



TEST REPORT

Report No. : WTX19F05030311A1C

Applicant : TOPJET OPTOELECTRONIC CO.,LTD.

Address : No.13 PingDong 4th RD, NanPing S&T Industrial Park,Zhuhai,China
519060

Manufacturer : TOPJET OPTOELECTRONIC CO.,LTD.

Address : No.13 PingDong 4th RD, NanPing S&T Industrial Park,Zhuhai,China
519060

Sample Name : Recessed & Surface Slim Downlight

Model No. : RP-3'-6W, RP-5'-12W, RP-7'-18W, RP-8'-24W, SP-3'-6W, SP-7'-12W ,
SP-8'-24W, RC-3'-6W, RC-5'-12W, RC-7'-18W, RC-8'-24W, SC-3'-6W,
SC-7'-18W, SC-8'-24W

Reference Model No. : RP-3'-9W, RP-5'-16W, RP-7'-20W, RP-8'-20W, RP-8'-22W,
SP-5'-12W, SP-5'-16W, SP-7'-18W, SP-7'-20W, SP-8'-20W,
SP-8'-22W, RC-5'-16W, RC-7'-20W, RC-8'-20W, RC-8'-22W,
SC-3'-9W, SC-5'-12W, SC-5'-16W, SC-7'-20W, SC-8'-20W,
SC-8'-22W

Sample Receiving Date : 2019-05-15 & 2019-06-04 & 2019-06-26

Testing Period..... : 2019-05-15 to 2019-06-27

Date of Issue : 2019-06-28

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 Requested : In accordance with the RoHS Directive 2011/65/EU and its amendment (EU) No. 2015/863.

Test Method : 1) With Reference to IEC 62321-2:2013, disassembly, disjunction and mechanical sample preparation
2) With Reference to IEC 62321-3-1:2013, screening - Lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence spectrometry
3) With reference to IEC 62321-4:2013+AMD1:2017 CSV, determination of Mercury by ICP-OES
4) With reference to IEC 62321-5:2013, determination of Lead and Cadmium by ICP-OES
5) With reference to IEC 62321-7-2: 2017 and IEC 62321-7-1: 2015, determination of Hexavalent Chromium by UV-Vis
6) With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS
7) With reference to IEC 62321-8:2017, determination of Phthalates content by GC-MS.

Test Conclusion : **Pass** (Based on the performed tests on the submitted samples, the results comply with the RoHS Directive 2011/65/EU and its amendment (EU) No. 2015/863)



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**Test Results:****1. Lead, Mercury, Cadmium, Hexavalent Chromium, PBBs and PBDEs**

Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
1	White plastic film	BL	BL	BL	BL	BL	NA
2	White plastic frame	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
3	Transparent plastic sheet	BL	BL	BL	BL	BL	NA
4	White plastic shell	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
5	Silvery metal spring	BL	BL	BL	BL	BL	NA
6	White soft plastic sleeve	BL	BL	BL	BL	BL	NA
7	Black plastic adhesive sheet	BL	BL	BL	BL	BL	NA
8	Silvery metal sleeve	BL	BL	BL	BL	BL	NA
9	White plastic adhesive tape	BL	BL	BL	BL	BL	NA
10	Brown FPC with white coating	BL	BL	BL	BL	BL	NA
11	White plastic wire covering	BL	BL	BL	BL	BL	NA
12	Silvery metal wire	BL	BL	BL	BL	BL	NA
13	Chip LED	BL	BL	BL	BL	BL	NA
14	Solder	BL	BL	BL	BL	BL	NA
15	Chip LED	BL	BL	BL	BL	BL	NA
16	Solder	BL	BL	BL	BL	BL	NA
17	Yellow plastic wire covering	BL	BL	BL	BL	BL	NA
18	White plastic wire jacket	BL	BL	BL	BL	BL	NA
19	Blue plastic wire covering	BL	BL	BL	BL	BL	NA



Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
20	Coppery metal wire	BL	BL	BL	BL	BL	NA
21	Brown plastic wire covering	BL	BL	BL	BL	BL	NA
22	Solder	BL	BL	BL	BL	BL	NA
23	Yellow-green plastic film of electrolytic capacitor	BL	BL	BL	BL	BL	NA
24	White plastic base of connector	BL	BL	BL	BL	BL	NA
25	Silvery metal pin of connector	BL	BL	BL	BL	BL	NA
26	Black body of audion	BL	BL	BL	BL	BL	NA
27	Dark grey magnetic bead of audion	BL	BL	BL	IN	BL	Cr ⁶⁺ : ND
28	Silvery metal pin of audion	BL	BL	BL	BL	BL	NA
29	Black heat-shrinkable tube of inductor	BL	BL	BL	BL	BL	NA
30	Dark grey magnetic core of inductor	BL	BL	BL	IN	BL	Cr ⁶⁺ : ND
31	Coppery metal winding of inductor	BL	BL	BL	BL	BL	NA
32	Silvery metal pin of inductor	BL	BL	BL	BL	BL	NA
33	Black heat-shrinkable tube of resistor	BL	BL	BL	BL	BL	NA
34	Grey body with multicolour printing of resistor	BL	BL	BL	BL	BL	NA
35	Silvery metal pin of resistor	BL	BL	BL	BL	BL	NA
36	Black plastic film of electrolytic capacitor	BL	BL	BL	BL	BL	NA
37	Black rubber stopper of electrolytic capacitor	BL	BL	BL	BL	BL	NA
38	Silvery metal shell of electrolytic capacitor	BL	BL	BL	BL	BL	NA
39	Brown paper of electrolytic capacitor	BL	BL	BL	BL	BL	NA



Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
40	Silvery-grey metal foil of electrolytic capacitor	BL	BL	BL	BL	BL	NA
41	Grey metal foil of electrolytic capacitor	BL	BL	BL	BL	BL	NA
42	Transparent plastic adhesive tape of electrolytic capacitor	BL	BL	BL	BL	BL	NA
43	Silvery metal pin of electrolytic capacitor	BL	BL	BL	BL	BL	NA
44	Transparent plastic adhesive label with black printing of transformer	BL	BL	BL	BL	BL	NA
45	Red plastic adhesive tape of transformer	BL	BL	BL	BL	BL	NA
46	Black plastic bobbin of transformer	BL	BL	BL	BL	BL	NA
47	Dark grey magnetic core of transformer	BL	BL	BL	BL	BL	NA
48	Coppery metal winding of transformer	BL	BL	BL	BL	BL	NA
49	Silvery metal pin of transformer	BL	BL	BL	BL	BL	NA
50	Red body of capacitor	BL	BL	BL	BL	BL	NA
51	Silvery metal pin of capacitor	BL	BL	BL	BL	BL	NA
52	Blue body of resistor	BL	BL	BL	BL	BL	NA
53	Silvery metal pin of resistor	BL	BL	BL	BL	BL	NA
54	Solder	BL	BL	BL	BL	BL	NA
55	Chip diode	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
56	Chip diode	BL	BL	BL	BL	BL	NA
57	Chip audion	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
58	Chip rectifier	BL	BL	BL	BL	BL	NA
59	Chip inductor	BL	BL	BL	BL	BL	NA



Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
60	Chip resistor	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
61	Solder	BL	IN	BL	BL	BL	Pb :200
62	Chip capacitor	BL	BL	BL	BL	BL	NA
63	Chip diode	BL	BL	BL	BL	BL	NA
64	Beige PCB with green coating	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
65	Chip IC	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
66	Chip resistor	BL	*OL	BL	BL	BL	NA
67	Silvery metal shell of switch	BL	BL	BL	BL	BL	NA
68	Black plastic button of switch	BL	BL	BL	BL	BL	NA
69	Silvery metal sheet of switch	BL	BL	BL	BL	BL	NA
70	Silvery metal bead of switch	BL	BL	BL	BL	BL	NA
71	Silvery metal spring of switch	BL	BL	BL	BL	BL	NA
72	Brown plastic sheet of switch	BL	BL	BL	BL	BL	NA
73	Silvery metal pin of switch	BL	BL	BL	BL	BL	NA
74	White plastic cord anchorage	BL	BL	BL	BL	BL	NA
75	Silvery metal screw	BL	BL	BL	BL	BL	NA
76	Silvery metal screw	BL	BL	BL	BL	BL	NA
77	Black plastic wire covering	BL	BL	BL	BL	BL	NA
78	Red plastic wire covering	BL	BL	BL	BL	BL	NA
79	White plastic shell of connector	BL	BL	BL	BL	BL	NA



Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
80	Silvery metal pin of connector	BL	BL	BL	BL	BL	NA
81	Semi-transparent plastic cap	BL	BL	BL	BL	BL	NA
82	White plastic sleeve	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
83	Yellow plastic adhesive tape of transformer	BL	BL	BL	BL	BL	NA
84	Black plastic bobbin of transformer	BL	BL	BL	BL	BL	NA
85	Beige glue	BL	BL	BL	BL	BL	NA
86	Orange plastic film of electrolytic capacitor	BL	BL	BL	BL	BL	NA
87	Black plastic base of connector	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
88	Silvery metal pin of connector	BL	BL	BL	BL	BL	NA
89	Brown plastic wire covering	BL	BL	BL	BL	BL	NA
90	Blue plastic wire covering	BL	BL	BL	BL	BL	NA
91	White plastic wire jacket	BL	BL	BL	BL	BL	NA
92	Yellow plastic wire covering	BL	BL	BL	BL	BL	NA
93	Grey plastic wire covering	BL	BL	BL	BL	BL	NA
94	White plastic wire covering	BL	BL	BL	BL	BL	NA
95	Yellow plastic adhesive tape of inductor	BL	BL	BL	BL	BL	NA
96	Black plastic bobbin of inductor	BL	BL	BL	BL	BL	NA
97	Coppery metal winding of inductor	BL	BL	BL	BL	BL	NA
98	Dark grey magnetic core of inductor	BL	BL	BL	IN	BL	Cr ⁶⁺ : ND
99	Silvery metal pin of inductor	BL	BL	BL	BL	BL	NA



Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
100	Blue plastic adhesive tape of inductor	BL	BL	BL	BL	BL	NA
101	Black plastic bobbin of inductor	BL	BL	BL	BL	BL	NA
102	Black body of capacitor	BL	BL	BL	BL	BL	NA
103	Silvery metal pin of capacitor	BL	BL	BL	BL	BL	NA
104	Green PCB	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
105	Green plastic film of electrolytic capacitor	BL	BL	BL	BL	BL	NA
106	Chip IC	BL	BL	BL	BL	BL	NA
107	Chip diode	BL	BL	BL	BL	BL	NA
108	Chip resistor	BL	IN	BL	BL	BL	Pb :607
109	Pink plastic adhesive tape of inductor	BL	BL	BL	BL	BL	NA
110	White plastic wire jacket	BL	BL	BL	BL	BL	NA
111	Brown plastic wire covering	BL	BL	BL	BL	BL	NA
112	Blue plastic wire covering	BL	BL	BL	BL	BL	NA
113	Blue plastic wire covering	BL	BL	BL	BL	BL	NA
114	Brown plastic wire covering	BL	BL	BL	BL	BL	NA
115	White plastic wire jacket	BL	BL	BL	BL	BL	NA
116	Off-white plastic wire covering	BL	BL	BL	BL	BL	NA
117	Coppery metal winding of inductor	BL	BL	BL	BL	BL	NA
118	Triple insulation winding of inductor	BL	BL	BL	BL	BL	NA
119	Dark grey magnetic ring of inductor	BL	BL	BL	IN	BL	Cr ⁶⁺ : ND



Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
120	Green coating of inductor	BL	BL	BL	BL	BL	NA
121	Black body of audion	BL	BL	BL	BL	BL	NA
122	Silvery metal pin of audion	BL	BL	BL	BL	BL	NA
123	Brown plastic film of electrolytic capacitor	BL	BL	BL	BL	BL	NA
124	Black body of rectifier	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
125	Silvery metal pin of rectifier	BL	BL	BL	BL	BL	NA
126	Yellow plastic adhesive tape of transformer	BL	BL	BL	BL	BL	NA
127	Black plastic bobbin of transformer	BL	BL	BL	BL	BL	NA
128	Blue body of resistor	BL	BL	BL	BL	BL	NA
129	Silvery metal pin of resistor	BL	BL	BL	BL	BL	NA
130	Blue body of capacitor	BL	BL	BL	BL	BL	NA
131	Silvery metal pin of capacitor	BL	BL	BL	BL	BL	NA
132	Transparent glass plate	BL	BL	BL	BL	BL	NA
133	White plastic holder	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
134	Silvery metal wire	BL	BL	BL	BL	BL	NA
135	Silvery metal buckle	BL	BL	BL	IN	BL	Cr ⁶⁺ : Negative
136	Silvery metal terminal	BL	BL	BL	BL	BL	NA
137	Silvery metal wire	BL	BL	BL	BL	BL	NA
138	Silvery metal buckle	BL	BL	BL	BL	BL	NA
139	Silvery metal terminal	BL	BL	BL	BL	BL	NA



Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
140	White plastic sheet	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
141	Silvery metal screw	BL	BL	BL	BL	BL	NA
142	Semi-transparent plastic sleeve	BL	BL	BL	BL	BL	NA
143	White plastic wire covering	BL	BL	BL	BL	BL	NA
144	Yellow plastic wire covering	BL	BL	BL	BL	BL	NA
145	White plastic shell of connector	BL	BL	BL	BL	BL	NA
146	Silvery metal pin of connector	BL	BL	BL	BL	BL	NA
147	Chip resistor	BL	*OL	BL	BL	BL	NA
148	Chip resistor	BL	IN	BL	IN	BL	Pb :359 Cr ⁶⁺ : ND
149	Solder	BL	BL	BL	BL	BL	NA
150	Solder	BL	BL	BL	BL	BL	NA
151	Transparent plastic body of LED	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
152	Silvery metal pin of LED	BL	BL	BL	BL	BL	NA
153	Chip IC	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
154	Chip capacitor	BL	BL	BL	BL	BL	NA
155	Beige PCB with light white coating	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
156	Silvery metal shell of vibrator	BL	BL	BL	BL	BL	NA
157	Green PCB of sensor	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
158	Black glue of sensor	BL	BL	BL	BL	BL	NA
159	Silvery metal pin of sensor	BL	BL	BL	BL	BL	NA



Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
160	Chip resistor of sensor	BL	BL	BL	IN	BL	Cr ⁶⁺ : ND
161	Solder of sensor	BL	BL	BL	BL	BL	NA
162	Black magnetic sheet of sensor	BL	BL	BL	IN	BL	Cr ⁶⁺ : ND
163	Silvery glass sheet of sensor	BL	BL	BL	BL	BL	NA
164	Chip audion of sensor	BL	BL	BL	BL	BL	NA



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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 Cr^{6+}) and GC-MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1: 2013 (unit: mg/kg)

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

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) mg / kg =milligram per kilogram=ppm, $\mu\text{g}/\text{cm}^2$ = Micrograms per square centimetre.
- (5) ND = Not Detected, less than the value of Method Detection Limit.
- (6) NA = Not Applicable, as the XRF screening test result was below the limit, it was not need to conduct the wet chemical testing.
- (7) 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	$\mu\text{g}/\text{cm}^2$	mg/kg	mg/kg
MDL	2	2	2	2	0.1	5	5

The MDL for single compound of PBBs and PBDEs is 5mg/kg, MDL of Cr^{6+} for polymer and composite sample is 2mg/kg and MDL of Cr^{6+} for metal sample is $0.1\mu\text{g}/\text{cm}^2$.

- (8) ROHS Requirement

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr^{6+})	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)

- (9) According to IEC 62321-7-1:2015, determined of Cr^{6+} on metal sample by boiling water extraction test method, and result is shown as Positive/Negative.
- Boiling water extraction:
- Negative = Absence of Cr^{6+} coating, the detected concentration in boiling water extraction solution is less than $0.10\mu\text{g}/\text{cm}^2$.
- Positive = Presence of Cr^{6+} coating, the detected concentration in boiling water extraction solution is greater than $0.13\mu\text{g}/\text{cm}^2$.
- Information on storage conditions and production date of the tested sample is unavailable and thus Cr^{6+} results represent status of the sample at the time of testing.



(10) Abbreviation:

“Pb” denotes Lead, “Cd” denotes Cadmium, “Hg” denotes Mercury, “Cr” denotes Chromium, “Cr (VI)” denotes Hexavalent Chromium, “Br” denotes Bromine, “PBBs” denotes Total Polybrominated Biphenyls, “PBDEs” denotes Total Polybrominated Diphenyl Ethers.

(11)* = 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.

(12) As per client's requirement, results of specimen 1, from 3 to 6, 8, from 11 to 13, 15, 17, 24, 25, 27, from 29 to 43, from 50 to 53, from 55 to 60, from 62 to 73, from 76 to 84, 86, from 89 to 92, from 94 to 101, 104, 105, 109, from 116 to 120, from 143 to 164 are extracted from report No. WTX19F05030312A1C.



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**2. Phthalates:**

Sample No.	Screening Result (mg/kg)				Result of Wet Chemical Testing (mg/kg)			
	DEHP	DBP	BBP	DIBP	DEHP	DBP	BBP	DIBP
No.1	BL	BL	BL	BL	--	--	--	--
No.2	BL	BL	BL	BL	--	--	--	--
No.3	BL	BL	BL	BL	--	--	--	--
No.4	BL	BL	BL	BL	--	--	--	--
No.6	BL	BL	BL	BL	--	--	--	--
No.7	BL	BL	BL	BL	--	--	--	--
No.9	BL	BL	BL	BL	--	--	--	--
No.10	BL	BL	BL	BL	--	--	--	--
No.11	BL	BL	BL	BL	--	--	--	--
No.13	BL	BL	BL	BL	--	--	--	--
No.15	BL	BL	BL	BL	--	--	--	--
No.17	BL	BL	BL	BL	--	--	--	--
No.18	BL	BL	BL	BL	--	--	--	--
No.19	BL	BL	BL	BL	--	--	--	--
No.21	BL	BL	BL	BL	--	--	--	--
No.23	BL	BL	BL	BL	--	--	--	--
No.24	BL	BL	BL	BL	--	--	--	--
No.26	BL	BL	BL	BL	--	--	--	--
No.27	BL	BL	BL	BL	--	--	--	--
No.29	BL	BL	BL	BL	--	--	--	--
No.30	BL	BL	BL	BL	--	--	--	--
No.33	BL	BL	BL	BL	--	--	--	--
No.34	BL	BL	BL	BL	--	--	--	--
No.35	BL	BL	BL	BL	--	--	--	--
No.36	BL	BL	BL	BL	--	--	--	--
No.37	BL	BL	BL	BL	--	--	--	--
No.39	BL	BL	BL	BL	--	--	--	--
No.42	BL	BL	BL	BL	--	--	--	--
No.44	BL	BL	BL	BL	--	--	--	--
No.45	BL	BL	BL	BL	--	--	--	--
No.46	BL	BL	BL	BL	--	--	--	--
No.47	BL	BL	BL	BL	--	--	--	--
No.50	BL	BL	BL	BL	--	--	--	--
No.52	BL	BL	BL	BL	--	--	--	--
No.55	BL	BL	BL	BL	--	--	--	--
No.56	BL	BL	BL	BL	--	--	--	--
No.57	BL	BL	BL	BL	--	--	--	--
No.58	BL	BL	BL	BL	--	--	--	--
No.59	BL	BL	BL	BL	--	--	--	--
No.60	BL	BL	BL	BL	--	--	--	--



Sample No.	Screening Result (mg/kg)				Result of Wet Chemical Testing (mg/kg)			
	DEHP	DBP	BBP	DIBP	DEHP	DBP	BBP	DIBP
No.62	BL	BL	BL	BL	--	--	--	--
No.63	BL	BL	BL	BL	--	--	--	--
No.64	BL	BL	BL	BL	--	--	--	--
No.66	BL	BL	BL	BL	--	--	--	--
No.68	BL	BL	BL	BL	--	--	--	--
No.72	BL	BL	BL	BL	--	--	--	--
No.74	BL	BL	BL	BL	--	--	--	--
No.77	BL	BL	BL	BL	--	--	--	--
No.78	BL	BL	BL	BL	--	--	--	--
No.81	BL	BL	BL	BL	--	--	--	--
No.82	BL	BL	BL	BL	--	--	--	--
No.83	BL	BL	BL	BL	--	--	--	--
No.84	BL	BL	BL	BL	--	--	--	--
No.85	BL	BL	BL	BL	--	--	--	--
No.86	BL	BL	BL	BL	--	--	--	--
No.87	BL	BL	BL	BL	--	--	--	--
No.89	BL	BL	BL	BL	--	--	--	--
No.90	BL	BL	BL	BL	--	--	--	--
No.91	BL	BL	BL	BL	--	--	--	--
No.92	BL	BL	BL	BL	--	--	--	--
No.93	BL	BL	BL	BL	--	--	--	--
No.94	BL	BL	BL	BL	--	--	--	--
No.95	BL	BL	BL	BL	--	--	--	--
No.96	BL	BL	BL	BL	--	--	--	--
No.98	BL	BL	BL	BL	--	--	--	--
No.100	BL	BL	BL	BL	--	--	--	--
No.101	BL	BL	BL	BL	--	--	--	--
No.102	BL	BL	BL	BL	--	--	--	--
No.104	BL	BL	BL	BL	--	--	--	--
No.105	BL	BL	BL	BL	--	--	--	--
No.106	BL	BL	BL	BL	--	--	--	--
No.107	BL	BL	BL	BL	--	--	--	--
No.108	BL	BL	BL	BL	--	--	--	--
No.109	BL	BL	BL	BL	--	--	--	--
No.110	BL	BL	BL	BL	--	--	--	--
No.111	BL	BL	BL	BL	--	--	--	--
No.112	BL	BL	BL	BL	--	--	--	--
No.113	BL	BL	BL	BL	--	--	--	--
No.114	BL	BL	BL	BL	--	--	--	--
No.115	BL	BL	BL	BL	--	--	--	--



Sample No.	Screening Result (mg/kg)				Result of Wet Chemical Testing (mg/kg)			
	DEHP	DBP	BBP	DIBP	DEHP	DBP	BBP	DIBP
No.116	BL	BL	BL	BL	--	--	--	--
No.118	BL	BL	BL	BL	--	--	--	--
No.119	BL	BL	BL	BL	--	--	--	--
No.120	BL	BL	BL	BL	--	--	--	--
No.121	BL	BL	BL	BL	--	--	--	--
No.123	BL	BL	BL	BL	--	--	--	--
No.124	BL	BL	BL	BL	--	--	--	--
No.126	BL	BL	BL	BL	--	--	--	--
No.127	BL	BL	BL	BL	--	--	--	--
No.128	BL	BL	BL	BL	--	--	--	--
No.130	BL	BL	BL	BL	--	--	--	--
No.133	BL	BL	BL	BL	--	--	--	--
No.140	BL	BL	BL	BL	--	--	--	--
No.142	BL	BL	BL	BL	--	--	--	--
No.143	BL	BL	BL	BL	--	--	--	--
No.144	BL	BL	BL	BL	--	--	--	--
No.145	BL	BL	BL	BL	--	--	--	--
No.147	BL	BL	BL	BL	--	--	--	--
No.148	BL	BL	BL	BL	--	--	--	--
No.151	BL	BL	BL	BL	--	--	--	--
No.153	BL	BL	BL	BL	--	--	--	--
No.154	BL	BL	BL	BL	--	--	--	--
No.155	BL	BL	BL	BL	--	--	--	--
No.157	BL	BL	BL	BL	--	--	--	--
No.158	BL	BL	BL	BL	--	--	--	--
No.160	BL	BL	BL	BL	--	--	--	--
No.162	BL	BL	BL	BL	--	--	--	--
No.163	BL	BL	BL	BL	--	--	--	--
No.164	BL	BL	BL	BL	--	--	--	--

