



BUREAU  
VERITAS

Test Report No.: FS160928N001

## RF EXPOSURE REPORT

Applicant	SZ Telstar CO.,LTD
Address	Telstar Technology Park No.12~14,Gangbei Industrial Zone, Ailian, Longgang District, ShenZhen

Manufacturer or Supplier	SZ Telstar CO.,LTD
Address	Telstar Technology Park No.12~14,Gangbei Industrial Zone, Ailian, Longgang District, ShenZhen
Product	Projector
Brand Name	miroir, Brookstone
Model	U5
Additional Model & Model Difference	M400A, M400, 318490, see item 3.1
Date of tests	Oct. 15, 2016 ~ Nov. 08, 2016

**FCC Part 2 (Section 2.1091)**

**KDB 447498 D01**

**IEEE C95.1**

**CONCLUSION: The submitted sample was found to COMPLY with the test requirement**

Tested by Tom Chen Project Engineer / EMC Department	Approved by Glyn He Supervisor/ EMC Department

Date: Nov. 30, 2016

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FS160928N001	Original release	Nov. 30, 2016



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## 1. CERTIFICATION

<b>FCC ID:</b>	2AFOW-UST520U5
<b>PRODUCT:</b>	Projector
<b>BRAND NAME:</b>	miroir, Brookstone
<b>MODEL NO.:</b>	U5
<b>ADDITIONAL NO.:</b>	M400A, M400, 318490
<b>APPLICANT:</b>	SZ Telstar CO.,LTD
<b>STANDARDS:</b>	FCC Part 2 (Section 2.1091)
	KDB 447498 D01
	IEEE C95.1

**NOTE:**

1. Additional models M400A, M400, 318490 are identical with the test model U5, except the model number and trade name for marketing purpose.



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## 2. RF EXPOSURE LIMIT

### LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

FREQUENCY RANGE (MHz)	ELECTRIC FIELD STRENGTH (V/m)	MAGNETIC FIELD STRENGTH (A/m)	POWER DENSITY (mW/cm <sup>2</sup> )	AVERAGE TIME (minutes)
LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

## 3. MPE CALCULATION FORMULA

$$Pd = (Pout * G) / (4 * \pi * r^2)$$

where

Pd = power density in mW/cm<sup>2</sup>

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

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

## 4. CLASSIFICATION

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



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## 5. ANTENNA GAIN

The antennas provided to the EUT, please refer to the following table:

Module 1

Transmitter Circuit	Peak Gain (dBi)	Antenna Type
Chain 0	2 dBi For BT, BT-BLE, WIFI 2.4GHz, WIFI 5GHz	Integral FPCB Antenna
Chain 1	2 dBi For WIFI 2.4GHz(802.11n), WIFI 5GHz	Integral FPCB Antenna

For wifi:  $2+10\log(n)=2+10\log 2=2+3.01=5.01\text{dBi}$

Module 2

Transmitter Circuit	Peak Gain (dBi)	Antenna Type
Chain 0	2 dBi For BT-BLE	Integral FPCB Antenna

## 6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

For Module 1

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
2402-2480(BT)	3.443	2	20	0.00109	1.0
2402-2480(BT-BLE)	7.228	2	20	<b>0.00228</b>	1.0
2412-2462(WLAN)	212.385	5.01	20	<b>0.13392</b>	1.0
5180-5240 (WIFI 5GHz)	40.926	5.01	20	0.02581	1.0
5745-5825 (WIFI 5GHz)	25.763	5.01	20	0.01625	1.0

For Module 2

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
2402-2480(BT-BLE)	6.779	2	20	0.00214	1.0



**CONCLUSION:**

The module 1 and module 2 can transmit simultaneously, but WIFI 2.4GHz and WIFI 5GHz can not transmit simultaneously, the formula of calculated the MPE is:

**CPD<sub>1</sub> / LPD<sub>1</sub> + CPD<sub>2</sub> / LPD<sub>2</sub> + .....etc. < 1**

**CPD = Calculation power density**

**LPD = Limit of power density**

Therefore, the worst-case situation is  $0.00228 / 1 + 0.13392 / 1 + 0.00214 / 1 = 0.13834$ , which is less than "1". This confirmed that the device comply with FCC 1.1310 MPE limit.

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