

**FCC PART 15.109**  
**MEASUREMENT AND TEST REPORT**  
**FOR**

**DynaPoint (Dong Guan) INC.**

**The Sixth Industrial Park, Shangsha, South Area ChangAn, DongGuan,**

**GuangDong, China**

**FCC ID: RYLH7L3K73**

|                                            |                                                                                                                                                   |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Report Concerns:</b><br>Original Report | <b>Equipment Type:</b><br>Mouse                                                                                                                   |
| <b>Model:</b>                              | <u>H7L3K73</u>                                                                                                                                    |
| <b>Report No.:</b>                         | <u>STR09048082I</u>                                                                                                                               |
| <b>Test/Witness Engineer:</b>              | <u>Jason</u>                                                                                                                                      |
| <b>Test Date:</b>                          | <u>2009-04-23 to 2009-04-26</u>                                                                                                                   |
| <b>Issue Date:</b>                         | <u>2009-04-28</u>                                                                                                                                 |
| <b>Prepared By:</b>                        | <b>SEM.Test Compliance Service Co., Ltd.</b><br>3/F, Jinbao Commerce Building, Xin'an Fanshen Road,<br>Bao'an District, Shenzhen, P.R.C. (518101) |
| <b>Approved &amp; Authorized By:</b>       | <br>_____<br>Jandy So / PSQ Manager                           |

Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by SEM.Test Compliance Service Co., Ltd.

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## 1. GENERAL INFORMATION

### 1.1 Product Description for Equipment Under Test (EUT)

#### Client Information

Applicant: DynaPoint (Dong Guan) INC.  
Address of applicant: The Sixth Industrial Park. Shangsha, South Area ChangAn, DongGuan, Guangdong, China

Manufacturer: DynaPoint (Dong Guan) INC.  
Address of manufacturer: The Sixth Industrial Park. Shangsha, South Area ChangAn, DongGuan, Guangdong, China

#### General Description of E.U.T

| Items                                                                         | Description    |
|-------------------------------------------------------------------------------|----------------|
| EUT Description:                                                              | Mouse          |
| Trade Name:                                                                   | /              |
| Model No.:                                                                    | H7L3K73        |
| Rated Voltage:                                                                | DC 5V          |
| Packaging Size:                                                               | 13.0X6.7X4.0cm |
| For more information refer to the circuit diagram form and the user's manual. |                |

*The test data is gathered from a production sample, provided by the manufacturer.*

### 1.2 Test Standards

The following report is prepared on behalf of the DynaPoint (Dong Guan) INC. in accordance with Part 2, Subpart J, and Part 15, Subparts A and B of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 15.107, and 15.109 rules.

**Maintenance of compliance** is the responsibility of the manufacturer. Any modification of the product, which results in lowering the emission/immunity, should be checked to ensure compliance has been maintained.

### 1.3 Related Submittal(s)/Grant(s)

No Related Submittal(s).

### 1.4 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

The equipment under test (EUT) was configured to measure its highest possible susceptibility against the tested phenomena. The test modes were adapted accordingly in reference to the Operating Instructions.

## 1.5 Test Facility

FCC – Registration No.: **994117**

SEM.Test Compliance Services Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files and the Registration is 994117.

Industry Canada (IC) Registration No.: **7673A**

The 3m Semi-anechoic chamber of SEM.Test Compliance Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 7673A.

## 1.6 EUT Exercise Software

The EUT exercise program used during radiated and conducted testing was designed to exercise the system components. The test software, provided by the customer, is started while the EUT is on to simulate the normal work. under the Windows XP terminal.

