit (802.11g) |

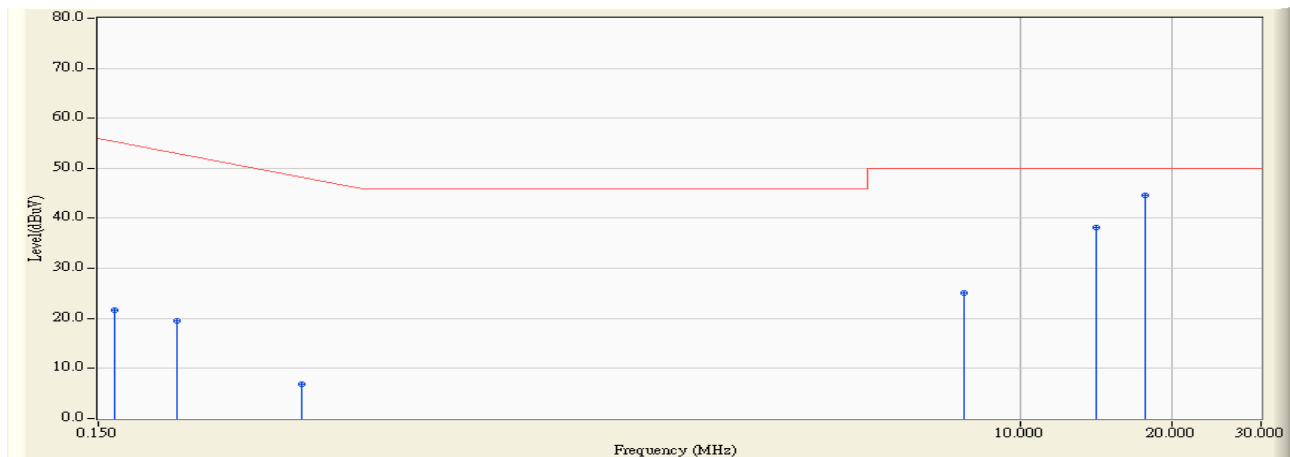


|   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV) | Margin (dB) | Limit (dBuV) | Detector Type |
|---|-----------------|---------------------|----------------------|----------------------|-------------|--------------|---------------|
| 1 | 0.162           | 0.141               | 49.880               | 50.021               | -15.636     | 65.657       | QUASIPeAK     |
| 2 | 0.214           | 0.158               | 46.040               | 46.198               | -17.973     | 64.171       | QUASIPeAK     |
| 3 | 0.380           | 0.194               | 22.170               | 22.364               | -37.065     | 59.429       | QUASIPeAK     |
| 4 | 7.744           | 0.620               | 26.370               | 26.990               | -33.010     | 60.000       | QUASIPeAK     |
| 5 | 14.150          | 0.840               | 38.950               | 39.790               | -20.210     | 60.000       | QUASIPeAK     |
| 6 | * 17.693        | 0.890               | 44.560               | 45.450               | -14.550     | 60.000       | QUASIPeAK     |

## Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

|                                             |                                   |
|---------------------------------------------|-----------------------------------|
| Site : QuieTek Shielding Room2              | Time : 2006/09/26 - 15:46         |
| Limit : CISPR_B_00M_AV                      | Margin : 0                        |
| EUT : 802.11G Wireless ADSL 2+4port Gateway | Probe : SR3_LISN(16A) - Line2     |
| Power : AC 120V/60Hz                        | Note : Mode 1: Transmit (802.11g) |



|   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV) | Margin (dB) | Limit (dBuV) | Detector Type |
|---|-----------------|---------------------|----------------------|----------------------|-------------|--------------|---------------|
| 1 | 0.162           | 0.141               | 21.600               | 21.741               | -33.916     | 55.657       | AVERAGE       |
| 2 | 0.214           | 0.158               | 19.390               | 19.548               | -34.623     | 54.171       | AVERAGE       |
| 3 | 0.380           | 0.194               | 6.670                | 6.864                | -42.565     | 49.429       | AVERAGE       |
| 4 | 7.744           | 0.620               | 24.430               | 25.050               | -24.950     | 50.000       | AVERAGE       |
| 5 | 14.150          | 0.840               | 37.430               | 38.270               | -11.730     | 50.000       | AVERAGE       |
| 6 | * 17.693        | 0.890               | 43.660               | 44.550               | -5.450      | 50.000       | AVERAGE       |

## Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

### 3.7. Test Photo

Test Mode : Mode 1: Transmit

Description : Front View of Conducted Emission Test Setup



Test Mode : Mode 1: Transmit

Description : Back View of Conducted Emission Test Setup



## 4. Radiated Emission

### 4.1. Test Equipment

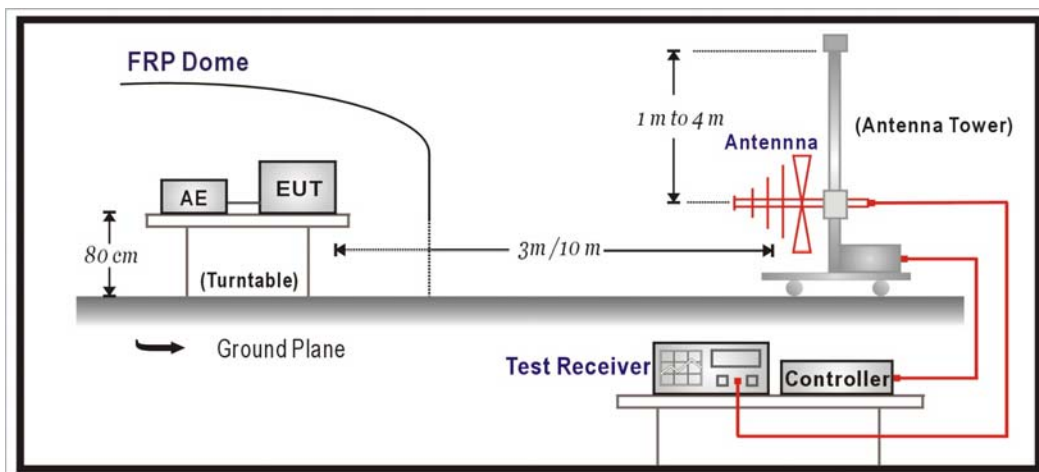
The following test equipment are used during the test:

| Item |   | Equipment         | Manufacturer | Model No. / Serial No.       | Last Cal.  |
|------|---|-------------------|--------------|------------------------------|------------|
| 1    | X | Test Receiver     | R & S        | ESCS 30 / 825442/017         | Jan., 2006 |
| 2    | X | Spectrum Analyzer | Advantest    | R3261C / 81720266            | N/A        |
| 3    | X | Pre-Amplifier     | HP           | 8447D / 2944A09276           | N/A        |
| 4    | X | Bilog Antenna     | Chase        | CBL6112B / 2455              | Sep., 2006 |
| 5    | X | Spectrum Analyzer | R & S        | FSP40 / 100005               | Aug., 2006 |
| 6    | X | Pre-Amplifier     | HP           | 8449B / 3008A01123           | Feb., 2006 |
| 7    | X | Horn Antenna      | Schwarzbeck  | BBHA 9120D /<br>BBHA9120D312 | Jul., 2006 |
| 8    |   | No.1 OATS         |              |                              | Sep., 2006 |

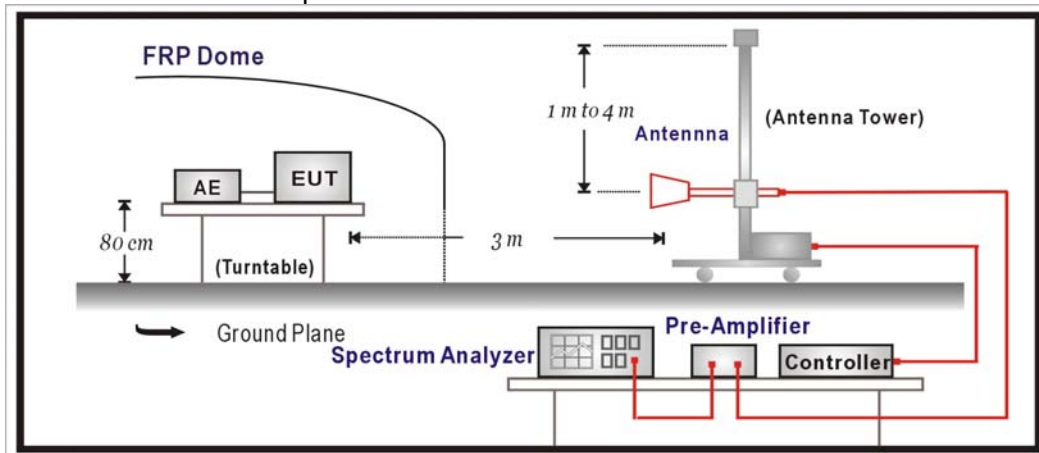
Note: 1. All equipments that need to calibrate are with calibration period of 1 year.  
2. Mark "X" test instruments are used to measure the final test results.

### 4.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



### 4.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

| FCC Part 15 Subpart C Paragraph 15.209 Limits |      |        |
|-----------------------------------------------|------|--------|
| Frequency<br>MHz                              | uV/m | dBuV/m |
| 30-88                                         | 100  | 40     |
| 88-216                                        | 150  | 43.5   |
| 216-960                                       | 200  | 46     |
| Above 960                                     | 500  | 54     |

- Remarks :
1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
  2. In the Above Table, the tighter limit applies at the band edges.
  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.

### 4.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2003 on radiated measurement.

On any frequency or frequencies below or equal to 1000 MHz, the limits shown are based on measuring equipment employing a quasi-peak detector function and on any frequency or frequencies above 1000 MHz the radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. When average radiated emission measurement are included emission measurement below 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit. The bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

### 4.5. Test Specification

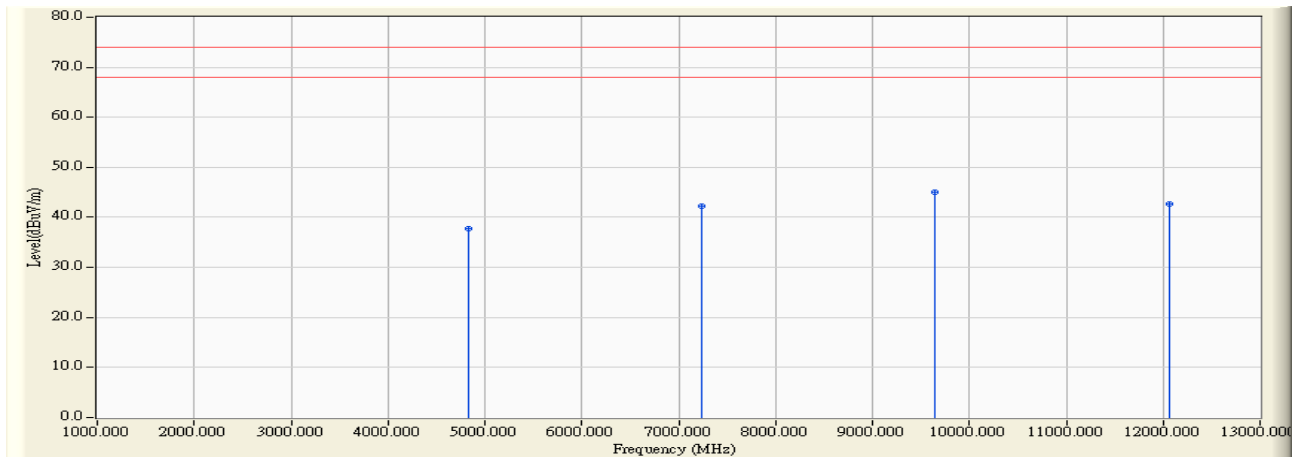
According to FCC Part 15 Subpart C Paragraph 15.247: 2004

## 4.6. Test Result

### Harmonic & Spurious:

|                                             |                                        |
|---------------------------------------------|----------------------------------------|
| Site : Site 1                               | Time : 2006/09/19 - 17:05              |
| Limit : FCC_SpartC_15.247_H_03M_PK          | Margin : 6                             |
| EUT : 802.11G Wireless ADSL 2+4port Gateway | Probe : RF_1G-18G(2005-3) - HORIZONTAL |
| Power : AC 120V/60Hz                        | Note : Mode 1: Transmit (802.11b)      |

### Channel 1



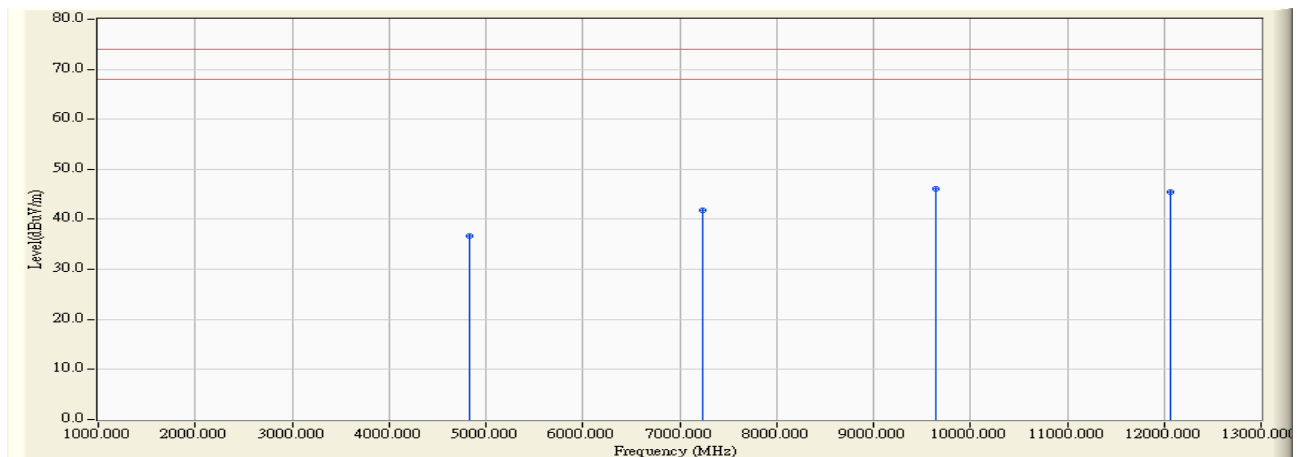
|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type | Ant Pos<br>(cm) | Table Pos<br>(deg) |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|-----------------|--------------------|
| 1 |   | 4824.100           | 1.463                  | 36.280                  | 37.743                    | -36.257        | 74.000            | PEAK          | 0.000           | 0.000              |
| 2 |   | 7235.700           | 6.853                  | 35.400                  | 42.253                    | -31.747        | 74.000            | PEAK          | 0.000           | 0.000              |
| 3 | * | 9647.900           | 9.951                  | 35.020                  | 44.971                    | -29.029        | 74.000            | PEAK          | 0.000           | 0.000              |
| 4 |   | 12059.900          | 10.195                 | 32.540                  | 42.735                    | -31.265        | 74.000            | PEAK          | 0.000           | 0.000              |

