



## Test Report

Product Name : RF optical mouse

Model No. : M310

FCC ID. : O62M310

Applicant : Darfon Electronics Corp.

Address : 6, Feng-Shu Tsuen, Gueishan, Taoyuan 333,  
Taiwan, R.O.C.

Date of Receipt : Feb. 18, 2004

Date of Test : Mar. 04, 2004

Report No. : 042L131FI

The Test Results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.  
This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

# Test Report Certification

Test Date : Mar. 04, 2004  
Report No.: 042L131FI



**Accredited by NIST (NVLAP)**  
NVLAP Lab Code: 200533-0

Product Name : RF optical mouse  
Applicant : Darfon Electronics Corp.  
Address : 6, Feng-Shu Tsuen, Gueishan, Taoyuan 333, Taiwan, R.O.C.  
Manufacturer : Darfon Electronics Corp.  
Model No. : M310  
FCC ID. : O62M310  
Rated Voltage : DC 3V(Power by Battery)  
Trade Name : BenQ  
Measurement Standard : FCC Part 15 Intentional Radiators for Subpart C  
Paragraph 15.227  
Measurement Procedure : ANSI C63.4: 2001  
Test Result : Complied

The Test Results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.  
This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Documented By :

*Grace Lin*  
( Grace Lin )

**NVLAP**<sup>®</sup>  
NVLAP Lab Code: 200533-0

Tested By :

*Camus Chen*  
( Camus Chen )

Approved By :

*Gene Chang*  
( Gene Chang )

## TABLE OF CONTENTS

| Description  | Page      |
|--|-----------|
| <b>1. GENERAL INFORMATION .....</b>                            | <b>4</b>  |
| 1.1. EUT Description.....                                      | 4         |
| 1.2. Operation Description .....                               | 5         |
| 1.3. Tested System Details.....                                | 6         |
| 1.4. Configuration of tested System .....                      | 7         |
| 1.5. EUT Exercise Software .....                               | 7         |
| 1.6. Test Facility .....                                       | 8         |
| <b>2. Conducted Emission.....</b>                              | <b>9</b>  |
| 2.1. Test Equipment.....                                       | 9         |
| 2.2. Test Setup .....  | 9         |
| 2.3. Limits .....  | 9         |
| 2.4. Test Procedure .....                                      | 10        |
| 2.5. Uncertainty .....   | 10        |
| 2.6. Test Data of Conducted Emission .....                     | 11        |
| <b>3. Radiated Emission.....</b>                               | <b>12</b> |
| 3.1. Test Equipment.....                                       | 12        |
| 3.2. Test Setup .....  | 12        |
| 3.3. Limits .....  | 13        |
| 3.4. Test Procedure .....                                      | 14        |
| 3.5. Uncertainty .....   | 14        |
| 3.6. Test Data of Radiated Emission .....                      | 15        |
| <b>4. Band Edge .....</b>                                      | <b>17</b> |
| 4.1. Test Equipment.....                                       | 17        |
| 4.2. Test Setup .....  | 17        |
| 4.3. Limit .....   | 18        |
| 4.4. Test Procedure .....                                      | 18        |
| 4.5. Test Result of Band Edge .....                            | 19        |
| <b>5. Occupied Bandwidth .....</b>                             | <b>21</b> |
| 5.1. Test Equipment.....                                       | 21        |
| 5.2. Test Setup .....  | 21        |
| 5.3. Test Result of Occupied Bandwidth .....                   | 22        |
| <b>6. EMI Reduction Method During Compliance Testing .....</b> | <b>23</b> |

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name : RF optical mouse  
Trade Name : BenQ  
FCC ID. : O62M310  
Model No. : M310  
EUT Voltage : DC 3V(Power by Battery)  
Frequency Range : 27.045MHz  
Type of Modulation : FSK  
Type of antenna : Loop antenna  
Channel Number : 1  
Channel Control : Manual  
Frequency of Each Channel:  
Channel Frequency  
Channel 1: 27.045 MHz

Note:

1. The EUT is a RF optical mouse intends to use in household and office PC system or related application.
2. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.227.

Test Mode: Mode 1: Normal Operation

## 1.2. Operation Description

The EUT is a 27.045MHz RF optical mouse intends to use in household and office PC system.

The device adapts FSK modulation. The antenna Loop antenna Provides diversity function to improve the transmitting function.

The super generation type receiver was used. An external excitation was used when the test of receiver was performed.

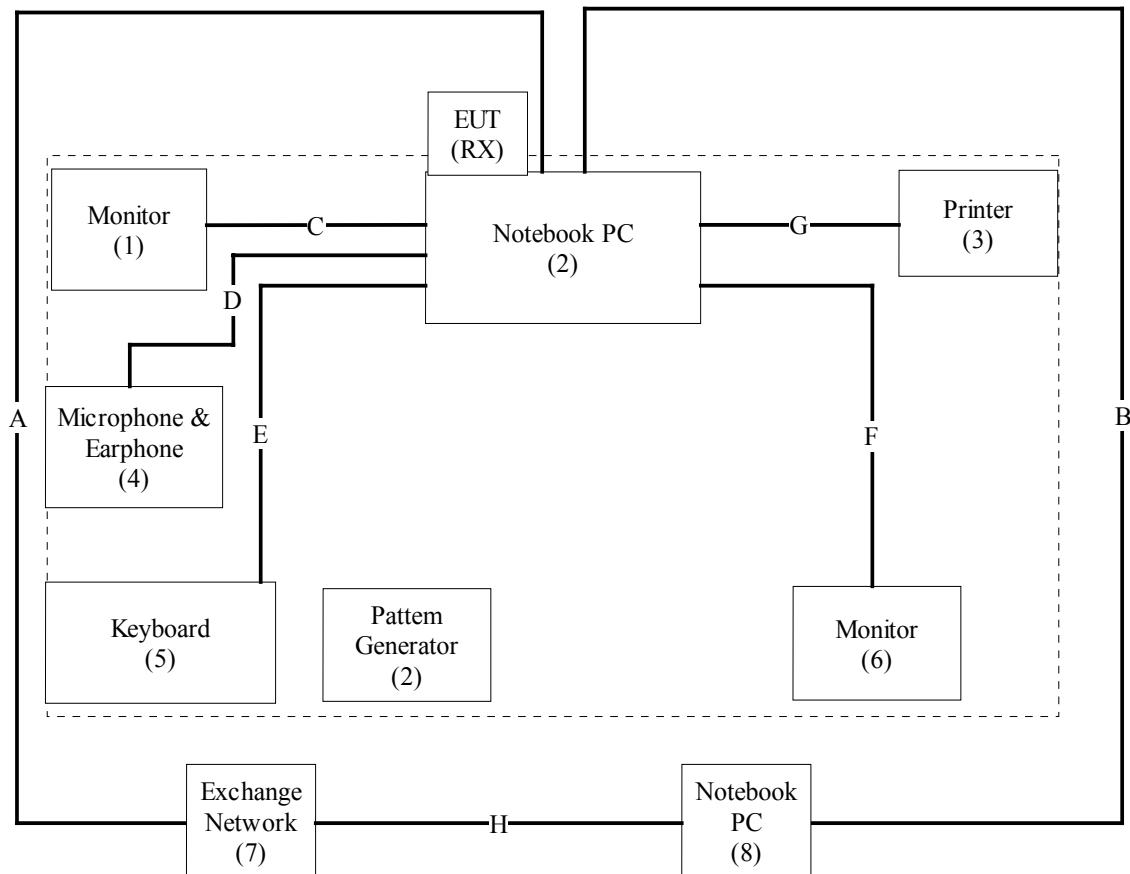
### 1.3. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