## 1.7 Accessories Equipment List and Details

| Manufacturer | Description | Model      | Serial Number |
|--------------|-------------|------------|---------------|
| IBM          | Notebook    | T22        | LV14893       |
| TP-LINK      | Modem       | TM-EC5658V | KT99CTQC-508  |
| Lenovo       | Printer     | 3110       | OD65133711480 |

## 1.8 EUT Cable List and Details

| Cable Description | Length (M) | Shielded/Unshielded | With Core/Without Core |
|-------------------|------------|---------------------|------------------------|
| PS2 Cable         | 1.5        | Unshielded          | Without Core           |

2. SUMMARY OF TEST RESULTS

---

| Description of Test            | Result    |
|--------------------------------|-----------|
| §15.107 (a) Conducted Emission | Compliant |
| §15.109(a) Radiated Emission   | Compliant |

### 3. §15.107 (a)- CONDUCTED EMISSION

#### 3.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is  $\pm 1.5$  dB.

#### 3.2 Test Equipment List and Details

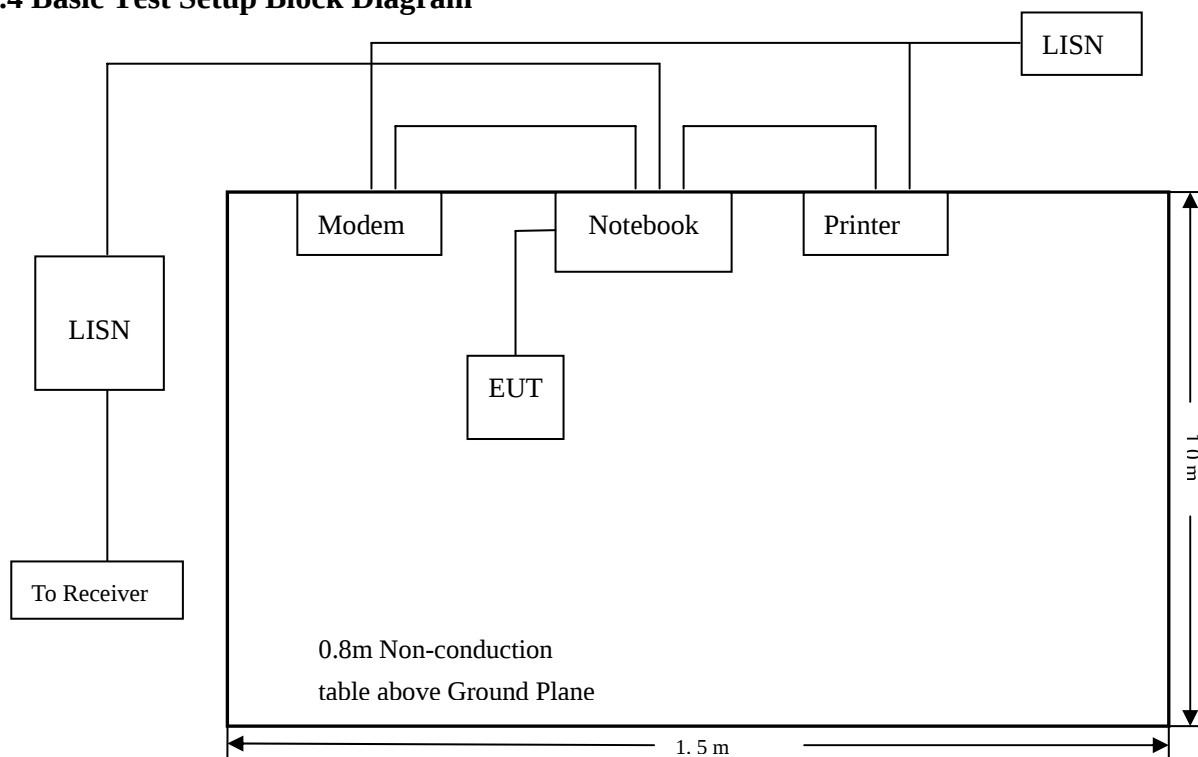
| Description       | Manufacturer    | Model    | Serial Number | Cal. Date  | Due. Date  |
|-------------------|-----------------|----------|---------------|------------|------------|
| EMI Test Receiver | Rohde & Schwarz | ESPI     | 101611        | 2008-07-08 | 2009-07-07 |
| L.I.S.N           | Schwarz beck    | NSLK8126 | 8126-224      | 2008-07-08 | 2009-07-07 |
| Pulse Limiter     | Rohde & Schwarz | ESH3-Z2  | 100911        | 2008-07-08 | 2009-07-07 |
| AMN               | Rohde & Schwarz | ESH3-Z5  | 828304/014    | 2008-07-08 | 2009-07-07 |

