# Test Report

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| | | |
|---|---|---|
| **Applicant** | : | Shenzhen Best Promotion Ltd |
| **Address** | : | Room3003, Chuangxingda Business Building, Liuxian 3rd Road, Bao'an 72th district, Shenzhen |

**The submitted sample and sample information was/were submitted and identified by/on the behalf of the client**

| | | |
|---|---|---|
| **Sample name** | : | Bracelet charging cable |
| **Export to** | : | Europe |
| **Sample received date** | : | Jul. 17, 2017 |
| **Testing period** | : | Jul. 17, 2017 to Jul. 28, 2017 |
| **Test requested** | : | 1. As specified by client, to screen Lead(Pb), Cadmium(Cd), Mercury(Hg), Chromium(Cr) and Bromine(Br) in the submitted sample(s) by XRF.<br>2. As specified by client, when screening results exceed the XRF screening limit in IEC 62321-3-1:2013, further use of chemical methods are required to test the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers(PBDEs) in the submitted samples. |

**According to the RoHS Directive 2011/65/EU**

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

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

ANBOTEK Anbotek CERTIFICATION

| Tested by | Reviewed by | Approved by |
|---|---|---|
| Willow Liu | Sahen Chen | Leo Li |
| Test engineer | Laboratory manager | Laboratory director |

# Test Report



**Test Method:**

**A. Screening test by XRF spectroscopy**

XRF screening limits in mg/kg for regulated elements according to IEC 62321-3-1:2013.

| Element | Limit of IEC 62321-3-1:2013. Unit (mg/kg) | | MDL | |
|---|---|---|---|---|
| | Polymers and metals | Composite material | Polymers | Other material |
| Pb | BL≤(700-3σ) <X <(1300+3σ) ≤OL | BL≤(500-3σ)<X <(1500+3σ) ≤OL | 10 mg/kg | 50 mg/kg |
| Cd | BL≤(70-3σ)<X <(130+3σ) ≤OL | LOD≤(50-3σ)<X <(150+3σ) ≤OL | 10 mg/kg | 50 mg/kg |
| Hg | BL≤(700-3σ)<X <(1300+3σ) ≤OL | BL≤(500-3σ)<X <(1500+3σ) ≤OL | 10 mg/kg | 50 mg/kg |
| Cr | BL≤(700-3σ)< X | BL≤(500-3σ)< X | 10 mg/kg | 50 mg/kg |
| Br | BL≤(300-3σ)< X | BL≤(250-3σ)< X | 10 mg/kg | 50 mg/kg |

**Note:**

-BL = Under the XRF screening limit

-OL = Further chemical test will be conducted while result is above the screening limit

-X= The symbol “X” marks the region where further investigation is necessary

-3σ= The reproducibility of analytical instruments

-LOD= Detection limit

**B. Chemical Test**

| Test Item(s) | Test Method | Measured Equipment(s) | MDL | Limit |
|---|---|---|---|---|
| Lead (Pb) | IEC 62321-5:2013 Ed.1.0 | ICP-OES | 2 mg/kg | 1000 mg/kg |
| Cadmium (Cd) | IEC 62321-5:2013 Ed.1.0 | ICP-OES | 2 mg/kg | 100 mg/kg |
| Mercury (Hg) | IEC 62321-4:2013 Ed.1.0 | ICP-OES | 2 mg/kg | 1000 mg/kg |
| Hexavalent Chromium Cr(VI) | IEC 62321-7-1:2015 Ed.1.0 | UV-VIS | / | 1000 mg/kg |
| | IEC 62321-7-2:2017 Ed.1.0 | UV-VIS | 2 mg/kg | 1000 mg/kg |
| Polybrominated Biphenyls (PBBs) | IEC 62321-6:2015 Ed.1.0 | GC-MS | 5 mg/kg | 1000 mg/kg |
| Polybrominated Diphenyl Ethers (PBDEs) | IEC 62321-6:2015 Ed.1.0 | GC-MS | 5 mg/kg | 1000 mg/kg |

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**Test Results:**

| Sample No. | Sample Description | Tested Items | XRF Screening Test Unit (mg/kg) | Chemical Test Unit (mg/kg) | Conclusion |
|---|---|---|---|---|---|
| 1 | Silvery metal | Pb | BL | / | PASS |
| | | Cd | BL | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | X | Negative | |
| | | Br(PBBs&PBDEs) | / | / | |
| 2 | Black jacket tube | Pb | BL | / | PASS |
| | | Cd | BL | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | BL | / | |
| 3 | Black plastic shell | Pb | BL | / | PASS |
| | | Cd | BL | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | BL | / | |
| 4 | Black plastic | Pb | BL | / | PASS |
| | | Cd | BL | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | BL | / | |
| 5 | Coppery metal | Pb | BL | / | PASS |
| | | Cd | BL | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | / | / | |
| 6 | Black plastic cover | Pb | BL | / | PASS |
| | | Cd | BL | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | BL | / | |