| Product |                       | Manufacturer  | Model No.  | Serial No.       | FCC ID | Power Cord         |
|---------|-----------------------|---------------|------------|------------------|--------|--------------------|
| (1)     | Monitor               | ADI           | CM703      | 038054T10203890A | DoC    | Non-Shielded, 1.8m |
| (2)     | Notebook PC           | DELL          | PP01L      | N/A              | DoC    | Non-Shielded, 1.8m |
| (3)     | Printer               | EPSON         | StyLus C63 | FAPY012396       | DoC    | Non-Shielded, 1.9m |
| (4)     | Microphone & Earphone | N/A           | MIC-06     | N/A              | N/A    | N/A                |
| (5)     | Keyboard              | COMPAQ        | KB-0133    | B55940EBUO10VI   | DoC    | N/A                |
| (6)     | Monitor               | SONY          | PVM-14M2U  | 2105742          | DoC    | Non-Shielded, 1.8m |
| (7)     | Exchange Network      | Sun Moon Star | PX-4       | 95170087         | N/A    | Non-shielded, 1.8m |
| (8)     | Notebook PC           | ASUS          | S1300      | 26NP018680       | DoC    | Non-Shielded, 1.8m |

| Signal Cable Type |                             | Signal cable Description              |
|-------------------|-----------------------------|---------------------------------------|
| A.                | Telecom Cable               | Non-Shielded, 7m                      |
| B.                | LAN Cable                   | Non-Shielded, 7m                      |
| C.                | D-Sub Cable                 | Shielded, 1.8m with one ferrite core. |
| D.                | Microphone & Earphone Cable | Non-Shielded, 1.8m                    |
| E.                | PS/2 Keyboard Cable         | Shielded, 1.8m                        |
| F.                | S-Video Cable               | Shielded, 1.2m                        |
| G.                | Printer Cable               | Shielded, 1.5m                        |
| H.                | Telecom Cable               | Non-Shielded, 7m                      |

#### 1.4. Configuration of tested System



#### 1.5. EUT Exercise Software

- (1) Setup the EUT and simulators as shown on 1.4.
- (2) Enable RF signal and confirm EUT active.
- (3) Modulate output capacity of EUT up to specification.

## 1.6. Test Facility

Ambient conditions in the laboratory:

| Items                      | Required (IEC 68-1) | Actual   |
|----------------------------|---------------------|----------|
| Temperature (°C)           | 15-35               | 20-35    |
| Humidity (%RH)             | 25-75               | 50-65    |
| Barometric pressure (mbar) | 860-1060            | 950-1000 |

Site Description:

June 29, 2001 Accreditation on NVLAP

NVLAP Lab Code: 200533-0

June 11, 2001 Accreditation on DNV

Statement No. : 413-99-LAB11

April 18, 2001 Accreditation on Nemko

Certificate No.: ELA 191

Certificate No.: ELA 162

Certificate No.: ELA 165



Site Name: Quietek Corporation



Site Address: No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen,  
Lin Kou Shiang, Taipei 244 Taiwan, R.O.C.  
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789  
E-Mail : [service@quietek.com](mailto:service@quietek.com)



## 2. Conducted Emission

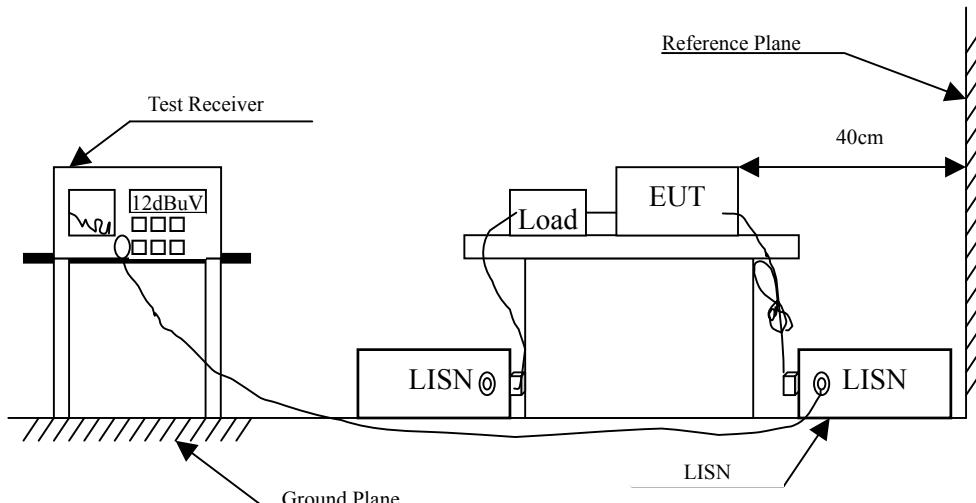
### 2.1. Test Equipment

The following test equipment are used during the conducted emission test:

| Item | Instrument         | Manufacturer | Type No./Serial No   | Last Cal. | Remark      |
|------|--------------------|--------------|----------------------|-----------|-------------|
| 1    | Test Receiver      | R & S        | ESCS 30/838251/0001  | May, 2003 |             |
| 2    | L.I.S.N.           | R & S        | ESH3-Z5/836679/0023  | May, 2003 | EUT         |
| 3    | L.I.S.N.           | R & S        | ENV 4200/833209/0023 | May, 2003 | Peripherals |
| 4    | Pulse Limiter      | R & S        | ESH3-Z2              | May, 2003 |             |
| 5    | No.4 Shielded Room |              |                      |           | N/A         |

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

### 2.2. Test Setup



### 2.3. Limits

| FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit |        |       |
|---|--------|-------|
| Frequency<br>MHz                                    | Limits |       |
|   | QP     | AV    |
| 0.15 - 0.50   | 66-56  | 56-46 |
| 0.50-5.0  | 56     | 46    |
| 5.0 - 30  | 60     | 50    |

Remarks : In the above table, the tighter limit applies at the band edges.

## 2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2001 on conducted measurement.

Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

## 2.5. Uncertainty

The measurement uncertainty is defined as  $\pm$  2.02 dB

## 2.6. Test Data of Conducted Emission

Owing to the DC operation of EUT, this test item is not performed.

