

EMI TEST REPORT

Test Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.

Type of equipment : DVD/ VCR

Model number : HR-XVC25U

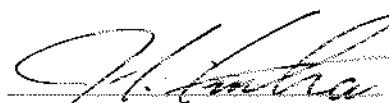
Test standard : FCC Part 15 Subpart B

Test result : Complied

1. This test report shall not be reproduced except in full or partial, without the written approval of A-Pex International Co., Ltd.
2. The results in this report apply only to the sample tested.
3. This equipment is in compliance with above regulation. We hereby certify that the data contain a true representation of the EMC profile.
4. The test results in this test report are traceable to the national or international standards.
5. This test report does not constitute an endorsement by NIST/NVLAP or U.S. Government.

Date of test : March 6 to 11, 2003

Tested by:

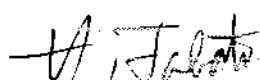


Hisayuki Kioka
Group Leader of EMC Secton



Sadahiko Tanaka

Approved by:



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Section 1 : Client information

Company name : Orion Electric Co., Ltd.
Brand Name : JVC
Address : 41-1 Iehisa-cho, Takefu-shi, Fukui-ken, 915-8555 JAPAN
Telephone number : +81 778 23 0019
Facsimile number : +81 778 23 7799
Contact person : Hiroshi Tsujimoto

Section 2 : Equipment under test (E.U.T.)

2.1 Identification of E.U.T.

Type of equipment : DVD/ VCR
Model number : HR-XVC25U
Rating : AC 120 V / 60 Hz
Manufacturer :
1. World Electric (Thailand) Ltd.
236 Moo 2 Nongcharak, Banbung, Chonburi 20170, Thailand
2. Korat Denki Ltd.
149 Moo 10 Tambol Chokchai, Amphur Chokchai, Nakhonratchasima
30190, Thailand
228 Moo 3 Tambol Nongbuasala, Amphur Muang, Nakhonratchasima
30000, Thailand
3. Orion America, Inc.
Hwy 41 North, Orion Place, Princeton, Indiana 47670, U.S.A
Receipt Date of Sample : March 6, 2003
Condition of EUT : Production Prototype

2.2 Product description

Model: HR-XVC25U (referred to as the EUT in this report) is a DVD/ VCR.

The EUT specifications is as follows.

Tuner type : Quartz PLL frequency synthesized
I / F : 45.75 MHz (Picture), 41.25 MHz (Sound)
Receiving channel : VHF 2 – 13 ch / UHF 14 – 69 ch / CATV 1 – 125 ch
Antenna input : 75 ohm
Video signal : NTSC color
Power source : AC 120 V / 60 Hz, 18W
I / O terminal (Video) : RCA in 1Vp-p 75 ohm, RCA out 1 Vp-p 75 ohm
I / O terminal (Audio) : RCA in -8 dB 47 k ohm, RCA out -8 dB 1 k ohm

2.3 Similar apparatus

There is no similar apparatus.

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Section 3 : Test specification, procedures and results

3.1 Test specification

Test specification : FCC Part 15 Subpart B

Title : FCC 47 CFR Part 15 Radio Frequency Device
Subpart B Unintentional Radiators

3.2 Procedures & results

Item	Test procedure	Limits	Worst margin	Result
Conducted emission	ANSI C63.4:1992 IEEE 213:1987	250 uV	15.8 dB (28.6341 MHz)	Complied
Radiated emission	ANSI C63.4:1992 IEEE 187:1990	30–88 MHz: 100 uV/m 88–216 MHz: 150 uV/m 216–960 MHz: 200 uV/m above 960 MHz: 500 uV/m	4.7 dB (189.00 MHz)	Complied
Antenna terminal voltage	ANSI C63.4:1992	2 nW (at 75 ohm)	20.0 dB (1509.50000MHz)	Complied
RF output level	ANSI C63.4:1992	Video signal: 3000 uV Aural signal: 671 uV	3.2 dB (67.25 MHz)	Complied
Spurious emission		94.8 uV	10.3 dB (809.800 MHz)	Complied
Transfer switch	ANSI C63.4:1992	9.5 dB	4.2 dB (809.800 MHz)	Complied
Picture sensitivity	ANSI C63.4:1992	8 dB	4.7 dB	Complied
Noise figure	FCC/OET MP:2:1986	14 dB	8.2 dB (133.25 MHz)	Complied

3.3 Additions or deviations to standard

No addition, deviation or exclusion has been made from standards.

3.4 Confirmation

A-Pex International Co., Ltd. hereby confirms that E.U.T., in the configuration tests, complies with the specifications FCC Part15 Subpart B.

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3.5 Uncertainty

Conducted emission (450 kHz – 30 MHz)

The measurement uncertainty (with a 95% confidence level) for this test was ± 1.74 dB.

The data listed in this test report has enough margin, more than site margin.

Radiated emission

The measurement uncertainty (with a 95% confidence level) for this test using Biconical antenna is ± 4.4 dB.

The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is ± 4.8 dB.

The measurement uncertainty (with a 95% confidence level) for this test using Horn antenna is ± 5.8 dB.

The data listed in this test report has enough margin, more than site margin.

Antenna terminal voltage

The measurement uncertainty (with a 95% confidence level) for this test was ± 3.48 dB.

The data listed in this test report has enough margin, more than site margin.

RF output level test / spurious emission test

The measurement uncertainty (with a 95% confidence level) for this test was ± 3.48 dB.

The data listed in this test report may exceed the test limit because it does not have enough margin.

Antenna transfer switch

The measurement uncertainty (with a 95% confidence level) for this test was ± 3.48 dB.

The data listed in this test report has enough margin, more than site margin.

Picture sensitivity test

The measurement uncertainty (with a 95% confidence level) for this test was ± 1.0 dB.

The data listed in this test report has enough margin, more than site margin.

Noise Figure Test

The measurement uncertainty (with a 95% confidence level) for this test was ± 1.2 dB.

The data listed in this test report has enough margin, more than site margin.

3.7 Test location

A-Pex International Co., Ltd. Yokowa Lab. No.2 and No.3 Test site

108 Yokowa-cho, Ise-shi, Mie-ken, 516-1106 JAPAN

TEL : +81 596 39 1485

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No.2 Test site

This site has been fully described in a report submitted to FCC office, and listed on October 26, 2000.

(Registration number: 90411)

No.3 Test site

This site has been fully described in a report submitted to FCC office, and listed on September 12, 2000.

(Registration number: 90412)

*NVLAP Lab. Code : 200109-0

3.8 Test setup, Data of EMI & Test instruments

Please refer to Appendix 1 to 3.

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Section 4 : Operation of E.U.T. during tests

4.1 Operating modes

The EUT exercise program used during testing was designed to exercise the various system components in a manner similar to typical use.

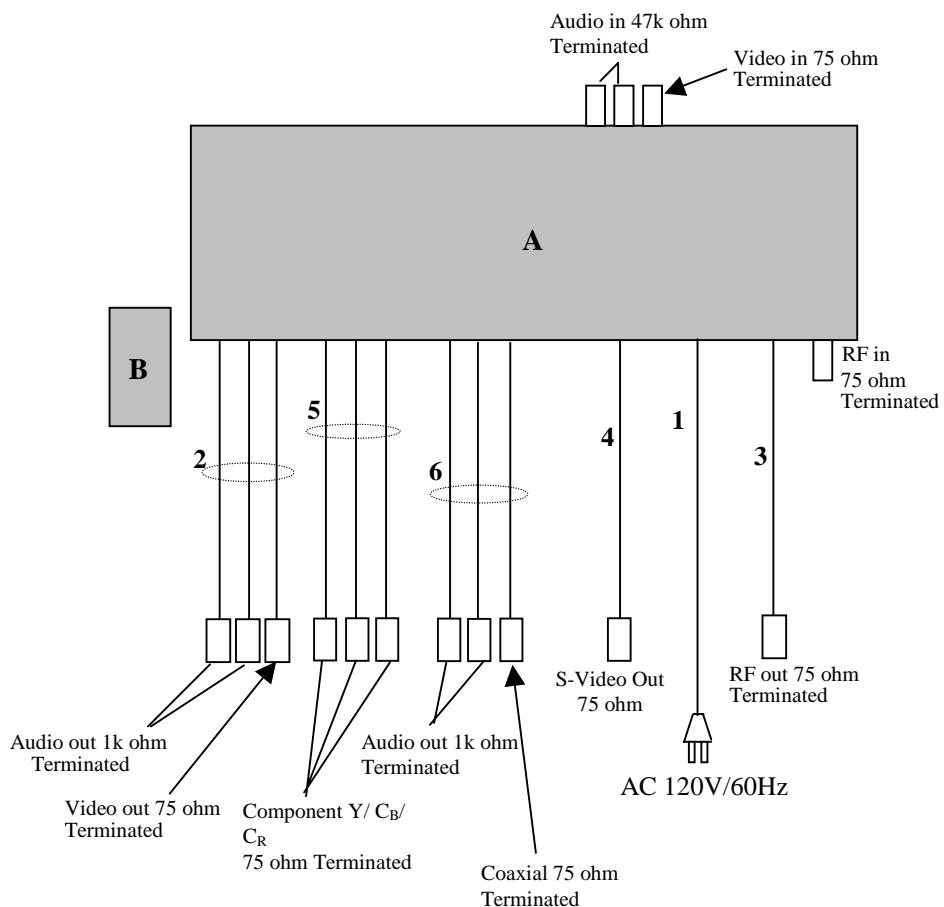
The sequence in used :
* TV reception + Rec. mode (0 dBmV input / 25 dBmV input)
* AV input + Rec. mode (1 Vp-p input / 5 Vp-p input)
* VCR playback mode
* DVD playback mode

Operation : The EUT was tested at above operation mode.

(Using a video tape with a typical TV signal recorded on it, if necessary.)

Justification : The system was configured in typical fashion (as a customer would normally use it) for testing.

4.2 Configuration and peripherals



* Cabling was taken into consideration and test data was taken under worse case conditions.

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Description of EUT and support equipment

Sign	Item	Model number	Serial number	Manufacturer	Remark
A	DVD/ VCR	HR-XVC25U	–	Orion Electric Co., Ltd.	EUT
B	Remote Controller	–	–	Orion Electric Co., Ltd.	EUT

List of cable used

No.	Item	Length (m)	Shield	Backshell material
1	AC Power Cable	1.6	N	Polyvinyl chloride
2	AV Cable	1.5	Y	Polyvinyl chloride
3	RF Output Cable	1.0	Y	Polyvinyl chloride
4	S-Video Output Cable	1.5	Y	Polyvinyl chloride
5	Component Cable	1.5	Y	Polyvinyl chloride
6	AV Cable	1.5	Y	Polyvinyl chloride

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Section 5 : Conducted emission

5.1 Operation environment

The test was carried out in a shielded room the size of 4.5 x 3.6 x 2.7m.

Date : March 11, 2003

Temperature : See data

Humidity : See data

5.2 Test configuration

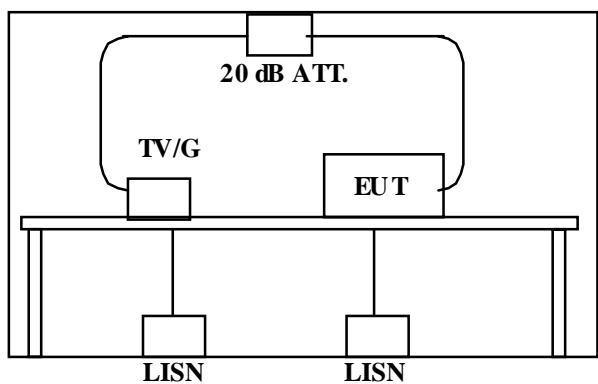
EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The rear of tabletop was located 40 cm to the vertical conducting plane. The rear of EUT was aligned and flushed with rear of tabletop. All other surfaces of tabletop was at least 80 cm from any other grounded conducting surface. I/O cables and AC cable were bundled in center. I/O cables were hanged at a 40cm height to the ground plane. Each EUT current-carrying power lead, except the ground (safety) lead, were individually connected through a LISN to the input power source. All unused 50 ohm connectors of the LISN were resistively terminated in 50 ohm when not connected to the measuring equipment.

A drawing of the set up is shown in figure 1 and photographs in Appendix 1.

Figure 1. Conducted emission

TV reception + Rec. mode (0 dBmV input / 25 dBmV input)

Screened room



RF in: TV signal generator connected
Front video in: 75 ohm terminated
Front audio in: 47 k ohm terminated
Rear video out: 75 ohm terminated with video cable
Rear audio out: 1 k ohm terminated with audio cable
S-Video out: 75 ohm terminated with S-Video cable
Component out (Y/C_B/C_R): 75 ohm terminated with component cable
RF output: 75 ohm terminated with RF output cable
Rear coaxial: 75 ohm terminated with video cable

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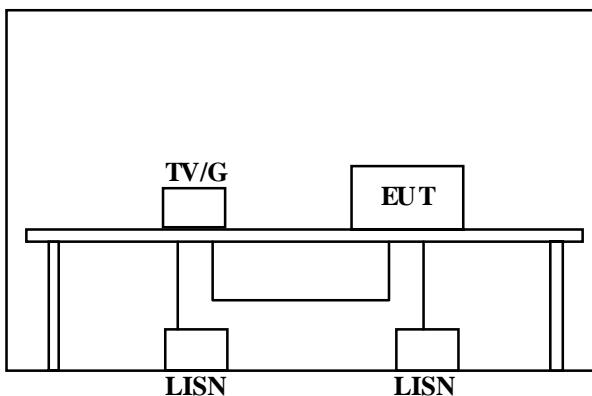
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AV input + Rec. mode (1 Vp-p input / 5 Vp-p input)

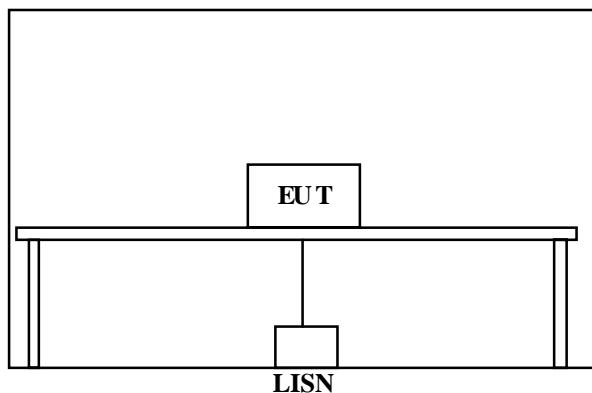
Screened room



RF in: 75 ohm terminated
Front video in: Video signal generator connected
Front audio in: 47 k ohm terminated
Rear video out: 75 ohm terminated with video cable
Rear audio out: 1 k ohm terminated with audio cable
S-Video out: 75 ohm terminated with S-Video cable
Component out (Y/C_B/C_R): 75 ohm terminated with component cable
RF output: 75 ohm terminated with RF output cable
Rear coaxial: 75 ohm terminated with video cable

VCR playback mode

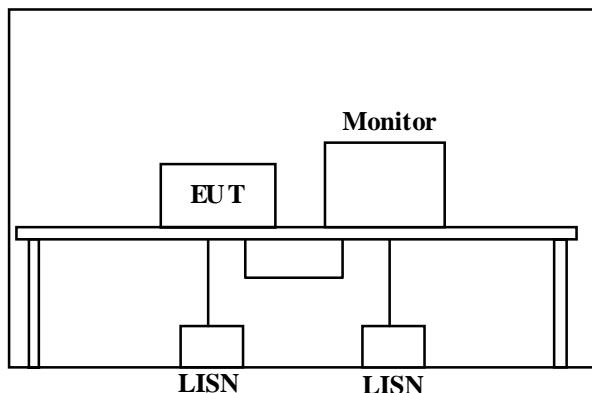
Screened room



RF in: 75 ohm terminated
Front video in: 75 ohm terminated
Front audio in: 47 k ohm terminated
Rear video out: 75 ohm terminated with video cable
Rear audio out: 1 k ohm terminated with audio cable
S-Video out: 75 ohm terminated with S-Video cable
Component out (Y/C_B/C_R): 75 ohm terminated with component cable
RF output: 75 ohm terminated with RF output cable
Rear coaxial: 75 ohm terminated with video cable

DVD play mode

Screened room



RF in: 75 ohm terminated
Front video in: 75 ohm terminated
Front audio in: 47 k ohm terminated
Rear video out: 75 ohm terminated with video cable
Rear audio out: 1 k ohm terminated with audio cable
S-Video out: 75 ohm terminated with S-Video cable
Component out (Y/C_B/C_R): 75 ohm terminated with component cable
RF output: 75 ohm terminated with RF output cable
Rear coaxial: 75 ohm terminated with video cable

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5.3 Test conditions

Frequency range : 0.45 MHz – 30 MHz
EUT position : Table top
EUT operation mode: TV reception + Rec., AV input + Rec., VCR playback, DVD playback

5.4 Test procedure

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT within a shielded room. The EUT was connected to a Line Impedance Stabilization Network (LISN). An overview sweep with peak detection has been performed. The measurements have been performed with a quasi-peak detector and if required, with an average detector.

EUT and desired signal generator should connect through 20 dB attenuator.

The conducted emission measurements were made with the following detector function of the test receiver.

Detector Type : QP
IF Bandwidth : 10 kHz

5.5 Test result

Passed

Please refer to summary of the test results in Appendix 2.

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Section 6 : Radiated emission

6.1 Operation environment

The test was carried out in an open site.

Date : March 6 and 7, 2003

Temperature : See data

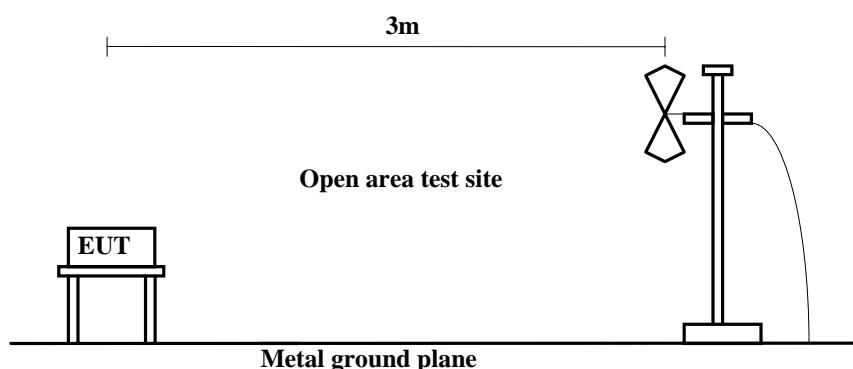
Humidity : See data

6.2 Test configuration

EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The rear of EUT was aligned and flushed with rear of tabletop. AC cable was bundled in center. I/O cables were hanged 40 cm height to the ground plane. Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna was varied in height above the conducting ground plane to obtain the maximum signal strength.

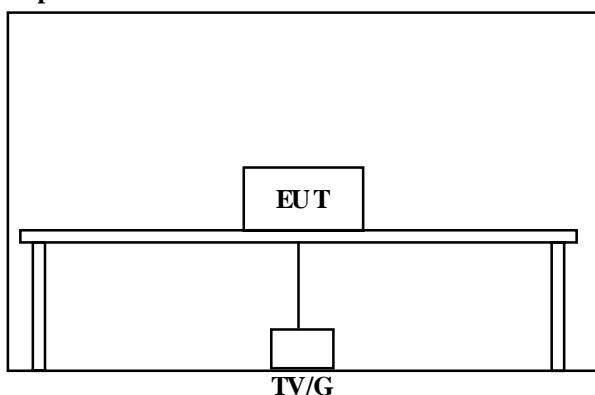
A drawing of the set up is shown in figure 2 and photographs in Appendix 1.

Figure 2. Radiated emission



TV reception + Rec. mode (0 dBmV / 25 dBmV)

Open test site



RF in: TV signal generator connected
Front video in: 75 ohm terminated
Front audio in: 47 k ohm terminated
Rear video out: 75 ohm terminated with video cable
Rear audio out: 1 k ohm terminated with audio cable
S-Video out: 75 ohm terminated with S-Video cable
Component out (Y/C_B/C_R): 75 ohm terminated with component cable
RF output: 75 ohm terminated with RF output cable
Rear coaxial: 75 ohm terminated with video cable

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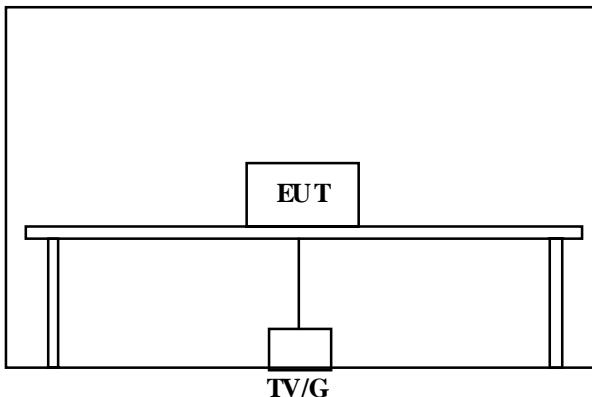
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AV input + Rec. mode (1 Vp-p input / 5 Vp-p input)

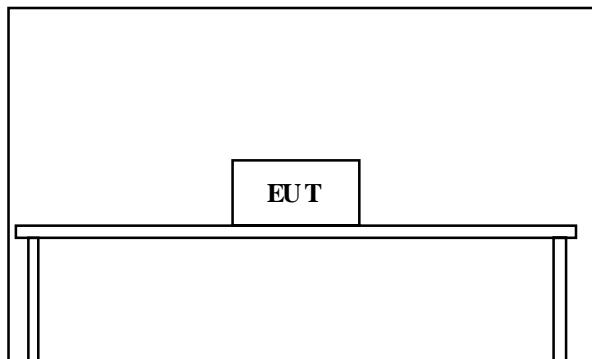
Open test site



RF in: 75 ohm terminated
Front video in: Video signal generator connected
Front audio in: 47 k ohm terminated
Rear video out: 75 ohm terminated with video cable
Rear audio out: 1 k ohm terminated with audio cable
S-Video out: 75 ohm terminated with S-Video cable
Component out (Y/C_B/C_R): 75 ohm terminated with component cable
RF output: 75 ohm terminated with RF output cable
Rear coaxial: 75 ohm terminated with video cable

VCR playback mode

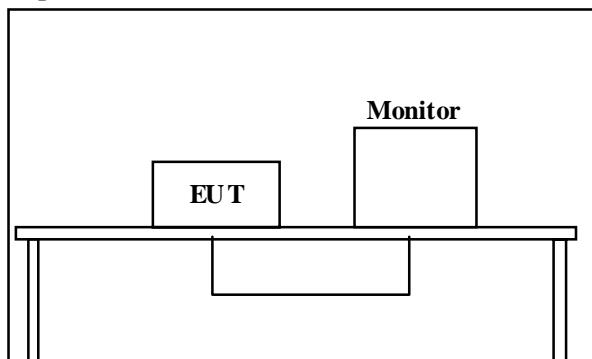
Open test site



RF in: 75 ohm terminated
Front video in: 75 ohm terminated
Front audio in: 47 k ohm terminated
Rear video out: 75 ohm terminated with video cable
Rear audio out: 1 k ohm terminated with audio cable
S-Video out: 75 ohm terminated with S-Video cable
Component out (Y/C_B/C_R): 75 ohm terminated with component cable
RF output: 75 ohm terminated with RF output cable
Rear coaxial: 75 ohm terminated with video cable

DVD play mode

Open test site



RF in: 75 ohm terminated
Front video in: 75 ohm terminated
Front audio in: 47 k ohm terminated
Rear video out: 75 ohm terminated with video cable
Rear audio out: 1 k ohm terminated with audio cable
S-Video out: 75 ohm terminated with S-Video cable
Component out (Y/C_B/C_R): 75 ohm terminated with component cable
RF output: 75 ohm terminated with RF output cable
Rear coaxial: 75 ohm terminated with video cable

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6.3 Test conditions

Frequency range : 30 MHz – 2000 MHz
Test distance : 3 m
EUT position : Table top
EUT operation mode: TV reception + Rec., AV input + Rec., VCR playback, DVD playback

6.4 Test procedure

The Radiated Electric Field Strength intensity has been measured on an open test site with a ground plane and at a distance of 3 m.

Pre check measurements were performed within a search coil at high level of 80MHz – 90MHz, 270MHz – 290MHz and 500MHz – 700MHz in a shielded room to distinguish disturbances of EUT from the ambient noise. Measurements were performed with quasi-peak detector and average detector.

The measuring antenna height was varied between 1 and 4 m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity. The measurements were performed for both vertical and horizontal antenna polarization.

The radiated emission measurements were made with the following detector function of the test receiver and spectrum analyzer.

	<u>30-1000MHz (Test receiver)</u>	<u>1000-2000MHz (Spectrum analyzer)</u>
Detector Type	: QP	AV
IF Bandwidth	: 120 kHz	RBW 1 MHz / VBW 10Hz

6.5 Test result

Passed

Please refer to summary of the test results in Appendix 2.

Test engineer: Hisayuki Kioka

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Section 7 : Antenna terminal voltage

7.1 Operation environment

The test was carried out in a shielded room the size of 4.5 x 3.6 x 2.7 m.

Date : March 10, 2003

Temperature : See data

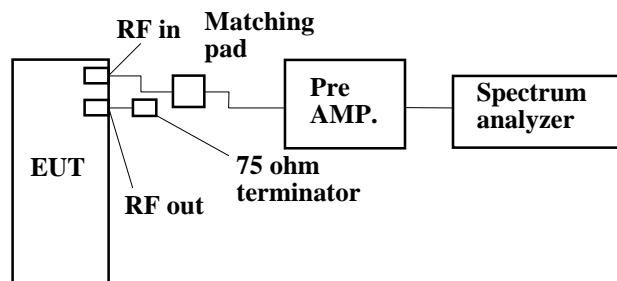
Humidity : See data

7.2 Test configuration

The EUT was placed on a non-metallic platform 0.8 m above a reference ground plane.

A drawing of the set up is shown in figure 3 and photographs in Appendix 1.

Figure 3. Antenna terminal voltage



7.3 Test conditions

Frequency range : 30 MHz – 2000 MHz

EUT position : Table top

EUT operation mode: Tuning (TV receiver / CATV receiver)

7.4 Test procedure

Connect EUT and spectrum analyzer through pre-amplifier. Set EUT to CH investigation mode then measure the voltage of local leakage from antenna terminal. Spectrum analyzer should be hold in maximum mode during the measurement.

Detector Type : Peak (30-2000 MHz)

7.5 Test result

Passed

Please refer to summary of the test results in Appendix 2.

Test engineer: Sadahiko Tanaka

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Section 8 : RF output level / spurious emission

8.1 Operation environment

The test was carried out in a shielded room the size of 4.5 x 3.6 x 2.7 m.

Date : March 10, 2003

Temperature : 21 °C

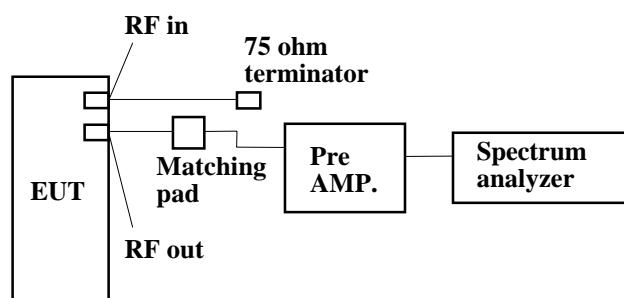
Humidity : 43 %

8.2 Test configuration

The EUT was placed on a non-metallic platform 0.8 m above a reference ground plane.

A drawing of the set up is shown in figure 4 and photographs in Appendix 1.

Figure 4. RF output level



8.3 Test conditions

EUT position : Table top

EUT operation mode: TV reception + Rec., AV input + Rec., VCR playback, DVD playback

8.4 Test procedure

EUT was connected spectrum analyzer through matching pad by accessory cable. RF channel selected 3ch or 4ch. Picture carrier, sound carrier and spurious levels are measured. Both sound carrier levels (upper and lower side bands) of modulator output are measured.

Detector Type : Peak

8.5 Test result

Passed

Please refer to summary of the test results in Appendix 2.

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Section 9 : Antenna transfer switch

9.1 Operation environment

The test was carried out in a shielded room the size of 4.5 x 3.6 x 2.7 m.

Date : March 10, 2003

Temperature : 21 °C

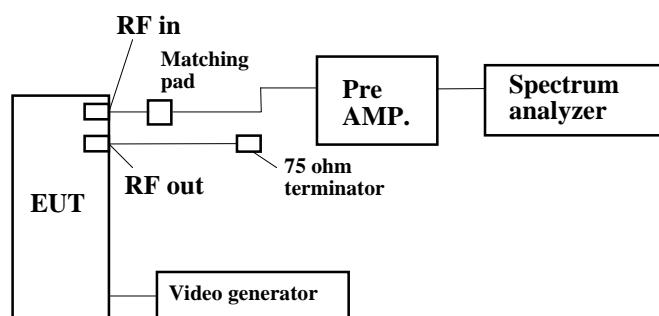
Humidity : 43 %

9.2 Test configuration

The EUT was placed on a non-metallic platform 0.8 m above a reference ground plane.

A drawing of the set up is shown in figure 5 and photographs in Appendix 1.

Figure 5. Transfer switch



9.3 Test conditions

EUT position : Table top

EUT operation mode: AV input + Rec., VCR playback, DVD playback

9.4 Test procedure

EUT was connected spectrum analyzer through matching pad by accessory cable. RF channel selected 3ch or 4ch. The EUT exercised AV input + Rec. mode and Playback mode during the test, and interference signals were measured from RF input terminal.

Detector Type : Peak

9.5 Test result

Passed

Please refer to summary of the test results in Appendix 2.

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Section 10 : Picture sensitivity

10.1 Operation environment

The test was carried out in a shielded room the size of 4.5 x 3.6 x 2.7 m.

Date : March 11, 2003

Temperature : See data

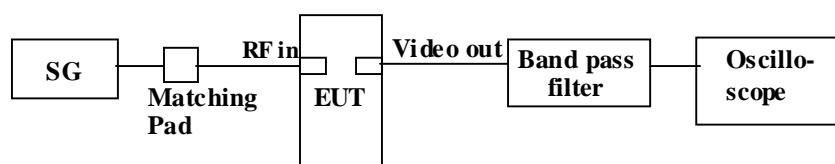
Humidity : See data

10.2 Test configuration

The EUT was placed on a non-metallic platform 0.8 m above a reference ground plane.

A drawing of the set up is shown in figure 6 and photographs in Appendix 1.

Figure 6. Picture sensitivity



10.3 Test conditions

EUT position : Table top

EUT operation mode: TV reception

10.4 Test procedure

Signal generator setup is as follows, (Example: 2ch – 55.25 MHz, AM, 1 kHz, 30 %)

The EUT was tuned to appropriate channel.

Output level of signal generator was adjusted to near the frequency output level of EUT output.

EUT output level was adjusted to maximum output level by frequency adjustment of signal generator.

Signal generator output level was adjusted to reference output level of EUT and output level had read.

10.5 Test result

Passed

Please refer to summary of the test results in Appendix 2.

Test engineer: Sadahiko Tanaka

A-Pex International Co., Ltd.

YOKOWA LAB.

108 Yokowa-cho, Ise-shi, Mie-ken 516-1106 JAPAN

Telephone: +81 596 39 1485

Facsimile: +81 596 39 0232

MF060b(24.04.02)

Section 11 : Noise figure

11.1 Operating environment

The test was carried out in a shielded room the size of 4.5 x 3.6 x 2.7 m.

