

# RF EXPOSURE REPORT

**REPORT NO.:** SA140415C27C

**MODEL NO.:** PCE4552AH

**FCC ID:** QXO-57G45

**RECEIVED:** Jun 12, 2014

**TESTED:** Jun. 25 ~ Aug. 07, 2014

**ISSUED:** Aug. 08, 2014

**APPLICANT:** Extreme Networks, Inc.

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**ISSUED BY:** Bureau Veritas Consumer Products Services  
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# TABLE OF CONTENTS

RELEASE CONTROL RECORD .....	3
1. CERTIFICATION .....	4
2. RF EXPOSURE.....	5
2.1 LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE).....	5
2.2 MPE CALCULATION FORMULA .....	5
2.3 CLASSIFICATION .....	5
2.4 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER.....	6



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## RELEASE CONTROL RECORD

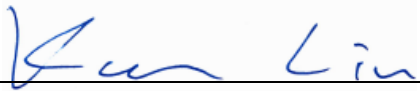
ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA140415C27C	Original release.	Aug. 08, 2014

## 1. CERTIFICATION

**PRODUCT:** DBDC 3X3 AP  
**MODEL:** PCE4552AH  
**BRAND:** Extreme  
**APPLICANT:** Extreme Networks, Inc.  
**TESTED:** Jun. 25 ~ Aug. 07, 2014  
**TEST SAMPLE:** ENGINEERING SAMPLE  
**STANDARDS:** FCC Part 2 (Section 2.1091)  
KDB 447498 D03  
IEEE C95.1

The above equipment (Model: PCE4552AH) 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 :**  , **DATE :** Aug. 08, 2014  
Pettie Chen / Senior Specialist

**APPROVED BY :**  , **DATE :** Aug. 08, 2014  
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

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

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 24cm away or farther depends on the antenna type used as evaluated in following section. So, this device is classified as Mobile Device.

## 2.4 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

Ant.	FREQUENCY BAND (MHz)	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
1	5180-5240	27.66	9.77	34	0.381	1
1	5745-5825	29.58	9.77	34	0.593	1
2	5180-5240	19.10	26.01	55	0.853	1
2	5745-5825	11.13	26.01	55	0.136	1
3	5180-5240	16.48	16.27	33	0.138	1
3	5745-5825	24.41	16.27	33	0.855	1
4	5180-5240	26.73	12.77	41	0.422	1
4	5745-5825	27.90	12.77	41	0.552	1
5	5180-5240	29.51	6.77	24	0.587	1
5	5745-5825	27.57	6.77	24	0.375	1
6	5180-5240	28.09	11.77	35	0.629	1
6	5745-5825	25.34	11.77	35	0.334	1
7	5180-5240	27.78	11.97	39	0.494	1
7	5745-5825	27.80	11.97	39	0.496	1

### NOTE:

Ant. 1: Directional gain = 5dBi + 10log(3) = 9.77dBi

Ant. 2: Directional gain = 23dBi + 10log(2) = 26.01dBi

Ant. 3: Directional gain = 11.5dBi + 10log(3) = 16.27dBi

Ant. 4: Directional gain = 8dBi + 10log(3) = 12.77dBi

Ant. 5: Directional gain = 2dBi + 10log(3) = 6.77dBi

Ant. 6: Directional gain = 7dBi + 10log(3) = 11.77dBi

Ant. 7: Directional gain = 7.2dBi + 10log(3) = 11.97dBi

**CONCLUSION:**

Antennas can support both 5180~5240MHz, 5745~5825MHz co-transmit, 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. Antenna 1: WLAN 5GHz (5180~5240MHz) + WLAN 5.0GHz (5745~5825MHz)  
=  $0.381 + 0.593 = 0.974$
2. Antenna 2: WLAN 5GHz (5180~5240MHz) + WLAN 5.0GHz (5745~5825MHz)  
=  $0.853 + 0.136 = 0.989$
3. Antenna 3: WLAN 5GHz (5180~5240MHz) + WLAN 5.0GHz (5745~5825MHz)  
=  $0.138 + 0.855 = 0.992$
4. Antenna 4: WLAN 5GHz (5180~5240MHz) + WLAN 5.0GHz (5745~5825MHz)  
=  $0.422 + 0.552 = 0.974$
5. Antenna 5: WLAN 5GHz (5180~5240MHz) + WLAN 5.0GHz (5745~5825MHz)  
=  $0.587 + 0.375 = 0.962$
6. Antenna 6: WLAN 5GHz (5180~5240MHz) + WLAN 5.0GHz (5745~5825MHz)  
=  $0.629 + 0.334 = 0.963$
7. Antenna 7: WLAN 5GHz (5180~5240MHz) + WLAN 5.0GHz (5745~5825MHz)  
=  $0.494 + 0.496 = 0.990$

Therefore, the maximum calculation of this situation is 0.992, which is less than the "1" limit.