



# Test Report

Report No.: RKEYS260113028

Date: Jan. 23, 2026

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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:** N/A

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

**Sample Name:** Charging Cable  
**Sample Model:** MO2647, MO2646  
**Sample Received Date:** Jan. 13, 2026  
**Testing Period:** Jan. 13, 2026 to Jan. 19, 2026

### Test Requested

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

\*\*\*\*\*

Approved by:



**Johnny Chen/Technical Manager**



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**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](mailto: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<br>(mg/kg) | Conclusion |
|-----|-------------------|----|----|----|----|--------------------------|------------|
|     | Pb                | Cd | Hg | Cr | Br |                          |            |
| 1   | BL                | BL | BL | BL | BL | --                       | Pass       |
| 2   | BL                | BL | BL | BL | BL | --                       | Pass       |
| 3   | BL                | BL | BL | BL | BL | --                       | Pass       |
| 4   | BL                | BL | BL | BL | BL | --                       | Pass       |
| 5   | BL                | BL | BL | BL | X  | PBBs/PBDEs:N.D.          | Pass       |
| 6   | BL                | BL | BL | BL | -- | --                       | Pass       |
| 7   | BL                | BL | BL | X  | -- | CrVI: Negative           | Pass       |
| 8   | BL                | BL | BL | BL | BL | --                       | Pass       |
| 9   | BL                | 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 | -- | --                       | Pass       |
| 15  | BL                | 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 | 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.

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| Element | Polymer Material  | Metallic Material                                       | Composite Material                                      |
|---------|---|---|---|
| Pb      | $BL \leq 700 - 3\sigma \leq X < 1300 + 3\sigma \leq OL$ | $BL \leq 700 - 3\sigma \leq X < 1300 + 3\sigma \leq OL$ | $BL \leq 500 - 3\sigma \leq X < 1500 + 3\sigma \leq OL$ |
| Cd      | $BL \leq 70 - 3\sigma \leq X < 130 + 3\sigma \leq OL$   | $BL \leq 70 - 3\sigma \leq X < 130 + 3\sigma \leq OL$   | $LOD < X < 150 + 3\sigma \leq OL$                       |
| Hg      | $BL \leq 700 - 3\sigma \leq X < 1300 + 3\sigma \leq OL$ | $BL \leq 700 - 3\sigma \leq X < 1300 + 3\sigma \leq OL$ | $BL \leq 500 - 3\sigma \leq X < 1500 + 3\sigma \leq OL$ |
| Cr      | $BL \leq 700 - 3\sigma < X$                             | $BL \leq 700 - 3\sigma < X$                             | $BL \leq 500 - 3\sigma < X$                             |
| Br      | $BL \leq 300 - 3\sigma < X$                             | --  | $BL \leq 250 - 3\sigma < X$                             |

## 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)<br>(Metal)    | IEC 62321-7-1:2015, UV-Vis          | μg/cm <sup>2</sup> | 0.13  | 0.1 |
| Hexavalent Chromium(CrVI)<br>(Nonmetal) | IEC 62321-7-2:2017, UV-Vis          | mg/kg              | 1000  | 8   |

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| Test Item(s)                         | Test Method/ Test Equipment | Unit  | Limit | MDL |
|--------------------------------------|-----------------------------|-------|-------|-----|
| PBBs<br>(Next form)                  | IEC 62321-6:2015, GC-MS     | mg/kg | 1000  | 5   |
| PBDEs<br>(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)<br>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) |            |
| 1+9+10   | N.D.                    | N.D.                         | N.D.                               | N.D.                        | Pass       |
| 2+3      | N.D.                    | N.D.                         | N.D.                               | N.D.                        | Pass       |
| 4+15     | N.D.                    | N.D.                         | N.D.                               | N.D.                        | Pass       |
| 5        | N.D.                    | N.D.                         | N.D.                               | N.D.                        | Pass       |
| 8        | N.D.                    | N.D.                         | N.D.                               | N.D.                        | Pass       |
| 11+12+13 | N.D.                    | N.D.                         | N.D.                               | N.D.                        | Pass       |
| 19       | N.D.                    | N.D.                         | N.D.                               | N.D.                        | Pass       |

- Note:**
1. mg/kg= ppm=0.0001%
  2. N.D.= Not Detected(<MDL)

