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检测
TESTING
CNAS L6478



TEST REPORT

Report No. : WTF26F04086536A1C
Job No. : FSW2604010024CJ
Applicant : Mid Ocean Brands B. V.
Address : Unit 711-716, 7/F., Tower A, 83 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong.
Manufacturer : 120327
Sample Name : ANC foldable headphone
Sample Model : MO3141
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 : 2026-04-01 & 2026-04-18
Testing Period : 2026-04-01 to 2026-04-10 & 2026-04-18 to 2026-04-23
Date of Issue : 2026-04-24
Test Result : Refer to next page (s)

Prepared By:

Waltek Testing Group (Foshan) Co., Ltd.

Address: No.13-19, 2/F., 2nd Building, Sunlink Machinery City, Xingye 4 Road, Guanglong Industrial Park, Chihua Neighborhood Committee, Chencun, Shunde District, Foshan, Guangdong, China
Tel:+86-757-23811398 Fax:+86-757-23811381 E-mail:info@waltek.com.cn

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

Swing Liang



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



MO3141



MO3141



MO3141





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

Test Method/Equipment:

- 1) 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 62321-12:2023, determination of PBBs and PBDEs by GC-MS

Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
1	Black soft plastic sheet	BL	BL	BL	BL	BL	NA
2	Black plastic shell	BL	BL	BL	BL	BL	NA
3	Black synthetic leather with fabric backing	BL	BL	BL	BL	BL	NA
4	Black fabric sheet	BL	BL	BL	BL	BL	NA
5	Black plastic button	BL	BL	BL	BL	BL	NA
6	White sponge	BL	BL	BL	BL	BL	NA
7	Off-white plastic sheet	BL	BL	BL	BL	BL	NA
8	Silvery metal spring	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
9	Black fibrous sheet	BL	BL	BL	BL	BL	NA
10(R1)	White dry glue	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
11	Silvery metal shell	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
12	Black plastic shell	BL	BL	BL	BL	IN	PBBs : ND PBDEs : 216
13	Coppery 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)
		Cd	Pb	Hg	Cr	Br	
14	Transparent plastic sheet	BL	BL	BL	BL	BL	NA
15	Pink transparent dry glue	BL	BL	BL	BL	BL	NA
16	Silvery magnetic block	BL	BL	BL	BL	--	NA
17	Yellow PCB	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
18	Yellow dry glue	BL	BL	BL	BL	BL	NA
19(R1)	Solder	BL	BL	BL	BL	--	NA
20	Dark grey plastic core(socket)	BL	BL	BL	BL	BL	NA
21	Silvery metal shell(socket)	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
22	Silvery metal pin(socket)	BL	BL	BL	BL	--	NA
23	Chip capacitor(yellow)	BL	BL	BL	BL	BL	NA
24	Black plastic shell(socket)	BL	BL	BL	BL	BL	NA
25	Silvery metal sheet(socket)	BL	BL	BL	BL	--	NA
26	Dark grey plastic cap(button)	BL	BL	BL	BL	BL	NA
27	White plastic shell(button)	BL	BL	BL	BL	BL	NA
28	Silvery metal sheet(button)	BL	BL	BL	BL	--	NA
29	Silvery metal pin(button)	BL	BL	BL	BL	--	NA
30	Chip IC	BL	BL	BL	BL	BL	NA
31	Chip crystal oscillator	BL	BL	BL	BL	BL	NA



