

Test Report

Client	:	SHENZHEN HIMAX ELECTRONICS CO., LTD
Address	:	Floor 501, Building B, Nantong Avenue No.5, Tongle Community, Baolong Street, Longgang, Shenzhen, China

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

Sample Name	:	Battery+USB/ RS485 Cable
Model/P.O. No.	:	S0304/ S0345
Manufacturer	:	SHENZHEN HIMAX ELECTRONICS CO., LTD
Received Date	:	May 28, 2026
Test Period	:	May 28, 2026~Jun 09, 2026
Test Requested	:	REACH regulation (EC) No. 1907/2006 Annex XVII

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

Approved by: June. Liu

Date: Jun 16, 2026



ShenZhen Tiansu Calibration and Testing Co., Ltd

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Test Result Summary :	
Test Specification	Conclusion
1 Organotin compounds content according to REACH Regulation (EC) No. 1907/2006 Annex XVII entry 20	PASS
2 Total cadmium content accordance to REACH regulation (EC) No.1907/2006 Annex XVII entry 23	PASS
3 Octabromodiphenylether (OctaBDE) content according to REACH regulation (EC) No. 1907/2006 Annex XVII entry 45	PASS
4 Polycyclic Aromatic Hydrocarbons (PAHs) Content according to REACH regulation (EC) No.1907/2006 Annex XVII entry 50	PASS
5 Phthalates content according to REACH regulation (EC) No.1907/2006 Annex XVII entry 51	PASS
6 Total Lead Content according to REACH regulation (EC) No.1907/2006 Annex XVII entry 63	PASS
7 Selected Perfluorinated carboxylic acids (C9-C14 PFCAs) and related substances according to REACH regulation (EC) No. 1907/2006 Annex XVII entry 68	PASS

Test Result(s)

1 Organotin compounds content according to REACH Regulation (EC) No. 1907/2006

Annex VII entry 20

Test method:

1) With reference to US EPA 3052:1996 & US EPA6010D:2018, analysis was performed by Inductively Coupled Plasma Emission Spectrometer(ICP-OES)

2) With reference to ISO 17353:2004, analysis was performed by GC - MS.

Test Item(s)	MDL (%)	Result(s) (%)				Limit (%)
		G1	G2	G4	G5	
TBT(Tributyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	--
TPT(Triphenyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	--
TOT(Trioctyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	--
TCyT(Tricyclohexyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	--
TPrT(Tripopyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	--
Sum of Tin of tri-substituted organotins	--	N.D.	N.D.	N.D.	N.D.	0.1
DBT(Dibutyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	0.1
DOT(Dioctyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	0.1

Test Item(s)	MDL (%)	Result(s) (%)				Limit (%)
		G6	G8	G9	G11	
TBT(Tributyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	--
TPT(Triphenyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	--
TOT(Trioctyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	--
TCyT(Tricyclohexyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	--
TPrT(Tripopyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	--
Sum of Tin of tri-substituted organotins	--	N.D.	N.D.	N.D.	N.D.	0.1
DBT(Dibutyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	0.1
DOT(Dioctyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	0.1

Test Item(s)	MDL (%)	Result(s) (%)				Limit (%)
		G12	G13	G15	G16	
TBT(Tributyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	--
TPT(Triphenyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	--
TOT(Trioctyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	--
TCyT(Tricyclohexyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	--
TPrT(Tripropyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	--
Sum of Tin of tri-substituted organotins	--	N.D.	N.D.	N.D.	N.D.	0.1
DBT(Dibutyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	0.1
DOT(Dioctyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	0.1

Test Item(s)	MDL (%)	Result(s) (%)				Limit (%)
		G17	G18	G20	G22	
TBT(Tributyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	--
TPT(Triphenyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	--
TOT(Trioctyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	--
TCyT(Tricyclohexyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	--
TPrT(Tripropyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	--
Sum of Tin of tri-substituted organotins	--	N.D.	N.D.	N.D.	N.D.	0.1
DBT(Dibutyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	0.1
DOT(Dioctyltin) by weight of tin	0.01	N.D.	N.D.	N.D.	N.D.	0.1

Note:

- % = percentage
- N.D.=Not Detected (<MDL); MDL=method detection limit
- Single components with an amount of <0.01% were not considered in the calculation of the sum. In the case of all five tri-substituted organotins were not detected, the result is stated N.D.
- The assessment for tri-substituted organotins is based on the sum of TBT, TPT, TOT, TCyT and TPrT by weight of tin only.

2 Total cadmium content accordance to REACH regulation (EC) No.1907/2006

Annex XVII entry 23

Test method: With reference to IEC 62321-5:2013, analysis was performed by ICP-OES.

Test Item(s)	MDL (mg/kg)	Result(s) (mg/kg)				Limit (mg/kg)
		G1	G2	G3	G4	
Cadmium(Cd)	5	N.D.	N.D.	N.D.	N.D.	100

Test Item(s)	MDL (mg/kg)	Result(s) (mg/kg)				Limit (mg/kg)
		G5	G6	G7	G8	
Cadmium(Cd)	5	N.D.	N.D.	N.D.	N.D.	100

Test Item(s)	MDL (mg/kg)	Result(s) (mg/kg)				Limit (mg/kg)
		G9	G10	G11	G12	
Cadmium(Cd)	5	N.D.	N.D.	N.D.	N.D.	100

Test Item(s)	MDL (mg/kg)	Result(s) (mg/kg)					Limit (mg/kg)
		G13	G14	G15	G16	G17	
Cadmium(Cd)	5	N.D.	N.D.	N.D.	N.D.	N.D.	100

Test Item(s)	MDL (mg/kg)	Result(s) (mg/kg)					Limit (mg/kg)
		G18	G19	G20	G21	G22	
Cadmium(Cd)	5	N.D.	N.D.	N.D.	N.D.	N.D.	100

Note:

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

3 Octabromodiphenylether (OctaBDE) content according to REACH regulation
(EC) No. 1907/2006 Annex XVII entry 45

Test method: With reference to IEC 62321-6:2015, analysis was performed by GC-MS.

