# FCC TEST REPORT

**REPORT NO.:** RF941020H04
**MODEL NO.:** AW-GM120
**RECEIVED:** Oct. 20, 2005
**TESTED:** Oct. 24 to Nov. 12, 2005
**ISSUED:** Nov. 16, 2005

**APPLICANT:** AzureWave Technologies, Inc.

**ADDRESS:** 8F, No.94, Baozhong Rd., Xindian, Taipei , Taiwan 231

**ISSUED BY:** Advance Data Technology Corporation

**LAB LOCATION:** No. 81-1, Lu Liao Keng, 9 Ling, Wu Lung Tsuen,
Chiung Lin Hsiang, Hsin Chu Hsien,
Taiwan, R.O.C.

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# 1 CERTIFICATION

**PRODUCT :** Wireless Digital Media Adapter Module
**BRAND NAME :** AzureWave
**MODEL NO. :** AW-GM120
**TESTED:** Oct. 24 to Nov. 12, 2005
**APPLICANT :** AzureWave Technologies, Inc.
**TEST ITEM:** MASS-PRODUCTION
**STANDARDS :** 47 CFR Part 15, Subpart C (Section 15.247), ANSI C63.4-2003

The above equipment (Model: AW-GM120) has been tested by **Advance Data Technology Corporation**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**PREPARED BY :** Carol Liao , **DATE:** Nov. 16, 2005
( Carol Liao )

**TECHNICAL ACCEPTANCE :** Hank Chung , **DATE:** Nov. 16, 2005
Responsible for RF
( Hank Chung )

**APPROVED BY :** May Chen , **DATE:** Nov. 16, 2005
( May Chen, Deputy Manager )

# 2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: 47 CFR Part 15, Subpart C | | | |
|---|---|---|---|
| **Standard Section** | **Test Type and Limit** | **Result** | **REMARK** |
| 15.207 | AC Power Conducted Emission | PASS | Meet the requirement of limit<br>Minimum passing margin is –7.25 dB at 0.349 MHz |
| 15.247(a)(2) | Spectrum Bandwidth of a Direct Sequence Spread Spectrum System<br>Limit: min. 500kHz | PASS | Meet the requirement of limit |
| 15.247(b) | Maximum Peak Output Power<br>Limit: max. 30dBm | PASS | Meet the requirement of limit |
| 15.247(c) | Transmitter Radiated Emissions<br>Limit: Table 15.209 | PASS | Meet the requirement of limit<br>Minimum passing margin is –1.30 dB at 2390.00 MHz |
| 15.247(d) | Power Spectral Density<br>Limit: max. 8dBm | PASS | Meet the requirement of limit |
| 15.247(c) | Band Edge Measurement<br>Limit: 20 dB less than the peak value of fundamental frequency | PASS | Meet the requirement of limit |

# 3 GENERAL INFORMATION

## 3.1 GENERAL DESCRIPTION OF EUT

| | |
|---|---|
| **PRODUCT** | Wireless Digital Media Adapter Module |
| **MODEL NO.** | AW-GM120 |
| **POWER SUPPLY** | DC 3.3V from host equipment |
| **MODULATION TYPE** | BPSK, QPSK, CCK, 16QAM, 64QAM |
| **RADIO TECHNOLOGY** | DSSS, OFDM |
| **TRANSFER RATE** | 1/2/5.5/6/9/11/12/18/24/36/48/54Mbps |
| **FREQUENCY RANGE** | 2412MHz ~ 2462MHz |
| **NUMBER OF CHANNEL** | 11 |
| **CHANNEL SPACING** | 5MHz |
| **OUTPUT POWER** | 802.11b : 17.59 dBm<br>802.11g : 17.41 dBm |
| **ANTENNA TYPE** | Please see note 1 |
| **DATA CABLE** | NA |
| **I/O PORTS** | NA |
| **ASSOCIATED DEVICES** | NA |

**NOTE:**

1. There are two antennas provided to this EUT, please refer to the following table:

| No. | Gain (dBi) | Antenna Type | Antenna Connector |
|---|---|---|---|
| 1 | 3.0 | PIFA | I-PEX |
| 2 | 1.5 | 1/2 λ Dipole | MHF |

2. The EUT operates in the 2.4GHz frequency spectrum with throughput of up to 54Mbps.

3. The EUT complies with IEEE 802.11g standards, and backwards compatible with IEEE 802.11b products.

4. The above EUT information was declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

## 3.2 DESCRIPTION OF TEST MODES

Operated in 2400 ~ 2483.5MHz band:

For 802.11b/g: Eleven channels are provided to this EUT.

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

## 3.3 TEST MODE APPLICABLITY AND TESTED CHANNEL DETAIL:

| EUT configure mode | Applicable to | | | | Description |
|---|---|---|---|---|---|
| | PLC | RE<1G | RE≥1G | APCM | |
| - | x | x | x | x | NA |

Where PLC: Power Line Conducted Emission RE<1G RE: Radiated Emission below 1GHz
RE≥1G: Radiated Emission above 1GHz APCM: Antenna Port Conducted Measurement

**Power Line Conducted Emission Test:**

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

| Mode | Available Channel | Tested Channel | Modulation Technology | Modulation Type | Data Rate (Mbps) |
|---|---|---|---|---|---|
| 802.11g | 1 to 11 | 11 | OFDM | BPSK | 6 |

**Radiated Emission Test (Below 1 GHz):**

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

| Mode | Available Channel | Tested Channel | Modulation Technology | Modulation Type | Data Rate (Mbps) |
|---|---|---|---|---|---|
| 802.11g | 1 to 11 | 11 | OFDM | BPSK | 6 |

**Radiated Emission Test (Above 1 GHz):**

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

| Mode | Available Channel | Tested Channel | Modulation Technology | Modulation Type | Data Rate (Mbps) |
|---|---|---|---|---|---|
| 802.11b | 1 to 11 | 1, 6, 11 | DSSS | CCK | 11 |
| 802.11g | 1 to 11 | 1, 6, 11 | OFDM | BPSK | 6 |

**Bandedge Measurement:**

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

| Mode | Available Channel | Tested Channel | Modulation Technology | Modulation Type | Data Rate (Mbps) |
|---|---|---|---|---|---|
| 802.11b | 1 to 11 | 1, 11 | DSSS | CCK | 11 |
| 802.11g | 1 to 11 | 1, 11 | OFDM | BPSK | 6 |

**Antenna Port Conducted Measurement:**

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

| Mode | Available Channel | Tested Channel | Modulation Technology | Modulation Type | Data Rate (Mbps) |
|---|---|---|---|---|---|
| 802.11b | 1 to 11 | 1, 6, 11 | DSSS | CCK | 11 |
| 802.11g | 1 to 11 | 1, 6, 11 | OFDM | BPSK | 6 |

## 3.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a Wireless Digital Media Adapter Module. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**47 CFR Part 15, Subpart C. (15.247)**
**ANSI C63.4 : 2003**

All tests have been performed and recorded as per the above standards.

## 3.5 DESCRIPTION OF SUPPORT UNITS

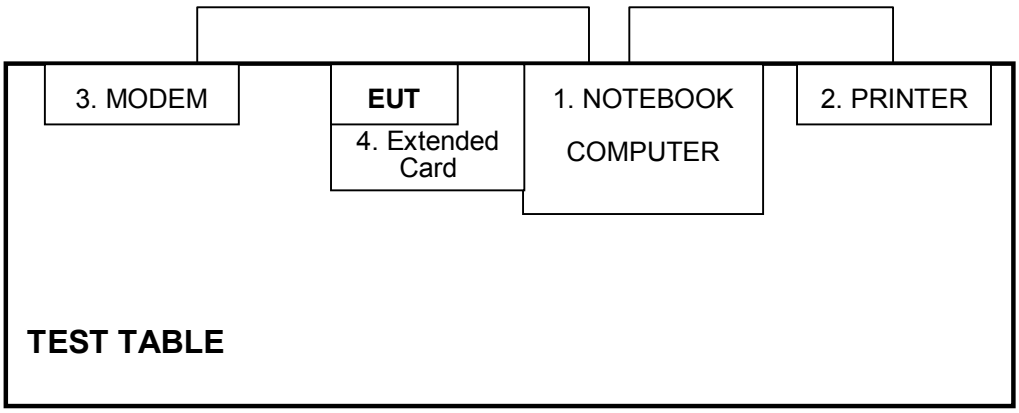
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| No. | Product | Brand | Model No. | Serial No. | FCC ID |
|---|---|---|---|---|---|
| 1 | Notebook Computer | DELL | PP01L | TW-0791UH-12800-0CK-3735 | FCC DoC |
| 2 | PRINTER | HP | C2642A | MY79F1C3MZ | B94C2642X |
| 3 | MODEM | ACEEX | 1414 | 0206026779 | IFAXDM1414 |
| 4 | Extended Card | ADT | NA | ADT-RF-003 | NA |

| No. | Signal cable description |
|---|---|
| 1 | NA |
| 2 | 1.1 m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core. |
| 3 | 1.1 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core. |
| 4 | NA |

Note: 1. All power cords of the above support units are unshielded (1.8m).

## 3.6 CONFIGURATION OF SYSTEM UNDER TEST




**NOTE:** 1. Please refer to the photos of test configuration in Item 5 also.

# 4 TEST TYPES AND RESULTS

## 4.1 CONDUCTED EMISSION MEASUREMENT

### 4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

| FREQUENCY OF EMISSION (MHz) | CONDUCTED LIMIT (dBμV) | |
|---|---|---|
| | Quasi-peak | Average |
| 0.15-0.5<br>0.5-5<br>5-30 | 66 to 56<br>56<br>60 | 56 to 46<br>46<br>50 |

**NOTE**:

1. The lower limit shall apply at the transition frequencies.
2. All emanations from a class B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

### 4.1.2 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED UNTIL |
|---|---|---|---|
| Test Receiver | ESCS 30 | 100375 | Sep. 19, 2006 |
| Line-Impedance Stabilization Network(for EUT) | ENV-216 | 100071 | Nov. 10, 2006 |
| ROHDE & SCHWARZ LISN | ESH3-Z5 | 848773/004 | Oct. 24, 2006 |
| RF Signal Cable | RG233 | COBCAB9K-30MHz | Dec. 10, 2005 |
| Impedance-stabilization-network | ENY 41 | 838119/024 | Jan. 09, 2006 |
| Impedance-stabilization-network | ENY 22 | 837497/019 | Jan. 09, 2006 |
| Current Probe | SMZ11 | 18001 | Jul. 13, 2006 |
| Current Probe | SMZ11 | 18013 | Jul. 13, 2006 |

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in ADT Shielded Room No. B.
3. The VCCI Con B Registration No. is C-2193.

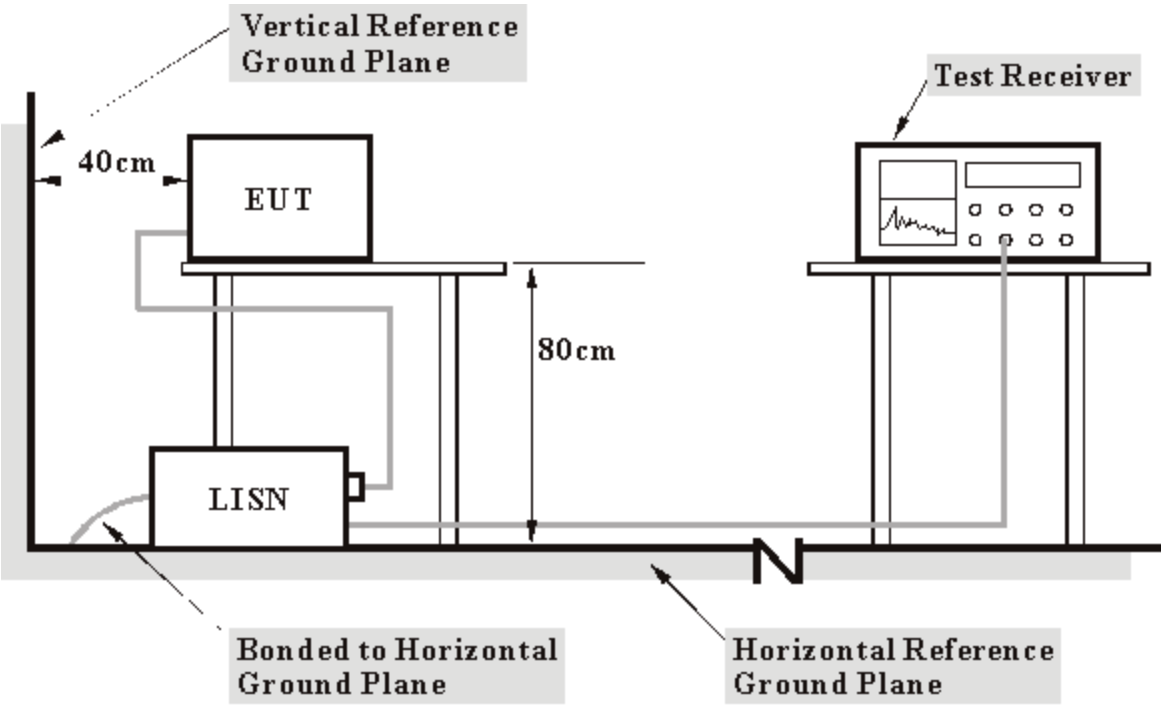
### 4.1.3 TEST PROCEDURES

a. The EUT/HOST was placed 0.4 meters from the conducting wall of the shielded room with EUT/HOST being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT/HOST were checked for maximum conducted interference.

c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels over 10dB under the prescribed limits could not be reported

### 4.1.4 TEST SETUP




Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

### 4.1.5 EUT OPERATING CONDITIONS

a. Connected the EUT with extended card to the support unit 1 (Notebook computer) and placed it on the testing table.

b. Plug the EUT into the support unit 1 (Notebook computer) and placed it on the testing table.

c. The support unit 1 (Notebook computer) ran a test program “ART V53 build5” to enable EUT under transmission condition continuously at specific channel frequency.

d. Notebook computer sends "H" messages to modem.

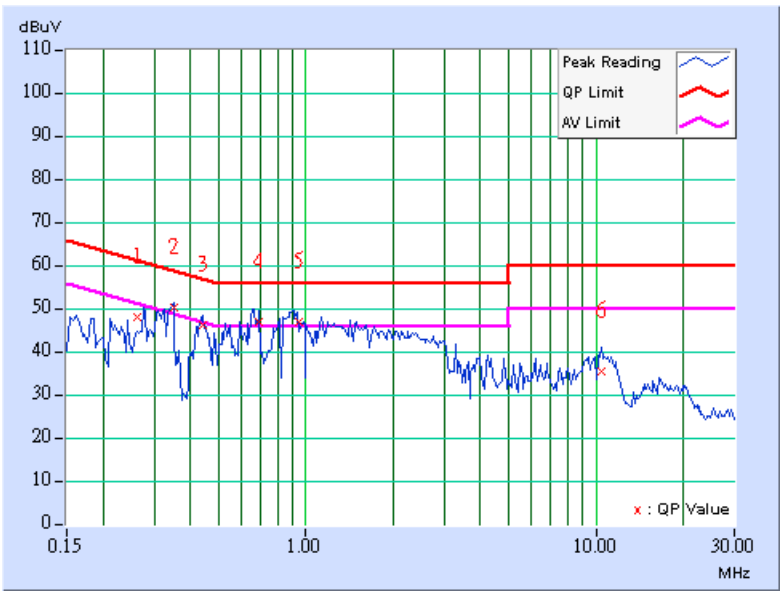
e. Notebook computer sends "H" messages to printer, and the printer prints them on paper.

## 4.1.6 TEST RESULTS

| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | | |
| **MODE** | Channel 11 | **MODEL** | AW-GM120 |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **6dB BANDWIDTH** | 9 kHz |
| **ENVIRONMENTAL CONDITIONS** | 26 deg. C, 61 %RH, 968 hPa | **PHASE** | Line (L) |
| **TESTED BY** | Roger Huang | | |

| No | Freq. | Corr. Factor | Reading Value [dB (uV)] | | Emission Level [dB (uV)] | | Limit [dB (uV)] | | Margin (dB) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | (dB) | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| 1 | 0.262 | 9.21 | 38.68 | - | 47.89 | - | 61.37 | 51.37 | -13.49 | - |
| **2** | **0.349** | **9.20** | **40.75** | **32.53** | **49.95** | **41.73** | **58.98** | **48.98** | **-9.03** | **-7.25** |
| 3 | 0.439 | 9.19 | 36.86 | - | 46.05 | - | 57.08 | 47.08 | -11.03 | - |
| 4 | 0.691 | 9.20 | 37.45 | 29.42 | 46.65 | 38.62 | 56.00 | 46.00 | -9.35 | -7.38 |
| 5 | 0.946 | 9.23 | 37.57 | 26.49 | 46.80 | 35.72 | 56.00 | 46.00 | -9.20 | -10.28 |
| 6 | 10.500 | 9.56 | 26.08 | - | 35.64 | - | 60.00 | 50.00 | -24.36 | - |

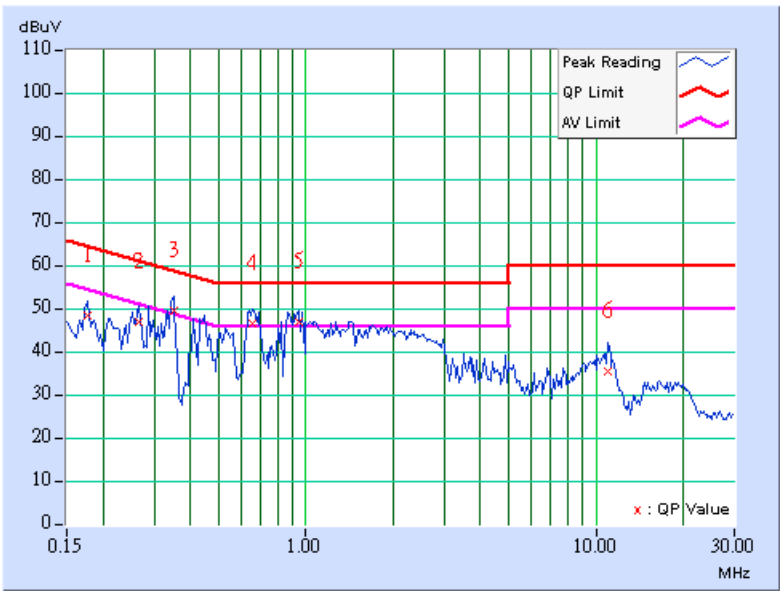
**REMARKS:** 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | | |
| **MODE** | Channel 11 | **MODEL** | AW-GM120 |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **6dB BANDWIDTH** | 9 kHz |
| **ENVIRONMENTAL CONDITIONS** | 26 deg. C, 61 %RH, 968 hPa | **PHASE** | Neutral (N) |
| **TESTED BY** | Roger Huang | | |

| No | Freq. | Corr. Factor | Reading Value [dB (uV)] | | Emission Level [dB (uV)] | | Limit [dB (uV)] | | Margin (dB) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | (dB) | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| 1 | 0.177 | 9.19 | 38.88 | - | 48.07 | - | 64.61 | 54.61 | -16.54 | - |
| 2 | 0.267 | 9.20 | 37.46 | - | 46.66 | - | 61.20 | 51.20 | -14.54 | - |
| 3 | 0.349 | 9.22 | 40.05 | 31.25 | 49.27 | 40.47 | 58.98 | 48.98 | -9.71 | -8.51 |
| 4 | 0.658 | 9.21 | 36.92 | 19.39 | 46.13 | 28.60 | 56.00 | 46.00 | -9.87 | -17.40 |
| 5 | 0.943 | 9.21 | 37.42 | 25.33 | 46.63 | 34.54 | 56.00 | 46.00 | -9.37 | -11.46 |
| 6 | 11.051 | 9.59 | 25.88 | - | 35.47 | - | 60.00 | 50.00 | -24.53 | - |

**REMARKS:** 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



## 4.2 RADIATED EMISSION MEASUREMENT

### 4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Field strength limits are at the distance of 3 meters, emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

| Frequencies (MHz) | Field strength (microvolts/meter) | Measurement distance (meters) |
|---|---|---|
| 0.009-0.490 | 2400/F(kHz) | 300 |
| 0.490-1.705 | 24000/F(kHz) | 30 |
| 1.705-30.0 | 30 | 30 |
| 30-88 | 100 | 3 |
| 88-216 | 150 | 3 |
| 216-960 | 200 | 3 |
| Above 960 | 500 | 3 |

**NOTE**:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

### 4.2.2 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED UNTIL |
|---|---|---|---|
| ADVANTEST Spectrum Analyzer | R3271A | 85060311 | July 07, 2006 |
| HP Pre_Amplifier | 8449B | 3008A01922 | Oct. 02, 2006 |
| ROHDE & SCHWARZ Test Receiver | ESCS30 | 100287 | Dec. 08, 2005 |
| CHASE Broadband Antenna | VULB9168 | 138 | Dec. 21, 2005 |
| Schwarzbeck Horn_Antenna | BBHA9120 | D124 | Dec. 11, 2005 |
| Schwarzbeck Horn_Antenna | BBHA 9170 | BBHA9170153 | Jan. 30, 2006 |
| SCHWARZBECK Biconical Antenna | VHBA9123 | 459 | Jun. 26, 2006 |
| SCHWARZBECK Periodic Antenna | UPA6108 | 1148 | Jun. 26, 2006 |
| RF Switches (ARNITSU) | CS-201 | 1565157 | NA |
| RF CABLE (Chaintek) 1GHz-20GHz | SF102 | 22054-2 | Nov. 15. 2005 |
| RF Cable(RICHTEC) | 9913-30M | STCCAB-30M-1GHz-021 | Jul. 16, 2006 |
| Software | ADT_Radiated_V 5.14 | NA | NA |
| CHANCE MOST Antenna Tower | AT-100 | 0203 | NA |
| CHANCE MOST Turn Table | TT-100 | 0203 | NA |

Note: 1. The calibration interval of the above test instruments is 12 months (36 months for Periodic Antenna)and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in ADT Open Site No. C.
4. The FCC Site Registration No. is 656396.
5. The VCCI Site Registration No. is R-1626.
6. The CANADA Site Registration No. is IC 4824-3.
7. The following table is for the measurement uncertainty, which is calculated as per the document CISPR 16-4. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

| Measurement | Value |
|---|---|
| Radiated emissions (30MHz-1GHz) | 2.98 dB |
| Radiated emissions (1GHz ~18GHz) | 2.21 dB |
| Radiated emissions (18GHz ~20GHz) | 1.88 dB |

### 4.2.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

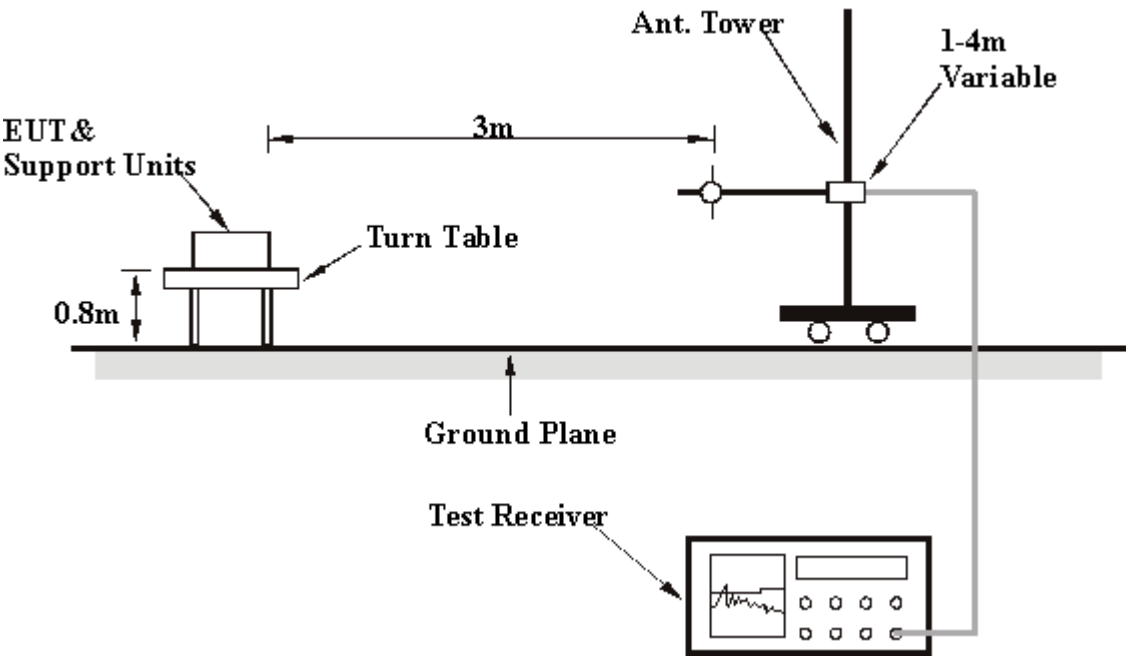
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

**NOTE:**

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.

### 4.2.4 TEST SETUP




For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

### 4.2.5 EUT OPERATING CONDITIONS

Same as 4.1.5.

