ENGINEERING TEST RECORD
REPORT OF MEASUREMENTS (MICROWAVE OVEN TEST DATA SHEET)

FCC ID	:	APYDMR0122
Name of Product	:	Household Microwave Oven
Model Number	:	R-530C
Input Power Rating	:	120 V ac, 60 Hz
Output Power Rating	:	1100 W
Nominal Frequency	:	2450 MHz
Magnetron Type No.	:	2M167B, mfd by Matsushita
Test Date	:	December 3 - 8, 1998

Tested by :

Y. Honkawa, Engineer
Microwave Oven Engineering Dept.
Kitchen Appliance Systems Div.
Sharp Corp. (Yao Factory)

DATA SUMMARY (FCC Measurement Procedure MP-5)

1. Frequency Measurements : See attached data sheet.
2. Radiated Field Strength : See attached data sheet.

Measurement Test Site : Sharp Corporation
Kitchen Appliance Systems Div.
Yao Factory, EMI Anechoic Chamber

Note: For further details of Test Site, refer to the attached "Description of Measurement Facilities".

Total Power Input to Oven	:	1655 W
Power Developed in Dummy Load	:	866 W

(Thermal method with 1500 ml water load, well heated microwave oven.)

Supply Voltage	:	120 V ac, 60 Hz
PERMISSIBLE	:	**32.9 uV/m at 300 m**

1. FREQUENCY MEASUREMENTS

FCC ID	:	APYDMR0122
Tested Unit	:	Microwave Oven, Model R-530C
Magnetron Type No.	:	2M167B, mfd by Matsushita
Tested	:	December 08, 1998

(1) Frequency VS Line Voltage Variation Test

Test Result (Room Temperature: 20 degC)
Load: 1500 cc water in the glass beaker
(Note: Since the RF output power is rated 1100 watts (more than 1000 watts), the load was increased 50 %)

Line Voltage Variation (V)	Frequency against the tolerance for center frequency 2450 MHz	Allowed Tolerance for the ISM Band (2450 MHz)
96 (80%)	+ 32 MHz - 12 MHz	+/- 50 MHz
108 (90%)	+ 34 MHz - 25 MHz	
120 (Nominal)	+ 36 MHz - 29 MHz	
132 (110%)	+ 33 MHz - 10 MHz	
150 (125%)	+ 38 MHz - 4 MHz	

(2) Frequency VS Load Variation Test

Test Results (room temperature: 20 degC)
Initial Load: 1500 cc water in the glass beaker
(Note: Since the RF output power is rated 1100 watts (more than 1000 watts), the load was increased 50 %)

Volume of Water (cc)	Frequency against the tolerance for center frequency 2450 MHz	Allowed Tolerance for the ISM Band (2450 MHz)
1500	+ 36 MHz - 12 MHz	+/- 50 MHz
1200	+ 34 MHz - 37 MHz	
900	+ 35 MHz - 33 MHz	
600	+ 26 MHz - 28 MHz	
300	+ 22 MHz - 29 MHz	

2. RADIATED FIELD STRENGTH

DATA SHEET (FCC Measurement Procedure MP-5) **FCC ID: APYDMR0122**

Model R-530C **Magnetron: 2M167B, mfd by Matsushita** **Date: December 3-8, 1998**

	Frequency (MHz)	Load (ml)	Place of the load	Antenna Factor (dB)	Cable Loss (dB)	Reading Data (dBuV @:3m)		Radiated Field Strength (uV/m @:300m)	
						Vertical	Horizen	Vertical	Horizen
Fundamental	2474	1500	Center	20.70	1.03	87	86	1745.85	1555.99
2nd Harmonic	4921	1050	Center	20.50	1.58	34	28	6.37	3.19
	4942	1050	R.F.Corner	20.50	1.58	29	27	3.58	2.84
	4923	450	Center	20.50	1.58	33	27	5.68	2.84
	4944	450	R.F.Corner	20.50	1.58	30	29	4.02	3.58
3rd Harmonic	7415	1050	Center	19.20	2.10	40	41	11.62	13.03
	7422	1050	R.F.Corner	19.20	2.10	37	37	8.22	8.22
	7404	450	Center	19.20	2.10	40	43	11.62	16.41
	7427	450	R.F.Corner	19.20	2.10	37	39	8.22	10.35
4th Harmonic	9884	1050	Center	20.00	2.65	35	32	7.63	5.40
Sprious F<1000, 4575<F	7804	1050	Center	19.60	2.20	35	39	6.92	10.97
	8305	1050	Center	19.80	2.30	42	45	16.03	22.65
	14777	1050	Center	19.20	3.70	31	32	4.95	5.56
Spurious 1000<F<4575	2376	1050	Center	20.70	1.00	38	31	5.94	2.65
Emission Sideband	2400	1500	Center	20.70	1.01	48	49	18.99	21.31
	2415	1500	Center	20.70	1.02	63	58	107.55	60.48
	2485	1500	Center	20.70	1.03	45	52	13.92	31.17
	2500	1500	Center	20.80	1.04	23	24	1.13	1.26

Emission observed from 100 MHz through 18 GHz by spectrum analyzer. No significant emission was detected except for above data.

Microwave Leakage at 5 cm on fundamental : 0.2 mW/cm^2

Since the RF output power rating is more than 1000 W, the load for measurment was increased 50%.

