

EMI TEST REPORT

On Model Name: Microwave Oven

Model Numbers: EM034DYY, EM034DYY-P0H

Brand Name: 

FCC ID Number: VG8EM034DYY

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)

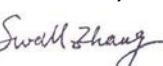
FCC methods of measurements of radio noise emission from
industrial, scientific and medical equipment

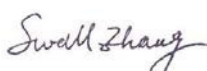


Test Report #: GUA-1608-11557-FCC

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:  September 8th, 2016
Swall Zhang Date

Verdict

Test Result :	Pass*
----------------------	--------------

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

Revision History

Rev.	Issue date	Revision	Revised by
1.0	09/08/2016	Initial review	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

Table of Contents

VERDICT	2
GOVERNMENT DISCLAIMER NOTICE	2
REPRODUCTION CLAUSE	2
OPINIONS AND INTERPRETATIONS	2
STATEMENT OF MEASUREMENT UNCERTAINTY	2
ADMINISTRATIVE DATA	3
EUT DESCRIPTION	4
EUT MODEL DERIVED	4
TEST SUMMARY	5
LOAD FOR MICROWAVE OVEN	6
EUT EXERCISE SOFTWARE	6
EQUIPMENT MODIFICATION	6
EUT SAMPLE PHOTOS FOR MODEL EM034DW1-P0H	7
TEST SYSTEM DETAILS	17
CONFIGURATION OF TESTED SYSTEM	18
ATTACHMENT 1 -RADIATION HAZARD TEST	19
ATTACHMENT 2 - INPUT POWER MEASUREMENT	22
ATTACHMENT 3 - RF OUTPUT POWER MEASUREMENT	25
ATTACHMENT 4 - OPERATING FREQUENCY MEASUREMENT	28
ATTACHMENT 5 - CONDUCTED EMISSION TEST RESULTS	31
ATTACHMENT 6 - RADIATED EMISSION TEST RESULTS	37

List Attached Files

Exhibit Type	File Description	File Name
<i>Test Report</i>	<i>Test Report</i>	<i>VG8EM034DYY_Test Report.pdf</i>
<i>Operation Description</i>	<i>Technical Description</i>	<i>VG8EM034DYY_Operation Description.pdf</i>
<i>External Photos</i>	<i>External Photos</i>	<i>VG8EM034DYY_External Photos.pdf</i>
<i>Internal Photos</i>	<i>Internal Photos</i>	<i>VG8EM034DYY _Internal Photos.pdf</i>
<i>Block Diagram</i>	<i>Block Diagram</i>	<i>VG8EM034DYY _Block Diagram.pdf</i>
<i>Schematics</i>	<i>Circuit Diagram</i>	<i>VG8EM034DYY_Schematics.pdf</i>
<i>ID Label/Location</i>	<i>Label and Location</i>	<i>VG8EM034DYY_Label & Location.pdf</i>
<i>User Manual</i>	<i>User Manual</i>	<i>VG8EM034DYY_User's Manual.pdf</i>
<i>Test set-up photos</i>	<i>Test set-up photos</i>	<i>VG8EM034DYY _Test Set-up Photos</i>

Government Disclaimer Notice

When government drawing, specification, or other data are used for any purpose other than in connection with a definitely related government procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawing, specifications, or other data, is not to be regarded by implication or otherwise in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell patented invention that may in any way be related thereto. This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

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 : EM034DYY, EM034DYY-POH

Model Tested : EM034DW1, EM034DW1-POH

Brand Name : 

Receipt Date : August 28th, 2016

Date Tested : August 31st, 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)-757-22607341

EUT Description

Guangdong Midea Kitchen Appliances Manufacturing Co.,Ltd. model tested EM034DW1-P0H (referred to as the EUT in this report) is a Microwave Oven.

The technical specifications of EUT are as below:

Power Supply	120V AC/60Hz
Rated Input Power (Microwave)	1500W
Rated Output Power (Microwave)	1000W
Frequency	2450 MHz(Class B/Group 2)
Magnetron Model	2M303H
Magnetron Manufacturer	TOSHIBA

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

EUT Model Derived

EM034DYY, EM034DYY-P0H model designations as follow:

E: Electronic controller ;

M: indicate microwave function;

034: "0" indicate the microwave output power is 1000W, "34" indicate cavity capacity is 34 liters;

D: indicate the design No.;

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

-P0H: with humidity sensor;

Note :

Model EM034DW1 is identical to EM034DW1-P0H except for humidity sensor and various Power board plus displaying board's combination.

Power board(A) plus displaying board(A)'s combination was used for model EM034DW1-P0H, But Power board(B) plus displaying board(B) 's combination was used for model EM034DW1.

So Model EM034DW1 and EM034DW1-P0H was severally selected for all testing.

Test Summary

The electromagnetic compatibility requirements on model EM034DW1-POH, EM034DW1 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 Exercise 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 EM034DW1-P0H



EUT -Front View



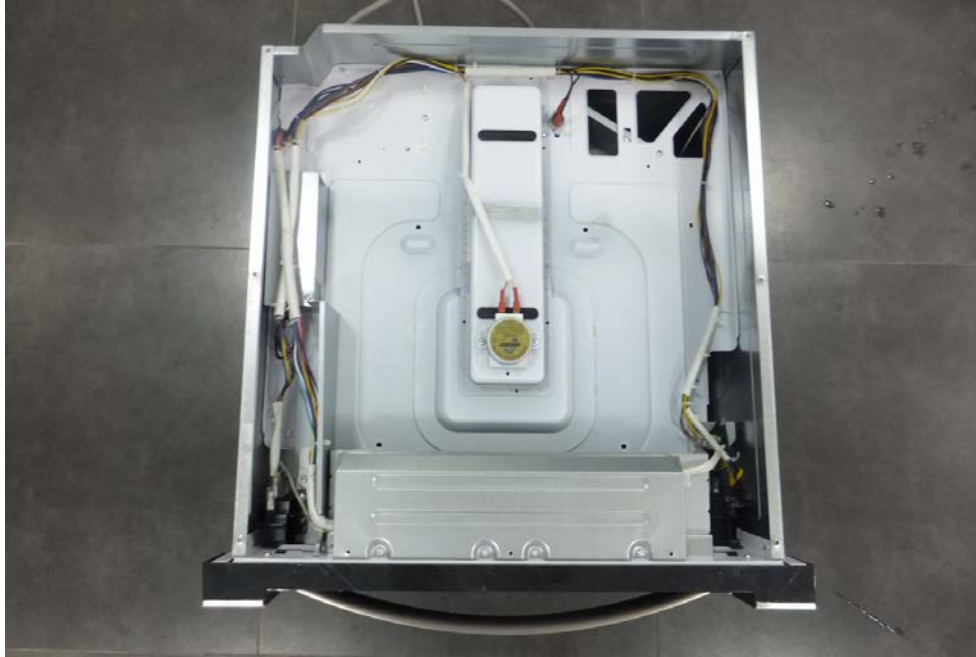
Door Opend View

FCC Test Report #: GUA-1608-11557-FCC

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

Prepared by ECMG Electronic Technical Testing Corp (Shenzhen).