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| Sample No. | Sample Description | Tested Items | XRF Screening Test Unit (mg/kg) | Chemical Test Unit (mg/kg) | Conclusion |
|---|---|---|---|---|---|
| 7 | Silvery metal plate | Pb | BL | / | PASS |
| | | Cd | BL | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | / | / | |
| 8 | White plastic | Pb | BL | / | PASS |
| | | Cd | BL | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | BL | / | |
| 9 | Beige gummed tape | Pb | BL | / | PASS |
| | | Cd | BL | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | BL | / | |
| 10 | Golden wire | Pb | BL | / | PASS |
| | | Cd | BL | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | / | / | |
| 11 | Green wire | Pb | BL | / | PASS |
| | | Cd | BL | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | / | / | |
| 12 | Blue wire | Pb | BL | / | PASS |
| | | Cd | BL | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | / | / | |

# Test Report



| Sample No. | Sample Description | Tested Items | XRF Screening Test Unit (mg/kg) | Chemical Test Unit (mg/kg) | Conclusion |
|---|---|---|---|---|---|
| 13 | Red wire | Pb | BL | / | PASS |
| | | Cd | BL | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | / | / | |
| 14 | IC | Pb | BL | / | PASS |
| | | Cd | LOD | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | X | N.D. | |
| 15 | Chip capacitor | Pb | BL | / | PASS |
| | | Cd | LOD | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | BL | / | |
| 16 | Chip resistor | Pb | BL | / | PASS |
| | | Cd | LOD | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | BL | / | |
| 17 | Silvery metal shell | Pb | BL | / | PASS |
| | | Cd | BL | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | / | / | |
| 18 | Coppery metal pin | Pb | BL | / | PASS |
| | | Cd | BL | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | / | / | |

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| Sample No. | Sample Description | Tested Items | XRF Screening Test Unit (mg/kg) | Chemical Test Unit (mg/kg) | Conclusion |
|---|---|---|---|---|---|
| 19 | White inner plastic | Pb | BL | / | PASS |
| | | Cd | BL | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | BL | / | |
| 20 | Soldering tin | Pb | BL | / | PASS |
| | | Cd | BL | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | / | / | |
| 21 | PCB | Pb | BL | / | PASS |
| | | Cd | LOD | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | X | N.D. | |
| 22 | Silvery metal | Pb | BL | / | PASS |
| | | Cd | BL | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | X | Negative | |
| | | Br(PBBs&PBDEs) | / | / | |
| 23 | White jacket tube | Pb | BL | / | PASS |
| | | Cd | BL | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | BL | / | |
| 24 | White plastic shell | Pb | BL | / | PASS |
| | | Cd | BL | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | BL | / | |

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| Sample No. | Sample Description | Tested Items | XRF Screening Test Unit (mg/kg) | Chemical Test Unit (mg/kg) | Conclusion |
|---|---|---|---|---|---|
| 25 | White plastic cover | Pb | BL | / | PASS |
| | | Cd | BL | / | |
| | | Hg | BL | / | |
| | | Cr(Cr(VI) ) | BL | / | |
| | | Br(PBBs&PBDEs) | BL | / | |

**Note:**

-MDL = Method Detection Limit

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

-mg/kg = ppm = parts per million

-Negative = Absence of Cr(VI) , the detected Cr(VI) concentration in the boiling water extraction solution is less than 0.10ug/cm$^2$.

-Positive = Presence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is equal to or greater than 0.13ug/cm$^2$.

