# 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 Seciton

Sadahiko Tanaka

**Approved by:**

Hiroya Tabata
Group Leader of EMC Seciton

**A-Pex International Co., Ltd.**
***YOKOWA LAB.***
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Telephone: +81 596 39 1485
Facsimile: +81 596 39 0232

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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.<br>236 Moo 2 Nongchark, Banbung, Chonburi 20170, Thailand<br>2. Korat Denki Ltd.<br>149 Moo 10 Tambol Chokchai, Amphur Chokchai, Nakhonratchasima 30190, Thailand<br>228 Moo 3 Tambol Nongbuasala, Amphur Muang, Nakhonratchasima 30000, Thailand<br>3. Orion America, Inc.<br>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.

# 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<br>IEEE 213:1987 | 250 uV | 15.8 dB<br>(28.6341 MHz) | Complied |
| Radiated emission | ANSI C63.4:1992<br>IEEE 187:1990 | 30–88 MH: 100 uV/m<br>88–216 MHz: 150 uV/m<br>216–960 MHz: 200 uV/m<br>above 960 MHz: 500 uV/m | 4.7 dB<br>(189.00 MHz) | Complied |
| Antenna terminal voltage | ANSI C63.4:1992 | 2 nW (at 75 ohm) | 20.0 dB<br>(1509.50000MHz) | Complied |
| RF output level | ANSI C63.4:1992 | Video signal: 3000 uV<br>Aural signal: 671 uV | 3.2 dB<br>(67.25 MHz) | Complied |
| Spurious emission | | 94.8 uV | 10.3 dB<br>(809.800 MHz) | Complied |
| Transfer switch | ANSI C63.4:1992 | 9.5 dB | 4.2 dB<br>(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<br>(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.**

### 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
FAX : +81 596 39 0232

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.

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

### 4.1 Operating modes

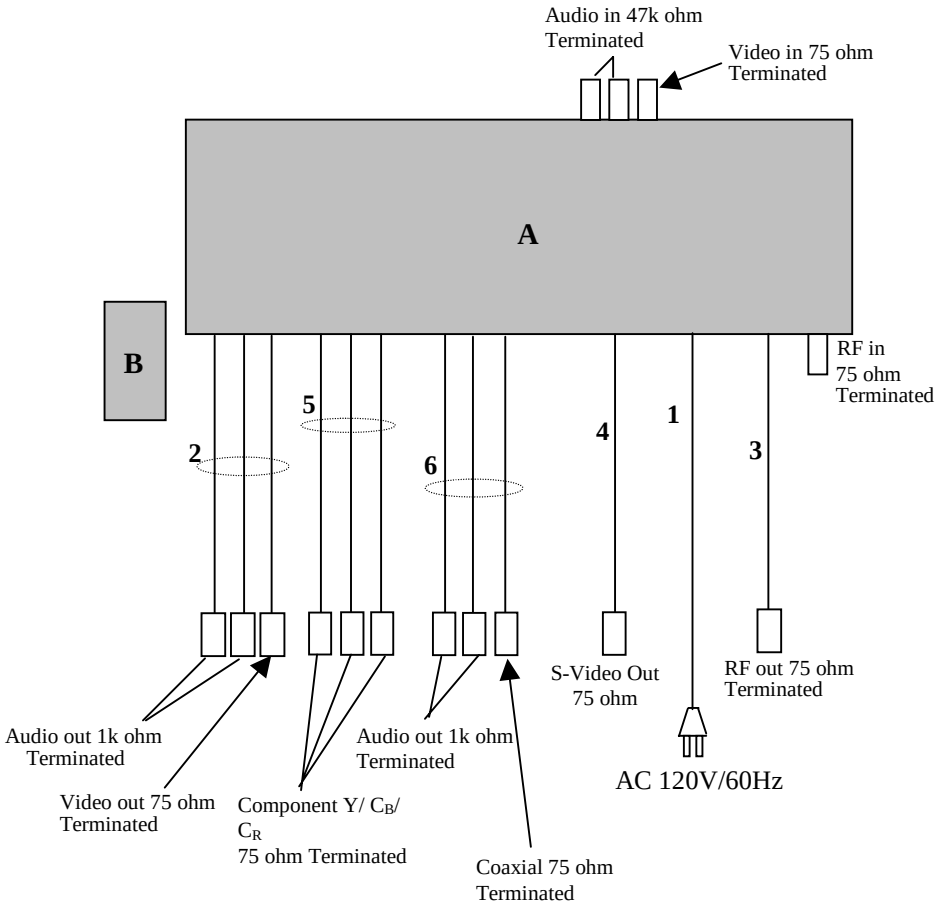
The EUT exercise program used during testing was designed exercise the various system components in a manner similar to typical use.

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.

**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 |

## 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

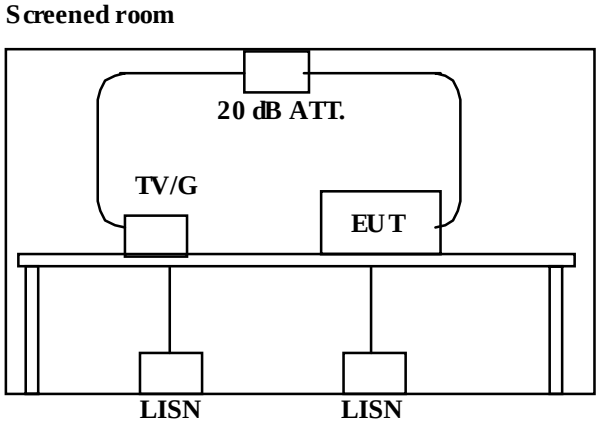
### 5.2 Test configuration

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**

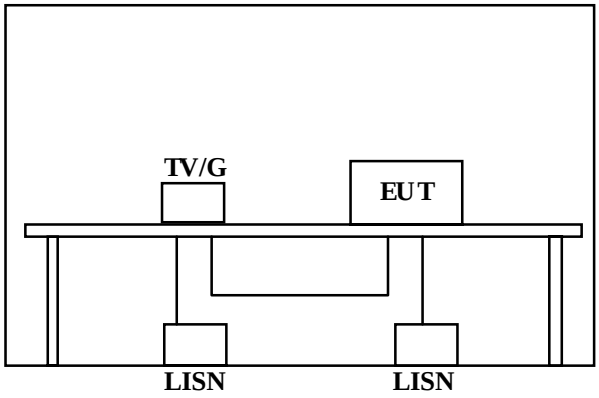
**TV reception + Rec. mode (0 dBmV input / 25 dBmV input)**




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

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

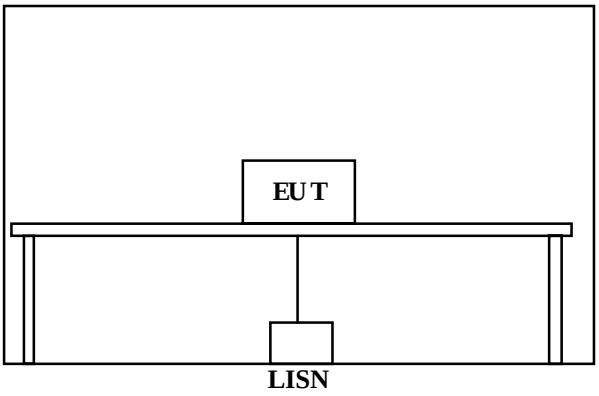
**Screened room**




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**

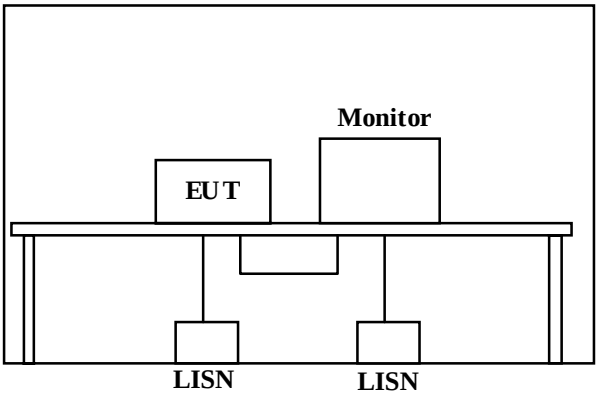
**Screened room**




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

### 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.

Test engineer: Sadahiko Tanaka

## Section 6 : Radiated emission

### 6.1 Operation environment

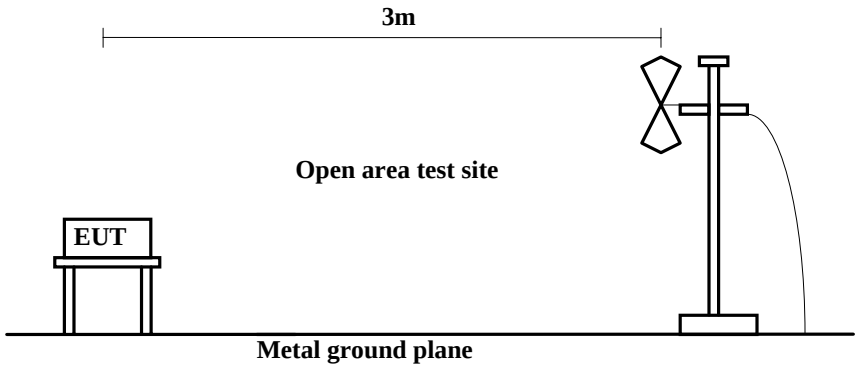
The test was carried out in an open site.

