



TEST REPORT

Reference No. : WTZ14F0615107A1C
 Applicant..... : Zhongshan Dayuan Lighting Co.,Ltd
 Address : Dong'An Road, Haizhou, Guzhen town, Zhongshan city, Guangdong province
 Manufacturer : Zhongshan Dayuan Lighting Co.,Ltd
 Address : Dong'An Road, Haizhou, Guzhen town, Zhongshan city, Guangdong province
 Sample Description : fixed luminaires
 Model No..... : P29396-2A
 Reference Model No. : C29401F-1A, C29401F-2A, 97130-L450, 97130-L450G, DY029-6, DY029-6G, DY029-12+6, DY029-12+6G, C30464A-1A
 Test Requested..... : In accordance with the RoHS Directive 2011/65/EU
 Test Method..... : With Reference to EN62321:2009 (IEC 62321 Edition 1.0: 2008 (EQV)) Procedures for the Determination of level of Six Regulated Substance in Electrotechnical Products.
 1) Screening by XRF Spectroscopy
 2) Wet Chemical Test Method
 - Determination of Lead, Mercury and Cadmium by ICP-OES
 - Determination of Hexavalent Chromium by Colorimetric Method
 - Determination of PBBs and PBDEs by GC-MS
 Test Conclusion..... : Based on the performed tests on the submitted samples, the results comply with the RoHS Directive 2011/65/EU
 Date of Receipt sample : 2014-09-01 & 2014-09-15
 Date of Test..... : 2014-09-01 to 2014-09-16
 Date of Issue : 2014-09-20
 Test Result : Please refer to next page (s)

Remarks:

The results shown in this test report refer only to the sample(s) tested; this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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Test Results:

Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
1	Transparent plastic bead	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
2	Transparent plastic sheet with white coating	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
3	Silvery metal sheet with grey coating	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
4	Chip LED	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
5	Solder	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
6	Silvery metal sheet	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
7	Silvery plastic sheet	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
8	Silvery metal sheet	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
9	Grey metal sheet	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
10	Silvery metal sheet	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
11	Beige plastic shell of driver	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
12	Beige plastic shell	Cd	BL	PBBs : ND PBDEs : ND	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	IN		
13	White plastic shell	Cd	BL	PBBs : ND PBDEs : ND	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	IN		
14	Black heat-shrinkable tube	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
15	Silvery metal shell	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
16	Silvery metal screw	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
17	Blue plastic wire jacket	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
18	White plastic wire covering	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
19	Silvery metal wire	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
20	Brown plastic wire jacket	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
21	Coppery metal terminal	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
22	White fibre tube	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
23	White plastic wire covering	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
24	Silvery metal wire	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
25	Semi-transparent plastic tube	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
26	Transparent plastic wire covering	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
27	Silvery metal wire	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
28	Black heat-shrinkable tube	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
29	Silvery metal terminal	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
30	Semi-transparent plastic shell	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
31	Black plastic wire covering	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
32	Black heat-shrinkable tube	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
33	Coppery metal terminal	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
34	Silvery metal nut	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
35	Silvery metal screw	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
36	Silvery metal screw	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
37	Silvery metal screw	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
38	Silvery metal screw	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
39	Silvery metal tube	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
40	Silvery metal sheet	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
41	Silvery metal nut	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
42	Silvery metal screw	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
43	Silvery metal sheet	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
44	Silvery metal tube	Cd	IN	Cd : 43 #Pb : 3.59 × 10 ⁴ Cr ⁶⁺ :Negative	Comply
		Pb	OL		
		Hg	BL		
		Cr	IN		
		Br	BL		
45	Silvery metal tube	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
46	Blue plastic shell of connector	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
47	Silvery metal shell of connector	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
48	Silvery metal sheet of connector	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
49	Silvery metal screw of connector	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
50	Black body of diode	Cd	BL	PBBs : ND PBDEs : ND	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	IN		
51	Silvery metal pin of diode	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
52	White glue	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
53	Black plastic film of electrolytic capacitor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
54	Black rubber stopper of electrolytic capacitor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
55	Silvery metal shell of electrolytic capacitor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
56	Silvery metal pin of electrolytic capacitor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
57	Silvery-grey metal foil of electrolytic capacitor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
58	Grey metal foil of electrolytic capacitor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
59	Brown paper of electrolytic capacitor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
60	Transparent adhesive tape of electrolytic capacitor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
61	Coppery metal wire of inductor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
62	Red metal wire of inductor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
63	Dark-grey magnetic ring without green coating of inductor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
64	Green coating of inductor	Cd	BL	PBBs : ND PBDEs : ND	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	IN		



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
		Cd	Pb		
65	Green plastic film of electrolytic capacitor	BL	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
66	Black rubber stopper of electrolytic capacitor	BL	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
67	Silvery metal shell of electrolytic capacitor	BL	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
68	Silvery metal pin of electrolytic capacitor	BL	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
69	Silvery-grey metal foil of electrolytic capacitor	BL	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
70	Grey metal foil of electrolytic capacitor	BL	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
71	Brown paper of electrolytic capacitor	BL	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
72	Transparent adhesive tape of electrolytic capacitor	BL	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
73	Blue body of capacitor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
74	Silvery metal pin of capacitor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
75	Black body of resistor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
76	Silvery metal pin of resistor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
77	Brown body of capacitor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
78	Silvery metal pin of capacitor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
79	Blue body of resistor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
80	Silvery metal pin of resistor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
81	Black body of audion	Cd	BL	PBBs : ND PBDEs : ND	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	IN		
82	Silvery metal pin of audion	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
83	Black plastic base of inductor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
84	Dark-grey magnetic ring of inductor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
85	Coppery metal wire of inductor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
86	Silvery metal pin of inductor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
87	Black body of rectifier	Cd	BL	PBBs : ND PBDEs : ND	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	IN		
88	Silvery metal pin of rectifier	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
89	Black body of resistor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
90	Silvery metal pin of resistor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
91	White fibre of fuse	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
92	Black plastic base of fuse	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
93	Silvery metal wire of fuse	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
94	Silvery metal pin of fuse	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
95	Brown plastic shell of fuse	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
96	White sand of fuse	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
97	Silvery metal sheet of connector	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
98	Green plastic shell of connector	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
99	Silvery metal pin of connector	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
100	Silvery metal shell of connector	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
101	Silvery metal pin of connector	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
102	Yellow plastic shell of capacitor	Cd	BL	PBBs : ND PBDEs : ND	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	IN		
103	Yellow epoxy resin of capacitor	Cd	BL	PBBs : ND PBDEs : ND	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	IN		
104	Silvery film of capacitor	Cd	BL	PBBs : ND PBDEs : ND	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	IN		



