



中国认可
国际互认
检测
TESTING
CNAS L6478



TEST REPORT

Report No. : WTF25F04087166C
Job No. : FSW2504090418CJ
Applicant : Mid Ocean Brands B.V.
Address : 7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan,
Kowloon, Hong Kong
Manufacturer : 118966
Sample Name : Wireless charger speaker
Sample Model : MO2714
Test Requested : With reference to EU RoHS Directive 2011/65/EU and its
amendment Directive EU 2015/863, to determine the Pb, Cd,
Hg, Cr⁶⁺, PBBs, PBDEs, DBP, BBP, DEHP, DIBP content in
the submitted sample.
Test Method : Refer to next page (s)
Test Conclusion : **Pass**
Date of Receipt sample : 2025-04-09
Testing period : 2025-04-09 to 2025-04-18
Date of Issue : 2025-04-18
Test Result : Refer to next page (s)

Prepared By:

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

Swing Liang



WTF25F04087166C

Swing Liang
Waltek Testing Group (Foshan) Co., Ltd.
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Sample photo:



MO2714



MO2714

WALTEK



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Test Results:**1. Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs and PBDEs**

Test Method/Equipment:

- 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

Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)	Note
		Cd	Pb	Hg	Cr	Br		
1	Black fabric	BL	BL	BL	BL	BL	NA	Same WTF25F040871 63C 1
2	Black soft plastic stopper	BL	BL	BL	BL	BL	NA	•
3	Brown wooden sheet with black surfaced	BL	BL	BL	BL	BL	NA	•
4	Black soft plastic sheet with adhesive	BL	BL	BL	BL	BL	NA	•
5	Semi-transparent plastic shell	BL	BL	BL	BL	BL	NA	•
6	Black plastic shell	BL	BL	BL	BL	IN	PBBs: ND PBDEs: 118	•
7	Semi-transparent dry glue	BL	BL	BL	BL	BL	NA	•
8	Yellow dry glue	BL	BL	BL	BL	BL	NA	•
9	Transparent double faced adhesive tape	BL	BL	BL	BL	BL	NA	•
10	Black soft plastic sheet	BL	BL	BL	BL	BL	NA	•
11	Silvery metal sheet with black surfaced	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative	•
12	Black body	BL	BL	BL	BL	BL	NA	•
13	White fabric wire covering	BL	BL	BL	BL	BL	NA	•
14	Coppery metal wire	BL	BL	BL	BL	--	NA	•
15	Yellow transparent plastic adhesive tape	BL	BL	BL	BL	BL	NA	•
16	Rose red varnished 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)	Note
		Cd	Pb	Hg	Cr	Br		
17	Black magnetic sheet	BL	BL	BL	BL	--	NA	•
18	Black sponge with adhesive	BL	BL	BL	BL	BL	NA	•
19	Brown paper sheet	BL	BL	BL	BL	BL	NA	•
20	Coppery varnished wire	BL	BL	BL	BL	BL	NA	•
21	Yellow transparent plastic sheet	BL	BL	BL	BL	BL	NA	•
22	Yellow brown fibrous net	BL	BL	BL	BL	BL	NA	•
23	Black plastic sheet	BL	BL	BL	BL	BL	NA	•
24	Coppery metal wire	BL	BL	BL	BL	--	NA	•
25	Black paper sheet	BL	BL	BL	BL	BL	NA	•
26	Green dry glue	BL	BL	BL	BL	BL	NA	•
27	Black paper ring	BL	BL	BL	BL	BL	NA	•
28	Silvery metal shell	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative	•
29	Grey magnetic ring	BL	BL	BL	BL	--	NA	•
30	Silvery metal sheet	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative	•
31	Black plastic wire covering	BL	BL	BL	BL	BL	NA	•
32	Silvery metal wire	BL	BL	BL	BL	--	NA	•
33	Solder	BL	BL	BL	BL	--	NA	•
34	Silvery metal sheet	BL	BL	BL	BL	--	Cr ⁶⁺ : Negative	•
35	Silvery metal rivet	BL	BL	BL	BL	--	NA	•
36	White paper sheet	BL	BL	BL	BL	BL	NA	•
37	White PCB	BL	IN	BL	BL	IN	Pb: 52 PBBs: ND PBDEs: ND	•
38	Yellow fluorescent adhesive	BL	BL	BL	BL	BL	NA	•
39	Red plastic wire covering	BL	BL	BL	BL	BL	NA	•
40	Silvery metal shell(socket)	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative	•
41	Grey plastic core(socket)	BL	BL	BL	BL	BL	NA	•
42	Silvery metal pin(socket)	BL	BL	BL	BL	--	NA	•
43	Chip audion	BL	BL	BL	BL	BL	NA	•



