

# FCC TEST REPORT

**REPORT NO.:** RF940504L01

**MODEL NO.:** R-RE9

**RECEIVED:** May 04, 2005

**TESTED:** May 10 ~ May 16, 2005

**ISSUED:** May 16, 2005

**APPLICANT:** Paten Wireless Technology Inc.

**ADDRESS:** 8F, No.407 Rueiguang Rd., Neihsu, Taipei 114,  
Taiwan, R.O.C.

**ISSUED BY:** Advance Data Technology Corporation

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**TEST LOCATION:** No. 19, Hwa Ya 2<sup>nd</sup> Rd., Wen Hwa Tsuen, Kwei  
Shan Hsiang, Taoyuan Hsien 333, Taiwan,  
R.O.C.

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## Table of Contents

|       |                                                          |    |
|-------|----------------------------------------------------------|----|
| 1     | CERTIFICATION .....                                      | 3  |
| 2     | SUMMARY OF TEST RESULTS .....                            | 4  |
| 2.1   | MEASUREMENT UNCERTAINTY .....                            | 4  |
| 3     | GENERAL INFORMATION .....                                | 5  |
| 3.1   | GENERAL DESCRIPTION OF EUT .....                         | 5  |
| 3.2   | DESCRIPTION OF TEST MODES .....                          | 6  |
| 3.2.1 | CONFIGURATION OF SYSTEM UNDER TEST .....                 | 7  |
| 3.2.2 | TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL: ..... | 8  |
| 3.3   | GENERAL DESCRIPTION OF APPLIED STANDARDS .....           | 9  |
| 3.4   | DESCRIPTION OF SUPPORT UNITS .....                       | 9  |
| 4     | TEST TYPES AND RESULTS .....                             | 10 |
| 4.1   | CONDUCTED EMISSION MEASUREMENT .....                     | 10 |
| 4.2   | RADIATED EMISSION MEASUREMENT .....                      | 10 |
| 4.2.1 | LIMITS OF RADIATED EMISSION MEASUREMENT .....            | 10 |
| 4.2.2 | TEST INSTRUMENTS .....                                   | 11 |
| 4.2.3 | TEST PROCEDURES .....                                    | 12 |
| 4.2.4 | DEVIATION FROM TEST STANDARD .....                       | 12 |
| 4.2.5 | TEST SETUP .....                                         | 13 |
| 4.2.6 | EUT OPERATING CONDITIONS .....                           | 13 |
| 4.2.7 | TEST RESULTS .....                                       | 14 |
| 4.3   | BAND EDGES MEASUREMENT .....                             | 18 |
| 4.3.1 | LIMITS OF BAND EDGES MEASUREMENT .....                   | 18 |
| 4.3.2 | TEST INSTRUMENTS .....                                   | 18 |
| 4.3.3 | TEST PROCEDURE .....                                     | 18 |
| 4.3.4 | DEVIATION FROM TEST STANDARD .....                       | 18 |
| 4.3.5 | EUT OPERATING CONDITION .....                            | 18 |
| 4.3.6 | TEST RESULTS .....                                       | 19 |
| 5     | PHOTOGRAPHS OF THE TEST CONFIGURATION .....              | 22 |
| 6     | INFORMATION ON THE TESTING LABORATORIES .....            | 23 |



## 1 CERTIFICATION

**PRODUCT :** 2.4GHz Notebook Presenter  
**MODEL NO. :** R-RE9  
**BRAND NAME :** Labtec  
**APPLICANT :** Paten Wireless Technology Inc.  
**TESTED :** May 10 ~ May 16, 2005  
**TEST SAMPLE :** ENGINEERING SAMPLE  
**STANDARDS :** FCC Part 15, Subpart C (Section 15.249)  
ANSI C63.4-2003

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

**PREPARED BY :** Wendy Liao , **DATE:** May 16, 2005  
(Wendy Liao)

**TECHNICAL**  
**ACCEPTANCE :** Gary Chang , **DATE:** May 16, 2005  
Responsible for RF (Gary Chang)

**APPROVED BY :** Cody Chang , **DATE:** May 16, 2005  
(Cody Chang,  
Deputy Manager)

## 2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: FCC Part 15, Subpart C (Section 15.249) |                                                                                                                                                                    |        |                                                 |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------------------------------------------|
| STANDARD PARAGRAPH                                        | TEST TYPE                                                                                                                                                          | RESULT | REMARK                                          |
| 15.207                                                    | Conducted Emission Test                                                                                                                                            | NA     | Power supply is 3Vdc from batteries             |
| 15.209<br>15.249<br>15.249 (d)                            | Radiated Emission Test<br>Band Edge Measurement<br>Limit: 50dB less than the peak value of fundamental frequency or meet radiated emission limit in section 12.209 | PASS   | Minimum passing margin is -1.40dB at 7361.00MHz |

### 2.1 MEASUREMENT UNCERTAINTY

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

| MEASUREMENT         | FREQUENCY       | UNCERTAINTY |
|---------------------|-----------------|-------------|
| Conducted emissions | 9kHz~30MHz      | 2.44 dB     |
| Radiated emissions  | 30MHz ~ 200MHz  | 3.73 dB     |
|                     | 200MHz ~1000MHz | 3.74 dB     |
|                     | 1GHz ~ 18GHz    | 2.20 dB     |
|                     | 18GHz ~ 40GHz   | 1.88 dB     |