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
105	Silvery metal pin of capacitor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
106	Green coating of inductor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
107	Dark gray magnetic core without green coating of inductor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
108	Triple insulation winding of inductor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
109	Coppery metal winding of inductor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
110	Black plastic base of inductor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
111	Semi-transparent plastic sleeve of inductor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
112	Silvery metal pin of inductor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
113	PCB	Cd	BL	PBBs :ND PBBDEs :ND	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	IN		
114	White paper adhesive label with black printing of transformer	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
115	Semi-transparent plastic sleeve of transformer	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
116	Black glue of transformer	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
117	Copper metal sheet of transformer	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
118	Solder of transformer	Cd	BL	Pb : 231	Comply
		Pb	IN		
		Hg	BL		
		Cr	BL		
		Br	BL		
119	Dark gray magnetic core of transformer	Cd	BL	Cr ⁶⁺ :ND	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
120	Yellow plastic adhesive tape of transformer	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
121	Coppery metal winding of transformer	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
122	Triple insulation winding of transformer	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
123	Black plastic bobbin of transformer	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
124	Silvery metal pin of transformer	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
125	Silvery metal screw	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
126	Silvery metal screw	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
127	Silvery metal screw	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
128	Silvery metal nut	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
129	Black body of audion	Cd	BL	PBBs : ND PBDEs : ND	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	IN		
130	Silvery metal pin of audion	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
131	Silvery metal bracket	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
132	Silvery metal pin of transformer	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
133	White paper label with black printing of transformer	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
134	Yellow plastic adhesive tape of transformer	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
135	Dark gray magnetic core of transformer	Cd	BL	Cr ⁶⁺ :ND	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
136	Black plastic bobbin of transformer	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
137	Coppery metal winding of transformer	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
138	Silvery metal pin of inductor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
139	Transparent plastic adhesive label with black printing of inductor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
140	Black glue of inductor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
141	Coppery metal winding of inductor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
142	Black plastic bobbin of inductor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
143	Dark gray magnetic core of inductor	Cd	BL	Cr ⁶⁺ :ND	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
144	Silvery metal bracket of inductor	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
145	Silvery metal axle	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
146	Silvery metal sleeve	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
147	Silvery metal spring	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
148	Golden metal nut	Cd	IN	Cd : 59 #Pb : 2.87 × 10 ⁴	Comply
		Pb	OL		
		Hg	BL		
		Cr	BL		
		Br	BL		
149	Silvery metal bead	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
150	Silvery metal sleeve	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
151	Transparent plastic wire covering	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
152	Slivery metal wire	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
153	Slivery metal nut	Cd	BL	Cr ⁶⁺ :Negative	Comply
		Pb	BL		
		Hg	BL		
		Cr	IN		
		Br	BL		
154	Chip capacitor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
155	Chip resistor	Cd	BL	Not tested	Comply
		Pb	*OL		
		Hg	BL		
		Cr	BL		
		Br	BL		
156	Chip diode	Cd	BL	PBBs :ND PBBDEs :ND	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	IN		
157	Chip capacitor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
158	Chip resistor	Cd	BL	Not tested	Comply
		Pb	*OL		
		Hg	BL		
		Cr	BL		
		Br	BL		
159	Chip audion	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		
160	Chip capacitor	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
		Cd	Pb		
161	Chip capacitor	BL	BL	Not tested	Comply
		BL	BL		
		BL	BL		
		BL	BL		
		BL	BL		
162	Chip capacitor	BL	BL	Not tested	Comply
		BL	BL		
		BL	BL		
		BL	BL		
		BL	BL		
163	IC	BL	BL	Not tested	Comply
		BL	BL		
		BL	BL		
		BL	BL		
		BL	BL		
164	Solder	BL	BL	Not tested	Comply
		BL	BL		
		BL	BL		
		BL	BL		
		BL	BL		
165	Chip diode	BL	BL	Not tested	Comply
		BL	BL		
		BL	BL		
		BL	BL		
		BL	BL		
166	Chip inductor	BL	BL	Not tested	Comply
		BL	BL		
		BL	BL		
		BL	BL		
		BL	BL		
167	White plastic sheet	BL	BL	Not tested	Comply
		BL	BL		
		BL	BL		
		BL	BL		
		BL	BL		
168	Transparent plastic ring	BL	BL	Not tested	Comply
		BL	BL		
		BL	BL		
		BL	BL		
		BL	BL		



Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
169	Semi-transparent plastic ring	Cd	BL	Not tested	Comply
		Pb	BL		
		Hg	BL		
		Cr	BL		
		Br	BL		



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Remark:

- (1) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP (for Cd, Pb, Hg), UV-VIS (for Cr⁶⁺) and GC-MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321: 2008 (unit: mg/kg)

Element	Polymer	Metal	Composite Materials
Cd	$BL \leq (70-3\sigma) < IN < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < IN < (130+3\sigma) \leq OL$	$LOD < IN < (150+3\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < IN < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < IN < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < IN < (1500+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < IN < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < IN < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < IN < (1500+3\sigma) \leq OL$
Cr	$BL \leq (700-3\sigma) < IN$	$BL \leq (700-3\sigma) < IN$	$BL \leq (500-3\sigma) < IN$
Br	$BL \leq (300-3\sigma) < IN$	--	$BL \leq (250-3\sigma) < IN$

BL= Below Limit

OL= Over Limit

LOD = Limit of Detection

-- = Not Regulated

- (2) "IN" expresses the inconclusive region, and further chemical testing to confirm whether it complies with the requirement of RoHS Directive.
- (3) The XRF screening test for RoHs elements – the reading may be different to the actual content in the sample be of non-uniformity composition
- (4) ppm = mg / kg, based on the dry weight of tested sample.
- (5) ND = Not Detected, less than the value of Method Detection Limit.
- (6) MDL= Method Detection Limit in wet chemical test

Test Items	Pb	Cd	Hg	Cr ⁶⁺	PBB	PBDE
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MDL	2	2	2	2	5	5

The MDL for single compound of PBBs and PBDEs is 5mg/kg and MDL of Cr⁶⁺ for polymer and composite sample is 2mg/kg

- (7) According to IEC 62321:2008, determined of Cr⁶⁺ on metal sample by spot test /boiling water extraction test method, and result is shown as Positive/Negative.

Spot test:

Negative = Absence of Cr⁶⁺ coating, Positive = Presence of Cr⁶⁺ coating.

(The tested sample should be further verified by boiling water extraction method if the spot test result is Negative or cannot be confirmed.)

Boiling water extraction:

Negative = Absence of Cr⁶⁺ coating

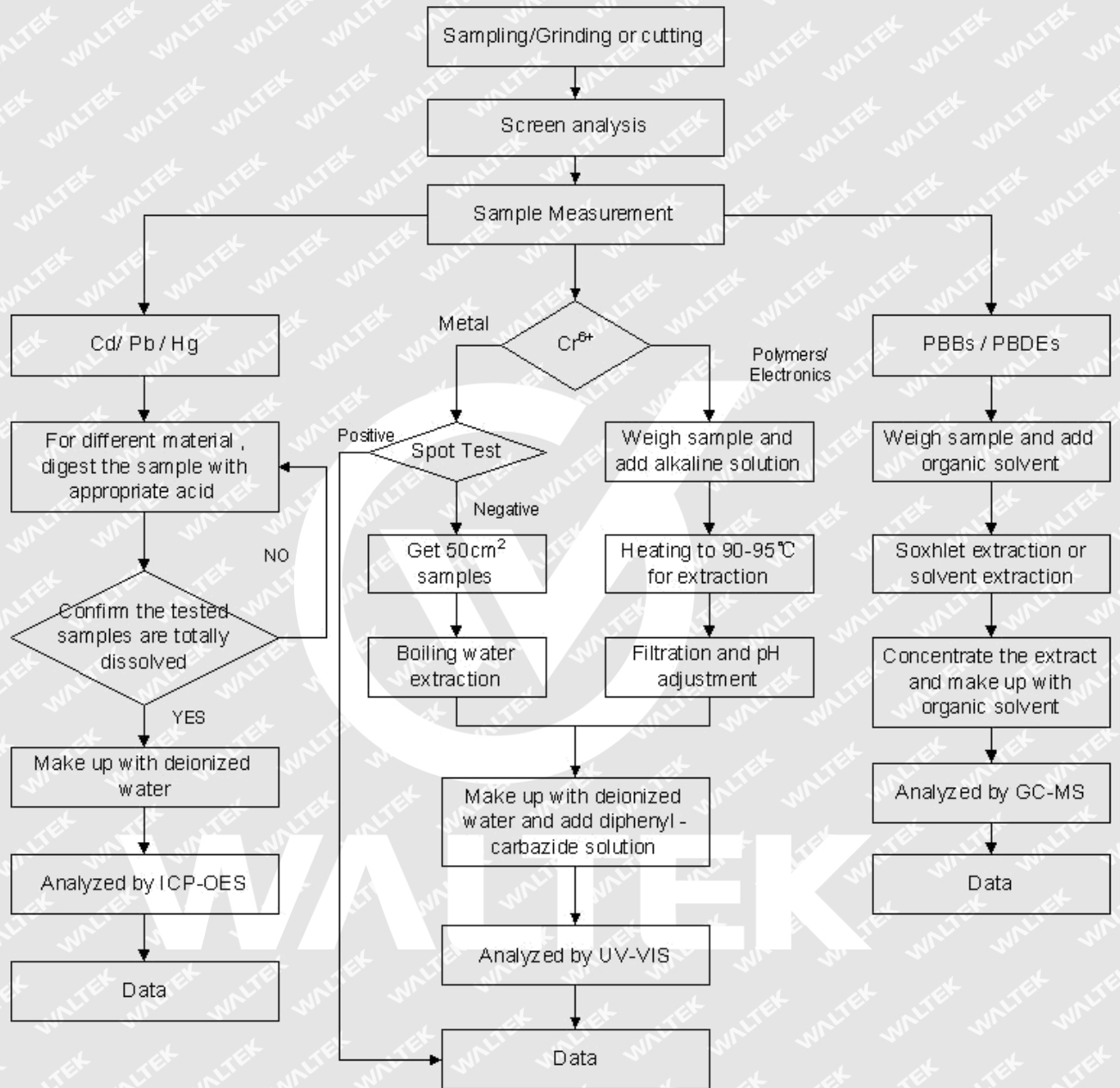
Positive = Presence of Cr⁶⁺ coating, the detected concentration in boiling water extraction solution is equal or greater than 0.02mg/kg with 50cm² sample surface area.

