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### **Test Report**

Applicant's name ...... Shenzhen lingyike technology co., Itd

Address...... B127 Huitong Communication Market, Huaqiang North Street, Futian District,

Shenzhen

Manufacturer ...... Shenzhen lingyike technology co., Itd

Shenzhen

Trade Mark..... N/A

Test item description.....: Car charger

Model/Type reference...... See page 2(model list)

Date of receipt of test item...... Apr. 01, 2023

Date(s) of performance of tests....... Apr. 01-07, 2023

Date of report...... Apr. 07, 2023

#### **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.

2. As specified by client ,when screening results exceed the XRF screening limit in IEC62321:2013 Edition 1.0,further use of wet chemical methods are required to test Lead(Pb),Cadmium(Cd),Mercury(Hg),Hexavalent Chromium(Cr(VI)),Polybrominated Biphenyls(PBBs),Polybrominated Diphenyl Ethers(PBDEs),Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP) ,Butyl benzyl phthalate (BBP), Dibutylphthalate (DBP) ,and Diisobutyl phthalate (DIBP) in the submitted sample(s).

Test Results: PASS

### Conclusion:

The test results comply with the limits of RoHS 2.0 Directive (EU) 2015/863 amending Annex II to Directive

Signed for and on behalf of Lintek.

Jemmy Wang PSQ EADD1104/60



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## Test Report

#### **Model list**

BK-348,BK-349,BK-350,BK-351,BK-352,BK-353,BK-354,BK-355,BK-356,BK-357,BK-358,BK358-PD, BK358-2PD,BK-359,BK359-1A2C,BK359-3A2C,BK-360,BK-361,BK-362,BK362-PD,BK362-2PD,BK-363, BK363-PD,BK363-2PD,BK-364,BK-365,BK365-PD,BK365-2PD,BK-366,BK-367,BK-368,BK-369,BK-370, TE-P1,TE-P2,TE-P3,TE-P4,TE-P6,TE-P8,TE-P20,TE-P21,TE-P22,TE-P22,TE-P23TE-P26,TE-P27,TE-P58, TE-P31,TE-P32,TE-092,TE-093PD,TE-094,TE-096,WKN-707,WKN-708,KC-08,TE-201,TE-202,TE-328, TE-311,TE-330,TE-336,TE-337,TE-338,TE-339,TE-348,TE-348PD,TE-349,TE-350,TE-368,TE-369,TE-370, TE-371, TE-395,TE-681,TE-682,TE-683, TE-684,PD Car Charger,WGS-G28PD





**Test Report** 

| No. | Sample<br>Description | Test item                     | XRF Result | ChemicalTest (mg/kg) | Conclusion |
|-----|-----------------------|-------------------------------|------------|----------------------|------------|
| 1   | Black plastic         | Pb                            | BL         |                      |            |
| ·   |                       | Cd                            | BL         |                      |            |
|     |                       | Hg                            | BL         |                      | Pass       |
|     |                       | Cr(Cr(VI)                     | BL         |                      |            |
|     |                       | Br(PBBs&PBDEs)                | BL         |                      |            |
|     |                       | Phthalate(DBP\BBP \DEHP\DIBP) |            | N.D.                 |            |
| 2   | Metal of terminal     | Pb                            | BL         |                      |            |
| _   |                       | Cd                            | BL         |                      |            |
|     |                       | Hg                            | BL         |                      | Pass       |
|     |                       | Cr(Cr(VI)                     | BL         |                      |            |
|     |                       | Br(PBBs&PBDEs)                | N.D.       |                      |            |
|     |                       | Phthalate(DBP\BBP \DEHP\DIBP) |            | N.D.                 |            |
| 3   | Green plastic         | Pb                            | BL         |                      |            |
|     |                       | Cd                            | BL         |                      |            |
|     |                       | Hg                            | BL         |                      | Pass       |
|     |                       | Cr(Cr(VI)                     | BL         |                      |            |
|     |                       | Br(PBBs&PBDEs)                | BL         |                      |            |
|     |                       | Phthalate(DBP\BBP \DEHP\DIBP) |            | N.D.                 |            |
| 4   | Red plastic           | Pb                            | BL         |                      |            |
|     |                       | Cd                            | BL         |                      |            |
|     |                       | Hg                            | BL         |                      | Pass       |
|     |                       | Cr(Cr(VI)                     | N.D.       |                      |            |





