

RF Exposure Report

Report No.: SA170731C08

FCC ID: QXO-AP3917I

Test Model: AP3917i

Series Model: AP7662i

Received Date: Jul. 31, 2017

Test Date: Aug. 20 ~ Oct. 03, 2017

Issued Date: Oct. 05, 2017

Applicant: Extreme Networks, Inc.

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

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Release Control Record

Issue No.	Description	Date Issued
SA170731C08	Original release.	Oct. 05, 2017

1 Certificate of Conformity

Product: Wireless 802.11 a/ac+b/g/n Access Point
Brand: Extreme Networks
Test Model: AP3917i
Series Model: AP7662i
Sample Status: Engineering sample
Applicant: Extreme Networks, Inc.
Test Date: Aug. 20 ~ Oct. 03, 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 : Polly Chien , **Date:** Oct. 05, 2017
Polly Chien / Specialist

Approved by : Ken Liu , **Date:** Oct. 05, 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

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

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 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	27.15	4.06	20	0.263	1
	Outdoor Access Point Mode					
	5180-5240	15.37	6.18	20	0.028	1
	Indoor Access Point Mode					
	5180-5240	26.06	6.18	20	0.333	1
	5745-5825	26.38	6.18	20	0.359	1
	Beamforming Mode					
	2412-2462	26.97	4.06	20	0.252	1
	Outdoor Access Point Mode					
	5180-5240	15.31	6.18	20	0.028	1
	Indoor Access Point Mode					
	5180-5240	26.06	6.18	20	0.333	1
	5745-5825	26.38	6.18	20	0.359	1
BT LE	2402-2480	3.70	3.53	20	0.001	1
Zigbee	2405-2480	3.70	3.53	20	0.001	1

Note:

1. Antenna was cross-polarized antenna.
2. 2.4GHz: max. gain = 4.06dBi
5GHz: max. gain = 6.18dBi
3. BT LE & Zigbee: Ant. gain = 3.53dBi.

Function	Frequency Band (MHz)	Conducted Output Power	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
4.9GHz	4942.5-4987.5	21.56	6.18	20	0.118	1

* max. gain = 6.18dBi

Frequency Band	Max Power (dBm)			Total Power (dBm)	Power Limit (dBm)
	WLAN	BT LE	Zigbee		
2.4GHz	27.15	3.70	-	27.17	30
2.4GHz	27.15	-	3.70	27.17	30

Conclusion:

2.4GHz & 4.9GHz/5GHz & BT LE or 2.4GHz & 4.9GHz/5GHz & Zigbee technology can transmit at same time.

BT LE and Zigbee cannot transmit simultaneously.

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

1. WLAN 2.4GHz + WLAN 5GHz + BT LE = $0.263 + 0.359 + 0.001 = 0.623$
2. WLAN 2.4GHz + WLAN 5GHz + Zigbee = $0.263 + 0.359 + 0.001 = 0.623$
3. WLAN 2.4GHz + WLAN 4.9GHz + BT LE = $0.263 + 0.118 + 0.001 = 0.382$
4. WLAN 2.4GHz + WLAN 4.9GHz + Zigbee = $0.263 + 0.118 + 0.001 = 0.382$

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

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