

RF Exposure Evaluation Report

Product : Starry Projector Light
Trade mark : N/A
Model/Type reference : DP-2020
Serial Number : N/A
Report Number : EED32M00239702
FCC ID : 2AXC2-DP-2020
Date of Issue : Sep. 04, 2020
Test Standards : 47 CFR Part 1.1307
47 CFR Part 2.1091
KDB447498D01v06
Test result : PASS

Prepared for:

Shenzhen Shi Yu photoelectric Technology Co., Ltd
Floor3, BuildingB, West Gate industrial Zone,
Liaokeng , shiyan Street, Shenzhen

Prepared by:

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Sep. 04, 2020

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2 Version

Version No.	Date	Description
00	Sep. 04, 2020	Original

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4 General Information

4.1 Client Information

Applicant:	Shenzhen Shi Yu photoelectric Technology Co., Ltd
Address of Applicant:	Floor3, BuildingB, West Gate industrial Zone, Liaokeng , shiyan Street, Shenzhen
Manufacturer:	Shenzhen Shi Yu photoelectric Technology Co., Ltd
Address of Manufacturer:	Floor3, BuildingB, West Gate industrial Zone, Liaokeng , shiyan Street, Shenzhen
Factory:	Shenzhen Shi Yu photoelectric Technology Co., Ltd
Address of Factory:	Floor3, BuildingB, West Gate industrial Zone, Liaokeng , shiyan Street, Shenzhen

4.2 General Description of EUT

Product Name:	Starry Projector Light
Model No.(EUT):	DP-2020
Trade Mark:	N/A
Frequency Range of Operation:	BT Single mode, 2400MHz to 2483.5MHz

4.3 Product Specification subjective to this standard

Operating Frequency:	2402MHz to 2480MHz
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Number of Channels:	79
Test Power Grade:	Default
Test Software of EUT:	BT_Tool
Antenna Type:	PCB antenna
Antenna Specification	Bluetooth : Antenna Gain : 1.00 dBi (Numeric gain: 1.26)
Maximum tune up power	Bluetooth: -0.50 dBm (0.891 mW)
Power Supply:	DC 5V
Sample Received Date:	Aug. 06, 2020
Sample tested Date:	Aug. 06, 2020 to Aug. 25, 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 (mW) = P (W) / 1000 and

d (cm) = d(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/cm2)
0	2402	0.891	1.26	20	0.0002	1

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32M00239701 for EUT external and internal photos.

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.

*** End of Report ***