Note:

(1) mg/kg = milligram per kilogram= ppm

(2) Limit as per RoHS Directive 2011/65/EU and its amendment (EU) No. 2015/863

Compound	Limit (mg/kg)
Dibutyl phthalate (DBP)	1000
Benzyl butyl phthalate (BBP)	1000
Di(2-ethylhexyl) phthalate (DEHP)	1000
Di-iso-butyl phthalate (DIBP)	1000

(3) Screening results of Phthalates are for primary screening, and further chemical testing by GC-MS (for DBP, BBP, DEHP and DIBP) are recommended to be performed if the concentration exceeds the below warning value(unit: mg/kg)

Compound	Polymer
DBP	BL ≤ 600 < X
BBP	BL ≤ 600 < X
DEHP	BL ≤ 600 < X
DIBP	BL ≤ 600 < X

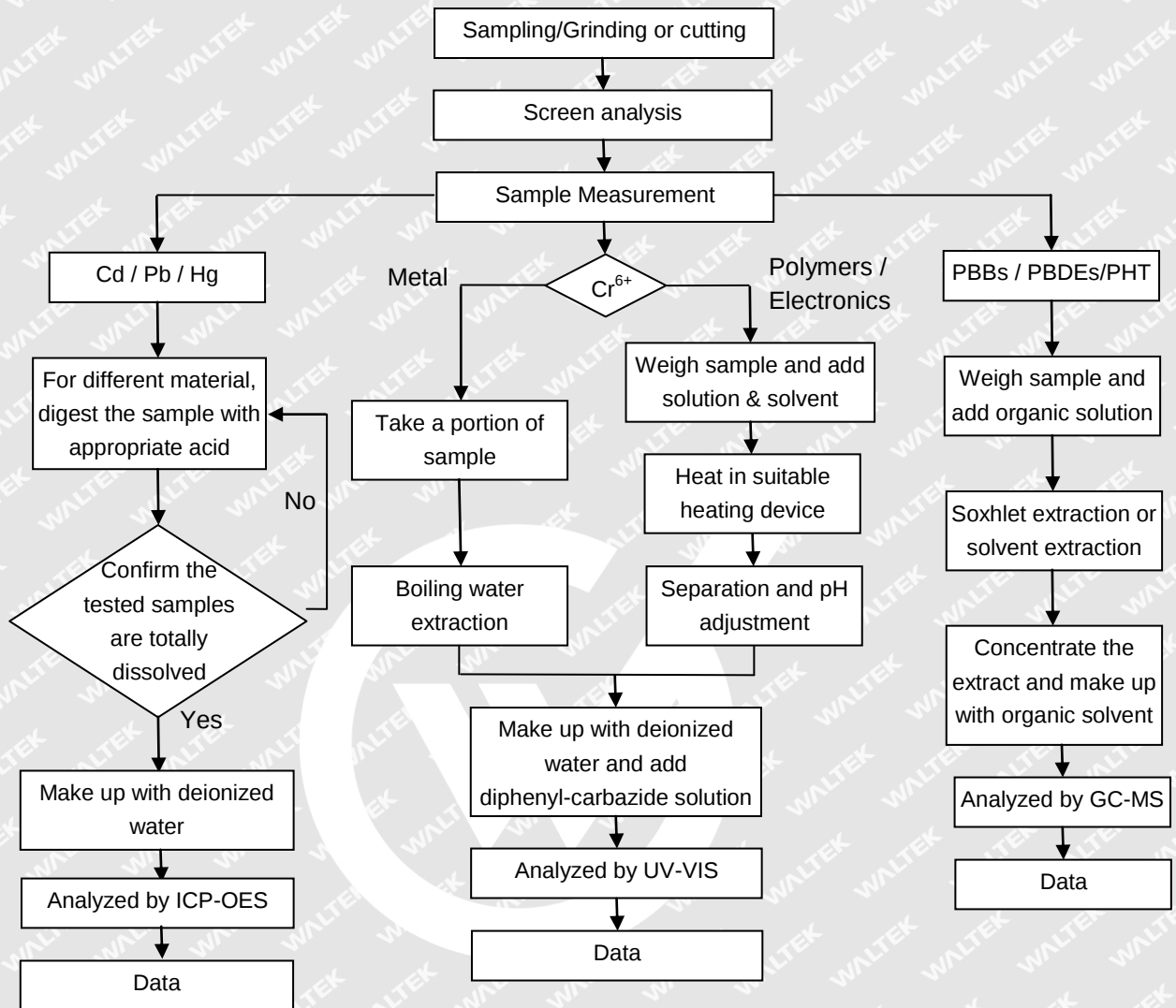
(4) As per client's requirement, results of specimen 1, 3, 4, 6, 11, 13, 15, 17, 24, 27, 29, 30, from 33 to 37, 39, 42, 50, 52, from 55 to 60, from 62 to 64, 66, 68, 72, 77, 78, from 81 to 84, 86, from 89 to 92, from 94 to 96, 98,



100, 101, 104, 105, 109, 116, 118, 119, 120, from 143 to 145, 147, 148, 151, from 153 to 155, 157, 158, 160, from 162 to 164 are extracted from report No. WTX19F05030312A1C.

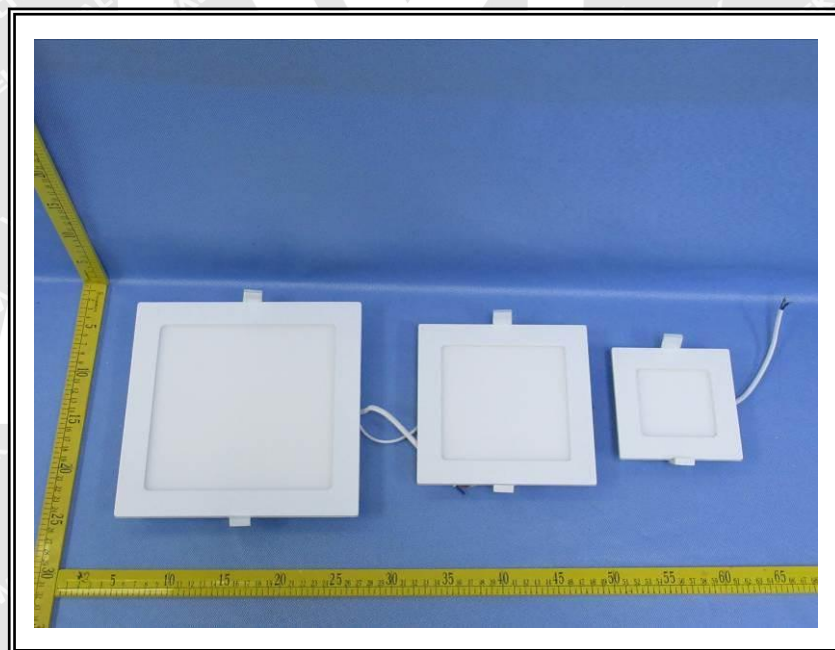


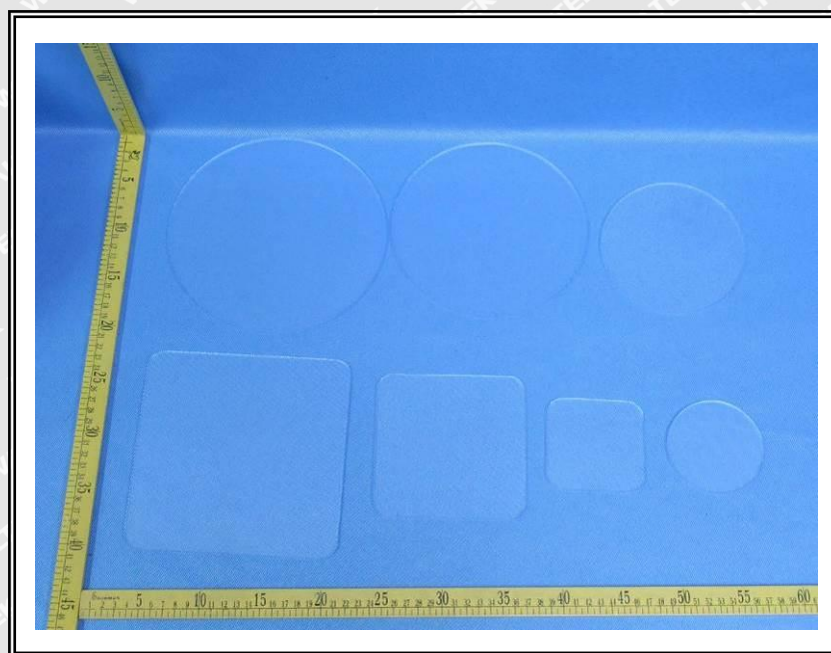
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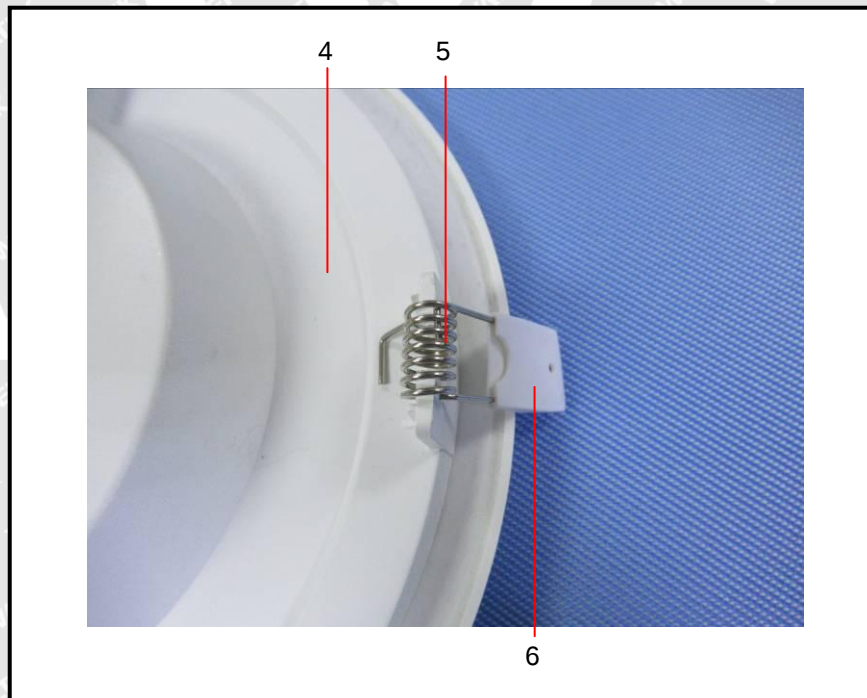
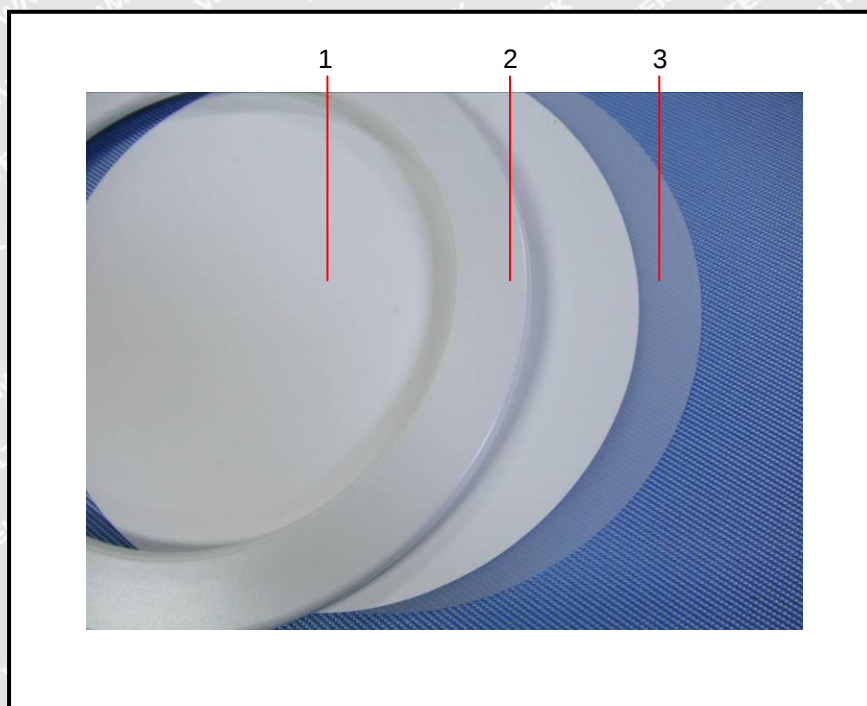
**Measurement Flowchart:**