Date : March 11, 2003

Temperature : See data

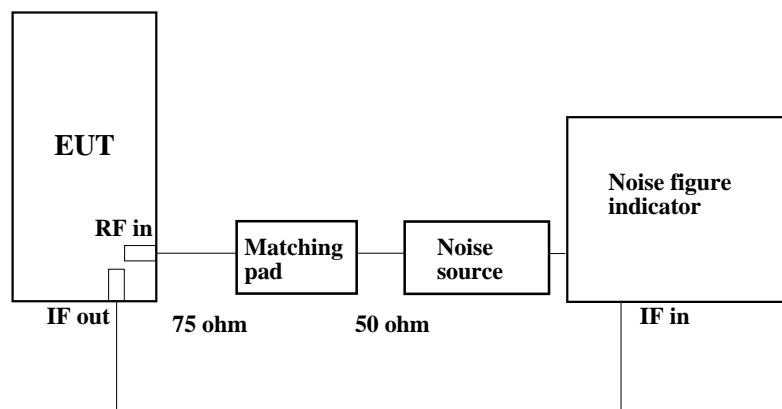
Humidity : See data

11.2 Test configuration

The EUT was placed on a non-metallic table.

A drawing of the set up is shown in figure 7 and photographs in Appendix 1.

Figure 7. Noise figure



11.3 Test condition

EUT position : Table top

EUT operation mode: TV reception

11.4 Test procedure

This test should be performed in a shielded room or a low noise environment. Connect solid state noise source to antenna input terminal of EUT. Connect IF output terminal of EUT to noise meter through ceramic condenser. Measurement has been performed for VHF,UHF, Mid-band and Super-band receiver range.

11.5 Test result

Passed

Please refer to summary of the test results in Appendix 2.

Test engineer: Sadahiko Tanaka

A-Pex International Co., Ltd.

YOKOWA LAB.

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Facsimile: +81 596 39 0232

MF060b(24.04.02)

Appendix 1 : Photographs of test set up

Page 20 : Test set up of conducted emission
Page 21 : Test set up of radiated emission
Page 22 : Test set up of antenna terminal voltage
Page 23 : Test set up of RF output level / spurious emission
Page 24 : Test set up of antenna transfer switch
Page 25 : Test set up of picture sensitivity
Page 26 : Test set up of noise figure

Appendix 2 : Data of EMI tests

Page 27 - 44 : Conducted emission
Page 45 - 63 : Radiated emission
Page 64 - 65 : Antenna terminal voltage
Page 66 - 83 : RF output level / spurious emission
Page 84 - 91 : Antenna transfer switch
Page 92 : Picture sensitivity
Page 93 : Noise figure

Appendix 3 : Test instruments

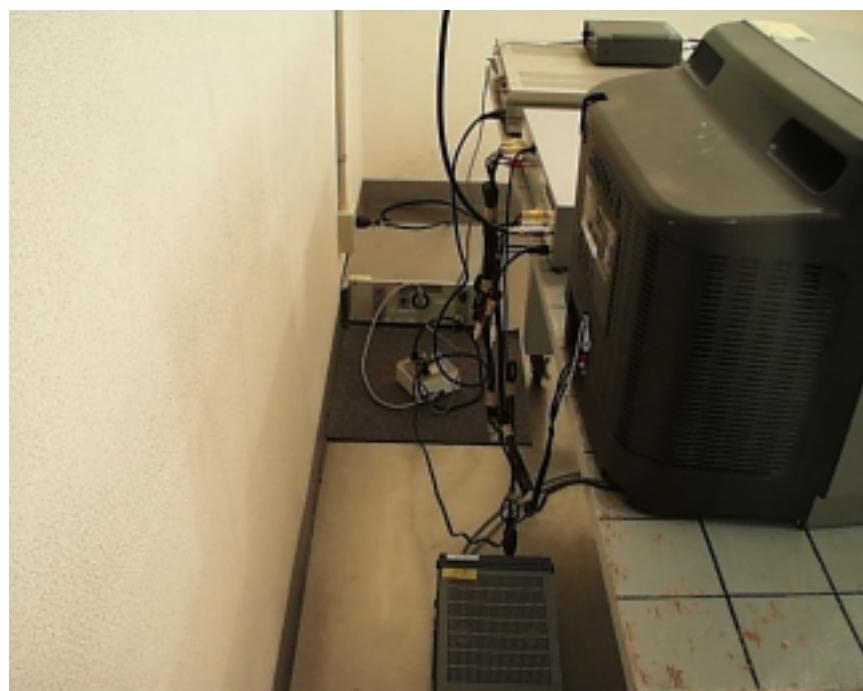
Page 94 : Test instruments

**A-Pex International Co., Ltd.
YOKOWA LAB.**

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Telephone: +81 596 39 1485
Facsimile: +81 596 39 0232

MF060b(24.04.02)

Conducted emission

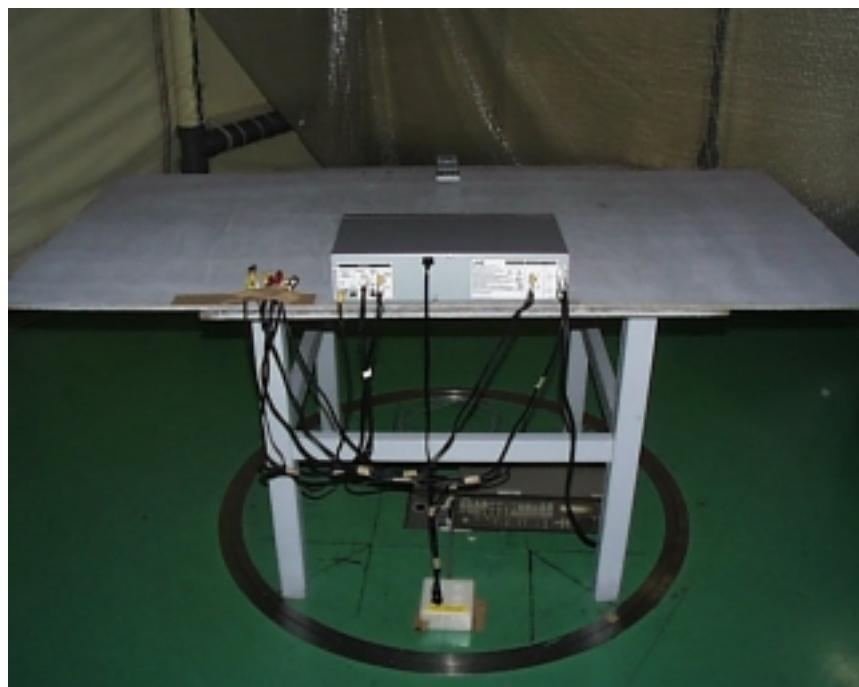
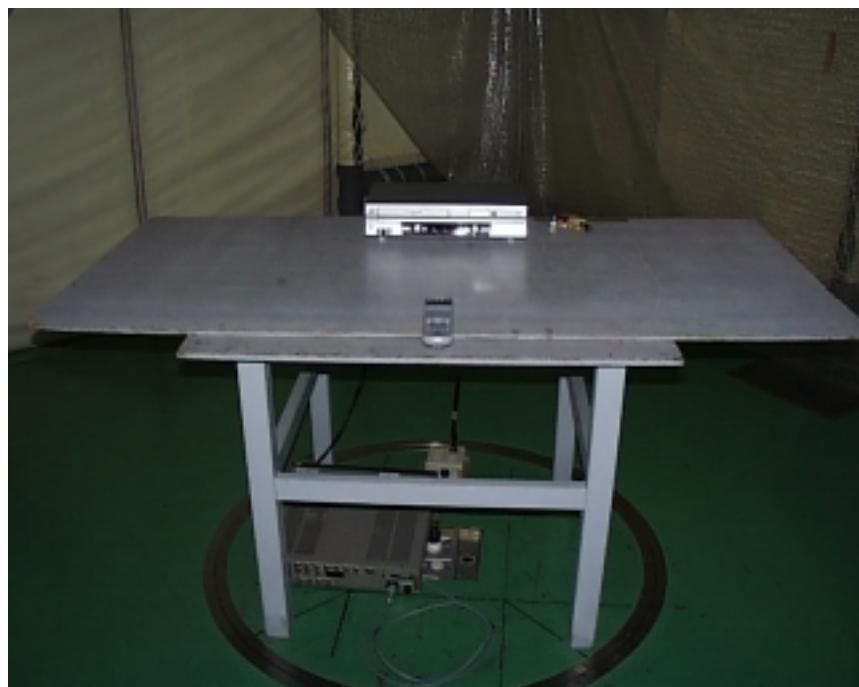


**A-Pex International Co., Ltd.
YOKOWA LAB.**

108 Yokowa-cho, Ise-shi, Mie-ken 516-1106 JAPAN
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Facsimile: +81 596 39 0232

MF060b(24.04.02)

Radiated emission



**A-Pex International Co., Ltd.
YOKOWA LAB.**

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Telephone: +81 596 39 1485
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MF060b(24.04.02)

Antenna terminal voltage



**A-Pex International Co., Ltd.
YOKOWA LAB.**

108 Yokowa-cho, Ise-shi, Mie-ken 516-1106 JAPAN
Telephone: +81 596 39 1485
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MF060b(24.04.02)

RF output level / spurious emission



**A-Pex International Co., Ltd.
YOKOWA LAB.**

108 Yokowa-cho, Ise-shi, Mie-ken 516-1106 JAPAN
Telephone: +81 596 39 1485
Facsimile: +81 596 39 0232

MF060b(24.04.02)

Antenna transfer switch



**A-Pex International Co., Ltd.
YOKOWA LAB.**

108 Yokowa-cho, Ise-shi, Mie-ken 516-1106 JAPAN
Telephone: +81 596 39 1485
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MF060b(24.04.02)

Picture sensitivity

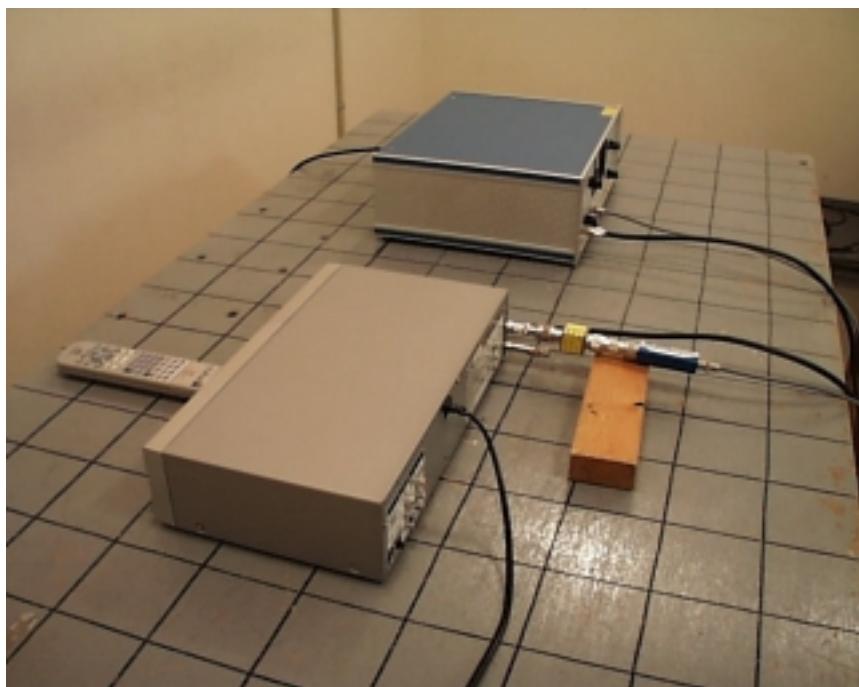


**A-Pex International Co., Ltd.
YOKOWA LAB.**

108 Yokowa-cho, Ise-shi, Mie-ken 516-1106 JAPAN
Telephone: +81 596 39 1485
Facsimile: +81 596 39 0232

MF060b(24.04.02)

Noise figure



**A-Pex International Co., Ltd.
YOKOWA LAB.**

108 Yokowa-cho, Ise-shi, Mie-ken 516-1106 JAPAN
Telephone: +81 596 39 1485
Facsimile: +81 596 39 0232

MF060b(24.04.02)

DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
 Kind of Equipment : DVD Player and VCR
 Model No. : HR-XVC25U
 Serial No. :
 Power : AC120V/60Hz
 Mode : TV Reception + Rec
 Remarks : 0dBmV
 Date : 3/11/2003
 Phase : Single Phase
 Temperature : 20 °C
 Humidity : 41 %
 Regulation : FCC Part15B CLASS B

Engineer : *S. Tanaka* Sadahiko Tanaka

No.	FREQ. [MHz]	READING (N)		READING (L1)		LISN FACTOR	CABLE LOSS	RESULT		LIMITS		MARGIN	
		QP [dBuV]	AV	QP [dBuV]	AV			QP [dBuV]	AV	QP [dBuV]	AV	QP [dBuV]	AV
1.	0.4500	29.6	-	29.7	-	0.1	0.3	0.0	30.1	-	48.0	0.0	17.9
2.	1.0534	30.1	-	27.5	-	0.1	0.4	0.0	30.6	-	48.0	0.0	17.4
3.	2.3725	25.5	-	23.6	-	0.2	0.4	0.0	26.1	-	48.0	0.0	21.9
4.	8.6577	18.8	-	23.5	-	0.3	0.6	0.0	24.4	-	48.0	0.0	23.6
5.	17.4002	29.5	-	29.3	-	0.6	0.8	0.0	30.9	-	48.0	0.0	17.1
6.	24.0002	29.7	-	29.1	-	0.9	0.9	0.0	31.5	-	48.0	0.0	16.5

CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player and VCR
Model No. : HR-XVC25U
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : OdBmV
Date : 3/11/2003
Phase : Single Phase
Temperature : 20 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B

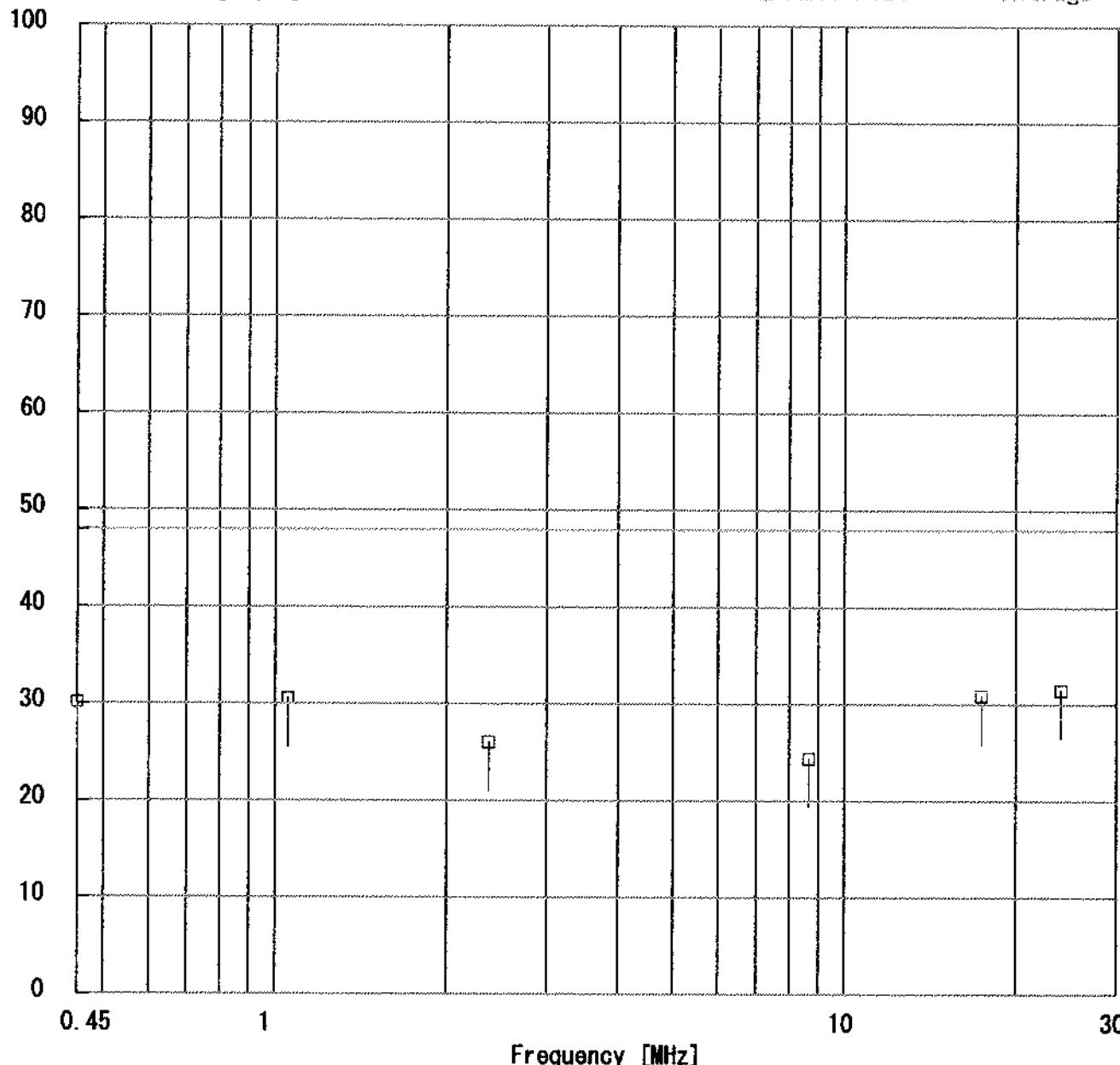
Engineer : Sadahiko Tanaka

S.Tanaka

Emission Level [dB μ V]

Peak

Average



DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23HE0021-YW-1

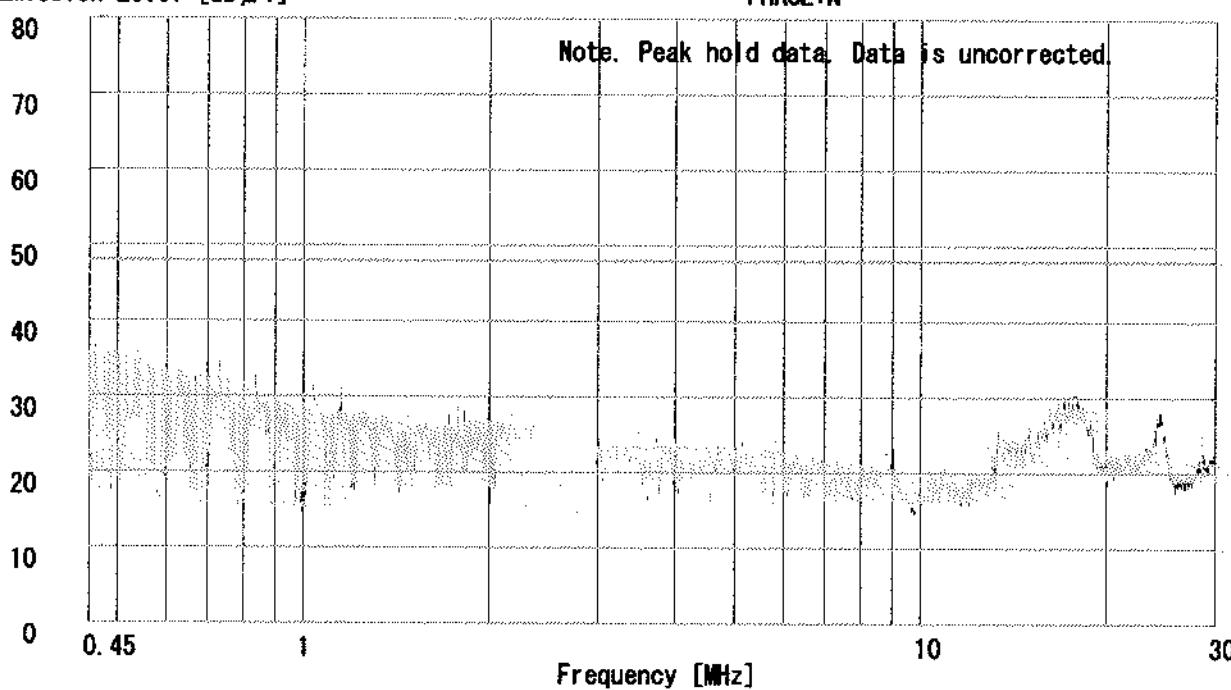
Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player and VCR
Model No. : HR-XVC25U
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : 0dBmV
Date : 3/11/2003
Phase : Single Phase
Temperature : 20 °C
Humidity : 41 %
Regulation 1 : FCC Part15B CLASS B
Regulation 2 : None

Engineer : Sadahiko Tanaka

S. Tanaka

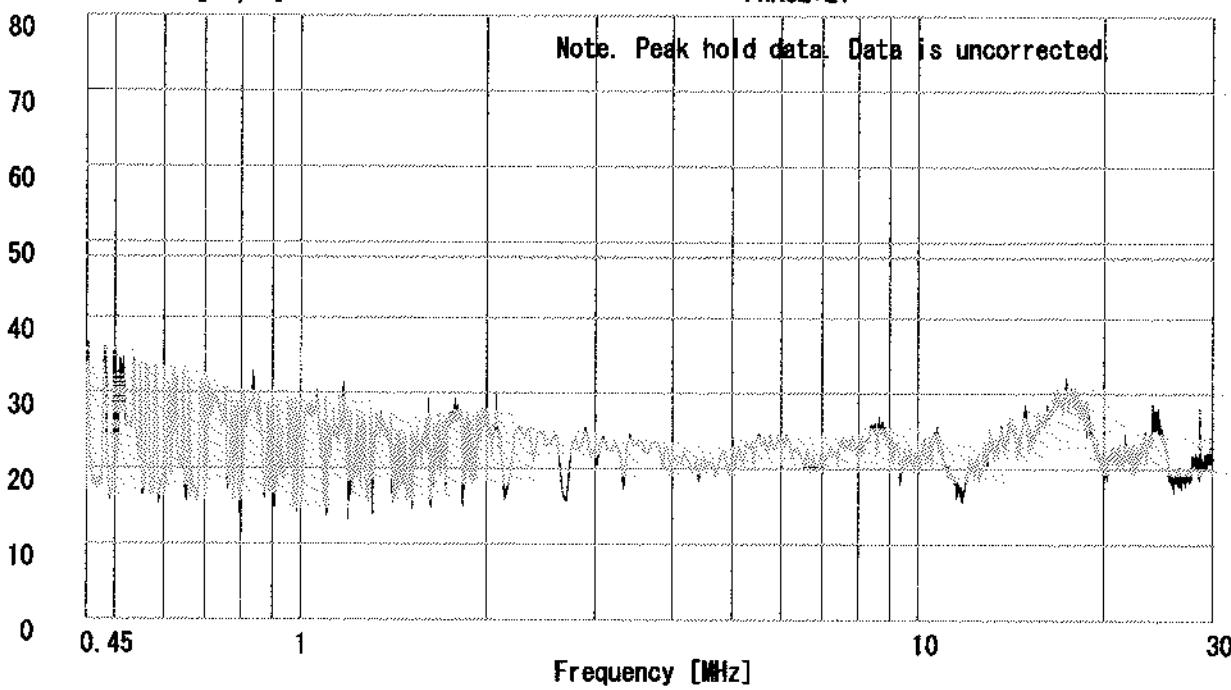
Emission Level [dB μ V]

PHASE:N



Emission Level [dB μ V]

PHASE:L1



DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
 Kind of Equipment : DVD Player and VCR
 Model No. : HR-XVC25U
 Serial No. : -
 Power : AC120V/60Hz
 Mode : TV Reception + Rec
 Remarks : 25dBmV
 Date : 3/11/2003
 Phase : Single Phase
 Temperature : 20 °C
 Humidity : 41 %
 Regulation : FCC Part15B CLASS B

Engineer : Sadahiko Tanaka

No.	FREQ. [MHz]	READING (N)		READING (L1)		LISN FACTOR	CABLE LOSS	RESULT		LIMITS		MARGIN	
		QP [dBuV]	AV	QP [dBuV]	AV			QP [dBuV]	AV	QP [dBuV]	AV	QP [dBuV]	AV
1.	0. 4500	29. 7	-	29. 8	-	0. 1	0. 3	0. 0	30. 2	-	48. 0	0. 0	17. 8
2.	1. 0281	29. 6	-	27. 0	-	0. 1	0. 4	0. 0	30. 1	-	48. 0	0. 0	17. 9
3.	2. 0737	25. 7	-	23. 3	-	0. 2	0. 4	0. 0	26. 3	-	48. 0	0. 0	21. 7
4.	8. 6379	19. 2	-	24. 0	-	0. 3	0. 6	0. 0	24. 9	-	48. 0	0. 0	23. 1
5.	17. 4021	29. 3	-	29. 2	-	0. 6	0. 8	0. 0	30. 7	-	48. 0	0. 0	17. 3
6.	23. 9985	29. 6	-	28. 9	-	0. 8	0. 9	0. 0	31. 3	-	48. 0	0. 0	16. 7

CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

Except for the above table : adequate margin data below the limits.

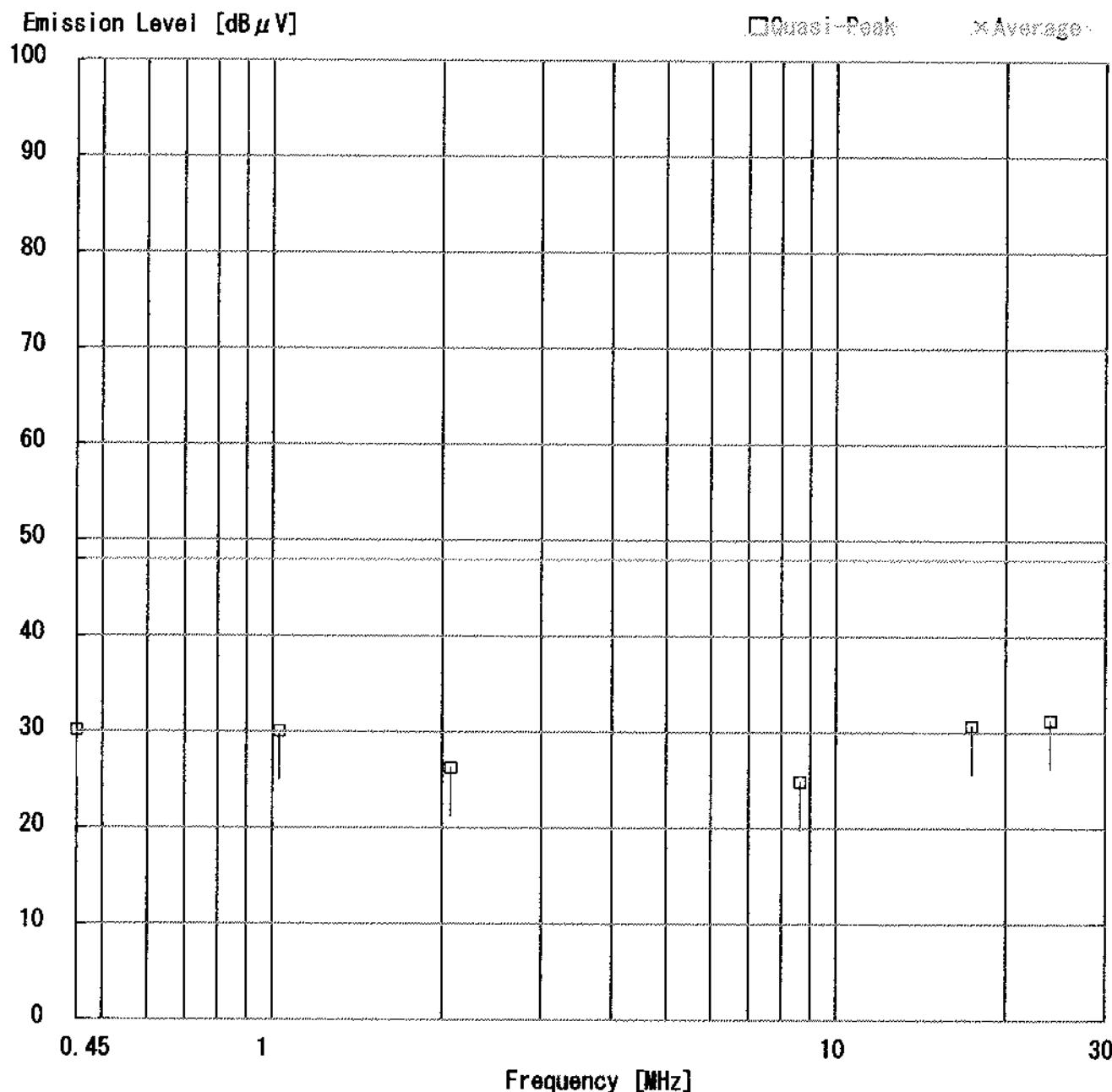
DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player and VCR
Model No. : HR-XVC25U
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : 25dBmV
Date : 3/11/2003
Phase : Single Phase
Temperature : 20 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B

Engineer : Sadahiko Tanaka

S. Tanaka



DATA OF CONDUCTION TEST CHART

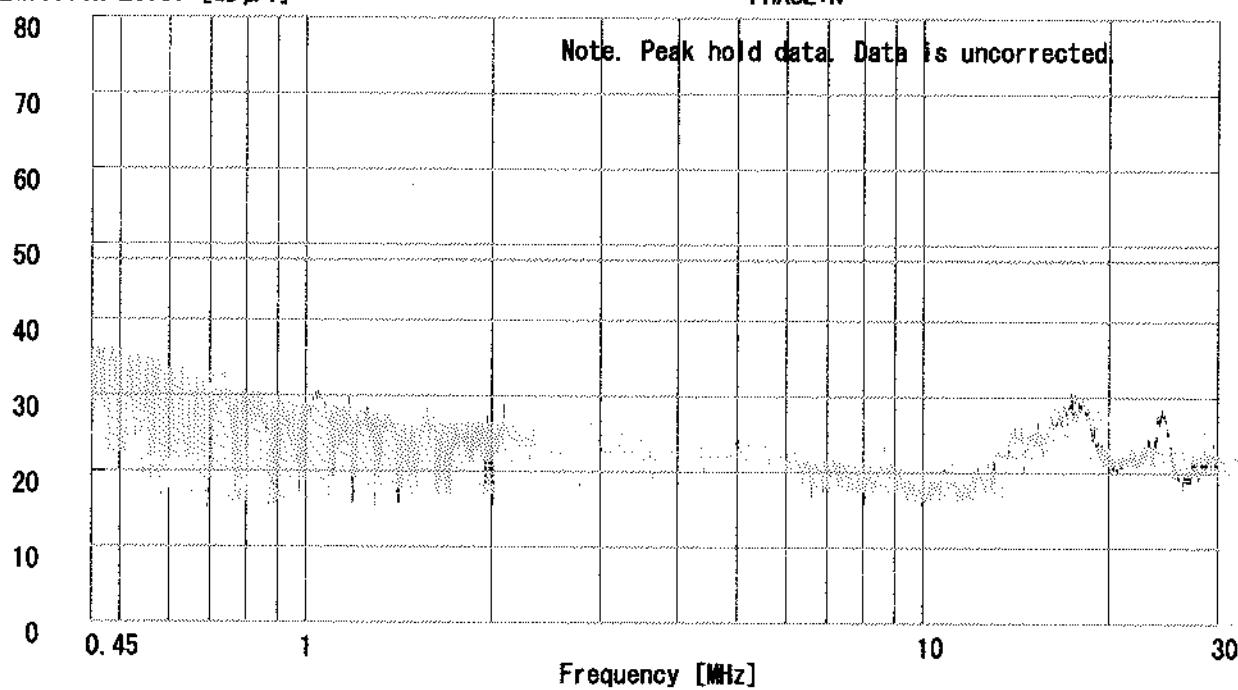
A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player and VCR
Model No. : HR-XVC25U
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : 25dBmV
Date : 3/11/2003
Phase : Single Phase
Temperature : 20 °C
Humidity : 41 %
Regulation 1 : FCC Part15B CLASS B
Regulation 2 : None

Engineer : *S.Tanaka* Sadahiko Tanaka

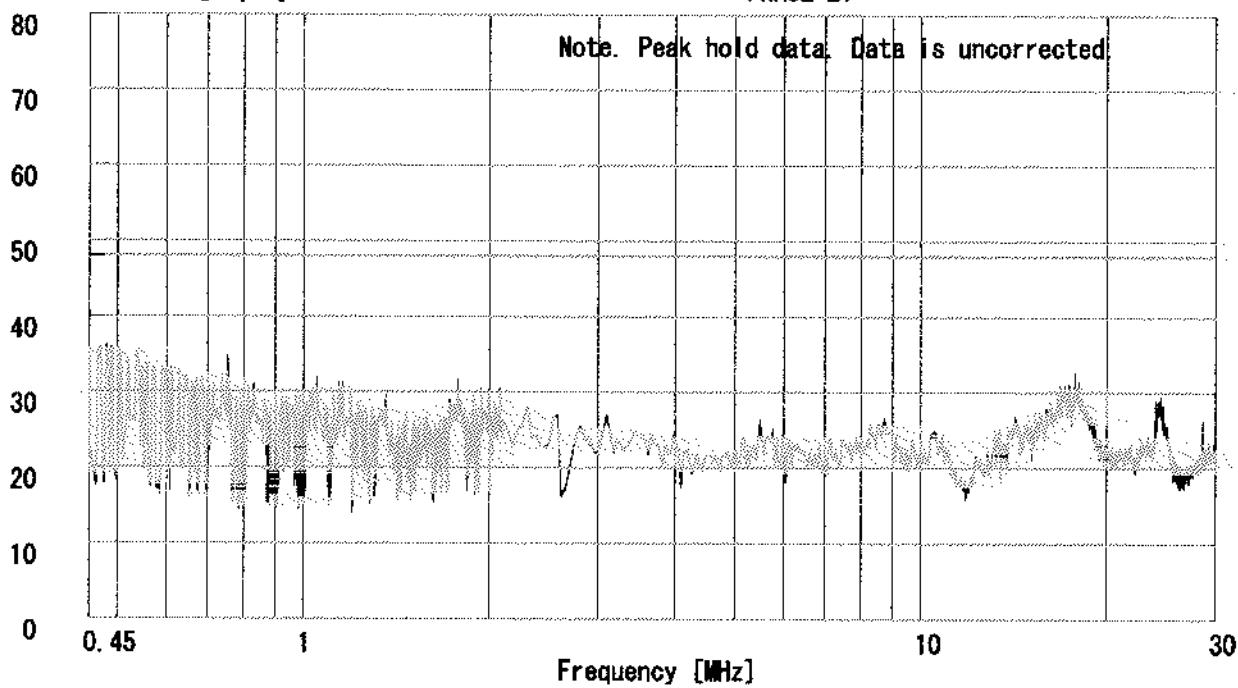
Emission Level [dB μ V]

PHASE:N



Emission Level [dB μ V]

PHASE:L1



DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
 Kind of Equipment : DVD Player and VCR
 Model No. : HR-XVC25U
 Serial No. : -
 Power : AC120V/60Hz
 Mode : AV Input + Rec
 Remarks : 1Vp-p
 Date : 3/11/2003
 Phase : Single Phase
 Temperature : 20 °C
 Humidity : 41 %
 Regulation : FCC Part15B CLASS B

Engineer : *S. Tanaka* Sadahiko Tanaka

No.	FREQ. [MHz]	READING (N)		READING (L1)		LISM FACTOR	CABLE LOSS [dBuV]	RESULT		LIMITS		MARGIN	
		QP [dBuV]	AV	QP [dBuV]	AV			QP [dBuV]	AV	QP [dBuV]	AV	QP [dBuV]	AV
1.	0.4500	29.6	-	29.6	-	0.1	0.3	0.0	30.0	-	48.0	0.0	18.0
2.	1.0326	30.0	-	28.2	-	0.1	0.4	0.0	30.5	-	48.0	0.0	17.5
3.	2.0876	24.5	-	24.3	-	0.2	0.4	0.0	25.1	-	48.0	0.0	22.9
4.	6.2289	30.5	-	30.4	-	0.2	0.5	0.0	31.2	-	48.0	0.0	16.8
5.	16.5075	24.1	-	24.0	-	0.6	0.8	0.0	25.5	-	48.0	0.0	22.5
6.	22.4371	26.3	-	26.2	-	0.8	0.9	0.0	28.0	-	48.0	0.0	20.0

CALCULATION: READING + LISM FACTOR + CABLE LOSS + ATTEN.

Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player and VCR
Model No. : HR-XVC25U
Serial No. : -
Power : AC120V/60Hz
Mode : AV Input + Rec
Remarks : 1Vp-p
Date : 3/11/2003
Phase : Single Phase
Temperature : 20 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B

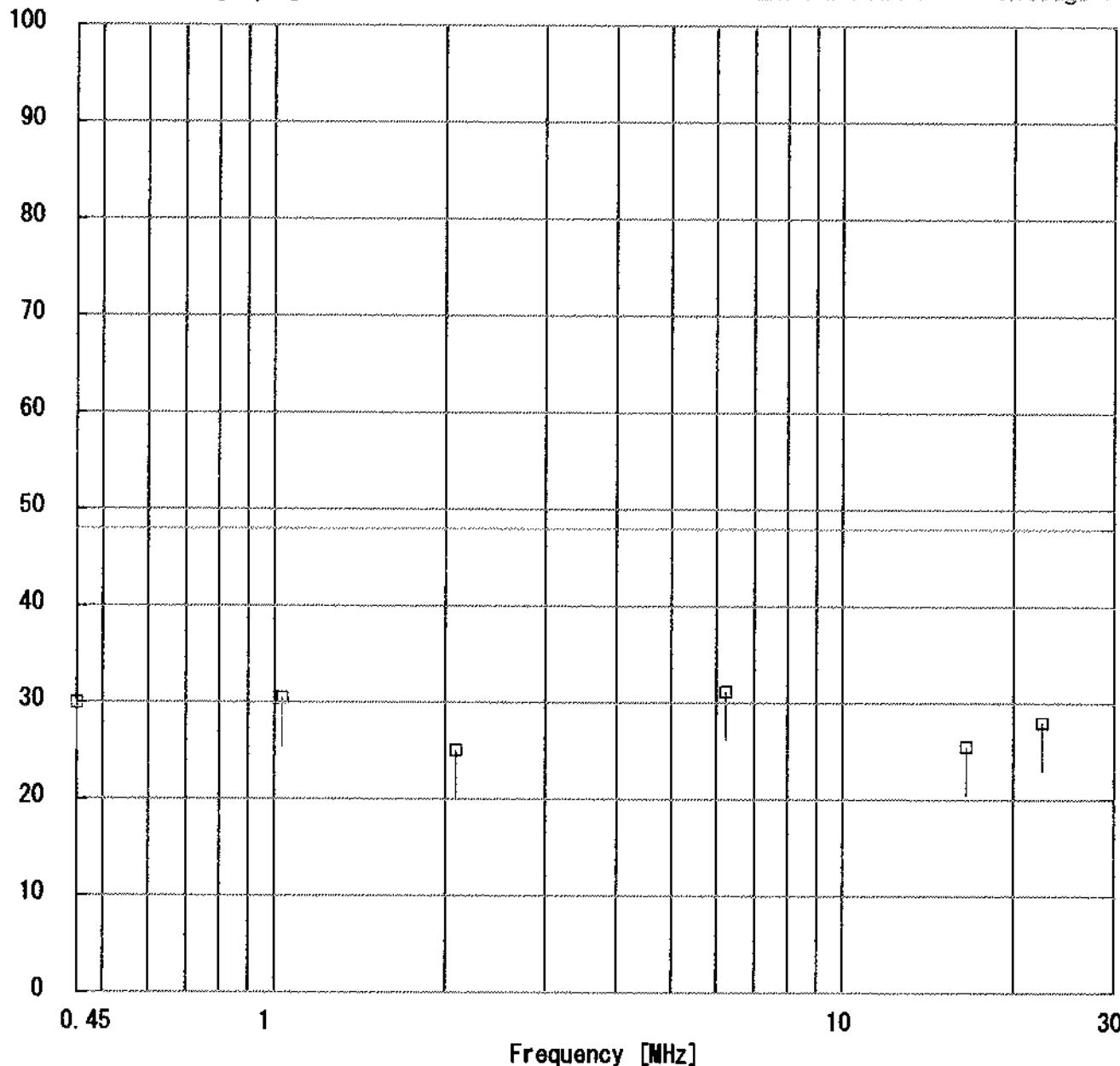
Engineer : Sadahiko Tanaka

S. Tanaka

Emission Level [dB μ V]

Quasi-Peak

Average



DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23HE0021-YW-1

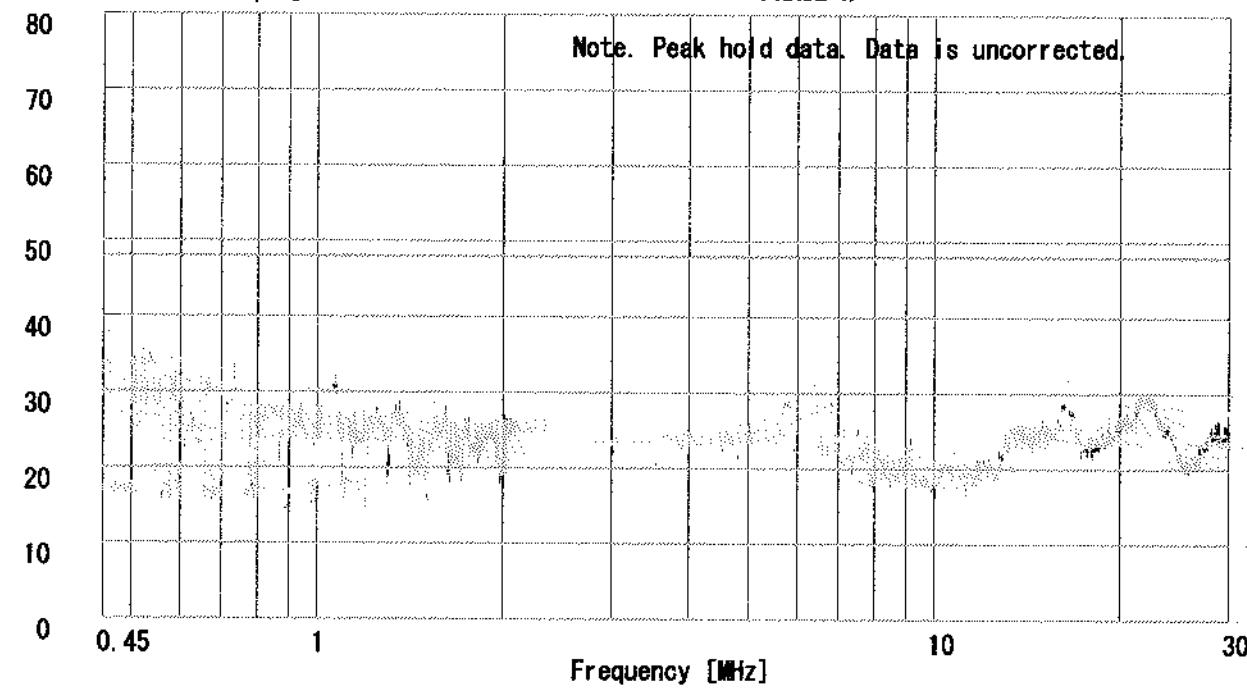
Applicant : Orion Electric Co., Ltd.
 Kind of Equipment : DVD Player and VCR
 Model No. : HR-XVC25U
 Serial No. :
 Power : AC120V/60Hz
 Mode : AV Input + Rec
 Remarks : 1Vp-p
 Date : 3/11/2003
 Phase : Single Phase
 Temperature : 20 °C
 Humidity : 41 %
 Regulation 1 : FCC Part15B CLASS B
 Regulation 2 : None

Engineer : Sadahiko Tanaka

S.Tanaka

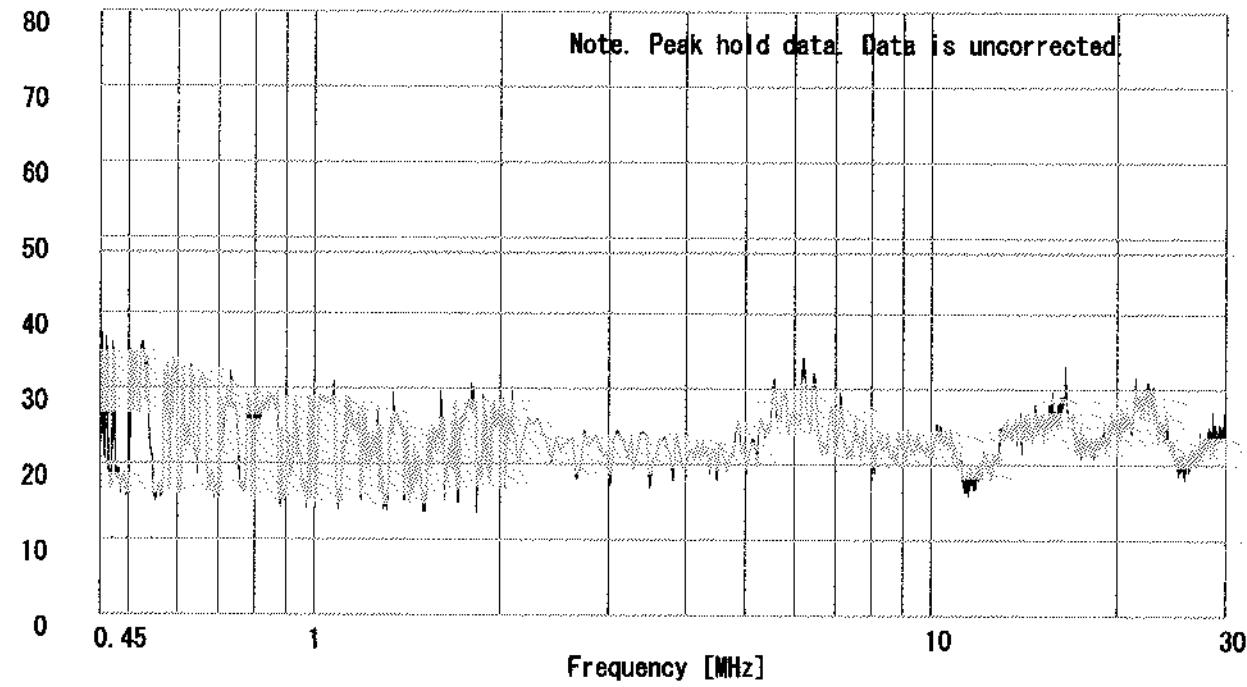
Emission Level [dB μ V]

PHASE:N



Emission Level [dB μ V]

PHASE:L1



DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
 Kind of Equipment : DVD Player and VCR
 Model No. : HR-XVC25U
 Serial No. : -
 Power : AC120V/60Hz
 Mode : AV Input + Rec
 Remarks : 5Vp-p
 Date : 3/11/2003
 Phase : Single Phase
 Temperature : 20 °C
 Humidity : 41 %
 Regulation : FCC Part15B CLASS B

Engineer : S. Tanaka Sadahiko Tanaka

No.	FREQ. [MHz]	READING (N)		READING (L1)		LISM FACTOR	CABLE LOSS	RESULT		LIMITS		MARGIN	
		QP [dBuV]	AV	QP [dBuV]	AV			QP [dBuV]	AV	QP [dBuV]	AV	QP [dBuV]	AV
1.	0.4500	29.6	-	29.8	-	0.1	0.3	0.0	30.2	-	48.0	0.0	17.8
2.	1.0237	29.8	-	28.0	-	0.1	0.4	0.0	30.3	-	48.0	0.0	17.7
3.	2.0779	24.6	-	24.3	-	0.2	0.4	0.0	25.2	-	48.0	0.0	22.8
4.	6.2963	25.3	-	25.4	-	0.2	0.5	0.0	26.1	-	48.0	0.0	21.9
5.	16.5972	23.7	-	23.8	-	0.6	0.8	0.0	25.2	-	48.0	0.0	22.8
6.	22.1225	25.3	-	24.6	-	0.8	0.9	0.0	27.0	-	48.0	0.0	21.0

CALCULATION: READING + LISM FACTOR + CABLE LOSS + ATTEN.

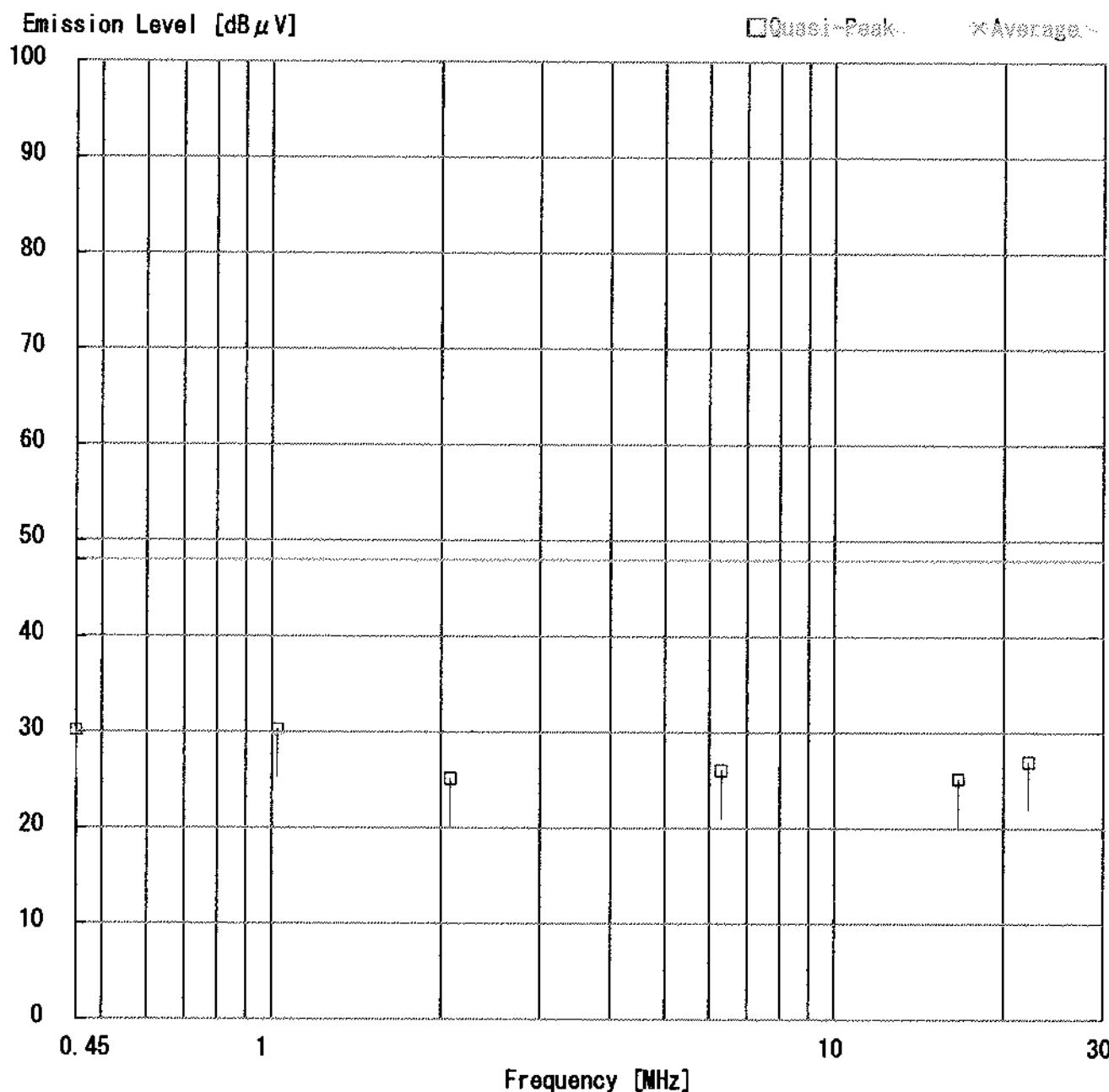
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player and VCR
Model No. : HR-XVC25U
Serial No. : -
Power : AC120V/60Hz
Mode : AV Input + Rec
Remarks : 5Vp-p
Date : 3/11/2003
Phase : Single Phase
Temperature : 20 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B

Engineer : *S. Tanaka* Sadahiko Tanaka



DATA OF CONDUCTION TEST CHART

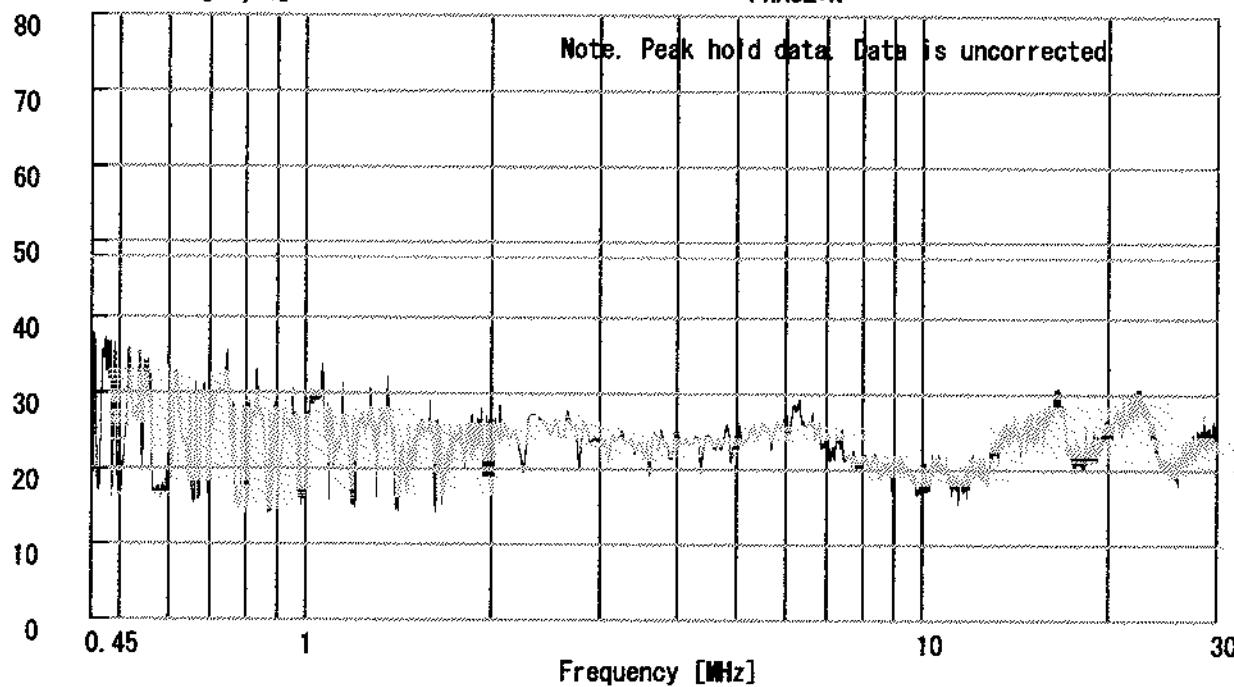
A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player and VCR
Model No. : HR-XVC25U
Serial No. :
Power : AC120V/60Hz
Mode : AV Input + Rec
Remarks : 5Vp-p
Date : 3/11/2003
Phase : Single Phase
Temperature : 20 °C
Humidity : 41 %
Regulation 1 : FCC Part15B CLASS B
Regulation 2 : None

Engineer : *S. Tanaka* Sadahiko Tanaka

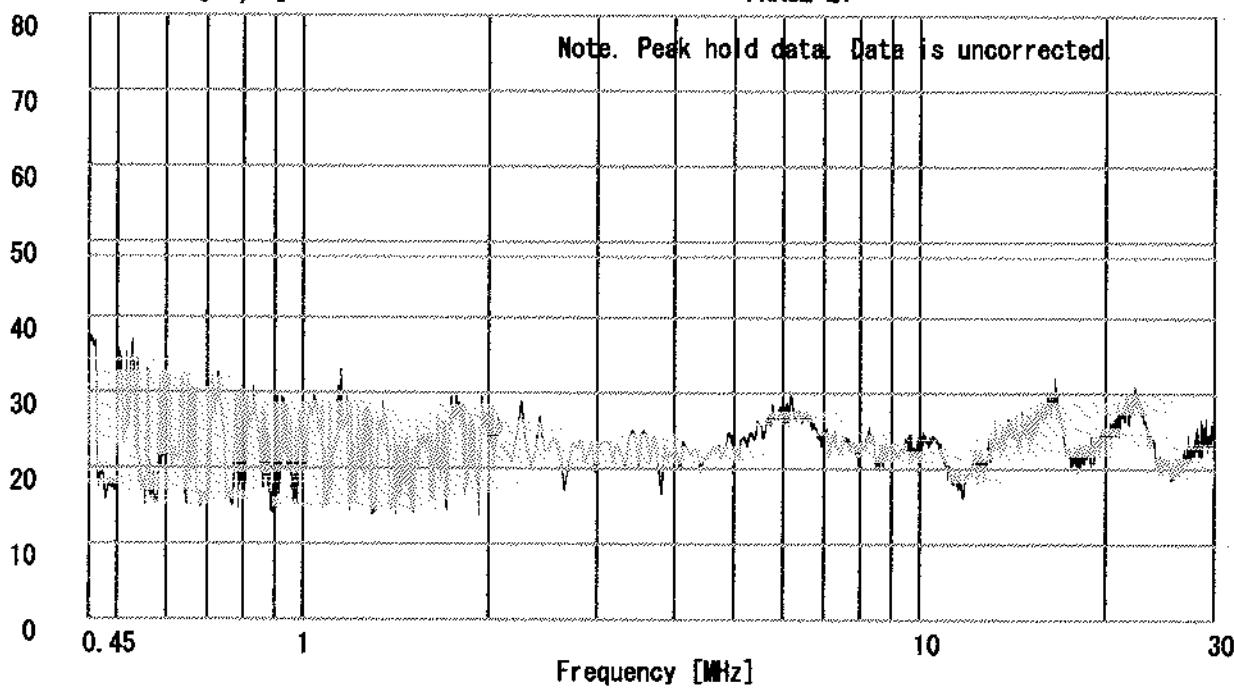
Emission Level [dB μ V]

PHASE:N



Emission Level [dB μ V]

PHASE:L1



DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
 Kind of Equipment : DVD Player and VCR
 Model No. : HR-XVC25U
 Serial No. : -
 Power : AC120V/60Hz
 Mode : VCR Playback
 Remarks : -
 Date : 3/11/2003
 Phase : Single Phase
 Temperature : 20 °C
 Humidity : 41 %
 Regulation : FCC Part15B CLASS B

Engineer : *S. Tanaka* Sadahiko Tanaka

No.	FREQ. [MHz]	READING (N)		READING (L1)		LISM FACTOR	CABLE LOSS	RESULT		LIMITS		MARGIN	
		QP [dBuV]	AV	QP [dBuV]	AV			QP [dBuV]	AV	QP [dBuV]	AV	QP [dBuV]	AV
1.	0. 4500	29. 9	-	29. 9	-	0. 1	0. 3	0. 0	30. 3	-	48. 0	0. 0	17. 7
2.	1. 2332	25. 8	-	23. 9	-	0. 1	0. 4	0. 0	26. 3	-	48. 0	0. 0	21. 7
3.	2. 0918	22. 7	-	24. 4	-	0. 2	0. 4	0. 0	25. 0	-	48. 0	0. 0	23. 0
4.	5. 7258	18. 7	-	18. 2	-	0. 2	0. 5	0. 0	19. 4	-	48. 0	0. 0	28. 6
5.	13. 6525	16. 2	-	15. 9	-	0. 5	0. 7	0. 0	17. 4	-	48. 0	0. 0	30. 6
6.	29. 1959	21. 7	-	22. 0	-	1. 0	0. 9	0. 0	23. 9	-	48. 0	0. 0	24. 1

CALCULATION: READING + LISM FACTOR + CABLE LOSS + ATTEN.

Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23HE0021-YW-1

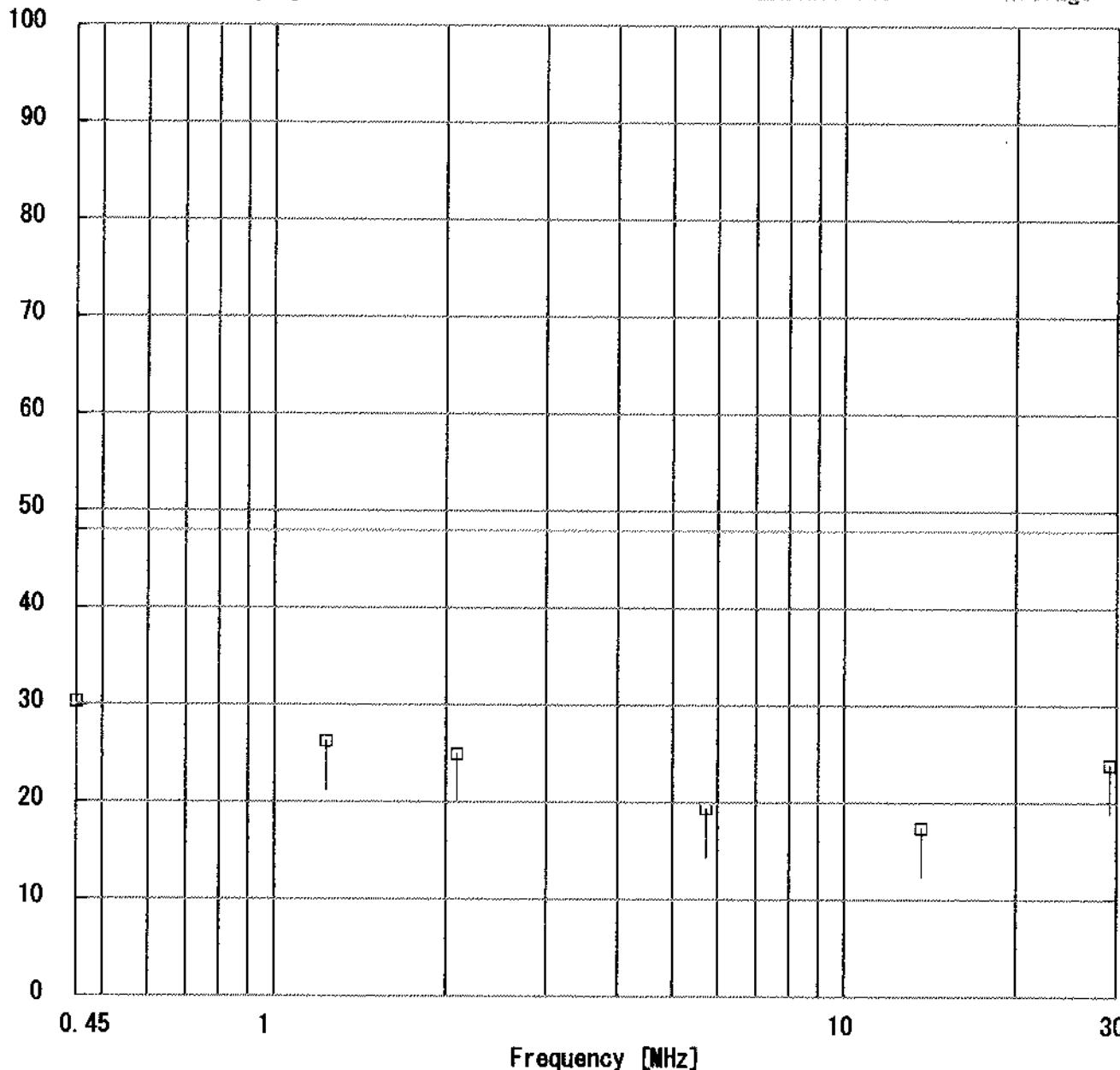
Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player and VCR
Model No. : HR-XVC25U
Serial No. :
Power : AC120V/60Hz
Mode : VCR Playback
Remarks :
Date : 3/11/2003
Phase : Single Phase
Temperature : 20 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B

Engineer : *S. Tanaka* Sadahiko Tanaka

Emission Level [dB μ V]

Current/Peak

Average



DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23HE0021-YW-1

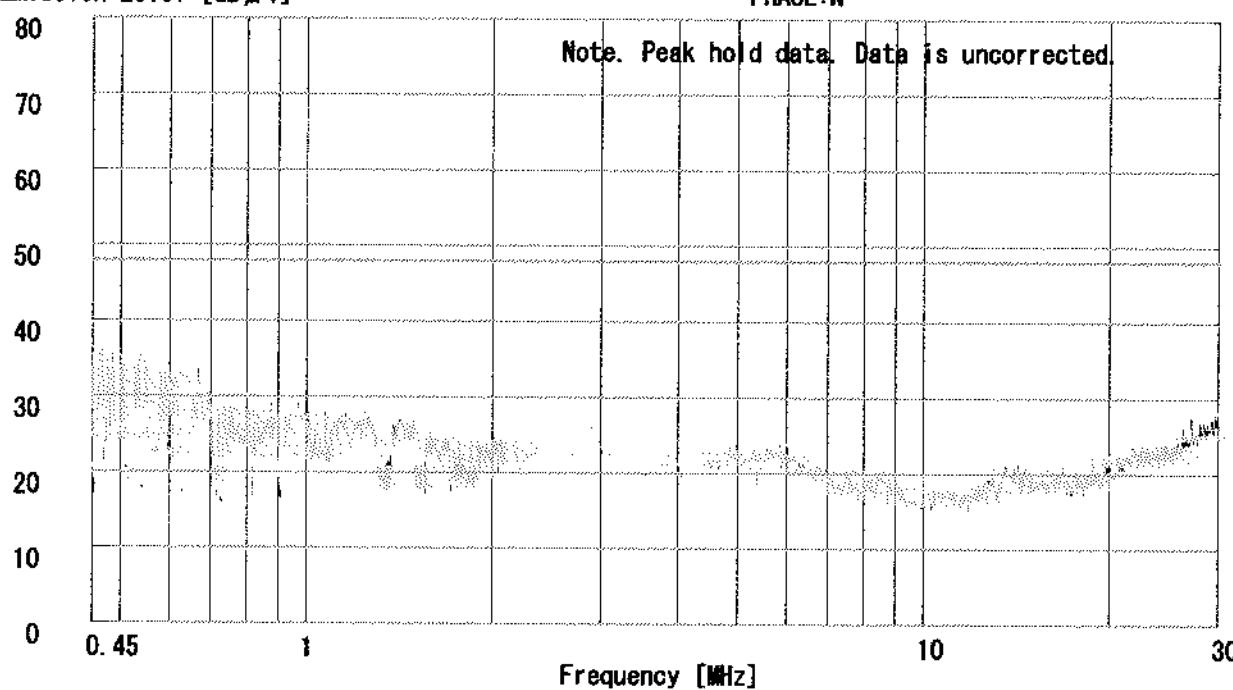
Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player and VCR
Model No. : HR-XVC25U
Serial No. :
Power : AC120V/60Hz
Mode : VCR Playback
Remarks :
Date : 3/11/2003
Phase : Single Phase
Temperature : 20 °C
Humidity : 41 %
Regulation 1 : FCC Part15B CLASS B
Regulation 2 : None

Engineer : Sadahiko Tanaka

S.Tanaka

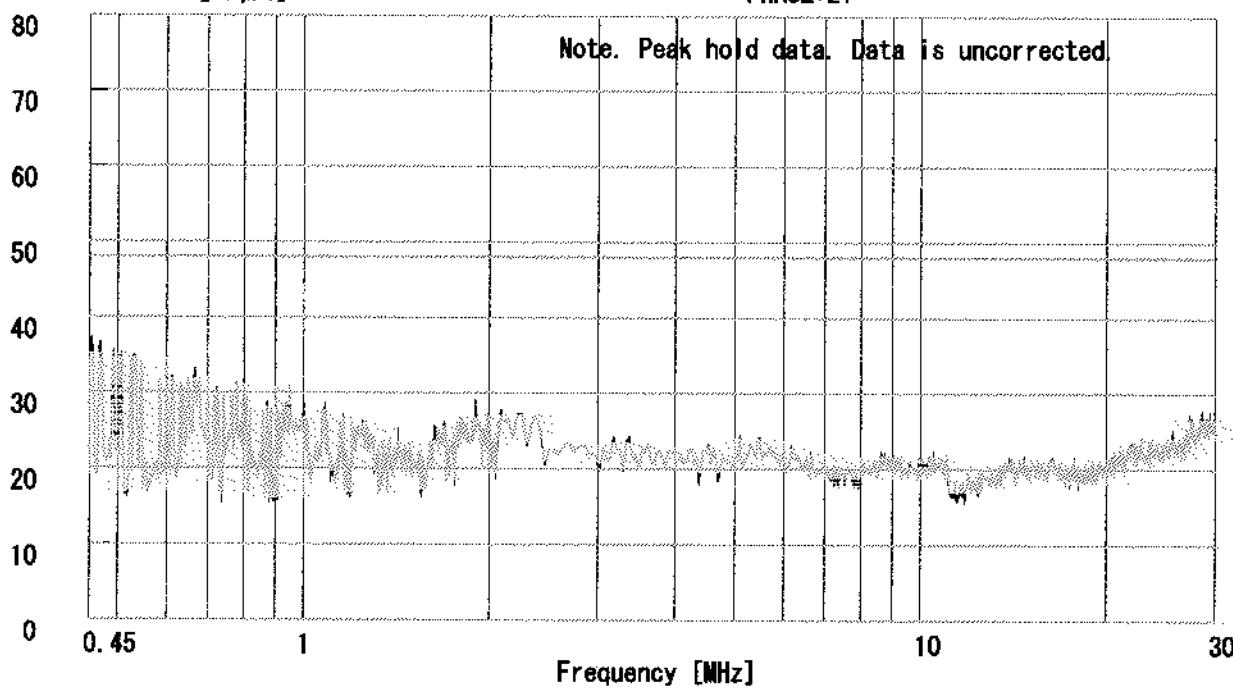
Emission Level [dB μ V]

PHASE:N



Emission Level [dB μ V]

PHASE:L1



DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
 Kind of Equipment : DVD Player and VCR
 Model No. : HR-XVC25U
 Serial No. : -
 Power : AC120V/60Hz
 Mode : DVD Play
 Remarks : -
 Date : 3/11/2003
 Phase : Single Phase
 Temperature : 20 °C
 Humidity : 41 %
 Regulation : FCC Part15B CLASS B

Engineer : Sadahiko Tanaka

S.Tanaka

No.	FREQ. [MHz]	READING (N)		READING (L1)		LISN FACTOR	CABLE LOSS	RESULT		LIMITS		MARGIN	
		QP [dBuV]	AV	QP [dBuV]	AV			QP [dBuV]	AV	QP [dBuV]	AV	QP [dBuV]	AV
1.	0. 4500	29. 7	-	29. 6	-	0. 1	0. 3	0. 0	30. 1	-	48. 0	0. 0	17. 9
2.	1. 0177	28. 3	-	25. 6	-	0. 1	0. 4	0. 0	28. 8	-	48. 0	0. 0	19. 2
3.	2. 0761	23. 0	-	23. 9	-	0. 2	0. 4	0. 0	24. 5	-	48. 0	0. 0	23. 5
4.	5. 8656	19. 0	-	18. 6	-	0. 2	0. 5	0. 0	19. 7	-	48. 0	0. 0	28. 3
5.	16. 3232	26. 3	-	25. 5	-	0. 6	0. 8	0. 0	27. 7	-	48. 0	0. 0	20. 3
6.	28. 6341	30. 3	-	30. 0	-	1. 0	0. 9	0. 0	32. 2	-	48. 0	0. 0	15. 8

CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23HE0021-YW-1

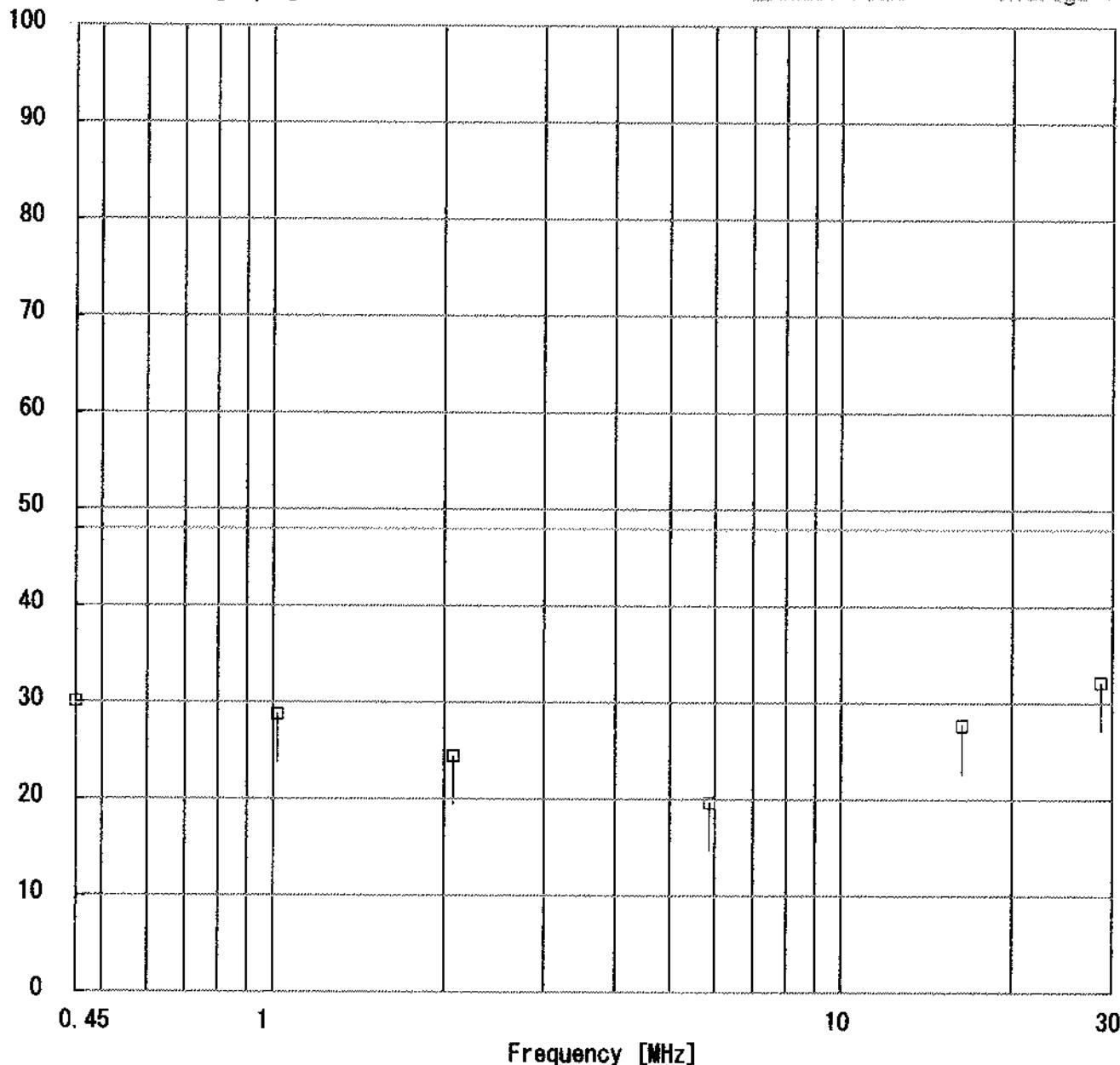
Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player and VCR
Model No. : HR-XVC25U
Serial No. : -
Power : AC120V/60Hz
Mode : DVD Play
Remarks : -
Date : 3/11/2003
Phase : Single Phase
Temperature : 20 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B

Engineer : Sadahiko Tanaka

S. Tanaka

Emission Level [dB μ V]

Quasi-Peak Average



DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23HE0021-YW-1

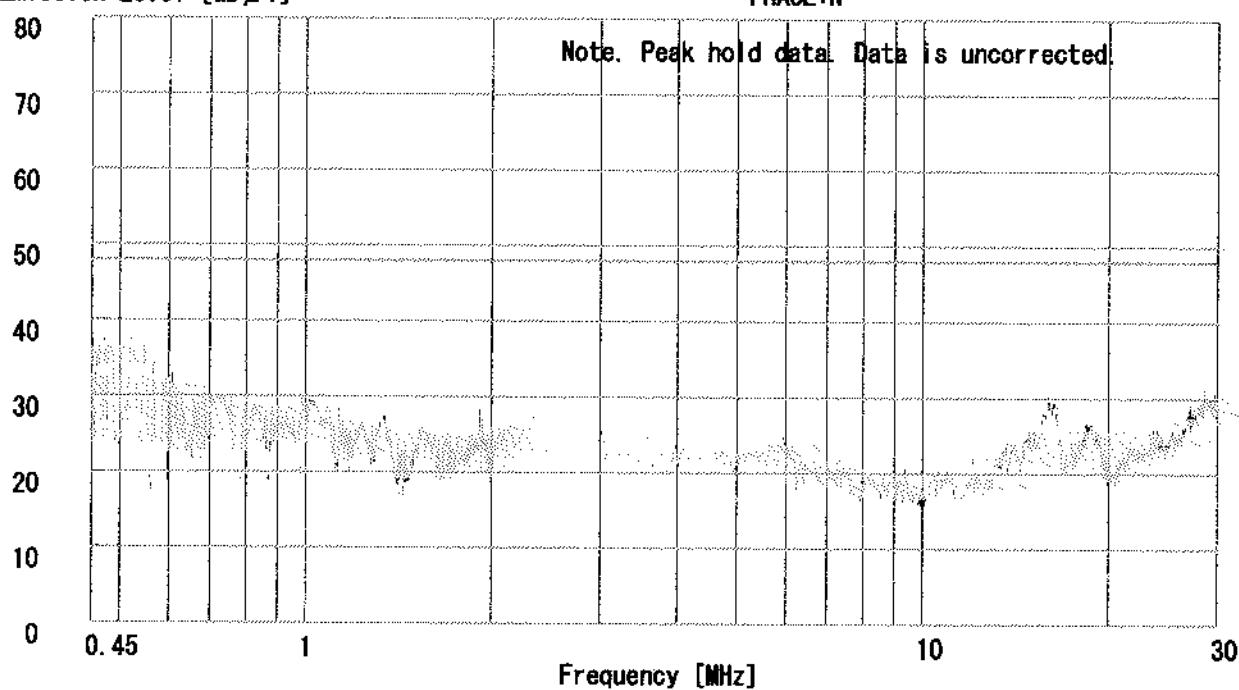
Applicant : Orion Electric Co., Ltd.
 Kind of Equipment : DVD Player and VCR
 Model No. : HR-XVC25U
 Serial No. : -
 Power : AC120V/60Hz
 Mode : DVD Play
 Remarks : -
 Date : 3/11/2003
 Phase : Single Phase
 Temperature : 20 °C
 Humidity : 41 %
 Regulation 1 : FCC Part15B CLASS B
 Regulation 2 : None

S. Tanaka

Engineer : Sadahiko Tanaka

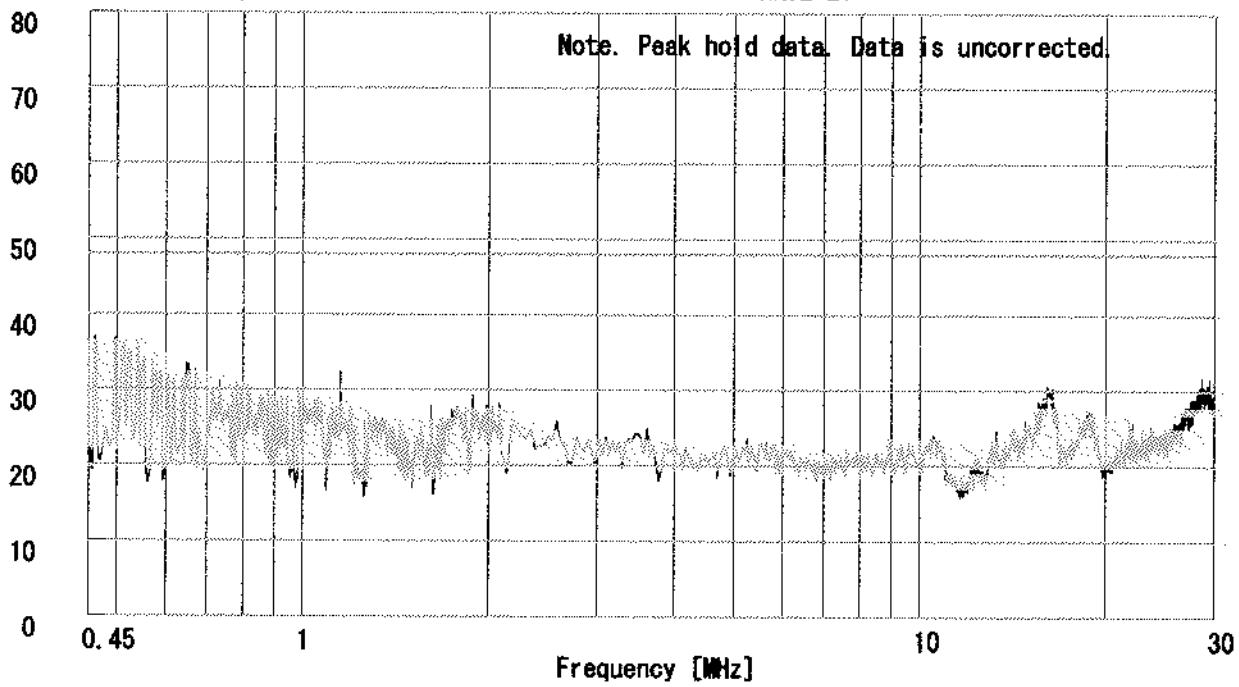
Emission Level [dB μ V]

PHASE:N



Emission Level [dB μ V]

PHASE:L1



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN TEST SITE

COMPANY	: Orion Electric Co., Ltd.	REPORT No.	: 23HE0021-YW-1
EQUIPMENT	: DVD Player and VCR	REGULATION	: FCC PART15 B
MODEL No.	: HA-XVC25U	TEST DISTANCE	: 3m
POWER	: AC120V/60Hz	ATTENUATION	: 101-847MHz 6dB 1030-1694MHz 0dB
DESCRIPTION	: TV Reception + Rec	DATE	: March,07 2003
		Temp. / Humid.	: 21°C / 39%

ENGINEER : Hisayuki Kioka

CH.	FREQ [MHz]	READINNG HOR. VER. [dBuV]	ANT TYPE	ANT. FAC. [dB]	CABLE LOSS [dB]	AMP GAIN [dB]	RESULTS HOR. VER. [dBuV/m]	LIMIT [dBuV/m]	MARGIN HOR. VER. [dB]			
VHF Fundamental												
2	101	24.5	26.4	BC	10.0	2.1	27.8	14.8	16.7	43.5	28.7	26.8
3	107	24.0	25.9	BC	10.9	2.2	27.9	15.2	17.1	43.5	28.3	26.4
4	113	23.8	25.1	BC	11.9	2.3	27.9	16.1	17.4	43.5	27.4	26.1
5	123	24.3	26.1	BC	13.2	2.3	27.9	17.9	19.7	43.5	25.6	23.8
6	129	25.9	27.8	BC	13.7	2.5	27.9	20.2	22.1	43.5	23.3	21.4
7	221	26.3	25.9	BC	16.6	3.2	27.8	24.3	23.9	46.0	21.7	22.1
8	227	25.9	24.1	BC	16.6	3.2	27.8	23.9	22.1	46.0	22.1	23.9
9	233	24.6	27.7	BC	16.7	3.2	27.7	22.8	25.9	46.0	23.2	20.1
10	239	25.9	24.6	BC	16.8	3.1	27.5	24.3	23.0	46.0	21.7	23.0
11	245	25.5	26.1	BC	16.8	3.1	27.4	24.0	24.6	46.0	22.0	21.4
12	251	25.0	24.9	BC	17.0	3.0	27.3	23.7	23.6	46.0	22.3	22.4
13	257	26.0	25.8	BC	17.3	3.2	27.4	25.1	24.9	46.0	20.9	21.1
VHF 2nd Harmonic												
2	202	23.1	23.0	BC	16.3	3.1	27.8	20.7	20.6	43.5	22.8	22.9
3	214	22.9	22.8	BC	16.5	3.2	27.8	20.8	20.7	43.5	22.7	22.8
4	226	22.5	22.8	BC	16.6	3.2	27.8	20.5	20.8	46.0	25.5	25.2
5	246	23.0	23.1	BC	16.9	3.0	27.3	21.6	21.7	46.0	24.4	24.3
6	258	22.9	23.5	BC	17.4	3.2	27.4	22.1	22.7	46.0	23.9	23.3
7	442	23.6	23.6	LP	19.0	4.8	27.9	25.5	25.5	46.0	20.5	20.5
8	454	23.1	23.3	LP	19.1	4.8	27.9	25.1	25.3	46.0	20.9	20.7
9	466	23.6	23.0	LP	19.3	4.9	27.8	26.0	25.4	46.0	20.0	20.6
10	478	22.6	22.3	LP	19.4	4.9	27.8	25.1	24.8	46.0	20.9	21.2
11	490	24.9	24.6	LP	19.5	5.1	27.9	27.6	27.3	46.0	18.4	18.7
12	502	23.9	24.6	LP	19.6	5.2	27.9	26.8	27.5	46.0	19.2	18.5
13	514	23.3	23.6	LP	19.7	5.3	27.9	26.4	26.7	46.0	19.6	19.3

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN TEST SITE

COMPANY	: Orion Electric Co., Ltd.	REPORT No.	: 23HE0021-YW-1
EQUIPMENT	: DVD Player and VCR	REGULATION	: FCC PART15 B
MODEL No.	: HA-XVC25U	TEST DISTANCE	: 3m
POWER	: AC120V/60Hz	ATTENUATION	: 101-847MHz 6dB 1030-1694MHz 0dB
DESCRIPTION	: TV Reception + Rec	DATE	: March,07 2003
		Temp. / Humid.	: 21°C / 39%

ENGINEER : Hisayuki Kioka

CH.	FREQ [MHz]	READINNG HOR. [dBuV]	VER.	ANT TYPE	ANT. FAC. [dB]	CABLE LOSS [dB]	AMP GAIN [dB]	RESULTS HOR. [dBuV/m]	VER. [dBuV/m]	LIMIT [dBuV/m]	MARGIN HOR. [dB]	VER. [dB]
UHF Fundamental												
14	517	25.7	28.2	LP	19.8	5.3	27.9	28.9	31.4	46.0	17.1	14.6
19	547	25.0	28.6	LP	20.0	5.6	27.7	28.9	32.5	46.0	17.1	13.5
28	601	25.1	26.1	LP	20.5	5.8	27.5	29.9	30.9	46.0	16.1	15.1
36	649	26.4	31.5	LP	21.5	6.1	27.5	32.5	37.6	46.0	13.5	8.4
44	697	26.0	30.3	LP	22.4	6.3	27.1	33.6	37.9	46.0	12.4	8.1
53	751	27.4	31.9	LP	23.0	6.7	27.2	35.9	40.4	46.0	10.1	5.6
61	799	25.2	27.0	LP	23.5	6.9	27.1	34.5	36.3	46.0	11.5	9.7
69	847	24.7	25.6	LP	24.2	7.1	27.0	35.0	35.9	46.0	11.0	10.1
UHF 2nd Harmonic												
14	1034	48.0	51.4	HO	24.9	1.6	39.0	35.5	38.9	54.0	18.5	15.1
19	1094	46.8	50.6	HO	25.2	1.7	39.0	34.7	38.5	54.0	19.3	15.5
28	1202	46.1	47.1	HO	25.7	1.8	38.8	34.8	35.8	54.0	19.2	18.2
36	1298	44.6	47.0	HO	26.1	1.9	38.7	33.9	36.3	54.0	20.1	17.7
44	1394	45.4	46.8	HO	26.5	2.0	38.6	35.3	36.7	54.0	18.7	17.3
53	1502	45.6	48.2	HO	27.0	2.1	38.5	36.2	38.8	54.0	17.8	15.2
61	1598	45.7	49.6	HO	27.2	2.2	38.4	36.7	40.6	54.0	17.3	13.4
69	1694	48.1	48.4	HO	27.4	2.3	38.3	39.5	39.8	54.0	14.5	14.2

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN TEST SITE

COMPANY	: Orion Electric Co., Ltd.	REPORT No.	: 23HE0021-YW-1
EQUIPMENT	: DVD Player and VCR	REGULATION	: FCC PART15 B
MODEL No.	: HA-XVC25U	TEST DISTANCE	: 3m
POWER	: AC120V/60Hz	ATTENUATION	: 101-847MHz 6dB 1030-1694MHz 0dB
DESCRIPTION	: TV Reception + Rec	DATE	: March,07 2003
		Temp. / Humid.	: 21°C / 39%

ENGINEER : Hisayuki Kioka

CH.	FREQ [MHz]	READINNG HOR. VER. [dBuV]	ANT TYPE	ANT. FAC. [dB]	CABLE LOSS [dB]	AMP GAIN [dB]	RESULTS HOR. VER. [dBuV/m]	LIMIT [dBuV/m]	MARGIN HOR. VER. [dB]
CATV Fundamental									
1	119	28.3	29.3	BC	12.8	2.3	27.9	21.5	22.5
95	137	24.6	28.3	BC	14.4	2.5	27.9	19.6	23.3
97	149	25.3	26.3	BC	14.8	2.6	27.7	21.0	22.0
99	161	25.3	24.6	BC	15.0	2.8	27.8	21.3	20.6
14	167	25.6	24.8	BC	15.2	2.8	27.8	21.8	21.0
18	191	25.0	25.6	BC	16.0	3.0	27.8	22.2	22.8
22	215	25.3	25.9	BC	16.5	3.2	27.8	23.2	23.8
23	263	25.1	26.0	BC	17.7	3.3	27.5	24.6	25.5
29	299	24.6	25.0	BC	20.0	3.8	27.8	26.6	27.0
36	341	26.5	26.3	LP	17.4	4.5	27.9	26.5	26.3
37	347	26.6	26.3	LP	17.5	4.7	27.9	26.9	26.6
65	515	28.0	27.1	LP	19.7	5.3	27.9	31.1	30.2
94	689	27.0	24.6	LP	22.3	6.3	27.2	34.4	32.0
100	695	27.8	29.0	LP	22.4	6.3	27.1	35.4	36.6
113	773	27.3	25.6	LP	23.2	6.7	27.0	36.2	34.5
125	845	24.3	25.0	LP	24.1	7.1	27.0	34.5	35.2
CATV 2nd Harmonic									
1	238	23.0	23.1	BC	16.8	3.1	27.5	21.4	21.5
95	274	22.9	23.3	BC	18.4	3.6	27.8	23.1	23.5
97	298	23.0	23.5	BC	20.0	3.8	27.8	25.0	25.5
99	322	24.9	23.6	LP	17.0	4.0	28.0	23.9	22.6
14	334	23.6	22.6	LP	17.3	4.3	28.0	23.2	22.2
18	382	24.0	23.0	LP	18.2	4.5	27.9	24.8	23.8
22	430	23.5	22.6	LP	18.9	4.8	27.8	25.4	24.5
23	526	22.2	23.6	LP	19.8	5.4	27.8	25.6	27.0
29	598	22.6	23.1	LP	20.5	5.7	27.5	27.3	27.8
36	682	23.5	22.9	LP	22.1	6.3	27.3	30.6	30.0
37	694	23.3	22.6	LP	22.4	6.3	27.1	30.9	30.2
65	1030	48.6	51.7	HO	24.9	1.6	39.0	36.1	39.2
94	1378	45.0	47.1	HO	26.5	2.0	38.6	34.9	37.0
100	1390	44.3	48.6	HO	26.5	2.0	38.6	34.2	38.5
113	1546	47.4	47.6	HO	27.1	2.1	38.5	38.1	38.3
125	1690	49.3	42.7	HO	27.4	2.3	38.3	40.7	34.1

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
 Kind of Equipment : DVD Player and VCR
 Model No. : HR-XVC25U
 Serial No. : -
 Power : AC120V/60Hz
 Mode : TV Reception + Rec
 Remarks : 0dBmV
 Date : 3/6/2003
 Test Distance : 3 m
 Temperature : 21 °C
 Humidity : 43 %
 Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka



No.	FREQ. [MHz]	ANT TYPE	READING	ANT	AMP	CABLE	ATTEN.	RESULT	LIMITS	MARGIN			
			HOR [dB μ V]	VER [dB/m]	FACTOR	GAIN [dB]	LOSS [dB]	[dB]	HOR [dB μ V/m]	VER [dB μ V/m]	HOR [dB]		
1.	189.00	BB	38.0	41.3	16.0	27.8	3.0	6.0	35.2	38.5	43.5	8.3	5.0

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

Except for the above table: adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player and VCR
Model No. : HR-XVC25U
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : 0dBmV
Date : 3/6/2003
Test Distance : 3 m
Temperature : 21 °C
Humidity : 43 %
Regulation : FCC Part15B CLASS B

Engineer 
Hisayuki Kioka

Emission Level [dB μ V/m]

70

60

50

40

30

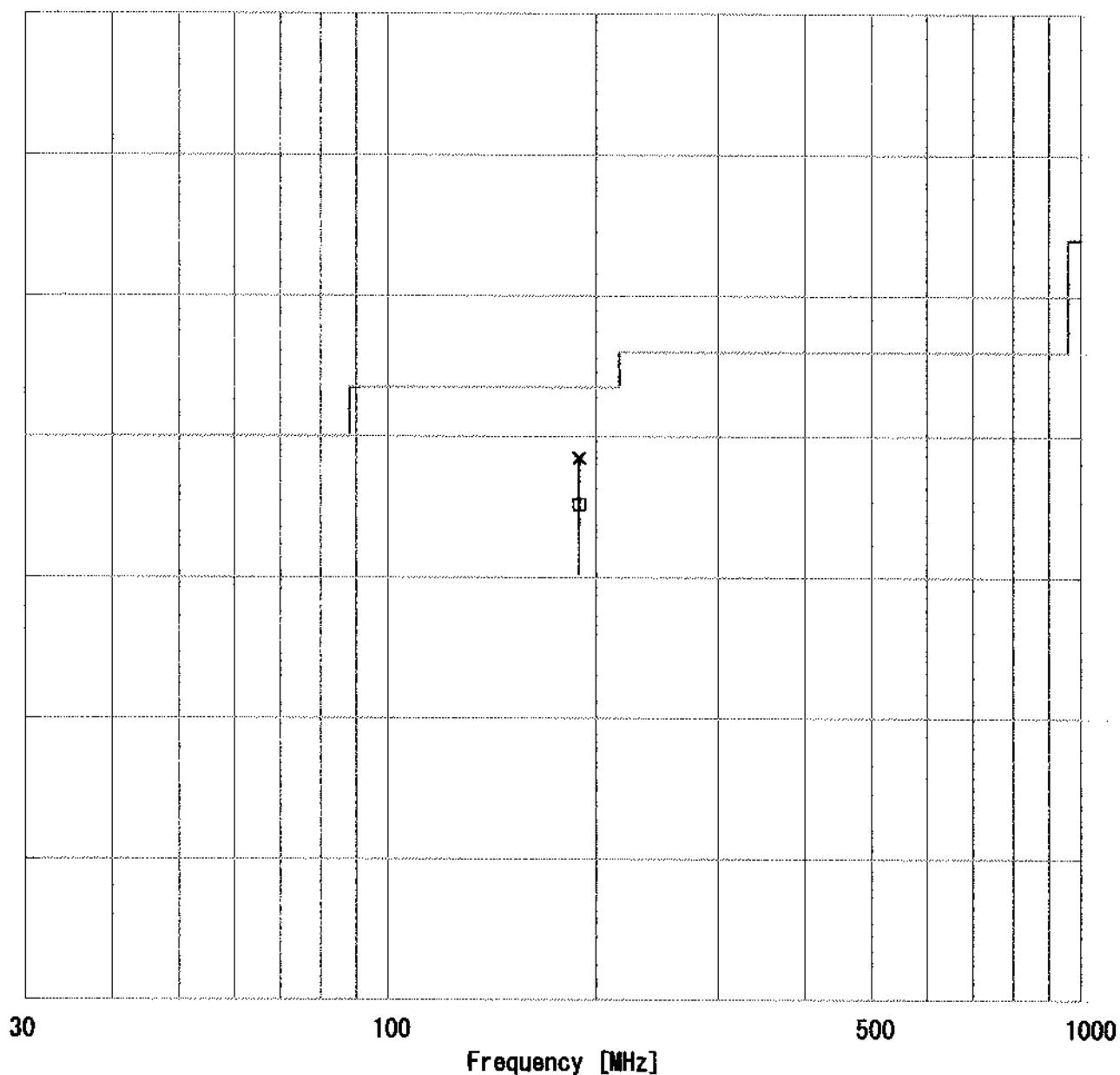
20

10

0

Horizontal

Vertical



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
 Kind of Equipment : DVD Player and VCR
 Model No. : HR-XVC25U
 Serial No. : -
 Power : AC120V/60Hz
 Mode : TV Reception + Rec
 Remarks : 25dBmV
 Date : 3/6/2003
 Test Distance : 3 m
 Temperature : 21 °C
 Humidity : 43 %
 Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka



No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]	HOR [dB μ V/m]	VER [dB μ V/m]	HOR [dB]	VER [dB]
1.	84.38	BB	30.9	37.0	7.0	27.8	1.9	6.0	18.0	24.1	40.0	22.0	15.9	
2.	135.00	BB	34.0	42.0	14.0	27.9	2.5	6.0	28.6	36.6	43.5	14.9	6.9	
3.	151.87	BB	29.1	36.3	14.6	27.7	2.6	6.0	24.6	31.8	43.5	18.9	11.7	
4.	168.75	BB	33.9	35.0	15.2	27.8	2.8	6.0	30.1	31.2	43.5	13.4	12.3	
5.	189.00	BB	38.2	41.6	16.0	27.8	3.0	6.0	35.4	38.8	43.5	8.1	4.7	
6.	236.26	BB	39.1	35.6	16.5	27.6	3.1	6.0	37.1	33.6	46.0	8.9	12.4	
7.	253.13	BB	36.1	29.0	16.8	27.3	3.1	6.0	34.7	27.6	46.0	11.3	18.4	
8.	270.00	BB	40.0	31.6	17.9	27.7	3.5	6.1	39.8	31.4	46.0	6.2	14.6	
9.	404.99	BB	35.0	30.0	17.9	28.0	4.6	6.0	35.5	30.5	46.0	10.5	15.5	
10.	540.00	BB	22.9	33.7	19.6	27.7	5.5	6.1	26.4	37.2	46.0	19.6	8.8	
11.	573.75	BB	22.6	30.8	19.9	27.7	5.7	6.0	26.5	34.7	46.0	19.5	11.3	
12.	674.99	BB	23.0	30.6	21.4	27.3	6.2	6.1	29.4	37.0	46.0	16.6	9.0	
13.	742.49	BB	23.0	33.0	22.4	27.2	6.6	6.1	30.9	40.9	46.0	15.1	5.1	

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

Except for the above table: adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

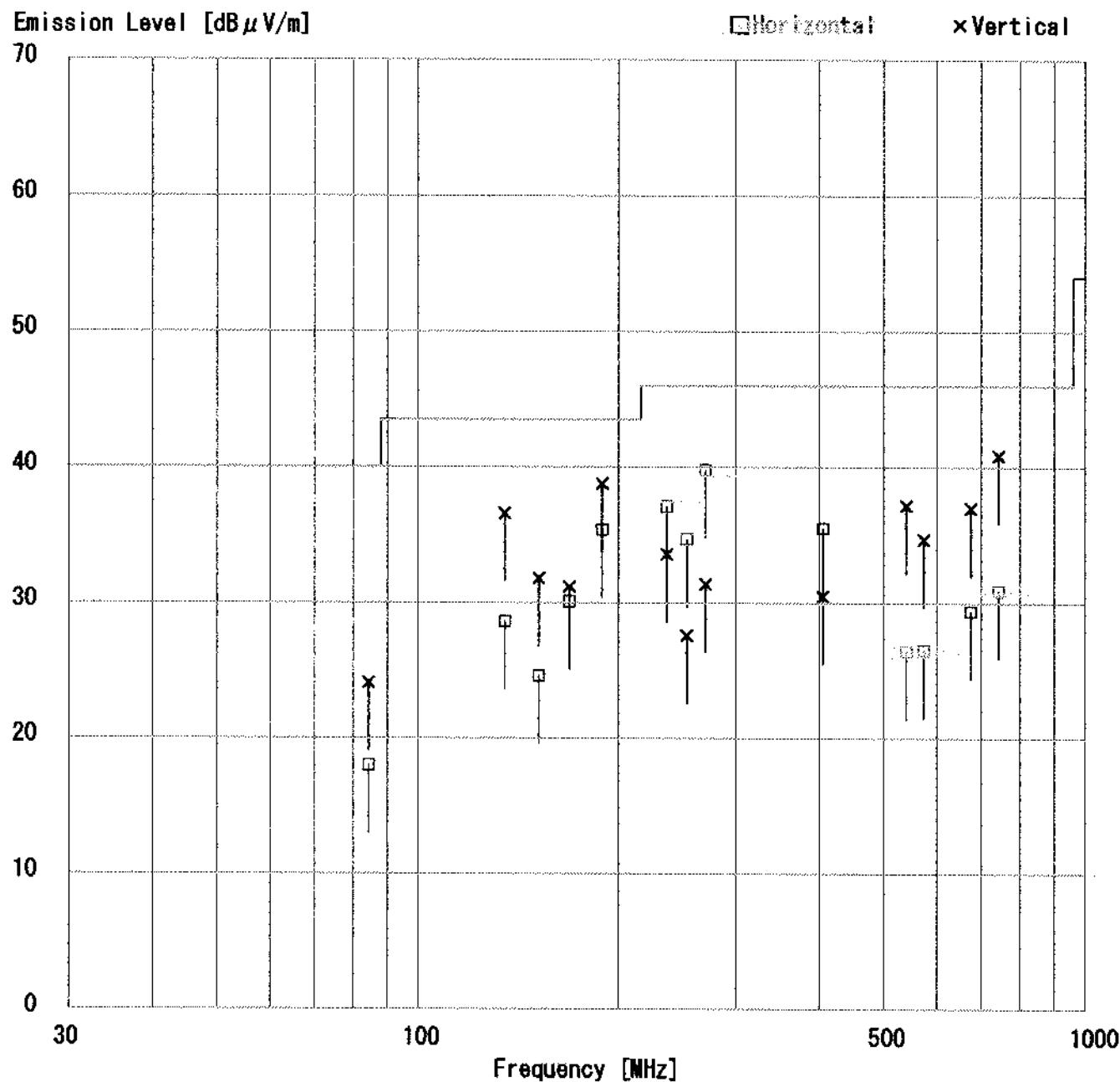
DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player and VCR
Model No. : HR-XVC25U
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception + Rec
Remarks : 25dBmV
Date : 3/6/2003
Test Distance : 3 m
Temperature : 21 °C
Humidity : 43 %
Regulation : FCC Part15B CLASS B

Engineer

Misayuki Kioka



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
 Kind of Equipment : DVD Player And VCR
 Model No. : HR-XVC25U
 Serial No. : -
 Power : AC120V/60Hz
 Mode : AV Input + Rec
 Remarks : 1Vp-p
 Date : 3/6/2003
 Test Distance : 3 m
 Temperature : 21 °C
 Humidity : 43 %
 Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka



No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR	AMP GAIN	CABLE LOSS	ATTEN.	RESULT		LIMITS		MARGIN	
			HOR	VER					HOR	VER	[dB μV/m]	[dB μV/m]	HOR	VER
1.	742.48	BB	29.6	32.9	22.4	27.2	6.6	6.1	37.5	40.8	46.0	8.5	8.5	5.2

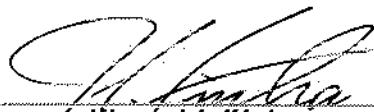
CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

Except for the above table: adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player And VCR
Model No. : HR-XVC25U
Serial No. : -
Power : AC120V/60Hz
Mode : AV Input + Rec
Remarks : 1Vp-p
Date : 3/6/2003
Test Distance : 3 m
Temperature : 21 °C
Humidity : 43 %
Regulation : FCC Part15B CLASS B


Engineer : Hisayuki Kioka

Emission Level [dB μ V/m]

Horizontal

\times Vertical

70

60

50

40

30

20

10

0

30

100

500

1000

Frequency [MHz]

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player And VCR
Model No. : HR-XVC25U
Serial No. : -
Power : AC120V/60Hz
Mode : AV Input + Rec
Remarks : 5Vp-p
Date : 3/6/2003
Test Distance : 3 m
Temperature : 21 °C
Humidity : 43 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka



No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR	AMP GAIN	CABLE LOSS	ATTEN.	RESULT		LIMITS		MARGIN	
			HOR [dB μ V]	VER [dB/m]					HOR [dB μ V/m]	VER [dB μ V/m]	HOR [dB]	VER [dB]	HOR [dB]	VER [dB]
1.	84.37	BB	33.4	40.0	7.0	27.8	1.9	6.0	20.5	27.1	40.0	19.5	12.9	
2.	135.01	BB	28.0	36.7	14.0	27.9	2.5	6.0	22.6	31.3	43.5	20.9	12.2	
3.	151.87	BB	27.8	32.8	14.6	27.7	2.6	6.0	23.3	28.3	43.5	20.2	15.2	
4.	168.75	BB	30.8	33.0	15.2	27.8	2.8	6.0	27.0	29.2	43.5	16.5	14.3	
5.	189.01	BB	33.6	39.6	16.0	27.8	3.0	6.0	30.8	36.8	43.5	12.7	6.7	
6.	236.27	BB	36.0	34.8	16.5	27.6	3.1	6.0	34.0	32.8	46.0	12.0	13.2	
7.	253.13	BB	33.0	26.0	16.8	27.3	3.1	6.0	31.6	24.6	46.0	14.4	21.4	
8.	270.00	BB	39.7	31.0	17.9	27.7	3.5	6.1	39.5	30.8	46.0	6.5	15.2	
9.	303.76	BB	32.1	29.9	16.1	27.9	3.9	6.1	30.3	28.1	46.0	15.7	17.9	
10.	540.00	BB	29.3	33.7	19.6	27.7	5.5	6.1	32.8	37.2	46.0	13.2	8.8	
11.	573.75	BB	27.0	27.4	19.9	27.7	5.7	6.0	30.9	31.3	46.0	15.1	14.7	
12.	674.99	BB	27.4	27.6	21.4	27.3	6.2	6.1	33.8	34.0	46.0	12.2	12.0	
13.	742.48	BB	29.5	33.1	22.4	27.2	6.6	6.1	37.4	41.0	46.0	8.6	5.0	

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

Except for the above table: adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

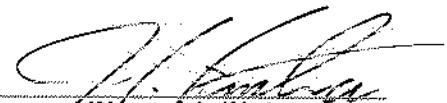
DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
 Kind of Equipment : DVD Player And VCR
 Model No. : HR-XVC25U
 Serial No. : -
 Power : AC120V/60Hz
 Mode : AV Input + Rec
 Remarks : 5Vp-p
 Date : 3/6/2003
 Test Distance : 3 m
 Temperature : 21 °C
 Humidity : 43 %
 Regulation : FCC Part15B CLASS B

Engineer

Hisayuki Kioka



Emission Level [dB μ V/m]

70

60

50

40

30

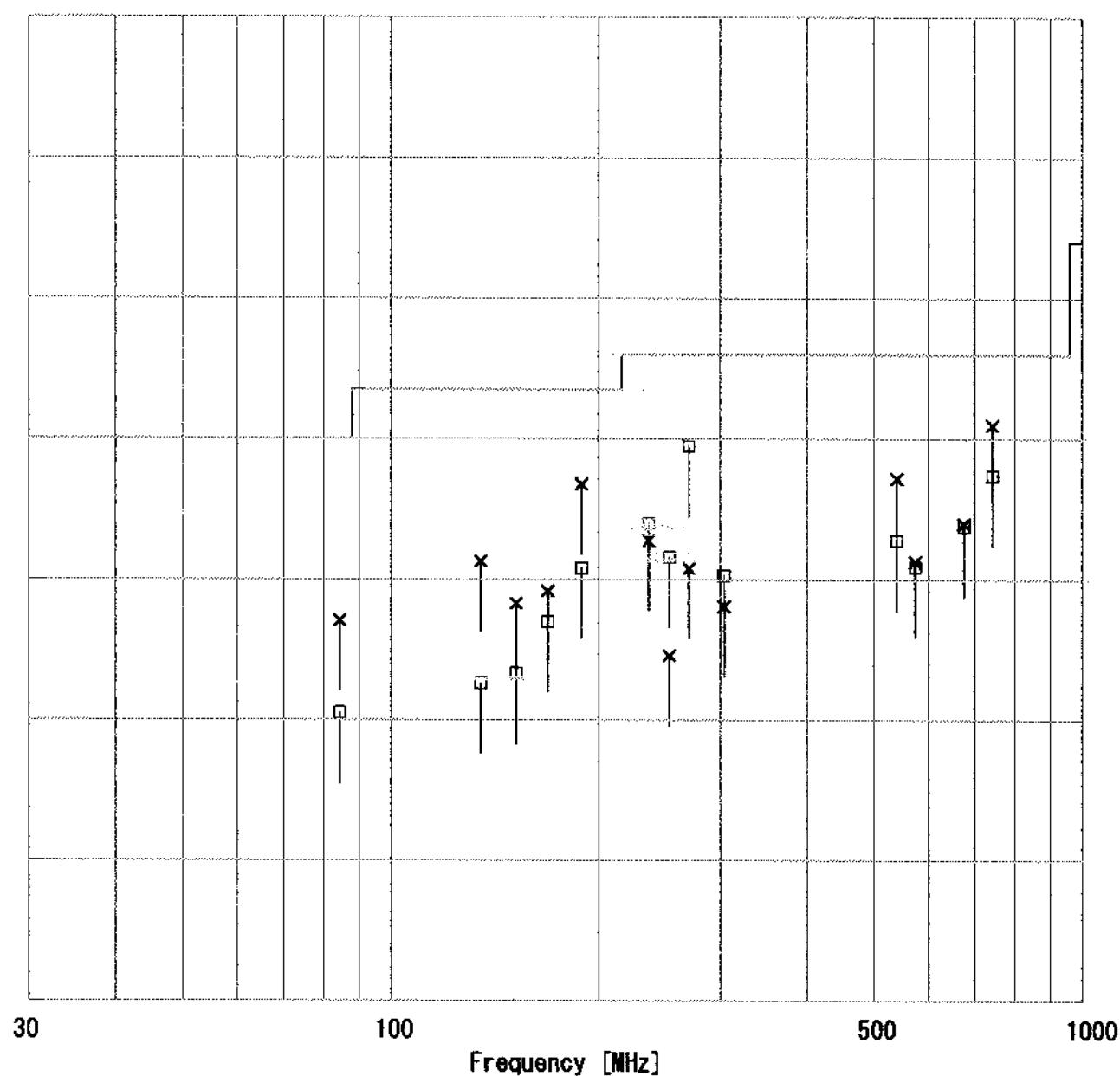
20

10

0

Horizontal

\times Vertical



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
 Kind of Equipment : DVD Player And VCR
 Model No. : HR-XVC25U
 Serial No. : -
 Power : AC120V/60Hz
 Mode : VCR Playback
 Remarks : -
 Date : 3/6/2003
 Test Distance : 3 m
 Temperature : 21 °C
 Humidity : 43 %
 Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka

No.	FREQ. [MHz]	ANT TYPE	READING	ANT	AMP	CABLE	ATTEN.	RESULT	LIMITS	MARGIN		
			HOR [dB μ V]	VER [dB/m]	FACTOR	GAIN [dB]	LOSS [dB]	[dB]	HOR [dB μ V/m]	VER [dB μ V/m]	HOR [dB]	VER [dB]
1.	84.37	BB	30.2	35.9	7.0	27.8	1.9	6.0	17.3	23.0	40.0	22.7
2.	134.99	BB	36.0	40.9	14.0	27.9	2.5	6.0	30.6	35.5	43.5	12.9
3.	151.88	BB	30.2	33.3	14.6	27.7	2.6	6.0	25.7	28.8	43.5	17.8
4.	168.76	BB	31.9	33.9	15.2	27.8	2.8	6.0	28.1	30.1	43.5	15.4
5.	189.00	BB	34.3	33.2	16.0	27.8	3.0	6.0	31.5	30.4	43.5	12.0
6.	236.25	BB	34.5	30.9	16.5	27.6	3.1	6.0	32.5	28.9	46.0	13.5
7.	253.14	BB	34.1	26.3	16.8	27.3	3.1	6.0	32.7	24.9	46.0	13.3
8.	270.00	BB	40.3	32.3	17.9	27.7	3.5	6.1	40.1	32.1	46.0	5.9
9.	404.99	BB	34.1	31.6	17.9	28.0	4.6	6.0	34.6	32.1	46.0	11.4
10.	540.00	BB	25.1	35.0	19.6	27.7	5.5	6.1	28.6	38.5	46.0	17.4
11.	573.74	BB	24.0	30.6	19.9	27.7	5.7	6.0	27.9	34.5	46.0	18.1
12.	675.00	BB	24.8	28.0	21.4	27.3	6.3	6.1	31.3	34.5	46.0	14.7
13.	742.49	BB	28.3	32.1	22.4	27.2	6.6	6.1	36.2	40.0	46.0	9.8

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

Except for the above table: adequate margin data below the limits.
ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player And VCR
Model No. : HR-XVC25U
Serial No. : -
Power : AC120V/60Hz
Mode : VCR Playback
Remarks : -
Date : 3/6/2003
Test Distance : 3 m
Temperature : 21 °C
Humidity : 43 %
Regulation : FCC Part15B CLASS B

Engineer

Hiroyuki Kioka

Emission Level [dB μ V/m]

Horizontal

\times Vertical

70

60

50

40

30

20

10

30

100

500

1000

Frequency [MHz]



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player And VCR
Model No. : HR-XVC25U
Serial No. : -
Power : AC120V/60Hz
Mode : DVD Play
Remarks : -
Date : 3/18/2003
Test Distance : 3 m
Temperature : 21 °C
Humidity : 43 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka



No.	FREQ. [MHz]	ANT TYPE	READING	ANT	AMP	CABLE	ATTEN.	RESULT	LIMITS	MARGIN			
			HOR [dB μ V]	VER [dB/m]	FACTOR	GAIN [dB]	LOSS [dB]	[dB]	HOR [dB μ V/m]	VER [dB μ V/m]	HOR [dB]		
1.	108.01	BB	30.4	33.6	11.2	29.8	2.7	6.0	20.5	23.7	43.5	23.0	19.8
2.	120.00	BB	31.8	31.2	13.2	29.8	2.5	6.0	23.7	23.1	43.5	19.8	20.4
3.	135.00	BB	38.3	41.5	14.4	29.7	2.7	6.0	31.7	34.9	43.5	11.8	8.6
4.	151.86	BB	31.7	38.4	15.0	29.7	2.8	6.0	25.8	32.5	43.5	17.7	11.0
5.	189.00	BB	34.4	35.5	15.7	29.8	3.2	6.0	29.5	30.6	43.5	14.0	12.9
6.	216.01	BB	37.8	31.6	15.9	29.7	3.4	6.0	33.4	27.2	46.0	12.6	18.8
7.	254.50	BB	28.2	23.3	17.4	29.8	3.8	6.0	25.6	20.7	46.0	20.4	25.3
8.	270.00	BB	34.8	30.0	18.0	29.8	3.9	6.1	33.0	28.2	46.0	13.0	17.8
9.	377.99	BB	29.6	28.2	15.2	30.2	4.8	6.1	25.5	24.1	46.0	20.5	21.9
10.	539.99	BB	29.5	34.4	18.3	30.0	5.8	6.1	29.7	34.6	46.0	16.3	11.4
11.	675.00	BB	32.8	34.0	20.2	30.0	6.6	6.1	35.7	36.9	46.0	10.3	9.1
12.	742.49	BB	25.6	31.6	20.7	30.4	7.1	6.1	29.1	35.1	46.0	16.9	10.9
13.	1079.96	BB	48.9	50.3	24.9	34.8	1.5	0.0	40.5	41.9	54.0	13.5	12.1
14.	1282.49	BB	46.6	50.2	25.8	34.4	1.7	0.0	39.7	43.3	54.0	14.3	10.7
15.	1552.48	BB	46.1	49.4	27.2	34.0	2.0	0.0	41.3	44.6	54.0	12.7	9.4

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

Except for the above table : adequate margin data below the limits.
ANT. TYPE : 30-300MHz Biconical, 300-1000MHz Logperiodic, 1-2GHz DRG Horn

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
 Kind of Equipment : DVD Player And VCR
 Model No. : HR-XVC25U
 Serial No. :
 Power : AC120V/60Hz
 Mode : DVD Play
 Remarks :
 Date : 3/18/2003
 Test Distance : 3 m
 Temperature : 21 °C
 Humidity : 43 %
 Regulation : FCC Part15B CLASS B

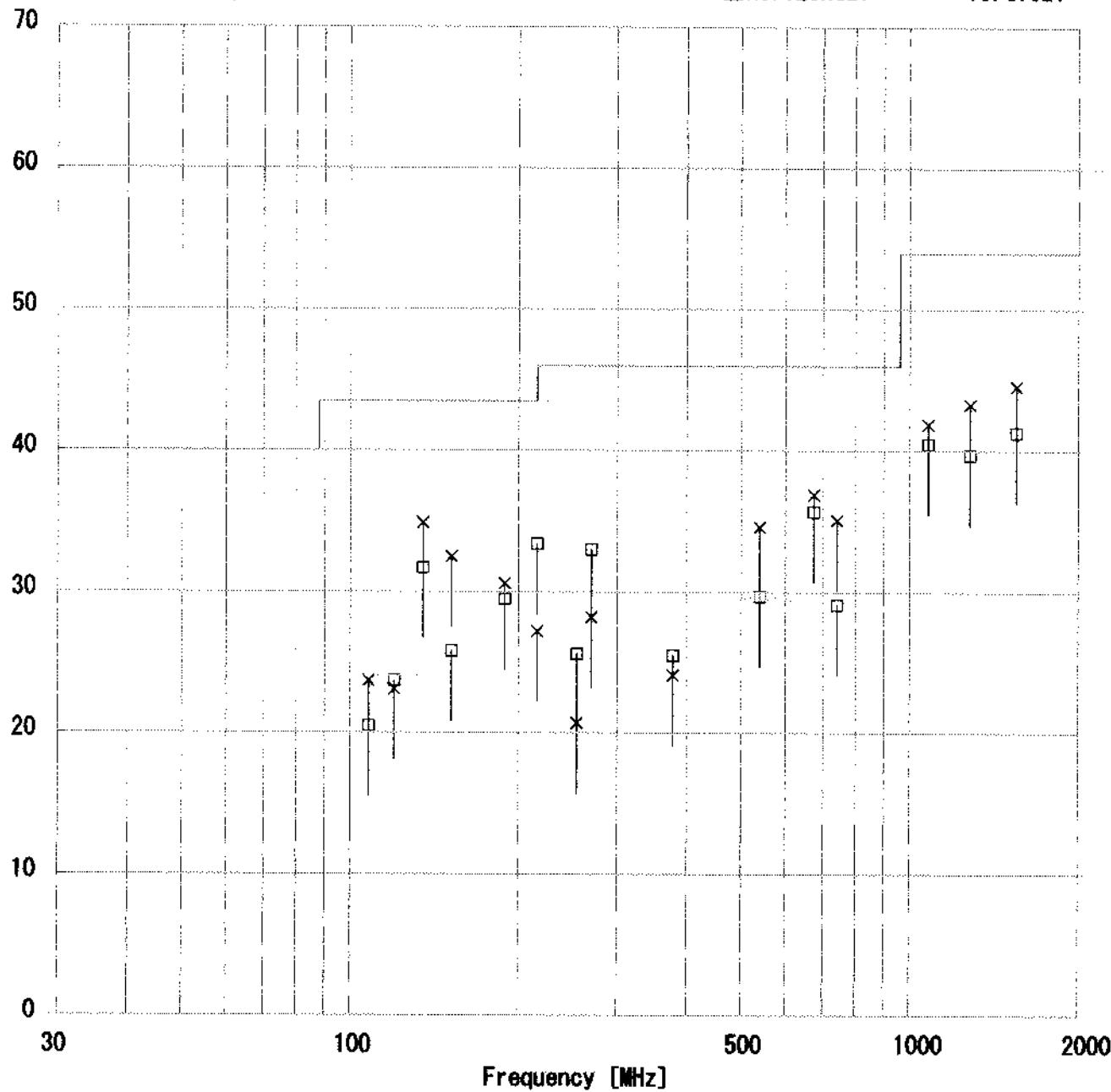
Engineer : Hisayuki Kioka



Emission Level [dB μ V/m]

Horizontal

\times Vertical



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
 Kind of Equipment : DVD Player And VCR
 Model No. : HR-XVC25U
 Serial No. : -
 Power : AC120V/60Hz
 Mode : DVD Play
 Remarks : Test Channel #3
 Date : 3/6/2003
 Test Distance : 3 m
 Temperature : 21 °C
 Humidity : 43 %
 Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka



No.	FREQ. [MHz]	ANT TYPE	READING	ANT	AMP	CABLE	ATTEN.	RESULT	LIMITS	MARGIN			
			HOR [dB μ V]	VER [dB/m]	GAIN [dB]	LOSS [dB]	[dB]	HOR [dB μ V/m]	VER [dB μ V/m]	HOR [dB]			
1.	61.25	BB	30.6	34.7	8.2	27.9	1.6	5.9	18.4	22.5	40.0	21.6	17.5
2.	65.75	BB	31.6	36.4	7.4	27.8	1.7	6.0	18.9	23.7	40.0	21.1	16.3
3.	122.50	BB	22.9	25.0	13.5	27.9	2.3	6.0	16.8	18.9	43.5	26.7	24.6
4.	245.00	BB	24.8	23.6	16.6	27.4	3.1	6.0	23.1	21.9	46.0	22.9	24.1

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

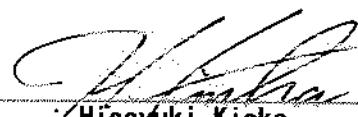
Except for the above table: adequate margin data below the limits.
 ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player And VCR
Model No. : HR-XVC25U
Serial No. : -
Power : AC120V/60Hz
Mode : DVD Play
Remarks : Test Channel #3
Date : 3/6/2003
Test Distance : 3 m
Temperature : 21 °C
Humidity : 43 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka



Emission Level [dB μ V/m]

70

60

50

40

30

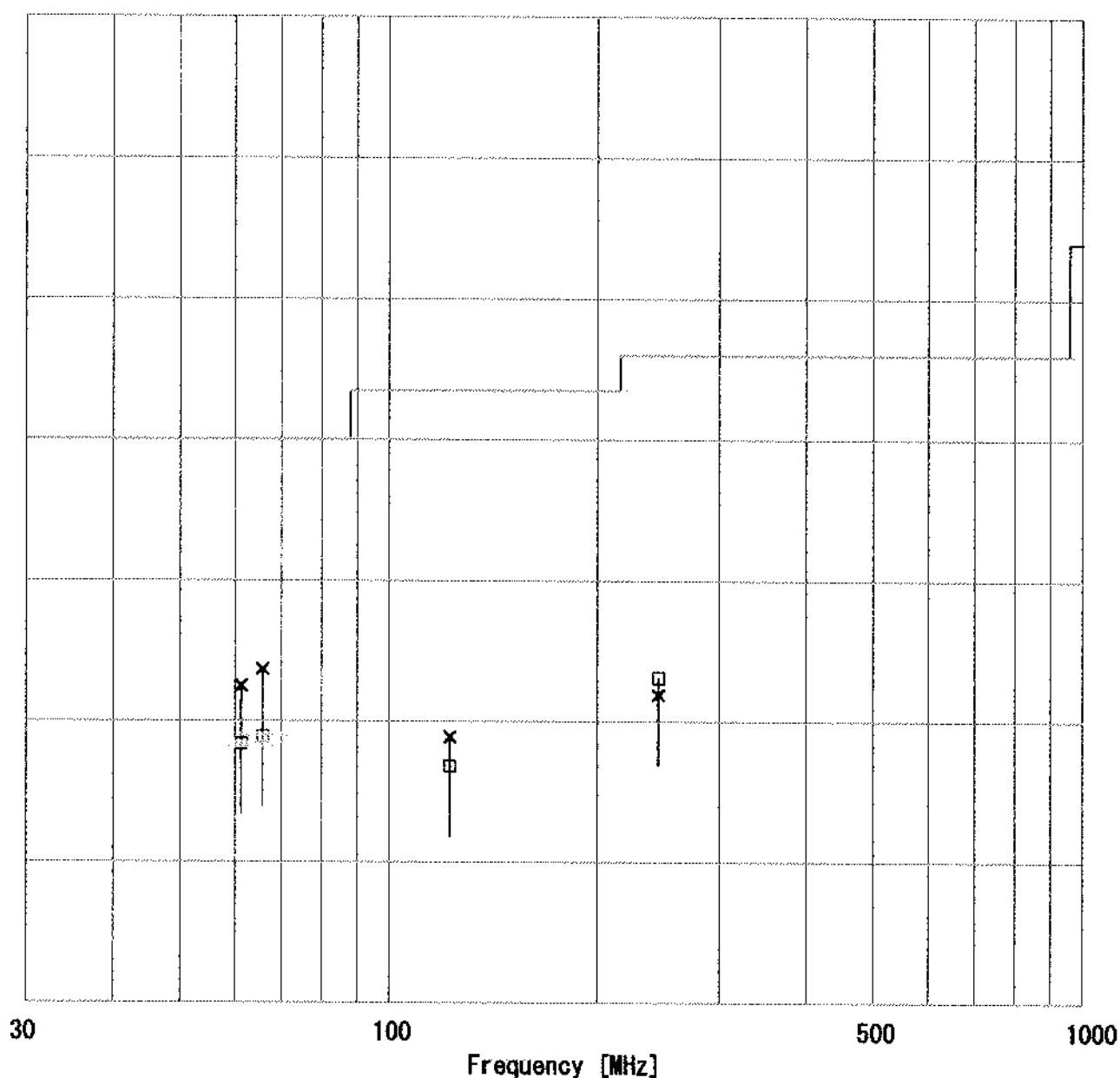
20

10

0

Horizontal

Vertical



DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
 Kind of Equipment : DVD Player And VCR
 Model No. : HR-XVC25U
 Serial No. :
 Power : AC120V/60Hz
 Mode : DVD Play
 Remarks : Test Channel #4
 Date : 3/6/2003
 Test Distance : 3 m
 Temperature : 21 °C
 Humidity : 43 %
 Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka



No.	FREQ. [MHz]	ANT TYPE	READING	ANT	AMP	CABLE	ATTEN.	RESULT	LIMITS	MARGIN
			HOR [dB μ V]	VER [dB/m]	GAIN [dB]	LOSS [dB]	[dB]	HOR [dB μ V/m]	VER [dB μ V/m]	HOR [dB]
1.	67.25	BB	31.1	35.5	7.1	27.9	1.7	6.0	18.0	22.4
2.	71.75	BB	32.6	35.7	6.6	27.9	1.8	6.0	19.1	22.2
3.	134.50	BB	24.3	24.4	14.0	27.9	2.5	6.0	18.9	19.0
4.	201.75	BB	23.3	23.0	16.2	27.8	3.1	6.0	20.8	20.5
									40.0	22.0
									20.9	17.8
									43.5	24.6
									24.5	22.7
									22.7	23.0

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

Except for the above table: adequate margin data below the limits.
 ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 23HE0021-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player And VCR
Model No. : HR-XVC25U
Serial No. : -
Power : AC120V/60Hz
Mode : DVD Play
Remarks : Test Channel #4
Date : 3/6/2003
Test Distance : 3 m
Temperature : 21 °C
Humidity : 43 %
Regulation : FCC Part15B CLASS B

Engineer  Misayuki Kioka

Emission Level [dB μ V/m]

