



MPE Report

Report No.:STS2512351H01

Issued for

Shangyou Jiayi Lighting Products Co., LTD

South Shangyou Industrial Park, Huangbu Town, Shangyou
county, Ganzhou, China

Product Name: LED String Lights

Brand Name: N/A

Model Name: JY25WIL01282401

Series Model(s): JY25WIL00962401,JY25WIL00642401,JY25WIL00322401,JYXXTTTZZZZ24EE(X
X denotes the year when the item created, it can be 00 to 99;TTT denotes the type of the light; ZZZZ denotes the quantity of the LEDs, it can be 0015-0128;24 denotes the input voltage of the chain is 24V; EE denotes that the model names are different.it can be 00 to 99.)

FCC ID: 2BNPO-APPWIL

Test Standard: FCC 47CFR §2.1091

The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the ShenZhen STS Test Services Co., Ltd.

**TEST REPORT**

Applicant's Name: Shangyou Jiayi Lighting Products Co., LTD
Address: South Shangyou Industrial Park, Huangbu Town, Shangyou county, Ganzhou, China
Manufacturer's Name: Shangyou Jiayi Lighting Products Co., LTD
Address: South Shangyou Industrial Park, Huangbu Town, Shangyou county, Ganzhou, China

Product Description

Product Name: LED String Lights
Brand Name: N/A
Model Name: JY25WIL01282401
JY25WIL00962401, JY25WIL00642401, JY25WIL00322401, JYXXTT
TZZZZ24EE (XX denotes the year when the item created, it can be
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Test Standards: FCC 47CFR §2.1091
447498 D01 Interim General RF Exposure Guidance v06

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Date of Test

Date of receipt of test item. 12 December.2025

Date (s) of performance of tests 12 December.2025~15 December.2025

Date of Issue 23 December 2025

Test Result **Pass**

Testing Engineer :

Aaron Bu

(Aaron Bu)

Technical Manager :

Skylar Li

(Skylar Li)

Authorized Signatory :

Bovey Yang

(Bovey Yang)





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**Revision History**

Rev.	Issue Date	Report No.	Effect Page	Contents
00	23 December 2025	STS2512351H01	ALL	Initial Issue



1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name	LED String Lights	
Brand Name	N/A	
Model Name	JY25WIL01282401	
Series Model(s)	JY25WIL00962401,JY25WIL00642401,JY25WIL00322401,JYXXTTTZZZZ24EE(XX denotes the year when the item created, it can be 00 to 99;TTT denotes the type of the light; ZZZZ denotes the quantity of the LEDs, it can be 0015-0128;24 denotes the input voltage of the chain is 24V; EE denotes that the model names are different.it can be 00 to 99.)	
Model Difference	The following models of equipment we produce are identical in terms of electrical, mechanical, and physical structure; The difference lies in the model name, color, and number of light strings. We ultimately chose JY25WIL01282401 as the test model.	
Product Description	The EUT is a LED String Lights	
	Operation Frequency:	802.11b/g/n 20: 2412~2462 MHz
	Modulation Type:	802.11b(DSSS):CCK,DQPSK,DBPSK 802.11g(OFDM):BPSK,QPSK,16-QAM,64-QAM 802.11n(OFDM):BPSK,QPSK,16-QAM,64-QAM
	Bit Rate of Transmitter:	802.11b:11/5.5/2/1 Mbps 802.11g:54/48/36/24/18/12/9/6Mbps 802.11n(20MHz): 65/58.5/52/39/26/19.5/13/6.5Mbps 802.11n(40MHz): 135/121.5/108/81/54/40.5/37/13.5Mbps
	Number of Channel:	802.11b/g/n20: 11CH
	Antenna Type:	Internal antenna
	Antenna Gain (dBi):	6.40dBi
	Operation Frequency:	2402~2480 MHz
	Modulation Type:	GFSK
	Radio Technology:	BLE
	Bluetooth Configuration:	BLE(Support 1M, 2M)
	Number Of Channel:	40
	Antenna Type:	Internal antenna
	Antenna Gain (dBi)	6.40dBi
Power Rating	DC 24V,3A	
Adapter	Input: AC 120V,50/60Hz,1.3A Output: DC 24V,3A,72W	
Battery	N/A	
Hardware Version	N/A	
Software Version	N/A	



1.2 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD

Add. : 101, Building B, Zhuoke Science Park, No.190 Chongqing Road, ZhanChengShequ, Fuhai Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration Number: 625569

IC test Firm Registration Number: 12108A

A2LA Certificate No.: 4338.01

2. FCC 47CFR §2.1091 REQUIREMENT

2.1 TEST STANDARDS

The limit for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 is followed. The gain of the antennas used in the product is extracted from the Antenna data sheets provided and also the maximum total power input to the antenna is measured. Through the Friis transmission formula and the maximum gain of the antenna, we can calculate the distance, away from the product, where the limit of MPE is reached.

Although the Friis Transmission formula is far field assumption, the calculated result of that is an over-prediction for near field power density. It is taken as worst case to specify the safety range.

2.2 LIMIT

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environmental impact of the human exposure to radio-frequency (RF) radiation as specified in 1.1307 (b)

Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)
Limits for Occupational / controlled Exposures			
300 - 1500	--	--	F/300
3.0-30	1842/f	4.89/f	*(900/f ²)
1500 – 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
300 - 1500	--	--	F/1500
1.34-30	824/f	2.19/f	*(180f ²)
1500 – 100000	--	--	1.0

F= Frequency in MHz

Friss Formula

Friss Transmission Formula: $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = Distance between observation point and the center of radiator in cm

If we know the maximum gain of the antenna and the total output power to the antenna, through calculation, we will know MPE value at distance 20cm.



2.3 TEST RESULT

Tune up

Mode	Detector	Tune up Power
WIFI	PK	15±1dBm
BLE	PK	0±1dBm

Protocol	Fre. (GHz)	Separati on distance (cm)	Max Tune up power (dBm)	ANT Gain (dBi)	Condu cted Output Power (dBm)	Condu cted Output Power (mW)	Power Density (mW/cm ²)	Limit (mW/ cm ²)	Ratio	Result
WIFI	2.462	20	16	6.4	22.4	173.78	0.0346	1	0.0346	Pass
BLE	2.480	20	1	6.4	7.4	5.50	0.0011	1	0.0011	Pass

Multiple transmission:

$$\text{WIFI} + \text{BLE} = 0.0346 + 0.0011 = 0.0357 < 1$$

Note: 1. The Maximum power is less than the limit, complies with the exemption requirements.

※※※※※END OF THE REPORT※※※※※