

## REPORT OF MEASUREMENTS (MICROWAVE OVEN TEST DATA)

FCC ID : AEZM314 MODEL : EM-V5400SWX DATE : March 15, 2000  
 NOMINAL FREQUENCY : 2.450 M Hz. TESTED BY : H. HAYASHI  
*H. Hayashi*

DESCRIPTION : (Unit Dimension : cm)

Cabinet Dimension : 55.0 by 45.6 by 31.7 Door Dimension : 43.9 by 27.9

Oven Cavity Dimension : 37.6 by 42.2 by 24.2 Door Viewing area : 33.1 by 17.9

Feed Type and Location : Waveguide, located right side Stirrer : Rotating tray

(incl. Rotating tray)

Door seal Type : Choke Seal Magnetron Type : Sanyo, 2M-219H

Others : N/A

## TEST EQUIPMENT USED :

## 1. Antenna (Horn Antenna)

|                 | Frequency Range | Correction Factor |
|-----------------|-----------------|-------------------|
| AILTECH 91888-2 | 1.0 - 2.0 G Hz  | 21.5 - 22 dB      |
| AILTECH 91889-2 | 2.0 - 3.6 G Hz  | 20.5 - 21 dB      |
| AILTECH 94613-1 | 3.6 - 7.6 G Hz  | 37 dB             |
| AILTECH 91891-2 | 7.3 - 10.0 G Hz | 39.8 dB           |

Other Correction Factor

(a) Cable loss

| Frequency (M Hz) | Cable loss (dB) |
|------------------|-----------------|
| 2,400            | 1.1             |
| 2,500            | 1.1             |
| 4,900            | 1.6             |
| 7,350            | 2.2             |
| 9,800            | 2.7             |

(b) Loss of Band Rejection Filter

| Frequency Range (G Hz) | Filter loss (dB) |
|------------------------|------------------|
| 2.0 - 3.6              | 3.0              |

## 2. Field Strength Meter

AILTECH NM-67 (SER 0241-03088)

Last calibrated date : December 13, 1999

Setting : Bandwidth ----- 1 MHz

Function ----- Field Intensity (average value detector)

3. When measuring sidebands close to the fundamental, band reject filter Model 6N45-2450/60 (SER FK837-1) was employed.

## REPORT OF MEASUREMENT (MICROWAVE OVEN TEST DATA SHEET B)

FCC ID : AEZM314 MODEL : EM-V5400SWX DATE : March 14, 2000  
 Nominal Frequency : 2,450 MHz TESTED BY : H.HAYASHI

## DATA SUMMERY (FCC MEASUREMENT PROCEDURE MP-5)

SAFETY CHECK (at 5 cm) Load : 275 ml/center 0.11 mW/sq.cm  
 FUNDAMENTAL Load : 1,000 ml/center 2,450 MHz

CALCULATION :  $E < 300m = K * 10^{((A+B+C+D+E)/20)}$   
 LIMIT =  $25 * \sqrt{(power/500)}$  : 37.1  $\mu V/m$

\* Note : Location of load for the oven provided with the rotating tray is :  
 Contiguous with the shelf circumference.

RADIATION FIELD STRENGTH ( $\mu V/m$  at 300 m)