Date : March 6 and 7, 2003
Temperature : See data
Humidity : See data

### 6.2 Test configuration

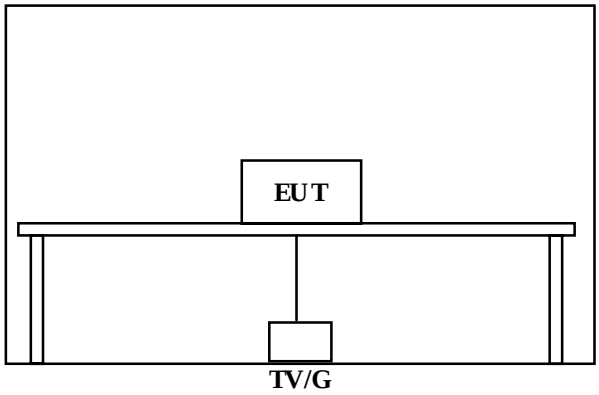
EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The rear of EUT was aligned and flushed with rear of tabletop. AC cable was bundled in center. I/O cables were hanged 40 cm height to the ground plane. Test was made with the antenna positioned 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
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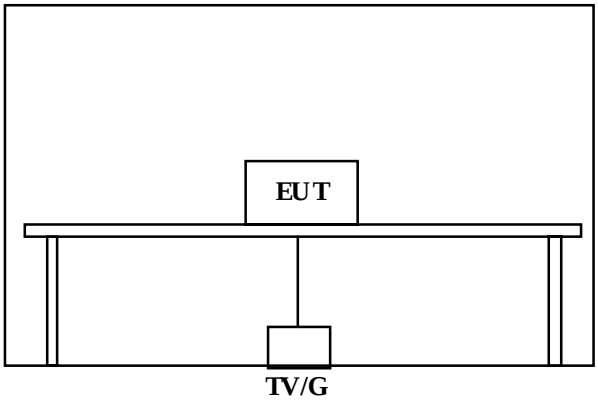
Front audio in: 47 k ohm terminated
Rear video out: 75 ohm terminated with video cable
Rear audio out: 1 k ohm terminated with audio cable
S-Video out: 75 ohm terminated with S-Video cable
Component out ($Y/C_B/C_R$): 75 ohm terminated with component cable
RF output: 75 ohm terminated with RF output cable
Rear coaxial: 75 ohm terminated with video cable

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

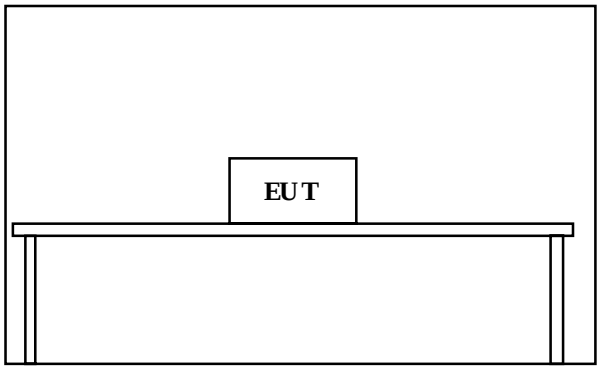
**Open test site**




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
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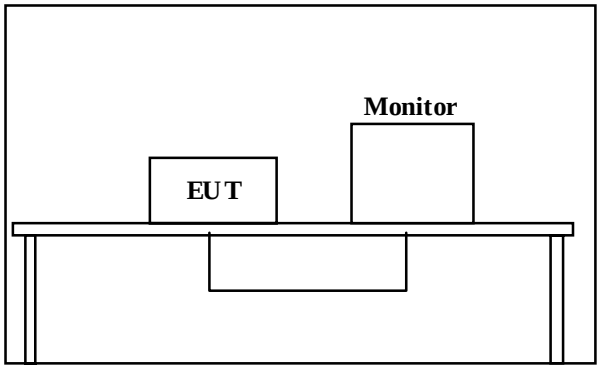
S-Video out: 75 ohm terminated with S-Video cable
Component out ($Y/C_B/C_R$): 75 ohm terminated with component cable
RF output: 75 ohm terminated with RF output cable
Rear coaxial: 75 ohm terminated with video cable

**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

### 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.

| | | 30-1000MHz (Test receiver) | 1000-2000MHz (Spectrum analyzer) |
|---|---|---|---|
| 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

## Section 7 : Antenna terminal voltage

### 7.1 Operation environment

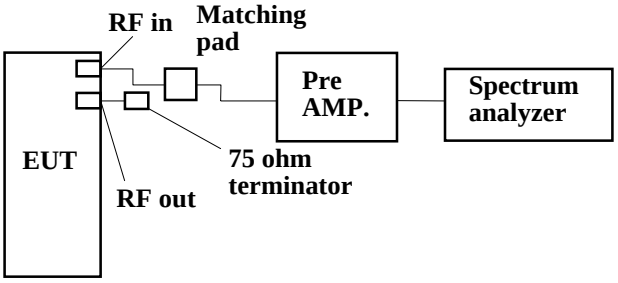
The test was carried out in a shielded room the size of 4.5 x 3.6 x 2.7 m.

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

## Section 8 : RF output level / spurious emission

### 8.1 Operation environment

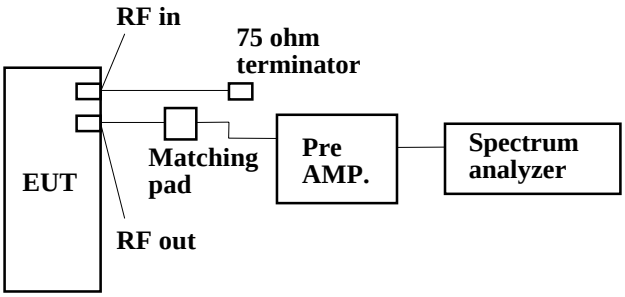
The test was carried out in a shielded room the size of 4.5 x 3.6 x 2.7 m.

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.

Test engineer: Sadahiko Tanaka

## Section 9 : Antenna transfer switch

### 9.1 Operation environment

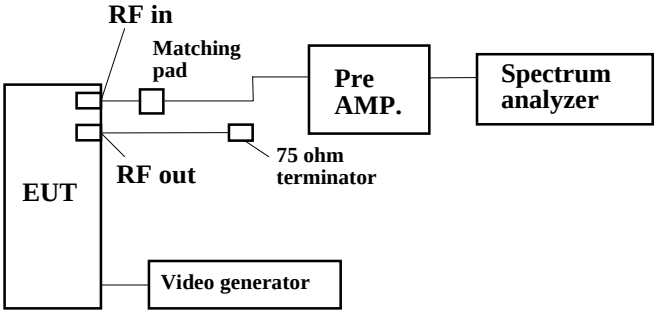
The test was carried out in a shielded room the size of 4.5 x 3.6 x 2.7 m.

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.

Test engineer: Sadahiko Tanaka

## Section 10 : Picture sensitivity

### 10.1 Operation environment

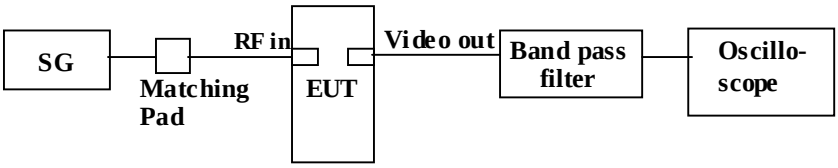
The test was carried out in a shielded room the size of 4.5 x 3.6 x 2.7 m.

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

## Section 11 : Noise figure

### 11.1 Operating environment

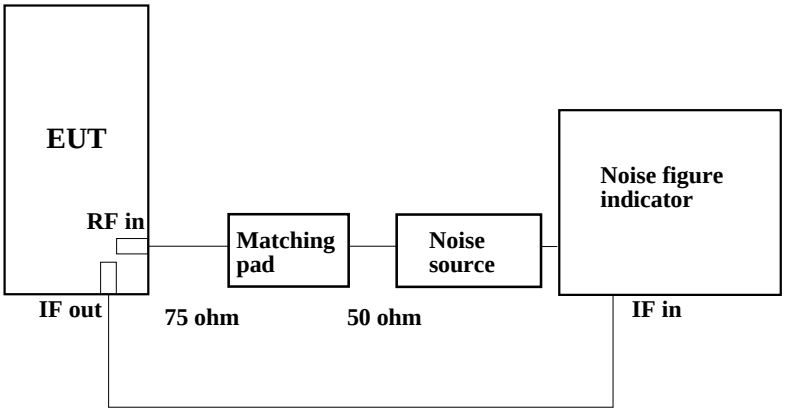
The test was carried out in a shielded room the size of 4.5 x 3.6 x 2.7 m.

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 an 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

