

RF Exposure Evaluation Report

Applicant's company	Zebra Technologies Corporation
Applicant Address	3 Overlook Point Lincolnshire IL 60069 USA
FCC ID	XWX-TFF5100
Manufacturer's company	Zebra Technologies Corporation
Manufacturer Address	3 Overlook Point Lincolnshire IL 60069 USA

Product Name	WhereNet RTLS Badge Tag
Brand Name	Zebra
Model Name	TFF-5100
Ref. Standard(s)	47 CFR FCC Part 2 Subpart J, section 2.1093
Received Date	Jul. 06, 2017
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Submission Type	Original Equipment


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PHOTOGRAPHS OF EUT V01



1. GENERAL DESCRIPTION

1.1. EUT General Information

RF General Information			
Evaluation Mode	Frequency Range (MHz)	Operating Frequency (MHz)	Modulation Type
2.4GHz WLAN	2400-2483.5	2442, 2446	OOK, BPSK

1.2. Testing Location Information

Testing Location		
<input checked="" type="checkbox"/>	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL : 886-3-327-3456 FAX : 886-3-327-0973 Test site Designation No. TW1190 with FCC.
<input type="checkbox"/>	JHUBEI	ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan (R.O.C.) TEL : 886-3-656-9065 FAX : 886-3-656-9085 Test site Designation No. TW0006 with FCC.

2. RF EXPOSURE EVALUATION

2.1. Applicable Standard

In accordance with FCC 47 CFR part 2 (2.1093) this device has been defined as a portable device which is defined as a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user.

Portable devices must be evaluated using the specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2003.

2.2. SAR evaluation

- Per FCC KDB 447498 D01 v06, 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:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \bullet$$

$$[\sqrt{f_{(\text{GHz})}}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR}$$

- ♦ $f_{(\text{GHz})}$ 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

Mode	Tune-up Average Power		Test Distance (mm)	Frequency (GHz)	Exclusion Thresholds
	(dBm)	(mW)			
OOK	3.42	2.20	5	2.446	0.7
BPSK	4.27	2.67	5	2.442	0.8

- The worst of per FCC KDB 447498 D01 v06 exclusion thresholds is $0.8 < 3$, RF exposure evaluation is not required.