ENGINEERING TEST RECORD
REPORT OF MEASUREMENTS (MICROWAVE OVEN TEST DATA SHEET)

FCC ID	:	APYDMR0122
Name of Product	:	Household Microwave Oven
Model Number	:	R-530C
Input Power Rating	:	120 V ac, 60 Hz
Output Power Rating	:	1100 W
Nominal Frequency	:	2450 MHz
Magnetron Type No.	:	2M253J(L), mfd by Toshiba
Test Date	:	December 8 - 10, 1998

Tested by :

Y. Honkawa, Engineer
Microwave Oven Engineering Dept.
Kitchen Appliance Systems Div.
Sharp Corp. (Yao Factory)

DATA SUMMARY (FCC Measurement Procedure MP-5)

1. Frequency Measurements : See attached data sheet.
2. Radiated Field Strength : See attached data sheet.

Measurement Test Site : Sharp Corporation
Kitchen Appliance Systems Div.
Yao Factory, EMI Anechoic Chamber

Note: For further details of Test Site, refer to the attached "Description of Measurement Facilities".

Total Power Input to Oven : 1690 W
Power Developed in Dummy Load : 910 W
(Thermal method with 1500 ml water load, well heated microwave oven.)
Supply Voltage : 120 V ac, 60 Hz

PERMISSIBLE : 33.7 uV/m at 300 m

1. FREQUENCY MEASUREMENTS

FCC ID	:	APYDMR0122
Tested Unit	:	Microwave Oven, Model R-530C
Magnetron Type No.	:	2M253J(L), mfd by Toshiba
Tested	:	December 10, 1998

(1) Frequency VS Line Voltage Variation Test

Test Result (Room Temperature: 20 degC)
Load: 1500 cc water in the glass beaker
(Note: Since the RF output power is rated 1100 watts (more than 1000 watts), the load was increased 50 %)

Line Voltage Variation (V)	Frequency against the tolerance for center frequency 2450 MHz	Allowed Tolerance for the ISM Band (2450 MHz)
96 (80%)	+ 30 MHz - 32 MHz	+/- 50 MHz
108 (90%)	+ 30 MHz - 34 MHz	
120 (Nominal)	+ 31 MHz - 38 MHz	
132 (110%)	+ 30 MHz - 30 MHz	
150 (125%)	+ 30 MHz - 27 MHz	

(2) Frequency VS Load Variation Test

Test Results (room temperature: 20 degC)
Initial Load: 1500 cc water in the glass beaker
(Note: Since the RF output power is rated 1100 watts (more than 1000 watts), the load was increased 50 %)

Volume of Water (cc)	Frequency against the tolerance for center frequency 2450 MHz	Allowed Tolerance for the ISM Band (2450 MHz)
1500	+ 31 MHz - 38 MHz	+/- 50 MHz
1200	+ 32 MHz - 31 MHz	
900	+ 23 MHz - 27 MHz	
600	+ 27 MHz - 26 MHz	
300	+ 23 MHz - 19 MHz	

2. RADIATED FIELD STRENGTH

DATA SHEET (FCC Measurement Procedure MP-5) **FCC ID: APYDMR0122**

Model R-530C **Magnetron: 2M253J(L), mfd by Toshiba** **Date: December 8-10, 1998**

	Frequency (MHz)	Load (ml)	Place of the load	Antenna Factor (dB)	Cable Loss (dB)	Reading Data (dBuV @:3m)		Radiated Field Strength (uV/m @:300m)	
						Vertical	Horizen	Vertical	Horizen
Fundamental	2478	1500	Center	20.70	1.03	87	89	1748.48	2201.21
2nd Harmonic	4922	1050	Center	20.50	1.58	40	37	12.71	9.00
	4941	1050	R.F.Corner	20.50	1.58	43	37	17.95	9.00
	4927	450	Center	20.50	1.58	40	39	12.71	11.32
	4942	450	R.F.Corner	20.50	1.58	41	37	14.26	9.00
3rd Harmonic	7341	1050	Center	19.20	2.10	38	32	9.23	4.62
	7338	1050	R.F.Corner	19.20	2.10	41	35	13.03	6.53
	7343	450	Center	19.20	2.10	38	33	9.23	5.19
	7336	450	R.F.Corner	19.20	2.10	36	32	7.33	4.62
4th Harmonic	9832	1050	Center	20.00	2.65	46	45	27.07	24.13
Sprious F<1000, 4575<F	8326	1050	Center	19.80	2.30	32	33	5.07	5.69
	17227	1050	Center	18.70	4.21	45	46	24.86	27.89
Spurious 1000<F<4575	2378	1050	Center	20.70	1.00	46	47	14.93	16.76
Emission Sideband	2400	1500	Center	20.70	1.01	51	51	26.82	26.82
	2415	1500	Center	20.70	1.02	60	59	76.14	67.86
	2485	1500	Center	20.70	1.03	24	25	1.24	1.39
	2500	1500	Center	20.80	1.04	24	24	1.26	1.26

Emission observed from 100 MHz through 18 GHz by spectrum analyzer. No significant emission was detected except for above data.

Microwave Leakage at 5 cm on fundamental : 0.22 mW/cm^2

Since the RF output power rating is more than 1000 W, the load for measurment was increased 50%.

ENGINEERING TEST RECORD
REPORT OF MEASUREMENTS (MICROWAVE OVEN TEST DATA SHEET)

FCC ID	:	APYDMR0122
Name of Product	:	Household Microwave Oven
Model Number	:	R-530C
Input Power Rating	:	120 V ac, 60 Hz
Output Power Rating	:	1100 W
Nominal Frequency	:	2450 MHz
Magnetron Type No.	:	2M246, mfd by LG Electronics
Test Date	:	December 15 - 17, 1998

Tested by :

Y. Honkawa, Engineer
Microwave Oven Engineering Dept.
Kitchen Appliance Systems Div.
Sharp Corp. (Yao Factory)

DATA SUMMARY (FCC Measurement Procedure MP-5)

1. Frequency Measurements : See attached data sheet.
2. Radiated Field Strength : See attached data sheet.

Measurement Test Site : Sharp Corporation
Kitchen Appliance Systems Div.
Yao Factory, EMI Anechoic Chamber

Note: For further details of Test Site, refer to the attached "Description of Measurement Facilities".

