Test Report

Report No.: AGC04094181201-001 Date: Jan.08, 2019 Page 1 of 13

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 charging speaker

Sample Model: P328.06

Sample Received Date: Dec.24, 2018

Testing Period: Dec.24, 2018 to Jan.08, 2019

Test site: 1,6/F.,Building 2,No.1-4, Chaxi Sanwei Technical Industrial Park, Gushu, Xixiang, Baoan District, Shenzhen, Guangdong, China

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

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

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

Approved by:

Liulinwen, Lewis

Technical Director

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Test Report

Test Requested: **Conclusion**

As specified by client, to determine the Pb, Cd, Hg, Cr^{6+}, 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. **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	ICP-OES	2 mg/kg
Lead (Pb)	IEC 62321-5:2013 Ed 1.0	ICP-OES	2 mg/kg
Mercury (Hg)	IEC 62321-4:2013+A1:2017 Ed 1.1	ICP-OES	2 mg/kg
Non-metal Hexavalent Chromium (Cr^{6+})	IEC 62321-7-2:2017 Ed 1.0	UV-Vis	1 mg/kg
Metal Hexavalent Chromium (Cr^{6+})	IEC 62321-7-1:2015 Ed 1.0	UV-Vis	/
PBBs/PBDEs	IEC 62321-6:2015 Ed 1.0	GC-MS	5 mg/kg

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Test Report

Test Results:

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	Gray rubber mats(outer shell)	BL	BL	BL	BL	BL
2	Silver metal shell(outer shell)	BL	BL	BL	BL	-
3	Gray rubber mat(outer shell)	BL	BL	BL	BL	BL
4	Black plastic frame(outer shell)	BL	BL	BL	BL	BL
5	Black vibrating film(outer shell)	BL	BL	BL	BL	BL
6	Black metal sheet(outer shell)	BL	BL	BL	BL	-
7	White plastic lid(outer shell)	BL	BL	BL	BL	BL
8	Black screw	BL	BL	BL	BL	-
9	White glue(wire ring)	BL	BL	BL	BL	BL
10	Black ceramic(wire ring)	BL	BL	BL	BL	BL
11	Enameled coil(wire ring)	BL	BL	BL	BL	-
12	Enameled wire(wire ring)	BL	BL	BL	BL	-
13	IC body(IC)(circuit board)	BL	BL	BL	BL	BL
14	Tin plating pin(IC)(circuit board)	BL	BL	BL	BL	-
15	Tin solder(IC)(circuit board)	BL	BL	BL	BL	-
16	PCB board(IC)(circuit board)	BL	BL	BL	BL	X*
17	Chip resistor(IC)(circuit board)	BL	BL	BL	BL	BL
18	Chip capacitor(IC)(circuit board)	BL	BL	BL	BL	BL
19	Chip LED(IC)(circuit board)	BL	BL	BL	BL	BL
20	White plastic terminal(terminal connection line)	BL	BL	BL	BL	BL
21	Red wire jacket(terminal connection line)	BL	BL	BL	BL	BL
22	Wire core(terminal connection line)	BL	BL	BL	BL	-
23	White plastic needle seat	BL	BL	BL	BL	BL
24	Tin solder	OL*	X*	BL	BL	-

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Seq. No.	Tested Part(s)	Results(mg/kg)				
		Cd	Pb	Hg	Cr	Br
25	Green PCB board	BL	BL	BL	BL	X*
26	Copper button(touch switch)	BL	BL	BL	BL	-
27	Silver metal shell(touch switch)	BL	BL	BL	X*	-
28	Chip triode	BL	BL	BL	BL	X*
29	Magnet frame(magnet inductance)	BL	BL	BL	BL	BL
30	Enameled wire(magnet inductance)	BL	BL	BL	BL	-
31	Crystal oscillator	BL	BL	BL	BL	BL
32	IC body(IC)	BL	BL	BL	BL	BL
33	Tin plating pin(IC)	BL	BL	BL	BL	-
34	Chip diode	BL	BL	BL	BL	X*
35	Chip capacitor	BL	BL	BL	BL	BL
36	Chip resistor	BL	BL	BL	BL	BL
37	Micro metal connector	BL	BL	BL	BL	-
38	Black audio joint	BL	BL	BL	BL	BL
39	Black sleeving(electrolytic capacitor)	BL	BL	BL	BL	BL
40	Aluminum shell(electrolytic capacitor)	BL	BL	BL	BL	-
41	Electrolytic paper(electrolytic capacitor)	BL	BL	BL	BL	BL
42	Pin(electrolytic capacitor)	BL	BL	BL	BL	-
43	Black rubber plug(electrolytic capacitor)	BL	BL	BL	BL	BL
44	Anode foil(electrolytic capacitor)	BL	BL	BL	BL	-
45	Cathode foil(electrolytic capacitor)	BL	BL	BL	BL	-
46	Black glue cap(Microphone)	BL	BL	BL	BL	BL
47	Copper shell(Microphone)	BL	BL	BL	BL	-
48	Tin solder(Microphone)	BL	BL	BL	BL	-
49	Red wire jacket(Microphone)	BL	BL	BL	BL	BL
50	Wire core(Microphone)	BL	BL	BL	BL	-

