



# FCC TEST REPORT

**REPORT NO.:** RF920120R02C

**MODEL NO.:** WLL3010

**RECEIVED:** November 11, 2003

**TESTED:** November 12 ~ December 08, 2003

**APPLICANT:** ASKEY COMPUTER CORP.

**ADDRESS:** 10F, NO. 119, CHIENKANG RD., CHUNG-HO,  
TAIPEI TAIWAN R.O.C

**ISSUED BY:** Advance Data Technology Corporation

**LAB LOCATION:** 47 14th Lin, Chiapau Tsun, Linko, Taipei,  
Taiwan, R.O.C.

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0528  
ILAC MRA



Lab Code: 200102-0

## Table of Contents

|       |                                                |    |
|-------|------------------------------------------------|----|
| 1     | CERTIFICATION .....                            | 5  |
| 2     | SUMMARY OF TEST RESULTS .....                  | 6  |
| 3     | GENERAL INFORMATION.....                       | 7  |
| 3.1   | GENERAL DESCRIPTION OF EUT .....               | 7  |
| 3.2   | DESCRIPTION OF TEST MODES.....                 | 8  |
| 3.3   | GENERAL DESCRIPTION OF APPLIED STANDARDS ..... | 8  |
| 3.4   | DESCRIPTION OF SUPPORT UNITS .....             | 9  |
| 3.5   | CONFIGURATION OF SYSTEM UNDER TEST .....       | 9  |
| 4     | TEST TYPES AND RESULTS .....                   | 10 |
| 4.1   | CONDUCTED EMISSION MEASUREMENT .....           | 10 |
| 4.1.1 | LIMITS OF CONDUCTED EMISSION MEASUREMENT.....  | 10 |
| 4.1.2 | TEST INSTRUMENTS.....                          | 10 |
| 4.1.3 | TEST PROCEDURES .....                          | 11 |
| 4.1.4 | DEVIATION FROM TEST STANDARD .....             | 11 |
| 4.1.5 | TEST SETUP.....                                | 12 |
| 4.1.6 | EUT OPERATING CONDITIONS .....                 | 12 |
| 4.1.7 | TEST RESULTS .....                             | 13 |
| 4.2   | RADIATED EMISSION MEASUREMENT .....            | 19 |
| 4.2.1 | LIMITS OF RADIATED EMISSION MEASUREMENT .....  | 19 |
| 4.2.2 | TEST INSTRUMENTS.....                          | 20 |
| 4.2.3 | TEST PROCEDURES .....                          | 21 |
| 4.2.4 | DEVIATION FROM TEST STANDARD .....             | 21 |

|       |                                                       |    |
|-------|-------------------------------------------------------|----|
| 4.2.5 | TEST SETUP.....                                       | 22 |
| 4.2.6 | EUT OPERATING CONDITIONS .....                        | 22 |
| 4.2.7 | TEST RESULTS (A) .....                                | 23 |
| 4.2.8 | TEST RESULTS (B) .....                                | 33 |
| 4.3   | 6dB BANDWIDTH MEASUREMENT.....                        | 43 |
| 4.3.1 | LIMITS OF 6dB BANDWIDTH MEASUREMENT .....             | 43 |
| 4.3.2 | TEST INSTRUMENTS.....                                 | 43 |
| 4.3.3 | TEST PROCEDURE.....                                   | 44 |
| 4.3.4 | DEVIATION FROM TEST STANDARD .....                    | 44 |
| 4.3.5 | TEST SETUP.....                                       | 44 |
| 4.3.6 | EUT OPERATING CONDITIONS .....                        | 44 |
| 4.3.7 | TEST RESULTS (A) .....                                | 45 |
| 4.3.8 | TEST RESULTS (B) .....                                | 49 |
| 4.4   | MAXIMUM PEAK OUTPUT POWER .....                       | 53 |
| 4.4.1 | LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT ..... | 53 |
| 4.4.2 | TEST INSTRUMENTS.....                                 | 53 |
| 4.4.3 | TEST PROCEDURES .....                                 | 54 |
| 4.4.4 | DEVIATION FROM TEST STANDARD .....                    | 54 |
| 4.4.5 | TEST SETUP.....                                       | 54 |
| 4.4.6 | EUT OPERATING CONDITIONS .....                        | 54 |
| 4.4.7 | TEST RESULTS(A) .....                                 | 55 |
| 4.4.8 | TEST RESULTS (B) .....                                | 56 |
| 4.5   | POWER SPECTRAL DENSITY MEASUREMENT .....              | 57 |

|       |                                                    |    |
|-------|----------------------------------------------------|----|
| 4.5.1 | LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT ..... | 57 |
| 4.5.2 | TEST INSTRUMENTS.....                              | 57 |
| 4.5.3 | TEST PROCEDURE.....                                | 58 |
| 4.5.4 | DEVIATION FROM TEST STANDARD .....                 | 58 |
| 4.5.5 | TEST SETUP.....                                    | 58 |
| 4.5.6 | EUT OPERATING CONDITIONS .....                     | 58 |
| 4.5.7 | TEST RESULTS(A) .....                              | 59 |
| 4.5.8 | TEST RESULTS (B) .....                             | 63 |
| 4.6   | BAND EDGES MEASUREMENT .....                       | 67 |
| 4.6.1 | LIMITS OF BAND EDGES MEASUREMENT.....              | 67 |
| 4.6.2 | TEST INSTRUMENTS.....                              | 67 |
| 4.6.3 | TEST PROCEDURE.....                                | 67 |
| 4.6.4 | DEVIATION FROM TEST STANDARD .....                 | 67 |
| 4.6.5 | EUT OPERATING CONDITION .....                      | 68 |
| 4.6.6 | TEST RESULTS (A) .....                             | 68 |
| 4.6.7 | TEST RESULTS(B) .....                              | 71 |
| 4.7   | ANTENNA REQUIREMENT .....                          | 74 |
| 4.7.1 | STANDARD APPLICABLE .....                          | 74 |
| 4.7.2 | ANTENNA CONNECTED CONSTRUCTION .....               | 74 |
| 5     | PHOTOGRAPHS OF THE TEST CONFIGURATION.....         | 75 |
| 6     | INFORMATION ON THE TESTING LABORATORIES .....      | 83 |



## 1 CERTIFICATION

**PRODUCT :** Wireless LAN Mini PCI Card  
**MODEL NO. :** WLL3010  
**BRAND :** Askey  
**TEST ITEMS :** ENGINEERING SAMPLE  
**APPLICANT :** ASKEY COMPUTER CORP.  
**STANDARDS :** 47 CFR Part 15, Subpart C (Section 15.247),  
ANSI C63.4-1992

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility from November 12, 2003 to December 08, 2003. 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.

**PREPARED BY:** Stacy Hsueh. , **DATE:** December 09, 2003  
Stacy Hsueh

**APPROVED BY:** Ellis Wu , **DATE:** December 09, 2003  
Ellis Wu / 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 -13.36dB at 0.168MHz |
| 15.247(a)(2)                                | Spectrum Bandwidth of a Direct Sequence Spread Spectrum System<br>Limit: min. 500kHz    | PASS   | Meet the requirement of limit                                                   |
| 15.247(b)                                   | Maximum Peak Output Power<br>Limit: max. 30dBm                                          | PASS   | Meet the requirement of limit                                                   |
| 15.247(c)                                   | Transmitter Radiated Emissions<br>Limit: Table 15.209                                   | PASS   | Meet the requirement of limit<br>Minimum passing margin is -2.06dB at 100.01MHz |
| 15.247(d)                                   | Power Spectral Density<br>Limit: max. 8dBm                                              | PASS   | Meet the requirement of limit                                                   |
| 15.247(c)                                   | Band Edge Measurement<br>Limit: 20 dB less than the peak value of fundamental frequency | PASS   | Meet the requirement of limit                                                   |

### 3 GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

|                            |                                      |
|----------------------------|--------------------------------------|
| <b>PRODUCT</b>             | Wireless LAN Mini PCI Card           |
| <b>MODEL NO.</b>           | WLL3010                              |
| <b>POWER SUPPLY</b>        | 3.3VDC from host equipment           |
| <b>MODULATION TYPE</b>     | BPSK, QPSK, CCK, 16QAM, 64QAM        |
| <b>RADIO TECHNOLOGY</b>    | DSSS, OFDM                           |
| <b>TRANSFER RATE</b>       | 1/2/5.5/6/9/11/12/18/24/36/48/54Mbps |
| <b>FREQUENCY RANGE</b>     | 2412MHz ~ 2462MHz                    |
| <b>CHANNEL SPACING</b>     | 5MHz                                 |
| <b>NUMBER OF CHANNEL</b>   | 11                                   |
| <b>OUTPUT POWER (OFDM)</b> | 15.04dBm                             |
| <b>OUTPUT POWER (DSSS)</b> | 15.11dBm                             |
| <b>ANTENNA TYPE</b>        | *refer to note2                      |
| <b>DATA CABLE</b>          | NA                                   |
| <b>I/O PORTS</b>           | NA                                   |
| <b>ASSOCIATED DEVICES</b>  | NA                                   |

**NOTE:**

1. This report is issued as a supplementary report of ADT report no.: RF920120R02. The models in this report are identical to the original application one.
2. This report is prepared for FCC class II permissive change. The difference compared with the original design is adding four antenna types to this EUT for the test. Please refer to following table:

| Item | Antenna Type                                | Gain                           |
|------|---------------------------------------------|--------------------------------|
| 1    | Inverted F Antenna for model Arima W720-P4  | 2.31dBi(right) / 1.69dBi(left) |
| 2    | Inverted F Antenna for model Arima W730     | 2.86dBi(right) / 2.76dBi(left) |
| 3    | Inverted F Antenna for model High- Tek W720 | 2.74dBi(main) / 3.09dBi(aux)   |
| 4    | Inverted F Antenna for model High-Tek W730  | 2.86dBi(main) / 1.52dBi(aux)   |

3. The EUT supports 802.11g standards to provide maximum data rates of 54Mbps.
4. For more detailed features description, please refer to the manufacturer's specifications or User's Manual.

### 3.2 DESCRIPTION OF TEST MODES

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. Transfer rate, 11Mbps with CCK technique and 54Mbps with OFDM technique, the worst case, were chosen for final test.
4. Test result (A) is for CCK technique and test result (B) is for OFDM technique.
5. There are two test modes in this report, the mode 1 is for Inverted F Antenna for model Arima W730 with 2.86 dBi gain and the mode 2 is for Inverted F Antenna for model High Tek W720 with 3.09dBi gain.

### 3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a Wireless LAN Mini PCI Card. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

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

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

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



### 3.4 DESCRIPTION OF SUPPORT UNITS

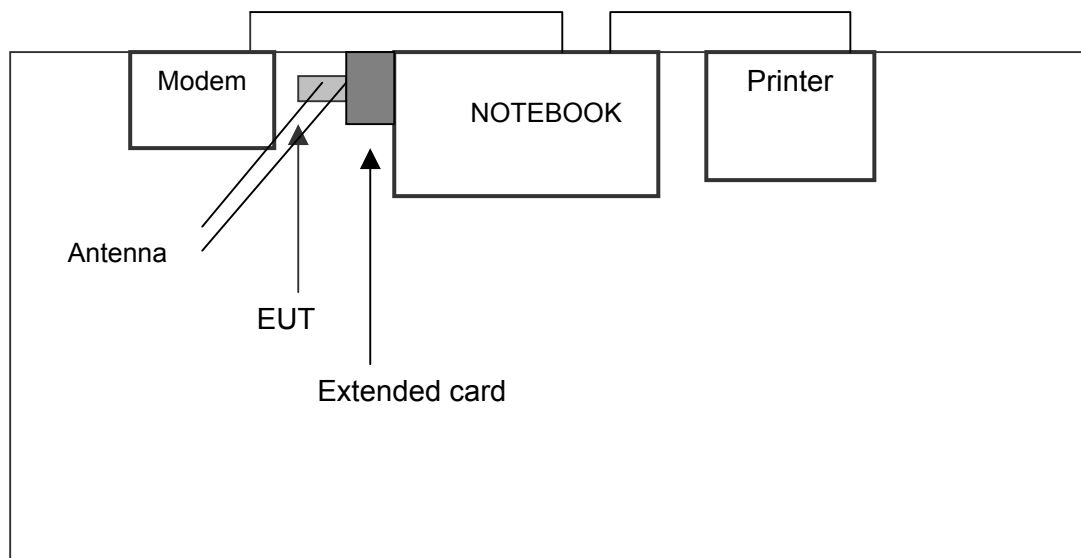
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| NO. | PRODUCT  | BRAND | MODEL NO. | SERIAL NO.               | FCC ID           |
|-----|----------|-------|-----------|--------------------------|------------------|
| 1   | NOTEBOOK | Dell  | PP01L     | TW-09C748-12800-16M-5064 | FCC DoC Approved |
| 2   | PRINTER  | EPSON | LQ-300+   | DCGY017096               | FCC DoC Approved |
| 3   | MODEM    | ACEEX | 1414      | 980020536                | 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   | 1.2m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core |

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

### 3.5 CONFIGURATION OF SYSTEM UNDER TEST



## 4 TEST TYPES AND RESULTS

### 4.1 CONDUCTED EMISSION MEASUREMENT

#### 4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

| FREQUENCY OF EMISSION (MHz) | CONDUCTED LIMIT (dBμV) |          |
|-----------------------------|------------------------|----------|
|                             | Quasi-peak             | Average  |
| 0.15-0.5                    | 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                              | ESCS 30    | 838251/021   | Jan. 20, 2004    |
| ROHDE & SCHWARZ Artificial Mains Network (for EUT)         | ESH3-Z5    | 100218       | Dec. 18, 2003    |
| ROHDE & SCHWARZ Artificial Mains Network (for peripherals) | ESH3-Z5    | 100219       | Dec. 18, 2003    |
| ROHDE & SCHWARZ Artificial Mains Network (for peripherals) | ESH3-Z5    | 100220       | Dec. 18, 2003    |
| *ROHDE & SCHWARZ 4-wire ISN                                | ENY41      | 837032/016   | Nov. 19 2004     |
| *ROHDE & SCHWARZ 2-wire ISN                                | ENY22      | 837497/016   | Nov. 19 2004     |
| Software                                                   | Cond-V2M3  | NA           | NA               |
| RF cable (JYEBAO)                                          | 5D-FB      | Cable-C10.01 | May 01, 2004     |
| SUHNTER Terminator (For ROHDE & SCHWARZ LISN)              | 65BNC-5001 | E1-010770    | Mar. 24, 2004    |
| SUHNTER Terminator (For ROHDE & SCHWARZ LISN)              | 65BNC-5001 | E1-010773    | Apr. 06, 2004    |

- NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
  2. “\*”: These equipment are used for conducted telecom port test only (if tested).
  3. The test was performed in ADT Shielded Room No. 10.
  4. The VCCI Site Registration No. is C-1312.



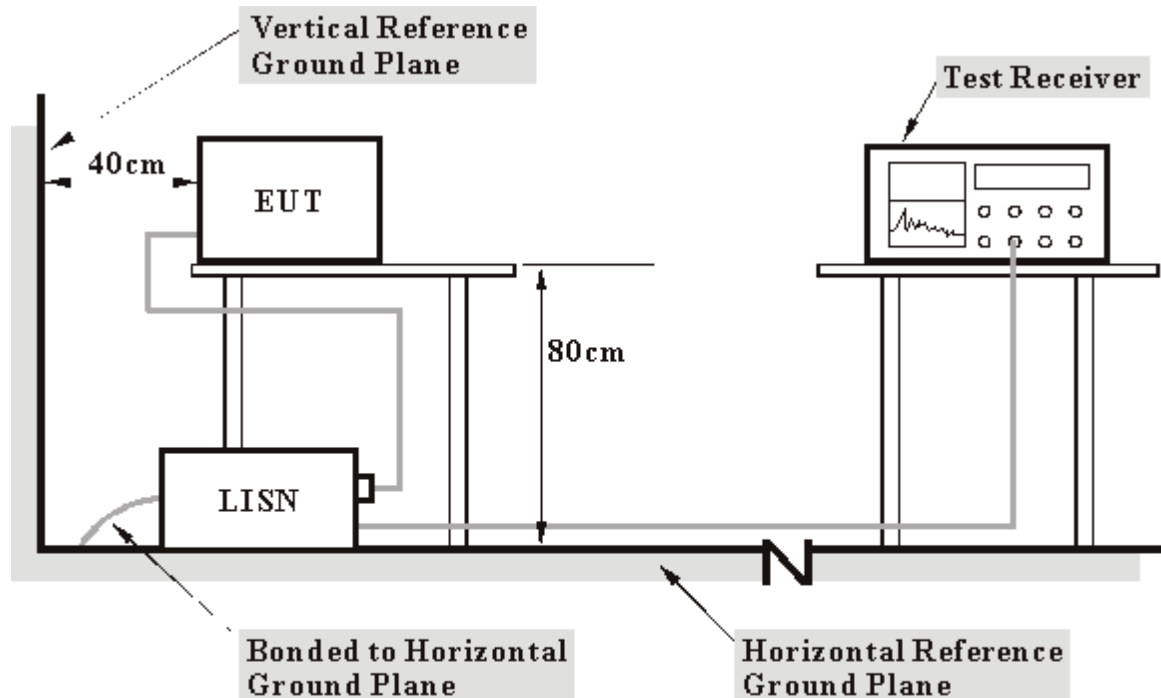
#### 4.1.3 TEST PROCEDURES

- 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 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.

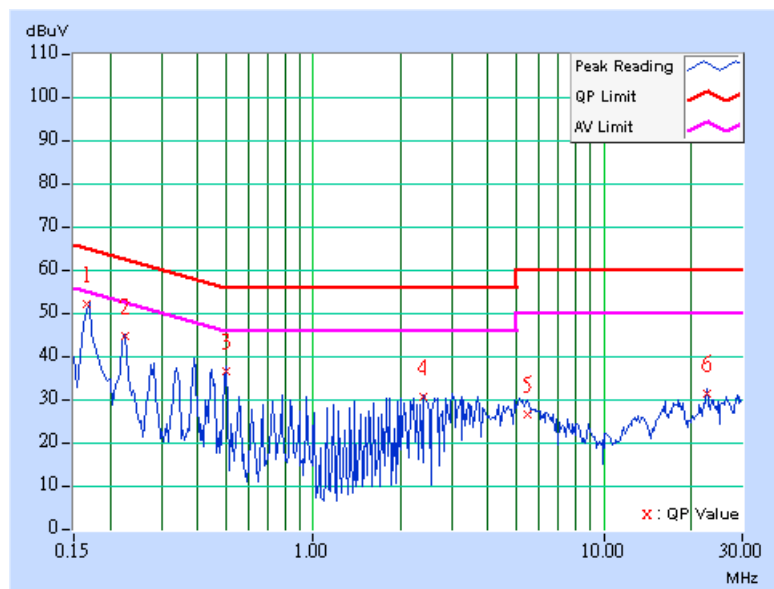
## 4.1.7 TEST RESULTS

|                                 |                            |                              |          |
|---------------------------------|----------------------------|------------------------------|----------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                 | WLL3010  |
| <b>MODE</b>                     | Channel 1                  | <b>6dB BANDWIDTH</b>         | 10 kHz   |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>PHASE</b>                 | Line (L) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 25deg. C, 60%RH, 991 hPa   | <b>TESTED BY:</b> Martin Lee |          |

| 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  | 0.167  | 0.06         | 51.48                   | -   | 51.54                    | -   | 65.11           | 55.11 | -13.57      | -   |
| 2  | 0.224  | 0.06         | 44.01                   | -   | 44.07                    | -   | 62.66           | 52.66 | -18.59      | -   |
| 3  | 0.502  | 0.08         | 35.88                   | -   | 35.96                    | -   | 56.00           | 46.00 | -20.04      | -   |
| 4  | 2.398  | 0.19         | 29.81                   | -   | 30.00                    | -   | 56.00           | 46.00 | -26.00      | -   |
| 5  | 5.466  | 0.27         | 25.80                   | -   | 26.07                    | -   | 60.00           | 50.00 | -33.93      | -   |
| 6  | 22.569 | 0.77         | 30.59                   | -   | 31.36                    | -   | 60.00           | 50.00 | -28.64      | -   |