### 3 GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

|                           |                                 |
|---------------------------|---------------------------------|
| <b>PRODUCT</b>            | 2.4GHz Notebook Presenter       |
| <b>MODEL NO.</b>          | R-RE9                           |
| <b>POWER SUPPLY</b>       | 3Vdc from batteries             |
| <b>MODULATION TYPE</b>    | FSK                             |
| <b>FREQUENCY RANGE</b>    | 2453.7 ~ 2480.3MHz              |
| <b>NUMBER OF CHANNEL</b>  | 8                               |
| <b>ANTENNA TYPE</b>       | Print antenna with 3.98dBi gain |
| <b>DATA CABLE</b>         | NA                              |
| <b>I/O PORTS</b>          | NA                              |
| <b>ASSOCIATED DEVICES</b> | NA                              |

**NOTE:**

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

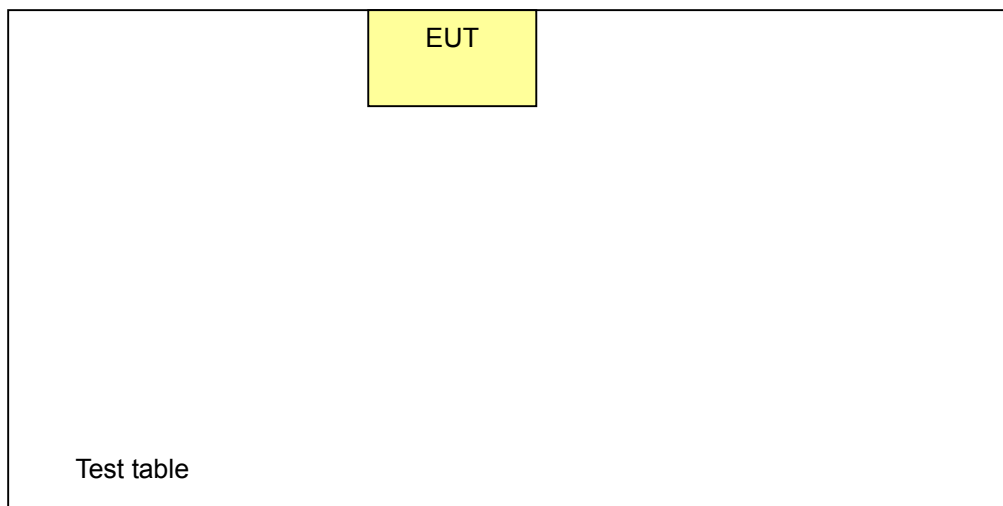
### 3.2 DESCRIPTION OF TEST MODES

Operated in 2453.7 ~ 2480.3MHz Band:

8 channels for 2.4GHz were provided to this EUT

| Channel | Frequency (MHz) |
|---------|-----------------|
| 1       | 2480.3 MHz      |
| 2       | 2476.5 MHz      |
| 3       | 2472.7 MHz      |
| 4       | 2468.9 MHz      |
| 5       | 2465.1 MHz      |
| 6       | 2461.3 MHz      |
| 7       | 2457.5 MHz      |
| 8       | 2453.7 MHz      |

### 3.2.1 CONFIGURATION OF SYSTEM UNDER TEST



### 3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL:

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

Where PLC: Power Line Conducted Emission  
RE≥1G: Radiated Emission above 1GHz

RE<1G RE: Radiated Emission below 1GHz  
APCM: Antenna Port Conducted Measurement

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

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, packet types and XYZ Axis.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

| Available<br>Channel | Tested<br>Channel | Modulation<br>Type | Axis |
|----------------------|-------------------|--------------------|------|
| 1 to 8               | 8                 | FSK                | z    |

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

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, packet types and XYZ Axis.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

| Available<br>Channel | Tested<br>Channel | Modulation<br>Type | Axis |
|----------------------|-------------------|--------------------|------|
| 1 to 8               | 1, 4, 8           | FSK                | z    |

#### **Bandedge Measurement:**

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, packet types.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

| Available<br>Channel | Tested<br>Channel | Modulation<br>Type |
|----------------------|-------------------|--------------------|
| 1 to 8               | 1, 8              | FSK                |

### 3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a 2.4GHz Notebook Presenter. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**FCC Part 15, Subpart C (Section 15.249)**  
**ANSI C63.4-2003**

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

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

### 3.4 DESCRIPTION OF SUPPORT UNITS

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

| NO. | PRODUCT | BRAND | MODEL NO. | SERIAL NO. | FCC ID |
|-----|---------|-------|-----------|------------|--------|
| 1   | NA      | NA    | NA        | NA         | NA     |

| NO. | SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS |
|-----|-----------------------------------------------------|
| 1   | NA                                                  |

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

## 4 TEST TYPES AND RESULTS

### 4.1 CONDUCTED EMISSION MEASUREMENT

NA

### 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 |
|--------------------------------------|--------------------|--------------|------------------|
| Test Receiver<br>ROHDE & SCHWARZ     | ESIB7              | 100188       | Dec. 19, 2005    |
| Spectrum Analyzer<br>ROHDE & SCHWARZ | FSP40              | 100039       | Nov. 21, 2005    |
| BILOG Antenna<br>SCHWARZBECK         | VULB9168           | 9168-157     | Jan. 22, 2006    |
| HORN Antenna<br>SCHWARZBECK          | BBHA 9120 D        | 9120D-407    | Jan. 16, 2006    |
| HORN Antenna<br>SCHWARZBECK          | BBHA 9170          | BBHA 9170241 | Feb. 23, 2006    |
| Preamplifier<br>Agilent              | 8449B              | 3008A01961   | Nov. 09, 2005    |
| Preamplifier<br>Agilent              | 8447D              | 2944A10629   | Nov. 09, 2005    |
| RF signal cable<br>HUBER+SUHNER      | SUCOFLEX 104       | 218182/4     | Feb. 17, 2006    |
| RF signal cable<br>HUBER+SUHNER      | SUCOFLEX 104       | 218194/4     | Feb. 17, 2006    |
| Software<br>ADT.                     | ADT_Radiated_V5.14 | NA           | NA               |
| Antenna Tower<br>ADT.                | AT100              | AT93021702   | NA               |
| Turn Table<br>ADT.                   | TT100.             | TT93021702   | NA               |
| Controller<br>ADT.                   | SC100.             | SC93021702   | NA               |

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 1.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The IC Site Registration No. is IC4924-2.