Test Item(s)	MDL (mg/kg)	Result(s) (mg/kg)				Limit (mg/kg)
		G1	G2	G4	G5	
<u>Octabromodiphenylether</u> (OctaBDE)	5	N.D.	N.D.	N.D.	N.D.	1000

Test Item(s)	MDL (mg/kg)	Result(s) (mg/kg)				Limit (mg/kg)
		G6	G8	G9	G11	
<u>Octabromodiphenylether</u> (OctaBDE)	5	N.D.	N.D.	N.D.	N.D.	1000

Test Item(s)	MDL (mg/kg)	Result(s) (mg/kg)				Limit (mg/kg)
		G12	G13	G15	G16	
<u>Octabromodiphenylether</u> (OctaBDE)	5	N.D.	N.D.	N.D.	N.D.	1000

Test Item(s)	MDL (mg/kg)	Result(s) (mg/kg)				Limit (mg/kg)
		G17	G18	G20	G22	
<u>Octabromodiphenylether</u> (OctaBDE)	5	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

4 Polycyclic Aromatic Hydrocarbons (PAHs) Content according to REACH regulation (EC) No.1907/2006 Annex XVII entry 50

Test Method: With reference to AfPS GS 2019:01 PAK, analysis was performed by GC-MS.

Test Item(s)	CAS No.	MDL (mg/kg)	Result(s) (mg/kg)					Limit (mg/kg)
			G1	G2	G4	G5	G6	
Benzo(a)pyrene(BaP)	50-32-8	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	1
Benzo(e)pyren(BeP)	192-97-2	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	1
Benzo(a)anthracene(BaA)	56-55-3	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	1
Chrysene(CHR)	218-01-9	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	1
Benzo(b)fluoranthene(BbF)	205-99-2	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	1
Benzo(j)fluoranthene(BjFA)	205-82-3	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	1
Benzo(k)fluoranthene(BkF)	207-08-9	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	1
Dibenzo(a,h)anthracene(DBA)	53-70-3	0.1	N.D.	N.D.	N.D.	N.D.	N.D.	1

Note:

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

5 Phthalates content according to REACH regulation (EC) No.1907/2006 Annex XVII entry 51

Test Method: With reference to IEC 62321-8:2017, analysis was performed by GC-MS.

Test Item(s)	CAS No.	MDL (mg/kg)	Result(s) (mg/kg)				Limit (mg/kg)
			G1	G2	G4	G5	
Diethylhexyl phthalate (DEHP)	117-81-7	30	N.D.	N.D.	N.D.	N.D.	1000
Dibutyl phthalate (DBP)	84-74-2	30	N.D.	N.D.	N.D.	N.D.	1000
Benzylbutyl phthalate (BBP)	85-68-7	30	N.D.	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate (DIBP)	84-69-5	30	N.D.	N.D.	N.D.	N.D.	1000
Sum (DEHP+DBP+BBP+DIBP)	--	--	N.D.	N.D.	N.D.	N.D.	1000

Test Item(s)	CAS No.	MDL (mg/kg)	Result(s) (mg/kg)				Limit (mg/kg)
			G6	G8	G9	G11	
Diethylhexyl phthalate (DEHP)	117-81-7	30	N.D.	N.D.	N.D.	N.D.	1000
Dibutyl phthalate (DBP)	84-74-2	30	N.D.	N.D.	N.D.	N.D.	1000
Benzylbutyl phthalate (BBP)	85-68-7	30	N.D.	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate (DIBP)	84-69-5	30	N.D.	N.D.	N.D.	N.D.	1000
Sum (DEHP+DBP+BBP+DIBP)	--	--	N.D.	N.D.	N.D.	N.D.	1000

Test Item(s)	CAS No.	MDL (mg/kg)	Result(s) (mg/kg)				Limit (mg/kg)
			G12	G13	G15	G16	
Diethylhexyl phthalate (DEHP)	117-81-7	30	N.D.	N.D.	N.D.	N.D.	1000
Dibutyl phthalate (DBP)	84-74-2	30	N.D.	N.D.	N.D.	N.D.	1000
Benzylbutyl phthalate (BBP)	85-68-7	30	N.D.	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate (DIBP)	84-69-5	30	N.D.	N.D.	N.D.	N.D.	1000
Sum (DEHP+DBP+BBP+DIBP)	--	--	N.D.	N.D.	N.D.	N.D.	1000

Test Item(s)	CAS No.	MDL (mg/kg)	Result(s) (mg/kg)				Limit (mg/kg)
			G17	G18	G20	G22	
Diethylhexyl phthalate (DEHP)	117-81-7	30	N.D.	N.D.	N.D.	N.D.	1000
Dibutyl phthalate (DBP)	84-74-2	30	N.D.	N.D.	N.D.	N.D.	1000
Benzylbutyl phthalate (BBP)	85-68-7	30	N.D.	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate (DIBP)	84-69-5	30	N.D.	N.D.	N.D.	N.D.	1000
Sum (DEHP+DBP+BBP+DIBP)	--	--	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

6 Total Lead Content according to REACH regulation (EC) No.1907/2006

Annex XVII entry 63

Test method: With reference to IEC 62321-5:2013, analysis was performed by ICP-OES.

Test Item(s)	MDL (mg/kg)	Result(s) (mg/kg)			Limit (mg/kg)
		G1	G2	G3	
Lead(Pb)	5	N.D.	N.D.	N.D.	500

Test Item(s)	MDL (mg/kg)	Result(s) (mg/kg)			Limit (mg/kg)
		G4	G5	G6	
Lead(Pb)	5	N.D.	N.D.	N.D.	500

Note:

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

7 Selected Perfluorinated carboxylic acids (C9-C14 PFCAs) and related substances

according to REACH regulation (EC) No. 1907/2006 Annex XVII entry 68

Test method: In house method, analysis was performed by LC-MS/MS.

