



EN 300440-1 /EN 300440-2 TEST REPORT

On Behalf of

Cho-Liang Thermal Tech Co.,Ltd

2.4GHz Wireless Optical Mouse

Model No.: CNE-CMSW1X, CAMW-01X

Prepared for : Cho-Liang Thermal Tech Co.,Ltd
Address : 5F-3, NO.14, Lane 609, Sec.5, Chung Hsin Rd., San Chung City, Taipei
County, Taiwan.R.O.C.

Prepared By : Shenzhen Alpha Product Testing Co., Ltd.
Address : Building B, East Area of Nanchang Second Industrial Zone,
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DECLARATION

Applicant : Cho-Liang Thermal Tech Co.,Ltd

Manufacturer : Guangzhou Boda Electronic Equipment Co.,Ltd

Product : 2.4GHz Wireless Optical Mouse

(A) Model No. : CNE-CMSW1X, CAMW-01X

(B) DIFF : All model's the function, software and electric circuit are the same, only the name is different, so all the test were performed on the model CNE-CMSW1X

(C) Trade Name : N/A

(D) Testing supply : DC 3.0V From Battery For Mouse; DC 5V From USB For USB Dongle

Measurement Procedure Used:

ETSI EN 300440-1V1.6.1: 2010/EN 300440-2V1.4.1: 2010

Electromagnetic compatibility and Radio spectrum Matters (ERM);

Short range devices; Radio equipment to be used in the 1 GHz to 40 GHz frequency range;

The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. The measurement results are contained in this test report is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the European Standard

ETSI EN 300440-1V1.6.1:2010/EN 300440-2V1.4.1: 2010 under R&TTE Directive 1999/5/EC requirement.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Tested by (name + signature).....:

Store Chu
Test Engineer

Approved by (name + signature).....:

Simple Guan
Project Manager

Date of issue.....

May 07,2015



1. General Information

1.1. Description of Device (EUT)

EUT Name : 2.4GHz Wireless Optical Mouse

Trade Name : N/A

Model No. : CNE-CMSW1X, CAMW-01X

DIFF : All model's the function, software and electric circuit are the same, only the appearance is different, so all the test were performed on the model CNE-CMSW1X

Operation frequency : CH Low: 2405MHz;
CH Middle: 2448MHz;
CH High: 2472MHz;

Channel number : 3

Modulation : GFSK

Antenna Type : Integral antenna, Maximum Gain: 0dBi

Applicant : Cho-Liang Thermal Tech Co.,Ltd

Address : 5F-3, NO.14, Lane 609, Sec.5, Chung Hsin Rd., San Chung City, Taipei County, Taiwan.R.O.C.

Manufacturer : Guangzhou Boda Electronic Equipment Co.,Ltd

Address : 4 Xiajiyuanyi Road, Xindun Avenue, XinDun Village.Xintang District, GZ, PRC

Sample Type : Prototype production

1.2. Description of Test Facility

1.2.1 Laboratory Name

Shenzhen Alpha Product Testing Co., Ltd.

1.2.2 Location

Building B, East Area of Nanchang Second Industrial Zone,
Gushu 2nd Road, Bao'an District, Shenzhen 518126, P.R. China

1.2.3 Test facility

August 11, 2014 File on Federal Communication Commission
Registration Number: 203110

July 18, 2014 Certificated by IC
Registration Number: 12135A

2. Summary of test

2.1 Summary of Measurement

Test Items	Standard	Clause No.	Result
Equivalent isotropically radiated power	EN300440-2V1.4.1	4.2.1.1	PASS
Permitted range of operating frequencies	EN300440-2V1.4.1	4.2.1.2	PASS
Unwanted emissions in the spurious domain	EN300440-2V1.4.1	4.2.1.3	PASS
Duty cycle	EN300440-2V1.4.1	4.2.1.4	Not applicable
Additional requirements for FHSS equipment	EN300440-1V1.6.1	7.5	Not applicable
Receiver spurious	EN300440-2V1.4.1	4.2.2.3	PASS

NOTE: The test software “Art.exe” was used to control EUT work in Continuous TX mode, and select test channel and wireless mode .

Mode	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
GFSK	CH1	2405	CH2	2448	CH3	2472

2.2 Assistant equipment used for test

Description	:	Notebook
Manufacturer	:	ACER
Model No.	:	ZQT

2.3 Block Diagram

Mouse

USB Dongle Notebook

3. Technical Requirements Specifications

3.1 Equivalent isotropically radiated power

3.1.1 Test Limit

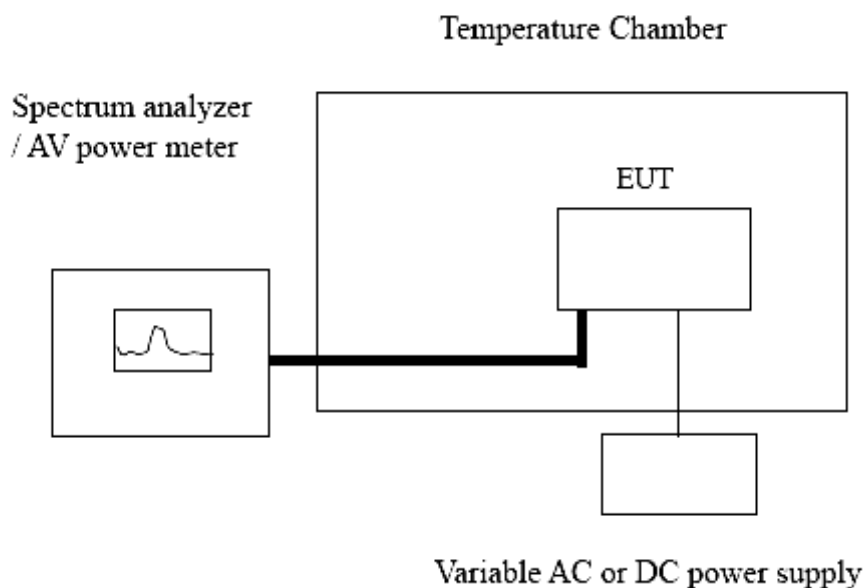
The transmitter maximum e.i.r.p. under normal and extreme test conditions shall not exceed the values given in table 4.

Table 4: Maximum radiated peak power (e.i.r.p.)

Frequency Bands	Power	Application	Notes
2 400 MHz to 2 483,5 MHz	10 mW e.i.r.p.	Generic use	
2 400 MHz to 2 483,5 MHz	25 mW e.i.r.p.	Detection, movement and alert applications	
(a) 2 446 MHz to 2 454 MHz	500 mW e.i.r.p.	RFID	See also table 6 and annex C
(b) 2 446 MHz to 2 454 MHz	4 W e.i.r.p.	RFID	See also table 6 and annex C
5 725 MHz to 5 875 MHz	25 mW e.i.r.p.	Generic use	
9 200 MHz to 9 500 MHz	25 mW e.i.r.p.	Radiodetermination: radar, detection, movement and alert applications	
9 500 MHz to 9 975 MHz	25 mW e.i.r.p.	Radiodetermination: Radar, detection, movement and alert applications	
10,5 GHz to 10,6 GHz	500 mW e.i.r.p.	Radiodetermination: Radar, detection, movement and alert applications	
13,4 GHz to 14,0 GHz	25 mW e.i.r.p.	Radiodetermination: Radar, detection, movement and alert applications	
17,1 GHz to 17,3 GHz	400 mW e.i.r.p.	Radiodetermination: GBSAR detection, movement and alert applications	See annex E
24,00 GHz to 24,25 GHz	100 mW e.i.r.p.	Generic use and Radiodetermination: radar, detection, movement and alert applications	

3.1.2 Test Setup

See the next page.



