

# RF EXPOSURE REPORT

**REPORT NO.:** SA140217C18

**MODEL NO.:** PCE4502AN

**FCC ID:** TVE-120502

**IC:** 7280B-120502

**RECEIVED:** Feb. 17, 2014

**TESTED:** Feb. 19 ~ Feb. 25, 2014

**ISSUED:** Feb. 26, 2014

**APPLICANT:** Fortinet Inc.

**ADDRESS:** 899 Kifer Road Sunnyvale, CA 94086, USA

**ISSUED BY:** Bureau Veritas Consumer Products Services  
(H.K.) Ltd., Taoyuan Branch

**LAB ADDRESS:** No. 47, 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 Tsuen, Kwei  
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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA140217C18	Original release	Feb. 26, 2014

## 1. CERTIFICATION

**PRODUCT:** 802.11 ac Module

**MODEL:** PCE4502AN

**BRAND:** Fortinet

**APPLICANT:** Fortinet Inc.

**TEST SAMPLE:** ENGINEERING SAMPLE

**STANDARDS:** FCC Part 2 (Section 2.1091)

FCC OET Bulletin 65, Supplement C (01-01)

IEEE C95.1

RSS-102 Issue 4 (2010-12)

The above equipment (Model: PCE4502AN) 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**

: Feb. 26, 2014

Pettie Chen / Senior Specialist

**APPROVED BY**

:



, **DATE**

: Feb. 26, 2014

Ken Liu / Senior Manager

## 2. RF EXPOSURE

### 2.1 LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

#### For FCC Part 2 (Section 2.1091)

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

#### For RSS-102 Issue 4 (2010-12)

FREQUENCY RANGE (MHz)	ELECTRIC FIELD STRENGTH (V/m)	MAGNETIC FIELD STRENGTH (A/m)	POWER DENSITY (W/m <sup>2</sup> )	AVERAGE TIME (minutes)
LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE				
300-1500	...	...	F/150	6
1500-100,000	...	...	10	6

F = Frequency in MHz

## 2.2 MPE CALCULATION FORMULA

### **For FCC Part 2 (Section 2.1091)**

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

where

$P_d$  = power density in  $mW/cm^2$

$P_{out}$  = 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

### **For RSS-102 Issue 4 (2010-12)**

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

where

$P_d$  = power density in  $W/m^2$

$P_{out}$  = output power to antenna in W

$G$  = gain of antenna in linear scale

$\pi = 3.1416$

$R$  = distance between observation point and center of the radiator in meter

## 2.3 CLASSIFICATION

### For FCC Part 2 (Section 2.1091)

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**.

### For RSS-102 Issue 4 (2010-12)

The antenna of this product, under normal use condition, is at least 0.2m away from the body of the user. So, this device is classified as **Mobile Device**.

## 2.4 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

### For FCC Part 2 (Section 2.1091)

FREQUENCY BAND (MHz)	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
5180-5240	16.99	8.76	20	0.075	1
5745-5825	24.70	8.76	20	0.441	1

NOTE: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 8.76\text{dBi}$

### For RSS-102 Issue 4 (2010-12)

FREQUENCY BAND (MHz)	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (m)	POWER DENSITY (W/m <sup>2</sup> )	LIMIT (W/m <sup>2</sup> )
5180-5240	16.99	8.76	0.2	0.75	10
5745-5825	24.70	8.76	0.2	4.41	10

NOTE: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 8.76\text{dBi}$