

# FCC TEST REPORT

**REPORT NO.:** RF910819R02

**MODEL NO.:** VM4-3B

**RECEIVED:** Aug. 19, 2002

**TESTED:** Sep. 3 ~ Sep. 10, 2002

**APPLICANT:** Wistron NeWeb Corp.

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**ISSUED BY:** Advance Data Technology Corporation

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0528  
ILAC MRA



Lab Code: 200102-0

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## 1 CERTIFICATION

**PRODUCT :** WLAN a+b combo mini-PCI  
**BRAND NAME :** Wistron NeWeb  
**MODEL NO. :** VM4-3B  
**APPLICANT :** Wistron NeWeb Corp.  
**STANDARDS :** 47 CFR Part 15, Subpart C (Section 15.247),  
Subpart E (Section 15.407) and Subpart B,  
ANSI C63.4-1992

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility from Sep. 3 ~ Sep. 10, 2002. The test record, data evaluation and Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions herein specified.

CHECKED BY : Emily Lu , DATE : Sep. 17, 2002  
Emily Lu

APPROVED BY : Alan Lane , DATE : Sep. 17, 2002  
Dr. Alan Lane, Manager

## 2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: 47 CFR Part 15, Subpart C |                                                                                        |        |                                                                                    |
|---------------------------------------------|----------------------------------------------------------------------------------------|--------|------------------------------------------------------------------------------------|
| Standard Section                            | Test Type and Limit                                                                    | Result | REMARK                                                                             |
| 15.207                                      | AC Power Conducted Emission                                                            | PASS   | Meet the requirement of limit<br>Minimum passing margin is -16.20dBuV at 0.209MHz  |
| 15.247(a)(2)                                | Spectrum Bandwidth of a Direct Sequence Spread Spectrum System<br>Limit: min. 500kHz   | PASS   | Meet the requirement of limit                                                      |
| 15.247(b)                                   | Maximum Peak Output Power<br>Limit: max. 30dBm                                         | PASS   | Meet the requirement of limit                                                      |
| 15.247(c)                                   | Radiated Emissions<br>Limit: Table 15.209                                              | PASS   | Meet the requirement of limit<br>Minimum passing margin is -2.10dBuV at 7311.00MHz |
| 15.247(d)                                   | Power Spectral Density<br>Limit: max. 8dBm                                             | PASS   | Meet the requirement of limit                                                      |
| 15.247(c)                                   | Band Edge Measurement<br>Limit: 20dB less than the peak value of fundamental frequency | PASS   | Meet the requirement of limit                                                      |

**APPLIED STANDARD: 47 CFR Part 15, Subpart E and Subpart B**

| <b>Standard Section</b> | <b>Test Type</b>                                                              | <b>Result</b> | <b>REMARK</b>                                                                      |
|-------------------------|-------------------------------------------------------------------------------|---------------|------------------------------------------------------------------------------------|
| 15.407(b)(5)            | AC Power Conducted Emission                                                   | PASS          | Meet the requirement of limit<br>Minimum passing margin is -16.06dBuV at 0.209MHz  |
| 15.407(b/1/2/3)(b)(5)   | Electric Field Strength Spurious Emissions, 30 MHz – 40000 MHz (Transmitting) | PASS          | Meet the requirement of limit<br>Minimum passing margin is -2.9dBuV at 11610.00MHz |
| 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                                                      |

### 3 GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

|                           |                                                                                                  |
|---------------------------|--------------------------------------------------------------------------------------------------|
| <b>PRODUCT</b>            | WLAN a+b combo mini-PCI                                                                          |
| <b>MODEL NO.</b>          | VM4-3B                                                                                           |
| <b>POWER SUPPLY</b>       | 3.3VDC from host equipment                                                                       |
| <b>MODULATION TYPE</b>    | 802.11b: DSSS<br>802.11a: OFDM                                                                   |
| <b>TRANSFER RATE</b>      | 802.11b: 1 / 2 / 5.5 / 11Mbps<br>802.11a: 6 to 54Mbps<br>(Turbo mode: up to 108Mbps *see note 2) |
| <b>FREQUENCY RANGE</b>    | 802.11b: 2412MHz ~ 2462MHz<br>802.11a: 5.15~5.85GHz                                              |
| <b>NUMBER OF CHANNEL</b>  | 802.11b: 11<br>802.11a: 12 for Normal mode / 5 for Turbo mode                                    |
| <b>CHANNEL SPACING</b>    | 802.11b: 5MHz<br>802.11a:<br>20MHz for Normal mode / 40MHz for Turbo mode                        |
| <b>OUTPUT POWER</b>       | 802.11b: 15.92dBm<br>802.11a: 13.95dBm                                                           |
| <b>DATA CABLE</b>         | NA                                                                                               |
| <b>ANTENNA TYPE</b>       | PIFA                                                                                             |
| <b>I/O PORTS</b>          | NA                                                                                               |
| <b>ASSOCIATED DEVICES</b> | NA                                                                                               |

**NOTE:**

1. Two types of antenna were provided to this EUT:

|   | <b>ANTENNA TYPE</b> | <b>CONNECTOR</b> | <b>ANTENNA GAIN</b>                     |
|---|---------------------|------------------|-----------------------------------------|
| 1 | PIFA                | UFL              | 2dBi for 802.11b / 1.8dBi for 802.11a   |
| 2 | PIFA                | UFL              | 2.5dBi for 802.11b / 2.7dBi for 802.11a |

2. This EUT is capable of providing data rates up to 108Mbps in turbo mode depending upon reception quality.

3. For more detailed features description, please refer to the manufacturer's specifications or user's Manual.

### 3.2 DESCRIPTION OF TEST MODES

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

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

**NOTE:**

1. Below 1 GHz, the channel 1, 6, and 11 were pre-tested in chamber. The channel 11, worst case one, was chosen for final test.
2. Above 1 GHz, the channel 1, 6, and 11 were tested individually.
3. Test result (A) is for antenna 1 and test result (B) is for antenna 2 which mentioned on page 8, note 1.

For 802.11a: Twelve channels are provided to this EUT for Normal mode.

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 1       | 5180 MHz  | 7       | 5300 MHz  |
| 2       | 5200 MHz  | 8       | 5320 MHz  |
| 3       | 5220 MHz  | 9       | 5745 MHz  |
| 4       | 5240 MHz  | 10      | 5765 MHz  |
| 5       | 5260 MHz  | 11      | 5785 MHz  |
| 6       | 5280 MHz  | 12      | 5805 MHz  |

Five channels are provided to this EUT for Turbo Mode.

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 1       | 5210 MHz  | 4       | 5760 MHz  |
| 2       | 5250 MHz  | 5       | 5800 MHz  |
| 3       | 5290 MHz  |         |           |

**NOTE:**

1. The EUT was transmitting at full power on the specified channel with a duty cycle of 99% (maximum allowed). The EUT was tested in both normal mode (channel bandwidth of approximately 30MHz) and turbo mode (channel bandwidth of approximately 60MHz).
2. "Normal Mode" allows data rates of up to 54Mbps. The device was, therefore, tested in Normal mode at the data rate that produced the highest output power for normal mode (6Mbps).
3. "Turbo Mode" allows data rates of up to 108Mbps. At data rates higher than 12Mbps the PA gain is reduced to improve signal fidelity. The device was, therefore, tested in turbo mode at the data rate that produced the highest output power for turbo mode (12Mbps).
4. Channel 1, 4, 5, 8, 9 and 12 are the closest frequencies to the band edge, were chosen for final test of Normal Mode.
5. Channel 1~5 were chosen for final test of turbo mode.
6. Test result (A) is for antenna 1 and test result (B) is for antenna 2 which mentioned on page 8, note 1.



### 3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a WLAN a+b combo mini-PCI . According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**FCC CFR 47 Part 15, Subpart C. (15.247),  
Subpart E (15.407) and Subpart B.  
ANSI C63.4 : 1992**

All tests 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 | NEC   | N2        | NA         | FCC DoC APPROVED |
| 2   | PRINTER  | EPSON | LQ-300+   | DCGY017096 | FCC DoC APPROVED |
| 3   | MODEM    | ACEEX | 1414      | 980020503  | IFAXDM1414       |

| NO. | SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS                                                  |
|-----|------------------------------------------------------------------------------------------------------|
| 1   | NA                                                                                                   |
| 2   | 1.2m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core |
| 3   | 1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.      |

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

## 4 TEST TYPES AND RESULTS (FOR PART 802.11b)

### 4.1 CONDUCTED EMISSION MEASUREMENT

#### 4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

| FREQUENCY OF EMISSION (MHz) | CONDUCTED LIMIT (dBμV) |          |
|-----------------------------|------------------------|----------|
|                             | Quasi-peak             | Average  |
| 0.15-0.5                    | 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 |
|----------------------------------------------------|-----------|--------------|------------------|
| ROHDE & SCHWARZ Test Receiver                      | ESCS30    | 847793/022   | Mar. 12, 2003    |
| ROHDE & SCHWARZ Artificial Mains Network (for EUT) | ESH2-Z5   | 828075/003   | Jul. 23, 2003    |
| ROHDE & SCHWARZ 200-A Four-line V-Network          | ENV4200   | 830326/018   | Oct. 25, 2002    |
| * ROHDE & SCHWARZ 4-wire ISN                       | ENY41     | 838119/028   | Dec. 2, 2002     |
| * ROHDE & SCHWARZ 2-wire ISN                       | ENY22     | 837497/018   | Dec. 2, 2002     |
| EMCO-L.I.S.N. (for peripheral)                     | 3825/2    | 90031627     | Jul. 23, 2003    |
| Software                                           | Cond-V2L  | NA           | NA               |
| RF cable (JYEBAO)                                  | 5D-FB     | Cable-C05.01 | Jul. 23, 2003    |
| LYNICS Terminator (For EMCO LISN)                  | 0900510   | E1-01-305    | Feb. 20, 2003    |
| LYNICS Terminator (For EMCO LISN)                  | 0900510   | E1-01-306    | Feb. 20, 2003    |
| Shielded Room                                      | Site 5    | ADT-C05      | NA               |
| VCCI Site Registration No.                         | Site 5    | C-1093       | NA               |

- NOTE:**
1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
  2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
  3. “\*”: These equipment are used for conducted telecom port test only (if tested).
  4. The test was performed in ADT Open Site No. 5.



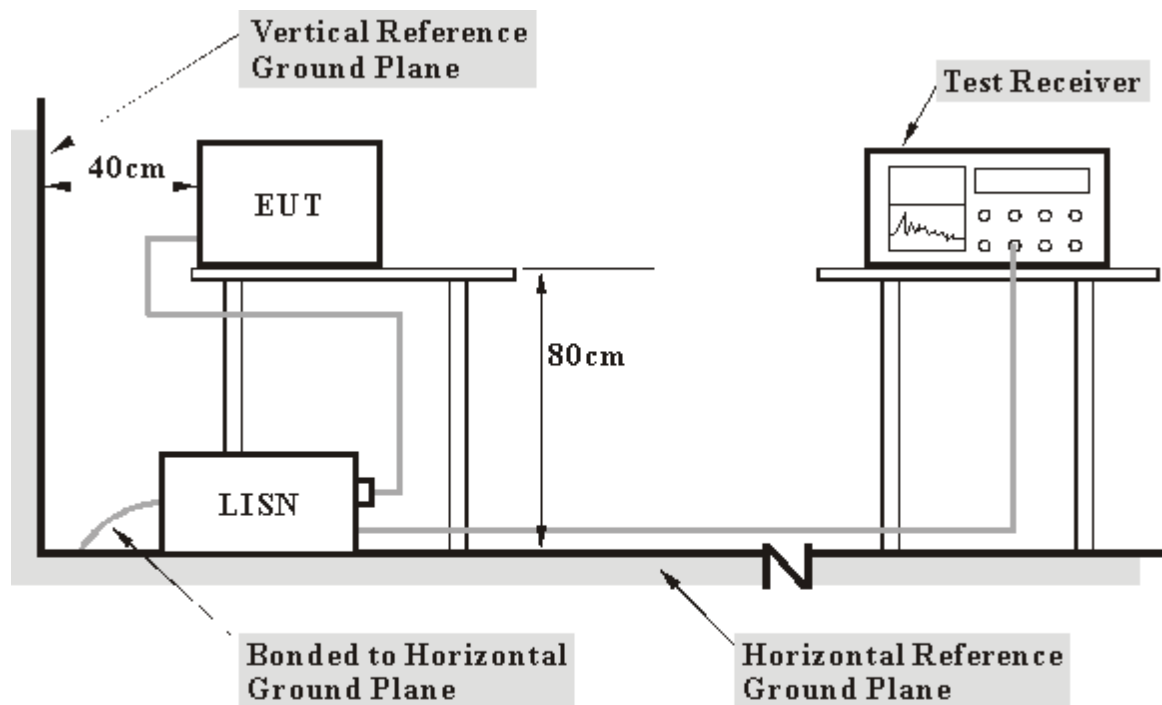
#### 4.1.3 TEST PROCEDURES

- 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 150 kHz to 30 MHz was searched. Emission levels over 10dB under the prescribed limits could not be reported

#### 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

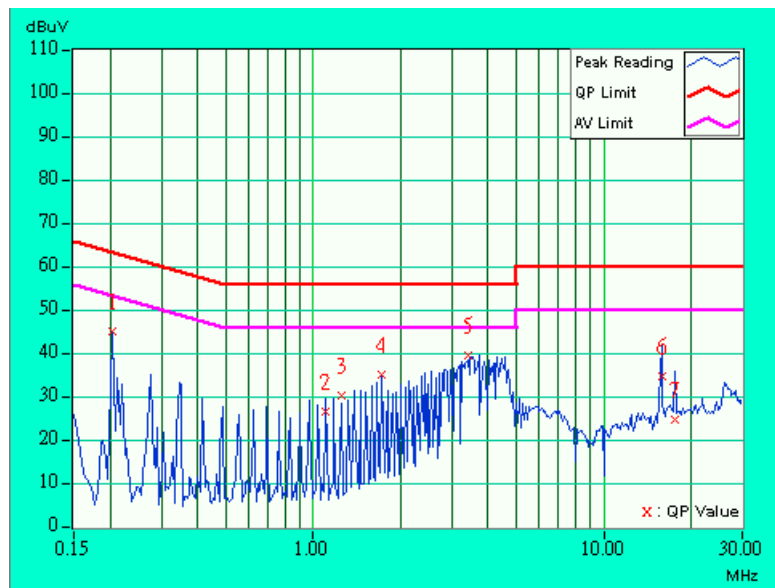
- a. Plug the EUT into the PCMCIA extender which connected to a computer system placed on a testing table.
- b. The computer system ran a test program to enable EUT under transmission/receiving condition continuously at specific channel frequency.
- c. The computer system sent "H" messages to its screen.
- d. The computer system sent "H" messages to modem.
- e. The computer system sent "H" messages to printer, and the printer prints them on paper.

## 4.1.7 TEST RESULTS (A)

|                                 |                             |                             |          |
|---------------------------------|-----------------------------|-----------------------------|----------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI     | <b>MODEL</b>                | VM4-3B   |
| <b>MODE</b>                     | Channel 1                   | <b>6dB BANDWIDTH</b>        | 9 kHz    |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60Hz                | <b>PHASE</b>                | Line (L) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 60 %RH, 1005 hPa | <b>TESTED BY:</b> Bunny Yao |          |

| No | Freq. (MHz) | Corr. Factor (dB) | Reading Value [dB (uV)] |     | Emission Level [dB (uV)] |     | Limit [dB (uV)] |       | Margin (dB) |     |
|----|-------------|-------------------|-------------------------|-----|--------------------------|-----|-----------------|-------|-------------|-----|
|    |             |                   | QP.                     | AV. | QP.                      | AV. | QP.             | AV.   | QP.         | AV. |
| 1  | 0.205       | 0.10              | 44.34                   | -   | 44.44                    | -   | 63.42           | 53.42 | -18.98      | -   |
| 2  | 1.105       | 0.20              | 25.88                   | -   | 26.08                    | -   | 56.00           | 46.00 | -29.92      | -   |
| 3  | 1.246       | 0.20              | 29.67                   | -   | 29.87                    | -   | 56.00           | 46.00 | -26.13      | -   |
| 4  | 1.730       | 0.20              | 34.17                   | -   | 34.37                    | -   | 56.00           | 46.00 | -21.63      | -   |
| 5  | 3.395       | 0.34              | 38.86                   | -   | 39.20                    | -   | 56.00           | 46.00 | -16.80      | -   |
| 6  | 15.879      | 0.75              | 33.89                   | -   | 34.64                    | -   | 60.00           | 50.00 | -25.36      | -   |
| 7  | 17.563      | 0.85              | 24.04                   | -   | 24.89                    | -   | 60.00           | 50.00 | -35.11      | -   |

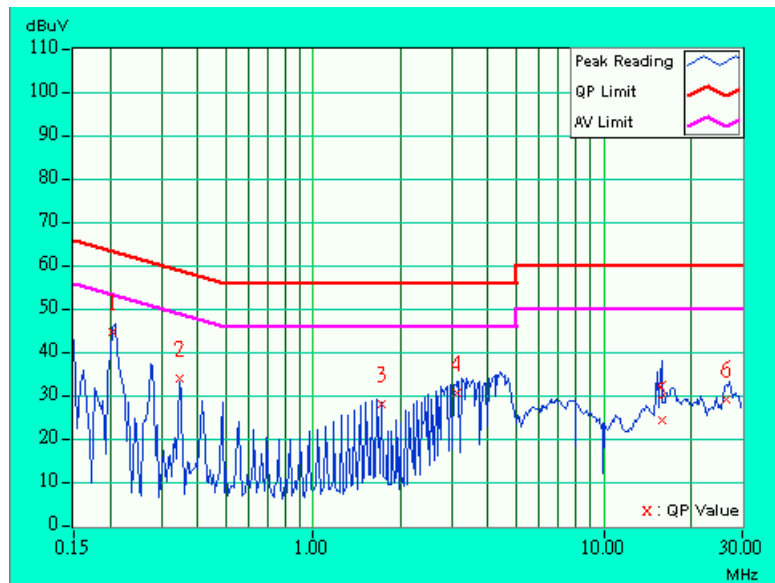
- Remarks:
1. "-": Undetectable
  2. QP. and AV. are abbreviations of quasi-peak and average individually.
  3. "-": NA
  4. The emission levels of other frequencies were very low against the limit.
  5. Margin value = Emission level - Limit value
  6. Emission Level = Correction Factor + Reading Value.



|                                 |                             |                             |             |
|---------------------------------|-----------------------------|-----------------------------|-------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI     | <b>MODEL</b>                | VM4-3B      |
| <b>MODE</b>                     | Channel 1                   | <b>6dB BANDWIDTH</b>        | 9 kHz       |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60Hz                | <b>PHASE</b>                | Neutral (N) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 60 %RH, 1005 hPa | <b>TESTED BY:</b> Bunny Yao |             |

| No | Freq. (MHz) | Corr. Factor (dB) | Reading Value [dB (uV)] |     | Emission Level [dB (uV)] |     | Limit [dB (uV)] |       | Margin (dB) |     |
|----|-------------|-------------------|-------------------------|-----|--------------------------|-----|-----------------|-------|-------------|-----|
|    |             |                   | QP.                     | AV. | QP.                      | AV. | QP.             | AV.   | QP.         | AV. |
| 1  | 0.205       | 0.10              | 44.01                   | -   | 44.11                    | -   | 63.42           | 53.42 | -19.31      | -   |
| 2  | 0.345       | 0.10              | 33.18                   | -   | 33.28                    | -   | 59.07           | 49.07 | -25.79      | -   |
| 3  | 1.730       | 0.20              | 27.52                   | -   | 27.72                    | -   | 56.00           | 46.00 | -28.28      | -   |
| 4  | 3.113       | 0.26              | 30.18                   | -   | 30.44                    | -   | 56.00           | 46.00 | -25.56      | -   |
| 5  | 15.879      | 0.55              | 23.87                   | -   | 24.42                    | -   | 60.00           | 50.00 | -35.58      | -   |
| 6  | 26.523      | 0.73              | 28.62                   | -   | 29.35                    | -   | 60.00           | 50.00 | -30.65      | -   |

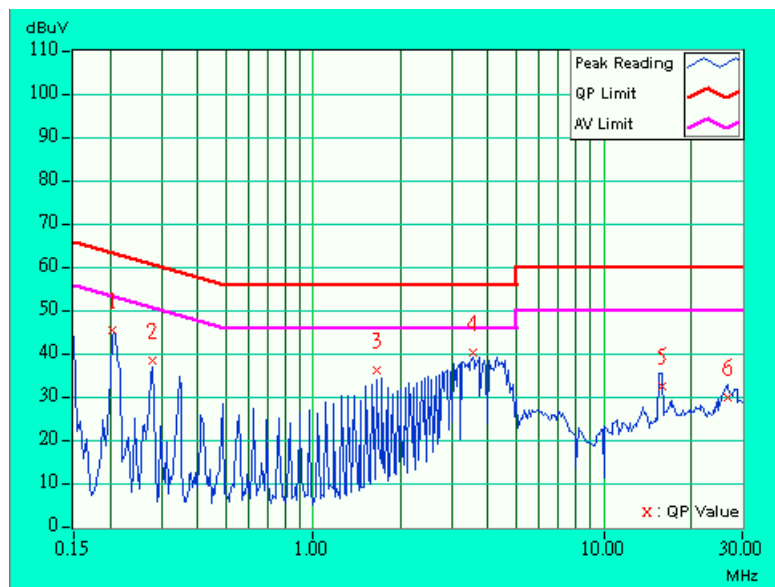
- Remarks:
1. "": Undetectable
  2. QP. and AV. are abbreviations of quasi-peak and average individually.
  3. "-": NA
  4. The emission levels of other frequencies were very low against the limit.
  5. Margin value = Emission level - Limit value
  6. Emission Level = Correction Factor + Reading Value.



|                                 |                             |                             |          |
|---------------------------------|-----------------------------|-----------------------------|----------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI     | <b>MODEL</b>                | VM4-3B   |
| <b>MODE</b>                     | Channel 6                   | <b>6dB BANDWIDTH</b>        | 9 kHz    |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60Hz                | <b>PHASE</b>                | Line (L) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 60 %RH, 1005 hPa | <b>TESTED BY:</b> Bunny Yao |          |

| No | Freq. (MHz) | Corr. Factor (dB) | Reading Value [dB (uV)] |     | Emission Level [dB (uV)] |     | Limit [dB (uV)] |       | Margin (dB) |     |
|----|-------------|-------------------|-------------------------|-----|--------------------------|-----|-----------------|-------|-------------|-----|
|    |             |                   | QP.                     | AV. | QP.                      | AV. | QP.             | AV.   | QP.         | AV. |
| 1  | 0.205       | 0.10              | 44.38                   | -   | 44.48                    | -   | 63.42           | 53.42 | -18.94      | -   |
| 2  | 0.279       | 0.10              | 37.25                   | -   | 37.35                    | -   | 60.85           | 50.85 | -23.50      | -   |
| 3  | 1.664       | 0.20              | 35.11                   | -   | 35.31                    | -   | 56.00           | 46.00 | -20.69      | -   |
| 4  | 3.535       | 0.35              | 39.00                   | -   | 39.35                    | -   | 56.00           | 46.00 | -16.65      | -   |
| 5  | 15.879      | 0.75              | 31.33                   | -   | 32.08                    | -   | 60.00           | 50.00 | -27.92      | -   |
| 6  | 26.605      | 1.23              | 28.90                   | -   | 30.13                    | -   | 60.00           | 50.00 | -29.87      | -   |

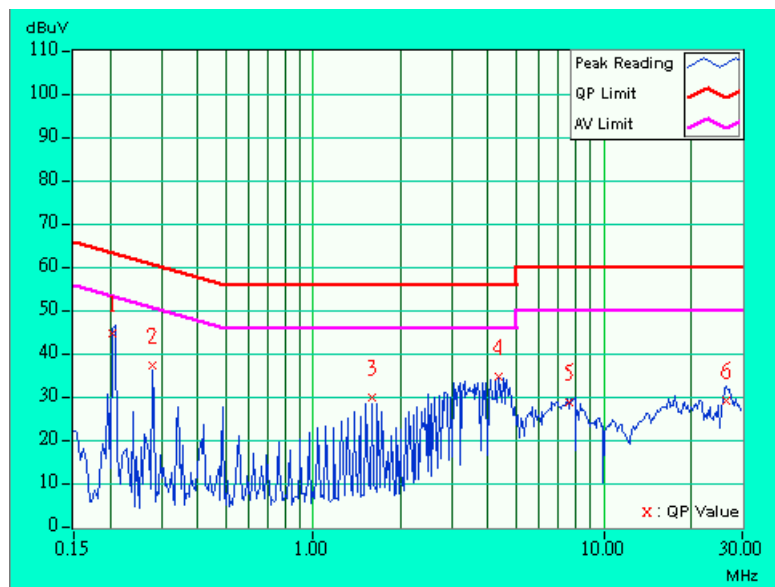
- Remarks:
1. "x": Undetectable
  2. QP. and AV. are abbreviations of quasi-peak and average individually.
  3. "-": NA
  4. The emission levels of other frequencies were very low against the limit.
  5. Margin value = Emission level - Limit value
  6. Emission Level = Correction Factor + Reading Value.



|                                 |                             |                             |             |
|---------------------------------|-----------------------------|-----------------------------|-------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI     | <b>MODEL</b>                | VM4-3B      |
| <b>MODE</b>                     | Channel 6                   | <b>6dB BANDWIDTH</b>        | 9 kHz       |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60Hz                | <b>PHASE</b>                | Neutral (N) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 60 %RH, 1005 hPa | <b>TESTED BY:</b> Bunny Yao |             |

| No | Freq. (MHz) | Corr. Factor (dB) | Reading Value [dB (uV)] |     | Emission Level [dB (uV)] |     | Limit [dB (uV)] |       | Margin (dB) |     |
|----|-------------|-------------------|-------------------------|-----|--------------------------|-----|-----------------|-------|-------------|-----|
|    |             |                   | QP.                     | AV. | QP.                      | AV. | QP.             | AV.   | QP.         | AV. |
| 1  | 0.205       | 0.10              | 43.91                   | -   | 44.01                    | -   | 63.42           | 53.42 | -19.41      | -   |
| 2  | 0.279       | 0.10              | 36.64                   | -   | 36.74                    | -   | 60.85           | 50.85 | -24.11      | -   |
| 3  | 1.594       | 0.20              | 29.14                   | -   | 29.34                    | -   | 56.00           | 46.00 | -26.66      | -   |
| 4  | 4.363       | 0.31              | 34.18                   | -   | 34.49                    | -   | 56.00           | 46.00 | -21.51      | -   |
| 5  | 7.621       | 0.36              | 28.22                   | -   | 28.58                    | -   | 60.00           | 50.00 | -31.42      | -   |
| 6  | 26.391      | 0.73              | 28.54                   | -   | 29.27                    | -   | 60.00           | 50.00 | -30.73      | -   |

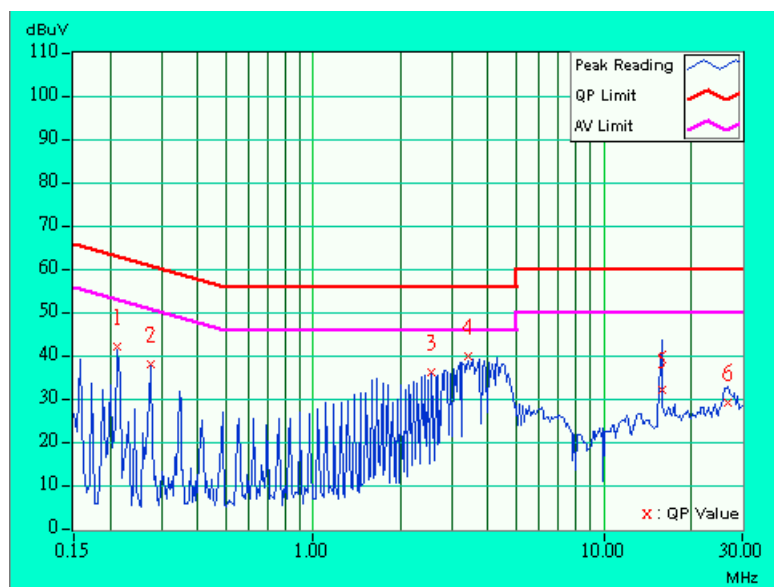
- Remarks:
1. "x": Undetectable
  2. QP. and AV. are abbreviations of quasi-peak and average individually.
  3. "-": NA
  4. The emission levels of other frequencies were very low against the limit.
  5. Margin value = Emission level - Limit value
  6. Emission Level = Correction Factor + Reading Value.



|                                 |                             |                             |          |
|---------------------------------|-----------------------------|-----------------------------|----------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI     | <b>MODEL</b>                | VM4-3B   |
| <b>MODE</b>                     | Channel 11                  | <b>6dB BANDWIDTH</b>        | 9 kHz    |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60Hz                | <b>PHASE</b>                | Line (L) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 60 %RH, 1005 hPa | <b>TESTED BY:</b> Bunny Yao |          |

| No | Freq. (MHz) | Corr. Factor (dB) | Reading Value [dB (uV)] |     | Emission Level [dB (uV)] |     | Limit [dB (uV)] |       | Margin (dB) |     |
|----|-------------|-------------------|-------------------------|-----|--------------------------|-----|-----------------|-------|-------------|-----|
|    |             |                   | QP.                     | AV. | QP.                      | AV. | QP.             | AV.   | QP.         | AV. |
| 1  | 0.213       | 0.10              | 40.88                   | -   | 40.98                    | -   | 63.11           | 53.11 | -22.13      | -   |
| 2  | 0.275       | 0.10              | 36.95                   | -   | 37.05                    | -   | 60.97           | 50.97 | -23.92      | -   |
| 3  | 2.563       | 0.26              | 34.93                   | -   | 35.19                    | -   | 56.00           | 46.00 | -20.81      | -   |
| 4  | 3.395       | 0.34              | 38.92                   | -   | 39.26                    | -   | 56.00           | 46.00 | -16.74      | -   |
| 5  | 15.879      | 0.75              | 30.91                   | -   | 31.66                    | -   | 60.00           | 50.00 | -28.34      | -   |
| 6  | 26.602      | 1.23              | 27.85                   | -   | 29.08                    | -   | 60.00           | 50.00 | -30.92      | -   |

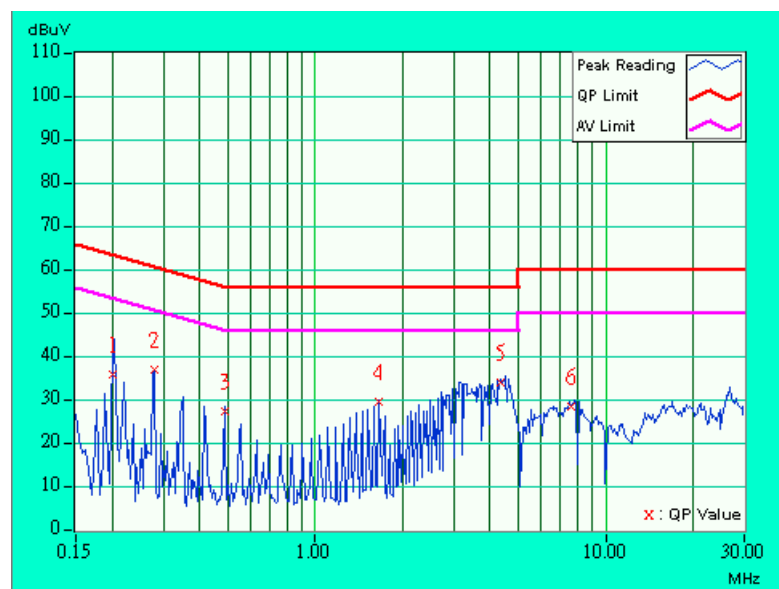
- Remarks:
1. "x": Undetectable
  2. QP. and AV. are abbreviations of quasi-peak and average individually.
  3. "-": NA
  4. The emission levels of other frequencies were very low against the limit.
  5. Margin value = Emission level - Limit value
  6. Emission Level = Correction Factor + Reading Value.



|                                 |                             |                             |             |
|---------------------------------|-----------------------------|-----------------------------|-------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI     | <b>MODEL</b>                | VM4-3B      |
| <b>MODE</b>                     | Channel 11                  | <b>6dB BANDWIDTH</b>        | 9 kHz       |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60Hz                | <b>PHASE</b>                | Neutral (N) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 60 %RH, 1005 hPa | <b>TESTED BY:</b> Bunny Yao |             |

| No | Freq. | Corr. Factor | Reading Value [dB (uV)] |     | Emission Level [dB (uV)] |     | Limit [dB (uV)] |       | Margin (dB) |     |
|----|-------|--------------|-------------------------|-----|--------------------------|-----|-----------------|-------|-------------|-----|
|    | [MHz] | (dB)         | QP.                     | AV. | QP.                      | AV. | QP.             | AV.   | QP.         | AV. |
| 1  | 0.201 | 0.10         | 35.53                   | -   | 35.63                    | -   | 63.58           | 53.58 | -27.95      | -   |
| 2  | 0.279 | 0.10         | 36.68                   | -   | 36.78                    | -   | 60.85           | 50.85 | -24.07      | -   |
| 3  | 0.486 | 0.11         | 27.22                   | -   | 27.33                    | -   | 56.24           | 46.24 | -28.90      | -   |
| 4  | 1.664 | 0.20         | 29.44                   | -   | 29.64                    | -   | 56.00           | 46.00 | -26.36      | -   |
| 5  | 4.363 | 0.31         | 33.81                   | -   | 34.12                    | -   | 56.00           | 46.00 | -21.88      | -   |
| 6  | 7.621 | 0.36         | 28.24                   | -   | 28.60                    | -   | 60.00           | 50.00 | -31.40      | -   |

- Remarks:
1. "-": Undetectable
  2. QP. and AV. are abbreviations of quasi-peak and average individually.
  3. "-": NA
  4. The emission levels of other frequencies were very low against the limit.
  5. Margin value = Emission level - Limit value
  6. Emission Level = Correction Factor + Reading Value.