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Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
32	Green PCB	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
33	Chip resistor	BL	BL	BL	BL	BL	NA
34	Chip IC	BL	BL	BL	BL	BL	NA
35	Chip LED	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
36	Chip capacitor(grey)	BL	BL	BL	BL	BL	NA
37	Chip inductor	BL	BL	BL	BL	BL	NA
38	Black soft plastic shell	BL	BL	BL	BL	BL	NA
39	Golden MIC	BL	BL	BL	BL	BL	NA
40	Solder	BL	BL	BL	BL	--	NA
41	Dark grey plastic shell	BL	BL	BL	BL	BL	NA
42	Golden metal pin	BL	BL	BL	BL	--	NA
43	Red-black plastic wire covering	BL	BL	BL	BL	BL	NA
44	Red plastic wire covering	BL	BL	BL	BL	BL	NA
45	Yellow plastic wire covering	BL	BL	BL	BL	BL	NA
46	Silvery metal wire	BL	BL	BL	BL	--	NA
47	Pink varnished wire	BL	BL	BL	BL	BL	NA
48	Copper varnished wire	BL	BL	BL	BL	BL	NA
49	Green 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)
		Cd	Pb	Hg	Cr	Br	
50	Blue varnished wire	BL	BL	BL	BL	BL	NA
51	Black plastic wire jacket	BL	BL	BL	BL	BL	NA
52	White fibrous wire	BL	BL	BL	BL	BL	NA
53	Silvery metal screw	BL	BL	BL	BL	--	NA
54	Silvery metal shell(USB plug)	BL	BL	BL	BL	--	NA
55	White plastic sheet(USB plug)	BL	BL	BL	BL	BL	NA
56(R1)	Black soft plastic jacket(USB plug)	BL	BL	BL	BL	BL	NA
57(R1)	Solder(USB plug)	BL	BL	BL	BL	--	NA
58	Silvery metal pin(USB plug)	BL	BL	BL	BL	--	NA
59(R1)	Black soft plastic jacket(Type-C plug)	BL	BL	BL	BL	BL	NA
60	White plastic core(Type-C plug)	BL	BL	BL	BL	BL	NA
61	Silvery metal pin(Type-C plug)	BL	BL	BL	BL	--	NA
62(R1)	Black plastic wire jacket	BL	BL	BL	BL	BL	NA
63(R1)	Red plastic wire covering	BL	BL	BL	BL	BL	NA
64(R1)	Black plastic wire covering	BL	BL	BL	BL	BL	NA
65	Coppery metal wire	BL	BL	BL	BL	--	NA
66	Silvery metal sheet	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
67	Brown paper sheet	BL	BL	BL	BL	BL	NA



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Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
68	White plastic adhesive label with black printing	BL	BL	BL	BL	BL	NA
69	Black plastic sheet	BL	BL	BL	BL	BL	NA
70	Chip resistor	BL	OL	BL	BL	BL	*Pb : 50012
71(R1)	Chip capacitor(dark brown)	BL	BL	BL	BL	BL	NA
72	Chip IC	BL	BL	BL	BL	BL	NA
73	Green PCB	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
74	Chip resistor	BL	OL	BL	BL	BL	*Pb : 27561
75	Black drawstring	BL	BL	BL	BL	BL	NA
76	Black main fabric	BL	BL	BL	BL	BL	NA

2. Phthalates

Test Method/Equipment:

1) With reference to IEC 62321-12:2023, determination of DBP, BBP, DEHP, DIBP by GC-MS

Serial No.	Part No.	Result mg/kg			
		DBP	BBP	DEHP	DIBP
T01	1+6+38 [△]	ND	ND	ND	ND
T02	2+5+7+12+14 [△]	ND	ND	ND	ND
T03	3+4+75+76 [△]	ND	ND	ND	ND
T04	9+52+67+68+69 [△]	ND	ND	ND	ND
T05	15+18+55+60 [△]	ND	ND	484	ND
T06	13+47+48+49+50 [△]	ND	ND	ND	ND
T07	17+32+73 [△]	ND	ND	ND	ND
T08	20+24+26+27+41 [△]	ND	ND	ND	ND
T09	23+30+31+33+34 [△]	ND	ND	ND	ND
T10	35+36+37+39+70 [△]	ND	ND	ND	ND
T11	43+44+45 [△]	ND	ND	ND	ND
T12	51	ND	ND	ND	ND



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Serial No.	Part No.	Result mg/kg			
		DBP	BBP	DEHP	DIBP
T13	72+74 ^Δ	ND	ND	ND	ND
T14	10(R1)	ND	ND	ND	ND
T15	56(R1)	ND	ND	ND	ND
T16	59(R1)	ND	ND	ND	ND
T17	62(R1)	ND	ND	ND	ND
T18	63(R1)	ND	ND	ND	ND
T19	64(R1)	ND	ND	ND	ND
T20	71(R1)	ND	ND	ND	ND
T21	8	--	--	--	--
T22	11	--	--	--	--
T23	16	--	--	--	--
T24	19(R1)	--	--	--	--
T25	21	--	--	--	--
T26	22	--	--	--	--
T27	25	--	--	--	--
T28	28	--	--	--	--
T29	29	--	--	--	--
T30	40	--	--	--	--
T31	42	--	--	--	--
T32	46	--	--	--	--
T33	53	--	--	--	--
T34	54	--	--	--	--
T35	57(R1)	--	--	--	--
T36	58	--	--	--	--
T37	61	--	--	--	--
T38	65	--	--	--	--
T39	66	--	--	--	--



