

Test Report

Report No.: RKEYS251128151

Date: Dec. 11, 2025

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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: /

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

Sample Name: Charging Cable

Sample Model: MO2778

Sample Received Date: Nov. 28, 2025

Testing Period: Nov. 28, 2025 to Dec. 03, 2025

Test Requested

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

Approved by:


Johnny Chen/Technical Manager



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the original file

Guangdong KEYS Testing Technology Co., Ltd.

Address: Building 1, No.18, Shihuan Road, Dongcheng Subdistrict, Dongguan, Guangdong, China

Tel: +86-0769-22221088 <http://www.keys-lab.com> E-mail: info@keys-lab.com

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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

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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	X	--	CrVI: Negative	Pass
2	BL	BL	BL	BL	BL	--	Pass
3	BL	BL	BL	BL	BL	--	Pass
4	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	BL	--	Pass
9	BL	BL	BL	BL	BL	--	Pass
10	BL	BL	BL	BL	--	--	Pass
11	BL	BL	BL	X	--	CrVI: Negative	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	X	PBBs/PBDEs:N.D.	Pass
16	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.
3. As requested by the applicant, test was conducted only on components listed in this report. Other components were not tested.

Element	Polymer Material	Metallic Material	Composite Material
Pb	BL \leq 700-3 σ \leq X $<$ 1300+3 σ \leq OL	BL \leq 700-3 σ \leq X $<$ 1300+3 σ \leq OL	BL \leq 500-3 σ \leq X $<$ 1500+3 σ \leq OL
Cd	BL \leq 70-3 σ \leq X $<$ 130+3 σ \leq OL	BL \leq 70-3 σ \leq X $<$ 130+3 σ \leq OL	LOD $<$ X $<$ 150+3 σ \leq OL
Hg	BL \leq 700-3 σ \leq X $<$ 1300+3 σ \leq OL	BL \leq 700-3 σ \leq X $<$ 1300+3 σ \leq OL	BL \leq 500-3 σ \leq X $<$ 1500+3 σ \leq OL

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Cr	BL \leq 700-3 σ $<$ X	BL \leq 700-3 σ $<$ X	BL \leq 500-3 σ $<$ X
Br	BL \leq 300-3 σ $<$ X	--	BL \leq 250-3 σ $<$ 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 is necessary

4.3 σ =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	μ g/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

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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 $\mu\text{g}/\text{cm}^2$ 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 $\mu\text{g}/\text{cm}^2$ and 0.13 $\mu\text{g}/\text{cm}^2$ 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 $\mu\text{g}/\text{cm}^2$, 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.

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(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)	
2	N.D.	N.D.	N.D.	N.D.	Pass
3	N.D.	N.D.	N.D.	N.D.	Pass
5	N.D.	N.D.	N.D.	N.D.	Pass
6	N.D.	N.D.	N.D.	N.D.	Pass
7	N.D.	N.D.	N.D.	N.D.	Pass
8	N.D.	N.D.	N.D.	N.D.	Pass
9	N.D.	N.D.	N.D.	N.D.	Pass
12	N.D.	N.D.	N.D.	N.D.	Pass
13	N.D.	N.D.	N.D.	N.D.	Pass
14	N.D.	N.D.	N.D.	N.D.	Pass
15	N.D.	N.D.	N.D.	N.D.	Pass

