



FCC TEST REPORT (15.407)

REPORT NO.: RF940629L08
MODEL NO.: A5020
RECEIVED: Jul. 14, 2005
TESTED: Jul. 14 ~ Aug. 20, 2005
ISSUED: Aug. 26, 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, Kwei
Shan Hsiang, Taoyuan Hsien 333, Taiwan,
R.O.C.

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0528
ILAC MRA



No. 2177-01



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1. CERTIFICATION

PRODUCT: AirMagnet SmartEdge Sensor
MODEL: A5020
BRAND: AirMagnet
APPLICANT: AirMagnet, Inc.
TESTED: Jul. 14 ~ Aug. 20, 2005
TEST SAMPLE: ENGINEERING SAMPLE
STANDARDS: FCC Part 15, Subpart E (Section 15.407)
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 : Rennie Wang , **DATE:** Aug. 26, 2005
Rennie Wang

TECHNICAL
ACCEPTANCE : Gary Chang , **DATE:** Aug. 26, 2005
Responsible for RF Gary Chang

APPROVED BY : Cody Chang , **DATE:** Aug. 26, 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 E (Section 15.407) | | | |
|--|--|---------------|---|
| Standard Section | Test Type | Result | Remark |
| 15.407(b)(5) | AC Power Conducted Emission | PASS | Meet the requirement of limit. Minimum passing margin is -11.98dB at 18.919MHz |
| 15.407(b/1/2/3)(b)(5) | Electric Field Strength Spurious Emissions, 30MHz ~ 40000MHz | PASS | Meet the requirement of limit. Minimum passing margin is -1.12dB at 667.0MHz |
| 15.407(a/1/2/3) | Peak Transmit Power | PASS | Meet the requirement of limit. |
| 15.407(a)(6) | Peak Power Excursion | PASS | Meet the requirement of limit. |
| 15.407(a/1/2/3) | Peak Power Spectral Density | PASS | Meet the requirement of limit. |
| 15.407(g) | Frequency Stability | 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 | 3.73 dB |
| | 200MHz ~1000MHz | 3.74 dB |
| | 1GHz ~ 18GHz | 2.20 dB |
| | 18GHz ~ 40GHz | 1.88 dB |

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.



3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

| | |
|------------------------------|---|
| EUT | AirMagnet SmartEdge Sensor |
| MODEL NO. | A5020 |
| POWER SUPPLY | 48Vdc from POE 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: 2.412 ~ 2.462GHz 802.11a: 5.150 ~ 5.350GHz and 5.725 ~ 5.850GHz |
| NUMBER OF CHANNEL | 802.11b & 802.11g: 11 802.11a: 13 |
| CHANNEL SPACING | 802.11b & 802.11g: 5MHz 802.11a: 20MHz |
| OUTPUT POWER | 51.168mW for 2.412 ~ 2.462GHz 14.421mW for 5.150 ~ 5.350GHz 32.137mW for 5.725 ~ 5.850GHz |
| ANTENNA TYPE | Refer to Note 2 as below |
| DATA CABLE | NA |
| I/O PORTS | RJ45, RS232 |
| ASSOCIATED DEVICES | NA |

NOTE:

- The EUT was operated with the following POE and adapters:

| POE | |
|-------------------|---|
| BRAND | PowerDsine 3001 |
| MODEL | PD-3001/AC |
| INPUT | 100-250Vac, 50-60Hz, 0.5A |
| OUTPUT | 48Vdc, 0.35A |
| POWER LINE | AC 1.2m non-shielded cable without core |

| Adapter 1 | |
|-------------------|---|
| BRAND | ENG |
| MODEL | 57-12-1500 |
| INPUT | 120Vac, 60Hz, 32W |
| OUTPUT | 12Vdc, 1500mA |
| POWER LINE | DC 1.8m non-shielded cable without core |

| Adapter 2 | |
|-------------------|--|
| BRAND | FAIRWAY |
| MODEL | VE20-120 |
| INPUT | 120-240Vac, 50-60Hz, 1A |
| OUTPUT | 12Vdc, 1.66A |
| POWER LINE | DC 1.6m non-shielded cable without core AC 1.5m non-shielded cable without core |

2. The following antennas were provided to this EUT.

| Antenna Type | Antenna | Gain (dBi) | | Antenna connector |
|------------------------------------|--------------|------------|------|-------------------|
| | | 2.4G | 5G | |
| Dual-Band Omni-Directional Antenna | SAA05-22063A | 5 | 7 | RP TNC Plug |
| Dual Band Dipole Antenna | SDW0939A1 | 2.05 | 2.27 | RP-TNC(M) |
| Dual-Band Directional Antenna | SAA05-22056A | 6 | 8 | RP TNC Plug |

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

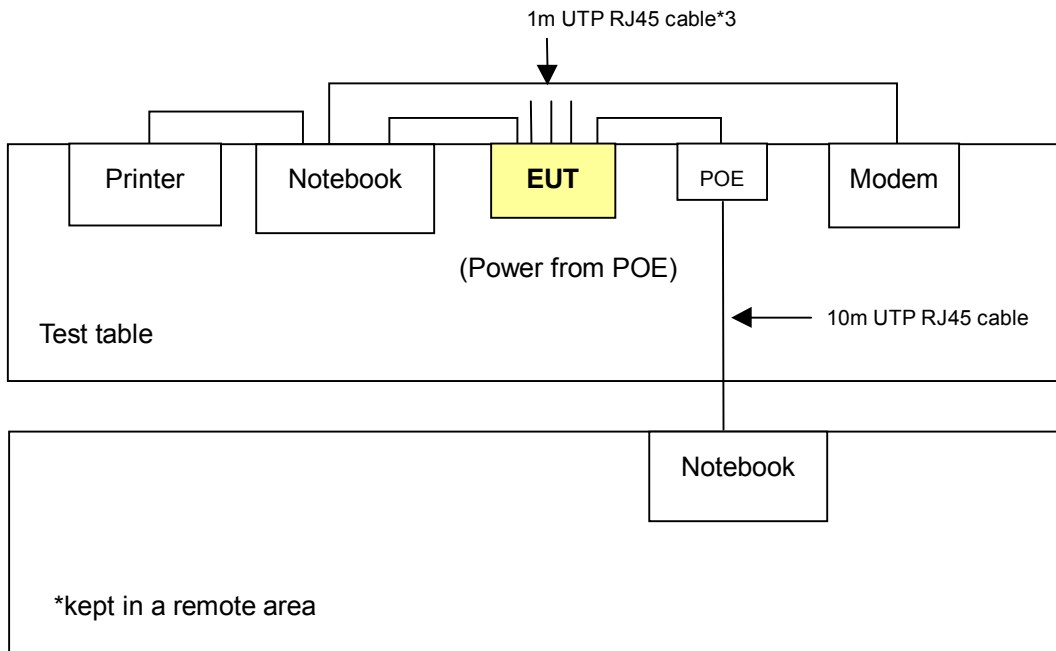
Operated in 5150 ~ 5250MHz, 5250MHz ~ 5350MHz bands:

Eight channels are provided to this EUT.

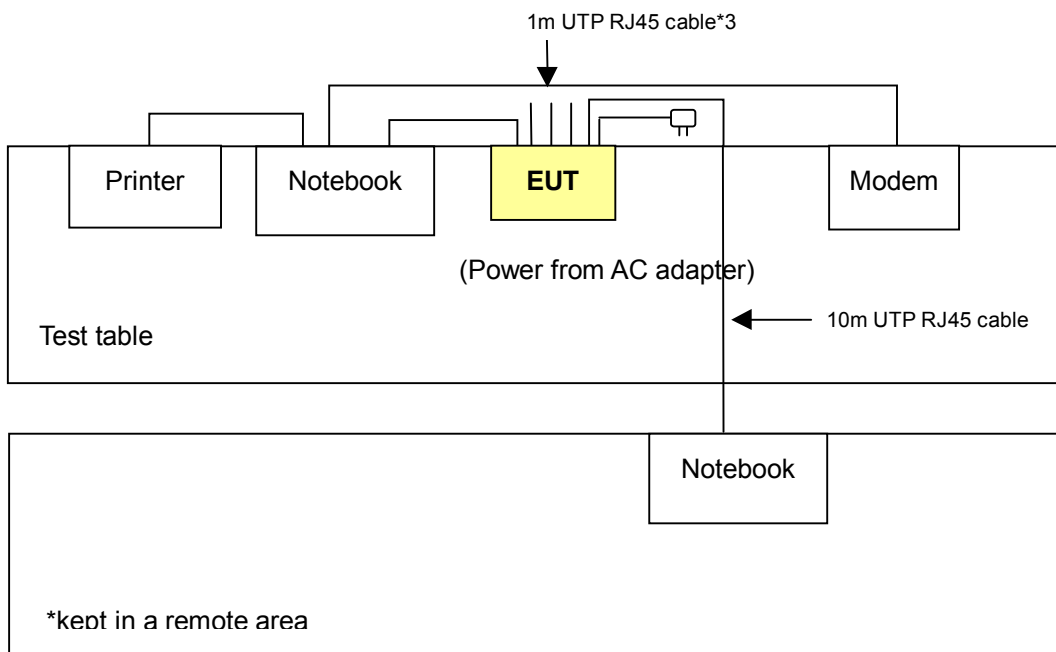
| Channel | Frequency |
|---------|-----------|
| 1 | 5180 MHz |
| 2 | 5200 MHz |
| 3 | 5220 MHz |
| 4 | 5240 MHz |
| 5 | 5260 MHz |
| 6 | 5280 MHz |
| 7 | 5300 MHz |
| 8 | 5320 MHz |

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST

(Power from POE)



(Power from AC adapter)





3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

| EUT configure mode | Applicable to | | | | Description |
|--------------------|---------------|-------|-------|------|--|
| | PLC | RE<1G | RE≥1G | APCM | |
| A1 | - | √ | - | - | Power from POE (PD-3001/AC) with Antenna SAA05-22063A |
| A2 | - | √ | - | - | Power from POE (PD-3001/AC) with Antenna SDW0939A1 |
| A3 | √ | √ | - | - | Power from POE (PD-3001/AC) with Antenna SAA05-22056A |
| B1 | - | √ | - | - | Power from AC Adapter (57-12-1500) with Antenna SAA05-22063A |
| B2 | - | √ | - | - | Power from AC Adapter (57-12-1500) with Antenna SDW0939A1 |
| B3 | √ | √ | - | - | Power from AC Adapter (57-12-1500) with Antenna SAA05-22056A |
| C1 | - | √ | √ | - | Power from AC Adapter (VE20-120) with Antenna SAA05-22063A |
| C2 | - | √ | √ | - | Power from AC Adapter (VE20-120) with Antenna SDW0939A1 |
| C3 | √ | √ | √ | √ | Power from AC Adapter (VE20-120) with Antenna SAA05-22056A |

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

“-”: No effect

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.

| EUT configure mode | Mode | Available Channel | Tested Channel | Modulation Technology | Modulation Type | Data Rate (Mbps) |
|--------------------|---------|-------------------|----------------|-----------------------|-----------------|------------------|
| A3 | 802.11a | 1 to 8 | 5 | OFDM | BPSK | 6 |
| B3 | 802.11a | 1 to 8 | 5 | OFDM | BPSK | 6 |
| C3 | 802.11a | 1 to 8 | 5 | 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.

| EUT configure mode | Mode | Available Channel | Tested Channel | Modulation Technology | Modulation Type | Data Rate (Mbps) |
|--------------------|---------|-------------------|----------------|-----------------------|-----------------|------------------|
| A1 ~ A3 | 802.11a | 1 to 8 | 5 | OFDM | BPSK | 6 |
| B1 ~ B3 | 802.11a | 1 to 8 | 5 | OFDM | BPSK | 6 |
| C1 ~ C3 | 802.11a | 1 to 8 | 5 | 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.

| EUT configure mode | Mode | Available Channel | Tested Channel | Modulation Technology | Modulation Type | Data Rate (Mbps) |
|--------------------|---------|-------------------|----------------|-----------------------|-----------------|------------------|
| C1 | 802.11a | 1 to 8 | 1, 4, 5, 8 | OFDM | BPSK | 6 |
| C2 | 802.11a | 1 to 8 | 1, 4, 5, 8 | OFDM | BPSK | 6 |
| C3 | 802.11a | 1 to 8 | 1, 4, 5, 8 | 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) |
|---------|-------------------|----------------|-----------------------|-----------------|------------------|
| 802.11a | 1 to 8 | 1, 8 | 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) |
|---------|-------------------|----------------|-----------------------|-----------------|------------------|
| 802.11a | 1 to 8 | 1, 4, 5, 8 | OFDM | BPSK | 6 |



3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a AirMagnet SmartEdge Sensor. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart E (15.407)

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 | 12130898320 | E2K24CLNS |
| 2 | PRINTER | EPSON | LQ-300+ | DCGY047265 | FCC DoC Approved |
| 3 | MODEM | ACEEX | 1414V/3 | 0401008248 | IFAXDM1414 |
| 4 | NOTEBOOK COMPUTER | DELL | PP05L | 20838027664 | E2K24CLNS |

| NO. | SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS |
|-----|---|
| 1 | NA |
| 2 | 1.2m shielded cable |
| 3 | 1.2m shielded cable |
| 4 | NA |

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



4. TEST TYPES AND RESULTS (5150 ~ 5350MHz Band)

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 | 100288 | Nov. 06, 2005 |
| RF signal cable Woken | 5D-FB | Cable-HyC02-01 | Jan. 09, 2006 |
| LISN ROHDE & SCHWARZ | ESH2-Z5 | 100100 | Jan. 20, 2006 |
| LISN ROHDE & SCHWARZ | ESH3-Z5 | 100311 | Jan. 20, 2006 |
| 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 3.
 3. The VCCI Site Registration No. is C-2047.



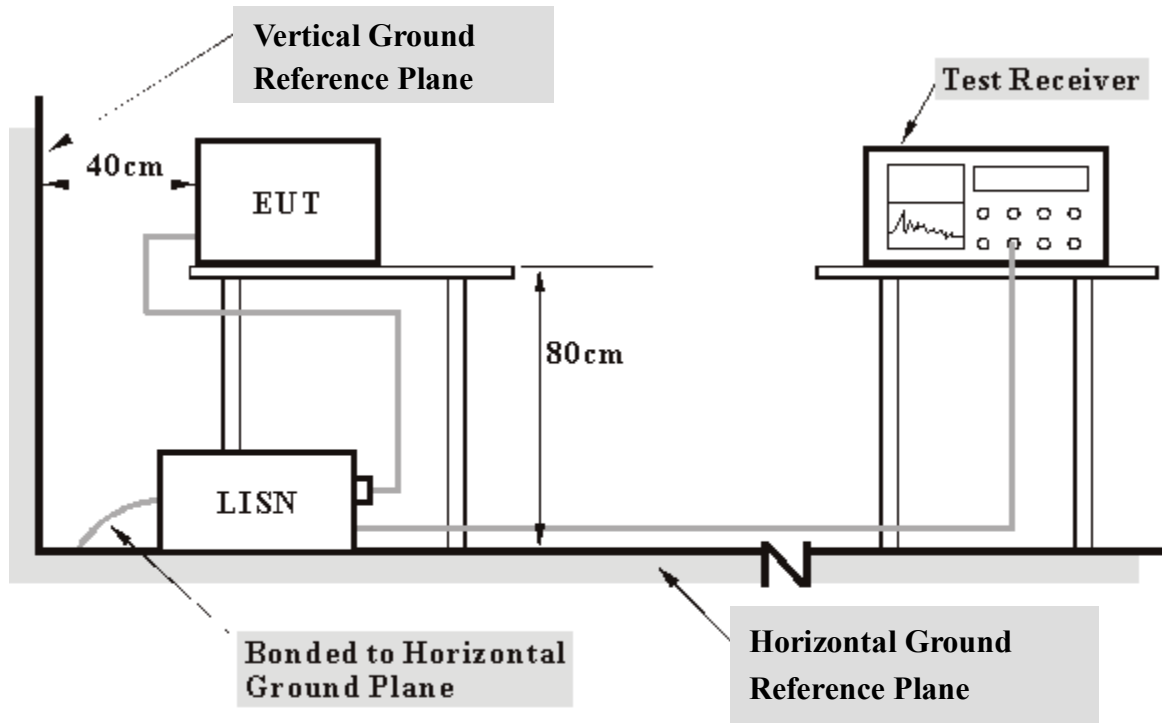
4.1.3 TEST PROCEDURES

- 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 notebook via an RJ45 cable and placed on a testing table.
- b. The notebook ran a test program (provided by manufacturer) to enable all functions 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 prints them on paper.
- f. Step c ~ e was repeated.



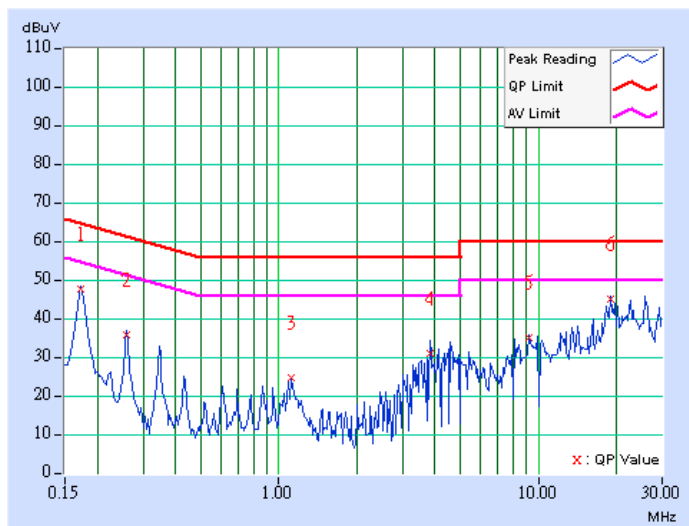
4.1.7 TEST RESULTS

Conducted Worst-Case Data (Power from POE)

| | | | |
|------------------------|----------------------------|---------------------------------|-------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | PHASE | Line 1 |
| CHANNEL | Channel 5 | 6dB BANDWIDTH | 9 kHz |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 25deg. C, 65%RH, 985hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | A3 | TESTED BY | William Chien |

| 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 | 0.11 | 46.87 | - | 46.98 | - | 64.82 |
| 2 | 0.259 | 0.11 | 35.12 | - | 35.23 | - | 61.46 | 51.46 | -26.22 | - |
| 3 | 1.121 | 0.23 | 24.11 | - | 24.34 | - | 56.00 | 46.00 | -31.66 | - |
| 4 | 3.810 | 0.29 | 30.24 | - | 30.53 | - | 56.00 | 46.00 | -25.47 | - |
| 5 | 9.178 | 0.42 | 34.12 | - | 34.54 | - | 60.00 | 50.00 | -25.46 | - |
| 6 | 18.924 | 0.89 | 44.12 | - | 45.01 | - | 60.00 | 50.00 | -14.99 | - |

- 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.

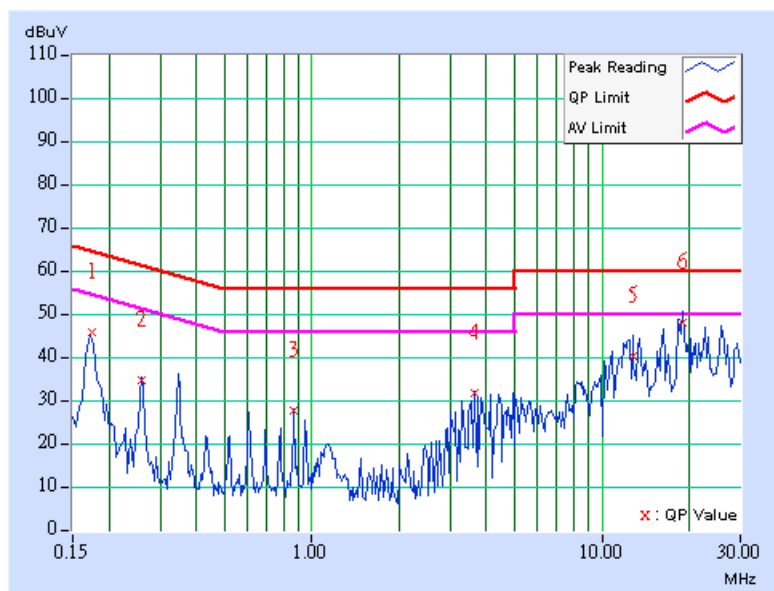




| | | | |
|------------------------|----------------------------|---------------------------------|-------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | PHASE | Line 2 |
| CHANNEL | Channel 5 | 6dB BANDWIDTH | 9 kHz |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 25deg. C, 65%RH, 985hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | A3 | TESTED BY | William Chien |

| 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 | 0.174 | 0.11 | 45.11 | - | 45.22 | - | 64.75 | 54.75 | -19.53 | - |
| 2 | 0.260 | 0.11 | 34.01 | - | 34.12 | - | 61.44 | 51.44 | -27.32 | - |
| 3 | 0.865 | 0.21 | 26.88 | - | 27.09 | - | 56.00 | 46.00 | -28.91 | - |
| 4 | 3.638 | 0.28 | 31.02 | - | 31.30 | - | 56.00 | 46.00 | -24.70 | - |
| 5 | 12.744 | 0.60 | 39.41 | - | 40.01 | - | 60.00 | 50.00 | -19.99 | - |
| 6 | 18.919 | 0.91 | 47.11 | - | 48.02 | - | 60.00 | 50.00 | -11.98 | - |

- 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.



