ENGINEERING TEST RECORD

REPORT OF MEASUREMENTS (MICROWAVE OVEN TEST DATA SHEET)

FCC ID CODE	:	APYDMR0124
TESTED PRODUCT	:	Microwave Oven, Model R-25JT
NOMINAL FREQUENCY	:	2450 MHz
INPUT POWER RATING	:	208/230 V, 60 Hz
OUTPUT POWER RATING	:	2100 W
EMPLOYING MAGNETRON	:	2M248H(L), mfd by Toshiba
TEST DATE	:	June 3-10, 1999

TESTED BY: M. Deguchi

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DESCRIPTION OF THE MICROWAVE OVEN

UNIT BODY DIMENSIONS	:	509 mm wide, 335 mm high, 511 mm deep (Include feet and door handle)
DOOR DIMENSIONS	:	408 mm wide, 286 mm high (Viewing Area: 277 mm by 166 mm)
OVEN CAVITY DIMENSIONS	:	332 mm wide, 237 mm high, 333 mm deep (without ceramic tray and splash guard)
FEED TYPE AND LOCATION	:	Supplied by two waveguides located top and bottom sides of oven
DOOR SEAL TYPE	:	Choke and Capacitive Seals

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 Division Yao Factory, EMI Anechoic Chamber

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

TOTAL POWER INPUT TO OVEN	:	3145 W
POWER DEVELOPED IN DUMMY LOAD	:	1967 W (by calorimetric method with water load under well heated microwave oven)
SUPPLY VOLTAGE	:	230 V ac
PERMISSIBLE	:	49.58 uV/m at 300 m

1. FREQUENCY MEASUREMENTS

FCC ID	:	APYDMR0124
Tested Unit	:	Microwave Oven, Model R-25JT
Magnetron Type No.	:	2M248H(L), mfd by Toshiba
Tested	:	June 10, 1999

(1-1) Frequency VS Line Voltage Variation Test

Test Result (Room Temperature: 20 degC)
Load: 2500 cc water in the glass beaker
(Note: Since the RF output power is rated more than 1000 watts (rated output power is 2100 W), the load was increased 50 % per each 500 W or fraction thereof in excess of 1000 watts.)

Line Voltage Variation (V)	Frequency against the tolerance for center frequency 2450 MHz	Allowed Tolerance for the ISM Band (2450 MHz)
184 (80%)	+ 27 MHz - 35 MHz	+/- 50 MHz
207 (90%)	+ 27 MHz - 32 MHz	
230 (Nominal)	+ 26 MHz - 26 MHz	
253 (110%)	+ 22 MHz - 30 MHz	
287 (125%)	+ 24 MHz - 28 MHz	

(1-2) Frequency VS Load Variation Test

Test Results (room temperature: 20 degC)
Initial Load: 2500 cc water in the glass beaker
(Note: Since the RF output power is rated more than 1000 watts (rated output power is 2100 W), the load was increased 50 % per each 500 W or fraction thereof in excess of 1000 watts.)

Volume of Water (cc)	Frequency against the tolerance for center frequency 2450 MHz	Allowed Tolerance for the ISM Band (2450 MHz)
2500	+ 26 MHz - 26 MHz	+/- 50 MHz
2000	+ 24 MHz - 34 MHz	
1500	+ 24 MHz - 35 MHz	
1000	+ 25 MHz - 35 MHz	
500	+ 28 MHz - 38 MHz	

2. RADIATED FIELD STRENGTH

DATA SHEET (FCC Measurement Procedure MP-5)

