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EMI TEST REPORT

On Model Name: Microwave Oven

Model Numbers: P120D60(X)(Y)-(Z)

Brand Name: Galanz

FCC ID Number: UHW12060001

Prepared for Guangdong Galanz Enterprises Co., Ltd.

According to

FCC Part 18(2015)

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-1606-11509-FCC

Prepared by: ViVi ECMG
ViVi Huang/Assistant Company Name

Reviewed by: Jawen Yin ECMG
Jawen Yin/Senior Engineer Company Name

QC Manager: Swall Zhang ECMG
Swall Zhang/QC Manager Company Name

Test Report Released by: Swall Zhang June 18th, 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

<i>Rev.</i>	<i>Issue date</i>	<i>Revision</i>	<i>Revised by</i>
01	06/18/2016	Initial review	Jawen Yin

Test Location

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

Test Site Location : *EMC Laboratory of Guangdong Galanz Enterprises Co., Ltd.*
No.25 South Ronggui Rd., Shunde, Foshan, Guangdong, China.

Tel : (86)-757-23612785
Fax : (86)-757- 23612537

Test Facility

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

In compliance with the site registration requirements of section 2.948 of the FCC rules to perform EMI measurements for the general public.

FCC Registration Number: 580210

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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>UHW12060001_Test Report.pdf</i>
<i>Operation Description</i>	<i>Technical Description</i>	<i>UHW12060001_Operation Description.pdf</i>
<i>External Photos</i>	<i>External Photos</i>	<i>UHW12060001_External Photos.pdf</i>
<i>Internal Photos</i>	<i>Internal Photos</i>	<i>UHW12060001_Internal Photos.pdf</i>
<i>Block Diagram</i>	<i>Block Diagram</i>	<i>UHW12060001_Block Diagram.pdf</i>
<i>Schematics</i>	<i>Circuit Diagram</i>	<i>UHW12060001_Schematics.pdf</i>
<i>ID Label/Location</i>	<i>Label and Location</i>	<i>UHW12060001_Label & Location.pdf</i>
<i>User Manual</i>	<i>User Manual</i>	<i>UHW12060001_User's Manual.pdf</i>
<i>Test set-up photos</i>	<i>Test set-up photos</i>	<i>UHW12060001_Test Set-up Photos</i>

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Reproduction Clause

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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 : *P120D60(X)(Y)-(Z)*
Model Tested : *P120D60EPH-DP*
Brand Name : *Galanz*
Receipt Date : *April 3rd, 2016*
Date Tested : *April 6th, 2016*
Applicant : *Guangdong Galanz Enterprises Co., Ltd.*
Address : *No.25 South Ronggui Rd., Shunde, Foshan, Guangdong , China*
Telephone : *(86)-757-23612785*
Fax : *(86)-757-23612537*
Manufacturer 01 : *Guangdong Galanz Microwave Oven Electrical Appliance Manufacture Co., Ltd.*
Address : *25 Ronggui Nan Rd., Shunde, Foshan, Guangdong , China*
Manufacturer 02 : *Guangdong Galanz Microwave Electrical Appliances Manufacturing Co., Ltd.*
Address : *No.3, Xingpu Road, Maxin Industrial Zone, Huangpu Town, Zhongshan City, Guangdong Province, China*

EUT Description

Guangdong Galanz Enterprises Co., Ltd. model tested P120D60EPH-DP (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)	1250W
Frequency	2450 MHz(Class B/Group 2)
Magnetron Model	M24FB-710AB
Magnetron Manufacturer	Galanz

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

EUT Model Derived

P120D60(X)(Y)-(Z) model designations:

P: With Microwave functions only.

120: denote the output power is 1250W

D60: denote different capacity in 60 liters.

Variable (X) may be L, P, TL, TP, SL, SP, AL, AP, ASL, ASP, ATL, ATP, EL, EP, ESL, ESP, ETL, ETP, ML, MP, MSL, MSP, MTL, MTP.

"L" is pull-out type door, "P" is push-button type door.

When there is no letter before "L" and "P", denotes mechanical control model; When there are "A" or "E" or "M" denote the electrical control model. "S" denotes stainless steel cavity; When there is without "S" before "L" or "P" denotes the epoxy painted cavity.

Variable (Y) : When there is "H" "HV" denote humidity sensor.

Variable (Y) may compose by one to six characters from A to Z and/or numbers from 0 to 9. It represents the differences of the appearance.

P120D60EPH-DP model designations:

P: With Microwave functions only.

120: denote the output power is 1250W

D60: denote different capacity in 60 liters.

EP :denote electrical control model and epoxy painted cavity and pull-out type door.

H: denote humidity sensor.

DP: denote the appearance.

Model P120D60EPH-DP was chosen for the final testing.

Test Summary

The electromagnetic compatibility requirements on model P120D60EPH-DP 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 18:2015 FCC/OST MP-5:1986 ANSI C63.4-2014	Radiation Hazard Measurement	Passed	Enclosure	Attachment 1
FCC Part 18:2015 FCC/OST MP-5:1986 ANSI C63.4-2014	Input Power Measurement	Passed	AC Input Port	Attachment 2
FCC Part 18:2015 FCC/OST MP-5:1986 ANSI C63.4-2014	RF Output power Measurement	Passed	EUT	Attachment 3
FCC Part 18:2015 FCC/OST MP-5:1986 ANSI C63.4-2014	Operating Frequency Measurement	Passed	EUT	Attachment 4
FCC Part 18:2015 FCC/OST MP-5:1986 ANSI C63.4-2014	Conducted Emission	Passed	AC Input Port	Attachment 5
FCC Part 18:2015 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 Galanz Enterprises 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 P120D60EPH-DP