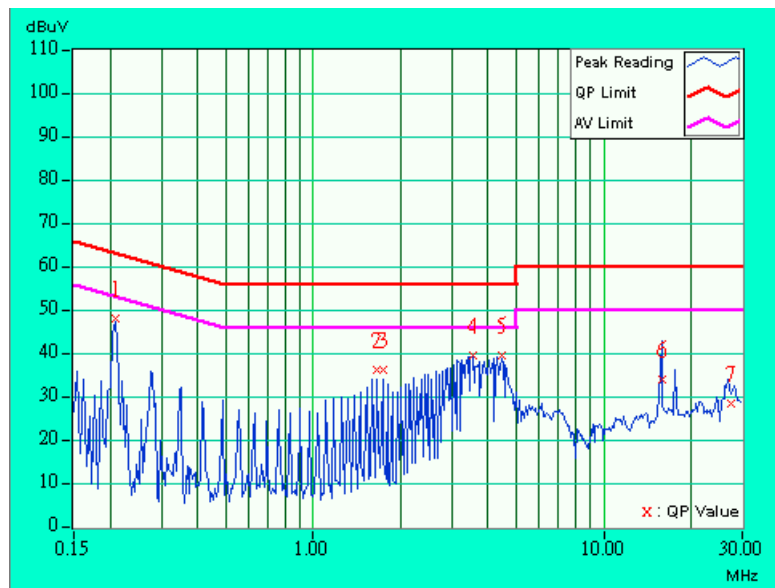


## 4.1.8 TEST RESULTS (B)

|                                 |                             |                             |          |
|---------------------------------|-----------------------------|-----------------------------|----------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI     | <b>MODEL</b>                | VM4-3B   |
| <b>MODE</b>                     | Channel 1                   | <b>6dB BANDWIDTH</b>        | 9 kHz    |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60Hz                | <b>PHASE</b>                | Line (L) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 60 %RH, 1005 hPa | <b>TESTED BY:</b> Bunny Yao |          |

| No | Freq. (MHz) | Corr. Factor (dB) | Reading Value [dB (uV)] |     | Emission Level [dB (uV)] |     | Limit [dB (uV)] |       | Margin (dB) |     |
|----|-------------|-------------------|-------------------------|-----|--------------------------|-----|-----------------|-------|-------------|-----|
|    |             |                   | QP.                     | AV. | QP.                      | AV. | QP.             | AV.   | QP.         | AV. |
| 1  | 0.209       | 0.10              | 46.96                   | -   | 47.06                    | -   | 63.26           | 53.26 | -16.20      | -   |
| 2  | 1.664       | 0.20              | 35.16                   | -   | 35.36                    | -   | 56.00           | 46.00 | -20.64      | -   |
| 3  | 1.734       | 0.20              | 35.21                   | -   | 35.41                    | -   | 56.00           | 46.00 | -20.59      | -   |
| 4  | 3.535       | 0.35              | 38.38                   | -   | 38.73                    | -   | 56.00           | 46.00 | -17.27      | -   |
| 5  | 4.438       | 0.41              | 38.32                   | -   | 38.73                    | -   | 56.00           | 46.00 | -17.27      | -   |
| 6  | 15.879      | 0.75              | 32.98                   | -   | 33.73                    | -   | 60.00           | 50.00 | -26.27      | -   |
| 7  | 27.465      | 1.25              | 27.32                   | -   | 28.57                    | -   | 60.00           | 50.00 | -31.43      | -   |

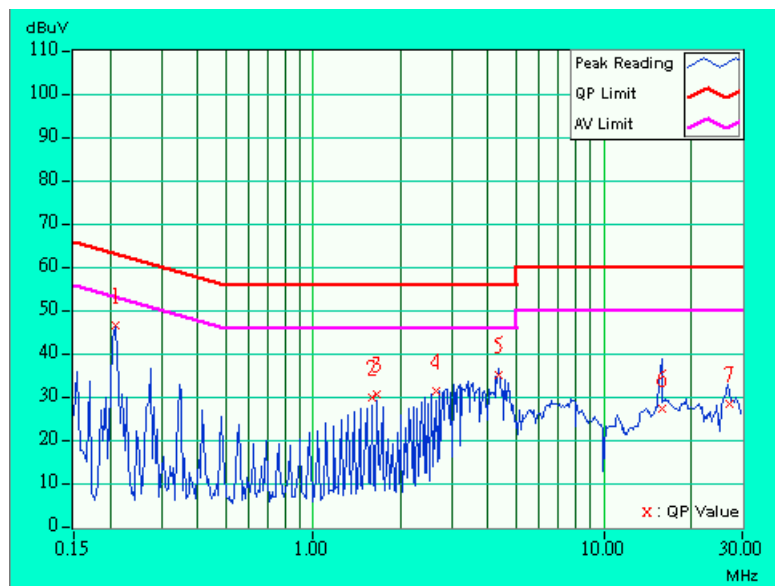
- Remarks:
1. "-": Undetectable
  2. QP. and AV. are abbreviations of quasi-peak and average individually.
  3. "-": NA
  4. The emission levels of other frequencies were very low against the limit.
  5. Margin value = Emission level - Limit value
  6. Emission Level = Correction Factor + Reading Value.



|                                 |                             |                             |             |
|---------------------------------|-----------------------------|-----------------------------|-------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI     | <b>MODEL</b>                | VM4-3B      |
| <b>MODE</b>                     | Channel 1                   | <b>6dB BANDWIDTH</b>        | 9 kHz       |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60Hz                | <b>PHASE</b>                | Neutral (N) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 60 %RH, 1005 hPa | <b>TESTED BY:</b> Bunny Yao |             |

| No | Freq. (MHz) | Corr. Factor (dB) | Reading Value [dB (uV)] |     | Emission Level [dB (uV)] |     | Limit [dB (uV)] |       | Margin (dB) |     |
|----|-------------|-------------------|-------------------------|-----|--------------------------|-----|-----------------|-------|-------------|-----|
|    |             |                   | QP.                     | AV. | QP.                      | AV. | QP.             | AV.   | QP.         | AV. |
| 1  | 0.209       | 0.10              | 46.06                   | -   | 46.16                    | -   | 63.26           | 53.26 | -17.10      | -   |
| 2  | 1.594       | 0.20              | 29.33                   | -   | 29.53                    | -   | 56.00           | 46.00 | -26.47      | -   |
| 3  | 1.664       | 0.20              | 30.00                   | -   | 30.20                    | -   | 56.00           | 46.00 | -25.80      | -   |
| 4  | 2.633       | 0.23              | 30.89                   | -   | 31.12                    | -   | 56.00           | 46.00 | -24.88      | -   |
| 5  | 4.367       | 0.31              | 34.51                   | -   | 34.82                    | -   | 56.00           | 46.00 | -21.18      | -   |
| 6  | 15.879      | 0.55              | 26.50                   | -   | 27.05                    | -   | 60.00           | 50.00 | -32.95      | -   |
| 7  | 27.035      | 0.74              | 27.94                   | -   | 28.68                    | -   | 60.00           | 50.00 | -31.32      | -   |

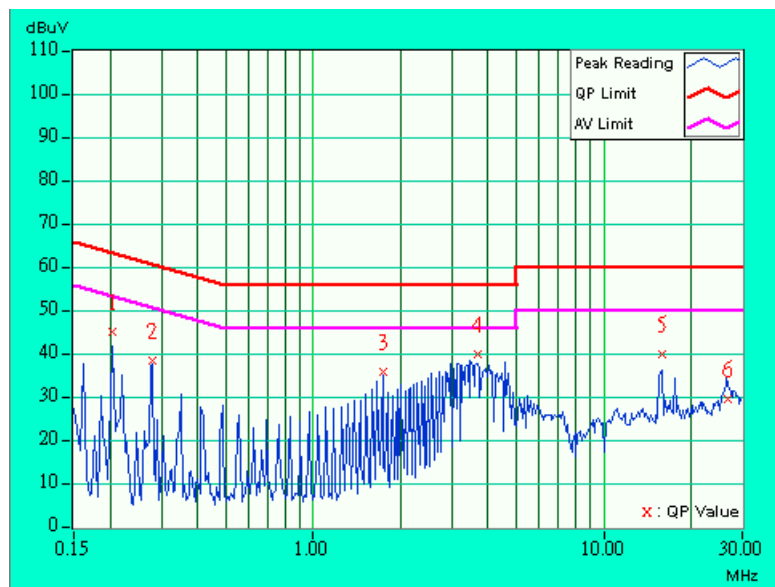
- Remarks:
1. "-": Undetectable
  2. QP. and AV. are abbreviations of quasi-peak and average individually.
  3. "-": NA
  4. The emission levels of other frequencies were very low against the limit.
  5. Margin value = Emission level - Limit value
  6. Emission Level = Correction Factor + Reading Value.



|                                 |                             |                             |          |
|---------------------------------|-----------------------------|-----------------------------|----------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI     | <b>MODEL</b>                | VM4-3B   |
| <b>MODE</b>                     | Channel 6                   | <b>6dB BANDWIDTH</b>        | 9 kHz    |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60Hz                | <b>PHASE</b>                | Line (L) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 60 %RH, 1005 hPa | <b>TESTED BY:</b> Bunny Yao |          |

| No | Freq. (MHz) | Corr. Factor (dB) | Reading Value [dB (uV)] |     | Emission Level [dB (uV)] |     | Limit [dB (uV)] |       | Margin (dB) |     |
|----|-------------|-------------------|-------------------------|-----|--------------------------|-----|-----------------|-------|-------------|-----|
|    |             |                   | QP.                     | AV. | QP.                      | AV. | QP.             | AV.   | QP.         | AV. |
| 1  | 0.205       | 0.10              | 43.93                   | -   | 44.03                    | -   | 63.42           | 53.42 | -19.39      | -   |
| 2  | 0.279       | 0.10              | 37.31                   | -   | 37.41                    | -   | 60.85           | 50.85 | -23.44      | -   |
| 3  | 1.734       | 0.20              | 34.69                   | -   | 34.89                    | -   | 56.00           | 46.00 | -21.11      | -   |
| 4  | 3.676       | 0.37              | 38.90                   | -   | 39.27                    | -   | 56.00           | 46.00 | -16.73      | -   |
| 5  | 15.879      | 0.75              | 38.78                   | -   | 39.53                    | -   | 60.00           | 50.00 | -20.47      | -   |
| 6  | 26.703      | 1.23              | 28.47                   | -   | 29.70                    | -   | 60.00           | 50.00 | -30.30      | -   |

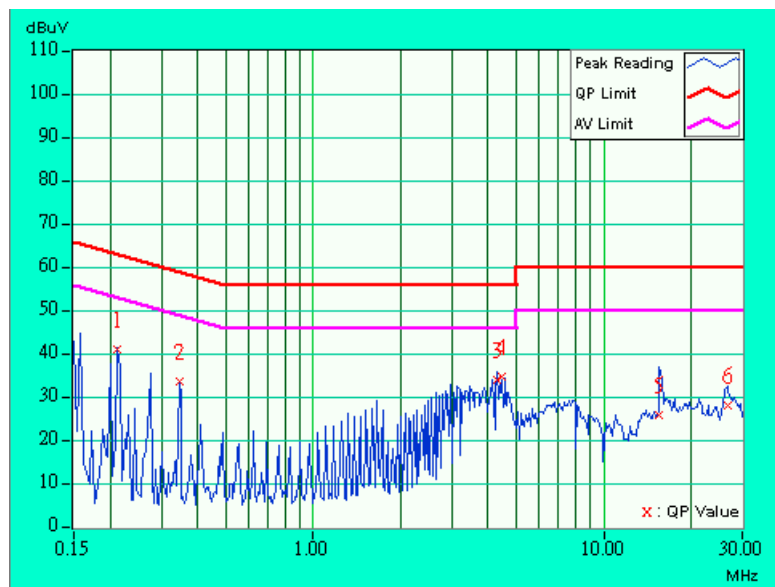
- Remarks:
1. "x": Undetectable
  2. QP. and AV. are abbreviations of quasi-peak and average individually.
  3. "-": NA
  4. The emission levels of other frequencies were very low against the limit.
  5. Margin value = Emission level - Limit value
  6. Emission Level = Correction Factor + Reading Value.



|                                 |                             |                             |             |
|---------------------------------|-----------------------------|-----------------------------|-------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI     | <b>MODEL</b>                | VM4-3B      |
| <b>MODE</b>                     | Channel 6                   | <b>6dB BANDWIDTH</b>        | 9 kHz       |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60Hz                | <b>PHASE</b>                | Neutral (N) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 60 %RH, 1005 hPa | <b>TESTED BY:</b> Bunny Yao |             |

| No | Freq. (MHz) | Corr. Factor (dB) | Reading Value [dB (uV)] |     | Emission Level [dB (uV)] |     | Limit [dB (uV)] |       | Margin (dB) |     |
|----|-------------|-------------------|-------------------------|-----|--------------------------|-----|-----------------|-------|-------------|-----|
|    |             |                   | QP.                     | AV. | QP.                      | AV. | QP.             | AV.   | QP.         | AV. |
| 1  | 0.213       | 0.10              | 40.49                   | -   | 40.59                    | -   | 63.11           | 53.11 | -22.52      | -   |
| 2  | 0.345       | 0.10              | 32.82                   | -   | 32.92                    | -   | 59.07           | 49.07 | -26.15      | -   |
| 3  | 4.297       | 0.30              | 33.40                   | -   | 33.70                    | -   | 56.00           | 46.00 | -22.30      | -   |
| 4  | 4.438       | 0.31              | 34.24                   | -   | 34.55                    | -   | 56.00           | 46.00 | -21.45      | -   |
| 5  | 15.461      | 0.53              | 25.24                   | -   | 25.77                    | -   | 60.00           | 50.00 | -34.23      | -   |
| 6  | 26.617      | 0.73              | 27.34                   | -   | 28.07                    | -   | 60.00           | 50.00 | -31.93      | -   |

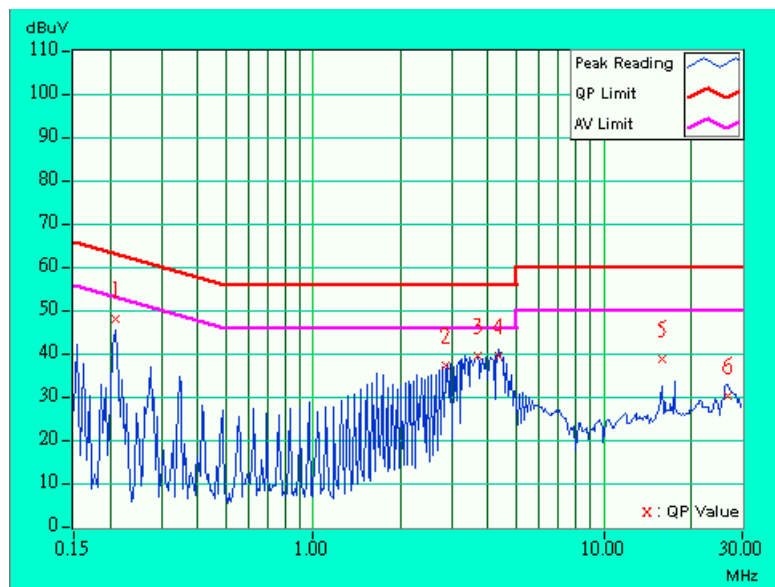
- Remarks:
1. "x": Undetectable
  2. QP. and AV. are abbreviations of quasi-peak and average individually.
  3. "-": NA
  4. The emission levels of other frequencies were very low against the limit.
  5. Margin value = Emission level - Limit value
  6. Emission Level = Correction Factor + Reading Value.



|                                 |                             |                             |          |
|---------------------------------|-----------------------------|-----------------------------|----------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI     | <b>MODEL</b>                | VM4-3B   |
| <b>MODE</b>                     | Channel 11                  | <b>6dB BANDWIDTH</b>        | 9 kHz    |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60Hz                | <b>PHASE</b>                | Line (L) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 60 %RH, 1005 hPa | <b>TESTED BY:</b> Bunny Yao |          |

| No | Freq. (MHz) | Corr. Factor (dB) | Reading Value [dB (uV)] |     | Emission Level [dB (uV)] |     | Limit [dB (uV)] |       | Margin (dB) |     |
|----|-------------|-------------------|-------------------------|-----|--------------------------|-----|-----------------|-------|-------------|-----|
|    |             |                   | QP.                     | AV. | QP.                      | AV. | QP.             | AV.   | QP.         | AV. |
| 1  | 0.209       | 0.10              | 46.90                   | -   | 47.00                    | -   | 63.26           | 53.26 | -16.26      | -   |
| 2  | 2.844       | 0.28              | 36.04                   | -   | 36.32                    | -   | 56.00           | 46.00 | -19.68      | -   |
| 3  | 3.676       | 0.37              | 38.42                   | -   | 38.79                    | -   | 56.00           | 46.00 | -17.21      | -   |
| 4  | 4.367       | 0.41              | 38.34                   | -   | 38.75                    | -   | 56.00           | 46.00 | -17.25      | -   |
| 5  | 15.879      | 0.75              | 37.49                   | -   | 38.24                    | -   | 60.00           | 50.00 | -21.76      | -   |
| 6  | 26.832      | 1.24              | 28.98                   | -   | 30.22                    | -   | 60.00           | 50.00 | -29.78      | -   |

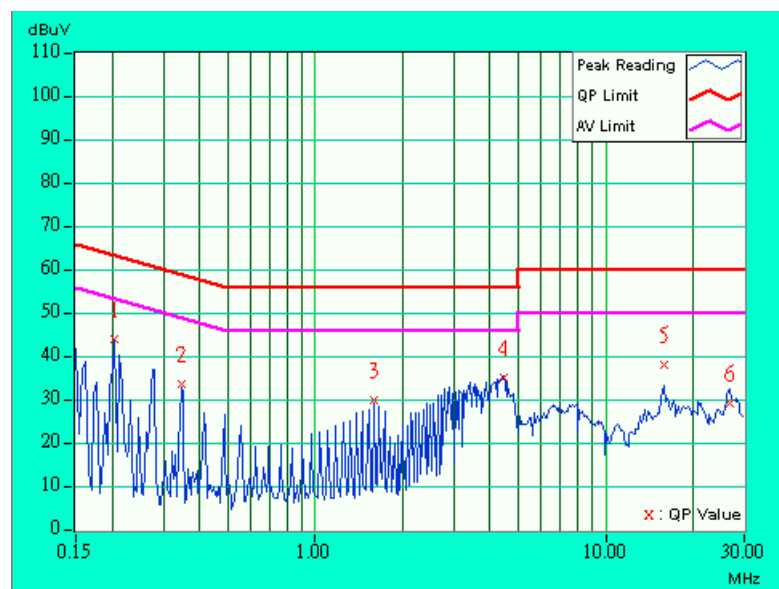
- Remarks:
1. "-": Undetectable
  2. QP. and AV. are abbreviations of quasi-peak and average individually.
  3. "-": NA
  4. The emission levels of other frequencies were very low against the limit.
  5. Margin value = Emission level - Limit value
  6. Emission Level = Correction Factor + Reading Value.



|                                 |                             |                             |             |
|---------------------------------|-----------------------------|-----------------------------|-------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI     | <b>MODEL</b>                | VM4-3B      |
| <b>MODE</b>                     | Channel 11                  | <b>6dB BANDWIDTH</b>        | 9 kHz       |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60Hz                | <b>PHASE</b>                | Neutral (N) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 60 %RH, 1005 hPa | <b>TESTED BY:</b> Bunny Yao |             |

| No | Freq.  | Corr. Factor | Reading Value [dB (uV)] |     | Emission Level [dB (uV)] |     | Limit [dB (uV)] |       | Margin (dB) |     |
|----|--------|--------------|-------------------------|-----|--------------------------|-----|-----------------|-------|-------------|-----|
|    | [MHz]  | (dB)         | QP.                     | AV. | QP.                      | AV. | QP.             | AV.   | QP.         | AV. |
| 1  | 0.205  | 0.10         | 43.35                   | -   | 43.45                    | -   | 63.42           | 53.42 | -19.97      | -   |
| 2  | 0.345  | 0.10         | 32.89                   | -   | 32.99                    | -   | 59.07           | 49.07 | -26.08      | -   |
| 3  | 1.594  | 0.20         | 29.21                   | -   | 29.41                    | -   | 56.00           | 46.00 | -26.59      | -   |
| 4  | 4.438  | 0.31         | 34.44                   | -   | 34.75                    | -   | 56.00           | 46.00 | -21.25      | -   |
| 5  | 15.879 | 0.55         | 37.38                   | -   | 37.93                    | -   | 60.00           | 50.00 | -22.07      | -   |
| 6  | 26.621 | 0.73         | 28.68                   | -   | 29.41                    | -   | 60.00           | 50.00 | -30.59      | -   |

- Remarks:
1. "-": Undetectable
  2. QP. and AV. are abbreviations of quasi-peak and average individually.
  3. "-": NA
  4. The emission levels of other frequencies were very low against the limit.
  5. Margin value = Emission level - Limit value
  6. Emission Level = Correction Factor + Reading Value.



## 4.2 RADIATED EMISSION MEASUREMENT

### 4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

| Frequencies<br>(MHz) | Field Strength of Fundamental |        |
|----------------------|-------------------------------|--------|
|                      | uV/m                          | dBuV/m |
| 30-88                | 100                           | 40.0   |
| 88-216               | 150                           | 43.5   |
| 216-960              | 200                           | 46.0   |
| Above 960            | 500                           | 54.0   |

**NOTE:**

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

#### 4.2.2 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER         | MODEL NO.            | SERIAL NO.               | CALIBRATED UNTIL |
|------------------------------------|----------------------|--------------------------|------------------|
| * HP Spectrum Analyzer             | 8590L                | 3544A01176               | May 13, 2003     |
| * HP Preamplifier                  | 8447D                | 2944A08485               | Oct. 30, 2002    |
| * HP Preamplifier                  | 8449B                | 3008A01201               | Dec. 06, 2002    |
| * HP Preamplifier                  | 8449B                | 3008A01292               | Aug. 7, 2003     |
| * ROHDE & SCHWARZ TEST RECEIVER    | ESMI                 | 839013/007<br>839379/002 | Jan. 27, 2003    |
| SCHWARZBECK Tunable Dipole Antenna | VHA 9103<br>UHA 9105 | E101051<br>E101055       | Nov. 23, 2002    |
| * CHASE BILOG Antenna              | CBL6112A             | 2221                     | Aug. 2, 2003     |
| * SCHWARZBECK Horn Antenna         | BBHA9120-D1          | D130                     | Jul. 3, 2003     |
| * EMCO Horn Antenna                | 3115                 | 9312-4192                | Apr. 9, 2003     |
| * EMCO Turn Table                  | 1060                 | 1115                     | NA               |
| * SHOSHIN Tower                    | AP-4701              | A6Y005                   | NA               |
| * Software                         | AS61D4               | NA                       | NA               |
| * ANRITSU RF Switches              | MP59B                | M35046                   | Jan. 25, 2003    |
| * TIMES RF cable                   | LMR-600              | CABLE-ST5-01             | Jul. 12, 2003    |
| Open Field Test Site               | Site 5               | ADT-R05                  | Jul. 19, 2003    |
| VCCI Site Registration No.         | Site 5               | R-1039                   | NA               |

- NOTE:** 1. The measurement uncertainty is less than +/- 3.0dB, which is calculated as per the NAMAS document NIS81.
2. The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.
3. "\*" = These equipment are used for the final measurement.
4. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
5. The test was performed in ADT Open Site No. 5.

#### 4.2.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using the quasi-peak method or average method as specified and then reported in Data sheet peak mode and QP mode.

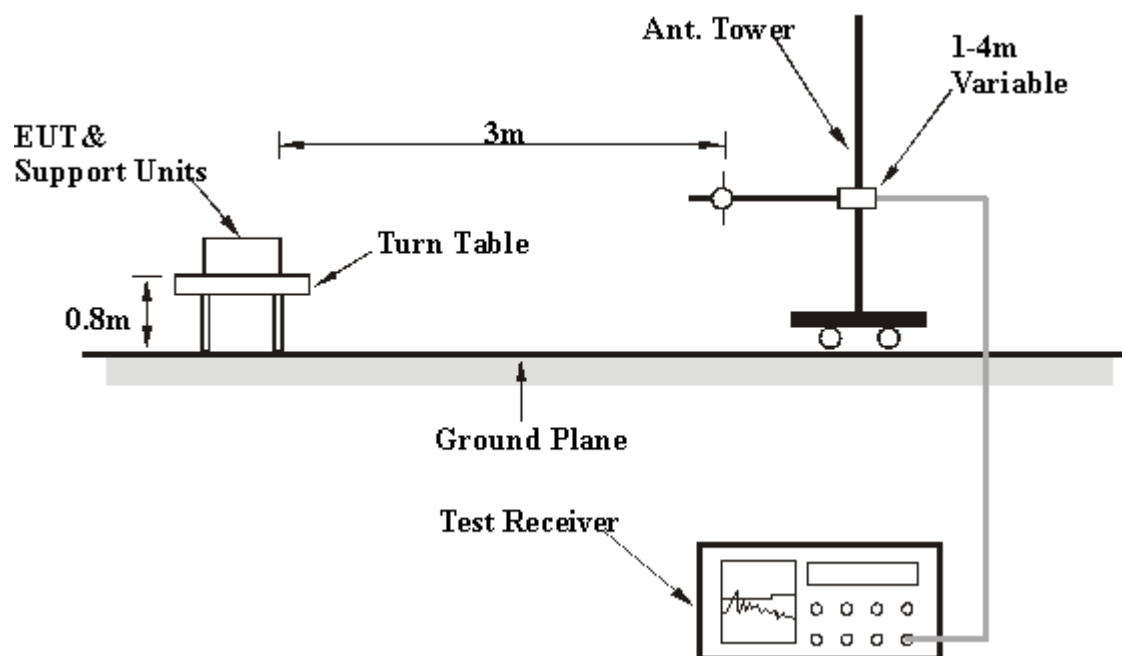
**NOTE:**

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 300 Hz for Average detection (AV) at frequency above 1GHz.

