

**FCC RF Exposure Exemption report
for**

OMNI Fleet

Model No.: OMNI-23MAI001

FCC ID: 2BBAB-MAI-OMNI

of

Applicant: Mindtronic AI Inc.

Address: 7506 Silvercrest Dr, Austin, TX 78757 United States

Tested and Prepared

by

Worldwide Testing Services (Taiwan) Co., Ltd.

FCC Registration No.: TW1477, TW1072

Industry Canada filed test laboratory Reg. No.: 20037, 5107A



Report No.: W6M22304-22580-EE

6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU TAIPEI 114, TAIWAN, R.O.C.
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Registration number: W6M22304-22580-C-1

FCC ID: 2BBAB-MAI-OMNI

TABLE OF CONTENTS

1	GENERAL INFORMATION.....	2
1.1	NOTES	2
1.2	TESTING LABORATORY	3
1.3	APPLICATION DETAILS.....	3
1.4	GENERAL INFORMATION OF TEST ITEM.....	4
1.5	DUTY CYCLE AND FACTOR.....	5
1.6	TEST STANDARDS	8
2	TEST CONFIGURATION	9
2.1	TEST ENVIRONMENT	9
2.2	MEASUREMENT UNCERTAINTY	9
2.3	TEST EQUIPMENT LIST.....	9
3	EQUIVALENT ISOTROPIC RADIATED POWER (EIRP).....	10
3.1	EXEMPTION LIMITS FOR ROUTINE EVALUATION	10



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M22304-22580-C-1

FCC ID: 2BBAB-MAI-OMNI

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:

June 14, 2023

Sora Kuo

Date

WTS-Lab.

Name

Signature

Technical responsibility for area of testing:

June 14, 2023

Kevin Wang

Date

WTS

Name

Signature



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M22304-22580-C-1

FCC ID: 2BBAB-MAI-OMNI

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.35, Aly. 21, Ln. 228, Ankang Rd., Neihu Dist.,
Taipei City 114, Taiwan (R.O.C.)
Tel: 886-2-6613-0228

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.: TW1477, TW1072

Industry Canada filed test laboratory Reg. No.: 20037, 5107A

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

Name: ./.

Accredited no.: ./.

Street: ./.

Town: ./.

Country: ./.

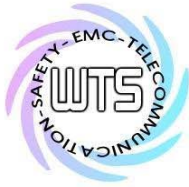
1.3 Application details

Approval holder

Name: Mindtronic AI Inc.
Street: 7506 Silvercrest Dr,
Town: Austin, TX 78757
Country: United States

Manufacturer: (if applicable)

Name: Mindtronic AI Co., Ltd. (Cayman Island) Taiwan Branch
Street: 7 F., No. 218, Sec. 6, Roosevelt Rd., Wenshan Dist.,
Town: Taipei City 11674,
Country: Taiwan (R.O.C.)



Registration number: W6M22304-22580-C-1

FCC ID: 2BBAB-MAI-OMNI

Date of receipt of test item: April 24, 2023

Date of test: from April 25, 2023 to June 12, 2023

1.4 General information of Test item

Type of test item: OMNI Fleet
Model no.: OMNI-23MAI001
Multi-listing model no.: ./.
Brand name: Mindtronic AI
Power supply: 12Vd.c.
Type of antenna: PCB antenna
Antenna gain: 1.49 dBi
Technical data:

WLAN		
Mode	Channel	Conducted Power (dBm)
802.11b	Ch 1 : 2412 MHz	9.72
	Ch 6 : 2437 MHz	10.96
	Ch 11 : 2462 MHz	11.99
802.11g	Ch 1 : 2412 MHz	10.15
	Ch 6 : 2437 MHz	11.35
	Ch 11 : 2462 MHz	12.60
802.11n20MHz	Ch 1 : 2412 MHz	10.66
	Ch 6 : 2437 MHz	11.82
	Ch 11 : 2462 MHz	13.07

Operation modes: Duplex
Modulation type: DSSS/OFDM
Sample no.: #02
Special statement: ./.
Classification:

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



Registration number: W6M22304-22580-C-1

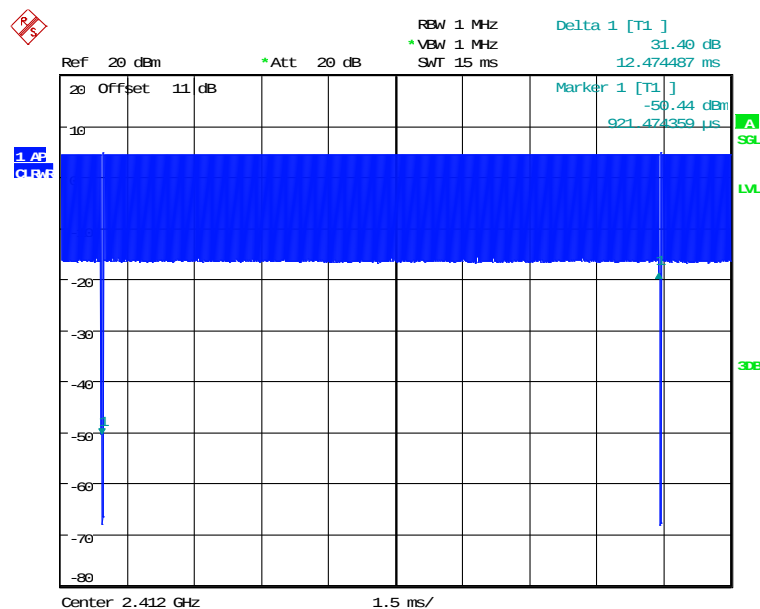
FCC ID: 2BBAB-MAI-OMNI

1.5 Duty cycle and factor

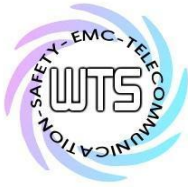
The duty factor is computed as $[10 \log (1 / D)]$, where D is the duty cycle.

Mode	T _{on} (ms)	T _{on} +T _{off} (ms)	Duty cycle (%)	Duty Factor (dB)	1/T - VBW (kHz)
802.11b	12.474	12.474	100.00%	0.00	0.08
802.11g	2.079	2.091	99.43%	0.02	0.48
802.11n 20M	1.931	1.943	99.38%	0.03	0.52

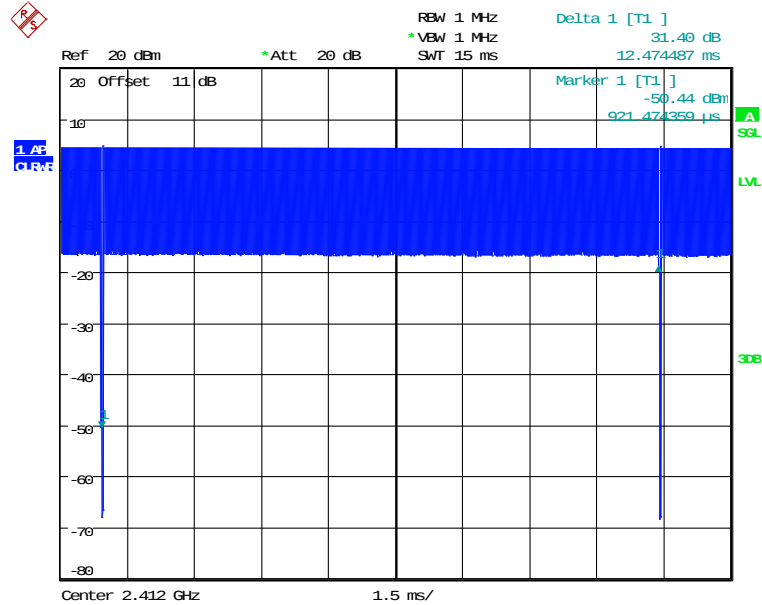
Duty cycle plot



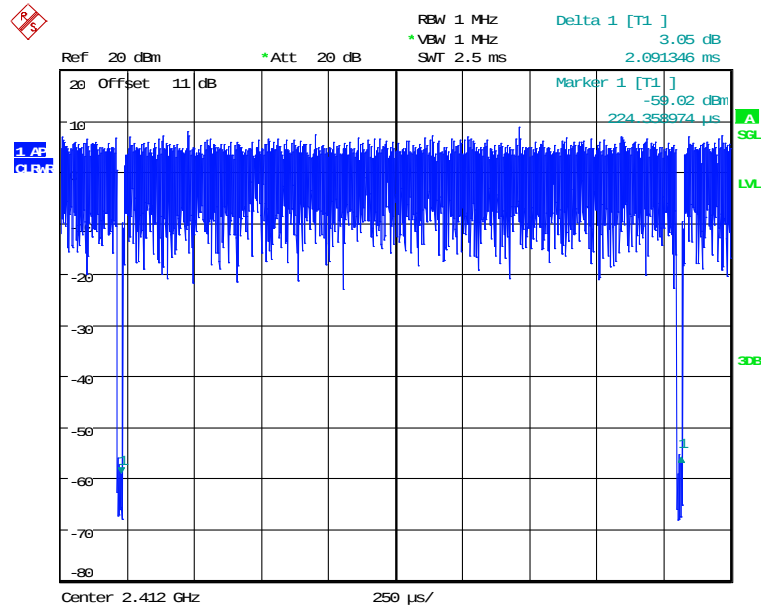
DUTY 802.11B
Date: 4.JUN.2023 10:09:13



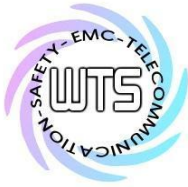
Registration number: W6M22304-22580-C-1
FCC ID: 2BBAB-MAI-OMNI