Test Item(s)	MDL (mg/kg)	Result(s) (mg/kg)				Limit (mg/kg)
		G1	G2	G4	G5	
Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs) and their salts ^{#1}	--	N.D.	N.D.	N.D.	N.D.	0.025
C9-C14 PFCA-related substances ^{#2}	--	N.D.	N.D.	N.D.	N.D.	0.260

Test Item(s)	MDL (mg/kg)	Result(s) (mg/kg)				Limit (mg/kg)
		G6	G8	G9	G11	
Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs) and their salts ^{#1}	--	N.D.	N.D.	N.D.	N.D.	0.025
C9-C14 PFCA-related substances ^{#2}	--	N.D.	N.D.	N.D.	N.D.	0.260

Test Item(s)	MDL (mg/kg)	Result(s) (mg/kg)				Limit (mg/kg)
		G12	G13	G15	G16	
Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs) and their salts ^{#1}	--	N.D.	N.D.	N.D.	N.D.	0.025
C9-C14 PFCA-related substances ^{#2}	--	N.D.	N.D.	N.D.	N.D.	0.260

Test Item(s)	MDL (mg/kg)	Result(s) (mg/kg)				Limit (mg/kg)
		G17	G18	G20	G22	
Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs) and their salts ^{#1}	--	N.D.	N.D.	N.D.	N.D.	0.025
C9-C14 PFCA-related substances ^{#2}	--	N.D.	N.D.	N.D.	N.D.	0.260

Note:

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

Remark:

#1 List of C9-C14 PFCAs and their salts

Test Item(s)	CAS No.	MDL (mg/kg)
Perfluorononan-1-oic acid (PFNA)	375-95-1	0.01
Perfluorodecanoic acid (PFDA)	335-76-2	0.01
Perfluoroundecanoic acid (PFUnA)	2058-94-8	0.01
Perfluorododecanoic acid (PFDoA)	307-55-1	0.01
Perfluorotridecanoic acid (PFTrA)	72629-94-8	0.01
Perfluorotetradecanoic acid (PFTeA)	376-06-7	0.01
Perfluoro-3,7-dimethyloctanoic acid(PF-3,7-DMOA)	172155-07-6	0.01

#2 List of C9-C14 PFCA-related substances

Test Item(s)	CAS No.	MDL (mg/kg)
1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH)	678-39-7	0.1
1H,1H,2H,2H-Perfluoro-1-dodecanol (10:2 FTOH)	865-86-1	0.1
Perfluorodecanesulfonate (PFDS)	335-77-3	0.1
2H,2H,3H,3H-Perfluoroundecanoicacid (H4PFUnA)	34598-33-9	0.1
1H,1H,2H,2H-Perfluorododecanesulfonicacid (10:2 FTS)	120226-60-0	0.1
1H,1H,2H,2H-Perfluorododecanesulfonic acid (8:2 FTSA)	39108-34-4	0.1
1H,1H,2H,2H-perfluorotetradecan-1-ol (12:2 FTOH)	39239-77-5	0.1
1H,1H,2H,2H-Perfluorododecylacrylate (10:2 FTA)	17741-60-5	0.1
1H, 1H, 2H, 2H-Perfluorodecylchloromethylsilane (C8-PFSi)	3102-79-2	0.1
8:2 Fluorotelomer olefin (8:2 FTO)	21652-58-4	0.1
1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA)	27905-45-9	0.1
Perfluorooctylethyl Methacrylate (8:2 FTMAC)	1996-88-9	0.1
1H,1H,2H,2H-Heptadecafluoro-1-iododecane (8:2-FTI)	2043-53-0	0.1
2-(Perfluorodecyl)ethyl methacrylate (10:2 FTMA)	2144-54-9	0.1
1H,1H,2H,2H-Perfluorododecyl iodide (10:2 FTI)	2043-54-1	0.1
1H,1H,2H,2H-Perfluorotetradecyl iodide (12:2 FTI)	30046-31-2	0.1

Sample component description

NO.	Description	NO.	Description
1	Black plastic	2	Black plastic shell
3	Black plastic label	4	Silver plastic label
5	Black plastic	6	Black plastic
7	Gold metal	8	Black plastic
9	Grey plastic	10	Black plastic
11	Transparent plastic	12	Black plastic wire
13	Black plastic	14	Silver metal
15	White plastic	16	Yellow plastic
17	Grey plastic	18	Black plastic
19	Blue plastic	20	Rose-red plastic wire
21	Black plastic wire	22	Gold metal

23	Silver metal	24	Black latex
25	Black plastic cover	26	Blue plastic wire
27	Black plastic wire	28	Red plastic wire
29	Silver metal core	30	Beige plastic
31	Blue plastic wire	32	Black plastic wire
33	Silver metal	34	Red plastic wire
35	White plastic wire	36	Silver metal screw
37	Black plastic	38	Silver metal
39	Grey rubber mud	40	Grey metal inductor
41	Black plastic	42	White latex
43	MOS transistor	44	MOS tube base
45	Triode tube	46	IC
47	Patch resistance	48	Copper colored metal
49	Patch capacitance	50	Diode
51	Solder	52	PCB
53	Black sponge	54	Blue plastic
55	Green paper	56	Transparent plastic
57	Yellow plastic	58	Silver metal
59	White plastic	60	Red paper
61	Grey plastic	62	Blue plastic
63	Silver metal shell	64	Beige plastic circle
65	Silver metal cap	66	Silver white metal
67	Beige plastic circle	68	Green tape
69	White plastic diaphragm	70	Yellow tape
71	Green tape	72	Positive electrode lug
73	Aluminum foil	74	Positive electrode powder
75	Negative pole lug	76	Copper foil
77	Negative electrode powder		

Tested group

Tested group NO.	Sample component NO.
G1	1, 2, 3, 4
G2	5, 6, 8, 9
G3	7, 14
G4	10, 11, 12
G5	13, 15, 16, 17
G6	18, 19, 20, 21
G7	22, 23, 29
G8	24, 25, 26, 27
G9	28, 30, 31, 32
G10	33, 36, 38, 40
G11	34, 35, 37
G12	39, 41, 42
G13	43, 45, 46, 47
G14	44, 48, 51, 58
G15	49, 50, 52
G16	53, 54, 55, 56
G17	57, 59, 60
G18	61, 62, 64, 67
G19	63, 65, 66
G20	68, 69, 70, 71
G21	72, 73, 75, 76
G22	74, 77

