



FCC TEST REPORT (15.247)

REPORT NO.: RF931215L08

MODEL NO.: AM-5012-11AG

RECEIVED: Dec. 08, 2004

TESTED: Dec. 08, 2004 ~ Jan. 28, 2005

ISSUED: Jan. 31, 2005

APPLICANT: AirMagnet, Inc

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ISSUED BY: Advance Data Technology Corporation

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TEST LOCATION: No. 19, Hwa Ya 2nd Rd., Wen Hwa Tsuen,
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Taiwan, R.O.C.

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0528
ILAC MRA



No. 2177-01



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1. CERTIFICATION

PRODUCT: 802.11a/b/g wireless sensor
BRAND NAME: Airmagnet
MODEL NO.: AM-5012-11AG
TEST SAMPLE: ENGINEERING SAMPLE
TESTED: Dec. 08, 2004 ~ Jan. 28, 2005
APPLICANT: AirMagnet, Inc.
STANDARDS: FCC Part 15, Subpart C (Section 15.247),
ANSI C63.4-2003

The above equipment 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 : Candice Chen , **DATE:** Jan. 31, 2005
(Candice Chen)

TECHNICAL ACCEPTANCE : Gary Chang , **DATE:** Jan. 31, 2005
Responsible for RF (Gary Chang)

APPROVED BY : Cody Chang , **DATE:** Jan. 31, 2005
(Cody Chang, Deputy Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: FCC Part 15, Subpart C (Section 15.247) | | | |
|--|--|---------------|---|
| Standard Section | Test Type and Limit | Result | Remark |
| 15.207 | AC Power Conducted Emission | PASS | Meet the requirement of limit. Minimum passing margin is -13.28dB at 0.498MHz |
| 15.247(a)(2) | Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz | PASS | Meet the requirement of limit. |
| 15.247(b) | Maximum Peak Output Power Limit: max. 30dBm | PASS | Meet the requirement of limit. |
| 15.247(d) | Radiated Emissions Limit: Table 15.209 | PASS | Meet the requirement of limit. Minimum passing margin is -0.08dB at 6336.00MHz |
| 15.247(e) | Power Spectral Density Limit: max. 8dBm | PASS | Meet the requirement of limit. |
| 15.247(d) | Band Edge Measurement Limit: 20dB less than the peak value of fundamental frequency | PASS | Meet the requirement of limit. |

2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4:

| Measurement | Frequency | Uncertainty |
|---------------------|-----------------|-------------|
| Conducted emissions | 9kHz~30MHz | 2.44 dB |
| Radiated emissions | 30MHz ~ 200MHz | 3.55 dB |
| | 200MHz ~1000MHz | 3.58 dB |
| | 1GHz ~ 18GHz | 1.10 dB |
| | 18GHz ~ 40GHz | 0.91 dB |



3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

| | |
|------------------------------|---|
| EUT | 802.11a/b/g wireless sensor |
| MODEL NO. | AM-5012-11AG |
| POWER SUPPLY | 12Vdc from AC adapter |
| MODULATION TYPE | CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM |
| MODULATION TECHNOLOGY | DSSS, OFDM |
| TRANSFER RATE | 802.11b: 11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps 802.11a: 54/48/36/24/18/12/9/6Mbps |
| FREQUENCY RANGE | 802.11b & 802.11g: 2412 ~ 2462MHz 802.11a: 5.15 ~ 5.35GHz and 5.725 ~ 5.825GHz |
| NUMBER OF CHANNEL | 802.11b & 802.11g: 11 802.11a: 13 |
| CHANNEL SPACING | 802.11b & 802.11g: 5MHz 802.11a: 20MHz |
| OUTPUT POWER | 7.980mW for 802.11b 10.069mW for 802.11g 17.140mW for 5.150 ~ 5.350GHz 15.922mW for 5.725 ~ 5.825GHz |
| DATA CABLE | NA |
| ANTENNA TYPE | Please refer to Note 2 below |
| I/O PORTS | RJ45, RS232 |
| ASSOCIATED DEVICES | NA |

NOTE:

- The EUT was tested with the following adapter:

| | |
|---------------------|---|
| BRAND : | FAIRWAY |
| MODEL : | VE20-120 |
| INPUT : | 100-240Vac, 50-60Hz |
| OUTPUT : | 12Vdc, 1.66A |
| POWER LINE : | AC 1.8m shielded cable without core DC 1.6m shielded cable with one core |



2. The EUT have two combinations of antenna type. Please refer to following table.

| Combination | Antenna type | P/N | Manufacturer | Description | Gain (dBi) |
|-------------|--------------|------------------|--------------------|-------------------------------------|------------|
| 1 | Dipole | T614AT-2.4/5.x-S | Joymax | Single band antenna for 2.4GHz band | 4.5 |
| | Dipole | WTS2450-RPSMA | Centurion Wireless | Single band antenna for 5GHz band | 6 |
| 2 | Dipole | IG2450-RT36 | Centurion Wireless | Single band antenna for 2.4GHz band | 6 |
| | Patch | IO5250-RT36 | Centurion | Single band antenna for 5GHz band | 5 |

3. The EUT operates in both the 5GHz and 2.4GHz Bands and compatibility with 802.11a and 802.11b, 802.11g technology.

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.



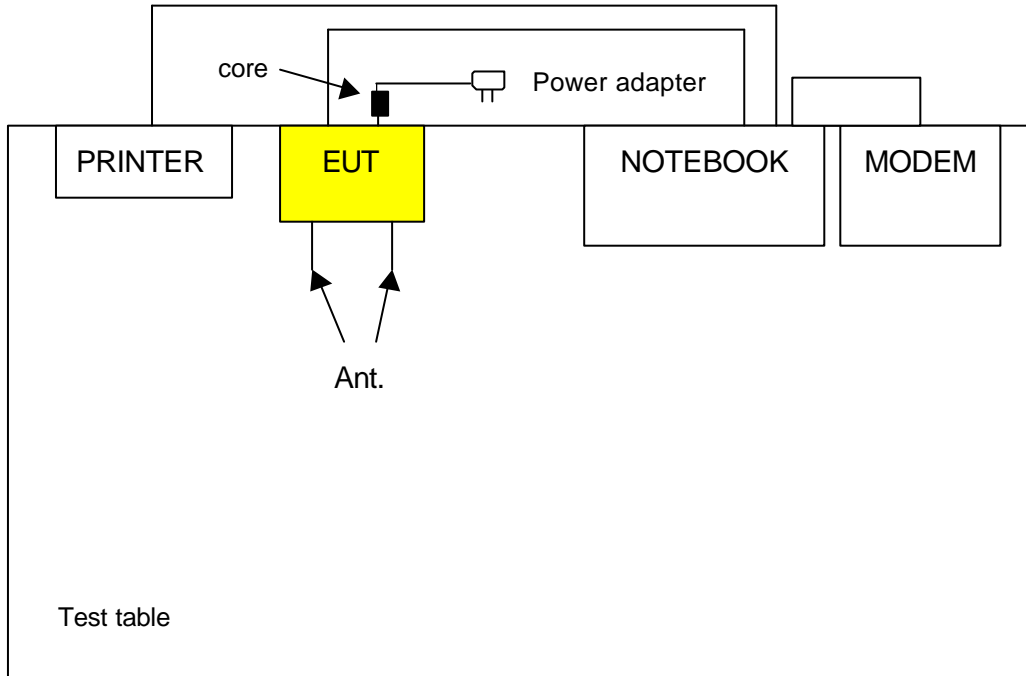
3.2 DESCRIPTION OF TEST MODES

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

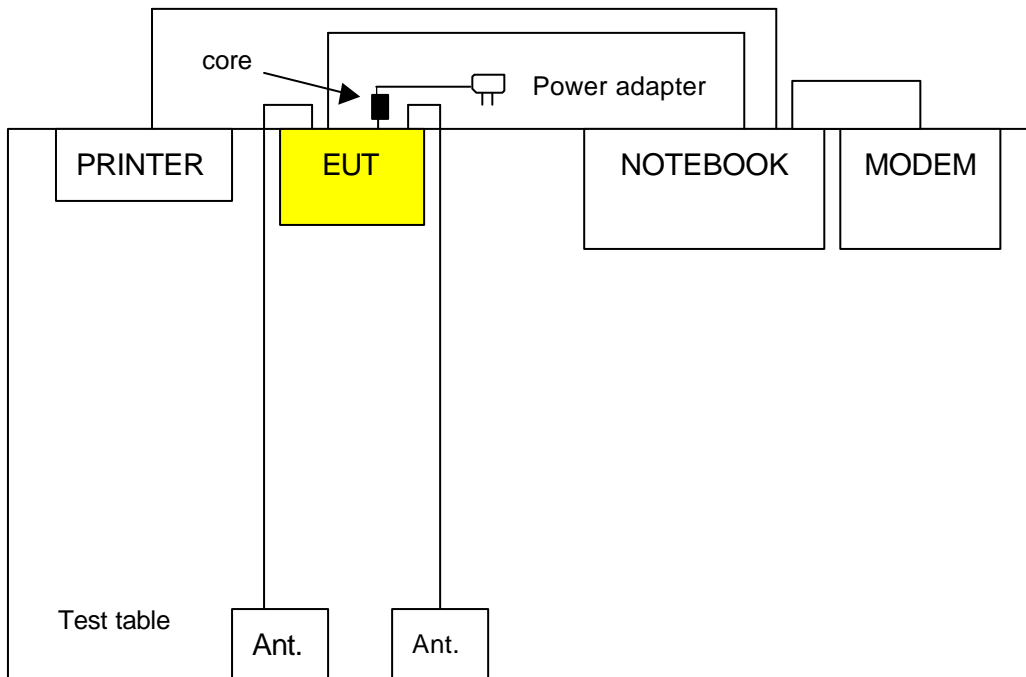
| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 1 | 2412 MHz | 7 | 2442 MHz |
| 2 | 2417 MHz | 8 | 2447 MHz |
| 3 | 2422 MHz | 9 | 2452 MHz |
| 4 | 2427 MHz | 10 | 2457 MHz |
| 5 | 2432 MHz | 11 | 2462 MHz |
| 6 | 2437 MHz | | |

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST

Test Mode 1 (ANTENNA COMBINATION 1)



Test Mode 2 (ANTENNA COMBINATION 2)





3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAL:

| EUT configure mode | Applicable to | | | | Description |
|--------------------|---------------|-------|-------|------|--|
| | PLC | RE<1G | RE≥1G | APCM | |
| 1 | Note 1 | x | x | x | antenna combination 1 (refer to Note 2 of section 3.1) |
| 2 | Note 1 | x | x | x | antenna combination 2 (refer to Note 2 of section 3.1) |

Where PLC: Power Line Conducted Emission RE<1G RE: Radiated Emission below 1GHz
 RE≥1G: Radiated Emission above 1GHz APCM: Antenna Port Conducted Measurement
 Note 1: Power Line Conducted Emission only recorded antenna combination 1, 2 for worst case in the report.

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 | 1, 6, 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 | 6 | 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 |



3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a 802.11a/b/g wireless sensor. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C. (15.247)

ANSI C63.4-2003

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

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.



3.4 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 | PP05L | 20838027664 | E2K24CLNS |
| 2 | MODEM | ACEEX | 1414V/3 | 0401008248 | IFAXDM1414 |
| 3 | PRINTER | EPSON | LQ-300+ | DCGY047265 | FCC DoC Approved |

| NO. | SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS |
|-----|---|
| 1 | NA |
| 2 | 1.2 shielded cable without core |
| 3 | 1.2 shielded cable without core |

NOTE: All power cords of the above support units are non shielded (1.8m).



4. TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

| FREQUENCY OF EMISSION (MHz) | CONDUCTED LIMIT (dB μ V) | |
|-----------------------------|------------------------------|----------|
| | Quasi-peak | Average |
| 0.15-0.5 | 66 to 56 | 56 to 46 |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |

- NOTE:**
1. The lower limit shall apply at the transition frequencies.
 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
 3. All emanations from a class A/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 ROHDE & SCHWARZ | ESCS30 | 100291 | Nov. 16, 2005 |
| RF signal cable Woken | 5D-FB | Cable-HYC01-01 | Mar. 02, 2005 |
| LISN ROHDE & SCHWARZ | ESH3-Z5 | 100312 | Mar. 03, 2005 |
| LISN ROHDE & SCHWARZ | ESH2-Z5 | 100104 | Mar. 02, 2005 |
| Software ADT | ADT_Cond_V3 | NA | NA |

- 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 HwaYa Shielded Room 1.
 3. The VCCI Site Registration No. is C-2040.



