

**LG Electronics Inc.**  
**Digital Appliance Company, EMC Center**

391-2, Ga Eum Jeong – Dong, Changwon City, Gyeong Nam  
641-711, KOREA  
Tel: + 82 55 260 3966, Fax: +82 55 260 3968

***CLASS II PERMISSIVE CHANGE CERTIFICATION OF COMPLIANCE***

---

**Date of Issue: May. 14, 2001**

**Test Report No: 01-LAE-M091**

**Test Site: LG Electronics Changwon EMC Center**

This class II permissive change certification of compliance is to use alternate magnetron type 2M214 by LG on the previous granted model MS-74ME, FCC ID: BEJS070MF dated 03/31/1999.

Applicant:	LG Electronics Inc.
Regulation:	FCC Part 18 – ISM Consumer Device
Test Procedure:	MP-5: 1985
Equipment Class:	Industrial, Scientific, and Medical equipment
EUT Type:	Microwave oven
Magnetron Type:	2M214 (LG Electronics Inc.)
Brand Name(s):	Goldstar or LG
Model No.:	MS-74ME
FCC ID:	BEJS070MF

This device has been verified to comply with the applicable requirements in the FCC Part 18 and was tested in accordance with the measurement procedures specified in MP-5: 1985.

I assure full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.



---

Kwan Y. Sung / Senior Research Engineer  
Digital Appliance Company, EMC Center  
LG Electronics Inc.

---

***CLASS II PERMISSIVE CHANGE REPORT FOR A MICROWAVE  
OVEN***

---

Scope - Measurement and determination of electromagnetic emissions (EME) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission.

**EUT Type:** Microwave oven  
**Model No.:** MS-74ME  
**FCC ID:** BEJS070MF  
**Rule Part:** FCC Part 18  
**Test Procedure:** MP-5: 1985  
**Date of Test:** May. 02, 2001 - May. 07, 2001  
**Date of Issue :** May. 14, 2001  
**Test Result:** Pass

EMC Center authorizes the above-named applicant to reproduce this report provided it is reproduced in its entirety.

*EMC Center reports apply only to the specific sample(s) tested under stated test conditions. It is the manufacturer's responsibility to assure that additional production unit of this model are manufactured with identical electrical and mechanical components.*

*This report is the confidential property of the client. As a mutual protection to our clients, the public and ourselves, extracts from the test report shall not be reproduced except in full without our written approval.*

*This report must not be used by the client to claim product endorsement by any agency of the U.S. Government.*

*The EMC Center facilities has been placed on file and the name of our organization added to the FCC's list for the FCC Part 15 and 18 of the Commission's Rules under Registration Number 93197.*

Tested by:



---

Dong H. Kim / Associate Research Engineer  
Digital Appliance Company, EMC Center  
LG Electronics Inc.

Reviewed by:



---

Kwan Y. Sung / Senior Engineer  
Digital Appliance Company, EMC Center  
LG Electronics Inc.

---

## ***CONTENTS***

---

	Page
<b>1. CLIENT INFORMATION.....</b>	<b>3</b>
<b>2. EQUIPMENT UNDER TEST (EUT).....</b>	<b>3</b>
<b>3. TEST SITE.....</b>	<b>4</b>
<b>4. CALIBRATIONS OF MEASURING INSTRUMENT .....</b>	<b>4</b>
<b>5. DESCRIPTION OF TEST CONDITION .....</b>	<b>4</b>
5.1 RADIATED EMISSIONS MEASUREMENT .....	4
<b>6. MEASURING INSTRUMENT.....</b>	<b>8</b>
<b>7. TEST DATA.....</b>	<b>9</b>
7.1 INPUT POWER.....	9
7.2 RF POWER OUTPUT MEASUREMENT.....	9
7-3. FREQUENCY MEASUREMENTS.....	10
7-4. POWER DENSITY SAFETY CHECK.....	11
7-5. RADIATED EMISSIONS (SECTION 18.305).....	12
<b>APPENDIX A. TEST PLOT .....</b>	<b>12</b>
<b>APPENDIX B. LABELING REQUIREMENTS.....</b>	<b>16</b>
<b>APPENDIX C. BLOCK DIAGRAM / SCHEMATICS .....</b>	<b>17</b>
<b>APPENDIX D. TEST PHOTOS .....</b>	<b>18</b>
<b>APPENDIX E. EUT PHOTOS .....</b>	<b>20</b>
<b>APPENDIX F. OWNER'S MANUAL WITH REGARD TO FCC INSTRUCTION.....</b>	<b>24</b>

## 1. CLIENT INFORMATION

The EUT has been tested by request of:

Company: LG Electronics Inc. Cooking Appliances Division  
391-2, Ga Eum Jung - Dong, Changwon city, Gyeong Nam,  
641-711, Korea  
Name of contact: B. H. Kim  
Telephone: +82-55-260-3463  
Fax: +82-55-260-3223

## 2. EQUIPMENT UNDER TEST (EUT)

EUT is the LG Electronics Inc. Microwave Oven as followings:

Equipment: Microwave oven  
Model: MS-74ME  
Brand name: GoldStar or LG  
Serial number: N/A  
Magnetron: 2M214 by LG Electronics Inc.  
RF Frequency: 2,450 MHz  
RF Power Output(IEC 705): 600 W or 700 W  
Power Consumption  
    Microwave Mode: 910 W or 1050 W  
Rated Input Voltage: 120 V~, 60 Hz  
Rated Input Current  
    Microwave Mode: 8.5 A or 9.3 A  
Cavity Volume: 0.7 Cu.ft  
Oven Type: Countertop / Household  
Mode Stirrer: Turntable  
Power Cord: Unshielded  
Outer Dimensions(inch) 19.00 (W) \* 11.00 (H) \* 12.87 (D)

EMI suppression device(s) installed in production: See schematics (Appendix C)

EMI suppression device(s) added and/or modified during test: None

**This class II permissive change certification of compliance is to use alternate magnetron type 2M214 by LG on the previous granted model MS-74ME, FCC ID: BEJS070MF dated 03/31/1999.**

### 3. TEST SITE

Measurement of radiated emissions from EUT was made at semi-anechoic chamber that has been in compliance with Federal Communications Commissions (FCC) requirements of clause 2.948 according to ANSI C63.4-1992 on April 21, 1998.

### 4. CALIBRATIONS OF MEASURING INSTRUMENT

All measurement was made with instruments calibrated according to the recommendation by manufacturer. Measurement of radiated emissions and power line conducted emissions were made with instruments conforming to American National Standard Specification, ANSI C63.4-1992. The calibration of measuring instrument, including any accessories that may affect test results, was performed according to the recommendation by manufacturer.

### 5. DESCRIPTION OF TEST CONDITION

#### 5.1 Radiated emissions measurement

##### 5.1.1 Test site

Measurement was made in semi-anechoic chamber as described at Clause 3 in this report.

##### 5.1.2 Detector function selection and bandwidth

In radiated emissions measurement, field strength meter that has CISPR quasi-peak and average detector was used. The bandwidth of the detector of instrument is 120 kHz for frequency range of 30 MHz - 1000 MHz, and 1 MHz for frequency range of 1 GHz to 10 GHz. Emissions to be measured are detected in average mode.

##### 5.1.3 Unit of measurement

Test results of radiated emissions measurement are reported in microvolts per meter at the specific distance. Using the unit of dB $\mu$ V on the test instrument, the indication unit was converted to field strength unit of  $\mu$ V/m as following method;

$$F / S = 10^{(R+AF+CF)/20} (\mu\text{V/m})$$

here,

F / S: Field Strength in  $\mu$ V/m, R: Meter Reading Level in dB( $\mu$ V),

AF: Antenna Factor in dB/m

CF: Conversion Factor

\* 30 MHz ~ 1 GHz : CF = CL

\* Above 1 GHz :CF = CL - PG + FL + AL

CL: Cable Loss (dB)

FL: Filter Loss (dB)

PG: Preamplifier Gain (dB)

AL: Attenuator Loss (dB)

#### 5.1.4 Antennas

Measurements were made using calibrated biconical antenna in range of 30 MHz to 300 MHz, log-periodic antenna in range of 300 MHz to 1000 MHz and horn antenna in range of 1 to 10 GHz to determine the emission characteristics of the EUT. Measurements were also made for both horizontal and vertical polarization.

The horizontal distance between the receiving antenna and the closest periphery of the EUT was 3 meters for horn antenna and 10 meters for biconical and log-periodic antenna.

#### 5.1.5 Frequency range to be scanned

For radiated emissions measurements, the spectrum in the range of 30 to 1000 MHz and above, if found, was investigated.

#### 5.1.6 Test conditions and configuration of EUT

The EUT was configured and operated in all modes of operation so as to find the maximum RF energy generated from EUT.

