# Test Report

| | |
|---|---|
| Product Name | 802.11G Internet Access Server |
| Model No. | WIAS-1200G |
| FCC ID | ODMWS12G |

| | |
|---|---|
| Applicant | OvisLink Corp. |
| Address | 5F, No.6, Lane 130, Min-Chuan Rd., Hsin-Tien City, Taipei County 231, Taiwan |

| | |
|---|---|
| Date of Receipt | June 06, 2007 |
| Issued Date | Oct. 03, 2007 |
| Report No. | 077322R-RFUSP05V01 |

# Test Report Certification

Issued Date: Oct. 03, 2007
Report No.: 077322R-RFUSP05V01

**Accredited by NIST (NVLAP)**
NVLAP Lab Code: 200533-0

| | |
|---|---|
| Product Name | 802.11G Internet Access Server |
| Applicant | OvisLink Corp. |
| Address | 5F, No.6, Lane 130, Min-Chuan Rd., Hsin-Tien City, Taipei County 231, Taiwan |
| Manufacturer | OvisLink Corp. |
| Model No. | WIAS-1200G |
| Rated Voltage | AC 120V/60Hz |
| Working Voltage | AC 120V/60Hz |
| Trade Name | Air Live |
| Applicable Standard | FCC CFR Title 47 Part 15 Subpart C: 2006<br>ANSI C63.4: 2003 |
| Test Result | Complied |

NVLAP Lab Code: 200533-0

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.
This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Documented By : Rita Huang
( Engineering Adm. Specialist / Rita Huang )

Tested By : Molin huang
( Engineer / M o l i n H u a n g )

Approved By :
( Deputy Manager / Vincent Lin)

0914

# TABLE OF CONTENTS

# 1. GENERAL INFORMATION

## 1.1. EUT Description

| | |
|---|---|
| Product Name | 802.11G Internet Access Server |
| Trade Name | Air Live |
| Model No. | WIAS-1200G |
| FCC ID. | ODMWS12G |
| Frequency Range | 2412 – 2462MHz |
| Number of Channels | 11 |
| Data Speed | IEEE 802.11b – 1, 2, 5.5, 11Mbps<br>IEEE 802.11g – 6, 9, 12, 18, 24, 36 48, 54Mbps |
| Type of Modulation | DSSS/ OFDM |
| Antenna Type | Dipole |
| Antenna Gain | Refer to the table "Antenna List" |
| Channel Control | Auto |
| Power Adapter | MFR: DVE M/N: DSA-36W-12124<br>Cable out: Non-Shielded, 1.6m<br>Power Cord: Shielded, 1.8m |

**Antenna List**

| No. | Manufacturer | Part No. | Peak Gain |
|---|---|---|---|
| 1 | ARISTOTLE | RFA-02-5-C7M3-B32-R | 4.5dBi for 2.4 GHz |

Frequency of Each Channel:

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

Note:

1. The EUT is a 802.11G Internet Access Serverwith a built-in 2.4GHz WLAN transceiver.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11b is 1Mbps and 802.11g is 6Mbps)
4. These tests are conducted on a sample for the purpose of demonstrating compliance of 802.11b/g transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices
5. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

## 1.2. Operational Description

The EUT is a 802.11G Internet Access Serverwith a built-in 2.4GHz transceiver. There are 11 channels in 2412 – 2462MHz. The channels are separated by 5MHz. This device supports the data rates of 1, 2, 5.5, 11Mbps in 802.11b mode and 6, 9, 12, 18, 24, 36, 48, 54Mbps in 802.11g mode. The signals are modulated by DSSS in 802.11b mode and OFDM in 802.11g mode. The antenna type is Dipole.

| | |
|---|---|
| Test Mode | Mode 1: Transmitter 802.11b |
| | Mode 2: Transmitter 802.11g |

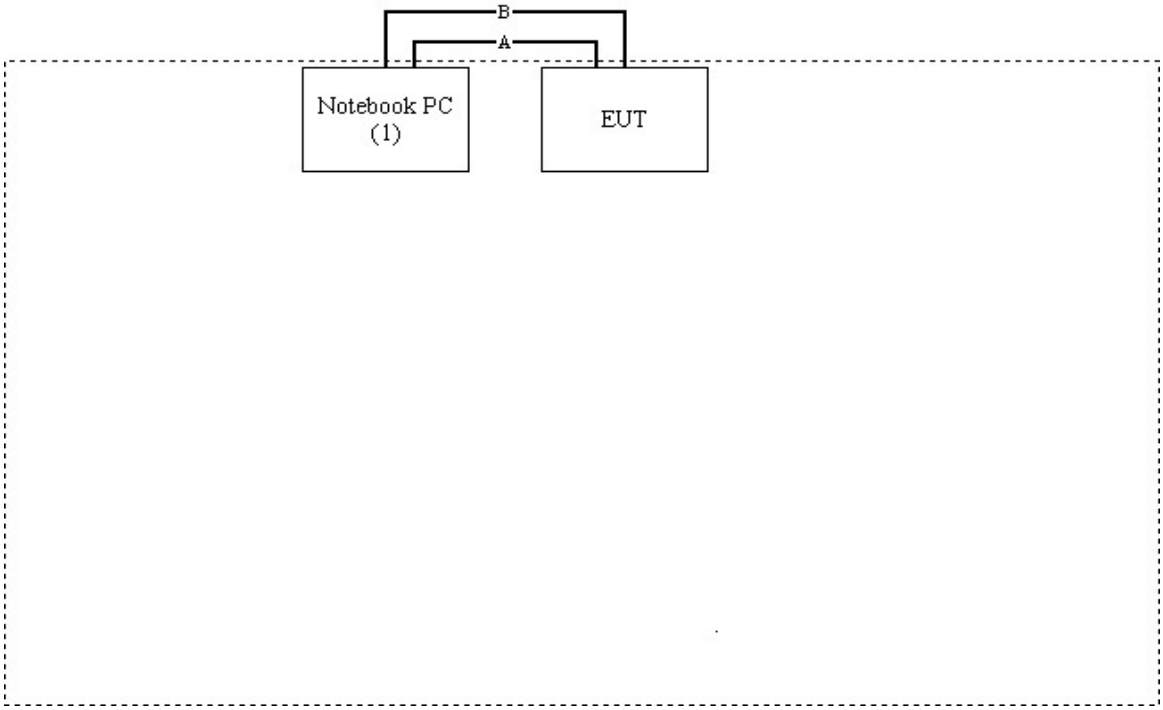
## 1.3. Tested System Datails

The types for all equipment, 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 | PP04X | 2D2ZM1S | N/A | Non-Shielded, 0.8m |

| Signal Cable Type | | Signal cable Description |
|---|---|---|
| A. | LAN Cable | Shielded, 1.0m |
| B. | RS-232 Cable | Shielded, 1.8m |

## 1.4. Configuration of Test System




## 1.5. EUT Exercise Software

1 Setup the EUT as shown in section 1.3

2 Execute the TFTP32.EXE Ver.2.80 program (the continuous transmission program) on the EUT

3 Setup the test mode, the test channel, and the data rate.

4 Press OK to start the transmission.

5 Verify that the EUT works correctly.

## 1.6. Test Facility

Ambient conditions in the laboratory:

| Items | Required (IEC 68-1) | Actual |
|---|---|---|
| Temperature (°C) | 15-35 | 20-35 |
| Humidity (%RH) | 25-75 | 50-65 |
| Barometric pressure (mbar) | 860-1060 | 950-1000 |

Site Description: File on
Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046
Reference 31040/SIT1300F2

Accreditation on NVLAP
NVLAP Lab Code: 200533-0

Site Name: Quietek Corporation
Site Address: No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen,
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TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : service@quietek.com

0914

FCC Accreditation Number: TW1014

# 2. Conducted Emission

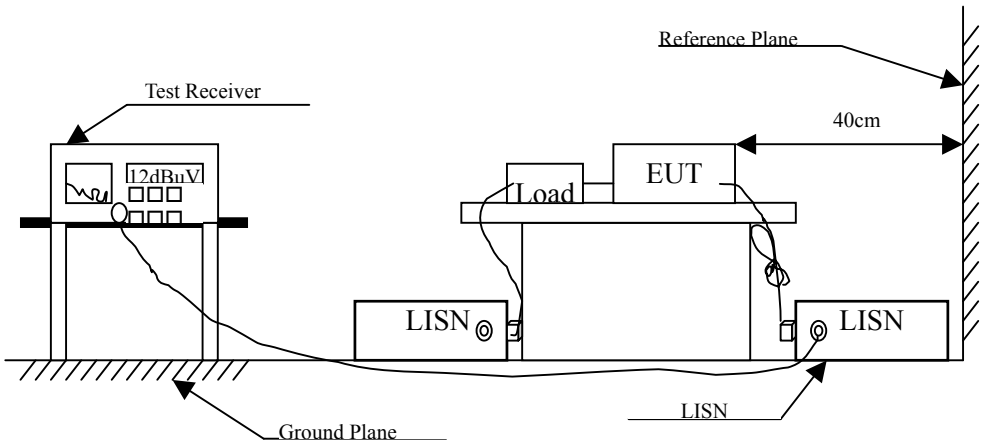
## 2.1. Test Equipment

The following test equipment are used during the conducted emission test:

| Item | Instrument | Manufacturer | Type No./Serial No | Last Cal. | Remark |
|---|---|---|---|---|---|
| 1 | Test Receiver | R & S | ESCS 30/825442/17 | May, 2007 | |
| 2 | L.I.S.N. | R & S | ESH3-Z5/825016/6 | May, 2007 | EUT |
| 3 | L.I.S.N. | Kyoritsu | KNW-407/8-1420-3 | May, 2007 | Peripherals |
| 4 | Pulse Limiter | R & S | ESH3-Z2 | May, 2007 | |
| 5 | No.1 Shielded Room | | | N/A | |

Note: All instruments are calibrated every one year.

## 2.2. Test Setup




## 2.3. Limits

| FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit | | |
|---|---|---|
| Frequency MHz | Limits | |
| | QP | AVG |
| 0.15 - 0.50 | 66-56(注) | 56-46(注) |
| 0.50-5.0 | 56 | 46 |
| 5.0 - 30 | 60 | 50 |

## 2.4. 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 refer 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 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.

## 2.5. Uncertainty

± 2.26 dB

## 2.6. Test Result of Conducted Emission

Product : 802.11G Internet Access Server
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 1: Transmitter 802.11b (2437MHz)

| Frequency | Correct Factor | Reading Level | Measurement Level | Margin | Limit |
|---|---|---|---|---|---|
| MHz | dB | dBuV | dBuV | dB | dBuV |
| **LINE 1** | | | | | |
| **Quasi-Peak** | | | | | |
| 0.279 | 0.213 | 33.840 | 34.053 | -28.261 | 62.314 |
| 0.412 | 0.215 | 42.540 | 42.755 | -15.759 | 58.514 |
| 0.599 | 0.218 | 35.850 | 36.068 | -19.932 | 56.000 |
| 0.877 | 0.231 | 33.710 | 33.941 | -22.059 | 56.000 |
| 1.236 | 0.246 | 32.690 | 32.936 | -23.064 | 56.000 |
| 2.025 | 0.277 | 30.860 | 31.137 | -24.863 | 56.000 |
| **Average** | | | | | |
| 0.279 | 0.213 | 31.990 | 32.203 | -20.111 | 52.314 |
| 0.412 | 0.215 | 40.100 | 40.315 | -8.199 | 48.514 |
| 0.599 | 0.218 | 33.880 | 34.098 | -11.902 | 46.000 |
| 0.877 | 0.231 | 30.220 | 30.451 | -15.549 | 46.000 |
| 1.236 | 0.246 | 26.250 | 26.496 | -19.504 | 46.000 |
| 2.025 | 0.277 | 24.280 | 24.557 | -21.443 | 46.000 |

Note:

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

Product : 802.11G Internet Access Server
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 1: Transmitter 802.11b (2437MHz)

| Frequency | Correct Factor | Reading Level | Measurement Level | Margin | Limit |
|---|---|---|---|---|---|
| MHz | dB | dBuV | dBuV | dB | dBuV |
| **LINE 2** | | | | | |
| **Quasi-Peak** | | | | | |
| 0.275 | 0.203 | 36.680 | 36.883 | -25.546 | 62.429 |
| 0.416 | 0.215 | 43.910 | 44.125 | -14.275 | 58.400 |
| 0.599 | 0.218 | 36.580 | 36.798 | -19.202 | 56.000 |
| 0.873 | 0.231 | 34.330 | 34.561 | -21.439 | 56.000 |
| 1.658 | 0.262 | 31.920 | 32.182 | -23.818 | 56.000 |
| 2.025 | 0.277 | 32.190 | 32.467 | -23.533 | 56.000 |
| **Average** | | | | | |
| 0.275 | 0.203 | 35.210 | 35.413 | -17.016 | 52.429 |
| 0.416 | 0.215 | 41.700 | 41.915 | -6.485 | 48.400 |
| 0.599 | 0.218 | 33.650 | 33.868 | -12.132 | 46.000 |
| 0.873 | 0.231 | 30.900 | 31.131 | -14.869 | 46.000 |
| 1.658 | 0.262 | 25.820 | 26.082 | -19.918 | 46.000 |
| 2.025 | 0.277 | 25.450 | 25.727 | -20.273 | 46.000 |

Note:

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

Product : 802.11G Internet Access Server
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 2: Transmitter 802.11g (2437MHz)

| Frequency | Correct Factor | Reading Level | Measurement Level | Margin | Limit |
|---|---|---|---|---|---|
| MHz | dB | dBuV | dBuV | dB | dBuV |
| **LINE 1** | | | | | |
| **Quasi-Peak** | | | | | |
| 0.275 | 0.212 | 35.030 | 35.242 | -27.187 | 62.429 |
| 0.412 | 0.215 | 42.690 | 42.905 | -15.609 | 58.514 |
| 0.599 | 0.218 | 35.830 | 36.048 | -19.952 | 56.000 |
| 0.877 | 0.231 | 33.650 | 33.881 | -22.119 | 56.000 |
| 1.232 | 0.246 | 32.970 | 33.216 | -22.784 | 56.000 |
| 2.771 | 0.306 | 26.890 | 27.196 | -28.804 | 56.000 |
| **Average** | | | | | |
| 0.275 | 0.212 | 33.920 | 34.132 | -18.297 | 52.429 |
| 0.412 | 0.215 | 41.560 | 41.775 | -6.739 | 48.514 |
| 0.599 | 0.218 | 33.650 | 33.868 | -12.132 | 46.000 |
| 0.877 | 0.231 | 29.560 | 29.791 | -16.209 | 46.000 |
| 1.232 | 0.246 | 23.230 | 23.476 | -22.524 | 46.000 |
| 2.771 | 0.306 | 16.060 | 16.366 | -29.634 | 46.000 |

Note:

