RF Exposure Evaluation Report

Report No.:	RWAO202400002C
Applicant:	Guangdong Midea Kitchen Appliances Manufacturing Co.,Ltd
Address:	No.6, Yong An Road, Beijiao, Shunde, Foshan ,Guangdong,China
Product Name:	Microwave Oven
Product Model:	EM0P042SQ-PS
Multiple Models:	EM0P04##-PS,EM0P04***-PS, SMC1169K#, EM0P04##-PS0A00, EM0P04***-PS0A00, SMC1169HS, EM0P042SU-PS0A00
Trade Mark:	Midea; SHARP
FCC ID:	VG8XM0P04YYW
Standards:	47 CFR §1.1310 KDB 447498 D01 General RF Exposure Guidance v06
Test Date:	2024-01-05
Test Result:	Complied
Report Date:	2024-01-09

Reviewed by: Abel Chen

Abel Chen
Project Engineer

Approved by: Jacob Kong

Jacob Kong
Manager

Prepared by:

World Alliance Testing and Certification (Shenzhen) Co., Ltd

No. 1002, East Block, Laobing Building, Xingye Road 3012, Xixiang street, Bao'an District, Shenzhen, Guangdong, People's Republic of China

NVLAP® TESTING
NVLAP LAB CODE 600335-0

This report may contain data that are not covered by the NVLAP accreditation and shall be marked with an asterisk "★"

Announcement

1. This test report shall not be reproduced in full or partial, without the written approval of World Alliance Testing and Certification (Shenzhen) Co., Ltd

2. The results in this report apply only to the sample tested.

3. This sample tested is in compliance with the limits of the above regulation.

4. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

5. The information marked "#" is provided by the applicant, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report. Customer model name, addresses, names, trademarks etc. are included.

Revision History

Version No.	Issued Date	Description
00	2024-01-16	*Original*

Contents

1 General Information 4

1.1 Client Information 4

1.2 Product Description of EUT 4

1.3 Laboratory Location 4

2 RF Exposure Evaluation 5

2.1 Standard 5

2.2 Result 6

1 General Information

1.1 Client Information

Applicant:	Guangdong Midea Kitchen Appliances Manufacturing Co.,Ltd
Address:	No.6, Yong An Road, Beijiao, Shunde, Foshan ,Guangdong,China
Manufacturer:	Guangdong Midea Kitchen Appliances Manufacturing Co.,Ltd
Address:	No.6, Yong An Road, Beijiao, Shunde, Foshan ,Guangdong,China

1.2 Product Description of EUT

The EUT is Microwave Over operate on 2450MHz ISM frequency Band.

Sample Serial Number	26-1 (assigned by WATC)
Sample Received Date	2024-01-04
Sample Status	Good Condition
Operating Frequency Range	2450MHz±50.0 MHz
Power Supply	AC 120V/60Hz
Microwave Rated Input Power#	1600W
Microwave Rated Output Power#	1000W
Modification	Sample No Modification by the test lab

1.3 Laboratory Location

World Alliance Testing and Certification (Shenzhen) Co., Ltd

No. 1002, East Block, Laobing Building, Xingye Road 3012, Xixiang street, Bao'an District, Shenzhen, Guangdong, People's Republic of China

Tel: +86-755-29691511, Email: qa@watc.com.cn

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 463912, the FCC Designation No. : CN5040.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0160.

2 RF Exposure Evaluation

2.1 Standard

According to §1.1310, radio frequency devices shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

Table 1 to § 1.1310(e)(1)—Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
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
300–1,500			f/300	<6
1,500–100,000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
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
300–1,500			f/1500	<30
1,500–100,000			1.0	<30

f = frequency in MHz. * = Plane-wave equivalent power density.

Calculation formula:
Prediction of power density at the distance of the applicable MPE limit
$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

2.2 Result

Radio	Frequency (MHz)	Maximum Conducted Power including Tune-up Tolerance		Antenna Gain		Min. test separation distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)	Verdict
		(dBm)	(mW)	(dBi)	(numeric)				
2.4G WLAN	2412-2462	24.5	281.84	3.0	2.00	20	0.1121	1.0	Pass
BT	2402-2480	9.0	7.94	3.0	2.00	20	0.0032	1.0	Pass
BLE	2402-2480	6.5	4.47	3.0	2.00	20	0.0018	1.0	Pass

Note: The device contains a certified Wi-Fi module(Model: RIGEL, FCC ID: 2AC7Z-ESP32PICOZERO), the Maximum Conducted Power including Tune-up Tolerance and Antenna Gain in above table was refer from the module report.

For microwave oven, refer report RWAO202400002A, the maximum tested microwave leakage is 0.1mW/cm^2, the limit is 1.0mW/cm^2

Simultaneously transmit Consideration:

Microwave Oven + *Wi-Fi module*

The ratio=0.1121/1.0+0.1/1.0=0.2121<1

Result: Complied.

---End of Report---