FCC ID: APYDMR0124

Tested Model: R-25JT

Magnetron: 2M248H(L), mfd by Toshiba

Date: June 3-10, 1999

	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	2441	2500	Center	20.70	1.03	64	66	122.05	153.65
2nd Harmonic	4903	1750	Center	20.50	1.58	24	25	2.01	2.26
	4903	1750	R.F.Corner	20.50	1.58	22	25	1.60	2.26
	4903	750	Center	20.50	1.58	23	26	1.79	2.54
	4903	750	R.F.Corner	20.50	1.58	23	26	1.79	2.54
3rd Harmonic	7370	1750	Center	22.00	2.10	23	27	2.26	3.59
	7370	1750	R.F.Corner	22.00	2.10	23	25	2.26	2.85
	7370	750	Center	22.00	2.10	23	28	2.26	4.03
	7370	750	R.F.Corner	22.00	2.10	23	28	2.26	4.03
4th Harmonic	9800	1750	Center	20.00	2.61	Noise<25	Noise<25	Noise<2.4	Noise<2.4
Sprious	6855	1750	Center	21.60	2.00	32	32	6.03	6.03
	8335	1750	Center	19.80	2.30	25	28	2.26	3.20
	14700	1750	Center	19.20	3.68	26	29	4.72	6.67
	17187	1750	Center	18.80	4.20	27	27	5.67	5.67
Emission Sideband	2400	2500	Center	20.70	1.01	37	39	5.35	6.74
	2415	2500	Center	20.70	1.02	44	45	12.07	13.54
	2485	2500	Center	20.70	1.03	22	26	0.99	1.56
	2500	2500	Center	20.80	1.04	22	22	1.00	1.00

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

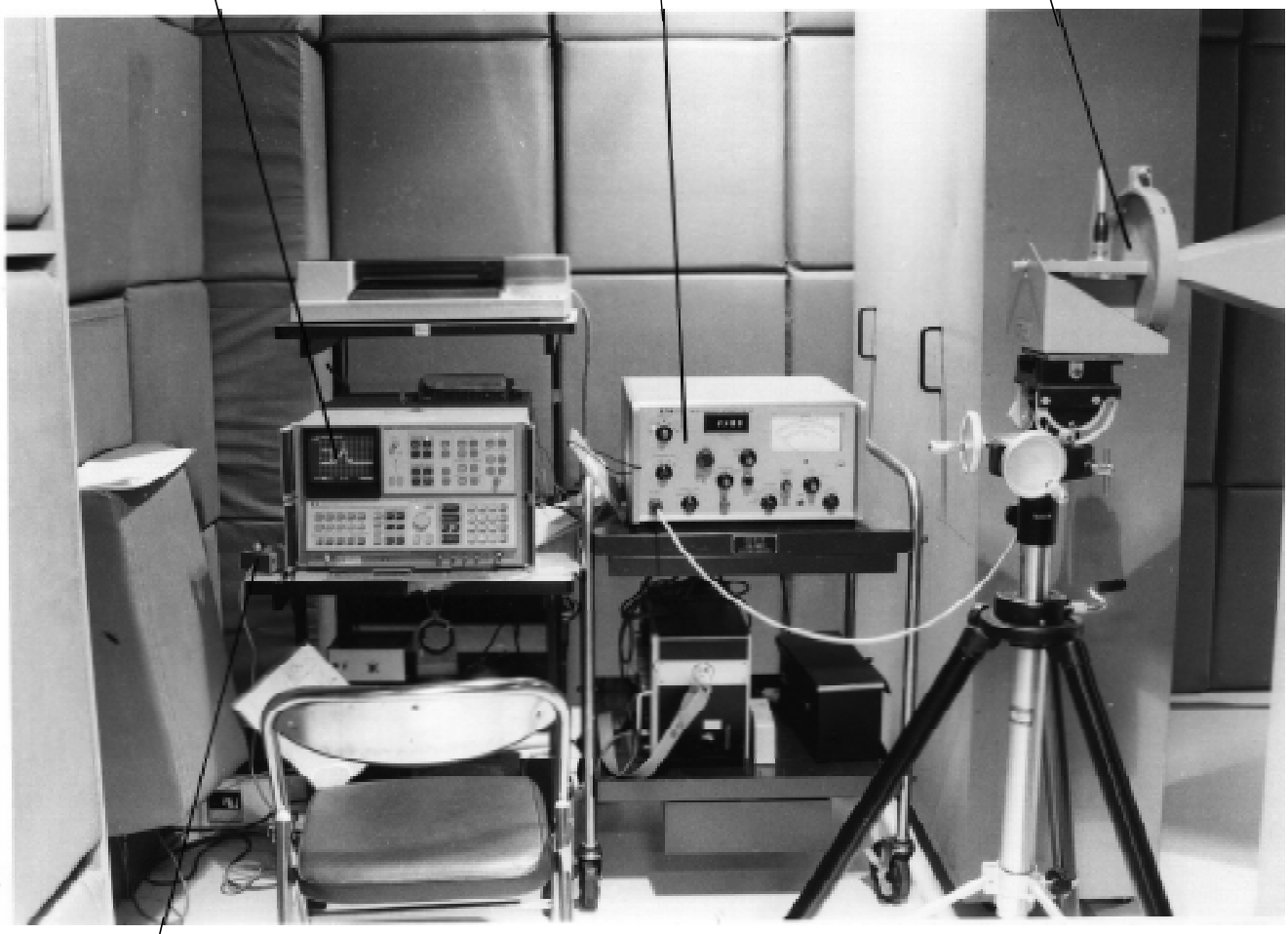
Microwave Leakage at 5 cm on fundamental : 0.08 mW/cm^2

