



FCC TEST REPORT

2A6YN-HH-IR23ARWIFI

Product	:	LED intelligent WiFi controller
Model Name	:	HH-IR23#AR WiFi, HH-IR24#AR WiFi, HH-IR40#AR WiFi, HH-IR28#AR WiFi, HH-IR15#AR WiFi, HH-IR18#AR WiFi, HH-IR44#AR WiFi, HH-IR21#AR WiFi
Brand	:	N/A
Report No.	:	PTC22030702002E-FC02
Prepared for		
Shenzhen Henghe Optoelectronics Co., LTD		
307, floor 3, Building 8, Pabang Industrial Zone, Xiantaoyuan, Henggang Street, Longgang District, Shenzhen		
Prepared by		
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TEST RESULT CERTIFICATION

Applicant's name : Shenzhen Henghe Optoelectronics Co., LTD
Address : 307, floor 3, Building 8, Pabang Industrial Zone, Xiantaoyuan, Henggang Street, Longgang District, Shenzhen
Manufacture's name : Shenzhen Henghe Optoelectronics Co., LTD
Address : 307, floor 3, Building 8, Pabang Industrial Zone, Xiantaoyuan, Henggang Street, Longgang District, Shenzhen
Product name : LED intelligent WiFi controller
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Test procedure : FCC Part 2.1091
KDB447498 D01 V06
Test Date : Apr. 11, 2022 to May. 16, 2022
Date of Issue : May. 16, 2022
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 "Simon Pu".

Simon Pu / Engineer

Technical Manager:

A handwritten signature in black ink that reads "Ronnie Liu".

Ronnie Liu / Manager



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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	:	LED intelligent WiFi controller
Model Name	:	HH-IR23#AR WiFi, HH-IR24# AR WiFi, HH-IR40#AR WiFi, HH-IR28#AR WiFi, HH-IR15#AR WiFi, HH-IR18#AR WiFi, HH-IR44#AR WiFi, HH-IR21#AR WiFi
Specification	:	802.11b/g/n HT20/HT40
Operation Frequency	:	2412-2462MHz for 802.11b/g/ n(HT20/HT40)
Number of Channel	:	11 channels for 802.11b/g/ n(HT20) 7 channels for 802.11 n(HT40)
Type of Modulation	:	DSSS with DBPSK/DQPSK/CCK for 802.11b; OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n;
Antenna installation	:	PCB antenna
Antenna Gain	:	1.3 dBi
Power supply	:	Input: DC 5V-24V Output: 5V30W 12V72W 24V144W
Hardware Version	:	N/A
Software Version	:	N/A



4 RF Exposure

Test Requirement : LED intelligent WiFi controller

Evaluation Method : FCC Part 2.1091, KDB447498 D01 V06

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

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

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

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

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)	Max. Tune-up Power (dBm)	Max. Tune-up Power	Power Density (mW/cm ²)	Limit of Power Density (mW/cm ²)	Result
2412	1.35	14.12	14.50	28.183829	0.007564	1	Pass

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