# RF Exposure Evaluation Report

APPLICANT : Zebra Technologies Corporation

**EQUIPMENT**: MPACT Tag

**BRAND NAME**: Zebra Technologies Corporation

MODEL NAME : MPACT-OUTR1

MARKETING NAME : Outdoor Beacon

FCC ID : UZ7MPACT-OUTR1

STANDARD : 47 CFR Part 2.1093

FCC KDB 447498 D01 v05r02

We, SPORTON INTERNATIONAL INC., would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1093 and pass the limit. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Eric Huang / Deputy Manager

Cole huan

Approved by: Jones Tsai / Manager





**Report No.: FA580424** 

#### SPORTON INTERNATIONAL INC.

No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Taoyuan City, Taiwan (R.O.C.)

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7MPACT-OUTR1 Page Number : 1 of 4
Report Issued Date : Oct. 08, 2015

Report Version : Rev. 01

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## **Revision History**

| REPORT NO. | VERSION | DESCRIPTION             | ISSUED DATE   |
|------------|---------|-------------------------|---------------|
| FA580424   | Rev. 01 | Initial issue of report | Oct. 08, 2015 |
|            |         |                         |               |
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## 1. Administration Data

| Testing Laboratory |  |  |  |
|--------------------|--|--|--|
| Test Site          | SPORTON INTERNATIONAL INC.   |  |  |
| Test Site Location | No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978 |  |  |

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| Applicant    |  |  |
|--------------|--|--|
| Company Name | Zebra Technologies Corporation         |  |
| Address      | 1 Zebra Plaza Holtsville, NY 11742 USA |  |

| Manufacturer |  |  |  |
|--------------|--|--|--|
| Company Name | Wistron NeWeb Corporation  |  |  |
| Address      | 20 Park Avenue II, Hsinchu Science Park, Hsinchu 308,Taiwan,R.O.C. |  |  |

## 2. General Information

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

| Product Feature & Specification   |                                |  |  |
|---|--------------------------------|--|--|
| DUT Type MPACT Tag  |                                |  |  |
| Brand Name  | Zebra Technologies Corporation |  |  |
| Model Name MPACT-OUTR1  |                                |  |  |
| Marketing Name Outdoor Beacon   |                                |  |  |
| FCC ID  | UZ7MPACT-OUTR1                 |  |  |
| Wireless Technology and Frequency Range  Bluetooth: 2402 MHz ~ 2480 MHz |                                |  |  |
| Mode  | ode Bluetooth v4.0-LE          |  |  |
| Antenna Type Patch antenna  |                                |  |  |
| HW Version  | Rev A                          |  |  |
| SW Version  | 2.0.0.0-032R                   |  |  |
| DUT Stage   | Production Unit                |  |  |

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

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

|             | Average Power (dBm) |  |
|-------------|---------------------|--|
| Mode / Band | BT4.0-LE            |  |
|             | (GFSK)              |  |
| Bluetooth   | -7                  |  |

#### 4. RF Exposure Evaluation

| Bluetooth       | mW  | Separation    | Frequency | Exclusion  |
|-----------------|-----|---------------|-----------|------------|
| Max Power (dBm) |     | Distance (mm) | (GHz)     | Thresholds |
| -7              | 0.2 | 5             | 2.48      | 0.06       |

#### Note:

 Per KDB 447498 D01v05r02, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]  $\cdot [\sqrt{f(GHz)}] \le 3.0$  for 1-g SAR and  $\le 7.5$  for 10-g extremity SAR

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

**Conclusion:** Per KDB 447498 D01v05r02, when the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion. The test exclusion threshold is 0.06 which is <= 3, SAR testing is not required.

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