

# **EMI Test Report**

On Model Name: Microwave oven

Model Numbers: D10034(X)R-(Z)

Brand Name: Galanz

FCC ID: UHW10034002

Prepared for Guangdong Galanz Enterprises Co. Ltd

According to

FCC Part 18

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#: PSZ-0805-0736-FCCID

Prepared by: Eddy Chen
Reviewed by: Ivan Wen

QC Manager: Paul Chen

Test Report Released by: 2008, June 16

aul Chen Date

#### **List Attached Files**

| Exhibit Type          | File Description      | File Name                                 |  |
|-----------------------|-----------------------|---|--|
| Test Report           | Test Report           | UHW10034002 _Test report.pdf              |  |
| Operation Description | Technical Description | UHW10034002 _operation<br>description.pdf |  |
| External Photos       | External Photos       | UHW10034002 _External Photos              |  |
| Internal Photos       | Internal Photos       | UHW10034002 _Internal Photos              |  |
| Block Diagram         | Block Diagram         | UHW10034002 _Block Diagram.pdf            |  |
| Schematics            | Circuit Diagram       | UHW10034002 _Schematics.pdf               |  |
| ID Label/Location     | Label and Location    | UHW10034002 _Label & Location.pdf         |  |
| User Manual           | User Manual           | UHW10034002 _User Manual.pdf              |  |
| Test setup photos     | Test setup photos     | UHW10034002 _Test Setup Photos            |  |

#### **Test Location**

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

Test Site Location: Guangdong Galanz Enterprise Co. Ltd

25 South Ronggui Rd., Shunde, Foshan,

Guangdong, China

Tel : 86-755-23612785

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FCC Registration Number: 580210

CNAS Number: L2244

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#### **Opinions and Interpretations**

This test report relates to the abovementioned equipment under test (EUT). Without the permission of ECMG Worldwide Certification Solution Inc., 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 : D10034(X)R-(Z)

Model Tested : D10034MSLR-B8

Brand Name : Galanz

Date Tested : 2008, May 20

Applicant : Guangdong Galanz Enterprises Co. Ltd

25Ronggui Nan Road, Shunde, Foshan,

Guangdong, China.

Telephone : 86-0757-23612785

Fax : 86-0757-23612537

Manufacturer : Guangdong Galanz Enterprises Co. Ltd

25Ronggui Nan Road, Shunde, Foshan,

Guangdong, China.

#### **EUT Description**

Guangdong Galanz Enterprises Co. Ltd model tested D10034MSLR-B8 (referred to the EUT in this report) is a Microwave Oven.

| Power Supply               | 120V AC , 60 Hz            |
|----------------------------|----------------------------|
| Rated Input Power          | 1450W                      |
| Rated Output Power         | 1000W                      |
| Operation Frequency        | 2450MHz                    |
| Magnetron Manufacturer     | Galanz                     |
| Magnetron Model Number     | M24FC-610A                 |
| Outside Dimensions (HxWxD) | 300mm(H)×539mm(W)×440mm(D) |
| Oven Capacity:             | 30Litres                   |
| Net Weight                 | Approx. 16.4kg             |

Test Report #: PSZ-0805-0736-FCCID

Prepared for Guangdo3ng Galanz Enterprises Co. Ltd Prepared by ECMG Worldwide Certification Solution Inc.

## Type of Deriver

D10034(X)R-(Z) model designations:

D: Denotes the Microwave Oven with grill function.

100: Denotes the output power is 1000W.

34: Denotes capacity in 34 liters;

X may be ASL, ESL, MSL, ASP, ESP, MSP;

"A", "E" or "M" denote the electrical control model. "L" and "P" denote type of door. "L" is pull-out door, "P" is push-button door. "S" denotes stainless steel cavity.

R: Denotes combination of microwave, grill and convection features

Z may be any combination of one to five letters and/or numbers representing cosmetic differences, for example, the different colours or the different door handle.

