

FCC RF Exposure Exemption report

for

Handheld Microphone

Model No.: UF-9R

FCC ID: JEBUF-9R1

of

Applicant: MASCOT ELECTRIC CO., LTD

**Address: No.85, Changxing 1st St., Rende Dist., Tainan City 71741,
Taiwan (R.O.C.)**

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.: W6M22203-21663-EE

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

April 13, 2023

Sora Kuo

Date

WTS-Lab.

Name

Signature

Technical responsibility for area of testing:

April 13, 2023

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.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: MASCOT ELECTRIC CO., LTD

Street: No.85, Changxing 1st St., Rende Dist.,

Town: Tainan City 71741,

Country: Taiwan (R.O.C.)

Manufacturer: (if applicable)

Name: ./.

Street: ./.

Town: ./.

Country: ./.



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Date of receipt of test item: May 20, 2022
Date of test: from May 23, 2022 to April 11, 2023

1.4 General information of Test item

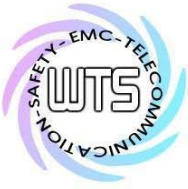
Type of test item: Handheld Microphone
Model no.: UF-9R
Multi-listing model no.: UF-62B
Brand name: MASCOT
Power supply: Battery 3Vd.c. (AA*2)
Type of antenna: PCB antenna
Antenna gain: 1.60 dBi

Technical data

Frequency band : 510-608 MHz / 614-616 MHz / 657-663 MHz
Frequency (ch A): 510.125 MHz
Frequency (ch B): 559.025 MHz
Frequency (ch C): 607.875 MHz
Frequency (ch D): 614.125 MHz
Frequency (ch E): 615.875 MHz
Frequency (ch F): 657.125 MHz
Frequency (ch G): 662.875 MHz
Antenna type: PCB antenna
Antenna gain: 1.60 dBi
Power supply: Battery 3Vd.c. (AA*2)
Operation modes: Simplex
Modulation type: FM
Sample no.: #01
Special statement: ./.

Classification:

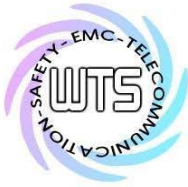
Fixed Device	<input type="checkbox"/>
Mobile Device (Human Body distance > 20cm)	<input type="checkbox"/>
Portable Device (Human Body distance < 20cm)	<input checked="" type="checkbox"/>



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1.5 Test standards

47 CFR PART 15 SUBPART C § 15.236 (2021-10)



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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

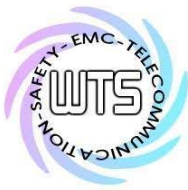
Test item Name	Uncertainty
Estimation Result of Uncertainty of Conducted Output Power Measurement (Peak Output Power (transmitter))	Expanded Uncertainty : 1.48 dB

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

2.3 Test Equipment List

Radiated Emission

No.	Test equipment	Type	Serial No.	Manufacturer	Cal. Date	Next Cal. Date
ETSTW-RE 004	EMI TEST RECEIVER	ESI 40	832427/004	R&S	2022/10/17	2023/10/16
ETSTW-RE 018	MICROWAVE HORN ANTENNA	AT4560	27212	AR	2022/8/18	2023/8/17
ETSTW-RE 019	MICROWAVE HORN ANTENNA	22240-25	121074	FM	2022/6/13	2023/6/12
ETSTW-RE 027	Passive Loop Antenna	6512	34563	ETS-Lindgren	2022/6/22	2023/6/21
ETSTW-RE 030	Double-Ridged Guide Horn Antenna	3117	35224	ETS-Lindgren	2022/5/23	2023/5/22
ETSTW-RE 062	Amplifier Module	CHC 2	None	KMIC	2023/2/20	2024/2/19
ETSTW-RE 088	SOLID STATE AMPLIFIER	KMA180265A01	99057	KMIC	2022/9/16	2023/9/15
ETSTW-RE 115	2.4GHz Notch Filter	N0124411	473874	MICROWAVE CIRCUITS	2023/1/4	2024/1/3
ETSTW-RE 142	Amplifier	8447D	2805A03378	Agilent	2023/2/20	2024/2/19
ETSTW-RE 152	Bi-log Hybrid Antenna	MCTD 2786B	BLB20J04029	ETC	2023/1/31	2024/1/30
ETSTW-Cable 028	Microwave Cable	FA147A0015M2020	30064-2	UTIFLEX	2022/9/16	2023/9/15
ETSTW-Cable 029	Microwave Cable	FA147A0015M2020	30064-3	UTIFLEX	2022/9/16	2023/9/15
ETSTW-Cable 043	Microwave Cable	SUCOFLEX 104	317576	HUBER+SUHNER	2022/5/13	2023/5/12
ETSTW-Cable 064	Microwave Cable	SUCOFLEX 104	MY28891	HUBER+SUHNER	2023/2/20	2024/2/19
ETSTW-Cable 072	SMA type cable (8m)	SUCOFLEX 104	805800/4	HUBER+SUHNER	2023/2/20	2024/2/19
ETSTW-Cable 071	N TYPE CABLE	EMCCFD400-NM-NM-25000	170239	EMCI	2022/5/27	2023/5/26
ETSTW-Cable 074	SMA type cable (2m)	SUCOFLEX 104	802563/4	HUBER+SUHNER	2023/2/20	2024/2/19
WTSTW-SW 002	EMI TEST SOFTWARE	EZ_EM C	None	Farad	Version ETS-03A1 Version EMEC-3A1+	
ETSTW-TH 002	Thermohygrometer	608-H1	45204317	Testo	2022/9/16	2023/9/15
ETSTW-TH 003	Wireless weather station	GAIA	N/A	TFA	2022/10/28	2023/10/27



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3 Equivalent Isotropic Radiated Power (EIRP)

FCC Rule: 15.236

EIRP = max. conducted output power + antenna gain

EIRP = 11.31 dBm+ 1.60 dBi [antenna gain claimed by manufacturer] = 12.91 dBm = 19.5434 mW

3.1 Exemption Limits for Routine Evaluation according to FCC KDB Publication

RESULT:

Test standard : FCC KDB Publication
447498 D01 General RF Exposure Guidance v06

3.3.1 Exemption Limits for Routine Evaluation – SAR Evaluation

SAR evaluation is required if the separation distance between the user and/or bystander and the antenna and/or radiating element of the device is less than or equal to 20 cm, except when the device operates at or below the applicable output power level (adjusted for tune-up tolerance) for the specified separation distance defined in Table .

Table: SAR evaluation — Exemption limits for routine evaluation based on frequency and separation distance

MHz	5	10	15	20	25	mm
510.125	21.06	43.13	64.19	85.41	107.31	SAR Test Exclusion Threshold (mW)

MHz	30	35	40	45	50	mm
510.125	128.38	150.44	171.50	192.72	214.63	SAR Test Exclusion Threshold (mW)

Output power level shall be the higher of the maximum conducted or equivalent isotropically radiated power (e.i.r.p.) source-based, time-averaged output power.

Established separation distance is 5 mm.

Operating frequency band : 510.125-607.875 MHz / 614.125-615.875 MHz / 657.125-662.875 MHz

Max. output power level at 5 mm separation distance at 510.125 MHz according to table is: 21.06 mW

The product is exempt from SAR Evaluation/Testing because the output power of 19.5434 mW is below the exemption limit of 21.06 mW.

Explanation: 2.4G module and microphone will not transmit at the same time.