RF EXPOSURE REPORT

FOR

Applicant	**:**	Edifier International Limited
Address	**:**	P.O. Box 6264 General Post Office Hong Kong
Equipment under Test	**:**	Smart Home Speaker
Model No.	**:**	R1700A
Trade Mark	**:**	EDIFIER
FCC ID	**:**	Z9G-EDF76
IC	**:**	10004A-EDF76
Manufacturer	**:**	Beijing Edifier Technology Co., Ltd.
Address	**:**	8th floor, ZuoAn Building, NO.68 BeiSiHuanXiLu, Haidian District, Beijing 100080, 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

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

REPORT

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TEST REPORT DECLARE

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Address	:	8th floor, ZuoAn Building, NO.68 BeiSiHuanXiLu, Haidian District, Beijing 100080, CHINA
Factory	:	Dongguan Edifier Technology Co., Ltd.
Address	:	No.2 Gongyedong Road, Songshan Lake Sci&Tech Industry Park, Dongguan, Guangdong 523808, PR.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-R18092801-1E4		
Date of Receipt:	Oct. 08, 2018	**Date of Test:**	Oct. 08, 2018 ~ Nov. 06, 2018

Prepared By:

Sam Li

Sam Li/Engineer

Approved By:

DONGGUAN DONGDIAN TESTING SERVICE CO., LTD. DONG DIAN TESTING DDT APPROVED

Damon Hu

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	Nov. 06, 2018	

1. General information

1.1. Description of Equipment

EUT* Name	:	Smart Home Speaker
Model Number	:	R1700A
EUT function description	:	Please reference user manual of this device
Power supply	:	Input: AC 100-240V, 50/60Hz, 400mA max
Radio Specification	:	Bluetooth V5.0, IEEE802.11b/g/n
Operation frequency	:	Bluetooth: 2402MHz-2480MHz IEEE 802.11b: 2412MHz-2462MHz IEEE 802.11g: 2412MHz-2462MHz IEEE 802.11n HT20: 2412MHz-2462MHz IEEE 802.11n HT40: 2422MHz-2452MHz
Modulation	:	Bluetooth: GFSK, π/4-DQPSK, 8DPSK IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20, HT40: OFDM (64QAM, 16QAM, QPSK, BPSK)
Data rate	:	Bluetooth: 1Mbps, 2Mbps, 3Mbps 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 802.11n HT40: 13.5, 27, 40.5, 54, 81, 108, 121.5, 135 Mbps
Antenna Type	:	Integral PCB antenna, maximum PK gain: 2.59 dBi dedicated FPC antenna, maximum PK gain: 2.4 dBi
Sample Type	:	Series production

1.2. Assess laboratory

Dongguan Dongdian Testing Service Co., Ltd
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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 0.2m 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=0.2m, 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)
Bluetooth Max power	8.06	6.40	2.59	1.82	0.0023	1
2.4G WIFI Max power	24.89	308.32	2.40	1.74	0.1067	1

Maximum Simultaneous transmission MPE Ratio for Bluetooth and 2.4G WLAN

Maximum MPE ratio Bluetooth	Maximum MPE ratio 2.4GWLAN	∑MPE ratios	Limit	Results
0.0023	0.1067	0.109	1.000	Pass

Note: The estimation distance is 20cm

Conclusion: No SAR evaluation required since transmitter power is below FCC threshold

END OF REPORT