#### **Test Summary**

The Electromagnetic Compatibility requirements on model tested D10034MSLR-B8 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.

|   | Emission Tests                        |              |               |              |  |  |
|---|---------------------------------------|--------------|---------------|--------------|--|--|
| Specifications  | Description                           | Test Results | Test Point    | Remark       |  |  |
| FCC Part 18:2004<br>FCC/OST MP-5:1986<br>ANSI C63.4: 2003 | Radiation<br>Hazard<br>Measurement    | Passed       | Enclosure     | Attachment 1 |  |  |
| FCC Part 18:2004<br>FCC/OST MP-5:1986<br>ANSI C63.4: 2003 | Input Power<br>Measurement            | Passed       | AC Input Port | Attachment 2 |  |  |
| FCC Part 18:2004<br>FCC/OST MP-5:1986<br>ANSI C63.4: 2003 | RF Output<br>power<br>Measurement     | Passed       | EUT           | Attachment 3 |  |  |
| FCC Part 18:2004<br>FCC/OST MP-5:1986<br>ANSI C63.4: 2003 | Operating<br>Frequency<br>Measurement | Passed       | EUT           | Attachment 4 |  |  |
| FCC Part 18:2004<br>FCC/OST MP-5:1986<br>ANSI C63.4: 2003 | Conducted<br>Emission                 | Passed       | AC Input Port | Attachment 5 |  |  |
| FCC Part 18:2004<br>FCC/OST MP-5:1986<br>ANSI C63.4: 2003 | Radiated<br>Emission                  | Passed       | Enclosure     | Attachment 6 |  |  |

#### **Load for Microwave Ovens**

For all measurements the energy developed by the oven was absorbed by a dummy load consisting of a quantity of tag 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**

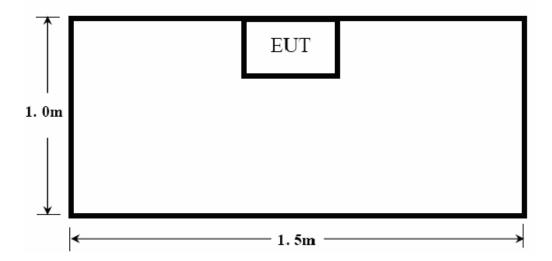
Any modifications installed previous to testing by Guangdong Galanz Enterprises Co. Ltd will be incorporated in each production model sold or leased in United States.

There were no modifications installed by ECMG Worldwide Certification Solution Inc., test personnel.

## **Test System Details**

| EUT  |  |         |      |   |   |  |
|--|--|---------|------|---|---|--|
| Model Numbers:   | D10034(.   | X)R-(Z) |      |   |   |  |
| Model Tested:  | D10034N  | ASLR-B8 |      |   |   |  |
| Description:   | Microwav   | ve oven |      |   |   |  |
| Manufacturer:  | Manufacturer: Guangdong Galanz Enterprises Co. Ltd |         |      |   |   |  |
| Support Equipment  |  |         |      |   |   |  |
|  |  |         | N/A  |   |   |  |
|  | Cable Description                                  |         |      |   |   |  |
| Description From To Length (Meters) Shielded (Y/N) Ferrite (Y/N) |  |         |      |   |   |  |
| Power Cable  | EUT  | Plug    | 1.20 | N | N |  |

## Configuration of Tested System



## ATTACHMENT 1 - RADIATION HAZARD TEST

| CLIENT:                   | Guangdong Galanz<br>Enterprises Co. Ltd  | TEST STANDERD:   | FCC Part 18                     |  |
|---------------------------|--|------------------|---------------------------------|--|
| MODEL NUMBERS:            | D10034(X)R-(Z)   | PRODUCT:         | Microwave Oven<br>(Counter-top) |  |
| MODEL TESTED:             | D10034MSLR-B8  | EUT DESIGNATION: | Home or Office                  |  |
| TEMPERATURE:              | 21°C   | HUMIDITY:        | 60%RH                           |  |
| ATM PRESSURE:             | 101.1kPa   | GROUNDING:       | Through AC Power Cord           |  |
| TESTED BY:                | Eddy Chen  | DATE OF TEST:    | 2008, May 20                    |  |
| TEST REFERENCE:           | ANSI C63.4: 2003, 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 1000ml 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 microwave meter will check the leakage and then record the maximum leakage. |                  |                                 |  |
| TESTED RANGE:             | N/A  |                  |                                 |  |
| TEST VOLTAGE:             | 120VAC / 60Hz  |                  |                                 |  |
| RESULTS:                  | There was no microwave leakage exceeding a power level of 0.14 mW/cm2 observed at any point 5cm or more from the external surface of the oven.  A maximum of 1.0mW/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.  |                  |                                 |  |
| Changes or Modifications: | There were no modifications installed by ECMG Worldwide Certification Solution Inc., (China) test personnel.   |                  |                                 |  |
| M. UNCERTAINTY:           | 0.0001 mW/cm2  |                  |                                 |  |