## 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

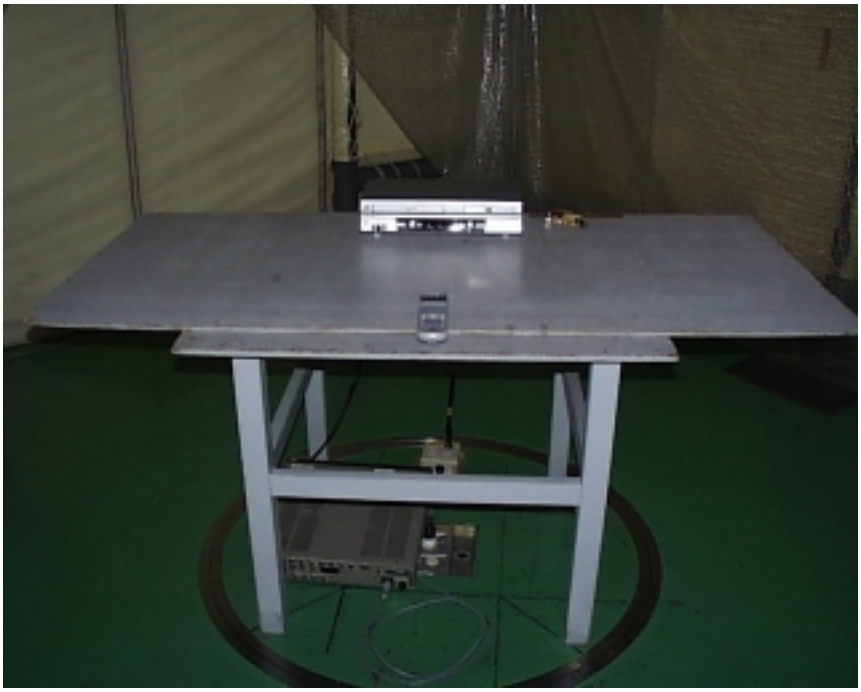
Page 93 : Noise figure

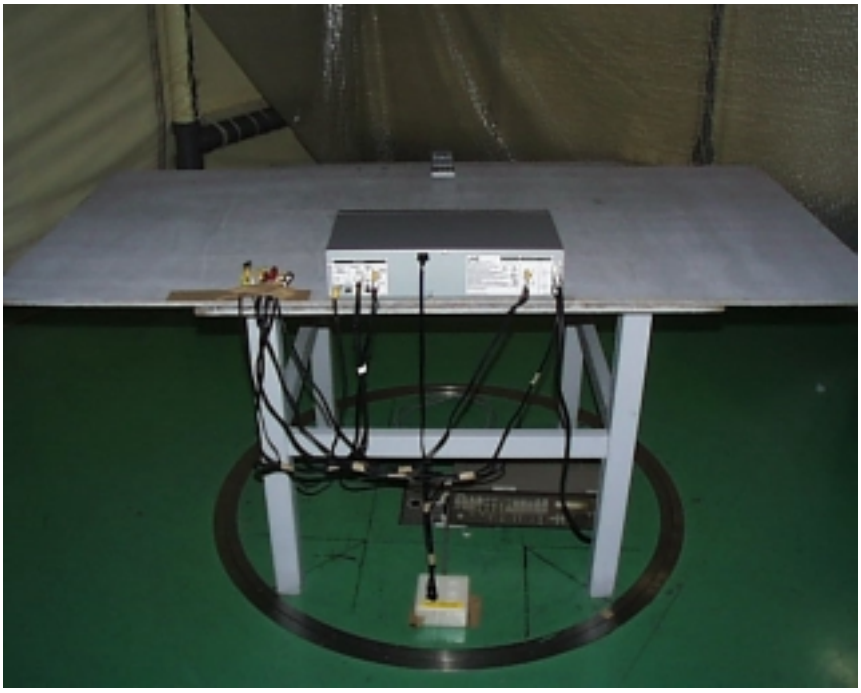
## Appendix 3 : Test instruments

Page 94 : Test instruments

## Conducted emission

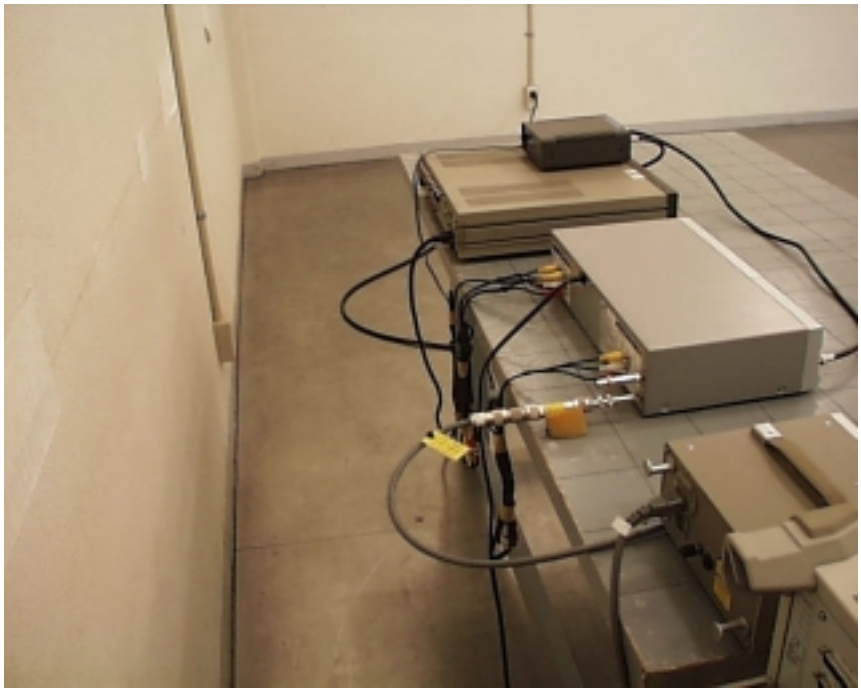
## Radiated emission



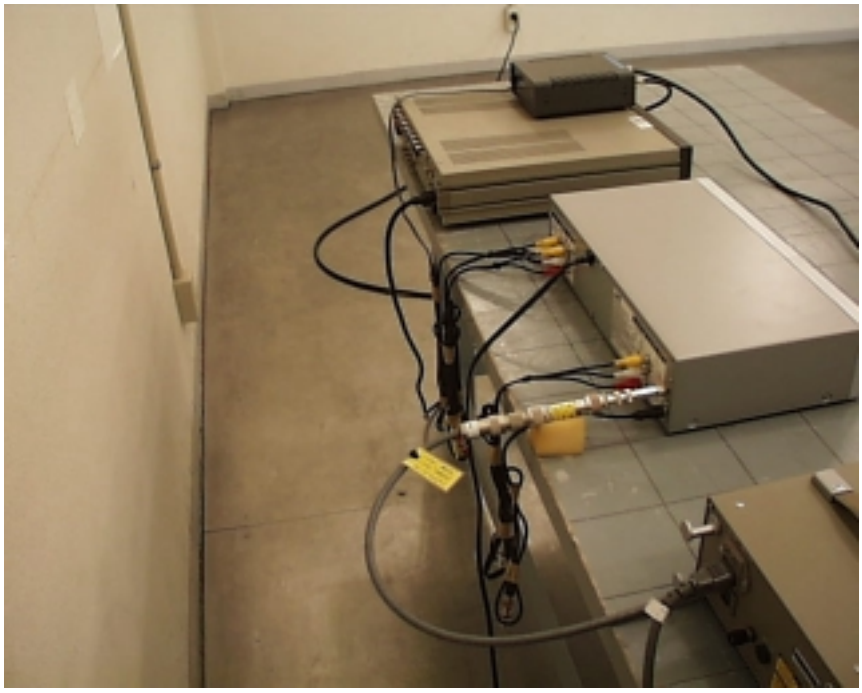


## Antenna terminal voltage

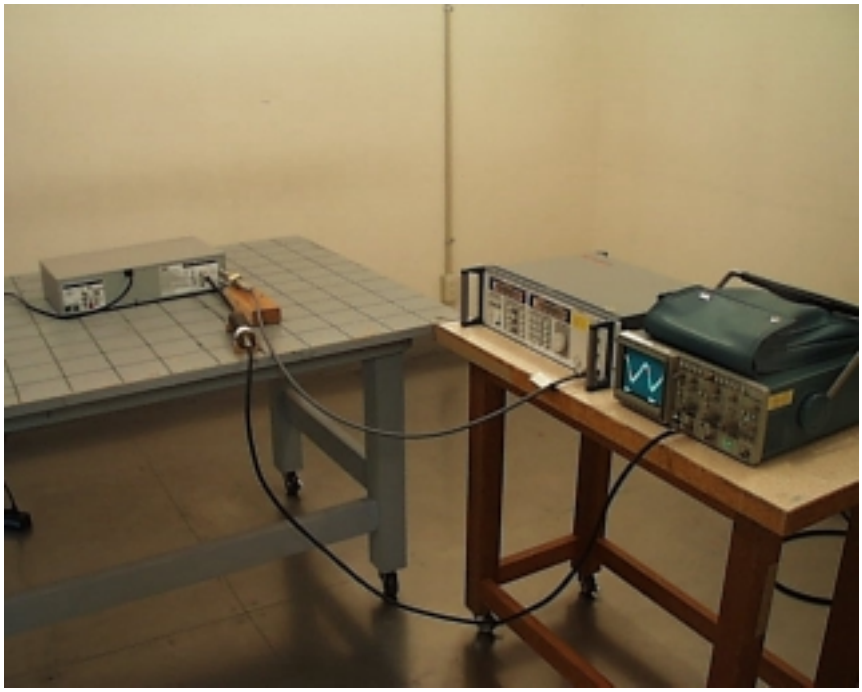
## RF output level / spurious emission



## Antenna transfer switch

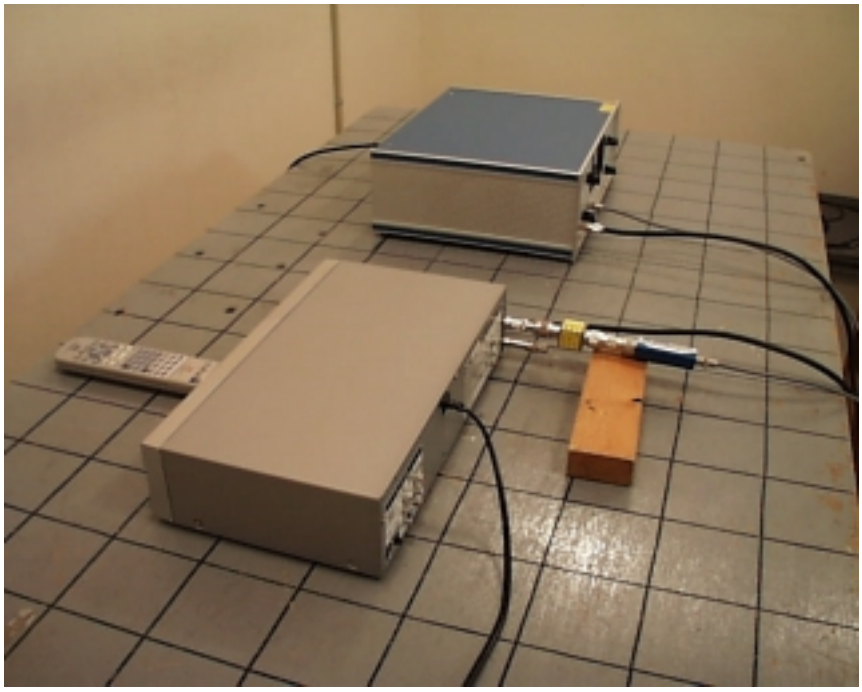


## Picture sensitivity



**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

## 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

# 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 : Sadahiko Tanaka

| No. | FREQ. | READING(N) QP | READING(N) AV | READING(L1) QP | READING(L1) AV | LISN FACTOR | CABLE LOSS | ATTEN. | RESULT QP | RESULT AV | LIMITS QP | LIMITS AV | MARGIN QP | MARGIN AV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | [dBuV] | | [dBuV] | | [dBuV] | [dBuV] | [dBuV] | [dBuV] | | [dBuV] | | [dBuV] | |
| 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.