Test Process

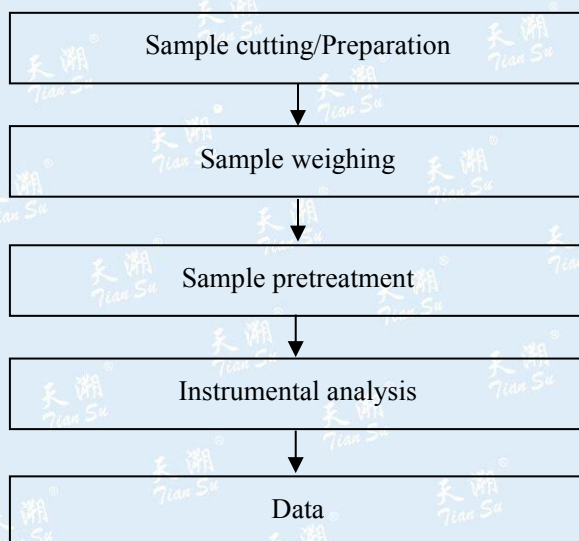
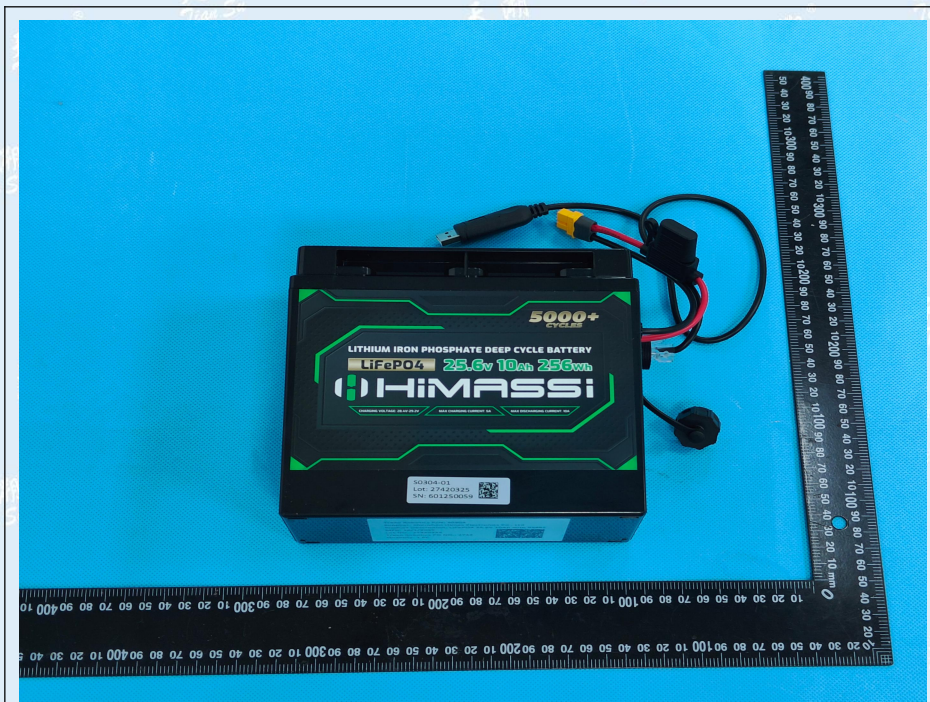
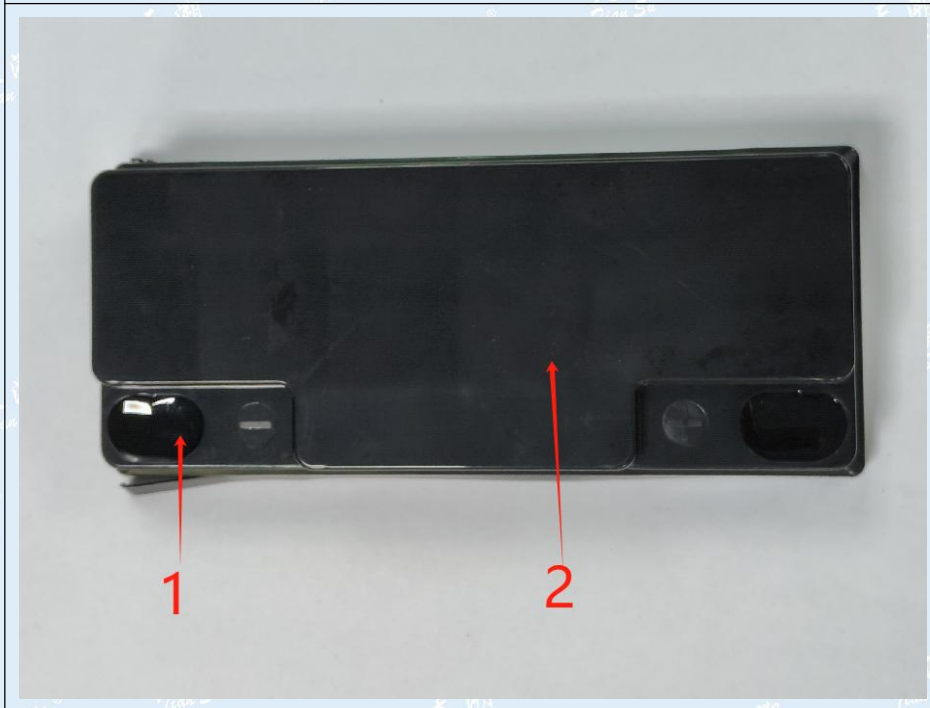
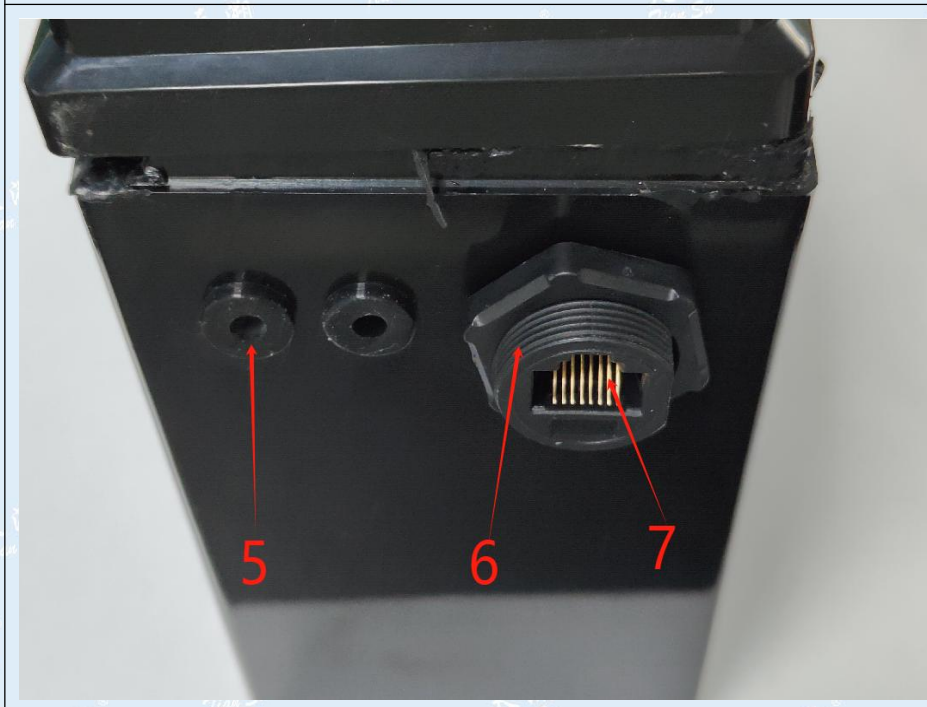
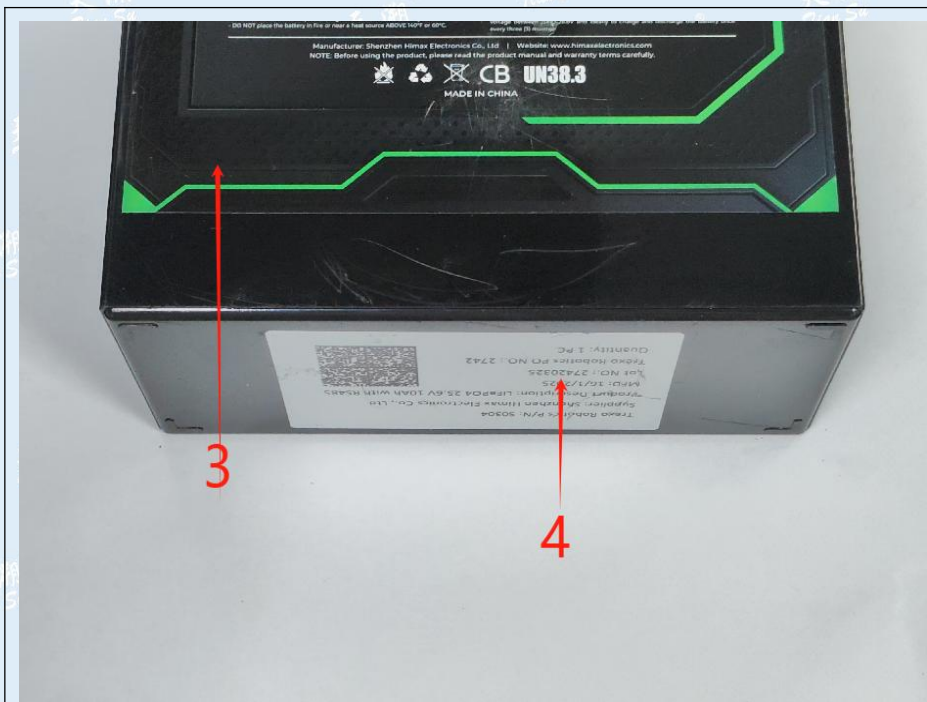