#### 4.2.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.2.5 TEST SETUP



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

#### 4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

## 4.2.7 TEST RESULTS (A)

|                                 |                            |                            |             |
|---------------------------------|----------------------------|----------------------------|-------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI    | <b>MODEL</b>               | VM4-3B      |
| <b>MODE</b>                     | Channel 11                 | <b>FREQUENCY RANGE</b>     | 30-1000 MHz |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60Hz               | <b>DETECTOR FUNCTION</b>   | Quasi-Peak  |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH, 1005 hPa | <b>TESTED BY:</b> Eric Lee |             |

**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) | Antenna Factor (dB/m) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|-----------------------|-------------------|----------------------|--------------------------|
| 1   | 160.00      | 32.0 QP                 | 43.50          | -11.50      | 1.42H              | 286                  | 21.30            | 9.62                  | 1.07              | 0.00                 | -10.70                   |
| 2   | 192.00      | 33.3 QP                 | 43.50          | -10.20      | 1.34H              | 304                  | 23.06            | 8.95                  | 1.28              | 0.00                 | -10.24                   |
| 3   | 299.00      | 29.1 QP                 | 46.00          | -16.90      | 1.11H              | 254                  | 14.47            | 13.18                 | 1.45              | 0.00                 | -14.63                   |
| 4   | 352.00      | 36.5 QP                 | 46.00          | -9.50       | 1.07H              | 159                  | 20.74            | 14.31                 | 1.46              | 0.00                 | -15.76                   |
| 5   | 378.00      | 43.1 QP                 | 46.00          | -2.90       | 1.01H              | 3                    | 26.28            | 15.31                 | 1.51              | 0.00                 | -16.82                   |
| 6   | 384.00      | 37.8 QP                 | 46.00          | -8.20       | 1.01H              | 343                  | 20.78            | 15.50                 | 1.52              | 0.00                 | -17.02                   |
| 7   | 480.00      | 39.1 QP                 | 46.00          | -6.90       | 1.01H              | 146                  | 20.49            | 16.92                 | 1.69              | 0.00                 | -18.61                   |
| 8   | 576.00      | 28.7 QP                 | 46.00          | -17.30      | 1.82H              | 255                  | 8.54             | 18.28                 | 1.88              | 0.00                 | -20.16                   |
| 9   | 736.00      | 32.6 QP                 | 46.00          | -13.40      | 1.36H              | 185                  | 10.49            | 19.93                 | 2.14              | 0.00                 | -22.07                   |
| 10  | 800.00      | 38.2 QP                 | 46.00          | -7.80       | 1.22H              | 270                  | 15.22            | 20.69                 | 2.29              | 0.00                 | -22.99                   |

**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) | Antenna Factor (dB/m) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|-----------------------|-------------------|----------------------|--------------------------|
| 1   | 120.00      | 26.6 QP                 | 43.50          | -16.90      | 1.02V              | 307                  | 14.05            | 11.65                 | 0.89              | 0.00                 | -12.55                   |
| 2   | 192.00      | 27.8 QP                 | 43.50          | -15.70      | 1.04V              | 49                   | 17.59            | 8.95                  | 1.28              | 0.00                 | -10.24                   |
| 3   | 352.00      | 25.9 QP                 | 46.00          | -20.10      | 1.24V              | 189                  | 10.14            | 14.31                 | 1.46              | 0.00                 | -15.76                   |
| 4   | 480.00      | 24.0 QP                 | 46.00          | -22.00      | 1.55V              | 354                  | 5.39             | 16.92                 | 1.69              | 0.00                 | -18.62                   |
| 5   | 608.00      | 26.0 QP                 | 46.00          | -20.00      | 1.79V              | 173                  | 5.36             | 18.70                 | 1.94              | 0.00                 | -20.65                   |
| 6   | 648.00      | 26.1 QP                 | 46.00          | -19.90      | 1.06V              | 318                  | 4.88             | 19.21                 | 2.01              | 0.00                 | -21.23                   |
| 7   | 736.00      | 29.5 QP                 | 46.00          | -16.50      | 1.10V              | 217                  | 7.42             | 19.93                 | 2.14              | 0.00                 | -22.08                   |

- NOTE:**
- 1 Emission level = Raw Value - Correction Factor
  - 2 Correction Factor = External Preamplifier Gain - Ant. Factor - Cable loss  
(External Preamplifier Gain = 0, when the test receiver is used for the test.)
  - 3 The other emission levels were very low against the limit.
  - 4 Margin value = Emission level - Limit value

|                                 |                               |                            |                          |
|---------------------------------|-------------------------------|----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>               | VM4-3B                   |
| <b>MODE</b>                     | Channel 1                     | <b>FREQUENCY RANGE</b>     | Above 1000 MHz           |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60Hz                  | <b>DETECTOR FUNCTION</b>   | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1005 hPa | <b>TESTED BY:</b> Eric Lee |                          |

#### 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) | Antenna Factor (dB/m) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|-----------------------|-------------------|----------------------|--------------------------|
| 1   | *2412.00    | 80.5 AV                 |                |             | 1.00H              | 213                  | 50.30            | 27.67                 | 2.53              | 0.00                 | -30.20                   |
| 2   | *2412.00    | 91.3 PK                 |                |             | 1.00H              | 213                  | 61.10            | 27.67                 | 2.53              | 0.00                 | -30.20                   |
| 3   | 4824.00     | 40.9 AV                 | 54.00          | -13.10      | 1.69H              | 127                  | 42.06            | 31.52                 | 4.01              | 36.70                | 1.18                     |
| 4   | 4824.00     | 53.3 PK                 | 74.00          | -20.70      | 1.69H              | 127                  | 54.50            | 31.52                 | 4.01              | 36.70                | 1.19                     |
| 5   | 7236.00     | 42.6 AV                 | 54.00          | -11.40      | 1.84H              | 270                  | 37.80            | 36.20                 | 5.58              | 37.00                | -4.78                    |
| 6   | 7236.00     | 49.9 PK                 | 74.00          | -24.10      | 1.84H              | 270                  | 45.10            | 36.20                 | 5.58              | 37.00                | -4.79                    |

#### 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) | Antenna Factor (dB/m) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|-----------------------|-------------------|----------------------|--------------------------|
| 1   | *2412.00    | 92.7 AV                 |                |             | 1.74V              | 214                  | 62.50            | 27.67                 | 2.53              | 0.00                 | -30.20                   |
| 2   | *2412.00    | 107.1 PK                |                |             | 1.74V              | 214                  | 76.90            | 27.67                 | 2.53              | 0.00                 | -30.20                   |
| 3   | 4824.00     | 51.7 AV                 | 54.00          | -2.30       | 2.01V              | 144                  | 52.90            | 31.52                 | 4.01              | 36.70                | 1.18                     |
| 4   | 4824.00     | 63.5 PK                 | 74.00          | -10.50      | 1.77V              | 354                  | 64.70            | 31.52                 | 4.01              | 36.70                | 1.18                     |
| 5   | 7236.00     | 46.5 AV                 | 54.00          | -7.50       | 1.77V              | 354                  | 41.70            | 36.20                 | 5.58              | 37.00                | -4.78                    |
| 6   | 7236.00     | 58.7 PK                 | 74.00          | -15.30      | 1.77V              | 354                  | 53.90            | 36.20                 | 5.58              | 37.00                | -4.78                    |
| 7   | 9648.00     | 47.6 AV                 | 54.00          | -6.40       | 2.27V              | 253                  | 41.00            | 38.45                 | 5.76              | 37.63                | -6.58                    |
| 8   | 9648.00     | 59.2 PK                 | 74.00          | -14.80      | 2.27V              | 253                  | 52.60            | 38.45                 | 5.76              | 37.63                | -6.58                    |

- NOTE:**
1. Emission level = Raw Value - Correction Factor
  2. Correction Factor = External Preamp. Gain - Ant. Factor - Cable loss  
(External Preamp. Gain = 0, when the test receiver is used for the test.)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level - Limit value
  5. The limit value is defined as per 15.247
  6. " \* " : Fundamental frequency

|                                 |                            |                            |                          |
|---------------------------------|----------------------------|----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI    | <b>MODEL</b>               | VM4-3B                   |
| <b>MODE</b>                     | Channel 6                  | <b>FREQUENCY RANGE</b>     | Above 1000 MHz           |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60Hz               | <b>DETECTOR FUNCTION</b>   | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH, 1005 hPa | <b>TESTED BY:</b> Eric Lee |                          |

#### 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) | Antenna Factor (dB/m) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|-----------------------|-------------------|----------------------|--------------------------|
| 1   | *2437.00    | 89.1 AV                 |                |             | 1.82H              | 245                  | 58.62            | 27.81                 | 2.66              | 0.00                 | -30.47                   |
| 2   | *2437.00    | 99.1 PK                 |                |             | 1.82H              | 245                  | 68.60            | 27.81                 | 2.66              | 0.00                 | -30.47                   |
| 3   | 4874.00     | 46.0 AV                 | 54.00          | -8.00       | 1.51H              | 180                  | 47.04            | 31.59                 | 4.03              | 36.70                | 1.08                     |
| 4   | 4874.00     | 58.0 PK                 | 74.00          | -16.00      | 1.51H              | 180                  | 59.10            | 31.59                 | 4.03              | 36.70                | 1.08                     |
| 5   | 7311.00     | 51.9 AV                 | 54.00          | -2.10       | 1.00H              | 180                  | 47.00            | 36.26                 | 5.65              | 37.02                | -4.90                    |
| 6   | 7311.00     | 62.8 PK                 | 74.00          | -11.20      | 1.00H              | 180                  | 57.90            | 36.26                 | 5.65              | 37.02                | -4.90                    |
| 7   | 9748.00     | 51.9 AV                 | 54.00          | -2.10       | 1.51H              | 289                  | 45.40            | 38.50                 | 5.66              | 37.65                | -6.51                    |
| 8   | 9748.00     | 62.6 PK                 | 74.00          | -11.40      | 1.51H              | 289                  | 56.10            | 38.50                 | 5.66              | 37.65                | -6.51                    |

#### 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) | Antenna Factor (dB/m) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|-----------------------|-------------------|----------------------|--------------------------|
| 1   | *2437.00    | 93.5 AV                 |                |             | 1.11V              | 253                  | 63.00            | 27.81                 | 2.66              | 0.00                 | -30.47                   |
| 2   | *2437.00    | 106.9 PK                |                |             | 1.11V              | 253                  | 76.40            | 27.81                 | 2.66              | 0.00                 | -30.47                   |
| 3   | 4874.00     | 49.9 AV                 | 54.00          | -4.10       | 1.53V              | 145                  | 51.00            | 31.59                 | 4.03              | 36.70                | 1.08                     |
| 4   | 4874.00     | 62.1 PK                 | 74.00          | -11.90      | 1.53V              | 145                  | 63.20            | 31.59                 | 4.03              | 36.70                | 1.08                     |
| 5   | 7311.00     | 46.1 AV                 | 54.00          | -7.90       | 1.74V              | 181                  | 41.20            | 36.26                 | 5.65              | 37.02                | -4.90                    |
| 6   | 7311.00     | 58.7 PK                 | 74.00          | -15.30      | 1.74V              | 181                  | 53.80            | 36.26                 | 5.65              | 37.02                | -4.90                    |

- NOTE:**
1. Emission level = Raw Value - Correction Factor
  2. Correction Factor = External Preamp. Gain - Ant. Factor - Cable loss  
(External Preamp. Gain = 0, when the test receiver is used for the test.)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level - Limit value
  5. The limit value is defined as per 15.247
  6. " \* " : Fundamental frequency

|                                 |                               |                            |                          |
|---------------------------------|-------------------------------|----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>               | VM4-3B                   |
| <b>MODE</b>                     | Channel 11                    | <b>FREQUENCY RANGE</b>     | Above 1000 MHz           |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60Hz                  | <b>DETECTOR FUNCTION</b>   | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1005 hPa | <b>TESTED BY:</b> Eric Lee |                          |

#### 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) | Antenna Factor (dB/m) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|-----------------------|-------------------|----------------------|--------------------------|
| 1   | *2462.00    | 84.7 AV                 |                |             | 1.76H              | 235                  | 54.22            | 27.81                 | 2.66              | 0.00                 | -30.47                   |
| 2   | *2462.00    | 93.3 PK                 |                |             | 1.76H              | 235                  | 62.80            | 27.81                 | 2.66              | 0.00                 | -30.47                   |
| 3   | 4924.00     | 45.8 AV                 | 54.00          | -8.20       | 1.67H              | 146                  | 46.80            | 31.66                 | 4.06              | 36.70                | 0.99                     |
| 4   | 4924.00     | 58.4 PK                 | 74.00          | -15.60      | 1.67H              | 146                  | 59.40            | 31.66                 | 4.06              | 36.70                | 0.99                     |
| 5   | 7384.00     | 50.4 AV                 | 54.00          | -3.60       | 1.98H              | 3                    | 45.30            | 36.40                 | 5.79              | 37.05                | -5.14                    |
| 6   | 7384.00     | 63.2 PK                 | 74.00          | -10.80      | 1.98H              | 3                    | 58.10            | 36.40                 | 5.79              | 37.05                | -5.14                    |
| 7   | 9849.00     | 46.5 AV                 | 54.00          | -7.50       | 1.91H              | 262                  | 40.00            | 38.54                 | 5.59              | 37.67                | -6.46                    |
| 8   | 9849.00     | 58.9 PK                 | 74.00          | -15.10      | 1.91H              | 262                  | 52.40            | 38.54                 | 5.59              | 37.67                | -6.46                    |

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

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Antenna Factor (dB/m) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|-----------------------|-------------------|----------------------|--------------------------|
| 1   | *2462.00    | 94.3 AV                 |                |             | 1.74V              | 181                  | 63.80            | 27.81                 | 2.66              | 0.00                 | -30.47                   |
| 2   | *2462.00    | 109.4 PK                |                |             | 1.74V              | 181                  | 78.90            | 27.81                 | 2.66              | 0.00                 | -30.47                   |
| 3   | 4924.00     | 63.6 PK                 | 74.00          | -10.40      | 1.74V              | 181                  | 64.60            | 31.66                 | 4.06              | 36.70                | 0.99                     |
| 4   | 4924.00     | 51.2 AV                 | 54.00          | -2.80       | 1.74V              | 181                  | 52.20            | 31.66                 | 4.06              | 36.70                | 0.99                     |
| 5   | 7386.00     | 43.1 AV                 | 54.00          | -10.90      | 1.74V              | 181                  | 38.00            | 36.40                 | 5.79              | 37.05                | -5.14                    |
| 6   | 7386.00     | 54.2 PK                 | 74.00          | -19.80      | 1.74V              | 181                  | 49.10            | 36.40                 | 5.79              | 37.05                | -5.14                    |

- NOTE:**
1. Emission level= Raw Value - Correction Factor
  2. Correction Factor = External Preamp. Gain - Ant. Factor - Cable loss  
(External Preamp. Gain = 0, when the test receiver is used for the test.)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level - Limit value
  5. The limit value is defined as per 15.247
  6. " \* " : Fundamental frequency

## 4.2.8 TEST RESULTS (B)

|                                 |                            |                            |             |
|---------------------------------|----------------------------|----------------------------|-------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI    | <b>MODEL</b>               | VM4-3B      |
| <b>MODE</b>                     | Channel 11                 | <b>FREQUENCY RANGE</b>     | 30-1000 MHz |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60Hz               | <b>DETECTOR FUNCTION</b>   | Quasi-Peak  |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH, 1005 hPa | <b>TESTED BY:</b> Eric Lee |             |

**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) | Antenna Factor (dB/m) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|-----------------------|-------------------|----------------------|--------------------------|
| 1   | 152.00      | 32.9 QP                 | 43.50          | -10.60      | 1.19H              | 288                  | 21.56            | 10.16                 | 1.14              | 0.00                 | -11.30                   |
| 2   | 192.00      | 29.5 QP                 | 43.50          | -14.00      | 1.00H              | 83                   | 19.30            | 8.95                  | 1.28              | 0.00                 | -10.24                   |
| 3   | 198.00      | 37.4 QP                 | 43.50          | -6.10       | 1.16H              | 92                   | 27.07            | 8.97                  | 1.36              | 0.00                 | -10.33                   |
| 4   | 352.00      | 32.5 QP                 | 46.00          | -13.50      | 1.09H              | 288                  | 16.69            | 14.31                 | 1.46              | 0.00                 | -15.76                   |
| 5   | 384.00      | 30.5 QP                 | 46.00          | -15.50      | 1.00H              | 272                  | 13.48            | 15.50                 | 1.52              | 0.00                 | -17.02                   |
| 6   | 438.00      | 34.8 QP                 | 46.00          | -11.20      | 1.27H              | 184                  | 16.91            | 16.30                 | 1.59              | 0.00                 | -17.89                   |
| 7   | 544.00      | 25.0 QP                 | 46.00          | -21.00      | 1.00H              | 270                  | 5.32             | 17.86                 | 1.82              | 0.00                 | -19.69                   |
| 8   | 576.00      | 25.2 QP                 | 46.00          | -20.80      | 1.06H              | 108                  | 5.04             | 18.28                 | 1.88              | 0.00                 | -20.17                   |
| 9   | 729.00      | 37.3 QP                 | 46.00          | -8.70       | 1.17H              | 14                   | 15.38            | 19.80                 | 2.12              | 0.00                 | -21.93                   |
| 10  | 736.00      | 28.0 QP                 | 46.00          | -18.00      | 1.49H              | 246                  | 5.93             | 19.93                 | 2.14              | 0.00                 | -22.08                   |

**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) | Antenna Factor (dB/m) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|-----------------------|-------------------|----------------------|--------------------------|
| 1   | 160.00      | 28.8 QP                 | 43.50          | -14.70      | 1.50V              | 66                   | 18.10            | 9.62                  | 1.07              | 0.00                 | -10.70                   |
| 2   | 192.00      | 35.8 QP                 | 43.50          | -7.70       | 1.44V              | 113                  | 25.56            | 8.95                  | 1.28              | 0.00                 | -10.24                   |
| 3   | 200.50      | 40.2 QP                 | 43.50          | -3.30       | 1.72V              | 324                  | 29.82            | 8.98                  | 1.40              | 0.00                 | -10.38                   |
| 4   | 288.00      | 27.0 QP                 | 46.00          | -19.00      | 1.00V              | 3                    | 12.71            | 12.88                 | 1.41              | 0.00                 | -14.29                   |
| 5   | 352.00      | 27.0 QP                 | 46.00          | -19.00      | 1.15V              | 69                   | 11.24            | 14.31                 | 1.46              | 0.00                 | -15.76                   |
| 6   | 416.00      | 38.7 QP                 | 46.00          | -7.30       | 1.00V              | 189                  | 20.95            | 16.18                 | 1.57              | 0.00                 | -17.75                   |
| 7   | 480.00      | 28.0 QP                 | 46.00          | -18.00      | 1.02V              | 270                  | 9.39             | 16.92                 | 1.69              | 0.00                 | -18.61                   |
| 8   | 544.00      | 26.4 QP                 | 46.00          | -19.60      | 1.00V              | 100                  | 6.76             | 17.86                 | 1.82              | 0.00                 | -19.68                   |
| 9   | 576.00      | 28.0 QP                 | 46.00          | -18.00      | 1.01V              | 90                   | 7.84             | 18.28                 | 1.88              | 0.00                 | -20.17                   |
| 10  | 729.00      | 43.9 QP                 | 46.00          | -2.10       | 1.12V              | 247                  | 22.00            | 19.80                 | 2.12              | 0.00                 | -21.92                   |
| 11  | 768.00      | 30.0 QP                 | 46.00          | -16.00      | 1.09V              | 67                   | 7.43             | 20.36                 | 2.22              | 0.00                 | -22.57                   |

- NOTE:**
- 1 Emission level = Raw Value - Correction Factor
  - 2 Correction Factor = External Preamp. Gain - Ant. Factor - Cable loss  
(External Preamp. Gain = 0, when the test receiver is used for the test.)
  - 3 The other emission levels were very low against the limit.
  - 4 Margin value = Emission level - Limit value

|                                 |                            |                            |                          |
|---------------------------------|----------------------------|----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI    | <b>MODEL</b>               | VM4-3B                   |
| <b>MODE</b>                     | Channel 1                  | <b>FREQUENCY RANGE</b>     | Above 1000 MHz           |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60Hz               | <b>DETECTOR FUNCTION</b>   | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH, 1005 hPa | <b>TESTED BY:</b> Eric Lee |                          |

#### 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) | Antenna Factor (dB/m) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|-----------------------|-------------------|----------------------|--------------------------|
| 1   | *2412.00    | 90.4 AV                 |                |             | 1.35H              | 216                  | 60.20            | 27.67                 | 2.53              | 0.00                 | -30.20                   |
| 2   | *2412.00    | 94.0 PK                 |                |             | 1.35H              | 216                  | 63.80            | 27.67                 | 2.53              | 0.00                 | -30.20                   |
| 3   | 4824.00     | 36.8 AV                 | 54.00          | -17.20      | 1.46H              | 193                  | 38.00            | 31.52                 | 4.01              | 36.70                | 1.18                     |
| 4   | 4824.00     | 44.8 PK                 | 74.00          | -29.20      | 1.46H              | 193                  | 46.00            | 31.52                 | 4.01              | 36.70                | 1.19                     |
| 5   | 9648.00     | 41.6 AV                 | 54.00          | -12.40      | 1.57H              | 154                  | 35.00            | 38.45                 | 5.76              | 37.63                | -6.58                    |
| 6   | 9648.00     | 48.6 PK                 | 74.00          | -25.40      | 1.57H              | 154                  | 42.00            | 38.45                 | 5.76              | 37.63                | -6.59                    |

#### 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) | Antenna Factor (dB/m) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|-----------------------|-------------------|----------------------|--------------------------|
| 1   | *2412.00    | 90.1 AV                 |                |             | 1.14V              | 220                  | 59.90            | 27.67                 | 2.53              | 0.00                 | -30.20                   |
| 2   | *2412.00    | 92.2 PK                 |                |             | 1.14V              | 220                  | 62.00            | 27.67                 | 2.53              | 0.00                 | -30.20                   |
| 3   | 4824.00     | 47.8 PK                 | 74.00          | -26.20      | 1.57V              | 142                  | 49.00            | 31.52                 | 4.01              | 36.70                | 1.18                     |
| 4   | 4824.00     | 40.8 AV                 | 54.00          | -13.20      | 1.57V              | 142                  | 42.00            | 31.52                 | 4.01              | 36.70                | 1.18                     |
| 5   | 9648.00     | 48.6 AV                 | 54.00          | -5.40       | 1.14V              | 220                  | 42.00            | 38.45                 | 5.76              | 37.63                | -6.58                    |
| 6   | 9648.00     | 55.6 PK                 | 74.00          | -18.40      | 1.14V              | 220                  | 49.00            | 38.45                 | 5.76              | 37.63                | -6.58                    |

- NOTE:**
1. Emission level = Raw Value - Correction Factor
  2. Correction Factor = External Preamp. Gain - Ant. Factor - Cable loss  
(External Preamp. Gain = 0, when the test receiver is used for the test.)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level - Limit value
  5. The limit value is defined as per 15.247
  6. " \* " : Fundamental frequency

|                                 |                               |                            |                          |
|---------------------------------|-------------------------------|----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>               | VM4-3B                   |
| <b>MODE</b>                     | Channel 6                     | <b>FREQUENCY RANGE</b>     | Above 1000 MHz           |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60Hz                  | <b>DETECTOR FUNCTION</b>   | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1005 hPa | <b>TESTED BY:</b> Eric Lee |                          |

#### 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) | Antenna Factor (dB/m) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|-----------------------|-------------------|----------------------|--------------------------|
| 1   | *2437.00    | 92.5 AV                 |                |             | 1.39H              | 216                  | 62.00            | 27.81                 | 2.66              | 0.00                 | -30.47                   |
| 2   | *2437.00    | 98.5 PK                 |                |             | 1.39H              | 216                  | 68.00            | 27.81                 | 2.66              | 0.00                 | -30.47                   |
| 3   | 4874.00     | 35.7 AV                 | 54.00          | -18.30      | 1.01H              | 151                  | 36.80            | 31.59                 | 4.03              | 36.70                | 1.08                     |
| 4   | 4874.00     | 43.9 PK                 | 74.00          | -30.10      | 1.01H              | 151                  | 45.00            | 31.59                 | 4.03              | 36.70                | 1.08                     |
| 5   | 9748.00     | 48.5 PK                 | 74.00          | -25.50      | 1.05H              | 184                  | 42.00            | 38.50                 | 5.66              | 37.65                | -6.51                    |
| 6   | 9748.00     | 42.3 AV                 | 54.00          | -11.70      | 1.05H              | 184                  | 35.80            | 38.50                 | 5.66              | 37.65                | -6.51                    |

#### 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) | Antenna Factor (dB/m) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|-----------------------|-------------------|----------------------|--------------------------|
| 1   | *2437.00    | 95.5 PK                 |                |             | 1.43V              | 76                   | 65.00            | 27.81                 | 2.66              | 0.00                 | -30.47                   |
| 2   | *2437.00    | 91.7 AV                 |                |             | 1.43V              | 76                   | 61.20            | 27.81                 | 2.66              | 0.00                 | -30.47                   |
| 3   | 4874.00     | 37.9 AV                 | 54.00          | -16.10      | 1.11V              | 84                   | 39.00            | 31.59                 | 4.03              | 36.70                | 1.08                     |
| 4   | 4874.00     | 43.9 PK                 | 74.00          | -30.10      | 1.11V              | 83                   | 45.00            | 31.59                 | 4.03              | 36.70                | 1.08                     |
| 5   | 9748.00     | 42.3 AV                 | 54.00          | -11.70      | 1.57V              | 142                  | 35.80            | 38.50                 | 5.66              | 37.65                | -6.51                    |
| 6   | 9748.00     | 47.5 PK                 | 74.00          | -26.50      | 1.57V              | 142                  | 41.00            | 38.50                 | 5.66              | 37.65                | -6.51                    |

- NOTE:**
1. Emission level = Raw Value - Correction Factor
  2. Correction Factor = External Preamp. Gain - Ant. Factor - Cable loss  
(External Preamp. Gain = 0, when the test receiver is used for the test.)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level - Limit value
  5. The limit value is defined as per 15.247
  6. " \* " : Fundamental frequency

|                                 |                               |                            |                          |
|---------------------------------|-------------------------------|----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>               | VM4-3B                   |
| <b>MODE</b>                     | Channel 11                    | <b>FREQUENCY RANGE</b>     | Above 1000 MHz           |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60Hz                  | <b>DETECTOR FUNCTION</b>   | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1005 hPa | <b>TESTED BY:</b> Eric Lee |                          |

#### 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) | Antenna Factor (dB/m) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|-----------------------|-------------------|----------------------|--------------------------|
| 1   | *2462.00    | 92.5 AV                 |                |             | 1.42H              | 163                  | 62.00            | 27.81                 | 2.66              | 0.00                 | -30.47                   |
| 2   | *2462.00    | 99.5 PK                 |                |             | 1.42H              | 163                  | 69.00            | 27.81                 | 2.66              | 0.00                 | -30.47                   |
| 3   | 4924.00     | 42.0 PK                 | 74.00          | -32.00      | 1.53H              | 144                  | 43.00            | 31.66                 | 4.06              | 36.70                | 0.99                     |
| 4   | 4924.00     | 34.2 AV                 | 54.00          | -19.80      | 1.53H              | 144                  | 35.20            | 31.66                 | 4.06              | 36.70                | 0.99                     |
| 5   | 9848.00     | 40.5 AV                 | 54.00          | -13.50      | 1.72H              | 166                  | 34.00            | 38.54                 | 5.59              | 37.67                | -6.46                    |
| 6   | 9848.00     | 47.5 PK                 | 74.00          | -26.50      | 1.72H              | 166                  | 41.00            | 38.54                 | 5.59              | 37.67                | -6.47                    |

#### 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) | Antenna Factor (dB/m) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|-----------------------|-------------------|----------------------|--------------------------|
| 1   | *2462.00    | 93.3 PK                 |                |             | 1.91V              | 175                  | 62.80            | 27.81                 | 2.66              | 0.00                 | -30.47                   |
| 2   | *2462.00    | 90.5 AV                 |                |             | 1.91V              | 175                  | 60.00            | 27.81                 | 2.66              | 0.00                 | -30.47                   |
| 3   | 4924.00     | 42.0 PK                 | 74.00          | -32.00      | 1.75V              | 122                  | 43.00            | 31.66                 | 4.06              | 36.70                | 0.99                     |
| 4   | 4924.00     | 37.8 AV                 | 54.00          | -16.20      | 1.75V              | 122                  | 38.80            | 31.66                 | 4.06              | 36.70                | 0.99                     |
| 5   | 9848.00     | 43.1 AV                 | 54.00          | -10.90      | 2.03V              | 130                  | 36.60            | 38.54                 | 5.59              | 37.67                | -6.46                    |
| 6   | 9848.00     | 48.5 PK                 | 74.00          | -25.50      | 2.03V              | 130                  | 42.00            | 38.54                 | 5.59              | 37.67                | -6.47                    |

- NOTE:**
1. Emission level= Raw Value - Correction Factor
  2. Correction Factor = External Preamp. Gain - Ant. Factor - Cable loss  
(External Preamp. Gain = 0, when the test receiver is used for the test.)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level - Limit value
  5. The limit value is defined as per 15.247
  6. " \* " : Fundamental frequency

### 4.3 6dB BANDWIDTH MEASUREMENT

#### 4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

#### 4.3.2 TEST INSTRUMENTS

| Description & Manufacturer | Model No. | Serial No. | Calibrated Until |
|----------------------------|-----------|------------|------------------|
| SPECTRUM ANALYZER          | FSEK30    | 100049     | July 24, 2003    |

**NOTE:**

- 1.The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
- 2.The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