### Note:

1. All Reading Levels are Quasi-Peak value.
2. “ \* ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied

|                                             |                                      |
|---------------------------------------------|--------------------------------------|
| Site : Site 1                               | Time : 2006/09/19 - 17:06            |
| Limit : FCC_SpartC_15.247_H_03M_PK          | Margin : 6                           |
| EUT : 802.11G Wireless ADSL 2+4port Gateway | Probe : RF_1G-18G(2005-3) - VERTICAL |
| Power : AC 120V/60Hz                        | Note : Mode 1: Transmit (802.11b)    |

## Channel 1



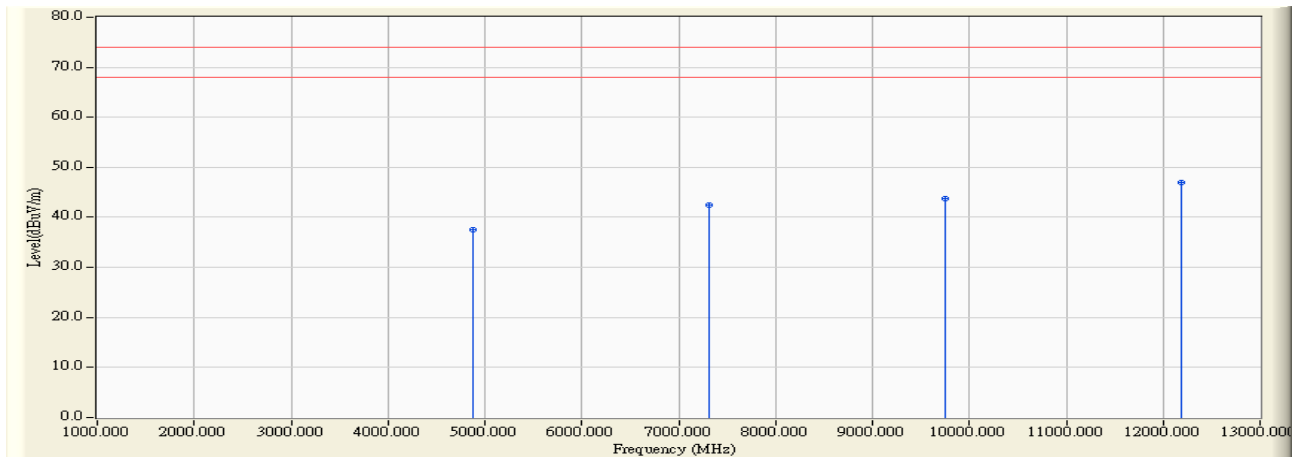
|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type | Ant Pos<br>(cm) | Table Pos<br>(deg) |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|-----------------|--------------------|
| 1 |   | 4824.100           | -0.288                 | 36.950                  | 36.661                    | -37.339        | 74.000            | PEAK          | 0.000           | 0.000              |
| 2 |   | 7235.900           | 6.855                  | 34.910                  | 41.764                    | -32.236        | 74.000            | PEAK          | 0.000           | 0.000              |
| 3 | * | 9648.300           | 11.950                 | 34.200                  | 46.150                    | -27.850        | 74.000            | PEAK          | 0.000           | 0.000              |
| 4 |   | 12059.900          | 12.369                 | 33.000                  | 45.369                    | -28.631        | 74.000            | PEAK          | 0.000           | 0.000              |

### Note:

1. All Reading Levels are Quasi-Peak value.
2. “ \* ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied

|                                             |                                        |
|---------------------------------------------|----------------------------------------|
| Site : Site 1                               | Time : 2006/09/19 - 17:06              |
| Limit : FCC_SpartC_15.247_H_03M_PK          | Margin : 6                             |
| EUT : 802.11G Wireless ADSL 2+4port Gateway | Probe : RF_1G-18G(2005-3) - HORIZONTAL |
| Power : AC 120V/60Hz                        | Note : Mode 1: Transmit (802.11b)      |

## Channel 6



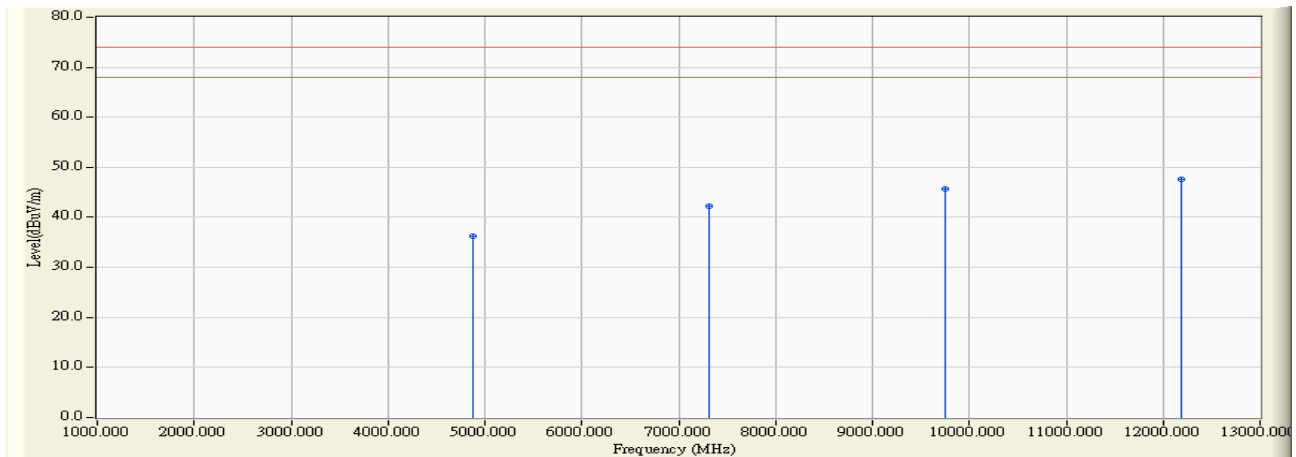
|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type | Ant Pos<br>(cm) | Table Pos<br>(deg) |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|-----------------|--------------------|
| 1 |   | 4873.500           | 1.664                  | 35.910                  | 37.573                    | -36.427        | 74.000            | PEAK          | 0.000           | 0.000              |
| 2 |   | 7311.100           | 7.336                  | 35.050                  | 42.386                    | -31.614        | 74.000            | PEAK          | 0.000           | 0.000              |
| 3 |   | 9747.700           | 9.727                  | 34.040                  | 43.767                    | -30.233        | 74.000            | PEAK          | 0.000           | 0.000              |
| 4 | * | 12184.500          | 14.065                 | 32.930                  | 46.995                    | -27.005        | 74.000            | PEAK          | 0.000           | 0.000              |

### Note:

- All Reading Levels are Quasi-Peak value.
- " \* ", means this data is the worst emission level.
- Measurement Level = Reading Level + Correct Factor
- The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied

|                                             |                                      |
|---------------------------------------------|--------------------------------------|
| Site : Site 1                               | Time : 2006/09/19 - 17:07            |
| Limit : FCC_SpartC_15.247_H_03M_PK          | Margin : 6                           |
| EUT : 802.11G Wireless ADSL 2+4port Gateway | Probe : RF_1G-18G(2005-3) - VERTICAL |
| Power : AC 120V/60Hz                        | N Note : Mode 1: Transmit (802.11b)  |

## Channel 6



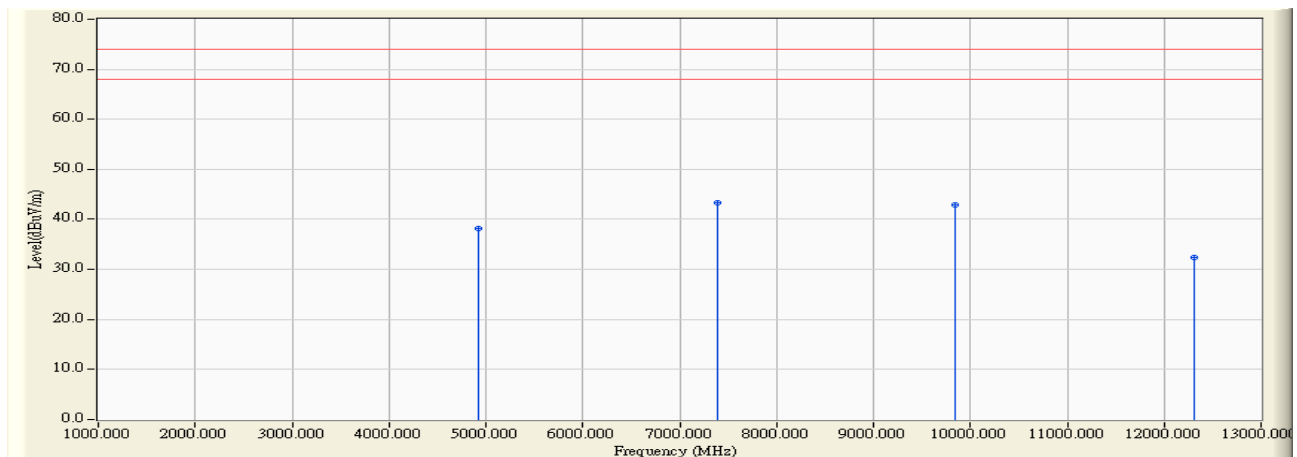
|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type | Ant Pos<br>(cm) | Table Pos<br>(deg) |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|-----------------|--------------------|
| 1 |   | 4873.700           | 0.010                  | 36.190                  | 36.200                    | -37.800        | 74.000            | PEAK          | 0.000           | 0.000              |
| 2 |   | 7310.900           | 7.334                  | 34.930                  | 42.264                    | -31.736        | 74.000            | PEAK          | 0.000           | 0.000              |
| 3 |   | 9747.500           | 11.728                 | 33.880                  | 45.607                    | -28.393        | 74.000            | PEAK          | 0.000           | 0.000              |
| 4 | * | 12184.100          | 14.381                 | 33.140                  | 47.520                    | -26.480        | 74.000            | PEAK          | 0.000           | 0.000              |

### Note:

1. All Reading Levels are Quasi-Peak value.
2. “ \* ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied

|                                             |                                        |
|---------------------------------------------|----------------------------------------|
| Site : Site 1                               | Time : 2006/09/19 - 17:07              |
| Limit : FCC_SpartC_15.247_H_03M_PK          | Margin : 6                             |
| EUT : 802.11G Wireless ADSL 2+4port Gateway | Probe : RF_1G-18G(2005-3) - HORIZONTAL |
| Power : AC 120V/60Hz                        | Note : Mode 1: Transmit (802.11b)      |

## Channel 11



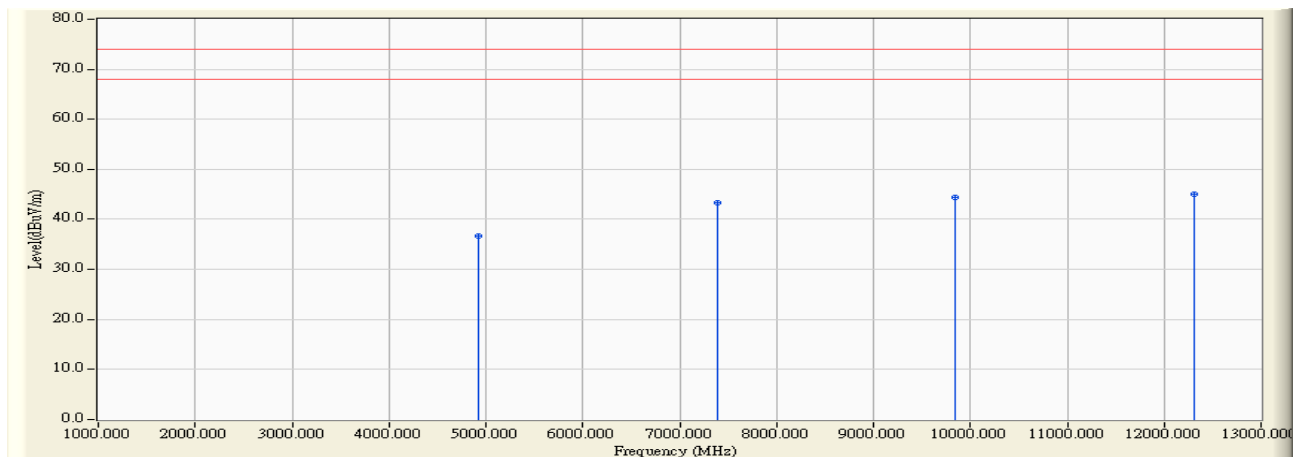
|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type | Ant Pos<br>(cm) | Table Pos<br>(deg) |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|-----------------|--------------------|
| 1 |   | 4924.300           | 1.861                  | 36.290                  | 38.151                    | -35.849        | 74.000            | PEAK          | 0.000           | 0.000              |
| 2 | * | 7385.500           | 7.815                  | 35.420                  | 43.234                    | -30.766        | 74.000            | PEAK          | 0.000           | 0.000              |
| 3 |   | 9847.100           | 9.807                  | 33.000                  | 42.807                    | -31.193        | 74.000            | PEAK          | 0.000           | 0.000              |
| 4 |   | 12309.700          | 0.636                  | 31.790                  | 32.426                    | -41.574        | 74.000            | PEAK          | 0.000           | 0.000              |

### Note:

1. All Reading Levels are Quasi-Peak value.
2. “ \* ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied

|                                             |                                      |
|---------------------------------------------|--------------------------------------|
| Site : Site 1                               | Time : 2006/09/19 - 17:08            |
| Limit : FCC_SpartC_15.247_H_03M_PK          | Margin : 6                           |
| EUT : 802.11G Wireless ADSL 2+4port Gateway | Probe : RF_1G-18G(2005-3) - VERTICAL |
| Power : AC 120V/60Hz                        | Note : Mode 1: Transmit (802.11b)    |