## Test equipments list:

| Test Equipment               | Manufacturer | Model    | Serial No. | Last Cal.  | Cal. Due   |
|------------------------------|--------------|----------|------------|------------|------------|
| Microwave test<br>instrument | Holaday      | HI-1710A | 00049254   | 12/26/2007 | 12/25/2008 |
| Probe                        | Holaday      | HI-2623  | 00056803   | 12/26/2007 | 12/25/2008 |

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:

REVIEWED BY: Wom Won

## ATTACHMENT 2 - INPUT POWER MEASUREMENT

| CLIENT:                   | Guangdong Galanz<br>Enterprises Co. Ltd   | TEST STANDERD:   | FCC Part 18                     |  |
|---------------------------|---|------------------|---------------------------------|--|
| MODEL NUMBERS:            | D10034(X)R-(Z)  | PRODUCT:         | Microwave Oven<br>(Counter-top) |  |
| MODEL TESTED:             | D10034MSLR-B8   | EUT DESIGNATION: | Home or Office                  |  |
| TEMPERATURE:              | 21°C  | HUMIDITY:        | 60%RH                           |  |
| ATM PRESSURE:             | 101.1kPa  | GROUNDING:       | Through AC Power Cord           |  |
| TESTED BY:                | Eddy Chen   | DATE OF TEST:    | 2008, May 20                    |  |
| TEST REFERENCE:           | ANSI C63.4: 2003, 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 1000ml 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 Worldwide Certification Solution Inc., (China) test personnel.  |                  |                                 |  |
| M. UNCERTAINTY:           | ± 5W  |                  |                                 |  |

#### Test Data:

| Input Voltage Input Current (Vac/Hz) (amps) |       | Measured Input<br>Power (watts) | Rated Input Power<br>(watts) |  |
|---|-------|---------------------------------|------------------------------|--|
| 120/60                                      | 13.91 | 1583                            | 1600                         |  |

## Test equipments list:

| Test Equipment                 | Manufacturer | Model    | Serial No. | Last Cal.  | Cal. Due   |
|--------------------------------|--------------|----------|------------|------------|------------|
| Power frequency<br>test system | Ainuo        | AN8716PX | 058704273  | 06/12/2007 | 06/12/2008 |

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).

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## ATTACHMENT 3 - RF OUTPUT POWER MEASUREMENT

| CLIENT:                   | Guangdong Galanz<br>Enterprises Co. Ltd  | TEST STANDERD:   | FCC Part 18                     |  |  |
|---------------------------|--|------------------|---------------------------------|--|--|
| MODEL NUMBERS:            | D10034(X)R-(Z)   | PRODUCT:         | Microwave Oven<br>(Counter-top) |  |  |
| MODEL TESTED:             | D10034MSLR-B8  | EUT DESIGNATION: | Home or Office                  |  |  |
| TEMPERATURE:              | 21℃  | HUMIDITY:        | 60%RH                           |  |  |
| ATM PRESSURE:             | 101.1kPa   | GROUNDING:       | Through AC Power Cord           |  |  |
| TESTED BY:                | Eddy Chen  | DATE OF TEST:    | 2008, May 20                    |  |  |
| TEST REFERENCE:           | ANSI C63.4: 2003, FCC/OST  | MP-5:1986        |                                 |  |  |
| TEST PROCEDURE:           | 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.  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:                  | RF Output Power = 827 watts  |                  |                                 |  |  |
|                           | The test results relate only to the equipment under test provided by client.   |                  |                                 |  |  |
| Changes or Modifications: | There were no modifications installed by ECMG Worldwide Certification Solution Inc., (China) test personnel.   |                  |                                 |  |  |
| M. UNCERTAINTY:           | ± 0.3℃   |                  |                                 |  |  |

#### Test Data:

| Quality of Water | Starting        | Final           | Elapsed Time | RF Output     |
|------------------|-----------------|-----------------|--------------|---------------|
| (ml)             | Temperature (で) | Temperature (で) | (Seconds)    | Power (watts) |
| 1000             | 18.5            | 41.5            | 120          | 827           |

## Test equipments list:

| Test Equipment   | Manufacturer | Model    | Serial No. | Last Cal.  | Cal. Due   |
|------------------|--------------|----------|------------|------------|------------|
| Data Acquisition | TES          | TES-1310 | 020907011  | 12/03/2008 | 11/03/2009 |

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).

