Test Report

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: 117486

Address: N/A

The following sample(s) was /were submitted and identified on behalf of the clients as:

Sample Name: Wireless Speaker

Sample Model: MO2800

Series Model: MO2801

Sample Received Date: Dec. 09, 2025

Testing Period: Dec. 09, 2025 to Jan. 12, 2026

Test Requested

As requested by the applicant, refer to attached page(s) for details.

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Approved by:

Guangdong KEYS Testing Technology Co., Ltd. Johnny Chen KEYS

Johnny Chen/Technical Manager

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Guangdong KEYS Testing Technology Co., Ltd.
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Test Report

Summary of Test Results:

Test Standard		Conclusion
RoHS Directive 2011/65/EU and its subsequent amendments Directive (EU) 2015/863		
1	To determine Lead (Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls (PBBs) and Polybrominated DiphenylEthers (PBDEs)content by screening test and chemical test.	Pass
2	To determine Phthalates (DBP, BBP, DEHP, DIBP) content by chemical test.	Pass

Test Report

Test Results:

(1)XRF Test Result:

No.	XRF Result(mg/kg)					Chemical Test (mg/kg)	Conclusion
	Pb	Cd	Hg	Cr	Br		
1	BL	BL	BL	BL	--	--	Pass
2	BL	BL	BL	BL	--	--	Pass
3	BL	BL	BL	BL	BL	--	Pass
4	BL	BL	BL	BL	BL	--	Pass
5	BL	BL	BL	BL	BL	--	Pass
6	BL	BL	BL	BL	BL	--	Pass
7	BL	BL	BL	BL	BL	--	Pass
8	BL	BL	BL	BL	--	--	Pass
9	BL	BL	BL	BL	--	--	Pass
10	BL	BL	BL	BL	BL	--	Pass
11	BL	BL	BL	BL	BL	--	Pass
12	BL	BL	BL	BL	BL	--	Pass
13	BL	BL	BL	BL	BL	--	Pass
14	BL	BL	BL	BL	BL	--	Pass
15	BL	BL	BL	BL	--	--	Pass
16	BL	BL	BL	BL	--	--	Pass
17	BL	BL	BL	BL	--	--	Pass
18	BL	BL	BL	BL	--	--	Pass
19	BL	BL	BL	BL	--	--	Pass
20	BL	BL	BL	BL	BL	--	Pass
21	BL	BL	BL	BL	--	--	Pass
22	BL	BL	BL	BL	--	--	Pass
23	BL	BL	BL	BL	BL	--	Pass
24	BL	BL	BL	BL	--	--	Pass
25	BL	BL	BL	BL	BL	--	Pass

Test Report

No.	XRF Result(mg/kg)					Chemical Test (mg/kg)	Conclusion
	Pb	Cd	Hg	Cr	Br		
26	BL	BL	BL	BL	--	--	Pass
27	BL	BL	BL	BL	BL	--	Pass
28	BL	BL	BL	BL	--	--	Pass
29	BL	BL	BL	X	--	CrVI: Negative	Pass
30	BL	BL	BL	BL	X	PBBs/PBDEs:N.D.	Pass
31	BL	BL	BL	BL	--	--	Pass
32	BL	BL	BL	BL	BL	--	Pass
33	BL	BL	BL	BL	BL	--	Pass
34	BL	BL	BL	BL	BL	--	Pass
35	BL	BL	BL	BL	BL	--	Pass
36	BL	BL	BL	BL	--	--	Pass
37	BL	BL	BL	BL	BL	--	Pass
38	BL	BL	BL	BL	--	--	Pass
39	BL	BL	BL	BL	BL	--	Pass
40	BL	BL	BL	BL	--	--	Pass
41	BL	BL	BL	BL	--	--	Pass
42	BL	BL	BL	BL	BL	--	Pass
43	BL	BL	BL	BL	BL	--	Pass
44	BL	BL	BL	BL	BL	--	Pass
45	BL	BL	BL	BL	BL	--	Pass
46	BL	BL	BL	BL	BL	--	Pass
47	BL	BL	BL	BL	BL	--	Pass
48	BL	BL	BL	BL	--	--	Pass
49	BL	BL	BL	BL	--	--	Pass
50	BL	BL	BL	BL	--	--	Pass
51	BL	BL	BL	BL	--	--	Pass

Remark: 1.It is the result on total Br while test item on restricted substances in PBBs/PBDEs. It is the result on total Cr while test item on restricted substances is Cr(VI).

2.Screening test by XRF spectroscopy. XRF screening limits in mg/kg for regulated elements according to IEC 62321-3-1: 2013Annex A.