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

Product : 802.11G Internet Access Server
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 2: Transmitter 802.11g (2437MHz)

| Frequency | Correct Factor | Reading Level | Measurement Level | Margin | Limit |
|---|---|---|---|---|---|
| MHz | dB | dBuV | dBuV | dB | dBuV |
| **LINE 2** | | | | | |
| **Quasi-Peak** | | | | | |
| 0.279 | 0.203 | 34.970 | 35.173 | -27.141 | 62.314 |
| 0.416 | 0.215 | 43.930 | 44.145 | -14.255 | 58.400 |
| 0.599 | 0.218 | 36.560 | 36.778 | -19.222 | 56.000 |
| 0.830 | 0.231 | 34.200 | 34.431 | -21.569 | 56.000 |
| 1.276 | 0.247 | 30.770 | 31.017 | -24.983 | 56.000 |
| 2.025 | 0.277 | 32.270 | 32.547 | -23.453 | 56.000 |
| **Average** | | | | | |
| 0.279 | 0.203 | 32.750 | 32.953 | -19.361 | 52.314 |
| 0.416 | 0.215 | 39.460 | 39.675 | -8.725 | 48.400 |
| 0.599 | 0.218 | 33.710 | 33.928 | -12.072 | 46.000 |
| 0.830 | 0.231 | 30.580 | 30.811 | -15.189 | 46.000 |
| 1.276 | 0.247 | 19.160 | 19.407 | -26.593 | 46.000 |
| 2.025 | 0.277 | 25.070 | 25.347 | -20.653 | 46.000 |

Note:

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

# 3. Peak Power Output

## 3.1. Test Equipment

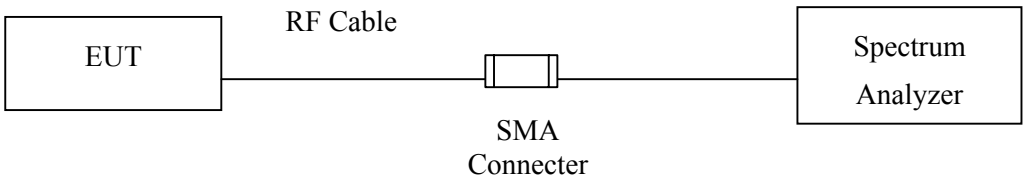
The following test equipments are used during the radiated emission tests:

| | Equipment | Manufacturer | Model No./Serial No. | Last Cal. |
|---|---|---|---|---|
| X | Spectrum Analyzer | Agilent | E4407B / US39440758 | May, 2007 |

Note: 1. All instruments are calibrated every one year.
2. The test instruments marked by "X" are used to measure the final test results.

## 3.2. Test Setup

Conducted Measurement




## 3.3. Limits

The maximum peak power shall be less 1 Watt.

## 3.4. Uncertainty

± 1.27 dB

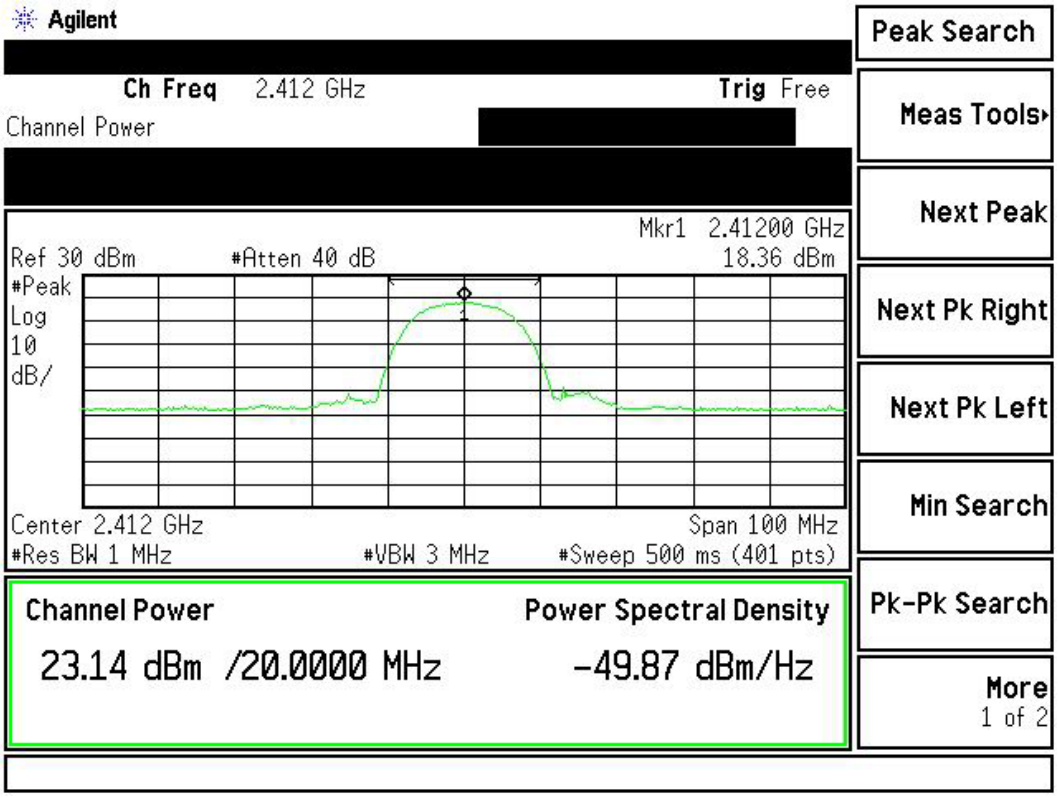
## 3.5. Test Result of Peak Power Output

Product : 802.11G Internet Access Server
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b

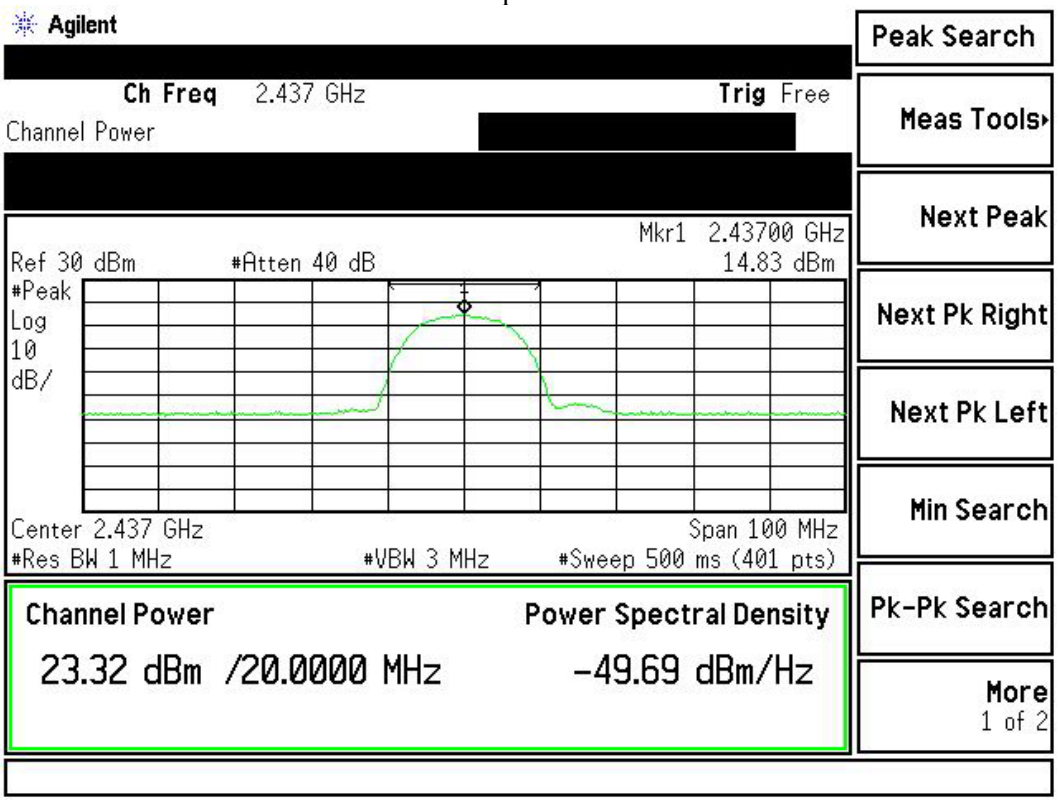
**Data Speed: 11Mbps**

| Channel No. | Frequency (MHz) | Measurement | Required Limit | Result |
|---|---|---|---|---|
| 1 | 2412.00 | 23.14dBm | 1Watt= 30 dBm | Pass |
| 6 | 2437.00 | 23.32dBm | 1Watt= 30 dBm | Pass |
| 11 | 2462.00 | 23.06dBm | 1Watt= 30 dBm | Pass |

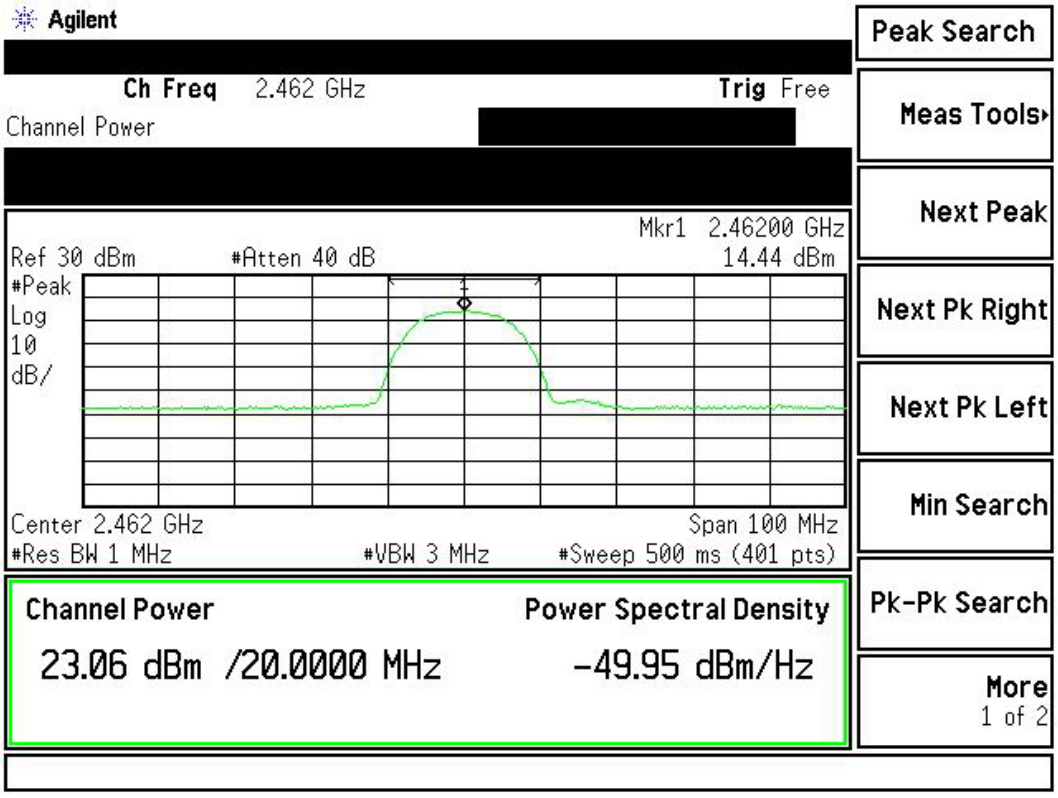
1Mbps-CH01



1Mbps-CH06




1Mbps-CH11

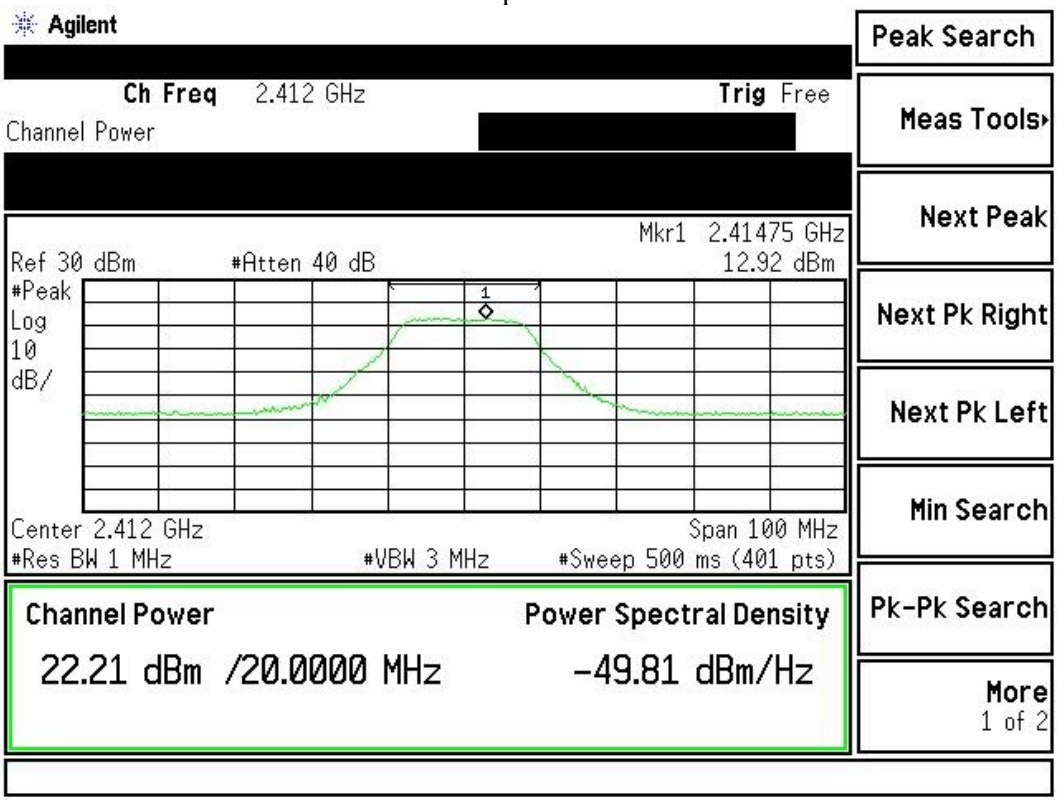


Product : 802.11G Internet Access Server
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g