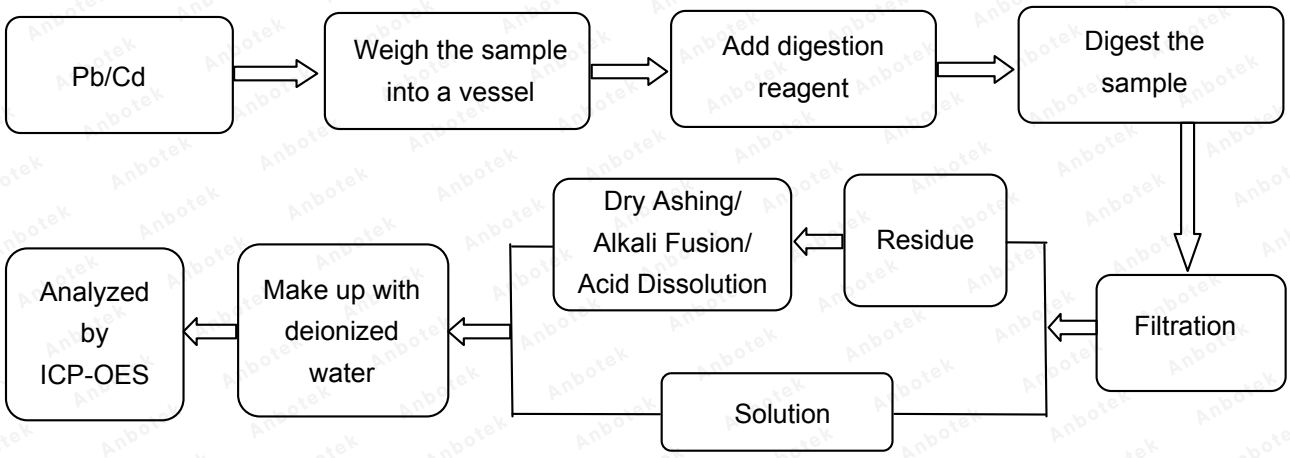
**Remark:**

- The screening results are only used for reference.
- When conducting the test for PBBs&PBDEs, XRF was introduced to screen Br Exclusively; When conducting the test for Hexavalent Chromium, XRF was introduced to screen Chromium exclusively.

