



# Test Report

No.: CTL1810231011-R

Date: Nov. 23, 2018

Page 1 of 16

**Applicant:** Shenzhen Yuguang New Material Co., Ltd.

**Address:** 2/F, Building 3, Huaqiang Industrial Logistics Park, No. 43 Qingfeng Avenue, Longgang District, Shenzhen

**Manufacturer:** Shenzhen Yuguang New Material Co., Ltd.

**Address:** 2/F, Building 3, Huaqiang Industrial Logistics Park, No. 43 Qingfeng Avenue, Longgang District, Shenzhen

**Sample Name:** PDLC

**Model No:** 300W, 30W, 50W, 100W, 200W

**Trade Mark:** 深圳御光新材

**Test period:** Nov. 19, 2018 to Nov. 23, 2018

**Test requested:** RoHS Directive 2011/65/EU Annex II and its amendment Directive EU 2015/863.

**Test Method:** IEC 62321-7-2:2017 method: Regulated Substances Content of test process with Electrical & Electronic Products

- (1) With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
- (2) With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.
- (3) With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.
- (4) With reference to IEC 62321-7-2:2017, determination of Hexavalent Chromium by Colorimetric Method using UV-Vis and/or with reference to IEC 62321-5:2013, determination of Chromium by ICP-OES.
- (5) With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.
- (6) With reference to IEC 62321-8:2015, determination of phthalates by GC-MS

Written by:

Approved by:

Jacky Chen

# Test Report

No.: CTL1810231011-R

Date: Nov. 23, 2018

Page 2 of 16

## Test Results:

| Part No. | Part Name          | Restricted Substances | Unit  | Results | Reference report No.               |
|----------|--------------------|-----------------------|-------|---------|------------------------------------|
| 1        | Glass              | Cd                    | mg/kg | N.D.    | SGS Report No.:<br>CANEC1612623659 |
|          |                    | Pb                    | mg/kg | N.D.    |                                    |
|          |                    | Hg                    | mg/kg | N.D.    |                                    |
|          |                    | Cr <sup>6+</sup>      | mg/kg | N.D.    |                                    |
|          |                    | PBBs                  | mg/kg | N.D.    |                                    |
|          |                    | PBDEs                 | mg/kg | N.D.    |                                    |
|          |                    | DBP                   | mg/kg | N.D.    |                                    |
|          |                    | BBP                   | mg/kg | N.D.    |                                    |
|          |                    | DEHP                  | mg/kg | N.D.    |                                    |
| 2        | Plastic            | Cd                    | mg/kg | N.D.    | SGS Report No.:<br>CANEC1612634858 |
|          |                    | Pb                    | mg/kg | N.D.    |                                    |
|          |                    | Hg                    | mg/kg | N.D.    |                                    |
|          |                    | Cr <sup>6+</sup>      | mg/kg | N.D.    |                                    |
|          |                    | PBBs                  | mg/kg | N.D.    |                                    |
|          |                    | PBDEs                 | mg/kg | N.D.    |                                    |
|          |                    | DBP                   | mg/kg | N.D.    |                                    |
|          |                    | BBP                   | mg/kg | N.D.    |                                    |
|          |                    | DEHP                  | mg/kg | N.D.    |                                    |
| 3        | The remote control | Cd                    | mg/kg | N.D.    | SGS Report No.:<br>CANEC1612653232 |
|          |                    | Pb                    | mg/kg | N.D.    |                                    |
|          |                    | Hg                    | mg/kg | N.D.    |                                    |
|          |                    | Cr <sup>6+</sup>      | mg/kg | N.D.    |                                    |
|          |                    | PBBs                  | mg/kg | N.D.    |                                    |
|          |                    | PBDEs                 | mg/kg | N.D.    |                                    |
|          |                    | DBP                   | mg/kg | N.D.    |                                    |
|          |                    | BBP                   | mg/kg | N.D.    |                                    |
|          |                    | DEHP                  | mg/kg | N.D.    |                                    |
| DIBP     | mg/kg              | N.D.                  |       |         |                                    |

