

TEST REPORT

Customer information	Client	Shenzhen Tianjie Electronic Co., Ltd
	Address	Bld 18,3rd industry area,Xitian town, Gongming street, Guangming new district, Shenzhen, Guangdong, China.
Sample information	Name of sample	2.4GHz wireless mouse
	Type/Dimension	MS-295
	Trade mark	----
	Lot number	----
	Manufacturer	----
	Address	----
Test information	Sample received	Dec. 12, 2014
	Testing date	Dec. 12, 2014 ~ Dec. 17, 2014
	Test sort	Commission Test
	Requested/item	RoHS directive 2011/65/EU
	Standard/Foundation	(1)With reference to IEC 62321-3-1:2013, scanning by XRF Spectroscopy (2)Chemical test method: With reference to IEC 62321-5:2013, determination of Lead, Cadmium, by ICP With reference to IEC 62321-4:2013, determination of Mercury by ICP With reference to IEC 62321:2008,determination of Hexavalent Chromium by Colorimetric method, determination of PBBs and PBDEs by GC-MS
	Conclusion	The delivery sample complied with RoHS directive (2011/65/EU).
Remark	----	

Tested By:

Yang Su Ping

Checked

Li Fei

Approved By:

Billow

Date:

Dec. 18, 2014

Date:

Dec. 18, 2014

Date :

Dec. 18, 2014

Test result:

No.	COMPONENTS	Item	Results of EDXRF (P/F/D)	Results of Testing (mg/kg)	Chemical testing limit (mg/kg)	Conclusion (P/F)
1	Face-piece black plastic surface cover	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P
2	Face-piece black plastic back shell	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P
3	Back shell black plastic pedestal	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P
4	Back shell black plastic box cover	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P
5	Back shell black plastic mat	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P
6	Double glue	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P

No.	COMPONENTS	Item	Results of EDXRF (P/F/D)	Results of Testing (mg/kg)	Chemical testing limit (mg/kg)	Conclusion (P/F)
7	Driving button black plastic	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P
8	Transparent plastic light pipe	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P
9	Runner black rubber ring	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P
10	Runner transparent plastic wheel	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P
11	Silvery metal pan head screw	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	/	/	<1000	/
		PBDEs	/	/	<1000	/
12	Silvery metal wide head screw	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	/	/	<1000	/
		PBDEs	/	/	<1000	/

No.	COMPONENTS	Item	Results of EDXRF (P/F/D)	Results of Testing (mg/kg)	Chemical testing limit (mg/kg)	Conclusion (P/F)
13	USB plug acceptor black plastic frame	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	48	<1000	P
14	USB plug acceptor black plastic cover	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	89	<1000	P
15	USB plug acceptor silvery metal shell	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	/	/	<1000	/
		PBDEs	/	/	<1000	/
16	USB plug acceptor PCB plate	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
17	Crystal oscillator black plastic pedestal	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P
18	Crystal oscillator silvery metal shell	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	/	/	<1000	/
		PBDEs	/	/	<1000	/

No.	COMPONENTS	Item	Results of EDXRF (P/F/D)	Results of Testing (mg/kg)	Chemical testing limit (mg/kg)	Conclusion (P/F)
19	Crystal oscillator inner chip	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	/	/	<1000	/
		PBDEs	/	/	<1000	/
20	Solder	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	/	/	<1000	/
		PBDEs	/	/	<1000	/
21	Black IC block	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
22	SMD capacitor	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P
23	MS-295 PCB plate	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
24	MS-295 solder	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	/	/	<1000	/
		PBDEs	/	/	<1000	/

No.	COMPONENTS	Item	Results of EDXRF (P/F/D)	Results of Testing (mg/kg)	Chemical testing limit (mg/kg)	Conclusion (P/F)
25	MS-295 silvery metal spring	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	/	/	<1000	/
		PBDEs	/	/	<1000	/
26	LED ₁ black plastic cover	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
27	LED ₁ body	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
28	LED ₁ pin	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	/	/	<1000	/
		PBDEs	/	/	<1000	/
29	R1 body	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P
30	R1 pin	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	/	/	<1000	/
		PBDEs	/	/	<1000	/

No.	COMPONENTS	Item	Results of EDXRF (P/F/D)	Results of Testing (mg/kg)	Chemical testing limit (mg/kg)	Conclusion (P/F)
31	C3 black outer jacket	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P
32	C3 contents	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P
33	C3 rubber plug	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P
34	C3 pin	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	/	/	<1000	/
		PBDEs	/	/	<1000	/
35	C3 aluminum shell	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	/	/	<1000	/
		PBDEs	/	/	<1000	/
36	U1 black plastic shell	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P

