Measurement Report

FCC ID:FKD46AMS201U

This report concerns (check one): Original Grant Class II Change

Issued Date

: Jul. 28, 2005

Project No.

: 0507108

Equipment : Optical Mouse

Model No.

: MS201U; MS202U; MS203U

Applicant

: MONTEREY INTERNATIONAL CORP.

(James Chiu

NO. 28, WU-CHUN 6th RD., WU-KU IND, PARK,

TAIPEI HSINE, TAIWAN R.O.C.

Tested by:

Neutron Engineering Inc. EMC Laboratory

Data of Test:

Jul. 21, 2005 ~ Jul. 26, 2005

Testing Engineer:

Technical Manager:

Authorized Signatory:

NEUTRON ENGINEERING INC.

No. 132-1, Lane 329, Sec. 2, Palain Rd., Shijr City, Taipei, Taiwan

TEL: (02) 2646-5426 FAX: (02) 2646-6815



Declaration

Neutron represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with the standards traceable to National Measurement Laboratory (**NML**) of **R.O.C.**, or National Institute of Standards and Technology (**NIST**) of **U.S.A.**

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Neutron's laboratory quality assurance procedures are in compliance with the **ISO Guide 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Assessment Authorities





Test Standard/Scope/Item Acceptance

FCC Part 15 Subpart B IEC/CISPR22 AS/NZS CISPR 22 CNS 13438

FCC Part 15 Subpart B

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NEUTRON EMC LAB	NEL	ITRO	NE	MC.	LAB
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1. General Information

1.1 Applicant

Name MONTEREY INTERNATIONAL CORP.

Address NO. 28, WU-CHUN 6th RD., WU-KU IND, PARK, TAIPEI HSINE, TAIWAN R.O.C.

1.2 Manufacturer

Name N/A Address N/A

1.3 Equipment Under Tested

Name: Optical Mouse Trade Name: MONTEREY

Model No.: MS201U; MS202U; MS203U

1.4 OEM Brand/Model (if applicable)

OEM Brand(s)/Model(s) except the basic model in sub-clause 1.3 is(are) the follows:

OEM Brand: N/A Model No.: N/A

1.5 Model Difference (Series, Versions, if any)

Except the basic model no. (model designation of the sample tested in this test report), additional model no. covered is(are):

Model MS201U; MS202U and MS203U are designed based on similar electrical circuit but different aspect of enclosure.

NEUTRON EMC LAB.

Report No.: NEI- FCCE-1-0507108

1 Product Descriptions (Application/Features/Specification)

The EUT is a Optical Mouse.

Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual

2 Connecting I/O Port(s)

Please refer to the User's Manual

3 Power Supplied

Power Source: Supplied from PC PS/2 or USB port.

Power Cord : Permanently connected, non-shielded type.

Power Rating: N/A

4 Products Covered (if applicable)

The sample tested including the following sub-system/module/accessory:

Sub-system/ Module/ Accessory Model/Type No. Int. Inst./ Ext. Cont.

N/A N/A N/A

5 Description of Test Mode(s)

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Mode 1 : PS/2 Port Mode 2 : USB Port

The EUT system operated Mode 1/2, mentioned above were found to be the worst case during the pre-scanning test. These operation modes were used for final testing and collecting test data included in this report.

6 EUT Modifications (if applicable)

No any modification required for the EUT to comply with the standards.

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$N \vdash I$	ITRO.	$\sim -\kappa$	MI : I	$\Delta \boldsymbol{\kappa}$

1.12 Summary of Test Results

Test procedures according to the technical standards:

	EMC Emission			
Standard	Test Item	Limit	Judgment	Remark
FCC Part15, Subpart B CISPR 22:1997+A1: 2000	Conducted Emission	Class B	PASS	
ICES-003: 2004	Radiated Emission	Class B	PASS	

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

4151	1700	A . C	-	40
NEL.	<i>ITRO</i>	$N \vdash I$	NG I	LAB.

2. RFI Emissions Measurement

2.1Test Facility

The test facilities used to collect the test data in this report is C01/OS01 at the location of No.132-1, Lane 329, Sec. 2, Palain Road, Shijr City, Taipei, Taiwan.

2.2 Standard Compliance

The test data contained in this report relate only to the item(s) listed below:

Limitation Class B

FCC Part15, Subpart B/CISPR 22:1997+A1: 2000

ICES-003: 2004

2.3 Test Methodology

Both conducted and radiated testing were performed during the max. EMI emission evaluation.

Antenna to EUT distance is 10 m.

Test procedures according to the technical standards:

FCC Part15, Subpart B / ANSI C63.4: 2003.

ICES-003: 2004

2.4 Deviations from Standard Test Method

N/A

2.5 Sample(s) Tested

The representative sample tested in this reports is(are): MS201U

Test results in this test report relate only to the sample(s) tested.

The EUT has been tested according to the following environmental condition:

Input Power	120Vac/60Hz
Environmental Conditions	Please refer to the measurement data.

2.6 Measurement Instruments

Valid measurement instruments used in this report refer to **Table-1** enclosed.

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N = I	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	V <i>EMC</i>	<i>, ,</i>

2.7 Measurement Uncertainty

The reported uncertainty of measurement $\mathbf{y} \pm \mathbf{U}$, where expended uncertainty \mathbf{U} is based on a standard uncertainty multiplied by a coverage factor of $\mathbf{k=2}$, providing a level of confidence of approximately 95 % $^{\circ}$

A. Conducted Measurement :5.05dB

B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U , (dB)	NOTE
OS-01	ANSI	30MHz ~ 200MHz	Н	4.59	
		30MHz ~ 200MHz	V	4.80	
		200MHz ~ 1,000MHz	Н	4.47	
		200MHz ~ 1,000MHz	V	5.03	
OS-01	VCCI	30MHz ~ 200MHz	Н	4.59	Only for VCCI Report
		30MHz ~ 200MHz	V	4.48	Only for VCCI Report
		200MHz ~ 1,000MHz	Н	4.47	Only for VCCI Report
		200MHz ~ 1,000MHz	V	4.73	Only for VCCI Report
OS-02	ANSI	30MHz ~ 200MHz	Н	4.34	
		30MHz ~ 200MHz	V	5.15	
		200MHz ~ 1,000MHz	Н	5.28	
		200MHz ~ 1,000MHz	V	4.53	
OS-02	VCCI	30MHz ~ 200MHz	Н	4.34	Only for VCCI Report
		30MHz ~ 200MHz	V	4.77	Only for VCCI Report
		200MHz ~ 1,000MHz	Н	4.91	Only for VCCI Report
		200MHz ~ 1,000MHz	V	4.53	Only for VCCI Report

