TEST REPORT

Applicant:	HDL Automation Co., Ltd.
Address:	No.86 Lotus west Road. Lifeng Street, Shilou Town, Panyu District, Guangzhou 511447 China

The following sample(s) was/were submitted and identified on behalf of the client as:

Sample name:	LED Driver
Model:	MQLRT6-12.10
Client Ref. Info.:	MQLRT8-12.10,MQLRT6-15.10,MQLRT8-15.10,MQLRT6-25.10,MQLRT8-25.10,MQLRT6-36.10,MQLRT8-36.10,MQLRT6-45.10,MQLRT8-45.10
Trade mark:	HDL®
Manufacturer&Factory:	HDL Automation Co., Ltd.
Address:	No.86 Lotus west Road. Lifeng Street, Shilou Town, Panyu District, Guangzhou 511447 China
Sample No.:	S240829066002
Sample Received Date:	2024-08-31
Testing Period:	2024-08-31~ 2024-09-10

Test Requirement: **Conclusion**

As specified by client, to determine the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers(PBDEs), Bis-(2-ethylhexyl) Phthalate (DEHP), Benzyl butyl Phthalate (BBP), Dibutyl Phthalate (DBP) and Diisobutyl Phthalate(DIBP)contents in the submitted sample(s) in accordance with RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU. Pass

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

Test Method: Please refer to the following page(s);

Compiled by: _____ Reviewed by: _____

Approved by: _____ Date: 2024-09-24

Sample Description:

No.	Component name	Sample name	Description
1	Shell	White plastic shell	White plastic shell
2		Cover	Black plastic cover plate
3		White barcode label	White barcode label
4		Silver metal screw	Silver metal screw
5	PCBA	Black FPC	Black FPC
6		Tin solder	Tin solder
7		Line row	Gray plastic jacket
8			Silver metal wire
9		Green interface	Green plastic
10			Silver metal sheet
11			Silver metal screw
12			Silver metal nut
13		Red/green interface	Red plastic
14			Green plastic
15			Silver metal shrapnel
16		C5 electrolytic capacitor	Black plastic jacket
17			Aluminum shell
18			Cathode foil
19			Anode foil
20			Electrolytic paper
21			Electrode pin
22			Rubber pad
23		CX1 capacitor	Yellow plastic
24			Yellow pouring sealant
25			Inner body
26		LF2 inductor	Yellow adhesive tape
27			Black plastic shell
28			Magnet core
29			Coil
30		MOV1 varistor	Blue body
31		CB1 capacitor	Purplish red body
32		L1 inductor	Black casing tube
33			Magnet core
34			Coil
35		Q1 audion	Black body
36		C15 electrolytic capacitor	Rubber pad
37		T1 transformer	Transparent double-sided adhesive
38			Yellow adhesive tape
39			Black plastic

40	PCBA	T1 transformer	Magnet core
41			Transparent casing tube
42			Varnished wire
43			Metal coil
44		C18 electrolytic capacitor	Rubber pad
45		C3 electrolytic capacitor	Rubber pad
46		L3 inductor	Yellow adhesive tape
47			White colloid
48			Magnet core
49			Coil
50		CY1 capacitor	Black body
51		SMD	SMD diode
52			SMD capacitor
53			R9 SMD resistor
54			SMD resistor
55			F1 SMD fuse
56			U1 Chip
57		PCB	Blue PCB
58	Insert PCBA 1	PCB	Green PCB
59		White colloid	White colloid
60		Interface	Black plastic
61		Interface	Metal plug pin
62		BD1 rectifier bridge	Black body
63		Black electronic components	Black body
64		SMD	Q1 SMD audion
65			SMD resistor
66			U4 chips
67	Insert PCBA 2	PCB	Blue PCB
68		Interface	Black plastic
69			Metal plug pin
70		SMD	U4 chips
71			SMD resistor
72			D1 SMD diode

Test Result(s):

Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers(PBDEs)

Part No.	Test Items	XRF Screening Result(mg/kg)	Chemical Test Result(mg/kg)	Conclusion
1	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
2	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
3	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
4	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	/	/	
5	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
6	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	/	/	
7	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	

8	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	/	/	
9	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
10	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	/	/	
11	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	/	/	
12	Pb	OL	21791[#1]	Pass
	Cd	IN	16	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	/	/	
13	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
14	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
15	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	/	/	

16	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
17	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	/	/	
18	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	/	/	
19	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	/	/	
20	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
21	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	/	/	
22	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
23	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	IN	N.D.	

24	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	IN	N.D.	
25	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
26	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
27	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
28	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	/	/	
29	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	/	/	
30	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
31	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	

32	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
33	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	/	/	
34	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	/	/	
35	Pb	12367[#2]	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
36	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
37	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
38	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
39	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	

40	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	/	/	
41	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
42	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
43	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	/	/	
44	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
45	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
46	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
47	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	

48	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	/	/	
49	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	/	/	
50	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
51	Pb	9249#2	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
52	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
53	Pb	OL	1390#2	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	IN	N.D.	
	Br(PBBs&PBDEs)	BL	/	
54	Pb	12202#2	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
55	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	

56	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
57	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	IN	N.D.	
58	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	IN	N.D.	
59	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
60	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	IN	N.D.	
61	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	/	/	
62	Pb	4670[#2]	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
63	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	

64	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
65	Pb	IN	404	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	IN	N.D.	
	Br(PBBs&PBDEs)	BL	/	
66	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
67	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	IN	N.D.	
68	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	IN	N.D.	
69	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	/	/	
70	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	
71	Pb	BL	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	IN	N.D.	
	Br(PBBs&PBDEs)	BL	/	

72	Pb	6567#2	/	Pass
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr(VI))	BL	/	
	Br(PBBs&PBDEs)	BL	/	

Bis-(2-ethylhexyl) Phthalate (DEHP), Benzyl butyl Phthalate (BBP), Dibutyl Phthalate (DBP) and Diisobutyl Phthalate(DIBP)

Test Items	Result(mg/kg)		
	1+2+9	3	7+16
Bis-(2-ethylhexyl) Phthalate (DEHP)	N.D.	N.D.	N.D.
Benzyl butyl Phthalate (BBP)	N.D.	N.D.	N.D.
Dibutyl Phthalate (DBP)	N.D.	N.D.	N.D.
Diisobutyl Phthalate(DIBP)	N.D.	N.D.	N.D.
Conclusion	Pass	Pass	Pass

Test Items	Result(mg/kg)		
	13+14+23	20	22+36+44
Bis-(2-ethylhexyl) Phthalate (DEHP)	N.D.	N.D.	N.D.
Benzyl butyl Phthalate (BBP)	N.D.	N.D.	N.D.
Dibutyl Phthalate (DBP)	N.D.	N.D.	N.D.
Diisobutyl Phthalate(DIBP)	N.D.	N.D.	N.D.
Conclusion	Pass	Pass	Pass

Test Items	Result(mg/kg)		
	24	25	26+38+46
Bis-(2-ethylhexyl) Phthalate (DEHP)	N.D.	N.D.	N.D.
Benzyl butyl Phthalate (BBP)	N.D.	N.D.	N.D.
Dibutyl Phthalate (DBP)	N.D.	N.D.	N.D.
Diisobutyl Phthalate(DIBP)	N.D.	N.D.	N.D.
Conclusion	Pass	Pass	Pass

Test Items	Result(mg/kg)		
	27+39+60	30	31
Bis-(2-ethylhexyl) Phthalate (DEHP)	N.D.	N.D.	N.D.
Benzyl butyl Phthalate (BBP)	N.D.	N.D.	N.D.
Dibutyl Phthalate (DBP)	N.D.	N.D.	N.D.
Diisobutyl Phthalate(DIBP)	N.D.	N.D.	N.D.
Conclusion	Pass	Pass	Pass