EUT Front View



EUT Back View

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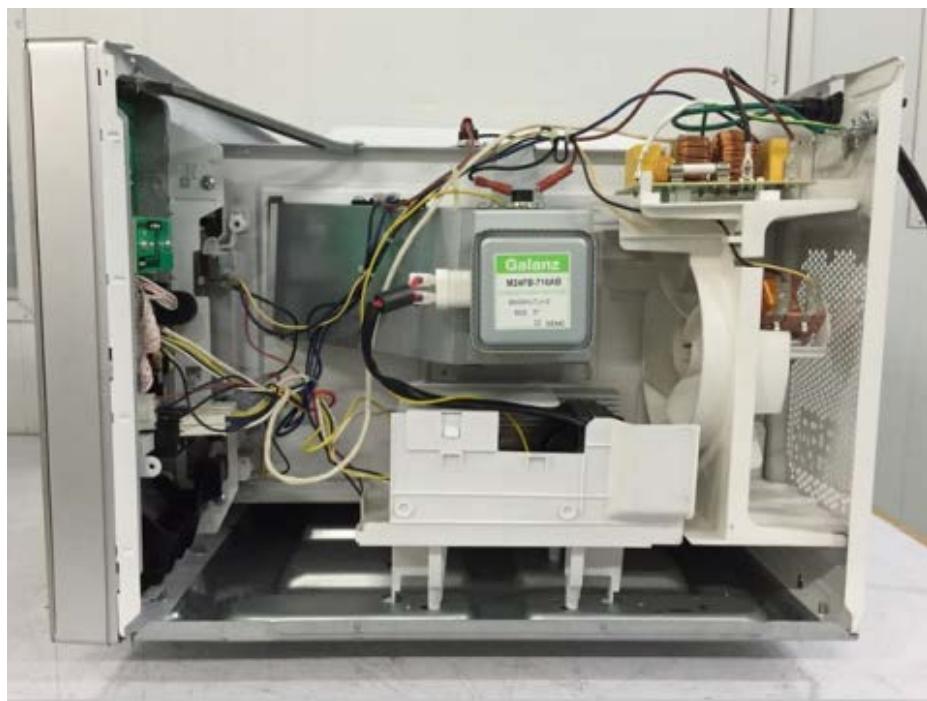
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Door Open View