### 4.2.6 TEST RESULTS (ANTENNA 1)

**Below 1GHz Worst-Case Data**

| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | **MODEL** | AW-GM120 |
| **MODE** | Channel 11 | **FREQUENCY RANGE** | 30-1000 MHz |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION & BANDWIDTH** | Quasi-Peak, 120kHz |
| **ENVIRONMENTAL CONDITIONS** | 25 deg. C, 65%RH, 968 hPa | **TESTED BY** | Rex Huang |

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 1 | 133.33 | 36.70 QP | 43.50 | -6.80 | 2.26 H | 355 | 24.20 | 12.50 |
| 2 | 166.59 | 35.30 QP | 43.50 | -8.20 | 2.02 H | 339 | 21.90 | 13.40 |
| 3 | 200.08 | 28.30 QP | 43.50 | -15.20 | 1.89 H | 334 | 17.10 | 11.20 |
| 4 | 240.02 | 26.80 QP | 46.00 | -19.20 | 1.27 H | 22 | 13.90 | 12.90 |
| 5 | 300.10 | 33.60 QP | 46.00 | -12.40 | 1.00 H | 296 | 17.30 | 16.30 |
| 6 | 433.33 | 30.40 QP | 46.00 | -15.60 | 1.45 H | 318 | 11.20 | 19.30 |
| 7 | 566.66 | 29.50 QP | 46.00 | -16.50 | 1.70 H | 358 | 6.80 | 22.70 |
| 8 | 899.81 | 28.40 QP | 46.00 | -17.60 | 1.34 H | 108 | 0.50 | 27.90 |

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 1 | 133.47 | 31.20 QP | 43.50 | -12.30 | 1.00 V | 287 | 18.60 | 12.60 |
| 2 | 166.65 | 24.80 QP | 43.50 | -18.70 | 1.00 V | 314 | 11.40 | 13.40 |
| 3 | 240.01 | 23.90 QP | 46.00 | -22.10 | 1.00 V | 91 | 11.00 | 12.90 |
| 4 | 300.00 | 28.90 QP | 46.00 | -17.10 | 1.00 V | 112 | 12.60 | 16.30 |
| 5 | 366.67 | 28.20 QP | 46.00 | -17.80 | 1.00 V | 78 | 10.80 | 17.30 |
| 6 | 433.33 | 25.50 QP | 46.00 | -20.50 | 1.00 V | 326 | 6.20 | 19.30 |
| 7 | 566.65 | 28.80 QP | 46.00 | -17.20 | 1.00 V | 99 | 6.10 | 22.70 |
| 8 | 899.98 | 30.40 QP | 46.00 | -15.60 | 1.26 V | 322 | 2.60 | 27.90 |

**REMARKS**:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

## 802.11b DSSS modulation

| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | **MODEL** | AW-GM120 |
| **MODE** | Channel 1 | **FREQUENCY RANGE** | 1000~25000MHz |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION & BANDWIDTH** | Peak (PK)<br>Average (AV)<br>1 MHz |
| **ENVIRONMENTAL CONDITIONS** | 25 deg. C, 54%RH, 968 hPa | **TESTED BY** | Wen Yu |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 1608.00 | 35.90 PK | 74.00 | -38.10 | 1.10 H | 231 | 8.50 | 27.40 |
| 1 | 1608.00 | 27.10 AV | 54.00 | -26.90 | 1.10 H | 231 | -0.30 | 27.40 |
| 2 | 2390.00 | 53.80 PK | 74.00 | -20.20 | 1.13 H | 14 | 20.10 | 33.70 |
| 2 | 2390.00 | 42.50 AV | 54.00 | -11.50 | 1.13 H | 14 | 8.80 | 33.70 |
| 3 | *2412.00 | 106.40 PK | | | 1.13 H | 14 | 76.60 | 29.80 |
| 3 | *2412.00 | 99.80 AV | | | 1.13 H | 14 | 70.00 | 29.80 |
| 4 | 4824.00 | 52.40 PK | 74.00 | -21.60 | 1.22 H | 43 | 17.30 | 35.10 |
| 4 | 4824.00 | 40.60 AV | 54.00 | -13.40 | 1.22 H | 43 | 5.50 | 35.10 |
| 5 | 7236.00 | 45.30 PK | 74.00 | -28.70 | 1.61 H | 38 | 4.80 | 40.50 |
| 5 | 7236.00 | 34.40 AV | 54.00 | -19.60 | 1.61 H | 38 | -6.10 | 40.50 |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 1608.00 | 38.50 PK | 74.00 | -35.50 | 1.02 V | 178 | 11.10 | 27.40 |
| 1 | 1608.00 | 33.10 AV | 54.00 | -20.90 | 1.02 V | 178 | 5.70 | 27.40 |
| 2 | 2390.00 | 57.80 PK | 74.00 | -16.20 | 1.67 V | 127 | 24.10 | 33.70 |
| 2 | 2390.00 | 46.00 AV | 54.00 | -8.00 | 1.67 V | 127 | 12.30 | 33.70 |
| 3 | *2412.00 | 110.40 PK | | | 1.67 V | 127 | 80.60 | 29.80 |
| 3 | *2412.00 | 103.30 AV | | | 1.67 V | 127 | 73.50 | 29.80 |
| 4 | 4824.00 | 62.40 PK | 74.00 | -11.60 | 1.54 V | 159 | 27.30 | 35.10 |
| 4 | 4824.00 | 50.60 AV | 54.00 | -3.40 | 1.54 V | 159 | 15.50 | 35.10 |
| 5 | 7236.00 | 49.40 PK | 74.00 | -24.60 | 1.67 V | 169 | 8.90 | 40.50 |
| 5 | 7236.00 | 40.30 AV | 54.00 | -13.70 | 1.67 V | 169 | -0.20 | 40.50 |

**REMARKS**:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | **MODEL** | AW-GM120 |
| **MODE** | Channel 6 | **FREQUENCY RANGE** | 1000~25000MHz |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION & BANDWIDTH** | Peak (PK)<br>Average (AV)<br>1 MHz |
| **ENVIRONMENTAL CONDITIONS** | 25 deg. C, 54%RH, 968 hPa | **TESTED BY** | Wen Yu |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 1624.60 | 36.30 PK | 74.00 | -37.70 | 1.14 H | 238 | 8.90 | 27.40 |
| 1 | 1624.60 | 27.30 AV | 54.00 | -26.70 | 1.14 H | 238 | -0.10 | 27.40 |
| 2 | *2437.00 | 103.40 PK | | | 1.09 H | 20 | 73.50 | 29.90 |
| 2 | *2437.00 | 96.60 AV | | | 1.09 H | 20 | 66.70 | 29.90 |
| 3 | 4874.00 | 54.60 PK | 74.00 | -19.40 | 1.23 H | 39 | 19.30 | 35.30 |
| 3 | 4874.00 | 43.50 AV | 54.00 | -10.50 | 1.23 H | 39 | 8.20 | 35.30 |
| 4 | 7311.00 | 45.30 PK | 74.00 | -28.70 | 1.58 H | 54 | 4.70 | 40.70 |
| 4 | 7311.00 | 34.60 AV | 54.00 | -19.40 | 1.58 H | 54 | -6.00 | 40.70 |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 1624.60 | 39.20 PK | 74.00 | -34.80 | 1.05 V | 182 | 11.80 | 27.40 |
| 1 | 1624.60 | 33.60 AV | 54.00 | -20.40 | 1.05 V | 182 | 6.20 | 27.40 |
| 2 | *2437.00 | 109.10 PK | | | 1.00 V | 58 | 79.20 | 29.90 |
| 2 | *2437.00 | 102.20 AV | | | 1.00 V | 58 | 72.30 | 29.90 |
| 3 | 4874.00 | 62.00 PK | 74.00 | -12.00 | 1.24 V | 16 | 26.70 | 35.30 |
| 3 | 4874.00 | 50.50 AV | 54.00 | -3.50 | 1.24 V | 16 | 15.20 | 35.30 |
| 4 | 7311.00 | 47.10 PK | 74.00 | -26.90 | 1.26 V | 43 | 6.50 | 40.70 |
| 4 | 7311.00 | 36.40 AV | 54.00 | -17.60 | 1.26 V | 43 | -4.20 | 40.70 |

**REMARKS**:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | **MODEL** | AW-GM120 |
| **MODE** | Channel 11 | **FREQUENCY RANGE** | 1000~25000MHz |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION & BANDWIDTH** | Peak (PK)<br>Average (AV)<br>1 MHz |
| **ENVIRONMENTAL CONDITIONS** | 25 deg. C, 54%RH, 968 hPa | **TESTED BY** | Wen Yu |

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 1 | 1641.00 | 36.60 PK | 74.00 | -37.40 | 1.12 H | 225 | 9.10 | 27.40 |
| 1 | 1641.00 | 27.50 AV | 54.00 | -26.50 | 1.12 H | 225 | 0.00 | 27.40 |
| 2 | *2462.00 | 102.90 PK | | | 1.11 H | 8 | 72.90 | 30.00 |
| 2 | *2462.00 | 96.20 AV | | | 1.11 H | 8 | 66.20 | 30.00 |
| 3 | 2483.50 | 52.10 PK | 74.00 | -21.90 | 1.11 H | 8 | 22.00 | 30.10 |
| 3 | 2483.50 | 40.60 AV | 54.00 | -13.40 | 1.11 H | 8 | 10.50 | 30.10 |
| 4 | 4924.00 | 55.40 PK | 74.00 | -18.60 | 1.28 H | 351 | 19.90 | 35.50 |
| 4 | 4924.00 | 43.40 AV | 54.00 | -10.60 | 1.28 H | 351 | 7.90 | 35.50 |
| 5 | 7386.00 | 45.50 PK | 74.00 | -28.50 | 1.59 H | 41 | 4.70 | 40.80 |
| 5 | 7386.00 | 34.60 AV | 54.00 | -19.40 | 1.59 H | 41 | -6.20 | 40.80 |

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 1 | 1641.00 | 39.70 PK | 74.00 | -34.30 | 1.03 V | 170 | 12.20 | 27.40 |
| 1 | 1641.00 | 33.90 AV | 54.00 | -20.10 | 1.03 V | 170 | 6.40 | 27.40 |
| 2 | *2462.00 | 108.70 PK | | | 1.67 V | 124 | 78.70 | 30.00 |
| 2 | *2462.00 | 101.70 AV | | | 1.67 V | 124 | 71.70 | 30.00 |
| 3 | 2483.50 | 57.90 PK | 74.00 | -16.10 | 1.67 V | 124 | 27.80 | 30.10 |
| 3 | 2483.50 | 46.10 AV | 54.00 | -7.90 | 1.67 V | 124 | 16.00 | 30.10 |
| 4 | 4924.00 | 63.60 PK | 74.00 | -10.40 | 1.59 V | 154 | 28.00 | 35.50 |
| 4 | 4924.00 | 51.90 AV | 54.00 | -2.10 | 1.59 V | 154 | 16.40 | 35.50 |
| 5 | 7386.00 | 51.40 PK | 74.00 | -22.60 | 1.83 V | 103 | 10.50 | 40.80 |
| 5 | 7386.00 | 41.50 AV | 54.00 | -12.50 | 1.83 V | 103 | 0.70 | 40.80 |

**REMARKS**:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

## 802.11g OFDM modulation

| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | **MODEL** | AW-GM120 |
| **MODE** | Channel 1 | **FREQUENCY RANGE** | 1000~25000MHz |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION & BANDWIDTH** | Peak (PK)<br>Average (AV)<br>1 MHz |
| **ENVIRONMENTAL CONDITIONS** | 25 deg. C, 54%RH, 968 hPa | **TESTED BY** | Wen Yu |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 1608.00 | 35.20 PK | 74.00 | -38.80 | 1.10 H | 235 | 7.80 | 27.40 |
| 1 | 1608.00 | 28.70 AV | 54.00 | -25.30 | 1.10 H | 235 | 1.30 | 27.40 |
| 2 | 2390.00 | 59.80 PK | 74.00 | -14.20 | 1.06 H | 213 | 26.10 | 33.70 |
| 2 | 2390.00 | 46.00 AV | 54.00 | -8.00 | 1.06 H | 213 | 12.30 | 33.70 |
| 3 | *2412.00 | 102.20 PK | | | 1.06 H | 213 | 72.40 | 29.80 |
| 3 | *2412.00 | 93.90 AV | | | 1.06 H | 213 | 64.10 | 29.80 |
| 4 | 4824.00 | 53.30 PK | 74.00 | -20.70 | 1.23 H | 40 | 18.20 | 35.10 |
| 4 | 4824.00 | 38.20 AV | 54.00 | -15.80 | 1.23 H | 40 | 3.10 | 35.10 |
| 5 | 7236.00 | 47.40 PK | 74.00 | -26.60 | 1.26 H | 334 | 6.90 | 40.50 |
| 5 | 7236.00 | 35.50 AV | 54.00 | -18.50 | 1.26 H | 334 | -5.00 | 40.50 |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 1608.00 | 39.50 PK | 74.00 | -34.50 | 1.00 V | 176 | 12.10 | 27.40 |
| 1 | 1608.00 | 36.60 AV | 54.00 | -17.40 | 1.00 V | 176 | 9.20 | 27.40 |
| 2 | 2390.00 | 64.00 PK | 74.00 | -10.00 | 1.05 V | 59 | 30.30 | 33.70 |
| 2 | 2390.00 | 49.40 AV | 54.00 | -4.60 | 1.05 V | 59 | 15.70 | 33.70 |
| 3 | *2412.00 | 106.40 PK | | | 1.05 V | 59 | 76.60 | 29.80 |
| 3 | *2412.00 | 97.30 AV | | | 1.05 V | 59 | 67.50 | 29.80 |
| 4 | 4824.00 | 61.50 PK | 74.00 | -12.50 | 1.10 V | 13 | 26.40 | 35.10 |
| 4 | 4824.00 | 44.90 AV | 54.00 | -9.10 | 1.10 V | 13 | 9.80 | 35.10 |
| 5 | 7236.00 | 48.10 PK | 74.00 | -25.90 | 1.20 V | 270 | 7.60 | 40.50 |
| 5 | 7236.00 | 35.90 AV | 54.00 | -18.10 | 1.20 V | 270 | -4.60 | 40.50 |

**REMARKS**:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. “ * “ : Fundamental frequency

| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | **MODEL** | AW-GM120 |
| **MODE** | Channel 6 | **FREQUENCY RANGE** | 1000~25000MHz |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION & BANDWIDTH** | Peak (PK)<br>Average (AV)<br>1 MHz |
| **ENVIRONMENTAL CONDITIONS** | 25 deg. C, 54%RH, 968 hPa | **TESTED BY** | Wen Yu |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 1624.60 | 35.50 PK | 74.00 | -38.50 | 1.09 H | 232 | 8.10 | 27.40 |
| 1 | 1624.60 | 28.90 AV | 54.00 | -25.10 | 1.09 H | 232 | 1.50 | 27.40 |
| 2 | *2437.00 | 102.70 PK | | | 1.09 H | 42 | 72.80 | 29.90 |
| 2 | *2437.00 | 94.30 AV | | | 1.09 H | 42 | 64.40 | 29.90 |
| 3 | 4874.00 | 57.40 PK | 74.00 | -16.60 | 1.26 H | 66 | 22.10 | 35.30 |
| 3 | 4874.00 | 42.00 AV | 54.00 | -12.00 | 1.26 H | 66 | 6.70 | 35.30 |
| 4 | 7311.00 | 50.20 PK | 74.00 | -23.80 | 1.26 H | 3 | 9.60 | 40.70 |
| 4 | 7311.00 | 37.30 AV | 54.00 | -16.70 | 1.26 H | 3 | -3.30 | 40.70 |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 1624.60 | 39.30 PK | 74.00 | -34.70 | 1.00 V | 180 | 11.90 | 27.40 |
| 1 | 1624.60 | 36.70 AV | 54.00 | -17.30 | 1.00 V | 180 | 9.30 | 27.40 |
| 2 | *2437.00 | 105.90 PK | | | 1.00 V | 57 | 76.00 | 29.90 |
| 2 | *2437.00 | 96.60 AV | | | 1.00 V | 57 | 66.70 | 29.90 |
| 3 | 4874.00 | 66.40 PK | 74.00 | -7.60 | 1.65 V | 162 | 31.10 | 35.30 |
| 3 | 4874.00 | 51.90 AV | 54.00 | -2.10 | 1.65 V | 162 | 16.60 | 35.30 |
| 4 | 7311.00 | 53.50 PK | 74.00 | -20.50 | 1.87 V | 244 | 12.90 | 40.70 |
| 4 | 7311.00 | 38.60 AV | 54.00 | -15.40 | 1.87 V | 244 | -2.00 | 40.70 |

**REMARKS**:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. “ * “ : Fundamental frequency

| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | **MODEL** | AW-GM120 |
| **MODE** | Channel 11 | **FREQUENCY RANGE** | 1000~25000MHz |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION & BANDWIDTH** | Peak (PK)<br>Average (AV)<br>1 MHz |
| **ENVIRONMENTAL CONDITIONS** | 25 deg. C, 54%RH, 968 hPa | **TESTED BY** | Wen Yu |

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 1 | 1641.00 | 35.10 PK | 74.00 | -38.90 | 1.12 H | 233 | 7.60 | 27.40 |
| 1 | 1641.00 | 28.60 AV | 54.00 | -25.40 | 1.12 H | 233 | 1.10 | 27.40 |
| 2 | *2462.00 | 102.20 PK | | | 1.06 H | 43 | 72.20 | 30.00 |
| 2 | *2462.00 | 93.70 AV | | | 1.06 H | 43 | 63.70 | 30.00 |
| 3 | 2483.50 | 62.00 PK | 74.00 | -12.00 | 1.06 H | 43 | 31.90 | 30.10 |
| 3 | 2483.50 | 49.40 AV | 54.00 | -4.60 | 1.06 H | 43 | 19.30 | 30.10 |
| 4 | 4924.00 | 52.60 PK | 74.00 | -21.40 | 1.35 H | 38 | 17.10 | 35.50 |
| 4 | 4924.00 | 37.70 AV | 54.00 | -16.30 | 1.35 H | 38 | 2.20 | 35.50 |
| 5 | 7386.00 | 48.10 PK | 74.00 | -25.90 | 1.36 H | 21 | 7.30 | 40.80 |
| 5 | 7386.00 | 35.60 AV | 54.00 | -18.40 | 1.36 H | 21 | -5.20 | 40.80 |

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 1 | 1641.00 | 39.30 PK | 74.00 | -34.70 | 1.01 V | 173 | 11.80 | 27.40 |
| 1 | 1641.00 | 36.40 AV | 54.00 | -17.60 | 1.01 V | 173 | 8.90 | 27.40 |
| 2 | *2462.00 | 106.40 PK | | | 1.10 V | 172 | 76.40 | 30.00 |
| 2 | *2462.00 | 96.60 AV | | | 1.10 V | 172 | 66.60 | 30.00 |
| 3 | 2483.50 | 56.60 PK | 74.00 | -17.40 | 1.10 V | 172 | 26.50 | 30.10 |
| 3 | 2483.50 | 52.30 AV | 54.00 | -1.70 | 1.10 V | 172 | 22.20 | 30.10 |
| 4 | 4924.00 | 61.50 PK | 74.00 | -12.50 | 1.24 V | 15 | 26.00 | 35.50 |
| 4 | 4924.00 | 45.40 AV | 54.00 | -8.60 | 1.24 V | 15 | 9.90 | 35.50 |
| 5 | 7386.00 | 49.10 PK | 74.00 | -24.90 | 1.37 V | 42 | 8.30 | 40.80 |
| 5 | 7386.00 | 35.70 AV | 54.00 | -18.30 | 1.37 V | 42 | -5.10 | 40.80 |

**REMARKS**:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

### 4.2.7 TEST RESULTS (ANTENNA 2)

**Below 1GHz Worst-Case Data**

| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | **MODEL** | AW-GM120 |
| **MODE** | Channel 11 | **FREQUENCY RANGE** | 30-1000 MHz |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION & BANDWIDTH** | Quasi-Peak, 120kHz |
| **ENVIRONMENTAL CONDITIONS** | 25 deg. C, 65%RH, 968 hPa | **TESTED BY** | Rex Huang |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 133.62 | 32.80 QP | 43.50 | -10.70 | 2.09 H | 343 | 20.20 | 12.60 |
| 2 | 166.94 | 33.50 QP | 43.50 | -10.00 | 1.85 H | 4 | 20.10 | 13.40 |
| 3 | 200.09 | 29.90 QP | 43.50 | -13.60 | 1.98 H | 22 | 18.70 | 11.20 |
| 4 | 240.04 | 28.70 QP | 46.00 | -17.30 | 1.43 H | 0 | 15.80 | 12.90 |
| 5 | 300.06 | 32.90 QP | 46.00 | -13.10 | 1.27 H | 325 | 16.50 | 16.30 |
| 6 | 433.33 | 32.60 QP | 46.00 | -13.40 | 1.42 H | 61 | 13.30 | 19.30 |
| 7 | 566.66 | 29.50 QP | 46.00 | -16.50 | 1.71 H | 22 | 6.80 | 22.70 |
| 8 | 899.99 | 29.30 QP | 46.00 | -16.70 | 1.41 H | 289 | 1.40 | 27.90 |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 119.99 | 27.60 QP | 43.50 | -15.90 | 1.00 V | 341 | 16.10 | 11.50 |
| 2 | 166.67 | 27.10 QP | 43.50 | -16.40 | 1.00 V | 345 | 13.70 | 13.40 |
| 3 | 240.01 | 24.20 QP | 46.00 | -21.80 | 1.00 V | 235 | 11.40 | 12.90 |
| 4 | 300.01 | 29.80 QP | 46.00 | -16.20 | 1.00 V | 275 | 13.50 | 16.30 |
| 5 | 366.66 | 29.70 QP | 46.00 | -16.30 | 1.00 V | 60 | 12.40 | 17.30 |
| 6 | 433.33 | 28.10 QP | 46.00 | -17.90 | 1.00 V | 288 | 8.80 | 19.30 |
| 7 | 499.99 | 29.10 QP | 46.00 | -16.90 | 1.00 V | 309 | 8.30 | 20.90 |
| 8 | 899.98 | 31.40 QP | 46.00 | -14.60 | 1.32 V | 21 | 3.50 | 27.90 |

**REMARKS**:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

## 802.11b DSSS modulation

| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | **MODEL** | AW-GM120 |
| **MODE** | Channel 1 | **FREQUENCY RANGE** | 1000~25000MHz |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION & BANDWIDTH** | Peak (PK)<br>Average (AV)<br>1 MHz |
| **ENVIRONMENTAL CONDITIONS** | 25 deg. C, 54%RH, 968 hPa | **TESTED BY** | Wen Yu |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 1608.00 | 40.50 PK | 74.00 | -33.50 | 1.21 H | 318 | 13.10 | 27.40 |
| 1 | 1608.00 | 34.00 AV | 54.00 | -20.00 | 1.21 H | 318 | 6.60 | 27.40 |
| 2 | 2390.00 | 51.00 PK | 74.00 | -23.00 | 1.47 H | 243 | 17.30 | 33.70 |
| 2 | 2390.00 | 38.60 AV | 54.00 | -15.40 | 1.47 H | 243 | 4.90 | 33.70 |
| 3 | *2412.00 | 103.60 PK | | | 1.47 H | 243 | 73.80 | 29.80 |
| 3 | *2412.00 | 95.90 AV | | | 1.47 H | 243 | 66.10 | 29.80 |
| 4 | 4824.00 | 51.90 PK | 74.00 | -22.10 | 1.74 H | 46 | 16.80 | 35.10 |
| 4 | 4824.00 | 40.50 AV | 54.00 | -13.50 | 1.74 H | 46 | 5.40 | 35.10 |
| 5 | 7236.00 | 49.10 PK | 74.00 | -24.90 | 1.10 H | 7 | 8.60 | 40.50 |
| 5 | 7236.00 | 37.00 AV | 54.00 | -17.00 | 1.10 H | 7 | -3.50 | 40.50 |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 1608.00 | 44.10 PK | 74.00 | -29.90 | 1.00 V | 307 | 16.70 | 27.40 |
| 1 | 1608.00 | 39.10 AV | 54.00 | -14.90 | 1.00 V | 307 | 11.70 | 27.40 |
| 2 | 2390.00 | 60.40 PK | 74.00 | -13.60 | 1.24 V | 347 | 26.70 | 33.70 |
| 2 | 2390.00 | 47.80 AV | 54.00 | -6.20 | 1.24 V | 347 | 14.10 | 33.70 |
| 3 | *2412.00 | 113.00 PK | | | 1.24 V | 347 | 83.20 | 29.80 |
| 3 | *2412.00 | 105.10 AV | | | 1.24 V | 347 | 75.30 | 29.80 |
| 4 | 4824.00 | 52.00 PK | 74.00 | -22.00 | 1.22 V | 286 | 16.90 | 35.10 |
| 4 | 4824.00 | 39.90 AV | 54.00 | -14.10 | 1.22 V | 286 | 4.80 | 35.10 |
| 5 | 7236.00 | 51.90 PK | 74.00 | -22.10 | 1.09 V | 25 | 11.40 | 40.50 |
| 5 | 7236.00 | 41.00 AV | 54.00 | -13.00 | 1.09 V | 25 | 0.50 | 40.50 |

