



# CE RoHS TEST REPORT

For

LED bulb

**Model No.:** BQP01、BQP02、BQP03、BSD01、BSD02、BLZ01

**Applicant :** ZhongShan Berdis Lighting Co.,LTD.  
5F, No.10-12, South 2nd Lane, Huasheng East Road, Caosan Industrial Park,Guzhen Town,Zhongshan City, Guangdong Province, China

**Manufacturer :** ZhongShan Berdis Lighting Co.,LTD.  
5F, No.10-12, South 2nd Lane, Huasheng East Road, Caosan Industrial Park,Guzhen Town,Zhongshan City, Guangdong Province, China

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**Report Number :** GST1403240148R

**Issued Date :** March 26, 2014

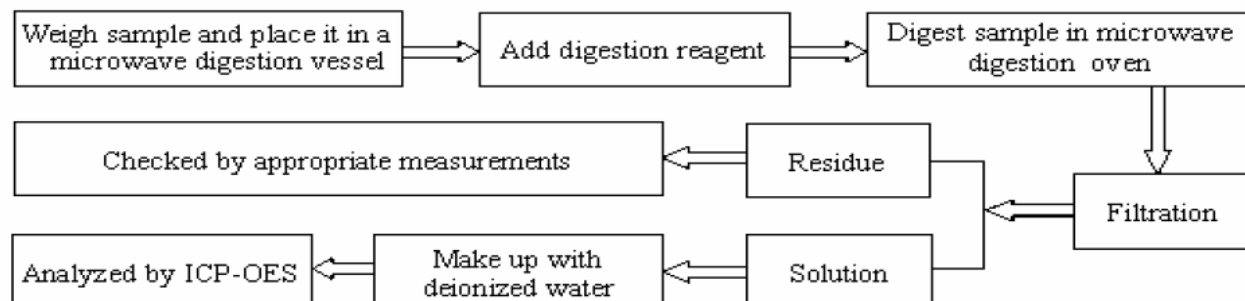
**Date of Report :** March 26, 2014

**Note:**

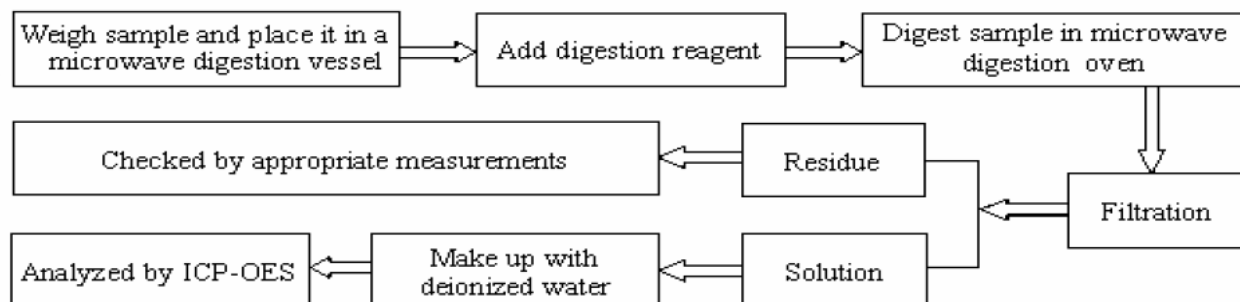
- 1 The test data and result is based on the tested sample only.
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## Test process

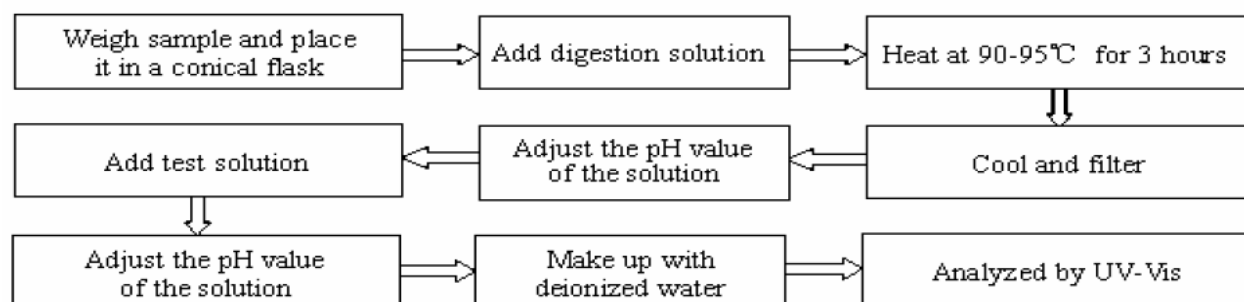
### 1. Lead(Pb), Cadmium(Cd)



