RF Exposure Report

Report No.:	SA170106C21C
FCC ID:	QXO-4019IC
Test Model:	AP3916ic
Received Date:	Dec. 02, 2016
Test Date:	Dec. 02, 2016 ~ Feb. 02, 2017
Issued Date:	Feb. 17, 2017
Applicant:	Extreme Networks, Inc.
Address:	9 Northeastern Blvd. Salem, New Hampshire, United States, 03079
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.
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

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Release Control Record

Issue No.	Description	Date Issued
SA170106C21C	Original release	Feb. 17, 2017

1 Certificate of Conformity

Product:	Wireless 802.11a/AC+b/g/n Access Point with integral Camera
Brand:	Extreme Networks
Test Model:	AP3916ic
Sample Status:	Engineering sample
Applicant:	Extreme Networks, Inc.
Test Date:	Dec. 02, 2016 ~ Feb. 02, 2017
Standards:	FCC Part 2 (Section 2.1091) KDB 447498 D01 General RF Exposure Guidance v06 IEEE C95.1

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 : Celine Chou , **Date:** Feb. 17, 2017

Celine Chou / Specialist

Approved by : Ken Liu , **Date:** Feb. 17, 2017

Ken Liu / Senior 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				
300-1500	…	…	F/1500	30
1500-100,000	…	…	1.0	30

F = Frequency in MHz

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**.

3 Calculation Result of Maximum Conducted Power

Function	Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
WLAN	CDD Mode					
	2412-2462	23.63	8.88	20	0.355	1
	5180-5240	23.29	9.47	20	0.376	1
	5260-5320	23.11	9.47	20	0.360	1
	5500-5720	22.85	9.47	20	0.339	1
	5745-5825	23.67	9.47	20	0.410	1
	Beamforming Mode					
	2412-2462	20.62	8.88	20	0.177	1
	5180-5240	20.28	9.47	20	0.188	1
	5260-5320	20.10	9.47	20	0.180	1
	5500-5720	19.84	9.47	20	0.170	1
	5745-5825	20.66	9.47	20	0.205	1
BT LE	2402-2480	2.37	3.63	20	0.001	1
Zigbee	2405-2480	2.47	3.63	20	0.001	1

Note:
2.4GHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/2$] = 8.88dBi
5GHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/2$] = 9.47dBi

Frequency Band	Max Power (dBm)			Total Power (dBm)	Power Limit (dBm)
	WLAN	BT LE	Zigbee		
2.4GHz	23.63	2.37	-	23.66	30
2.4GHz	23.63	-	2.47	23.66	30

Conclusion:

2.4GHz & 5GHz & BT LE or 2.4GHz & 5GHz & Zigbee technology can transmit at same time.

BT LE and Zigbee cannot transmit simultaneously.

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

1. WALN 2.4GHz + WALN 5GHz + BT LE = 0.355 + 0.410 + 0.001 = 0.766
2. WALN 2.4GHz + WALN 5GHz + Zigbee = 0.355 + 0.410 + 0.001 = 0.766

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

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