**NOTE:**

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

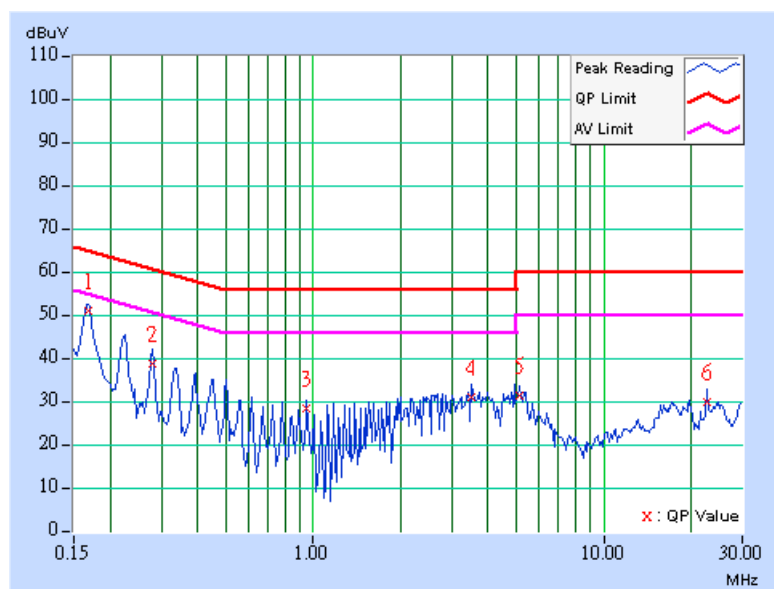


|                                 |                            |                              |             |
|---------------------------------|----------------------------|------------------------------|-------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                 | WLL3010     |
| <b>MODE</b>                     | Channel 1                  | <b>6dB BANDWIDTH</b>         | 10 kHz      |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>PHASE</b>                 | Neutral (N) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 25deg. C, 60%RH, 991 hPa   | <b>TESTED BY:</b> Martin Lee |             |

| 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  | 0.169  | 0.05         | 50.51                   | -   | 50.56                    | -   | 65.03           | 55.03 | -14.47      | -   |
| 2  | 0.279  | 0.05         | 38.14                   | -   | 38.19                    | -   | 60.85           | 50.85 | -22.66      | -   |
| 3  | 0.950  | 0.15         | 28.05                   | -   | 28.20                    | -   | 56.00           | 46.00 | -27.80      | -   |
| 4  | 3.515  | 0.20         | 30.62                   | -   | 30.82                    | -   | 56.00           | 46.00 | -25.18      | -   |
| 5  | 5.133  | 0.24         | 30.75                   | -   | 30.99                    | -   | 60.00           | 50.00 | -29.01      | -   |
| 6  | 22.569 | 0.62         | 29.44                   | -   | 30.06                    | -   | 60.00           | 50.00 | -29.94      | -   |

**NOTE:**

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

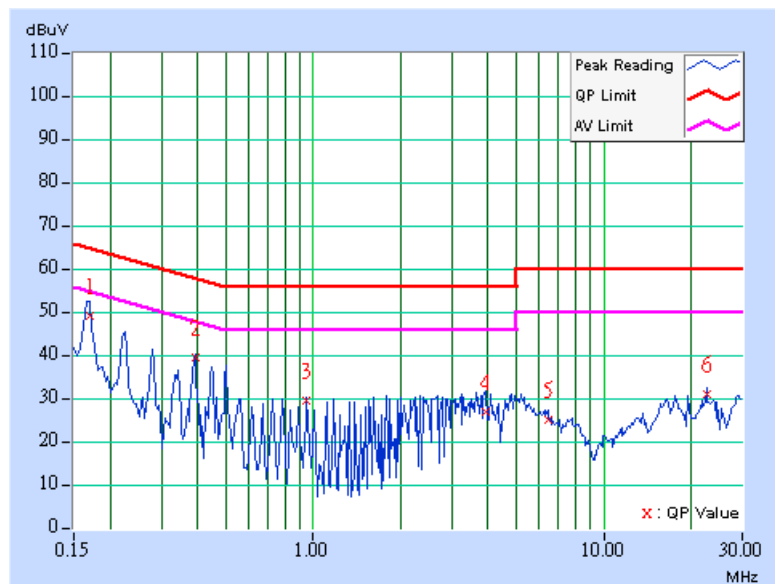


|                                 |                            |                              |          |
|---------------------------------|----------------------------|------------------------------|----------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                 | WLL3010  |
| <b>MODE</b>                     | Channel 6                  | <b>6dB BANDWIDTH</b>         | 10 kHz   |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>PHASE</b>                 | Line (L) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 25deg. C, 60%RH, 991 hPa   | <b>TESTED BY:</b> Martin Lee |          |

| 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  | 0.171  | 0.06         | 48.57                   | -   | 48.63                    | -   | 64.90           | 54.90 | -16.28      | -   |
| 2  | 0.392  | 0.06         | 38.76                   | -   | 38.82                    | -   | 58.03           | 48.03 | -19.21      | -   |
| 3  | 0.949  | 0.15         | 29.04                   | -   | 29.19                    | -   | 56.00           | 46.00 | -26.81      | -   |
| 4  | 3.910  | 0.22         | 26.11                   | -   | 26.33                    | -   | 56.00           | 46.00 | -29.67      | -   |
| 5  | 6.419  | 0.30         | 24.60                   | -   | 24.90                    | -   | 60.00           | 50.00 | -35.10      | -   |
| 6  | 22.570 | 0.77         | 30.38                   | -   | 31.15                    | -   | 60.00           | 50.00 | -28.85      | -   |

**NOTE:**

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

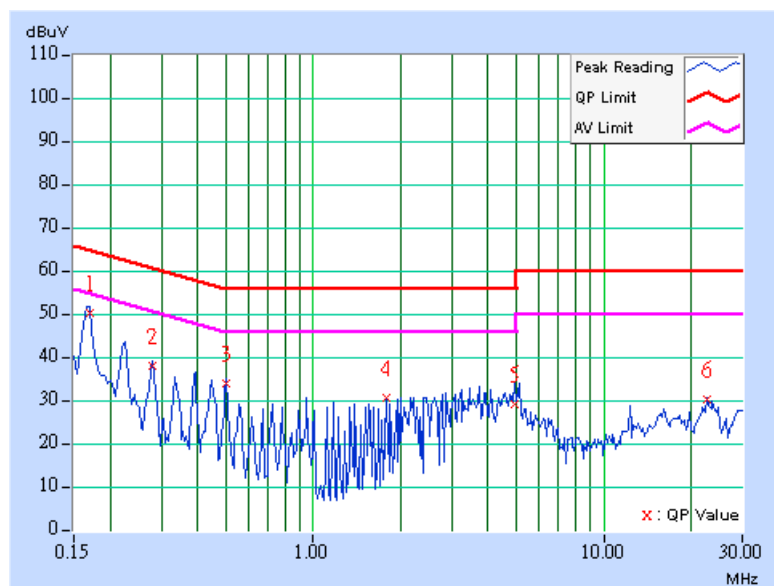


|                                 |                            |                              |             |
|---------------------------------|----------------------------|------------------------------|-------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                 | WLL3010     |
| <b>MODE</b>                     | Channel 6                  | <b>6dB BANDWIDTH</b>         | 10 kHz      |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>PHASE</b>                 | Neutral (N) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 25deg. C, 60%RH, 991 hPa   | <b>TESTED BY:</b> Martin Lee |             |

| 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  | 0.170  | 0.05         | 49.87                   | -   | 49.92                    | -   | 64.98           | 54.98 | -15.06      | -   |
| 2  | 0.279  | 0.05         | 37.49                   | -   | 37.54                    | -   | 60.85           | 50.85 | -23.31      | -   |
| 3  | 0.502  | 0.07         | 33.56                   | -   | 33.63                    | -   | 56.00           | 46.00 | -22.37      | -   |
| 4  | 1.785  | 0.18         | 29.98                   | -   | 30.16                    | -   | 56.00           | 46.00 | -25.84      | -   |
| 5  | 4.913  | 0.23         | 28.51                   | -   | 28.74                    | -   | 56.00           | 46.00 | -27.26      | -   |
| 6  | 22.570 | 0.62         | 29.74                   | -   | 30.36                    | -   | 60.00           | 50.00 | -29.64      | -   |

**NOTE:**

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



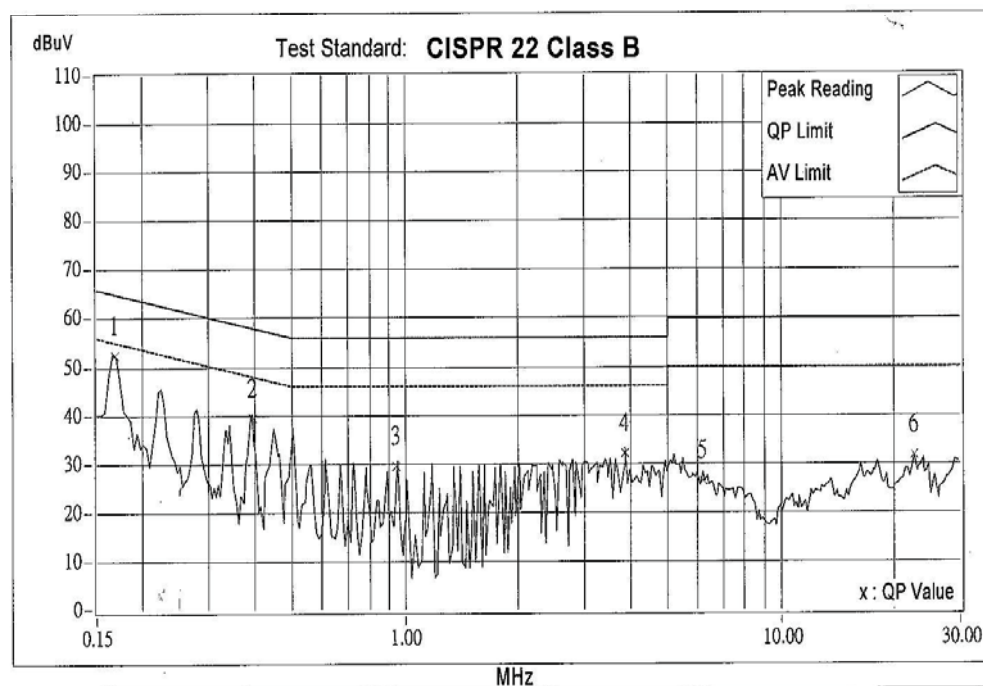


|                                 |                            |                              |          |
|---------------------------------|----------------------------|------------------------------|----------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                 | WLL3010  |
| <b>MODE</b>                     | Channel 11                 | <b>6dB BANDWIDTH</b>         | 10 kHz   |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>PHASE</b>                 | Line (L) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 25deg. C, 60%RH, 991 hPa   | <b>TESTED BY:</b> Martin Lee |          |

| 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  | 0.168  | 0.06         | 51.66                   | -   | 51.72                    | -   | 65.08           | 55.08 | -13.36      | -   |
| 2  | 0.392  | 0.06         | 38.55                   | -   | 38.61                    | -   | 58.02           | 48.02 | -19.41      | -   |
| 3  | 0.947  | 0.15         | 28.70                   | -   | 28.85                    | -   | 56.00           | 46.00 | -27.15      | -   |
| 4  | 3.852  | 0.22         | 31.10                   | -   | 31.32                    | -   | 56.00           | 46.00 | -24.68      | -   |
| 5  | 6.195  | 0.29         | 25.63                   | -   | 25.92                    | -   | 60.00           | 50.00 | -34.08      | -   |
| 6  | 22.569 | 0.77         | 30.64                   | -   | 34.41                    | -   | 60.00           | 50.00 | -28.59      | -   |

**NOTE:**

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

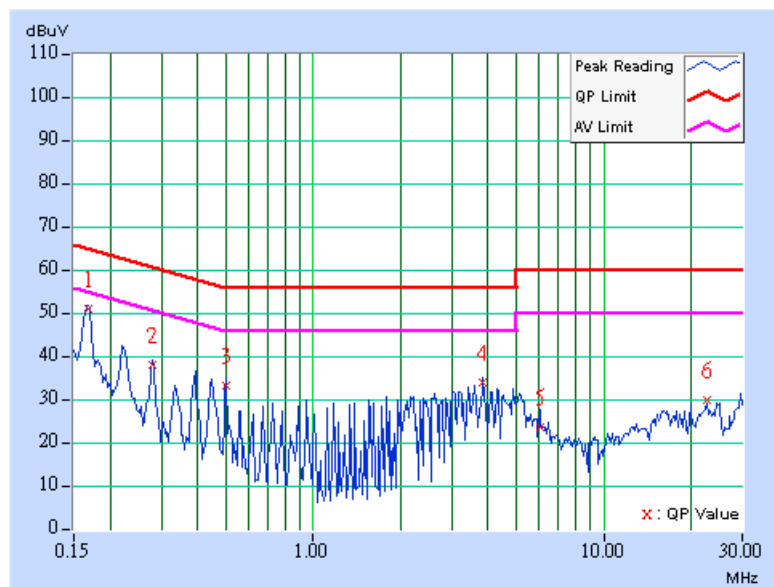


|                                 |                            |                              |             |
|---------------------------------|----------------------------|------------------------------|-------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                 | WLL3010     |
| <b>MODE</b>                     | Channel 11                 | <b>6dB BANDWIDTH</b>         | 10 kHz      |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>PHASE</b>                 | Neutral (N) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 25deg. C, 60%RH, 991 hPa   | <b>TESTED BY:</b> Martin Lee |             |

| 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  | 0.168  | 0.05         | 50.42                   | -   | 50.47                    | -   | 65.05           | 55.05 | -14.58      | -   |
| 2  | 0.278  | 0.05         | 37.53                   | -   | 37.58                    | -   | 60.87           | 50.87 | -23.29      | -   |
| 3  | 0.500  | 0.07         | 32.81                   | -   | 32.88                    | -   | 56.00           | 46.00 | -23.12      | -   |
| 4  | 3.851  | 0.20         | 33.34                   | -   | 33.54                    | -   | 56.00           | 46.00 | -22.46      | -   |
| 5  | 6.030  | 0.27         | 23.12                   | -   | 23.39                    | -   | 60.00           | 50.00 | -36.61      | -   |
| 6  | 22.568 | 0.62         | 29.40                   | -   | 30.02                    | -   | 60.00           | 50.00 | -29.98      | -   |

**NOTE:**

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



## 4.2 Radiated Emission Measurement

### 4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

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

**NOTE:**

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

#### 4.2.2 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER         | MODEL NO.          | SERIAL NO.               | CALIBRATED UNTIL |
|------------------------------------|--------------------|--------------------------|------------------|
| * HP Spectrum Analyzer             | 8590L              | 3544A01176               | Jun. 10, 2004    |
| * HP Preamplifier                  | 8447D              | 2944A08485               | May 01, 2004     |
| * HP Spectrum Analyzer             | 8593E              | 3926A04191               |                  |
| * HP Preamplifier                  | 8449B              | 3008A01292               | Aug. 13, 2004    |
| ROHDE & SCHWARZ TEST RECEIVER      | ESI7               | 838496/016               | Feb. 23, 2004    |
| * ROHDE & SCHWARZ TEST RECEIVER    | ESMI               | 839013/007<br>839379/002 | Feb. 13, 2004    |
| SCHAFFNER Tunable Dipole Antenna   | VHBA 9123          | 459                      | Jun. 26, 2004    |
| SCHWARZBECK Tunable Dipole Antenna | UHA 9105           | 977                      |                  |
| * CHASE BILOG Antenna              | CBL6112A           | 2221                     | July 26, 2004    |
| * SCHWARZBECK Horn Antenna         | BBHA9120-D1        | D130                     | Jun. 30, 2004    |
| * EMCO Turn Table                  | 1060               | 1115                     | NA               |
| * CHANCE Tower                     | CM-AT40            | CM-A010                  | NA               |
| * Software                         | ADT_Radiated_V5.14 | NA                       | NA               |
| * ANRITSU RF Switches              | MP59B              | M35046                   | Jan. 05, 2004    |
| * TIMES RF cable                   | LMR-600            | CABLE-ST5-01             | Jan. 05, 2004    |

**NOTE:** 1. The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.

2. "\*" = These equipment are used for the final measurement.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The test was performed in ADT Open Site No. 5.
5. The VCCI Site Registration No. is R-1039.

#### 4.2.3 TEST PROCEDURES

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

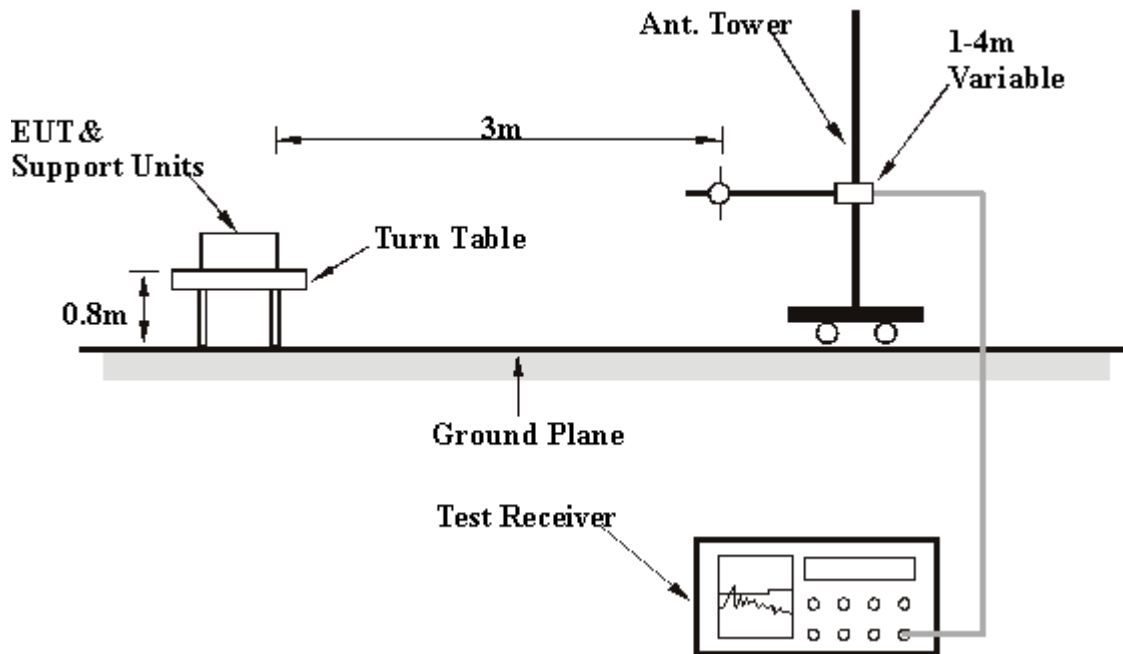
**NOTE:**

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

## Mode 1

|                                 |                            |                               |               |
|---------------------------------|----------------------------|-------------------------------|---------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                  | WLL3010       |
| <b>MODE</b>                     | Channel 11                 | <b>FREQUENCY RANGE</b>        | Below 1000MHz |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>DETECTOR FUNCTION</b>      | Quasi-Peak    |
| <b>ENVIRONMENTAL CONDITIONS</b> | 22deg. C, 74%RH, 991hPa    | <b>TESTED BY:</b> Hardway 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) | Correction Factor (dB/m) |
| 1                                                   | 74.86       | 33.38 QP                | 40.00          | -6.62       | 2.25 H             | 1                    | 25.88            | 7.5                      |
| 2                                                   | 100.34      | 40.92 QP                | 43.50          | -2.58       | 2.75 H             | 0                    | 29.36            | 11.56                    |
| 3                                                   | 124.97      | 38.20 QP                | 43.50          | -5.30       | 2.92 H             | 4                    | 25.38            | 12.82                    |
| 4                                                   | 133.37      | 40.55 QP                | 43.50          | -2.95       | 1.78 H             | 103                  | 28.17            | 12.38                    |
| 5                                                   | 149.99      | 33.75 QP                | 43.50          | -9.75       | 2.66 H             | 22                   | 22.38            | 11.37                    |
| 6                                                   | 200.45      | 36.69 QP                | 43.50          | -6.81       | 1.70 H             | 313                  | 25.90            | 10.79                    |
| 7                                                   | 225.07      | 40.26 QP                | 46.00          | -5.74       | 1.38 H             | 317                  | 28.07            | 12.19                    |
| 8                                                   | 266.39      | 37.67 QP                | 46.00          | -8.33       | 1.52 H             | 340                  | 22.52            | 15.15                    |
| 9                                                   | 275.21      | 40.25 QP                | 46.00          | -5.75       | 1.00 H             | 280                  | 24.99            | 15.26                    |
| 10                                                  | 300.77      | 40.78 QP                | 46.00          | -5.22       | 1.30 H             | 168                  | 25.11            | 15.67                    |
| 11                                                  | 325.20      | 37.52 QP                | 46.00          | -8.48       | 1.58 H             | 133                  | 21.49            | 16.03                    |
| 12                                                  | 350.06      | 41.46 QP                | 46.00          | -4.54       | 1.55 H             | 98                   | 25.06            | 16.40                    |
| 13                                                  | 352.02      | 41.36 QP                | 46.00          | -4.64       | 1.55 H             | 225                  | 24.89            | 16.47                    |
| 14                                                  | 375.01      | 39.79 QP                | 46.00          | -6.21       | 1.45 H             | 57                   | 22.47            | 17.32                    |
| 15                                                  | 399.75      | 40.04 QP                | 46.00          | -5.96       | 1.00 H             | 241                  | 21.81            | 18.23                    |
| 16                                                  | 625.17      | 39.69 QP                | 46.00          | -6.31       | 1.51 H             | 238                  | 17.32            | 22.37                    |
| 17                                                  | 725.01      | 39.31 QP                | 46.00          | -6.69       | 1.38 H             | 14                   | 16.03            | 23.28                    |
| 18                                                  | 749.56      | 35.04 QP                | 46.00          | -10.96      | 1.36 H             | 355                  | 11.18            | 23.86                    |