**Test Report** 

|   |              | 1000                          | report |      |      |
|---|--------------|-------------------------------|--------|------|------|
| 5 | blue plastic | Pb                            | BL     |      |      |
|   |              | Cd                            | BL     |      |      |
|   |              | Hg                            | BL     |      | Pass |
|   |              | Cr(Cr(VI)                     | N.D.   |      |      |
|   |              | Br(PBBs&PBDEs)                | N.D.   |      |      |
|   |              | Phthalate(DBP\BBP \DEHP\DIBP) |        | N.D. |      |
| 6 | PCB          | Pb                            | BL     |      |      |
|   |              | Cd                            | BL     |      |      |
|   |              | Hg                            | BL     |      | Pass |
|   |              | Cr(Cr(VI)                     | BL     |      |      |
|   |              | Br(PBBs&PBDEs)                | N.D.   |      |      |
|   |              | Phthalate(DBP\BBP \DEHP\DIBP) |        | N.D. |      |
| 7 | Spring       | Pb                            | BL     |      |      |
|   |              | Cd                            | BL     |      |      |
|   |              | Hg                            | BL     |      | Pass |
|   |              | Cr(Cr(VI)                     | BL     |      |      |
|   |              | Br(PBBs&PBDEs)                | BL     |      |      |
|   |              | Phthalate(DBP\BBP \DEHP\DIBP) |        | N.D. |      |
| 8 | Metal        | Pb                            | BL     |      |      |
|   |              | Cd                            | BL     |      |      |
|   |              | Hg                            | BL     |      | Pass |
|   |              | Cr(Cr(VI)                     | BL     |      |      |
|   |              | Br(PBBs&PBDEs)                | BL     |      |      |





**Test Report** 

|    |              | 1691                          | Keport |      | _    |
|----|--------------|-------------------------------|--------|------|------|
|    |              | Phthalate(DBP\BBP             |        | N.D. |      |
|    |              | \DEHP\DIBP)                   |        |      |      |
| 9  | Copper       | Pb                            | BL     |      |      |
|    |              | Cd                            | BL     |      |      |
|    |              | Hg                            | BL     |      | Pass |
|    |              | Cr(Cr(VI)                     | BL     |      |      |
|    |              | Br(PBBs&PBDEs)                | BL     |      |      |
|    |              | Phthalate(DBP\BBP \DEHP\DIBP) |        | N.D. |      |
| 10 | Black rubber | Pb                            | BL     |      |      |
|    |              | Cd                            | BL     |      |      |
|    |              | Hg                            | BL     |      | Pass |
|    |              | Cr(Cr(VI)                     | BL     |      |      |
|    |              | Br(PBBs&PBDEs)                | BL     |      |      |
|    |              | Phthalate(DBP\BBP \DEHP\DIBP) |        | N.D. |      |
| 11 | Solder       | Pb                            | BL     |      |      |
|    |              | Cd                            | BL     |      |      |
|    |              | Hg                            | BL     |      | Pass |
|    |              | Cr(Cr(VI)                     | BL     |      |      |
|    |              | Br(PBBs&PBDEs)                | BL     |      |      |
|    |              | Phthalate(DBP\BBP \DEHP\DIBP) |        | N.D. |      |
| 12 | Capacitor    | Pb                            | BL     |      |      |
|    |              | Cd                            | BL     |      |      |
|    |              | Hg                            | BL     |      | Pass |
|    |              | Cr(Cr(VI)                     | BL     |      |      |





**Test Report** 

| i  | 1                | 1000                          | report |      | 7    |
|----|------------------|-------------------------------|--------|------|------|
|    |                  | Br(PBBs&PBDEs)                | BL     |      |      |
|    |                  | Phthalate(DBP\BBP \DEHP\DIBP) |        | N.D. |      |
| 13 | Core of inductor | Pb                            | BL     |      |      |
| 10 |                  | Cd                            | BL     |      |      |
|    |                  | Hg                            | BL     |      | Pass |
|    |                  | Cr(Cr(VI)                     | BL     |      |      |
|    |                  | Br(PBBs&PBDEs)                | BL     |      |      |
|    |                  | Phthalate(DBP\BBP \DEHP\DIBP) |        | N.D. |      |
| 14 | Wire of inductor | Pb                            | BL     |      |      |
|    |                  | Cd                            | BL     |      |      |
|    |                  | Hg                            | BL     |      | Pass |
|    |                  | Cr(Cr(VI)                     | BL     |      |      |
|    |                  | Br(PBBs&PBDEs)                | BL     |      |      |
|    |                  | Phthalate(DBP\BBP \DEHP\DIBP) |        | N.D. |      |
| 15 | Chip             | Pb                            | BL     |      |      |
|    |                  | Cd                            | BL     |      |      |
|    |                  | Hg                            | BL     |      | Pass |
|    |                  | Cr(Cr(VI)                     | BL     |      |      |
|    |                  | Br(PBBs&PBDEs)                | BL     |      |      |
|    |                  | Phthalate(DBP\BBP \DEHP\DIBP) |        | N.D. |      |
| 16 | Component        | Pb                            | BL     |      |      |
|    |                  | Cd                            | BL     |      |      |
|    |                  | Hg                            | BL     |      |      |