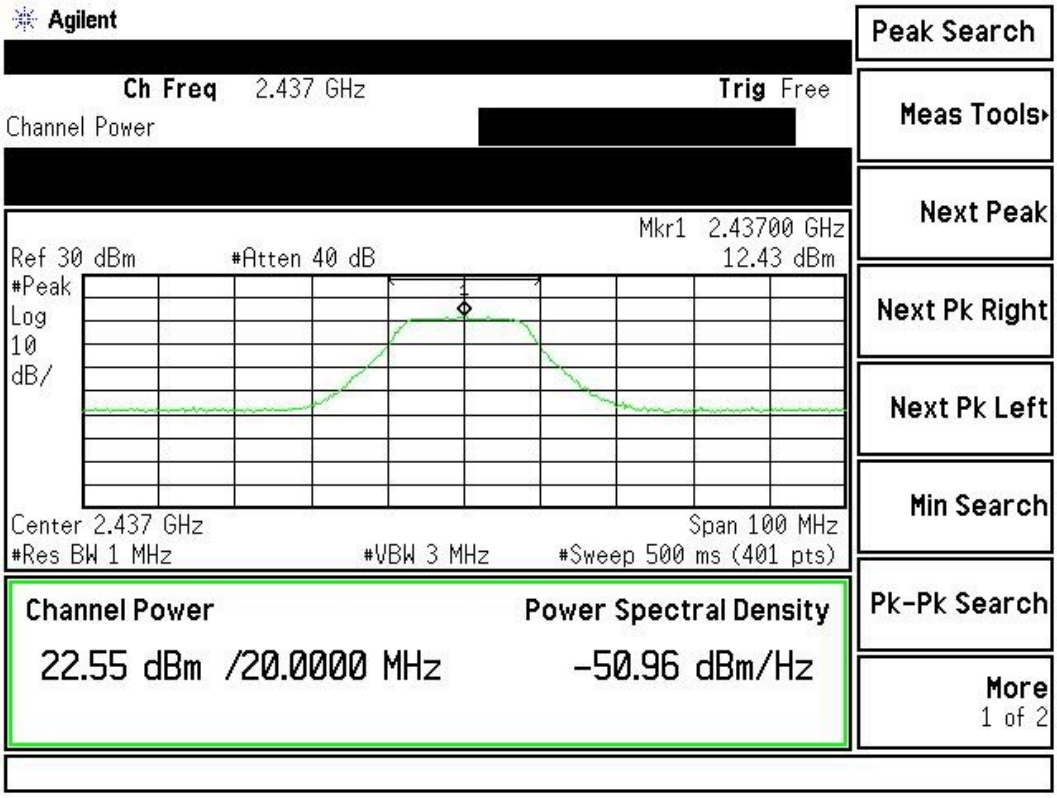
**Data Speed: 54Mbps**

| Channel No. | Frequency (MHz) | Measurement | Required Limit | Result |
|---|---|---|---|---|
| 1 | 2412.00 | 22.21dBm | 1Watt= 30 dBm | Pass |
| 6 | 2437.00 | 22.55dBm | 1Watt= 30 dBm | Pass |
| 11 | 2462.00 | 22.43dBm | 1Watt= 30 dBm | Pass |

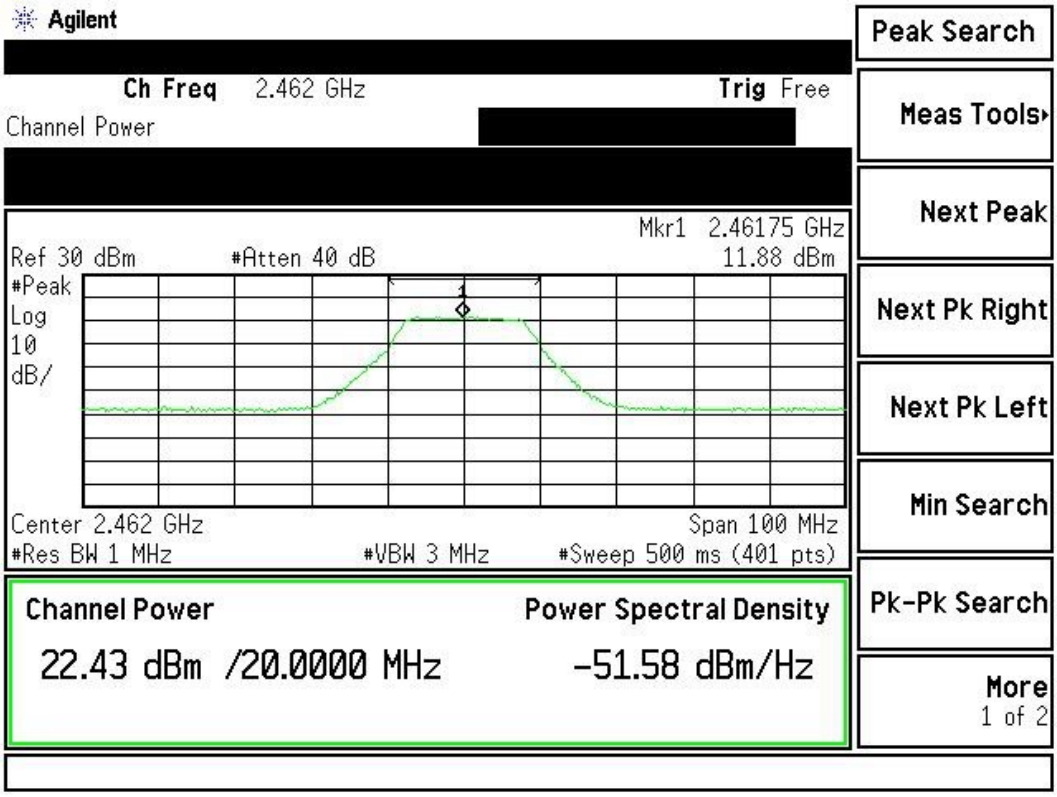
6Mbps-CH01



6Mbps-CH06




6Mbps-CH11



# 4. Radiated Emission

## 4.1. Test Equipment

The following test equipment are used during the radiated emission test:

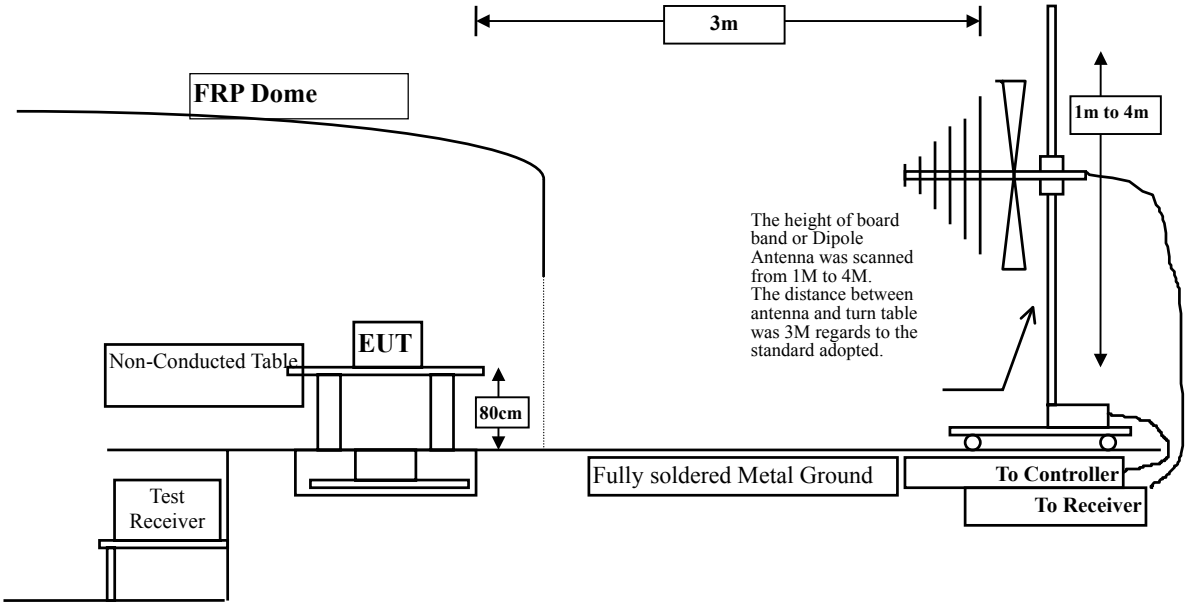
| Test Site | | Equipment | Manufacturer | Model No./Serial No. | Last Cal. |
|---|---|---|---|---|---|
| Site # 1 | | Test Receiver | R & S | ESCS 30 / 825442/14 | May, 2007 |
| | | Spectrum Analyzer | Advantest | R3261C / 71720140 | May, 2007 |
| | | Pre-Amplifier | HP | 8447D/3307A01812 | May, 2007 |
| | | Bilog Antenna | Chase | CBL6112B / 12452 | Sep., 2006 |
| | | Horn Antenna | EM | EM6917 / 103325 | May, 2007 |
| Site # 2 | | Test Receiver | R & S | ESCS 30 / 825442/17 | May, 2007 |
| | | Spectrum Analyzer | Advantest | R3261C / 71720609 | May, 2007 |
| | | Pre-Amplifier | HP | 8447D/3307A01814 | May, 2007 |
| | | Bilog Antenna | Chase | CBL6112B / 2455 | Sep., 2006 |
| | | Horn Antenna | EM | EM6917 / 103325 | May, 2007 |
| Site # 3 | X | Test Receiver | R & S | ESI 26 / 838786 / 004 | May, 2007 |
| | X | Spectrum Analyzer | Agilent | E4407B / US39440758 | May, 2007 |
| | X | Bilog Antenna | SCHAFFNER | CBL6112B / 2697 | May, 2007 |
| | X | Horn Antenna | Schwarzbeck | BBHA9120D / 305, 306 | July, 2007 |
| | X | Horn Antenna | Schwarzbeck | BBHA9170 / 208, 209 | July, 2007 |
| | X | Pre-Amplifier | QTK | QTK-AMP-01 / 0001 | July, 2007 |
| | X | Pre-Amplifier | QTK | QTK-AMP-03 / 0003 | May, 2007 |
| | X | Pre-Amplifier | HP | 8449B / 3008A01123 | July, 2007 |

Note: 1. All instruments are calibrated every one year.

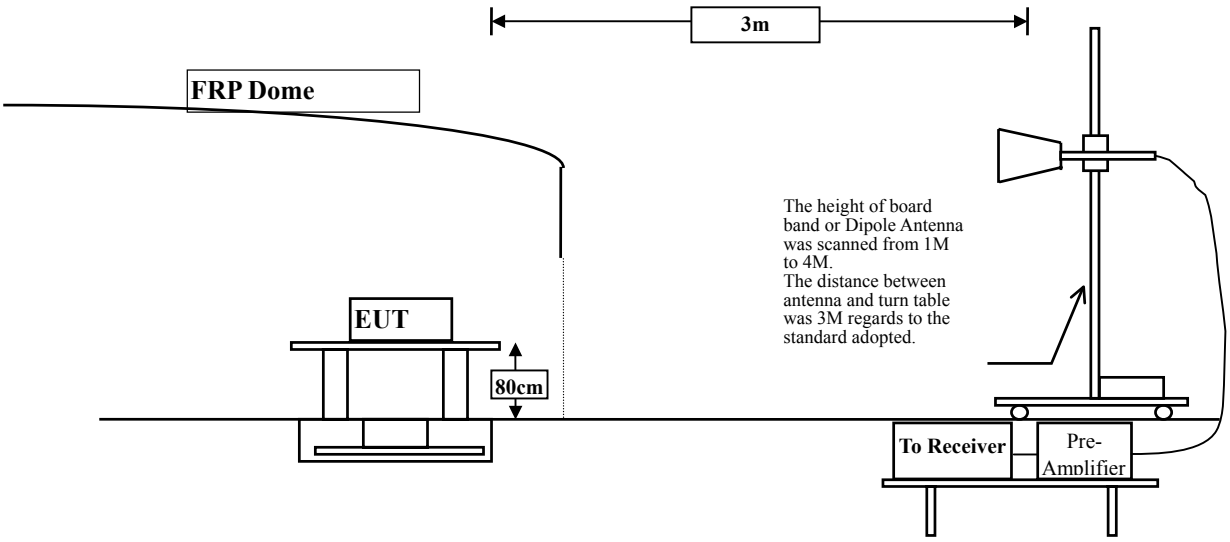
2. The test instruments marked by “X” are used to measure the final test results.

## 4.2. Test Setup

Below 1GHz




Above 1GHz



## 4.3. Limits

### ➢ General Radiated Emission 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(a) Limits** | | |
|---|---|---|
| Frequency MHz | uV/m @3m | dBuV/m@3m |
| 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 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 additional latch filter below 1GHz was used to measure the level of harmonics radiated emission during field dtrength of harmonics measurement.

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

The frequency range from 30MHz to 10th harminics is checked.

## 4.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

## 4.6. Test Result of Radiated Emission

Product : 802.11G Internet Access Server
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b (2412MHz)

| Frequency | Correct Factor | Reading Level | Measurement Level | Margin | Limit |
|---|---|---|---|---|---|
| MHz | dB | dBuV | dBuV/m | dB | dBuV/m |
| **Horizontal** | | | | | |
| **Peak Detector:** | | | | | |
| 4824.000 | 2.927 | 49.140 | 52.067 | -21.933 | 74.000 |
| 7236.000 | 9.472 | 38.600 | 48.072 | -25.928 | 74.000 |
| 9648.000 | 10.512 | 38.660 | 49.172 | -24.828 | 74.000 |
| **Average Detector:** | | | | | |
| -- | | | | | |
| **Vertical** | | | | | |
| **Peak Detector:** | | | | | |
| 4824.000 | 2.927 | 49.840 | 52.767 | -21.233 | 74.000 |
| 7236.000 | 9.472 | 38.440 | 47.912 | -26.088 | 74.000 |
| 9648.000 | 10.512 | 41.690 | 52.202 | -21.798 | 74.000 |
| **Average Detector:** | | | | | |
| -- | | | | | |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz。
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz。
4. Emission Level = Reading Level + Correct Factor.
5. 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 Internet Access Server
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b (2437 MHz)

| Frequency | Correct Factor | Reading Level | Measurement Level | Margin | Limit |
|---|---|---|---|---|---|
| MHz | dB | dBuV | dBuV/m | dB | dBuV/m |
| **Horizontal** | | | | | |
| **Peak Detector:** | | | | | |
| 4874.000 | 3.037 | 46.010 | 49.047 | -24.953 | 74.000 |
| 7311.000 | 9.557 | 41.310 | 50.868 | -23.132 | 74.000 |
| 9748.000 | 10.600 | 39.600 | 50.200 | -23.800 | 74.000 |
| **Average Detector:** | | | | | |
| -- | | | | | |
| **Vertical** | | | | | |
| **Peak Detector:** | | | | | |
| 4874.000 | 3.037 | 49.700 | 52.737 | -21.263 | 74.000 |
| 7311.000 | 9.557 | 41.200 | 50.758 | -23.242 | 74.000 |
| 9748.000 | 10.600 | 39.400 | 50.000 | -24.000 | 74.000 |
| **Average Detector:** | | | | | |
| -- | | | | | |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz。
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz。
4. Emission Level = Reading Level + Correct Factor.
5. 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 Internet Access Server
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b (2462 MHz)

