

**Issuing Laboratory:**  
**Intertek Testing Services Hong Kong Limited**

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## **EMC CERTIFICATE**

### **EQUIPMENT UNDER TEST**

|                    |   |
|--------------------|---|
| Type of equipment: | USB Mouse with Embedded Scanner   |
| Model:             | Slam Basic  |
| Type:              | N/A   |
| Applicant:         | Systech Electronics Ltd.<br>26/F., Lever Tech Centre,<br>69-71 King Yip Street, Kwun Tong,<br>Kowloon, Hong Kong. |

### **STANDARDS**

47 CFR Part 15 [10-01-10 Edition]

### **TEST REPORTS**

HK12060738-1

### **SUMMARY OF RESULTS**

This is to certify that the sample of the above item complies with the FCC Part 15, Subpart B requirement and the stated report is authorized under the FCC Declaration of Conformity Rules Contained in title 47 of CFR, Part 15, Subpart B.

  
\_\_\_\_\_  
Ng Mei Nar, Chris  
Lead Engineer

Date: August 28, 2012

\* This certificate is part of the full report and should be read in conjunction with it.

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**EMC VERIFICATION SUMMARY****Report No.: HK12060738-1**☐ Electric Household Products☒ ITE☒ Others USB Mouse with Scanner

|  |  |
|--|--|
| Model: Slam Basic  | Applicant: Systech Electronics Ltd.<br>26/F., Lever Tech Centre,<br>69-71 King Yip Street, Kwun Tong,<br>Kowloon, Hong Kong. |
| Product Description: USB Mouse with Embedded Scanner   |  |
| Sample Receipt Date: June 13, 2012   |  |
| Testing Dates: June 13, 2012 to June 26, 2012  |  |
| <input checked="" type="checkbox"/> Tested by Intertek without any modification<br><input type="checkbox"/> Tested by Intertek after modification installed by an independent consultant |  |
| ALL TESTS WERE CONDUCTED IN ACCORDANCE WITH<br>* 47 CFR Part 15 [10-01-10 Edition]<br>* (ANSI) C63.4-2009  |  |
| Test Results:<br>The sample as received complied with the 47 CFR Part 15 [10-01-10 Edition], Subpart B requirement.  |  |
| Notes: When determining the test result, the Measurement Uncertainty of test has been considered.  |  |

Remark: Nil

Prepared and checked by:

Mark Cheung/sl  
Lead Engineer

Approved by:

Ng Mei Nar, Chris  
Lead Engineer

Date: August 28, 2012

~ The test report only allows to be revised within the retention period unless further standard or the requirement was noticed.  
~ This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.



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Report No.: HK12060738-1

**EMC Results Conclusion  
(with Justification)**

RE: EMC Testing Pursuant to FCC Part 15, Subpart B Requirement Performed On The  
USB Mouse with Embedded Scanner,  
Model: Slam Basic

Upon receipt of the sample of the USB Mouse with Embedded Scanner, Model: Slam Basic, we tested the sample to determine if it was in compliance with the FCC Part 15, Subpart B requirement.

The system was configured for testing in a typical fashion (as a customer would normally use it). The system was tested during data transfer from the USB Mouse with Embedded Scanner to the personal computer.

During testing, the peripheral locations were not varied with respect to the main unit.

All interconnecting cables dropped from the rear of the turntable, but none were within 40cm of the ground plane.

For maximizing emissions, the EUT was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. This step by step procedure for maximizing emissions led to the data recorded in this report.

This report verifies that the USB Mouse with Embedded Scanner, model Slam Basic is compliant with FCC Part 15, Subpart B requirement.

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### **Laboratory Location**

1. Radiated Emissions measurements were performed according to the procedures in ANSI C63.4 (2009). Measurements from 30MHz to 800MHz were performed in Open Area Test Site located at:

Roof Top, Garment Centre,  
576 Castle Peak Road,  
Kowloon, Hong Kong.

2. Radiated Emissions measurements from 800MHz to 1000MHz were performed in alternate test site in Semi-anechoic Chamber located at:

2nd Floor, Garment Centre,  
576 Castle Peak Road,  
Kowloon, Hong Kong.

