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REPORT OF MEASUREMENT

Date: February 15, 1999
Issued in: Tokyo, Japan

JQA APPLICATION NO.: 80-80824

Applicant	: TOSHIBA CORPORATION HINO WORKS : 1-1 Asahigaoka 3-chome, Hino City : Tokyo 191-8555, Japan
Manufacturer	: TOSHIBA CORPORATION HINO WORKS : l-l Asahigaoka 3-chome, Hino City : Tokyo 191-8555, Japan
Description of Device	: Handheld Portable Telephone Transmitter for Cellular Radio Telephone System
Trade Name	: TOSHIBA CORPORATION
Model No.	: CDM-4000 (Analogue Mode)
FCC ID	: CJ6DCE34608A
Serial No.	: 1280000005
Measurement Procedure	
Radiated Spurious Emissions generated from transmitter part of the device	: Based on section 2.993(a) & 22.907(f) of the Commission's Rules and Regulations
Place of Measurement	: JQA EMC Engineering Department
Measurement Results	: The measurement results are given in the attached sheets.

Shigeru Osawa

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Assistant Manager
Testing Division
EMC Engineering Department

REPORT OF MEASUREMENT

Manufacturer : TOSHIBA CORPORATION HINO WORKS
Trade Name : TOSHIBA CORPORATION
Model No. : CDM-4000(Analogue Mode) FCC ID : CJ6DCE34608A
Operating Range : 824.040 MHz to 848.970 MHz

Radiated Spurious Emissions

a) Measurement Procedure:

A receiving antenna was located at the distance of 3 meters and the interference signal derived from the antenna was fed to a spectrum analyzer. The measurement was carried out in accordance with TIA/EIA-603. The fixed antenna of the transmitter under test was pulled out for it's length.
It specifies the use of a half-wavedipole antenna in order to determine ERP of the transmitter under test, a log-periodic antenna as a radiation antenna-was used and the difference. between the gains of the log-periodic antenna and a, half-wave dipole antennawas taken into consideration.
(Refer to a document CISPR/B (Secretariat) 25)

b) Measurement Results:

Refer to the following pages.

Operating Frequency (MHz)	Reference Carrier Power (W)*	Frequency (MHz)	Substituted Power (dBm) Horiz.	Vert.	Attenuation Ratio (dBm) Horiz.	Vert.
		1648.080	-55.8	-54.5	81.6,	80.3
		2472.120	-32.0	-38.0	57.8	63.8
		3296.160	'-52.8~.	-54.4	78.5	80.1
		4120.200	<-53.1	c-53.1	> 78.9	> 78.9
824.040	0.378	4944.240	C-58.7	<-58.7	> 84.4	> 84.4
		5768.280	-51.2	-49.3	76.9	75.0
		6592.320	c-57.9	<-57.9	> 83.6	> 83.6
		7416.360	-54.4	-53.6	80.2	79.4
		8240,400	-57.1	-53.0	82.9	78.8

Notes,: 1. "*" Actually measured.

