RF Exposure Evaluation Declaration

FCC ID:	2AJ3WEBEQPZ04
APPLICANT:	Hangzhou Eboylamp Electronics Co.,Ltd.
Application Type:	Certification
Product:	SMART LED LAMP
Model No.:	EBE-QPZ04
FCC Classification:	Digital Transmission System (DTS)
FCC Rule Part(s):	FCC CFR 47 §2.1091
Test Date:	February 3 ~ 20, 2017

Reviewed By : (Robin Wu)

Approved By : (Marlin Chen)

ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

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.

Revision History

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

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 Power	802.11b: 7.37dBm 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

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

Formula as follows:

f= Frequency in MHz

Calculation Formula: $Pd = (Pout*G)/(4*pi*r^2)$

Where
Pd = power density in mW/cm^2
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 (MHz)	Maximum Average Output Power (dBm)	Power Density at r = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)
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^2 < 1mW/cm^2.

So the EUT complies with the FCC requirement.

The End