Test Items	Result(mg/kg)		
	32+41	35	37
Bis-(2-ethylhexyl) Phthalate (DEHP)	N.D.	N.D.	N.D.
Benzyl butyl Phthalate (BBP)	N.D.	N.D.	N.D.
Dibutyl Phthalate (DBP)	N.D.	N.D.	N.D.
Diisobutyl Phthalate(DIBP)	N.D.	N.D.	N.D.
Conclusion	Pass	Pass	Pass

Test Items	Result(mg/kg)		
	42	45	47+59
Bis-(2-ethylhexyl) Phthalate (DEHP)	N.D.	N.D.	N.D.
Benzyl butyl Phthalate (BBP)	N.D.	N.D.	N.D.
Dibutyl Phthalate (DBP)	N.D.	N.D.	N.D.
Diisobutyl Phthalate(DIBP)	N.D.	N.D.	N.D.
Conclusion	Pass	Pass	Pass

Test Items	Result(mg/kg)		
	50	54	57
Bis-(2-ethylhexyl) Phthalate (DEHP)	N.D.	N.D.	N.D.
Benzyl butyl Phthalate (BBP)	N.D.	N.D.	N.D.
Dibutyl Phthalate (DBP)	N.D.	N.D.	N.D.
Diisobutyl Phthalate(DIBP)	N.D.	N.D.	N.D.
Conclusion	Pass	Pass	Pass

Test Items	Result(mg/kg)		
	58	62	63
Bis-(2-ethylhexyl) Phthalate (DEHP)	N.D.	N.D.	N.D.
Benzyl butyl Phthalate (BBP)	N.D.	N.D.	N.D.
Dibutyl Phthalate (DBP)	N.D.	N.D.	N.D.
Diisobutyl Phthalate(DIBP)	N.D.	N.D.	N.D.
Conclusion	Pass	Pass	Pass

Test Items	Result(mg/kg)	
	67	68
Bis-(2-ethylhexyl) Phthalate (DEHP)	N.D.	N.D.
Benzyl butyl Phthalate (BBP)	N.D.	N.D.
Dibutyl Phthalate (DBP)	N.D.	N.D.
Diisobutyl Phthalate(DIBP)	N.D.	N.D.
Conclusion	Pass	Pass

Note: 1.N.D. = Not Detected (<MDL)
MDL = Method Detection Limit
1mg/kg = 1ppm =0.0001%
/=Not Regulated or Not Applicable
2. BL = Below the XRF screening limit
IN = Further chemical test will be conducted when the screening result inconclusive
OL = Further chemical test will be conducted while the result is above the screening limit.
3. For metal samples, the sample is negative for Cr(VI), if the Cr(VI) concentration is less than 0.10 μg/cm², the coating is considered a non- Cr(VI) based coating;
The sample is positive for Cr(VI), if the Cr(VI) concentration is greater than 0.13 μg/cm², The sample coating is considered to contain Cr(VI);
The result is considered to be inconclusive, the Cr(VI) concentration is between the 0.10 μg/cm² and 0.13 μg/cm², unavoidable coating variations may influence the determination.
Because the storage condition and production date of the sample are not known, the test results of the sample of hexavalent chromium can only represent the state of hexavalent chromium in the samples tested.

Remark: 1. 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.
2. According to the client's statement , the material of the sample(s) comply with RoHS directive 2011/65/EU Annex III Exemption, Corresponding exemption clause:
#1 6(c) Lead is exempted as copper alloy containing up to 4% lead by weight .
#2 7(c)-I Lead is exempted as Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound.

Test Method:

1. With reference to IEC 62321-1: 2013 Ed.1.0, IEC 62321-2:2021 Ed.2.0, IEC 62321-3-1:2013 Ed.1.0.

XRF screening limits in mg/kg for regulated elements in various matrices.

Element	Limit of IEC 62321-3-1:2013 Ed.1.0 (mg/kg)		
	Polymers	Metals	Composite material
Pb	BL≤(700-3σ) <X <(1300+3σ)≤OL	BL≤(700-3σ) <X <(1300+3σ)≤OL	BL≤(500-3σ)<X <(1500+3σ)≤OL
Cd	BL≤(70-3σ)<X < (130+3σ) ≤OL	BL≤(70-3σ)<X < (130+3σ) ≤OL	LOD <X<(150+3σ) ≤OL
Hg	BL≤(700-3σ)<X <(1300+3σ)≤OL	BL≤(700-3σ)<X <(1300+3σ)≤OL	BL≤(500-3σ)<X <(1500+3σ)≤OL
Cr	BL≤(700-3σ)< X	BL≤(700-3σ)< X	BL≤(500-3σ)< X
Br	BL≤(300-3σ)< X	/	BL≤(250-3σ)< X

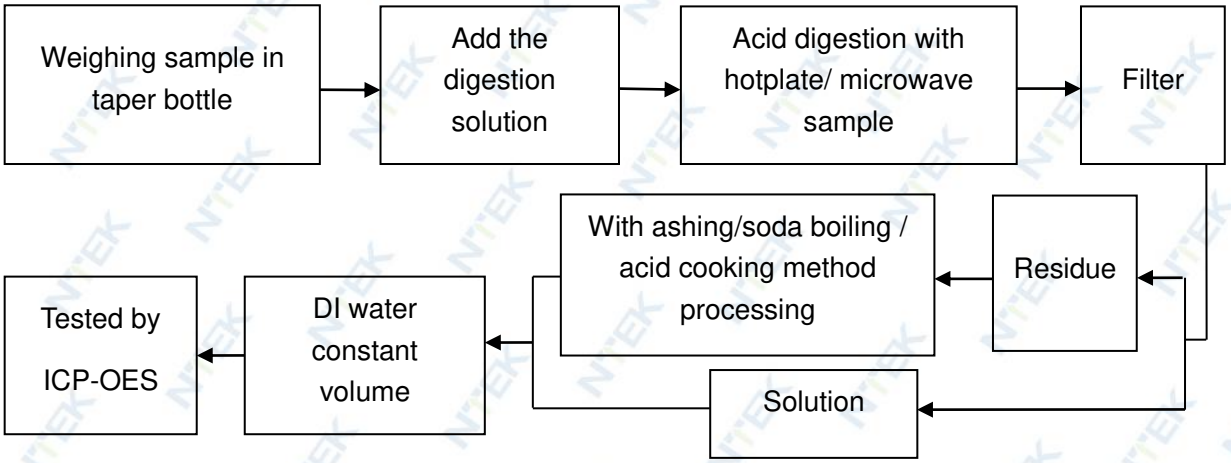
Note: BL= Below the XRF screening limit
OL=Over the XRF screening limit
X=The symbol"X"marks the region where further investigation is necessary.
3σ =The reproducibility of analytical instruments
LOD= Detection limit

2. Chemical Test

Test item	Test method	Test instrument	MDL	Limit△
Lead (Pb)	IEC 62321-5:2013 Ed.1.0	ICP-OES	2 mg/kg	1000 mg/kg
Cadmium (Cd)	IEC 62321-5:2013 Ed.1.0	ICP-OES	2 mg/kg	100 mg/kg
Mercury (Hg)	IEC 62321-4:2013+AMD1:2017	ICP-OES	2 mg/kg	1000 mg/kg
Hexavalent Chromium(Cr(VI))	IEC 62321-7-1:2015 Ed.1.0	UV-Vis	0.10 μg/cm^2	1000 mg/kg
	IEC 62321-7-2:2017 Ed.1.0		8 mg/kg	
Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015 Ed.1.0	GC-MS	5 mg/kg	1000 mg/kg
Polybrominated, Diphenyl Ethers(PBDEs)	IEC 62321-6:2015 Ed.1.0	GC-MS	5 mg/kg	1000 mg/kg
Bis-(2-ethylhexyl) Phthalate (DEHP)	IEC 62321-8:2017 Ed.1.0	GC-MS	30 mg/kg	1000 mg/kg
Benzyl butyl Phthalate (BBP)	IEC 62321-8:2017 Ed.1.0	GC-MS	30 mg/kg	1000 mg/kg
Dibutyl Phthalate (DBP)	IEC 62321-8:2017 Ed.1.0	GC-MS	30 mg/kg	1000 mg/kg
Diisobutyl Phthalate (DIBP)	IEC 62321-8:2017 Ed.1.0	GC-MS	30 mg/kg	1000 mg/kg
△The limit is quoted from RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.				