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Seq. No.	Tested Part(s)	Results(mg/kg)				
		Cd	Pb	Hg	Cr	Br
51	Black wire jacket(Microphone)	BL	BL	BL	BL	BL
52	Magnetic shielding cover(horn)	BL	BL	BL	BL	-
53	Silver metal frame(horn)	BL	BL	BL	BL	-
54	Tin solder(horn) (horn)	BL	BL	BL	BL	-
55	Red connecting piece	BL	BL	BL	BL	BL
56	Red wire jacket(horn)	BL	BL	BL	BL	BL
57	Wire core(horn)	BL	BL	BL	BL	-
58	Black wire jacket(horn)	BL	BL	BL	BL	BL
59	White plastic terminal(horn)	BL	BL	BL	BL	BL
60	Silver magnet(horn)	BL	BL	BL	BL	-
61	Black rubber vibrating film(horn)	BL	BL	BL	BL	BL
62	Black globe-roof(horn)	BL	BL	BL	BL	BL
63	Enameled coil(horn)	BL	BL	BL	BL	-
64	Blue sleeving(battery)	BL	BL	BL	BL	BL
65	Black foam(battery)	BL	BL	BL	BL	BL
66	Barley paper(battery)	BL	BL	BL	BL	BL
67	Green sleeving(battery)	BL	BL	BL	BL	BL
68	Electric core(battery)	BL	BL	BL	BL	BL
69	White plastic terminal(battery)	BL	BL	BL	BL	BL
70	Grey foam cotton thread sleeve(battery)	BL	BL	BL	BL	BL
71	Red wire jacket(battery)	BL	BL	BL	BL	BL
72	Wire core(battery)	BL	BL	BL	BL	-
73	Black wire jacket(battery)	BL	BL	BL	BL	BL
74	IC body(battery)	BL	BL	BL	BL	BL
75	Tin plating pin(battery)	BL	BL	BL	BL	-
76	Tin solder(battery)	BL	BL	BL	BL	-

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Seq. No.	Tested Part(s)	Results(mg/kg)				
		Cd	Pb	Hg	Cr	Br
77	PCB board(battery)	BL	BL	BL	BL	X*
78	Brown weave rope(rope)	BL	BL	BL	BL	BL
79	White cotton line(rope)	BL	BL	BL	BL	BL

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

B、<u>The Test Results of Chemical Method:</u>

1) The Test Results of Pb & Cd

Test Item(s)	Unit	Result(s)
		24
Lead(Pb)	mg/kg	858

Test Item(s)	Unit	Result(s)
		24
Cadmium(Cd)	mg/kg	N.D.

Note: N.D. = Not Detected or less than MDL
mg/kg = parts per million
MDL = Method Detection Limit

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2)The Test Results of metal Cr^{6+}

Test Item(s)	MDL	Result(s)	Limit
		27	
Hexavalent Chromium (Cr^{6+})	See note	Negative	#

Note:

- Negative = Absence of Cr(VI) on the tested areas
- MDL = Method Detection Limit
- Boiling-water-extraction:

Number	Colorimetric result (Cr(VI) concentration)	Qualitative result
1	The sample solution is<the 0,10 µg/cm² equivalent comparison standard solution	The sample is negative for Cr(VI) − The Cr(VI) concentration is below the limit of quantification. The coating is considered a non-Cr(VI) based coating.
2	The sample solution is ≥ the 0,10 µg/cm² and ≤ the0,13 µg/cm² equivalent comparison standard solutions	The result is considered to be inconclusive – Unavoidable coating variations may influence the determination.
3	The sample solution is > the 0,13 µg/cm² equivalent comparison standard solution	The sample is positive for Cr(VI) − The Cr(VI) concentration is above the limit of quantification and the statistical margin of error. The sample coating is considered to contain Cr(VI).

