

RF EXPOSURE REPORT

REPORT NO.: SA140503C01A

MODEL NO.: FORTIAP-222Cxxxxxx, FAP-222Cxxxxxx (where "x" can be used as "A-Z", or "0-9", or "-", or blank for marketing purposes only)

FCC ID: TVE-241504

RECEIVED: May 03, 2014

TESTED: May 10 ~ Jun. 21, 2014

ISSUED: Jun. 30, 2014

APPLICANT: Fortinet Inc.

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

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TEST LOCATION: No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA140503C01A	Original release.	Jun. 30, 2014

1. CERTIFICATION

PRODUCT: Secured Wireless Access Point

MODEL: FORTIAP-222Cxxxxxx, FAP-222Cxxxxxx (where "x" can be used as "A-Z", or "0-9", or "-", or blank for marketing purposes only)

BRAND: Fortinet Inc

APPLICANT: Fortinet Inc.

TESTED: May 10 ~ Jun. 21, 2014

TEST SAMPLE: ENGINEERING SAMPLE

STANDARDS: FCC Part 2 (Section 2.1091)

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

IEEE C95.1

The above equipment (Model: FAP-222C) 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 :** Jun. 30, 2014
Celine Chou / Specialist

APPROVED BY : Ken Liu , **DATE :** Jun. 30, 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 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 27cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

FREQUENCY BAND (MHz)	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
2412-2462	28.54	7.61	27	0.450	1
5180-5240	11.94	9.04	27	0.014	1
5745-5825	24.64	9.04	27	0.255	1

NOTE:

2.4GHz Band: Directional gain = 4.6dBi + 10log(2) = 7.61dBi

5.0GHz Band: Directional gain = 6.03dBi + 10log(2) = 9.04dBi

CONCLUSION:

Both of the WLAN 2.4G & WLAN 5G can 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

WLAN 2.4G + WLAN 5.0G = 0.450 + 0.255 = 0.705

Therefore, the maximum calculation of this situation is 0.971, which is less than the "1" limit.