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检测
TESTING
CNAS L6478



TEST REPORT

Report No. : WTF26F06158075C
Job No. : FSW2606030240CJ
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 : 118966
Sample Name : Wireless speaker
Sample Model : MO3188
Test Requested : With reference to EU RoHS Directive 2011/65/EU and its amendment Directive EU 2015/863, to determine the Pb, Cd, Hg, Cr(VI), 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 : 2026-06-03
Testing Period : 2026-06-03 to 2026-06-15
Date of Issue : 2026-06-18
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



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



MO3188



MO3188

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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 62321-3-1:2026, 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 with adhesive	BL	BL	BL	BL	BL	NA
2	Black net fabric	BL	BL	BL	BL	BL	NA
3	Black soft plastic foot pad with adhesive	BL	BL	BL	BL	BL	NA
4	Black plastic sheet	BL	BL	BL	BL	IN	PBDEs: ND PBBs: ND
5	Black coating	BL	BL	BL	IN	BL	Cr(VI):ND
6	Silvery metal sheet without black coating	BL	BL	BL	IN	--	Cr(VI): Negative
7	Black sponge double faced adhesive tape	BL	BL	BL	BL	BL	NA
8	Silvery metal buckle	BL	BL	BL	BL	--	NA
9	Black soft plastic stopper	BL	BL	BL	BL	BL	NA
10	Silvery metal buckle	BL	BL	BL	BL	--	NA
11	Silvery metal rivet	BL	BL	BL	BL	--	NA
12	Silvery metal sheet	BL	BL	BL	BL	--	NA
13	Silvery metal spring	BL	BL	BL	BL	--	NA
14	Black plastic shell	BL	BL	BL	BL	IN	PBDEs: ND PBBs: ND
15	Black sponge with adhesive	BL	BL	BL	IN	BL	Cr(VI):ND
16	Yellow dry glue	BL	BL	BL	BL	BL	NA
17	White semi-transparent dry glue	BL	BL	BL	BL	BL	NA
18	Red plastic wire covering	BL	BL	BL	BL	BL	NA
19	Black plastic wire covering	BL	BL	BL	BL	BL	NA
20	White plastic shell(connector)	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	
21	Silvery metal pin(connector)	BL	BL	BL	BL	--	NA
22	Black synthetic leather	BL	BL	BL	BL	BL	NA
23	Black paper sheet	BL	BL	BL	BL	BL	NA
24	Silvery metal shell	BL	BL	BL	IN	--	Cr(VI): Negative
25	Black plastic sheet	BL	BL	BL	BL	BL	NA
26	Brown fabric net	BL	BL	BL	BL	BL	NA
27	Brown paper tube	BL	BL	BL	BL	BL	NA
28	Pink varnished wire	BL	BL	BL	BL	BL	NA
29	Solder	BL	IN	BL	BL	--	Pb:517
30	Green dry glue	BL	BL	BL	BL	BL	NA
31	Coppery metal wire	BL	BL	BL	BL	--	NA
32	White paper sheet	BL	BL	BL	BL	BL	NA
33	Silvery metal rivet	BL	BL	BL	BL	--	NA
34	Silvery metal sheet	BL	BL	BL	IN	--	Cr(VI): Negative
35	Black paper ring	BL	BL	BL	BL	BL	NA
36	Solder	BL	IN	BL	BL	--	Pb:227
37	Silvery metal base	BL	BL	BL	IN	--	Cr(VI): Negative
38	Dark grey magnetic ring	BL	BL	BL	BL	--	NA
39	Black sponge with adhesive	BL	BL	BL	BL	BL	NA
40	Light yellow plastic shell(socket)	BL	BL	BL	IN	BL	Cr(VI):ND
41	Silvery metal pin(socket)	BL	BL	BL	BL	--	NA
42	Black plastic base(electrolytic capacitor)	BL	BL	BL	BL	BL	NA
43	Black rubber stopper(electrolytic capacitor)	BL	BL	BL	BL	BL	NA
44	Brown paper(electrolytic capacitor)	BL	BL	BL	BL	BL	NA