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

|                                 |                            |                               |               |
|---------------------------------|----------------------------|-------------------------------|---------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                  | WLL3010       |
| <b>MODE</b>                     | Channel 11                 | <b>FREQUENCY RANGE</b>        | Below 1000MHz |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>DETECTOR FUNCTION</b>      | Quasi-Peak    |
| <b>ENVIRONMENTAL CONDITIONS</b> | 22deg. C, 74%RH, 991hPa    | <b>TESTED BY:</b> Hardway Lee |               |

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

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1   | 74.99       | 34.34 QP                | 40.00          | -5.66       | 1.00 V             | 278                  | 26.82            | 7.52                     |
| 2   | 133.35      | 37.76 QP                | 43.50          | -5.74       | 2.62 V             | 309                  | 25.37            | 12.39                    |
| 3   | 200.03      | 36.27 QP                | 43.50          | -7.23       | 1.00 V             | 72                   | 25.51            | 10.76                    |
| 4   | 225.00      | 38.49 QP                | 46.00          | -7.51       | 1.00 V             | 245                  | 26.30            | 12.19                    |
| 5   | 250.01      | 32.63 QP                | 46.00          | -13.37      | 1.00 V             | 275                  | 19.02            | 13.61                    |
| 6   | 299.96      | 38.86 QP                | 46.00          | -7.14       | 2.11 V             | 41                   | 23.20            | 15.66                    |
| 7   | 349.80      | 38.73 QP                | 46.00          | -7.27       | 1.18 V             | 310                  | 22.33            | 16.40                    |
| 8   | 500.02      | 38.45 QP                | 46.00          | -7.55       | 1.14 V             | 228                  | 18.32            | 20.13                    |
| 9   | 525.00      | 36.66 QP                | 46.00          | -9.34       | 1.06 V             | 101                  | 16.17            | 20.48                    |
| 10  | 555.10      | 41.09 QP                | 46.00          | -4.91       | 1.06 V             | 11                   | 20.10            | 20.99                    |

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



|                                 |                            |                             |                          |
|---------------------------------|----------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                | WLL3010                  |
| <b>CHANNEL</b>                  | Channel 1                  | <b>FREQUENCY RANGE</b>      | Above 1000MHz            |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 22deg. C, 65%RH,<br>991hPa | <b>TESTED BY:</b> Steven Lu |                          |

| <b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b> |             |                         |                |             |                    |                      |                  |                          |
|----------------------------------------------------------------|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| No.                                                            | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1                                                              | 1608.00     | 40.79 PK                | 74.00          | -33.21      | 1.00 H             | 62                   | 12.49            | 28.30                    |
| 2                                                              | 2390.00     | 56.51 PK                | 74.00          | -17.49      | 1.00 H             | 4                    | 25.76            | 30.75                    |
| 2                                                              | 2390.00     | 38.28 AV                | 54.00          | -15.72      | 1.00 H             | 4                    | 7.53             | 30.75                    |
| 3                                                              | *2412.00    | 101.67 PK               |                |             | 1.00 H             | 4                    | 70.83            | 30.84                    |
| 3                                                              | *2412.00    | 83.44 AV                |                |             | 1.00 H             | 4                    | 52.60            | 30.84                    |
| 4                                                              | 3216.00     | 45.86 PK                | 74.00          | -28.14      | 1.00 H             | 323                  | 12.60            | 33.26                    |
| 4                                                              | 3216.00     | 35.20 AV                | 54.00          | -18.80      | 1.00 H             | 323                  | 1.94             | 33.26                    |

| <b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b> |             |                         |                |             |                    |                      |                  |                          |
|--------------------------------------------------------------|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| No.                                                          | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1                                                            | 1608.00     | 38.27 PK                | 74.00          | -35.73      | 1.02 V             | 360                  | 9.97             | 28.30                    |
| 2                                                            | 2390.00     | 51.01 PK                | 74.00          | -22.99      | 1.21 V             | 35                   | 20.26            | 30.75                    |
| 2                                                            | 2390.00     | 26.01 AV                | 54.00          | -27.99      | 1.21 V             | 35                   | -4.74            | 30.75                    |
| 3                                                            | *2412.00    | 96.17 PK                |                |             | 1.21 V             | 35                   | 65.33            | 30.84                    |
| 3                                                            | *2412.00    | 71.17 AV                |                |             | 1.21 V             | 35                   | 40.33            | 30.84                    |
| 4                                                            | 3216.00     | 46.20 PK                | 74.00          | -27.80      | 1.11 V             | 339                  | 12.94            | 33.26                    |
| 4                                                            | 3216.00     | 34.70 AV                | 54.00          | -19.30      | 1.11 V             | 339                  | 1.44             | 33.26                    |

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

|                                 |                            |                             |                          |
|---------------------------------|----------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                | WLL3010                  |
| <b>CHANNEL</b>                  | Channel 6                  | <b>FREQUENCY RANGE</b>      | Above 1000MHz            |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 22deg. C, 65%RH,<br>991hPa | <b>TESTED BY:</b> Steven Lu |                          |

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

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1   | 1624.00     | 44.94 PK                | 74.00          | -29.06      | 1.23 H             | 40                   | 16.52            | 28.42                    |
| 2   | *2437.00    | 99.97 PK                |                |             | 1.30 H             | 359                  | 68.33            | 31.64                    |
| 2   | *2437.00    | 82.31 AV                |                |             | 1.30 H             | 359                  | 50.67            | 31.64                    |
| 3   | 3248.00     | 49.64 PK                | 74.00          | -24.36      | 1.01 H             | 342                  | 14.53            | 35.11                    |
| 3   | 3248.00     | 41.81 AV                | 54.00          | -12.19      | 1.01 H             | 342                  | 6.70             | 35.11                    |

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

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1   | 1624.00     | 39.52 PK                | 74.00          | -34.48      | 1.02 V             | 2                    | 11.19            | 28.33                    |
| 2   | *2437.00    | 98.78 PK                |                |             | 1.22 V             | 48                   | 67.83            | 30.95                    |
| 2   | *2437.00    | 81.28 AV                |                |             | 1.22 V             | 48                   | 50.33            | 30.95                    |
| 3   | 3248.00     | 47.83 PK                | 74.00          | -26.17      | 1.20 V             | 320                  | 14.52            | 33.31                    |
| 3   | 3248.00     | 36.83 AV                | 54.00          | -17.17      | 1.20 V             | 320                  | 3.52             | 33.31                    |

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

|                                 |                            |                             |                          |
|---------------------------------|----------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                | WLL3010                  |
| <b>CHANNEL</b>                  | Channel 11                 | <b>FREQUENCY RANGE</b>      | Above 1000MHz            |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 22deg. C, 65%RH,<br>991hPa | <b>TESTED BY:</b> Steven Lu |                          |

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

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1   | 1641.00     | 43.70 PK                | 74.00          | -30.30      | 1.16 H             | 39                   | 15.19            | 28.51                    |
| 2   | *2462.00    | 99.54 PK                |                |             | 1.16 H             | 39                   | 67.83            | 31.71                    |
| 2   | *2462.00    | 81.38 AV                |                |             | 1.16 H             | 39                   | 49.67            | 31.71                    |
| 3   | 2483.50     | 55.16 PK                | 74.00          | -18.84      | 1.16 H             | 39                   | 23.39            | 31.77                    |
| 3   | 2483.50     | 36.70 AV                | 54.00          | -17.30      | 1.16 H             | 39                   | 4.93             | 31.77                    |
| 4   | 3284.00     | 49.20 PK                | 74.00          | -24.80      | 1.01 H             | 345                  | 14.03            | 35.17                    |
| 4   | 3284.00     | 40.54 AV                | 54.00          | -13.46      | 1.01 H             | 345                  | 5.37             | 35.17                    |

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

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1   | 1641.00     | 50.17 PK                | 74.00          | -23.83      | 1.06 V             | 27                   | 21.66            | 28.51                    |
| 2   | *2462.00    | 95.38 PK                |                |             | 1.56 V             | 255                  | 63.67            | 31.71                    |
| 2   | *2462.00    | 78.38 AV                |                |             | 1.56 V             | 255                  | 46.67            | 31.71                    |
| 3   | 2483.50     | 50.72 PK                | 74.00          | -23.28      | 1.56 V             | 255                  | 18.95            | 31.77                    |
| 4   | 3284.00     | 49.17 PK                | 74.00          | -24.83      | 1.26 V             | 314                  | 14.00            | 35.17                    |
| 4   | 3284.00     | 38.83 AV                | 54.00          | -15.17      | 1.26 V             | 314                  | 3.66             | 35.17                    |

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

**Mode 2**

|                                 |                            |                               |               |
|---------------------------------|----------------------------|-------------------------------|---------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                  | WLL3010       |
| <b>MODE</b>                     | Channel 11                 | <b>FREQUENCY RANGE</b>        | Below 1000MHz |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>DETECTOR FUNCTION</b>      | Quasi-Peak    |
| <b>ENVIRONMENTAL CONDITIONS</b> | 22deg. C, 70%RH, 991hPa    | <b>TESTED BY:</b> Hardway Lee |               |

| <b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b> |             |                         |                |             |                    |                      |                  |                          |
|----------------------------------------------------------------|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| No.                                                            | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1                                                              | 39.96       | 27.43 QP                | 40.00          | -12.57      | 1.71 H             | 85                   | 14.73            | 12.70                    |
| 2                                                              | 66.67       | 34.40 QP                | 40.00          | -5.60       | 1.64 H             | 174                  | 27.05            | 7.35                     |
| 3                                                              | 80.84       | 32.43 QP                | 40.00          | -7.57       | 3.91 H             | 331                  | 23.99            | 8.44                     |
| 4                                                              | 99.99       | 39.57 QP                | 43.50          | -3.93       | 3.46 H             | 185                  | 28.04            | 11.53                    |
| 5                                                              | 120.04      | 35.84 QP                | 43.50          | -7.66       | 3.36 H             | 186                  | 22.76            | 13.08                    |
| 6                                                              | 133.32      | 39.07 QP                | 43.50          | -4.43       | 2.18 H             | 1                    | 26.68            | 12.39                    |
| 7                                                              | 166.68      | 36.66 QP                | 43.50          | -6.84       | 2.42 H             | 203                  | 26.04            | 10.62                    |
| 8                                                              | 179.13      | 37.68 QP                | 43.50          | -5.82       | 2.25 H             | 186                  | 27.20            | 10.48                    |
| 9                                                              | 200.03      | 33.56 QP                | 43.50          | -9.94       | 1.93 H             | 210                  | 22.80            | 10.76                    |
| 10                                                             | 220.43      | 35.81 QP                | 46.00          | -10.19      | 1.00 H             | 148                  | 23.89            | 11.92                    |
| 11                                                             | 233.40      | 39.76 QP                | 46.00          | -6.27       | 1.23 H             | 219                  | 27.07            | 12.66                    |
| 12                                                             | 240.00      | 38.84 QP                | 46.00          | -7.16       | 1.44 H             | 30                   | 25.80            | 13.04                    |
| 13                                                             | 266.40      | 41.70 QP                | 46.00          | -4.30       | 1.68 H             | 32                   | 26.55            | 15.15                    |
| 14                                                             | 300.02      | 41.01 QP                | 46.00          | -4.99       | 1.77 H             | 296                  | 25.35            | 15.66                    |
| 15                                                             | 319.99      | 41.41 QP                | 46.00          | -4.59       | 1.36 H             | 72                   | 25.45            | 15.96                    |
| 16                                                             | 366.62      | 39.01 QP                | 46.00          | -6.99       | 1.71 H             | 140                  | 22.00            | 17.01                    |
| 17                                                             | 400.19      | 42.12 QP                | 46.00          | -3.88       | 1.36 H             | 1                    | 23.88            | 18.24                    |

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

|                                 |                            |                               |               |
|---------------------------------|----------------------------|-------------------------------|---------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                  | WLL3010       |
| <b>MODE</b>                     | Channel 11                 | <b>FREQUENCY RANGE</b>        | Below 1000MHz |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>DETECTOR FUNCTION</b>      | Quasi-Peak    |
| <b>ENVIRONMENTAL CONDITIONS</b> | 22deg. C, 70%RH, 991hPa    | <b>TESTED BY:</b> Hardway Lee |               |

| <b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b> |               |                         |                |              |                    |                      |                  |                          |
|--------------------------------------------------------------|---------------|-------------------------|----------------|--------------|--------------------|----------------------|------------------|--------------------------|
| No.                                                          | Freq. (MHz)   | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB)  | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1                                                            | 40.05         | 34.56 QP                | 40.00          | -5.44        | 1.43 V             | 333                  | 21.89            | 12.67                    |
| 2                                                            | 66.67         | 32.65 QP                | 40.00          | -7.35        | 2.60 V             | 49                   | 25.30            | 7.35                     |
| 3                                                            | 80.02         | 36.25 QP                | 40.00          | -3.75        | 1.43 V             | 72                   | 27.90            | 8.35                     |
| <b>4</b>                                                     | <b>100.01</b> | <b>41.44 QP</b>         | <b>43.50</b>   | <b>-2.06</b> | <b>1.52 V</b>      | <b>174</b>           | <b>29.91</b>     | <b>11.53</b>             |
| 5                                                            | 120.01        | 32.71 QP                | 43.50          | -10.79       | 1.23 V             | 306                  | 19.63            | 13.08                    |
| 6                                                            | 133.36        | 37.15 QP                | 43.50          | -6.35        | 4.00 V             | 262                  | 24.76            | 12.39                    |
| 7                                                            | 166.70        | 39.18 QP                | 43.50          | -4.32        | 2.32 V             | 271                  | 28.56            | 10.62                    |
| 8                                                            | 200.05        | 37.12 QP                | 43.50          | -6.38        | 2.07 V             | 268                  | 26.36            | 10.76                    |
| 9                                                            | 231.82        | 38.65 QP                | 43.50          | -7.35        | 1.88 V             | 289                  | 26.08            | 12.57                    |
| 10                                                           | 239.87        | 36.16 QP                | 46.00          | -9.84        | 1.95 V             | 87                   | 23.13            | 13.03                    |
| 11                                                           | 266.72        | 41.24 QP                | 46.00          | -4.76        | 1.28 V             | 259                  | 26.09            | 15.15                    |
| 12                                                           | 319.52        | 34.51 QP                | 46.00          | -11.49       | 1.55 V             | 181                  | 18.56            | 15.95                    |
| 13                                                           | 366.79        | 40.32 QP                | 46.00          | -5.68        | 1.47 V             | 137                  | 23.30            | 17.02                    |
| 14                                                           | 400.05        | 38.59 QP                | 46.00          | -7.41        | 1.40 V             | 161                  | 20.35            | 18.24                    |
| 15                                                           | 480.01        | 34.27 QP                | 46.00          | -11.73       | 1.00 V             | 23                   | 14.64            | 19.63                    |
| 16                                                           | 500.02        | 39.02 QP                | 46.00          | -6.98        | 4.00 V             | 296                  | 18.89            | 20.13                    |
| 17                                                           | 940.49        | 38.88 QP                | 46.00          | -7.12        | 1.63 V             | 356                  | 14.15            | 24.73                    |

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

|                                 |                            |                               |                          |
|---------------------------------|----------------------------|-------------------------------|--------------------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                  | WLL3010                  |
| <b>CHANNEL</b>                  | Channel 1                  | <b>FREQUENCY RANGE</b>        | Above 1000MHz            |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>DETECTOR FUNCTION</b>      | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 20deg. C, 60%RH,<br>991hPa | <b>TESTED BY:</b> Hardway Lee |                          |

| <b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b> |             |                         |                |             |                    |                      |                  |                          |
|----------------------------------------------------------------|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| No.                                                            | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1                                                              | 1608.00     | 41.68 PK                | 74.00          | -32.32      | 1.26 H             | 52                   | 13.34            | 28.34                    |
| 2                                                              | 2390.00     | 50.07 PK                | 74.00          | -23.93      | 1.70 H             | 80                   | 18.57            | 31.50                    |
| 3                                                              | *2412.00    | 101.23 PK               |                |             | 1.70 H             | 80                   | 69.67            | 31.56                    |
| 3                                                              | *2412.00    | 85.56 AV                |                |             | 1.70 H             | 80                   | 54.00            | 31.56                    |
| 4                                                              | 3216.00     | 45.92 PK                | 74.00          | -28.08      | 1.26 H             | 52                   | 10.87            | 35.05                    |
| 4                                                              | 3216.00     | 37.25 AV                | 54.00          | -16.75      | 1.26 H             | 52                   | 2.20             | 35.05                    |

| <b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b> |             |                         |                |             |                    |                      |                  |                          |
|--------------------------------------------------------------|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| No.                                                          | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1                                                            | 1608.00     | 41.85 PK                | 74.00          | -32.15      | 1.51 V             | 12                   | 13.51            | 28.34                    |
| 2                                                            | 2390.00     | 50.57 PK                | 74.00          | -23.43      | 1.11 V             | 312                  | 19.07            | 31.50                    |
| 3                                                            | *2412.00    | 101.73 PK               |                |             | 1.11 V             | 312                  | 70.17            | 31.56                    |
| 3                                                            | *2412.00    | 85.23 AV                |                |             | 1.11 V             | 312                  | 53.67            | 31.56                    |
| 4                                                            | 3216.00     | 47.75 PK                | 74.00          | -26.25      | 1.57 V             | 315                  | 12.70            | 35.05                    |
| 4                                                            | 3216.00     | 36.92 AV                | 54.00          | -17.08      | 1.57 V             | 315                  | 1.87             | 35.05                    |

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

|                                 |                            |                               |                          |
|---------------------------------|----------------------------|-------------------------------|--------------------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                  | WLL3010                  |
| <b>CHANNEL</b>                  | Channel 6                  | <b>FREQUENCY RANGE</b>        | Above 1000MHz            |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>DETECTOR FUNCTION</b>      | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 20deg. C, 60%RH,<br>991hPa | <b>TESTED BY:</b> Hardway 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) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1   | 1624.00     | 43.60 PK                | 74.00          | -30.40      | 1.27 H             | 55                   | 15.18            | 28.42                    |
| 2   | *2437.00    | 97.97 PK                |                |             | 1.18 H             | 17                   | 66.33            | 31.64                    |
| 2   | *2437.00    | 83.64 AV                |                |             | 1.18 H             | 17                   | 52.00            | 31.64                    |
| 3   | 3248.00     | 47.14 PK                | 74.00          | -26.86      | 1.17 H             | 337                  | 12.03            | 35.11                    |
| 3   | 3248.00     | 37.31 AV                | 54.00          | -16.69      | 1.17 H             | 337                  | 2.20             | 35.11                    |

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

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1   | 1624.00     | 41.94 PK                | 74.00          | -32.06      | 1.10 V             | 228                  | 13.52            | 28.42                    |
| 2   | *2437.00    | 102.47 PK               |                |             | 1.11 V             | 314                  | 70.83            | 31.64                    |
| 2   | *2437.00    | 86.47 AV                |                |             | 1.11 V             | 314                  | 54.83            | 31.64                    |
| 3   | 3248.00     | 47.81 PK                | 74.00          | -26.19      | 1.10 V             | 293                  | 12.70            | 35.11                    |
| 3   | 3248.00     | 37.31 AV                | 54.00          | -16.69      | 1.10 V             | 293                  | 2.20             | 35.11                    |

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

|                                 |                            |                               |                          |
|---------------------------------|----------------------------|-------------------------------|--------------------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                  | WLL3010                  |
| <b>CHANNEL</b>                  | Channel 11                 | <b>FREQUENCY RANGE</b>        | Above 1000MHz            |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>DETECTOR FUNCTION</b>      | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 20deg. C, 60%RH,<br>991hPa | <b>TESTED BY:</b> Hardway 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) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1   | 1641.00     | 43.20 PK                | 74.00          | -30.80      | 1.74 H             | 56                   | 14.69            | 28.51                    |
| 2   | *2462.00    | 100.71 PK               |                |             | 1.44 H             | 81                   | 69.00            | 31.71                    |
| 2   | *2462.00    | 84.88 AV                |                |             | 1.44 H             | 81                   | 53.17            | 31.71                    |
| 3   | 2483.50     | 52.21 PK                | 74.00          | -21.79      | 1.44 H             | 81                   | 20.44            | 31.77                    |
| 3   | 2483.50     | 36.38 AV                | 54.00          | -17.62      | 1.44 H             | 81                   | 4.61             | 31.77                    |
| 4   | 3282.00     | 46.54 PK                | 74.00          | -27.46      | 1.76 H             | 223                  | 11.37            | 35.17                    |
| 4   | 3282.00     | 35.20 AV                | 54.00          | -18.80      | 1.76 H             | 223                  | 0.03             | 35.17                    |

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

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1   | 1641.00     | 42.04 PK                | 74.00          | -31.96      | 1.06 V             | 28                   | 13.53            | 28.51                    |
| 2   | *2462.00    | 100.88 PK               |                |             | 1.06 V             | 318                  | 69.17            | 31.71                    |
| 2   | *2462.00    | 84.88 AV                |                |             | 1.06 V             | 318                  | 53.17            | 31.71                    |
| 3   | 2483.50     | 52.38 PK                | 74.00          | -21.62      | 1.06 V             | 318                  | 20.61            | 31.77                    |
| 3   | 2483.50     | 36.38 AV                | 54.00          | -17.62      | 1.06 V             | 318                  | 4.61             | 31.77                    |
| 4   | 3282.00     | 45.54 PK                | 74.00          | -28.46      | 1.02 V             | 314                  | 10.37            | 35.17                    |
| 4   | 3282.00     | 36.87 AV                | 54.00          | -17.13      | 1.02 V             | 314                  | 1.70             | 35.17                    |

