

Test Report

Client	:	Eyacht Energy., LTD.
Address	:	No. 33, Qiuju Road, Baiyan Science Park, High tech Zone, Hefei, Anhui, P.R.China

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

Sample Name	:	Lithium-ion battery pack
Model/P.O. No.	:	LFPWall-5000
Manufacturer	:	Eyacht Energy., LTD.
Received Date	:	Dec 13, 2022
Test Period	:	Dec 13, 2022~Dec 28, 2022
Test Requested	:	EU RoHS 2011/65/EU and 2015/863/EU

Conclusion		
-	Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr ⁶⁺)	PASS
-	Polybromobiphenyls (PBBs) & Polybromodiphenyl ethers (PBDEs)	PASS
-	DBP, BBP, DEHP, DIBP	PASS

For Further Details, Please Refer To the Following Page(s)

Approved by:

Jue. Liu

Date: Dec 28, 2022



Test Method

Test Item(s)	Test Method	Equipment	MDL
Pb, Cd, Hg, Cr, Br	IEC 62321-3-1:2013	XRF	5mg/kg
Pb, Cd	IEC 62321-5:2013	ICP-OES	5mg/kg
Hg	IEC 62321-4:2013+AMD1:2017	ICP-OES	5mg/kg
Cr ⁶⁺	IEC 62321-7-2:2017	UV-Vis	5mg/kg
	IEC 62321-7-1:2015		0.10µg/cm ²
PBBs & PBDEs	IEC 62321-6:2015	GC-MS	5mg/kg
DBP, BBP, DEHP, DIBP	IEC 62321-8:2017	GC-MS	30mg/kg

Test Result(s)

- Screening test results

Test items	1	2	3	4	5	6	7	8	9
Pb	P	P	P	P	P	D	P	P	P
Cd	P	P	P	P	P	P	P	P	P
Hg	P	P	P	P	P	P	P	P	P
Cr	P	P	P	D	P	P	P	P	P
Br	P	P	P	/	P	/	P	/	P
Conclusion	P	P	P	D	P	D	P	P	P

Test items	10	11	12	13	14	15	16	17	18	19
Pb	P	P	P	P	P	P	P	P	P	P
Cd	P	P	P	P	P	D	P	P	P	P
Hg	P	P	P	P	P	P	P	P	P	P
Cr	P	P	P	P	P	D	P	P	P	P
Br	/	P	P	/	P	/	P	/	P	P
Conclusion	P	P	P	P	P	D	P	P	P	P

Test items	20	21	22	23	24	25	26	27	28	29
Pb	P	P	P	P	P	P	P	P	P	P
Cd	P	P	P	P	P	P	P	P	P	P
Hg	P	P	P	P	P	P	P	P	P	P
Cr	P	P	P	P	P	P	P	P	P	P
Br	P	P	P	/	P	P	P	P	/	P
Conclusion	P	P	P	P	P	P	P	P	P	P

Test items	30	31	32	33	34	35	36	37	38	39
Pb	P	P	P	P	P	P	P	P	P	P
Cd	P	P	P	P	P	P	P	P	P	P
Hg	P	P	P	P	P	P	P	P	P	P
Cr	P	P	P	P	D	D	P	D	P	P
Br	P	P	P	P	/	/	/	/	P	P
Conclusion	P	P	P	P	D	D	P	D	P	P

Test items	40	41	42	43	44	45	46	47	48	49
Pb	P	P	P	P	P	P	P	P	P	P
Cd	P	P	P	P	P	P	P	P	P	P
Hg	P	P	P	P	P	P	P	P	P	P
Cr	P	P	P	P	P	P	P	P	P	P
Br	/	P	P	P	P	P	P	P	P	P
Conclusion	P	P	P	P	P	P	P	P	P	P

Test items	50	51	52	53	54	55	56	57	58	59
Pb	P	P	P	P	P	P	D	P	D	D
Cd	P	D	P	P	P	P	P	P	P	D
Hg	P	P	P	P	P	P	P	P	P	P
Cr	P	P	P	P	P	P	D	P	P	P
Br	P	/	P	P	/	P	/	D	/	/
Conclusion	P	D	P	P	P	P	D	D	D	D