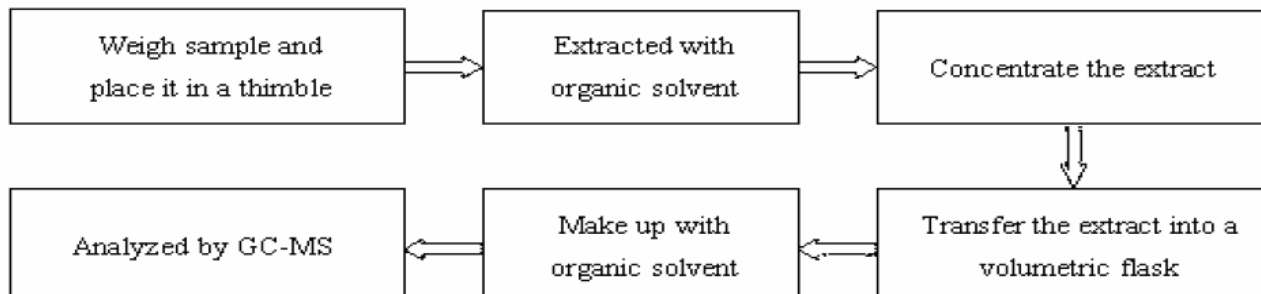
### 2. Mercury(Hg)



### 3. Hexavalent Chromium (Cr(VI))



**4. Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers(PBDEs) ,  
HBCDD, DBP, DEHP, BBP**



**Method Detection Limit (MDL) in wet chemical test**

| Test Items | Pb    | Cd    | Hg    | PBBs & PBDEs |
|------------|-------|-------|-------|--------------|
| Unit       | mg/kg | mg/kg | mg/kg | mg/kg        |
| MDL        | 2     | 2     | 2     | 2            |

|            |                                                                                                                                                                                                                                                                                                                                                                                  |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Result     | : Pass                                                                                                                                                                                                                                                                                                                                                                           |
| Conclusion | : An independent evaluation on the above-mentioned product(s) has been conducted pursuant to 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment, and concluded that the equipment under evaluation met the legislative requirements of this directive. |

Reviewed by

Kevin Liu

March 26, 2014

**Test Data Summary :**

| SAMP<br>LE NO. | COMPONENTS      | Item  | Results of<br>EDXRF<br>(P/F/D) | Results of<br>testing<br>(mg/kg) | Chemical<br>testing<br>limit<br>(mg/kg) | Conclusio<br>n<br>(P/F) |
|----------------|-----------------|-------|--------------------------------|----------------------------------|-----------------------------------------|-------------------------|
| 1              | E27 Lamp cap    | Cd    | P                              | N.D.                             | < 100                                   | P                       |
|                |                 | Cr    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                 | Hg    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                 | Pb    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                 | PBBs  | D                              | /                                | < 1000                                  | P                       |
|                |                 | PBDEs | D                              | /                                | < 1000                                  | P                       |
|                |                 | HBCDD | D                              | /                                | < 1000                                  | P                       |
|                |                 | DEHP  | D                              | /                                | < 1000                                  | P                       |
|                |                 | DBP   | D                              | /                                | < 1000                                  | P                       |
|                |                 | BBP   | D                              | /                                | < 1000                                  | P                       |
| 2              | Lampshade       | Cd    | P                              |                                  | < 100                                   | P                       |
|                |                 | Cr    | P                              | /                                | < 1000                                  | P                       |
|                |                 | Hg    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                 | Pb    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                 | PBBs  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | PBDEs | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | HBCDD | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | DEHP  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | DBP   | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | BBP   | D                              | N.D.                             | < 1000                                  | P                       |
| 3              | Ceram enclosure | Cd    | P                              | N.D.                             | < 100                                   | P                       |
|                |                 | Cr    | P                              | /                                | < 1000                                  | P                       |
|                |                 | Hg    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                 | Pb    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                 | PBBs  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | PBDEs | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | HBCDD | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | DEHP  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | DBP   | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | BBP   | D                              | N.D.                             | < 1000                                  | P                       |
| 4              | Lamp base       | Cd    | P                              | N.D.                             | < 100                                   | P                       |
|                |                 | Cr    | P                              | /                                | < 1000                                  | P                       |
|                |                 | Hg    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                 | Pb    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                 | PBBs  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | PBDEs | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | HBCDD | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | DEHP  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | DBP   | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | BBP   | D                              | N.D.                             | < 1000                                  | P                       |

