RF EXPOSURE REPORT

REPORT NO.:	SA140515E07A
MODEL NO.:	Lightify Gateway
FCC ID:	DZOLIGHTIFYGW
RECEIVED:	May 15, 2014
TESTED:	May 23, 2014
ISSUED:	Oct. 27, 2014
APPLICANT:	OSRAM SYLVANIA Inc.
ADDRESS:	100 Endicott Street Danvers, Massachusetts 01923 United States
ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
LAB ADDRESS:	No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.

This report should not be used by the client to claim product certification, approval, or endorsement by any government agencies.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA140515E07A	Original release	Oct. 27, 2014

1. CERTIFICATION

PRODUCT:	Lightify Gateway
BRAND NAME:	Osram
MODEL NO.:	Lightify Gateway
TEST SAMPLE:	ENGINEERING SAMPLE
APPLICANT:	OSRAM SYLVANIA Inc.
TESTED DATE:	May 23, 2014
STANDARDS:	FCC Part 2 (Section 2.1091)
	KDB 447498 D03
	IEEE C95.1

The above equipment (Model: Lightify Gateway) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by : _____ , **Date:** Oct. 27, 2014

(Midoli Peng, Specialist)

Approved by : _____ , **Date:** Oct. 27, 2014

(May Chen, Manager)

2. RF EXPOSURE LIMIT

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)
LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE				
300-1500	…	…	F/1500	30
1500-100,000	…	…	1.0	30

F = Frequency in MHz

3. MPE 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

4. CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

5. ANTENNA GAIN

The antennas provided to the EUT, please refer to the following table:

Zigbee Antenna Spec.				
Brand	Antenna Type	Antenna Connector	Gain(dBi)	Frequency range (GHz)
WNC	PIFA	NA	3.24	2.4~2.4835
WLAN Antenna Spec.				
Brand	Antenna Type	Antenna Connector	Gain(dBi)	Frequency range (GHz)
WNC	PIFA	NA	2.85	2.4~2.4835

6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

For WLAN

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
2412-2462	271.644	2.85	20	0.10417	1.00

For Zigbee

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
2405 - 2480	8.75	3.24	20	0.00367	1.00

CONCLUSION:

Both of the WLAN and Zigbee can transmit simultaneously, the formula of calculated the MPE is:

$CPD_1 / LPD_1 + CPD_2 / LPD_2 + ……etc. < 1$

CPD = Calculation power density

LPD = Limit of power density

Therefore, the worst-case situation is 0.10417 / 1 + 0.00367 / 1= 0.108, which is less than “1”. This confirmed that the device comply with FCC 1.1310 MPE limit.

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