3.1.3 Test Procedure

For more details, please see the EN 300 440-1 V1.6.1: 2010 clause 7.1.2.

Please see the EN 300 440-1 V1.6.1: 2010 clause 5 for the test conditions

3.1.4 Test Results

Test Conditions		TX Mode For Mouse		
		Low Channel (2405MHz)	Middle Channel (2448MHz)	High Channel (2472MHz)
Temp (-20°C)	Vmin= 2.6V	PK=-11.10dBm	PK=-11.28dBm	PK=-11.68dBm
	Vmax= 3.5V	PK=-11.02dBm	PK=-11.37dBm	PK=-11.76dBm
Temp (25°C)	Vnom=3.0V	PK=-10.98dBm	PK=-11.16dBm	PK=-11.80dBm
Temp (55°C)	Vmin= 2.6V	PK=-11.03dBm	PK=-11.41dBm	PK=-11.83dBm
	Vmax= 3.5V	PK=-10.97dBm	PK=-11.30dBm	PK=-11.77dBm

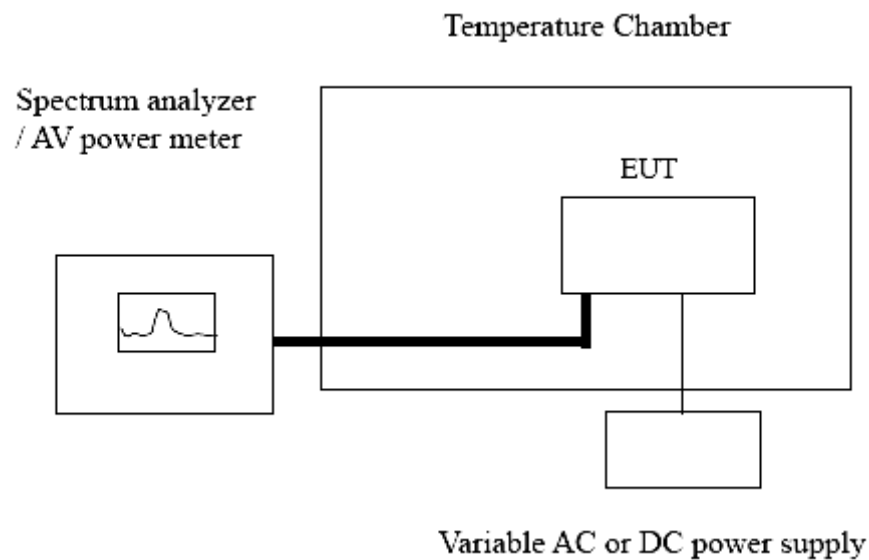
Test Conditions		TX Mode For USB Dongle		
		Low Channel (2405MHz)	Middle Channel (2448MHz)	High Channel (2472MHz)
Temp (-20°C)	Vmin= 4.3V	PK=-12.11dBm	PK=-12.20dBm	PK=-12.60dBm
	Vmax= 5.8V	PK=-12.05dBm	PK=-12.17dBm	PK=-12.66dBm
Temp (25°C)	Vnom=5.0V	PK=-11.92dBm	PK=-12.08dBm	PK=-12.53dBm
Temp (55°C)	Vmin= 4.3V	PK=-12.05dBm	PK=-12.21dBm	PK=-12.45dBm
	Vmax= 5.8V	PK=-11.93dBm	PK=-11.99dBm	PK=-12.71dBm

3.2 Frequency Range

3.2.1 Limit

For all equipment the frequency range shall lie within the band 2,4 GHz to 2,4835 GHz ($f_L > 2.4\text{GHz}$ and $f_H < 2.4835\text{GHz}$).

3.2.2 Test Setup



3.2.3 Test Procedure

See subclause 5.3&5.4 of ETSI EN 300 440-1V1.6.1 for the test conditions

See Subclause 7.2.2 of ETSI EN 300 440-1V1.6.1 for conducted measurement method.

3.2.4 Frequency Range Test Results

For Mouse:

Test Conditions		Frequency (MHz)	
Temperature (°C)	Voltage (V AC)	TX mode	
		Lowest	Highest
-20	V _{min} = 2.6V	2405.79	2471.82
	V _{max} = 3.5V	2405.63	2471.77
25	V _{nom} =3.0V	2405.92	2471.90
55	V _{min} = 2.6V	2405.85	2471.83
	V _{max} = 3.5V	2405.80	2471.91
Measured Frequencies		2405	2472
Limit		2400.0000MHz	2483.5000MHz
Measurement Uncertainty		+/-120kHz	

For USB Dongle:

Test Conditions		Frequency (MHz)	
Temperature (°C)	Voltage (V AC)	TX mode	
		Lowest	Highest
-20	Vmin= 4.3V	2405.82	2471.79
	Vmax= 5.8V	2405.68	2471.76
25	Vnom=5.0V	2405.96	2471.80
55	Vmin= 4.3V	2405.76	2471.85
	Vmax= 5.8V	2405.78	2471.88
Measured Frequencies		2405	2472
Limit		2400.0000MHz	2483.5000MHz
Measurement Uncertainty		+/-120kHz	

3.3 Transmitter Spurious Emission

3.3.1 Limit

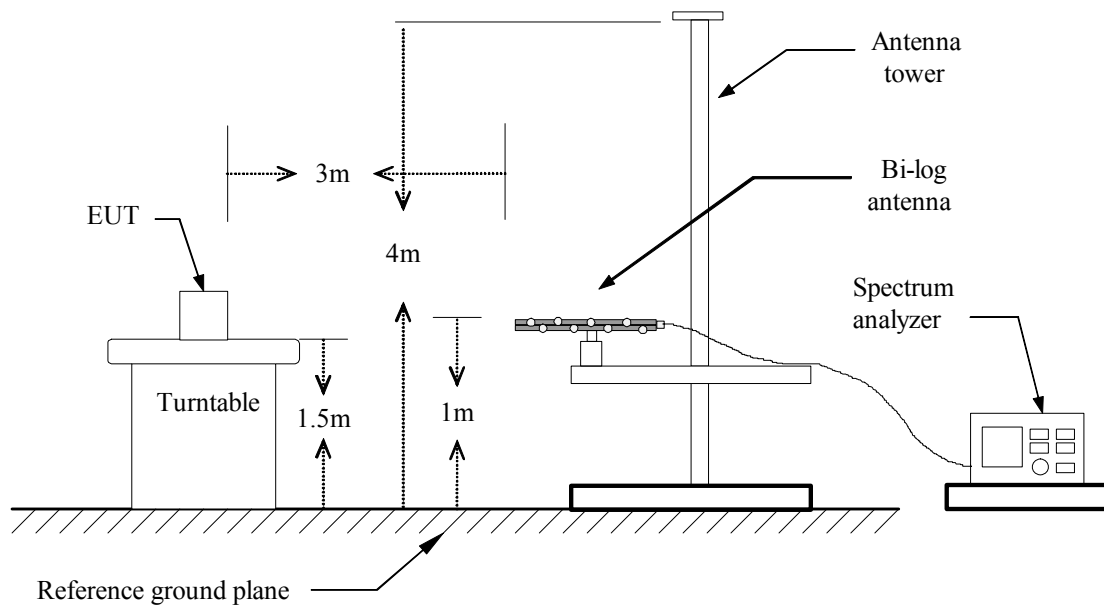
ETSI EN 300 440-1 (V.1.6.1) Sub-clause 7.3.6

