



中国认可
国际互认
检测
TESTING
CNAS L6478



TEST REPORT

Report No. : WTF22F04063112R2C

Applicant..... : Paul Stricker SA

Address..... : Nucleo industrial de Murtede, lt 5, 3060-375 Murtede,
Portugal

Manufacturer : 0039967

Sample Name : EKSTON Aroma diffuser

Sample Model..... : 97959 | DFL01

Date of Receipt sample : 2022-04-07 & 2022-04-21 & 2022-05-26 & 2022-07-22 &
2022-08-02 & 2022-08-17

Testing period : 2022-04-07 to 2022-04-22 & 2022-05-26 to 2022-06-07 &
2022-07-22 to 2022-07-28 & 2022-08-02 to 2022-08-08 &
2022-08-17 to 2022-08-24

Date of Issue..... : 2022-08-29

Test Result..... : Refer to next page (s)

Note : As per client's requirement, the results from No.1 to
No.88 were quoted from Report No.
WTF22F04063112R1C

Prepared By:

Waltek Testing Group (Foshan) Co., Ltd.

Address: No.13-19, 2/F., 2nd Building, Sunlink International Machinery City,
Chencun, Shunde District, Foshan, Guangdong, China

Tel:+86-757-23811398 Fax:+86-757-23811381 E-mail:info@waltek.com.cn

Signed for and on behalf of
Waltek Testing Group (Foshan) Co., Ltd.

Swing Liang

Swing.Liang



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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 62321-2:2021, 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.

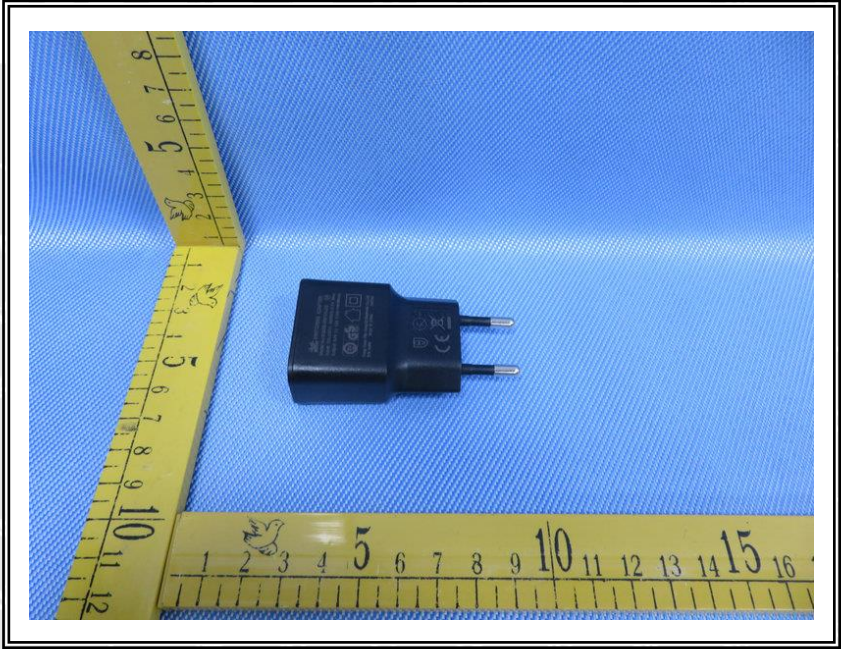
Test Conclusion : **Pass** (Based on the performed tests on the submitted samples, the results comply with the RoHS Directive 2011/65/EU and its amendment (EU) No. 2015/863)

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Sample Photo(s):





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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	Coppery metal shell without black coating	BL	BL	BL	BL	BL	NA
2	Black coating	BL	BL	BL	BL	BL	NA
3	Black plastic base	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
4	White plastic holder	BL	BL	BL	BL	BL	NA
5	Semi-transparent soft plastic washer	BL	BL	BL	BL	BL	NA
6	Black plastic button	BL	BL	BL	BL	BL	NA
7	Black soft plastic sheet	BL	BL	BL	BL	BL	NA
8	White plastic sheet	BL	BL	BL	BL	BL	NA
9	White plastic sheet	BL	BL	BL	BL	BL	NA
10	Semi-transparent soft plastic washer	BL	BL	BL	BL	BL	NA
11	Solder	BL	BL	BL	BL	BL	NA
12	White plastic shell of plug	BL	BL	BL	BL	BL	NA
13	Silvery metal pin of plug	BL	BL	BL	BL	BL	NA
14	Black plastic wire covering	BL	BL	BL	BL	BL	NA
15	White plastic wire covering	BL	BL	BL	BL	BL	NA
16	Silvery metal wire	BL	BL	BL	BL	BL	NA
17	White-black ceramic sheet	BL	*OL	BL	BL	BL	NA
18	White-red plastic wire covering	BL	BL	BL	BL	BL	NA
19	Black plastic key of switch	BL	BL	BL	BL	BL	NA



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Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
20	Black plastic shell of switch	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
21	Silvery metal shell of switch	BL	BL	BL	BL	BL	NA
22	Silvery metal sheet of switch	BL	BL	BL	IN	BL	Cr ⁶⁺ : Negative
23	White PCB	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
24	White plastic shell of socket	BL	BL	BL	BL	BL	NA
25	Silvery metal pin of socket	BL	BL	BL	BL	BL	NA
26	Red plastic wire covering	BL	BL	BL	BL	BL	NA
27	Black plastic wire covering	BL	BL	BL	BL	BL	NA
28	Black plastic shell of socket	BL	BL	BL	BL	BL	NA
29	Silvery metal pin of socket	BL	BL	BL	BL	BL	NA
30	Silvery metal sheet of socket	BL	BL	BL	BL	BL	NA
31	Solder	BL	BL	BL	BL	BL	NA
32	White PCB	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
33	Black heat shrinkable tube of inductor	BL	BL	BL	BL	BL	NA
34	Dark grey magnetic core of inductor	BL	BL	BL	IN	BL	Cr ⁶⁺ : ND
35	Coppery enamelled wire of inductor	BL	BL	BL	BL	BL	NA
36	Green coating of inductor	BL	BL	BL	BL	BL	NA
37	Dark grey magnetic core of inductor	BL	BL	BL	BL	BL	NA
38	Red enamelled wire of inductor	BL	BL	BL	BL	BL	NA
39	Black glue of inductor	BL	BL	BL	BL	BL	NA



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Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
40	Green plastic film of electrolytic capacitor	BL	BL	BL	BL	BL	NA
41	Black rubber stopper of electrolytic capacitor	BL	BL	BL	BL	BL	NA
42	Brown paper of electrolytic capacitor	BL	BL	BL	BL	BL	NA
43	Silvery metal shell of electrolytic capacitor	BL	BL	BL	BL	BL	NA
44	Silvery metal foil of electrolytic capacitor	BL	BL	BL	BL	BL	NA
45	Grey metal foil of electrolytic capacitor	BL	BL	BL	BL	BL	NA
46	Chip audion	BL	BL	BL	BL	BL	NA
47	Chip capacitor	BL	BL	BL	BL	BL	NA
48	Chip LED	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
49	Solder	BL	BL	BL	BL	BL	NA
50	Chip resistor	BL	IN	BL	BL	BL	Pb: 454
51	Chip IC	BL	BL	BL	BL	BL	NA
52	Chip diode	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
53	Chip IC	BL	BL	BL	BL	BL	NA
54	Chip audion	BL	BL	BL	BL	BL	NA
55	Silvery plastic adhesive label	BL	BL	BL	BL	BL	NA
56	Black plastic shell	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
57	White plastic ring	BL	BL	BL	BL	BL	NA
58	Black plastic fan blade	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
59	Purple enamel wire	BL	BL	BL	BL	BL	NA