45	Silvery metal shell with black printing(electrolytic capacitor)	BL	BL	BL	BL	--	NA
46	Grey metal foil(electrolytic capacitor)	BL	BL	BL	BL	--	NA
47	Silvery-grey metal foil(electrolytic capacitor)	BL	BL	BL	BL	--	NA
48	Silvery metal pin(electrolytic capacitor)	BL	BL	BL	BL	--	NA
49	Off-white plastic shell(socket)	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	Green PCB	BL	BL	BL	BL	IN	PBDEs: ND PBBs: ND
51	Grey magnetic core(inductor)	BL	BL	BL	IN	--	Cr(VI): ND
52	Coppery varnished wire(inductor)	BL	BL	BL	BL	BL	NA
53	Chip audion	BL	BL	BL	BL	BL	NA
54	Chip IC	BL	BL	BL	BL	BL	NA
55	Chip capacitor(light yellow)	BL	BL	BL	BL	BL	NA
56	Chip capacito(red-brown)	BL	BL	BL	BL	BL	NA
57	Chip capacitor(yellow)	BL	BL	BL	BL	BL	NA
58	Dark grey magnetic core(inductor)	BL	BL	BL	BL	--	NA
59	Chip capacitor (grey)	BL	BL	BL	BL	BL	NA
60	Chip crystal oscillator	BL	BL	BL	BL	BL	NA
61	Grey plastic core(socket)	BL	BL	BL	BL	BL	NA
62	Silvery metal shell(socket)	BL	BL	BL	IN	--	Cr(VI): Negative
63	Silvery metal pin(socket)	BL	BL	BL	BL	--	NA
64	Chip LED	BL	BL	BL	BL	BL	NA
65	Chip diode	BL	OL	BL	BL	BL	*Pb:18172
66	Rose red varnished wire	BL	BL	BL	BL	BL	NA
67	Black sponge with adhesive	BL	BL	BL	BL	BL	NA
68	Black capacitor	BL	BL	BL	BL	BL	NA
69	Black plastic cap (button)	BL	BL	BL	BL	BL	NA
70	Silvery metal shell (button)	BL	BL	BL	IN	--	Cr(VI): Negative
71	Silvery metal sheet (button)	BL	BL	BL	BL	--	NA
72	Silvery metal pin (button)	BL	BL	BL	BL	--	NA
73	Chip resistor	BL	BL	BL	BL	BL	NA
74	Black plastic wire covering with white printing	BL	BL	BL	BL	BL	NA
75	Silvery metal wire	BL	BL	BL	BL	--	NA
76	Blue plastic film	BL	BL	BL	BL	BL	NA
77	Semi-transparent plastic gasket	BL	BL	BL	BL	BL	NA
78	Silvery metal screw	BL	BL	BL	BL	--	NA
79	Black plastic jacket(USB plug)	BL	BL	BL	BL	BL	NA
80	White plastic core(USB plug)	BL	BL	BL	BL	BL	NA
81	Silvery metal shell(USB plug)	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	
82	Solder(USB plug)	BL	BL	BL	BL	--	NA
83	Silvery metal pin(USB plug)	BL	BL	BL	BL	--	NA
84	Chip resistor(Type-C plug)	BL	BL	BL	BL	BL	NA
85	Red PCB(Type-C plug)	BL	BL	BL	BL	BL	NA
86	Grey plastic core(Type-C plug)	BL	BL	BL	BL	BL	NA
87	Silvery metal shell(Type-C plug)	BL	BL	BL	IN	--	Cr(VI): Negative
88	Golden metal pin(Type-C plug)	BL	BL	BL	BL	--	NA
89	Solder(Type-C plug)	BL	BL	BL	IN	--	Cr(VI): Negative
90	Black plastic wire jacket	BL	BL	BL	BL	BL	NA
91	Black plastic wire covering	BL	BL	BL	BL	BL	NA
92	Coppery metal wire	BL	BL	BL	IN	--	Cr(VI): Negative
93	Red plastic wire covering	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+3+4 [△]	ND	ND	ND	ND
T02	2+22+26 [△]	ND	ND	ND	ND
T03	5+50+85 [△]	ND	ND	ND	ND
T04	7+15+39 [△]	ND	ND	ND	ND
T05	9+43+79 [△]	ND	ND	ND	ND
T06	14+20+25+40+42 [△]	ND	ND	ND	ND
T07	16+17+30 [△]	ND	ND	ND	ND
T08	18+19+74 [△]	ND	ND	ND	ND
T09	23+32+35 [△]	ND	ND	ND	ND
T10	27+44+76 [△]	ND	ND	ND	ND
T11	28+52+66+73+84 [△]	ND	ND	ND	ND
T12	67+86 [△]	ND	ND	ND	ND
T13	49+61+69+77+80 [△]	ND	ND	ND	ND
T14	53+54+55+56+57 [△]	ND	ND	ND	ND
T15	59+60+64+65+68 [△]	ND	ND	ND	ND
T16	90+91+93 [△]	ND	ND	ND	ND
T17	6	--	--	--	--