Element	Polymer Material	Metallic Material	Composite Material
Pb	BL≤700-3σ≤X＜1300+3σ≤OL	BL≤700-3σ≤X＜1300+3σ≤OL	BL≤500-3σ≤X＜1500+3σ≤OL
Cd	BL≤70-3σ≤X＜130+3σ≤OL	BL≤70-3σ≤X＜130+3σ≤OL	LOD＜X＜150+3σ≤OL
Hg	BL≤700-3σ≤X＜1300+3σ≤OL	BL≤700-3σ≤X＜1300+3σ≤OL	BL≤500-3σ≤X＜1500+3σ≤OL
Cr	BL≤700-3σ＜X	BL≤700-3σ＜X	BL≤500-3σ＜X
Br	BL≤300-3σ＜X	--	BL≤250-3σ＜X

XRF Detection Limits in mg/kg for Regulated Elements in Various Material

Element	Polymer Material	Metallic Material	Composite Material
Pb	10	50	50
Cd	10	50	50
Hg	10	50	50
Cr	10	50	50
Br	10	50	50

Note: 1.BL = Under the XRF screening limit

2.OL = Future chemical test will be conducted while result is above the screening limit

3.X =The symbol“X”marks the region where further investigation in necessary

4.3σ=The reproducibility of analytical instruments

5.LOD=Detection limit

(2)Wet Chemical Test

Test Item(s)	Test Method/ Test Equipment	Unit	Limit	MDL
Cadmium(Cd)	IEC 62321-5:2013, ICP-OES	mg/kg	100	2
Lead(Pb)	IEC 62321-5:2013, ICP-OES	mg/kg	1000	2
Mercury(Hg)	IEC 62321-4:2013+AMD1:2017, ICP-OES	mg/kg	1000	2
Hexavalent Chromium(CrVI) (Metal)	IEC 62321-7-1:2015, UV-Vis	μg/cm^2	0.13	0.1
Hexavalent Chromium(CrVI) (Nonmetal)	IEC 62321-7-2:2017, UV-Vis	mg/kg	1000	8
PBBs (Next form)	IEC 62321-6:2015, GC-MS	mg/kg	1000	5
PBDEs (Next form)	IEC 62321-6:2015, GC-MS	mg/kg	1000	5
Dibutyl Phthalate(DBP)	IEC 62321-8:2017, GC-MS	mg/kg	1000	30
Butyl benzyl phthalate (BBP)	IEC 62321-8:2017, GC-MS	mg/kg	1000	30
Di-(2-ethylhexyl) Phthalate(DEHP)	IEC 62321-8:2017, GC-MS	mg/kg	1000	30
Diisobutyl phthalate (DIBP)	IEC 62321-8:2017, GC-MS	mg/kg	1000	30

PBBs		PBDEs	
Monobromobiphenyl	Hexabromobiphenyl	Monobromodiphenyl ether	Hexabromodiphenyl ether
Dibromobiphenyl	Heptabromobiphenyl	Dibromodiphenyl ether	Heptabromodiphenyl ether
Tribromobiphenyl	Octabromobiphenyl	Tribromodiphenyl ether	Octabromodiphenyl ether
Tetrabromobiphenyl	Nonabromobiphenyl	Tetrabromodiphenyl ether	Nonabromodiphenyl ether
Pentabromobiphenyl	Decabromobiphenyl	Pentabromodiphenyl ether	Decabromodiphenyl ether

Note:

1. mg/kg= ppm=0.0001%
2. N.D.= Not Detected(<MDL)
3. MDL = Method Detection Limit
4. -- = No Testing
5. When Cr (VI) in a sample is detected below the 0.10 μg/cm^2 LOQ (limit of quantification), the sample is considered to be negative for Cr (VI). Since Cr (VI) may not be uniformly distributed in the coating even within the same sample batch, a "grey zone" between 0.10 μg/cm^2 and 0.13 μg/cm^2 has been established as "inconclusive" to reduce inconsistent results due to unavoidable coating variations. In this case, additional testing may be necessary to confirm the presence of Cr (VI). When Cr (VI) is detected above 0.13 μg/cm^2, the sample is considered to be positive for the presence of Cr (VI) in the coating layer. Unavoidable coating variations may influence the determination 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.