#### 4.2.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

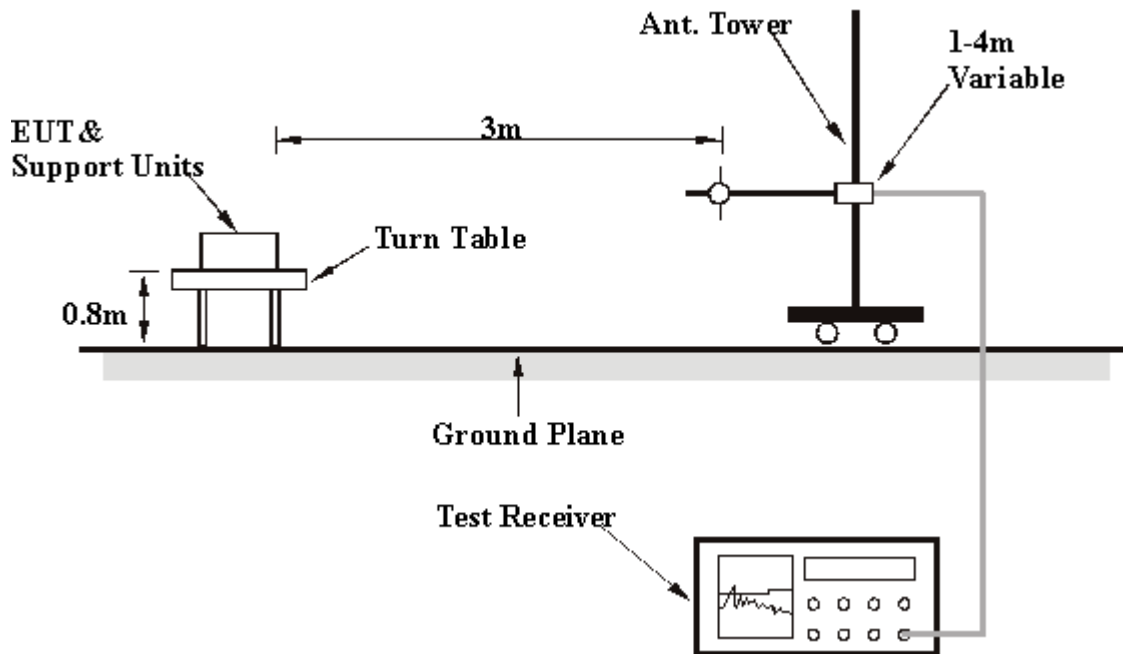
**NOTE:**

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

#### 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

The EUT has been placed on the table. Set the transmitter part of EUT under transmission condition continuously at specific channel frequency.

## 4.2.7 TEST RESULTS

## Below 1GHz Worst-Case Data

| EUT             | 2.4GHz Notebook Presenter | MEASUREMENT DETAIL       |                         |
|-----------------|---------------------------|--------------------------|-------------------------|
| MODEL           | R-RE9                     | FREQUENCY RANGE          | Below 1000MHz           |
| CHANNEL         | Channel 8                 | DETECTOR FUNCTION        | Quasi-Peak              |
| MODULATION TYPE | FSK                       | ENVIRONMENTAL CONDITIONS | 25deg. C, 64%RH, 991hPa |
| TESTED BY       | Match Tsui                | INPUT POWER (SYSTEM)     | 120Vac, 60 Hz           |

## ANTENNA POLARITY &amp; 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   | 31.94       | 21.60 QP                | 40.00          | -18.40      | 1.00 H             | 166                  | 7.92             | 13.68                    |
| 2   | 82.48       | 15.08 QP                | 40.00          | -24.92      | 1.00 H             | 97                   | 5.28             | 9.80                     |
| 3   | 136.91      | 16.36 QP                | 43.50          | -27.14      | 1.50 H             | 232                  | 2.37             | 13.99                    |
| 4   | 193.29      | 14.45 QP                | 43.50          | -29.05      | 1.25 H             | 331                  | 2.79             | 11.66                    |
| 5   | 770.62      | 23.24 QP                | 46.00          | -22.76      | 1.50 H             | 10                   | -0.29            | 23.53                    |
| 6   | 817.27      | 22.71 QP                | 46.00          | -23.29      | 1.50 H             | 25                   | -1.14            | 23.85                    |
| 7   | 871.70      | 23.13 QP                | 46.00          | -22.87      | 1.00 H             | 328                  | -1.42            | 24.55                    |
| 8   | 916.41      | 24.35 QP                | 46.00          | -21.65      | 1.25 H             | 235                  | -0.92            | 25.27                    |
| 9   | 947.52      | 24.04 QP                | 46.00          | -21.96      | 1.50 H             | 304                  | -1.54            | 25.59                    |