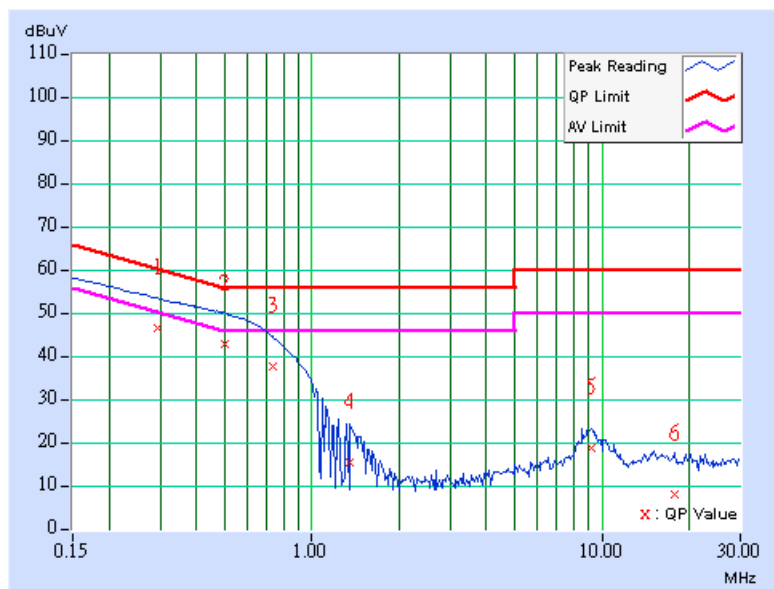


Conducted Worst-Case Data (Power from AC adapter_57-12-1500)

| | | | |
|------------------------|----------------------------|---------------------------------|-------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | PHASE | Line 1 |
| CHANNEL | Channel 5 | 6dB BANDWIDTH | 9 kHz |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 25deg. C, 65%RH, 985hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | B3 | TESTED BY | William Chien |

| 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 | 0.295 | 0.10 | 46.17 | - | 46.27 | - | 60.40 |
| 2 | 0.500 | 0.12 | 42.28 | - | 42.40 | - | 56.00 | 46.00 | -13.60 | - |
| 3 | 0.736 | 0.16 | 36.97 | - | 37.13 | - | 56.00 | 46.00 | -18.87 | - |
| 4 | 1.359 | 0.20 | 15.08 | - | 15.28 | - | 56.00 | 46.00 | -40.72 | - |
| 5 | 9.203 | 0.29 | 18.38 | - | 18.67 | - | 60.00 | 50.00 | -41.33 | - |
| 6 | 17.852 | 0.63 | 7.58 | - | 8.21 | - | 60.00 | 50.00 | -51.79 | - |

- 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.

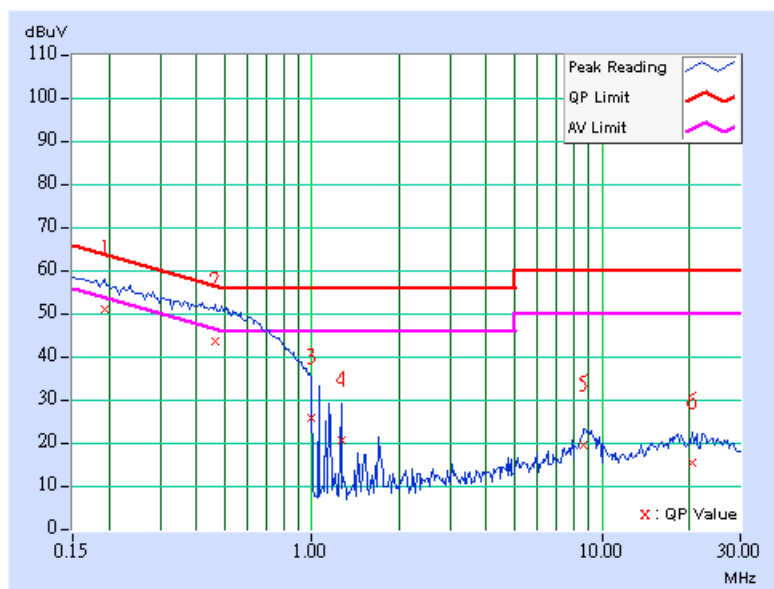




| | | | |
|------------------------|----------------------------|---------------------------------|-------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | PHASE | Line 2 |
| CHANNEL | Channel 5 | 6dB BANDWIDTH | 9 kHz |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 25deg. C, 65%RH, 985hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | B3 | TESTED BY | William Chien |

| 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 | 0.193 | 0.10 | 50.12 | - | 50.22 | - | 63.91 |
| 2 | 0.463 | 0.11 | 42.90 | - | 43.01 | - | 56.65 | 46.65 | -13.64 | - |
| 3 | 0.998 | 0.20 | 25.25 | - | 25.45 | - | 56.00 | 46.00 | -30.55 | - |
| 4 | 1.262 | 0.20 | 19.87 | - | 20.07 | - | 56.00 | 46.00 | -35.93 | - |
| 5 | 8.664 | 0.36 | 18.72 | - | 19.08 | - | 60.00 | 50.00 | -40.92 | - |
| 6 | 20.598 | 0.82 | 14.85 | - | 15.67 | - | 60.00 | 50.00 | -44.33 | - |

- 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.



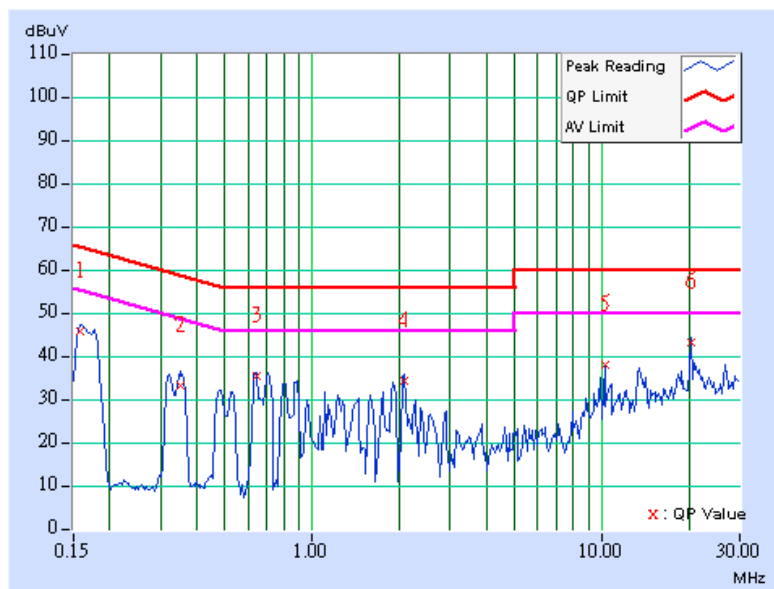


Conducted Worst-Case Data (Power from AC adapter_VE20-120)

| | | | |
|------------------------|----------------------------|---------------------------------|-------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | PHASE | Line 1 |
| CHANNEL | Channel 5 | 6dB BANDWIDTH | 9 kHz |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 25deg. C, 65%RH, 985hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | C3 | TESTED BY | William Chien |

| 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 | 44.80 | - | 44.91 | - | 65.58 |
| 2 | 0.353 | 0.12 | 32.43 | - | 32.55 | - | 58.89 | 48.89 | -26.34 | - |
| 3 | 0.642 | 0.16 | 34.38 | - | 34.54 | - | 56.00 | 46.00 | -21.46 | - |
| 4 | 2.070 | 0.25 | 33.44 | - | 33.69 | - | 56.00 | 46.00 | -22.31 | - |
| 5 | 10.242 | 0.45 | 37.11 | - | 37.56 | - | 60.00 | 50.00 | -22.44 | - |
| 6 | 20.258 | 1.00 | 42.50 | - | 43.50 | - | 60.00 | 50.00 | -16.50 | - |

- 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.

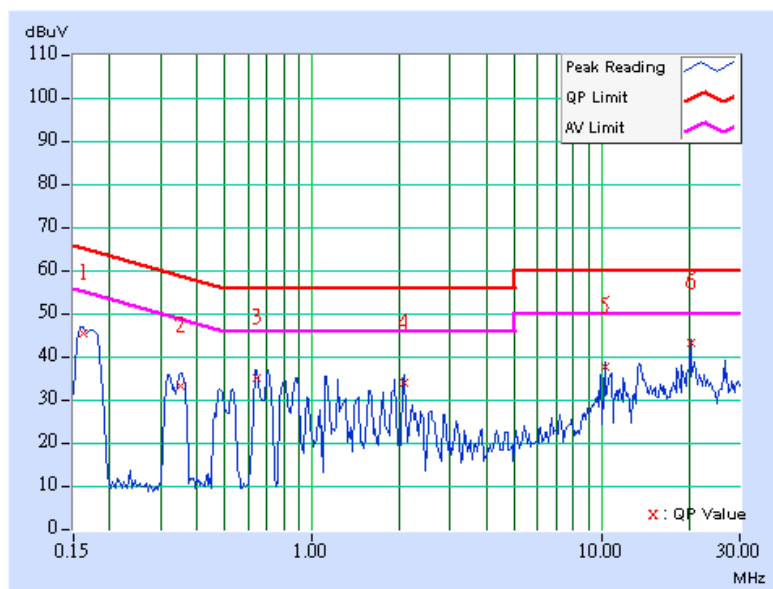




| | | | |
|------------------------|----------------------------|---------------------------------|-------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | PHASE | Line 2 |
| CHANNEL | Channel 5 | 6dB BANDWIDTH | 9 kHz |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 25deg. C, 65%RH, 985hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | C3 | TESTED BY | William Chien |

| 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 | 0.162 | 0.11 | 44.63 | - | 44.74 | - | 65.38 |
| 2 | 0.349 | 0.12 | 32.36 | - | 32.48 | - | 58.98 | 48.98 | -26.50 | - |
| 3 | 0.646 | 0.17 | 34.07 | - | 34.24 | - | 56.00 | 46.00 | -21.76 | - |
| 4 | 2.074 | 0.25 | 33.19 | - | 33.44 | - | 56.00 | 46.00 | -22.56 | - |
| 5 | 10.246 | 0.55 | 36.73 | - | 37.28 | - | 60.00 | 50.00 | -22.72 | - |
| 6 | 20.258 | 0.99 | 42.25 | - | 43.24 | - | 60.00 | 50.00 | -16.76 | - |

- 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 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

| Frequencies (MHz) | EIRP Limit (dBm) | Equivalent Field Strength at 3m (dBμV/m) *note 3 |
|-------------------|------------------|--|
| 5150~5250 | -27 | 68.3 |
| 5250~5350 | -27 | 68.3 |
| 5725~5825 | -27 *note 1 | 68.3 |
| | -17 *note 2 | 78.3 |

NOTE:

1. For frequencies 10MHz or greater above or below the band edge.
2. All emissions within the frequency range from the band edge to 10MHz above or below the band edge.
3. The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength

$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts)}$$



4.2.3 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED UNTIL |
|---|--------------------|--------------|------------------|
| Test Receiver ROHDE & SCHWARZ | ESI7 | 838496/016 | Jan. 07, 2006 |
| Spectrum Analyzer ROHDE & SCHWARZ | FSP40 | 100041 | Nov. 29, 2005 |
| BILOG Antenna SCHWARZBECK | VULB9168 | 9168-155 | Jan. 22, 2006 |
| HORN Antenna SCHWARZBECK | BBHA 9120D | 9120D-404 | Jan. 05, 2006 |
| HORN Antenna SCHWARZBECK | BBHA 9170 | BBHA 9170242 | Jan. 23, 2006 |
| Preamplifier Agilent | 8447D | 2944A10631 | Nov. 17, 2005 |
| Preamplifier Agilent | 8449B | 3008A01960 | Nov. 14, 2005 |
| RF signal cable HUBER+SUHNNER | SUCOFLEX 104 | 219272/4 | Jan. 26, 2006 |
| RF signal cable HUBER+SUHNNER | SUCOFLEX 104 | 219275/4 | Jan. 26, 2006 |
| Software ADT. | ADT_Radiated_V5.14 | NA | NA |
| Antenna Tower inn-co GmbH | MA 4000 | 010303 | NA |
| Antenna Tower Controller inn-co GmbH | CO2000 | 019303 | NA |
| Turn Table ADT. | TT100. | TT93021704 | NA |
| Turn Table Controller ADT. | SC100. | SC93021704 | 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 3.
 3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 4. The IC Site Registration No. is IC4924-4.



4.2.4 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 chamber. 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 lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

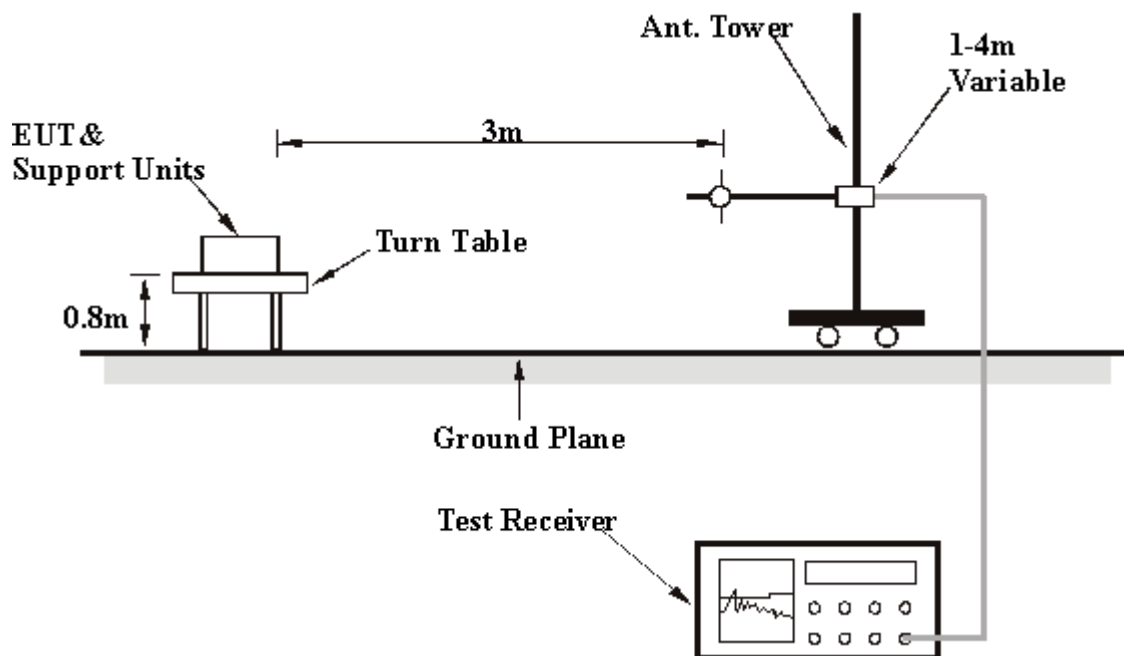
NOTE:

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 1 kHz for Average detection (AV) at frequency above 1GHz.

4.2.5 DEVIATION FROM TEST STANDARD

No deviation

4.2.6 TEST SETUP



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

4.2.7 EUT OPERATING CONDITION

Same as 4.1.6



4.2.8 TEST RESULTS_ANTENNA SAA05-22063A (BELOW 1GHz TEST)

Below 1GHz Worst-Case Data (Power from POE)

| | | | |
|------------------------|----------------------------|---------------------------------|-------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | FREQUENCY RANGE | Below 1000MHz |
| CHANNEL | Channel 5 | DETECTOR FUNCTION | Quasi-Peak |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 24deg. C, 64%RH, 991hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | A1 | TESTED BY | Brad Wu |

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 | 199.12 | 34.51 QP | 43.50 | -8.99 | 1.00 H | 250 | 23.17 | 11.34 |
| 2 | 232.16 | 36.54 QP | 46.00 | -9.46 | 1.00 H | 109 | 24.06 | 12.48 |
| 3 | 399.34 | 40.63 QP | 46.00 | -5.37 | 1.00 H | 97 | 23.91 | 16.71 |
| 4 | 667.60 | 43.97 QP | 46.00 | -2.03 | 2.00 H | 175 | 22.31 | 21.66 |
| 5 | 799.78 | 36.86 QP | 46.00 | -9.14 | 1.00 H | 232 | 13.40 | 23.46 |
| 6 | 933.91 | 41.16 QP | 46.00 | -4.84 | 1.00 H | 229 | 15.99 | 25.16 |

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 | 37.78 | 38.10 QP | 40.00 | -1.90 | 1.00 V | 145 | 23.14 | 14.96 |
| 2 | 199.12 | 35.55 QP | 43.50 | -7.95 | 1.50 V | 289 | 24.21 | 11.34 |
| 3 | 399.34 | 38.05 QP | 46.00 | -7.95 | 1.00 V | 232 | 21.34 | 16.71 |
| 4 | 533.47 | 40.86 QP | 46.00 | -5.14 | 1.00 V | 211 | 21.69 | 19.17 |
| 5 | 667.60 | 44.46 QP | 46.00 | -1.54 | 2.00 V | 193 | 22.80 | 21.66 |
| 6 | 933.91 | 39.73 QP | 46.00 | -6.27 | 1.00 V | 115 | 14.57 | 25.16 |

- 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 (Power from AC adapter_57-12-1500)

| | | | |
|------------------------|----------------------------|---------------------------------|-------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | FREQUENCY RANGE | Below 1000MHz |
| CHANNEL | Channel 5 | DETECTOR FUNCTION | Quasi-Peak |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 24deg. C, 64%RH, 991hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | B1 | TESTED BY | Brad Wu |

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 | 232.16 | 37.23 QP | 46.00 | -8.77 | 1.00 H | 247 | 24.75 | 12.48 |
| 2 | 300.20 | 38.38 QP | 46.00 | -7.62 | 1.25 H | 124 | 23.96 | 14.41 |
| 3 | 399.34 | 37.04 QP | 46.00 | -8.96 | 1.00 H | 205 | 20.32 | 16.71 |
| 4 | 667.60 | 44.76 QP | 46.00 | -1.24 | 2.00 H | 202 | 23.10 | 21.66 |
| 5 | 799.78 | 40.12 QP | 46.00 | -5.88 | 1.00 H | 250 | 16.66 | 23.46 |
| 6 | 933.91 | 41.35 QP | 46.00 | -4.65 | 2.00 H | 178 | 16.19 | 25.16 |

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 | 31.94 | 38.33 QP | 40.00 | -1.67 | 2.00 V | 205 | 24.32 | 14.01 |
| 2 | 160.24 | 34.32 QP | 43.50 | -9.18 | 1.00 V | 16 | 19.40 | 14.92 |
| 3 | 199.12 | 35.92 QP | 43.50 | -7.58 | 1.00 V | 208 | 24.57 | 11.34 |
| 4 | 399.34 | 41.47 QP | 46.00 | -4.53 | 1.25 V | 247 | 24.76 | 16.71 |
| 5 | 667.60 | 44.48 QP | 46.00 | -1.52 | 1.00 V | 205 | 22.82 | 21.66 |
| 6 | 933.91 | 39.99 QP | 46.00 | -6.01 | 1.50 V | 196 | 14.83 | 25.16 |

- 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 (Power from AC adapter_VE20-120)

| | | | |
|------------------------|----------------------------|---------------------------------|-------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | FREQUENCY RANGE | Below 1000MHz |
| CHANNEL | Channel 5 | DETECTOR FUNCTION | Quasi-Peak |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 24deg. C, 64%RH, 991hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | C1 | TESTED BY | Brad Wu |

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 | 199.12 | 34.23 QP | 43.50 | -9.27 | 1.00 H | 238 | 22.88 | 11.34 |
| 2 | 232.16 | 36.65 QP | 46.00 | -9.35 | 1.00 H | 94 | 24.18 | 12.48 |
| 3 | 399.34 | 40.48 QP | 46.00 | -5.52 | 1.50 H | 88 | 23.77 | 16.71 |
| 4 | 667.60 | 43.20 QP | 46.00 | -2.80 | 1.00 H | 151 | 21.54 | 21.66 |
| 5 | 799.78 | 36.66 QP | 46.00 | -9.34 | 1.00 H | 232 | 13.20 | 23.46 |
| 6 | 933.91 | 41.43 QP | 46.00 | -4.57 | 1.50 H | 220 | 16.27 | 25.16 |

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 | 31.94 | 37.55 QP | 40.00 | -2.45 | 1.00 V | 139 | 23.54 | 14.01 |
| 2 | 199.12 | 36.04 QP | 43.50 | -7.46 | 2.00 V | 217 | 24.70 | 11.34 |
| 3 | 399.34 | 37.93 QP | 46.00 | -8.07 | 1.00 V | 181 | 21.22 | 16.71 |
| 4 | 533.47 | 40.89 QP | 46.00 | -5.11 | 1.00 V | 157 | 21.72 | 19.17 |
| 5 | 667.60 | 44.45 QP | 46.00 | -1.55 | 1.50 V | 148 | 22.79 | 21.66 |
| 6 | 933.91 | 40.12 QP | 46.00 | -5.88 | 1.00 V | 64 | 14.96 | 25.16 |

- 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



4.2.9 TEST RESULTS_ANTENNA SDW0939A1 (BELOW 1GHz TEST)

Below 1GHz Worst-Case Data (Power from POE)

| | | | |
|------------------------|----------------------------|---------------------------------|-------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | FREQUENCY RANGE | Below 1000MHz |
| CHANNEL | Channel 5 | DETECTOR FUNCTION | Quasi-Peak |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 24deg. C, 64%RH, 991hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | A2 | TESTED BY | Brad Wu |

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 | 199.12 | 35.01 QP | 43.50 | -8.49 | 1.50 H | 226 | 23.66 | 11.34 |
| 2 | 232.16 | 36.59 QP | 46.00 | -9.41 | 1.00 H | 82 | 24.12 | 12.48 |
| 3 | 399.34 | 40.38 QP | 46.00 | -5.62 | 1.00 H | 82 | 23.67 | 16.71 |
| 4 | 667.60 | 43.18 QP | 46.00 | -2.82 | 1.00 H | 145 | 21.52 | 21.66 |
| 5 | 799.78 | 36.55 QP | 46.00 | -9.45 | 1.00 H | 217 | 13.09 | 23.46 |
| 6 | 933.91 | 40.59 QP | 46.00 | -5.41 | 2.00 H | 94 | 15.42 | 25.16 |

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 | 37.78 | 38.43 QP | 40.00 | -1.57 | 1.00 V | 136 | 23.47 | 14.96 |
| 2 | 199.12 | 36.69 QP | 43.50 | -6.81 | 1.50 V | 262 | 25.35 | 11.34 |
| 3 | 399.34 | 38.13 QP | 46.00 | -7.87 | 1.00 V | 232 | 21.42 | 16.71 |
| 4 | 533.47 | 41.32 QP | 46.00 | -4.68 | 1.00 V | 205 | 22.15 | 19.17 |
| 5 | 667.60 | 44.10 QP | 46.00 | -1.90 | 1.25 V | 196 | 22.44 | 21.66 |
| 6 | 933.91 | 39.88 QP | 46.00 | -6.12 | 1.00 V | 112 | 14.71 | 25.16 |

- 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 (Power from AC adapter_57-12-1500)

| | | | |
|------------------------|----------------------------|---------------------------------|-------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | FREQUENCY RANGE | Below 1000MHz |
| CHANNEL | Channel 5 | DETECTOR FUNCTION | Quasi-Peak |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 24deg. C, 64%RH, 991hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | B2 | TESTED BY | Brad Wu |

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 | 300.20 | 35.73 QP | 46.00 | -10.27 | 1.00 H | 133 | 21.32 | 14.41 |
| 2 | 399.34 | 38.60 QP | 46.00 | -7.40 | 1.00 H | 202 | 21.88 | 16.71 |
| 3 | 533.47 | 36.09 QP | 46.00 | -9.91 | 1.00 H | 328 | 16.92 | 19.17 |
| 4 | 667.60 | 44.13 QP | 46.00 | -1.87 | 2.00 H | 205 | 22.47 | 21.66 |
| 5 | 799.78 | 39.24 QP | 46.00 | -6.76 | 1.00 H | 154 | 15.78 | 23.46 |
| 6 | 933.91 | 40.02 QP | 46.00 | -5.98 | 2.00 H | 211 | 14.86 | 25.16 |