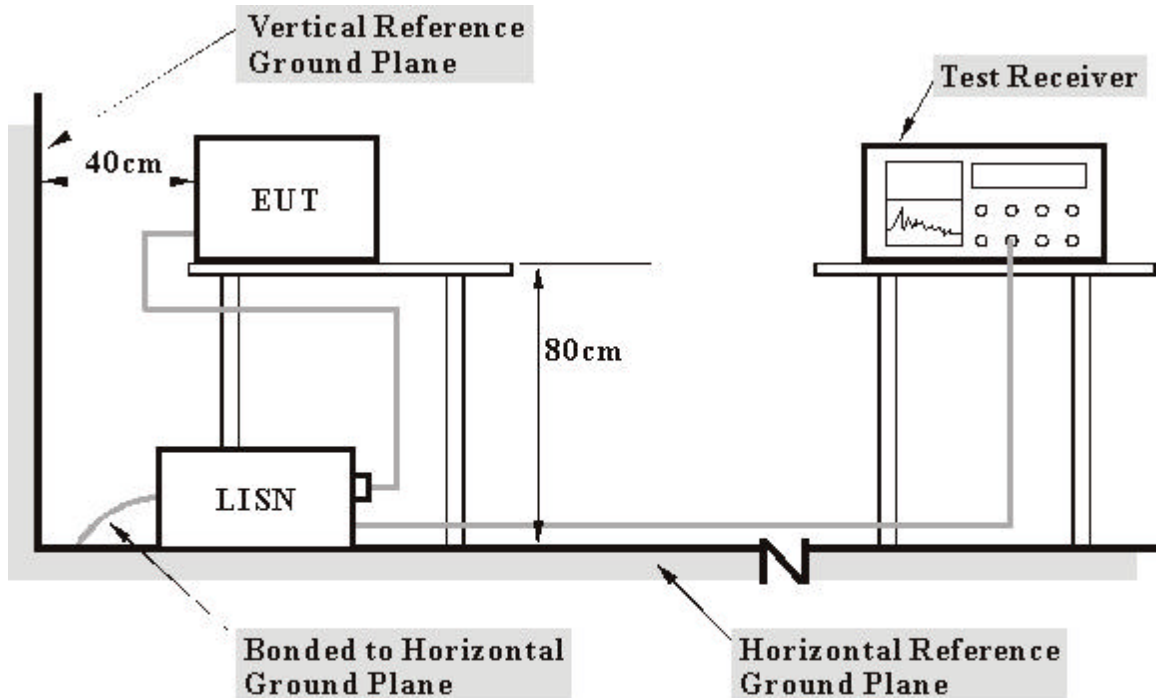
4.1.3 TEST PROCEDURES

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT 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 were checked for maximum conducted interference.
- c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 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.

4.1.6 EUT OPERATING CONDITIONS

- a. Connected the EUT to a notebook system placed on a testing table.
- b. The notebook system ran a test program (provided by manufacturer) to enable EUT under transmission/receiving condition continuously at specific channel frequency.
- c. The notebook system sent "H" messages to its screen.
- d. The notebook system sent "H" messages to modem.
- e. The notebook system sent "H" messages to printer, and the printer printed them on paper.
- f. Steps c ~ e were repeated.



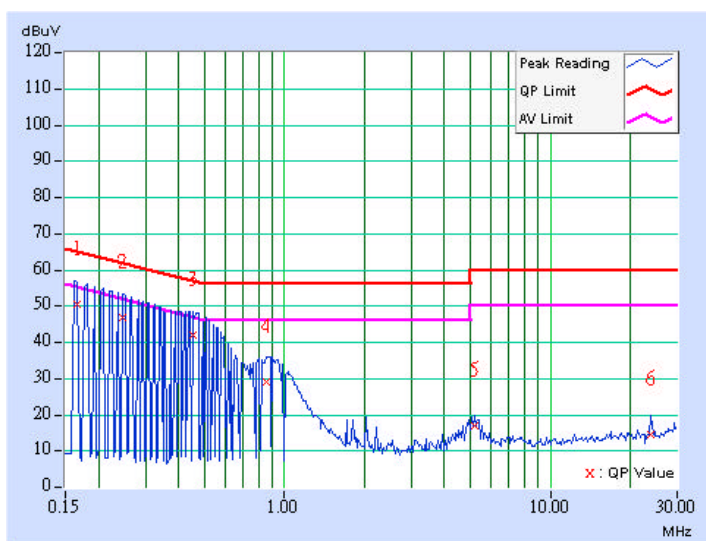
4.1.7 TEST RESULTS

Conducted Worst-Case Data

| | | | |
|---------------------------------|-----------------------------|----------------------|--------------|
| EUT | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 1 | 6dB BANDWIDTH | 9 kHz |
| MODULATION TYPE | BPSK | TRANSFER RATE | 6Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | PHASE | Line (L) |
| ENVIRONMENTAL CONDITIONS | 20deg. C, 70%RH, 991hPa | TESTED BY | Kent Chen |

| No | Freq. [MHz] | Corr. Factor (dB) | Reading Value | | Emission Level | | Limit | | Margin | |
|----|----------------|-------------------------|---------------|-----|----------------|-----|-----------|-------|--------|-----|
| | | | [dB (uV)] | | [dB (uV)] | | [dB (uV)] | | (dB) | |
| | | | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| 1 | 0.166 | 0.11 | 49.27 | - | 49.38 | - | 65.18 | 55.18 | -15.80 | - |
| 2 | 0.248 | 0.12 | 45.63 | - | 45.75 | - | 61.84 | 51.84 | -16.08 | - |
| 3 | 0.455 | 0.13 | 40.95 | - | 41.08 | - | 56.79 | 46.79 | -15.71 | - |
| 4 | 0.857 | 0.14 | 28.08 | - | 28.22 | - | 56.00 | 46.00 | -27.78 | - |
| 5 | 5.167 | 0.24 | 15.73 | - | 15.97 | - | 60.00 | 50.00 | -44.03 | - |
| 6 | 24.016 | 1.13 | 13.31 | - | 14.44 | - | 60.00 | 50.00 | -45.56 | - |

- 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.

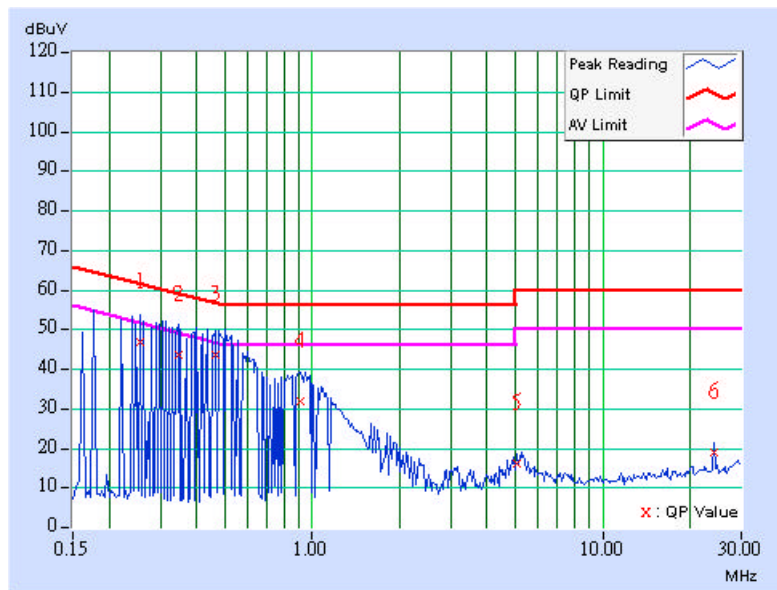




| | | | |
|---------------------------------|-----------------------------|----------------------|--------------|
| EUT | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 1 | 6dB BANDWIDTH | 9 kHz |
| MODULATION TYPE | BPSK | TRANSFER RATE | 6Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | PHASE | Neutral (N) |
| ENVIRONMENTAL CONDITIONS | 20deg. C, 70%RH, 991hPa | TESTED BY | Kent Chen |

| No | Freq. [MHz] | Corr. Factor (dB) | Reading Value [dB (uV)] | | Emission Level [dB (uV)] | | Limit [dB (uV)] | | Margin (dB) | |
|----|-------------|-------------------|-------------------------|-------|--------------------------|-------|-----------------|-------|-------------|-------|
| | | | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| | | | 1 | 0.255 | 0.11 | 46.29 | - | 46.40 | - | 61.58 |
| 2 | 0.345 | 0.11 | 43.13 | - | 43.24 | - | 59.07 | 49.07 | -15.83 | - |
| 3 | 0.466 | 0.12 | 43.08 | - | 43.20 | - | 56.58 | 46.58 | -13.38 | - |
| 4 | 0.908 | 0.14 | 31.31 | - | 31.45 | - | 56.00 | 46.00 | -24.55 | - |
| 5 | 5.043 | 0.22 | 15.54 | - | 15.76 | - | 60.00 | 50.00 | -44.24 | - |
| 6 | 24.020 | 0.68 | 18.12 | - | 18.80 | - | 60.00 | 50.00 | -41.20 | - |

- 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.

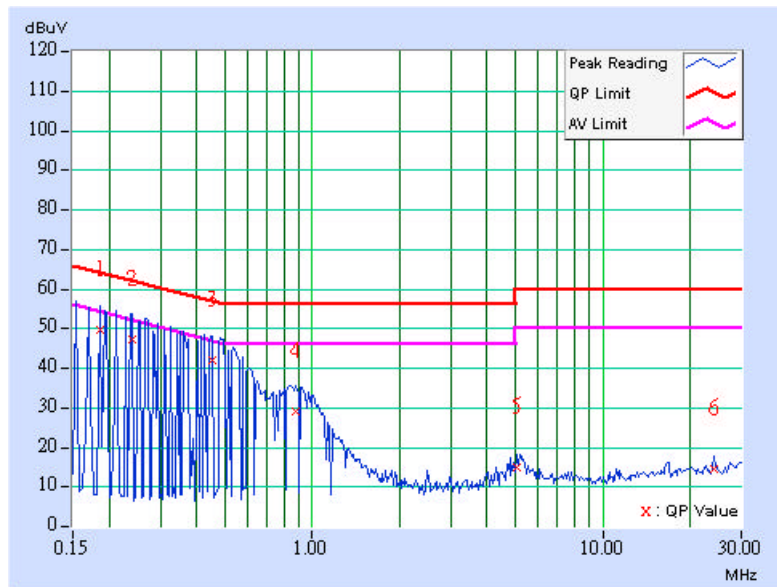




| | | | |
|---------------------------------|-----------------------------|----------------------|--------------|
| EUT | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 6 | 6dB BANDWIDTH | 9 kHz |
| MODULATION TYPE | BPSK | TRANSFER RATE | 6Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | PHASE | Line (L) |
| ENVIRONMENTAL CONDITIONS | 20deg. C, 70%RH, 991hPa | TESTED BY | Kent Chen |

| No | Freq. [MHz] | Corr. Factor (dB) | Reading Value [dB (uV)] | | Emission Level [dB (uV)] | | Limit [dB (uV)] | | Margin (dB) | |
|----|----------------|-------------------------|----------------------------|-------|-----------------------------|-------|--------------------|-------|----------------|-------|
| | | | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| | | | 1 | 0.185 | 0.12 | 48.40 | - | 48.52 | - | 64.25 |
| 2 | 0.240 | 0.12 | 45.95 | - | 46.07 | - | 62.10 | 52.10 | -16.03 | - |
| 3 | 0.455 | 0.13 | 40.87 | - | 41.00 | - | 56.79 | 46.79 | -15.79 | - |
| 4 | 0.880 | 0.14 | 27.84 | - | 27.98 | - | 56.00 | 46.00 | -28.02 | - |
| 5 | 5.039 | 0.23 | 13.88 | - | 14.11 | - | 60.00 | 50.00 | -45.89 | - |
| 6 | 24.020 | 1.13 | 13.55 | - | 14.68 | - | 60.00 | 50.00 | -45.32 | - |

- 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.

