ACLAP4M01
EXHIBIT 1

TECHNICAL REPORT

1. DESCRIPTION OF MEASUREMENT FACILITY:
   The description of the measurement facility is already on file with the FCC laboratory. Please refer to the commission's reference 31010/EQU 4-3-0A.

2. INSTALLATION INSTRUCTIONS:
   See EXHIBIT 7.

3. OPERATING INSTRUCTIONS:
   See EXHIBIT 8.

4. APPLICANT:
   MATSUSHITA MICROWAVE OVEN COMPANY
   9333 W. Grand Avenue
   Franklin Park, Illinois 60131

5. MANUFACTURER:
   MATSUSHITA HOME APPLIANCE CORPORATION OF AMERICA
   1355 Lebanon Road
   Danville, Kentucky 40423

6. MEASUREMENT SITE:
   PANASONIC MAGNETRON LAB.
   PANASONIC INDUSTRIAL COMPANY
   1707 N. Randle Road
   Elgin, Il 60123-7847

7. EQUIPMENT IDENTIFICATION:
Model No.:NN-S989BA, NN-S989LA, NN-S989WA, NN-S969BA, NN-S969WA, NN-N959BA, NN-N959WA, NN-S959BA, NN-S959WA, NN-S949BA, NN-S949WA, NN-L939BA, NN-L939WA, NN-L929BA, NN-L929WA.
   Brand Name : Panasonic
   FCC ID : ACLAP4M01

7. EQUIPMENT SPECIFICATIONS:
   Electrical Power Requirement: 120V, 60Hz, 13.0A
   Nominal Operating Frequency: 2450 MHz
   Maximum RF Energy Generated: 1100 W (IEC 705)
   Magnetron Type: 2M236-M32
   Feed Type and Location: Through the wave guide on the top right side of the oven.
   Stirrer: Turntable Type
   Cabinet Dimensions: (W) 605 x (H) 355 x (D) 490 (mm)
   Oven Cavity Dimensions: (W) 442 x (H) 283 x (D) 451 (mm)
   Door Viewing Area Dimensions: (W) 372 x (H) 192 (mm)
   Door Seal Type: Slit Choke seal and capacitive seal method

8. DESCRIPTION OF DIFFERENCES

Model No.	Premium Sensor Models NN-S989BA, NN-S989LA, NN-S989WA	Upgraded Sensor Models NN-S969BA, NN-S969WA	Mid Range Models NN-N959BA, NN-N959WA, NN-S959BA, NN-S959WA
Input Power	120Vac, 13.0A	120 Vac, 13.0A	120 Vac, 13.0A
Output Power	1100W (IEC705)	1100W (IEC705)	1100W (IEC705)
Magnetron	2M236-M32	2M236-M32	2M236-M32
Brand	Panasonic	Panasonic	Panasonic

Model No.	Mid Range Models NN-S949BA, NN-S949WA	Basic Models NN-L939BA, NN-L939WA	Basic Models NN-L929BA, NN-L929WA
Input Power	120Vac, 13.0A	120 Vac, 13.0A	120 Vac, 13.0A
Output Power	1100W (IEC705)	1100W (IEC705)	1100W (IEC705)
Magnetron	2M236-M32	2M236-M32	2M236-M32
Brand	Panasonic	Panasonic	Panasonic

ACLAP4M01
EXHIBIT 2

PHOTOGRAPHS OF EQUIPMENT

EXHIBIT 2-A: FRONT VIEW OF MODEL NN-S989BA

EXHIBIT 2-B: REAR VIEW OF MODEL NN-S989BA

EXHIBIT 2-C: FRONT VIEW OF MODEL NN-S989BA WITH THE DOOR OPENED

EXHIBIT 2-D: TOP VIEW OF MODEL NN-S989BA WITH ENCLOSURE REMOVED

EXHIBIT 2-E: RIGHT SIDE VIEW OF MODEL NN-S989BA WITH ENCLOSURE REMOVED

EXHIBIT 2-F: BOTTOM VIEW OF MODEL NN-S989BA

EXHIBIT 2-G: LEFT SIDE VIEW OF MODEL NN-S989BA WITH ENCLOSURE REMOVED

EXHIBIT 2-H: VIEW OF DOOR CHOKE CONSTRUCTION ILLUSTRATING INTEGRAL CHOKE TYPE.

