RF Exposure Evaluation Report

APPLICANT	:	Delphian Systems LLC
EQUIPMENT	:	BLE/ANT MODULE
BRAND NAME	:	Delphian
MODEL NAME	:	SRU532
MARKETING NAME	:	SRU532
FCC ID	:	2AEHJSRU532
STANDARD	:	47 CFR Part 2.1091

We, SPORTON INTERNATIONAL 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 INC., the test report shall not be reproduced except in full.

Reviewed by: Eric Huang / Deputy Manager

Approved by: Jones Tsai / Manager

Testing Laboratory
1190

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

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA610515	Rev. 01	Initial issue of report	Apr. 22, 2016

1. Administration Data

1.1. Testing Laboratory

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	Delphian Systems LLC
Address	975, Weiland Rd #150, Buffalo Grove, IL 60089, United States

Manufacturer	
Company Name	Delphian Systems LLC
Address	975, Weiland Rd #150, Buffalo Grove, IL 60089, United States

2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	BLE/ANT MODULE
Brand Name	Delphian
Model Name	SRU532
Marketing Name	SRU532
FCC ID	2AEHJSRU532
Wireless Technology and Frequency Range	Bluetooth: 2402 MHz ~ 2480 MHz ANT: 2402 MHz ~ 2480 MHz
Mode	・Bluetooth v4.1-LE ・ANT
EUT Stage	Production Unit

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

Antenna Information				
1.	Ant. Type	Chip	Peak Gain	-0.71dBi
2.	Ant. Type	SMA	Peak Gain	0dBi

3. Maximum RF average output power among production units

Average Power (dBm)	
Bluetooth LE (GFSK)	ANT (GFSK)
17	17

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^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f2)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	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^2)	Limit (mW/cm^2)
Bluetooth	2402	0.00	17.00	17.000	0.050	50.119	0.010	1.000
ANT	2402	0.00	17.00	17.000	0.050	50.119	0.010	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.