TEST REPORT

Applicant	:	**Huizhou Guoaotong Technology Co., Ltd**
Address	:	**4F (plant E), 4F (Plant C), 4F&5F (plant B), 2 Runze Rd. Huinan South High-tech Industrial Park. Huiao Avenue. Huizhou, Guangdong, China**
Manufacturer's name	:	**Huizhou Guoaotong Technology Co., Ltd**
Address	:	**4F (plant E), 4F (Plant C), 4F&5F (plant B), 2 Runze Rd. Huinan South High-tech Industrial Park. Huiao Avenue. Huizhou, Guangdong, China**

Report on the submitted samples said to be:

Sample Name	:	Power Adapter
Trade Mark	:	N/A
Tested model	:	GA-XXXYYYYV (XXX, YYYYXXX =030-240, YYYY=0100-3000, V= European standard)
Series models	:	N/A
Testing Period	:	April 28, 2021 ~ May 06, 2021
Date of issue	:	May 06, 2021
Results	:	Please refer to next page(s).

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TEST REQUEST

CONCLUSION

According to the customer's request, based on the performed tests on submitted sample, the result of Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs, PBDEs, Dibutyl Phthalate (DBP), Benzyl butyl Phthalate (BBP), Bis(2-ethylhexyl) Phthalate (DEHP), Diispbutyl Phthalate (DIBP) content comply with the limit as set of RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Pass

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Signed for and on behalf of AZT

Suez Su

Results:

A.EU RoHS Directive 2011/65/EU and its amendment directives on XRF

Test method: With reference to IEC 62321-3-1:2013, Screening by X-ray Fluorescence Spectroscopy (XRF)

Seq. No.	Tested Part(s)	Results					
		Cd	Pb	Hg	Cr▼	Br▼	
						PBBs	PBDEs
1	Transparent plastic film	BL	BL	BL	BL	BL	BL
2	White plastic	BL	BL	BL	BL	BL	BL
3	Silver metal	BL	BL	BL	BL	/	/
4	White plastic	BL	BL	BL	BL	BL	BL
5	White row socket	BL	BL	BL	BL	BL	BL
6	Brown insurance body	BL	BL	BL	BL	BL	BL
7	IC	BL	BL	BL	BL	BL	BL
8	Diode	BL	BL	BL	BL	BL	BL
9	Silver metal	BL	BL	BL	BL	/	/
10	Black inductance	BL	BL	BL	BL	BL	BL
11	Yellow plastic wire	BL	BL	BL	BL	BL	BL
12	Copper wire	BL	BL	BL	BL	/	/
13	Green ceramic	BL	BL	BL	BL	BL	BL
14	Black capacitance	BL	BL	BL	BL	BL	BL
15	Blue capacitance	BL	BL	BL	BL	BL	BL
16	Black plastic (Black capacitance)	BL	BL	BL	BL	BL	BL
17	Silver metal (Black capacitance)	BL	BL	BL	BL	/	/
18	Black plastic (Black capacitance)	BL	BL	BL	BL	BL	BL
19	Scotch tape (Black capacitance)	BL	BL	BL	BL	BL	BL
20	Yellow paper (Black capacitance)	BL	BL	BL	BL	BL	BL
21	Gray tin foil (Black capacitance)	BL	BL	BL	BL	/	/
22	Silver tinfoil (Black capacitance)	BL	BL	BL	BL	/	/
23	Black plastic (Black capacitance)	BL	BL	BL	BL	BL	BL
24	Silver metal (Green capacitance)	BL	BL	BL	BL	/	/
25	Black plastic (Green capacitance)	BL	BL	BL	BL	BL	BL
26	Scotch tape (Green capacitance)	BL	BL	BL	BL	BL	BL
27	Yellow paper (Green capacitance)	BL	BL	BL	BL	BL	BL

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Seq. No.	Tested Part(s)	Results					
		Cd	Pb	Hg	Cr▼	Br▼	
						PBBs	PBDEs
28	Gray tin foil (Green capacitance)	BL	BL	BL	BL	/	/
29	Silver tinfoil (Green capacitance)	BL	BL	BL	BL	/	/
30	Black plastic	BL	BL	BL	BL	BL	BL
31	Yellow tape	BL	BL	BL	BL	BL	BL
32	Black ceramic	BL	BL	BL	BL	BL	BL
33	Copper wire	BL	BL	BL	BL	/	/
34	Yellow plastic wire	BL	BL	BL	BL	BL	BL
35	IC	BL	BL	BL	BL	BL	BL
36	IC	BL	BL	BL	BL	BL	BL
37	IC	BL	BL	BL	BL	BL	BL
38	Diode	BL	BL	BL	BL	BL	BL
39	The patch capacitance	BL	BL	BL	BL	BL	BL
40	SMD resistor	BL	OL	BL	BL	BL	BL
41	PCB	BL	BL	BL	BL	X	X
42	Solder	BL	BL	BL	BL	/	/
43	Black plastic thread	BL	BL	BL	BL	BL	BL
44	Silver metal	BL	BL	BL	BL	/	/
45	White plastic	BL	BL	BL	BL	BL	BL
46	Transparent plastic	BL	BL	BL	BL	BL	BL
47	White plastic wire	BL	BL	BL	BL	BL	BL
48	White plastic wire	BL	BL	BL	BL	BL	BL
49	Red plastic wire	BL	BL	BL	BL	BL	BL
50	Copper wire	BL	BL	BL	BL	/	/

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Note:

(1) Results were obtained by XRF for primary screening, and further chemical testing by ICP (for Cd, Pb, Hg), UV-Vis (for Cr(Ⅵ)) and GC-MS (for PBBs, PBDEs) are recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1:2013.