Test items	60	61	62	63	64	65	66	67	68	69
Pb	P	P	P	P	P	P	P	P	P	P
Cd	P	P	P	P	P	P	P	P	P	P
Hg	P	P	P	P	P	P	P	P	P	P
Cr	P	P	P	P	P	P	P	P	P	P
Br	D	/	/	P	P	D	P	P	P	/
Conclusion	D	P	P	P	P	D	P	P	P	P

Test items	70	71	72	73	74	75	76	77	78	79
Pb	P	P	P	D	P	P	P	P	P	P
Cd	P	P	P	P	P	P	P	P	P	P
Hg	P	P	P	P	P	P	P	P	P	P
Cr	P	P	P	P	P	P	P	P	P	P
Br	P	D	D	/	D	D	D	D	D	P
Conclusion	P	D	D	D	D	D	D	D	D	P

Test items	80	81	82	83	84	85	86	87	88	89
Pb	P	P	P	P	P	P	P	D	P	P
Cd	P	P	P	P	P	D	P	P	P	P
Hg	P	P	P	P	P	P	P	P	P	P
Cr	P	P	P	P	P	P	P	P	P	P
Br	/	P	P	P	P	/	P	/	P	P
Conclusion	P	P	P	P	P	D	P	D	P	P

Test items	90	91	92	93	94	95	96	97	98	99
Pb	P	P	D	P	P	P	P	P	P	D
Cd	P	P	P	P	P	P	P	P	P	P
Hg	P	P	P	P	P	P	P	P	P	P
Cr	P	P	P	P	P	P	P	P	P	P
Br	P	P	/	/	/	/	P	P	/	/
Conclusion	P	P	D	P	P	P	P	P	P	D

Note:

- It is the result on total Br while testing PBBs and PBDEs by XRF. It is the result on total Cr while testing Hexavalent Chromium by XRF.
- Results are obtained by XRF for primary screening, and chemical testing by ICP (for Cd, Pb, Hg), UV-Vis (for Cr(VI)) and GCMS (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	$P \leq 70-3\sigma < D < 130+3\sigma \leq F$	$P \leq 70-3\sigma < D < 130+3\sigma \leq F$	$P \leq 50-3\sigma < D < 150+3\sigma \leq F$
Pb	$P \leq 700-3\sigma < D < 1300+3\sigma \leq F$	$P \leq 700-3\sigma < D < 1300+3\sigma \leq F$	$P \leq 500-3\sigma < D < 1500+3\sigma \leq F$
Hg	$P \leq 700-3\sigma < D < 1300+3\sigma \leq F$	$P \leq 700-3\sigma < D < 1300+3\sigma \leq F$	$P \leq 500-3\sigma < D < 1500+3\sigma \leq F$
Br	$P \leq 300-3\sigma < D$	----	$P \leq 250-3\sigma < F$
Cr	$P \leq 700-3\sigma < D$	$P \leq 700-3\sigma < D$	$P \leq 500-3\sigma < F$

- P=PASS, F=FAIL, D=DETECTED
- mg/kg = ppm = 0.0001%, / = Not Available

- Chemical test results:

Test results of Pb, Cd, Hg and Cr⁶⁺

Test Item(s)	MDL	Result(s) (mg/kg)					Limit (mg/kg)
		4	6	15	34	35	
Lead(Pb)	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Cadmium(Cd)	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	100
Mercury(Hg)	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Hexavalent Chromium(Cr ⁶⁺)#1	5mg/kg	/	/	/	/	/	1000
Hexavalent Chromium(Cr ⁶⁺)#2	0.10µg/cm ²	N.D.	N.D.	N.D.	N.D.	N.D.	/

Test Item(s)	MDL	Result(s) (mg/kg)					Limit (mg/kg)
		37	51	56	58	59	
Lead(Pb)	5mg/kg	N.D.	N.D.	N.D.	16153	14236	1000
Cadmium(Cd)	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	100
Mercury(Hg)	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Hexavalent Chromium(Cr ⁶⁺)#1	5mg/kg	/	/	/	/	/	1000
Hexavalent Chromium(Cr ⁶⁺)#2	0.10μg/cm ²	N.D.	N.D.	N.D.	N.D.	N.D.	/

