

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

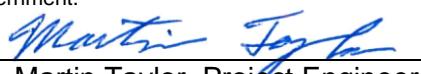
Result: Compliant



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 20th 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.

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

or

where:

S = Power density (mW/cm²)

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 bystander 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.

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

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

2.3 Single transmission RF Exposure Levels (mW/cm²)

Type	Band of Operation MHz	Conducted Power w/tolerance dBm	Antenna Gain	Cable Loss	Average EIRP		Distance (R) cm	Power Density EIRP _{Avg} /(4πR ²) mW/cm ²	FCC mW/cm ²	% of Limit	Verdict
					dBm	mW					
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:

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

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