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



## 4.2.8 TEST RESULTS (B)

## Mode 1

|                                 |                            |                               |               |
|---------------------------------|----------------------------|-------------------------------|---------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                  | WLL3010       |
| <b>MODE</b>                     | Channel 11                 | <b>FREQUENCY RANGE</b>        | Below 1000MHz |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>DETECTOR FUNCTION</b>      | Quasi-Peak    |
| <b>ENVIRONMENTAL CONDITIONS</b> | 20deg. C, 60%RH, 991hPa    | <b>TESTED BY:</b> Hardway 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) | Correction Factor (dB/m) |
| 1                                                   | 74.86       | 33.38 QP                | 40.00          | -6.62       | 2.25 H             | 1                    | 25.88            | 7.5                      |
| 2                                                   | 100.34      | 40.92 QP                | 43.50          | -2.58       | 2.75 H             | 0                    | 29.36            | 11.56                    |
| 3                                                   | 124.97      | 38.20 QP                | 43.50          | -5.30       | 2.92 H             | 4                    | 25.38            | 12.82                    |
| 4                                                   | 133.37      | 40.55 QP                | 43.50          | -2.95       | 1.78 H             | 103                  | 28.17            | 12.38                    |
| 5                                                   | 149.99      | 33.75 QP                | 43.50          | -9.75       | 2.66 H             | 22                   | 22.38            | 11.37                    |
| 6                                                   | 200.45      | 36.69 QP                | 43.50          | -6.81       | 1.70 H             | 313                  | 25.90            | 10.79                    |
| 7                                                   | 225.07      | 40.26 QP                | 46.00          | -5.74       | 1.38 H             | 317                  | 28.07            | 12.19                    |
| 8                                                   | 266.39      | 37.67 QP                | 46.00          | -8.33       | 1.52 H             | 340                  | 22.52            | 15.15                    |
| 9                                                   | 275.21      | 40.25 QP                | 46.00          | -5.75       | 1.00 H             | 280                  | 24.99            | 15.26                    |
| 10                                                  | 300.77      | 40.78 QP                | 46.00          | -5.22       | 1.30 H             | 168                  | 25.11            | 15.67                    |
| 11                                                  | 325.20      | 37.52 QP                | 46.00          | -8.48       | 1.58 H             | 133                  | 21.49            | 16.03                    |
| 12                                                  | 350.06      | 41.46 QP                | 46.00          | -4.54       | 1.55 H             | 98                   | 25.06            | 16.40                    |
| 13                                                  | 352.02      | 41.36 QP                | 46.00          | -4.64       | 1.55 H             | 225                  | 24.89            | 16.47                    |
| 14                                                  | 375.01      | 39.79 QP                | 46.00          | -6.21       | 1.45 H             | 57                   | 22.47            | 17.32                    |
| 15                                                  | 399.75      | 40.04 QP                | 46.00          | -5.96       | 1.00 H             | 241                  | 21.81            | 18.23                    |
| 16                                                  | 625.17      | 39.69 QP                | 46.00          | -6.31       | 1.51 H             | 238                  | 17.32            | 22.37                    |
| 17                                                  | 725.01      | 39.31 QP                | 46.00          | -6.69       | 1.38 H             | 14                   | 16.03            | 23.28                    |
| 18                                                  | 749.56      | 35.04 QP                | 46.00          | -10.96      | 1.36 H             | 355                  | 11.18            | 23.86                    |

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

|                                 |                            |                               |               |
|---------------------------------|----------------------------|-------------------------------|---------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                  | WLL3010       |
| <b>MODE</b>                     | Channel 11                 | <b>FREQUENCY RANGE</b>        | Below 1000MHz |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>DETECTOR FUNCTION</b>      | Quasi-Peak    |
| <b>ENVIRONMENTAL CONDITIONS</b> | 20deg. C, 60%RH, 991hPa    | <b>TESTED BY:</b> Hardway Lee |               |

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

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1   | 74.99       | 34.34 QP                | 40.00          | -5.66       | 1.00 V             | 278                  | 26.82            | 7.52                     |
| 2   | 133.35      | 37.76 QP                | 43.50          | -5.74       | 2.62 V             | 309                  | 25.37            | 12.39                    |
| 3   | 200.03      | 36.27 QP                | 43.50          | -7.23       | 1.00 V             | 72                   | 25.51            | 10.76                    |
| 4   | 225.00      | 38.49 QP                | 46.00          | -7.51       | 1.00 V             | 245                  | 26.30            | 12.19                    |
| 5   | 250.01      | 32.63 QP                | 46.00          | -13.37      | 1.00 V             | 275                  | 19.02            | 13.61                    |
| 6   | 299.96      | 38.86 QP                | 46.00          | -7.14       | 2.11 V             | 41                   | 23.20            | 15.66                    |
| 7   | 349.80      | 38.73 QP                | 46.00          | -7.27       | 1.18 V             | 310                  | 22.33            | 16.40                    |
| 8   | 500.02      | 38.45 QP                | 46.00          | -7.55       | 1.14 V             | 228                  | 18.32            | 20.13                    |
| 9   | 525.00      | 36.66 QP                | 46.00          | -9.34       | 1.06 V             | 101                  | 16.17            | 20.48                    |
| 10  | 555.10      | 41.09 QP                | 46.00          | -4.91       | 1.06 V             | 11                   | 20.10            | 20.99                    |

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

|                                 |                            |                             |                          |
|---------------------------------|----------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                | WLL3010                  |
| <b>CHANNEL</b>                  | Channel 1                  | <b>FREQUENCY RANGE</b>      | Above 1000MHz            |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 20deg. C, 60%RH,<br>991hPa | <b>TESTED BY:</b> Steven Lu |                          |

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

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1   | 1608.00     | 42.35 PK                | 74.00          | -31.65      | 1.17 H             | 38                   | 14.01            | 28.34                    |
| 2   | 2390.00     | 56.90 PK                | 74.00          | -17.10      | 1.20 H             | 21                   | 25.40            | 31.50                    |
| 2   | 2390.00     | 40.40 AV                | 54.00          | -13.60      | 1.20 H             | 21                   | 8.90             | 31.50                    |
| 3   | *2412.00    | 99.73 PK                |                |             | 1.20 H             | 21                   | 68.17            | 31.56                    |
| 3   | *2412.00    | 83.23 AV                |                |             | 1.20 H             | 21                   | 51.67            | 31.56                    |
| 4   | 3216.00     | 49.42 PK                | 74.00          | -24.58      | 1.17 H             | 2                    | 14.37            | 35.05                    |
| 4   | 3216.00     | 40.75 AV                | 54.00          | -13.25      | 1.17 H             | 2                    | 5.70             | 35.05                    |

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

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1   | 1608.00     | 40.18 PK                | 74.00          | -33.82      | 1.27 V             | 215                  | 11.84            | 28.34                    |
| 2   | 2390.00     | 54.06 PK                | 74.00          | -19.94      | 1.60 V             | 255                  | 22.56            | 31.50                    |
| 2   | 2390.00     | 38.06 AV                | 54.00          | -15.94      | 1.60 V             | 255                  | 6.56             | 31.50                    |
| 3   | *2412.00    | 96.89 PK                |                |             | 1.60 V             | 255                  | 65.33            | 31.56                    |
| 3   | *2412.00    | 80.89 AV                |                |             | 1.60 V             | 255                  | 49.33            | 31.56                    |
| 4   | 3216.00     | 47.75 PK                | 74.00          | -26.25      | 1.28 V             | 320                  | 12.70            | 35.05                    |
| 4   | 3216.00     | 36.82 AV                | 54.00          | -17.18      | 1.28 V             | 320                  | 1.77             | 35.05                    |

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

|                                 |                            |                             |                          |
|---------------------------------|----------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                | WLL3010                  |
| <b>CHANNEL</b>                  | Channel 6                  | <b>FREQUENCY RANGE</b>      | Above 1000MHz            |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 20deg. C, 60%RH,<br>991hPa | <b>TESTED BY:</b> Steven Lu |                          |

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

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1   | 1624.00     | 50.50 PK                | 74.00          | -23.50      | 1.00 H             | 65                   | 22.08            | 28.42                    |
| 2   | *2437.00    | 99.64 PK                |                |             | 1.00 H             | 309                  | 68.00            | 31.64                    |
| 2   | *2437.00    | 83.14 AV                |                |             | 1.00 H             | 309                  | 51.50            | 31.64                    |
| 3   | 3248.00     | 50.00 PK                | 74.00          | -24.00      | 1.00 H             | 349                  | 14.89            | 35.11                    |
| 3   | 3248.00     | 44.33 AV                | 54.00          | -9.67       | 1.00 H             | 349                  | 9.22             | 35.11                    |

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

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1   | 1624.00     | 43.52 PK                | 74.00          | -30.48      | 1.00 V             | 301                  | 15.10            | 28.42                    |
| 2   | *2437.00    | 99.81 PK                |                |             | 1.00 V             | 301                  | 68.17            | 31.64                    |
| 2   | *2437.00    | 82.14 AV                |                |             | 1.00 V             | 301                  | 50.50            | 31.64                    |
| 3   | 3248.00     | 47.31 PK                | 74.00          | -26.69      | 1.00 V             | 301                  | 12.20            | 35.11                    |
| 3   | 3248.00     | 37.14 AV                | 54.00          | -16.86      | 1.00 V             | 301                  | 2.03             | 35.11                    |

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

|                                 |                            |                             |                          |
|---------------------------------|----------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                | WLL3010                  |
| <b>CHANNEL</b>                  | Channel 11                 | <b>FREQUENCY RANGE</b>      | Above 1000MHz            |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 20deg. C, 60%RH,<br>991hPa | <b>TESTED BY:</b> Steven Lu |                          |

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

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1   | 1641.00     | 41.87 PK                | 74.00          | -32.13      | 1.00 H             | 61                   | 13.36            | 28.51                    |
| 2   | *2462.00    | 94.54 PK                |                |             | 1.16 H             | 360                  | 62.83            | 31.71                    |
| 2   | *2462.00    | 80.04 AV                |                |             | 1.16 H             | 360                  | 48.33            | 31.71                    |
| 3   | 2483.50     | 62.04 PK                | 74.00          | -11.96      | 1.16 H             | 360                  | 30.27            | 31.77                    |
| 3   | 2483.50     | 46.54 AV                | 54.00          | -7.46       | 1.16 H             | 360                  | 14.77            | 31.77                    |
| 4   | 3282.00     | 47.87 PK                | 74.00          | -26.13      | 1.00 H             | 315                  | 12.70            | 35.17                    |
| 4   | 3282.00     | 39.54 AV                | 54.00          | -14.46      | 1.00 H             | 315                  | 4.37             | 35.17                    |

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

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1   | 1641.00     | 41.37 PK                | 74.00          | -32.63      | 1.06 V             | 225                  | 12.86            | 28.51                    |
| 2   | *2462.00    | 97.21 PK                |                |             | 1.00 V             | 297                  | 65.50            | 31.71                    |
| 2   | *2462.00    | 80.38 AV                |                |             | 1.00 V             | 297                  | 48.67            | 31.71                    |
| 3   | 2483.50     | 63.71 PK                | 74.00          | -10.29      | 1.00 V             | 297                  | 31.94            | 31.77                    |
| 3   | 2483.50     | 46.88 AV                | 54.00          | -7.12       | 1.00 V             | 297                  | 15.11            | 31.77                    |
| 4   | 3282.00     | 46.54 PK                | 74.00          | -27.46      | 1.05 V             | 313                  | 11.37            | 35.17                    |
| 4   | 3282.00     | 35.70 AV                | 54.00          | -18.30      | 1.05 V             | 313                  | 0.53             | 35.17                    |

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

**Mode 2**

|                                 |                            |                               |               |
|---------------------------------|----------------------------|-------------------------------|---------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                  | WLL3010       |
| <b>MODE</b>                     | Channel 11                 | <b>FREQUENCY RANGE</b>        | Below 1000MHz |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>DETECTOR FUNCTION</b>      | Quasi-Peak    |
| <b>ENVIRONMENTAL CONDITIONS</b> | 22deg. C, 70%RH, 991hPa    | <b>TESTED BY:</b> Hardway Lee |               |

| <b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b> |             |                         |                |             |                    |                      |                  |                          |
|----------------------------------------------------------------|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| No.                                                            | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1                                                              | 39.96       | 27.43 QP                | 40.00          | -12.57      | 1.71 H             | 85                   | 14.73            | 12.70                    |
| 2                                                              | 66.67       | 34.40 QP                | 40.00          | -5.60       | 1.64 H             | 174                  | 27.05            | 7.35                     |
| 3                                                              | 80.84       | 32.43 QP                | 40.00          | -7.57       | 3.91 H             | 331                  | 23.99            | 8.44                     |
| 4                                                              | 99.99       | 39.57 QP                | 43.50          | -3.93       | 3.46 H             | 185                  | 28.04            | 11.53                    |
| 5                                                              | 120.04      | 35.84 QP                | 43.50          | -7.66       | 3.36 H             | 186                  | 22.76            | 13.08                    |
| 6                                                              | 133.32      | 39.07 QP                | 43.50          | -4.43       | 2.18 H             | 1                    | 26.68            | 12.39                    |
| 7                                                              | 166.68      | 36.66 QP                | 43.50          | -6.84       | 2.42 H             | 203                  | 26.04            | 10.62                    |
| 8                                                              | 179.13      | 37.68 QP                | 43.50          | -5.82       | 2.25 H             | 186                  | 27.20            | 10.48                    |
| 9                                                              | 200.03      | 33.56 QP                | 43.50          | -9.94       | 1.93 H             | 210                  | 22.80            | 10.76                    |
| 10                                                             | 220.43      | 35.81 QP                | 46.00          | -10.19      | 1.00 H             | 148                  | 23.89            | 11.92                    |
| 11                                                             | 233.40      | 39.76 QP                | 46.00          | -6.27       | 1.23 H             | 219                  | 27.07            | 12.66                    |
| 12                                                             | 240.00      | 38.84 QP                | 46.00          | -7.16       | 1.44 H             | 30                   | 25.80            | 13.04                    |
| 13                                                             | 266.40      | 41.70 QP                | 46.00          | -4.30       | 1.68 H             | 32                   | 26.55            | 15.15                    |
| 14                                                             | 300.02      | 41.01 QP                | 46.00          | -4.99       | 1.77 H             | 296                  | 25.35            | 15.66                    |
| 15                                                             | 319.99      | 41.41 QP                | 46.00          | -4.59       | 1.36 H             | 72                   | 25.45            | 15.96                    |
| 16                                                             | 366.62      | 39.01 QP                | 46.00          | -6.99       | 1.71 H             | 140                  | 22.00            | 17.01                    |
| 17                                                             | 400.19      | 42.12 QP                | 46.00          | -3.88       | 1.36 H             | 1                    | 23.88            | 18.24                    |

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

|                                 |                            |                               |               |
|---------------------------------|----------------------------|-------------------------------|---------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                  | WLL3010       |
| <b>MODE</b>                     | Channel 11                 | <b>FREQUENCY RANGE</b>        | Below 1000MHz |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>DETECTOR FUNCTION</b>      | Quasi-Peak    |
| <b>ENVIRONMENTAL CONDITIONS</b> | 22deg. C, 70%RH, 991hPa    | <b>TESTED BY:</b> Hardway Lee |               |

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

| No.      | Freq. (MHz)   | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB)  | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|----------|---------------|-------------------------|----------------|--------------|--------------------|----------------------|------------------|--------------------------|
| 1        | 40.05         | 34.56 QP                | 40.00          | -5.44        | 1.43 V             | 333                  | 21.89            | 12.67                    |
| 2        | 66.67         | 32.65 QP                | 40.00          | -7.35        | 2.60 V             | 49                   | 25.30            | 7.35                     |
| 3        | 80.02         | 36.25 QP                | 40.00          | -3.75        | 1.43 V             | 72                   | 27.90            | 8.35                     |
| <b>4</b> | <b>100.01</b> | <b>41.44 QP</b>         | <b>43.50</b>   | <b>-2.06</b> | <b>1.52 V</b>      | <b>174</b>           | <b>29.91</b>     | <b>11.53</b>             |
| 5        | 120.01        | 32.71 QP                | 43.50          | -10.79       | 1.23 V             | 306                  | 19.63            | 13.08                    |
| 6        | 133.36        | 37.15 QP                | 43.50          | -6.35        | 4.00 V             | 262                  | 24.76            | 12.39                    |
| 7        | 166.70        | 39.18 QP                | 43.50          | -4.32        | 2.32 V             | 271                  | 28.56            | 10.62                    |
| 8        | 200.05        | 37.12 QP                | 43.50          | -6.38        | 2.07 V             | 268                  | 26.36            | 10.76                    |
| 9        | 231.82        | 38.65 QP                | 43.50          | -7.35        | 1.88 V             | 289                  | 26.08            | 12.57                    |
| 10       | 239.87        | 36.16 QP                | 46.00          | -9.84        | 1.95 V             | 87                   | 23.13            | 13.03                    |
| 11       | 266.72        | 41.24 QP                | 46.00          | -4.76        | 1.28 V             | 259                  | 26.09            | 15.15                    |
| 12       | 319.52        | 34.51 QP                | 46.00          | -11.49       | 1.55 V             | 181                  | 18.56            | 15.95                    |
| 13       | 366.79        | 40.32 QP                | 46.00          | -5.68        | 1.47 V             | 137                  | 23.30            | 17.02                    |
| 14       | 400.05        | 38.59 QP                | 46.00          | -7.41        | 1.40 V             | 161                  | 20.35            | 18.24                    |
| 15       | 480.01        | 34.27 QP                | 46.00          | -11.73       | 1.00 V             | 23                   | 14.64            | 19.63                    |
| 16       | 500.02        | 39.02 QP                | 46.00          | -6.98        | 4.00 V             | 296                  | 18.89            | 20.13                    |
| 17       | 940.49        | 38.88 QP                | 46.00          | -7.12        | 1.63 V             | 356                  | 14.15            | 24.73                    |

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

|                                 |                            |                             |                          |
|---------------------------------|----------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                | WLL3010                  |
| <b>CHANNEL</b>                  | Channel 1                  | <b>FREQUENCY RANGE</b>      | Above 1000MHz            |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 20deg. C, 60%RH,<br>991hPa | <b>TESTED BY:</b> Steven Lu |                          |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M |             |                         |                |             |                    |                      |                  |                          |
|----------------------------------------------------|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| No.                                                | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1                                                  | 1608.00     | 42.85 PK                | 74.00          | -31.15      | 1.24 H             | 53                   | 14.51            | 28.34                    |
| 2                                                  | 2390.00     | 56.89 PK                | 74.00          | -17.11      | 1.66 H             | 40                   | 25.39            | 31.50                    |
| 2                                                  | 2390.00     | 42.73 AV                | 54.00          | -11.27      | 1.66 H             | 40                   | 11.23            | 31.50                    |
| 3                                                  | *2412.00    | 99.39 PK                |                |             | 1.66 H             | 40                   | 67.83            | 31.56                    |
| 3                                                  | *2412.00    | 85.23 AV                |                |             | 1.66 H             | 40                   | 53.67            | 31.56                    |
| 4                                                  | 3216.00     | 46.25 PK                | 74.00          | -27.75      | 1.08 H             | 260                  | 11.20            | 35.05                    |
| 4                                                  | 3216.00     | 35.75 AV                | 54.00          | -18.25      | 1.08 H             | 260                  | 0.70             | 35.05                    |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M |             |                         |                |             |                    |                      |                  |                          |
|--------------------------------------------------|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| No.                                              | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1                                                | 1608.00     | 41.18 PK                | 74.00          | -32.82      | 1.02 V             | 354                  | 12.84            | 28.34                    |
| 2                                                | 2390.00     | 57.23 PK                | 74.00          | -16.77      | 1.12 V             | 45                   | 25.73            | 31.50                    |
| 2                                                | 2390.00     | 40.39 AV                | 54.00          | -13.61      | 1.12 V             | 45                   | 8.89             | 31.50                    |
| 3                                                | *2412.00    | 99.73 PK                |                |             | 1.12 V             | 45                   | 68.17            | 31.56                    |
| 3                                                | *2412.00    | 82.89 AV                |                |             | 1.12 V             | 45                   | 51.33            | 31.56                    |
| 4                                                | 3216.00     | 50.58 PK                | 74.00          | -23.42      | 1.06 V             | 308                  | 15.53            | 35.05                    |
| 4                                                | 3216.00     | 43.42 AV                | 54.00          | -10.58      | 1.06 V             | 308                  | 8.37             | 35.05                    |

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



|                                 |                            |                             |                          |
|---------------------------------|----------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                | WLL3010                  |
| <b>CHANNEL</b>                  | Channel 6                  | <b>FREQUENCY RANGE</b>      | Above 1000MHz            |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 20deg. C, 60%RH,<br>991hPa | <b>TESTED BY:</b> Steven Lu |                          |