Total Power Input to Oven : 1680 W
Power Developed in Dummy Load : 884 W
(Thermal method with 1500 ml water load, well heated microwave oven.)
Supply Voltage : 120 V ac, 60 Hz

PERMISSIBLE : 33.2 uV/m at 300 m

1. FREQUENCY MEASUREMENTS

FCC ID	:	APYDMR0122
Tested Unit	:	Microwave Oven, Model R-530C
Magnetron Type No.	:	2M246, mfd by LG Electronics
Tested	:	December 17, 1998

(1) Frequency VS Line Voltage Variation Test

Test Result (Room Temperature: 20 degC)
Load: 1500 cc water in the glass beaker
(Note: Since the RF output power is rated 1100 watts (more than 1000 watts), the load was increased 50 %)

Line Voltage Variation (V)	Frequency against the tolerance for center frequency 2450 MHz	Allowed Tolerance for the ISM Band (2450 MHz)
96 (80%)	+ 44 MHz - 34 MHz	+/- 50 MHz
108 (90%)	+ 46 MHz - 4 MHz	
120 (Nominal)	+ 45 MHz - 31 MHz	
132 (110%)	+ 45 MHz - 5 MHz	
150 (125%)	+ 47 MHz - 9 MHz	

(2) Frequency VS Load Variation Test

Test Results (room temperature: 20 degC)
Initial Load: 1500 cc water in the glass beaker
(Note: Since the RF output power is rated 1100 watts (more than 1000 watts), the load was increased 50 %)

Volume of Water (cc)	Frequency against the tolerance for center frequency 2450 MHz	Allowed Tolerance for the ISM Band (2450 MHz)
1500	+ 45 MHz - 31 MHz	+/- 50 MHz
1200	+ 46 MHz - 15 MHz	
900	+ 42 MHz - 40 MHz	
600	+ 36 MHz - 29 MHz	
300	+ 35 MHz - 32 MHz	

2. RADIATED FIELD STRENGTH

DATA SHEET (FCC Measurement Procedure MP-5) **FCC ID: APYDMR0122**

Model R-530C **Magnetron: 2M246, mfd by LG Electronics** **Date: December 15 - 17, 1998**

	Frequency (MHz)	Load (ml)	Place of the load	Antenna Factor (dB)	Cable Loss (dB)	Reading Data (dBuV @:3m)		Radiated Field Strength (uV/m @:300m)	
						Vertical	Horizen	Vertical	Horizen
Fundamental	2570	1500	Center	20.70	1.03	86	89	1611.15	2275.81
2nd Harmonic	4924	1050	Center	20.50	1.58	45	43	22.60	17.95
	4956	1050	R.F.Corner	20.50	1.58	45	44	22.60	20.14
	4924	450	Center	20.50	1.58	46	47	25.35	28.45
	4955	450	R.F.Corner	20.50	1.58	47	44	28.45	20.14
3rd Harmonic	7394	1050	Center	19.20	2.10	30	27	3.67	2.60
	7426	1050	R.F.Corner	19.20	2.10	24	26	1.84	2.32
	7398	450	Center	19.20	2.10	27	26	2.60	2.32
	7422	450	R.F.Corner	19.20	2.10	27	28	2.60	2.92
4th Harmonic	9856	1050	Center	20.00	2.65	28	31	3.41	4.81
Sprious F<1000, 4575<F	8611	1050	Center	19.80	2.30	35	41	7.16	14.29
	17222	1050	Center	18.70	4.21	29	29	3.94	3.94
Spurious 1000<F<4575	2366	1050	Center	20.70	1.00	43	41	10.52	8.36
Emission Sideband	2400	1500	Center	20.70	1.01	51	51	26.82	26.82
	2415	1500	Center	20.70	1.02	50	49	24.08	21.46
	2485	1500	Center	20.70	1.03	68	67	196.69	175.30
	2500	1500	Center	20.80	1.04	23	23	1.13	1.13

Emission observed from 100 MHz through 18 GHz by spectrum analyzer. No significant emission was detected except for above data.

