

# TEST REPORT

Reference No..... : WTD22D06113198W  
FCC ID ..... : 2A7DBDM270  
Applicant..... : Shenzhen Fuxin Canrui Technology Co., Ltd.  
Address..... : 1108, No 51, North Pingxin Road, Shangmugu, Pinghu Street,  
Longgang District, Shenzhen, China.  
Manufacturer ..... : Shenzhen Fuxin Canrui Technology Co., Ltd.  
Address..... : 1108, No 51, North Pingxin Road, Shangmugu, Pinghu Street,  
Longgang District, Shenzhen, China.  
Product..... : Solar lights outdoor Leds  
Model(s) ..... : DM-270, DM-370, DM-570, DM-670  
Standards ..... : 47CFR FCC Part 15 Subpart B  
Date of Receipt sample .... : 2022-06-13  
Date of Test ..... : 2022-06-13 to 2022-06-14  
Date of Issue..... : 2022-06-21  
Test Result..... : Pass

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

**Prepared By:**

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## 2 Revision History

| Test Report No. | Date of Receipt Sample | Date of Test                   | Date of Issue | Purpose  | Comment | Approved |
|-----------------|------------------------|--------------------------------|---------------|----------|---------|----------|
| WTD22D06113198W | 2022-06-13             | 2022-06-13<br>to<br>2022-06-14 | 2022-06-21    | Original | -       | Valid    |

### 3 General Information

#### 3.1 General Description of E.U.T.

Product ..... : Solar lights outdoor Leds

Model(s)..... : DM-270, DM-370, DM-570, DM-670

Model Difference ..... : The circuit, appearance and function of all models are completely the same. Only the model names are different due to different packaging method of shipment.

Remark ..... : Model DM-270 was tested in this report.

#### 3.2 Details of E.U.T.

Highest frequency generated : below 108MHz

Ratings ..... : Battery: Lithium Battery 3.7Vdc, 2200mAh. Max/8.14Wh charging  
Voltage 4.25Vdc, Max charging current 2000mA.  
Solar panel:  
Output: 5.5Vdc, Max 2.5W  
Power of LEDs: Max 3.8W

#### 3.3 Subcontracted

Whether parts of tests for the product have been subcontracted to other labs:

☐ Yes ☒ No

If Yes, list the related test items and lab information:

Test Lab: N/A

Lab address: N/A

Test items: N/A

#### 3.4 Abnormalities from Standard Conditions

None.

#### 3.5 Test Facility

The test facility has a test site registered with the following organizations:

**ISED CAB identifier: CN0013. Test Firm Registration No.: 7760A.**

Waltek Testing Group Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files.

Registration number 7760A, October 15, 2016.

**FCC Designation No.: CN1201. Test Firm Registration No.: 523476.**

Waltek Testing Group Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration number 523476, September 10, 2019.

## 4 Test Summary

| Test Item                                                          | Test Requirement                     | Test Result |
|--------------------------------------------------------------------|--------------------------------------|-------------|
| AC Power Line Conducted Emission<br>(150kHz to 30MHz)              | FCC Part 15 Subpart B section 15.107 | N/A         |
| Disturbance voltage at the antenna<br>terminals (30MHz to 2150MHz) | FCC Part 15 Subpart B section 15.111 | N/A         |
| Radiated Emission<br>(30MHz to 1GHz)                               | FCC Part 15 Subpart B section 15.109 | Pass        |
| Radiated Emission<br>(Above 1GHz)                                  | FCC Part 15 Subpart B section 15.109 | N/A         |

Remark:

Pass     Test item meets the requirement

Fail     Test item does not meet the requirement

N/A     Test case does not apply to the test object

## 5 Equipment Used during Test

### 5.1 Equipment List

| 3m Semi-anechoic Chamber for Radiation (TDK) |                          |              |           |            |                       |                      |
|----------------------------------------------|--------------------------|--------------|-----------|------------|-----------------------|----------------------|
| Item                                         | Equipment                | Manufacturer | Model No. | Serial No. | Last Calibration Date | Calibration Due Date |
| 1                                            | Test Receiver            | R&S          | ESCI      | 101296     | 2022-04-28            | 2023-04-27           |
| 2                                            | Trilog Broadband Antenna | SCHWARZBECK  | VULB9160  | 9160-3325  | 2021-10-31            | 2022-10-30           |
| 3                                            | Amplifier                | ANRITSU      | MH648A    | M43381     | 2022-04-28            | 2023-04-27           |
| 4                                            | Cable                    | HUBER+SUHNER | CBL2      | 525178     | 2022-04-28            | 2023-04-27           |