**Test Process:**

**The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.**

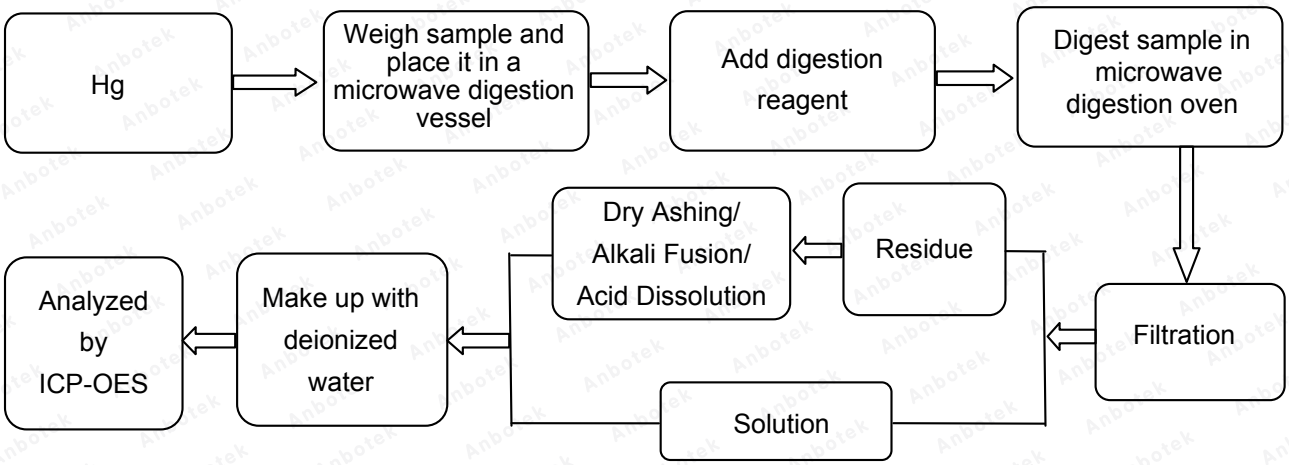
◆ **IEC 62321-5:2013 Ed.1.0**



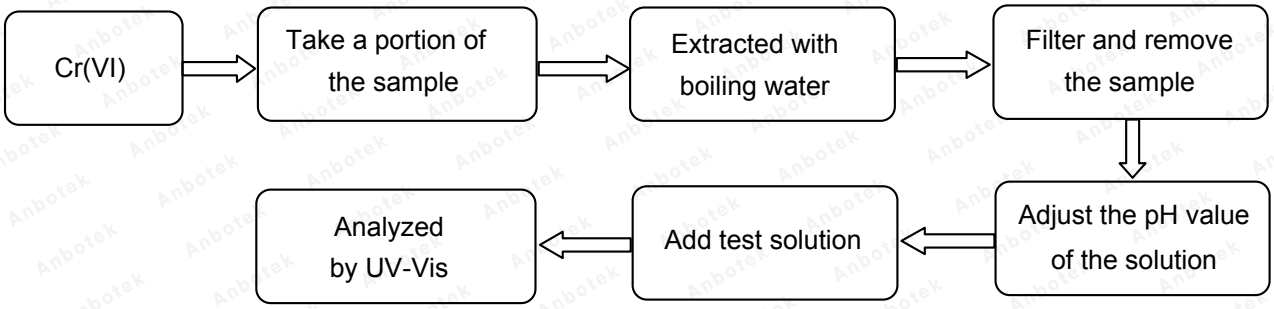