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

| No. | Freq. (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1   | 31.94       | 18.87 QP                | 40.00          | -21.13      | 1.75 V             | 109                  | 5.20             | 13.68                    |
| 2   | 82.48       | 14.35 QP                | 40.00          | -25.65      | 1.25 V             | 79                   | 4.55             | 9.80                     |
| 3   | 136.91      | 16.96 QP                | 43.50          | -26.54      | 1.50 V             | 280                  | 2.97             | 13.99                    |
| 4   | 193.29      | 15.23 QP                | 43.50          | -28.27      | 1.50 V             | 295                  | 3.57             | 11.66                    |
| 5   | 805.61      | 23.44 QP                | 46.00          | -22.56      | 1.75 V             | 76                   | -0.31            | 23.75                    |
| 6   | 844.49      | 23.49 QP                | 46.00          | -22.51      | 1.25 V             | 10                   | -0.58            | 24.07                    |
| 7   | 881.42      | 23.26 QP                | 46.00          | -22.74      | 1.25 V             | 58                   | -1.48            | 24.74                    |
| 8   | 914.47      | 24.94 QP                | 46.00          | -21.06      | 1.50 V             | 163                  | -0.31            | 25.25                    |
| 9   | 949.46      | 23.93 QP                | 46.00          | -22.07      | 1.50 V             | 16                   | -1.68            | 25.61                    |

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

**1 ~ 25GHz Worst-Case Data**

|                        |                           |                                 |                            |
|------------------------|---------------------------|---------------------------------|----------------------------|
| <b>EUT</b>             | 2.4GHz Notebook Presenter | <b>MEASUREMENT DETAIL</b>       |                            |
| <b>MODEL</b>           | R-RE9                     | <b>FREQUENCY RANGE</b>          | 1~25 GHz                   |
| <b>CHANNEL</b>         | Channel 8                 | <b>DETECTOR FUNCTION</b>        | Peak(PK)<br>Average (AV)   |
| <b>MODULATION TYPE</b> | FSK                       | <b>ENVIRONMENTAL CONDITIONS</b> | 25deg. C, 64%RH,<br>991hPa |
| <b>TESTED BY</b>       | Match Tsui                | <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              |

**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   | *2453.70    | 91.21 PK                | 114.00         | -22.79      | 1.74 H             | 299                  | 59.97            | 31.24                    |
| 1   | *2453.70    | 90.69 AV                | 94.00          | -3.31       | 1.74 H             | 299                  | 59.45            | 31.24                    |
| 2   | 4907.00     | 55.15 PK                | 74.00          | -18.85      | 1.32 H             | 283                  | 18.53            | 36.62                    |
| 2   | 4907.00     | 51.33 AV                | 54.00          | -2.67       | 1.32 H             | 283                  | 14.71            | 36.62                    |
| 3   | 7361.00     | 55.14 PK                | 74.00          | -18.86      | 1.08 H             | 29                   | 12.59            | 42.55                    |
| 3   | 7361.00     | 47.87 AV                | 54.00          | -6.13       | 1.08 H             | 29                   | 5.32             | 42.55                    |

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

| No.      | Freq. (MHz)    | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB)  | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
|----------|----------------|-------------------------|----------------|--------------|--------------------|----------------------|------------------|--------------------------|
| 1        | *2453.70       | 93.47 PK                | 114.00         | -20.53       | 1.04 V             | 76                   | 62.23            | 31.24                    |
| 1        | *2453.70       | 91.52 AV                | 94.00          | -2.48        | 1.04 V             | 76                   | 60.28            | 31.24                    |
| 2        | 4907.00        | 55.67 PK                | 74.00          | -18.33       | 1.43 V             | 143                  | 19.05            | 36.62                    |
| 2        | 4907.00        | 52.07 AV                | 54.00          | -1.93        | 1.43 V             | 143                  | 15.45            | 36.62                    |
| 3        | 7361.00        | 58.11 PK                | 74.00          | -15.89       | 1.26 V             | 224                  | 15.56            | 42.55                    |
| <b>3</b> | <b>7361.00</b> | <b>52.60 AV</b>         | <b>54.00</b>   | <b>-1.40</b> | <b>1.26 V</b>      | <b>224</b>           | <b>10.05</b>     | <b>42.55</b>             |

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

|                        |                           |                                 |                            |
|------------------------|---------------------------|---------------------------------|----------------------------|
| <b>EUT</b>             | 2.4GHz Notebook Presenter | <b>MEASUREMENT DETAIL</b>       |                            |
| <b>MODEL</b>           | R-RE9                     | <b>FREQUENCY RANGE</b>          | 1~25 GHz                   |
| <b>CHANNEL</b>         | Channel 4                 | <b>DETECTOR FUNCTION</b>        | Peak(PK)<br>Average (AV)   |
| <b>MODULATION TYPE</b> | FSK                       | <b>ENVIRONMENTAL CONDITIONS</b> | 25deg. C, 64%RH,<br>991hPa |
| <b>TESTED BY</b>       | Match Tsui                | <b>INPUT POWER (SYSTEM)</b>     | 120Vac, 60 Hz              |

**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   | *2468.90    | 91.18 PK                | 114.00         | -22.82      | 1.80 H             | 288                  | 59.87            | 31.31                    |
| 1   | *2468.90    | 90.57 AV                | 94.00          | -3.43       | 1.80 H             | 288                  | 59.26            | 31.31                    |
| 2   | 4937.50     | 53.58 PK                | 74.00          | -20.42      | 1.50 H             | 180                  | 16.89            | 36.69                    |
| 2   | 4937.50     | 49.58 AV                | 54.00          | -4.42       | 1.50 H             | 180                  | 12.89            | 36.69                    |
| 3   | 7406.70     | 55.79 PK                | 74.00          | -18.21      | 1.69 H             | 121                  | 13.16            | 42.63                    |
| 3   | 7406.70     | 47.17 AV                | 54.00          | -6.83       | 1.69 H             | 121                  | 4.54             | 42.63                    |