Information on storage conditions and production date of the tested sample is unavailable and thus Cr⁶⁺ results represent status of the sample at the time of testing.

- (8) # = According to the declaration from client, the source of lead in test sample could be from copper alloy while lead as copper alloy containing up to 4% lead by weight is exempted by Directive 2011/65/EU.
- (9) * = According to the declaration from client, the source of lead in test sample could be from the glass or ceramic material of that electronic component which is exempted by Directive 2011/65/EU.



Measurement Flowchart:





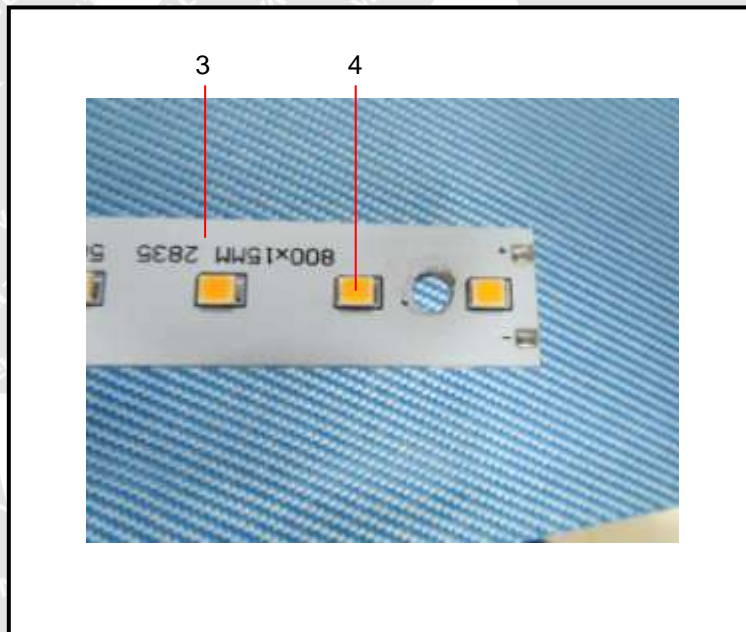
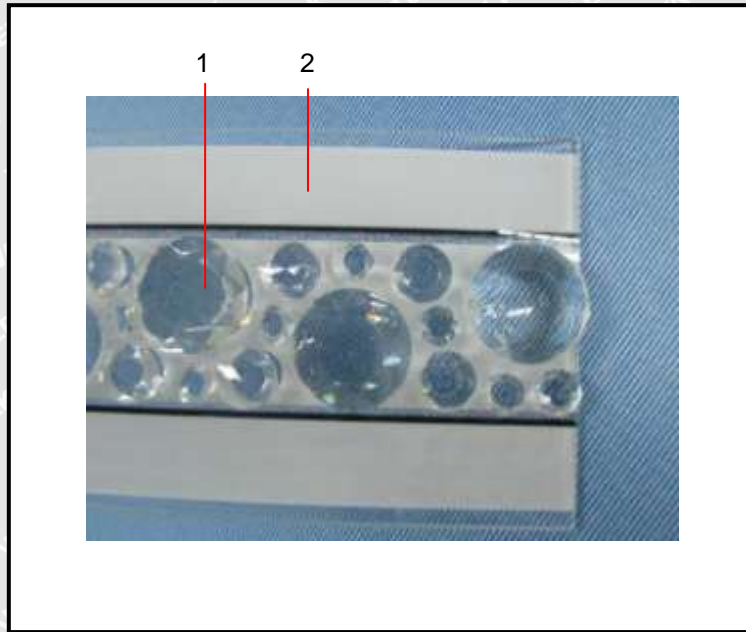
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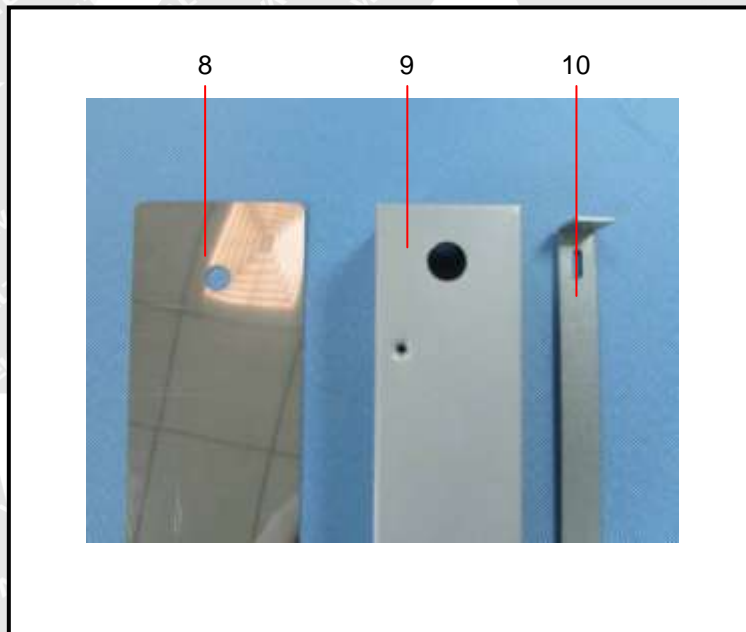
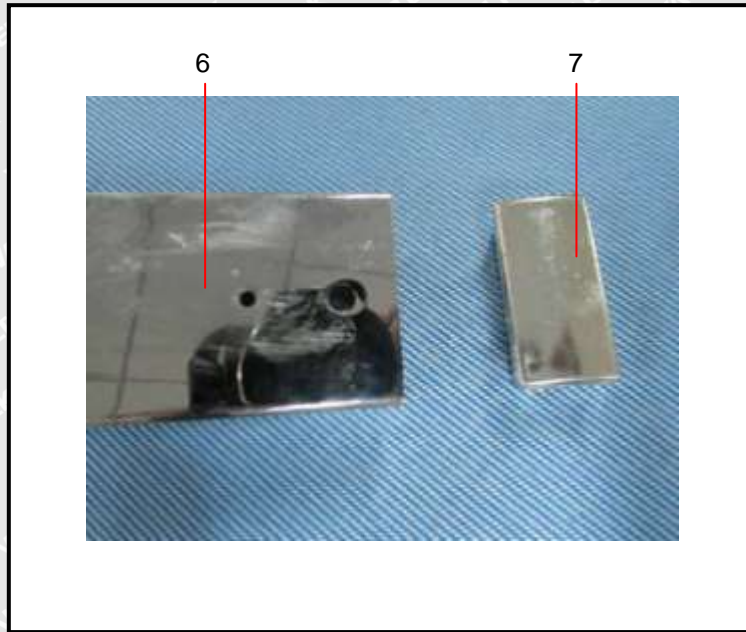