- # =Negative indicates the absence of Cr(VI) on the tested areas concentration is below the limit of quantification. The coating is considered a non-Cr(VI) based coating.

Uncertainty indicates the absence of Cr(VI) on the tested areas unavoidable coating variations may influence the determination.

Positive indicates the presence of Cr(VI) on the tested areas concentration is above the limit of quantification and the statistical margin of error. The sample coating is considered to contain Cr(VI).

Storage conditions and production date of the tested sample are unavailable and thus result of Cr(VI) represent status of the sample at the time of testing.

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Test Report

4) The Test Results of PBBs & PBDEs

Unit: mg/kg

Item(s)	MDL	Result(s)					Limit
		16	25	28	34	77	
Polybrominated Biphenyls (PBBs)							
Monobromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	N.D.	Total PBBs Content <1000
Dibromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Tribromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Tetrabromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Pentabromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Hexabromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Heptabromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Octabromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Nonabromodiphenyl	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Decabromodiphenyl	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Total content	/	N.D.	N.D.	N.D.	N.D.	N.D.	
Polybrominated Diphenylethers (PBDEs)							
Monobromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	N.D.	Total PBDEs Content <1000
Dibromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Tribromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Tetrabromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Pentabromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Hexabromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Heptabromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Octabromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Nonabromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Decabromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Total content	/	N.D.	N.D.	N.D.	N.D.	N.D.	
Conclusion	/	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	/

Note: N.D. = Not Detected or less than MDL
mg/kg = parts per million
MDL = Method Detection Limit

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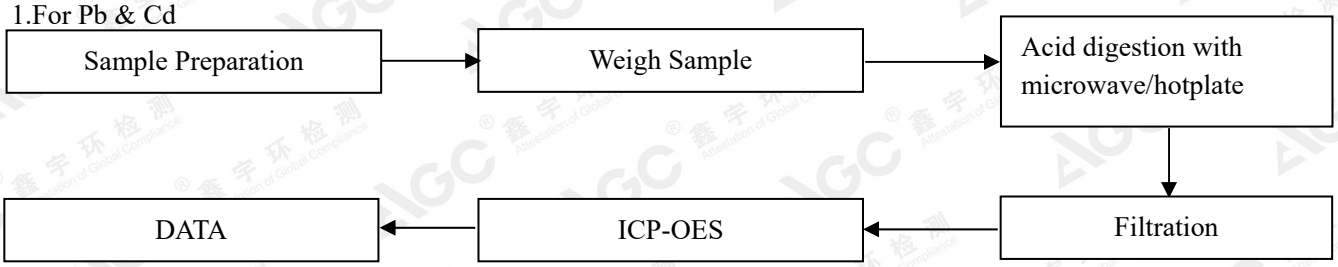
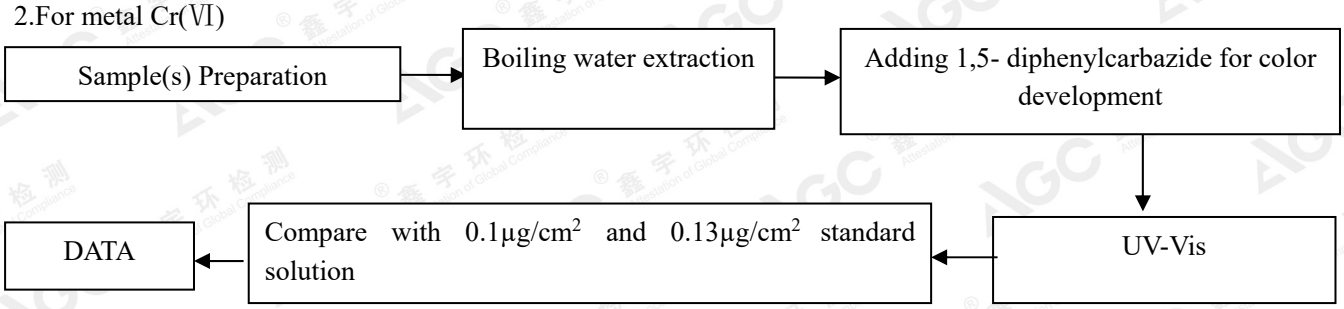
Test Flow Chart