Since the RF output power is rated more than 1000 watts (rated output power is 2100 W), the water load was increased 50% per each 500 W or fraction thereof in excess of 1000 watts.

DESCRIPTION OF THE MEASUREMENT FACILITIES

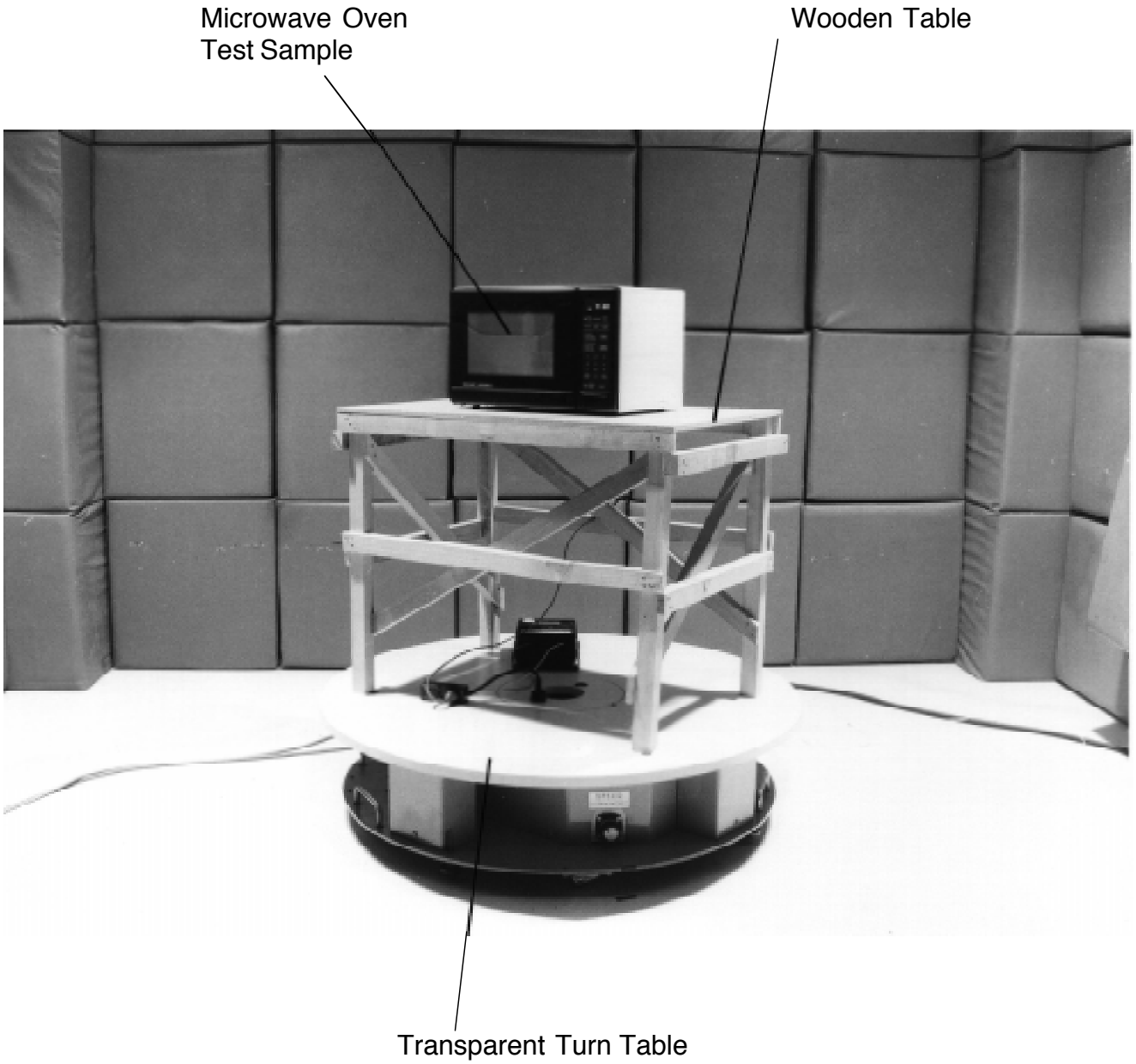
