

EMI TEST REPORT

On Model Name: Microwave Oven

Model Numbers: XM048KYY, XM048KYYY

Brand Name: 

FCC ID Number: VG8EAM048KYY


Prepared for Guangdong Midea Kitchen Appliances
Manufacturing Co.,Ltd.

According to
FCC Part 18(2016)
Industrial, Scientific and Medical Equipment

FCC/OST MP-5(1986)
*FCC methods of measurements of radio noise emission from
industrial, scientific and medical equipment*

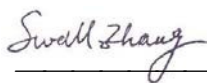


Test Report #: GUA-1611-11614-FCC

Prepared by:  ECMG
ViVi Huang/Assistant Company Name

Reviewed by:  ECMG
Jawen Yin/Senior Engineer Company Name

QC Manager:  ECMG
Swall Zhang/QC Manager Company Name

Test Report Released by:  December 19th, 2016
Swall Zhang Date

Verdict

Test Result :	Pass*
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*: In the configuration, the EUT complied with the standard specified above.

Revision History

Rev.	Issue date	Revision	Revised by
1.0	03/27/2013	Initial review	Jawen Yin
2.0	12/19/2016	Revised mother board	Jawen Yin

Test Location

Tests performed in a Certified ANSI Semi-Anechoic Chamber and Shielded Room.

Test Site Location : GD WITOL VACUUM ELECTRONIC EMC TEST LABORATORY

BeiJiao, ShunDe, FoShan, Guang Dong, 528311, China

Tel : (86)-757-26326917

Fax : (86)-757- 22607341

Test Facility

The test facility was recognized, certified, or accredited by the following organizations:

FCC – Registration No.: 910385

GD WITOL VACUUM ELECTRONIC EMC TEST LABORATORY has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC was maintained in our files

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List Attached Files

<i>Exhibit Type</i>	<i>File Description</i>	<i>File Name</i>
<i>Test Report</i>	<i>Test Report</i>	<i>VG8EAM048KYY_Test Report.pdf</i>
<i>Operation Description</i>	<i>Technical Description</i>	<i>VG8EAM048KYY_Operation Description.pdf</i>
<i>External Photos</i>	<i>External Photos</i>	<i>VG8EAM048KYY_External Photos.pdf</i>
<i>Internal Photos</i>	<i>Internal Photos</i>	<i>VG8EAM048KYY_Internal Photos.pdf</i>
<i>Block Diagram</i>	<i>Block Diagram</i>	<i>VG8EAM048KYY_Block Diagram.pdf</i>
<i>Schematics</i>	<i>Circuit Diagram</i>	<i>VG8EAM048KYY_Schematics.pdf</i>
<i>ID Label/Location</i>	<i>Label and Location</i>	<i>VG8EAM048KYY_Label & Location.pdf</i>
<i>User Manual</i>	<i>User Manual</i>	<i>VG8EAM048KYY_User's Manual.pdf</i>
<i>Test set-up photos</i>	<i>Test set-up photos</i>	<i>VG8EAM048KYY_Test Set-up Photos</i>

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Reproduction Clause

Any reproduction of this document must be done in full. No single part of this document may be reproduced without permission from ECMG Electronic Technical Testing Corp (Shenzhen).

Opinions and Interpretations

This test report relates to the abovementioned equipment under test (EUT). Without the permission of ECMG Electronic Technical Testing Corp (Shenzhen) Test Lab this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark on this or similar products. The manufacturer has sole responsibility of continued compliance of the device.

Statement of Measurement Uncertainty


The data and results referenced in the document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities that can account for a nominal measurement error. Furthermore, component and process variability of devices similar to that tested may result in additional deviation.

Administrative Data

Test Sample : *Microwave Oven*

Model Numbers : *XM048KYY, XM048KYYY*

Model Tested : *EM048K6AC*

Brand Name : 

Receipt Date : *November 28th, 2016*

Date Tested : *December 13th, 2016*

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

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

Telephone : *(86)-757-23606480*

Fax : *(86)-757-22607341*

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

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

Telephone : *(86)-757-23606480*

Fax : *(86)-757-22607341*

Factory : *Guangdong Midea Kitchen Appliances Manufacturing Co., Ltd.*

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

Telephone : *(86)-757-23606480*

Fax : *(86)-757-2260734*

EUT Description

Guangdong Midea Kitchen Appliances Manufacturing Co.,Ltd, Model Tested EM048K6AC (referred to as the EUT in this report) is a Microwave Oven.

The technical specifications of EUT are as below:

<i>Power Supply</i>	<i>120V AC/60Hz</i>
<i>Rated Input Power (Microwave)</i>	<i>1550W</i>
<i>Rated Output Power (Microwave)</i>	<i>1000W</i>
<i>Frequency</i>	<i>2450 MHz(Class B/Group 2)</i>
<i>Magnetron Model</i>	<i>2M319J</i>
<i>Magnetron Manufacturer</i>	<i>WITOL</i>

For more detailed information or features please refer to user's manual of EUT.

EUT Model Derived

XM048KYY, XM048KYYY model designations as follow:

X: E or A ;

M: indicate microwave function;

048: "0" indicate the microwave output power is 1000W, "48" indicate cavity capacity is 48 liters;

K: indicate the design No.;

YY or YYY=0-9 or A-Z indicate different appearance;

Model XM048KYY is identical to XM048KYYY.

Model of EM048K6AC was chosen for the final testing.

Test Summary

The electromagnetic compatibility requirements on model EM048K6AC for this test are stated below. All results listed in this report relate exclusively to this above-mentioned model as the equipment under test. this report confers no approval or endorsement upon any other component, host or subsystem used in the test set-up.