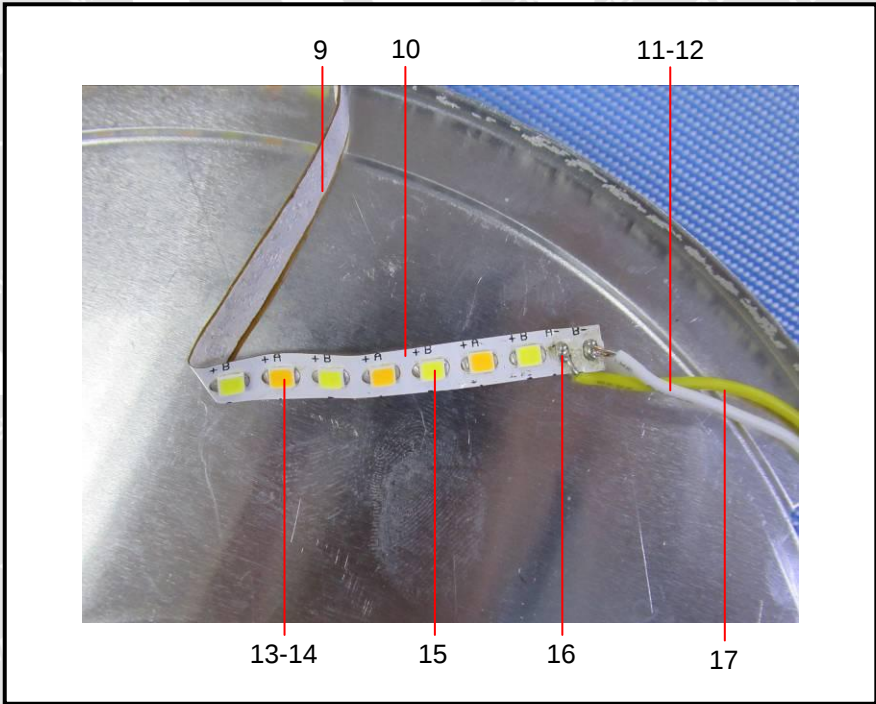
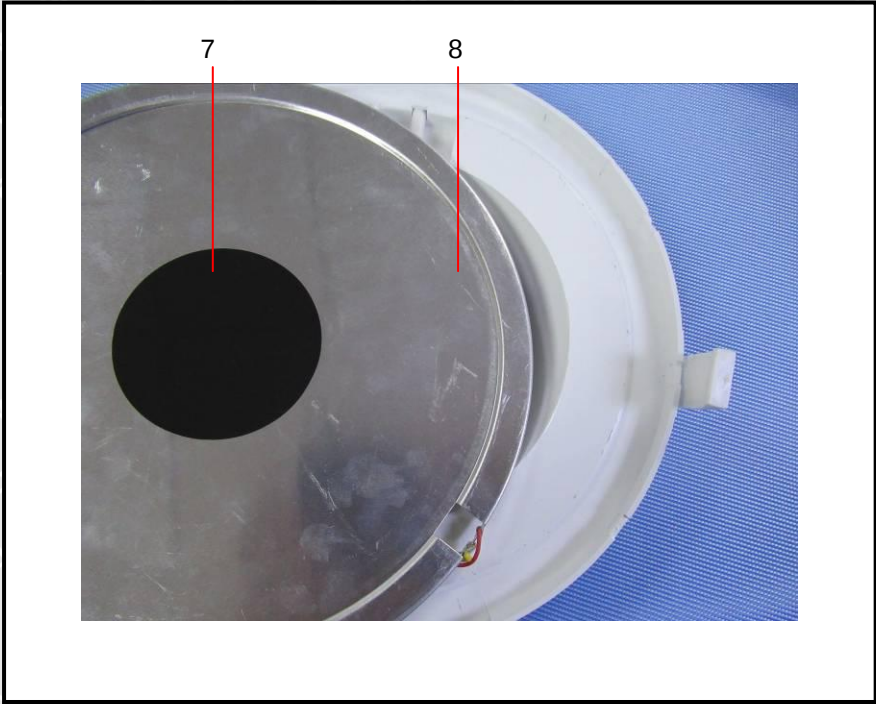


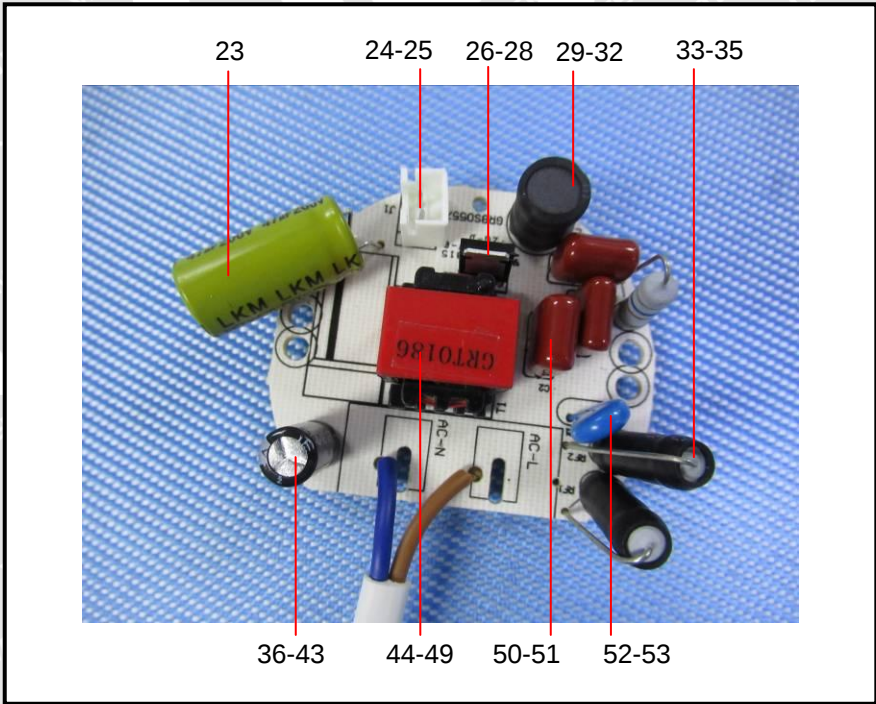
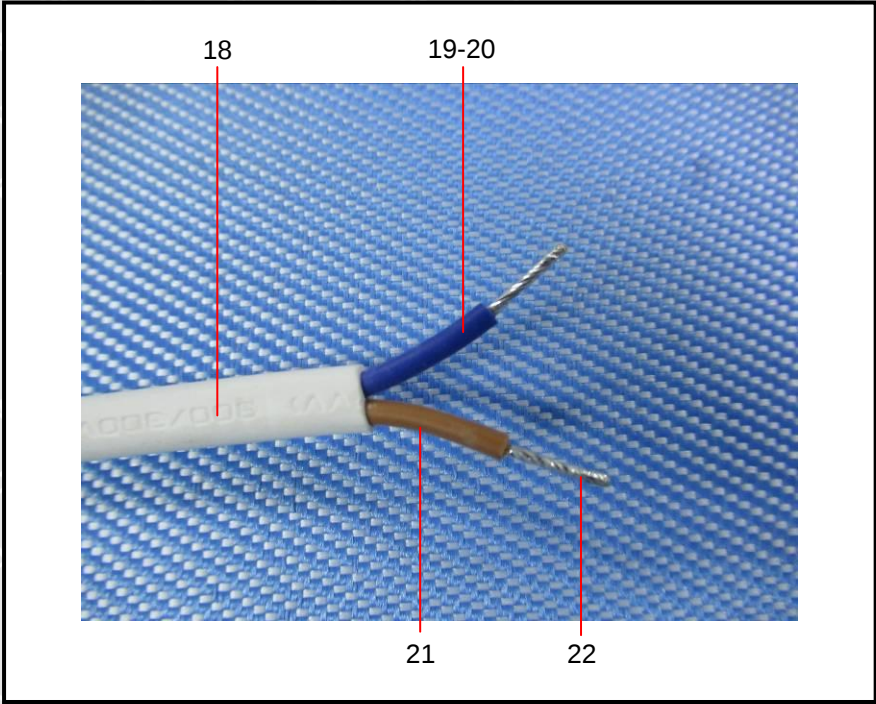
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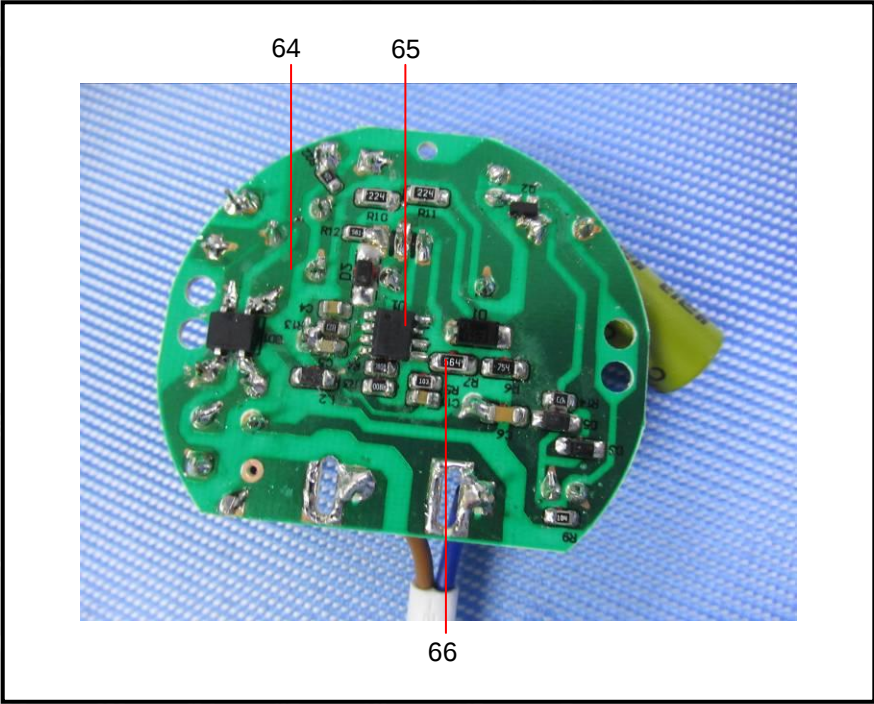
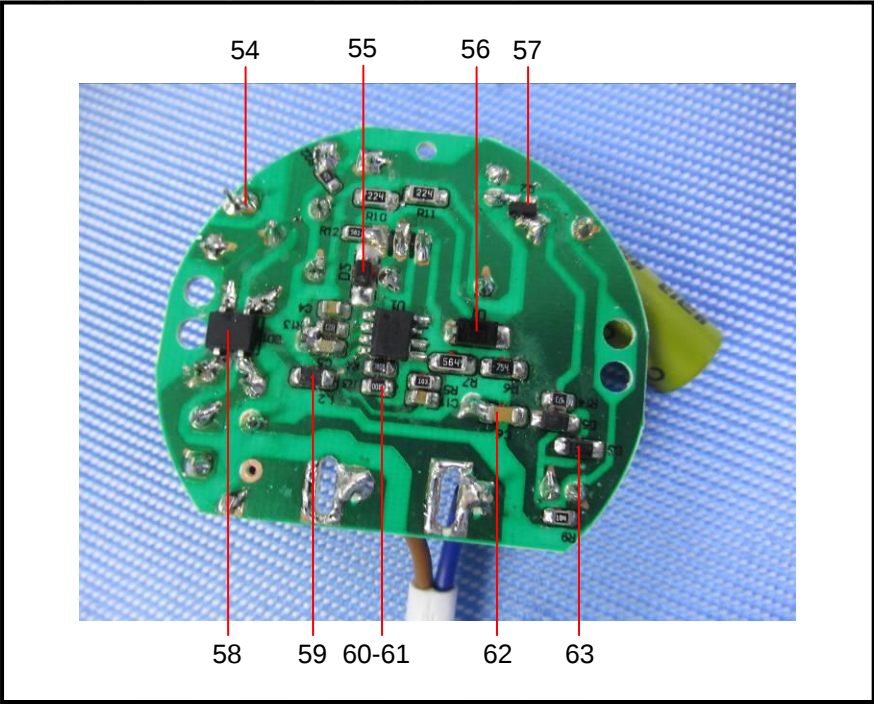


