RF Exposure Evaluation Report

Product	:	Dual Shade LED Lamp with Bluetooth Speaker
Trade mark	:	OttLite
Model/Type reference	:	HSD9036A
Serial Number	:	N/A
Report Number	:	EED32K00158502
FCC ID	:	2AI7B-HSD9036A
Date of Issue	:	Jul. 09, 2018
Test Standards	:	47 CFR Part 1.1307 47 CFR Part 1.1310 KDB 447498 D01v06
Test result	:	PASS

Prepared for:

Ottlite Technologies Inc.
220 West 7th Avenue, STE 100, Tampa,
Florida, United States

Prepared by:

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Tested By:	Tom chen (Test Project)	Compiled by:	Kevin Ian (Project Engineer)
Reviewed by:	Kevin yang (Reviewer)	Approved by:	Sheek Luo (Lab supervisor)
Date:	Jul. 09, 2018		Check No.: 2447690621

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2 Version

Version No.	Date	Description
00	Jul. 09, 2018	Original

3 Contents

4 General Information

4.1 Client Information

Applicant:	Ottlite Technologies Inc.
Address of Applicant:	220 West 7th Avenue, STE 100, Tampa, Florida, United States
Manufacturer:	SHENZHEN HIGHSTAR ELECTRICAL CO.,LTD.
Address of Manufacturer:	2F,4&5F, Building6, Ya Lian Highstar Industrial Zone, 5022 Wuhe Avenue, Bantian Street, Longgang District Shenzhen 518129 China
Factory:	SHENZHEN HIGHSTAR ELECTRICAL CO.,LTD.
Address of Factory:	2F,4&5F, Building6, Ya Lian Highstar Industrial Zone, 5022 Wuhe Avenue, Bantian Street, Longgang District Shenzhen 518129 China

4.2 General Description of EUT

Product Name:	Dual Shade LED Lamp with Bluetooth Speaker
Model No.(EUT):	HSD9036A
Trade mark:	OttLite
EUT Supports Radios application:	BT 4.2 Signal mode, 2402-2480MHz;
Modulation Type:	GFSK, π/4DQPSK
Sample Type:	Mobile production
Antenna Type:	PCB antenna
Antenna Gain:	-0.58 dBi
Power Supply:	AC adapter: MODEL No.: TEKA024-0503000UK INPUT: 100-240V~50/60Hz, 0.7A MAX OUTPUT: 5V⎓3A
Test Voltage:	AC 120V, 60Hz
Hardware Version:	rev.1.2(manufacturer declare)
Firmware version:	rev.2.4(manufacturer declare)
Conducted Peak Output Power:	-3.479dBm
	The Conducted Peak Output Power data refer to the report EED32K00158501
Sample Received Date:	Jun. 21, 2018
Sample tested Date:	Jun. 21, 2018 to Jul. 05, 2018
The tested samples and the sample information are provided by the client.	

4.3 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd.

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, Guangdong, China 518101

Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.4 Deviation from Standards

None.

4.5 Abnormalities from Standard Conditions

None.

4.6 Other Information Requested by the Customer

None.

5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

According to FCC Part1.1310: 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 part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*($900/f^2$)	6
30–300	61.4	0.163	1.0	6
300–1500	.....	.....	f/300	6
1500–100,000	.....	.....	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*($180/f^2$)	30
30–300	27.5	0.073	0.2	30
300–1500	.....	.....	f/1500	30
1500–100,000	.....	.....	1.0	30

A rough estimation of the expected exposure in power flux density on a given point can be made with the following equation:

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Where:

S = power density

P = power input to the antenna

G = numeric gain of the antenna in the direction of interest relative to an isotropic radiator

R= distance to the centre of radiation of the antenna

EIRP = P*G

The antenna of the product, under normal use condition is at least 20 cm away from the body of the user. Warning statement to the user for keeping at least 20cm separation distance and the prohibition of operating to a person has been printed on the user's manual. Therefore, the S of the device is calculated with R=20cm, and if it is below the limit S, then we can conclude the device complies with the rules.

5.1.2 Test Procedure

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

5.1.3 EUT RF Exposure Evaluation

Antenna Gain: -0.58dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel	Frequency (MHz)	Max Conducted Peak Output Power(dBm)	Gain (dBi)	EIRP* (dBm)	EIRP (mW)	R (cm)	S (mW/cm^2)	Limit (mW/cm^2)	Result
LCH	2441	-3.479	-0.58	-4.059	0.393	20	0.0001	1.0	Pass

Note: Refer to report No. EED32K00158501 for EUT test Max Conducted Peak Output Power value.

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32K00158501 for EUT external and internal photos.

*** End of Report ***