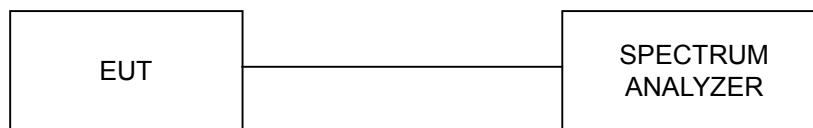
#### 4.3.3 TEST PROCEDURE

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

#### 4.3.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.3.5 TEST SETUP



#### 4.3.6 EUT OPERATING CONDITIONS

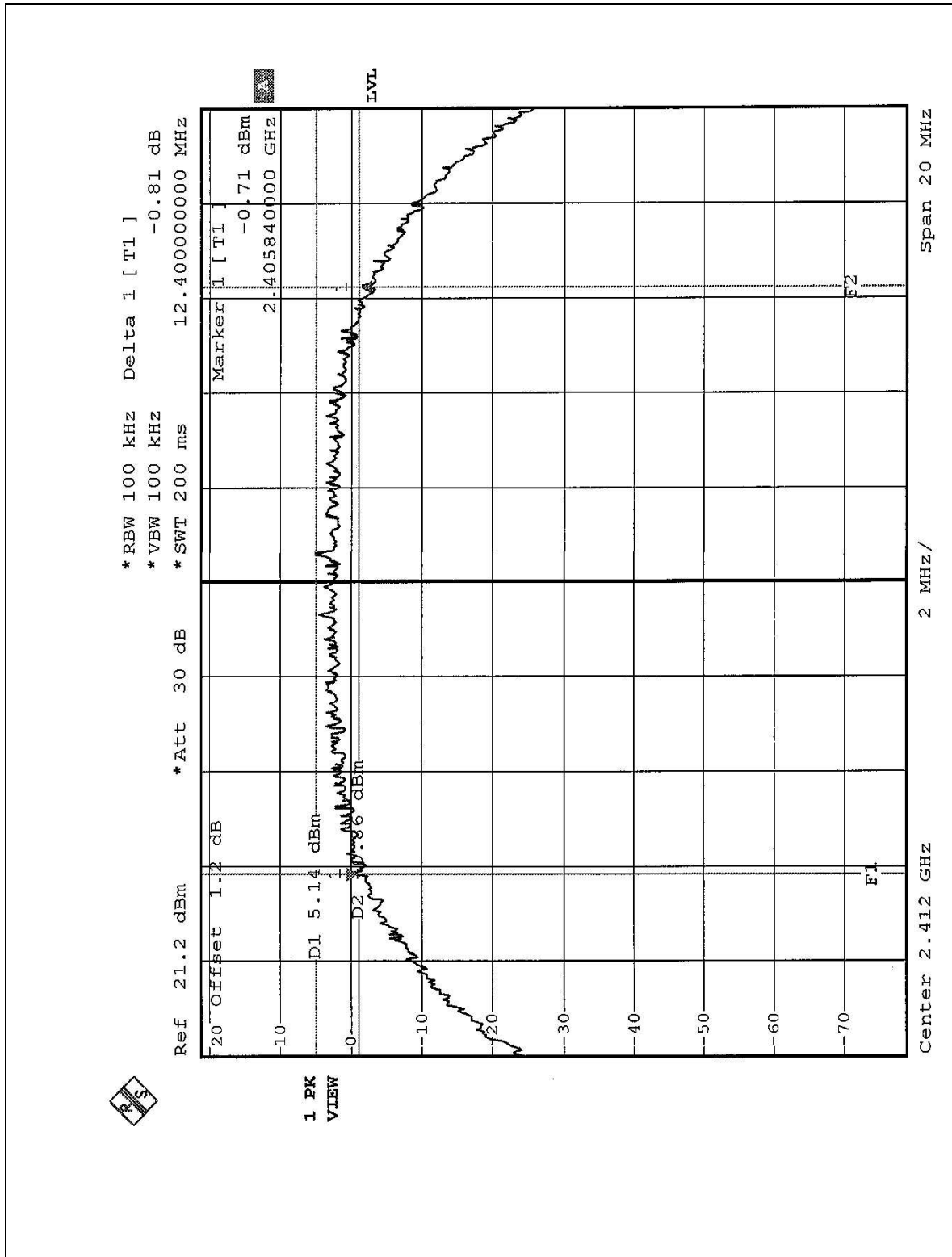
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

## 4.3.7 TEST RESULTS

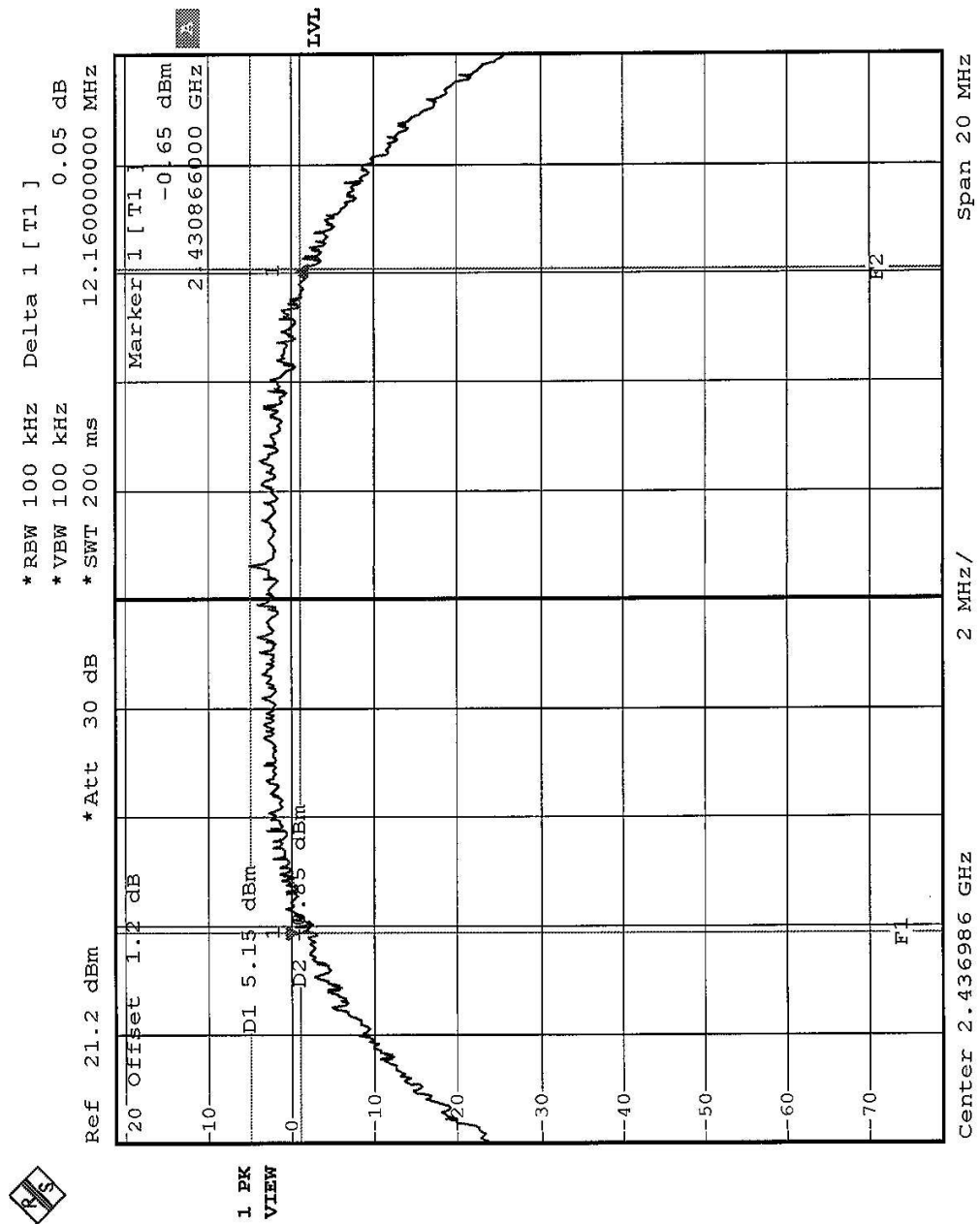
|                             |                         |                                 |                           |
|-----------------------------|-------------------------|---------------------------------|---------------------------|
| <b>EUT</b>                  | WLAN a+b combo mini-PCI | <b>MODEL</b>                    | VM4-3B                    |
| <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz            | <b>ENVIRONMENTAL CONDITIONS</b> | 30deg. C, 57%RH, 1005 hPa |
| <b>TESTED BY:</b> Steven Lu |                         |                                 |                           |

| <b>CHANNEL</b> | <b>CHANNEL FREQUENCY (MHz)</b> | <b>6 dB BANDWIDTH (MHz)</b> | <b>MINIMUM LIMIT (MHz)</b> | <b>PASS/FAIL</b> |
|----------------|--------------------------------|-----------------------------|----------------------------|------------------|
| 1              | 2412                           | 12.40                       | 0.5                        | PASS             |
| 6              | 2437                           | 12.16                       | 0.5                        | PASS             |
| 11             | 2462                           | 12.12                       | 0.5                        | PASS             |

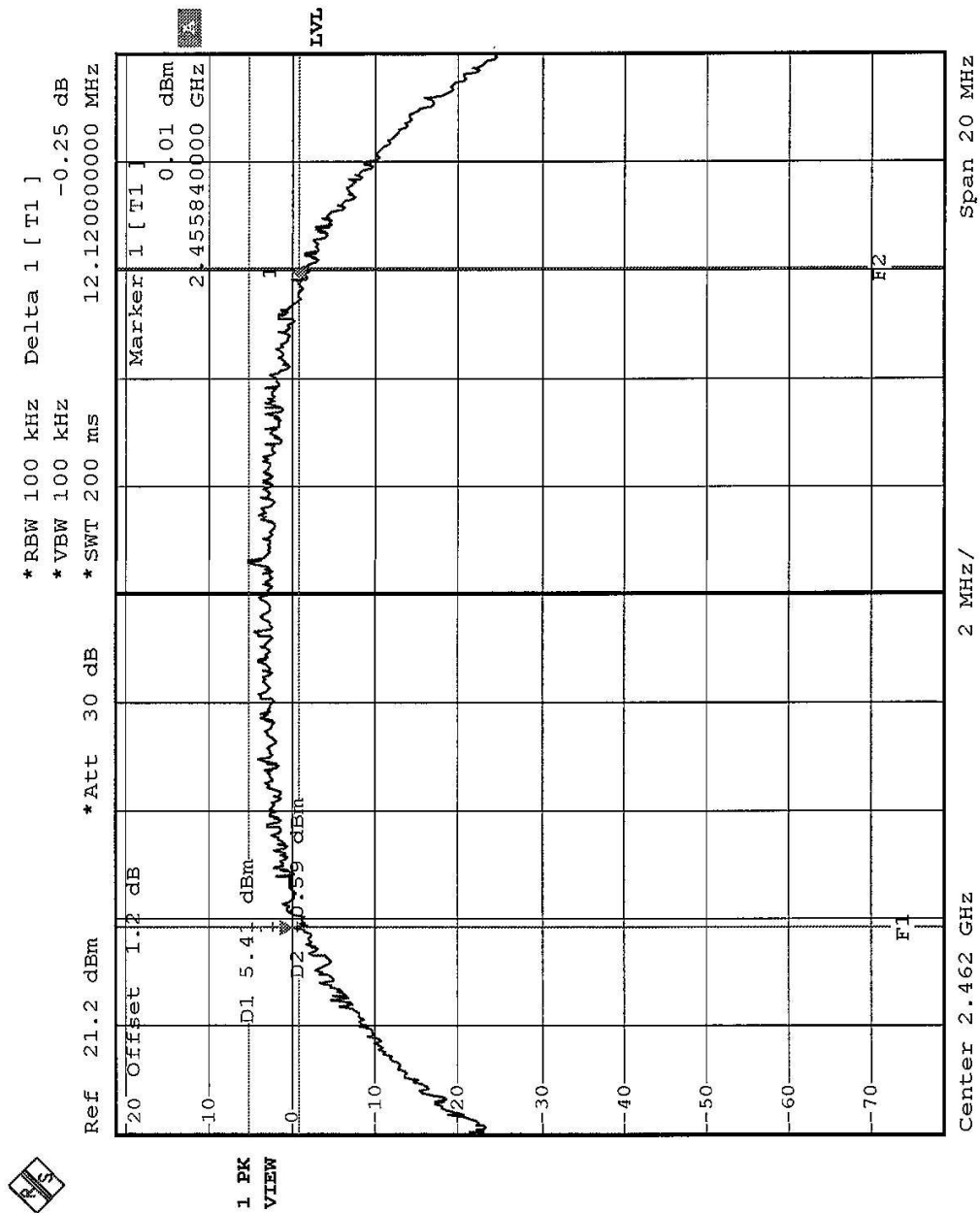
CH1



CH6



CH11



#### 4.4 MAXIMUM PEAK OUTPUT POWER

##### 4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

##### 4.4.2 INSTRUMENTS

| Description & Manufacturer | Model No. | Serial No. | Calibrated Until |
|----------------------------|-----------|------------|------------------|
| SINGLE CHANNEL POWER METER | NRVS      | 100026     | Feb. 23, 2003    |
| PEAK POWER SENSOR          | NRV-Z32   | 100013     | Feb. 23, 2003    |

**NOTE:**

1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

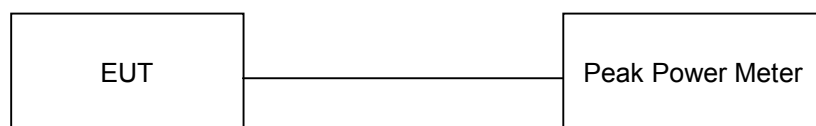
#### 4.4.3 TEST PROCEDURES

The transmitter output was connected to the peak power meter.

#### 4.4.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.4.5 TEST SETUP



#### 4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6

## 4.4.7 TEST RESULTS

|                             |                         |                                 |                          |
|-----------------------------|-------------------------|---------------------------------|--------------------------|
| <b>EUT</b>                  | WLAN a+b combo mini-PCI | <b>MODEL</b>                    | VM4-3B                   |
| <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz            | <b>ENVIRONMENTAL CONDITIONS</b> | 30deg.C, 57%RH, 1005 hPa |
| <b>TESTED BY:</b> Steven Lu |                         |                                 |                          |

| <b>CHANNEL</b> | <b>CHANNEL FREQUENCY (MHz)</b> | <b>PEAK POWER OUTPUT (dBm)</b> | <b>PEAK POWER LIMIT (dBm)</b> | <b>PASS/FAIL</b> |
|----------------|--------------------------------|--------------------------------|-------------------------------|------------------|
| 1              | 2412                           | 15.92                          | 30                            | PASS             |
| 6              | 2437                           | 15.78                          | 30                            | PASS             |
| 11             | 2462                           | 15.90                          | 30                            | PASS             |

## 4.5 POWER SPECTRAL DENSITY MEASUREMENT

### 4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

### 4.5.2 TEST INSTRUMENTS

| Description & Manufacturer | Model No. | Serial No. | Calibrated Until |
|----------------------------|-----------|------------|------------------|
| SPECTRUM ANALYZER          | FSEK30    | 100049     | July 24, 2002    |

**NOTE:**

1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

#### 4.5.3 TEST PROCEDURE

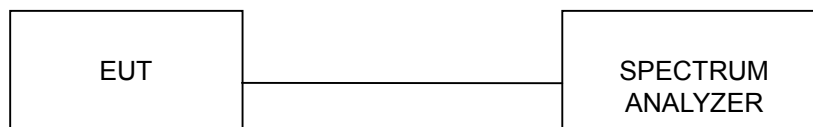
The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3 kHz RBW and 30 kHz VBW, set sweep time = span/3 kHz. The power spectral density was measured and recorded.

The sweep time is allowed to be longer than span/3 kHz for a full response of the mixer in the spectrum analyzer.

#### 4.5.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.5.5 TEST SETUP



#### 4.5.6 EUT OPERATING CONDITION

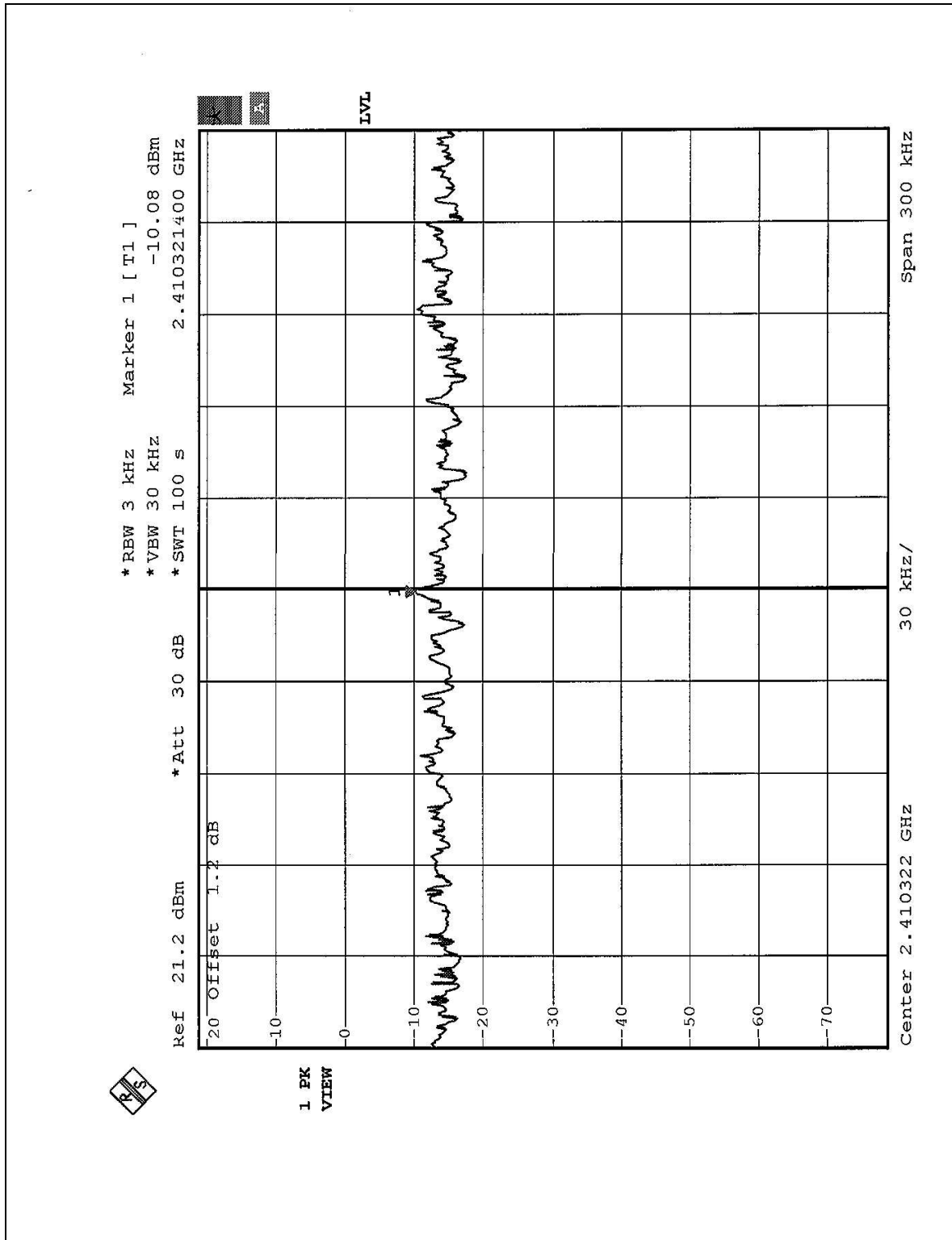
Same as Item 4.3.6

## 4.5.7 TEST RESULTS

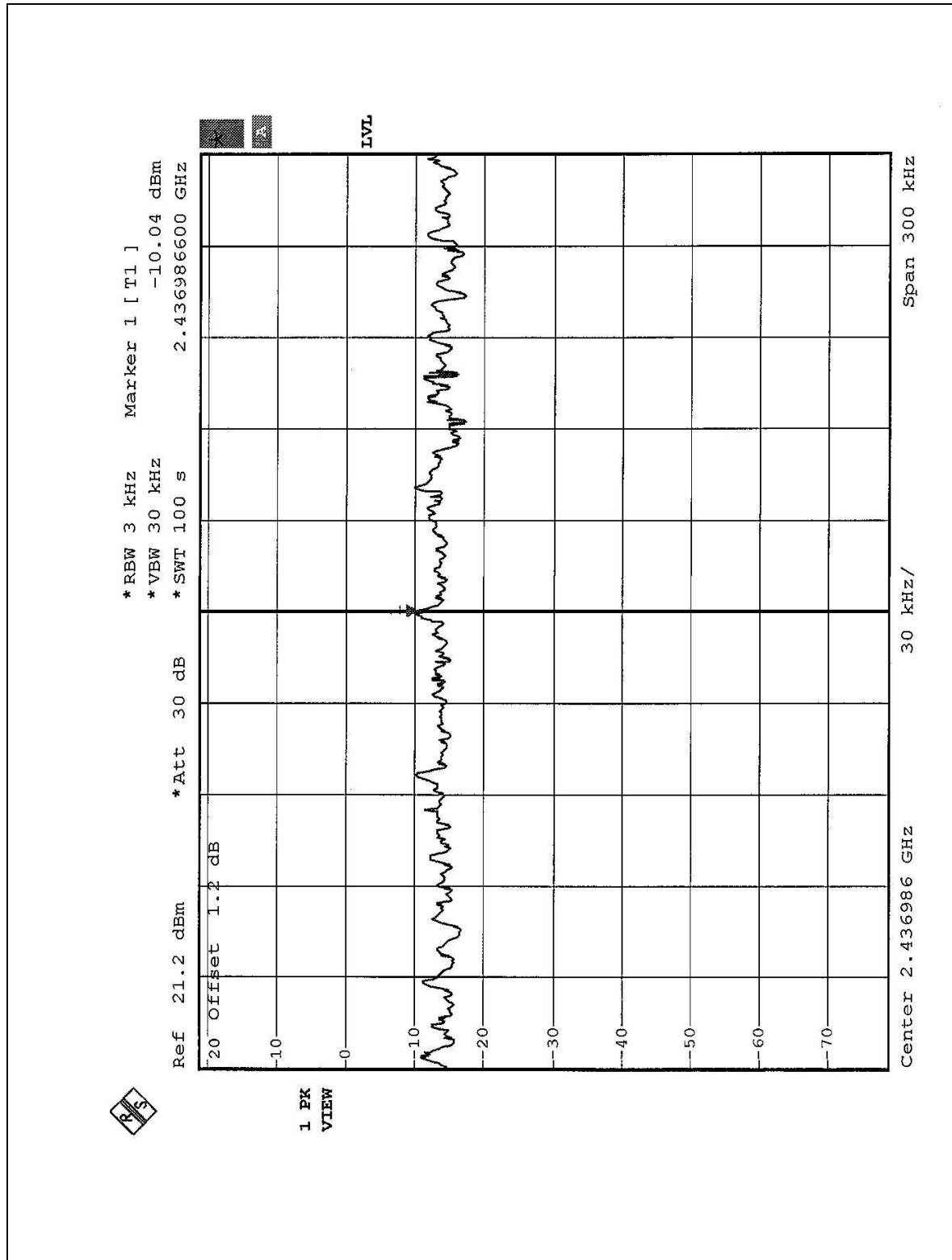
|                             |                         |                                 |                           |
|-----------------------------|-------------------------|---------------------------------|---------------------------|
| <b>EUT</b>                  | WLAN a+b combo mini-PCI | <b>MODEL</b>                    | VM4-3B                    |
| <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz            | <b>ENVIRONMENTAL CONDITIONS</b> | 30deg. C, 57%RH, 1005 hPa |
| <b>TESTED BY:</b> Steven Lu |                         |                                 |                           |

| <b>CHANNEL NUMBER</b> | <b>CHANNEL FREQUENCY (MHz )</b> | <b>RF POWER LEVEL IN 3 kHz BW (dBm)</b> | <b>MAXIMUM LIMIT (dBm)</b> | <b>PASS/FAIL</b> |
|-----------------------|---------------------------------|-----------------------------------------|----------------------------|------------------|
| 1                     | 2412                            | -10.08                                  | 8                          | PASS             |
| 6                     | 2437                            | -10.04                                  | 8                          | PASS             |
| 11                    | 2462                            | -10.26                                  | 8                          | PASS             |

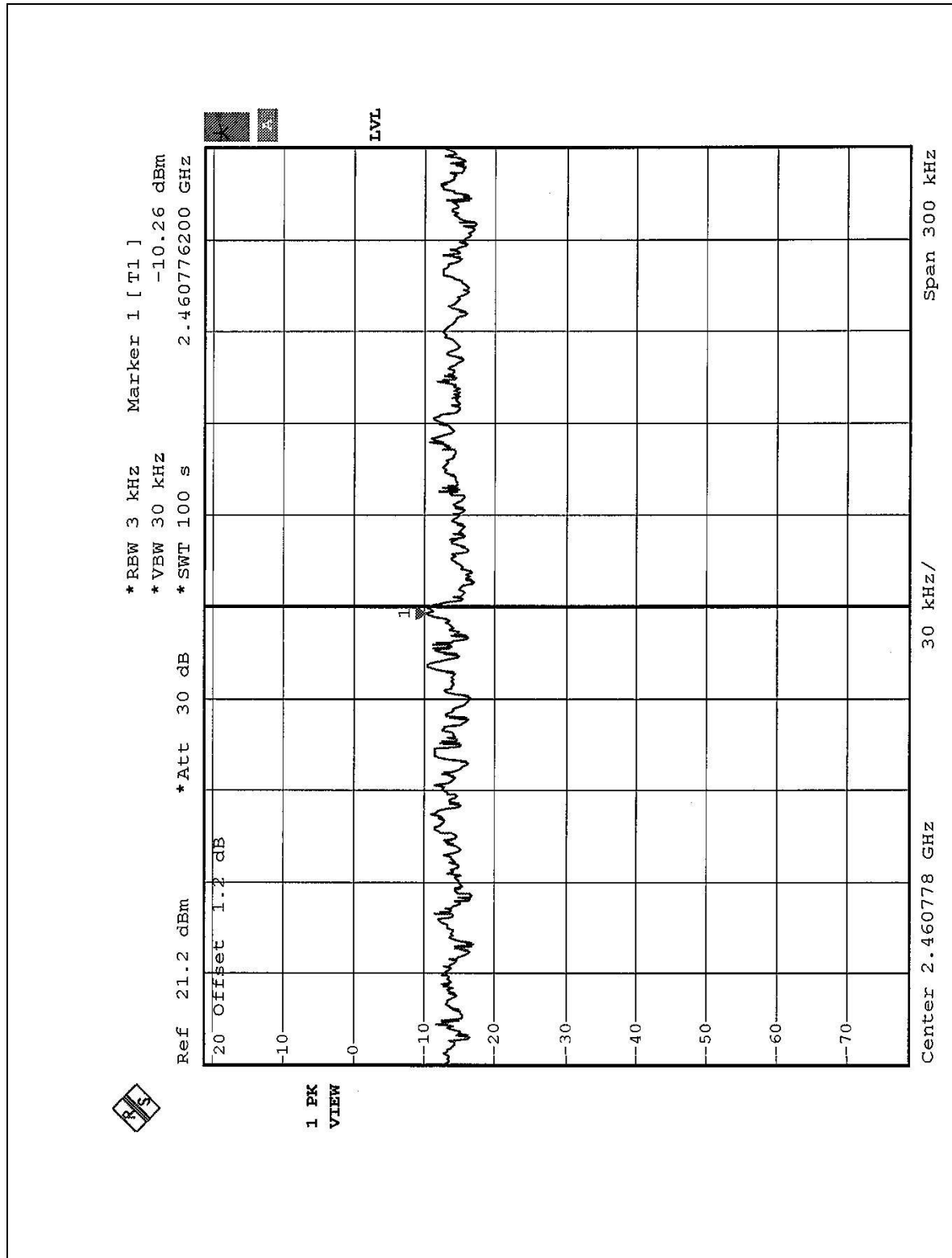
CH1



CH6



CH11



## 4.6 BAND EDGES MEASUREMENT

### 4.6.1 LIMITS OF BAND EDGES MEASUREMENT

Below -20dB of the highest emission level of operating band (in 100KHz Resolution Bandwidth).

### 4.6.2 TEST INSTRUMENTS

| Description & Manufacturer | Model No. | Serial No. | Calibrated Until |
|----------------------------|-----------|------------|------------------|
| SPECTRUM ANALYZER          | FSEK30    | 100049     | July 24, 2003    |

**NOTE:**

1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.6.3 TEST PROCEDURE

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

### 4.6.4 DEVIATION FROM TEST STANDARD

No deviation

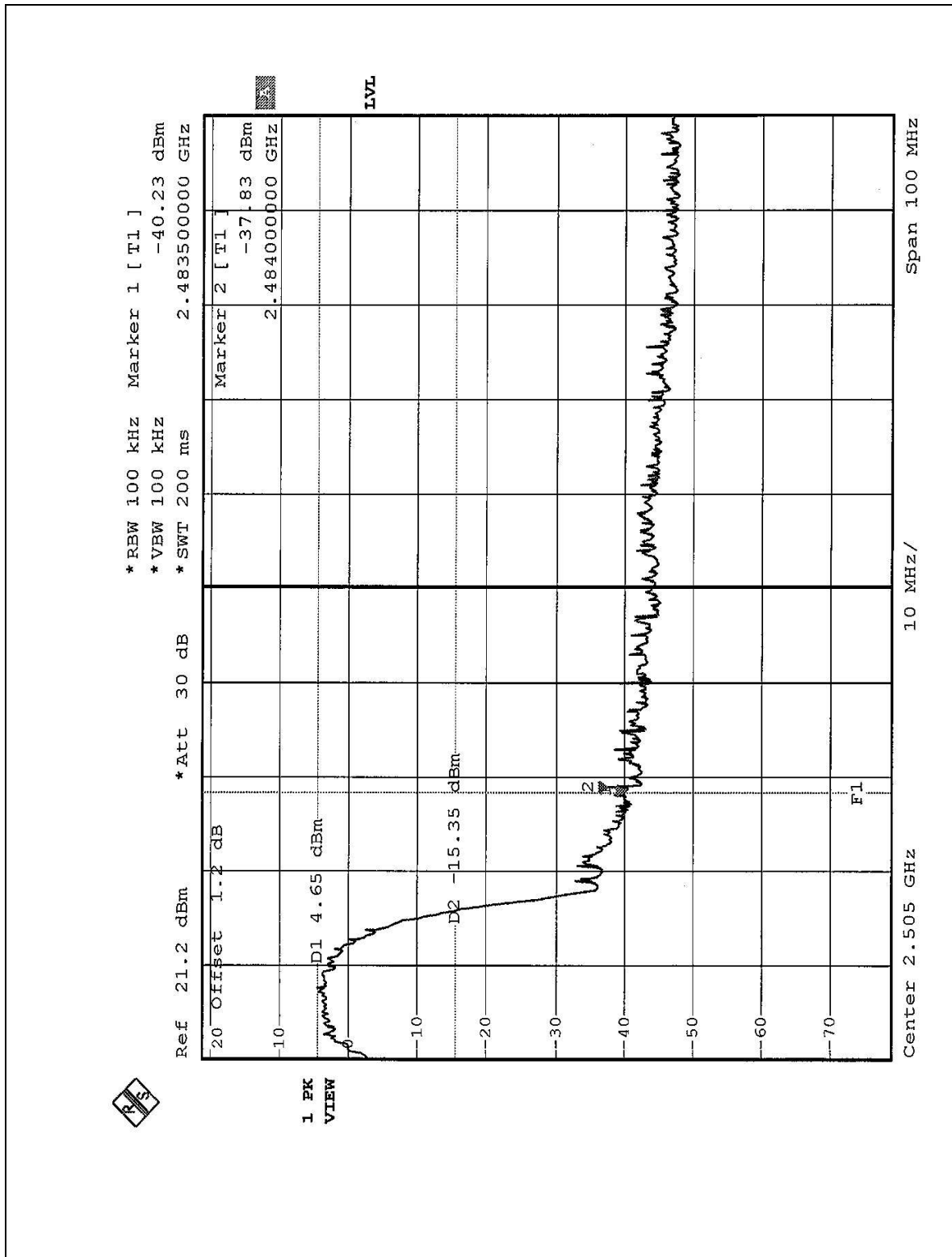
#### 4.6.5 EUT OPERATING CONDITION

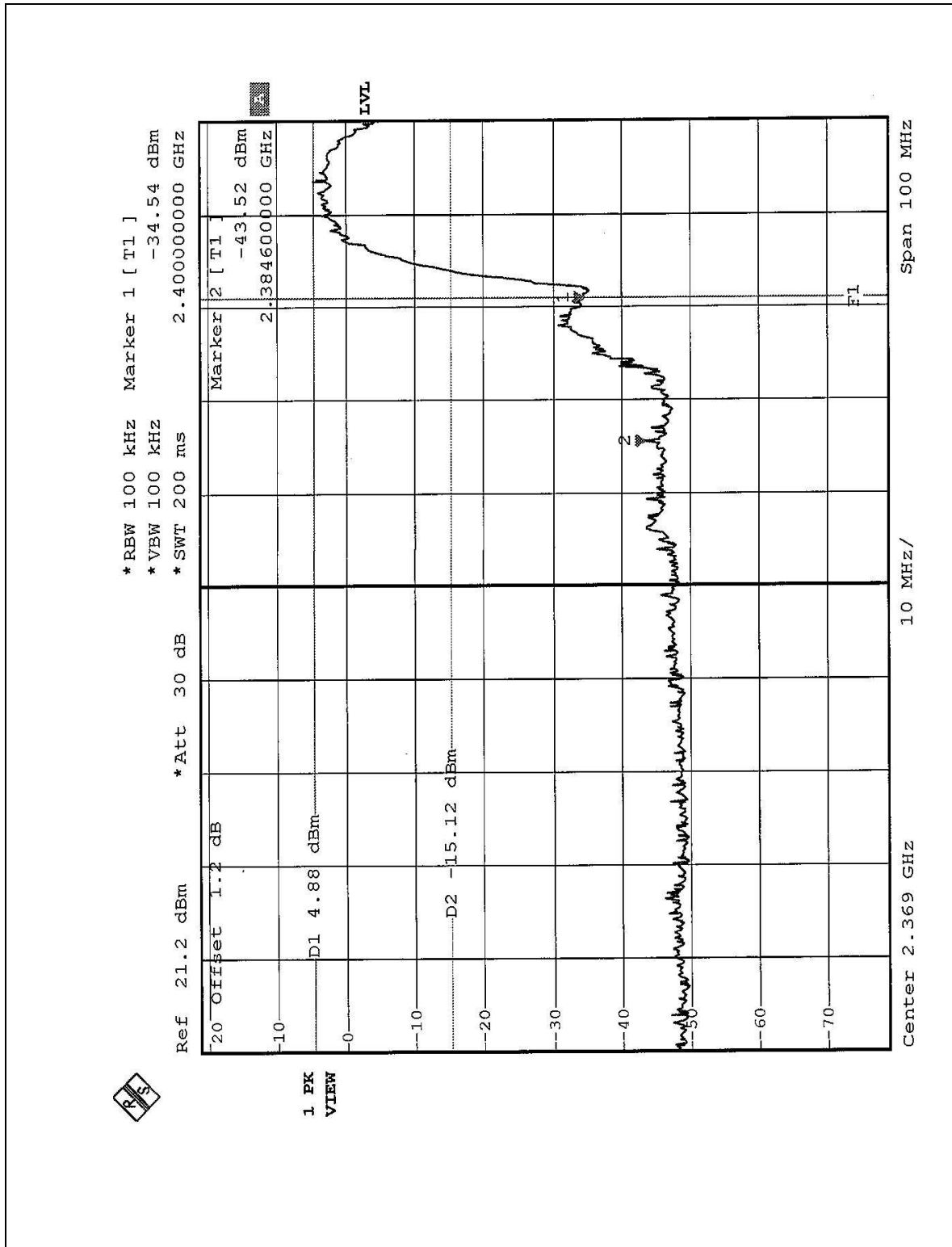
Same as Item 4.3.6

#### 4.6.6 TEST RESULTS

The spectrum plots are attached on the following 2 pages. D2 line indicates the highest level, D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.247(C).