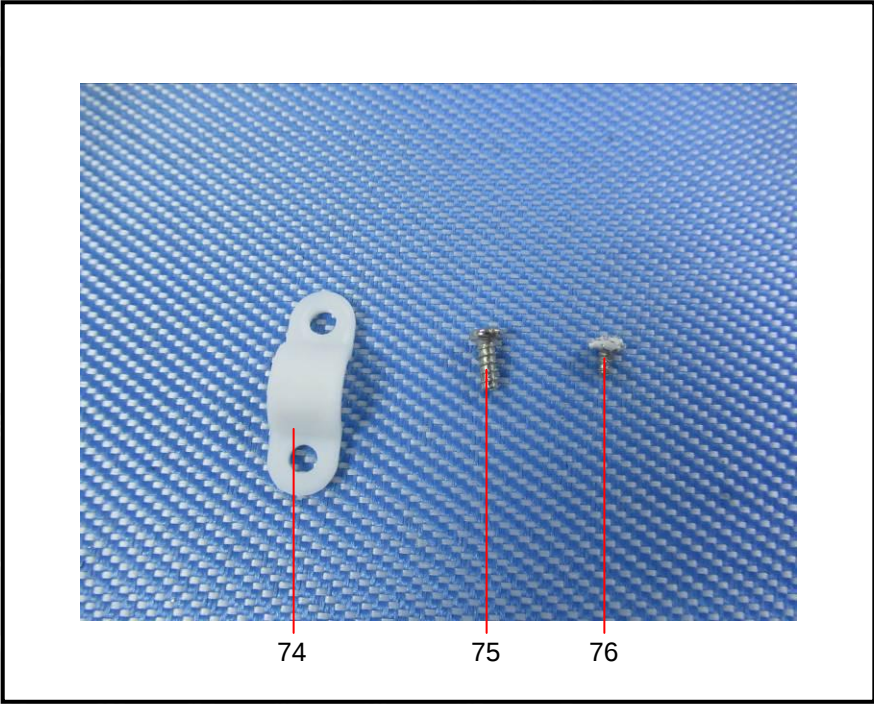
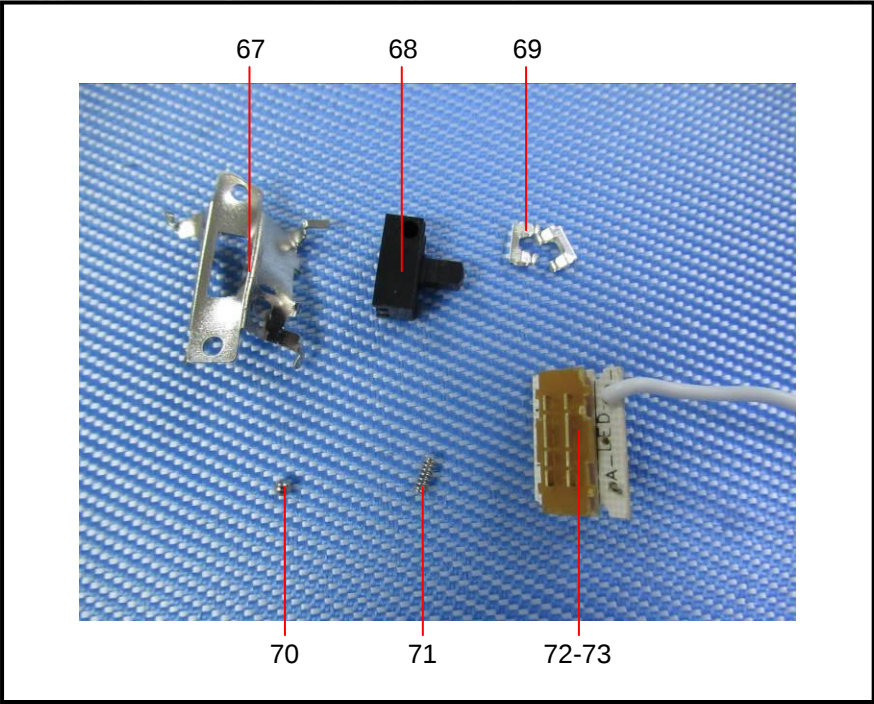


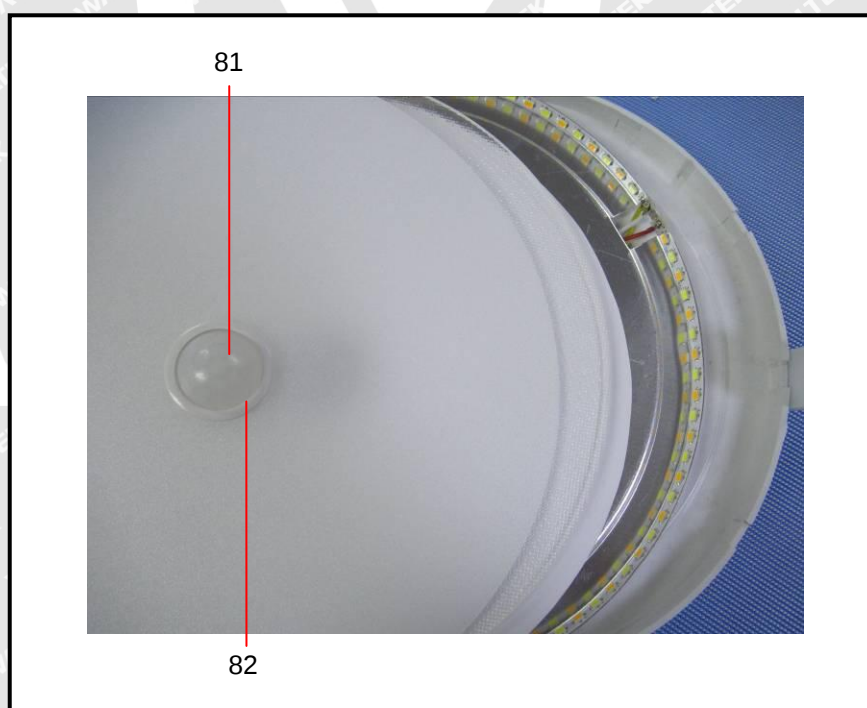
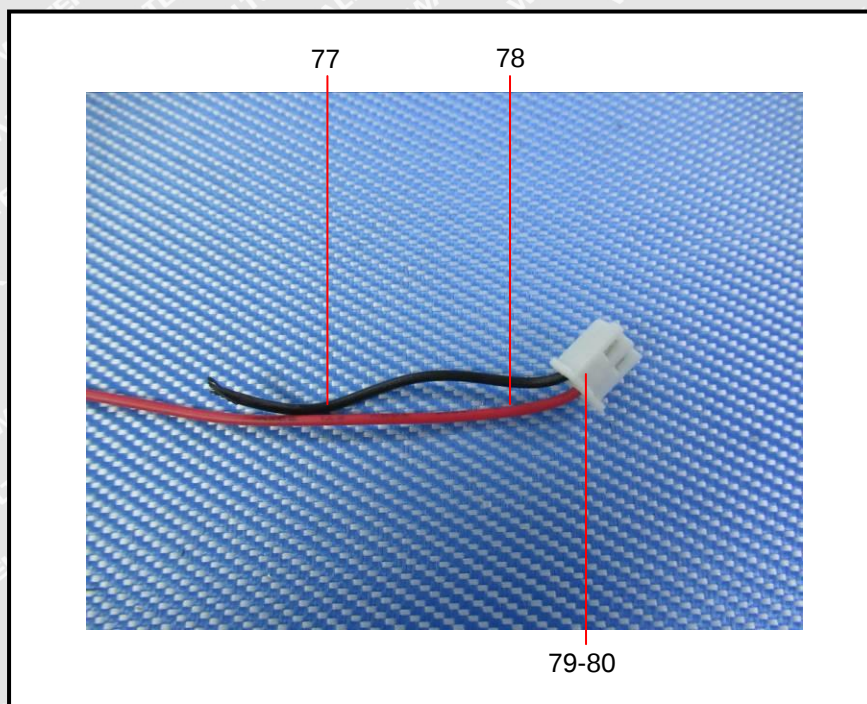
**Photograph of parts tested:**