### 3. Radiated Emission

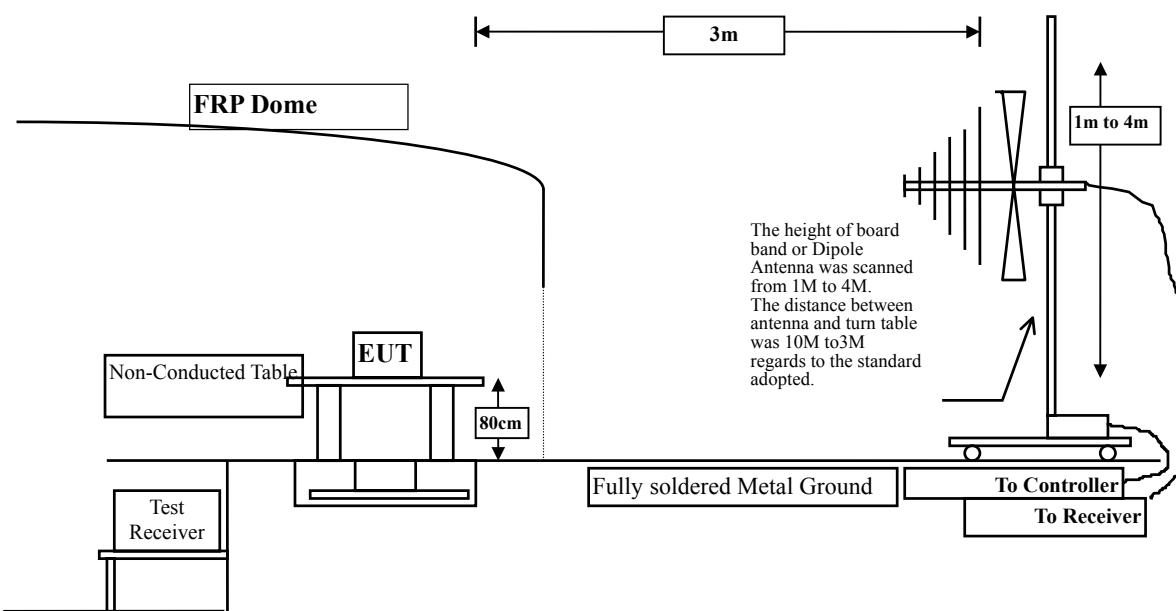
#### 3.1. Test Equipment

The following test equipment are used during the radiated emission test:

| Test Site  | Equipment         | Manufacturer | Model No./Serial No.   | Last Cal.  |
|------------|-------------------|--------------|------------------------|------------|
| □ Site # 1 | Test Receiver     | R & S        | ESVS 10 / 834468/003   | July, 2003 |
|            | Spectrum Analyzer | Advantest    | R3162/ 00803480        | May, 2003  |
|            | Pre-Amplifier     | Advantest    | BB525C/ 3307A01812     | May, 2003  |
|            | Bilog Antenna     | SCHAFFNER    | CBL6112B / 2697        | Nov., 2003 |
| □ Site # 2 | Test Receiver     | R & S        | ESCS 30 / 836858 / 022 | Nov., 2003 |
|            | Spectrum Analyzer | Advantest    | R3162 / 100803466      | May, 2003  |
|            | Pre-Amplifier     | Advantest    | BB525C/3307A01814      | May, 2003  |
|            | Bilog Antenna     | SCHAFFNER    | CBL6112B / 2705        | Oct., 2003 |
| ☒ Site # 3 | Test Receiver     | R & S        | ESI 26 / 838786 / 004  | May, 2003  |
|            | Spectrum Analyzer | Advantest    | R3162 / 100803480      | May, 2003  |
|            | Pre-Amplifier     | QTK          | QTK-AMP-03 / 0003      | May, 2003  |
|            | Bilog Antenna     | SCHAFFNER    | CBL6112B / 2697        | May, 2003  |
|            | Horn Antenna      | ETS          | 3115 / 0005-6160       | July, 2003 |
|            | Pre-Amplifier     | QTK          | QTK-AMP-01 / 0001      | July, 2003 |
|            | Broadband Antenna | Schwarz bec  | VULB9166/1085          | Apr, 2003  |

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.  
2. Mark “X” test instruments are used to measure the final test results.

#### 3.2. Test Setup



### 3.3. Limits

➤ FCC Part 15 Subpart C Paragraph 15.227 Limit

| FCC Part 15 Subpart C Paragraph 15.227 Limits |                               |        |
|---|-------------------------------|--------|
| Fundamental Frequency<br>MHz                  | Field strength of fundamental |        |
|   | uV/m                          | dBuV/m |
| 26.96-27.28                                   | 10000                         | 80.0   |

Remarks :

1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector. Measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.

➤ Frequencies in restricted band are complied to limits on Paragraph 15.209.

| FCC Part 15 Subpart C Paragraph 15.209 Limits |          |           |
|---|----------|-----------|
| Frequency<br>MHz                              | uV/m @3m | dBuV/m@3m |
| 30-88   | 100      | 40        |
| 88-216  | 150      | 43.5      |
| 216-960                                       | 200      | 46        |
| Above 960                                     | 500      | 54        |

Remarks : 1. RF Voltage (dBuV/m) = 20 log RF Voltage (uV/m)

2. In the Above Table, the tighter limit applies at the band edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

### **3.4. Test Procedure**

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4: 2001 on radiated measurement.

Radiated emissions were invested over the frequency range from 30MHz to 1GHz using a receiver bandwidth of 120kHz. Radiated was performed at an antenna to EUT distance of 3 meters.

The frequency range from 30MHz to 10th harmonics is checked.

### **3.5. Uncertainty**

The measurement uncertainty is defined as  $\pm$  3.8 dB

### 3.6. Test Data of Radiated Emission

Product : RF optical mouse  
Test Item : Fundamental Radiated Emission  
Test Site : No.3 OATS  
Test Voltage : DC 3V(Power by Battery)  
Test Mode : Mode 1: Normal Operation

| Freq. | Cable Loss | Probe Factor | PreAMP | Reading Level | Emission Level | Margin | Limit  |
|-------|------------|--------------|--------|---------------|----------------|--------|--------|
| MHz   | dB         | dB/m         | dB     | dBuV          | dBuV/m         | dB     | dBuV/m |

---

#### Horizontal

##### Peak Detector:

|        |      |      |       |       |       |       |        |
|--------|------|------|-------|-------|-------|-------|--------|
| 27.050 | 0.40 | 3.85 | 22.53 | 63.63 | 45.35 | 54.65 | 100.00 |
|--------|------|------|-------|-------|-------|-------|--------|

#### Vertical

##### Peak Detector:

|        |      |      |       |       |       |       |        |
|--------|------|------|-------|-------|-------|-------|--------|
| 27.050 | 0.40 | 9.46 | 22.53 | 46.58 | 33.91 | 66.09 | 100.00 |
|--------|------|------|-------|-------|-------|-------|--------|