Element	Unit	Non-metal	Metal	Composite Material
Cd	mg/kg	BL≤70-3σ<X <130+3σ≤OL	BL≤70-3σ<X <130+3σ≤OL	BL≤50-3σ<X <150+3σ≤OL
Pb	mg/kg	BL≤700-3σ<X <1300+3σ≤OL	BL≤700-3σ<X <1300+3σ≤OL	BL≤500-3σ<X <1500+3σ≤OL
Hg	mg/kg	BL≤700-3σ<X <1300+3σ≤OL	BL≤700-3σ<X <1300+3σ≤OL	BL≤500-3σ<X <1500+3σ≤OL
Cr	mg/kg	BL≤700-3σ<X	BL≤700-3σ<X	BL≤500-3σ<X
Br	mg/kg	BL≤300-3σ<X	--	BL≤250-3σ<X

Note:

BL = Below Limit

OL = Over Limit

X = Inconclusive

(2) The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.

(3) The maximum permissible limit is quoted from the document 2015/863/EC amending RoHS directive 2011/65/EU:

(4) ▼=For restricted substances PBBs and PBDEs, the results show the total Br content; The restricted substance was Cr (VI), and the results showed the total Cr content

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RoHS Restricted Substances	Maximum Concentration Value (mg/kg) (by weight in homogenous materials)
Cadmium (Cd)	100
Lead (Pb)	1000
Mercury (Hg)	1000
Hexavalent Chromium (Cr(Ⅵ))	1000
Polybrominated biphenyls (PBBs)	1000
Polybrominated diphenyl ethers (PBDEs)	1000
Dibutyl Phthalate (DBP)	1000
Benzyl butyl Phthalate (BBP)	1000
Bis(2-ethylhexyl) Phthalate (DEHP)	1000
Diispbutyl Phthalate (DIBP)	1000

Disclaimers:

This XRF Screening report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes.

The result shown in this XRF screening report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.

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B. EU RoHS Directive 2011/65/EU and its amendment Directives 2015/863/EU on Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs, PBDEs, DBP, BBP, DEHP, DIBP content.

Test method:

Lead (Pb) & Cadmium (Cd) Content:
With reference to IEC 62321-5:2013, by acid digestion and analysis was performed by inductively coupled plasma atomic emission spectrometer (ICP-OES)

Mercury (Hg) Content:
With reference to IEC 62321-4:2013+AMD1:2017 CSV, by acid digestion and analysis was performed by inductively coupled plasma atomic emission spectrometer (ICP-OES)

Hexavalent Chromium (Cr^{6+}) Content:
With reference to IEC 62321-7-1:2015 or IEC 62321-7-2:2017, by alkaline digestion and analysis was performed by UV-visible spectrophotometer (UV-Vis)

PBBs & PBDEs Content:
With reference to IEC 62321-6:2015, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS)

BBP DBP DEHP & DIBP Content:

With reference to IEC 62321-8:2017, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS)

1) The test results of Lead (Pb)

Item	Unit	MDL	Results	Limit
			40	
Lead (Pb)	mg/kg	2	N.D.	1000

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Note:

- MDL = Method Detection Limit
- /= Not apply
- LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is 0.10 μg/cm^2
- mg/kg = ppm=parts per million
- N.D.=Not Detected (<MDL or LOQ)
- ▼ = a. The sample is positive for Cr (VI) if the Cr (VI) concentration is greater than 0.13ug/cm^2. The sample coating is considered to contain Cr (VI)
  b. The sample is negative for Cr (VI) if Cr (VI) is N.D. (concentration less than 0.10ug/cm^2). The sample coating is considered a non- Cr (VI) based coating
  c. The result between 0.10μg/cm^2 and 0.13μg/cm^2 is considered to be inconclusive, unavoidable coating variations may influence the determination

#1 According to RoHS directive 2011/65/EU and its amendments, Lead is exempted in glass of cathode ray tubes, electronic components and fluorescent tubes.

#2 According to RoHS directive 2011/65/EU and its amendments, Lead is exempted in electronic ceramic parts (e.g. piezo electronic devices).

#3 According to RoHS directive 2011/65/EU and its amendments, Lead is exempted as an alloying element in Copper containing up to 4% (40000ppm) by weight.

#4 According to RoHS directive 2011/65/EU and its amendments, Lead is exempted in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead).

#5 According to the statement provided by the customer, according to RoHS directive 2011/65/EU and its amendments, Lead is exempted as an alloying element in Aluminum containing up to 0.4% (4000ppm) by weight.

#6 According to the statement provided by the customer, according to RoHS directive 2011/65/EU and its amendments, Cadmium and its compounds in electrical contact is exempted.

#7 According to the statement provided by the customer, according to RoHS directive 2011/65/EU and its Amendments, Lead is exempted in steel for machining purposes and in galvanized steel containing up to 0.35% (3500ppm) by weight.