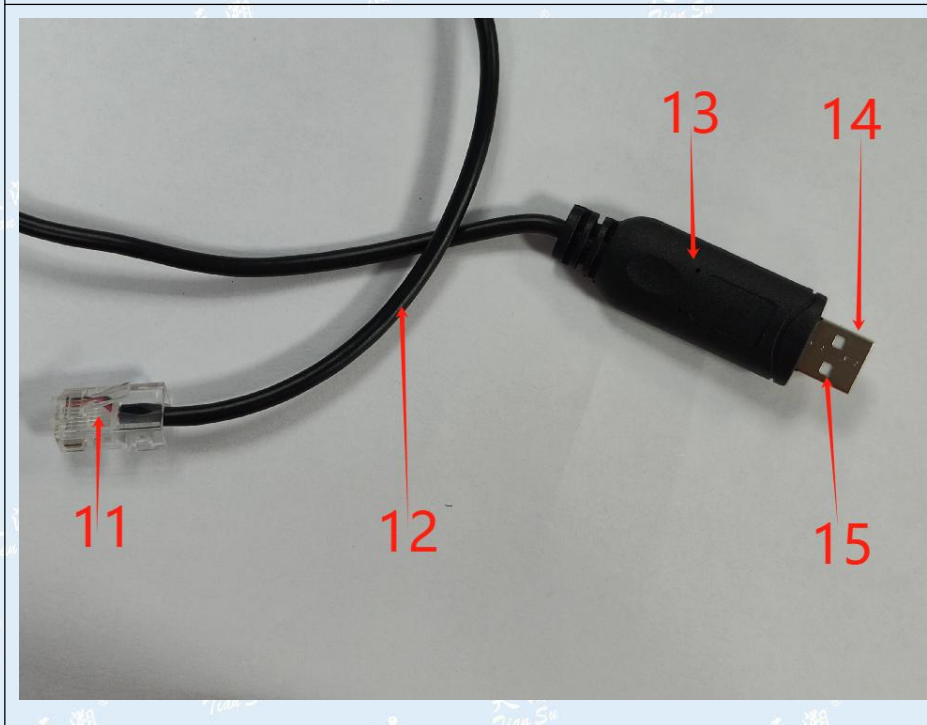
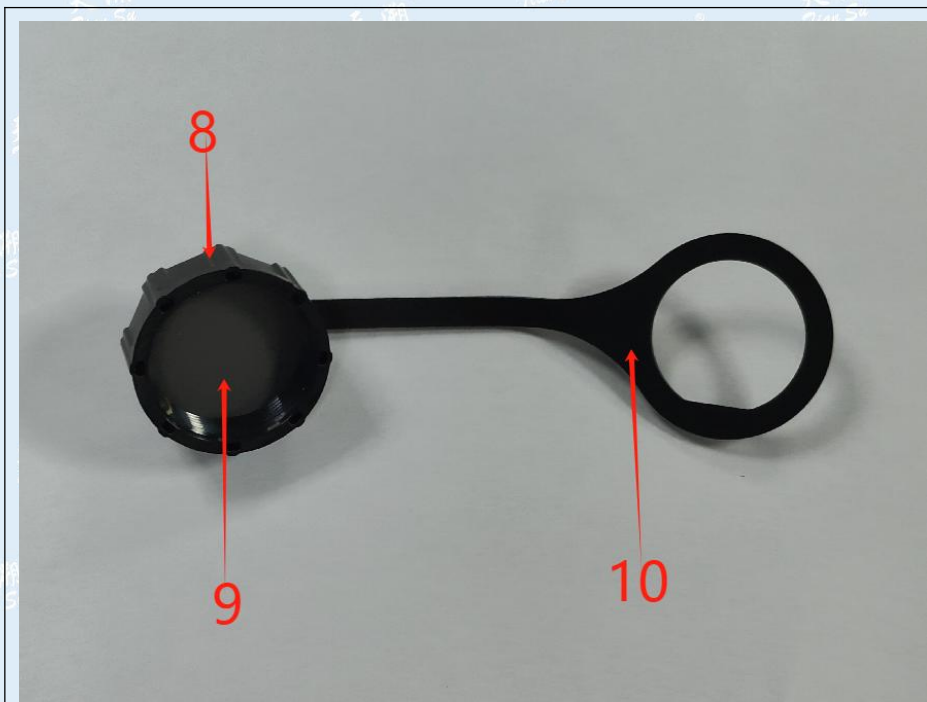
Photo of the sample

