



## **APPLICATION FOR RoHS DIRECTIVE**

**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, Gushu 2<sup>nd</sup> Road, Bao'an District, Shenzhen 518126, P.R. China

**Date of Test:** May 04 - 06, 2015

**Date of Report:** May 07, 2015

**Report Number:** T1850408 06

**Version Number:** REV0

**TEST REPORT**  
**IEC 62321-3-1:2013**

**Restriction of Hazardous Substance**

**Report Reference No.** .....: T1850408 06

**Tested by (name + signature)** .....: Rev Yuan

**Approved by (name + signature)** .....: Susan Chen

**Date of issue** .....: May 07, 2015



**Testing Laboratory** .....: Shenzhen Alpha Product Testing Co., Ltd.

**Address** .....: Building B, East Area of Nanchang Second Industrial Zone, Gushu 2<sup>nd</sup> Road, Bao'an District, Shenzhen 518126, P.R. China

**Testing location / procedure** .....: TL [ ☒ ]      SMT [    ]      TMP [    ]

**Testing location / address** .....: (Same as above.)

**Applicant's name** .....: 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.

**Test specification:**

**Standard** .....: IEC 62321-3-1:2013

**Test procedure** .....: RoHS procedure

**Non-standard test method** .....: N/A

**Test item description** .....: 2.4GHz Wireless Optical Mouse

**Model/Type reference** .....: CNE-CMSW1X/CAMW-01X

**Manufacturer** .....: Guangzhou Boda Electronic Equipment Co., Ltd

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

**Possible test case verdicts:**

P=Pass, F=Fail, IC=Inconclusive, -- = Not Regulated

**Testing**

**Date of receipt of test item** .....: May 04, 2015

**Date (s) of performance of tests** .....: May 04 - 06, 2015

**General remarks:**

The test results presented in this report relate only to the object tested.  
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

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## Test Result of XRF

As per IEC 62321-3-1:2013, screened by XRF spectroscopy.

No.	Component Description	Test Item	XRF Result
1	Black plastic shell	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
2	Black plastic of DPI toggle key	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
3	Black plastic cement of contact roller	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
4	Black plastic cement pad	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
5	Screw	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	--
6	Black plastic shell of battery base	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
7	Spring	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	--
8	Silver color metal sheet	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	--

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## Test Result of XRF

No.	Component Description	Test Item	XRF Result
9	Silver color metal of USB	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	--
10	Black plastic of SB	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
11	Pin of USB	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	--
12	White wire covering	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
13	White plastic terminal base	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
14	Pin of terminal base	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	--
15	Resistor	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
16	Capacitor	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P

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No.	Component Description	Test Item	XRF Result
17	Capacitor	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
18	Capacitor	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
19	Capacitor	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
20	LED	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
21	Crystal	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	--
22	IC	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
23	IC	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
24	Red plastic of key-press	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P

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## Test Result of XRF

No.	Component Description	Test Item	XRF Result
25	Key-press	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
26	Black plastic of left-click	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
27	Black plastic of right-click	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
28	White plastic of left-click	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
29	White plastic of right-click	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
30	Black plastic shaft of contact roller	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
31	Silver color metal	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	--
32	Copper metal sheet	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	--

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## Test Result of XRF

No.	Component Description	Test Item	XRF Result
33	Black plastic	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
34	Black plastic of middle mouse button	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
35	White plastic of middle mouse button	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
36	Transparent plastic	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P
37	Switch	Cadmium ( Cd )	P
		Lead ( Pb )	P
		Mercury ( Hg )	P
		Chromium (Cr)	P
		Bromine (Br)	P

### Remark:

- (1) There are the results on total Br while test items on restricted substances are PBBs and PBDEs. There is the result on total Cr while test item on restricted substances is Cr(VI).
- (2) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP-OES (for Cd, Pb, Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC62321 (unit: mg/kg).