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2) The test results of DBP, BBP, DEHP & DIBP

Item	Unit	MDL	Results					Limit
			1	2	4	5	6	
Dibutyl Phthalate (DBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Benzyl butyl Phthalate (BBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Bis(2-ethylhexyl) Phthalate (DEHP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Diispbutyl Phthalate (DIBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000

Item	Unit	MDL	Results					Limit
			7	8	10	11	13	
Dibutyl Phthalate (DBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Benzyl butyl Phthalate (BBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Bis(2-ethylhexyl) Phthalate (DEHP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Diispbutyl Phthalate (DIBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000

Item	Unit	MDL	Results					Limit
			14	15	16	18	19	
Dibutyl Phthalate (DBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Benzyl butyl Phthalate (BBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Bis(2-ethylhexyl) Phthalate (DEHP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Diispbutyl Phthalate (DIBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000

Item	Unit	MDL	Results					Limit
			20	23	25	26	27	
Dibutyl Phthalate (DBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Benzyl butyl Phthalate (BBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Bis(2-ethylhexyl) Phthalate (DEHP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Diispbutyl Phthalate (DIBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000

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Item	Unit	MDL	Results					Limit
			30	31	32	34	35	
Dibutyl Phthalate (DBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Benzyl butyl Phthalate (BBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Bis(2-ethylhexyl) Phthalate (DEHP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Diispbutyl Phthalate (DIBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000

Item	Unit	MDL	Results					Limit
			36	37	38	39	40	
Dibutyl Phthalate (DBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Benzyl butyl Phthalate (BBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Bis(2-ethylhexyl) Phthalate (DEHP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Diispbutyl Phthalate (DIBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000

Item	Unit	MDL	Results					Limit
			41	43	45	46	47	
Dibutyl Phthalate (DBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Benzyl butyl Phthalate (BBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Bis(2-ethylhexyl) Phthalate (DEHP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Diispbutyl Phthalate (DIBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	N.D.	1000

Item	Unit	MDL	Results		Limit
			48	49	
Dibutyl Phthalate (DBP)	mg/kg	50	N.D.	N.D.	1000
Benzyl butyl Phthalate (BBP)	mg/kg	50	N.D.	N.D.	1000
Bis(2-ethylhexyl) Phthalate (DEHP)	mg/kg	50	N.D.	N.D.	1000
Diispbutyl Phthalate (DIBP)	mg/kg	50	N.D.	N.D.	1000

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3) The test results of PBBs & PBDEs

Item	Unit	MDL	Results	Limit
			41	
Polybrominated Biphenyls (PBBs)				
Monobromobiphenyl	mg/kg	5	N.D.	/
Dibromobiphenyl	mg/kg	5	N.D.	/
Tribromobiphenyl	mg/kg	5	N.D.	/
Tetrabromobiphenyl	mg/kg	5	N.D.	/
Pentabromobiphenyl	mg/kg	5	N.D.	/
Hexabromobiphenyl	mg/kg	5	N.D.	/
Heptabromobiphenyl	mg/kg	5	N.D.	/
Octabromobiphenyl	mg/kg	5	N.D.	/
Nonabromodiphenyl	mg/kg	5	N.D.	/
Decabromodiphenyl	mg/kg	5	N.D.	/
Total content	mg/kg	/	N.D.	1000
Polybrominated Diphenyl ethers (PBDEs)(Mon-Deca)				
Monobromodiphenyl ether	mg/kg	5	N.D.	/
Dibromodiphenyl ether	mg/kg	5	N.D.	/
Tribromodiphenyl ether	mg/kg	5	N.D.	/
Tetrabromodiphenyl ether	mg/kg	5	N.D.	/
Pentabromodiphenyl ether	mg/kg	5	N.D.	/
Hexabromodiphenyl ether	mg/kg	5	N.D.	/
Heptabromodiphenyl ether	mg/kg	5	N.D.	/
Octabromodiphenyl ether	mg/kg	5	N.D.	/
Nonabromodiphenyl ether	mg/kg	5	N.D.	/
Decabromodiphenyl ether	mg/kg	5	N.D.	/
Total content	mg/kg	/	N.D.	1000

Remark:

- mg/kg = ppm
- N.D. = Not detected
- MDL= Method detected limited
- Flow chart appendix is included
- Photo appendix is included.

