

Radio Exposure Evaluation Report

FCC ID : TVE-111T15A
Equipment : Network Security Gateway
Brand Name : **FORTINET**
Model Name : FORTIGATE-200Fxxxxxx, FortiGate 200Fxxxxxx, FG-200Fxxxxxx
FORTIGATE-201Fxxxxxx, FortiGate 201Fxxxxxx, FG-201Fxxxxxx
FORTIGATE-200F-USGxxxxxx, FortiGate 200F-USGxxxxxx,
FG-200F-USGxxxxxx
FORTIGATE-201F-USGxxxxxx, FortiGate 201F-USGxxxxxx,
FG-201F-USGxxxxxx
(where "x" can be used as "A-Z", or "0-9", or "-", or blank for
software changes, or marketing purposes only)
Applicant : FORTINET INC
899 KIFER RD
SUNNYVALE CA 94086
UNITED STATES
Manufacturer : iBASE TECHNOLOGY INC
BLDG G, 11TH FL 3-1 YUAN QU ST NANKANG, TAIPEI 115 TAIWAN
Standard : 47 CFR Part 2.1091

The product was received on Aug. 14, 2020, and testing was started from Sep. 02, 2020 and completed on Sep. 06, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in 47 CFR Part 2.1091 and shown compliance with the applicable technical standards.

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



Approved by: Allen Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
2	-	Exposure evaluation	PASS	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

None.

Reviewed by: Sam Tsai

Report Producer: Ann Hou

1 General Description

1.1 EUT General Information

RF General Information			
Evaluation Mode	Frequency Range (MHz)	Operating Frequency (MHz)	Modulation Type
Bluetooth	2400-2483.5	2402-2480	LE: DSSS (GFSK)

1.2 Table for Multiple Listing

Model Name	Description
FORTIGATE-200Fxxxxxx, FortiGate 200Fxxxxxx, FG-200Fxxxxxx FORTIGATE-200F-USGxxxxxx, FortiGate 200F-USGxxxxxx, FG-200F-USGxxxxxx (where "x" can be used as "A-Z", or "0-9", or "-", or blank for software changes, or marketing purposes only)	Without Storage
FORTIGATE-201Fxxxxxx, FortiGate 201Fxxxxxx, FG-201Fxxxxxx FORTIGATE-201F-USGxxxxxx, FortiGate 201F-USGxxxxxx, FG-201F-USGxxxxxx (where "x" can be used as "A-Z", or "0-9", or "-", or blank for software changes, or marketing purposes only)	With Storage (1x 480GB SDD)

1.3 Testing Location

Testing Location			
☒	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)	
		TEL : 886-3-327-3456	FAX : 886-3-327-0973
Test site Designation No. TW1190 with FCC.			
☐	JHUBEI	ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan (R.O.C.)	
		TEL : 886-3-656-9065	FAX : 886-3-656-9085
Test site Designation No. TW0006 with FCC.			

2 Maximum Permissible Exposure

2.1 Limit of Maximum Permissible Exposure

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
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

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
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

Note: f = frequency in MHz ; *Plane-wave equivalent power density

2.2 MPE Calculation Method

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:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$



2.3 Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)
2.4G;BT-LE	1.71	1.44	3.15	0.50	3.65	0.00232	20	0.00046	1.00000

————THE END————