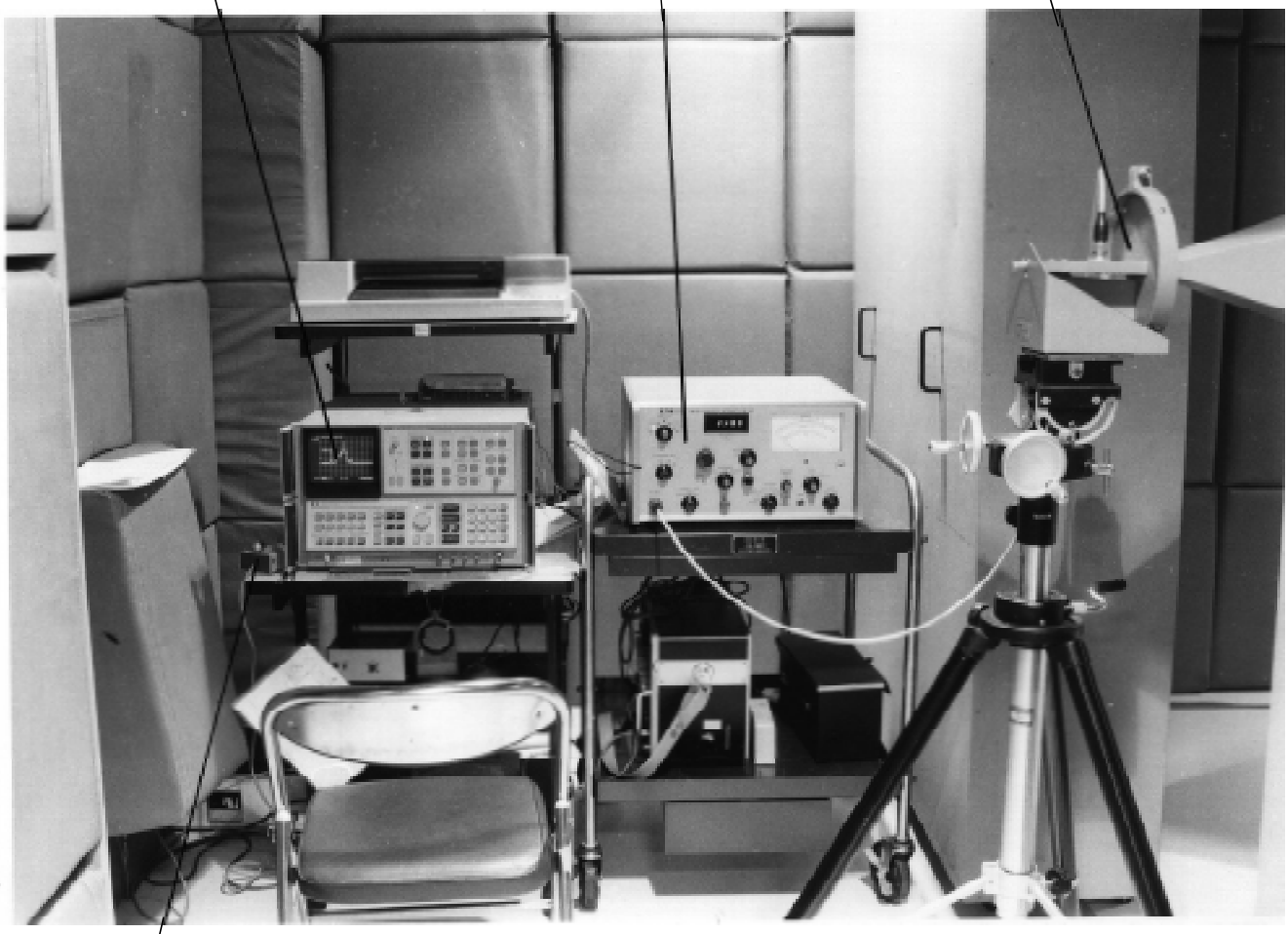
Microwave Leakage at 5 cm on fundamental : 0.21 mW/cm^2

Since the RF output power rating is more than 1000 W, the load for measurment was increased 50%.