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Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)	Note
		Cd	Pb	Hg	Cr	Br		
44	Black plastic film(electrolytic capacitor)	BL	BL	BL	BL	BL	NA	•
45	Black rubber stopper(electrolytic capacitor)	BL	BL	BL	BL	BL	NA	•
46	Brown paper(electrolytic capacitor)	BL	BL	BL	BL	BL	NA	•
47	Silvery metal shell(electrolytic capacitor)	BL	BL	BL	BL	--	NA	•
48	Grey metal foil(electrolytic capacitor)	BL	BL	BL	BL	--	NA	•
49	Silvery-grey metal foil(electrolytic capacitor)	BL	BL	BL	BL	--	NA	•
50	Silvery metal pin(electrolytic capacitor)	BL	BL	BL	BL	--	NA	•
51	Chip capacitor	BL	BL	BL	BL	BL	NA	•
52	Chip IC	BL	BL	BL	BL	BL	NA	•
53	Chip LED	BL	BL	BL	BL	BL	NA	•
54	Black plastic cap(button)	BL	BL	BL	BL	BL	NA	•
55	Off-white plastic shell(button)	BL	BL	BL	BL	BL	NA	•
56	Silvery metal sheet(button)	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative	•
57	Silvery metal pin(button)	BL	BL	BL	BL	--	NA	•
58	Chip resistor	BL	BL	BL	BL	BL	NA	•
59	Chip resistor	BL	BL	BL	BL	BL	NA	•
60	Silvery crystal oscillator	BL	BL	BL	BL	BL	NA	•
61	Black plastic base	BL	BL	BL	BL	BL	NA	•
62	Green PCB	BL	BL	BL	BL	BL	NA	•
63	Chip resistor	BL	BL	BL	IN	BL	Cr ⁶⁺ : ND	•
64	Red capacitor	BL	BL	BL	BL	BL	NA	•
65	Chip diode	BL	BL	BL	BL	BL	NA	•
66	Blue plastic film	BL	BL	BL	BL	BL	NA	•
67	Purple plastic film	BL	BL	BL	BL	BL	NA	•
68	Green paper with adhesive	BL	BL	BL	BL	BL	NA	•



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Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)	Note
		Cd	Pb	Hg	Cr	Br		
69	Semi-transparent plastic gasket	BL	BL	BL	BL	BL	NA	•
70	Silvery metal sheet	BL	BL	BL	BL	--	NA	•
71	Chip IC	BL	BL	BL	BL	BL	NA	•
72	Chip capacitor	BL	BL	BL	BL	BL	NA	•
73	Chip resistor	BL	BL	BL	BL	BL	NA	•
74	Red plastic wire covering	BL	BL	BL	BL	BL	NA	•
75	Black plastic wire covering	BL	BL	BL	BL	BL	NA	•
76	Green PCB	BL	BL	BL	BL	IN	PBBs: ND PBDEs: ND	•
77	Silvery metal screw	BL	BL	BL	BL	--	NA	•
78	Silvery metal shell(USB plug)	BL	BL	BL	BL	--	NA	Same WTF25F040871 63C 74
79	White plastic sheet(USB plug)	BL	BL	BL	BL	BL	NA	Same WTF25F040871 63C 75
80	Black soft plastic shell(USB plug)	BL	BL	BL	BL	BL	NA	Same WTF25F040871 63C 76
81	Golden metal pin(USB plug)	BL	BL	BL	BL	--	NA	Same WTF25F040871 63C 77
82	Solder	BL	BL	BL	BL	--	NA	Same WTF25F040871 63C 78
83	Semi-transparent plastic core(USB plug)	BL	BL	BL	BL	BL	NA	Same WTF25F040871 63C 79
84	Silvery metal shell(Type-C plug)	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative	Same WTF25F040871 63C 80
85	Grey plastic core(Type-C plug)	BL	BL	BL	BL	BL	NA	Same WTF25F040871 63C 81



