

# Test Report

Report No.: A001R20170605043

Date: Jun.13, 2017

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Applicant: Xindao B.V.  
Address: P.O. Box 3082, 2280 GB, Rijswijk, The Netherlands

**Report on the submitted sample(s) said to be:**

Sample Name: Vibe wireless speaker  
Sample Model: P326.63  
Sample Received Date: Jun.05, 2017  
Testing Period: Jun.05, 2017 to Jun.13, 2017

**Test Requested:** Please refer to following page(s).

**Test Method:** Please refer to following page(s).

**Test Result:** Please refer to following page(s).

Tested by: Huohuisu Luo

Luohuisu

Test Engineer

Reviewed by: Leon

Suhongliang, Leon

Test Team Leader

Approved by: Jason

Jiangyuncheng, Jason

Laboratory Manager



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**Test Requested:**

1.As specified by client, to determine the Pb, Cd, Hg, Cr<sup>6+</sup>, PBBs, PBDEs content in the submitted sample in accordance with EU RoHS Directive 2011/65/EU(RoHS) and its amendment directives on XRF and Chemical Method.

**Conclusion**
**Pass**
**Test Methods:**

A: Screening by X-ray Fluorescence Spectrometry (XRF) :With reference to IEC 62321-3-1:2013 Ed 1.0 Screening – Lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence spectrometry

B: Chemical test:

Test Item	Test Method	Measuring Instrument	MDL
Cadmium (Cd)	IEC 62321-5:2013 Ed 1.0 Section 7	ICP-OES	2 mg/kg
Lead (Pb)	IEC 62321-5:2013 Ed 1.0 Section 7	ICP-OES	2 mg/kg
Mercury (Hg)	IEC 62321-4:2013 Ed 1.0 Section 7	ICP-OES	2 mg/kg
Non-metal Hexavalent Chromium (Cr <sup>6+</sup> )	IEC 62321-7-2:2017	UV-Vis	1 mg/kg
Metal Hexavalent Chromium (Cr <sup>6+</sup> )	IEC 62321-7-1:2015	UV-Vis	/
PBBs/PBDEs	IEC 62321-6:2015	GC-MS	5 mg/kg

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**Test Results:**
**1.A、EU RoHS Directive 2011/65/EU and its amendment directives on XRF**

Seq. No.	Tested Part(s)	Results(mg/kg)				
		Cd	Pb	Hg	Cr	Br
1	Silver metal aluminum shell (shell)	BL	BL	BL	BL	-
2	Flesh pink plastic shell (shell)	BL	BL	BL	BL	BL
3	Brown sling (sling)	BL	BL	BL	BL	BL
4	White string (sling)	BL	BL	BL	BL	BL
5	Black screw	BL	BL	BL	BL	-
6	Silver screw	BL	BL	BL	BL	-
7	Gray mat	BL	BL	BL	BL	BL
8	Black dust screen (inner shell)	BL	BL	BL	BL	BL
9	Black plastic inner shell (inner shell)	BL	BL	BL	BL	BL
10	Black rubber diaphragm (inner shell)	BL	BL	BL	BL	BL
11	Black coating (inner shell)	BL	BL	BL	BL	BL
12	Metal sheet (inner shell)	BL	BL	BL	BL	-
13	Chip capacitor (circuit board)	BL	BL	BL	BL	BL
14	LED noumenon (circuit board)	BL	BL	BL	BL	BL
15	Pin (circuit board)	BL	BL	BL	BL	BL
16	Chip resistor (circuit board)	BL	BL	BL	BL	BL
17	IC noumenon (IC) (circuit board)	BL	BL	BL	BL	BL
18	Pin (IC) (circuit board)	BL	BL	BL	BL	-
19	Quartz crystal (crystal oscillator) (circuit board)	BL	BL	BL	BL	BL
20	Black plastic base (crystal oscillator) (circuit board)	BL	BL	BL	BL	BL
21	Chip IC (circuit board)	BL	BL	BL	BL	BL
22	White plastic terminal (circuit board)	BL	BL	BL	BL	BL
23	Black plastic seat (audio base) (circuit board)	BL	BL	BL	BL	BL
24	Metal sheet (audio base) (circuit board)	BL	BL	BL	BL	-
25	LED noumenon (LED lamp) (circuit board)	BL	BL	BL	BL	X*
26	Pin (LED lamp) (circuit board)	BL	BL	BL	BL	-
27	Solder resist (PCB board) (circuit board)	BL	BL	BL	BL	BL
28	Substrate (PCB board) (circuit board)	BL	BL	BL	BL	X*
29	Copper foil (PCB board) (circuit board)	BL	BL	BL	BL	-
30	Tin solder (PCB board) (circuit board)	BL	BL	BL	BL	-