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 | 31.94 | 38.31 QP | 40.00 | -1.69 | 1.00 V | 271 | 24.30 | 14.01 |
| 2 | 70.82 | 33.76 QP | 40.00 | -6.24 | 1.00 V | 73 | 21.50 | 12.27 |
| 3 | 189.40 | 37.18 QP | 43.50 | -6.32 | 2.00 V | 58 | 25.04 | 12.13 |
| 4 | 399.34 | 41.86 QP | 46.00 | -4.14 | 1.50 V | 256 | 25.15 | 16.71 |
| 5 | 667.60 | 44.88 QP | 46.00 | -1.12 | 1.50 V | 235 | 23.22 | 21.66 |
| 6 | 933.91 | 39.74 QP | 46.00 | -6.26 | 1.00 V | 229 | 14.58 | 25.16 |

- 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 (Power from AC adapter_VE20-120)

| | | | |
|------------------------|----------------------------|---------------------------------|-------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | FREQUENCY RANGE | Below 1000MHz |
| CHANNEL | Channel 5 | DETECTOR FUNCTION | Quasi-Peak |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 24deg. C, 64%RH, 991hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | C2 | TESTED BY | Brad Wu |

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 | 199.12 | 34.39 QP | 43.50 | -9.11 | 1.00 H | 226 | 23.05 | 11.34 |
| 2 | 232.16 | 36.48 QP | 46.00 | -9.52 | 1.00 H | 100 | 24.00 | 12.48 |
| 3 | 399.34 | 40.28 QP | 46.00 | -5.72 | 1.50 H | 97 | 23.56 | 16.71 |
| 4 | 667.60 | 43.28 QP | 46.00 | -2.72 | 1.00 H | 154 | 21.62 | 21.66 |
| 5 | 799.78 | 36.48 QP | 46.00 | -9.52 | 1.00 H | 244 | 13.02 | 23.46 |
| 6 | 933.91 | 41.04 QP | 46.00 | -4.96 | 1.25 H | 223 | 15.88 | 25.16 |

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 | 31.94 | 37.25 QP | 40.00 | -2.75 | 1.00 V | 256 | 23.24 | 14.01 |
| 2 | 166.07 | 35.49 QP | 43.50 | -8.01 | 1.50 V | 154 | 21.17 | 14.32 |
| 3 | 199.12 | 35.60 QP | 43.50 | -7.90 | 1.00 V | 280 | 24.26 | 11.34 |
| 4 | 533.47 | 41.05 QP | 46.00 | -4.95 | 1.00 V | 205 | 21.89 | 19.17 |
| 5 | 667.60 | 44.30 QP | 46.00 | -1.70 | 1.00 V | 196 | 22.64 | 21.66 |
| 6 | 933.91 | 39.97 QP | 46.00 | -6.03 | 2.00 V | 118 | 14.81 | 25.16 |

- 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



4.2.10 TEST RESULTS_ANTENNA SAA05-22056A (BELOW 1GHz TEST)

Below 1GHz Worst-Case Data (Power from POE)

| | | | |
|------------------------|----------------------------|---------------------------------|-------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | FREQUENCY RANGE | Below 1000MHz |
| CHANNEL | Channel 5 | DETECTOR FUNCTION | Quasi-Peak |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 24deg. C, 64%RH, 991hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | A3 | TESTED BY | Brad Wu |

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 | 37.78 | 30.89 QP | 40.00 | -9.11 | 1.50 H | 190 | 15.93 | 14.96 |
| 2 | 199.12 | 34.84 QP | 43.50 | -8.66 | 1.00 H | 235 | 23.50 | 11.34 |
| 3 | 232.16 | 37.26 QP | 46.00 | -8.74 | 1.25 H | 115 | 24.78 | 12.48 |
| 4 | 399.34 | 39.94 QP | 46.00 | -6.06 | 1.00 H | 97 | 23.23 | 16.71 |
| 5 | 667.60 | 44.62 QP | 46.00 | -1.38 | 2.00 H | 184 | 22.96 | 21.66 |
| 6 | 933.91 | 40.83 QP | 46.00 | -5.17 | 1.00 H | 106 | 15.67 | 25.16 |

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 | 37.78 | 37.87 QP | 40.00 | -2.13 | 1.00 V | 136 | 22.91 | 14.96 |
| 2 | 199.12 | 36.04 QP | 43.50 | -7.46 | 1.50 V | 298 | 24.70 | 11.34 |
| 3 | 399.34 | 38.83 QP | 46.00 | -7.17 | 1.00 V | 232 | 22.11 | 16.71 |
| 4 | 533.47 | 41.14 QP | 46.00 | -4.86 | 1.00 V | 211 | 21.98 | 19.17 |
| 5 | 667.60 | 44.30 QP | 46.00 | -1.70 | 1.00 V | 202 | 22.64 | 21.66 |
| 6 | 933.91 | 40.15 QP | 46.00 | -5.85 | 2.00 V | 118 | 14.98 | 25.16 |

- 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 (Power from AC adapter_57-12-1500)

| | | | |
|------------------------|----------------------------|---------------------------------|-------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | FREQUENCY RANGE | Below 1000MHz |
| CHANNEL | Channel 5 | DETECTOR FUNCTION | Quasi-Peak |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 24deg. C, 64%RH, 991hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | B3 | TESTED BY | Brad Wu |

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 | 300.20 | 36.85 QP | 46.00 | -9.15 | 1.50 H | 127 | 22.44 | 14.41 |
| 2 | 399.34 | 38.31 QP | 46.00 | -7.69 | 1.00 H | 205 | 21.59 | 16.71 |
| 3 | 533.47 | 41.64 QP | 46.00 | -4.36 | 2.00 H | 337 | 22.48 | 19.17 |
| 4 | 667.60 | 44.66 QP | 46.00 | -1.34 | 2.00 H | 190 | 23.00 | 21.66 |
| 5 | 799.78 | 41.73 QP | 46.00 | -4.27 | 1.00 H | 139 | 18.27 | 23.46 |
| 6 | 933.91 | 40.29 QP | 46.00 | -5.71 | 2.00 H | 196 | 15.13 | 25.16 |

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 | 31.94 | 38.52 QP | 40.00 | -1.48 | 1.25 V | 229 | 24.51 | 14.01 |
| 2 | 199.12 | 35.71 QP | 43.50 | -7.79 | 1.00 V | 334 | 24.37 | 11.34 |
| 3 | 399.34 | 41.32 QP | 46.00 | -4.68 | 1.00 V | 250 | 24.61 | 16.71 |
| 4 | 533.47 | 44.60 QP | 46.00 | -1.40 | 1.50 V | 214 | 25.43 | 19.17 |
| 5 | 667.60 | 44.33 QP | 46.00 | -1.67 | 1.50 V | 271 | 22.67 | 21.66 |
| 6 | 933.91 | 38.00 QP | 46.00 | -8.00 | 1.00 V | 97 | 12.84 | 25.16 |

- 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 (Power from AC adapter_VE20-120)

| | | | |
|------------------------|----------------------------|---------------------------------|-------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | FREQUENCY RANGE | Below 1000MHz |
| CHANNEL | Channel 5 | DETECTOR FUNCTION | Quasi-Peak |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 24deg. C, 64%RH, 991hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | C3 | TESTED BY | Brad Wu |

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 | 179.68 | 38.65 QP | 43.50 | -4.85 | 1.50 H | 235 | 25.71 | 12.93 |
| 2 | 232.16 | 36.99 QP | 46.00 | -9.01 | 1.00 H | 106 | 24.51 | 12.48 |
| 3 | 399.34 | 40.81 QP | 46.00 | -5.19 | 1.00 H | 94 | 24.10 | 16.71 |
| 4 | 533.47 | 38.87 QP | 46.00 | -7.13 | 2.00 H | 283 | 19.71 | 19.17 |
| 5 | 667.60 | 44.81 QP | 46.00 | -1.19 | 2.00 H | 193 | 23.15 | 21.66 |
| 6 | 933.91 | 40.95 QP | 46.00 | -5.05 | 2.00 H | 208 | 15.79 | 25.16 |

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 | 37.78 | 38.35 QP | 40.00 | -1.65 | 1.00 V | 280 | 23.39 | 14.96 |
| 2 | 199.12 | 35.78 QP | 43.50 | -7.72 | 2.00 V | 343 | 24.43 | 11.34 |
| 3 | 399.34 | 38.48 QP | 46.00 | -7.52 | 1.00 V | 310 | 21.77 | 16.71 |
| 4 | 533.47 | 40.96 QP | 46.00 | -5.04 | 1.00 V | 274 | 21.80 | 19.17 |
| 5 | 667.60 | 44.71 QP | 46.00 | -1.29 | 1.50 V | 268 | 23.05 | 21.66 |
| 6 | 933.91 | 40.20 QP | 46.00 | -5.80 | 1.00 V | 184 | 15.04 | 25.16 |

- 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

4.2.11 TEST RESULTS_ANTENNA SAA05-22063A (ABOVE 1GHz TEST)

802.11a OFDM modulation

| | | | |
|-----------------|----------------------------|--------------------------|---------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | FREQUENCY RANGE | 1 ~ 40 GHz |
| CHANNEL | Channel 1 | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 24deg.C, 64%RH, 985hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | C1 | TESTED BY | Brad Wu |

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 | #1066.00 | 43.54 PK | 74.00 | -30.46 | 1.20 H | 51 | 15.99 | 27.55 |
| 2 | 2133.00 | 45.38 PK | 68.30 | -22.92 | 1.03 H | 167 | 14.53 | 30.85 |
| 3 | #5150.00 | 48.04 PK | 74.00 | -25.96 | 1.49 H | 271 | 9.44 | 38.60 |
| 4 | *5180.00 | 95.24 PK | | | 1.49 H | 271 | 56.58 | 38.66 |
| 4 | *5180.00 | 84.29 AV | | | 1.49 H | 271 | 45.63 | 38.66 |
| 5 | 10360.00 | 59.81 PK | 68.30 | -8.49 | 1.02 H | 64 | 10.39 | 49.42 |

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 | #1066.00 | 44.51 PK | 74.00 | -29.49 | 1.28 V | 57 | 16.96 | 27.55 |
| 2 | 2133.00 | 48.57 PK | 68.30 | -19.73 | 1.36 V | 95 | 17.72 | 30.85 |
| 3 | #5150.00 | 60.90 PK | 74.00 | -60.16 | 1.00 V | 50 | 22.30 | 38.60 |
| 3 | #5150.00 | 50.21 AV | 54.00 | -3.79 | 1.00 V | 50 | 11.61 | 38.60 |
| 4 | *5180.00 | 108.10 PK | | | 1.00 V | 50 | 69.44 | 38.66 |
| 4 | *5180.00 | 97.41 AV | | | 1.00 V | 50 | 58.75 | 38.66 |
| 5 | 10360.00 | 60.57 PK | 68.30 | -7.73 | 1.04 V | 229 | 11.15 | 49.42 |

- NOTE:**
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. "*" : Fundamental frequency
 6. "#":The radiated frequency falling in the restricted band.



| | | | |
|------------------------|----------------------------|---------------------------------|---------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | FREQUENCY RANGE | 1 ~ 40 GHz |
| CHANNEL | Channel 4 | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 24deg.C, 64%RH, 985hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | C1 | TESTED BY | Brad Wu |

| 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 | #1066.00 | 44.07 PK | 74.00 | -29.93 | 1.11 H | 59 | 16.52 | 27.55 |
| 2 | 2133.00 | 46.08 PK | 68.30 | -22.22 | 1.03 H | 294 | 15.23 | 30.85 |
| 3 | *5240.00 | 98.06 PK | | | 1.48 H | 271 | 59.29 | 38.77 |
| 3 | *5240.00 | 87.13 AV | | | 1.48 H | 271 | 48.36 | 38.77 |
| 4 | 10480.00 | 59.38 PK | 68.30 | -8.92 | 1.01 H | 55 | 9.66 | 49.72 |

| 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 | #1066.00 | 46.28 PK | 74.00 | -27.72 | 1.20 V | 325 | 18.73 | 27.55 |
| 2 | 2133.00 | 48.36 PK | 68.30 | -19.94 | 1.01 V | 57 | 17.51 | 30.85 |
| 3 | *5240.00 | 110.86 PK | | | 1.05 V | 52 | 72.09 | 38.77 |
| 3 | *5240.00 | 100.73 AV | | | 1.05 V | 52 | 61.96 | 38.77 |
| 4 | 10480.00 | 60.57 PK | 68.30 | -7.73 | 1.09 V | 27 | 10.85 | 49.72 |

- NOTE:**
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. "*" : Fundamental frequency
 6. "#"The radiated frequency falling in the restricted band.



| | | | |
|------------------------|----------------------------|---------------------------------|---------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | FREQUENCY RANGE | 1 ~ 40 GHz |
| CHANNEL | Channel 5 | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 24deg.C, 64%RH, 985hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | C1 | TESTED BY | Brad Wu |

| 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 | #1066.00 | 44.87 PK | 74.00 | -29.13 | 1.01 H | 329 | 17.32 | 27.55 |
| 2 | 2133.00 | 46.27 PK | 68.30 | -22.03 | 1.05 H | 304 | 15.42 | 30.85 |
| 3 | *5260.00 | 98.17 PK | | | 1.47 H | 273 | 59.35 | 38.82 |
| 3 | *5260.00 | 87.26 AV | | | 1.47 H | 273 | 48.44 | 38.82 |
| 4 | 10520.00 | 59.28 PK | 68.30 | -9.02 | 1.02 H | 75 | 9.49 | 49.79 |

| 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 | #1066.00 | 46.69 PK | 74.00 | -27.31 | 1.18 V | 338 | 19.14 | 27.55 |
| 2 | 2133.00 | 48.51 PK | 68.30 | -19.79 | 1.06 V | 117 | 17.66 | 30.85 |
| 3 | *5260.00 | 110.92 PK | | | 1.06 V | 57 | 72.10 | 38.82 |
| 3 | *5260.00 | 100.87 AV | | | 1.06 V | 57 | 62.05 | 38.82 |
| 4 | 10520.00 | 60.28 PK | 68.30 | -8.02 | 1.03 V | 224 | 10.49 | 49.79 |

- NOTE:**
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. "*" : Fundamental frequency
 6. "#"The radiated frequency falling in the restricted band.



| | | | |
|------------------------|----------------------------|---------------------------------|---------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | FREQUENCY RANGE | 1 ~ 40 GHz |
| CHANNEL | Channel 8 | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 24deg.C, 64%RH, 985hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | C1 | TESTED BY | Brad Wu |

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 | #1066.00 | 43.82 PK | 74.00 | -30.18 | 1.15 H | 67 | 16.27 | 27.55 |
| 2 | 2133.00 | 45.66 PK | 68.30 | -22.64 | 1.01 H | 213 | 14.81 | 30.85 |
| 3 | *5320.00 | 98.17 PK | | | 1.50 H | 268 | 59.24 | 38.93 |
| 3 | *5320.00 | 87.21 AV | | | 1.50 H | 268 | 48.28 | 38.93 |
| 4 | #5350.00 | 49.09 PK | 74.00 | -24.91 | 1.50 H | 268 | 10.12 | 38.98 |
| 5 | #10640.00 | 59.28 PK | 74.00 | -14.72 | 1.04 H | 78 | 9.38 | 49.90 |
| 5 | #10640.00 | 46.35 AV | 54.00 | -7.65 | 1.04 H | 78 | -3.55 | 49.90 |

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 | #1066.00 | 46.62 PK | 74.00 | -27.38 | 1.01 V | 276 | 19.07 | 27.55 |
| 2 | 2133.00 | 48.51 PK | 68.30 | -19.79 | 1.22 V | 23 | 17.66 | 30.85 |
| 3 | *5320.00 | 111.04 PK | | | 1.07 V | 50 | 72.11 | 38.93 |
| 3 | *5320.00 | 100.95 AV | | | 1.07 V | 50 | 62.02 | 38.93 |
| 4 | #5350.00 | 61.96 PK | 74.00 | -12.04 | 1.07 V | 50 | 22.98 | 38.98 |
| 4 | #5350.00 | 51.87 AV | 54.00 | -2.13 | 1.07 V | 50 | 12.89 | 38.98 |
| 5 | #10640.00 | 60.32 PK | 74.00 | -13.68 | 1.00 V | 327 | 10.42 | 49.90 |
| 5 | #10640.00 | 47.29 AV | 54.00 | -6.71 | 1.00 V | 327 | -2.61 | 49.90 |

- NOTE:**
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. "*" : Fundamental frequency
 6. "#" The radiated frequency falling in the restricted band.

4.2.12 TEST RESULTS_ANTENNA SDW0939A1 (ABOVE 1GHz TEST)

802.11a OFDM modulation

| | | | |
|-----------------|----------------------------|--------------------------|---------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | FREQUENCY RANGE | 1 ~ 40 GHz |
| CHANNEL | Channel 1 | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 24deg.C, 64%RH, 985hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | C2 | TESTED BY | Brad Wu |

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 | #1066.00 | 42.27 PK | 74.00 | -31.73 | 1.49 H | 187 | 14.72 | 27.55 |
| 1 | #1066.00 | 37.11 AV | 54.00 | -16.89 | 1.49 H | 187 | 9.56 | 27.55 |
| 2 | 2133.00 | 45.61 PK | 68.30 | -22.69 | 1.03 H | 156 | 14.76 | 30.85 |
| 3 | #5150.00 | 47.81 PK | 74.00 | -26.19 | 1.04 H | 146 | 9.21 | 38.60 |
| 4 | *5180.00 | 93.94 PK | | | 1.04 H | 146 | 55.28 | 38.66 |
| 4 | *5180.00 | 83.82 AV | | | 1.04 H | 146 | 45.16 | 38.66 |
| 5 | 10360.00 | 58.23 PK | 68.30 | -10.07 | 1.03 H | 155 | 8.81 | 49.42 |

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 | #1066.00 | 43.19 PK | 74.00 | -30.81 | 1.67 V | 64 | 15.64 | 27.55 |
| 1 | #1066.00 | 37.39 AV | 54.00 | -16.61 | 1.67 V | 64 | 9.84 | 27.55 |
| 2 | 2133.00 | 47.87 PK | 68.30 | -20.43 | 1.53 V | 234 | 17.02 | 30.85 |
| 3 | #5150.00 | 60.66 PK | 74.00 | -13.34 | 1.08 V | 206 | 22.05 | 38.60 |
| 3 | #5150.00 | 50.45 AV | 54.00 | -3.55 | 1.08 V | 206 | 11.85 | 38.60 |
| 4 | *5180.00 | 106.79 PK | | | 1.08 V | 206 | 68.13 | 38.66 |
| 4 | *5180.00 | 96.58 AV | | | 1.08 V | 206 | 57.92 | 38.66 |
| 5 | 10360.00 | 59.48 PK | 68.30 | -8.82 | 1.00 V | 124 | 10.06 | 49.42 |

- NOTE:**
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. "*" : Fundamental frequency
 6. "#":The radiated frequency falling in the restricted band.



| | | | |
|------------------------|----------------------------|---------------------------------|---------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | FREQUENCY RANGE | 1 ~ 40 GHz |
| CHANNEL | Channel 4 | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 24deg.C, 64%RH, 985hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | C2 | TESTED BY | Brad Wu |

| 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 | #1066.00 | 43.31 PK | 74.00 | -30.69 | 1.40 H | 168 | 15.76 | 27.55 |
| 2 | 2133.00 | 46.75 PK | 68.30 | -21.55 | 1.02 H | 165 | 15.90 | 30.85 |
| 3 | *5240.00 | 95.87 PK | | | 1.05 H | 151 | 57.10 | 38.77 |
| 3 | *5240.00 | 83.72 AV | | | 1.05 H | 151 | 44.95 | 38.77 |
| 4 | 10480.00 | 58.72 PK | 68.30 | -9.58 | 1.00 H | 152 | 9.00 | 49.72 |

| 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 | #1066.00 | 44.23 PK | 74.00 | -29.77 | 1.42 V | 60 | 16.68 | 27.55 |
| 2 | 2133.00 | 48.27 PK | 68.30 | -20.03 | 1.50 V | 227 | 17.42 | 30.85 |
| 3 | *5240.00 | 108.54 PK | | | 1.10 V | 202 | 69.77 | 38.77 |
| 3 | *5240.00 | 98.19 AV | | | 1.10 V | 202 | 59.42 | 38.77 |
| 4 | 10480.00 | 59.97 PK | 68.30 | -8.33 | 1.03 V | 119 | 10.25 | 49.72 |

- NOTE:**
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. "*" : Fundamental frequency
 6. "#"The radiated frequency falling in the restricted band.



| | | | |
|------------------------|----------------------------|---------------------------------|---------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | FREQUENCY RANGE | 1 ~ 40 GHz |
| CHANNEL | Channel 5 | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 24deg.C, 64%RH, 985hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | C2 | TESTED BY | Brad Wu |

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 | #1066.00 | 43.52 PK | 74.00 | -30.48 | 1.36 H | 77 | 15.97 | 27.55 |
| 2 | 2133.00 | 46.93 PK | 68.30 | -21.37 | 1.49 H | 222 | 16.08 | 30.85 |
| 3 | *5260.00 | 95.67 PK | | | 1.07 H | 148 | 56.85 | 38.82 |
| 3 | *5260.00 | 83.50 AV | | | 1.07 H | 148 | 44.68 | 38.82 |
| 4 | 10520.00 | 58.42 PK | 68.30 | -9.88 | 1.00 H | 143 | 8.63 | 49.79 |

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 | #1066.00 | 44.52 PK | 74.00 | -29.48 | 1.40 V | 72 | 16.97 | 27.55 |
| 2 | 2133.00 | 48.67 PK | 68.30 | -19.63 | 1.46 V | 235 | 17.82 | 30.85 |
| 3 | *5260.00 | 108.45 PK | | | 1.06 V | 204 | 69.63 | 38.82 |
| 3 | *5260.00 | 98.25 AV | | | 1.06 V | 204 | 59.43 | 38.82 |
| 4 | 10520.00 | 59.17 PK | 68.30 | -9.13 | 1.01 V | 123 | 9.38 | 49.79 |

- NOTE:**
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. "*" : Fundamental frequency
 6. "#"The radiated frequency falling in the restricted band.



| | | | |
|------------------------|----------------------------|---------------------------------|---------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | FREQUENCY RANGE | 1 ~ 40 GHz |
| CHANNEL | Channel 8 | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 24deg.C, 64%RH, 985hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | C2 | TESTED BY | Brad Wu |

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 | #1066.00 | 44.21 PK | 74.00 | -29.79 | 1.30 H | 65 | 16.66 | 27.55 |
| 2 | 2133.00 | 46.29 PK | 68.30 | -22.01 | 1.29 H | 254 | 15.44 | 30.85 |
| 3 | *5320.00 | 95.71 PK | | | 1.06 H | 151 | 56.78 | 38.93 |
| 3 | *5320.00 | 83.69 AV | | | 1.06 H | 151 | 44.76 | 38.93 |
| 4 | #5350.00 | 46.68 PK | 74.00 | -41.59 | 1.06 H | 151 | 7.70 | 38.98 |
| 5 | #10640.00 | 58.61 PK | 74.00 | -15.39 | 1.03 H | 152 | 8.71 | 49.90 |
| 5 | #10640.00 | 45.88 AV | 54.00 | -8.12 | 1.03 H | 152 | -4.02 | 49.90 |

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 | #1066.00 | 45.68 PK | 74.00 | -28.32 | 1.43 V | 59 | 18.13 | 27.55 |
| 2 | 2133.00 | 48.67 PK | 68.30 | -19.63 | 1.37 V | 245 | 17.82 | 30.85 |
| 3 | *5320.00 | 108.76 PK | | | 1.05 V | 195 | 69.83 | 38.93 |
| 3 | *5320.00 | 98.51 AV | | | 1.05 V | 195 | 59.58 | 38.93 |
| 4 | #5350.00 | 59.73 PK | 74.00 | -14.27 | 1.05 V | 195 | 20.75 | 38.98 |
| 4 | #5350.00 | 49.48 AV | 54.00 | -4.52 | 1.05 V | 195 | 10.50 | 38.98 |
| 5 | #10640.00 | 59.23 PK | 74.00 | -14.77 | 1.06 V | 134 | 9.33 | 49.90 |
| 5 | #10640.00 | 47.08 AV | 54.00 | -6.92 | 1.06 V | 134 | -2.82 | 49.90 |

- NOTE:**
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. "*" : Fundamental frequency
 6. "#" The radiated frequency falling in the restricted band.