# Test Report



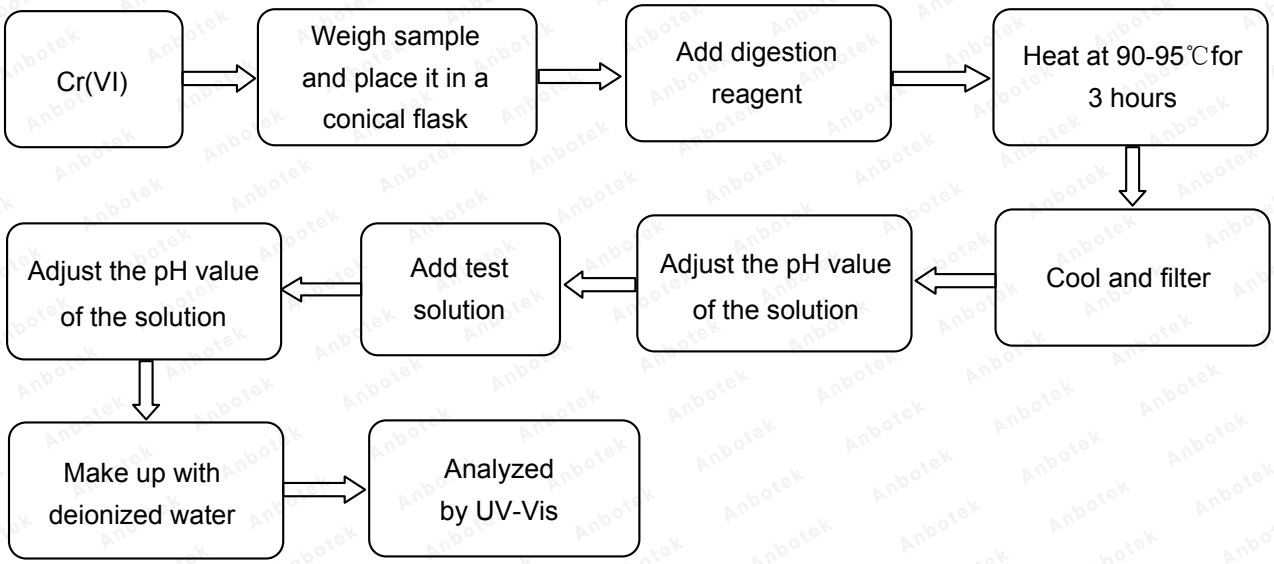
◆ **IEC 62321-4:2013 Ed.1.0**




◆ **IEC 62321-7-1:2015 Ed.1.0**



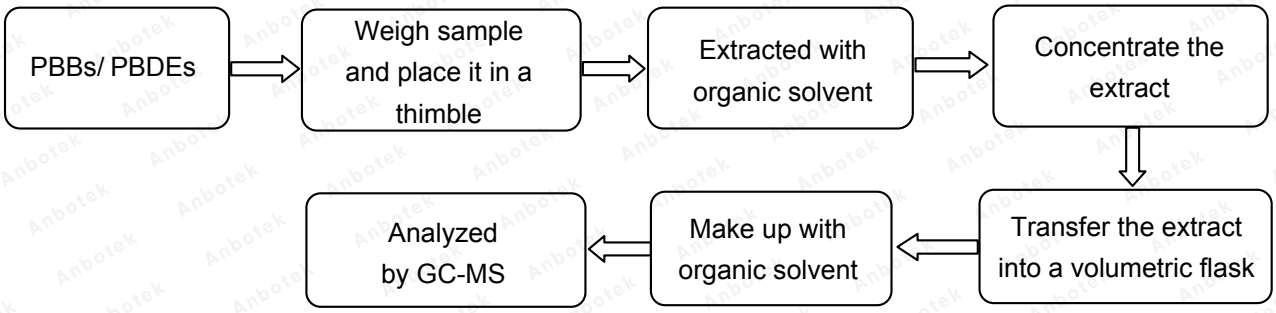

◆ **IEC 62321-7-2:2017 Ed.1.0**