### 5.2 Description of Support Units

| Equipment | Manufacturer | Model No. | Series No. |
|-----------|--------------|-----------|------------|
| /         | /            | /         | /          |

### 5.3 Measurement Uncertainty

| Parameter                     | Uncertainty (Note 1)    |
|-------------------------------|-------------------------|
| Temperature                   | $\pm 1^{\circ}\text{C}$ |
| Humidity                      | $\pm 5\%$               |
| DC and low frequency voltages | $\pm 3\%$               |
| Radiated Emission(30MHz-1GHz) | $\pm 5.03\text{dB}$     |

Note 1: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

#### 5.4 Test Mode

| Test Item                                                         | Test Mode    | Test Voltage |
|-------------------------------------------------------------------|--------------|--------------|
| Radiated Emissions<br>(30MHz-1GHz)                                | Working mode | DC 3.7V      |
| “*” shows the worst case mode which were recorded in this report. |              |              |

## 6 Emission Test Results

### 6.1 Radiation Emission, 30MHz to 1000MHz

Test Requirement..... : FCC Part 15 Subpart B section 15.109  
 Test Method..... : ANSI C63.4:2014  
 Test Result ..... : Pass  
 Frequency Range..... : 30MHz to 1000MHz  
 Class..... : Class B  
 Limit..... :

| Frequency (MHz) | Distance (Meter) | Limit (dB $\mu$ V/m) |
|-----------------|------------------|----------------------|
|                 |                  | Quasi-peak           |
| 30 to 88        | 3                | 40                   |
| 88 to 216       | 3                | 43.5                 |
| 216 to 960      | 3                | 46                   |
| 960 to 1000     | 3                | 54                   |

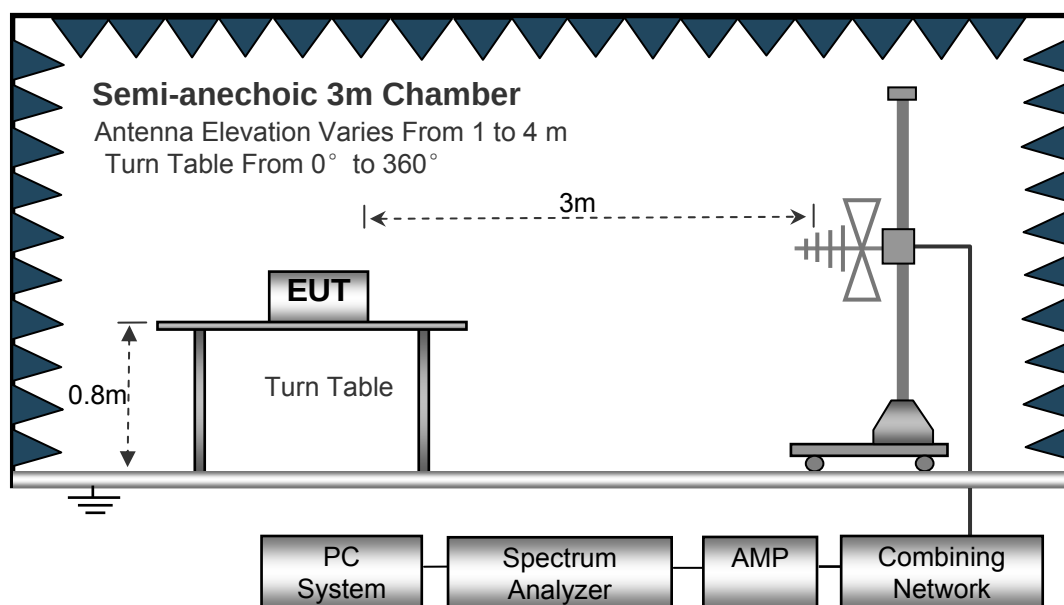
#### 6.1.1 E.U.T. Operation

Operating Environment:

Temperature..... : 24.1°C  
 Humidity..... : 53.5%RH  
 Atmospheric Pressure..... : 101.2kPa  
 EUT Operation ..... : Refer to section 5.4.

