



TEST REPORT
FOR TV INTERFACE DEVICES UNDER FCC PART 15

Date : November 24, 1999
Issued at : TOKYO, JAPAN

JQA APPLICATION NO. : 400-90533

APPLICANT : SHARP ELECTRONICS (M) SDN. BHD.
NO. 1A, PERSIARAN KUALA LANGAT, SECTION 27,
40400 SHAH ALAM, SELANGOR, MALAYSIA

MANUFACTURER : SHARP ELECTRONICS (M) SDN. BHD.
NO. 1A, PERSIARAN KUALA LANGAT, SECTION 27,
40400 SHAH ALAM, SELANGOR, MALAYSIA

TYPE OF EQUIPMENT : VIDEO CASSETTE RECORDER

REGULATION APPLIED : FCC Rules and Regulations Part 15 Subpart B (1989)

MEASUREMENT PROCEDURES USED : ANSI C63.4-1992

PLACE OF MEASUREMENT : JQA EMC Engineering Department (Anechoic Chamber No.2)
(Expiration date of FCC test facility filing : June 04, 2002)

The test results are only applicable to the test item as described below.
This report should not be reproduced, except in full, without the approval of the JQA EMC Engineering Department.

Masaaki Takahashi, Manager
Testing Division
EMC Engineering Department

Model No. : VC-H818U
Serial No. : 910000001

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Model No. : VC-H818U
Serial No. : 910000001

1. Description of EUT

- 1.1) Category : TV Interface Device
- 1.2) Equipment Authorization : Certification
- 1.3) FCC ID : APYTCG039
- 1.4) Brand Name : SHARP
- 1.5) Model No. : VC-H818U
- 1.6) Serial No. : 910000001
- 1.7) Date of Manufacture : October, 1999
- 1.8) Highest Frequency Used : 67.25 MHz
- 1.9) Rating Power Supply : AC 120 V, 60 Hz
- 1.10) RF Output Channels : Channel No.3 and Channel No.4
- 1.11) RF Output Terminal : F-type Connector / 75 ohms (Unbalanced)

2. Test Condition of EUT

- 2.1) Operating Condition : Playing Mode / Recording Mode
- 2.2) Grounding : None
- 2.3) Warm-up Time : 5 minutes
- 2.4) Power Supply : AC 120 V, 60 Hz

Model No. : VC-H818U
Serial No. : 910000001

3. All Terminals of EUT

3.1) Input Terminals

	<u>Description of Terminal</u>	<u>Type of Connector</u>	<u>Number of Terminals</u>
Rear Side :	RF Terminal	F-type Connector	1
	Audio Terminal	Phono Jack	2
	Video Terminal	Phono Jack	1
Front Side :	Audio Terminal	Phono Jack	2
	Video Terminal	Phono Jack	1

Note: Each input terminals of EUT were terminated with the terminator of specified impedances.

3.2) Output Terminals

	<u>Description of Terminal</u>	<u>Type of Connector</u>	<u>Number of Terminals</u>
Rear Side :	RF Terminal	F-type Connector	1
	Audio Terminal	Phono Jack	2
	Video Terminal	Phono Jack	1
Front Side :	None		

Note: Each output terminals of EUT were connected to the cable terminated with the specified impedances.

Model No. : VC-H818U

Serial No. : 910000001

4. Type of Connected Cables

<u>Description of Cable</u>	<u>Shielded</u>	<u>Length</u>	<u>Number of Cables</u>	<u>Supplied</u>
RF Cable	Yes	1.0 m	1	Yes
Audio/video Cable	Yes	1.0 m	1	No

Notes: 1) Each input terminals of EUT were terminated with the terminator of specified impedances.
2) Each output terminals of EUT were connected to the cable terminated with the specified impedances.

5. Testing Signal Sources

5.1) Internal Modulation Sources : NTSC TV Signal Recording Tape

5.2) Video Modulation Sources : VITS (1 Vp-p and 5 Vp-p)

5.3) RF Modulation Sources : NTSC Colorbar (70 dB/uV at 193.25 MHz)

6. Configuration of EUT

6.1) §15.107(a) AC Powerline Conducted Emissions Measurement : Refer to Page 7.

6.2) §15.109(a) Radiated Emissions Measurement : Refer to Page 17.

6.3) §15.115(b)(1)(ii) Output Signal Level Measurement : Refer to Page 27.

6.4) §15.115(b)(2)(ii) Spurious Conducted Level Measurement : Refer to Page 31.

6.5) §15.115(c)(1)(ii) Antenna Transfer Switch Measurement : Refer to Page 45.

Model No. : VC-H818U
Serial No. : 91000001

7. Summary of Measurement Result

The EUT was complied with the requirements of FCC Rules and Regulations Part 15 Subpart B (1989) as detailed from page 7 to page 48.

S15.107(a) AC Powerline Conducted Emissions Measurement Margins with respect to the Limit	: PASSED : 1.2 dB at 0.45 MHz
S15.109(a) Radiated Emissions Measurement Margins with respect to the Limit	: PASSED : 10.3 dB at 32.4 MHz
S15.115(b)(1)(ii) Output Signal Level Measurement Margins with respect to the Limit	: PASSED : 3.1 dB at 61.29 MHz
S15.115(b)(2)(ii) Spurious Conducted Level Measurement Margins with respect to the Limit	: PASSED : 14.0 dB at 122.6 MHz
S15.115(c)(1)(ii) Antenna Transfer Switch Measurement Margins with respect to the Limit	: PASSED : 4.7 dB at 61.25 MHz

I HEREBY STATE THAT:

The measurements shown in the reports of this form were made in accordance with the procedures indicated and the energy emitted by this equipment was found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements and vouch for the qualification of all persons taking them.

Testing Supervisor : Toshiyuki Itoi
Toshiyuki Itoi, Deputy Manager
Testing Division
EMC Engineering Department

Model No. : VC-H818U
Serial No. : 91000001

Date : November 11, 1999
Temp. : 24 °C; Humi. : 42 %

8. S15.107(a) AC Powerline Conducted Emissions Measurement

Tested by : _____



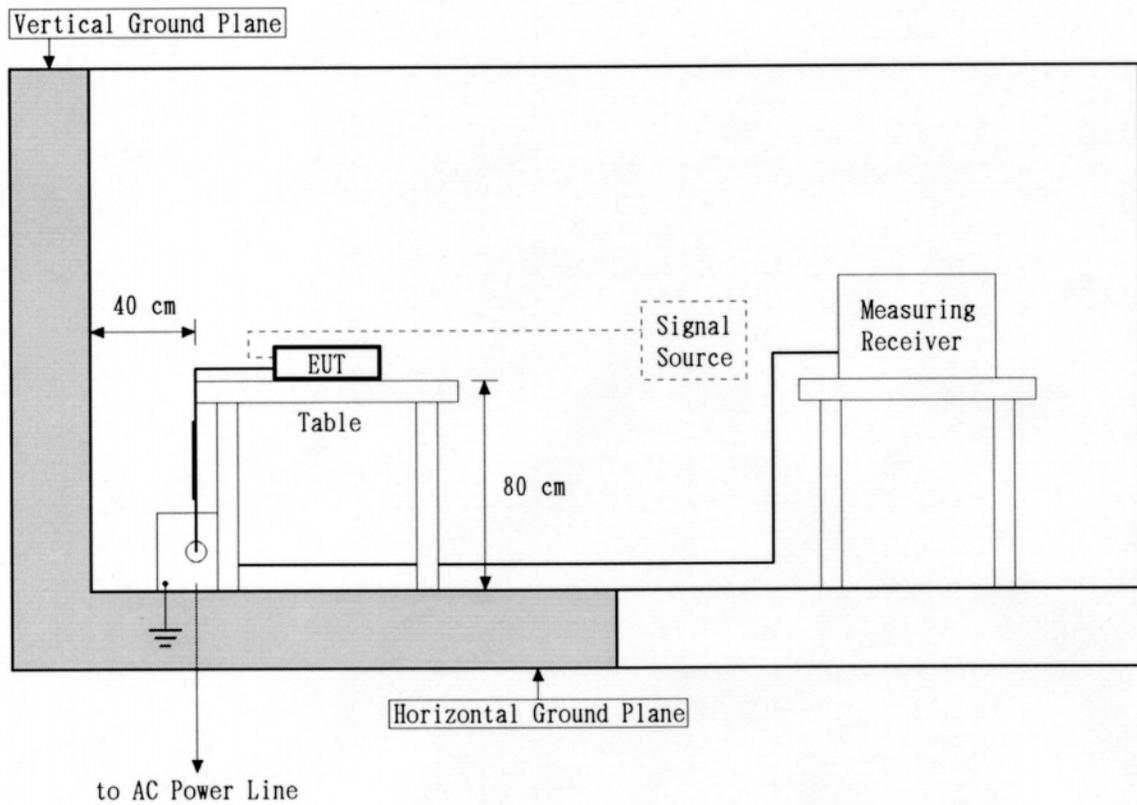
Takashi Aoki, Deputy Manager
Testing Division
EMC Engineering Department

Model No. : VC-H818U
Serial No. : 910000001

§15.107(a) AC Powerline Conducted Emissions Measurement

Configuration of EUT

Side View



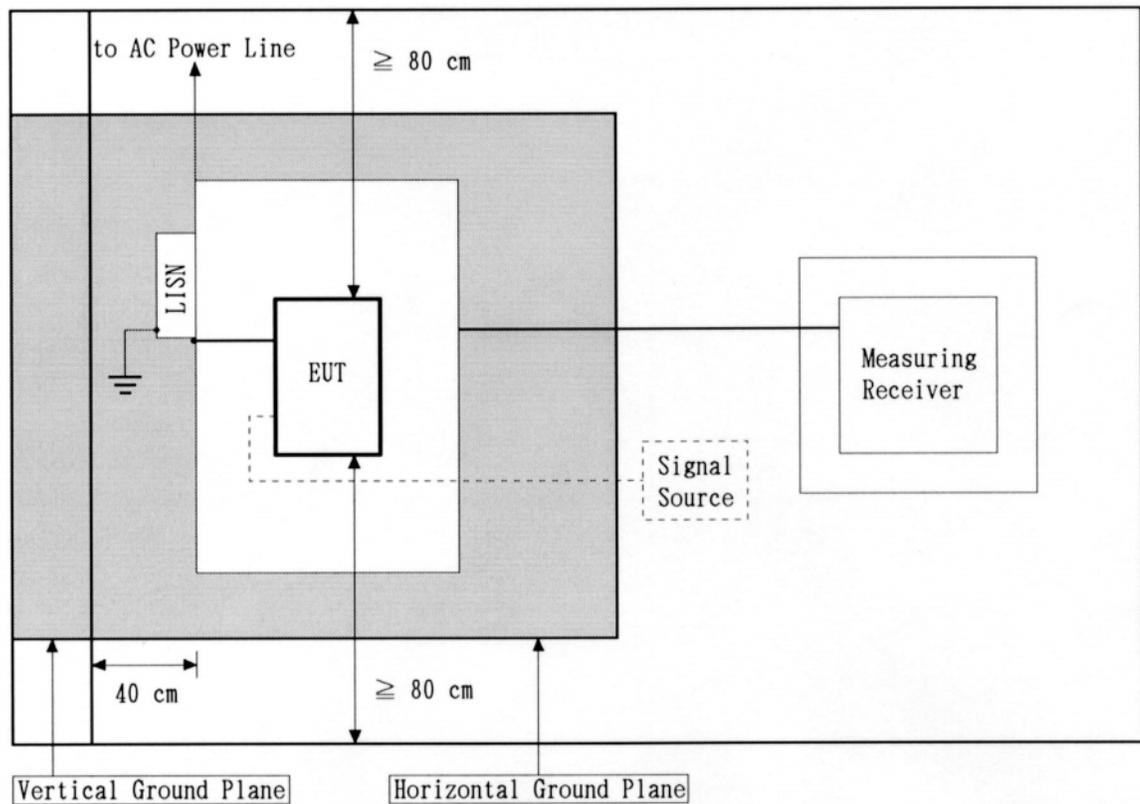
Note: The same configuration of cables and terminators which were connected to VCR was applied to all applicable measurements, shown as photograph in page 19 and 20.

Model No. : VC-H818U
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S15.107(a) AC Powerline Conducted Emissions Measurement

Configuration of EUT

Top View



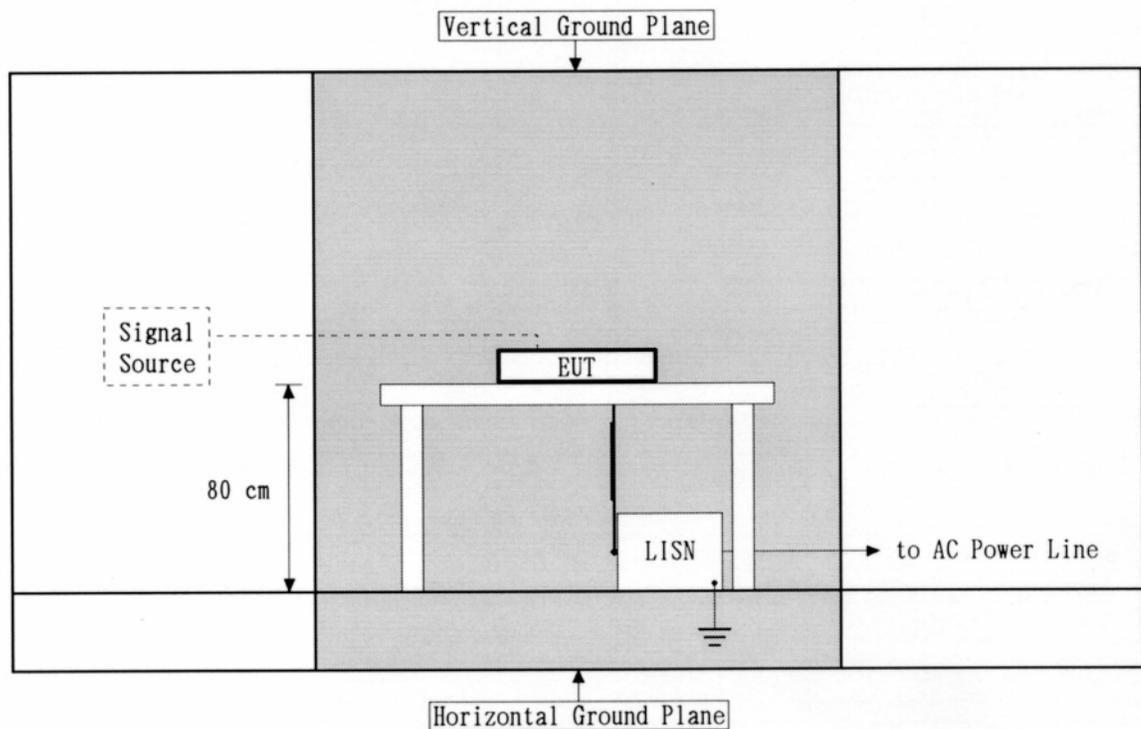
Note: The same configuration of cables and terminators which were connected to VCR was applied to all applicable measurements, shown as photograph in page 19 and 20.

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S15.107(a) AC Powerline Conducted Emissions Measurement

Configuration of EUT

Front View



Note: The same configuration of cables and terminators which were connected to VCR was applied to all applicable measurements, shown as photograph in page 19 and 20.