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Remark:

- (1) Results are obtained by XRF for primary screening, and further chemical testing by ICP (for Cd, Pb, Hg), UV-VIS (for Cr^{6+}) and GC-MS (for PBBs, PBDEs) is required 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	$\text{BL} \leq (70-3\sigma) < \text{IN} < (130+3\sigma) \leq \text{OL}$	$\text{BL} \leq (70-3\sigma) < \text{IN} < (130+3\sigma) \leq \text{OL}$	$\text{LOD} < \text{IN} < (150+3\sigma) \leq \text{OL}$
Pb	$\text{BL} \leq (700-3\sigma) < \text{IN} < (1300+3\sigma) \leq \text{OL}$	$\text{BL} \leq (700-3\sigma) < \text{IN} < (1300+3\sigma) \leq \text{OL}$	$\text{BL} \leq (500-3\sigma) < \text{IN} < (1500+3\sigma) \leq \text{OL}$
Hg	$\text{BL} \leq (700-3\sigma) < \text{IN} < (1300+3\sigma) \leq \text{OL}$	$\text{BL} \leq (700-3\sigma) < \text{IN} < (1300+3\sigma) \leq \text{OL}$	$\text{BL} \leq (500-3\sigma) < \text{IN} < (1500+3\sigma) \leq \text{OL}$
Cr	$\text{BL} \leq (700-3\sigma) < \text{IN}$	$\text{BL} \leq (700-3\sigma) < \text{IN}$	$\text{BL} \leq (500-3\sigma) < \text{IN}$
Br	$\text{BL} \leq (300-3\sigma) < \text{IN}$	--	$\text{BL} \leq (250-3\sigma) < \text{IN}$

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 Cr^{6+} for polymer and composite sample is 8mg/kg and LOQ of Cr^{6+} for metal sample is $0.1\mu\text{g}/\text{cm}^2$.

- (9) According to IEC 62321-7-1:2015, determined of Cr^{6+} on metal sample by boiling water extraction test method, and result is shown as Positive/Negative.

Boiling water extraction:

Negative = Absence of Cr^{6+} coating, the detected concentration in boiling water extraction solution is less than $0.10\mu\text{g}/\text{cm}^2$.

Positive = Presence of Cr^{6+} coating, the detected concentration in boiling water extraction solution is greater than $0.13\mu\text{g}/\text{cm}^2$.

Information on storage conditions and production date of the tested sample is unavailable and thus Cr^{6+} results represent status of the sample at the time of testing.



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(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) “Δ”=As per applicant's requirement, the testing was conducted based on mixed components by weight in equal ratio, results are calculated by the minimum weight of mixed components.

