

# TEST REPORT

Report No.: SHATBL2511020W03

**Applicant** : Fanlight Corporation, Inc.

**Product Name** : Wireless Control Device

**Brand Name** : SyncMesh

**Model Name** : SYNC-101

**FCC ID** : 2BT4K-3601

**Test Standard** : FCC 47 CFR Part 2.1091

**Date of Test** : 2025.11.24~2026.03.04

**Report Prepared by** :

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(Guozheng Li)

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(Terry Yang)



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## REVISION HISTORY

| Rev. | Issue Date | Revisions       | Revised by  |
|------|------------|-----------------|-------------|
| 00   | 2026.03.04 | Initial Release | Guozheng Li |

## DECLARATION OF REPORT

1. The device has been tested by ATBL, and the test results show that the equipment under test (EUT) is in compliance with the requirements of 47 CFR Part 2.1091. And it is applicable only to the tested sample identified in the report.

2. This report shall not be reproduced except in full, without the written approval of ATBL, this document only be altered or revised by ATBL, personal only, and shall be noted in the revision of the document.

3. The general information of EUT in this report is provided by the customer or manufacture, ATBL is only responsible for the test data but not for the information provided by the customer or manufacture.

4. The results in this report is only apply to the sample as tested under conditions. The customer or manufacturer is responsible for ensuring that the additional production units of this model have the same electrical and mechanical components.

## 1. GENERAL DESCRIPTION

### 1.1. Applicant

Name : Fanlight Corporation, Inc.

Address : 2000 S Grove Ave Building B, Ontario, California, United States

### 1.2. Manufacturer

Name : Fanlight Corporation, Inc.

Address : 2000 S Grove Ave Building B, Ontario, California, United States

### 1.3. General Information of EUT

| General Information         |                                                                                                                                                                          |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Equipment Name              | Wireless Control Device                                                                                                                                                  |
| Brand Name                  | SyncMesh                                                                                                                                                                 |
| Model Name                  | SYNC-101                                                                                                                                                                 |
| Series Model                | N/A                                                                                                                                                                      |
| Model Difference            | N/A                                                                                                                                                                      |
| Sample No.                  | 202511180014004                                                                                                                                                          |
| Power Input                 | DC 12V from Adapter                                                                                                                                                      |
| Adapter                     | Manufacturer: Pross Electric (China) Co., Ltd.<br>Model: GLCG-150C-F-260BHG<br>Input: 120-277Vac<br>Output1: 180-260Vdc 500-750mA 150W Max.<br>Output2: 12VDC 200mA Max. |
| Battery                     | N/A                                                                                                                                                                      |
| Hardware Version            | CNBR-B REV01                                                                                                                                                             |
| Software Version            | v1.0.0                                                                                                                                                                   |
| Operating Temperature Range | -30 ~ +70℃                                                                                                                                                               |
| Connecting I/O Port(s)      | Refer to the remark below.                                                                                                                                               |

Remark:

The above information of EUT was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

**1.4. Modification of EUT**

No modifications are made to the EUT during all test items.

**1.5. Laboratory Information**

|                         |   |                                                                                                               |
|-------------------------|---|---------------------------------------------------------------------------------------------------------------|
| Company Name            | : | Shanghai ATBL Technology Co., Ltd.                                                                            |
| Address                 | : | 5-6/F., Unit 1, No 8, Free Trade One Life Science No. 160, Basheng Road, Pudong New District, Shanghai, China |
| Telephone               | : | +86(0)21-51298625                                                                                             |
| FCC-Registration Number | : | 485917                                                                                                        |
| Designation Number      | : | CN1306                                                                                                        |
| A2LA Number             | : | 6184.01                                                                                                       |
| CNAS Number             | : | CNAS L14531                                                                                                   |
| ISED Designation Number | : | 27371                                                                                                         |
| CAB identifier          | : | CN0116                                                                                                        |

**1.6. Applicable Standards**

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

| Standard           | Description                                                                    |
|--------------------|--------------------------------------------------------------------------------|
| 47 CFR Part 15.247 | Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.    |
| 47 CFR Part 15.225 | Operation within the band 13.110–14.010 MHz.                                   |
| 47 CFR Part 2.1091 | Evaluates radiofrequency radiation exposure for mobile devices.                |
| KDB 447498 D01 V06 | Outlines RF exposure procedures and authorization policies for mobile devices. |

**Remark:**

All test items were verified and recorded according to the standards and without any deviation during the test.