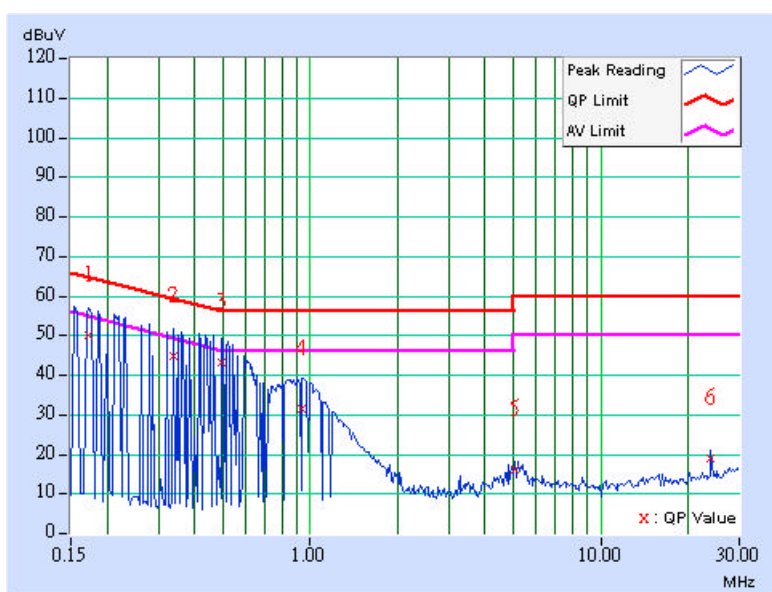




| | | | |
|---------------------------------|-----------------------------|----------------------|--------------|
| EUT | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 6 | 6dB BANDWIDTH | 9 kHz |
| MODULATION TYPE | BPSK | TRANSFER RATE | 6Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | PHASE | Neutral (N) |
| ENVIRONMENTAL CONDITIONS | 20deg. C, 70%RH, 991hPa | TESTED BY | Kent Chen |

| No | Freq. [MHz] | Corr. Factor (dB) | Reading Value [dB (uV)] | | Emission Level [dB (uV)] | | Limit [dB (uV)] | | Margin (dB) | |
|----------|----------------|-------------------------|----------------------------|-------|-----------------------------|-------|--------------------|--------------|----------------|--------|
| | | | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| | 1 | 0.173 | 0.10 | 49.38 | - | 49.48 | - | 64.79 | 54.79 | -15.31 |
| 2 | 0.338 | 0.11 | 44.00 | - | 44.11 | - | 59.26 | 49.26 | -15.15 | - |
| 3 | 0.498 | 0.12 | 42.64 | - | 42.76 | - | 56.04 | 46.04 | -13.28 | - |
| 4 | 0.939 | 0.14 | 30.84 | - | 30.98 | - | 56.00 | 46.00 | -25.02 | - |
| 5 | 5.043 | 0.22 | 15.66 | - | 15.88 | - | 60.00 | 50.00 | -44.12 | - |
| 6 | 24.018 | 0.68 | 18.34 | - | 19.02 | - | 60.00 | 50.00 | -40.98 | - |

- 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.

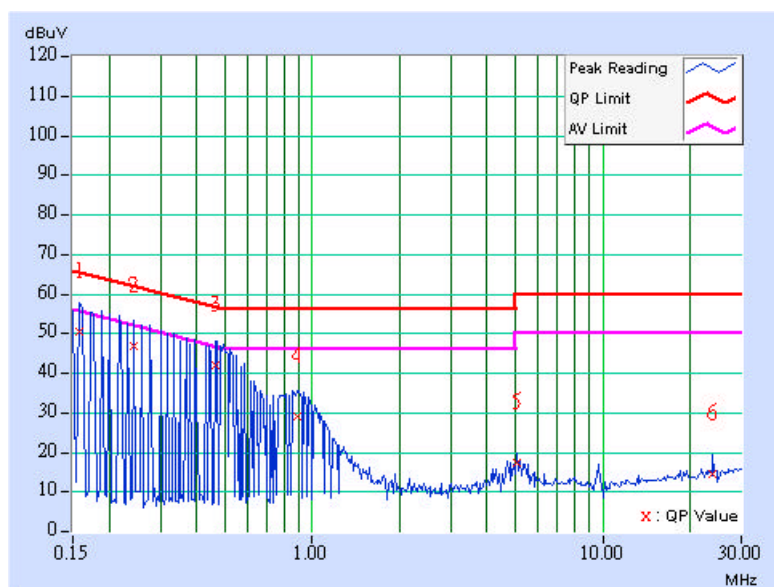




| | | | |
|---------------------------------|-----------------------------|----------------------|--------------|
| EUT | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 11 | 6dB BANDWIDTH | 9 kHz |
| MODULATION TYPE | BPSK | TRANSFER RATE | 6Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | PHASE | Line (L) |
| ENVIRONMENTAL CONDITIONS | 20deg. C, 70%RH, 991hPa | TESTED BY | Kent Chen |

| No | Freq. [MHz] | Corr. Factor (dB) | Reading Value [dB (uV)] | | Emission Level [dB (uV)] | | Limit [dB (uV)] | | Margin (dB) | |
|----|-------------|-------------------|-------------------------|-------|--------------------------|-------|-----------------|-------|-------------|-------|
| | | | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| | | | 1 | 0.158 | 0.11 | 49.47 | - | 49.58 | - | 65.58 |
| 2 | 0.244 | 0.12 | 45.85 | - | 45.97 | - | 61.97 | 51.97 | -16.00 | - |
| 3 | 0.463 | 0.13 | 40.91 | - | 41.04 | - | 56.65 | 46.65 | -15.61 | - |
| 4 | 0.892 | 0.14 | 27.80 | - | 27.94 | - | 56.00 | 46.00 | -28.06 | - |
| 5 | 5.043 | 0.23 | 16.22 | - | 16.45 | - | 60.00 | 50.00 | -43.55 | - |
| 6 | 24.016 | 1.13 | 13.39 | - | 14.52 | - | 60.00 | 50.00 | -45.48 | - |

- 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.

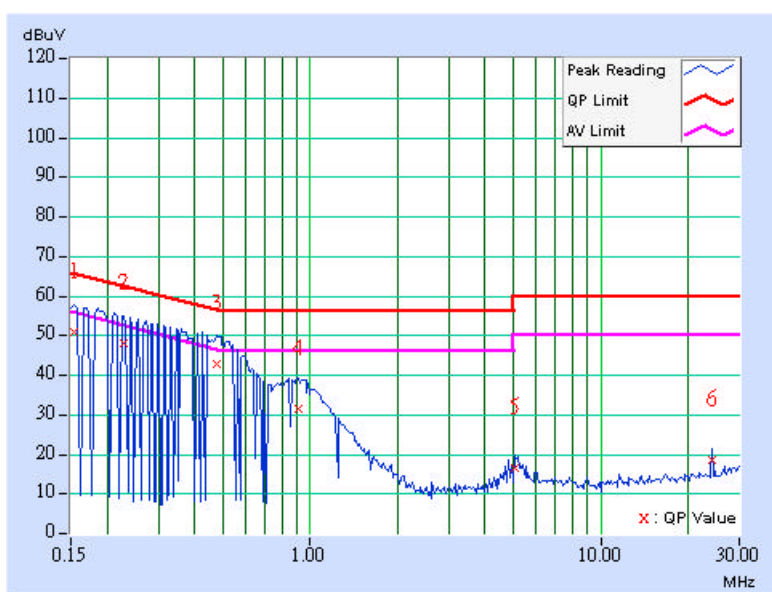




| | | | |
|---------------------------------|-----------------------------|----------------------|--------------|
| EUT | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 11 | 6dB BANDWIDTH | 9 kHz |
| MODULATION TYPE | BPSK | TRANSFER RATE | 6Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | PHASE | Neutral (N) |
| ENVIRONMENTAL CONDITIONS | 20deg. C, 70%RH, 991hPa | TESTED BY | Kent Chen |

| No | Freq. [MHz] | Corr. Factor (dB) | Reading Value [dB (uV)] | | Emission Level [dB (uV)] | | Limit [dB (uV)] | | Margin (dB) | |
|----|----------------|-------------------------|----------------------------|-------|-----------------------------|-------|--------------------|-------|----------------|-------|
| | | | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| | | | 1 | 0.154 | 0.10 | 50.03 | - | 50.13 | - | 65.79 |
| 2 | 0.228 | 0.11 | 47.23 | - | 47.34 | - | 62.52 | 52.52 | -15.18 | - |
| 3 | 0.478 | 0.12 | 42.33 | - | 42.45 | - | 56.37 | 46.37 | -13.92 | - |
| 4 | 0.908 | 0.14 | 31.01 | - | 31.15 | - | 56.00 | 46.00 | -24.85 | - |
| 5 | 5.043 | 0.22 | 15.78 | - | 16.00 | - | 60.00 | 50.00 | -44.00 | - |
| 6 | 24.020 | 0.68 | 18.04 | - | 18.72 | - | 60.00 | 50.00 | -41.28 | - |

- 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

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 |
|---|--------------------|--------------|------------------|
| Test Receiver ROHDE & SCHWARZ | ESI7 | 100033 | Jun. 08, 2005 |
| Spectrum Analyzer ROHDE & SCHWARZ | FSP40 | 100040 | Jun. 03, 2005 |
| BILOG Antenna SCHWARZBECK | VULB9168 | 9168-153 | Feb. 03, 2005 |
| HORN Antenna SCHWARZBECK | 9120D | 9120D-408 | Jan. 17, 2006 |
| HORN Antenna SCHWARZBECK | BBHA 9170 | BBHA 9170243 | Feb. 23, 2005 |
| Preamplifier Agilent | 8447D | 2944A10633 | Nov. 09, 2005 |
| Preamplifier Agilent | 8449B | 3008A01964 | Nov. 06, 2005 |
| RF signal cable HUBER+SUHNNER | SUCOFLEX 104 | 218183/4 | Mar. 05, 2005 |
| RF signal cable HUBER+SUHNNER | SUCOFLEX 104 | 218195/4 | Mar. 05, 2005 |
| Software ADT. | ADT_Radiated_V5.14 | NA | NA |
| Antenna Tower inn-co GmbH | MA 4000 | 013303 | NA |
| Antenna Tower Controller inn-co GmbH | CO2000 | 017303 | NA |
| Turn Table ADT. | TT100. | TT93021703 | NA |
| Turn Table Controller ADT. | SC100. | SC93021703 | NA |

- 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 HwaYa Chamber 2.
 3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 4. The VCCI Site Registration No. is R-237.
 5. The IC Site Registration No. is IC4924-3.



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 3 meter semi- anechoic. 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 the quasi-peak method or average method as specified and then reported in Data sheet peak mode and QP mode.

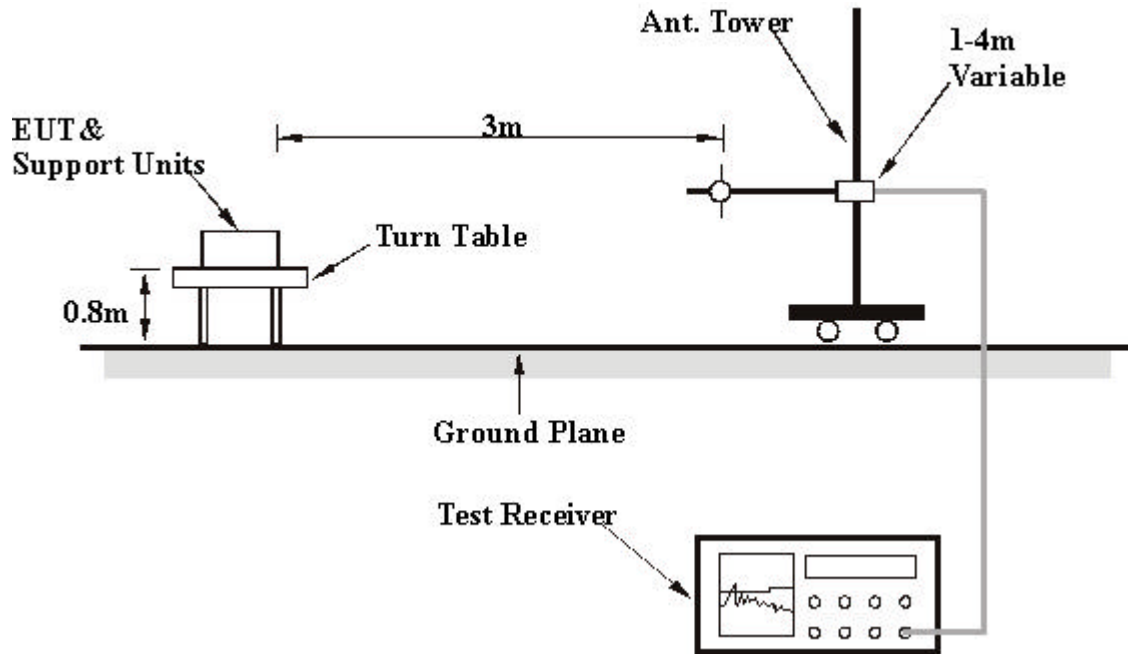
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection (PK) 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 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6



4.2.7 TEST RESULTS

Below 1GHz Worst-Case Data (Antenna combination 1)

| | | | |
|---------------------------------|-----------------------------|--------------------------|---------------|
| EUT | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 6 | FREQUENCY RANGE | Below 1000MHz |
| MODULATION TYPE | BPSK | TRANSFER RATE | 6Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | DETECTOR FUNCTION | Quasi-Peak |
| ENVIRONMENTAL CONDITIONS | 25deg. C, 60%RH, 991hPa | TESTED BY | Match Tsui |
| TEST MODE | 1 (Antenna combination 1) | | |

