



# RF EXPOSURE REPORT

**REPORT NO.:** SA140415C27A

**MODEL NO.:** PCE4552AH

**FCC ID:** QXO-57G45

**RECEIVED:** Mar. 07, 2014

**TESTED:** Mar. 07 ~ May 30, 2014

**ISSUED:** Sep. 03, 2014

**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.	REASON FOR CHANGE	DATE ISSUED
SA140415C27A	Original release.	Sep. 03, 2014

## 1. CERTIFICATION

**PRODUCT:** DBDC 3X3 AP  
**MODEL:** PCE4552AH  
**BRAND:** Extreme  
**APPLICANT:** Extreme Networks, Inc.  
**TESTED:** Mar. 07 ~ May 30, 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 :** Sep. 03, 2014  
Pettie Chen / Senior Specialist

**APPROVED BY :**  , **DATE :** Sep. 03, 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)
<b>LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE</b>				
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
	5260 ~ 5320	23.44	9.77	34	0.144	1
	5500 ~ 5720	23.78	9.77	34	0.156	1
	5745 ~ 5825	29.58	9.77	34	0.593	1
3	5180 ~ 5240	16.48	16.27	35	0.122	1
	5260 ~ 5320	17.83	16.27	35	0.167	1
	5500 ~ 5720	18.38	16.27	35	0.190	1
	5745 ~ 5825	24.41	16.27	35	0.760	1
4	5180 ~ 5240	26.73	12.77	41	0.422	1
	5260 ~ 5320	21.01	12.77	41	0.113	1
	5500 ~ 5720	21.61	12.77	41	0.130	1
	5745 ~ 5825	27.90	12.77	41	0.552	1
5	5180 ~ 5240	29.51	6.77	24	0.587	1
	5260 ~ 5320	23.44	6.77	24	0.145	1
	5500 ~ 5720	23.78	6.77	24	0.157	1
	5745 ~ 5825	27.57	6.77	24	0.375	1
6	5180 ~ 5240	28.09	11.77	35	0.629	1
	5260 ~ 5320	22.50	11.77	35	0.174	1
	5500 ~ 5720	22.55	11.77	35	0.176	1
	5745 ~ 5825	25.34	11.77	35	0.334	1
7	5180 ~ 5240	27.78	11.97	39	0.494	1
	5260 ~ 5320	22.50	11.97	39	0.146	1
	5500 ~ 5720	22.55	11.97	39	0.148	1
	5745 ~ 5825	27.80	11.97	39	0.496	1

**NOTE:**

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

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:**

Antenna can support 5745~5825MHz band and one of band from 5180~5240MHz, 5260~5320MHz, 5500~5700MHz for co-transmission, 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: 5180~5240MHz + 5745~5825MHz = 0.381 + 0.593 = 0.974

2. Antenna 3: 5500~5720MHz + 5745~5825MHz = 0.190 + 0.760 = 0.949

3. Antenna 4: 5180~5240MHz + 5745~5825MHz = 0.422 + 0.552 = 0.974

4. Antenna 5: 5180~5240MHz + 5745~5825MHz = 0.587 + 0.375 = 0.962

5. Antenna 6: 5180~5240MHz + 5745~5825MHz = 0.629 + 0.334 = 0.963

6. Antenna 7: 5180~5240MHz + 5745~5825MHz = 0.494 + 0.496 = 0.990

Therefore, the maximum calculation of this situation is 0.990, which is less than the "1" limit.