**REMARKS**:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | **MODEL** | AW-GM120 |
| **MODE** | Channel 6 | **FREQUENCY RANGE** | 1000~25000MHz |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION & BANDWIDTH** | Peak (PK)<br>Average (AV)<br>1 MHz |
| **ENVIRONMENTAL CONDITIONS** | 25 deg. C, 54%RH, 968 hPa | **TESTED BY** | Wen Yu |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 1624.60 | 41.70 PK | 74.00 | -32.30 | 1.24 H | 326 | 14.30 | 27.40 |
| 1 | 1624.60 | 35.40 AV | 54.00 | -18.60 | 1.24 H | 326 | 8.00 | 27.40 |
| 2 | *2437.00 | 103.00 PK | | | 1.40 H | 243 | 73.10 | 29.90 |
| 2 | *2437.00 | 95.40 AV | | | 1.40 H | 243 | 65.50 | 29.90 |
| 3 | 4874.00 | 56.20 PK | 74.00 | -17.80 | 1.88 H | 45 | 20.90 | 35.30 |
| 3 | 4874.00 | 44.00 AV | 54.00 | -10.00 | 1.88 H | 45 | 8.70 | 35.30 |
| 4 | 7311.00 | 50.00 PK | 74.00 | -24.00 | 1.07 H | 14 | 9.40 | 40.70 |
| 4 | 7311.00 | 37.80 AV | 54.00 | -16.20 | 1.07 H | 14 | -2.80 | 40.70 |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 1624.60 | 45.20 PK | 74.00 | -28.80 | 1.00 V | 308 | 17.80 | 27.40 |
| 1 | 1624.60 | 41.70 AV | 54.00 | -12.30 | 1.00 V | 308 | 14.30 | 27.40 |
| 2 | *2437.00 | 112.40 PK | | | 1.23 V | 346 | 82.50 | 29.90 |
| 2 | *2437.00 | 104.70 AV | | | 1.23 V | 346 | 74.80 | 29.90 |
| 3 | 4874.00 | 56.40 PK | 74.00 | -17.60 | 1.26 V | 324 | 21.10 | 35.30 |
| 3 | 4874.00 | 44.10 AV | 54.00 | -9.90 | 1.26 V | 324 | 8.80 | 35.30 |
| 4 | 7311.00 | 53.60 PK | 74.00 | -20.40 | 1.08 V | 27 | 13.00 | 40.70 |
| 4 | 7311.00 | 41.90 AV | 54.00 | -12.10 | 1.08 V | 27 | 1.30 | 40.70 |

**REMARKS**:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. “ * “ : Fundamental frequency

| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | **MODEL** | AW-GM120 |
| **MODE** | Channel 11 | **FREQUENCY RANGE** | 1000~25000MHz |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION & BANDWIDTH** | Peak (PK)<br>Average (AV)<br>1 MHz |
| **ENVIRONMENTAL CONDITIONS** | 25 deg. C, 54%RH, 968 hPa | **TESTED BY** | Wen Yu |

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 1 | 1641.00 | 42.00 PK | 74.00 | -32.00 | 1.17 H | 321 | 14.50 | 27.40 |
| 1 | 1641.00 | 35.60 AV | 54.00 | -18.40 | 1.17 H | 321 | 8.10 | 27.40 |
| 2 | *2462.00 | 102.80 PK | | | 1.35 H | 243 | 72.80 | 30.00 |
| 2 | *2462.00 | 95.20 AV | | | 1.35 H | 243 | 65.20 | 30.00 |
| 3 | 2483.50 | 52.00 PK | 74.00 | -22.00 | 1.35 H | 243 | 21.90 | 30.10 |
| 3 | 2483.50 | 39.60 AV | 54.00 | -14.40 | 1.35 H | 243 | 9.50 | 30.10 |
| 4 | 4924.00 | 55.20 PK | 74.00 | -18.80 | 1.89 H | 37 | 19.70 | 35.50 |
| 4 | 4924.00 | 43.30 AV | 54.00 | -10.70 | 1.89 H | 37 | 7.80 | 35.50 |
| 5 | 7386.00 | 50.50 PK | 74.00 | -23.50 | 1.12 H | 23 | 9.70 | 40.80 |
| 5 | 7386.00 | 38.20 AV | 54.00 | -15.80 | 1.12 H | 23 | -2.60 | 40.80 |

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 1 | 1641.00 | 45.80 PK | 74.00 | -28.20 | 1.00 V | 314 | 18.30 | 27.40 |
| 1 | 1641.00 | 42.20 AV | 54.00 | -11.80 | 1.00 V | 314 | 14.70 | 27.40 |
| 2 | *2462.00 | 112.50 PK | | | 1.21 V | 346 | 82.50 | 30.00 |
| 2 | *2462.00 | 104.60 AV | | | 1.21 V | 346 | 74.60 | 30.00 |
| 3 | 2483.50 | 61.70 PK | 74.00 | -12.30 | 1.21 V | 346 | 31.60 | 30.10 |
| 3 | 2483.50 | 49.00 AV | 54.00 | -5.00 | 1.21 V | 346 | 18.90 | 30.10 |
| 4 | 4924.00 | 60.80 PK | 74.00 | -13.20 | 1.06 V | 333 | 25.30 | 35.50 |
| 4 | 4924.00 | 48.90 AV | 54.00 | -5.10 | 1.06 V | 333 | 13.40 | 35.50 |
| 5 | 7386.00 | 52.80 PK | 74.00 | -21.20 | 1.08 V | 29 | 12.00 | 40.80 |
| 5 | 7386.00 | 42.00 AV | 54.00 | -12.00 | 1.08 V | 29 | 1.20 | 40.80 |

**REMARKS**:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

## 802.11g OFDM modulation

| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | **MODEL** | AW-GM120 |
| **MODE** | Channel 1 | **FREQUENCY RANGE** | 1000~25000MHz |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION & BANDWIDTH** | Peak (PK)<br>Average (AV)<br>1 MHz |
| **ENVIRONMENTAL CONDITIONS** | 25 deg. C, 54%RH, 968 hPa | **TESTED BY** | Wen Yu |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 1608.00 | 40.80 PK | 74.00 | -33.20 | 1.24 H | 325 | 13.40 | 27.40 |
| 1 | 1608.00 | 34.20 AV | 54.00 | -19.80 | 1.24 H | 325 | 6.80 | 27.40 |
| 2 | 2390.00 | 58.60 PK | 74.00 | -15.40 | 1.49 H | 244 | 24.90 | 33.70 |
| 2 | 2390.00 | 43.80 AV | 54.00 | -10.20 | 1.49 H | 244 | 10.10 | 33.70 |
| 3 | *2412.00 | 101.00 PK | | | 1.49 H | 244 | 71.20 | 29.80 |
| 3 | *2412.00 | 91.70 AV | | | 1.49 H | 244 | 61.90 | 29.80 |
| 4 | 4824.00 | 47.40 PK | 74.00 | -26.60 | 1.72 H | 52 | 12.30 | 35.10 |
| 4 | 4824.00 | 38.30 AV | 54.00 | -15.70 | 1.72 H | 52 | 3.20 | 35.10 |
| 5 | 7236.00 | 50.30 PK | 74.00 | -23.70 | 1.24 H | 347 | 9.80 | 40.50 |
| 5 | 7236.00 | 36.50 AV | 54.00 | -17.50 | 1.24 H | 347 | -4.00 | 40.50 |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 1608.00 | 44.80 PK | 74.00 | -29.20 | 1.00 V | 309 | 17.40 | 27.40 |
| 1 | 1608.00 | 41.10 AV | 54.00 | -12.90 | 1.00 V | 309 | 13.70 | 27.40 |
| 2 | 2390.00 | 68.80 PK | 74.00 | -5.20 | 1.23 V | 346 | 35.10 | 33.70 |
| **2** | **2390.00** | **52.70 AV** | **54.00** | **-1.30** | **1.23 V** | **346** | **19.00** | **33.70** |
| 3 | *2412.00 | 111.20 PK | | | 1.23 V | 346 | 81.40 | 29.80 |
| 3 | *2412.00 | 100.60 AV | | | 1.23 V | 346 | 70.80 | 29.80 |
| 4 | 4824.00 | 53.10 PK | 74.00 | -20.90 | 1.24 V | 283 | 18.00 | 35.10 |
| 4 | 4824.00 | 37.60 AV | 54.00 | -16.40 | 1.24 V | 283 | 2.50 | 35.10 |
| 5 | 7236.00 | 54.10 PK | 74.00 | -19.90 | 1.10 V | 24 | 13.60 | 40.50 |
| 5 | 7236.00 | 38.20 AV | 54.00 | -15.80 | 1.10 V | 24 | -2.30 | 40.50 |

**REMARKS**:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | **MODEL** | AW-GM120 |
| **MODE** | Channel 6 | **FREQUENCY RANGE** | 1000~25000MHz |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION & BANDWIDTH** | Peak (PK)<br>Average (AV)<br>1 MHz |
| **ENVIRONMENTAL CONDITIONS** | 25 deg. C, 54%RH, 968 hPa | **TESTED BY** | Wen Yu |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 1624.60 | 42.70 PK | 74.00 | -31.30 | 1.20 H | 334 | 15.30 | 27.40 |
| 1 | 1624.60 | 36.20 AV | 54.00 | -17.80 | 1.20 H | 334 | 8.80 | 27.40 |
| 2 | *2437.00 | 99.60 PK | | | 1.41 H | 241 | 69.70 | 29.90 |
| 2 | *2437.00 | 90.30 AV | | | 1.41 H | 241 | 60.40 | 29.90 |
| 3 | 4874.00 | 56.10 PK | 74.00 | -17.90 | 1.84 H | 49 | 20.80 | 35.30 |
| 3 | 4874.00 | 39.00 AV | 54.00 | -15.00 | 1.84 H | 49 | 3.70 | 35.30 |
| 4 | 7311.00 | 50.80 PK | 74.00 | -23.20 | 1.22 H | 336 | 10.20 | 40.70 |
| 4 | 7311.00 | 37.00 AV | 54.00 | -17.00 | 1.22 H | 336 | -3.60 | 40.70 |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 1624.60 | 46.90 PK | 74.00 | -27.10 | 1.00 V | 307 | 19.50 | 27.40 |
| 1 | 1624.60 | 43.80 AV | 54.00 | -10.20 | 1.00 V | 307 | 16.40 | 27.40 |
| 2 | *2437.00 | 109.60 PK | | | 1.22 V | 345 | 79.70 | 29.90 |
| 2 | *2437.00 | 99.30 AV | | | 1.22 V | 345 | 69.40 | 29.90 |
| 3 | 4874.00 | 57.30 PK | 74.00 | -16.70 | 1.28 V | 326 | 22.00 | 35.30 |
| 3 | 4874.00 | 39.80 AV | 54.00 | -14.20 | 1.28 V | 326 | 4.50 | 35.30 |
| 4 | 7311.00 | 55.60 PK | 74.00 | -18.40 | 1.08 V | 26 | 15.00 | 40.70 |
| 4 | 7311.00 | 39.00 AV | 54.00 | -15.00 | 1.08 V | 26 | -1.60 | 40.70 |

**REMARKS**:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. “ * “ : Fundamental frequency

| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | **MODEL** | AW-GM120 |
| **MODE** | Channel 11 | **FREQUENCY RANGE** | 1000~25000MHz |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **DETECTOR FUNCTION & BANDWIDTH** | Peak (PK)<br>Average (AV)<br>1 MHz |
| **ENVIRONMENTAL CONDITIONS** | 25 deg. C, 54%RH, 968 hPa | **TESTED BY** | Wen Yu |

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 1 | 1641.00 | 37.60 PK | 74.00 | -36.40 | 1.15 H | 319 | 10.10 | 27.40 |
| 1 | 1641.00 | 30.80 AV | 54.00 | -23.20 | 1.15 H | 319 | 3.30 | 27.40 |
| 2 | *2462.00 | 99.00 PK | | | 1.34 H | 245 | 69.00 | 30.00 |
| 2 | *2462.00 | 88.60 AV | | | 1.34 H | 245 | 58.60 | 30.00 |
| 3 | 2483.50 | 57.30 PK | 74.00 | -16.70 | 1.34 H | 245 | 27.20 | 30.10 |
| 3 | 2483.50 | 41.70 AV | 54.00 | -12.30 | 1.34 H | 245 | 11.60 | 30.10 |
| 4 | 4924.00 | 57.70 PK | 74.00 | -16.30 | 1.86 H | 76 | 22.20 | 35.50 |
| 4 | 4924.00 | 39.60 AV | 54.00 | -14.40 | 1.86 H | 76 | 4.10 | 35.50 |
| 5 | 7386.00 | 51.70 PK | 74.00 | -22.30 | 1.27 H | 351 | 10.90 | 40.80 |
| 5 | 7386.00 | 37.50 AV | 54.00 | -16.50 | 1.27 H | 351 | -3.30 | 40.80 |

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|---|---|---|---|---|---|---|---|---|
| 1 | 1641.00 | 47.40 PK | 74.00 | -26.60 | 1.00 V | 314 | 19.90 | 27.40 |
| 1 | 1641.00 | 44.40 AV | 54.00 | -9.60 | 1.00 V | 314 | 16.90 | 27.40 |
| 2 | *2462.00 | 108.60 PK | | | 1.22 V | 346 | 78.60 | 30.00 |
| 2 | *2462.00 | 98.70 AV | | | 1.22 V | 346 | 68.70 | 30.00 |
| 3 | 2483.50 | 66.90 PK | 74.00 | -7.10 | 1.22 V | 346 | 36.80 | 30.10 |
| 3 | 2483.50 | 51.80 AV | 54.00 | -2.20 | 1.22 V | 346 | 21.70 | 30.10 |
| 4 | 4924.00 | 58.30 PK | 74.00 | -15.70 | 1.07 V | 332 | 22.80 | 35.50 |
| 4 | 4924.00 | 39.80 AV | 54.00 | -14.20 | 1.07 V | 332 | 4.30 | 35.50 |
| 5 | 7386.00 | 55.50 PK | 74.00 | -18.50 | 1.09 V | 31 | 14.70 | 40.80 |
| 5 | 7386.00 | 39.00 AV | 54.00 | -15.00 | 1.09 V | 31 | -1.80 | 40.80 |

**REMARKS**:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

## 4.3 6dB BANDWIDTH MEASUREMENT

### 4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

### 4.3.2 TEST INSTRUMENTS

| Description & Manufacturer | Model No. | Serial No. | Calibrated Until |
|---|---|---|---|
| R&S SPECTRUM ANALYZER | FSP40 | 100036 | Nov. 23, 2005 |

**NOTE:**

1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.3.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100 kHz RBW and 100 kHz VBW. The 6 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB.

### 4.3.4 TEST SETUP

For the actual test configuration, please refer to the related Item – Photographs of the Test Configuration.

### 4.3.5 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

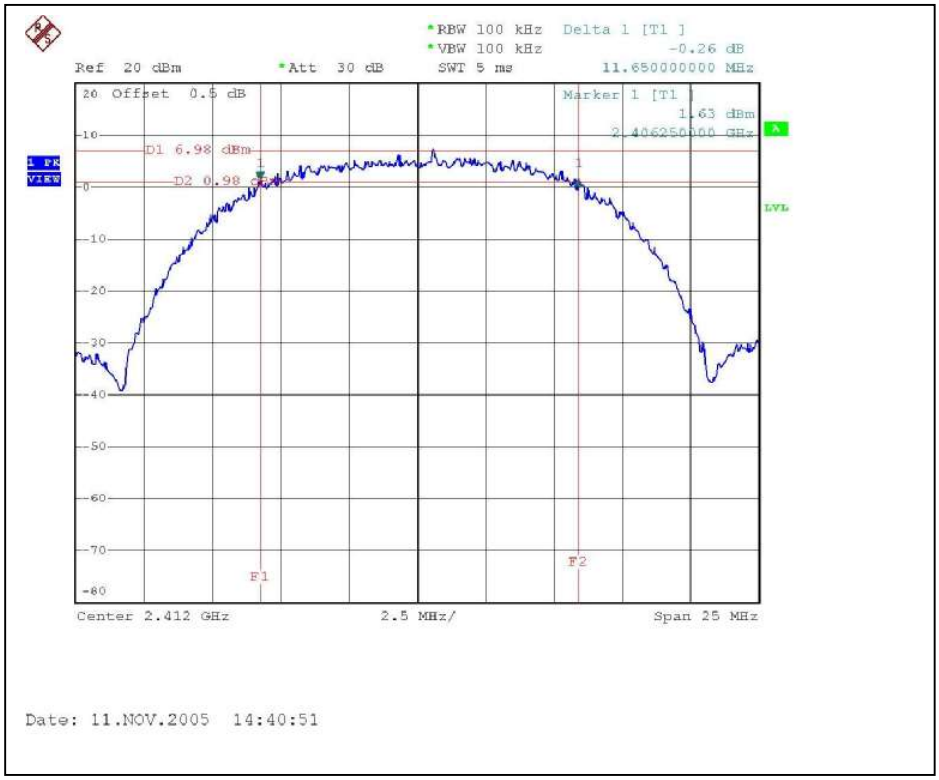
### 4.3.6 TEST RESULTS (ANTENNA 1)

**802.11b DSSS modulation**

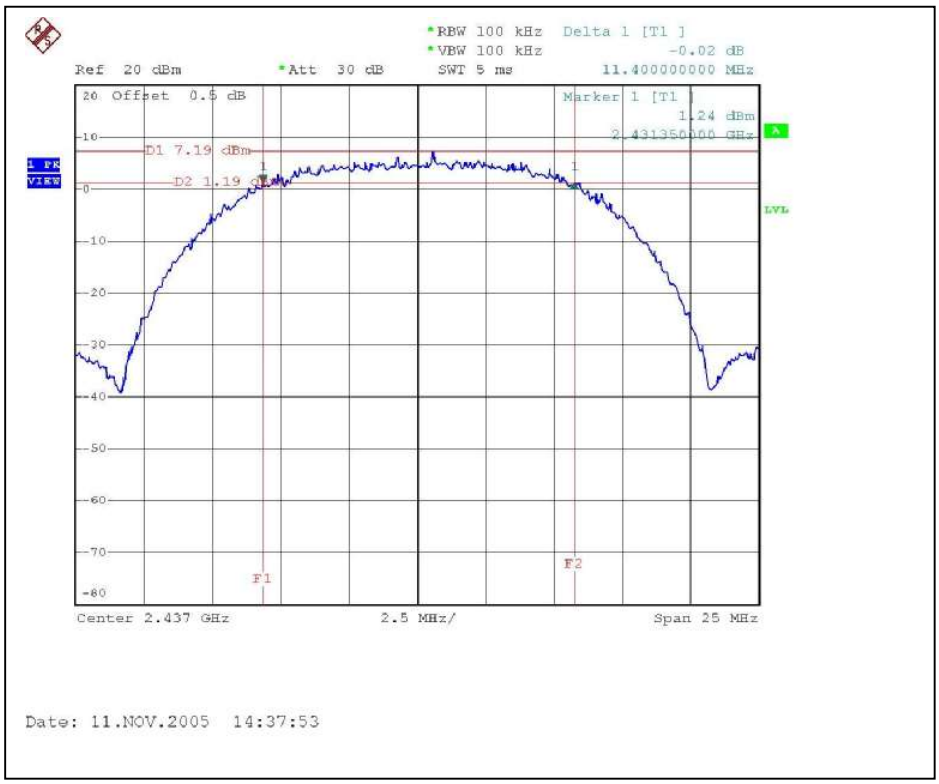
| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | | |
| **MODEL** | AW-GM120 | **ENVIRONMENTAL CONDITIONS** | 26 deg. C, 67%RH, 968 hPa |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **TESTED BY** | Rex Huang |

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6 dB BANDWIDTH (MHz) | MINIMUM LIMIT (MHz) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | 11.65 | 0.5 | PASS |
| 6 | 2437 | 11.40 | 0.5 | PASS |
| 11 | 2462 | 11.30 | 0.5 | PASS |

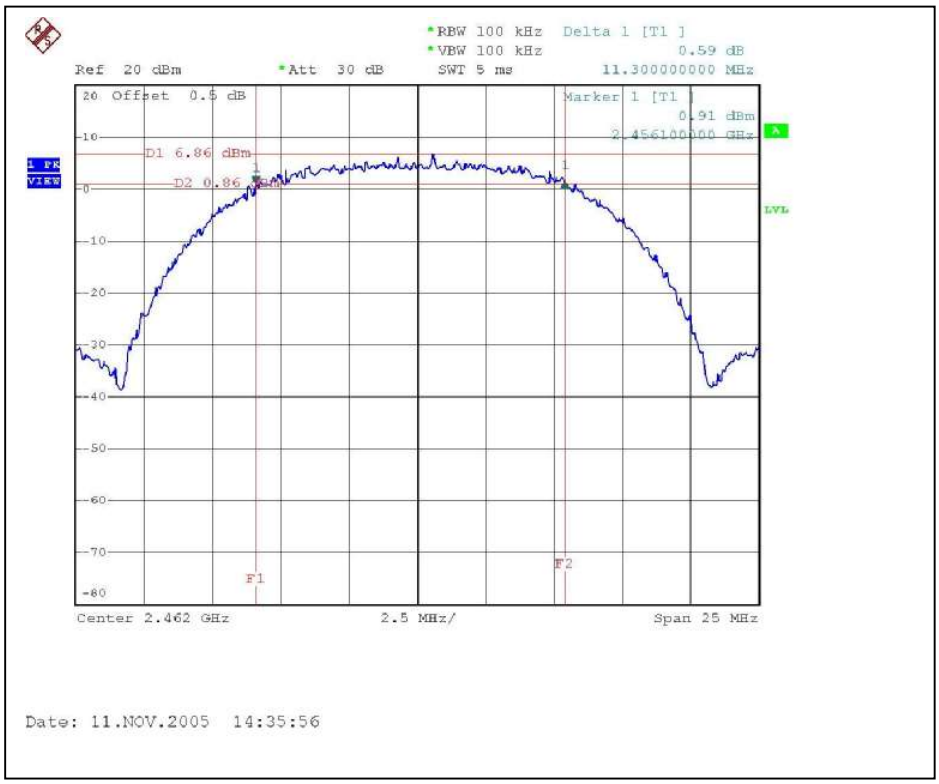
CH1


RBW 100 kHz
VBW 100 kHz
Delta 1 [T1 ]
-0.26 dB
11.650000000 MHz
Ref 20 dBm
Att 30 dB
SWT 5 ms
20 Offset 0.5 dB
Marker 1 [T1 ]
1.63 dBm
2.406250000 GHz
D1 6.98 dBm
D2 0.98 dB
1 PK VIEW
LVL
F1
F2
Center 2.412 GHz
2.5 MHz/
Span 25 MHz
Date: 11.NOV.2005 14:40:51

CH6


RBW 100 kHz
VBW 100 kHz
Delta 1 [T1 ]
-0.02 dB
11.400000000 MHz
Ref 20 dBm
Att 30 dB
SWT 5 ms
20 Offset 0.5 dB
Marker 1 [T1 ]
1.24 dBm
2.431350000 GHz
D1 7.19 dBm
D2 1.19 dB
1 PK VIEW
LVL
F1
F2
Center 2.437 GHz
2.5 MHz/
Span 25 MHz
Date: 11.NOV.2005 14:37:53

CH11

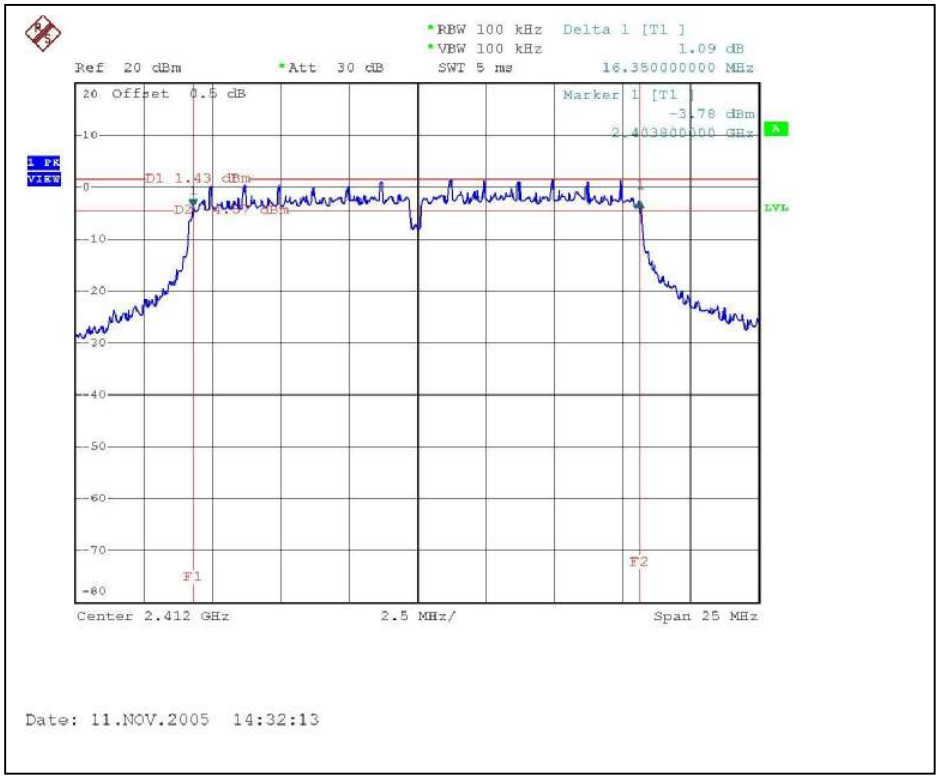

RBW 100 kHz
VBW 100 kHz
Delta 1 [T1 ]
0.59 dB
11.300000000 MHz
Ref 20 dBm
Att 30 dB
SWT 5 ms
20 Offset 0.5 dB
Marker 1 [T1 ]
0.91 dBm
2.456100000 GHz
D1 6.86 dBm
D2 0.86 dBm
1 PK
VIEW
A
LVL
F1
F2
Center 2.462 GHz
2.5 MHz/
Span 25 MHz
Date: 11.NOV.2005 14:35:56