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## Test Result of XRF

Element	Polymer Material	Metallic Material	Composite Material
Cadmium ( Cd )	$P \leq 70 - 3\sigma < IC < 130 + 3\sigma \leq F$	$P \leq 70 - 3\sigma < IC < 130 + 3\sigma \leq F$	$P \leq 50 - 3\sigma < IC < 150 + 3\sigma \leq F$
Lead ( Pb )	$P \leq 700 - 3\sigma < IC < 1300 + 3\sigma \leq F$	$P \leq 700 - 3\sigma < IC < 1300 + 3\sigma \leq F$	$P \leq 500 - 3\sigma < IC < 1500 + 3\sigma \leq F$
Mercury ( Hg )	$P \leq 700 - 3\sigma < IC < 1300 + 3\sigma \leq F$	$P \leq 700 - 3\sigma < IC < 1300 + 3\sigma \leq F$	$P \leq 500 - 3\sigma < IC < 1500 + 3\sigma \leq F$
Chromium (Cr)	$P \leq 700 - 3\sigma < IC$	$P \leq 700 - 3\sigma < IC$	$P \leq 500 - 3\sigma < IC$
Bromine (Br)	$P \leq 300 - 3\sigma < IC$	--	$P \leq 250 - 3\sigma < IC$

(3) mg/kg = milligram per kilogram



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## Tested sample photos



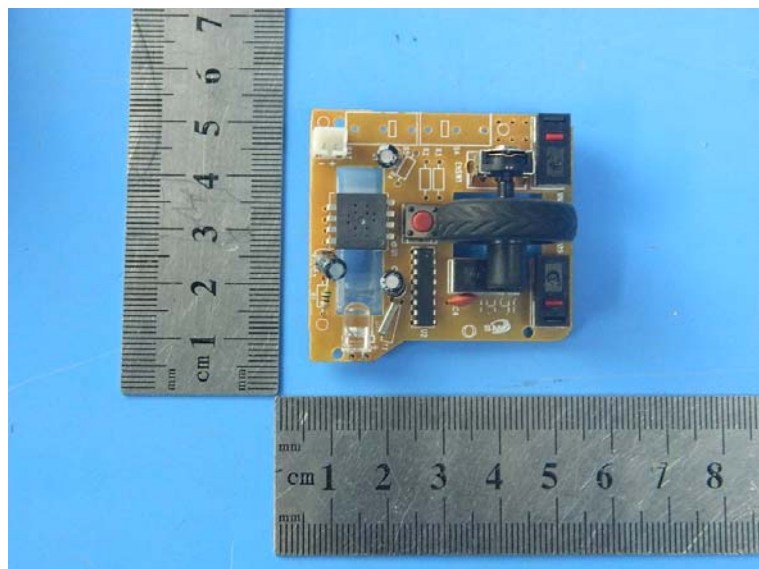
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## Tested sample photos



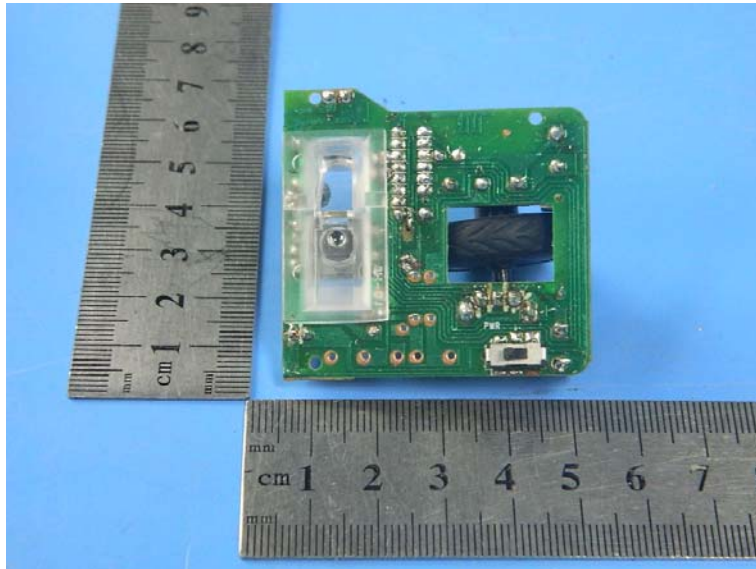
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## Tested sample photos



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