**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   | *2468.90    | 93.45 PK                | 114.00         | -20.55      | 1.08 V             | 354                  | 62.14            | 31.31                    |
| 1   | *2468.90    | 91.49 AV                | 94.00          | -2.51       | 1.08 V             | 354                  | 60.18            | 31.31                    |
| 2   | 4937.70     | 53.85 PK                | 74.00          | -20.15      | 1.14 V             | 357                  | 17.16            | 36.69                    |
| 2   | 4937.70     | 50.28 AV                | 54.00          | -3.72       | 1.14 V             | 357                  | 13.59            | 36.69                    |
| 3   | 7406.70     | 57.55 PK                | 74.00          | -16.45      | 1.12 V             | 1                    | 14.92            | 42.63                    |
| 3   | 7406.70     | 51.64 AV                | 54.00          | -2.36       | 1.12 V             | 1                    | 9.01             | 42.63                    |

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

| EUT             | 2.4GHz Notebook Presenter | MEASUREMENT DETAIL       |                            |
|-----------------|---------------------------|--------------------------|----------------------------|
| MODEL           | R-RE9                     | FREQUENCY RANGE          | 1~25 GHz                   |
| CHANNEL         | Channel 1                 | DETECTOR FUNCTION        | Peak(PK)<br>Average (AV)   |
| MODULATION TYPE | FSK                       | ENVIRONMENTAL CONDITIONS | 25deg. C, 64%RH,<br>991hPa |
| TESTED BY       | Match Tsui                | INPUT POWER (SYSTEM)     | 120Vac, 60 Hz              |

#### 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   | *2480.30    | 91.30 PK                | 114.00         | -22.70      | 1.25 H             | 255                  | 59.94            | 31.36                    |
| 1   | *2480.30    | 90.78 AV                | 94.00          | -3.22       | 1.25 H             | 255                  | 59.42            | 31.36                    |
| 2   | 2483.50     | 36.95 PK                | 74.00          | -37.05      | 1.25 H             | 255                  | 5.58             | 31.37                    |
| 3   | 4961.00     | 53.29 PK                | 74.00          | -20.71      | 1.35 H             | 258                  | 16.54            | 36.75                    |
| 3   | 4961.00     | 48.94 AV                | 54.00          | -5.06       | 1.35 H             | 258                  | 12.19            | 36.75                    |
| 4   | 7441.00     | 55.48 PK                | 74.00          | -18.52      | 1.15 H             | 121                  | 12.79            | 42.69                    |
| 4   | 7441.00     | 48.10 AV                | 54.00          | -5.90       | 1.15 H             | 121                  | 5.41             | 42.69                    |

#### 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   | *2480.30    | 93.52 PK                | 114.00         | -20.48      | 1.02 V             | 77                   | 62.16            | 31.36                    |
| 1   | *2480.30    | 91.47 AV                | 94.00          | -2.53       | 1.02 V             | 77                   | 60.11            | 31.36                    |
| 2   | 2483.50     | 38.95 PK                | 74.00          | -35.05      | 1.02 V             | 77                   | 7.58             | 31.37                    |
| 3   | 4961.00     | 55.26 PK                | 74.00          | -18.74      | 1.42 V             | 94                   | 18.51            | 36.75                    |
| 3   | 4961.00     | 50.86 AV                | 54.00          | -3.14       | 1.42 V             | 94                   | 14.11            | 36.75                    |
| 4   | 7441.00     | 57.83 PK                | 74.00          | -16.17      | 1.21 V             | 237                  | 15.14            | 42.69                    |
| 4   | 7441.00     | 52.04 AV                | 54.00          | -1.96       | 1.21 V             | 237                  | 9.35             | 42.69                    |

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

### 4.3 BAND EDGES MEASUREMENT

#### 4.3.1 LIMITS OF BAND EDGES MEASUREMENT

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

#### 4.3.2 TEST INSTRUMENTS

| Description & Manufacturer | Model No. | Serial No. | Calibrated Until |
|----------------------------|-----------|------------|------------------|
| SPECTRUM ANALYZER          | FSEK30    | 100049     | Aug. 12, 2005    |

**NOTE:**

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

#### 4.3.3 TEST PROCEDURE

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

The spectrum plots (Peak and Average RBW=VBW=100kHz) are attached on the following pages.