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Serial No.	Part No.	Result (mg/kg)			
		DBP	BBP	DEHP	DIBP
T18	8	--	--	--	--
T19	10	--	--	--	--
T20	11	--	--	--	--
T21	12	--	--	--	--
T22	13	--	--	--	--
T23	21	--	--	--	--
T24	24	--	--	--	--
T25	29	--	--	--	--
T26	31	--	--	--	--
T27	33	--	--	--	--
T28	34	--	--	--	--
T29	36	--	--	--	--
T30	37	--	--	--	--
T31	38	--	--	--	--
T32	41	--	--	--	--
T33	45	--	--	--	--
T34	46	--	--	--	--
T35	47	--	--	--	--
T36	48	--	--	--	--
T37	51	--	--	--	--
T38	58	--	--	--	--
T39	62	--	--	--	--
T40	63	--	--	--	--
T41	70	--	--	--	--
T42	71	--	--	--	--
T43	72	--	--	--	--
T44	75	--	--	--	--
T45	78	--	--	--	--
T46	81	--	--	--	--
T47	82	--	--	--	--
T48	83	--	--	--	--
T49	87	--	--	--	--
T50	88	--	--	--	--
T51	89	--	--	--	--
T52	92	--	--	--	--

**Remark:**

- (1) Results are 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) is required to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1:2026 (unit: mg/kg)

Element	Plastics	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	$BL \leq (700-3\sigma) < IN$	--	$BL \leq (500-3\sigma) < IN$

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(VI)		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(VI) for Plasticsand composite sample is 8mg/kg and LOQ of Cr(VI) for metal sample is 0.1 $\mu\text{g}/\text{cm}^2$.

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

Boiling water extraction:

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

Positive = Presence of Cr(VI) 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(VI) 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(VI))	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, "Cr(VI)" 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 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.

