

**1. Report of Measurement conducted by TOSHIBA  
( With DAEWOO Magnetron of 2M218 )**

**▶ FCC ID : C5F7NF86MO1000 ◀**

Mr. Byeong-Jun Kim  
Research Manager  
Microwave Oven  
R & D Center  
DAEWOO ELECTRONICS Co., LTD.  
#412-2, Chongchon 2-Dong,  
Pupyong-Ku, Incheon,  
KOREA

April 21, 1999  
(Ref. No. : 99-075)

RE : Electromagnetic radiation from microwave oven KOR-86BG2  
with Daewoo magnetron 2M218

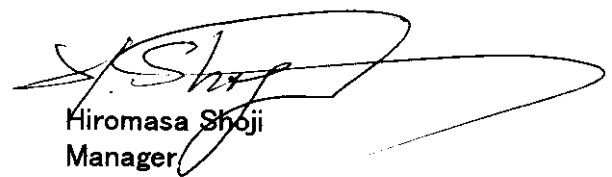
Dear Mr. Kim

We are enclosing herewith the above mentioned test results based on FCC measuring method in our measuring facility of FCC file number 430A.

We confirmed test results are satisfied with FCC limit.

Please feel free to contact us, if you have any question or request.

Sincerely yours,



Hiromasa Shoji  
Manager  
Magnetron Application Engineering  
Magnetron Engineering Department

SY/IS/n2

cc : Mr. Murata TOSHIBA TOKYO  
Mr. Ikegami TOSHIBA HOKUTO TOKYO

## ELECTROMAGNETIC RADIATION TEST OF MICROWAVE OVEN

The following measurements were conducted in Toshiba Hokuto Electronics Corporation measurement facility of FCC file number 430A.

Date : 1999-4-20  
Oven : KOR-86BG2  
Tube : 2M218  
Line : 120V/60Hz

### 1. Output power (Load : 1000ml water (center))

Input power : 1400W  
Output power : 1000W  
\* Permissible FIS =  $35.4 \mu\text{V/m}$  at 300m  
(FIS : Field Intensity Strength)

### 2. Power Leak (Load : 275ml water (center))

Po leak :  $0.15 \text{ mW/cm}^2$

### 3. FIS measurements

Measurement equipment (Refer Page-4)

Interference analyzer : EMC-60 MK-IV (Bandwidth : 5MHz)  
Antenna : CA-S, CA-M and CA-X

#### 3-1 Side band radiation (Load : 700ml water (center))

Frequency (MHz)	FIS ( $\mu\text{V/m}$ ) at 300m
2,352	6.8
2,524	3.1

#### 3-2 Harmonics radiation

Harmonics	Load	FIS( $\mu\text{V/m}$ ) at 300m	Frequency (MHz)
2nd	300ml side	9.9	4,908
3rd	700ml center	6.3	7,762
4th	700ml center	9.3	10,258

Note : 2nd and 3rd Harmonics : The maximum value with the load condition such as 300ml or 700ml water in the center or side position

#### 4. Frequency measurements

Measurement equipment (Refer Page-4)

Interference analyzer : EMC-60 MK-IV (Bandwidth : 5MHz)

Antenna : CA-S, CA-M and CA-X

##### 4-1 The variation of frequency for load variation ( Load : 1000ml water center)

Volume of water (ml)	Frequency (MHz)
1000	2,456
800	2,452
600	2,454
400	2,454
200	2,450

##### 4-2 The variation of frequency for line voltage variation ( Load : 1000ml water center)

Line voltage (V)	Frequency (MHz)
96	2,455
108	2,455
120	2,457
132	2,454
150	2,450

#### 5. Frequency sweeping

Measurement equipment (Refer Page-4)

Spectrum analyzer : HP8562A

Antenna : CA-S, CA-M and CA-X

None of higher FIS value than those shown in the above table existed in the following frequency band.

Frequency (MHz)	Load condition
2000 – 2400	700ml center
2500 – 4000	
4000 – 8000	300ml or 700ml water in the center or side position
8000 – 10000	700ml center

No.	Equipment Name	Model Name & Manufacturer	Specification	Last Calibration Date	Calibration Frequency
1	Interference Analyzer	EMC-60 MK-IV SER. : 44116 ELECTRO-METRICS	0.5 to 18 GHz	March 1999	
2	Antenna	(1) CA-S SER : 22-1 POLARAD	2.1 to 4.34 GHz		
		(2) CA-M SER : 20-15 POLARAD	4.19 to 7.74 GHz		
		(3) CA-X SER : 20-10 POLARAD	7.36 to 10 GHz		
3	Signal Generator	8671B SER : 2545A00106 HEWLETT PACKARD	2.0 to 18 GHz	March 1999	
4	Frequency Counter	85340A SER : 134A01280 HEWLETT PACKARD		March 1999	Annually
5	Power Meter	435A SER : 1312J00144 HEWLETT PACKARD	0 to 1 mW	March 1999	Annually
6	Power Sensor	8481A SER : 1234A871 HEWLETT PACKARD		March 1999	
7	Spectrum Analyzer	8562A SER : 2923A03932 HEWLETT PACKARD	1 kHz to 22 GHz	March 1999	

**2. Report of Measurement conducted by TOSHIBA  
(With TOSHIBA Magnetron of 2M254 : alternate)**

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April 21, 1999  
(Ref. No. : 99-076)

RE : Electromagnetic radiation from microwave oven KOR-86BG2  
with Toshiba magnetron 2M254

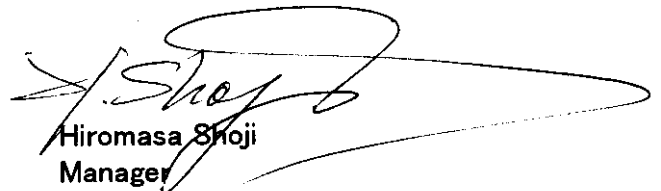
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Interference analyzer : EMC-60 MK-IV (Bandwidth : 5MHz)  
Antenna : CA-S, CA-M and CA-X

#### 3-1 Side band radiation (Load : 700ml water (center))

Frequency (MHz)	FIS ( $\mu\text{V/m}$ ) at 300m
2,388	10.3
2,526	1.9

#### 3-2 Harmonics radiation

Harmonics	Load	FIS ( $\mu\text{V/m}$ ) at 300m	Frequency (MHz)
2nd	300ml side	9.1	4,887
3rd	300ml center	4.8	7,848
4th	700ml center	12.5	10,297

Note : 2nd and 3rd Harmonics : The maximum value with the load condition such as 300ml or 700ml water in the center or side position



#### 4. Frequency measurements

Measurement equipment (Refer Page-4)

Interference analyzer : EMC-60 MK-IV (Bandwidth : 5MHz)

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Measurement equipment (Refer Page-4)

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