The power was furnished with rated (normal) AC 120 volts, as specified in the Owner's manual of EUT. The EUT was placed on a 1 m high non-metallic table. The turntable containing the system was rotated and the antenna height was varied 4 m to find the maximum RF energy detected from EUT.

Each type of accessory provided by manufacturer or typically used and support equipment were connected to the EUT during measurement to the typical usage and applicable as nearly as practicable.

#### 5.1.7 Measurement uncertainty

The measurement uncertainty describes the overall uncertainty of the given measured value during the operation of the EUT in mentioned above way.

The measurement uncertainty was calculated in accordance with NAMAS NIS 81: "The treatment of uncertainty in EMC measurement."

For calculated uncertainty of each item, refer the next page.

The measurement uncertainty was given with a confidence of 95%.

< Fundamental Frequency Uncertainty (2,450 MHz) >

Symbol	Contribution	Value (dB)		Probability Distribution	Divisor	Standard Uncertainty	Standard Uncertainty Squared
			3 m			Horn Antenna (Value / Divisor)	
V <sub>1</sub>	Ambient signals		3 m		1	0.00	0.0
V <sub>2</sub>	Antenna factor calibration	Expanded Uncertainty	0.5	normal (k = 2)	2	0.25	0.1
V <sub>3</sub>	Cable loss calibration	Expanded Uncertainty	0.5	normal (k = 2)	2	0.25	0.1
V <sub>4</sub>	Receiver specification	Tolerance	1.0	rectangular	1.732	0.58	0.3
V <sub>5</sub>	Measurement distance variation	Tolerance	0.6	rectangular	1.732	0.35	0.1
V <sub>6</sub>	Site imperfections	Tolerance	2.0	rectangular	1.732	1.15	1.3
V <sub>7</sub>	Mismatch Receiver VRC: $\Gamma_r = 0.33$ Antenna VRC: $\Gamma_a = 0.20$ Uncertainty limits $20\text{Log}(1 \pm \Gamma_r \Gamma_a)$	Tolerance	0.6	U-shaped	1.414	0.42	0.2
V <sub>8</sub>	System repeatability (previous assessment of s(q) from 5 repeats, 1 reading on EUT Repeatability of EUT*)		0.5	Std Deviation	1	0.50	0.3
	Combined standard uncertainty $u_c(y)$		1.53	normal			
	Expanded uncertainty U		3.06	normal (k = 2)			

$$u_c(y) = \sqrt{\left(\frac{0.0}{1}\right)^2 + \left(\frac{0.5}{2}\right)^2 + \left(\frac{0.5}{2}\right)^2 + \frac{1.0^2 + 0.6^2 + 2.0^2}{3} + \frac{0.6^2}{2} + 0.5^2}$$

The level of confidence will be approximately 95%. (The coverage factor: k=2)

$$U = 2 u_c(y) = 2 \times 1.53 = \pm 3.1 \text{ dB}$$

< Radiated Emission Uncertainty (Above 1 GHz) >

Symbol	Contribution	Value (dB)		Probability Distribution	Divisor	Standard Uncertainty	Standard Uncertainty Squared
			3 m			Horn Antenna (Value / Divisor)	
V <sub>1</sub>	Ambient signals		3 m	-	1	0.00	0.0
V <sub>2</sub>	Antenna factor calibration #1	Expanded Uncertainty	0.5	normal (k = 2)	2	0.25	0.1
V <sub>3</sub>	Antenna factor calibration #2	Expanded Uncertainty	0.5	normal (k = 2)	2	0.25	0.1
V <sub>4</sub>	Cable loss calibration	Expanded Uncertainty	0.5	normal (k = 2)	2	0.25	0.1
V <sub>5</sub>	Receiver specification	Tolerance	1.0	rectangular	1.732	0.58	0.3
V <sub>6</sub>	Highpass filter	Tolerance	1.0	rectangular	1.732	0.58	0.3
V <sub>7</sub>	Measurement distance variation	Tolerance	0.6	rectangular	1.732	0.35	0.1
V <sub>8</sub>	Site imperfections	Tolerance	2.0	rectangular	1.732	1.15	1.3
V <sub>9</sub>	Mismatch Receiver VRC: $\Gamma_r = 0.33$ Antenna VRC: $\Gamma_a = 0.2$ Uncertainty limits $20\text{Log}(1 \pm \Gamma_r \Gamma_a)$	Tolerance	0.6	U-shaped	1.414	0.42	0.2
V <sub>10</sub>	System repeatability (previous assessment of s(q) from 5 repeats, 1 reading on EUT Repeatability of EUT*)		0.5	Std Deviation	1	0.50	0.3
	Combined standard uncertainty $u_c(y)$		1.65	normal			
	Expanded uncertainty U		3.31	normal (k = 2)			

$$u_c(y) = \sqrt{\left(\frac{0.0}{1}\right)^2 + \left(\frac{0.5}{2}\right)^2 + \left(\frac{0.5}{2}\right)^2 + \left(\frac{0.5}{2}\right)^2 + \frac{1.0^2 + 1.0^2 + 0.6^2 + 2.0^2}{3} + \frac{0.6^2}{2} + 0.5^2}$$

The level of confidence will be approximately 95%. (The coverage factor: k=2)

$$U = 2 u_c(y) = 2 \times 1.65 = \pm 3.4 \text{ dB}$$

< Electric Field Strength Uncertainty (30 MHz – 1 GHz) >

Symbol	Contribution	Value (dB)		Probability Distribution	Divisor	Standard Uncertainty	Standard Uncertainty Squared
						UltraLog Antenna (Value / Divisor)	
V <sub>1</sub>	Ambient signals		10 m	Std Deviation	1	0.00	0.0
V <sub>2</sub>	Antenna factor calibration	Tolerance	1.0	rectangular	1.732	0.58	0.3
V <sub>3</sub>	Cable loss calibration	Expanded Uncertainty	0.5	normal (k = 2)	2	0.25	0.1
V <sub>4</sub>	Receiver specification	Tolerance	1.0	rectangular	1.732	0.58	0.3
V <sub>5</sub>	Antenna directivity	Tolerance	3.0	rectangular	1.732	1.73	3.0
V <sub>6</sub>	Antenna factor variation with height	Tolerance	0.5	rectangular	1.732	0.29	0.1
V <sub>7</sub>	Antenna phase center variator	Tolerance	0.2	rectangular	1.732	0.1	0.0
V <sub>8</sub>	Antenna factor frequency interpolation	Tolerance	0.25	rectangular	1.732	0.14	0.0
V <sub>9</sub>	Measurement distance variation	Tolerance	0.4	rectangular	1.732	0.23	0.1
V <sub>10</sub>	Site imperfections	Tolerance	2.0	rectangular	1.732	1.15	1.3
V <sub>11</sub>	Mismatch Receiver VRC: $\Gamma_1 = 0.09$ Antenna VRC: $\Gamma_2 = 0.33$ Uncertainty limits $20\text{Log}(1 + \Gamma_1 \Gamma_2)$	Tolerance	0.3	U-shaped	1.414	0.21	0.0
V <sub>12</sub>	System repeatability (previous assessment of s(q) from 5 repeats, 1 reading on EUT Repeatability of EUT*)		0.5	Std Deviation	1	0.50	0.3
	Combined standard uncertainty $u_c(y)$		2.35	normal	2		
	Expanded uncertainty U		4.70	normal (k = 2)	2		

$$u_c(y) = \sqrt{\left(\frac{0.0}{1}\right)^2 + \left(\frac{0.5}{2}\right)^2 + \frac{1.0^2 + 1.0^2 + 3.0^2 + 0.5^2 + 0.2^2 + 0.25^2 + 0.4^2 + 2.0^2}{3} + \frac{0.30^2}{2} + 0.5^2}$$

The level of confidence will be approximately 95%. (The coverage factor: k=2)

$$U = 2 u_c(y) = 2 \times 2.35 = + 4.7 \text{ dB}$$

< Line Conducted Uncertainty >

Symbol	Contribution	Value (dB)		Probability Distribution	Divisor	Standard Uncertainty (dB)	Standard Uncertainty Squared
						150 kHz - 30 MHz (Value / Divisor)	
V <sub>1</sub>	Receiver specification	Tolerance	1.0	rectangular	1.732	0.58	0.3
V <sub>2</sub>	LISN coupling specification	Tolerance	1.0	rectangular	1.732	0.58	0.3
V <sub>3</sub>	Cable and input attenuator calibration	Expanded Uncertainty	0.5	normal (k = 2)	2	0.25	0.1
V <sub>4</sub>	Mismatch Receiver VRC: $\Gamma_1 = 0.09$ LISN VRC: $\Gamma_2 = 0.8$ Uncertainty limits $20\text{Log}(1 + \Gamma_1 \Gamma_2)$	Tolerance	0.6	U-shaped	1.414	0.42	0.180
V <sub>5</sub>	System repeatability (previous assessment of s(q <sub>1</sub> ) from 10 repeats, 1 reading on EUT)		0.35	standard deviation	1	0.35	0.12
	Combined standard uncertainty $u_c(y)$		1.02	normal			
	Expanded uncertainty U		2.03	normal (k = 2)			

$$u_c(y) = \sqrt{\frac{1.0^2 + 1.0^2}{3} + \left(\frac{0.5}{2}\right)^2 + \frac{0.6^2}{2} + 0.35^2} = \text{dB}$$