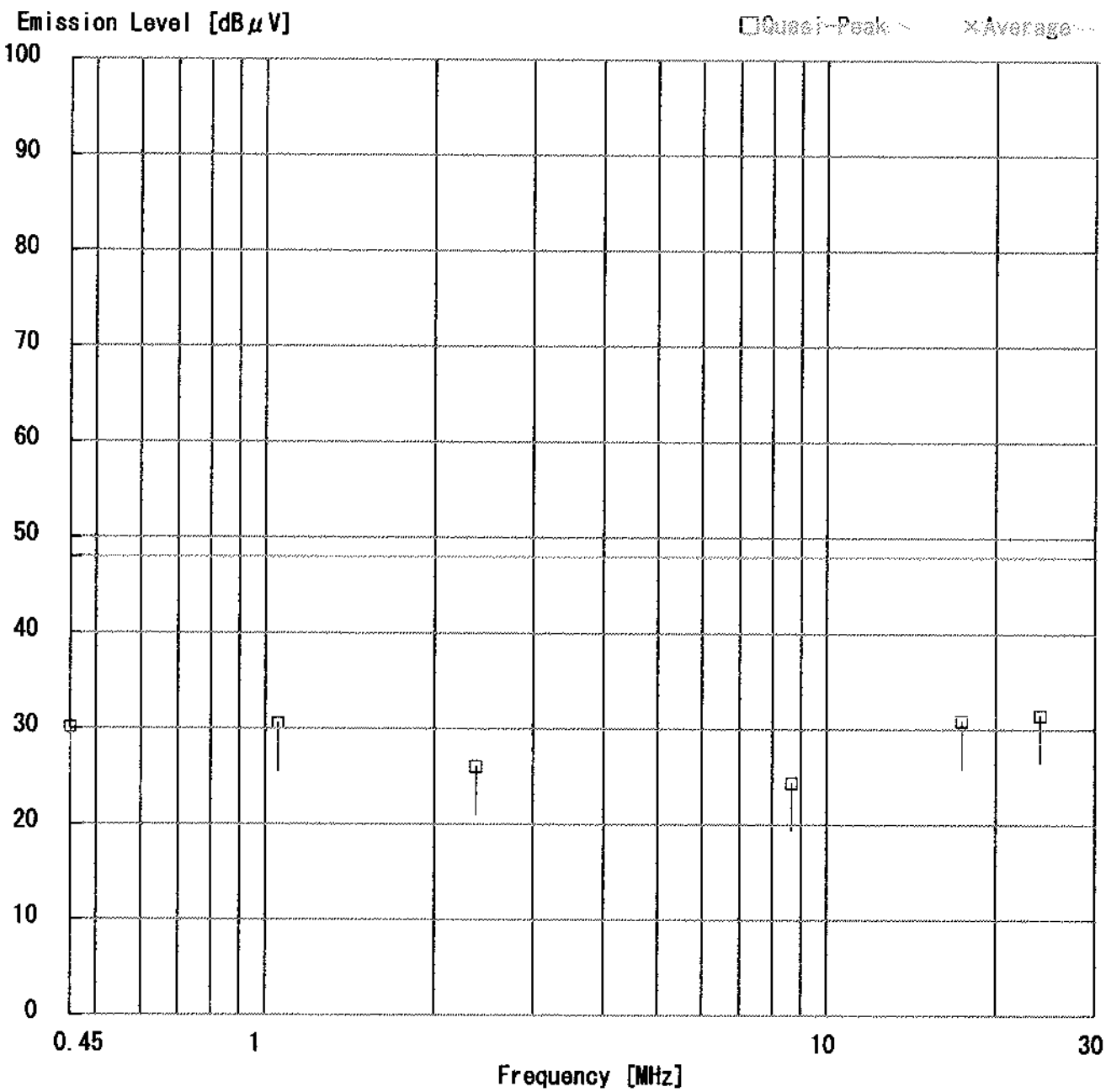
Except for the above table : adequate margin data below the limits.

# 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 | : 0dBmV |
| Date | : 3/11/2003 |
| Phase | : Single Phase |
| Temperature | : 20 °C |
| Humidity | : 41 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Sadahiko Tanaka

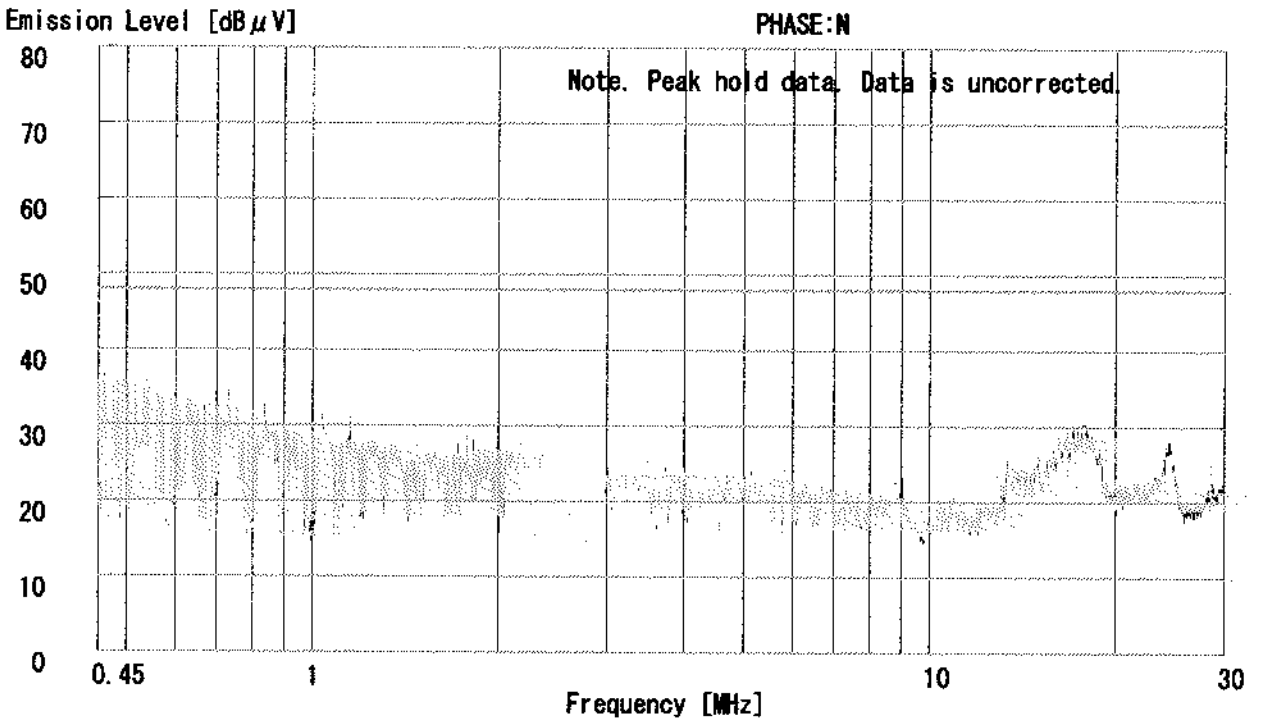


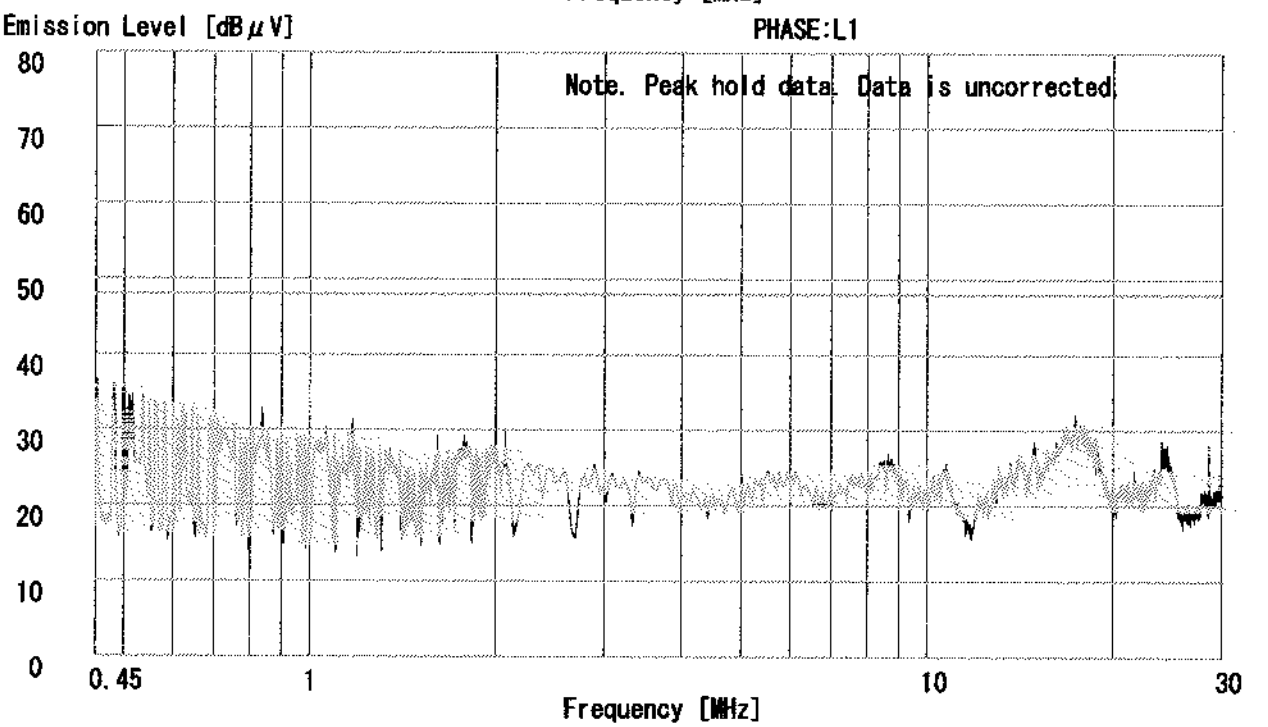
# DATA OF CONDUCTION TEST CHART

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 | : TV Reception + Rec |
| Remarks | : 0dBmV |
| Date | : 3/11/2003 |
| Phase | : Single Phase |
| Temperature | : 20 ℃ |
| Humidity | : 41 % |
| Regulation 1 | : FCC Part15B CLASS B |
| Regulation 2 | : None |

Engineer : Sadahiko Tanaka



# 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 ℃ |
| Humidity | : 41 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Sadahiko Tanaka

| No. | FREQ. | READING(N) QP | | READING(L1) QP | | LISN FACTOR | CABLE LOSS | ATTEN. | RESULT QP | | LIMITS QP | | MARGIN QP | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | [dBuV] | AV | [dBuV] | AV | [dBuV] | [dBuV] | [dBuV] | [dBuV] | AV | [dBuV] | AV | [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.