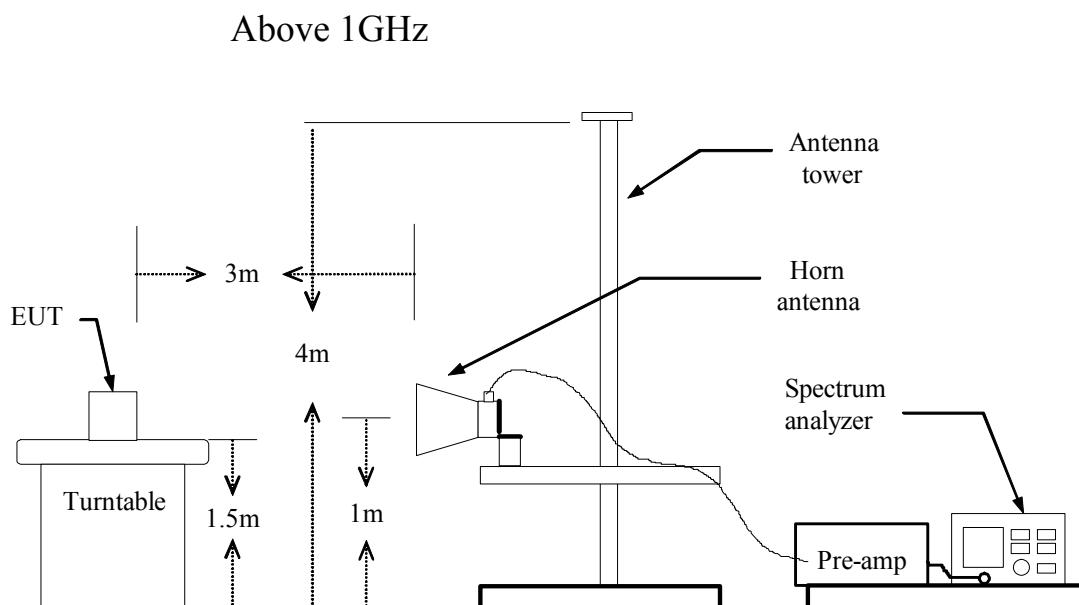
The power of any spurious emission, conducted or radiated, shall not exceed the following values given below:

State	47MHz-74MHz 87.5MHz-118 MHz 174 MHz -230 MHz 470 MHz -862 MHz	Other frequencies <=1000MHz	Frequencies > 1000MHz
Operating	4nW/-54dBm	250nW/-36dBm	1μW/-30dBm
Standby	2nW/-57dBm	2nW/-57dBm	20nW/-47dBm

3.3.2 Test Setup

Below 1GHz





3.3.3 Test Procedure

Please refer to ETSI EN 300 440-1 (V.1.6.1) Sub-clause 7.3.4

3.3.4 Test Result

PASS

For more details, Please see the next page.

Operation Mode: TX mode for mouse **Test Date:** 2015-05-05
Temperature: 24°C **Tested by:** Store
Humidity: 63 % RH **Polarity:** Ver. / Hor.
Channel Low **Power** DC 3V From battery

Frequency (MHz)	Reading level (dBm)	Antenna Polarization	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
70.85	-66.25	V	0.71	0.64	-64.9	-54.00	-10.9
181.68	-65.17	V	0.82	1.32	-63.03	-54.00	-9.03
247.39	-55.30	V	1.36	6.26	-47.68	-36.00	-11.68
318.16	-54.59	V	1.47	6.47	-46.65	-36.00	-10.65
391.57	-54.62	H	0.52	0.92	-53.18	-36.00	-17.18
464.09	-55.05	H	0.83	1.27	-52.95	-36.00	-16.95
591.76	-68.81	H	1.24	5.72	-61.85	-54.00	-7.85
772.38	-66.73	H	1.37	6.31	-59.05	-54.00	-5.05

Notes: -- below 1G

EUT: 2.4GHz Wireless Optical Mouse			M/N:CNE-CMSW1X		
Power: DC 3.0V From battery.					
Test Date: 2015-05-05		Test site: RF Site Low			Tested by: Store
Ambient Temperature: 24℃		Relative Humidity: 63%			
Test result					
Test Mode: 2405MHz					
Frequency (MHz)	Antenna polarization	Result (dBm)	Limit (dBm)	Margin (dB)	Conclusion
1396	H	-46.07	-30	-16.07	PASS
2191	H	-45.38	-30	-15.38	PASS
3583	H	-45.24	-30	-15.24	PASS
4810	H	-39.37	-30	-9.37	PASS
1383	V	-45.16	-30	-15.16	PASS
2199	V	-45.08	-30	-15.08	PASS
3588	V	-46.70	-30	-16.70	PASS
4810	V	-40.48	-30	-10.48	PASS

Notes: -- above 1G

Operation Mode: TX mode for mouse **Test Date:** 2015-05-05
Temperature: 24°C **Tested by:** Store
Humidity: 63 % RH **Polarity:** Ver. / Hor.
Channel Middle **Power** DC 3.0V From battery

Frequency (MHz)	Reading level (dBm)	Antenna Polarization	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
286.74	-49.72	V	0.62	0.46	-48.64	-36.00	-12.64
525.31	-66.53	V	1.24	0.82	-64.47	-54.00	-10.47
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322.95	-52.20	H	0.54	0.53	-51.13	-36.00	-15.13
626.28	-69.56	H	1.42	4.64	-63.50	-54.00	-9.50
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Notes: -- below 1G

EUT: 2.4GHz Wireless Optical Mouse			M/N:CNE-CMSW1X		
Power: DC 3.0V From battery.					
Test Date: 2015-05-05		Test site: RF Site Middle		Tested by: Store	
Ambient Temperature: 24℃		Relative Humidity: 63%			
Test result					
Test Mode: 2448MHz					
Frequency (MHz)	Antenna polarization	Result (dBm)	Limit (dBm)	Margin (dB)	Conclusion
1369	H	-46.37	-30	-16.37	PASS
2248	H	-47.52	-30	-17.52	PASS
3285	H	-46.44	-30	-16.44	PASS
4896	H	-41.28	-30	-11.28	PASS
1356	V	-46.18	-30	16.18	PASS
2219	V	-46.20	-30	16.20	PASS
3281	V	-47.40	-30	17.40	PASS
4896	V	-40.53	-30	10.53	PASS