3. Conducted Emissions measurements also followed the procedures in ANSI C63.4 (2009). The testing site located at:

2nd Floor, Garment Centre,  
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## Equipment List

### 1) Radiated Emissions Tests for FCC Part 15

| Equipment                   | EMI Test Receiver | Biconical Antenna | Log Periodic Antenna |
|-----------------------------|-------------------|-------------------|----------------------|
| Registration No.            | EW-2500           | EW-0954           | EW-0572              |
| Manufacturer                | R&S               | EMCO              | EMCO                 |
| Model No.                   | ESCI              | 3104C             | 3146                 |
| Serial No.                  | 100847            | 9911-4872         | 9504-4038            |
| Calibration Institute       | SCM HuaNan        | Liberty           | Liberty              |
| Calibration Certificate No. | WWS 2012 00139    | 2011 101 431      | 2011 111 508         |
| Calibration Date            | Feb. 24, 2012     | Oct. 18, 2011     | Nov. 15, 2011        |
| Calibration Due Date        | Feb. 24, 2013     | Apr. 18, 2013     | May 15, 2013         |
| Traceability                | CNAS              | A2LA              | A2LA                 |

| Equipment                   | Spectrum Analyzer | 14m Double Shield RF Cable (9kHz - 6GHz) | 14m Double Shield RF Cable (9kHz - 6GHz) |
|-----------------------------|-------------------|--|--|
| Registration No.            | EW-2188           | EW-2373                                  | EW-2376                                  |
| Manufacturer                | AGILENTTECH       | RADIALL                                  | RADIALL                                  |
| Model No.                   | E4407B            | nm/br56/bnc m 14m                        | nm/br56/bnc m 14m                        |
| Serial No.                  | MY45103609        | —  | —  |
| Calibration Institute       | Agilent USA       | Intertek C&E HK                          | Intertek C&E HK                          |
| Calibration Certificate No. | 1-3548685434-1    | EW-2373                                  | EW-2376                                  |
| Calibration Date            | Sep. 26, 2011     | Sep. 16, 2011                            | Sep. 09, 2011                            |
| Calibration Due Date        | Sep. 26, 2012     | Sep. 12, 2012                            | Sep. 12, 2012                            |
| Traceability                | A2LA              | Intertek C&E HK                          | Intertek C&E HK                          |

### 2) Conducted Emissions Test for FCC Part 15

| Equipment                   | EMI Test Receiver | LISN          |
|-----------------------------|-------------------|---------------|
| Registration No.            | EW-2500           | EW-2501       |
| Manufacturer                | R&S               | R&S           |
| Model No.                   | ESCI              | ENV-216       |
| Serial No.                  | 100847            | 100483        |
| Calibration Institute       | SCM HuaNan        | R&S           |
| Calibration Certificate No. | WWS 2012 00139    | 210283        |
| Calibration Date            | Feb. 24, 2012     | Mar. 30, 2011 |
| Calibration Due Date        | Feb. 24, 2013     | Jun. 29, 2012 |
| Traceability                | CNAS              | DKD           |



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## **LABORATORY MEASUREMENTS**

### **Configuration Information**

|                                    |  |
|------------------------------------|--|
| <b>Equipment Under Test (EUT):</b> | USB Mouse with Embedded Scanner  |
| <b>Model:</b>                      | Slam Basic   |
| <b>Serial No.:</b>                 | Not Labelled   |
| <b>Support Equipment:</b>          | <ol style="list-style-type: none"><li>1. Lenovo Notebook<br/>Model: T61<br/>S/N: L3-CF468</li><li>2. Lenovo Notebook<br/>Model: SL500<br/>S/N: ML-DXMM3</li><li>3. Smart-Drive External 1394 HDD<br/>Model: HD3-SU2FW<br/>S/N: 0800261<br/>(Provided by Intertek)</li></ol>              |
| <b>Cables:</b>                     | <ol style="list-style-type: none"><li>1. 1 x USB cable with length of 0.7 meter long</li><li>2. 1 x 1394 cable with length of 0.8 meter long<br/>(Provided by Intertek)</li><li>3. 1 x non-detachable USB cable<br/>with length of 1.44 meter long<br/>(Provided by Applicant)</li></ol> |
| <b>Adaptor:</b>                    | N/A  |
| <b>Exercising Software:</b>        | N/A  |
| <b>Rated Voltage:</b>              | Powered by USB port  |