4.2.13 TEST RESULTS_ANTENNA SAA05-22056A (ABOVE 1GHz TEST)

802.11a OFDM modulation

| | | | |
|-----------------|----------------------------|--------------------------|---------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | FREQUENCY RANGE | 1 ~ 40 GHz |
| CHANNEL | Channel 1 | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 24deg.C, 64%RH, 985hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | C3 | TESTED BY | Brad Wu |

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 | #1066.00 | 43.35 PK | 74.00 | -30.65 | 1.22 H | 61 | 15.80 | 27.55 |
| 2 | 2133.00 | 45.50 PK | 68.30 | -22.80 | 1.04 H | 118 | 14.65 | 30.85 |
| 3 | #5150.00 | 48.97 PK | 74.00 | -25.03 | 1.15 H | 344 | 10.37 | 38.60 |
| 4 | *5180.00 | 96.96 PK | | | 1.15 H | 344 | 58.30 | 38.66 |
| 4 | *5180.00 | 86.86 AV | | | 1.15 H | 344 | 48.20 | 38.66 |
| 5 | 10360.00 | 59.65 PK | 68.30 | -8.65 | 1.00 H | 219 | 10.23 | 49.42 |

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 | #1066.00 | 44.29 PK | 74.00 | -29.71 | 1.51 V | 34 | 16.74 | 27.55 |
| 2 | 2133.00 | 48.65 PK | 68.30 | -19.65 | 1.40 V | 156 | 17.80 | 30.85 |
| 3 | #5150.00 | 62.43 PK | 74.00 | -11.57 | 1.07 V | 3 | 23.83 | 38.60 |
| 3 | #5150.00 | 51.74 AV | 54.00 | -2.26 | 1.07 V | 3 | 13.14 | 38.60 |
| 4 | *5180.00 | 110.42 PK | | | 1.07 V | 3 | 71.76 | 38.66 |
| 4 | *5180.00 | 99.73 AV | | | 1.07 V | 3 | 61.07 | 38.66 |
| 5 | 10360.00 | 60.61 PK | 68.30 | -7.69 | 1.03 V | 217 | 11.19 | 49.42 |

- NOTE:**
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. "*" : Fundamental frequency
 6. "#"The radiated frequency falling in the restricted band.



| | | | |
|------------------------|----------------------------|---------------------------------|---------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | FREQUENCY RANGE | 1 ~ 40 GHz |
| CHANNEL | Channel 4 | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 24deg.C, 64%RH, 985hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | C3 | TESTED BY | Brad Wu |

| 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 | #1066.00 | 44.86 PK | 74.00 | -29.14 | 1.09 H | 110 | 17.31 | 27.55 |
| 2 | 2133.00 | 46.57 PK | 68.30 | -21.73 | 1.03 H | 219 | 15.72 | 30.85 |
| 3 | *5240.00 | 98.41 PK | | | 1.16 H | 344 | 59.64 | 38.77 |
| 3 | *5240.00 | 88.02 AV | | | 1.16 H | 344 | 49.25 | 38.77 |
| 4 | 10480.00 | 59.72 PK | 68.30 | -8.58 | 1.01 H | 168 | 10.00 | 49.72 |

| 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 | #1066.00 | 46.61 PK | 74.00 | -27.39 | 1.20 V | 38 | 19.06 | 27.55 |
| 2 | 2133.00 | 48.79 PK | 68.30 | -19.51 | 1.32 V | 215 | 17.94 | 30.85 |
| 3 | *5240.00 | 112.13 PK | | | 1.00 V | 10 | 73.36 | 38.77 |
| 3 | *5240.00 | 101.85 AV | | | 1.00 V | 10 | 63.08 | 38.77 |
| 4 | 10480.00 | 61.82 PK | 68.30 | -6.48 | 1.01 V | 342 | 12.10 | 49.72 |

- NOTE:**
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. "*" : Fundamental frequency
 6. "#"The radiated frequency falling in the restricted band.



| | | | |
|------------------------|----------------------------|---------------------------------|---------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | FREQUENCY RANGE | 1 ~ 40 GHz |
| CHANNEL | Channel 5 | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 24deg.C, 64%RH, 985hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | C3 | TESTED BY | Brad Wu |

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 | #1066.00 | 44.17 PK | 74.00 | -29.83 | 1.00 H | 211 | 16.62 | 27.55 |
| 2 | 2133.00 | 46.82 PK | 68.30 | -21.48 | 1.01 H | 97 | 15.97 | 30.85 |
| 3 | *5260.00 | 98.76 PK | | | 1.17 H | 342 | 59.94 | 38.82 |
| 3 | *5260.00 | 88.42 AV | | | 1.17 H | 342 | 49.60 | 38.82 |
| 4 | 10520.00 | 59.98 PK | 68.30 | -8.32 | 1.16 H | 25 | 10.19 | 49.79 |

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 | #1066.00 | 46.20 PK | 74.00 | -27.80 | 1.14 V | 323 | 18.65 | 27.55 |
| 2 | 2133.00 | 48.32 PK | 68.30 | -19.98 | 1.01 V | 234 | 17.47 | 30.85 |
| 3 | *5260.00 | 112.41 PK | | | 1.00 V | 23 | 73.59 | 38.82 |
| 3 | *5260.00 | 102.06 AV | | | 1.00 V | 23 | 63.24 | 38.82 |
| 4 | 10520.00 | 60.76 PK | 68.30 | -7.54 | 1.34 V | 260 | 10.97 | 49.79 |

- NOTE:**
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. "*" : Fundamental frequency
 6. "#"The radiated frequency falling in the restricted band.

| | | | |
|------------------------|----------------------------|---------------------------------|---------------------------|
| EUT | AirMagnet SmartEdge Sensor | MEASUREMENT DETAIL | |
| MODEL | A5020 | FREQUENCY RANGE | 1 ~ 40 GHz |
| CHANNEL | Channel 8 | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| MODULATION TYPE | BPSK | ENVIRONMENTAL CONDITIONS | 24deg.C, 64%RH, 985hPa |
| TRANSFER RATE | 6Mbps | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| TEST MODE | C3 | TESTED BY | Brad Wu |

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 | #1066.00 | 44.57 PK | 74.00 | -29.43 | 1.10 H | 129 | 17.02 | 27.55 |
| 2 | 2133.00 | 46.83 PK | 68.30 | -21.47 | 1.03 H | 352 | 15.98 | 30.85 |
| 3 | *5320.00 | 98.66 PK | | | 1.16 H | 343 | 59.73 | 38.93 |
| 3 | *5320.00 | 88.20 AV | | | 1.16 H | 343 | 49.27 | 38.93 |
| 4 | #5350.00 | 49.11 PK | 74.00 | -24.89 | 1.16 H | 343 | 10.13 | 38.98 |
| 5 | #10640.00 | 59.29 PK | 74.00 | -14.71 | 1.02 H | 157 | 9.39 | 49.90 |
| 5 | #10640.00 | 46.23 AV | 54.00 | -7.77 | 1.02 H | 157 | -3.67 | 49.90 |

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 | #1066.00 | 46.87 PK | 74.00 | -27.13 | 1.40 V | 72 | 19.32 | 27.55 |
| 2 | 2133.00 | 48.72 PK | 68.30 | -19.58 | 1.02 V | 214 | 17.87 | 30.85 |
| 3 | *5320.00 | 112.54 PK | | | 1.03 V | 6 | 73.61 | 38.93 |
| 3 | *5320.00 | 102.22 AV | | | 1.03 V | 6 | 63.29 | 38.93 |
| 4 | #5350.00 | 62.99 PK | 74.00 | -11.01 | 1.03 V | 6 | 24.02 | 38.98 |
| 4 | #5350.00 | 52.67 AV | 54.00 | -1.33 | 1.03 V | 6 | 13.70 | 38.98 |
| 5 | #10640.00 | 60.53 PK | 74.00 | -13.47 | 1.06 V | 332 | 10.63 | 49.90 |
| 5 | #10640.00 | 47.52 AV | 54.00 | -6.48 | 1.06 V | 332 | -2.38 | 49.90 |

- NOTE:**
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. "*" : Fundamental frequency
 6. "#": The radiated frequency falling in the restricted band.



4.3 PEAK TRANSMIT POWER MEASUREMENT

4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

| Frequency Band | Limit |
|------------------|---|
| 5.15 – 5.25GHz | The lesser of 50mW (17dBm) or 4dBm + 10logB |
| 5.25 – 5.35GHz | The lesser of 250mW (24dBm) or 11dBm + 10logB |
| 5.725 – 5.825GHz | The lesser of 1W (30dBm) or 17dBm + 10logB |

NOTE: Where B is the 26dB emission bandwidth in MHz.

4.3.2 TEST INSTRUMENTS

| Description & Manufacturer | Model No. | Serial No. | Calibrated Until |
|----------------------------|-----------|------------|------------------|
| R&S SPECTRUM ANALYZER | FSEK30 | 100049 | Aug. 14, 2006 |

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

1. The transmitter output was connected to the spectrum analyzer.
2. Set span to encompass the entire emission bandwidth of the signal.
3. Set RBW to 1MHz, VBW to 300kHz.
4. Using the spectrum analyzer's channel power measurement function to measure the output power.

NOTE:

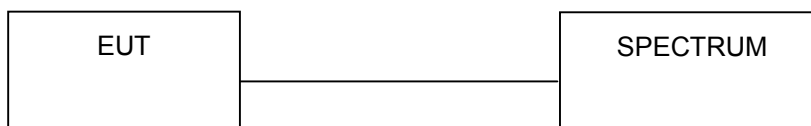
The test is performed in accordance with FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices – Part 15, Subpart E, August 2002.

The transmitter output operates continuously therefore Method # 3 is used.

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 specific channel frequencies individually.



4.3.7 TEST RESULTS

802.11a OFDM modulation

| | | | |
|-----------------------------|----------------------------|---------------------------------|------------------------|
| EUT | AirMagnet SmartEdge Sensor | MODEL | A5020 |
| MODULATION TYPE | BPSK | TRANSFER RATE | 6Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | ENVIRONMENTAL CONDITIONS | 23deg.C, 60%RH, 985hPa |
| TESTED BY | Gary Chang | | |

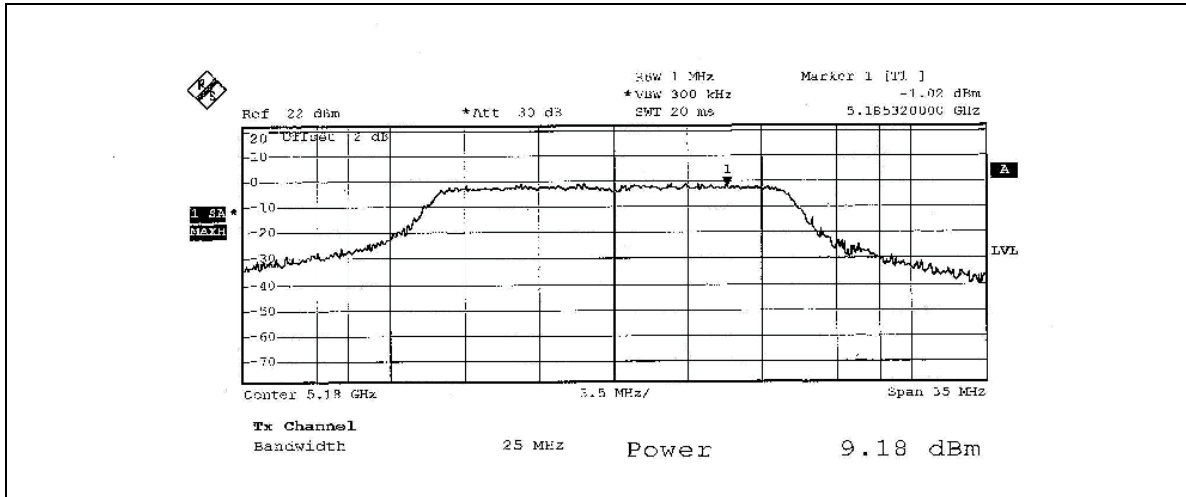
| CHANNEL | CHANNEL FREQUENCY (MHz) | PEAK POWER OUTPUT (mW) | PEAK POWER OUTPUT (dBm) | PEAK POWER LIMIT (dBm) | 26dBc Occupied Bandwidth (MHz) | PASS/FAIL |
|---------|-------------------------|------------------------|-------------------------|------------------------|--------------------------------|-----------|
| 1 | 5180 | 8.279 | 9.18 | 15.00 | 24.56 | PASS |
| 4 | 5240 | 14.421 | 11.59 | 15.00 | 24.80 | PASS |
| 5 | 5260 | 13.366 | 11.26 | 22.00 | 24.80 | PASS |
| 8 | 5320 | 13.152 | 11.19 | 22.00 | 24.80 | PASS |

NOTE 1: The 26dBc Occupied Bandwidth plot, please refer to the following pages.

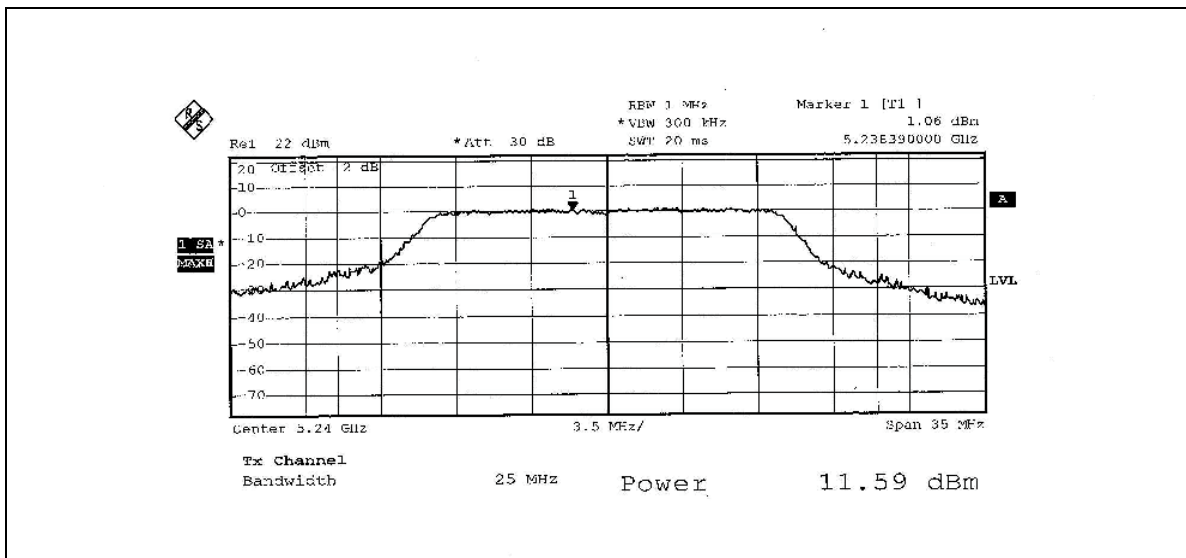
NOTE 2: According to 15.407 (a), the maximum antenna gain 8dBi is higher than 6dBi, so the limit of peak power shall be reduced by 2dB.