Notes: -- above 1G

Operation Mode:	TX mode for mouse	Test Date:	2015-05-05
Temperature:	24°C	Tested by:	Store
Humidity:	63 % RH	Polarity:	Ver. / Hor.
Channel	High	Power	DC 3.0V From battery

Frequency (MHz)	Reading level (dBm)	Antenna Polarization	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
373.82	-49.28	V	0.53	0.46	-49.35	-36.00	-13.35
671.65	-69.30	V	1.38	5.95	-64.73	-54.00	-10.73
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295.22	-50.71	H	0.74	0.57	-50.88	-36.00	-14.88
719.04	-70.82	H	1.42	6.45	-65.79	-54.00	-11.79
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Notes: -- below 1G

EUT: 2.4GHz Wireless Optical Mouse			M/N:CNE-CMSW1X		
Power: DC 3.0V From battery.					
Test Date: 2015-05-05		Test site: RF Site High		Tested by: Store	
Ambient Temperature: 24℃		Relative Humidity: 63%			
Test result					
Test Mode: 2472MHz					
Frequency (MHz)	Antenna polarization	Result (dBm)	Limit (dBm)	Margin (dB)	Conclusion
1421	H	-45.79	-30	-15.79	PASS
2576	H	-44.82	-30	-14.82	PASS
3779	H	-45.26	-30	-15.26	PASS
4960	H	-41.31	-30	-11.31	PASS
1428	V	-45.52	-30	-15.52	PASS
2583	V	-44.97	-30	-14.97	PASS
3784	V	-45.08	-30	-15.08	PASS
4960	V	-42.12	-30	-12.12	PASS

Notes: -- above 1G

Operation Mode: TX mode for USB Dongle **Test Date:** 2015-05-05
Temperature: 24°C **Tested by:** Store
Humidity: 63 % RH **Polarity:** Ver. / Hor.
Channel Low **Power** DC 5.0V From PC

Frequency (MHz)	Reading level (dBm)	Antenna Polarization	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
70.85	-65.23	V	0.71	0.64	-63.88	-54.00	-9.88
181.68	-66.08	V	0.82	1.32	-63.94	-54.00	-9.94
247.39	-56.52	V	1.36	6.26	-48.90	-36.00	-12.9
318.16	-56.04	V	1.47	6.47	-48.10	-36.00	-12.1
391.57	-55.69	H	0.52	0.92	-54.25	-36.00	-18.25
464.09	-55.71	H	0.83	1.27	-53.61	-36.00	-17.61
591.76	-69.28	H	1.24	5.72	-62.32	-54.00	-8.32
772.38	-67.70	H	1.37	6.31	-60.02	-54.00	-6.02

Notes: -- below 1G

EUT: 2.4GHz Wireless Optical Mouse			M/N:CNE-CMSW1X		
Power: DC 5.0V From PC					
Test Date: 2015-05-05		Test site: RF Site Low			Tested by: Store
Ambient Temperature: 24℃		Relative Humidity: 63%			
Test result					
Test Mode: 2405MHz					
Frequency (MHz)	Antenna polarization	Result (dBm)	Limit (dBm)	Margin (dB)	Conclusion
1396	H	-47.38	-30	-17.38	PASS
2191	H	-46.30	-30	-16.30	PASS
3583	H	-45.95	-30	-15.95	PASS
4810	H	-40.82	-30	-10.82	PASS
1383	V	-46.63	-30	-16.63	PASS
2199	V	-47.15	-30	-17.15	PASS
3588	V	-46.75	-30	-16.75	PASS
4810	V	-42.40	-30	-12.40	PASS

Notes: -- above 1G

Operation Mode: TX mode for USB Dongle **Test Date:** 2015-05-05
Temperature: 24°C **Tested by:** Store
Humidity: 63 % RH **Polarity:** Ver. / Hor.
Channel Middle **Power** DC 5.0V From PC

Frequency (MHz)	Reading level (dBm)	Antenna Polarization	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
286.74	-50.87	V	0.62	0.46	-49.79	-36.00	-13.79
525.31	-67.52	V	1.24	0.82	-65.46	-54.00	-11.46
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322.95	-54.14	H	0.54	0.53	-53.07	-36.00	-17.07
626.28	-70.55	H	1.42	4.64	-64.49	-54.00	-10.49
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Notes: -- below 1G

EUT: 2.4GHz Wireless Optical Mouse			M/N:CNE-CMSW1X		
Power: DC 5.0V From PC .					
Test Date: 2015-05-05		Test site: RF Site Middle		Tested by: Store	
Ambient Temperature: 24℃		Relative Humidity: 63%			
Test result					
Test Mode: 2448MHz					
Frequency (MHz)	Antenna polarization	Result (dBm)	Limit (dBm)	Margin (dB)	Conclusion
1369	H	-47.82	-30	-17.82	PASS
2248	H	-48.43	-30	-18.43	PASS
3285	H	-47.41	-30	-17.41	PASS
4896	H	-42.20	-30	-12.20	PASS
1356	V	-47.31	-30	-17.31	PASS
2219	V	-47.26	-30	-17.26	PASS
3281	V	-48.08	-30	-18.08	PASS
4896	V	-41.54	-30	-11.54	PASS

Notes: -- above 1G

Operation Mode: TX mode for USB Dongle **Test Date:** 2015-05-05
Temperature: 24°C **Tested by:** Store
Humidity: 63 % RH **Polarity:** Ver. / Hor.
Channel High **Power** DC 5.0V From PC

Frequency (MHz)	Reading level (dBm)	Antenna Polarization	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
373.82	-50.64	V	0.53	0.46	-50.71	-36.00	-14.71
671.65	-70.32	V	1.38	5.95	-65.75	-54.00	-11.75
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295.22	-51.78	H	0.74	0.57	-51.95	-36.00	-15.95
719.04	-71.16	H	1.42	6.45	-66.13	-54.00	-12.13
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Notes: -- below 1G

EUT: 2.4GHz Wireless Optical Mouse			M/N:CNE-CMSW1X		
Power: DC 5.0V From PC .					
Test Date: 2015-05-05		Test site: RF Site High		Tested by: Store	
Ambient Temperature: 24℃		Relative Humidity: 63%			
Test result					
Test Mode: 2472MHz					
Frequency (MHz)	Antenna polarization	Result (dBm)	Limit (dBm)	Margin (dB)	Conclusion
1421	H	-47.70	-30	-17.70	PASS
2576	H	-46.83	-30	-16.83	PASS
3779	H	-47.15	-30	-17.15	PASS
4960	H	-42.93	-30	-12.93	PASS
1428	V	-46.74	-30	-16.74	PASS
2583	V	-46.92	-30	-16.92	PASS
3784	V	-47.18	-30	-17.18	PASS
4960	V	-43.10	-30	-13.10	PASS