70

60

50

40

30

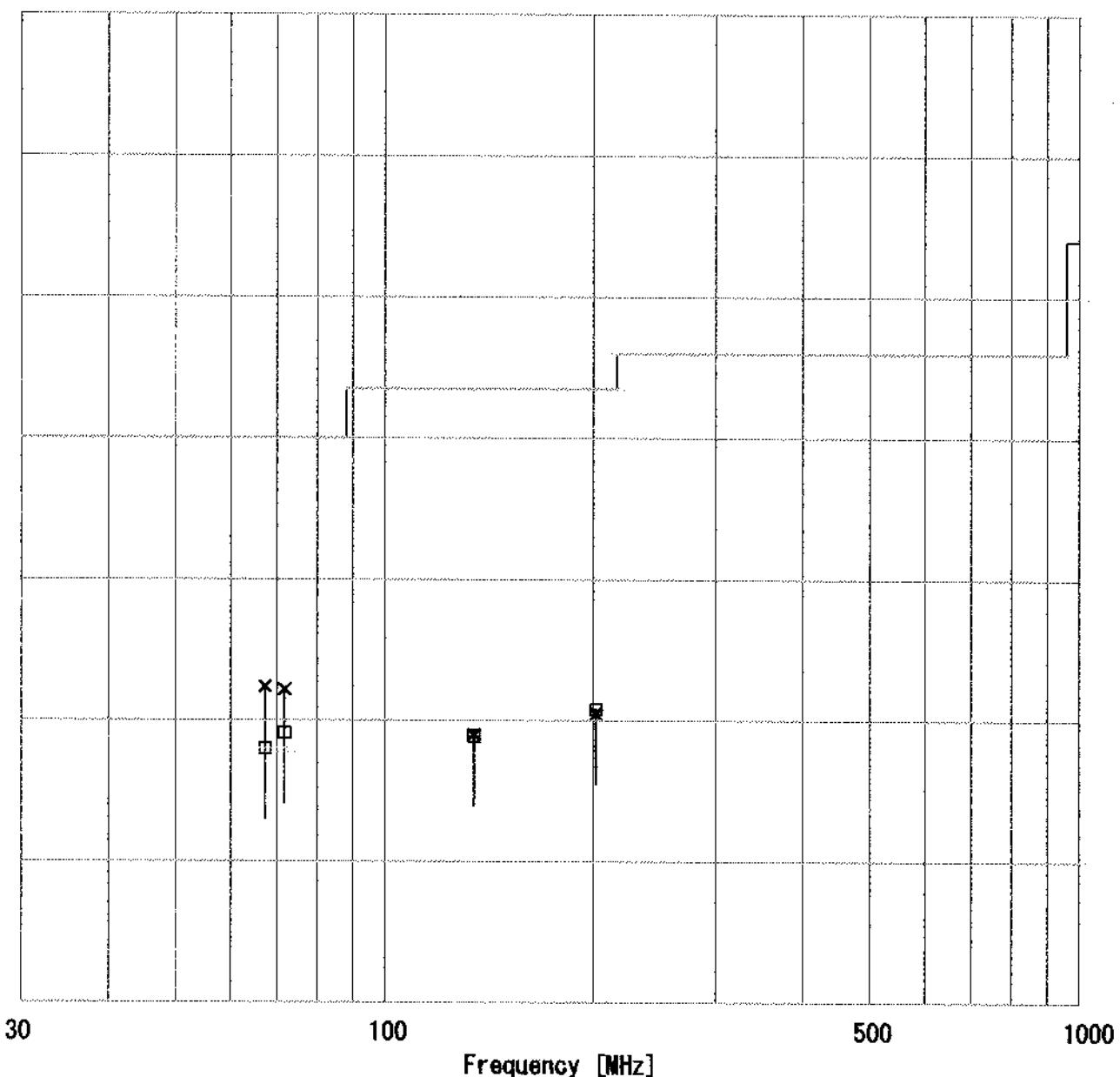
20

10

0

Horizontal

Vertical



DATA OF ANTENNA TERMINAL TEST

A-PEX INTERNATIONAL CO., LTD.
Date : 2003/03/10 22:28:36

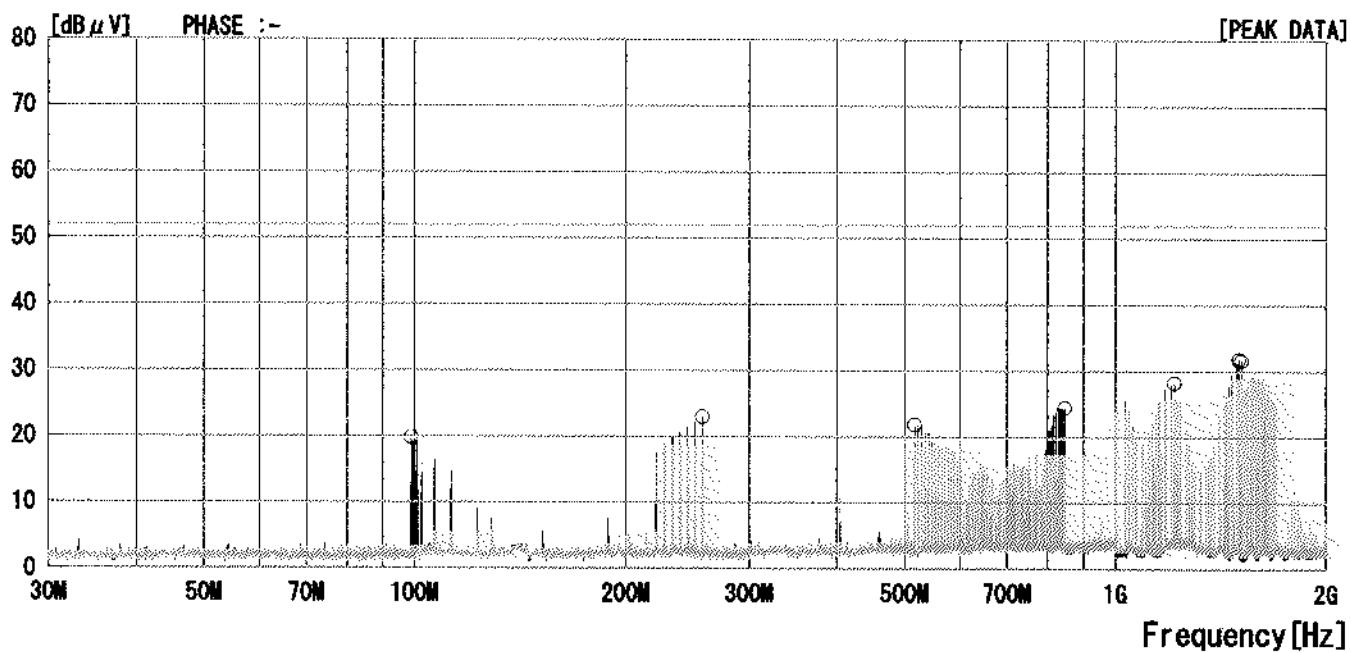
COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD Player and VCR
MODEL : HR-XVC25U
OPERATION MODE : TV TUNING MODE

REPORT NO : 23HE0021-YW-1
DATE : March 10, 2003
REGULATION : FCC Part 15 Subpart B
TEST ENGINEER : Sadahiko Tanaka

TEMP. / HUMID. : 22°C / 45%

LIMIT : FCC 15B ANTENNA TERMINAL

S. Tanaka



NO	FREQ [MHz]	READING(PK) [dB μV]	C.F [dB]	RESULT [dB μV]	LIMIT		MARGIN		PHASE
					QP [dB μV]	AV [dB μV]	QP [dB]	AV [dB]	
1	98.88000	41.0	-21.2	19.8	52.0	—	32.2	—	-
2	257.19800	44.0	-21.0	23.0	52.0	—	29.0	—	-
3	517.19702	43.3	-21.5	21.8	52.0	—	30.2	—	-
4	846.99402	45.1	-20.7	24.4	52.0	—	27.6	—	-
5	1214.00000	55.3	-27.1	28.2	52.0	—	23.8	—	-
6	1501.50000	58.5	-26.7	31.8	52.0	—	20.2	—	-
7	1513.50000	58.3	-26.7	31.6	52.0	—	20.4	—	-

CALCULATION: READING+MATCHING PAD LOSS+CABLE LOSS-AMP. GAIN

DATA OF ANTENNA TERMINAL TEST

A-PEX INTERNATIONAL CO., LTD.
Date : 2003/03/11 04:41:35

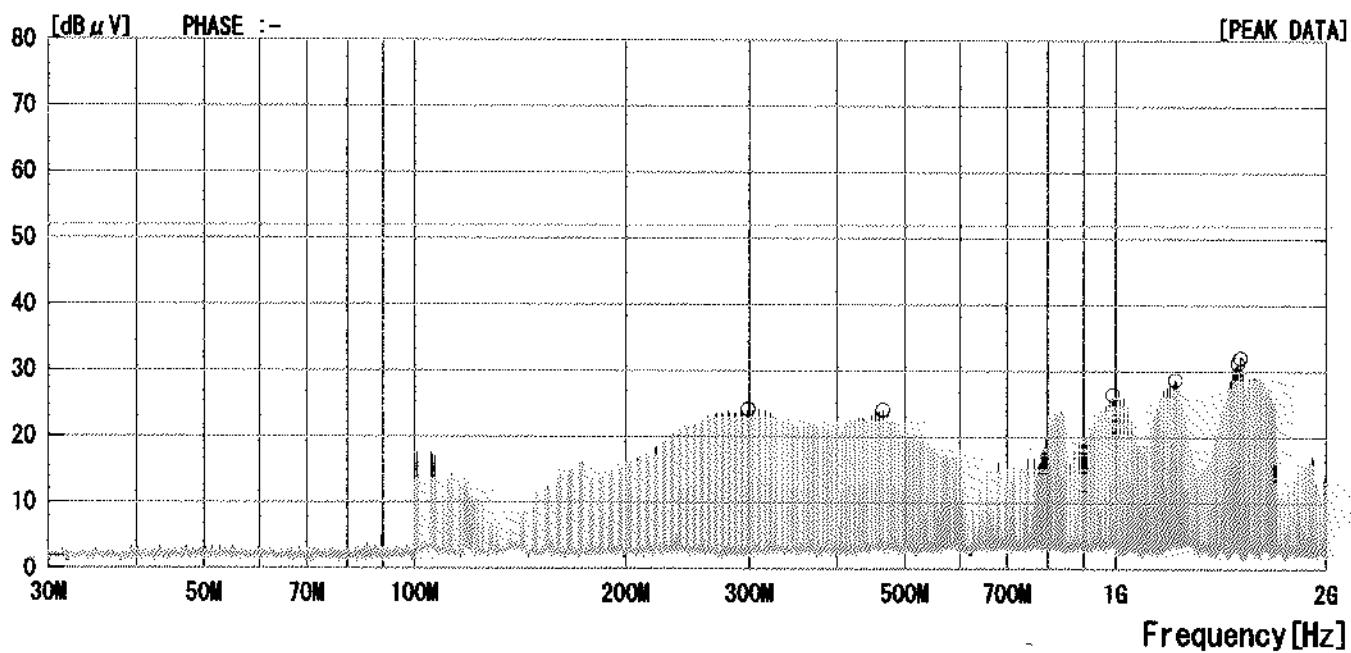
COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD Player and VCR
MODEL : HR-XVC25U
OPERATION MODE : CATV TUNING MODE

REPORT NO. : 23HE0021-YW-1
DATE : March 10, 2003
REGULATION : FCC Part 15 Subpart B
TEST ENGINEER : Sadahiko Tanaka

TEMP. / HUMID. : 22°C / 45%

LIMIT : FCC 15B ANTENNA TERMINAL

S. Tanaka



NO	FREQ [MHz]	READING(PK) [dB μ V]	C.F [dB]	RESULT [dB μ V]	LIMIT		MARGIN		PHASE
					QP [dB μ V]	AV [dB μ V]	QP [dB]	AV [dB]	
1	299.39999	45.4	-21.2	24.2	52.0	—	27.8	—	—
2	465.59698	45.4	-21.3	24.1	52.0	—	27.9	—	—
3	991.88800	46.4	-20.0	26.4	52.0	—	25.6	—	—
4	1219.50000	55.8	-27.1	28.7	52.0	—	23.3	—	—
5	1496.00000	57.9	-26.7	31.2	52.0	—	20.8	—	—
6	1509.50000	58.7	-26.7	32.0	52.0	—	20.0	—	—

CALCULATION: READING+MATCHING PAD LOSS+CABLE LOSS-AMP. GAIN

RF output level

A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LAB.

Company	: Orion Electric Co.,Ltd.	Report Number	: 23HE0021-YW-1
Equipment	: DVD Player and VCR	Regulation	: FCC Part 15 Subpart B
Model number	: HR-XVC25U	Date	: March 10, 2003
Power	: AC 120 V / 60 Hz	Temp. / Humid.	: 21°C / 43%
Description	: TV Reception + Rec. (0dBmV)		

Engineer : S. Tanaka
 : Sadahiko Tanaka

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor	Result [dB]	Limits [dBuV]	Margin [dB]
			[dB]			
3	61.25	86.8	21.2	65.6	69.5	3.9
4	67.25	86.2	21.2	65.0	69.5	4.5

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor	Result [dB]	Limits [dBuV]	Margin [dB]
			[dB]			
3	56.75	73.8	21.2	52.6	56.5	3.9
	65.75	72.9	21.2	51.7	56.5	4.8
4	62.75	74.0	21.2	52.8	56.5	3.7
	71.75	72.0	21.1	50.9	56.5	5.6



RF output level

A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LAB.

Company	: Orion Electric Co.,Ltd.	Report Number	: 23HE0021-YW-1
Equipment	: DVD Player and VCR	Regulation	: FCC Part 15 Subpart B
Model number	: HR-XVC25U	Date	: March 10, 2003
Power	: AC 120 V / 60 Hz	Temp. / Humid.	: 21°C / 43%
Description	: TV Reception + Rec. (25dBmV)		

Engineer : Sadahiko Tanaka

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	86.8	21.2	65.6	69.5	3.9
4	67.25	86.2	21.2	65.0	69.5	4.5

Audio signal

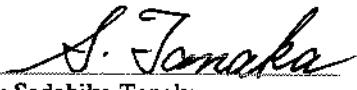
Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	73.7	21.2	52.5	56.5	4.0
	65.75	72.6	21.2	51.4	56.5	5.1
4	62.75	73.1	21.2	51.9	56.5	4.6
	71.75	72.0	21.1	50.9	56.5	5.7

RF output level

A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LAB.

Company : Orion Electric Co.,Ltd.
Equipment : DVD Player and VCR
Model number : HR-XVC25U
Power : AC 120 V / 60 Hz
Description : AV Input + Rec. (1V p-p)

Report Number : 23HE0021-YW-1
Regulation : FCC Part 15 Subpart B
Date : March 10, 2003
Temp. / Humid. : 21°C / 43%

Engineer : 
Sadahiko Tanaka

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	87.2	21.2	66.0	69.5	3.5
4	67.25	87.5	21.2	66.3	69.5	3.2

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	74.0	21.2	52.8	56.5	3.7
	65.75	72.9	21.2	51.7	56.5	4.8
4	62.75	73.4	21.2	52.2	56.5	4.3
	71.75	72.2	21.1	51.1	56.5	5.4

RF output level

A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LAB.

Company	:	Orion Electric Co.,Ltd.	Report Number	:	23HE0021-YW-1
Equipment	:	DVD Player and VCR	Regulation	:	FCC Part 15 Subpart B
Model number	:	HR-XVC25U	Date	:	March 10, 2003
Power	:	AC 120 V / 60 Hz	Temp. / Humid.	:	21°C / 43%
Description	:	AV Input + Rec. (5V p-p)			

Engineer : S. Tanaka
: Sadahiko Tanaka

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	87.3	21.2	66.1	69.5	3.4
4	67.25	87.5	21.2	66.3	69.5	3.2

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	73.9	21.2	52.7	56.5	3.8
	65.75	72.8	21.2	51.6	56.5	4.9
4	62.75	73.3	20.4	52.9	56.5	3.6
	71.75	72.1	20.4	51.7	56.5	4.8

RF output level

A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LAB.

Company : Orion Electric Co.,Ltd.
 Equipment : DVD Player and VCR
 Model number : HR-XVC25U
 Power : AC 120 V / 60 Hz
 Description : VCR Playback

Report Number : 23HE0021-YW-1
 Regulation : FCC Part 15 Subpart B
 Date : March 10, 2003
 Temp. / Humid. : 21°C / 43%

Engineer : 
 Sadahiko Tanaka

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	87.1	21.2	65.9	69.5	3.6
4	67.25	87.0	21.2	65.8	69.5	3.7

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	73.8	21.2	52.6	56.5	3.9
	65.75	72.6	21.2	51.4	56.5	5.1
4	62.75	73.1	21.2	51.9	56.5	4.6
	71.75	72.0	21.1	50.9	56.5	5.6

RF output level

A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LAB.

Company : Orion Electric Co.,Ltd.
 Equipment : DVD Player and VCR
 Model number : HR-XVC25U
 Power : AC 120 V / 60 Hz
 Description : DVD Play

Report Number : 23HE0021-YW-1
 Regulation : FCC Part 15 Subpart B
 Date : March 10, 2003
 Temp. / Humid. : 21°C / 43%

Engineer : *S. Tanaka*
 : Sadahiko Tanaka

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction	Result [dB]	Limits [dBuV]	Margin [dB]
			factor [dB]			
3	61.25	87.2	21.2	66.0	69.5	3.5
4	67.25	86.9	21.2	65.7	69.5	3.8

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction	Result [dB]	Limits [dBuV]	Margin [dB]
			factor [dB]			
3	56.75	73.8	21.2	52.6	56.5	3.9
	65.75	72.7	21.2	51.5	56.5	5.1
4	62.75	73.2	21.2	52.0	56.5	4.5
	71.75	72.0	21.1	50.9	56.5	5.6

DATA OF RF SPURIOUS

A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LABORATORY

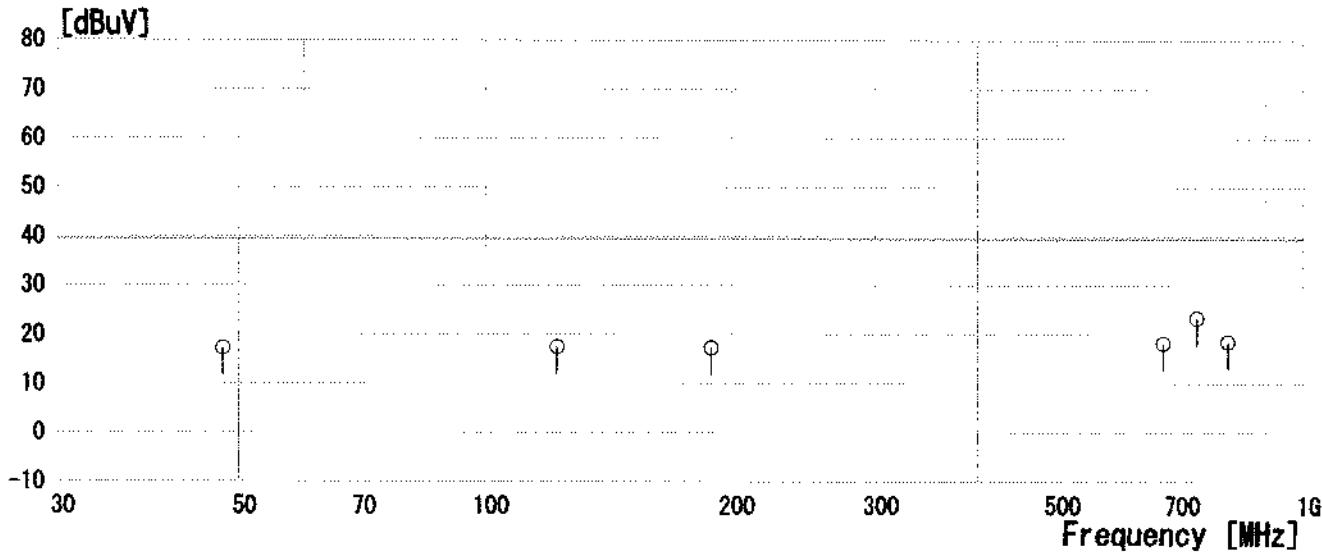
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE : TV Reception + Rec
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : 0dBmV Input
REMARKS 2 : 3CH Output

REPORT NO. : 23HE0021-YW-1
DATE : March 10, 2003
REGULATION : FCC PART15 SUBPART B

S. Tanaka
Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT [dBuV]	LIMIT		MARGIN	
		QP [dBuV]	AV			QP [dBuV]	AV	QP [dBuV]	AV
1	47.800	38.4	—	-21.2	17.2	—	39.5	—	22.3
2	122.500	38.2	—	-20.7	17.5	—	39.5	—	22.0
3	189.050	38.0	—	-20.7	17.3	—	39.5	—	22.2
4	675.200	38.7	—	-20.5	18.2	—	39.5	—	21.3
5	742.300	43.8	—	-20.4	23.4	—	39.5	—	16.1
6	809.800	38.9	—	-20.4	18.5	—	39.5	—	21.0

CALCULATION: READING + CORRECTION FACTOR
 CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dB μ V]
 + CABLE LOSS[dB μ V] - AMPLIFIER GAIN[dB μ V]



DATA OF RF SPURIOUS

A-PEX INTERNATIONAL CO., LTD.
YOKOHA EMC LABORATORY

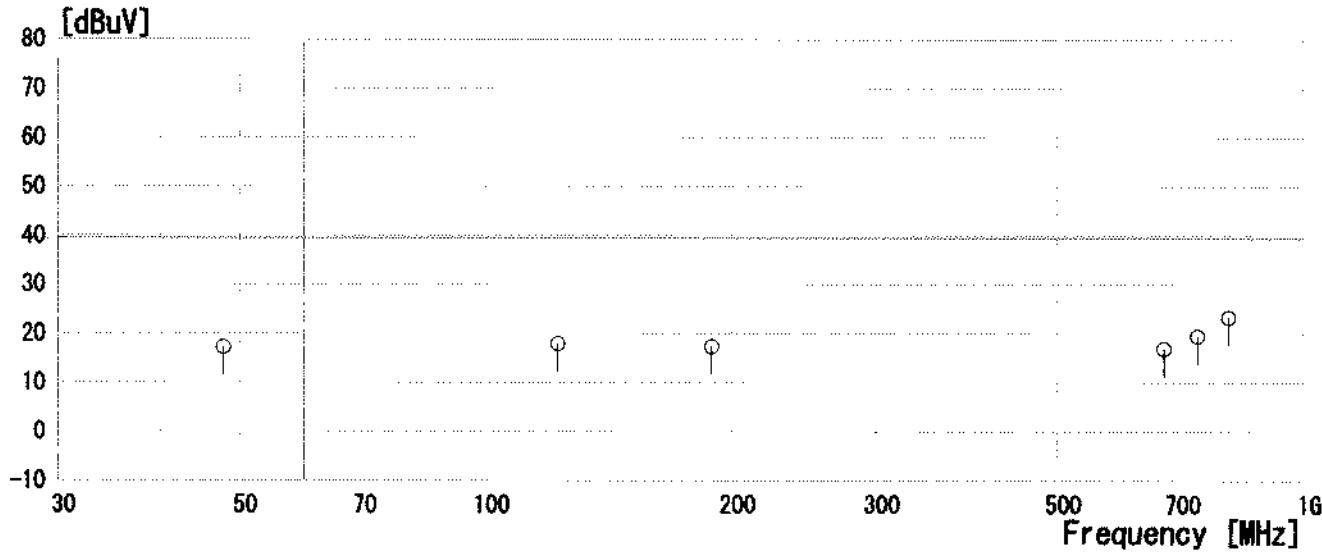
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE : TV Reception + Rec
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : 25dBmV Input
REMARKS 2 : 3CH Output

REPORT NO. : 23HE0021-YW-1
DATE : March 10, 2003
REGULATION : FCC PART15 SUBPART B

A. Tanaka
Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT QP [dBuV]	LIMIT		MARGIN	
		QP [dBuV]	AV			QP [dBuV]	AV	QP [dBuV]	AV
1	47.800	38.4	—	-21.2	17.2	—	39.5	—	22.3
2	122.500	38.6	—	-20.7	17.9	—	39.5	—	21.6
3	189.050	38.1	—	-20.7	17.4	—	39.5	—	22.1
4	675.200	37.4	—	-20.5	16.9	—	39.5	—	22.6
5	809.800	43.7	—	-20.4	23.3	—	39.5	—	16.2
6	742.300	39.9	—	-20.4	19.5	—	39.5	—	20.0

CALCULATION: READING + CORRECTION FACTOR
 CORRECTION FACTOR = MATCHING PAD LOSS 7.8 [dB μ V]
 + CABLE LOSS [dB μ V] - AMPLIFIER GAIN [dB μ V]



DATA OF RF SPURIOUS

A-PEX INTERNATIONAL CO., LTD.
YOKOHA EMC LABORATORY

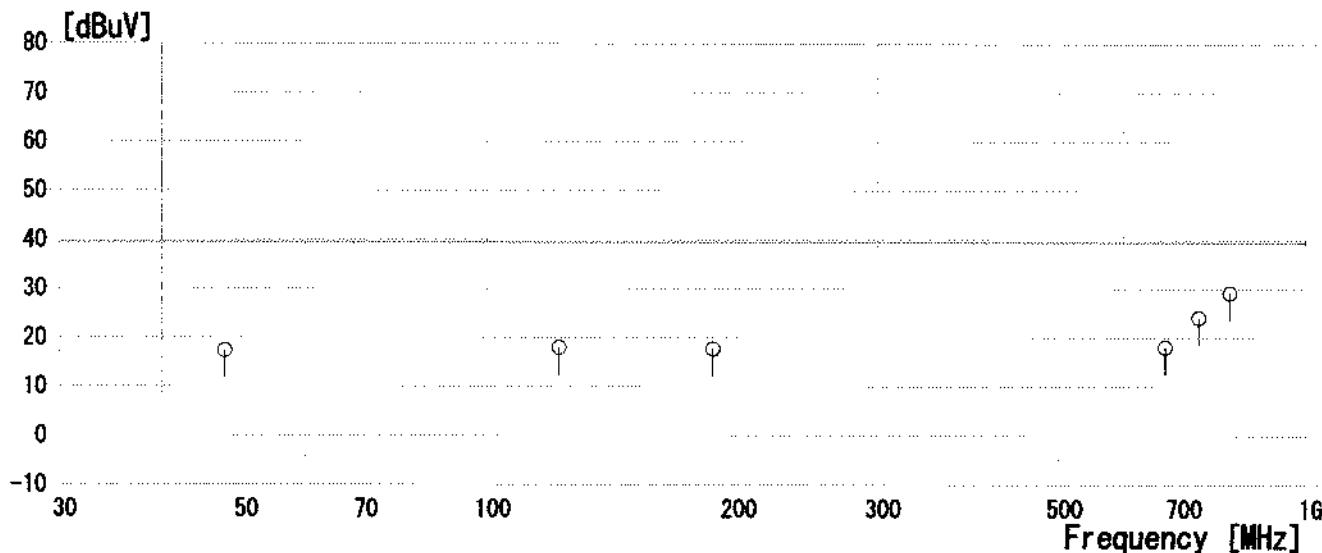
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : MR-XVC25U
OPERATION MODE : AV Input + Rec
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : 1Vp-p Input
REMARKS 2 : 3CH Output

REPORT NO. : 23HE0021-YW-1
DATE : March 10, 2003
REGULATION : FCC PART15 SUBPART B

S. Tanaka
Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP [dBuV]	AV		QP [dBuV]	AV	QP [dBuV]	AV	QP [dB]	AV
1	47.800	38.6	—	-21.2	17.4	—	39.5	—	22.1	—
2	122.500	38.7	—	-20.7	18.0	—	39.5	—	21.5	—
3	189.050	38.4	—	-20.7	17.7	—	39.5	—	21.8	—
4	675.200	38.6	—	-20.5	18.1	—	39.5	—	21.4	—
5	742.300	44.6	—	-20.4	24.2	—	39.5	—	15.3	—
6	809.800	49.6	—	-20.4	29.2	—	39.5	—	10.3	—

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8 [dB μ V]
+ CABLE LOSS [dB μ V] - AMPLIFIER GAIN [dB μ V]



DATA OF RF SPURIOUS

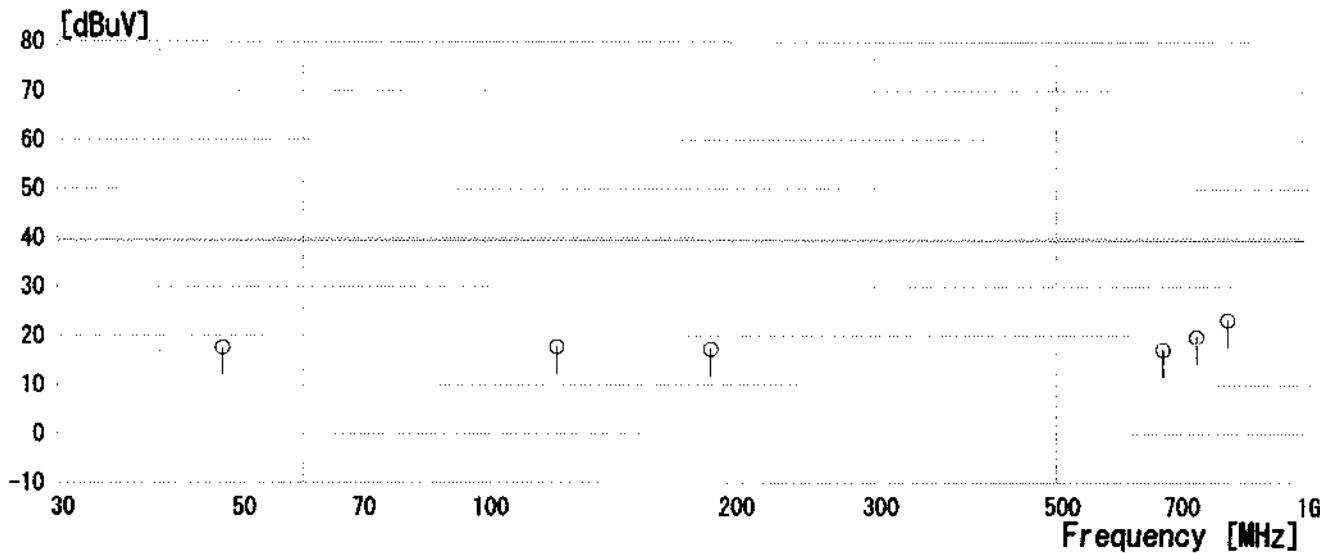
A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LABORATORY

COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE : AV Input + Rec
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : 5Vp-p Input
REMARKS 2 : 3CH Output

REPORT NO. : 23HE0021-YW-1
DATE : March 10, 2003
REGULATION : FCC PART15 SUBPART B
Engineer : *Sadahiko Tanaka*

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP [dBuV]	AV		QP [dBuV]	AV	QP [dBuV]	AV	QP [dBuV]	AV
1	47.800	38.8	—	-21.2	17.6	—	39.5	—	21.9	—
2	122.500	38.5	—	-20.7	17.8	—	39.5	—	21.7	—
3	189.050	38.0	—	-20.7	17.3	—	39.5	—	22.2	—
4	675.200	37.7	—	-20.5	17.2	—	39.5	—	22.3	—
5	742.300	40.2	—	-20.4	19.8	—	39.5	—	19.7	—
6	809.800	43.6	—	-20.4	23.2	—	39.5	—	16.3	—

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dB μ V]
+ CABLE LOSS[dB μ V] - AMPLIFIER GAIN[dB μ V]