2.8 Tested System Set-Up/Configuration Details

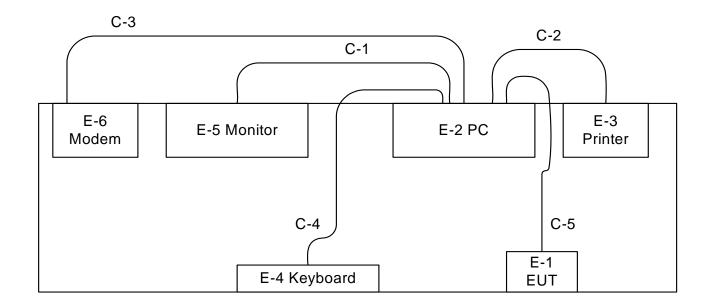
The system was configured for testing in a typical fashion (as a user would normally use) or in-accordance with the operating configuration specified in the user's manual. A Block Diagram(please refer to the Diagram - 1) and Photos(please refer to the attachment - A) showing the set-up/configuration of system tested. In addition, **Table-2** and **Table-3** provide a detail of all equipment items and cables information used in the system tested.

Table -1 Measurement Instruments List

2 LISN Rolf Heine NNB-2/16Z 98083 2004-08-03 2005-08-02 1			1				1	
2 LISN Rolf Heine NNB-2/16Z 98083 2004-08-03 2005-08-02 3 LISN Rolf Heine NNB-2/16Z 98053 2004-12-24 2005-12-23 4 4 L-V-LISN Rolf Heine NNB-4/63TL 02/10040 2005-04-08 2006-04-07 5 LISN EMCO 3816/2 00042991 2005-01-12 2007-01-11 6 LISN EMCO 4825/2 00028234 2005-04-01 2006-03-31 7 ISN SCHAFFNER ISN T400 16017 2005-04-01 2007-03-31 8 Pulse Limiter Electro-Metrics EM-7600 112644 2004-12-07 2005-12-06 9 50Ω Terminator N/A N/A N/A 2005-05-12 2007-05-11 10 Test Cable N/A C01 N/A 2004-12-08 2005-12-07 11 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9160 3058 2004-10-20 2005-10-19 12 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9160 3177 2005-07-14 2006-07-13 14 Test Cable N/A 10M_OS01 N/A 2004-12-08 2005-12-07 15 Test Cable N/A OS01-1/-2 N/A 2004-12-08 2005-12-07 16 Test Cable N/A OS01-1/-2 N/A 2004-12-08 2005-12-07 17 Test Cable N/A OS01-1/-2 N/A 2004-12-08 2005-12-07 18 RF Switch Anritsu MP59B M65982 2004-12-08 2005-12-07 19 Pre-Amplifier Anritsu MP68B ESCH 81720298 2004-12-08 2005-12-07 19 Pre-Amplifier Anritsu MP69B M65982 2004-12-07 2005-02-01 2005-02-22 EMI Test Receiver R&S ESCI 1166.5950.03 2005-02-23 2006-02-22 EMI Test Receiver R&S ESCI 1166.5950.03 2005-02-02 2007-02-01 23 Test Receiver R&S ESCI 1166.5950.03 2005-02-02 2007-02-01 25 Test Receiver R&S ESCI 1166.5950.03 2005-02-02 2007-02-01 25 Test Receiver R&S ESCI 980687/009 2004-12-31 2005-12-30 25 Test Receiver PMM PMM 9000 4310,01002 2005-02-25 2006-02-24 27 Horn Antenna EMCO 3115 9605-4803 2005-02-05 2005-02-05 2006-02-24 27 Horn Antenna EMCO 3115 9605-4803 2005-01-01 2005-09-08 30 Antenna Mast Chance Most CMTB-1.5 N/A	Item	Instruments	Mfr/Brand	Model/Type No.	Serial No.	Calibrated Date	Next Cali. Date	Note
3 LISN Rolf Heine NNB-2/16Z 98053 2004-12-24 2005-12-23 4 4L-V-LISN Rolf Heine NNB-4/63TL 02/10040 2005-04-08 2006-04-07 5 LISN EMCO 3816/2 00042991 2005-01-12 2007-01-11 6 LISN EMCO 4825/2 00028234 2005-04-01 2006-03-31 7 ISN SCHAFFNER ISN T400 16017 2005-04-01 2006-03-31 8 Pulse Limiter Electro-Metrics EM-7600 112644 2004-12-07 2005-12-06 9 50Ω Terminator N/A N/A N/A N/A 2005-05-12 2007-05-11 10 Test Cable N/A C01 N/A 2004-12-08 2005-12-07 11 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9160 3058 2004-10-20 2005-10-19 12 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9160 3177 2005-02-07 2007-02-06 13 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9161 4022 2005-07-14 2006-07-13 14 Test Cable N/A 10M_OS01 N/A 2004-12-08 2005-12-07 15 Test Cable N/A 10M_OS01 N/A 2004-12-08 2005-12-07 16 Test Cable N/A 10M_OS01 N/A 2004-12-08 2005-12-07 17 Test Cable N/A 10M_OS02 N/A 2004-12-08 2005-12-07 17 Test Cable N/A 0S01-1/-2 N/A 2004-12-08 2005-12-07 18 RF Switch Anritsu MP59B M65982 2004-12-07 2005-12-06 19 Pre-Amplifier Anritsu MP59B M65982 2004-12-07 2005-08-31 1 Spectrum Analyzer ADVAN TEST R3261C 81720298 2004-12-07 2005-08-31 1 Spectrum Analyzer ADVAN TEST R3132 81700025 2005-02-23 2006-02-22 2 EMI Test Receiver R&S ESCI 1166.596.0.3 2005-12-31 2005-12-30 25 Test Receiver R&S ESCI 1166.596.0.3 2005-02-25 2005-02-26 22 2 EMI Test Receiver R&S ESCI 1166.596.0.3 2005-02-25 2005-02-26 27 Horn Antenna EMCO 3115 9605-4803 2005-02-25 2005-02-24 27 Horn Antenna EMCO 3115 9605-4803 2005-02-25 2005-02-00-02-02 2007-02-01 28 Absorbing Clamp R&S MDS-21 841077/011 2004-09-09 2005-09-08 20 Voltage Probe R&S ESH2-23 841.800/023 2004-09-07 2005-09-08 30 Antenna Mast Chance Most CMTB-1.5 N/A	1	LISN	EMCO	3825/2	9605-2539	2004-10-01	2005-09-30	✓