Notes: -- above 1G

Operation Mode: Standby**Test Date:** 2015-05-05**Temperature:** 24°C**Tested by:** Store**Humidity:** 63 % RH**Polarity:** Ver. / Hor.**Channel** Low, Middle, High **Power** DC 3.0V From battery; DC 5.0V From PC

Frequency (MHz)	Reading level (dBm)	Antenna Polarization	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
247.58	-74.50	V	0.93	0.81	-72.76	-57.00	-15.76
696.13	-73.66	V	1.87	6.25	-65.54	-57.00	-8.54
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342.17	-71.50	H	0.72	0.82	-69.96	-57.00	-12.96
711.46	-74.72	H	1.40	6.39	-66.93	-57.00	-9.93
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Notes: -- below 1G

EUT: 2.4GHz Wireless Optical Mouse						M/N:CNE-CMSW1X					
Power: DC 3.0V From battery; DC 5.0V From PC											
Test Date: 2015-05-05				Test site: RF Site Standby				Tested by: Store			
Ambient Temperature: 24℃				Relative Humidity: 63%							
Test result											
Test Mode: Standby											
Frequency (MHz)		Antenna polarization	Result (dBm)		Limit (dBm)		Margin (dB)		Conclusion		
1569		H	-61.62		-47		-14.62		PASS		
2372		H	-58.70		-47		-11.70		PASS		
3166		H	-59.03		-47		-12.03		PASS		
4892		H	-58.85		-47		-11.85		PASS		
1581		V	-60.26		-47		-13.26		PASS		
2362		V	-59.74		-47		-12.74		PASS		
3157		V	-59.63		-47		-12.63		PASS		
4896		V	-58.82		-47		-11.82		PASS		

Notes: -- above 1G

--Means other frequency have enough margin.

Emission Level=Reading Level-Cable loss+ Ant.Gain

3.4 Receive Spurious Emission

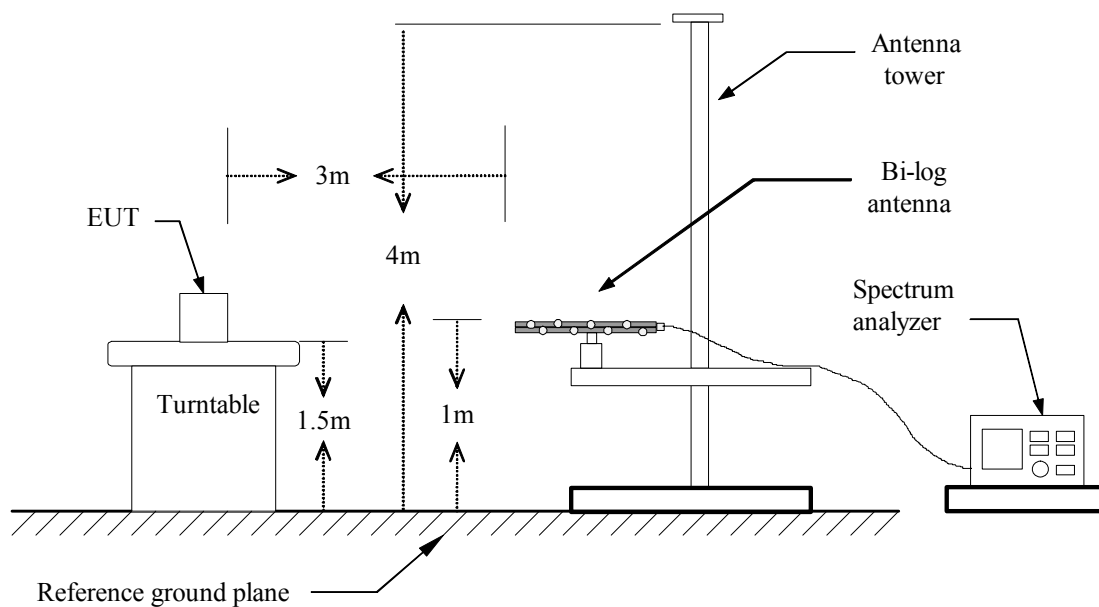
3.4.1 Limit

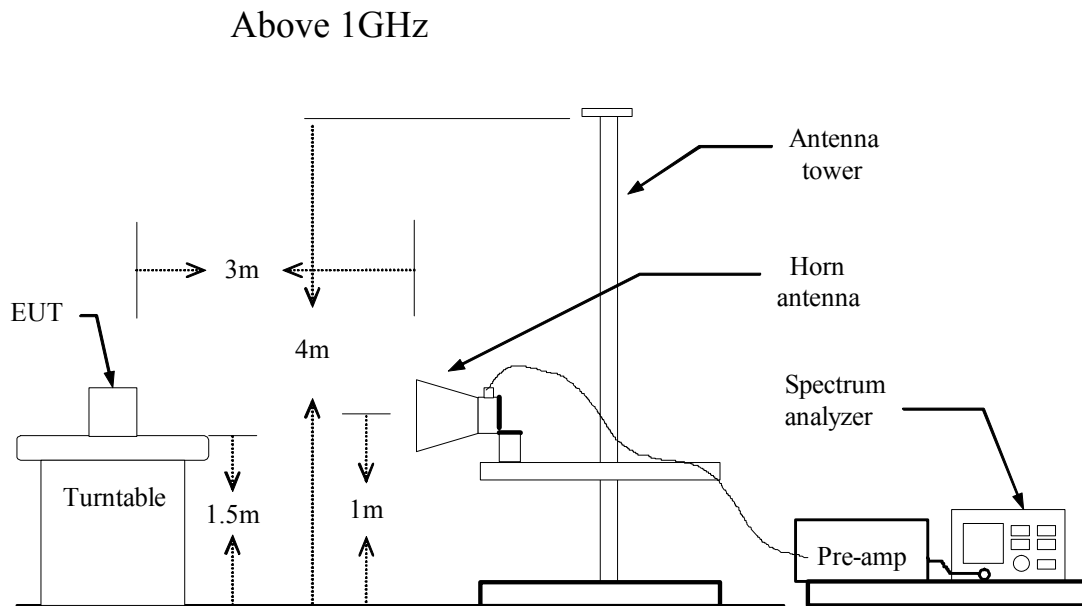
Please refer to ETSI EN 300 440-1 (V.1.6.1) Sub-clause 8.3.3

The power of any spurious emission shall not exceed $2\text{nW}(-57\text{dBm})$ in the range 25MHz to 1GHz and shall not exceed $20\text{nW}(-47\text{dBm})$ on frequencies above 1GHz.

3.4.2 Test Setup

Below 1GHz





3.4.3 Test Procedure

Please refer to ETSI EN 300 440-1 (V.1.6.1) Sub-clause 8.3.3

3.4.4 Test Result

PASS

For more details, Please see the next page.