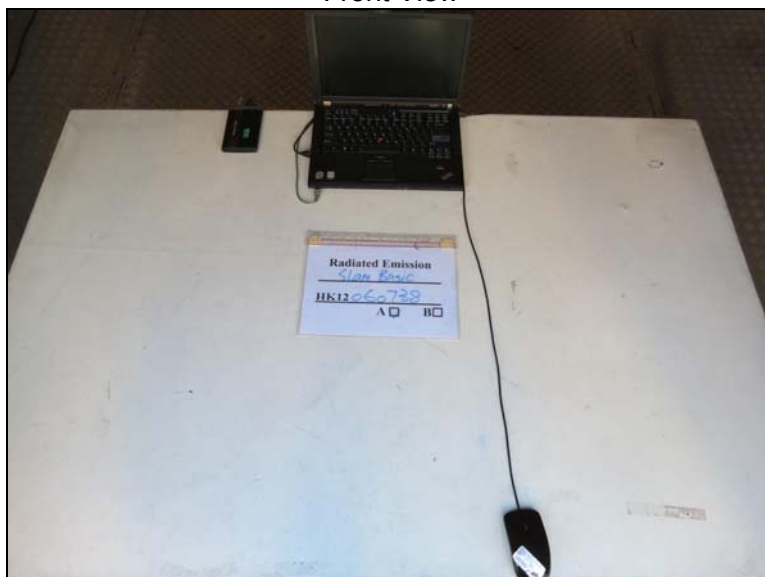
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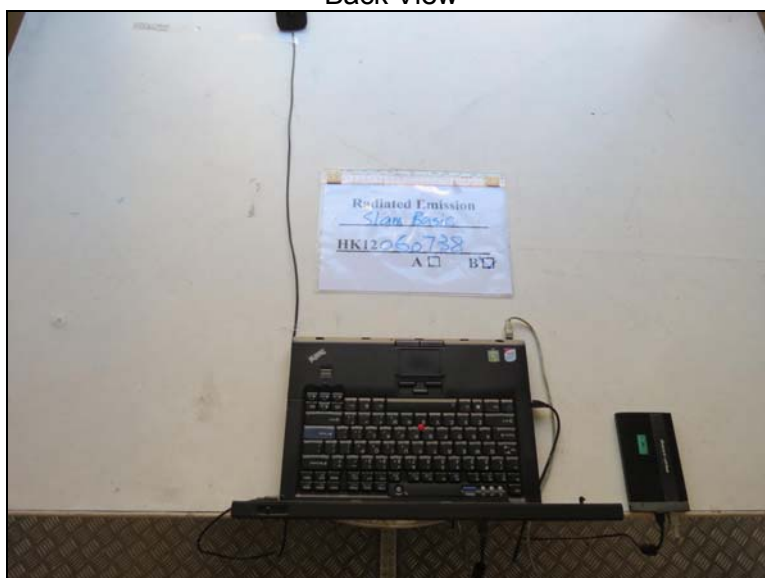
Report No.: HK12060738-1

**System Configuration Photograph**  
**(Radiated Emission)**

Front View



Back View



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**Intertek Testing Services Hong Kong Limited**

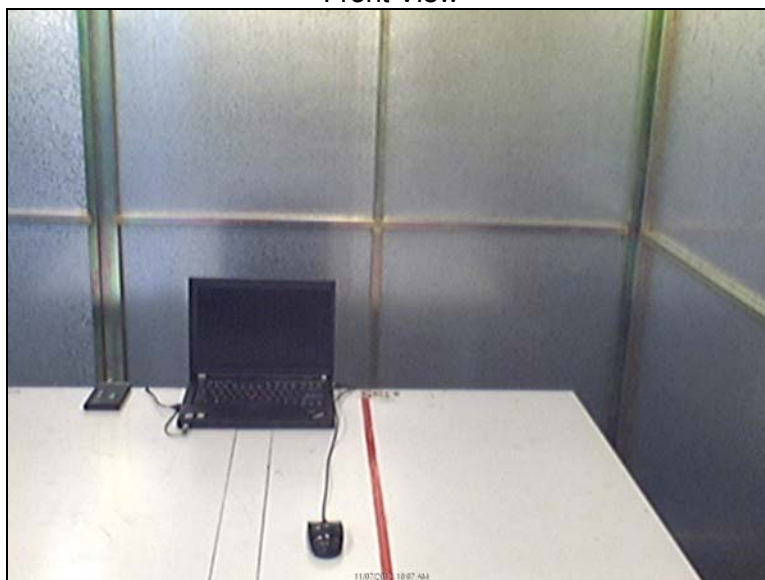
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Report No.: HK12060738-1