2. Specified Limits:

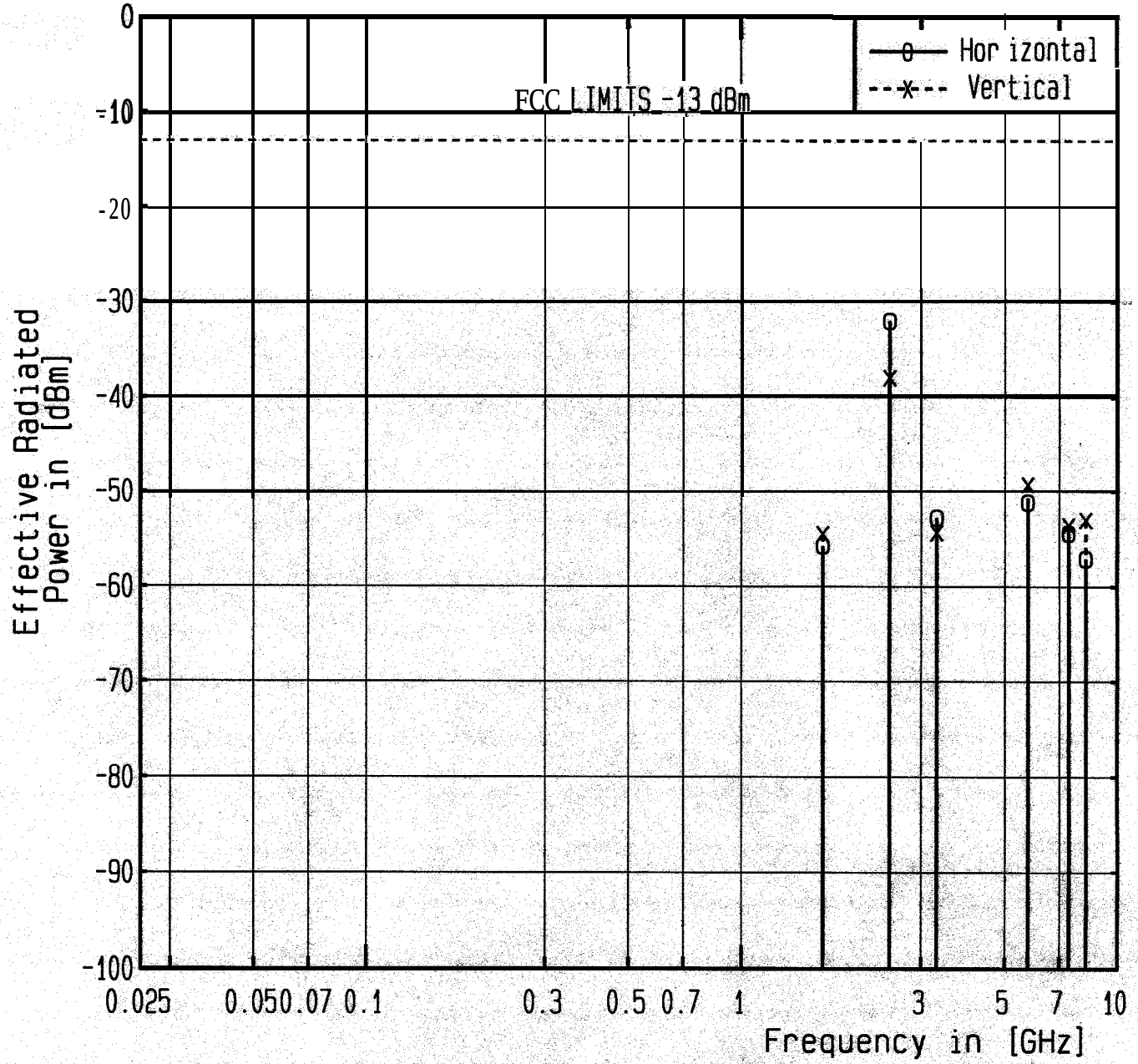
$$43 + 10 \log_{10}(0.378) = 38.8.\ \text{dB for "824.040 MHz"}$$

3. The spectrum was checked from 25 MHz up to the tenth harmonic frequency.

4. All emissions not listed were found to be more than 20 dB below the limit..

Radiated Spurious Emissions

FCC ID : CJ6DCE34608A
Serial No. : 1280000005
Carrier : 0.378 [W] at 824.640 [MHz]



Operating Frequency (MHz)	Reference Carrier Power (W)*	Frequency (MHz)	Substituted Power (dBm) Horiz.	Vert.	Attenuation Ratio (dBm) Horiz.	Vert.
		1672.980	-53.7	-54.8	80.2	81.3
		2509.470	-29.7	-38.2	56.2	64.7
		3345.960	c-54.6	c-54.6	> 81.1	> 81.1
		4182.450	e-52.9	c-52.9	> 79.5	> 79.5
836.490	0.448	5018.940	c-58.6	c-58.6	> 85.1	> 85.1
		5855.430	-55.0	-51.6	81.5	78.1
		6691.920	c-57.9	c-57.9	> 84.4	> 84.4
		7528.410	-59.3	-52.4	85.9	79.0
		8364.900	-55.3	-53.2	81.8	79.7

Notes: 1. "*" Actually measured.

