

MRT Technology (Suzhou) Co., Ltd Phone: +86-512-66308358 +86-512-66308368 Web: www.mrt-cert.com

Report No.: 1702RSU00103 Report Version: Issue Date: 02-20-2017

# RF Exposure Evaluation Declaration

FCC ID: 2AJ3WEBEQPZ04

**APPLICANT:** Hangzhou Eboylamp Electronics Co.,Ltd.

**Application Type:** Certification

**Product:** SMART LED LAMP

EBE-QPZ04 Model No.:

**FCC Classification:** Digital Transmission System (DTS)

FCC Rule Part(s): FCC CFR 47 §2.1091

**Test Date:** February 3 ~ 20, 2017

Robin Wu ) Reviewed By:

Marlinchen Approved By:

(Marlin Chen)



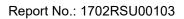


The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10-2013. Test results reported herein relate only to the item(s) tested.

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

FCC ID: 2AJ3WEBEQPZ04 Page Number: 1 of 6





# **Revision History**

Report No.	Version	Description	Issue Date	Note
1702RSU00103	Rev. 01	Initial report	02-20-2017	Valid

FCC ID: 2AJ3WEBEQPZ04 Page Number: 2 of 6



# 1. PRODUCT INFORMATION

# 1.1. Equipment Description

Product Name	SMART LED LAMP		
Model No.	EBE-QPZ04		
WLAN Specification			
Frequency Range	802.11b/g/n-HT20: 2412 ~ 2462 MHz		
Maximum Peak Output	802.11b: 7.37dBm		
Power	802.11g: 18.77dBm		
	802.11n-HT20: 18.54dBm		
Type of Modulation	802.11b: DSSS		
	802.11g/n: OFDM		
Antenna Type	PCB Antenna		
Antenna Gain	3.0dBi		

## 1.2. Antenna Description

Antenna Type	Frequency Band (MHz)	Manufacturer	Max Peak Gain (dBi)
PCB Antenna	2412~2462	Tuya	3.0

FCC ID: 2AJ3WEBEQPZ04 Page Number: 3 of 6



# 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	Electric Field	Magnetic Field	Power Density	Average Time	
(MHz)	Strength (V/m)	Strength (A/m)	(mW/cm <sup>2</sup> )	(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	



#### Formula as follows:

f= Frequency in MHz

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

Pd 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	SMART LED LAMP	
Test Item	RF Exposure Evaluation	

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 3.0dBi for Wi-Fi band in logarithm scale.

### For 802.11b/g/n(HT-20):

Test Mode	Frequency Band	Maximum Average	Power Density at	FCC
	(MHz)	Output Power	r = 20 cm	Limit
		(dBm)	(mW/cm <sup>2</sup> )	(mW/cm <sup>2</sup> )
802.11b/g/n(HT-20)	2412 ~ 2462	18.77	0.0299	1

#### **CONCULISON:**

Therefore, the Max Power Density at r (20 cm) = 0.0299mW/cm<sup>2</sup> < 1mW/cm<sup>2</sup>. So the EUT complies with the FCC requirement.

———— The End