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Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
60	Black plastic holder	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
61	Silvery metal sheet	BL	BL	BL	BL	BL	NA
62	Silvery metal ring	BL	BL	BL	IN	BL	Cr ⁶⁺ : Negative
63	Black magnetic core	BL	BL	BL	BL	BL	NA
64	Silvery metal axle	BL	BL	BL	IN	BL	Cr ⁶⁺ : Negative
65	Coppery metal sleeve	BL	BL	BL	BL	BL	NA
66	Red plastic shell of plug	BL	BL	BL	BL	BL	NA
67	Black plastic wire covering	BL	BL	BL	BL	BL	NA
68	Chip IC	BL	BL	BL	BL	BL	NA
69	Red plastic wire covering	BL	BL	BL	BL	BL	NA
70	Solder	BL	BL	BL	BL	BL	NA
71	Green PCB	BL	BL	BL	BL	BL	NA
72	Silvery metal shell of plug	BL	BL	BL	BL	BL	NA
73	Silvery metal pin of plug	BL	BL	BL	BL	BL	NA
74	Black plastic jacket of plug	BL	BL	BL	BL	BL	NA
75	Black plastic core of plug	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
76	Solder	BL	BL	BL	BL	BL	NA
77	Black plastic wire covering	BL	BL	BL	BL	BL	NA
78	Coppery metal wire	BL	BL	BL	BL	BL	NA
79	Black plastic jacket of plug	BL	BL	BL	BL	BL	NA



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Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
80	Semi-transparent soft plastic sheet	BL	BL	BL	BL	BL	NA
81	Silvery metal shell of plug	BL	BL	BL	BL	BL	NA
82	White plastic core of plug	BL	BL	BL	BL	BL	NA
83	Silvery metal pin of plug	BL	BL	BL	BL	BL	NA
84	Solder of plug	BL	BL	BL	BL	BL	NA
85	Silvery metal screw	BL	BL	BL	BL	BL	NA
86	Silvery metal screw	BL	BL	BL	BL	BL	NA
87	Silvery metal screw	BL	BL	BL	BL	BL	NA
88	Silvery metal screw	BL	BL	BL	BL	BL	NA
89	Silvery metal pin of plug	BL	BL	BL	BL	BL	NA
90	Black plastic shell of plug	BL	BL	BL	BL	BL	NA
91	Black plastic core of plug	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
92	Green body of inductor	BL	BL	BL	BL	BL	NA
93	Black plastic film of electrolytic capacitor	BL	BL	BL	BL	BL	NA
94	Black rubber stopper of electrolytic capacitor	BL	BL	BL	BL	BL	NA
95	Brown paper of electrolytic capacitor	BL	BL	BL	BL	BL	NA
96	Silvery metal shell of electrolytic capacitor	BL	BL	BL	BL	BL	NA
97	Silvery metal foil of electrolytic capacitor	BL	BL	BL	BL	BL	NA
98	Grey metal foil of electrolytic capacitor	BL	BL	BL	BL	BL	NA
99	Grey body of resistor	BL	BL	BL	BL	BL	NA



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Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
100	Yellow plastic adhesive tape of transformer	BL	BL	BL	BL	BL	NA
101	Black plastic bobbin of transformer	BL	BL	BL	BL	BL	NA
102	Yellow insulation winding of transformer	BL	BL	BL	BL	BL	NA
103	Coppery metal winding of transformer	BL	BL	BL	BL	BL	NA
104	Black magnetic core of transformer	BL	BL	BL	BL	BL	NA
105	Silvery metal pin of transformer	BL	BL	BL	BL	BL	NA
106	Green plastic film of electrolytic capacitor	BL	BL	BL	BL	BL	NA
107	Black rubber stopper of electrolytic capacitor	BL	BL	BL	BL	BL	NA
108	Brown paper of electrolytic capacitor	BL	BL	BL	BL	BL	NA
109	Silvery metal shell of electrolytic capacitor	BL	BL	BL	BL	BL	NA
110	Silvery metal foil of electrolytic capacitor	BL	BL	BL	BL	BL	NA
111	Grey metal foil of electrolytic capacitor	BL	BL	BL	BL	BL	NA
112	Silvery metal sheet	BL	BL	BL	BL	BL	NA
113	Blue body of capacitor	BL	BL	BL	BL	BL	NA
114	White glue	BL	BL	BL	BL	BL	NA
115	Silvery metal shell of socket	BL	BL	BL	BL	BL	NA
116	Silvery metal pin of socket	BL	BL	BL	BL	BL	NA
117	White plastic core of socket	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
118	Black plastic film	BL	BL	BL	BL	BL	NA
119	Solder	BL	BL	BL	BL	BL	NA



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Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
120	Chip rectifier	BL	BL	BL	BL	BL	NA
121	Chip diode	BL	BL	BL	BL	BL	NA
122	Chip IC	BL	BL	BL	BL	BL	NA
123	Green-yellow PCB	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
124	Chip resistor	BL	IN	BL	BL	BL	Pb :290
125	Chip capacitor	BL	BL	BL	BL	BL	NA
126	Chip diode	BL	OL	BL	BL	BL	^{*1} Pb : 2.97×10^4
127	Grey plastic wire jacket	BL	BL	BL	BL	BL	NA
128	Black heat-shrinkable tube	BL	BL	BL	BL	BL	NA

**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 or lower than limit of quantitation.
- (6) NA = Not Applicable, as the XRF screening test result was below the limit or as the XRF screening directly determine that test result was over the limit, it was not need to conduct the wet chemical testing.
- (7) LOQ = Limit of quantitation.

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
LOQ	2	2	2	8	0.1	5	5

The LOQ for single compound of PBBs and PBDEs is 5mg/kg, LOQ of Cr^{6+} for polymer and composite sample is 8mg/kg and LOQ 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)



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- (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 $0.10\text{ug}/\text{cm}^2$.
 Positive = Presence of Cr^{6+} coating, the detected concentration in boiling water extraction solution is greater than $0.13\text{ug}/\text{cm}^2$.
 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)*¹ = According to the declaration from client, the source of lead in test sample is from the high melting temperature type solders (i.e. lead based alloys containing 85% by weight or more lead) is exempted by Directive 2011/65/EU ANNEX III.
- (12)* = According to the declaration from client, the source of lead in test sample is from the glass or ceramic material of that electronic component which is exempted by Directive 2011/65/EU ANNEX III.

2. Phthalates:

Serial No.	Part No.	Result (mg/kg)			
		DBP	BBP	DEHP	DIBP
T01	2	<50	<50	<50	<50
T02	3+4+6+8+9 [△]	<50	<50	<50	<50
T03	5	<50	<50	<50	<50
T04	7	<50	<50	<50	<50
T05	10	<50	<50	<50	<50
T06	12+28 [△]	<50	<50	<50	<50
T07	14	<50	<50	<50	<50
T08	15	<50	<50	<50	<50
T09	17+68+59 [△]	<50	<50	<50	<50
T10	18	<50	<50	<50	<50
T11	19	<50	<50	<50	<50
T12	20	<50	<50	<50	<50
T13	23+32+37+38+48 [△]	<50	<50	<50	<50
T14	24	<50	<50	<50	<50
T15	26	<50	<50	<50	<50
T16	27	<50	<50	<50	<50
T17	33	<50	<50	<50	<50
T18	34	<50	<50	<50	<50
T19	35	<50	<50	<50	<50
T20	36	<50	<50	73	<50
T21	39	<50	<50	<50	<50
T22	40	<50	<50	<50	<50
T23	41	<50	<50	<50	<50



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Serial No.	Part No.	Result (mg/kg)			
		DBP	BBP	DEHP	DIBP
T24	42	<50	<50	<50	<50
T25	46	<50	<50	<50	<50
T26	47	<50	<50	<50	<50
T27	49	<50	<50	<50	<50
T28	50	<50	<50	<50	<50
T29	51+52 [△]	<50	<50	<50	<50
T30	53	<50	<50	<50	<50
T31	54	<50	<50	<50	<50
T32	55	<50	<50	178	<50
T33	56+58+60+66 [△]	<50	<50	<50	<50
T34	57	<50	<50	<50	<50
T35	63+71 [△]	<50	<50	<50	<50
T36	67	<50	<50	<50	<50
T37	69	<50	<50	<50	<50
T38	74	<50	<50	87	<50
T39	75+82 [△]	<50	<50	<50	<50
T40	77	<50	<50	<50	<50
T41	79	<50	<50	105	<50
T42	80	<50	<50	<50	<50
T43	90+91+101+117 [△]	<50	<50	<50	<50
T44	93	<50	<50	<50	<50
T45	94	<50	<50	<50	<50
T46	95+108 [△]	<50	<50	<50	<50
T47	99+92+113+120+121 [△]	<50	<50	<50	<50
T48	100	<50	<50	140	<50
T49	102	<50	<50	<50	<50
T50	104	<50	<50	<50	<50
T51	106	<50	<50	<50	<50
T52	107	<50	<50	<50	<50
T53	114	<50	<50	<50	<50
T54	118	<50	<50	<50	<50
T55	122+124+125+126 [△]	<50	<50	<50	<50
T56	123	<50	<50	<50	<50
T57	127	<50	<50	<50	<50
T58	128	<50	<50	<50	<50

Note:

- (1) "<" = less than
- (2) mg/kg = milligram per kilogram= ppm
- (3) Abbreviation:

"DBP" denotes Dibutyl phthalate, "BBP" denotes Benzyl butyl phthalate (BBP), "DEHP" denotes Bis(2-ethylhexyl)-phthalate, "DIBP" denotes Diisobutyl phthalate, "PHT" denotes Phthalates.