#### Note:

1. All Readings are Peak value.
2. Emission Level = Reading Level + Probe Factor + Cable loss – PreAMP.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : RF optical mouse  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Voltage : DC 3V(Power by Battery)  
 Test Mode : Mode 1: Normal Operation

| Frequency | Cable Loss | Probe Factor | PreAMP | Reading Level | Emission Level | Margin | Limit  |
|-----------|------------|--------------|--------|---------------|----------------|--------|--------|
| MHz       | dB         | dB/m         | dB     | dBuV          | dBuV/m         | dB     | dBuV/m |

---

**Horizontal:**

|           |      |       |       |       |       |       |       |
|-----------|------|-------|-------|-------|-------|-------|-------|
| 54.100    | 0.40 | 8.34  | 22.78 | 34.32 | 20.28 | 19.72 | 40.00 |
| 81.150    | 0.40 | 7.95  | 22.74 | 35.05 | 20.66 | 19.34 | 40.00 |
| 108.150   | 0.40 | 10.78 | 22.69 | 34.88 | 23.37 | 20.13 | 43.50 |
| 135.250   | 0.60 | 11.69 | 22.62 | 33.03 | 22.69 | 20.81 | 43.50 |
| * 162.280 | 0.60 | 15.37 | 22.71 | 32.49 | 25.75 | 17.75 | 43.50 |
| 189.330   | 0.80 | 12.11 | 22.80 | 32.11 | 22.22 | 21.28 | 43.50 |
| 216.380   | 0.80 | 12.36 | 22.59 | 31.20 | 21.77 | 24.23 | 46.00 |
| 243.430   | 0.80 | 12.20 | 22.55 | 29.40 | 19.85 | 26.15 | 46.00 |
| 270.500   | 1.00 | 13.46 | 22.53 | 29.68 | 21.62 | 24.38 | 46.00 |

**Vertical:**

|           |      |       |       |       |       |       |       |
|-----------|------|-------|-------|-------|-------|-------|-------|
| 54.100    | 0.40 | 13.23 | 22.78 | 30.86 | 21.71 | 18.29 | 40.00 |
| 81.130    | 0.40 | 12.70 | 22.74 | 32.26 | 22.62 | 17.38 | 40.00 |
| 108.200   | 0.40 | 15.42 | 22.69 | 31.25 | 24.38 | 19.12 | 43.50 |
| 135.280   | 0.60 | 15.87 | 22.62 | 30.80 | 24.65 | 18.85 | 43.50 |
| * 162.300 | 0.60 | 18.83 | 22.71 | 30.53 | 27.25 | 16.25 | 43.50 |
| 189.350   | 0.80 | 15.46 | 22.80 | 31.36 | 24.82 | 18.68 | 43.50 |
| 216.400   | 0.80 | 16.75 | 22.59 | 29.38 | 24.34 | 21.66 | 46.00 |
| 243.450   | 0.80 | 16.95 | 22.55 | 29.49 | 24.70 | 21.30 | 46.00 |
| 270.500   | 1.00 | 16.51 | 22.53 | 30.00 | 24.98 | 21.02 | 46.00 |

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. “\*”, means this data is the worst emission level.
3. Emission Level = Reading Level + Probe Factor + Cable Loss.

## 4. Band Edge

### 4.1. Test Equipment

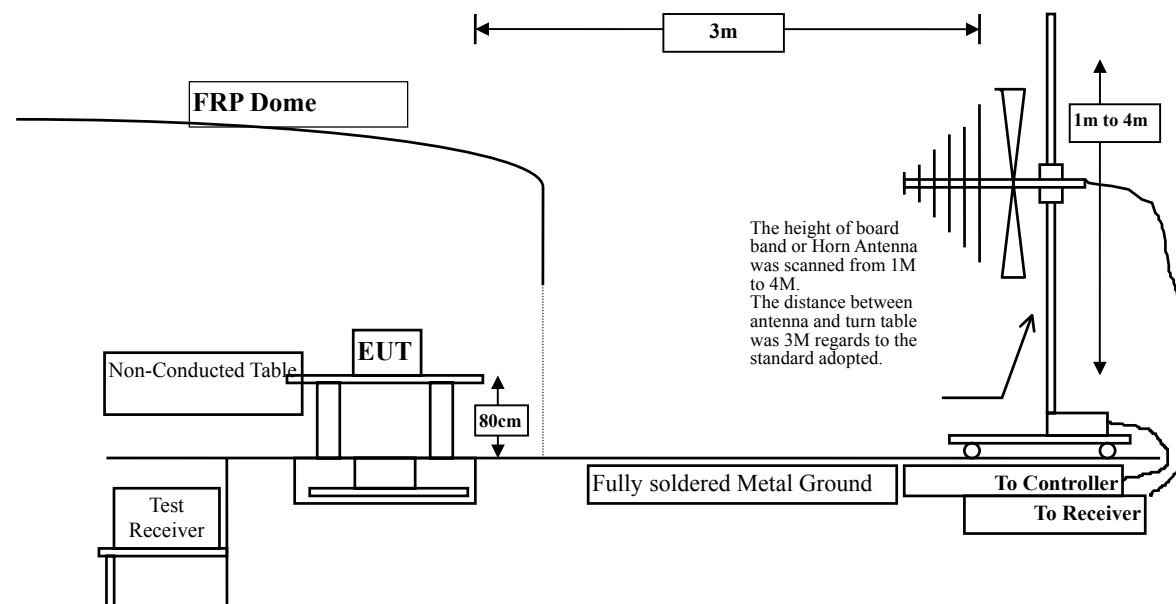
The following test equipment are used during the radiated emission test:

| Test Site  | Equipment         | Manufacturer | Model No./Serial No.   | Last Cal.  |
|------------|-------------------|--------------|------------------------|------------|
| □ Site # 1 | Test Receiver     | R & S        | ESVS 10 / 834468/003   | July, 2003 |
|            | Spectrum Analyzer | Advantest    | R3162/ 00803480        | May, 2003  |
|            | Pre-Amplifier     | Advantest    | BB525C/ 3307A01812     | May, 2003  |
|            | Bilog Antenna     | SCHAFFNER    | CBL6112B / 2697        | Nov., 2003 |
| □ Site # 2 | Test Receiver     | R & S        | ESCS 30 / 836858 / 022 | Nov., 2003 |
|            | Spectrum Analyzer | Advantest    | R3162 / 100803466      | May, 2003  |
|            | Pre-Amplifier     | Advantest    | BB525C/3307A01814      | May, 2003  |
|            | Bilog Antenna     | SCHAFFNER    | CBL6112B / 2705        | Oct., 2003 |
| ☒ Site # 3 | Test Receiver     | R & S        | ESI 26 / 838786 / 004  | May, 2003  |
|            | Spectrum Analyzer | Advantest    | R3162 / 100803480      | May, 2003  |
|            | Pre-Amplifier     | QTK          | QTK-AMP-03 / 0003      | May, 2003  |
|            | Bilog Antenna     | SCHAFFNER    | CBL6112B / 2697        | May, 2003  |
|            | Horn Antenna      | ETS          | 3115 / 0005-6160       | July, 2003 |
|            | Pre-Amplifier     | QTK          | QTK-AMP-01 / 0001      | July, 2003 |

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.  
2. Mark “X” test instruments are used to measure the final test results.