| SAMP<br>LE NO. | COMPONENTS     | Item  | Results of<br>EDXRF<br>(P/F/D) | Results of<br>testing<br>(mg/kg) | Chemical<br>testing<br>limit<br>(mg/kg) | Conclusio<br>n<br>(P/F) |
|----------------|----------------|-------|--------------------------------|----------------------------------|-----------------------------------------|-------------------------|
| 5              | Internal wire  | Cd    | P                              | N.D.                             | < 100                                   | P                       |
|                |                | Cr    | P                              | /                                | < 1000                                  | P                       |
|                |                | Hg    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                | Pb    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                | PBBs  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                | PBDEs | D                              | N.D.                             | < 1000                                  | P                       |
|                |                | HBCDD | D                              | N.D.                             | < 1000                                  | P                       |
|                |                | DEHP  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                | DBP   | D                              | N.D.                             | < 1000                                  | P                       |
|                |                | BBP   | D                              | N.D.                             | < 1000                                  | P                       |
| 6              | Aluminium base | Cd    | P                              | N.D.                             | < 100                                   | P                       |
|                |                | Cr    | P                              | /                                | < 1000                                  | P                       |
|                |                | Hg    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                | Pb    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                | PBBs  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                | PBDEs | D                              | N.D.                             | < 1000                                  | P                       |
|                |                | HBCDD | D                              | N.D.                             | < 1000                                  | P                       |
|                |                | DEHP  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                | DBP   | D                              | N.D.                             | < 1000                                  | P                       |
|                |                | BBP   | D                              | N.D.                             | < 1000                                  | P                       |
| 7              | Glue           | Cd    | P                              | N.D.                             | < 100                                   | P                       |
|                |                | Cr    | P                              | /                                | < 1000                                  | P                       |
|                |                | Hg    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                | Pb    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                | PBBs  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                | PBDEs | D                              | N.D.                             | < 1000                                  | P                       |
|                |                | HBCDD | D                              | N.D.                             | < 1000                                  | P                       |
|                |                | DEHP  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                | DBP   | D                              | N.D.                             | < 1000                                  | P                       |
|                |                | BBP   | D                              | N.D.                             | < 1000                                  | P                       |
| 8              | Rectifier      | Cd    | P                              | N.D.                             | < 100                                   | P                       |
|                |                | Cr    | P                              | /                                | < 1000                                  | P                       |
|                |                | Hg    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                | Pb    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                | PBBs  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                | PBDEs | D                              | N.D.                             | < 1000                                  | P                       |
|                |                | HBCDD | D                              | N.D.                             | < 1000                                  | P                       |
|                |                | DEHP  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                | DBP   | D                              | N.D.                             | < 1000                                  | P                       |
|                |                | BBP   | D                              | N.D.                             | < 1000                                  | P                       |