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(4) RoHS requirement

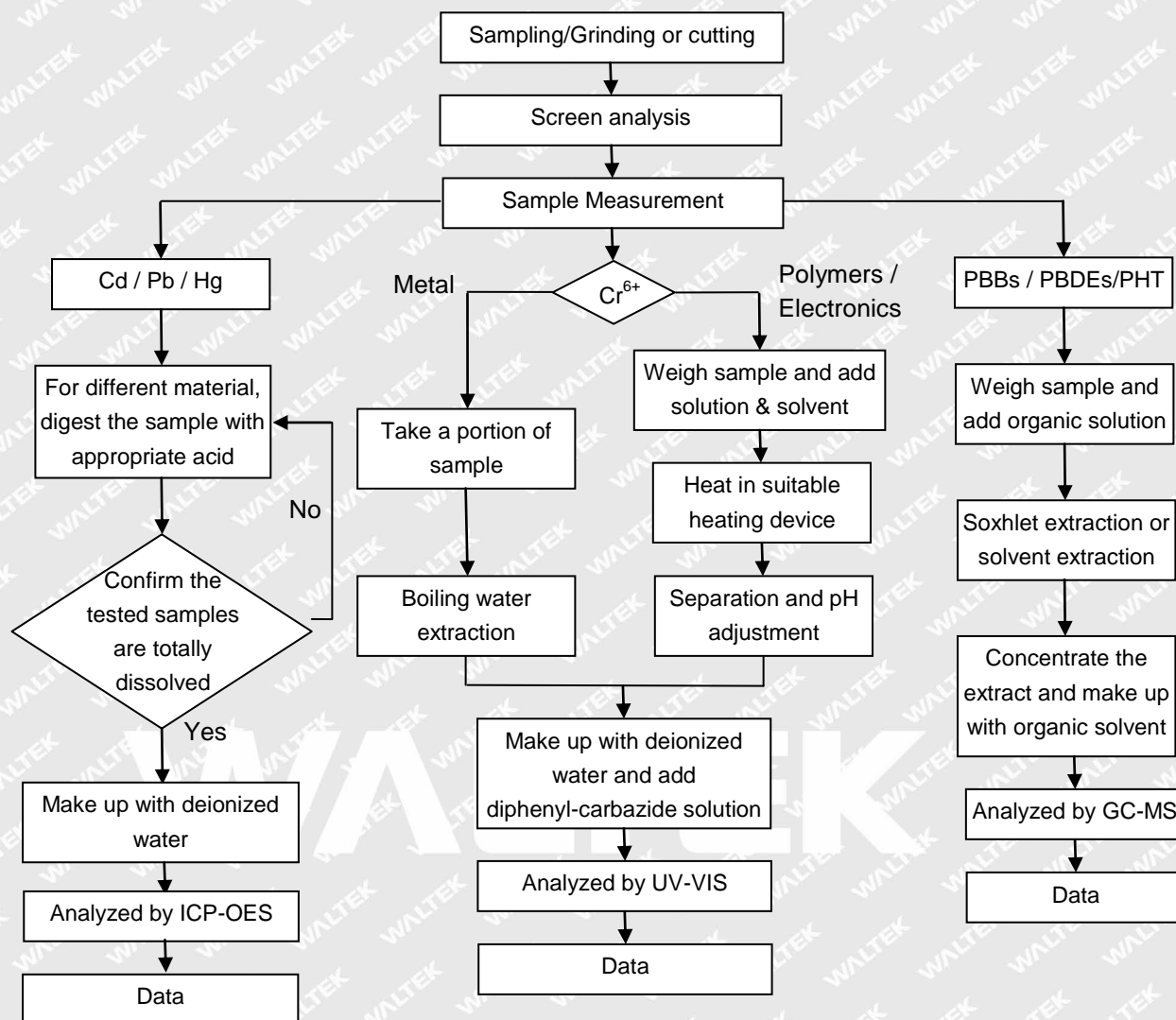
Restricted Substances	Limits
Dibutyl phthalate (DBP)	0.1% (1000 mg/kg)
Benzyl butyl phthalate (BBP)	0.1% (1000 mg/kg)
Di(2-ethylhexyl) phthalate (DEHP)	0.1% (1000 mg/kg)
Di-iso-butyl phthalate (DIBP)	0.1% (1000 mg/kg)

- (5) “△”= As client's requirement, the testing was conducted based on mixed components. Results are calculated by the minimum weight of mixed components.

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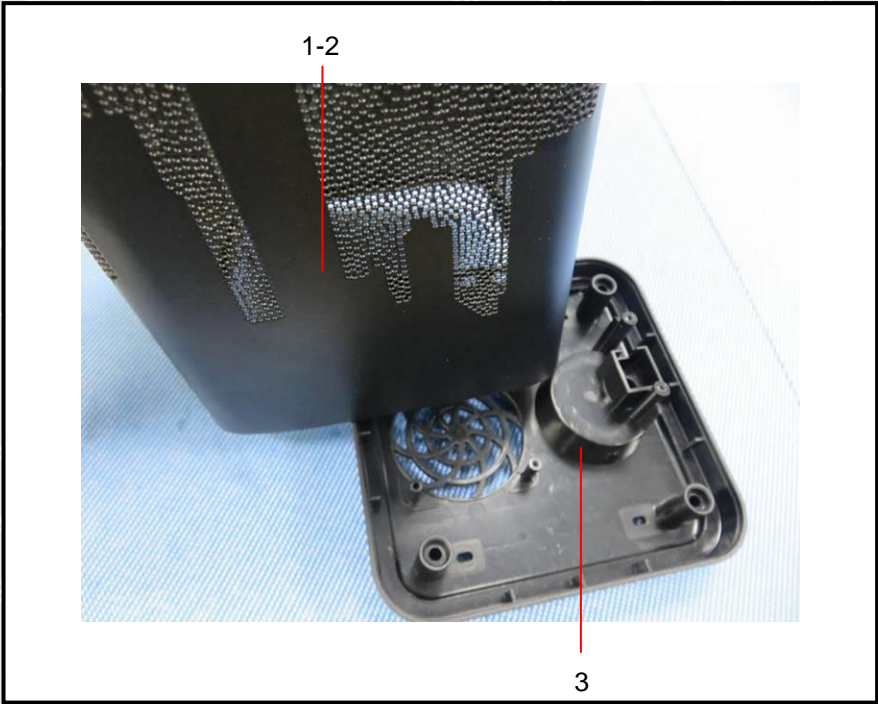