4 4L-V-LISN Rolf Heine NNB-4/63TL 02/10040 2005-04-08 2006-04-07 5 LISN EMCO 3816/2 00042991 2005-01-12 2007-01-11 6 LISN EMCO 4825/2 00028234 2005-04-01 2006-03-31 7 ISN SCHAFFNER ISN T400 16017 2005-04-01 2007-03-31 8 Pulse Limiter Electro-Metrics EM-7600 112644 2004-12-07 2005-12-06 9 50Ω Terminator N/A N/A N/A 2005-05-12 2007-05-11 10 Test Cable N/A C01 N/A 2004-12-08 2005-12-07 11 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9160 3058 2004-10-20 2005-07-13 12 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9161 4022 2005-07-14 2006-07-13 14 Test Cable N/A 10M_OS01 N/A 2004-12-08 2005-12-07 15 Test Cable N/A <td>2</td> <td>LISN</td> <td>Rolf Heine</td> <td>NNB-2/16Z</td> <td>98083</td> <td>2004-08-03</td> <td>2005-08-02</td> <td>✓</td>	2	LISN	Rolf Heine	NNB-2/16Z	98083	2004-08-03	2005-08-02	✓
5 LISN EMCO 3816/2 00042991 2005-01-12 2007-01-11 6 LISN EMCO 4825/2 00028234 2005-04-01 2006-03-31 7 ISN SCHAFFNER ISN T400 16017 2005-04-01 2007-03-31 8 Pulse Limiter Electro-Metrics EM-7600 112644 2004-12-07 2005-12-06 9 50Ω Terminator N/A N/A N/A 2005-05-12 2007-05-11 10 Test Cable N/A C01 N/A 2004-12-08 2005-12-07 11 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9160 3058 2004-10-20 2005-10-19 12 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9161 4022 2005-07-14 2006-07-13 14 Test Cable N/A 10M_OS01 N/A 2004-12-08 2005-12-07 15 Test Cable N/A OS01-1/-2 N/A 2004-12-08 2005-12-07 16 Test Cable N/A <	3	LISN	Rolf Heine	NNB-2/16Z	98053	2004-12-24	2005-12-23	
6 LISN EMCO 4825/2 00028234 2005-04-01 2006-03-31 7 ISN SCHAFFNER ISN T400 16017 2005-04-01 2007-03-31 8 Pulse Limiter Electro-Metrics EM-7600 112644 2004-12-07 2005-12-06 9 50 Ω Terminator N/A N/A N/A 2005-05-12 2007-05-11 10 Test Cable N/A C01 N/A 2004-12-08 2005-12-07 11 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9160 3058 2004-10-20 2005-10-19 12 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9160 3177 2005-02-07 2007-02-06 13 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9161 4022 2005-07-14 2006-07-13 14 Test Cable N/A 10M_OS01 N/A 2005-07-14 2006-07-13 14 Test Cable N/A OS01-1/-2 N/A 2004-12-08 2005-12-07 15 Test Cable	4	4L-V-LISN	Rolf Heine	NNB-4/63TL	02/10040	2005-04-08	2006-04-07	
7 ISN SCHAFFNER ISN T400 16017 2005-04-01 2007-03-31 8 Pulse Limiter Electro-Metrics EM-7600 112644 2004-12-07 2005-12-06 9 9 50 Ω Terminator N/A N/A N/A 2005-05-12 2007-05-11 1 10 Test Cable N/A C01 N/A 2004-10-20 2005-12-07 1 11 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9160 3058 2004-10-20 2005-10-19 1 12 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9161 4022 2005-07-14 2006-07-13 1 13 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9161 4022 2005-07-14 2006-07-13 1 14 Test Cable N/A 10M_OS01 N/A 2004-12-08 2005-12-07 1 15 Test Cable N/A 0S01-1/-2 N/A 2004-12-08 2005-12-07 1 16 Test Cable N/A OS02-1/-	5	LISN	EMCO	3816/2	00042991	2005-01-12	2007-01-11	
8 Pulse Limiter Electro-Metrics EM-7600 112644 2004-12-07 2005-12-06 9 9 50 Ω Terminator N/A N/A N/A 2005-05-12 2007-05-11 1 10 Test Cable N/A C01 N/A 2004-12-08 2005-12-07 1 11 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9160 3058 2004-10-20 2005-10-19 12 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9161 4022 2005-07-14 2006-07-13 13 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9161 4022 2005-07-14 2006-07-13 14 Test Cable N/A 10M_OS01 N/A 2004-12-08 2005-12-07 15 Test Cable N/A OS01-12-0 N/A 2004-12-08 2005-12-07 16 Test Cable N/A OS02-17-2/-3 N/A 2004-12-08 2005-12-07 17 Test Cable N/A OS02-17-2/-3 N/A 2004-12-08 2005-12-07	6	LISN	EMCO	4825/2	00028234	2005-04-01	2006-03-31	
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Test Cable	8	Pulse Limiter	Electro-Metrics	EM-7600	112644	2004-12-07	2005-12-06	✓