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Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)	Note
		Cd	Pb	Hg	Cr	Br		
86	Golden metal pin(Type-C plug)	BL	BL	BL	BL	--	NA	Same WTF25F040871 63C 82
87	Chip resistor(Type-C plug)	BL	BL	BL	BL	BL	NA	Same WTF25F040871 63C 83
88	Green PCB(Type-C plug)	BL	BL	BL	BL	IN	PBBs: ND PBDEs: ND	Same WTF25F040871 63C 84
89	Black soft plastic shell(Type-C plug)	BL	BL	BL	BL	BL	NA	Same WTF25F040871 63C 85
90	Semi-transparent plastic core(Type-C plug)	BL	BL	BL	BL	BL	NA	Same WTF25F040871 63C 86
91	Black plastic wire jacket	BL	BL	BL	BL	BL	NA	Same WTF25F040871 63C 87
92	Black plastic wire covering	BL	BL	BL	BL	BL	NA	Same WTF25F040871 63C 88
93	Green plastic wire covering	BL	BL	BL	BL	BL	NA	Same WTF25F040871 63C 89
94	White plastic wire covering	BL	BL	BL	BL	BL	NA	Same WTF25F040871 63C 90
95	Pink plastic wire covering	BL	BL	BL	BL	BL	NA	Same WTF25F040871 63C 91
96	Coppery metal wire	BL	BL	BL	BL	--	NA	Same WTF25F040871 63C 92



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2. Phthalates

Test Method/Equipment:

1) With reference to IEC 62321-8:2017, determination of DBP, BBP, DEHP, DIBP by GC-MS

Serial No.	Part No.	Result (mg/kg)				Note
		DBP	BBP	DEHP	DIBP	
T01	1	ND	ND	ND	ND	Same WTF25F04087163C 1
T02	2+4+10 [△]	ND	ND	ND	ND	•
T03	3	ND	ND	ND	ND	•
T04	5+6+21+23+41 [△]	ND	ND	ND	ND	•
T05	7+8+26 [△]	ND	ND	ND	ND	•
T06	9+15+38 [△]	301	ND	ND	ND	•
T07	12+43+51+52+53 [△]	ND	ND	ND	ND	•
T08	13+22 [△]	ND	ND	ND	ND	•
T09	16+20 [△]	ND	ND	ND	ND	•
T10	18+45+75 [△]	141	ND	ND	ND	•
T11	19+25+27 [△]	ND	ND	ND	ND	•
T12	31+39+74 [△]	ND	ND	ND	ND	•
T13	36+46+68 [△]	ND	ND	ND	ND	•
T14	37+62+76 [△]	ND	ND	ND	ND	•
T15	44+66+67 [△]	ND	ND	ND	ND	•
T16	54+55+61+69 [△]	ND	ND	ND	ND	•
T17	58+59+60+63+64 [△]	ND	ND	ND	ND	•
T18	65+71+72+73 [△]	ND	ND	ND	ND	•
T19	11	--	--	--	--	•
T20	14	--	--	--	--	•
T21	17	--	--	--	--	•
T22	24	--	--	--	--	•
T23	28	--	--	--	--	•
T24	29	--	--	--	--	•
T25	30	--	--	--	--	•
T26	32	--	--	--	--	•
T27	33	--	--	--	--	•
T28	34	--	--	--	--	•
T29	35	--	--	--	--	•
T30	40	--	--	--	--	•
T31	42	--	--	--	--	•
T32	47	--	--	--	--	•
T33	48	--	--	--	--	•