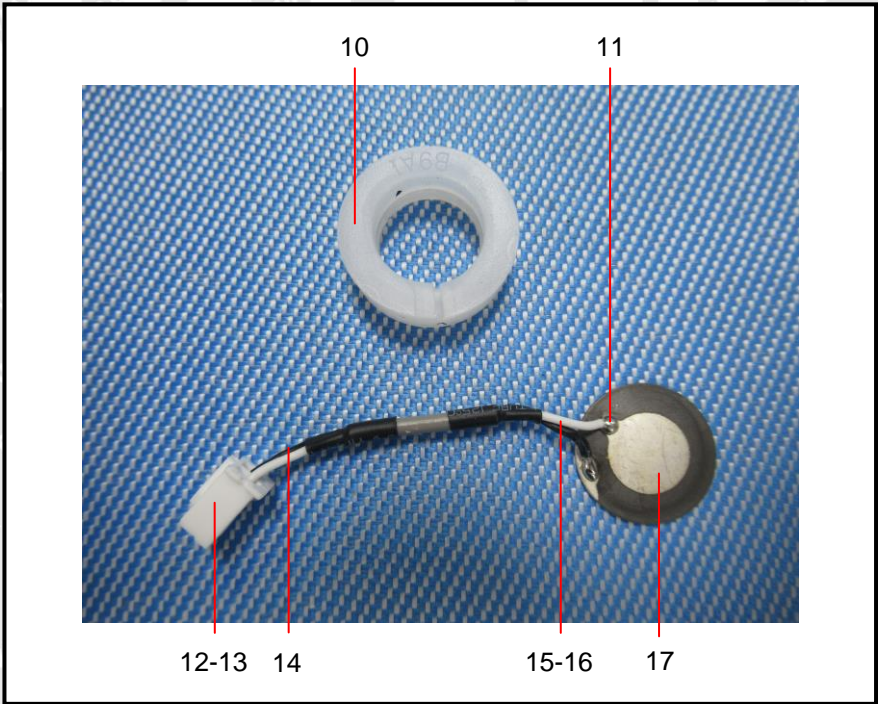
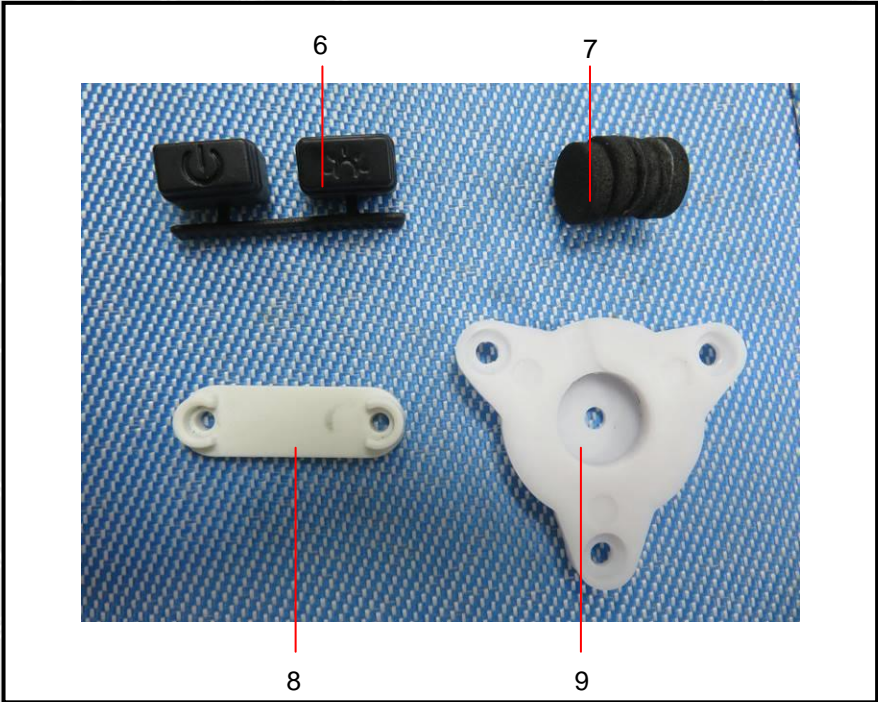
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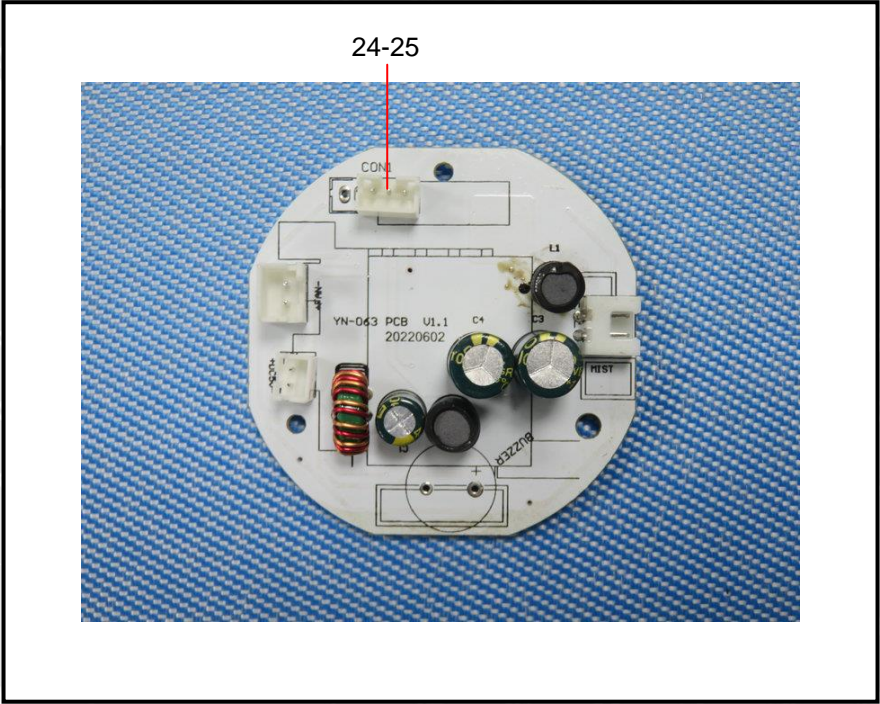
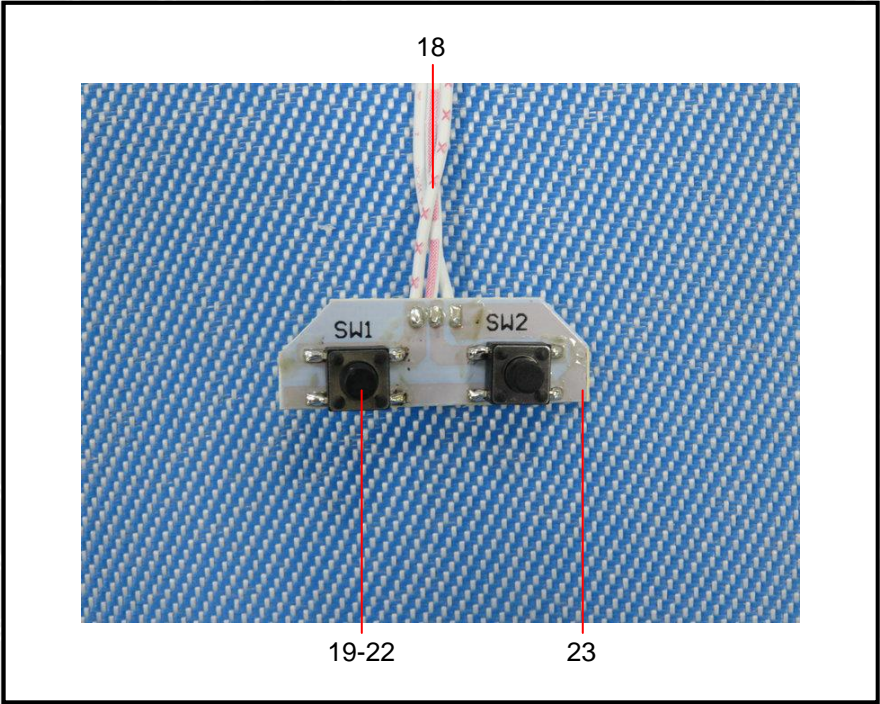