EXHIBIT 2-I: VIEW OF MAGNETRON TYPE 2M236-M32

EXHIBIT 2-J: VIEW OF INVERTER CIRCUITRY

ACLAP4M01
EXHIBIT 5

REPORT OF MEASUREMENTS

1. MODEL NO.: NN-S989BA
   SERIAL NO. PP-00020
   MAGNETRON TYPE NO.: 2M236-M32

2. MEASUREMENT DATE: 10/29/98

3. LIST OF MEASURING EQUIPMENT AND CALIBRATION DATA:
   REFER TO ATTACHED EXHIBIT 6

4. INVESTIGATED FREQUENCY RANGE: 100Mhz to 4th Harmonic

5. DATA SUMMARY:
   Safety Check : <0.5 MW/cm2

Radiated Field Strength:	(uV/m @ 300m)		Limit
Fundamental:	2457 MHz	391uv/m	N/A
2nd. Harmonic:	4879 MHz	7.30uv/m	33.2
3rd. Harmonic:	7306 MHz	2.40uv/m	"
4th. Harmonic:	9838 MHz	1.90uv/m	"
Spurious:	2364 MHz	1.46uv/m	"
Emmission Sideband:	2400 MHz	1.18uv/m	"
Emmission Sideband:	2500 MHz	0.41uv/m	"
Greater than 4th. Harmonic	not measurable		

   Maximum Frequency Variation: 2469 to 2471 MHz
   (96v - 150v/ 1500ml water load)

   Maximum Frequency Variation: 2459 to 2471 MHz
   (1500 ml - 300ml water load)
   Total Power Input to Oven: 1800 watts
   Power Developed in Dummy Load: 879 watts
   Supply Voltage: 120 Volts, 60Hz, 15.3A

ENGINEERING TEST REPORT

OCT 29, 1998

Report No . CALR-FCC-093

This is to certify that the MICROWAVE OVEN from which the following data has been derived properly complies with the requirements of " FCC Rules and Regulations Part 18 Subpart C " as of the date the measurements were made.

1. Manufacturer of Device : Matsushita Home Appliance Corporation of America

   1355 Lebanon Road.
   Danville, Kentucky 40423

2. Description of Device

a.	FCC ID.	:	ACLAP4M01
b.	Model No.	:	NN-S989BA
c.	Serial No.	:	PP00020
d.	Operating Frequency	:	2450 MHz
e.	Output RF Power	:	1100 W (BY IEC 705)
f.	Power Consumption	:	120 V. 60 Hz
g.	Magnetron Type	:	Matsushita 2M236
h.	Employed Mode	:	Turn Table
i.	Door Seal Type	:	Choke

3. Measurement Procedure Used : FCC/OST MP-5

4. Measurement Site

   Name : Panasonic Magnetron Lab.
   Panasonic Industrial Company

   Address : 1707 N. Randall Road
   Elgin, Illinois 60123-7847

   Description of this test facility has been filed with the FCC. (Feb. 26, 1987, File # 31010/EQU 4-3-0A)

5. Date of Measurement : OCT 29, 1998

6. Measurement Data : See Attached " Data Summary "

7. Test Equipment Used : See Exhibit 1

Tested By

M. Okazaki
Applications Manager of Magnetron
Panasonic Industrial Company

DATA SUMMARY

1. Safety Check : < 0.5 mW/cm2 @ 5cm

2. Radiated Field Strength uV/m @ 300m

	Frequency (MHz)	Field Strength (uV/m)	Permissible (uV/m)
Fundamental	2457	391	-----
2nd Harmonic	4879	7.30	33.20
3rd Harmonic	7306	2.40	33.20
4th Harmonic	9838	1.90	33.20
Spurious	2364	1.46	33.20
Emission Side Band	2400	1.18	33.20
Emission Side Band	2500	0.41	33.20

3. Maximum frequency variation : 2469 MHz - 2471 MHz
(96V ~ 150V / 1500cc Load)

2459 MHz - 2471 MHz
(1500cc ~ 300cc / Load)

4. Total power input to oven : 1800 W

5. Power developed in dummy load : 879 W

6. Supply voltage : 120V , 15.3 A

Description of Instrumentation and calculation

(1) Measurement equipment

a. Field Strength Meter : Electro-Metrics Model EMC-50

Bandwidth Setting : 1 MHz

Detector Function : Linear Average Detection

b. Receiving Antenna : Electro-Metrics Model RGA-180

Frequency Range : 1 - 18 GHz

c. Microwave Survey Meter : Narda Model 8110B

(2) Test Condition

a. Antenna Height Variation : 1.0 - 1.5 m

b. Distance of Antenna to Test unit : 3.0 m

c. Test Unit Height : 1.0 m

(3) Calculation Formula

Field Strength at 3 m (dBuV/m)

= Receiver Reading + Antenna Factor + Cable Loss
(dBuV) (dB/m) (dB)

Field Strength at 300m (uV/m)

$$= K * 10^{\frac{\text{Field Strength at 3 m (dBuV/m)}}{20}}$$

K : Conversion Factor for 3 m to 300 m

Frequency	Antenna Factor	Cable Loss	Conv. Factor
(MHz)	(dB/m)	(dB)	K
2400	29	0.7	0.0061
Fundamental	29.3	0.7	0.0062
2500	29.5	0.7	0.0063
4900	33.4	0.9	0.01
7350	36.5	1.2	0.01
9800	38.2	1.4	0.01

Example : 2nd Harmonics

Receiver Reading = 20 dB @ 3 m

$$\text{FIS @300 m} = 0.01 * 10^{\frac{20 + 33.4 + 0.9}{20}} = 5.19 \text{ (uV/m)}$$

