



FCC TEST REPORT

FCC ID: 2A2CF5W-ST5V-BT

| | | |
|---|---|-------------------------|
| Product | : | Wireless RGB Controller |
| Model Name | : | SW-ST5V-BT |
| Brand | : | N/A |
| Report No. | : | PTC21031801418E-FC02 |
| Prepared for | | |
| Dong Guan City Shengwei Lighting Co., Ltd | | |
| Floor 6, Building D, Keruixin Technology Park, Dasha Road, Dasha Village, Dalingshan Town, Dongguan, Guangdong, China | | |
| Prepared by | | |
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TEST RESULT CERTIFICATION

Applicant's name : Dong Guan City Shengwei Lighting Co., Ltd

Address : Floor 6, Building D, Keruixin Technology Park, Dasha Road,
Dasha Village, Dalingshan Town, Dongguan, Guangdong, China

Manufacture's name : Dong Guan City Shengwei Lighting Co., Ltd

Address : Floor 6, Building D, Keruixin Technology Park, Dasha Road,
Dasha Village, Dalingshan Town, Dongguan, Guangdong, China

Product name : Wireless RGB Controller

Model name : SW-ST5V-BT

Test procedure : KDB 447498 D01 General RF Exposure Guidance v06

Test Date : Apr 26, 2021 to Jun 15, 2021

Date of Issue : Jun 15, 2021

Test Result : Pass

This device described above has been tested by PTC, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Test Engineer:

A handwritten signature in black ink that reads "Leo Yang" with a long horizontal stroke extending to the right.

Leo Yang / Engineer

Technical Manager:

A handwritten signature in black ink that appears to read "Chris Du" in a stylized, cursive font.

Chris Du / Manager



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Report No.: PTC21031801418E-FC02

2 Test Summary

| Test Items | Test Requirement | Result |
|---|------------------|--------|
| Maximum Permissible Exposure (Exposure of Humans to RF Fields) | 1.1307(b)(1) | PASS |
| Remark: | | |
| N/A: Not Applicable | | |



3 General Information

3.1 General Description of E.U.T.

| | | |
|---------------------|---|--|
| Product Name | : | Wireless RGB Controller |
| Model Name | : | SW-ST5V-BT |
| Additional model | : | N/A |
| Bluetooth Version | : | BT 5.0 BDR+EDR |
| Operating frequency | : | 2402-2480MHz |
| Numbers of Channel | : | 79 channels |
| Antenna Type | : | PCB Antenna |
| Antenna Gain | : | 0 dBi |
| Type of Modulation | : | GFSK, $\pi/4$ -DQPSK, 8DPSK For DSS |
| Power supply | : | Input: AC100-240V 50/60hz(with DC 5V 4A) |
| Hardware Version | : | N/A |
| Software Version | : | N/A |



4 RF Exposure

Test Requirement : FCC Part 1.1307(b)(1)

Evaluation Method : FCC Part 2.1091

4.1 Requirements

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 levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

4.2 The procedures / limit

(A) Limits for Occupational / Controlled Exposure

| Frequency Range | Electric Field | Magnetic Field | Power Density (S) | Averaging Time |
|-----------------|----------------|----------------|-------------------|----------------|
| 0.3-3.0 | 614 | 1.63 | (100)* | 6 |
| 3.0-30 | 1842 / f | 4.89 / f | (900 / f)* | 6 |
| 30-300 | 61.4 | 0.163 | 1.0 | 6 |
| 300-1500 | | | F/300 | 6 |
| 1500-100,000 | | | 5 | 6 |

(B) Limits for General Population / Uncontrolled Exposure

| Frequency Range | Electric Field | Magnetic Field | Power Density (S) | Averaging Time |
|-----------------|----------------|----------------|-------------------|----------------|
| 0.3-1.34 | 614 | 1.63 | (100)* | 30 |
| 1.34-30 | 824/f | 2.19/f | (180/f)* | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | | | F/1500 | 30 |
| 1500-100,000 | | | 1.0 | 30 |

Note: f = frequency in MHz ; *Plane-wave equivalent power density



4.3 MPE Calculation Method

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } P_d \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = Peak RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$P_d = \frac{30 \times P \times G}{377 \times d^2}$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

4.4 Test Result

| Item | Antenna Gain (numeric) | Max. Peak Output Power (dBm) | Peak Output Power (mw) | Power Density (mW/cm ²) | Limit of Power Density (mW/cm ²) | Result |
|---------|------------------------|------------------------------|------------------------|-------------------------------------|--|--------|
| BDR+EDR | 1 | 1.268 | 1.34 | 0.0003 | 1 | Pass |

*****THE END REPORT*****