

# RF Exposure Evaluation Report

APPLICANT : ION Audio, LLC  
EQUIPMENT : All-Terrain High-Power Wireless Speaker  
BRAND NAME : ION  
MODEL NAME : Block Rocker® Icon , iPA179,  
iPA179\*\*\*\*\*, Block\*\*\*\*\* (“\*” can be “a-z”,  
“A-Z”, “0-9”, blank, “-“, “+” or any character, symbol,  
alphanumeric)  
FCC ID : 2AB3E-IPA179  
STANDARD : 47 CFR Part 2.1091

The product evaluation date was started from Jul. 01, 2024 and completed on Jul. 01, 2024. We, Sporton International Inc. (Shenzhen), would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091 and FCC KDB 447498 D01 v06, and pass the limit. Without written approval of Sporton International Inc. (Shenzhen), the test report shall not be reproduced except in full.



Approved by: Si Zhang

**Sporton International Inc. (Shenzhen)**

1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055

People's Republic of China



## **Table of Contents**

|                                                                                |          |
|--------------------------------------------------------------------------------|----------|
| <b>1. ADMINISTRATION DATA .....</b>                                            | <b>4</b> |
| 1.1. Testing Laboratory .....                                                  | 4        |
| <b>2. DESCRIPTION OF EQUIPMENT UNDER TEST (EUT) .....</b>                      | <b>5</b> |
| <b>3. MAXIMUM RF AVERAGE OUTPUT TUNE UP POWER AMONG PRODUCTION UNITS .....</b> | <b>6</b> |
| <b>4. RF EXPOSURE LIMIT INTRODUCTION .....</b>                                 | <b>7</b> |
| <b>5. RADIO FREQUENCY RADIATION EXPOSURE EVALUATION .....</b>                  | <b>8</b> |
| 5.1. Standalone Power Density Calculation .....                                | 8        |



**Revision History**

| REPORT NO. | VERSION | DESCRIPTION              | ISSUED DATE   |
|------------|---------|--------------------------|---------------|
| FA451601   | Rev. 01 | Initial issue of report. | Jul. 09, 2024 |
|            |         |                          |               |
|            |         |                          |               |
|            |         |                          |               |
|            |         |                          |               |
|            |         |                          |               |
|            |         |                          |               |
|            |         |                          |               |
|            |         |                          |               |
|            |         |                          |               |
|            |         |                          |               |
|            |         |                          |               |
|            |         |                          |               |
|            |         |                          |               |
|            |         |                          |               |



## **1. Administration Data**

### **1.1. Testing Laboratory**

Sporton International Inc. (Shenzhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

| Testing Laboratory |                                                                                                                                                                            |                     |                                |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------|
| Test Firm          | Sporton International Inc. (Shenzhen)                                                                                                                                      |                     |                                |
| Test Site Location | 1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055<br>People's Republic of China<br>TEL: +86-755-86379589<br>FAX: +86-755-86379595 |                     |                                |
| Test Site No.      | Sporton Site No.                                                                                                                                                           | FCC Designation No. | FCC Test Firm Registration No. |
|                    | SAR01-SZ                                                                                                                                                                   | CN1256              | 421272                         |

| Applicant    |                                                                             |
|--------------|-----------------------------------------------------------------------------|
| Company Name | ION Audio, LLC                                                              |
| Address      | 200 Scenic View Drive,Suite 201,Cumberland,Rhode Island 02864,United States |

| Manufacturer |                                                                             |
|--------------|-----------------------------------------------------------------------------|
| Company Name | ION Audio, LLC                                                              |
| Address      | 200 Scenic View Drive,Suite 201,Cumberland,Rhode Island 02864,United States |

## 2. Description of Equipment Under Test (EUT)

| Product Feature & Specification         |                                                                                                                                                     |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| EUT Type                                | All-Terrain High-Power Wireless Speaker                                                                                                             |
| Brand Name                              | ION                                                                                                                                                 |
| Model Name                              | Block Rocker® Icon , iPA179,<br>iPA179*****, Block***** ("*" can be "a-z", "A-Z", "0-9", blank, "-", "+" or any character,<br>symbol, alphanumeric) |
| FCC ID                                  | 2AB3E-IPA179                                                                                                                                        |
| Wireless Technology and Frequency Range | Bluetooth: 2402 MHz ~ 2480 MHz                                                                                                                      |
| Mode                                    | Bluetooth BR/EDR/LE                                                                                                                                 |
| Antenna Gain                            | Bluetooth: 2.81 dBi                                                                                                                                 |
| Antenna Type                            | Bluetooth: FPC Antenna                                                                                                                              |
| HW Version                              | N/A                                                                                                                                                 |
| SW Version                              | N/A                                                                                                                                                 |
| EUT Stage                               | Identical Prototype                                                                                                                                 |

**Remark:**

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

**Comments and Explanations:**

1. The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.
2. The maximum RF output tune up power, antenna gain also the safe distance used for evaluate RF exposure were declared by manufacturer.



**3. Maximum RF average output tune up power among production units**

**<Bluetooth>**

| Mode             | Maximum Average power(dBm) |
|------------------|----------------------------|
| Bluetooth BR/EDR | 9.00                       |
| Bluetooth LE     | 9.00                       |

#### 4. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

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

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = Power Density

P = Output Power at Antenna Terminals

G = Gain of Transmit Antenna (linear gain)

R = Distance from Transmitting Antenna



## **5. Radio Frequency Radiation Exposure Evaluation**

### **5.1. Standalone Power Density Calculation**

| Band      | Frequency (MHz) | Antenna Gain (dBi) | Maximum Power (dBm) | Maximum EIRP (dBm) | Average EIRP (mW) | Power Density at 20cm (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) |
|-----------|-----------------|--------------------|---------------------|--------------------|-------------------|---------------------------------------------|-----------------------------|
| Bluetooth | 2402.0          | 2.81               | 9.00                | 11.810             | 15.171            | 0.003                                       | 1.000                       |

**Note:** For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band.

### **Conclusion:**

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.

-----THE END-----