### 4.2. Test Setup

#### RF Radiated Measurement:



#### 4.3. Limit

Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

#### 4.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4: 2001 on radiated measurement.

The additional latch filter below 1GHz was used to measure the level of harmonics radiated emission during field strength of harmonics measurement.

The bandwidth below 30MHz setting on the field strength meter is 10 kHz

#### 4.5. Test Result of Band Edge

Product : RF optical mouse  
 Test Item : Band Edge  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Normal Operation

#### RF Radiated Measurement: (Q-Peak Detector)

| Channel No.    | Frequency (MHz) | Reading Level (dBuV) | Probe Factor (dB/m) | Cable Loss (dB) | PreAMP (dB) | Emission Level (dBuV/m) | Limit (dBuV/m) | Result |
|----------------|-----------------|----------------------|---------------------|-----------------|-------------|-------------------------|----------------|--------|
| 1 (Horizontal) | 26.050          | 30.64                | 3.69                | 0.40            | 22.73       | 12.00                   | 49.50          | Pass   |
| 1 (Vertical)   | 26.730          | 30.12                | 9.46                | 0.40            | 22.53       | 17.45                   | 49.50          | Pass   |

Figure Channel 2: (Horizontal)

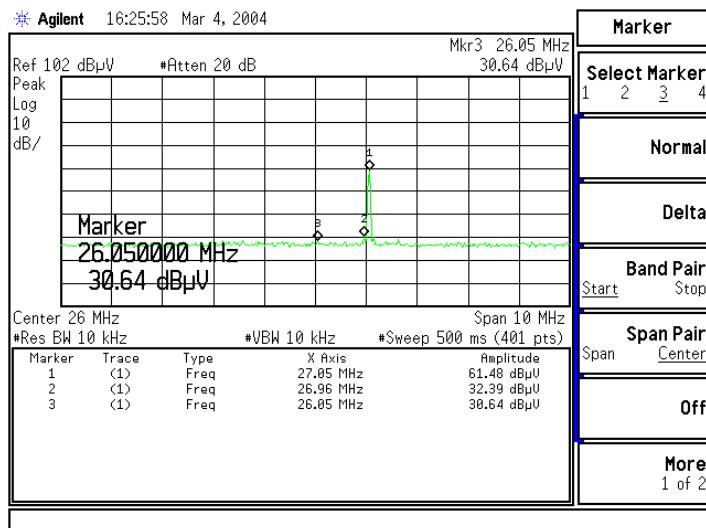
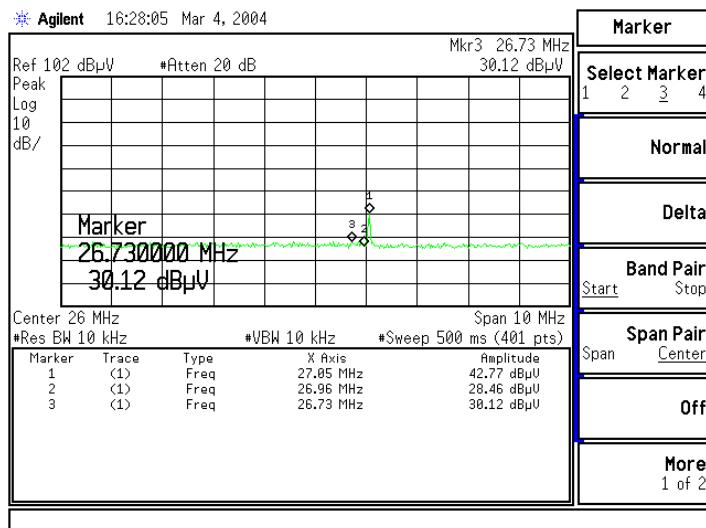


Figure Channel 2: (Vertical)



Note:

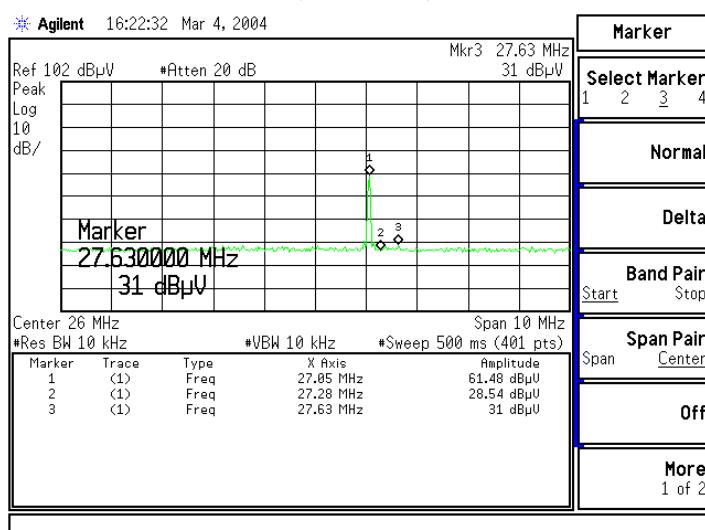
1. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : RF optical mouse  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Channel 1

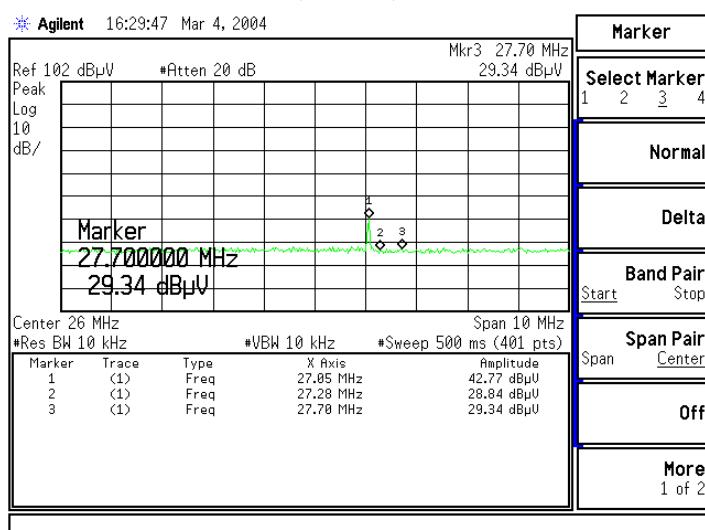
#### RF Radiated Measurement: (Q-Peak Detector)

| Channel No.    | Frequency (MHz) | Reading Level (dBuV) | Probe Factor (dB/m) | Cable Loss (dB) | PreAMP (dB) | Emission Level (dBuV/m) | Limit (dBuV/m) | Result |
|----------------|-----------------|----------------------|---------------------|-----------------|-------------|-------------------------|----------------|--------|
| 1 (Horizontal) | 27.630          | 31.00                | 4.58                | 0.40            | 22.53       | 13.45                   | 49.50          | Pass   |
| 1 (Vertical)   | 27.700          | 29.34                | 9.99                | 0.40            | 9.99        | 17.21                   | 49.50          | Pass   |