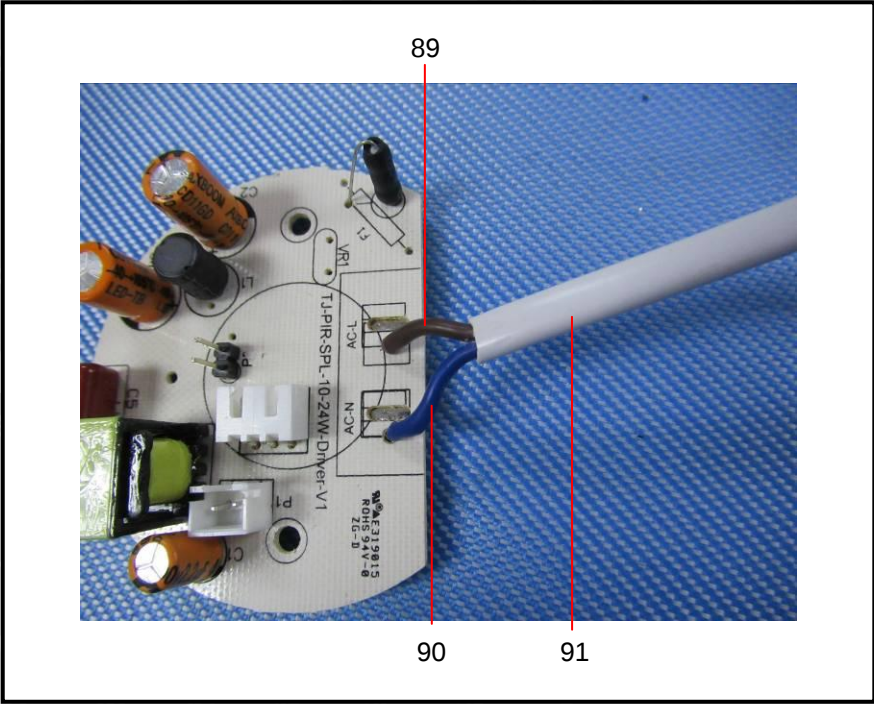
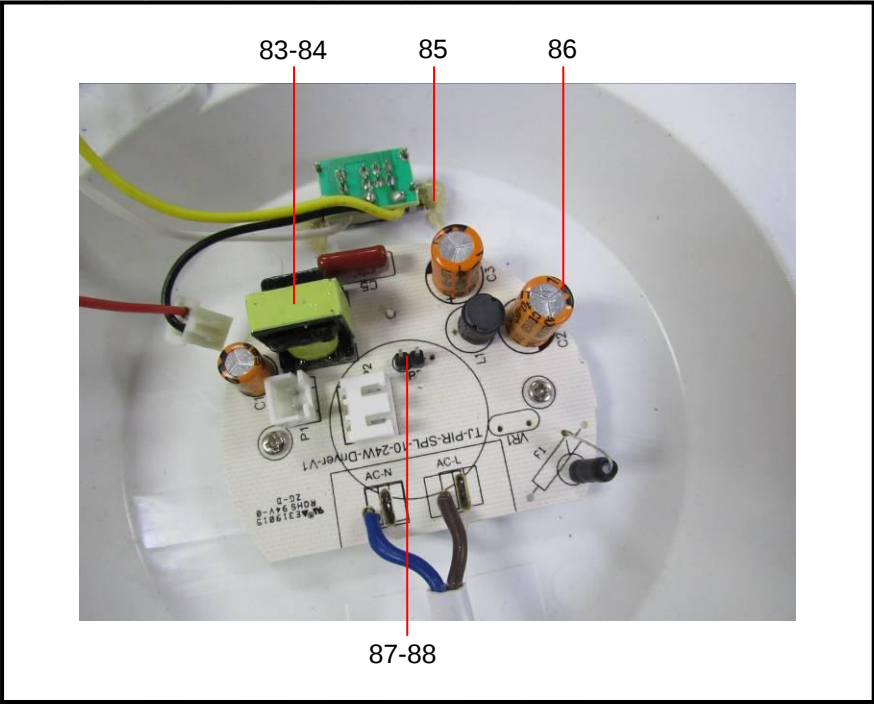


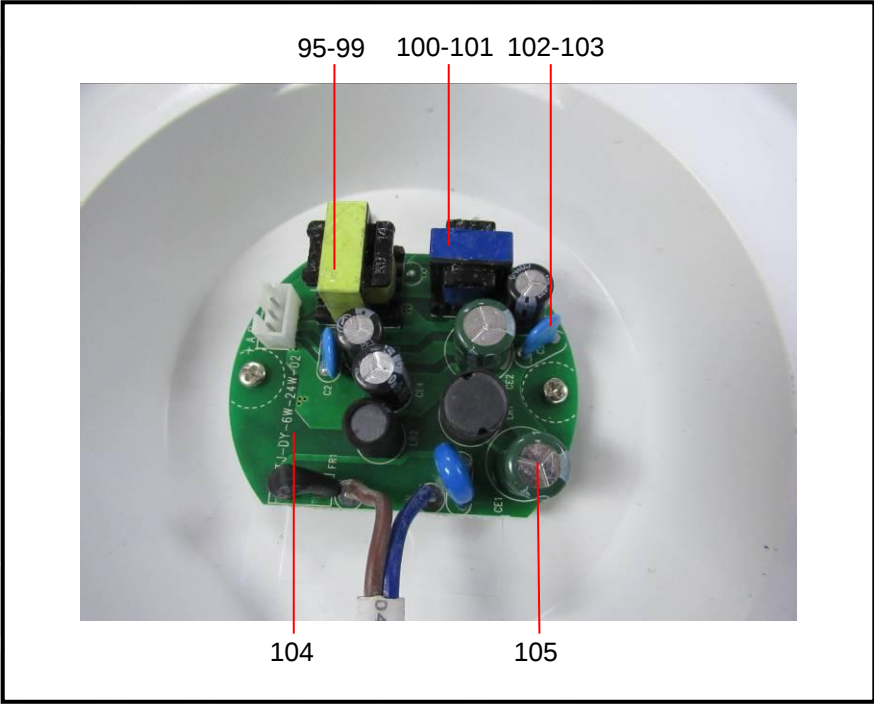
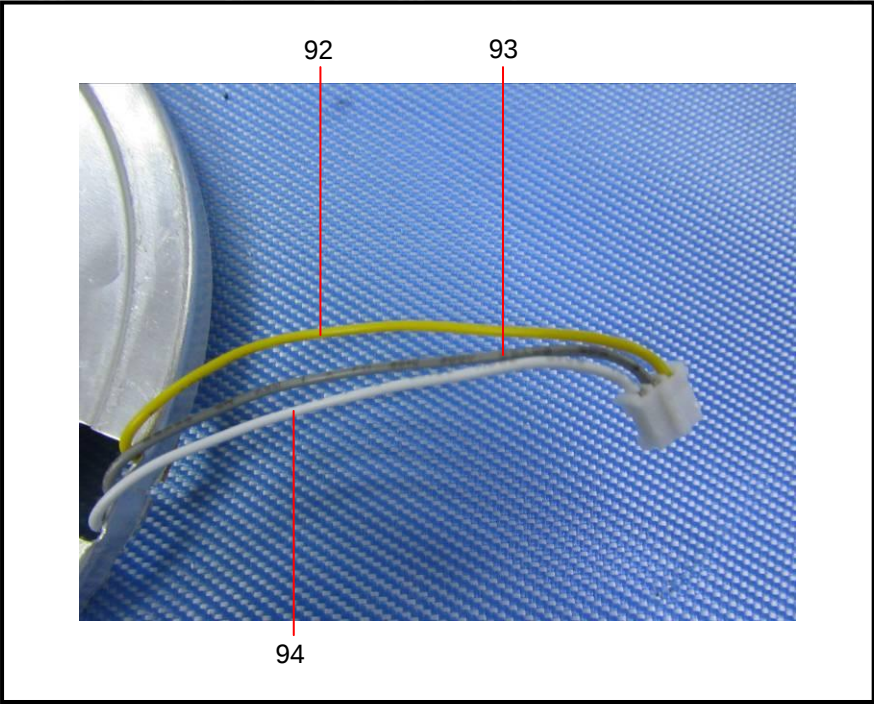


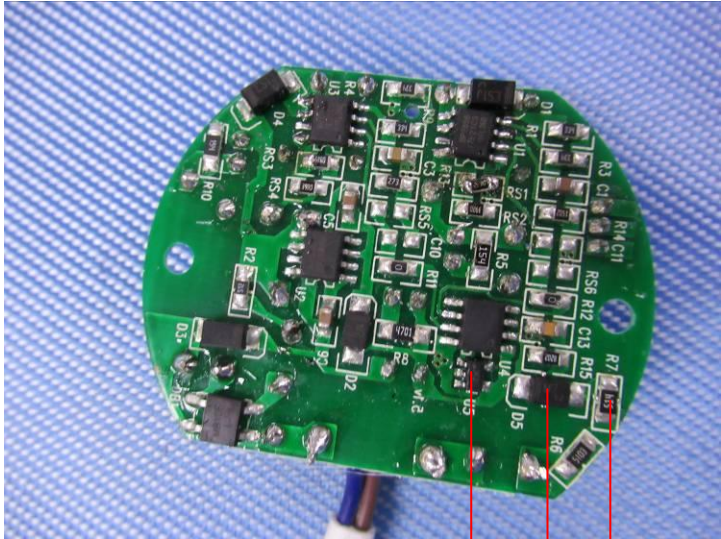




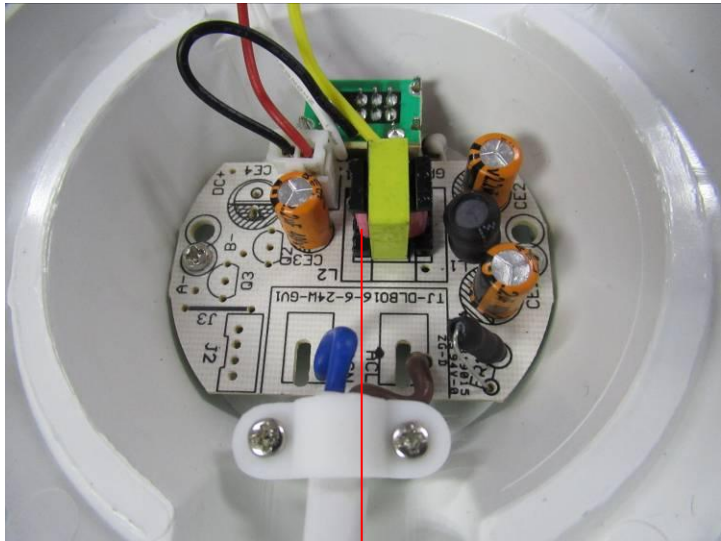




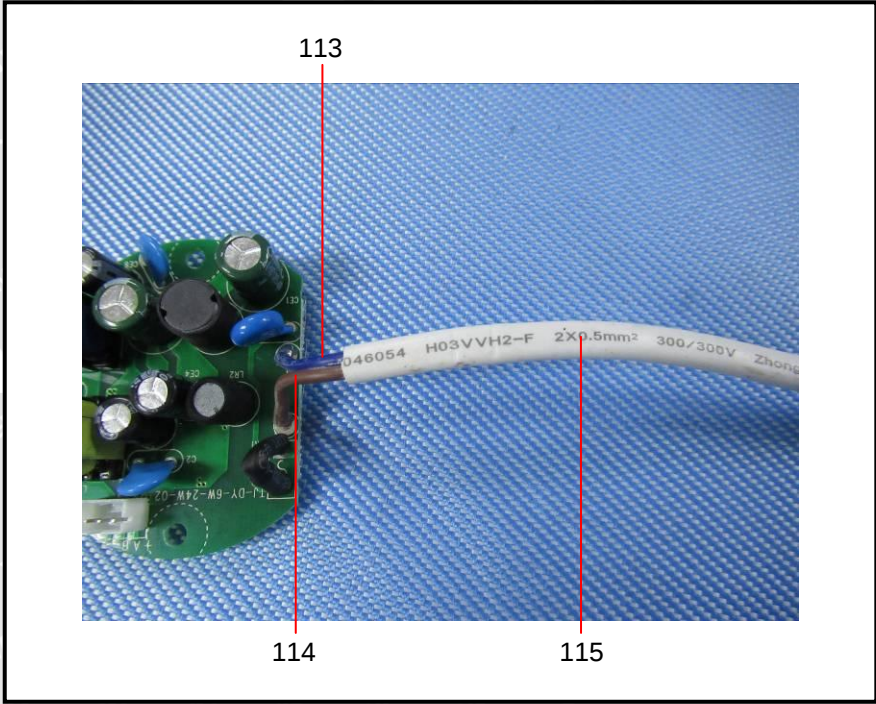
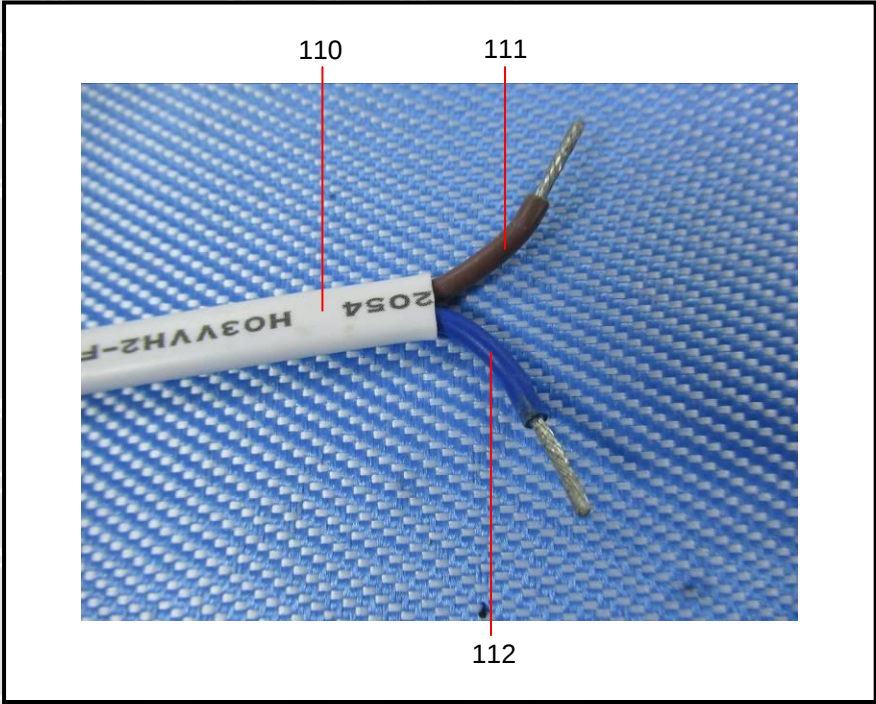