DATA OF RF SPURIOUS

A-PEX INTERNATIONAL CO., LTD.
YOKOHA EMC LABORATORY

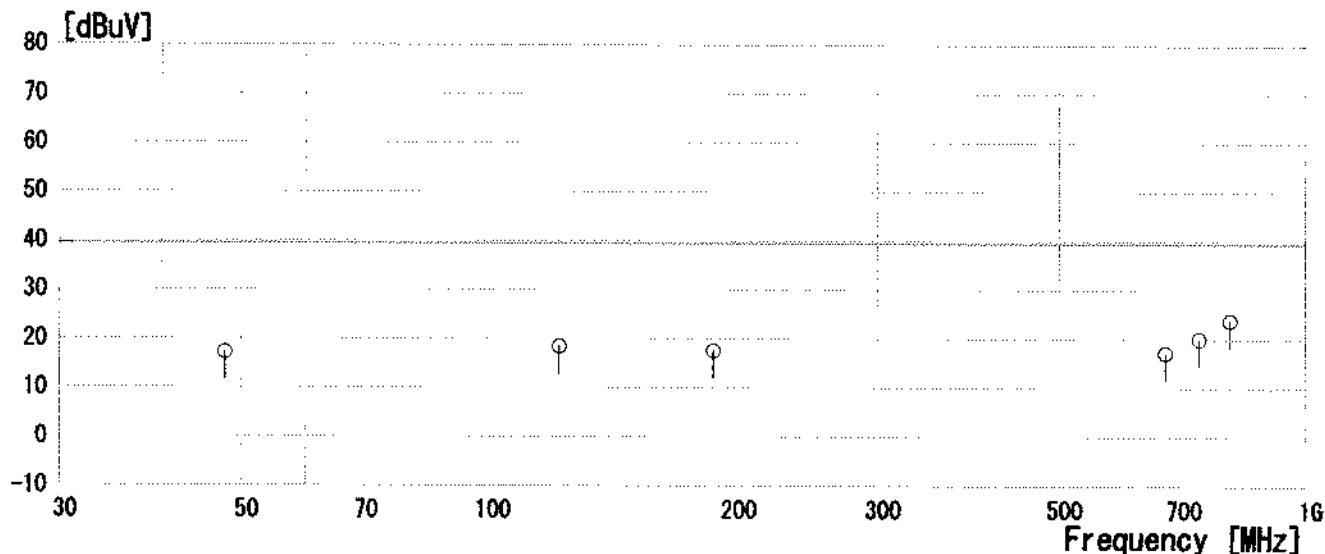
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE : VCR Playback
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : -
REMARKS 2 : 3CH Output

REPORT NO. : 23HE0021-YW-1
DATE : March 10, 2003
REGULATION : FCC PART15 SUBPART B

S. Tanaka
Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP [dBuV]	AV		QP [dBuV]	AV	QP [dBuV]	AV	QP [dBuV]	AV
1	47.800	38.4	—	-21.2	17.2	—	39.5	—	22.3	—
2	122.500	39.2	—	-20.7	18.5	—	39.5	—	21.0	—
3	189.050	38.3	—	-20.7	17.6	—	39.5	—	21.9	—
4	675.200	37.7	—	-20.5	17.2	—	39.5	—	22.3	—
5	742.300	40.5	—	-20.4	20.1	—	39.5	—	19.4	—
6	809.800	44.2	—	-20.4	23.8	—	39.5	—	15.7	—

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8 [dB μ V]
+ CABLE LOSS [dB μ V] - AMPLIFIER GAIN [dB μ V]



DATA OF RF SPURIOUS

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YOKOYA EMC LABORATORY

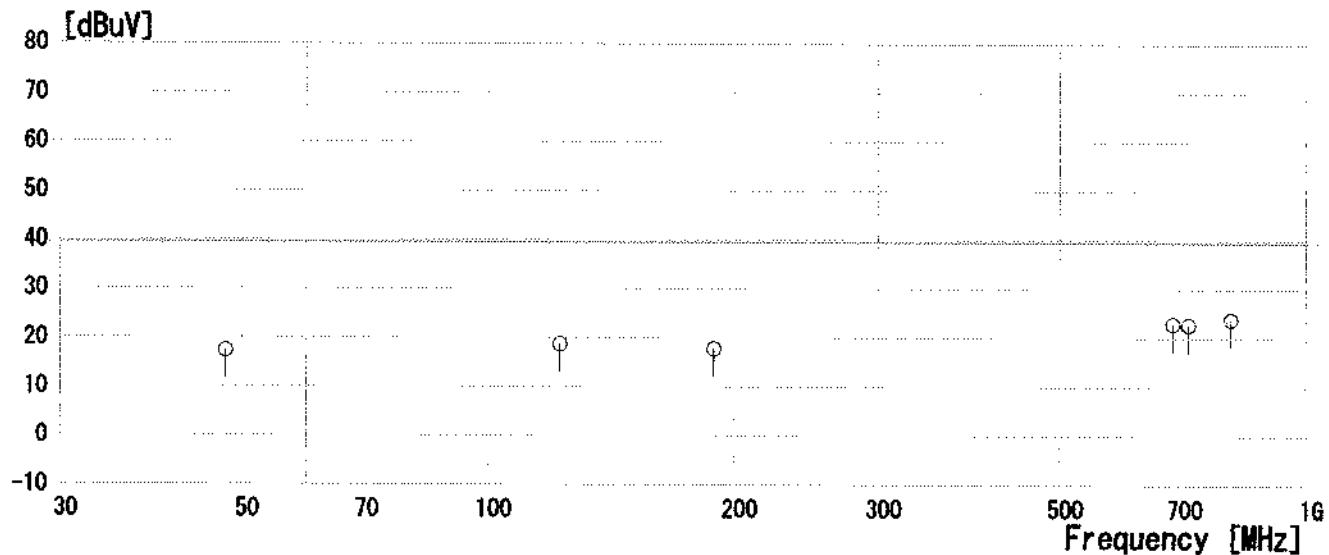
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE : DVD Play
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : -
REMARKS 2 : 3CH Output

REPORT NO. : 23HE0021-YW-1
DATE : March 10, 2003
REGULATION : FCC PART15 SUBPART B

S. Tanaka
Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP [dBuV]	AV		QP [dBuV]	AV	QP [dBuV]	AV	QP [dB]	AV
1	47.800	38.6	—	-21.2	17.4	—	39.5	—	22.1	—
2	122.500	39.4	—	-20.7	18.7	—	39.5	—	20.8	—
3	189.050	38.5	—	-20.7	17.8	—	39.5	—	21.7	—
4	687.760	43.4	—	-20.5	22.9	—	39.5	—	16.6	—
5	718.870	43.2	—	-20.5	22.7	—	39.5	—	16.8	—
6	809.800	44.2	—	-20.4	23.8	—	39.5	—	15.7	—

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8 [dB μ V]
+ CABLE LOSS [dB μ V] - AMPLIFIER GAIN [dB μ V]



DATA OF RF SPURIOUS

A-PEX INTERNATIONAL CO., LTD.
YOKOHA EMC LABORATORY

COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE : TV Reception + Rec
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : 0dBmV Input
REMARKS 2 : 4CH Output

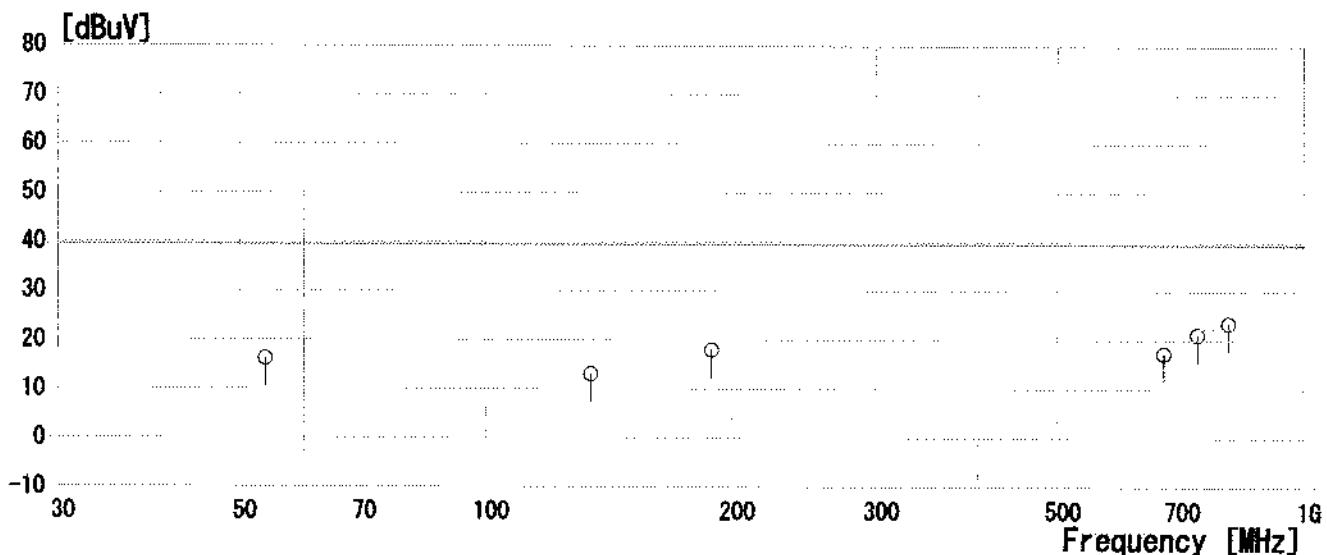
REPORT NO. : 23HE0021-YW-1
DATE : March 10, 2003
REGULATION : FCC PART15 SUBPART B

Engineer: Sadahiko Tanaka

S. Tanaka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP [dBuV]	AV		QP [dBuV]	AV	QP [dBuV]	AV	QP [dB]	AV
1	53.800	37.4	—	-21.2	16.2	—	39.5	—	23.3	—
2	134.550	33.7	—	-20.6	13.1	—	39.5	—	26.4	—
3	189.050	38.7	—	-20.7	18.0	—	39.5	—	21.5	—
4	675.260	37.8	—	-20.5	17.3	—	39.5	—	22.2	—
5	742.300	41.6	—	-20.4	21.2	—	39.5	—	18.3	—
6	809.800	43.9	—	-20.4	23.5	—	39.5	—	16.0	—

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dB μ V]
+ CABLE LOSS[dB μ V] - AMPLIFIER GAIN[dB μ V]



DATA OF RF SPURIOUS

A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LABORATORY

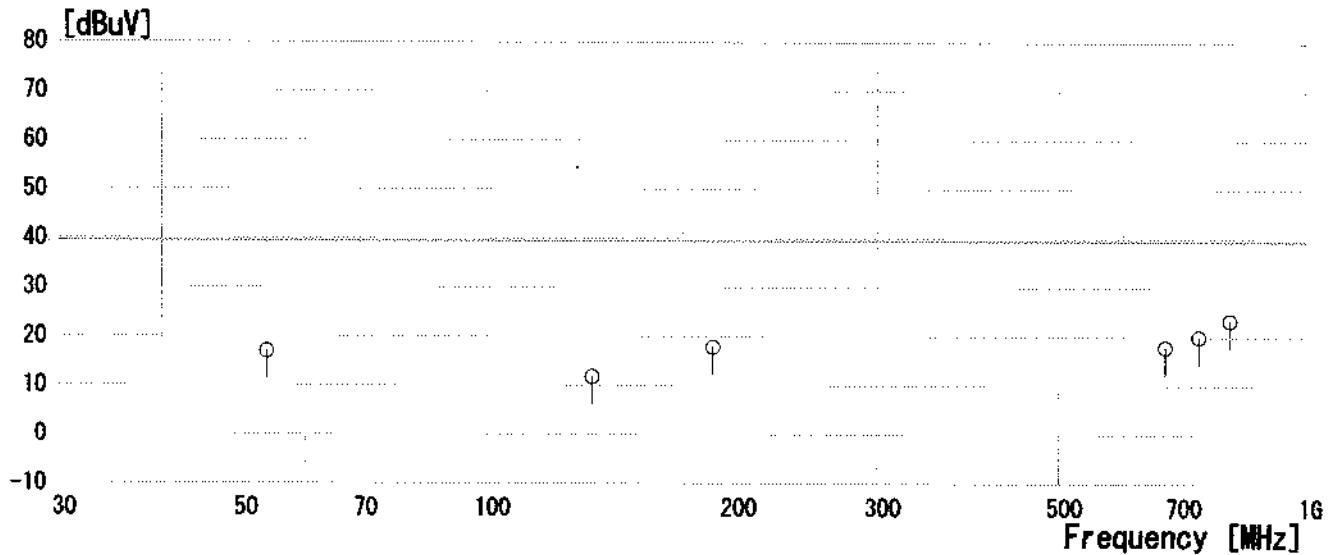
COMPANY : ORION ELECTRIC CO., LTD. **REPORT NO.** : 23HE0021-YW-1
EQUIPMENT : DVD Player and VCR **DATE** : March 10, 2003
Model Name : HR-XVC25U **REGULATION** : FCC PART15 SUBPART B
OPERATION MODE : TV Reception + Rec
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : 25dBmV Input
REMARKS 2 : 4CH Output

S. Tanaka

Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT [dBuV]	LIMIT		MARGIN	
		QP [dBuV]	AV			QP [dBuV]	AV	QP [dBuV]	AV
1	53.800	38.2	—	-21.2	17.0	—	39.5	—	22.5
2	134.550	32.5	—	-20.6	11.8	—	39.5	—	27.7
3	189.050	38.6	—	-20.7	17.9	—	39.5	—	21.6
4	675.260	38.4	—	-20.5	17.9	—	39.5	—	21.6
5	742.300	40.4	—	-20.4	20.0	—	39.5	—	19.5
6	809.800	43.7	—	-20.4	23.3	—	39.5	—	16.2

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8 [dB μ V]
 $+ \text{CABLE LOSS}[\text{dB}\mu\text{V}] - \text{AMPLIFIER GAIN}[\text{dB}\mu\text{V}]$



DATA OF RF SPURIOUS

A-PEX INTERNATIONAL CO., LTD.
YOKOHA EMC LABORATORY

COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE : AV Input + Rec
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : 1Vp-p Input
REMARKS 2 : 4CH Output

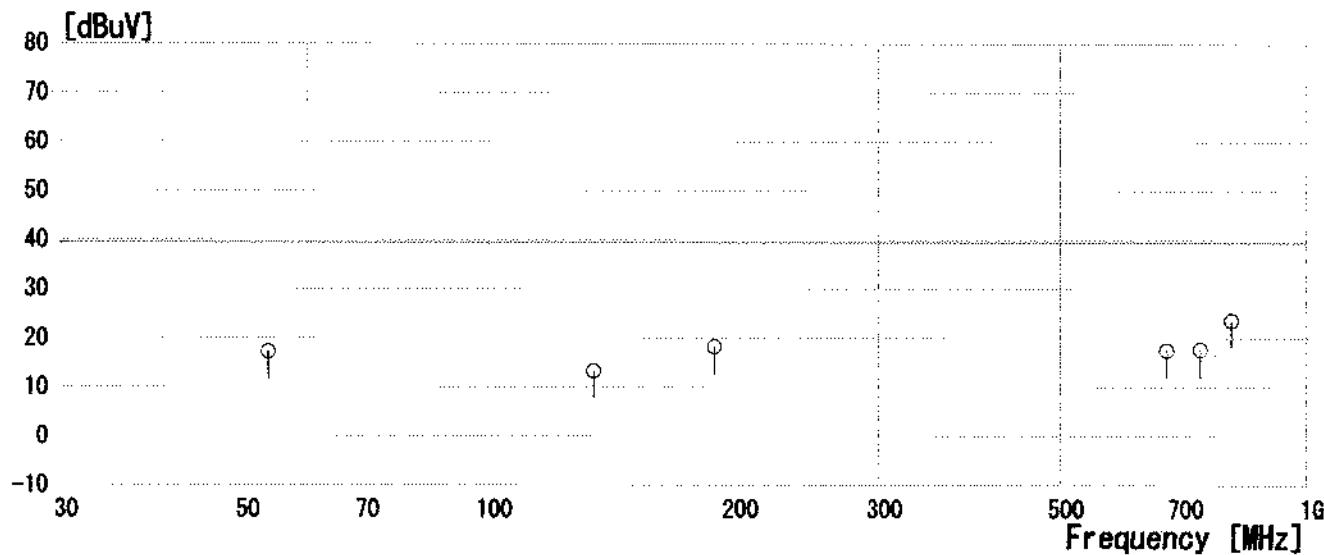
REPORT NO. : 23HE0021-YW-1
DATE : March 10, 2003
REGULATION : FCC PART15 SUBPART B

Engineer : Sadahiko Tanaka

S. Tanaka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP [dBuV]	AV		QP [dBuV]	AV	QP [dBuV]	AV	QP [dBuV]	AV
1	53.800	38.4	—	-21.2	17.2	—	39.5	—	22.3	—
2	134.550	33.9	—	-20.6	13.3	—	39.5	—	26.2	—
3	189.050	39.0	—	-20.7	18.3	—	39.5	—	21.2	—
4	675.260	38.0	—	-20.5	17.5	—	39.5	—	22.0	—
5	742.300	38.1	—	-20.4	17.7	—	39.5	—	21.8	—
6	809.800	44.0	—	-20.4	23.6	—	39.5	—	15.9	—

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dB μ V]
+ CABLE LOSS[dB μ V] - AMPLIFIER GAIN[dB μ V]



DATA OF RF SPURIOUS

A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LABORATORY

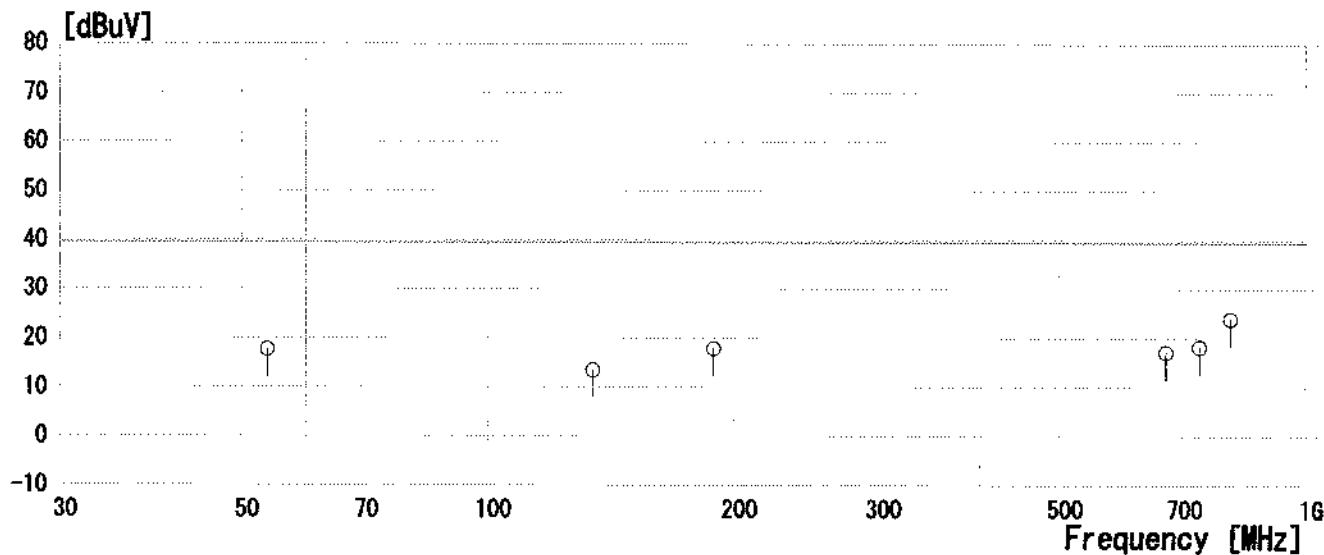
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE : AV Input + Rec
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : 5Vp-p Input
REMARKS 2 : 4CH Output

REPORT NO. : 23HE0021-YW-1
DATE : March 10, 2003
REGULATION : FCC PART15 SUBPART B

S. Tanaka
Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP [dBuV]	AV		QP [dBuV]	AV	QP [dBuV]	AV	QP [dB]	AV
1	53.800	38.9	—	-21.2	17.7	—	39.5	—	21.8	—
2	134.550	34.1	—	-20.6	13.5	—	39.5	—	26.0	—
3	189.050	38.6	—	-20.7	17.9	—	39.5	—	21.6	—
4	675.260	37.7	—	-20.5	17.2	—	39.5	—	22.3	—
5	742.300	38.7	—	-20.4	18.3	—	39.5	—	21.2	—
6	809.800	44.3	—	-20.4	24.0	—	39.5	—	15.5	—

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dB μ V]
+ CABLE LOSS[dB μ V] - AMPLIFIER GAIN[dB μ V]



DATA OF RF SPURIOUS

A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LABORATORY

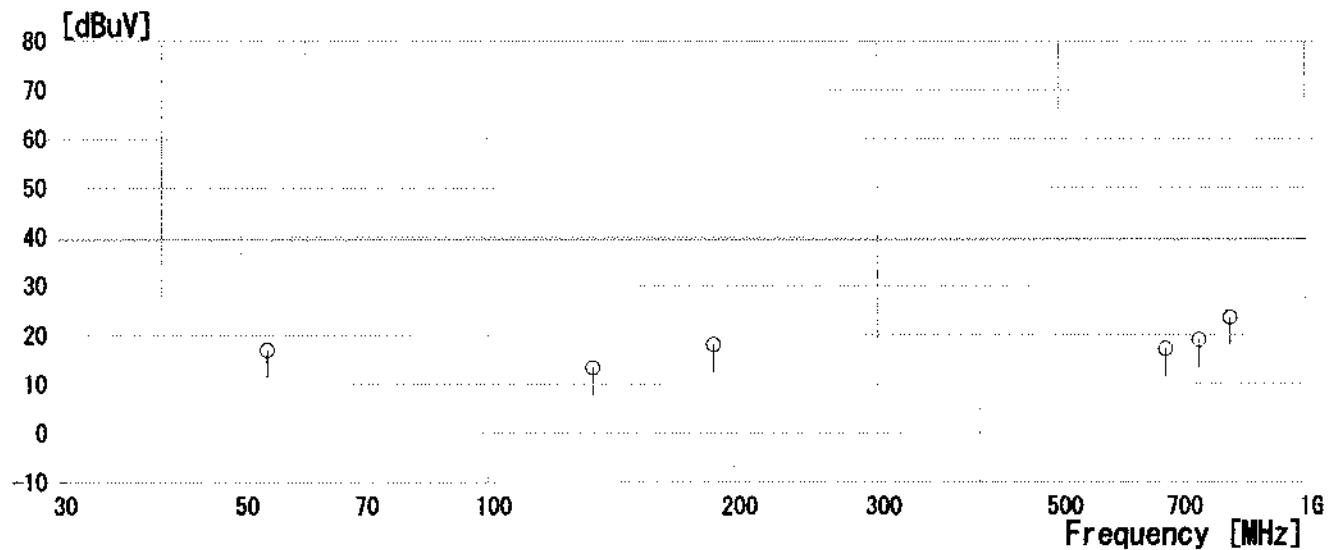
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE : VCR Playback
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : -
REMARKS 2 : 4CH Output

REPORT NO. : 23HE0021-YW-1
DATE : March 10, 2003
REGULATION : FCC PART15 SUBPART B

S. Tanaka
Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP [dBuV]	AV		QP [dBuV]	AV	QP [dBuV]	AV	QP [dBuV]	AV
1	53.800	38.2	—	-21.2	17.0	—	39.5	—	22.5	—
2	134.550	34.0	—	-20.6	13.4	—	39.5	—	26.1	—
3	189.050	38.8	—	-20.7	18.1	—	39.5	—	21.4	—
4	675.260	37.7	—	-20.5	17.1	—	39.5	—	22.4	—
5	742.300	39.4	—	-20.4	19.0	—	39.5	—	20.5	—
6	809.800	43.9	—	-20.4	23.5	—	39.5	—	16.0	—

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8 [dB μ V]
+ CABLE LOSS [dB μ V] - AMPLIFIER GAIN [dB μ V]



DATA OF RF SPURIOUS

A-PEX INTERNATIONAL CO., LTD.
YOKOHA EMC LABORATORY

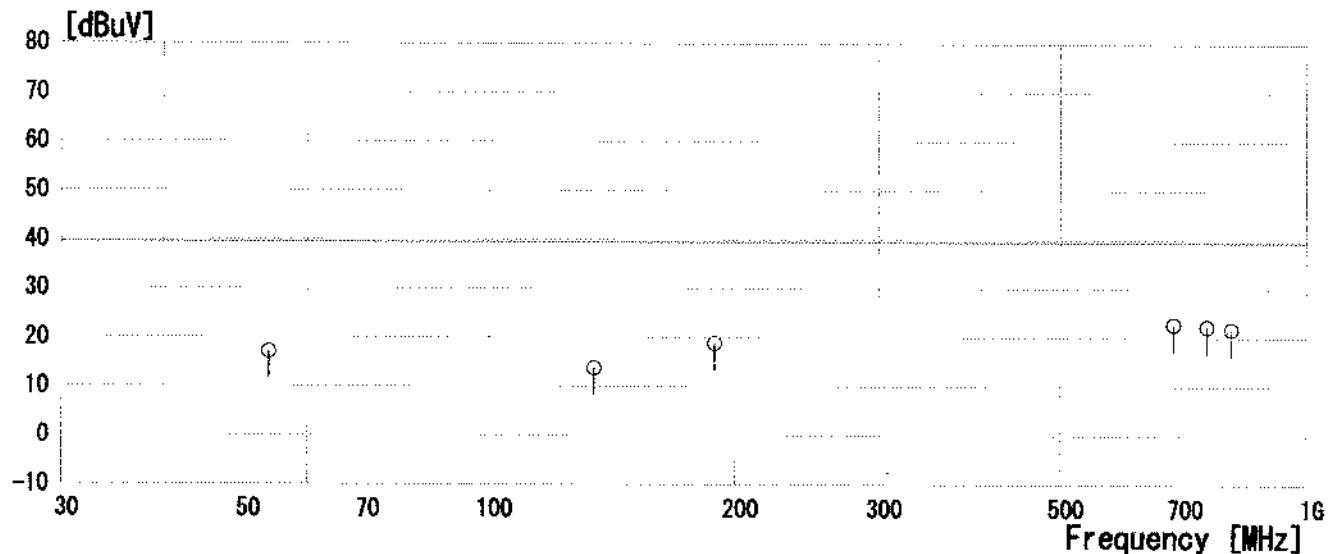
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE : DVD Play
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : -
REMARKS 2 : 4CH Output

REPORT NO. : 23HE0021-YW-1
DATE : March 10, 2003
REGULATION : FCC PART15 SUBPART B

S. Tanaka
Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING		G. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP [dBuV]	AV		QP [dBuV]	AV	QP [dBuV]	AV	QP [dB]	AV
1	53.800	38.3	—	-21.2	17.1	—	39.5	—	22.4	—
2	134.550	34.4	—	-20.6	13.8	—	39.5	—	25.7	—
3	189.050	39.5	—	-20.7	18.8	—	39.5	—	20.7	—
4	687.760	43.2	—	-20.5	22.7	—	39.5	—	16.8	—
5	755.730	42.7	—	-20.4	22.3	—	39.5	—	17.2	—
6	809.800	42.1	—	-20.4	21.7	—	39.5	—	17.8	—

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8 [dB μ V]
+ CABLE LOSS [dB μ V] - AMPLIFIER GAIN [dB μ V]



DATA OF ANTENNA TRANSFER SWITCH

A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LABORATORY

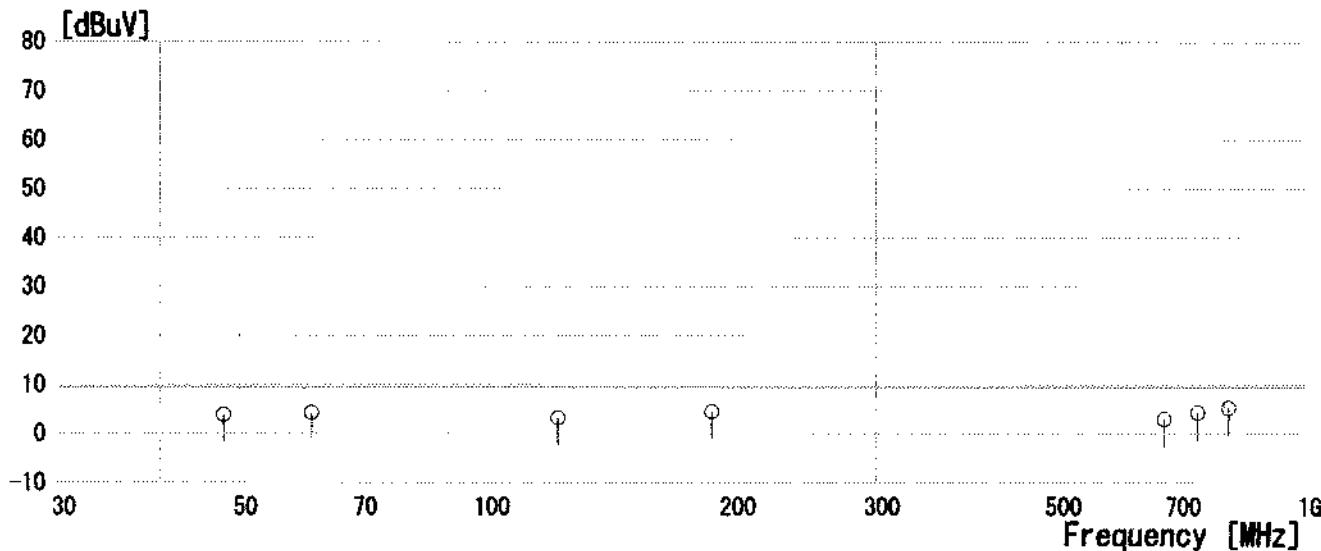
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE : AV INPUT + REC
PORT : RF INPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : 1Vp-p INPUT
REMARKS 2 : 3CH Output

REPORT NO. : 23HE0021-YW-1
DATE : March 10, 2003
REGULATION : FCC PART15 SUBPART B

S. Tanaka
Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]
1	47.800	25.0	—	-21.2	3.9	—	9.5	—	5.6	—
2	61.250	25.5	—	-21.2	4.3	—	9.5	—	5.2	—
3	122.500	24.0	—	-20.7	3.3	—	9.5	—	6.2	—
4	189.050	25.2	—	-20.7	4.5	—	9.5	—	5.0	—
5	675.200	23.5	—	-20.5	3.0	—	9.5	—	6.5	—
6	742.300	24.8	—	-20.4	4.3	—	9.5	—	5.2	—
7	809.800	25.7	—	-20.4	5.3	—	9.5	—	4.2	—

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dB μ V]
+ CABLE LOSS[dB μ V] - AMPLIFIER GAIN[dB μ V]



DATA OF ANTENNA TRANSFER SWITCH

A-PEX INTERNATIONAL CO., LTD.
YOKOYA EMC LABORATORY

COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE : AV INPUT + REC
PORT : RF INPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : 5Vp-p INPUT
REMARKS 2 : 3CH Output

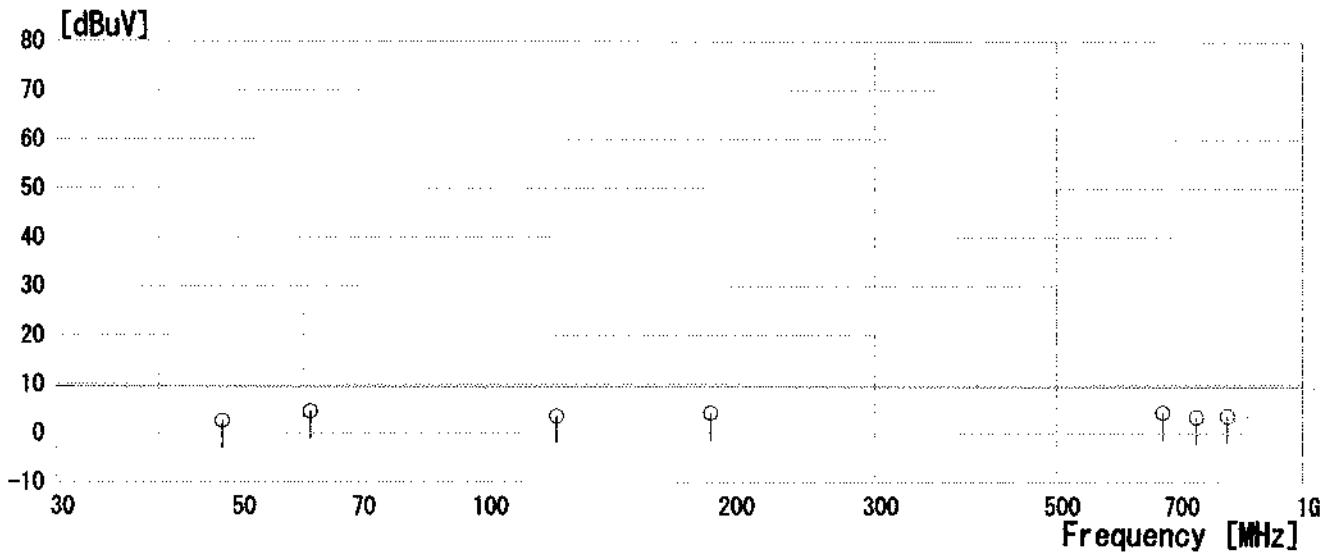
REPORT NO. : 23HE0021-YW-1
DATE : March 10, 2003
REGULATION : FCC PART15 SUBPART B

