

Ningbo Sunpu Led Co Ltd

MPE ASSESSMENT REPORT

Report Type:

FCC MPE assessment report

Model:

LUM-FLD20X110W08BK-3WF

REPORT NUMBER:

210800239HZH-003

ISSUE DATE:

December 30, 2021

DOCUMENT CONTROL NUMBER:

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Manufacturer: Ningbo Sunpu Led Co Ltd
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Factory Ningbo Sunpu Led Co Ltd
No.150, Xin Hui Road Hi-Tech Park, NINGBO Zhejiang 315040,
China.

FCC ID: 2A3ZE-FLD20X11

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:

KDB447498 D01 General RF Exposure Guidance v06
FCC Part2.1091, FCC Part2.1093 FCC Part1.1307(b)

PREPARED BY:**REVIEWED BY:**

Project Engineer
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Reviewer
Wakeyou Wang

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Revision History

Report No.	Version	Description	Issued Date
210800239HZH-003	Rev. 01	Initial issue of report	December 30, 2021

TEST REPORT

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	LED Floor Light
Type/Model:	LUM-FLD20X110W08BK-3WF
Description of EUT:	The EUT is a led lamp for household use, the EUT has the controller box, which is including the Wi-Fi and BLE module. The EUT is powered by adaptor which have two models: AED09-01200750GQIP20-5 and YN-15WA120075US. The rating of the adaptor: Input: 100-240VAC, 50/60Hz, 0.25A. Output: 12VDC, 0.75A Max, class 2 circuit output. The worst results were listed in this report as representative.
Rating:	120VAC, 50/60Hz, 8W
EUT type:	☐ Tabletop ☒ Floor standing
Brand name:	SUNPULED 
Software Version:	/
Hardware Version:	/
Sample received date:	October 15, 2021
Date of test:	October 15, 2021~November 25, 2021

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1.2 Technical Specification

Wifi	
Frequency Band:	2400MHz ~ 2483.5MHz
Support Standards:	IEEE 802.11b, IEEE 802.11g, IEEE 802.11n(HT20), IEEE 802.11n(HT40)
Type of Modulation:	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64-QAM, 16-QAM, QPSK, BPSK) IEEE 802.11n(HT20): OFDM (64-QAM, 16-QAM, QPSK, BPSK) IEEE 802.11n(HT40): OFDM (64-QAM, 16-QAM, QPSK, BPSK)
Channel Number:	11 Channels for 802.11b, 802.11g and 802.11n(HT20) 7 Channels for 802.11n(HT40)
Data Rate:	IEEE 802.11b: Up to 11Mbps IEEE 802.11g: Up to 54Mbps IEEE 802.11n(HT20): Up to MCS7 IEEE 802.11n(HT40): Up to MCS7
Channel Separation:	5 MHz
Antenna Information:	PCB Antenna, 2.2dBi

Bluetooth	
Frequency Band:	2400MHz to 2483.5MHz
Support Standards:	Bluetooth Low Energy
Type of Modulation:	GFSK
Channel Number:	40 (0 ~ 39)
Channel Rate:	1Mbps
Channel Separation:	2MHz
Antenna Information:	PCB Antenna, 2.2dBi

1.3 Description of Test Facility

Name:	Intertek Testing Services Shanghai
Address:	Building 86, No. 1198 Qinzhou Road (North), Shanghai 200233, P.R. China
Telephone:	86 21 61278200
Telefax:	86 21 54262353

The test facility is recognized, certified, or accredited by these organizations:	CNAS Accreditation Lab Registration No. CNAS L0139
	FCC Accredited Lab Designation Number: CN1175
	IC Registration Lab CAB identifier.: CN0051
	VCCI Registration Lab Registration No.: R-14243, G-10845, C-14723, T-12252
	A2LA Accreditation Lab Certificate Number: 3309.02

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2 MPE Assessment

Test result: Pass

2.1 MPE Assessment Limit

Mobile device exposure for standalone operations:

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (uT)	Equivalent plane wave power density S_{eq} (W/m ²)
0-1 Hz	-	$3,2 \times 10^4$	4×10^4	-
1-8 Hz	10 000	$3,2 \times 10^4/f^2$	$4 \times 10^4/f^2$	-
8-25 Hz	10 000	$4\,000/f$	$5\,000/f$	-
0,025-0,8 kHz	$250/f$	$4/f$	$5/f$	-
0,8-3 kHz	$250/f$	5	6,25	-
3-150 kHz	87	5	6,25	-
0,15-1 MHz	87	$0,73/f$	$0,92/f$	-
1-10 MHz	$87/f^{1/2}$	$0,73/f$	$0,92/f$	-
10-400 MHz	28	0,073	0,092	2
400-2 000 MHz	$1,375 f^{1/2}$	$0,0037 f^{1/2}$	$0,0046 f^{1/2}$	$f/200$
2-300 GHz	61	0,16	0,20	10

Mobile device exposure for simultaneous transmission operations: **the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0**

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2.2 Assessment Results

Power density (S) is calculated according to the formula:

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

Where S = power density in mW/cm²

P = Radiated transmit power in mW

G = numeric gain of transmit antenna

R = distance (cm)

As we can see from the test report 210800239HZH-001&210800239HZH-002:

The calculations in the table below use the highest gain of antenna for client EUT. These calculations represent worst case in terms of the exposure levels.

Mode	Frequency band	Max Power	Antenna Gain	R	S	Limits
	(MHz)	dBm	dBi	(cm)	(mW/cm ²)	(mW/cm ²)
Bluetooth	2402 -2480	5.94	2.2	20	0.0012	1
WIFI	2412-2462	16.81	2.2	20	0.0033	1

Note: 1 mW/cm² from 1.310 Table 1

The sum of the MPE ratios for all simultaneously transmitting is $0.0012/1 + 0.0033/1 = 0.0045 < 1.0$

For the device can support simultaneous transmission, according to 447498 D01 General RF Exposure Guidance v06

Appendix I

Definition below must be outlined in the User Manual:

To satisfy FCC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation.
To ensure compliance, operations at closer than this distance is not recommended.

***** END *****