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Serial No.	Part No.	Result (mg/kg)				Note
		DBP	BBP	DEHP	DIBP	
T34	49	--	--	--	--	•
T35	50	--	--	--	--	•
T36	56	--	--	--	--	•
T37	57	--	--	--	--	•
T38	70	--	--	--	--	•
T39	77	--	--	--	--	•
T40	78	--	--	--	--	Same WTF25F04087163C 74
T41	79	--	--	--	--	Same WTF25F04087163C 75
T42	80	--	--	--	--	Same WTF25F04087163C 76
T43	81	--	--	--	--	Same WTF25F04087163C 77
T44	82	--	--	--	--	Same WTF25F04087163C 78
T45	83	--	--	--	--	Same WTF25F04087163C 79
T46	84	--	--	--	--	Same WTF25F04087163C 80
T47	85	--	--	--	--	Same WTF25F04087163C 81
T48	86	--	--	--	--	Same WTF25F04087163C 82
T49	87	--	--	--	--	Same WTF25F04087163C 83
T50	88	--	--	--	--	Same WTF25F04087163C 84
T51	89	--	--	--	--	Same WTF25F04087163C 85
T52	90	--	--	--	--	Same WTF25F04087163C 86
T53	91	--	--	--	--	Same WTF25F04087163C 87
T54	92	--	--	--	--	Same WTF25F04087163C 88



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Serial No.	Part No.	Result (mg/kg)				Note
		DBP	BBP	DEHP	DIBP	
T55	93	--	--	--	--	Same WTF25F04087163C 89
T56	94	--	--	--	--	Same WTF25F04087163C 90
T57	95	--	--	--	--	Same WTF25F04087163C 91
T58	96	--	--	--	--	Same WTF25F04087163C 92

Remark:

- (1) Results are obtained by XRF for primary screening, and further chemical testing by ICP (for Cd, Pb, Hg), UV-VIS (for Cr⁶⁺) 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	$BL \leq (70-3\sigma) < IN < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < IN < (130+3\sigma) \leq OL$	$LOD < IN < (150+3\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < IN < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < IN < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < IN < (1500+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < IN < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < IN < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < IN < (1500+3\sigma) \leq OL$
Cr	$BL \leq (700-3\sigma) < IN$	$BL \leq (700-3\sigma) < IN$	$BL \leq (500-3\sigma) < IN$
Br	$BL \leq (300-3\sigma) < IN$	--	$BL \leq (250-3\sigma) < IN$

BL= Below Limit

OL= Over Limit

LOD = Limit of Detection

- (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) -- = Not Regulated
- (8) LOQ = Limit of quantitation.

Test Items	Pb	Cd	Hg	Cr ⁶⁺		PBB	PBDE	DBP	BBP	DEHP	DIBP
Units	mg/kg	mg/kg	mg/kg	mg/kg	$\mu\text{g}/\text{cm}^2$	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOQ	2	2	2	8	0.1	5	5	50	50	50	50

The LOQ for single compound of PBBs and PBDEs is 5mg/kg, LOQ of Cr⁶⁺ for polymer and composite sample



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is 8mg/kg and LOQ of Cr⁶⁺ for metal sample is 0.1µg/cm².

- (9) According to IEC 62321-7-1:2015, determined of Cr⁶⁺ on metal sample by boiling water extraction test method, and result is shown as Positive/Negative.

Boiling water extraction:

Negative = Absence of Cr⁶⁺ coating, the detected concentration in boiling water extraction solution is less than 0.10µg/cm².

Positive = Presence of Cr⁶⁺ coating, the detected concentration in boiling water extraction solution is greater than 0.13µg/cm².

Information on storage conditions and production date of the tested sample is unavailable and thus Cr⁶⁺ results represent status of the sample at the time of testing.

