

# EMI TEST REPORT

On Model Name: Microwave Oven (Over The Range)

Model Numbers: XM044KYY

Brand Name:  Midea

FCC ID: VG8XM044KYY

Prepared for Guangdong Midea Microwave and Electrical Appliances Manufacturing Co.,Ltd.

According to

FCC Part 18(2009)

Industrial, Scientific and Medical Equipment

FCC/OST MP-5(1986)

FCC methods of measurements of radio noise emission from industrial, scientific and medical equipment

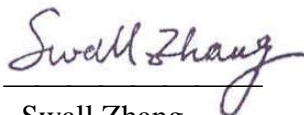
Test Report#: GUA-1101-10560-FCC

Prepared by: May Wang

Reviewed by: Jawen Yin

QC Manager: Swall Zhang

Test Report Released by:



Swall Zhang

January 28, 2011

Date

## List Attached Files

<i>Exhibit Type</i>	<i>File Description</i>	<i>File Name</i>
<i>Test Report</i>	<i>Test Report</i>	<i>VG8XM044KYY_Test report.pdf</i>
<i>Operation Description</i>	<i>Technical Description</i>	<i>VG8XM044KYY_operation description.pdf</i>
<i>External Photos</i>	<i>External Photos</i>	<i>VG8XM044KYY_External Photos</i>
<i>Internal Photos</i>	<i>Internal Photos</i>	<i>VG8XM044KYY_Internal Photos</i>
<i>Block Diagram</i>	<i>Block Diagram</i>	<i>VG8XM044KYY_Block Diagram.pdf</i>
<i>Schematics</i>	<i>Circuit Diagram</i>	<i>VG8XM044KYY_Schematics.pdf</i>
<i>ID Label/Location</i>	<i>Label and Location</i>	<i>VG8XM044KYY_Label &amp; Location.pdf</i>
<i>User Manual</i>	<i>User Manual</i>	<i>VG8XM044KYY_User Manual.pdf</i>
<i>Test setup photos</i>	<i>Test setup photos</i>	<i>VG8XM044KYY_Test Setup Photos</i>

## *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, GuangDong, 528311, China*

*Tel: +86- 757-26326917*

*FCC Registration Number: 910385*

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### ***Reproduction Clause***

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### ***Opinions and Interpretations***

*This test report relates to the above mentioned equipment under test (EUT). Without the permission of EMC Compliance Management Group., 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 (Over the Range)*

*Model Numbers* : *XM044KYY*

*Model Tested* : *EM044KYY*

*Brand Name* : 

*Receipt Date of Test Item* : *January 18, 2011*

*Date Tested* : *January 20, 2011*

*Applicant* : *Guangdong Midea Microwave and Electrical Appliances Manufacturing Co.,Ltd.*

*Address* : *No.6, Yong An Road, Beijiao, Shunde, Foshan. Guangdong, 528311, China.*

*Manufacturer* : *Guangdong Midea Microwave and Electrical Appliances Manufacturing Co.,Ltd.*

*Address* : *No.6, Yong An Road, Beijiao, Shunde, Foshan. Guangdong, 528311, China.*

*Factory* : *Guangdong Midea Microwave and Electrical Appliances Manufacturing Co.,Ltd.*

*Address* : *No.6, Yong An Road, Beijiao, Shunde, Foshan. Guangdong, 528311, China.*

## ***EUT Description***

*Guangdong Midea Microwave and Electrical Appliances Manufacturing Co.,Ltd., model tested EM044KYY (referred to the EUT in this report) is a Microwave Oven (Over The Range). Rating(s) of EUT as below:*

<i>AC Line Voltage</i>	<i>Single phase 120V,60Hz,AC Only</i>
<i>Rated Input Power (Microwave)</i>	<i>1550W 13.0 amps. (for FFMV164LS, FFMV162 (B, M, S, Q) CFMV164LS, CFMV162L (B, M, W, S, Q)</i>
<i>Output Power (Microwave)</i>	<i>1000 W</i>
<i>Microwave Oven (Over The Range) Capacity</i>	<i>1.5 Cu.Ft</i>
<i>Frequency</i>	<i>2450 MHz (Class B/Group 2)</i>
<i>Outside Dimensions (including handle)</i>	<i>29.88 "(W) x 15.75 "(H) x 15.04" (D)</i>
<i>Magnetron Model</i>	<i>2M319J</i>
<i>Magnetron Manufacturer</i>	<i>WITOL</i>

*For more informations please refer to user's manual of EUT.*

## *Type of Derived*

*XM044KYY(X=E or A;Y=0-9 or A-Z) model designations:*

*X= E or A*

*M: only the microwave functions;*

*044: "0" indicate the microwave output power is 1000W; 44 indicate cavity capacity is 44 liters*

*K: indicate the design No.;*

*YY= 0-9 or A-Z, indicate different appearance.*

*Model of EM044KYY was chosen for the final test.*



## **Test Summary**

*The Electromagnetic Compatibility requirements on model tested EM044KYY for this test is 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.*