**NOTE:** The band edge emission plot on the following 2 pages shows 42.48dB / 48.4dB delta between carrier maximum power and local maximum emission in restrict band (2.4840GHz / 2.3846GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 (Page 33) is 94.3dBuV/m, so the maximum field strength in restrict band is  $94.3 - 42.48 = 51.82$ dBuV/m which is under 54 dBuV/m limit.







## **4.7 ANTENNA REQUIREMENT**

### **4.7.1 STANDARD APPLICABLE**

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

### **4.7.2 ANTENNA CONNECTED CONSTRUCTION**

The antenna used in this product is PIFA Antenna with UFL connector. The maximum Gain of the antenna is 2.5dBi only.

## 5 TEST TYPES AND RESULTS (FOR PART 802.11a)

### 5.1 CONDUCTED EMISSION MEASUREMENT

#### 5.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

| FREQUENCY OF EMISSION (MHz) | CONDUCTED LIMIT (dBμV) |          |
|-----------------------------|------------------------|----------|
|                             | 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. All emanations from a class B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

#### 5.1.2 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER                         | MODEL NO. | SERIAL NO.   | CALIBRATED UNTIL |
|----------------------------------------------------|-----------|--------------|------------------|
| ROHDE & SCHWARZ Test Receiver                      | ESCS30    | 847793/022   | Mar. 12, 2003    |
| ROHDE & SCHWARZ Artificial Mains Network (for EUT) | ESH2-Z5   | 828075/003   | Jul. 23, 2003    |
| ROHDE & SCHWARZ 200-A Four-line V-Network          | ENV4200   | 830326/018   | Oct. 25, 2002    |
| * ROHDE & SCHWARZ 4-wire ISN                       | ENY41     | 838119/028   | Dec. 2, 2002     |
| * ROHDE & SCHWARZ 2-wire ISN                       | ENY22     | 837497/018   | Dec. 2, 2002     |
| EMCO-L.I.S.N. (for peripheral)                     | 3825/2    | 90031627     | Jul. 23, 2003    |
| Software                                           | Cond-V2L  | NA           | NA               |
| RF cable (JYEBAO)                                  | 5D-FB     | Cable-C05.01 | Jul. 23, 2003    |
| LYNICS Terminator (For EMCO LISN)                  | 0900510   | E1-01-305    | Feb. 20, 2003    |
| LYNICS Terminator (For EMCO LISN)                  | 0900510   | E1-01-306    | Feb. 20, 2003    |
| Shielded Room                                      | Site 5    | ADT-C05      | NA               |
| VCCI Site Registration No.                         | Site 5    | C-1093       | NA               |

- NOTE:**
1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
  2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
  3. “\*”: These equipment are used for conducted telecom port test only (if tested).
  4. The test was performed in ADT Open Site No. 5.



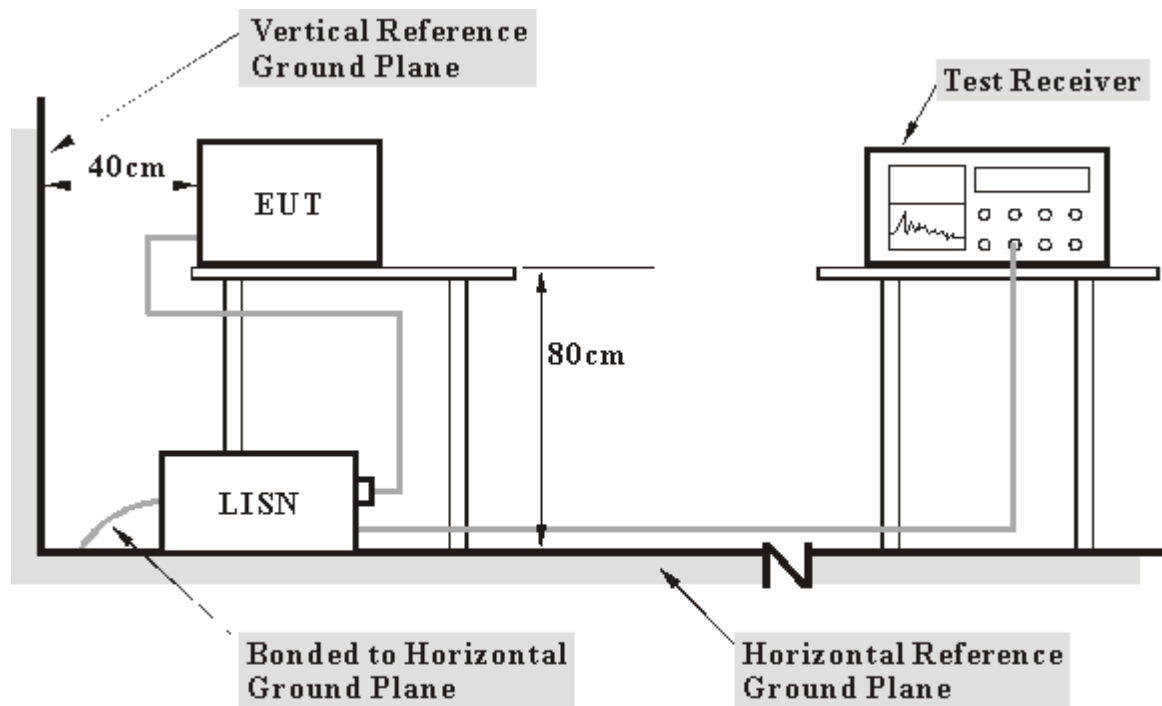
### 5.1.3 TEST PROCEDURES

- 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 150 kHz to 30 MHz was searched. Emission levels over 10dB under the prescribed limits could not be reported

### 5.1.4 DEVIATION FROM TEST STANDARD

No deviation

### 5.1.5 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.

### 5.1.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

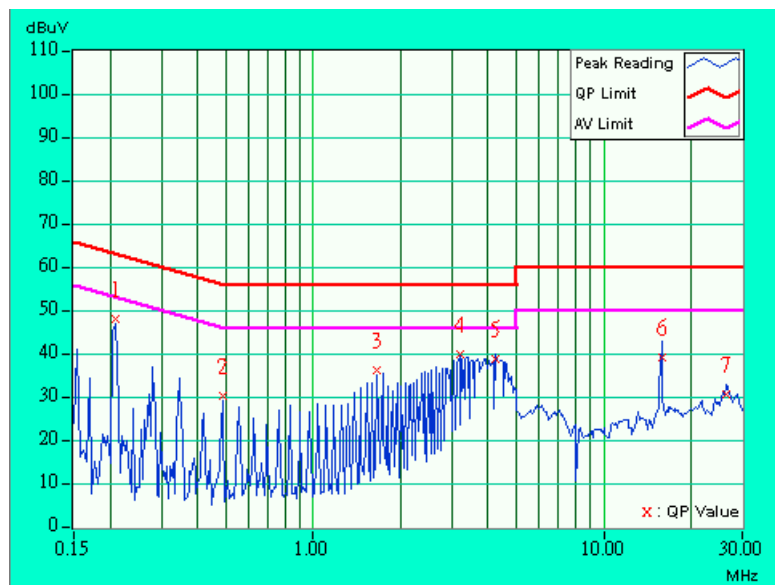
## 5.1.7 TEST RESULTS (A) (TRANSMITTING)

|                                 |                           |                             |          |
|---------------------------------|---------------------------|-----------------------------|----------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI   | <b>MODEL</b>                | VM4-3B   |
|                                 |                           | <b>6dB BANDWIDTH</b>        | 9 kHz    |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz             | <b>PHASE</b>                | Line (L) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30deg. C, 60%RH, 1005 hPa | <b>TESTED BY:</b> Bunny Yao |          |

| No | Freq.  | Corr. Factor | Reading Value [dB (uV)] |     | Emission Level [dB (uV)] |     | Limit [dB (uV)] |       | Margin (dB) |     |
|----|--------|--------------|-------------------------|-----|--------------------------|-----|-----------------|-------|-------------|-----|
|    | [MHz]  | (dB)         | Q.P.                    | AV. | Q.P.                     | AV. | Q.P.            | AV.   | Q.P.        | AV. |
| 1  | 0.209  | 0.10         | 46.82                   | -   | 46.92                    | -   | 63.26           | 53.26 | -16.34      | -   |
| 2  | 0.486  | 0.11         | 29.05                   | -   | 29.16                    | -   | 56.24           | 46.24 | -27.07      | -   |
| 3  | 1.664  | 0.20         | 35.19                   | -   | 35.39                    | -   | 56.00           | 46.00 | -20.61      | -   |
| 4  | 3.191  | 0.32         | 38.83                   | -   | 39.15                    | -   | 56.00           | 46.00 | -16.85      | -   |
| 5  | 4.234  | 0.41         | 37.70                   | -   | 38.11                    | -   | 56.00           | 46.00 | -17.89      | -   |
| 6  | 15.879 | 0.75         | 38.04                   | -   | 38.79                    | -   | 60.00           | 50.00 | -21.21      | -   |
| 7  | 26.438 | 1.23         | 29.37                   | -   | 30.60                    | -   | 60.00           | 50.00 | -29.40      | -   |

**NOTE:**

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.

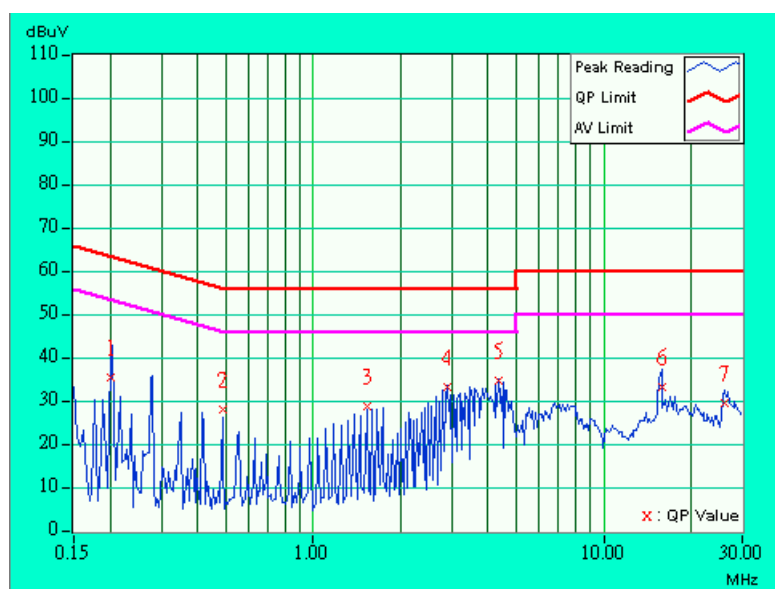


|                                     |                              |                             |             |
|-------------------------------------|------------------------------|-----------------------------|-------------|
| <b>EUT</b>                          | WLAN a+b combo<br>mini-PCI   | <b>MODEL</b>                | VM4-3B      |
|                                     |                              | <b>6dB BANDWIDTH</b>        | 9 kHz       |
| <b>INPUT POWER<br/>(SYSTEM)</b>     | 120Vac, 60 Hz                | <b>PHASE</b>                | Neutral (N) |
| <b>ENVIRONMENTAL<br/>CONDITIONS</b> | 30deg. C, 60%RH,<br>1005 hPa | <b>TESTED BY:</b> Bunny Yao |             |

| No | Freq.  | Corr.<br>Factor | Reading Value<br>[dB (uV)] |     | Emission Level<br>[dB (uV)] |     | Limit<br>[dB (uV)] |       | Margin<br>(dB) |     |
|----|--------|-----------------|----------------------------|-----|-----------------------------|-----|--------------------|-------|----------------|-----|
|    | [MHz]  | (dB)            | Q.P.                       | AV. | Q.P.                        | AV. | Q.P.               | AV.   | Q.P.           | AV. |
| 1  | 0.201  | 0.10            | 34.70                      | -   | 34.80                       | -   | 63.58              | 53.58 | -28.78         | -   |
| 2  | 0.486  | 0.11            | 27.50                      | -   | 27.61                       | -   | 56.24              | 46.24 | -28.62         | -   |
| 3  | 1.527  | 0.20            | 28.27                      | -   | 28.47                       | -   | 56.00              | 46.00 | -27.53         | -   |
| 4  | 2.914  | 0.25            | 32.71                      | -   | 32.96                       | -   | 56.00              | 46.00 | -23.04         | -   |
| 5  | 4.371  | 0.31            | 34.25                      | -   | 34.56                       | -   | 56.00              | 46.00 | -21.44         | -   |
| 6  | 15.883 | 0.55            | 32.73                      | -   | 33.28                       | -   | 60.00              | 50.00 | -26.72         | -   |
| 7  | 26.082 | 0.72            | 28.93                      | -   | 29.65                       | -   | 60.00              | 50.00 | -30.35         | -   |

**NOTE:**

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.



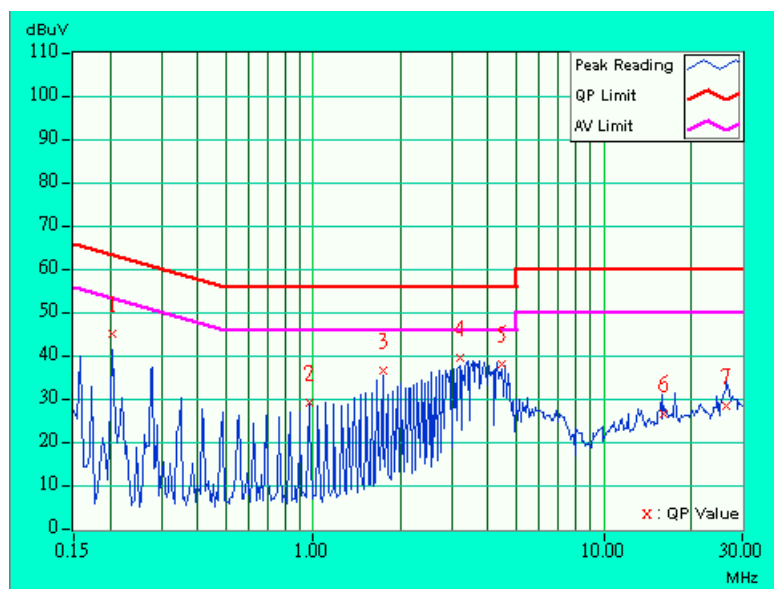
## 5.1.8 TEST RESULTS (B) (TRANSMITTING)

|                                 |                           |                             |          |
|---------------------------------|---------------------------|-----------------------------|----------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI   | <b>MODEL</b>                | VM4-3B   |
|                                 |                           | <b>6dB BANDWIDTH</b>        | 9 kHz    |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz             | <b>PHASE</b>                | Line (L) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30deg. C, 60%RH, 1005 hPa | <b>TESTED BY:</b> Bunny Yao |          |

| No | Freq.  | Corr. Factor | Reading Value [dB (uV)] |     | Emission Level [dB (uV)] |     | Limit [dB (uV)] |       | Margin (dB) |     |
|----|--------|--------------|-------------------------|-----|--------------------------|-----|-----------------|-------|-------------|-----|
|    | [MHz]  | (dB)         | Q.P.                    | AV. | Q.P.                     | AV. | Q.P.            | AV.   | Q.P.        | AV. |
| 1  | 0.205  | 0.10         | 43.95                   | -   | 44.05                    | -   | 63.42           | 53.42 | -19.37      | -   |
| 2  | 0.970  | 0.20         | 27.91                   | -   | 28.11                    | -   | 56.00           | 46.00 | -27.89      | -   |
| 3  | 1.734  | 0.20         | 35.37                   | -   | 35.57                    | -   | 56.00           | 46.00 | -20.43      | -   |
| 4  | 3.191  | 0.32         | 38.41                   | -   | 38.73                    | -   | 56.00           | 46.00 | -17.27      | -   |
| 5  | 4.441  | 0.41         | 37.04                   | -   | 37.45                    | -   | 56.00           | 46.00 | -18.55      | -   |
| 6  | 16.164 | 0.77         | 25.59                   | -   | 26.36                    | -   | 60.00           | 50.00 | -33.64      | -   |
| 7  | 26.277 | 1.23         | 27.24                   | -   | 28.47                    | -   | 60.00           | 50.00 | -31.53      | -   |

**NOTE:**

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.

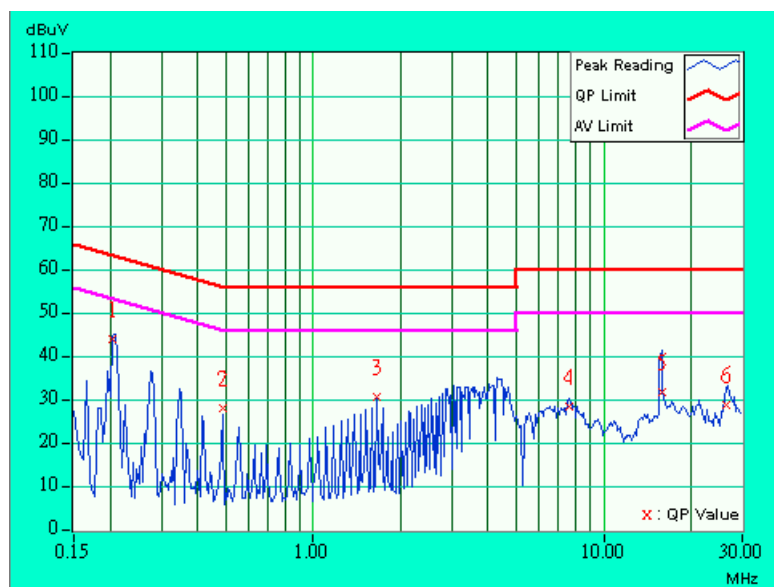


|                                     |                              |                             |             |
|-------------------------------------|------------------------------|-----------------------------|-------------|
| <b>EUT</b>                          | WLAN a+b combo<br>mini-PCI   | <b>MODEL</b>                | VM4-3B      |
|                                     |                              | <b>6dB BANDWIDTH</b>        | 9 kHz       |
| <b>INPUT POWER<br/>(SYSTEM)</b>     | 120Vac, 60 Hz                | <b>PHASE</b>                | Neutral (N) |
| <b>ENVIRONMENTAL<br/>CONDITIONS</b> | 30deg. C, 60%RH,<br>1005 hPa | <b>TESTED BY:</b> Bunny Yao |             |

| No | Freq.  | Corr.<br>Factor | Reading Value<br>[dB (uV)] |     | Emission Level<br>[dB (uV)] |     | Limit<br>[dB (uV)] |       | Margin<br>(dB) |     |
|----|--------|-----------------|----------------------------|-----|-----------------------------|-----|--------------------|-------|----------------|-----|
|    | [MHz]  | (dB)            | Q.P.                       | AV. | Q.P.                        | AV. | Q.P.               | AV.   | Q.P.           | AV. |
| 1  | 0.205  | 0.10            | 43.23                      | -   | 43.33                       | -   | 63.42              | 53.42 | -20.09         | -   |
| 2  | 0.486  | 0.11            | 27.54                      | -   | 27.65                       | -   | 56.24              | 46.24 | -28.58         | -   |
| 3  | 1.664  | 0.20            | 29.94                      | -   | 30.14                       | -   | 56.00              | 46.00 | -25.86         | -   |
| 4  | 7.629  | 0.36            | 27.79                      | -   | 28.15                       | -   | 60.00              | 50.00 | -31.85         | -   |
| 5  | 15.879 | 0.55            | 30.95                      | -   | 31.50                       | -   | 60.00              | 50.00 | -28.50         | -   |
| 6  | 26.563 | 0.73            | 28.33                      | -   | 29.06                       | -   | 60.00              | 50.00 | -30.94         | -   |

**NOTE:**

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.



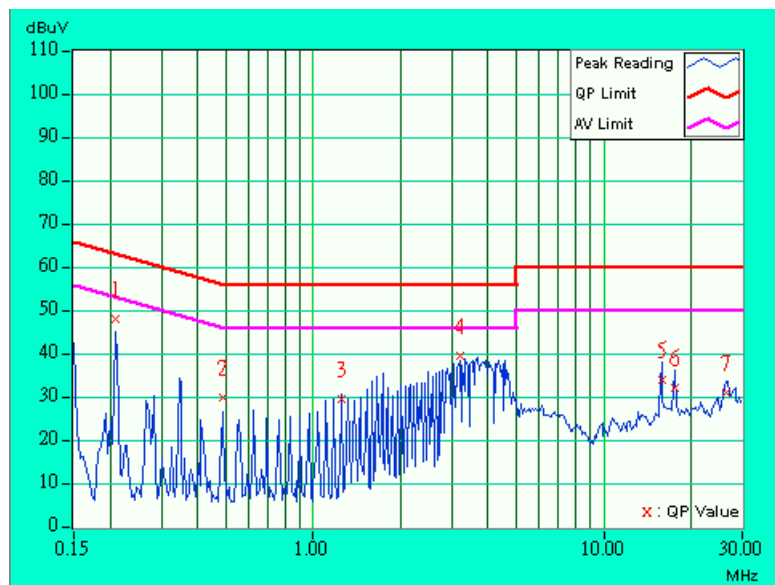
## 5.1.9 TEST RESULTS (A) (RECEIVING)

|                                 |                           |                             |          |
|---------------------------------|---------------------------|-----------------------------|----------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI   | <b>MODEL</b>                | VM4-3B   |
|                                 |                           | <b>6dB BANDWIDTH</b>        | 9 kHz    |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz             | <b>PHASE</b>                | Line (L) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30deg. C, 60%RH, 1005 hPa | <b>TESTED BY:</b> Bunny Yao |          |

| No | Freq.  | Corr. Factor | Reading Value [dB (uV)] |     | Emission Level [dB (uV)] |     | Limit [dB (uV)] |       | Margin (dB) |     |
|----|--------|--------------|-------------------------|-----|--------------------------|-----|-----------------|-------|-------------|-----|
|    | [MHz]  | (dB)         | Q.P.                    | AV. | Q.P.                     | AV. | Q.P.            | AV.   | Q.P.        | AV. |
| 1  | 0.209  | 0.10         | 47.10                   | -   | 47.20                    | -   | 63.26           | 53.26 | -16.06      | -   |
| 2  | 0.486  | 0.11         | 28.87                   | -   | 28.98                    | -   | 56.24           | 46.24 | -27.25      | -   |
| 3  | 1.246  | 0.20         | 28.51                   | -   | 28.71                    | -   | 56.00           | 46.00 | -27.29      | -   |
| 4  | 3.191  | 0.32         | 38.50                   | -   | 38.82                    | -   | 56.00           | 46.00 | -17.18      | -   |
| 5  | 15.879 | 0.75         | 32.92                   | -   | 33.67                    | -   | 60.00           | 50.00 | -26.33      | -   |
| 6  | 17.625 | 0.86         | 31.03                   | -   | 31.89                    | -   | 60.00           | 50.00 | -28.11      | -   |
| 7  | 26.363 | 1.23         | 30.04                   | -   | 31.27                    | -   | 60.00           | 50.00 | -28.73      | -   |

**NOTE:**

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.

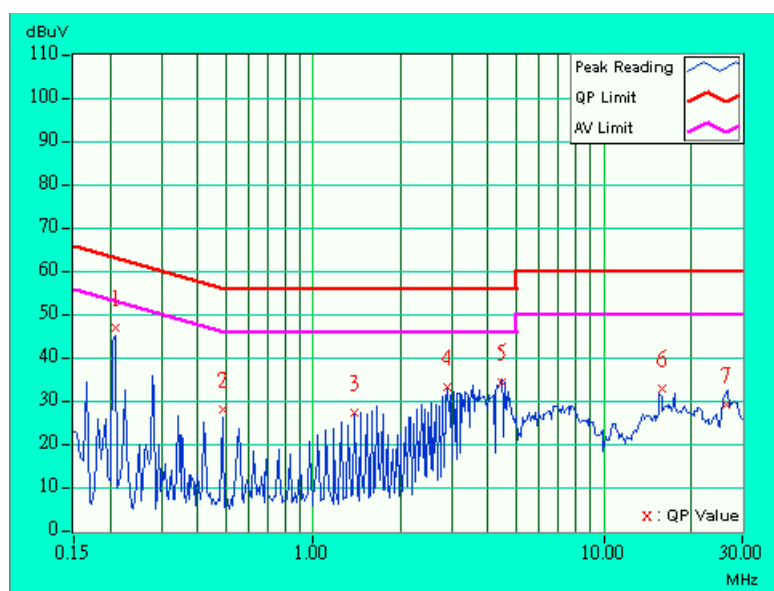


|                                     |                              |                             |             |
|-------------------------------------|------------------------------|-----------------------------|-------------|
| <b>EUT</b>                          | WLAN a+b combo<br>mini-PCI   | <b>MODEL</b>                | VM4-3B      |
|                                     |                              | <b>6dB BANDWIDTH</b>        | 9 kHz       |
| <b>INPUT POWER<br/>(SYSTEM)</b>     | 120Vac, 60 Hz                | <b>PHASE</b>                | Neutral (N) |
| <b>ENVIRONMENTAL<br/>CONDITIONS</b> | 30deg. C, 60%RH,<br>1005 hPa | <b>TESTED BY:</b> Bunny Yao |             |

| No | Freq.  | Corr.<br>Factor | Reading Value<br>[dB (uV)] |     | Emission Level<br>[dB (uV)] |     | Limit<br>[dB (uV)] |       | Margin<br>(dB) |     |
|----|--------|-----------------|----------------------------|-----|-----------------------------|-----|--------------------|-------|----------------|-----|
|    | [MHz]  | (dB)            | Q.P.                       | AV. | Q.P.                        | AV. | Q.P.               | AV.   | Q.P.           | AV. |
| 1  | 0.209  | 0.10            | 46.26                      | -   | 46.36                       | -   | 63.26              | 53.26 | -16.90         | -   |
| 2  | 0.486  | 0.11            | 27.28                      | -   | 27.39                       | -   | 56.24              | 46.24 | -28.84         | -   |
| 3  | 1.387  | 0.20            | 26.61                      | -   | 26.81                       | -   | 56.00              | 46.00 | -29.19         | -   |
| 4  | 2.914  | 0.25            | 32.55                      | -   | 32.80                       | -   | 56.00              | 46.00 | -23.20         | -   |
| 5  | 4.441  | 0.31            | 33.68                      | -   | 33.99                       | -   | 56.00              | 46.00 | -22.01         | -   |
| 6  | 15.879 | 0.55            | 32.21                      | -   | 32.76                       | -   | 60.00              | 50.00 | -27.24         | -   |
| 7  | 26.289 | 0.73            | 28.50                      | -   | 29.23                       | -   | 60.00              | 50.00 | -30.77         | -   |

**NOTE:**

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.



