



TEST REPORT

Report No. : WTF25F02034161C

Job No. : FSW2503060191CJ

Applicant..... : Mid Ocean Brands B.V.

Wan, Kowloon, Hong Kong

Manufacturer : 114768

Sample Name : TWS earbuds with charging base, TWS earbuds in

bamboo case

Sample Model : MO6128, MO6780

Test Requested: Refer to next page (s)

Test Method : Refer to next page (s)

Test Conclusion: Refer to next page (s)

Date of Receipt sample 2025-03-06 & 2025-03-18

Date of Issue..... 2025-03-21

Test Result : Refer to next page (s)

Prepared By:

Waltek Testing Group (Foshan) Co., Ltd.

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

Swing Liang

Swing.Liang

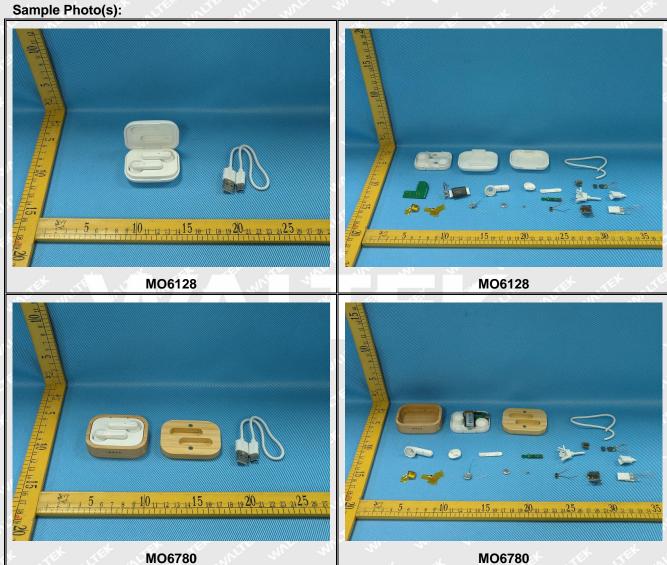
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Summary:

Test Requested	Test Conclusion
In accordance with the RoHS Directive 2011/65/EU and its amendment (EU) No. 2015/863, to determine	mill me me we will the
the 10 restricted substances content in the submitted sample.	Pass (Please refer to next pages for details)





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Test Results:

1. Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs and PBDEs

Test method:

- 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, cadmium, mercury, 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		122	Res	ult of 2	KRF	Result of Wet Chemical	
No.	Part Description	Cd	Pb	Hg	Cr	Br	Testing (mg/kg)
1	White plastic shell	BL	BL	BL	BL	BL	NA NA
2	White plastic shell	BL	BL	BL	BL	BL	NA
3	White plastic shell	BL	BL	BL	BL	BL	NA
4	Silvery metal net	BL	BL	BL	BL	yani.	NA NA
5	Brown plastic film	BL	BL	BL	BL	BL	Marite Manager
6	Black plastic shell	BL	BL	BL	BL	BL	NA NA NA
7	Silvery metal sheet	BL	BL	BL	IN	<u> </u>	Cr ⁶⁺ : Negative
8	Chip IC	BL	OL	BL	BL	BL	*Pb : 9116
9	Chip EC	BL	OL	BL	BL	BL	*Pb : 1.57×10 ⁴
10	Chip buzzer	BL	OL	BL	BL	ÎN	* Pb : 2422 PBBs : ND PBDEs : ND
11	Chip crystal oscillator	BL	BL	BL	BL	BL	NA WILL
12	Chip resistor	BL	OL	BL	BL	BL	*Pb : 3.87×10 ⁴
13	Chip LED	BL	BL	BL	BL	BL	NA NIE
14	Golden metal part	IN	OL	BL	BL	ek 'ur	Cd :23 *Pb : 2.54×10 ⁴
15	Chip capacitor	BL	BL	BL	BL	BL	NA NA