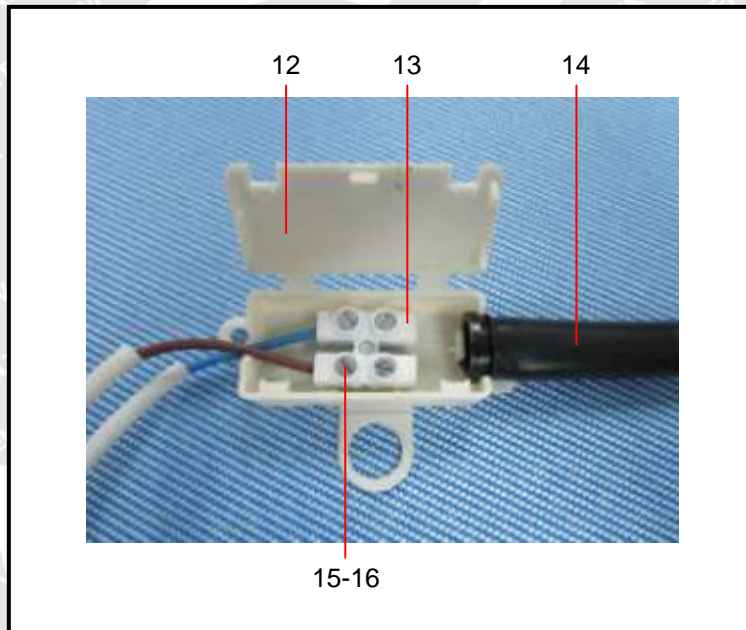
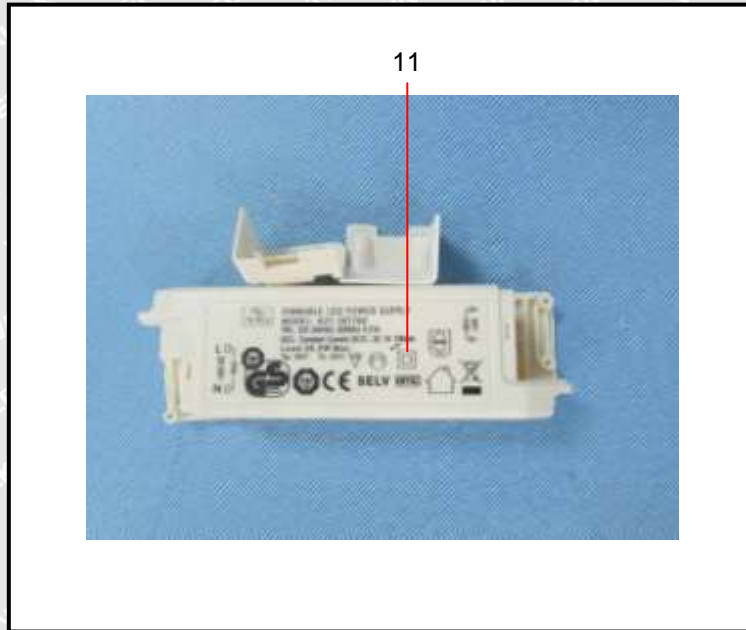
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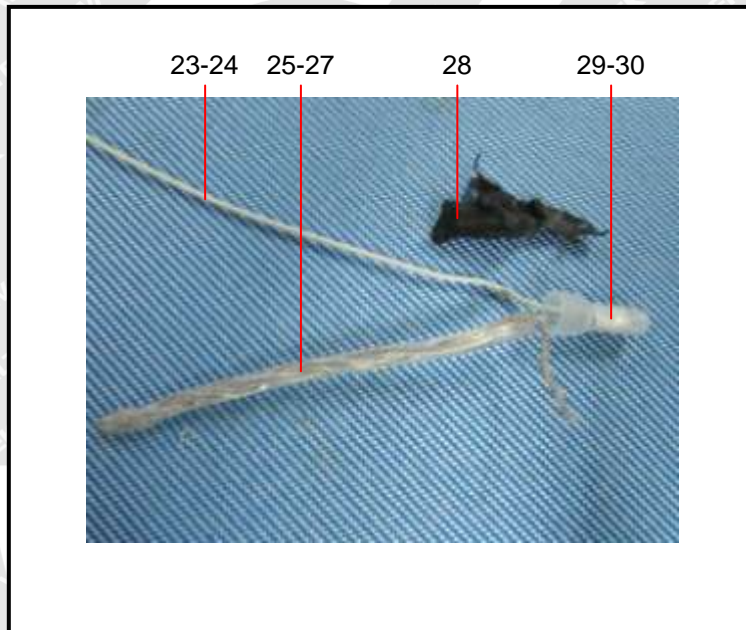
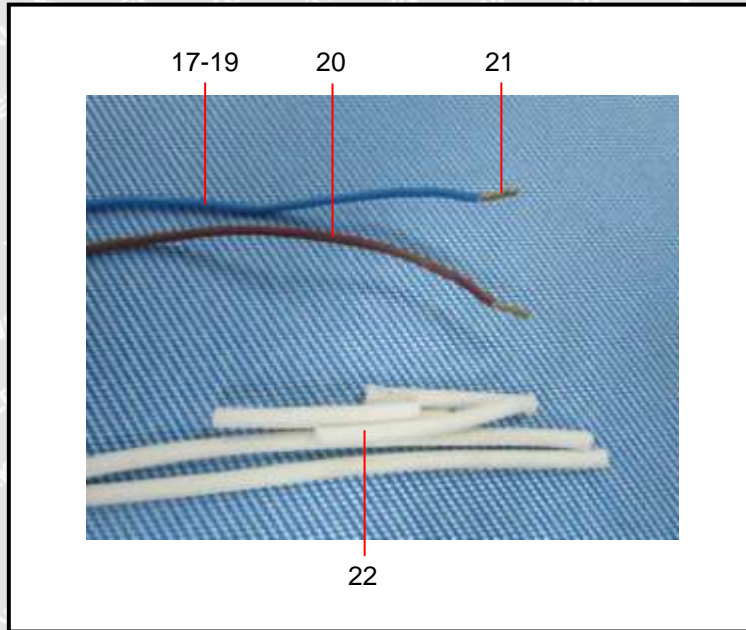