## 802.11g OFDM modulation

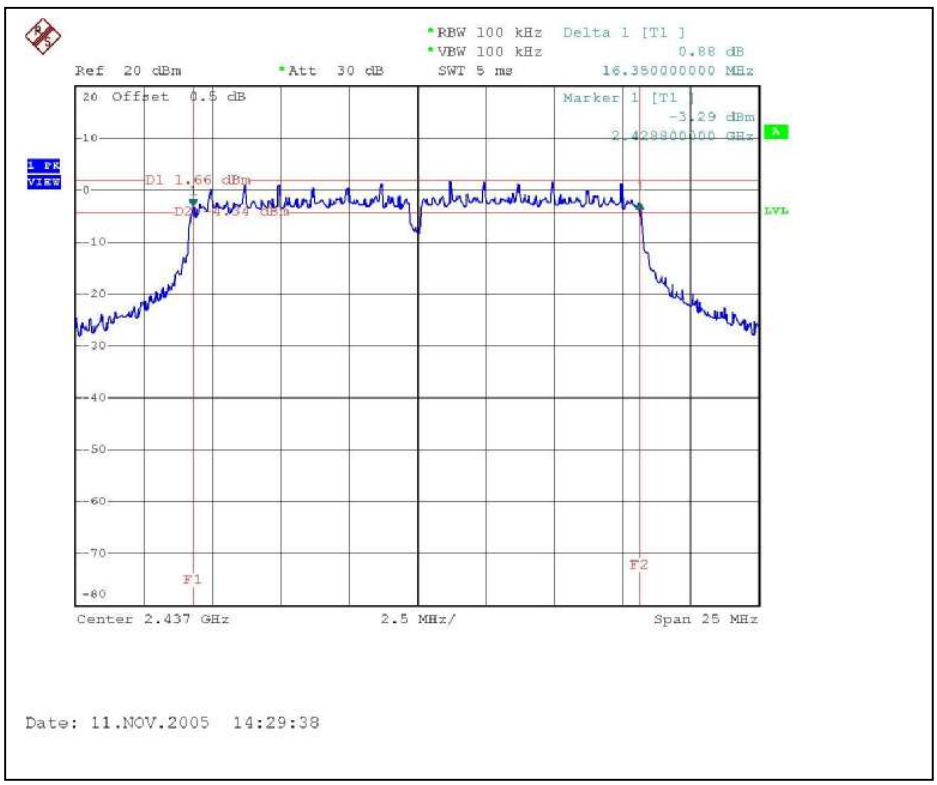
| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | | |
| **MODEL** | AW-GM120 | **ENVIRONMENTAL CONDITIONS** | 26 deg. C, 67%RH, 968 hPa |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **TESTED BY** | Rex Huang |

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6 dB BANDWIDTH (MHz) | MINIMUM LIMIT (MHz) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | 16.35 | 0.5 | PASS |
| 6 | 2437 | 16.35 | 0.5 | PASS |
| 11 | 2462 | 16.35 | 0.5 | PASS |

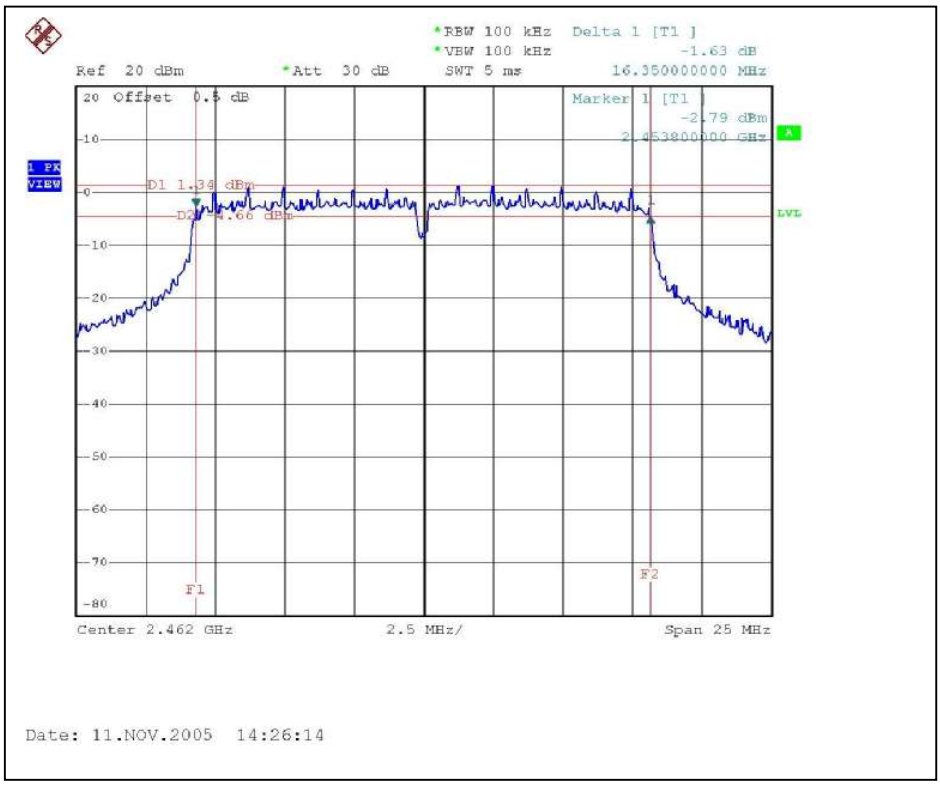
CH1


RBW 100 kHz
VBW 100 kHz
Delta 1 [T1 ]
1.09 dB
Ref 20 dBm
Att 30 dB
SWT 5 ms
16.350000000 MHz
20 Offset 0.5 dB
Marker 1 [T1
-3.78 dBm
2.403800000 GHz
D1 1.43 dBm
F1
F2
Center 2.412 GHz
2.5 MHz/
Span 25 MHz
Date: 11.NOV.2005 14:32:13

CH6


RBW 100 kHz
VBW 100 kHz
Delta 1 [T1 ]
0.88 dB
Ref 20 dBm
Att 30 dB
SWT 5 ms
16.350000000 MHz
20 Offset 0.5 dB
Marker 1 [T1
-3.29 dBm
2.428800000 GHz
D1 1.66 dBm
F1
F2
Center 2.437 GHz
2.5 MHz/
Span 25 MHz
Date: 11.NOV.2005 14:29:38

CH11


*RBW 100 kHz
*VBW 100 kHz
SWT 5 ms
Delta 1 [T1 ]
-1.63 dB
16.350000000 MHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1 ]
-2.79 dBm
2.453800000 GHz
1 PK
VIEW
D1 1.34 dBm
D2 4.66 dBm
LVL
F1
F2
Center 2.462 GHz
2.5 MHz/
Span 25 MHz
Date: 11.NOV.2005 14:26:14

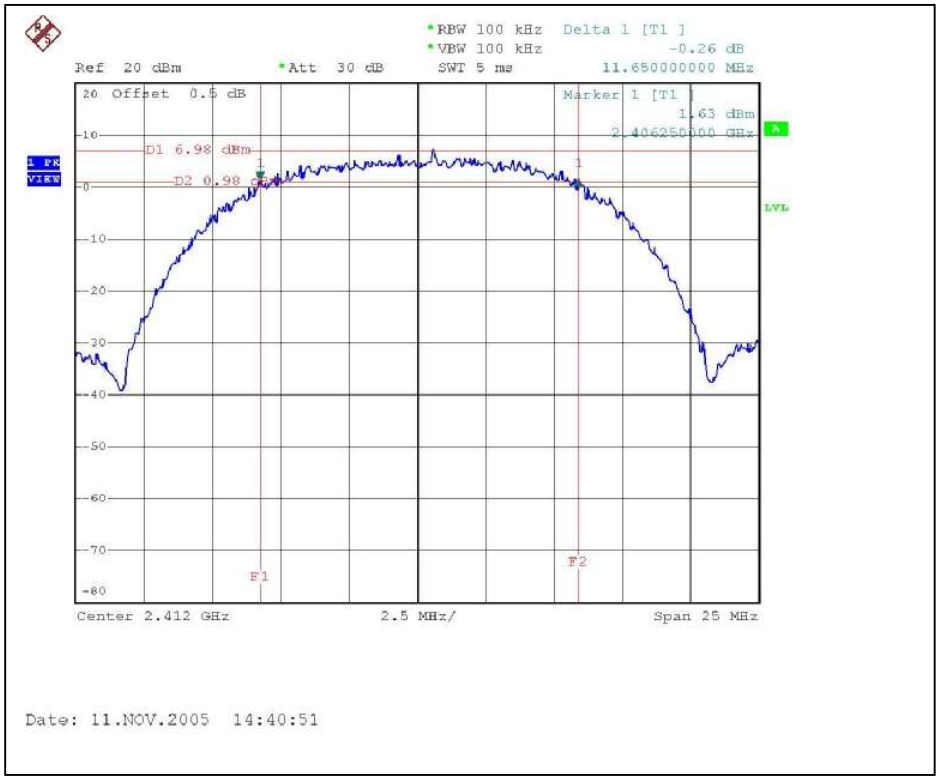
### 4.3.7 TEST RESULTS (ANTENNA 2)

**802.11b DSSS modulation**

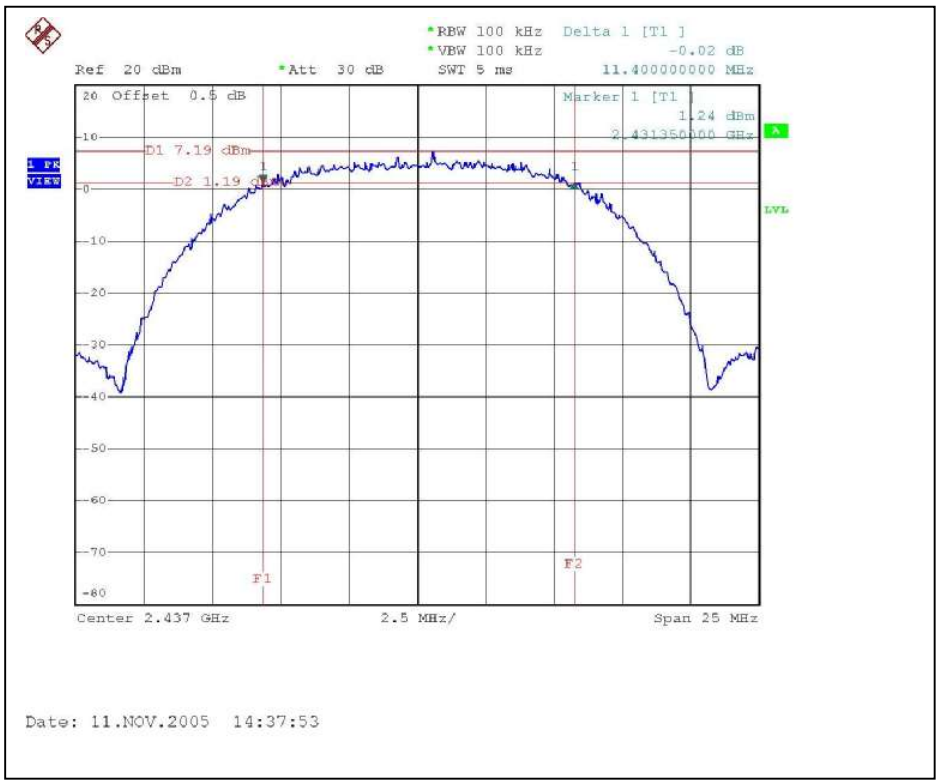
| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | | |
| **MODEL** | AW-GM120 | **ENVIRONMENTAL CONDITIONS** | 26 deg. C, 67%RH, 968 hPa |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **TESTED BY** | Rex Huang |

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6 dB BANDWIDTH (MHz) | MINIMUM LIMIT (MHz) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | 11.65 | 0.5 | PASS |
| 6 | 2437 | 11.40 | 0.5 | PASS |
| 11 | 2462 | 11.30 | 0.5 | PASS |

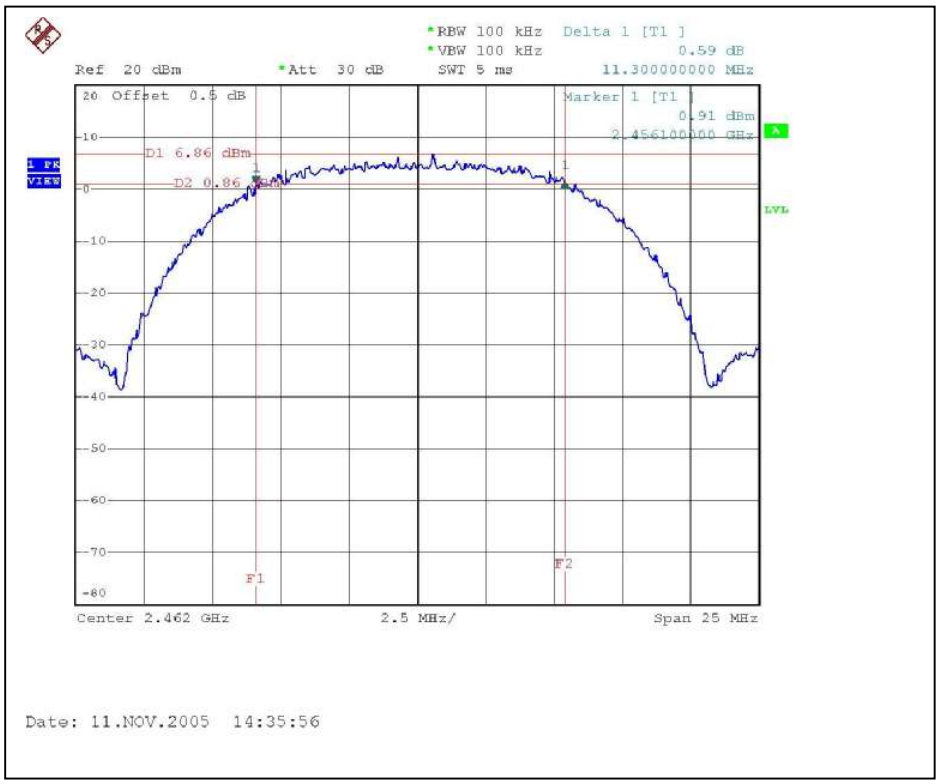
CH1


RBW 100 kHz
VBW 100 kHz
Delta 1 [T1 ]
-0.26 dB
11.650000000 MHz
Ref 20 dBm
Att 30 dB
SWT 5 ms
20 Offset 0.5 dB
Marker 1 [T1 ]
1.63 dBm
2.406250000 GHz
D1 6.98 dBm
D2 0.98 dB
1 PK VIEW
LVL
F1
F2
Center 2.412 GHz
2.5 MHz/
Span 25 MHz
Date: 11.NOV.2005 14:40:51

CH6


RBW 100 kHz
VBW 100 kHz
Delta 1 [T1 ]
-0.02 dB
11.400000000 MHz
Ref 20 dBm
Att 30 dB
SWT 5 ms
20 Offset 0.5 dB
Marker 1 [T1 ]
1.24 dBm
2.431350000 GHz
D1 7.19 dBm
D2 1.19 dB
1 PK VIEW
LVL
F1
F2
Center 2.437 GHz
2.5 MHz/
Span 25 MHz
Date: 11.NOV.2005 14:37:53

CH11

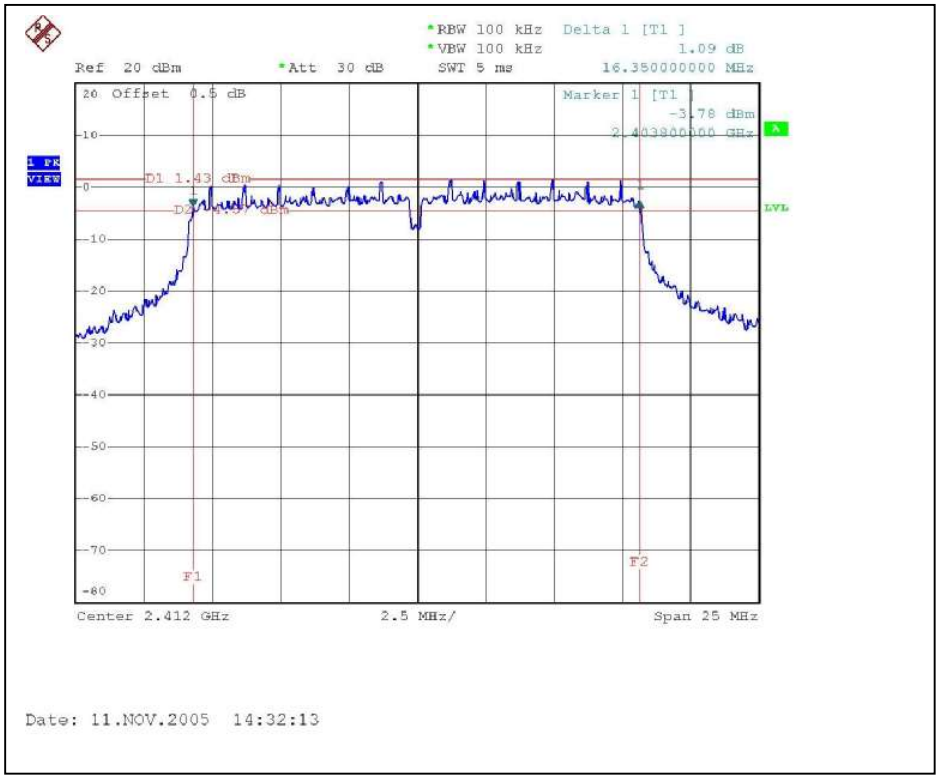

RBW 100 kHz
VBW 100 kHz
Delta 1 [T1 ]
0.59 dB
11.300000000 MHz
Ref 20 dBm
Att 30 dB
SWT 5 ms
20 Offset 0.5 dB
Marker 1 [T1 ]
0.91 dBm
2.456100000 GHz
D1 6.86 dBm
D2 0.86 dBm
1 PK
VIEW
A
LVL
F1
F2
Center 2.462 GHz
2.5 MHz/
Span 25 MHz
Date: 11.NOV.2005 14:35:56

## 802.11g OFDM modulation

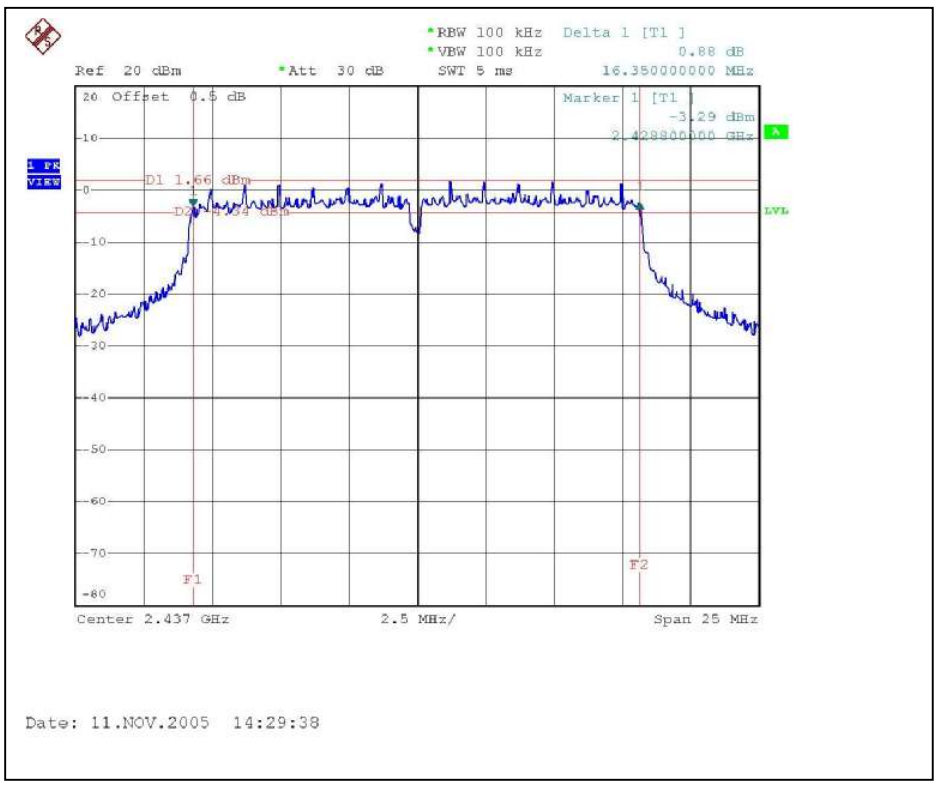
| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | | |
| **MODEL** | AW-GM120 | **ENVIRONMENTAL CONDITIONS** | 26 deg. C, 67%RH, 968 hPa |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **TESTED BY** | Rex Huang |

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6 dB BANDWIDTH (MHz) | MINIMUM LIMIT (MHz) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | 16.35 | 0.5 | PASS |
| 6 | 2437 | 16.35 | 0.5 | PASS |
| 11 | 2462 | 16.35 | 0.5 | PASS |

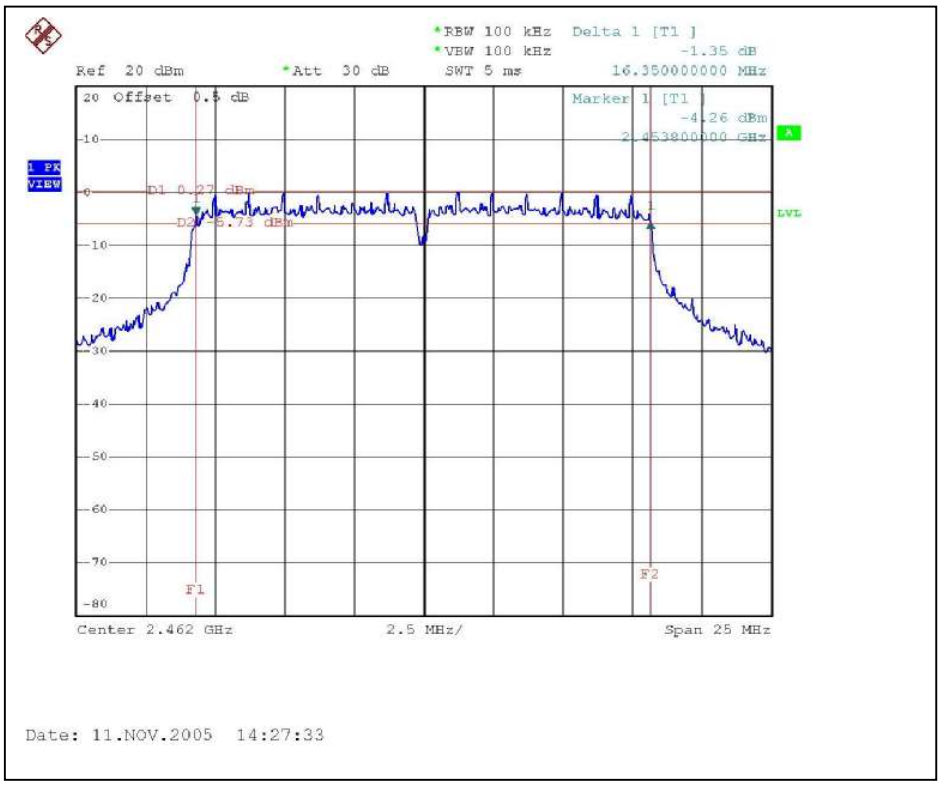
CH1


RBW 100 kHz
VBW 100 kHz
Delta 1 [T1 ]
1.09 dB
Ref 20 dBm
Att 30 dB
SWT 5 ms
16.350000000 MHz
20 Offset 0.5 dB
Marker 1 [T1
-3.78 dBm
2.403800000 GHz
D1 1.43 dBm
F1
F2
Center 2.412 GHz
2.5 MHz/
Span 25 MHz
Date: 11.NOV.2005 14:32:13

CH6


RBW 100 kHz
VBW 100 kHz
Delta 1 [T1 ]
0.88 dB
Ref 20 dBm
Att 30 dB
SWT 5 ms
16.350000000 MHz
20 Offset 0.5 dB
Marker 1 [T1
-3.29 dBm
2.428800000 GHz
D1 1.66 dBm
F1
F2
Center 2.437 GHz
2.5 MHz/
Span 25 MHz
Date: 11.NOV.2005 14:29:38

CH11


*RBW 100 kHz
*VBW 100 kHz
SWT 5 ms
Delta 1 [T1 ]
-1.35 dB
16.350000000 MHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1 ]
-4.26 dBm
2.453800000 GHz
1 PK
VIEW
A
LVL
D1 0.27 dBm
D2 -5.73 dBm
F1
F2
Center 2.462 GHz
2.5 MHz/
Span 25 MHz
Date: 11.NOV.2005 14:27:33

## 4.4 MAXIMUM PEAK OUTPUT POWER

### 4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

### 4.4.2 TEST INSTRUMENTS

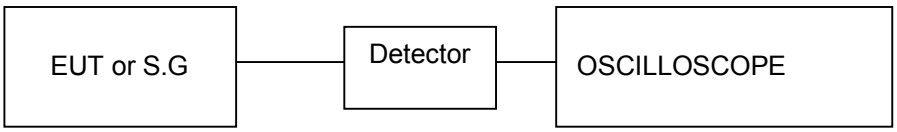
| Description & Manufacturer | Model No. | Serial No. | Calibrated Until |
|---|---|---|---|
| R&S SPECTRUM ANALYZER | FSP40 | 100036 | Nov. 23, 2005 |
| Agilent SIGNAL GENERATOR | E8257C | MY43320668 | Dec. 07, 2005 |
| TEKTRONIX OSCILLOSCOPE | TDS380 | B016335 | Jun. 22, 2006 |
| NARDA DETECTOR | 4503A | FSCM99899 | NA |

**NOTE:**
The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.4.3 TEST PROCEDURES

1. A detector was used on the output port of the EUT. An oscilloscope was used to read the peak response of the detector.
2. Replaced the EUT by the signal generator. The center frequency of the S.G was adjusted to the center frequency of the measured channel.
3. Adjusted the power to have the same peak reading on oscilloscope. Record the power level.