**System Configuration Photograph**  
**(Conducted Emission)**

Front View



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**Intertek Testing Services Hong Kong Limited**

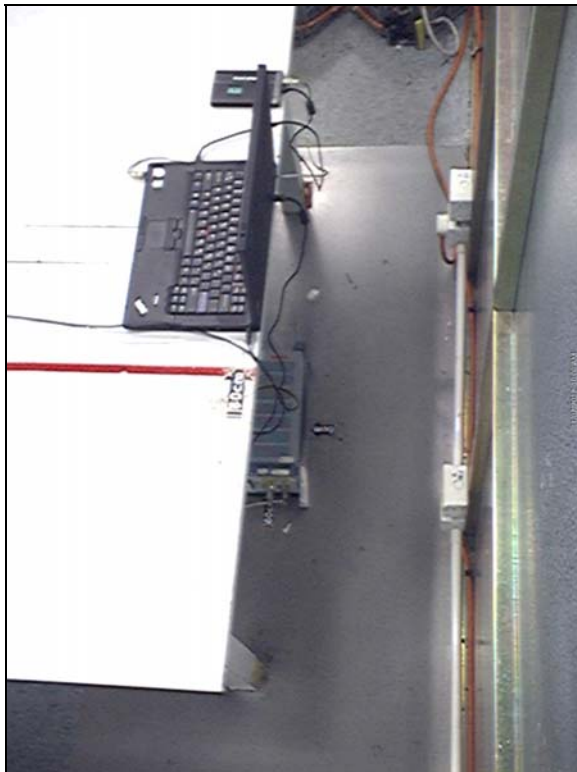
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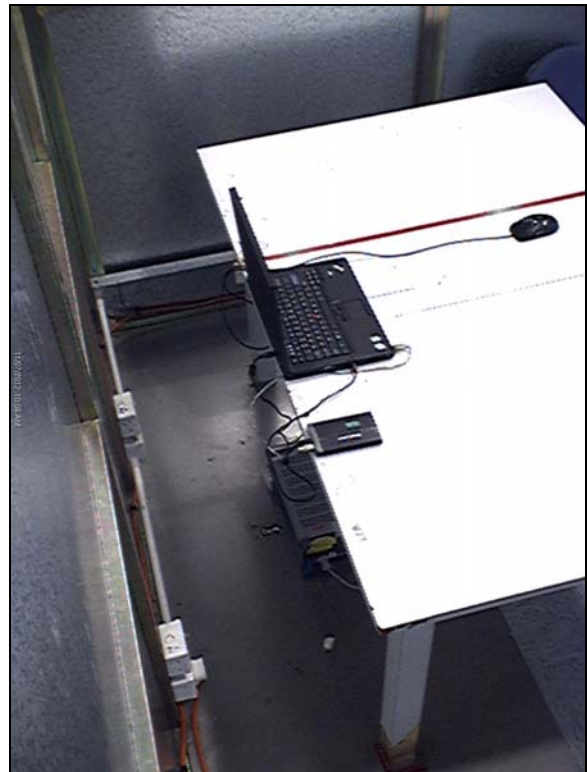
Report No.: HK12060738-1

**System Configuration Photograph**  
**(Conducted Emission)**

Rear View 1



Rear View 2



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Applicant: Systech Electronics Ltd.  
 Model: Slam Basic  
 Operating mode: Mouse with Scanning