# Test Report

No.: CTL1810231011-R

Date: Nov. 23, 2018

Page 3 of 16

| Part No. | Part Name  | Restricted Substances | Unit  | Results | Reference report No.               |
|----------|------------|-----------------------|-------|---------|------------------------------------|
| 4        | Metal case | Cd                    | mg/kg | N.D.    | SGS Report No.:<br>CANEC1612294677 |
|          |            | Pb                    | mg/kg | N.D.    |                                    |
|          |            | Hg                    | mg/kg | N.D.    |                                    |
|          |            | Cr <sup>6+</sup>      | mg/kg | N.D.    |                                    |
| 5        | Screw      | Cd                    | mg/kg | N.D.    | SGS Report No.:<br>CANEC1611591364 |
|          |            | Pb                    | mg/kg | N.D.    |                                    |
|          |            | Hg                    | mg/kg | N.D.    |                                    |
|          |            | Cr <sup>6+</sup>      | mg/kg | N.D.    |                                    |
| 6        | Red wire   | Cd                    | mg/kg | N.D.    | SGS Report No.:<br>CANEC1612326211 |
|          |            | Pb                    | mg/kg | N.D.    |                                    |
|          |            | Hg                    | mg/kg | N.D.    |                                    |
|          |            | Cr <sup>6+</sup>      | mg/kg | N.D.    |                                    |
|          |            | PBBs                  | mg/kg | N.D.    |                                    |
|          |            | PBDEs                 | mg/kg | N.D.    |                                    |
|          |            | DBP                   | mg/kg | N.D.    |                                    |
|          |            | BBP                   | mg/kg | N.D.    |                                    |
|          |            | DEHP                  | mg/kg | N.D.    |                                    |
| DIBP     | mg/kg      | N.D.                  |       |         |                                    |
| 7        | Blue wire  | Cd                    | mg/kg | N.D.    | SGS Report No.:<br>CANEC1611526211 |
|          |            | Pb                    | mg/kg | N.D.    |                                    |
|          |            | Hg                    | mg/kg | N.D.    |                                    |
|          |            | Cr <sup>6+</sup>      | mg/kg | N.D.    |                                    |
|          |            | PBBs                  | mg/kg | N.D.    |                                    |
|          |            | PBDEs                 | mg/kg | N.D.    |                                    |
|          |            | DBP                   | mg/kg | N.D.    |                                    |
|          |            | BBP                   | mg/kg | N.D.    |                                    |
|          |            | DEHP                  | mg/kg | N.D.    |                                    |
| DIBP     | mg/kg      | N.D.                  |       |         |                                    |