Page 7 of 42



EUT- Uncovered View 1



EUT- Uncovered View 2



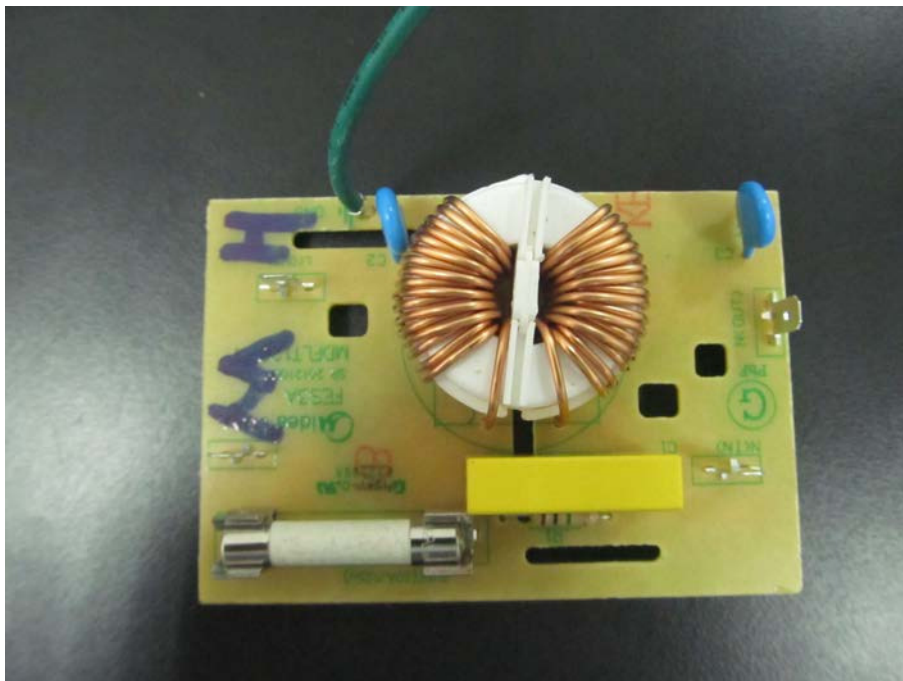
EUT- Uncovered View 3



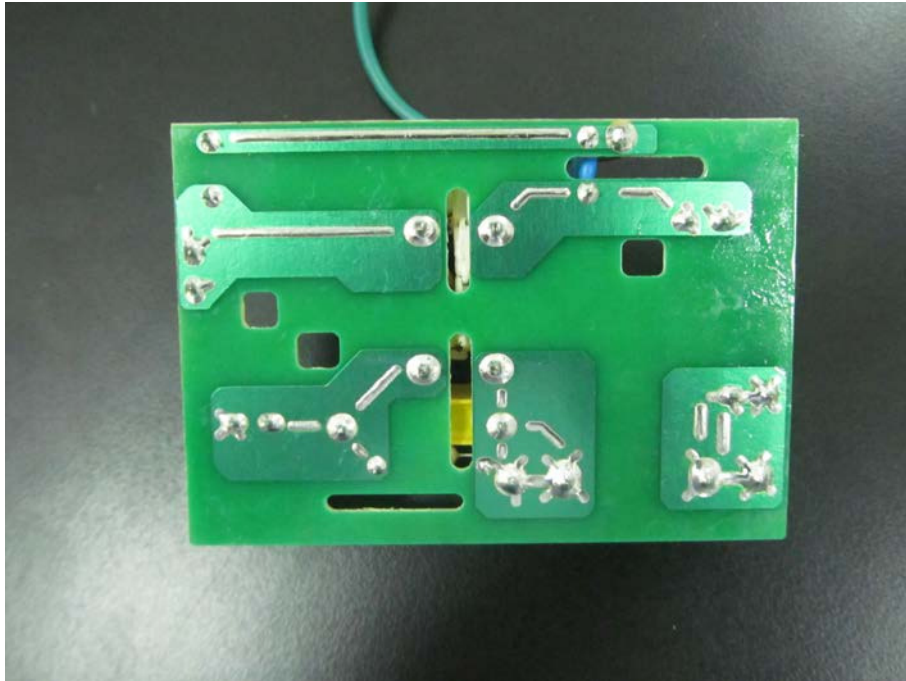
High-voltage Transformer view



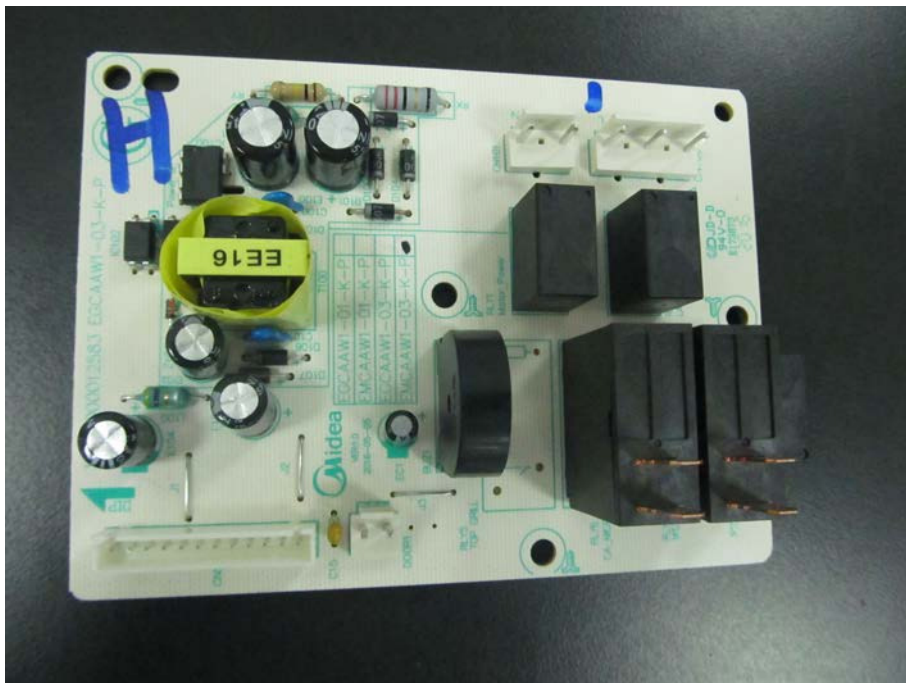
Magnetron Front View



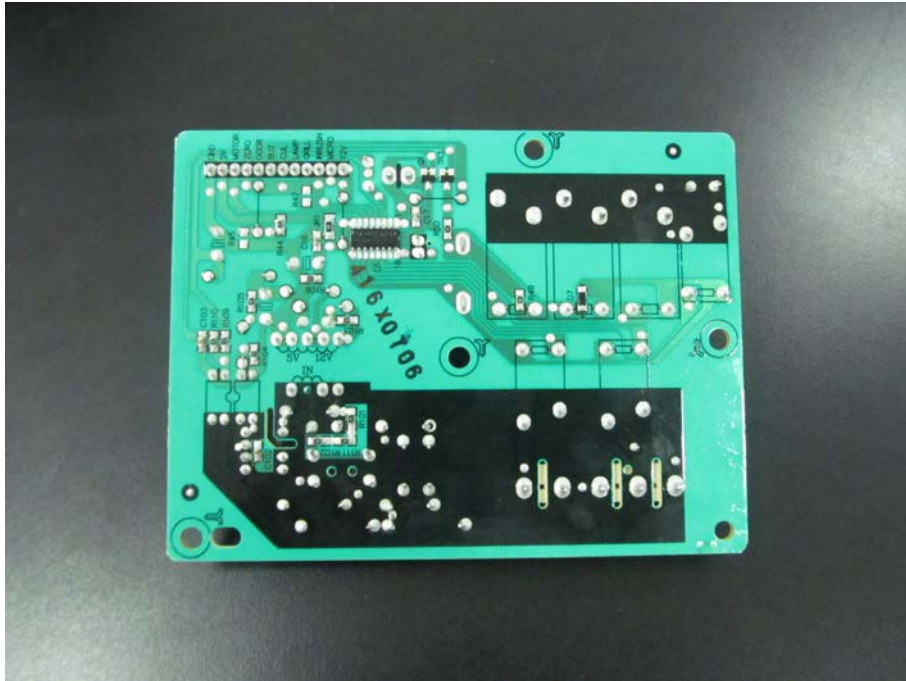
Power Filter Board- Top View



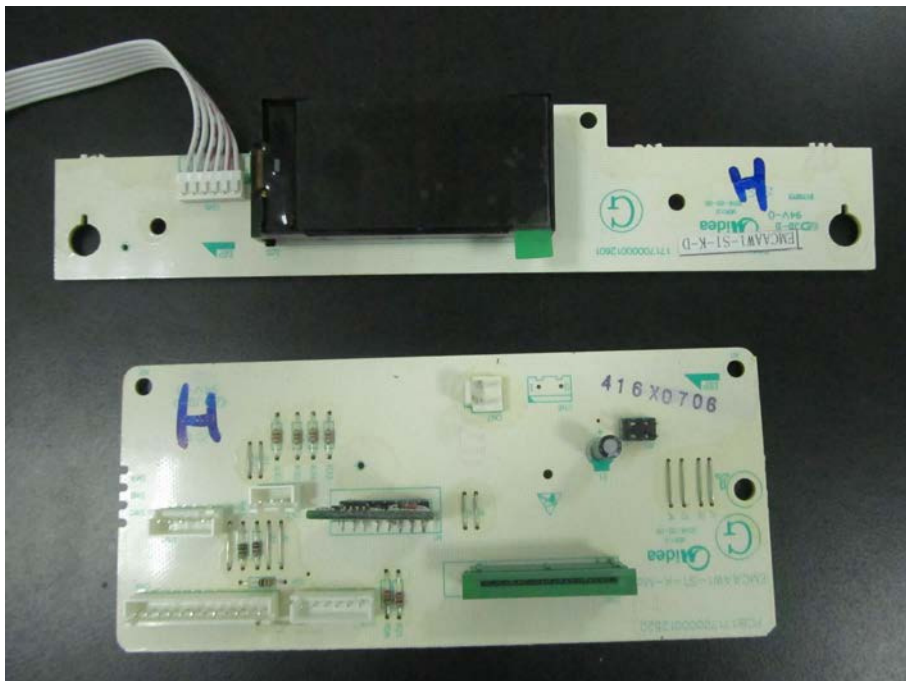
Power Filter Board- Bottom View



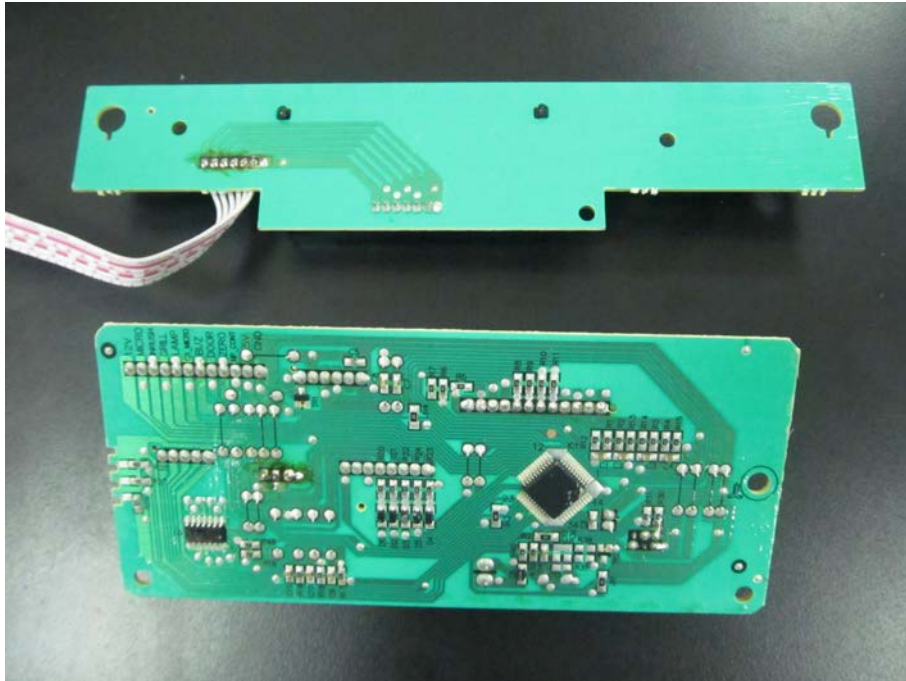
Power board(A) -Top view



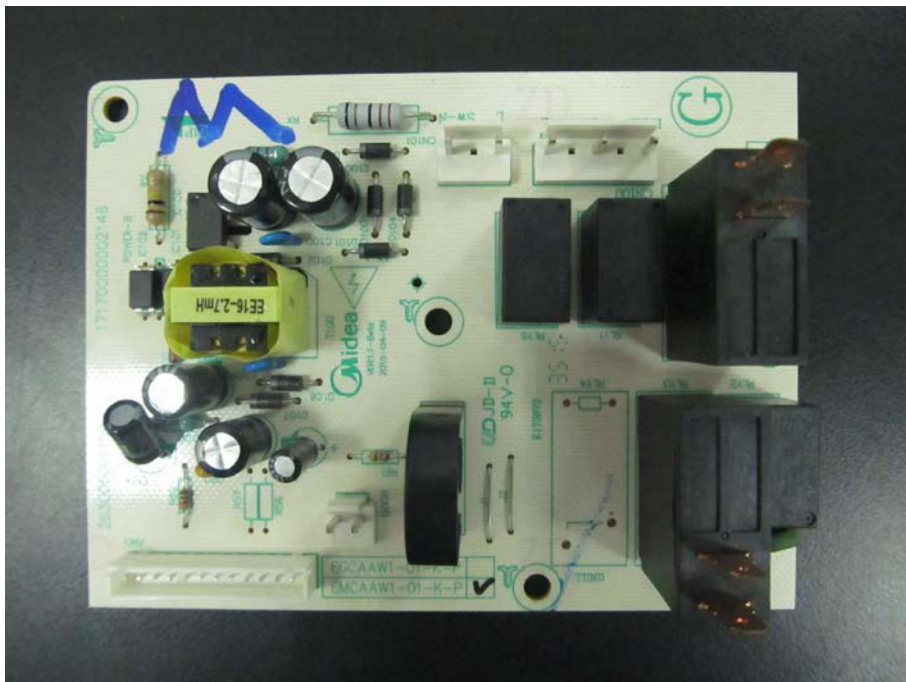
Power board(A) -Bottom view



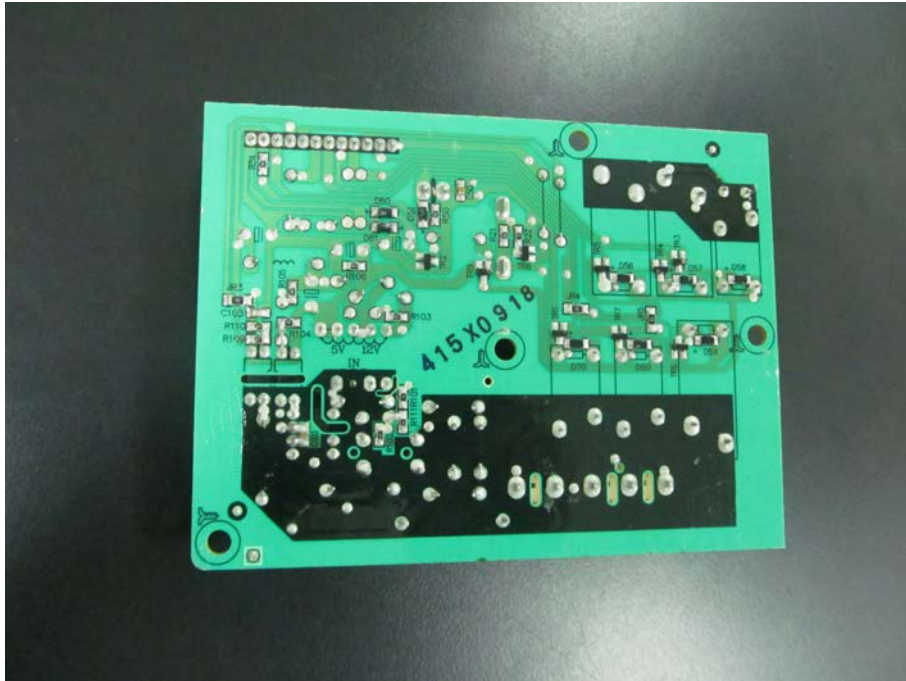
Displaying board(A) -Top view



Displaying board(A) -Bottom view



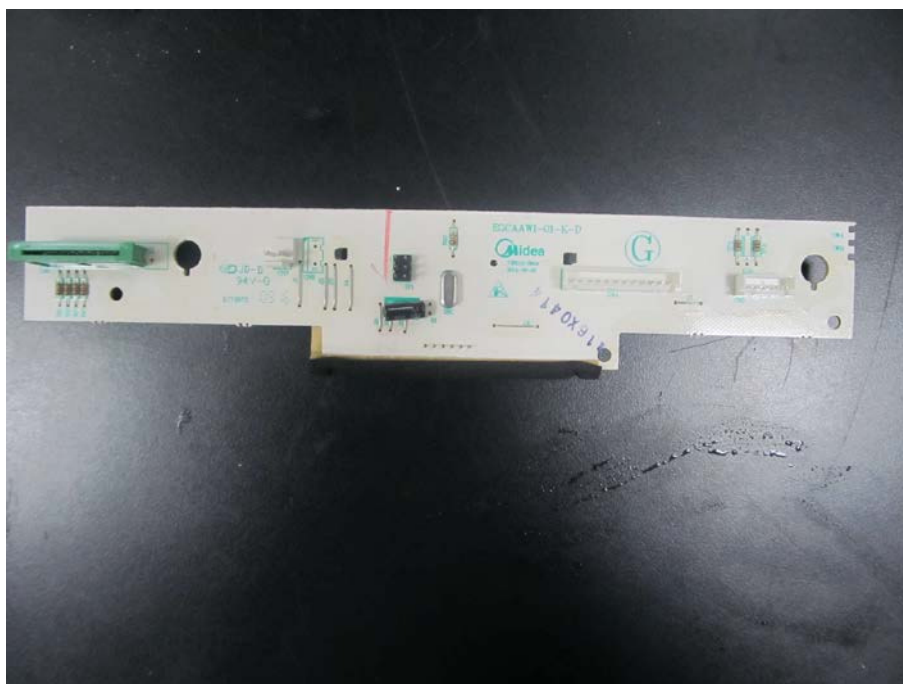
Power board(B) -Top view



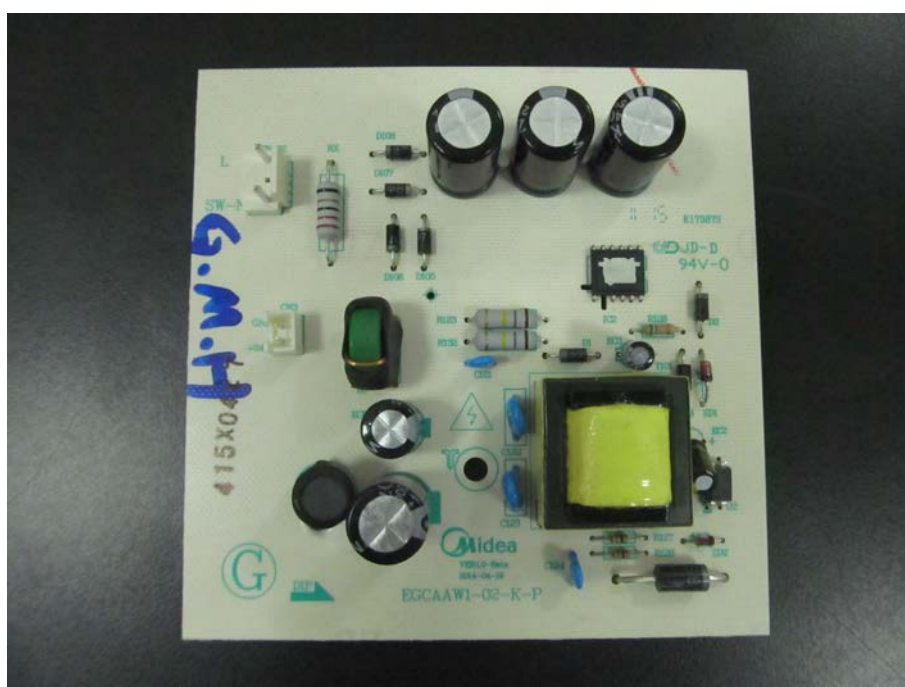
Power board(B) -Bottom view