Report No.: HK12060738-1

**Data Table 1**

**Radiated Emission Test Pursuant to  
 FCC Part 15, Subpart B Requirement**

| Polarization | Frequency (MHz) | Reading (dB $\mu$ V) | Pre-amp (dB) | Antenna Factor (dB) | Net at 3m (dB $\mu$ V/m) | Limit at 3m (dB $\mu$ V/m) | Margin (dB) |
|--------------|-----------------|----------------------|--------------|---------------------|--------------------------|----------------------------|-------------|
| V            | 48.001          | 38.8                 | 16           | 11.0                | 33.8                     | 40.0                       | -6.2        |
| V            | 96.002          | 38.2                 | 16           | 12.0                | 34.2                     | 43.5                       | -9.3        |
| V            | 120.001         | 39.2                 | 16           | 14.0                | 37.2                     | 43.5                       | -6.3        |
| H            | 180.004         | 30.6                 | 16           | 20.0                | 34.6                     | 43.5                       | -8.9        |
| H            | 192.006         | 34.8                 | 16           | 16.0                | 34.8                     | 43.5                       | -8.7        |
| H            | 240.014         | 31.9                 | 16           | 19.0                | 34.9                     | 46.0                       | -11.1       |
| H            | 336.028         | 27.1                 | 16           | 24.0                | 35.1                     | 46.0                       | -10.9       |
| H            | 360.036         | 27.0                 | 16           | 24.0                | 35.0                     | 46.0                       | -11.0       |
| H            | 456.042         | 24.8                 | 16           | 26.0                | 34.8                     | 46.0                       | -11.2       |
| H            | 480.054         | 24.6                 | 16           | 26.0                | 34.6                     | 46.0                       | -11.4       |
| H            | 552.063         | 22.9                 | 16           | 28.0                | 34.9                     | 46.0                       | -11.1       |
| H            | 648.078         | 21.9                 | 16           | 29.0                | 34.9                     | 46.0                       | -11.1       |

- Notes:
1. Quasi-Peak Detector Data
  2. Negative sign (–) in the margin column signify levels below the limit.
  3. Electric field radiated emissions were reported in units of dB referenced to 1 microvolt per meter [dB( $\mu$ V/m)].
  4. Frequency range scanned: 30MHz to 1000MHz.
  5. Uncertainty:  $\pm 5.3$ dB at a level of confidence of 95%.
  6. From 30MHz to 800MHz, measurements were made at Open Area Test Site. From 800MHz to 1000MHz, an alternate test site of 3m measurement distance in Semi-anechoic Chamber was employed to determine any emissions emitted from the EUT, and hence an equivalent limit at 3m distance was applied for determination.



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**Applicant:** Systech Electronics Ltd.  
**Model:** Slam Basic  
**Operating mode:** Mouse with Scanning

**Report No.:** HK12060738-1

**Graph 1**

**Conducted Emissions**  
**FCC Part 15, Subpart B Requirement**

- Notes:**
1. Uncertainty:  $\pm 4.2$  dB at a level of confidence of 95%.
  2. QP: Quasi-Peak Detector readings.
  3. The conducted emissions were reported in units of dB referenced to 1 microvolt [dB $\mu$ V].