**Figure Channel 2:** (Horizontal)



**Figure Channel 2:** (Vertical)



Note:

1. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

## 5. Occupied Bandwidth

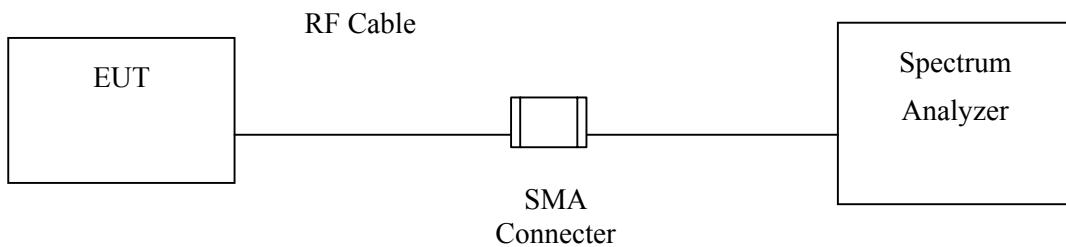
### 5.1. Test Equipment

The following test equipments are used during the radiated emission tests:

| Equipment           | Manufacturer | Model No./Serial No. | Last Cal. |
|---------------------|--------------|----------------------|-----------|
| X Spectrum Analyzer | HP           | E4407B               | May, 2003 |

Note: 1. All equipment upon which need to calibrated are with calibration period of 1 year.  
2. Mark "X" test instruments are used to measure the final test results.

### 5.2. Test Setup

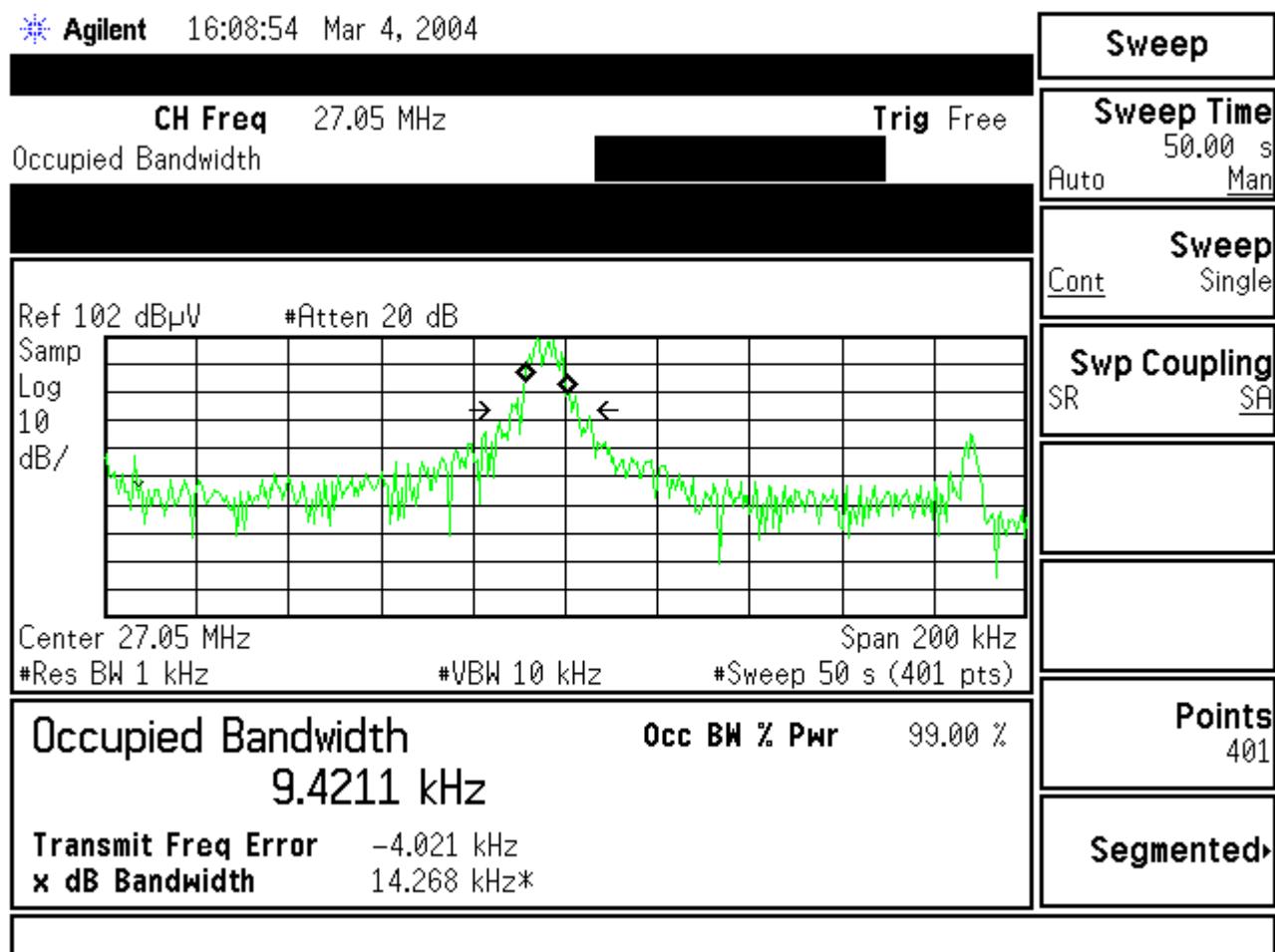


### 5.3. Test Result of Occupied Bandwidth

Product : RF optical mouse  
 Test Item : Occupied Bandwidth Data  
 Test Site : No.1 OATS  
 Test Mode : Channel 1

| Channel No. | Frequency (MHz) | Measurement Level (kHz) | Required Limit (kHz) | Result |
|-------------|-----------------|-------------------------|----------------------|--------|
| Ch01        | 27.05           | 9.4211                  | 10                   | Pass   |

Figure Channel 1: 54Mbps



## 6. EMI Reduction Method During Compliance Testing

No modification was made during testing.