# Test Report

No.: CTL1810231011-R

Date: Nov. 23, 2018

Page 4 of 16

| Part No. | Part Name  | Restricted Substances | Unit  | Results | Reference report No.               |
|----------|------------|-----------------------|-------|---------|------------------------------------|
| 8        | Brown wire | Cd                    | mg/kg | N.D.    | SGS Report No.:<br>CANEC1610512653 |
|          |            | Pb                    | mg/kg | N.D.    |                                    |
|          |            | Hg                    | mg/kg | N.D.    |                                    |
|          |            | Cr <sup>6+</sup>      | mg/kg | N.D.    |                                    |
|          |            | PBBs                  | mg/kg | N.D.    |                                    |
|          |            | PBDEs                 | mg/kg | N.D.    |                                    |
|          |            | DBP                   | mg/kg | N.D.    |                                    |
|          |            | BBP                   | mg/kg | N.D.    |                                    |
|          |            | DEHP                  | mg/kg | N.D.    |                                    |
|          |            | DIBP                  | mg/kg | N.D.    |                                    |
| 9        | Black wire | Cd                    | mg/kg | N.D.    | SGS Report No.:<br>CANEC1611903314 |
|          |            | Pb                    | mg/kg | N.D.    |                                    |
|          |            | Hg                    | mg/kg | N.D.    |                                    |
|          |            | Cr <sup>6+</sup>      | mg/kg | N.D.    |                                    |
|          |            | PBBs                  | mg/kg | N.D.    |                                    |
|          |            | PBDEs                 | mg/kg | N.D.    |                                    |
|          |            | DBP                   | mg/kg | N.D.    |                                    |
|          |            | BBP                   | mg/kg | N.D.    |                                    |
|          |            | DEHP                  | mg/kg | N.D.    |                                    |
|          |            | DIBP                  | mg/kg | N.D.    |                                    |
| 10       | Key switch | Cd                    | mg/kg | N.D.    | SGS Report No.:<br>CANEC1610006828 |
|          |            | Pb                    | mg/kg | N.D.    |                                    |
|          |            | Hg                    | mg/kg | N.D.    |                                    |
|          |            | Cr <sup>6+</sup>      | mg/kg | N.D.    |                                    |
|          |            | PBBs                  | mg/kg | N.D.    |                                    |
|          |            | PBDEs                 | mg/kg | N.D.    |                                    |
|          |            | DBP                   | mg/kg | N.D.    |                                    |
|          |            | BBP                   | mg/kg | N.D.    |                                    |
|          |            | DEHP                  | mg/kg | N.D.    |                                    |
|          |            | DIBP                  | mg/kg | N.D.    |                                    |

# Test Report

No.: CTL1810231011-R

Date: Nov. 23, 2018

Page 5 of 16

| Part No. | Part Name   | Restricted Substances | Unit  | Results | Reference report No.               |
|----------|-------------|-----------------------|-------|---------|------------------------------------|
| 11       | PCB         | Cd                    | mg/kg | N.D.    | SGS Report No.:<br>CANEC1612635231 |
|          |             | Pb                    | mg/kg | N.D.    |                                    |
|          |             | Hg                    | mg/kg | N.D.    |                                    |
|          |             | Cr <sup>6+</sup>      | mg/kg | N.D.    |                                    |
|          |             | PBBs                  | mg/kg | N.D.    |                                    |
|          |             | PBDEs                 | mg/kg | N.D.    |                                    |
|          |             | DBP                   | mg/kg | N.D.    |                                    |
|          |             | BBP                   | mg/kg | N.D.    |                                    |
|          |             | DEHP                  | mg/kg | N.D.    |                                    |
|          |             | DIBP                  | mg/kg | N.D.    |                                    |
| 12       | IC          | Cd                    | mg/kg | N.D.    | SGS Report No.:<br>CE/2016/45019   |
|          |             | Pb                    | mg/kg | N.D.    |                                    |
|          |             | Hg                    | mg/kg | N.D.    |                                    |
|          |             | Cr <sup>6+</sup>      | mg/kg | N.D.    |                                    |
|          |             | PBBs                  | mg/kg | N.D.    |                                    |
|          |             | PBDEs                 | mg/kg | N.D.    |                                    |
|          |             | DBP                   | mg/kg | N.D.    |                                    |
|          |             | BBP                   | mg/kg | N.D.    |                                    |
|          |             | DEHP                  | mg/kg | N.D.    |                                    |
|          |             | DIBP                  | mg/kg | N.D.    |                                    |
| 13       | Capacitance | Cd                    | mg/kg | N.D.    | SGS Report No.:<br>CE/2016/25421   |
|          |             | Pb                    | mg/kg | N.D.    |                                    |
|          |             | Hg                    | mg/kg | N.D.    |                                    |
|          |             | Cr <sup>6+</sup>      | mg/kg | N.D.    |                                    |
|          |             | PBBs                  | mg/kg | N.D.    |                                    |
|          |             | PBDEs                 | mg/kg | N.D.    |                                    |
|          |             | DBP                   | mg/kg | N.D.    |                                    |
|          |             | BBP                   | mg/kg | N.D.    |                                    |
|          |             | DEHP                  | mg/kg | N.D.    |                                    |
|          |             | DIBP                  | mg/kg | N.D.    |                                    |