Part	TEX TEX STEX STEEL BUTER	ALLIE .	Res	sult of 2	KRF		Result of Wet Chemical
No.	Part Description	Cd	Pb	Hg	Cr	Br	Testing (mg/kg)
16	Green PCB	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
17	Chip capacitor	BL	BL	BL	BL	BL	whitet un NA white o
18	Solder	BL	IN	BL	BL	7 <u>164</u>	Pb:145
19	Silvery magnetic sheet	BL	BL	BL	BL	ار الم	TEL NATER NATER WHITE
20	Red plastic wire covering	BL	BL	BL	BL	BL	NA MALLER
21	Blue plastic wire covering	BL	BL	BL	BL	BL	NA NATER IN
22	White plastic wire covering	BL	BL	BL	BL	BL	TEL STELNASTEL MIS
23	Black plastic wire covering	BL	BL	BL	BL	BL	A THE NAME OF THE
24	Silvery metal wire	BL	BL	BL	BL		NA NA
25	Brown plastic adhesive tape	BL	BL	BL	BL	BL	MA NA
26(R1)	Grey sponge adhesive tape	BL	BL	BL	BL	BL	NA NA
27	Silvery metal shell	BL	BL	BL	JN	-511	Cr ⁶⁺ : Negative
28(R1)	Yellow dry glue	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
29	White plastic adhesive tape	BL	BL	BL	BL	BL	weith whit NA white w
30	Red-coppery metal wire	BL	BL	BL	BL	ZEK ZEK	LIE UNIT NA
31(R1)	Transparent plastic film	BL	BL	BL	BL	BL	et unite NA unit
32	Chip IC	BL	BL	BL	BL	BL	white white
33	Black sponge adhesive tape	BL	BL	BL	BL	BL	UNITED WILLIAM NITED WE
34	Silvery metal screw	BL	BL	BL	IN	 110	Cr ⁶⁺ : Negative
35	Black plastic core(socket)	BL	BL	BL	BL	BL	NA NA



Part	H TEN STEN SLIEN SOLIEN SOLIEN	J.TE.	Res	ult of 2	KRF		Result of Wet Chemical	
No.	Part Description	Cd	Pb	Hg	Cr	Br	Testing (mg/kg)	
36	Silvery metal shell(socket)	BL	BL	BL	IN	whi.	Cr ⁶⁺ : Negative	
37	Silvery metal pin(socket)	BL	BL	BL	BL	INL TE K	untiet un NA untier o	
38	Black plastic wire covering	BL	BL	BL	BL	BL	NITER WITE NAVIER W	
39	Red plastic wire covering	BL	BL	BL	BL	BL	set miset NASEE unite	
40	Chip LED	BL	BL	BL	BL	BL	- NA MALTER	
41	Coppery varnished wire(inductor)	BL	BL	BL	BL	BL	STEEL WITNA WATER ON	
42	Dark grey magnetic core(inductor)	BL	BL	BL	IN		Cr ⁶⁺ : Negative	
43	Golden metal shell	IN	OL	BL	BL		Cd :23 *Pb : 2.53×10 ⁴	
44	Silvery metal spring	BL	BL	BL	IN	- in	Cr ⁶⁺ : Negative	
45	Green PCB	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND	
46	White plastic wire jacket	BL	BL	BL	BL	BL	NA	
47	Silvery metal shell(USB plug)	BL	BL	BL	BL	<u> </u>	NA	
48	White plastic jacket(USB plug)	BL	BL	BL	BL	BL	NA WA	
49	White plastic jacket(Type-C plug)	BL	BL	BL	BL	BL	White white NA wall w	
50	Silvery metal shell(Type-C plug)	BL	BL	BL	IN	264-24	Cr ⁶⁺ : Negative	
51	Red plastic wire covering	BL	BL	BL	BL	BL	NA unit	
52	Black plastic wire covering	BL	BL	BL	BL	BL	white we NA white	
53	White plastic core(USB plug)	BL	BL	BL	BL	BL	mitet mit NAmitet m	
54	Solder(USB plug)	BL	IN	BL	BL	c*	Pb :172	
55	Coppery metal wire	BL	BL	BL	BL	/	* ITEL NATE NATED	



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Part	t tet tret atter actions	N. C.T. E.	Res	sult of 2	XRF		Result of Wet Chemical
No.	Part Description	Part Description Cd Pb Hg Cr Br		Br	Testing (mg/kg)		
56	Silvery metal pin(USB plug)	BL	BL	BL	BL	VIII LI	NA with a
57	Green PCB(Type-C plug)	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
58	Silvery metal pin(Type-C plug)	BL	BL	BL	BL	75 <u>7</u>	Lifet until NA Lifet until
59	Black plastic core(Type-C plug)	BL	BL	BL	BL	BL	NA EX MITEL
60	Chip resistor(Type-C plug)	BL	BL	BL	BL	BL	- NA MALTER OF
61	Brown wood shell	BL	BL	BL	BL	BL	NA WALTER WAL
62	Silvery magnetic sheet	BL	BL	BL	BL		TEL STEL NATER MITTER