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

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1   | 1624.00     | 42.94 PK                | 74.00          | -31.06      | 1.30 H             | 58                   | 14.52            | 28.42                    |
| 2   | *2437.00    | 99.37 PK                |                |             | 1.44 H             | 80                   | 67.73            | 31.64                    |
| 2   | *2437.00    | 85.97 AV                |                |             | 1.44 H             | 80                   | 54.33            | 31.64                    |
| 3   | 3248.00     | 47.64 PK                | 74.00          | -26.36      | 1.10 H             | 173                  | 12.53            | 35.11                    |
| 3   | 3248.00     | 35.14 AV                | 54.00          | -18.86      | 1.10 H             | 173                  | 0.03             | 35.11                    |

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

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1   | 1624.00     | 38.94 PK                | 74.00          | -35.06      | 1.05 V             | 27                   | 10.52            | 28.42                    |
| 2   | *2437.00    | 98.47 PK                |                |             | 1.06 V             | 311                  | 66.83            | 31.64                    |
| 2   | *2437.00    | 84.64 AV                |                |             | 1.06 V             | 311                  | 53.00            | 31.64                    |
| 3   | 3248.00     | 49.81 PK                | 74.00          | -24.19      | 1.08 V             | 311                  | 14.70            | 35.11                    |
| 3   | 3248.00     | 40.31 AV                | 54.00          | -13.69      | 1.08 V             | 311                  | 5.20             | 35.11                    |

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

|                                 |                            |                             |                          |
|---------------------------------|----------------------------|-----------------------------|--------------------------|
| <b>EUT</b>                      | Wireless LAN Mini PCI Card | <b>MODEL</b>                | WLL3010                  |
| <b>CHANNEL</b>                  | Channel 11                 | <b>FREQUENCY RANGE</b>      | Above 1000MHz            |
| <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              | <b>DETECTOR FUNCTION</b>    | Peak(PK)<br>Average (AV) |
| <b>ENVIRONMENTAL CONDITIONS</b> | 20deg. C, 60%RH,<br>991hPa | <b>TESTED BY:</b> Steven Lu |                          |

| <b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3M</b> |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| No.                                                           | Freq.<br>(MHz) | Emission<br>Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Antenna<br>Height<br>(m) | Table<br>Angle<br>(Degree) | Raw<br>Value<br>(dBuV) | Correction<br>Factor<br>(dB/m) |
| 1                                                             | 1641.00        | 42.04 PK                      | 74.00             | -31.96         | 1.12 H                   | 85                         | 13.53                  | 28.51                          |
| 2                                                             | *2462.00       | 100.38 PK                     |                   |                | 1.32 H                   | 83                         | 68.67                  | 31.71                          |
| 2                                                             | *2462.00       | 84.38 AV                      |                   |                | 1.32 H                   | 83                         | 52.67                  | 31.71                          |
| 3                                                             | 2483.50        | 59.71 PK                      | 74.00             | -14.29         | 1.32 H                   | 83                         | 27.94                  | 31.77                          |
| 3                                                             | 2483.50        | 43.71 AV                      | 54.00             | -10.29         | 1.32 H                   | 83                         | 11.94                  | 31.77                          |
| 4                                                             | 3282.00        | 46.70 PK                      | 74.00             | -27.30         | 1.40 H                   | 337                        | 11.53                  | 35.17                          |
| 4                                                             | 3282.00        | 36.54 AV                      | 54.00             | -17.46         | 1.40 H                   | 337                        | 1.37                   | 35.17                          |

| <b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3M</b> |                |                               |                   |                |                          |                            |                        |                                |
|-------------------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| No.                                                         | Freq.<br>(MHz) | Emission<br>Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Antenna<br>Height<br>(m) | Table<br>Angle<br>(Degree) | Raw<br>Value<br>(dBuV) | Correction<br>Factor<br>(dB/m) |
| 1                                                           | 1641.00        | 49.50 PK                      | 74.00             | -24.50         | 1.22 V                   | 112                        | 20.99                  | 28.51                          |
| 2                                                           | *2462.00       | 97.38 PK                      |                   |                | 1.29 V                   | 29                         | 65.67                  | 31.71                          |
| 2                                                           | *2462.00       | 81.88 AV                      |                   |                | 1.29 V                   | 29                         | 50.17                  | 31.71                          |
| 3                                                           | 2483.50        | 56.47 PK                      | 74.00             | -17.53         | 1.29 V                   | 29                         | 24.70                  | 31.77                          |
| 3                                                           | 2483.50        | 41.21 AV                      | 54.00             | -12.79         | 1.29 V                   | 29                         | 9.44                   | 31.77                          |
| 4                                                           | 3282.00        | 49.17 PK                      | 74.00             | -24.83         | 1.24 V                   | 313                        | 14.00                  | 35.17                          |
| 4                                                           | 3282.00        | 38.33 AV                      | 54.00             | -15.67         | 1.24 V                   | 313                        | 3.16                   | 35.17                          |

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

### 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     | August 12, 2004  |

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

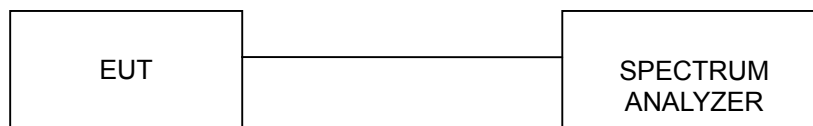
#### 4.3.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 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



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

#### 4.3.6 EUT OPERATING CONDITIONS

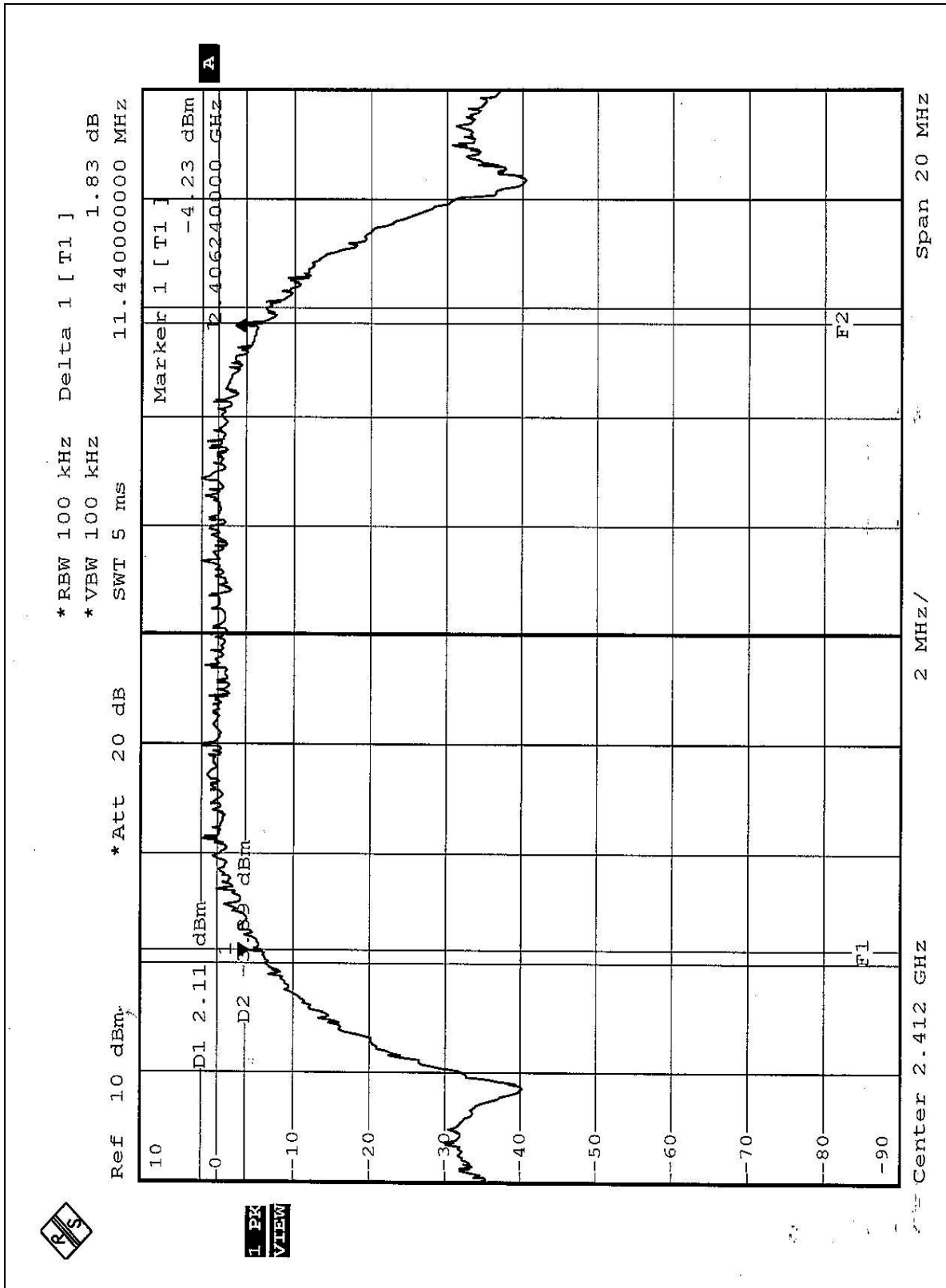
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

## 4.3.7 TEST RESULTS (A)

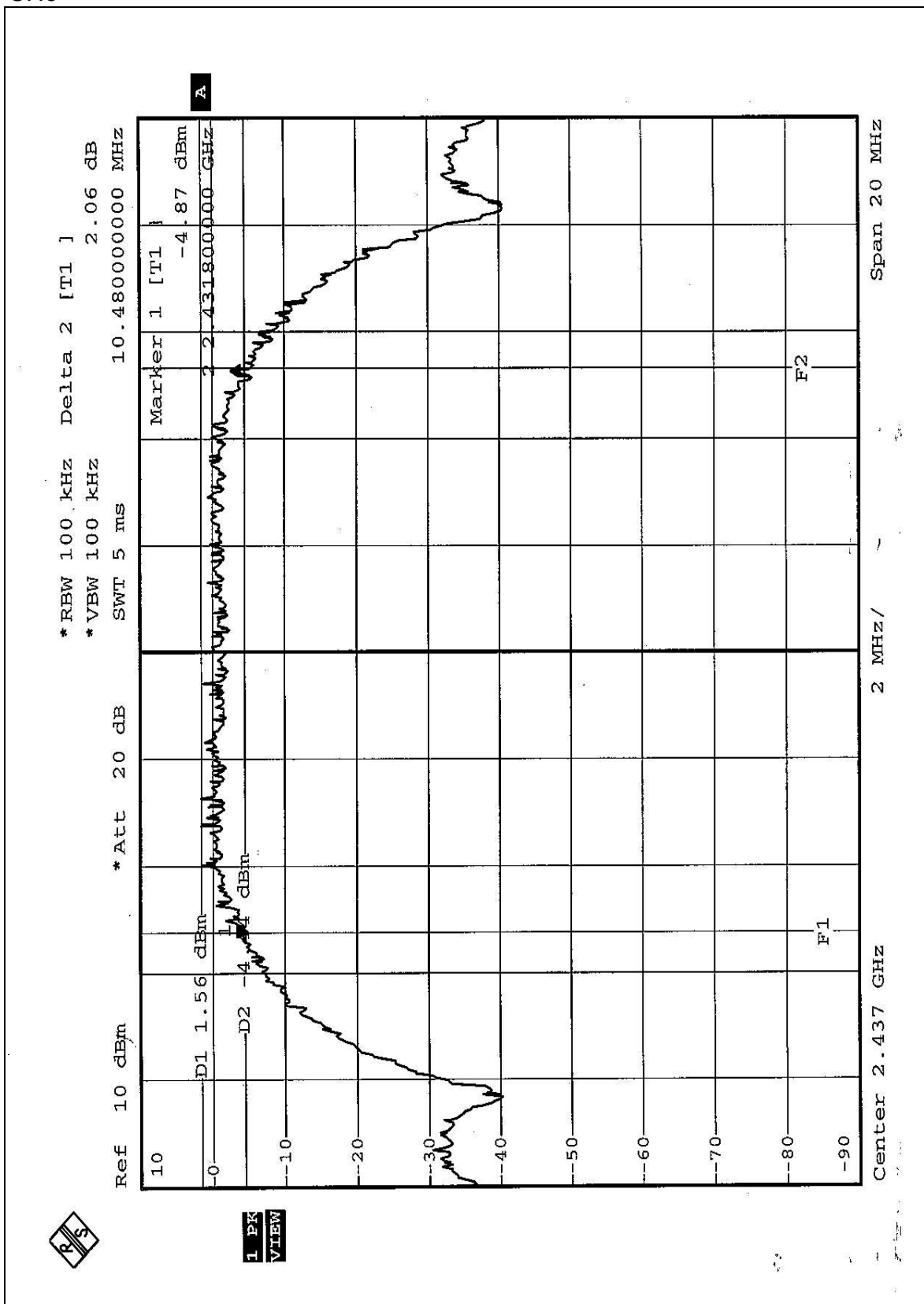
|                                |                            |                                 |                     |
|--------------------------------|----------------------------|---------------------------------|---------------------|
| <b>EUT</b>                     | Wireless LAN Mini PCI Card | <b>MODEL</b>                    | WLL3010             |
| <b>INPUT POWER (SYSTEM)</b>    | 120Vac, 60 Hz              | <b>ENVIRONMENTAL CONDITIONS</b> | 22eg. C, 60RH, 991a |
| <b>TESTED BY:</b> Jamison Chan |                            |                                 |                     |

| <b>CHANNEL</b> | <b>CHANNEL FREQUENCY (MHz)</b> | <b>6dB BANDWIDTH (MHz)</b> | <b>MINIMUM LIMIT (MHz)</b> | <b>PASS/FAIL</b> |
|----------------|--------------------------------|----------------------------|----------------------------|------------------|
| 1              | 2412                           | 11.44                      | 0.5                        | PASS             |
| 6              | 2437                           | 10.48                      | 0.5                        | PASS             |
| 11             | 2462                           | 10.36                      | 0.5                        | PASS             |