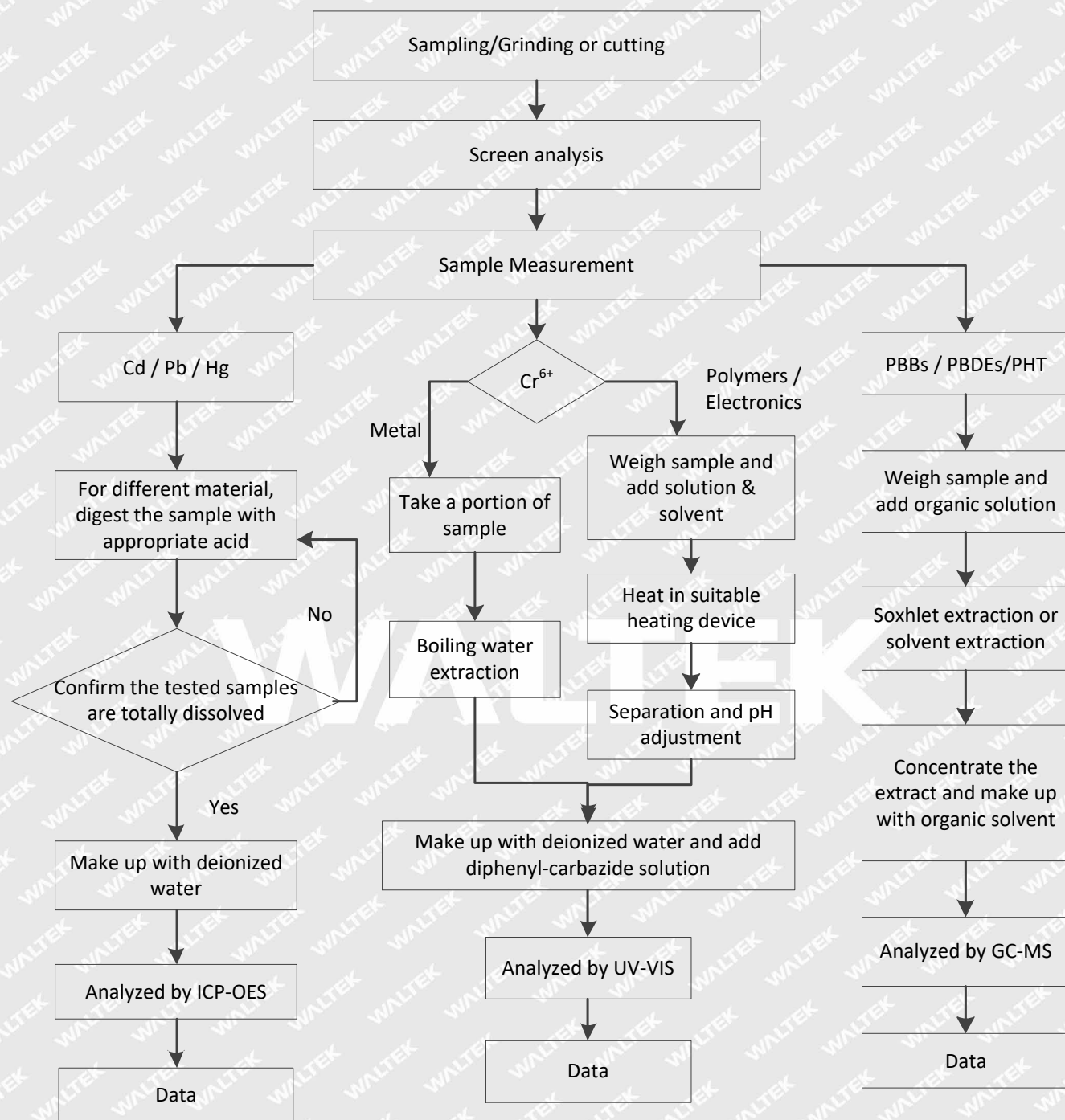
(13) * = According to the declaration from client, the source of lead in test sample is from the glass or ceramic material of that electronic component which is exempted by Directive 2011/65/EU ANNEX III-7(c)-I.



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Testing Flow chart:

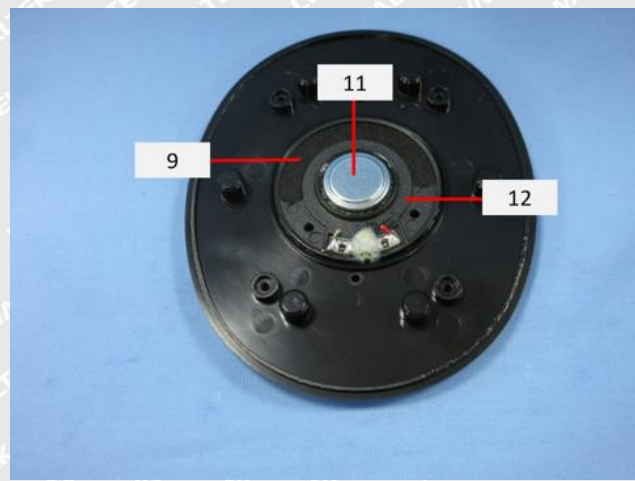
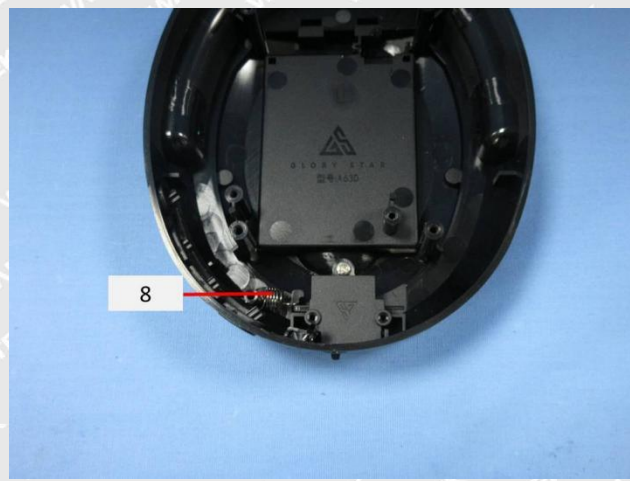
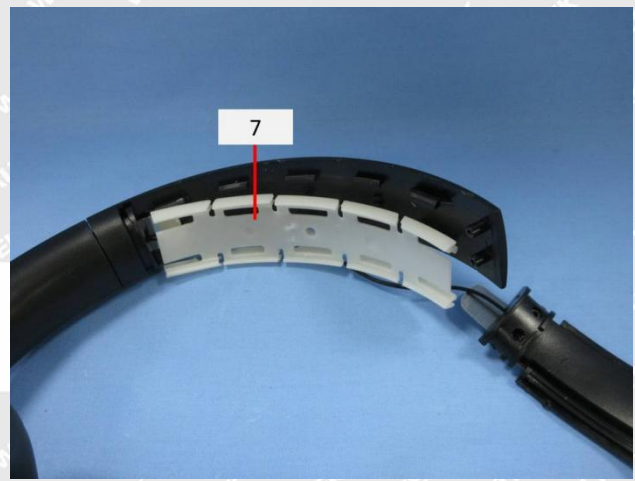




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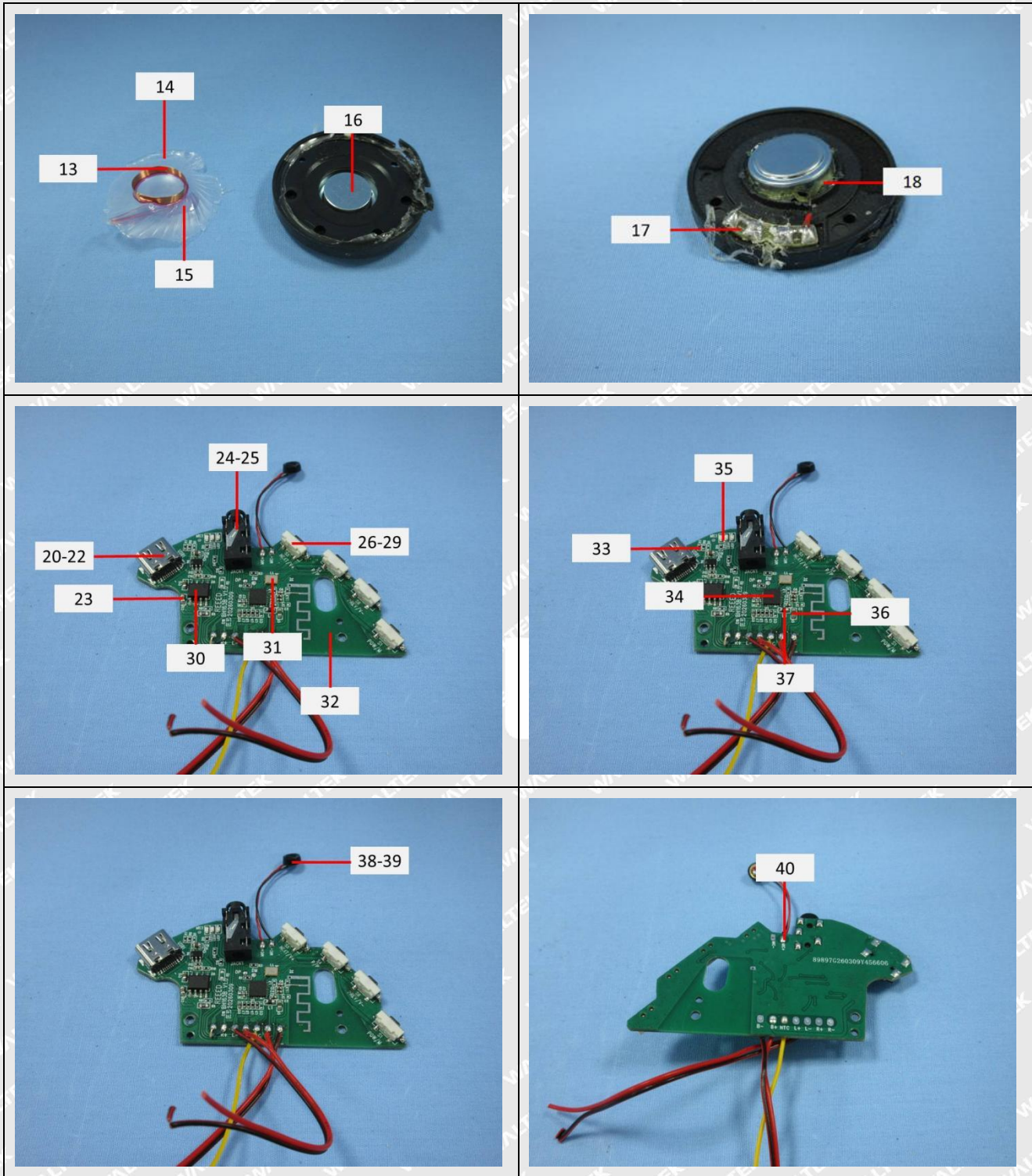
Photograph of parts tested:





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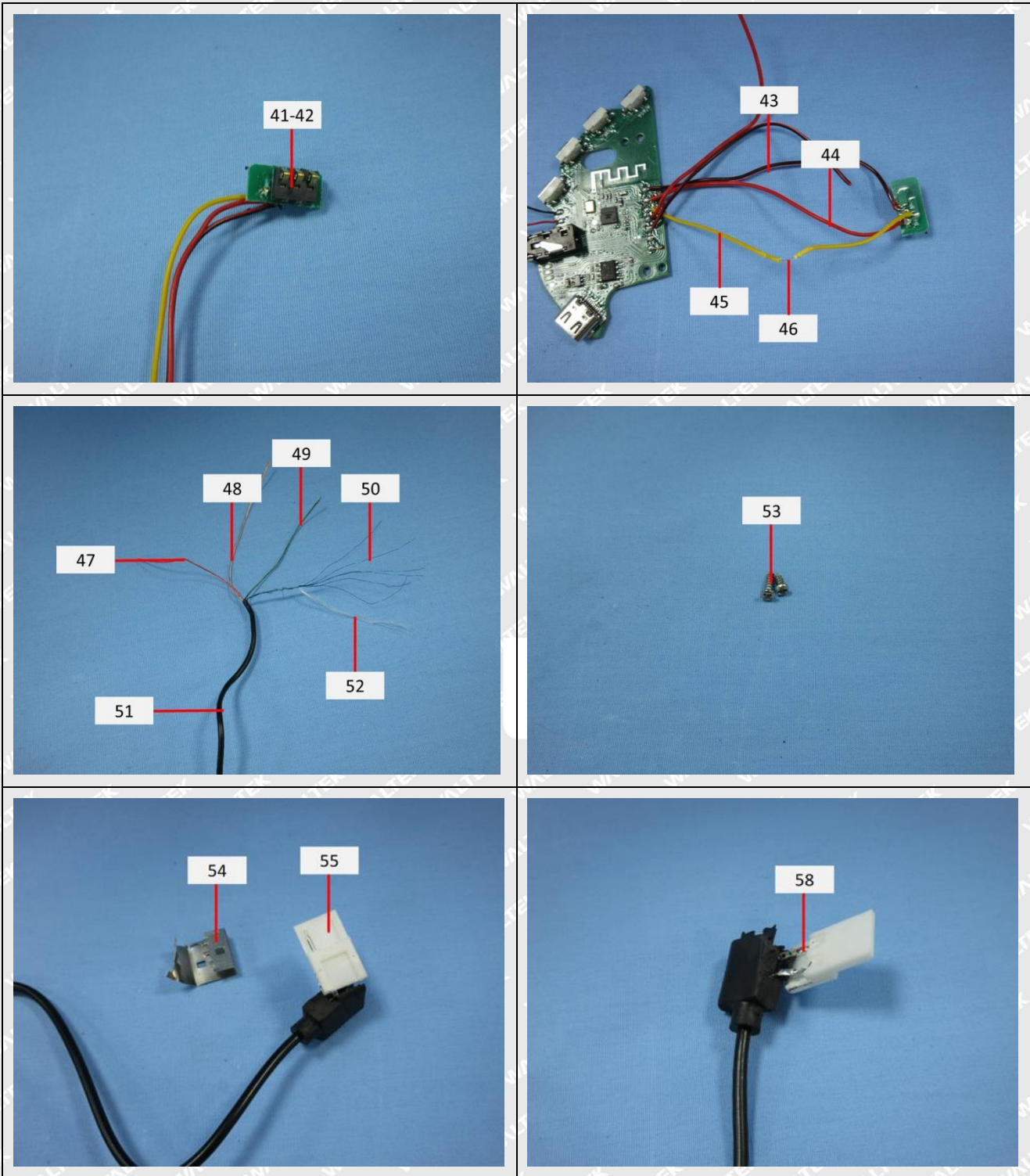