## Attachment 1: EUT Test Photographs

**Attachment 1: EUT Test Setup Photographs**

Front View of Radiated Test



Back View of Radiated Test



## Attachment 2: EUT Detailed Photographs

**Attachment 2 : EUT Detailed Photographs**

(1) EUT Photo



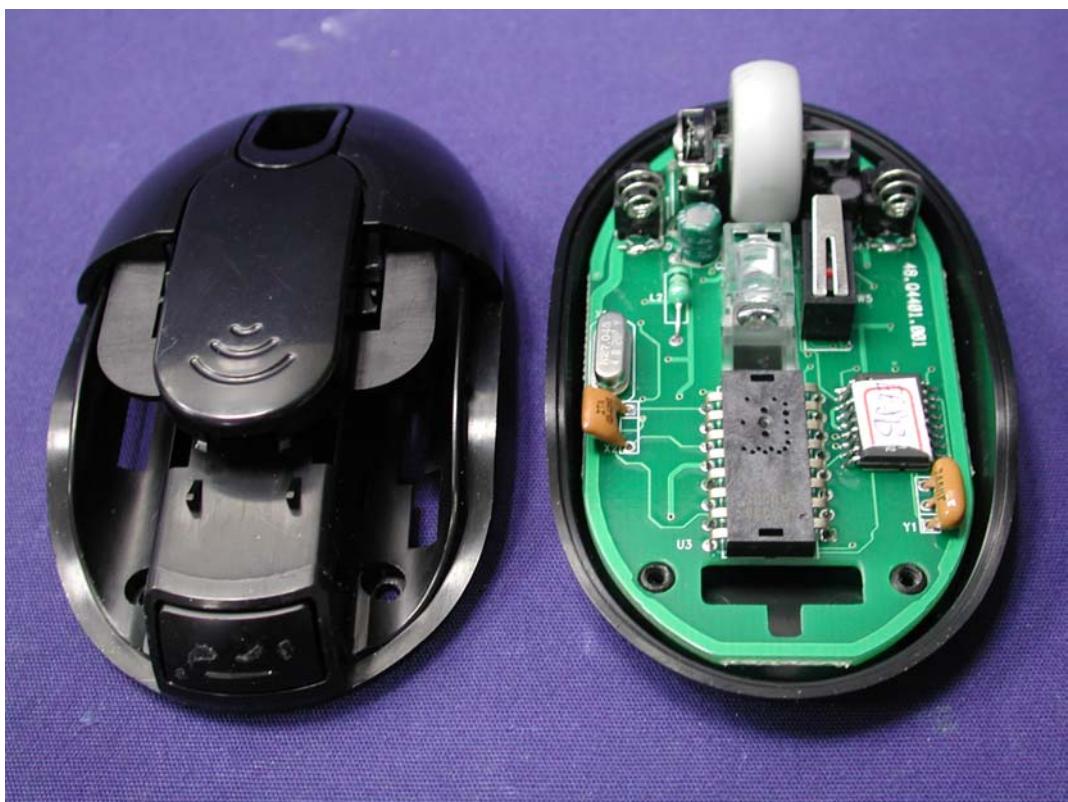