SHARP CORPORATION, KITCHEN APPLIANCE SYSTEMS DIVISION
EMI ANECHOIC CHAMBER

PHOTOGRAPH OF TEST EQUIPMENT #1

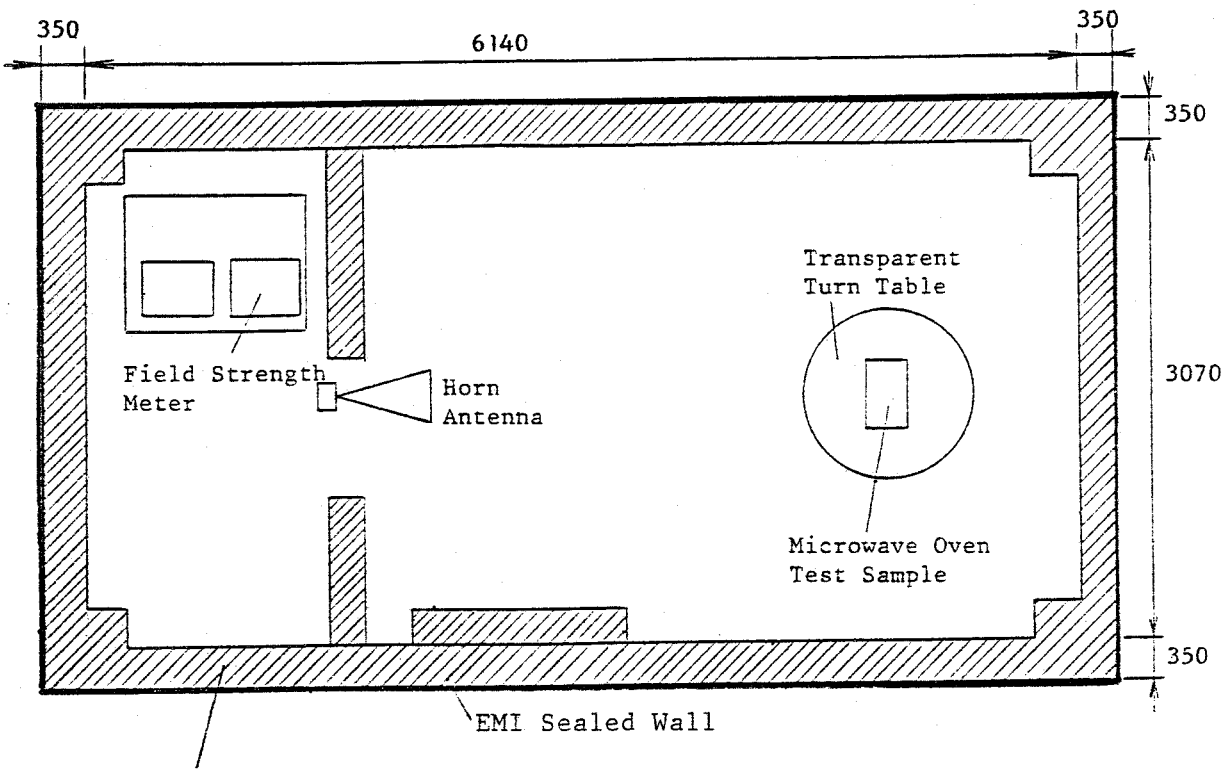


PHOTOGRAPH OF TEST EQUIPMENT #2

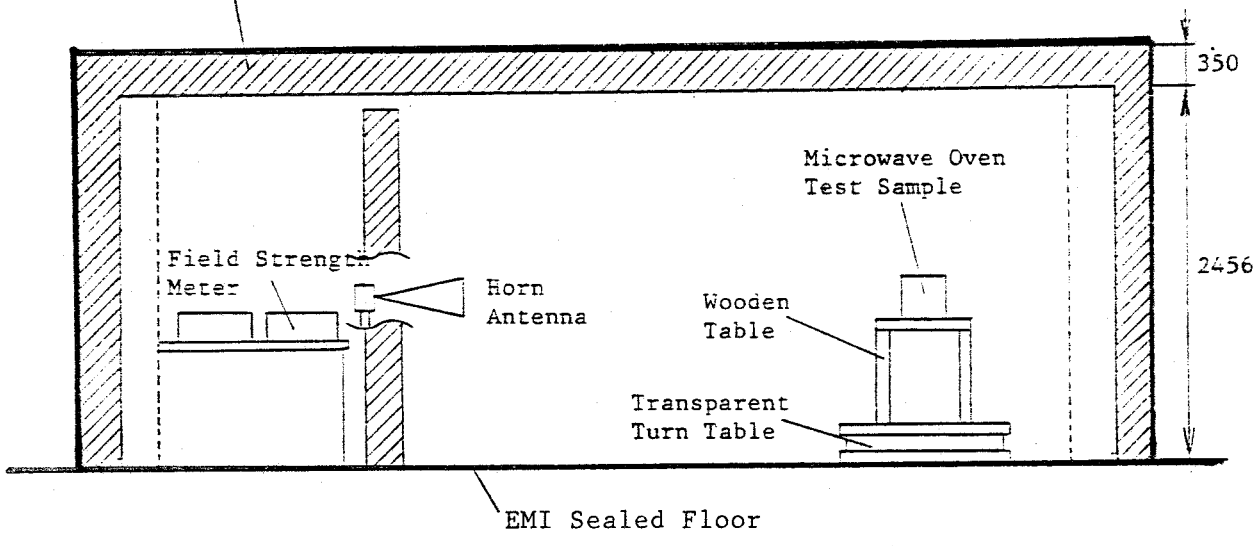
PHOTOGRAPH OF TEST EQUIPMENT #3



4. DIMENSIONS OF TEST SITE