DESCRIPTION OF THE MEASUREMENT FACILITIES

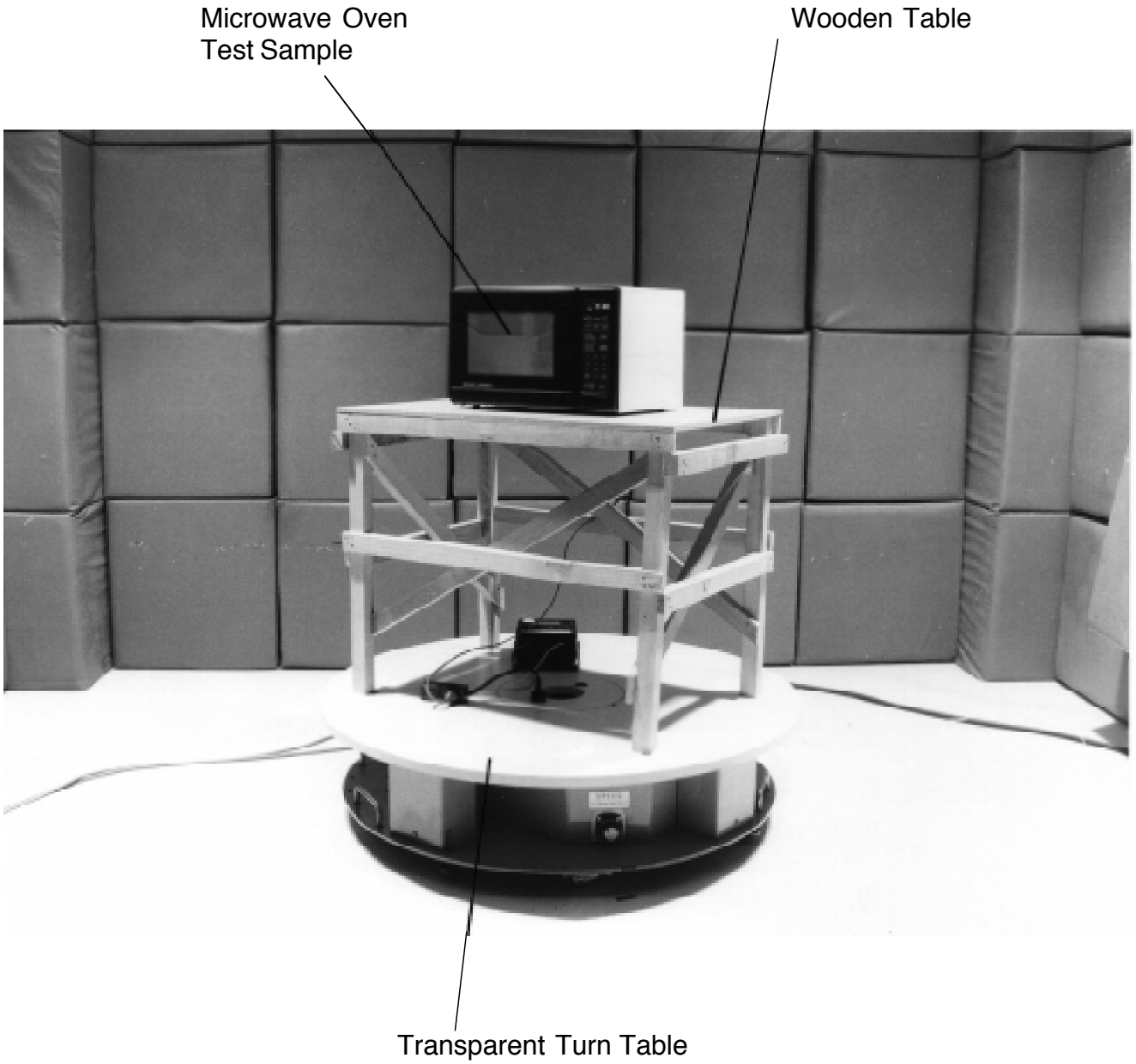
SHARP CORPORATION, KITCHEN APPLIANCE SYSTEMS DIVISION
EMI ANECHOIC CHAMBER

PHOTOGRAPH OF TEST EQUIPMENT #1

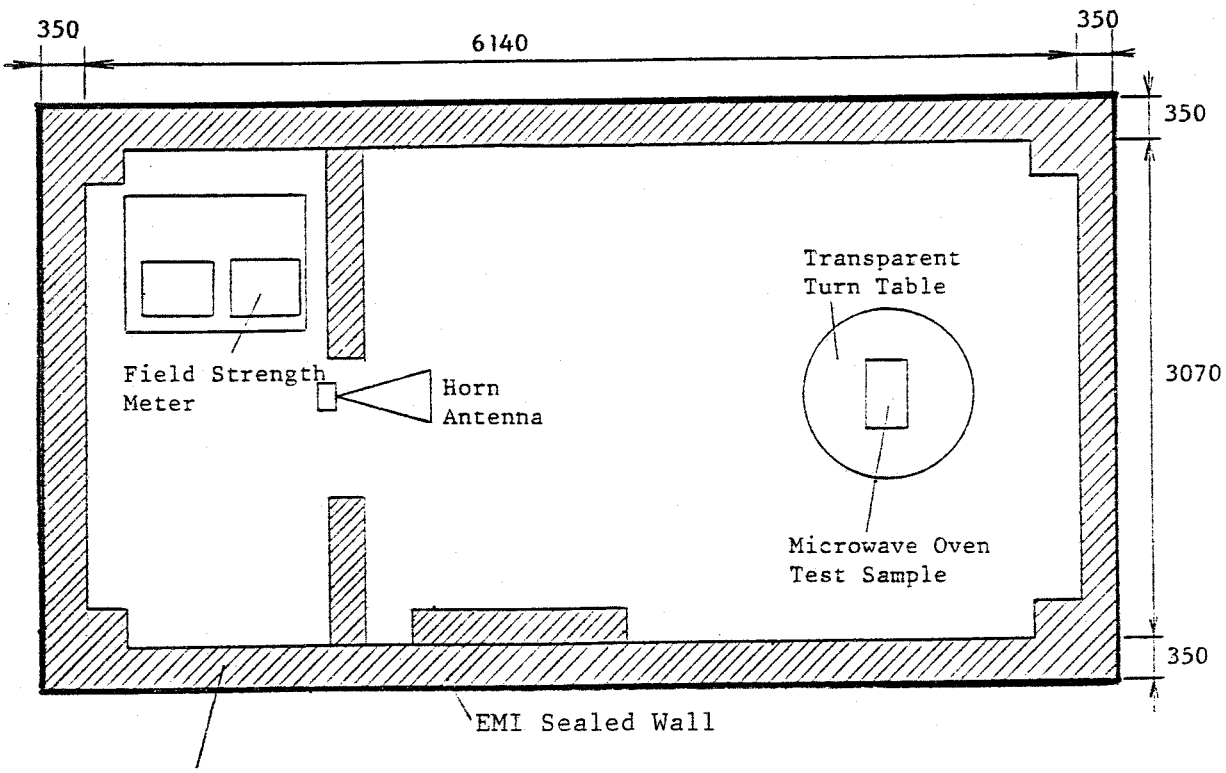


PHOTOGRAPH OF TEST EQUIPMENT #2

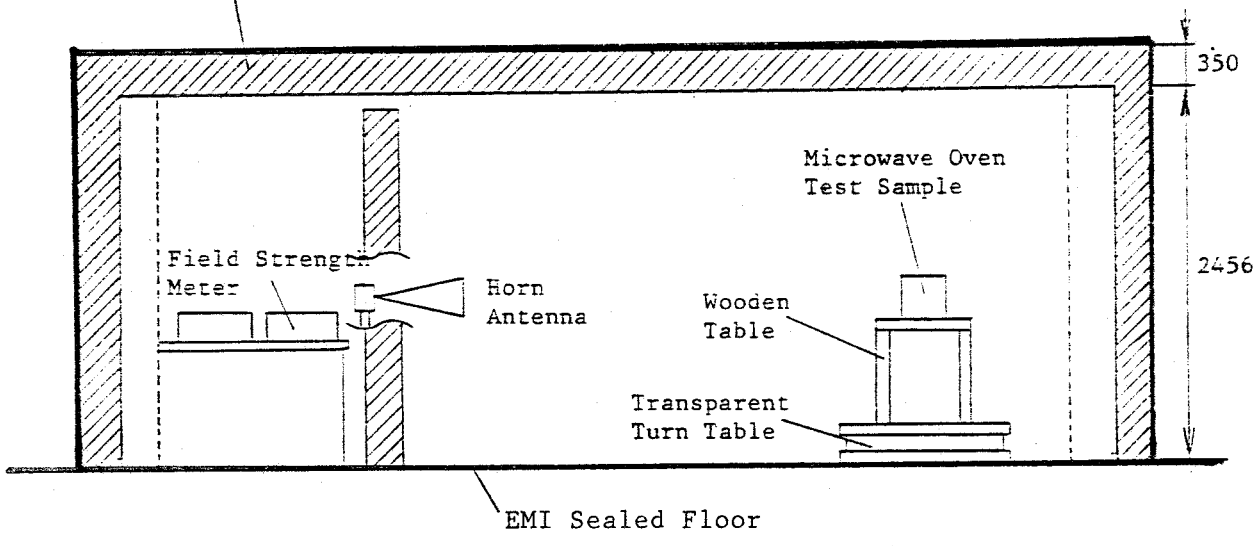
PHOTOGRAPH OF TEST EQUIPMENT #3



4. DIMENSIONS OF TEST SITE



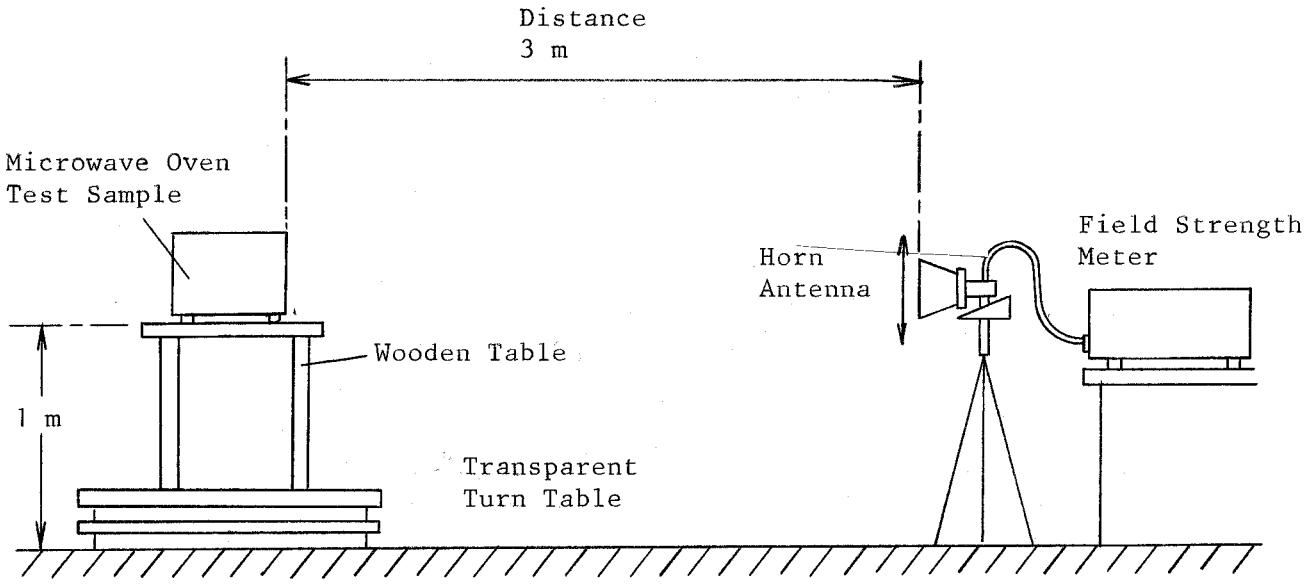
Electric Magnetic Wave Absover: Cat. No. AEP-12EM WP
Mfd by Advanced ElectroMagnetic, Inc.



(mm)

EMI Anechoic Chamber equipped by Akzo Kashima Ltd.

5. ARRANGEMENT OF INSTRUMENTATION



6. DESCRIPTION OF MEASUREMENT EQUIPMENTS

6-1. FIELD STRENGTH METER

a) #UHR4000, Mfd by CHASE (100 MHz through 1.0 GHz)

BANDWIDTH	120 kHz
DETECTOR FUNCTION	Linear average value; AVERAGE 1: 1 ms averaging AVERAGE 2: 600 ms averaging
CALIBRATION DATE	July 14, 1998

b) #NM-67, Mfd by EATON (1.0 GHz through 18 GHz)

BANDWIDTH	10 MHz
DETECTOR FUNCTION	Linear average value; Field Intensity
CALIBRATION DATE	July 17, 1998

6-2. RADIATED FREQUENCY OBSERVATION SUB-EQUIPMENT

SPECTRUM ANALYZER #8566B, Mfd by HEWLETT. PACKARD

6-3. ANTENNA

RANGE FOR FREQUENCY	ANTENNA
From 100 MHz to 140 MHz	#DM-105A-T1, Mfd by SINGER
From 140 MHz to 400 MHz	#DM-105A-T2, Mfd by SINGER
From 400 MHz to 1.0 GHz	#DM-105A-T3, Mfd by SINGER