Exhibit 1 Test Equipment List

Name / Model No.	S / No.	Manufacturer	Last Calibrated
Field Strength Meter Model EMC - 50	175	Electro Metrics	11 / 14 / 97
Microwave Survey Meter 8110B	20915	Narda	03 / 19 / 98
Ridged Guide Antenna RGA - 180	2455	Electro Metrics	08 / 20 / 88
Network Analyzer 8410B	1647A00704	Hewlett Packard	06 / 17 / 88
Reflection Unit 8743A	1330A01358	Hewlett Packard	06 / 17 / 88
Sweep Oscillator 8620C	1645A00827	Hewlett Packard	06 / 17 / 88
Frequency Meter 536A	1441A00695	Hewlett Packard	09 / 17 / 88
Power Meter 436A	1629A1172	Hewlett Packard	08 / 05 / 89
Spectrum Analyzer 8555A	1642A06830	Hewlett Packard	08 / 21 / 88

Fig. 2 Physical Dimensions of Test Site (Unit mm)

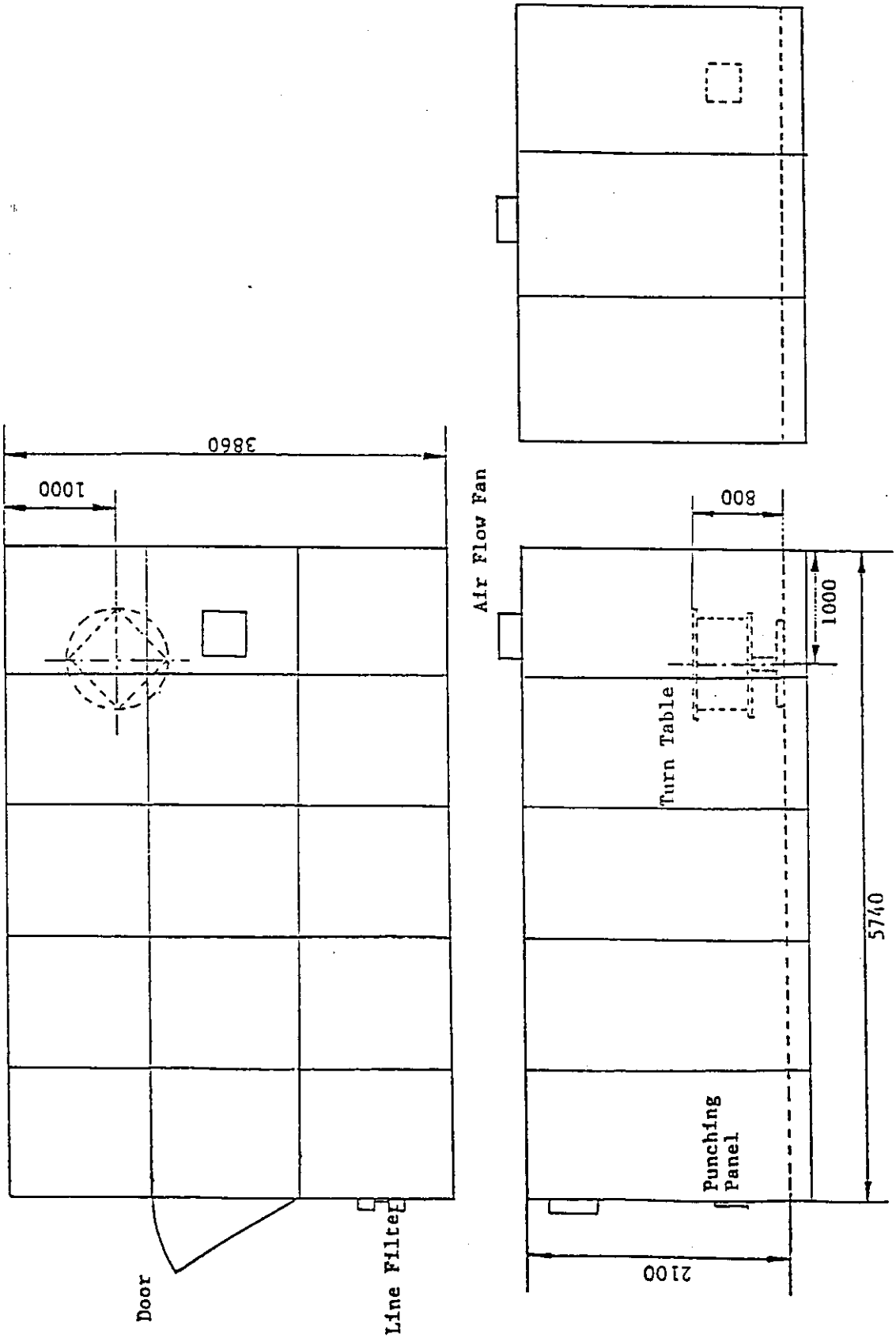

Fig. 1 Physical Description of Test Site