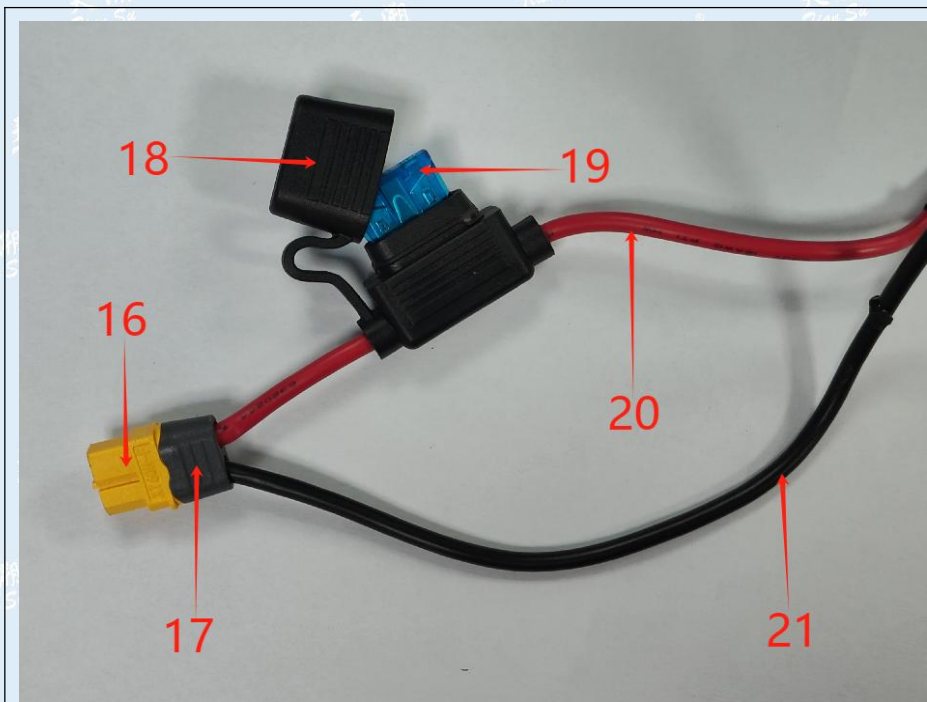


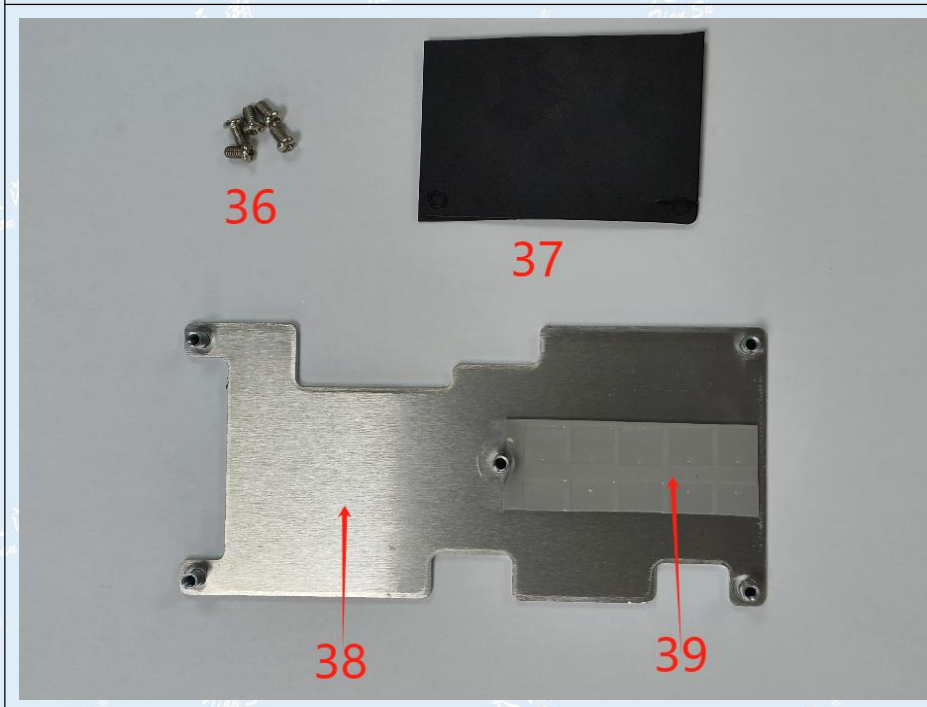
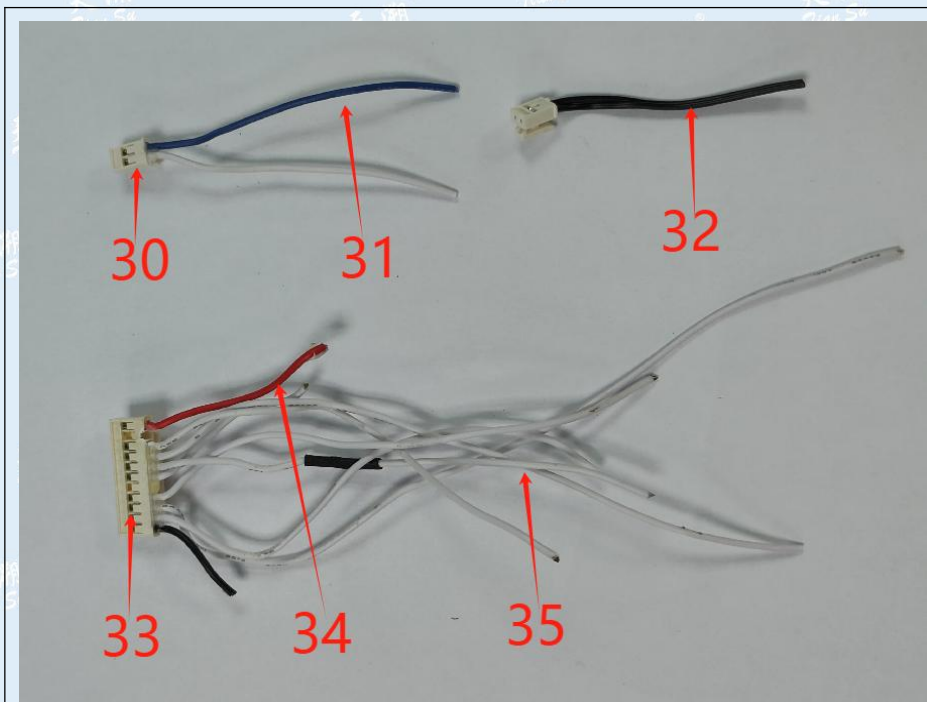