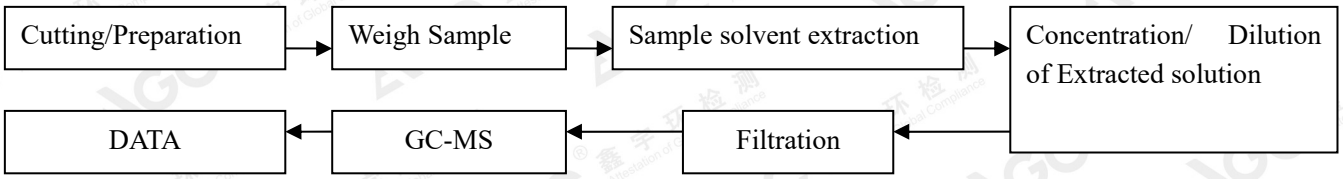
1.For Pb & Cd



2.For metal Cr(Ⅵ)



3.For PBBs & PBDEs



Test result on specimen No.14, No.15 were resubmitted sample on Jan.03, 2019.

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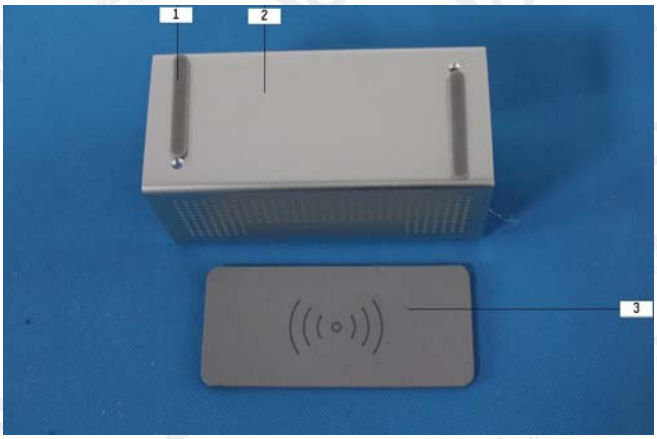
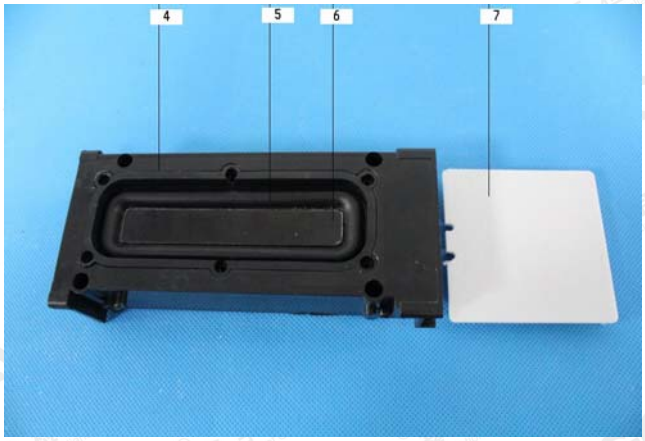
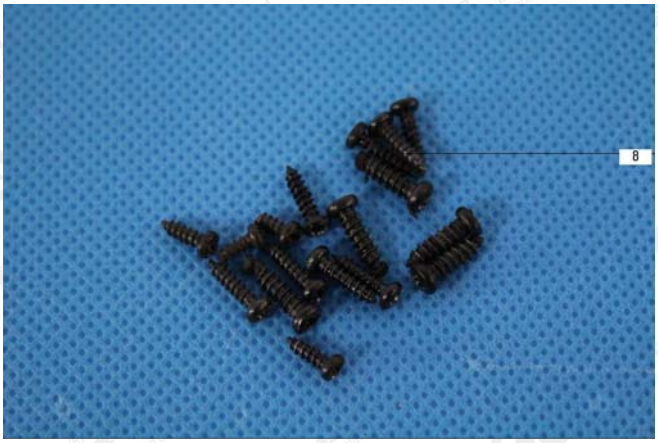
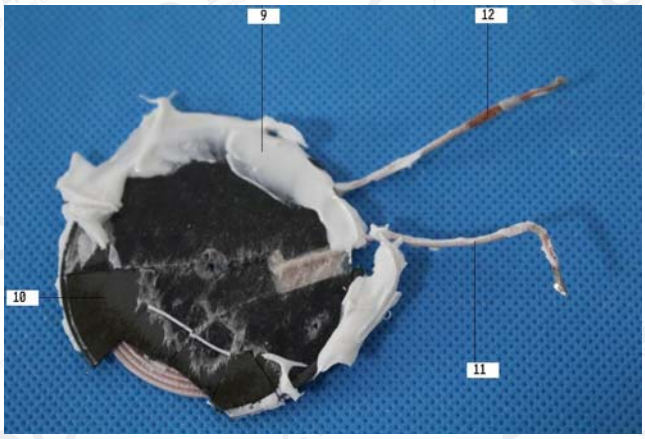
Test Report