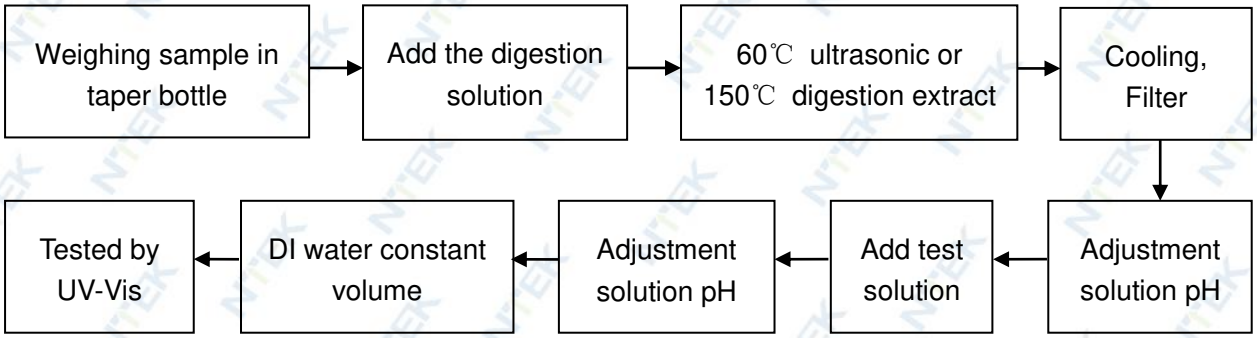
Test Flow:

1. Lead(Pb), Cadmium(Cd) , Mercury (Hg)

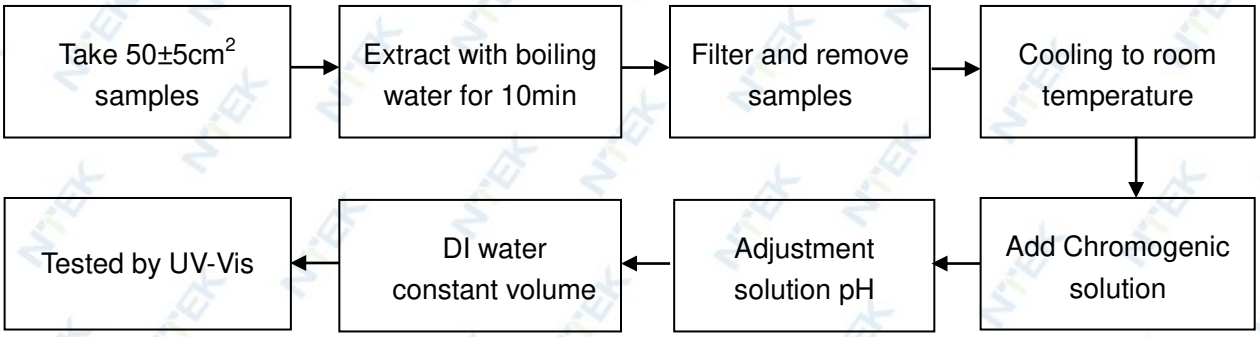


2. Hexavalent Chromium(Cr(VI))

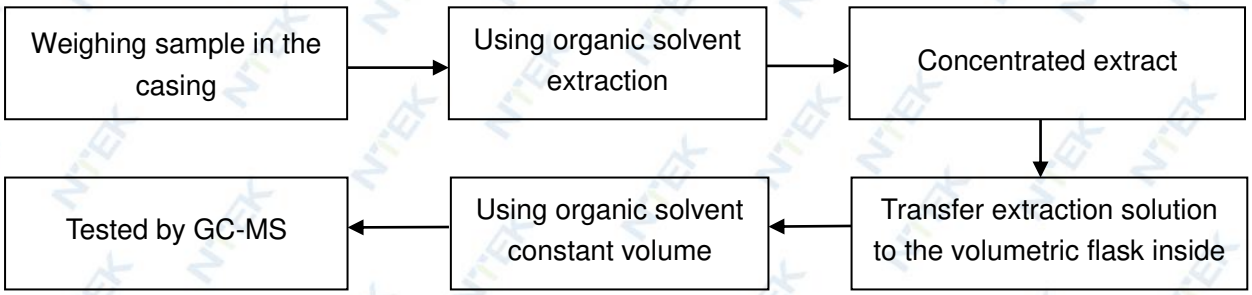
2.1 Non- metal sample(s)



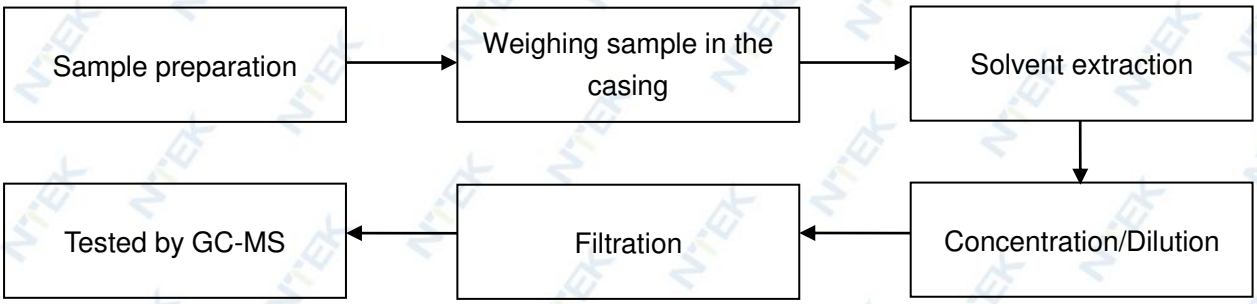
2.2 Metal sample(s)



3. PBBs/ PBDEs



4. Phthalates



Sample photo(s):



Fig.1 (Finished photo)

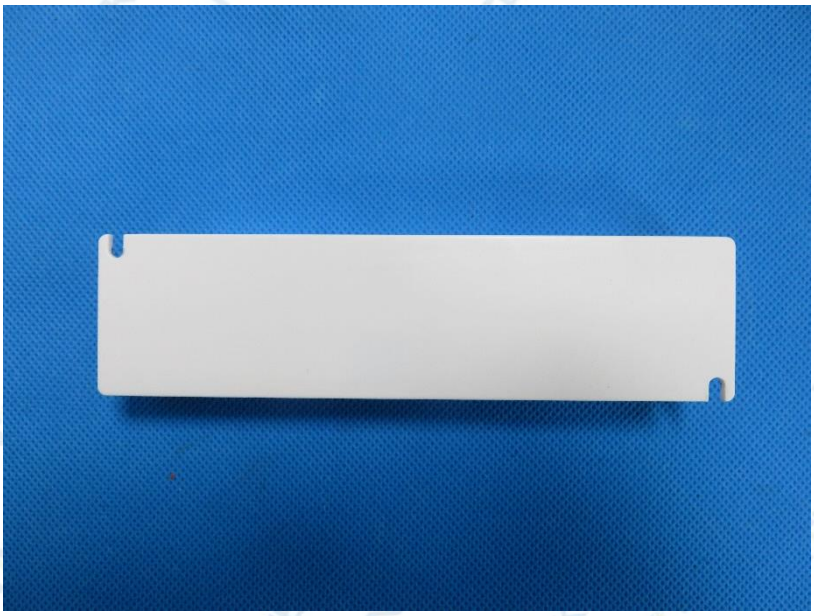


Fig.2 (Finished photo)