|                                | Load<br>(ml) | Location of Load     | Emission<br>Frequency<br>(MHz) | Meter<br>Reading<br>(dBuV) | Antenna<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | Filter<br>Loss<br>(dB) | Calcu.<br>Factor<br>(dB) | The Value of K<br>( $E < 300m = K * E < 3m$ ) | Max. Field<br>Strength<br>( $\mu V/m$ at 300m) | Limit<br>( $\mu V/m$ at 300m) |
|--------------------------------|--------------|----------------------|--------------------------------|----------------------------|---------------------------|-----------------------|------------------------|--------------------------|-----------------------------------------------|------------------------------------------------|-------------------------------|
| 2nd Harmonic                   | 300          | Center               | 4,907                          | 18.0                       | 37.0                      | 1.6                   | —                      | 5                        | 0.0100                                        | 12.0                                           | 37.1                          |
| 2nd Harmonic                   | 300          | * Right/Front Corner | 4,905                          | 12.0                       | 37.0                      | 1.6                   | —                      | 5                        | 0.0100                                        | 6.0                                            | 37.1                          |
| 2nd Harmonic                   | 700          | Center               | 4,931                          | 13.0                       | 37.0                      | 1.6                   | —                      | 5                        | 0.0100                                        | 6.8                                            | 37.1                          |
| 2nd Harmonic                   | 700          | * Right/Front Corner | 4,931                          | 12.0                       | 37.0                      | 1.6                   | —                      | 5                        | 0.0100                                        | 6.0                                            | 37.1                          |
| 3rd Harmonic                   | 300          | Center               | 7,361                          | 21.0                       | 39.8                      | 2.2                   | —                      | 5                        | 0.0100                                        | 25.1                                           | 37.1                          |
| 3rd Harmonic                   | 300          | * Right/Front Corner | 8,457                          | 11.0                       | 39.8                      | 2.2                   | —                      | 5                        | 0.0100                                        | 7.9                                            | 37.1                          |
| 3rd Harmonic                   | 700          | Center               | 7,412                          | 18.0                       | 39.8                      | 2.2                   | —                      | 5                        | 0.0100                                        | 17.8                                           | 37.1                          |
| 3rd Harmonic                   | 700          | * Right/Front Corner | 8,434                          | 12.0                       | 39.8                      | 2.2                   | —                      | 5                        | 0.0100                                        | 8.9                                            | 37.1                          |
| 4th Harmonic                   | 700          | Center               | 9,887                          | 13.0                       | 39.8                      | 2.7                   | —                      | 5                        | 0.0100                                        | 10.6                                           | 37.1                          |
| Spurious                       | 700          | Center               | 2,309                          | 32.0                       | 20.8                      | 1.1                   | 3                      | 5                        | 0.0059                                        | 7.3                                            | 37.1                          |
| Emission Sideband<br>2,400 MHz | 700          | Center               | 2,400                          | 20.0                       | 20.8                      | 1.1                   | 3                      | 5                        | 0.0061                                        | 1.9                                            | 37.1                          |
| Emission Sideband<br>2,500 MHz | 700          | Center               | 2,500                          | 20.0                       | 20.8                      | 1.1                   | 3                      | 5                        | 0.0064                                        | 2.0                                            | 37.1                          |

Maximum Frequency Variation 1,000 ml load 2,463 to 2,464 M Hz. 1830 MHz - 2745 MHz  $2.6230 * 10^{(-3)}$  \* frequency : GHz) -0.0002  
 Total Power Input to Oven 1,480 Watts 2745 MHz - 3660 MHz  $2.1858 * 10^{(-3)}$  \* frequency : GHz) +0.0010  
 Power Development in dummy load (Thermal Method) 1,100 Watts (IEC705Test Procedure) 3660 MHz - 4575 MHz  $1.0929 * 10^{(-3)}$  \* frequency : GHz) +0.0050  
 Supply Voltage AC 120 V 60 Hz 4575 MHz and above 0.0100

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 TESTED BY : IL HAYASHI  
*Il. Hayashi*

Note : In order to convert the measured field strength at 3meters to the field at 300 meters, comply with FCC/OST MP-5 Appendix C "4.6.1 Computations to determine compliance". A calculation factor of 5 dB, this figure is fixed by SANYO, is introduced bfor adjusting a tolerance in measurement.  
 A calculation factor of 5 dB should be added to "METER READING" as shown in SAMPLE CALCULATION below.

#### SAMPLE CALUCULATION

(1) 2<sup>nd</sup> Harmonic with 300 m/Center load

$$\begin{aligned}\text{Field Strength at 300 m} &= 0.0100 \times 10^{(18.0 + 37 + 1.6 + 5) : 20} \\ &= 12.0 \text{ uV/m}\end{aligned}$$

(2) Emission sideband 2,400 M Hz.. 700 m/Center load

$$\begin{aligned}\text{Field Strength at 300 m} &= 0.0061 \times 10^{(20.0 + 20.8 + 1.1 + 3 + 5) : 20} \\ &= 1.9 \text{ uV/m}\end{aligned}$$

## REPORT OF MEASUREMENT (MICROWAVE OVEN TEST DATA)

- Measurement of Frequency VS Line Voltage Stability -

FCC ID : AEZM314 Model : EM-V5400SWX Date : March 15, 2000Nominal Frequency : 2.450 MHzTested by : H.HAYASHIrd. Hayashi

| Line Voltage Variation [Volt] | Frequency [GHz] | Deviation for ISM Frequency [MHz] | Limit [MHz] |
|-------------------------------|-----------------|-----------------------------------|-------------|
| 96 (- 20%)                    | 2.464           | +14                               | ± 50        |
| 120 (± 0%)                    | 2.464           | +14                               | ± 50        |
| 150 (+ 25%)                   | 2.463           | +13                               | ± 50        |

## [ Environment ]

Temperature : 20.0 °CHumidity : 56.0 %

## [ Sample Calculation ]

Frequency : 2.464 GHz

Deviation for ISM Frequencies Calculated as follows,

$$\underline{2.4640} - 2.4500 = \underline{+0.0140} \text{ [GHz]} = \underline{+14.0} \text{ [MHz]}$$

## [ Summary of Test Results ]

Above data shows that the test device do/ do not complies with the requirements.