

RF Exposure Evaluation Report

Product : LED Spotlight
Trade mark : MustWin
Model/Type reference : MWS01
Serial Number : N/A
Report Number : EED32M00167902
FCC ID : 2AWPYMWS01
Date of Issue : Jul. 20, 2020
Test Standards : 47 CFR Part 1.1307
47 CFR Part 2.1091
KDB447498D01v06
Test result : PASS

Prepared for:

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Jul. 20, 2020

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2 Version

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4 General Information

4.1 Client Information

Applicant:	Shenzhen Michuang Technology Ltd.
Address of Applicant:	Rm.1012, A Bldg., No.142, Meilong St., Longhua District, Shenzhen, CHINA 518000
Manufacturer:	Shenzhen Michuang Technology Ltd.
Address of Manufacturer:	Rm.1012, A Bldg., No.142, Meilong St., Longhua District, Shenzhen, CHINA 518000
Factory:	Shenzhen Michuang Technology Ltd.
Address of Factory:	Rm.1012, A Bldg., No.142, Meilong St., Longhua District, Shenzhen, CHINA 518000

4.2 General Description of EUT

Product Name:	LED Spotlight
Model No.(EUT):	MWS01
Trade Mark:	MustWin
EUT Supports Radios application	BT 5.0 Single mode, 2402MHz to 2480MHz

4.3 Product Specification subjective to this standard

Frequency Range:	2402MHz~2480MHz		
Modulation Type:	GFSK		
Test Power Grade:	LCH:3.9; MCH:3.9; HCH:3.9		
Test Software of EUT:	EMI_Test_Tool		
Antenna Type:	PCB Antenna		
Antenna Specification	Bluetooth : Antenna Gain : 2.50 dBi (Numeric gain: 1.78)		
Maximum Conduct Peak Power	Bluetooth: 3.391 (2.183 mW)		
Power Supply:	Adapter	MODEL:SS-60 A-24 INPUT:100-277V ~ Max.0.7 A 50/60Hz OUTPUT:24V---2.5A 60W	
Sample Received Date:	Jun. 11, 2020		
Sample tested Date:	Jun. 11, 2020 to Jul. 14, 2020		
The tested sample(s) and the sample information are provided by the client.			

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4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{377}$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377 d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

5.2 Maximum Permissible Exposure

Substituting the MPE safe distance using $d = 20$ cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

Bluetooth:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm ²)
39	2480	2.183	1.78	20	0.0008	1

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32M00167901 for EUT external and internal photos.

*** End of Report ***

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