#### 4.3.4 DEVIATION FROM TEST STANDARD

No deviation

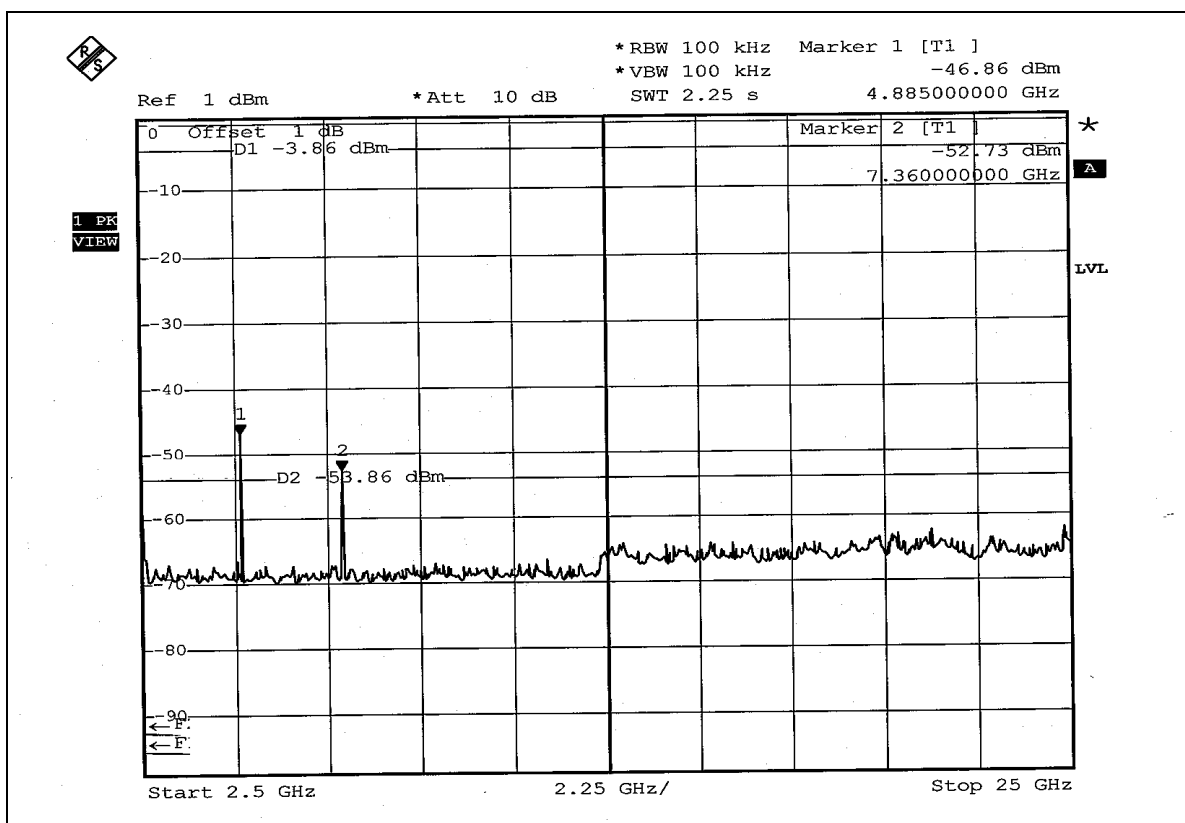
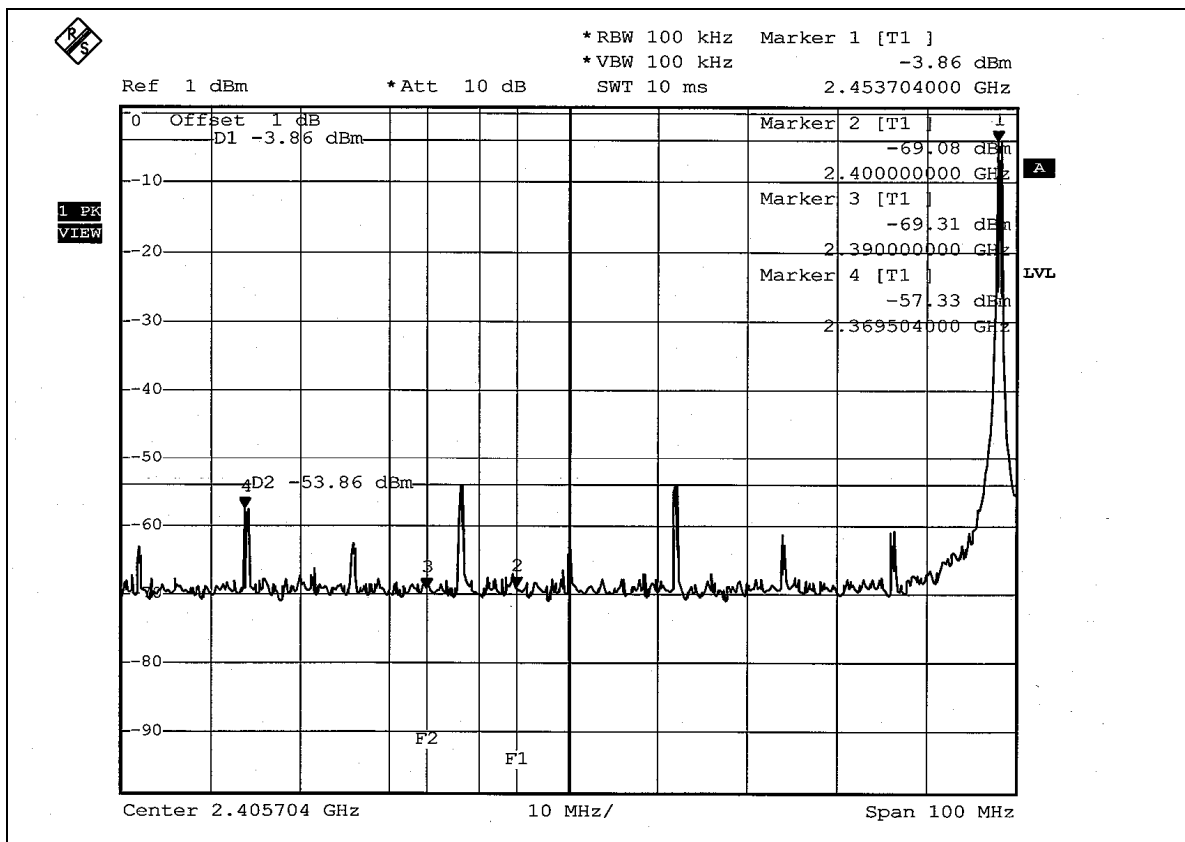
#### 4.3.5 EUT OPERATING CONDITION