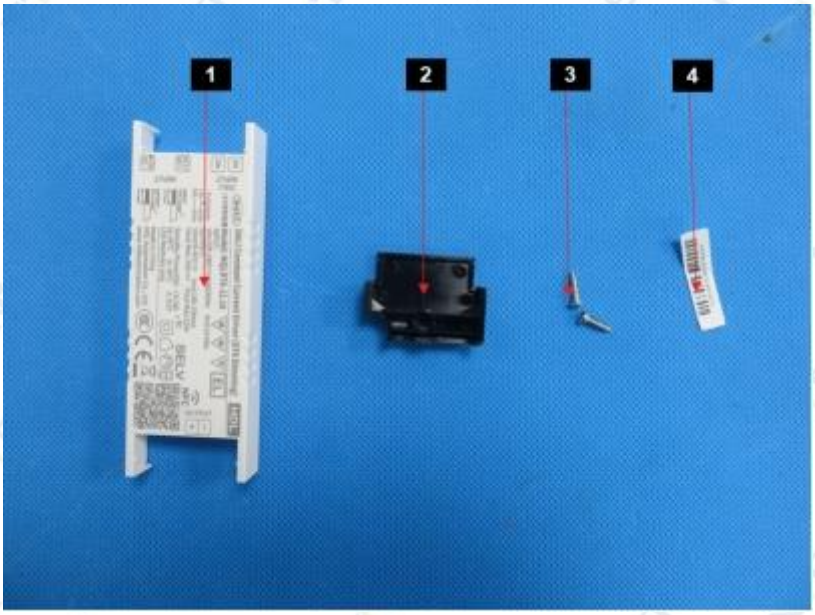


Fig.3

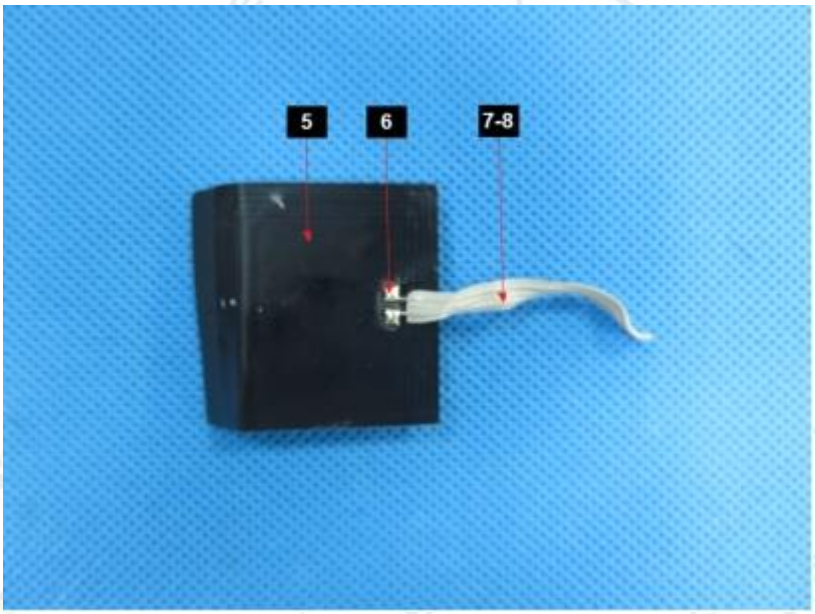


Fig.4

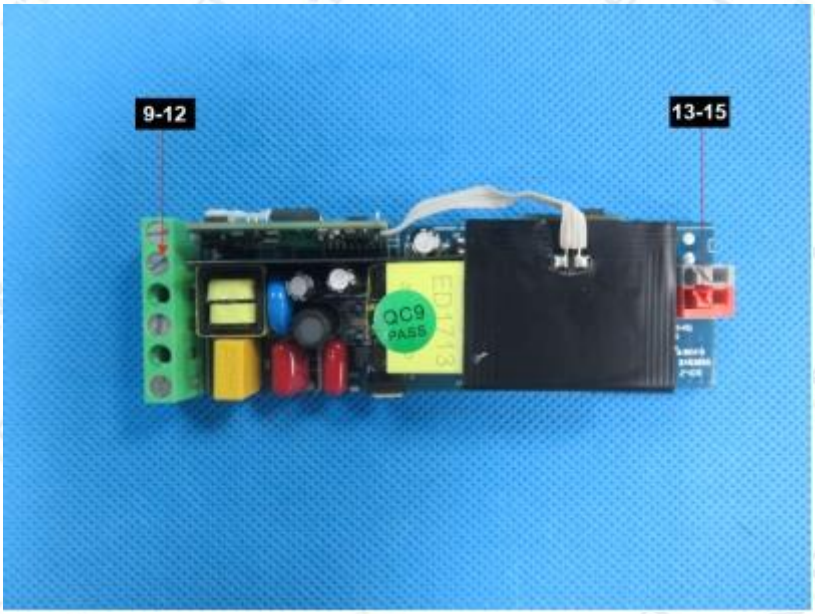


Fig.5



Fig.6

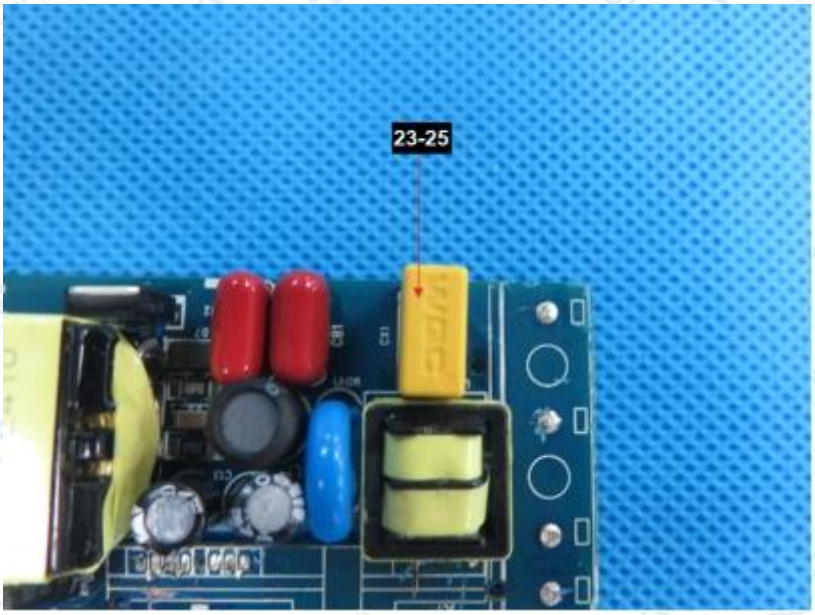


Fig.7

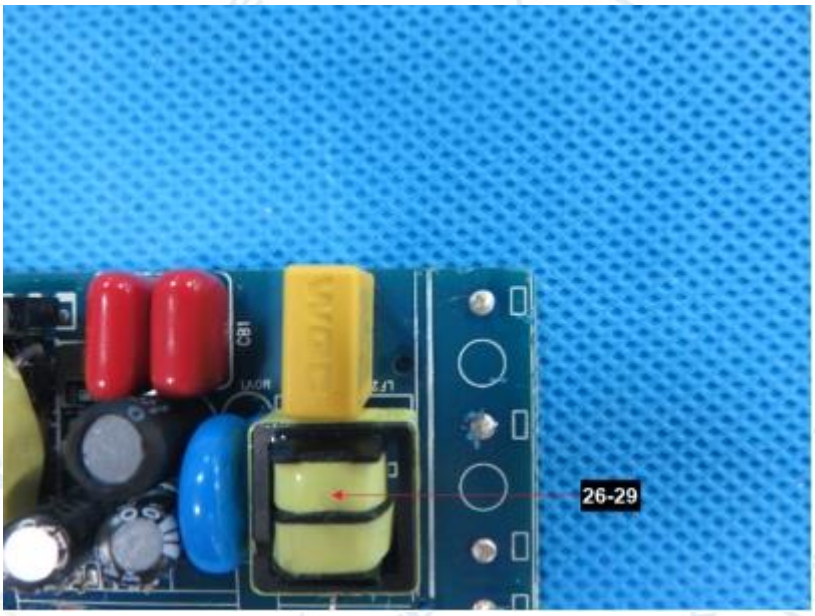


Fig.8

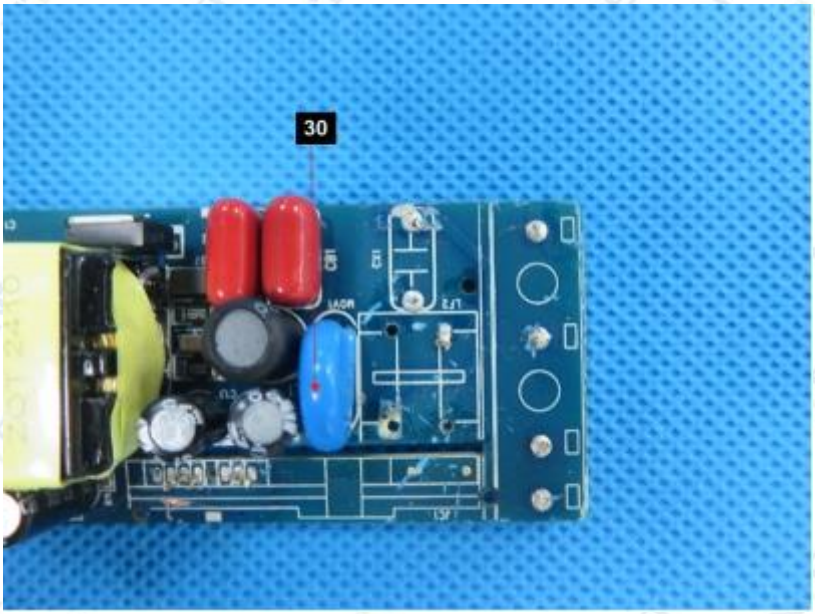


Fig.9