# Test Report



◆ **IEC 62321-6:2015 Ed.1.0**

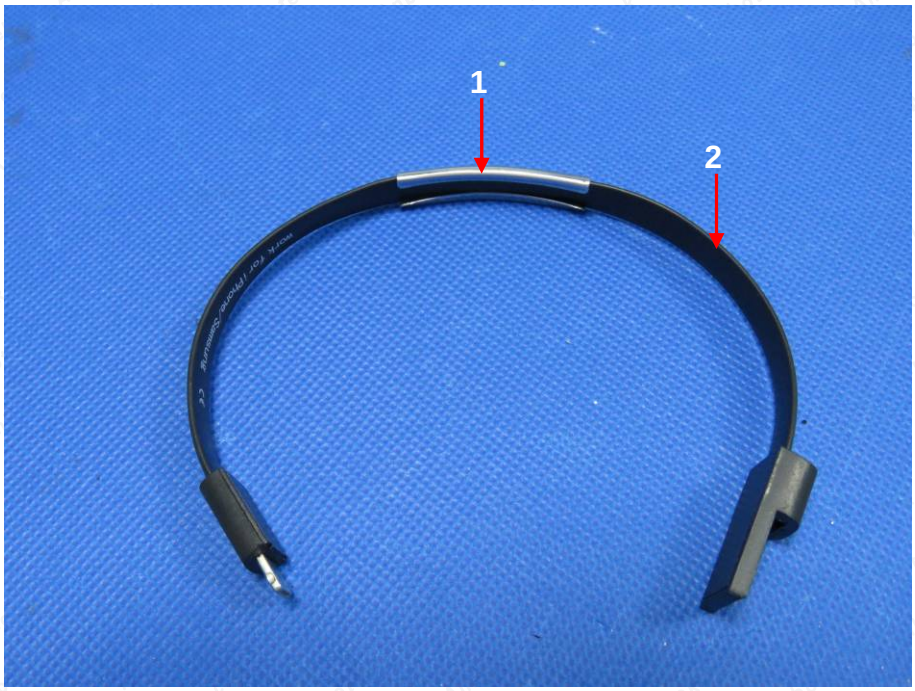


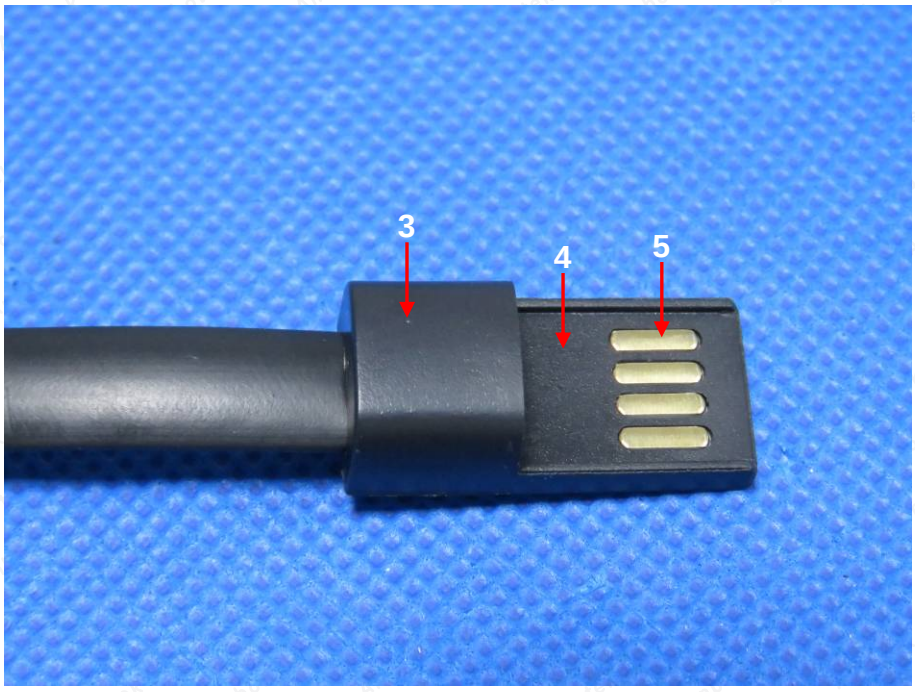

**Photograph of Sample**

# Test Report



**Photo(s) of the tested component(s)**