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 σ) $<$ IN $<$ (130+3 σ) \leq OL	BL \leq (70-3 σ) $<$ IN $<$ (130+3 σ) \leq OL	LOD < IN < (150+3σ) ≤ OL
Pb	BL \leq (700-3 σ) $<$ IN $<$ (1300+3 σ) \leq OL	BL ≤ (700-3σ) < IN < (1300+3σ) ≤ OL	BL ≤ (500-3σ) < IN < (1500+3σ) ≤ OL
Hg	$BL \le (700-3\sigma) < IN < (1300+3\sigma) \le OL$	$BL \le (700-3\sigma) < IN < (1300+3\sigma) \le OL$	BL ≤ (500-3σ) < IN < (1500+3σ) ≤ OL
Cr	BL ≤ (700-3σ) < IN	BL ≤ (700-3σ) <in< td=""><td>BL ≤ (500-3σ) < IN</td></in<>	BL ≤ (500-3σ) < IN
Br	$BL \leq (300\text{-}3\sigma) < IN$	The Mr. Mr. A.	BL ≤ (250-3σ) < IN

BL= Below Limit

OL= Over Limit

LOD = Limit of Detection

-- = Not Regulated

- (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, μg/cm²= 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) LOQ = Limit of quantitation.

Test Items	Pb	Cd	Hg	CI CI	r ⁶⁺	PBB	PBDE
Units	mg/kg	mg/kg	mg/kg	mg/kg	µg/cm ²	mg/kg	mg/kg
LOQ	2.00	2	2	8	0.1	5	5



The LOQ for single compound of PBBs and PBDEs is 5 mg/kg, LOQ of Cr⁶⁺ for polymer and composite sample is 8 mg/kg and LOQ of Cr⁶⁺ for metal sample is 0.1 µg/cm².

(8) 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)		

(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 Cr^{6+} coating, the detected concentration in boiling water extraction solution is less than 0.10 µg/cm².

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

- (11)* = 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.
- (12)* = According to the declaration from client, the source of lead in test sample is from copper alloy while lead as copper alloy containing up to 4% lead by weight is exempted by Directive 2011/65/EU ANNEX III-6(c).

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2. Phthalates:

Test method:

With reference to IEC 62321-8:2017, determination of Phthalates content by GC-MS.

Serial	THE STORM NOTE STATE	Result (mg/kg)						
No.	Part No.	DBP	BBP	DEHP	DIBP			
T01	1+2+3+6+35 [△]	ND	ND	ND	ND			
T02	4		at the	CER LOSE CL	100			
T03	5 + 5	ND	ND ND	ND	ND			
T04	with style out out	7,1	4 75 A	t 10th 10th	- LTET - N			
T05	8+9+10+11+12 ^{\(\Delta\)}	- ND	ND	ND	ND			
T06	13+15+17+32+40 ^Δ	ND	ND	ND	ND			
T07	14		JUE - JUE	anti anti	n - m			
T08	16+45+57△	ND	ND	ND	, ND			
T09	18	- #	18th 18th	LIER SCIP SE	The same			
T10	19 👉 🧷	LIEF WILL I	F 715 11	2				
T11	20+21+22 [△]	ND	ND	ND	ND			
T12	23+38+39 [△]	ND	ND ND	ND ND	ND			
T13	24	7/1,-	JE A	16th 16th	JE J			
T14	25+29 [△]	ND	ND	ND	ND			
T15	26(R1)	ND	ND	ND	ND.			
T16	27	4 11	78t 178t	alife mile of	Ur. Park			
T17	28(R1)	ND	ND	ND	ND			
T18	30	- 16	d -d-	Comment of the said	(La			
T19	31(R1)	ND	ND S	ND	ND			
T20	33	ND	ND	ND	ND			
T21	34	at a start of	The state of the s	24 - 24 - 24 - 24 - 24 - 24 - 24 - 24 -	20, -20,			
T22	36	, 24, - 24,	4	4 A	- A - S			
T23	37	<u> </u>	JE	Will Take	The The			
T24	At 15 41 50 250	ND	ND	ND	ND +			
T25	42	1 A	18th 18th	TEL STEEL	12 MP.			
T26	43	NUTER STATE OF	W. 1867 1	2, 2,	, , ,_			
T27	44		A - A	Et GET JU	et alle			
T28	46+48+49 [△]	ND	ND ND	ND	ND			
T29	47	20, - 20, - 20,			(1 ¹¹ (1			
T30	50	اک ^{الحکا} ک عا	STIFE WITE	"NUTY NUTY	ale an			
T31	51+52 [△]	ND	ND	ND	ND.			
T32	53+59 [△]	ND -	ND ND	ND	ND			
T33	54	Will all	21/2 - Tal.	7	-J+			
T34	55	3 A	A At	TEK JULE N	1 1 L			
T35	56	LIET MITE OF	The Maria M	20, 20,	-			
T36	58	<u>-</u>	a 74	of the	F CIED O			
T37	60	ND	ND ND	ND ND	ND			
T38	of the color of	ND	ND	ND	ND			
T39	62	, d- 10	- 16th 116	المارية المارية	are the			



