

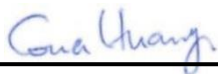
RF EXPOSURE EVALUATION REPORT

FCC ID : TVE-241001
Equipment : Network Security Gateway
Brand Name : 
Model Name : FORTINET
FortiWiFi 70G-POExxxxxxxxxx,
FORTIWIFI-70G-POExxxxxxxxxx, FWF-70G-POExxxxxxxxxx,
FortiWiFi 71G-POExxxxxxxxxx,
FORTIWIFI-71G-POExxxxxxxxxx, FWF-71G-POExxxxxxxxxx
(where "x" can be used as "0-9", or "A-Z", or "-", or blank for software changes or marketing purposes only)
Applicant : Fortinet Inc.
909 Kifer Rd., Sunnyvale, CA 94086, United States
Manufacturer : Fortinet Inc.
909 Kifer Rd., Sunnyvale, CA 94086, United States
Standard : 47 CFR Part 2.1091

We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with 47 CFR Part2.1091 and it complies with applicable limit.

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 3786) and the FCC designation No. TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC evaluation.

The results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Laboratory, the test report shall not be reproduced except in full



Approved by: Cona Huang / Deputy Manager



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History of this test report

Report No.	Version	Description	Issued Date
FA4N1307	Rev. 01	Initial issue of report	Feb. 21, 2025

1. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	Network Security Gateway
Brand Name	 FORTINET
Model Name	FortiWiFi 70G-POExxxxxxxxx, FORTIWIFI-70G-POExxxxxxxxx, FWF-70G-POExxxxxxxxx, FortiWiFi 71G-POExxxxxxxxx, FORTIWIFI-71G-POExxxxxxxxx, FWF-71G-POExxxxxxxxx (where "x" can be used as "0-9", or "A-Z", or "-", or blank for software changes or marketing purposes only)
FCC ID	TVE-241001
Wireless Technology and Frequency Range	WLAN 2.4 GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2 GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3 GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.6 GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8 GHz Band: 5725 MHz ~ 5850 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz
Mode	WLAN: 802.11a/b/g/n/ac/ax HT20/HT40/VHT20/VHT40/VHT80/HE20/HE40/HE80 Bluetooth LE

Reviewed by: Jason Wang

Report Producer: Daisy Peng

2. Maximum RF average output power among production units

Average Power (dBm)		
Band	Non-BF	BF
WLAN 2.4GHz	25.01	22.02
WLAN 5.2GHz	26.80	26.70
WLAN 5.3GHz	22.02	21.92
WLAN 5.6GHz	23.84	23.74
WLAN 5.8GHz	29.35	29.25

Average Power (dBm)	
Band	LE
Bluetooth	6.83

3. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = Power Density

P = Output Power at Antenna Terminals

G = Gain of Transmit Antenna (linear gain)

R = Distance from Transmitting Antenna

4. Radio Frequency Radiation Exposure Evaluation

Band		Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum PG (mW)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)	Power Density / Limit
non-BF	WLAN2.4GHz Band	3.24	25.01	28.25	668.34	0.133	1.000	0.133
	WLAN5.2GHz Band	3.27	26.80	30.07	1016.25	0.202	1.000	0.202
	WLAN5.3GHz Band	2.60	22.02	24.62	289.73	0.058	1.000	0.058
	WLAN5.6GHz Band	2.01	23.84	25.85	384.59	0.077	1.000	0.077
	WLAN5.8GHz Band	1.58	29.35	30.93	1238.80	0.247	1.000	0.247
Tx-BF	WLAN2.4GHz Band	6.25	22.02	28.27	671.43	0.134	1.000	0.134
	WLAN5.2GHz Band	6.28	26.70	32.98	1986.09	0.395	1.000	0.395
	WLAN5.3GHz Band	5.61	21.92	27.53	566.24	0.113	1.000	0.113
	WLAN5.6GHz Band	5.02	23.74	28.76	751.62	0.150	1.000	0.150
	WLAN5.8GHz Band	4.59	29.25	33.84	2421.03	0.482	1.000	0.482
Bluetooth		1.53	6.83	8.36	6.85	0.001	1.000	0.001

4.1. Collocated Power Density Calculation

<non-Beamforming Mode>

WLAN2.4GHz Power Density / Limit	WLAN5GHz Power Density / Limit	Bluetooth Power Density / Limit	Σ (Power Density / Limit) of WLAN+Bluetooth
0.133	0.247	0.001	0.381

<Beamforming Mode>

WLAN2.4GHz Power Density / Limit	WLAN5GHz Power Density / Limit	Bluetooth Power Density / Limit	Σ (Power Density / Limit) of WLAN+Bluetooth
0.134	0.482	0.001	0.617

Note:

1. Σ (Power Density / Limit): This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)], for 2.4GHzWLAN + 5GHzWLAN + Bluetooth..
2. Considering the WLAN module collocation with the Bluetooth transmitter of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1, and MPE of 3 collocated transmitters is compliant

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.