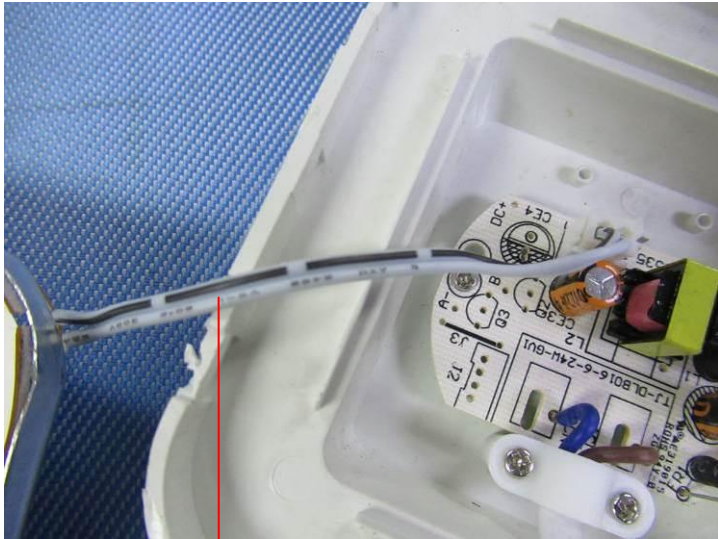


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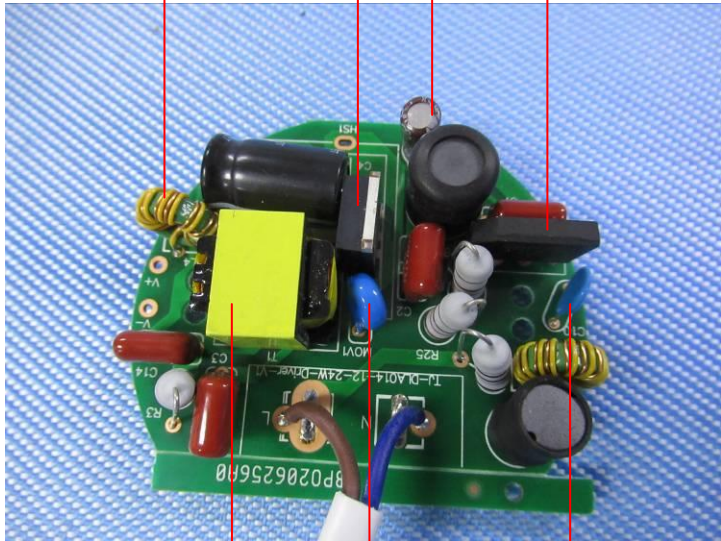


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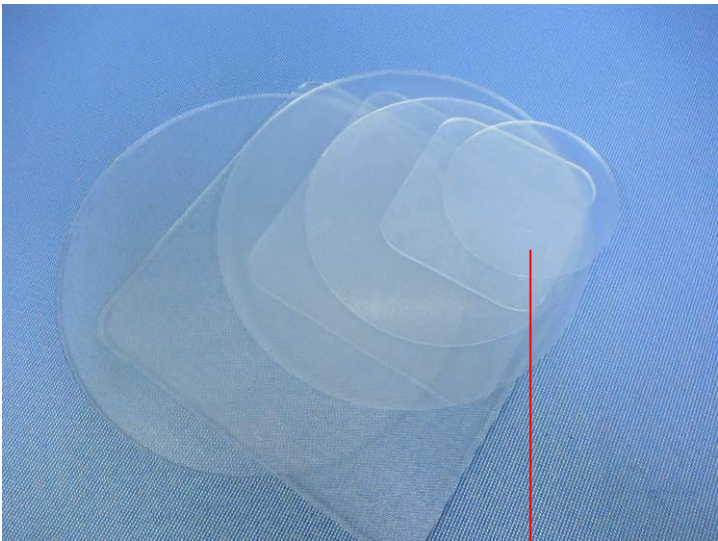
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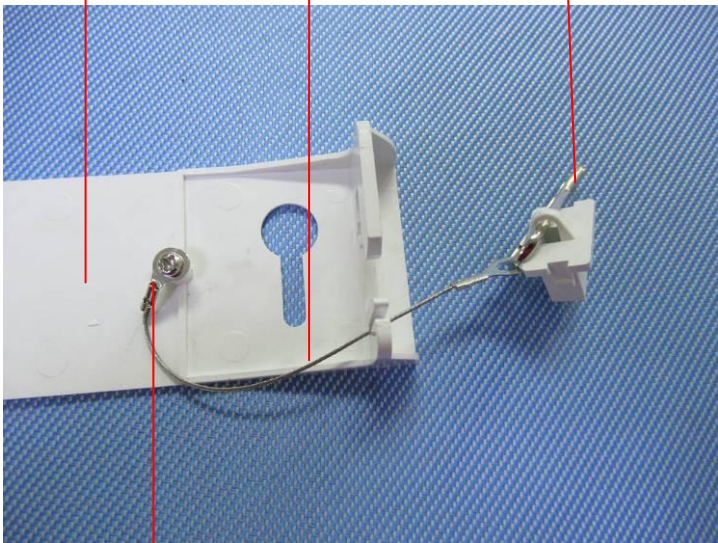
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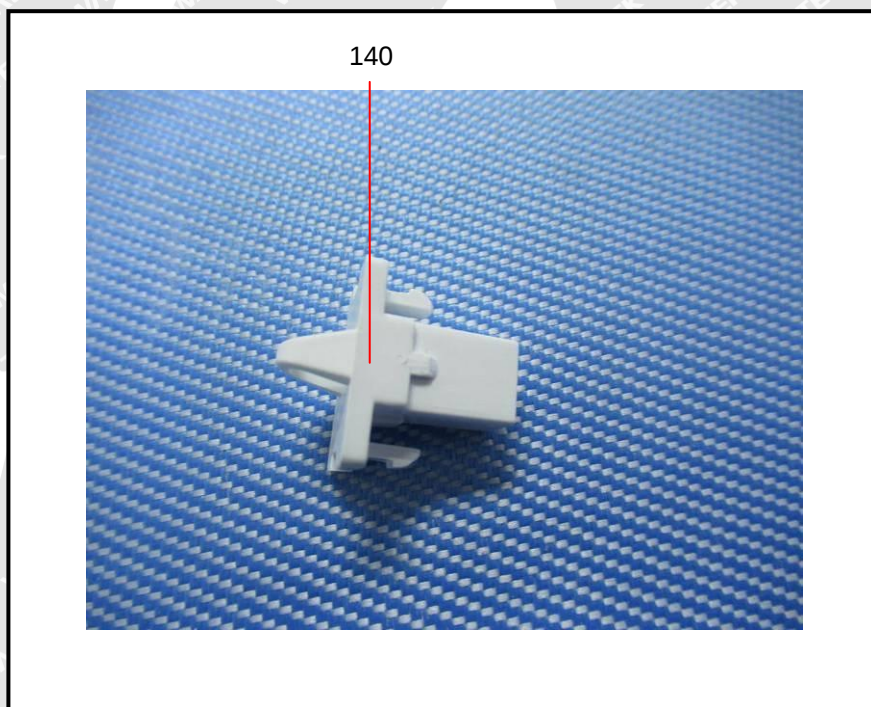
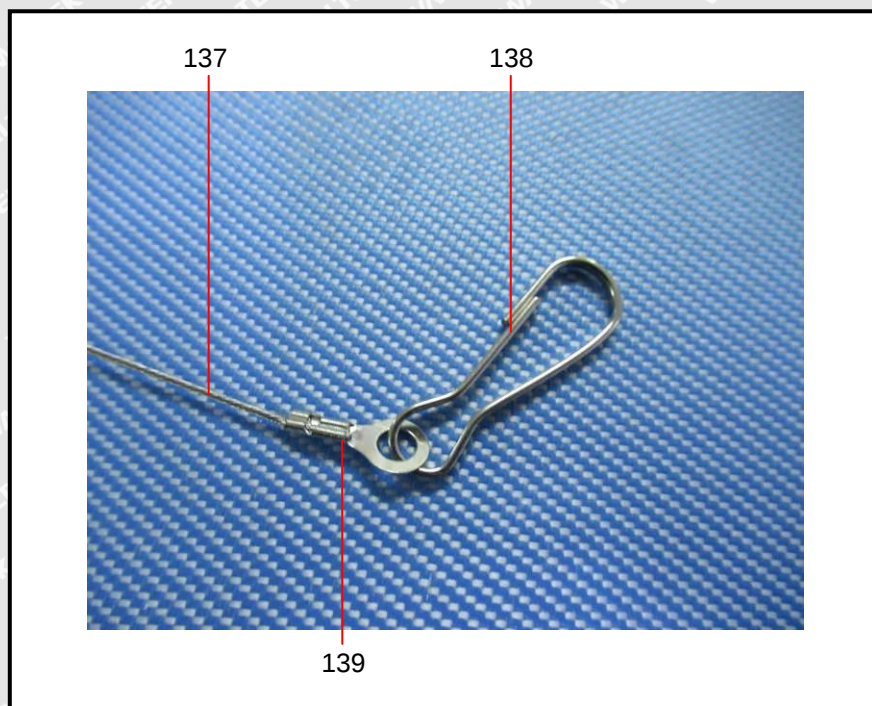