#### 6.1.2 Block Diagram of Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.4.



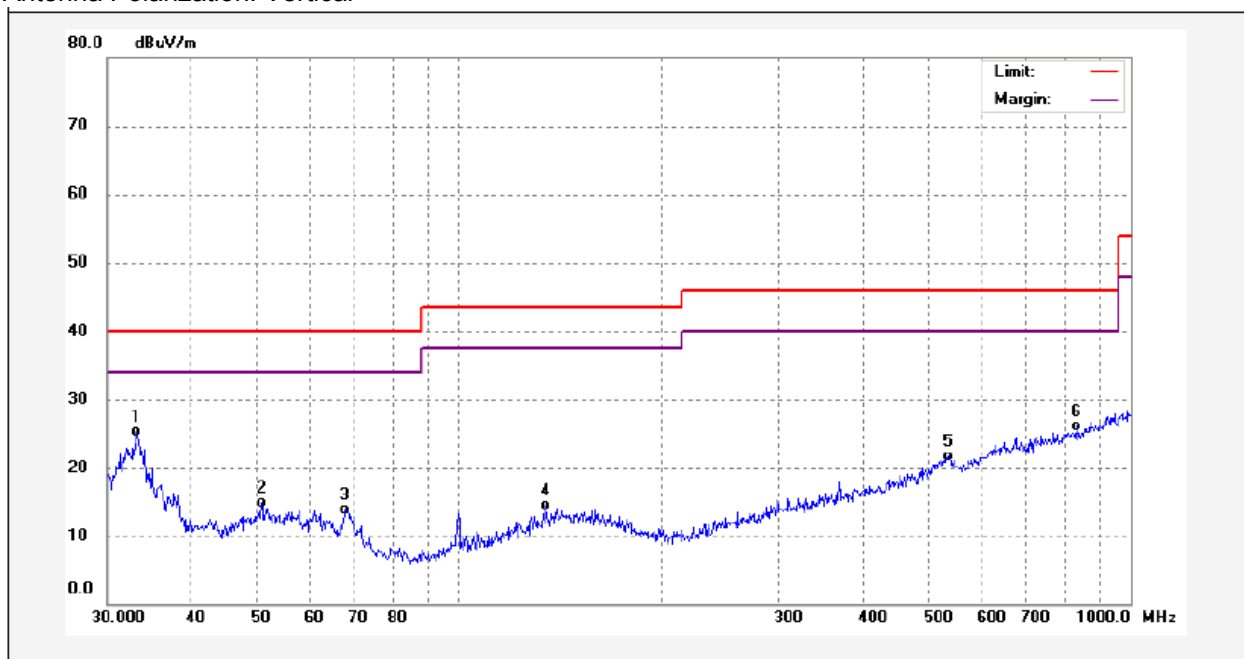


### 6.1.3 Measurement Data

The maximised peak emissions from the EUT was scanned and measured for both the Antenna Vertical Polarization and Antenna Horizontal Polarization. Quasi-peak measurements were performed if peak emissions were within 6dB of the Quasi-peak limit line.

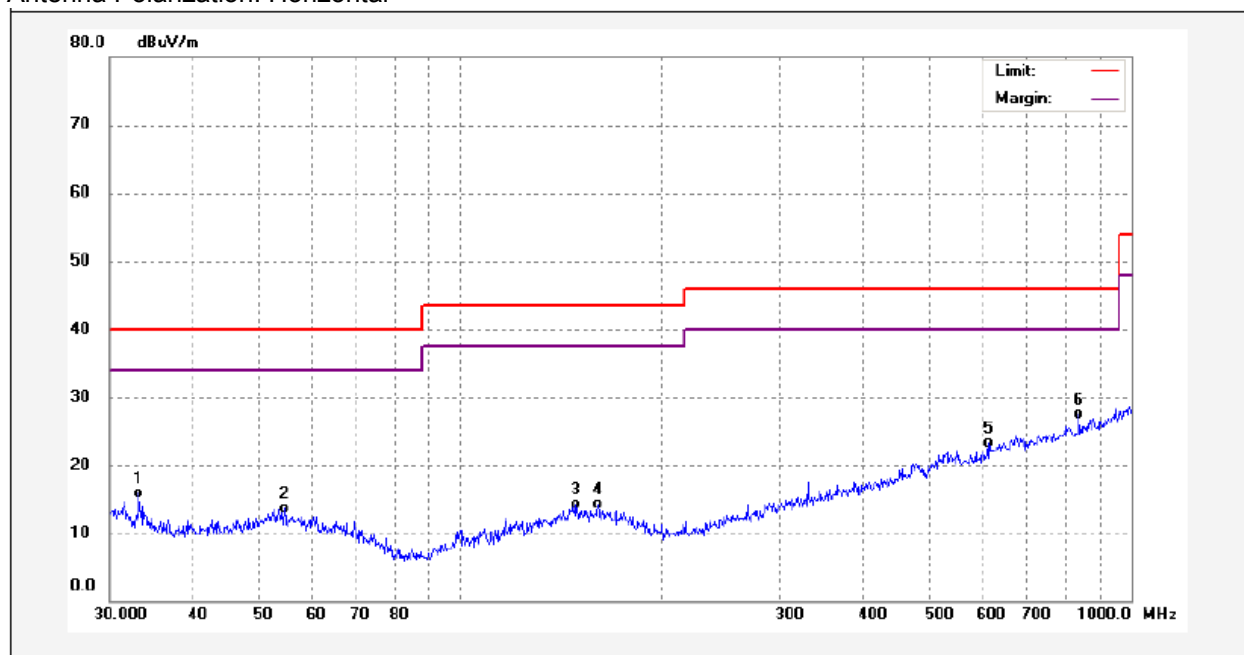
### 6.1.4 Radiated Emission Test Data, 30MHz to 1000MHz