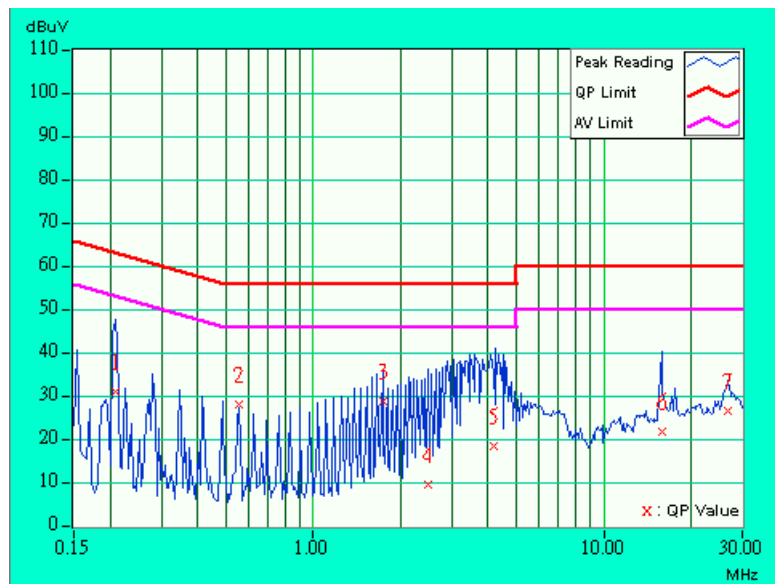
## 5.1.10 TEST RESULTS (B) (RECEIVING)

|                                 |                           |                             |          |
|---------------------------------|---------------------------|-----------------------------|----------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI   | <b>MODEL</b>                | VM4-3B   |
|                                 |                           | <b>6dB BANDWIDTH</b>        | 9 kHz    |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz             | <b>PHASE</b>                | Line (L) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30deg. C, 60%RH, 1005 hPa | <b>TESTED BY:</b> Bunny Yao |          |

| No | Freq.  | Corr. Factor | Reading Value [dB (uV)] |     | Emission Level [dB (uV)] |     | Limit [dB (uV)] |       | Margin (dB) |     |
|----|--------|--------------|-------------------------|-----|--------------------------|-----|-----------------|-------|-------------|-----|
|    | [MHz]  | (dB)         | Q.P.                    | AV. | Q.P.                     | AV. | Q.P.            | AV.   | Q.P.        | AV. |
| 1  | 0.209  | 0.10         | 29.79                   | -   | 29.89                    | -   | 63.26           | 53.26 | -33.37      | -   |
| 2  | 0.552  | 0.13         | 26.83                   | -   | 26.96                    | -   | 56.00           | 46.00 | -29.04      | -   |
| 3  | 1.734  | 0.20         | 27.78                   | -   | 27.98                    | -   | 56.00           | 46.00 | -28.02      | -   |
| 4  | 2.496  | 0.25         | 8.53                    | -   | 8.78                     | -   | 56.00           | 46.00 | -47.22      | -   |
| 5  | 4.160  | 0.41         | 17.19                   | -   | 17.60                    | -   | 56.00           | 46.00 | -38.40      | -   |
| 6  | 15.883 | 0.75         | 20.74                   | -   | 21.49                    | -   | 60.00           | 50.00 | -38.51      | -   |
| 7  | 26.633 | 1.23         | 25.40                   | -   | 26.63                    | -   | 60.00           | 50.00 | -33.37      | -   |

**NOTE:**

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.

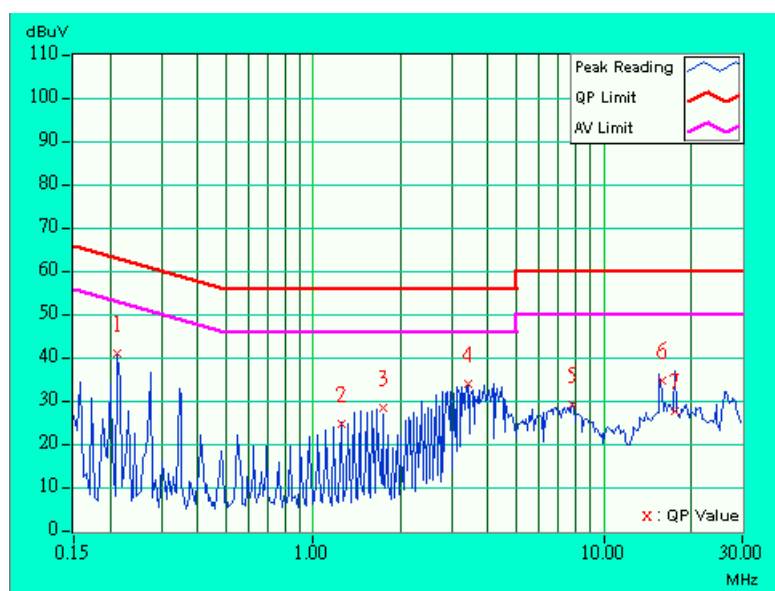


|                                     |                              |                             |             |
|-------------------------------------|------------------------------|-----------------------------|-------------|
| <b>EUT</b>                          | WLAN a+b combo<br>mini-PCI   | <b>MODEL</b>                | VM4-3B      |
|                                     |                              | <b>6dB BANDWIDTH</b>        | 9 kHz       |
| <b>INPUT POWER<br/>(SYSTEM)</b>     | 120Vac, 60 Hz                | <b>PHASE</b>                | Neutral (N) |
| <b>ENVIRONMENTAL<br/>CONDITIONS</b> | 30deg. C, 60%RH,<br>1005 hPa | <b>TESTED BY:</b> Bunny Yao |             |

| No | Freq.  | Corr.<br>Factor | Reading Value<br>[dB (uV)] |     | Emission Level<br>[dB (uV)] |     | Limit<br>[dB (uV)] |       | Margin<br>(dB) |     |
|----|--------|-----------------|----------------------------|-----|-----------------------------|-----|--------------------|-------|----------------|-----|
|    | [MHz]  | (dB)            | Q.P.                       | AV. | Q.P.                        | AV. | Q.P.               | AV.   | Q.P.           | AV. |
| 1  | 0.213  | 0.10            | 40.41                      | -   | 40.51                       | -   | 63.11              | 53.11 | -22.60         | -   |
| 2  | 1.246  | 0.20            | 24.09                      | -   | 24.29                       | -   | 56.00              | 46.00 | -31.71         | -   |
| 3  | 1.734  | 0.20            | 27.83                      | -   | 28.03                       | -   | 56.00              | 46.00 | -27.97         | -   |
| 4  | 3.398  | 0.27            | 33.41                      | -   | 33.68                       | -   | 56.00              | 46.00 | -22.32         | -   |
| 5  | 7.770  | 0.36            | 28.61                      | -   | 28.97                       | -   | 60.00              | 50.00 | -31.03         | -   |
| 6  | 15.883 | 0.55            | 34.29                      | -   | 34.84                       | -   | 60.00              | 50.00 | -25.16         | -   |
| 7  | 17.625 | 0.66            | 27.28                      | -   | 27.94                       | -   | 60.00              | 50.00 | -32.06         | -   |

**NOTE:**

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.



## 5.2 RADIATED EMISSION MEASUREMENT

### 5.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

| Frequencies<br>(MHz) | Field Strength of Fundamental |        |
|----------------------|-------------------------------|--------|
|                      | uV/m                          | dBuV/m |
| 30-88                | 100                           | 40.0   |
| 88-216               | 150                           | 43.5   |
| 216-960              | 200                           | 46.0   |
| Above 960            | 500                           | 54.0   |

**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.

### 5.2.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

| Frequencies<br>(MHz) | EIRP Limit (dBm) | Equivalent Field Strength<br>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

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

## 5.2.3 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER         | MODEL NO.            | SERIAL NO.               | CALIBRATED UNTIL |
|------------------------------------|----------------------|--------------------------|------------------|
| * HP Spectrum Analyzer             | 8590L                | 3544A01176               | May 13, 2003     |
| * HP Preamplifier                  | 8447D                | 2944A08485               | Oct. 30, 2002    |
| * HP Preamplifier                  | 8449B                | 3008A01201               | Dec. 06, 2002    |
| * HP Preamplifier                  | 8449B                | 3008A01292               | Aug. 7, 2003     |
| * ROHDE & SCHWARZ TEST RECEIVER    | ESMI                 | 839013/007<br>839379/002 | Jan. 27, 2003    |
| SCHWARZBECK Tunable Dipole Antenna | VHA 9103<br>UHA 9105 | E101051<br>E101055       | Nov. 23, 2002    |
| * CHASE BILOG Antenna              | CBL6112A             | 2221                     | Aug. 2, 2003     |
| * SCHWARZBECK Horn Antenna         | BBHA9120-D1          | D130                     | Jul. 3, 2003     |
| * EMCO Horn Antenna                | 3115                 | 9312-4192                | Apr. 9, 2003     |
| * EMCO Turn Table                  | 1060                 | 1115                     | NA               |
| * SHOSHIN Tower                    | AP-4701              | A6Y005                   | NA               |
| * Software                         | AS61D4               | NA                       | NA               |
| * ANRITSU RF Switches              | MP59B                | M35046                   | Jan. 25, 2003    |
| * TIMES RF cable                   | LMR-600              | CABLE-ST5-01             | Jul. 12, 2003    |
| Open Field Test Site               | Site 5               | ADT-R05                  | Jul. 19, 2003    |
| VCCI Site Registration No.         | Site 5               | R-1039                   | NA               |

- NOTE:** 1. The measurement uncertainty is less than +/- 3.0dB, which is calculated as per the NAMAS document NIS81.
2. The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.
3. "\*" = These equipment are used for the final measurement.
4. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
5. The test was performed in ADT Open Site No. 5.

#### 5.2.4 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

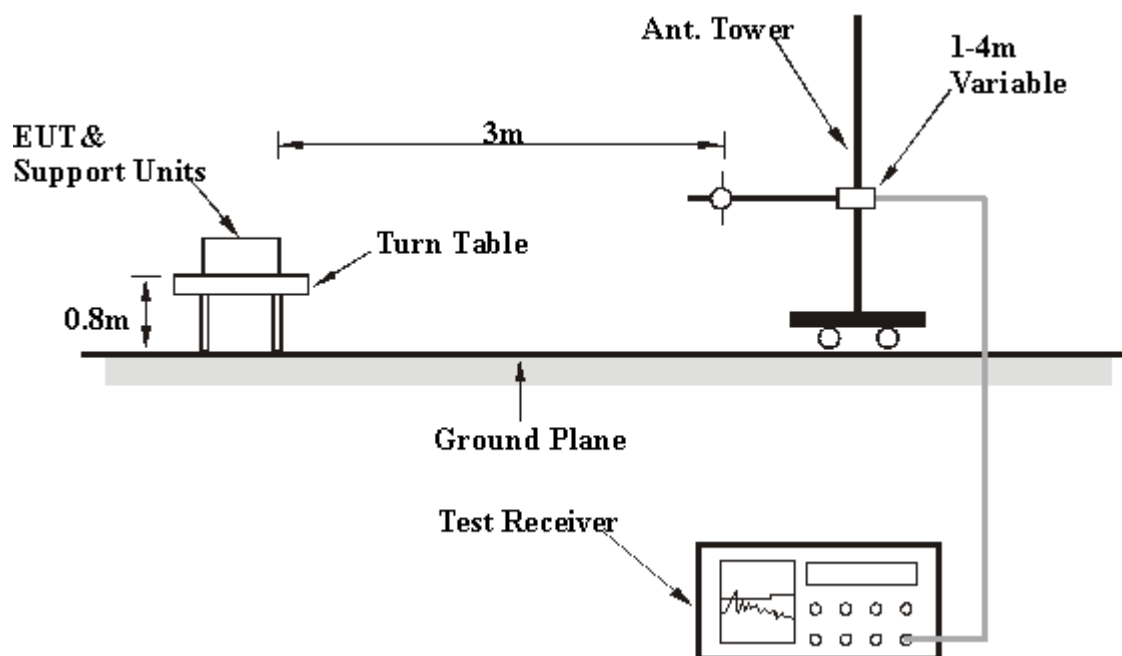
**NOTE:**

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 300 Hz for Average detection (AV) at frequency above 1GHz.

#### 5.2.5 DEVIATION FROM TEST STANDARD

No deviation

## 5.2.6 TEST SETUP



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

## 5.2.7 EUT OPERATING CONDITIONS

Same as 5.1.6.

## 5.2.8 TEST RESULTS (A) (TRANSMITTING)

|                                 |                            |                             |               |
|---------------------------------|----------------------------|-----------------------------|---------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI    | <b>MODEL</b>                | VM4-3B        |
| <b>FREQUENCY RANGE</b>          | 30-1000 MHz                | <b>DETECTOR FUNCTION</b>    | Quasi-Peak    |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH, 1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60 Hz |
| <b>TESTED BY</b>                | Eric Lee                   |                             |               |

**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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 160.00      | 33.5 QP                 | 43.50          | -10.00      | 1.26H              | 99                   | 22.80            | 9.62                | 1.07              | 0.00                 | -10.70                 |
| 2   | 192.00      | 34.8 QP                 | 43.50          | -8.70       | 1.31H              | 28                   | 24.56            | 8.95                | 1.28              | 0.00                 | -10.24                 |
| 3   | 299.80      | 28.5 QP                 | 46.00          | -17.50      | 1.41H              | 57                   | 13.87            | 13.18               | 1.45              | 0.00                 | -14.63                 |
| 4   | 352.00      | 38.0 QP                 | 46.00          | -8.00       | 1.24H              | 128                  | 22.24            | 14.31               | 1.46              | 0.00                 | -15.76                 |
| 5   | 375.00      | 42.5 QP                 | 46.00          | -3.50       | 1.57H              | 229                  | 25.87            | 15.13               | 1.50              | 0.00                 | -16.63                 |
| 6   | 384.00      | 38.0 QP                 | 46.00          | -8.00       | 1.49H              | 160                  | 20.98            | 15.50               | 1.52              | 0.00                 | -17.02                 |
| 7   | 480.00      | 38.2 QP                 | 46.00          | -7.80       | 1.41H              | 76                   | 19.59            | 16.92               | 1.69              | 0.00                 | -18.61                 |
| 8   | 576.00      | 27.6 QP                 | 46.00          | -18.40      | 1.30H              | 157                  | 7.47             | 18.28               | 1.88              | 0.00                 | -20.16                 |
| 9   | 736.00      | 33.9 QP                 | 46.00          | -12.10      | 1.42H              | 252                  | 11.83            | 19.93               | 2.14              | 0.00                 | -22.07                 |
| 10  | 800.00      | 36.6 QP                 | 46.00          | -9.40       | 1.10H              | 215                  | 13.62            | 20.69               | 2.29              | 0.00                 | -22.99                 |

**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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 120.00      | 27.5 QP                 | 43.50          | -16.00      | 1.15V              | 51                   | 14.95            | 11.65               | 0.89              | 0.00                 | -12.55                 |
| 2   | 192.00      | 30.2 QP                 | 43.50          | -13.30      | 1.30V              | 157                  | 19.96            | 8.95                | 1.28              | 0.00                 | -10.24                 |
| 3   | 352.00      | 27.4 QP                 | 46.00          | -18.60      | 1.37V              | 246                  | 11.64            | 14.31               | 1.46              | 0.00                 | -15.76                 |
| 4   | 480.00      | 26.8 QP                 | 46.00          | -19.20      | 1.54V              | 185                  | 8.19             | 16.92               | 1.69              | 0.00                 | -18.62                 |
| 5   | 608.80      | 28.0 QP                 | 46.00          | -18.00      | 1.50V              | 51                   | 7.33             | 18.73               | 1.95              | 0.00                 | -20.67                 |
| 6   | 648.00      | 27.9 QP                 | 46.00          | -18.10      | 1.00V              | 29                   | 6.68             | 19.21               | 2.01              | 0.00                 | -21.22                 |
| 7   | 736.00      | 30.5 QP                 | 46.00          | -15.50      | 1.57V              | 115                  | 8.43             | 19.93               | 2.14              | 0.00                 | -22.08                 |

**NOTE:**

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 1                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5088.00     | 41.2 AV                 | 54.00          | -12.80      | 1.92H              | 215                  | 42.00            | 31.83               | 4.03              | 36.67                | 0.81                   | Note 6 |
| 2   | 5088.00     | 51.2 PK                 | 74.00          | -22.80      | 1.92H              | 215                  | 52.00            | 31.83               | 4.03              | 36.67                | 0.81                   | Note 6 |
| 3   | *5180.00    | 88.7 AV                 |                |             | 1.91H              | 214                  | 89.50            | 31.87               | 3.95              | 36.63                | 0.83                   |        |
| 4   | *5180.00    | 95.5 PK                 |                |             | 1.91H              | 214                  | 96.30            | 31.87               | 3.95              | 36.63                | 0.83                   |        |
| 5   | 10360.00    | 50.4 PK                 | 68.30          | -17.90      | 1.83H              | 196                  | 42.00            | 39.16               | 6.69              | 37.42                | -8.43                  |        |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5108.00     | 42.8 AV                 | 54.00          | -11.20      | 1.79V              | 197                  | 43.60            | 31.85               | 3.99              | 36.65                | 0.81                   | Note 6 |
| 2   | 5108.00     | 49.4 PK                 | 74.00          | -24.60      | 1.79V              | 197                  | 50.20            | 31.85               | 3.99              | 36.65                | 0.81                   | Note 6 |
| 3   | *5180.00    | 96.2 PK                 |                |             | 1.31V              | 143                  | 97.00            | 31.87               | 3.95              | 36.63                | 0.83                   |        |
| 4   | *5180.00    | 87.2 AV                 |                |             | 1.31V              | 143                  | 88.00            | 31.87               | 3.95              | 36.63                | 0.83                   |        |
| 5   | 5270.00     | 48.1 PK                 | 68.30          | -20.20      | 1.70V              | 149                  | 48.90            | 31.90               | 3.86              | 36.60                | 0.84                   |        |
| 6   | 10360.00    | 54.9 PK                 | 68.30          | -13.40      | 1.77V              | 143                  | 46.50            | 39.16               | 6.69              | 37.42                | -8.43                  |        |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "\*" : Fundamental frequency
6. The radiated frequency falling in the restricted band.

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 4                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5088.00     | 42.2 AV                 | 54.00          | -11.80      | 1.97H              | 213                  | 43.00            | 31.83               | 4.03              | 36.67                | 0.81                   | Note 6 |
| 2   | 5088.00     | 50.9 PK                 | 74.00          | -23.10      | 1.97H              | 213                  | 51.70            | 31.83               | 4.03              | 36.67                | 0.81                   | Note 6 |
| 3   | 5152.00     | 49.2 PK                 | 68.30          | -19.10      | 2.39H              | 233                  | 50.00            | 31.87               | 3.95              | 36.63                | 0.82.                  |        |
| 4   | *5240.00    | 96.2 PK                 |                |             | 2.37H              | 229                  | 97.00            | 31.90               | 3.86              | 36.60                | 0.85                   |        |
| 5   | *5240.00    | 98.0 AV                 |                |             | 2.37H              | 229                  | 98.80            | 31.90               | 3.86              | 36.60                | 0.85                   |        |
| 6   | 10480.00    | 58.6 PK                 | 68.30          | -9.70       | 1.70H              | 198                  | 49.40            | 39.36               | 7.14              | 37.32                | -9.19.                 |        |

### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5088.00     | 49.2 AV                 | 54.00          | -4.80       | 1.82V              | 332                  | 50.00            | 31.83               | 4.03              | 36.67                | 0.81                   | Note 6 |
| 2   | 5088.00     | 53.1 PK                 | 74.00          | -20.90      | 1.82V              | 332                  | 53.90            | 31.83               | 4.03              | 36.67                | 0.81                   | Note 6 |
| 3   | 5152.00     | 54.1 PK                 | 68.30          | -14.20      | 1.48V              | 194                  | 54.90            | 31.87               | 3.95              | 36.63                | 0.82.                  |        |
| 4   | *5240.00    | 91.0 AV                 |                |             | 1.43V              | 280                  | 91.80            | 31.90               | 3.86              | 36.60                | 0.85                   |        |
| 5   | *5240.00    | 96.7 PK                 |                |             | 1.43V              | 280                  | 97.50            | 31.90               | 3.86              | 36.60                | 0.85                   |        |
| 6   | 10480.00    | 56.8 PK                 | 68.30          | -11.50      | 1.70V              | 134                  | 47.60            | 39.36               | 7.14              | 37.32                | -9.19.                 |        |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency
6. The radiated frequency falling in the restricted band.

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 5                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 5212.00     | 49.6 PK                 | 68.30          | -18.70      | 1.77H              | 209                  | 50.40            | 31.87               | 3.90              | 36.62                | 0.83                   |
| 2   | *5260.00    | 85.3 AV                 |                |             | 2.23H              | 216                  | 86.10            | 31.90               | 3.86              | 36.60                | 0.85                   |
| 3   | *5260.00    | 96.2 PK                 |                |             | 2.23H              | 216                  | 97.00            | 31.90               | 3.86              | 36.60                | 0.85                   |
| 4   | 10520.00    | 57.6 PK                 | 68.30          | -10.70      | 1.77H              | 209                  | 48.20            | 39.43               | 7.22              | 37.28                | -9.36.                 |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 5212.00     | 52.0 PK                 | 68.30          | -16.3       | 1.62V              | 169                  | 52.80            | 31.88               | 3.90              | 36.62                | 0.83                   |
| 2   | *5260.00    | 83.5 AV                 |                |             | 2.42V              | 246                  | 84.30            | 31.90               | 3.86              | 36.60                | 0.85                   |
| 3   | *5260.00    | 91.5 PK                 |                |             | 2.42V              | 246                  | 92.30            | 31.90               | 3.86              | 36.60                | 0.85                   |
| 4   | 10520.00    | 56.9 PK                 | 68.30          | -11.4       | 1.67V              | 174                  | 47.50            | 39.43               | 7.22              | 37.28                | -9.36.                 |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "\*" : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 8                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | *5320.00    | 77.1 AV                 |                |             | 1.95H              | 73                   | 78.00            | 31.93               | 3.77              | 36.57                | 0.86                   |        |
| 2   | *5320.00    | 85.1 PK                 |                |             | 1.95H              | 73                   | 86.00            | 31.93               | 3.77              | 36.57                | 0.86                   |        |
| 3   | 5344.00     | 48.2 PK                 | 68.30          | -20.10      | 1.74H              | 215                  | 49.10            | 31.93               | 3.77              | 36.57                | 0.86                   |        |
| 4   | 10640.00    | 42.3 AV                 | 54.00          | -11.7       | 1.88H              | 240                  | 32.70            | 39.61               | 7.22              | 37.18                | -9.64                  | Note 6 |
| 5   | 10640.00    | 49.1 PK                 | 74.00          | -24.9       | 1.88H              | 240                  | 39.50            | 39.61               | 7.22              | 37.18                | -9.64                  | Note 6 |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5140.00     | 42.5 AV                 | 54.00          | -11.50      | 1.87V              | 246                  | 43.30            | 31.85               | 3.99              | 36.65                | 0.81                   | Note 6 |
| 2   | 5140.00     | 47.1 PK                 | 74.00          | -26.90      | 1.87V              | 246                  | 47.90            | 31.85               | 3.99              | 36.65                | 0.81                   | Note 6 |
| 3   | *5320.00    | 83.6 AV                 |                |             | 1.74V              | 301                  | 84.50            | 31.93               | 3.77              | 36.57                | 0.87                   |        |
| 4   | *5320.00    | 90.4 PK                 |                |             | 1.74V              | 301                  | 91.30            | 31.93               | 3.77              | 36.57                | 0.87                   |        |
| 5   | 10640.00    | 42.4 AV                 | 54.00          | -11.60      | 1.87V              | 246                  | 32.80            | 39.61               | 7.22              | 37.18                | -9.64                  | Note 6 |
| 6   | 10640.00    | 49.6 PK                 | 74.00          | -24.40      | 1.87V              | 246                  | 40.00            | 39.61               | 7.22              | 37.18                | -9.64                  | Note 6 |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency
6. The radiated frequency falling in the restricted band.

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 9                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5715.00     | 47.4 PK                 | 68.30          | -20.90      | 2.33H              | 317                  | 47.53            | 32.26               | 4.18              | 36.59                | 0.15                   |        |
| 2   | 5725.00     | 59.6 PK                 | 78.30          | -18.70      | 2.33H              | 317                  | 59.74            | 32.26               | 4.18              | 36.59                | 0.15                   |        |
| 3   | *5745.00    | 84.0 AV                 |                |             | 2.33H              | 317                  | 84.00            | 32.31               | 4.29              | 36.60                | 0.01                   |        |
| 4   | *5745.00    | 92.0 PK                 |                |             | 2.33H              | 317                  | 92.00            | 32.31               | 4.29              | 36.60                | 0.01                   |        |
| 5   | 11490.00    | 47.4 AV                 | 54.00          | -6.60       | 1.86H              | 305                  | 36.80            | 40.00               | 7.51              | 36.90                | -10.61                 | Note 6 |
| 6   | 11490.00    | 55.4 PK                 | 74.00          | -18.60      | 1.86H              | 305                  | 44.80            | 40.00               | 7.51              | 36.90                | -10.61                 | Note 6 |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5715.00     | 48.4 PK                 | 68.30          | -19.90      | 2.37V              | 269                  | 48.53            | 32.26               | 4.18              | 36.59                | 0.15                   |        |
| 2   | 5725.00     | 60.6 PK                 | 78.30          | -17.70      | 2.37V              | 269                  | 60.74            | 32.26               | 4.18              | 36.59                | 0.15                   |        |
| 3   | *5745.00    | 86.0 AV                 |                |             | 2.37V              | 269                  | 86.00            | 32.31               | 4.29              | 36.60                | 0.02                   |        |
| 4   | *5745.00    | 93.0 PK                 |                |             | 2.37V              | 269                  | 93.00            | 32.31               | 4.29              | 36.60                | 0.02                   |        |
| 5   | 11490.00    | 46.2 AV                 | 54.00          | -7.80       | 1.83V              | 229                  | 35.60            | 40.00               | 7.51              | 36.90                | -10.61                 | Note 6 |
| 6   | 11490.00    | 53.5 PK                 | 74.00          | -20.50      | 1.83V              | 229                  | 42.90            | 40.00               | 7.51              | 36.90                | -10.61                 | Note 6 |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "\*" : Fundamental frequency
6. The radiated frequency falling in the restricted band.

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 12                       |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5568.00     | 49.3 PK                 | 68.30          | -19.00      | 1.93H              | 312                  | 50.00            | 32.06               | 3.73              | 36.52                | 0.73                   |        |
| 2   | *5805.00    | 86.9 AV                 |                |             | 1.82H              | 254                  | 86.80            | 32.36               | 4.40              | 36.62                | -0.14                  |        |
| 3   | *5805.00    | 91.1 PK                 |                |             | 1.82H              | 254                  | 91.00            | 32.36               | 4.40              | 36.62                | -0.14                  |        |
| 4   | 5825.00     | 55.4 PK                 | 78.30          | -22.90      | 1.82H              | 254                  | 55.11            | 32.41               | 4.51              | 36.64                | -0.28                  |        |
| 5   | 5835.00     | 42.8 PK                 | 68.30          | -25.50      | 1.82H              | 254                  | 42.52            | 32.41               | 4.51              | 36.64                | -0.28                  |        |
| 6   | 11610.00    | 46.3 AV                 | 54.00          | -7.70       | 1.46H              | 60                   | 35.90            | 39.83               | 7.54              | 36.98                | -10.39                 | Note 6 |
| 7   | 11610.00    | 55.7 PK                 | 74.00          | -18.30      | 1.46H              | 60                   | 45.30            | 39.83               | 7.54              | 36.98                | -10.39                 | Note 6 |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5380.00     | 47.0 PK                 | 68.30          | -21.30      | 1.00V              | 295                  | 47.90            | 31.95               | 3.73              | 36.55                | 0.88                   |        |
| 2   | *5805.00    | 88.0 AV                 |                |             | 1.64V              | 8                    | 87.90            | 32.36               | 4.40              | 36.62                | -0.14                  |        |
| 3   | *5805.00    | 93.5 PK                 |                |             | 1.64V              | 8                    | 93.40            | 32.36               | 4.40              | 36.62                | -0.14                  |        |
| 4   | 5825.00     | 57.8 PK                 | 78.30          | -20.50      | 1.64V              | 8                    | 57.50            | 32.41               | 4.51              | 36.64                | -0.28                  |        |
| 5   | 5835.00     | 45.2 PK                 | 68.30          | -23.10      | 1.64V              | 8                    | 44.92            | 32.41               | 4.51              | 36.64                | -0.28                  |        |
| 6   | 11610.00    | 48.9 AV                 | 54.00          | -5.10       | 1.11V              | 244                  | 38.50            | 39.83               | 7.54              | 36.98                | -10.39                 | Note 6 |
| 7   | 11610.00    | 56.6 PK                 | 74.00          | -17.40      | 1.11V              | 244                  | 46.20            | 39.83               | 7.54              | 36.98                | -10.39                 | Note 6 |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "\*" : Fundamental frequency
6. The radiated frequency falling in the restricted band.

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Turbo Mode                    | <b>CHANNEL</b>              | 1                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5088.00     | 39.7 AV                 | 54.00          | -14.30      | 2.15H              | 339                  | 40.50            | 31.83               | 4.03              | 36.67                | 0.81                   | Note 6 |
| 2   | 5088.00     | 44.5 PK                 | 74.00          | -29.50      | 2.15H              | 339                  | 45.30            | 31.83               | 4.03              | 36.67                | 0.81                   | Note 6 |
| 3   | 5150.00     | 43.7 AV                 | 54.00          | -10.3       | 2.07H              | 339                  | 44.50            | 31.87               | 3.95              | 36.63                | 0.82                   | Note 6 |
| 4   | 5150.00     | 52.2 PK                 | 74.00          | -21.80      | 2.07H              | 339                  | 53.00            | 31.87               | 3.95              | 36.63                | 0.82                   | Note 6 |
| 5   | *5210.00    | 85.5 AV                 |                |             | 2.17H              | 339                  | 86.30            | 31.88               | 3.90              | 36.62                | 0.83                   |        |
| 6   | *5210.00    | 92.2 PK                 |                |             | 2.17H              | 339                  | 93.00            | 31.88               | 3.90              | 36.62                | 0.83                   |        |
| 7   | 10420.00    | 60.4 PK                 | 68.30          | -7.90       | 1.65H              | 302                  | 51.50            | 39.30               | 6.99              | 37.35                | -8.94.                 |        |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5101.00     | 42.4 AV                 | 54.00          | -11.60      | 1.87V              | 298                  | 43.20            | 31.83               | 4.03              | 36.67                | 0.81                   | Note 6 |
| 2   | 5101.00     | 52.2 PK                 | 74.00          | -21.80      | 1.87V              | 298                  | 53.00            | 31.83               | 4.03              | 36.67                | 0.81                   | Note 6 |
| 3   | 5150.00     | 45.1 AV                 | 54.00          | -8.90       | 2.02V              | 316                  | 45.90            | 31.87               | 3.95              | 36.63                | 0.82                   | Note 6 |
| 4   | 5150.00     | 49.5 PK                 | 74.00          | -24.50      | 2.02V              | 301                  | 50.30            | 31.87               | 3.95              | 36.63                | 0.82                   | Note 6 |
| 5   | *5210.00    | 89.2 AV                 |                |             | 2.00V              | 261                  | 90.00            | 31.88               | 3.90              | 36.62                | 0.84                   |        |
| 6   | *5210.00    | 96.5 PK                 |                |             | 2.00V              | 261                  | 97.30            | 31.88               | 3.90              | 36.62                | 0.84                   |        |
| 7   | 10420.00    | 54.4 PK                 | 68.30          | -13.90      | 1.70V              | 208                  | 45.50            | 39.30               | 6.99              | 37.35                | -8.94.                 |        |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency
6. The radiated frequency falling in the restricted band.