## Channel 11



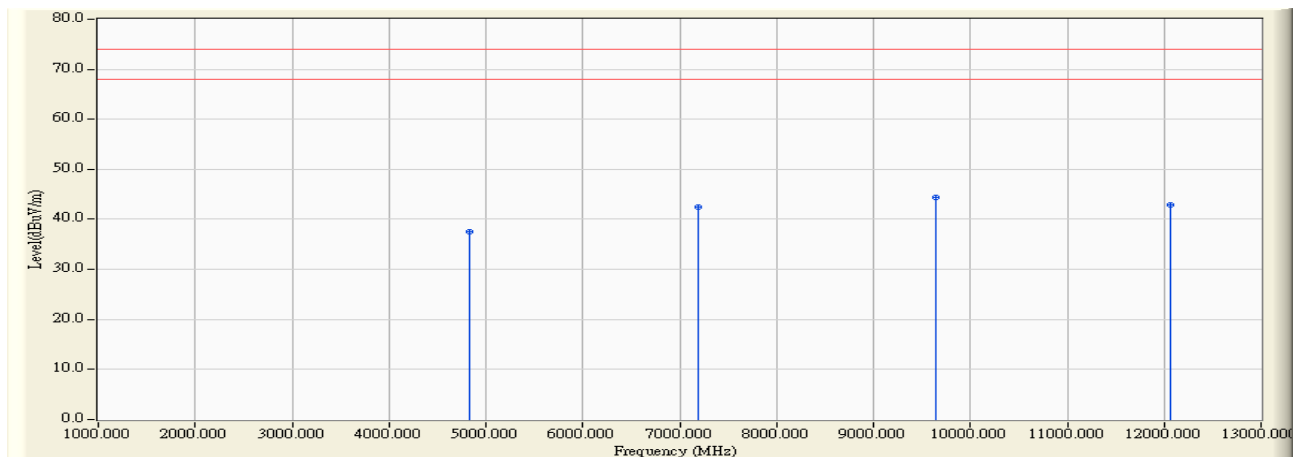
|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type | Ant Pos<br>(cm) | Table Pos<br>(deg) |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|-----------------|--------------------|
| 1 |   | 4923.500           | 0.310                  | 36.300                  | 36.610                    | -37.390        | 74.000            | PEAK          | 0.000           | 0.000              |
| 2 |   | 7385.500           | 7.815                  | 35.430                  | 43.244                    | -30.756        | 74.000            | PEAK          | 0.000           | 0.000              |
| 3 |   | 9847.490           | 11.334                 | 33.090                  | 44.424                    | -29.576        | 74.000            | PEAK          | 0.000           | 0.000              |
| 4 | * | 12308.900          | 12.307                 | 32.720                  | 45.027                    | -28.973        | 74.000            | PEAK          | 0.000           | 0.000              |

### Note:

1. All Reading Levels are Quasi-Peak value.
2. “ \* ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied

|                                             |                                        |
|---------------------------------------------|----------------------------------------|
| Site : Site 1                               | Time : 2006/09/19 - 17:10              |
| Limit : FCC_SpartC_15.247_H_03M_PK          | Margin : 6                             |
| EUT : 802.11G Wireless ADSL 2+4port Gateway | Probe : RF_1G-18G(2005-3) - HORIZONTAL |
| Power : AC 120V/60Hz                        | Note : Mode 1: Transmit (802.11g)      |

## Channel 1



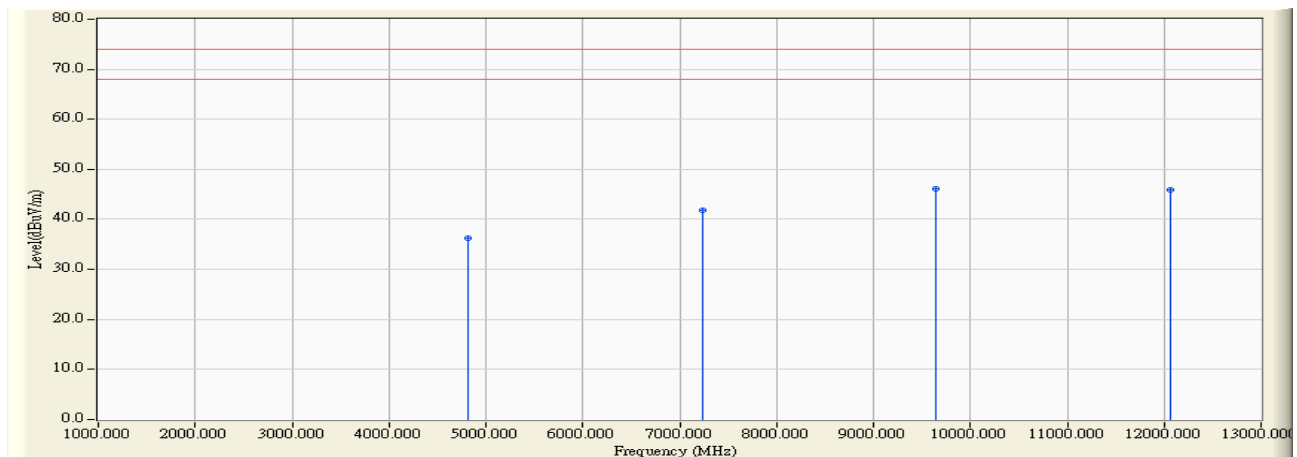
|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type | Ant Pos<br>(cm) | Table Pos<br>(deg) |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|-----------------|--------------------|
| 1 |   | 4824.100           | 1.463                  | 36.070                  | 37.533                    | -36.467        | 74.000            | PEAK          | 0.000           | 0.000              |
| 2 |   | 7186.000           | 6.479                  | 36.010                  | 42.489                    | -31.511        | 74.000            | PEAK          | 0.000           | 0.000              |
| 3 | * | 9647.500           | 9.952                  | 34.500                  | 44.452                    | -29.548        | 74.000            | PEAK          | 0.000           | 0.000              |
| 4 |   | 12059.700          | 10.178                 | 32.620                  | 42.797                    | -31.203        | 74.000            | PEAK          | 0.000           | 0.000              |

### Note:

1. All Reading Levels are Quasi-Peak value.
2. “ \* ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied

|                                             |                                      |
|---------------------------------------------|--------------------------------------|
| Site : Site 1                               | Time : 2006/09/19 - 17:10            |
| Limit : FCC_SpartC_15.247_H_03M_PK          | Margin : 6                           |
| EUT : 802.11G Wireless ADSL 2+4port Gateway | Probe : RF_1G-18G(2005-3) - VERTICAL |
| Power : AC 120V/60Hz                        | Note : Mode 1: Transmit (802.11g)    |

## Channel 1



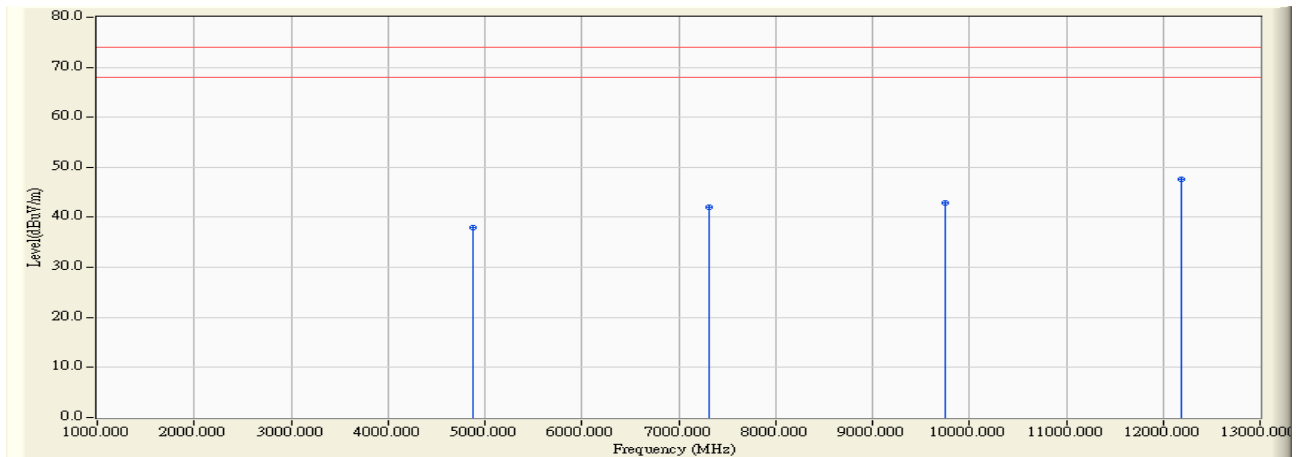
|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type | Ant Pos<br>(cm) | Table Pos<br>(deg) |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|-----------------|--------------------|
| 1 |   | 4823.500           | -0.292                 | 36.500                  | 36.208                    | -37.792        | 74.000            | PEAK          | 0.000           | 0.000              |
| 2 |   | 7235.700           | 6.853                  | 34.950                  | 41.803                    | -32.197        | 74.000            | PEAK          | 0.000           | 0.000              |
| 3 | * | 9647.700           | 11.952                 | 34.170                  | 46.122                    | -27.878        | 74.000            | PEAK          | 0.000           | 0.000              |
| 4 |   | 12059.600          | 12.364                 | 33.630                  | 45.994                    | -28.006        | 74.000            | PEAK          | 0.000           | 0.000              |

### Note:

1. All Reading Levels are Quasi-Peak value.
2. “ \* ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied

|                                             |                                        |
|---------------------------------------------|----------------------------------------|
| Site : Site 1                               | Time : 2006/09/19 - 17:11              |
| Limit : FCC_SpartC_15.247_H_03M_PK          | Margin : 6                             |
| EUT : 802.11G Wireless ADSL 2+4port Gateway | Probe : RF_1G-18G(2005-3) - HORIZONTAL |
| Power : AC 120V/60Hz                        | Note : Mode 1: Transmit (802.11g)      |

## Channel 6



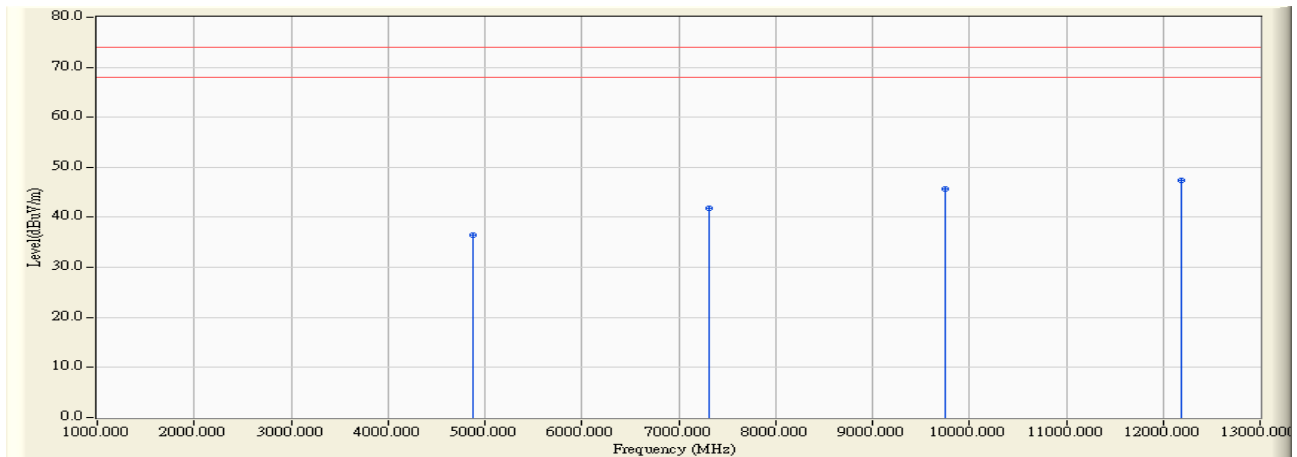
|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type | Ant Pos<br>(cm) | Table Pos<br>(deg) |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|-----------------|--------------------|
| 1 |   | 4874.300           | 1.667                  | 36.340                  | 38.007                    | -35.993        | 74.000            | PEAK          | 0.000           | 0.000              |
| 2 |   | 7311.100           | 7.336                  | 34.690                  | 42.026                    | -31.974        | 74.000            | PEAK          | 0.000           | 0.000              |
| 3 |   | 9748.100           | 9.726                  | 33.210                  | 42.936                    | -31.064        | 74.000            | PEAK          | 0.000           | 0.000              |
| 4 | * | 12185.100          | 14.068                 | 33.580                  | 47.648                    | -26.352        | 74.000            | PEAK          | 0.000           | 0.000              |

### Note:

1. All Reading Levels are Quasi-Peak value.
2. “ \* ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied

|                                             |                                      |
|---------------------------------------------|--------------------------------------|
| Site : Site 1                               | Time : 2006/09/19 - 17:12            |
| Limit : FCC_SpartC_15.247_H_03M_PK          | Margin : 6                           |
| EUT : 802.11G Wireless ADSL 2+4port Gateway | Probe : RF_1G-18G(2005-3) - VERTICAL |
| Power : AC 120V/60Hz                        | Note : Mode 1: Transmit (802.11g)    |

## Channel 6



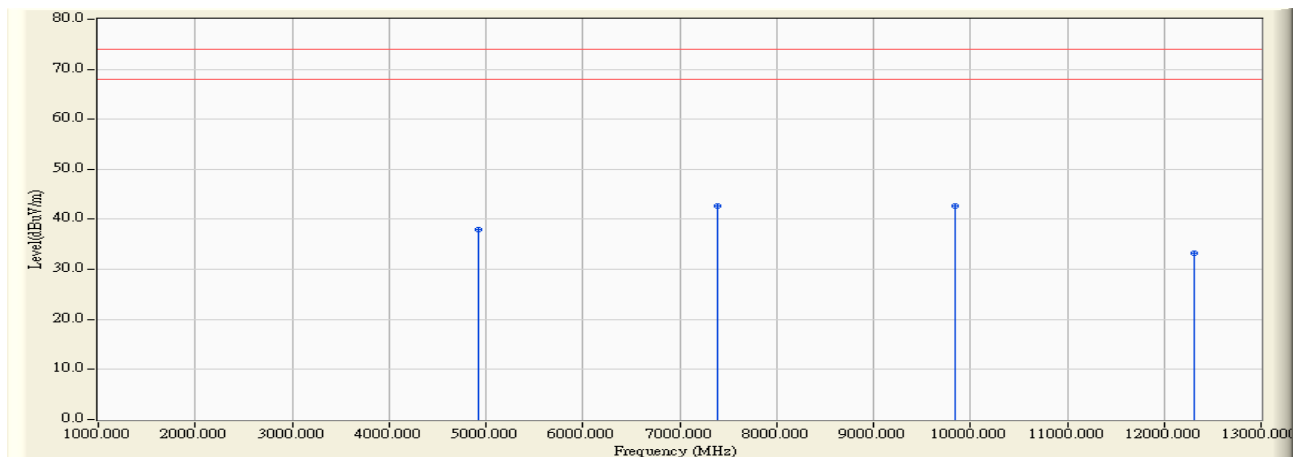
|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type | Ant Pos<br>(cm) | Table Pos<br>(deg) |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|-----------------|--------------------|
| 1 |   | 4874.100           | 0.012                  | 36.390                  | 36.402                    | -37.598        | 74.000            | PEAK          | 0.000           | 0.000              |
| 2 |   | 7311.100           | 7.336                  | 34.550                  | 41.886                    | -32.114        | 74.000            | PEAK          | 0.000           | 0.000              |
| 3 |   | 9748.100           | 11.726                 | 34.050                  | 45.776                    | -28.224        | 74.000            | PEAK          | 0.000           | 0.000              |
| 4 | * | 12185.100          | 14.397                 | 32.930                  | 47.326                    | -26.674        | 74.000            | PEAK          | 0.000           | 0.000              |