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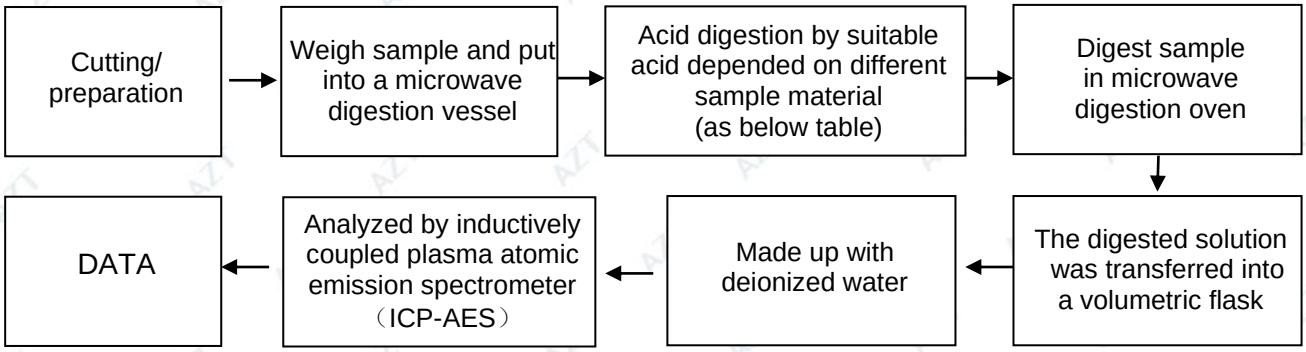
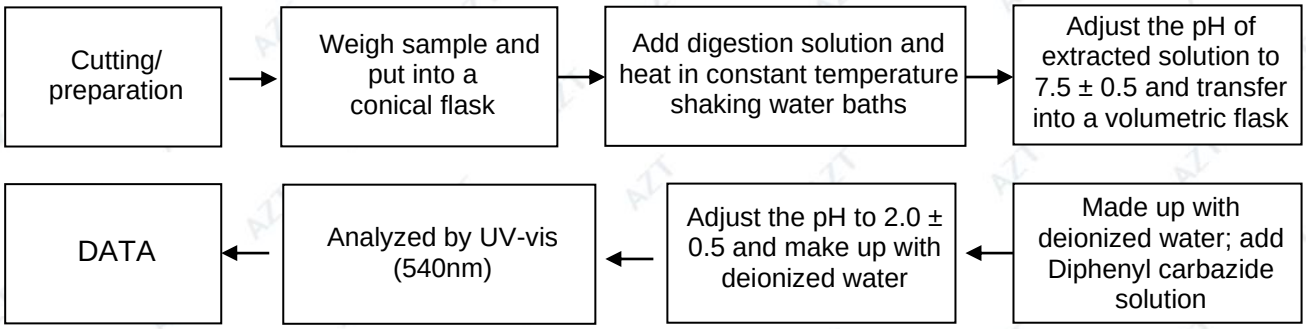
Appendix

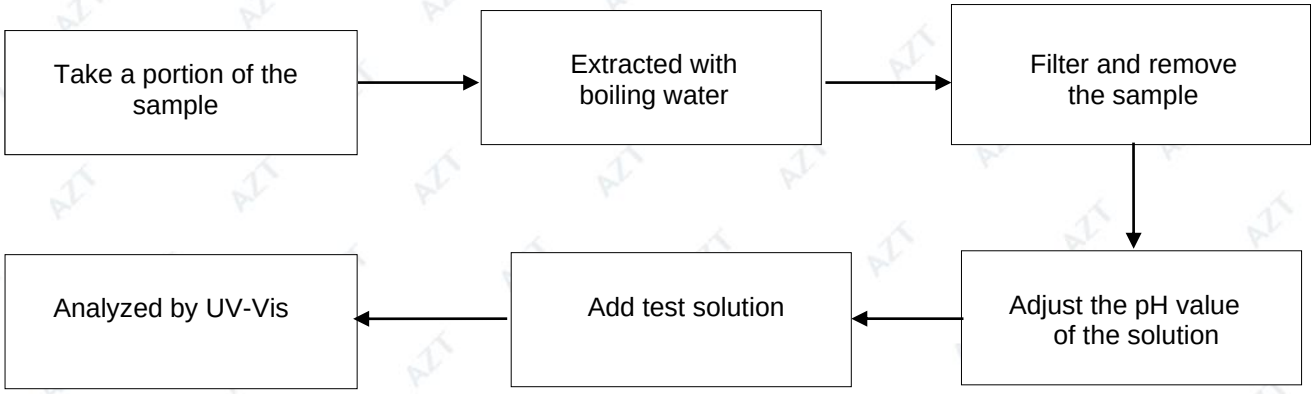
1. Test Flow chart for Cd/Pb /Hg content



2. Test Flowchart for Cr^{6+} content (For non-metal material)



Test Flowchart for Cr^{6+} content (For metal material)



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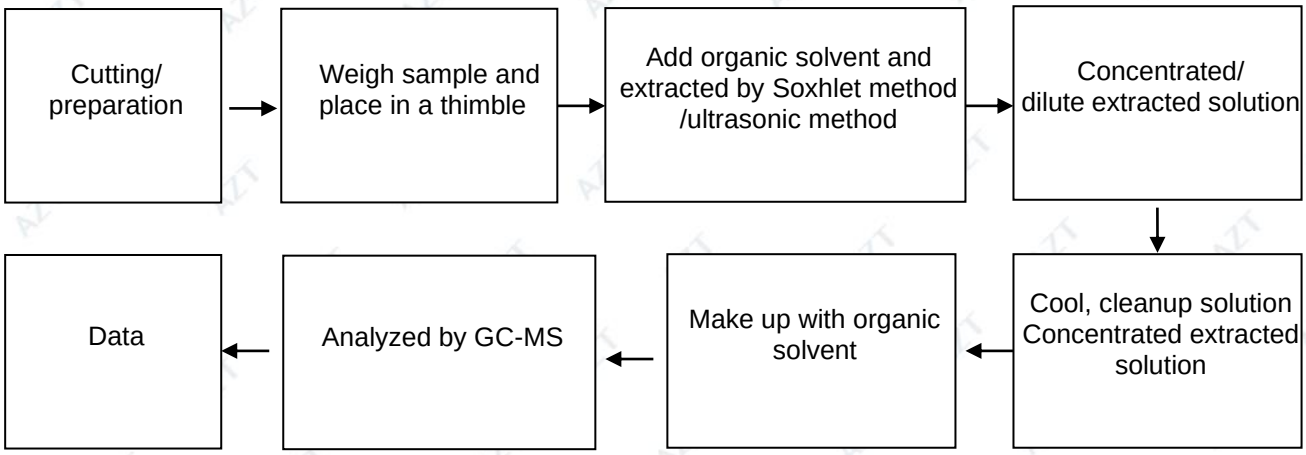
3. Test Flow chart for PBBs & PBDEs & DBP & BBP & DEHP & DIBP content



