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Report No.: 1509RSU02903  
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## RF Exposure Evaluation Declaration

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**FCC ID:** 2ABX8SH-000000012

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

**Application Type:** Certification

**Product:** sengled pulse flex

**Model No.:** C02-BR30NAE26

**Brand Name:** sengled

**FCC Classification:** Digital Transmission System (DTS)  
Unlicensed National Information Infrastructure (UNII)

Reviewed By : Robin Wu  
( Robin Wu )

Approved By : Marlin Chen  
( Marlin Chen )



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.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

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## Revision History

Report No.	Version	Description	Issue Date
1509RSU02903	Rev. 01	Initial report	10-15-2015

## 1. PRODUCT INFORMATION

### 1.1. Equipment Description

Product Name	sengled pulse flex
Model No.	C02-BR30NAE26
Brand Name	sengled
Wi-Fi Specification	802.11a/b/g/n
Frequency Range	802.11b/g/n-HT20: 2412 ~ 2462 MHz 802.11n-HT40: 2422 ~ 2452 MHz 802.11a/n-HT20: 5180~5240MHz, 5745~5825MHz 802.11n-HT40: 5190~5230MHz, 5755~5795MHz

### 1.2. Description of Available Antennas

Antenna No.	Antenna Type	Frequency Band (GHz)	Manufacturer	Max Peak Gain (dBi)
Ant 1	PCB Antenna	2412~2462	Zhejiang shenghui lighting Co., Ltd. Shanghai Branch	4.04
		5180~5240		4.00
		5745~5825		4.53
Ant 2	PCB Antenna	2412~2462	Shanghai Branch	4.43
		5180~5240		3.34
		5745~5825		5.87

## 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 <sup>2</sup> )	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:  $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

8G = gain of antenna in linear scale

$P_i = 3.1416$

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

$P_d$  is the limit of MPE, 1mW/cm<sup>2</sup>. 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 pulse flex
Test Item	RF Exposure Evaluation

Antenna Gain: Refer to Section 1.2.

Test Mode	Frequency Band (MHz)	Maximum Average Output Power (dBm)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
802.11b/g/n	2412 ~ 2462	15.10	0.0179	1
802.11an	5180 ~ 5240	11.39	0.0069	1
	5745 ~ 5825	9.26	0.0065	1

### CONCULISON:

The Max Power Density at R (20 cm) = 0.0179mW/cm<sup>2</sup> < 1mW/cm<sup>2</sup>.  
So the EUT complies with the requirement.

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