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Seq. No.	Tested Part(s)	Results(mg/kg)				
		Cd	Pb	Hg	Cr	Br
31	Black bushing (electrolytic capacitor) (circuit board)	BL	BL	BL	BL	BL
32	Black rubber plug (electrolytic capacitor) (circuit board)	BL	BL	BL	BL	BL
33	Aluminum shell (electrolytic capacitor) (circuit board)	BL	BL	BL	BL	-
34	Pin (electrolytic capacitor) (circuit board)	BL	BL	BL	BL	-
35	Electrolytic paper (electrolytic capacitor) (circuit board)	BL	BL	BL	BL	BL
36	Cathode foil (electrolytic capacitor) (circuit board)	BL	BL	BL	BL	-
37	Negative foil (electrolytic capacitor) (circuit board)	BL	BL	BL	BL	-
38	Metal shell (toggle switch) (circuit board)	BL	BL	BL	BL	-
39	Black toggle plastic (toggle switch) (circuit board)	BL	BL	BL	BL	BL
40	Epoxy resin (toggle switch) (circuit board)	BL	BL	BL	BL	BL
41	Card (toggle switch) (circuit board)	BL	BL	BL	BL	-
42	Metal shell (micro) (circuit board)	BL	BL	BL	BL	-
43	Black joint plastic (micro) (circuit board)	BL	BL	BL	BL	BL
44	Pin (micro) (circuit board)	BL	BL	BL	BL	-
45	Copper shell (MIC microphone)	BL	BL	BL	BL	-
46	Black rubber jacket (microphone)	BL	BL	BL	BL	BL
47	Diaphragm (microphone)	BL	BL	BL	BL	BL
48	White plastic ring (microphone)	BL	BL	BL	BL	BL
49	Black cable (microphone)	BL	BL	BL	BL	BL
50	Wire core (microphone)	BL	BL	BL	BL	-
51	Red cable (microphone)	BL	BL	BL	BL	BL
52	Tin solder (microphone)	BL	BL	BL	BL	-
53	PCB board (microphone)	BL	BL	BL	BL	X*
54	Brown tape (battery)	BL	BL	BL	BL	BL
55	Electric core (battery)	BL	BL	BL	BL	BL
56	Black foam stick (battery)	BL	BL	BL	BL	BL
57	Tin solder (battery)	BL	BL	BL	BL	-
58	PCB board (battery)	BL	BL	BL	BL	X*
59	Black cable (battery)	BL	BL	BL	BL	BL
60	Red cable (battery)	BL	BL	BL	BL	BL
61	Wire core (battery)	BL	BL	BL	BL	-
62	White plastic terminal (battery)	BL	BL	BL	BL	BL

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Seq. No.	Tested Part(s)	Results(mg/kg)				
		Cd	Pb	Hg	Cr	Br
63	Chip IC (battery)	BL	BL	BL	BL	BL
64	Chip resistor (battery)	BL	BL	BL	BL	BL
65	Chip capacitor (battery)	BL	BL	BL	BL	BL
66	White plastic terminal (trumpet)	BL	BL	BL	BL	BL
67	Wire core (trumpet)	BL	BL	BL	BL	-
68	Red cable (trumpet)	BL	BL	BL	BL	BL
69	Black cable (trumpet)	BL	BL	BL	BL	BL
70	Magnetic shielding case (trumpet)	BL	BL	BL	BL	-
71	Metal frame (trumpet)	BL	BL	BL	BL	-
72	Tin solder (trumpet)	BL	BL	BL	BL	-
73	White connecting piece (trumpet)	BL	BL	BL	BL	BL
74	Rivet (trumpet)	BL	BL	BL	BL	-
75	Magnet (trumpet)	BL	BL	BL	BL	-
76	Elastic wave (trumpet)	BL	BL	BL	BL	BL
77	Enameled coil (trumpet)	BL	BL	BL	BL	-
78	Copper wire (trumpet)	BL	BL	BL	BL	-
79	Paper ring (trumpet)	BL	BL	BL	BL	BL
80	Black rubber diaphragm (trumpet)	BL	BL	BL	BL	BL
81	Globe-roof (trumpet)	BL	BL	BL	BL	BL
Difference						
82	Black aluminum shell (black speaker)	BL	BL	BL	BL	-
83	Light green plastic shell (black speaker)	BL	BL	BL	BL	BL
84	White plastic shell	BL	BL	BL	BL	BL
85	Light blue plastic shell	BL	BL	BL	BL	BL

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

Note: BL= Below Limit

OL= Over limited

X= Inconclusive

“-“= Not regulated

\*= Scanning by XRF and detected by chemical method. The test results of chemical method please refer to next pages.