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 | 57.21 | 30.10 QP | 40.00 | -9.90 | 1.75 H | 46 | 16.11 | 13.99 |
| 2 | 107.76 | 41.18 QP | 43.50 | -2.32 | 1.50 H | 280 | 29.41 | 11.77 |
| 3 | 144.69 | 32.84 QP | 43.50 | -10.66 | 1.25 H | 67 | 18.31 | 14.53 |
| 4 | 224.39 | 37.54 QP | 46.00 | -8.46 | 1.25 H | 73 | 25.43 | 12.11 |
| 5 | 249.66 | 40.30 QP | 46.00 | -5.70 | 1.00 H | 82 | 27.08 | 13.22 |
| 6 | 395.45 | 34.79 QP | 46.00 | -11.21 | 1.00 H | 64 | 18.14 | 16.65 |
| 7 | 420.72 | 32.11 QP | 46.00 | -13.89 | 1.00 H | 280 | 14.81 | 17.30 |
| 8 | 494.59 | 37.63 QP | 46.00 | -8.37 | 1.75 H | 40 | 18.97 | 18.66 |
| 9 | 593.73 | 39.62 QP | 46.00 | -6.38 | 1.25 H | 19 | 18.78 | 20.84 |
| 10 | 669.54 | 35.98 QP | 46.00 | -10.02 | 1.00 H | 25 | 14.06 | 21.92 |
| 11 | 692.87 | 43.36 QP | 46.00 | -2.64 | 1.00 H | 268 | 21.14 | 22.21 |
| 12 | 758.96 | 35.96 QP | 46.00 | -10.04 | 1.00 H | 298 | 12.38 | 23.58 |
| 13 | 792.00 | 40.38 QP | 46.00 | -5.62 | 1.00 H | 301 | 16.60 | 23.77 |
| 14 | 825.05 | 32.75 QP | 46.00 | -13.25 | 1.00 H | 295 | 8.75 | 24.01 |
| 15 | 891.14 | 33.72 QP | 46.00 | -12.28 | 1.50 H | 10 | 8.77 | 24.95 |

- 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



| | | | |
|---------------------------------|-----------------------------|--------------------------|---------------|
| EUT | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 6 | FREQUENCY RANGE | Below 1000MHz |
| MODULATION TYPE | BPSK | TRANSFER RATE | 6Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | DETECTOR FUNCTION | Quasi-Peak |
| ENVIRONMENTAL CONDITIONS | 25deg. C, 60%RH, 991hPa | TESTED BY | Match Tsui |
| TEST MODE | 1 (Antenna combination 1) | | |

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 | 60.26 | 38.73 QP | 40.00 | -1.27 | 1.00 V | 175 | 25.05 | 13.68 |
| 2 | 107.76 | 41.36 QP | 43.50 | -2.14 | 1.75 V | 28 | 29.58 | 11.77 |
| 3 | 144.69 | 36.15 QP | 43.50 | -7.35 | 1.00 V | 211 | 21.62 | 14.53 |
| 4 | 224.39 | 29.13 QP | 46.00 | -16.87 | 1.25 V | 340 | 17.02 | 12.11 |
| 5 | 249.66 | 32.68 QP | 46.00 | -13.32 | 1.25 V | 235 | 19.47 | 13.22 |
| 6 | 288.54 | 32.92 QP | 46.00 | -13.08 | 1.50 V | 358 | 18.60 | 14.32 |
| 7 | 319.64 | 34.49 QP | 46.00 | -11.51 | 1.50 V | 10 | 19.54 | 14.95 |
| 8 | 350.74 | 44.77 QP | 46.00 | -1.23 | 1.25 V | 46 | 29.11 | 15.67 |
| 9 | 395.45 | 35.16 QP | 46.00 | -10.84 | 1.00 V | 340 | 18.51 | 16.65 |
| 10 | 512.08 | 33.81 QP | 46.00 | -12.19 | 1.00 V | 175 | 14.85 | 18.96 |
| 11 | 593.73 | 38.34 QP | 46.00 | -7.66 | 1.00 V | 205 | 17.49 | 20.84 |
| 12 | 640.38 | 35.24 QP | 46.00 | -10.76 | 1.25 V | 175 | 13.69 | 21.55 |
| 13 | 692.87 | 40.88 QP | 46.00 | -5.12 | 1.00 V | 208 | 18.67 | 22.21 |
| 14 | 758.96 | 36.04 QP | 46.00 | -9.96 | 1.25 V | 268 | 12.45 | 23.58 |
| 15 | 792.00 | 39.17 QP | 46.00 | -6.83 | 1.75 V | 139 | 15.40 | 23.77 |
| 16 | 891.14 | 38.83 QP | 46.00 | -7.17 | 1.00 V | 313 | 13.88 | 24.95 |

- 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



Below 1GHz Worst-Case Data (Antenna combination 2)

| | | | |
|---------------------------------|-----------------------------|--------------------------|---------------|
| EUT | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 6 | FREQUENCY RANGE | Below 1000MHz |
| MODULATION TYPE | BPSK | TRANSFER RATE | 6Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | DETECTOR FUNCTION | Quasi-Peak |
| ENVIRONMENTAL CONDITIONS | 25deg. C, 61%RH, 991hPa | TESTED BY | Match Tsui |
| TEST MODE | 2 (Antenna combination 2) | | |

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 | 64.00 | 38.67 QP | 40.00 | -1.33 | 3.00 H | 344 | 25.12 | 13.55 |
| 2 | 158.30 | 37.07 QP | 43.50 | -6.43 | 1.50 H | 259 | 22.39 | 14.68 |
| 3 | 191.34 | 41.39 QP | 43.50 | -2.11 | 1.25 H | 88 | 29.27 | 12.12 |
| 4 | 249.66 | 43.53 QP | 46.00 | -2.47 | 1.25 H | 181 | 30.12 | 13.41 |
| 5 | 692.87 | 40.14 QP | 46.00 | -5.86 | 1.00 H | 232 | 17.71 | 22.43 |
| 6 | 792.00 | 39.51 QP | 46.00 | -6.49 | 1.00 H | 235 | 15.76 | 23.76 |

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 | 30.00 | 38.19 QP | 40.00 | -1.81 | 1.00 V | 190 | 23.99 | 14.20 |
| 2 | 63.05 | 32.75 QP | 40.00 | -7.25 | 2.50 V | 13 | 19.11 | 13.64 |
| 3 | 142.75 | 33.63 QP | 43.50 | -9.87 | 1.00 V | 286 | 19.43 | 14.20 |
| 4 | 191.34 | 33.67 QP | 43.50 | -9.83 | 2.00 V | 64 | 21.55 | 12.12 |
| 5 | 593.73 | 35.85 QP | 46.00 | -10.15 | 1.00 V | 313 | 14.78 | 21.07 |
| 6 | 692.87 | 39.63 QP | 46.00 | -6.37 | 1.25 V | 178 | 17.20 | 22.43 |
| 7 | 792.00 | 36.62 QP | 46.00 | -9.38 | 1.00 V | 151 | 12.87 | 23.76 |

- 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 (Antenna combination 1)**

| | | | |
|---------------------------------|-----------------------------|--------------------------|--------------------------|
| EUT | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 1 | FREQUENCY RANGE | 1 ~ 25GHz |
| MODULATION TYPE | CCK | TRANSFER RATE | 11Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 22deg. C, 65%RH, 991hPa | TESTED BY | Rush Kao |
| TEST MODE | 1 (Antenna combination 1) | | |

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 | 2390.00 | 46.78 PK | 74.00 | -27.22 | 1.15 H | 311 | 13.71 | 33.07 |
| 1 | 2390.00 | 40.48 AV | 54.00 | -13.52 | 1.15 H | 311 | 7.41 | 33.07 |
| 2 | *2412.00 | 100.00 PK | | | 1.15 H | 311 | 66.86 | 33.14 |
| 2 | *2412.00 | 93.70 AV | | | 1.15 H | 311 | 60.56 | 33.14 |
| 3 | 4824.00 | 50.35 PK | 74.00 | -23.65 | 1.22 H | 347 | 10.51 | 39.84 |
| 3 | 4824.00 | 37.71 AV | 54.00 | -16.29 | 1.22 H | 347 | -2.13 | 39.84 |
| 4 | 5580.00 | 62.62 PK | 80.00 | -17.38 | 1.15 H | 12 | 21.13 | 41.49 |
| 4 | 5580.00 | 54.03 AV | 73.70 | -19.67 | 1.15 H | 12 | 12.54 | 41.49 |
| 5 | 6336.00 | 59.05 PK | 80.00 | -20.95 | 1.14 H | 340 | 16.59 | 42.46 |
| 5 | 6336.00 | 55.49 AV | 73.70 | -18.21 | 1.14 H | 340 | 13.03 | 42.46 |

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 | 2390.00 | 52.41 PK | 74.00 | -21.59 | 1.11 V | 180 | 19.34 | 33.07 |
| 1 | 2390.00 | 45.15 AV | 54.00 | -8.85 | 1.11 V | 180 | 12.08 | 33.07 |
| 2 | *2412.00 | 105.63 PK | | | 1.11 V | 180 | 72.49 | 33.14 |
| 2 | *2412.00 | 98.37 AV | | | 1.11 V | 180 | 65.23 | 33.14 |
| 3 | 4824.00 | 51.92 PK | 74.00 | -22.08 | 1.00 V | 46 | 12.08 | 39.84 |
| 3 | 4824.00 | 39.26 AV | 54.00 | -14.74 | 1.00 V | 46 | -0.58 | 39.84 |
| 4 | 5580.00 | 63.74 PK | 85.63 | -21.89 | 1.00 V | 174 | 22.25 | 41.49 |
| 4 | 5580.00 | 55.98 AV | 78.37 | -22.39 | 1.00 V | 174 | 14.49 | 41.49 |
| 5 | 6336.00 | 58.83 PK | 85.63 | -26.80 | 1.16 V | 327 | 16.37 | 42.46 |
| 5 | 6336.00 | 55.60 AV | 78.37 | -22.77 | 1.16 V | 327 | 13.14 | 42.46 |

- 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 | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 6 | FREQUENCY RANGE | 1 ~ 25GHz |
| MODULATION TYPE | CCK | TRANSFER RATE | 11Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 22deg. C, 65%RH, 991hPa | TESTED BY | Rush Kao |
| TEST MODE | 1 (Antenna combination 1) | | |

| 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 | *2437.00 | 99.77 PK | | | 1.14 H | 309 | 66.56 | 33.21 |
| 1 | *2437.00 | 92.49 AV | | | 1.14 H | 309 | 59.28 | 33.21 |
| 2 | 4874.00 | 50.78 PK | 74.00 | -23.22 | 1.18 H | 13 | 10.76 | 40.02 |
| 2 | 4874.00 | 38.54 AV | 54.00 | -15.46 | 1.18 H | 13 | -1.48 | 40.02 |
| 3 | 5605.00 | 65.49 PK | 79.77 | -14.28 | 1.14 H | 94 | 23.95 | 41.54 |
| 3 | 5605.00 | 58.03 AV | 72.49 | -14.46 | 1.14 H | 94 | 16.49 | 41.54 |
| 4 | 6336.00 | 58.83 PK | 79.77 | -20.94 | 1.14 H | 340 | 16.37 | 42.46 |
| 4 | 6336.00 | 55.56 AV | 72.49 | -16.93 | 1.14 H | 340 | 13.10 | 42.46 |

| 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 | *2437.00 | 105.59 PK | | | 1.13 V | 181 | 72.38 | 33.21 |
| 1 | *2437.00 | 98.30 AV | | | 1.13 V | 181 | 65.09 | 33.21 |
| 2 | 4874.00 | 52.28 PK | 74.00 | -21.72 | 1.11 V | 360 | 12.26 | 40.02 |
| 2 | 4874.00 | 39.97 AV | 54.00 | -14.03 | 1.11 V | 360 | -0.05 | 40.02 |
| 3 | 5605.00 | 64.24 PK | 85.59 | -21.35 | 1.35 V | 90 | 22.70 | 41.54 |
| 3 | 5605.00 | 56.49 AV | 78.30 | -21.81 | 1.35 V | 90 | 14.95 | 41.54 |
| 4 | 6336.00 | 59.54 PK | 85.59 | -26.05 | 1.07 V | 328 | 17.08 | 42.46 |
| 4 | 6336.00 | 56.17 AV | 78.30 | -22.13 | 1.07 V | 328 | 13.71 | 42.46 |

- 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 | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 11 | FREQUENCY RANGE | 1 ~ 25GHz |
| MODULATION TYPE | CCK | TRANSFER RATE | 11Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 22deg. C, 65%RH, 991hPa | TESTED BY | Rush Kao |
| TEST MODE | 1 (Antenna combination 1) | | |

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 | *2462.00 | 97.70 PK | | | 1.12 H | 310 | 64.41 | 33.29 |
| 1 | *2462.00 | 90.42 AV | | | 1.12 H | 310 | 57.13 | 33.29 |
| 2 | 2483.50 | 49.30 PK | 74.00 | -24.70 | 1.12 H | 310 | 15.95 | 33.35 |
| 2 | 2483.50 | 42.02 AV | 54.00 | -11.98 | 1.12 H | 310 | 8.67 | 33.35 |
| 3 | 4924.00 | 51.41 PK | 74.00 | -22.59 | 1.42 H | 17 | 11.19 | 40.22 |
| 3 | 4924.00 | 38.81 AV | 54.00 | -15.19 | 1.42 H | 17 | -1.41 | 40.22 |
| 4 | 5630.00 | 66.08 PK | 77.70 | -11.62 | 1.40 H | 94 | 24.50 | 41.58 |
| 4 | 5630.00 | 58.70 AV | 70.42 | -11.72 | 1.40 H | 94 | 17.12 | 41.58 |
| 5 | 6336.00 | 58.95 PK | 77.70 | -18.75 | 1.14 H | 340 | 16.49 | 42.46 |
| 5 | 6336.00 | 55.10 AV | 70.42 | -15.32 | 1.14 H | 340 | 12.64 | 42.46 |