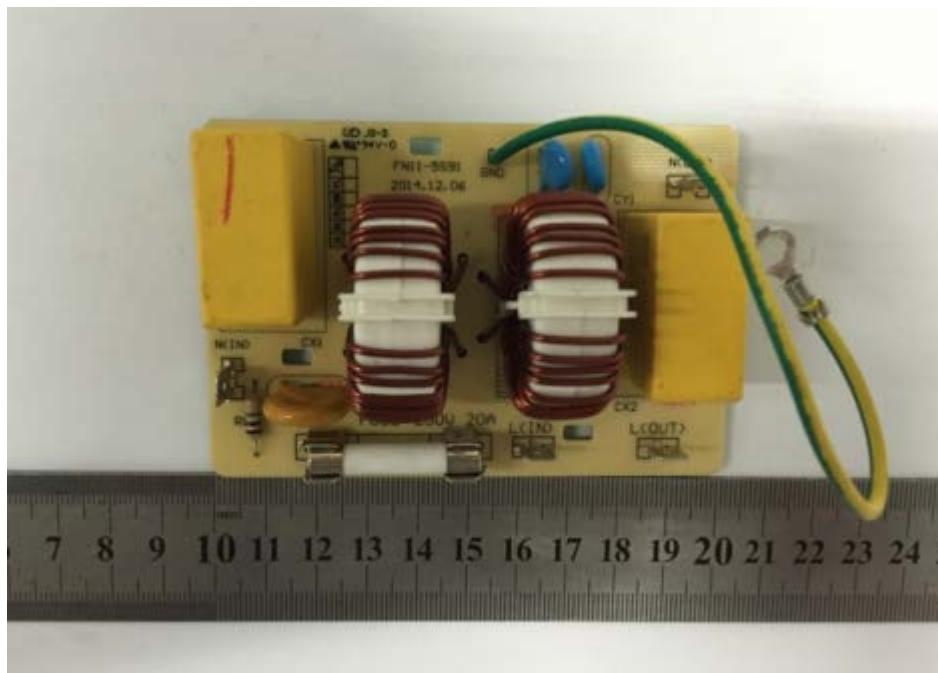
Uncovered View from right side



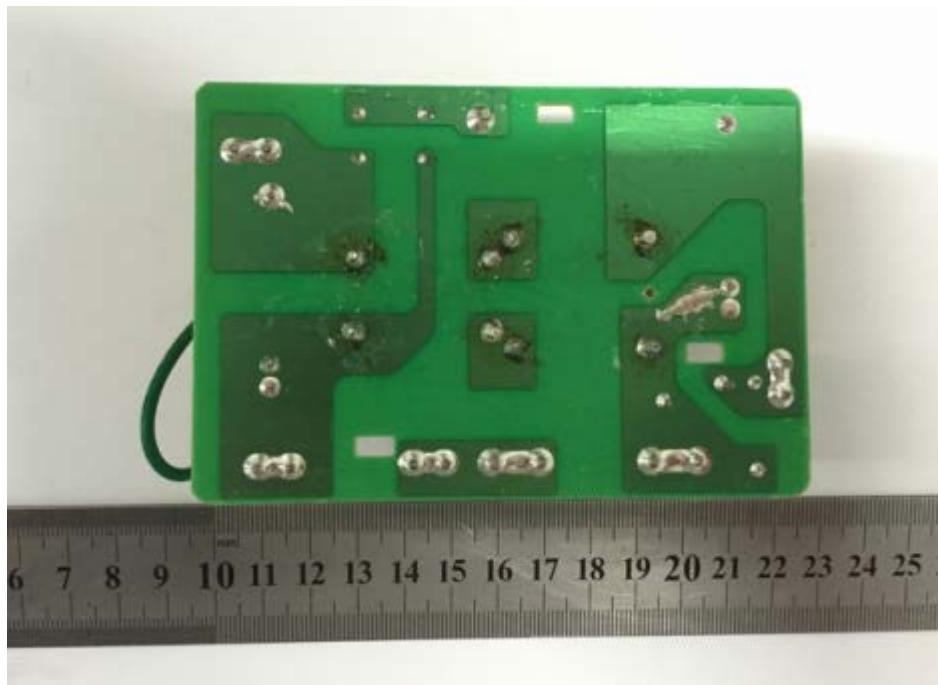
Uncovered View from top side



Magnetron Front View



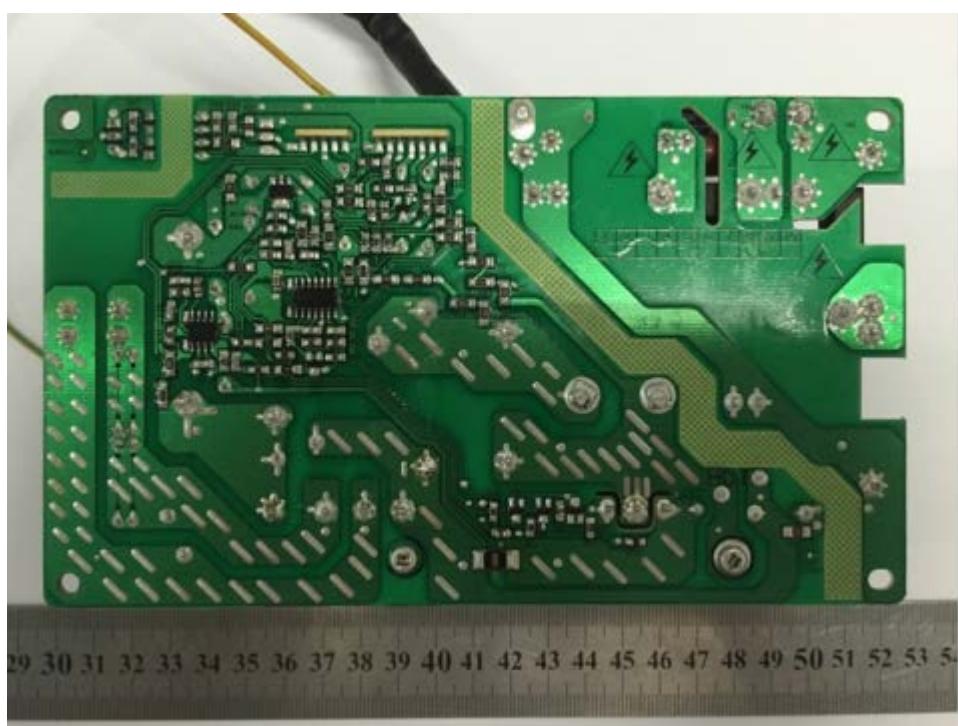
Power Filter Board Top View



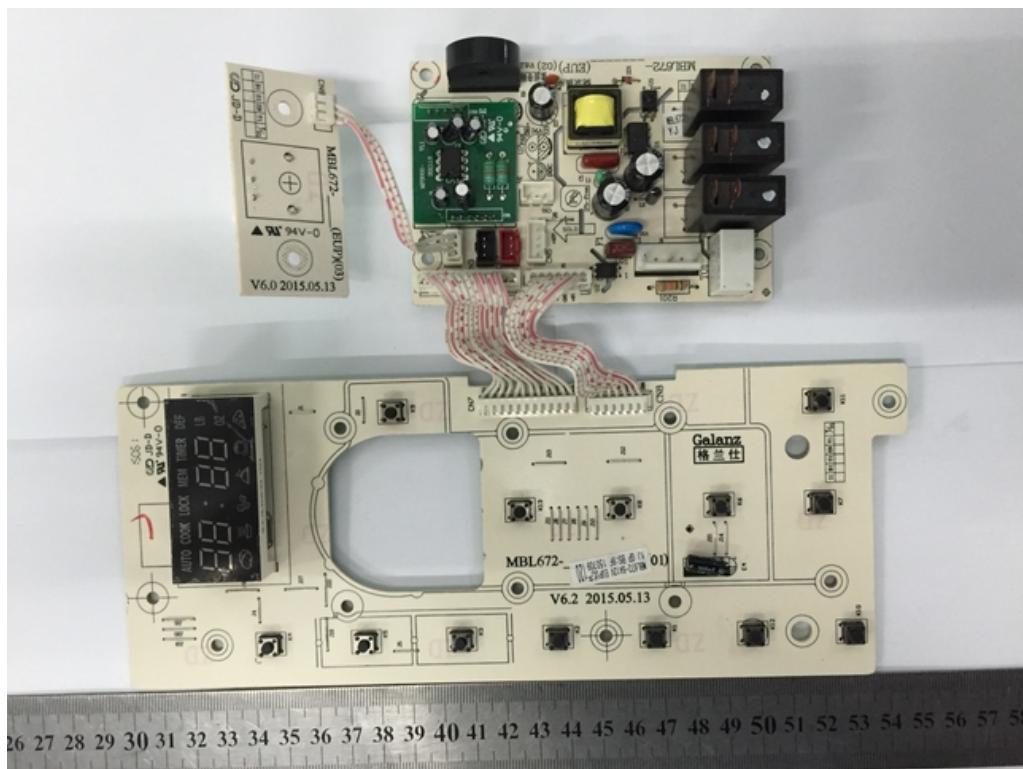
Power Filter Board Bottom View



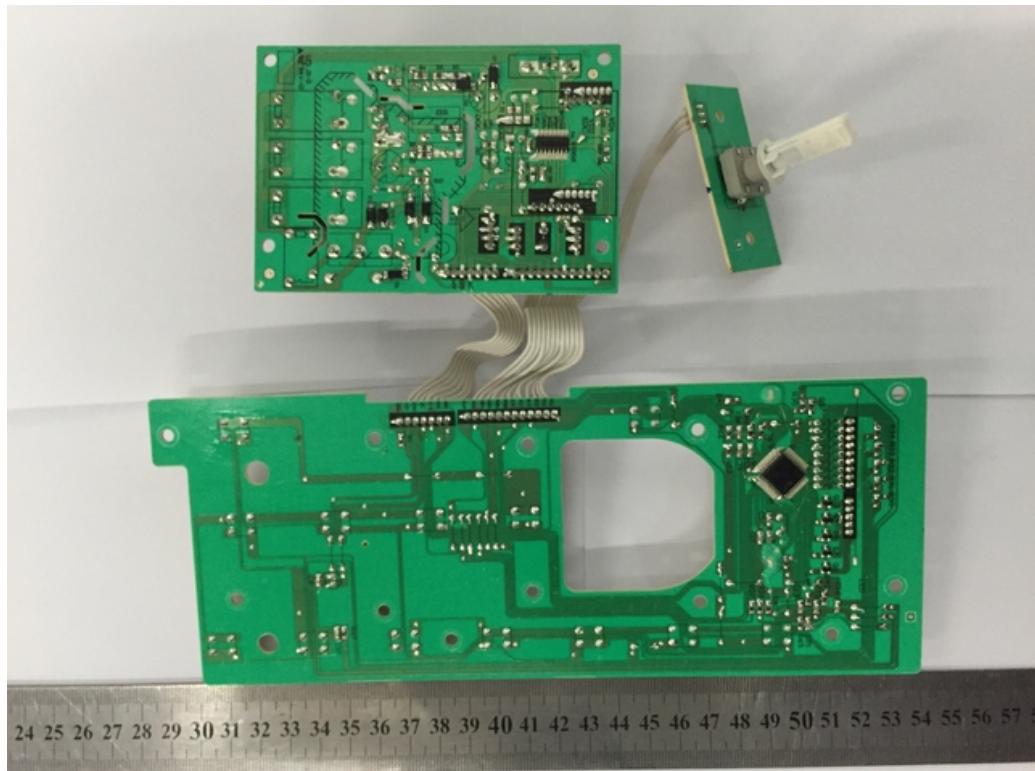
Transducer board - Top View



Transducer board - Bottom View



Mother board - Top View



Mother board - Bottom View

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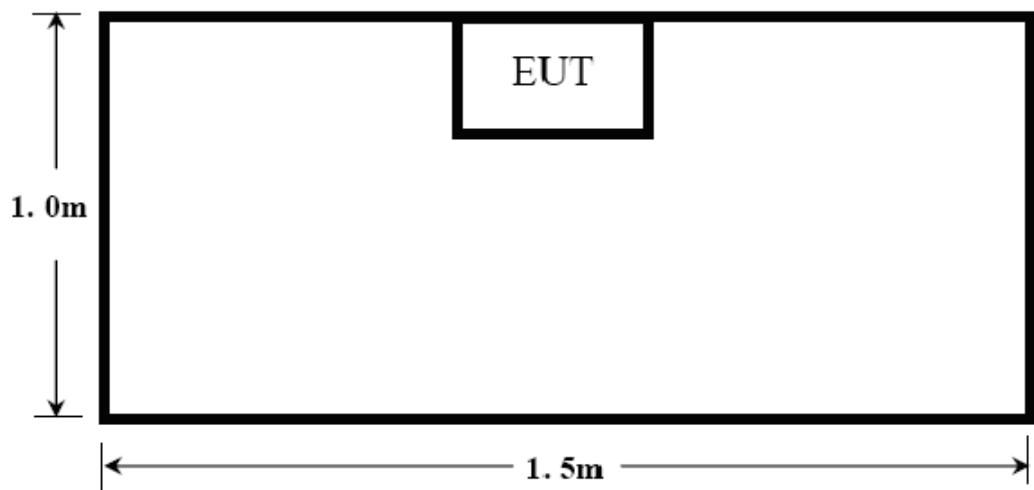
Test System Details

EUT								
Model Number:	P120D60(X)(Y)-(Z)							
Model Tested:	P120D60EPH-DP							
Description:	Microwave Oven							
Input:	AC 120V/60Hz							
Manufacturer:	Guangdong Galanz Enterprises 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	1.10	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 Galanz Enterprises Co Ltd.	TEST STANDERD:	FCC Part 18
MODEL NUMBERS:	P120D60(X)(Y)-(Z)	PRODUCT:	Microwave Oven
MODEL TESTED:	P120D60EPH-DP	EUT DESIGNATION:	Home or Office
TEMPERATURE:	23°C	HUMIDITY:	51%
ATM PRESSURE:	103kPa	GROUNDING:	Through AC Power Cord
TESTED BY:	Daomen Guan	DATE OF TEST:	April 6 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 875ml 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		