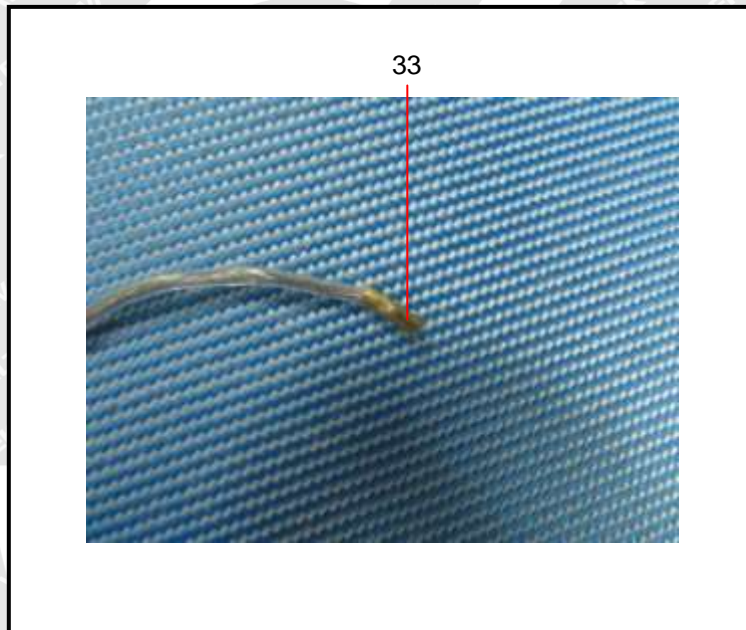
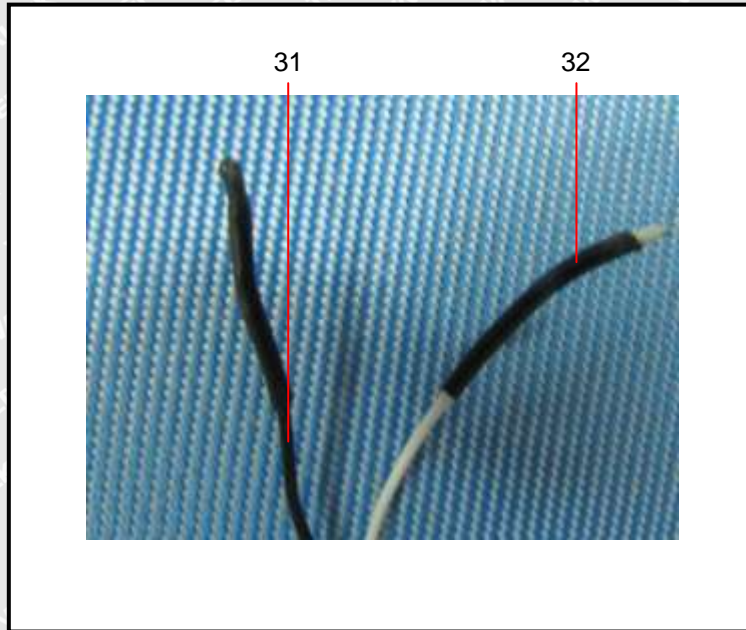
Photograph of parts tested:

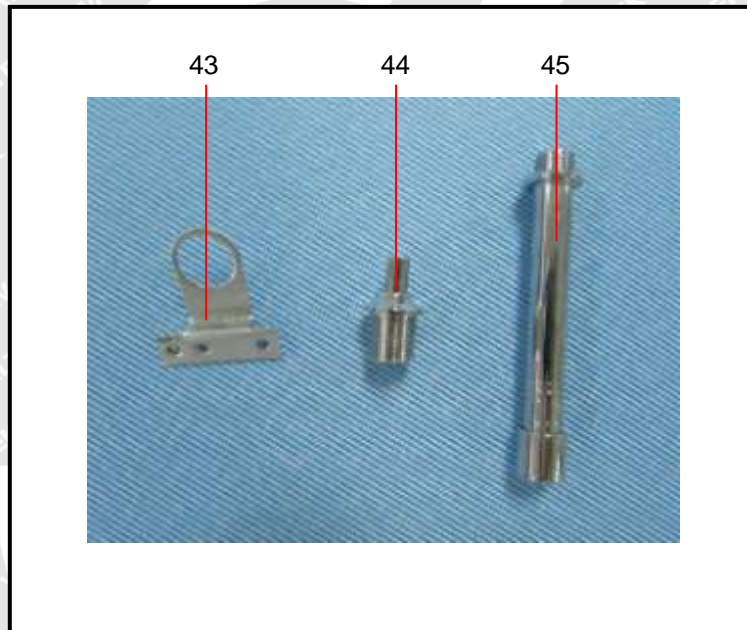
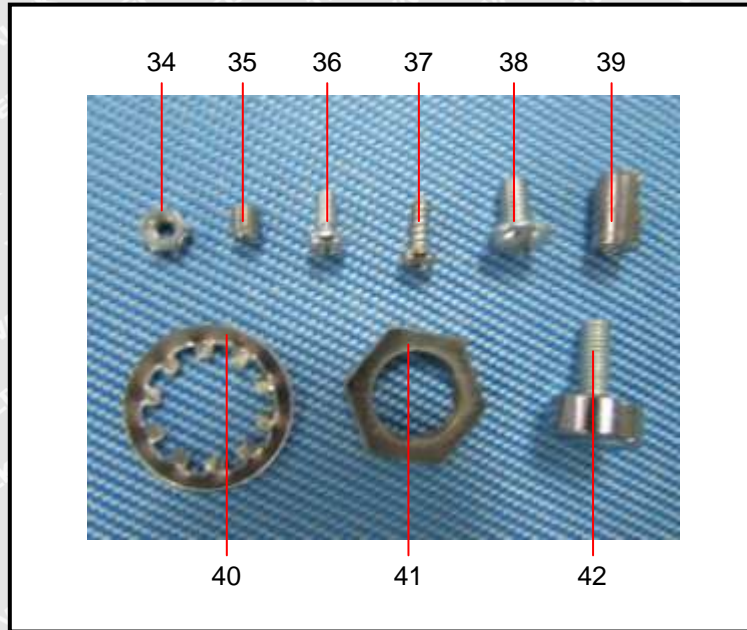


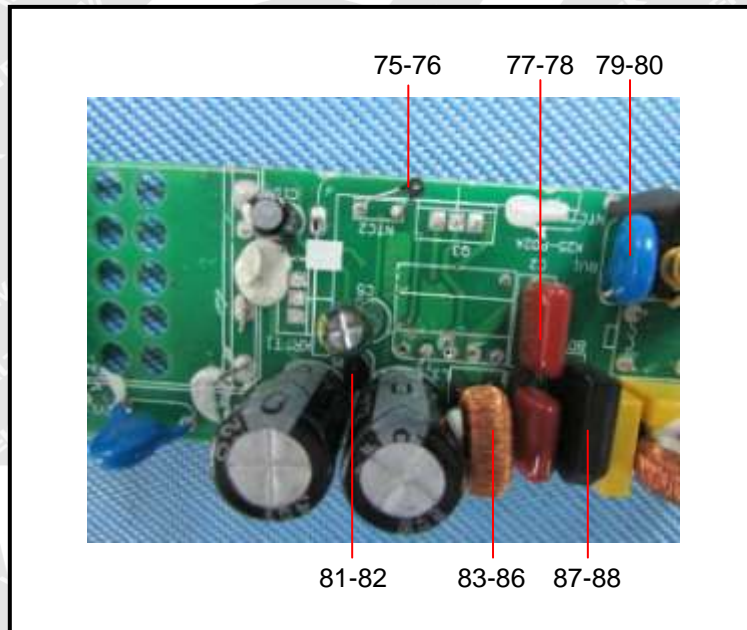
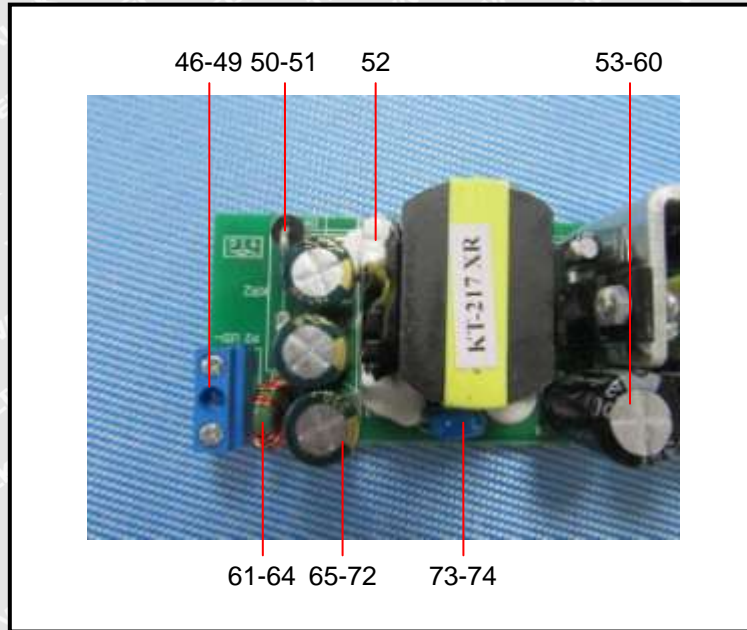