No.	COMPONENTS	Item	Results of EDXRF (P/F/D)	Results of Testing (mg/kg)	Chemical testing limit (mg/kg)	Conclusion (P/F)
37	U1 pin	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	/	/	<1000	/
		PBDEs	/	/	<1000	/
38	U1 inner chip	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	/	/	<1000	/
		PBDEs	/	/	<1000	/
39	Switch black plastic cover	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P
40	Switch white plastic	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P
41	Switch red plastic button	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P
42	Switch coppery metal sheet	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	/	/	<1000	/
		PBDEs	/	/	<1000	/

No.	COMPONENTS	Item	Results of EDXRF (P/F/D)	Results of Testing (mg/kg)	Chemical testing limit (mg/kg)	Conclusion (P/F)
43	Switch pin	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	/	/	<1000	/
		PBDEs	/	/	<1000	/
44	Switch yellow plastic button	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P
45	Adjustable resistor metal bracket	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	/	/	<1000	/
		PBDEs	/	/	<1000	/
46	Adjustable resistor black plastic bracket	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P
47	Adjustable resistor gray gear	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P
48	Adjustable resistor metal clamp	Cd	P	/	<100	P
		Cr(VI)	D	Negative	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	/	/	<1000	/
		PBDEs	/	/	<1000	/

No.	COMPONENTS	Item	Results of EDXRF (P/F/D)	Results of Testing (mg/kg)	Chemical testing limit (mg/kg)	Conclusion (P/F)
49	Adjustable resistor pin	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	/	/	<1000	/
		PBDEs	/	/	<1000	/
50	U2 PCB plate	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
51	U2 inductance magnetic core	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	/	/	<1000	/
		PBDEs	/	/	<1000	/
52	U2 inductance coil	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	/	/	<1000	/
		PBDEs	/	/	<1000	/
53	U2 IC body	Cd	P	/	<100	P
		Cr(VI)	P	/	<1000	P
		Hg	P	/	<1000	P
		Pb	P	/	<1000	P
		PBBs	P	/	<1000	P
		PBDEs	P	/	<1000	P

Remark:

- (1) It is the result on total Br while test PBBs and PBDEs by EDXRF. It is the result on total Cr while test Hexavalent Chromium by EDXRF.
- (2) Results are obtained by EDXRF for primary screening, and chemical testing by ICP (for Cd, Pb, Hg), UV-VIS (Cr(VI)) and GCMS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value (unit:mg/kg)

Element	Polymer	Metal	Composite Materials
Cd	$P \leq 70 - 3\sigma < D < 130 + 3\sigma \leq F$	$P \leq 70 - 3\sigma < D < 130 + 3\sigma \leq F$	$P \leq 50 - 3\sigma < D < 150 + 3\sigma \leq F$
Pb	$P \leq 700 - 3\sigma < D < 1300 + 3\sigma \leq F$	$P \leq 700 - 3\sigma < D < 1300 + 3\sigma \leq F$	$P \leq 500 - 3\sigma < D < 1500 + 3\sigma \leq F$
Hg	$P \leq 700 - 3\sigma < D < 1300 + 3\sigma \leq F$	$P \leq 700 - 3\sigma < D < 1300 + 3\sigma \leq F$	$P \leq 500 - 3\sigma < D < 1500 + 3\sigma \leq F$
Br	$P \leq 300 - 3\sigma < D$	----	$P \leq 250 - 3\sigma < D$
Cr	$P \leq 700 - 3\sigma < D$	$P \leq 700 - 3\sigma < D$	$P \leq 500 - 3\sigma < D$

P = PASS; F = FAIL; D = DETECTED;

- (3) mg/kg = ppm; N.D. = NOT DETECTED (<MDL) Pb, Cd, Hg, Cr(VI): 2mg/kg; PBBs, PBDEs: 5mg/kg
- (4) According to IEC 62321:2008, result on Cr (VI) for metal sample is shown as Positive/Negative. Positive = Presence of Cr(VI) coating, Negative = Absence of Cr(VI) coating