(3)Phthalate Test Result:

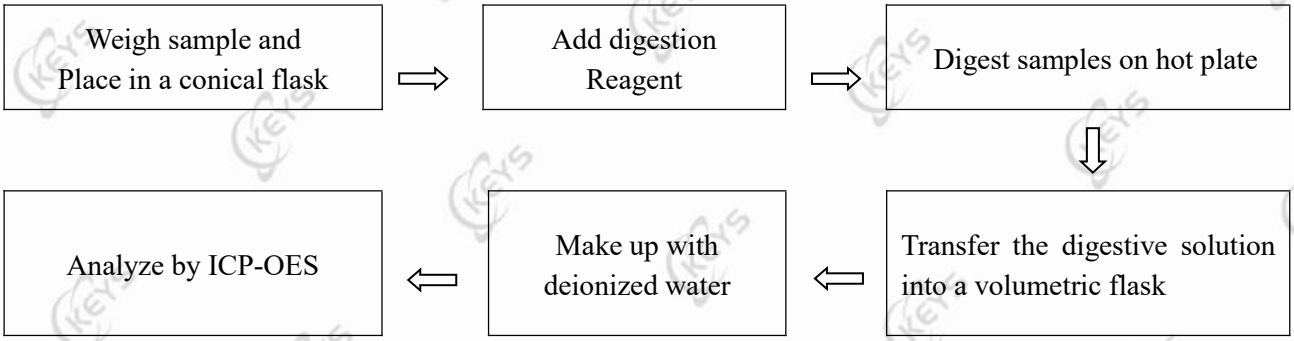
Test No.	Test Item(s)				Conclusion
	Dibutyl Phthalate (DBP)	Butyl benzyl phthalate (BBP)	Di-(2-ethylhexyl) Phthalate (DEHP)	Diisobutyl phthalate (DIBP)	
3+4+5	N.D.	N.D.	N.D.	N.D.	Pass
6+7+10	N.D.	N.D.	N.D.	N.D.	Pass
11+12+13	N.D.	N.D.	N.D.	N.D.	Pass
14+20+23	N.D.	N.D.	N.D.	N.D.	Pass
25+27+37	N.D.	N.D.	N.D.	N.D.	Pass
30+32+33	N.D.	N.D.	N.D.	N.D.	Pass
34+35+39	N.D.	N.D.	N.D.	N.D.	Pass
42+43+44	N.D.	N.D.	N.D.	N.D.	Pass
45+46+47	N.D.	N.D.	N.D.	N.D.	Pass

Note: 1. mg/kg= ppm=0.0001%

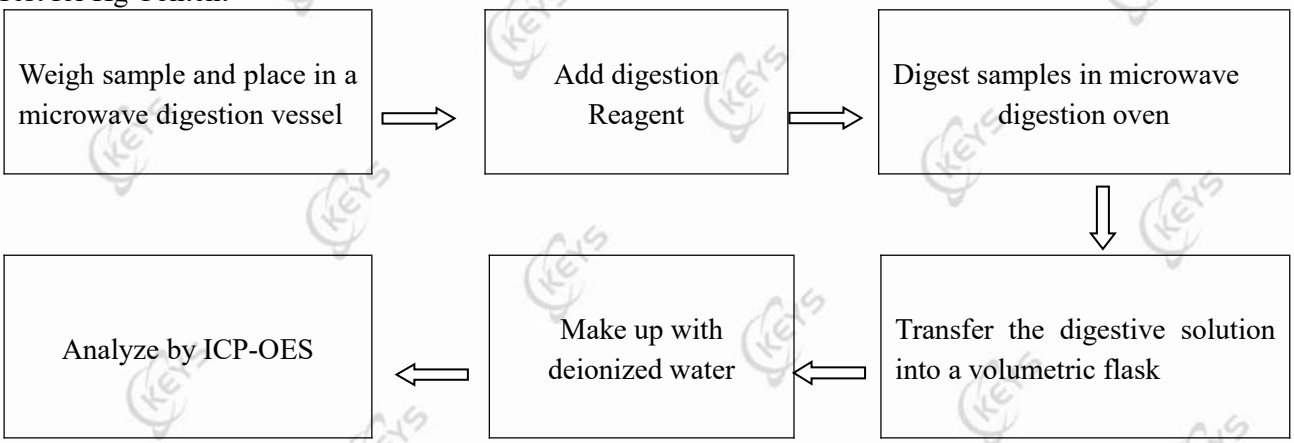
2. N.D.= Not Detected(<MDL)

Test Process:

1. Test for Cd/Pb Content

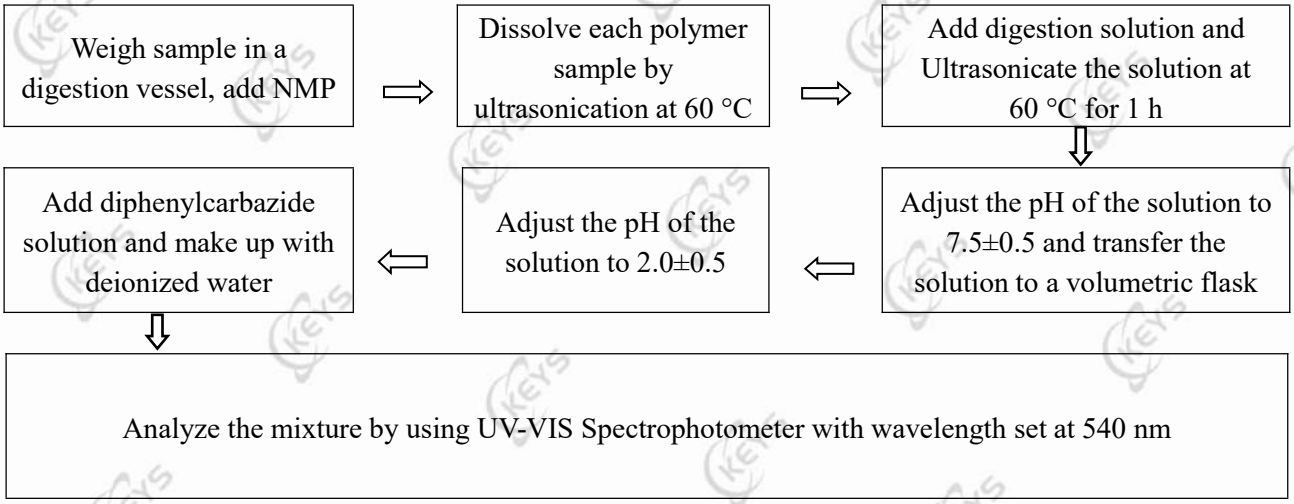


2. Test for Hg Content

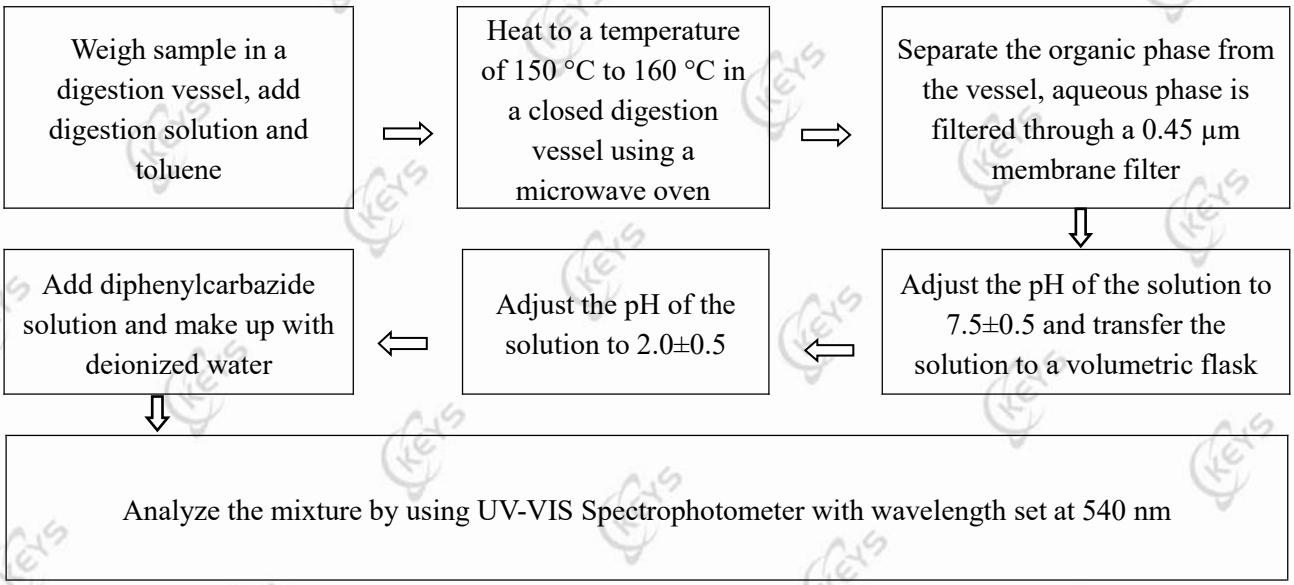


3. Test for Chromium (VI) Content