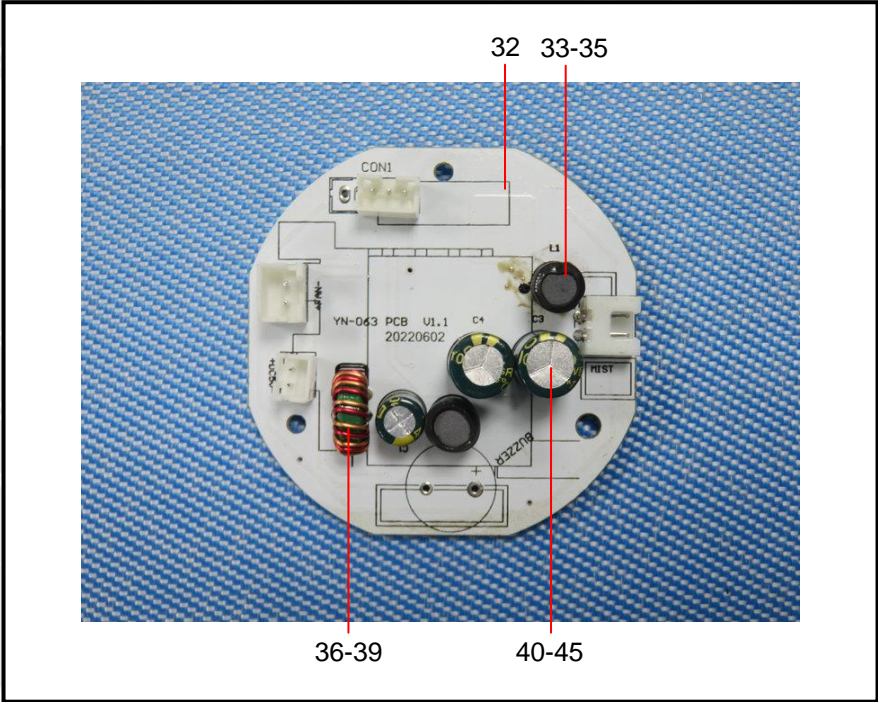
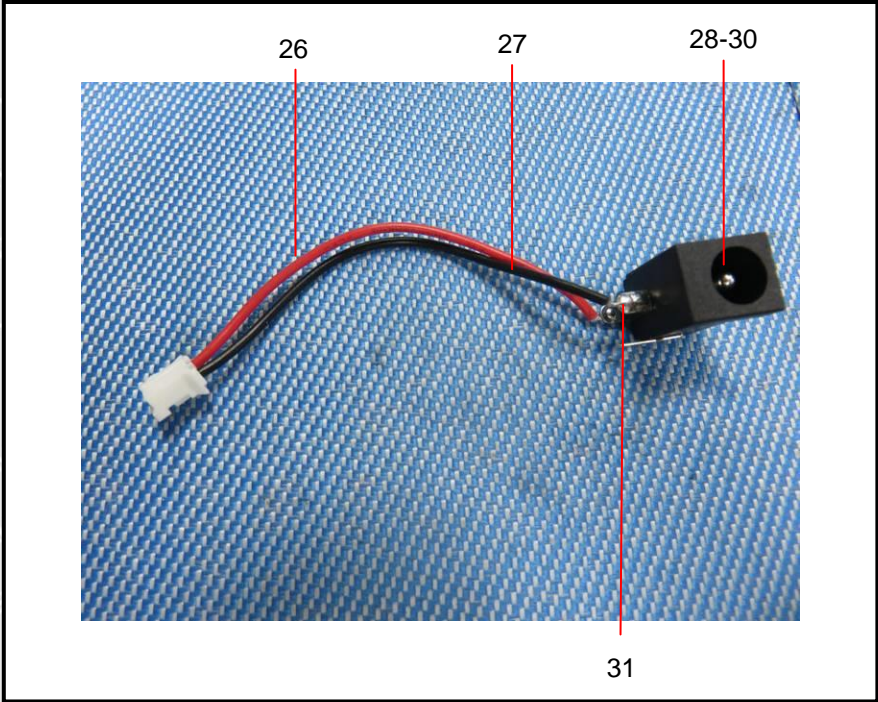


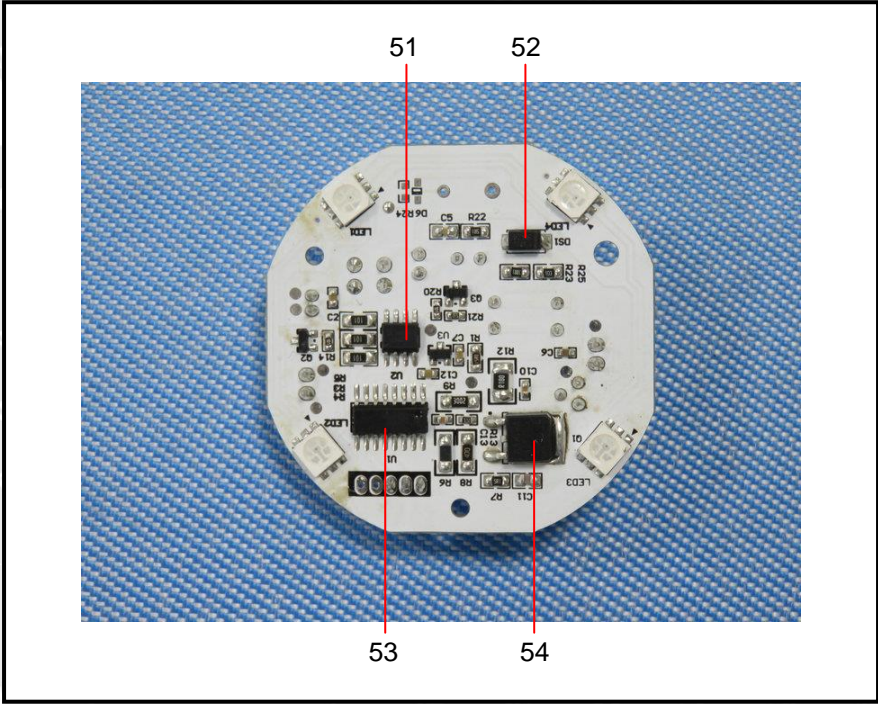
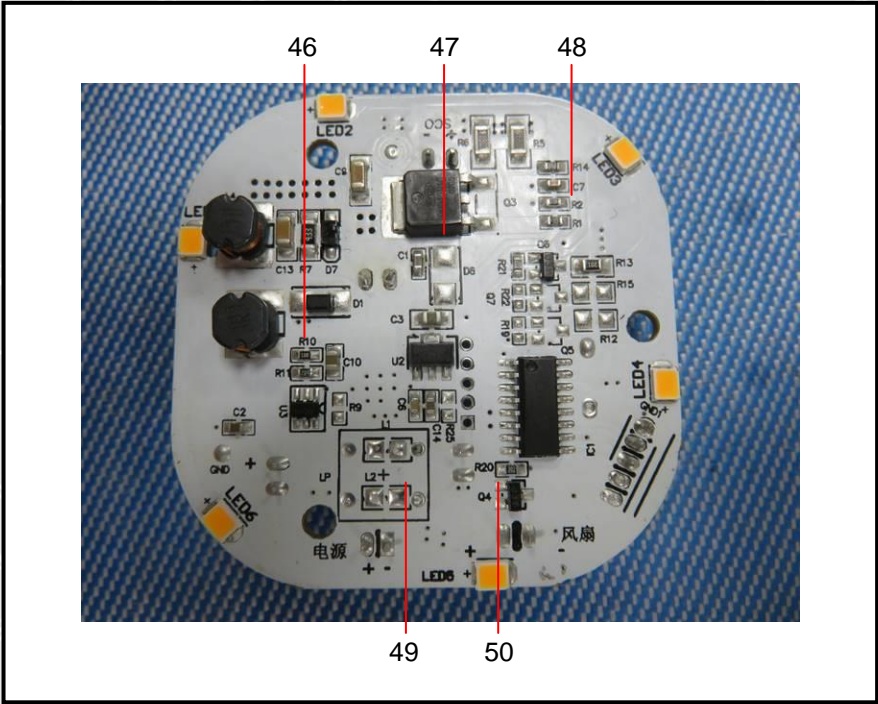
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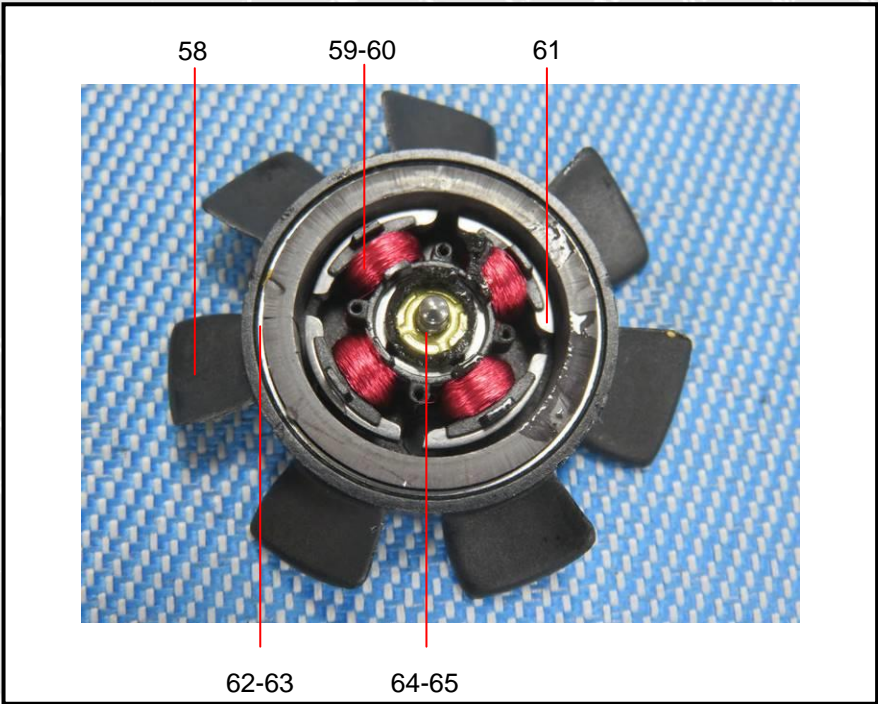
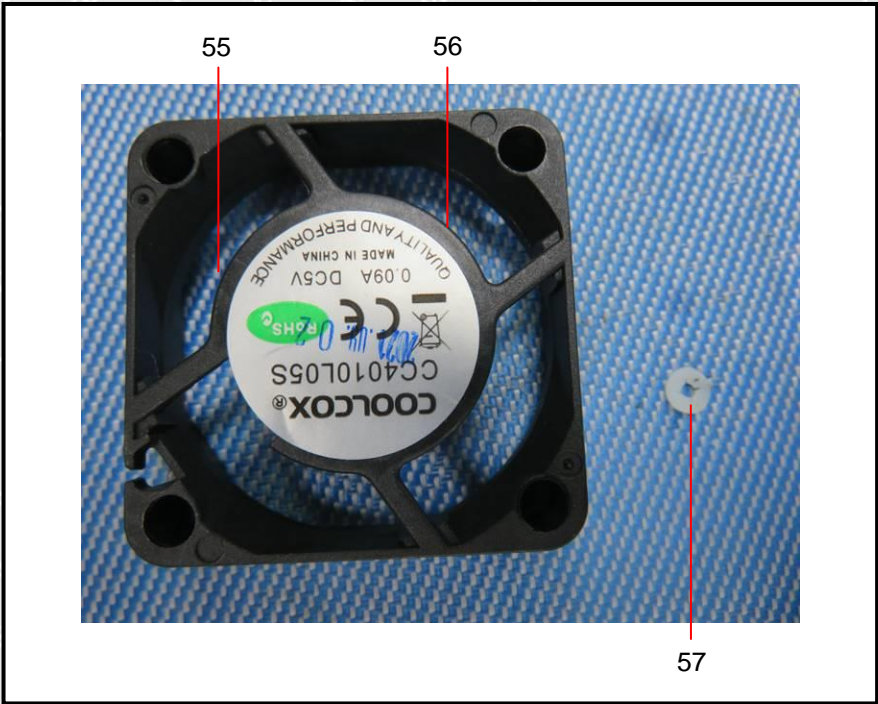


