RF EXPOSURE EVALUATION REPORT

FCC ID	:	**TVE-110T17**
Equipment	:	**Bluetooth Low Energy Module**
Brand Name	:	**FORTINET**
Model Name	:	**FBLE-2024TI**
Marketing Name	:	**Bluetooth Low Energy Module**
Applicant	:	**Fortinet Inc. 899 KIFER RD SUNNYVALE CA 94086 UNITED STATES**
Manufacturer	:	**Fortinet Inc. 899 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: 1190) and the FCC designation No. TW1190 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
FA3D0610	Rev. 01	Initial issue of report	Feb. 10, 2024

1. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	Bluetooth Low Energy Module
Brand Name	FORTINET
Model Name	FBLE-2024TI
Marketing Name	Bluetooth Low Energy Module
FCC ID	TVE-110T17
Wireless Technology and Frequency Range	Bluetooth: 2400 MHz ~ 2483.5 MHz
Mode	Bluetooth LE

Product Feature	
SKU 1	FWF-50G-5G, FWF-51G-5G
SKU 2	FG-50G-5G, FG-51G-5G
Installed into the Host	Equipment Name: Network Security Gateway Brand Name: FORTINET Model Name: FortiGate 50G-5Gxxxxxxxxxx, FORTIGATE-50G-5Gxxxxxxxxxx, FG-50G-5Gxxxxxxxxxx, FortiGate 51G-5Gxxxxxxxxxx, FORTIGATE-51G-5Gxxxxxxxxxx, FG-51G-5Gxxxxxxxxxx, FortiWiFi 50G-5Gxxxxxxxxxx, FORTIWIFI-50G-5Gxxxxxxxxxx, FWF-50G-5Gxxxxxxxxxx, FortiWiFi 51G-5Gxxxxxxxxxx, FORTIWIFI-51G-5Gxxxxxxxxxx, FWF-51G-5Gxxxxxxxxxx (where “x” can be used as “A-Z”, or “0-9”, or “-“, or blank for software purposes or marketing purposes only) Marketing Name: FortiGate 50G-5G, FortiGate 51G-5G, FortiWiFi 50G-5G, FortiWiFi 51G-5G
General Specs	Bluetooth-LE
Antenna Type	monopole

Antenna information		
2400 MHz ~ 2483.5 MHz	Peak Gain (dBi)	1.53

Reviewed by: Jason Wang

Report Producer: Wan Liu

2. Maximum RF average output power among production units

	Mode	Channel	Frequency (MHz)	Tune-Up Limit
Bluetooth	LE 125kbps	0	2402	8.00
		19	2440	8.00
		39	2480	8.00
	LE 500kbps	0	2402	8.00
		19	2440	8.00
		39	2480	8.00
	LE 1Mbps	0	2402	8.00
		39	2441	8.00
		78	2480	8.00
	LE 2Mbps	2	2404	8.00
		39	2441	8.00
		76	2478	8.00

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/f2)	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/f2)	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

4.1. Standalone Power Density Calculation

Band	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (W)	Average EIRP (mW)	Power Density at 20cm (mW/cm^2)	Limit (mW/cm^2)	Power Density / Limit
Bluetooth	1.53	8.00	9.5	0.01	8.97	0.002	1.000	0.002

Conclusion:

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