The level of confidence will be approximately 95%. (The coverage factor: k=2)

$$U = 2 u_c(y) = 2 \times 1.02 = + 2.1 \text{ dB}$$

## 6. MEASURING INSTRUMENT

Instrument	Model	Cal. Due date	Serial No.	Control No.
Microwave Spectrum Analyzer	HP8566B	05/10/2002	3340A08173	99-IRE-05
RF Preselector	HP85685A	05/10/2002	3221A01441	99-IRE-04
Qusi-Peak Adapter	HP85650A	05/10/2002	3303A01732	99-TRE-01
R/B Spectrum Display	HP462	05/10/2002	3340A21397	99-IRE-02
Attenuator Switch Driver	HP11713A	05/10/2002	3334A11152	99-IRE-03
Preamplifier	HP8449B OPT H02	05/10/2002	3008A00525	99-IRE-06
Power Meter	HP436A	05/12/2002	2604A24567	99-IRE-12
Power Sensor	HP8481A	05/12/2002	2552A50829	99-IRE-14
Power Sensor	HP8482A	05/12/2002	2607A11242	99-IRE-15
Accessory Kit	-	-	7044/45-002	99-IRE-16
Horn Antenna	RGA -60 (Electro Metrics)	05/23/2002	6104	99-IRE-21
Antenna Master	2070-2(EMKO)	-	9903-2231	99-IRE-23
Ultra Log Antenna	HL562(Chase)	10/05/2001	830547/007	99-IRE-27
High Pass Filter	11SH10- 2500/X1800-010	03/06/2002	2	99-IRE-07
High Pass Filter	11SH10- 2500/X1800-010	04/24/2002	3	99-IRE-29
EMI Receiver	ESI26 (R&S)	07/20/2001	835336/008	00-IRE-30
LISN	ESH2-Z5(R&S)	02/06/2002	825640/003	99-ICE-02
Microwave Cable	Sucoflex 104	-	125484/4	-
Microwave Cable	Sucoflex 106	-	13417/6	-
Microwave Cable	Sucoflex 106	-	13419/6	-
Microwave Cable	Sucoflex 106	-	13418/6	-
Microwave Cable	Sucoflex 104	-	125483/4	-
Microwave Cable	Sucoflex 104	-	12548/4	-
Microwave Cable	Sucoflex 106	-	13416/6	-
Microwave Cable	Sucoflex 106	-	13416/6	-
Semi Anechoic Chamber	YES INC.	-	-	99-CFA-01
Shield Screen Room	YES INC.	-	-	99-CFA-02
Microwave Survey Meter	Holaday HI-1710/HI-2623	11/29/2001	102445	FJZ394HA

## 7. TEST DATA

### 7.1 Input Power

The input power was measured using Wattmeter. A 275 ml water load in a polypropylene beaker is placed in the center of the oven. The 275 ml water was chosen for its compatibility with UL procedure to determine input ratings. The oven was operated at the rated input and full output power for 6 minutes.

<u>Mode</u>	<u>Input Voltage</u>	<u>Current [A]</u>	<u>Power Consumption</u> <u>[W]</u>	<u>Manufacturer</u> <u>Rating [A]</u>
Microwave	120 Vac, 60 Hz	10.0	1,121	9.3

### 7.2 RF Power Output Measurement

The Calorimetric Method was used to determine maximum output power. A 1000 ml water load was placed in the center of the oven. A mercury thermometer was used to measure temperature rise. The test method described in MP-5 and IEC Publication 705/1998.

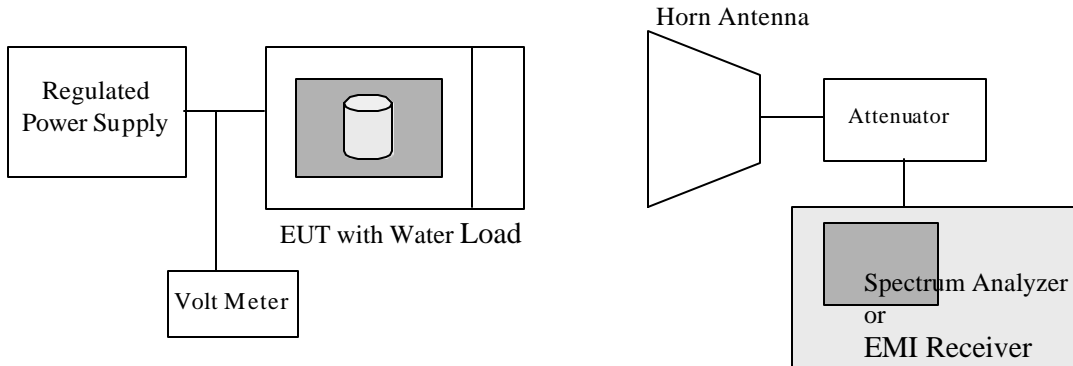
$$\text{Power [W]} = \frac{(4.187 \text{ Joules/Cal}) * (\text{Volume in ml}) * (\text{Temperature Rise})}{\text{Time in Seconds}}$$

<u>Quantity of Water</u>	<u>Starting Temperature</u>	<u>Final Temperature</u>	<u>Elapsed Time</u>
1000 ml	21.7 °C	40.2°C	120 Sec

$$\text{Power [W]} = \frac{4.187 * 1,000 * 18.5}{120}$$

$$\text{Power [W]} = 645.5 \text{ Watts}$$

### 7-3. Frequency measurements



#### (1) Frequency vs Line Voltage Variation Test

Variation of line voltage from 80 % (96 V) to 125 % (150 V)

Load: 1,000 ml

Fundamental Frequency: 2,450 MHz

Limit:  $2.4 \text{ GHz} < f < 2.5 \text{ GHz}$

Maximum Frequency Observed: 2,468 MHz

Minimum Frequency Observed: 2,462 MHz

**Result:** Pass

#### (2) Frequency vs Load Variation Test

*Frequency was measured at the rated input voltage (AC 120 V).*

Initial Load: 1,000 ml

Final Load: 200 ml

Fundamental Frequency: 2,450 MHz

Limit:  $2.4 \text{ GHz} < f < 2.5 \text{ GHz}$

Maximum Frequency Observed: 2,469 MHz

Minimum Frequency Observed: 2,462 MHz

**Result:** Pass

#### 7-4. Power Density Safety Check

The power density was checked to ensure that the power is not greater than 1.0 W/m<sup>2</sup> at any location of the oven. The 1.0 W/m<sup>2</sup> is in accordance with CDRH and UL923 standard.

*A microwave survey meter was placed on all sides, door and viewing, bottom, top and rear. No power greater than 0.1 W/m<sup>2</sup> was observed and did not exceed the specified limits.*

Maximum Leakage Microwave Observed:

0.15 W/m<sup>2</sup>

**Result:**

**Pass**

**7-5. Radiated emissions (Section 18.305)**

Radiated emission was measured at a frequency range 30 MHz to 10 GHz. The EUT was supported by a 1 m high wood table, measurement above 1 GHz and below 1 GHz.

Preliminary measurements were made inside an anechoic chamber at 3 m to determine to emission characteristics of EUT. The EUT is configured and operated in a manner which produces the maximum emission in a typical configuration. Final measurements were made outdoor in control room at 3 meter test method.

*Test distance: 3 m*

Freq. (MHz)	Ant. Factor [dB]	Cable Loss [dB]	Load [ml]	Load Location	Meter Reading [dBμV]	Field Strength @ 3 m [dBμV/m]	Field Strength @ 3 m [μV/m]	Field Strength @ 300 m [μV/m]	FCC Limit @ 300 m [μV/m]
2,397	29.0	4.1	700	Center	16.9	50.0	316.2	3.2	28.4
2,551	29.3	4.1	700	Center	18.6	52.0	398.1	4.0	28.4
4,932	34.0	5.5	700	Center	26.0	65.5	1883.6	18.8	28.4
4,930	34.0	5.5	700	Rt. Front	23.9	63.4	1479.1	14.8	28.4
4,925	34.0	5.5	300	Center	26.0	65.5	1883.6	18.8	28.4
4,923	34.0	5.5	300	Rt. Front	23.5	63.0	1412.5	14.1	28.4
7,388	36.5	10.4	700	Center	17.6	64.5	1678.8	16.8	28.4
7,376	36.5	10.4	700	Rt. Front	17.4	64.3	1640.6	16.4	28.4
7,380	36.5	10.4	300	Center	17.1	64.0	1584.9	15.8	28.4
7,382	36.5	10.4	300	Rt. Front	16.6	63.5	1496.2	15.0	28.4
9,860	38.4	8.3	700	Center	3.0	49.7	305.5	3.1	28.4

For measurement of 30 MHz – 1,000 MHz, refer to APPENDIX A (Test Plot).