### Note:

1. All Reading Levels are Quasi-Peak value.
2. “ \* ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied

|                                             |                                        |
|---------------------------------------------|----------------------------------------|
| Site : Site 1                               | Time : 2006/09/19 - 17:12              |
| Limit : FCC_SpartC_15.247_H_03M_PK          | Margin : 6                             |
| EUT : 802.11G Wireless ADSL 2+4port Gateway | Probe : RF_1G-18G(2005-3) - HORIZONTAL |
| Power : AC 120V/60Hz                        | Note : Mode 1: Transmit (802.11g)      |

## Channel 11



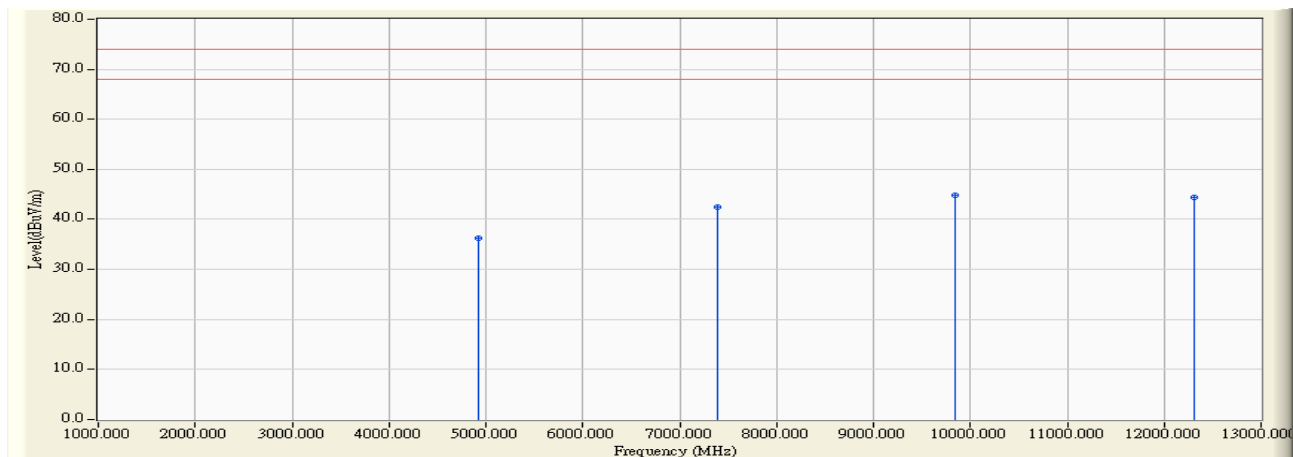
|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type | Ant Pos<br>(cm) | Table Pos<br>(deg) |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|-----------------|--------------------|
| 1 |   | 4923.600           | 1.858                  | 36.110                  | 37.968                    | -36.032        | 74.000            | PEAK          | 0.000           | 0.000              |
| 2 | * | 7386.100           | 7.818                  | 34.930                  | 42.748                    | -31.252        | 74.000            | PEAK          | 0.000           | 0.000              |
| 3 |   | 9848.100           | 9.811                  | 32.870                  | 42.681                    | -31.319        | 74.000            | PEAK          | 0.000           | 0.000              |
| 4 |   | 12310.100          | 0.703                  | 32.550                  | 33.253                    | -40.747        | 74.000            | PEAK          | 0.000           | 0.000              |

### Note:

1. All Reading Levels are Quasi-Peak value.
2. “ \* ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied

|                                             |                                      |
|---------------------------------------------|--------------------------------------|
| Site : Site 1                               | Time : 2006/09/19 - 17:13            |
| Limit : FCC_SpartC_15.247_H_03M_PK          | Margin : 6                           |
| EUT : 802.11G Wireless ADSL 2+4port Gateway | Probe : RF_1G-18G(2005-3) - VERTICAL |
| Power : AC 120V/60Hz                        | Note : Mode 1: Transmit (802.11g)    |

## Channel 11



|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type | Ant Pos<br>(cm) | Table Pos<br>(deg) |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|-----------------|--------------------|
| 1 |   | 4924.100           | 0.313                  | 36.000                  | 36.313                    | -37.687        | 74.000            | PEAK          | 0.000           | 0.000              |
| 2 |   | 7386.100           | 7.818                  | 34.680                  | 42.498                    | -31.502        | 74.000            | PEAK          | 0.000           | 0.000              |
| 3 | * | 9847.300           | 11.334                 | 33.390                  | 44.725                    | -29.275        | 74.000            | PEAK          | 0.000           | 0.000              |
| 4 |   | 12310.100          | 12.281                 | 32.160                  | 44.441                    | -29.559        | 74.000            | PEAK          | 0.000           | 0.000              |

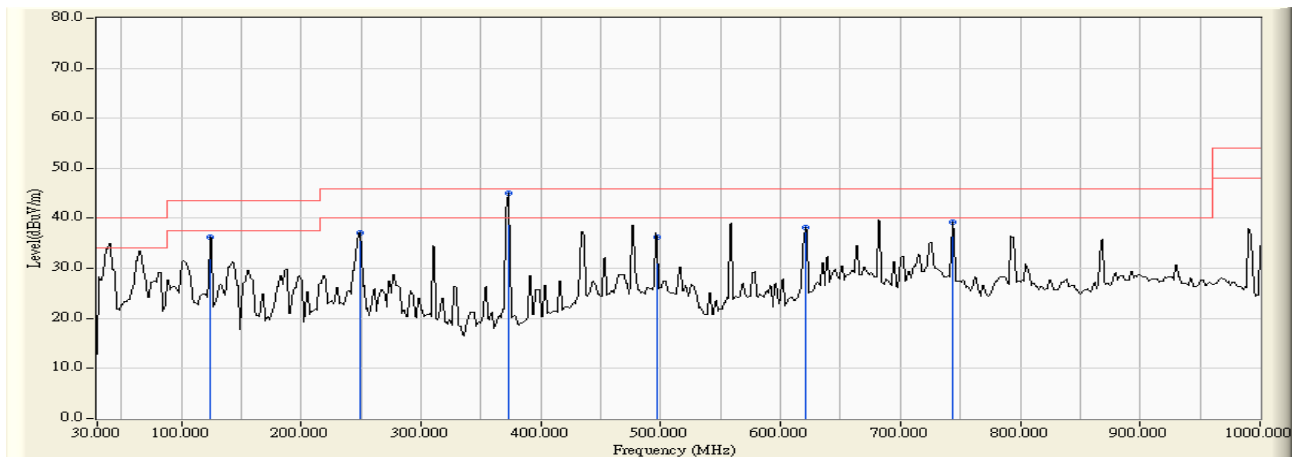
### Note:

1. All Reading Levels are Quasi-Peak value.
2. “ \* ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied

### 30MHz-1GHz Spurious:

|                                              |                                     |
|----------------------------------------------|-------------------------------------|
| Site : Site 1                                | Time : 2006/09/19 - 09:47           |
| Limit : FCC_CLASS_B_03M_QP                   | Margin : 6                          |
| EUT : 802.11g Wireless ADSL 2+4 port Gateway | Probe : RF_30-1G(2005) - HORIZONTAL |
| Power : AC 120V/60Hz                         | Note : Mode 1: Transmit (802.11b)   |

### Channel 6



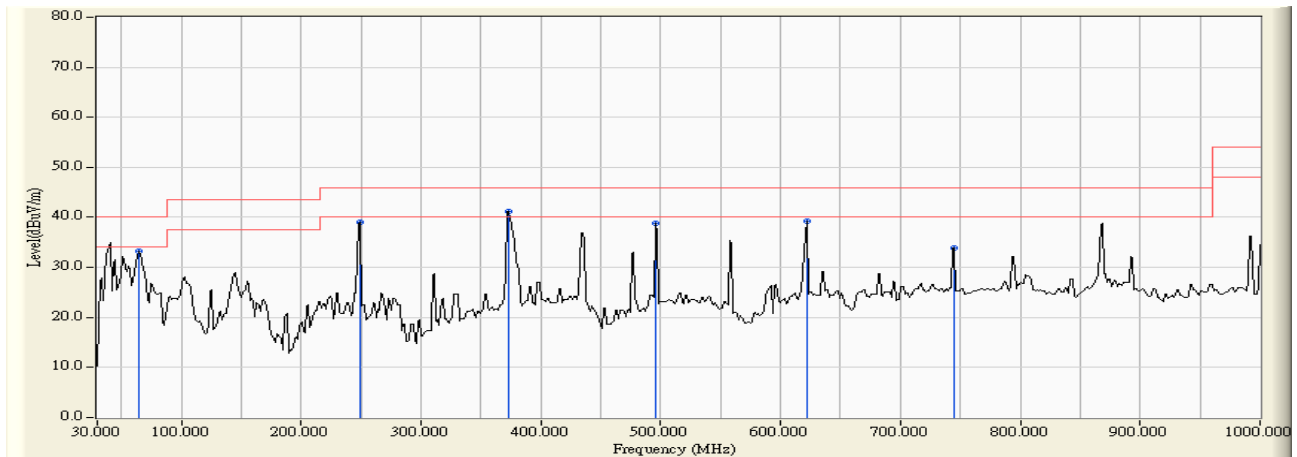
|   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type | Ant Pos<br>(cm) | Table Pos<br>(deg) |
|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|-----------------|--------------------|
| 1 | 124.229            | -5.578                 | 41.800                  | 36.222                    | -7.278         | 43.500            | PEAK          | 0.000           | 0.000              |
| 2 | 248.943            | -5.856                 | 42.900                  | 37.045                    | -8.955         | 46.000            | PEAK          | 0.000           | 0.000              |
| 3 | * 373.657          | -5.501                 | 50.600                  | 45.099                    | -0.901         | 46.000            | PEAK          | 0.000           | 0.000              |
| 4 | 496.986            | 2.073                  | 34.100                  | 36.173                    | -9.827         | 46.000            | PEAK          | 0.000           | 0.000              |
| 5 | 620.314            | 1.340                  | 36.900                  | 38.241                    | -7.759         | 46.000            | PEAK          | 0.000           | 0.000              |
| 6 | 743.643            | 4.409                  | 34.900                  | 39.310                    | -6.690         | 46.000            | PEAK          | 0.000           | 0.000              |

### Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

|                                              |                                   |
|----------------------------------------------|-----------------------------------|
| Site : Site 1                                | Time : 2006/09/19 - 09:51         |
| Limit : FCC_CLASS_B_03M_QP                   | Margin : 6                        |
| EUT : 802.11g Wireless ADSL 2+4 port Gateway | Probe : RF_30-1G(2005) - VERTICAL |
| Power : AC 120V/60Hz                         | Note : Mode 1: Transmit (802.11b) |

## Channel 6



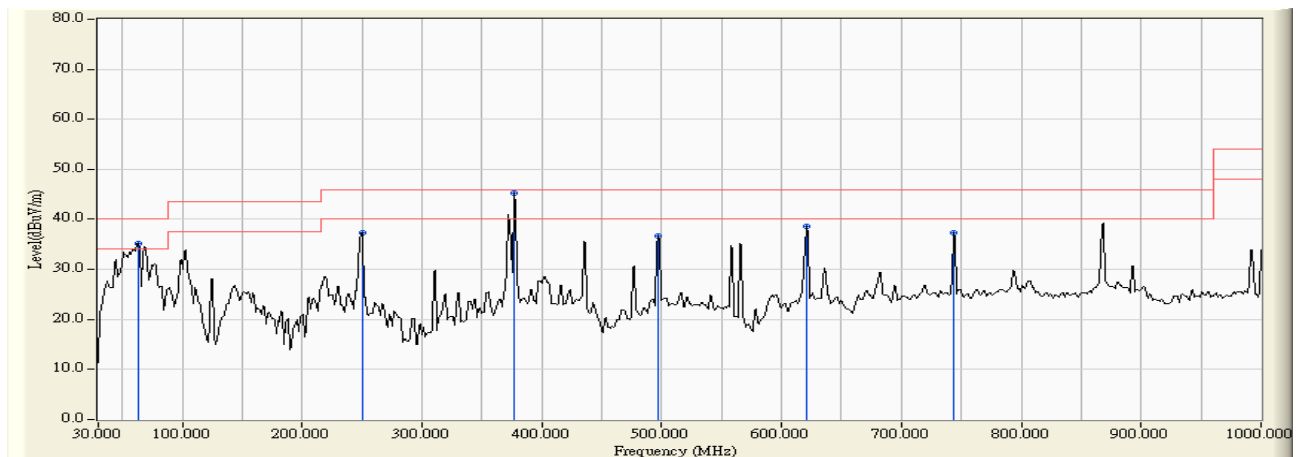
|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type | Ant Pos<br>(cm) | Table Pos<br>(deg) |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|-----------------|--------------------|
| 1 |   | 64.643             | -6.048                 | 39.200                  | 33.151                    | -6.849         | 40.000            | PEAK          | 0.000           | 0.000              |
| 2 |   | 248.943            | -4.077                 | 43.200                  | 39.123                    | -6.877         | 46.000            | PEAK          | 0.000           | 0.000              |
| 3 | * | 373.657            | -0.922                 | 42.100                  | 41.178                    | -4.822         | 46.000            | PEAK          | 0.000           | 0.000              |
| 4 |   | 495.600            | -0.730                 | 39.500                  | 38.770                    | -7.230         | 46.000            | PEAK          | 0.000           | 0.000              |
| 5 |   | 621.700            | 1.653                  | 37.500                  | 39.153                    | -6.847         | 46.000            | PEAK          | 0.000           | 0.000              |
| 6 |   | 745.029            | 1.889                  | 32.000                  | 33.888                    | -12.112        | 46.000            | PEAK          | 0.000           | 0.000              |

### Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

|                                              |                                   |
|----------------------------------------------|-----------------------------------|
| Site : Site 1                                | Time : 2006/09/22 - 18:36         |
| Limit : FCC_CLASS_B_03M_QP                   | Margin : 6                        |
| EUT : 802.11g Wireless ADSL 2+4 port Gateway | Probe : RF_30-1G(2005) - VERTICAL |
| Power : AC 120V/60Hz                         | Note : Mode 1: Transmit (802.11g) |

## Channel 6



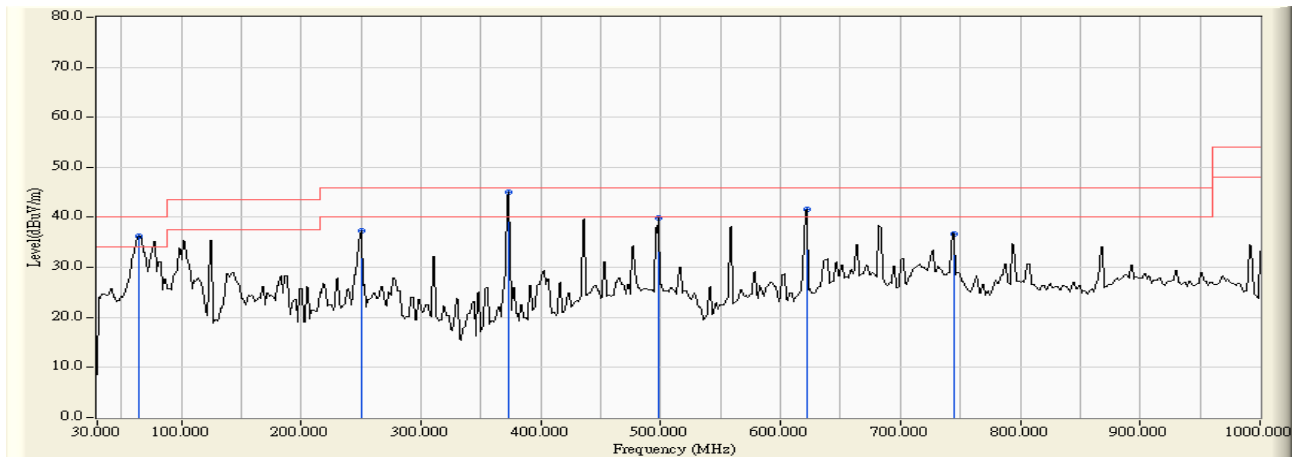
|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type | Ant Pos<br>(cm) | Table Pos<br>(deg) |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|-----------------|--------------------|
| 1 |   | 63.257             | -5.625                 | 40.800                  | 35.176                    | -4.824         | 40.000            | PEAK          | 0.000           | 0.000              |
| 2 |   | 250.329            | -4.054                 | 41.400                  | 37.346                    | -8.654         | 46.000            | PEAK          | 0.000           | 0.000              |
| 3 | * | 376.429            | -0.747                 | 45.900                  | 45.153                    | -0.847         | 46.000            | PEAK          | 0.000           | 0.000              |
| 4 |   | 496.986            | -0.582                 | 37.200                  | 36.617                    | -9.383         | 46.000            | PEAK          | 0.000           | 0.000              |
| 5 |   | 620.314            | 1.452                  | 37.100                  | 38.552                    | -7.448         | 46.000            | PEAK          | 0.000           | 0.000              |
| 6 |   | 743.643            | 1.855                  | 35.500                  | 37.356                    | -8.644         | 46.000            | PEAK          | 0.000           | 0.000              |

### Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

|                                              |                                          |
|----------------------------------------------|------------------------------------------|
| Site : Site 1                                | Time : 2006/09/22 - 18:40                |
| Limit : FCC_CLASS_B_03M_QP                   | Margin : 6                               |
| EUT : 802.11g Wireless ADSL 2+4 port Gateway | Probe : RF_30-1G(2005) - HORIZONTAL      |
| Power : AC 120V/60Hz                         | Note : Note : Mode 1: Transmit (802.11g) |

## Channel 6



|   |   | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBuV) | Measure Level<br>(dBuV/m) | Margin<br>(dB) | Limit<br>(dBuV/m) | Detector Type | Ant Pos<br>(cm) | Table Pos<br>(deg) |
|---|---|--------------------|------------------------|-------------------------|---------------------------|----------------|-------------------|---------------|-----------------|--------------------|
| 1 |   | 64.643             | -1.368                 | 37.600                  | 36.231                    | -3.769         | 40.000            | PEAK          | 0.000           | 0.000              |
| 2 |   | 250.329            | -5.690                 | 43.000                  | 37.310                    | -8.690         | 46.000            | PEAK          | 0.000           | 0.000              |
| 3 | * | 373.657            | -5.501                 | 50.600                  | 45.099                    | -0.901         | 46.000            | PEAK          | 0.000           | 0.000              |
| 4 |   | 498.371            | 2.097                  | 37.800                  | 39.897                    | -6.103         | 46.000            | PEAK          | 0.000           | 0.000              |
| 5 |   | 621.700            | 1.523                  | 40.000                  | 41.523                    | -4.477         | 46.000            | PEAK          | 0.000           | 0.000              |
| 6 |   | 745.029            | 4.260                  | 32.500                  | 36.760                    | -9.240         | 46.000            | PEAK          | 0.000           | 0.000              |

### Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

## 5. Band Edge

### 5.1. Test Equipment

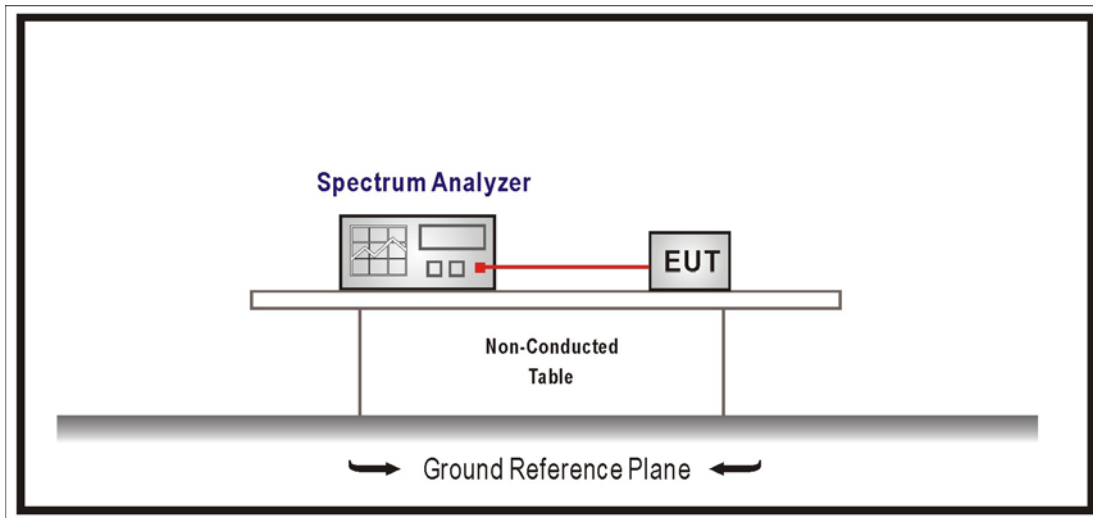
The following test equipment are used during the test:

| RF Conducted Measurement: |                   |                   |              |                              |            |
|---------------------------|-------------------|-------------------|--------------|------------------------------|------------|
| Item                      | Equipment         |                   | Manufacturer | Model No. / Serial No.       | Last Cal.  |
| 1                         | Spectrum Analyzer |                   | R & S        | FSP / 100561                 | Mar., 2006 |
| 2                         | No.1 OATS         |                   |              |                              | Sep., 2006 |
| RF Radiated Measurement:  |                   |                   |              |                              |            |
| Item                      | Equipment         |                   | Manufacturer | Model No. / Serial No.       | Last Cal.  |
| 1                         | X                 | Spectrum Analyzer | R & S        | FSP40 / 100005               | Aug., 2006 |
| 2                         | X                 | Pre-Amplifier     | HP           | 8449B / 3008A01123           | Feb., 2006 |
| 3                         |                   | Loop Antenna      | R & S        | HFH2-Z2 / 833799/004         | Sep., 2006 |
| 4                         |                   | BiconiLog Antenna | Schwarzbeck  | VULB 9166 / 1061             | Sep., 2006 |
| 5                         |                   | Bilog Antenna     | Chase        | CBL6112B / 2455              | Sep., 2006 |
| 6                         | X                 | Horn Antenna      | Schwarzbeck  | BBHA 9120D /<br>BBHA9120D312 | Sep., 2006 |
| 7                         | No.1 OATS         |                   |              |                              | Sep., 2006 |

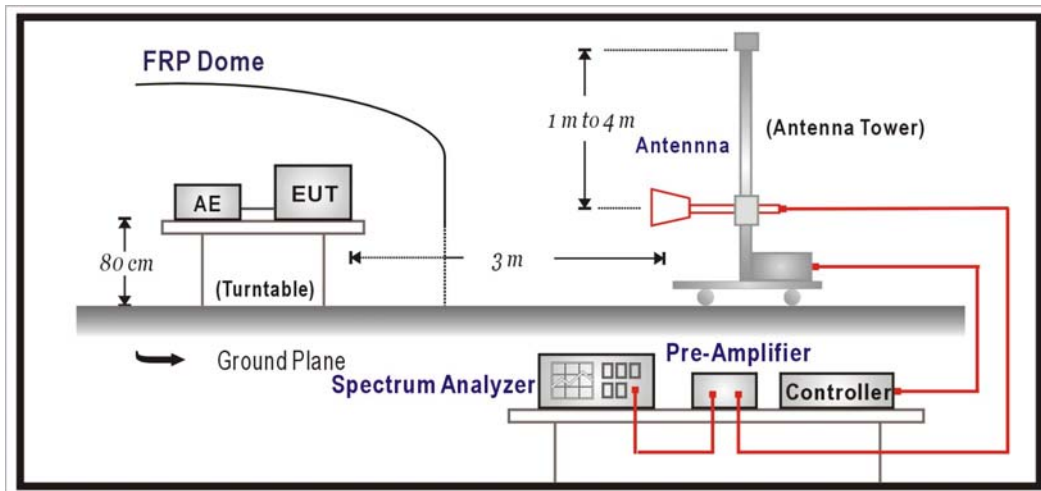
Note: 1. All equipments that need to calibrate are with calibration period of 1 year.  
2. Mark "X" test instruments are used to measure the final test results.

## 5.2. Test Setup

RF Conducted Measurement:



RF Radiated Measurement:



### **5.3. Limits**

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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) (see Section 15.205(c)).

### **5.4. Test Procedure**

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2003 on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter is 120 kHz, above 1GHz are 1 MHz.

### **5.5. Test Specification**

According to FCC Part 15 Subpart C Paragraph 15.247: 2004

## 5.6. Test Result

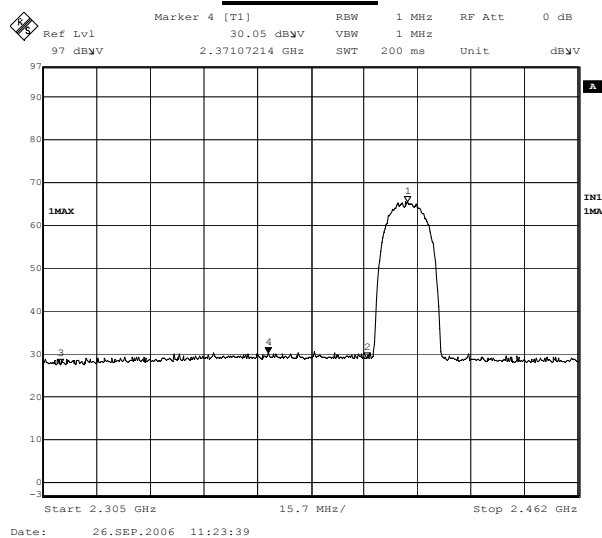
|              |                                        |           |           |
|--------------|----------------------------------------|-----------|-----------|
| Product      | 802.11g Wireless ADSL2+ 4-port Gateway |           |           |
| Test Item    | Band Edge                              |           |           |
| Test Mode    | Mode 1: Transmit                       |           |           |
| Date of Test | 2006/09/26                             | Test Site | No.1 OATS |

### RF Radiated Measurement: (Peak Detector)

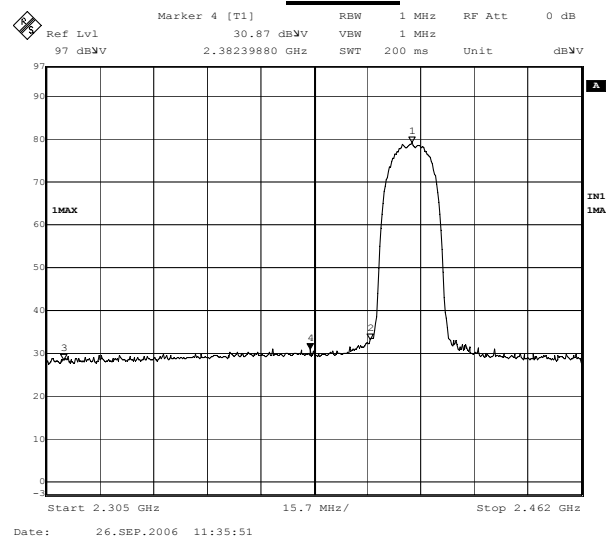
#### IEEE 802.11b

| Channel No.   | Frequency (MHz) | Reading Level (dBuV) | Probe Factor (dB/m) | Cable Loss (dB) | PreAMP (dB) | Emission Level (dBuV/m) | Limit (dBuV/m) | Result |
|---------------|-----------------|----------------------|---------------------|-----------------|-------------|-------------------------|----------------|--------|
| 1(Horizontal) | 2371.072        | 30.050               | 24.413              | 3.913           | 0.00        | 58.375                  | 74             | Pass   |
| 1(Vertical)   | 2382.400        | 30.870               | 22.849              | 3.919           | 0.00        | 57.638                  | 74             | Pass   |