Model No. : VC-H818U
Serial No. : 910000001

§15.107(a) AC Powerline Conducted Emissions Measurement

Testing Signal Sources : Internal Modulation Sources (NTSC TV Signal Recording Tape)
Operating Condition : Playing Mode

Frequency (MHz)	Correction Factor (dB)	Meter Reading (dB/uV)		Result (dB/uV)		Limit (dB/uV)
		V-A	V-B	V-A	V-B	
0.45	0.2	45.3	45.1	45.5	45.3	48.0
0.62	0.2	40.4	39.7	40.6	39.9	48.0
0.77	0.2	36.4	36.1	36.6	36.3	48.0
0.93	0.2	35.4	34.7	35.6	34.9	48.0
1.08	0.2	33.1	32.7	33.3	32.9	48.0
1.37	0.2	31.9	31.4	32.1	31.6	48.0
1.83	0.2	29.4	28.6	29.6	28.8	48.0
2.29	0.2	30.8	30.5	31.0	30.7	48.0
2.59	0.2	30.7	29.2	30.9	29.4	48.0
3.06	0.2	28.8	26.2	29.0	26.4	48.0
4.97	0.2	18.6	16.7	18.8	16.9	48.0
8.00	0.2	14.6	11.6	14.8	11.8	48.0
10.13	0.2	12.5	11.5	12.7	11.7	48.0
13.50	0.3	12.5	10.4	12.8	10.7	48.0
16.00	0.3	13.9	11.9	14.2	12.2	48.0
20.00	0.4	16.3	14.6	16.7	15.0	48.0
23.00	0.5	19.8	18.7	20.3	19.2	48.0
25.00	0.5	16.6	15.2	17.1	15.7	48.0
28.00	0.6	15.9	15.4	16.5	16.0	48.0
30.00	0.6	18.9	18.2	19.5	18.8	48.0

- Notes: 1) The spectrum was checked from 0.45 MHz to 30 MHz.
 2) V-A : One end & Grounded ; V-B : The other end & Grounded
 3) Correction Factor includes a LISN factor and a cable (2.0 m) loss.
 4) A sample calculation was made at 0.45 MHz.
 Correction Factor + Meter Reading = 0.2 + 45.3 = 45.5 dB/uV

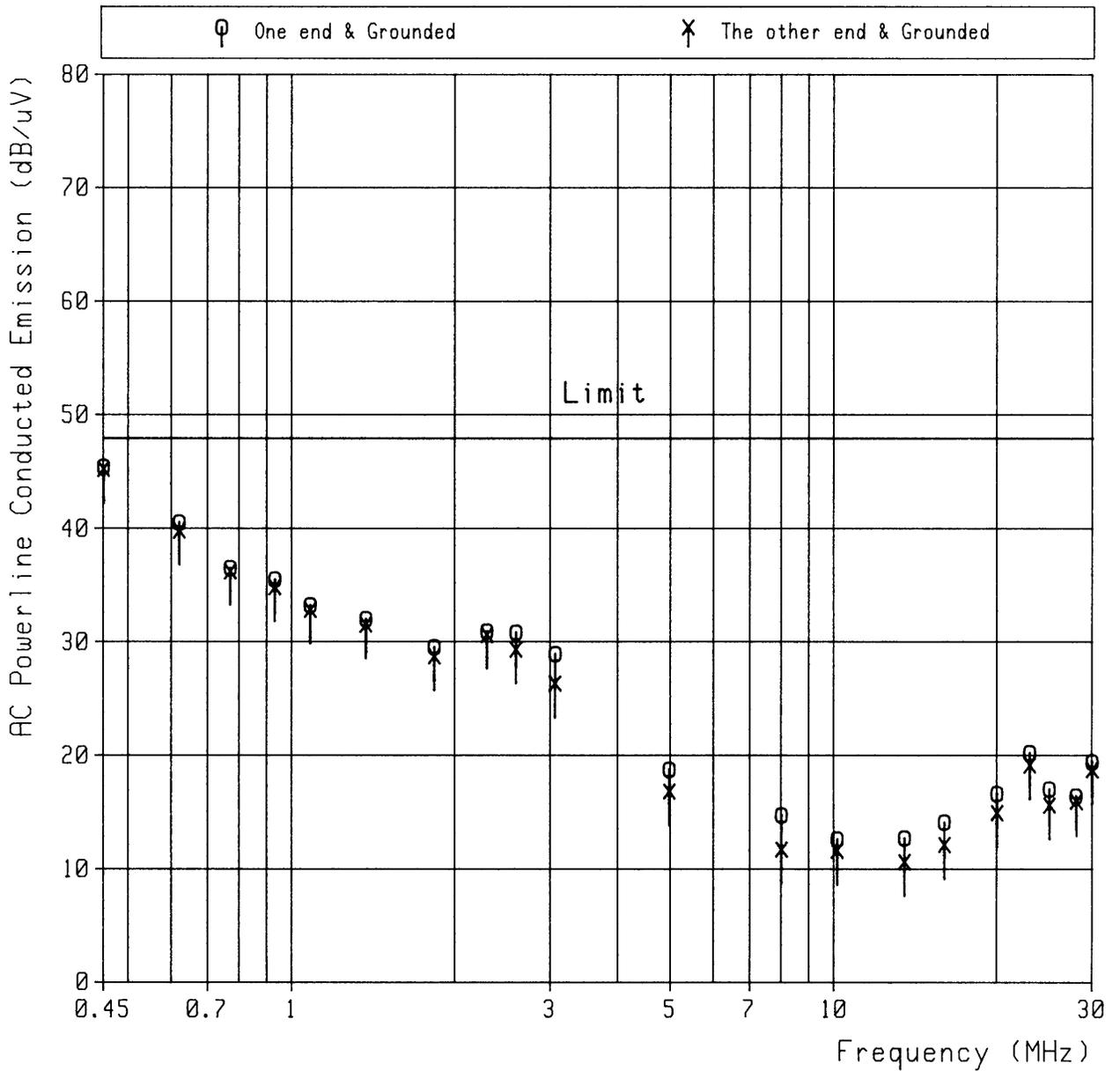
Model No. : VC-H818U

Serial No. : 910000001

§15.107(a) AC Powerline Conducted Emissions Measurement

Testing Signal Sources : Internal Modulation Sources (NTSC TV Signal Recording Tape)

Operating Condition : Playing Mode



Model No. : VC-H818U
Serial No. : 910000001

§15.107(a) AC Powerline Conducted Emissions Measurement

Testing Signal Sources : Video Modulation Sources (VITS : 1 Vp-p and 5 Vp-p)
Operating Condition : Recording Mode

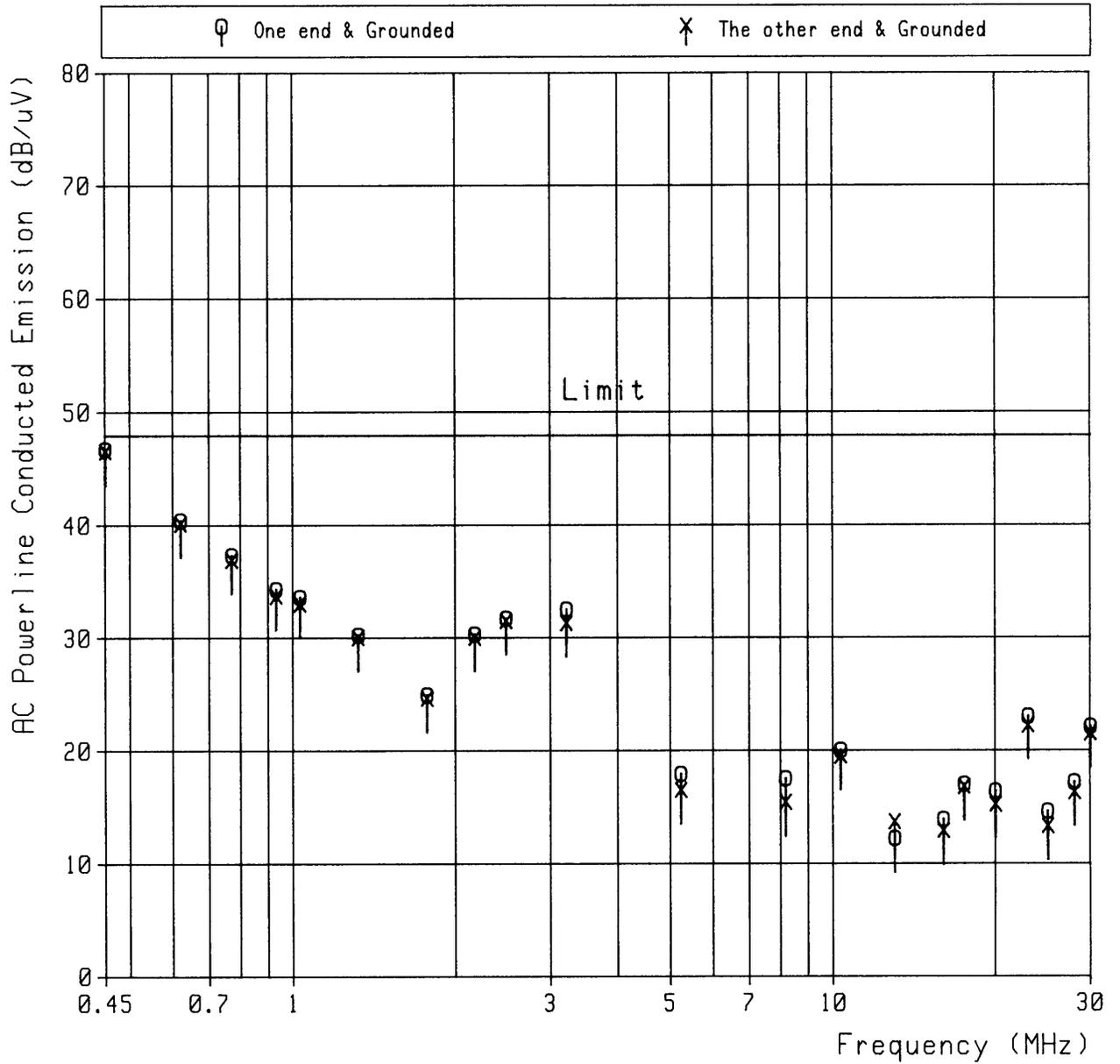
Frequency (MHz)	Correction Factor (dB)	Meter Reading (dB/uV)		Result (dB/uV)		Limit (dB/uV)
		V-A	V-B	V-A	V-B	
0.45	0.2	46.6	46.4	46.8	46.6	48.0
0.62	0.2	40.3	40.0	40.5	40.2	48.0
0.77	0.2	37.2	36.8	37.4	37.0	48.0
0.93	0.2	34.2	33.6	34.4	33.8	48.0
1.03	0.2	33.5	32.9	33.7	33.1	48.0
1.32	0.2	30.1	29.9	30.3	30.1	48.0
1.77	0.2	24.8	24.5	25.0	24.7	48.0
2.17	0.2	30.2	29.9	30.4	30.1	48.0
2.48	0.2	31.6	31.4	31.8	31.6	48.0
3.21	0.2	32.4	31.2	32.6	31.4	48.0
5.22	0.2	17.8	16.4	18.0	16.6	48.0
8.16	0.2	17.4	15.3	17.6	15.5	48.0
10.32	0.2	19.9	19.4	20.1	19.6	48.0
13.00	0.3	12.0	13.5	12.3	13.8	48.0
16.00	0.3	13.7	12.7	14.0	13.0	48.0
17.50	0.3	16.8	16.6	17.1	16.9	48.0
20.00	0.4	16.1	14.9	16.5	15.3	48.0
23.00	0.5	22.6	21.8	23.1	22.3	48.0
25.00	0.5	14.2	12.9	14.7	13.4	48.0
28.00	0.6	16.7	15.8	17.3	16.4	48.0
30.00	0.6	21.6	21.0	22.2	21.6	48.0

- Notes: 1) The spectrum was checked from 0.45 MHz to 30 MHz.
 2) V-A : One end & Grounded ; V-B : The other end & Grounded
 3) Correction Factor includes a LISN factor and a cable (2.0 m) loss.
 4) A sample calculation was made at 0.45 MHz.
 Correction Factor + Meter Reading = 0.2 + 46.6 = 46.8 dB/uV

Model No. : VC-H818U
 Serial No. : 910000001

§15.107(a) AC Powerline Conducted Emissions Measurement

Testing Signal Sources : Video Modulation Sources (VITS : 1 Vp-p and 5 Vp-p)
 Operating Condition : Recording Mode



Model No. : VC-H818U
 Serial No. : 910000001

S15.107(a) AC Powerline Conducted Emissions Measurement

Testing Signal Sources : RF Modulation Sources (NTSC Colorbar : 70 dB/uV at 193.25 MHz)
 Operating Condition : Recording Mode