RESULTS:	<p>There was no microwave leakage exceeding a power level of 0.28mW/cm² observed at any point 5cm or more from the external surface of the oven.</p> <p>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. 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 system	HOLADAY	HI-1710	98370	2017.1.16

TESTED BY:


Daren

ENGINEER

REVIEWED BY:


James

SENIOR ENGINEER

Radiation Hazard Test Set up:



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ATTACHMENT 2 - INPUT POWER MEASUREMENT

CLIENT:	Guangdong Galanz Enterprises Co Ltd.	TEST STANDERD:	FCC Part 18
MODEL NUMBERS:	P120D60(X)(Y)-(Z)	PRODUCT:	Microwave Oven
MODEL TESTED:	P120D60EPH-DP	EUT DESIGNATION:	Home or Office
TEMPERATURE:	22°C	HUMIDITY:	59%
ATM PRESSURE:	103.1kPa	GROUNDING:	Through AC Power Cord
TESTED BY:	Daomen Guan	DATE OF TEST:	April 6 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 875ml 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:

Input voltage (V)	Input Current (A)	Measured Input Power (W)	Rated input Power (W)
120.1V/60Hz	13.446	1487	1500

Test Equipments List:

Test Equipment	Manufacturer	Model	Serial No.	Cal. Due Date
Power Meter	Ainuo	AN8720P	058704074	2016.07.19

TESTED BY:


Damer

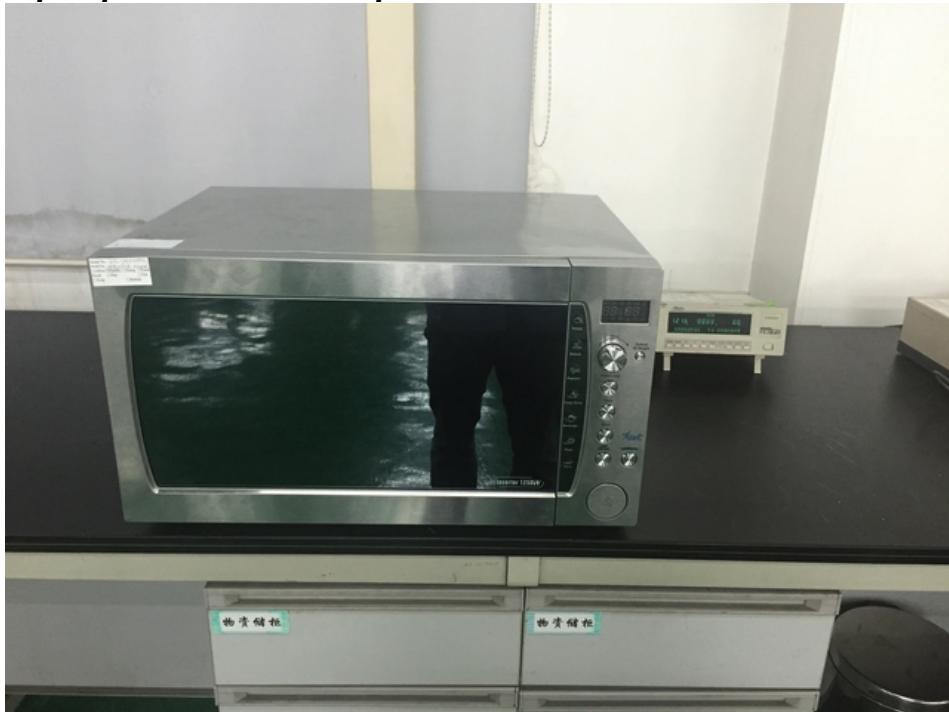
ENGINEER

REVIEWED BY:


James

SENIOR ENGINEER

Input power Test Set up:



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ATTACHMENT 3 – RF OUTPUT POWER MEASUREMENT

CLIENT:	Guangdong Galanz Enterprises Co Ltd.	TEST STANDERD:	FCC Part 18
MODEL NUMBERS:	P120D60(X)(Y)-(Z)	PRODUCT:	Microwave Oven
MODEL TESTED:	P120D60EPH-DP	EUT DESIGNATION:	Home or Office
TEMPERATURE:	22 °C	HUMIDITY:	60%RH
ATM PRESSURE:	103kPa	GROUNDING:	Through AC Power Cord
TESTED BY:	Daomen Guan	DATE OF TEST:	April 6 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 1250ml 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> $= (4.2\text{ joules/calorie})(\text{volume in milliliters})(\text{temperature rise}) / (\text{time in seconds})$ $= 4.2 \text{ joules/calorie} \times 1250 \times (\text{Final Temp} - \text{Initial Temp}) / 123$		
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)
20.1	48.7	123S	1220.6

$$RF\ Output\ Power\ (W) = 4.2 \times 1250 \times (Final\ Temp - Initial\ Temp) / 123 = 1220.6\ watts$$

Test Equipments list:

Test Equipment	Manufacturer	Model	Serial No.	Cal. Due Date
Digit Thermometer	TES	TES1310	021108782	2016.08.12
Electronic scale	USA.HZ&HUAZI	5kg	11038	2017.03.24
Power Meter	Ainuo	AN8720P	058704074	2016.07.19

TESTED BY: 
Damer

ENGINEER

REVIEWED BY: 
James

SENIOR ENGINEER

RF Output power Test Set up:



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ATTACHMENT 4 - OPERATING FREQUENCY MEASUREMENT

CLIENT:	Guangdong Galanz Enterprises Co Ltd.	TEST STANDERD:	FCC Part 18
MODEL NUMBERS:	P120D60(X)(Y)-(Z)	PRODUCT:	Microwave Oven
MODEL TESTED:	P120D60EPH-DP	EUT DESIGNATION:	Home or Office
TEMPERATURE:	22°C	HUMIDITY:	60%RH
ATM PRESSURE:	101.1kPa	GROUNDING:	Through AC Power Cord
TESTED BY:	Daomen Guan	DATE OF TEST:	April 6 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 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 1250ml 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 1250ml 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>
2411.6	2478.6

Variation in Operating Frequency with Line Voltage:

<i>Minimum Frequency (MHz)</i>	<i>Maximum Frequency (MHz)</i>
2410.2	2478.0
<i>Note: Line voltage varied from 96Vac to 150Vac.</i>	

Test Equipments List:

Test Equipment	Manufacturer	Model	Serial No.	Last Cal.	Cal. Due
Spectrum Analyzer	R&S	FSP30	100755	11/20/2015	11/19/2016
Horn Antenna	ETS	3115	6587	10/24/2015	10/23/2016
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:



Darren

ENGINEER

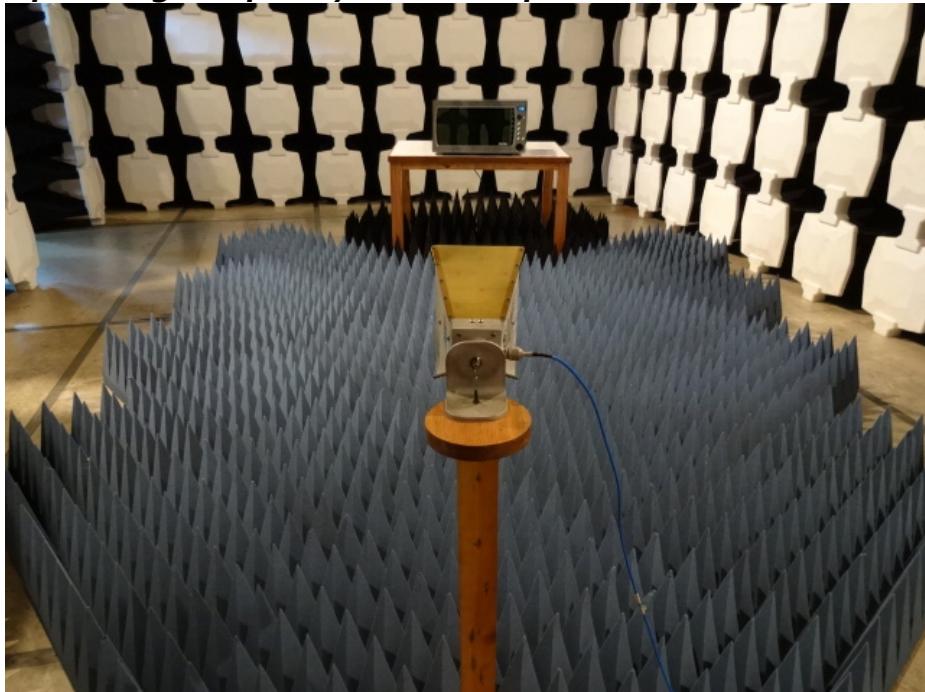
REVIEWED BY:



James

SENIOR ENGINEER

Operating Frequency Test Set-up:



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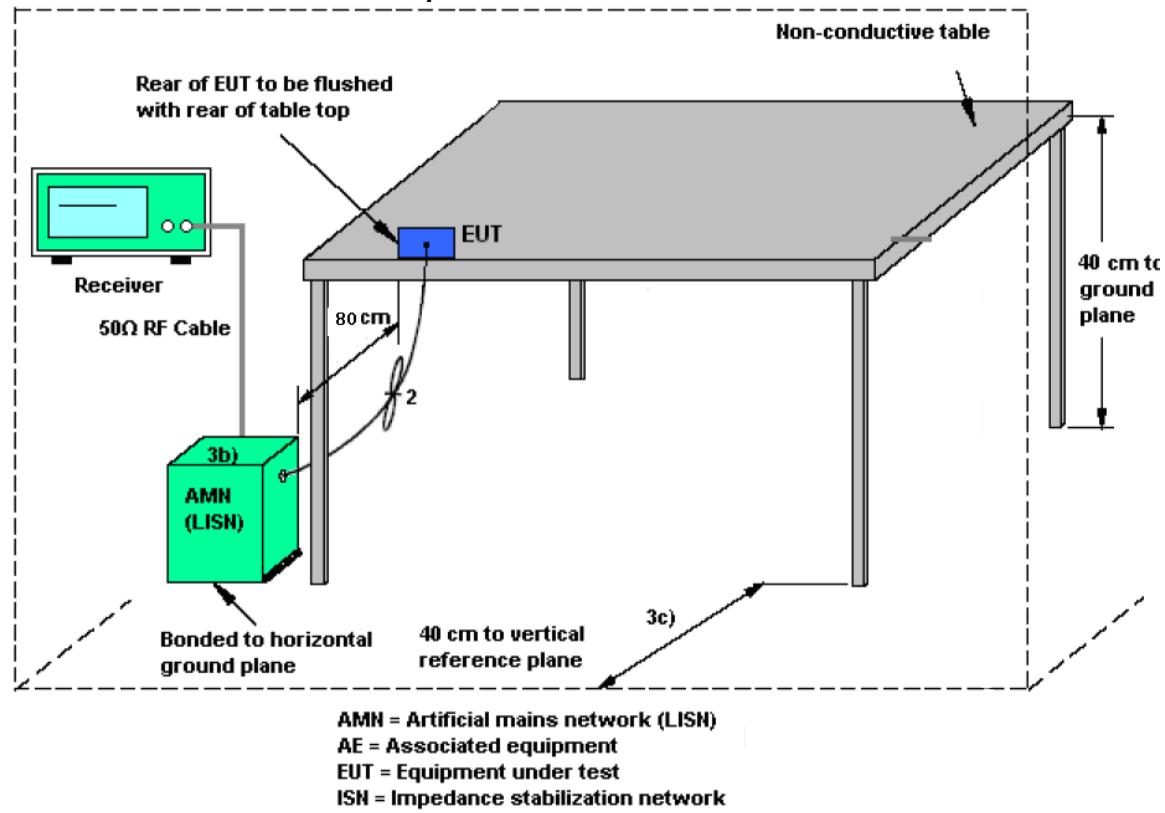
Prepared by ECMG Electronic Technical Testing Corp (Shenzhen).

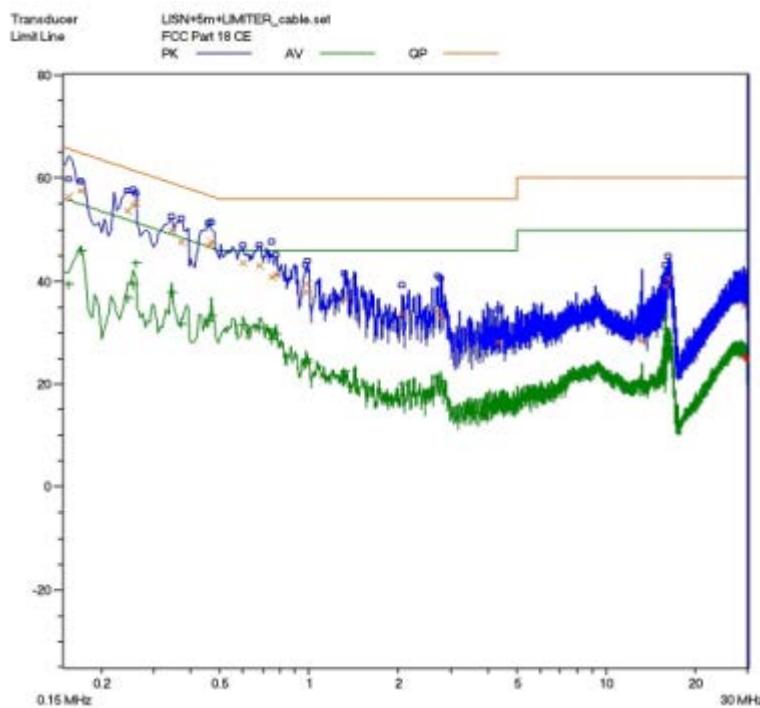
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ATTACHMENT 5 – CONDUCTED EMISSION TEST RESULTS