| SAMP<br>LE NO. | COMPONENTS    | Item  | Results of<br>EDXRF<br>(P/F/D) | Results of<br>testing<br>(mg/kg) | Chemical<br>testing<br>limit<br>(mg/kg) | Conclusio<br>n<br>(P/F) |
|----------------|---------------|-------|--------------------------------|----------------------------------|-----------------------------------------|-------------------------|
| 9              | Capacitor     | Cd    | P                              | N.D.                             | < 100                                   | P                       |
|                |               | Cr    | P                              | /                                | < 1000                                  | P                       |
|                |               | Hg    | P                              | N.D.                             | < 1000                                  | P                       |
|                |               | Pb    | P                              | N.D.                             | < 1000                                  | P                       |
|                |               | PBBs  | D                              | N.D.                             | < 1000                                  | P                       |
|                |               | PBDEs | D                              | N.D.                             | < 1000                                  | P                       |
|                |               | HBCDD | D                              | N.D.                             | < 1000                                  | P                       |
|                |               | DEHP  | D                              | N.D.                             | < 1000                                  | P                       |
|                |               | DBP   | D                              | N.D.                             | < 1000                                  | P                       |
|                |               | BBP   | D                              | N.D.                             | < 1000                                  | P                       |
| 10             | SMD rectifier | Cd    | P                              | N.D.                             | < 100                                   | P                       |
|                |               | Cr    | P                              | /                                | < 1000                                  | P                       |
|                |               | Hg    | P                              | N.D.                             | < 1000                                  | P                       |
|                |               | Pb    | P                              | N.D.                             | < 1000                                  | P                       |
|                |               | PBBs  | D                              | N.D.                             | < 1000                                  | P                       |
|                |               | PBDEs | D                              | N.D.                             | < 1000                                  | P                       |
|                |               | HBCDD | D                              | N.D.                             | < 1000                                  | P                       |
|                |               | DEHP  | D                              | N.D.                             | < 1000                                  | P                       |
|                |               | DBP   | D                              | N.D.                             | < 1000                                  | P                       |
|                |               | BBP   | D                              | N.D.                             | < 1000                                  | P                       |
| 11             | Diode         | Cd    | P                              | N.D.                             | < 100                                   | P                       |
|                |               | Cr    | P                              | /                                | < 1000                                  | P                       |
|                |               | Hg    | P                              | N.D.                             | < 1000                                  | P                       |
|                |               | Pb    | P                              | N.D.                             | < 1000                                  | P                       |
|                |               | PBBs  | D                              | N.D.                             | < 1000                                  | P                       |
|                |               | PBDEs | D                              | N.D.                             | < 1000                                  | P                       |
|                |               | HBCDD | D                              | N.D.                             | < 1000                                  | P                       |
|                |               | DEHP  | D                              | N.D.                             | < 1000                                  | P                       |
|                |               | DBP   | D                              | N.D.                             | < 1000                                  | P                       |
|                |               | BBP   | D                              | N.D.                             | < 1000                                  | P                       |
| 12             | LED body      | Cd    | P                              | N.D.                             | < 100                                   | P                       |
|                |               | Cr    | P                              | /                                | < 1000                                  | P                       |
|                |               | Hg    | P                              | N.D.                             | < 1000                                  | P                       |
|                |               | Pb    | P                              | N.D.                             | < 1000                                  | P                       |
|                |               | PBBs  | D                              | N.D.                             | < 1000                                  | P                       |
|                |               | PBDEs | D                              | N.D.                             | < 1000                                  | P                       |
|                |               | HBCDD | D                              | N.D.                             | < 1000                                  | P                       |
|                |               | DEHP  | D                              | N.D.                             | < 1000                                  | P                       |
|                |               | DBP   | D                              | N.D.                             | < 1000                                  | P                       |
|                |               | BBP   | D                              | N.D.                             | < 1000                                  | P                       |

| SAMP<br>LE NO. | COMPONENTS            | Item  | Results of<br>EDXRF<br>(P/F/D) | Results of<br>testing<br>(mg/kg) | Chemical<br>testing<br>limit<br>(mg/kg) | Conclusio<br>n<br>(P/F) |
|----------------|-----------------------|-------|--------------------------------|----------------------------------|-----------------------------------------|-------------------------|
| 13             | Soldering tin         | Cd    | P                              | N.D.                             | < 100                                   | P                       |
|                |                       | Cr    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                       | Hg    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                       | Pb    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                       | PBBs  | D                              | /                                | < 1000                                  | P                       |
|                |                       | PBDEs | D                              | /                                | < 1000                                  | P                       |
|                |                       | HBCDD | D                              | /                                | < 1000                                  | P                       |
|                |                       | DEHP  | D                              | /                                | < 1000                                  | P                       |
|                |                       | DBP   | D                              | /                                | < 1000                                  | P                       |
|                |                       | BBP   | D                              | /                                | < 1000                                  | P                       |
| 14             | Piezoresistor         | Cd    | P                              | N.D.                             | < 100                                   | P                       |
|                |                       | Cr    | P                              | /                                | < 1000                                  | P                       |
|                |                       | Hg    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                       | Pb    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                       | PBBs  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                       | PBDEs | D                              | N.D.                             | < 1000                                  | P                       |
|                |                       | HBCDD | D                              | N.D.                             | < 1000                                  | P                       |
|                |                       | DEHP  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                       | DBP   | D                              | N.D.                             | < 1000                                  | P                       |
|                |                       | BBP   | D                              | N.D.                             | < 1000                                  | P                       |
| 15             | Fuse                  | Cd    | P                              | N.D.                             | < 100                                   | P                       |
|                |                       | Cr    | P                              | /                                | < 1000                                  | P                       |
|                |                       | Hg    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                       | Pb    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                       | PBBs  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                       | PBDEs | D                              | N.D.                             | < 1000                                  | P                       |
|                |                       | HBCDD | D                              | N.D.                             | < 1000                                  | P                       |
|                |                       | DEHP  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                       | DBP   | D                              | N.D.                             | < 1000                                  | P                       |
|                |                       | BBP   | D                              | N.D.                             | < 1000                                  | P                       |
| 16             | Insulated rubber tape | Cd    | P                              | N.D.                             | < 100                                   | P                       |
|                |                       | Cr    | P                              | /                                | < 1000                                  | P                       |
|                |                       | Hg    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                       | Pb    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                       | PBBs  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                       | PBDEs | D                              | N.D.                             | < 1000                                  | P                       |
|                |                       | HBCDD | D                              | N.D.                             | < 1000                                  | P                       |
|                |                       | DEHP  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                       | DBP   | D                              | N.D.                             | < 1000                                  | P                       |
|                |                       | BBP   | D                              | N.D.                             | < 1000                                  | P                       |