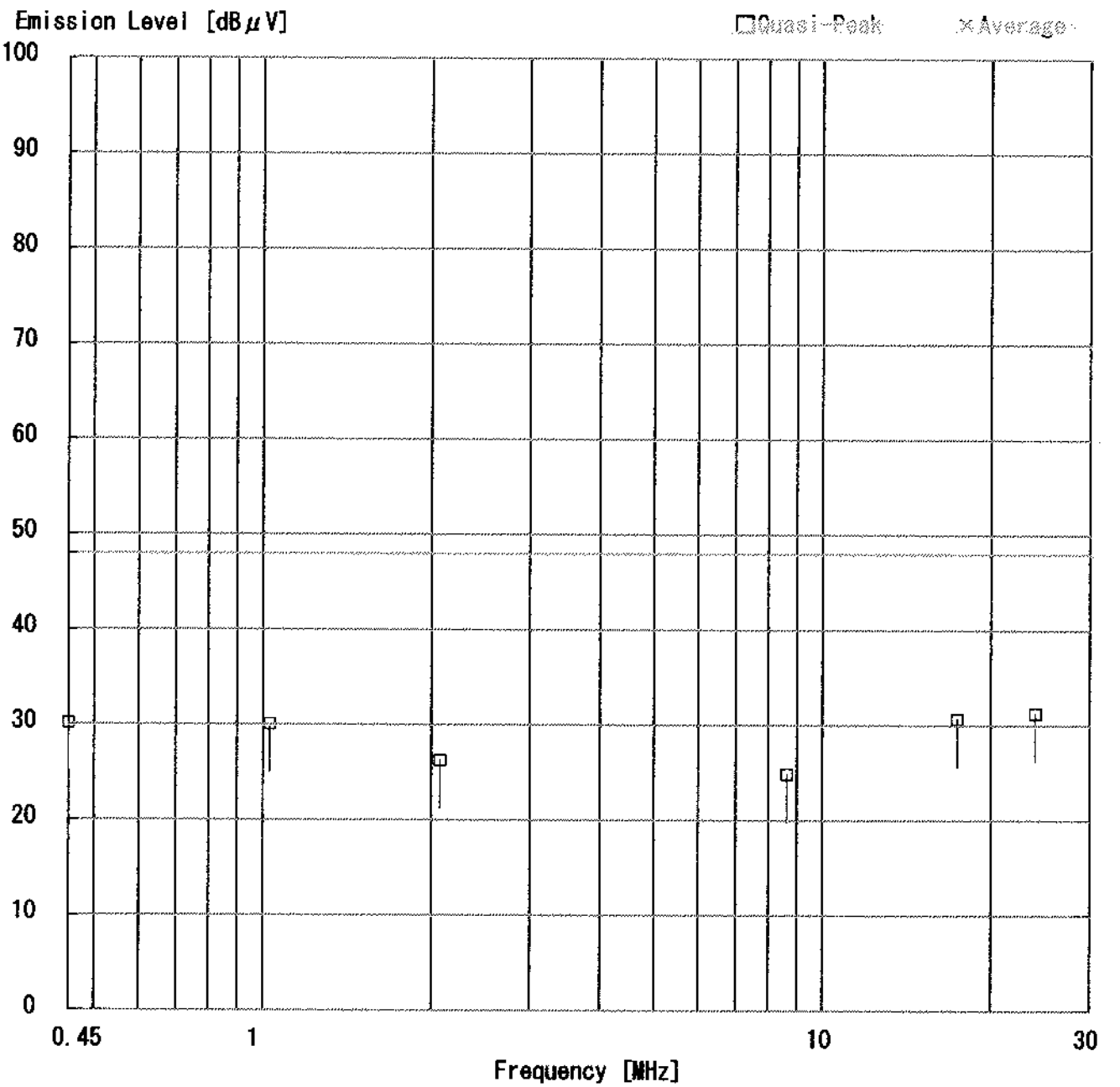
Except for the above table : adequate margin data below the limits.

# 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 ℃ |
| Humidity | : 41 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Sadahiko Tanaka

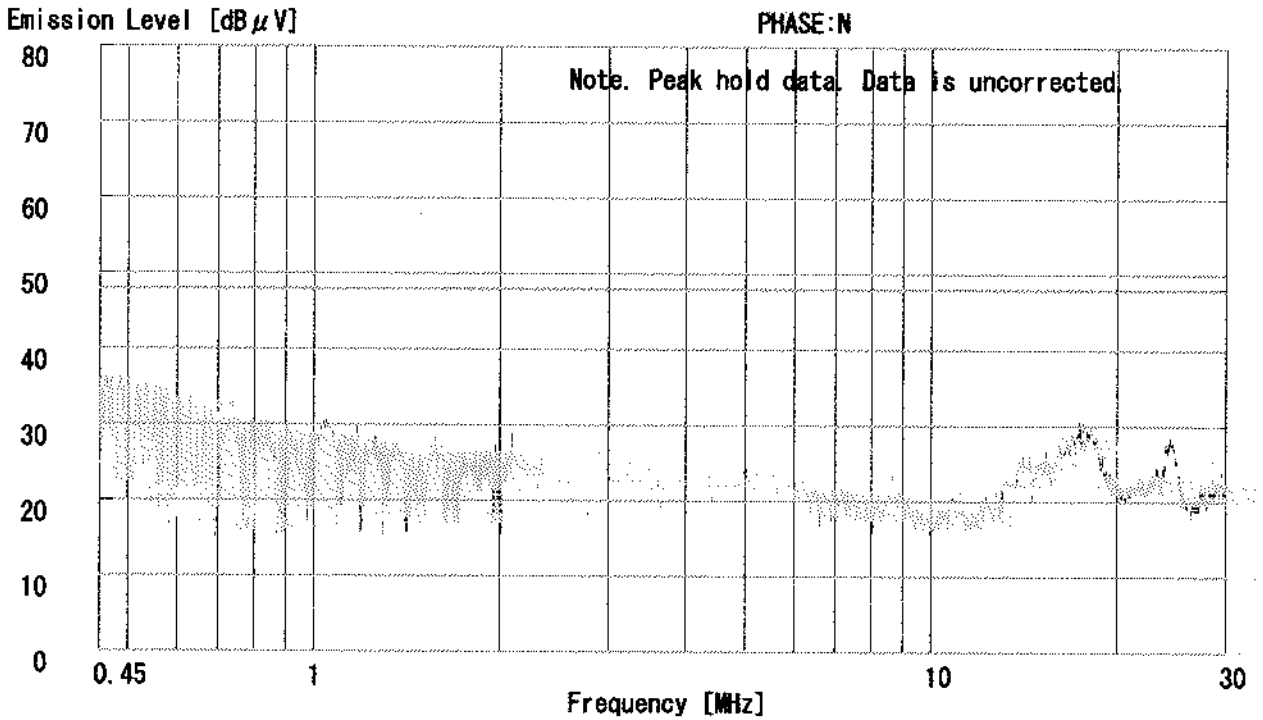


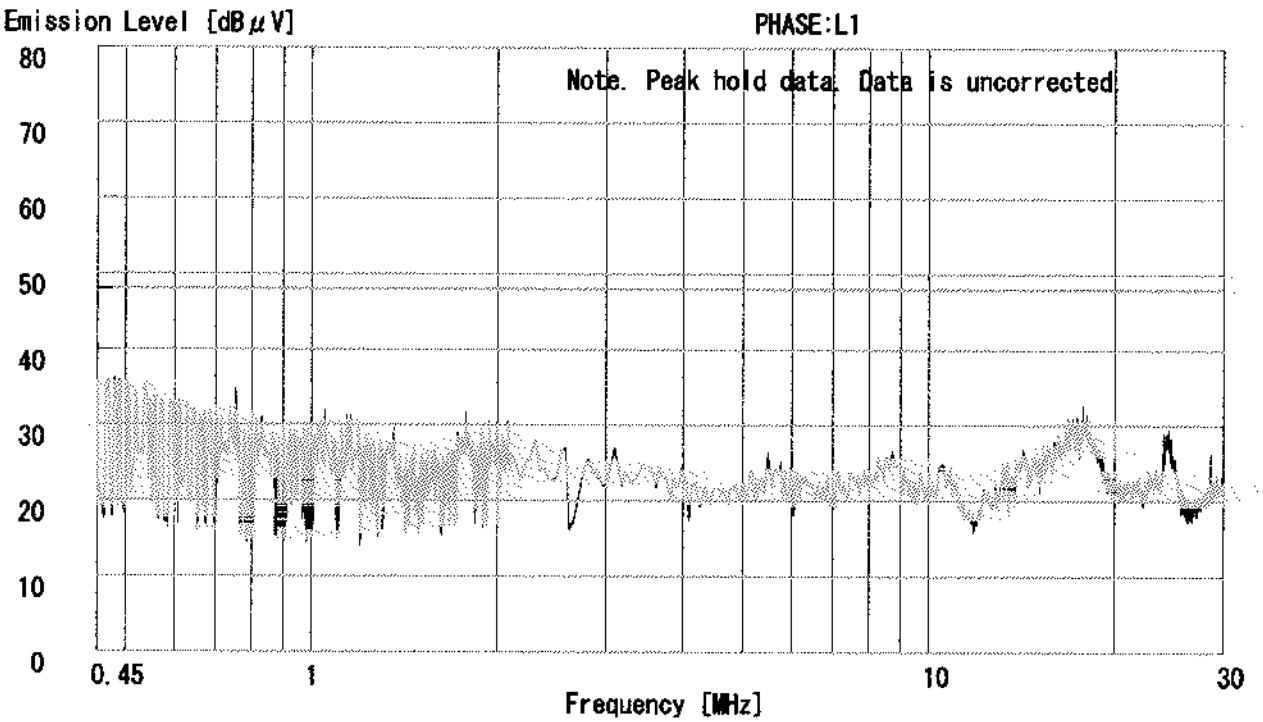
# DATA OF CONDUCTION TEST CHART

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 | : TV Reception + Rec |
| Remarks | : 25dBmV |
| Date | : 3/11/2003 |
| Phase | : Single Phase |
| Temperature | : 20 ℃ |
| Humidity | : 41 % |
| Regulation 1 | : FCC Part15B CLASS B |
| Regulation 2 | : None |