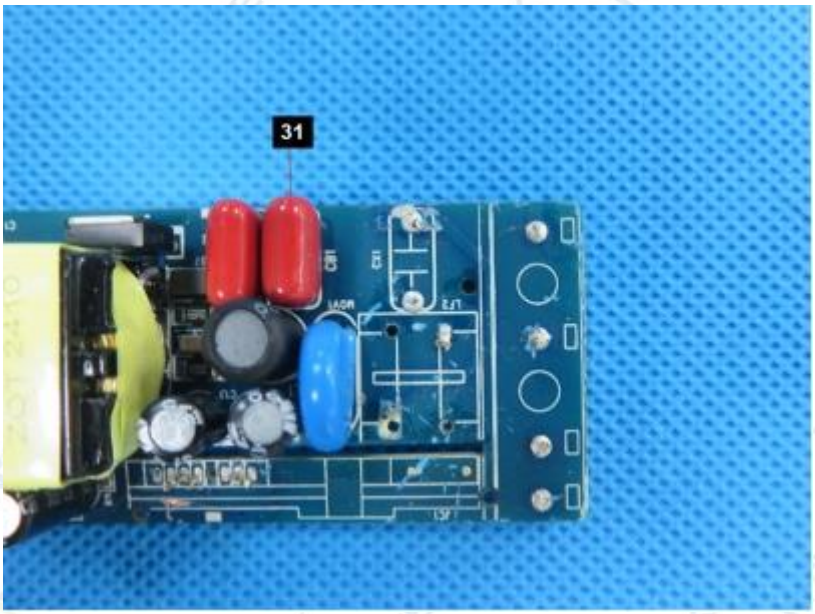


Fig.10

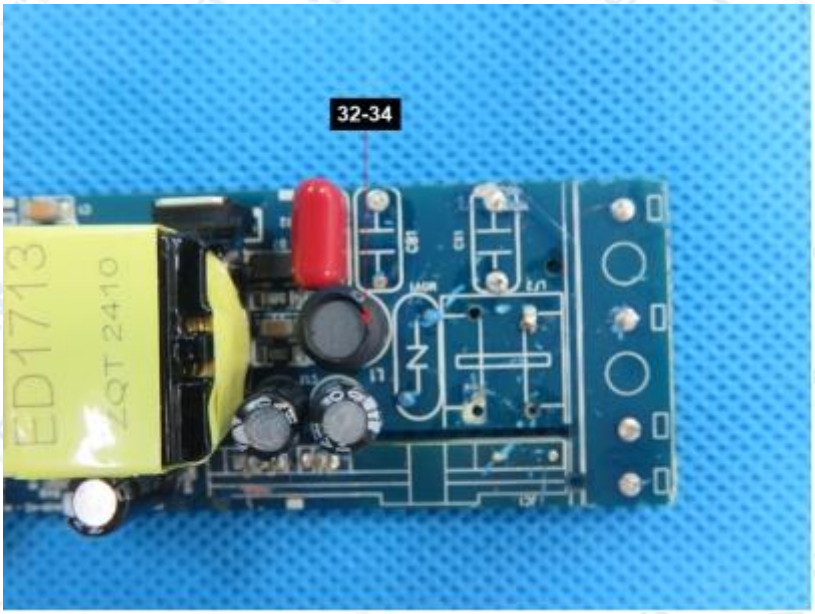


Fig.11

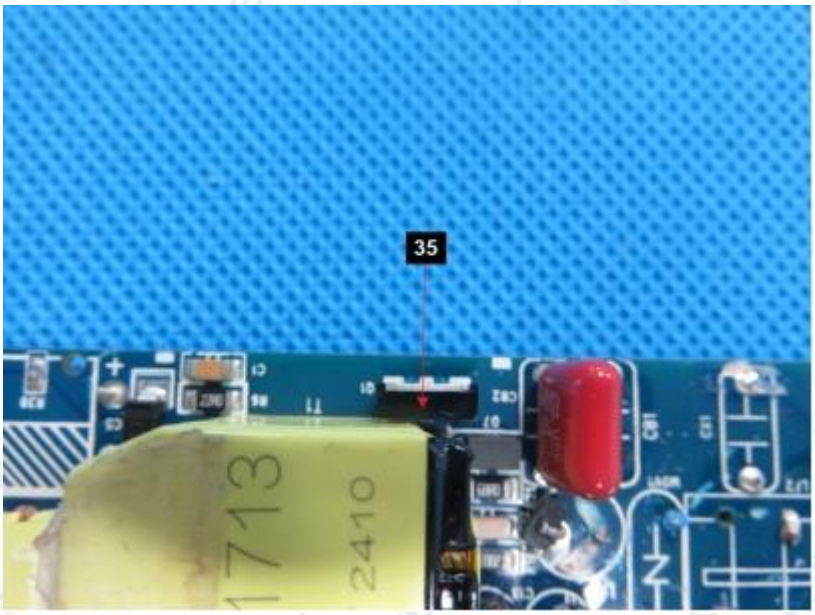


Fig.12

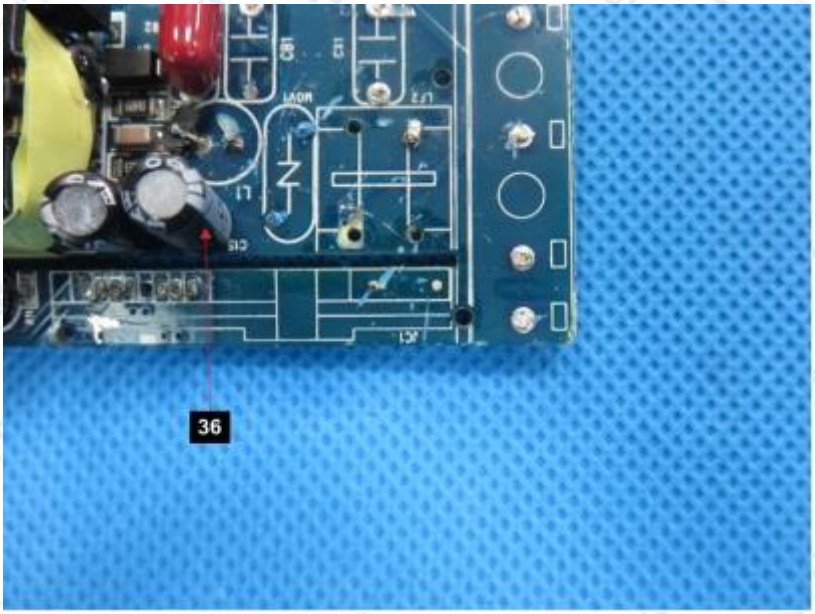


Fig.13

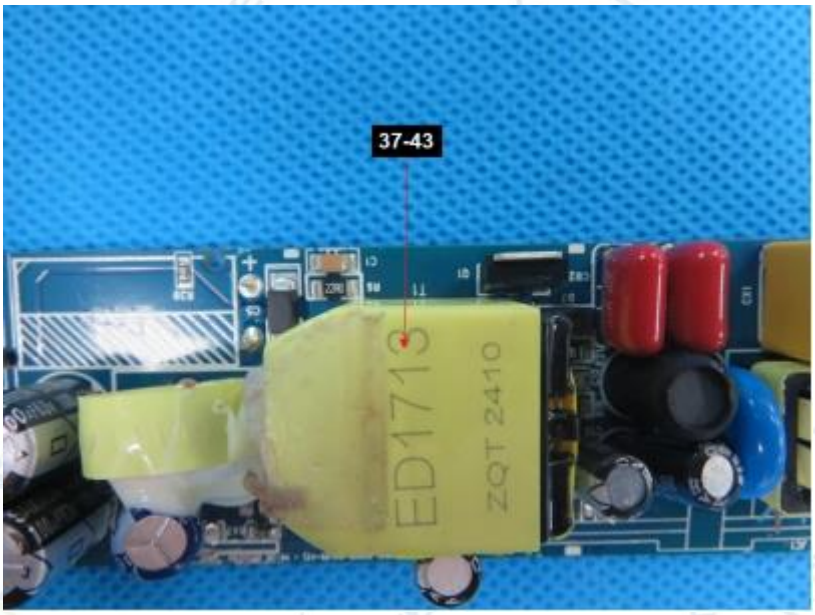


Fig.14

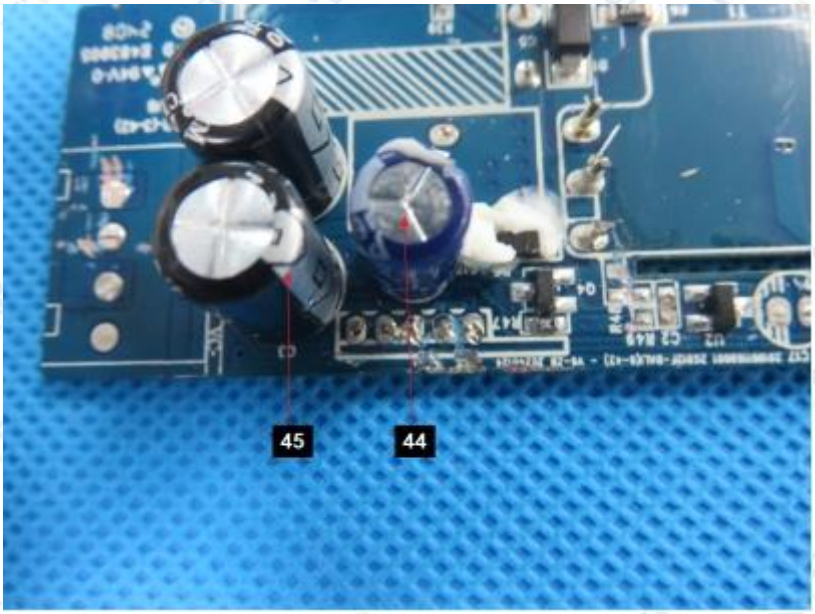


Fig.15



Fig.16

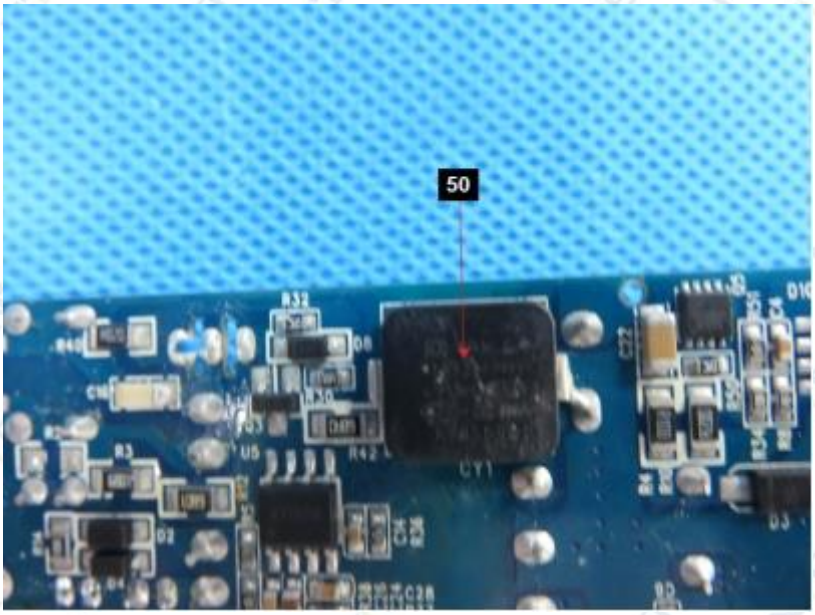