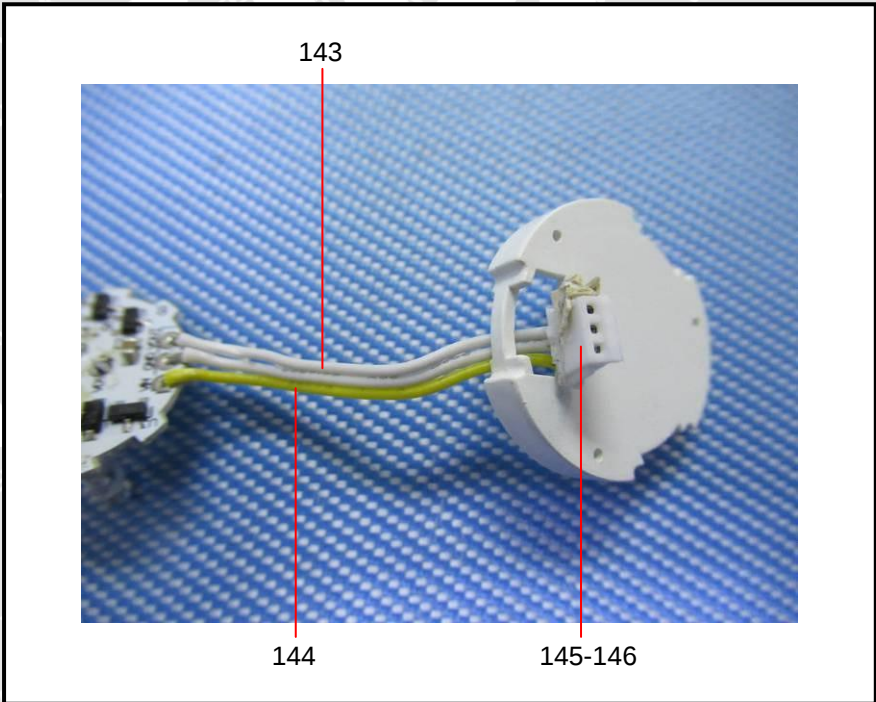
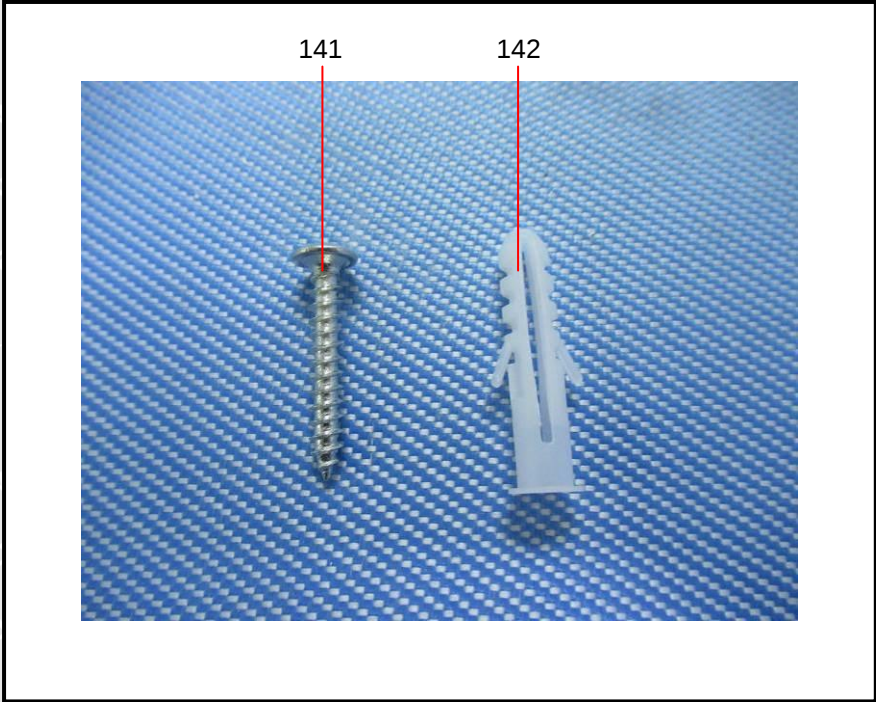
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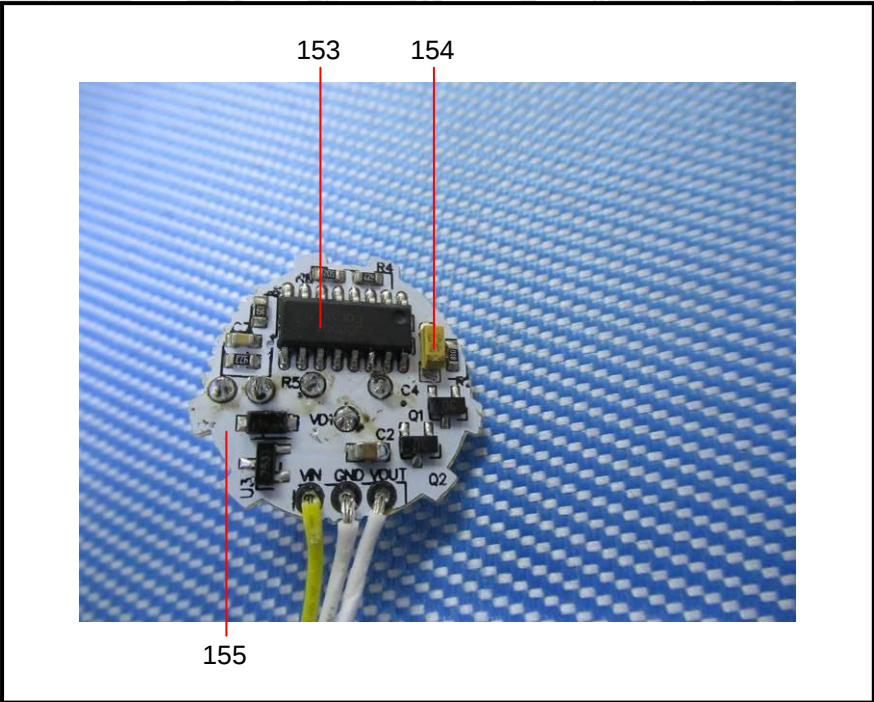
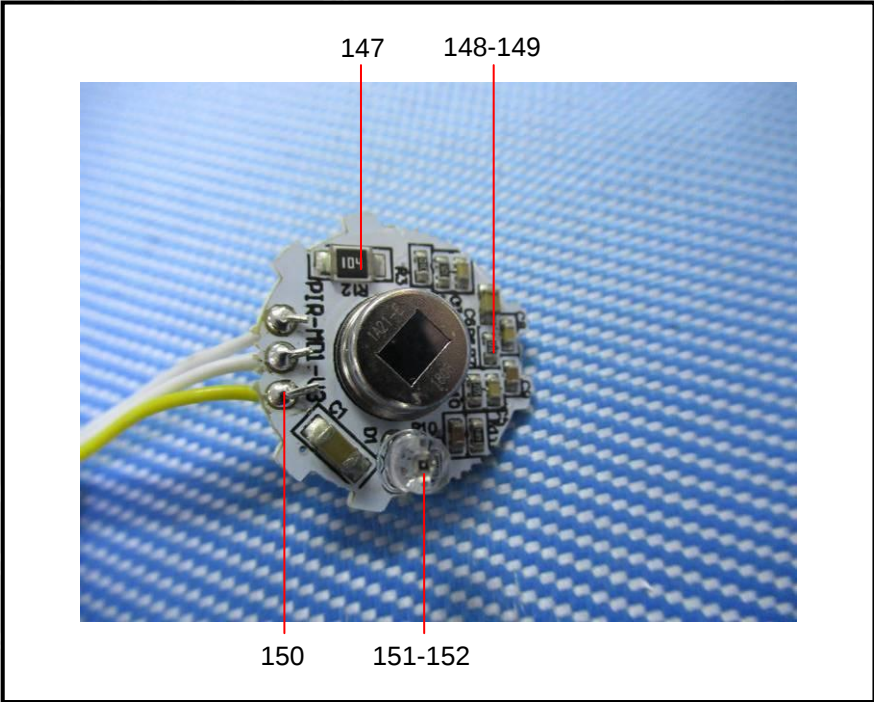
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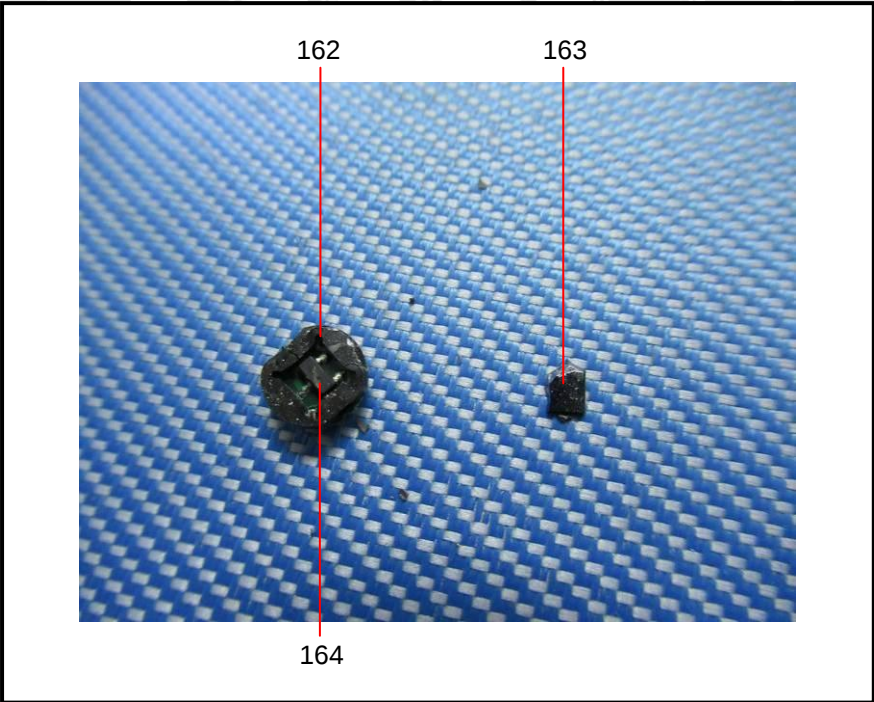
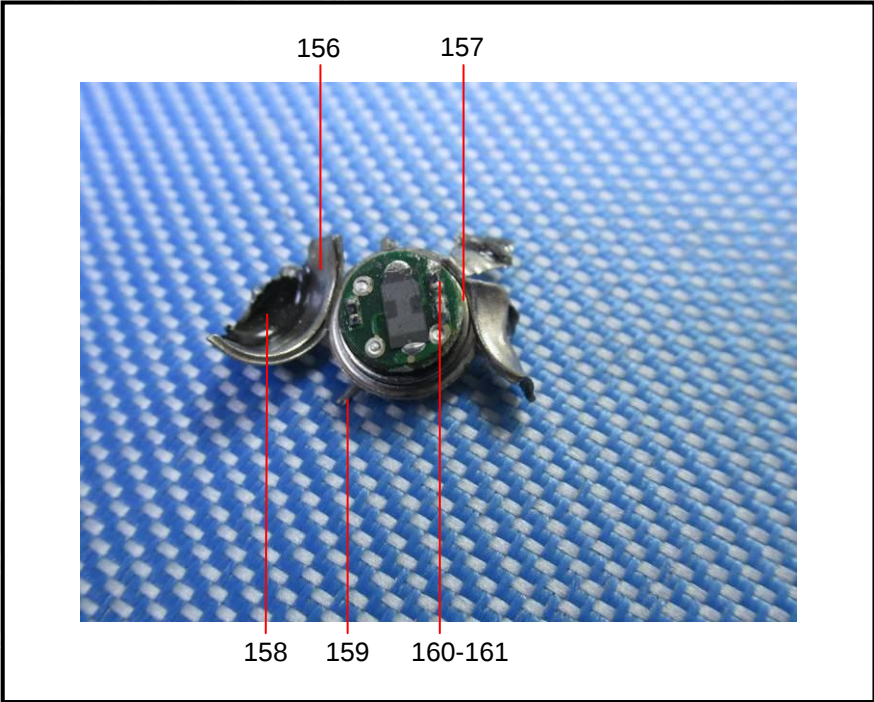
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===== End of Report =====