# Test Report

No.: CTL1810231011-R

Date: Nov. 23, 2018

Page 6 of 16

| Part No. | Part Name  | Restricted Substances | Unit  | Results | Reference report No.               |
|----------|------------|-----------------------|-------|---------|------------------------------------|
| 14       | Resistance | Cd                    | mg/kg | N.D.    | SGS Report No.:<br>CANEC1616912313 |
|          |            | Pb                    | mg/kg | N.D.    |                                    |
|          |            | Hg                    | mg/kg | N.D.    |                                    |
|          |            | Cr <sup>6+</sup>      | mg/kg | N.D.    |                                    |
|          |            | PBBs                  | mg/kg | N.D.    |                                    |
|          |            | PBDEs                 | mg/kg | N.D.    |                                    |
|          |            | DBP                   | mg/kg | N.D.    |                                    |
|          |            | BBP                   | mg/kg | N.D.    |                                    |
|          |            | DEHP                  | mg/kg | N.D.    |                                    |
|          |            | DIBP                  | mg/kg | N.D.    |                                    |
| 15       | Diode      | Cd                    | mg/kg | N.D.    | SGS Report No.:<br>SHAEC1601743323 |
|          |            | Pb                    | mg/kg | N.D.    |                                    |
|          |            | Hg                    | mg/kg | N.D.    |                                    |
|          |            | Cr <sup>6+</sup>      | mg/kg | N.D.    |                                    |
|          |            | PBBs                  | mg/kg | N.D.    |                                    |
|          |            | PBDEs                 | mg/kg | N.D.    |                                    |
|          |            | DBP                   | mg/kg | N.D.    |                                    |
|          |            | BBP                   | mg/kg | N.D.    |                                    |
|          |            | DEHP                  | mg/kg | N.D.    |                                    |
|          |            | DIBP                  | mg/kg | N.D.    |                                    |
| 16       | Triode     | Cd                    | mg/kg | N.D.    | SGS Report No.:<br>SHAEC1626313505 |
|          |            | Pb                    | mg/kg | N.D.    |                                    |
|          |            | Hg                    | mg/kg | N.D.    |                                    |
|          |            | Cr <sup>6+</sup>      | mg/kg | N.D.    |                                    |
|          |            | PBBs                  | mg/kg | N.D.    |                                    |
|          |            | PBDEs                 | mg/kg | N.D.    |                                    |
|          |            | DBP                   | mg/kg | N.D.    |                                    |
|          |            | BBP                   | mg/kg | N.D.    |                                    |
|          |            | DEHP                  | mg/kg | N.D.    |                                    |
|          |            | DIBP                  | mg/kg | N.D.    |                                    |

# Test Report

No.: CTL1810231011-R

Date: Nov. 23, 2018

Page 7 of 16

| Part No. | Part Name     | Restricted Substances | Unit  | Results | Reference report No.               |
|----------|---------------|-----------------------|-------|---------|------------------------------------|
| 17       | Spring        | Cd                    | mg/kg | N.D.    | SGS Report No.:<br>CANEC1615736312 |
|          |               | Pb                    | mg/kg | N.D.    |                                    |
|          |               | Hg                    | mg/kg | N.D.    |                                    |
|          |               | Cr <sup>6+</sup>      | mg/kg | N.D.    |                                    |
|          |               | PBBs                  | mg/kg | N.D.    |                                    |
|          |               | PBDEs                 | mg/kg | N.D.    |                                    |
|          |               | DBP                   | mg/kg | N.D.    |                                    |
|          |               | BBP                   | mg/kg | N.D.    |                                    |
|          |               | DEHP                  | mg/kg | N.D.    |                                    |
|          |               | DIBP                  | mg/kg | N.D.    |                                    |
| 18       | Crystals      | Cd                    | mg/kg | N.D.    | SGS Report No.:<br>CE/2016/22741   |
|          |               | Pb                    | mg/kg | N.D.    |                                    |
|          |               | Hg                    | mg/kg | N.D.    |                                    |
|          |               | Cr <sup>6+</sup>      | mg/kg | N.D.    |                                    |
|          |               | PBBs                  | mg/kg | N.D.    |                                    |
|          |               | PBDEs                 | mg/kg | N.D.    |                                    |
|          |               | DBP                   | mg/kg | N.D.    |                                    |
|          |               | BBP                   | mg/kg | N.D.    |                                    |
|          |               | DEHP                  | mg/kg | N.D.    |                                    |
|          |               | DIBP                  | mg/kg | N.D.    |                                    |
| 19       | Blue terminal | Cd                    | mg/kg | N.D.    | SGS Report No.:<br>CANEC1602086261 |
|          |               | Pb                    | mg/kg | N.D.    |                                    |
|          |               | Hg                    | mg/kg | N.D.    |                                    |
|          |               | Cr <sup>6+</sup>      | mg/kg | N.D.    |                                    |
|          |               | PBBs                  | mg/kg | N.D.    |                                    |
|          |               | PBDEs                 | mg/kg | N.D.    |                                    |
|          |               | DBP                   | mg/kg | N.D.    |                                    |
|          |               | BBP                   | mg/kg | N.D.    |                                    |
|          |               | DEHP                  | mg/kg | N.D.    |                                    |
|          |               | DIBP                  | mg/kg | N.D.    |                                    |

