# **RF Exposure Evaluation Declaration**

Product Name	: Cycling computer
Trade Name	: LEZYNE
Model No.	: SUPER GPS, MACRO GPS
FCC ID.	:2AD4S-SPRV204

Applicant : Lezyne USA, Incorporated

Address : 645 Tank Farm Road Unit F, San Luis Obispo, California, 93401, United States

Nov. 07, 2018						
Dec. 13, 2018						
18B0078R-RFUSP02V00						
V1.0						
Tac-MRA Testing Laboratory 302.4						

The declaration results relate only to the samples calculated. The declaration shall not be reproduced except in full without the written approval of DEKRA Testing and Certification Co., Ltd..

# 1. **RF Exposure Evaluation**

### 1.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (M	1PF)

Frequency Range	Electric Field	Magnetic Field	Power Density	Average Time	
(MHz)	Strength (V/m)	Strength (A/m)	(mW/cm <sup>2</sup> )	(Minutes)	
(A) Limits for Occupational/ Control Exposures					
300-1500			F/300	6	
1500-100,000			5	6	
(B) Limits for General Population/ Uncontrolled Exposures					
300-1500			F/1500 6		
1500-100,000			1 30		

F= Frequency in MHz

Friis Formula Friis transmission formula:  $Pd = (Pout^{*}G)/(4^{*}pi^{*}r^{2})$ 

Where

 $Pd = power density in mW/cm^{2}$ 

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

Pd id the limit of MPE, 1 mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

## 1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity:  $18^{\circ}$ C and  $78^{\circ}$ RH.



#### 1.3. Test Result of RF Exposure Evaluation

Product	Cycling computer
Test Mode	Mode 1: Transmit
Test Condition	RF Exposure Evaluation

#### Antenna Gain

Antenna Gain: The maximum Gain measured in fully anechoic chamber is -2.4 dBi or 0.58 in linear scale.

#### **Output Power into Antenna & RF Exposure Evaluation Distance:**

GFSK						
Bluetooth Function						
Channel	Channel Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )			
00	2402	0.301	0.00003			
19	2440	0.320	0.00004			
39	2480	0.324	0.00004			

The power density Pd (4th column) at a distance of 20 cm calculated from the Friis transmission formula is far below the limit of  $1 \text{ mW/cm}^2$ .