

RF Exposure Report

Report No.: SA150728C08

FCC ID: TVE-23155111

Test Model: FORTIWIFI-60E-DR

Series Model: FORTIWIFI-60E-DRxxxxxx, FWF-60E-DRxxxxxx (where "x" can be used for "A-Z", or "0-9", or "-", or blank for software changes or marketing purposes only)

Received Date: Aug. 07, 2015

Test Date: Sep. 03 ~ Sep. 08, 2015

Issued Date: Oct. 06, 2015

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. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)



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Release Control Record

Issue No.	Description	Date Issued
SA150728C08	Original release.	Oct. 06, 2015



1 Certificate of Conformity

Product: Network Security Gateway

Brand: Fortinet Inc.

Test Model: FORTIWIFI-60E-DR

Series Model: FORTIWIFI-60E-DRxxxxxx, FWF-60E-DRxxxxxx (where "x" can be used for "A-Z", or "0-9", or "-", or blank for software changes or marketing purposes only)

Sample Status: Engineering sample

Applicant: Fortinet Inc.

Test Date: Sep. 03 ~ Sep. 08, 2015

Standards: FCC Part 2 (Section 2.1091)

KDB 447498 D03

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 :  , **Date:** Oct. 06, 2015
Pettie Chen / Senior Specialist

Approved by :  , **Date:** Oct. 06, 2015
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 25cm away from the body of the user.

So, this device is classified as **Mobile Device**.

3 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	28.64	7.77	25	0.557	1
5180-5240	26.98	7.77	25	0.380	1
5745-5825	25.92	7.77	25	0.298	1

Directional gain = 3dBi + 10log(3) = 7.77dBi

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

$$\text{WLAN 2.4G} + \text{WLAN 5.0G} = 0.557 + 0.380 = 0.937$$

Therefore, the maximum calculation of this situation is 0.937, which is less than the "1" limit.

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