#### Horizontal



#### Vertical



Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

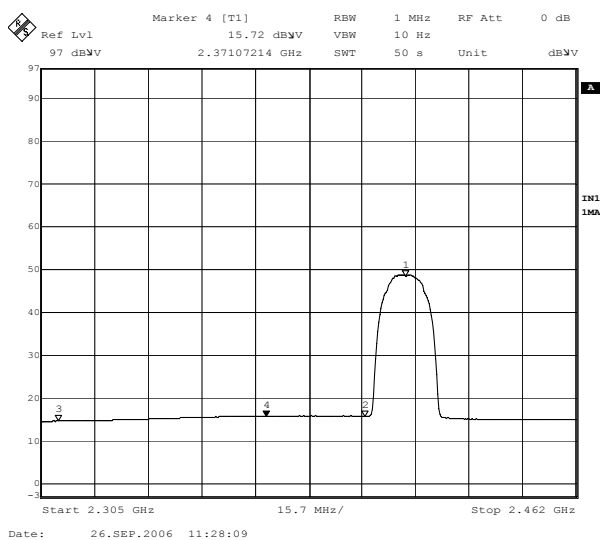
|              |                                        |           |           |
|--------------|----------------------------------------|-----------|-----------|
| Product      | 802.11g Wireless ADSL2+ 4-port Gateway |           |           |
| Test Item    | Band Edge                              |           |           |
| Test Mode    | Mode 1: Transmit                       |           |           |
| Date of Test | 2006/09/26                             | Test Site | No.1 OATS |

## RF Radiated Measurement: (Average Detector)

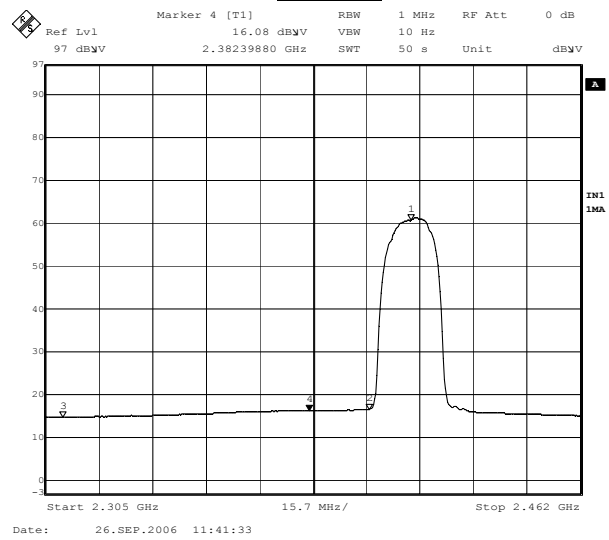
### IEEE 802.11b

| Channel No.   | Frequency (MHz) | Reading Level (dBuV) | Probe Factor (dB/m) | Cable Loss (dB) | PreAMP (dB) | Emission Level (dBuV/m) | Limit (dBuV/m) | Result |
|---------------|-----------------|----------------------|---------------------|-----------------|-------------|-------------------------|----------------|--------|
| 1(Horizontal) | 2371.070        | 15.720               | 24.413              | 3.913           | 0.00        | 44.045                  | 54             | Pass   |
| 1(Vertical)   | 2382.400        | 16.080               | 22.849              | 3.919           | 0.00        | 42.848                  | 54             | Pass   |

### Horizontal



### Vertical



Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

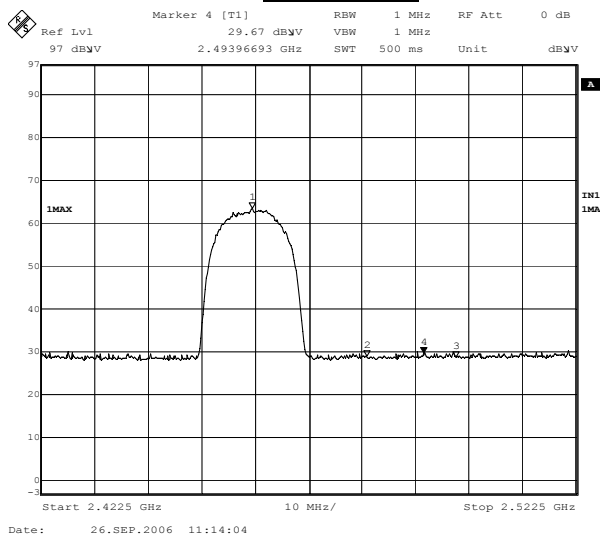
|              |                                        |           |           |
|--------------|----------------------------------------|-----------|-----------|
| Product      | 802.11g Wireless ADSL2+ 4-port Gateway |           |           |
| Test Item    | Band Edge                              |           |           |
| Test Mode    | Mode 1: Transmit                       |           |           |
| Date of Test | 2006/09/26                             | Test Site | No.1 OATS |

**RF Radiated Measurement: (Peak Detector)**

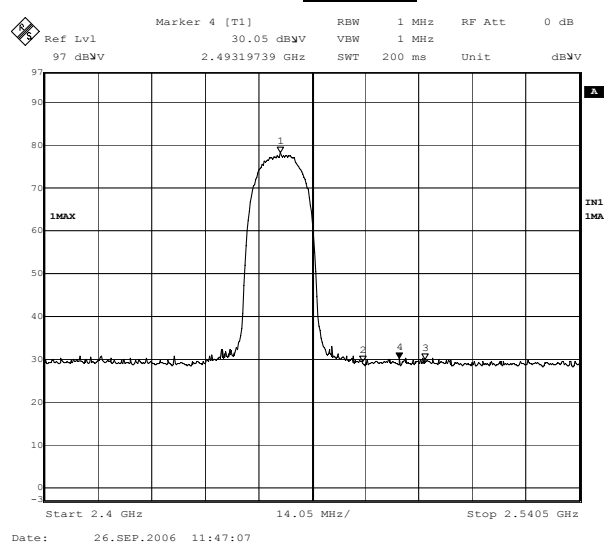
**IEEE 802.11b**

| Channel No.    | Frequency (MHz) | Reading Level (dBuV) | Probe Factor (dB/m) | Cable Loss (dB) | PreAMP (dB) | Emission Level (dBuV/m) | Limit (dBuV/m) | Result |
|----------------|-----------------|----------------------|---------------------|-----------------|-------------|-------------------------|----------------|--------|
| 11(Horizontal) | 2493.970        | 29.670               | 24.745              | 4.001           | 0.00        | 58.416                  | 74             | Pass   |
| 11(Vertical)   | 2493.200        | 30.050               | 23.143              | 4.001           | 0.00        | 57.194                  | 74             | Pass   |

**Horizontal**



**Vertical**



Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

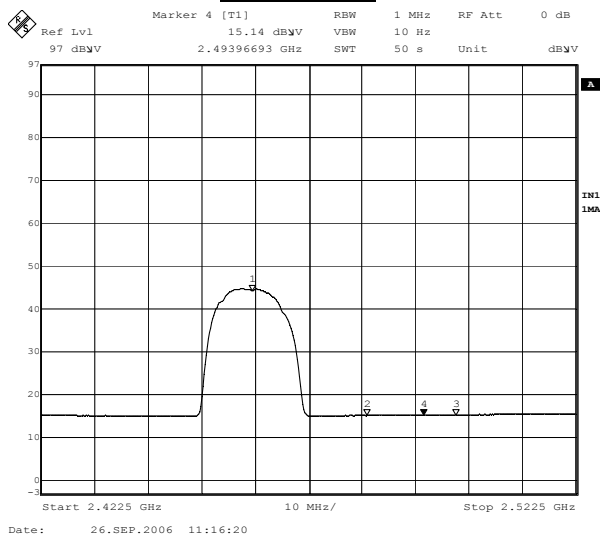
|              |                                        |           |           |
|--------------|----------------------------------------|-----------|-----------|
| Product      | 802.11g Wireless ADSL2+ 4-port Gateway |           |           |
| Test Item    | Band Edge                              |           |           |
| Test Mode    | Mode 1: Transmit                       |           |           |
| Date of Test | 2006/09/26                             | Test Site | No.1 OATS |

## RF Radiated Measurement: (Average Detector)

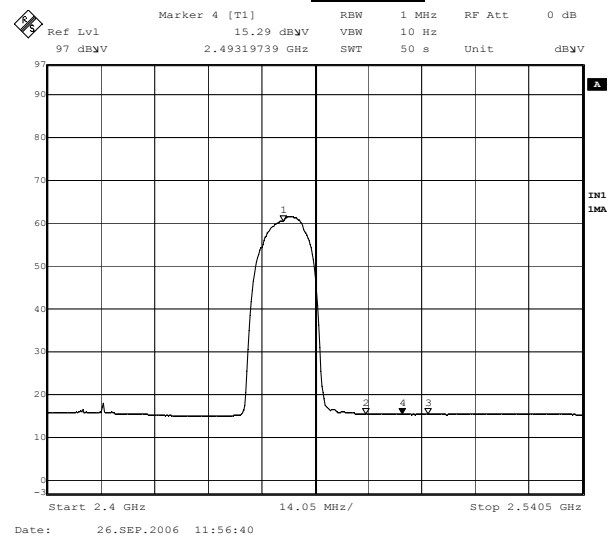
### IEEE 802.11b

| Channel No.    | Frequency (MHz) | Reading Level (dBuV) | Probe Factor (dB/m) | Cable Loss (dB) | PreAMP (dB) | Emission Level (dBuV/m) | Limit (dBuV/m) | Result |
|----------------|-----------------|----------------------|---------------------|-----------------|-------------|-------------------------|----------------|--------|
| 11(Horizontal) | 2493.970        | 15.140               | 24.745              | 4.001           | 0.00        | 43.886                  | 54             | Pass   |
| 11(Vertical)   | 2493.200        | 15.290               | 23.143              | 4.001           | 0.00        | 42.434                  | 54             | Pass   |

### Horizontal



### Vertical



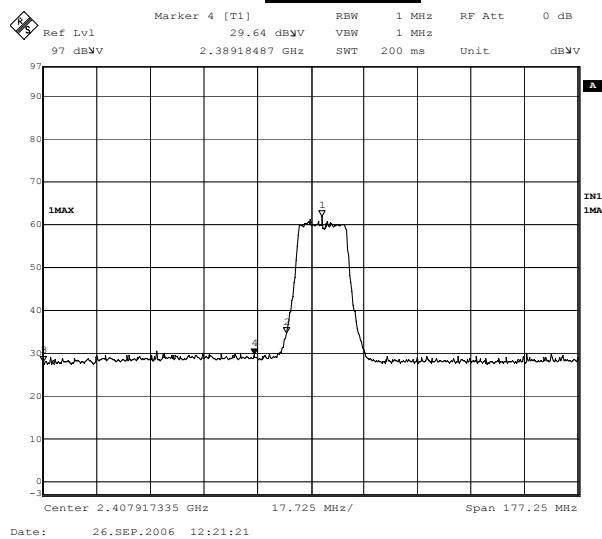
Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

|              |                                        |           |           |
|--------------|----------------------------------------|-----------|-----------|
| Product      | 802.11g Wireless ADSL2+ 4-port Gateway |           |           |
| Test Item    | Band Edge                              |           |           |
| Test Mode    | Mode 1: Transmit                       |           |           |
| Date of Test | 2006/09/26                             | Test Site | No.1 OATS |

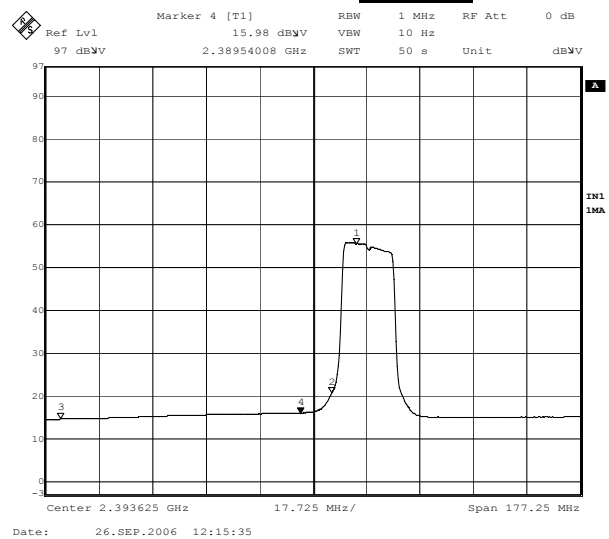
## RF Radiated Measurement: (Peak Detector)

| IEEE 802.11g  |                 |                      |                     |                 |             |                         |                |        |
|---------------|-----------------|----------------------|---------------------|-----------------|-------------|-------------------------|----------------|--------|
| Channel No.   | Frequency (MHz) | Reading Level (dBuV) | Probe Factor (dB/m) | Cable Loss (dB) | PreAMP (dB) | Emission Level (dBuV/m) | Limit (dBuV/m) | Result |
| 1(Horizontal) | 2389.180        | 29.640               | 24.473              | 3.920           | 0.00        | 58.033                  | 74             | Pass   |
| 1(Vertical)   | 2389.540        | 28.500               | 22.874              | 3.920           | 0.00        | 55.294                  | 74             | Pass   |

### Horizontal



### Vertical



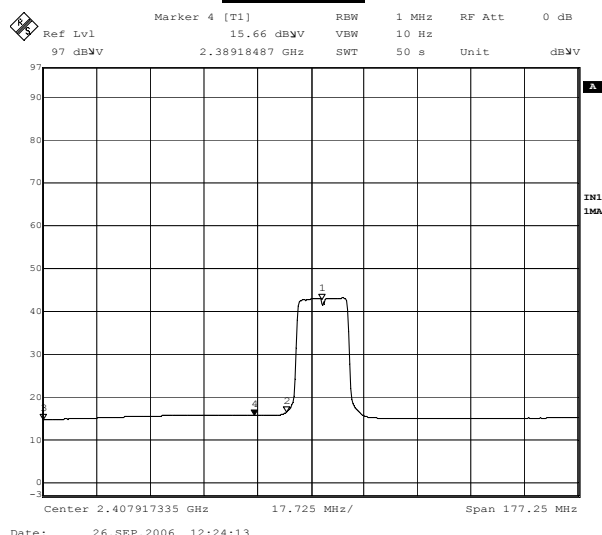
Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

|              |                                        |           |           |
|--------------|----------------------------------------|-----------|-----------|
| Product      | 802.11g Wireless ADSL2+ 4-port Gateway |           |           |
| Test Item    | Band Edge                              |           |           |
| Test Mode    | Mode 1: Transmit                       |           |           |
| Date of Test | 2006/09/26                             | Test Site | No.1 OATS |