Antenna Polarization: Vertical



| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Remark |
|-----|-------------|------------------|-------------|-----------------|----------------|-------------|----------|--------|
| 1   | 33.2112     | 43.21            | -17.99      | 25.22           | 40.00          | -14.78      | QP       |        |
| 2   | 50.9419     | 31.68            | -16.83      | 14.85           | 40.00          | -25.15      | QP       |        |
| 3   | 67.9128     | 32.25            | -18.32      | 13.93           | 40.00          | -26.07      | QP       |        |
| 4   | 135.0318    | 30.66            | -16.16      | 14.50           | 43.50          | -29.00      | QP       |        |
| 5   | 535.7073    | 30.36            | -8.58       | 21.78           | 46.00          | -24.22      | QP       |        |
| 6   | 830.4001    | 30.30            | -4.25       | 26.05           | 46.00          | -19.95      | QP       |        |

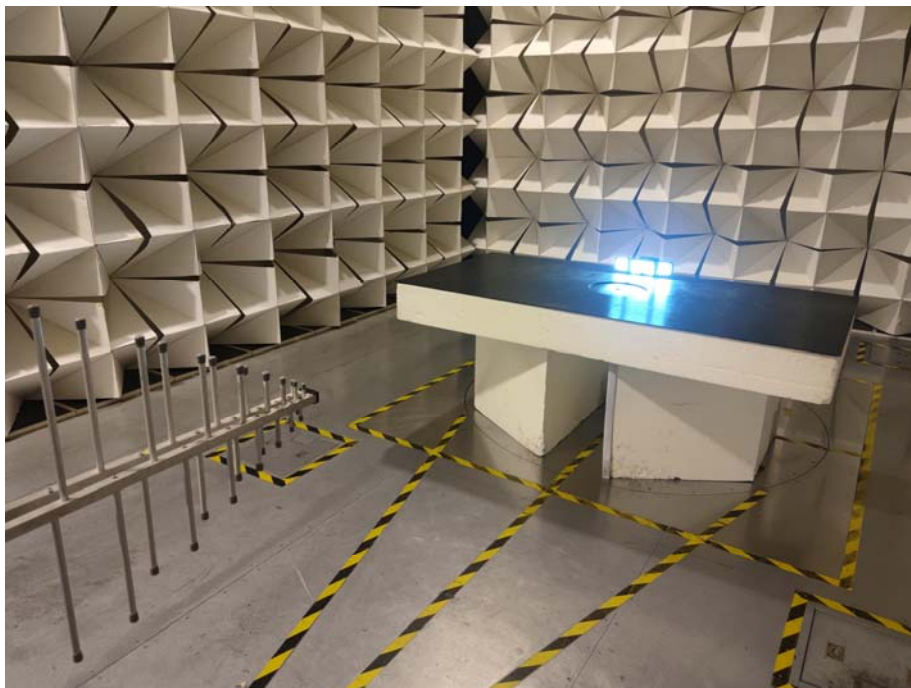
Antenna Polarization: Horizontal



| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Remark |
|-----|-------------|------------------|-------------|-----------------|----------------|-------------|----------|--------|
| 1   | 33.2112     | 33.84            | -17.99      | 15.85           | 40.00          | -24.15      | QP       |        |
| 2   | 54.6428     | 30.61            | -16.99      | 13.62           | 40.00          | -26.38      | QP       |        |
| 3   | 148.4410    | 29.67            | -15.37      | 14.30           | 43.50          | -29.20      | QP       |        |
| 4   | 160.3456    | 29.74            | -15.36      | 14.38           | 43.50          | -29.12      | QP       |        |
| 5   | 612.0641    | 30.96            | -7.64       | 23.32           | 46.00          | -22.68      | QP       |        |
| 6   | 836.2443    | 31.58            | -4.13       | 27.45           | 46.00          | -18.55      | QP       |        |