2. Specified Limits:

$$43 + 10 \log_{10}(0.448) = 39.5 \text{ dB for "836.490 MHz"}$$

3. The spectrum was checked from 25: MHz up to the tenth harmonic frequency.

4. All emissions not listed were found to be more than 20 dB below the limit.

Operating Frequency (MHz)	Reference Carrier ERP Power (W)*	Frequency (MHz)	Substituted Power (dBm) Horiz.	Vert.	Attenuation Ratio (dBm) Horiz.	Vert.
		1672.980	-53.7	-54.8	80.2	81.3
		2509.470	-29.7	-38.2	56.2	64.7
		3341.960	<-54.6	<-54.6	> 81.1	> 81.1
		4182.450	<-52.9	<-52.9	> 79.5	> 79.5
836.490	0.448	5018.940	<-58.6	<-58.6	> 85.1	> 85.1
		5855.430	-55.0	-51.6	81.5	78.1
		6691.920	c-57.9	c-57.9	> 84.4	> 84.4
		8364.900	-55.3	-52.2	81.8	78.7
		9528.410	-59.3	-52.4	85.8	79.0

Notes: 1. "*" Actually measured.

2. Specified Limits:

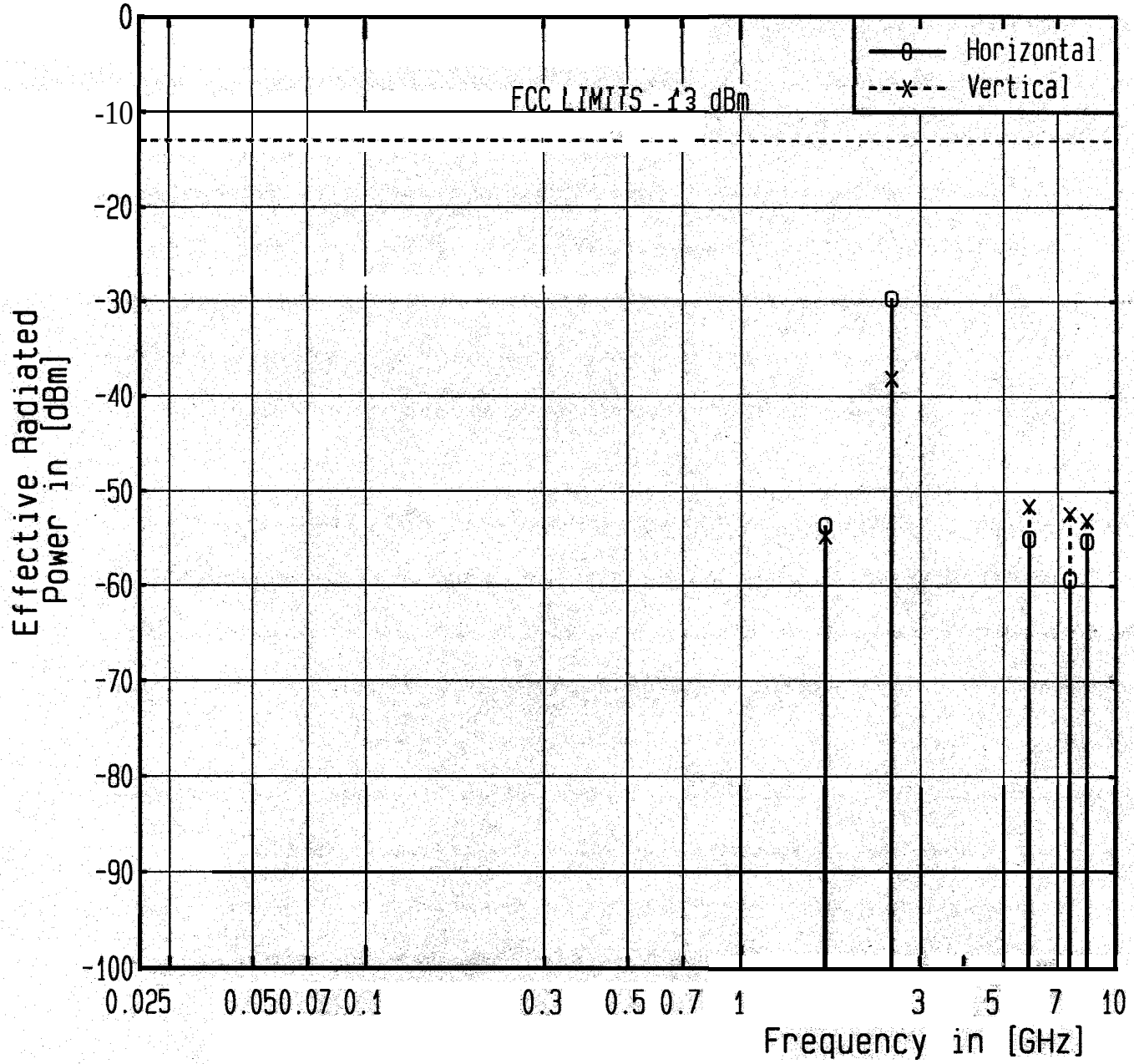
$43 + 10 \log_{10}(0.448) = 39.5$ dB for "836.490 MHz"