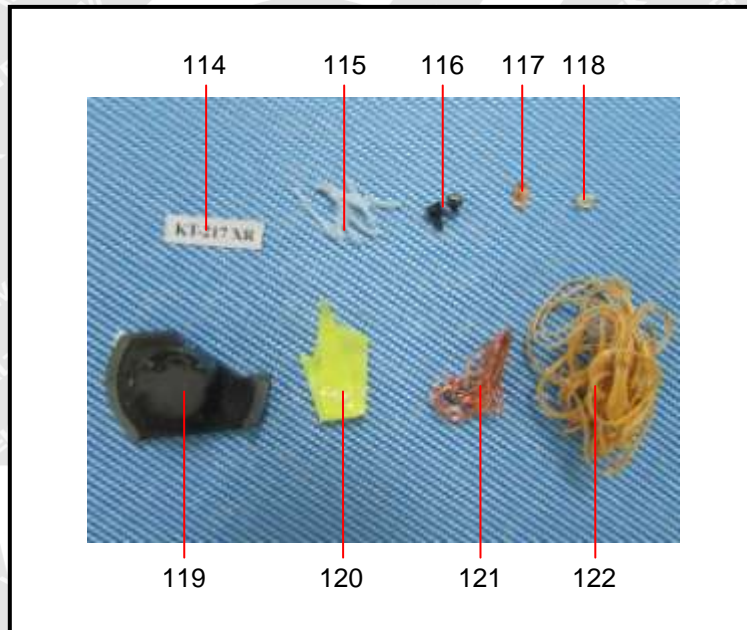
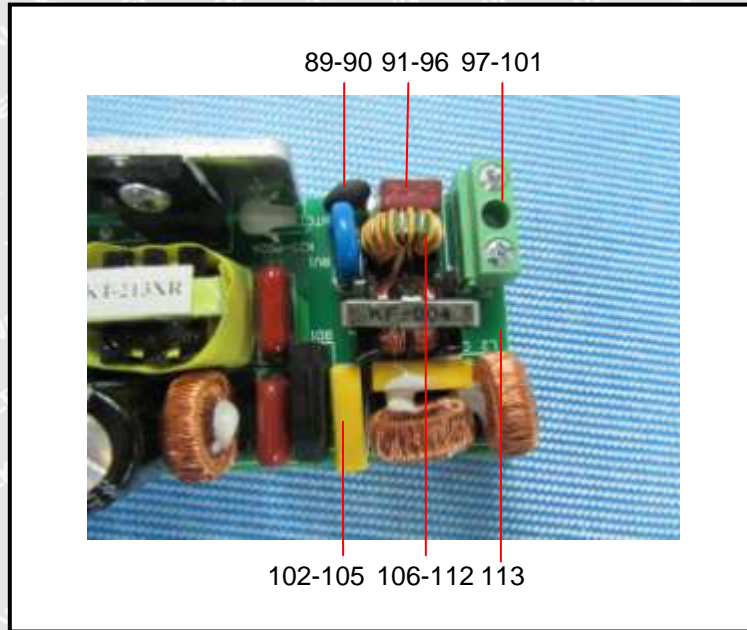


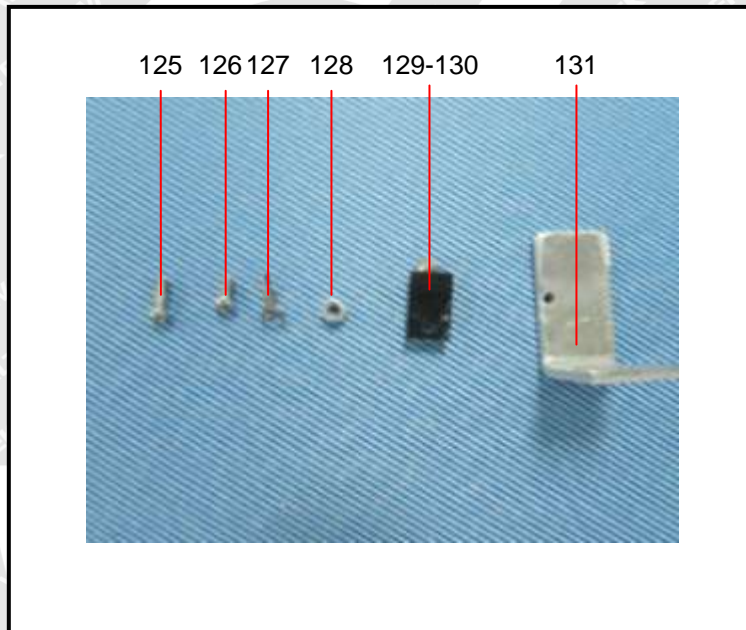
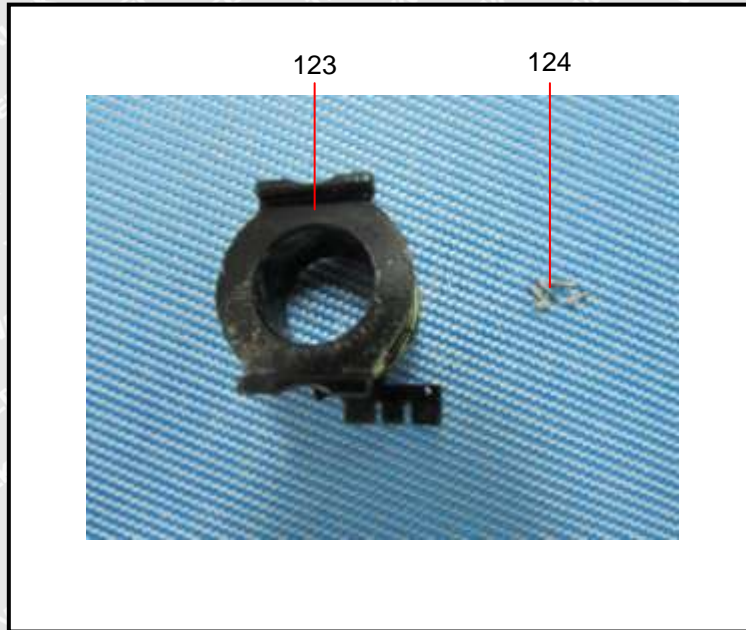