## **7 Photographs – Test Setup**

### **7.1 Photograph – Radiated Emission Test Setup For 30MHz-1000MHz**



## 8 Photographs – Constructional Details

### 8.1 Photograph – External Photos

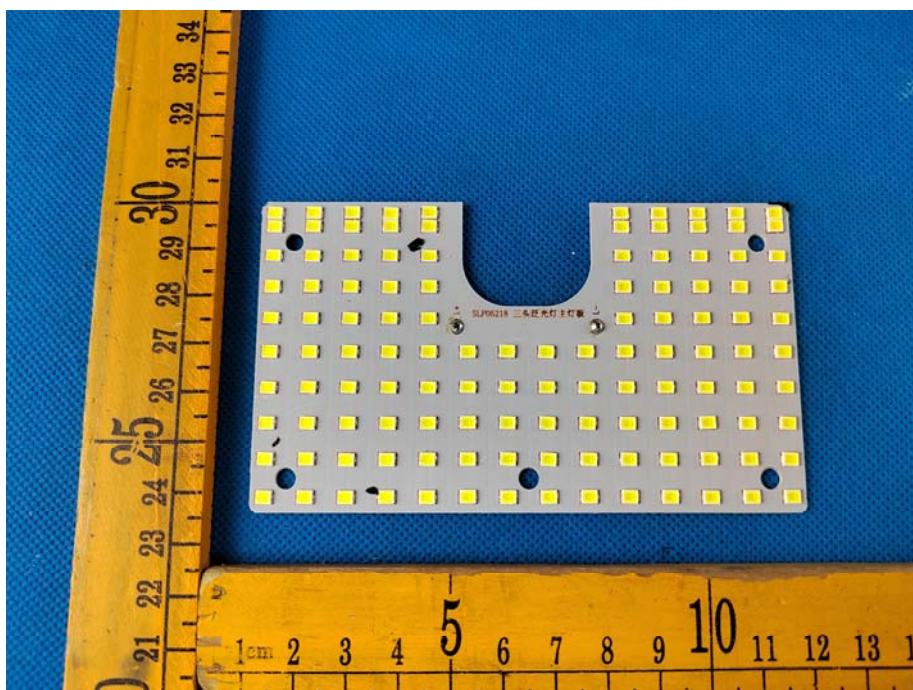
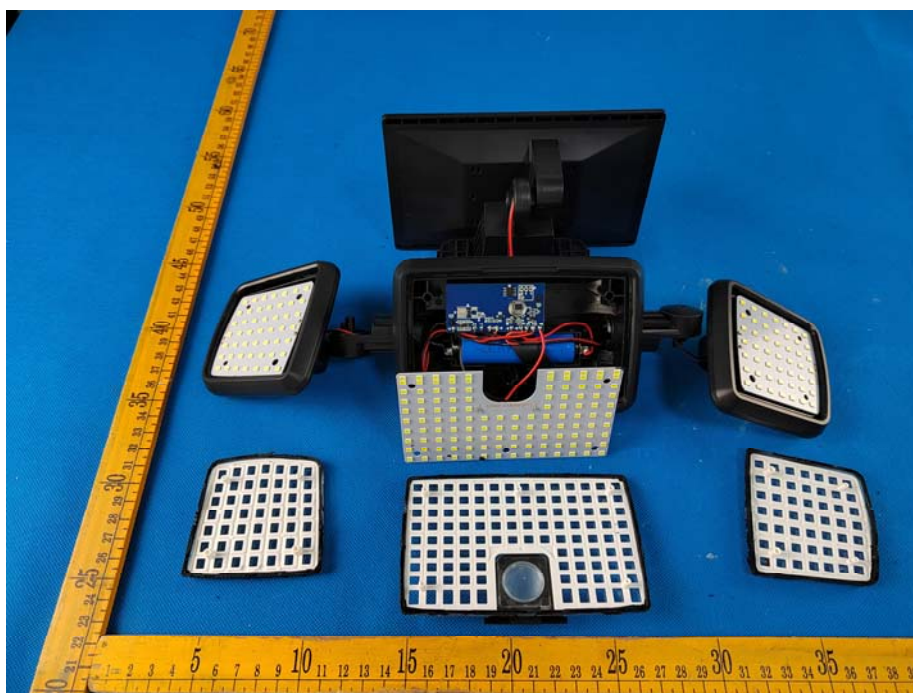