11 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9160 3058 2004-10-20 2005-10-19 12 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9160 3177 2005-02-07 2007-02-06 317 13 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9161 4022 2005-07-14 2006-07-13 14 Test Cable N/A 10M_OS01 N/A 2004-12-08 2005-12-07 15 Test Cable N/A OS01-1/-2 N/A 2004-12-08 2005-12-07 16 Test Cable N/A 10M_OS02 N/A 2004-12-08 2005-12-07 17 Test Cable N/A OS02-1/-2/-3 N/A 2004-12-08 2005-12-07 18 RF Switch Anritsu MP59B M65982 2004-12-08 2005-12-07 18 RF Switch Anritsu MH648A M09961 2004-11-24 2005-11-23 20 Spectrum Analyzer ADVAN TEST R3261C 81720298 2004-09-01 2005-08-31 N	9	50 Ω Terminator	N/A	N/A	N/A	2005-05-12	2007-05-11	✓
12	10	Test Cable	N/A	C01	N/A	2004-12-08	2005-12-07	✓
13 Log-Bicon Antenna MESS-ELEKTRONIK VULB 9161 4022 2005-07-14 2006-07-13 14 Test Cable N/A 10M_OS01 N/A 2004-12-08 2005-12-07 15 Test Cable N/A OS01-1/-2 N/A 2004-12-08 2005-12-07 16 Test Cable N/A 10M_OS02 N/A 2004-12-08 2005-12-07 17 Test Cable N/A OS02-1/-2/-3 N/A 2004-12-08 2005-12-07 18 RF Switch Anritsu MP59B M65982 2004-12-07 2005-12-06 19 Pre-Amplifier Anritsu MH648A M09961 2004-11-24 2005-11-23 20 Spectrum Analyzer ADVAN TEST R3261C 81720298 2004-09-01 2005-08-31 1 21 Spectrum Analyzer ADVAN TEST R3132 81700025 2005-02-23 2006-02-22 22 EMI Test Receiver R&S ESCI 1166.5950.03 2005-02-23 2006-02-22 23	11	Log-Bicon Antenna	MESS-ELEKTRONIK	VULB 9160	3058	2004-10-20	2005-10-19	
14 Test Cable N/A 10M_OS01 N/A 2004-12-08 2005-12-07 15 15 Test Cable N/A OS01-1/-2 N/A 2004-12-08 2005-12-07 16 16 Test Cable N/A 10M_OS02 N/A 2004-12-08 2005-12-07 17 Test Cable N/A OS02-1/-2/-3 N/A 2004-12-08 2005-12-07 18 RF Switch Anritsu MP59B M65982 2004-12-07 2005-12-06 19 Pre-Amplifier Anritsu MH648A M09961 2004-11-24 2005-11-23 20 Spectrum Analyzer ADVAN TEST R3261C 81720298 2004-09-01 2005-08-31 3 21 Spectrum Analyzer ADVAN TEST R3132 81700025 2005-02-23 2006-02-22 22 EMI Test Receiver R&S ESCI 1166.5950.03 2005-02-23 2006-02-22 23 Test Receiver R&S ESH3 860156/018 2004-12-31 2005-12-30	12	Log-Bicon Antenna	MESS-ELEKTRONIK	VULB 9160	3177	2005-02-07	2007-02-06	✓
15 Test Cable N/A OS01-1/-2 N/A 2004-12-08 2005-12-07 16 Test Cable N/A 10M_OS02 N/A 2004-12-08 2005-12-07 17 Test Cable N/A OS02-1/-2/-3 N/A 2004-12-08 2005-12-07 18 RF Switch Anritsu MP59B M65982 2004-12-07 2005-12-06 19 Pre-Amplifier Anritsu MH648A M09961 2004-11-24 2005-11-23 20 Spectrum Analyzer ADVAN TEST R3261C 81720298 2004-09-01 2005-08-31 3 21 Spectrum Analyzer ADVAN TEST R3132 81700025 2005-02-23 2006-02-22 22 EMI Test Receiver R&S ESCI 1166.5950.03 2005-02-02 2007-02-01 23 Test Receiver R&S ESH3 860156/018 2004-12-31 2005-12-30 24 Test Receiver R&S ESVP 860687/009 2004-12-31 2005-12-30 25 T	13	Log-Bicon Antenna	MESS-ELEKTRONIK	VULB 9161	4022	2005-07-14	2006-07-13	
16 Test Cable N/A 10M_OS02 N/A 2004-12-08 2005-12-07 17 Test Cable N/A OS02-1/-2/-3 N/A 2004-12-08 2005-12-07 18 RF Switch Anritsu MP59B M65982 2004-12-07 2005-12-06 19 Pre-Amplifier Anritsu MH648A M09961 2004-11-24 2005-11-23 20 Spectrum Analyzer ADVAN TEST R3261C 81720298 2004-09-01 2005-08-31 3 21 Spectrum Analyzer ADVAN TEST R3132 81700025 2005-02-23 2006-02-22 22 EMI Test Receiver R&S ESCI 1166.5950.03 2005-02-23 2006-02-22 22 EMI Test Receiver R&S ESH3 860156/018 2004-12-31 2005-12-30 23 Test Receiver R&S ESVP 860687/009 2004-12-31 2005-12-30 25 Test Receiver MEB SMV41 130 2004-12-06 2005-12-05 3 <td< td=""><td>14</td><td>Test Cable</td><td>N/A</td><td>10M_OS01</td><td>N/A</td><td>2004-12-08</td><td>2005-12-07</td><td>✓</td></td<>	14	Test Cable	N/A	10M_OS01	N/A	2004-12-08	2005-12-07	✓
17 Test Cable N/A OS02-1/-2/-3 N/A 2004-12-08 2005-12-07 18 RF Switch Anritsu MP59B M65982 2004-12-07 2005-12-06 19 Pre-Amplifier Anritsu MH648A M09961 2004-11-24 2005-11-23 9 20 Spectrum Analyzer ADVAN TEST R3261C 81720298 2004-09-01 2005-08-31 9 21 Spectrum Analyzer ADVAN TEST R3132 81700025 2005-02-23 2006-02-22 2006-02-22 22 EMI Test Receiver R&S ESCI 1166.5950.03 2005-02-02 2007-02-01 23 Test Receiver R&S ESH3 860156/018 2004-12-31 2005-12-30 24 Test Receiver R&S ESVP 860687/009 2004-12-31 2005-12-30 205-12-30 205-12-30 205-12-30 205-12-30 205-12-30 205-12-30 205-12-30 205-12-30 205-12-30 205-12-30 205-12-30 205-12-30 205-12-30 205-12-30 205-12-30 205-12-30 2	15	Test Cable	N/A	OS01-1/-2	N/A	2004-12-08	2005-12-07	✓