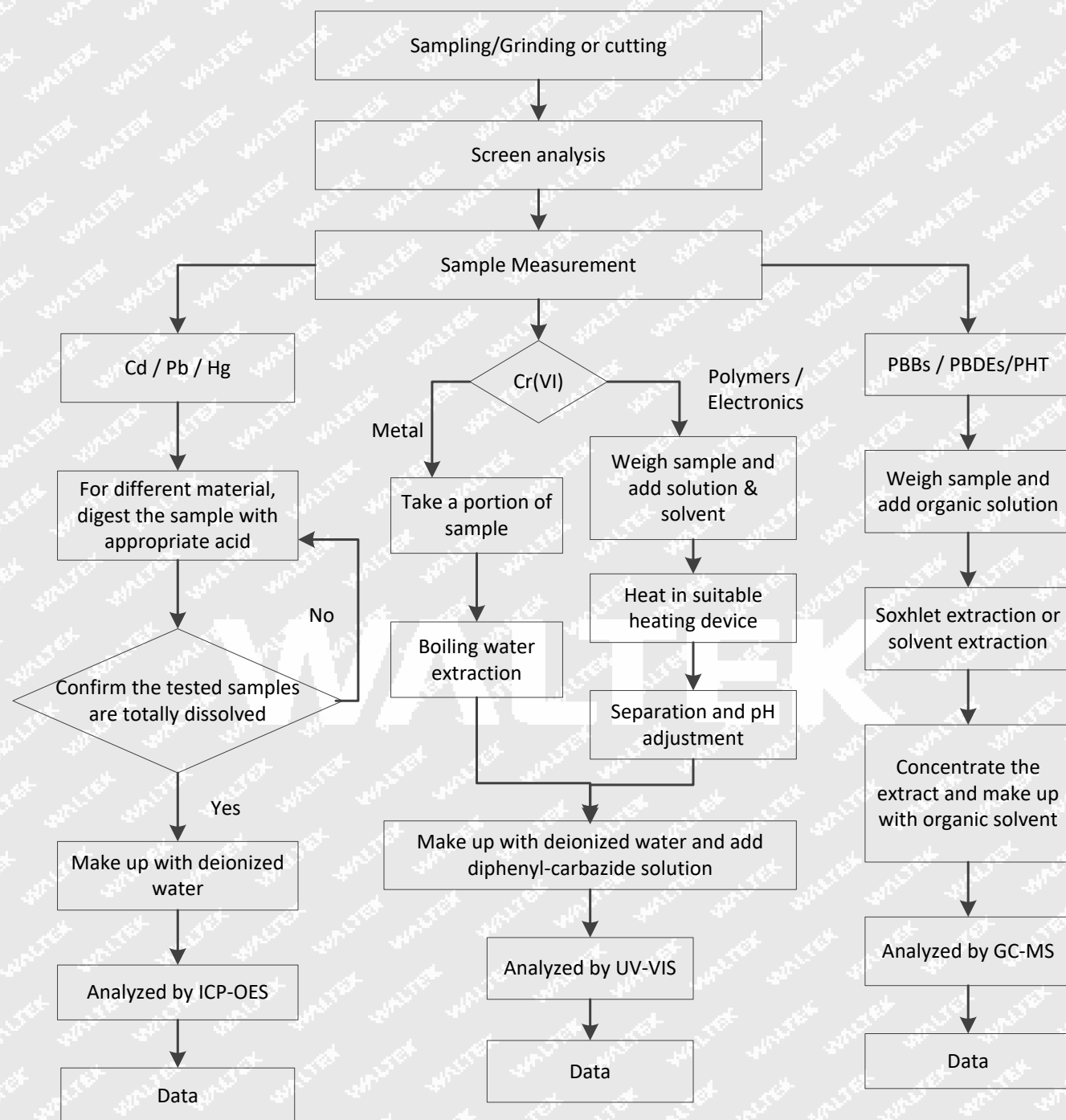
(13) * = According to the declaration from client, the source of lead in test sample is from the glass or ceramic material of that electronic component which is exempted by Directive 2011/65/EU ANNEX III-7(c)-I & According to the declaration from client, the source of lead in test sample is from the high melting temperature type solders (i.e. lead based alloys containing 85% by weight or more lead) is exempted by Directive 2011/65/EU ANNEX III-7(a).