| Frequency | Correct Factor | Reading Level | Measurement Level | Margin | Limit |
|---|---|---|---|---|---|
| MHz | dB | dBuV | dBuV/m | dB | dBuV/m |
| **Horizontal** | | | | | |
| **Peak Detector:** | | | | | |
| 4924.000 | 3.154 | 49.600 | 52.754 | -21.246 | 74.000 |
| 7386.000 | 9.627 | 39.680 | 49.307 | -24.693 | 74.000 |
| 9848.000 | 10.686 | 38.560 | 49.246 | -24.754 | 74.000 |
| **Average** | | | | | |
| **Detector:** | | | | | |
| -- | | | | | |
| **Vertical** | | | | | |
| **Peak Detector:** | | | | | |
| 4924.000 | 3.154 | 49.430 | 52.584 | -21.416 | 74.000 |
| 7386.000 | 9.627 | 40.300 | 49.927 | -24.073 | 74.000 |
| 9848.000 | 10.686 | 38.600 | 49.286 | -24.714 | 74.000 |
| **Average** | | | | | |
| **Detector:** | | | | | |
| -- | | | | | |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz。
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz。
4. Emission Level = Reading Level + Correct Factor.
5. 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 Internet Access Server
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g (2412MHz)

| Frequency | Correct Factor | Reading Level | Measurement Level | Margin | Limit |
|---|---|---|---|---|---|
| MHz | dB | dBuV | dBuV/m | dB | dBuV/m |
| **Horizontal** | | | | | |
| **Peak Detector:** | | | | | |
| 4824.000 | 2.927 | 41.500 | 44.427 | -29.573 | 74.000 |
| 7236.000 | 9.472 | 34.960 | 44.432 | -29.568 | 74.000 |
| 9648.000 | 10.512 | 38.110 | 48.622 | -25.378 | 74.000 |
| **Average Detector:** | | | | | |
| -- | | | | | |
| **Vertical** | | | | | |
| **Peak Detector:** | | | | | |
| 4824.000 | 2.927 | 45.360 | 48.287 | -25.713 | 74.000 |
| 7236.000 | 9.472 | 37.640 | 47.112 | -26.888 | 74.000 |
| 9648.000 | 10.512 | 38.000 | 48.512 | -25.488 | 74.000 |
| **Average Detector:** | | | | | |
| -- | | | | | |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz。
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz。
4. Emission Level = Reading Level + Correct Factor.
5. 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 Internet Access Server
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g (2437 MHz)

| Frequency | Correct Factor | Reading Level | Measurement Level | Margin | Limit |
|---|---|---|---|---|---|
| MHz | dB | dBuV | dBuV/m | dB | dBuV/m |
| **Horizontal** | | | | | |
| **Peak Detector:** | | | | | |
| 4874.000 | 3.037 | 45.740 | 48.777 | -25.223 | 74.000 |
| 7311.000 | 9.557 | 36.720 | 46.278 | -27.722 | 74.000 |
| 9748.000 | 10.600 | 35.250 | 45.850 | -28.150 | 74.000 |
| **Average Detector:** | | | | | |
| -- | | | | | |
| **Vertical** | | | | | |
| **Peak Detector:** | | | | | |
| 4874.000 | 3.037 | 46.390 | 49.427 | -24.573 | 74.000 |
| 7311.000 | 9.557 | 37.150 | 46.708 | -27.292 | 74.000 |
| 9748.000 | 10.600 | 32.210 | 42.810 | -31.190 | 74.000 |
| **Average Detector:** | | | | | |
| -- | | | | | |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz。
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz。
4. Emission Level = Reading Level + Correct Factor.
5. 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 Internet Access Server
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g (2462 MHz)

| Frequency | Correct Factor | Reading Level | Measurement Level | Margin | Limit |
|---|---|---|---|---|---|
| MHz | dB | dBuV | dBuV/m | dB | dBuV/m |
| **Horizontal** | | | | | |
| **Peak Detector:** | | | | | |
| 4924.000 | 3.154 | 45.430 | 48.584 | -25.416 | 74.000 |
| 7386.000 | 9.627 | 32.150 | 41.777 | -32.223 | 74.000 |
| 9848.000 | 10.686 | 29.800 | 40.486 | -33.514 | 74.000 |
| **Average Detector:** | | | | | |
| -- | | | | | |
| **Vertical** | | | | | |
| **Peak Detector:** | | | | | |
| 4924.000 | 3.154 | 48.370 | 51.524 | -22.476 | 74.000 |
| 7386.000 | 9.627 | 33.660 | 43.287 | -30.713 | 74.000 |
| 9848.000 | 10.686 | 31.200 | 41.886 | -32.114 | 74.000 |
| **Average Detector:** | | | | | |
| -- | | | | | |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz。
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz。
4. Emission Level = Reading Level + Correct Factor.
5. 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 Internet Access Server
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b (2437 MHz)

| Frequency | Correct Factor | Reading Level | Measurement Level | Margin | Limit |
|---|---|---|---|---|---|
| MHz | dB | dBuV | dBuV/m | dB | dBuV/m |
| **Horizontal** | | | | | |
| 499.480 | 18.228 | 13.491 | 31.719 | -14.281 | 46.000 |
| 565.440 | 19.135 | 14.866 | 34.001 | -11.999 | 46.000 |
| 668.260 | 20.615 | 15.906 | 36.521 | -9.479 | 46.000 |
| 745.860 | 20.804 | 11.441 | 32.245 | -13.755 | 46.000 |
| 800.180 | 21.764 | 8.301 | 30.065 | -15.935 | 46.000 |
| 901.060 | 22.050 | 14.214 | 36.264 | -9.736 | 46.000 |
| **Vertical** | | | | | |
| 425.700 | 19.568 | 10.754 | 30.322 | -15.678 | 46.000 |
| 499.480 | 18.429 | 12.693 | 31.122 | -14.878 | 46.000 |
| 567.380 | 21.294 | 13.919 | 35.213 | -10.787 | 46.000 |
| 701.240 | 20.774 | 13.703 | 34.477 | -11.523 | 46.000 |
| 831.200 | 21.447 | 7.432 | 28.879 | -17.121 | 46.000 |
| 935.000 | 24.159 | 8.294 | 32.453 | -13.547 | 46.000 |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. "  " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The radiated emissions below 1GHz of the lowest, middle, highest frequency are pretested. Only the worst case is shown on the report.

Product : 802.11G Internet Access Server
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g (2437 MHz)

| Frequency | Correct Factor | Reading Level | Measurement Level | Margin | Limit |
|---|---|---|---|---|---|
| MHz | dB | dBuV | dBuV/m | dB | dBuV/m |
| **Horizontal** | | | | | |
| 425.760 | 17.767 | 15.685 | 33.452 | -12.548 | 46.000 |
| 532.460 | 18.666 | 12.738 | 31.404 | -14.596 | 46.000 |
| 600.360 | 20.052 | 13.963 | 34.015 | -11.985 | 46.000 |
| 699.300 | 20.753 | 12.903 | 33.656 | -12.344 | 46.000 |
| 767.200 | 22.117 | 9.602 | 31.719 | -14.281 | 46.000 |
| 921.200 | 22.975 | 13.290 | 36.265 | -9.735 | 46.000 |
| **Vertical** | | | | | |
| 450.980 | 18.907 | 10.590 | 29.497 | -16.503 | 46.000 |
| 528.000 | 18.934 | 12.765 | 31.699 | -14.301 | 46.000 |
| 666.320 | 19.977 | 15.685 | 35.662 | -10.338 | 46.000 |
| 753.620 | 23.002 | 13.887 | 36.889 | -9.111 | 46.000 |
| 850.000 | 21.568 | 7.311 | 28.879 | -17.121 | 46.000 |
| 912.000 | 24.018 | 8.435 | 32.453 | -13.547 | 46.000 |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. "  " means the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The radiated emissions below 1GHz of the lowest, middle, highest frequency are pretested. Only the worst case is shown on the report.

# 5. Band Edge

## 5.1. Test Equipment

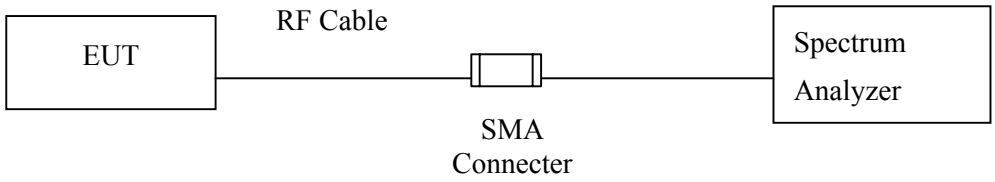
The following test equipments are used during the band edge tests:

| | Equipment | Manufacturer | Model No./Serial No. | Last Cal. |
|---|---|---|---|---|
| X | Test Receiver | R & S | ESI 26 / 838786 / 004 | May, 2007 |
| X | Spectrum Analyzer | Agilent | E4407B / US39440758 | May, 2007 |
| X | Bilog Antenna | SCHAFFNER | CBL6112B / 2697 | May, 2007 |
| X | Horn Antenna | Schwarzbeck | BBHA9120D / 305, 306 | July, 2007 |
| X | Horn Antenna | Schwarzbeck | BBHA9170 / 208, 209 | July, 2007 |
| X | Pre-Amplifier | QTK | QTK-AMP-01 / 0001 | July, 2007 |
| X | Pre-Amplifier | QTK | QTK-AMP-03 / 0003 | May, 2007 |
| X | Pre-Amplifier | HP | 8449B / 3008A01123 | July, 2007 |

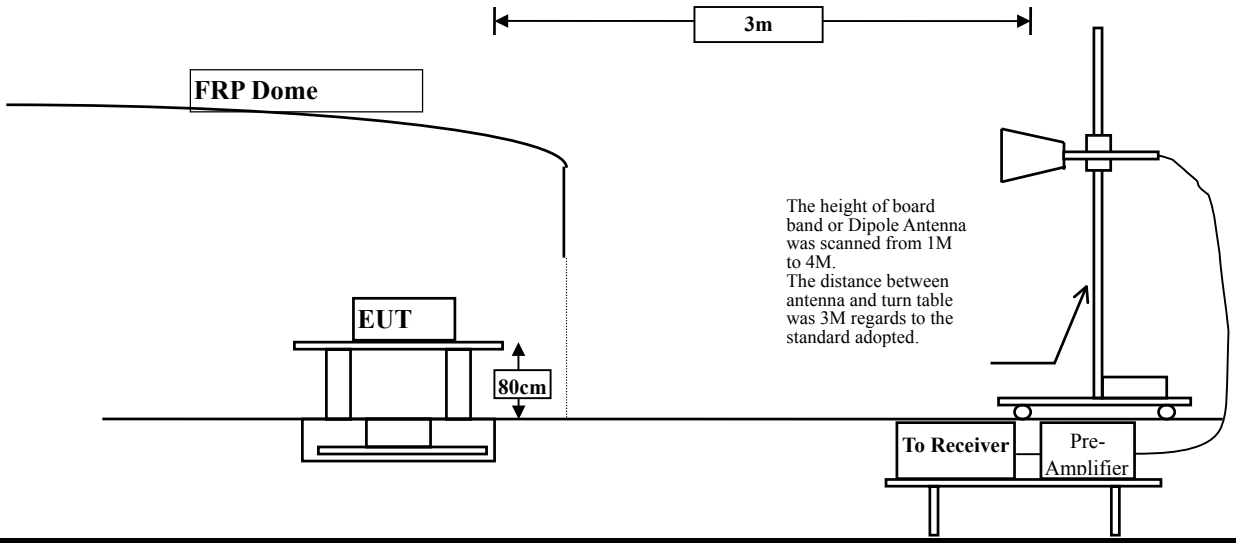
Note: 1. All instruments are calibrated every one year.
2. The test instruments marked by "X" are used to measure the final test results.

## 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. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

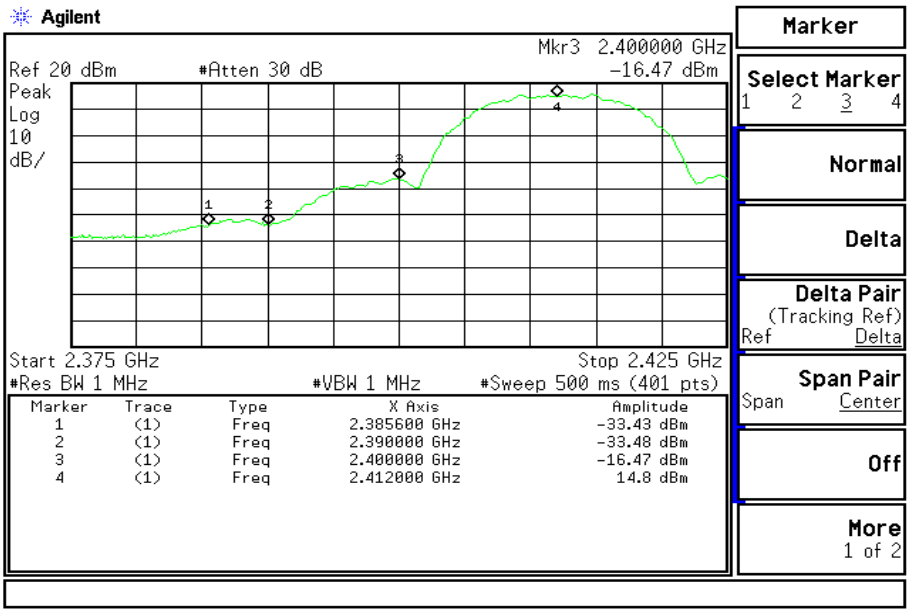
## 5.6. Test Result of Band Edge

Product : 802.11G Internet Access Server
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b

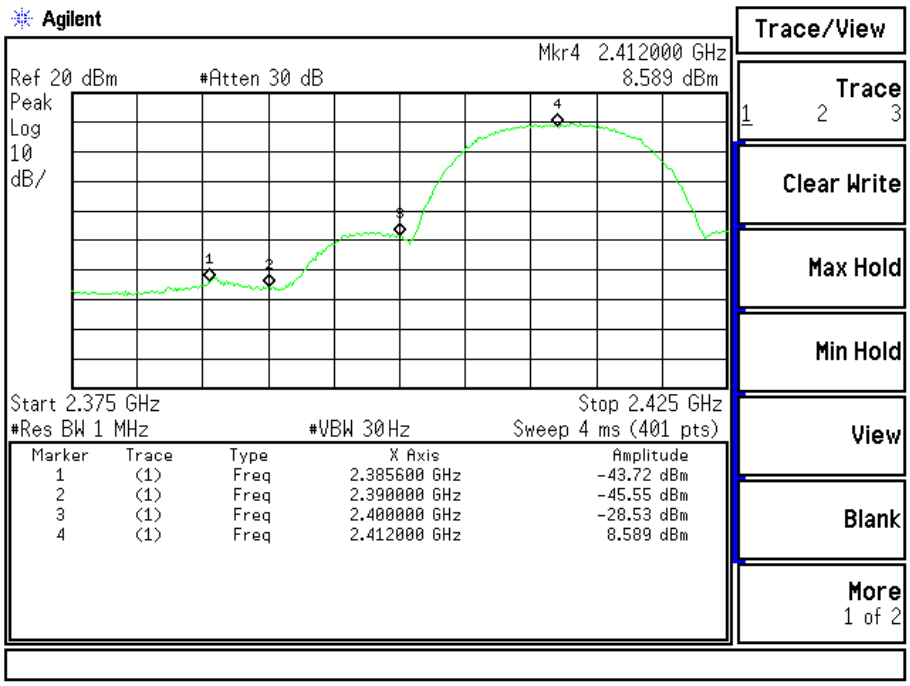
**RF Radiated Measurement:**

| Channel No. | Frequency (MHz) | Required Limit (dBc) | Result |
|---|---|---|---|
| 01 | <2400 | >20 | Pass |