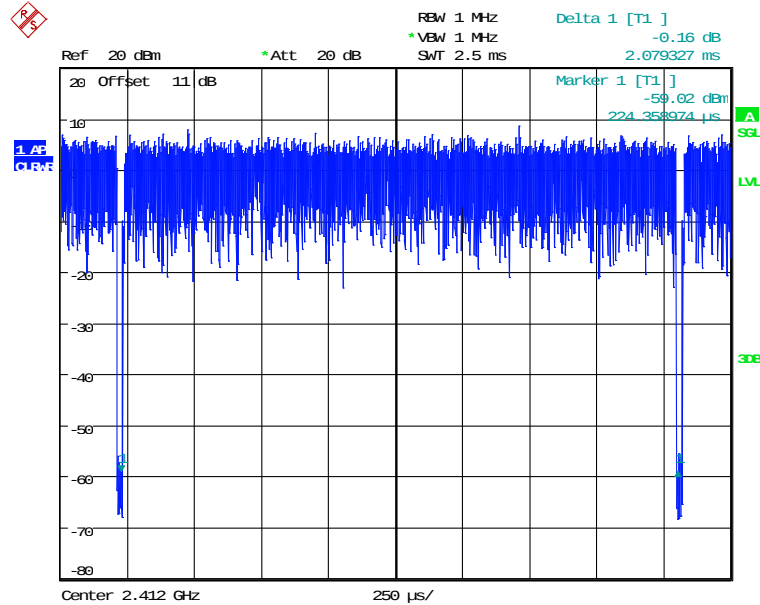
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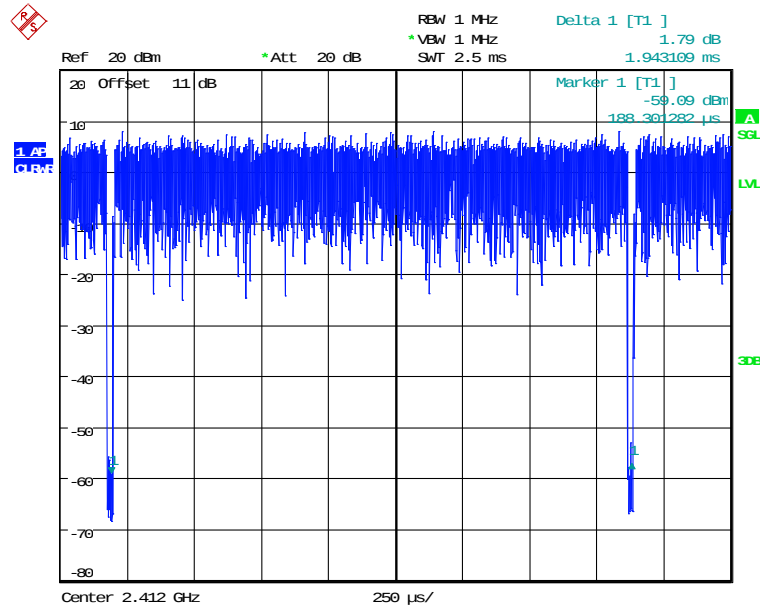
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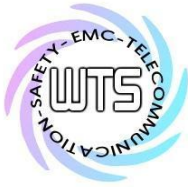
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FCC ID: 2BBAB-MAI-OMNI



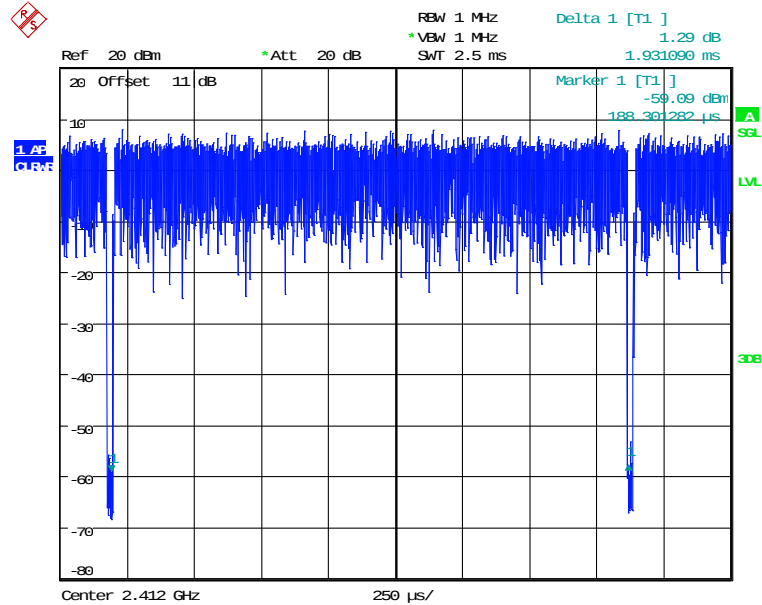
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DUTY 802.11N20
Date: 4.JUN.2023 10:14:58