| SAMP<br>LE NO. | COMPONENTS      | Item  | Results of<br>EDXRF<br>(P/F/D) | Results of<br>testing<br>(mg/kg) | Chemical<br>testing<br>limit<br>(mg/kg) | Conclusio<br>n<br>(P/F) |
|----------------|-----------------|-------|--------------------------------|----------------------------------|-----------------------------------------|-------------------------|
| 17             | Bobbin          | Cd    | P                              | N.D.                             | < 100                                   | P                       |
|                |                 | Cr    | P                              | /                                | < 1000                                  | P                       |
|                |                 | Hg    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                 | Pb    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                 | PBBs  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | PBDEs | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | HBCDD | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | DEHP  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | DBP   | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | BBP   | D                              | N.D.                             | < 1000                                  | P                       |
| 18             | Winding         | Cd    | P                              | N.D.                             | < 100                                   | P                       |
|                |                 | Cr    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                 | Hg    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                 | Pb    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                 | PBBs  | D                              | /                                | < 1000                                  | P                       |
|                |                 | PBDEs | D                              | /                                | < 1000                                  | P                       |
|                |                 | HBCDD | D                              | /                                | < 1000                                  | P                       |
|                |                 | DEHP  | D                              | /                                | < 1000                                  | P                       |
|                |                 | DBP   | D                              | /                                | < 1000                                  | P                       |
|                |                 | BBP   | D                              | /                                | < 1000                                  | P                       |
| 19             | Insulation tape | Cd    | P                              | N.D.                             | < 100                                   | P                       |
|                |                 | Cr    | P                              | /                                | < 1000                                  | P                       |
|                |                 | Hg    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                 | Pb    | P                              | N.D.                             | < 1000                                  | P                       |
|                |                 | PBBs  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | PBDEs | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | HBCDD | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | DEHP  | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | DBP   | D                              | N.D.                             | < 1000                                  | P                       |
|                |                 | BBP   | D                              | N.D.                             | < 1000                                  | P                       |

Note:

(1) N.D. = Not detected (<MDL)

(2) ppm = mg/kg

(3) N.A. = Not Analyzed

(4) Negative = the concentration of Hexavalent Chromium extracted from 50cm<sup>2</sup> sample is less than the detection limit.