<b>Emission Tests</b>				
<b>Specifications</b>	<b>Description</b>	<b>Test Results</b>	<b>Test Point</b>	<b>Remark</b>
<i>FCC Part 18:2009 FCC/OST MP-5:1986 ANSI C63.4-2009</i>	<i>Radiation Hazard Measurement</i>	<i>Passed</i>	<i>Enclosure</i>	<i>Attachment 1</i>
<i>FCC Part 18:2009 FCC/OST MP-5:1986 ANSI C63.4-2009</i>	<i>Input Power Measurement</i>	<i>Passed</i>	<i>AC Input Port</i>	<i>Attachment 2</i>
<i>FCC Part 18:2009 FCC/OST MP-5:1986 ANSI C63.4-2009</i>	<i>RF Output power Measurement</i>	<i>Passed</i>	<i>EUT</i>	<i>Attachment 3</i>
<i>FCC Part 18:2009 FCC/OST MP-5:1986 ANSI C63.4-2009</i>	<i>Operating Frequency Measurement</i>	<i>Passed</i>	<i>EUT</i>	<i>Attachment 4</i>
<i>FCC Part 18:2009 FCC/OST MP-5:1986 ANSI C63.4-2009</i>	<i>Conducted Emission</i>	<i>Passed</i>	<i>AC Input Port</i>	<i>Attachment 5</i>
<i>FCC Part 18:2009 FCC/OST MP-5:1986 ANSI C63.4-2009</i>	<i>Radiated Emission</i>	<i>Passed</i>	<i>Enclosure</i>	<i>Attachment 6</i>

### ***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.*

### ***Equipment Modification***

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

*There were no modifications installed by EMC Compliance Management Group test personnel.*

***EUT Sample Photos for Model EM044KYY***



***EUT Front View***



***EUT Rear View***

*Test Report #: GUA-1101-10560-FCC ID*

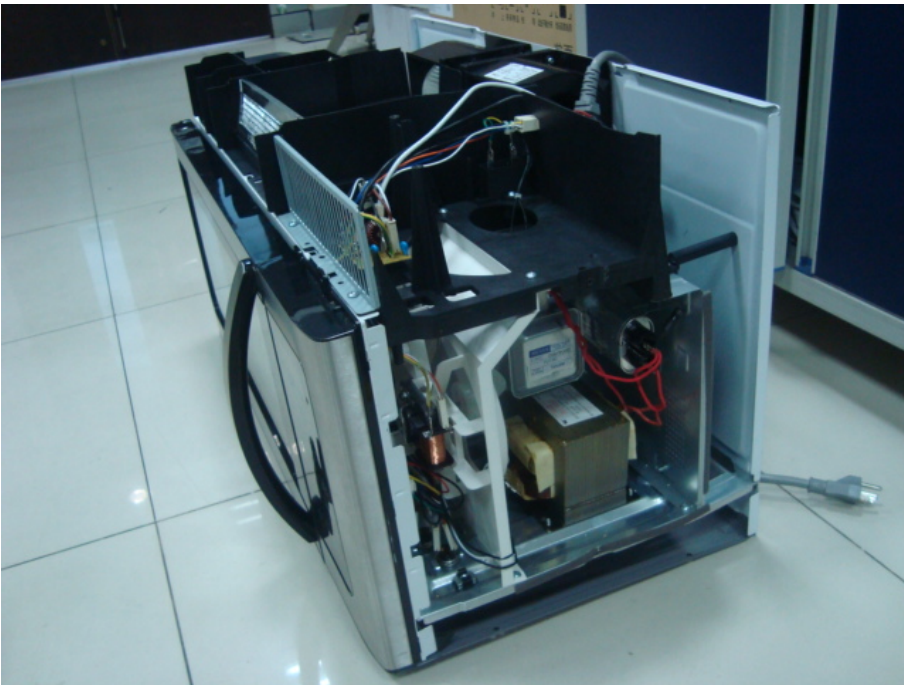
*Prepared for Guangdong Midea Microwave and Electrical Appliances Manufacturing Co.,Ltd*

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*Door Open View*



*EUT Uncovered View*

*Test Report #: GUA-1101-10560-FCC ID*

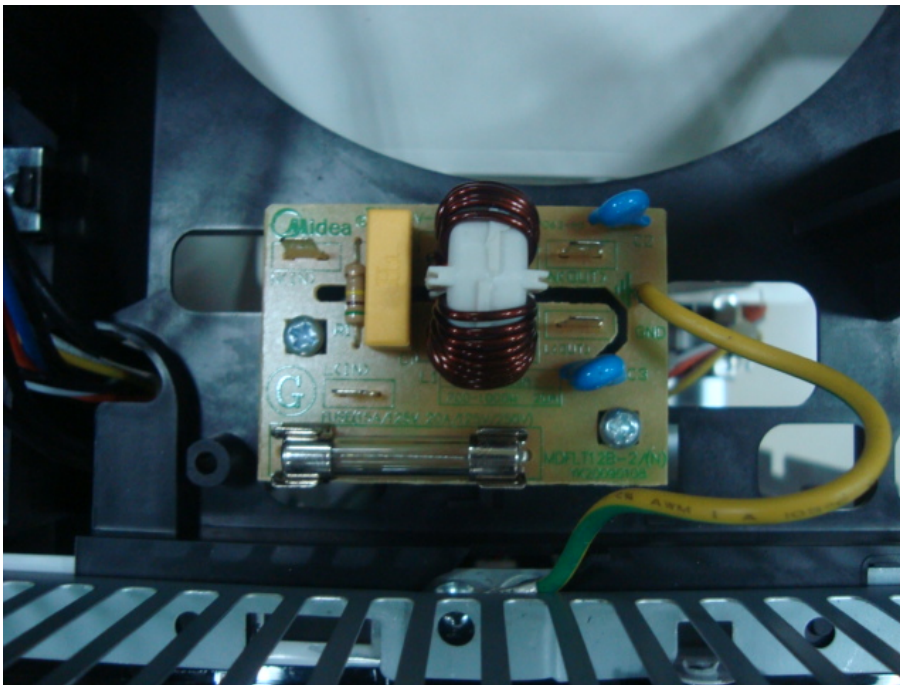
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*Magnetron Front View*