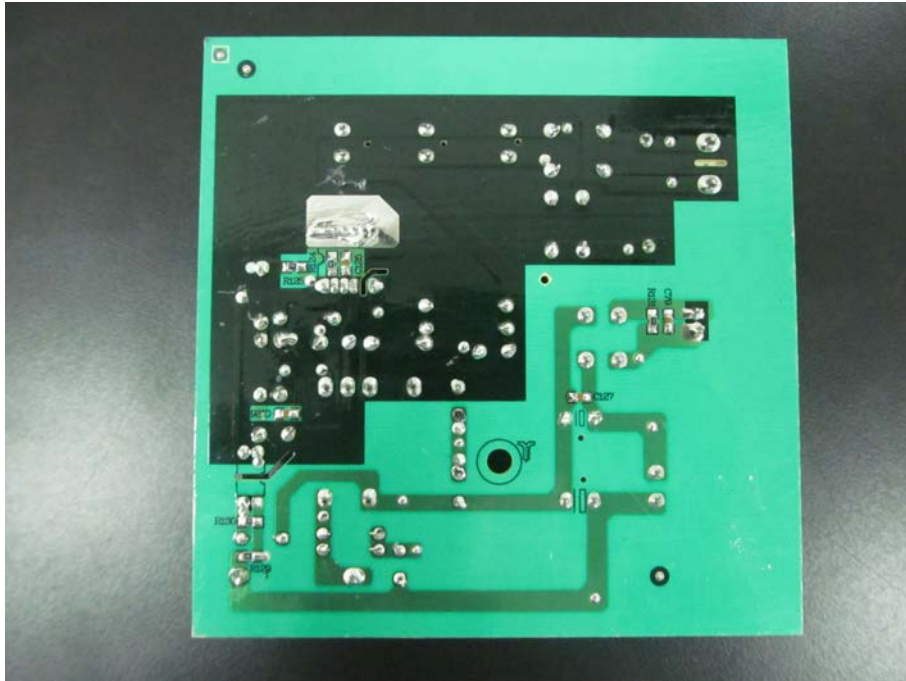
Displaying board(B) -Top view



Displaying board(B) -Bottom view



Motor driven board -Top view



Motor driven board -Bottom view

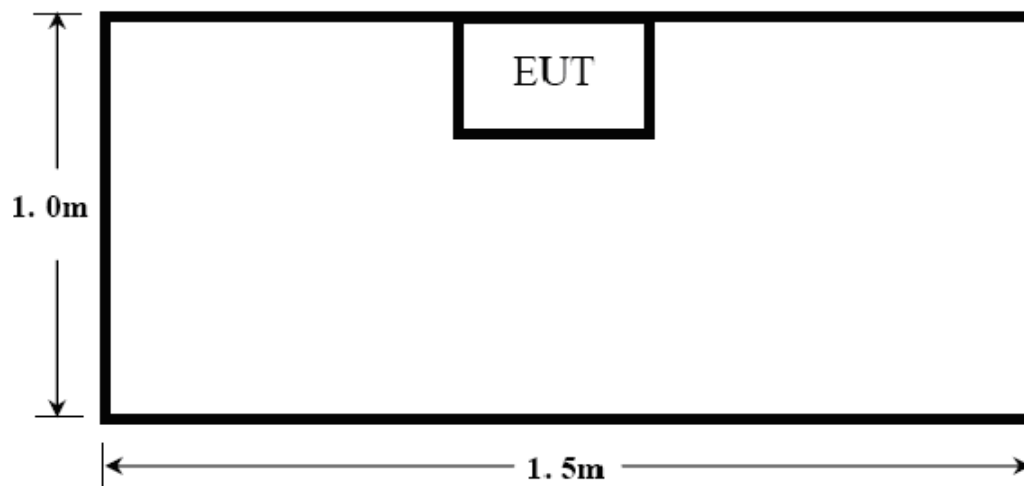
Test System Details

EUT					
Model Number:	EM034DYY,EM034DYY-P0H				
Model Tested:	EM034DW1,EM034DW1-P0H				
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”.					

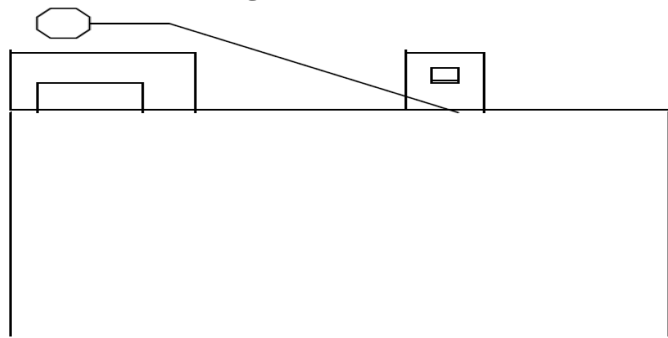
Note:

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:	EM034DYY, EM034DYY-P0H	PRODUCT:	Microwave Oven
MODEL TESTED:	EM034DW1-P0H, EM034DW1	EUT DESIGNATION:	Home or Office
TEMPERATURE:	23°C	HUMIDITY:	51%
ATM PRESSURE:	103kPa	GROUNDING:	Through AC Power Cord
TESTED BY:	Yang Dongmei	DATE OF TEST:	August 31 st , 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:	Microwave Leakage Tester 		
RESULTS:	There was no microwave leakage exceeding a power level of 0.12 mW/cm ² for EM034DW1-P0H, 0.10 mW/cm ² for EM034DW1 observed at any point 5cm or more from the external surface of the oven. A maximum of 1.0 mW/cm ² 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. 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:	0.0001 mW/cm ²		

Test Equipment List:

Test Equipment	Manufacturer	Model	Serial No.	Cal. Due Date
Microwave Measurement	HOLADAY	HI-1710A	00022150	2017.01.03

TESTED BY:

杨冬松

ENGINEER

REVIEWED BY:

James Fio

SENIOR ENGINEER

Radiation Hazard Test Set up:

EM034DW1-P0H:



EM034DW1:



FCC Test Report #: GUA-1608-11557-FCC

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

Prepared by ECMG Electronic Technical Testing Corp (Shenzhen).