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**Remark:**

- i Results were obtained by XRF for primary scanning, 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 above warning value according to IEC 62321-3-1:2013 Ed 1.0.
- ii The XRF scanning test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.
- iii The maximum permissible limit is quoted from the document 2005/618/EC amending RoHS directive 2011/65/EU:

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 diphenylethers (PBDEs)	1000

**Disclaimers:**

This XRF Scanning 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 scanning 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、The Test Results of Chemical Method:**

## 1) The Test Results of PBBs &amp; PBDEs

Unit: mg/kg

Item(s)	MDL	Result(s)				Limit
		25	28	53	58	
Polybrominated Biphenyls (PBBs)						
Monobromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	Total PBBs Content <1000
Dibromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	
Tribromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	
Tetrabromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	
Pentabromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	
Hexabromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	
Heptabromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	
Octabromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	
Nonabromodiphenyl	5	N.D.	N.D.	N.D.	N.D.	
Decabromodiphenyl	5	N.D.	N.D.	N.D.	N.D.	
Total content	/	N.D.	N.D.	N.D.	N.D.	
Polybrominated Diphenylethers (PBDEs)						
Monobromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	Total PBDEs Content <1000
Dibromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	
Tribromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	
Tetrabromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	
Pentabromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	
Hexabromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	
Heptabromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	
Octabromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	
Nonabromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	
Decabromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	
Total content	/	N.D.	N.D.	N.D.	N.D.	
Conclusion	/	Pass	Pass	Pass	Pass	/

Note: N.D. = Not Detected or less than MDL  
 MDL = Method Detection Limit

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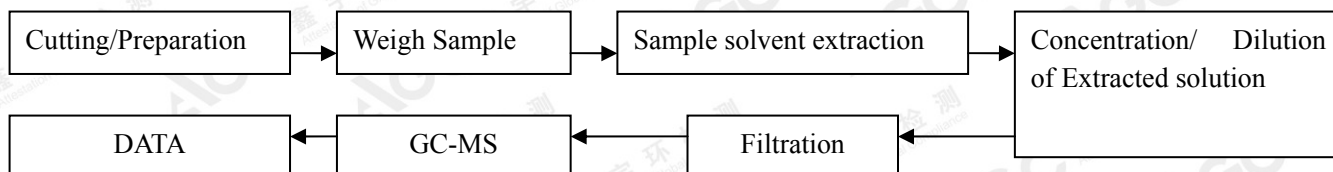
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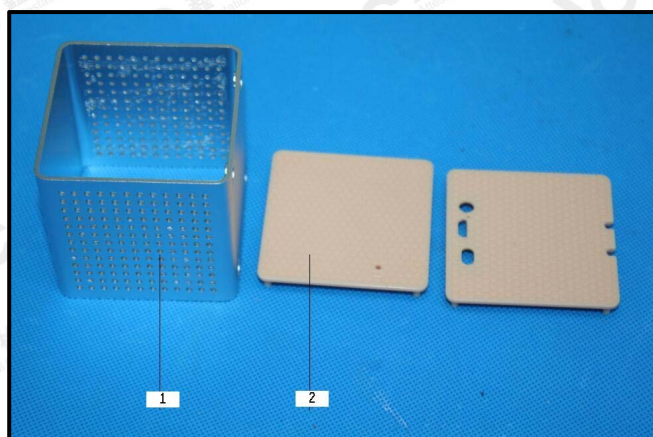
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## Test Flow Chart