Peak Power Output:
CH 1

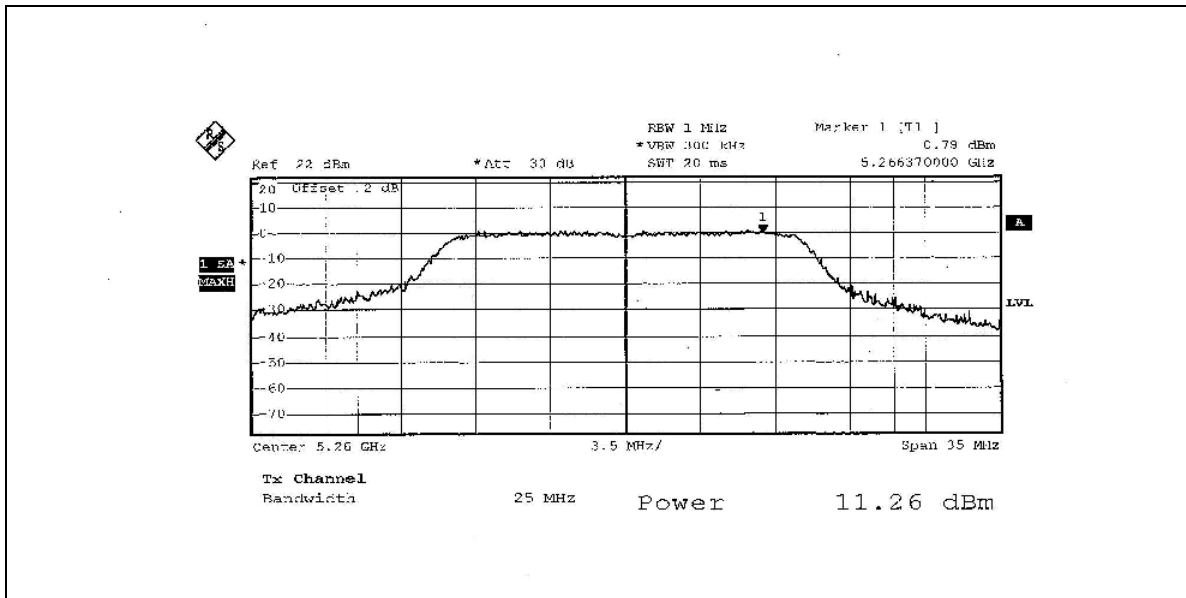


CH 4

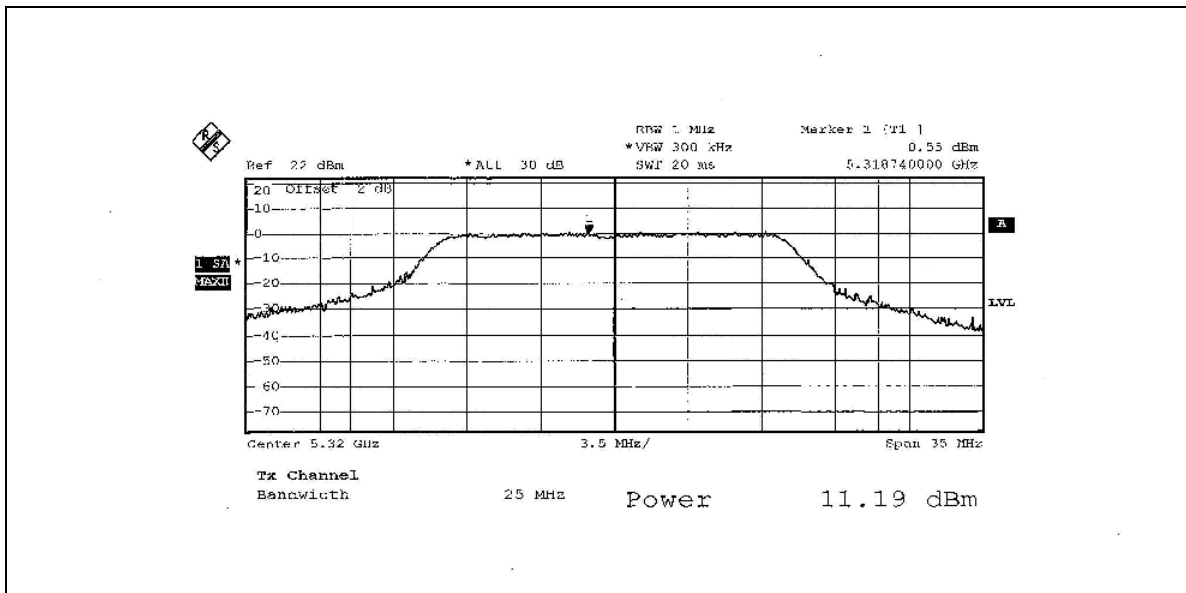




CH 5

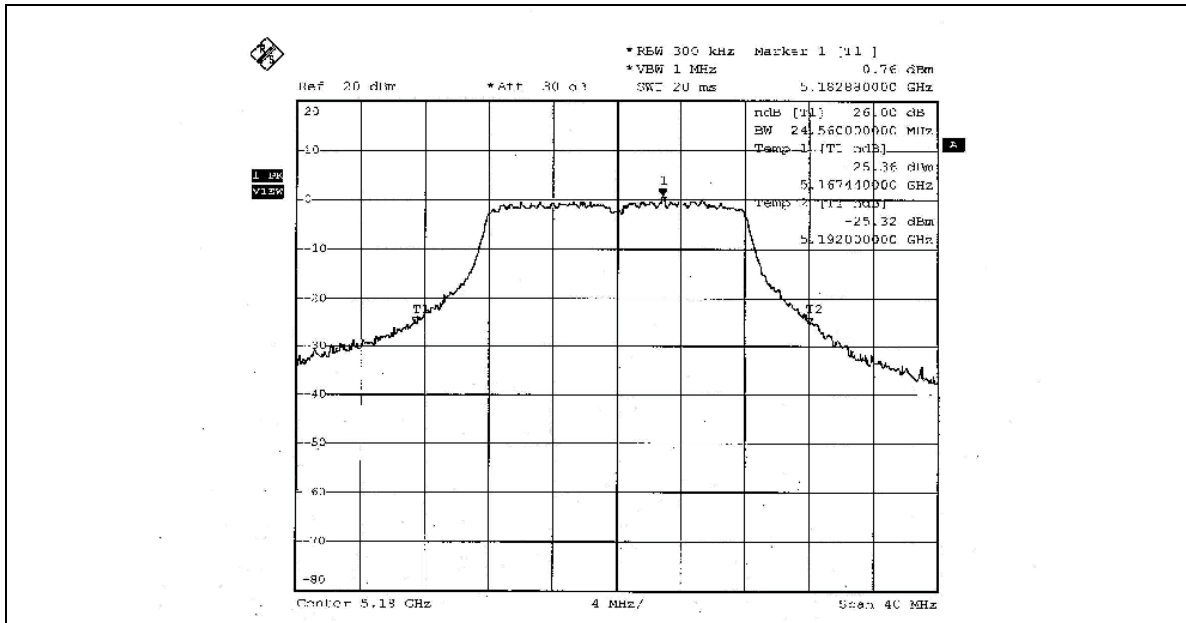


CH 8

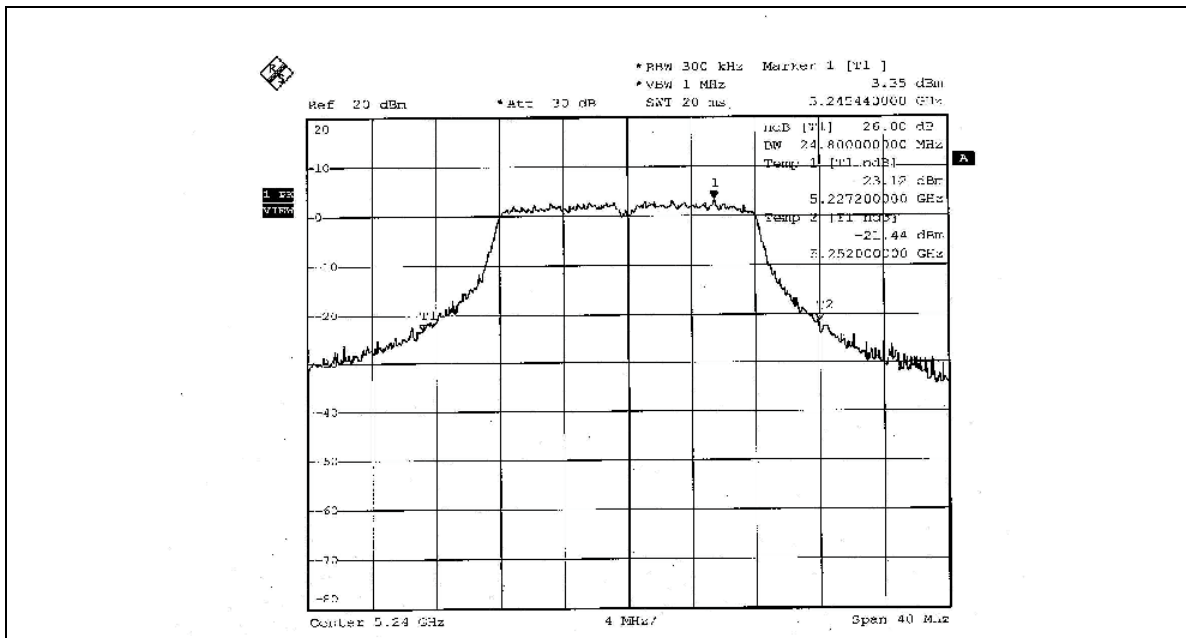




26dB Occupied Bandwidth:
CH 1

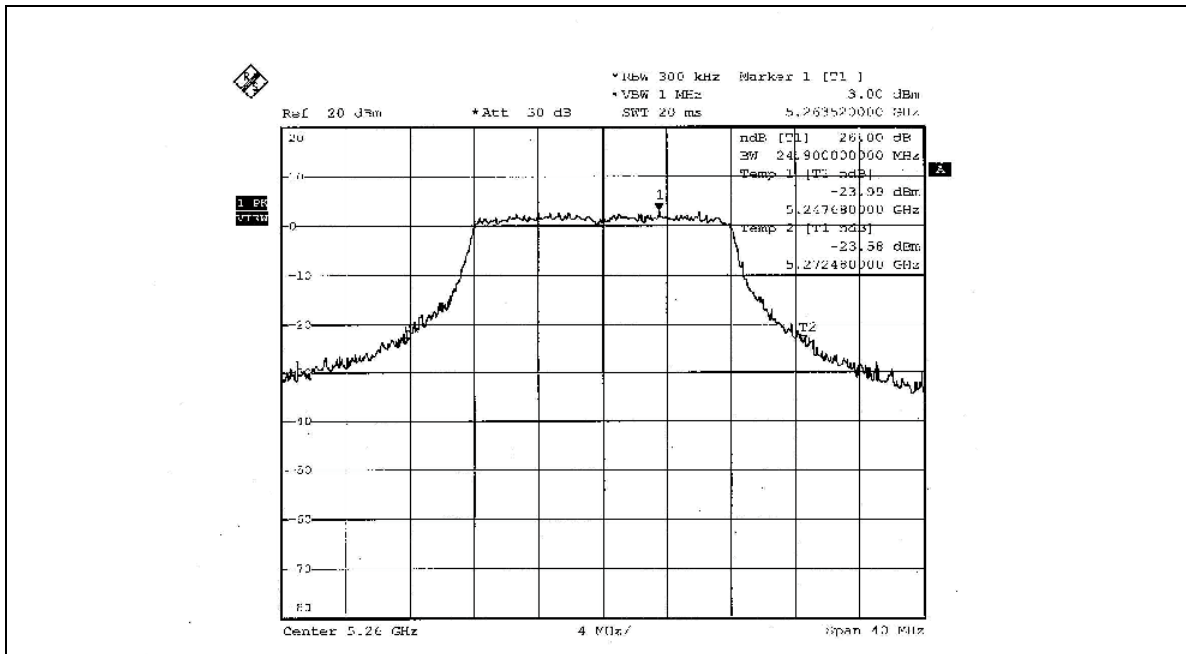


CH 4

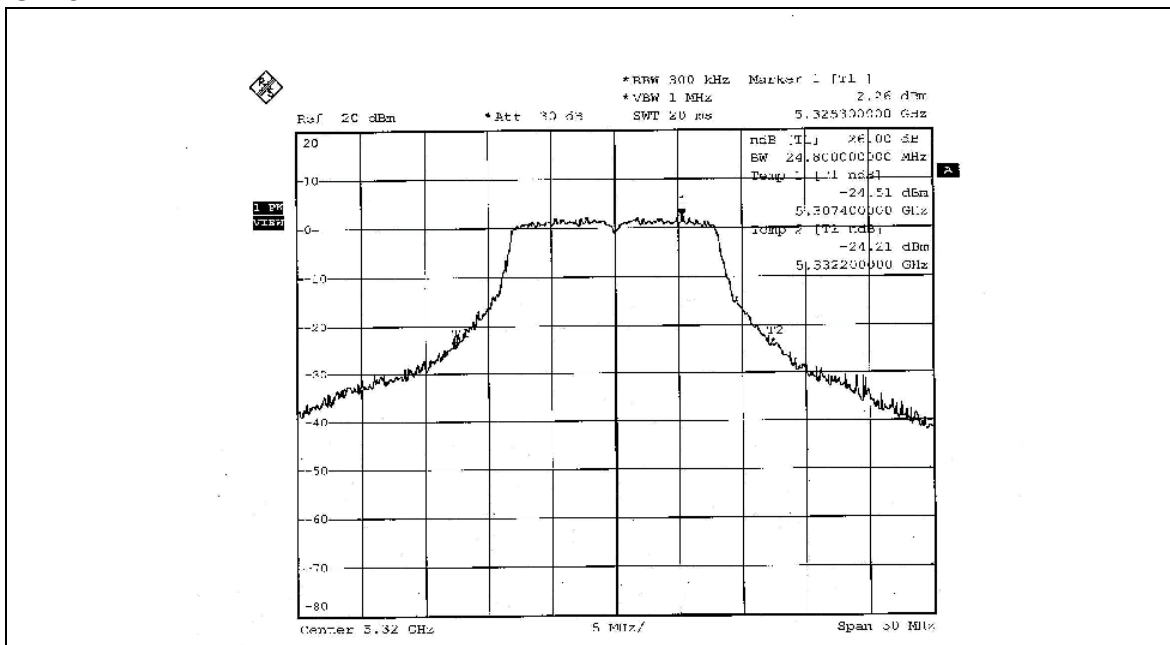




CH 5



CH 8





4.4 PEAK POWER EXCURSION MEASUREMENT

4.4.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

| Frequency Band | Limit |
|-------------------|-------|
| 5.15 – 5.25 GHz | 13dB |
| 5.25 – 5.35 GHz | 13dB |
| 5.725 – 5.825 GHz | 13dB |

4.4.2 TEST INSTRUMENTS

| Description & Manufacturer | Model No. | Serial No. | Calibrated Until |
|----------------------------|-----------|------------|------------------|
| SPECTRUM ANALYZER | FSEK30 | 100049 | Aug. 14, 2006 |

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

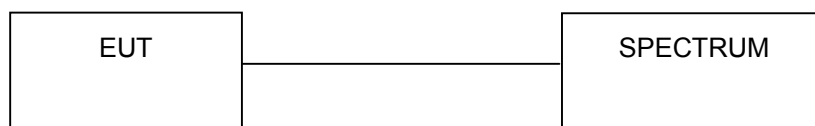
4.4.3 TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer.
2. Set the spectrum bandwidth span to view the entire spectrum.
3. Using peak detector and Max-hold function for Trace 1 (RB=1MHz, VB=3MHz) and 2 (RB=1MHz, VB=300kHz).
4. The largest difference between Trace 1 and Trace 2 in any 1MHz band on any frequency was recorded.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.



4.4.7 TEST RESULTS

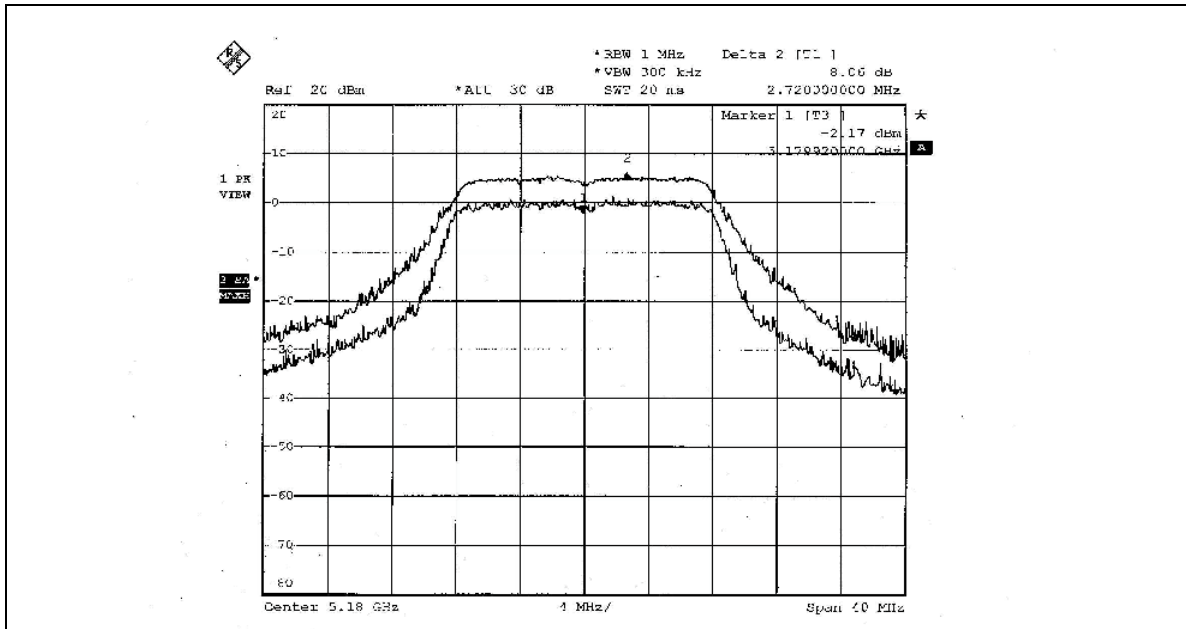
802.11a OFDM modulation

| | | | |
|-----------------------------|----------------------------|---------------------------------|------------------------|
| EUT | AirMagnet SmartEdge Sensor | MODEL | A5020 |
| MODULATION TYPE | BPSK | TRANSFER RATE | 6Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | ENVIRONMENTAL CONDITIONS | 23deg.C, 60%RH, 985hPa |
| TESTED BY | Gary Chang | | |

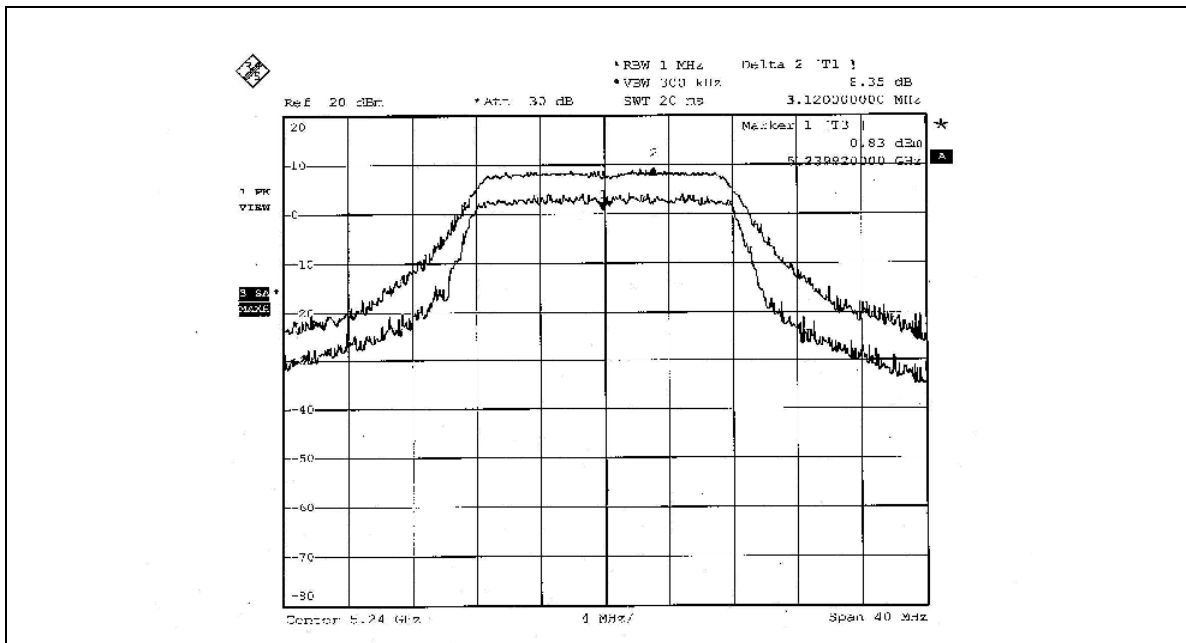
| CHANNEL | CHANNEL FREQUENCY (MHz) | PEAK POWER EXCURSION (dB) | PEAK to AVERAGE EXCURSION LIMIT (dB) | PASS/FAIL |
|----------------|--------------------------------|----------------------------------|---|------------------|
| 1 | 5180 | 8.06 | 13 | PASS |
| 4 | 5240 | 8.35 | 13 | PASS |
| 5 | 5260 | 8.03 | 13 | PASS |
| 8 | 5320 | 7.37 | 13 | PASS |



CH 1

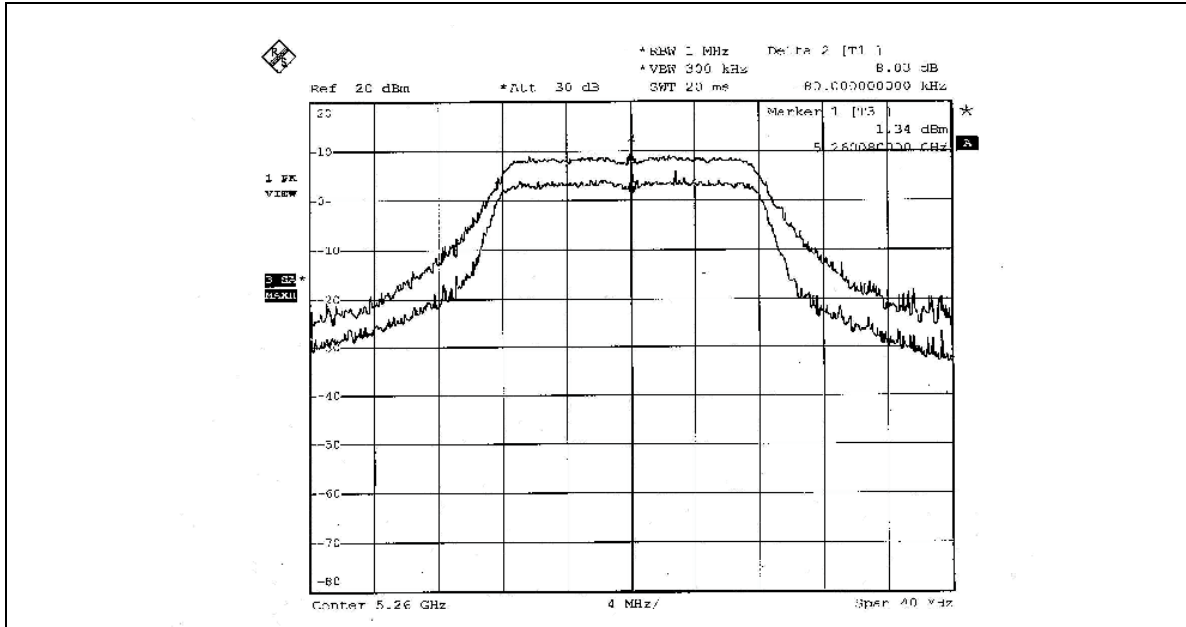


CH 4

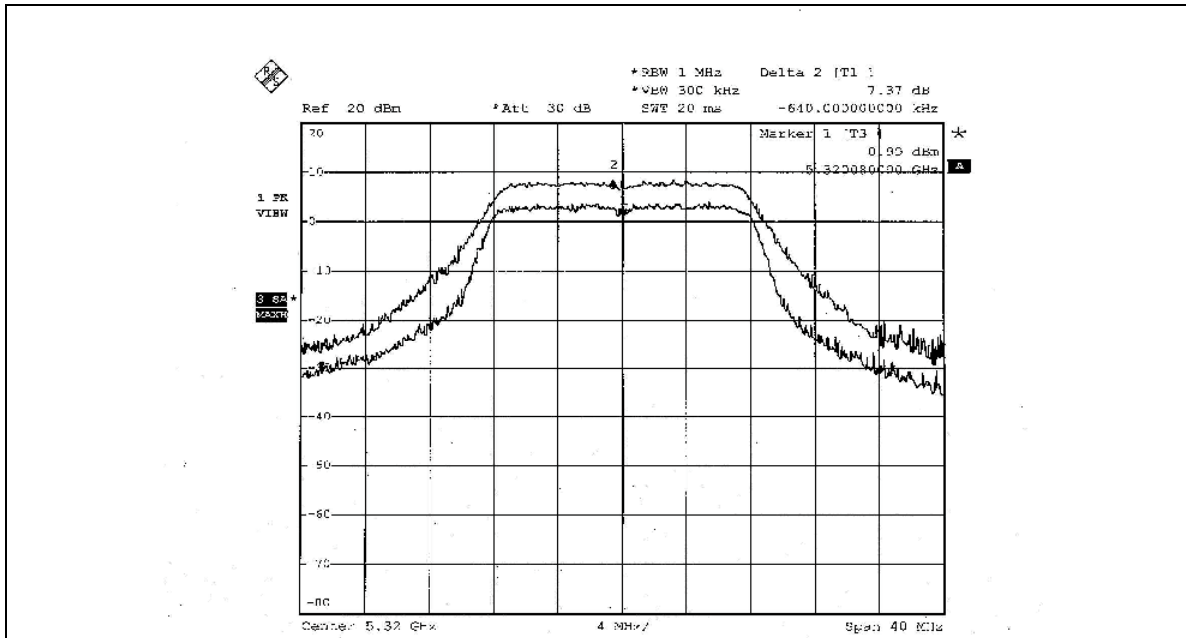




CH 5



CH 8



4.5 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

| Frequency Band | Limit |
|------------------|-------|
| 5.15 ~ 5.25GHz | 4dBm |
| 5.25 ~ 5.35GHz | 11dBm |
| 5.725 ~ 5.825GHz | 17dBm |

4.5.2 TEST INSTRUMENTS

| Description & Manufacturer | Model No. | Serial No. | Calibrated Until |
|----------------------------|-----------|------------|------------------|
| SPECTRUM ANALYZER | FSEK30 | 100049 | Aug. 14, 2006 |

NOTE: 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 PROCEDURES

1. The transmitter output was connected to the spectrum analyzer.
2. Set RBW=1MHz, VBW=3MHz. The PPSD is the highest level found across the emission in any 1MHz band.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITIONS

Same as 5.3.6



4.5.7 TEST RESULTS

802.11a OFDM modulation

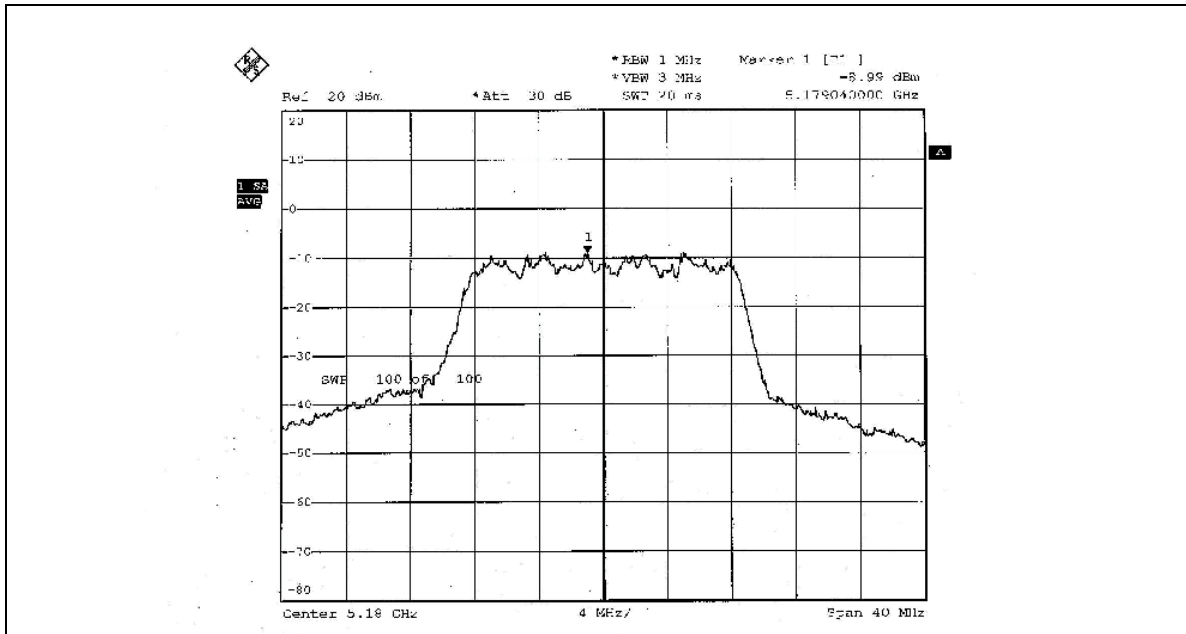
| | | | |
|-----------------------------|----------------------------|---------------------------------|------------------------|
| EUT | AirMagnet SmartEdge Sensor | MODEL | A5020 |
| MODULATION TYPE | BPSK | TRANSFER RATE | 6Mbps |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | ENVIRONMENTAL CONDITIONS | 23deg.C, 60%RH, 985hPa |
| TESTED BY | Gary Chang | | |

| CHANNEL | CHANNEL FREQUENCY (MHz) | RF POWER LEVEL IN 1MHz BW (dBm) | MAXIMUM LIMIT (dBm) | PASS/FAIL |
|---------|-------------------------|---------------------------------|---------------------|-----------|
| 1 | 5180 | -8.99 | 2 | PASS |
| 4 | 5240 | -5.69 | 2 | PASS |
| 5 | 5260 | -6.22 | 9 | PASS |
| 8 | 5320 | -6.24 | 9 | PASS |

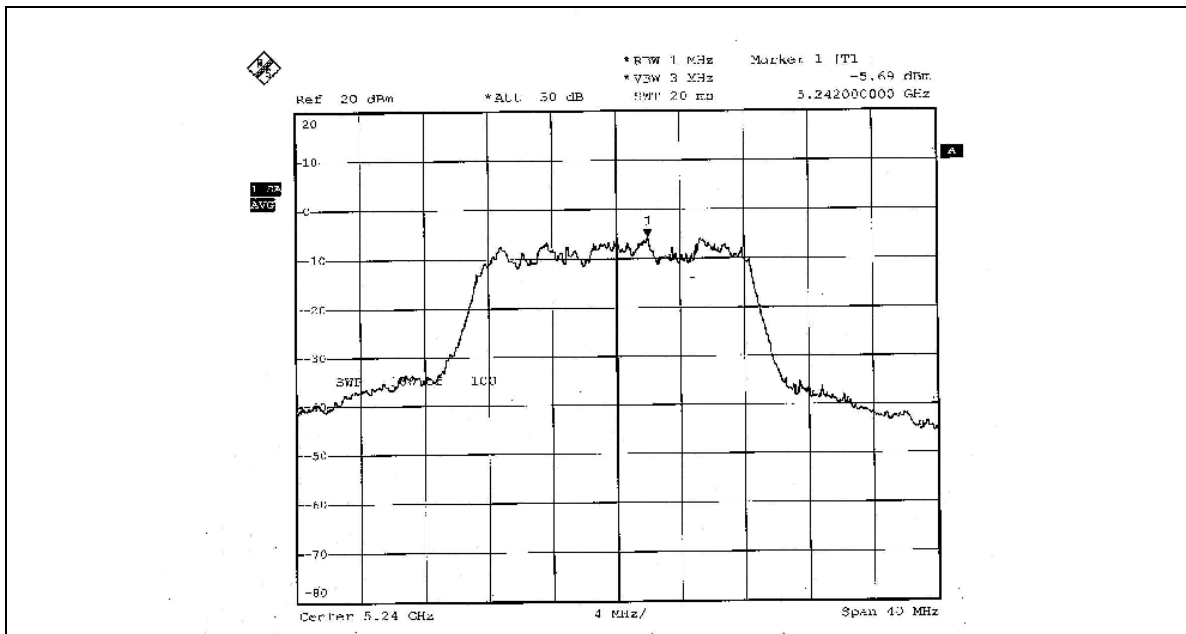
NOTE: According to 15.407 (a), the maximum antenna gain 8dBi is higher than 6dBi, so the limit of peak power shall be reduced by 2dB.



CH 1

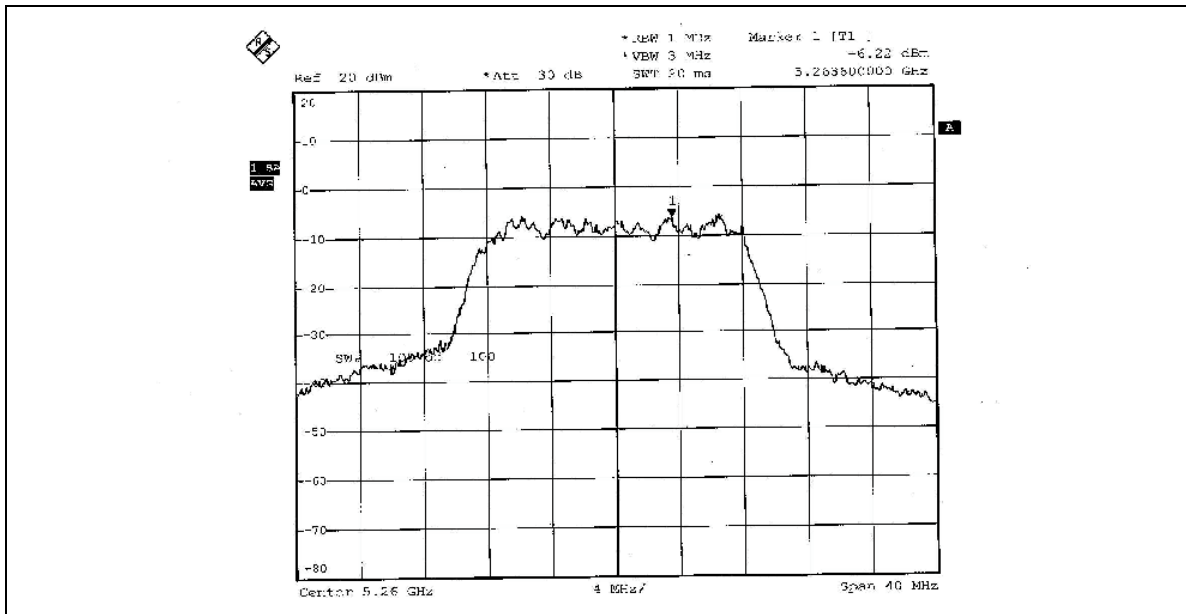


CH 4

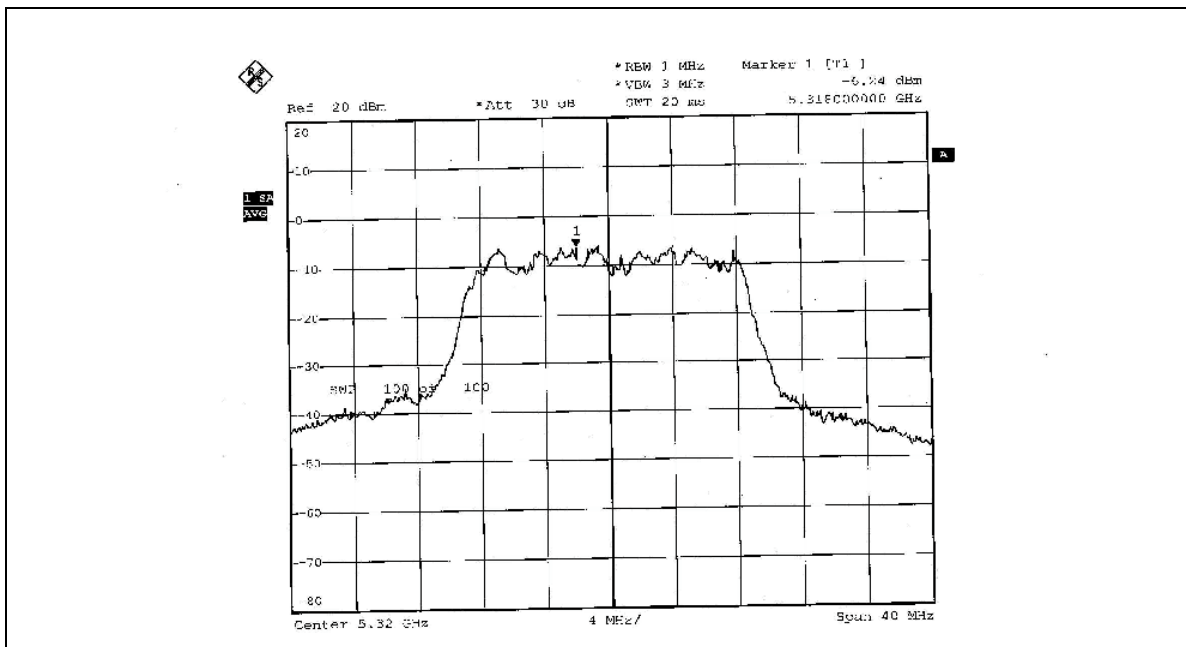




CH 5



CH 8





4.6 FREQUENCY STABILITY

4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency tolerance of the carrier signal shall be maintained within +/- 0.02% of the operating frequency over a temperature variation of -30 degrees to 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

4.6.2 TEST INSTRUMENTS

| Description & Manufacturer | Model No. | Serial No. | Calibrated Until |
|---|-----------|------------|------------------|
| ANRITSU SPECTRUM ANALYZER | MS2667C | M10281 | Mar. 09, 2006 |
| WIT STANDARD TEMPERATURE AND HUMIDITY CHAMBER | TH-4S-C | W901030 | Jul. 18, 2006 |

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

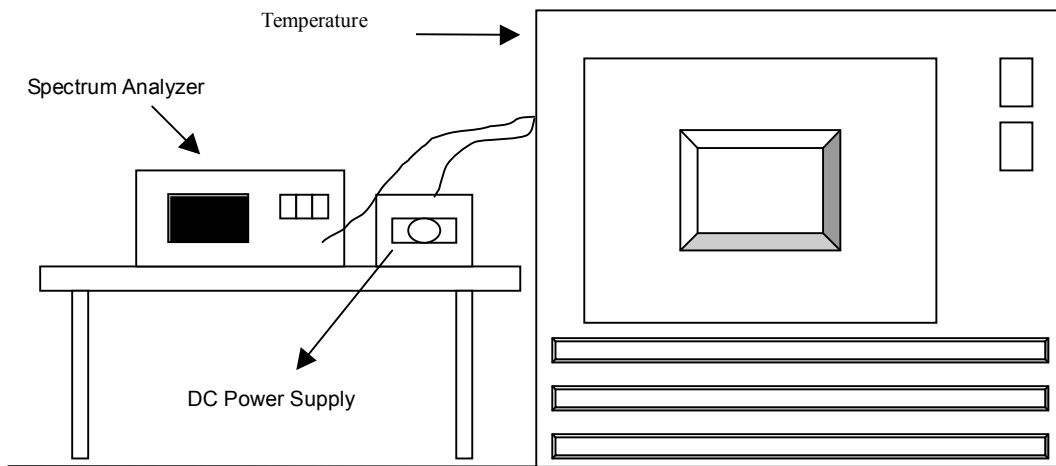
4.6.3 TEST PROCEDURE

1. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
2. Turn the EUT on and couple its output to a spectrum analyzer.
3. Turn the EUT off and set the chamber to the highest temperature specified.
4. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6



4.6.7 TEST RESULTS

| | | Operating frequency: 5320MHz | | | | Limit : ± 0.015% | | | |
|------------|--------------------|------------------------------|------------|-----------|------------|------------------|------------|-----------|------------|
| Temp. (°C) | Power supply (Vac) | 0 minute | | 2 minute | | 5 minute | | 10 minute | |
| | | (MHz) | (%) | (MHz) | (%) | (MHz) | (%) | (MHz) | (%) |
| 50 | 138 | 5320.0423 | 0.0007951 | 5320.0425 | 0.0007989 | 5320.0429 | 0.0008064 | 5320.0422 | 0.0007932 |
| | 120 | 5320.0425 | 0.0007989 | 5320.0428 | 0.0008045 | 5320.0431 | 0.0008102 | 5320.0426 | 0.0008008 |
| | 102 | 5320.0426 | 0.0008008 | 5320.0427 | 0.0008026 | 5320.0435 | 0.0008177 | 5320.0428 | 0.0008045 |
| 40 | 138 | 5320.0382 | 0.0007180 | 5320.0385 | 0.0007237 | 5320.0391 | 0.0007350 | 5320.0382 | 0.0007180 |
| | 120 | 5320.0384 | 0.0007218 | 5320.0386 | 0.0007256 | 5320.0392 | 0.0007368 | 5320.0384 | 0.0007218 |
| | 102 | 5320.0386 | 0.0007256 | 5320.0381 | 0.0007162 | 5320.0395 | 0.0007425 | 5320.0385 | 0.0007237 |
| 30 | 138 | 5320.0275 | 0.0005169 | 5320.0276 | 0.0005188 | 5320.0282 | 0.0005301 | 5320.0285 | 0.0005357 |
| | 120 | 5320.0282 | 0.0005301 | 5320.0281 | 0.0005282 | 5320.0286 | 0.0005376 | 5320.0286 | 0.0005376 |
| | 102 | 5320.0286 | 0.0005376 | 5320.0283 | 0.0005320 | 5320.0285 | 0.0005357 | 5320.0288 | 0.0005414 |
| 20 | 138 | 5320.0155 | 0.0002914 | 5320.0152 | 0.0002857 | 5320.0156 | 0.0002932 | 5320.0159 | 0.0002989 |
| | 120 | 5320.0153 | 0.0002876 | 5320.0158 | 0.0002970 | 5320.0152 | 0.0002857 | 5320.0162 | 0.0003045 |
| | 102 | 5320.0159 | 0.0002989 | 5320.0156 | 0.0002932 | 5320.0159 | 0.0002989 | 5320.0164 | 0.0003083 |
| 10 | 138 | 5320.0052 | 0.0000977 | 5320.0056 | 0.0001053 | 5320.0052 | 0.0000977 | 5320.0063 | 0.0001184 |
| | 120 | 5320.0053 | 0.0000996 | 5320.0058 | 0.0001090 | 5320.0062 | 0.0001165 | 5320.0068 | 0.0001278 |
| | 102 | 5320.0058 | 0.0001090 | 5320.0059 | 0.0001109 | 5320.0061 | 0.0001147 | 5320.0065 | 0.0001222 |
| 0 | 138 | 5319.9885 | -0.0002162 | 5319.9884 | -0.0002180 | 5319.9886 | -0.0002143 | 5319.9885 | -0.0002162 |
| | 120 | 5319.9886 | -0.0002143 | 5319.9883 | -0.0002199 | 5319.9889 | -0.0002086 | 5319.9883 | -0.0002199 |
| | 102 | 5319.9882 | -0.0002218 | 5319.9881 | -0.0002237 | 5319.9891 | -0.0002049 | 5319.9887 | -0.0002124 |
| -10 | 138 | 5319.9825 | -0.0003289 | 5319.9826 | -0.0003271 | 5319.9832 | -0.0003158 | 5319.9835 | -0.0003102 |
| | 120 | 5319.9826 | -0.0003271 | 5319.9857 | -0.0002688 | 5319.9830 | -0.0003195 | 5319.9836 | -0.0003083 |
| | 102 | 5319.9828 | -0.0003233 | 5319.9853 | -0.0002763 | 5319.9837 | -0.0003064 | 5319.9832 | -0.0003158 |
| -20 | 138 | 5319.9728 | -0.0005113 | 5319.9722 | -0.0005226 | 5319.9725 | -0.0005169 | 5319.9835 | -0.0003102 |
| | 120 | 5319.9729 | -0.0005094 | 5319.9725 | -0.0005169 | 5319.9726 | -0.0005150 | 5319.9731 | -0.0005056 |
| | 102 | 5319.9725 | -0.0005169 | 5319.9724 | -0.0005188 | 5319.9728 | -0.0005113 | 5319.9732 | -0.0005038 |
| -30 | 138 | 5319.9655 | -0.0006485 | 5319.9658 | -0.0006429 | 5319.9660 | -0.0006391 | 5319.9658 | -0.0006429 |
| | 120 | 5319.9654 | -0.0006504 | 5319.9659 | -0.0006410 | 5319.9662 | -0.0006353 | 5319.9655 | -0.0006485 |
| | 102 | 5319.9658 | -0.0006429 | 5319.9652 | -0.0006541 | 5319.9665 | -0.0006297 | 5319.9657 | -0.0006447 |



4.7 BAND EDGES MEASUREMENT

4.7.1 TEST INSTRUMENTS

| Description & Manufacturer | Model No. | Serial No. | Calibrated Until |
|----------------------------|-----------|------------|------------------|
| SPECTRUM ANALYZER | FSEK30 | 100049 | Aug. 14, 2006 |

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

4.7.2 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 1MHz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

4.7.3 EUT OPERATING CONDITION

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

4.7.4 TEST RESULTS

For signals in the restricted bands above and below the 5.15 to 5.35GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak filed strength of the intentional signal made on the OATS to calculate the field strength of the unintentional signals.

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



802.11a OFDM modulation

Antenna: SAA05-22063A

Channel 1 (5180MHz)

The band edge emission plot on page 73 shows 42.34dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 108.10dBuV/m (Peak), so the maximum field strength in restrict band is $108.10 - 42.34 = 65.76$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on page 73 shows 47.66dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 97.41dBuV/m (Average), so the maximum field strength in restrict band is $97.41 - 47.66 = 49.75$ dBuV/m which is under 54dBuV/m limit.

Channel 8 (5320MHz)

The band edge emission plot on page 74 shows 43.78dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 is 111.04dBuV/m (Peak), so the maximum field strength in restrict band is $111.04 - 43.78 = 67.26$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on page 75 shows 49.70dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 is 100.95dBuV/m (Average), so the maximum field strength in restrict band is $100.95 - 49.70 = 51.25$ dBuV/m which is under 54dBuV/m limit.



802.11a OFDM modulation

Antenna: SDW0939A1

Channel 1 (5180MHz)

The band edge emission plot on page 73 shows 42.34dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 106.79dBuV/m (Peak), so the maximum field strength in restrict band is $106.79-42.34=64.45$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on page 73 shows 47.66dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 96.58dBuV/m (Average), so the maximum field strength in restrict band is $96.58-47.66=48.92$ dBuV/m which is under 54dBuV/m limit.

Channel 8 (5320MHz)

The band edge emission plot on page 74 shows 43.78dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 is 108.76dBuV/m (Peak), so the maximum field strength in restrict band is $108.76-43.78=64.98$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on page 75 shows 49.70dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 is 98.51dBuV/m (Average), so the maximum field strength in restrict band is $98.51-49.70=48.81$ dBuV/m which is under 54dBuV/m limit.



802.11a OFDM modulation

Antenna: SAA05-22056A

Channel 1 (5180MHz)

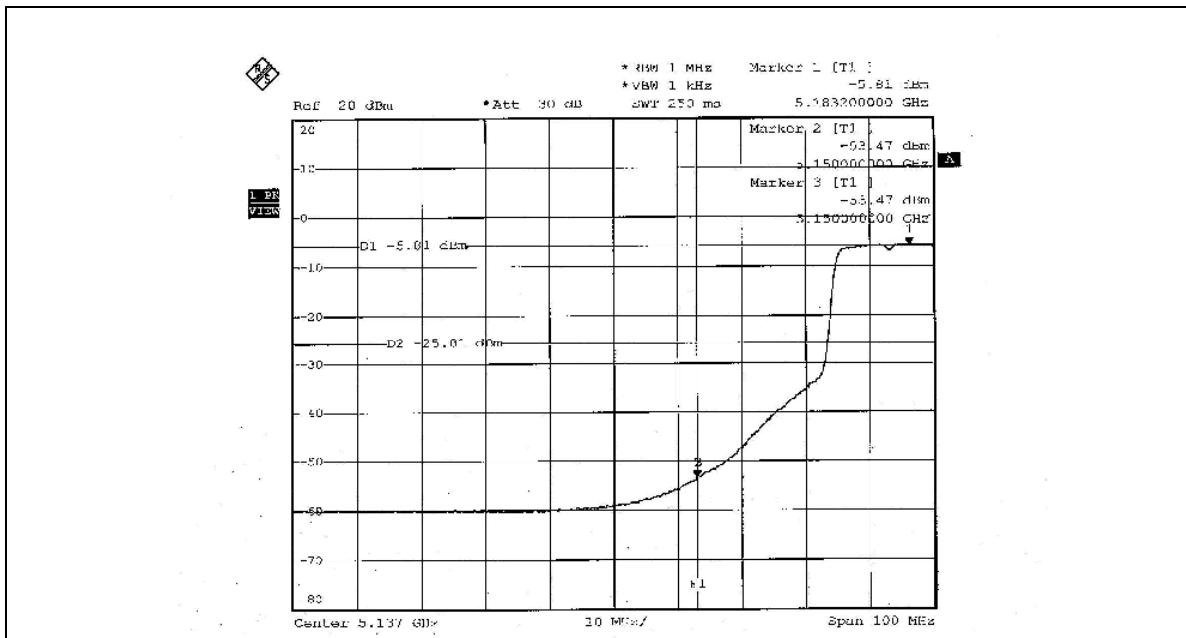
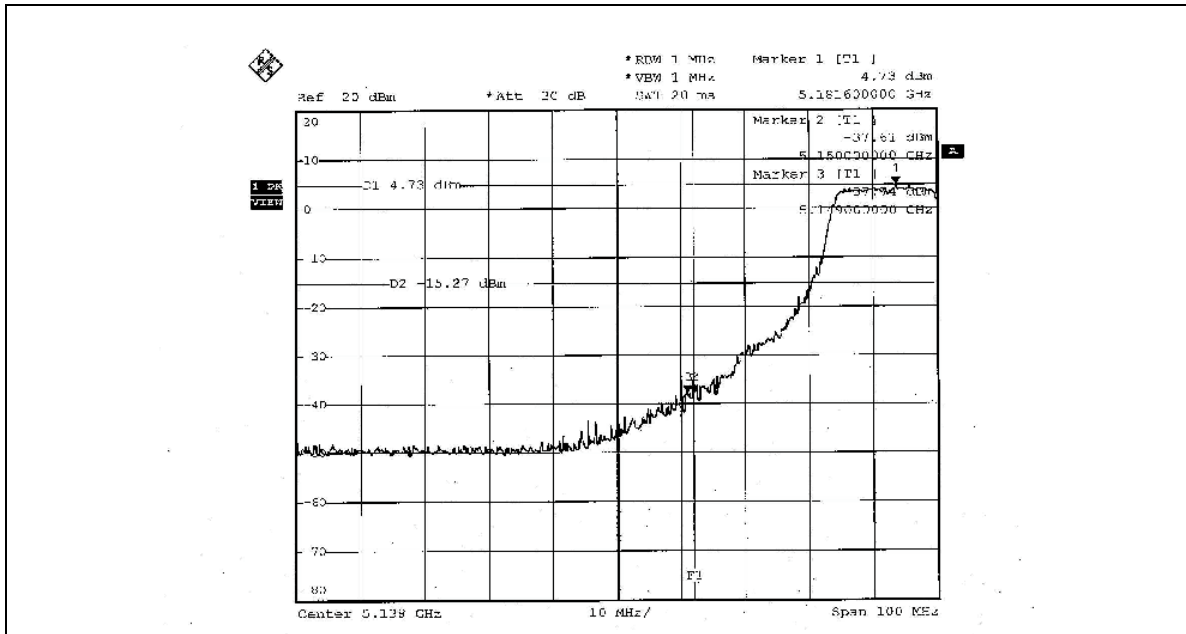
The band edge emission plot on page 73 shows 42.34dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 110.42dBuV/m (Peak), so the maximum field strength in restrict band is $110.42-42.34=68.08$ dBuV/m which is under 74dBuV/m limit.