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SENIOR ENGINEER

## ATTACHMENT 4 - OPERATING FREQUENCY MEASUREMENT

| CLIENT:                      | Guangdong Galanz<br>Enterprises Co. Ltd   | TEST STANDERD:          | FCC Part 18                     |  |  |
|------------------------------|---|-------------------------|---------------------------------|--|--|
| MODEL NUMBERS:               | D10034(X)R-(Z)  | PRODUCT:                | Microwave Oven<br>(Counter-top) |  |  |
| MODEL TESTED:                | D10034MSLR-B8   | EUT DESIGNATION:        | Home or Office                  |  |  |
| TEMPERATURE:                 | 21℃   | HUMIDITY:               | 60%RH                           |  |  |
| ATM PRESSURE:                | 101.1kPa  | GROUNDING:              | Through AC Power Cord           |  |  |
| TESTED BY:                   | Eddy Chen   | DATE OF TEST:           | 2008, May 20                    |  |  |
| TEST REFERENCE:              | ANSI C63.4: 2003, 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.   |                         |                                 |  |  |
|                              | 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 frequence   | cy 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 pagwith time & line voltage meas  |                         | iation in operating frequency   |  |  |
|                              | The test results relate only to   | the equipment under tes | t provided by client.           |  |  |
| Changes or<br>Modifications: | There were no modifications Inc., (China) test personnel.   | s installed by ECMG Wo  | rldwide Certification Solution  |  |  |
| M. UNCERTAINTY:              | Freq. ±10kHz  |                         |                                 |  |  |

## Variation in Operating Frequency with Time:

| Minimum Frequency (MHz) | Maximum Frequency (MHz) |
|-------------------------|-------------------------|
| 2433.6                  | 2458.2                  |

## Variation in Operating Frequency with Line Voltage:

| Minimum Frequency (MHz)                         | Maximum Frequency (MHz) |
|---|-------------------------|
| 2426.6  | 2458.8                  |
| Note: Line voltage varied from 96Vac to 150Vac. |                         |

#### Test equipments list:

| Test Equipment      | Manufacturer | Model    | Serial No. | Last Cal.  | Cal. Due   |
|---------------------|--------------|----------|------------|------------|------------|
| Bilog Antenna       | Chase        | CBL6112B | SB3440     | 01/25/2008 | 01/24/2009 |
| Horn Antenna        | R&S          | HF906    | SB3434     | 01/25/2008 | 01/24/2009 |
| EMI Receiver        | R&S          | ES126    | SB3436     | 01/25/2008 | 01/24/2009 |
| 3M Anechoic chamber | Albatross    | 9x6x6    | SB3450     | 03/27/2008 | 03/27/2009 |

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).

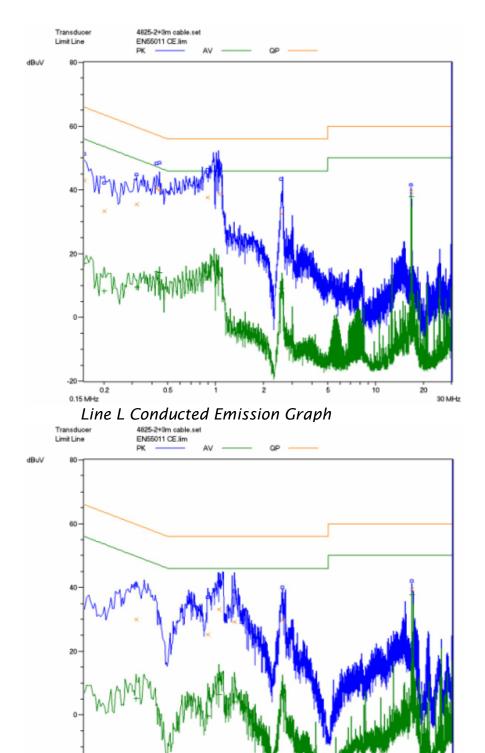
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SENIOR ENGINEER