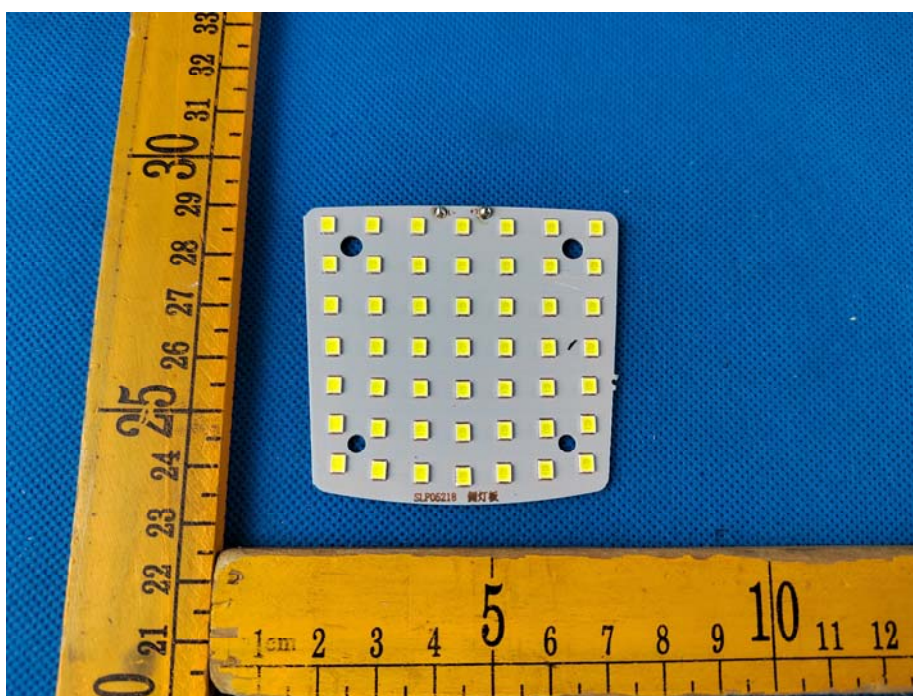
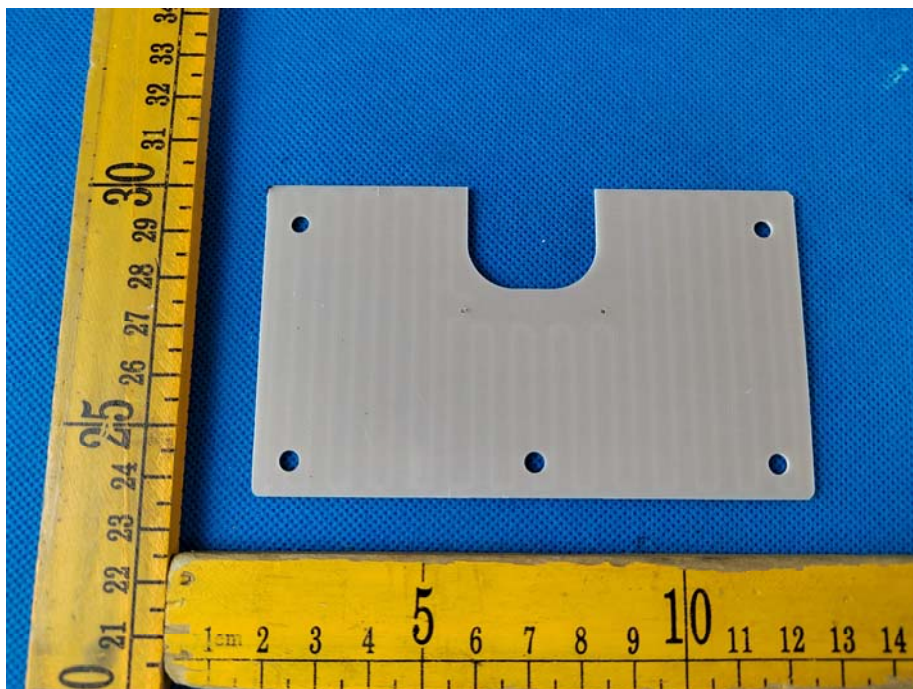




