

## RF Exposure Report

**Report No.:** SABHAT-WTW-P21061067

**FCC ID:** R68OQ610US

**Test Model:** Open-Q 610 uSOM

**Received Date:** Jun. 29, 2021

**Date of Evaluation:** Nov. 11, 2021

**Issued Date:** Jan. 10, 2022

**Applicant:** Lantronix, Inc.

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**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Lin Kou Laboratories

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City  
33383, Taiwan

**FCC Registration /  
Designation Number:** 788550 / TW0003



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### Release Control Record

Issue No.	Description	Date Issued
SABHAT-WTW-P21061067	Original Release	Jan. 10, 2022

## 1 Certificate of Conformity

**Product:** Open-Q 610 uSOM

**Brand:** Lantronix

**Test Model:** Open-Q 610 uSOM

**Sample Status:** Engineering Sample

**Applicant:** Lantronix, Inc.

**Date of Evaluation:** Nov. 11, 2021

**Standards:** FCC Part 2 (Section 2.1091)

**References Test Guidance:** KDB 447498 D01 General RF Exposure Guidance v06

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

*Lena Wang*  
**Prepared by :** \_\_\_\_\_, **Date:** Jan. 10, 2022  
Lena Wang / Specialist

*Jeremy Lin*  
**Approved by :** \_\_\_\_\_, **Date:** Jan. 10, 2022  
Jeremy Lin / Project Engineer

## 2 RF Exposure

### 2.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

### 2.2 MPE Calculation Formula

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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

### 2.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

### 3 Calculation Result of Maximum Conducted Power

Frequency Band (MHz)	Max Average Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
<b>WLAN</b>					
2412-2462	22.81	3.32	20	0.082	1
5180-5240	16.87	6.11	20	0.040	1
5260-5320	16.86	6.11	20	0.039	1
5500-5720	20.25	6.11	20	0.086	1
5745-5825	20.72	6.11	20	0.096	1
<b>BT EDR</b>					
2402-2480	10.91	3.32	20	0.005	1
<b>BT LE</b>					
2402-2480	10.97	3.32	20	0.005	1

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

Note:

- 2.4GHz & BT antenna gain: 3.32dBi  
5GHz: antenna gain = 6.11dBi
- The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

#### Conclusion:

The formula of calculated the MPE is:

$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

The simultaneous operation mode was determined by client.

- WLAN 5G+ BT =  $0.096/1 + 0.005/1 = 0.101$

Therefore the maximum calculations of above situations are less than the "1" limit.

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