Sample photo

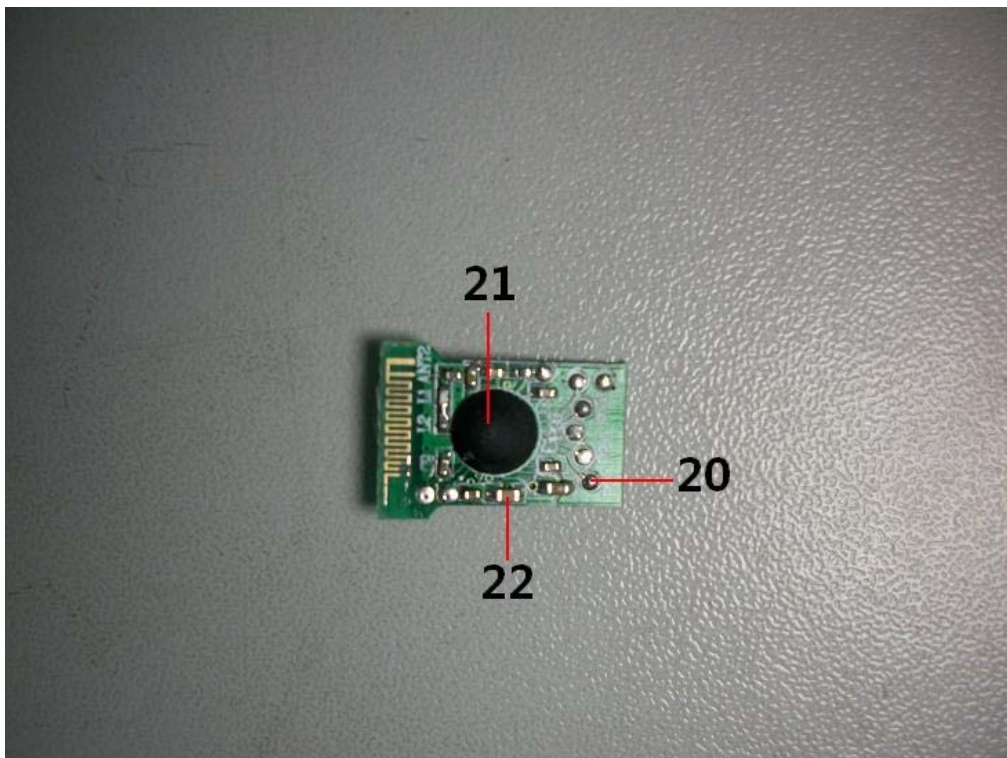
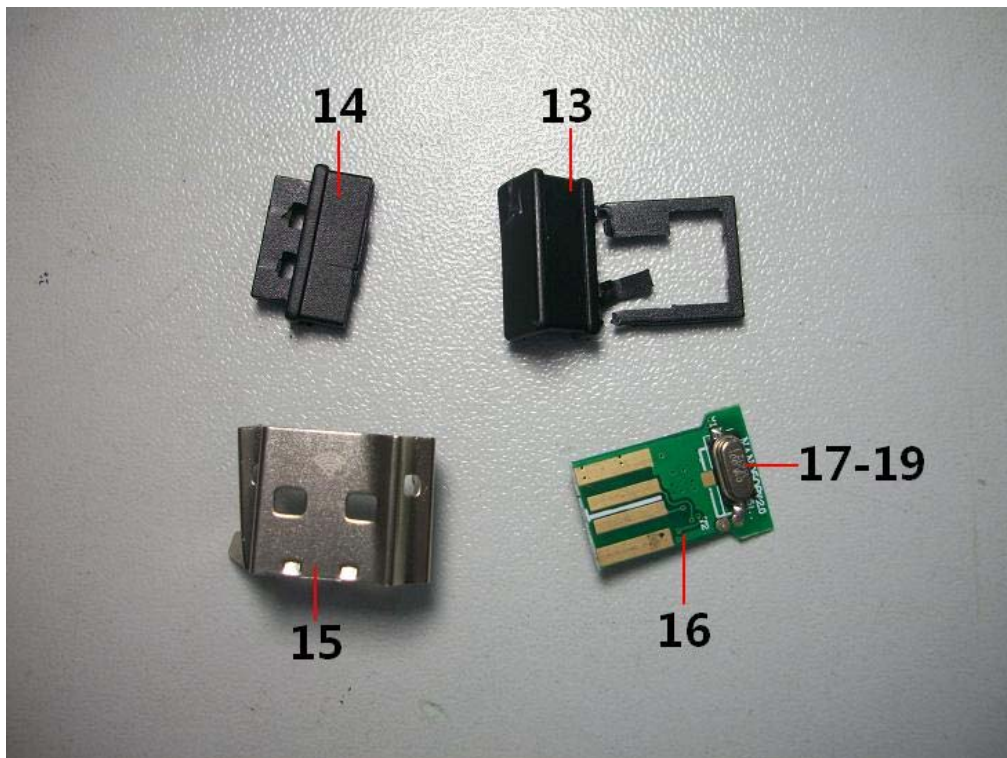


