

ELECTROMAGNETIC RADIATION TEST OF MICROWAVE OVEN

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

Date : 1998-5-22
 Oven : MO-015
 Tube : 2M248H(IF)-N1
 Line : 120V/60Hz

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

Input power : 1730W
 Output power : 1020W
 * Permissible FIS = $35.7 \mu\text{V/m}$ at 300m
 (FIS : Field Intensity Strength)

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

Po leak : 0.2 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
2,399	4.8
2,503	20.3

3-2 Harmonics radiation

Harmonics	Load	FIS ($\mu\text{V/m}$) at 300m	Frequency (MHz)
2nd	700ml center	33.1	4,912
3rd	700ml center	11.4	6,908
4th	700ml center	12.0	9,832

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	2,460
800	2,459
600	2,457
400	2,455
200	2,454

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

Line voltage (V)	Frequency (MHz)
96	2,459
108	2,459
120	2,460
132	2,458
150	2,456

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 1998	
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 1998	
4	Frequency Counter	85340A SER : 134A01280 HEWLETT PACKARD		March 1998	Annually
5	Power Meter	435A SER : 1312J00144 HEWLETT PACKARD	0 to 1 mW	March 1998	Annually
6	Power Sensor	8481A SER : 1234A871 HEWLETT PACKARD		March 1998	
7	Spectrum Analyzer	8562A SER : 2923A03932 HEWLETT PACKARD	1 kHz to 22 GHz	March 1998	