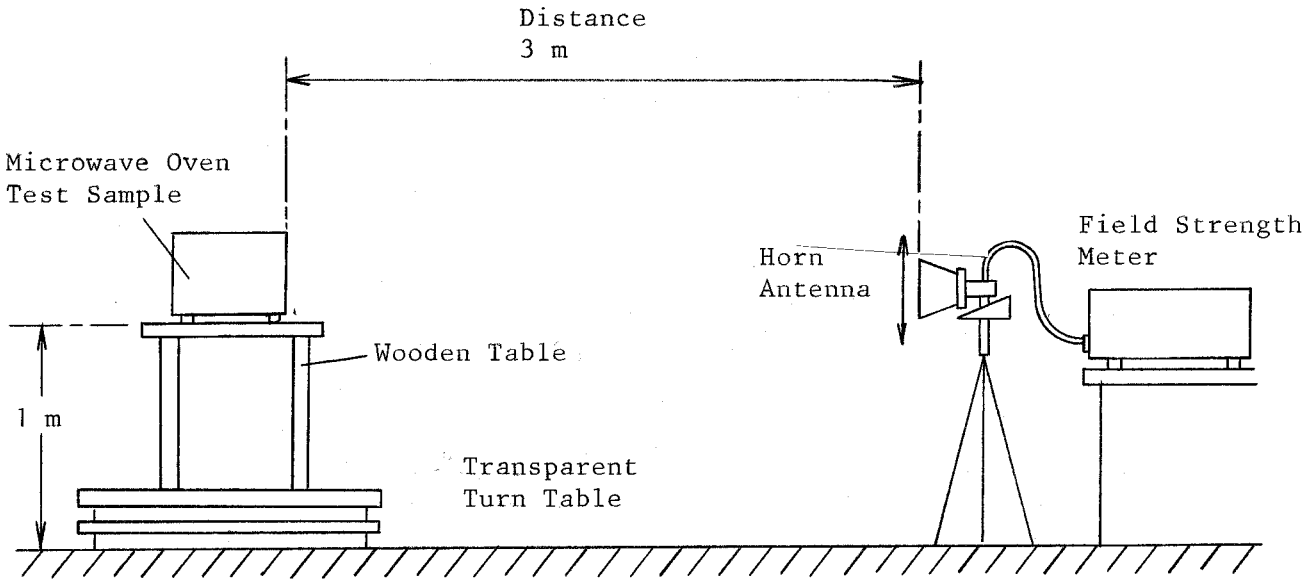
Electric Magnetic Wave Absover: Cat. No. AEP-12EM WP
Mfd by Advanced ElectroMagnetic, Inc.



(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	1 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 7.6 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)

