

■Report No.: DDT-R20110911-1E4

■Issued Date: Dec. 31, 2020

RF EXPOSURE REPORT

FOR

Applicant	:	ION Audio, LLC			
Address	:	200 Scenic View Drive, Cumberland, RI 02864 U.S.A.			
Equipment under Test	0	INDODOR/OUTDOOR 360-degrees Sound Speaker With Lighting and Multi-Sync			
Model No.		BRIGHT MAX			
Trade Mark	:				
FCC ID	•	2AB3E-ISP138A			
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



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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		INDODOR/OUTDOOR 360-degrees Sound Speaker With Lighting and Multi-Sync	
Model No.	:	BRIGHT MAX	
Trade mark	:		
Manufacturer		ION Audio, LLC	
Address	TESTI	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-R20110911-1E4	71	DONG DI
Date of Receipt:	Dec. 01, 2020	Date of Test:	Dec. 01, 2020 ~ Dec. 31, 2020

Prepared By:

Sam Li/Engineer

Approved By:

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		Dec. 31, 2020	1
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1. General Information

1.1. Description of equipment

EUT* Name		INDODOR/OUTDOOR 360-degrees Sound Speaker With Lighting and Multi-Sync		
Model Number	:	BRIGHT MAX		
EUT function description	:	Please reference user manual of this device		
Power Supply	:	DC 5V from external AC Adapter DC 7.4V Polymer Li-ion built-in battery		
Radio Specification	:	Bluetooth V5.0		
Operation Frequency	:	2402 MHz - 2480 MHz		
Modulation	:	GFSK, π/4-DQPSK, 8DPSK		
Data Rate	:	1 Mbps, 2 Mbps, 3 Mbps		
Antenna Type	ŀ	Dedicated FPCB antenna, maximum PK gain: 5 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

$$E(V/m) = \frac{\sqrt{30 \times P \times G}}{d}$$
 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:

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

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	Output	Antenna	Antenna	MPE	MPE
	power	power	Gain	Gain	Values	Limit
	(dBm)	(mW)	(dBi)	(linear)	(mW/cm ²	(mW/cm ²
Bluetooth Max power	6.54	4.51	5, TESTING	3.16	0.0028	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