#### 3.3 Test Procedure

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.107 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle. The spacing between the peripherals was 10 cm.

#### 3.4 Basic Test Setup Block Diagram



### 3.5 Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 25 °C     |
| Relative Humidity: | 52%       |
| ATM Pressure:      | 1012 mbar |

### 3.6 Test Receiver Setup

During the conducted emission test, the test receiver was set with the following configurations:

Start Frequency ..... 150 kHz  
 Stop Frequency..... 30 MHz  
 Sweep Speed ..... Auto  
 IF Bandwidth..... 10 kHz  
 Quasi-Peak Adapter Bandwidth ..... 9 kHz  
 Quasi-Peak Adapter Mode ..... Normal

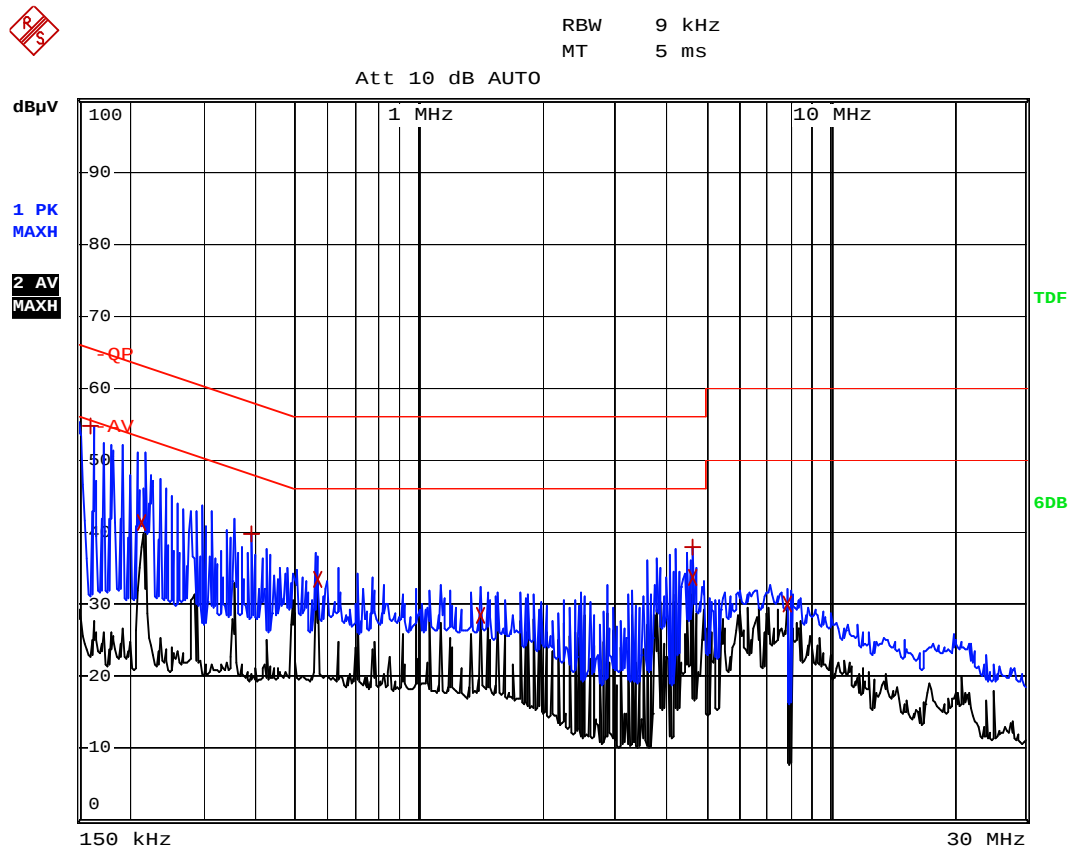
### 3.7 Summary of Test Results/Plots

According to the data in section 3.8, the EUT complied with the FCC 15B Conducted margin for a Class B device, with the *worst* margin reading of:

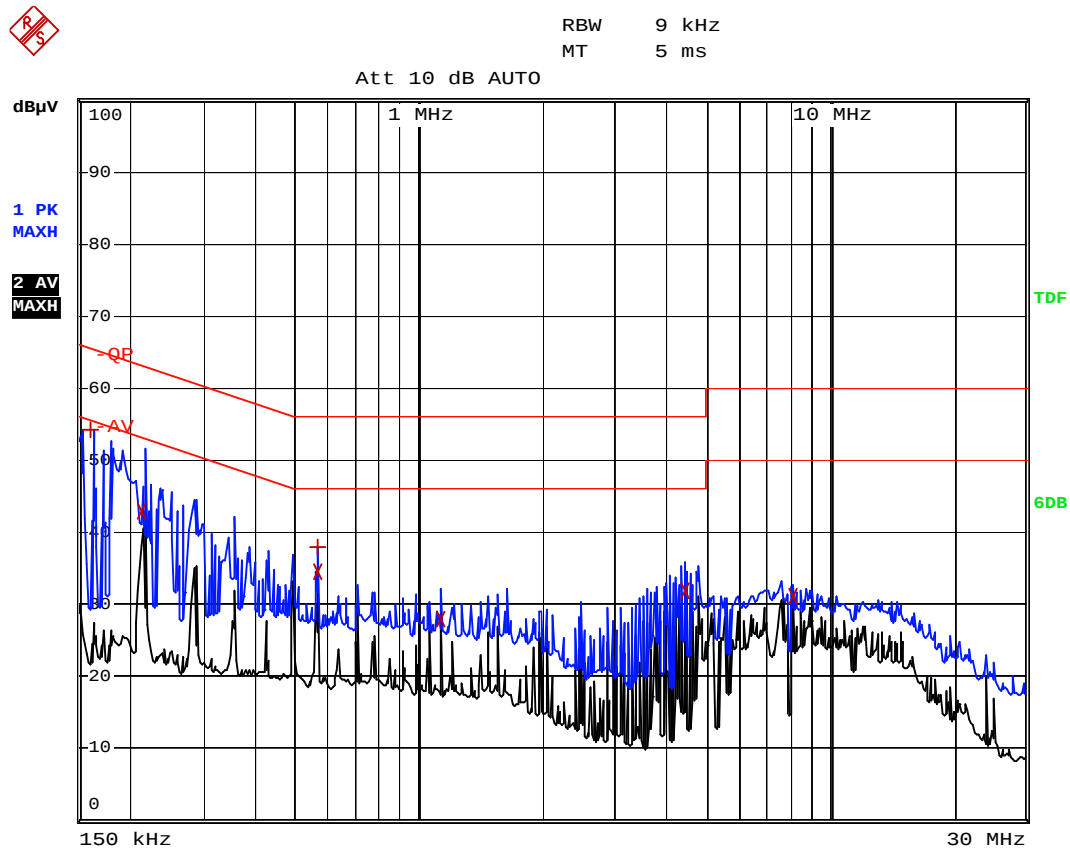
**-10.24 dBμV at 0.214 MHz in the Line mode, Ave detector, 0.15-30MHz**