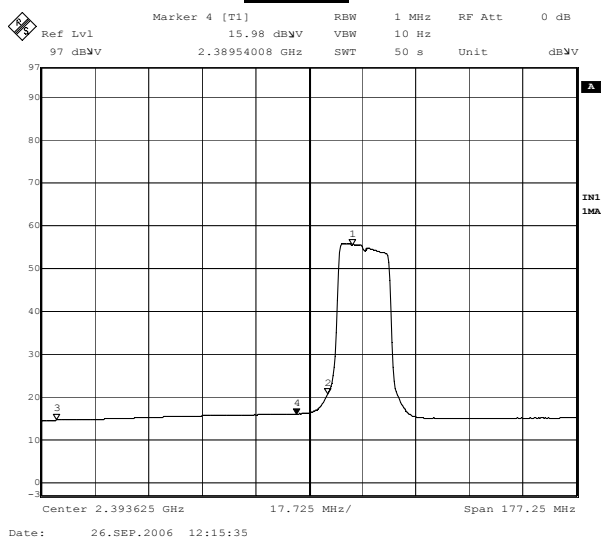
### RF Radiated Measurement: (Average Detector)

| IEEE 802.11g  |                 |                      |                     |                 |             |                         |                |        |
|---------------|-----------------|----------------------|---------------------|-----------------|-------------|-------------------------|----------------|--------|
| Channel No.   | Frequency (MHz) | Reading Level (dBuV) | Probe Factor (dB/m) | Cable Loss (dB) | PreAMP (dB) | Emission Level (dBuV/m) | Limit (dBuV/m) | Result |
| 1(Horizontal) | 2389.180        | 15.660               | 24.473              | 3.920           | 0.00        | 44.053                  | 54             | Pass   |
| 1(Vertical)   | 2389.540        | 15.980               | 22.874              | 3.920           | 0.00        | 42.774                  | 54             | Pass   |

#### Horizontal



#### Vertical



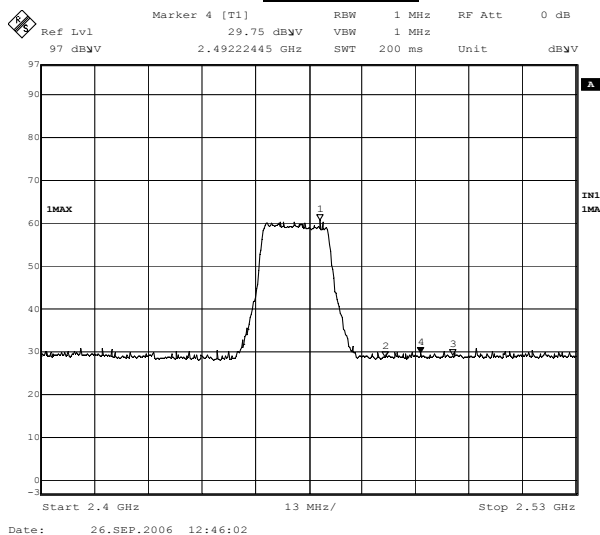
Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

|              |                                        |           |           |
|--------------|----------------------------------------|-----------|-----------|
| Product      | 802.11g Wireless ADSL2+ 4-port Gateway |           |           |
| Test Item    | Band Edge                              |           |           |
| Test Mode    | Mode 1: Transmit                       |           |           |
| Date of Test | 2006/09/26                             | Test Site | No.1 OATS |

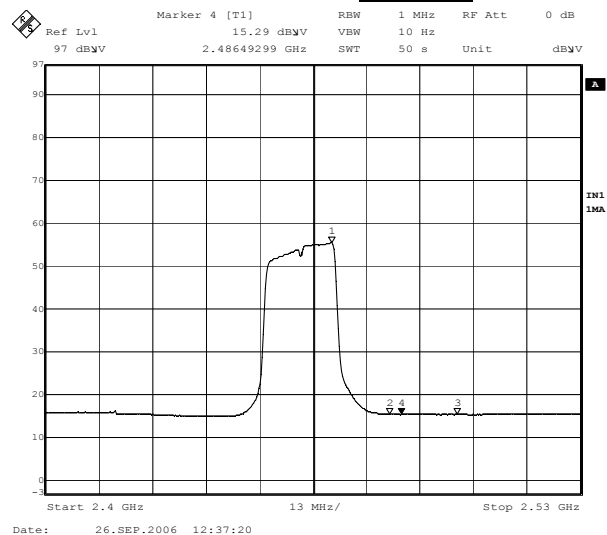
**RF Radiated Measurement: (Peak Detector)**

| IEEE 802.11g   |                 |                      |                     |                 |             |                         |                |        |
|----------------|-----------------|----------------------|---------------------|-----------------|-------------|-------------------------|----------------|--------|
| Channel No.    | Frequency (MHz) | Reading Level (dBuV) | Probe Factor (dB/m) | Cable Loss (dB) | PreAMP (dB) | Emission Level (dBuV/m) | Limit (dBuV/m) | Result |
| 11(Horizontal) | 2492.220        | 29.750               | 24.741              | 4.000           | 0.00        | 58.491                  | 74             | Pass   |
| 11(Vertical)   | 2486.490        | 30.460               | 23.128              | 3.994           | 0.00        | 57.582                  | 74             | Pass   |

**Horizontal**



**Vertical**



Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

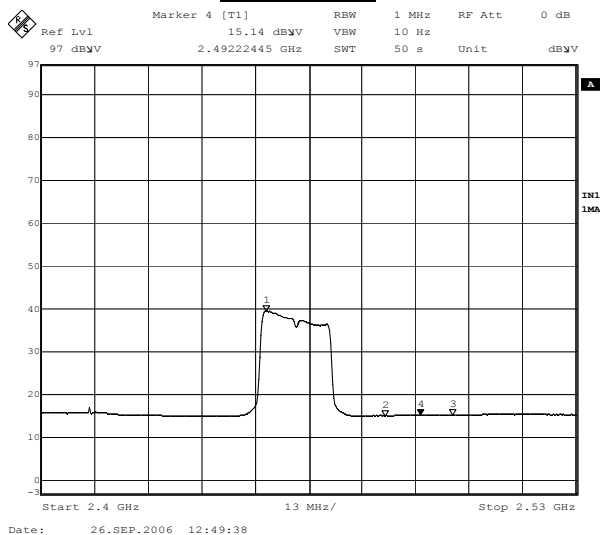
|              |                                        |           |           |
|--------------|----------------------------------------|-----------|-----------|
| Product      | 802.11g Wireless ADSL2+ 4-port Gateway |           |           |
| Test Item    | Band Edge                              |           |           |
| Test Mode    | Mode 1: Transmit                       |           |           |
| Date of Test | 2006/09/26                             | Test Site | No.1 OATS |

## RF Radiated Measurement: (Average Detector)

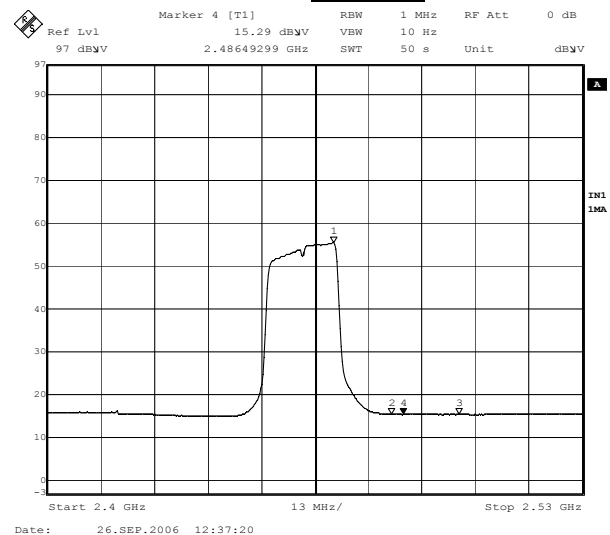
### IEEE 802.11g

| Channel No.    | Frequency (MHz) | Reading Level (dBuV) | Probe Factor (dB/m) | Cable Loss (dB) | PreAMP (dB) | Emission Level (dBuV/m) | Limit (dBuV/m) | Result |
|----------------|-----------------|----------------------|---------------------|-----------------|-------------|-------------------------|----------------|--------|
| 11(Horizontal) | 2492.220        | 15.140               | 24.                 | 4.000           | 0.00        | 43.881                  | 54             | Pass   |
| 11(Vertical)   | 2486.490        | 15.290               | 23.128              | 3.994           | 0.00        | 42.412                  | 54             | Pass   |

### Horizontal



### Vertical



Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

## 6. Occupied Bandwidth

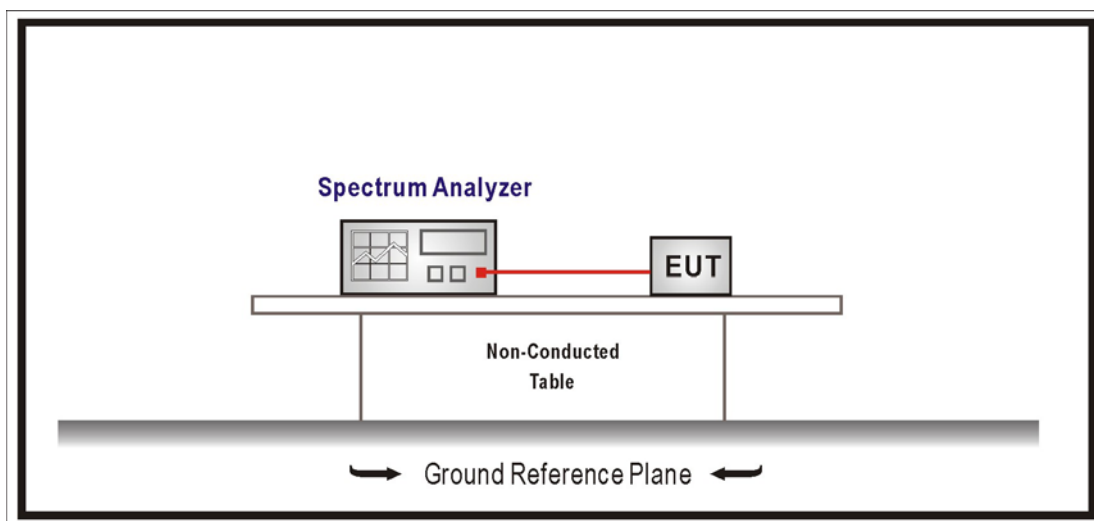
### 6.1. Test Equipment

The following test equipment are used during the test:

| Item | Equipment         | Manufacturer | Model No. / Serial No. | Last Cal.  |
|------|-------------------|--------------|------------------------|------------|
| 1    | Spectrum Analyzer | R & S        | FSP / 100561           | Mar., 2006 |
| 2    | No.1 OATS         |              |                        | Sep., 2006 |

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

### 6.2. Test Setup



### 6.3. Limits

For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.

For frequency hopping systems operating in the 5725-5850 MHz bands. The maximum 20 dB bandwidth of the hopping channel is 1 MHz.

For 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.

### 6.4. Test Specification

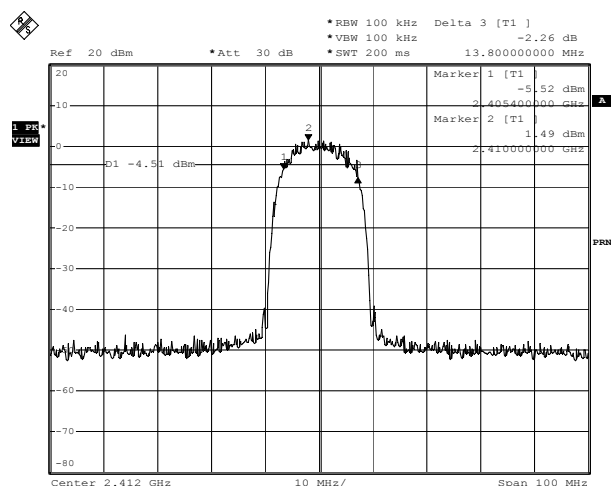
According to FCC Part 15 Subpart C Paragraph 15.247: 2004

## 6.5. Test Result

|              |                                        |           |           |
|--------------|----------------------------------------|-----------|-----------|
| Product      | 802.11g Wireless ADSL2+ 4-port Gateway |           |           |
| Test Item    | Occupied Bandwidth                     |           |           |
| Test Mode    | Mode 1: Transmit                       |           |           |
| Date of Test | 2006/09/26                             | Test Site | No.1 OATS |

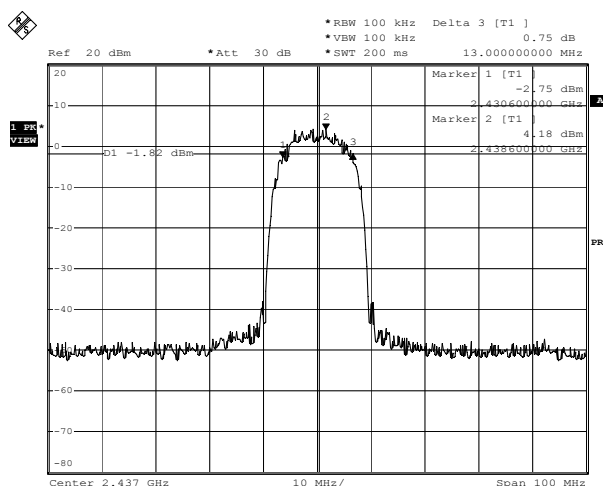
| IEEE 802.22 b |                 |                     |             |        |
|---------------|-----------------|---------------------|-------------|--------|
| Channel No.   | Frequency (MHz) | Measure Level (KHz) | Limit (MHz) | Result |
| 1             | 2412.00         | 13800               | > 500       | Pass   |
| 6             | 2437.00         | 13000               | > 500       | Pass   |
| 11            | 2462.00         | 13000               | > 500       | Pass   |

