Page 1 of 11 FCC ID: 2A7WU-CWY004A Report No.: LCSC09045020EC

# RF Exposure Evaluation

For

# SHENZHEN DAYBETTER OPTO-ELECTRONICS CO.,LTD

# **Eave Light**

Test Model: CWY004

Additional Model No.: Please Refer to Page 6

Prepared for : SHENZHEN DAYBETTER OPTO-ELECTRONICS CO.,LTD

Address : 4F,BUILDING 2, ANTUOSHAN HI-TECH PARK BAOAN DISTRICT,

SHENZHEN, China

Prepared by : Guangzhou LCS Compliance Testing Laboratory Ltd.

Address : No.44-1, Qianfeng North Road, Shiqi, Panyu District, Guangzhou,

Guangdong, China

Tel : (+86) 020-39166689
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Web : www.LCS-cert.com

Mail : webmaster@LCS-cert.com

Date of receipt of test sample : September 16, 2025

Number of tested samples : 2

Sample number : C250904024-1, C250904024-2

Serial number : Prototype

Date of Test : September 16, 2025 ~ September 23, 2025

Date of Report : September 25, 2025

FCC ID: 2A7WU-CWY004A

Report No.: LCSC09045020EC

### **RF Exposure Evaluation**

Report Reference No. .....: LCSC09045020EC

Date of Issue.....: September 25, 2025

Testing Laboratory Name.....: Guangzhou LCS Compliance Testing Laboratory Ltd.

Address.....: No.44-1, Qianfeng North Road, Shiqi, Panyu District, Guangzhou,

Guangdong, China

Testing Location/ Procedure.....: Full application of Harmonised standards

Partial application of Harmonised standards  $\ \square$ 

Other standard testing method

Applicant's Name.....: SHENZHEN DAYBETTER OPTO-ELECTRONICS CO.,LTD

Address......: 4F,BUILDING 2, ANTUOSHAN HI-TECH PARK BAOAN DISTRICT,

SHENZHEN, China

**Test Specification** 

Standard..... : FCC CFR 47 part1 1.1310

FCC CFR 47 part2 2.1091

Test Report Form No.....: : TRF-4-E-214 A/0

TRF Originator...... : Guangzhou LCS Compliance Testing Laboratory Ltd.

Master TRF.....: Dated 2011-03

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EUT Description.....: Eave Light

Trade Mark.....: N/A

Test Model.....: CWY004

Ratings.....: Please Refer to Page 6

Result .....: Pass

Compiled by: Supervised by: Approved by:

Li fem Le.

Lifeng Le/ Administrator

Justin Zhu/ Technique principal

Gavin Liang/ Manager

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# **RF Exposure Evaluation**

Test Report No.:

LCSC09045020EC

September 25, 2025

Date of issue

EUT.....: : Eave Light Test Model.....: CWY004 Applicant..... : SHENZHEN DAYBETTER OPTO-ELECTRONICS CO.,LTD Address..... : 4F,BUILDING 2, ANTUOSHAN HI-TECH PARK BAOAN DISTRICT, SHENZHEN, China Telephone..... Fax..... Manufacturer..... : SHENZHEN DAYBETTER OPTO-ELECTRONICS CO.,LTD Address..... : 4F,BUILDING 2, ANTUOSHAN HI-TECH PARK BAOAN DISTRICT, SHENZHEN, China Telephone..... : / Fax..... Factory.....:: SHENZHEN DAYBETTER OPTO-ELECTRONICS CO.,LTD Address..... : 4F,BUILDING 2, ANTUOSHAN HI-TECH PARK BAOAN DISTRICT, SHENZHEN, China Telephone..... Fax.....