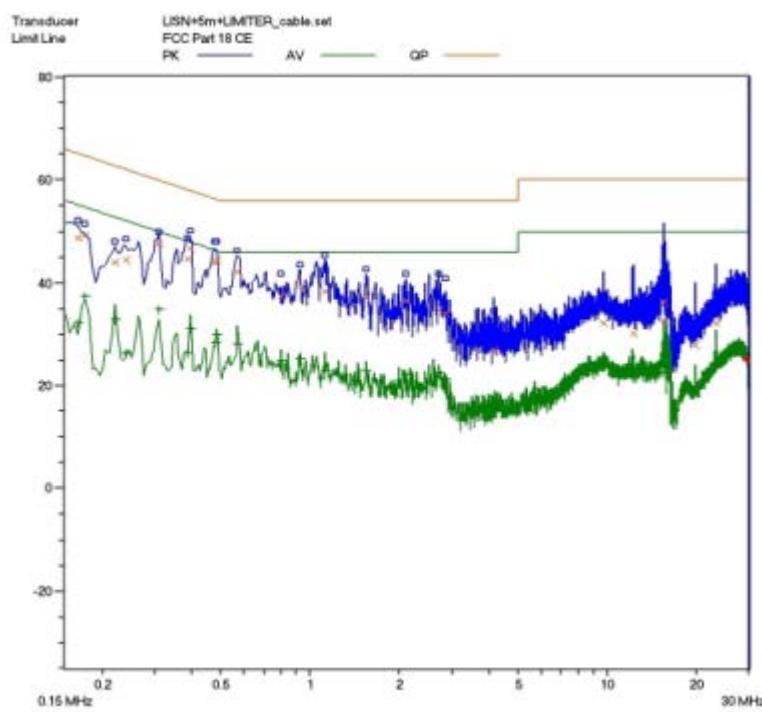
CLIENT:	Guangdong Galanz Enterprises Co Ltd.	TEST STANDERD:	FCC Part 18
MODEL NUMBERS:	P120D60(X)(Y)-(Z)	PRODUCT:	Microwave Oven
MODEL TESTED:	P120D60EPH-DP	EUT DESIGNATION:	Home or Office
TEMPERATURE:	22°C	HUMIDITY:	60%RH
ATM PRESSURE:	101.1kPa	GROUNDING:	Through AC Power Cord
TESTED BY:	Daomen Guan	DATE OF TEST:	April 6 th ,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.		
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		

Conducted Emission Test Set up:





Line L Conducted Emission Graph



Line N Conducted Emission Graph

Test Data:

Lines (L/N)	Frequency (MHz)	Corrected QP Level (dBuV)	Limits QP (dBuV)	Margin QP (dB)	Frequency (MHz)	Corrected AV Level (dBuV)	Limits AV (dBuV)	Margin QP (dB)
L	0.1726	57.8	64.8	-7.0	0.1726	46.2	54.8	-8.6
L	0.2634	55.8	61.3	-5.5	0.2634	43.9	51.3	-7.4
L	0.4762	48.2	56.4	-8.2	0.4762	33.8	46.4	-12.6
N	0.3104	47.8	60.0	-12.2	0.3104	35.4	50.0	-14.6
N	0.3952	46.9	58.0	-11.1	0.3952	31.9	48.0	-16.1
N	0.5720	42.5	56.0	-13.5	0.5720	28.4	46.0	-17.6

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	SCHAFFNER	SMR4503	44	10/26/2015	10/25/2016
AMN	R&S	ESH2-Z5	0338.5219.5 3-100396-vj	03/31/2016	03/30/2017
Shielding Room	ETS	8mx4mx3m	N/A	05/13/2016	05/12/2017

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:


Damer

ENGINEER

REVIEWED BY:


James

SENIOR ENGINEER

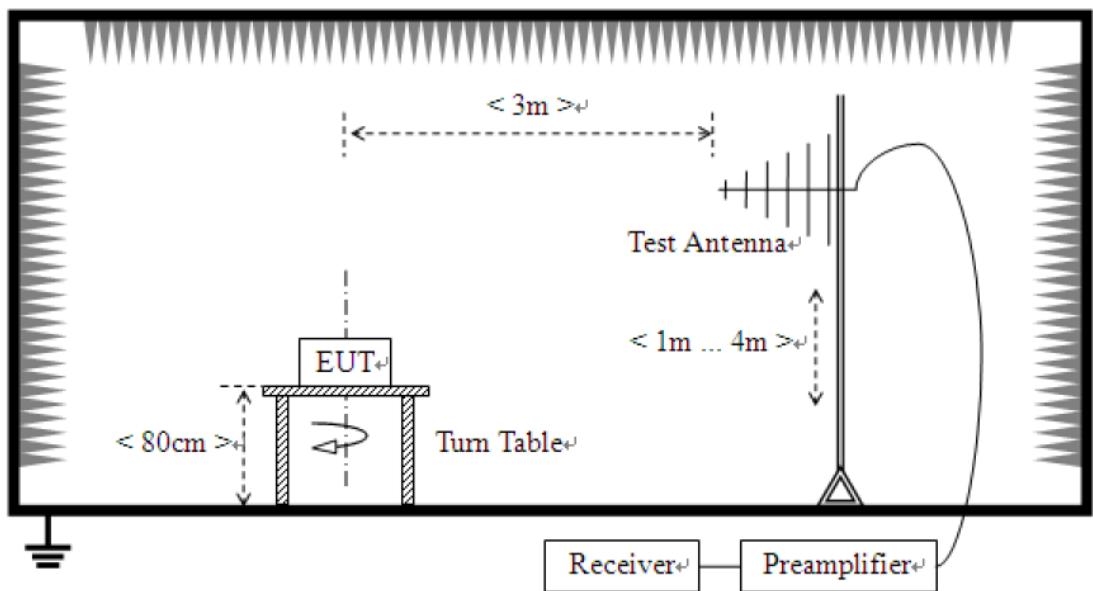
Conducted Emission Test Set-up:



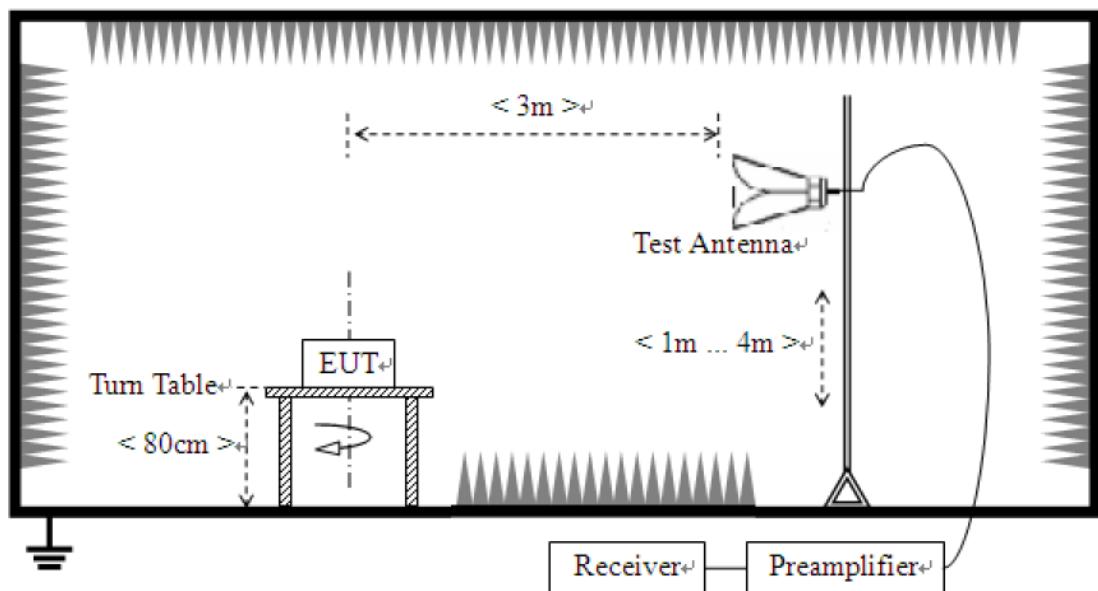
ATTACHMENT 6 - RADIATED EMISSION TEST RESULTS

CLIENT:	Guangdong Galanz Enterprises Co Ltd.	TEST STANDERD:	FCC Part 18
MODEL NUMBERS:	P120D60(X)(Y)-(Z)	PRODUCT:	Microwave Oven
MODEL TESTED:	P120D60EPH-DP	EUT DESIGNATION:	Home or Office
TEMPERATURE:	22 °C	HUMIDITY:	63%RH
ATM PRESSURE:	103.0kPa	GROUNDING:	Through AC Power Cord
TESTED BY:	Daomen Guan	DATE OF TEST:	April 6 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:	The maximum measurement uncertainty is evaluated as : 30~1000MHz: 3.20dB; 1~25GHz: 3.52dB		

For radiated emissions from 30MHz to1GHz



For radiated emissions above 1GHz



Field strength limits for out-of-band emissions :

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

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

Test Data :

30MHz - 1GHz						
Frequency [MHz]	Antenna Polarization [V/H]	Corrected Reading [dB_uV/m]	Factor (dB)	Field Strength [dB_uV/m]	Delta, QP [dB]	3 Meters Limits [dB_uV/m]
31.5040	V	18.40	35.03	53.43	-18.4	71.83
106.2500	V	25.80	20.23	46.03	-25.8	71.83
415.0540	V	11.60	48.63	60.23	-11.6	71.83
52.1680	H	22.50	26.83	49.33	-22.5	71.83
118.2540	H	25.60	20.63	46.23	-25.6	71.83
416.8200	H	10.80	50.23	61.03	-10.8	71.83

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_uV/m]	Factor (dB)	Field Strength [dB_uV/m]	Delta, AV [dB]	3 Meters Limits [dB_uV/m]
1.24268	V	32.06	7.71	39.77	-32.06	71.83
4.95120	V	48.02	24.21	23.81	-48.02	71.83
7.42744	V	54.64	37.45	17.19	-54.64	71.83
8.66316	V	52.69	33.55	19.14	-52.69	71.83
1.23676	H	31.83	8.17	40.00	-31.83	71.83
4.94832	H	49.02	26.21	22.81	49.02	71.83
7.41996	H	53.87	35.91	17.96	-53.87	71.83
8.65576	H	53.97	36.11	17.86	-53.97	71.83

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 Receiver	SCHAFFNER	SMR4503	44	2015-10-26	2016-10-26
Horn Antenna	ETS	3115	6587	2014-10-24	2016-10-24
Broadband Antenna	ETS	3142C	00042672	2014-10-24	2016-10-24
Band-pass Filter	Micro-Tronic	BRM50702	030	2015-12-22	2016-12-22
Spectrum Analyzer	R&S	FSP30	100755	2015-11-20	2016-11-20
3m Anechoic chamber	ETS	RFD-F-100	3187	2015-05-20	2017-05-20

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:

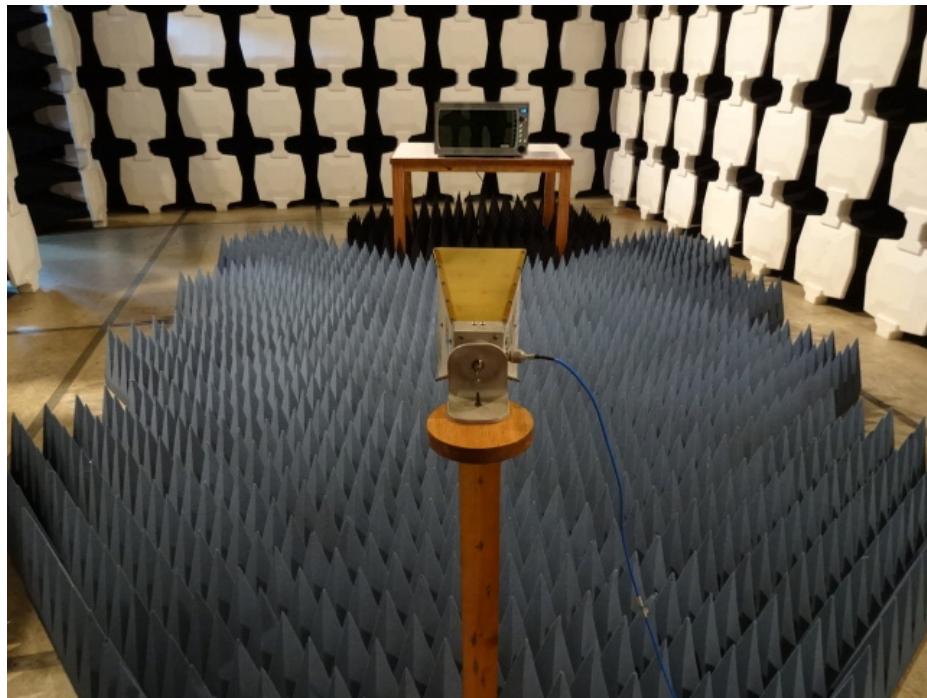


SENIOR ENGINEER

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



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



※※※ *End Of Report* ※※※