RF Exposure Report

Project Number: 5169396 **Quotation Number:** SUW-202311005606

Report Number: 5169396EMC02 **Revision Level:** 0

Client: Seaira Global

Equipment Under Test: Lora Transmitter for Watchdog 550

Model: Watchdog SmartSync

FCC ID: 2BF8M-WD-DRYFI

Applicable Standards: 47 CFR §§ 2.1091
FCC KDB 447498 D01 General RF Exposure Guidance v06
FCC OET Bulletin 65

Report issued on: 02 May 2024

Result: Compliant

FOR THE SCOPE OF ACCREDITATION UNDER CERTIFICATE NUMBER: 3212.01
This report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, or any agency of the Federal Government.

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Reviewed by: Stephen Whalen, SAR/EMC Manager

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1 General Information

1.1 *Client Information*

Company Name:	Seaira Global
Address:	14021 NC HWY 50
City, State, Zip, Country:	Wilmington, North Carolina, 28445, USA

1.2 *Test Laboratory*

Name:	SGS North America, Inc.
Address:	620 Old Peachtree Road NW, Suite 100
City, State, Zip, Country:	Suwanee, GA 30024, USA
Accrediting Body:	A2LA
Type of lab:	Testing Laboratory
Certificate Number:	3212.01
FCC Designation Number:	US1126

1.3 *General Information of EUT*

Manufacturer:	Lora Transmitter for Watchdog 550
Product Marketing Name (PMN):	Watchdog SmartSync
Model Number:	Watchdog SmartSync
Serial Number:	SGS ID#: SUW_SP_20240401213
FCC ID:	2BF8M-WD-DRYFI
Type / Frequency Range:	LoRa / 915 MHz
Modulation:	CSS
Antenna:	PCB Antenna
Max Conducted Output Power:	-17.6 dBm (based on +77.6 dBuV measurement @ 3m)

1.4 *Operating Modes and Conditions*

Maximum power levels were utilized for calculations.

2 RF Exposure

2.1 *Test Results*

Test Description	Product Specific Standard	Test Result
RF Exposure	FCC Part 1.1310	Compliant

2.2 *Test Method*

The formula below calculates power density.

$$S = \frac{PG}{4\pi R^2} \qquad \text{Or} \qquad S = \frac{EIRP}{4\pi R^2}$$

where;
S = Power density (mW/cm^2)
P = Maximum sourced based average power delivered to antenna port (mW)
G = Maximum numeric power gain of antenna relative to an isotropic radiator (dBi -> linear)
R = Distance between by-stander and antenna (cm)
EIRP = Equivalent (or effective) isotropically radiated power

The limits for general population / uncontrolled exposure were used at a distance of 20cm.

2.3 *Single transmission RF Exposure Levels (mW/cm^2)*

FCC

Band of Operation		Conducted Power w/tolerance	Antenna Gain	Cable Loss	Average EIRP		Distance (R)	Power Density $EIRP_{Avg}/(4\pi R^2)$	FCC	% of Limit	Verdict
Type	MHz	dBm			dBm	mW	cm	mW/cm^2	mW/cm^2		
LoRa	902-928	-17.6	0	0	-17.6	0.017378	20	0.000	0.60	0%	Pass

3 Revision History

Revision Level	Description of changes	Revision Date
0	Initial Release	02 May 2024