Report No.: DDT-R20062801-1E41

Issued Date: Apr. 22, 2021

RF EXPOSURE REPORT

FOR

Applicant	:	E and F Enterprises Co., Ltd
Address	:	Room A3-8971, No. 58 Fumin Branch Road, Hengsha Township, Chongming District, Shanghai, China.
Equipment under Test	:	EFLamp Prelude d (Smart Speaker Lamp), EFLamp Prelude t (Smart Speaker Lamp)
Model No.	:	EF_IL_D1, EF_IL_D2, EF_IL_D3, EF_IL_D4, EF_IL_D5, EF_IL_D6, EF_IL_D7, EF_IL_D8, EF_IL_D9, EF_IL_D10, EF_IL_D11, EF_IL_D12, EF_IL_T1, EF_IL_T2, EF_IL_T3, EF_IL_T4, EF_IL_T5, EF_IL_T6, EF_IL_T7, EF_IL_T8, EF_IL_T9, EF_IL_T10, EF_IL_T11, EF_IL_T12
Trade Mark	:	E+F
FCC ID	:	2AXQQ-PRELUDE
Manufacturer	:	DONGGUAN TRISTAR ELECTRONIC CO., LTD.
Address	:	Building 1 & Building2, No.196, Tangxia Dongxing Road, Tangxia Town, Dongguan City, Guangdong Province, China

Issued By: Dongguan Dongdian Testing Service Co., Ltd.

Add.: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808

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Test Report Declare

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Trade mark	:	E+F
Manufacturer	:	DONGGUAN TRISTAR ELECTRONIC CO., LTD.
Address	:	Building 1 & Building2, No.196, Tangxia Dongxing Road, Tangxia Town, Dongguan City, Guangdong Province, China

Standard Used: KDB447498 D01 General RF Exposure Guidance v06

We Declare:

The equipment described above is assessed by Dongguan Dongdian Testing Service Co., Ltd and in the configuration assessed the equipment complied with the standards specified above. The assessed results are contained in this report and Dongguan Dongdian Testing Service Co., Ltd is assumed of full responsibility for the accuracy and completeness of these assess.

After evaluation, our opinion is that the equipment In Accordance with above standard.

Report No:	DDT-R20062801-1E41		
Date of Receipt:	Apr. 07, 2020	**Date of Test:**	Apr. 07, 2020 ~ Apr. 09, 2021

Prepared By: ***Approved By:***

Sam Li

Sam Li/Engineer ***Damon Hu/EMC Manager***

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Dongguan Dongdian Testing Service Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Apr. 22, 2021	

1. General Information

1.1. Description of equipment

EUT* Name	:	EFLamp Prelude d (Smart Speaker Lamp), EFLamp Prelude t (Smart Speaker Lamp)
Model Number	:	EF_IL_D1, EF_IL_D2, EF_IL_D3, EF_IL_D4, EF_IL_D5, EF_IL_D6, EF_IL_D7, EF_IL_D8, EF_IL_D9, EF_IL_D10, EF_IL_D11, EF_IL_D12, EF_IL_T1, EF_IL_T2, EF_IL_T3, EF_IL_T4, EF_IL_T5, EF_IL_T6, EF_IL_T7, EF_IL_T8, EF_IL_T9, EF_IL_T10, EF_IL_T11, EF_IL_T12
EUT function description	:	Please reference user manual of this device
Power Supply	:	AC 100-240V~, 50/60Hz
Radio Specification	:	Bluetooth V5.0 IEEE 802.11b/g/n IEEE 802.11a/n/ac
Operation Frequency	:	2402 MHz - 2480 MHz 2412 MHz - 2462 MHz 5180 MHz - 5825 MHz
Modulation	:	GFSK, π/4-DQPSK, 8DPSK IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)
Data Rate	:	1 Mbps, 2 Mbps, 3 Mbps IEEE 802.11b: 1, 2, 5.5, 11 Mbps IEEE 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps IEEE 802.11n HT20: 6.5, 13, 19.5, 26, 39, 52, 58.5, 65 Mbps IEEE 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps IEEE 802.11n HT20: 14.4, 28.9, 43.3, 57.8, 86.7, 115.6, 130.0, 144.4 Mbps IEEE 802.11n HT40: 30, 60, 90, 120, 180, 240, 270, 300 Mbps IEEE 802.11ac HT20: 14.4, 28.8, 43.4, 57.8, 86.6, 115.6, 130, 144.4, 173.4 Mbps IEEE 802.11ac HT40: 30, 60, 90, 120, 180, 240, 270, 300, 360, 400 Mbps IEEE 802.11ac HT80: 65, 130, 195, 260, 390, 520, 585, 650, 780, 866.6 Mbps
Antenna Type	:	2.4G Band: Dedicated FPCB antenna, maximum PK gain: 3.21 dBi 5G Band: Dedicated FPCB antenna, maximum PK gain: 2.89 dBi TWS BT: Integral PCB antenna, maximum PK gain: 0 dBi
Serial Number	:	N/A

1.2. Assess laboratory

Dongguan Dongdian Testing Service Co., Ltd.

Add.: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808

Tel.: +86-0769-38826678, http://www.dgddt.com, Email: ddt@dgddt.com

CNAS Registration No. CNAS L6451; A2LA Certificate Number: 3870.01;

FCC Designation Number: CN1182; FCC Test Firm Registration Number: 540522

Industry Canada Site Registration Number: 10288A-1

2. RF Exposure Evaluation

2.1. Requirement

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

Limits for General Population/Uncontrolled Exposure

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

2.2. Calculation method

$$E(V/m) = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power Density: } S(mW/cm^2) = \frac{E^2}{377}$$

E = Electric field (V/m)
P = Peak RF output power (mW)
G = EUT Antenna numeric gain (numeric)=
d = Separation distance between radiator and human body (m)
The formula can be changed to

We can change the formula to:

$$S = \frac{30 \times P \times G}{377 \times d^2} \quad \text{or, } d = \sqrt{\frac{30 \times P \times G}{377 \times S}}$$

From the peak EUT RF output power, the minimum mobile separation distance, d= 0.2 m, as well as the gain of the used antenna, the RF power density can be obtained.

2.3. Estimation result

Mode	PK Output power (dBm)	Output power (mW)	Antenna Gain (dBi)	Antenna Gain (linear)	MPE Values (mW/cm^2)	MPE Limit (mW/cm^2)
BT	7.44	5.55	3.21	2.09	0.0023	1
BLE	6.31	4.28	3.21	2.09	0.0018	1
2.4G WIFI	15.23	33.34	3.21	2.09	0.0139	1
5G WIFI	12.93	19.63	2.89	1.95	0.0076	1
TWS BT	11.04	12.71	0	1.00	0.0025	1
TWS BLE	7.93	6.21	0	1.00	0.0012	1

Note: The estimation distance is 20 cm

Conclusion: The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

END OF REPORT