Emission Tests				
Specifications	Description	Test Results	Test Point	Remark
FCC Part 18:2016 FCC/OST MP-5:1986 ANSI C63.4-2014	Radiation Hazard Measurement	Passed	Enclosure	Attachment 1
FCC Part 18:2016 FCC/OST MP-5:1986 ANSI C63.4-2014	Input Power Measurement	Passed	AC Input Port	Attachment 2
FCC Part 18:2016 FCC/OST MP-5:1986 ANSI C63.4-2014	RF Output power Measurement	Passed	EUT	Attachment 3
FCC Part 18:2016 FCC/OST MP-5:1986 ANSI C63.4-2014	Operating Frequency Measurement	Passed	EUT	Attachment 4
FCC Part 18:2016 FCC/OST MP-5:1986 ANSI C63.4-2014	Conducted Emission	Passed	AC Input Port	Attachment 5
FCC Part 18:2016 FCC/OST MP-5:1986 ANSI C63.4-2014	Radiated Emission	Passed	Enclosure	Attachment 6

Load for Microwave Oven

For all measurements the energy developed by the oven was absorbed by a dummy load consisting of a quantity of tap water in a beaker. If the oven was provided with a shelf or other utensil support, this support was in its initial normal position. For ovens rated at 1000watts or less power output, the beaker contained quantities of water as listed in the following subparagraphs. For ovens rated at more than 1000watts output, each quantity was increased by 50% for each 500watts or fraction thereof in excess of 1000 watts. Additional beakers were used if necessary.

-Load for power output measurement: 1000 milliliters of water in the beaker located in the center of the oven.

-Load for frequency measurement: 1000 milliliters of water in the beaker located in the center of the oven.

-Load for measurement of radiation on second and third harmonic: Two loads, one of 700 and the other of 300 milliliters, of water are used. Each load is tested both with the beaker located in the center of the oven and with it in the right front corner.

-Load for all other measurements: 700 milliliters of water, with the beaker located in the center of the oven.

EUT Exercise Software

No Test software support this test.

Equipment Modification

Any modifications installed previous to testing by Guangdong Midea Kitchen Appliances Manufacturing Co.,Ltd., will be incorporated in each production model sold or leased in United States.

There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen) test personnel.