From 1.0 GHz to 2.0 GHz	#91888-2, Mfd by EATON
From 2.0 GHz to 3.6 GHz	#91889-2, Mfd by EATON
From 3.6 GHz to 7.3 GHz	#94613-1 with Reflector #91892-1 Mfd by EATON
From 7.3 GHz to 12.0 GHz	#91891-2 with Reflector #91892-1 Mfd by EATON
From 12.0 GHz to 18.0 GHz	#94614-1 with Reflector #91892-1 Mfd by EATON

6-4. CABLE

RANGE FOR FREQUENCY	CABLE
From 100 MHz to 1.0 GHz	#RG-55/U
From 1.0 GHz to 18.0 GHz	#94615-1

6.5. PERTINENT DETAILS

a) Calculation Formula	(See Attachment 1)
b) Antenna Correction Factor	(See Attachment 2)
c) Cable Loss	(See Attachment 3)
d) Calibration Curve	(See Attachment 4)

6-6. TEST CONDITION

a) Antenna hight variation	From 1.1 m to 2.1 m
b) Antenna to test unit distance	3 m

CALCULATION OF RADIATED FIELD STRENGTH (uV/m)

$$Ef = 10^{\left(\frac{Fa + Fc + D}{20}\right)} * K$$

Ef : Radiated Field Strength at 300 m (uV/m)
Fa : Antenna Factor (dB)
Fc : Cable Factor (dB)
D : Reading Data of the Field Strength Meter (dBuV at 3 m)
K : Conversion Factor

$K = 0.0137 * \log F - 0.0401$ (if $F < 4575$ MHz)
$K = 0.01$ (if $F \geq 4574$ MHz)
F : Emission Frequency

Emission Frequency (MHz)	K
1830	0.0046
2745	0.0070
3660	0.0090
4575 and above	0.0100

In case of emission frequency less than 1.0 GHz, conversion factor K=0.01 is used for the measurement of 3 m distance.