**Result: Pass**

\* Limit (at 300 m) = 25 \* (RF Power/500)<sup>1/2</sup> [μV/m]

\* Field Strength below 1,000 MHz (at 300 m) [μV/m] = 10<sup>[(Field strength at 10m(dBuV/m)-29.5)/20]</sup>

\* Field Strength above 1,000 MHz (at 300 m) [μV/m] = K \* 10<sup>[(Field strength at 3m(dBuV/m)-20)]</sup>

**NOTES:**

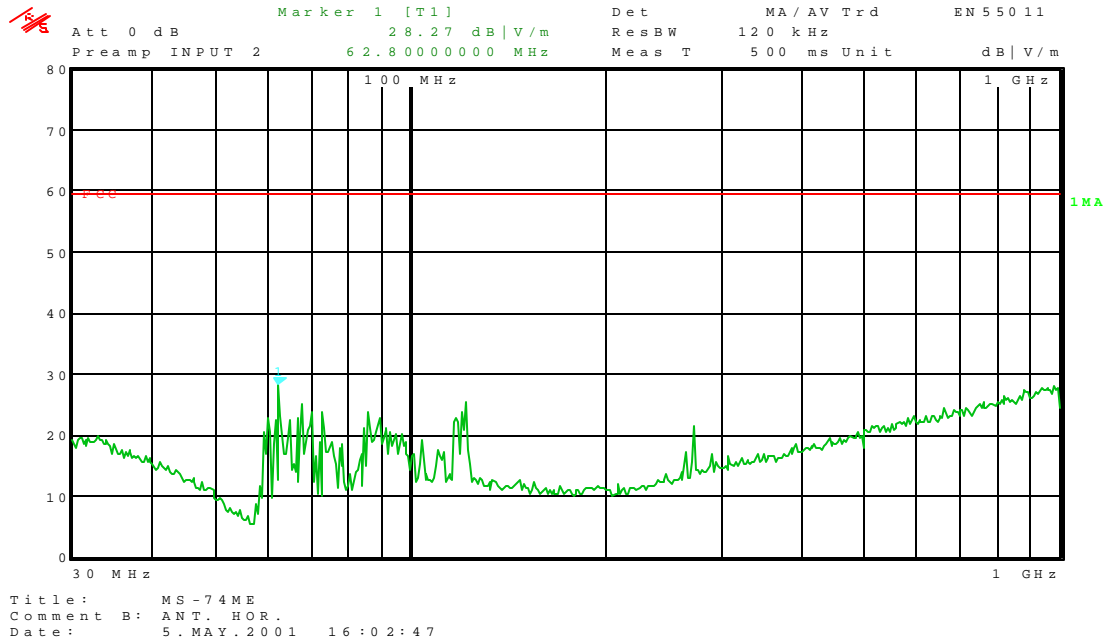
- Two representative modes (full power and defrost) of operation were investigated.
- A glass beaker was used as the container and the test was made with a shelf in its initial normal position.
- Load for measurement of radiation on second and third harmonic: Two loads, one of 700 and the other of 300 ml, of water were used. Each load was tested both with the beaker located in the center of the oven and with it in the corner.
- Load for all other measurements: 700 ml of water, with the beaker located in the center of the oven
- All other emissions are non-significant.
- The tests were made with average detector for frequency range of 30 MHz to 10 GHz.

## APPENDIX A. Test Plot

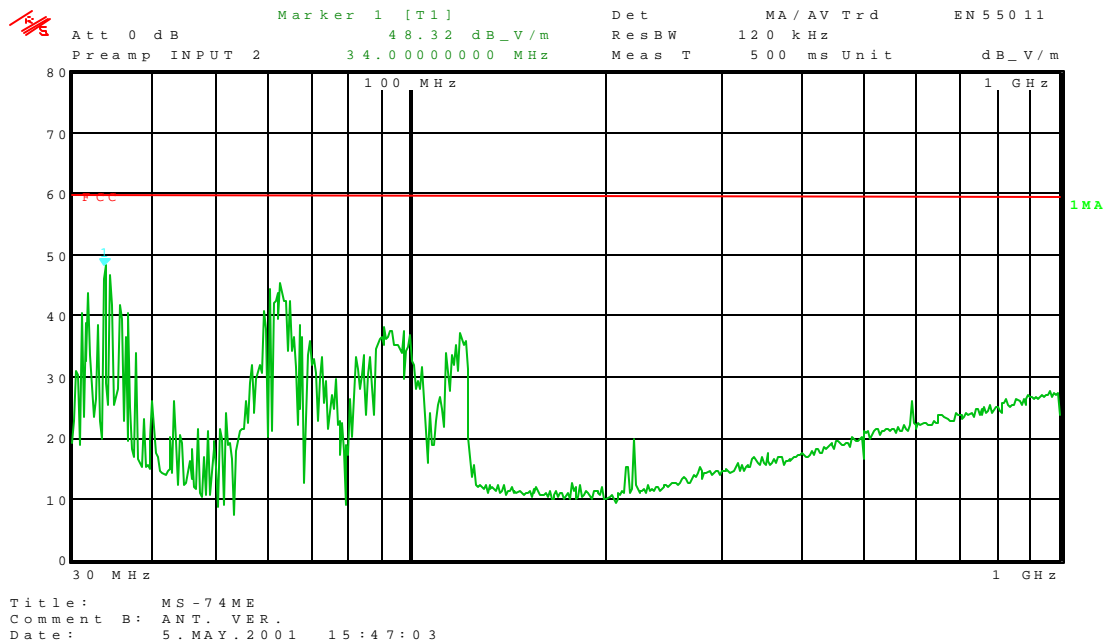
### ◆ 30 MHz ~ 1000 MHz (Magnetron type: 2M214 by LG)

- Operating Mode: Maximum RF Power Output
- Detect Mode: Peak
- Measurement Distance: 10 meters