Peak




Average



**Fundamental Field Strength:**

| Channel No. | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Emission Level (dBuV/m) |
|---|---|---|---|---|
| Horizontal | | | | |
| 01 (Peak) | 2412.000 | -1.314 | 100.416 | 99.102 |
| 01(Avg) | 2412.000 | -1.314 | 90.026 | 88.712 |
| Vertical | | | | |
| 01 (Peak) | 2412.000 | -1.314 | 104.633 | 103.319 |
| 01 (Avg) | 2412.000 | -1.314 | 95.918 | 94.604 |

**Maximum field strength**

| Channel No. | Emission Level (dBuV/m) | Correct (dBc) | Maximum field strength (dBuV/m) | Limit (dBuV/m) |
|---|---|---|---|---|
| Horizontal | | | | |
| 01(Peak) | 99.102 | 44.28 | 54.822 | 74 |
| 01(Avg) | 88.712 | 54.139 | 34.573 | 54 |
| Vertical | | | | |
| 01 (Peak) | 103.319 | 44.28 | 59.039 | 74 |
| 01 (Avg) | 94.604 | 54.139 | 40.465 | 54 |

Note:

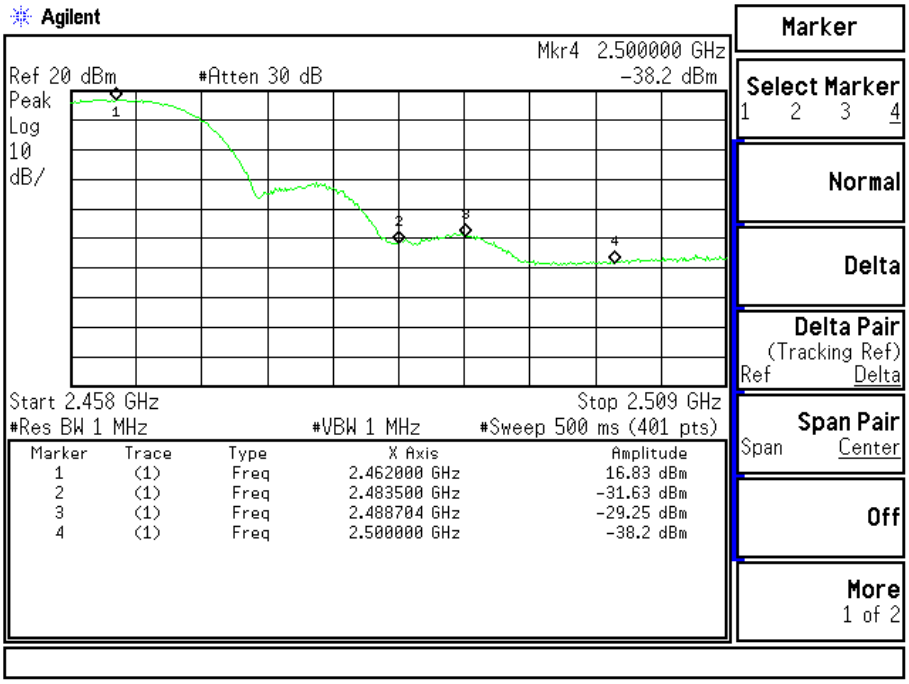
1. The peak conducted emission plot shows 44.28dBc between the carrier and the maximum emission in the restricted band. The maximum fundamental field strength in the peak measurement is 103.319dBuV/m. So the maximum field strength in the restricted band is 103.319 – 44.28 = 59.039dBuV/m which is under Limit 74dBuV/m.
2. The average conducted emission plot shows 54.139dBc between the carrier and the maximum emission in the restricted band. The maximum fundamental field strength in the average measurement is 94.604dBuV/m. So the maximum field strength in the restricted band is 94.604 – 54.139 = 40.465dBuV/m which is under Limit 54dBuV/m.

Product : 802.11G Internet Access Server
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b

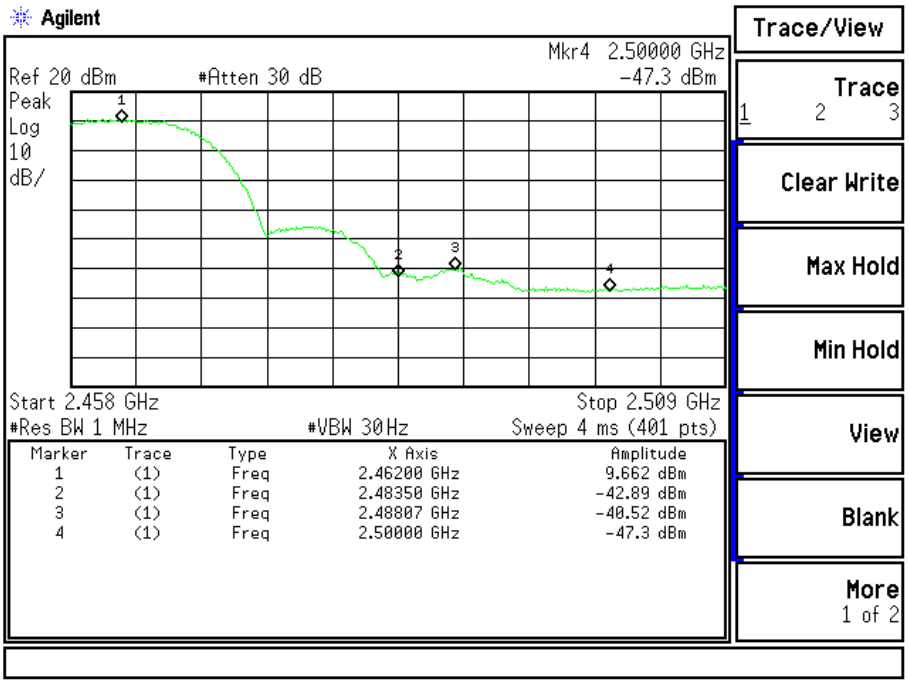
**RF Radiated Measurement:**

| Channel No. | Frequency (MHz) | Required Limit (dBc) | Result |
|---|---|---|---|
| 11 | >2483.5 | >20 | Pass |

Peak




Average



**Fundamental Field Strength:**

| Channel No. | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Emission Level (dBuV/m) |
|---|---|---|---|---|
| Horizontal | | | | |
| 11 (Peak) | 2462.000 | -1.118 | 98.999 | 97.881 |
| 11 (Avg) | 2462.000 | -1.118 | 90.271 | 89.153 |
| Vertical | | | | |
| 11 (Peak) | 2462.000 | -1.118 | 104.877 | 103.759 |
| 11 (Avg) | 2462.000 | -1.118 | 96.251 | 95.133 |

**Maximum field strength**

| Channel No. | Emission Level (dBuV/m) | Correct (dBc) | Maximum field strength (dBuV/m) | Limit (dBuV/m) |
|---|---|---|---|---|
| Horizontal | | | | |
| 11 (Peak) | 97.881 | 48.46 | 49.421 | 74 |
| 11 (Avg) | 89.153 | 52.552 | 36.601 | 54 |
| Vertical | | | | |
| 11 (Peak) | 103.759 | 48.46 | 55.299 | 74 |
| 11 (Avg) | 95.133 | 52.552 | 42.581 | 54 |

Note:

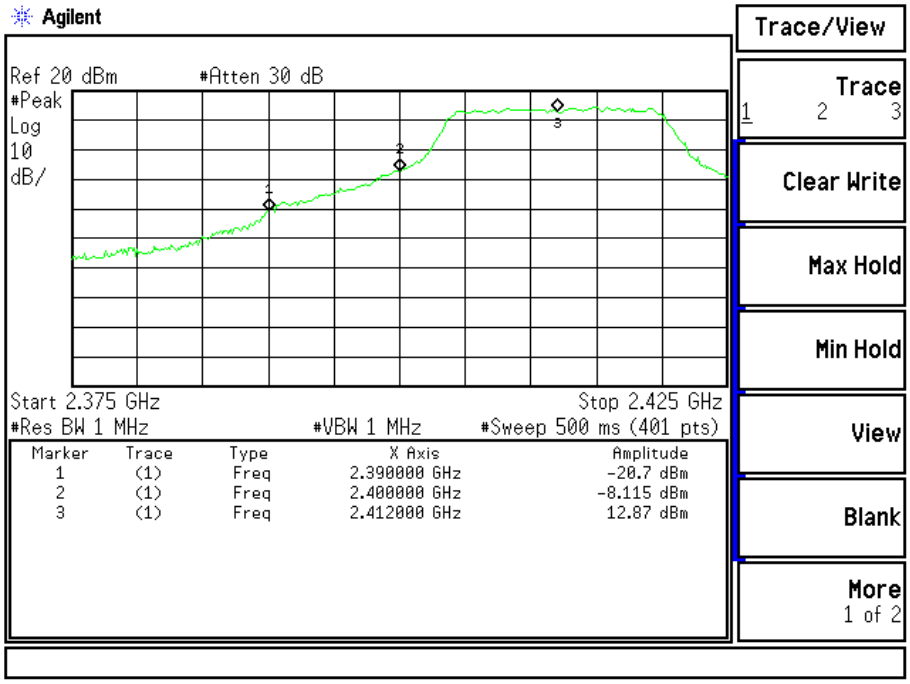
1. The peak conducted emission plot shows 48.46dBc between the carrier and the maximum emission in the restricted band. The maximum fundamental field strength in the peak measurement is 103.759dBuV/m. So the maximum field strength in the restricted band is 103.759 – 48.46 = 55.299dBuV/m which is under Limit 74dBuV/m.
2. The average conducted emission plot shows 52.552dBc between the carrier and the maximum emission in the restricted band. The maximum fundamental field strength in the average measurement is 95.133dBuV/m. So the maximum field strength in the restricted band is 95.133 – 52.552 = 42.581dBuV/m which is under Limit 54dBuV/m.

Product : 802.11G Internet Access Server
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g

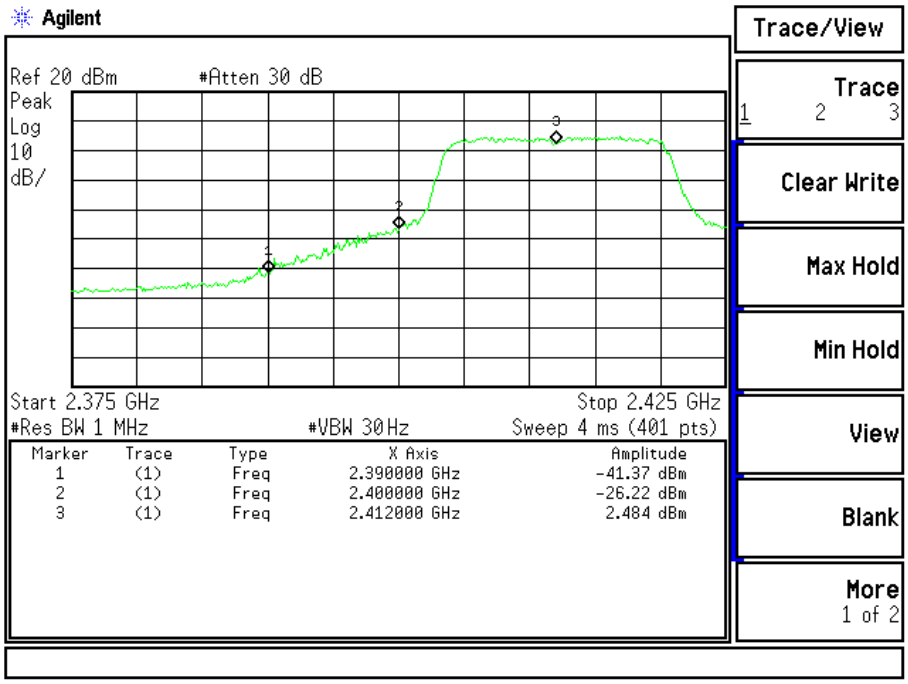
**RF Radiated Measurement:**

| Channel No. | Frequency (MHz) | Required Limit (dBc) | Result |
|---|---|---|---|
| 1 | <2400 | >20 | Pass |

Peak




Average



**Fundamental Field Strength:**

| Channel No. | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Emission Level (dBuV/m) |
|---|---|---|---|---|
| Horizontal | | | | |
| 01 (Peak) | 2412.000 | -1.314 | 97.366 | 96.052 |
| 01(Avg) | 2412.000 | -1.314 | 84.865 | 83.551 |
| Vertical | | | | |
| 01 (Peak) | 2412.000 | -1.314 | 104.860 | 103.546 |
| 01 (Avg) | 2412.000 | -1.314 | 92.294 | 90.980 |

**Maximum field strength**

| Channel No. | Emission Level (dBuV/m) | Correct (dBc) | Maximum field strength (dBuV/m) | Limit (dBuV/m) |
|---|---|---|---|---|
| Horizontal | | | | |
| 01(Peak) | 96.052 | 33.57 | 62.482 | 74 |
| 01(Avg) | 83.551 | 43.854 | 39.697 | 54 |
| Vertical | | | | |
| 01 (Peak) | 103.546 | 33.57 | 69.976 | 74 |
| 01 (Avg) | 90.980 | 43.854 | 47.126 | 54 |

Note:

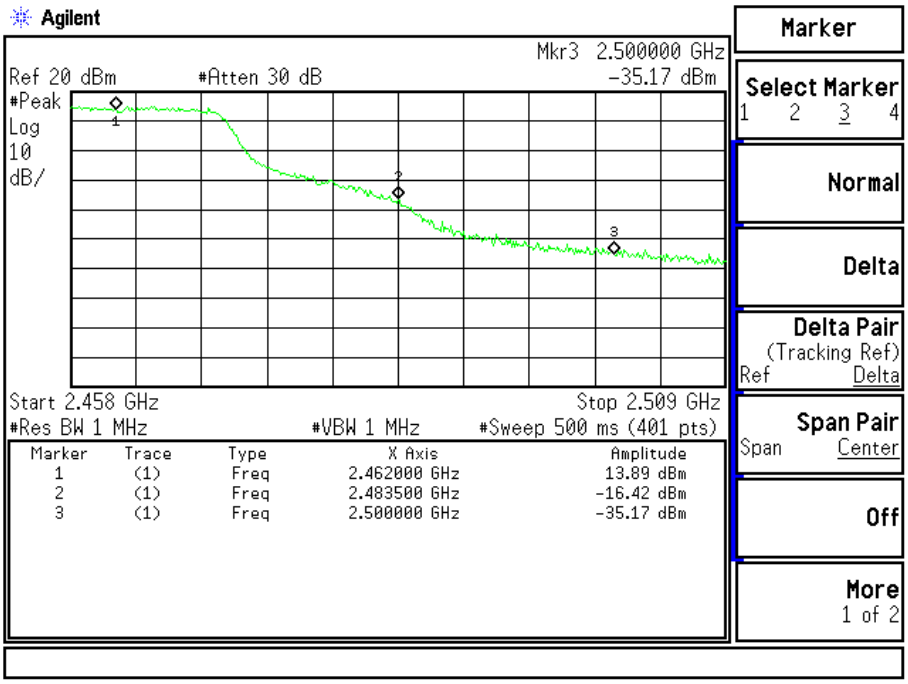
1. The peak conducted emission plot shows 33.57dBc between the carrier and the maximum emission in the restricted band. The maximum fundamental field strength in the peak measurement is 103.546dBuV/m. So the maximum field strength in the restricted band is 103.546 – 33.57 = 69.976dBuV/m which is under Limit 74dBuV/m.
2. The average conducted emission plot shows 43.854dBc between the carrier and the maximum emission in the restricted band. The maximum fundamental field strength in the average measurement is 90.98dBuV/m. So the maximum field strength in the restricted band is 90.98 – 43.854 = 47.126dBuV/m which is under Limit 54dBuV/m.