Receive Spurious emissions							
EUT: 2.4GHz Wireless Optical Mouse				M/N: CNE-CMSW1X			
Power: DC 3.0V From Battery; DC 5.0V From PC							
Test Date: 2015.05.05		Test site: RF Site		Tested by: Store			
Ambient Temperature: 24℃		Relative Humidity: 63%					
Test Mode: Rx in CH Low 2405MHz							
Frequency (MHz)	Antenna polarization	SG level (dBm)	Cable loss (dB)	Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
161.59	H	-71.85	1.7	2.9	-72.8	-57	15.80
430.16	H	-71.93	2.66	7.5	-69.24	-57	12.24
2026	H	-61.46	5.4	7.4	-61.61	-47	14.61
2413	H	-61.05	6.03	7.7	-61.53	-47	14.53
161.59	V	-72.44	1.7	2.9	-73.39	-57	16.39
430.16	V	-73.18	2.66	7.5	-70.49	-57	13.49
2026	V	-64.25	5.4	7.4	-64.4	-47	17.40
2413	V	-62.77	6.03	7.7	-63.25	-47	16.25
Test Mode: Rx in CH High 2472MHz							
161.59	H	-72.33	1.7	2.9	-73.28	-57	16.28
430.16	H	-71.89	2.66	7.5	-69.2	-57	12.20
2026	H	-62.25	5.4	7.4	-62.4	-47	15.40
2413	H	-62.45	6.03	7.7	-62.93	-47	15.93
161.59	V	-72.01	1.7	2.9	-72.96	-57	15.96
430.16	V	-72.18	2.66	7.5	-69.49	-57	12.49
2026	V	-61.39	5.4	7.4	-61.54	-47	14.54
2413	V	-61.81	6.03	7.7	-62.29	-47	15.29
Note: Result =SG Level – Cable loss + Antenna Gain – 2.15							

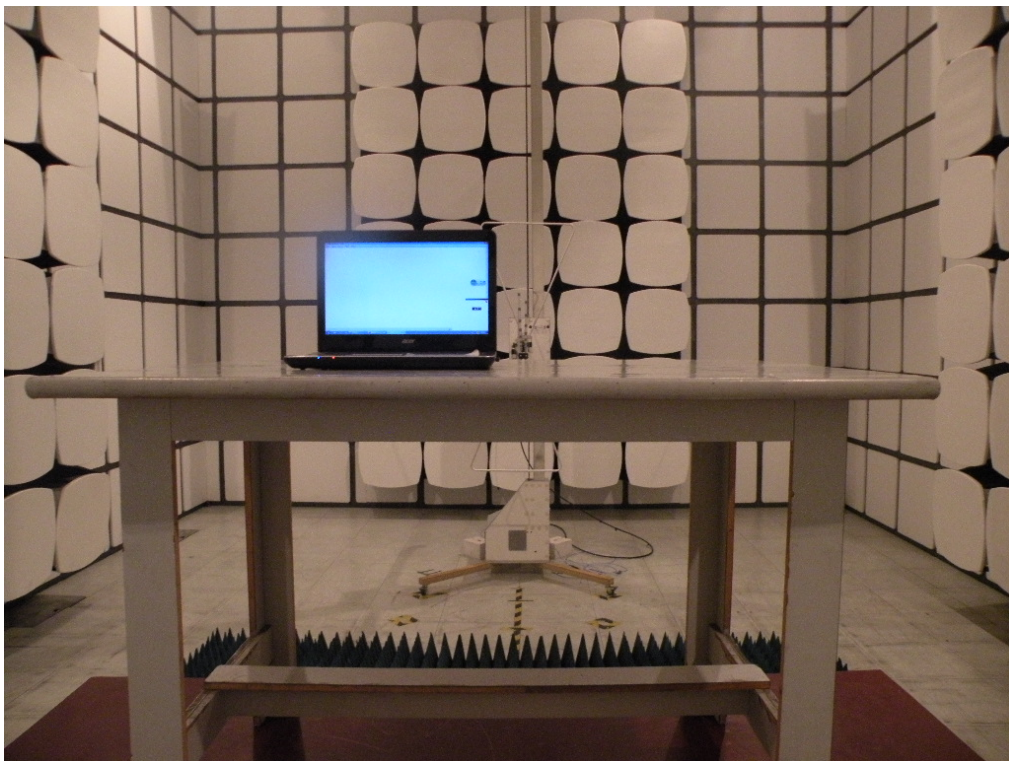
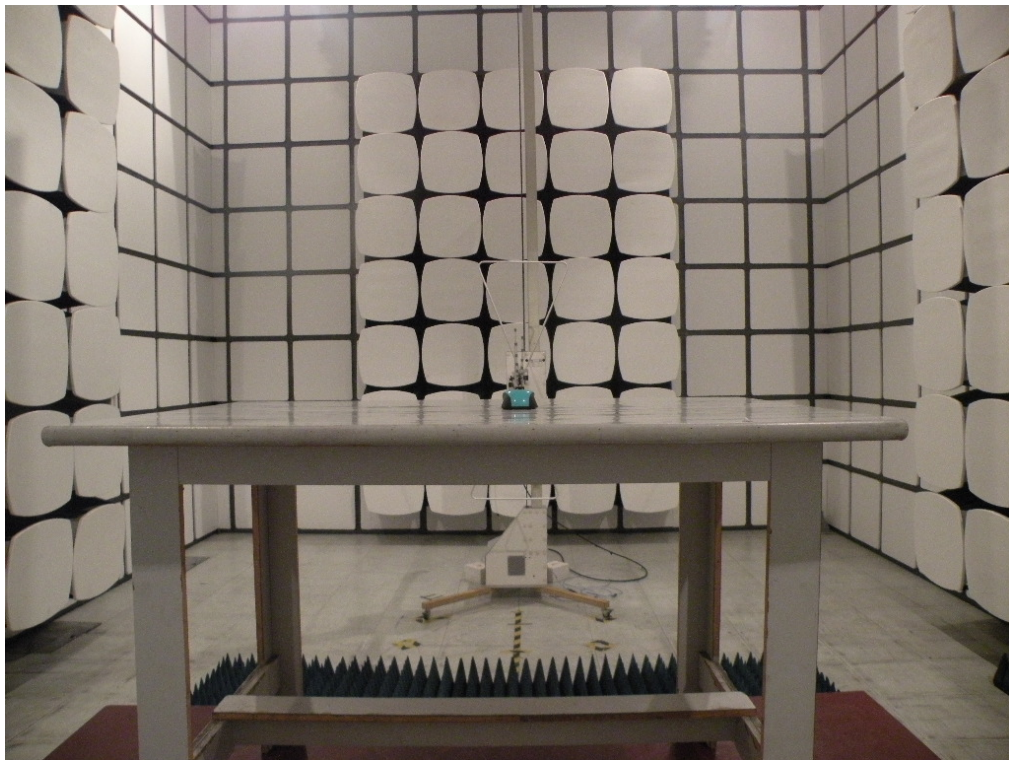
Appendix I