EUT Sample Photos for Model EM048K6AC



EUT -Front View



EUT -Back View



Door Opened View



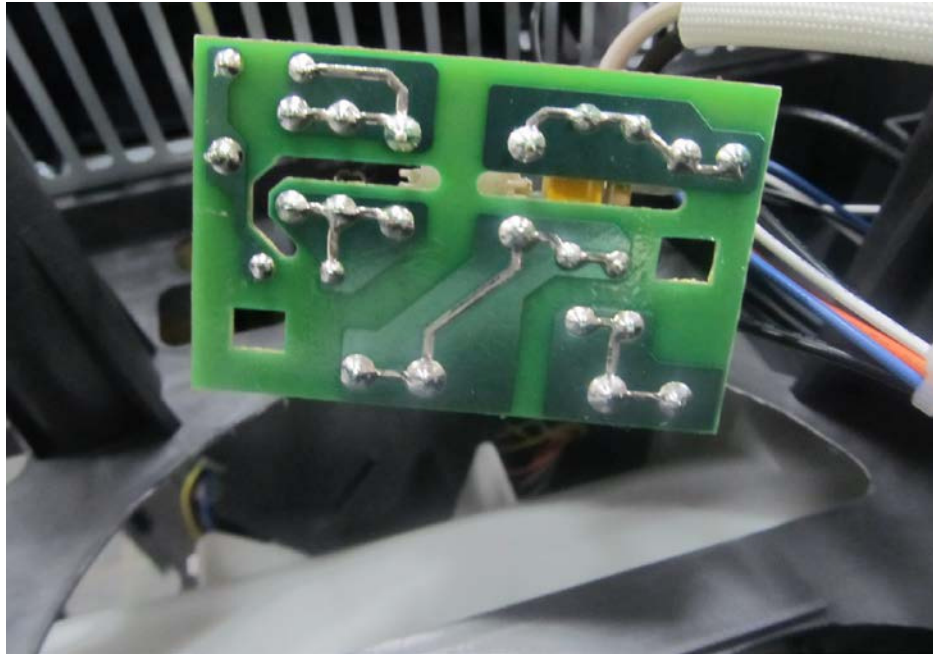
EUT- Uncovered Top View



Magnetron Front View



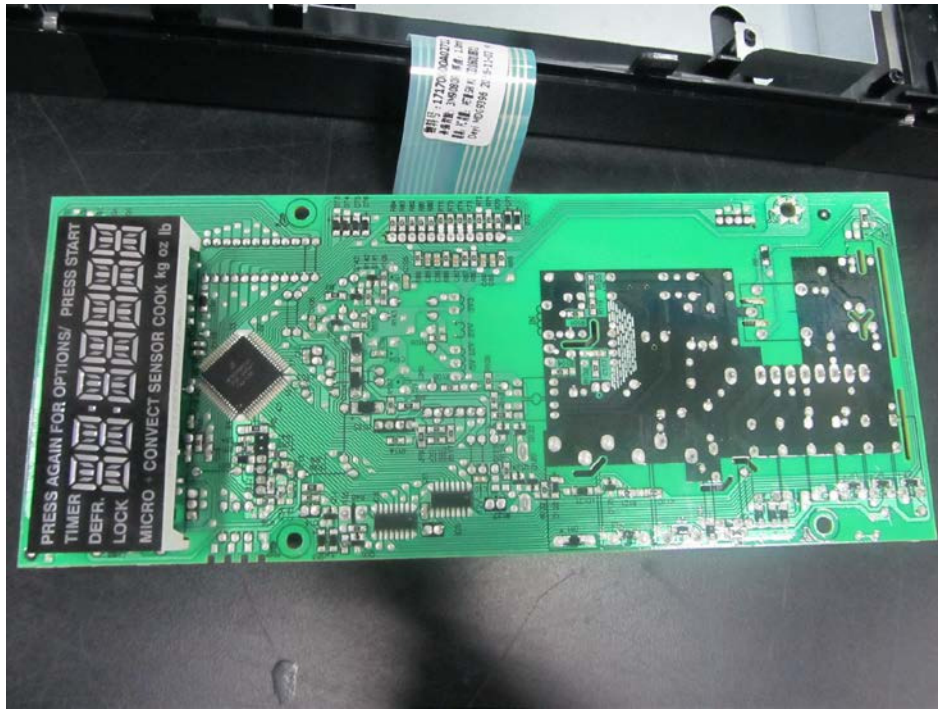
Power Filter Board- Top View



Power Filter Board- Bottom View



Mother board #1 -Top view



Mother board -Bottom view

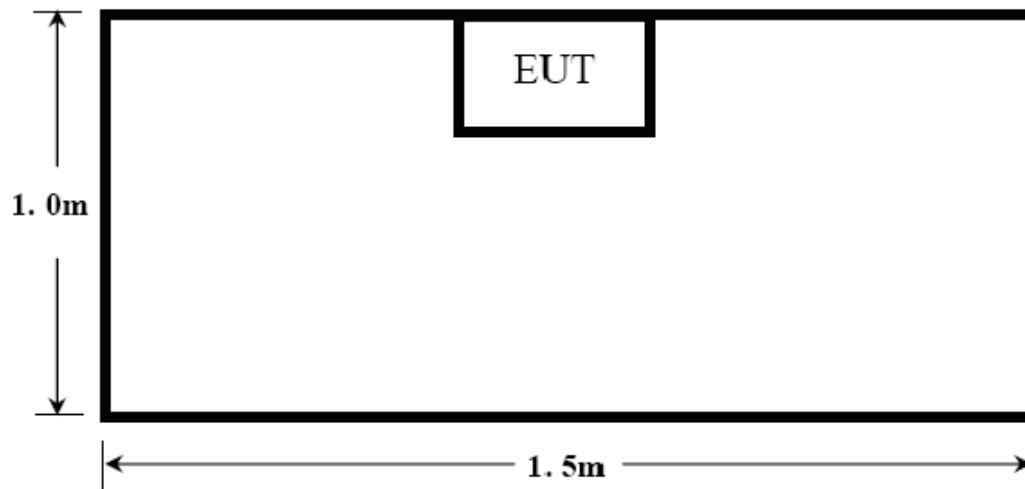
Test System Details

EUT					
Model Number:	XM048KYY,XM048KYYY				
Model Tested:	EM048K6AC				
Description:	Microwave Oven				
Input:	AC 120V/60Hz				
Manufacturer:	Guangdong Midea Kitchen Appliances Manufacturing Co.,Ltd.				
Support Equipment					
Description	Model Number	Serial Number	Manufacturer		
N/A					
Cable Description					
Description	From	To	Length (Meters)	Shielded (Y/N)	Ferrite (Y/N)
Power Cable	EUT	Plug	1.2	N	N
Note:The "EUT" means "Microwave Oven".					

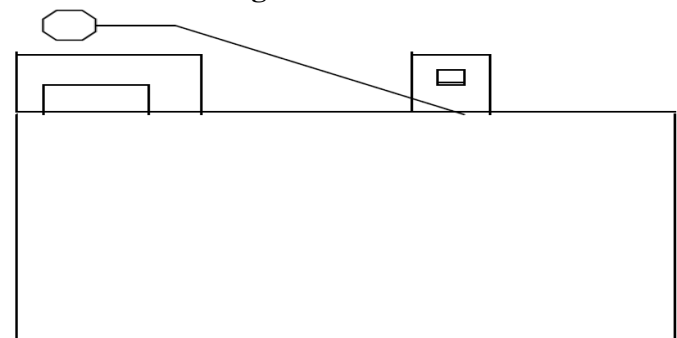
Note:

The EUT has been tested as an independent unit together with other necessary accessories or support units. The above support units or accessories were used to form a representative test configuration during the test tests.

Configuration of Tested System



ATTACHMENT 1 –RADIATION HAZARD TEST

CLIENT:	Guangdong Midea Kitchen Appliances Manufacturing Co.,Ltd.	TEST STANDERD:	FCC Part 18
MODEL NUMBERS:	XM048KYY, XM048KYYY	PRODUCT:	Microwave Oven
MODEL TESTED:	EM048K6AC	EUT DESIGNATION:	Home or Office
TEMPERATURE:	23°C	HUMIDITY:	51%
ATM PRESSURE:	103kPa	GROUNDING:	Through AC Power Cord
TESTED BY:	Sewen Guo	DATE OF TEST:	Dec 13 th , 2016
TEST REFERENCE:	ANSI C63.4-2014, FCC/OST MP-5:1986		
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 700ml water load in a beaker was located in the center of the oven and the Microwave Oven was set to maximum power. While the oven operating, the microwavemeter will check the leakage and then record the maximum leakage.		
TESTED RANGE:	N/A		
TEST VOLTAGE:	AC 120V/60Hz		
RADIATION HAZARD TEST SET-UP:	<p style="text-align: center;">Microwave Leakage Tester</p> 		
RESULTS:	<p>There was no microwave leakage exceeding a power level of 0.07mW/cm² observed at any point 5cm or more from the external surface of the oven. A maximum of 1.0 mW/cm² is allowed in accordance with the applicable FCC standards. Hence, microwave leakage in the as-received condition with the oven door closed was below the maximum allowed.</p> <p>The test results relate only to the equipment under test provided by client.</p>		
CHANGES OR MODIFICATIONS:	There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen) test personnel.		
M. UNCERTAINTY:	0.0001 mW/cm ²		

Test Equipment List:

Test Equipment	Manufacturer	Model	Serial No.	Cal. Due Date
Microwave Measurement	HOLADAY	HI-1710A	00022150	2017.12.09

TESTED BY: 杨冬栋
ENGINEER

REVIEWED BY: Juanita
SENIOR ENGINEER



Radiation Hazard Test Set up

ATTACHMENT 2 – INPUT POWER MEASUREMENT

CLIENT:	Guangdong Midea Kitchen Appliances Manufacturing Co.,Ltd.	TEST STANDERD:	FCC Part 18
MODEL NUMBERS:	XM048KYY, XM048KYYY	PRODUCT:	Microwave Oven
MODEL TESTED:	EM048K6AC	EUT DESIGNATION:	Home or Office
TEMPERATURE:	22°C	HUMIDITY:	59%
ATM PRESSURE:	103.1kPa	GROUNDING:	Through AC Power Cord
TESTED BY:	Sewen Guo	DATE OF TEST:	December 13 th , 2016
TEST REFERENCE:	ANSI C63.4-2014, FCC/OST MP-5:1986		
TEST PROCEDURE:	The EUT was set up according to the FCC MP-5 and FCC Part 18 for input power measurement. The input power and current was measured using a power analyzer. A 700ml water load in a beaker was located in the center of the oven and the Microwave Oven was set to maximum power. While the oven is operating, use a voltmeter and an ammeter to test the AC input voltage and current.		
TESTED RANGE:	N/A		
TEST VOLTAGE:	120VAC / 60Hz		
RESULTS :	Based on the measured input power, the EUT was found to be operating within the intended specifications. The test results relate only to the equipment under test provided by client.		
CHANGES OR MODIFICATIONS:	There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen) test personnel.		
M. UNCERTAINTY :	± 5W		

