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

Table of Contents

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 : Annie Chang , **Date:** Sep. 4, 2018

Annie Chang / Senior Specialist

Approved by : Rex. Lai , **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^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/cm^2

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 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^2)	Limit (mW/cm^2)
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 = 3.51dBi + 10log(2) = 6.52dBi
5.0GHz: Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$ + ... + $10^{GN/20}$)^2 / 2] = 6.72dBi

Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

WLAN + 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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