Note:

- (1) mg/kg = milligram per kilogram= ppm
- (2) ND = Not Detected or lower than limit of quantitation.
- (3) -- = Not Regulated.
- (4) LOQ = Limit of quantitation.

Test Items	DBP	BBP	DEHP	DIBP
Units	mg/kg	mg/kg	mg/kg	mg/kg
LOQ	50	50	50	50

(5) Abbreviation:

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

(6) RoHS requirement

Restricted Substances	Limits
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)

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

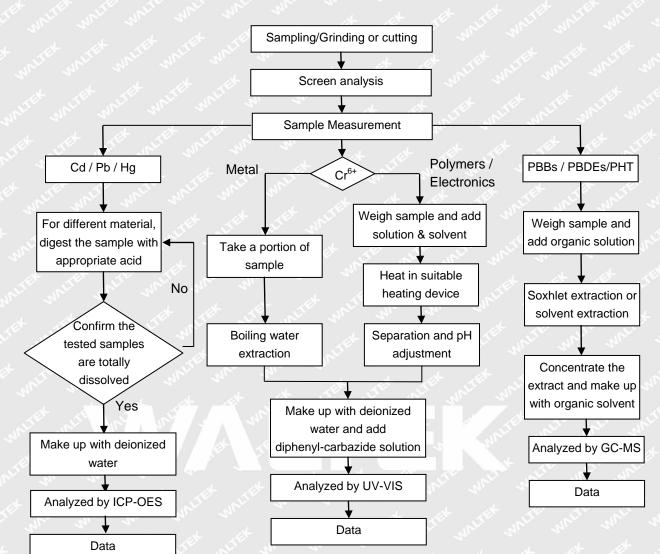


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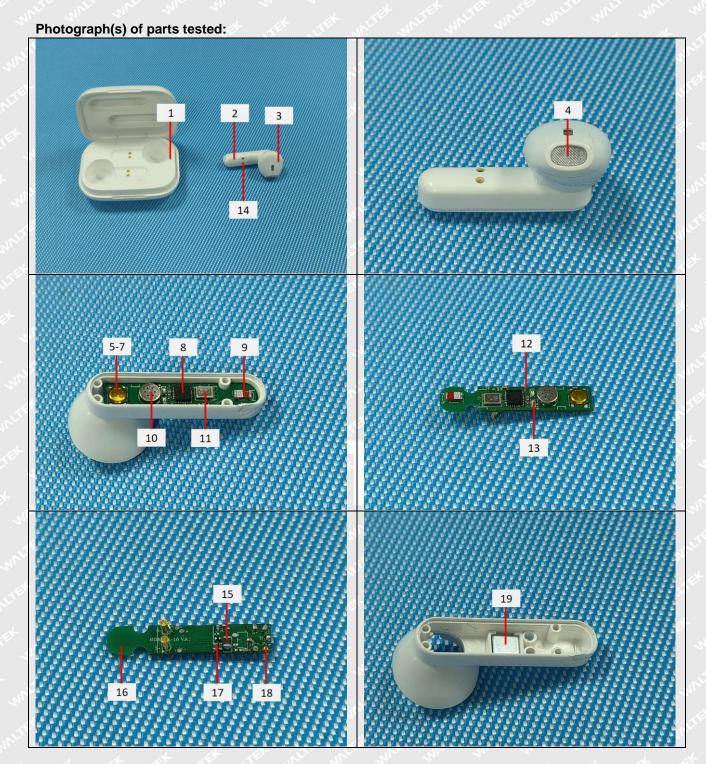
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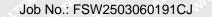
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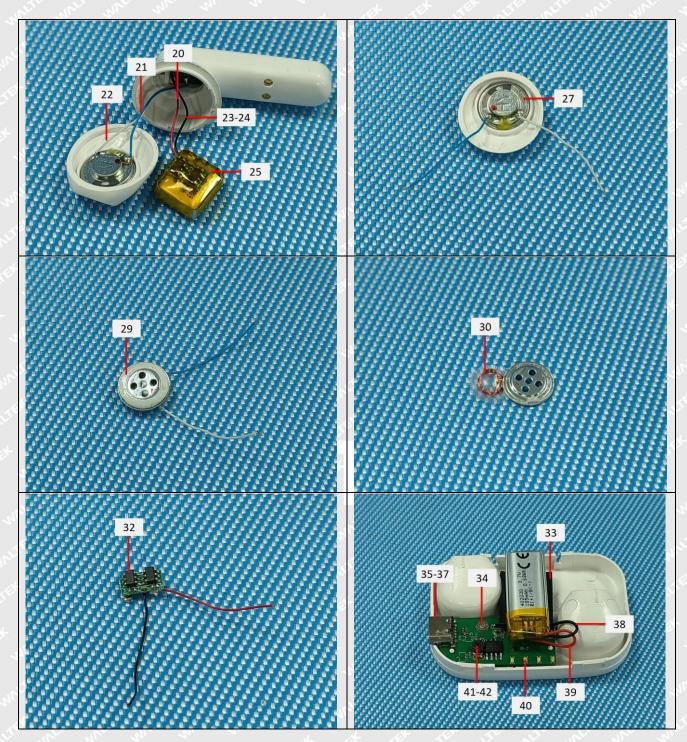