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

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

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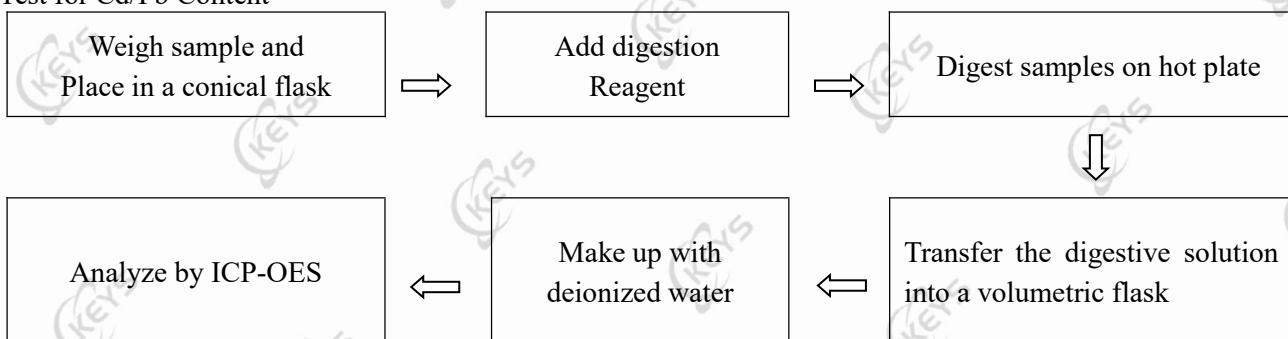
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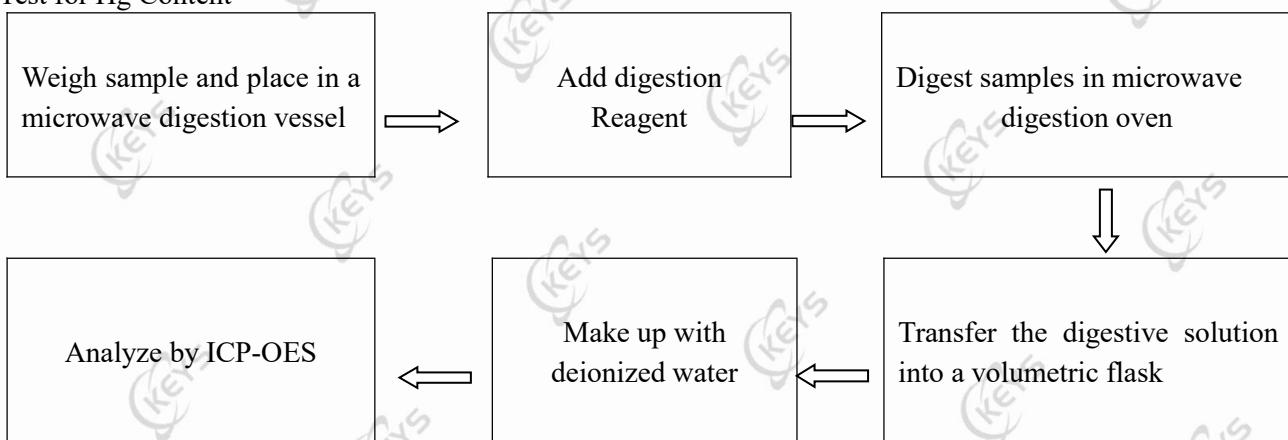
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Test Process:

1. Test for Cd/Pb Content



2. Test for Hg Content



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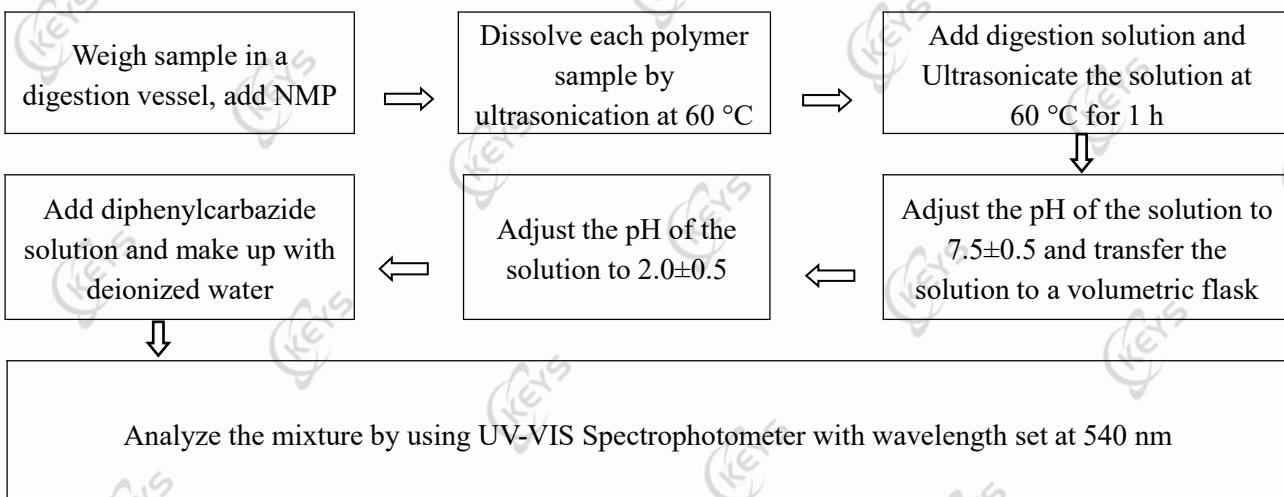
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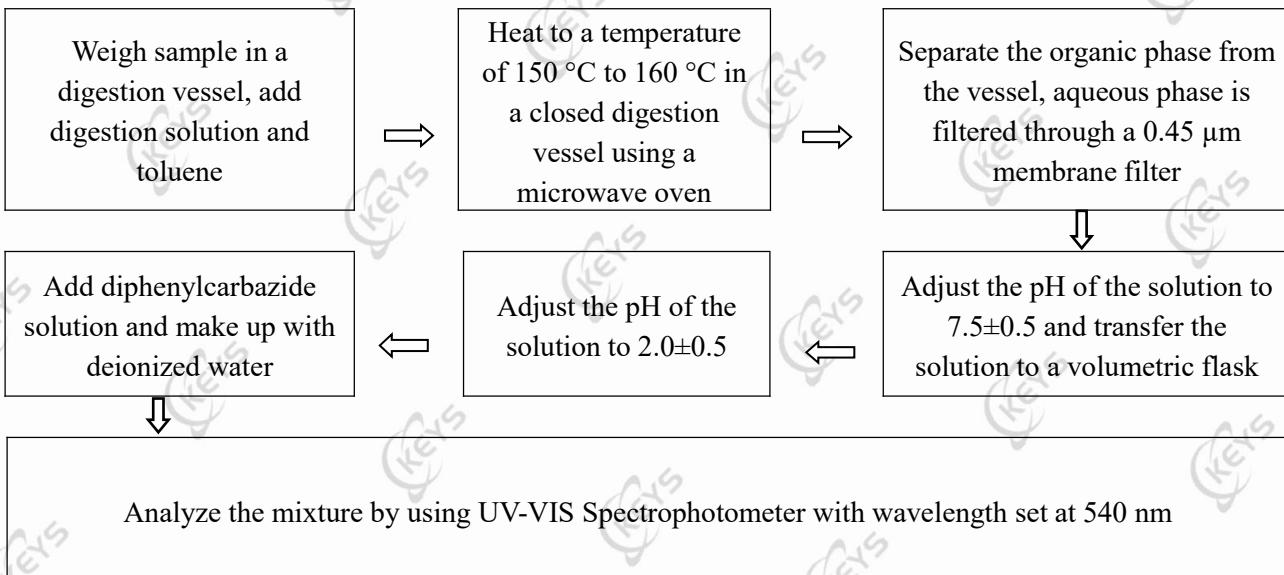
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3. Test for Chromium (VI) Content

Soluble polymers:



Insoluble/unknown polymers and electronics without Sb



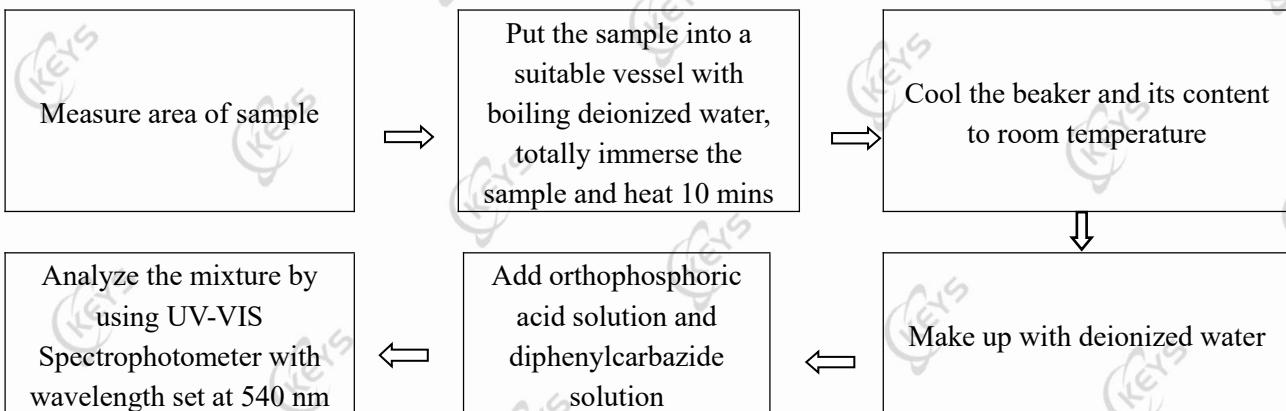
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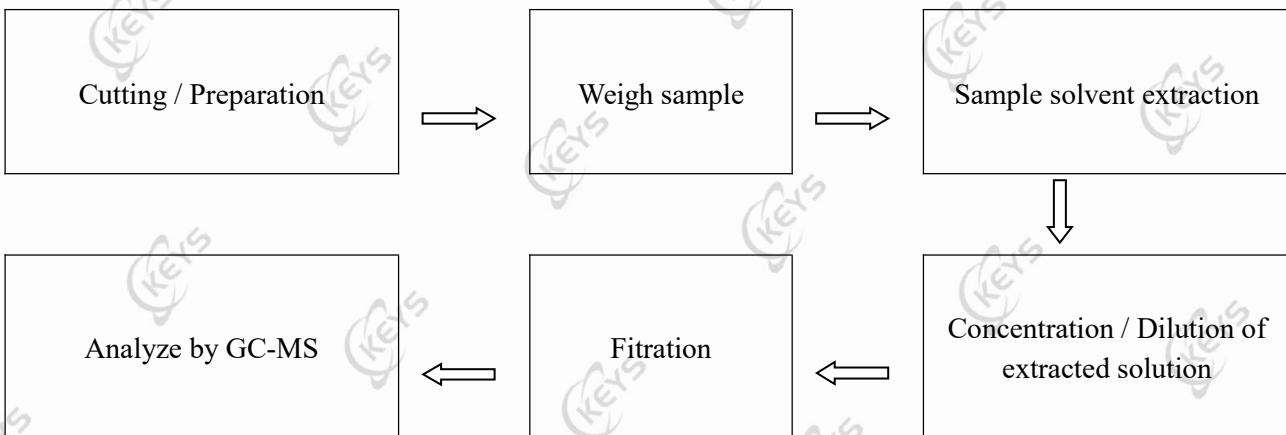
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Metal material



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



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Sample Description:

No.	Description
1	Silver metal contact pin
2	Red plastic wire sheath
3	Black plastic wire sheath
4	Silver metal wire core
5	White plastic wire sheath
6	Gray plastic wire sheath
7	Transparent plastic film
8	Black / grey textile outer skin
9	Black coating
10	Silver metal fixation
11	Silver metal interface
12	White plastic fixation
13	Black plastic fixation
14	Brown capacitor
15	Green PCB
16	Silver metallic solder

