

Jasco Products Company LLC

MPE ASSESSMENT REPORT

Report Type:

FCC MPE assessment report

Model:

WFD7101, WFD7104, WFD7106,
WFD7102, WFD7105, WFD7107

REPORT NUMBER:

210501809SHA-003

ISSUE DATE:

December 6, 2021

DOCUMENT CONTROL NUMBER:

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Applicant: Jasco Products Company LLC
10 E. Memorial Rd., Oklahoma City, Ok. 73114

Manufacturer: Xiamen Topstar Lighting Co.,Ltd
No. 676, Meixi Road, Tong'an, Xiamen | 361000

Factory: Xiamen Topstar Lighting Co.,Ltd
No. 676, Meixi Road, Tong'an, Xiamen | 361000

FCC ID: QOB-WFDAB

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
Sky Yang

Reviewer
Eric Li

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Revision History

Report No.	Version	Description	Issued Date
210501809SHA-003	Rev. 01	Initial issue of report	December 6, 2021

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	Self-ballasted LED Lamp
Type/Model:	WFD7101, WFD7104, WFD7106, WFD7102, WFD7105, WFD7107
Description of EUT:	The EUT is a LED lamp with WIFI and Bluetooth function. All models use the same WIFI-Bluetooth module. Model WFD7101、 WFD7104 and WFD7106 employ the same driver PCB layout. Model WFD7104 and WFD7106 employ the same LED PCB layout, while model WFD7101 employs another different LED PCB layout. Model WFD7102、 WFD7105 and WFD7107 employ the same driver PCB layout. Model WFD7105 and WFD7107 employ the same LED PCB layout, while model WFD7102 employs another different LED PCB layout.
Rating:	AC120V, 60Hz, 9W, 125mA
EUT type:	☒ Table top ☐ Floor standing
Software Version:	/
Hardware Version:	/
Sample received date:	May 21, 2021
Date of test:	May 24, 2021 ~ June 11, 2021

1.2 Technical Specification

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 11 Mbps IEEE 802.11g: Up to 54 Mbps IEEE 802.11n-HT20: Up to MCS7 IEEE 802.11n-HT40: Up to MCS7
Channel Separation:	5 MHz

Frequency Band:	2400MHz ~ 2483.5MHz
Support Standards:	Bluetooth LE
Type of Modulation:	GFSK
Channel Number:	40 (0 - 39)
Data Rate:	1Mbps

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Channel Separation:	2 MHz
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Antenna information:			
No.	Antenna Type	Gain (dBi)	Note
1	Ceramic Antenna	1.2	-

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

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:

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

Where S = power density in mW/cm²

P = Radiated transmit power in mW

R = distance (cm)

As we can see from the test report 210501809SHA-001 and 210501809SHA-002:

Here R is chosen to be 20cm,

Mode	Frequency Range	Power		R	S	Limits
	(MHz)	dBm	mW	(cm)	(mW/cm ²)	(mW/cm ²)
WIFI	2412 - 2462	13.92	24.66	20	0.0049	1
BLE	2402 - 2480	-2.95	0.51	20	0.0001	1

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 *****