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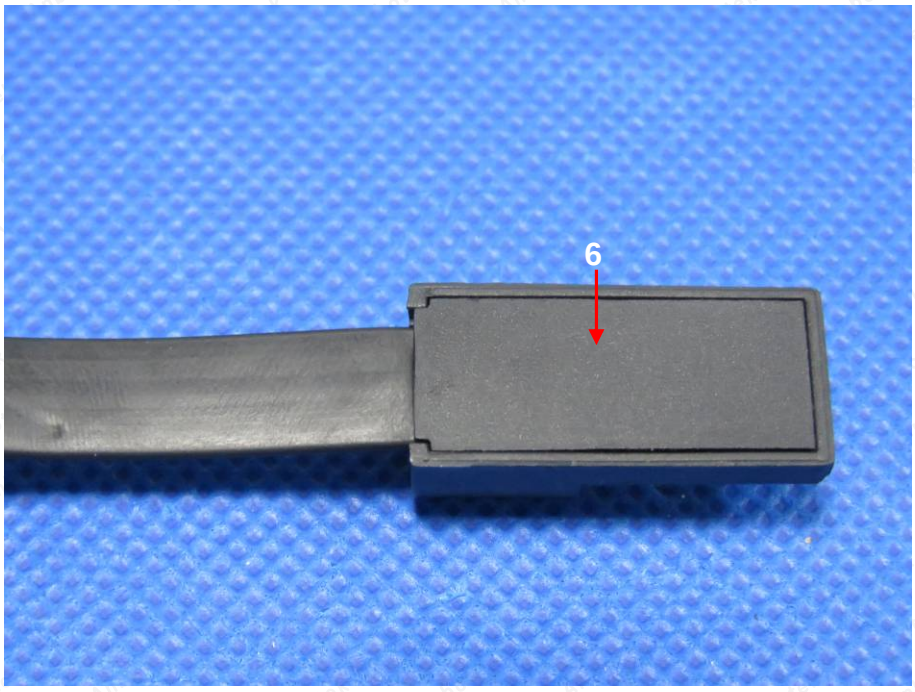
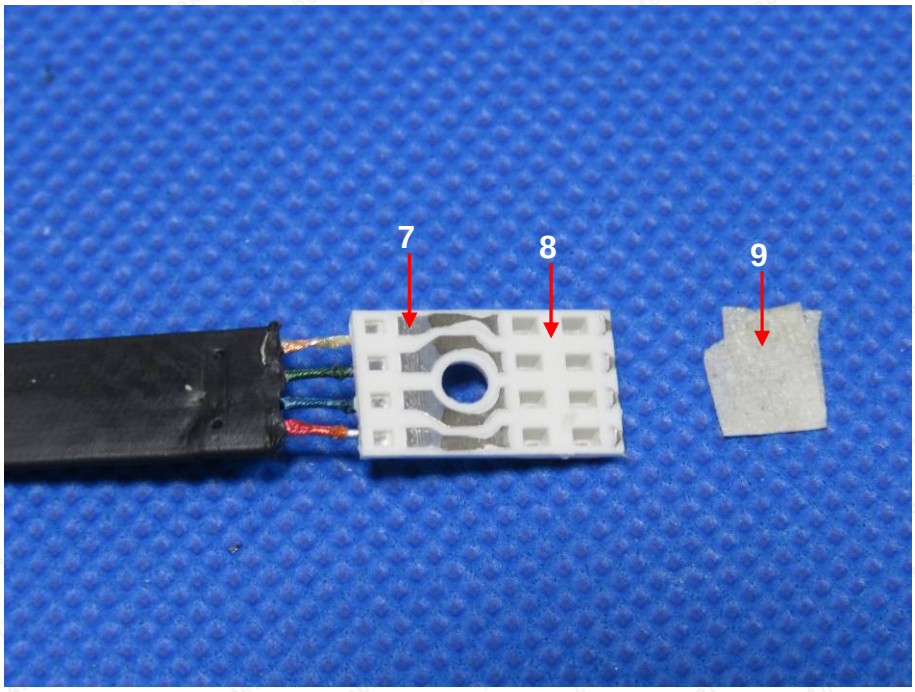
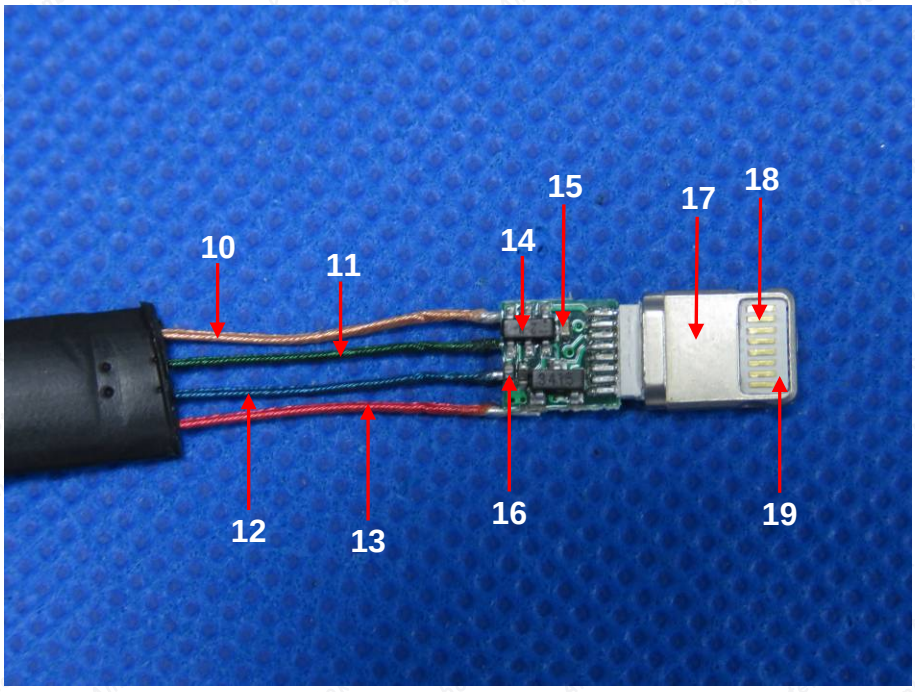
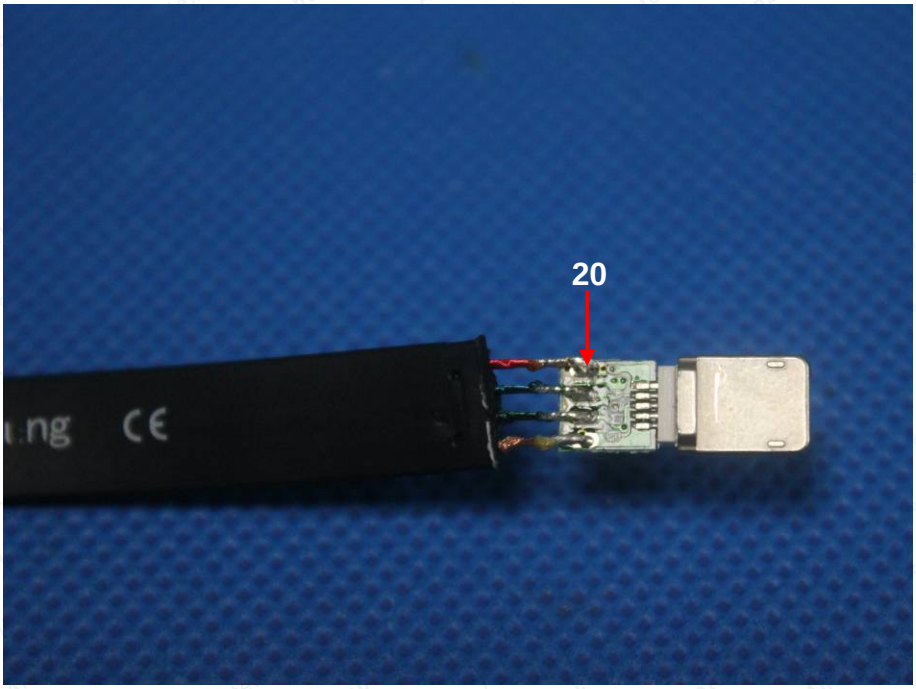