# Test Report

No.: CTL1810231011-R

Date: Nov. 23, 2018

Page 8 of 16

| Part No. | Part Name      | Restricted Substances | Unit  | Results | Reference report No.               |
|----------|----------------|-----------------------|-------|---------|------------------------------------|
| 20       | Black terminal | Cd                    | mg/kg | N.D.    | SGS Report No.:<br>CANEC1615326133 |
|          |                | Pb                    | mg/kg | N.D.    |                                    |
|          |                | Hg                    | mg/kg | N.D.    |                                    |
|          |                | Cr <sup>6+</sup>      | mg/kg | N.D.    |                                    |
|          |                | PBBs                  | mg/kg | N.D.    |                                    |
|          |                | PBDEs                 | mg/kg | N.D.    |                                    |
|          |                | DBP                   | mg/kg | N.D.    |                                    |
|          |                | BBP                   | mg/kg | N.D.    |                                    |
|          |                | DEHP                  | mg/kg | N.D.    |                                    |
|          |                | DIBP                  | mg/kg | N.D.    |                                    |
| 21       | Transformer    | Cd                    | mg/kg | N.D.    | SGS Report No.:<br>CANEC1622895501 |
|          |                | Pb                    | mg/kg | N.D.    |                                    |
|          |                | Hg                    | mg/kg | N.D.    |                                    |
|          |                | Cr <sup>6+</sup>      | mg/kg | N.D.    |                                    |
|          |                | PBBs                  | mg/kg | N.D.    |                                    |
|          |                | PBDEs                 | mg/kg | N.D.    |                                    |
|          |                | DBP                   | mg/kg | N.D.    |                                    |
|          |                | BBP                   | mg/kg | N.D.    |                                    |
|          |                | DEHP                  | mg/kg | N.D.    |                                    |
|          |                | DIBP                  | mg/kg | N.D.    |                                    |



# Test Report

No.: CTL1810231011-R

Date: Nov. 23, 2018

Page 9 of 16

## ROHS Requirement

| Restricted substances                 | MDL | Limits         |
|---------------------------------------|-----|----------------|
| Lead(Pb)                              | 5   | 0.1%(1000 ppm) |
| Cadmium(Cd)                           | 5   | 0.01%(100 ppm) |
| Chromium(VI)(Cr6+)                    | 5   | 0.1%(1000 ppm) |
| Mercury(Hg)                           | 5   | 0.1%(1000 ppm) |
| Polybrominated biphenyls(PBBs)        | 5   | 0.1%(1000 ppm) |
| Polybrominated diphenyl ethers(PBDEs) | 5   | 0.1%(1000 ppm) |
| Dibutyl Phthalate (DBP)               | 5   | 0.1%(1000 ppm) |
| Benzylbutyl Phthalate (BBP)           | 5   | 0.1%(1000 ppm) |
| Bis-(2-ethylhexyl) Phthalate (DEHP).  | 5   | 0.1%(1000 ppm) |
| Diiso butyl Phthalate (DIBP)          | 5   | 0.1%(1000 ppm) |