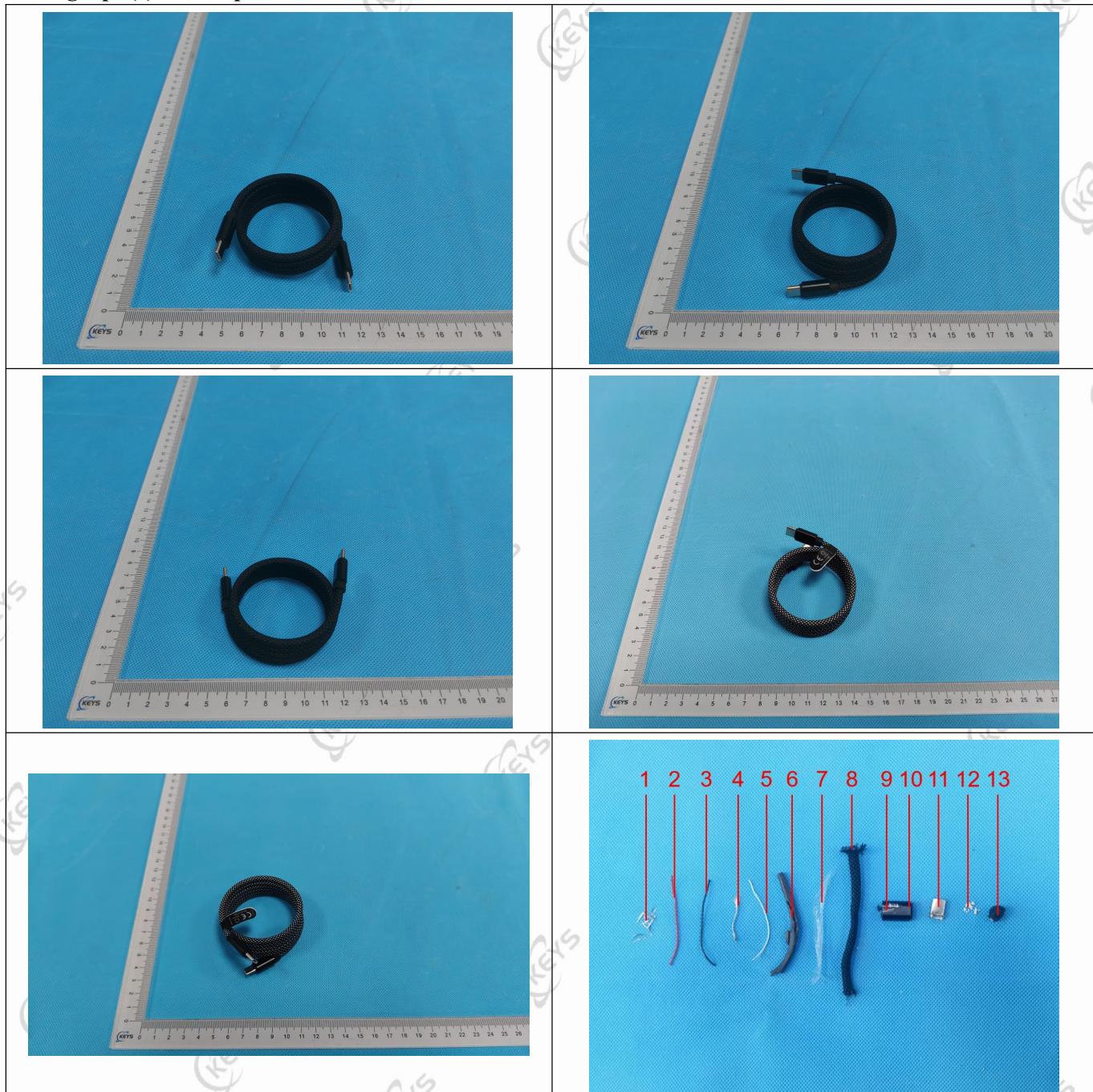
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Photograph(s) of Sample:

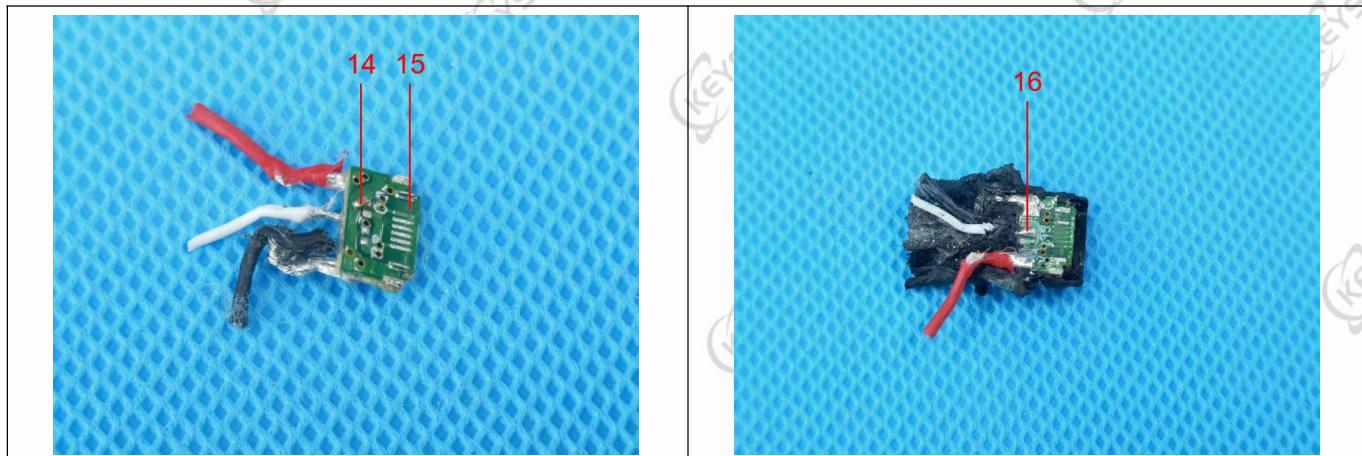


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*** End of Report ***