Sample

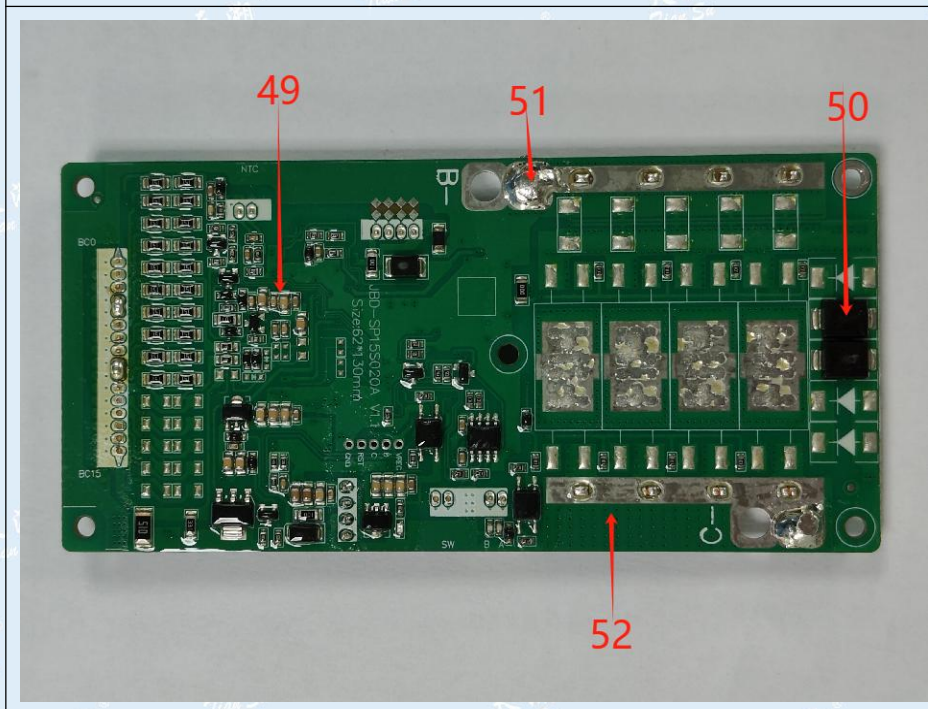
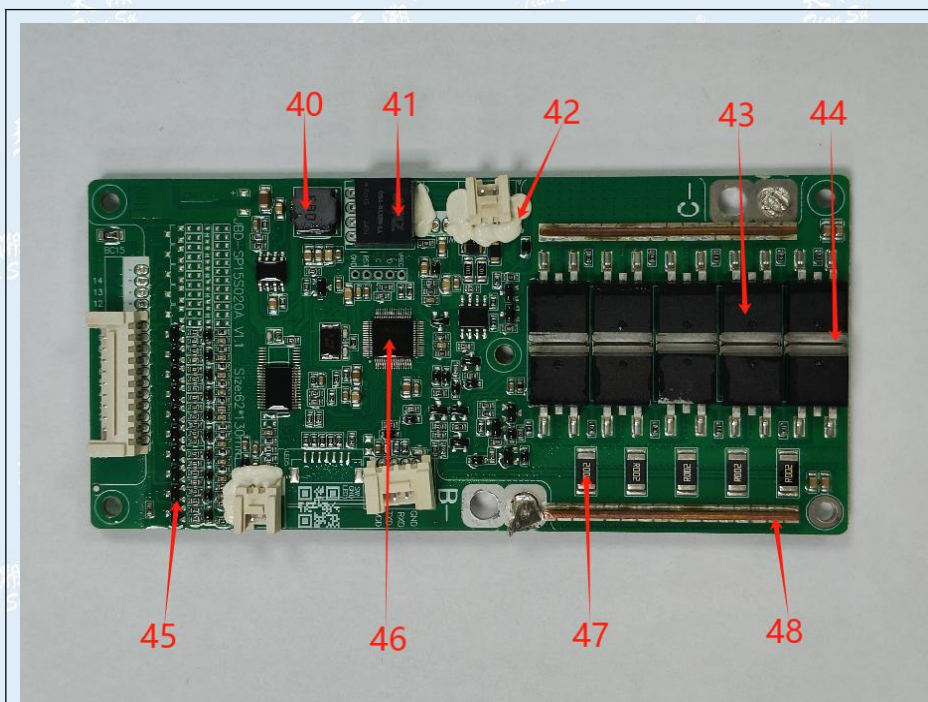


