

MPE Test Report

Report No.: AAOG-ESH-P24071183B-2

FCC ID: 2ABEU-PLYDD-0053

Product: Yeelight Permanent Outdoor Lights / Yeelight Christmas String Lights / Yeelight Curtain Lights

Model: PLYDD-0044, PLYDD-0045, PLYDD-0046, PLYDD-0053, PLYDD-0055, PLYDD-0056

Received Date: Jul.16, 2024

Test Date: Jul.16 to Aug.16, 2024

Issued Date: Aug.20, 2024

Applicant: Qingdao Yeelink Information Technology Co., Ltd.

Address: 10F-B4, Building B, Qingdao International Innovation Park, No.1 Keyuan Weiyi Road, Laoshan District, Qingdao City, Shandong Province, P. R. China

Manufacturer: Qingdao Yeelink Information Technology Co., Ltd.

Address: 10F-B4, Building B, Qingdao International Innovation Park, No.1 Keyuan Weiyi Road, Laoshan District, Qingdao City, Shandong Province, P. R. China

Issued By: BUREAU VERITAS ADT (Shanghai) Corporation

Lab Address: No. 829, Xinzhuan Road, Shanghai, P.R.China (201612)

**FCC Registration /
Designation Number:** 176467/ CN1213



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Release Control Record

Issue No.	Description	Date Issued
AAOG-ESH-P24071183B-2	Original release	Aug.20, 2024

1 Certificate of Conformity

Product: Yeelight Permanent Outdoor Lights / Yeelight Christmas String Lights / Yeelight Curtain Lights

Brand: YEELIGHT

Model: YLYDD-0044, YLYDD-0045, YLYDD-0046, YLYDD-0053, YLYDD-0055, YLYDD-0056

Applicant: Qingdao Yeelink Information Technology Co., Ltd.

Test Date: Jul.16 to Aug.16, 2024

Standards: FCC Part 2 (Section 2.1091)
KDB 447498 D01 General RF Exposure Guidance v06
IEEE C95.1-2019

The above equipment has been tested by **BUREAU VERITAS ADT (Shanghai) Corporation**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by :



, Date:

Aug.20, 2024

Yan ZHOU

Project Engineer

Approved by :



Sean YU

RF Supervisor

, Date:

Aug.20, 2024

2 General Information

2.1 General Description of EUT

BLE:

Product	Yeelight Permanent Outdoor Lights / Yeelight Christmas String Lights / Yeelight Curtain Lights
Brand	YEELIGHT
Test Model	YLYDD-0044, YLYDD-0045, YLYDD-0046, YLYDD-0053, YLYDD-0055, YLYDD-0056
Model Difference	Refer to section 2.3 model list
Power Rating	YLYDD-0044: 36V --- 2A, 72W YLYDD-0045: 36V --- 2A, 72W YLYDD-0046: 36V --- 2A, 72W YLYDD-0053: 12V --- 2A, 24W YLYDD-0055: 12V --- 1A, 12W YLYDD-0056: 12V --- 2A, 24W
Modulation Type	GFSK
Modulation Technology	Bluetooth Low Energy 4.2
Operating Frequency	2402MHz ~ 2480MHz
Number of Channel	40
Antenna Type	PCB Antenna
Antenna Connector	--
Antenna Gain	1.96dBi

Note:

1. For more details, please refer to the User's manual of the EUT.

2.2 Description of Support Unit

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.
Adaptor for YLYDD-0053, YLYDD-0056	CHANGZHOU JUTAI ELECTRONIC CO., LTD	JT-DC120V2000-G1	NA
Adaptor for YLYDD-0055	CHANGZHOU JUTAI ELECTRONIC CO., LTD	JT-DC120V1000-F	NA
Adaptor for YLYDD-0044, YLYDD-0045, YLYDD-0046	Guangdong Tiantongjiuheng Technology Co., Ltd	TJ07201W3602000US	NA

2.3 Model List

Model no.	Length	Controller	Adaptor
YLYDD-0044	15m	R666, R67, R68 and R69 which is the same resistance value are in parallel. YLYDD-0044 is with R67, R69. YLYDD-0045 is with R67, R68. YLYDD-0046 is with R66, R69.	TJ07201W3602000US 100-240V~, 50/60Hz, 1.5A max 36V=2000mA
YLYDD-0045	30m		
YLYDD-0046	45m		
YLYDD-0053	1.5m*2m	R666, R67, R68 and R69 which is the same resistance value are in parallel. YLYDD-0055 is with R67, R69. YLYDD-0056 and YLYDD-0053 are with R67, R68.	JT-DC120V2000-G1 120V~, 50/60Hz, 0.8A 12V=2.0A
YLYDD-0055	10m		JT-DC120V1000-F 120V~, 50/60Hz, 0.5A 12V=1.0A
YLYDD-0056	20m		JT-DC120V2000-G1 120V~, 50/60Hz, 0.8A 12V=2.0A

3 RF Exposure

3.1 Limits For Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
300-1,500	-	-	F/1500	30
1,500-100,000	-	-	1.0	30

F = Frequency in MHz

3.2 MPE Calculation Formula

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

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

Where S = power density in mW/cm²

P = transmit power in mW

G = numeric gain of transmit antenna (numeric gain=Log-1(dB antenna gain/10))

R = distance (cm)

3.3 MPE Calculation Formula

The antenna of this product, under normal use condition, is at least 20cm from the body of the user. So the device is classified as Mobile Device.

3.4 Calculation Result of Maximum Permissible Exposure

Frequency Band (MHz)	Max. Conducted output power(dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
BLE 4.2					
2402-2480	-3.99	1.96	20	0.00012	1

Conclusion:

The calculation result of MPE is less than the limit.

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