(2) EUT Photo



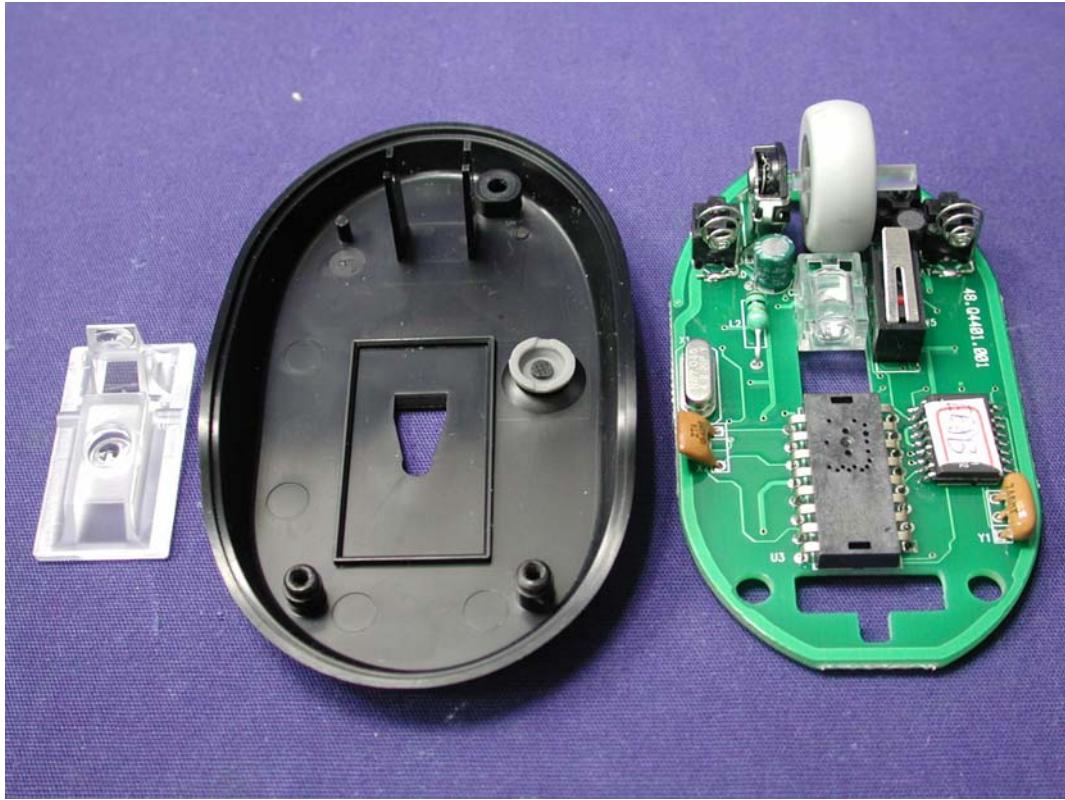
(3) EUT Photo



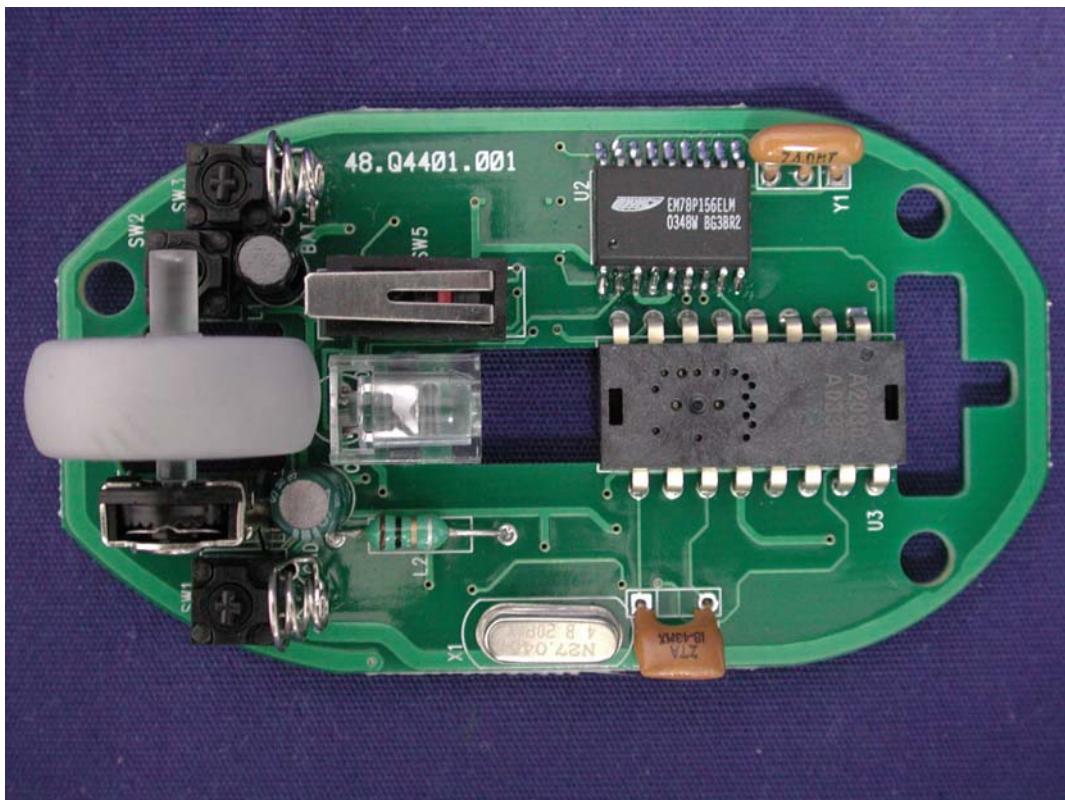
(4) EUT Photo



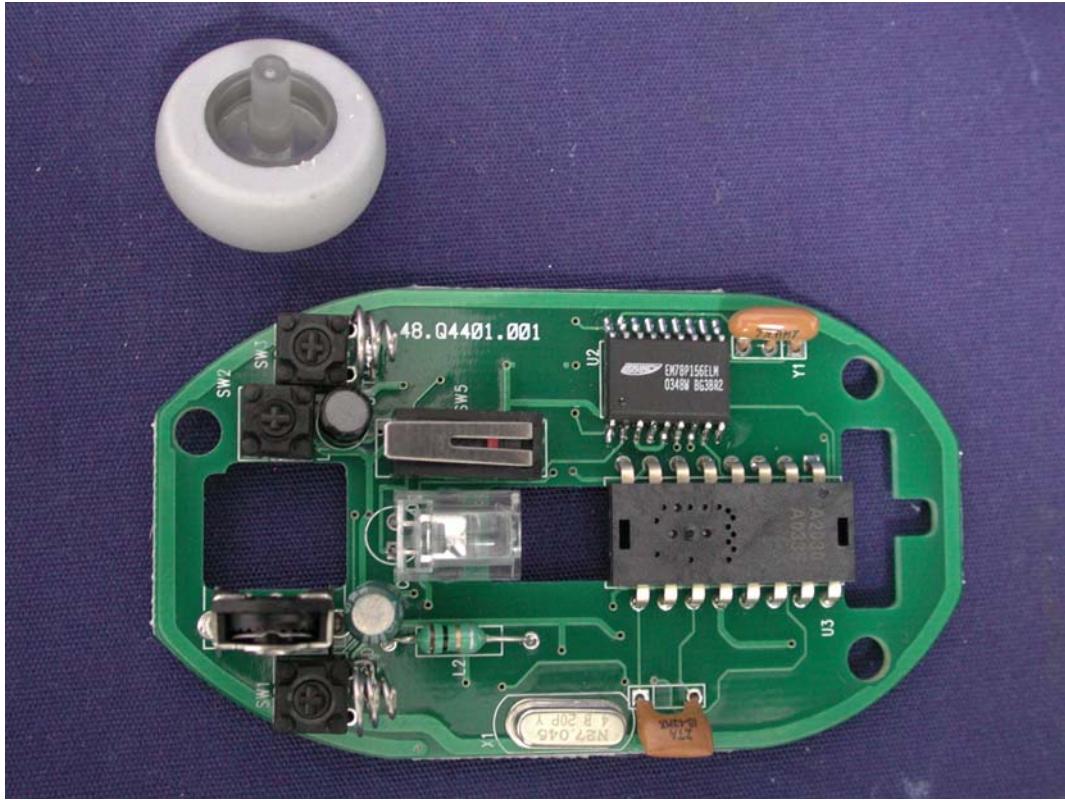
(5) EUT Photo



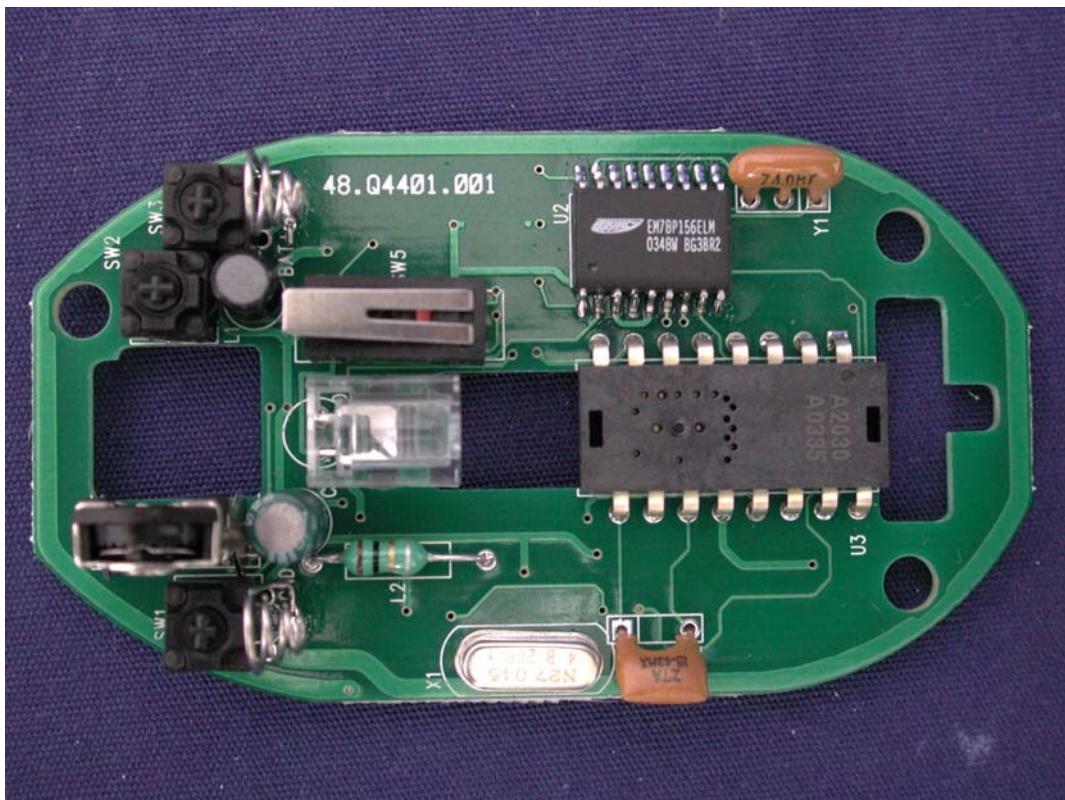
(6) EUT Photo



(7) EUT Photo



(8) EUT Photo



(9) EUT Photo