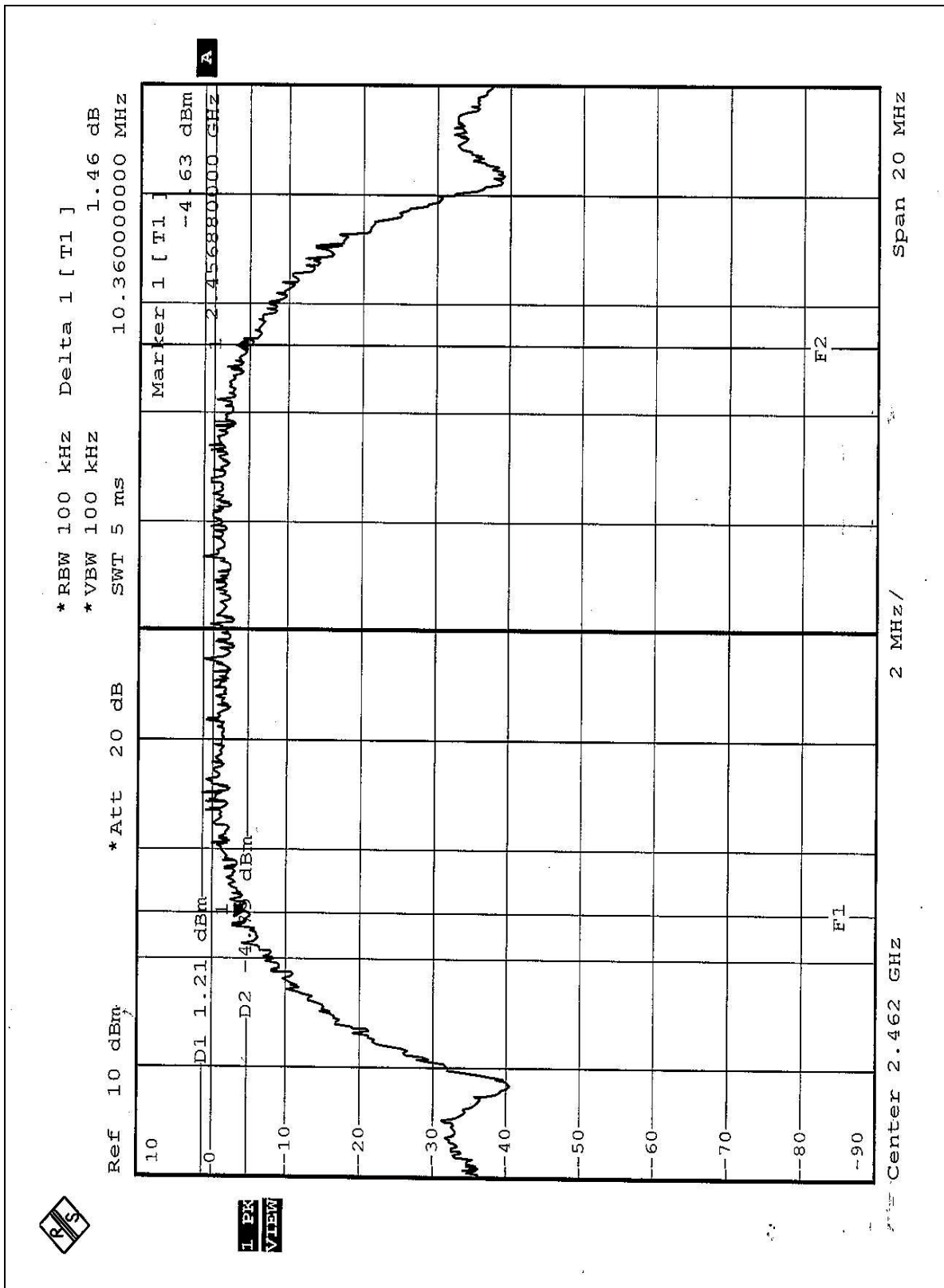
CH1



CH6



CH11



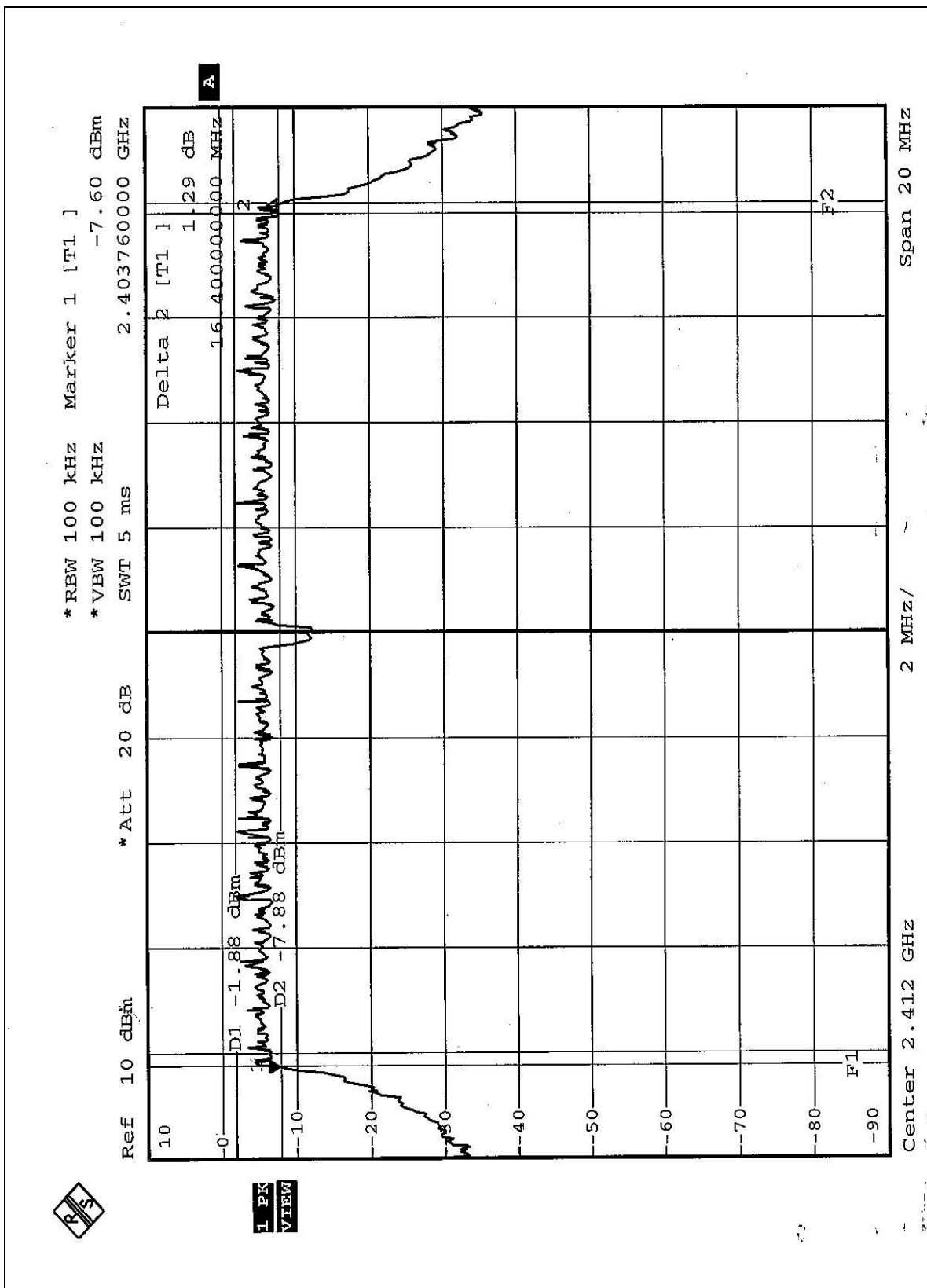


## 4.3.8 TEST RESULTS (B)

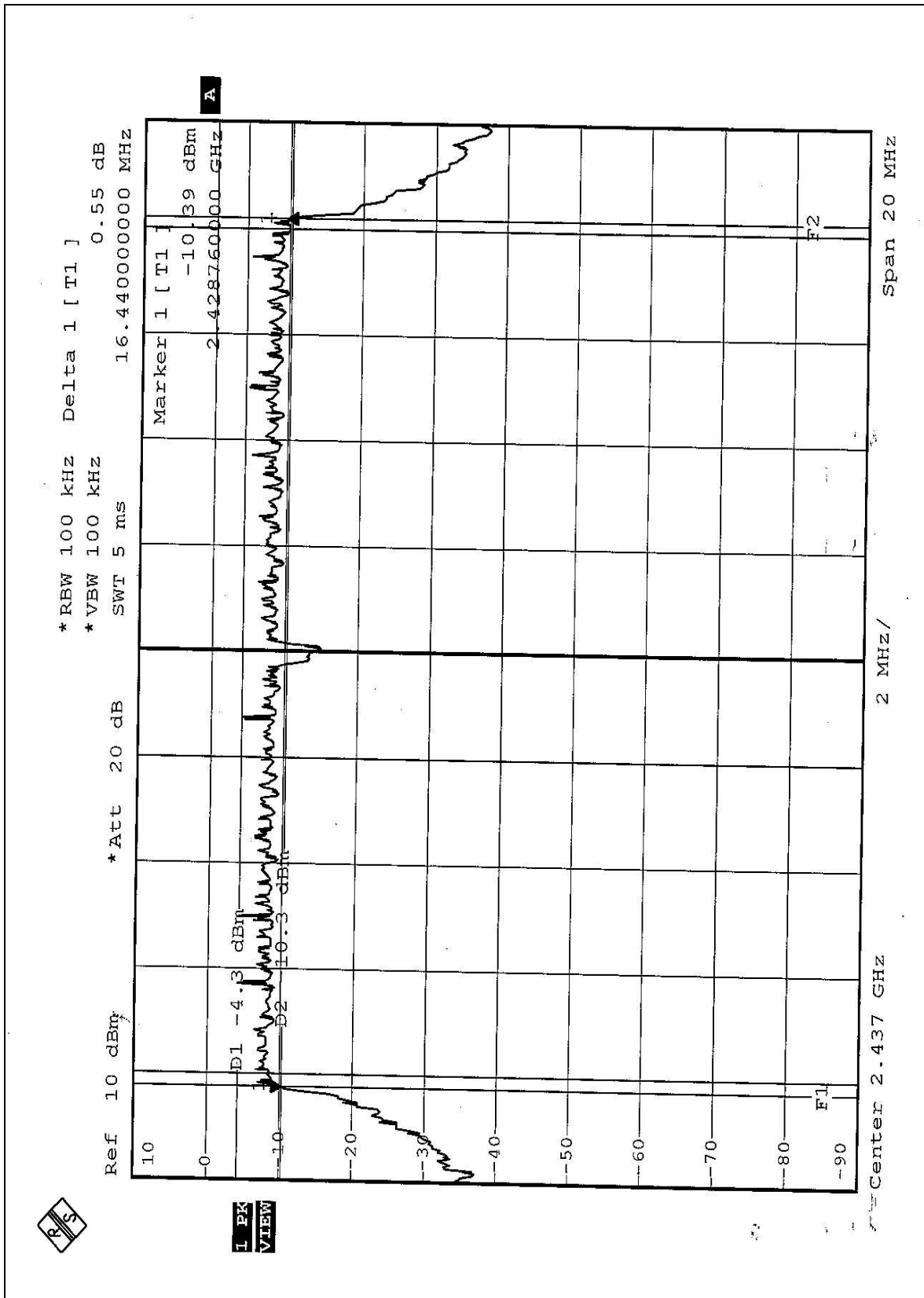
|                                |                            |                                 |                        |
|--------------------------------|----------------------------|---------------------------------|------------------------|
| <b>EUT</b>                     | Wireless LAN Mini PCI Card | <b>MODEL</b>                    | WLL3010                |
| <b>INPUT POWER (SYSTEM)</b>    | 120Vac, 60 Hz              | <b>ENVIRONMENTAL CONDITIONS</b> | 22eg. C, 60RH, 991 hPa |
| <b>TESTED BY:</b> Jamison Chan |                            |                                 |                        |

| <b>CHANNEL</b> | <b>CHANNEL FREQUENCY (MHz)</b> | <b>6dB BANDWIDTH (MHz)</b> | <b>MINIMUM LIMIT (MHz)</b> | <b>PASS/FAIL</b> |
|----------------|--------------------------------|----------------------------|----------------------------|------------------|
| 1              | 2412                           | 16.40                      | 0.5                        | PASS             |
| 6              | 2437                           | 16.44                      | 0.5                        | PASS             |
| 11             | 2462                           | 16.44                      | 0.5                        | PASS             |

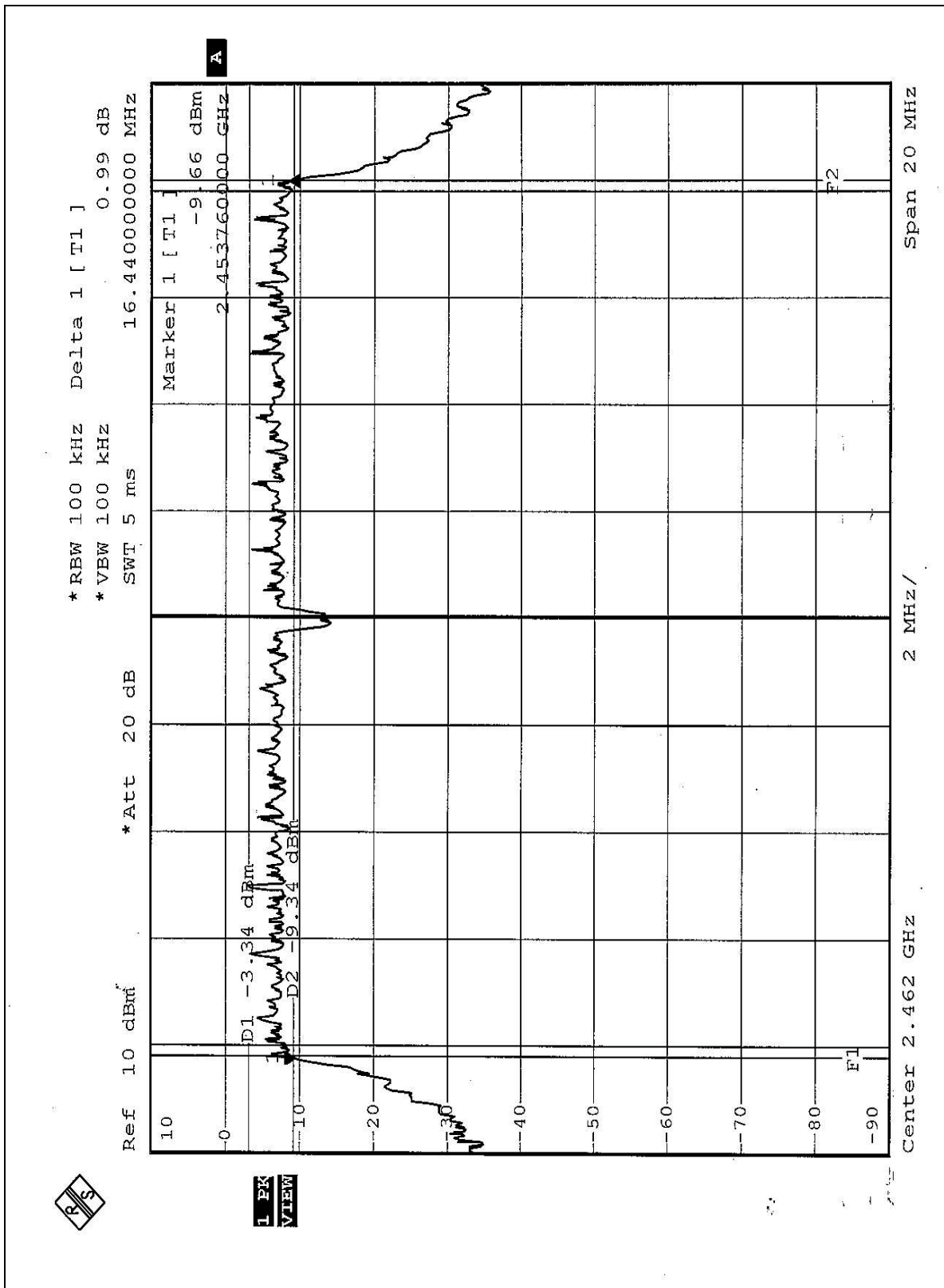
CH1



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 TEST INSTRUMENTS

| Description & Manufacturer | Model No. | Serial No. | Calibrated Until |
|----------------------------|-----------|------------|------------------|
| R&S SPECTRUM ANALYZER      | FSEK30    | 100049     | Aug. 12, 2004    |
| R&S SIGNAL GENERATOR       | SMP04     | 100011     | May 28, 2004     |
| TEKTRONIX OSCILLOSCOPE     | TDS 220   | B048470    | Mar. 05, 2004    |
| NARDA DETECTOR             | 4503A     | FSCM99899  | NA               |

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

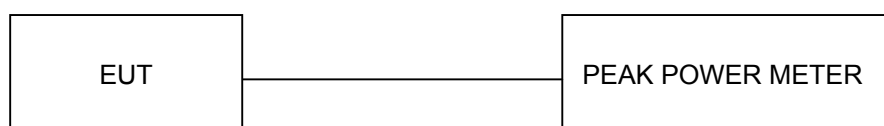
#### 4.4.3 TEST PROCEDURES

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(A)

|                                |                            |                                 |                          |
|--------------------------------|----------------------------|---------------------------------|--------------------------|
| <b>EUT</b>                     | Wireless LAN Mini PCI Card | <b>MODEL</b>                    | WLL3010                  |
| <b>INPUT POWER (SYSTEM)</b>    | 120Vac, 60 Hz              | <b>ENVIRONMENTAL CONDITIONS</b> | 22deg. C, 60%RH, 991 hPa |
| <b>TESTED BY:</b> Jamison Chan |                            |                                 |                          |

| <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                           | 15.02                          | 30                            | PASS             |
| 6              | 2437                           | 15.04                          | 30                            | PASS             |
| 11             | 2462                           | 15.02                          | 30                            | PASS             |

## 4.4.8 TEST RESULTS (B)

|                                |                            |                                 |                          |
|--------------------------------|----------------------------|---------------------------------|--------------------------|
| <b>EUT</b>                     | Wireless LAN Mini PCI Card | <b>MODEL</b>                    | WLL3010                  |
| <b>INPUT POWER (SYSTEM)</b>    | 120Vac, 60 Hz              | <b>ENVIRONMENTAL CONDITIONS</b> | 22deg. C, 60%RH, 991 hPa |
| <b>TESTED BY:</b> Jamison Chan |                            |                                 |                          |

| <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                           | 15.11                          | 30                            | PASS             |
| 6              | 2437                           | 15.08                          | 30                            | PASS             |
| 11             | 2462                           | 15.06                          | 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     | Aug. 12, 2004    |

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

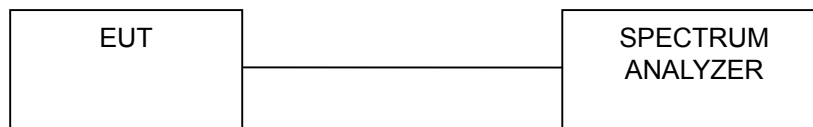
#### 4.5.3 TEST PROCEDURE

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

#### 4.5.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.5.5 TEST SETUP



#### 4.5.6 EUT OPERATING CONDITIONS

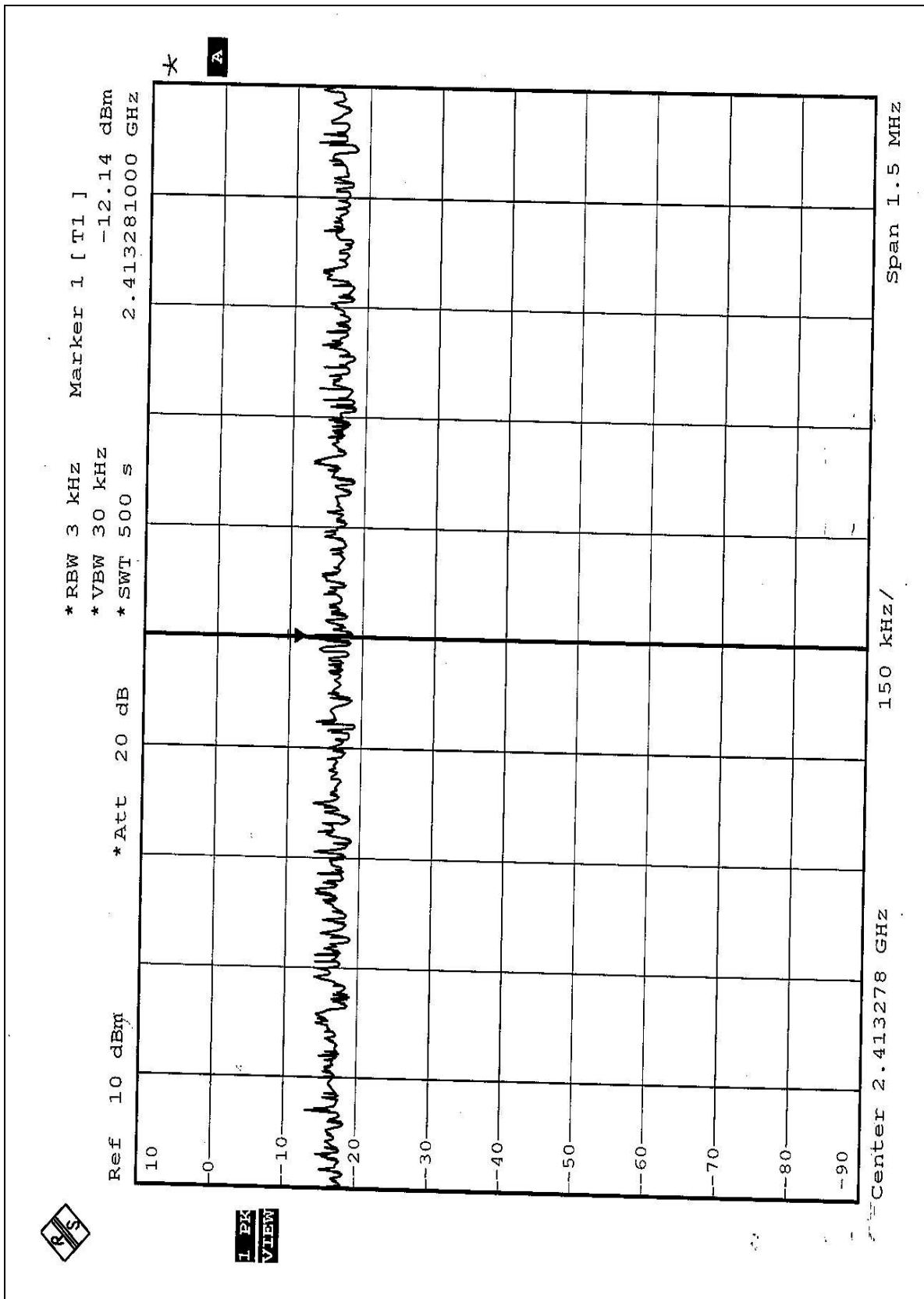
Same as 4.3.6

## 4.5.7 TEST RESULTS(A)

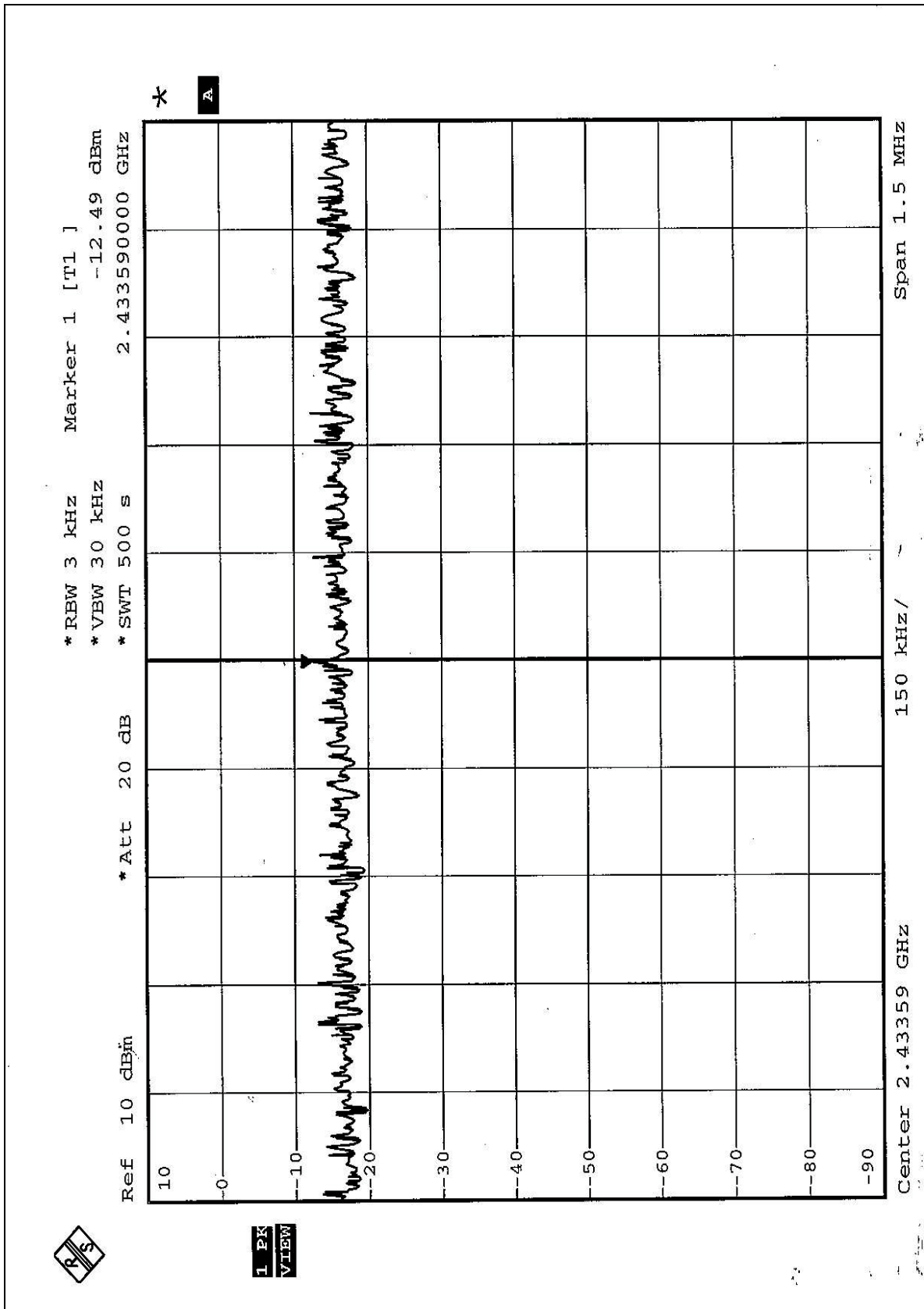
|                                |                            |                                 |                          |
|--------------------------------|----------------------------|---------------------------------|--------------------------|
| <b>EUT</b>                     | Wireless LAN Mini PCI Card | <b>MODEL</b>                    | WLL3010                  |
| <b>INPUT POWER (SYSTEM)</b>    | 120Vac, 60 Hz              | <b>ENVIRONMENTAL CONDITIONS</b> | 22deg. C, 60%RH, 991 hPa |
| <b>TESTED BY:</b> Jamison Chan |                            |                                 |                          |

| <b>CHANNEL</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                            | -12.14                                  | 8                          | PASS             |
| 6              | 2437                            | -12.49                                  | 8                          | PASS             |
| 11             | 2462                            | -12.90                                  | 8                          | PASS             |