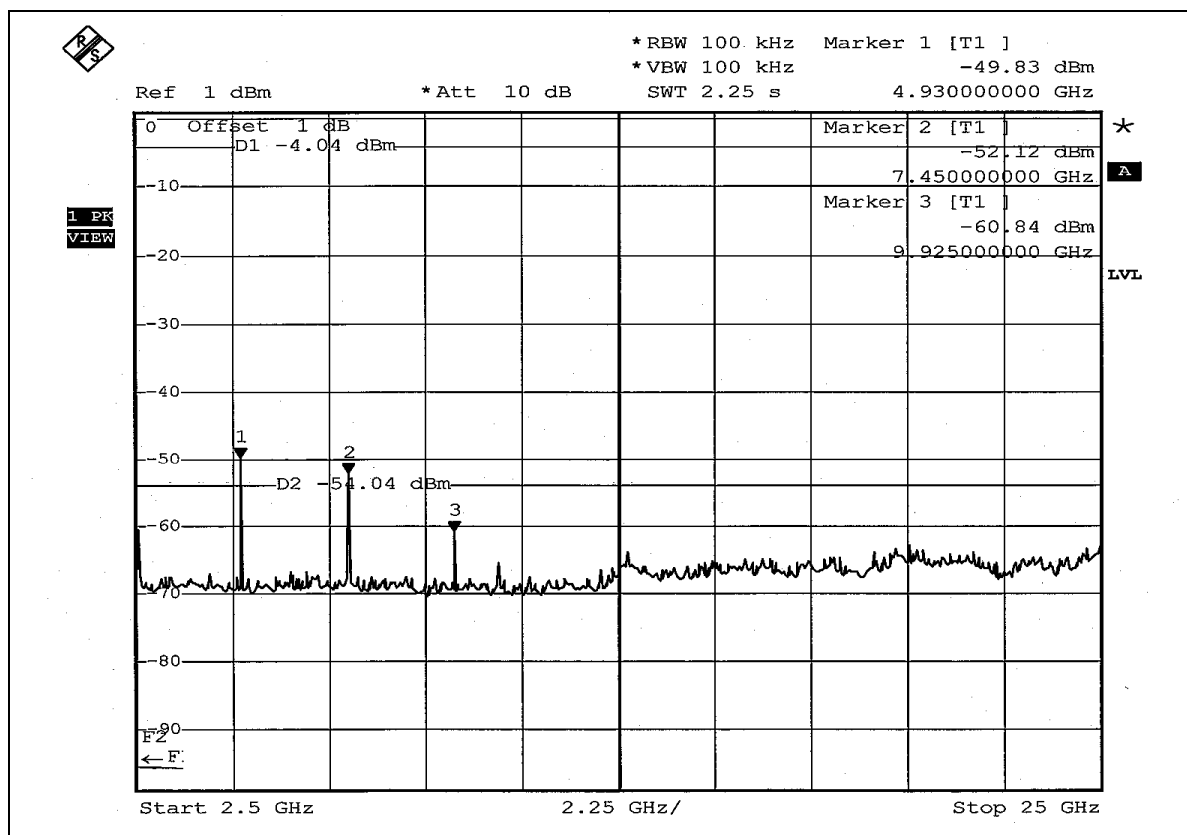
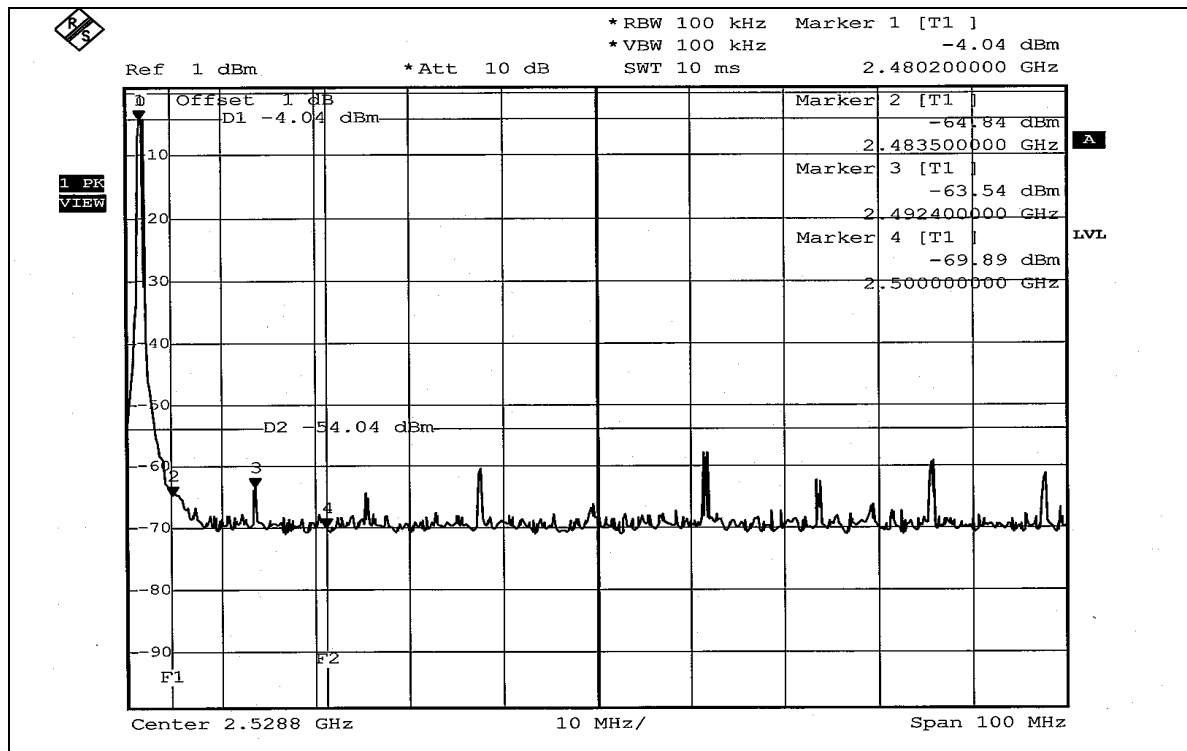
Same as Item 4.3.6