Test Item(s)	MDL	Result(s) (mg/kg)					Limit (mg/kg)
		73	85	87	92	99	
Lead(Pb)	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Cadmium(Cd)	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	100
Mercury(Hg)	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Hexavalent Chromium(Cr ⁶⁺)#1	5mg/kg	/	/	/	/	/	1000
Hexavalent Chromium(Cr ⁶⁺)#2	0.10μg/cm ²	N.D.	N.D.	N.D.	N.D.	N.D.	/

Note:

- mg/kg=ppm=parts per million;
- N.D.=Not Detected (<MDL); MDL=method detection limit;
- #1: For non-metal materials test.
- #2: For metal materials test:
- “Positive” indicates Cr⁶⁺ in a sample is detected above 0.13μg/cm²;
- “Negative” indicates Cr⁶⁺ in a sample is detected below 0.10μg/cm²;
- According to EU RoHS 2011/65/EU Annex III, the following components were exempt

No.	Exempted substances	Exempted items	Exempted value
58	Copper alloy	Lead(Pb)	4.0%
59	Copper alloy	Lead(Pb)	4.0%

Test Item(s)	MDL	Result(s) (mg/kg)					Limit (mg/kg)
		74	75	76	77	78	
Monobromobiphenyl	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	/
Dibromobiphenyl	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	/
Tribromobiphenyl	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	/
Tetrabromobiphenyl	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	/
Pentabromobiphenyl	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	/
Hexabromobiphenyl	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	/
Heptabromobiphenyl	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	/
Octabromobiphenyl	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	/
Nonabromobiphenyl	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	/
Decabromodiphenyl	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	/
Polybromobiphenyl(PBBs)	/	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Monobromobiphenyl ether	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	/
Bibromobiphenyl ether	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	/
Tribromobiphenyl ether	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	/
Tetrabromobiphenyl ether	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	/
Pentabromobiphenyl ether	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	/
Hexabromobiphenyl ether	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	/
Heptabromobiphenyl ether	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	/
Octabromobiphenyl ether	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	/
Nonabromobiphenyl ether	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	/
Decabromodiphenyl ether	5mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	/
Polybromodiphenyl ether(PBDEs)	/	N.D.	N.D.	N.D.	N.D.	N.D.	1000

Note:

- mg/kg=ppm=parts per million;
- N.D.=Not Detected (<MDL);
- MDL=method detection limit.

Test Item(s)	MDL	Result(s) (mg/kg)					Limit (mg/kg)
		82	83	84	86	88	
Dibutyl phthalate(DBP)	30mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Butyl benzyl phthalate(BBP)	30mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Di (2-ethylhexyl) phthalate(DEHP)	30mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate (DIBP)	30mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	1000

Test Item(s)	MDL	Result(s) (mg/kg)					Limit (mg/kg)
		89	90	91	96	97	
Dibutyl phthalate(DBP)	30mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Butyl benzyl phthalate(BBP)	30mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Di (2-ethylhexyl) phthalate(DEHP)	30mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate (DIBP)	30mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	1000

Note:

- mg/kg=ppm=parts per million;
- N.D.=Not Detected (<MDL);
- MDL=method detection limit.

Test components:

1	White plastic label	2	Grey plastic label
3	Yellow plastic label	4	Silver metal screw
5	Black plastic sheet	6	Dark grey metal
7	Grey sponge	8	White coated metal (case)
9	Black plastic plug	10	Silver metal screw
11	Black plastic pad	12	White latex
13	Silver nut	14	Black plastic ring
15	Silvery metal	16	Blue plastic
17	Silver sheet metal	18	White plastic wire slot
19	Black plastic cover	20	Red plastic wire
21	Black plastic wire	22	Red paper
23	Silver metal screw	24	White plastic (LED)
25	Green plastic (LED)	26	Red Plastic (LED)
27	White plastic	28	Silvery metal
29	Red plastic	30	White plastic
31	Grey plastic	32	Black plastic
33	Green PCB	34	Silver metal screw
35	Silver metal screw	36	Blue plated metal screw
37	Silver metal screw	38	Transparent plastic
39	Off-white plastic	40	Silver metal thread
41	Black cloth	42	Red plastic wire
43	White plastic wire	44	Black plastic wire
45	Yellow plastic wire	46	Blue plastic wire
47	Orange plastic wire	48	White plastic
49	Orange plastic cover	50	Black plastic cover
51	Silver metal terminal	52	Red plastic wire
53	Black plastic wire	54	Silver metal core
55	Black plastic	56	Silvery metal
57	MOS tube	58	MOS tube base
59	MOS tube pin	60	Brown plastic