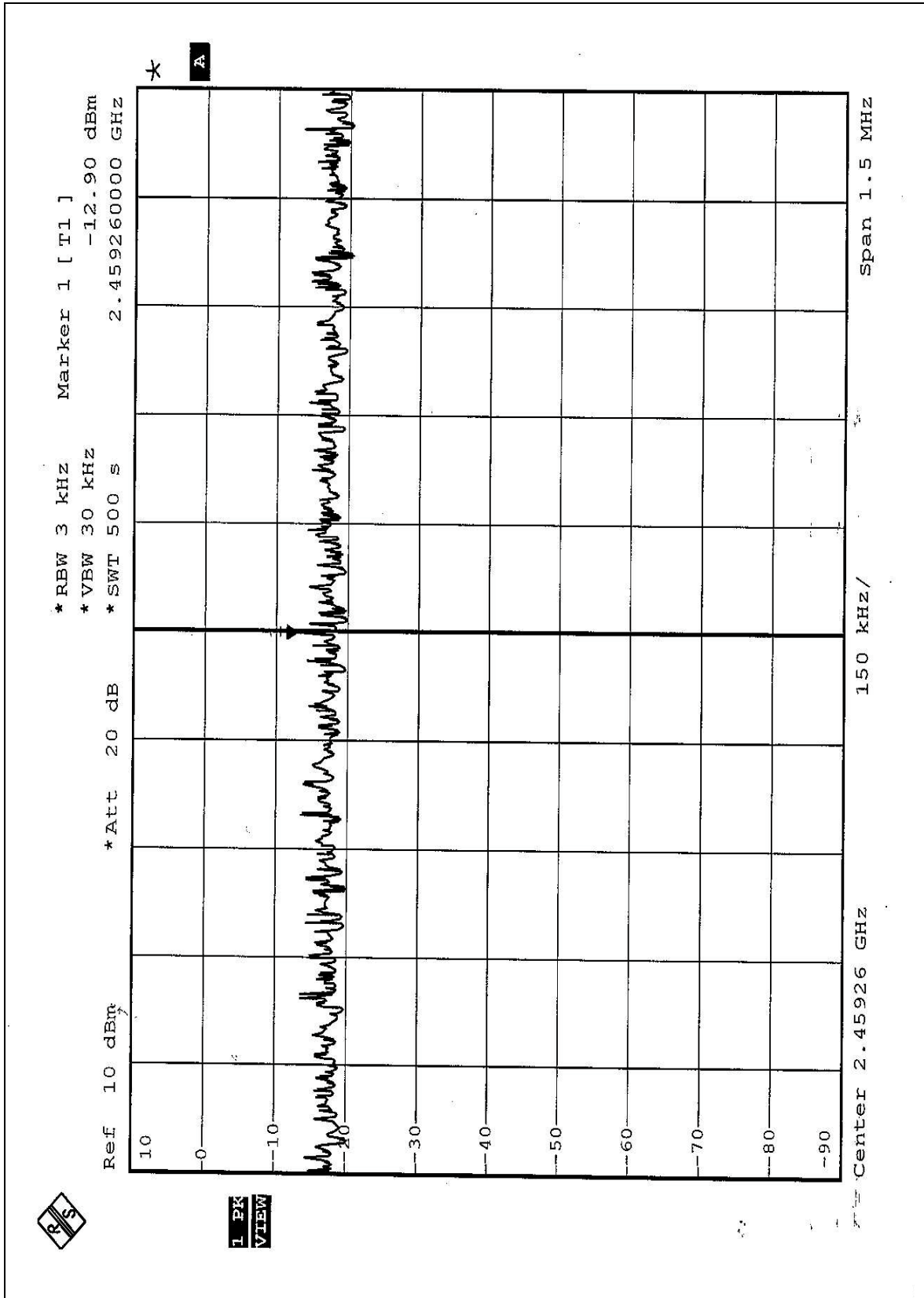
CH1



CH6



CH11

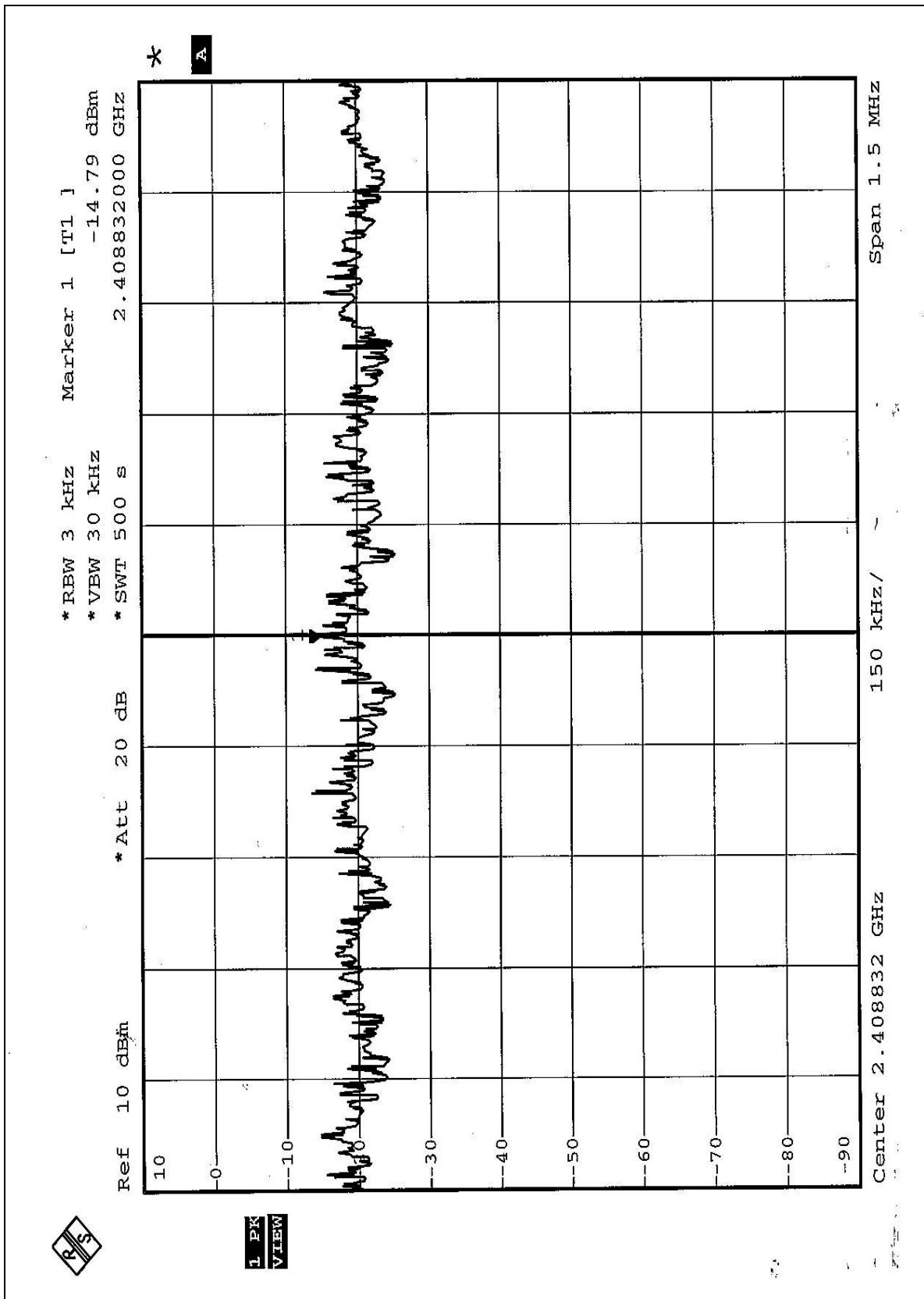


## 4.5.8 TEST RESULTS (B)

|                                |                            |                                 |                          |
|--------------------------------|----------------------------|---------------------------------|--------------------------|
| <b>EUT</b>                     | Wireless LAN Mini PCI Card | <b>MODEL</b>                    | WLL3010                  |
| <b>INPUT POWER (SYSTEM)</b>    | 120Vac, 60 Hz              | <b>ENVIRONMENTAL CONDITIONS</b> | 22deg. C, 60%RH, 991 hPa |
| <b>TESTED BY:</b> Jamison Chan |                            |                                 |                          |

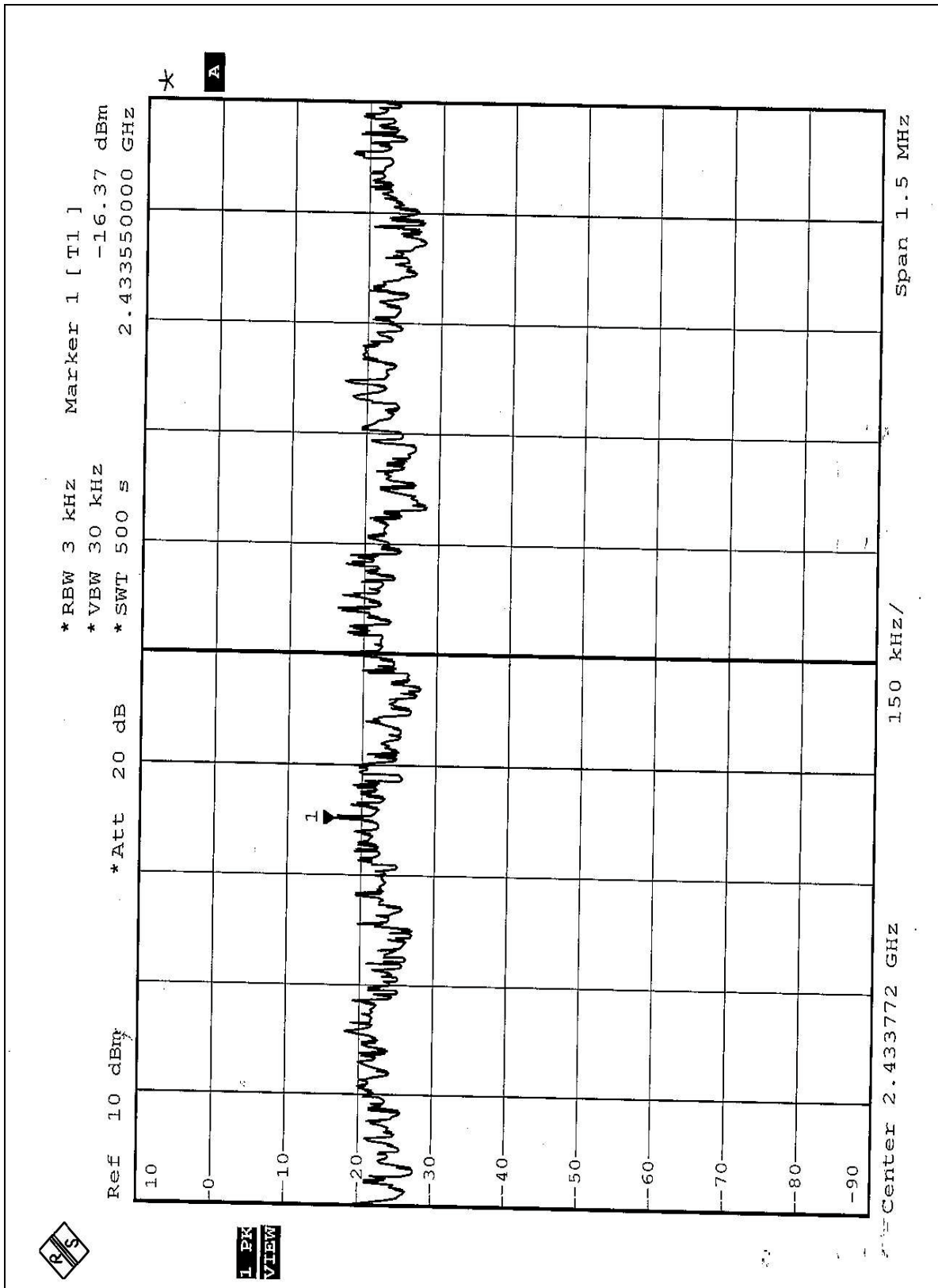
| <b>CHANNEL</b> | <b>CHANNEL FREQUENCY (MHz )</b> | <b>RF POWER LEVEL IN 3 KHz BW (dBm)</b> | <b>MAXIMUM LIMIT (dBm)</b> | <b>PASS/FAIL</b> |
|----------------|---------------------------------|-----------------------------------------|----------------------------|------------------|
| 1              | 2412                            | -14.79                                  | 8                          | PASS             |
| 6              | 2437                            | -16.37                                  | 8                          | PASS             |
| 11             | 2462                            | -18.22                                  | 8                          | PASS             |

CH1

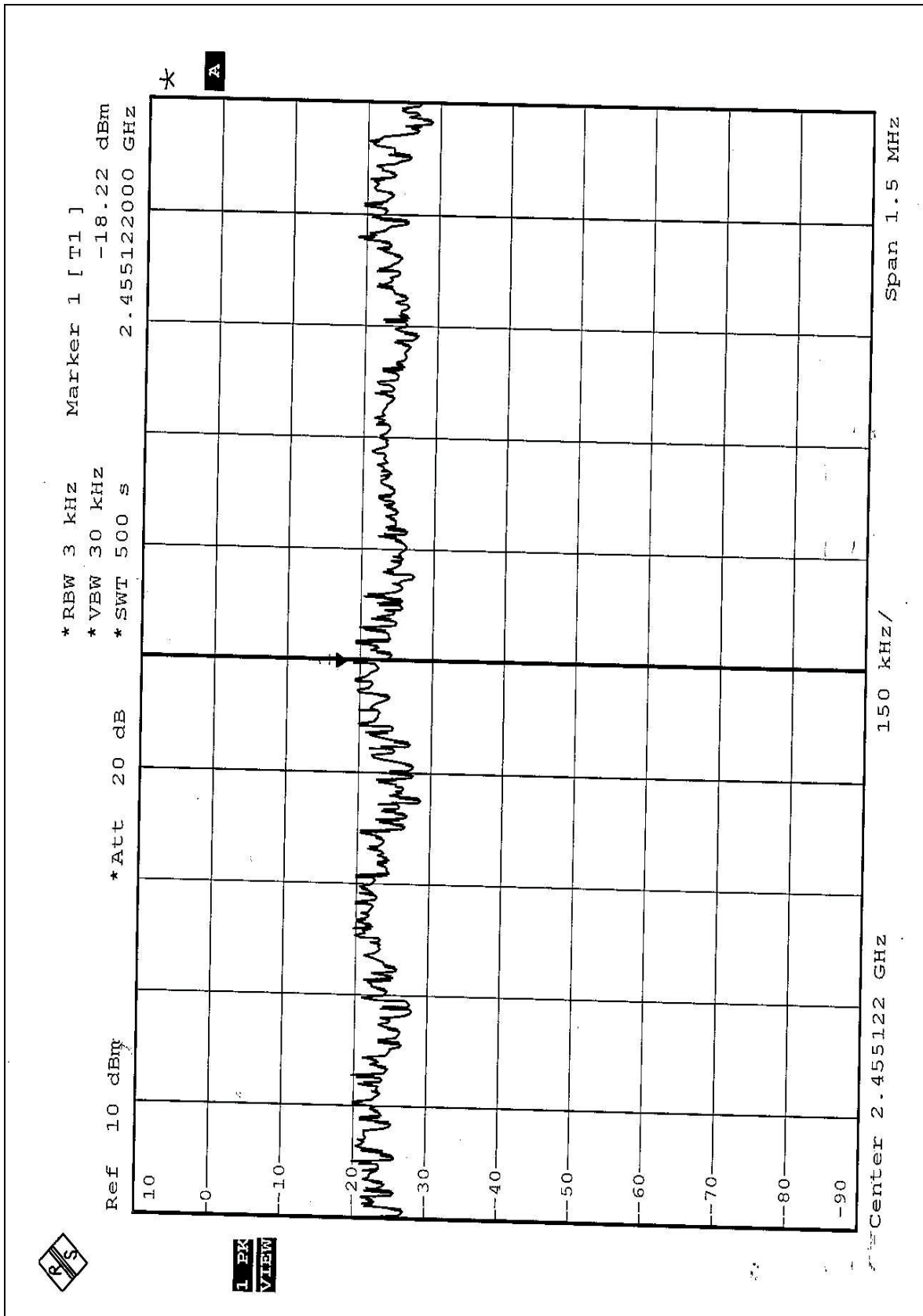




CH6



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     | Aug. 12, 2004    |

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

### 4.6.3 TEST PROCEDURE

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 (A)

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).

##### **Mode 1**

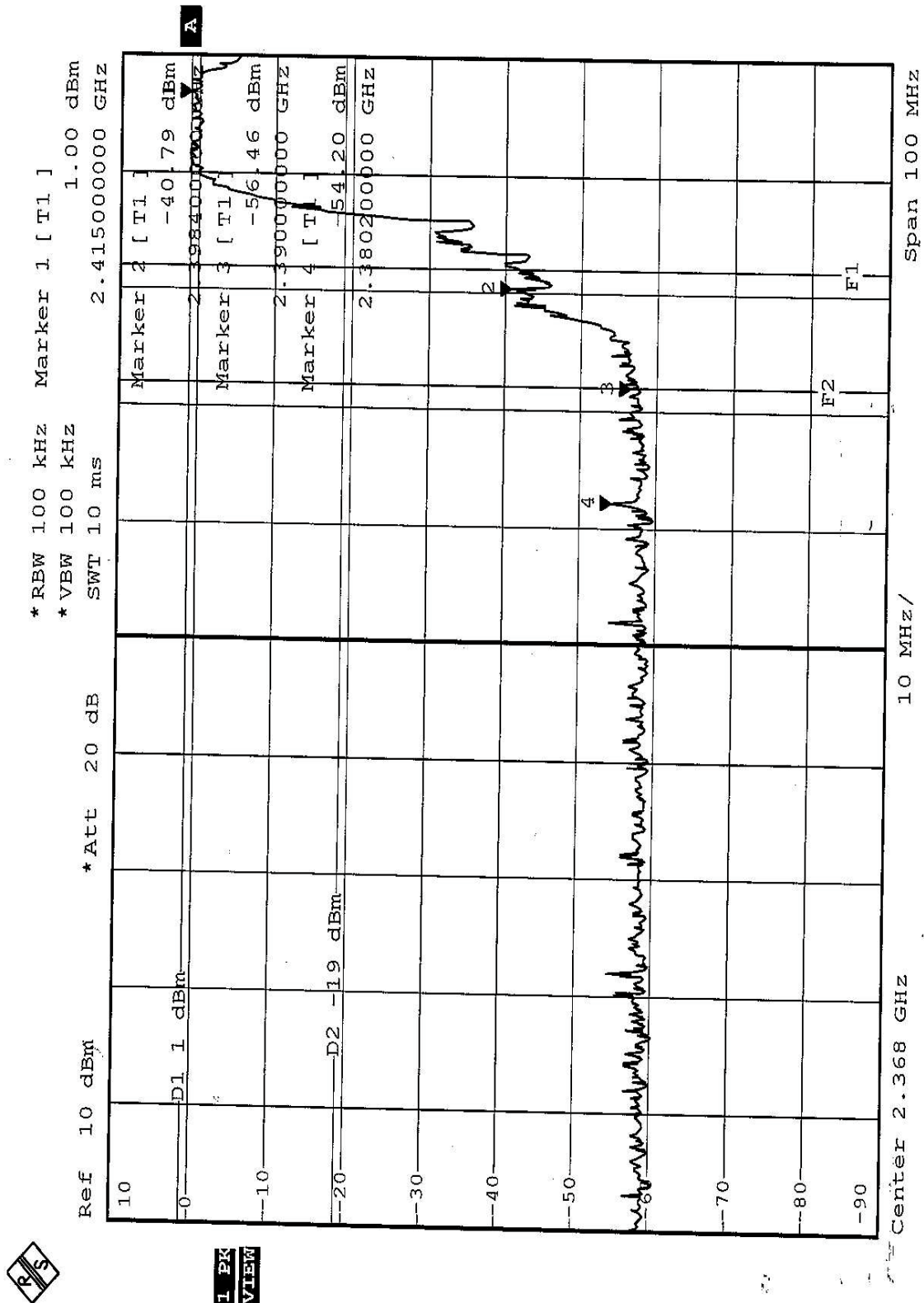
**NOTE (1):** The band edge emission plot on the following first page shows 55.20dB delta between carrier maximum power and local maximum emission in restrict band (2.3802GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 83.44dBuV/m, so the maximum field strength in restrict band is  $83.44 - 55.20 = 28.24$  dBuV/m which is under 54 dBuV/m limit.

