

RF Exposure Report

Project Number: 4659830

Proposal Number: 10977 Rev1

Report Number: 4659830EMC07

Revision Level: 0

Client: ST Engineering Aethon Inc.

Equipment Under Test: IO Nuc Assembly

Model Number: 293504

FCC ID: 2AA6CSOMRPL20

Contains FCC ID: PD98265NGU

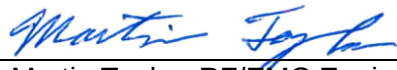
Applicable Standards: 47 CFR §§ 2.1091

FCC KDB 447498 D01 General RF Exposure Guidance v06

Report issued on: 03 February 2021

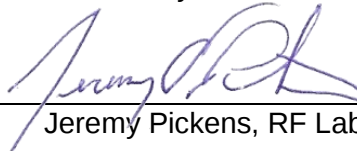
Result: Compliant

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Remarks: This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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1 General Information

1.1 Client Information

Name: ST Engineering Aethon Inc.
Address: 200 Business Center Dr.
City, State, Zip, Country: Pittsburgh, PA 15205, 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

1.3 General Information of EUT

Product Marketing Name (PMN): IO Nuc Assembly
Model Number (HVIN): 293504
Sample ID: 5580

FCC ID: 2AA6CSOMRPL20
Contains FCC ID: PD98265NGU

Frequency Ranges: 418 MHz (Remote Door Opener)
2412 – 2462 MHz (WLAN 2.4GHz)
5180 – 5320 MHz (U-NII-1 & U-NII-2A Bands)
5500 – 5825 MHz (U-NII-2C & U-NII-3 Bands)

Data Modes: modulated carrier pulse (Sub-GHz Remote)
WLAN IEEE 802.11b/g/n (2.4GHz)
WLAN IEEE 802.11a/n/ac (5GHz)

Antennas: Omni-directional with SMA(M) connector (0 dBi)
Two omni-directional Wi-Fi antennas:
2.4 – 2.5 GHz gain: +2.8 dBi
5.15 – 5.85 GHz gain: +0.2 dBi

Rated Voltage: +48Vdc
Test Voltage: +48Vdc

Sample Received Date: 03 August 2020
Dates of testing: 16 October to 17 November 2020

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 power, the power density was calculated. Maximum antenna gain was assumed for this exercise.

For WLAN, the power from the FCC grant was used.

2.3 Single transmission RF Exposure Levels (mW/cm²)

Band of Operation		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
Type	MHz				dBm	mW					
WLAN 2.4	2400-2483.5	30.0	2.8	0.0	32.8	1905	20	0.379	1.00	38%	Pass
WLAN 5 GHz (UNII-1)	5150-5250	22.1	0.2	0.0	22.3	169	20	0.034	1.00	3%	Pass
WLAN 5 GHz (UNII-2)	5250-5700	23.3	0.2	0.0	23.5	225	20	0.045	1.00	4%	Pass
WLAN 5.8 GHz (UNII-3)	5725-5850	23.6	0.2	0.0	23.8	238	20	0.047	1.00	5%	Pass
Sub-GHz Periodic	418	-6.6	0.0	0.0	-6.6	0	20	0.000	0.28	0%	Pass

2.4 Simultaneous transmissions

	WLAN 2.4	WLAN 5 GHz (UNII-1)	WLAN 5 GHz (UNII-1)	WLAN 5.8 GHz (UNII-3)	Sub-GHz Periodic
WLAN 2.4		41%	42%	43%	38%
WLAN 5 GHz (UNII-1)	41%				3%
WLAN 5 GHz (UNII-2)	42%				4%
WLAN 5.8 GHz (UNII-3)	43%				5%
Sub-GHz Periodic	38%	3%	4%	5%	

4 Revision History

Revision Level	Description of changes	Revision Date
Draft	--	21 December 2020
0	Initial Release	03 February 2021