18 RF Switch Anritsu MP59B M65982 2004-12-07 2005-12-06 19 Pre-Amplifier Anritsu MH648A M09961 2004-11-24 2005-11-23 7 20 Spectrum Analyzer ADVAN TEST R3261C 81720298 2004-09-01 2005-08-31 7 21 Spectrum Analyzer ADVAN TEST R3132 81700025 2005-02-23 2006-02-22 22 EMI Test Receiver R&S ESCI 1166.5950.03 2005-02-02 2007-02-01 23 Test Receiver R&S ESH3 860156/018 2004-12-31 2005-12-30 24 Test Receiver R&S ESVP 860687/009 2004-12-31 2005-12-30 25 Test Receiver MEB SMV41 130 2004-12-31 2005-12-05 9 26 Test Receiver PMM PMM 9000 4310J01002 2005-02-25 2006-02-24 27 Horn Antenna EMCO 3115 9605-4803 2005-06-15 2006-06-14	16	Test Cable	N/A	10M_OS02	N/A	2004-12-08	2005-12-07	
19 Pre-Amplifier Anritsu MH648A M09961 2004-11-24 2005-11-23 3 20 Spectrum Analyzer ADVAN TEST R3261C 81720298 2004-09-01 2005-08-31 3 21 Spectrum Analyzer ADVAN TEST R3132 81700025 2005-02-23 2006-02-22 22 EMI Test Receiver R&S ESCI 1166.5950.03 2005-02-02 2007-02-01 23 Test Receiver R&S ESH3 860156/018 2004-12-31 2005-12-30 24 Test Receiver R&S ESVP 860687/009 2004-12-31 2005-12-30 25 Test Receiver MEB SMV41 130 2004-12-06 2005-12-05 3 26 Test Receiver PMM PMM 9000 4310,01002 2005-02-25 2006-02-24 27 Horn Antenna EMCO 3115 9605-4803 2005-06-15 2006-06-14 28 Absorbing Clamp R&S MDS-21 841077/011 2004-09-07 2005-09-06 <td>17</td> <td>Test Cable</td> <td>N/A</td> <td>OS02-1/-2/-3</td> <td>N/A</td> <td>2004-12-08</td> <td>2005-12-07</td> <td></td>	17	Test Cable	N/A	OS02-1/-2/-3	N/A	2004-12-08	2005-12-07	
20 Spectrum Analyzer ADVAN TEST R3261C 81720298 2004-09-01 2005-08-31 7 21 Spectrum Analyzer ADVAN TEST R3132 81700025 2005-02-23 2006-02-22 22 EMI Test Receiver R&S ESCI 1166.5950.03 2005-02-02 2007-02-01 23 Test Receiver R&S ESH3 860156/018 2004-12-31 2005-12-30 24 Test Receiver R&S ESVP 860687/009 2004-12-31 2005-12-30 25 Test Receiver MEB SMV41 130 2004-12-06 2005-12-05 7 26 Test Receiver PMM PMM 9000 4310,01002 2005-02-25 2006-02-24 27 Horn Antenna EMCO 3115 9605-4803 2005-06-15 2006-06-14 28 Absorbing Clamp R&S MDS-21 841077/011 2004-09-09 2005-09-08 29 Voltage Probe R&S ESH2-Z3 841.800/023 2004-09-07 2005-09-06	18	RF Switch	Anritsu	MP59B	M65982	2004-12-07	2005-12-06	
21 Spectrum Analyzer ADVAN TEST R3132 81700025 2005-02-23 2006-02-22 22 EMI Test Receiver R&S ESCI 1166.5950.03 2005-02-02 2007-02-01 23 Test Receiver R&S ESH3 860156/018 2004-12-31 2005-12-30 24 Test Receiver R&S ESVP 860687/009 2004-12-31 2005-12-30 25 Test Receiver MEB SMV41 130 2004-12-06 2005-12-05 30 26 Test Receiver PMM PMM 9000 4310J01002 2005-02-25 2006-02-24 27 Horn Antenna EMCO 3115 9605-4803 2005-06-15 2006-06-14 28 Absorbing Clamp R&S MDS-21 841077/011 2004-09-09 2005-09-08 29 Voltage Probe R&S ESH2-Z3 841.800/023 2004-09-07 2005-09-06 30 Antenna Mast Chance Most CMTB-1.5 N/A N/A N/A 31 Tu	19	Pre-Amplifier	Anritsu	MH648A	M09961	2004-11-24	2005-11-23	✓
22 EMI Test Receiver R&S ESCI 1166.5950.03 2005-02-02 2007-02-01 23 Test Receiver R&S ESH3 860156/018 2004-12-31 2005-12-30 24 Test Receiver R&S ESVP 860687/009 2004-12-31 2005-12-30 25 Test Receiver MEB SMV41 130 2004-12-06 2005-12-05 30 26 Test Receiver PMM PMM 9000 4310J01002 2005-02-25 2006-02-24 27 Horn Antenna EMCO 3115 9605-4803 2005-06-15 2006-06-14 28 Absorbing Clamp R&S MDS-21 841077/011 2004-09-09 2005-09-08 29 Voltage Probe R&S ESH2-Z3 841.800/023 2004-09-07 2005-09-06 30 Antenna Mast Chance Most CMTB-1.5 N/A N/A N/A 31 Turn Table Chance Most CMTB-1.5 N/A N/A N/A 32 Loop Ant <t< td=""><td>20</td><td>Spectrum Analyzer</td><td>ADVAN TEST</td><td>R3261C</td><td>81720298</td><td>2004-09-01</td><td>2005-08-31</td><td>✓</td></t<>	20	Spectrum Analyzer	ADVAN TEST	R3261C	81720298	2004-09-01	2005-08-31	✓