### 4.4.4 TEST SETUP




### 4.4.5 EUT OPERATING CONDITIONS

Same as Item 4.3.5

### 4.4.6 TEST RESULTS (ANTENNA 1)

**802.11b DSSS modulation**

| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | | |
| **MODEL** | AW-GM120 | **ENVIRONMENTAL CONDITIONS** | 26 deg. C, 67%RH, 968 hPa |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **TESTED BY** | Rex Huang |

| CHANNEL | CHANNEL FREQUENCY (MHz) | PEAK POWER OUTPUT (mW) | PEAK POWER OUTPUT (dBm) | PEAK POWER LIMIT (dBm) | PASS/FAIL |
|---|---|---|---|---|---|
| 1 | 2412 | 57.41164622 | 17.59 | 30 | PASS |
| 6 | 2437 | 56.6239289 | 17.53 | 30 | PASS |
| 11 | 2462 | 57.01642723 | 17.56 | 30 | PASS |

## 802.11g OFDM modulation

| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | | |
| **MODEL** | AW-GM120 | **ENVIRONMENTAL CONDITIONS** | 26 deg. C, 67%RH, 968 hPa |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **TESTED BY** | Rex Huang |

| CHANNEL | CHANNEL FREQUENCY (MHz) | PEAK POWER OUTPUT (mW) | PEAK POWER OUTPUT (dBm) | PEAK POWER LIMIT (dBm) | PASS/FAIL |
|---|---|---|---|---|---|
| 1 | 2412 | 55.08076964 | 17.41 | 30 | PASS |
| 6 | 2437 | 54.20008904 | 17.34 | 30 | PASS |
| 11 | 2462 | 54.70159629 | 17.38 | 30 | PASS |

### 4.4.7 TEST RESULTS (ANTENNA 2)

**802.11b DSSS modulation**

| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | | |
| **MODEL** | AW-GM120 | **ENVIRONMENTAL CONDITIONS** | 26 deg. C, 67%RH, 968 hPa |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **TESTED BY** | Rex Huang |

| CHANNEL | CHANNEL FREQUENCY (MHz) | PEAK POWER OUTPUT (mW) | PEAK POWER OUTPUT (dBm) | PEAK POWER LIMIT (dBm) | PASS/FAIL |
|---|---|---|---|---|---|
| 1 | 2412 | 57.41164622 | 17.59 | 30 | PASS |
| 6 | 2437 | 56.6239289 | 17.53 | 30 | PASS |
| 11 | 2462 | 57.01642723 | 17.56 | 30 | PASS |

## 802.11g OFDM modulation

| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | | |
| **MODEL** | AW-GM120 | **ENVIRONMENTAL CONDITIONS** | 26 deg. C, 67%RH, 968 hPa |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **TESTED BY** | Rex Huang |

| CHANNEL | CHANNEL FREQUENCY (MHz) | PEAK POWER OUTPUT (mW) | PEAK POWER OUTPUT (dBm) | PEAK POWER LIMIT (dBm) | PASS/FAIL |
|---|---|---|---|---|---|
| 1 | 2412 | 55.08076964 | 17.41 | 30 | PASS |
| 6 | 2437 | 54.20008904 | 17.34 | 30 | PASS |
| 11 | 2462 | 44.66835922 | 16.50 | 30 | PASS |

## 4.5 POWER SPECTRAL DENSITY MEASUREMENT

### 4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

### 4.5.2 TEST INSTRUMENTS

| Description & Manufacturer | Model No. | Serial No. | Calibrated Until |
|---|---|---|---|
| R&S SPECTRUM ANALYZER | FSP40 | 100036 | Nov. 23, 2005 |

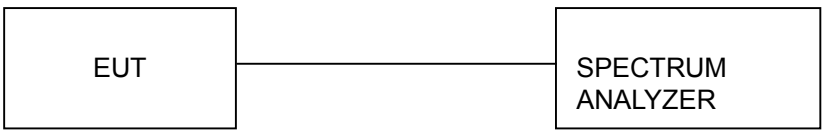
**NOTE:**

1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.5.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3 kHz RBW and 30 kHz VBW, set sweep time=span/3kHz. The power spectral density was measured and recorded.
The sweep time is allowed to be longer than span/3KHz for a full response of the mixer in the spectrum analyzer.

### 4.5.4 TEST SETUP




### 4.5.5 EUT OPERATING CONDITIONS

Same as 4.3.5

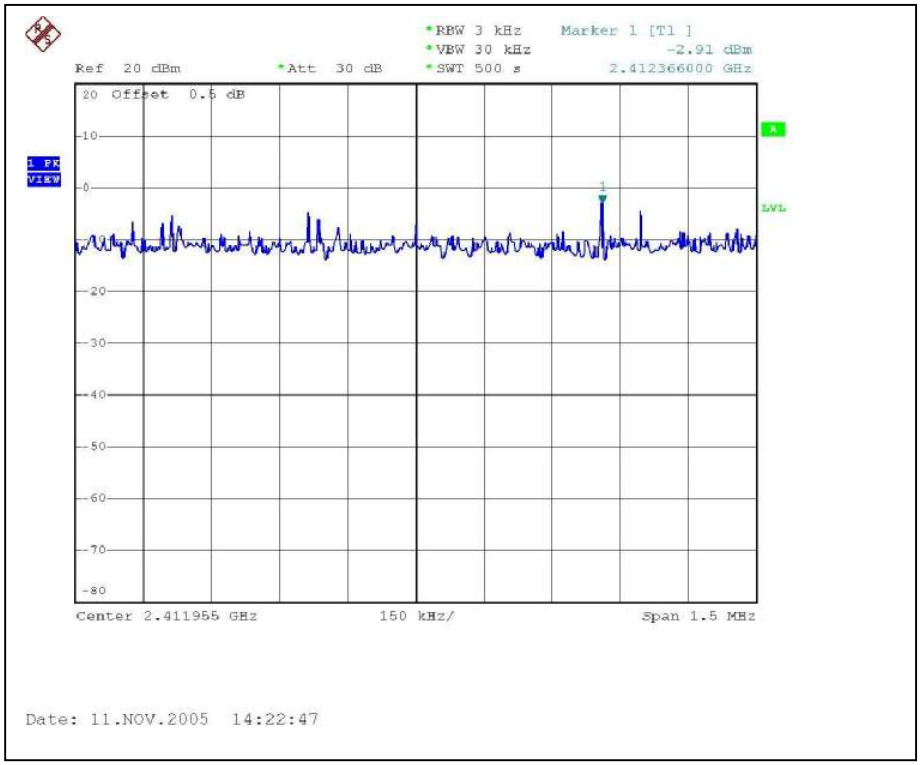
### 4.5.6 TEST RESULTS (ANTENNA 1)

**802.11b DSSS modulation**

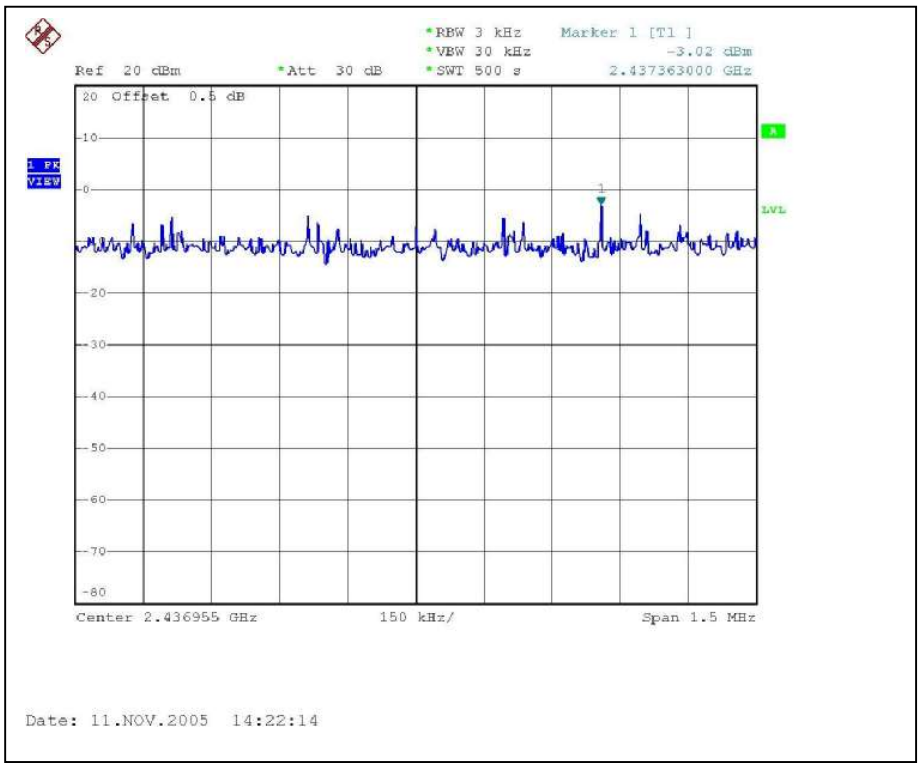
| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | | |
| **MODEL** | AW-GM120 | **ENVIRONMENTAL CONDITIONS** | 26 deg. C, 67%RH, 968 hPa |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **TESTED BY** | Rex Huang |

| CHANNEL NUMBER | CHANNEL FREQUENCY (MHz ) | RF POWER LEVEL IN 3 KHz BW (dBm) | MAXIMUM LIMIT (dBm) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | -2.91 | 8 | PASS |
| 6 | 2437 | -3.02 | 8 | PASS |
| 11 | 2462 | -3.56 | 8 | PASS |

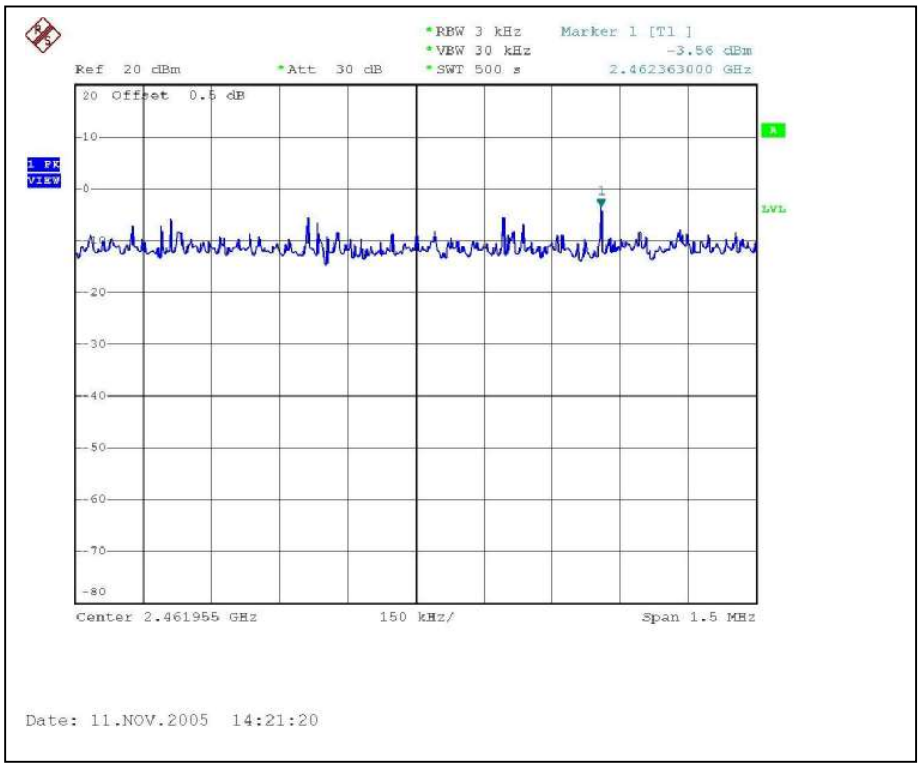
CH1


RBW 3 kHz
VBW 30 kHz
SWT 500 s
Marker 1 [T1 ]
-2.91 dBm
2.412366000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
1 PK VIEW
A
LVL
Center 2.411955 GHz
150 kHz/
Span 1.5 MHz
Date: 11.NOV.2005 14:22:47

CH6


RBW 3 kHz
VBW 30 kHz
SWT 500 s
Marker 1 [T1 ]
-3.02 dBm
2.437363000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
1 PK VIEW
A
LVL
Center 2.436955 GHz
150 kHz/
Span 1.5 MHz
Date: 11.NOV.2005 14:22:14

CH11

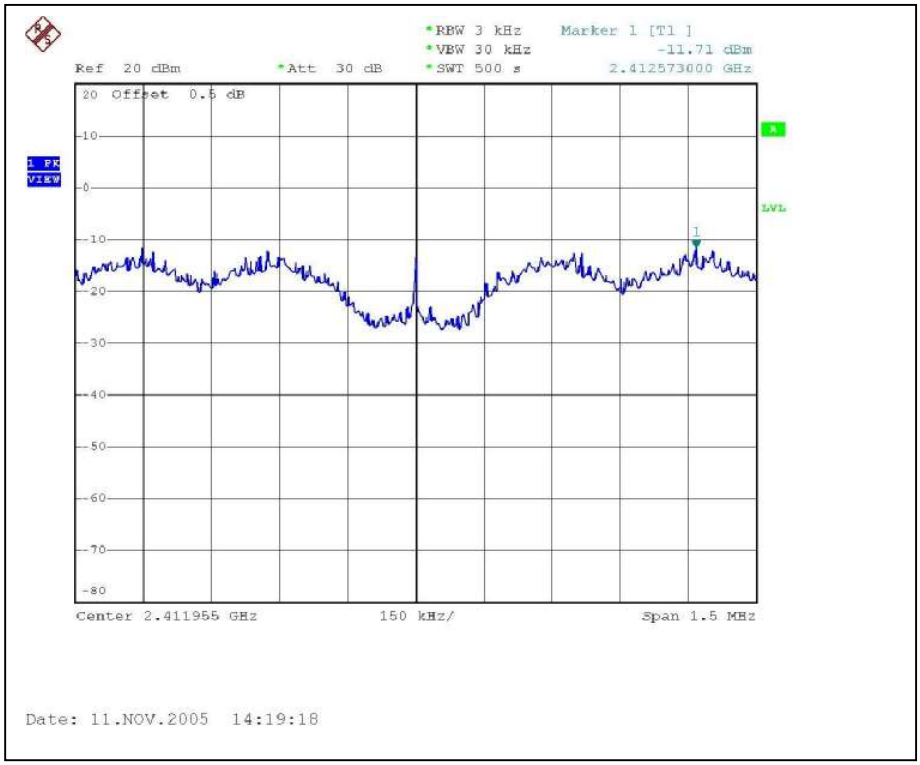

*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1 ]
-3.56 dBm
2.462363000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
1 PK
VIEW
A
LVL
Center 2.461955 GHz
150 kHz/
Span 1.5 MHz
Date: 11.NOV.2005 14:21:20

### 802.11g OFDM modulation

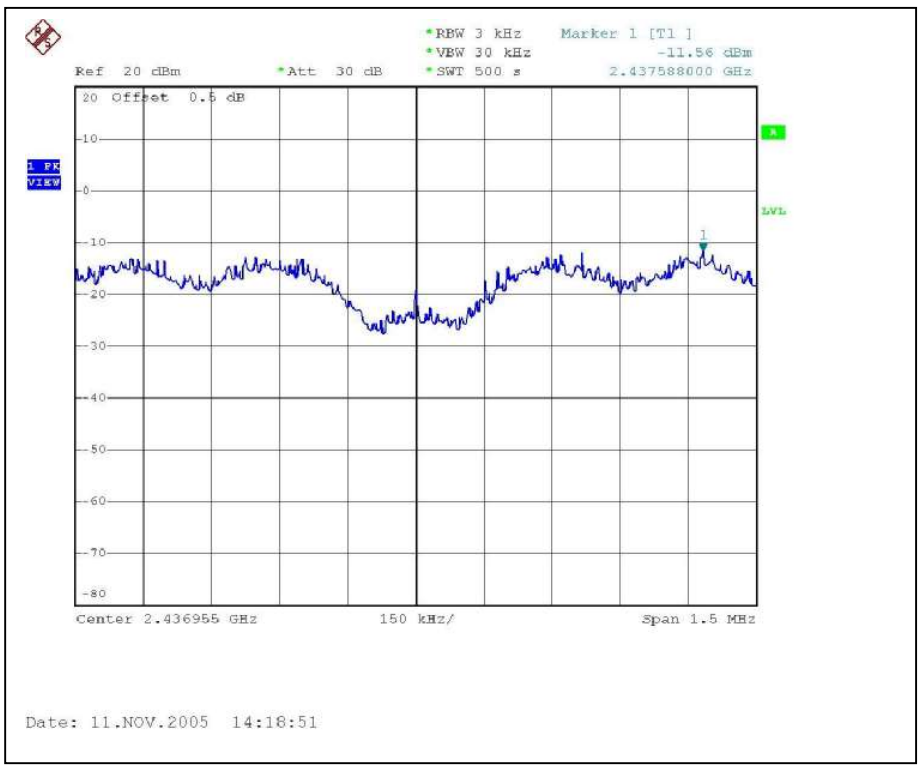
| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | | |
| **MODEL** | AW-GM120 | **ENVIRONMENTAL CONDITIONS** | 26 deg. C, 67%RH, 968 hPa |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **TESTED BY** | Rex Huang |

| CHANNEL NUMBER | CHANNEL FREQUENCY (MHz ) | RF POWER LEVEL IN 3 KHz BW (dBm) | MAXIMUM LIMIT (dBm) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | -11.71 | 8 | PASS |
| 6 | 2437 | -11.56 | 8 | PASS |
| 11 | 2462 | -11.98 | 8 | PASS |

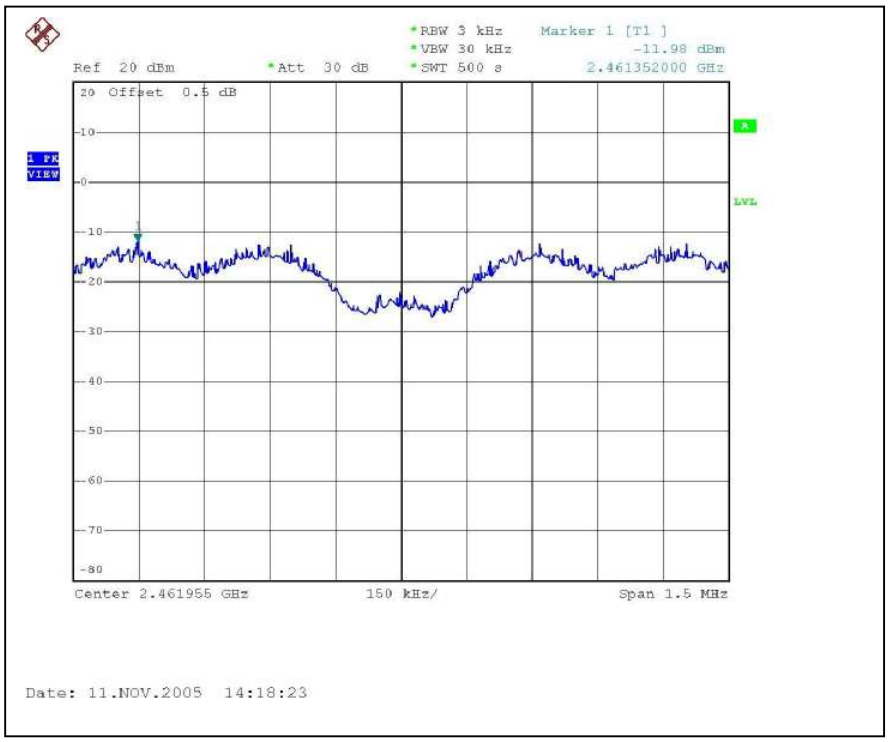
CH1


RBW 3 kHz
VBW 30 kHz
SWT 500 s
Marker 1 [T1 ]
-11.71 dBm
2.412573000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
1 PK
VIEW
LVL
Center 2.411955 GHz
150 kHz/
Span 1.5 MHz
Date: 11.NOV.2005 14:19:18

CH6


RBW 3 kHz
VBW 30 kHz
SWT 500 s
Marker 1 [T1 ]
-11.56 dBm
2.437588000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
1 PK
VIEW
LVL
Center 2.436955 GHz
150 kHz/
Span 1.5 MHz
Date: 11.NOV.2005 14:18:51

CH11


RBW 3 kHz
VBW 30 kHz
SWT 500 s
Marker 1 [T1 ]
-11.98 dBm
2.461352000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
PK
VIEW
A
LVL
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.461955 GHz
150 kHz/
Span 1.5 MHz
Date: 11.NOV.2005 14:18:23

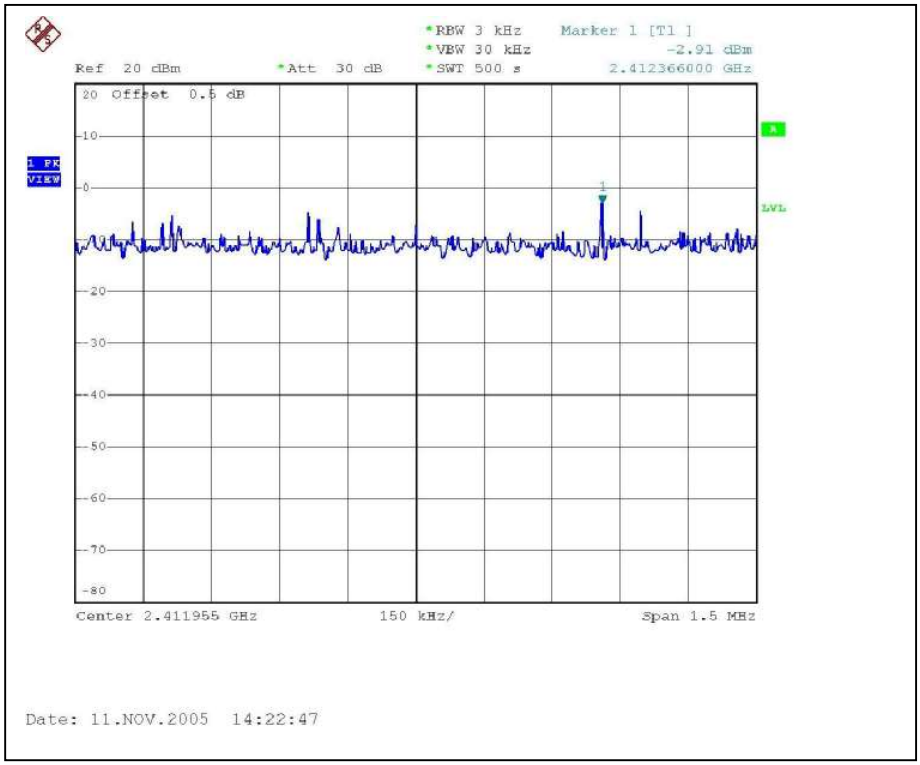
### 4.5.7 TEST RESULTS (ANTENNA 2)

**802.11b DSSS modulation**

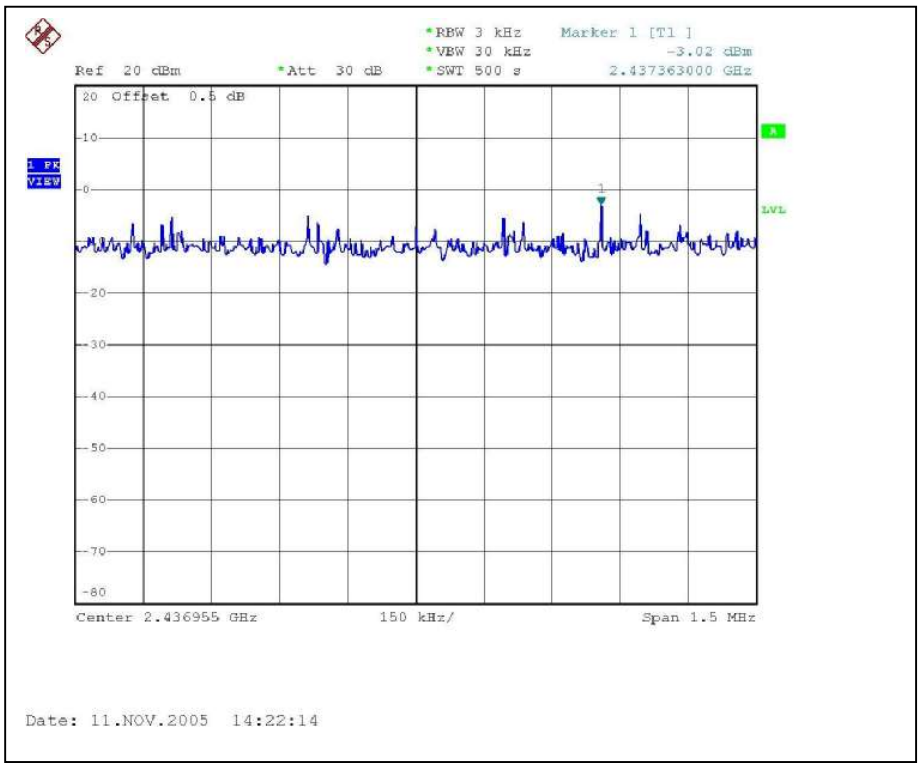
| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | | |
| **MODEL** | AW-GM120 | **ENVIRONMENTAL CONDITIONS** | 26 deg. C, 67%RH, 968 hPa |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **TESTED BY** | Rex Huang |

| CHANNEL NUMBER | CHANNEL FREQUENCY (MHz ) | RF POWER LEVEL IN 3 KHz BW (dBm) | MAXIMUM LIMIT (dBm) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | -2.91 | 8 | PASS |
| 6 | 2437 | -3.02 | 8 | PASS |
| 11 | 2462 | -3.56 | 8 | PASS |