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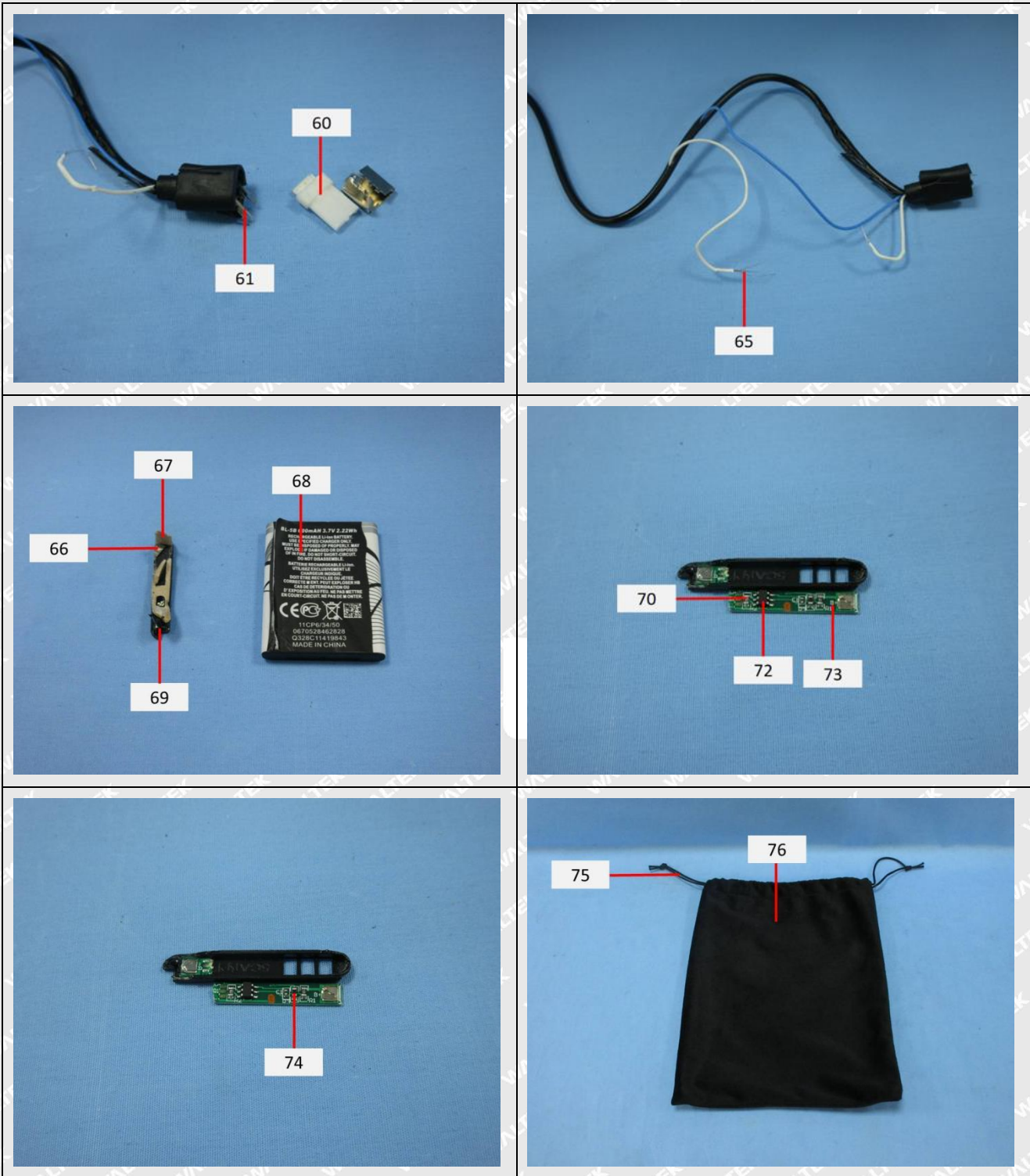
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