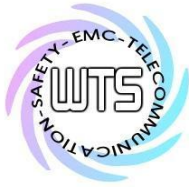
Registration number: W6M22304-22580-C-1
FCC ID: 2BBAB-MAI-OMNI



DUTY 802.11N20
Date: 4.JUN.2023 10:15:04

1.6 Test standards

47 CFR PART 15 SUBPART C § 15.247 (2021-10)



Registration number: W6M22304-22580-C-1

FCC ID: 2BBAB-MAI-OMNI

2 Test configuration

2.1 Test environment

Relative humidity content: 20 ... 75 %

Air pressure: 86 ... 103 kPa

Extreme conditions parameters: ./.

2.2 Measurement uncertainty

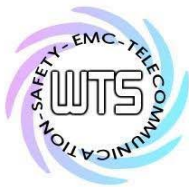
Test item Name	Uncertainty
Estimation Result of Uncertainty of Conducted Output Power Measurement (Peak Output Power (transmitter))	Expanded Uncertainty : 1.48 dB

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

2.3 Test Equipment List

RF Conducted

No.	Test equipment	Type	Serial No.	Manufacturer	Cal. Date	Next Cal. Date
ETSTW-CE 009	TEMP.&HUMIDITY CHAMBER	GTH-225-40-1P-U	MAA0305-009	GIANT FORCE	2022/8/3	2023/8/2
ETSTW-RE 050	Attenuator 10dB	50HF-010-1	None	JFW	2023/2/17	2024/2/16
ETSTW-RE 051	Attenuator 6dB	50HF-006-1	None	JFW	2023/2/17	2024/2/16
ETSTW-RE 053	Attenuator 3dB	50HF-003-1	None	JFW	2023/2/17	2024/2/16
ETSTW-RE 055	SPECTRUM ANALYZER	FSU 26	200074	R&S	2023/3/22	2024/3/21
ETSTW-RE 060	Attenuator 30dB	5015-30	F651012z-01	ATM	2023/2/17	2024/2/16
ETSTW-RE 099	DC Block	50DB-007-1	None	JFW	2023/2/17	2024/2/16
ETSTW-RE 112	AC POWER SOURCE	TFC-1005	T-0A023536	T-Power	Function test	
ETSTW-RE 127	RF Switch Box	RFS-01	None	WTS	2023/2/17	2024/2/16
ETSTW-RE 153	Signal Analyzer	FSV40	101929	R&S	2022/10/3	2023/10/2
ETSTW-GSM 023	Power Divider	4901.19.A	None	SUHNER	2022/9/2	2023/9/1
ETSTW-Cable 027	Microwave Cable	SUCOFLEX 104	279083	HUBER+SUHNER	2023/4/27	2024/4/26
ETSTW-Cable 030	Microwave Cable	SUCOFLEX 104 (S_Cable 9) (S_Cable 9)	279067	HUBER+SUHNER	2023/02/17	2024/2/16
ETSTW-Cable 045	Microwave Cable	SUCOFLEX 104	325536	HUBER+SUHNER	2022/10/21	2023/10/20
ETSTW-Cable 058	Microwave Cable	SUCOFLEX 104	none	HUBER+SUHNER	2023/5/18	2024/5/17
WTSTW-SW 008	Signal studio	Agilent	None	AUDIX	Version 2.0.0.1	



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3 Equivalent Isotropic Radiated Power (EIRP)

FCC Rule: 15.247

EIRP = max. conducted output power + antenna gain

EIRP = 13.07 dBm+1.49 dBi [antenna gain claimed by manufacturer] = 14.56 dBm = 28.576mW

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

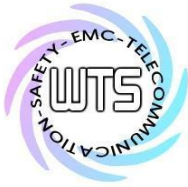
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f ²)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

(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

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

mW/cm².

Established separation distance is 20 cm.

Operating frequency band: 2412-2462 MHz

The product meets RF exposure requirement.

The power density of 0.0057 mW/cm² at 2462 MHz is below the power density limit of 1 mW/cm².