



FCC MPE REPORT

Report No.: 20240717G14244X-E-1
Product Name: Microwave Oven
Trade Name: Midea
Model Tested: TM162A2GF-P(GE)
FCC ID: VG8XM162AYYGEW
Applicant: Guangdong Midea Kitchen Appliances Manufacturing Co., Ltd.
Received Date: 2024.07.30
Test Data: 2024.07.31-2024.08.02
Issued by: CCIC Southern Testing Co., Ltd.
Lab Location: Electronic Testing Building, No.43, Shahe Road, Xili Street, Nanshan District, Shenzhen, Guangdong, China
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**MAXIMUM PERMISSIBLE EXPOSURE (MPE)**

Product Name.....: Microwave Oven

Model Tested: TM162A2GF-P(GE)

Trade Name.....: Midea

Applicant.....: Guangdong Midea Kitchen Appliances Manufacturing Co., Ltd.

Applicant Address.....: No.6, Yong An Road, Beijiao, Shunde, Foshan, China

Manufacturer: Guangdong Midea Kitchen Appliances Manufacturing Co., Ltd.

Manufacturer Address ...: No.6, Yong An Road, Beijiao, Shunde, Foshan, China

Standard(s): FCC/OST MP-5(1986), OET Bulletin 56(1999)

Test Result.....: PASS

Tested by: Sun Jiaohui
Sun Jiaohui Test Engineer 2024.08.05

Reviewed by: Chris You
Chris You Senior Engineer 2024.08.05

Approved by: Wang Shijie
Wang Shijie, Manager 2024.08.05



1.1 Facilities and Accreditations

1.1.1 Facilities

FCC-Registration No.: CN1283

CCIC Southern Testing Co., Ltd EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Designation Number: CN1283, valid time is until Sep.30, 2023.

A2LA Code: 5721.01

CCIC-SET is a third-party testing organization accredited by A2LA according to ISO/IEC 17025. The accreditation certificate number is 5721.01.

1.1.2 Test Environment Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15°C- 35°C
Relative Humidity (%):	25% -75%
Atmospheric Pressure (kPa):	86kPa-106kPa

1.1.3 Measurement Uncertainty

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

Uncertainty of Radiation Hazard Test:	$U_c = 2.4 \text{ dB (k=2)}$
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EQUIPMENTS LIST

A. Equipment List:

Description	Manufacturer	Model	Serial No.	Calibration Date	Calibration Due. Date
Portable Spectrometer	Rohde & Schwarz	FSH8	A1140401672	2024.02.14	2025.02.13
Probe	Rohde & Schwarz	TSEMF-B1	A1140401671	2024.02.14	2025.02.13



1.2 RADIATION HAZARD TEST

1.2.1 Radiation Hazard (Health) Requirement

For ISM equipment operating on higher frequencies (above 900 MHz), in particular microwave ovens and medical diathermy equipment, radiation leakage should be measured in accordance with the current Bureau of Radiological Health standard, employing an electromagnetic radiation monitor. This test is made primarily to assure that personnel will not be exposed to radiation hazard in testing the equipment. Equipment submitted to the FCC which have radiation leakage apparently in-excess of BRH limit will be reported to BRH for their evaluation. See FCC Bulletin OST 56, "Questions and Answers about Biological Effects and Potential Hazards of Radiofrequency Radiation".

1.2.2 Test Procedure

The EUT was set-up according to the FCC MP-5 and FCC Part 18 for radiation Hazard measurement. The measurement was using a microwave leakage meter to measure the radiation leakage in the as-received condition with the oven door closed A 770mL water load in a breaker located in the center of the oven and the microwave oven was set to maximum power. While the oven operating, the microwave meter will check the leakage and then record the maximum leakage.

1.2.3 Limit

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

NOTE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits



apply provided he or she is made aware of the potential for exposure.

NOTE 2: General population/uncontrolled exposures apply in situations in which the general-public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

A maximum of 1.0 mW/cm^2 is allowed in according with the applicable FCC standards

1.2.4 MPE Result(s)

The worst-case MPE is $0.37 \text{ (mW/cm}^2\text{)}$ for microwave oven.