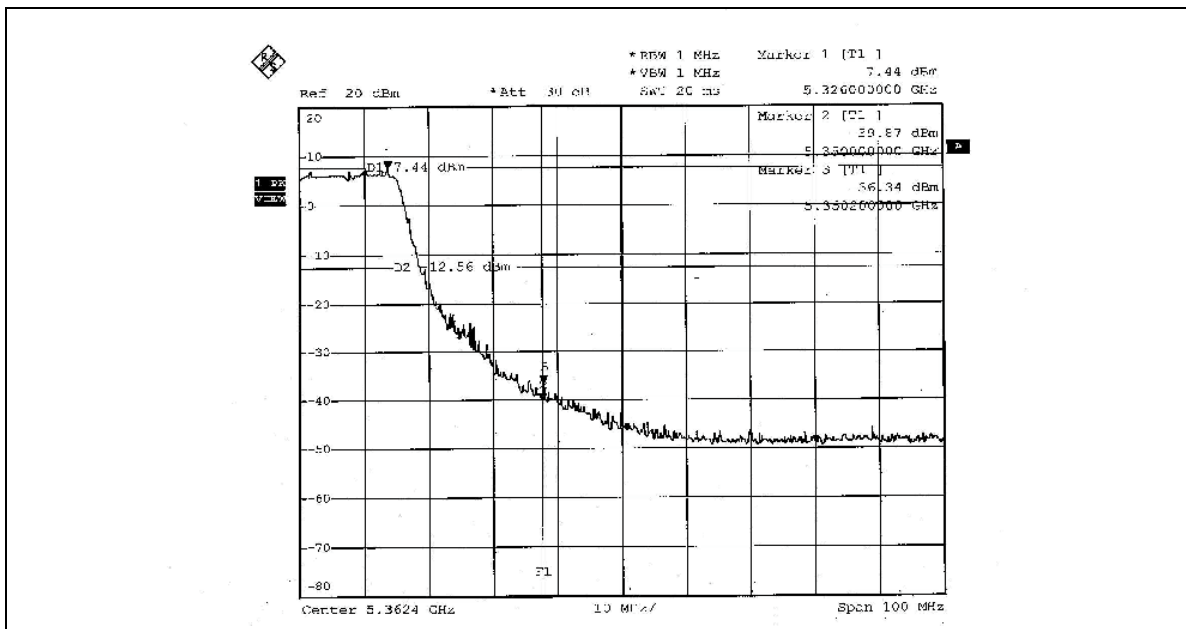
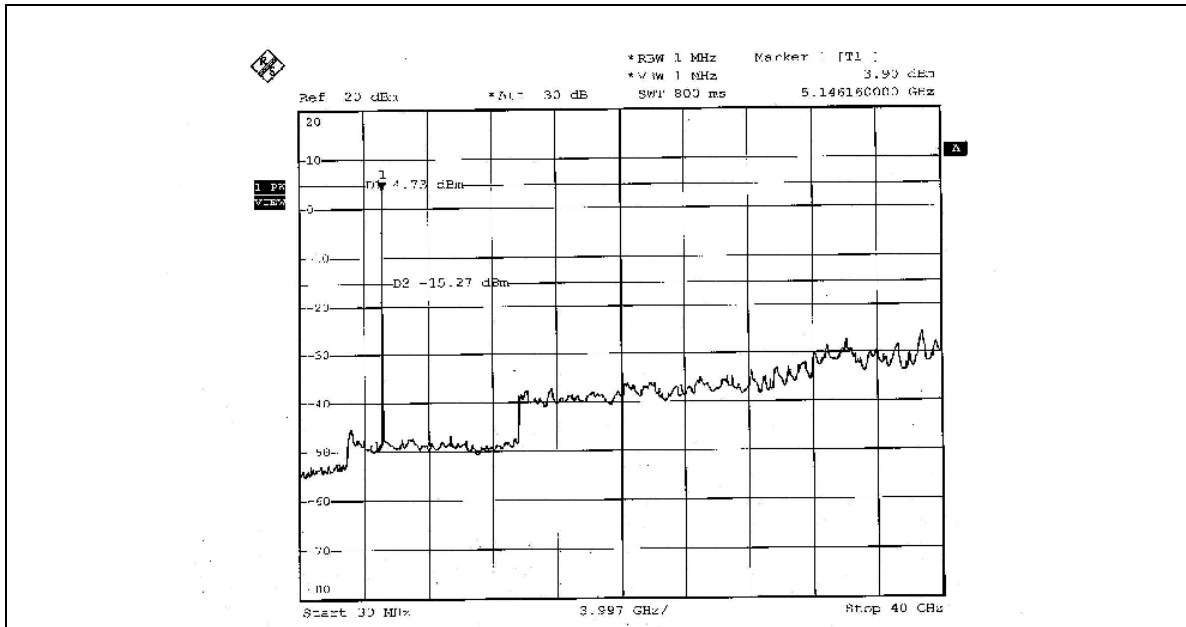
The band edge emission plot on page 73 shows 47.66dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 99.73dBuV/m (Average), so the maximum field strength in restrict band is $99.73-47.66=52.07$ dBuV/m which is under 54dBuV/m limit.

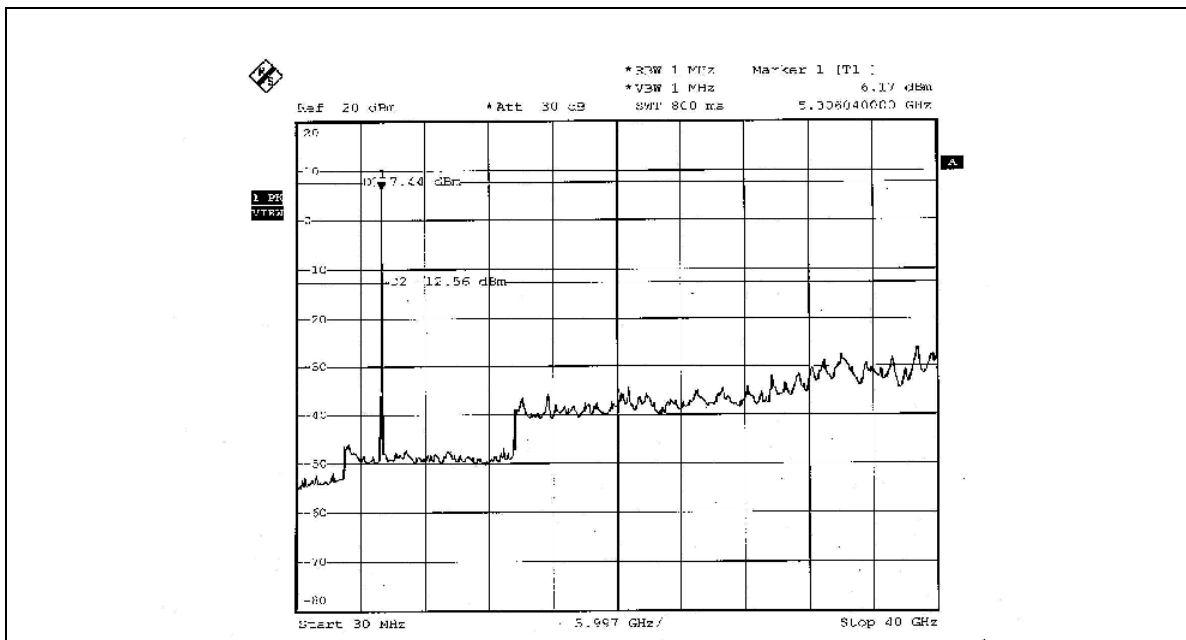
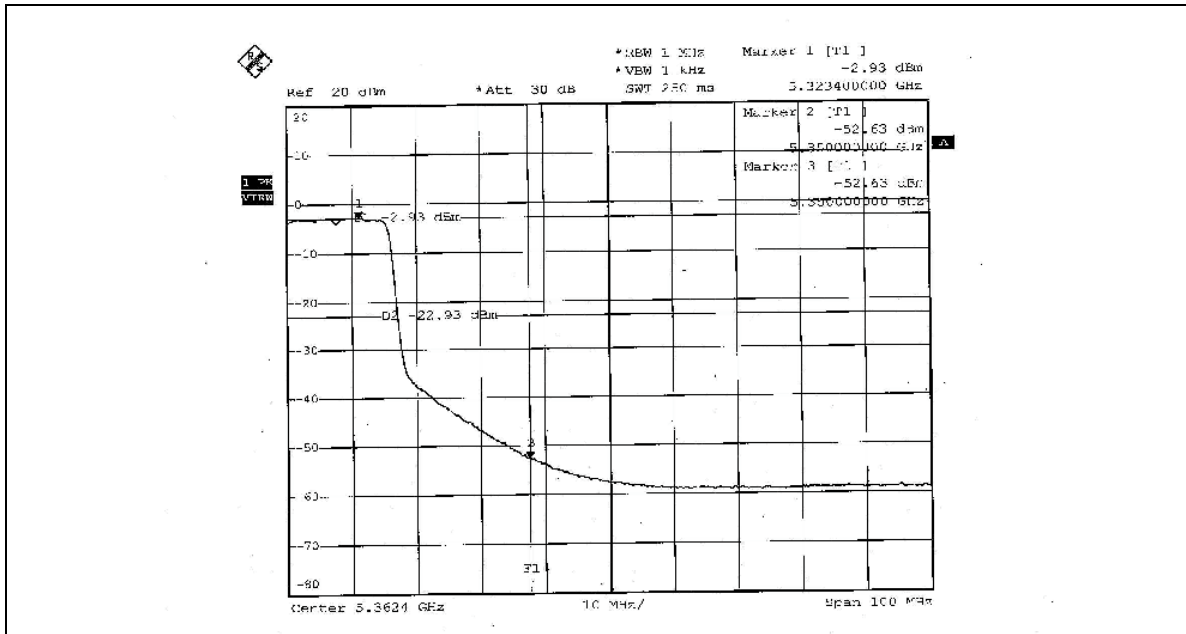
Channel 8 (5320MHz)

The band edge emission plot on page 74 shows 43.78dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 is 112.54dBuV/m (Peak), so the maximum field strength in restrict band is $112.54-43.78=68.76$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on page 75 shows 49.70dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 is 102.22dBuV/m (Average), so the maximum field strength in restrict band is $102.22-49.70=52.52$ dBuV/m which is under 54dBuV/m limit.









4.8 ANTENNA REQUIREMENT

4.8.1 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 15.407(a), 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.

4.8.2 ANTENNA CONNECTED CONSTRUCTION

The antennas used in this product are Omni-Directional and Dipole antenna with RP TNC connector. The maximum Gain of the antenna is 8dBi.

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST

Test Mode A1



Test Mode A2



Test Mode A3



Test Mode B1



Test Mode B2



Test Mode B3



Test Mode C1



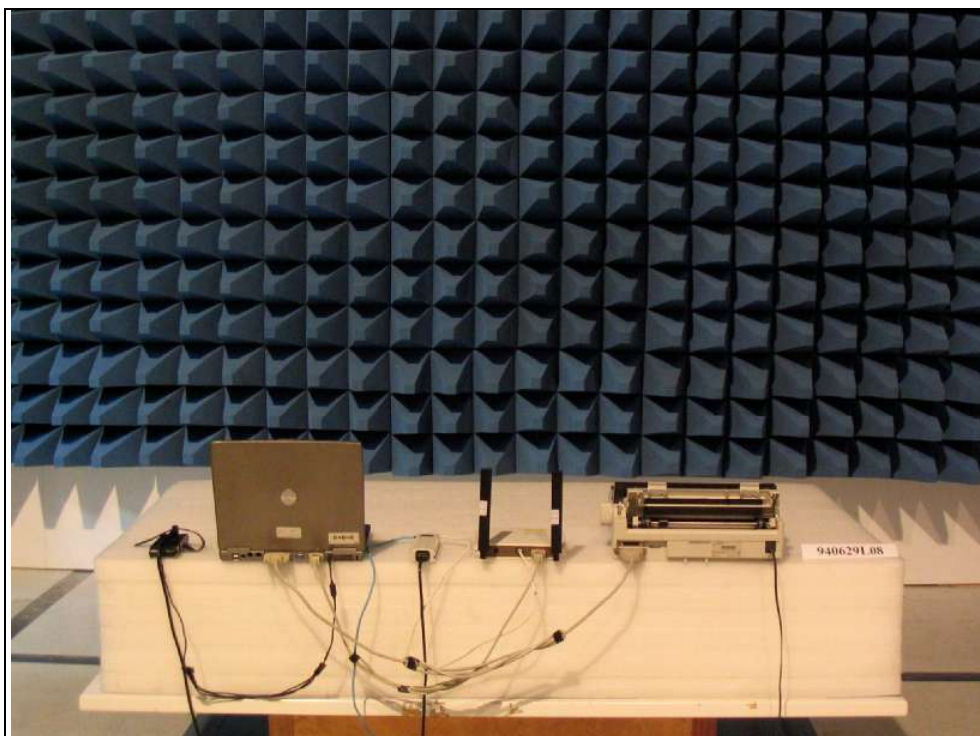
Test Mode C2



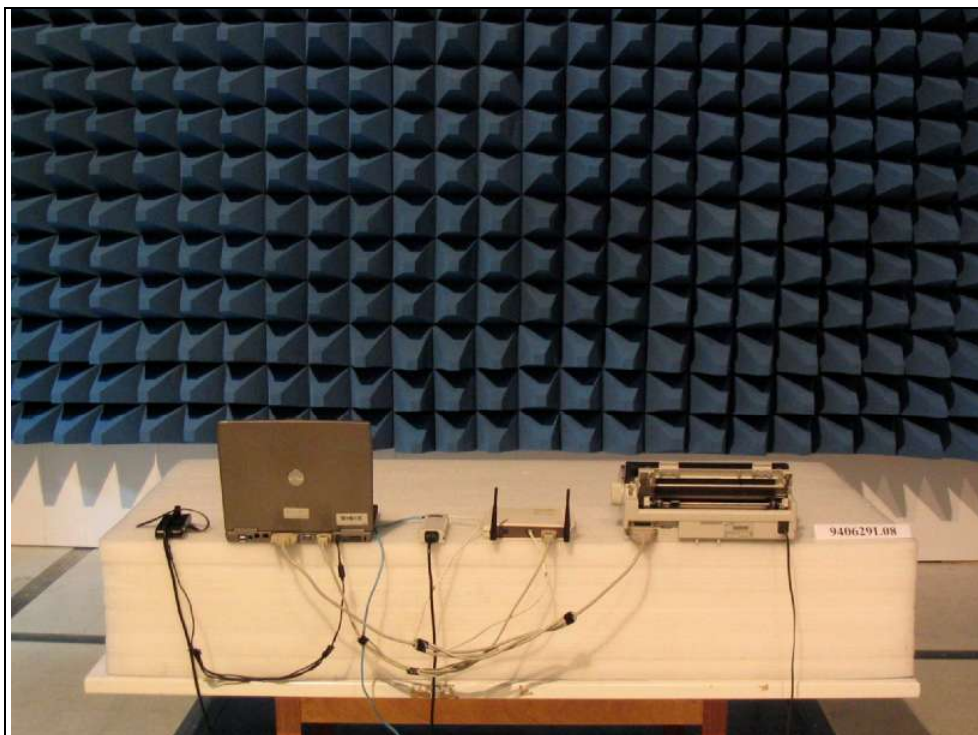
Test Mode C3



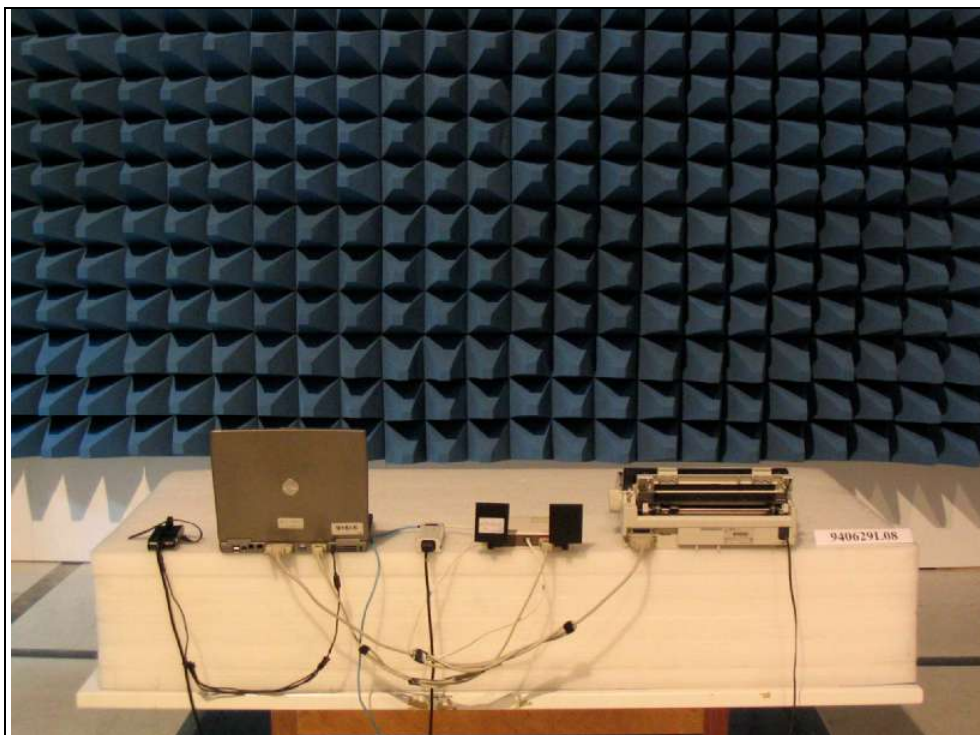
RADIATED EMISSION TEST Test Mode A1



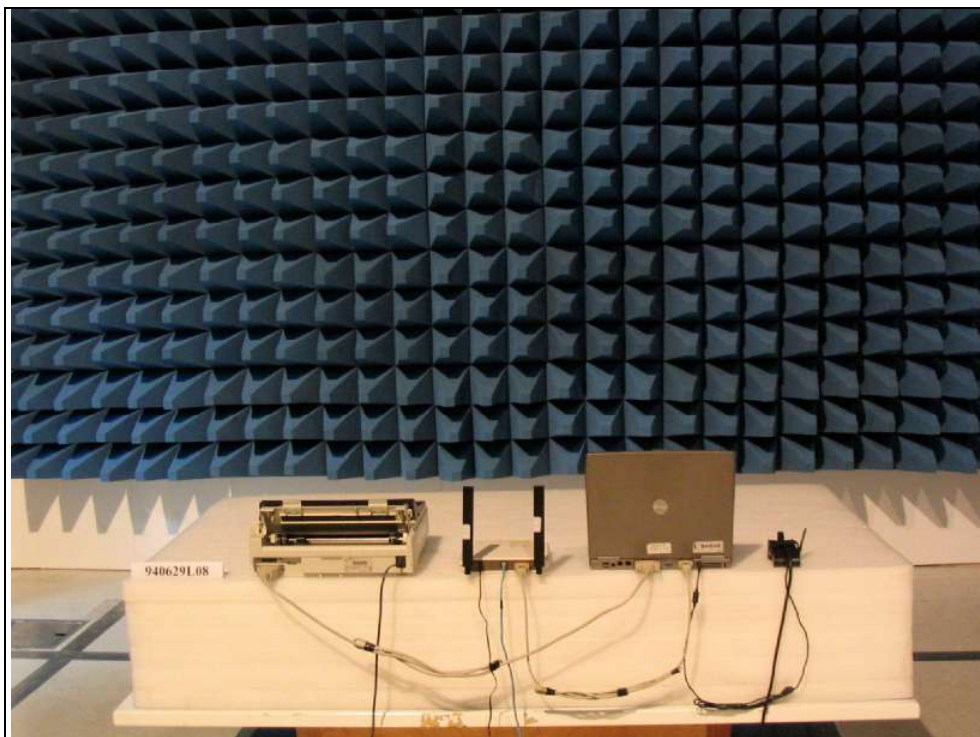
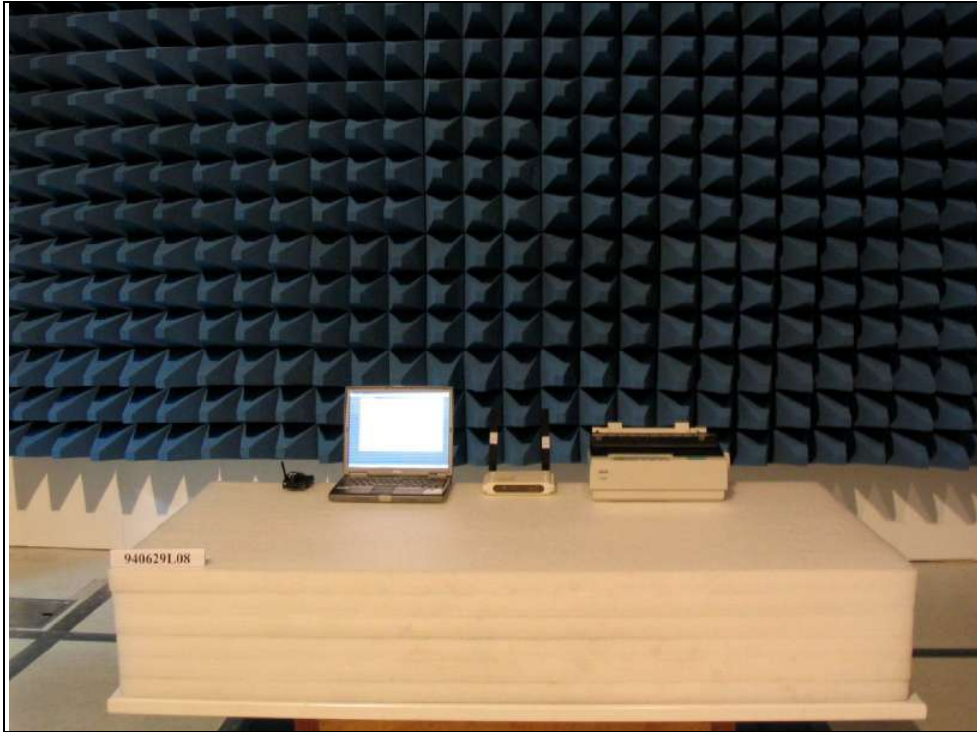
Test Mode A2