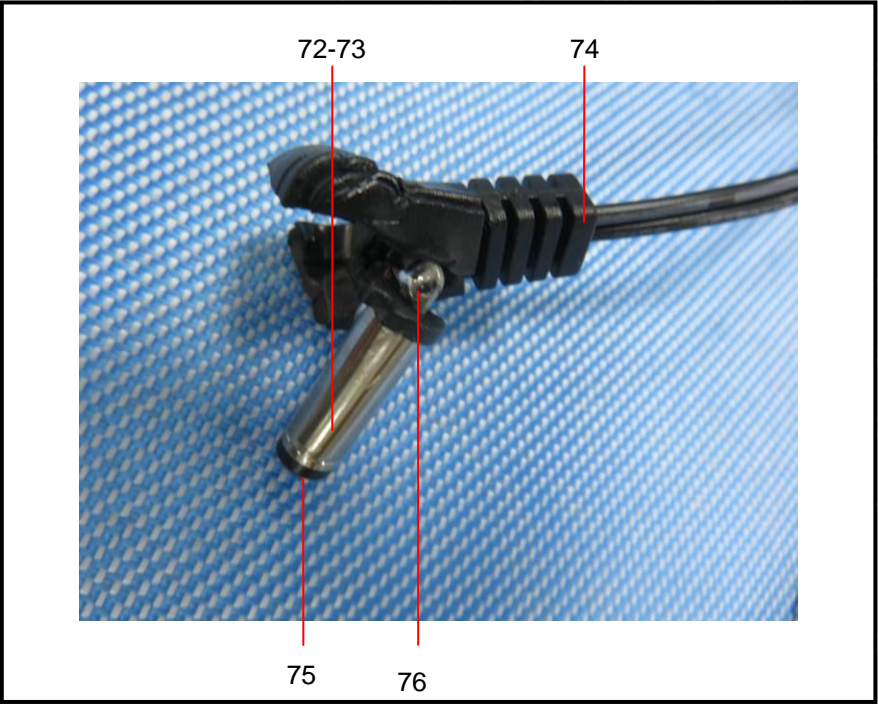
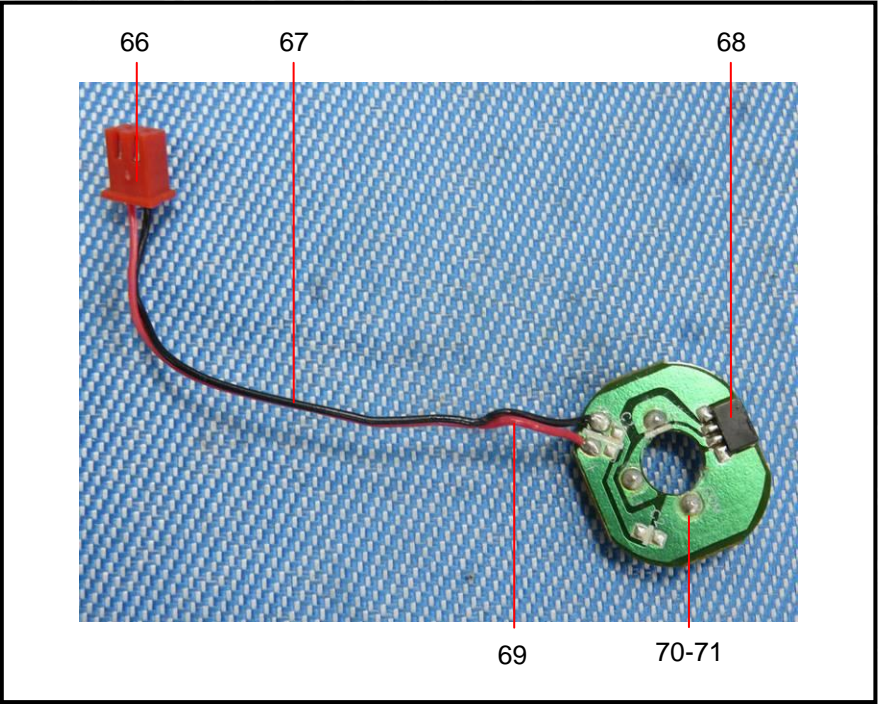