(10)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)
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)

(11) Abbreviation:

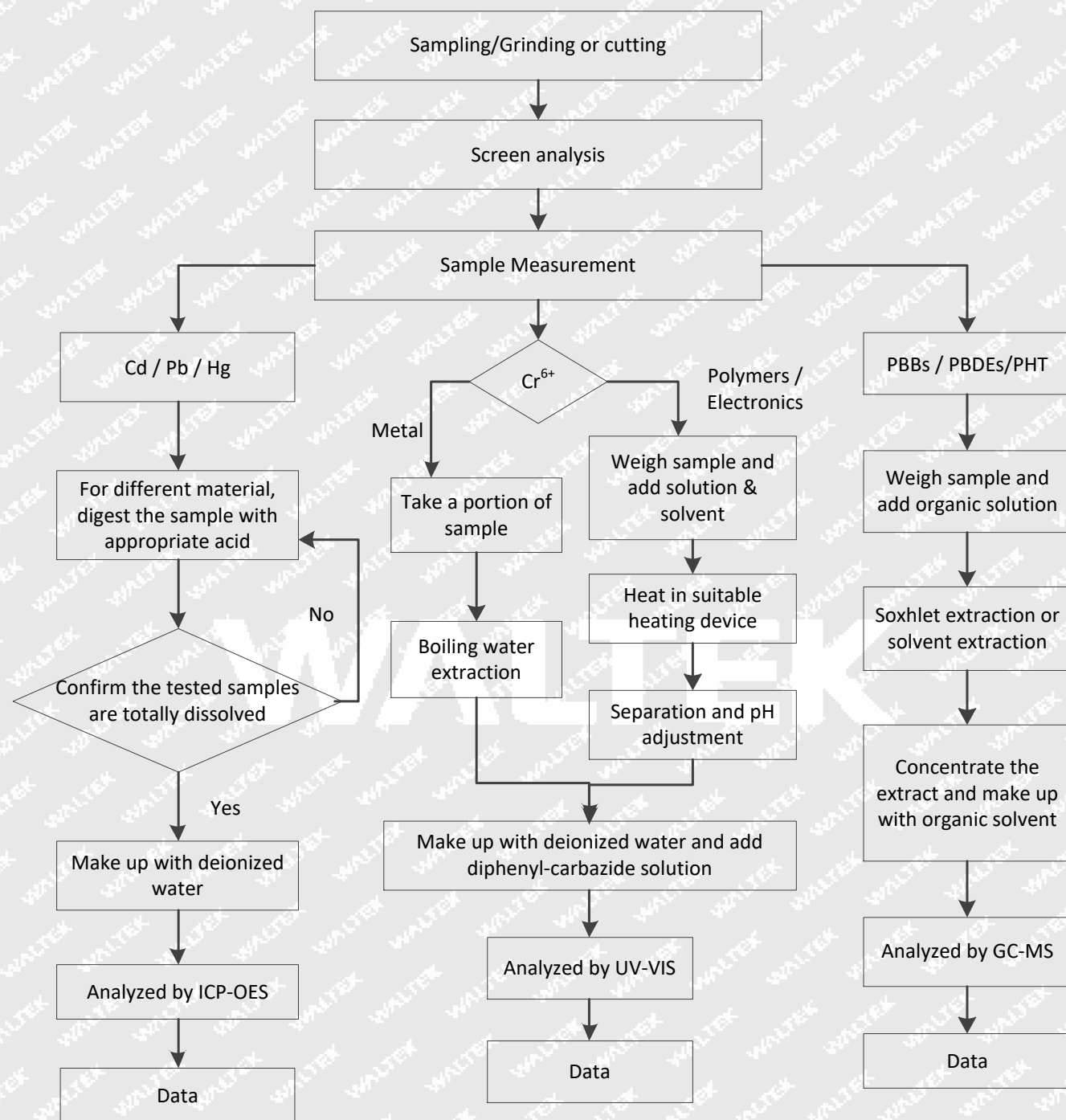
"Pb" denotes Lead, "Cd" denotes Cadmium, "Hg" denotes Mercury, "Cr" denotes Chromium, "Cr⁶⁺" denotes Hexavalent Chromium, "Br" denotes Bromine, "PBBs" denotes Total Polybrominated Biphenyls, "PBDEs" denotes Total Polybrominated Diphenyl Ethers.