#### <Antenna Polarization: Horizontal>

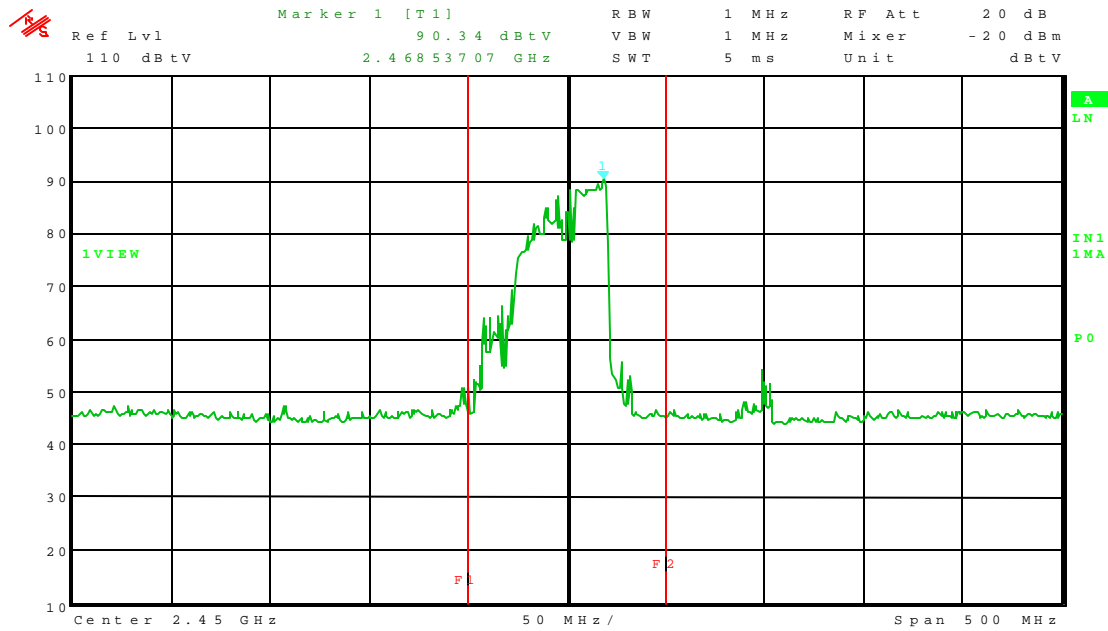


#### <Antenna Polarization: Vertical>



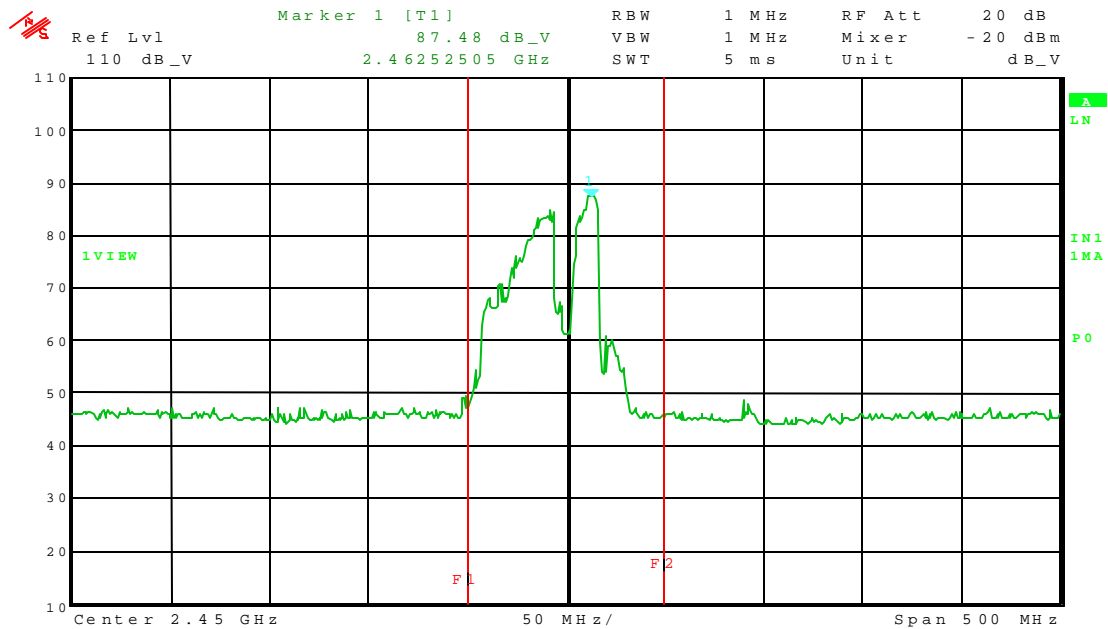
◆ Voltage Variation (Magnetron type: 2M214 by LG)

<Maximum Frequency Observed: 2,468 MHz>



Title: MS-74ME  
Comment A: 150 V  
Date: 5.MAY.2001 15:30:04

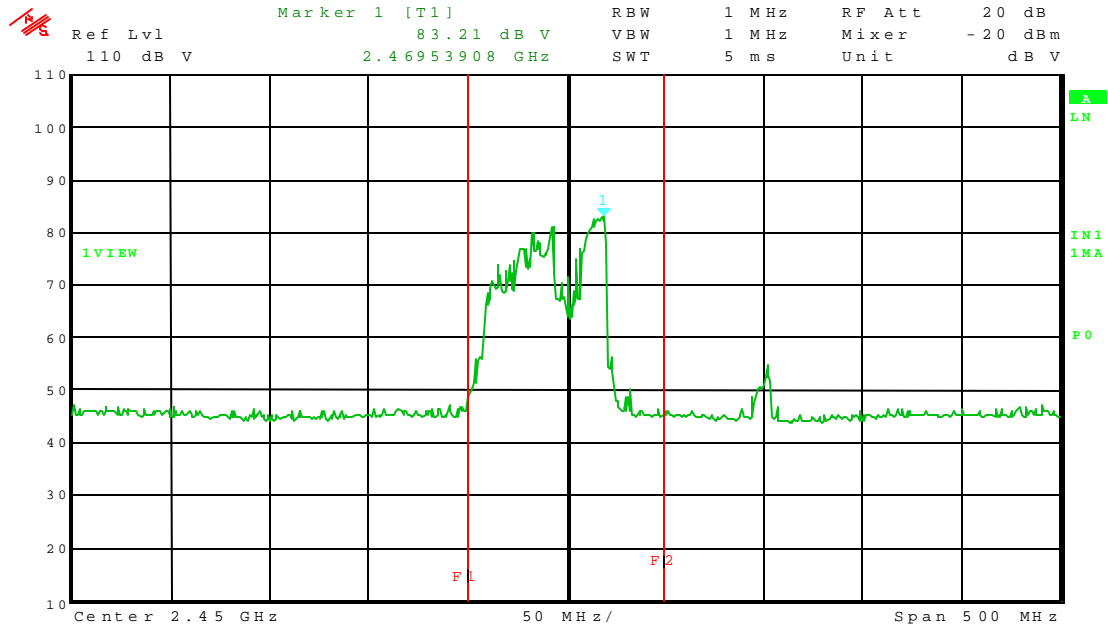
<Minimum Frequency Observed: 2,462 MHz>



Title: MS-74ME  
Comment A: 96 V  
Date: 5.MAY.2001 14:42:41

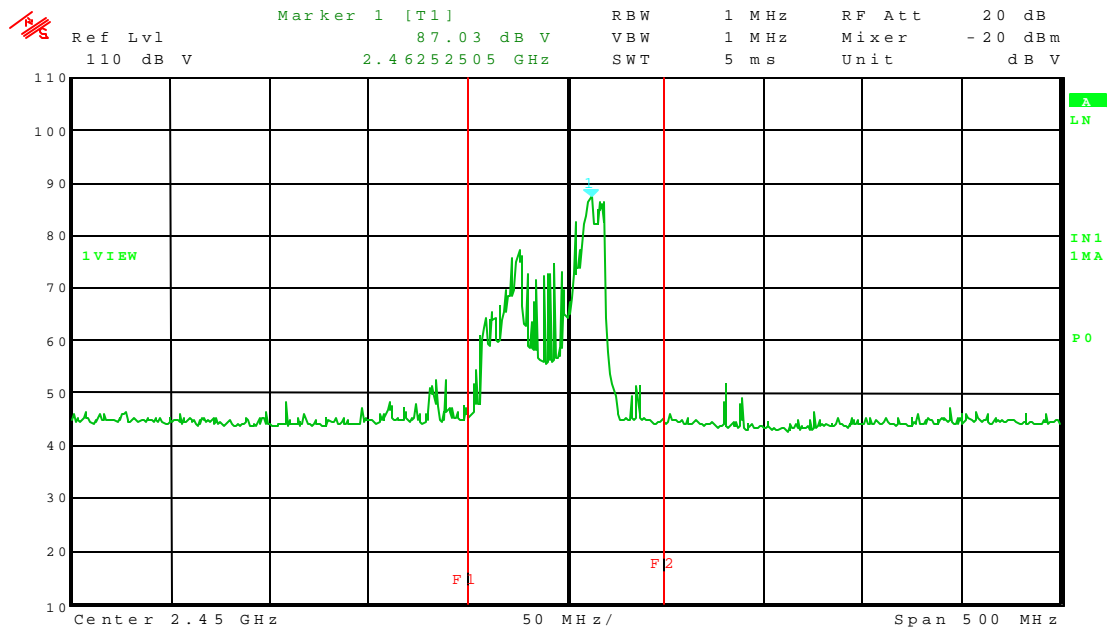
Load Variation (Magnetron type: 2M214 by LG)

<Maximum Frequency Observed: 2,469MHz >



Title: MS-74ME  
 Comment A: 800ml  
 Date: 5.MAY.2001 13:54:59

< Minimum Frequency Observed: 2,462 MHz >




Title: MS-74ME  
 Comment A: 400ml  
 Date: 5.MAY.2001 14:12:53

## APPENDIX B. Labeling Requirements

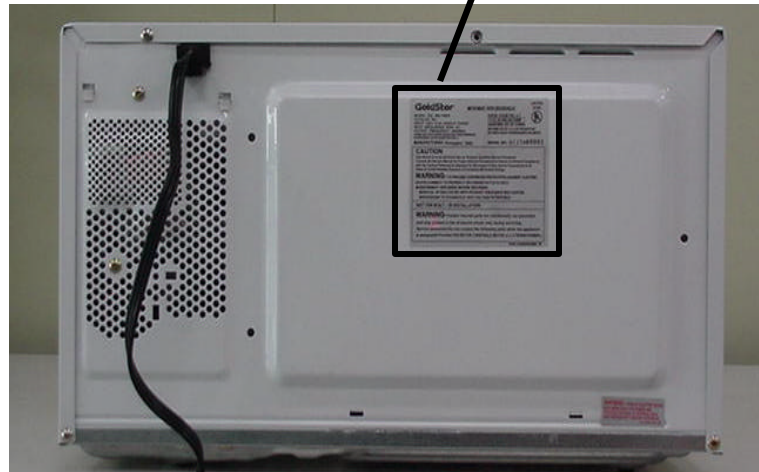
### Labeling requirements per Section 2.925 and 15.19.

The label shown shall be permanently affixed at a conspicuous location on the device and be readily visible to the user at the time purchase.