## 2. FCC 47CFR §2.1091 Requirement

### 2.1. Test Standards

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to §1.1310 and §2.1091 RF exposure is calculated.

KDB447498 D01: Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies.

### 2.2. Limit

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

| Frequency Range(MHz)                        | Electric Field Strength(V/m) | Magnetic Field Strength(A/m) | Power Density (mW/cm <sup>2</sup> ) | Averaging Time (minute) |
|---------------------------------------------|------------------------------|------------------------------|-------------------------------------|-------------------------|
| Limits for Occupational/Controlled Exposure |                              |                              |                                     |                         |
| 0.3 – 3.0                                   | 614                          | 1.63                         | (100) *                             | 6                       |
| 3.0 – 30                                    | 1842/f                       | 4.89/f                       | (900/f <sup>2</sup> )*              | 6                       |
| 30 – 300                                    | 61.4                         | 0.163                        | 1.0                                 | 6                       |
| 300 – 1500                                  | /                            | /                            | f/300                               | 6                       |
| 1500 – 100,000                              | /                            | /                            | 5                                   | 6                       |

Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

| Frequency Range(MHz)                        | Electric Field Strength(V/m) | Magnetic Field Strength(A/m) | Power Density (mW/cm <sup>2</sup> ) | Averaging Time (minute) |
|---------------------------------------------|------------------------------|------------------------------|-------------------------------------|-------------------------|
| Limits for Occupational/Controlled Exposure |                              |                              |                                     |                         |
| 0.3 – 3.0                                   | 614                          | 1.63                         | (100) *                             | 30                      |
| 3.0 – 30                                    | 824/f                        | 2.19/f                       | (180/f <sup>2</sup> )*              | 30                      |
| 30 – 300                                    | 27.5                         | 0.073                        | 0.2                                 | 30                      |
| 300 – 1500                                  | /                            | /                            | f/1500                              | 30                      |
| 1500 – 100,000                              | /                            | /                            | 1.0                                 | 30                      |

F=frequency in MHz

\*=Plane-wave equivalent power density

### 2.3. MPE Calculation Method

Predication of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S=PG/4\pi R^2$$

Where: S=power density

P=power input to antenna

G=power gain of the antenna in the direction of interest relative to an isotropic radiator

R=distance to the center of radiation of the antenna

## 2.4. Antenna Information

EUT can only use antennas certificated as follows provided by manufacturer;

| Transmitter Circuit | Operating Band | Peak Gain (dBi) | Antenna Type |
|---------------------|----------------|-----------------|--------------|
| Chain 0             | NFC            | 3.00            | coil Antenna |
| Chain 1             | 2.4G WIFI      | 4.87            | PCB antenna  |

## 2.5. Manufacturing Tolerance

| Function          | Target (dBm)           | Tolerance $\pm$ (dB) |
|-------------------|------------------------|----------------------|
| NFC               | 61.45dBuV/m(-33.75dBm) | 1.00                 |
| 802.11n20_2412MHz | 7.65                   | 1.00                 |

Note1:The target power has included the maximum transmission power and tolerance values.

Note2:WIFI Output power (EIRP) including turn-up tolerance.

## 2.6. Test Result

As declared by the Applicant, the EUT is a wireless device used in a Mobile application, at least 20 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum separation distance,  $r = 20\text{cm}$ , as well as the gain of the used antenna is refer to section 4, the RF power density can be obtained.

| Modulation Type   | Output power (Target) |          | Antenna Gain (dBi) | Antenna Gain (linear) | MPE (mW/cm <sup>2</sup> ) | MPE Limits (mW/cm <sup>2</sup> ) |
|-------------------|-----------------------|----------|--------------------|-----------------------|---------------------------|----------------------------------|
|                   | dBm                   | mW       |                    |                       |                           |                                  |
| SISO Transmit     |                       |          |                    |                       |                           |                                  |
| NFC               | -32.75                | 0.000531 | 3.00               | 1.995                 | 0.00000021                | 0.9789                           |
| 802.11n20_2412MHz | 8.65                  | 7.33     | 4.87               | 3.069                 | 0.002649                  | 1.0000                           |

Simultaneous Transmitting:

$$\text{NFC} + 2.4\text{GHz} = 0.00000021 + 0.002649 = 0.00264921 < 1$$

Note:

- 1.If nothing else, the report will only record the worst power.
- 2.The Maximum power is less than the limit, complies with the exemption requirements.
- 3.Output power (AVG) including tune-up tolerance.
- 4.The calculated distance is 20 cm.

\*\*\*\*\*END OF THE REPORT\*\*\*\*\*