Page 21 of 42

ATTACHMENT 2 – INPUT POWER MEASUREMENT

CLIENT:	Guangdong Midea Kitchen Appliances Manufacturing Co.,Ltd.	TEST STANDERD:	FCC Part 18
MODEL NUMBERS:	EM034DYY,EM034DYY-P0H	PRODUCT:	Microwave Oven
MODEL TESTED:	EM034DW1-P0H, EM034DW1	EUT DESIGNATION:	Home or Office
TEMPERATURE:	22°C	HUMIDITY:	59%
ATM PRESSURE:	103.1kPa	GROUNDING:	Through AC Power Cord
TESTED BY:	Yang Dongmei	DATE OF TEST:	August 31 st ,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 ampmeter 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:
EM034DW1-POH:

<i>Input voltage (V)</i>	<i>Input Current (A)</i>	<i>Measured Input Power (W)</i>	<i>Rated input Power (W)</i>
120.68	12.76	1476.1	1500

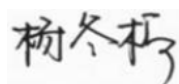
EM034DW1:

<i>Input voltage (V)</i>	<i>Input Current (A)</i>	<i>Measured Input Power (W)</i>	<i>Rated input Power (W)</i>
120.40	12.9	1487.0	1500

Test Equipments List:

<i>Test Equipment</i>	<i>Manufacturer</i>	<i>Model</i>	<i>Serial No.</i>	<i>Cal. Due Date</i>
Power Meter	YOKOGAWA	WT500	C3QJ17007E	2016.10.28

TESTED BY:



ENGINEER

REVIEWED BY:



SENIOR ENGINEER

Input power Test Set up:

EM034DW1-P0H:



EM034DW1:



FCC Test Report #: GUA-1608-11557-FCC

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

Prepared by ECMG Electronic Technical Testing Corp (Shenzhen).

Page 24 of 42

ATTACHMENT 3 – RF OUTPUT POWER MEASUREMENT

CLIENT:	Guangdong Midea Kitchen Appliances Manufacturing Co.,Ltd.	TEST STANDERD:	FCC Part 18
MODEL NUMBERS:	EM034DYY,EM034DYY-P0H	PRODUCT:	Microwave Oven
MODEL TESTED:	EM034DW1-P0H, EM034DW1	EUT DESIGNATION:	Home or Office
TEMPERATURE:	22 °C	HUMIDITY:	60%RH
ATM PRESSURE:	103kPa	GROUNDING:	Through AC Power Cord
TESTED BY:	Yang Dongmei	DATE OF TEST:	August 31 st ,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 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. RF Output Power = (4.2joules/calorie)(volume in milliliters)(temperature rise) / (time in seconds) = 4.2 joules/calorie × 1000 × (Final Temp - Initial Temp) / 120		
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:**EM034DW1-POH:**

Initial Temp (℃)	Final Temp (℃)	Measured Times (s)	Measured out put Power(W)
20.0	45.1	120S	878.5

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

EM034DW1:

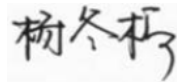
Initial Temp (℃)	Final Temp (℃)	Measured Times (s)	Measured out put Power(W)
20.2	44.0	120S	833.0

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

Test Equipments list:

Test Equipment	Manufacturer	Model	Serial No.	Cal. Due Date
Digit Thermometer	Fluke Corporation	Fluke 51 II	15940197	2017.08.12
Stopwatch	JUNSD	JS-510	CF-003	2017.07.13

TESTED BY:



ENGINEER

REVIEWED BY:



SENIOR ENGINEER

RF Output power Test Set up:

EM034DW1-P0H:



EM034DW1:



ATTACHMENT 4 - OPERATING FREQUENCY MEASUREMENT

CLIENT:	Guangdong Midea Kitchen Appliances Manufacturing Co.,Ltd.	TEST STANDERD:	FCC Part 18
MODEL NUMBERS:	EM034DYY,EM034DYY-P0H	PRODUCT:	Microwave Oven
MODEL TESTED:	EM034DW1-P0H, EM034DW1-P0H	EUT DESIGNATION:	Home or Office
TEMPERATURE:	22°C	HUMIDITY:	60%RH
ATM PRESSURE:	101.1kPa	GROUNDING:	Through AC Power Cord
TESTED BY:	Yang Dongmei	DATE OF TEST:	August 31 st , 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 Operating Frequency Measurement. 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. 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.		
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		

EM034DW1-POH:**Variation in Operating Frequency with Time:**

<i>Minimum Frequency (MHz)</i>	<i>Maximum Frequency (MHz)</i>
2445.2	2448.9

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>	

EM034DW1:**Variation in Operating Frequency with Time:**

<i>Minimum Frequency (MHz)</i>	<i>Maximum Frequency (MHz)</i>
2447.8	2448.9

Variation in Operating Frequency with Line Voltage:

<i>Minimum Frequency (MHz)</i>	<i>Maximum Frequency (MHz)</i>
2448.6	2449.8
<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	08/1/2016	08/30/2017
Double Ridged Horn Antenna	R&S	HF907	100260	08/1/2016	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 Fio