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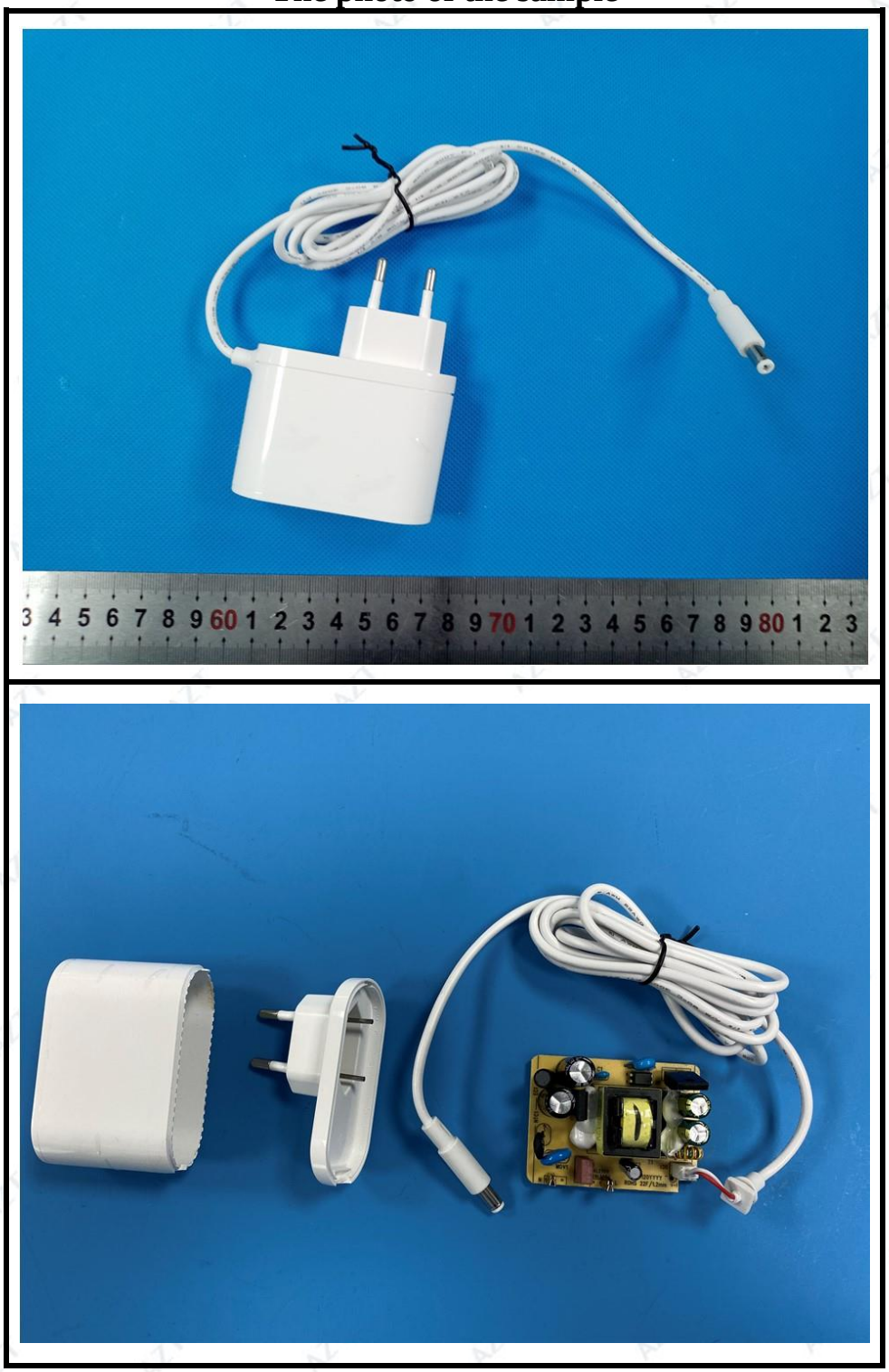
