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Report No.: 1508RSU01102
Report Version: V01
Issue Date: 09-24-2015

RF Exposure Evaluation Declaration

FCC ID: 2ABX8SH-000000010

APPLICANT: Zhejiang shenghui lighting Co., Ltd. Shanghai Branch

Application Type: Certification

Product: sengled element

Model No.: Z01-A19NAE26

Trademark: sengled

FCC Classification: Digital Transmission System (DTS)

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The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

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Revision History

Report No.	Version	Description	Issue Date
1508RSU01102	Rev. 01	Initial report	09-24-2015

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name	sengled element
Model No.	Z01-A19NAE26
Frequency Range	2405 ~ 2480 MHz
Type of Modulation	O-QPSK
Max Average Output Power	5.66dBm
Antenna Type	PIFA Antenna
Antenna Gain	-6.20dBi

2. RF Exposure Evaluation

2.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of 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)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	f/1500	6
1500-100,000	--	--	1	30

f= Frequency in MHz

Calculation Formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

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 center of the radiator in cm

P_d is the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2.2. Test Result of RF Exposure Evaluation

Product	sengled element
Test Item	RF Exposure Evaluation

Antenna Gain: The maximum Gain measured in fully anechoic chamber is -6.20dBi for Zigbee in logarithm scale.

Test Mode	Frequency Band (MHz)	Maximum Average Output Power (dBm)	Limit of Power Density S(mW/cm ²)	Safety Distance (cm)
802.15.4	2405 ~ 2480	5.66	1	0.27

CONCULISON:

The Safety Distance of the **sengled element FCC ID: 2ABX8SH-000000010** was 0.27 cm.

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