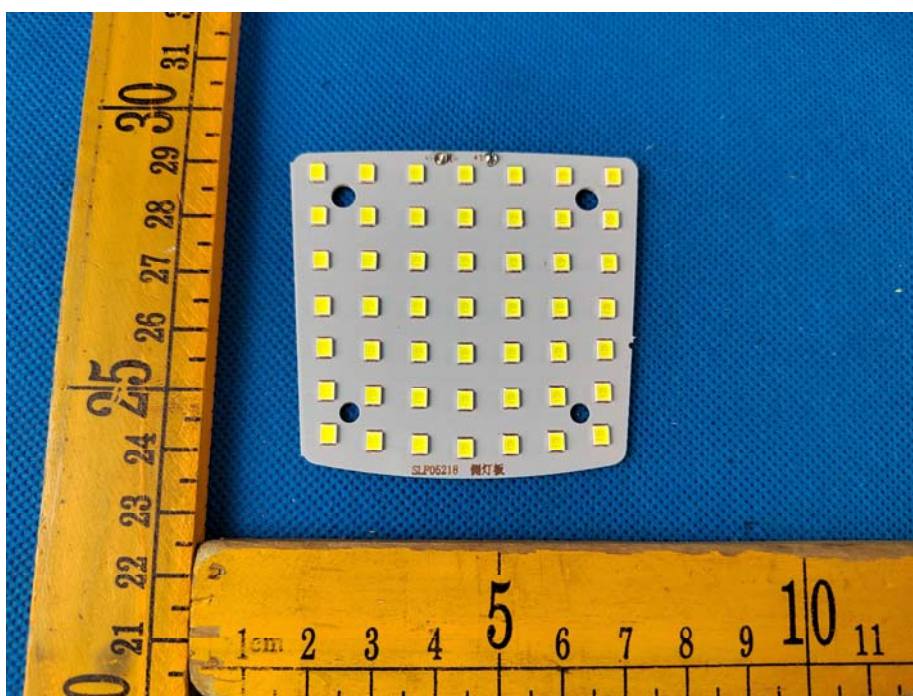
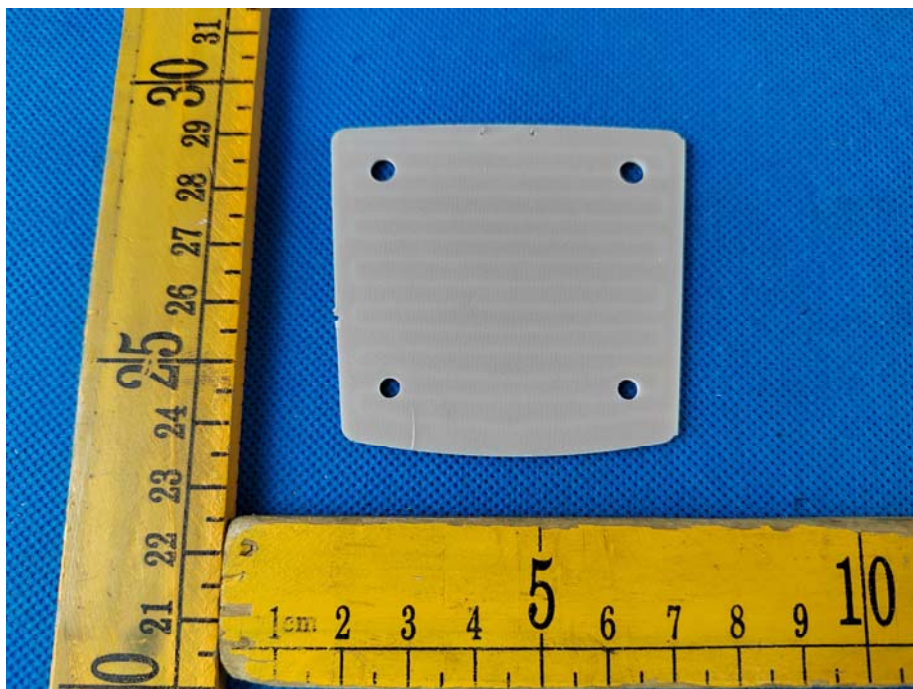
## 8.2 Photograph – Internal Photos