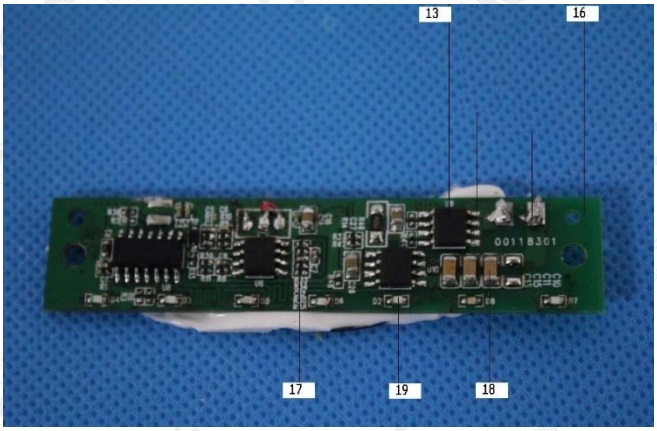
The photo of the sample

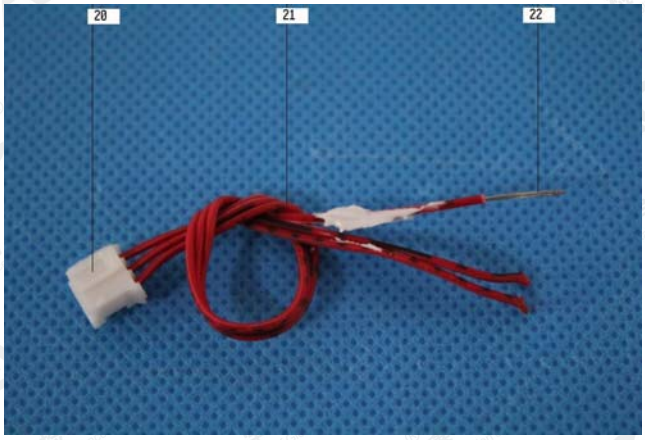












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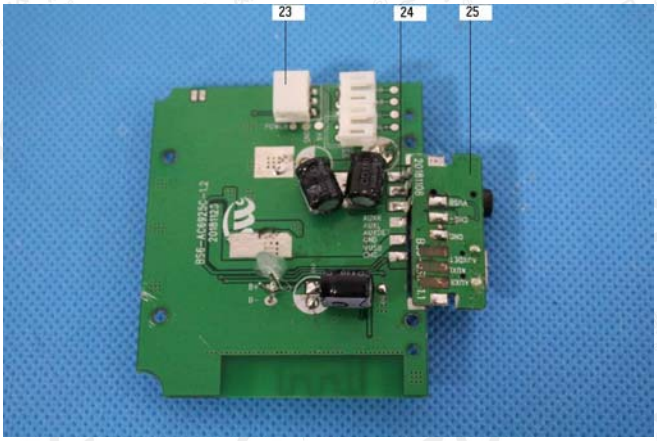