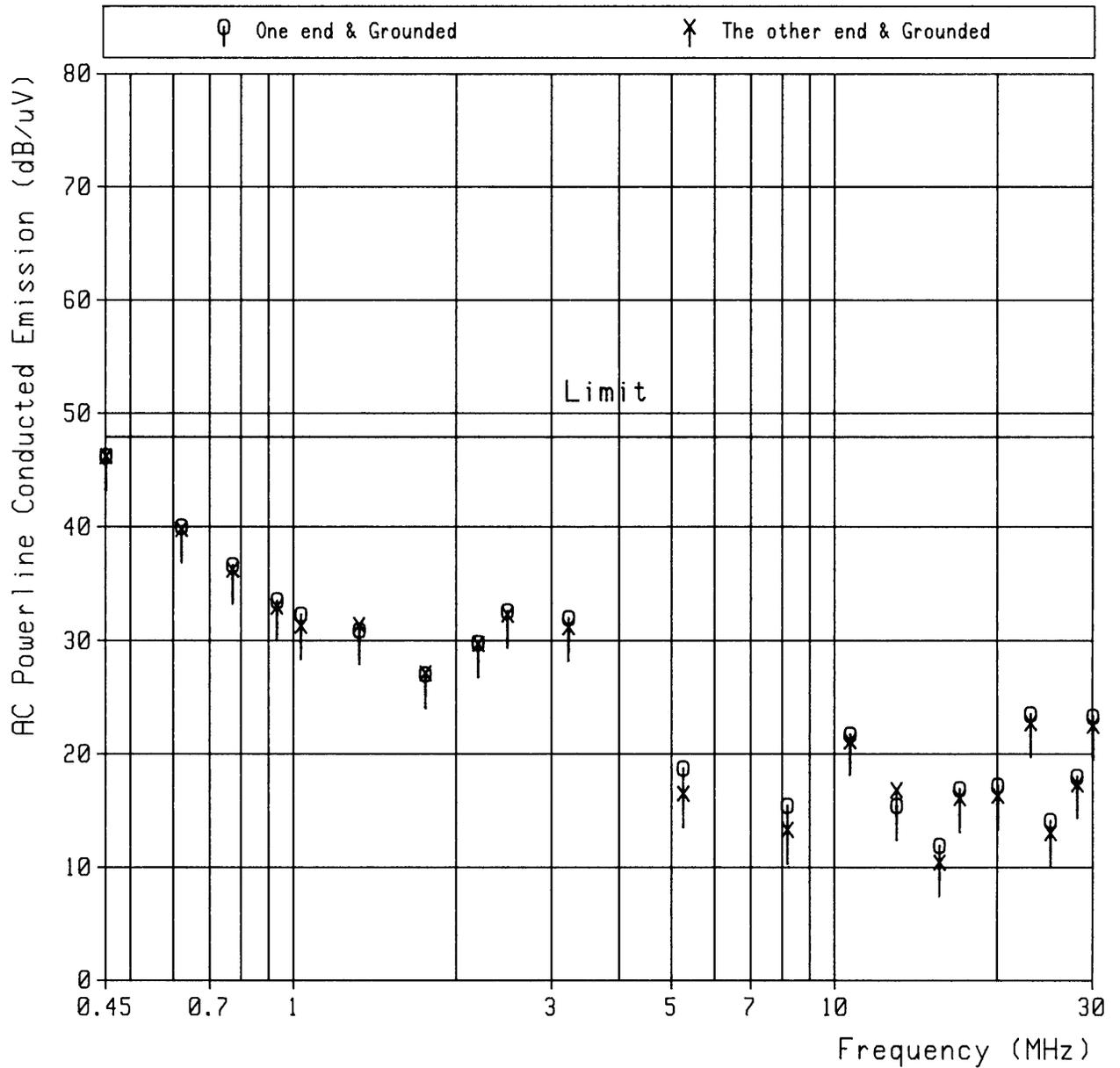
Frequency (MHz)	Correction Factor (dB)	Meter Reading (dB/uV)		Result (dB/uV)		Limit (dB/uV)
		V-A	V-B	V-A	V-B	
0.45	0.2	46.1	46.1	46.3	46.3	48.0
0.62	0.2	39.9	39.7	40.1	39.9	48.0
0.77	0.2	36.5	36.1	36.7	36.3	48.0
0.93	0.2	33.4	32.9	33.6	33.1	48.0
1.03	0.2	32.2	31.2	32.4	31.4	48.0
1.32	0.2	30.8	31.3	31.0	31.5	48.0
1.75	0.2	26.9	27.0	27.1	27.2	48.0
2.19	0.2	29.7	29.6	29.9	29.8	48.0
2.48	0.2	32.5	32.2	32.7	32.4	48.0
3.22	0.2	31.9	31.1	32.1	31.3	48.0
5.24	0.2	18.6	16.4	18.8	16.6	48.0
8.16	0.2	15.3	13.2	15.5	13.4	48.0
10.66	0.2	21.6	21.0	21.8	21.2	48.0
13.00	0.3	15.2	16.6	15.5	16.9	48.0
15.60	0.3	11.7	10.2	12.0	10.5	48.0
17.00	0.3	16.7	15.9	17.0	16.2	48.0
20.00	0.4	16.9	16.0	17.3	16.4	48.0
23.00	0.5	23.1	22.3	23.6	22.8	48.0
25.00	0.5	13.7	12.6	14.2	13.1	48.0
28.00	0.6	17.5	16.8	18.1	17.4	48.0
30.00	0.6	22.8	22.0	23.4	22.6	48.0

- Notes:
- 1) The spectrum was checked from 0.45 MHz to 30 MHz.
 - 2) V-A : One end & Grounded ; V-B : The other end & Grounded
 - 3) Correction Factor includes a LISN factor and a cable (2.0 m) loss.
 - 4) A sample calculation was made at 0.45 MHz.
 $\text{Correction Factor} + \text{Meter Reading} = 0.2 + 46.1 = 46.3 \text{ dB/uV}$

Model No. : VC-H818U
Serial No. : 910000001

§15.107(a) AC Powerline Conducted Emissions Measurement

Testing Signal Sources : RF Modulation Sources (NTSC Colorbar : 70 dB/uV at 193.25 MHz)
Operating Condition : Recording Mode



Model No. : VC-H818U
Serial No. : 910000001

Date : November 17, 1999
Temp. : 22 °C; Humi. : 38 %

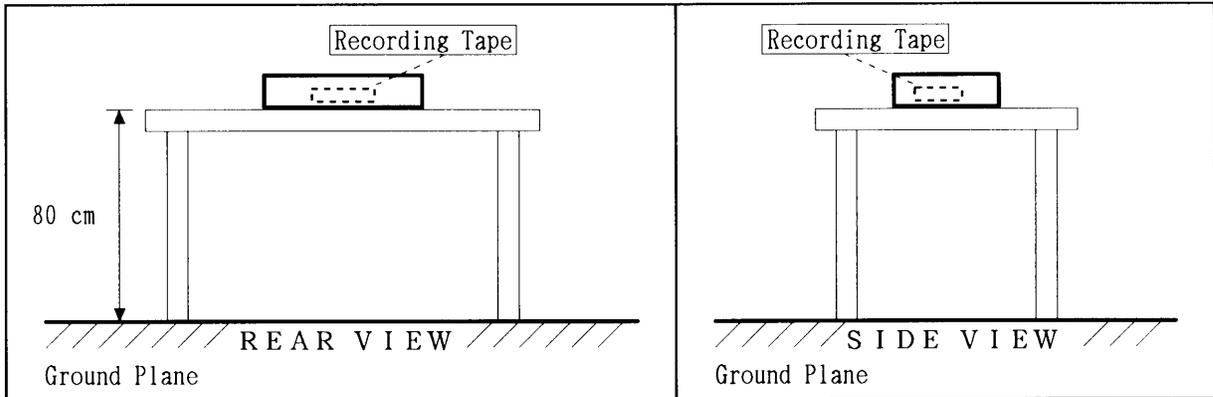
9. S15.109(a) Radiated Emissions Measurement

Tested by : 
Takashi Aoki, Deputy Manager
Testing Division
EMC Engineering Department

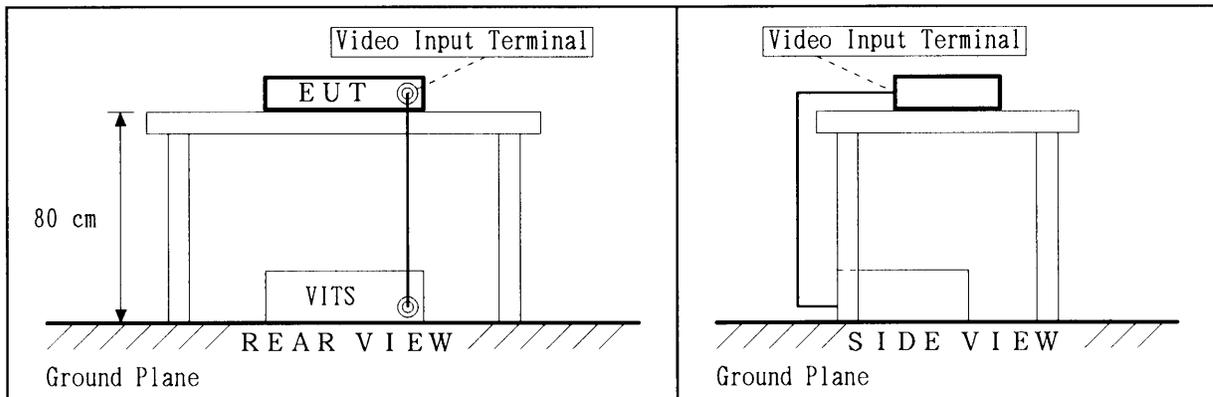
Model No. : VC-H818U
Serial No. : 910000001

Configuration of Testing Signal Sources

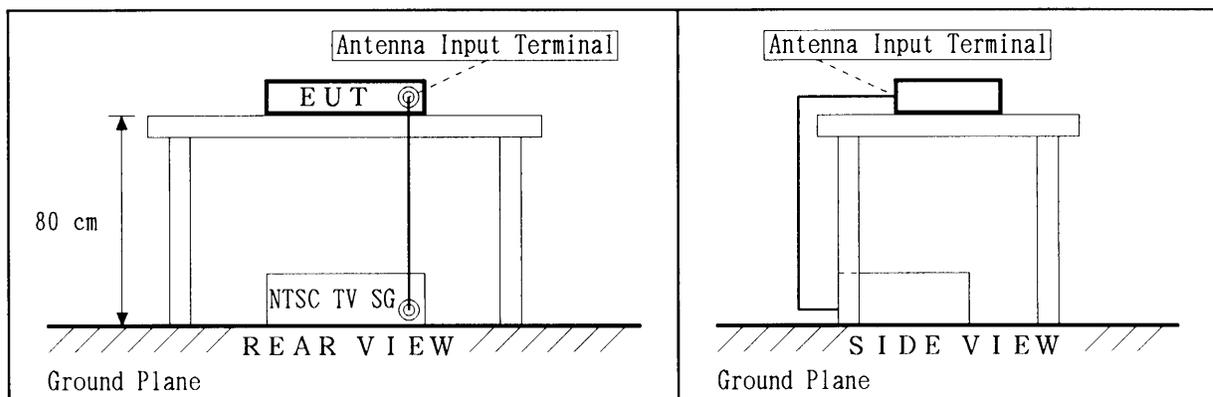
Testing Signal Sources : Internal Modulation Sources (NTSC TV Signal Recording Tape)



Testing Signal Sources : Video Modulation Sources (VITS : 1 Vp-p and 5 Vp-p)



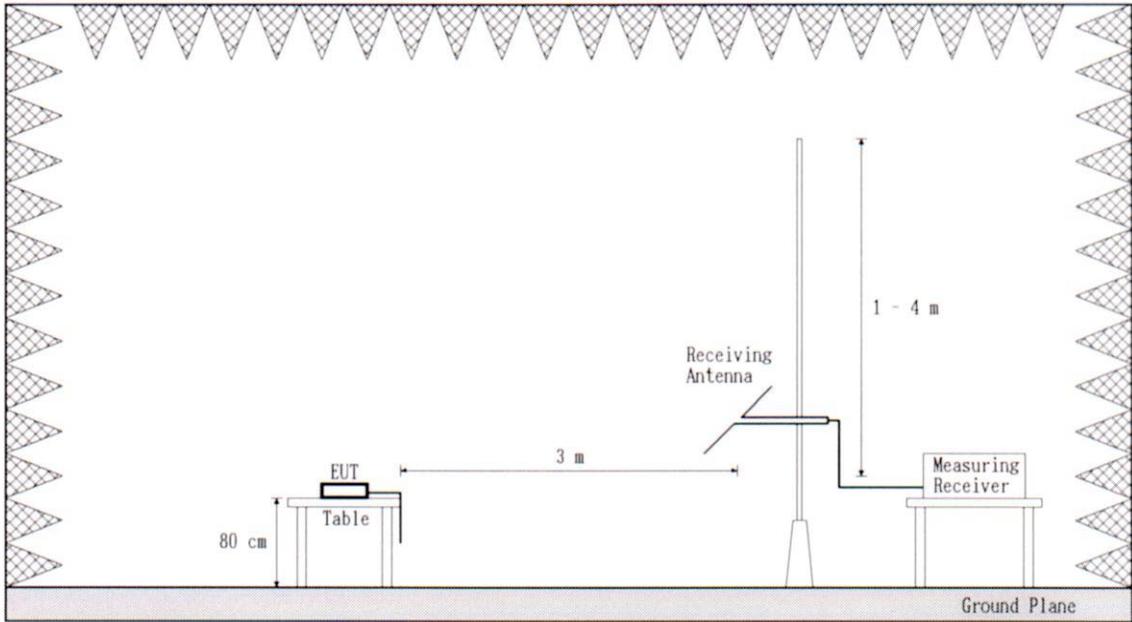
Testing Signal Sources : RF Modulation Sources (NTSC Colorbar : 70 dB/uV at 193.25 MHz)



Model No. : VC-H818U
Serial No. : 910000001

S15.109(a) Radiated Emissions Measurement

Configuration of EUT



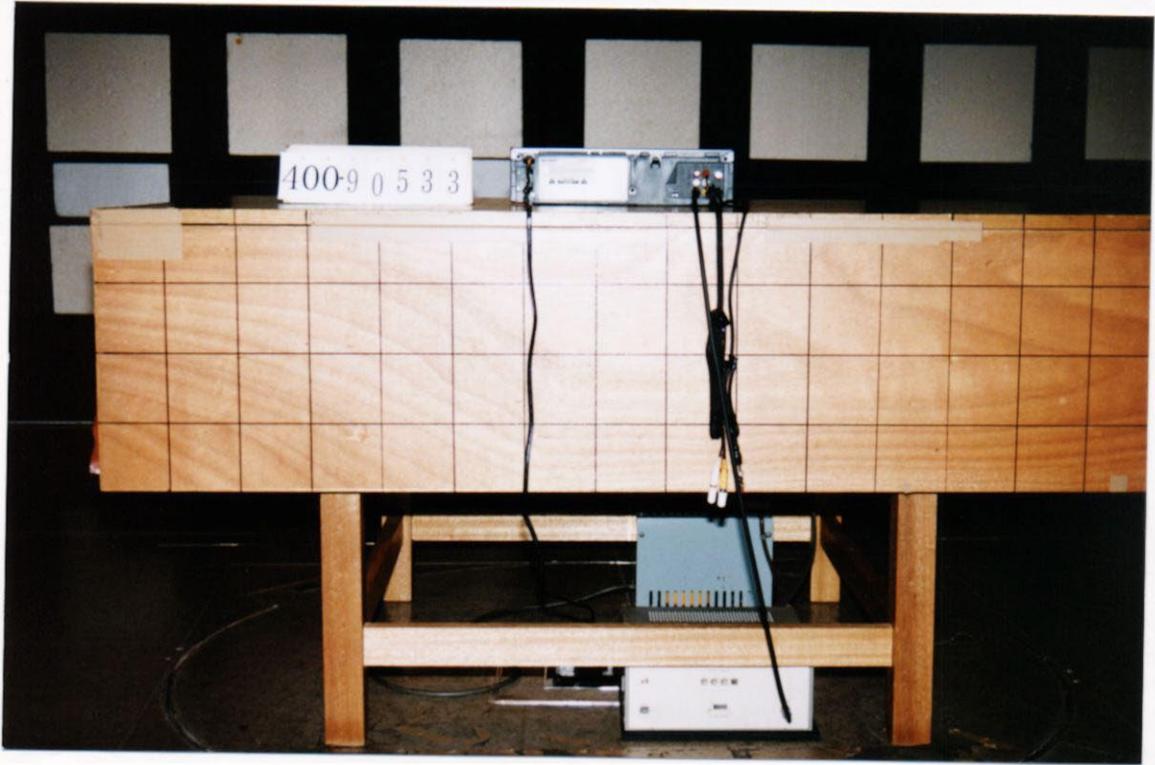
Arrangement of Interface Cables

Testing Signal Sources : Internal Modulation Sources (NTSC TV Signal Recording Tape)