3. The spectrum was checked from 25 MHz up to the tenth harmonic frequency..

4. All emissions not listed were found to be more than 20 dB below the limit.

Radiated Spurious Emissions

FCC ID : CJ6DCE34608A
Serial No. : 1280000005
Carrier : 0.448 [W] at 836.490 [MHz]



Operating Frequency (MHz)	Reference Carrier ERP Power (W)*	Frequency (MHz)	Substituted Power (dBm) Horiz.	Vert.	Attenuation Ratio (dBm) Horiz,	Vert.
		1697.940	'-52.2	-52.5	77.8	78.1
		2546.910	-33.8	-37.1	59.4	62.7
		3395.880	e-54.5	~-54.5	> 80.0	> 80.0
		4244.850	<-52.9	<-52.9	> 78.5	> 78.5
848.970	0.359	5093.820	c-58.6	c-58.6	> 84.1	> 84.1
		5942.790	-51.6	-49.4	77.1	74.9
		6791.760	<-58.1	<-58.1	> 83.6	> 83.6
		7640.730	-57.7	-52.6	83.2	78.1
		8489.700	-51.8	-51.6	77.4	77.2

Notes: 1. "*" Actually measured,,

2. Specified Limits:

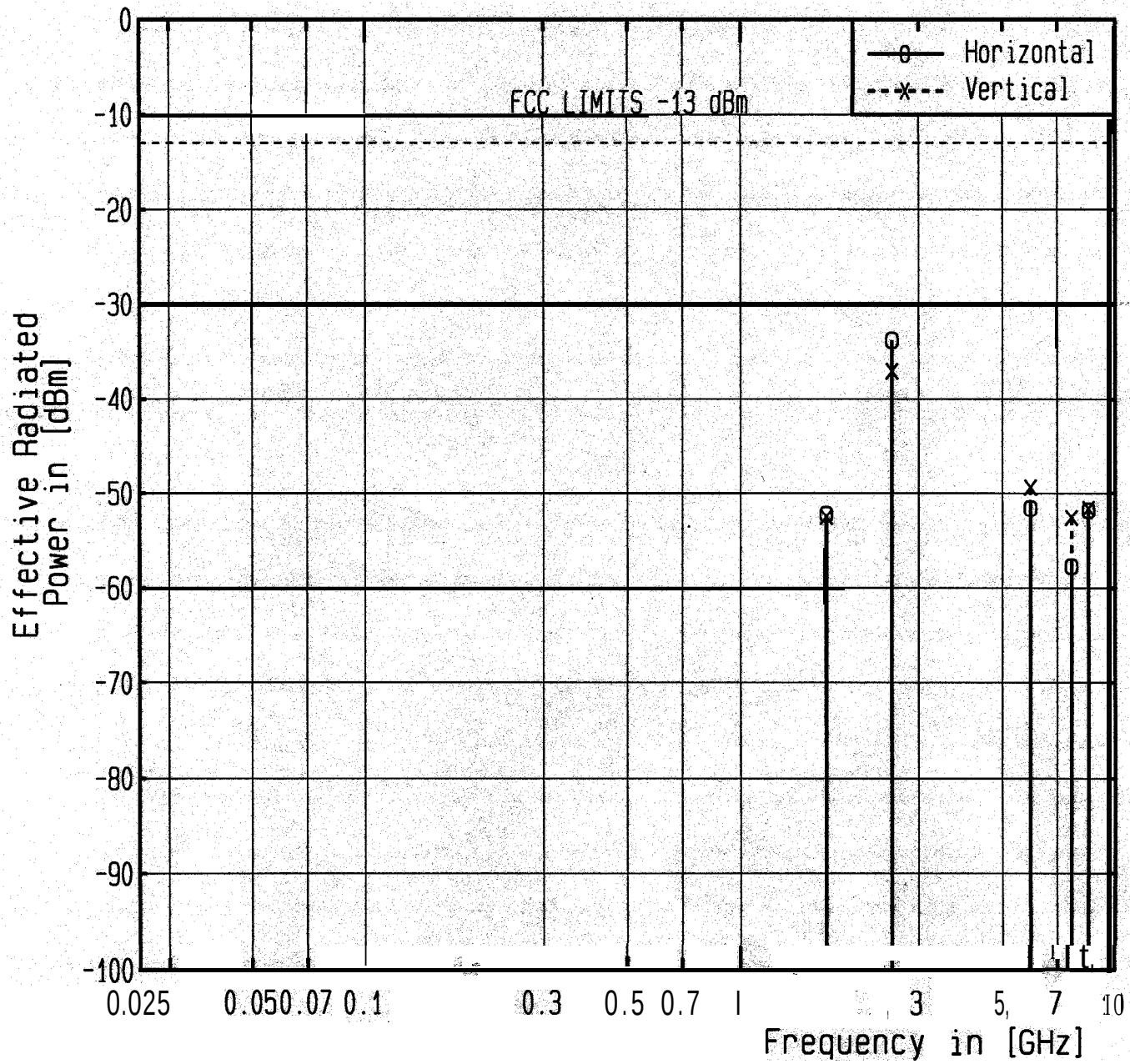
$$43 + 10 \log_{10}(0.359) = 38.6 \text{ dB for "848.970 MHz"}$$