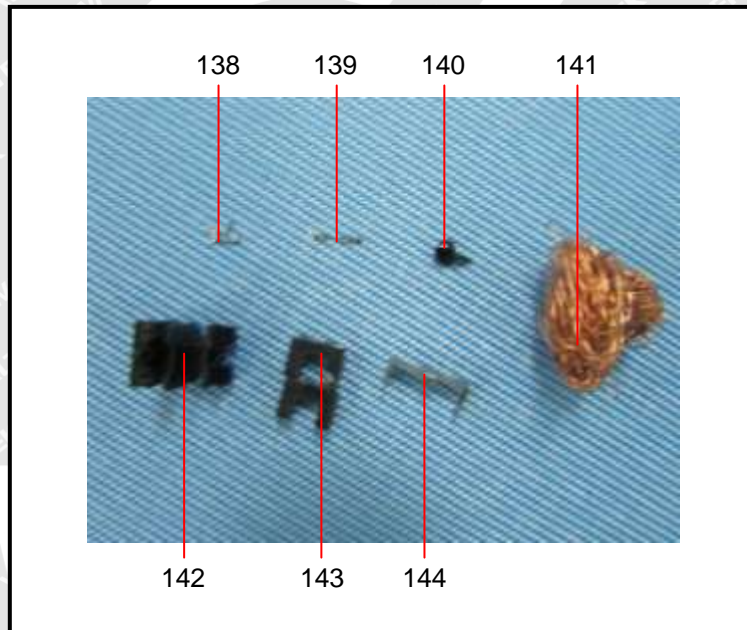
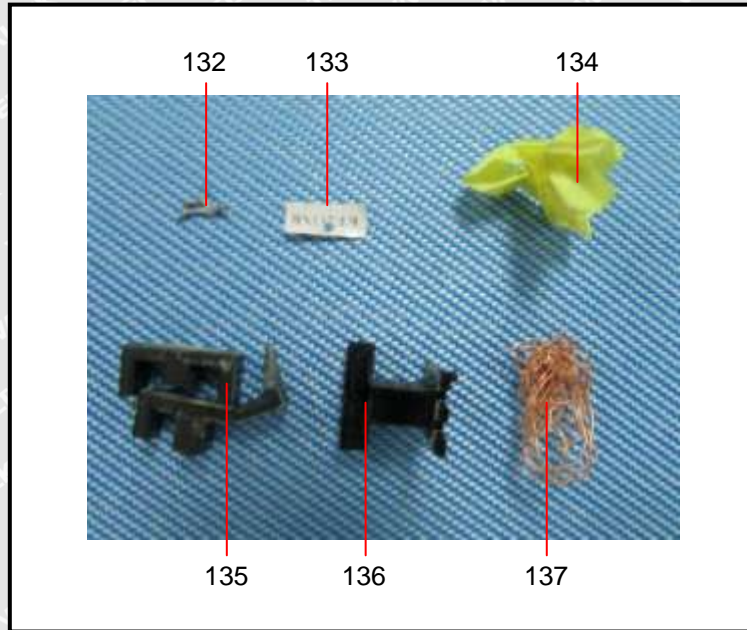


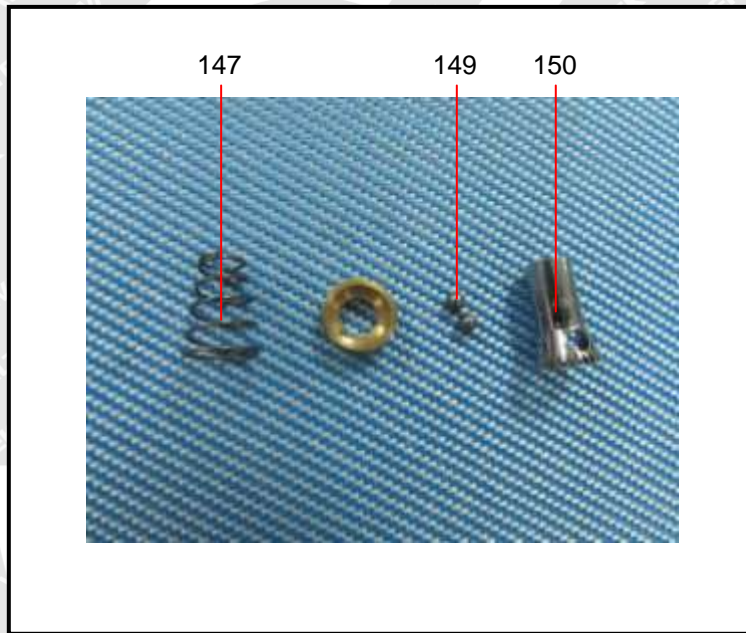
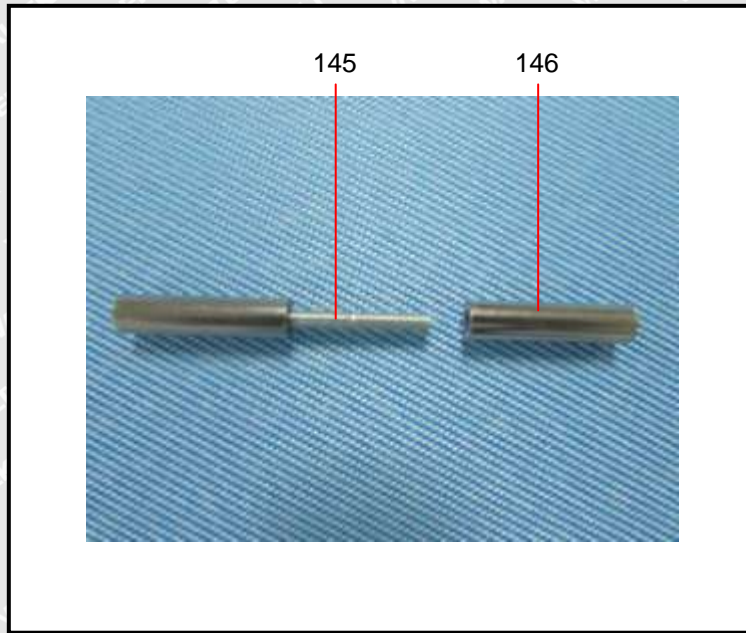










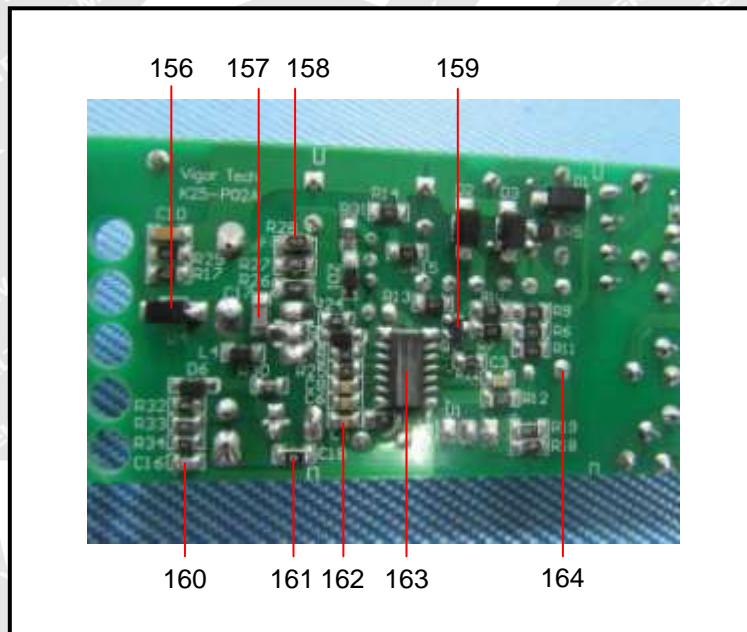
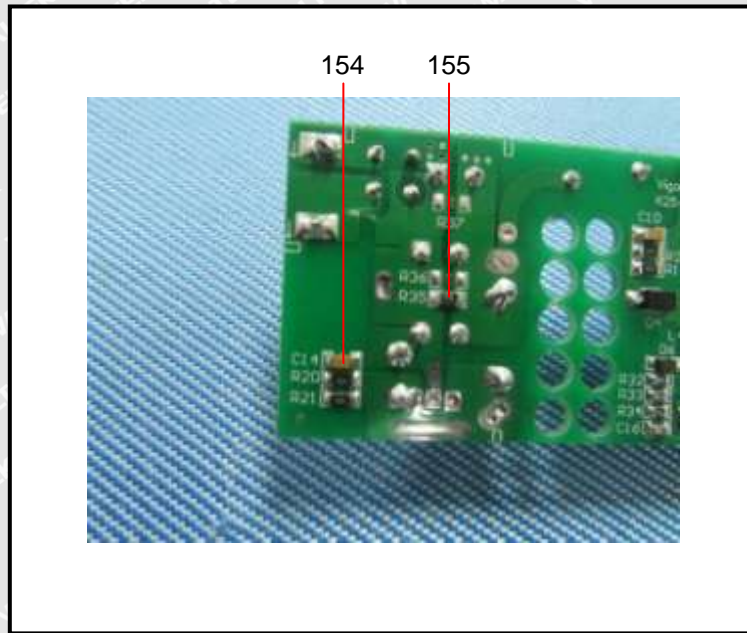