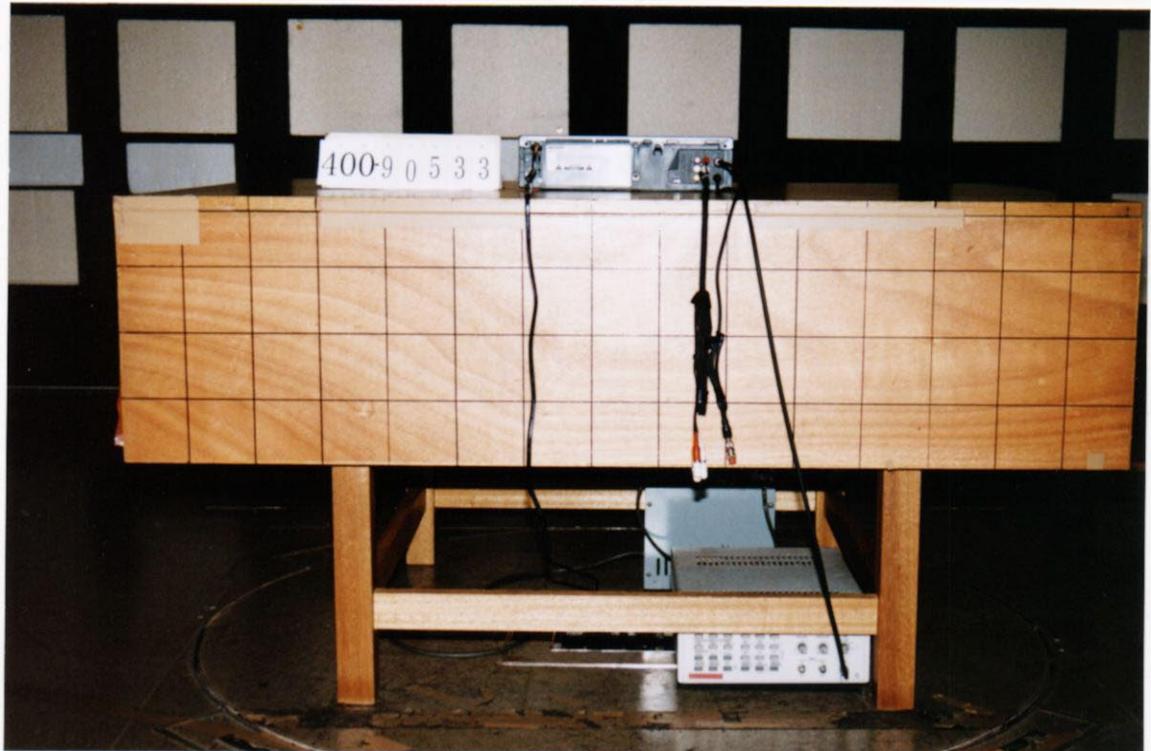


Model No. : VC-H818U
Serial No. : 910000001

Testing Signal Sources : Video Modulation Sources (VITS : 1 Vp-p and 5 Vp-p)



Testing Signal Sources : RF Modulation Sources (NTSC Colorbar : 70 dB/uV at 193.25 MHz)



Model No. : VC-H818U
Serial No. : 910000001

S15.109(a) Radiated Emissions Measurement

Testing Signal Sources : Internal Modulation Sources (NTSC TV Signal Recording Tape)
Operating Condition : Playing Mode

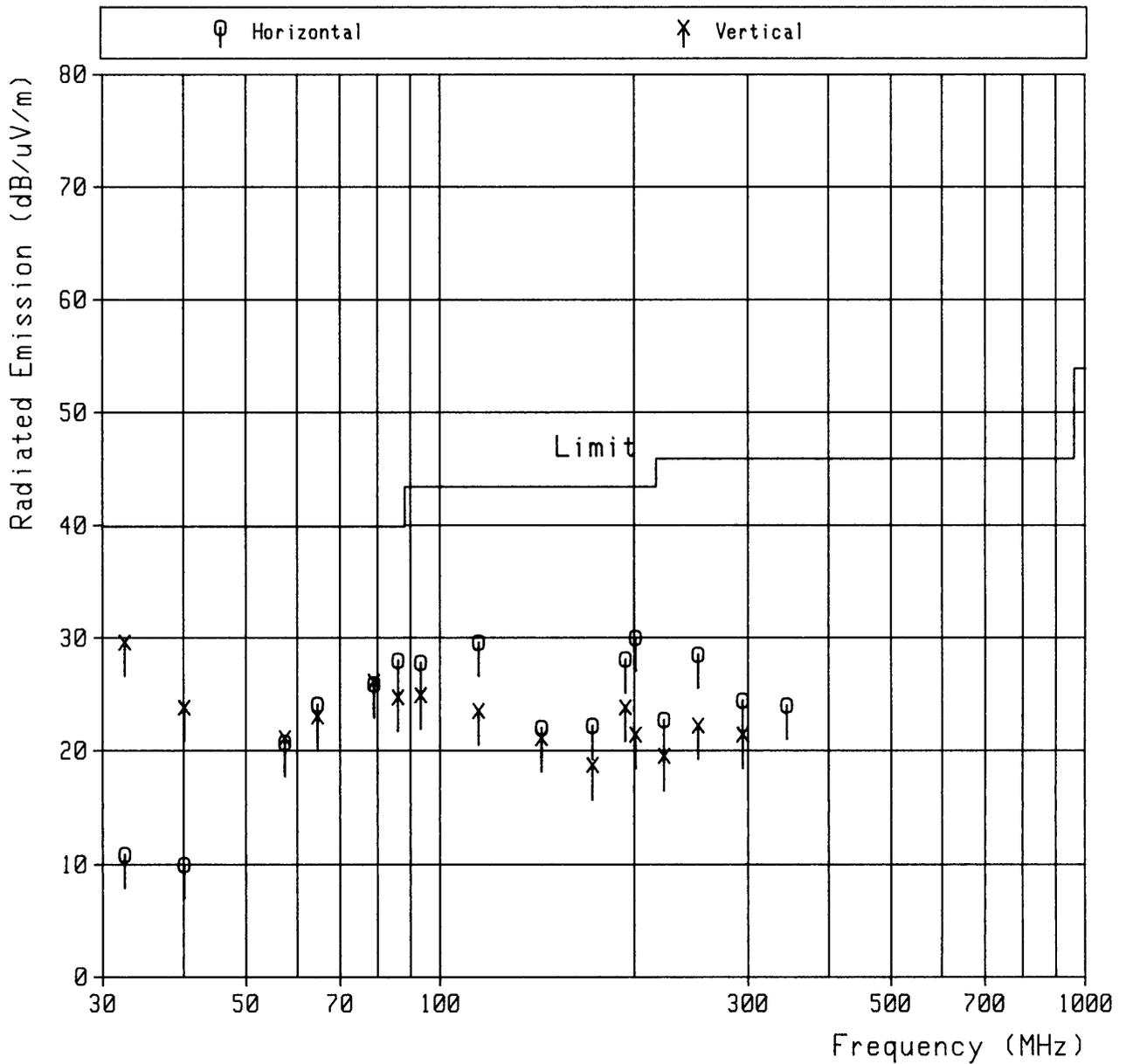
Frequency (MHz)	Correction Factor (dB)	Meter Reading (dB/uV)		Result (dB/uV/m)		Limit (dB/uV/m)
		Horizontal	Vertical	Horizontal	Vertical	
32.4	-0.4	11.4	30.1	11.0	29.7	40.0
40.0	1.6	8.5	22.3	10.1	23.9	40.0
57.3	4.8	16.0	16.4	20.8	21.2	40.0
64.4	5.9	18.3	17.2	24.2	23.1	40.0
78.8	7.8	18.2	18.4	26.0	26.2	40.0
85.9	8.5	19.6	16.3	28.1	24.8	40.0
93.1	9.3	18.6	15.7	27.9	25.0	43.5
114.5	11.2	18.5	12.4	29.7	23.6	43.5
143.2	13.3	8.8	7.9	22.1	21.2	43.5
171.8	15.0	7.3	3.8	22.3	18.8	43.5
193.3	16.1	12.1	7.8	28.2	23.9	43.5
200.5	16.5	13.6	5.0	30.1	21.5	43.5
221.9	17.4	5.4	2.2	22.8	19.6	46.0
250.6	18.6	10.0	3.7	28.6	22.3	46.0
293.5	20.1	4.4	1.4	24.5	21.5	46.0
343.7	21.7	2.4	< 0.0	24.1	< 21.7	46.0
391.1	22.9	< 0.0	< 0.0	< 22.9	< 22.9	46.0
500.0	25.4	< 0.0	< 0.0	< 25.4	< 25.4	46.0
600.0	27.3	< 0.0	< 0.0	< 27.3	< 27.3	46.0
700.0	29.0	< 0.0	< 0.0	< 29.0	< 29.0	46.0
800.0	30.6	< 0.0	< 0.0	< 30.6	< 30.6	46.0
1000.0	33.6	< 0.0	< 0.0	< 33.6	< 33.6	54.0

- Notes: 1) Measured Distance : 3.0 m
 2) The spectrum was checked from 30 MHz to 1000 MHz.
 3) The symbol of '<' means 'or less'.
 4) Correction Factor includes an antenna factor and a cable (14.0 m) loss.
 5) A sample calculation was made at 32.4 MHz.
 Correction Factor + Meter Reading = -0.4 + 30.1 = 29.7 dB/uV/m

Model No. : VC-H818U
Serial No. : 910000001

§15.109(a) Radiated Emissions Measurement

Testing Signal Sources : Internal Modulation Sources (NTSC TV Signal Recording Tape)
Operating Condition : Playing Mode



Model No. : VC-H818U
Serial No. : 910000001

§15.109(a) Radiated Emissions Measurement

Testing Signal Sources : Video Modulation Sources (VITS : 1 Vp-p and 5 Vp-p)
Operating Condition : Recording Mode

Frequency (MHz)	Correction Factor (dB)	Meter Reading (dB/uV)		Result (dB/uV/m)		Limit (dB/uV/m)
		Horizontal	Vertical	Horizontal	Vertical	
32.7	-0.3	9.9	25.5	9.6	25.2	40.0
40.4	1.6	11.6	27.9	13.2	29.5	40.0
57.3	4.8	5.3	6.5	10.1	11.3	40.0
64.4	5.9	15.5	11.1	21.4	17.0	40.0
78.8	7.8	15.4	13.8	23.2	21.6	40.0
85.9	8.5	14.7	15.0	23.2	23.5	40.0
93.1	9.3	13.0	13.7	22.3	23.0	43.5
114.6	11.2	18.8	20.6	30.0	31.8	43.5
143.2	13.3	12.4	4.9	25.7	18.2	43.5
171.8	15.0	8.2	3.6	23.2	18.6	43.5
193.3	16.1	12.8	5.2	28.9	21.3	43.5
200.5	16.5	12.0	3.4	28.5	19.9	43.5
221.9	17.4	4.3	1.2	21.7	18.6	46.0
250.6	18.6	10.3	5.1	28.9	23.7	46.0
279.2	19.6	5.8	0.5	25.4	20.1	46.0
293.5	20.1	2.5	< 0.0	22.6	< 20.1	46.0
343.6	21.7	2.0	< 0.0	23.7	< 21.7	46.0
400.0	23.2	< 0.0	< 0.0	< 23.2	< 23.2	46.0
500.0	25.4	< 0.0	< 0.0	< 25.4	< 25.4	46.0
600.0	27.3	< 0.0	< 0.0	< 27.3	< 27.3	46.0
700.0	29.0	< 0.0	< 0.0	< 29.0	< 29.0	46.0
800.0	30.6	< 0.0	< 0.0	< 30.6	< 30.6	46.0
1000.0	33.6	< 0.0	< 0.0	< 33.6	< 33.6	54.0

- Notes: 1) Measured Distance : 3.0 m
 2) The spectrum was checked from 30 MHz to 1000 MHz.
 3) The symbol of '<' means 'or less'.
 4) Correction Factor includes an antenna factor and a cable (14.0 m) loss.
 5) A sample calculation was made at 40.4 MHz.
 Correction Factor + Meter Reading = 1.6 + 27.9 = 29.5 dB/uV/m

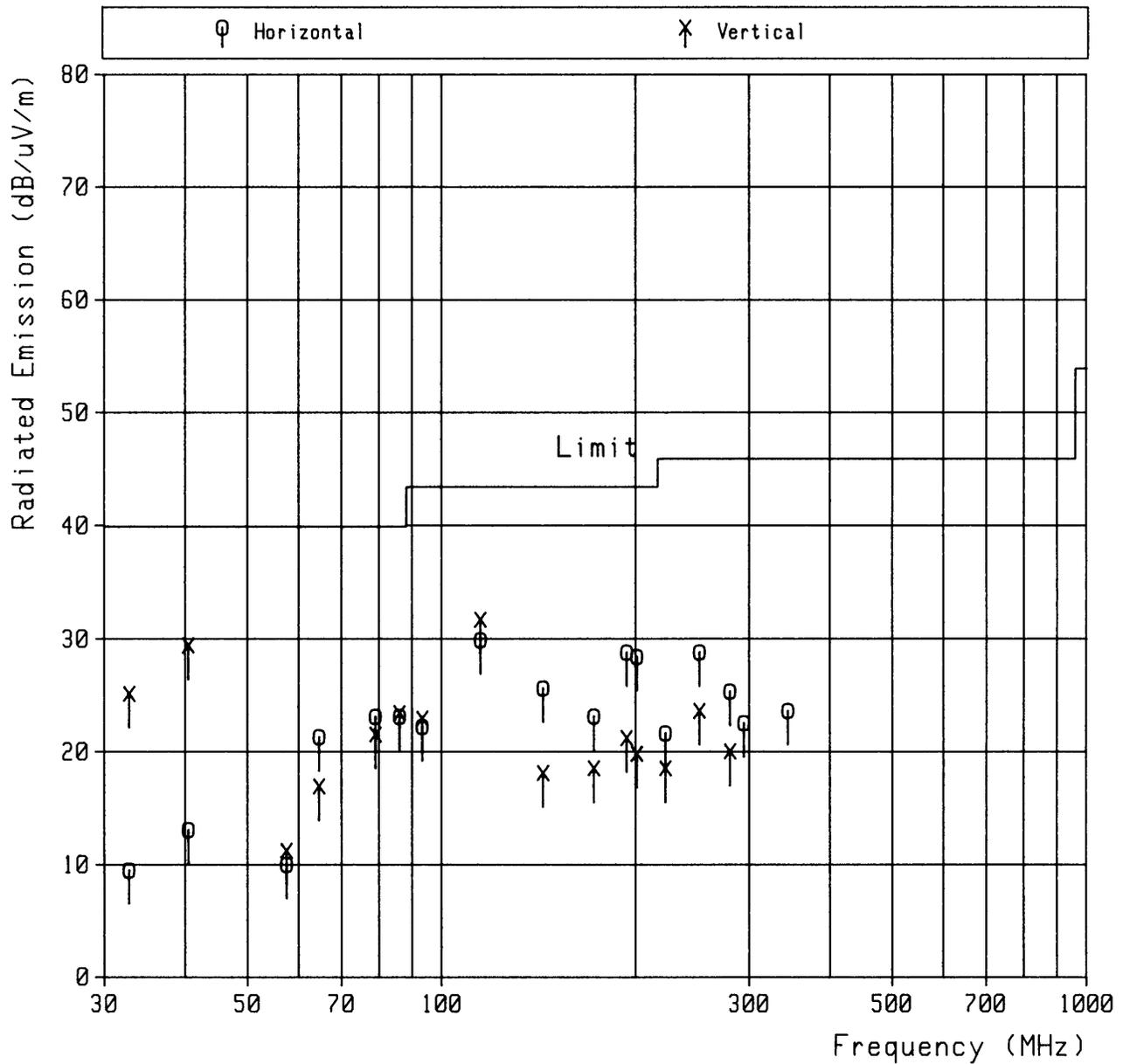
Model No. : VC-H818U

Serial No. : 910000001

§15.109(a) Radiated Emissions Measurement

Testing Signal Sources : Video Modulation Sources (VITS : 1 Vp-p and 5 Vp-p)