Engineer : Sadahiko Tanaka



# 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 ℃ |
| Humidity | : 41 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Sadahiko Tanaka

| No. | FREQ. | READING(N) QP | READING(N) AV | READING(L1) QP | READING(L1) AV | LISN FACTOR | CABLE LOSS | ATTEN. | RESULT QP | RESULT AV | LIMITS QP | LIMITS AV | MARGIN QP | MARGIN AV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | [dBuV] | | [dBuV] | | [dBuV] | [dBuV] | [dBuV] | [dBuV] | | [dBuV] | | [dBuV] | |
| 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 + LISN FACTOR + CABLE LOSS + ATTEN.

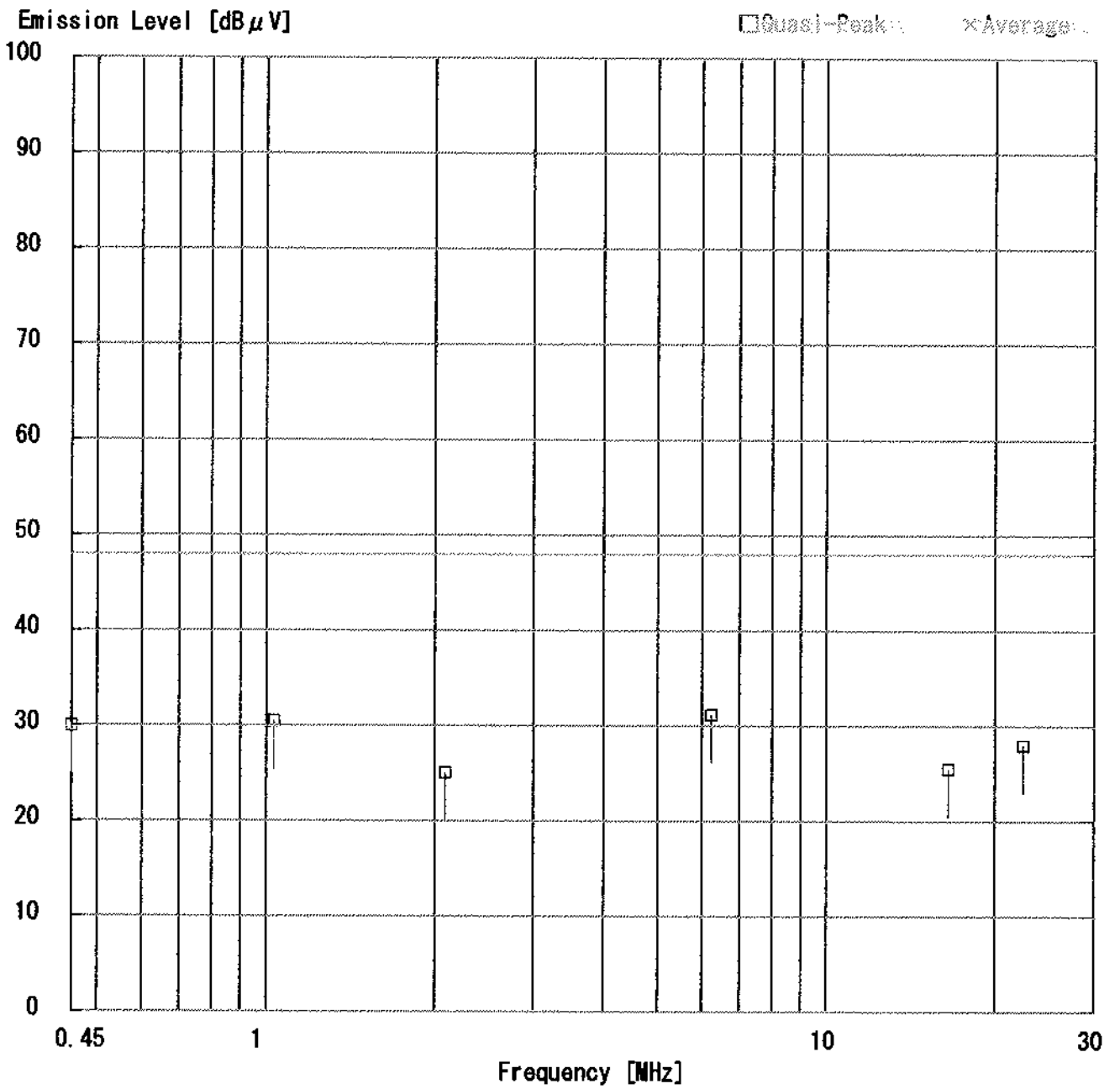
Except for the above table : adequate margin data below the limits.