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Turbo Mode                    | <b>CHANNEL</b>              | 2                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5088.00     | 39.7 AV                 | 54.00          | -14.30      | 2.16H              | 201                  | 40.50            | 31.83               | 4.03              | 36.67                | 0.81                   | Note 6 |
| 2   | 5088.00     | 45.5 PK                 | 74.00          | -28.50      | 2.06H              | 201                  | 46.30            | 31.83               | 4.03              | 36.67                | 0.81                   | Note 6 |
| 3   | *5250.00    | 84.1 AV                 |                |             | 2.24H              | 201                  | 84.90            | 31.90               | 3.86              | 36.60                | 0.85                   |        |
| 4   | *5250.00    | 95.2 PK                 |                |             | 2.24H              | 201                  | 96.00            | 31.90               | 3.86              | 36.60                | 0.85                   |        |
| 5   | 10500.00    | 56.6 PK                 | 68.30          | -11.70      | 1.77H              | 139                  | 47.20            | 39.43               | 7.22              | 37.28                | -9.36.                 |        |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | *5250.00    | 86.5 AV                 |                |             | 2.07V              | 232                  | 87.30            | 31.90               | 3.86              | 36.60                | 0.85                   |
| 2   | *5250.00    | 93.0 PK                 |                |             | 2.07V              | 232                  | 93.80            | 31.90               | 3.86              | 36.60                | 0.85                   |
| 3   | 10500.00    | 60.3 PK                 | 68.30          | -8.0        | 1.66V              | 160                  | 50.90            | 39.43               | 7.22              | 37.28                | -9.36.                 |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "\*" : Fundamental frequency
6. The radiated frequency falling in the restricted band.

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Turbo Mode                    | <b>CHANNEL</b>              | 3                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5024.00     | 44.3 AV                 | 54.00          | -9.70       | 1.83H              | 315                  | 45.10            | 31.81               | 4.07              | 36.69                | 0.80                   | Note 6 |
| 2   | 5024.00     | 52.2 PK                 | 74.00          | -21.80      | 1.83H              | 315                  | 53.00            | 31.81               | 4.07              | 36.69                | 0.80                   | Note 6 |
| 3   | 5088.00     | 39.2 AV                 | 54.00          | -14.80      | 2.32H              | 254                  | 40.00            | 31.83               | 4.03              | 36.67                | 0.81                   | Note 6 |
| 4   | 5088.00     | 46.8 PK                 | 74.00          | -27.20      | 2.32H              | 254                  | 47.60            | 31.83               | 4.03              | 36.67                | 0.81                   | Note 6 |
| 5   | *5290.00    | 81.7 AV                 |                |             | 2.25H              | 314                  | 82.50            | 31.92               | 3.82              | 36.58                | 0.86                   |        |
| 6   | *5290.00    | 89.2 PK                 |                |             | 2.25H              | 314                  | 90.00            | 31.92               | 3.82              | 36.58                | 0.86                   |        |
| 7   | 10580.00    | 53.9 PK                 | 68.30          | -14.40      | 1.73H              | 121                  | 44.40            | 39.49               | 7.22              | 37.25                | -9.46                  |        |

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

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5067.00     | 42.7 AV                 | 54.00          | -11.30      | 1.71V              | 178                  | 43.50            | 31.83               | 4.03              | 36.67                | 0.81                   | Note 6 |
| 2   | 5067.00     | 49.2 PK                 | 74.00          | -24.80      | 1.71V              | 178                  | 50.00            | 31.83               | 4.03              | 36.67                | 0.81                   | Note 6 |
| 3   | *5290.00    | 84.0 AV                 |                |             | 2.38V              | 233                  | 84.80            | 31.92               | 3.82              | 36.58                | 0.86                   |        |
| 4   | *5290.00    | 90.5 PK                 |                |             | 2.38V              | 233                  | 91.30            | 31.92               | 3.82              | 36.58                | 0.86                   |        |
| 5   | 10580.00    | 54.3 PK                 | 68.30          | -14.00      | 1.95V              | 137                  | 44.80            | 39.49               | 7.22              | 37.25                | -9.46                  |        |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "\*" : Fundamental frequency
6. The radiated frequency falling in the restricted band.

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Turbo Mode                    | <b>CHANNEL</b>              | 4                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5715.00     | 49.4 PK                 | 68.30          | -18.90      | 1.61H              | 167                  | 49.58            | 32.26               | 4.18              | 36.59                | 0.15                   |        |
| 2   | 5725.00     | 57.6 PK                 | 78.30          | -20.70      | 1.61H              | 167                  | 57.76            | 32.26               | 4.18              | 36.59                | 0.15                   |        |
| 3   | *5760.00    | 86.2 AV                 |                |             | 1.61H              | 167                  | 86.20            | 32.31               | 4.29              | 36.60                | 0.01                   |        |
| 4   | *5760.00    | 91.3 PK                 |                |             | 1.61H              | 167                  | 91.30            | 32.31               | 4.29              | 36.60                | 0.01                   |        |
| 5   | 11520.00    | 46.1 AV                 | 54.00          | -7.90       | 2.32H              | 254                  | 35.60            | 39.94               | 7.52              | 36.92                | -10.54                 | Note 6 |
| 6   | 11520.00    | 55.8 PK                 | 74.00          | -18.20      | 2.32H              | 254                  | 45.30            | 39.94               | 7.52              | 36.92                | -10.54                 | Note 6 |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5643.00     | 45.9 PK                 | 68.30          | -22.40      | 2.25V              | 160                  | 46.30            | 32.16               | 3.95              | 36.55                | 0.44                   |        |
| 2   | 5715.00     | 49.1 PK                 | 68.30          | -19.20      | 2.21V              | 166                  | 49.28            | 32.26               | 4.18              | 36.59                | 0.15                   |        |
| 3   | 5725.00     | 56.8 PK                 | 78.30          | -21.50      | 2.21V              | 166                  | 56.90            | 32.26               | 4.18              | 36.59                | 0.15                   |        |
| 4   | *5760.00    | 86.5 AV                 |                |             | 2.21V              | 166                  | 86.50            | 32.31               | 4.29              | 36.60                | 0.01                   |        |
| 5   | *5760.00    | 91.0 PK                 |                |             | 2.21V              | 166                  | 91.00            | 32.31               | 4.29              | 36.60                | 0.01                   |        |
| 6   | 11520.00    | 48.0 AV                 | 54.00          | -6.00       | 1.81V              | 73                   | 37.50            | 39.94               | 7.52              | 36.92                | -10.54                 | Note 6 |
| 7   | 11520.00    | 56.3 PK                 | 74.00          | -17.70      | 1.81V              | 73                   | 45.80            | 39.94               | 7.52              | 36.92                | -10.54                 | Note 6 |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "\*" : Fundamental frequency
6. The radiated frequency falling in the restricted band.

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Turbo Mode                    | <b>CHANNEL</b>              | 5                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | *5800.00    | 83.6 AV                 |                |             | 1.98H              | 113                  | 83.50            | 32.36               | 4.40              | 36.62                | -0.14                  |        |
| 2   | *5800.00    | 88.0 PK                 |                |             | 1.98H              | 113                  | 87.90            | 32.36               | 4.40              | 36.62                | -0.14                  |        |
| 3   | 5825.00     | 63.9 PK                 | 78.30          | -14.40      | 1.98H              | 113                  | 78.02            | 32.41               | 4.51              | 36.64                | -0.28                  |        |
| 4   | 5835.00     | 53.8 PK                 | 68.30          | -14.50      | 1.98H              | 113                  | 68.02            | 32.41               | 4.51              | 36.64                | -0.28                  |        |
| 5   | 11600.00    | 47.0 AV                 | 54.00          | -7.00       | 1.60H              | 162                  | 36.50            | 39.88               | 7.53              | 36.95                | -10.46                 | Note 6 |
| 6   | 11600.00    | 55.5 PK                 | 74.00          | -18.50      | 1.60H              | 162                  | 45.00            | 39.88               | 7.53              | 36.95                | -10.46                 | Note 6 |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5028.00     | 45.7 AV                 | 54.00          | -8.30       | 2.14V              | 89                   | 46.50            | 31.81               | 4.07              | 36.69                | 0.80                   | Note 6 |
| 2   | 5028.00     | 49.2 PK                 | 74.00          | -24.80      | 2.14V              | 89                   | 50.00            | 31.81               | 4.07              | 36.69                | 0.80                   | Note 6 |
| 3   | 5150.00     | 44.7 AV                 | 54.00          | -9.30       | 2.14V              | 89                   | 45.50            | 31.87               | 3.95              | 36.63                | 0.82                   | Note 6 |
| 4   | 5150.00     | 46.2 PK                 | 74.00          | -27.80      | 2.14V              | 89                   | 47.00            | 31.87               | 3.95              | 36.63                | 0.82                   | Note 6 |
| 5   | *5800.00    | 85.9 AV                 |                |             | 2.06V              | 89                   | 85.80            | 32.36               | 4.40              | 36.62                | -0.14                  |        |
| 6   | *5800.00    | 92.4 PK                 |                |             | 2.06V              | 89                   | 92.30            | 32.36               | 4.40              | 36.62                | -0.14                  |        |
| 7   | 5825.00     | 68.3 PK                 | 78.30          | -10.00      | 2.06V              | 89                   | 67.99            | 32.41               | 4.51              | 36.64                | -0.28                  |        |
| 8   | 5835.00     | 58.2 PK                 | 68.30          | -10.10      | 2.06V              | 89                   | 57.87            | 32.41               | 4.51              | 36.64                | -0.28                  |        |
| 9   | 11600.00    | 48.5 AV                 | 54.00          | -5.50       | 1.81V              | 73                   | 38.00            | 39.88               | 7.53              | 36.95                | -10.46                 | Note 6 |
| 10  | 11600.00    | 57.5 PK                 | 74.00          | -16.50      | 1.81V              | 73                   | 47.00            | 39.88               | 7.53              | 36.95                | -10.46                 | Note 6 |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "\*" : Fundamental frequency
6. The radiated frequency falling in the restricted band.

## 5.2.9 TEST RESULTS (B) (TRANSMITTING)

|                                 |                            |                             |               |
|---------------------------------|----------------------------|-----------------------------|---------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI    | <b>MODEL</b>                | VM4-3B        |
| <b>FREQUENCY RANGE</b>          | 30-1000 MHz                | <b>DETECTOR FUNCTION</b>    | Quasi-Peak    |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH, 1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60 Hz |
| <b>TESTED BY</b>                | Eric Lee                   |                             |               |

**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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 160.00      | 27.5 QP                 | 43.50          | -16.00      | 1.14H              | 245                  | 16.80            | 9.62                | 1.07              | 0.00                 | -10.70                 |
| 2   | 192.00      | 34.8 QP                 | 43.50          | -8.70       | 1.03H              | 217                  | 24.56            | 8.95                | 1.28              | 0.00                 | -10.24                 |
| 3   | 200.00      | 40.0 QP                 | 43.50          | -3.50       | 1.47H              | 114                  | 29.62            | 8.98                | 1.40              | 0.00                 | -10.38                 |
| 4   | 288.00      | 28.8 QP                 | 46.00          | -17.20      | 1.43H              | 130                  | 14.51            | 12.88               | 1.41              | 0.00                 | -14.29                 |
| 5   | 352.00      | 28.5 QP                 | 46.00          | -17.50      | 1.29H              | 232                  | 12.74            | 14.31               | 1.46              | 0.00                 | -15.76                 |
| 6   | 416.00      | 37.0 QP                 | 46.00          | -9.00       | 1.49H              | 93                   | 19.25            | 16.18               | 1.57              | 0.00                 | -17.76                 |
| 7   | 480.00      | 29.5 QP                 | 46.00          | -16.50      | 1.45H              | 182                  | 10.89            | 16.92               | 1.69              | 0.00                 | -18.61                 |
| 8   | 544.00      | 27.2 QP                 | 46.00          | -18.80      | 1.35H              | 257                  | 7.52             | 17.86               | 1.82              | 0.00                 | -19.68                 |
| 9   | 576.00      | 27.8 QP                 | 46.00          | -18.20      | 1.41H              | 213                  | 7.64             | 18.28               | 1.88              | 0.00                 | -20.16                 |
| 10  | 729.00      | 42.7 QP                 | 46.00          | -3.30       | 1.26H              | 115                  | 20.78            | 19.80               | 2.12              | 0.00                 | -21.92                 |
| 11  | 768.00      | 32.0 QP                 | 46.00          | -14.00      | 1.16H              | 27                   | 9.43             | 20.36               | 2.22              | 0.00                 | -22.57                 |

**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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 152.00      | 33.0 QP                 | 43.50          | -10.50      | 1.73V              | 181                  | 21.70            | 10.16               | 1.14              | 0.00                 | -11.30                 |
| 2   | 192.00      | 30.5 QP                 | 43.50          | -13.00      | 1.50V              | 114                  | 20.26            | 8.95                | 1.28              | 0.00                 | -10.24                 |
| 3   | 198.00      | 38.8 QP                 | 43.50          | -4.70       | 1.31V              | 39                   | 28.47            | 8.97                | 1.36              | 0.00                 | -10.33                 |
| 4   | 352.00      | 33.5 QP                 | 46.00          | -12.50      | 1.45V              | 30                   | 17.74            | 14.31               | 1.46              | 0.00                 | -15.76                 |
| 5   | 384.00      | 30.0 QP                 | 46.00          | -16.00      | 1.33V              | 108                  | 12.98            | 15.50               | 1.52              | 0.00                 | -17.02                 |
| 6   | 438.00      | 35.5 QP                 | 46.00          | -10.50      | 1.17V              | 202                  | 17.61            | 16.30               | 1.59              | 0.00                 | -17.89                 |
| 7   | 544.00      | 26.5 QP                 | 46.00          | -19.50      | 1.43V              | 244                  | 6.82             | 17.86               | 1.82              | 0.00                 | -19.69                 |
| 8   | 576.00      | 27.7 QP                 | 46.00          | -18.30      | 1.27V              | 130                  | 7.54             | 18.28               | 1.88              | 0.00                 | -20.17                 |
| 9   | 729.00      | 36.5 QP                 | 46.00          | -9.50       | 1.32V              | 108                  | 14.58            | 19.80               | 2.12              | 0.00                 | -21.93                 |
| 10  | 736.00      | 28.8 QP                 | 46.00          | -17.20      | 1.24V              | 180                  | 6.73             | 19.93               | 2.14              | 0.00                 | -22.08                 |

**NOTE:**

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 1                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5088.00     | 41.2 AV                 | 54.00          | -12.80      | 1.85H              | 154                  | 42.00            | 31.83               | 4.03              | 36.67                | 0.81                   | Note 6 |
| 2   | 5088.00     | 48.2 PK                 | 74.00          | -25.80      | 1.85H              | 154                  | 49.00            | 31.83               | 4.03              | 36.67                | 0.81                   | Note 6 |
| 3   | *5180.00    | 83.2 AV                 |                |             | 1.38H              | 196                  | 84.00            | 31.87               | 3.95              | 36.63                | 0.83                   |        |
| 4   | *5180.00    | 91.2 PK                 |                |             | 1.38H              | 196                  | 92.00            | 31.87               | 3.95              | 36.63                | 0.83                   |        |
| 5   | 5347.00     | 49.5 PK                 | 68.30          | -18.80      | 1.67H              | 259                  | 50.40            | 31.93               | 3.77              | 36.57                | 0.87                   |        |
| 6   | 10360.00    | 50.4 PK                 | 68.30          | -17.90      | 1.64H              | 134                  | 42.00            | 39.16               | 6.69              | 37.42                | -8.43                  |        |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5088.00     | 44.2 AV                 | 54.00          | -9.80       | 1.65V              | 203                  | 45.00            | 31.83               | 4.03              | 36.67                | 0.81                   | Note 6 |
| 2   | 5088.00     | 51.2 PK                 | 74.00          | -22.80      | 1.65V              | 203                  | 52.00            | 31.83               | 4.03              | 36.67                | 0.81                   | Note 6 |
| 3   | *5180.00    | 82.8 AV                 |                |             | 1.57V              | 185                  | 83.60            | 31.87               | 3.95              | 36.63                | 0.82                   |        |
| 4   | *5180.00    | 89.4 PK                 |                |             | 1.57V              | 185                  | 90.20            | 31.87               | 3.95              | 36.63                | 0.82                   |        |
| 5   | 10360.00    | 50.8 PK                 | 68.30          | -17.50      | 1.80V              | 213                  | 42.40            | 39.16               | 6.69              | 37.42                | -8.43                  |        |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "\*" : Fundamental frequency
6. The radiated frequency falling in the restricted band.

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 4                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | *5240.00    | 84.0 AV                 |                |             | 1.36H              | 162                  | 84.80            | 31.90               | 3.86              | 36.60                | 0.85                   |
| 2   | *5240.00    | 95.2 PK                 |                |             | 1.36H              | 162                  | 96.00            | 31.90               | 3.86              | 36.60                | 0.85                   |
| 3   | 10480.00    | 51.1 PK                 | 68.30          | -17.20      | 1.60H              | 170                  | 41.90            | 39.36               | 7.14              | 37.32                | -9.19                  |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5150.00     | 39.2 AV                 | 54.00          | -14.80      | 1.90V              | 204                  | 40.00            | 31.87               | 3.95              | 36.63                | 0.82                   | Note 6 |
| 2   | 5150.00     | 48.2 PK                 | 74.00          | -25.80      | 1.90V              | 204                  | 49.00            | 31.87               | 3.95              | 36.63                | 0.82                   | Note 6 |
| 3   | *5240.00    | 85.3 AV                 |                |             | 2.01V              | 196                  | 86.10            | 31.90               | 3.86              | 36.60                | 0.85                   |        |
| 4   | *5240.00    | 97.3 PK                 |                |             | 2.01V              | 196                  | 98.10            | 31.90               | 3.86              | 36.60                | 0.85                   |        |
| 5   | 10480.00    | 51.7 PK                 | 68.30          | -16.60      | 1.86V              | 181                  | 42.50            | 39.36               | 7.14              | 37.32                | -9.19                  |        |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "\*" : Fundamental frequency
6. The radiated frequency falling in the restricted band.

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 5                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 5216.00     | 47.2 PK                 | 68.30          | -21.10      | 1.84H              | 172                  | 48.00            | 31.88               | 3.90              | 36.62                | 0.83                   |
| 2   | *5260.00    | 83.7 AV                 |                |             | 1.96H              | 181                  | 84.50            | 31.90               | 3.86              | 36.60                | 0.84.                  |
| 3   | *5260.00    | 93.9 PK                 |                |             | 1.96H              | 181                  | 94.70            | 31.90               | 3.86              | 36.60                | 0.84.                  |
| 4   | 10520.00    | 55.1 PK                 | 68.30          | -13.20      | 1.74H              | 143                  | 45.70            | 39.43               | 7.22              | 37.28                | -9.36.                 |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 5216.00     | 50.4 PK                 | 68.30          | -17.90      | 2.24V              | 211                  | 51.20            | 31.88               | 3.90              | 36.62                | 0.83                   |
| 2   | *5260.00    | 83.7 AV                 |                |             | 1.87V              | 190                  | 84.50            | 31.90               | 3.86              | 36.60                | 0.85                   |
| 3   | *5260.00    | 96.6 PK                 |                |             | 1.87V              | 190                  | 97.40            | 31.90               | 3.86              | 36.60                | 0.85                   |
| 4   | 10520.00    | 59.4 PK                 | 68.30          | -8.90       | 1.79V              | 179                  | 50.00            | 39.43               | 7.22              | 37.28                | -9.36.                 |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "\*" : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 8                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | *5320.00    | 81.3 AV                 |                |             | 1.30H              | 232                  | 82.20            | 31.93               | 3.77              | 36.57                | 0.86.                  |        |
| 2   | *5320.00    | 92.1 PK                 |                |             | 1.30H              | 232                  | 93.00            | 31.93               | 3.77              | 36.57                | 0.86.                  |        |
| 3   | 10640.00    | 45.6 AV                 | 54.00          | -8.40       | 1.96H              | 181                  | 36.00            | 39.61               | 7.22              | 37.18                | -9.64                  | Note 6 |
| 4   | 10640.00    | 52.4 PK                 | 74.00          | -21.60      | 1.96H              | 181                  | 42.80            | 39.61               | 7.22              | 37.18                | -9.64                  | Note 6 |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | *5320.00    | 86.7 AV                 |                |             | 1.50V              | 186                  | 87.60            | 31.93               | 3.77              | 36.57                | 0.87                   |        |
| 2   | *5320.00    | 96.5 PK                 |                |             | 1.50V              | 186                  | 97.40            | 31.93               | 3.77              | 36.57                | 0.87                   |        |
| 3   | 5410.00     | 45.1 AV                 | 54.00          | -8.90       | 1.47V              | 180                  | 46.00            | 31.97               | 3.69              | 36.53                | 0.87                   | Note 6 |
| 4   | 5410.00     | 51.1 PK                 | 74.00          | -22.90      | 1.47V              | 180                  | 52.00            | 31.97               | 3.69              | 36.53                | 0.87                   | Note 6 |
| 5   | 10640.00    | 50.6 AV                 | 54.00          | -3.40       | 1.18V              | 227                  | 41.00            | 39.61               | 7.22              | 37.18                | -9.64                  | Note 6 |
| 6   | 10640.00    | 58.7 PK                 | 74.00          | -15.30      | 1.18V              | 227                  | 49.10            | 39.61               | 7.22              | 37.18                | -9.64.                 | Note 6 |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency
6. The radiated frequency falling in the restricted band.

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 9                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5715.00     | 49.4 PK                 | 68.30          | -18.90      | 1.31H              | 85                   | 49.53            | 32.26               | 4.18              | 36.59                | 0.15                   |        |
| 2   | 5725.00     | 61.6 PK                 | 78.30          | -16.70      | 1.31H              | 85                   | 61.74            | 32.26               | 4.18              | 36.59                | 0.15                   |        |
| 3   | *5745.00    | 83.0 AV                 |                |             | 1.31H              | 85                   | 83.00            | 32.31               | 4.29              | 36.60                | 0.01                   |        |
| 4   | *5745.00    | 94.0 PK                 |                |             | 1.31H              | 85                   | 94.00            | 32.31               | 4.29              | 36.60                | 0.01                   |        |
| 5   | 11490.00    | 57.6 PK                 | 74.00          | -16.40      | 1.65H              | 91                   | 47.00            | 40.00               | 7.51              | 36.90                | -10.61.                | Note 6 |
| 6   | 11490.00    | 51.4 AV                 | 54.00          | -2.60       | 1.65H              | 91                   | 40.80            | 40.00               | 7.51              | 36.90                | -10.61                 | Note 6 |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5160.00     | 47.2 PK                 | 68.30          | -21.10      | 2.05V              | 227                  | 48.00            | 31.87               | 3.95              | 36.63                | 0.82                   |        |
| 2   | 5715.00     | 51.5 PK                 | 68.30          | -16.80      | 1.68V              | 183                  | 51.63            | 32.26               | 4.18              | 36.59                | 0.15                   |        |
| 3   | 5725.00     | 63.7 PK                 | 78.30          | -14.60      | 1.68V              | 183                  | 51.63            | 32.26               | 4.18              | 36.59                | 0.15                   |        |
| 4   | *5745.00    | 87.4 AV                 |                |             | 1.68V              | 183                  | 87.40            | 32.31               | 4.29              | 36.60                | 0.01.                  |        |
| 5   | *5745.00    | 96.1 PK                 |                |             | 1.68V              | 183                  | 96.10            | 32.31               | 4.29              | 36.60                | 0.01.                  |        |
| 6   | 11490.00    | 50.7 AV                 | 54.00          | -3.30       | 1.85V              | 198                  | 40.10            | 40.00               | 7.51              | 36.90                | -10.61                 | Note 6 |
| 7   | 11490.00    | 57.8 PK                 | 74.00          | -16.20      | 1.85V              | 198                  | 47.20            | 40.00               | 7.51              | 36.90                | -10.61.                | Note 6 |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "\*" : Fundamental frequency
6. The radiated frequency falling in the restricted band.

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 12                       |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | *5805.00    | 85.9 AV                 |                |             | 1.86H              | 175                  | 85.80            | 32.36               | 4.40              | 36.62                | -0.14                  |        |
| 2   | *5805.00    | 95.5 PK                 |                |             | 1.86H              | 175                  | 95.40            | 32.36               | 4.40              | 36.62                | -0.14                  |        |
| 3   | 5825.00     | 59.8 PK                 | 78.30          | -18.50      | 1.86H              | 175                  | 59.51            | 32.41               | 4.51              | 36.64                | -0.28                  |        |
| 4   | 5835.00     | 47.2 PK                 | 68.30          | -21.10      | 1.86H              | 175                  | 46.92            | 32.41               | 4.51              | 36.64                | -0.28                  |        |
| 5   | 11610.00    | 56.4 PK                 | 74.00          | -17.60      | 1.84H              | 170                  | 46.00            | 39.83               | 7.54              | 36.98                | -10.39                 | Note 6 |
| 6   | 11610.00    | 49.4 AV                 | 54.00          | -4.60       | 1.84H              | 170                  | 39.00            | 39.83               | 7.54              | 36.98                | -10.39                 | Note 6 |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | *5805.00    | 86.1 AV                 |                |             | 1.34V              | 3                    | 86.00            | 32.36               | 4.40              | 36.62                | -0.14                  |        |
| 2   | *5805.00    | 97.4 PK                 |                |             | 1.34V              | 3                    | 97.30            | 32.36               | 4.40              | 36.62                | -0.14                  |        |
| 3   | 5825.00     | 61.7 PK                 | 78.30          | -16.60      | 1.34V              | 3                    | 61.42            | 32.41               | 4.51              | 36.44                | -0.28                  |        |
| 4   | 5835.00     | 49.1 PK                 | 68.30          | -19.20      | 1.34V              | 3                    | 48.82            | 32.41               | 4.51              | 36.44                | -0.28                  |        |
| 5   | 11610.00    | 51.1 AV                 | 54.00          | -2.90       | 1.42V              | 348                  | 40.70            | 39.83               | 7.54              | 36.98                | -10.39                 | Note 6 |
| 6   | 11610.00    | 59.4 PK                 | 74.00          | -14.60      | 1.42V              | 348                  | 49.00            | 39.83               | 7.54              | 36.98                | -10.39                 | Note 6 |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "\*" : Fundamental frequency
6. The radiated frequency falling in the restricted band.

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Turbo Mode                    | <b>CHANNEL</b>              | 1                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | *5210.00    | 95.2 PK                 |                |             | 1.56H              | 66                   | 96.00            | 31.88               | 3.90              | 36.62                | 0.84                   |
| 2   | *5210.00    | 86.6 AV                 |                |             | 1.56H              | 66                   | 87.40            | 31.88               | 3.90              | 36.62                | 0.84                   |
| 3   | 10420.00    | 50.9 PK                 | 68.30          | -17.40      | 1.78H              | 13                   | 42.00            | 39.30               | 6.99              | 37.35                | -8.94                  |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5123.00     | 41.2 AV                 | 54.00          | -12.80      | 1.47V              | 163                  | 42.00            | 31.85               | 3.99              | 36.65                | 0.81                   | Note 6 |
| 2   | 5123.00     | 49.2 PK                 | 74.00          | -24.80      | 1.47V              | 163                  | 50.00            | 31.85               | 3.99              | 36.65                | 0.81                   | Note 6 |
| 3   | *5210.00    | 84.5 AV                 |                |             | 1.88V              | 156                  | 85.30            | 31.88               | 3.90              | 36.62                | 0.84                   |        |
| 4   | *5210.00    | 95.9 PK                 |                |             | 1.88V              | 156                  | 96.70            | 31.88               | 3.90              | 36.62                | 0.84                   |        |
| 5   | 10420.00    | 53.4 PK                 | 68.30          | -14.90      | 1.76V              | 163                  | 44.50            | 39.30               | 6.99              | 37.35                | -8.94                  |        |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "\*" : Fundamental frequency
6. The radiated frequency falling in the restricted band.