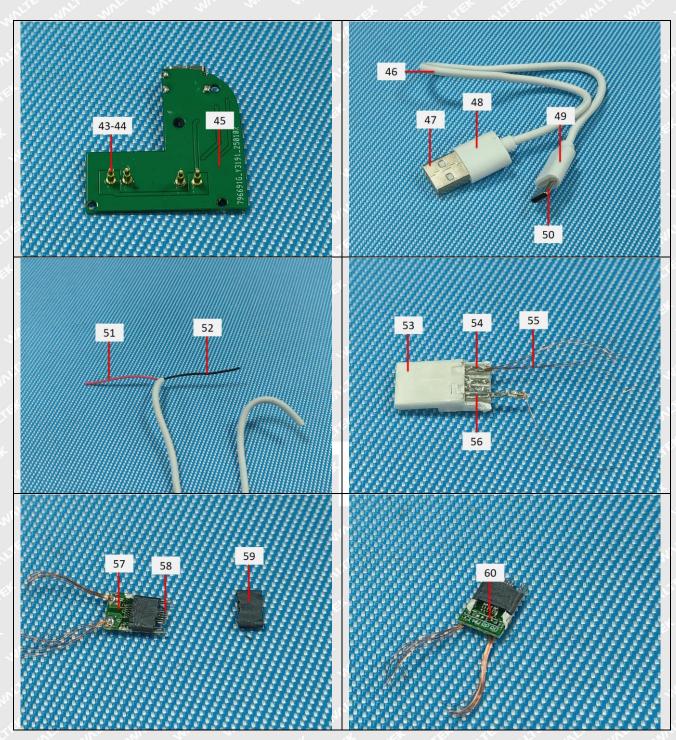




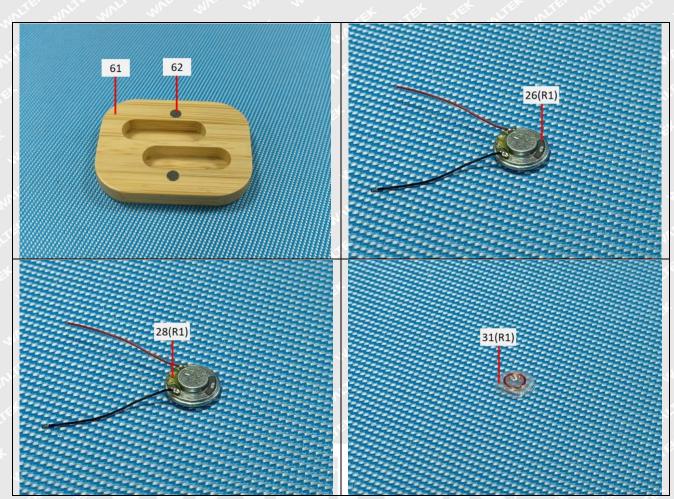


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===== End of Report =====