Test Data:

Input voltage (V)	Input Current (A)	Measured Input Power (W)	Rated input Power (W)
120.6	13.67	1543	1550

Test Equipments List:

Test Equipment	Manufacturer	Model	Serial No.	Cal. Due Date
Power Meter	Yesdo	MD2015W	RC200142G	2017.12.12

TESTED BY: 杨冬哲
ENGINEER

REVIEWED BY: James Jia
SENIOR ENGINEER



Input power Test Set up

ATTACHMENT 3 – RF OUTPUT POWER MEASUREMENT

CLIENT:	Guangdong Midea Kitchen Appliances Manufacturing Co.,Ltd.	TEST STANDERD:	FCC Part 18
MODEL NUMBERS:	XM048KYY, XM048KYYY	PRODUCT:	Microwave Oven
MODEL TESTED:	EM048K6AC	EUT DESIGNATION:	Home or Office
TEMPERATURE:	22 °C	HUMIDITY:	60%RH
ATM PRESSURE:	103kPa	GROUNDING:	Through AC Power Cord
TESTED BY:	Sewen Guo	DATE OF TEST:	December 13 th , 2016
TEST REFERENCE:	ANSI C63.4-2014, FCC/OST MP-5:1986		
TEST PROCEDURE:	<p>The EUT was set up according to the FCC MP-5 and FCC Part 18 for RF output power Measurement. The Caloric Method was used to determine maximum RF output power. The initial temperature of the water load was measured. A 1000ml water load in a beaker was located in the center of the oven. The oven was operated at maximum output power for 120 seconds, the temperature of the water was re-measured.</p> <p>RF Output Power $= (4.2 \text{ joules/calorie})(\text{volume in milliliters})(\text{temperature rise}) / (\text{time in seconds})$ $= 4.2 \text{ joules/calorie} \times 1000 \times (\text{Final Temp} - \text{Initial Temp}) / 120$</p>		
TESTED RANGE:	N/A		
TEST VOLTAGE:	120VAC / 60Hz		
RESULTS:	The test results relate only to the equipment under test provided by client.		
CHANGES OR MODIFICATIONS:	There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen) test personnel.		
M. UNCERTAINTY:	± 0.3°C		

Test Result:

Initial Temp (°C)	Final Temp (°C)	Measured Times (s)	Measured out put Power(W)
19.8	40.5	120	724.5

$RF\ Output\ Power\ (W) = 4.2 \times 1000 \times (Final\ Temp - Initial\ Temp) / 120$

Test Equipments list:

Test Equipment	Manufacturer	Model	Serial No.	Cal. Due Date
Digit Thermometer	Fluke Corporation	Fluke 51 II	15940197	2017.08.25
Stopwatch	JUNSD	JS-510	CF-003	2017.08.07

TESTED BY: 杨冬松
ENGINEER

REVIEWED BY: Jamertio
SENIOR ENGINEER



RF Output power Test Set up

ATTACHMENT 4 - OPERATING FREQUENCY MEASUREMENT

CLIENT:	Guangdong Midea Kitchen Appliances Manufacturing Co.,Ltd.	TEST STANDERD:	FCC Part 18
MODEL NUMBERS:	XM048KYY, XM048KYYY	PRODUCT:	Microwave Oven
MODEL TESTED:	EM048K6AC	EUT DESIGNATION:	Home or Office
TEMPERATURE:	22°C	HUMIDITY:	60%RH
ATM PRESSURE:	101.1kPa	GROUNDING:	Through AC Power Cord
TESTED BY:	Sewen Guo	DATE OF TEST:	March 25 th , 2013
TEST REFERENCE:	ANSI C63.4-2014, FCC/OST MP-5:1986		
TEST PROCEDURE:	<p>The EUT was set up according to the FCC MP-5 and FCC Part 18 for Operating Frequency Measurement.</p> <p>1) The variation of frequency with time. The operating frequency was measured using a spectrum analyzer. Starting with the EUT at room temperature, a 1000ml water load in a beaker was located in the center of the oven. Set a spectrum analyzer with antenna at 3 meters distance form the oven and the oven was operated at maximum output power. The fundamental operating frequency was monitored until the water load was reduced to 20 percent of the original load.</p> <p>2) The variation of frequency with Line Voltage. The operating frequency was measured using a spectrum analyzer. The EUT was operated/warmed by at least 10 minutes of use with a 1000ml water load at room temperature at the beginning of the test. Then the operating frequency was monitored as the input voltage was varied between 80 and 125 percent of the nominal rating.</p>		
TESTED RANGE:	2450 ± 50MHz		
TEST VOLTAGE:	120VAC / 60Hz		
RESULTS:	Please refer to following pages for details of the variation in operating frequency with time & line voltage measurement. The test results relate only to the equipment under test provided by client.		
CHANGES OR MODIFICATIONS:	There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen) test personnel.		
M. UNCERTAINTY:	Freq. ±10kHz		

Variation in Operating Frequency with Time:

<i>Minimum Frequency (MHz)</i>	<i>Maximum Frequency (MHz)</i>
2448.9	2452.2

Variation in Operating Frequency with Line Voltage:

<i>Minimum Frequency (MHz)</i>	<i>Maximum Frequency (MHz)</i>
2446.9	2447.4
<i>Note: Line voltage varied from 96Vac to 150Vac.</i>	

Test Equipments List:

Test Equipment	Manufacturer	Model	Serial No.	Last Cal.	Cal. Due
EMI Test Receiver(20Hz-	R&S	ESU40	100298	08/31/2016	08/30/2017
Double Ridged Horn Antenna	R&S	HF907	100260	08/31/2016	08/30/2017

Note: All testing were performed using internationally recognized standards. All test instruments were calibrated and traceable to the National Institute of Standards and Technology (NIST).