### Note:

\_mg/kg=ppm=0.0001%

-MDL=Method Detection Limit

-N.D. =not detected (<MDL)

-Photo is included

-Test results are from other testing organizations. Shenzhen CTL Testing Technology Co., Ltd. has no liability to assume the verification of the authenticity of the above test reports results.

Shenzhen CTL Testing Technology Co., Ltd.

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# Test Report

No.: CTL1810231011-R

Date: Nov. 23, 2018

Page 10 of 16

## Photographs of Sample:



# Test Report

No.: CTL1810231011-R

Date: Nov. 23, 2018

Page 11 of 16



# Test Report

No.: CTL1810231011-R

Date: Nov. 23, 2018

Page 12 of 16



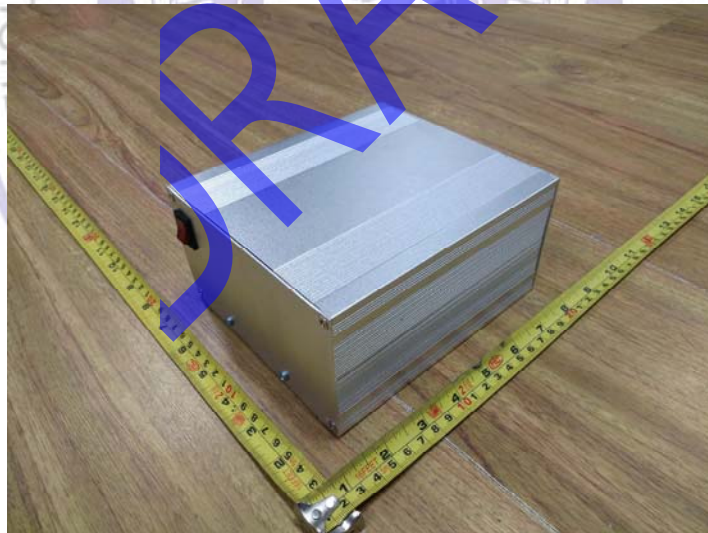
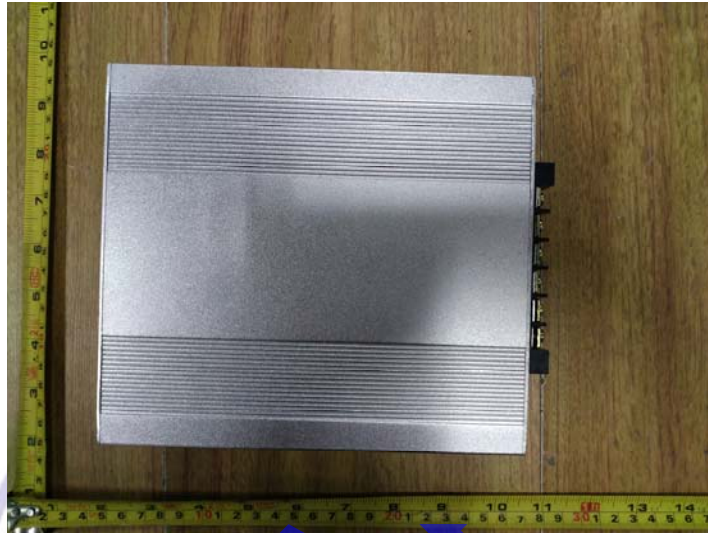