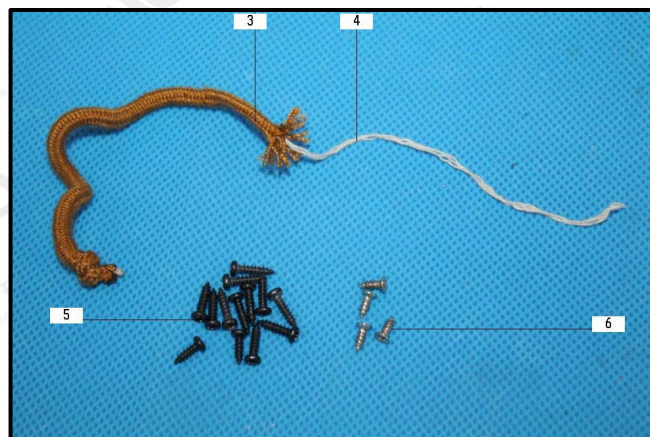
1.For PBBs & PBDEs



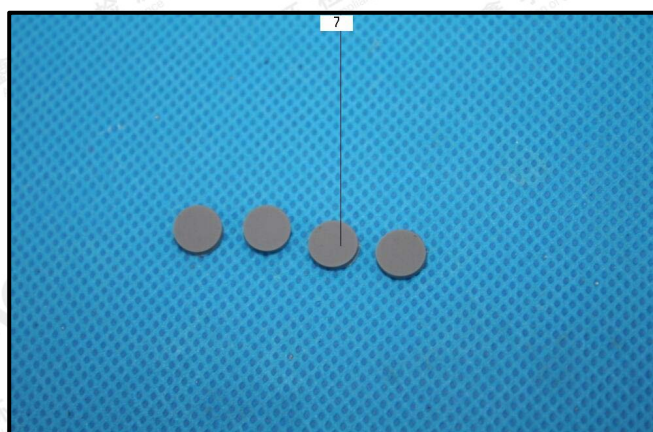
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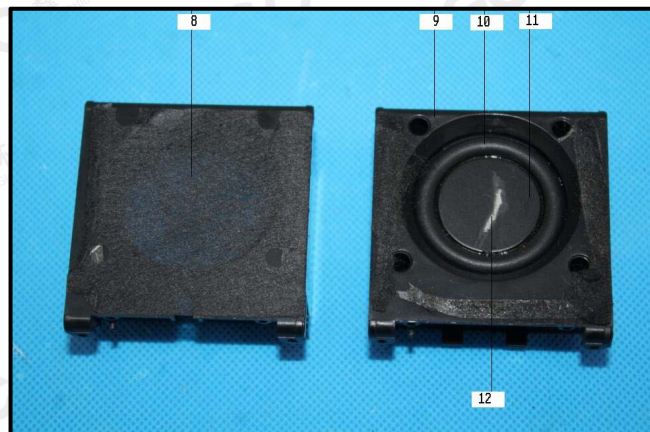
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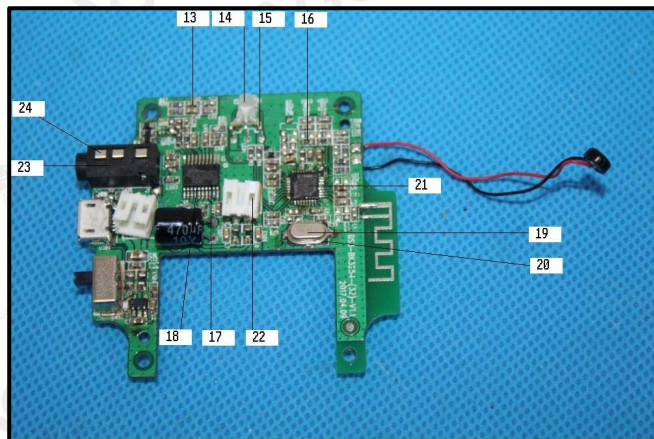