TESTED BY: 杨冬平
ENGINEER

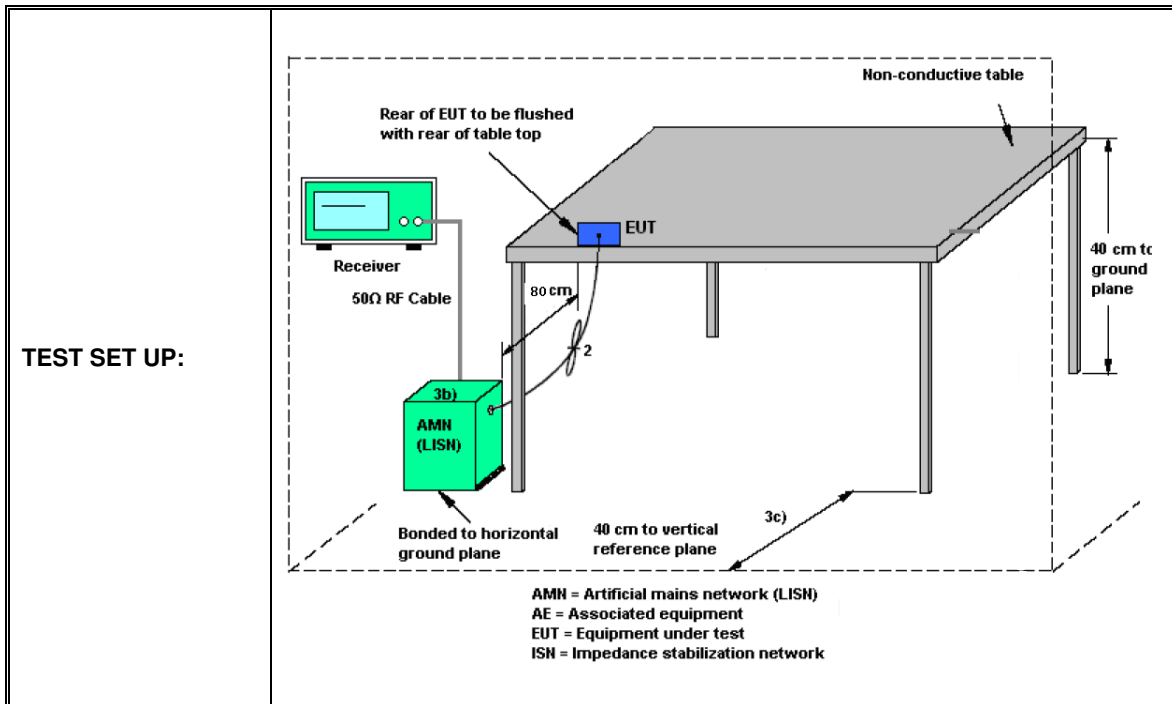
REVIEWED BY: James
SENIOR ENGINEER



Operating Frequency Test Set-up

ATTACHMENT 5 - CONDUCTED EMISSION TEST RESULTS

CLIENT:	Guangdong Midea Kitchen Appliances Manufacturing Co.,Ltd.	TEST STANDERD:	FCC Part 18
MODEL NUMBERS:	XM048KYY, XM048KYYY	PRODUCT:	Microwave Oven
MODEL TESTED:	EM048K6AC	EUT DESIGNATION:	Home or Office
TEMPERATURE:	22°C	HUMIDITY:	60%RH
ATM PRESSURE:	101.1kPa	GROUNDING:	Through AC Power Cord
TESTED BY:	Sewen Guo	DATE OF TEST:	December 13 th , 2016
TEST REFERENCE:	ANSI C63.4-2014, FCC/OST MP-5:1986		
TEST PROCEDURE:	<p>The EUT was set up according to the guideline of ANSI C63.4-2014 & FCC MP-5 for conducted emissions. The measurement was using a AMN on each line and an EMI receiver peak scan was made at the frequency measurement range. The six highest significant peaks were then marked, and these signals were then quasi-peaked and averaged. The frequency range investigated was from 150kHz to 30MHz. Corrected Amplitude & Over Limit Calculation.</p> <p>The basic equation as follow: $VC = VR + AC + VDF$;</p> <p>Herein, VC: corrected voltage amplitude VR: reading voltage amplitude AC: attenuation caused by cable loss VDF: voltage division factor of AMN or ISN.</p> <p>he "Over Limit" column of the following data tables indicates the degree of compliance within the applicable limit. For example, a Over Limit of 7dB means the emission is 7dB below the maximum limit.</p> <p>The equation for Over Limit calculation is as follows: $Over\ Limit = Limit - Corrected\ Amplitude.$</p>		
TESTED RANGE:	150kHz to 30MHz		
TEST VOLTAGE:	120VAC / 60Hz		
RESULTS:	The EUT meets the requirements of test reference for Conducted Emissions. The test results relate only to the equipment under test provided by client.		
CHANGES OR MODIFICATIONS:	There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen) test personnel.		
M. UNCERTAINTY:	The maximum measurement uncertainty is evaluated as : 150KHz~ 30MHz: 3.0dB		