ANTENNA FACTOR (dB)

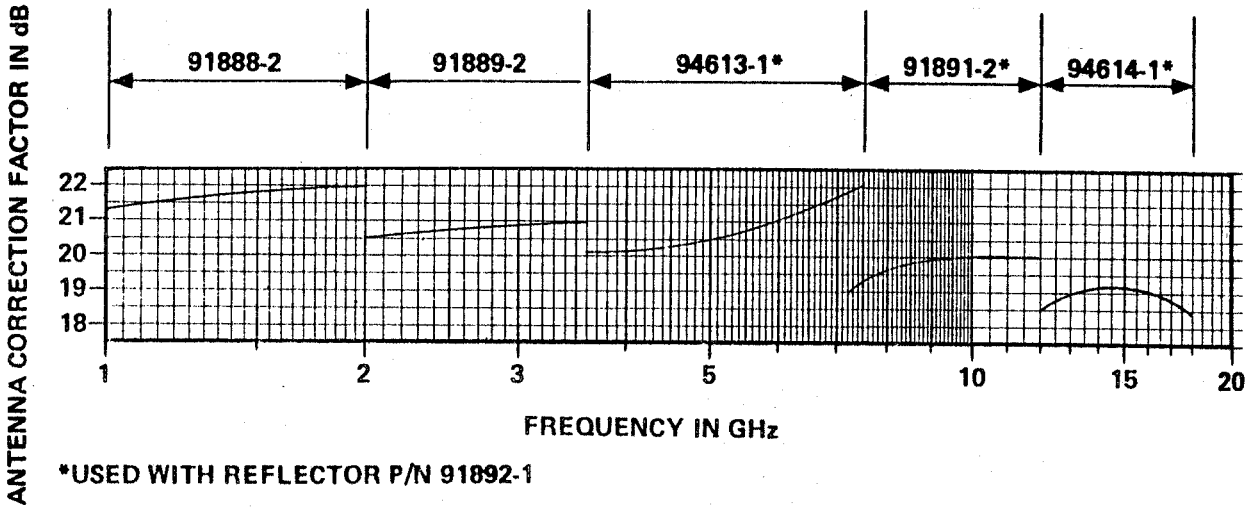


Figure 5-3. Antenna Correction Factors, 1-18 GHz Horn Antennas

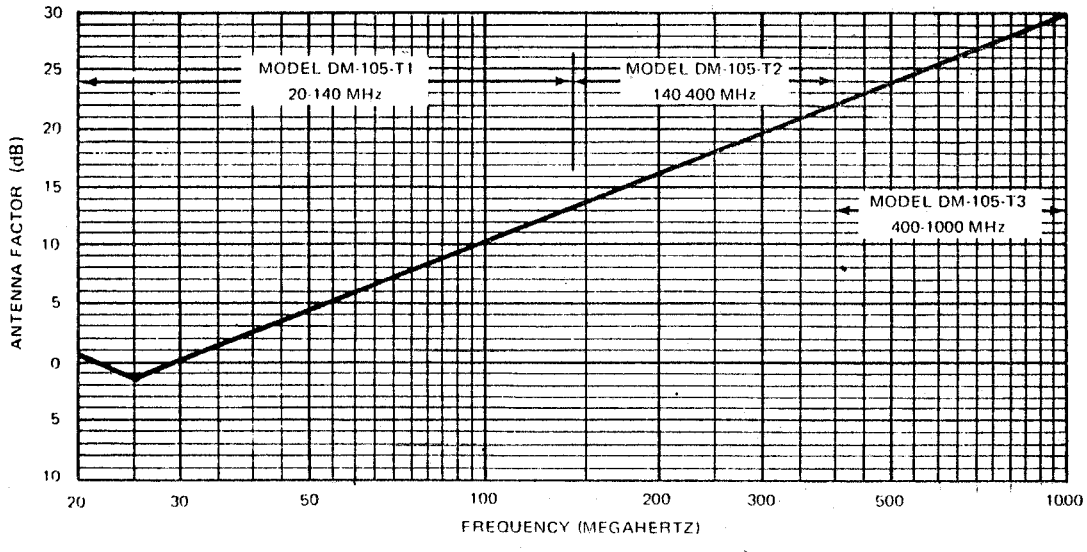


Figure 2-18. Antenna Factor Versus Frequency Characteristics, Models DM-105-T1, DM-105-T2 and DM-105-T3 Dipole Antennas