<b>GoldStar</b>	<b>MICROWAVE OVEN (HOUSEHOLD)</b>	LISTED 57B5  E82904
MODEL NO.: MS-74ME CATALOG NO. INPUT 120V 9.3 A SINGLE PHASE WITH GROUNDING 60Hz AC OUTPUT FREQUENCY 2450MHz COMPLIES WITH DHHS RADIATION PERFORMANCE STANDARDS 21CFR SUBCHAPTER J. MANUFACTURED :	DHHS CODE NO.: LT FCC ID: BEJS070MF MADE IN CHINA DISTRIBUTED BY LG ELECTRONICS INC. 20,YOIDO-DONG, YOUNGDUNGPO-GU, SEOUL	SERIAL NO.:
<b>CAUTION</b> This Device is to be Serviced Only by Property Qualified Service Personnel. Consult the Service Manual for Proper Service Procedures to Assure Continued Compliance with the Federal Performance Standard for Microwave Ovens and for Precautions to be Taken to Avoid Possible Exposure to Excessive Microwave Energy . <b>WARNING-</b> TO PROVIDE CONTINUED PROTECTION AGAINST ELECTRIC SHOCK, CONNECT TO PROPERLY GROUNDED OUTLETS ONLY . •DISCONNECT APPLIANCE BEFORE SERVICING . • REMOVAL OF ENCLOSURE WITH PRODUCT ENERGIZED MAY EXPOSE • SERVICEMAN TO HAZARDOUS HIGH VOLTAGE POTENTIALS		
NOT FOR BUILT-IN INSTALLATION		
<b>WARNING-</b> Certain internal parts are intentionally not grounded and may present a risk of electric shock only during servicing. Service personnel - Do not contact the following parts while the appliance is energized(If Provided FAN MOTOR,TURNTABLE MOTOR or LV.TRANSFORMER). P/NO.:		

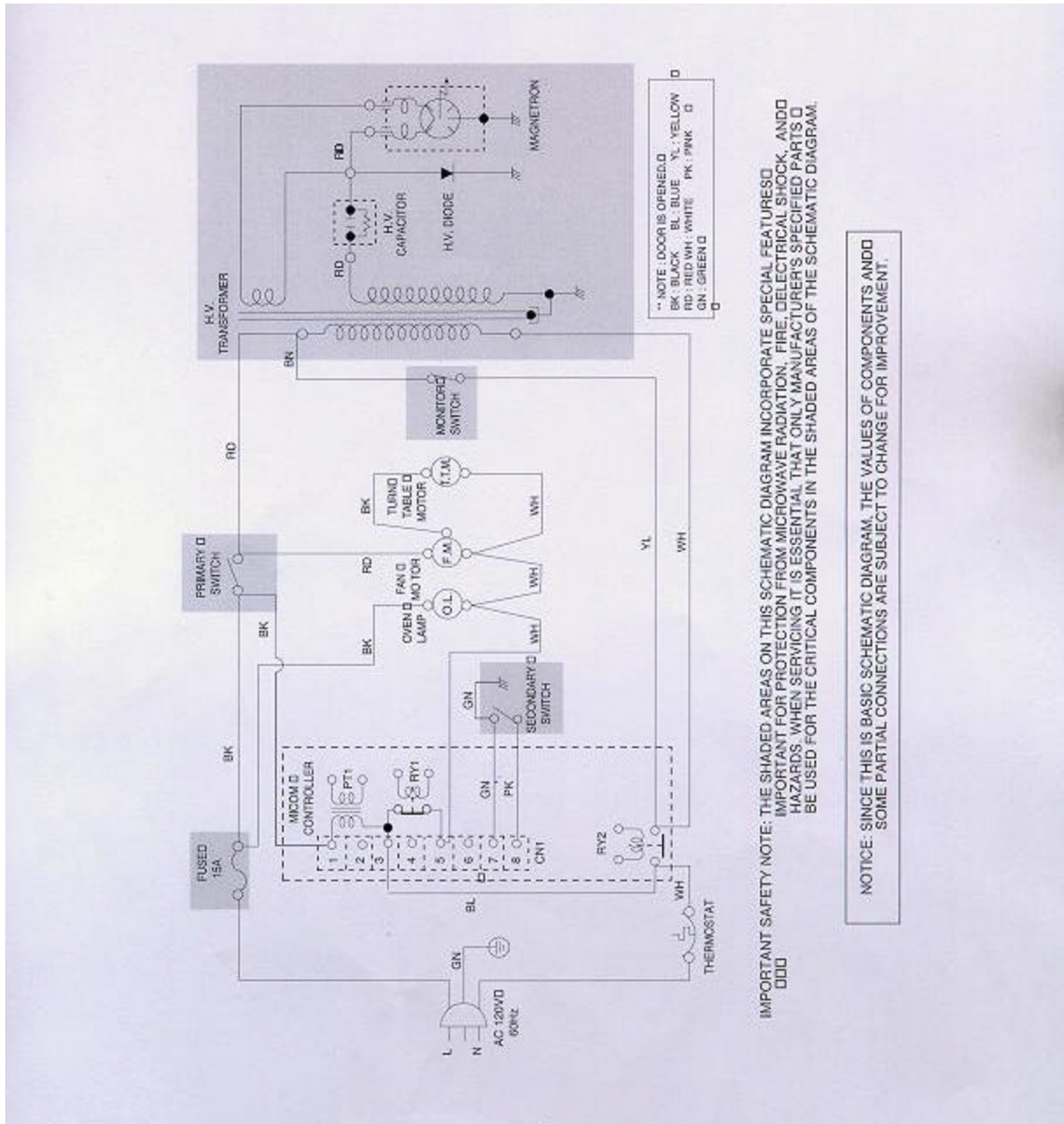
<Fig. 1. Sample Label of Nameplate>

\* Alternate location:  
The nameplate may be  
alternatively affixed on  
the front surface of oven  
cavity or left side of con-  
trol panel.



< Fig. 2. Photo of the physical location of the label>

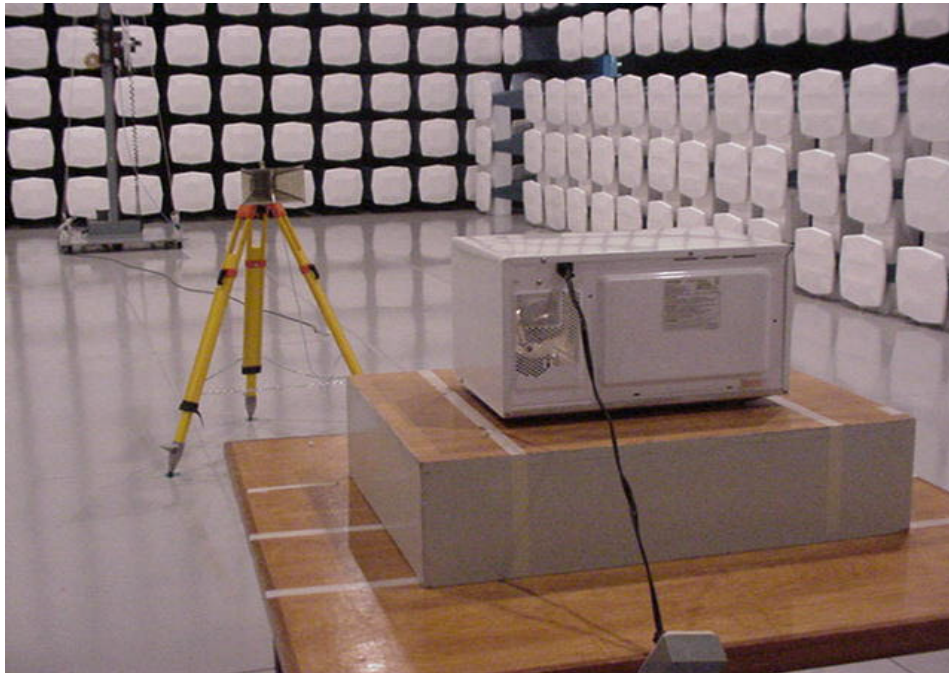
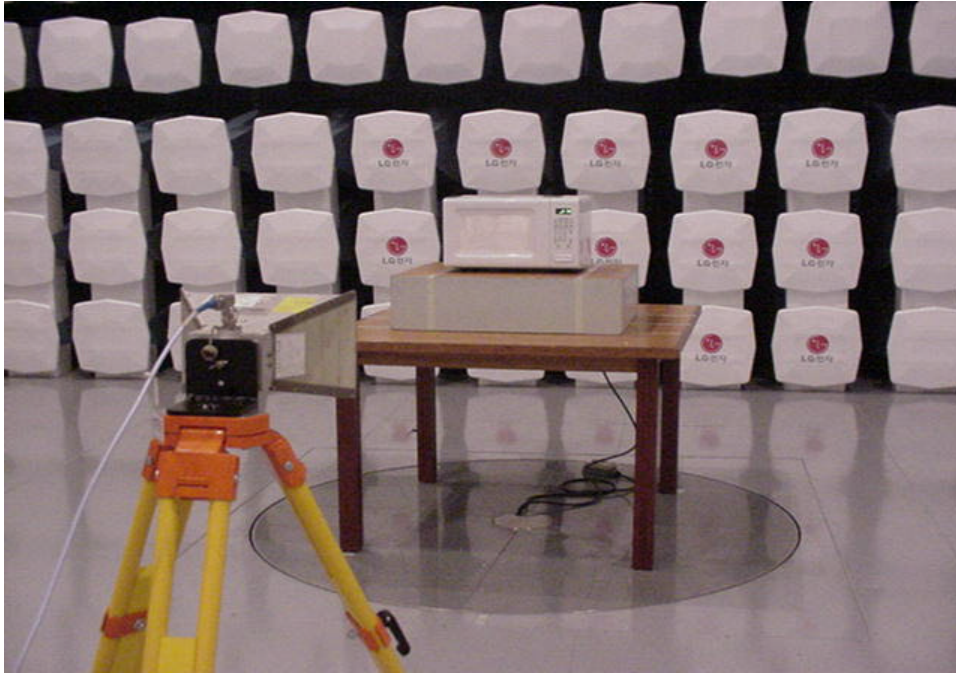
## APPENDIX C. Block Diagram / Schematics