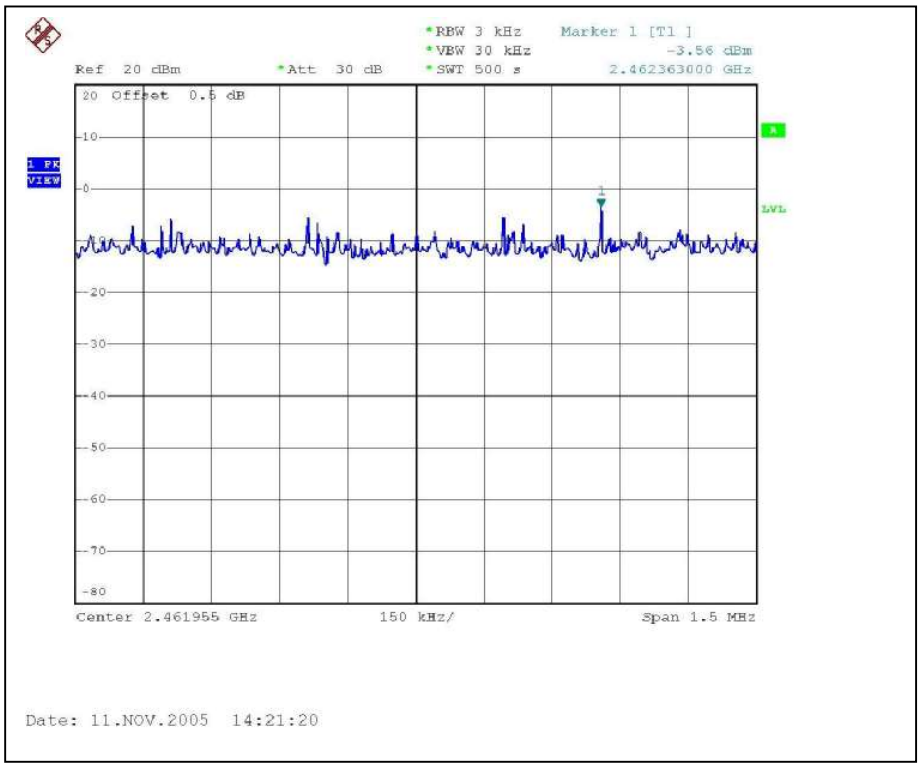
CH1


RBW 3 kHz
VBW 30 kHz
SWT 500 s
Marker 1 [T1 ]
-2.91 dBm
2.412366000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
1 PK VIEW
LVL
Center 2.411955 GHz
150 kHz/
Span 1.5 MHz
Date: 11.NOV.2005 14:22:47

CH6


RBW 3 kHz
VBW 30 kHz
SWT 500 s
Marker 1 [T1 ]
-3.02 dBm
2.437363000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
1 PK VIEW
LVL
Center 2.436955 GHz
150 kHz/
Span 1.5 MHz
Date: 11.NOV.2005 14:22:14

CH11

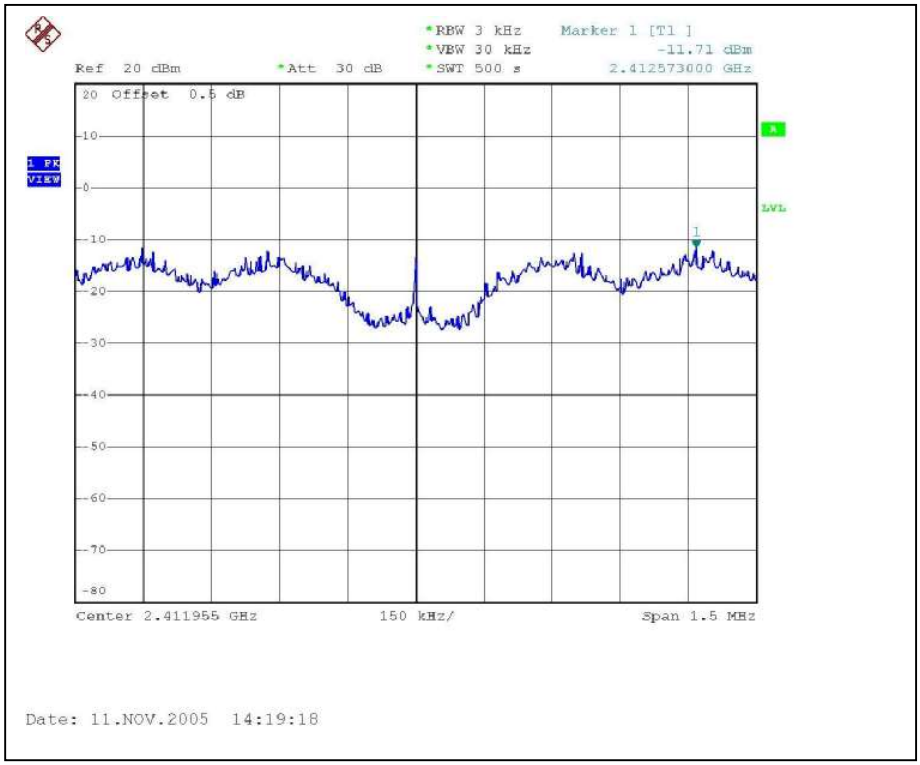

*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1 ]
-3.56 dBm
2.462363000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
1 PK
VIEW
A
LVL
Center 2.461955 GHz
150 kHz/
Span 1.5 MHz
Date: 11.NOV.2005 14:21:20

## 802.11g OFDM modulation

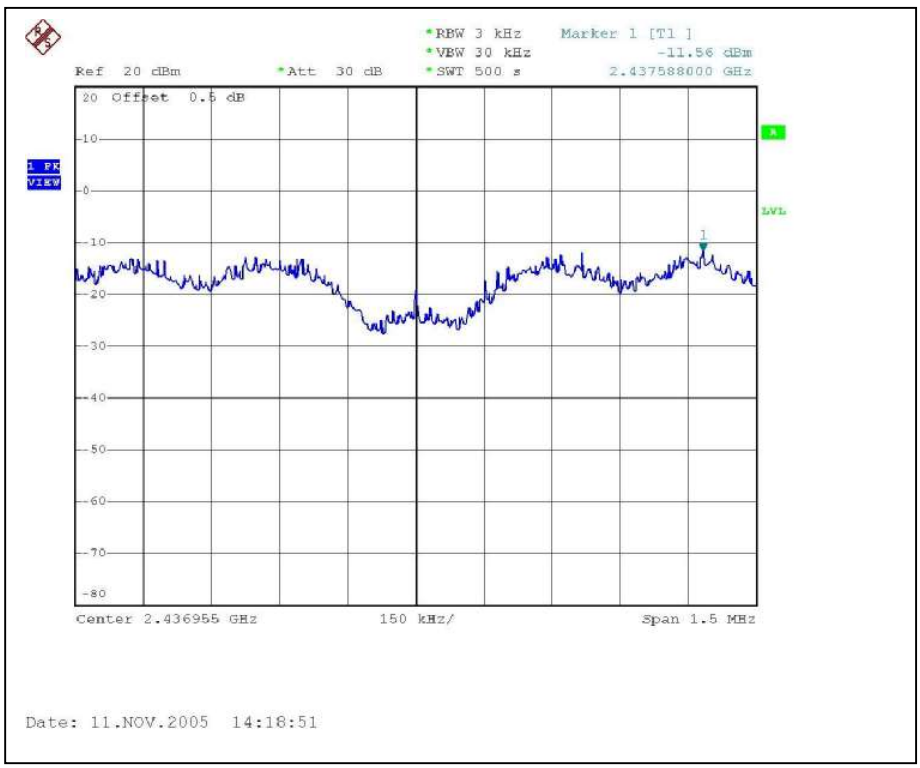
| | | | |
|---|---|---|---|
| **EUT** | Wireless Digital Media Adapter Module | | |
| **MODEL** | AW-GM120 | **ENVIRONMENTAL CONDITIONS** | 26 deg. C, 67%RH, 968 hPa |
| **INPUT POWER (SYSTEM)** | 120Vac, 60 Hz | **TESTED BY** | Rex Huang |

| CHANNEL NUMBER | CHANNEL FREQUENCY (MHz ) | RF POWER LEVEL IN 3 KHz BW (dBm) | MAXIMUM LIMIT (dBm) | PASS/FAIL |
|---|---|---|---|---|
| 1 | 2412 | -11.71 | 8 | PASS |
| 6 | 2437 | -11.56 | 8 | PASS |
| 11 | 2462 | -12.71 | 8 | PASS |

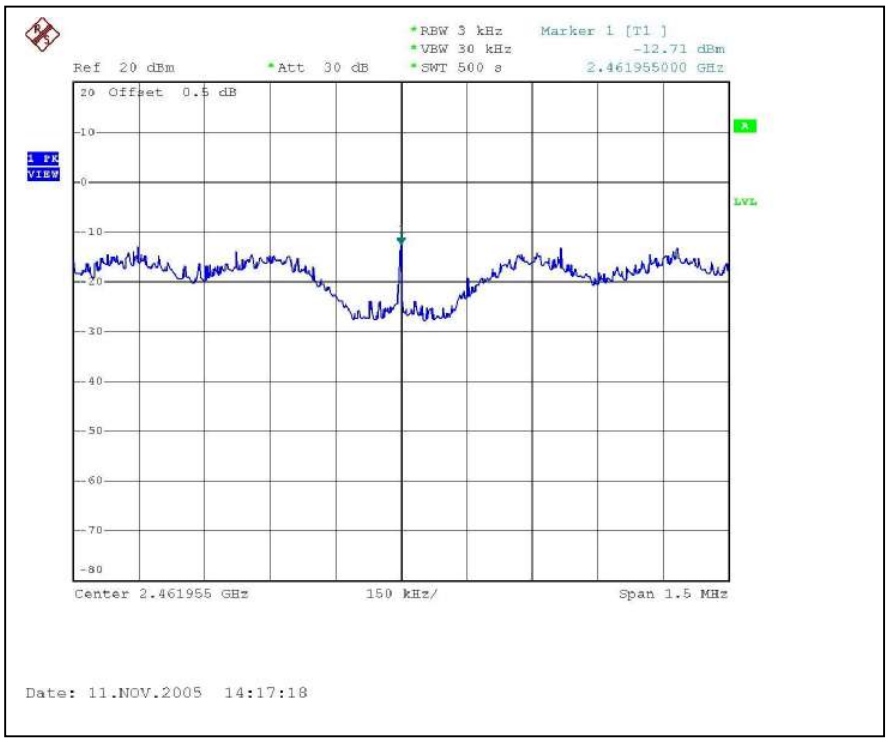
CH1


RBW 3 kHz
VBW 30 kHz
SWT 500 s
Marker 1 [T1 ]
-11.71 dBm
2.412573000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
1 PK
VIEW
LVL
Center 2.411955 GHz
150 kHz/
Span 1.5 MHz
Date: 11.NOV.2005 14:19:18

CH6


RBW 3 kHz
VBW 30 kHz
SWT 500 s
Marker 1 [T1 ]
-11.56 dBm
2.437588000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
1 PK
VIEW
LVL
Center 2.436955 GHz
150 kHz/
Span 1.5 MHz
Date: 11.NOV.2005 14:18:51

CH11


RBW 3 kHz
VBW 30 kHz
SWT 500 s
Marker 1 [T1 ]
-12.71 dBm
2.461955000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
PK
VIEW
A
LVL
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.461955 GHz
150 kHz/
Span 1.5 MHz
Date: 11.NOV.2005 14:17:18

## 4.6 BAND EDGES MEASUREMENT

### 4.6.1 LIMITS OF BAND EDGES MEASUREMENT

Below –20dB of the highest emission level of operating band (in 1MHz Resolution Bandwidth).

### 4.6.2 TEST INSTRUMENTS

| Description & Manufacturer | Model No. | Serial No. | Calibrated Until |
|---|---|---|---|
| R&S SPECTRUM ANALYZER | FSP40 | 100036 | Nov. 23, 2005 |

**NOTE:**

1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.6.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set RBW spectrum analyzer to 1 MHz and set VBW spectrum analyzer to 10 Hz with suitable frequency span including 1 MHz bandwidth from band edge. The band edges was measured and recorded.

The spectrum plots (Peak RBW=VBW=100kHz ; Average RBW=1MHz, VBW=10Hz) are attached on the following pages.

### 4.6.4 EUT OPERATING CONDITION

Same as Item 4.3.5

### 4.6.5 TEST RESULTS (ANTENNA 1)

**802.11b DSSS modulation**

The spectrum plots are attached on the following page. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(C).

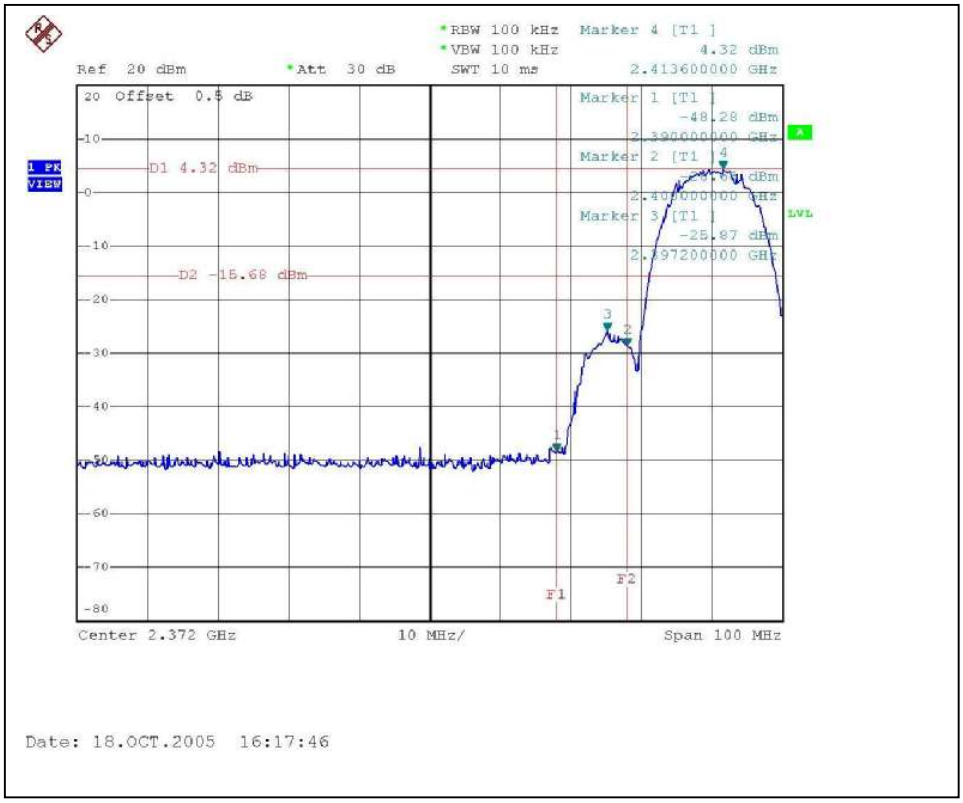
Note - The delta method is only used up to 2 MHz away from the restricted bandage, The radiated emissions which located in other restricted frequency band, the result, please refer to 4.2.

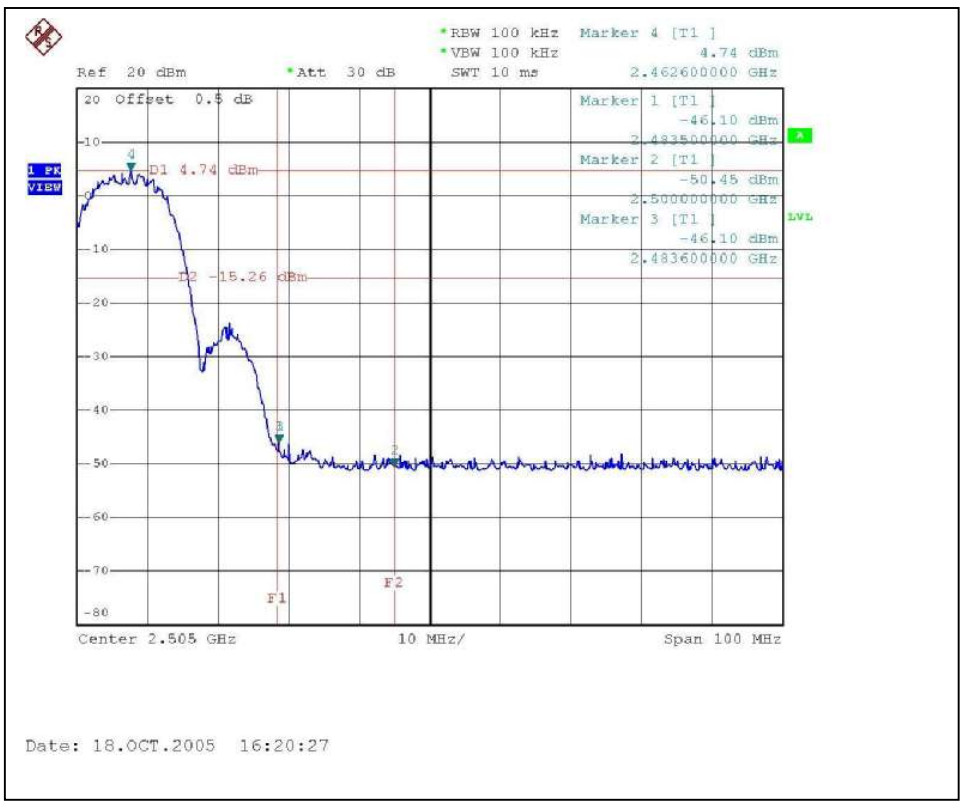
**NOTE (Peak):**
The band edge emission plot of DSSS technique on the following first page show 52.6dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 110.4dBuV/m, so the maximum field strength in restrict band is 110.4-52.6=57.8dBuV/m which is under 74 dBuV/m limit.

The band edge emission plot of DSSS technique on the following first page shows 50.84dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 108.7dBuV/m, so the maximum field strength in restrict band is 108.7-50.84=57.86dBuV/m which is under 74 dBuV/m limit.

**NOTE (Average):**
The band edge emission plot of DSSS technique on the following second page shows 57.32dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 103.3dBuV/m, so the maximum field strength in restrict band is 103.3-57.32=45.98dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot of DSSS technique on the following second page shows 55.63dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 101.7dBuV/m, so the maximum field strength in restrict band is 101.7-55.63=46.07dBuV/m which is under 54 dBuV/m limit.

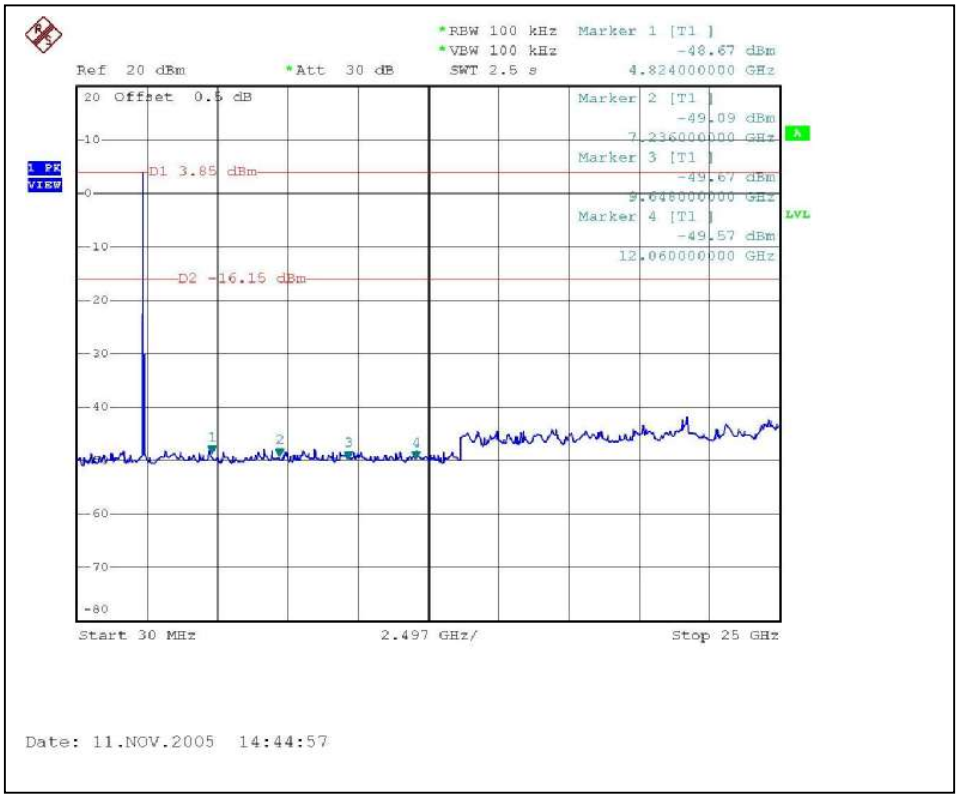

RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Marker 4 [T1 ]
4.32 dBm
2.413600000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1 ]
-48.28 dBm
2.390000000 GHz
Marker 2 [T1 ]
Marker 3 [T1 ]
-25.87 dBm
2.397200000 GHz
1 PK
VIEW
D1 4.32 dBm
D2 -15.68 dBm
F1
F2
Center 2.372 GHz
10 MHz/
Span 100 MHz
Date: 18.OCT.2005 16:17:46


RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Marker 4 [T1 ]
4.74 dBm
2.462600000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1 ]
-46.10 dBm
2.483500000 GHz
Marker 2 [T1 ]
-50.45 dBm
2.500000000 GHz
Marker 3 [T1 ]
-46.10 dBm
2.483600000 GHz
1 PK
VIEW
D1 4.74 dBm
D2 -15.26 dBm
F1
F2
Center 2.505 GHz
10 MHz/
Span 100 MHz
Date: 18.OCT.2005 16:20:27

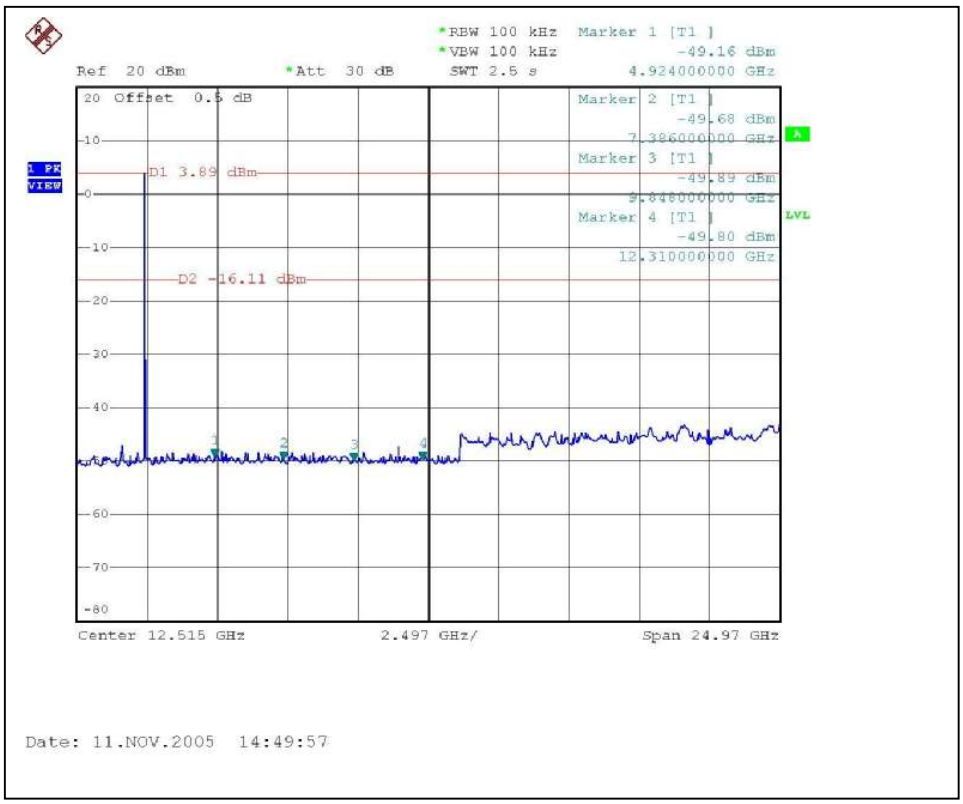
*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
Marker 3 [T1 ]
3.58 dBm
2.413400000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1 ]
-53.74 dBm
2.390000000 GHz
Marker 2 [T1 ]
2.400000000 GHz
1 AP
VIEW
D1 3.58 dBm
D2 -16.42 dBm
F1
F2
Center 2.372 GHz
10 MHz/
Span 100 MHz
Date: 18.OCT.2005 16:16:48

*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
Marker 3 [T1 ]
2.90 dBm
2.462400000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1 ]
-52.73 dBm
2.483500000 GHz
Marker 2 [T1 ]
-59.49 dBm
2.500000000 GHz
1 PK
VIEW
D1 2.9 dBm
D2 -17.1 dBm
F1
F2
Center 2.505 GHz
10 MHz/
Span 100 MHz
Date: 18.OCT.2005 16:19:17

CH1


*RBW 100 kHz
*VBW 100 kHz
SWT 2.5 s
Marker 1 [T1 ]
-48.67 dBm
4.824000000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1 ]
-49.09 dBm
7.236000000 GHz
Marker 3 [T1 ]
-49.67 dBm
9.648000000 GHz
Marker 4 [T1 ]
-49.57 dBm
12.060000000 GHz
1 PK VIEW
D1 3.85 dBm
D2 -16.15 dBm
Start 30 MHz
2.497 GHz/
Stop 25 GHz
Date: 11.NOV.2005 14:44:57

CH11


*RBW 100 kHz
*VBW 100 kHz
SWT 2.5 s
Marker 1 [T1 ]
-49.16 dBm
4.924000000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1 ]
-49.68 dBm
7.386000000 GHz
Marker 3 [T1 ]
-49.89 dBm
9.848000000 GHz
Marker 4 [T1 ]
-49.80 dBm
12.310000000 GHz
1 PK VIEW
D1 3.89 dBm
D2 -16.11 dBm
Center 12.515 GHz
2.497 GHz/
Span 24.97 GHz
Date: 11.NOV.2005 14:49:57

**802.11g OFDM modulation**

The spectrum plots are attached on the following page. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(C).