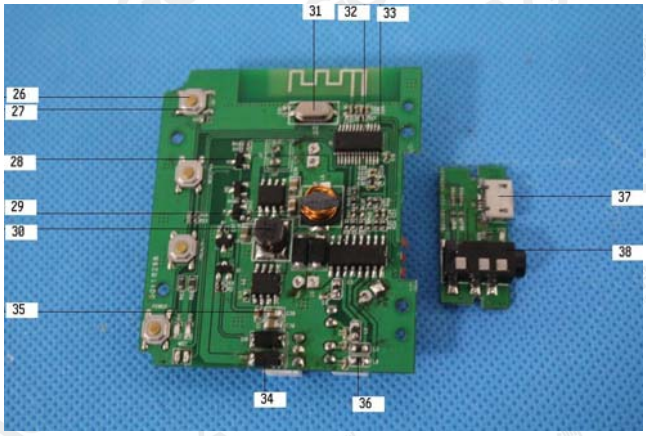

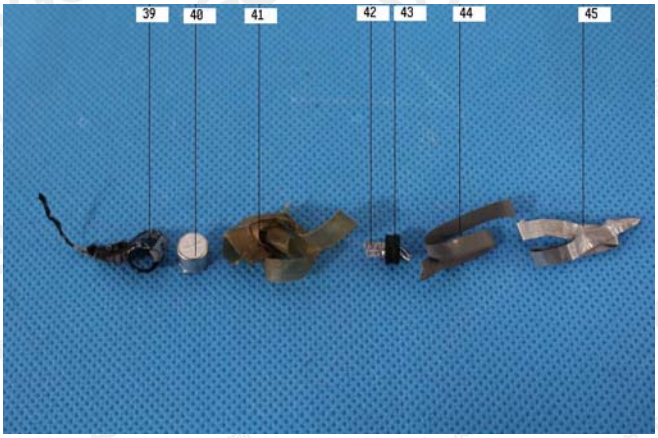

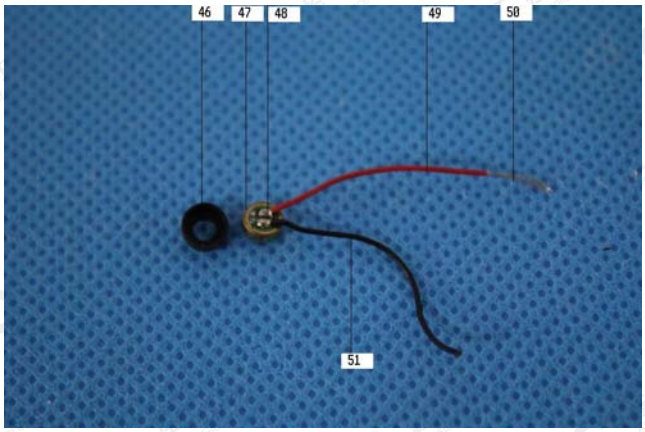

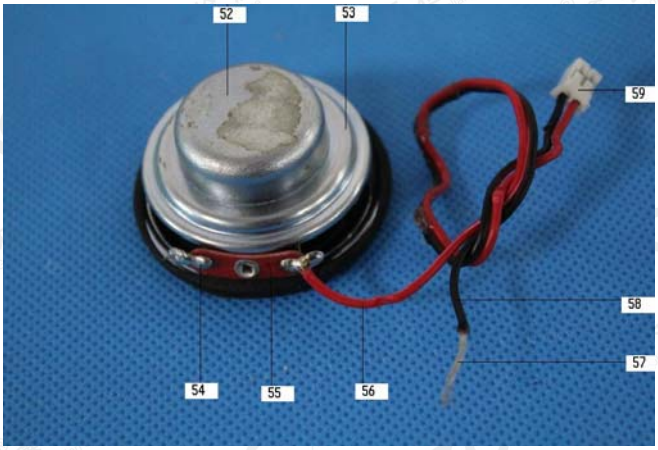

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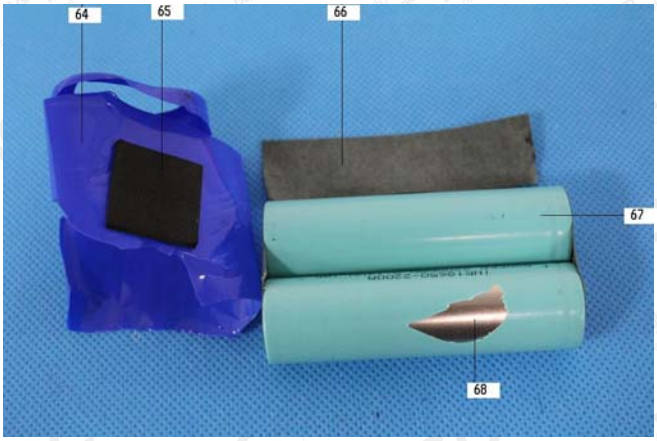