The MPE calculation is follow for RF modular:

MPE calculation

$$S = \text{EIRP} / (4\pi R^2)$$

Where
S : Power density
EIRP : $P \times G$
P : Maximum transmitter power
G : Antenna gain
R : distance to the centre of radiation of the antenna

FCC-MPE Limits

$$1 \text{ mW/cm}^2$$

EUT RF Exposure

P : 26.73 dBm (470.98 mW)
G : 2.00 dBi (x 1.59)
R : 20 cm

$$S = 0.14 \text{ mW/cm}^2$$

RSS-102 Limits

$$0.02619 f^{0.6834} \Rightarrow 5.41 \text{ W/m}^2$$

EUT RF Exposure

P : 26.73 dBm (0.471 W)
G : 2.00 dBi (x 1.59)
R : 0.20 m

$$S = 0.02 \text{ W/m}^2$$

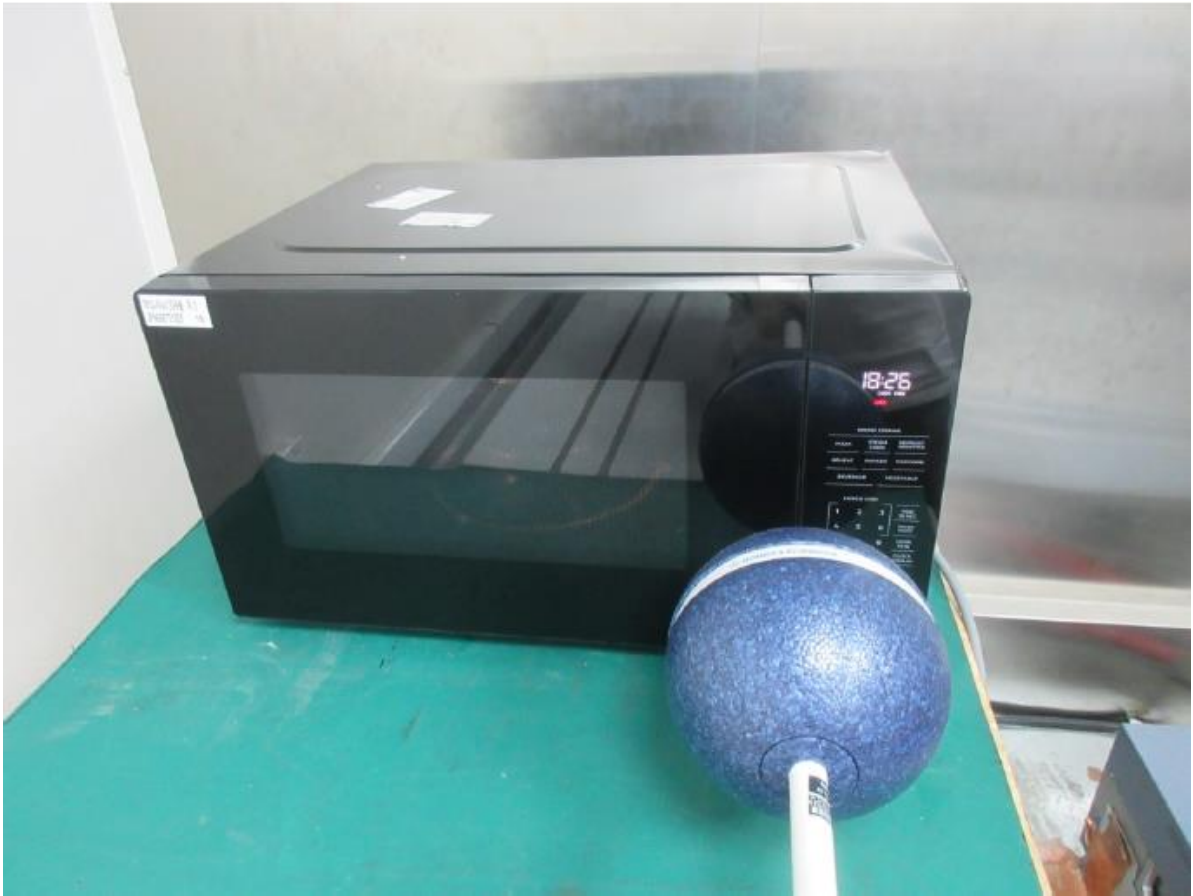
Safety distance(R)

P : 26.73 dBm (55.463 mW)
G : 2.00 dBi (x 1.383)
S : 1 mW/cm^2

$$R \geq 7.71 \text{ cm}$$

There was no microwave leakage exceeding a power level of $(0.36+0.14=0.50 \text{ mW/cm}^2)$ observed at any point 5cm or more from the external surface of the oven.

1.2.5 Test setup photo



End of the report