Operating Condition : Recording Mode



Model No. : VC-H818U
Serial No. : 910000001

§15.109(a) Radiated Emissions Measurement

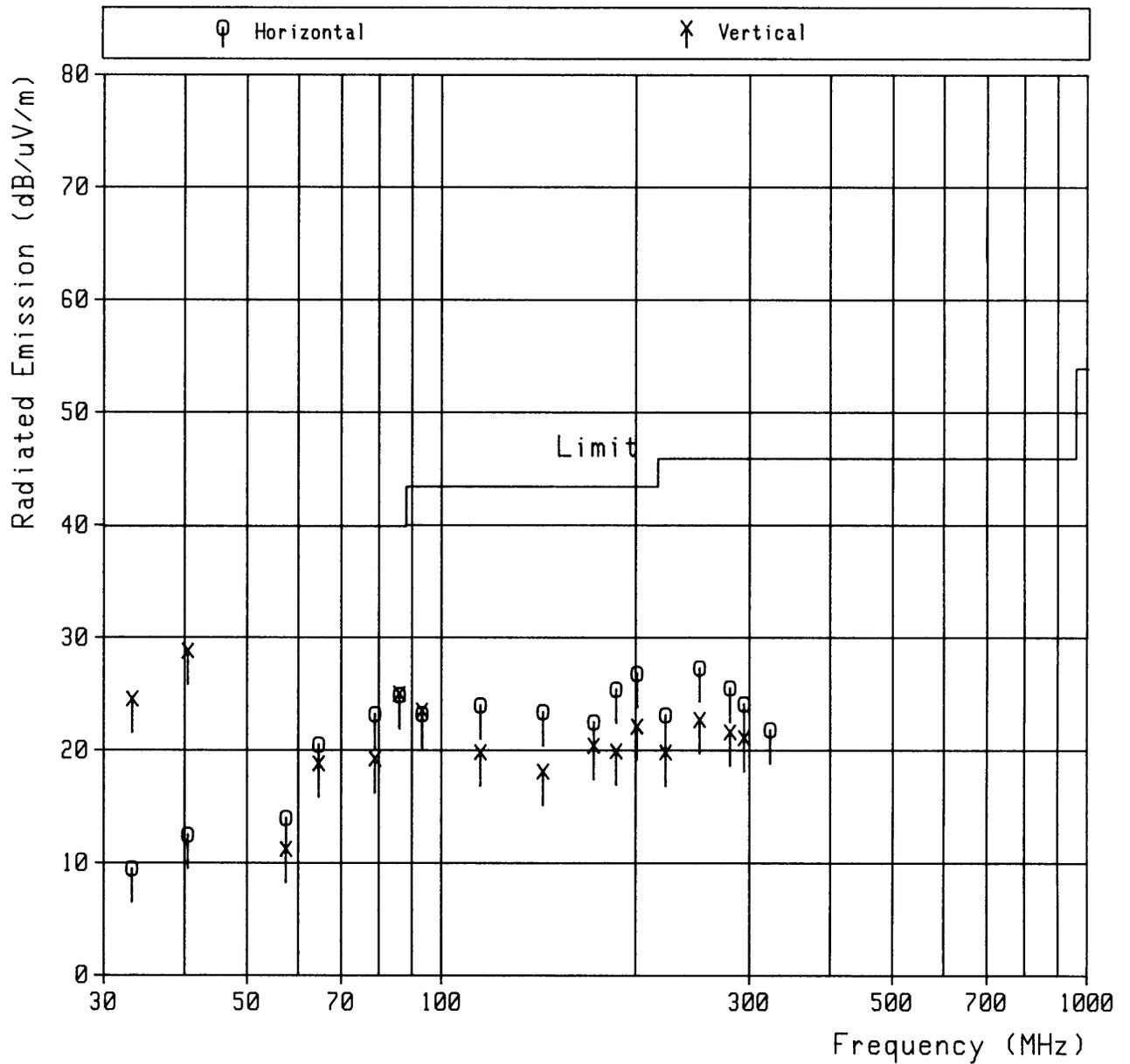
Testing Signal Sources : RF Modulation Sources (NTSC Colorbar : 70 dB/uV at 193.25 MHz)
Operating Condition : Recording Mode

Frequency (MHz)	Correction Factor (dB)	Meter Reading (dB/uV)		Result (dB/uV/m)		Limit (dB/uV/m)
		Horizontal	Vertical	Horizontal	Vertical	
33.1	-0.2	9.8	24.8	9.6	24.6	40.0
40.4	1.6	11.0	27.3	12.6	28.9	40.0
57.3	4.8	9.3	6.5	14.1	11.3	40.0
64.4	5.9	14.7	13.0	20.6	18.9	40.0
78.7	7.7	15.6	11.6	23.3	19.3	40.0
85.9	8.5	16.5	16.6	25.0	25.1	40.0
93.1	9.3	14.0	14.3	23.3	23.6	43.5
114.6	11.2	12.9	8.7	24.1	19.9	43.5
143.2	13.3	10.2	4.9	23.5	18.2	43.5
171.8	15.0	7.6	5.5	22.6	20.5	43.5
186.1	15.8	9.7	4.2	25.5	20.0	43.5
200.5	16.5	10.4	5.7	26.9	22.2	43.5
221.9	17.4	5.8	2.5	23.2	19.9	46.0
250.6	18.6	8.8	4.2	27.4	22.8	46.0
279.2	19.6	6.0	2.1	25.6	21.7	46.0
293.5	20.1	4.1	1.1	24.2	21.2	46.0
322.2	21.0	0.9	< 0.0	21.9	< 21.0	46.0
400.0	23.2	< 0.0	< 0.0	< 23.2	< 23.2	46.0
500.0	25.4	< 0.0	< 0.0	< 25.4	< 25.4	46.0
600.0	27.3	< 0.0	< 0.0	< 27.3	< 27.3	46.0
700.0	29.0	< 0.0	< 0.0	< 29.0	< 29.0	46.0
800.0	30.6	< 0.0	< 0.0	< 30.6	< 30.6	46.0
1000.0	33.6	< 0.0	< 0.0	< 33.6	< 33.6	54.0

- Notes:
- 1) Measured Distance : 3.0 m
 - 2) The spectrum was checked from 30 MHz to 1000 MHz.
 - 3) The symbol of '<' means 'or less'.
 - 4) Correction Factor includes an antenna factor and a cable (14.0 m) loss.
 - 5) A sample calculation was made at 40.4 MHz.
Correction Factor + Meter Reading = 1.6 + 27.3 = 28.9 dB/uV/m

Model No. : VC-HB18U
Serial No. : 910000001

§15.109(a) Radiated Emissions Measurement

Testing Signal Sources : RF Modulation Sources (NTSC Colorbar : 70 dB/uV at 193.25 MHz)
Operating Condition : Recording Mode

Model No. : VC-H818U
Serial No. : 910000001

Date : November 18, 1999
Temp. : 24 °C; Humi. : 42 %

10. §15.115(b)(1)(ii) Output Signal Level Measurement

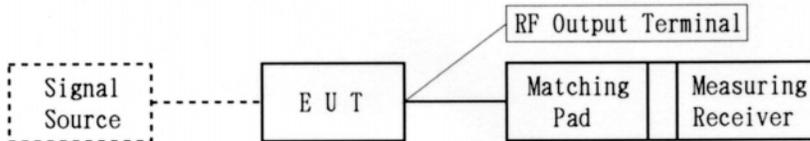
Tested by : _____

Takashi Aoki, Deputy Manager
Testing Division
EMC Engineering Department

Model No. : VC-H818U
Serial No. : 91000001

§15.115(b)(1)(ii) Output Signal Level Measurement

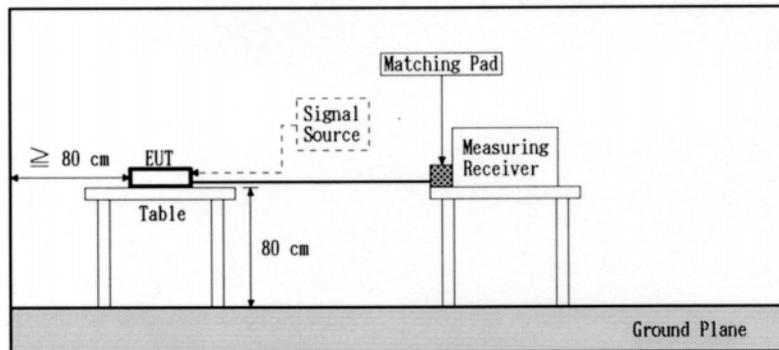
Block Diagram



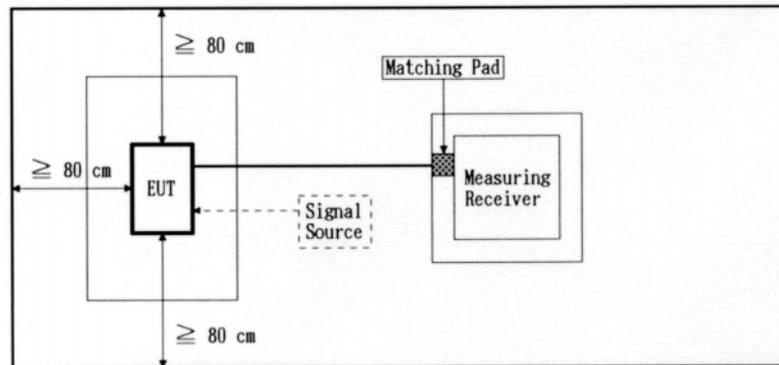
Note: Antenna input terminal of EUT was terminated with the terminator of specified impedances.

Configuration of EUT

Side View



Top View



Note: The same configuration of cables and terminators which were connected to VCR was applied to all applicable measurements, shown as photograph in page 19 and 20.

Model No. : VC-H818U
 Serial No. : 910000001

§15.115(b)(1)(ii) Output Signal Level Measurement (Visual)

Testing Signal Sources : Internal Modulation Sources (NTSC TV Signal Recording Tape)
 Operating Condition : Playing Mode

RF Output Channel	Frequency (MHz)	Matching Pad Loss (dB)	Meter Reading (dB/uV)	Result (dB/uV)	Limit (dB/uV)
3	61.29	7.8	58.3	66.1	69.5
4	67.29	7.8	56.9	64.7	69.5

Testing Signal Sources : Video Modulation Sources (VITS : 1 Vp-p and 5 Vp-p)
 Operating Condition : Recording Mode

RF Output Channel	Frequency (MHz)	Matching Pad Loss (dB)	Meter Reading (dB/uV)	Result (dB/uV)	Limit (dB/uV)
3	61.29	7.8	58.6	66.4	69.5
4	67.29	7.8	57.8	65.6	69.5

Testing Signal Sources : RF Modulation Sources (NTSC Colorbar : 70 dB/uV at 193.25 MHz)
 Operating Condition : Recording Mode

RF Output Channel	Frequency (MHz)	Matching Pad Loss (dB)	Meter Reading (dB/uV)	Result (dB/uV)	Limit (dB/uV)
3	61.29	7.8	58.4	66.2	69.5
4	67.29	7.8	57.6	65.4	69.5

- Notes: 1) Spectrum Analyzer ; SPAN : 10 MHz, RES BW : 100 kHz, VBW : 300 kHz, SWP : 20 msec
 2) Impedance at the RF output terminal : 75 ohms (Unbalanced)
 3) A sample calculation was made at 61.29 MHz.
 Matching Pad Loss + Meter Reading = 7.8 + 58.6 = 66.4 dB/uV

Model No. : VC-H818U
 Serial No. : 910000001

§15.115(b)(1)(ii) Output Signal Level Measurement (Aural)

Testing Signal Sources : Internal Modulation Sources (NTSC TV Signal Recording Tape)
 Operating Condition : Playing Mode

RF Output Channel	Frequency (MHz)	Matching Pad Loss (dB)	Meter Reading (dB/uV)	Result (dB/uV)	Limit (dB/uV)
3	65.79	7.8	43.4	51.2	56.5
4	71.79	7.8	43.0	50.8	56.5

Testing Signal Sources : Video Modulation Sources (VITS : 1 Vp-p and 5 Vp-p)
 Operating Condition : Recording Mode

RF Output Channel	Frequency (MHz)	Matching Pad Loss (dB)	Meter Reading (dB/uV)	Result (dB/uV)	Limit (dB/uV)
3	65.79	7.8	43.7	51.5	56.5
4	71.79	7.8	43.3	51.1	56.5

Testing Signal Sources : RF Modulation Sources (NTSC Colorbar : 70 dB/uV at 193.25 MHz)
 Operating Condition : Recording Mode

RF Output Channel	Frequency (MHz)	Matching Pad Loss (dB)	Meter Reading (dB/uV)	Result (dB/uV)	Limit (dB/uV)
3	65.80	7.8	43.0	50.8	56.5
4	71.79	7.8	43.0	50.8	56.5

- Notes: 1) Spectrum Analyzer ; SPAN : 10 MHz, RES BW : 100 kHz, VBW : 300 kHz, SWP : 20 msec
 2) Impedance at the RF output terminal : 75 ohms (Unbalanced)
 3) A sample calculation was made at 65.79 MHz.
 Matching Pad Loss + Meter Reading = 7.8 + 43.7 = 51.5 dB/uV

Model No. : VC-H818U
Serial No. : 91000001

Date : November 18, 1999
Temp. : 24 °C; Humi. : 42 %

11. S15.115(b)(2)(ii) Spurious Conducted Level Measurement

Tested by : _____

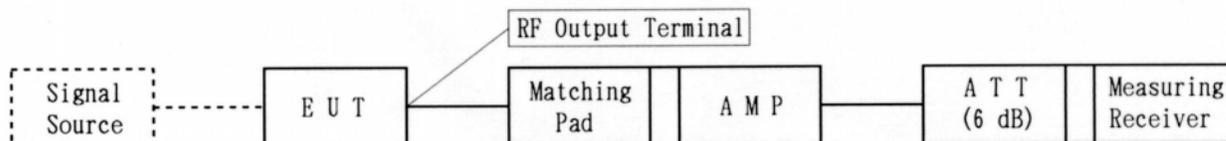


Takashi Aoki, Deputy Manager
Testing Division
EMC Engineering Department

Model No. : VC-H818U
Serial No. : 910000001

§15.115(b)(2)(ii) Spurious Conducted Level Measurement

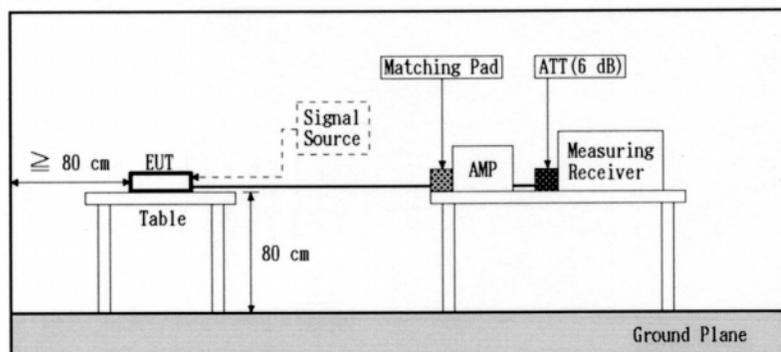
Block Diagram



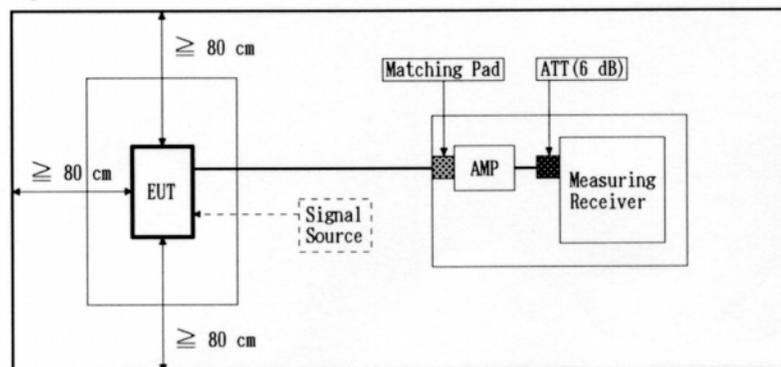
Note: Antenna input terminal of EUT was terminated with the terminator of specified impedances.