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## **ATTACHMENT 5 - CONDUCTED EMISSION TEST RESULTS**

| CLIENT:                   | Guangdong Galanz<br>Enterprises Co. Ltd   | TEST STANDERD:             | FCC Part 18                     |  |  |
|---------------------------|---|----------------------------|---------------------------------|--|--|
| MODEL NUMBERS:            | D10034(X)R-(Z)  | PRODUCT:                   | Microwave Oven<br>(Counter-top) |  |  |
| MODEL TESTED:             | D10034MSLR-B8   | EUT DESIGNATION:           | Home or Office                  |  |  |
| TEMPERATURE:              | 21℃   | HUMIDITY:                  | 60%RH                           |  |  |
| ATM PRESSURE:             | 101.1kPa  | GROUNDING:                 | Through AC Power Cord           |  |  |
| TESTED BY:                | Eddy Chen   | DATE OF TEST:              | 2008, May 20                    |  |  |
| TEST REFERENCE:           | ANSI C63.4: 2003, FCC/OST MP-5:1986   |                            |                                 |  |  |
| TEST PROCEDURE:           | The EUT was set up according to the guideline of ANSI C63.4: 2003 & 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 requirem  | ents 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 Worldwide Certification Solution Inc., (China) test personnel.  |                            |                                 |  |  |
| M. UNCERTAINTY:           | ±2.5 dB   |                            |                                 |  |  |



Line N Conducted Emission Graph

Test Report #: PSZ-0805-0736-FCCID Prepared for Guangdo3ng Galanz Enterprises Co. Ltd Prepared by ECMG Worldwide Certification Solution Inc.

## Test data:

| Line | Frequency<br>[KHz] | QP<br>Reading<br>[dBµV] | Delta<br>QP [dB] | Limit<br>[dBµV/m] | AVE<br>Reading<br>[dBµV] | Delta<br>AVE [dB] | Limit<br>[dBµV/m] |
|------|--------------------|-------------------------|------------------|-------------------|--------------------------|-------------------|-------------------|
| L    | 0.441              | 41.0                    | -15.04           | 56.04             | 14.4                     | -31.64            | 46.04             |
| L    | 1.039              | 41.6                    | -14.40           | 56.00             | 13.9                     | -32.10            | 46.00             |
| L    | 2.607              | 36.8                    | -19.20           | 56.00             | 11.8                     | -34.20            | 46.00             |
| N    | 1.081              | 39.9                    | -20.10           | 56.00             | 12.4                     | -33.60            | 46.00             |
| N    | 1.306              | 40.9                    | 15.10            | 56.00             | 13.8                     | -32.20            | 46.00             |
| N    | 2.611              | 33.1                    | -22.90           | 56.00             | 10.2                     | -35.80            | 46.00             |

Note: All readings are using a bandwidth of 9 kHz, with a 30 ms sweep time.

#### Test equipments list:

| Test Equipment | Manufacturer | Model   | Serial No. | Last Cal.  | Cal. Due   |
|----------------|--------------|---------|------------|------------|------------|
| EMI Receiver   | R&S          | ESCS30  | SB2603     | 01/25/2008 | 01/24/2009 |
| AMN            | R&S          | ESH2-Z5 | SB3321     | 01/25/2008 | 01/24/2009 |

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** 

## ATTACHMENT 6 - RADIATED EMISSION TEST RESULTS

| CLIENT:                      | Guangdong Galanz<br>Enterprises Co. Ltd   | TEST STANDERD:        | FCC Part 18                     |  |  |
|------------------------------|---|-----------------------|---------------------------------|--|--|
| MODEL NUMBERS:               | D10034(X)R-(Z)  | PRODUCT:              | Microwave Oven<br>(Counter-top) |  |  |
| MODEL TESTED:                | D10034MSLR-B8   | EUT DESIGNATION:      | Home or Office                  |  |  |
| TEMPERATURE:                 | 21℃   | HUMIDITY:             | 60%RH                           |  |  |
| ATM PRESSURE:                | 101.1kPa  | GROUNDING:            | Through AC Power Cord           |  |  |
| TESTED BY:                   | Eddy Chen   | DATE OF TEST:         | 2008, May 20                    |  |  |
| TEST REFERENCE:              | ANSI C63.4: 2003, FCC/OST   | MP-5:1986             |                                 |  |  |
| TEST PROCEDURE:              | The EUT was set up according to the guidelines of ANSI C63.4: 2003 & 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 (prescan) 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 correction factors (including corrected readings against t given as follows:   | , cable and antenna c | orrection factors), and the     |  |  |
|                              | FS= RA + AF + CF - AG   |                       |                                 |  |  |
|                              | Where: FS = Field Strength  |                       |                                 |  |  |
|                              | RA = Receiver Amplitude   |                       |                                 |  |  |
|                              | AF = Antenna Factor   |                       |                                 |  |  |
|                              | CF = Cable Attenuation Factor   | or                    |                                 |  |  |
|                              | AG = Amplifier Gain   |                       |                                 |  |  |
| TESTED RANGE:                | 30MHz to 25GHz  |                       |                                 |  |  |
| TEST VOLTAGE:                | 120VAC / 60Hz   |                       |                                 |  |  |
| RESULTS:                     | The EUT meets the requirements of test reference for Radiated Emissions. The test results relate only to the equipment under test provided by client.   |                       |                                 |  |  |
| Changes or<br>Modifications: | There were no modifications Inc., (China) test personnel.   | installed by ECMG Wor | Idwide Certification Solution   |  |  |
| M. UNCERTAINTY:              | ± 3.2 dB  |                       |                                 |  |  |