# 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 | : 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

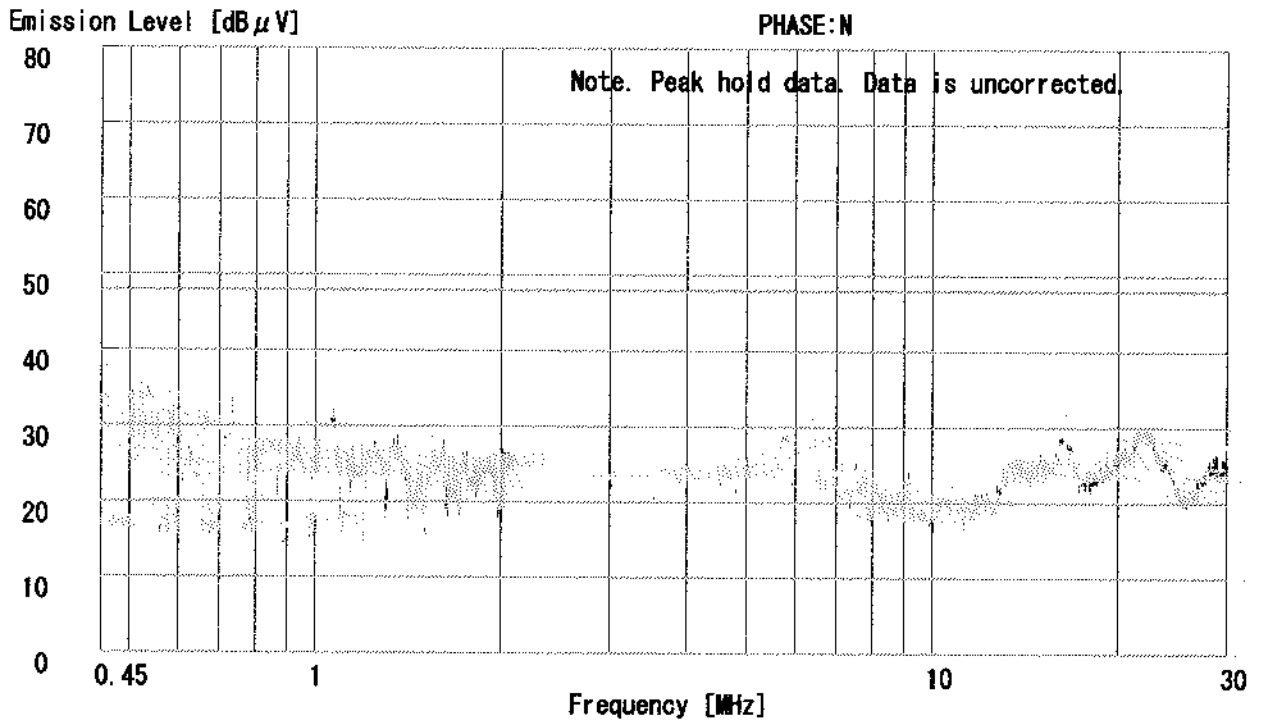


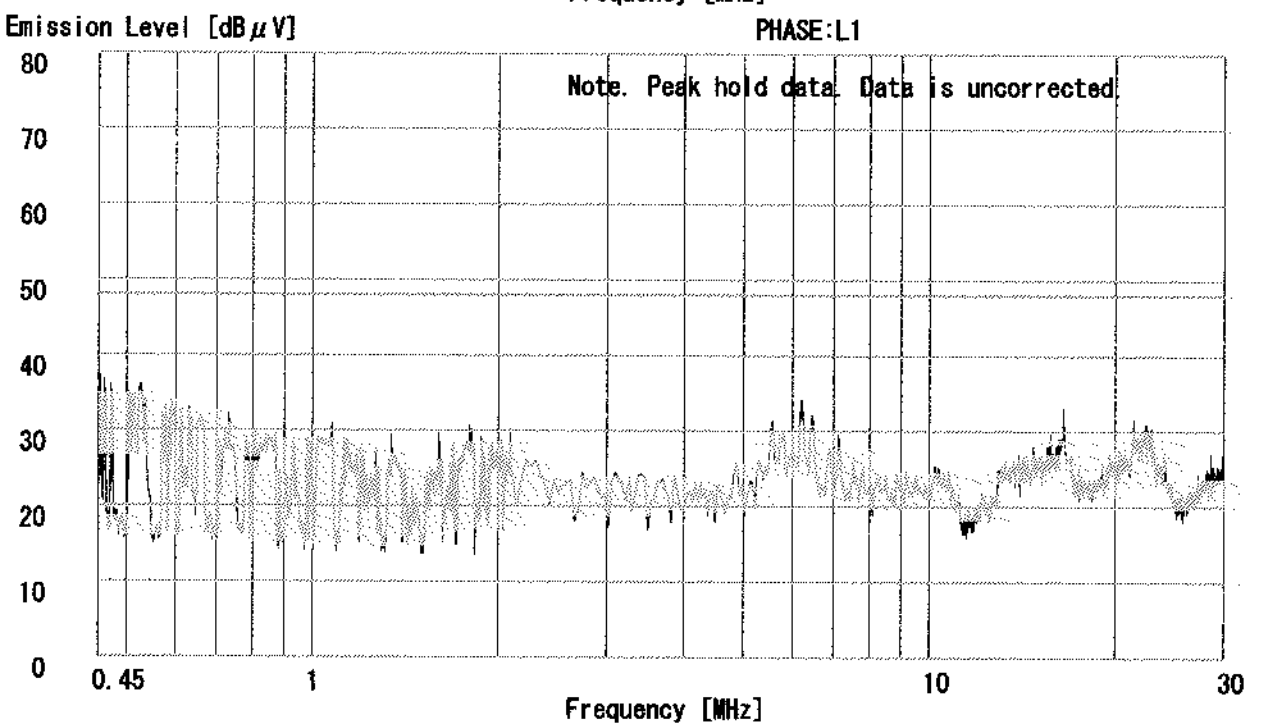
# DATA OF CONDUCTION TEST CHART

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 ℃ |
| Humidity | : | 41 % |
| Regulation 1 | : | FCC Part15B CLASS B |
| Regulation 2 | : | None |

Engineer : Sadahiko Tanaka



# 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 ℃
Humidity : 41 %
Regulation : FCC Part15B CLASS B

Engineer : Sadahiko Tanaka

| No. | FREQ. | READING(N) QP | READING(N) AV | READING(L1) QP | READING(L1) AV | LISN FACTOR | CABLE LOSS | ATTEN. | RESULT QP | RESULT AV | LIMITS QP | LIMITS AV | MARGIN QP | MARGIN AV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | [dBuV] | | [dBuV] | | [dBuV] | [dBuV] | [dBuV] | [dBuV] | | [dBuV] | | [dBuV] | |
| 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 + LISN FACTOR + CABLE LOSS + ATTEN.

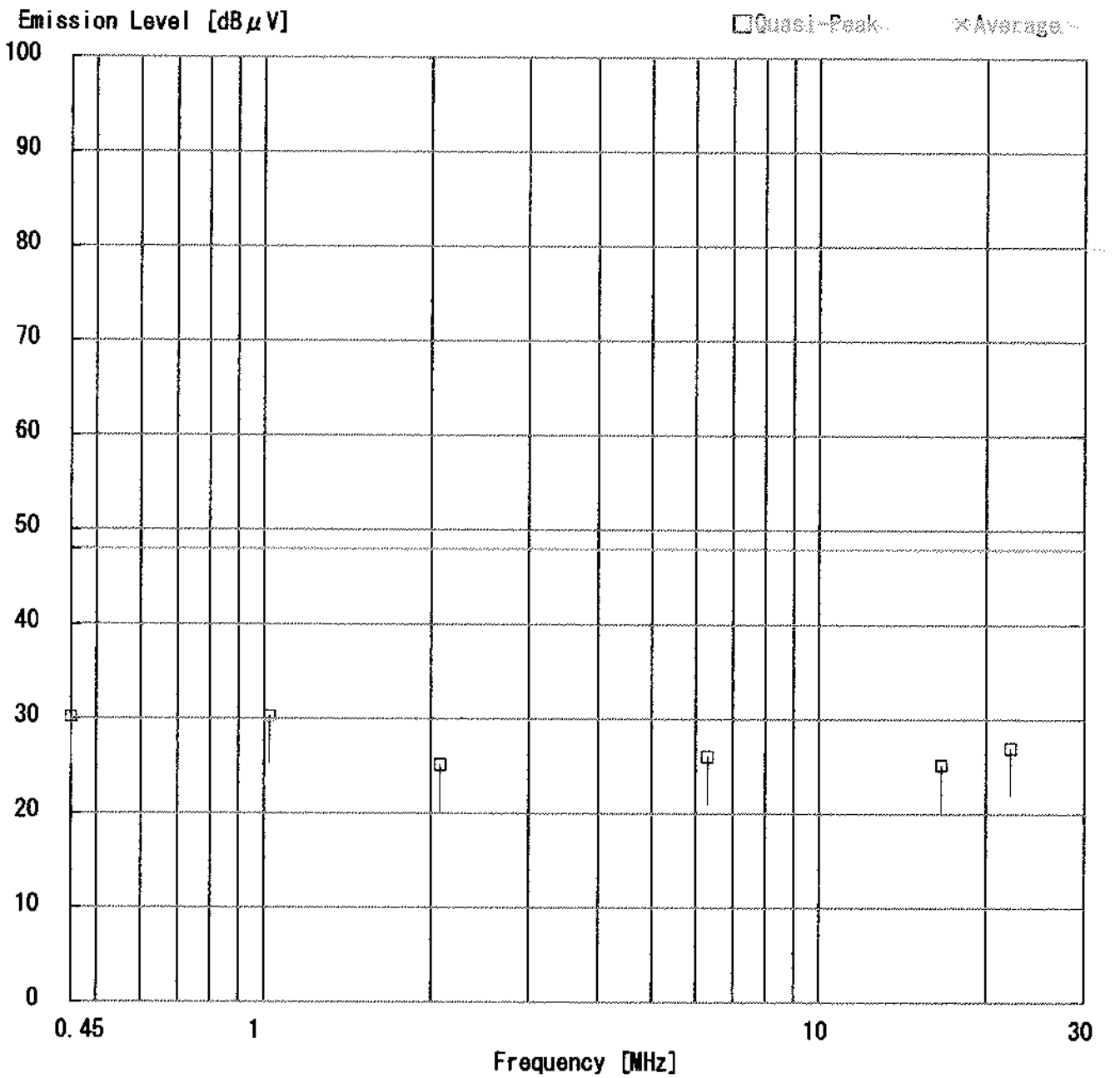
Except for the above table : adequate margin data below the limits.

# 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 | : AV Input + Rec |
| Remarks | : 5Vp-p |
| Date | : 3/11/2003 |
| Phase | : Single Phase |
| Temperature | : 20 °C |
| Humidity | : 41 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Sadahiko Tanaka

