

# RF Exposure Report

**Project Number:** 5243539

**Offer Number:** SUW-202309005248

**Report Number:** 5243539EMC05

**Revision Level:** 0

**Client:** Orpyx Medical Technologies Inc.

**Equipment Under Test:** Orpyx® Hub

**Model Number:** OH000010

**FCC ID:** 2AAH8-OH000010

**Applicable Standards:** 47 CFR §§ 2.1091

**FCC KDB 447498 D01 General RF Exposure Guidance v06**

**FCC OET Bulletin 65**

**Report issued on:** 29 May 2025

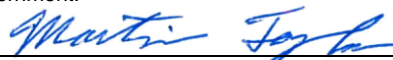
**Result:** Compliant



FOR THE SCOPE OF ACCREDITATION UNDER CERTIFICATE NUMBER: 3212.01

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# 1 General Information

## 1.1 Client Information

Company Name: Orpyx Medical Technologies Inc.  
Address: 1240 20<sup>th</sup> Ave SE, Suite 205  
City, State, Zip, Country: Calgary, Alberta T2G 1M8, Canada

## 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

## 1.3 General Information of EUT

Equipment Under Test: Orpyx® Hub  
Model Number: OH000010  
Serial Numbers: 000161B8 (1Mbps Conducted/Radiated Sample)  
000161B9 (2Mbps Conducted/Radiated Sample)  
FCC ID: 2AAH8-OH000010

Frequency Range: 13.56 MHz (NFC)  
2402 – 2480 MHz (BLE)

Maximum Output Power: NFC: 54.3dBuV/m field strength at 3m  
BLE: 10.92dBm

Antenna: NFC: PCB loop antenna  
BLE: Stamped metal surface mount antenna (1.94dBi peak gain)\*

Rated Voltage: 120Vac  
Test Voltage: 120Vac

Sample Received Date: 09 January 2025  
Dates of testing: 23-31 January 2025

*\*Data was not measured by SGS laboratory and therefore SGS is not responsible for accuracy. Data obtained via customer, specification sheet, previous regulatory filing or other.*

## 2 RF Exposure

### 2.1 Test Result

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

### 2.2 Test Method

Using the maximum conducted output power, the power density was calculated. Maximum antenna gain was assumed for this exercise.

The formula below calculates power density.

$$S = \frac{PG}{4\pi R^2} \quad \text{or} \quad S = \frac{EIRP}{4\pi R^2}$$

where:

S = Power density (mW/cm<sup>2</sup>)

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

For the NFC radio, electric field strength measurements were made instead of conducted output power. The applicable field strength limit for maximum permissible exposure (MPE) is derived as follows from Table 1 in part 1.1310(e)(1) of the FCC eCFR 47 rules.

$$\text{Electric field strength limit} = 824/f(\text{in MHz}) = 824/13.56 = \underline{60.8V/m}$$

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

### 2.3 Single transmission RF Exposure Levels (mW/cm<sup>2</sup>)

Band of Operation		Conducted Power w/tolerance	Antenna Gain	Cable Loss	Average EIRP		Distance (R)	Power Density EIRP <sub>avg</sub> /(4πR <sup>2</sup> )	FCC	% of Limit	Verdict
Type	MHz				dBm	mW			mW/cm <sup>2</sup>	mW/cm <sup>2</sup>	
Bluetooth	2400-2483.5	10.9	1.9	0.0	12.9	19	20	0.004	1.00	0%	Pass

Since the maximum field strength of the NFC radio was measured at a distance of 3m, this value needs to be converted to the field strength that would be present at a distance of 20cm from the device. Field strength is inversely proportional to distance, so since the distance is being divided by 15 (3/0.2), the field strength needs to be multiplied by 15. So here is the conversion of field strength from 3m to 20cm:

$$54.3\text{dBuV/m} = 518.8\text{uV/m (at 3m)} \times 15 = 7,782\text{uV/m} = \underline{0.007782V/m} \text{ (at 20cm)} \ll 60.8V/m \text{ limit}$$

### 2.4 Simultaneous transmissions

The BLE and NFC radios could transmit simultaneously. But since each of their worst-case RF exposure values round to 0% of their respective limits, the total RF exposure is negligible.

### 3 Revision History

Revision Level	Description of changes	Revision Date
0	Initial Release	29 May 2025