23 Test Receiver R&S ESH3 860156/018 2004-12-31 2005-12-30 24 Test Receiver R&S ESVP 860687/009 2004-12-31 2005-12-30 25 Test Receiver MEB SMV41 130 2004-12-06 2005-12-05 3005-12-05 26 Test Receiver PMM PMM 9000 4310J01002 2005-02-25 2006-02-24 27 Horn Antenna EMCO 3115 9605-4803 2005-06-15 2006-06-14 28 Absorbing Clamp R&S MDS-21 841077/011 2004-09-09 2005-09-08 29 Voltage Probe R&S ESH2-Z3 841.800/023 2004-09-07 2005-09-06 30 Antenna Mast Chance Most CMTB-1.5 N/A N/A N/A 31 Turn Table Chance Most CMTB-1.5 N/A N/A N/A 32 Loop Ant R&S HFH2-Z2 830749/020 2004-10-01 2005-09-30	21	Spectrum Analyzer	ADVAN TEST	R3132	81700025	2005-02-23	2006-02-22	
24 Test Receiver R&S ESVP 860687/009 2004-12-31 2005-12-30 25 Test Receiver MEB SMV41 130 2004-12-06 2005-12-05 30 26 Test Receiver PMM PMM 9000 4310J01002 2005-02-25 2006-02-24 27 Horn Antenna EMCO 3115 9605-4803 2005-06-15 2006-06-14 28 Absorbing Clamp R&S MDS-21 841077/011 2004-09-09 2005-09-08 29 Voltage Probe R&S ESH2-Z3 841.800/023 2004-09-07 2005-09-06 30 Antenna Mast Chance Most CMTB-1.5 N/A N/A N/A 31 Turn Table Chance Most CMTB-1.5 N/A N/A N/A 32 Loop Ant R&S HFH2-Z2 830749/020 2004-10-01 2005-09-30	22	EMI Test Receiver	R&S	ESCI	1166.5950.03	2005-02-02	2007-02-01	
25 Test Receiver MEB SMV41 130 2004-12-06 2005-12-05 30 26 Test Receiver PMM PMM 9000 4310J01002 2005-02-25 2006-02-24 27 Horn Antenna EMCO 3115 9605-4803 2005-06-15 2006-06-14 28 Absorbing Clamp R&S MDS-21 841077/011 2004-09-09 2005-09-08 29 Voltage Probe R&S ESH2-Z3 841.800/023 2004-09-07 2005-09-06 30 Antenna Mast Chance Most CMTB-1.5 N/A N/A N/A 31 Turn Table Chance Most CMTB-1.5 N/A N/A N/A 32 Loop Ant R&S HFH2-Z2 830749/020 2004-10-01 2005-09-30	23	Test Receiver	R&S	ESH3	860156/018	2004-12-31	2005-12-30	
26 Test Receiver PMM PMM 9000 4310J01002 2005-02-25 2006-02-24 27 Horn Antenna EMCO 3115 9605-4803 2005-06-15 2006-06-14 28 Absorbing Clamp R&S MDS-21 841077/011 2004-09-09 2005-09-08 29 Voltage Probe R&S ESH2-Z3 841.800/023 2004-09-07 2005-09-06 30 Antenna Mast Chance Most CMTB-1.5 N/A N/A N/A 31 Turn Table Chance Most CMTB-1.5 N/A N/A N/A 32 Loop Ant R&S HFH2-Z2 830749/020 2004-10-01 2005-09-30	24	Test Receiver	R&S	ESVP	860687/009	2004-12-31	2005-12-30	
27 Horn Antenna EMCO 3115 9605-4803 2005-06-15 2006-06-14 28 Absorbing Clamp R&S MDS-21 841077/011 2004-09-09 2005-09-08 29 Voltage Probe R&S ESH2-Z3 841.800/023 2004-09-07 2005-09-06 30 Antenna Mast Chance Most CMTB-1.5 N/A N/A N/A 31 Turn Table Chance Most CMTB-1.5 N/A N/A N/A 32 Loop Ant R&S HFH2-Z2 830749/020 2004-10-01 2005-09-30	25	Test Receiver	MEB	SMV41	130	2004-12-06	2005-12-05	✓
28 Absorbing Clamp R&S MDS-21 841077/011 2004-09-09 2005-09-08 29 Voltage Probe R&S ESH2-Z3 841.800/023 2004-09-07 2005-09-06 30 Antenna Mast Chance Most CMTB-1.5 N/A N/A N/A 31 Turn Table Chance Most CMTB-1.5 N/A N/A N/A 32 Loop Ant R&S HFH2-Z2 830749/020 2004-10-01 2005-09-30	26	Test Receiver	PMM	PMM 9000	4310J01002	2005-02-25	2006-02-24	
29 Voltage Probe R&S ESH2-Z3 841.800/023 2004-09-07 2005-09-06 30 Antenna Mast Chance Most CMTB-1.5 N/A N/A N/A 31 Turn Table Chance Most CMTB-1.5 N/A N/A N/A 32 Loop Ant R&S HFH2-Z2 830749/020 2004-10-01 2005-09-30	27	Horn Antenna	EMCO	3115	9605-4803	2005-06-15	2006-06-14	
30 Antenna Mast Chance Most CMTB-1.5 N/A N/A N/A 31 Turn Table Chance Most CMTB-1.5 N/A N/A N/A 32 Loop Ant R&S HFH2-Z2 830749/020 2004-10-01 2005-09-30	28	Absorbing Clamp	R&S	MDS-21	841077/011	2004-09-09	2005-09-08	
31 Turn Table Chance Most CMTB-1.5 N/A N/A N/A 32 Loop Ant R&S HFH2-Z2 830749/020 2004-10-01 2005-09-30	29	Voltage Probe	R&S	ESH2-Z3	841.800/023	2004-09-07	2005-09-06	
32 Loop Ant R&S HFH2-Z2 830749/020 2004-10-01 2005-09-30	30	Antenna Mast	Chance Most	CMTB-1.5	N/A	N/A	N/A	✓
	31	Turn Table	Chance Most	CMTB-1.5	N/A	N/A	N/A	✓
33 Loop Ant EMCO 6502 00042960 2005-01-14 2008-01-13	32	Loop Ant	R&S	HFH2-Z2	830749/020	2004-10-01	2005-09-30	
	33	Loop Ant	EMCO	6502	00042960	2005-01-14	2008-01-13	