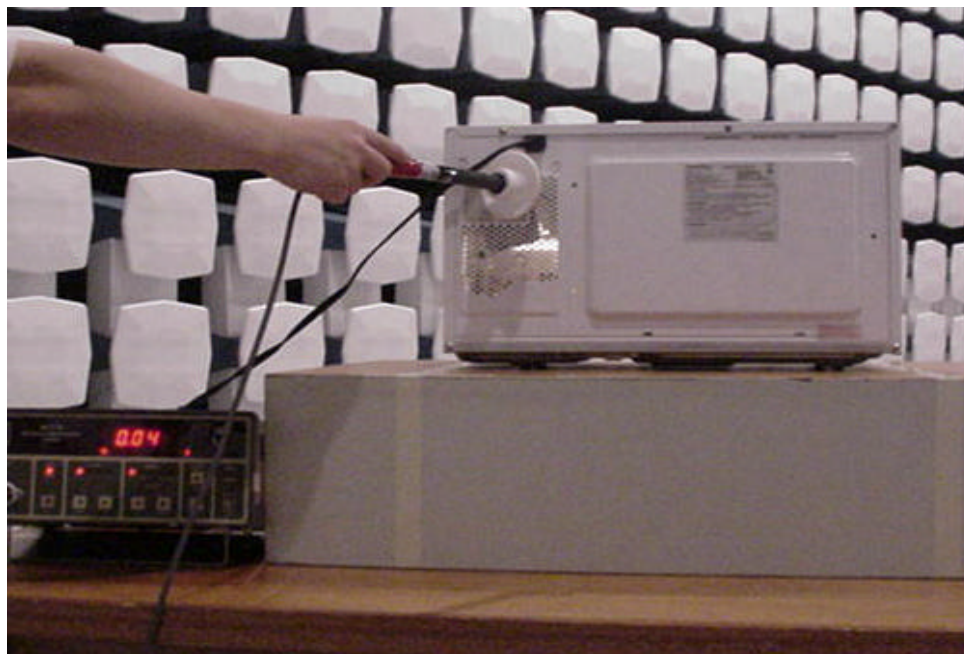
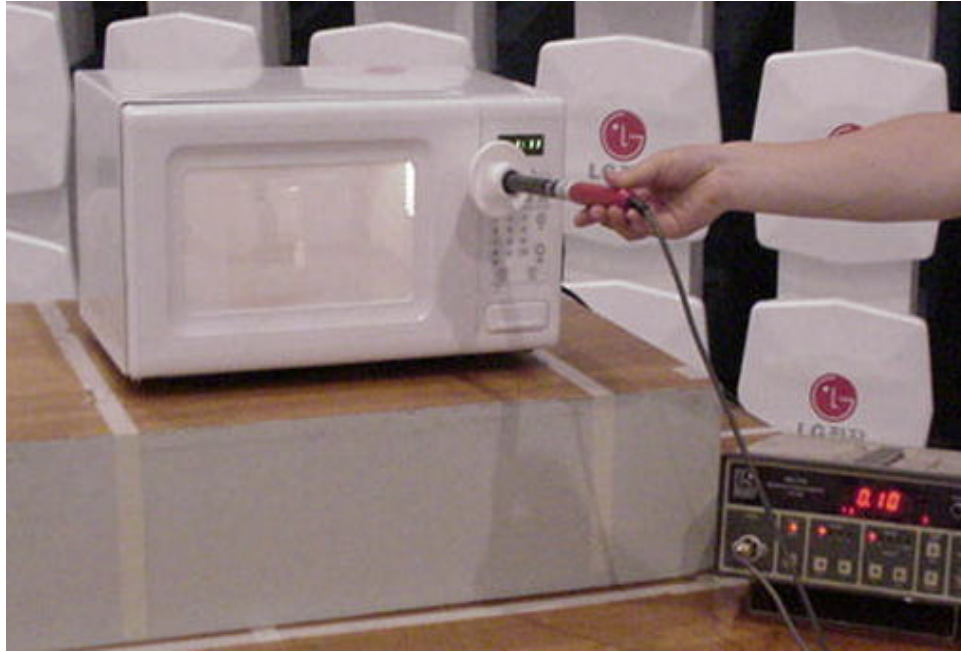


<Fig. 3. Schematic Diagram>

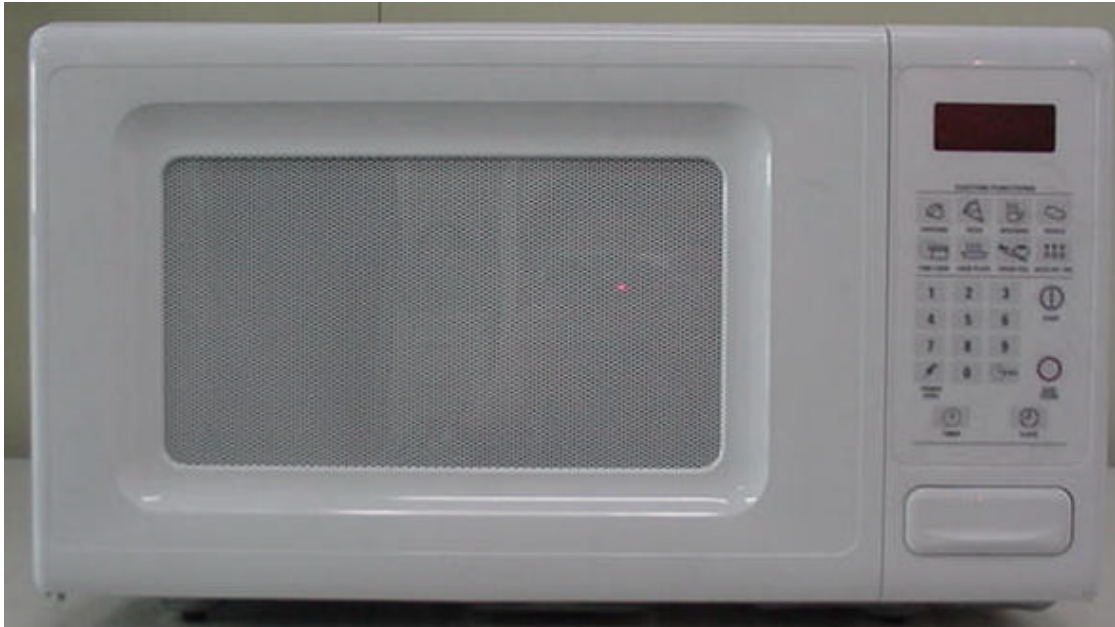
## APPENDIX D. Test Photos

Test photos show the worst case configuration and cable placement with a minimum margin to the specifications.