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 | *2462.00 | 102.87 PK | | | 1.06 V | 195 | 69.58 | 33.29 |
| 1 | *2462.00 | 95.58 AV | | | 1.06 V | 195 | 62.29 | 33.29 |
| 2 | 2483.50 | 54.47 PK | 74.00 | -19.53 | 1.06 V | 195 | 21.12 | 33.35 |
| 2 | 2483.50 | 47.18 AV | 54.00 | -6.82 | 1.06 V | 195 | 13.83 | 33.35 |
| 3 | 4924.00 | 51.70 PK | 74.00 | -22.30 | 1.08 V | 340 | 11.48 | 40.22 |
| 3 | 4924.00 | 39.46 AV | 54.00 | -14.54 | 1.08 V | 340 | -0.76 | 40.22 |
| 4 | 5630.00 | 63.85 PK | 82.87 | -19.02 | 1.08 V | 96 | 22.27 | 41.58 |
| 4 | 5630.00 | 56.20 AV | 75.58 | -19.38 | 1.08 V | 96 | 14.62 | 41.58 |
| 5 | 6336.00 | 58.61 PK | 82.87 | -24.26 | 1.06 V | 328 | 16.15 | 42.46 |
| 5 | 6336.00 | 55.53 AV | 75.58 | -20.05 | 1.06 V | 328 | 13.07 | 42.46 |

- 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

**802.11b DSSS modulation (Antenna combination 2)**

| | | | |
|---------------------------------|-----------------------------|--------------------------|--------------------------|
| EUT | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 1 | FREQUENCY RANGE | 1 ~ 25GHz |
| MODULATION TYPE | CCK | TRANSFER RATE | 11Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 21deg. C, 64%RH, 991hPa | TESTED BY | Brad Wu |
| TEST MODE | 2 (Antenna combination 2) | | |

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 | 2390.00 | 41.02 PK | 74.00 | -32.98 | 1.96 H | 359 | 8.94 | 32.08 |
| 1 | 2390.00 | 33.66 AV | 54.00 | -20.34 | 1.96 H | 359 | 1.58 | 32.08 |
| 2 | *2412.00 | 90.20 PK | | | 1.96 H | 359 | 58.01 | 32.19 |
| 2 | *2412.00 | 82.84 AV | | | 1.96 H | 359 | 50.65 | 32.19 |
| 3 | 4824.00 | 50.14 PK | 74.00 | -23.86 | 1.00 H | 0 | 12.17 | 37.97 |
| 3 | 4824.00 | 43.19 AV | 54.00 | -10.81 | 1.00 H | 0 | 5.22 | 37.97 |
| 4 | 5580.00 | 64.07 PK | 70.20 | -6.13 | 1.66 H | 276 | 24.71 | 39.36 |
| 4 | 5580.00 | 56.02 AV | 62.84 | -6.82 | 1.66 H | 276 | 16.66 | 39.36 |
| 5 | 6336.00 | 57.16 PK | 74.00 | -16.84 | 1.63 H | 176 | 15.71 | 41.44 |
| 5 | 6336.00 | 53.81 AV | 54.00 | -0.19 | 1.63 H | 176 | 12.36 | 41.44 |

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 | 2390.00 | 58.99 PK | 74.00 | -15.01 | 1.11 V | 359 | 26.91 | 32.08 |
| 1 | 2390.00 | 51.42 AV | 54.00 | -2.58 | 1.11 V | 359 | 19.34 | 32.08 |
| 2 | *2412.00 | 108.17 PK | | | 1.11 V | 359 | 75.98 | 32.19 |
| 2 | *2412.00 | 100.60 AV | | | 1.11 V | 359 | 68.41 | 32.19 |
| 3 | 4824.00 | 53.54 PK | 74.00 | -20.46 | 1.17 V | 46 | 15.57 | 37.97 |
| 3 | 4824.00 | 46.49 AV | 54.00 | -7.51 | 1.17 V | 46 | 8.52 | 37.97 |
| 4 | 5580.00 | 63.93 PK | 88.17 | -24.24 | 1.34 V | 196 | 24.57 | 39.36 |
| 4 | 5580.00 | 56.35 AV | 80.60 | -24.25 | 1.34 V | 196 | 16.99 | 39.36 |
| 5 | 6336.00 | 58.22 PK | 88.17 | -29.95 | 1.00 V | 158 | 16.77 | 41.44 |
| 5 | 6336.00 | 55.13 AV | 80.60 | -25.47 | 1.00 V | 158 | 13.68 | 41.44 |

- 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 | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 6 | FREQUENCY RANGE | 1 ~ 25GHz |
| MODULATION TYPE | CCK | TRANSFER RATE | 11Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 21deg. C, 62%RH, 991hPa | TESTED BY | Brad Wu |
| TEST MODE | 2 (Antenna combination 2) | | |

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 | 2368.00 | 44.62 PK | 74.00 | -29.38 | 1.63 H | 21 | 12.64 | 31.98 |
| 1 | 2368.00 | 34.08 AV | 54.00 | -19.92 | 1.63 H | 21 | 2.10 | 31.98 |
| 2 | *2437.00 | 94.43 PK | | | 1.02 H | 5 | 62.13 | 32.30 |
| 2 | *2437.00 | 87.02 AV | | | 1.02 H | 5 | 54.72 | 32.30 |
| 3 | 2496.00 | 43.94 PK | 74.00 | -30.06 | 1.00 H | 23 | 11.36 | 32.58 |
| 3 | 2496.00 | 34.08 AV | 54.00 | -19.92 | 1.00 H | 23 | 1.50 | 32.58 |
| 4 | 4874.00 | 48.30 PK | 74.00 | -25.70 | 1.43 H | 132 | 10.23 | 38.07 |
| 4 | 4874.00 | 36.20 AV | 54.00 | -17.80 | 1.43 H | 132 | -1.87 | 38.07 |
| 5 | 5605.00 | 63.39 PK | 74.43 | -11.04 | 1.66 H | 268 | 23.99 | 39.40 |
| 5 | 5605.00 | 55.48 AV | 67.02 | -11.54 | 1.66 H | 268 | 16.08 | 39.40 |
| 6 | 6336.00 | 58.09 PK | 74.43 | -16.34 | 1.65 H | 176 | 16.64 | 41.44 |
| 6 | 6336.00 | 54.66 AV | 67.02 | -12.36 | 1.65 H | 176 | 13.21 | 41.44 |

- 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 | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 6 | FREQUENCY RANGE | 1 ~ 25GHz |
| MODULATION TYPE | CCK | TRANSFER RATE | 11Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 21deg. C, 62%RH, 991hPa | TESTED BY | Brad Wu |
| TEST MODE | 2 (Antenna combination 2) | | |

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 | 2368.00 | 56.07 PK | 74.00 | -17.93 | 1.16 V | 20 | 24.09 | 31.98 |
| 1 | 2368.00 | 47.01 AV | 54.00 | -6.99 | 1.16 V | 20 | 15.03 | 31.98 |
| 2 | *2437.00 | 108.10 PK | | | 1.12 V | 24 | 75.80 | 32.30 |
| 2 | *2437.00 | 100.76 AV | | | 1.12 V | 24 | 68.46 | 32.30 |
| 3 | 2496.00 | 52.02 PK | 74.00 | -21.98 | 1.12 V | 27 | 19.44 | 32.58 |
| 3 | 2496.00 | 46.87 AV | 54.00 | -7.13 | 1.12 V | 27 | 14.29 | 32.58 |
| 4 | 4874.00 | 49.42 PK | 74.00 | -24.58 | 1.37 V | 76 | 11.35 | 38.07 |
| 4 | 4874.00 | 37.16 AV | 54.00 | -16.84 | 1.37 V | 76 | -0.91 | 38.07 |
| 5 | 5605.00 | 63.06 PK | 88.10 | -25.04 | 1.60 V | 54 | 23.66 | 39.40 |
| 5 | 5605.00 | 55.12 AV | 80.76 | -25.64 | 1.60 V | 54 | 15.72 | 39.40 |
| 6 | 6336.00 | 61.64 PK | 88.10 | -26.46 | 1.31 V | 78 | 20.19 | 41.44 |
| 6 | 6336.00 | 59.81 AV | 80.76 | -20.95 | 1.31 V | 78 | 18.36 | 41.44 |

- 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 | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 11 | FREQUENCY RANGE | 1 ~ 25GHz |
| MODULATION TYPE | CCK | TRANSFER RATE | 11Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 21deg. C, 64%RH, 991hPa | TESTED BY | Brad Wu |
| TEST MODE | 2 (Antenna combination 2) | | |

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 | *2462.00 | 92.00 PK | | | 1.36 H | 198 | 59.58 | 32.42 |
| 1 | *2462.00 | 84.53 AV | | | 1.36 H | 198 | 52.11 | 32.42 |
| 2 | 2483.50 | 43.27 PK | 74.00 | -30.73 | 1.36 H | 198 | 10.75 | 32.52 |
| 3 | 4924.00 | 48.14 PK | 74.00 | -25.86 | 1.22 H | 285 | 9.96 | 38.18 |
| 3 | 4924.00 | 41.19 AV | 54.00 | -12.81 | 1.22 H | 285 | 3.01 | 38.18 |
| 4 | 5630.00 | 62.32 PK | 72.00 | -9.68 | 1.65 H | 275 | 22.88 | 39.44 |
| 4 | 5630.00 | 54.42 AV | 64.53 | -10.11 | 1.65 H | 275 | 14.98 | 39.44 |
| 5 | 6336.00 | 57.67 PK | 72.00 | -14.33 | 1.43 H | 181 | 16.22 | 41.44 |
| 5 | 6336.00 | 54.44 AV | 64.53 | -10.09 | 1.43 H | 181 | 12.99 | 41.44 |

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 | *2462.00 | 105.16 PK | | | 1.12 V | 5 | 72.74 | 32.42 |
| 1 | *2462.00 | 97.94 AV | | | 1.12 V | 5 | 65.52 | 32.42 |
| 2 | 2483.50 | 56.43 PK | 74.00 | -17.57 | 1.12 V | 5 | 23.91 | 32.52 |
| 2 | 2483.50 | 49.21 AV | 54.00 | -4.79 | 1.12 V | 5 | 16.69 | 32.52 |
| 3 | 4924.00 | 51.50 PK | 74.00 | -22.50 | 1.12 V | 20 | 13.32 | 38.18 |
| 3 | 4924.00 | 44.40 AV | 54.00 | -9.60 | 1.12 V | 20 | 6.22 | 38.18 |
| 4 | 5630.00 | 59.43 PK | 74.00 | -14.57 | 1.00 V | 19 | 19.99 | 39.44 |
| 4 | 5630.00 | 51.31 AV | 54.00 | -2.69 | 1.00 V | 19 | 11.87 | 39.44 |
| 5 | 6336.00 | 61.62 PK | 85.16 | -23.54 | 1.31 V | 77 | 20.17 | 41.44 |
| 5 | 6336.00 | 59.74 AV | 77.94 | -18.20 | 1.31 V | 77 | 18.29 | 41.44 |

- 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 (Antenna combination 1)

| | | | |
|---------------------------------|-----------------------------|--------------------------|--------------------------|
| EUT | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 1 | FREQUENCY RANGE | 1 ~ 25GHz |
| MODULATION TYPE | BPSK | TRANSFER RATE | 6Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 22deg. C, 65%RH, 991hPa | TESTED BY | Rush Kao |
| TEST MODE | 1 (Antenna combination 1) | | |

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 | 2390.00 | 53.24 PK | 74.00 | -20.76 | 1.16 H | 313 | 20.17 | 33.07 |
| 1 | 2390.00 | 46.33 AV | 54.00 | -7.67 | 1.16 H | 313 | 13.26 | 33.07 |
| 2 | *2412.00 | 96.80 PK | | | 1.16 H | 313 | 63.66 | 33.14 |
| 2 | *2412.00 | 87.89 AV | | | 1.16 H | 313 | 54.75 | 33.14 |
| 3 | 4824.00 | 49.13 PK | 74.00 | -24.87 | 1.00 H | 350 | 9.29 | 39.84 |
| 3 | 4824.00 | 36.68 AV | 54.00 | -17.32 | 1.00 H | 350 | -3.16 | 39.84 |
| 4 | 5580.00 | 64.67 PK | 76.80 | -12.13 | 1.03 H | 89 | 23.18 | 41.49 |
| 4 | 5580.00 | 54.87 AV | 67.89 | -13.02 | 1.03 H | 89 | 13.38 | 41.49 |
| 5 | 6336.00 | 58.14 PK | 76.80 | -18.66 | 1.01 H | 344 | 15.68 | 42.46 |
| 5 | 6336.00 | 54.35 AV | 67.89 | -13.54 | 1.01 H | 344 | 11.89 | 42.46 |