#### 4.3.6 TEST RESULTS

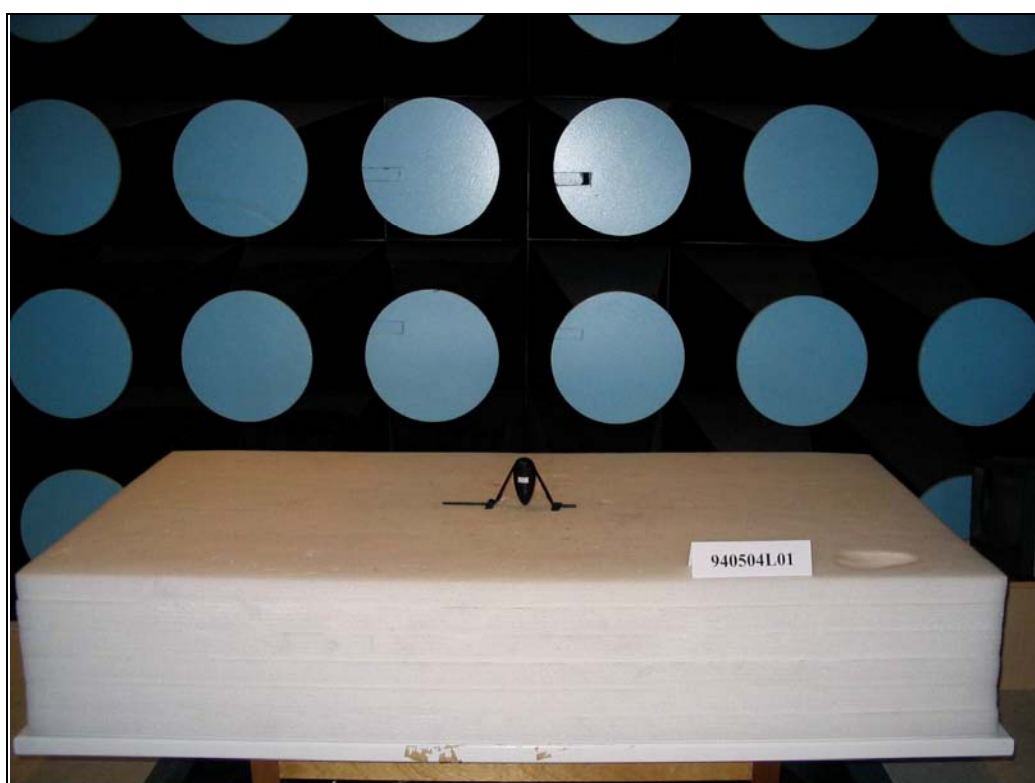
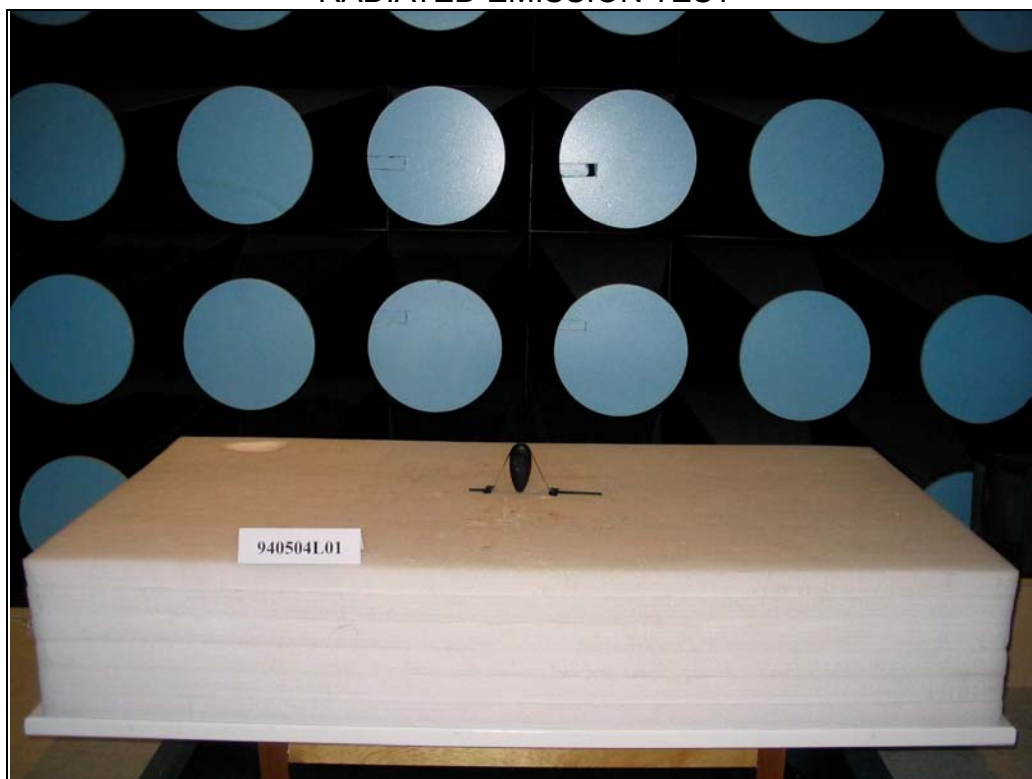
The spectrum plots are attached on the following 4 images. D2 line indicates the highest level, and D1 line indicates the 50dB offset below D2. It shows compliance with the requirement in part 15.249 (d).





## 5 PHOTOGRAPHS OF THE TEST CONFIGURATION

### RADIATED EMISSION TEST



## 6 INFORMATION ON THE TESTING LABORATORIES

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

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

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

[www.adt.com.tw/index.5/phtml](http://www.adt.com.tw/index.5/phtml). If you have any comments, please feel free to contact us at the following:

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**Web Site:** [www.adt.com.tw](http://www.adt.com.tw)

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