

FCC RF Exposure Exemption report

for

Aura VTX

Model No.: FSVVTX01

FCC ID: 2BRO9FSVVTX01

of

Applicant: Unusual Machines Inc

Address: 4677 LB McLeod Road, Suite J, Orlando, FL 32811

Tested and Prepared

by

Worldwide Testing Services (Taiwan) Co., Ltd.

FCC Registration No.: TW1072, TW1140, TW1146, TW1477, TW0037

Industry Canada filed test laboratory Reg. No.: 20037, 31634



Report No.: W6M22507-24578-EE

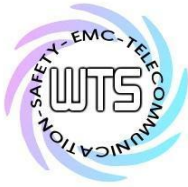
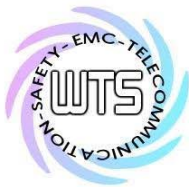


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1 General Information

1.1 Notes

The purpose of conformity testing is to increase the probability of adherence to the essential requirements or conformity specifications, as appropriate.

The complexity of the technical specifications, however, means that full and thorough testing is impractical for both technical and economic reasons.

Furthermore, there is no guarantee that a test sample which has passed all the relevant tests conforms to a specification.

Neither is there any guarantee that such a test sample will interwork with other genuinely open systems.

The existence of the tests nevertheless provides the confidence that the test sample possesses the qualities as maintained and that its performance generally conforms to representative cases of communications equipment.

Laboratory disclaimer-

1. The test results of this test report relate exclusively to the item tested as specified in 1.5.
2. The test report may only be reproduced or published in full.
3. Reproduction or publication of extracts from the report requires the prior written approval of the Worldwide Testing Services(Taiwan) Co., Ltd.
4. Antenna gain is provided by applicant and laboratory issue relevant data and results.

Tester:

September 19, 2025

Ken Kang

Date

WTS-Lab.

Name

Signature

Technical responsibility for area of testing:

September 19, 2025

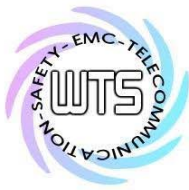
Kevin Wang

Date

WTS

Name

Signature



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1.2 Testing laboratory

1.2.1 Location

10m OATS

No.5-1, Lishui, Shuang Sing Village, Wanli Dist.,
New Taipei City 207, Taiwan (R.O.C.)

3 meter semi-anechoic chamber

No. 99, Sec. 1, Balian Rd., Xizhi Dist.,
New Taipei City 221032, Taiwan (R.O.C.)

Worldwide Testing Services (Taiwan) Co., Ltd.
6F., No. 58, Ln. 188, Ruiguang Rd., Neihu Dist.,
Taipei City 114 , Taiwan (R.O.C.)
Tel: 886-2-6606-8877

1.2.2 Details of accreditation status

Accredited testing laboratory

FCC filed test laboratory Reg. No.: TW1072, TW1140, TW1146, TW1477, TW0037

Industry Canada filed test laboratory Reg. No.: 20037, 31634

Test location, where different from Worldwide Testing Services (Taiwan) Co., Ltd. :

Name: ./.
Accredited no.: ./.
Street: ./.
Town: ./.
Country: ./.

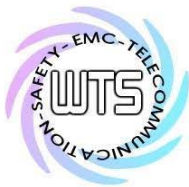
1.3 Application details

Approval holder

Name: Unusual Machines Inc.
Street: 4677 LB McLeod Road, Suite J,
City: Orlando, FL 32811
Country: USA

Manufacturer: (if applicable)

Name: Well Linkage Co., Ltd.
Street: 7F, No., 56, Sec 5, Nanjing E. Rd, Songshan Dist.,
Town: Taipei City 10597,
Country: Taiwan



Worldwide Testing Services(Taiwan) Co., Ltd.

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Date of receipt of test item: July 30, 2025

Date of test: From July 31, 2025 to September 05, 2025

1.4 General information of Test item

Type of test item: Aura VTX

Model no.: FSVVTX01

Multi-listing model no.: ./.

Brand name: Fat Shark

Power supply: 12Vd.c.

Type of antenna: Dipole Antenna

Antenna gain: 1.68 dBi

Technical data: -27.59dBm

Operation modes: Duplex

Modulation type: DSSS/OFDM

Sample no.: #06

Special statement: ./.