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 | 2390.00 | 57.05 PK | 74.00 | -16.95 | 1.00 V | 296 | 23.98 | 33.07 |
| 1 | 2390.00 | 47.67 AV | 54.00 | -6.33 | 1.00 V | 296 | 14.60 | 33.07 |
| 2 | *2412.00 | 100.61 PK | | | 1.00 V | 296 | 67.47 | 33.14 |
| 2 | *2412.00 | 91.23 AV | | | 1.00 V | 296 | 58.09 | 33.14 |
| 3 | 4824.00 | 49.05 PK | 74.00 | -24.95 | 1.00 V | 12 | 9.21 | 39.84 |
| 3 | 4824.00 | 37.33 AV | 54.00 | -16.67 | 1.00 V | 12 | -2.51 | 39.84 |
| 4 | 5580.00 | 61.42 PK | 74.00 | -12.58 | 1.00 V | 181 | 19.93 | 41.49 |
| 4 | 5580.00 | 51.72 AV | 54.00 | -2.28 | 1.00 V | 181 | 10.23 | 41.49 |
| 5 | 6336.00 | 58.38 PK | 80.61 | -22.23 | 1.27 V | 321 | 15.92 | 42.46 |

- 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 | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 6 | FREQUENCY RANGE | 1 ~ 25GHz |
| MODULATION TYPE | BPSK | TRANSFER RATE | 6Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 22deg. C, 65%RH, 991hPa | TESTED BY | Rush Kao |
| TEST MODE | 1 (Antenna combination 1) | | |

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 | 2368.00 | 48.24 PK | 74.00 | -25.76 | 1.20 H | 157 | 15.24 | 33.00 |
| 1 | 2368.00 | 37.67 AV | 54.00 | -16.33 | 1.20 H | 157 | 4.67 | 33.00 |
| 2 | *2437.00 | 96.30 PK | | | 1.13 H | 310 | 63.09 | 33.21 |
| 2 | *2437.00 | 86.68 AV | | | 1.13 H | 310 | 53.47 | 33.21 |
| 3 | 4874.00 | 49.22 PK | 74.00 | -24.78 | 1.52 H | 13 | 9.20 | 40.02 |
| 3 | 4874.00 | 37.22 AV | 54.00 | -16.78 | 1.52 H | 13 | -2.80 | 40.02 |
| 4 | 5605.00 | 65.51 PK | 76.30 | -7.79 | 1.38 H | 76 | 23.97 | 41.54 |
| 4 | 5605.00 | 55.96 AV | 66.68 | -7.72 | 1.38 H | 76 | 14.42 | 41.54 |
| 5 | 6336.00 | 58.17 PK | 76.30 | -15.13 | 1.14 H | 341 | 15.71 | 42.46 |
| 5 | 6336.00 | 54.32 AV | 66.68 | -9.36 | 1.14 H | 341 | 11.86 | 42.46 |

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 | 2368.00 | 50.53 PK | 74.00 | -23.47 | 1.14 V | 193 | 17.53 | 33.00 |
| 1 | 2368.00 | 40.48 AV | 54.00 | -13.52 | 1.14 V | 193 | 7.48 | 33.00 |
| 2 | *2437.00 | 102.02 PK | | | 1.11 V | 180 | 68.81 | 33.21 |
| 2 | *2437.00 | 92.95 AV | | | 1.11 V | 180 | 59.74 | 33.21 |
| 3 | 4874.00 | 52.89 PK | 74.00 | -21.11 | 1.11 V | 93 | 12.87 | 40.02 |
| 3 | 4874.00 | 39.92 AV | 54.00 | -14.08 | 1.11 V | 93 | -0.10 | 40.02 |
| 4 | 5605.00 | 64.29 PK | 82.02 | -14.73 | 1.09 V | 90 | 22.75 | 41.54 |
| 4 | 5605.00 | 55.37 AV | 72.95 | -14.58 | 1.09 V | 90 | 13.83 | 41.54 |
| 5 | 6336.00 | 58.34 PK | 82.02 | -20.68 | 1.08 V | 317 | 15.88 | 42.46 |
| 5 | 6336.00 | 54.87 AV | 72.95 | -15.08 | 1.08 V | 317 | 12.41 | 42.46 |

- 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 | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 11 | FREQUENCY RANGE | 1 ~ 25GHz |
| MODULATION TYPE | BPSK | TRANSFER RATE | 6Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 22deg. C, 65%RH, 991hPa | TESTED BY | Rush Kao |
| TEST MODE | 1 (Antenna combination 1) | | |

| 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 | *2462.00 | 92.75 PK | | | 1.12 H | 309 | 59.46 | 33.29 |
| 1 | *2462.00 | 84.18 AV | | | 1.12 H | 309 | 50.89 | 33.29 |
| 2 | 2483.50 | 52.28 PK | 74.00 | -21.72 | 1.12 H | 309 | 18.93 | 33.35 |
| 2 | 2483.50 | 43.71 AV | 54.00 | -10.29 | 1.12 H | 309 | 10.36 | 33.35 |
| 3 | 4924.00 | 49.15 PK | 74.00 | -24.85 | 1.00 H | 93 | 8.93 | 40.22 |
| 3 | 4924.00 | 37.15 AV | 54.00 | -16.85 | 1.00 H | 93 | -3.07 | 40.22 |
| 4 | 5630.00 | 63.41 PK | 72.75 | -9.34 | 1.00 H | 88 | 21.83 | 41.58 |
| 4 | 5630.00 | 54.10 AV | 64.18 | -10.08 | 1.00 H | 88 | 12.52 | 41.58 |
| 5 | 6336.00 | 58.10 PK | 72.75 | -14.65 | 1.01 H | 343 | 15.64 | 42.46 |
| 5 | 6336.00 | 54.67 AV | 64.18 | -9.51 | 1.01 H | 343 | 12.21 | 42.46 |

| 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 | *2462.00 | 98.60 PK | | | 1.11 V | 180 | 65.31 | 33.29 |
| 1 | *2462.00 | 89.15 AV | | | 1.11 V | 180 | 55.86 | 33.29 |
| 2 | 2483.50 | 58.13 PK | 74.00 | -15.87 | 1.11 V | 180 | 24.78 | 33.35 |
| 2 | 2483.50 | 48.68 AV | 54.00 | -5.32 | 1.11 V | 180 | 15.33 | 33.35 |
| 3 | 4924.00 | 52.26 PK | 74.00 | -21.74 | 1.13 V | 91 | 12.04 | 40.22 |
| 3 | 4924.00 | 38.88 AV | 54.00 | -15.12 | 1.13 V | 91 | -1.34 | 40.22 |
| 4 | 5630.00 | 59.78 PK | 74.00 | -14.22 | 1.09 V | 212 | 18.20 | 41.58 |
| 4 | 5630.00 | 50.10 AV | 54.00 | -3.90 | 1.09 V | 212 | 8.52 | 41.58 |
| 5 | 6336.00 | 58.25 PK | 78.60 | -20.35 | 1.08 V | 317 | 15.79 | 42.46 |
| 5 | 6336.00 | 55.13 AV | 69.15 | -14.02 | 1.08 V | 317 | 12.67 | 42.46 |

- 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 (Antenna combination 2)**

| | | | |
|---------------------------------|-----------------------------|--------------------------|--------------------------|
| EUT | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 1 | FREQUENCY RANGE | 1 ~ 25GHz |
| MODULATION TYPE | BPSK | TRANSFER RATE | 6Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 21deg. C, 62%RH, 991hPa | TESTED BY | Brad Wu |
| TEST MODE | 2 (Antenna combination 2) | | |

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 | 2390.00 | 47.51 PK | 74.00 | -26.49 | 1.36 H | 237 | 15.43 | 32.08 |
| 2 | *2412.00 | 90.40 PK | | | 1.36 H | 237 | 58.21 | 32.19 |
| 2 | *2412.00 | 80.42 AV | | | 1.36 H | 237 | 48.23 | 32.19 |
| 3 | 4824.00 | 47.43 PK | 74.00 | -26.57 | 1.44 H | 76 | 9.46 | 37.97 |
| 4 | 5580.00 | 62.40 PK | 74.00 | -11.60 | 1.44 H | 76 | 23.04 | 39.36 |
| 4 | 5580.00 | 51.88 AV | 54.00 | -2.12 | 1.44 H | 76 | 12.52 | 39.36 |
| 5 | 6336.00 | 57.41 PK | 74.00 | -16.59 | 1.81 H | 335 | 15.96 | 41.44 |
| 5 | 6336.00 | 53.92 AV | 54.00 | -0.08 | 1.81 H | 335 | 12.47 | 41.44 |

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 | 2390.00 | 60.42 PK | 74.00 | -13.58 | 1.00 V | 233 | 28.34 | 32.08 |
| 1 | 2390.00 | 50.42 AV | 54.00 | -3.58 | 1.00 V | 233 | 18.34 | 32.08 |
| 2 | 2412.00 | 103.31 PK | | | 1.00 V | 233 | 71.12 | 32.19 |
| 2 | 2412.00 | 93.31 AV | | | 1.00 V | 233 | 61.12 | 32.19 |
| 3 | 4824.00 | 49.26 PK | 74.00 | -24.74 | 1.11 V | 125 | 11.29 | 37.97 |
| 4 | 5580.00 | 60.86 PK | 74.00 | -13.14 | 1.08 V | 220 | 21.50 | 39.36 |
| 4 | 5580.00 | 50.46 AV | 54.00 | -3.54 | 1.08 V | 220 | 11.10 | 39.36 |
| 5 | 6336.00 | 60.86 PK | 83.31 | -22.45 | 1.31 V | 257 | 19.41 | 41.44 |
| 5 | 6336.00 | 58.65 AV | 73.31 | -14.66 | 1.31 V | 257 | 17.20 | 41.44 |

- 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 | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 6 | FREQUENCY RANGE | 1 ~ 25GHz |
| MODULATION TYPE | BPSK | TRANSFER RATE | 6Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 21deg. C, 62%RH, 991hPa | TESTED BY | Brad Wu |
| TEST MODE | 2 (Antenna combination 2) | | |

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 | 2368.00 | 41.50 PK | 74.00 | -32.50 | 1.12 H | 125 | 9.52 | 31.98 |
| 2 | *2437.00 | 91.32 PK | | | 1.32 H | 211 | 59.02 | 32.30 |
| 2 | *2437.00 | 81.66 AV | | | 1.32 H | 211 | 49.36 | 32.30 |
| 3 | 2496.00 | 40.77 PK | 74.00 | -33.23 | 1.00 H | 230 | 8.19 | 32.58 |
| 3 | 2496.00 | 31.25 AV | 54.00 | -22.75 | 1.00 H | 230 | -1.33 | 32.58 |
| 4 | 4874.00 | 46.50 PK | 74.00 | -27.50 | 1.43 H | 130 | 8.43 | 38.07 |
| 5 | 5605.00 | 61.95 PK | 74.00 | -12.05 | 1.45 H | 75 | 22.55 | 39.40 |
| 5 | 5605.00 | 51.18 AV | 54.00 | -2.82 | 1.45 H | 75 | 11.78 | 39.40 |
| 6 | 6336.00 | 57.18 PK | 74.00 | -16.82 | 1.55 H | 339 | 15.73 | 41.44 |
| 6 | 6336.00 | 53.76 AV | 54.00 | -0.24 | 1.55 H | 339 | 12.31 | 41.44 |

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 | 2368.00 | 53.82 PK | 74.00 | -20.18 | 1.00 V | 231 | 21.84 | 31.98 |
| 1 | 2368.00 | 44.21 AV | 54.00 | -9.79 | 1.00 V | 231 | 12.23 | 31.98 |
| 2 | *2437.00 | 101.98 PK | | | 1.14 V | 351 | 69.68 | 32.30 |
| 2 | *2437.00 | 92.23 AV | | | 1.14 V | 351 | 59.93 | 32.30 |
| 3 | 2496.00 | 50.55 PK | 74.00 | -23.45 | 1.00 V | 120 | 17.97 | 32.58 |
| 3 | 2496.00 | 43.95 AV | 54.00 | -10.05 | 1.00 V | 120 | 11.37 | 32.58 |
| 4 | 4874.00 | 47.93 PK | 74.00 | -26.07 | 1.00 V | 0 | 9.86 | 38.07 |
| 5 | 5605.00 | 61.01 PK | 74.00 | -12.99 | 1.27 V | 258 | 21.61 | 39.40 |
| 5 | 5605.00 | 51.06 AV | 54.00 | -2.94 | 1.27 V | 258 | 11.66 | 39.40 |
| 6 | 6336.00 | 60.89 PK | 81.98 | -21.09 | 1.06 V | 256 | 19.44 | 41.44 |
| 6 | 6336.00 | 58.83 AV | 72.23 | -13.40 | 1.06 V | 256 | 17.38 | 41.44 |