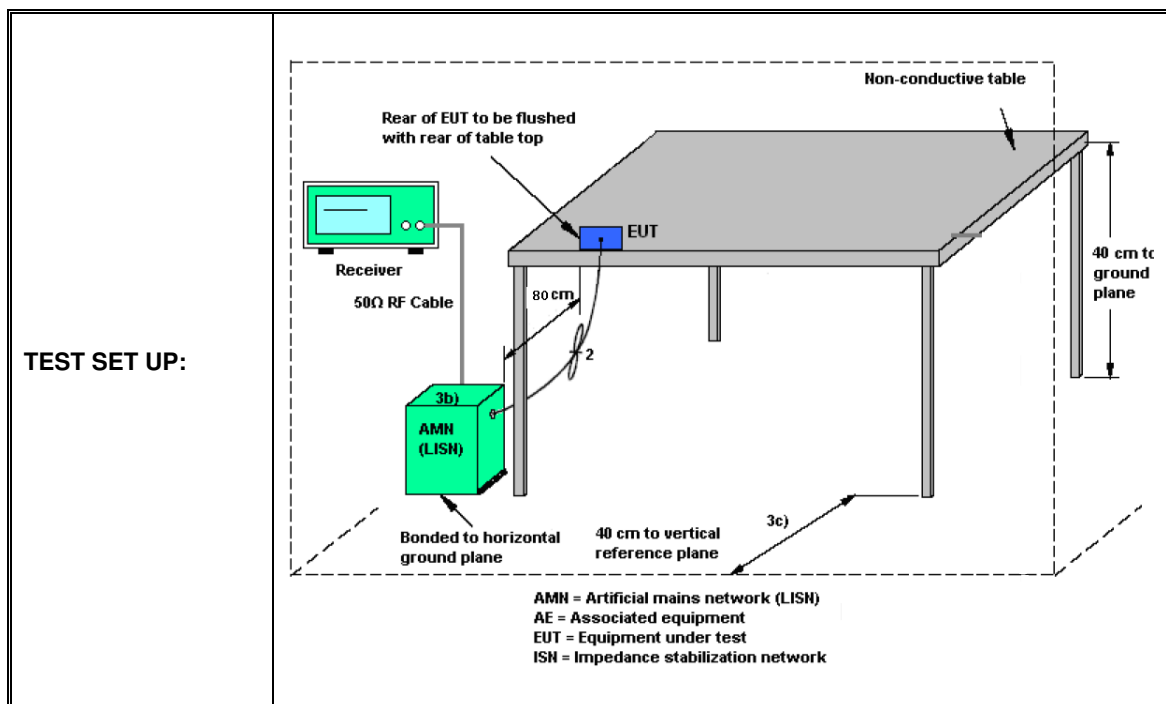
SENIOR ENGINEER

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:	EM034DYY,EM034DYY-P0H	PRODUCT:	Microwave Oven
MODEL TESTED:	EM034DW1-P0H,EM034DW1	EUT DESIGNATION:	Home or Office
TEMPERATURE:	22°C	HUMIDITY:	60%RH
ATM PRESSURE:	101.1kPa	GROUNDING:	Through AC Power Cord
TESTED BY:	Yang Dongmei	DATE OF TEST:	August 31 st ,2016
TEST REFERENCE:	ANSI C63.4-2014, FCC/OST MP-5:1986		
TEST PROCEDURE:	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. The basic equation as follow: $VC = VR + AC + VDF;$ Herein, VC: corrected voltage amplitude VR: reading voltage amplitude AC: attenuation caused by cable loss VDF: voltage division factor of AMN or ISN. 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. The equation for Over Limit calculation is as follows: $\text{Over Limit} = \text{Limit} - \text{Corrected Amplitude}.$		
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:

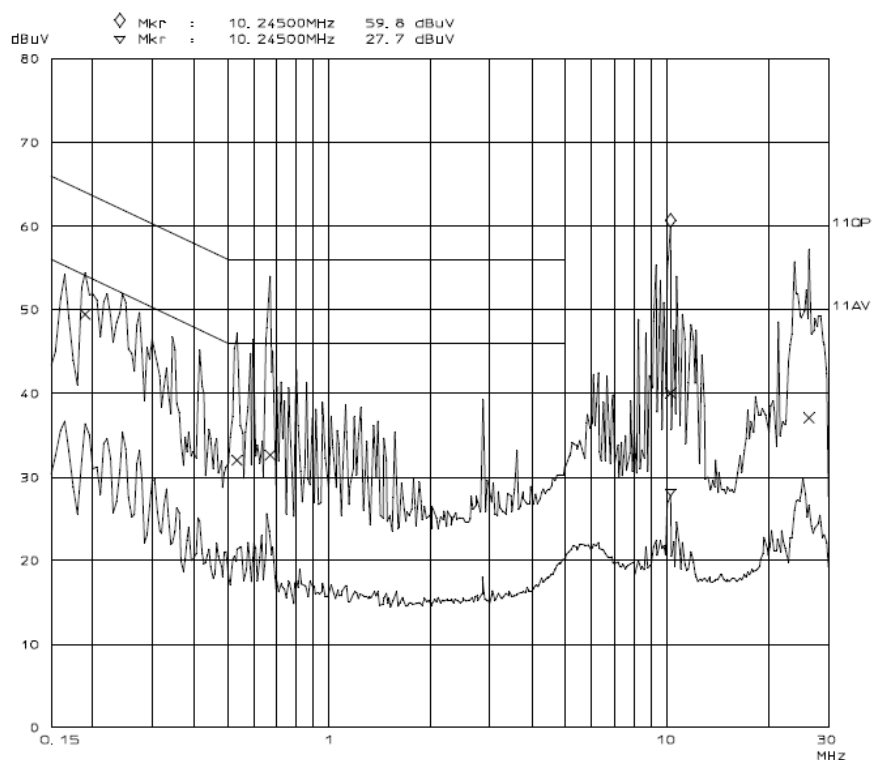
Frequency [MHz]	IF B/W
0.15 - 30	9KHz

Conducted Emission Limit:

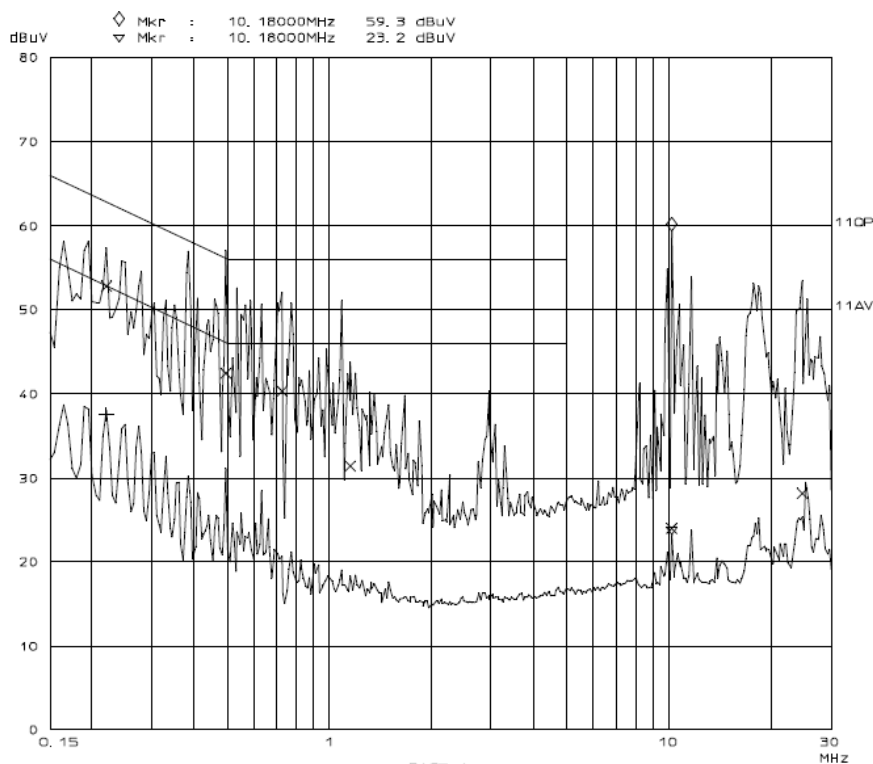
Frequency [MHz]	Field strength [dBuV]	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

EM034DW1-P0H:

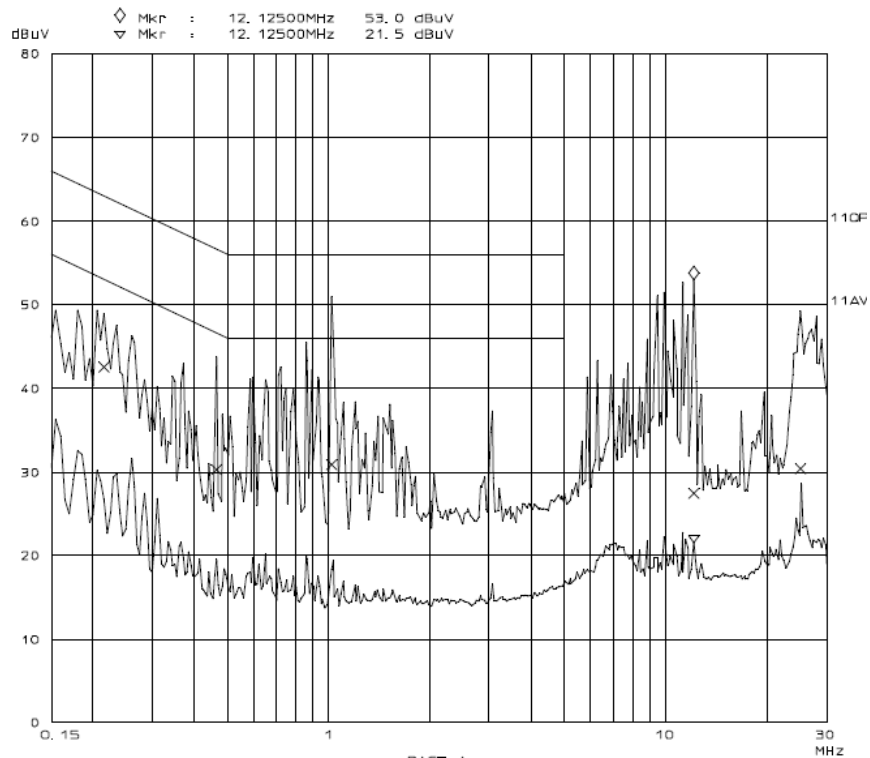


Line L Conducted Emission Graph

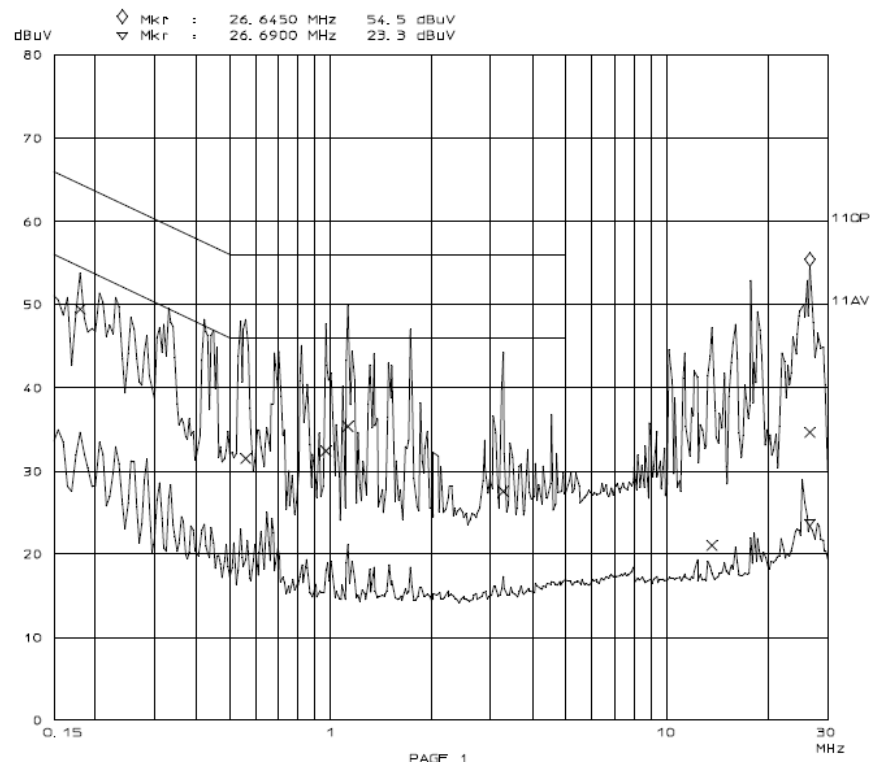


Line N Conducted Emission Graph

EM034DW1:



Line L Conducted Emission Graph



Line N Conducted Emission Graph

FCC Test Report #: GUA-1608-11557-FCC

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

Prepared by ECMG Electronic Technical Testing Corp (Shenzhen).

Page 34 of 42

Test Data:
EM034DW1-P0H

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	0.1900	49.4	64.0	-14.6	0.1900	/	/	/
L	0.53500	32.0	56.0	-24.0	0.53500	/	/	/
L	10.2450	40.0	60.0	-20.0	10.2450	/	/	/
N	0.2200	52.7	62.8	-10.1	0.2200	37.6	52.8	-15.2
N	0.7250	40.3	56.0	-15.7	0.7250	/	/	/
N	10.1800	38.9	60.0	-21.1	10.1800	/	/	/

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.

EM034DW1:

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	0.2150	42.5	63.0	-20.5	0.2150	/	/	/
L	1.0200	32.0	56.0	-24.0	1.0200	/	/	/
L	25.200	40.0	60.0	-20.0	25.200	/	/	/
N	0.1800	49.3	64.4	-15.1	0.1800	/	/	/
N	1.1250	35.3	56.0	-20.7	1.1250	/	/	/
N	26.645	34.6	60.0	-25.4	26.645	/	/	/

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	11/19/2015	11/18/2016
Transient Limiter	Compliance Direction Systems Inc.	PLA-10N	110525-010-0030	11/19/2015	11/18/2016
Shielding Room	Changzhou Nanping	NP-HJ2	/	01/12/2016	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: 杨冬松
ENGINEER

REVIEWED BY: James Fio
SENIOR ENGINEER

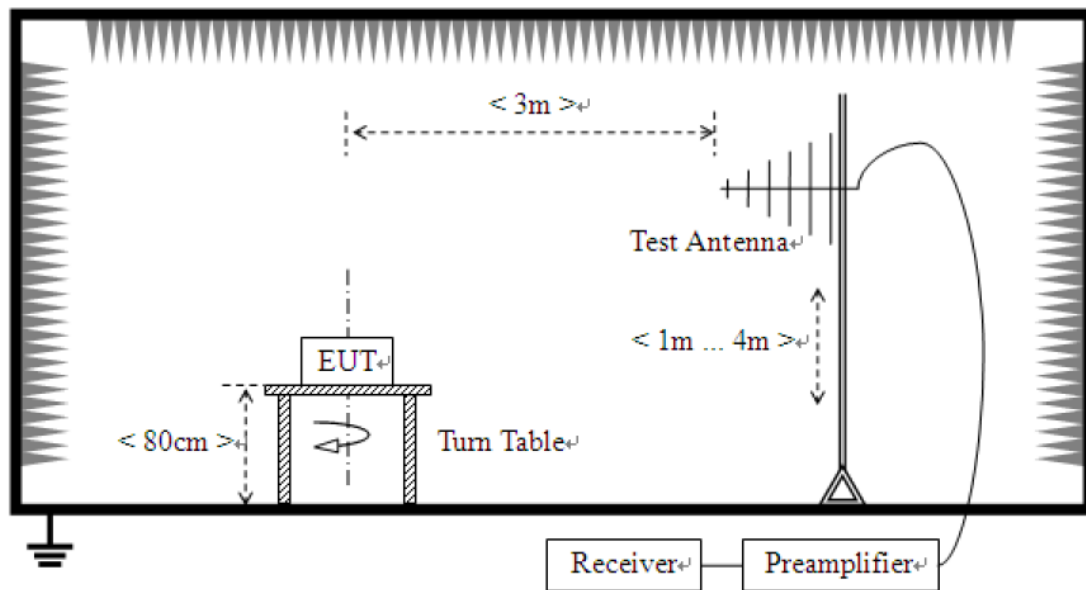
Conducted Emission Test Set-up:



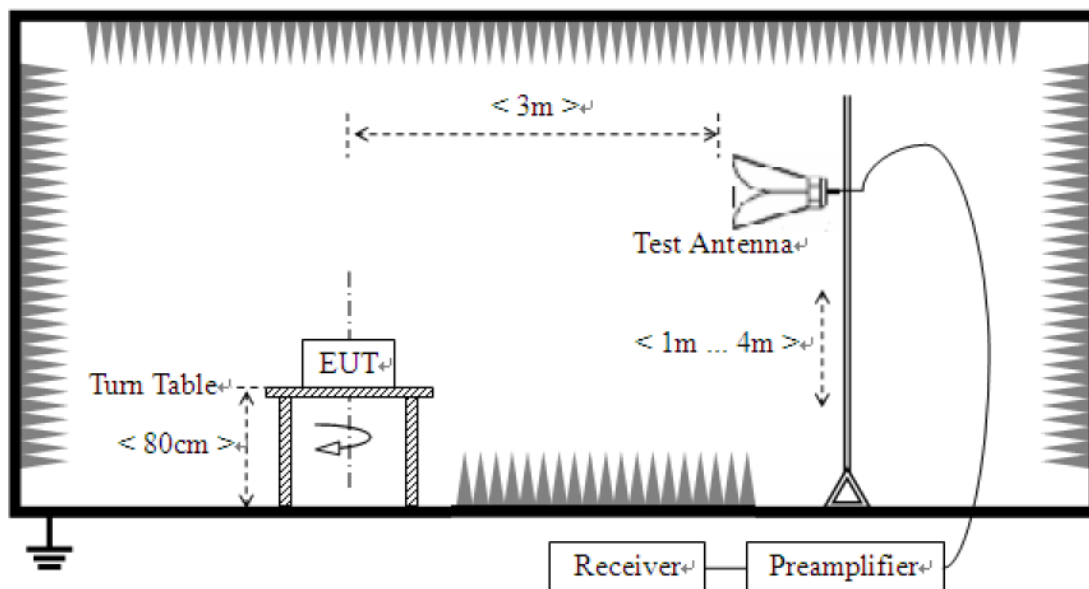
ATTACHMENT 6 - RADIATED EMISSION TEST RESULTS

