

## RF Exposure Report

**Report No.:** SA180719D12

**FCC ID:** P27XW4

**Test Model:** XW4

**Series Model:** XW4xxx, SCHX4AEWxxx (the 1st x should be blank or "-"; the rest x could 0 to 9, A to Z, a to z, blank or "-", for marking purpose)

**Received Date:** Jul. 19, 2018

**Test Date:** Jul. 27 ~ Sep. 4, 2018

**Issued Date:** Sep. 4, 2018

**Applicant:** Sercomm Corp.

**Address:** 8F, No. 3-1, YuanQu St., NanKang, Taipei 115, Taiwan, R.O.C. (NanKang Software Park)

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

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

**FCC Registration /  
Designation Number:** 418586 / TW1078



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### Release Control Record

Issue No.	Description	Date Issued
SA180719D12	Original release.	Sep. 4, 2018

## 1 Certificate of Conformity

**Product:** WiFi Adapter

**Brand:** Sercomm ; Xfinity

**Test Model:** XW4

**Series Model:** XW4xxx, SCHX4AEWxxx (the 1st x should be blank or "-"; the rest x could be 0 to 9, A to Z, a to z, blank or "-", for marking purpose)

**Sample Status:** Engineering sample

**Applicant:** Sercomm Corp.

**Test Date:** Jul. 27 ~ Sep. 4, 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 RF characteristics under the conditions specified in this report.

**Prepared by :**



**Date:** Sep. 4, 2018

Annie Chang / Senior Specialist

**Approved by :**



**Date:** Sep. 4, 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 <sup>2</sup> )	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 <sup>2</sup> )*	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

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

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**.

## 2.4 Calculation Result Of Maximum Conducted Power

Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2412-2462	25.67	6.52	20	0.3294	1
5180-5240	23.86	6.72	20	0.2274	1
5260-5320	23.90	6.72	20	0.2295	1
5500-5700	23.93	6.72	20	0.2311	1
5745-5825	24.55	6.72	20	0.2665	1
2402-2480	5.96	1.34	20	0.0011	1

NOTE:

2.4GHz: Directional gain =  $3.51\text{dBi} + 10\log(2) = 6.52\text{dBi}$

5.0GHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / 2] = 6.72\text{dBi}$

### Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

$\text{WLAN} + \text{BT LE} = 0.3294 + 0.0011 = 0.3305$

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

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