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**Test Report** 

|  | Cr(Cr(VI)                     | BL |      | Pass |
|--|-------------------------------|----|------|------|
|  | Br(PBBs&PBDEs)                | BL |      |      |
|  | Phthalate(DBP\BBP \DEHP\DIBP) |    | N.D. |      |

- 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 IEC62321:2013 Ed.1 Sec.6 & AnnesD.

| Element | Polymer Material  | Metallic Material  | Composite Material                      |
|---------|---|--|---|
| DI      | BL≤700-3σ≤X<1300+3σ   | BL≤700-3σ≤X<1300+3σ  | BL≤500-3σ≤X<1500+3σ                     |
| Pb      | ≤OL   | ≤OL  | ≤OL                                     |
|         | BL≤70-3σ≤X<130+3σ   | BL≤70-3σ≤X<130+3σ  | LOD <x<150+3σ≤ol< td=""></x<150+3σ≤ol<> |
| Cd      | ≤OL   | ≤OL  | LOD \ X \ 150+3030L                     |
| Ца      | BL≤700-3σ≤X<1300+3σ   | BL≤700-3σ≤X<1300+3σ  | BL≤500-3σ≤X<1500+3σ                     |
| Hg      | ≤OL   | ≤OL  | ≤OL                                     |
| Cr      | BL≤700-3σ <x< td=""><td>BL≤700-3σ<x< td=""><td>BL≤500-3σ<x< td=""></x<></td></x<></td></x<> | BL≤700-3σ <x< td=""><td>BL≤500-3σ<x< td=""></x<></td></x<> | BL≤500-3σ <x< td=""></x<>               |
| Br      | BL≤300-3σ <x< td=""><td></td><td>BL≤250-3σ<x< td=""></x<></td></x<>                         |  | BL≤250-3σ <x< td=""></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:

- -BL = Under the XRF screening limit
- -OL = Furture chemical test will be conducted while result is above the screening limit
- -X =The symbol"X"marks the region where further investingation in necessary
- -3σ=The reproducibility of analytical instruments
- -LOD=Detection limit



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# **Test Report**

#### 3. Wet chemical test

| Test Item(s)                      | Test Method                            | Test Equipment | MDL |
|-----------------------------------|--|----------------|-----|
| Pb IEC62321-5:2013                |  | ICP-AES        | 2   |
| Cd                                | IEC62321-5:2013                        | ICP-AES        | 2   |
| Hg                                | IEC62321-4:2013                        | ICP-AES        | 2   |
| Cr(VI)                            | IEC62321-7-1:2015<br>IEC62321-7-2:2017 | UV-Vis         | 2   |
| PBB                               | IEC62321-6:2015                        | GC-MS          | 5   |
| PBDE                              | IEC62321-6:2015                        | GC-MS          | 5   |
| Dibutyl Phthalate(DBP)            | IEC62321-8:2017                        | GC-MS          | 30  |
| Benzylbutyl Phthalate<br>(BBP)    | IEC62321-8:2017                        | GC-MS          | 30  |
| Di-(2-ethylhexyl) Phthalate(DEHP) | IEC62321-8:2017                        | GC-MS          | 30  |
| Diisobutyl phthalate (DIBP)       | IEC62321-8:2017                        | GC-MS          | 30  |

**Note**: - mg/kg= ppm=0.0001%

-ND=Not Detected(<MDL)