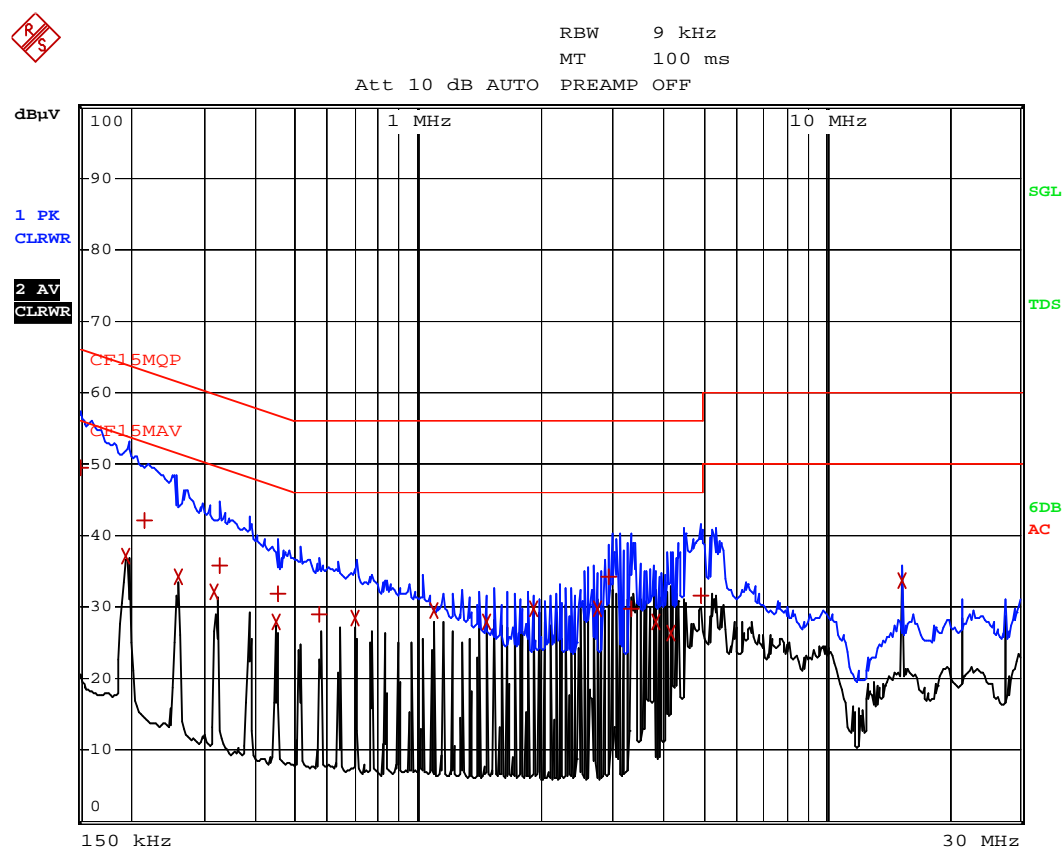
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**Applicant:** Systech Electronics Ltd.  
**Model:** Slam Basic  
**Operating mode:** Mouse with Scanning

**Report No.:** HK12060738-1



HK12060738 (F0738C1) SCANNING

Date: 26.JUN.2012 11:14:11



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Model: Slam Basic  
Operating mode: Mouse with Scanning

Report No.: HK12060738-1

**Table 1**  
**Conducted Emissions**  
**FCC Part 15, Subpart B Requirement**

- Notes:
1. Uncertainty:  $\pm 4.2$  dB at a level of confidence of 95%.
  2. QP: Quasi-Peak Detector readings.
  3. The conducted emissions were reported in units of dB referenced to 1 microvolt [dB $\mu$ V].



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Model: Slam Basic  
Operating mode: Mouse with Scanning

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| EDIT PEAK LIST (Final Measurement Results) |               |            |       |            |                |
|--|---------------|------------|-------|------------|----------------|
| Trace1:                                    | CF15MQP       |            |       |            |                |
| Trace2:                                    | CF15MAV       |            |       |            |                |
| Trace3:                                    | ---           |            |       |            |                |
|  | TRACE         | FREQUENCY  | LEVEL | dB $\mu$ V | DELTA LIMIT dB |
| 1  | Quasi Peak    | 150 kHz    | 49.50 | L1         | -16.50         |
| 2  | CISPR Average | 195 kHz    | 37.09 | N          | -16.72         |
| 1  | Quasi Peak    | 217.5 kHz  | 42.02 | N          | -20.89         |
| 2  | CISPR Average | 258 kHz    | 34.22 | N          | -17.27         |
| 2  | CISPR Average | 321 kHz    | 32.27 | N          | -17.40         |
| 1  | Quasi Peak    | 325.5 kHz  | 35.95 | L1         | -23.61         |
| 2  | CISPR Average | 447 kHz    | 27.88 | N          | -19.04         |
| 1  | Quasi Peak    | 451.5 kHz  | 31.85 | L1         | -24.99         |
| 1  | Quasi Peak    | 573 kHz    | 28.94 | N          | -27.05         |
| 2  | CISPR Average | 703.5 kHz  | 28.49 | N          | -17.50         |
| 2  | CISPR Average | 1.0905 MHz | 29.48 | N          | -16.51         |
| 2  | CISPR Average | 1.473 MHz  | 28.00 | N          | -17.99         |
| 2  | CISPR Average | 1.923 MHz  | 29.83 | L1         | -16.16         |
| 2  | CISPR Average | 2.7555 MHz | 29.70 | L1         | -16.29         |
| 1  | Quasi Peak    | 2.9535 MHz | 34.35 | N          | -21.65         |
| 1  | Quasi Peak    | 3.327 MHz  | 29.69 | N          | -26.30         |
| 2  | CISPR Average | 3.8445 MHz | 27.90 | L1         | -18.09         |
| 2  | CISPR Average | 4.164 MHz  | 26.42 | L1         | -19.57         |
| 1  | Quasi Peak    | 4.9335 MHz | 31.53 | N          | -24.47         |
| 2  | CISPR Average | 15.36 MHz  | 33.61 | L1         | -16.39         |