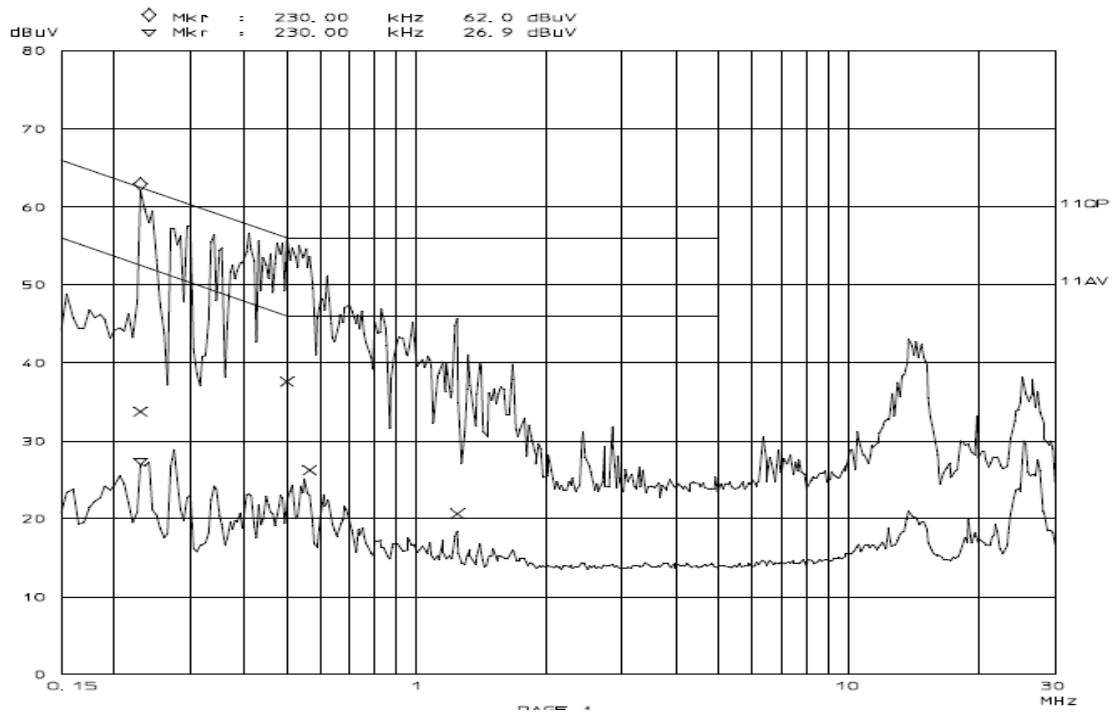
EMI Receiver Set-up:

Frequency [MHz]	IF B/W
0.15 - 30	9KHz

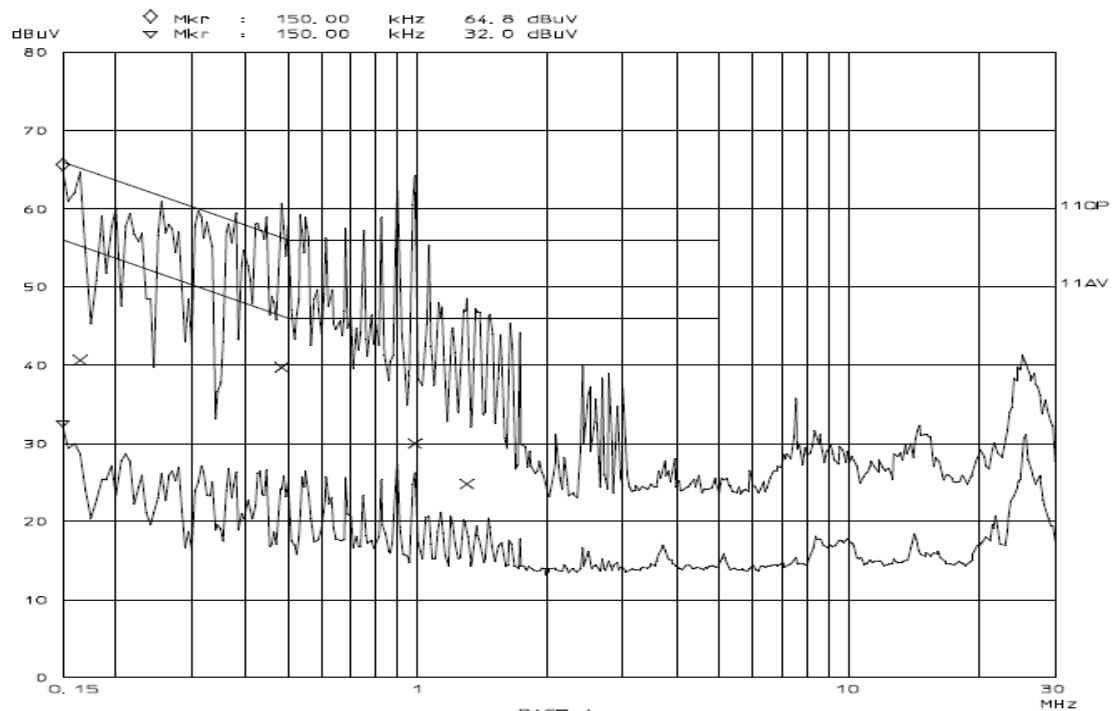
Conducted Emission Limit:

Frequency [MHz]	Field strength [dBuV]	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.



Line L Conducted Emission Graph



Line N Conducted Emission Graph

Test Data:

Lines (L/N)	Frequency (MHz)	Corrected QP Level (dBuV)	Limits QP (dBuV)	Over Limit QP (dB)	Frequency (MHz)	Corrected AV Level (dBuV)	Limits AV (dBuV)	Over Limit QP (dB)
L	0.230	33.7	62.4	-28.7	/	/	/	/
L	0.500	37.5	55.9	-18.4	/	/	/	/
L	0.565	26.1	55.9	-29.8	/	/	/	/
L	/	/	/	/	/	/	/	/
L	/	/	/	/	/	/	/	/
L	/	/	/	/	/	/	/	/
N	0.165	40.5	65.1	-24.6	/	/	/	/
N	0.485	39.6	56.2	-16.6	/	/	/	/
N	0.985	29.9	55.9	-26.0	/	/	/	/
N	/	/	/	/	/	/	/	/
N	/	/	/	/	/	/	/	/
N	/	/	/	/	/	/	/	/

Note :

1. All readings are using a bandwidth of 9 kHz, with a 500 ms sweep time. A video filter was not used.
2. "QP" means "Quasi-Peak" values, "AV" means "Average" values.
3. The other reading are too low against official limits that are not be recorded.