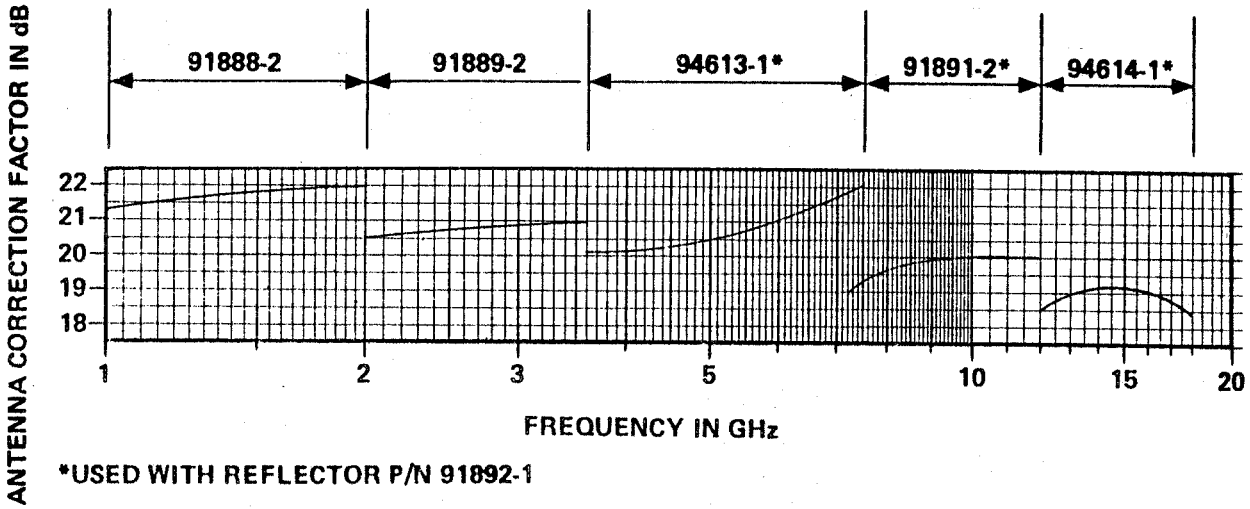


Figure 5-3. Antenna Correction Factors, 1-18 GHz Horn Antennas

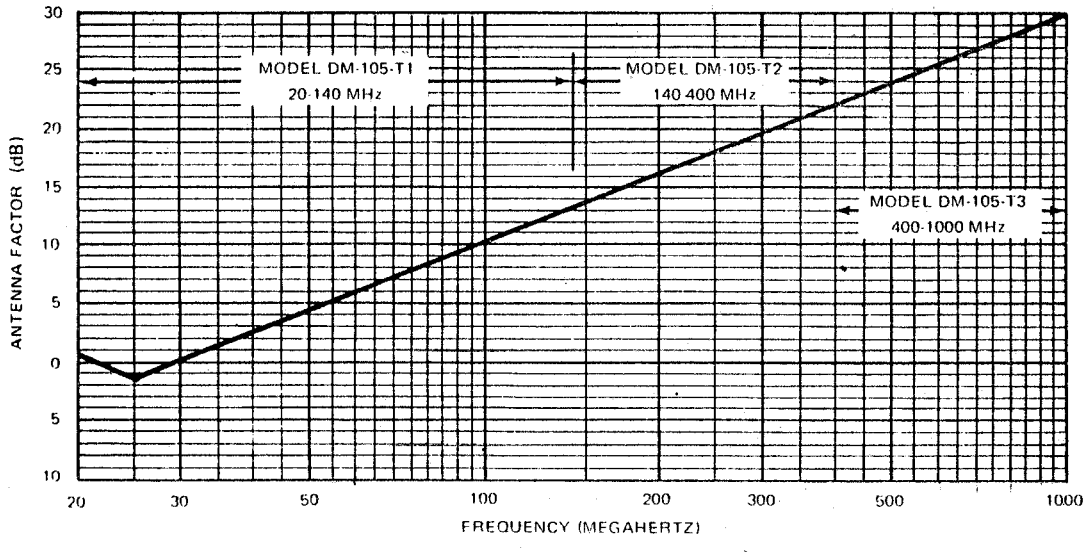


Figure 2-18. Antenna Factor Versus Frequency Characteristics, Models DM-105-T1, DM-105-T2 and DM-105-T3 Dipole Antennas