HK12060738 (F0738C1) SCANNING

Date: 26.JUN.2012 11:13:13

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**Appendix: EUT Photos**

**External Photo**

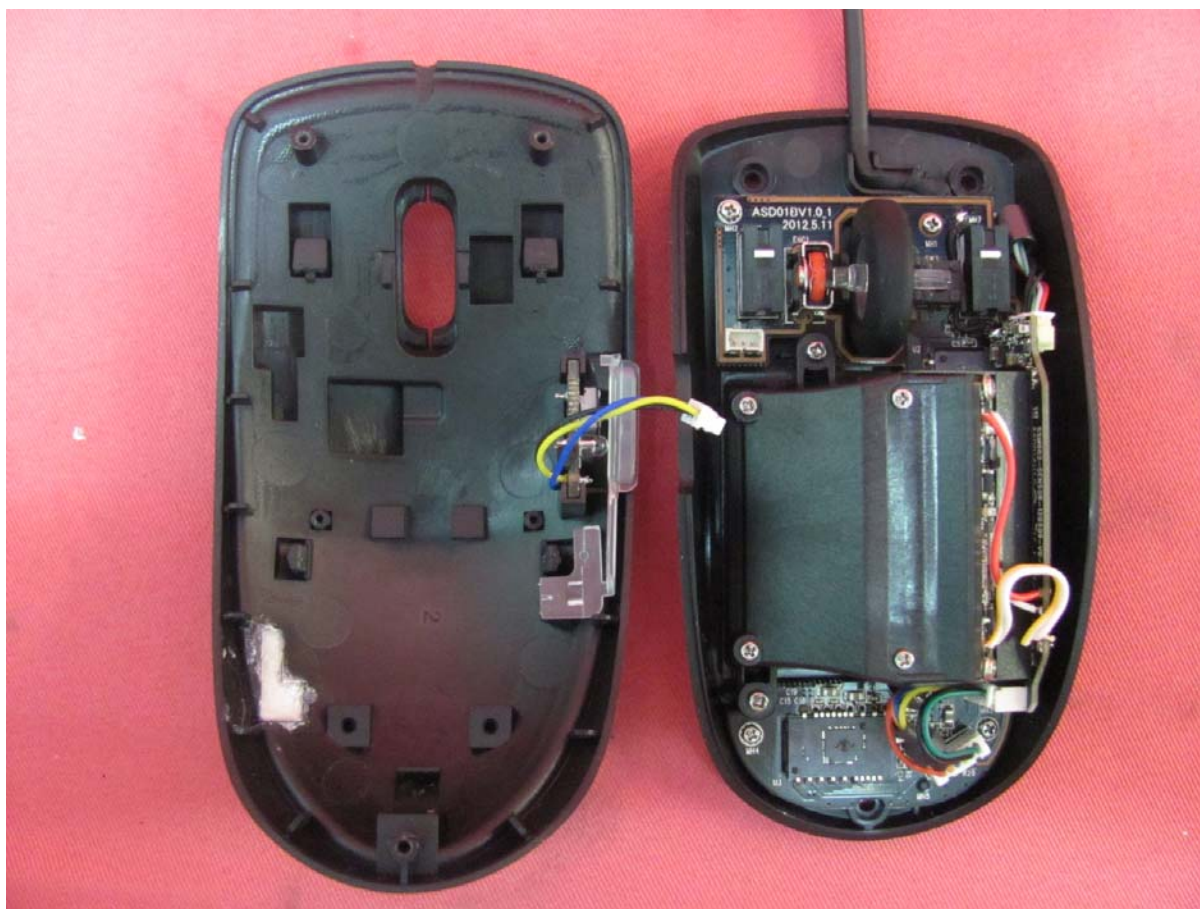


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**Internal Photo**



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