Product : 802.11G Internet Access Server
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g

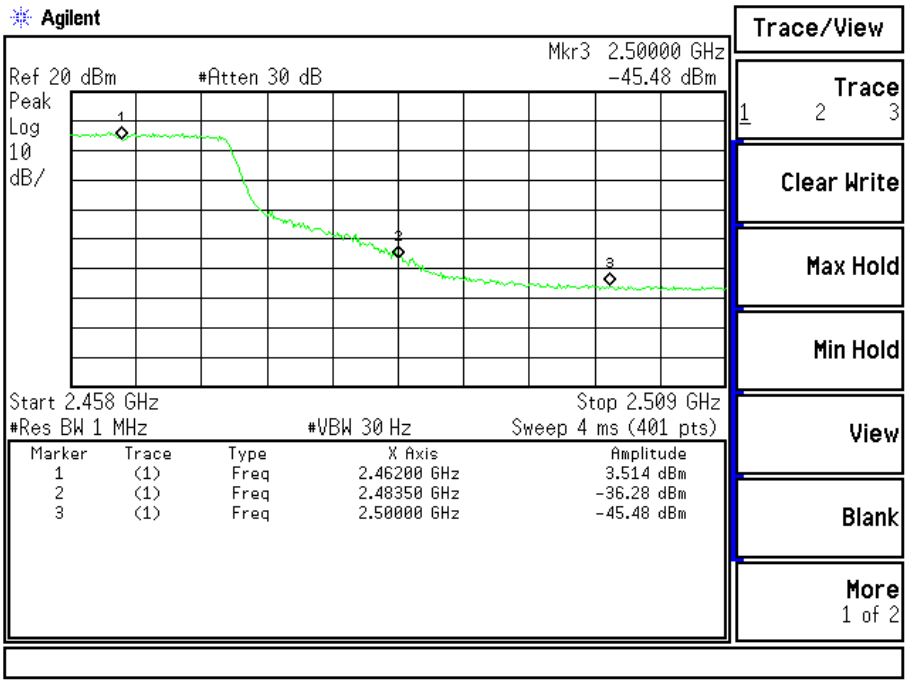
**RF Radiated Measurement:**

| Channel No. | Frequency (MHz) | Required Limit (dBc) | Result |
|---|---|---|---|
| 11 | >2483.5 | >20 | Pass |

Peak




Average



**Fundamental Field Strength:**

| Channel No. | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Emission Level (dBuV/m) |
|---|---|---|---|---|
| Horizontal | | | | |
| 11 (Peak) | 2462.000 | -1.118 | 96.893 | 95.775 |
| 11 (Avg) | 2462.000 | -1.118 | 83.613 | 82.495 |
| Vertical | | | | |
| 11 (Peak) | 2462.000 | -1.118 | 104.249 | 103.131 |
| 11 (Avg) | 2462.000 | -1.118 | 91.551 | 90.433 |

**Maximum field strength**

| Channel No. | Emission Level (dBuV/m) | Correct (dBc) | Maximum field strength (dBuV/m) | Limit (dBuV/m) |
|---|---|---|---|---|
| Horizontal | | | | |
| 11 (Peak) | 95.775 | 30.31 | 65.465 | 74 |
| 11 (Avg) | 82.495 | 39.821 | 42.674 | 54 |
| Vertical | | | | |
| 11 (Peak) | 103.131 | 30.31 | 72.821 | 74 |
| 11 (Avg) | 90.433 | 39.821 | 50.612 | 54 |

Note:

1. The peak conducted emission plot shows 30.31dBc between the carrier and the maximum emission in the restricted band. The maximum fundamental field strength in the peak measurement is 103.131dBuV/m. So the maximum field strength in the restricted band is 103.131 – 30.31 = 72.821dBuV/m which is under Limit 74dBuV/m.
2. The average conducted emission plot shows 39.821dBc between the carrier and the maximum emission in the restricted band. The maximum fundamental field strength in the average measurement is 90.433dBuV/m. So the maximum field strength in the restricted band is 90.433 – 39.821 = 50.612dBuV/m which is under Limit 54dBuV/m.

# 6. Occupied Bandwidth

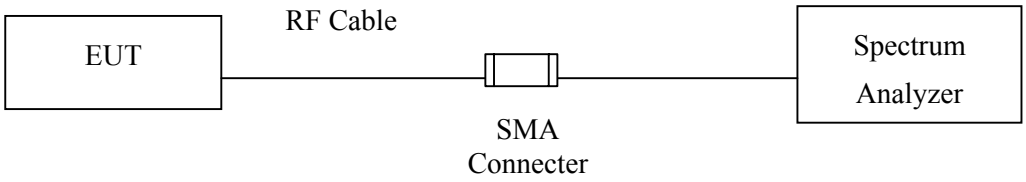
## 6.1. Test Equipment

The following test equipments are used during the radiated emission tests:

| | Equipment | Manufacturer | Model No./Serial No. | Last Cal. |
|---|---|---|---|---|
| X | Spectrum Analyzer | Agilent | E4407B / US39440758 | May, 2007 |

Note: 1. All instruments are calibrated every one year.
2. The test instruments marked by "X" are used to measure the final test results.

## 6.2. Test Setup




## 6.3. Limits

The minimum bandwidth shall be at least 500kHz.

## 6.4. Uncertainty

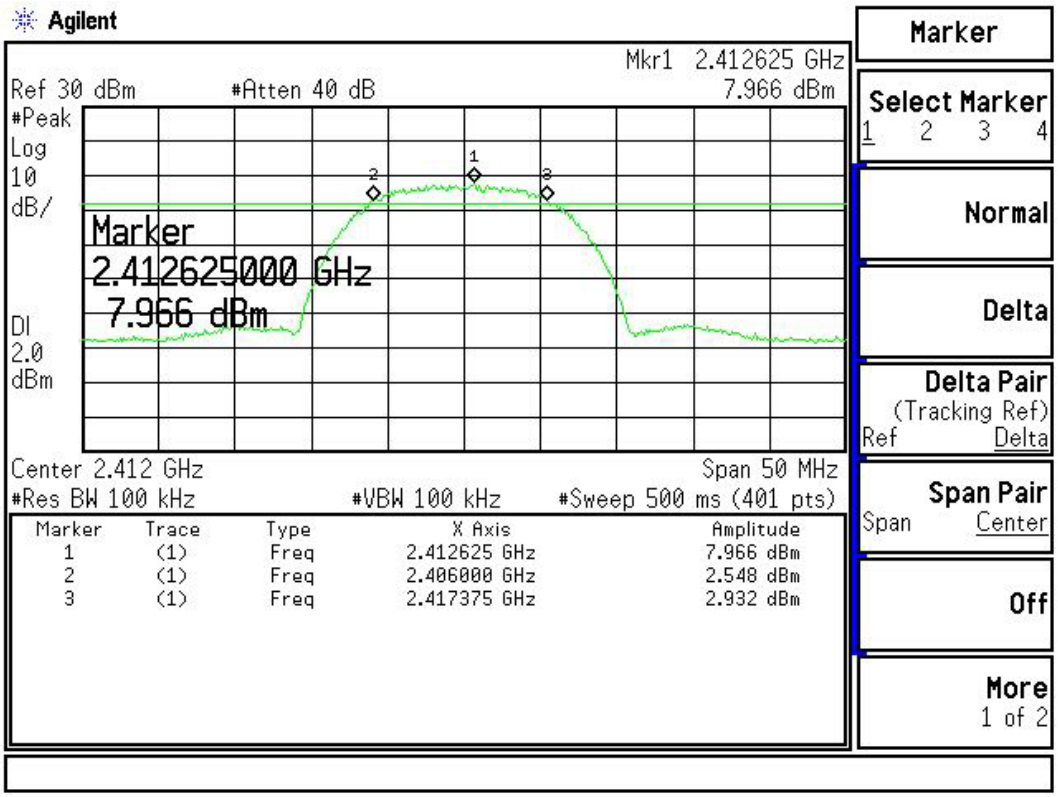
± 150Hz

## 6.5. Test Result of Occupied Bandwidth

Product : 802.11G Internet Access Server
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b (2412MHz)

| Channel No. | Frequency (MHz) | Measurement Level (kHz) | Required Limit (kHz) | Result |
|---|---|---|---|---|
| 1 (1Mbps) | 2412.00 | 11375 | >500 | Pass |

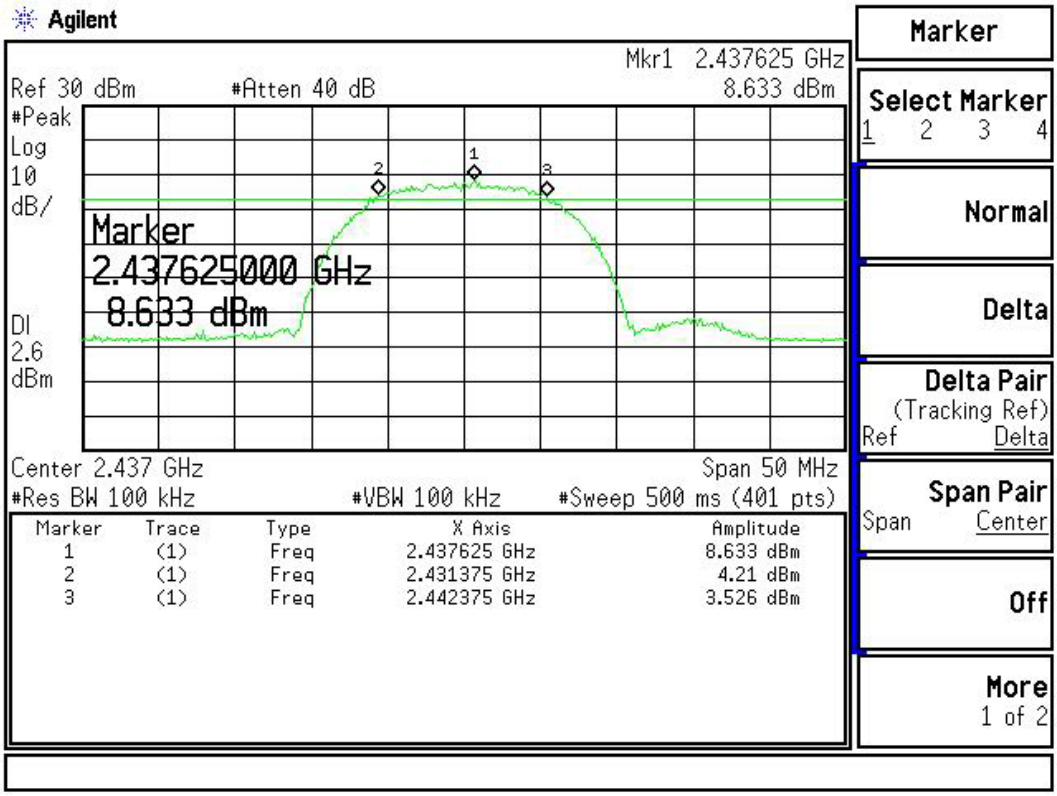
**Figure Channel 1:**



Product : 802.11G Internet Access Server
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b (2437MHz)

| Channel No. | Frequency (MHz) | Measurement Level (kHz) | Required Limit (kHz) | Result |
|---|---|---|---|---|
| 6 (1Mbps) | 2437.00 | 11000 | >500 | Pass |

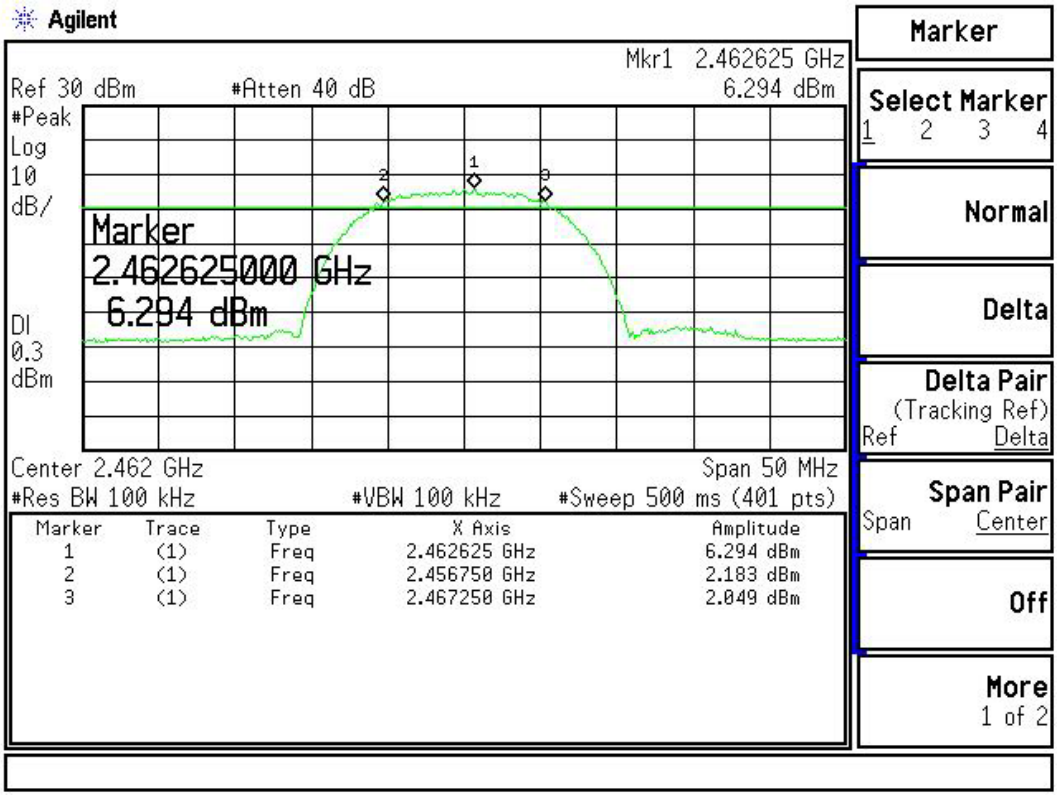
**Figure Channel 6:**



Product : 802.11G Internet Access Server
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b (2462MHz)

| Channel No. | Frequency (MHz) | Measurement Level (kHz) | Required Limit (kHz) | Result |
|---|---|---|---|---|
| 11 (1Mbps) | 2462.00 | 10500 | >500 | Pass |