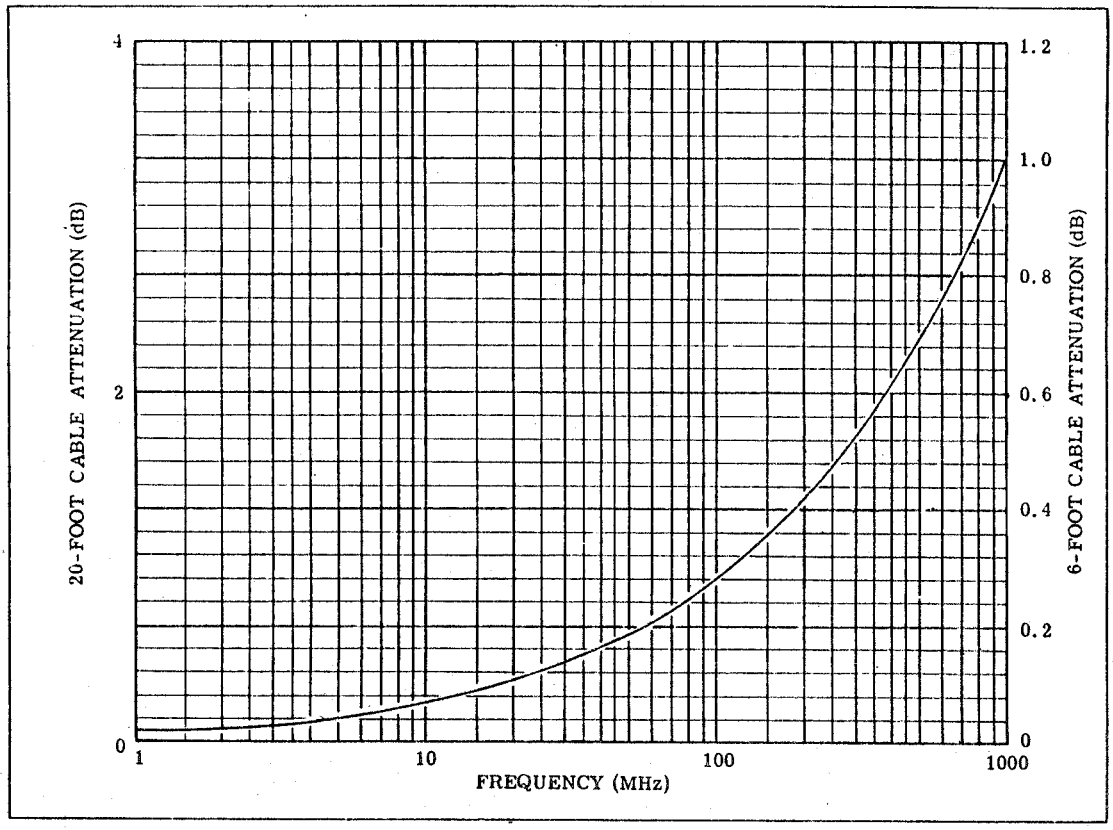


Figure 2-10. Attenuation Vs. Frequency for RG-55/U Coaxial Cable