^{(1)&}quot; ✓" indicates the instrument used in Test Report.
(2)" N/A" denotes No Model No. / Serial No. and No Calibration specified.

Diagram - 1
Block diagram showing the configuration of system tested



- C-1 Video Cable
- C-2 Centronics Cable
- C-3 Interface Cable
- C-4 Data Cable
- C-5 Data Cable

Table - 2 Equipments Used in Tested System

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
E-1	Optical Mouse	MONTEREY	MS201U	DOC		EUT
E-2	PC	HP	Pavilion 8801	DOC	SG12460765	
E-3	Printer	SII	DPU-414	DOC	1045105A	
E-4	PS/2 K/B	IBM	KB-0225	DOC	0040125	
E-5	19" TFT LCD Monitor	Samsung	SyncMaster 193P	DOC	DI19H4JXC05517A	
E-6	Modem	ACEEX	DM-1414V	DOC	8041708	

Note:

- (1) Unless otherwise denoted as EUT in 『Remark』 column, device(s) used in tested system is a support equipment.
- (2) Unless otherwise marked as % in <code>"Remark_"</code> column, Neutron consigns the support equipment to the tested system.
- (3) The support equipment was authorized by Declaration of Confirmation.

Table - 3 Information of Interface Cable

Item	Shielded Type	Ferrite Core	Length	Note
C-1	YES	YES	1.8M	
C-2	YES	NO	1.8M	
C-3	YES	NO	1.5M	
C-4	YES	NO	1.5M	
C-5	YES	NO	1.5M	*
	_			

Note:

- (1) Unless otherwise marked as % in <code>"Remark_"</code> column, Neutron consigns the support equipment to the tested system.
- (2) For detachable type I/O cable should be specified the length in cm in <code>"Length_"</code> column.

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	Report No.: NEI- FCCE-1-0507108

2.9 EUT Operating Conditions

- (a) Both conducted and radiated testing were performed during the max. EMI emission evaluation.
- (b) The system was configured for testing in a typical fashion (as a customer would normally use it). The EUT was connected to support equipment-personal computer. Peripherals of PC, such as monitor, Optical Mouse, modem, and printer were contained in this system in order to comply with the CISPR22 Rules requirement. The PC operated in the default 800 x 600 VGA Graphic mode. This operating condition was tested and used to collect the included data.
- (c) The EUT exercise program used during radiated and/or conducted emission measurement was designed to exercise the various system components in a manner similar to a typical use. The program contained on a PC hard disk and is auto-starting on power-up. Once loaded, the program sequentially exercises each system component in turn. The sequence used is:
 - 1. Read (write) from (to) mass storage device (Disk).
 - 2. Send "H" pattern to video port device (Monitor).
 - 3. Send "H" pattern to parallel port device (Printer).
 - 4. Send " H " pattern to serial port device (Modem).
 - 5. Repeated from 2 to 4 continuously.

As the mouse is strictly input device, no data is transmitted to (from) them during test. They are, however, continuously scanned for data input activity.

3. Justification

3.1 Limitations

3.1.1 Power Line Conducted Emission (Frequency Range 150KHz-30MHz)

Measurement	Mains Terminal		Mains Terminals		Note
Frequency	Class A	\ Limits	Class E	B Limits	CISPR
Range	(dB	uV)	(dB	uV)	FCC
(MHz)	QP Mode	AV Mode	QP Mode	AV Mode	Std.
0.15 - 0.50	79.00	66.00	66 - 56 *	56 - 46 *	CISPR
0.50 - 5.00	73.00	60.00	56.00	46.00	CISPR
5.00 - 30.0	73.00	60.00	60.00	50.00	CISPR
0.15 - 0.50	79.00	66.00	66 - 56 *	56 - 46 *	FCC
0.50 - 5.00	73.00	60.00	56.00	46.00	FCC
5.00 - 30.0	73.00	60.00	60.00	50.00	FCC

Notes:

- (1). The tighter limit applies at the band edges.
- (2). The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

3.1.2 Radiated Emission Limits (Frequency Range 30MHz-1000MHz)

Measurement	Quasi-Peak Mode		Quasi-Pe	Note	
Frequency	Class A	A Limits	Class E	3 Limits	CISPR
Range	(dBu	V/m)	(dBu	V/m)	FCC
(MHz)	10m	30m	10m	3m	Std.
30.00 -230.00	40.00	30.00	30.00	40.00	CISPR
230.0 -1000.0	47.00	37.00	37.00	47.00	CISPR
30.00 - 88.00	39.00	N/A	30.00	40.00	FCC
88.00 - 216.0	43.50	N/A	33.50	43.50	FCC
216.0 -960.0	46.00	N/A	36.00	46.00	FCC
above 960.0	49.50	N/A	46.00	54.00	FCC

Notes:

- (1). The tighter limit applies at the band edges.
- (2). Emission level (dBuV/m)=20log Emission level (uV/m).
- (3). A measuring distance of 10m is a primary used. However, either 3m or 10m (instead of 10m) distance my be allowed. If the distance is 3m, add 10dB to the QP-limit above. If the distance is 10m, subtract 10dB from the QP-limit above.

~			
N = I	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	V <i>EMC</i>	<i>, ,</i>

3.2 Measurement Justification

3.2.1 Conducted Emission

The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and these signals are then Quasi Peak detector mode and Average detector mode re-measured.

Data of **Table - 4**. lists the significant emission frequencies, measured levels, limits and safe margins. All readings are Peak Mode measured unless otherwise stated as QP or AV in column of "Remark".

If the Peak Mode measured value lower than both QP Mode and AV Mode Limit, EUT shall be deemed to compliance with both QP & AV Limits and then no additional QP Mode or AV Mode measurement performed.

If additional QP or AV Mode measurement needed, and if the QP Mode measured value compliance with the QP Mode Limit and lower than AV Mode Limit, the EUT shall be deemed to meet both QP & AV Limits and then only QP Mode was measured, but AV Mode was not performed $^{\circ}$

3.2.2 Radiated Emission

The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.

Data of **Table - 5**. lists the significant emission frequencies, measured levels, limits and safe margins. All readings are Peak Mode measured unless otherwise stated as QP in column of "Remark".

If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.

3.3 Measurement Data

Table - 4. Conducted Emission Data

Table - 5. Radiated Emission Data

Table 4 Conducted Emission Data

EUT: Optical Mouse Model/Type No.: MS201U

Temperature: 27 °C Relative Humidity: 56 % Pressure: 1005 hPa

Special Notes: (EUT Operation Mode or Test Configuration Mode, if applicable)

Mode 1

Minimum passing margin is -20.45dB at 10.45MHz

Freq.	Terminal	Measure	ed(dBuV)	Limits	s(dBuV)	Safe I	Margins
(MHz)	L/N	QP-Mode	AV-Mode	QP-Mode	AV-Mode	(dBuV)	Note
0.16	Line	38.79	*	65.58	55.58	-26.79	(QP)
0.37	Line	29.85	*	58.49	48.49	-28.64	(QP)
0.61	Line	24.87	*	56.00	46.00	-31.13	(QP)
9.35	Line	38.72	*	60.00	50.00	-21.28	(QP)
10.45	Line	39.55	*	60.00	50.00	-20.45	(QP)
21.30	Line	29.65	*	60.00	50.00	-30.35	(QP)
0.16	Neutral	38.58	*	65.58	55.58	-27.00	(QP)
0.31	Neutral	29.36	*	60.02	50.02	-30.66	(QP)
0.37	Neutral	31.02	*	58.41	48.41	-27.39	(QP)
0.58	Neutral	26.28	*	56.00	46.00	-29.72	(QP)
9.15	Neutral	38.72	*	60.00	50.00	-21.28	(QP)
10.55	Neutral	39.28	*	60.00	50.00	-20.72	(QP)