- MDL = Method Detection Limit

-- = No Testing

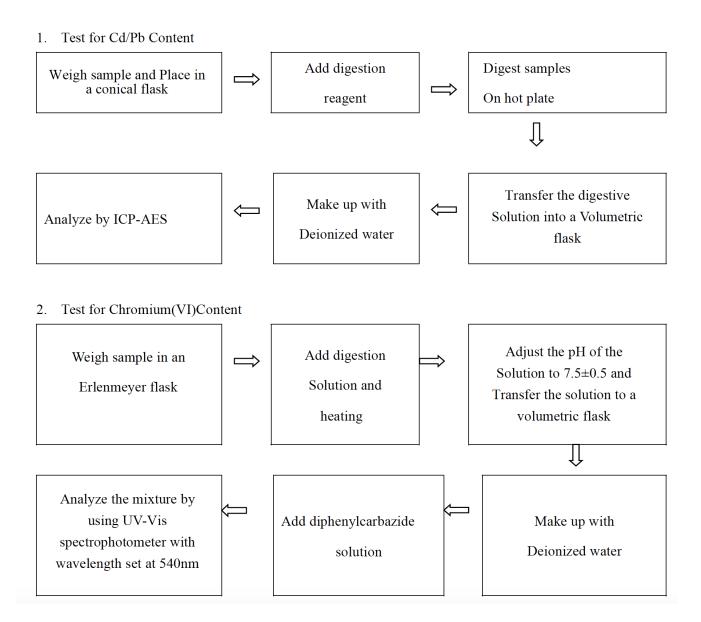
-Negative = Absence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is less than 0.02  $\,$  mg/kg  $\,$  with 50cm2  $\,$  sample  $\,$  surface

-\*=According to 2011/65/EU Annex,point 6-Lead as an alloying element is steel containing up to 0.35% lead by weight, aluminum containing up to 0.4% lead by weight and as a copper alloy, containing up to 4% leda by weight can be exempted.



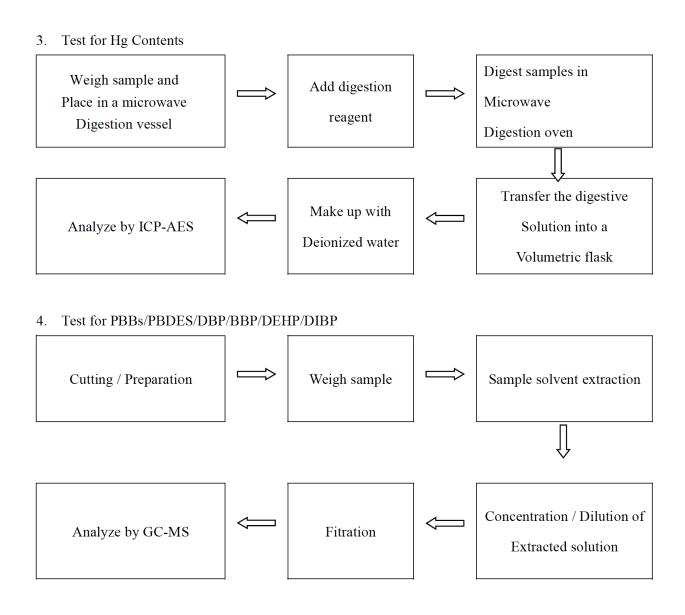
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#### **Test Process:**





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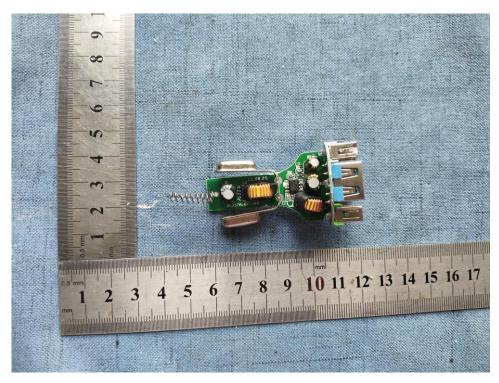




