



FCC TEST REPORT

FCC ID: 2A2CF5W-ST5V-IRBT

Product	:	Smart RGB Controller
Model Name	:	SW-ST5V-IRBT
Brand	:	N/A
Report No.	:	PTC21031801420E-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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Report No.: PTC21031801420E-FC02

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 : Smart RGB Controller

Model name : SW-ST5V-IRBT

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.: PTC21031801420E-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	:	Smart RGB Controller
Model Name	:	SW-ST5V-IRBT
Bluetooth Version	:	BT 5.0
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: AC120V 60HZ, DC5V 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	-0.466	0.90	0.0002	1	Pass

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