3. The spectrum was checked from 25 MHz up to the- tenth harmonic, frequency:

4. All emissions not listed were found to be more than 20 dB below the limit.

Radiated Spurious Emissions

FCC ID : CJ6DCE34608A
Serial No. : 1280000005
Carrier : 0.359 [W] at 848.970 [MHz]



The emission appearing in the base station frequency range 869.040 - 893.070 MHz [Section 22.907(f)]

Operating Frequency (MHz)	Frequency (MHz)	Substituted Power (dBm) Horizontal	Vertical
	869.040	< -95.2	< -95.3
824.040	881.490	< -95.4	< -96.3
	893.970	< -95.1	< -95.0
	869.040	< -95.2	< -95.3
836.490	881,490	< -95.4	< -96.3
	893.970	< -95.1	< -95.0
	869.040	< -95.2	< -95.3
848.970	881.490	< -95.4	< -96.3
	893.970	< -95.1	< -95.0

Note: 1. To confirm these level are more than 20 dB below the specified limits, DUT were re-tested at 1 m distance.

2. The symbol of "<" means "or less".

3. The specified limit is -81) dBm.

Measuring Equipment List

Equipment	Manufacturer	Model No.
1. Spectrum Analyzer	Hewlett Packard	8566B
2. Field Strength Meter	Rohde & Schwarz	ESVP
3. Signal Generator	Hewlett Packard	8662A
4. Signal Generator	Hewlett Packard	8673D
5. Horn Antenna	, Singer	1010(1-2.5 GHz) 1020(2.4-4.4 GHz) 1030(4.4-7.3 GHz) 1040(7.2-10 GHz)
6. Log-periodic Antenna	'Rohde & Schwarz	HL 025
7. DC Power Supply	Kikusui Electronics Corp.	PAD35-50L
8. High Pass Filter	Tamagawa Electronics Co., Ltd.	UHP-128 (fc=1200 MHz)
9. Low Pass Filter.	Daden Associates Inc.	LC-1000-8MHN
10. Directional Coupler	Hewlett Packard	778D(0.1 - 2 GHz) 3292-1(1 - 18 GHz)
11. Attenuator	Weinschel Engineering	40-20-33(20 dB) 26-10-33(10 dB) 49-30-43(30 dB) 49-20-43(20 dB)
	Philico	661A-20(20 dB)
12. Power Meter	Hewlett Packard	436A
13. Half-wave Dipole Antenna		
	Anritsu	
Tuning Range : 25 - 500 MHz		MP534A
Tuning Range : 470 - 1000 MHz		MP651A
	Kyoritsu	
Tuning Range : 25 - 500 MHz		KBA-511A
Tuning Range : 470 - 1000 MHz		KBA-611