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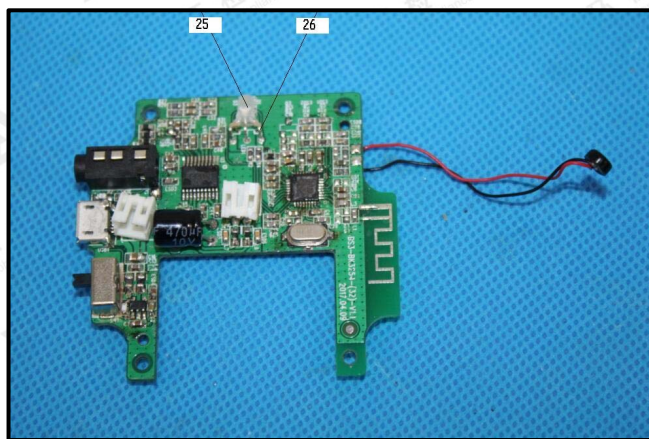
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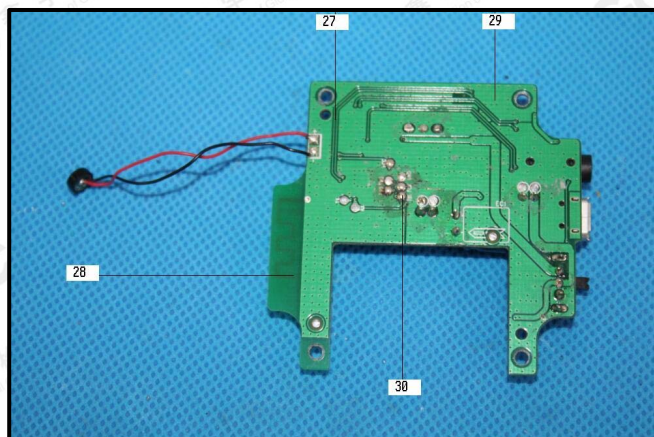
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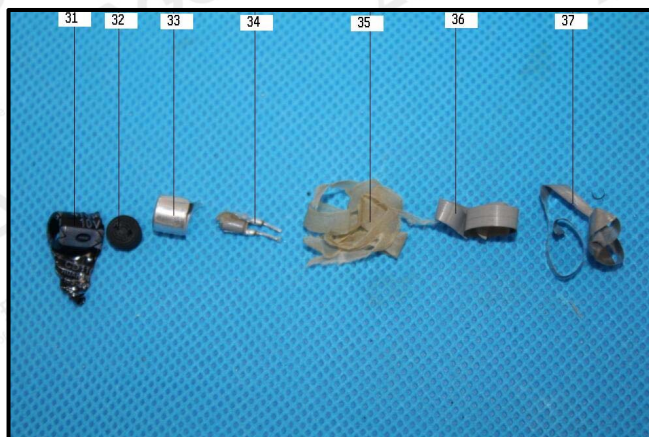
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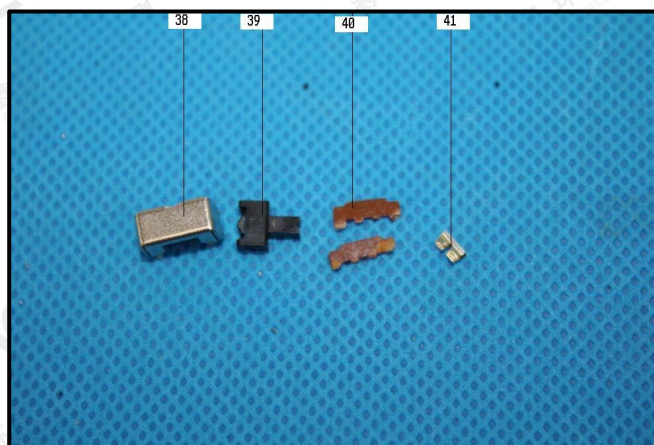
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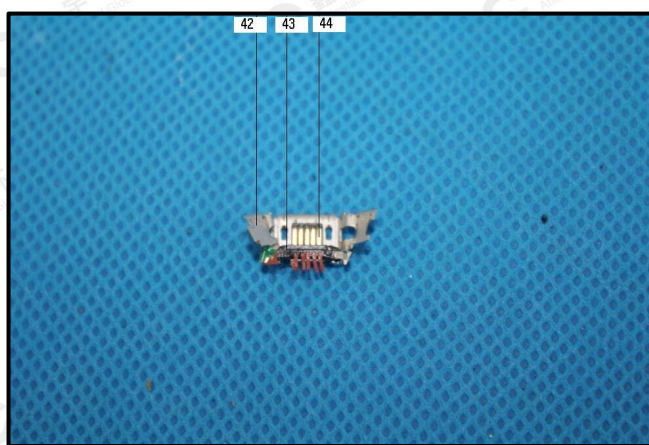
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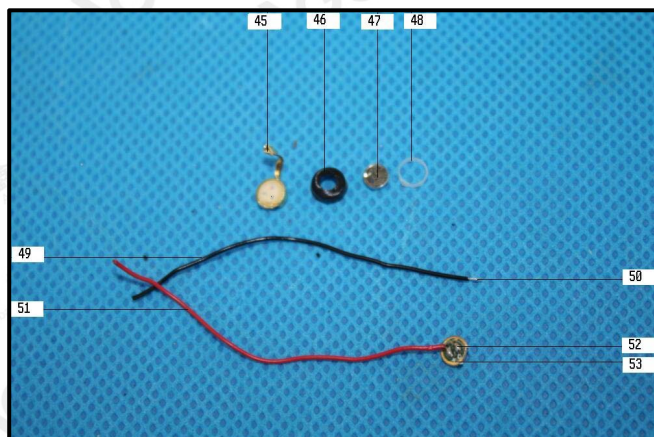