### Channel 1



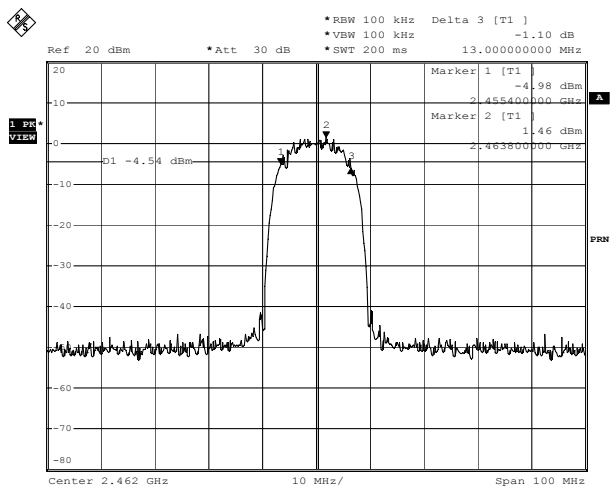
Date: 26.SEP.2006 02:13:55

### Channel 6



Date: 26.SEP.2006 02:21:48

### Channel 11

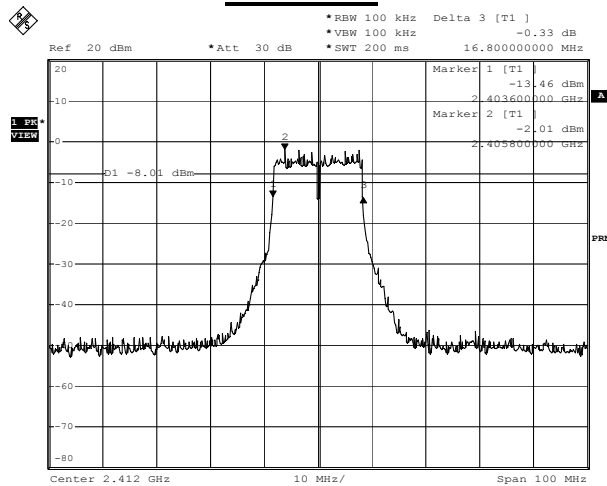


Date: 26.SEP.2006 02:17:31

|              |                                        |           |           |
|--------------|----------------------------------------|-----------|-----------|
| Product      | 802.11g Wireless ADSL2+ 4-port Gateway |           |           |
| Test Item    | Occupied Bandwidth                     |           |           |
| Test Mode    | Mode 1: Transmit                       |           |           |
| Date of Test | 2006/09/26                             | Test Site | No.1 OATS |

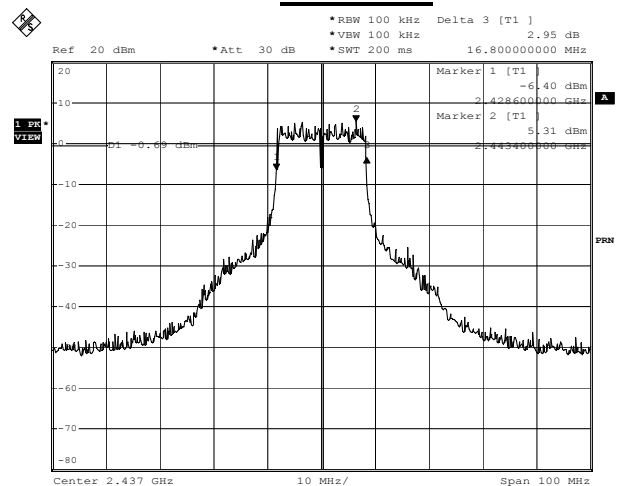
| IEEE 802.22 g |                 |                     |             |        |
|---------------|-----------------|---------------------|-------------|--------|
| Channel No.   | Frequency (MHz) | Measure Level (MHz) | Limit (MHz) | Result |
| 1             | 2412.00         | 16800               | > 500       | Pass   |
| 6             | 2437.00         | 16800               | > 500       | Pass   |
| 11            | 2462.00         | 16800               | > 500       | Pass   |

## Channel 1



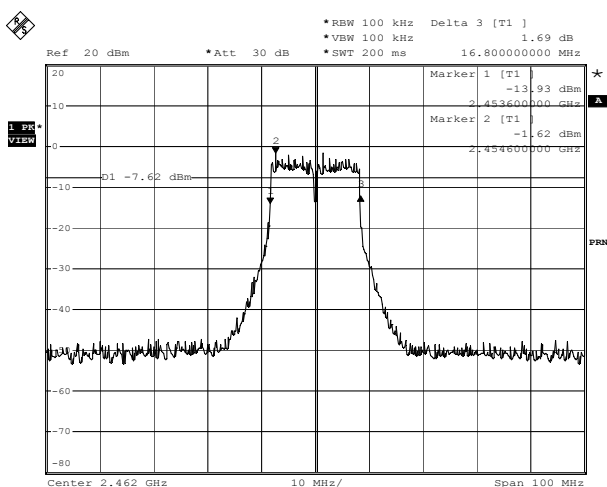
Date: 26.SEP.2006 02:27:08

## Channel 6



Date: 26.SEP.2006 02:36:07

## Channel 11



Date: 26.SEP.2006 02:31:45

## 7. Dwell Time

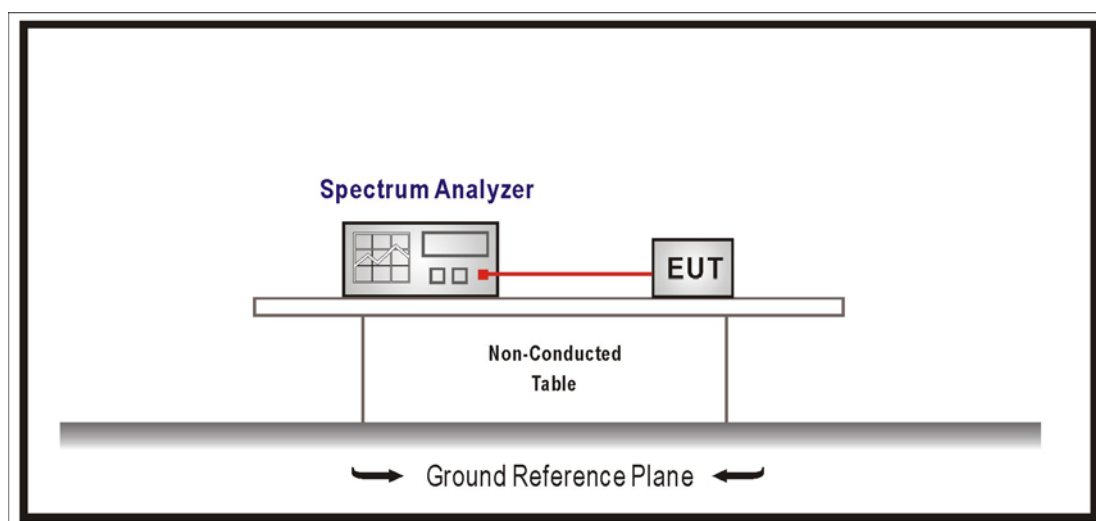
### 7.1. Test Equipment

The following test equipment are used during the test:

| Item | Equipment         | Manufacturer | Model No. / Serial No. | Last Cal.  |
|------|-------------------|--------------|------------------------|------------|
| 1    | Spectrum Analyzer | R & S        | FSP / 100561           | Mar., 2006 |
| 2    | No.1 OATS         |              |                        | Sep., 2006 |

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

### 7.2. Test Setup



### 7.3. Limits

For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period. For frequency hopping systems operating in the 2400-2483.5 MHz bands. 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.

For frequency hopping systems operating in the 5725-5850 MHz bands. The average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 30 second period.

### 7.4. Test Specification

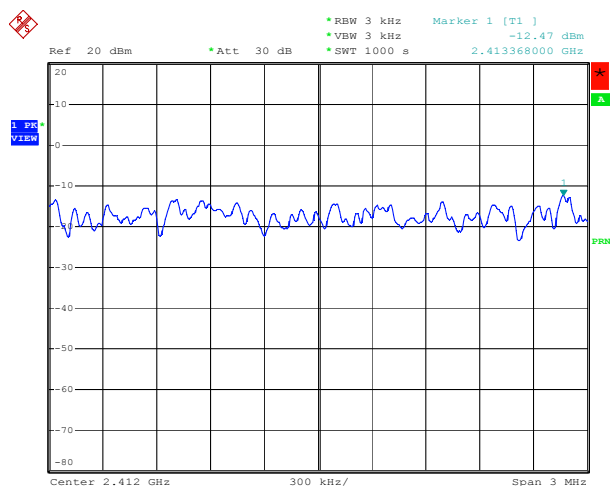
According to FCC Part 15 Subpart C Paragraph 15.247: 2004

## 7.5. Test Result

|              |                                        |           |           |
|--------------|----------------------------------------|-----------|-----------|
| Product      | 802.11g Wireless ADSL2+ 4-port Gateway |           |           |
| Test Item    | Dwell Time                             |           |           |
| Test Mode    | Mode 1: Transmit                       |           |           |
| Date of Test | 2006/09/26                             | Test Site | No.1 OATS |

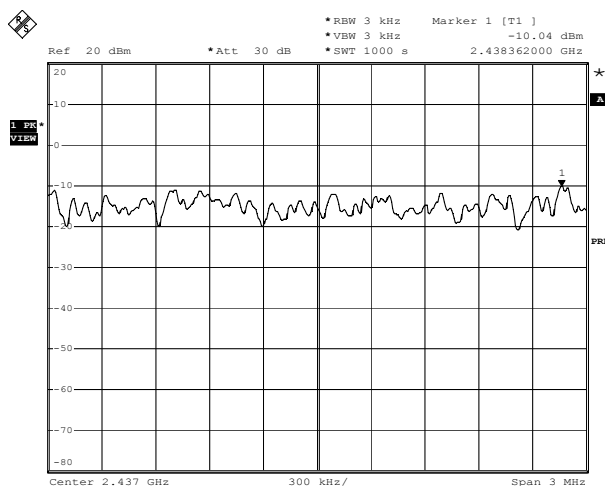
| IEEE 802.11b |                 |                     |             |        |
|--------------|-----------------|---------------------|-------------|--------|
| Channel No.  | Frequency (MHz) | Measure Level (dBm) | Limit (dBm) | Result |
| 1            | 2412            | -12.47              | <8          | Pass   |
| 6            | 2437            | -10.04              | <8          | Pass   |
| 11           | 2462            | -12.43              | <8          | Pass   |

**Channel 1**



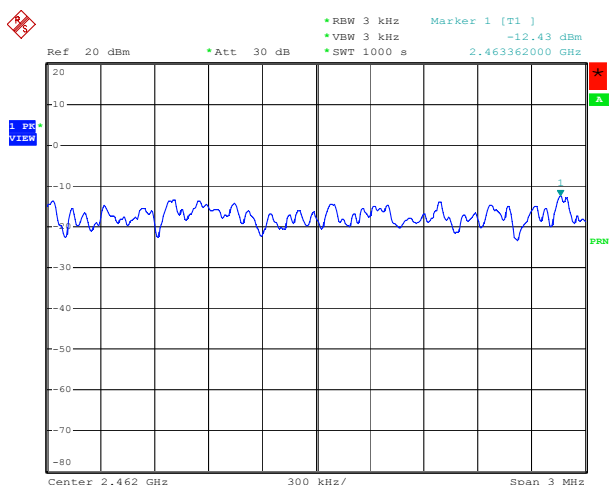
Date: 26.SEP.2006 17:41:30

**Channel 6**



Date: 26.SEP.2006 17:02:09

**Channel 11**

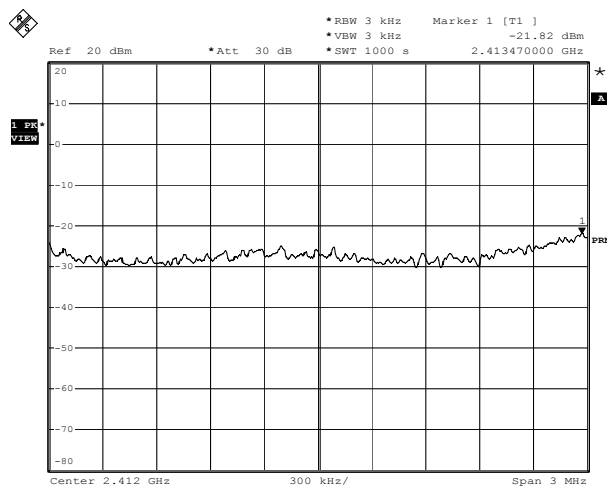


Date: 26.SEP.2006 17:40:05

|              |                                        |           |           |
|--------------|----------------------------------------|-----------|-----------|
| Product      | 802.11g Wireless ADSL2+ 4-port Gateway |           |           |
| Test Item    | Dwell Time                             |           |           |
| Test Mode    | Mode 1: Transmit                       |           |           |
| Date of Test | 2006/09/26                             | Test Site | No.1 OATS |

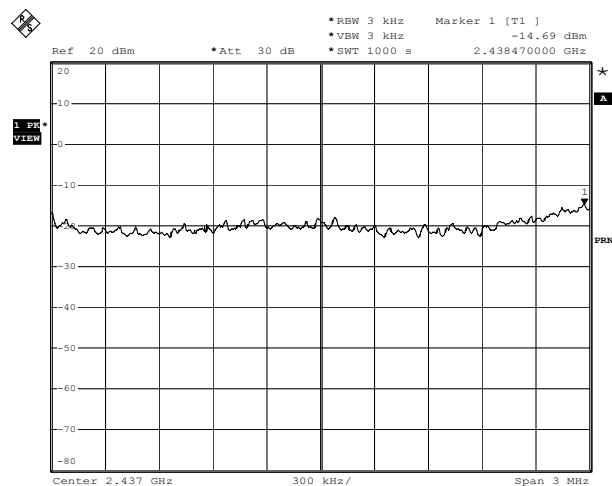
| IEEE 802.11g |                 |                     |             |        |
|--------------|-----------------|---------------------|-------------|--------|
| Channel No.  | Frequency (MHz) | Measure Level (dBm) | Limit (dBm) | Result |
| 1            | 2412            | -21.82              | <8          | Pass   |
| 6            | 2437            | -14.69              | <8          | Pass   |
| 11           | 2462            | -22.00              | <8          | Pass   |

### Channel 1



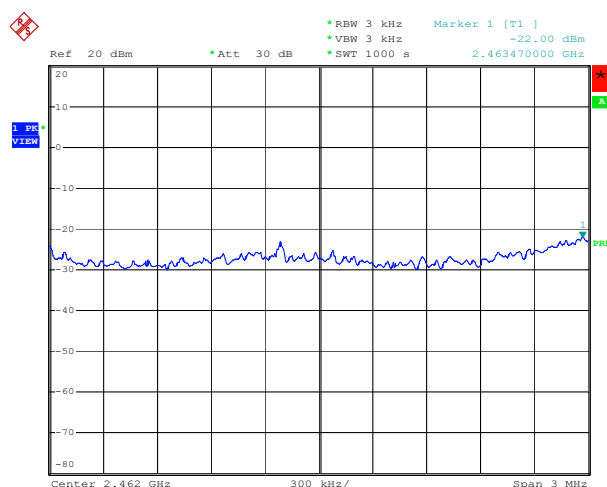
Date: 26.SEP.2006 17:20:15

### Channel 6



Date: 26.SEP.2006 17:14:59

### Channel 11



Date: 26.SEP.2006 17:27:44