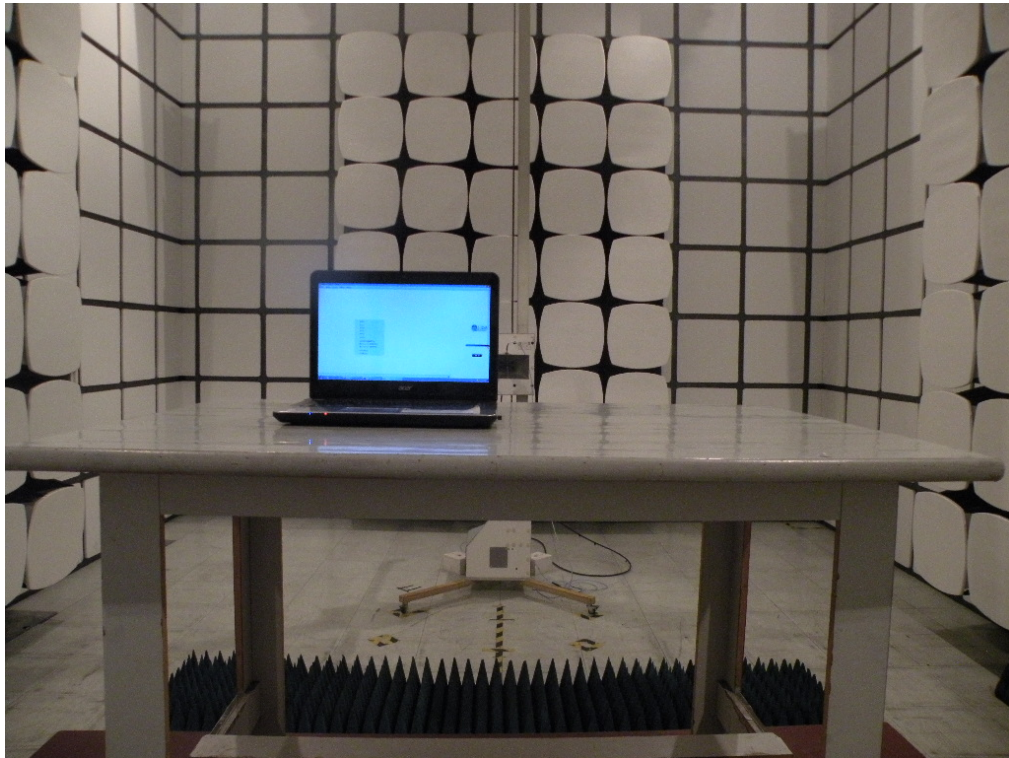
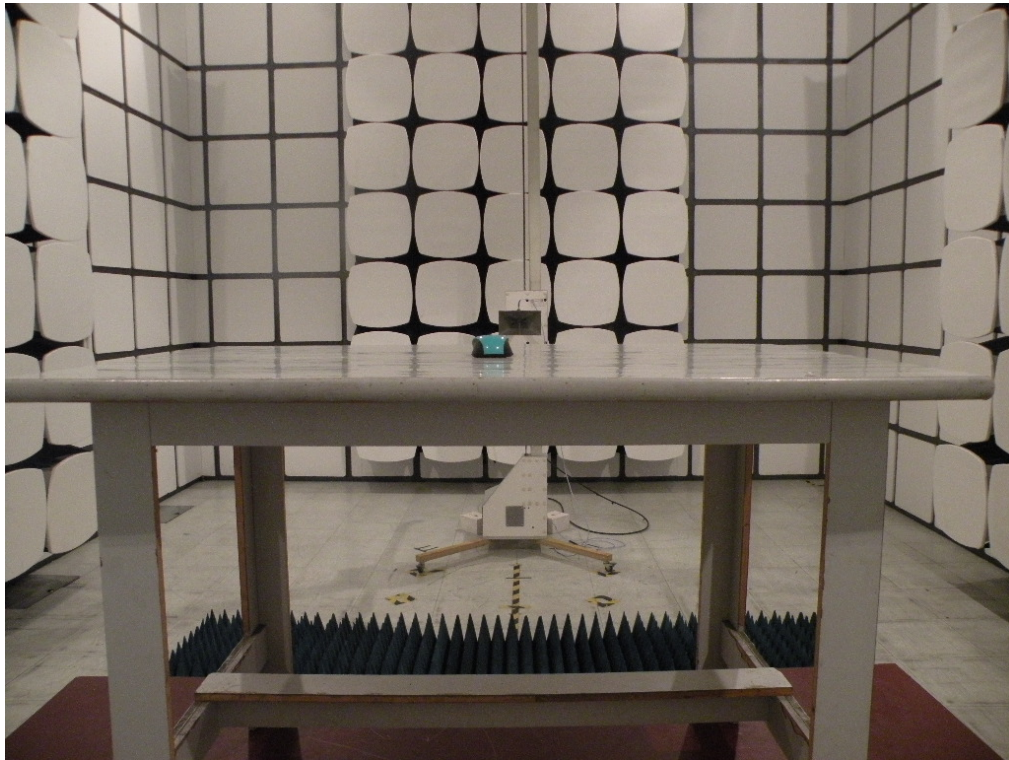
List of Equipment Used During Test

Equipment	Manufacture	Model No.	Serial No.	Cal. Due day	Cal Interval
3m Semi-Anechoic	CHENYU	9*6*6	N/A	2017.01.19	3Year
Spectrum analyzer	Agilent	E4407B	MY49510055	2016.01.19	1Year
Temperature Chamber	TERCHY	MHG-120LF	911009	2016.01.19	1Year
Receiver	R&S	ESCI	1166.5950K03-1011	2016.01.19	1Year
Receiver	R&S	ESCI	101202	2016.01.19	1Year
Bilog Antenna	Schwarzbeck	VULB 9168	9168-438	2017.01.21	2Year
Horn Antenna	Schwarzbeck	BBHA912D	BBHA912 D(1201)	2017.01.21	2Year
ETS Horn Antenna	ETS	3160	SEL0076	2017.01.21	2Year
Active Loop Antenna	Beijing Daze	ZN30900A	SEL0097	2017.01.21	2Year
Cable	Resenberger	SUCOFLEX 104	MY6562/4	2016.01.19	1Year
Cable	SCHWARZBECK	SUCOFLEX 104	309972/4	2016.01.19	1Year
Cable	SCHWARZBECK	SUCOFLEX 104	329112/4	2016.01.19	1Year
Pre-amplifier	Schwarzbeck	BBV9743	9743-019	2016.01.19	1Year
Pre-amplifier	Quietek	AP-180C	CHM-0602012	2016.01.19	1Year