Configuration of EUT

Side View



Top View



Note: The same configuration of cables and terminators which were connected to VCR was applied to all applicable measurements, shown as photograph in page 19 and 20.

Model No. : VC-H818U
Serial No. : 910000001

§15.115(b)(2)(ii) Spurious Conducted Level Measurement

Testing Signal Sources : Internal Modulation Sources (NTSC TV Signal Recording Tape)
Operating Condition : Playing Mode

RF Output Channel : No. 3

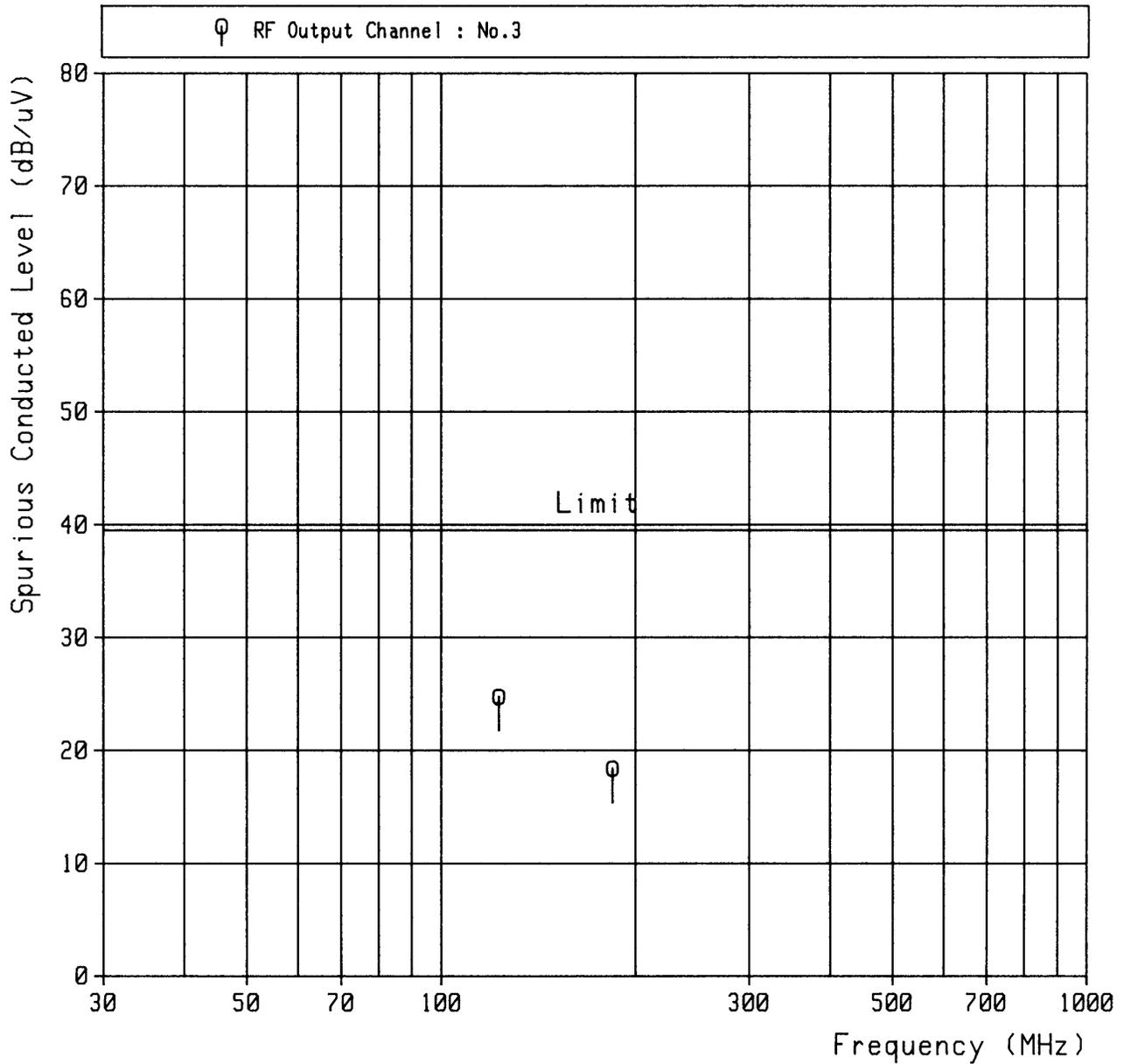
Frequency (MHz)	Correction Factor (dB)	Meter Reading (dB/uV)	Result (dB/uV)	Limit (dB/uV)
30.0	-13.2	< 30.0	< 16.8	39.6
40.0	-13.2	< 30.0	< 16.8	39.6
56.6	-13.2	< 30.0	< 16.8	39.6
68.7	-13.2	< 30.0	< 16.8	39.6
80.0	-13.2	< 30.0	< 16.8	39.6
100.0	-13.2	< 30.0	< 16.8	39.6
122.5	-13.1	38.0	24.9	39.6
183.8	-13.0	31.5	18.5	39.6
245.0	-12.9	< 30.0	< 17.1	39.6
306.3	-12.9	< 30.0	< 17.1	39.6
367.5	-12.8	< 30.0	< 17.2	39.6
428.8	-12.8	< 30.0	< 17.2	39.6
490.0	-12.8	< 30.0	< 17.2	39.6
551.3	-12.7	< 30.0	< 17.3	39.6
612.5	-12.6	< 30.0	< 17.4	39.6
673.8	-12.4	< 30.0	< 17.6	39.6
735.0	-12.2	< 30.0	< 17.8	39.6
796.3	-12.0	< 30.0	< 18.0	39.6
857.5	-12.1	< 30.0	< 17.9	39.6
918.8	-12.4	< 30.0	< 17.6	39.6
980.0	-12.6	< 30.0	< 17.4	39.6

- Notes:
- 1) The spectrum was checked from 30 MHz to 1000 MHz.
 - 2) Spectrum Analyzer ; SPAN : 10 MHz, RES BW : 100 kHz, VBW : 300 kHz, SWP : 20 msec
 - 3) Impedance at the RF output terminal : 75 ohms (Unbalanced)
 - 4) The symbol of '<' means 'or less'.
 - 5) Correction Factor includes a gain of preamplifier, a matching pad loss and an attenuation pad loss.
 - 6) A sample calculation was made at 122.5 MHz.
Correction Factor + Meter Reading = -13.1 + 38.0 = 24.9 dB/uV

Model No. : VC-H018U
Serial No. : 910000001

§15.115(b)(2)(ii) Spurious Conducted Level Measurement

Testing Signal Sources : Internal Modulation Sources (NTSC TV Signal Recording Tape)
Operating Condition : Playing Mode



Model No. : VC-H818U
Serial No. : 910000001

§15.115(b)(2)(ii) Spurious Conducted Level Measurement

Testing Signal Sources : Internal Modulation Sources (NTSC TV Signal Recording Tape)
Operating Condition : Playing Mode

RF Output Channel : No. 4

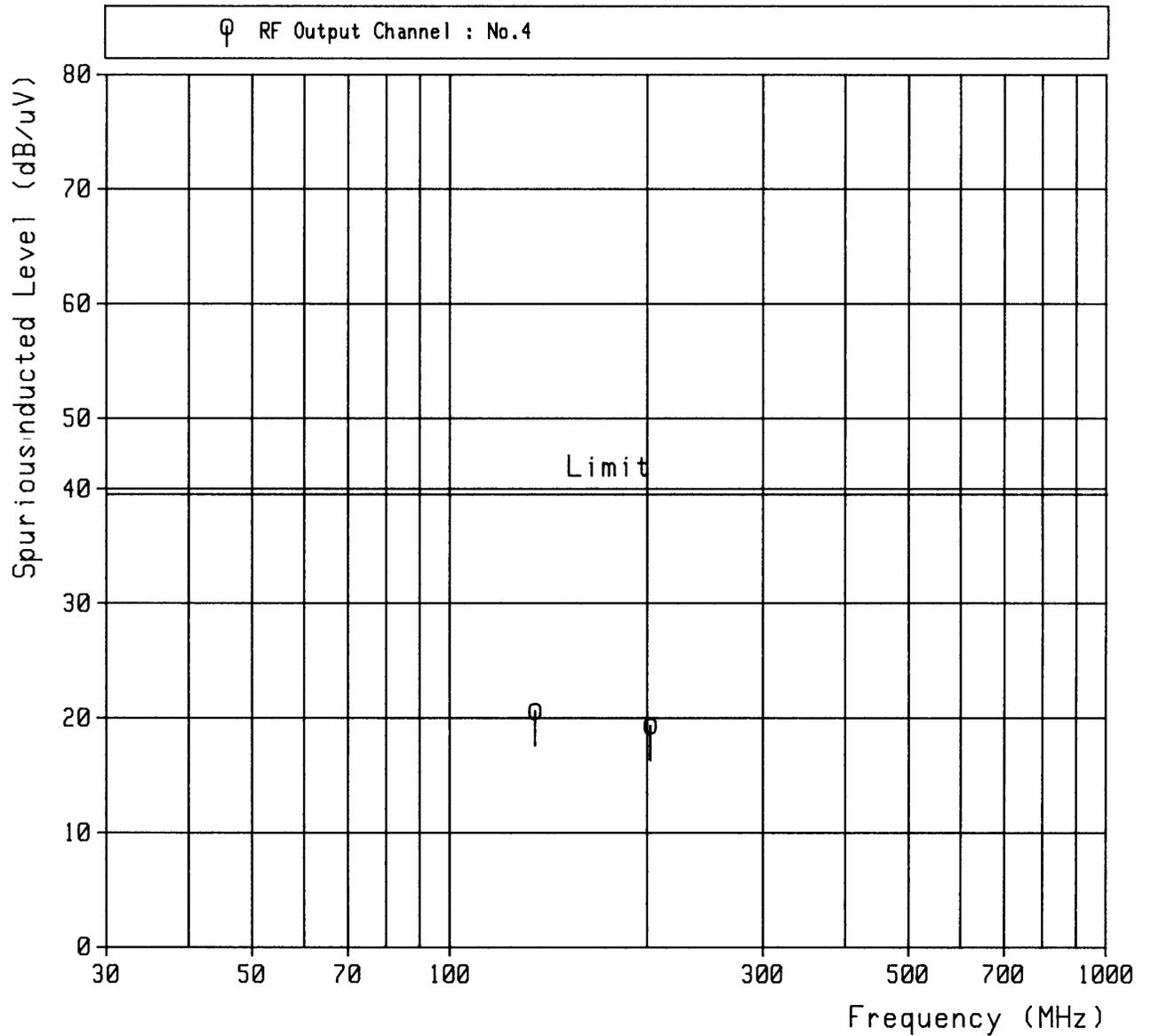
Frequency (MHz)	Correction Factor (dB)	Meter Reading (dB/uV)	Result (dB/uV)	Limit (dB/uV)
30.0	-13.2	< 30.0	< 16.8	39.6
40.0	-13.2	< 30.0	< 16.8	39.6
50.0	-13.2	< 30.0	< 16.8	39.6
62.7	-13.2	< 30.0	< 16.8	39.6
74.7	-13.2	< 30.0	< 16.8	39.6
80.0	-13.2	< 30.0	< 16.8	39.6
100.0	-13.2	< 30.0	< 16.8	39.6
134.5	-13.1	33.8	20.7	39.6
201.8	-13.0	32.4	19.4	39.6
269.0	-12.9	< 30.0	< 17.1	39.6
336.3	-12.9	< 30.0	< 17.1	39.6
403.5	-12.8	< 30.0	< 17.2	39.6
470.8	-12.8	< 30.0	< 17.2	39.6
538.0	-12.7	< 30.0	< 17.3	39.6
605.3	-12.7	< 30.0	< 17.3	39.6
672.5	-12.4	< 30.0	< 17.6	39.6
739.8	-12.2	< 30.0	< 17.8	39.6
807.0	-11.9	< 30.0	< 18.1	39.6
874.3	-12.2	< 30.0	< 17.8	39.6
941.5	-12.5	< 30.0	< 17.5	39.6

- Notes:
- 1) The spectrum was checked from 30 MHz to 1000 MHz.
 - 2) Spectrum Analyzer ; SPAN : 10 MHz, RES BW : 100 kHz, VBW : 300 kHz, SWP : 20 msec
 - 3) Impedance at the RF output terminal : 75 ohms (Unbalanced)
 - 4) The symbol of '<' means 'or less'.
 - 5) Correction Factor includes a gain of preamplifier, a matching pad loss and an attenuation pad loss.
 - 6) A sample calculation was made at 134.5 MHz.
Correction Factor + Meter Reading = -13.1 + 33.8 = 20.7 dB/uV

Model No. : VC-H818U
Serial No. : 910000001

§15.115(b)(2)(ii) Spurious Conducted Level Measurement

Testing Signal Sources : Internal Modulation Sources (NTSC TV Signal Recording Tape)
Operating Condition : Playing Mode



Model No. : VC-H818U
Serial No. : 910000001

§15.115(b)(2)(ii) Spurious Conducted Level Measurement

Testing Signal Sources : Video Modulation Sources (VITS : 1 Vp-p and 5 Vp-p)
Operating Condition : Recording Mode