# Test Report

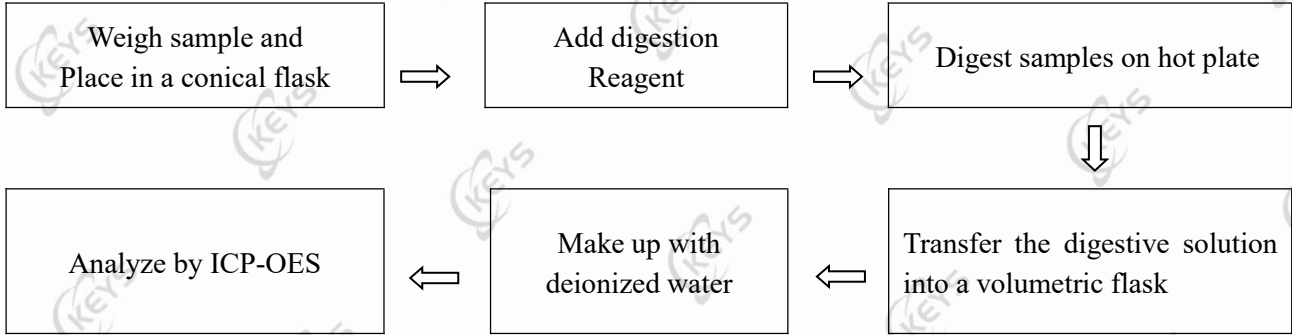
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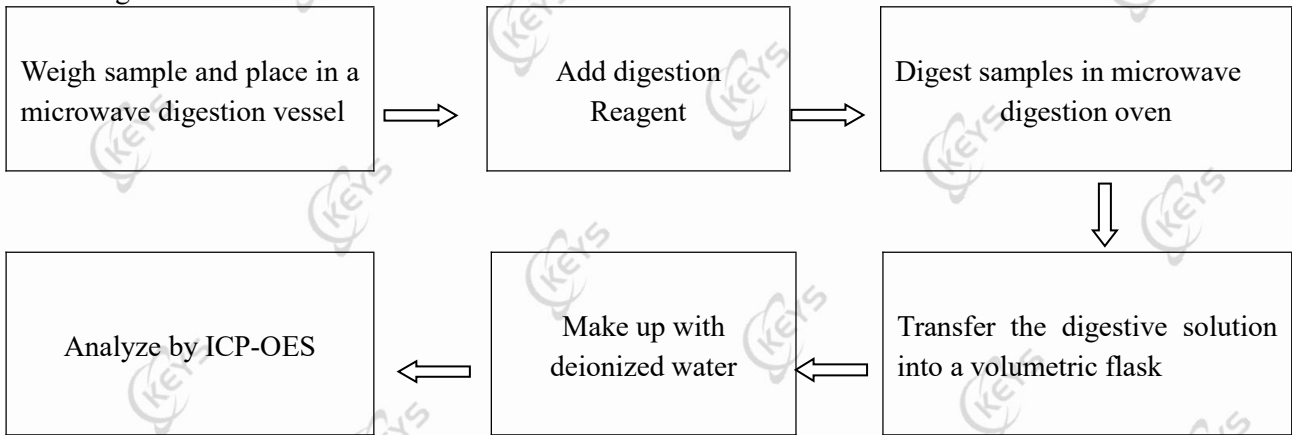
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## Test Process:

### 1. Test for Cd/Pb Content



### 2. Test for Hg Content



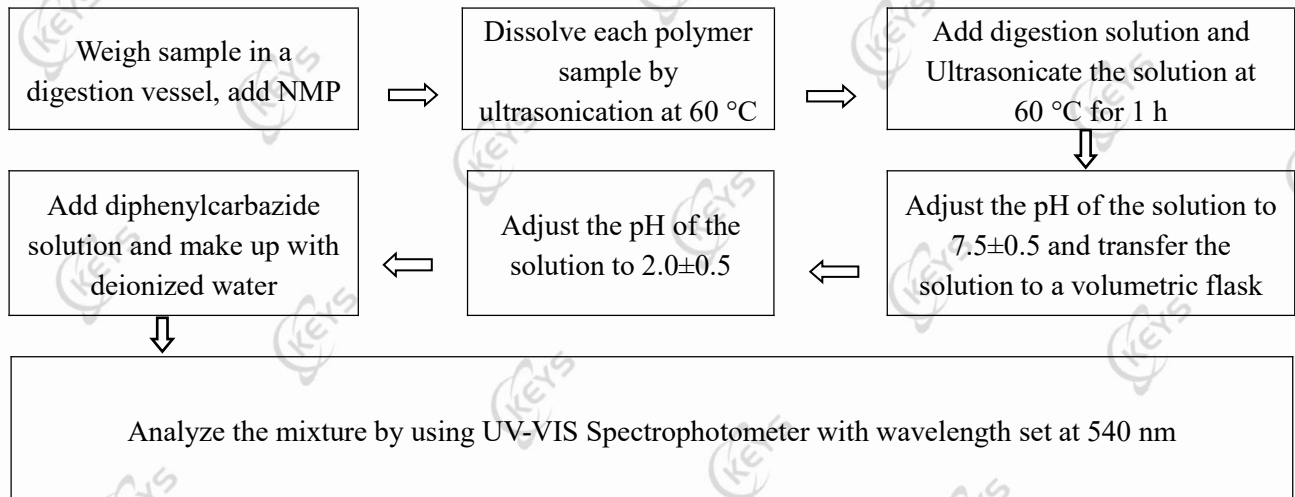
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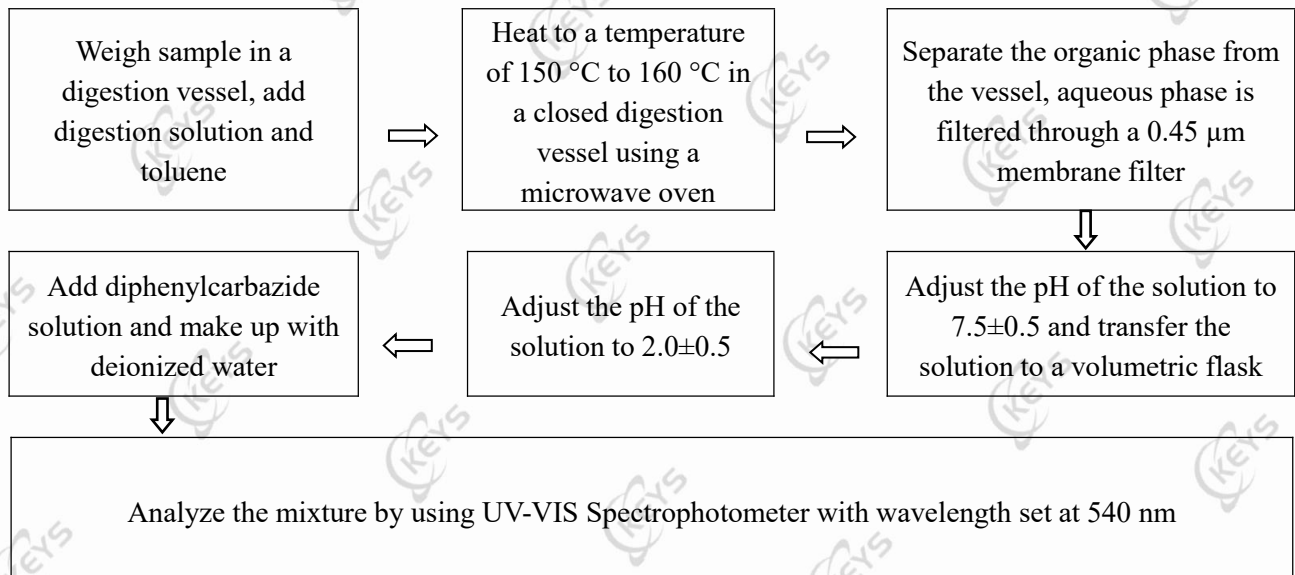
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### 3. Test for Chromium (VI) Content Soluble polymers:



### Insoluble/unknown polymers and electronics without Sb



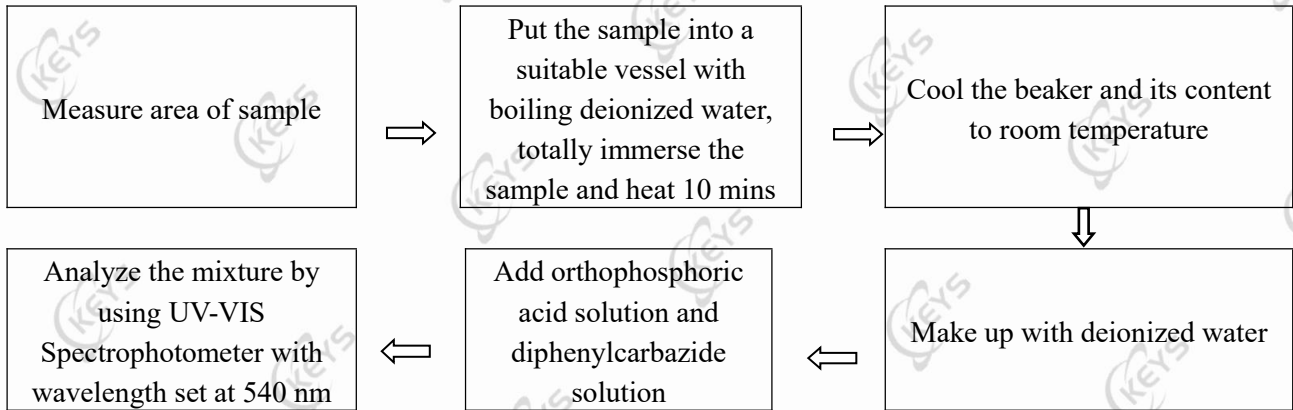
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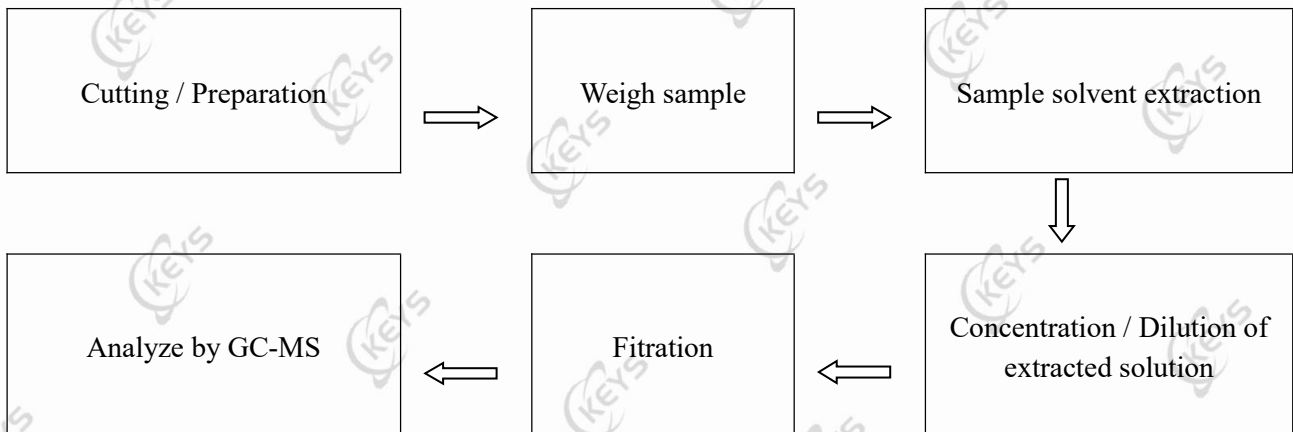
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## Metal material



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



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## Sample Description:

| No. | Description                                       |
|-----|---|
| 1   | Black Plastic Outer Skin                          |
| 2   | Black Plastic Fixation                            |
| 3   | Black Plastic Interface Fixation                  |
| 4   | White Plastic Interface                           |
| 5   | Blue PCB  |
| 6   | Silvery Metal Solder                              |
| 7   | Silvery Metal Type-C Interface                    |
| 8   | Black PU  |
| 9   | Yellow Plastic Wire Skin                          |
| 10  | Red Plastic Wire Skin                             |
| 11  | Black Plastic Wire Skin                           |
| 12  | White Plastic Wire Skin                           |
| 13  | Green Plastic Wire Skin                           |
| 14  | Copper-Colored Metal Wire Core                    |
| 15  | Pressure-Molded Black/Grey Printed White Stickers |
| 16  | Silvery Metal Ring                                |
| 17  | Gun-Gray Metal Fastener                           |
| 18  | Black metal fastener                              |
| 19  | Capacitor   |