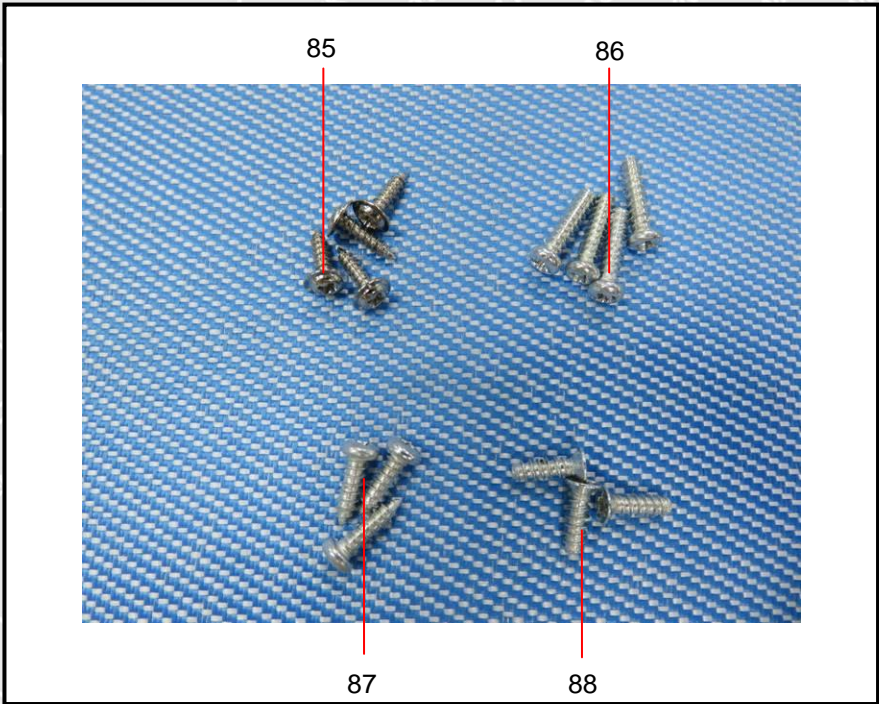
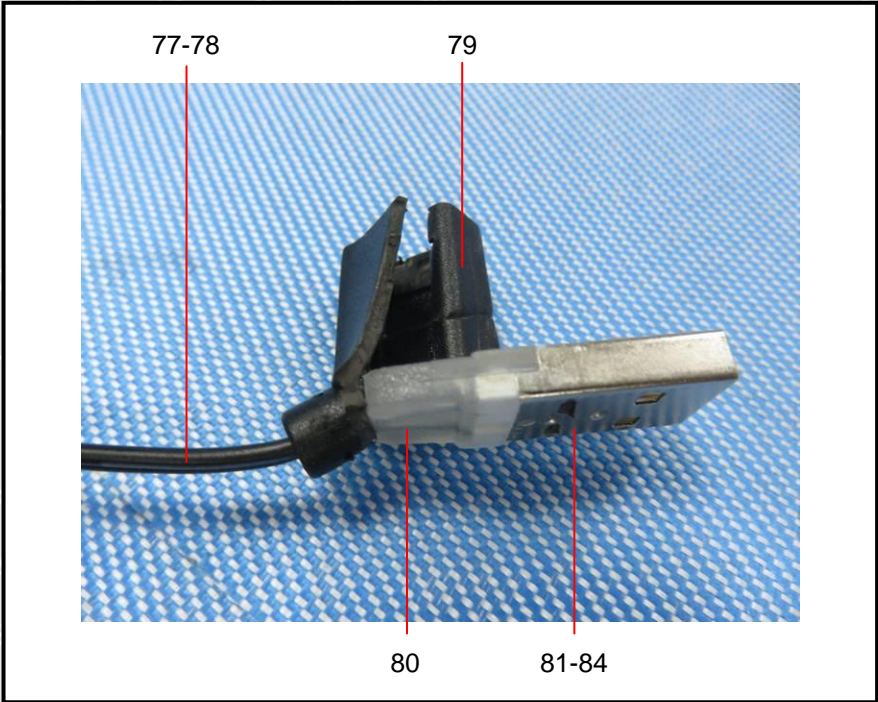


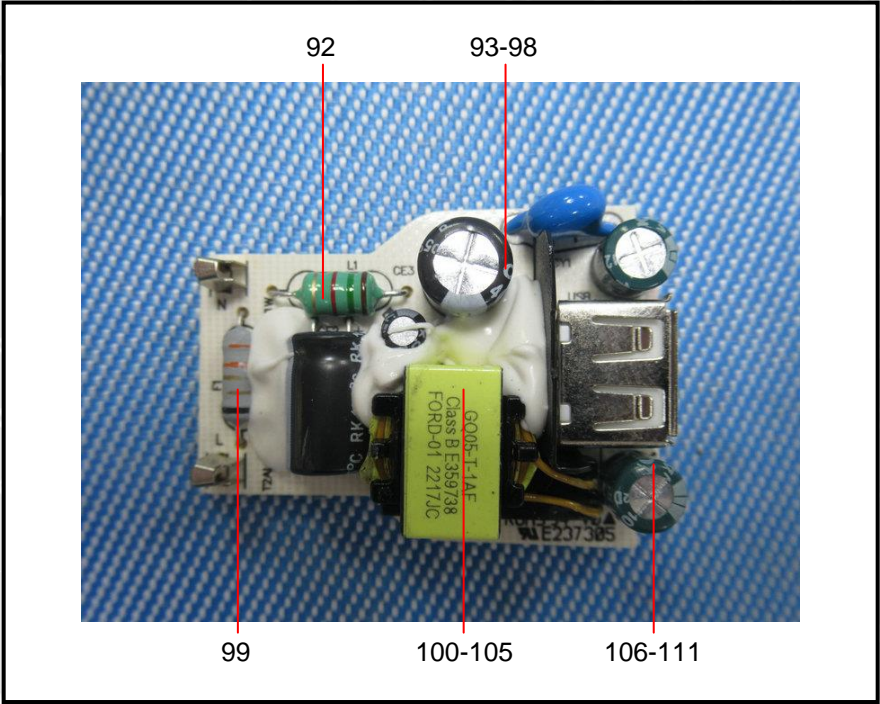
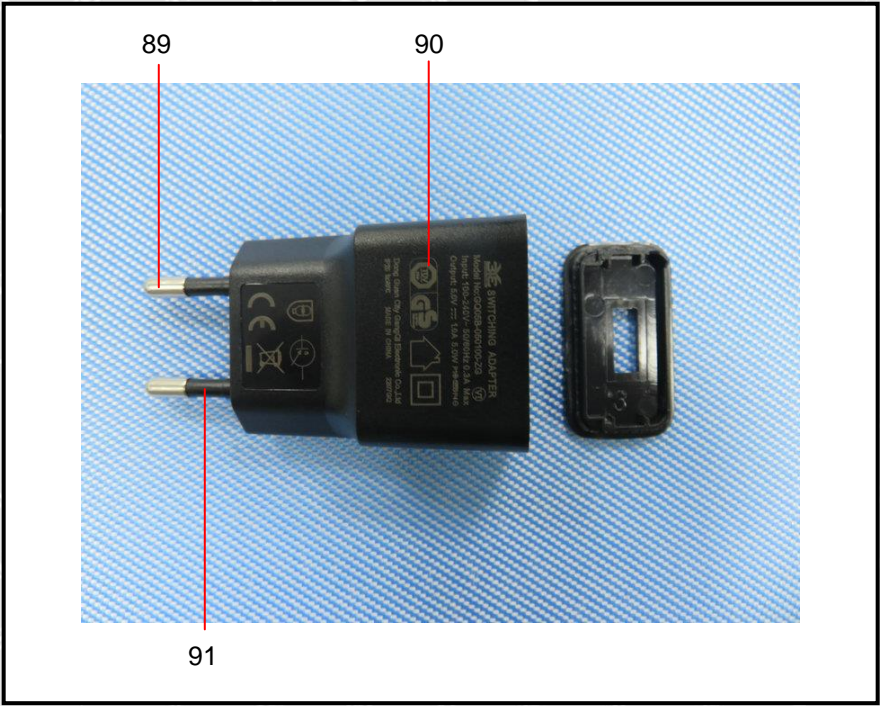