# Test Report

No.: CTL1810231011-R

Date: Nov. 23, 2018

Page 13 of 16



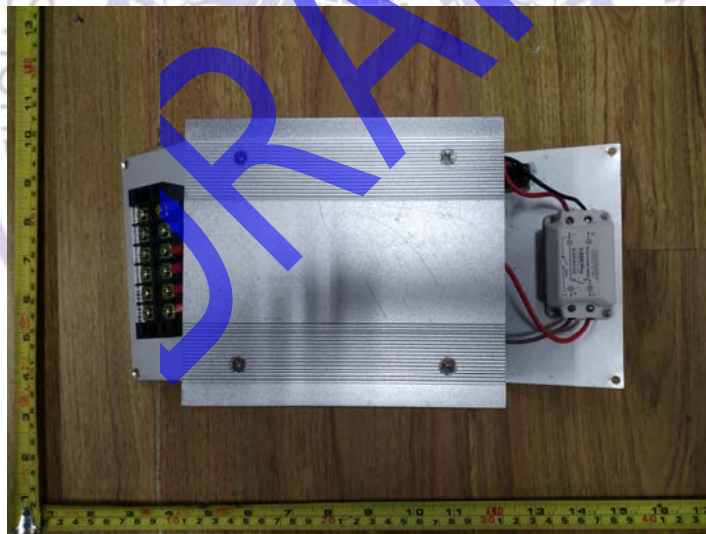


# Test Report

No.: CTL1810231011-R

Date: Nov. 23, 2018

Page 14 of 16

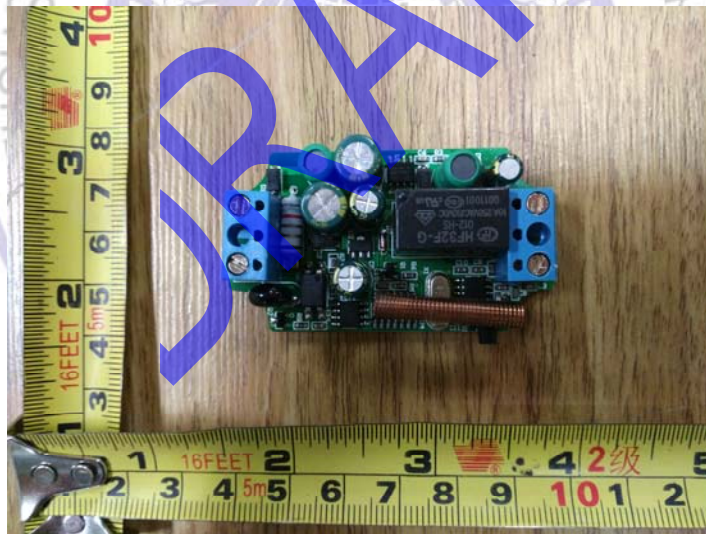
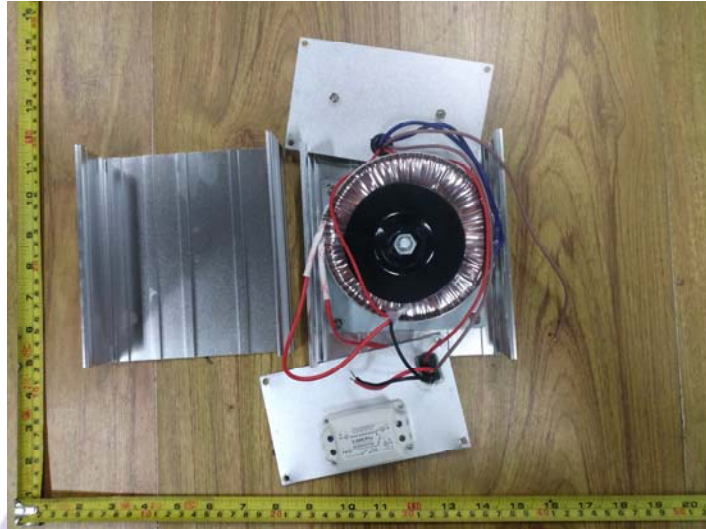


# Test Report

No.: CTL1810231011-R

Date: Nov. 23, 2018

Page 15 of 16



# Test Report

No.: CTL1810231011-R

Date: Nov. 23, 2018

Page 16 of 16



..... End Of Report.....