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Testing Flow chart:





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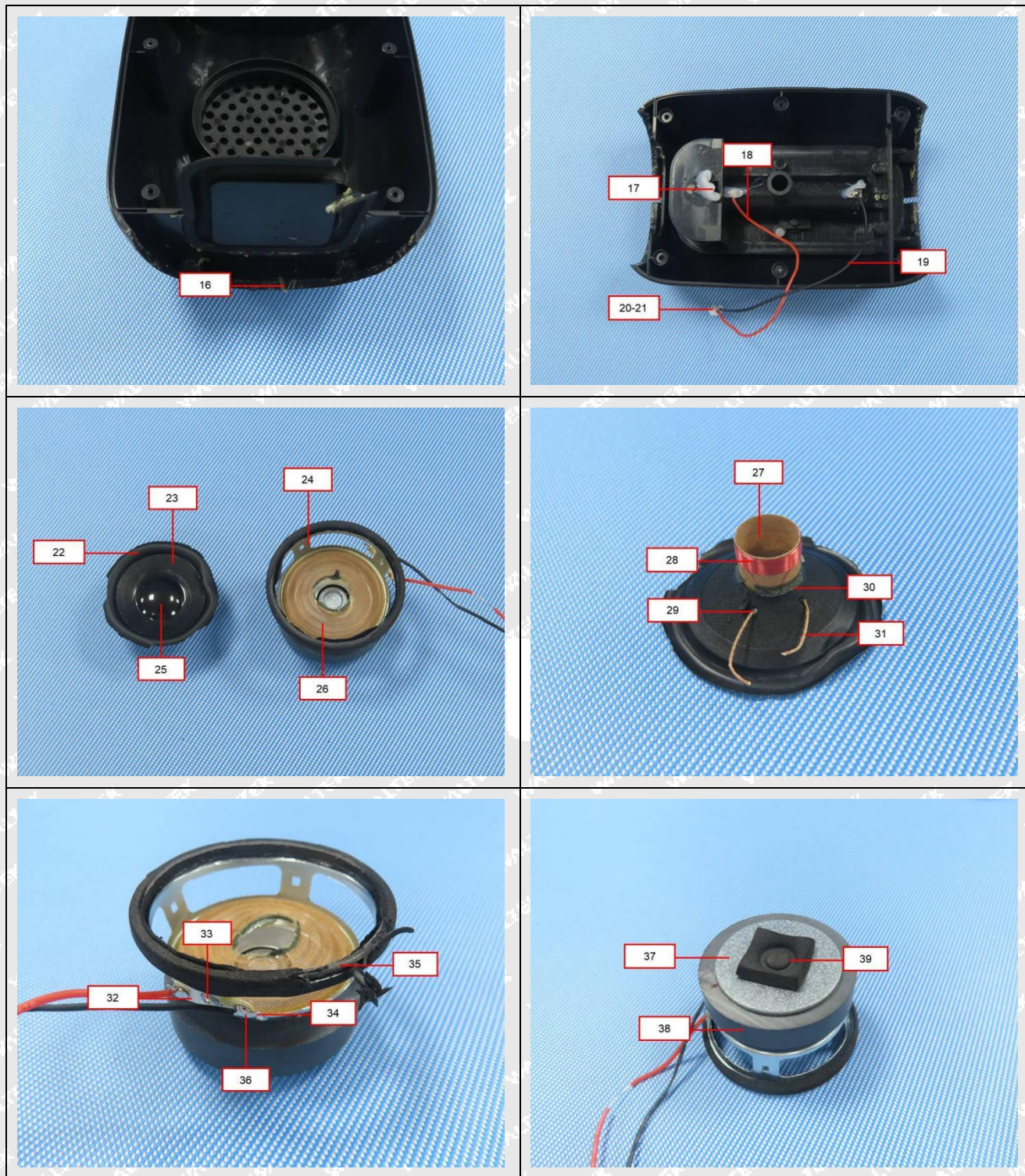
Photograph of parts tested:





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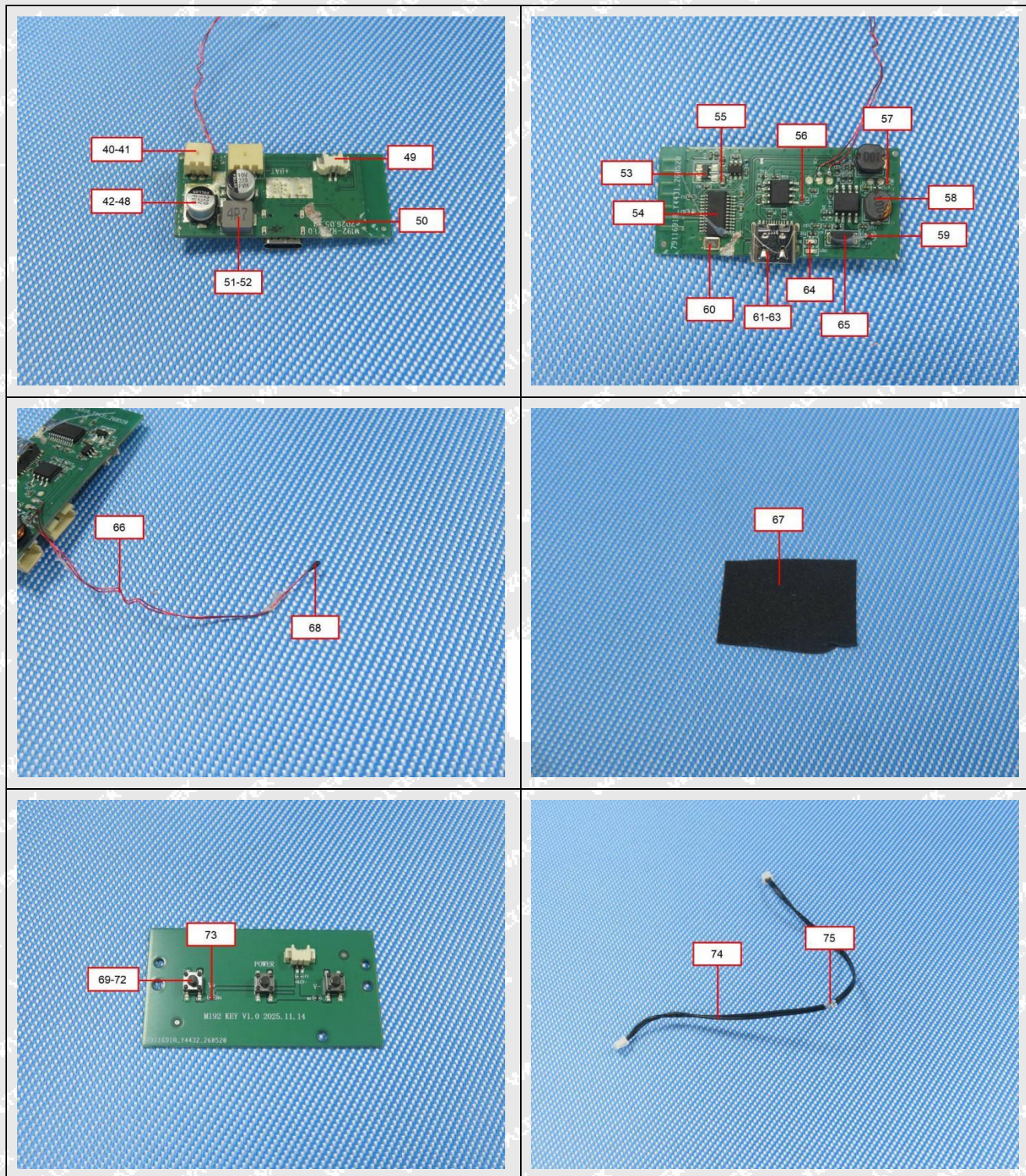
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