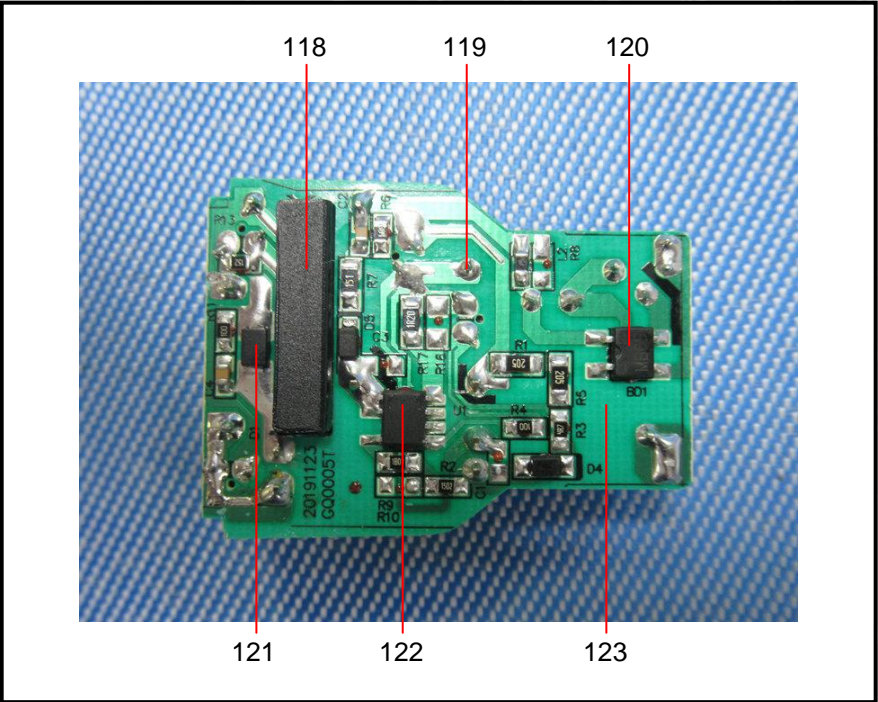
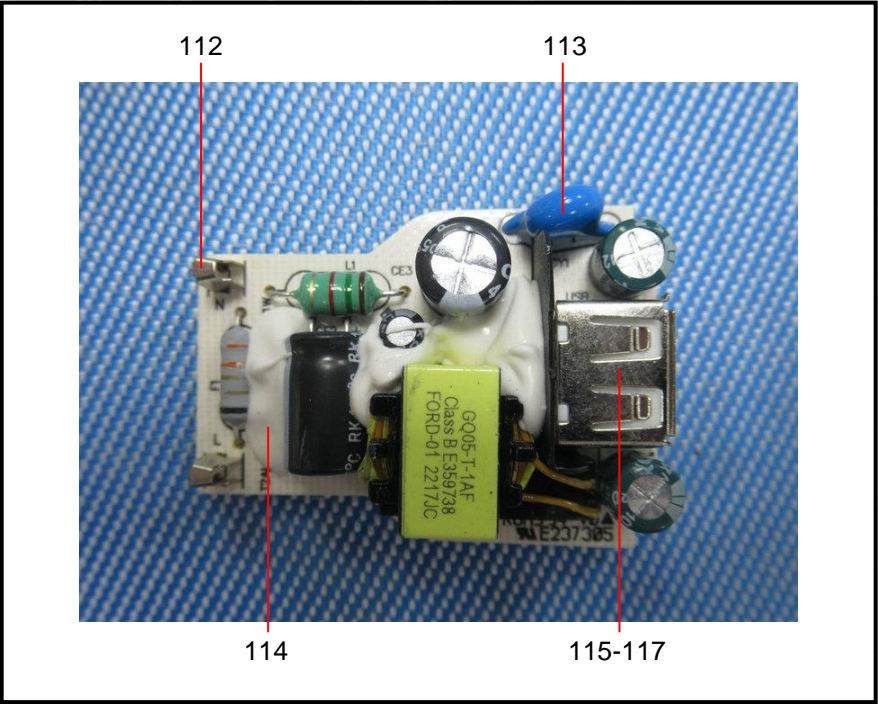


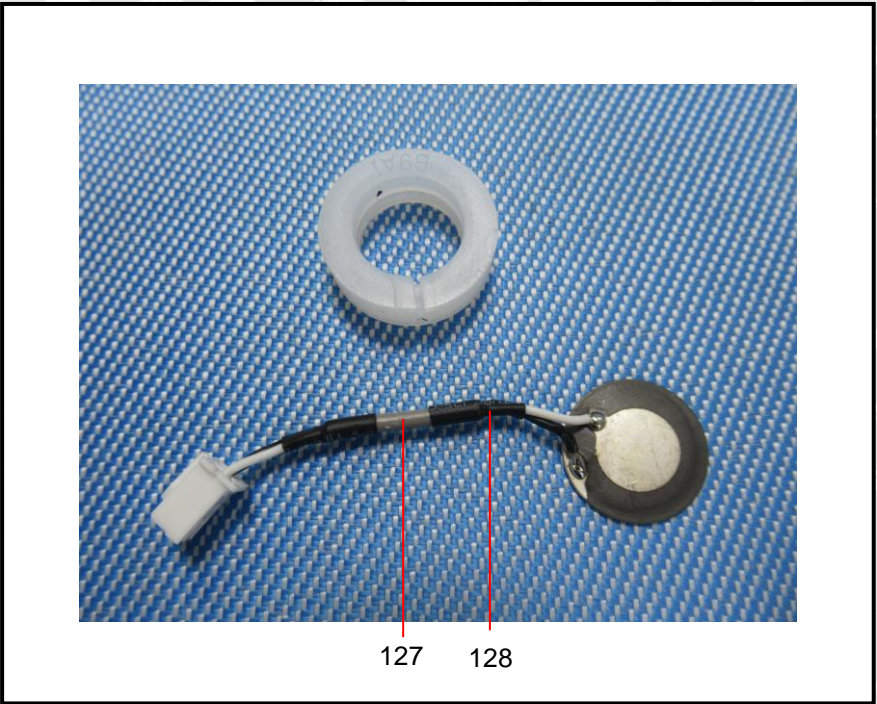
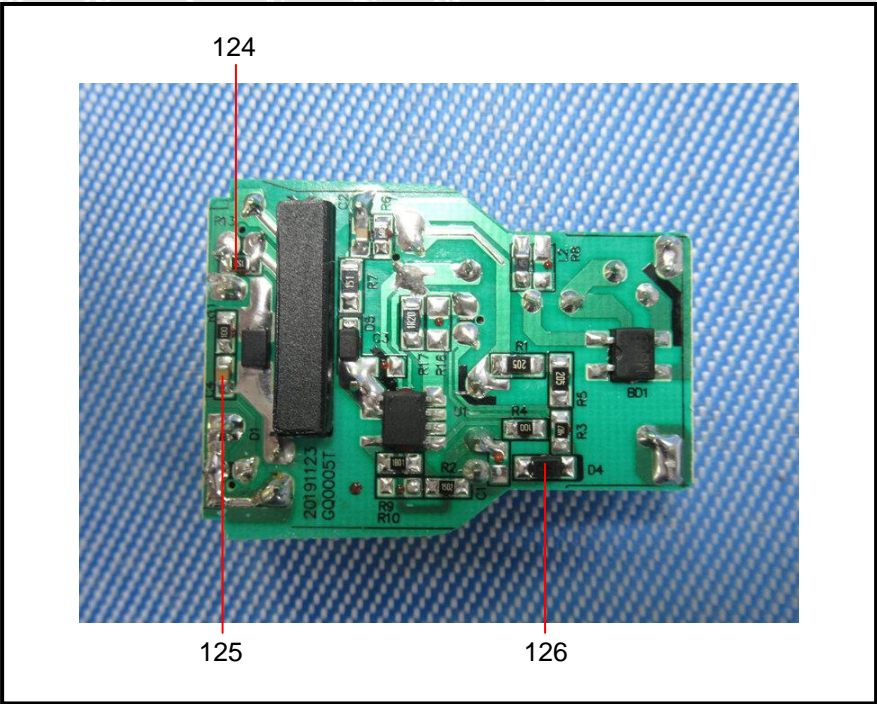














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