RF Exposure Report (FCC)

Report No.:	WIR121164-FCC-RF Exposure Rev. 2
Test Model:	xUSB-Connect (also branded as NYB-Connect, PAT-Connect)
Test Date:	October 21, 2022
Issued Date:	July 18, 2023
Applicant:	Burnham Holdings Engineering Company, LLC
Address:	2930 Old Tree Drive Lancaster, PA 17603
Issued By:	Eurofins Electrical and Electronic Testing NA, Inc.
Lab Address:	914 W. Patapsco Avenue, Baltimore, MD 21230

A2LA ACCREDITED TESTING CERT #0591.01

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1. Certificate of Conformity

Product: xUSB-Connect (also branded as NYB-Connect, PAT-Connect)

FCC ID: 2A9E3-CST111639

Brand: Burnham Holdings Engineering Company, LLC

Test Model: xUSB-Connect (also branded as NYB-Connect, PAT-Connect)

Applicant: Burnham Holdings Engineering Company, LLC

Test Date: October 21, 2022

Standard: 47 CFR FCC Part 2.1093

Donald Salguero
Wireless Laboratory Engineer

Engineering Statement: The measurements shown in this report were made in accordance with the procedures indicated. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements.

Michael Griffiths
Manager, Wireless Laboratory

Report Status Sheet

Revision	Report Date	Reason for Revision
Ø	May 24, 2023	Initial Issue.
1	July 5, 2023	Updates per TCB Comments
2	July 18, 2023	Updated Antenna Gain to -2dBi

2. RF Exposure

Requirement:

47 CFR 2.1091(c)(1)

Evaluation of compliance with the exposure limits in § 1.1310 of this chapter, and preparation of an EA if the limits are exceeded, is necessary for mobile devices with single RF sources having either more than an available maximum time-averaged power of 1 mW or more than the ERP listed in Table 1 to § 1.1307(b)(3)(i)(C), whichever is greater. For mobile devices not exempt by § 1.1307(b)(3)(i)(C) at distances from 20 centimeters to 40 centimeters and frequencies from 0.3 GHz to 6 GHz, evaluation of compliance with the exposure limits in § 1.1310 of this chapter is necessary if the ERP of the device is greater than ERP20cm in the formula below. If the ERP of a single RF source at distances from 20 centimeters to 40 centimeters and frequencies from 0.3 GHz to 6 GHz is not easily obtained, then the available maximum time-averaged power may be used (i.e., without consideration of ERP) in comparison with the following formula only if the physical dimensions of the radiating structure(s) do not exceed the electrical length of λ/4 or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

47 CFR 2.1091(c)(2)

For multiple mobile or portable RF sources within a device operating in the same time averaging period, routine environmental evaluation is required if the formula in § 1.1307(b)(3)(ii)(B) of this chapter is applied to determine the exemption ratio and the result is greater than 1.

Evaluation:

S_{limit} = 1 mW/cm^2

$$S = \frac{P * G}{4 * \pi * r^2}$$

Where
S = power density in mW/cm2
P = 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

FCC									
Frequency (MHz)	**Con. Pwr. (dBm)**	**Con. Pwr. (mW)**	**Ant. Gain (dBi)**	**Ant. Gain numeric**	**Pwr. Density (mW/cm^2)**	**Limit (mW/cm^2)**	**Margin**	**Distance (cm)**	**Result**
2440	8.55	7.161	-2	0.631	0.0009	1	0.9991	20	Pass

Table 1. MPE Results

EUT complies to RF exposure at 20cm