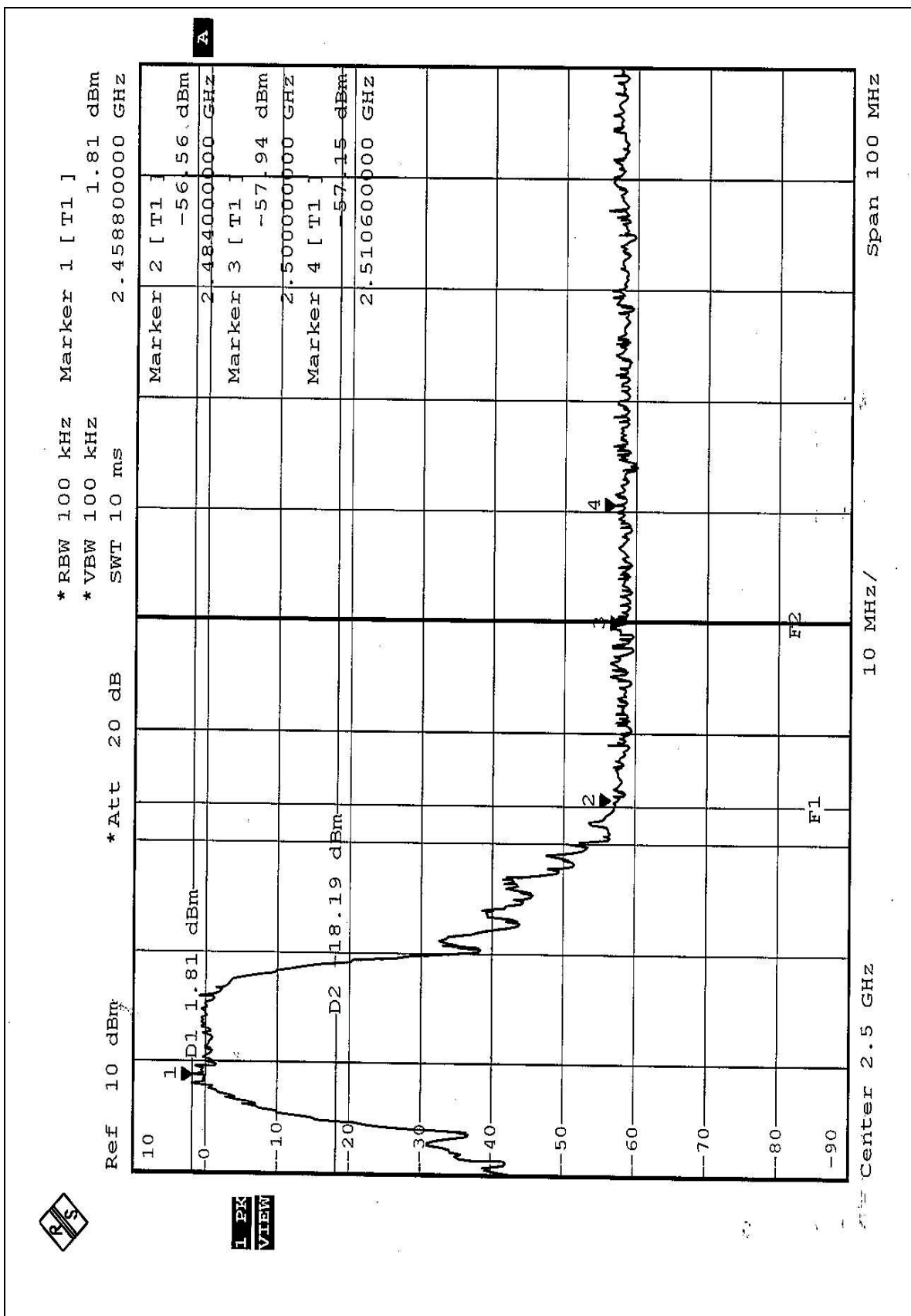
**NOTE (2):** The band edge emission plot on the following second page shows 58.37dB delta between carrier maximum power and local maximum emission in restrict band (2.4840GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 81.38dBuV/m, so the maximum field strength in restrict band is  $81.38 - 58.37 = 23.01$  dBuV/m which is under 54 dBuV/m limit.

##### **Mode 2**

**NOTE (1):** The band edge emission plot on the following first page shows 55.20dB delta between carrier maximum power and local maximum emission in restrict band (2.3802GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 85.56dBuV/m, so the maximum field strength in restrict band is  $85.56 - 55.20 = 30.36$  dBuV/m which is under 54 dBuV/m limit.

**NOTE (2):** The band edge emission plot on the following second page shows 58.37dB delta between carrier maximum power and local maximum emission in restrict band (2.4840GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 84.88dBuV/m, so the maximum field strength in restrict band is  $84.88 - 58.37 = 26.51$  dBuV/m which is under 54 dBuV/m limit.





#### 4.6.7 TEST RESULTS(B)

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).

##### **Mode 1**

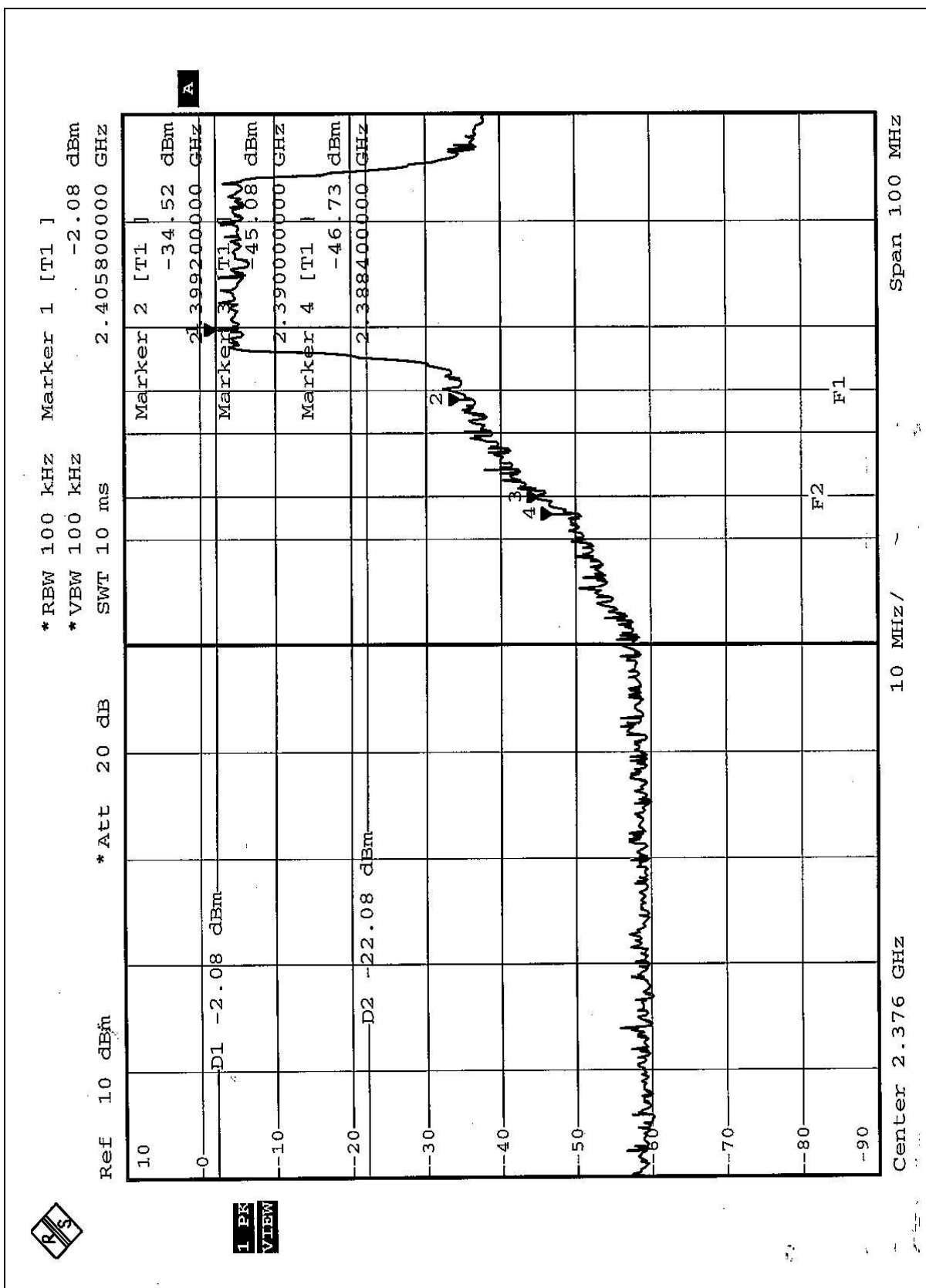
**NOTE (1):** The band edge emission plot on the following first page shows 43.00dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.8 is 83.23dBuV/m, so the maximum field strength in restrict band is  $83.23-43.00=40.23\text{dBuV/m}$  which is under 54 dBuV/m limit.

**NOTE (2):** The band edge emission plot on the following second page shows 41.87dB delta between carrier maximum power and local maximum emission in restrict band (2.4837GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.8 is 80.38dBuV/m, so the maximum field strength in restrict band is  $80.38-41.87=38.51\text{dBuV/m}$  which is under 54 dBuV/m limit.

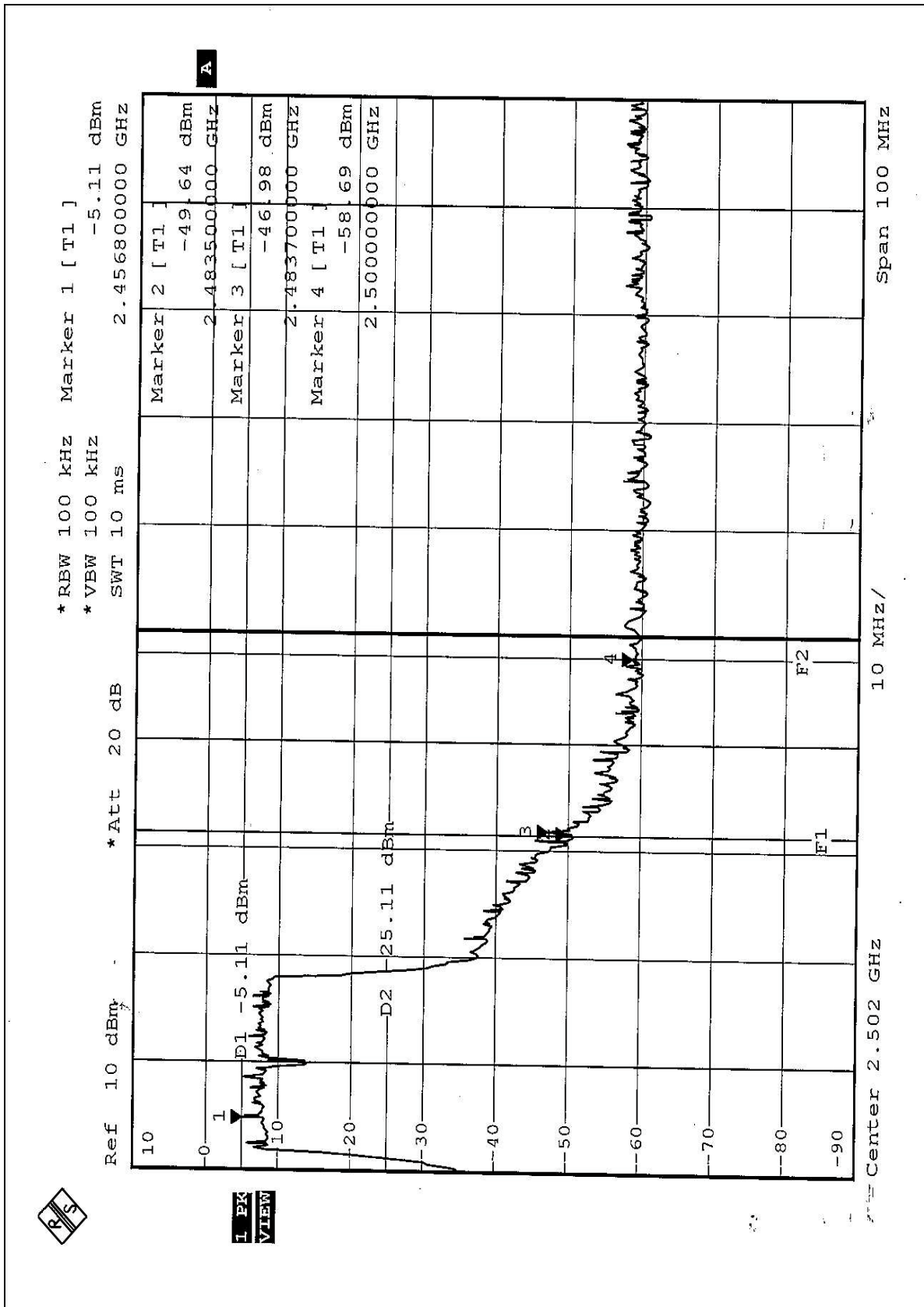
##### **Mode 2**

**NOTE (1):** The band edge emission plot on the following first page shows 43.00dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.8 is 85.23dBuV/m, so the maximum field strength in restrict band is  $85.23-43.00=42.23\text{dBuV/m}$  which is under 54 dBuV/m limit.

**NOTE (2):** The band edge emission plot on the following second page shows 41.87dB delta between carrier maximum power and local maximum emission in restrict band (2.4837GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.8 is 84.38dBuV/m, so the maximum field strength in restrict band is  $84.38-41.87=42.51\text{dBuV/m}$  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.

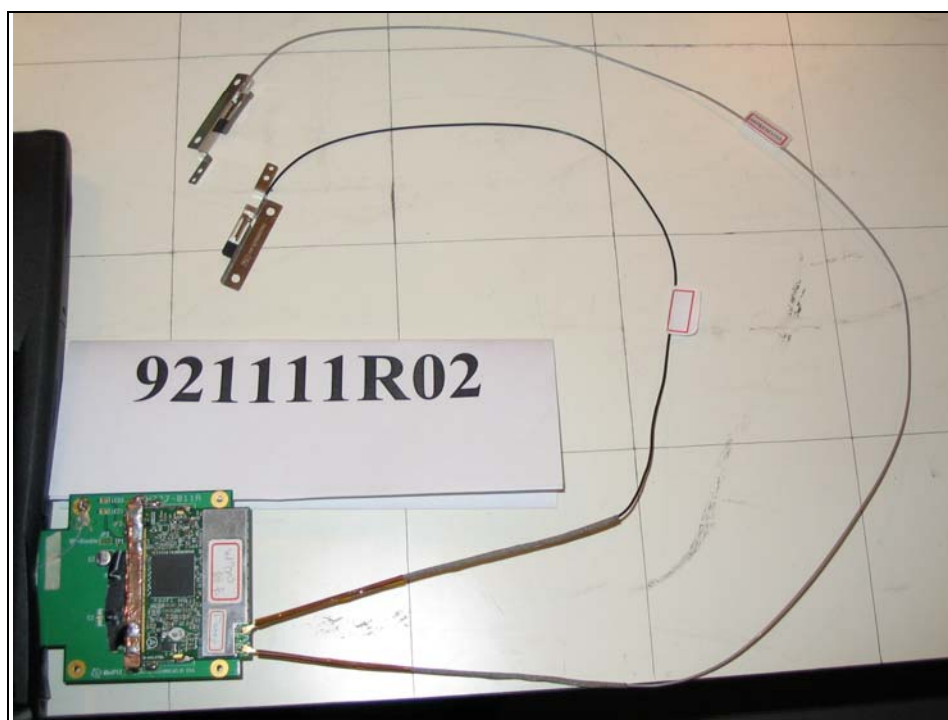
### **4.7.2 ANTENNA CONNECTED CONSTRUCTION**

The antenna types used in this product are Inverted F antennas with UFL connector. The maximum Gain of this antenna is 3.09dBi.

## 5 PHOTOGRAPHS OF THE TEST CONFIGURATION

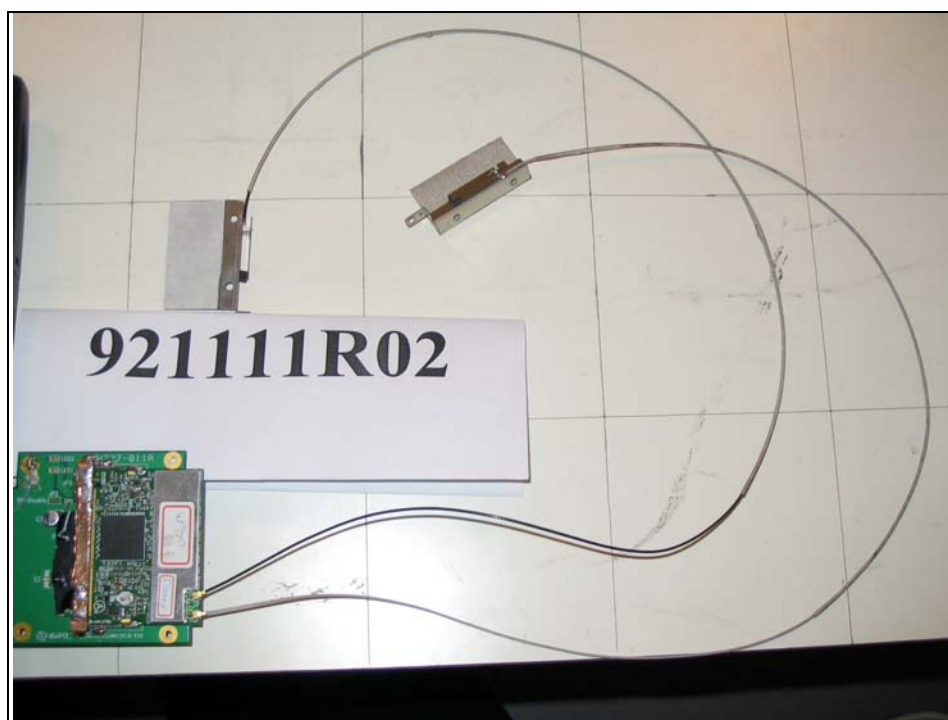
Mode 1





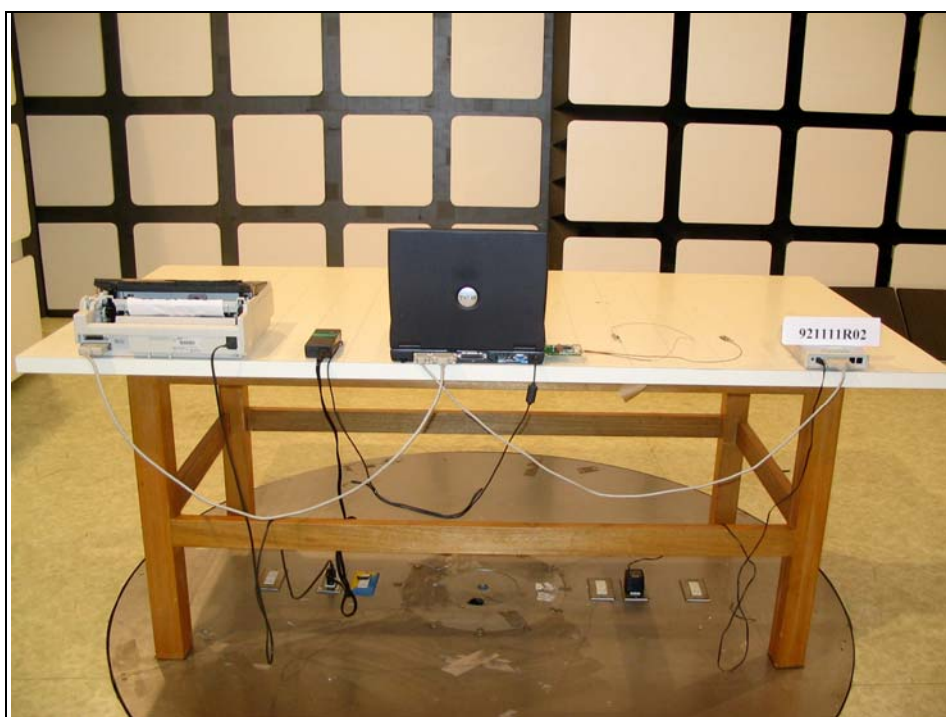
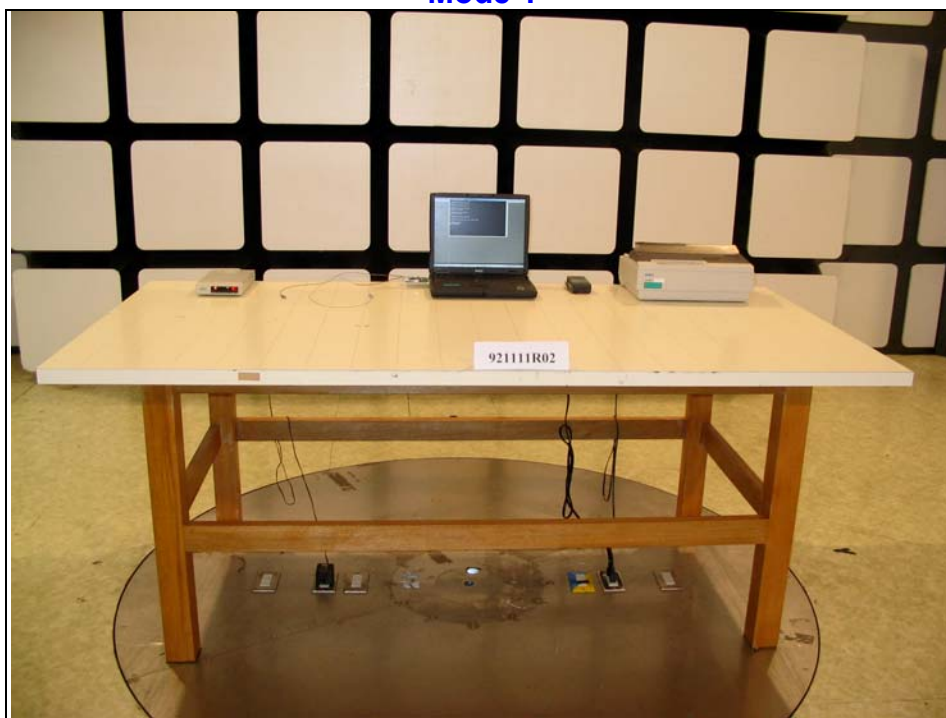
**Mode 2**





## RADIATED EMISSION TEST

### Mode 1









**Mode 2**







## 6 INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025, Guide 25 or EN 45001:

|                    |                 |
|--------------------|-----------------|
| <b>USA</b>         | FCC, NVLAP      |
| <b>Germany</b>     | TUV Rheinland   |
| <b>Japan</b>       | VCCI            |
| <b>New Zealand</b> | MoC             |
| <b>Norway</b>      | NEMKO           |
| <b>R.O.C.</b>      | BSMI, DGT, CNLA |

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site:

[www.adt.com.tw/index.5/phtml](http://www.adt.com.tw/index.5/phtml).

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