- 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 | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| CHANNEL | Channel 11 | FREQUENCY RANGE | 1 ~ 25GHz |
| MODULATION TYPE | BPSK | TRANSFER RATE | 6Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 21deg. C, 62%RH, 991hPa | TESTED BY | Brad Wu |
| TEST MODE | 2 (Antenna combination 2) | | |

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 | 2368.00 | 42.38 PK | 74.00 | -31.62 | 1.29 H | 19 | 10.40 | 31.98 |
| 2 | *2462.00 | 89.39 PK | | | 1.28 H | 220 | 56.97 | 32.42 |
| 2 | *2462.00 | 79.72 AV | | | 1.28 H | 220 | 47.30 | 32.42 |
| 3 | 2483.50 | 47.07 PK | 74.00 | -26.93 | 1.22 H | 107 | 14.55 | 32.52 |
| 4 | 4924.00 | 48.55 PK | 74.00 | -25.45 | 1.00 H | 123 | 10.36 | 38.18 |
| 5 | 5630.00 | 65.80 PK | 69.39 | -3.59 | 1.29 H | 253 | 26.36 | 39.44 |
| 5 | 5630.00 | 56.40 AV | 59.72 | -3.32 | 1.29 H | 253 | 16.96 | 39.44 |
| 6 | 6336.00 | 57.21 PK | 74.00 | -16.79 | 1.22 H | 107 | 15.77 | 41.44 |
| 6 | 6336.00 | 52.65 AV | 54.00 | -1.35 | 1.22 H | 107 | 11.21 | 41.44 |

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 | 2368.00 | 51.06 PK | 74.00 | -22.94 | 1.17 V | 26 | 19.08 | 31.98 |
| 1 | 2368.00 | 42.85 AV | 54.00 | -11.15 | 1.17 V | 26 | 10.87 | 31.98 |
| 2 | *2462.00 | 101.96 PK | | | 1.17 V | 255 | 69.54 | 32.42 |
| 2 | *2462.00 | 91.91 AV | | | 1.17 V | 255 | 59.49 | 32.42 |
| 3 | 2483.50 | 59.64 PK | 74.00 | -14.36 | 1.17 V | 255 | 27.12 | 32.52 |
| 3 | 2483.50 | 49.59 AV | 54.00 | -4.41 | 1.17 V | 255 | 17.07 | 32.52 |
| 4 | 4924.00 | 49.42 PK | 74.00 | -24.58 | 1.34 V | 5 | 11.23 | 38.18 |
| 5 | 5630.00 | 64.97 PK | 81.96 | -16.99 | 1.39 V | 257 | 25.53 | 39.44 |
| 5 | 5630.00 | 55.26 AV | 71.91 | -16.65 | 1.39 V | 257 | 15.82 | 39.44 |
| 6 | 6336.00 | 60.87 PK | 81.96 | -21.09 | 1.31 V | 257 | 19.42 | 41.44 |
| 6 | 6336.00 | 58.30 AV | 71.91 | -13.61 | 1.31 V | 257 | 16.85 | 41.44 |

- 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 |
|----------------------------|-----------|------------|------------------|
| SPECTRUM ANALYZER | FSEK 30 | 100049 | Aug. 12, 2005 |

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

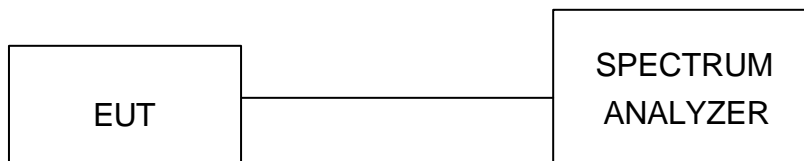
4.3.3 TEST PROCEDURE

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

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITIONS

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



4.3.7 TEST RESULTS

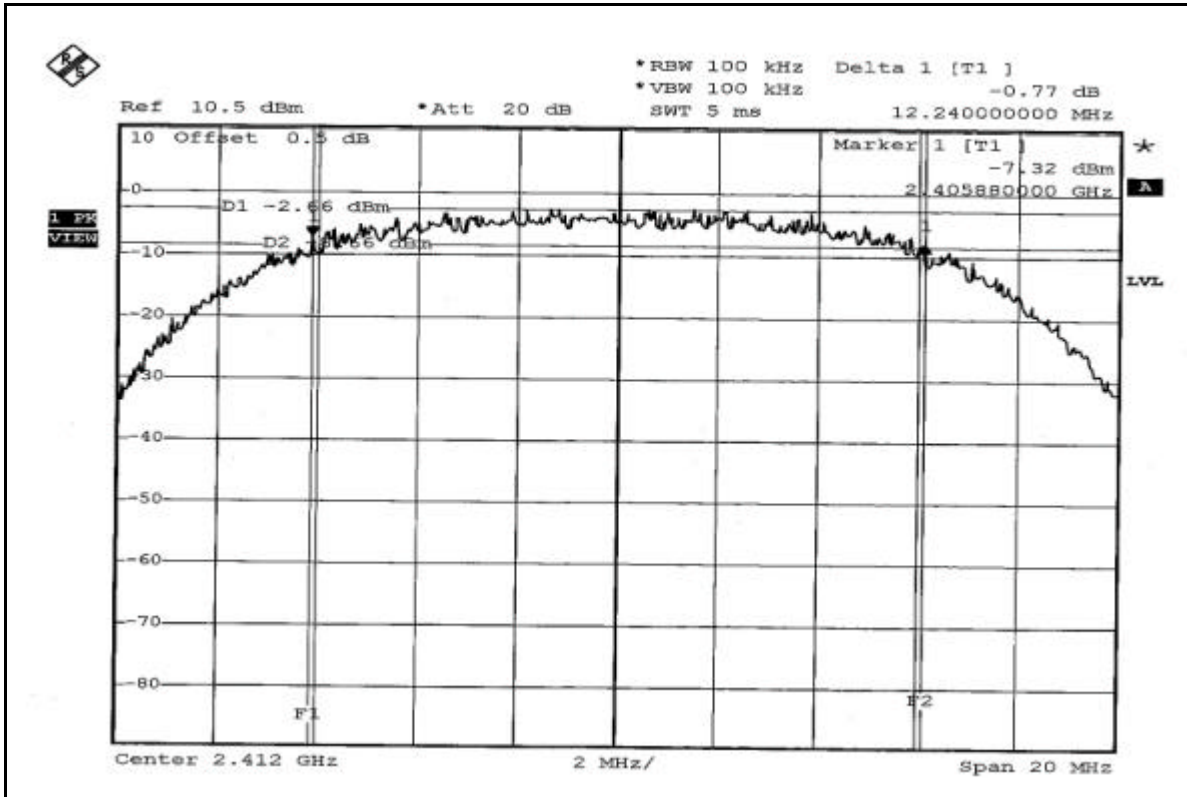
802.11b DSSS modulation

| | | | |
|-----------------------------|-----------------------------|---------------------------------|-------------------------|
| EUT | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| MODULATION TYPE | CCK | TRANSFER RATE | 11Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | ENVIRONMENTAL CONDITIONS | 23deg. C, 51%RH, 991hPa |
| TESTED BY | Rush Kao | | |

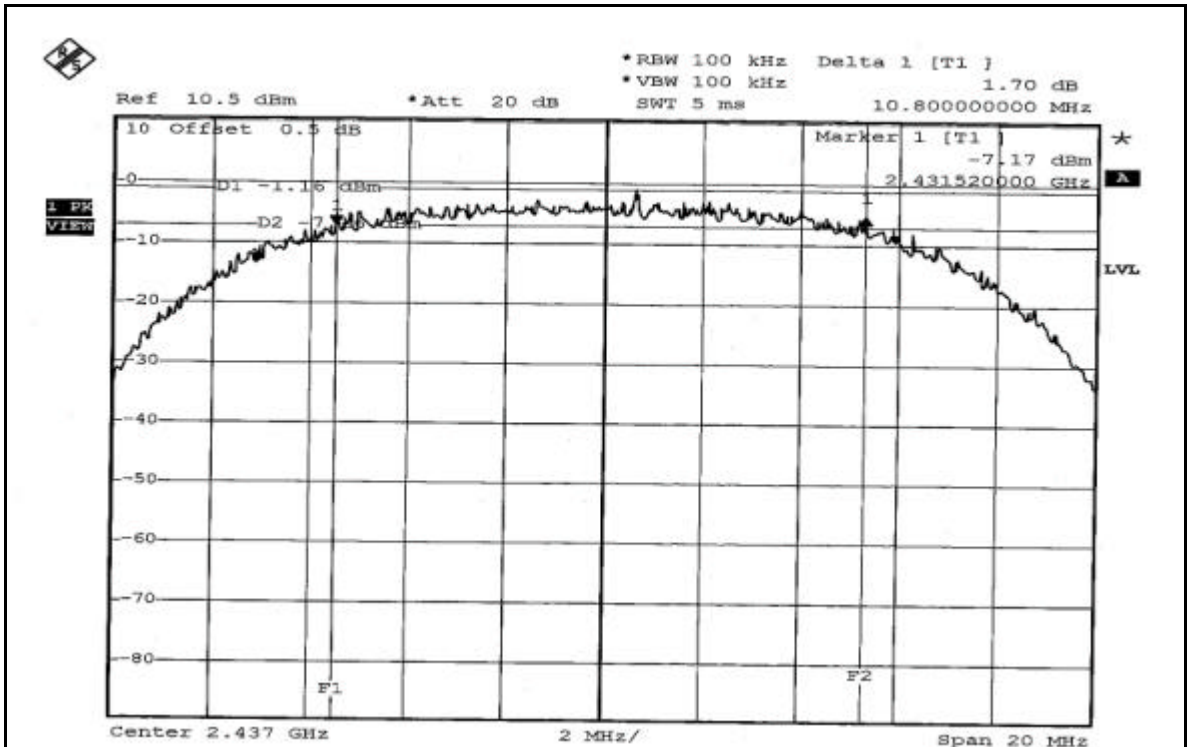
| CHANNEL | CHANNEL FREQUENCY (MHz) | 6dB BANDWIDTH (MHz) | MINIMUM LIMIT (MHz) | PASS/FAIL |
|----------------|--------------------------------|----------------------------|----------------------------|------------------|
| 1 | 2412 | 12.24 | 0.5 | PASS |
| 6 | 2437 | 10.80 | 0.5 | PASS |
| 11 | 2462 | 11.52 | 0.5 | PASS |



