

RF Exposure Report

Report No.: SA150903D01A

FCC ID: P27XW3

Test Model: XW3

Series Model: XW3xxx ("xxx" could be 0 to 9, A to Z, "blank" , for marking purpose)

Received Date: July 31, 2018

Test Date: Sep. 1 ~ 12, 2018

Issued Date: Sep. 18, 2018

Applicant: Sercomm Corp.

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

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**FCC Registration /
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Table of Contents

| | |
|--|----------|
| Release Control Record | 3 |
| 1 Certificate of Conformity | 4 |
| 2 RF Exposure | 5 |
| 2.1 Limits for Maximum Permissible Exposure (MPE)..... | 5 |
| 2.2 MPE Calculation Formula | 5 |
| 2.3 Classification | 5 |
| 2.4 Calculation Result of Maximum Conducted Power..... | 6 |

Release Control Record

| Issue No. | Description | Date Issued |
|--------------|-------------------|---------------|
| SA150903D01A | Original release. | Sep. 18, 2018 |

1 Certificate of Conformity

Product: WiFi Adapter

Brand: Sercomm; Xfinity

Test Model: XW3

Series Model: XW3xxx ("xxx" could be 0 to 9, A to Z, "blank" , for marking purpose)

Sample Status: Engineering sample

Applicant: Sercomm Corp.

Test Date: Sep. 1 ~ 12, 2018

Standards: FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

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 EMC characteristics under the conditions specified in this report.

Prepared by :



Date: Sep. 18, 2018

Celia Chen / Supervisor

Approved by :



Date: Sep. 18, 2018

Rex Lai / Associate Technical Manager

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 ²) | Average Time (minutes) |
|---|-------------------------------|-------------------------------|-------------------------------------|------------------------|
| Limits For General Population / Uncontrolled Exposure | | | | |
| 0.3-1.34 | 614 | 1.63 | (100)* | 30 |
| 1.34-30 | 824/f | 2.19/f | (180/f ²)* | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | ... | ... | f/1500 | 30 |
| 1500-100,000 | ... | ... | 1.0 | 30 |

f = Frequency in MHz ; *Plane-wave equivalent power density

2.2 MPE Calculation Formula

$$Pd = (Pout * G) / (4 * \pi * r^2)$$

where

Pd = power density in mW/cm²

Pout = 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 21cm away from the body of the user.

So, this device is classified as **Mobile Device**.

2.4 Calculation Result of Maximum Conducted Power

| Frequency Band (MHz) | Max Power (dBm) | Antenna Gain (dBi) | Distance (cm) | Power Density (mW/cm ²) | Limit (mW/cm ²) |
|----------------------|-----------------|--------------------|---------------|-------------------------------------|-----------------------------|
| 2412-2462 | 28.39 | 6.77 | 21 | 0.5920 | 1 |
| 5180-5240 | 22.01 | 6.61 | 21 | 0.1313 | 1 |
| 5745-5825 | 26.51 | 6.61 | 21 | 0.3701 | 1 |

NOTE:

2.4GHz: Directional gain = 3.76dBi + 10log(2) = 6.77dBi

5.0GHz: Directional gain = 3.60dBi + 10log(2) = 6.61dBi

Conclusion:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 +etc. < 1

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz = 0.5920 + 0.3701 = 0.9621

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

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