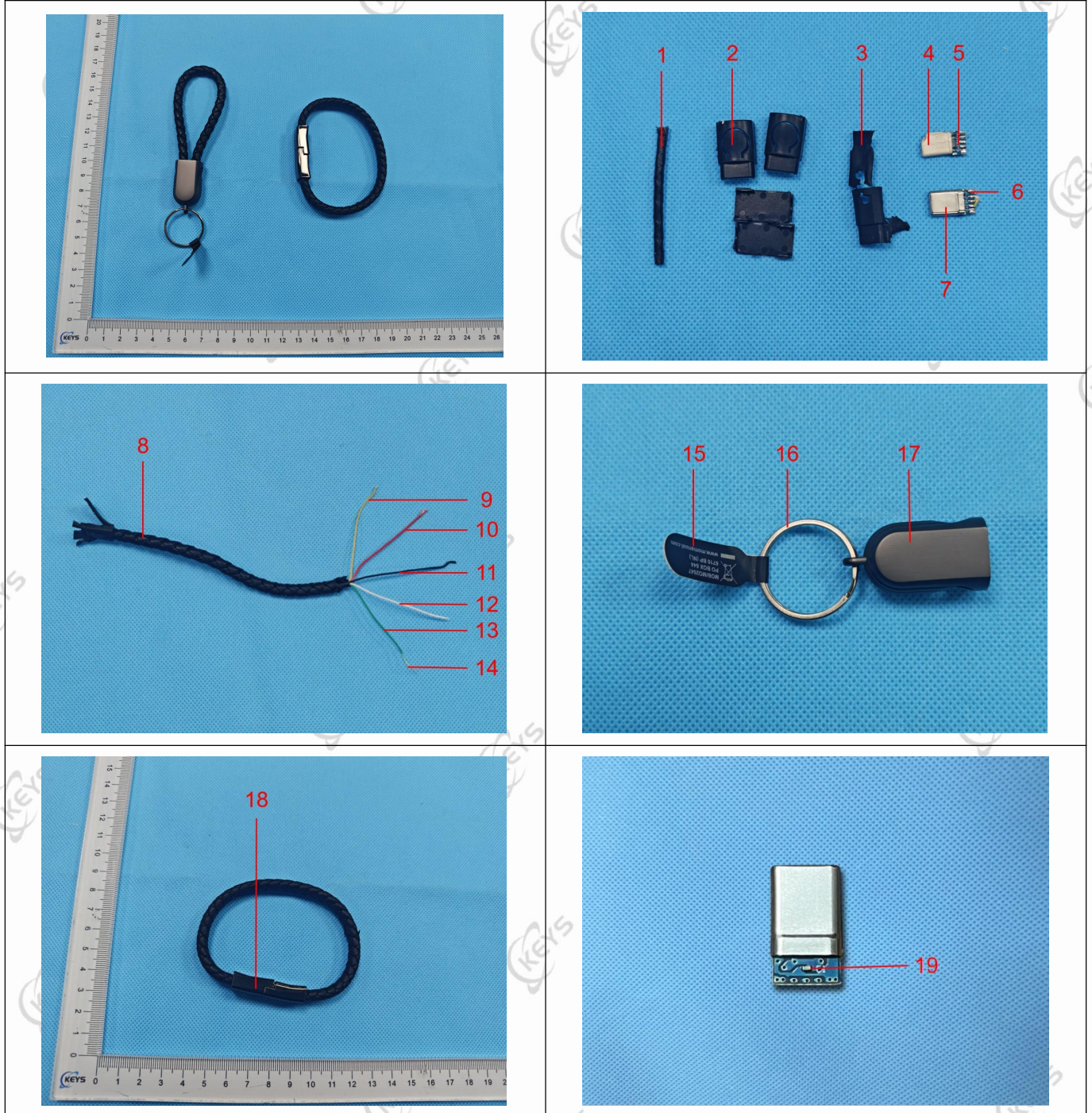
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## Photograph(s) of Sample:



\*\*\* End of Report \*\*\*

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