- (1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9KHz ; SPA setting in RBW=10KHz,VBW =10KHz, Swp. Time = 0.3 sec./MHz \circ Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=1MHz,VBW=10Hz, Swp. Time =0.3 sec./MHz \circ
- (2) All readings are QP Mode value unless otherwise stated AVG in column of 『Note』. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform In this case, a " * " marked in AVG Mode column of Interference Voltage Measured •
- (3) Measuring frequency range from 150KHz to 30MHz o

Table 4 Conducted Emission Data

EUT: Optical Mouse Model/Type No.: MS201U

Temperature : 27 °C Relative Humidity : 56 % Pressure : 1005 hPa

Special Notes: (EUT Operation Mode or Test Configuration Mode, if applicable)

Mode 2

Minimum passing margin is -19.87dB at 10.4MHz

Freq.	Terminal	Measure	ed(dBuV)	Limits	s(dBuV)	Safe I	Margins
(MHz)	L/N	QP-Mode	AV-Mode	QP-Mode	AV-Mode	(dBuV)	Note
0.15	Line	39.51	*	65.77	55.77	-26.26	(QP)
0.37	Line	30.10	*	58.49	48.49	-28.39	(QP)
0.58	Line	25.51	*	56.00	46.00	-30.49	(QP)
9.25	Line	38.46	*	60.00	50.00	-21.54	(QP)
10.40	Line	40.13	*	60.00	50.00	-19.87	(QP)
22.55	Line	29.13	*	60.00	50.00	-30.87	(QP)
0.15	Neutral	40.19	*	65.85	55.85	-25.66	(QP)
0.19	Neutral	33.41	*	64.16	54.16	-30.75	(QP)
0.31	Neutral	29.72	*	59.94	49.94	-30.22	(QP)
0.37	Neutral	30.00	*	58.54	48.54	-28.54	(QP)
0.58	Neutral	26.43	*	56.00	46.00	-29.57	(QP)
9.35	Neutral	39.10	*	60.00	50.00	-20.90	(QP)

- (1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9KHz; SPA setting in RBW=10KHz,VBW =10KHz, Swp. Time = 0.3 sec./MHz $^\circ$ Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=1MHz,VBW=10Hz, Swp. Time =0.3 sec./MHz $^\circ$
- (2) All readings are QP Mode value unless otherwise stated AVG in column of 『Note』. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform In this case, a " * " marked in AVG Mode column of Interference Voltage Measured •
- (3) Measuring frequency range from 150KHz to 30MHz o

Table 5 Radiated Emission Data

EUT: Optical Mouse Model/Type No.: MS201

Temperature : 27 °C Relative Humidity : 74 % Pressure : 1018 hPa

Special Notes: (EUT Operation Mode or Test Configuration Mode, if applicable)

Mode 1

Minimum passing margin is -2.81dB at 129.98MHz

Freq.	Ant.	Reading(RA)	Corr.Factor(CF)	Measured(FS)	Limits(QP)	Safe M	largins
(MHz)	H/V	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Note
114.42	V	30.50	- 7.84	22.66	30.00	- 7.34	(QP)
115.60	Н	31.05	- 7.75	23.30	30.00	- 6.70	
129.98	V	34.05	- 6.86	27.19	30.00	- 2.81	
160.03	V	30.65	- 5.51	25.14	30.00	- 4.86	
191.60	Н	28.35	- 8.15	20.20	30.00	- 9.80	
199.70	Н	33.27	- 8.76	24.51	30.00	- 5.49	
499.50	Н	26.92	0.18	27.10	37.00	- 9.90	
533.10	Н	29.00	1.00	30.00	37.00	- 7.00	
567.00	Н	27.52	1.80	29.32	37.00	- 7.68	
728.42	V	28.30	4.63	32.93	37.00	- 4.07	
761.25	V	28.27	5.16	33.43	37.00	- 3.57	
865.00	V	26.62	6.74	33.36	37.00	- 3.64	

- (1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz ; SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = $0.3 \text{ sec./MHz} \circ$
- (2) All readings are Peak unless otherwise stated QP in column of $^{\mathbb{F}}$ Note $_{\mathbb{J}}$. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measure-ment didn't perform $_{\circ}$
- (3) Measuring frequency range from 30MHz to 1000MHz o
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not how in table \circ

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Table 5 Radiated Emission Data

EUT: Optical Mouse Model/Type No.: MS201

Temperature: 27 °C Relative Humidity: 74 % Pressure: 1018 hPa

Special Notes: (EUT Operation Mode or Test Configuration Mode, if applicable)

Mode 2

Minimum passing margin is -5.31dB at 114.9MHz

Freq.	Ant.	Reading(RA)	Corr.Factor(CF)	Measured(FS)	Limits(QP)	Safe M	argins
(MHz)	H/V	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Note
42.62	V	30.45	- 7.63	22.82	30.00	- 7.18	
114.90	Н	32.50	- 7.81	24.69	30.00	- 5.31	
117.97	V	31.70	- 7.56	24.14	30.00	- 5.86	
209.82	V	30.37	- 8.43	21.94	30.00	- 8.06	
210.50	Н	30.35	- 8.39	21.96	30.00	- 8.04	
228.30	Н	27.30	- 7.64	19.66	30.00	- 10.34	
462.60	V	26.32	- 0.69	25.63	37.00	- 11.37	
480.30	Н	26.00	- 0.27	25.73	37.00	- 11.27	
496.70	Н	26.82	0.11	26.93	37.00	- 10.07	
533.70	Н	28.07	1.02	29.09	37.00	- 7.91	
600.70	V	25.55	2.56	28.11	37.00	- 8.89	
661.80	V	25.32	3.44	28.76	37.00	- 8.24	

- (1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz ; SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz $^{\circ}$
- (2) All readings are Peak unless otherwise stated QP in column of $^{\mathbb{F}}$ Note $_{\mathbb{F}}$. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measure-ment didn't perform $_{\circ}$
- (3) Measuring frequency range from 30MHz to 1000MHz o
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not how in table \circ

NEL	ITPI	OM	FM	ıcı	ΔR

Attachment

Table Contents

- A. EUT Test Photos
- B. Product Labeling

NEL	ITPI	OM	FM	ıcı	ΔR

Attachment - A.

EUT Test Photos

- 1. Conducted Measurement Photos
- 2. Radiated Measurement Photos

NEUTRON EMC LAB.	

Attachment – B.

Product Labeling