Test Result Pass
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The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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# **Revision History**

Report Version	Issue Date	Revision Content	Revised By
000	September 25, 2025	Initial Issue	

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## 1. Product Information

EUT	:	Eave Light			
Test Model	:	CWY004			
Additional Model No.	:	CWY001, CWY002, CWY003, CWY005, CWY006, CWY007, CWY008			
Model Declaration	Ţ:	PCB board, structure and internal of these model(s) are the same, So no			
		additional models were tested			
Ratings	:	For Adapter: Input:100-240V~, 50/60Hz, 1500mA			
		Output: 24.0V==2.5A			
		For Adapter: Input:100-120V~, 50/60Hz, 1.0A			
		Output: 24.0V==1.5A			
Hardware Version	:	D43205 V1.0			
Software Version	:	V1.1.2			
Bluetooth	:				
Frequency Range	:	2402MHz~2480MHz			
Channel Number	:	40 channels for Bluetooth V5.0 (DTS)			
Channel Spacing	:	2MHz for Bluetooth V5.0 (DTS)			
Modulation Type	:	GFSK for Bluetooth V5.0 (DTS)			
Bluetooth Version	:	V5.0			
Antenna Description	:	PCB Antenna, 2.499dBi(Max.)			
WIFI(2.4G Band)	:				
Frequency Range	:	2412MHz~2462MHz			
Channel Number	:	11 Channels for 20MHz bandwidth (2412~2462MHz)			
Channel Spacing	:	5MHz			
Modulation Type	:	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK)			
		IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK)			
		IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK)			
Antenna Description	:	PCB Antenna, 2.499dBi(Max.)			
Exposure category	:	General population/uncontrolled environment			
EUT Type	:	Production Unit			
Device Type	:	Mobile Devices			
Note: For a more detaile	٦	antonna description, please refer to the antonna specifications or the			

Note: For a more detailed antenna description, please refer to the antenna specifications or the antenna report provided by the customer.

#### 2. Evaluation Method

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

In accordance with KDB447498D01 for Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneous transmitting antennas incorporated in a host device, based on the calculated/estimated, numerically modelled or measured field strengths or power density, is ≤ 1.0. The MPE ratio of each antenna is determined at the minimum test separation distance required by the operating configurations and exposure conditions of the host device, according to the ratio of field strengths or power density to MPE limit, at the test frequency. Either the maximum peak or spatially averaged results from measurements or numerical simulations may be used to determine the MPE ratios. Spatial averaging does not apply when MPE is estimated using simple calculations based on far-field plane-wave equivalent conditions. The antenna installation and operating requirements for the host device must meet the minimum test separation distances required by all antennas, in both standalone and simultaneous transmission operations, to satisfy compliance.

#### 3. Limit

#### 3. 1 Refer Evaluation Method

<u>ANSI C95.1–2019:</u> IEEE Standard for Safety Levels with Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz

<u>FCC KDB publication 447498 D01 General 1 RF Exposure Guidance v06:</u> Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies.

FCC CFR 47 part1 1.1310: Radiofrequency radiation exposure limits.

FCC CFR 47 part2 2.1091: Radiofrequency radiation exposure evaluation: mobile devices.

#### 3. 2 Limit

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

Frequency	Electric Field	Magnetic Field	Power Density	Averaging Time	
Range(MHz)	Strength(V/m)	Strength(A/m)	(mW/cm²)	(minute)	
Limits for Occupational/Controlled Exposure					
0.3 - 3.0	614	1.63	(100) *	6	
3.0 - 30	1842/f	4.89/f	(900/f <sup>2</sup> )*	6	
30 – 300	61.4	0.163	1.0	6	
300 – 1500	/	/	f/300	6	
1500 – 100,000	1	1	5	6	

Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

Frequency	Electric Field	Magnetic Field	Power Density	Averaging Time
Range(MHz)	Strength(V/m)	Strength(A/m)	(mW/cm²)	(minute)
Limits for Occupational/Uncontrolled Exposure				
0.3 - 3.0	614	1.63	(100) *	30
3.0 - 30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30 – 300	27.5	0.073	0.2	30
300 – 1500	/	/	f/1500	30
1500 – 100,000	/	/	1.0	30

F=frequency in MHz

<sup>\*=</sup>Plane-wave equivalent power density

### 4. MPE Calculation Method

Predication of MPE limit at a given distance Equation from page 18 of OET Bulletin 65, Edition 97-01

S=PG/4πR<sup>2</sup>

Where: S=power density

P=power input to antenna

G=power gain of the antenna in the direction of interest relative to an isotropic radiator R=distance to the center of radiation of the antenna

### 5. Antenna Information

EUT can only use antennas certificated as follows provided by manufacturer;

Internal/External Identification	Antenna type and antenna number	Operate frequency band	Maximum antenna gain	Notes
Internal	PCB Antenna	2400-2500MHz	2.499dBi	BT LE/WIFI Antenna