RF Output Channel : No. 3

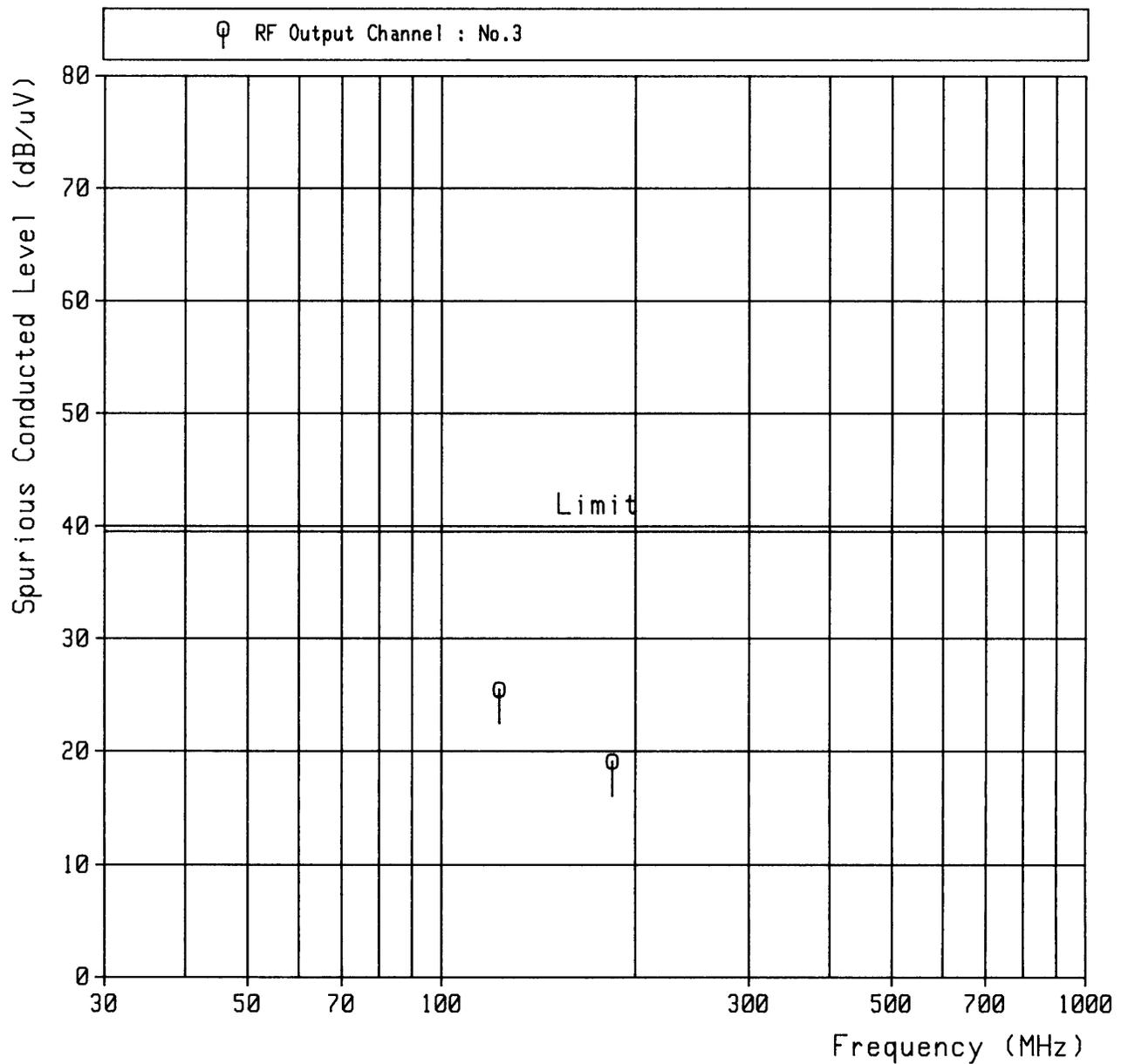
Frequency (MHz)	Correction Factor (dB)	Meter Reading (dB/uV)	Result (dB/uV)	Limit (dB/uV)
30.0	-13.2	< 30.0	< 16.8	39.6
40.0	-13.2	< 30.0	< 16.8	39.6
56.6	-13.2	< 30.0	< 16.8	39.6
68.7	-13.2	< 30.0	< 16.8	39.6
80.0	-13.2	< 30.0	< 16.8	39.6
100.0	-13.2	< 30.0	< 16.8	39.6
122.6	-13.1	38.7	25.6	39.6
183.8	-13.0	32.2	19.2	39.6
245.0	-12.9	< 30.0	< 17.1	39.6
306.3	-12.9	< 30.0	< 17.1	39.6
367.5	-12.8	< 30.0	< 17.2	39.6
428.8	-12.8	< 30.0	< 17.2	39.6
490.0	-12.8	< 30.0	< 17.2	39.6
551.3	-12.7	< 30.0	< 17.3	39.6
612.5	-12.6	< 30.0	< 17.4	39.6
673.8	-12.4	< 30.0	< 17.6	39.6
735.0	-12.2	< 30.0	< 17.8	39.6
796.3	-12.0	< 30.0	< 18.0	39.6
857.5	-12.1	< 30.0	< 17.9	39.6
918.8	-12.4	< 30.0	< 17.6	39.6
980.0	-12.6	< 30.0	< 17.4	39.6

- Notes:
- 1) The spectrum was checked from 30 MHz to 1000 MHz.
 - 2) Spectrum Analyzer ; SPAN : 10 MHz, RES BW : 100 kHz, VBW : 300 kHz, SWP : 20 msec
 - 3) Impedance at the RF output terminal : 75 ohms (Unbalanced)
 - 4) The symbol of '<' means 'or less'.
 - 5) Correction Factor includes a gain of preamplifier, a matching pad loss and an attenuation pad loss.
 - 6) A sample calculation was made at 122.6 MHz.
Correction Factor + Meter Reading = -13.1 + 38.7 = 25.6 dB/uV

Model No. : VC-H818U
Serial No. : 910000001

§15.115(b)(2)(ii) Spurious Conducted Level Measurement

Testing Signal Sources : Video Modulation Sources (VITS : 1 Vp-p and 5 Vp-p)
Operating Condition : Recording Mode



Model No. : VC-H818U
Serial No. : 910000001

S15.115(b)(2)(ii) Spurious Conducted Level Measurement

Testing Signal Sources : Video Modulation Sources (VITS : 1 Vp-p and 5 Vp-p)
Operating Condition : Recording Mode

RF Output Channel : No.4

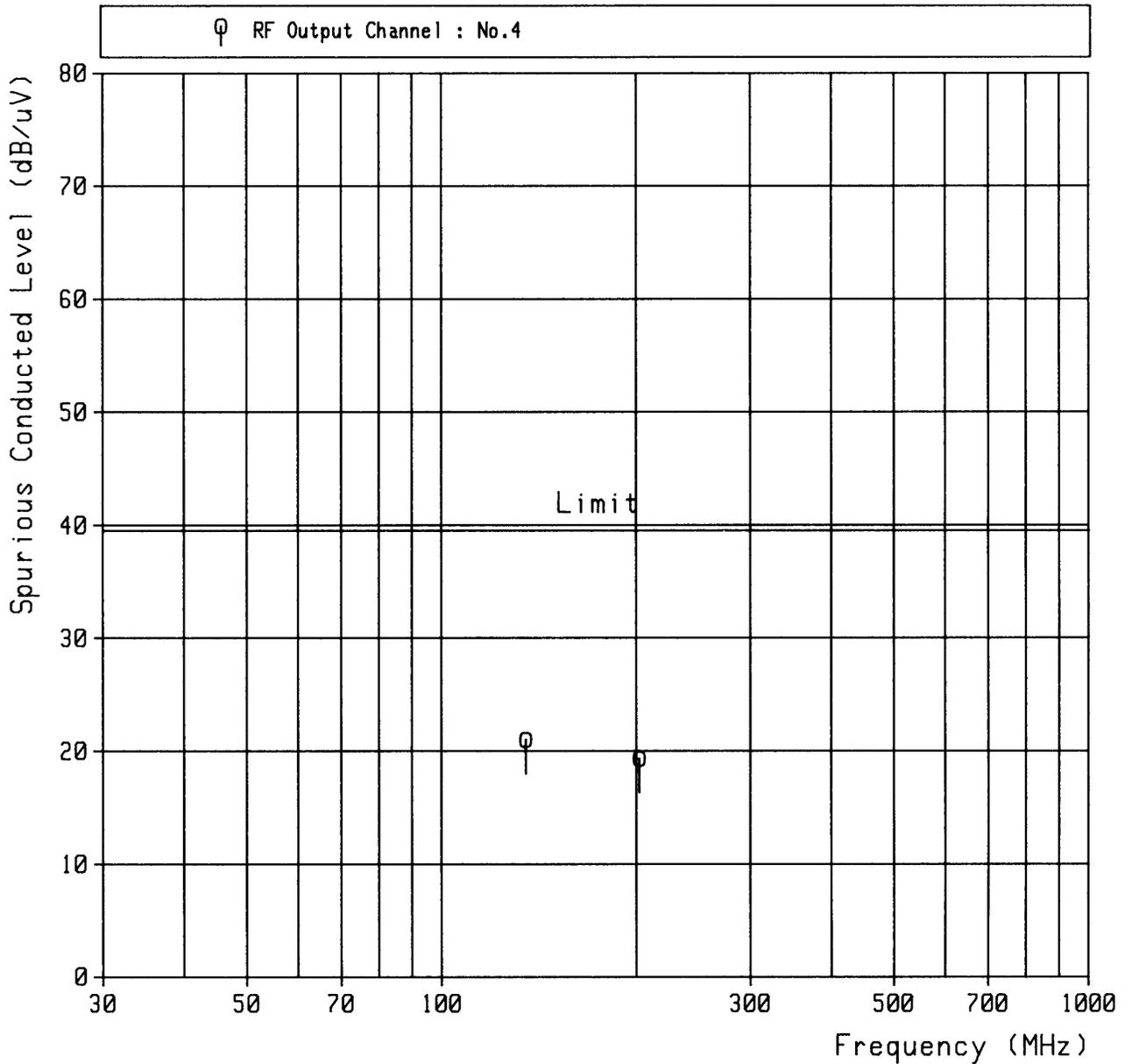
Frequency (MHz)	Correction Factor (dB)	Meter Reading (dB/uV)	Result (dB/uV)	Limit (dB/uV)
30.0	-13.2	< 30.0	< 16.8	39.6
40.0	-13.2	< 30.0	< 16.8	39.6
50.0	-13.2	< 30.0	< 16.8	39.6
62.6	-13.2	< 30.0	< 16.8	39.6
74.7	-13.2	< 30.0	< 16.8	39.6
80.0	-13.2	< 30.0	< 16.8	39.6
100.0	-13.2	< 30.0	< 16.8	39.6
134.6	-13.1	34.2	21.1	39.6
201.8	-13.0	32.4	19.4	39.6
269.0	-12.9	< 30.0	< 17.1	39.6
336.3	-12.9	< 30.0	< 17.1	39.6
403.5	-12.8	< 30.0	< 17.2	39.6
470.8	-12.8	< 30.0	< 17.2	39.6
538.0	-12.7	< 30.0	< 17.3	39.6
605.3	-12.7	< 30.0	< 17.3	39.6
672.5	-12.4	< 30.0	< 17.6	39.6
739.8	-12.2	< 30.0	< 17.8	39.6
807.0	-11.9	< 30.0	< 18.1	39.6
874.3	-12.2	< 30.0	< 17.8	39.6
941.5	-12.5	< 30.0	< 17.5	39.6

- Notes:
- 1) The spectrum was checked from 30 MHz to 1000 MHz.
 - 2) Spectrum Analyzer ; SPAN : 10 MHz, RES BW : 100 kHz, VBW : 300 kHz, SWP : 20 msec
 - 3) Impedance at the RF output terminal : 75 ohms (Unbalanced)
 - 4) The symbol of '<' means 'or less'.
 - 5) Correction Factor includes a gain of preamplifier, a matching pad loss and an attenuation pad loss.
 - 6) A sample calculation was made at 134.6 MHz.
Correction Factor + Meter Reading = -13.1 + 34.2 = 21.1 dB/uV

Model No. : VC-H818U
Serial No. : 910000001

§15.115(b)(2)(ii) Spurious Conducted Level Measurement

Testing Signal Sources : Video Modulation Sources (VITS : 1 Vp-p and 5 Vp-p)
Operating Condition : Recording Mode



Model No. : VC-H818U
Serial No. : 910000001

S15.115(b)(2)(ii) Spurious Conducted Level Measurement

Testing Signal Sources : RF Modulation Sources (NTSC Colorbar : 70 dB/uV at 193.25 MHz)
Operating Condition : Recording Mode

RF Output Channel : No.3

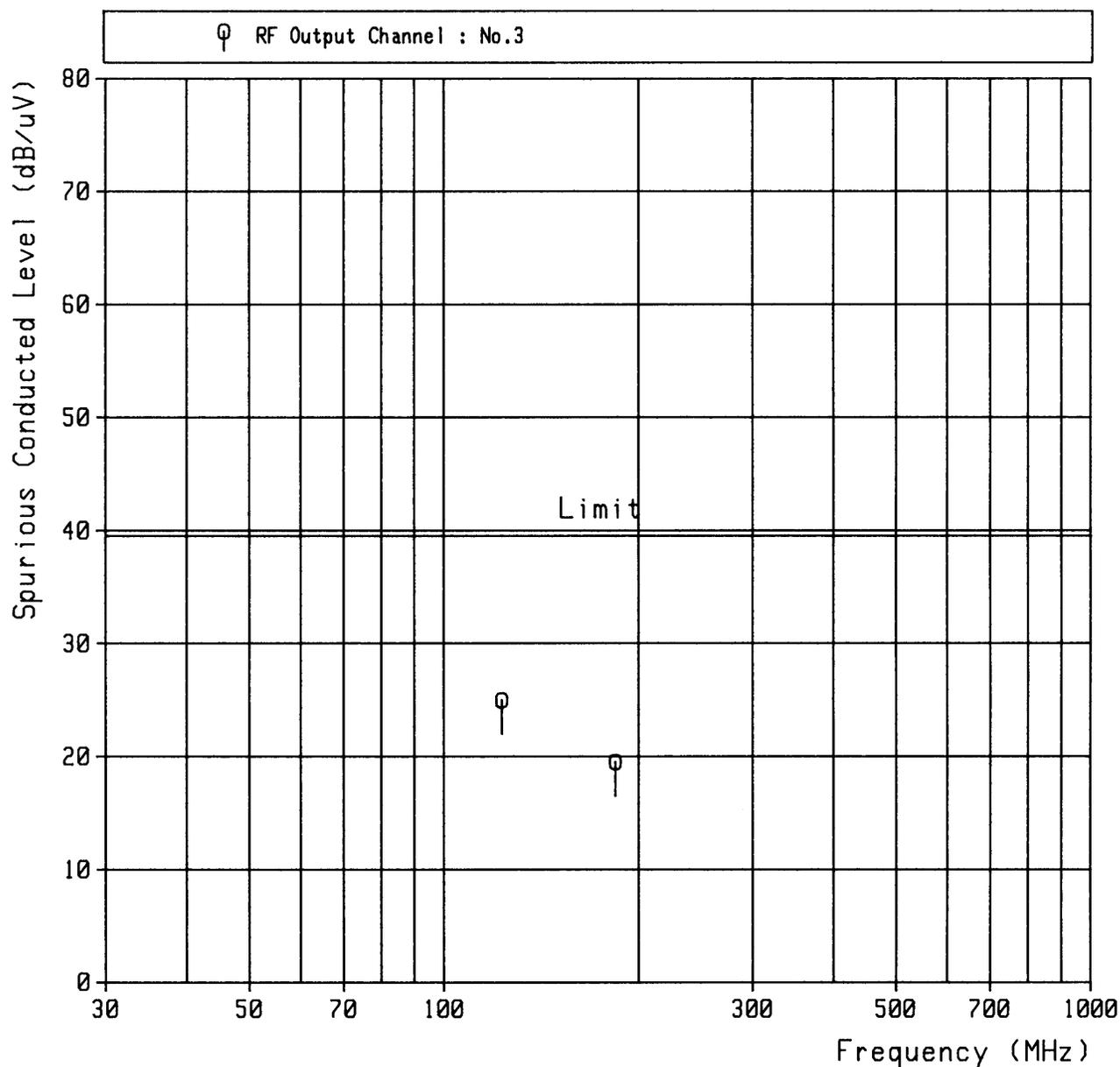
Frequency (MHz)	Correction Factor (dB)	Meter Reading (dB/uV)	Result (dB/uV)	Limit (dB/uV)
30.0	-13.2	< 30.0	< 16.8	39.6
40.0	-13.2	< 30.0	< 16.8	39.6
56.6	-13.2	< 30.0	< 16.8	39.6
68.7	-13.2	< 30.0	< 16.8	39.6
80.0	-13.2	< 30.0	< 16.8	39.6
100.0	-13.2	< 30.0	< 16.8	39.6
122.6	-13.1	38.2	25.1	39.6
183.8	-13.0	32.6	19.6	39.6
245.0	-12.9	< 30.0	< 17.1	39.6
306.3	-12.9	< 30.0	< 17.1	39.6
367.5	-12.8	< 30.0	< 17.2	39.6
428.8	-12.8	< 30.0	< 17.2	39.6
490.0	-12.8	< 30.0	< 17.2	39.6
551.3	-12.7	< 30.0	< 17.3	39.6
612.5	-12.6	< 30.0	< 17.4	39.6
673.8	-12.4	< 30.0	< 17.6	39.6
735.0	-12.2	< 30.0	< 17.8	39.6
796.3	-12.0	< 30.0	< 18.0	39.6
857.5	-12.1	< 30.0	< 17.9	39.6
918.8	-12.4	< 30.0	< 17.6	39.6
980.0	-12.6	< 30.0	< 17.4	39.6