### 3.8 Conducted Emissions Test Data

| LINE CONDUCTED EMISSIONS |           |           |              | FCC 15 CLASS B |        |
|--------------------------|-----------|-----------|--------------|----------------|--------|
| Frequency                | Amplitude | Detector  | Phase        | Limit          | Margin |
| MHz                      | dBμV      | QP/Ave/Pk | Line/Neutral | dBμV           | dB     |
| 0.214                    | 42.80     | Ave       | Line         | 53.04          | -10.24 |
| 0.162                    | 54.81     | Pk        | Neutral      | 65.35          | -10.54 |
| 0.162                    | 54.25     | Pk        | Line         | 65.35          | -11.11 |
| 0.566                    | 34.61     | Ave       | Line         | 46.00          | -11.38 |
| 0.214                    | 41.34     | Ave       | Neutral      | 53.04          | -11.70 |
| 4.662                    | 33.72     | Ave       | Neutral      | 46.00          | -12.27 |
| 0.566                    | 33.47     | Ave       | Neutral      | 46.00          | -12.52 |
| 4.442                    | 31.95     | Ave       | Line         | 46.00          | -14.04 |
| 1.414                    | 28.36     | Ave       | Neutral      | 46.00          | -17.64 |
| 1.130                    | 27.91     | Ave       | Line         | 46.00          | -18.08 |
| 0.566                    | 37.83     | Pk        | Line         | 56.00          | -18.16 |
| 4.662                    | 37.80     | Pk        | Neutral      | 56.00          | -18.19 |
| 0.390                    | 39.70     | Pk        | Neutral      | 58.06          | -18.36 |
| 8.114                    | 31.07     | Ave       | Line         | 46.00          | -18.92 |

**Plot of Conducted Emissions Test Data***Conducted Disturbance**EUT: Mouse**M/N: H7L3K73**Operating Condition: Running with Program**Test Specification: N**Comment: AC 120V/60Hz connect to PC,*

Date: 23.APR.2009 16:56:47

**Plot of Conducted Emissions Test Data***Conducted Disturbance**EUT: Mouse**M/N: H7L3K73**Operating Condition: Running with Program**Test Specification: L**Comment: AC 120V/60Hz connect to PC,*