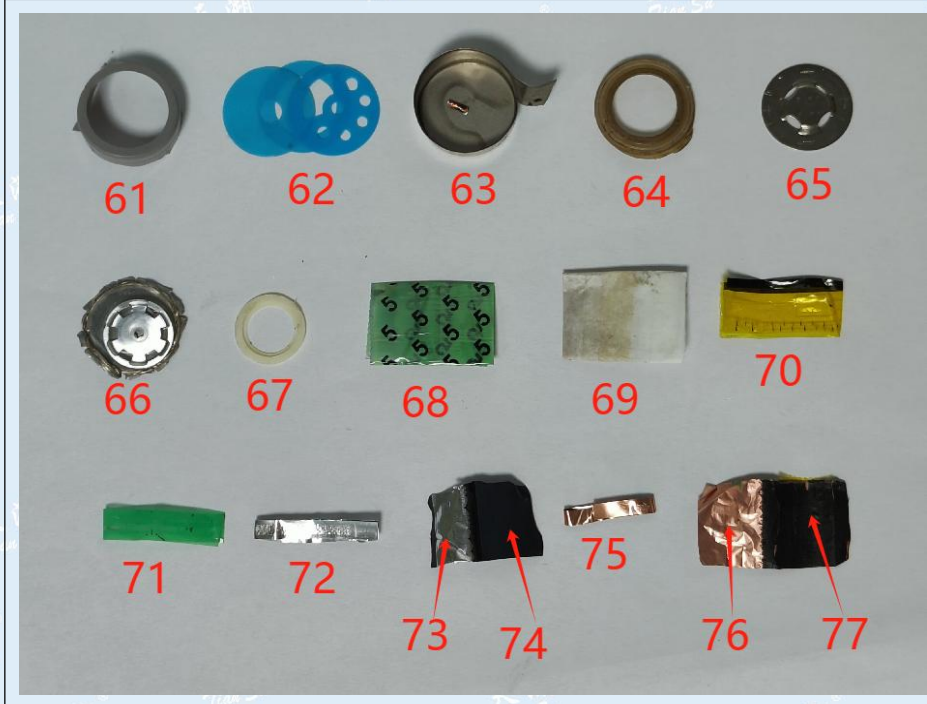
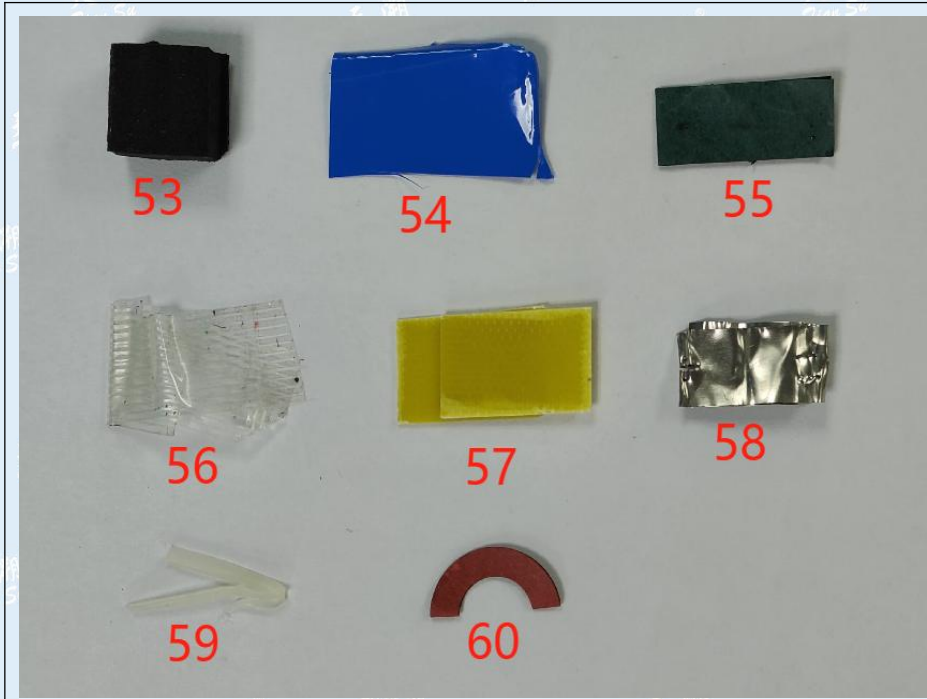












***** End of report *****

This report is invalid without the Special Seal of Tiansu. This report shall not be altered, increased or deleted. The results shown in this report refer only to the sample(s) tested.