*Power Filter Board Front View*

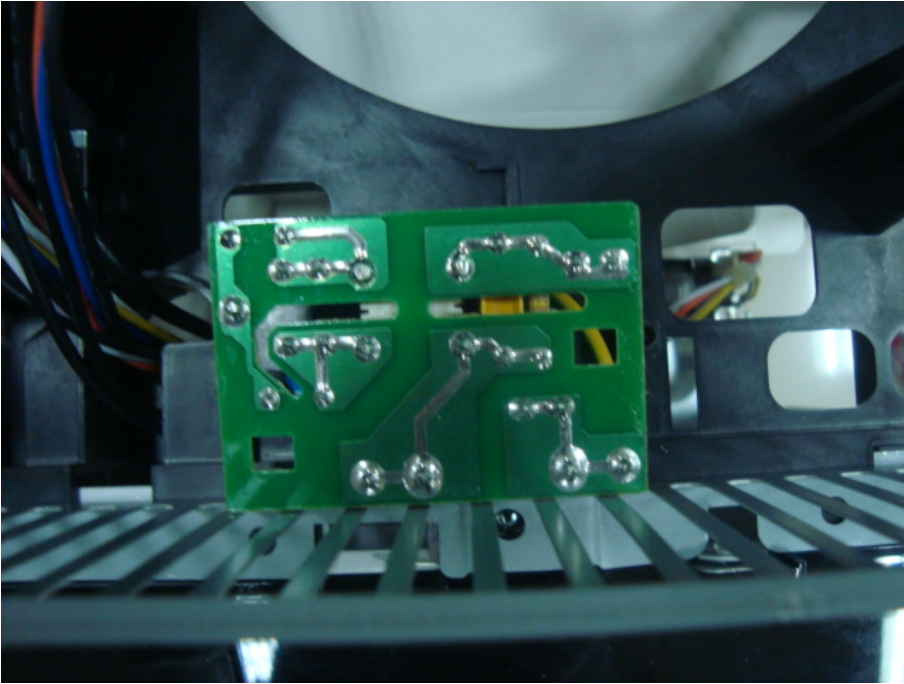
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*Prepared for Guangdong Midea Microwave and Electrical Appliances Manufacturing Co.,Ltd*

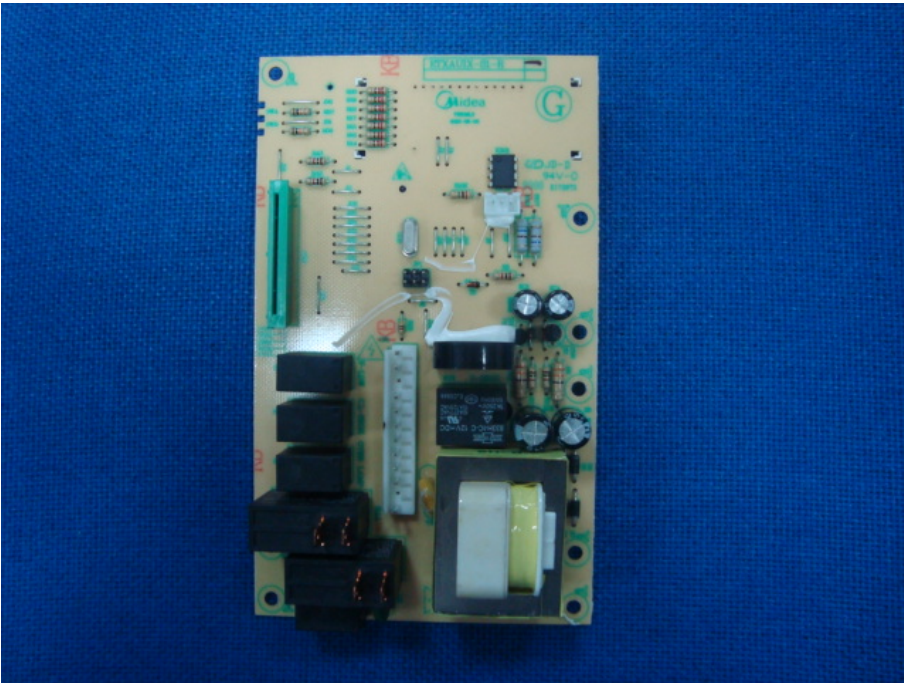
*Prepared by EMC Compliance Management Group.*

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*Power Filter Board Rear View*