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

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

- (13)"●"=Actual tested sample. Chemical tests were performed for the samples indicated by the photo in this report.

- (14)"Same" = It means that as per client's requirement, the sample and the actual tested sample are of the same material (or results of the sample are quoted from corresponding number report) and have not been tested.

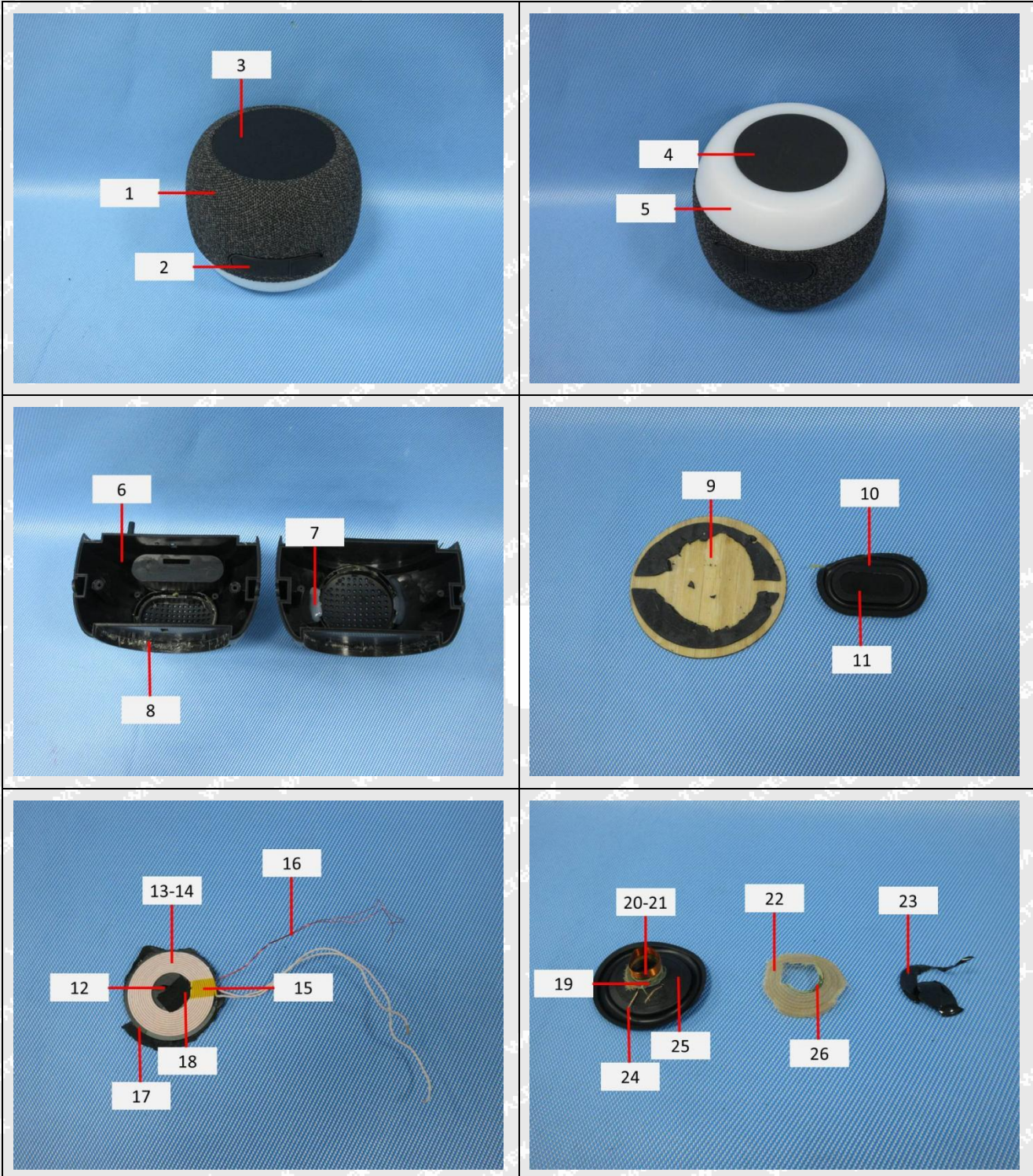
**Testing Flow chart:**



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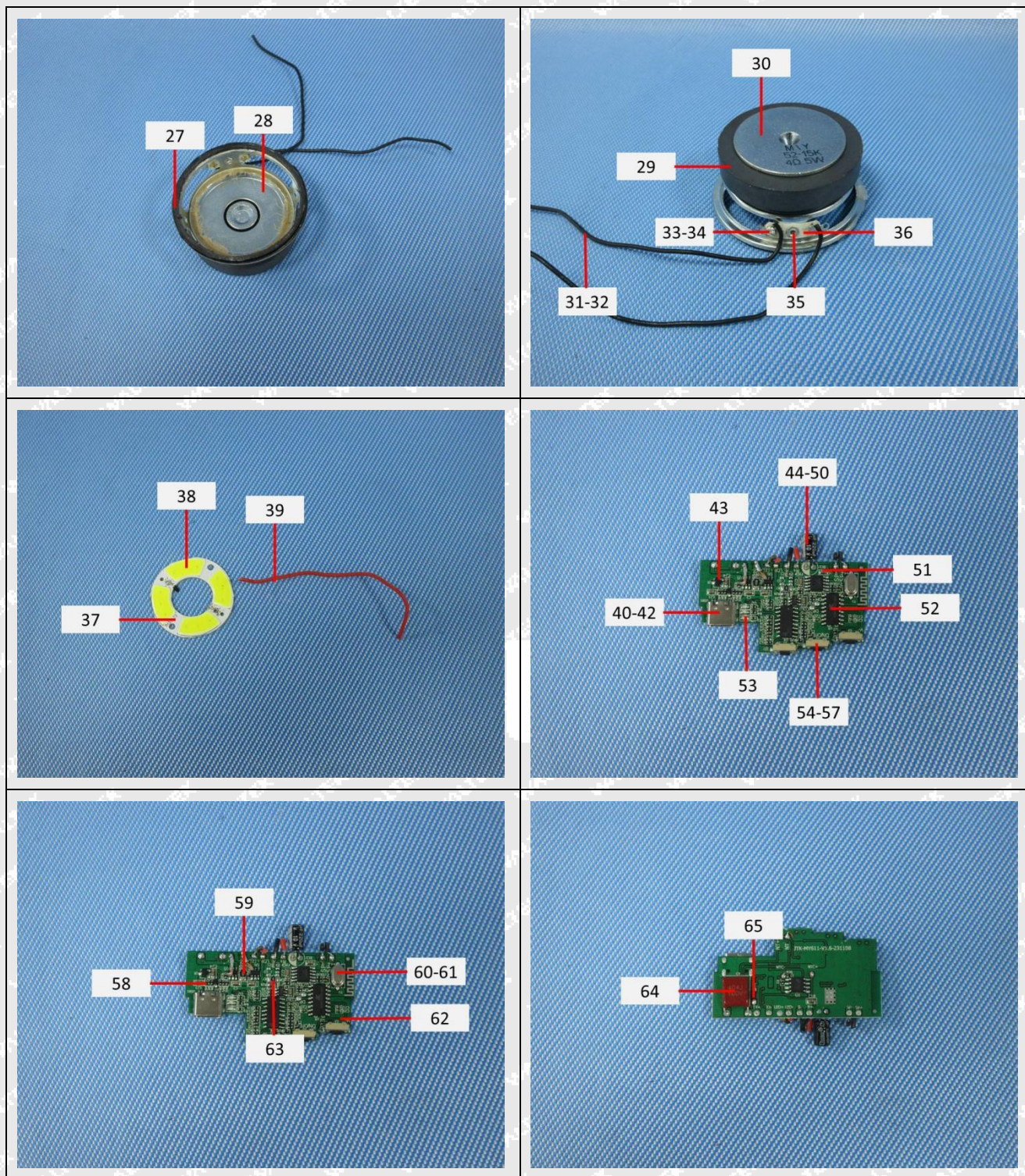
Photograph of parts tested:





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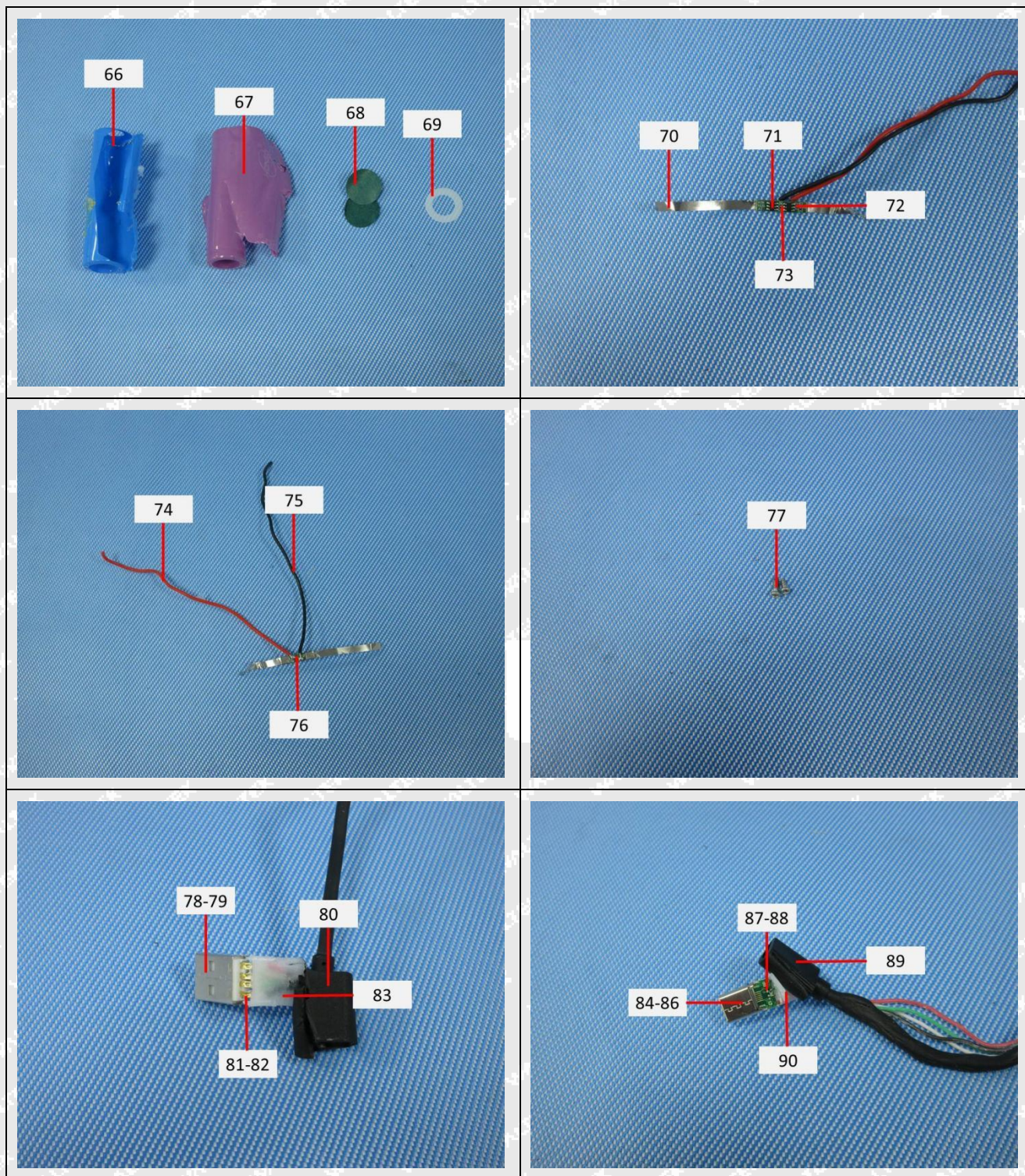
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Remarks:

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===== End of Report =====