CLIENT:	Guangdong Midea Kitchen Appliances Manufacturing Co.,Ltd.	TEST STANDERD:	FCC Part 18
MODEL NUMBERS:	EM034DYY,EM034DYY-POH	PRODUCT:	Microwave Oven
MODEL TESTED:	EM034DW1-POH,EM034DW1	EUT DESIGNATION:	Home or Office
TEMPERATURE:	22 °C	HUMIDITY:	63%RH
ATM PRESSURE:	103.0kPa	GROUNDING:	Through AC Power Cord
TESTED BY:	Yang Dongmei	DATE OF TEST:	August 31 st ,2016
TEST REFERENCE:	ANSI C63.4-2014, FCC/OST MP-5:1986		
TEST PROCEDURE:	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. 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: FS= RA + AF + CF - AG Where: FS = Field Strength RA = Receiver Amplitude AF = Antenna Factor CF = Cable Attenuation Factor AG = Amplifier Gain		
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:	The maximum measurement uncertainty is evaluated as : 30~1000MHz: 4.76dB; 1~25GHz: 4.5dB		

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 = $20\log [25 \cdot \text{SQRT}(\text{Power}/500)] \text{dBuV/m}$

Test Data :**EM034DW1-POH:**

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]
123.306	H	16.9	10.5	27.4	-43.0	70.4
296.098	H	18.4	13.0	31.4	-39.0	70.4
296.333	H	17.6	13.1	30.7	-40.0	70.4
125.251	V	17.2	11.4	28.6	-40.8	70.4
250.187	V	16.2	13.4	29.6	-40.0	70.4
347.222	V	20.8	13.8	34.6	-35.8	70.4
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]
9.844	H	23.7	28.05	51.7	-18.7	70.4
14.844	H	14.9	35.34	50.2	-20.2	70.4
17.218	H	13.6	39.81	53.4	-17.0	70.4
9.883	V	23.4	28.05	51.5	-18.9	70.4
14.814	V	17.4	35.34	52.7	-17.7	70.4
4.924	V	31.2	18.85	50.0	-20.4	70.4
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.						

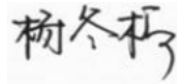
EM034DW1:

30MHz - 1GHz						
<i>Frequency [MHz]</i>	<i>Antenna Polarization [V/H]</i>	<i>Corrected Reading [dB_μV/m]</i>	<i>Factor (dB)</i>	<i>Field Strength [dB_μV/m]</i>	<i>Delta, QP [dB]</i>	<i>3 Meters Limits [dB_μV/m]</i>
123.411	H	22.9	10.5	33.4	-36.8	70.2
271.042	H	18.5	12.9	31.4	-38.8	70.2
343.110	H	18.5	13.6	32.1	-38.1	70.2
214.336	V	21.4	13.7	35.1	-35.1	70.2
360.112	V	22.0	14.4	36.4	-33.8	70.2
613.327	V	17.5	20.9	38.4	-31.8	70.2
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						
<i>Frequency [GHz]</i>	<i>Antenna Polarization [V/H]</i>	<i>Corrected Reading [dB_μV/m]</i>	<i>Factor (dB)</i>	<i>Field Strength [dB_μV/m]</i>	<i>Delta, AV [dB]</i>	<i>3 Meters Limits [dB_μV/m]</i>
9.844	H	23.7	28.05	51.7	-18.5	70.2
14.844	H	14.9	35.34	50.2	-20.0	70.2
17.218	H	13.6	39.81	53.4	-16.8	70.2
9.883	V	23.4	28.05	51.5	-18.7	70.2
14.814	V	17.4	35.34	52.7	-17.5	70.2
4.924	V	31.2	18.85	50.0	-20.2	70.2
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:

Test Equipment	Manufacturer	Model	Serial No.	Last Cal.	Cal. Due
EMI Test Receiver(20Hz-40GHz)	R&S	ESU40	100298	08/1/2016	08/30/2017
Double Ridged Horn Antenna	R&S	HF907	100260	08/1/2016	08/30/2017
Bilog Antenna	TESEQ	CBL6112D	130144	08/1/2016	08/30/2017
10m Anechoic Chamber	Frankonia GmbH	SAC10	F069042	08/24/2016	08/23/2017
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:



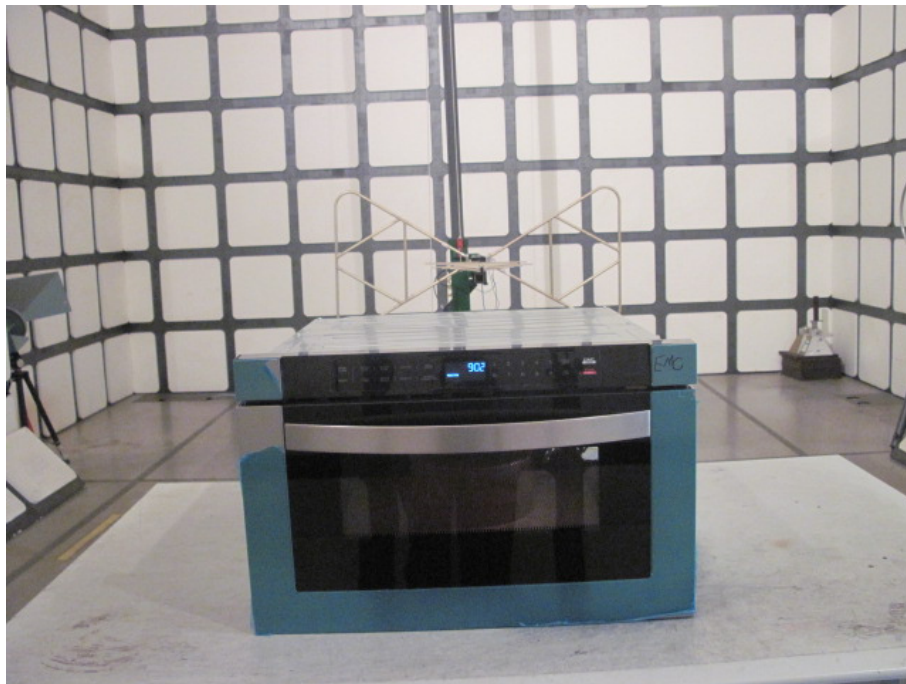
ENGINEER

REVIEWED BY:

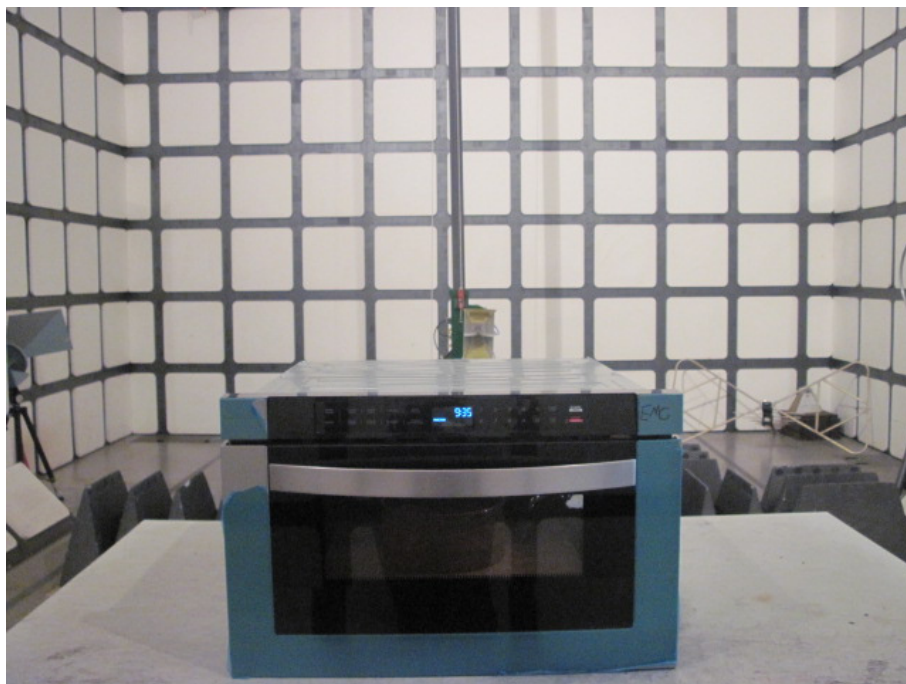


SENIOR ENGINEER

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



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



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