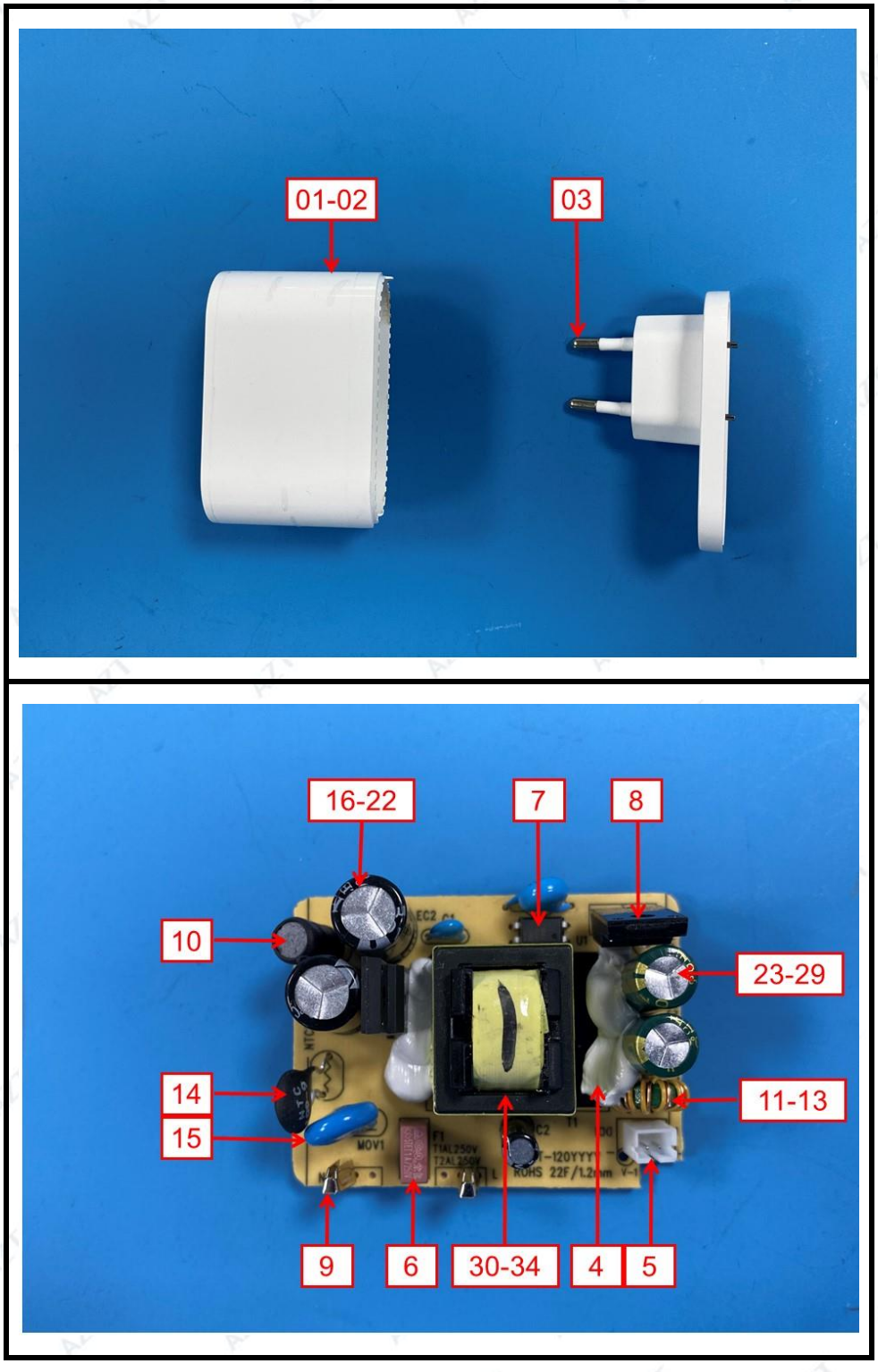
The photo of the sample