Date: 23.APR.2009 16:57:58

## 4. §15.109(a)- RADIATED EMISSION

### 4.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is  $\pm 3.0$  dB.

### 4.2 Test Equipment List and Details

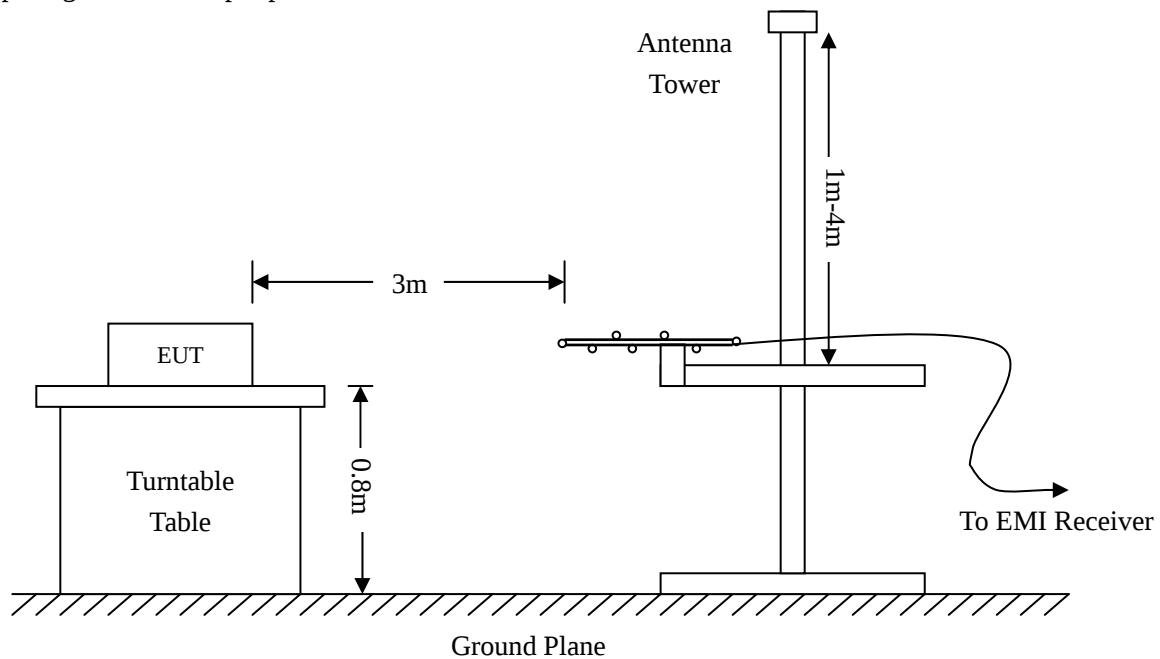
| Manufacturer             | Description   | Model     | Serial Number | Cal. Date  | Due. Date  |
|--------------------------|---------------|-----------|---------------|------------|------------|
| Spectrum Analyzer        | ROHDE&SCHWARZ | FSEA20    | DE25181       | 2008-07-08 | 2009-07-07 |
| Positioning Controller   | C&C           | CC-C-1F   | N/A           | 2008-07-08 | 2009-07-07 |
| Trilog Broadband Antenna | SCHWARZBECK   | VULB9163  | 9163-333      | 2008-07-08 | 2009-07-07 |
| Horn Antenna             | SCHWARZBECK   | BBHX 9120 | 9120-426      | 2008-07-08 | 2009-07-07 |
| RF Switch                | EM            | EMSW18    | SW060023      | 2008-07-08 | 2009-07-07 |
| Amplifier                | Agilent       | 8447F     | 3113A06717    | 2008-07-08 | 2009-07-07 |
| Coaxial Cable            | SCHWARZBECK   | AK9513    | 9513-10       | 2008-07-08 | 2009-07-07 |
| EMI Test Receiver        | ROHDE&SCHWARZ | ESPI      | 25498514      | 2008-07-08 | 2009-07-07 |

### 4.3 Test Procedure

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.205 and FCC Part 15.109 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.



#### 4.4 Test Receiver Setup

During the conducted emission test, the test receiver was set with the following configurations:

Start Frequency ..... 30 MHz  
 Stop Frequency..... 1000 MHz  
 Sweep Speed ..... Auto  
 IF Bandwidth..... 10 kHz  
 Quasi-Peak Adapter Bandwidth ..... 120 kHz  
 Quasi-Peak Adapter Mode ..... Normal

#### 4.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} - \text{Corr. Factor}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dB $\mu$ V means the emission is 6dB $\mu$ V below the maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15B Limit}$$