### Photograph of Sample:

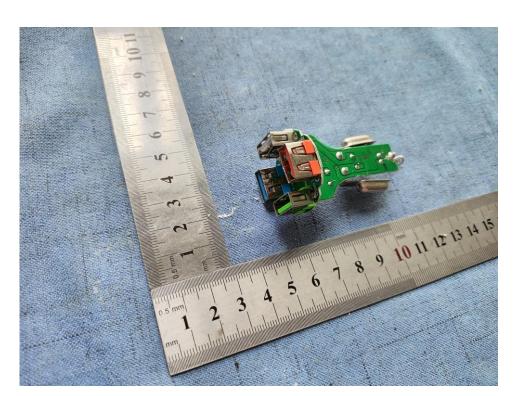


Photographs 01: Overall view-BK358



Photographs 02: PCB view--BK358

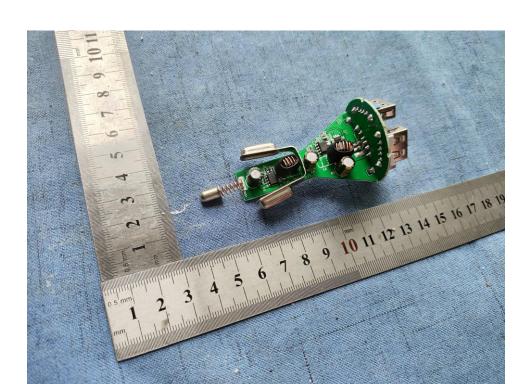




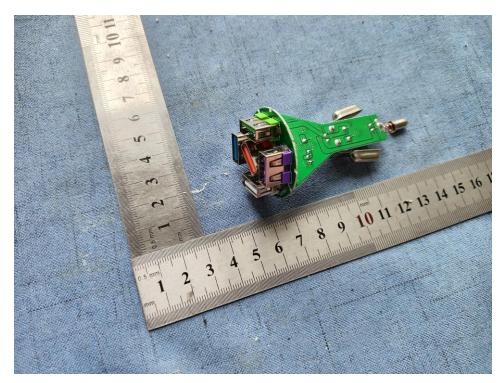
Photographs 03: PCB view -- BK358



Photographs 04: Overall view-BK359



Photographs 05: PCB view -- BK359

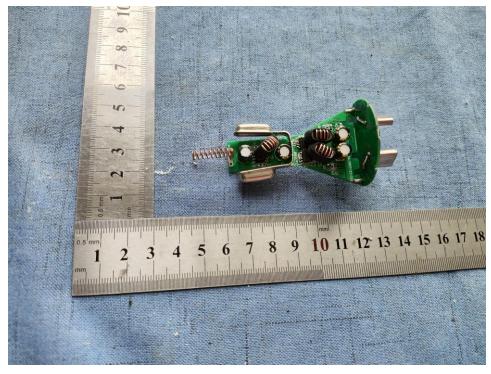


Photographs 06: PCB view -- BK359





Photographs 07: Overall view- BK359-1A2C



Photographs 08: PCB view -- BK359-1A2C



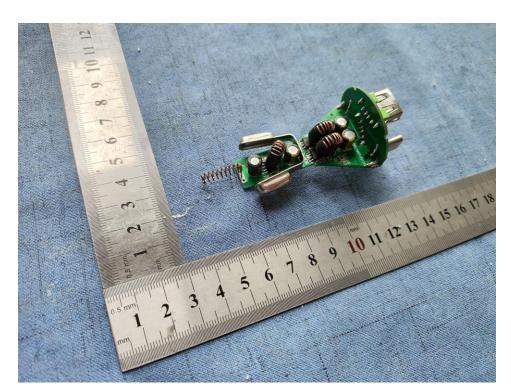


Photographs 09: PCB view -- BK359-1A2C

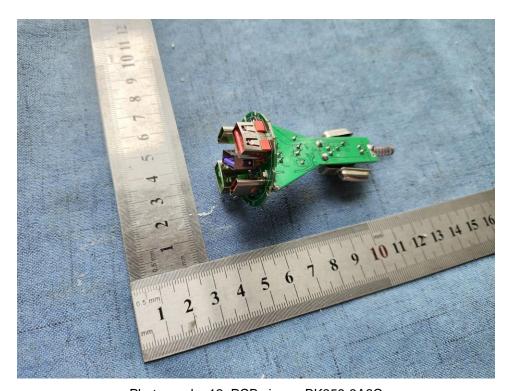


Photographs 10: Overall view- BK359-3A2C





Photographs 11: PCB view -- BK359-3A2C

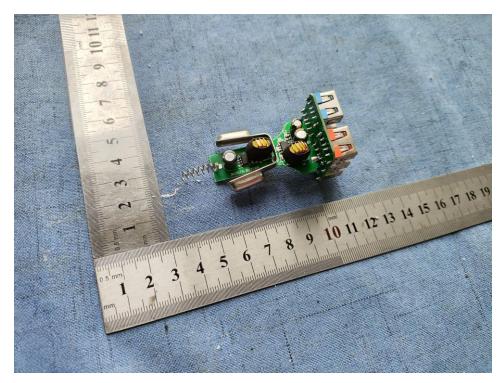


Photographs 12: PCB view -- BK359-3A2C





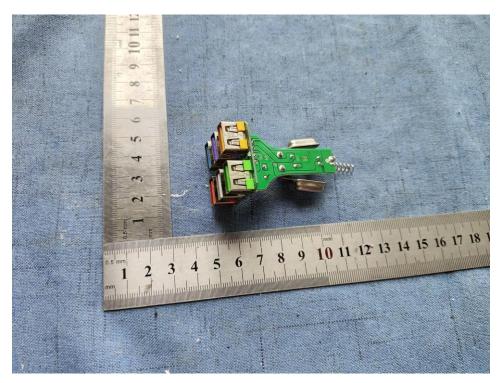
Photographs 13: Overall view- BK360



Photographs 14: PCB view -- BK360







Photographs 15: PCB view -- BK360