Fig.17

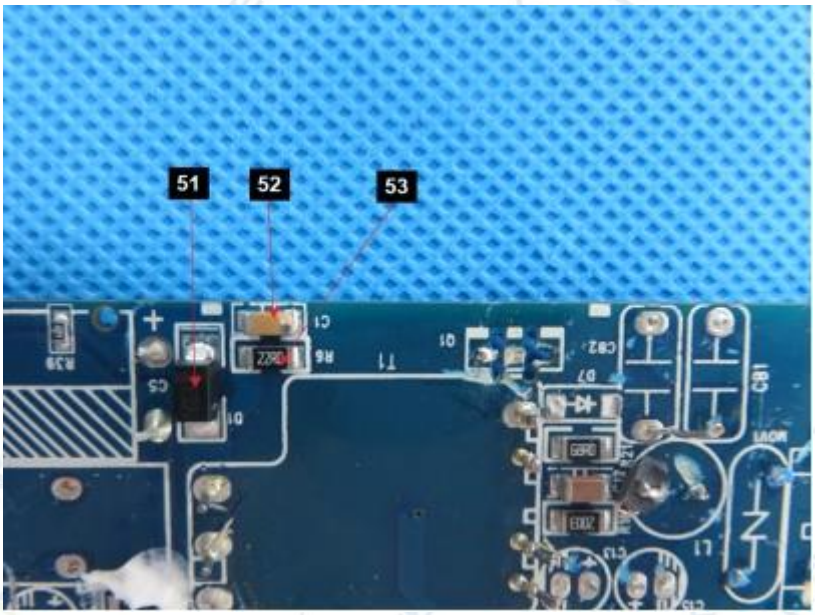


Fig.18

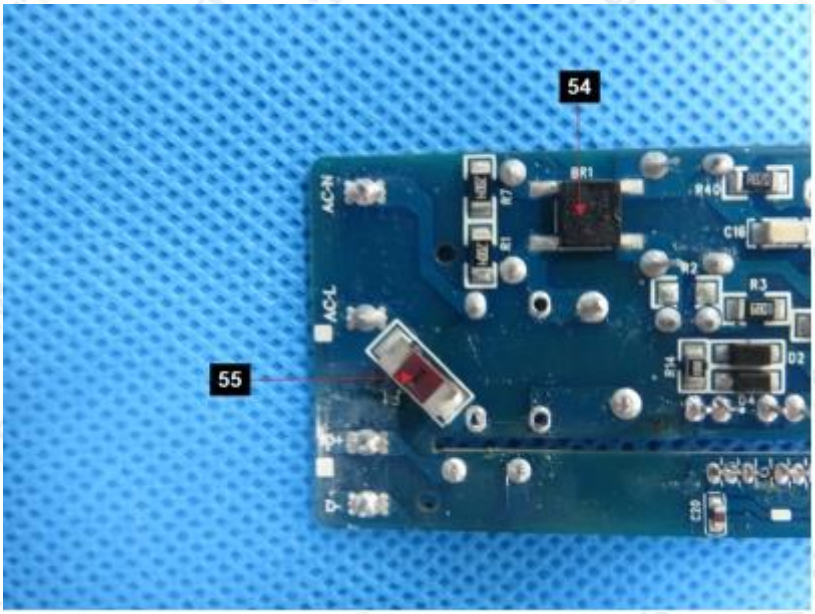

54
55
AC-N
AC-L
BR1
R40
C16
R2
R3
D2
C20

Fig.19

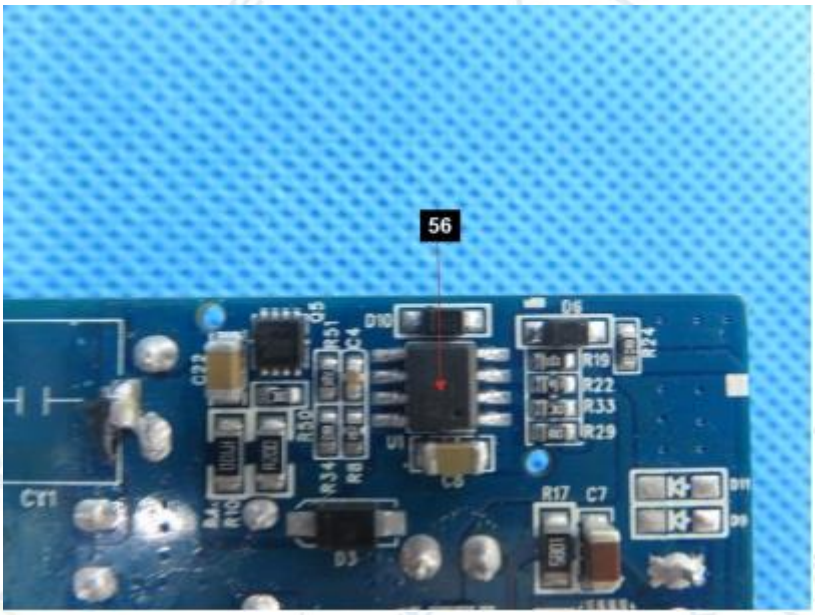

56
D10
D6
R19
R22
R33
R29
R24
R17
C7
CX1
D3

Fig.20

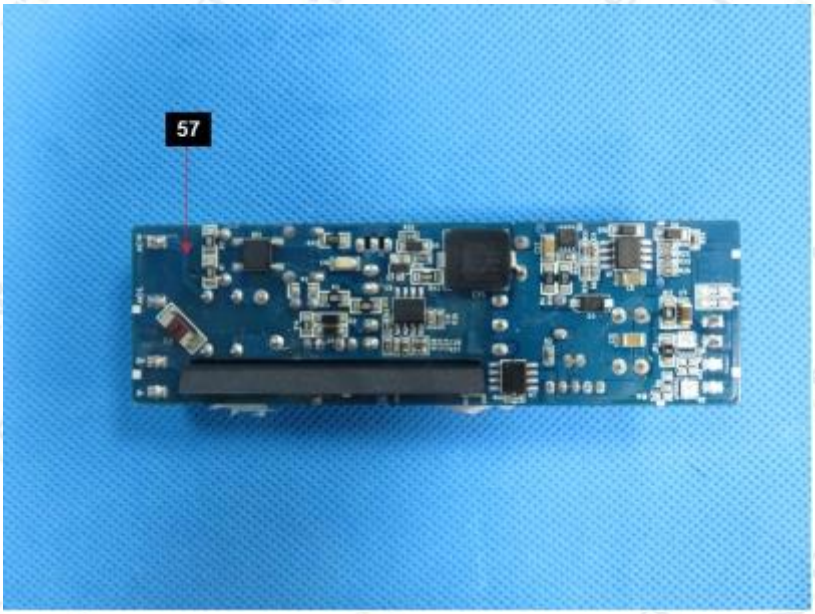


Fig.21



Fig.22

