



# RF Exposure Evaluation Declaration

Product Name : LED lamp  
Model No. : 9290013012A  
FCC ID : 2AGBW9290013012AX

Applicant : Signify (China) Investment Co., Ltd  
Address : Building 9, Lane 888, Tianlin Road, Minhang  
district, Shanghai, China

Date of Receipt : Nov. 02, 2018  
Issued Date : Jan. 31, 2019  
Report No. : 18B2025R-RF-US-P20V01  
Report Version : V2.1

The test results relate only to the samples tested.

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

This report must not be used to claim product endorsement by A2LA, TAF or any agency of the government.

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# Test Report Certification


Issued Date : Jan. 31, 2019


Report No. : 18B2025R-RF-US-P20V01



Product Name : LED lamp  
Applicant : Signify (China) Investment Co., Ltd  
Address : Building 9, Lane 888, Tianlin Road, Minhang district,  
Shanghai, China  
Manufacturer : Signify (China) Investment Co., Ltd  
Address : Building 9, Lane 888, Tianlin Road, Minhang district,  
Shanghai, China  
Model No. : 9290013012A  
FCC ID : 2AGBW9290013012AX  
Brand Name : Philips  
EUT Voltage : 110 - 130 Vac, 50-60 Hz, 8.5W  
Test Voltage : AC 120V/60Hz  
Applicable Standard : KDB 447498D01V06  
FCC Part1.1310  
Test Result : Complied  
Performed Location : DEKRA Testing & Certification (Suzhou) Co., Ltd.  
No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006,  
Jiangsu, China  
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098  
FCC Designation Number: CN1199

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Reviewed By :   
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Approved By :   
(Engineer Supervisor: Jack Zhang )

## 1. RF Exposure Evaluation

### 1.1.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

Friis Formula

Friis transmission formula:  $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

$P_d$  = power density in mW/ cm<sup>2</sup>

$P_{out}$  = 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

$P_d$  is the limit of MPE, 1 mW/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.

## 1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18°C and 78% RH.

## 1.3. Test Result of RF Exposure Evaluation

Product	:	LED lamp
Test Item	:	RF Exposure Evaluation
Test Site	:	AC-6

### ● Antenna Information:

Antenna manufacturer	N/A				
Antenna Delivery	<input checked="" type="checkbox"/>	1*TX+1*RX	<input type="checkbox"/>	2*TX+2*RX	<input type="checkbox"/> 3*TX+3*RX
Antenna technology	<input checked="" type="checkbox"/>	SISO			
	<input type="checkbox"/>	MIMO	<input type="checkbox"/>	Basic	
			<input type="checkbox"/>	CDD	
			<input type="checkbox"/>	Beam-forming	
Antenna Type	<input type="checkbox"/>	External	<input type="checkbox"/>	Dipole	
	<input checked="" type="checkbox"/>	Internal	<input type="checkbox"/>	PIFA	
			<input checked="" type="checkbox"/>	PCB	
			<input type="checkbox"/>	Ceramic Chip Antenna	
			<input type="checkbox"/>	Metal plate type F antenna	
Antenna Gain	2.84dBi				

- **Power Density:**

The tune-up power is 0.5dB, so the maximum conducted power we used to calculate RF exposure is 11.037dBm.

Test Mode	Frequency Band (MHz)	EIRP (dBm)	Limit of Power Density S(mW/cm <sup>2</sup> )	Power Density at R = 20 cm (mW/cm <sup>2</sup> )
Zigbee	2400 ~ 2483.5	13.877	1	0.005

Note:

The power density is 0.005mW/cm<sup>2</sup> for LED lamp without any other radio equipment.

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