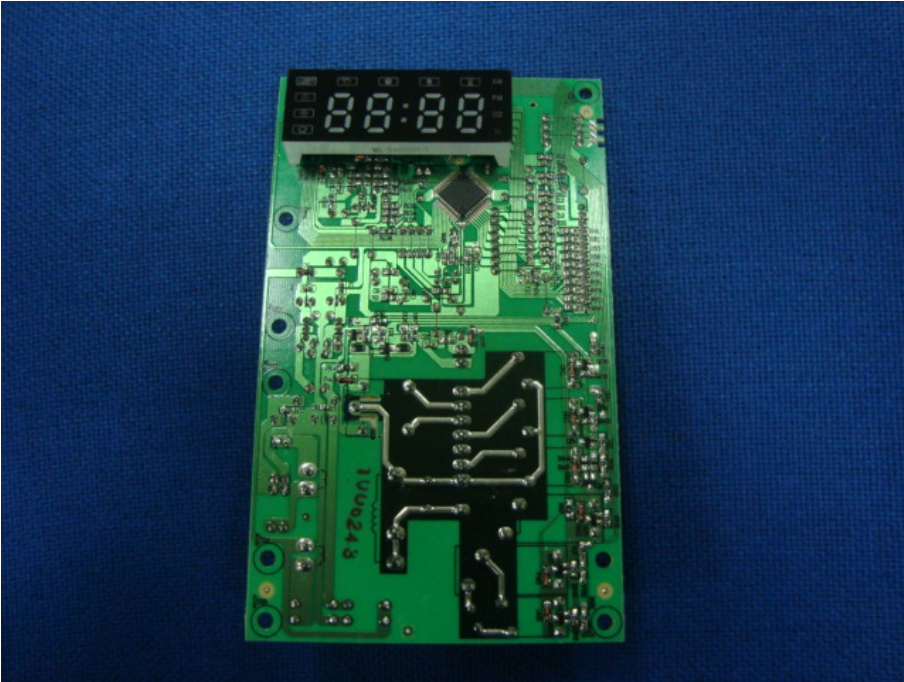
*Control Board Front View*

*Test Report #: GUA-1101-10560-FCC ID*

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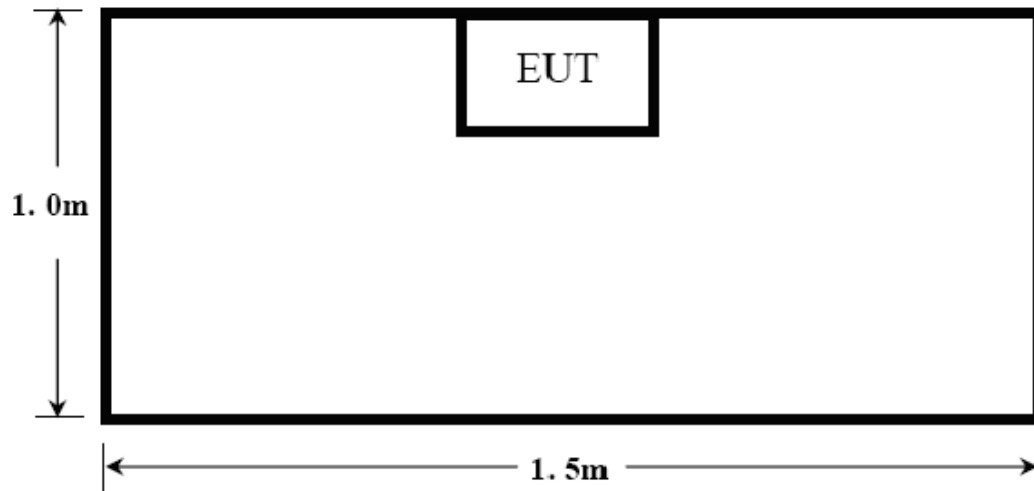
*Control Board Rear View*

**Test System Details**

<i>EUT</i>					
<b>Model Numbers:</b>	<i>XM044KYY</i>				
<b>Model Tested:</b>	<i>EM044KYY</i>				
<b>Description:</b>	<i>Microwave Oven (Over The Range)</i>				
<b>Manufacturer:</b>	<i>Guangdong Midea Microwave and Electrical Appliances Manufacturing Co.,Ltd.</i>				
<i>Support Equipment</i>					
<i>N/A</i>					
<i>Cable Description</i>					
<i>Description</i>	<i>From</i>	<i>To</i>	<i>Length (Meters)</i>	<i>Shielded (Y/N)</i>	<i>Ferrite (Y/N)</i>
<i>Power Cable</i>	<i>EUT</i>	<i>Plug</i>	<i>1.20</i>	<i>N</i>	<i>N</i>



***Configuration of Tested System***



**ATTACHMENT 1 - RADIATION HAZARD TEST**

<b>CLIENT:</b>	Guangdong Midea Microwave and Electrical Appliances Manufacturing Co.,Ltd.	<b>TEST STANDERD:</b>	FCC Part 18
<b>MODEL NUMBERS:</b>	XM044KYY	<b>PRODUCT:</b>	Microwave Oven (Over The Range)
<b>MODEL TESTED:</b>	EM044KYY	<b>EUT DESIGNATION:</b>	Home or Office
<b>TEMPERATURE:</b>	22°C	<b>HUMIDITY:</b>	60%RH
<b>ATM PRESSURE:</b>	101.1kPa	<b>GROUNDING:</b>	Through AC Power Cord
<b>TESTED BY:</b>	May Wang	<b>DATE OF TEST:</b>	January 20, 2011
<b>TEST REFERENCE:</b>	ANSI C63.4-2009, FCC/OST MP-5:1986		
<b>TEST PROCEDURE:</b>	<p>The EUT was set up according to the FCC MP-5 and FCC Part 18 for Radiation Hazard Measurement.</p> <p>The measurement was using a microwave leakage meter to measure the Radiation leakage in the as-received condition with the oven door closed. A 1000ml water load in a beaker was located in the center of the oven and the Microwave Oven (Over The Range) was set to maximum power. While the oven operating, the microwave meter will check the leakage and then record the maximum leakage.</p>		
<b>TESTED RANGE:</b>	N/A		
<b>TEST VOLTAGE:</b>	120VAC / 60Hz		
<b>RESULTS:</b>	<p>There was no microwave leakage exceeding a power level of 0.18 mW/cm<sup>2</sup> observed at any point 5cm or more from the external surface of the oven.</p> <p>A maximum of 0.18mW/cm<sup>2</sup> 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>		
<b>CHANGES OR MODIFICATIONS:</b>	There were no modifications installed by EMC Compliance Management Group., (China) test personnel.		
<b>M. UNCERTAINTY:</b>	0.0001 mW/cm <sup>2</sup>		

Test Report #: GUA-1101-10560-FCC ID

Prepared for Guangdong Midea Microwave and Electrical Appliances Manufacturing Co.,Ltd

Prepared by EMC Compliance Management Group.