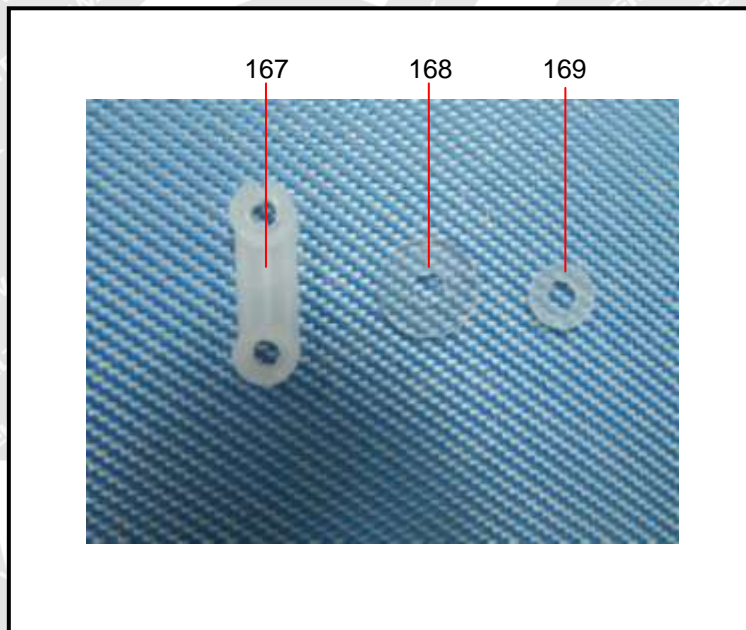
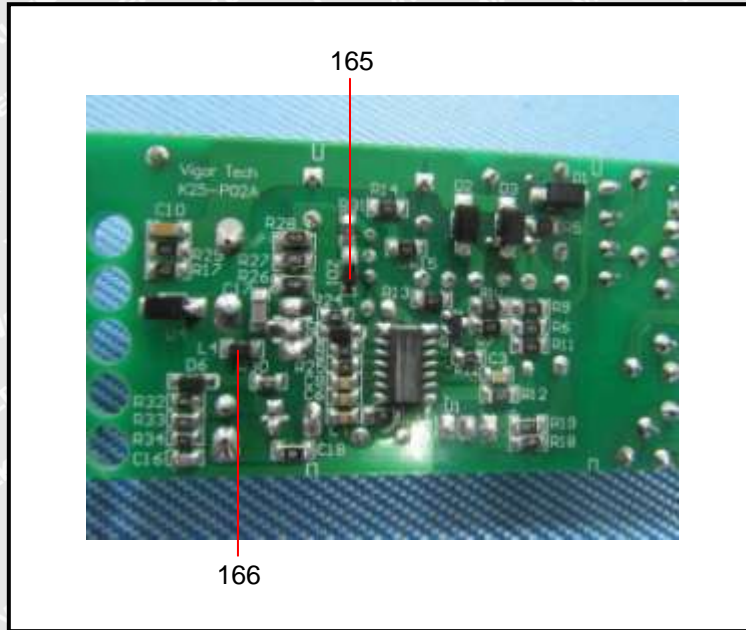


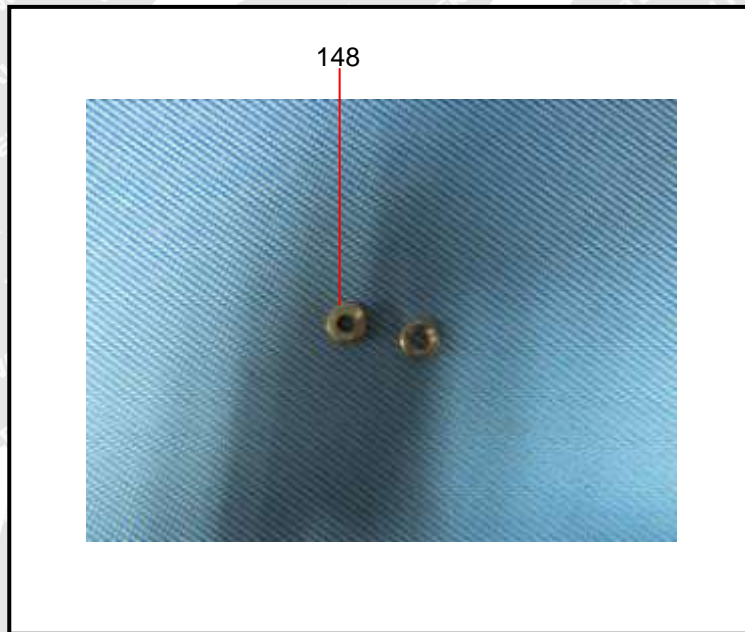
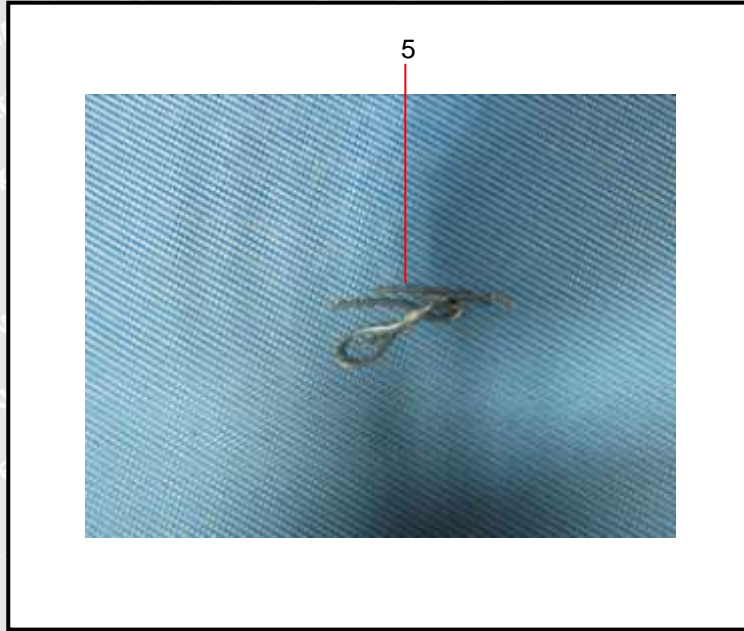
151-152



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===== End of Report =====