Test Equipments List:

Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due
EMI test receiver	SCHAFNER	SMR4503	47	08/31/2016	08/30/2017
LISN	R&S	ESH2-Z5	3385219.53-100298-HS	11/19/2016	11/18/2017
Transient Limiter	Compliance Direction Systems Inc.	PLA-10N	110525-010-0030	11/19/2016	11/18/2017
Shielding Room	Changzhou Nanping	NP-HJ2	/	01/12/2015	01/11/2017

Note: All testing were performed using internationally recognized standards. All test instruments were calibrated and traceable to the National Institute of Standards and Technology (NIST).

TESTED BY:

ENGINEER

REVIEWED BY:

SENIOR ENGINEER

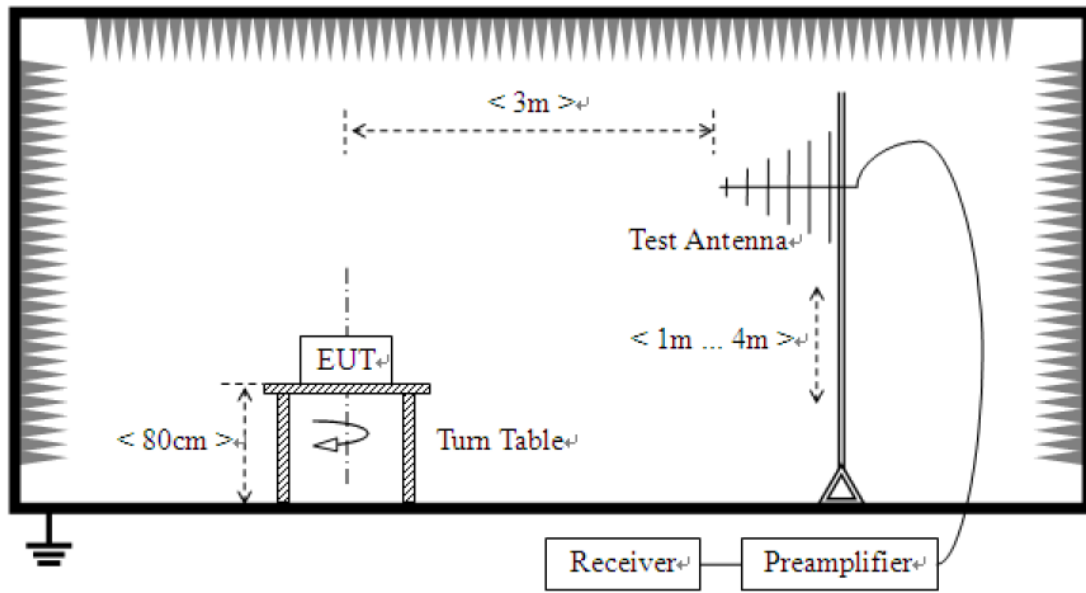


Conducted Emission Test Set-up

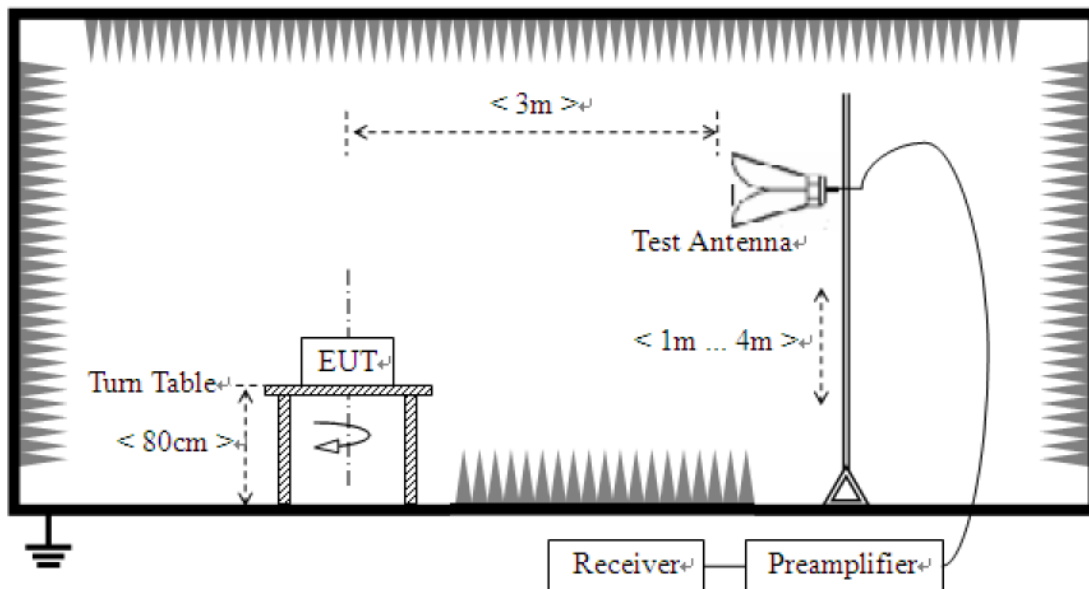
ATTACHMENT 6 - RADIATED EMISSION TEST RESULTS

CLIENT:	Guangdong Midea Kitchen Appliances Manufacturing Co.,Ltd.	TEST STANDERD:	FCC Part 18
MODEL NUMBERS:	XM048KYY, XM048KYYY	PRODUCT:	Microwave Oven
MODEL TESTED:	EM048K6AC	EUT DESIGNATION:	Home or Office
TEMPERATURE:	22 °C	HUMIDITY:	63%RH
ATM PRESSURE:	103.0kPa	GROUNDING:	Through AC Power Cord
TESTED BY:	Sewen Guo	DATE OF TEST:	December 13 th , 2016
TEST REFERENCE:	ANSI C63.4-2014, FCC/OST MP-5:1986		
TEST PROCEDURE:	<p>The EUT was set up according to the guidelines of ANSI C63.4-2014& FCC MP-5 for radiated emissions. Microwave Oven was placed on a 1m *1.5m nonconductive table. The top of the table is 1.0 m above the ground. The table is placed on a flush mounted metal turntable. An EMI receiver peak scan was made at the frequency measurement range (pre-scan) in an Anechoic chamber. Signal discrimination was then performed and the significant peaks marked. All data was recorded in Quasi-peak detection mode from 30 MHz to 1GHz and average detector mode above 1GHz.</p> <p>The following data lists the significant emission frequencies, measured levels, correction factors (including cable and antenna correction factors), and the corrected readings against the limits. Explanation of the Correction Factor are given as follows:</p> <p>FS= RA + AF + CF - AG</p> <p>Where: FS = Field Strength</p> <p>RA = Receiver Amplitude</p> <p>AF = Antenna Factor</p> <p>CF = Cable Attenuation Factor</p> <p>AG = Amplifier Gain</p>		
TESTED RANGE:	30MHz to 24.5GHz		
TEST VOLTAGE:	120VAC / 60Hz		
RESULTS:	The EUT meet the requirements of test reference for radiated emissions. The test results relate only to the equipment under test provided by client.		
CHANGES OR MODIFICATIONS:	There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen) test personnel.		
M. UNCERTAINTY:	<p>The maximum measurement uncertainty is evaluated as :</p> <p>30~1000MHz: 4.76dB;</p> <p>1~25GHz: 4.5dB</p>		