61	Silvery metal	62	Solder
63	Black ceramic	64	White plastic
65	Brown plastic	66	Black plastic
67	White plastic sheet	68	Black ceramic
69	Brown metal coil	70	Black plastic wire slot
71	IC	72	IC
73	IC pin	74	Patch capacitance
75	Patch resistance	76	Diode
77	Triode	78	PCB
79	Grey sponge	80	Ferrous metal
81	Black plastic sheet	82	Yellow plastic sheet
83	Black plastic sheet	84	Blue adhesive paper
85	Silver metal case	86	Yellow plastic
87	Silver-white metal	88	Transparent plastic
89	Black plastic sheet	90	Yellow tape
91	Green tape	92	Positive lug
93	Aluminum foil	94	Negative lug
95	Copper foil	96	Positive toner
97	Negative toner	98	Blue coated metal
99	Grey metal		

Chemical Test Process

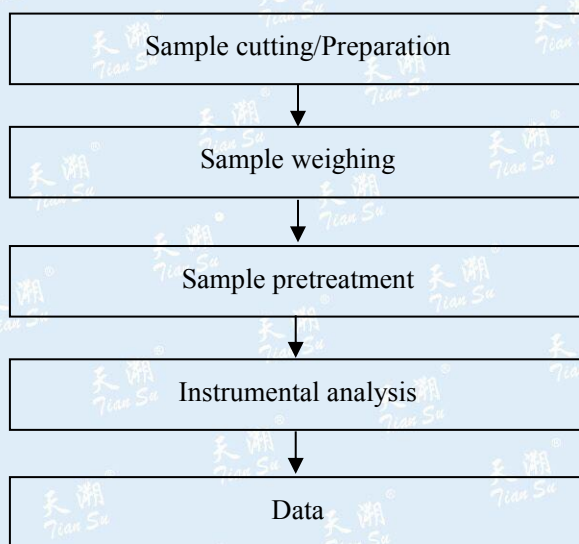
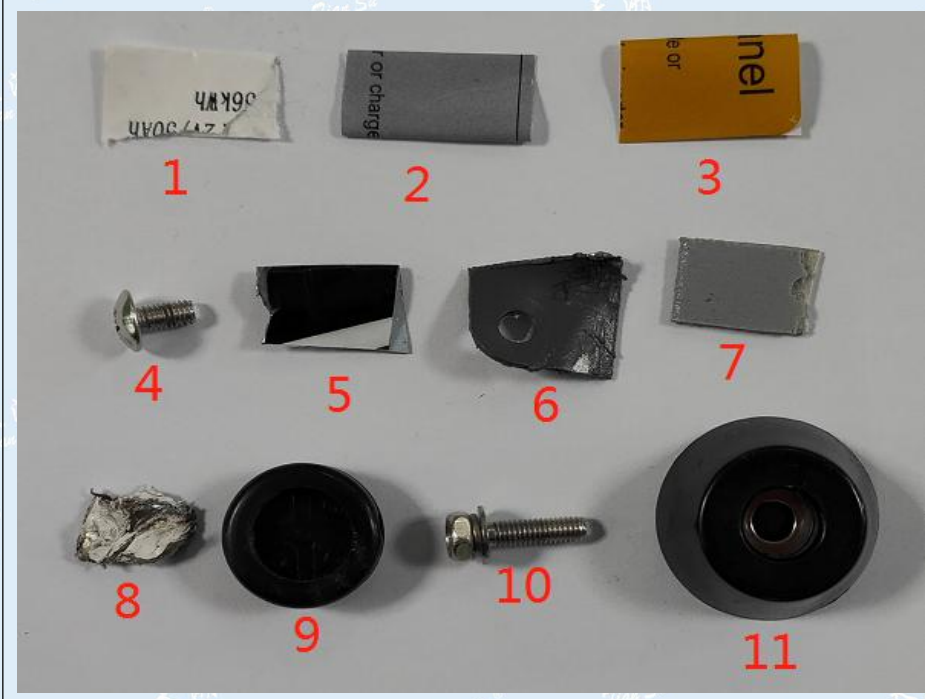
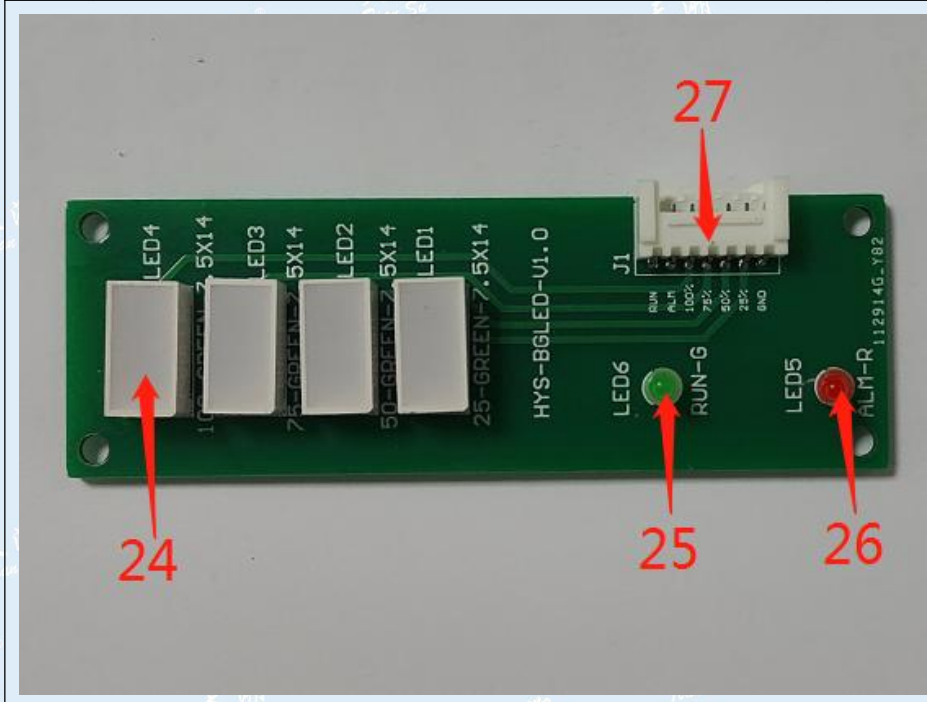
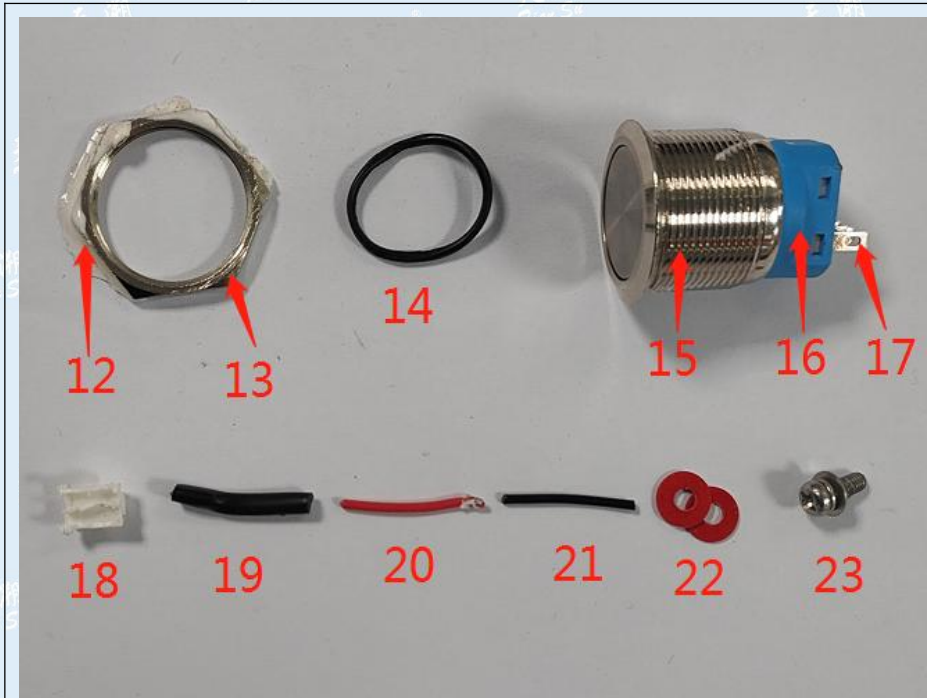


