

# Test Report

No. R011408088R

Date: Aug. 13, 2014

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Applicant : Wintop Electronics Co., Limited  
Address : Unit 04 7/F, Bright Way Tower 33, Mong Kok RD KL, HONGKONG

Report on the submitted sample said to be

Sample name : 2.4GHz Wireless Optical Mouse  
Type /model : WM-697  
Manufacturer : Shenzhen Wintop Electronics Co., Limited  
Address : Huaguan Industrial Park, Xinhe Road, Baolai Industrial District,  
Shangmugu, Pinghu Town, Longgang District, Shenzhen City, 518000,  
China  
Sample received date : Aug. 11, 2014  
Testing period : Aug. 11, 2014 to Aug. 13, 2014  
Test requested : As specified by client, according to the ROHS directive 2011/65/EU, to  
screen Lead(Pb), Cadmium(Cd), Mercury(Hg), Chromium(Cr) and  
Bromine(Br) in the submitted sample(s) by XRF.

**Test Result(s):** Please refer to the following page(s).

Signed for and on behalf of Shenzhen Anbotek Compliance Laboratory Limited

Tested by Willow Liu Inspected by Lin Zhang Approved by Sahen Chen

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**Shenzhen Anbotek Compliance Laboratory Limited**

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## Test Results(s):

Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Conclusion
1	Transparent plastic	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	BL	
2	Black plastic	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	BL	
3	Black plastic	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	BL	
4	Black plastic	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	BL	
5	Black plastic	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	BL	
6	Silver metal	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	/	

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Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Conclusion
7	Silver screw	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	/	
8	Silver screw	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	/	
9	White plastic	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	BL	
10	Black PVC jacket	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	BL	
11	Red PVC jacket	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	BL	
12	Silver metal	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	/	

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Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Conclusion
13	Silver spring	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	/	
14	Black plastic	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	BL	
15	Silver metal	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	/	
16	Black plastic	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	BL	
17	Electrolytic capacitor	Pb	BL	PASS
		Cd	LOD	
		Hg	BL	
		Cr	BL	
		Br	BL	
18	Black CMOS	Pb	BL	PASS
		Cd	LOD	
		Hg	BL	
		Cr	BL	
		Br	BL	

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Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Conclusion
19	Orange capacitor	Pb	BL	PASS
		Cd	LOD	
		Hg	BL	
		Cr	BL	
		Br	BL	
20	White plastic	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	BL	
21	Silver metal pin	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	/	
22	White LED	Pb	BL	PASS
		Cd	LOD	
		Hg	BL	
		Cr	BL	
		Br	BL	
23	Yellow resistor	Pb	BL	PASS
		Cd	LOD	
		Hg	BL	
		Cr	BL	
		Br	BL	
24	Silver metal	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	/	

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Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Conclusion
25	Silver metal	Pb	BL	PASS
		Cd	LOD	
		Hg	BL	
		Cr	BL	
		Br	/	
26	Blue PCB board	Pb	BL	PASS
		Cd	LOD	
		Hg	BL	
		Cr	BL	
		Br	BL	
27	Brown chip capacitor	Pb	BL	PASS
		Cd	LOD	
		Hg	BL	
		Cr	BL	
		Br	BL	
28	Black IC	Pb	BL	PASS
		Cd	LOD	
		Hg	BL	
		Cr	BL	
		Br	BL	
29	Green plastic	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	BL	
30	Black rubber	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	BL	

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Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Conclusion
31	Transparent plastic	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	BL	
32	Black plastic	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	BL	
33	White plastic	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	BL	
34	Silver metal	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	/	
35	Black plastic	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	BL	
36	Green PCB board	Pb	BL	PASS
		Cd	LOD	
		Hg	BL	
		Cr	BL	
		Br	BL	

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Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Conclusion
37	Silver metal	Pb	BL	PASS
		Cd	BL	
		Hg	BL	
		Cr	BL	
		Br	/	

**Note:**

-MDL = Method Detection Limit

-N.D. = Not Detected (<MDL)

-mg/kg = ppm = parts per million

-BL = Under the XRF screening limit

-X= The symbol "X" marks the region where further investigation is necessary.

-OL = Further chemical test will be conducted while the result is above the screening limit.

-Negative = Absence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is less than 0.02 mg/kg with 50cm<sup>2</sup> sample surface area used.