#### 6. Conducted Power

[BLE1M]

Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
	0	2402	1.41
GFSK	19	2440	0.21
	39	2480	-0.87

[BLE2M]

[5222.11]						
Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)			
	0	2402	1.34			
GFSK	19	2440	0.05			
	39	2480	-1.05			

[2.4G WIFI]

Mode	Channel	Frequency (MHz)	Max Conducted Power(dBm)
	1	2412	15.96
11B	6	2437	16.47
	11	2462	14.91
	1	2412	14.41
11G	6	2437	14.8
	11	2462	14.65
	1	2412	14.8
11N20 SISO	6	2437	14.27
	11	2462	14.29

# 7. Manufacturing Tolerance

## [BLE1M]

GFSK(Peak)					
Channel Channel 0 Channel 19 Channel 39					
Target (dBm)	1.0	0	0		
Tolerance ± (dB)	1.0	1.0	1.0		

## [BLE2M]

GFSK(Peak)					
Channel 0 Channel 19 Channel 39					
Target (dBm)	1.0	0	-1.0		
Tolerance ± (dB) 1.0 1.0					

## [2.4G WIFI]

11B (Peak)							
Channel	Channel Channel 1		Channel 11				
Target (dBm)	15.0	16.0	14.0				
Tolerance ±(dB)	1.0	1.0	1.0				
	11G (Peak)						
Channel	Channel 1	Channel 6	Channel 11				
Target (dBm)	14.0	14.0	14.0				
Tolerance ±(dB)	1.0	1.0	1.0				
11N20 (Peak)							
Channel	Channel 1	Channel 6	Channel 11				
Target (dBm)	14.0	14.0	14.0				
Tolerance ±(dB)	1.0	1.0	1.0				

#### 8. Measurement Results

### 8.1 Standalone MPE Evaluation

As declared by the Applicant, the EUT is a wireless device used in a fix application, at least 20 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum separation distance, r =20cm, as well as the gain of the used antenna refer to antenna information, the RF power density can be obtained.

[BLE 1M]

			<u> </u>			
	Output power		Antenna	Antenna	MPE	MPE
Modulation Type	dBm	mW	Gain	Gain	(mW/cm2)	Limits
			(dBi)	(linear)		(mW/cm2)
GFSK	2.0	1.5849	2.499	1.7779	0.0006	1.0000

[BLE 2M]

		Output power		Antenna	Antenna	MPE	MPE
	Modulation Type	dBm mW	m\\/	Gain	Gain	(mW/cm2)	Limits
			(dBi)	(linear)	(11100/01112)	(mW/cm2)	
	GFSK	2.0	1.5849	2.499	1.7779	0.0006	1.0000

[2.4GWLAN]

	Output power		Antenna	Antenna	MPE	MPE
Modulation Type			Gain	Gain		Limits
	dBm	mW	(dBi)	(linear)	(mW/cm2)	(mW/cm2)
IEEE 802.11b	17.0	50.1187	2.499	1.7779	0.0177	1.0000
IEEE 802.11g	15.0	31.6228	2.499	1.7779	0.0112	1.0000
IEEE 802.11n	15.0	31.6228	2.499	1.7779	0.0112	1.0000
HT20	15.0 31.0228	31.0220	2.499	1.7779	0.0112	1.0000

#### Remark:

- 1. Output power including tune-up tolerance;
- 2. Output power was adjust to duty cycle at 100% if measured duty cycle less than 98%;
- 3. MPE evaluate distance is 20cm from user manual provide by manufacturer.

### 8.2 Simultaneous Transmission MPE Evaluation

The EUT equiped with one module and one antenna. So no need consider simultaneous transmission.

### 9. Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

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## 10. Description of Test Facility

Site Description EMC Lab.

CNAS Registration Number is L11555 A2LA Certificate Number: 5099.01 FCC Designation Number is CN1379 Test Firm Registration Number: 729882

## 11. Measurement Uncertainty

BLE&2.4GWIFI

Те	st Item		Frequency Range	Uncertainty	Note
Outp	out power	:	1GHz-40GHz	±0.57dB	(1)

<sup>(1).</sup> This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

-----THE END OF REPORT-----