## Appendix 1

### Photo Documentation

Photo 1

View:

- ☒ Front
- ☐ Rear
- ☐ Right side
- ☐ Left side
- ☐ Top
- ☐ Bottom
- ☐ Internal



Photo 2

View:

- ☐ Front
- ☐ Rear
- ☐ Right side
- ☐ Left side
- ☐ Top
- ☐ Bottom
- ☐ LED
- ☒ Internal



Photo 3

View:

- ☐ Front
- ☐ Rear
- ☐ Right side
- ☐ Left side
- ☐ Top
- ☐ Bottom
- ☒ Internal

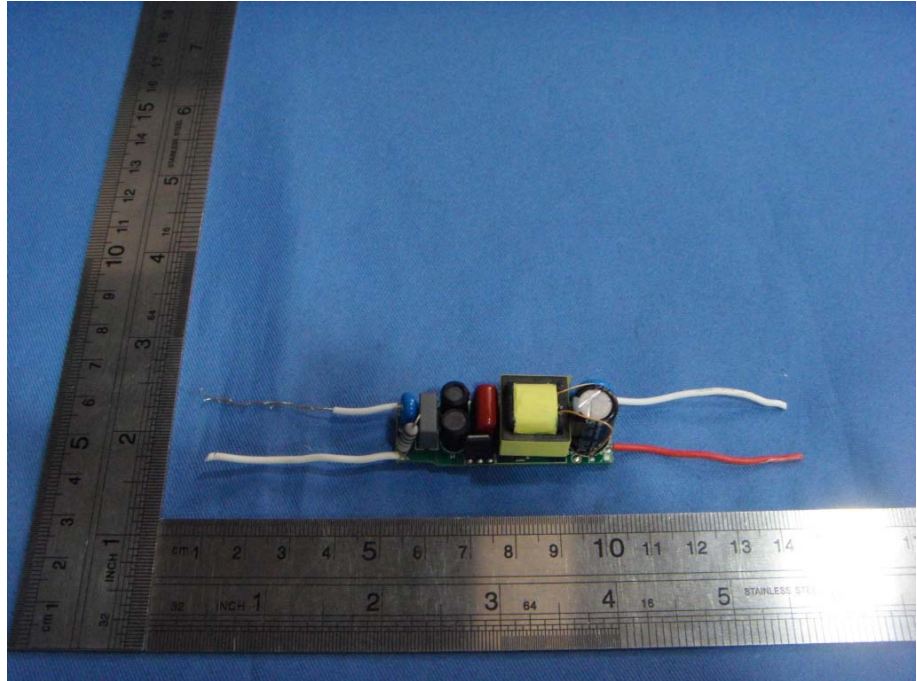
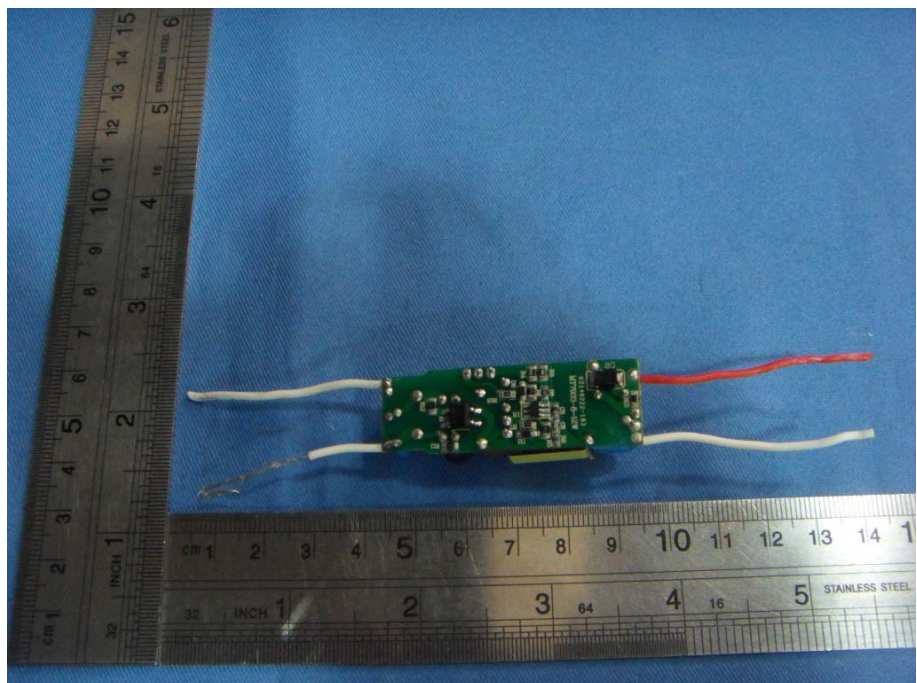


Photo 4

View:

- ☐ Front
- ☐ Rear
- ☐ Right side
- ☐ Left side
- ☐ Top
- ☐ Bottom
- ☒ Internal



END.