Engineer: Sadahiko Tanaka

S. Tanaka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP [dBuV]	AV		QP [dBuV]	AV	QP [dBuV]	AV	QP [dBuV]	AV
1	47.800	23.7	—	-21.2	2.5	—	9.5	—	7.0	—
2	61.250	25.7	—	-21.2	4.5	—	9.5	—	5.0	—
3	122.500	24.2	—	-20.7	3.5	—	9.5	—	6.0	—
4	189.050	24.9	—	-20.7	4.2	—	9.5	—	5.3	—
5	675.200	24.8	—	-20.5	4.3	—	9.5	—	5.2	—
6	742.300	23.8	—	-20.4	3.4	—	9.5	—	6.1	—
7	809.800	24.0	—	-20.4	3.6	—	9.5	—	5.9	—

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8 [dB μ V]
+ CABLE LOSS [dB μ V] - AMPLIFIER GAIN [dB μ V]



DATA OF ANTENNA TRANSFER SWITCH

A-PEX INTERNATIONAL CO., LTD.
YOKOMA EMC LABORATORY

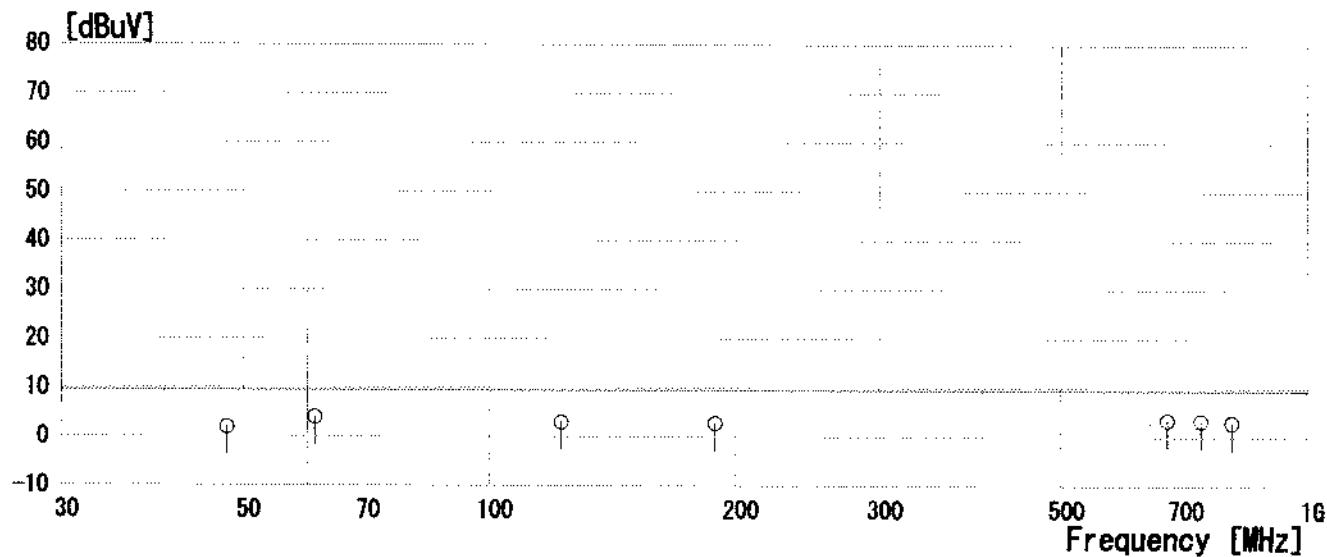
COMPANY : ORION ELECTRIC CO., LTD.
 EQUIPMENT : DVD Player and VCR
 Model Name : HR-XVC25U
 OPERATION MODE : VCR Playback
 PORT : RF INPUT TERMINAL
 POWER : AC120V/60Hz
 REMARKS 1 : -
 REMARKS 2 : 3CH Output

REPORT NO. : 23HE0021-YW-1
 DATE : March 10, 2003
 REGULATION : FCC PART15 SUBPART B

S. Tanaka
Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP [dBuV]	AV		QP [dBuV]	AV	QP [dBuV]	AV	QP [dBuV]	AV
1	47.800	23.1	—	-21.2	1.9	—	9.5	—	7.6	—
2	61.250	25.2	—	-21.2	4.0	—	9.5	—	5.5	—
3	122.500	23.7	—	-20.7	3.0	—	9.5	—	6.5	—
4	189.050	23.5	—	-20.7	2.8	—	9.5	—	6.7	—
5	675.200	24.0	—	-20.5	3.5	—	9.5	—	6.0	—
6	742.300	23.8	—	-20.4	3.4	—	9.5	—	6.1	—
	809.800	23.4	—	-20.4	3.0	—	9.5	—	6.5	—

CALCULATION: READING + CORRECTION FACTOR
 CORRECTION FACTOR = MATCHING PAD LOSS 7.8 [dB μ V]
 + CABLE LOSS [dB μ V] - AMPLIFIER GAIN [dB μ V]



DATA OF ANTENNA TRANSFER SWITCH

A-PEX INTERNATIONAL CO., LTD.
YOKOHA EMC LABORATORY

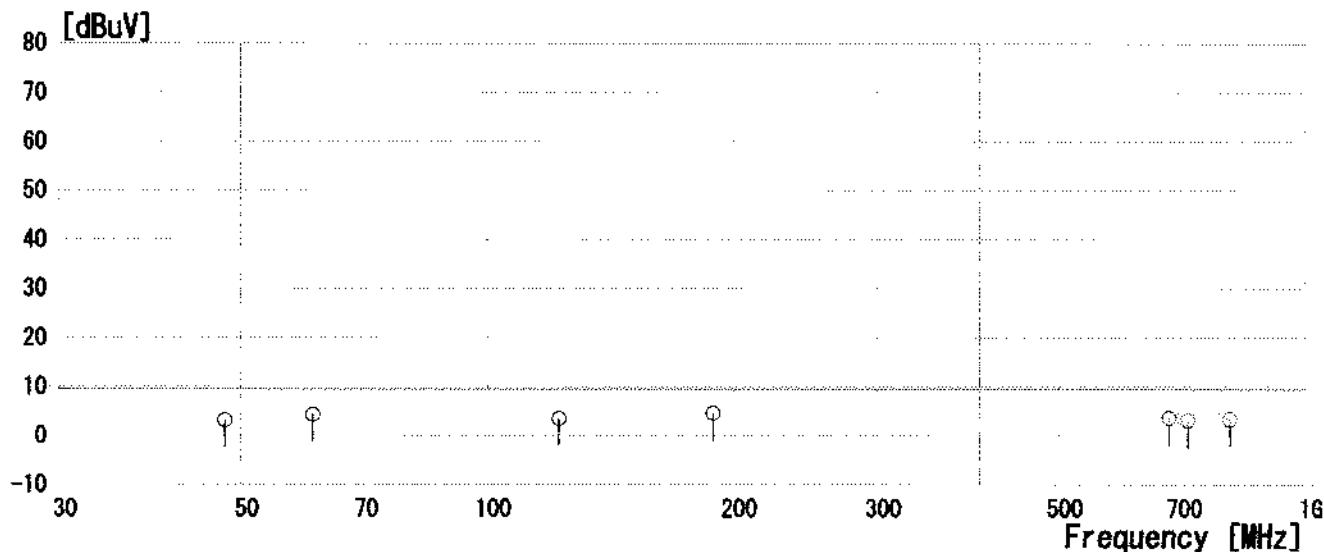
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE : DVD Play
PORT : RF INPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : -
REMARKS 2 : 3CH Output

REPORT NO. : 23ME0021-YW-1
DATE : March 10, 2003
REGULATION : FCC PART15 SUBPART B

S. Tanaka
Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN	
		QP [dBuV]	AV		QP [dBuV]	AV	QP [dBuV]	AV	QP [dB]	AV
1	47.800	24.3	—	-21.2	3.1	—	9.5	—	6.4	—
2	61.250	25.5	—	-21.2	4.3	—	9.5	—	5.2	—
3	122.500	24.2	—	-20.7	3.5	—	9.5	—	6.0	—
4	189.050	25.3	—	-20.7	4.6	—	9.5	—	4.9	—
5	681.970	24.1	—	-20.5	3.6	—	9.5	—	5.9	—
6	718.870	23.5	—	-20.5	3.1	—	9.5	—	6.4	—
7	809.800	23.7	—	-20.4	3.4	—	9.5	—	6.1	—

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8[dB μ V]
+ CABLE LOSS[dB μ V] - AMPLIFIER GAIN[dB μ V]



DATA OF ANTENNA TRANSFER SWITCH

A-PEX INTERNATIONAL CO., LTD.
YOKOHA EMC LABORATORY

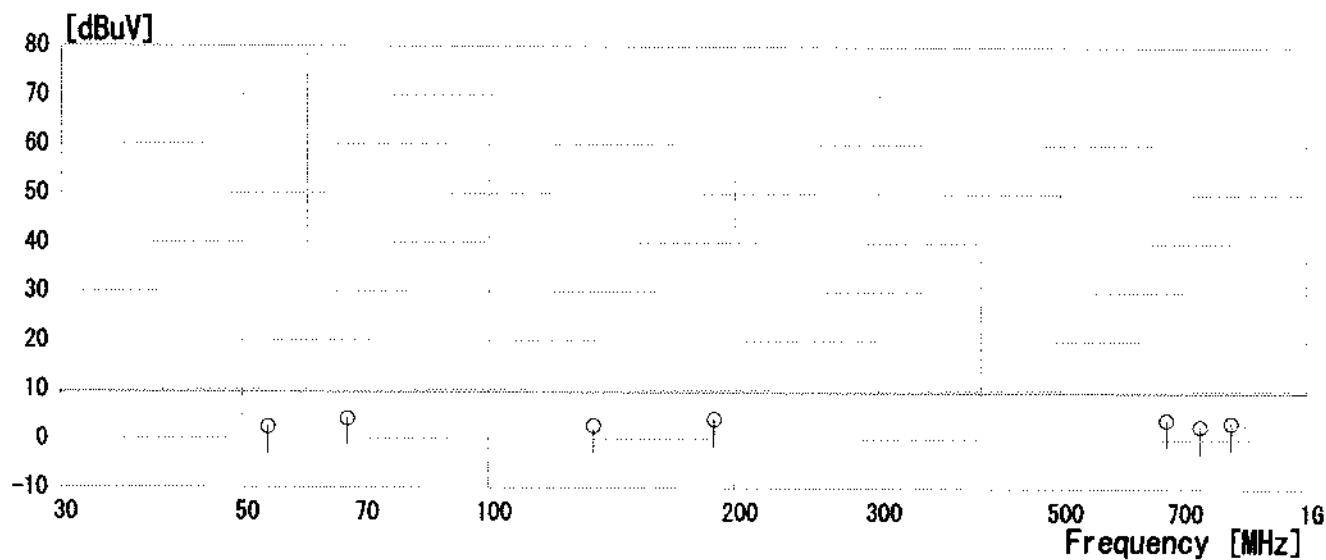
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE : AV INPUT + REC
PORT : RF INPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : 1Vp-p INPUT
REMARKS 2 : 4CH Output

REPORT NO. : 23HE0021-YW-1
DATE : March 10, 2003
REGULATION : FCC PART15 SUBPART B

Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT [dBuV]	MARGIN	
		QP [dBuV]	AV		QP [dBuV]	AV		QP [dBuV]	AV
1	53.800	23.6	—	-21.2	2.4	—	9.5	—	7.1
2	67.300	25.3	—	-21.2	4.1	—	9.5	—	5.4
3	134.550	23.3	—	-20.6	2.7	—	9.5	—	6.8
4	189.050	24.8	—	-20.7	4.1	—	9.5	—	5.4
5	675.200	24.5	—	-20.5	4.0	—	9.5	—	5.5
6	742.300	23.2	—	-20.4	2.7	—	9.5	—	6.8
7	809.800	23.8	—	-20.4	3.4	—	9.5	—	6.1

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8 [dB μ V]
+ CABLE LOSS [dB μ V] - AMPLIFIER GAIN [dB μ V]



DATA OF ANTENNA TRANSFER SWITCH

A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LABORATORY

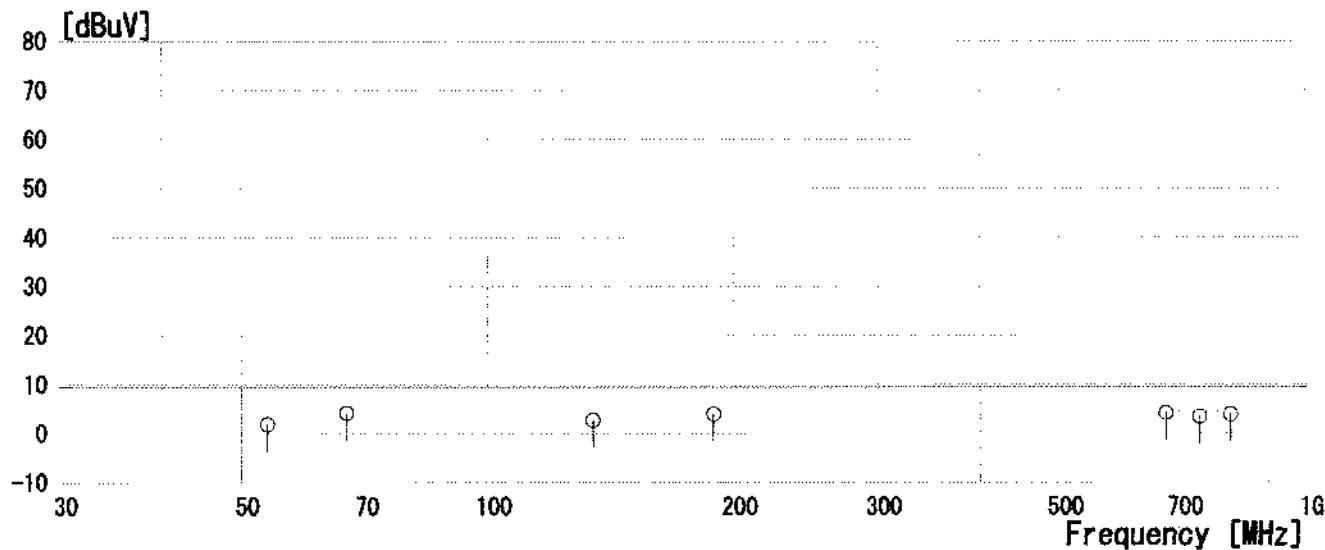
COMPANY : ORION ELECTRIC CO., LTD.
 EQUIPMENT : DVD Player and VCR
 Model Name : HR-XVC25U
 OPERATION MODE : AV INPUT + REC
 PORT : RF INPUT TERMINAL
 POWER : AC120V/60Hz
 REMARKS 1 : 5Vp-p INPUT
 REMARKS 2 : 4CH Output

REPORT NO. : 23HE0021-YW-1
 DATE : March 10, 2003
 REGULATION : FCC PART15 SUBPART B

S. Tanaka
Engineer: Sadahiko Tanaka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT [dBuV]	MARGIN	
		QP [dBuV]	AV		QP [dBuV]	AV		QP [dBuV]	AV
1	53.800	23.1	—	-21.2	1.9	—	9.5	—	7.6
2	67.250	25.4	—	-21.2	4.2	—	9.5	—	5.3
3	134.550	23.4	—	-20.6	2.8	—	9.5	—	6.7
4	189.050	24.7	—	-20.7	4.0	—	9.5	—	5.5
5	675.200	24.7	—	-20.5	4.2	—	9.5	—	5.3
6	742.300	23.9	—	-20.4	3.5	—	9.5	—	6.0
7	809.800	24.3	—	-20.4	3.9	—	9.5	—	5.6

CALCULATION: READING + CORRECTION FACTOR
 CORRECTION FACTOR = MATCHING PAD LOSS 7.8 [dB μ V]
 + CABLE LOSS [dB μ V] - AMPLIFIER GAIN [dB μ V]



DATA OF ANTENNA TRANSFER SWITCH

A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LABORATORY

COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE : VCR Playback
PORT : RF INPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : -
REMARKS 2 : 4CH Output

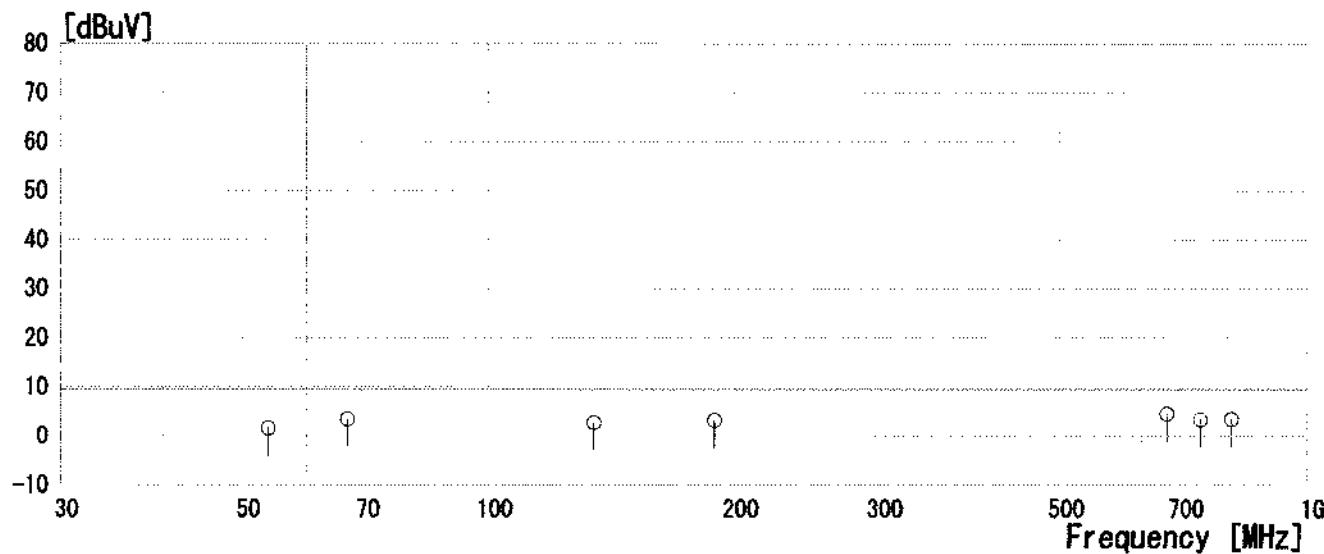
REPORT NO. : 23HE0021-YW-1
DATE : March 10, 2003
REGULATION : FCC PART15 SUBPART B

Engineer: Sadahiko Tanaka

S. Tanaka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT QP [dBuV]	LIMIT QP [dBuV]	MARGIN	
		QP [dBuV]	AV				QP [dB]	AV
1	53.800	22.8	—	-21.2	1.6	—	9.5	—
2	67.250	24.6	—	-21.2	3.4	—	9.5	—
3	134.550	23.3	—	-20.6	2.7	—	9.5	—
4	189.050	23.9	—	-20.7	3.2	—	9.5	—
5	675.200	25.0	—	-20.5	4.5	—	9.5	—
6	742.300	23.8	—	-20.4	3.3	—	9.5	—
7	809.800	23.8	—	-20.4	3.4	—	9.5	—

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8 [dB μ V]
+ CABLE LOSS [dB μ V] - AMPLIFIER GAIN [dB μ V]



DATA OF ANTENNA TRANSFER SWITCH

A-PEX INTERNATIONAL CO., LTD.
YOKOWA EMC LABORATORY

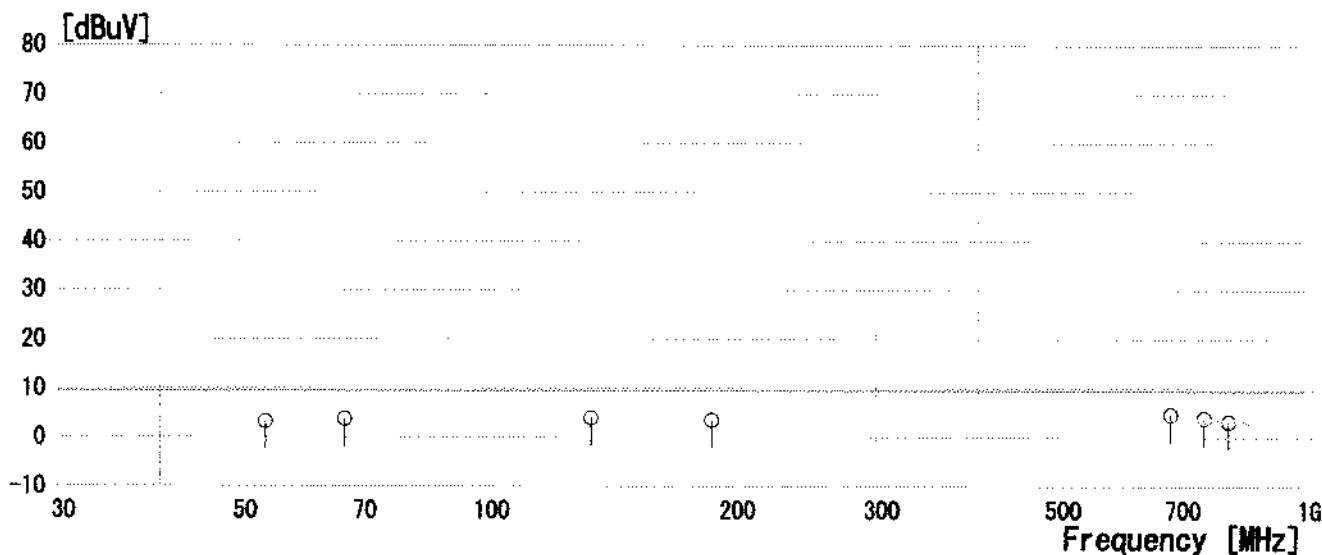
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE : DVD Play
PORT : RF INPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : -
REMARKS 2 : 4CH Output

REPORT NO. : 23HE0021-YW-1
DATE : March 10, 2003
REGULATION : FCC PART15 SUBPART B

A. Tanaka
Engineer : Sadahiko Tanaka

No.	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT [dBuV]	LIMIT		MARGIN	
		QP [dBuV]	AV			QP [dBuV]	AV	QP [dBuV]	AV
1	53.800	24.5	—	-21.2	3.3	—	9.5	—	6.2
2	67.250	24.9	—	-21.2	3.7	—	9.5	—	5.8
3	134.550	24.6	—	-20.6	4.0	—	9.5	—	5.5
4	189.050	24.2	—	-20.7	3.5	—	9.5	—	6.0
5	687.760	25.2	—	-20.5	4.7	—	9.5	—	4.8
6	755.730	24.3	—	-20.4	3.9	—	9.5	—	5.6
	809.800	23.6	—	-20.4	3.2	—	9.5	—	6.3

CALCULATION: READING + CORRECTION FACTOR
CORRECTION FACTOR = MATCHING PAD LOSS 7.8 [dB μ V]
+ CABLE LOSS [dB μ V] - AMPLIFIER GAIN [dB μ V]



Picture sensitivity test

A-PEX INTERNATIONAL CO., LTD.
Yokowa EMC Laboratory

Company : Orion Electric Co., Ltd.
Equipment : DVD Player and VCR
Model number : HR-XVC25U
Power : AC 120 V / 60 Hz
Description : TV Reception

Report Number : 23HE0021-YW-1
Regulation : FCC Part 15B subpart B
Date : March 11, 2003
Temp./Humid. : 20°C/41%

Engineer : 
Sadahiko Tanaka

Ch. [VHF]	Frequency [MHz]	Sensitivity		Ch. [UHF]	Frequency [MHz]	Sensitivity	
		[dBuV]	[uV]			[dBuV]	[uV]
2	55.25	20.0	10.0	14	471.25	20.0	10.0
3	61.25	18.1	8.0	20	507.25	21.4	11.7
4	67.25	18.3	8.2	26	543.25	22.2	12.9
5	77.25	19.0	8.9	32	579.25	23.3	14.6
6	83.25	22.5	13.3	38	615.25	23.9	15.7
7	175.25	19.8	9.8	44	651.25	24.8	17.4
8	181.25	20.3	10.4	50	687.25	25.9	19.7
9	187.25	20.5	10.6	56	723.25	24.8	17.4
10	193.25	19.5	9.4	62	759.25	23.2	14.5
11	199.25	19.5	9.4	69	801.25	20.9	11.1
12	205.25	20.2	10.2	-	-	-	-
13	211.25	20.4	10.5	-	-	-	-
Average VHF		9.9		Average UHF		14.5	
Average UHF/VHF : $20 \log \frac{\text{UHF[uV]}}{\text{VHF[uV]}} =$				3.3 dB		[Limit : 8.0 dB]	

Noise figure test

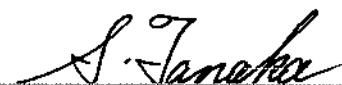
A-PEX INTERNATIONAL CO., LTD.

Yokowa EMC Laboratory

Company : Orion Electric Co.,Ltd
Equipment : DVD Player and VCR
Model number : HR-XVC25U
Power : AC 120 V / 60 Hz
Description : TV Reception

Report Number : 23HE0021-YW-1
Regulation : FCC Part15B Subpart B
Date : March 11,2003
temp./humid : 20°C / 41%

Engineer : Sadahiko Tanaka



Ch.	Frequency [MHz]	Meter reading [dB]	Correction factor [dB]	Noise figure [dB]	Limits [dB]	Margin [dB]
TV VHF Fundamental						
2	55.25	4.4	0.2	4.2	14.0	9.8
3	61.25	3.7	0.2	3.5	14.0	10.5
4	67.25	3.3	0.2	3.1	14.0	10.9
5	77.25	3.7	0.2	3.5	14.0	10.5
6	83.25	4.7	0.2	4.5	14.0	9.5
7	175.25	4.4	0.2	4.2	14.0	9.8
8	181.25	4.8	0.2	4.6	14.0	9.4
9	187.25	4.8	0.2	4.6	14.0	9.4
10	193.25	4.3	0.2	4.1	14.0	9.9
11	199.25	4.2	0.2	4.0	14.0	10.0
12	205.25	4.2	0.2	4.0	14.0	10.0
13	211.25	4.2	0.2	4.0	14.0	10.0
TV UHF Fundamental						
14	471.25	5.0	0.3	4.7	14.0	9.3
20	507.25	5.0	0.3	4.7	14.0	9.3
26	543.25	4.9	0.3	4.6	14.0	9.4
32	579.25	4.8	0.3	4.5	14.0	9.5
38	615.25	4.6	0.3	4.3	14.0	9.7
44	651.25	4.6	0.3	4.3	14.0	9.7
50	687.25	4.7	0.3	4.4	14.0	9.6
56	723.25	4.1	0.4	3.7	14.0	10.3
62	759.25	3.8	0.4	3.4	14.0	10.6
69	801.25	3.9	0.4	3.5	14.0	10.5
Mid-band						
14	121.25	3.0	0.2	2.8	14.0	11.2
16	133.25	6.0	0.2	5.8	14.0	8.2
18	145.25	5.1	0.2	4.9	14.0	9.1
20	157.25	4.7	0.2	4.5	14.0	9.5
22	169.25	4.5	0.2	4.3	14.0	9.7
Super-band						
23	217.25	4.2	0.2	4.0	14.0	10.0
26	235.25	4.3	0.2	4.1	14.0	9.9
29	253.25	4.4	0.2	4.2	14.0	9.8
32	271.25	4.6	0.2	4.4	14.0	9.6
36	295.25	4.8	0.2	4.6	14.0	9.4

Test Report No :23HE0021-YW-1

APPENDIX 3
Test Instruments

EMC test equipment

Control No.	Instrument	Manufacturer	Model No.	Test Item	Calibration Date
AF-03	Pre Amplifier	Anritsu	MH648A	AT, RF, TS	2002/04/01 * 12
AF-04	Pre Amplifier	Hewlett Packard	8449B	AT, RF, TS	2002/11/01 * 12
SA-05	Spectrum Analyzer	Advantest	R3271	CE, AT, RF, TS	2002/12/24 * 12
TR-03	Test Receiver	Rohde & Schwarz	ESHS30	CE	2002/05/22 * 12
OS-15	Digital Humidity Indicator	SATO	PC-5000TRH	CE, AT, RF, TS, PS, NF	2002/05/16 * 12
CC-2S	Yokowa No.2 shield coaxial(0.01MHz-1000MHz)	A-PEX	CC-24,CC-25,C C-26,CC-28,CC -29,SW-21,SW-2 2	CE	2002/03/30 * 12
LS-02	LISN(AMN)	Rohde & Schwarz	ESH3-Z5	CE (EUT)	2002/11/01 * 12
LS-03	LISN(AMN)	Schwarzbeck	NSLK8127	CE	2002/11/01 * 12
TA-03	Terminator	TME	CT-01	CE	2002/04/28 * 12
APNFM01	Noise Figure Indicator	Elena	ENF-2005	NF	2002/09/27 * 24
APSSG04	Signal Generator	Rohde & Schwarz	SMY01	PS	2002/06/07 * 12
APBPF01	Band pass filter	Erika Fiedler	BP	PS	Pre Check
IP-01	Matching Pad	Anritsu	MP614A	PS, NF	2002/09/06 * 12
APCBL-01	Coaxial Cable	Fujikura	5D-2W	AT, RF, TS	2003/01/12 * 12
APCBL-02	Coaxial Cable	Fujikura	5D-2W	AT, RF, TS	2003/01/12 * 12
IP-03	Matching Pad	TME	ZT-130	AT, RF, TS	2002/09/06 * 12
AV17-01	Pattern Generator	Leader	408NPS	RE, CE, RF, TS	2002/07/29 * 12
AF-01	Pre Amplifier	Hewlett Packard	8447D	RE	2002/04/01 * 12
AF-06	Pre Amplifier	Agilent	HP8449B	RE	2002/12/20 * 12
AT-06	Attenuator	Anritsu	MP721B	RE	2002/04/04 * 12
BA-06	Biconical Antenna	Schwarzbeck	BBA9106	RE	2003/02/06 * 12
LA-07	Logperiodic Antenna	Schwarzbeck	UKLP9140-A	RE	2003/02/19 * 12
SA-06	Spectrum Analyzer	Advantest	R3273	RE	2002/11/19 * 12
TR-06	Test Receiver	Rohde & Schwarz	ESVS10	RE	2002/11/22 * 12
CC-3ORC	Yokowa No.3 open coaxial(0.01-1000MHz)	A-PEX	CC-31,CC-32,C C-33,CC-34,CC -35,CC-36,CC-3 7,SW-31,SW-32	RE	2002/03/30 * 12
CC-C15	Microwave Cable	Suhner	SUCOFLEX	RE	2002/04/17 * 12
CC-C17	Microwave Cable	Suhner	SUCOFLEX	RE	2002/04/26 * 12
YOTS-03	Open Test Site	JSE	3m, 10m	RE	2002/05/01 * 12
OS-16	Digital Humidity Indicator	SATO	PC-5000TRH	RE	2002/05/16 * 12
HA-02	Horn Antenna	A.H.Systems	SAS-200/571	RE	2002/05/07 * 12

All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

Test Item:

- CE: Conducted emission,
- RE: Radiated emission,
- AT: Antenna terminal disturbance voltage
- RF: RF output level & spurious
- TS: Antenna transfer switch
- PS: Picture sensitivity
- NF: Noise figure