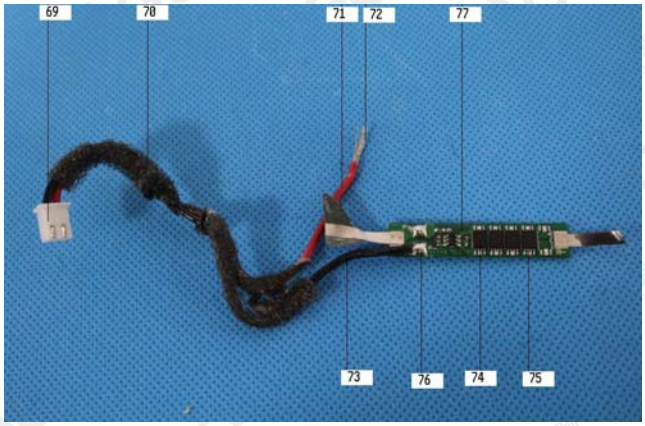

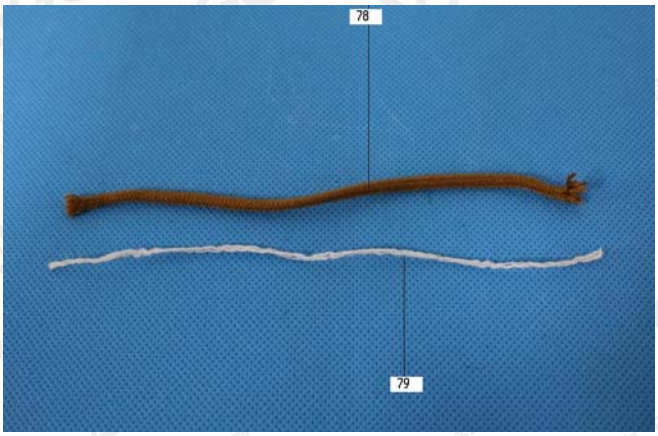

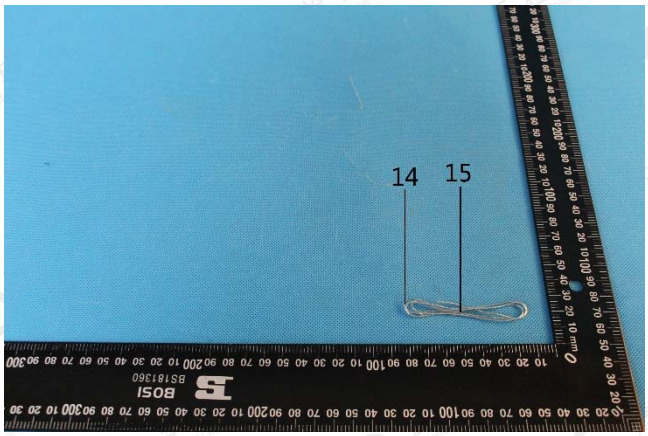

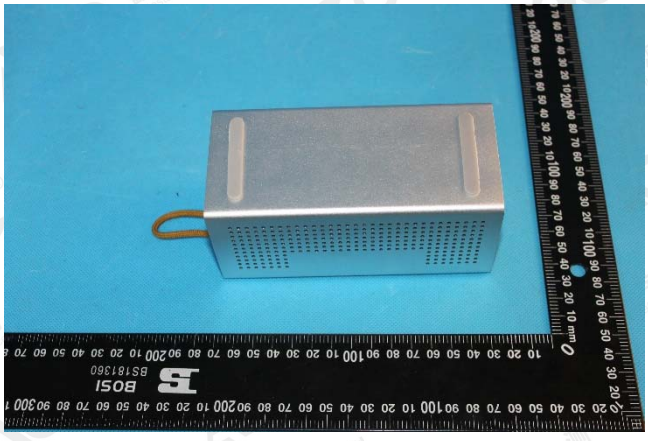

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AGC authenticate the photo only on original report

*** End of Report ***

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