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Turbo Mode                    | <b>CHANNEL</b>              | 2                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | *5250.00    | 79.2 AV                 |                |             | 1.64H              | 355                  | 80.00            | 31.90               | 3.86              | 36.60                | 0.84                   |
| 2   | *5250.00    | 92.3 PK                 |                |             | 1.64H              | 355                  | 93.10            | 31.90               | 3.86              | 36.60                | 0.84                   |
| 3   | 10500.00    | 52.2 PK                 | 68.300         | -22.90      | 1.45H              | 330                  | 42.80            | 39.43               | 7.22              | 37.28                | -9.36                  |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | *5250.00    | 85.2 AV                 |                |             | 1.47V              | 141                  | 86.00            | 31.90               | 3.86              | 36.60                | 0.85                   |
| 2   | *5250.00    | 94.3 PK                 |                |             | 1.47V              | 141                  | 95.10            | 31.90               | 3.86              | 36.60                | 0.85                   |
| 3   | 10500.00    | 52.2 PK                 | 68.30          | -16.10      | 1.51V              | 141                  | 42.80            | 39.43               | 7.22              | 37.28                | -9.36                  |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Turbo Mode                    | <b>CHANNEL</b>              | 3                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | *5290.00    | 83.0 AV                 |                |             | 1.73H              | 302                  | 83.80            | 31.92               | 3.82              | 36.58                | 0.85.                  |
| 2   | *5290.00    | 95.5 PK                 |                |             | 1.73H              | 302                  | 96.30            | 31.92               | 3.82              | 36.58                | 0.85.                  |
| 3   | 10580.00    | 52.2 PK                 | 68.30          | -16.10      | 1.60H              | 314                  | 42.70            | 39.49               | 7.22              | 37.25                | -9.46                  |

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

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | *5290.00    | 95.2 PK                 |                |             | 1.69V              | 131                  | 96.00            | 31.92               | 3.82              | 36.58                | 0.86                   |
| 2   | *5290.00    | 84.2 AV                 |                |             | 1.69V              | 131                  | 85.00            | 31.92               | 3.82              | 36.58                | 0.86                   |
| 3   | 10580.00    | 52.3 PK                 | 68.30          | -16.00      | 1.88V              | 216                  | 42.80            | 39.49               | 7.22              | 37.25                | -9.46                  |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "\*" : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Turbo Mode                    | <b>CHANNEL</b>              | 4                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5715.00     | 45.0 PK                 | 68.30          | -23.30      | 1.60H              | 314                  | 45.18            | 32.26               | 4.18              | 36.59                | 0.15                   |        |
| 2   | 5725.00     | 53.2 PK                 | 78.30          | -25.10      | 1.60H              | 314                  | 53.36            | 32.26               | 4.18              | 36.59                | 0.15                   |        |
| 3   | *5760.00    | 78.0 AV                 |                |             | 1.60H              | 314                  | 78.00            | 32.31               | 4.29              | 36.60                | 0.01                   |        |
| 4   | *5760.00    | 86.9 PK                 |                |             | 1.60H              | 314                  | 86.90            | 32.31               | 4.29              | 36.60                | 0.01                   |        |
| 5   | 11520.00    | 50.6 AV                 | 54.00          | -3.40       | 1.90H              | 287                  | 40.02            | 39.94               | 7.52              | 36.92                | -10.54                 | Note 6 |
| 6   | 11520.00    | 58.5 PK                 | 74.00          | -15.50      | 1.90H              | 287                  | 48.00            | 39.94               | 7.52              | 36.92                | -10.54                 | Note 6 |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | 5602.00     | 47.4 PK                 | 68.30          | -20.90      | 1.70V              | 250                  | 48.00            | 32.11               | 3.84              | 36.54                | 0.59                   |        |
| 2   | 5715.00     | 55.4 PK                 | 68.30          | -12.9       | 1.20V              | 231                  | 55.58            | 32.26               | 4.18              | 36.59                | 0.15                   |        |
| 3   | 5725.00     | 63.6 PK                 | 78.30          | -14.7       | 1.20V              | 232                  | 63.76            | 32.26               | 4.18              | 36.59                | 0.15                   |        |
| 4   | *5760.00    | 86.0 AV                 |                |             | 1.20V              | 231                  | 86.00            | 32.31               | 4.29              | 36.60                | 0.01                   |        |
| 5   | *5760.00    | 97.3 PK                 |                |             | 1.20V              | 232                  | 97.30            | 32.31               | 4.29              | 36.60                | 0.01                   |        |
| 6   | 11520.00    | 46.5 AV                 | 54.00          | -7.50       | 1.72V              | 196                  | 36.00            | 39.94               | 7.52              | 36.92                | -10.54                 | Note 6 |
| 7   | 11520.00    | 52.5 PK                 | 74.00          | -21.50      | 1.72V              | 196                  | 42.00            | 39.94               | 7.52              | 36.92                | -10.54                 | Note 6 |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "\*" : Fundamental frequency
6. The radiated frequency falling in the restricted band.

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Turbo Mode                    | <b>CHANNEL</b>              | 5                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | *5800.00    | 81.7 AV                 |                |             | 1.90H              | 284                  | 81.60            | 32.36               | 4.40              | 36.62                | -0.14                  |        |
| 2   | *5800.00    | 92.8 PK                 |                |             | 1.90H              | 284                  | 92.70            | 32.36               | 4.40              | 36.62                | -0.14                  |        |
| 3   | 5825.00     | 68.7 PK                 | 78.30          | -9.60       | 1.90H              | 284                  | 68.39            | 32.41               | 4.51              | 36.64                | -0.28                  |        |
| 4   | 5835.00     | 58.6 PK                 | 68.30          | -9.70       | 1.90H              | 284                  | 58.27            | 32.41               | 4.51              | 36.64                | -0.28                  |        |
| 5   | 11600.00    | 53.5 PK                 | 74.00          | -20.50      | 2.08H              | 261                  | 43.00            | 39.88               | 7.53              | 36.95                | -10.46                 | Note 6 |
| 6   | 11600.00    | 49.1 AV                 | 54.00          | -4.90       | 2.08H              | 261                  | 38.60            | 39.88               | 7.53              | 36.95                | -10.46                 | Note 6 |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|--------|
| 1   | *5800.00    | 84.1 AV                 |                |             | 1.61V              | 194                  | 84.00            | 32.36               | 4.40              | 36.62                | -0.14                  |        |
| 2   | *5800.00    | 92.1 PK                 |                |             | 1.61V              | 194                  | 92.00            | 32.36               | 4.40              | 36.62                | -0.14                  |        |
| 3   | 5825.00     | 68.0 PK                 | 78.30          | -10.30      | 1.61V              | 194                  | 67.69            | 32.41               | 4.51              | 36.64                | -0.28                  |        |
| 4   | 5835.00     | 57.9 PK                 | 68.30          | -10.40      | 1.61V              | 194                  | 58.13            | 32.41               | 4.51              | 36.64                | -0.28                  |        |
| 5   | 11600.00    | 49.9 AV                 | 54.00          | -4.10       | 1.53V              | 183                  | 39.40            | 39.88               | 7.53              | 36.95                | -10.46                 | Note 6 |
| 6   | 11600.00    | 57.6 PK                 | 74.00          | -16.40      | 1.53V              | 183                  | 47.10            | 39.88               | 7.53              | 36.95                | -10.46                 | Note 6 |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "\*" : Fundamental frequency
6. The radiated frequency falling in the restricted band.

## 5.2.10 TEST RESULTS (A) (RECEIVING)

|                                 |                            |                             |               |
|---------------------------------|----------------------------|-----------------------------|---------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI    | <b>MODEL</b>                | VM4-3B        |
| <b>FREQUENCY RANGE</b>          | 30-1000 MHz                | <b>DETECTOR FUNCTION</b>    | Quasi-Peak    |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH, 1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60 Hz |
| <b>TESTED BY</b>                | Eric Lee                   |                             |               |

**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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 160.00      | 30.0 QP                 | 43.50          | -13.50      | 1.40H              | 18                   | 19.30            | 9.62                | 1.07              | 0.00                 | -10.70                 |
| 2   | 192.00      | 30.0 QP                 | 43.50          | -13.50      | 1.49H              | 75                   | 19.76            | 8.95                | 1.28              | 0.00                 | -10.24                 |
| 3   | 300.00      | 28.8 QP                 | 46.00          | -17.20      | 1.19H              | 151                  | 14.17            | 13.18               | 1.45              | 0.00                 | -14.63                 |
| 4   | 352.00      | 36.8 QP                 | 46.00          | -9.20       | 1.03H              | 176                  | 21.04            | 14.31               | 1.46              | 0.00                 | -15.76                 |
| 5   | 378.00      | 42.5 QP                 | 46.00          | -3.50       | 1.24H              | 29                   | 25.68            | 15.31               | 1.51              | 0.00                 | -16.83                 |
| 6   | 480.00      | 35.5 QP                 | 46.00          | -10.50      | 1.41H              | 90                   | 16.89            | 16.92               | 1.69              | 0.00                 | -18.61                 |
| 7   | 576.00      | 27.8 QP                 | 46.00          | -18.20      | 1.32H              | 203                  | 7.64             | 18.28               | 1.88              | 0.00                 | -20.16                 |
| 8   | 736.00      | 33.5 QP                 | 46.00          | -12.50      | 1.25H              | 251                  | 11.43            | 19.93               | 2.14              | 0.00                 | -22.07                 |
| 9   | 800.00      | 37.4 QP                 | 46.00          | -8.60       | 1.16H              | 176                  | 14.42            | 20.69               | 2.29              | 0.00                 | -22.99                 |

**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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 120.00      | 25.8 QP                 | 43.50          | -17.70      | 1.17V              | 45                   | 13.25            | 11.65               | 0.89              | 0.00                 | -12.55                 |
| 2   | 192.00      | 28.8 QP                 | 43.50          | -14.70      | 1.16V              | 18                   | 18.56            | 8.95                | 1.28              | 0.00                 | -10.24                 |
| 3   | 352.00      | 26.8 QP                 | 46.00          | -19.20      | 1.12V              | 222                  | 11.04            | 14.31               | 1.46              | 0.00                 | -15.76                 |
| 4   | 480.00      | 25.8 QP                 | 46.00          | -20.20      | 1.09V              | 151                  | 7.19             | 16.92               | 1.69              | 0.00                 | -18.62                 |
| 5   | 608.00      | 26.8 QP                 | 46.00          | -19.20      | 1.17V              | 89                   | 6.16             | 18.70               | 1.94              | 0.00                 | -20.64                 |
| 6   | 648.00      | 27.5 QP                 | 46.00          | -18.50      | 1.40V              | 64                   | 6.28             | 19.21               | 2.01              | 0.00                 | -21.22                 |
| 7   | 736.00      | 26.4 QP                 | 46.00          | -19.60      | 1.47V              | 72                   | 4.33             | 19.93               | 2.14              | 0.00                 | -22.07                 |

**NOTE:**

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 1                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4144.00     | 35.6 PK                 | 74.00          | -38.40      | 1.59H              | 75                   | 38.00            | 30.50               | 3.66              | 36.56                | 2.39                   |
| 2   | 4144.00     | 29.6 AV                 | 54.00          | -24.40      | 1.59H              | 75                   | 32.00            | 30.50               | 3.66              | 36.56                | 2.39                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4144.00     | 30.6 AV                 | 54.00          | -23.40      | 1.68V              | 92                   | 33.00            | 30.50               | 3.66              | 36.56                | 2.39                   |
| 2   | 4144.00     | 37.6 PK                 | 74.00          | -36.40      | 1.68V              | 92                   | 40.00            | 30.50               | 3.66              | 36.56                | 2.39                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*\*” : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 4                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4192.00     | 31.2 AV                 | 54.00          | -22.80      | 1.94H              | 117                  | 33.50            | 30.56               | 3.68              | 36.58                | 2.33                   |
| 2   | 4192.00     | 35.7 PK                 | 74.00          | -38.30      | 1.94H              | 117                  | 38.00            | 30.56               | 3.68              | 36.58                | 2.33                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4192.00     | 36.8 PK                 | 74.00          | -37.20      | 1.12V              | 108                  | 39.10            | 30.56               | 3.68              | 36.58                | 2.33                   |
| 2   | 4192.00     | 31.7 AV                 | 54.00          | -22.30      | 1.12V              | 108                  | 34.00            | 30.56               | 3.68              | 36.58                | 2.33                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 5                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4208.00     | 35.7 PK                 | 74.00          | -38.30      | 1.86H              | 117                  | 38.00            | 30.56               | 3.68              | 36.58                | 2.33                   |
| 2   | 4208.00     | 30.1 AV                 | 54.00          | -23.90      | 1.86H              | 117                  | 32.40            | 30.56               | 3.68              | 36.58                | 2.33                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4208.00     | 30.1 AV                 | 54.00          | -23.90      | 1.00V              | 117                  | 32.40            | 30.56               | 3.68              | 36.58                | 2.33                   |
| 2   | 4208.00     | 34.7 PK                 | 74.00          | -39.30      | 1.00V              | 117                  | 37.00            | 30.56               | 3.68              | 36.58                | 2.33                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "\*" : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 8                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4256.00     | 37.2 PK                 | 74.00          | -36.80      | 1.18H              | 105                  | 39.40            | 30.68               | 3.71              | 36.61                | 2.21                   |
| 2   | 4256.00     | 29.9 AV                 | 54.00          | -24.10      | 1.18H              | 105                  | 32.10            | 30.68               | 3.71              | 36.61                | 2.21                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4256.00     | 34.8 PK                 | 74.00          | -39.20      | 1.15V              | 130                  | 37.00            | 30.68               | 3.71              | 36.61                | 2.21                   |
| 2   | 4256.00     | 28.8 AV                 | 54.00          | -25.20      | 1.15V              | 130                  | 31.00            | 30.68               | 3.71              | 36.61                | 2.21                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 9                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4596.00     | 28.4 AV                 | 54.00          | -25.60      | 1.30H              | 100                  | 30.00            | 31.18               | 3.88              | 36.70                | 1.64                   |
| 2   | 4596.00     | 35.4 PK                 | 74.00          | -38.60      | 1.30H              | 100                  | 37.00            | 31.18               | 3.88              | 36.70                | 1.64                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4596.00     | 35.3 PK                 | 74.00          | -38.70      | 1.38V              | 185                  | 36.90            | 31.18               | 3.88              | 36.70                | 1.64                   |
| 2   | 4596.00     | 30.8 AV                 | 54.00          | -23.20      | 1.38V              | 185                  | 32.40            | 31.18               | 3.88              | 36.70                | 1.64                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 12                       |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4644.00     | 37.5 PK                 | 74.00          | -36.50      | 1.03H              | 189                  | 39.00            | 31.25               | 3.90              | 36.70                | 1.55                   |
| 2   | 4644.00     | 30.6 AV                 | 54.00          | -23.40      | 1.03H              | 189                  | 32.10            | 31.25               | 3.90              | 36.70                | 1.55                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4644.00     | 29.5 AV                 | 54.00          | -24.50      | 1.35V              | 180                  | 31.00            | 31.25               | 3.90              | 36.70                | 1.55                   |
| 2   | 4644.00     | 35.5 PK                 | 74.00          | -38.50      | 1.35V              | 180                  | 37.00            | 31.25               | 3.90              | 36.70                | 1.55                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Turbo Mode                    | <b>CHANNEL</b>              | 1                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4168.00     | 29.7 AV                 | 54.00          | -24.30      | 1.20H              | 207                  | 32.00            | 30.56               | 3.68              | 36.58                | 2.33                   |
| 2   | 4168.00     | 37.2 PK                 | 74.00          | -36.80      | 1.20H              | 207                  | 39.50            | 30.56               | 3.68              | 36.58                | 2.33                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4168.00     | 28.1 AV                 | 54.00          | -25.90      | 2.00V              | 113                  | 30.40            | 30.56               | 3.68              | 36.58                | 2.33                   |
| 2   | 4168.00     | 33.7 PK                 | 74.00          | -40.30      | 1.82V              | 113                  | 36.00            | 30.56               | 3.68              | 36.58                | 2.33                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Turbo Mode                    | <b>CHANNEL</b>              | 2                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4200.00     | 29.7 AV                 | 54.00          | -24.30      | 1.94H              | 104                  | 32.00            | 30.56               | 3.68              | 36.58                | 2.33                   |
| 2   | 4200.00     | 36.1 PK                 | 74.00          | -37.90      | 1.94H              | 104                  | 38.40            | 30.56               | 3.68              | 36.58                | 2.33                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4200.00     | 27.7 AV                 | 54.00          | -26.30      | 1.27V              | 205                  | 30.00            | 30.56               | 3.68              | 36.58                | 2.33                   |
| 2   | 4200.00     | 33.7 PK                 | 74.00          | -40.30      | 1.27V              | 205                  | 36.00            | 30.56               | 3.68              | 36.58                | 2.33                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Turbo Mode                    | <b>CHANNEL</b>              | 3                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4232.00     | 37.7 PK                 | 74.00          | -36.30      | 1.03H              | 104                  | 40.00            | 30.62               | 3.70              | 36.59                | 2.27                   |
| 2   | 4232.00     | 29.7 AV                 | 54.00          | -24.30      | 1.03H              | 104                  | 32.00            | 30.62               | 3.70              | 36.59                | 2.27                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4232.00     | 31.7 AV                 | 54.00          | -22.30      | 1.03V              | 280                  | 34.00            | 30.62               | 3.70              | 36.59                | 2.27                   |
| 2   | 4232.00     | 36.7 PK                 | 74.00          | -37.30      | 1.03V              | 280                  | 39.00            | 30.62               | 3.70              | 36.59                | 2.27                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Turbo Mode                    | <b>CHANNEL</b>              | 4                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4608.00     | 31.2 AV                 | 54.00          | -22.80      | 1.28H              | 49                   | 32.80            | 31.18               | 3.88              | 36.70                | 1.64                   |
| 2   | 4608.00     | 34.4 PK                 | 74.00          | -39.60      | 1.28H              | 49                   | 36.00            | 31.18               | 3.88              | 36.70                | 1.64                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4608.00     | 35.9 PK                 | 74.00          | -38.10      | 1.28V              | 280                  | 37.50            | 31.18               | 3.88              | 36.70                | 1.64                   |
| 2   | 4608.00     | 28.8 AV                 | 54.00          | -25.20      | 1.28V              | 280                  | 30.40            | 31.18               | 3.88              | 36.70                | 1.64                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Turbo Mode                    | <b>CHANNEL</b>              | 5                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4640.00     | 35.5 PK                 | 74.00          | -38.50      | 1.13H              | 195                  | 37.00            | 31.25               | 3.90              | 36.70                | 1.55                   |
| 2   | 4640.00     | 30.5 AV                 | 54.00          | -23.50      | 1.13H              | 195                  | 32.00            | 31.25               | 3.90              | 36.70                | 1.55                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4640.00     | 31.4 AV                 | 54.00          | -22.60      | 1.33V              | 24                   | 32.90            | 31.25               | 3.90              | 36.70                | 1.55                   |
| 2   | 4640.00     | 34.5 PK                 | 74.00          | -39.50      | 1.33V              | 24                   | 36.00            | 31.25               | 3.90              | 36.70                | 1.55                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency

## 5.2.11 TEST RESULTS (B) (RECEIVING)

|                                 |                            |                             |               |
|---------------------------------|----------------------------|-----------------------------|---------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI    | <b>MODEL</b>                | VM4-3B        |
| <b>FREQUENCY RANGE</b>          | 30-1000 MHz                | <b>DETECTOR FUNCTION</b>    | Quasi-Peak    |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH, 1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60 Hz |
| <b>TESTED BY</b>                | Eric Lee                   |                             |               |

**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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 160.00      | 27.3 QP                 | 43.50          | -16.20      | 1.26H              | 89                   | 16.60            | 9.62                | 1.07              | 0.00                 | -10.70                 |
| 2   | 192.00      | 34.4 QP                 | 43.50          | -9.10       | 1.16H              | 170                  | 24.16            | 8.95                | 1.28              | 0.00                 | -10.24                 |
| 3   | 200.00      | 38.7 QP                 | 43.50          | -4.80       | 1.48H              | 270                  | 28.32            | 8.98                | 1.40              | 0.00                 | -10.38                 |
| 4   | 288.00      | 25.7 QP                 | 46.00          | -20.30      | 1.24H              | 212                  | 11.41            | 12.88               | 1.41              | 0.00                 | -14.29                 |
| 5   | 352.00      | 29.7 QP                 | 46.00          | -16.30      | 1.43H              | 103                  | 13.94            | 14.31               | 1.46              | 0.00                 | -15.76                 |
| 6   | 416.00      | 37.4 QP                 | 46.00          | -8.60       | 1.31H              | 24                   | 19.65            | 16.18               | 1.57              | 0.00                 | -17.76                 |
| 7   | 480.00      | 37.0 QP                 | 46.00          | -9.00       | 1.26H              | 96                   | 18.39            | 16.92               | 1.69              | 0.00                 | -18.62                 |
| 8   | 544.00      | 27.9 QP                 | 46.00          | -18.10      | 1.40H              | 171                  | 8.22             | 17.86               | 1.82              | 0.00                 | -19.69                 |
| 9   | 576.00      | 30.5 QP                 | 46.00          | -15.50      | 1.62H              | 255                  | 10.34            | 18.28               | 1.88              | 0.00                 | -20.16                 |
| 10  | 729.00      | 43.2 QP                 | 46.00          | -2.80       | 1.34H              | 184                  | 21.28            | 19.80               | 2.12              | 0.00                 | -21.93                 |
| 11  | 768.00      | 28.9 QP                 | 46.00          | -17.10      | 1.40H              | 58                   | 6.33             | 20.36               | 2.22              | 0.00                 | -22.57                 |

**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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 152.00      | 32.0 QP                 | 43.50          | -11.50      | 1.34V              | 6                    | 20.70            | 10.16               | 1.14              | 0.00                 | -11.30                 |
| 2   | 192.00      | 30.3 QP                 | 43.50          | -13.20      | 1.52V              | 77                   | 20.06            | 8.95                | 1.28              | 0.00                 | -10.24                 |
| 3   | 198.00      | 38.5 QP                 | 43.50          | -5.00       | 1.38V              | 151                  | 28.17            | 8.97                | 1.36              | 0.00                 | -10.33                 |
| 4   | 352.00      | 28.9 QP                 | 46.00          | -17.10      | 1.29V              | 271                  | 13.14            | 14.31               | 1.46              | 0.00                 | -15.76                 |
| 5   | 384.00      | 33.3 QP                 | 46.00          | -12.70      | 1.36V              | 232                  | 16.28            | 15.50               | 1.52              | 0.00                 | -17.02                 |
| 6   | 438.00      | 30.5 QP                 | 46.00          | -15.50      | 1.52V              | 126                  | 12.61            | 16.30               | 1.59              | 0.00                 | -17.89                 |
| 7   | 544.00      | 30.8 QP                 | 46.00          | -15.20      | 1.28V              | 17                   | 11.12            | 17.86               | 1.82              | 0.00                 | -19.69                 |
| 8   | 576.00      | 26.6 QP                 | 46.00          | -19.40      | 1.39V              | 160                  | 6.44             | 18.28               | 1.88              | 0.00                 | -20.17                 |
| 9   | 729.00      | 36.8 QP                 | 46.00          | -9.20       | 1.28V              | 273                  | 14.88            | 19.80               | 2.12              | 0.00                 | -21.93                 |
| 10  | 736.00      | 30.0 QP                 | 46.00          | -16.00      | 1.74V              | 138                  | 7.93             | 19.93               | 2.14              | 0.00                 | -22.08                 |

**NOTE:**

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 1                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4144.00     | 28.6 AV                 | 54.00          | -25.40      | 1.71H              | 310                  | 31.00            | 30.50               | 3.66              | 36.56                | 2.39                   |
| 2   | 4144.00     | 36.6 PK                 | 74.00          | -37.40      | 1.71H              | 310                  | 39.00            | 30.50               | 3.66              | 36.56                | 2.39                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4144.00     | 29.6 AV                 | 54.00          | -24.40      | 1.00V              | 220                  | 32.00            | 30.50               | 3.66              | 36.56                | 2.39                   |
| 2   | 4144.00     | 36.6 PK                 | 74.00          | -37.40      | 1.00V              | 220                  | 39.00            | 30.50               | 3.66              | 36.56                | 2.39                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*\*” : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 4                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4192.00     | 32.7 AV                 | 54.00          | -21.30      | 1.19H              | 293                  | 35.00            | 30.56               | 3.68              | 36.58                | 2.33                   |
| 2   | 4192.00     | 37.7 PK                 | 74.00          | -36.30      | 1.19H              | 293                  | 40.00            | 30.56               | 3.68              | 36.58                | 2.33                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4192.00     | 29.8 AV                 | 54.00          | -24.20      | 1.12V              | 204                  | 32.10            | 30.56               | 3.68              | 36.58                | 2.33                   |
| 2   | 4192.00     | 35.7 PK                 | 74.00          | -38.30      | 1.12V              | 204                  | 38.00            | 30.56               | 3.68              | 36.58                | 2.33                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 5                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4208.00     | 29.7 AV                 | 54.00          | -24.30      | 1.69H              | 309                  | 32.00            | 30.56               | 3.68              | 36.58                | 2.33                   |
| 2   | 4208.00     | 36.7 PK                 | 74.00          | -37.30      | 1.69H              | 309                  | 39.00            | 30.56               | 3.68              | 36.58                | 2.33                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4208.00     | 34.8 PK                 | 74.00          | -39.20      | 1.26V              | 160                  | 37.10            | 30.56               | 3.68              | 36.58                | 2.33                   |
| 2   | 4208.00     | 29.6 AV                 | 54.00          | -24.40      | 1.26V              | 160                  | 31.90            | 30.56               | 3.68              | 36.58                | 2.33                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 8                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4256.00     | 32.8 PK                 | 74.00          | -41.20      | 1.08H              | 343                  | 35.00            | 30.68               | 3.71              | 36.61                | 2.21                   |
| 2   | 4256.00     | 29.5 AV                 | 54.00          | -24.50      | 1.08H              | 343                  | 31.70            | 30.68               | 3.71              | 36.61                | 2.21                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4256.00     | 30.2 AV                 | 54.00          | -23.80      | 1.37V              | 312                  | 32.40            | 30.68               | 3.71              | 36.61                | 2.21                   |
| 2   | 4256.00     | 33.8 PK                 | 74.00          | -40.20      | 1.37V              | 312                  | 36.00            | 30.68               | 3.71              | 36.61                | 2.21                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 9                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4596.00     | 29.4 AV                 | 54.00          | -24.60      | 1.03H              | 271                  | 31.00            | 31.18               | 3.88              | 36.70                | 1.64                   |
| 2   | 4596.00     | 34.4 PK                 | 74.00          | -39.60      | 1.03H              | 271                  | 36.00            | 31.18               | 3.88              | 36.70                | 1.64                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4596.00     | 31.4 AV                 | 54.00          | -22.60      | 1.57V              | 320                  | 33.00            | 31.18               | 3.88              | 36.70                | 1.64                   |
| 2   | 4596.00     | 36.6 PK                 | 74.00          | -37.40      | 1.57V              | 320                  | 38.20            | 31.18               | 3.88              | 36.70                | 1.64                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Normal Mode                   | <b>CHANNEL</b>              | 12                       |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4644.00     | 30.2 AV                 | 54.00          | -23.80      | 1.55H              | 313                  | 31.70            | 31.25               | 3.90              | 36.70                | 1.55                   |
| 2   | 4644.00     | 34.5 PK                 | 74.00          | -39.50      | 1.55H              | 313                  | 36.00            | 31.25               | 3.90              | 36.70                | 1.55                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4644.00     | 35.7 PK                 | 74.00          | -38.30      | 1.05V              | 289                  | 37.20            | 31.25               | 3.90              | 36.70                | 1.55                   |
| 2   | 4644.00     | 31.2 AV                 | 54.00          | -22.80      | 1.05V              | 289                  | 32.70            | 31.25               | 3.90              | 36.70                | 1.55                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Turbo Mode                    | <b>CHANNEL</b>              | 1                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4168.00     | 27.7 AV                 | 54.00          | -26.30      | 1.34H              | 345                  | 30.00            | 30.56               | 3.68              | 36.58                | 2.33                   |
| 2   | 4168.00     | 34.7 PK                 | 74.00          | -39.30      | 1.34H              | 345                  | 37.00            | 30.56               | 3.68              | 36.58                | 2.33                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4168.00     | 29.7 AV                 | 54.00          | -24.30      | 1.48V              | 320                  | 32.00            | 30.56               | 3.68              | 36.58                | 2.33                   |
| 2   | 4168.00     | 34.8 PK                 | 74.00          | -39.20      | 1.48V              | 320                  | 37.10            | 30.56               | 3.68              | 36.58                | 2.33                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "\*" : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Turbo Mode                    | <b>CHANNEL</b>              | 2                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4200.00     | 28.7 AV                 | 54.00          | -25.30      | 1.00H              | 272                  | 31.00            | 30.56               | 3.68              | 36.58                | 2.33                   |
| 2   | 4200.00     | 33.7 PK                 | 74.00          | -40.30      | 1.01H              | 271                  | 36.00            | 30.56               | 3.68              | 36.58                | 2.33                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4200.00     | 33.7 PK                 | 74.00          | -40.30      | 1.13V              | 183                  | 36.00            | 30.56               | 3.68              | 36.58                | 2.33                   |
| 2   | 4200.00     | 27.7 AV                 | 54.00          | -26.30      | 1.13V              | 183                  | 30.00            | 30.56               | 3.68              | 36.58                | 2.33                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Turbo Mode                    | <b>CHANNEL</b>              | 3                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4232.00     | 35.3 PK                 | 74.00          | -38.70      | 1.46H              | 134                  | 37.60            | 30.62               | 3.70              | 36.59                | 2.27                   |
| 2   | 4232.00     | 29.7 AV                 | 54.00          | -24.30      | 1.46H              | 134                  | 32.00            | 30.62               | 3.70              | 36.59                | 2.27                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4232.00     | 27.7 AV                 | 54.00          | -26.30      | 1.22V              | 274                  | 30.00            | 30.62               | 3.70              | 36.59                | 2.27                   |
| 2   | 4232.00     | 34.7 PK                 | 74.00          | -39.30      | 1.22V              | 274                  | 37.00            | 30.62               | 3.70              | 36.59                | 2.27                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Turbo Mode                    | <b>CHANNEL</b>              | 4                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4608.00     | 31.4 AV                 | 54.00          | -22.60      | 1.26H              | 10                   | 33.00            | 31.18               | 3.88              | 36.70                | 1.64                   |
| 2   | 4608.00     | 37.0 PK                 | 74.00          | -37.00      | 1.26H              | 10                   | 38.60            | 31.18               | 3.88              | 36.70                | 1.64                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4608.00     | 30.4 AV                 | 54.00          | -23.60      | 1.69V              | 246                  | 32.00            | 31.18               | 3.88              | 36.70                | 1.64                   |
| 2   | 4608.00     | 35.9 PK                 | 74.00          | -38.10      | 1.69V              | 246                  | 37.50            | 31.18               | 3.88              | 36.70                | 1.64                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency

|                                 |                               |                             |                          |
|---------------------------------|-------------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | WLAN a+b combo mini-PCI       | <b>MODEL</b>                | VM4-3B                   |
| <b>MODE</b>                     | Turbo Mode                    | <b>CHANNEL</b>              | 5                        |
| <b>FREQUENCY RANGE</b>          | Above 1000 MHz                | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 30 deg. C, 70%RH,<br>1050 hPa | <b>INPUT POWER (SYSTEM)</b> | 120Vac, 60Hz             |
| <b>TESTED BY</b>                | Eric Lee                      |                             |                          |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4640.00     | 37.5 PK                 | 74.00          | -36.50      | 1.26H              | 10                   | 39.00            | 31.25               | 3.90              | 36.70                | 1.55                   |
| 2   | 4640.00     | 31.5 AV                 | 54.00          | -22.50      | 1.26H              | 10                   | 33.00            | 31.25               | 3.90              | 36.70                | 1.55                   |

#### 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) | Antenna Factor (dB) | Cable Factor (dB) | Pre-Amp. Factor (dB) | Correction Factor (dB) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|-------------------|----------------------|------------------------|
| 1   | 4640.00     | 31.4 AV                 | 54.00          | -22.60      | 1.33V              | 24                   | 32.90            | 31.25               | 3.90              | 36.70                | 1.55                   |
| 2   | 4640.00     | 34.5 PK                 | 74.00          | -39.50      | 1.33V              | 24                   | 36.00            | 31.25               | 3.90              | 36.70                | 1.55                   |

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “\*” : Fundamental frequency