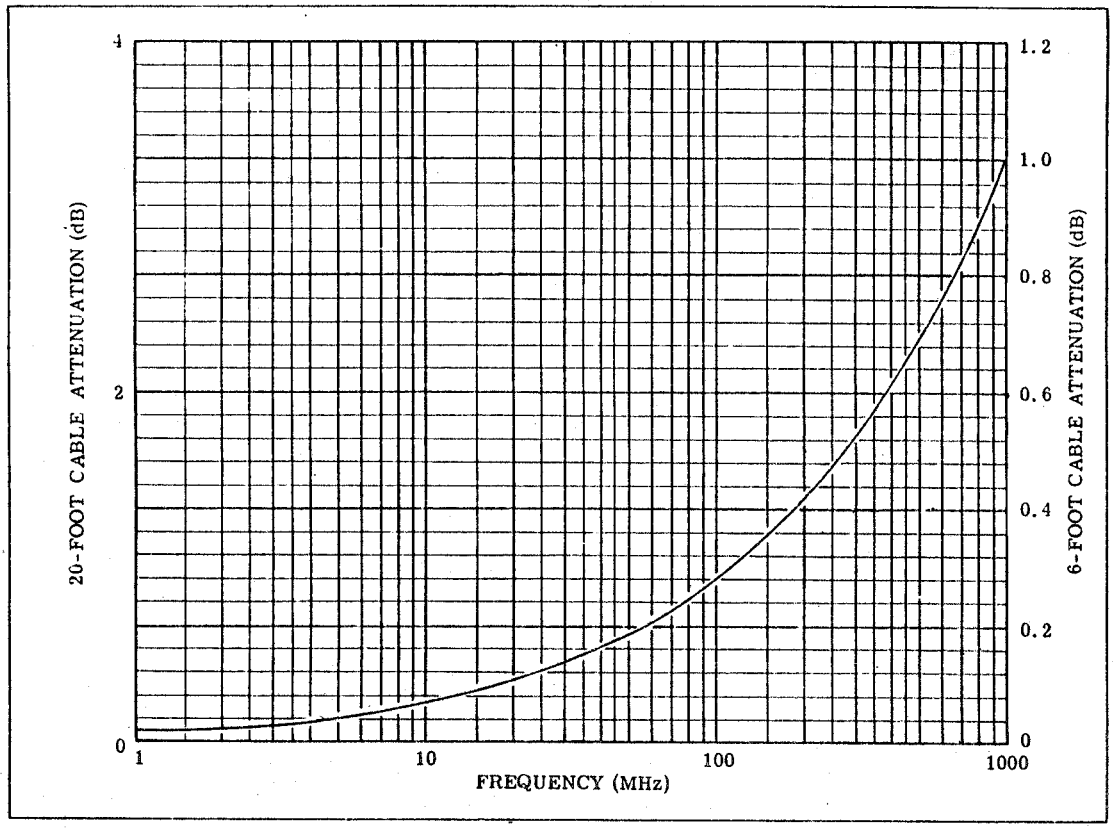


Figure 2-10. Attenuation Vs. Frequency for RG-55/U Coaxial Cable

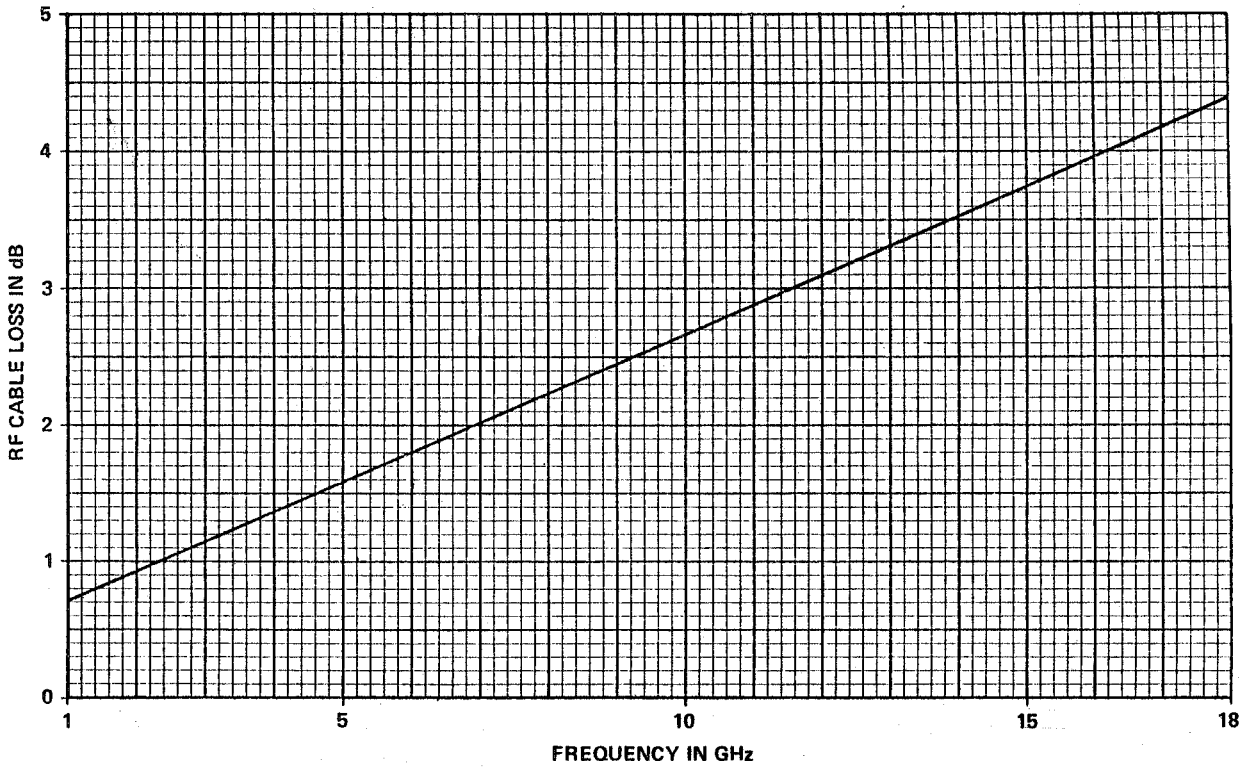


Figure 5-1. Model 94615-1 RF Cable Loss Chart

CALIBRATION CURVE

For Model NM-67