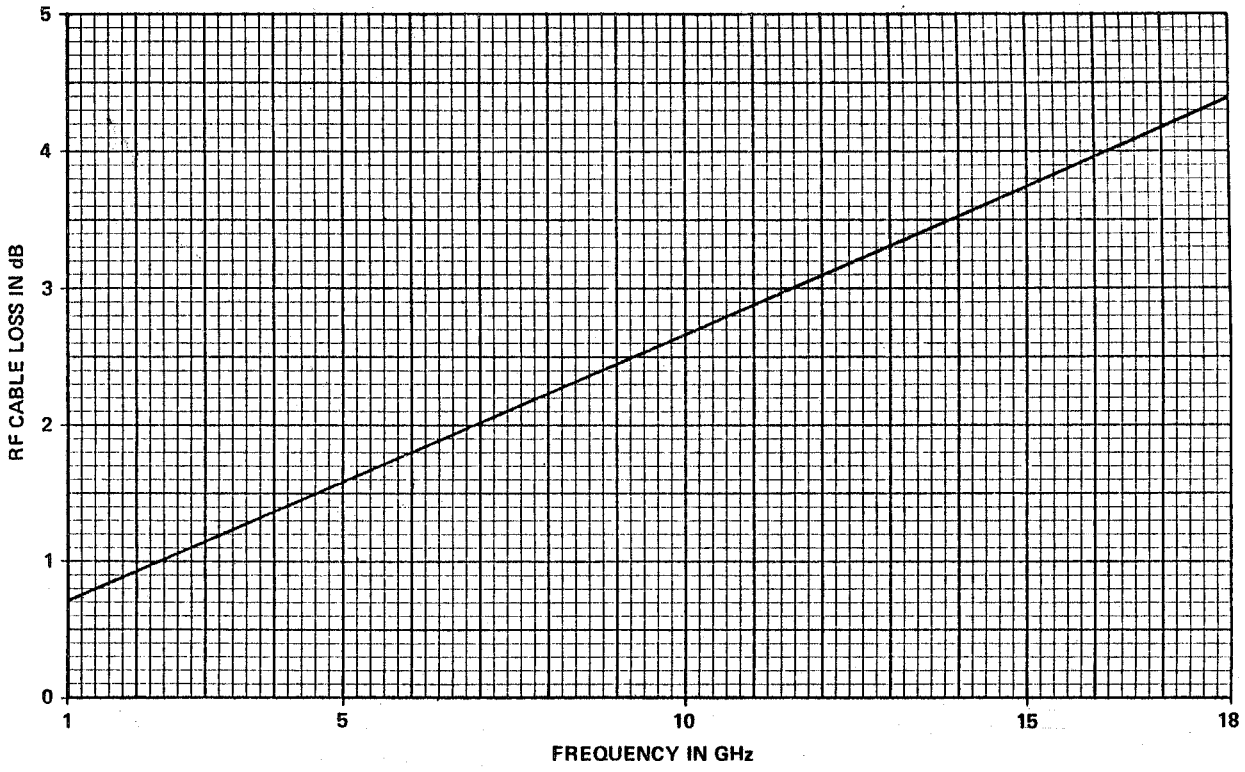


Figure 5-1. Model 94615-1 RF Cable Loss Chart

CALIBRATION CURVE

For Model NM-67