Classification:

Fixed Device	☐
Mobile Device (Human Body distance > 20cm)	☒
Portable Device (Human Body distance < 20cm)	☐

1.7 Test standards

FCC KDB Publication

447498 D01 General RF Exposure Guidance v06



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2 Test configuration

2.1 Test environment

Relative humidity content: 20 ... 75 %

Air pressure: 86 ... 103 kPa

Extreme conditions parameters: ./.

2.2 Measurement uncertainty

Test item Name	Uncertainty
Estimation Result of Uncertainty of Conducted Output Power Measurement (Peak Output Power (transmitter))	Expanded Uncertainty : 1.63 dB

The decision rule is: Measurement uncertainty is not included in the calculation of test results.



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2.3 Test Equipment List

Power (966A)

Code No.	Test equipment	Mode No.	Serial No.	Brand	Cal. Date	Next Cal. Date
ETSTW-RE 019	MICROWAVE HORN ANTENNA	22240-25	121074	FM	2025/6/25	2026/6/24
ETSTW-RE 153	Signal Analyzer	FSV40	101929	R&S	2024/9/11	2025/9/10
ETSTW-RE 154	EMI Test Receiver	ESR3	102829	R&S	2025/2/14	2026/4/8
ETSTW-RE 160	Amplifier Module	CHC 3	None	WTS	2025/7/11	2026/7/10
ETSTW-RE 177	TRILOG Broadband Antenna	VULB 9168&EMCI-N-6-06	01380&AT-06007	SCHWARZBECK&EMC	2025/3/10	2026/3/9
ETSTW-RE 178	Double Ridged Guide Horn Antenna	DRH18-E	210505A18ES	RFSPIN	2025/3/7	2026/3/6
ETSTW-Cable 049	Microwave Cable	FA147A0015M2020	30064-1	UTIFLEX	2025/8/14	2026/8/13
ETSTW-Cable 077	SMA type cable (10m)	EMC104-SM-SM-10000	230511	EMCI	2025/7/11	2026/7/10
ETSTW-Cable 084	SMA type cable (1m)	SF104-11SMA-1000	816477/4	HONOVA	2025/7/11	2026/7/10
ETSTW-Cable 089	SMA type cable (2m)	SF104-11SMA-2000	SN 811889/4	HUBER+SUHNER	2025/7/11	2026/7/10
WTSTW-SW 002	EMI TEST SOFTWARE	EZ_EMC	None	Farad	Version ETS-03A1 Version EMEC-3A1+	
ETSTW-RE 018	MICROWAVE HORN ANTENNA	AT4560	27212	AR	2025/7/31	2026/7/30
ETSTW-RE 088	SOLID STATE AMPLIFIER	KMA180265A01	99057	KMIC	2024/9/13	2025/9/12
ETSTW-Cable 028	Microwave Cable	FA147A0015M2020	30064-2	UTIFLEX	2024/9/13	2025/9/12
ETSTW-Cable 029	Microwave Cable	FA147A0015M2020	30064-3	UTIFLEX	2024/9/13	2025/9/12



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3 Equivalent Isotropic Radiated Power (EIRP)

3.1 Exemption Limits for Routine Evaluation

according to 47 CFR FCC Part 2 Subpart J, section 2.1091

FCC OET Bulletin 65 Edition 97.01 determines the equations for predicting RF fields and applicable limits.

The prediction for power density in the far-field but will over-predict power density in the near field, where it could be used for walking a “worst case” or conservative prediction.

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 20 cm normally can be maintained between the user and the device.

MPE Calculation Method

(A) Limits for Occupational/Controlled Exposure

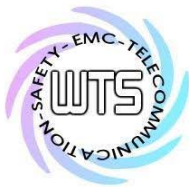
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f ²)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

(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

f = frequency in MHz

*Plane-wave equivalent power density



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E = Electric field (V/m) P = output power (W) G = EUT Antenna numeric gain (numeric)

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

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{3770 \times d^2}$$

mW/cm².

Mode	Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	Power density (mW/cm ²)	Limit (mW/cm ²)	Ratio
5GHz	5765MHz	-27.59	1.68	0	1	0
	5800MHz	-28.17	1.68	0	1	0
	5828MHz	-29.80	1.68	0	1	0

From the peak EUT RF output power, the minimum mobile separation distance, d = 20 cm, as well as the gain of the used antenna, the RF power density can be obtained.