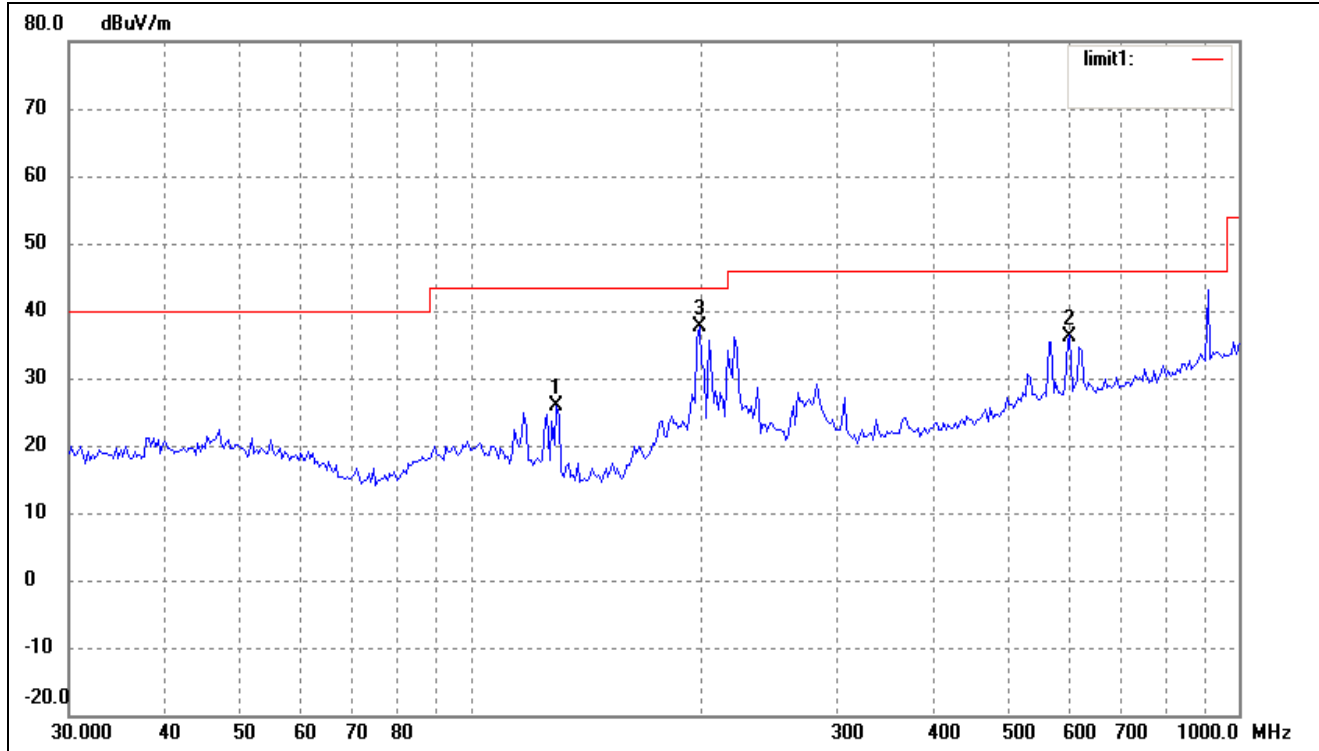
#### 4.6 Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 25 °C     |
| Relative Humidity: | 54%       |
| ATM Pressure:      | 1011 mbar |