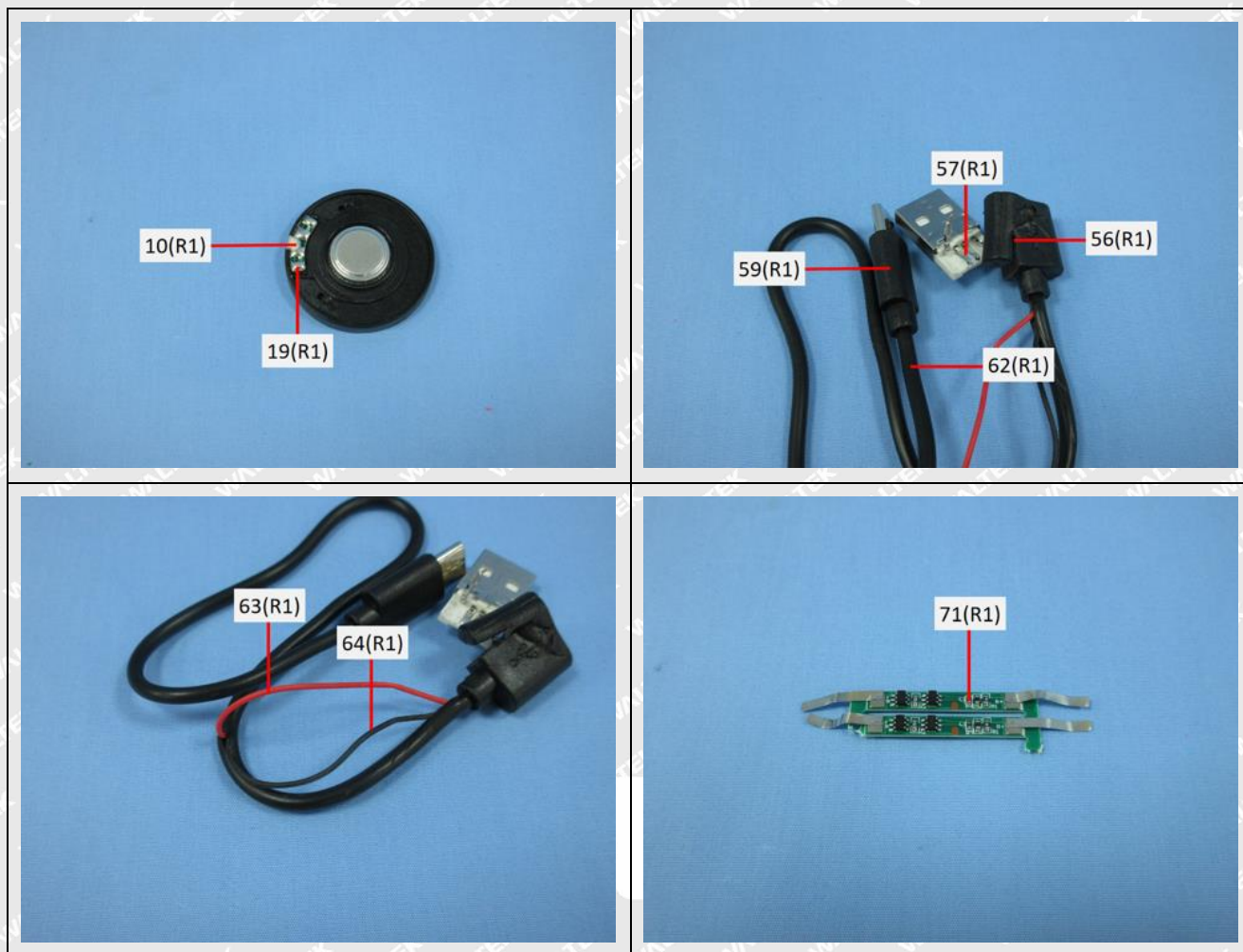
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===== End of Report =====