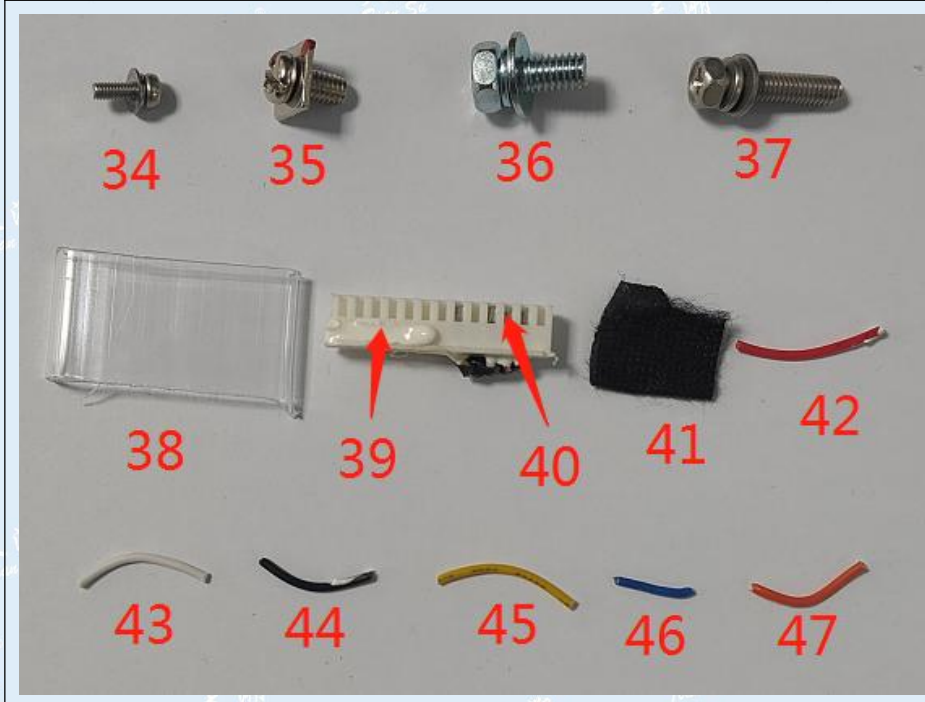
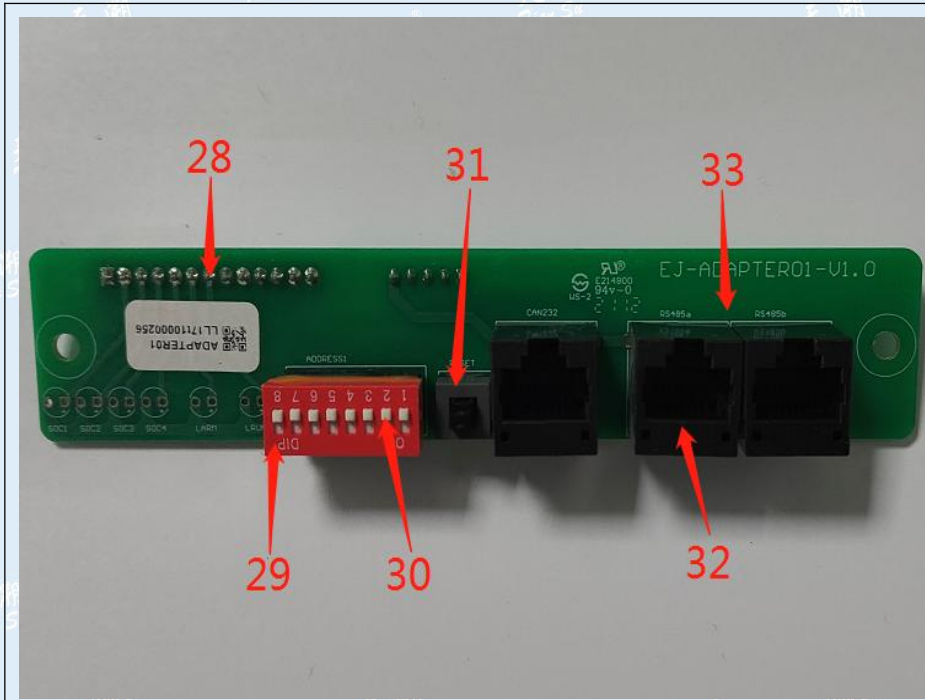
Photo of the sample