Appendix II

Photograph of test setup





Appendix III

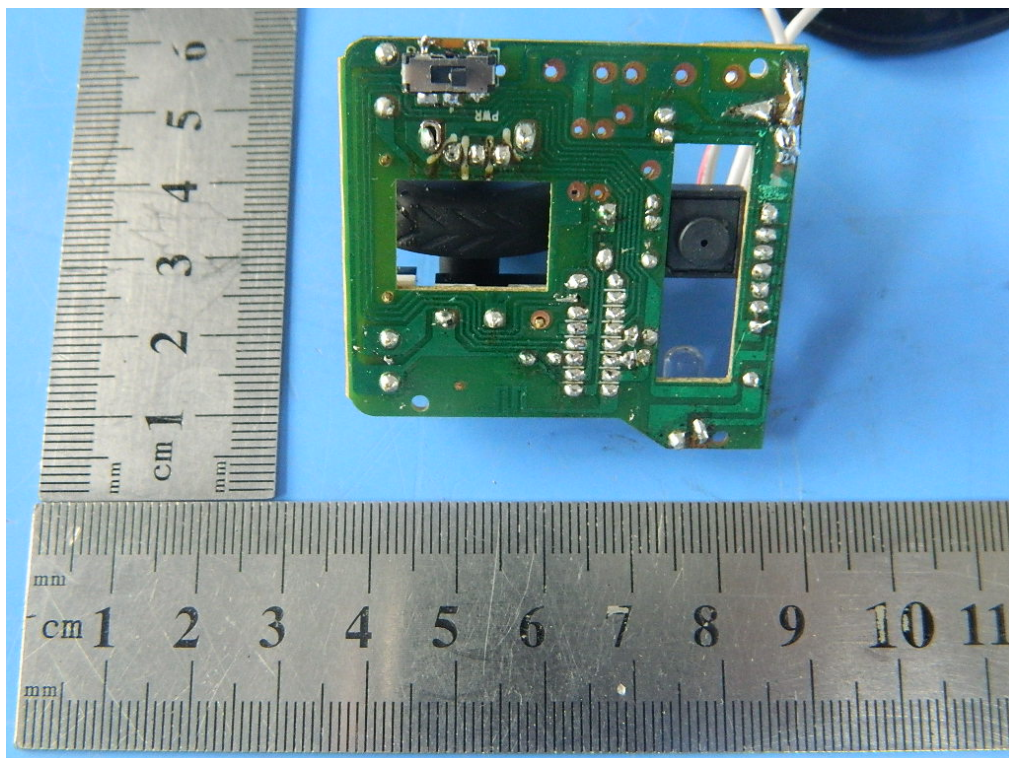
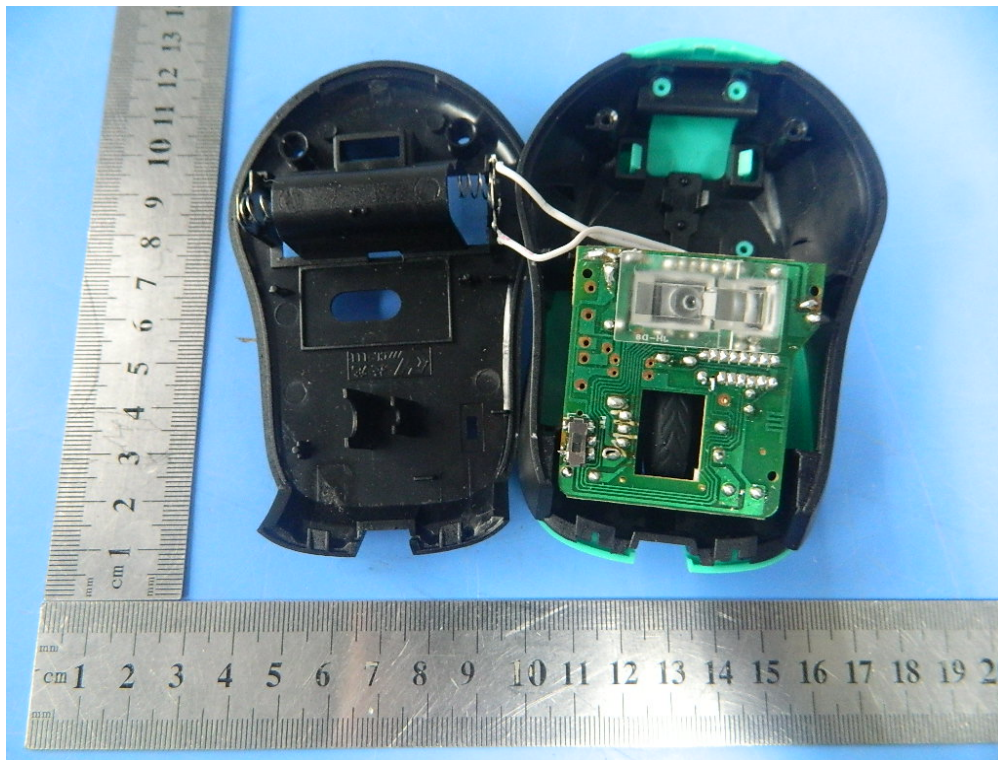
Photograph of EUT

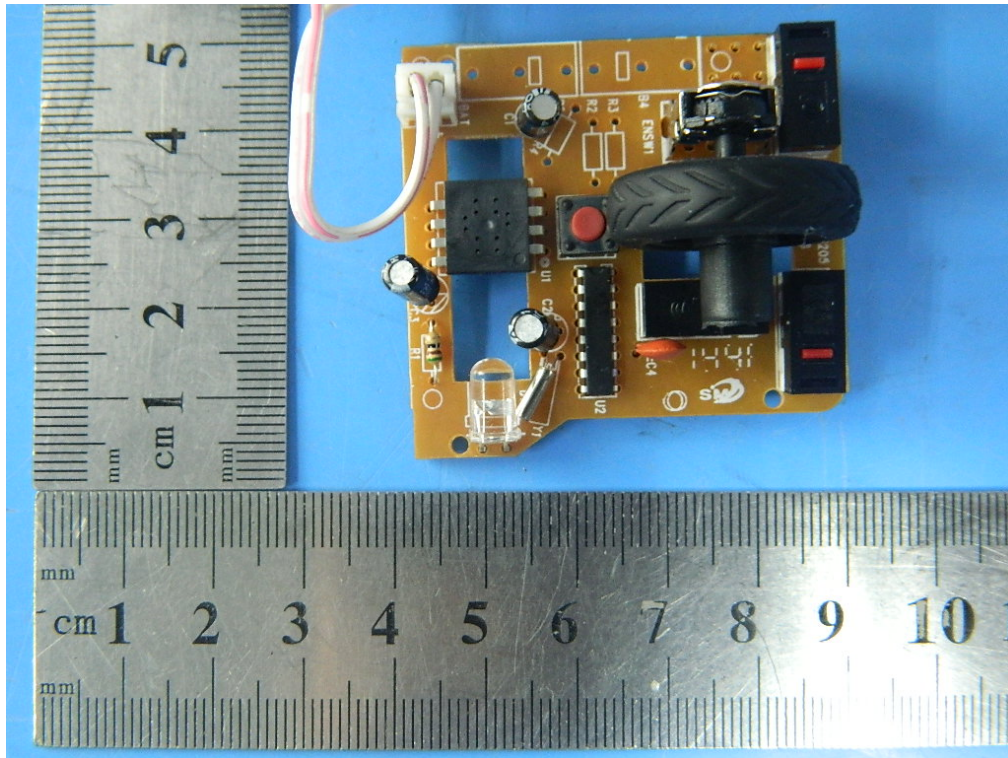












-----END OF THE REPORT-----