**Remark:**

- The screening results are only used for reference.

- When conducting the test for PBBs&PBDEs, XRF was introduced to screen Br Exclusively; When conducting the test for Hexavalent Chromium, XRF was introduced to screen Chromium exclusively.

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## Test Method:

### Screening test by XRF spectroscopy

XRF screening limits in mg/kg for regulated elements according to IEC 62321-3-1:2013.

Element	Limit of IEC 62321-3-1:2013. (unit: mg/kg)		MDL	
	Polymers and metals	Composite material	Polymers	Other material
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma)$ $\leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma)$ $\leq OL$	10 mg/kg	50 mg/kg
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma)$ $\leq OL$	$LOD \leq (50-3\sigma) < X < (150+3\sigma)$ $\leq OL$	10 mg/kg	50 mg/kg
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma)$ $\leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma)$ $\leq OL$	10 mg/kg	50 mg/kg
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$	10 mg/kg	50 mg/kg
Br	$BL \leq (300-3\sigma) < X$	$BL \leq (250-3\sigma) < X$	10 mg/kg	50 mg/kg

## Note:

- BL = Under the XRF screening limit.
- OL = Further chemical test will be conducted while result is above the screening limit.
- X= The symbol "X" marks the region where further investigation is necessary.
- 3  $\sigma$  = The reproducibility of analytical instruments.
- LOD= Detection limit

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## Photograph of Sample



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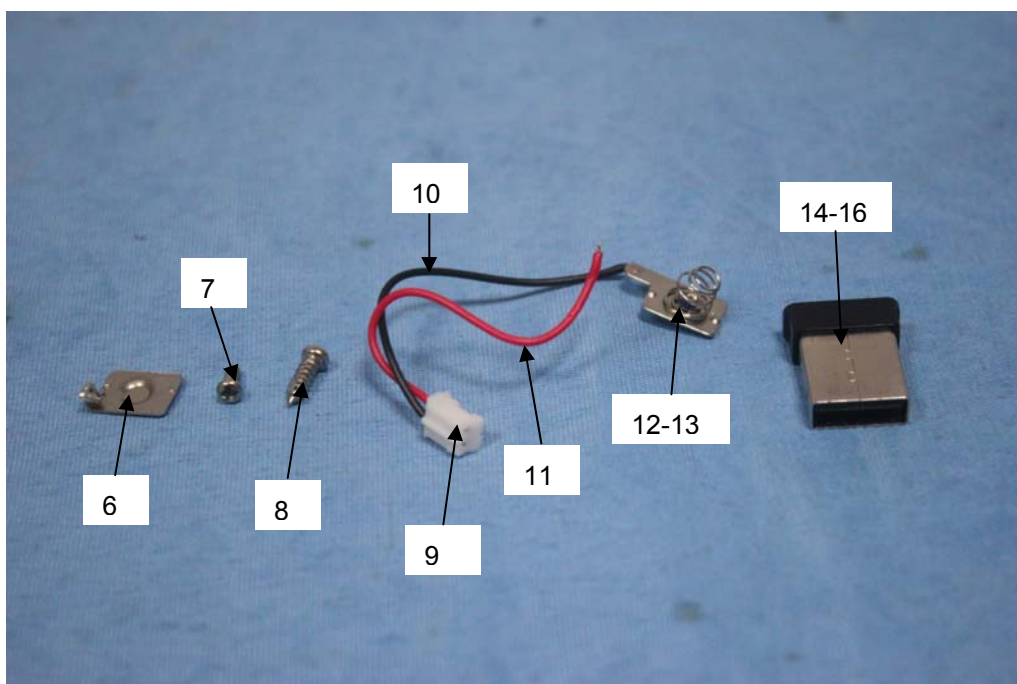
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## Photo(s) of the tested component(s)