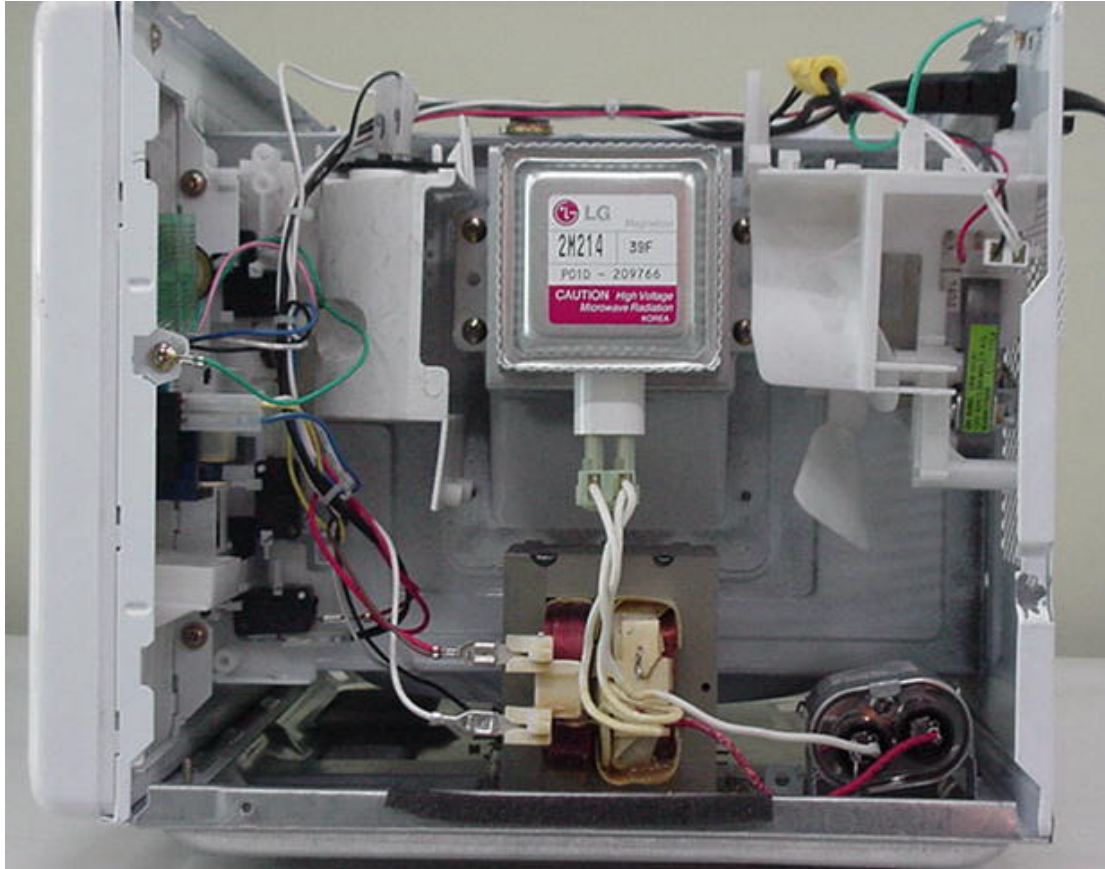


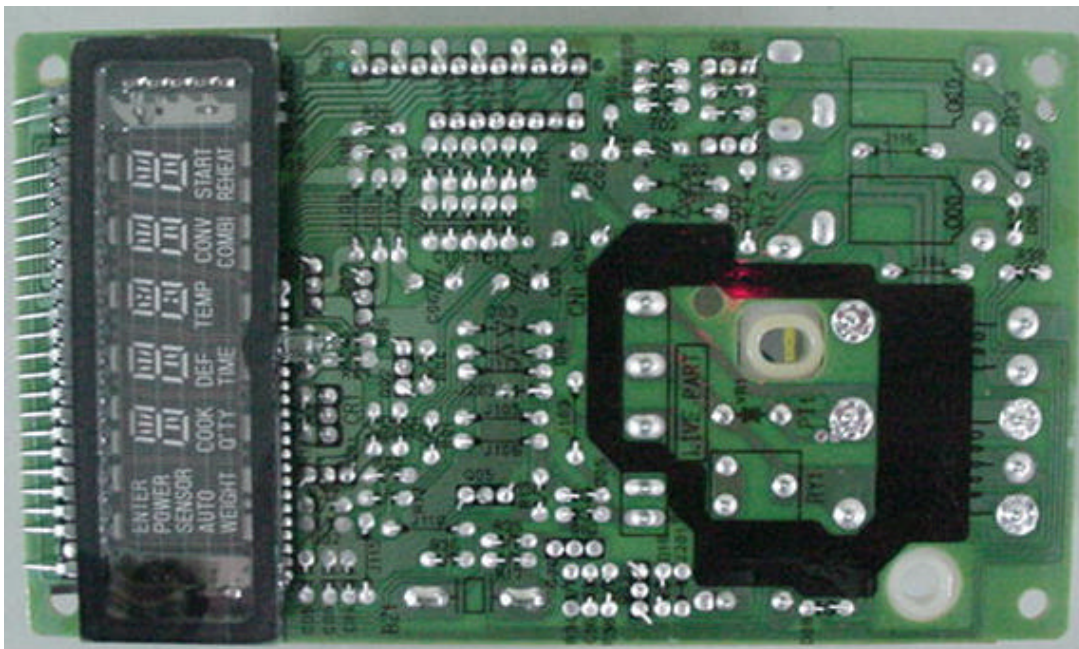
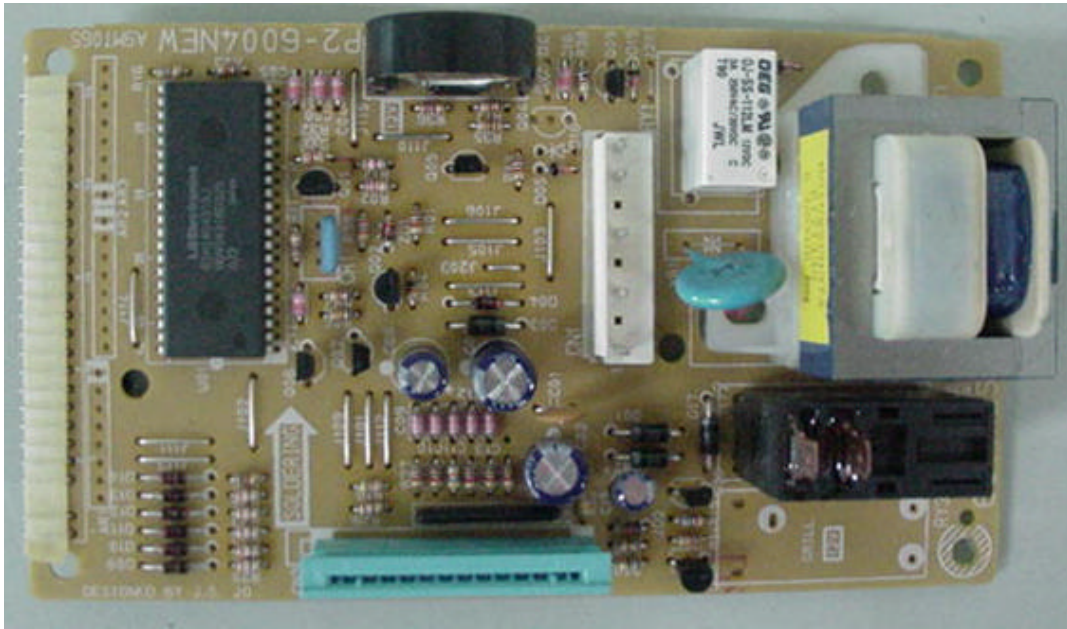


## APPENDIX E. EUT Photos









---

## APPENDIX F. Owner's Manual with regard to FCC Instruction

---

### INSTALLATION

#### A. Circuits

For safety purposes this oven must be plugged into a 20 Amp circuit. No other electrical appliances or lighting circuits should be on this line. If in doubt, consult a licensed electrician.

#### B. Voltage Warning

The voltage used at the wall receptacle must be the same as specified on the oven name plate located on the front or on the side of the control panel of the oven. Use of a higher voltage is dangerous and may result in a fire or other type of accident causing oven damage. Low voltage will cause slow cooking. In case your microwave oven does not perform normally in spite of proper voltage, remove and reinsert the plug.

#### C. Placement of the Oven

Your microwave oven can be placed easily in your kitchen, family room, or anywhere else in your home. Place the oven on a flat surface such as a kitchen countertop or a specially designed microwave oven cart at least 100cm (39.4 inches) from floor. Do not place oven above a gas or electric range. Free air flow around the oven is important. Allow at least 2 inches of space at the top, sides, and back of the oven for proper ventilation.

#### NOTES:

- Never place the turntable in the oven upside down.
- You can build your microwave oven into a wall or cabinet by using one of the trim kits listed in the "Built-In Kits" section.

#### D. Do not block the air vents

All air vents should be kept clear during cooking. If air vents are covered during oven operation the oven may overheat. In this case, a sensitive thermal safety device automatically turns the oven off. The oven will be inoperable until it has cooled sufficiently.

#### E. Radio interference

1. Microwave oven operation may interfere with TV or radio reception.
2. When there is interference, it may be reduced or eliminated by taking the following measures:
  - a. Clean the door and the sealing surfaces of the oven.
  - b. Reorient the receiving antenna of radio or TV.
  - c. Relocate the microwave oven in relation to the TV or radio.
  - d. Move the microwave oven away from the receiver.
  - e. Plug the microwave oven into a different outlet so that microwave oven and receiver are on different branch circuits.