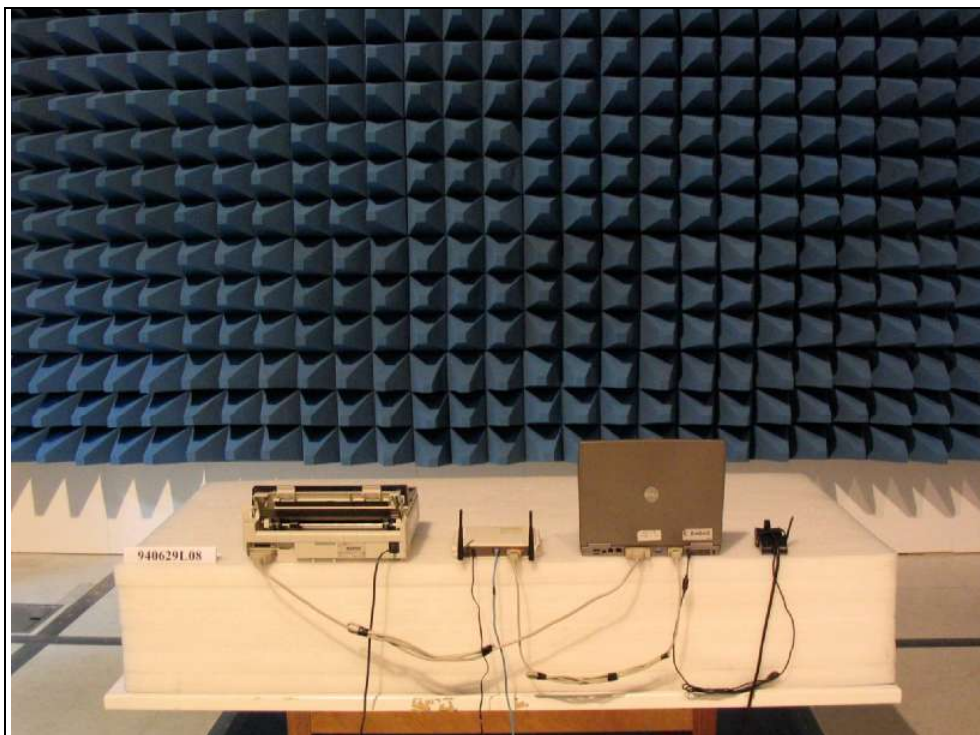
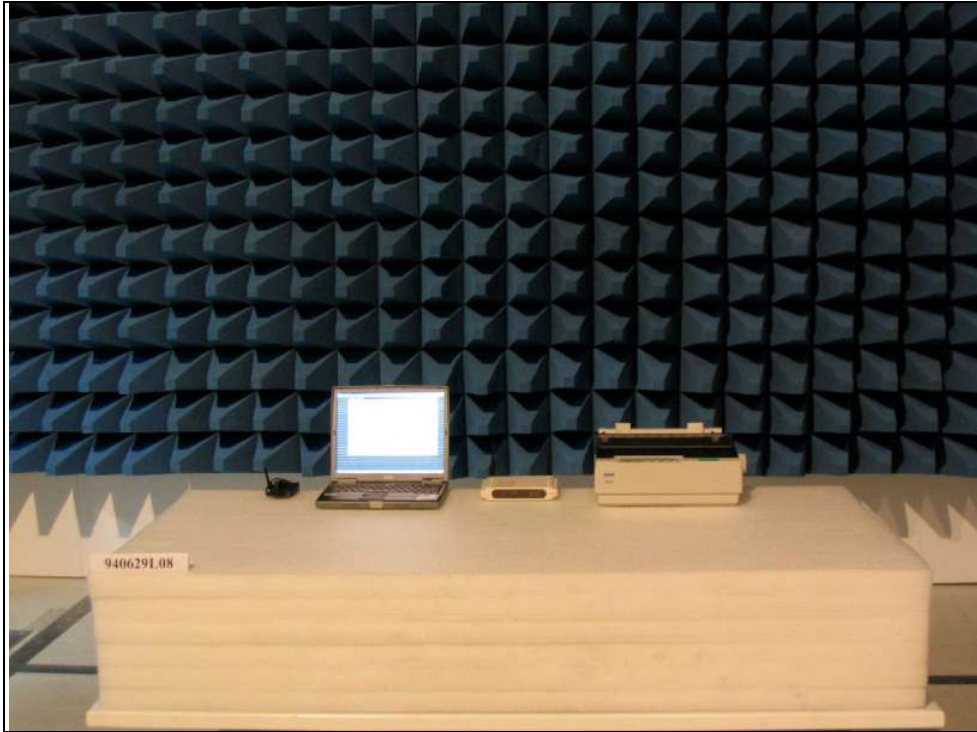
Test Mode A3



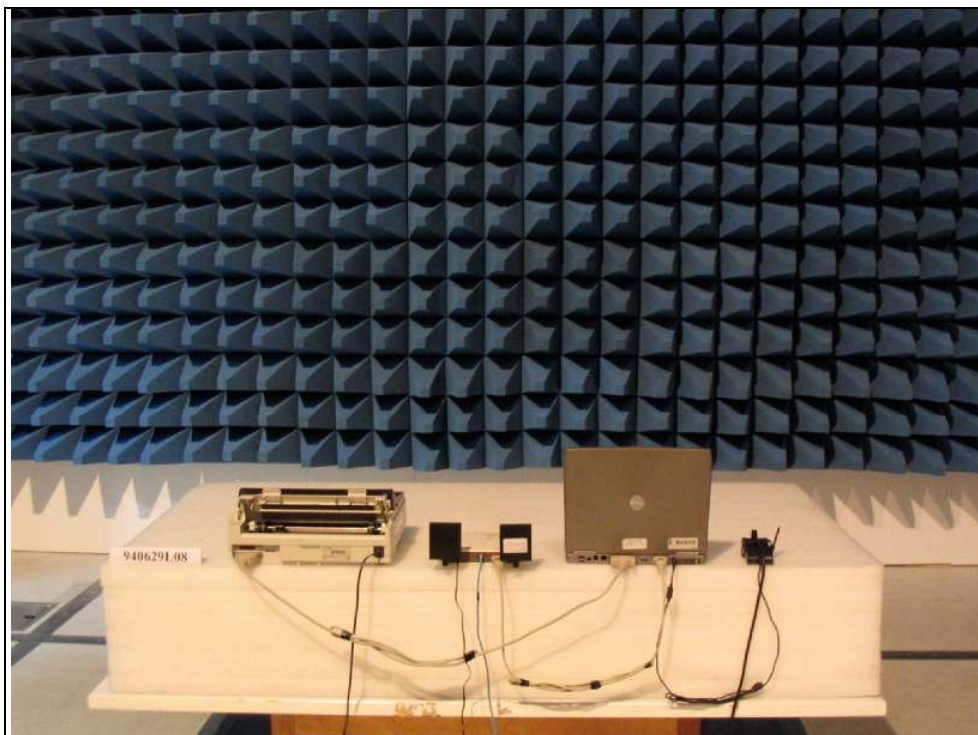
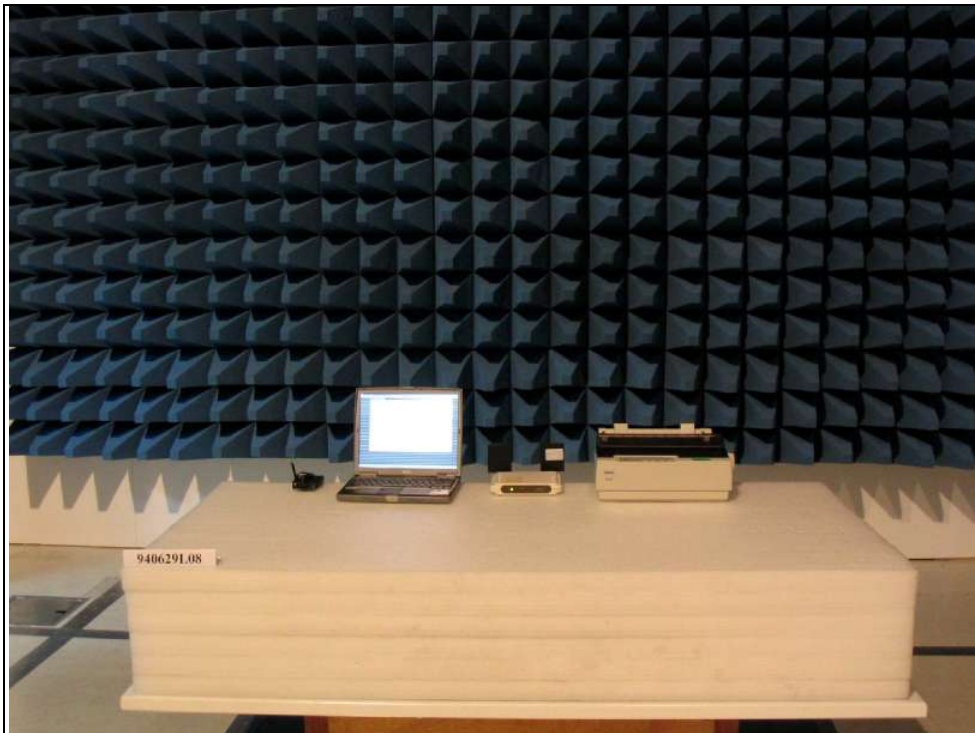
Test Mode B1



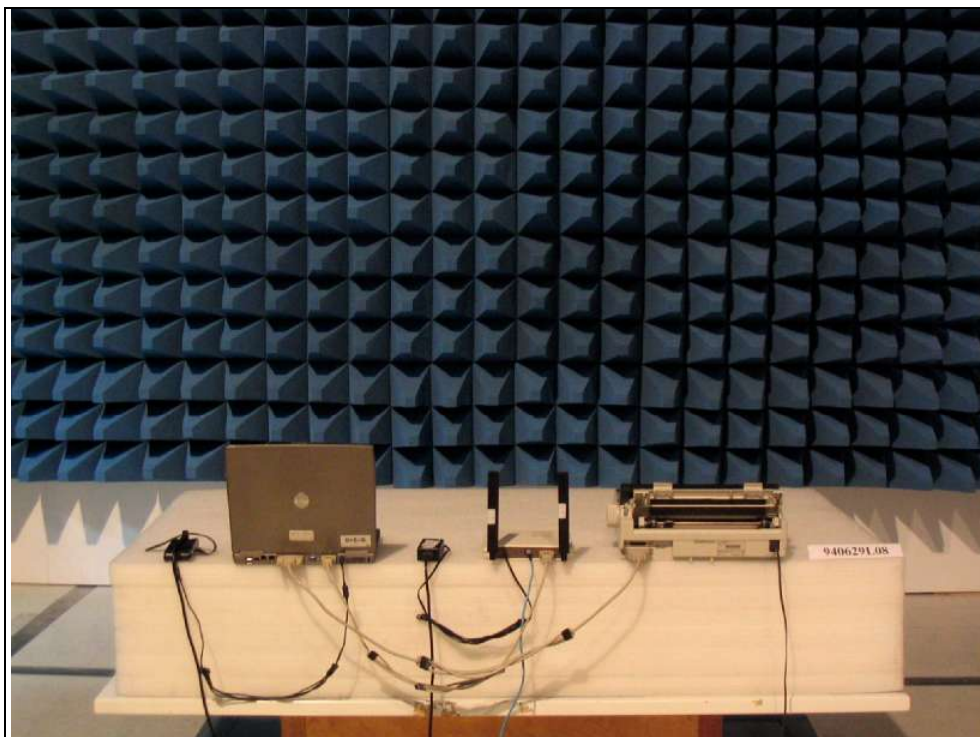
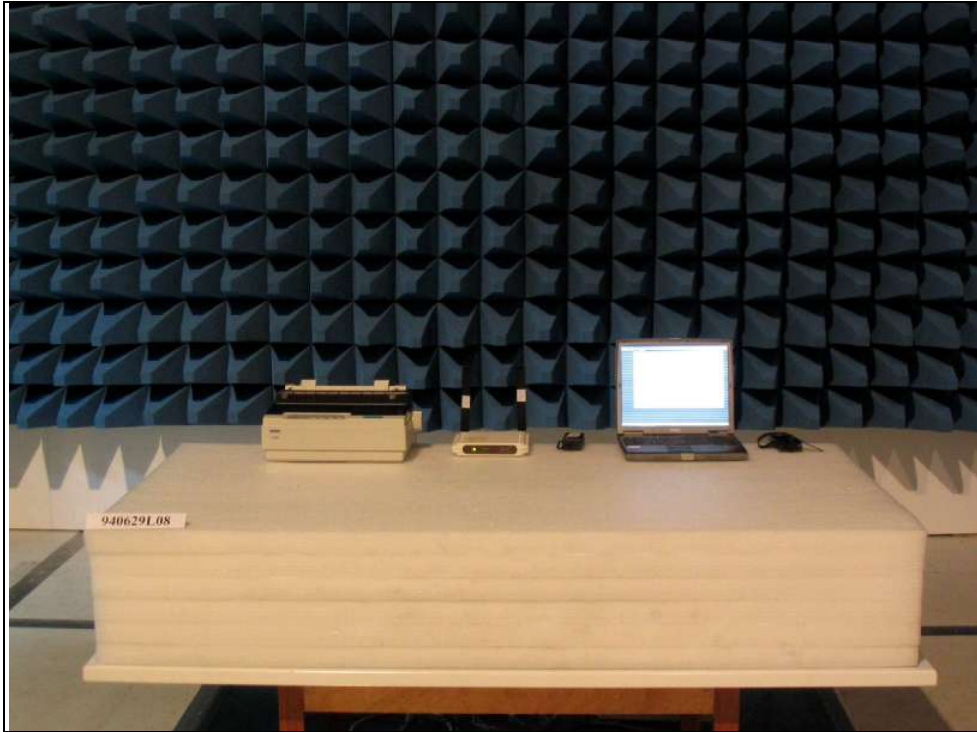
Test Mode B2



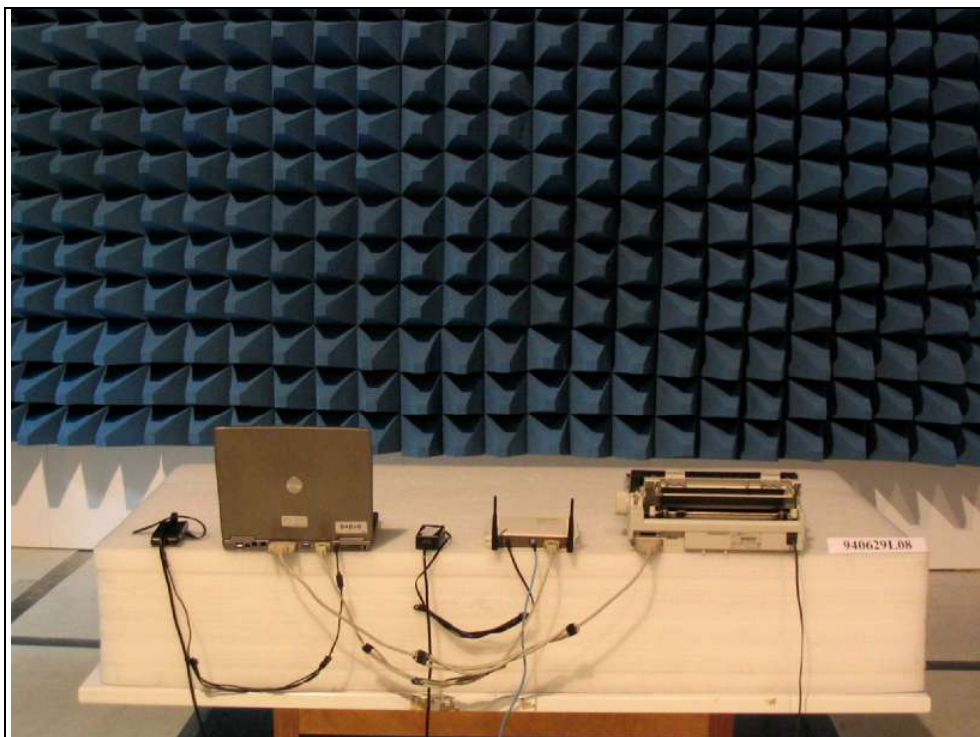
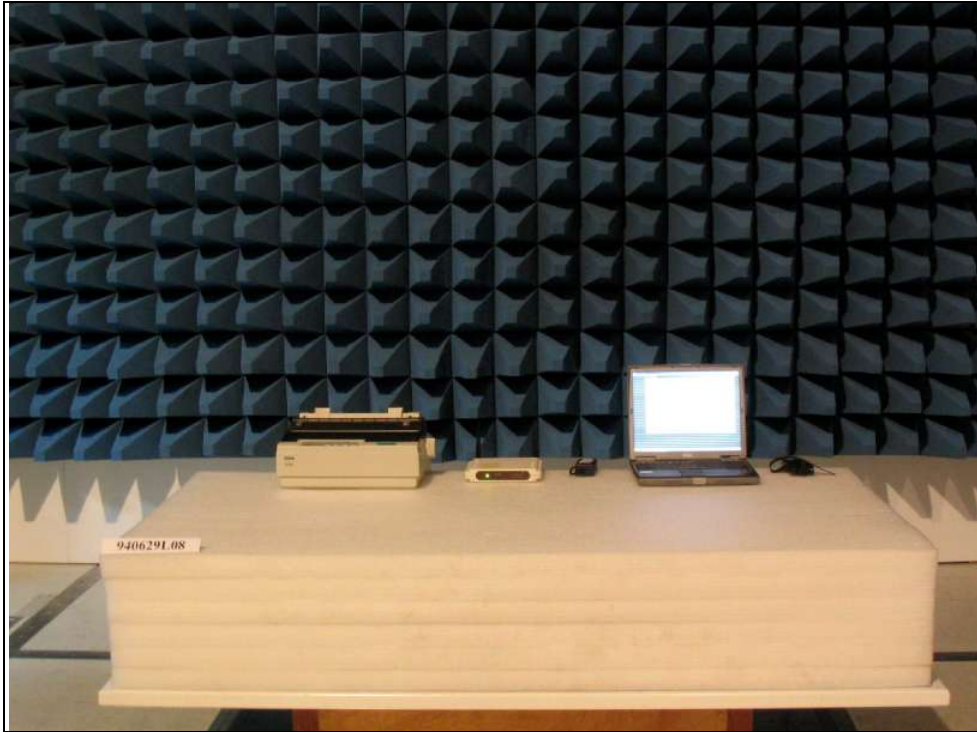
Test Mode B3



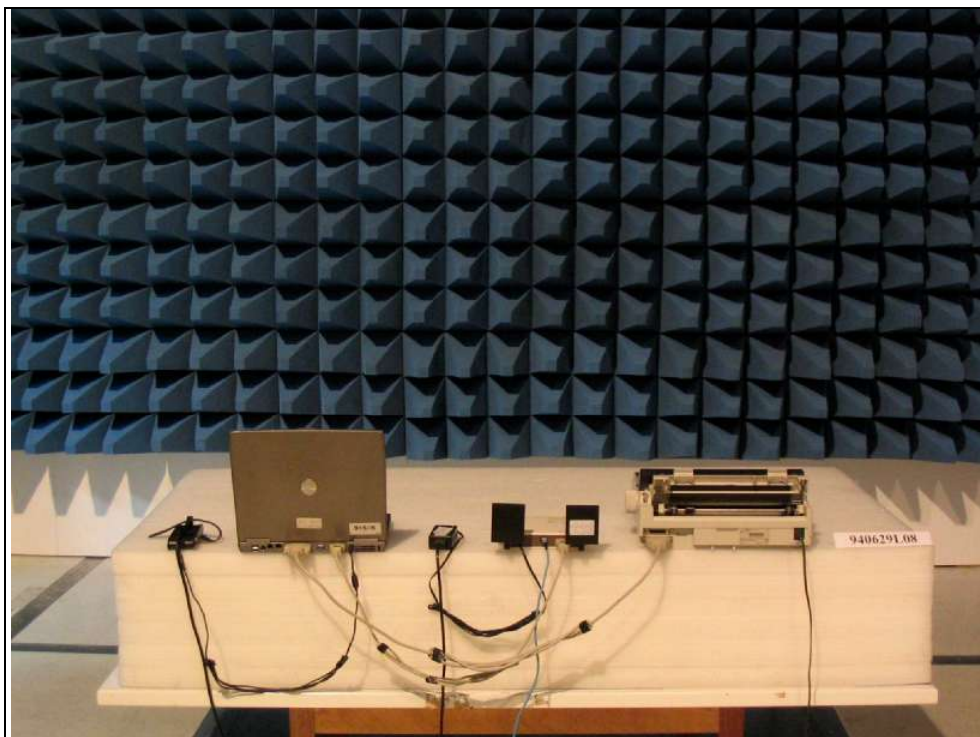
Test Mode C1



Test Mode C2



Test Mode C3





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:

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Fax: 886-2-26052943

Hsin Chu EMC/RF Lab:

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Fax: 886-3-3185050

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Fax: 886-3-3270892

Web Site: www.adt.com.tw

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