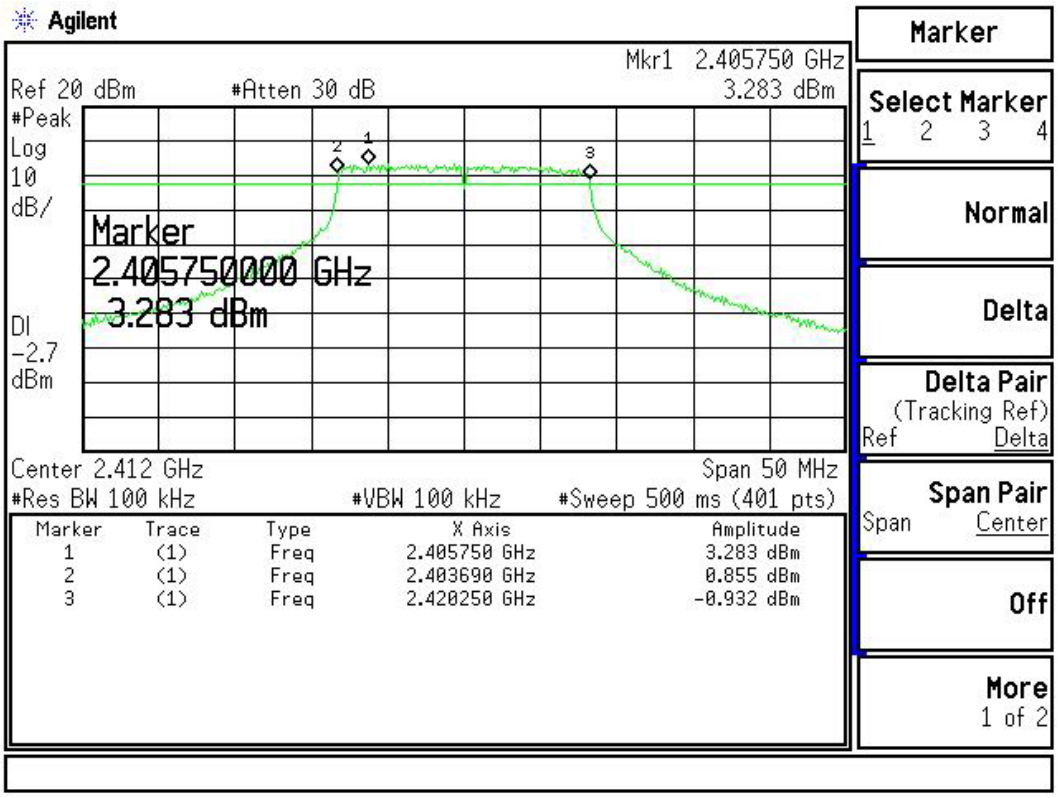
**Figure Channel 11:**



Product : 802.11G Internet Access Server
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g (2412MHz)

| Channel No. | Frequency (MHz) | Measurement Level (kHz) | Required Limit (kHz) | Result |
|---|---|---|---|---|
| 1 (6Mbps) | 2412.00 | 16560 | >500 | Pass |

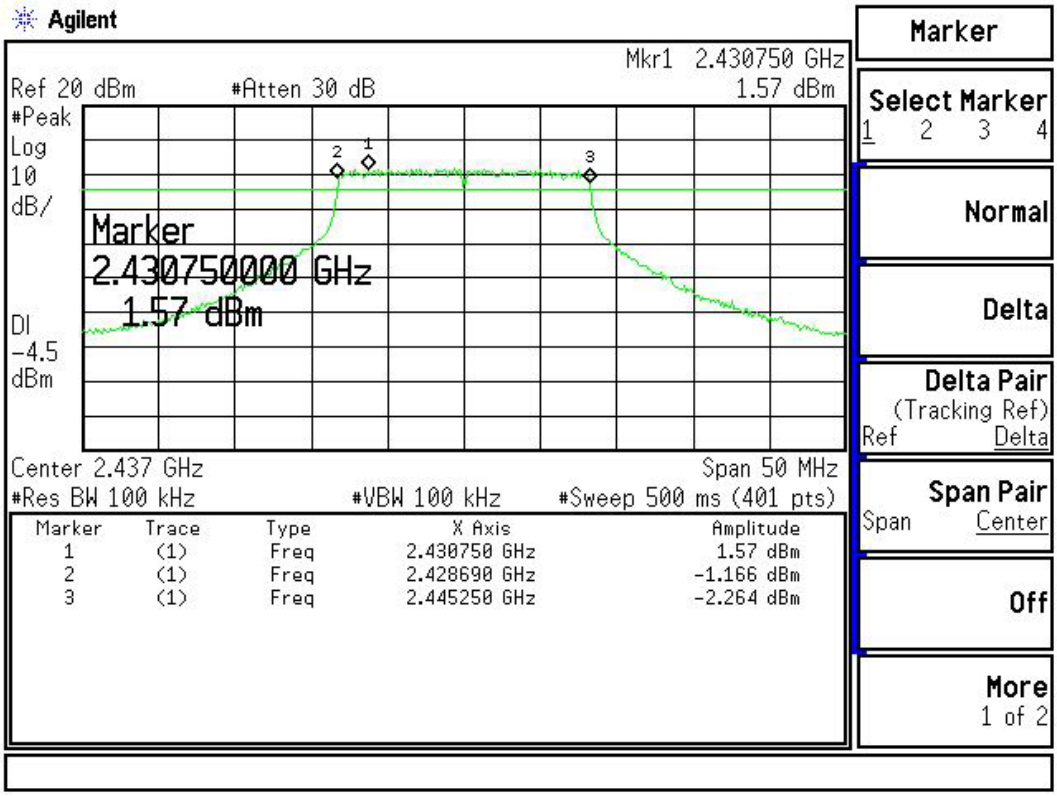
**Figure Channel 1:**



Product : 802.11G Internet Access Server
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g (2437MHz)

| Channel No. | Frequency (MHz) | Measurement Level (kHz) | Required Limit (kHz) | Result |
|---|---|---|---|---|
| 6 (6Mbps) | 2437.00 | 16560 | >500 | Pass |

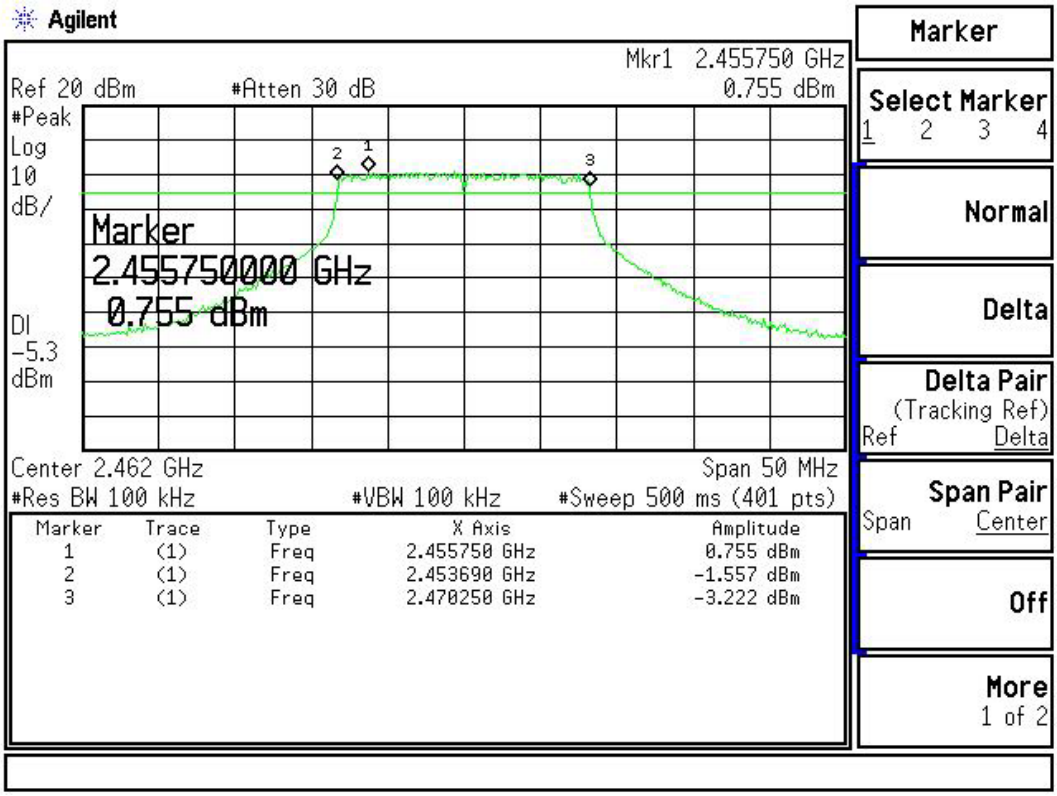
**Figure Channel 6:**



Product : 802.11G Internet Access Server
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g (2462MHz)

| Channel No. | Frequency (MHz) | Measurement Level (kHz) | Required Limit (kHz) | Result |
|---|---|---|---|---|
| 11 (6Mbps) | 2462.00 | 16560 | >500 | Pass |

**Figure Channel 11:**



# 7. Power Density

## 7.1. Test Equipment

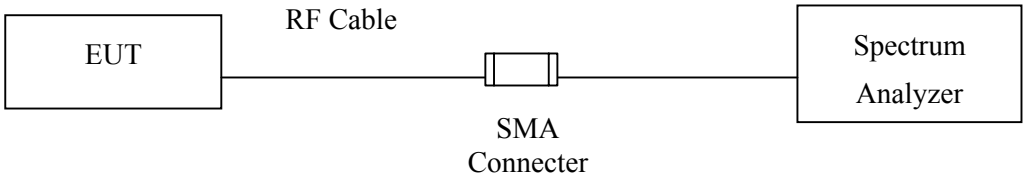
The following test equipments are used during the radiated emission tests:

| | Equipment | Manufacturer | Model No./Serial No. | Last Cal. |
|---|---|---|---|---|
| X | Spectrum Analyzer | Agilent | E4407B / US39440758 | May, 2007 |

Note: 1. All equipments are calibrated every one year.

2. The test instruments marked by "X" are used to measure the final test results.

## 7.2. Test Setup




## 7.3. Limits

The transmitted power density averaged over any 1 second interval shall not be greater +8dBm in any 3kHz bandwidth.

## 7.4. Uncertainty

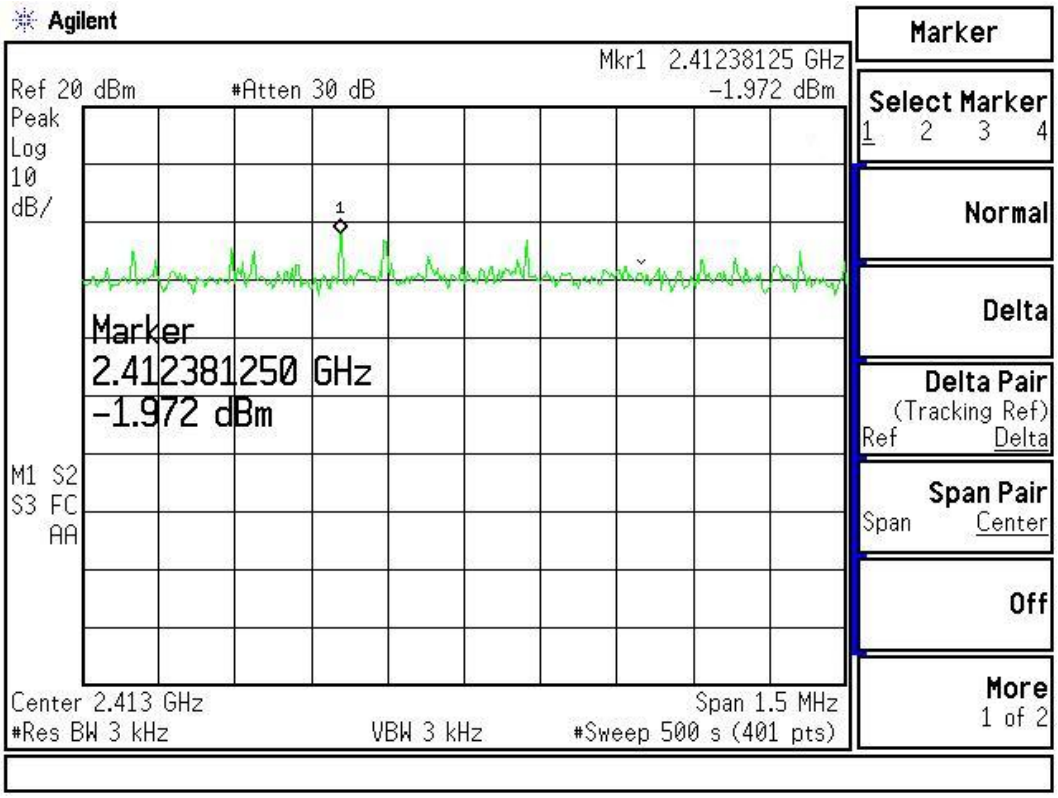
± 1.27 dB

## 7.5. Test Result of Power Density

Product : 802.11G Internet Access Server
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b (2412MHz)

| Channel No. | Frequency (MHz) | Measure Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|
| 1 (1Mbps) | 2412.00 | -1.972 | < 8dBm | Pass |