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**ATTACHMENT 2 – INPUT POWER MEASUREMENT**

<b>CLIENT:</b>	Guangdong Midea Microwave and Electrical Appliances Manufacturing Co.,Ltd.	<b>TEST STANDERD:</b>	FCC Part 18
<b>MODEL NUMBERS:</b>	XM044KYY	<b>PRODUCT:</b>	Microwave Oven (Over The Range)
<b>MODEL TESTED:</b>	EM044KYY	<b>EUT DESIGNATION:</b>	Home or Office
<b>TEMPERATURE:</b>	22°C	<b>HUMIDITY:</b>	60%RH
<b>ATM PRESSURE:</b>	101.1kPa	<b>GROUNDING:</b>	Through AC Power Cord
<b>TESTED BY:</b>	May Wang	<b>DATE OF TEST:</b>	January 20, 2011
<b>TEST REFERENCE:</b>	ANSI C63.4-2009, FCC/OST MP-5:1986		
<b>TEST PROCEDURE:</b>	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 1000ml water load in a beaker was located in the center of the oven and the Microwave Oven (Over The Range) was set to maximum power. While the oven is operating, use a voltmeter and an ampmeter to test the AC input voltage and current.		
<b>TESTED RANGE:</b>	N/A		
<b>TEST VOLTAGE:</b>	120VAC / 60Hz		
<b>RESULTS :</b>	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.		
<b>CHANGES OR MODIFICATIONS:</b>	There were no modifications installed by EMC Compliance Management Group (China) test personnel.		
<b>M. UNCERTAINTY :</b>	± 5W		

Test Report #: GUA-1101-10560-FCC ID

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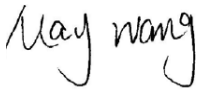
**Test Data:**


<i>Input Voltage (Vac/Hz)</i>	<i>Input Current (amps)</i>	<i>Measured Input Power (watts)</i>	<i>Rated Input Power (watts)</i>
120.0	12.90	1548	1550

**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>
Power Meter	Ainuo	AN8726C	058704200	08/13/2010	08/12/2011

*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).*

SIGNED BY:   
ENGINEER

REVIEWED BY:   
SENIOR ENGINEER

***Input Power Test Set-Up :***



*Test Report #: GUA-1101-10560-FCC ID*

*Prepared for Guangdong Midea Microwave and Electrical Appliances Manufacturing Co.,Ltd*

*Prepared by EMC Compliance Management Group.*

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### ATTACHMENT 3 – RF OUTPUT POWER MEASUREMENT

<b>CLIENT:</b>	Guangdong Midea Microwave and Electrical Appliances Manufacturing Co.,Ltd.	<b>TEST STANDERD:</b>	FCC Part 18
<b>MODEL NUMBERS:</b>	XM044KYY	<b>PRODUCT:</b>	Microwave Oven (Over The Range)
<b>MODEL TESTED:</b>	EM044KYY	<b>EUT DESIGNATION:</b>	Home or Office
<b>TEMPERATURE:</b>	22°C	<b>HUMIDITY:</b>	60%RH
<b>ATM PRESSURE:</b>	101.1kPa	<b>GROUNDING:</b>	Through AC Power Cord
<b>TESTED BY:</b>	May Wang	<b>DATE OF TEST:</b>	January 20, 2011
<b>TEST REFERENCE:</b>	ANSI C63.4-2009, FCC/OST MP-5:1986		
<b>TEST PROCEDURE:</b>	<p>The EUT was set up according to the FCC MP-5 and FCC Part 18C 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</p> $= (4.2 \text{ joules/calorie})(\text{volume in milliliters})(\text{temperature rise}) / (\text{time in seconds})$ $= 4.2 \text{ joules/calorie} \times 1000 \times (\text{Final Temp} - \text{Initial Temp}) / 120$		
<b>TESTED RANGE:</b>	N/A		
<b>TEST VOLTAGE:</b>	120VAC / 60Hz		
<b>RESULTS:</b>	<p>RF Output Power =815.50 watts.</p> <p>The test results relate only to the equipment under test provided by client.</p>		
<b>CHANGES OR MODIFICATIONS:</b>	There were no modifications installed by EMC Compliance Management Group(China) test personnel.		
<b>M. UNCERTAINTY:</b>	± 0.3°C		