# Test Report





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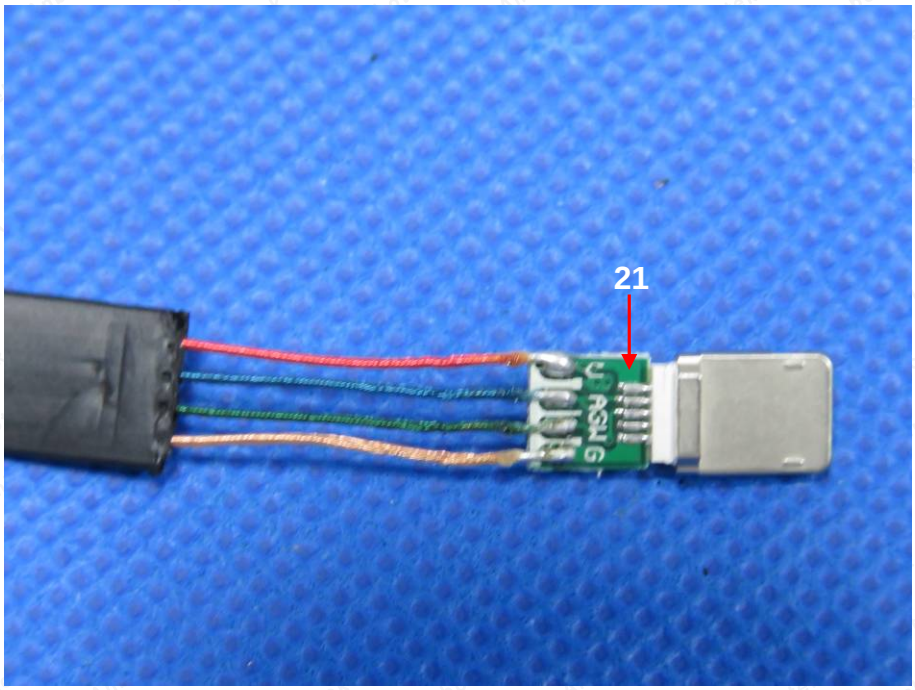
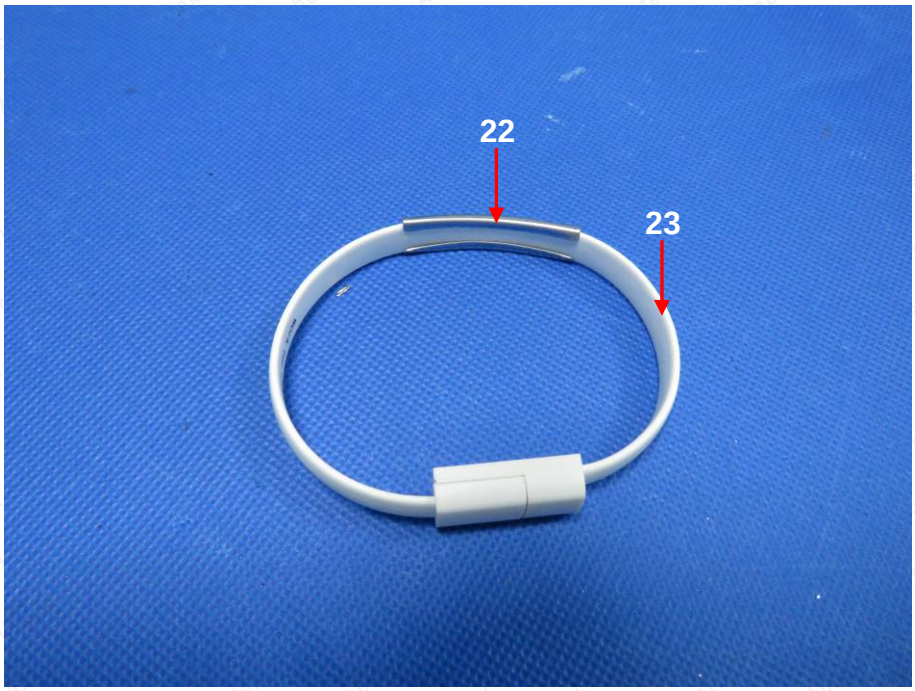
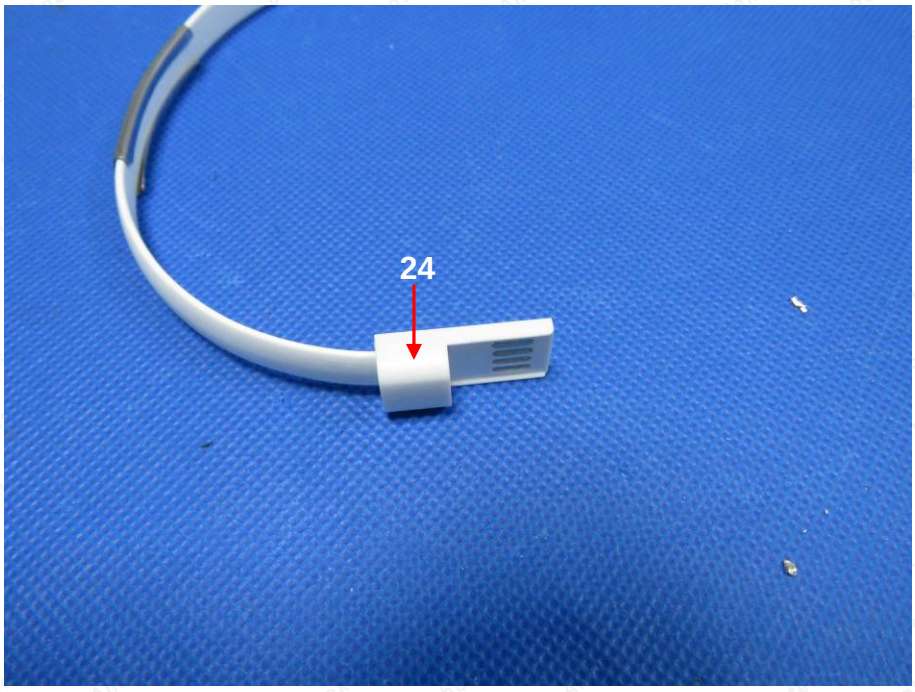
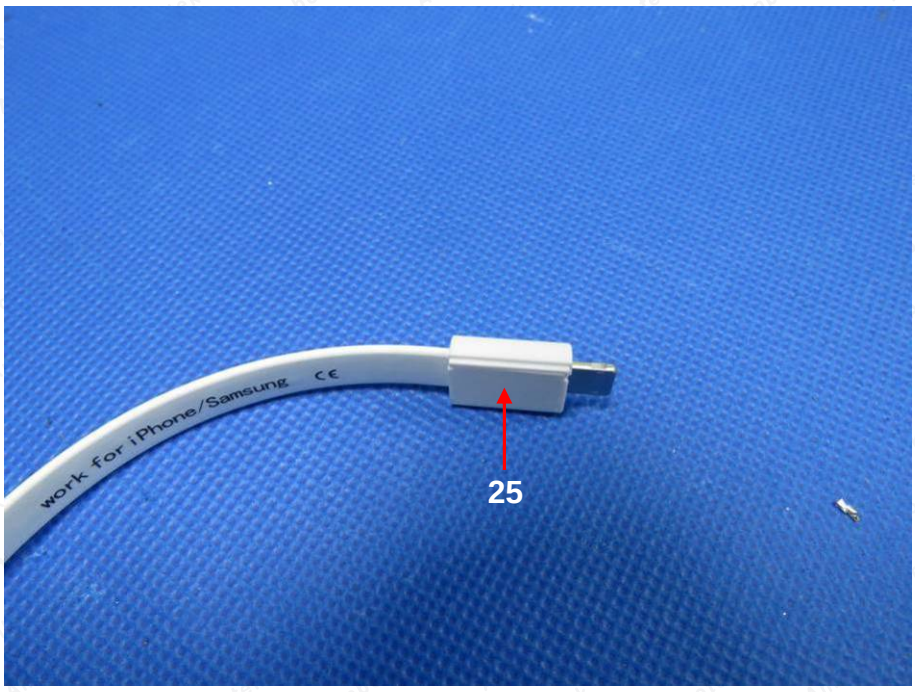


# Test Report






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

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