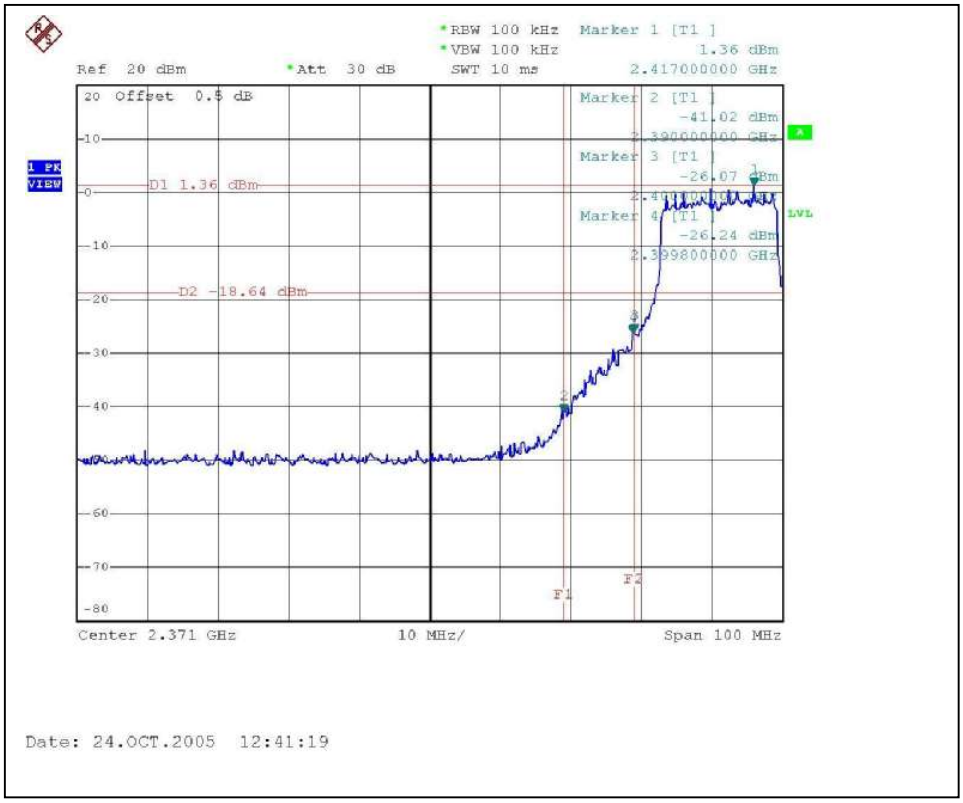
Note - The delta method is only used up to 2 MHz away from the restricted bandage, The radiated emissions which located in other restricted frequency band, the result, please refer to 4.2.

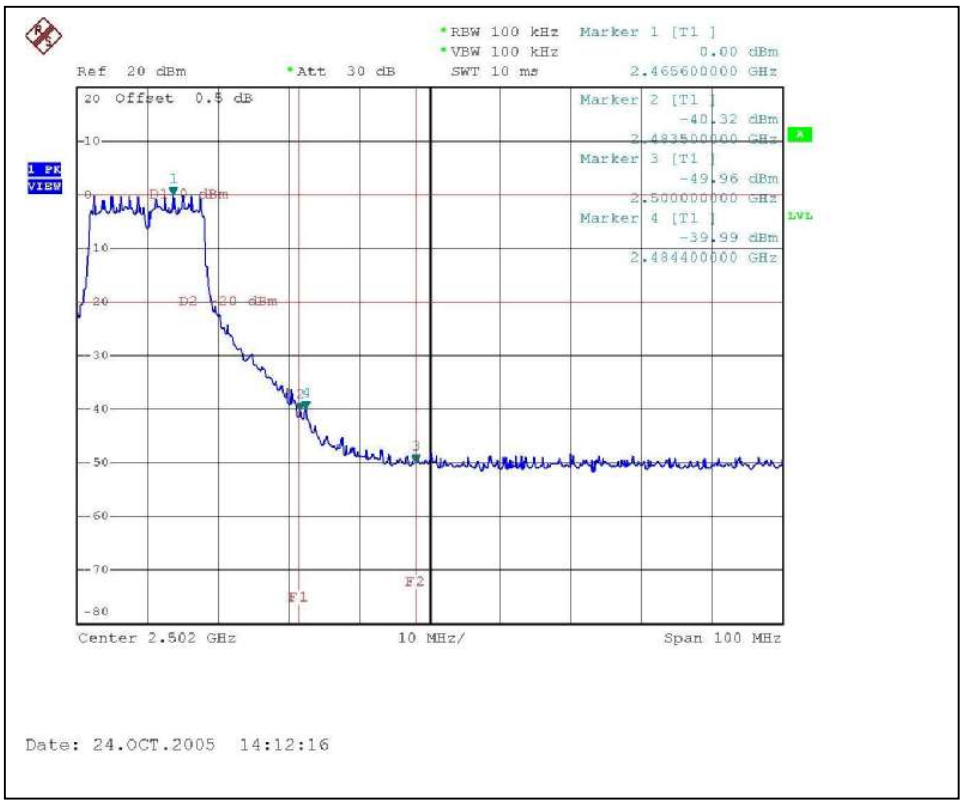
**NOTE (Peak):**
The band edge emission plot of OFDM technique on the following first page show 42.38dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 106.4dBuV/m, so the maximum field strength in restrict band is 106.4-42.38=64.02dBuV/m which is under 74 dBuV/m limit.

The band edge emission plot of OFDM technique on the following first page shows 40.32dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 106.4dBuV/m, so the maximum field strength in restrict band is 106.4-40.32=66.08dBuV/m which is under 74 dBuV/m limit.

**NOTE (Average):**
The band edge emission plot of OFDM technique on the following second page shows 47.88dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 97.3dBuV/m, so the maximum field strength in restrict band is 97.3-47.88=49.42dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot of OFDM technique on the following second page shows 44.33dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 96.6dBuV/m, so the maximum field strength in restrict band is 96.6-44.33=52.27dBuV/m which is under 54 dBuV/m limit.

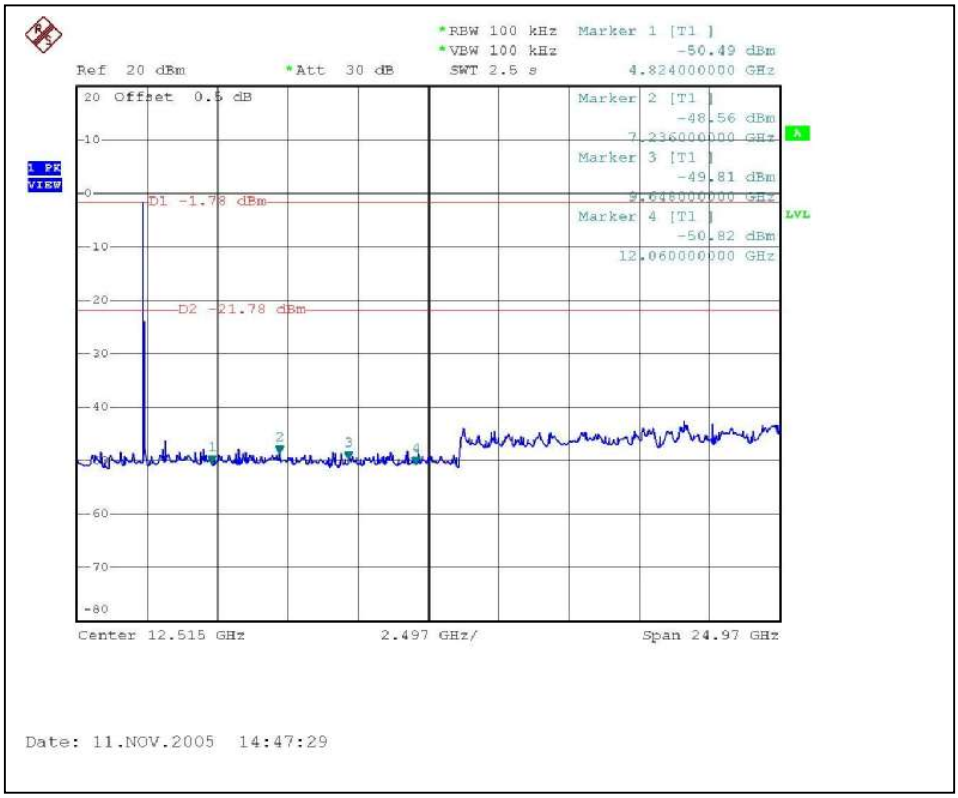

RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Marker 1 [T1 ]
1.36 dBm
2.417000000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1 ]
-41.02 dBm
2.390000000 GHz
Marker 3 [T1 ]
-26.07 dBm
Marker 4 [T1 ]
-26.24 dBm
2.399800000 GHz
1 PK
VIEW
D1 1.36 dBm
D2 -18.64 dBm
F1
F2
Center 2.371 GHz
10 MHz/
Span 100 MHz
Date: 24.OCT.2005 12:41:19


RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Marker 1 [T1 ]
0.00 dBm
2.465600000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1 ]
-40.32 dBm
2.483500000 GHz
Marker 3 [T1 ]
-49.96 dBm
2.500000000 GHz
Marker 4 [T1 ]
-39.99 dBm
2.484400000 GHz
1 PK
VIEW
D1 0.00 dBm
D2 -20.00 dBm
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz
Date: 24.OCT.2005 14:12:16

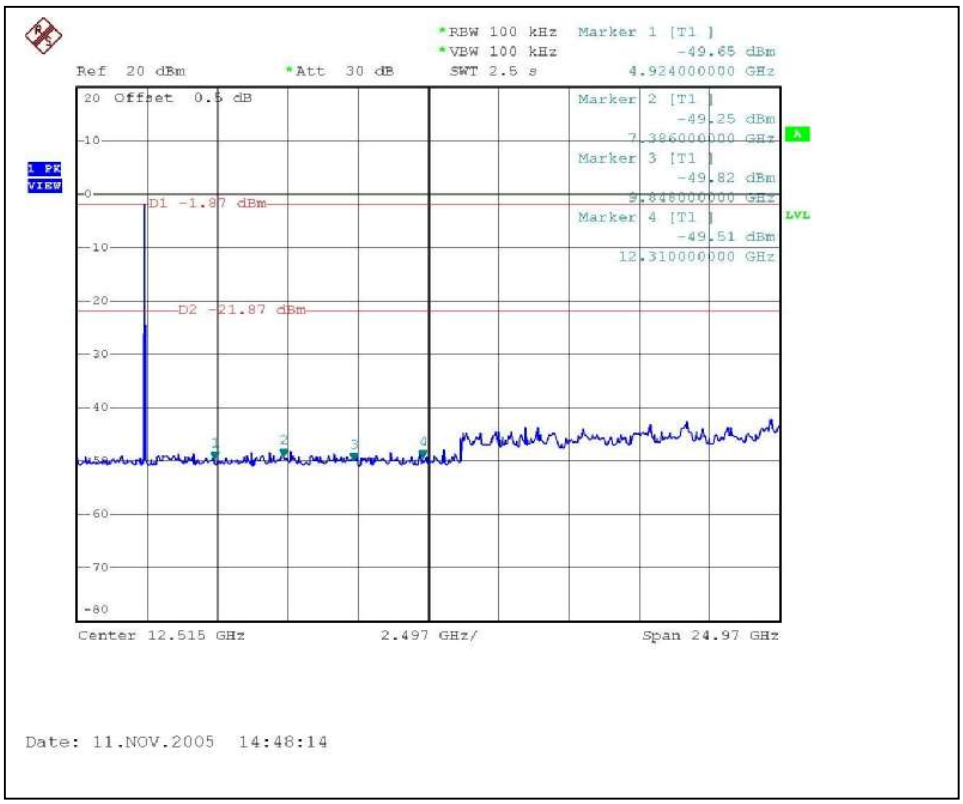
*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
Marker 1 [T1 ]
-1.19 dBm
2.414600000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1 ]
-49.07 dBm
2.390000000 GHz
Marker 3 [T1 ]
-35.72 dBm
2.400000000 GHz
1 PK
VIEW
D1 -1.19 dBm
D2 -21.19 dBm
F1
F2
Center 2.371 GHz
10 MHz/
Span 100 MHz
Date: 24.OCT.2005 12:39:28

*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
Marker 1 [T1 ]
-1.55 dBm
2.460200000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1 ]
-45.88 dBm
2.483500000 GHz
Marker 3 [T1 ]
-58.18 dBm
2.500000000 GHz
1 PK
VIEW
D1 -1.55 dBm
D2 -21.55 dBm
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz
Date: 24.OCT.2005 12:51:19

CH1


*RBW 100 kHz
*VBW 100 kHz
SWT 2.5 s
Marker 1 [T1 ]
-50.49 dBm
4.824000000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1 ]
-48.56 dBm
7.236000000 GHz
Marker 3 [T1 ]
-49.81 dBm
9.648000000 GHz
Marker 4 [T1 ]
-50.82 dBm
12.060000000 GHz
D1 -1.78 dBm
D2 -21.78 dBm
1 PK VIEW
A
LVL
Center 12.515 GHz
2.497 GHz/
Span 24.97 GHz
Date: 11.NOV.2005 14:47:29

CH11


*RBW 100 kHz
*VBW 100 kHz
SWT 2.5 s
Marker 1 [T1 ]
-49.65 dBm
4.924000000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1 ]
-49.25 dBm
7.386000000 GHz
Marker 3 [T1 ]
-49.82 dBm
9.848000000 GHz
Marker 4 [T1 ]
-49.51 dBm
12.310000000 GHz
D1 -1.87 dBm
D2 -21.87 dBm
1 PK VIEW
A
LVL
Center 12.515 GHz
2.497 GHz/
Span 24.97 GHz
Date: 11.NOV.2005 14:48:14

### 4.6.6 TEST RESULTS (ANTENNA 2)

**802.11b DSSS modulation**

The spectrum plots are attached on the following page. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(C).

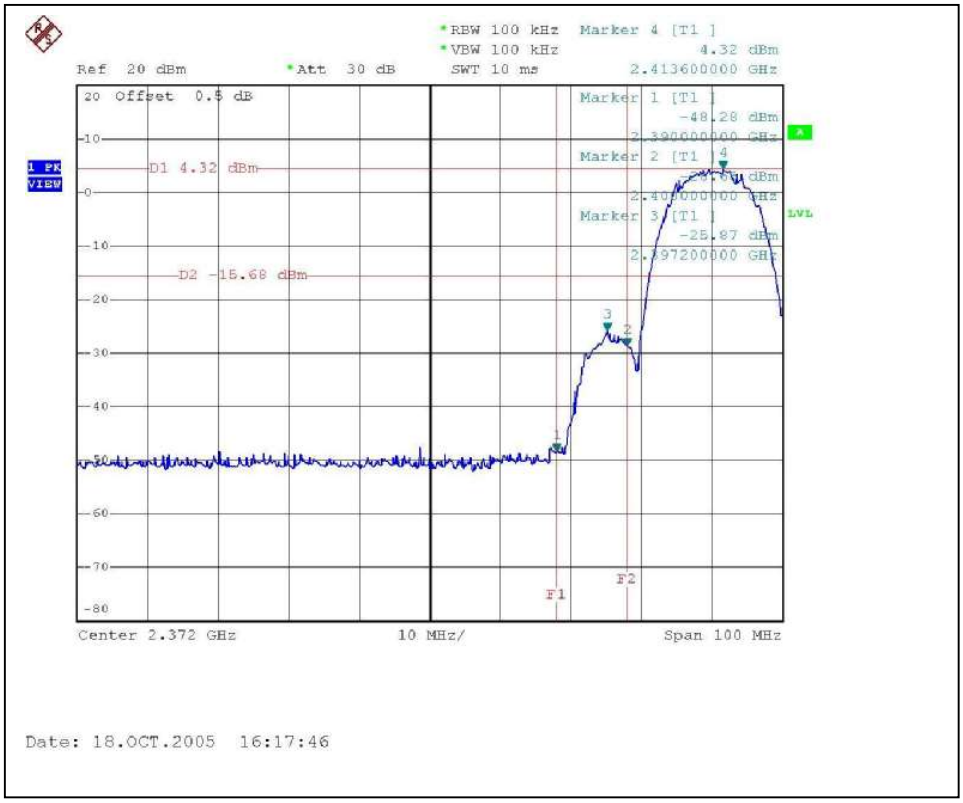
Note - The delta method is only used up to 2 MHz away from the restricted bandage, The radiated emissions which located in other restricted frequency band, the result, please refer to 4.2.

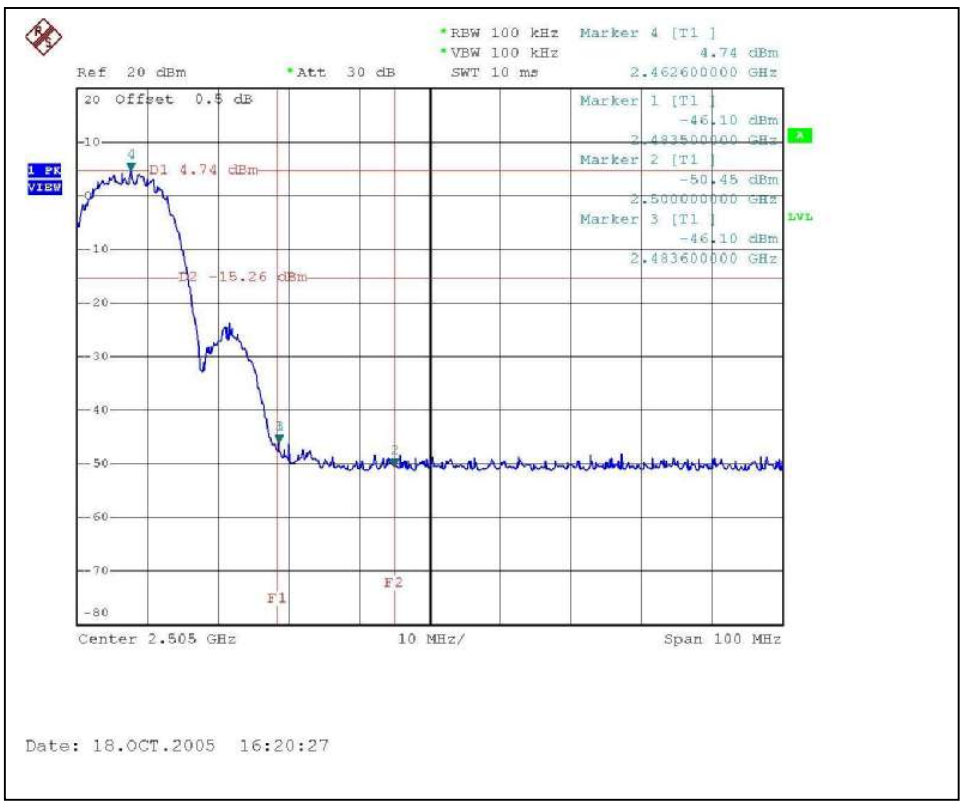
**NOTE (Peak):**
The band edge emission plot of DSSS technique on the following first page show 52.6dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 113.0dBuV/m, so the maximum field strength in restrict band is 113.0-52.6=60.4dBuV/m which is under 74 dBuV/m limit.

The band edge emission plot of DSSS technique on the following first page shows 50.84dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 112.5dBuV/m, so the maximum field strength in restrict band is 112.5-50.84=61.66dBuV/m which is under 74 dBuV/m limit.

**NOTE (Average):**
The band edge emission plot of DSSS technique on the following second page shows 57.32dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 105.1dBuV/m, so the maximum field strength in restrict band is 105.1-57.32=47.78dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot of DSSS technique on the following second page shows 55.63dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 104.6dBuV/m, so the maximum field strength in restrict band is 104.6-55.63=48.97dBuV/m which is under 54 dBuV/m limit.

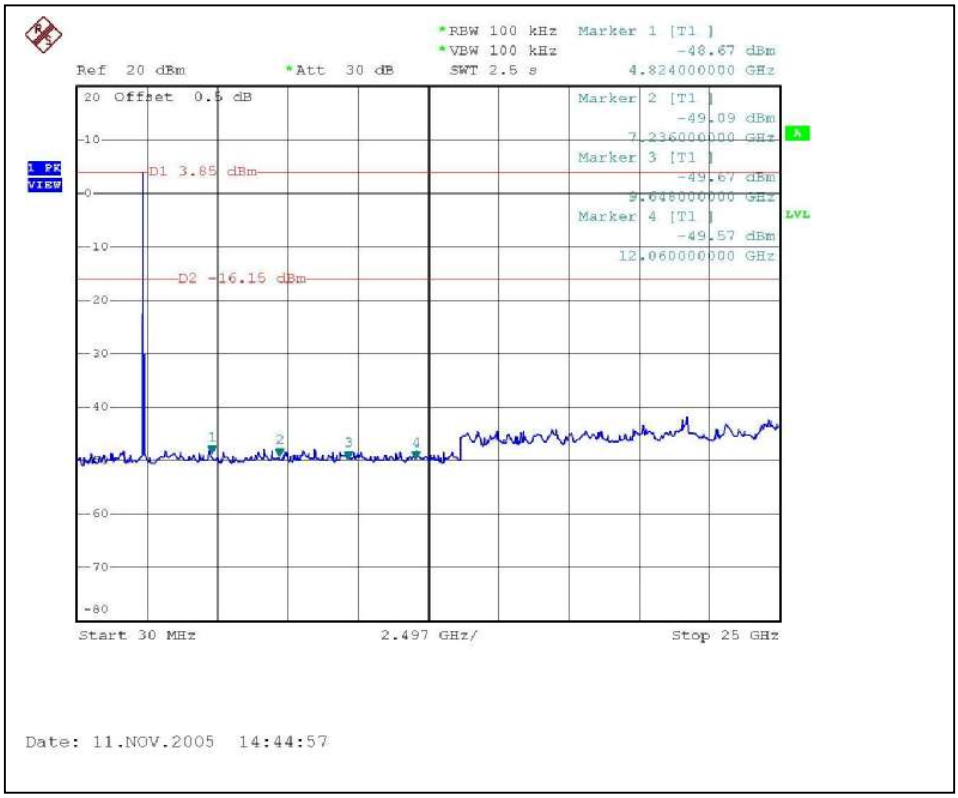

RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Marker 4 [T1 ]
4.32 dBm
2.413600000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1 ]
-48.28 dBm
2.390000000 GHz
Marker 2 [T1 ]
2.400000000 GHz
Marker 3 [T1 ]
-25.87 dBm
2.397200000 GHz
D1 4.32 dBm
D2 -15.68 dBm
F1
F2
Center 2.372 GHz
10 MHz/
Span 100 MHz
Date: 18.OCT.2005 16:17:46


RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Marker 4 [T1 ]
4.74 dBm
2.462600000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1 ]
-46.10 dBm
2.483500000 GHz
Marker 2 [T1 ]
-50.45 dBm
2.500000000 GHz
Marker 3 [T1 ]
-46.10 dBm
2.483600000 GHz
D1 4.74 dBm
D2 -15.26 dBm
F1
F2
Center 2.505 GHz
10 MHz/
Span 100 MHz
Date: 18.OCT.2005 16:20:27

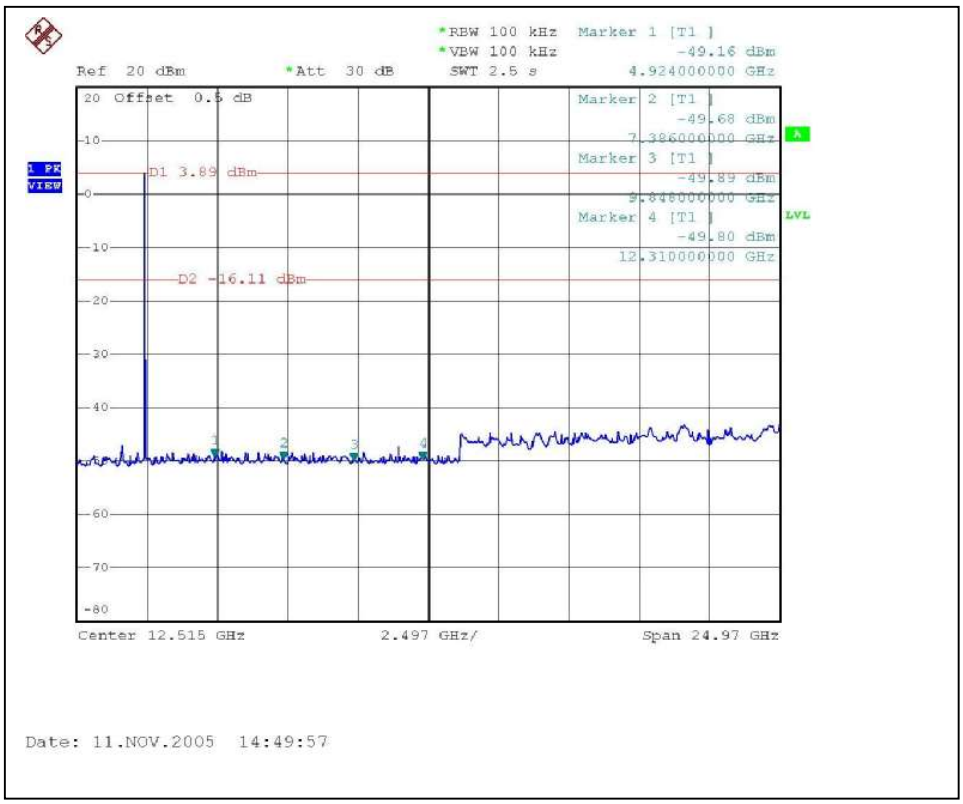
*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
Marker 3 [T1 ]
3.58 dBm
2.413400000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1 ]
-53.74 dBm
2.390000000 GHz
Marker 2 [T1 ]
2.400000000 GHz
1 AP
VIEW
D1 3.58 dBm
D2 -16.42 dBm
F1
F2
Center 2.372 GHz
10 MHz/
Span 100 MHz
Date: 18.OCT.2005 16:16:48

*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
Marker 3 [T1 ]
2.90 dBm
2.462400000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1 ]
-52.73 dBm
2.483500000 GHz
Marker 2 [T1 ]
-59.49 dBm
2.500000000 GHz
1 PK
VIEW
D1 2.9 dBm
D2 -17.1 dBm
F1
F2
Center 2.505 GHz
10 MHz/
Span 100 MHz
Date: 18.OCT.2005 16:19:17

CH1


*RBW 100 kHz
*VBW 100 kHz
SWT 2.5 s
Marker 1 [T1 ]
-48.67 dBm
4.824000000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1 ]
-49.09 dBm
7.236000000 GHz
Marker 3 [T1 ]
-49.67 dBm
9.648000000 GHz
Marker 4 [T1 ]
-49.57 dBm
12.060000000 GHz
1 PK VIEW
D1 3.85 dBm
D2 -16.15 dBm
Start 30 MHz
2.497 GHz/
Stop 25 GHz
Date: 11.NOV.2005 14:44:57

CH11


*RBW 100 kHz
*VBW 100 kHz
SWT 2.5 s
Marker 1 [T1 ]
-49.16 dBm
4.924000000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1 ]
-49.68 dBm
7.386000000 GHz
Marker 3 [T1 ]
-49.89 dBm
9.848000000 GHz
Marker 4 [T1 ]
-49.80 dBm
12.310000000 GHz
1 PK VIEW
D1 3.89 dBm
D2 -16.11 dBm
Center 12.515 GHz
2.497 GHz/
Span 24.97 GHz
Date: 11.NOV.2005 14:49:57

**802.11g OFDM modulation**

The spectrum plots are attached on the following page. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(C).