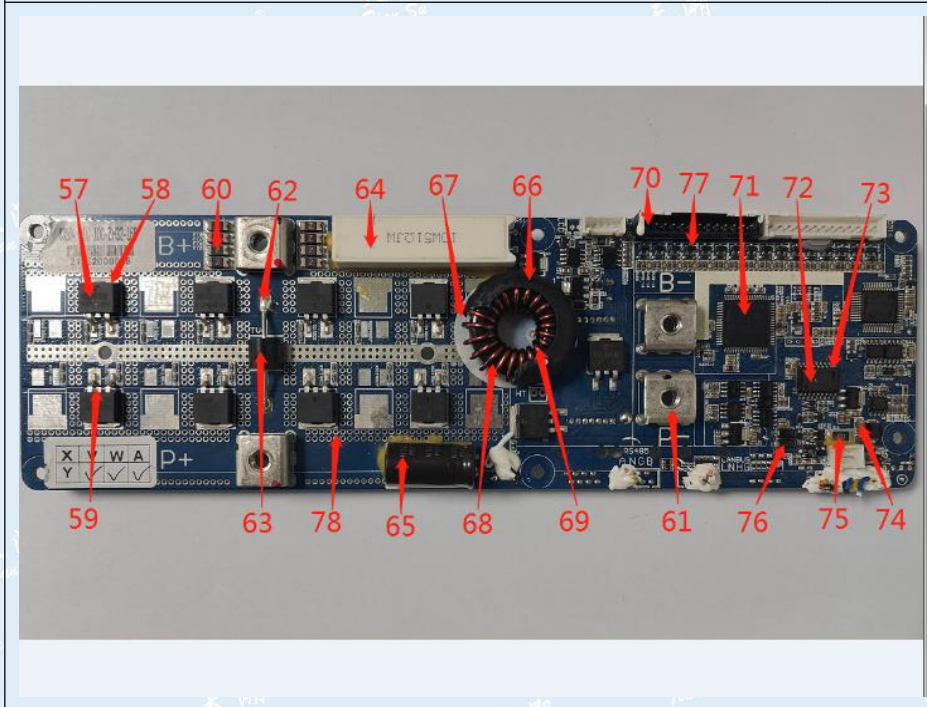
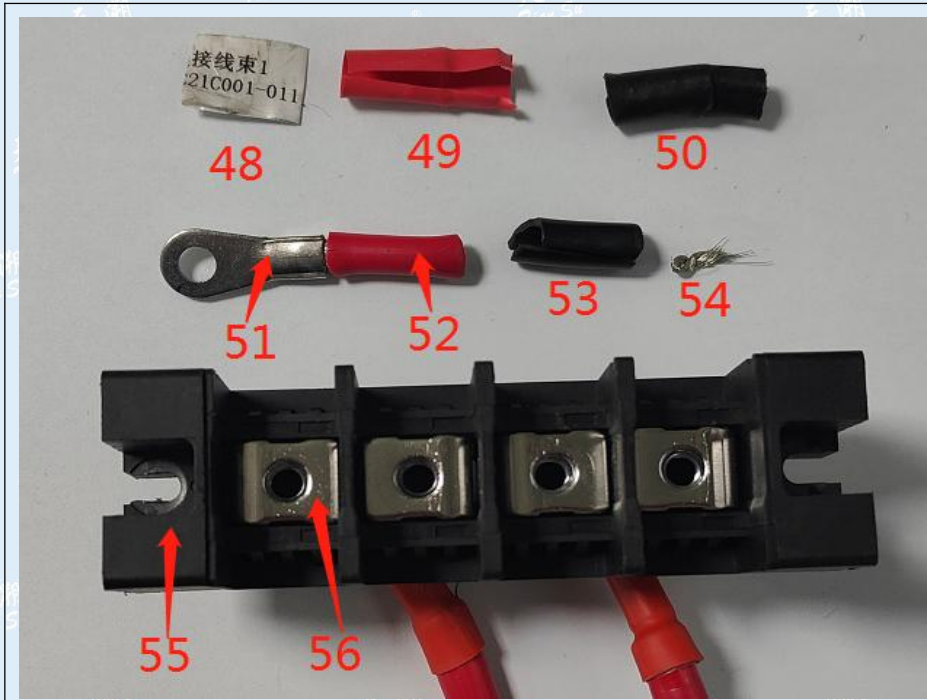