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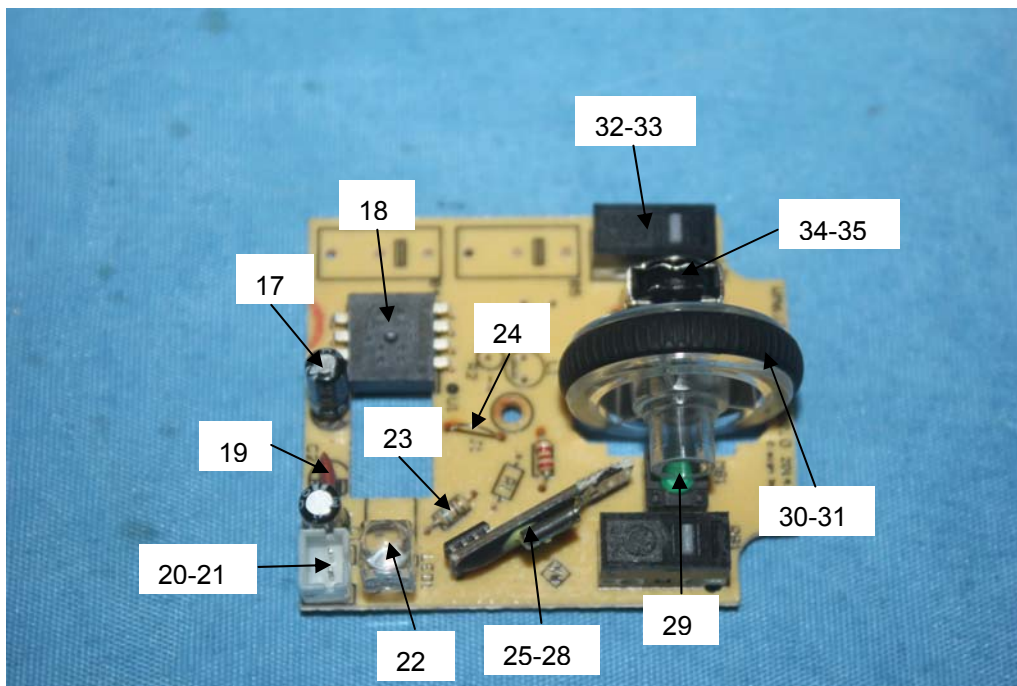
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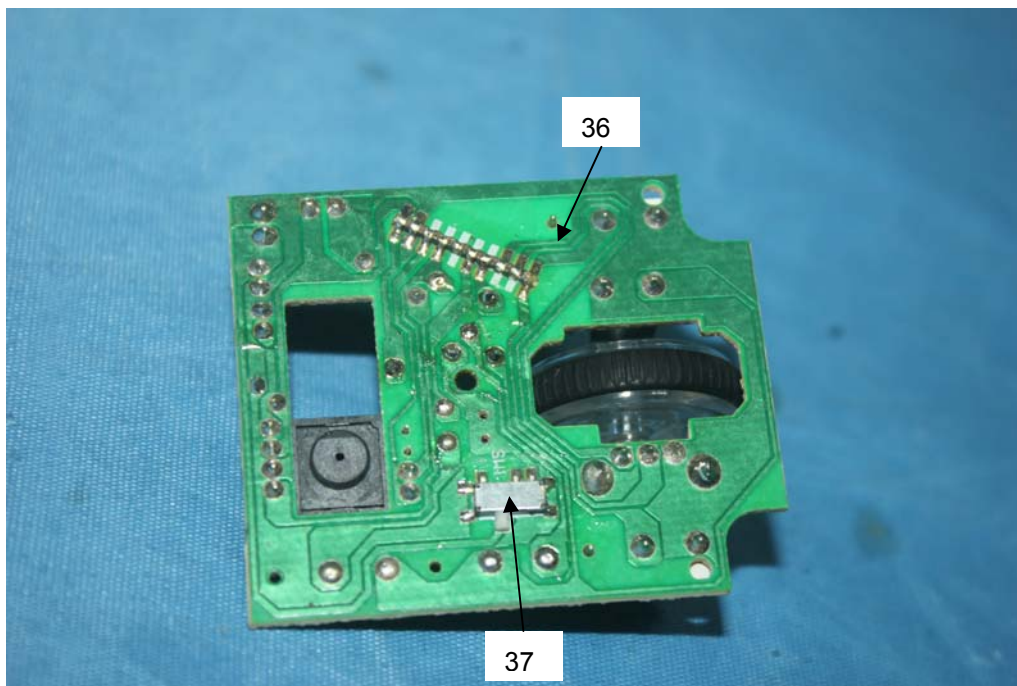
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\*\*\*\* End of Report \*\*\*\*

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