***RF Output Power Test Set-Up :***



**ATTACHMENT 4 - OPERATING FREQUENCY MEASUREMENT**

<b>CLIENT:</b>	Guangdong Midea Microwave and Electrical Appliances Manufacturing Co.,Ltd.	<b>TEST STANDERD:</b>	FCC Part 18
<b>MODEL NUMBERS:</b>	XM044KYY	<b>PRODUCT:</b>	Microwave Oven (Over The Range)
<b>MODEL TESTED:</b>	EM044KYY	<b>EUT DESIGNATION:</b>	Home or Office
<b>TEMPERATURE:</b>	22°C	<b>HUMIDITY:</b>	60%RH
<b>ATM PRESSURE:</b>	101.1kPa	<b>GROUNDING:</b>	Through AC Power Cord
<b>TESTED BY:</b>	May Wang	<b>DATE OF TEST:</b>	January 20, 2011
<b>TEST REFERENCE:</b>	ANSI C63.4-2009, FCC/OST MP-5:1986		
<b>TEST PROCEDURE:</b>	<p>The EUT was set up according to the FCC MP-5 and FCC Part 18 for Operating Frequency Measurement.</p> <ol style="list-style-type: none"><li>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.</li><li>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.</li></ol>		
<b>TESTED RANGE:</b>	2450 ± 50MHz		
<b>TEST VOLTAGE:</b>	120VAC / 60Hz		
<b>RESULTS:</b>	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.		
<b>CHANGES OR MODIFICATIONS:</b>	There were no modifications installed by EMC Compliance Management Group(China) test personnel.		
<b>M. UNCERTAINTY:</b>	Freq. ±10kHz		

Test Report #: GUA-1101-10560-FCC ID

Prepared for Guangdong Midea Microwave and Electrical Appliances Manufacturing Co.,Ltd

Prepared by EMC Compliance Management Group.

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**Variation in Operating Frequency with Time:**

<i>Minimum Frequency (MHz)</i>	<i>Maximum Frequency (MHz)</i>
2455.41	2456.21

**Variation in Operating Frequency with Line Voltage:**

<i>Minimum Frequency (MHz)</i>	<i>Maximum Frequency (MHz)</i>
2452.20	2454.60
<i>Note: Line voltage varied from 96Vac to 150Vac.</i>	

**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</i>	<i>R&amp;S</i>	<i>ESIB-26</i>	<i>100174</i>	<i>11/18/2010</i>	<i>11/17/2011</i>
<i>Horn Antenna</i>	<i>R&amp;S</i>	<i>HF906</i>	<i>100311</i>	<i>11/20/2010</i>	<i>11/17/2011</i>
<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>					