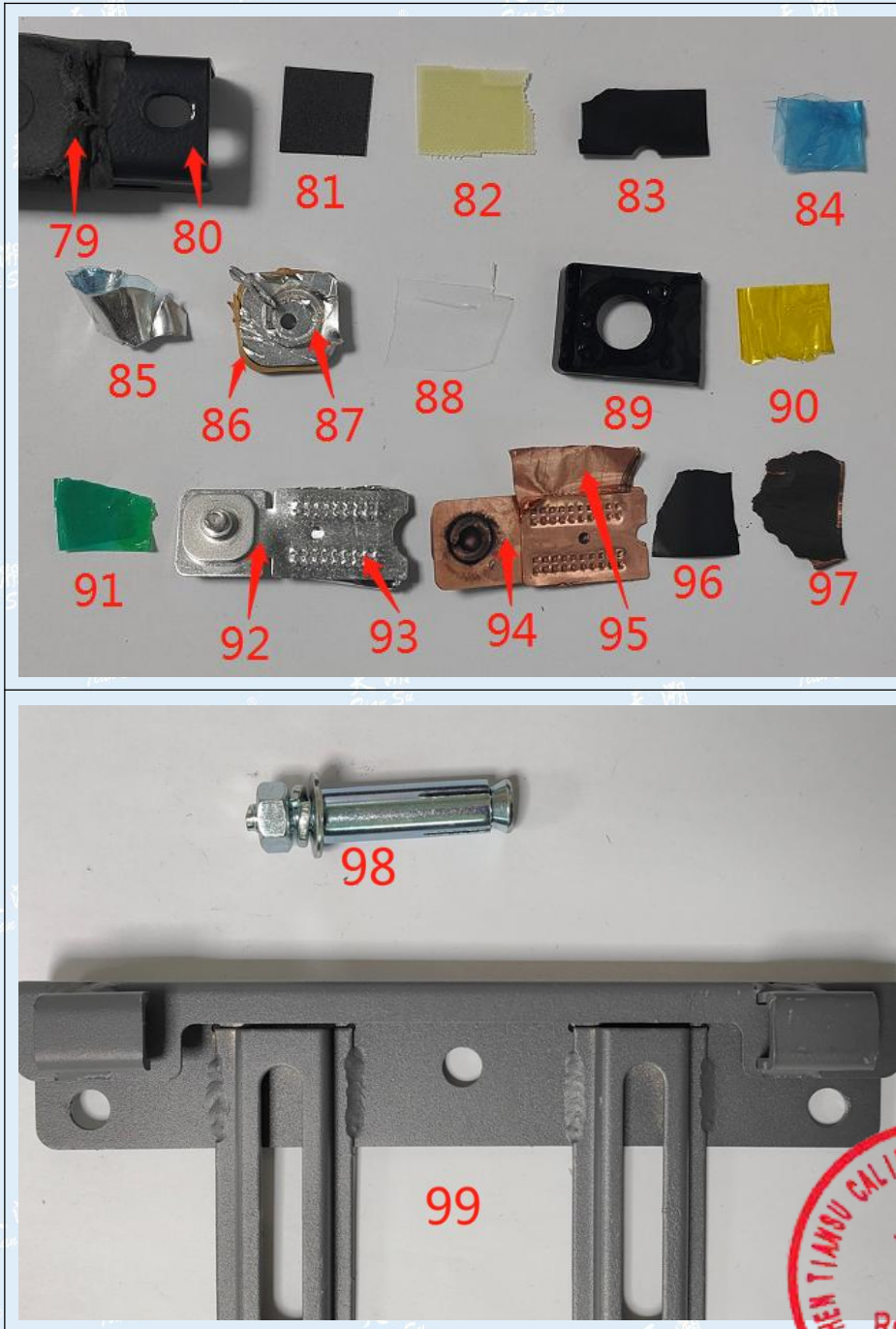
Sample











***** End of report *****

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