## Field strength limits for out-of-band emissions:

For RF output power <500W, Limit at 300m = 27.96dBuV/mFor RF output power>5 00W, Limit at 300m = 20log[25\*SQRT(Power/500)]dBuV/m

#### Test Data:

| 30MHz - 1GHz       |                                  |                                  |                   |                                |  |  |
|--------------------|----------------------------------|----------------------------------|-------------------|--------------------------------|--|--|
| Frequency<br>[MHz] | Antenna<br>Polarization<br>[V/H] | Corrected<br>Reading<br>[dBµV/m] | Delta, QP<br>[dB] | 3 Meters<br>Limits<br>[dBµV/m] |  |  |
| 38.2               | V                                | 30.2                             | -39.9             | 70.1                           |  |  |
| 260.2              | V                                | 9.8                              | -60.2             | 70.1                           |  |  |
| 296.4              | V                                | 16.4                             | -53. <i>T</i>     | 70.1                           |  |  |
| 39.1               | Н                                | 29.2                             | -40.9             | 70.1                           |  |  |
| 260.2              | Н                                | 13.6                             | -56.5             | 70.1                           |  |  |
| 617.4              | Н                                | 14.7                             | -55.4             | 70.1                           |  |  |

Note: All readings are quasi-peak unless stated otherwise, using a bandwidth of 120kHz, with a 30 ms sweep time. A video filter was not used.

| 1 GHz - 25GHz      |                                  |                                  |                   |                                |  |  |
|--------------------|----------------------------------|----------------------------------|-------------------|--------------------------------|--|--|
| Frequency<br>[GHz] | Antenna<br>Polarization<br>[V/H] | Corrected<br>Reading<br>[dBµV/m] | Delta, AV<br>[dB] | 3 Meters<br>Limits<br>[dBµV/m] |  |  |
| 1.31086            | V                                | 20.5                             | -49.6             | 70.1                           |  |  |
| 4.91164            | V                                | 42.8                             | -27.3             | 70.1                           |  |  |
| 7.08254            | V                                | 37.1                             | -33.0             | 70.1                           |  |  |
| 1.8463             | Н                                | 24.6                             | -45.5             | 70.1                           |  |  |
| 4.91494            | Н                                | 47.9                             | -22.2             | 70.1                           |  |  |
| 8.11042            | н                                | 36.6                             | -33.5             | 70.1                           |  |  |

Note: All readings are average unless stated otherwise, using a bandwidth of 1MHz, with a 30 ms sweep time. A video filter was not used.

### Test equipments list:

| Test Equipment      | Manufacturer | Model    | Serial No. | Last Cal.  | Cal. Due   |
|---------------------|--------------|----------|------------|------------|------------|
| Bilog Antenna       | Chase        | CBL6112B | SB3440     | 01/25/2008 | 01/24/2009 |
| Horn Antenna        | R&S          | HF906    | SB3434     | 01/25/2008 | 01/24/2009 |
| EMI Receiver        | R&S          | ES126    | SB3436     | 01/25/2008 | 01/24/2009 |
| 3M Anechoic chamber | Albatross    | 9x6x6    | SB3450     | 03/27/2008 | 03/26/2009 |

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:

REVIEWED BY:

SENIOR ENGINEER