SIGNED BY: May Wang  
ENGINEER

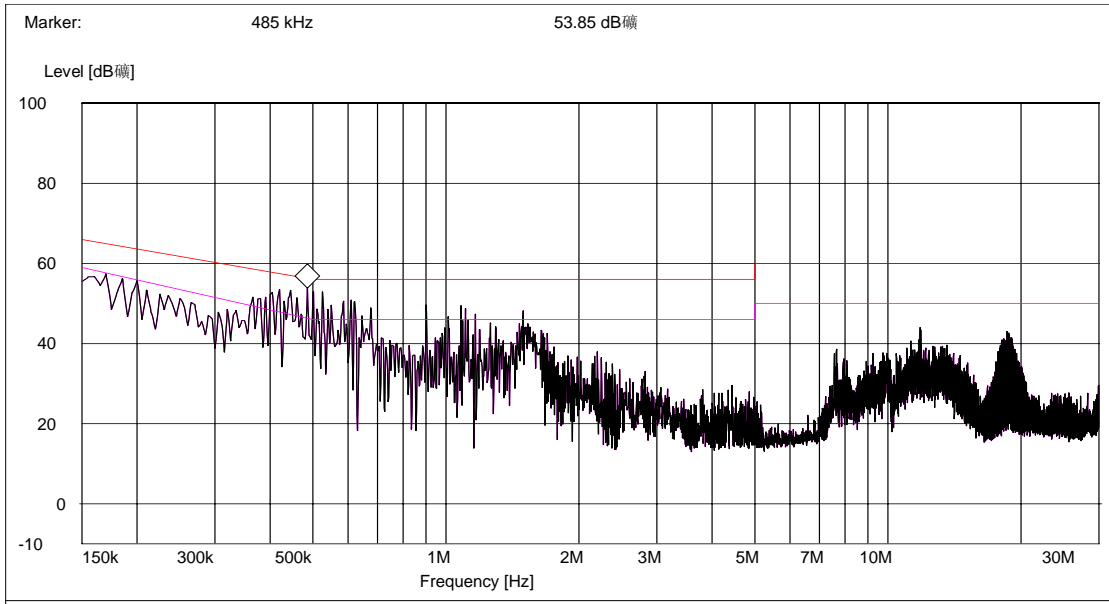
REVIEWED BY: James M  
SENIOR ENGINEER

***Operating Frequency Test Set-up :***

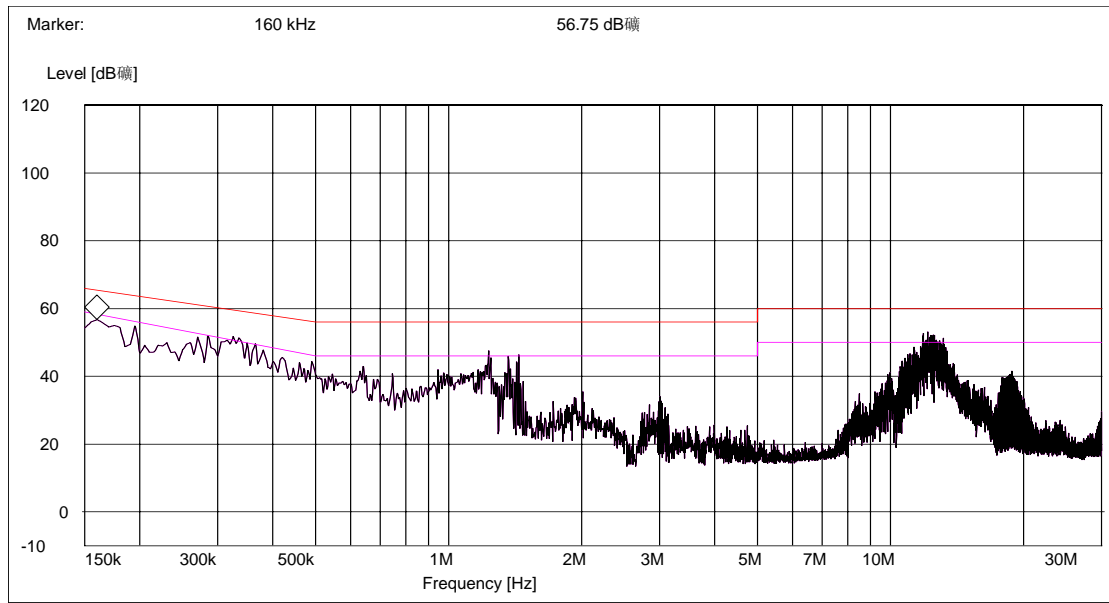


**ATTACHMENT 5 – CONDUCTED EMISSION TEST RESULTS**

<b>CLIENT:</b>	Guangdong Midea Microwave and Electrical Appliances Manufacturing Co.,Ltd.	<b>TEST STANDERD:</b>	FCC Part 18
<b>MODEL NUMBERS:</b>	XM044KYY	<b>PRODUCT:</b>	Microwave Oven (Over The Range)
<b>MODEL TESTED:</b>	EM044KYY	<b>EUT DESIGNATION:</b>	Home or Office
<b>TEMPERATURE:</b>	22°C	<b>HUMIDITY:</b>	60%RH
<b>ATM PRESSURE:</b>	101.1kPa	<b>GROUNDING:</b>	Through AC Power Cord
<b>TESTED BY:</b>	May Wang	<b>DATE OF TEST:</b>	January 20, 2011
<b>TEST REFERENCE:</b>	ANSI C63.4-2009, FCC/OST MP-5:1986		
<b>TEST PROCEDURE:</b>	The EUT was set up according to the guideline of ANSI C63.4-2009 & 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.		
<b>TESTED RANGE:</b>	150kHz to 30MHz		
<b>TEST VOLTAGE:</b>	120VAC / 60Hz		
<b>RESULTS:</b>	The EUT meets the requirements of test reference for Conducted Emissions. The test results relate only to the equipment under test provided by client.		
<b>CHANGES OR MODIFICATIONS:</b>	There were no modifications installed by EMC Compliance Management Group., (China) test personnel.		
<b>M. UNCERTAINTY:</b>	±2.5 dB		



***Line L Conducted Emission Graph***



***Line N Conducted Emission Graph***

**Test Data:**

Line (L/N)	Frequency (MHz)	Corrected QP Level (dBuV)	Limits QP (dBuV)	Margin QP (dB)	Corrected AVE Level (dBuV)	Limits AVE (dBuV)	Margin AV (dB)
L	0.485	45.1	56.3	-11.2	17.5	46.3	-28.8
L	1.080	30.4	56.0	-25.6	5.7	46.0	-40.3
L	11.840	25.6	60.0	-34.4	7.4	50.0	-42.6
N	0.160	47.2	66.0	-18.8	19.8	56.0	-36.2
N	0.325	42.6	59.8	-17.2	14.7	49.8	-35.1
N	12.140	22.5	60.0	-37.5	13.7	50.0	-36.3

Note: All readings are using a bandwidth of 9 kHz, with a 500 ms sweep time. Other emission levels are too low against official limits that are not reported.

**Test Equipments List:**

Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due
EMI test receiver	R&S	ESIB-26	100174	11/19/2010	11/18/2011
LISN	R&S	ESH2-Z5	100091	11/19/2010	11/18/2011
Transient Limiter	Agilent	11947A	3107A03648	11/19/2010	11/18/2011
Shielding Room	TDK	8m×4m×3m	N/A	04/17/2010	04/16/2011

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).

SIGNED BY: May Wang  
ENGINEER

REVIEWED BY: Janeyan  
SENIOR ENGINEER

Test Report #: GUA-1101-10560-FCC ID

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***Conducted Emission Test Set-up:***



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## ATTACHMENT 6 – RADIATED EMISSION TEST RESULTS

<b>CLIENT:</b>	Guangdong Midea Microwave and Electrical Appliances Manufacturing Co.,Ltd.	<b>TEST STANDERD:</b>	FCC Part 18
<b>MODEL NUMBERS:</b>	XM044KYY	<b>PRODUCT:</b>	Microwave Oven (Over The Range)
<b>MODEL TESTED:</b>	EM044KYY	<b>EUT DESIGNATION:</b>	Home or Office
<b>TEMPERATURE:</b>	22°C	<b>HUMIDITY:</b>	60%RH
<b>ATM PRESSURE:</b>	101.1kPa	<b>GROUNDING:</b>	Through AC Power Cord
<b>TESTED BY:</b>	May Wang	<b>DATE OF TEST:</b>	January 20, 2011
<b>TEST REFERENCE:</b>	ANSI C63.4-2009, FCC/OST MP-5:1986		
<b>TEST PROCEDURE:</b>	<p>The EUT was set up according to the guidelines of ANSI C63.4-2009 &amp; FCC MP-5 for radiated emissions. Microwave Oven (Over The Range) 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>		
<b>TESTED RANGE:</b>	30MHz to 24.5GHz		
<b>TEST VOLTAGE:</b>	120VAC / 60Hz		
<b>RESULTS:</b>	The EUT meet the requirements of test reference for radiated emissions. The test results relate only to the equipment under test provided by client.		
<b>CHANGES OR MODIFICATIONS:</b>	There were no modifications installed by EMC Compliance Management Group (China) test personnel.		
<b>M. UNCERTAINTY:</b>	± 3.2 dB		