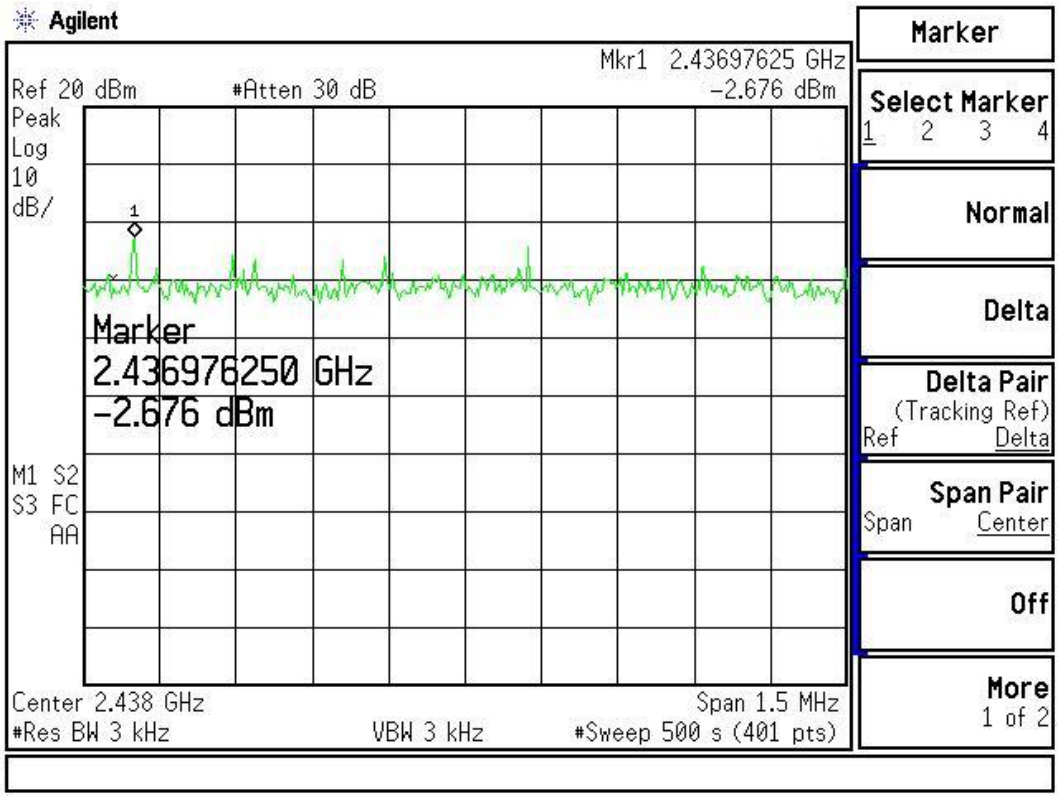
**Figure Channel 1:** 11Mbps



Product : 802.11G Internet Access Server
Test Item : Power Density Data
Test Site : No.3OATS
Test Mode : Mode 1: Transmitter 802.11b (2437MHz)

| Channel No. | Frequency (MHz) | Measurement Level (dBm) | Required Limit (dBm) | Result |
|---|---|---|---|---|
| 6 (1Mbps) | 2437.000 | -2.676 | < 8dBm | Pass |

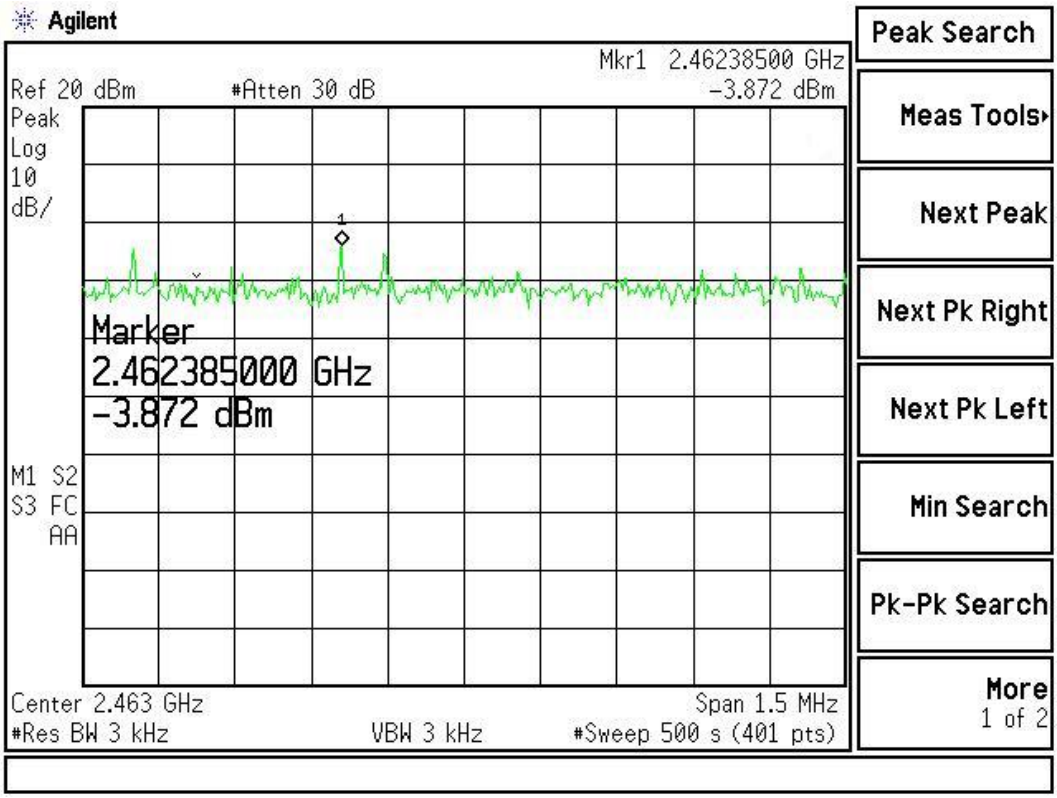
**Figure Channel 6:** 11Mbps



Product : 802.11G Internet Access Server
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b (2462MHz)

| Channel No. | Frequency (MHz) | Measurement Level (dBm) | Required Limit (dBm) | Result |
|---|---|---|---|---|
| 11 (1Mbps) | 2462.00 | -3.872 | < 8dBm | Pass |

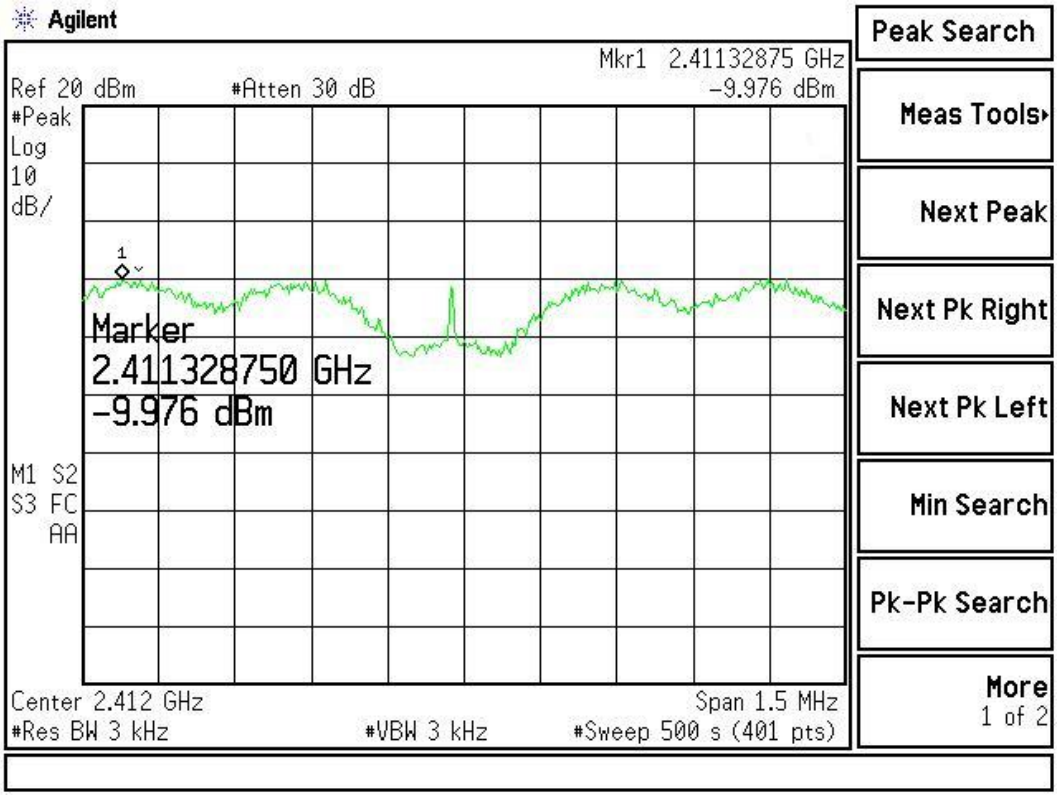
**Figure Channel 11:** 11Mbps



Product : 802.11G Internet Access Server
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g (2412MHz)

| Channel No. | Frequency (MHz) | Measure Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|
| 1 (6Mbps) | 2412.00 | -9.976 | < 8dBm | Pass |

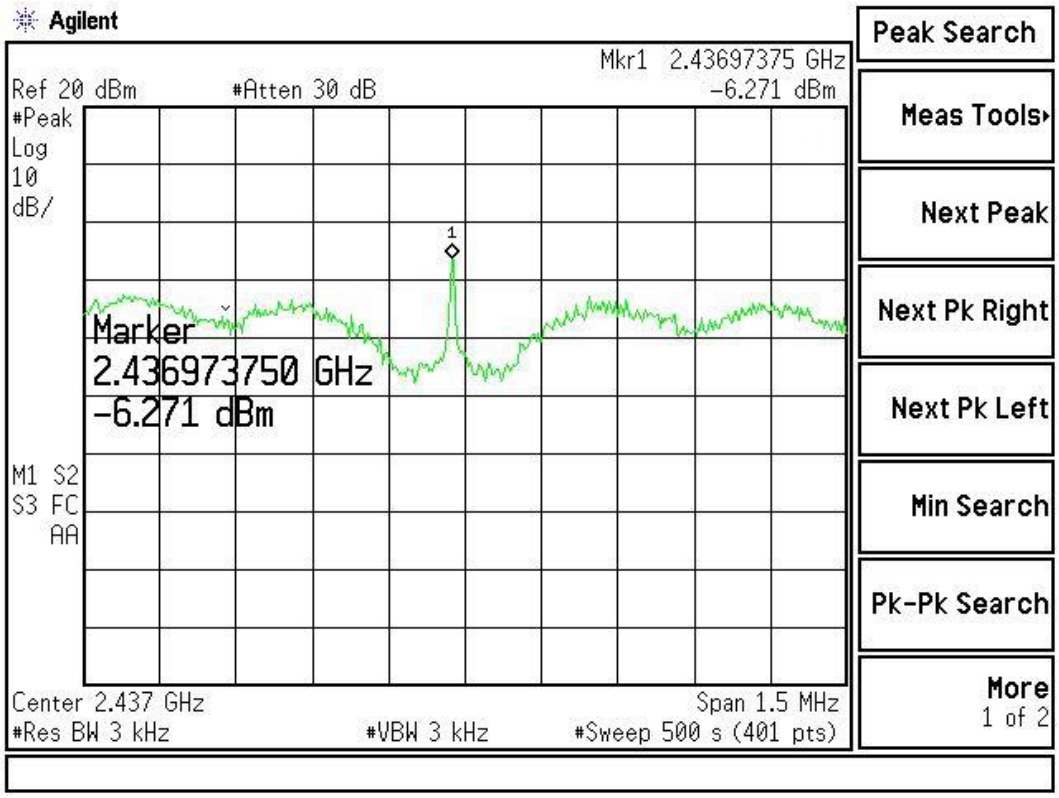
**Figure Channel 1:**



Product : 802.11G Internet Access Server
Test Item : Power Density Data
Test Site : No.3OATS
Test Mode : Mode 2: Transmitter 802.11g (2437MHz)

| Channel No. | Frequency (MHz) | Measurement Level (dBm) | Required Limit (dBm) | Result |
|---|---|---|---|---|
| 6 (6Mbps) | 2437.000 | -6.271 | < 8dBm | Pass |

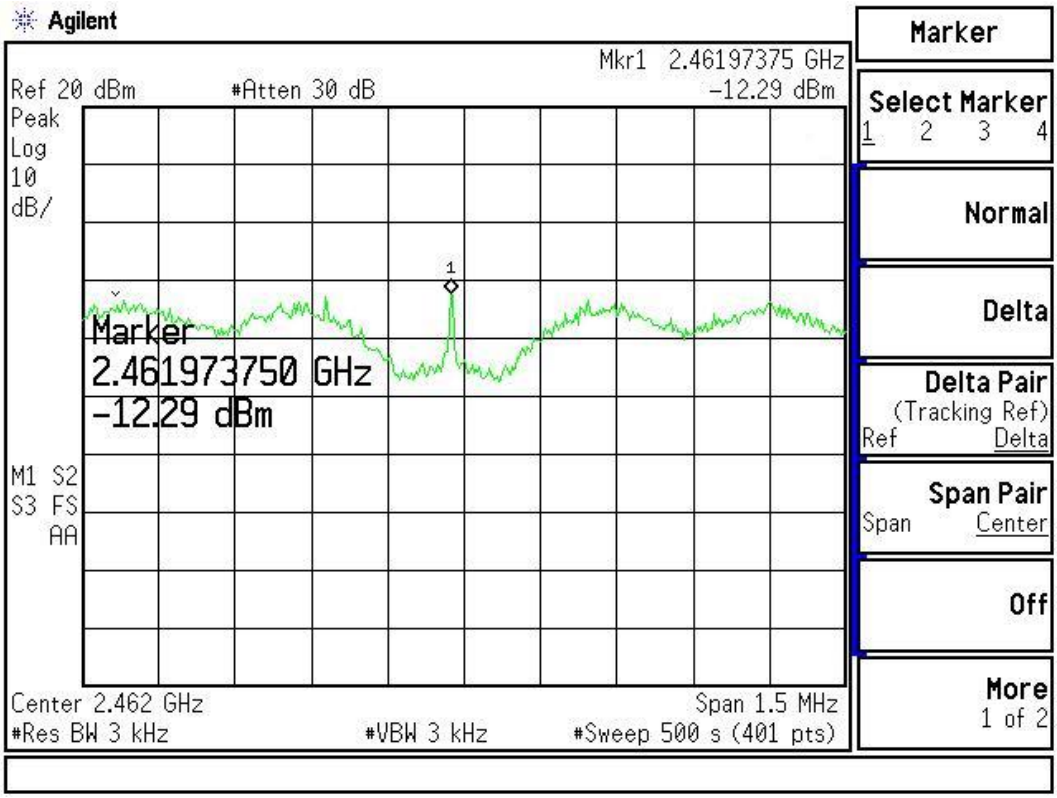
**Figure Channel 6:**



Product : 802.11G Internet Access Server
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g (2462MHz)

| Channel No. | Frequency (MHz) | Measurement Level (dBm) | Required Limit (dBm) | Result |
|---|---|---|---|---|
| 11 (6Mbps) | 2462.00 | -12.29 | < 8dBm | Pass |

**Figure Channel 11:**



## 8. EMI Reduction Method During Compliance Testing

No modification was made during testing.