

## RF Exposure Report

**Report No.:** SA170106C21

**FCC ID:** QXO-4019IC

**Test Model:** AP3916ic

**Received Date:** Dec. 02, 2016

**Test Date:** Dec. 02, 2016 ~ Feb. 02, 2017

**Issued Date:** Feb. 15, 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
SA170106C21	Original release	Feb. 15, 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. 15, 2017  
Celine Chou / Specialist

**Approved by :** Ken Liu, **Date:** Feb. 15, 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 <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

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

where

Pd = power density in mW/cm<sup>2</sup>

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 <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
WLAN	CDD Mode					
	2412-2462	23.63	8.88	20	0.355	1
	5180-5240	23.29	9.47	20	0.376	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
	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 =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 8.88 \text{ dBi}$

5GHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 9.47 \text{ dBi}$

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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