For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



Field strength limits for out-of-band emissions :

For RF output power <500W, Limit at 300m = 27.96dBuV/m

For RF output power >500W, Limit at 300m=20log [25*SQRT(Power/500)]dBuV/m

Test Data :

30MHz - 1GHz						
Frequency [MHz]	Antenna Polarization [V/H]	Corrected Reading [dB μ V/m]	Factor (dB)	Field Strength [dB μ V/m]	Delta, QP [dB]	3 Meters Limits [dB μ V/m]
30.000	H	28.1	11.2	39.3	-30.3	69.6
168.016	H	28.4	11.2	39.6	-30.0	69.6
702.585	H	29.5	23.8	53.3	-16.3	69.6
30.000	V	27.5	11.2	38.7	-30.9	69.6
154.409	V	28.1	11.2	39.3	-30.3	69.6
57.214	V	25.4	9.9	35.3	-34.3	69.6
Note: 1) All readings are quasi-peak unless stated otherwise, using a bandwidth of 120kHz, with a 60s sweep time. A video filter was not used. 2) Field Strength = Read Level + Factor, Factor = Antenna Factor + Cable Loss - Preamp Factor.						
1GHz - 25GHz						
Frequency [GHz]	Antenna Polarization [V/H]	Corrected Reading [dB μ V/m]	Factor (dB)	Field Strength [dB μ V/m]	Delta, AV [dB]	3 Meters Limits [dB μ V/m]
7.388	H	19.56	21.51	41.07	-28.53	69.6
8.591	H	23.13	22.42	45.55	-24.05	69.6
14.814	H	22.50	35.86	58.36	-11.24	69.6
8.591	V	16.06	22.42	38.48	-31.12	69.6
7.389	V	14.43	21.51	35.94	-33.66	69.6
9.823	V	23.40	28.07	51.47	-18.13	69.6
Note: 1) All readings are average unless stated otherwise, using a bandwidth of 1MHz, with a 60s sweep time. A video filter was not used. 2) Field Strength = Read Level + Factor, Factor = Antenna Factor + Cable Loss - Preamp Factor.						

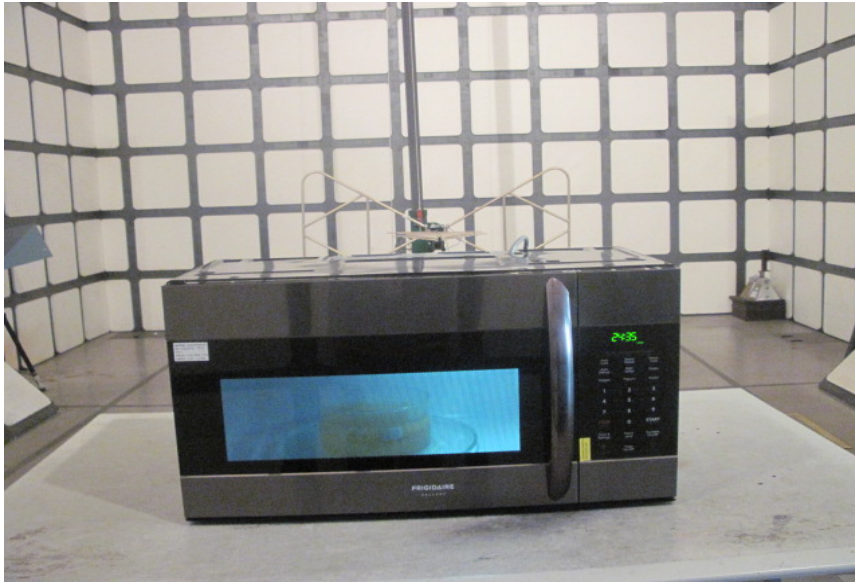
Test Equipments List:

<i>Test Equipment</i>	<i>Manufacturer</i>	<i>Model</i>	<i>Serial No.</i>	<i>Last Cal.</i>	<i>Cal. Due</i>
<i>EMI Test Receiver(20Hz-40GHz)</i>	<i>R&S</i>	<i>ESU40</i>	<i>100298</i>	<i>08/31/2016</i>	<i>08/30/2017</i>
<i>Double Ridged Horn Antenna</i>	<i>R&S</i>	<i>HF907</i>	<i>100260</i>	<i>08/31/2016</i>	<i>08/30/2017</i>
<i>Bilog Antenna</i>	<i>TESEQ</i>	<i>CBL6112D</i>	<i>130144</i>	<i>08/31/2016</i>	<i>08/30/2017</i>
<i>10m Anechoic Chamber</i>	<i>Frankonia GabH</i>	<i>SAC10</i>	<i>F069042</i>	<i>08/24/2016</i>	<i>08/23/2017</i>
<p><i>Note: All testing were performed using internationally recognized standards. All test instruments were calibrated and traceable to the National Institute of Standards and Technology (NIST).</i></p>					

TESTED BY: 杨冬松
ENGINEER

REVIEWED BY: James Jia
SENIOR ENGINEER

Radiated Emission Test Set-up (30-1000MHz):



Radiated Emission Test Set-up (1-25GHz):



****** End Of Report ******