#### 4.7 Summary of Test Results/Plots

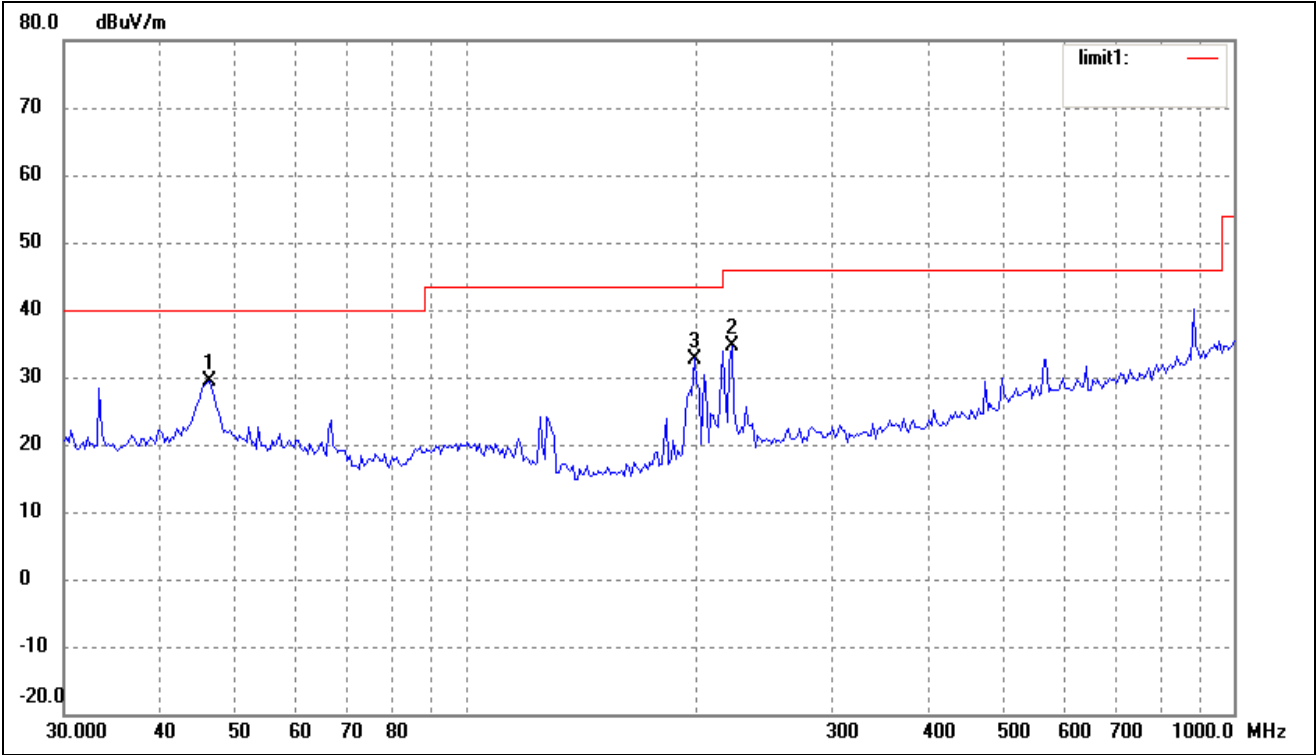
According to the data, the EUT complied with the FCC 15B Class B standards, and had the worst margin of:

**-5.84 dB $\mu$ V at 198.6424MHz in the Horizontal polarization, 30 MHz to 1 GHz, 3Meters**

**Plot of Radiation Emissions Test Data***Radiated Disturbance**EUT: Mouse**M/N: H7L3K73**Operating Condition: Running with Program**Test Specification: Horizontal & Vertical**Comment: AC 120V/60Hz connect to PC,**Horizontal*

| No. | Frequency<br>(MHz) | Reading<br>(dBuV/m) | Correct<br>Factor(dB) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Degree<br>( ° ) | Height<br>(cm) | Remark |
|-----|--------------------|---------------------|-----------------------|--------------------|-------------------|----------------|-----------------|----------------|--------|
| 1   | 129.3923           | 21.88               | 3.93                  | 25.81              | 43.50             | -17.69         | 360             | 200            | peak   |
| 2   | 602.9287           | 21.21               | 15.04                 | 36.25              | 46.00             | -9.75          | 360             | 200            | peak   |
| 3   | 198.6424           | 31.98               | 5.68                  | 37.66              | 43.50             | -5.84          | 221             | 120            | QP     |

Vertical



| No. | Frequency | Reading  | Correct    | Result   | Limit    | Margin | Degree | Height | Remark |
|-----|-----------|----------|------------|----------|----------|--------|--------|--------|--------|
|     | (MHz)     | (dBuV/m) | Factor(dB) | (dBuV/m) | (dBuV/m) | (dB)   | ( ° )  | (cm)   |        |
| 1   | 46.3806   | 21.48    | 7.91       | 29.39    | 40.00    | -10.61 | 360    | 100    | peak   |
| 2   | 222.2807  | 28.27    | 6.46       | 34.73    | 46.00    | -11.27 | 360    | 100    | peak   |
| 3   | 198.6424  | 27.07    | 5.68       | 32.75    | 43.50    | -10.75 | 0      | 200    | peak   |

\*\*\*\*\* END OF REPORT \*\*\*\*\*