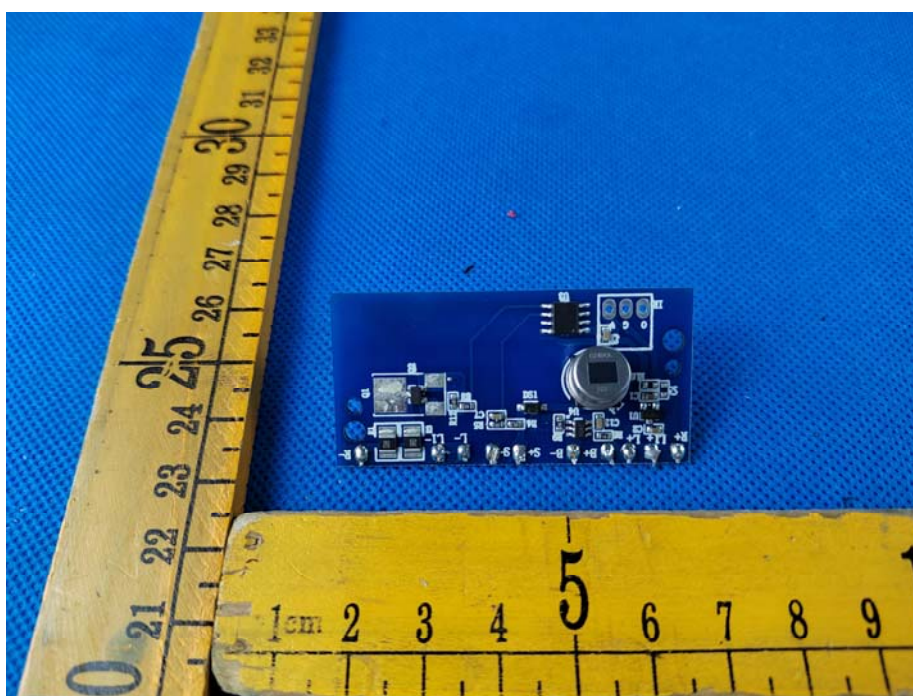
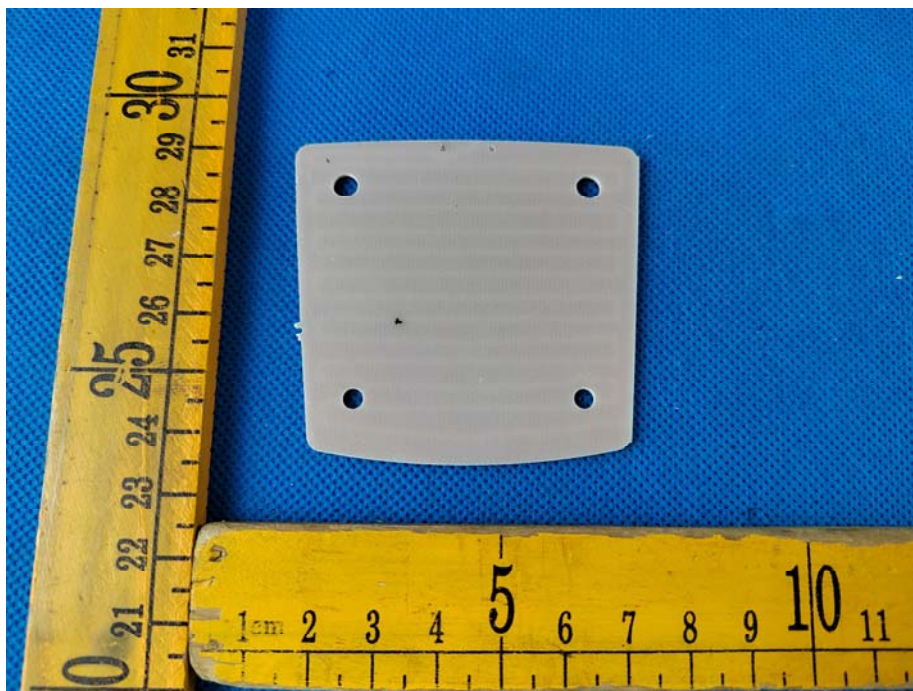




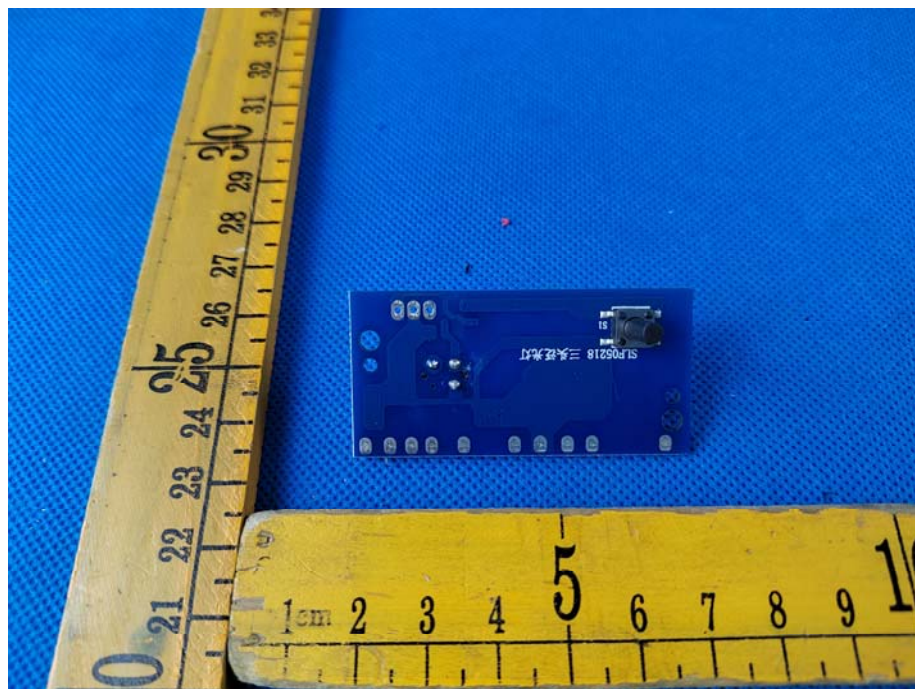












=====End of Report=====