CH1

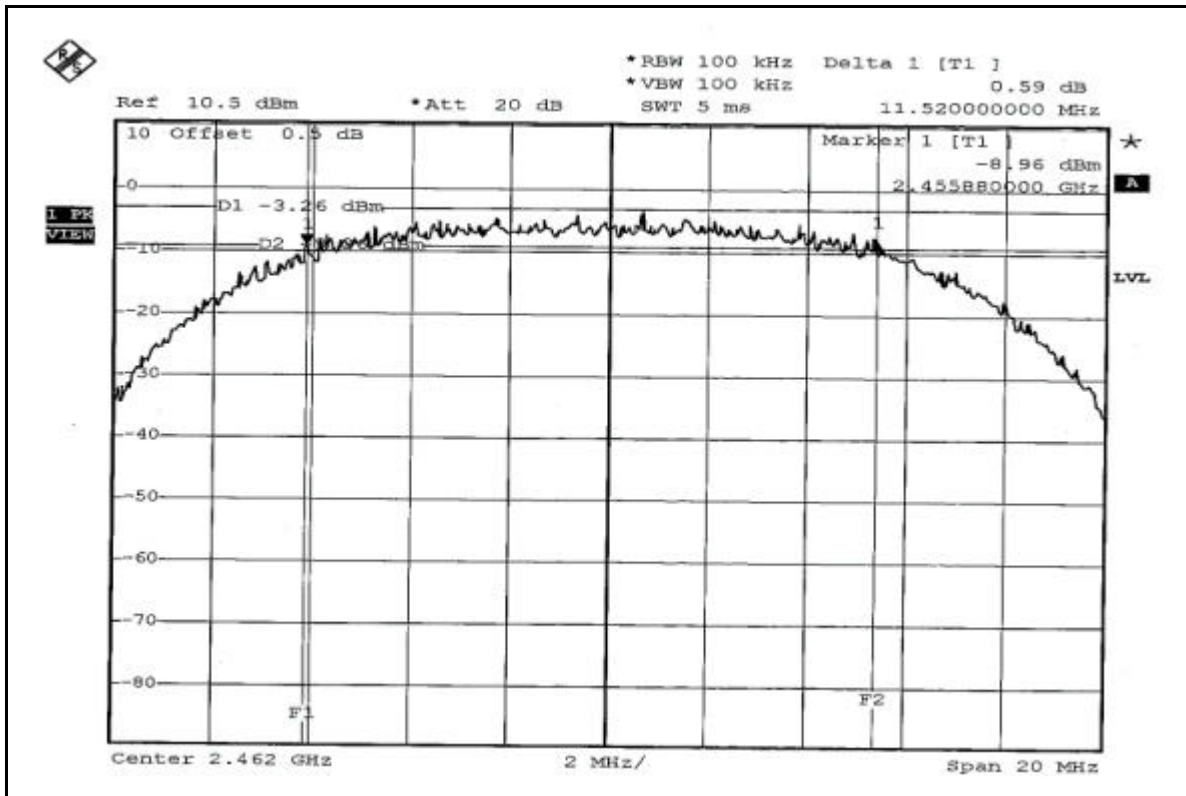


CH6





CH11





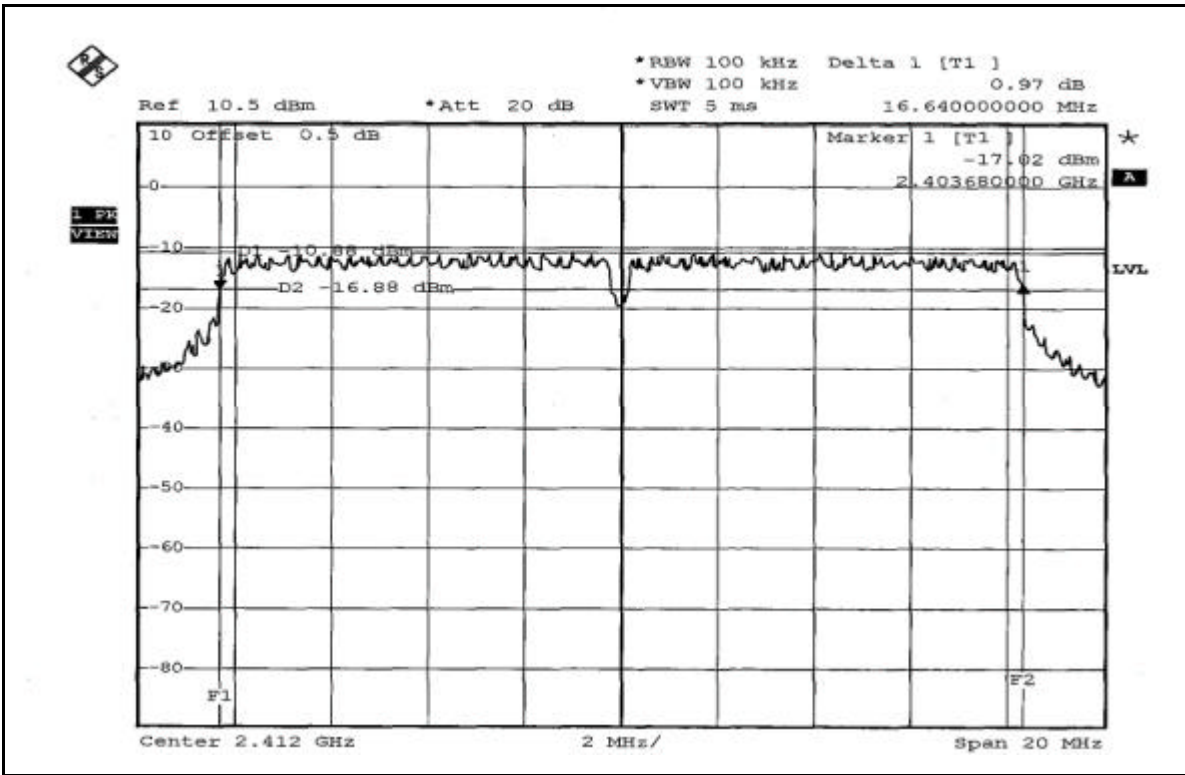
802.11g OFDM modulation

| | | | |
|-----------------------------|-----------------------------|---------------------------------|-------------------------|
| EUT | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| MODULATION TYPE | BPSK | TRANSFER RATE | 6Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | ENVIRONMENTAL CONDITIONS | 23deg. C, 51%RH, 991hPa |
| TESTED BY | Rush Kao | | |

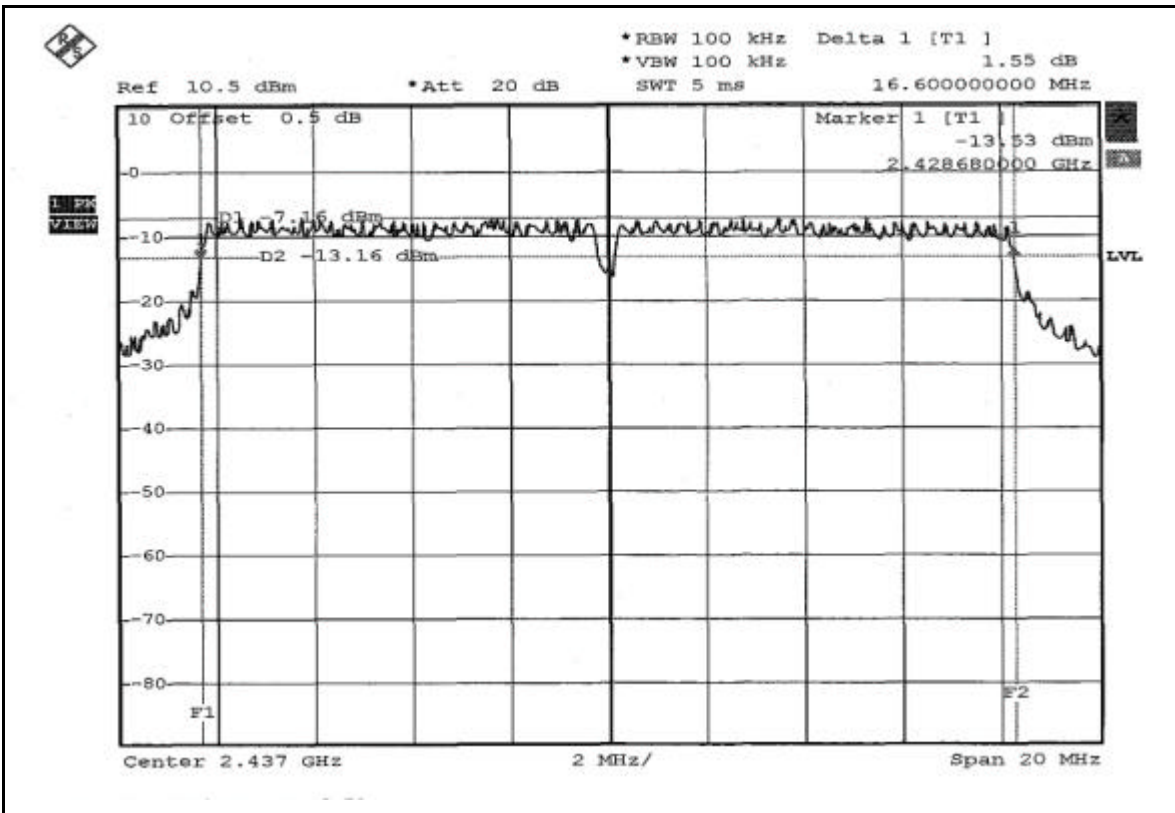
| CHANNEL | CHANNEL FREQUENCY (MHz) | 6dB BANDWIDTH (MHz) | MINIMUM LIMIT (MHz) | PASS/FAIL |
|----------------|--------------------------------|----------------------------|----------------------------|------------------|
| 1 | 2412 | 16.64 | 0.5 | PASS |
| 6 | 2437 | 16.60 | 0.5 | PASS |
| 11 | 2462 | 16.60 | 0.5 | PASS |



CH1

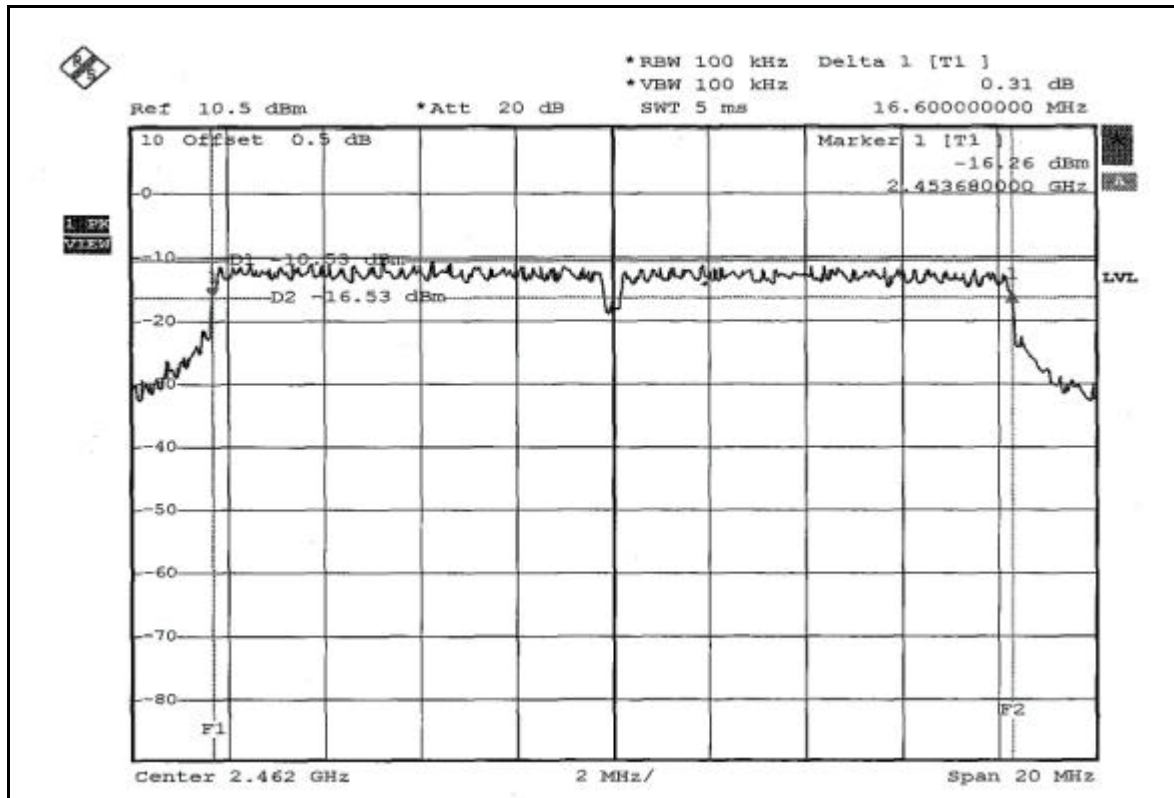


CH6





CH11





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 INSTRUMENTS

| Description & Manufacturer | Model No. | Serial No. | Calibrated Until |
|----------------------------|-----------|------------|------------------|
| R&S SPECTRUM ANALYZER | FSEK30 | 100049 | Aug. 12, 2005 |
| AGILENT SIGNAL GENERATOR | E8257C | MY43320668 | Dec. 31, 2005 |
| TEKTRONIX OSCILLOSCOPE | TDS 1012 | C019167 | Feb. 01, 2005 |
| 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 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 reading on oscilloscope. Record the power level.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6



4.4.7 TEST RESULTS

802.11b DSSS modulation

| | | | |
|-----------------------------|-----------------------------|---------------------------------|------------------------|
| EUT | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| MODULATION TYPE | CCK | TRANSFER RATE | 11Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | ENVIRONMENTAL CONDITIONS | 23deg.C, 51%RH, 991hPa |
| TESTED BY | Rush Kao | | |

| CHANNEL | CHANNEL FREQUENCY (MHz) | PEAK POWER OUTPUT (mW) | PEAK POWER OUTPUT (dBm) | PEAK POWER LIMIT (dBm) | PASS/FAIL |
|---------|-------------------------|------------------------|-------------------------|------------------------|-----------|
| 1 | 2412 | 7.096 | 8.51 | 30 | PASS |
| 6 | 2437 | 7.980 | 9.02 | 30 | PASS |
| 11 | 2462 | 6.353 | 8.03 | 30 | PASS |



802.11g OFDM modulation

| | | | |
|-----------------------------|-----------------------------|---------------------------------|------------------------|
| EUT | 802.11a/b/g wireless sensor | MODEL | AM-5012-11AG |
| MODULATION TYPE | BPSK | TRANSFER RATE | 6Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | ENVIRONMENTAL CONDITIONS | 23deg.C, 51%RH, 991hPa |
| TESTED BY | Rush Kao | | |

| CHANNEL | CHANNEL FREQUENCY (MHz) | PEAK POWER OUTPUT (mW) | PEAK POWER OUTPUT (dBm) | PEAK POWER LIMIT (dBm) | PASS/FAIL |
|----------------|--------------------------------|-------------------------------|--------------------------------|-------------------------------|------------------|
| 1 | 2412 | 7.112 | 8.52 | 30 | PASS |
| 6 | 2437 | 10.069 | 10.03 | 30 | PASS |
| 11 | 2462 | 6.324 | 8.01 | 30 | PASS |