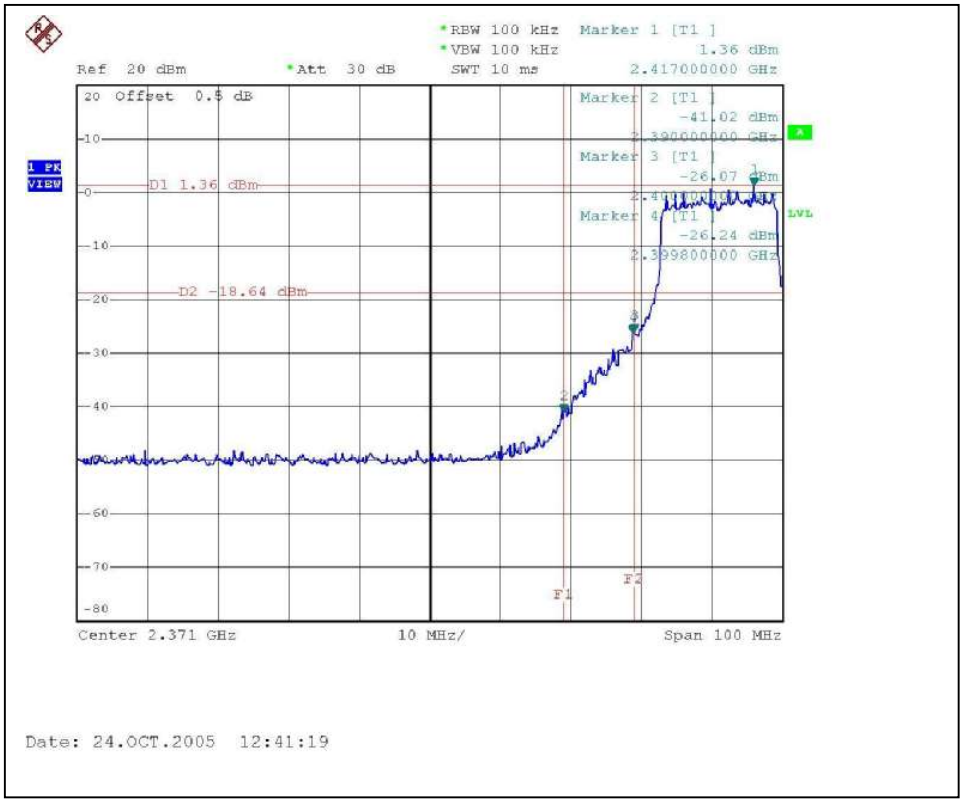
Note - The delta method is only used up to 2 MHz away from the restricted bandage, The radiated emissions which located in other restricted frequency band, the result, please refer to 4.2.

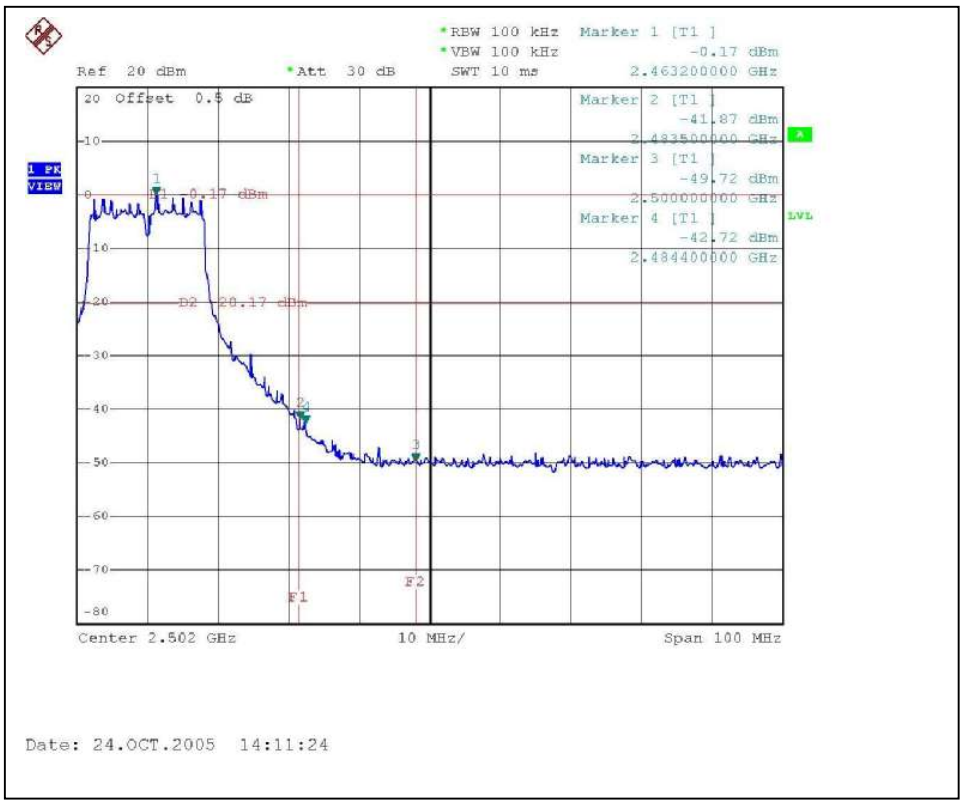
**NOTE (Peak):**
The band edge emission plot of OFDM technique on the following first page show 42.38dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 111.2dBuV/m, so the maximum field strength in restrict band is 111.2-42.38=68.82dBuV/m which is under 74 dBuV/m limit.

The band edge emission plot of OFDM technique on the following first page shows 41.7dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 108.6dBuV/m, so the maximum field strength in restrict band is 108.6-41.7=66.90dBuV/m which is under 74 dBuV/m limit.

**NOTE (Average):**
The band edge emission plot of OFDM technique on the following second page shows 47.88dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 100.6dBuV/m, so the maximum field strength in restrict band is 100.6-47.88=52.72dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot of OFDM technique on the following second page shows 46.86dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 98.7dBuV/m, so the maximum field strength in restrict band is 98.7-46.86=51.84dBuV/m which is under 54 dBuV/m limit.

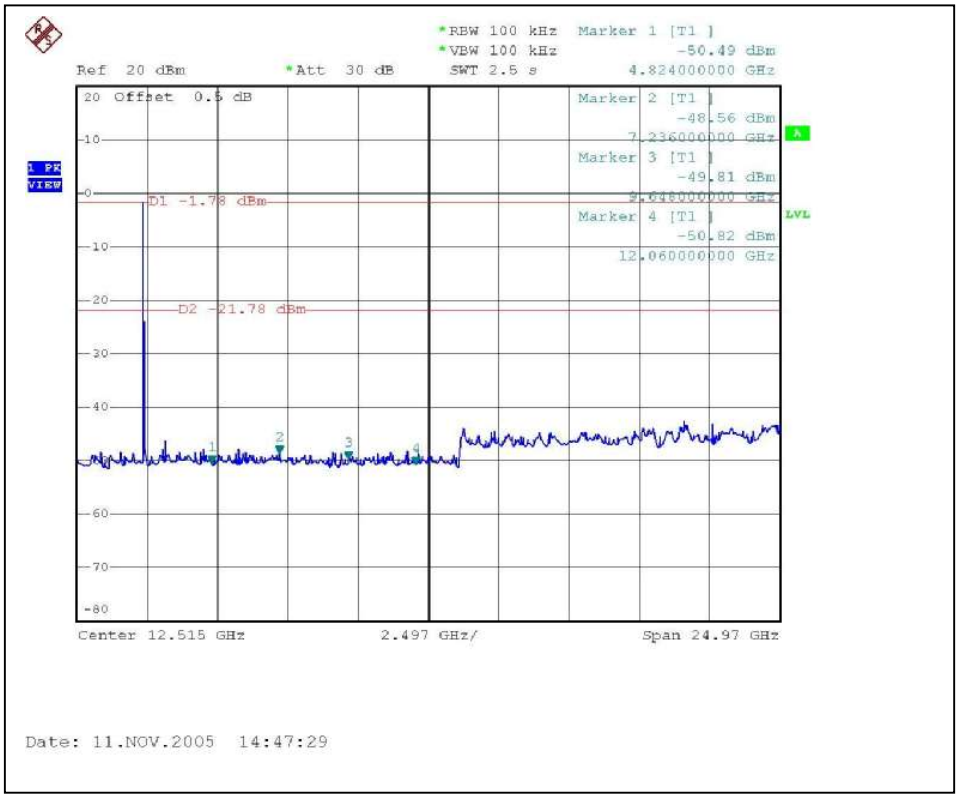

RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Marker 1 [T1 ]
1.36 dBm
2.417000000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1 ]
-41.02 dBm
2.390000000 GHz
Marker 3 [T1 ]
-26.07 dBm
2.400100000 GHz
Marker 4 [T1 ]
-26.24 dBm
2.399800000 GHz
1 PK
VIEW
D1 1.36 dBm
D2 -18.64 dBm
F1
F2
Center 2.371 GHz
10 MHz/
Span 100 MHz
Date: 24.OCT.2005 12:41:19


RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Marker 1 [T1 ]
-0.17 dBm
2.463200000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1 ]
-41.87 dBm
2.483500000 GHz
Marker 3 [T1 ]
-49.72 dBm
2.500000000 GHz
Marker 4 [T1 ]
-42.72 dBm
2.484400000 GHz
1 PK
VIEW
D1 -0.17 dBm
D2 -20.17 dBm
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz
Date: 24.OCT.2005 14:11:24

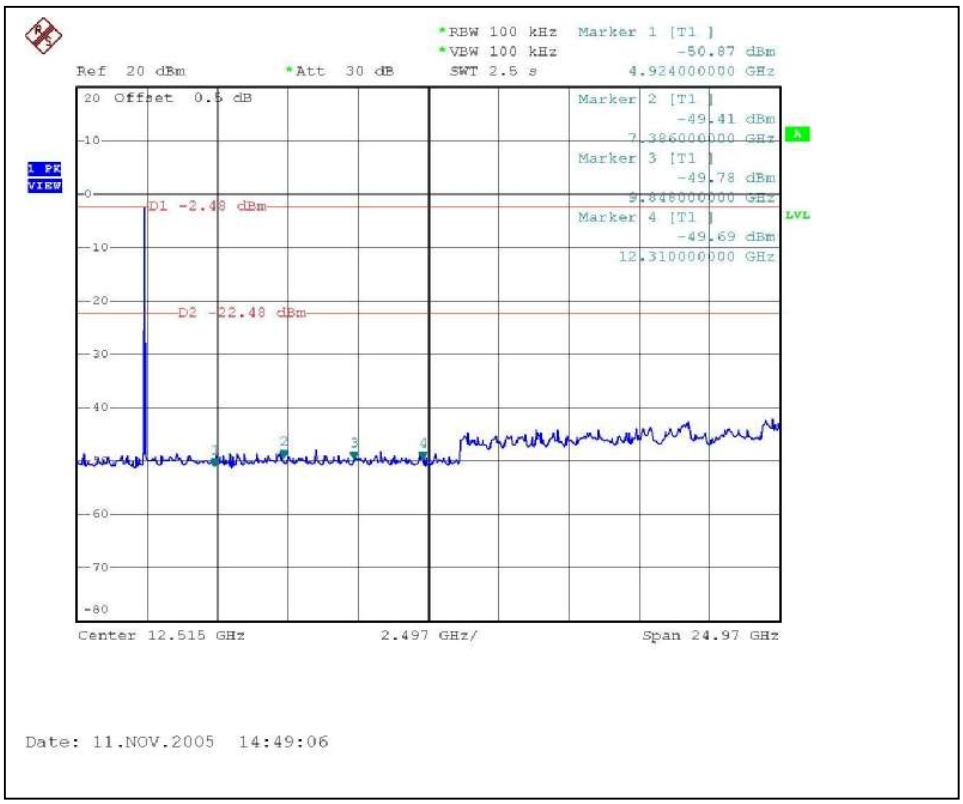
*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
Marker 1 [T1 ]
-1.19 dBm
2.414600000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1 ]
-49.07 dBm
2.390000000 GHz
Marker 3 [T1 ]
-35.72 dBm
2.400000000 GHz
1 PK
VIEW
D1 -1.19 dBm
D2 -21.19 dBm
F1
F2
Center 2.371 GHz
10 MHz/
Span 100 MHz
Date: 24.OCT.2005 12:39:28

*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
Marker 1 [T1 ]
-2.42 dBm
2.463400000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1 ]
-49.28 dBm
2.483500000 GHz
Marker 3 [T1 ]
-58.81 dBm
2.500000000 GHz
1 PK
VIEW
D1 -2.42 dBm
D2 -22.42 dBm
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz
Date: 24.OCT.2005 13:00:11

CH1


*RBW 100 kHz
*VBW 100 kHz
SWT 2.5 s
Marker 1 [T1 ]
-50.49 dBm
4.824000000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1 ]
-48.56 dBm
7.236000000 GHz
Marker 3 [T1 ]
-49.81 dBm
9.648000000 GHz
Marker 4 [T1 ]
-50.82 dBm
12.060000000 GHz
D1 -1.78 dBm
D2 -21.78 dBm
1 PK VIEW
A
LVL
Center 12.515 GHz
2.497 GHz/
Span 24.97 GHz
Date: 11.NOV.2005 14:47:29

CH11


*RBW 100 kHz
*VBW 100 kHz
SWT 2.5 s
Marker 1 [T1 ]
-50.87 dBm
4.924000000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1 ]
-49.41 dBm
7.386000000 GHz
Marker 3 [T1 ]
-49.78 dBm
9.848000000 GHz
Marker 4 [T1 ]
-49.69 dBm
12.310000000 GHz
D1 -2.48 dBm
D2 -22.48 dBm
1 PK VIEW
A
LVL
Center 12.515 GHz
2.497 GHz/
Span 24.97 GHz
Date: 11.NOV.2005 14:49:06

## 4.7 ANTENNA REQUIREMENT

### 4.7.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.
And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

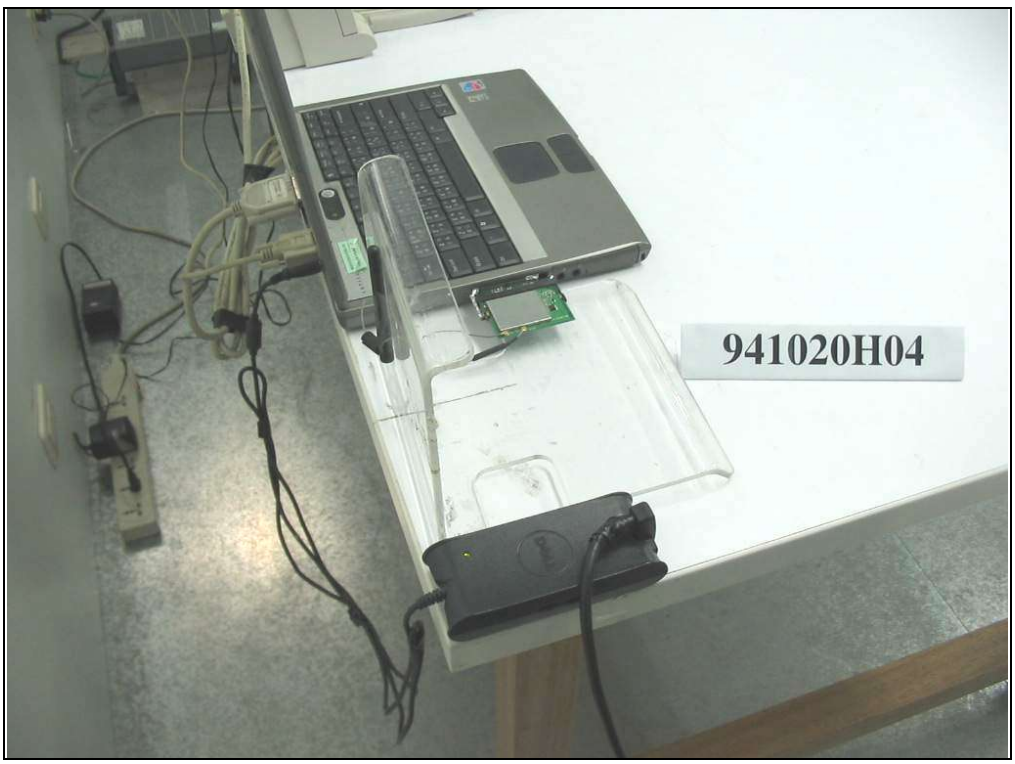
### 4.7.2 ANTENNA CONNECTED CONSTRUCTION

The antennas used in this product are as following:

| No. | Gain (dBi) | Antenna Type | Antenna Connector |
|---|---|---|---|
| 1 | 3.0 | PIFA | I-PEX |
| 2 | 1.5 | 1/2 λ Dipole | MHF |

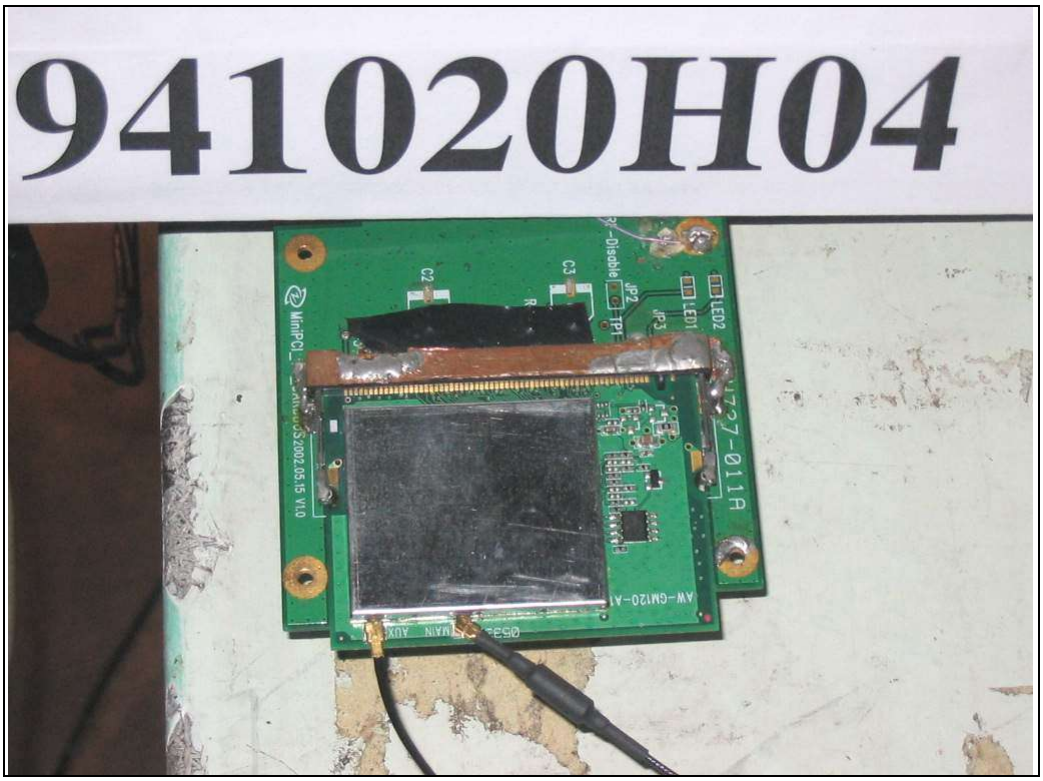
# 5 PHOTOGRAPHS OF THE TEST CONFIGURATION

**CONDUCTED EMISSION TEST**

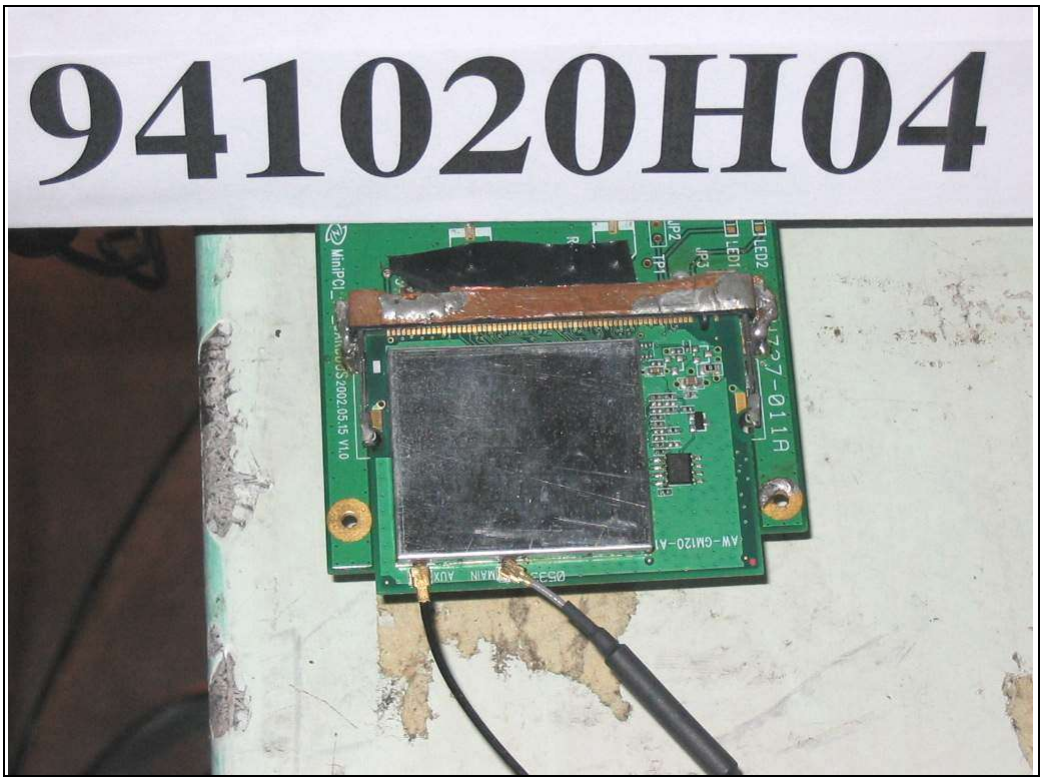


941020H04

## RADIATED EMISSION TEST (ANTENNA 1)


941020H04

## RADIATED EMISSION TEST (ANTENNA 2)


941020H04
LED2
LED1
JP3
JP2
TP1
MiniPCI
2002.05.15 V1.0
727-011A
AW-GM120-A1

# 6 INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025:

| | |
|---|---|
| **USA** | FCC, NVLAP, UL, A2LA |
| **Germany** | TUV Rheinland |
| **Japan** | VCCI |
| **Norway** | NEMKO |
| **Canada** | INDUSTRY CANADA, CSA |
| **R.O.C.** | CNLA, BSMI, DGT |
| **Netherlands** | Telefication |
| **Singapore** | PSB, GOST-ASIA (MOU) |
| **Russia** | CERTIS (MOU) |

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5/phtml.
If you have any comments, please feel free to contact us at the following:

**Linko EMC/RF Lab**:
Tel: 886-2-26052180
Fax: 886-2-26052943

**Hsin Chu EMC/RF Lab**:
Tel: 886-3-5935343
Fax: 886-3-5935342

**Hwa Ya EMC/RF/Safety/Telecom Lab**:
Tel: 886-3-3183232
Fax: 886-3-3185050

**Email**: service@adt.com.tw
**Web Site**: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.

# APPENDIX-A

## MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.