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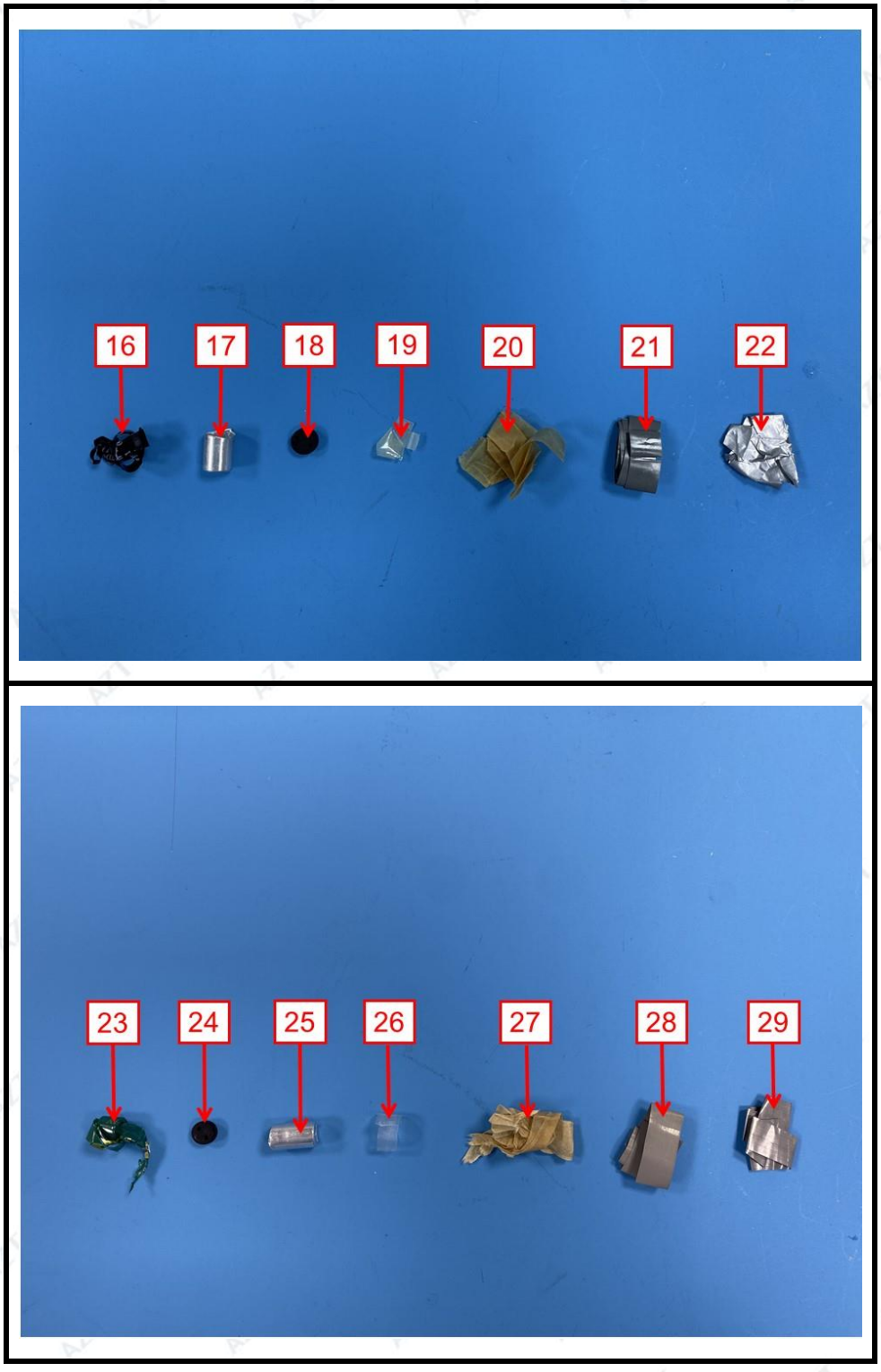
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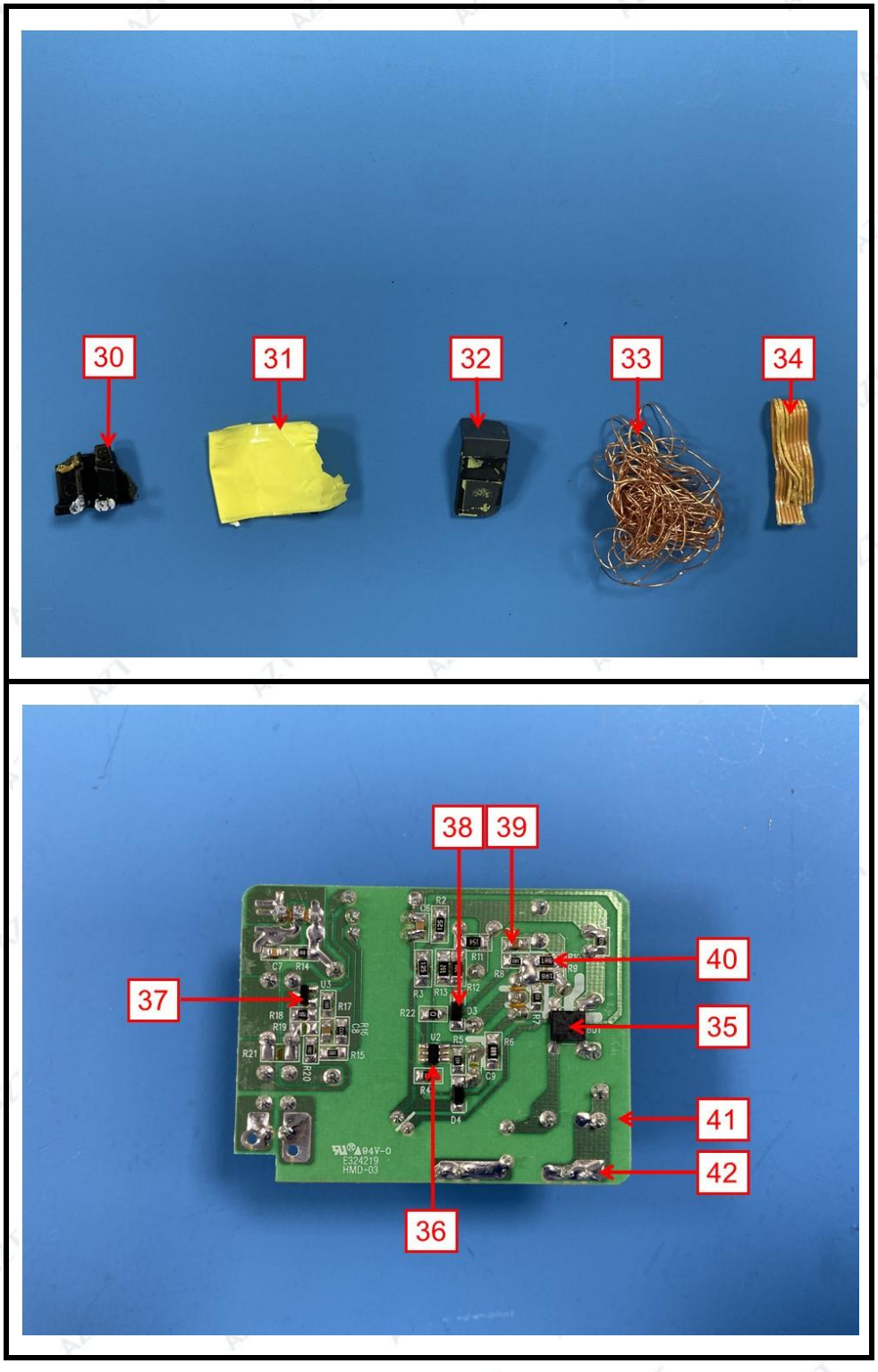
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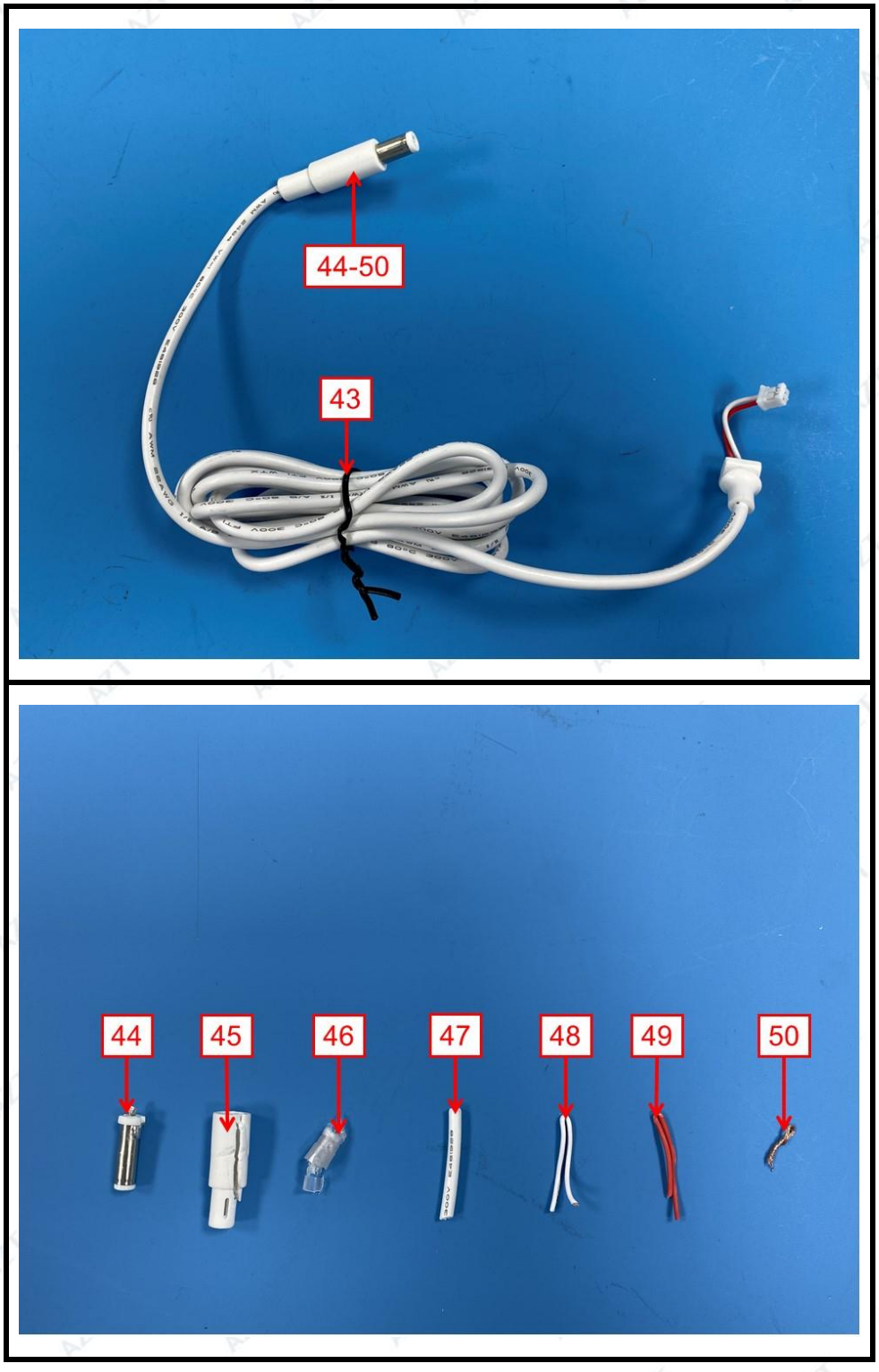

AZT authenticate the photo on original report only

********** End of Report **********

Statement:

1. The test report is considered invalidated without approval signature, special seal on the perforation.
2. The result(s) shown in this report refer only to the sample(s) tested.
3. Without written approval of AZT, this report can't be reproduced except in full.
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5. In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.