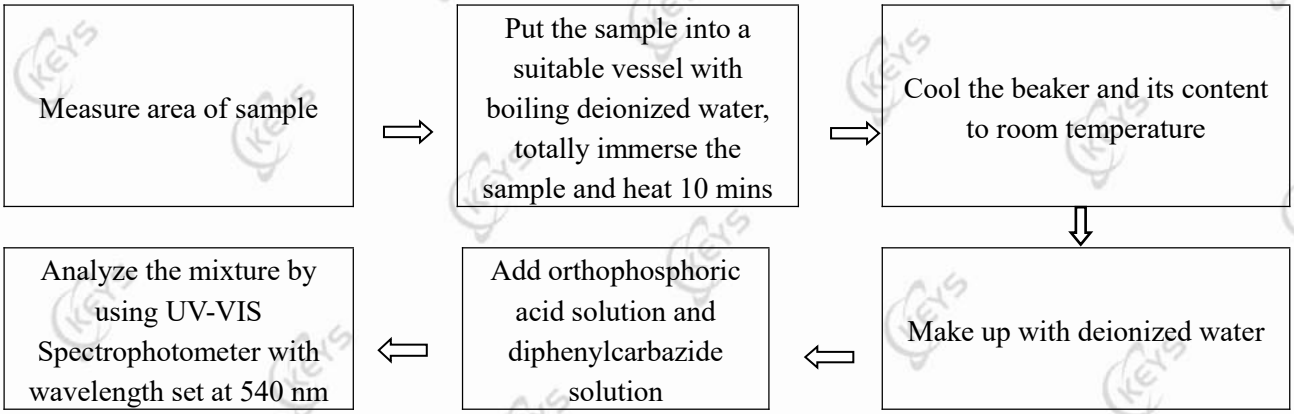
Soluble polymers：



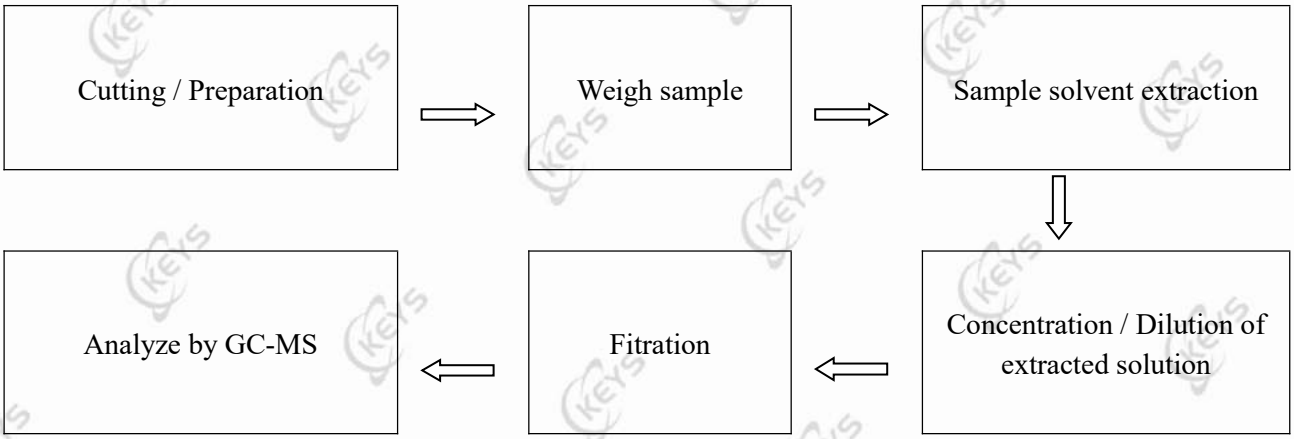
Insoluble/unknown polymers and electronics without Sb