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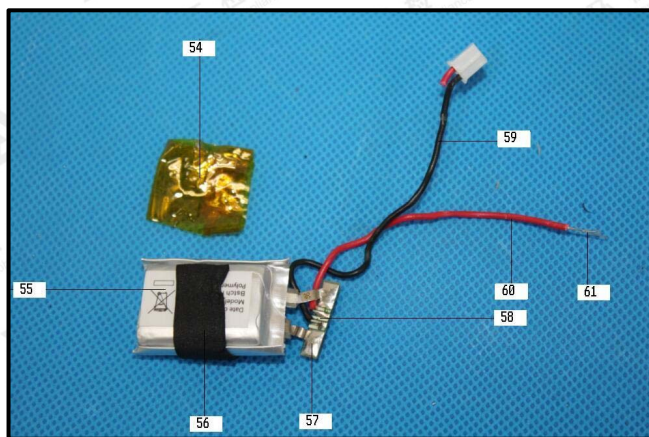
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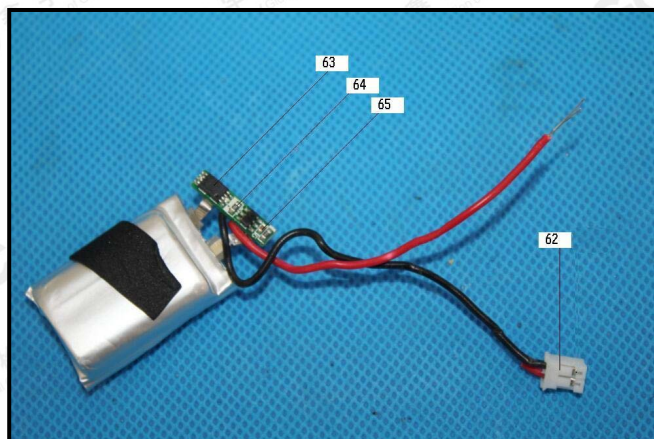
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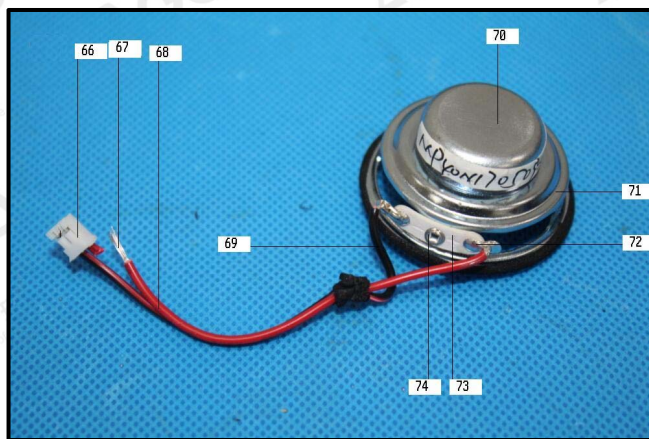
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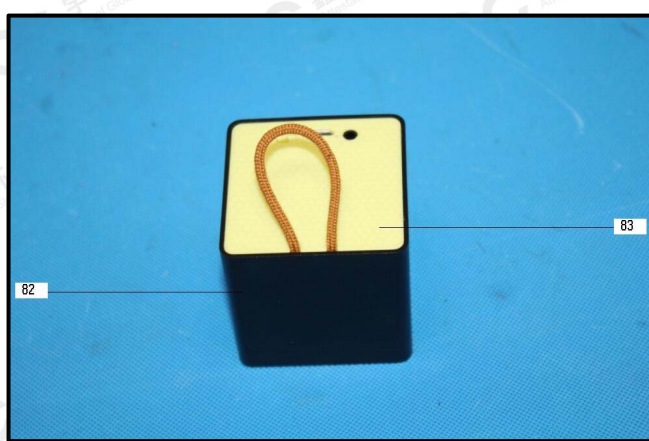
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AGC authenticate the photo only on original report

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