

# RF Exposure Evaluation Report

APPLICANT : Locus Solutions LLC  
EQUIPMENT : GO Bluetooth Logger  
BRAND NAME : Emerson  
MODEL NAME : GO BT Logger 1.0  
FCC ID : AMH101008  
STANDARD : 47 CFR Part 2.1091

We, Sporton International (Shenzhen) Inc., would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091, and pass the limit. Without written approval of Sporton International (Shenzhen) Inc., the test report shall not be reproduced except in full.



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Approved by: Mark Qu / Manager



**Sporton International (Shenzhen) Inc.**

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Guangdong Province 518055 China**



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## **Revision History**

| REPORT NO. | VERSION | DESCRIPTION             | ISSUED DATE   |
|------------|---------|-------------------------|---------------|
| FA761611   | Rev. 01 | Initial issue of report | Oct. 31, 2017 |
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**1. Administration Data****1.1 Testing Laboratory**

| Testing Laboratory |                                                                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Site          | Sporton International (Shenzhen) Inc.                                                                                                                                         |
| Test Site Location | 1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan Shenzhen City<br>Guangdong Province 518055 China<br>TEL: +86-755-8637-9589<br>FAX: +86-755-8637-9595 |

| Applicant    |                                                    |
|--------------|----------------------------------------------------|
| Company Name | Locus Solutions LLC                                |
| Address      | 14924 Corporate Road South, Jupiter, FL 33478, USA |

| Manufacturer |                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------|
| Company Name | SHENZHEN ANVOX ALARM SYSTEMS CO., LTD                                                                   |
| Address      | 5th Floor West, B3 Building, Yasheng Industrial District, Guangming District, Shenzhen<br>518107, China |



## **2. General Information**

### **2.1 Description of Device Under Test (DUT)**

| Product Feature & Specification                                                                                                                            |                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| DUT Type                                                                                                                                                   | GO Bluetooth Logger            |
| Brand Name                                                                                                                                                 | Emerson                        |
| Model Name                                                                                                                                                 | GO BT Logger 1.0               |
| FCC ID                                                                                                                                                     | AMH101008                      |
| Wireless Technology and Frequency Range                                                                                                                    | Bluetooth: 2402 MHz ~ 2480 MHz |
| Mode                                                                                                                                                       | Bluetooth v4.0 LE              |
| Antenna Type                                                                                                                                               | PCB Antenna                    |
| HW Version                                                                                                                                                 | V 2.0                          |
| SW Version                                                                                                                                                 | N/A                            |
| DUT Stage                                                                                                                                                  | Identical Prototype            |
| <b>Remark:</b> The above DUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description |                                |

## **3. Maximum RF output power among production units**

| Mode              | Maximum Output Power (dBm) |
|-------------------|----------------------------|
| Bluetooth v4.0 LE | -3.0                       |



## **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) | Maximum EIRP (W) | Average EIRP (mW) | Power Density at 20cm (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) |
|-----------|-----------------|--------------------|---------------------|--------------------|------------------|-------------------|---------------------------------------------|-----------------------------|
| Bluetooth | 2402.0          | 4.0                | -3.0                | 1.000              | 0.0013           | 1.259             | 0.0003                                      | 1.0000                      |

**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.