



RF Exposure Evaluation Report

APPLICANT : Zebra Technologies Corporation
EQUIPMENT : Cordless 1D/2D Handheld Imager
BRAND NAME : Zebra
MODEL NAME : DS2278
FCC ID : UZ7DS2278
STANDARD : 47 CFR Part 2.1093
FCC KDB 447498 D01 v06

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 / Manager

Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL INC.

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA720928	Rev. 01	Initial issue of report	Apr. 24, 2017

**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

Applicant	
Company Name	Zebra Technologies Corporation
Address	1 Zebra Plaza, Holtsville, NY 11742-1300, USA

Manufacturer	
Company Name	Zebra Technologies Corporation
Address	1 Zebra Plaza, Holtsville, NY 11742-1300, USA



2. General Information

2.1 Description of Device Under Test (DUT)

Product Feature & Specification	
EUT Type	Cordless 1D/2D Handheld Imager
Brand Name	Zebra
Model Name	DS2278
FCC ID	UZ7DS2278
Wireless Technology and Frequency Range	Bluetooth: 2402 MHz ~ 2480 MHz
Mode	Bluetooth BR/EDR/LE
Antenna Gain	2.96dBi
HW Version	A
SW Version	REV A
MFD	15FEB17
EUT Stage	Identical Prototype

Remark: 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	Channel	Frequency (MHz)	Average power (dBm)		
			1Mbps	2Mbps	3Mbps
BR / EDR	CH 00	2402	0.36	0.26	0.18
	CH 39	2441	-0.96	-0.83	-0.85
	CH 78	2480	-1.18	-1.06	-1.07
Tune-up Limit			0.5	0.5	0.5

Mode	Channel	Frequency (MHz)	Average power (dBm)	
			GFSK	
LE	CH 00	2402	0.1	
	CH 19	2440	-0.95	
	CH 39	2480	-1.18	
Tune-up Limit			0.5	



4. RF Exposure Evaluation

Bluetooth Max Power (dBm)	mW	Separation Distance (mm)	Frequency (GHz)	Exclusion Thresholds
0.5	1.00	5	2.48	0.31

Note:

1. Per KDB 447498 D01v06 the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* \leq 50 mm are determined by:

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

Conclusion: Per KDB 447498 D01v06, 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 0.31 which is ≤ 3 , SAR testing is not required.