Metal material



4. Test for DBP, BBP, DEHP, DIBP, PBB, PBDE Content



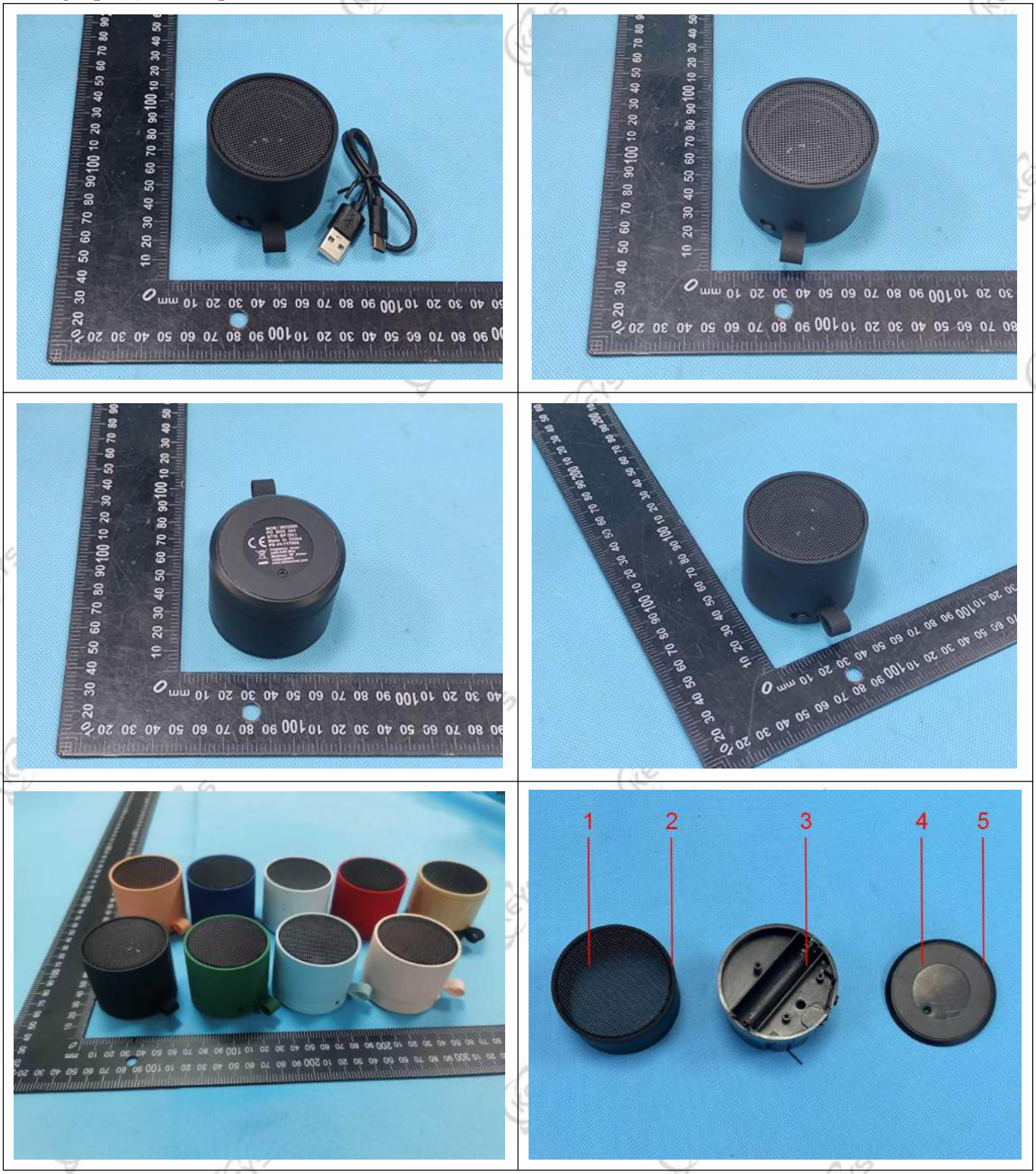
Test Report

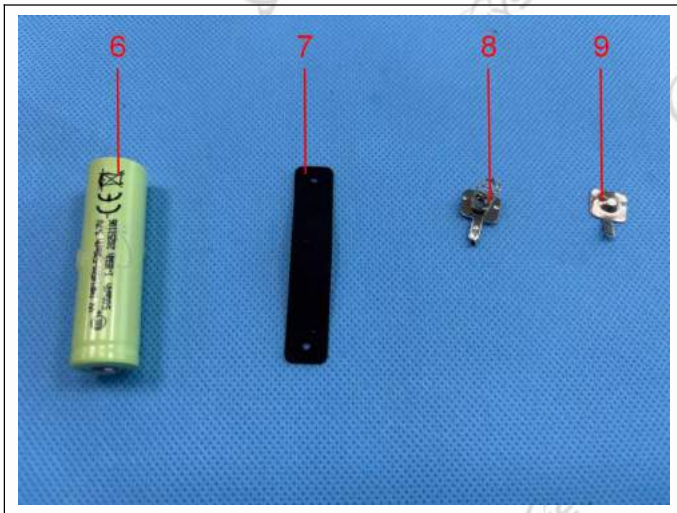
Sample Description:

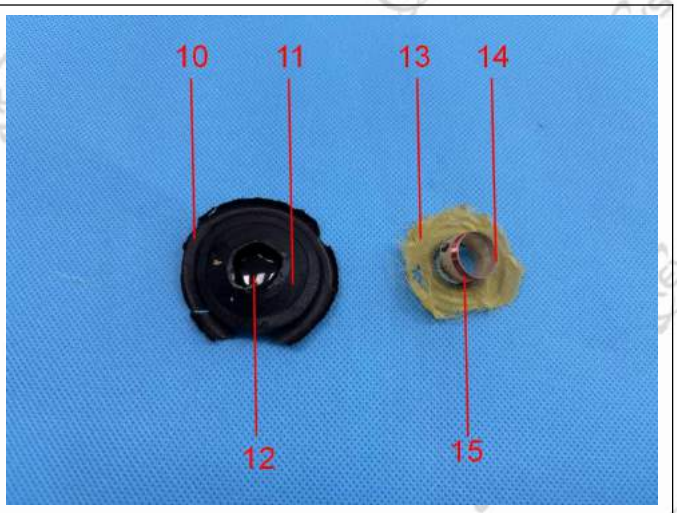
No.	Description
1	Silvery metal mesh belt with black coating
2	Silvery metal shell with black coating
3	Black plastic shell
4	Black soft plastic parts with adhesive
5	Black plastic shell
6	Black printed green plastic battery cover
7	Black soft plastic parts
8	Silvery metal spring
9	Silvery metal gaskets
10	Black plastic film
11	Black paper
12	Black plastic sheet
13	Yellow fabric
14	Brown paper
15	Brownish-red metal coil
16	Silvery metal frame
17	Silvery metal base
18	Silvery metal fastener
19	Black magnet
20	White paper
21	Silvery metal screw
22	Black metal screw
23	Black plastic plug shell
24	Silvery metal plugs
25	White plastic parts
26	Silvery metal contact pin
27	Dark grey plastic parts

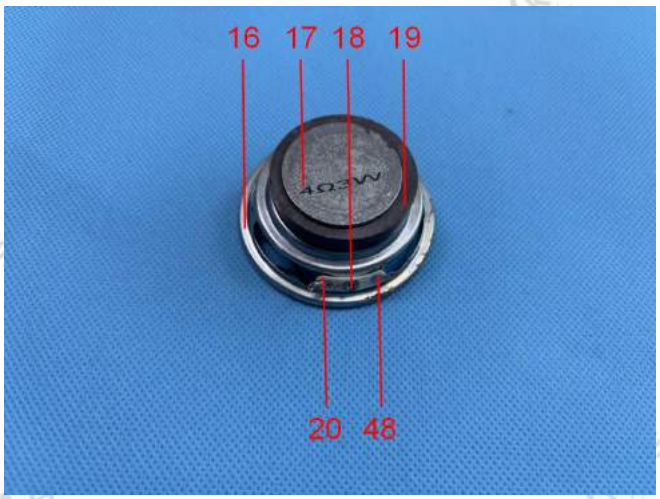
No.	Description
28	Golden metal contact pin
29	Silvery metal parts
30	Green PCB
31	Silvery metal crystal oscillator
32	Brown capacitor
33	Green PCB
34	Black resistor
35	White LED
36	Silvery metal Type interface
37	Black plastic switch
38	Silvery metal microphone
39	Black IC
40	Silvery metal shell
41	Copper metal wire core
42	White plastic wire skin
43	Red plastic wire skin
44	Black plastic wire skin
45	Pink plastic wire skin
46	Black plastic wire skin
47	Black plastic wire skin
48	Silvery metal solder
49	Silvery metal solder
50	Silvery metal solder
51	Silvery metal solder