- Notes:
- 1) The spectrum was checked from 30 MHz to 1000 MHz.
 - 2) Spectrum Analyzer ; SPAN : 10 MHz, RES BW : 100 kHz, VBW : 300 kHz, SWP : 20 msec
 - 3) Impedance at the RF output terminal : 75 ohms (Unbalanced)
 - 4) The symbol of '<' means 'or less'.
 - 5) Correction Factor includes a gain of preamplifier, a matching pad loss and an attenuation pad loss.
 - 6) A sample calculation was made at 122.6 MHz.
Correction Factor + Meter Reading = -13.1 + 38.2 = 25.1 dB/uV

Model No. : VC-H818U
Serial No. : 910000001

§15.115(b)(2)(ii) Spurious Conducted Level Measurement

Testing Signal Sources : RF Modulation Sources (NTSC Colorbar : 70 dB/uV at 193.25 MHz)
Operating Condition : Recording Mode



Model No. : VC-H818U
Serial No. : 910000001

§15.115(b)(2)(ii) Spurious Conducted Level Measurement

Testing Signal Sources : RF Modulation Sources (NTSC Colorbar : 70 dB/uV at 193.25 MHz)
Operating Condition : Recording Mode

RF Output Channel : No.4

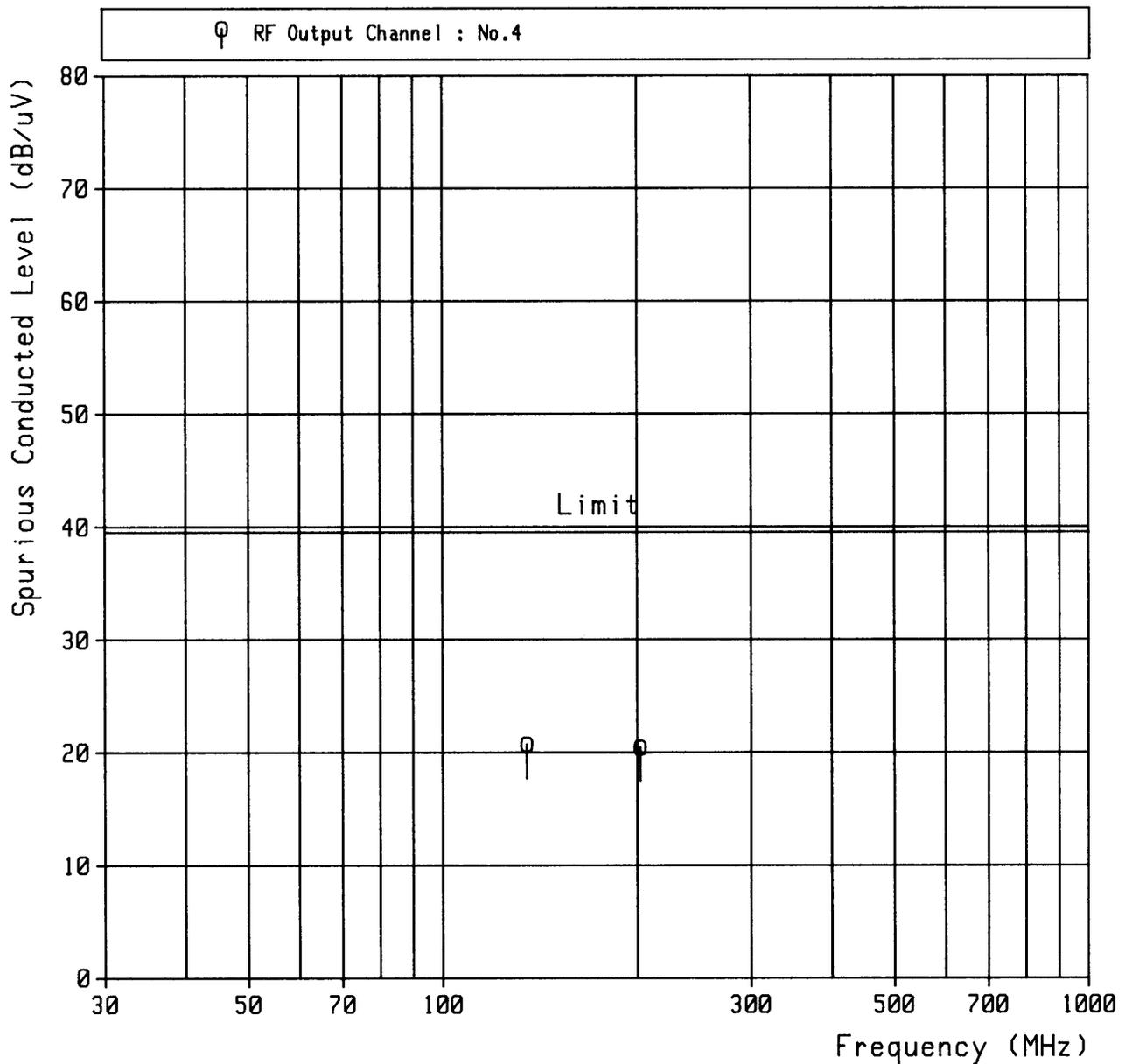
Frequency (MHz)	Correction Factor (dB)	Meter Reading (dB/uV)	Result (dB/uV)	Limit (dB/uV)
30.0	-13.2	< 30.0	< 16.8	39.6
40.0	-13.2	< 30.0	< 16.8	39.6
50.0	-13.2	< 30.0	< 16.8	39.6
62.7	-13.2	< 30.0	< 16.8	39.6
74.7	-13.2	< 30.0	< 16.8	39.6
80.0	-13.2	< 30.0	< 16.8	39.6
100.0	-13.2	< 30.0	< 16.8	39.6
134.5	-13.1	33.9	20.8	39.6
201.8	-13.0	33.5	20.5	39.6
269.0	-12.9	< 30.0	< 17.1	39.6
336.3	-12.9	< 30.0	< 17.1	39.6
403.5	-12.8	< 30.0	< 17.2	39.6
470.8	-12.8	< 30.0	< 17.2	39.6
538.0	-12.7	< 30.0	< 17.3	39.6
605.3	-12.7	< 30.0	< 17.3	39.6
672.5	-12.4	< 30.0	< 17.6	39.6
739.8	-12.2	< 30.0	< 17.8	39.6
807.0	-11.9	< 30.0	< 18.1	39.6
874.3	-12.2	< 30.0	< 17.8	39.6
941.5	-12.5	< 30.0	< 17.5	39.6

- Notes:
- 1) The spectrum was checked from 30 MHz to 1000 MHz.
 - 2) Spectrum Analyzer ; SPAN : 10 MHz, RES BW : 100 kHz, VBW : 300 kHz, SWP : 20 msec
 - 3) Impedance at the RF output terminal : 75 ohms (Unbalanced)
 - 4) The symbol of '<' means 'or less'.
 - 5) Correction Factor includes a gain of preamplifier, a matching pad loss and an attenuation pad loss.
 - 6) A sample calculation was made at 134.5 MHz.
Correction Factor + Meter Reading = -13.1 + 33.9 = 20.8 dB/uV

Model No. : VC-H818U
Serial No. : 910000001

§15.115(b)(2)(ii) Spurious Conducted Level Measurement

Testing Signal Sources : RF Modulation Sources (NTSC Colorbar : 70 dB/uV at 193.25 MHz)
Operating Condition : Recording Mode



Model No. : VC-H818U
Serial No. : 910000001

Date : November 18, 1999
Temp. : 24 °C; Humi. : 42 %

12. §15.115(c)(1)(ii) Antenna Transfer Switch Measurement

Tested by : _____

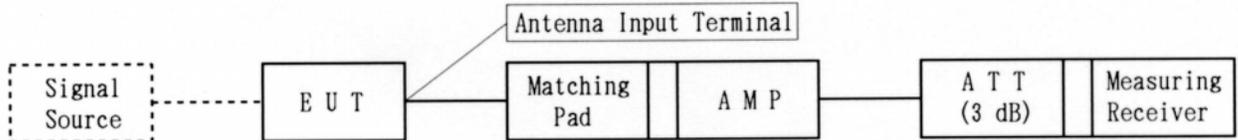


Takashi Aoki, Deputy Manager
Testing Division
EMC Engineering Department

Model No. : VC-H818U
 Serial No. : 910000001

§15.115(c)(1)(ii) Antenna Transfer Switch Measurement

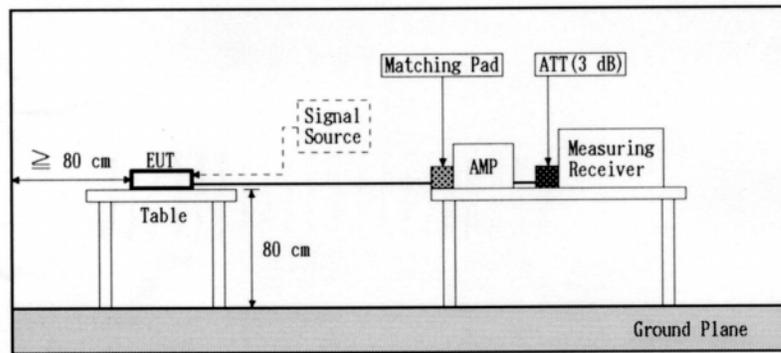
Block Diagram



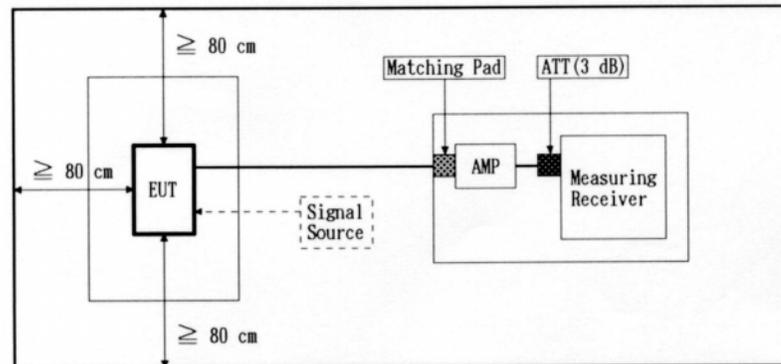
Note: RF output terminal of EUT was connected to the cable terminated with the specified impedances.

Configuration of EUT

Side View



Top View



Note: The same configuration of cables and terminators which were connected to VCR was applied to all applicable measurements, shown as photograph in page 19 and 20.

Model No. : VC-H818U
Serial No. : 910000001

§15.115(c)(1)(ii) Antenna Transfer Switch Measurement

Testing Signal Sources : Internal Modulation Sources (NTSC TV Signal Recording Tape)
Operating Condition : Playing Mode

RF Output Channel	Frequency (MHz)	Correction Factor (dB)	Meter Reading (dB/uV)	Result (dB/uV)	Limit (dB/uV)
3	61.25	-16.2	20.8	4.6	9.5
4	67.25	-16.2	15.3	-0.9	9.5

Testing Signal Sources : Video Modulation Sources (VITS : 1 Vp-p and 5 Vp-p)
Operating Condition : Recording Mode

RF Output Channel	Frequency (MHz)	Correction Factor (dB)	Meter Reading (dB/uV)	Result (dB/uV)	Limit (dB/uV)
3	61.25	-16.2	21.0	4.8	9.5
4	67.25	-16.2	15.2	-1.0	9.5

Testing Signal Sources : RF Modulation Sources (NTSC Colorbar : 70 dB/uV at 193.25 MHz)
Operating Condition : Recording Mode

RF Output Channel	Frequency (MHz)	Correction Factor (dB)	Meter Reading (dB/uV)	Result (dB/uV)	Limit (dB/uV)
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Not Applicable

- Notes:
- 1) Spectrum Analyzer ; SPAN : 1 MHz, RES BW : 10kHz, VBW : 10kHz, SWP : 30 msec
 - 2) Impedance at the Antenna input terminal : 75 ohms (Unbalanced)
 - 3) Correction Factor includes a gain of preamplifier, a matching pad loss and an attenuation pad loss.
 - 4) A sample calculation was made at 61.25 MHz.
Correction Factor + Meter Reading = -16.2 + 21.0 = 4.8 dB/uV

Model No. : VC-H818U
 Serial No. : 910000001

13. Test Equipment Used

Equipment	Manufacturer	Model No. [Serial No.]	Last Cal. [Cal. Interval]
Measuring Receiver	Rohde & Schwarz	ESH 3 [872994/035]	May, 1999 [1 year]
Measuring Receiver	Rohde & Schwarz	ESVP [881487/004]	May, 1999 [1 year]
Spectrum Analyzer	Hewlett Packard	8566B [2140A01091]	April, 1999 [1 year]
Line Impedance Stabilized Network	Kyoritsu Electrical Works	KNW-407 [8-1130-6]	April, 1999 [1 year]
Dipole Antenna	Kyoritsu Electrical Works	KBA-511 [0-170-1]	November, 1999 [1 year]
Dipole Antenna	Kyoritsu Electrical Works	KBA-611 [0-147-14]	November, 1999 [1 year]
Preamplifier	Hewlett Packard	8447D [1937A02168]	July, 1999 [1 year]
Vertical Internal Test Signal Generator (VITS)	Anritsu	MG318A [M08128]	June, 1999 [1 year]
Color TV Pattern Generator	Philips Consumer Electronics	PM 5418 TNS1 [LO 609096]	June, 1999 [1 year]
Matching Pad	Wiltron	12N50/75B [90400]	June, 1999 [1 year]
6 dB Attenuation Pad	Weinschel	1 [AD8054]	June, 1999 [1 year]
3 dB Attenuation Pad	Weinschel	1 [AD9615]	June, 1999 [1 year]