Report No.: DDT-R20032411-1E3

Issued Date: Jun. 12, 2020

RF EXPOSURE REPORT

FOR

Applicant	:	ION Audio, LLC
Address	:	200 Scenic View Drive, Cumberland, RI 02864 U.S.A.
Equipment under Test	:	HIGH-POWER PREMIUM BLUETOOTH SPEAKER WITH INTERACTIVE SOUND EFFECTS
Model No.	:	EXPLORER FX
Trade Mark	:	ION
FCC ID	:	2AB3E-IPA117P
IC	:	10541A-IPA117P
Manufacturer	:	ION Audio, LLC
Address	:	200 Scenic View Drive, Cumberland, RI 02864 U.S.A.

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

Applicant	:	ION Audio, LLC
Address	:	200 Scenic View Drive, Cumberland, RI 02864 U.S.A.
Equipment under Test	:	HIGH-POWER PREMIUM BLUETOOTH SPEAKER WITH INTERACTIVE SOUND EFFECTS
Model No.	:	EXPLORER FX
Trade mark	:	ION
Manufacturer	:	ION Audio, LLC
Address	:	200 Scenic View Drive, Cumberland, RI 02864 U.S.A.

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-R20032411-1E3		
Date of Receipt:	May 19, 2020	**Date of Test:**	May 19, 2020 ~ Jun. 12, 2020

Prepared By:

Sam Li

Sam Li/Engineer

Approved By:

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

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	Jun. 12, 2020	

1. General Information

1.1. Description of equipment

EUT* Name	:	HIGH-POWER PREMIUM BLUETOOTH SPEAKER WITH INTERACTIVE SOUND EFFECTS
Model Number	:	EXPLORER FX
EUT function description	:	Please reference user manual of this device
Power supply	:	AC 100-240V, 50/60Hz or DC 12V from built-in battery
Radio Specification	:	Bluetooth V5.0
Operation frequency	:	2402 MHz - 2480 MHz
Modulation	:	GFSK, π/4-DQPSK
Data rate	:	1 Mbps, 2 Mbps
Antenna Type	:	Integral PCB antenna, maximum PK gain: -0.68 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 0.2 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)
Bluetooth Max power	3.89	2.45	-0.68	0.86	0.00042	1

Note: The estimation distance is 20 cm

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

END OF REPORT