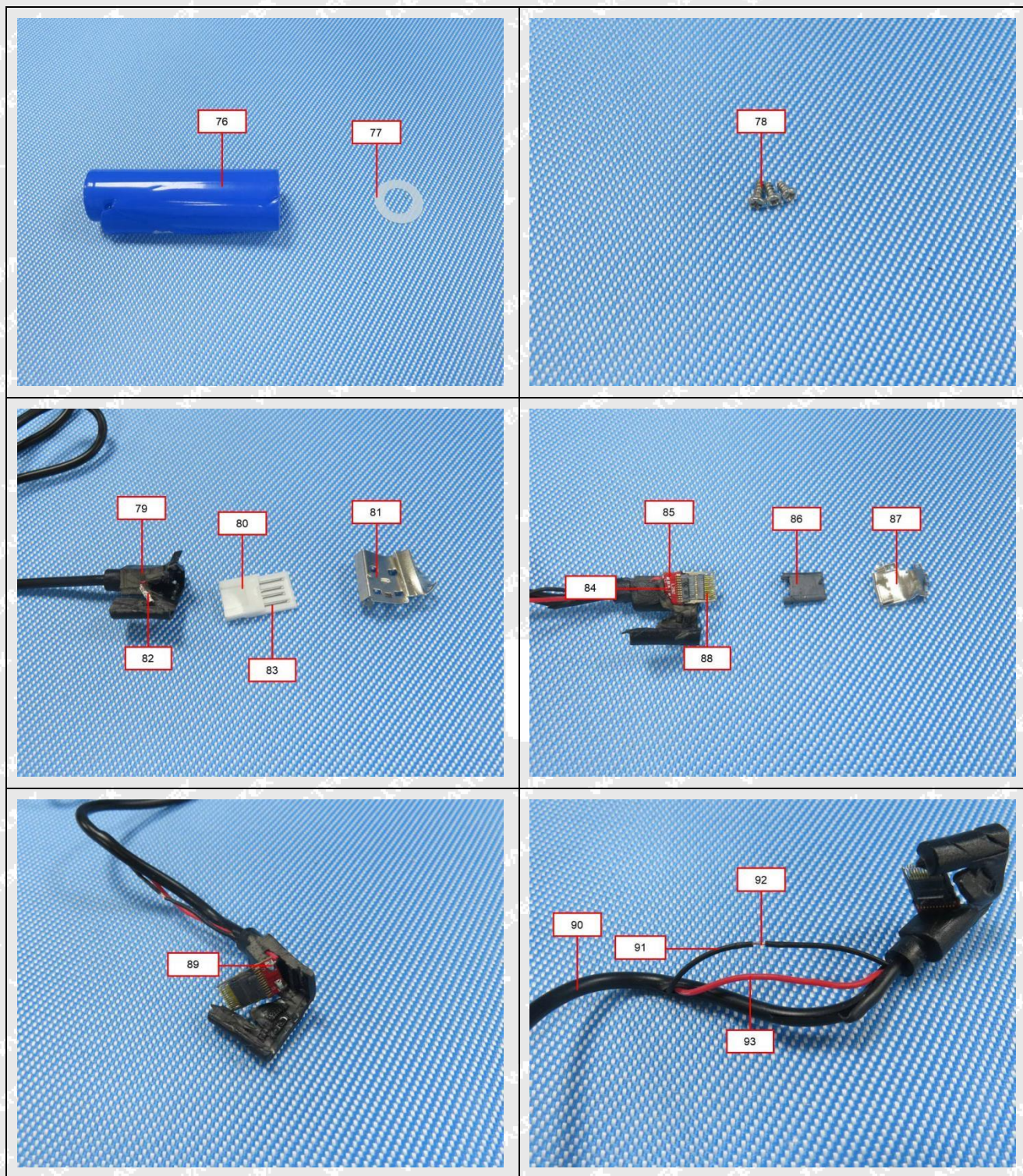
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===== End of Report =====

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