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**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 :**

<b>30MHz - 1GHz</b>						
<i>Frequency [MHz]</i>	<i>Antenna Polarization [V/H]</i>	<i>Corrected Reading [dB<sub>μ</sub>V/m]</i>	<i>Factor (dB)</i>	<i>Field Strength [dB<sub>μ</sub>V/m]</i>	<i>Delta, QP [dB]</i>	<i>3 Meters Limits [dB<sub>μ</sub>V/m]</i>
138.858	V	15.7	12.2	27.9	-42.2	70.1
189.399	V	10.1	12.7	22.8	-47.3	70.1
665.651	V	9.1	23.0	32.1	-38.0	70.1
61.102	H	18.7	9.8	28.5	-41.6	70.1
547.074	H	11.1	19.2	30.3	-39.8	70.1
140.802	H	13.6	11.8	25.4	-44.7	70.1
<p>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.</p>						
<b>1GHz - 25GHz</b>						
<i>Frequency [MHz]</i>	<i>Antenna Polarization [V/H]</i>	<i>Corrected Reading [dB<sub>μ</sub>V/m]</i>	<i>Factor (dB)</i>	<i>Field Strength [dB<sub>μ</sub>V/m]</i>	<i>Delta, AV [dB]</i>	<i>3 Meters Limits [dB<sub>μ</sub>V/m]</i>
1472.3	V	31.83	28.17	60.0	-10.1	70.1
1718.8	V	25.78	31.12	56.9	-13.2	70.1
4232.0	V	20.43	18.07	38.5	-31.6	70.1
1472.3	H	36.03	25.17	61.2	-8.9	70.1
8321.0	H	26.68	22.42	49.1	-21.0	70.1
7359.0	H	34.99	21.51	56.5	-13.6	70.1
<p>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.</p>						

**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</i>	<i>R&amp;S</i>	<i>ESIB-26</i>	<i>100174</i>	<i>11/19/2010</i>	<i>11/18/2011</i>
<i>Horn Antenna</i>	<i>R&amp;S</i>	<i>HF906</i>	<i>100311</i>	<i>11/21/2010</i>	<i>11/20/2011</i>
<i>Hybrid Log Periodic Antenna</i>	<i>TDK</i>	<i>HLP-3003C</i>	<i>130144</i>	<i>11/21/2010</i>	<i>11/20/2011</i>
<i>Loop Antenna</i>	<i>ETS</i>	<i>ETS-6152</i>	<i>24934</i>	<i>11/21/2010</i>	<i>11/20/2011</i>
<i>Anechoic Chamber</i>	<i>TDK</i>	<i>9m×6 m×5.7m</i>	<i>N/A</i>	<i>04/17/2010</i>	<i>04/16/2011</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).*

SIGNED BY:



ENGINEER

REVIEWED BY:

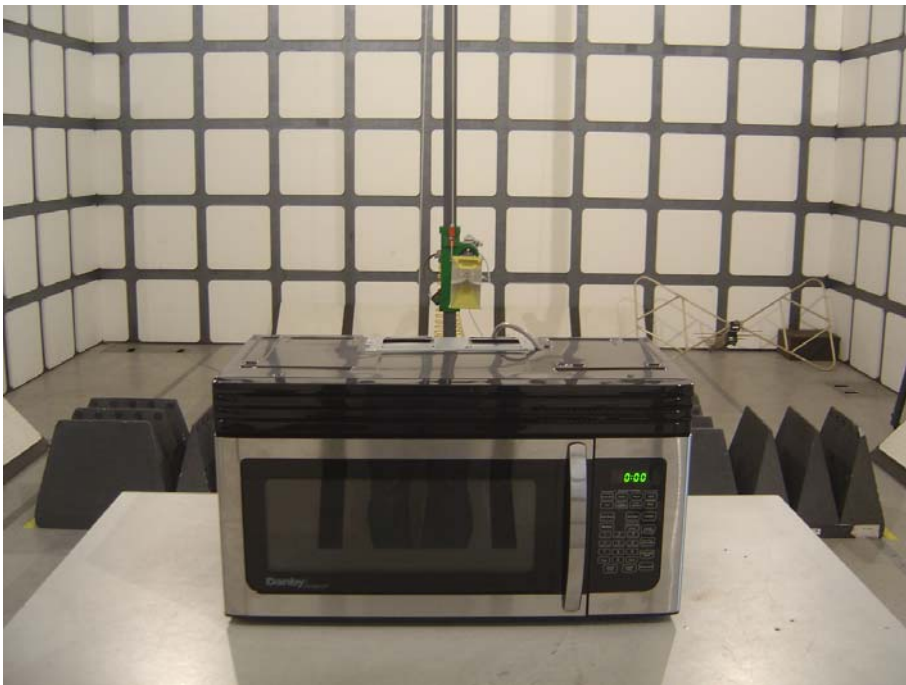


SENIOR ENGINEER

***Radiated Emission Test Set-up (30 –1,000MHz):***



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



*Test Report #: GUA-1101-10560-FCC ID*

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