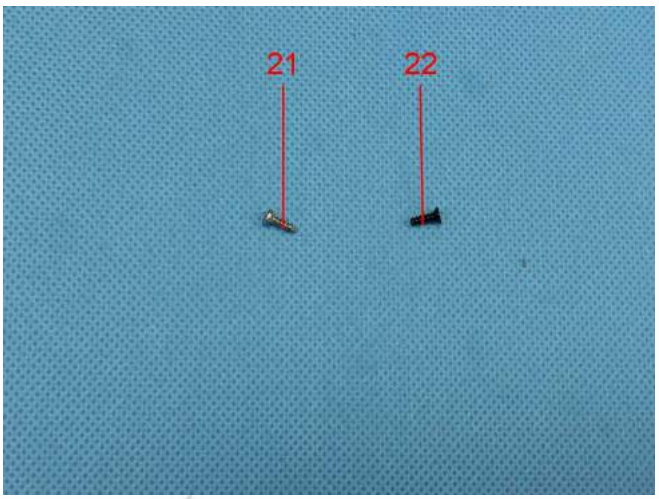
Photograph(s) of Sample：

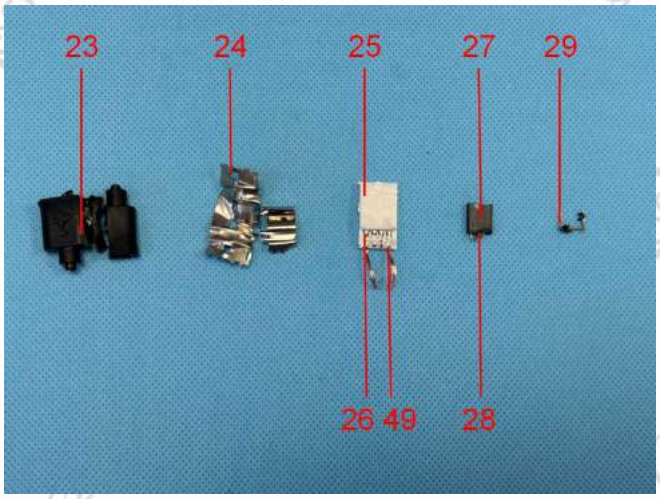


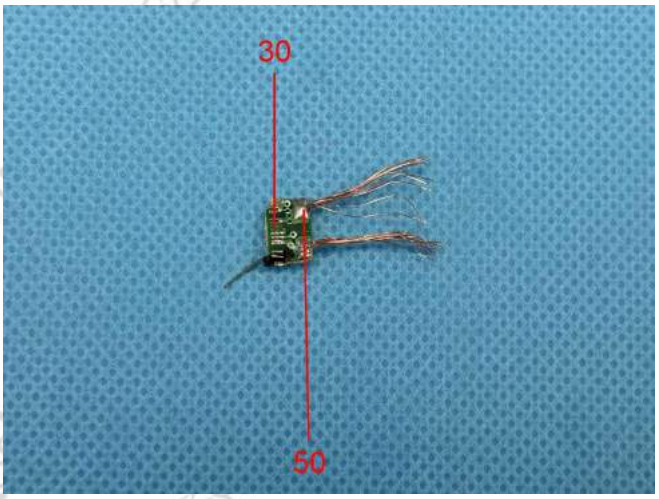


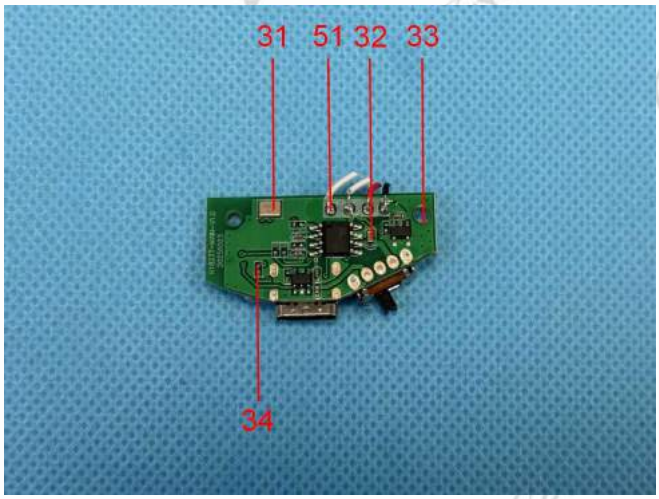


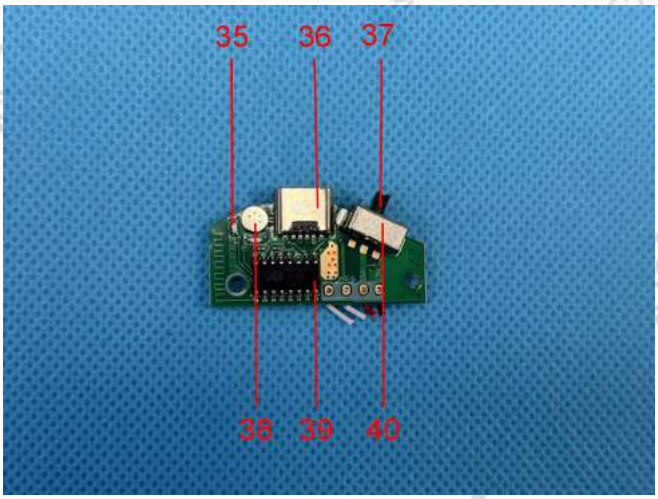


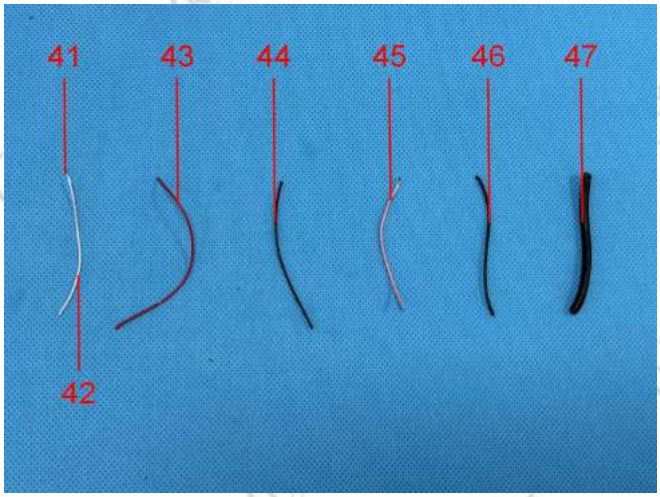












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