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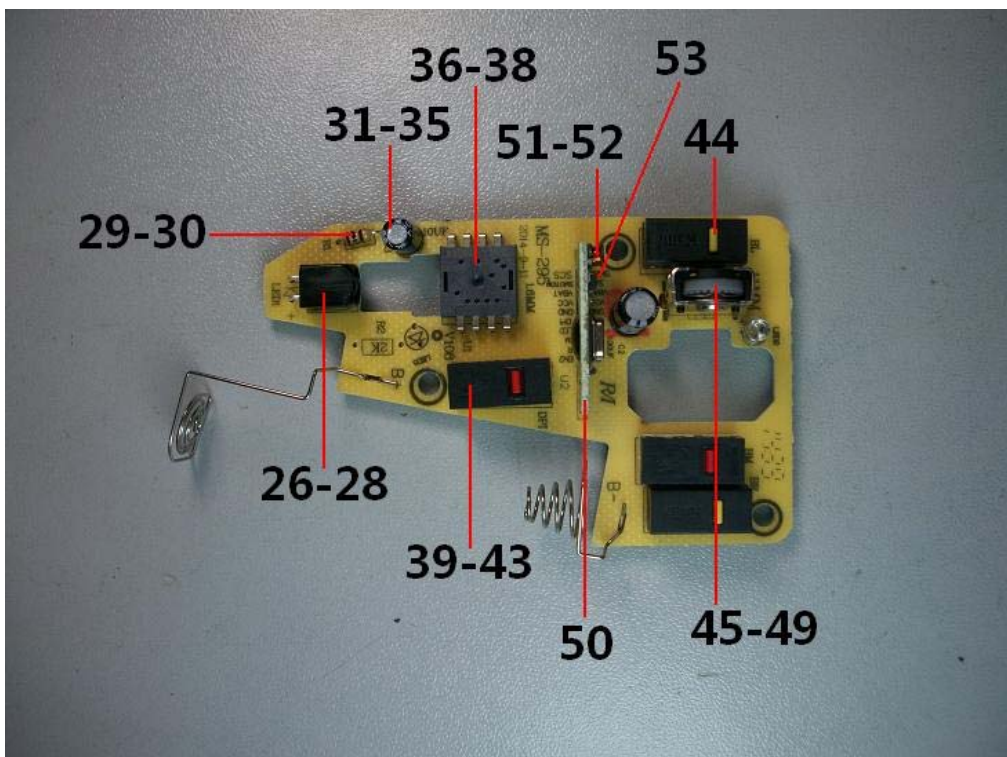
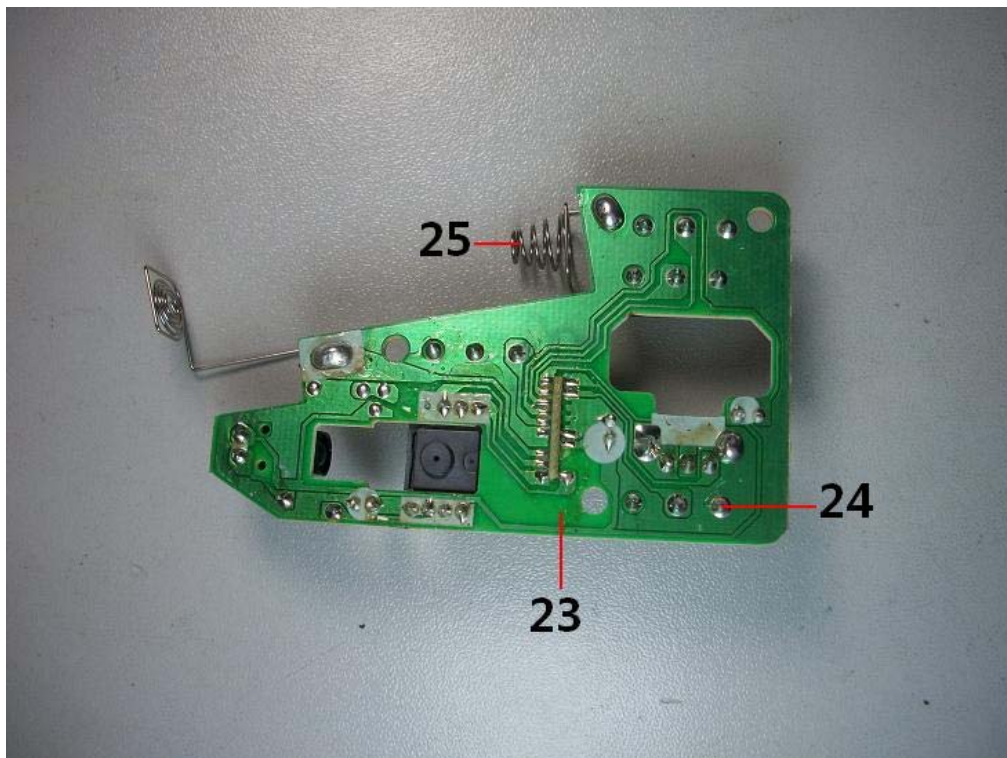
Detailed Split Chart



Detailed Split Chart



Detailed Split Chart



List of apparatus:

No.	Name	Model	Calibration Valid Date	USE(√)
1	ICP-OES	VISTA-MPX	2015/09/21	
2	GC-MS	5975i	2015/09/21	√
3	UV-Vis	UV1100	2015/09/21	√
4	XRF	EDX3000B	2015/07/06	√

***** END OF REPORT *****

STATEMENT

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