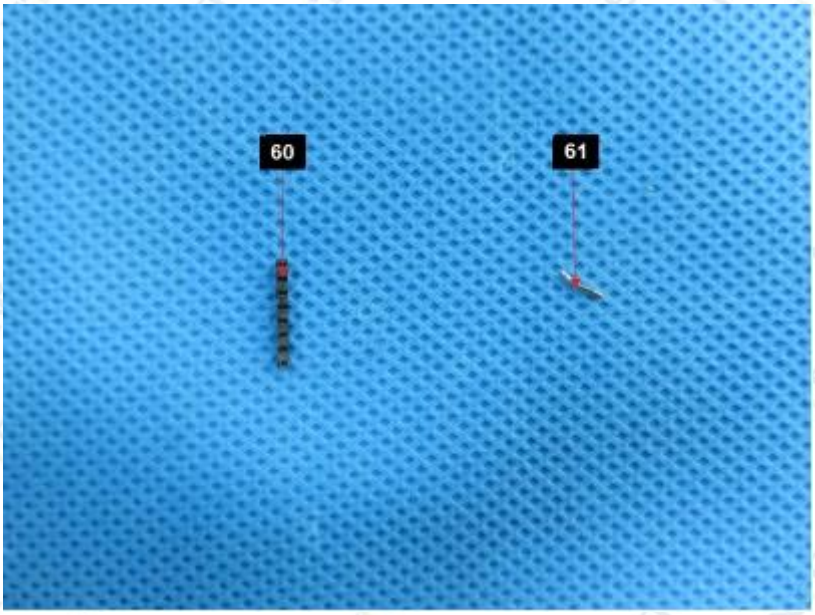


Fig.23

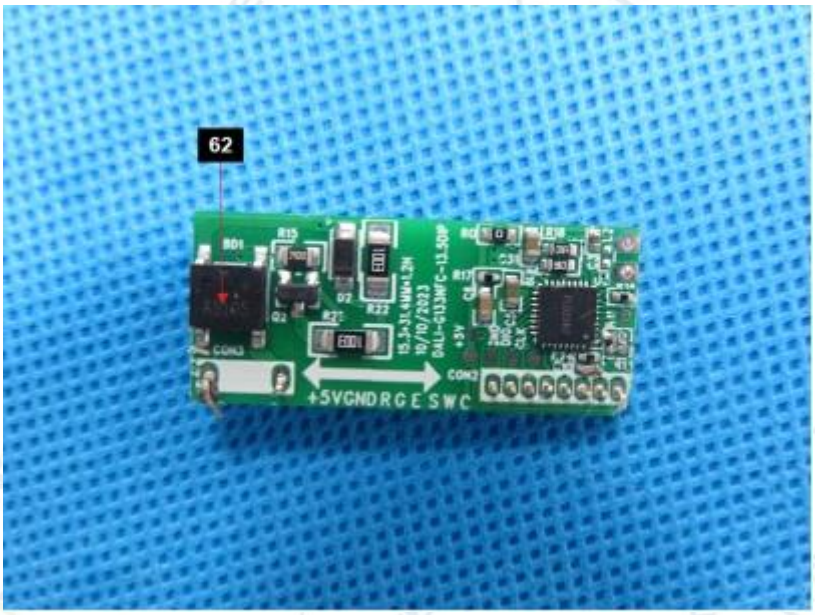


Fig.24

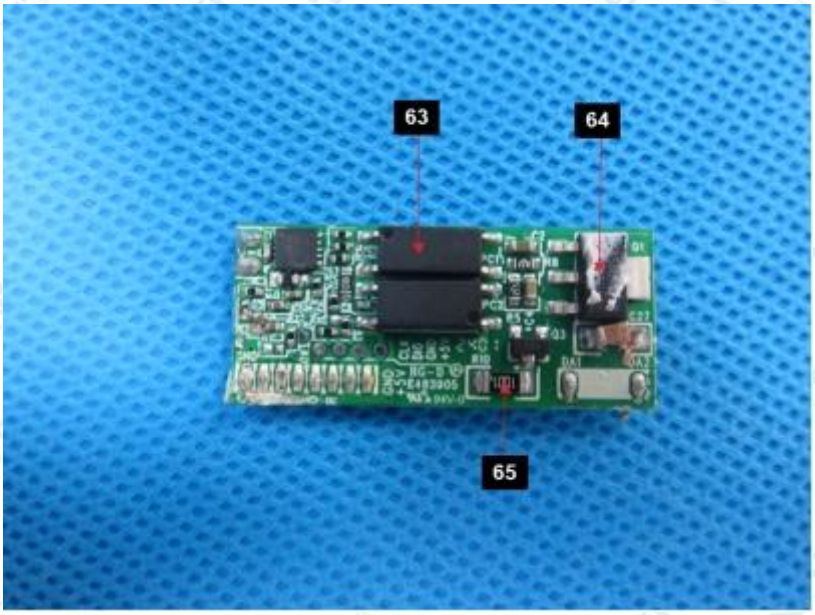


Fig.25

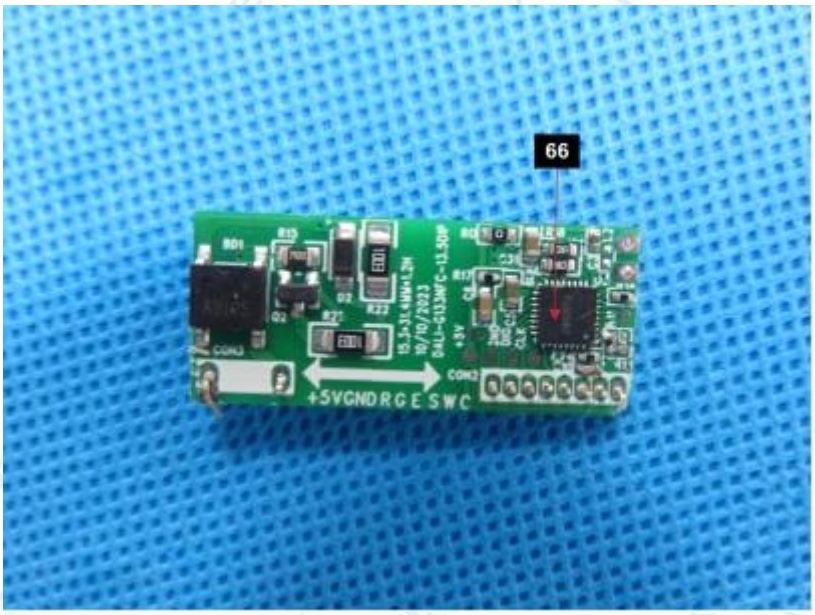


Fig.26

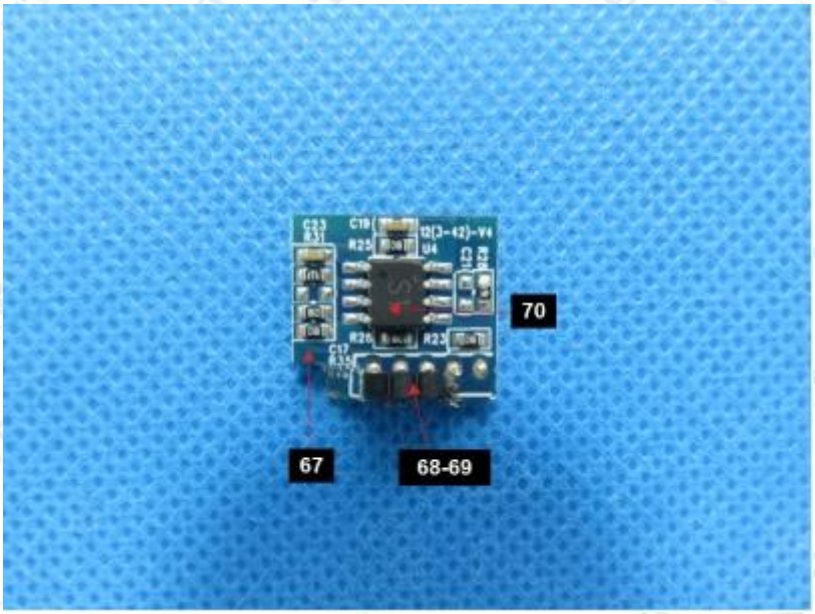


Fig.27

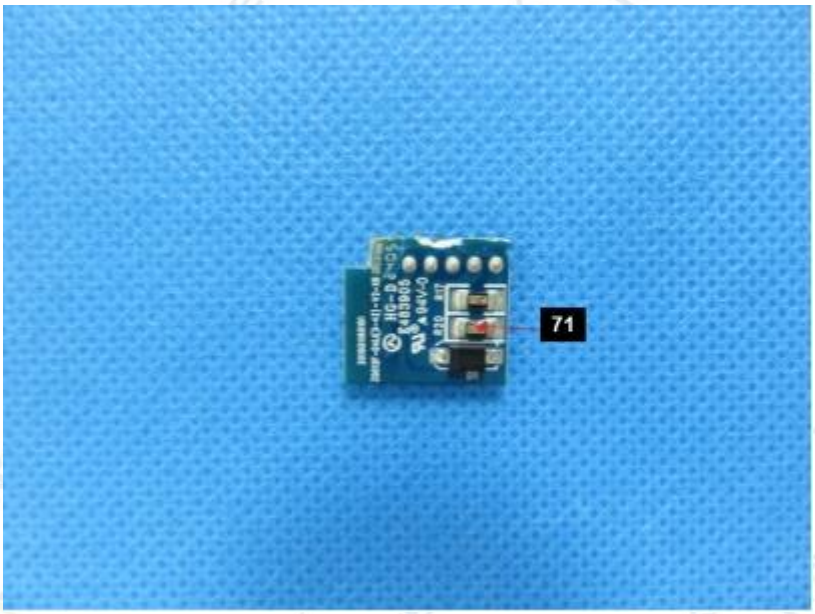


Fig.28

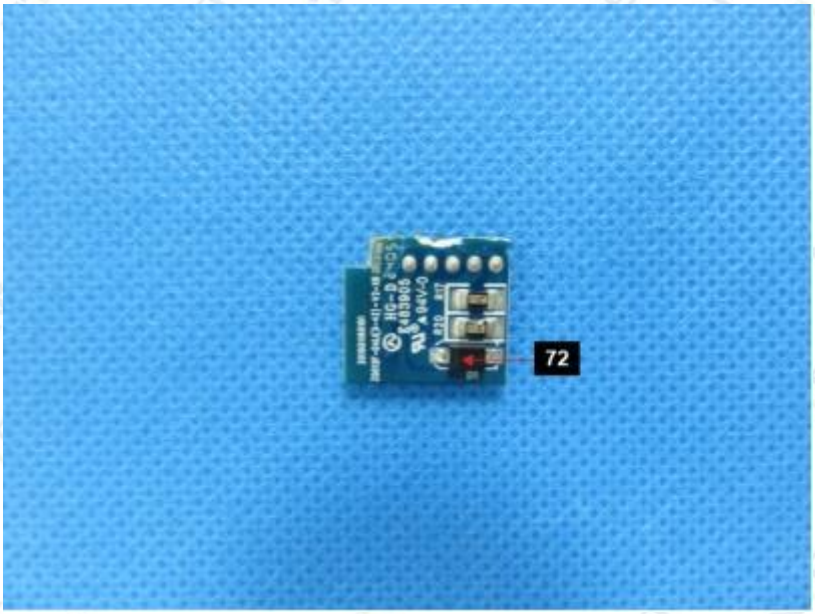


Fig.29

****End of Report****

The test results or data in this report will be used only for education, scientific research, enterprise product development and internal quality control or other purposes.

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of NTEK, this report can't be reproduced except in full.