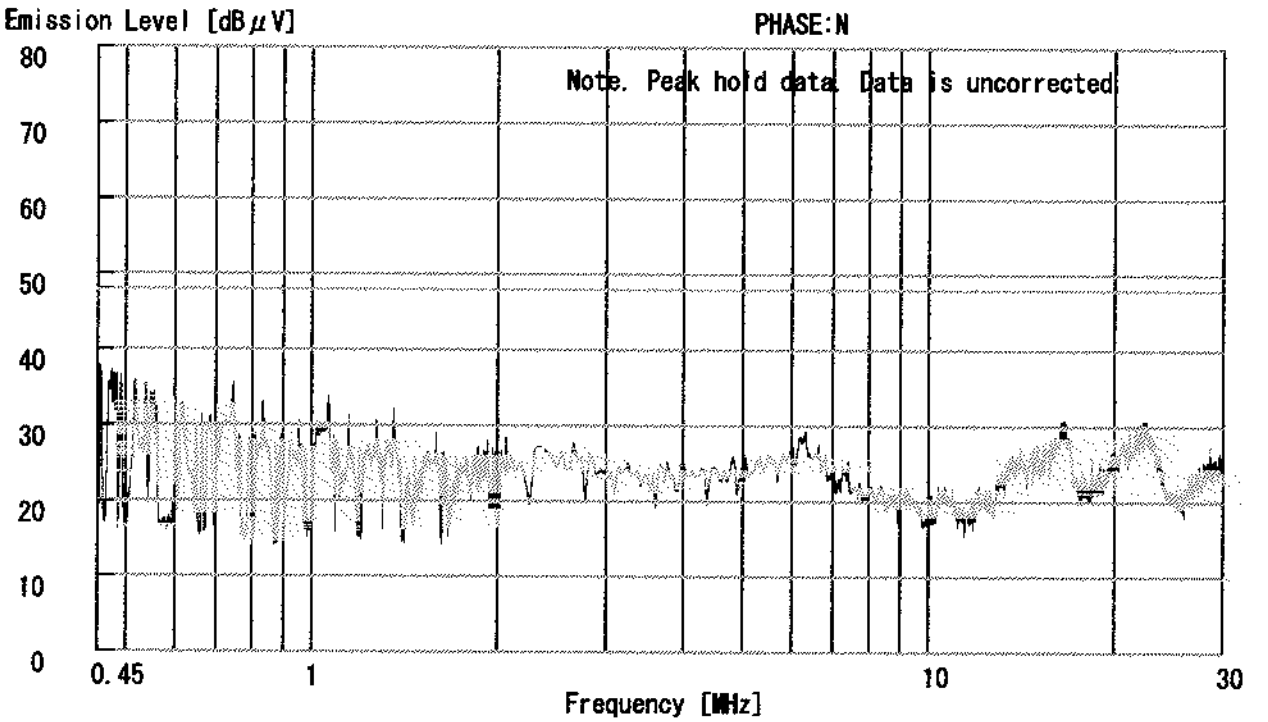


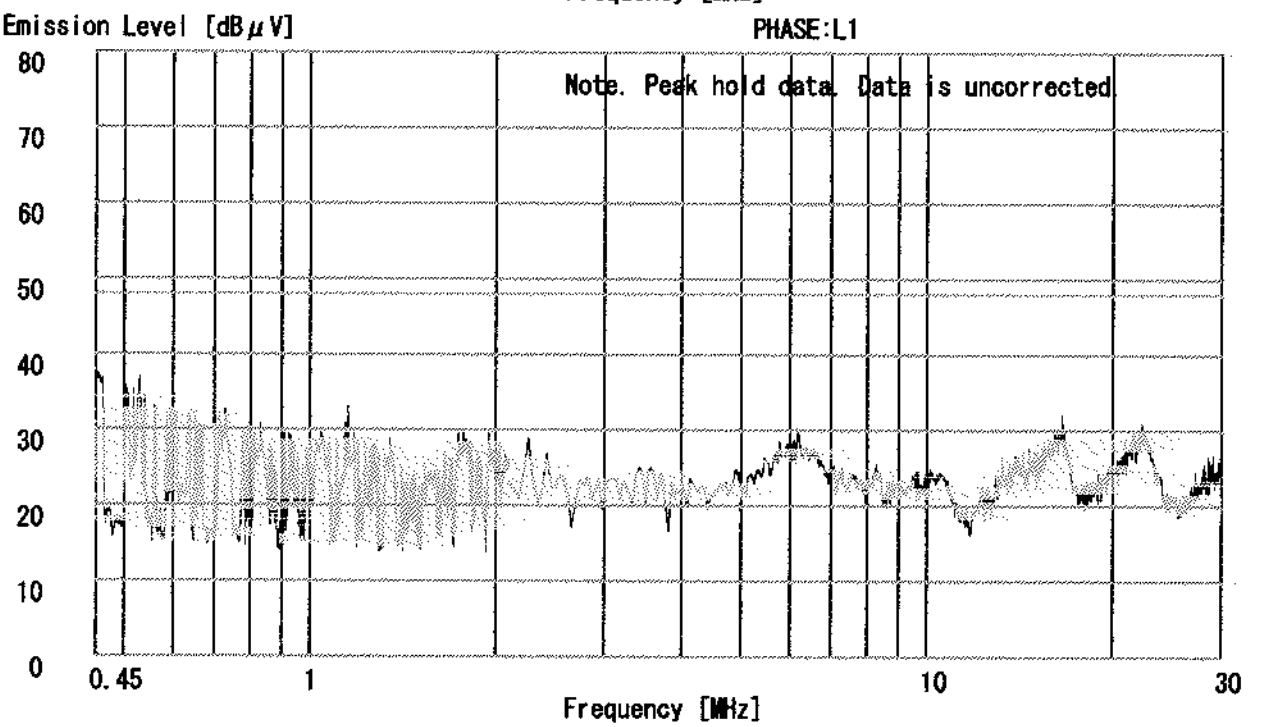
# DATA OF CONDUCTION TEST CHART

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 ℃ |
| Humidity | : | 41 % |
| Regulation 1 | : | FCC Part15B CLASS B |
| Regulation 2 | : | None |

Engineer : Sadahiko Tanaka



# 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 ℃ |
| Humidity | : 41 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Sadahiko Tanaka

| No. | FREQ. | READING(N) QP | READING(N) AV | READING(L1) QP | READING(L1) AV | LISN FACTOR | CABLE LOSS | ATTEN. | RESULT QP | RESULT AV | LIMITS QP | LIMITS AV | MARGIN QP | MARGIN AV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | [dBuV] | | [dBuV] | | [dBuV] | [dBuV] | [dBuV] | [dBuV] | | [dBuV] | | [dBuV] | |
| 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 + LISN FACTOR + CABLE LOSS + ATTEN.

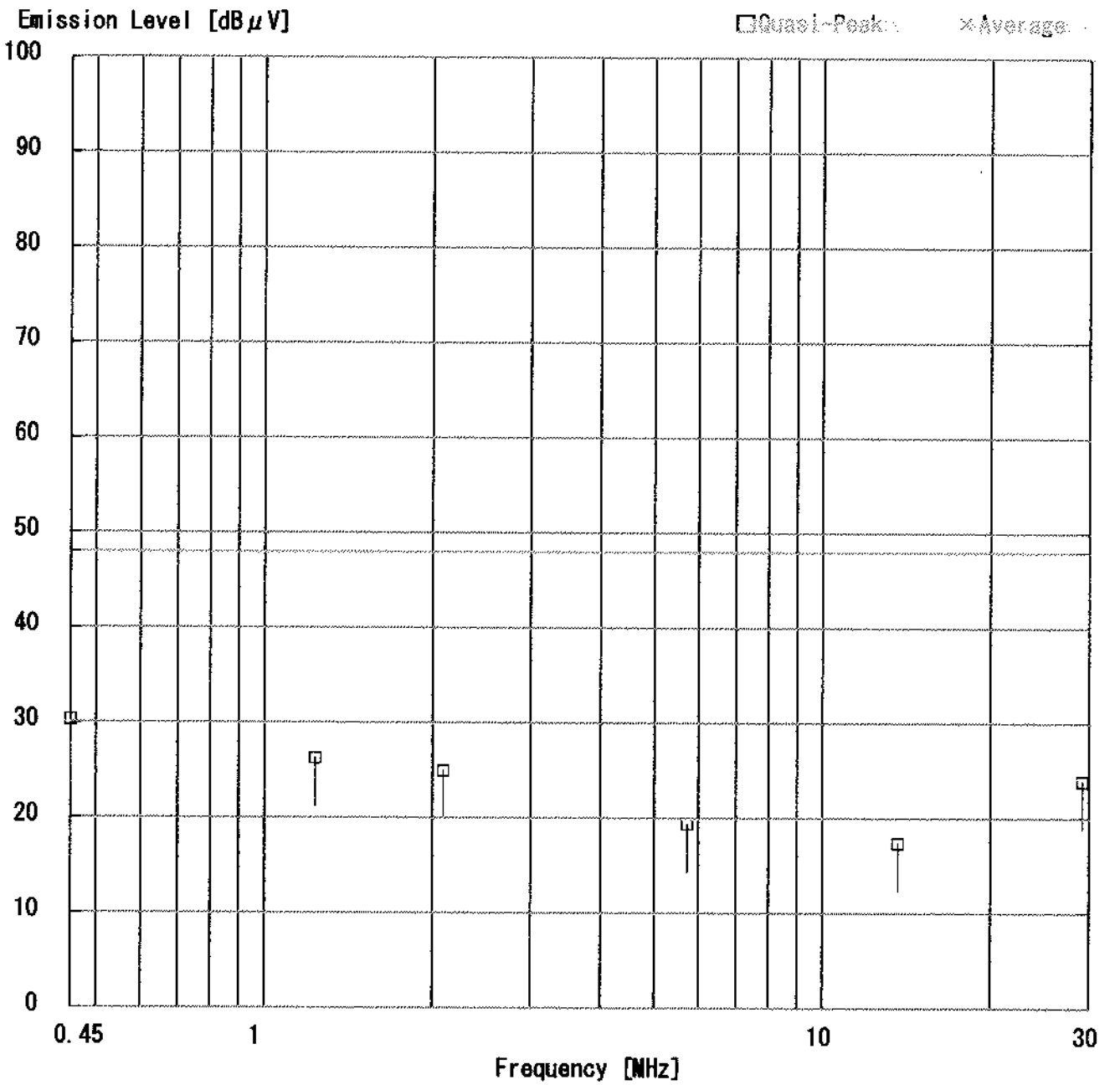
Except for the above table : adequate margin data below the limits.

# 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 | : VCR Playback |
| Remarks | : - |
| Date | : 3/11/2003 |
| Phase | : Single Phase |
| Temperature | : 20 ℃ |
| Humidity | : 41 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Sadahiko Tanaka

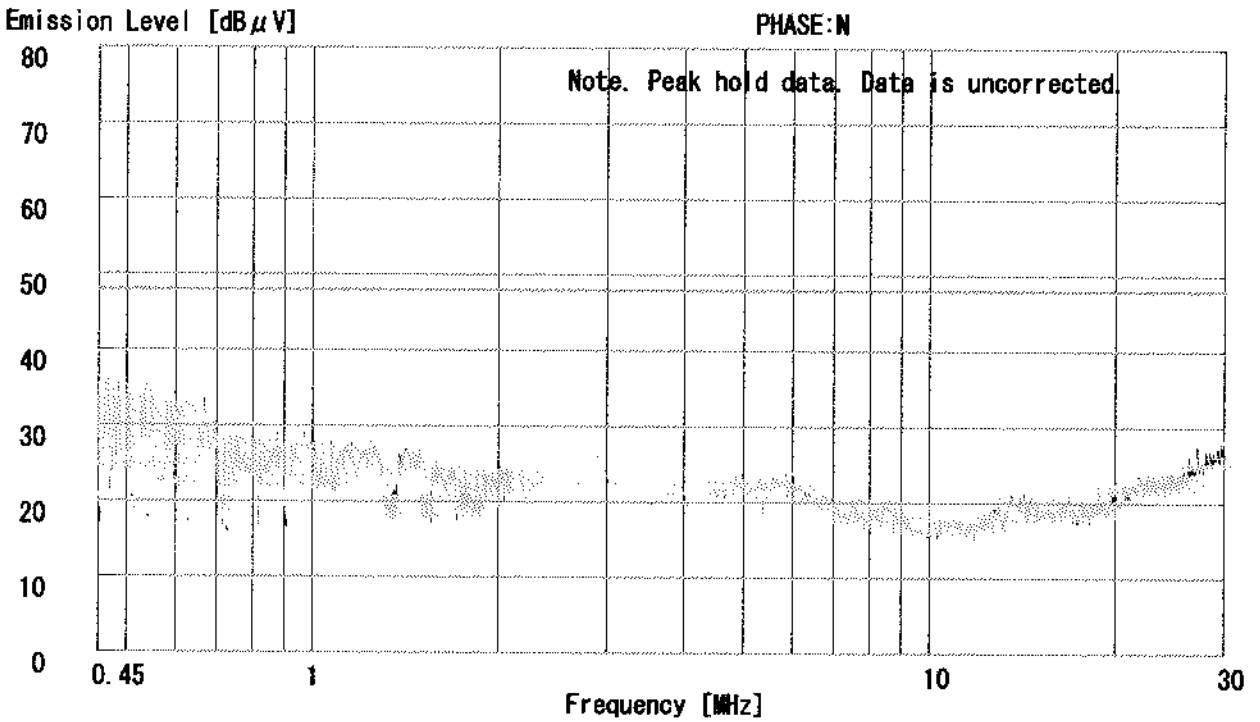


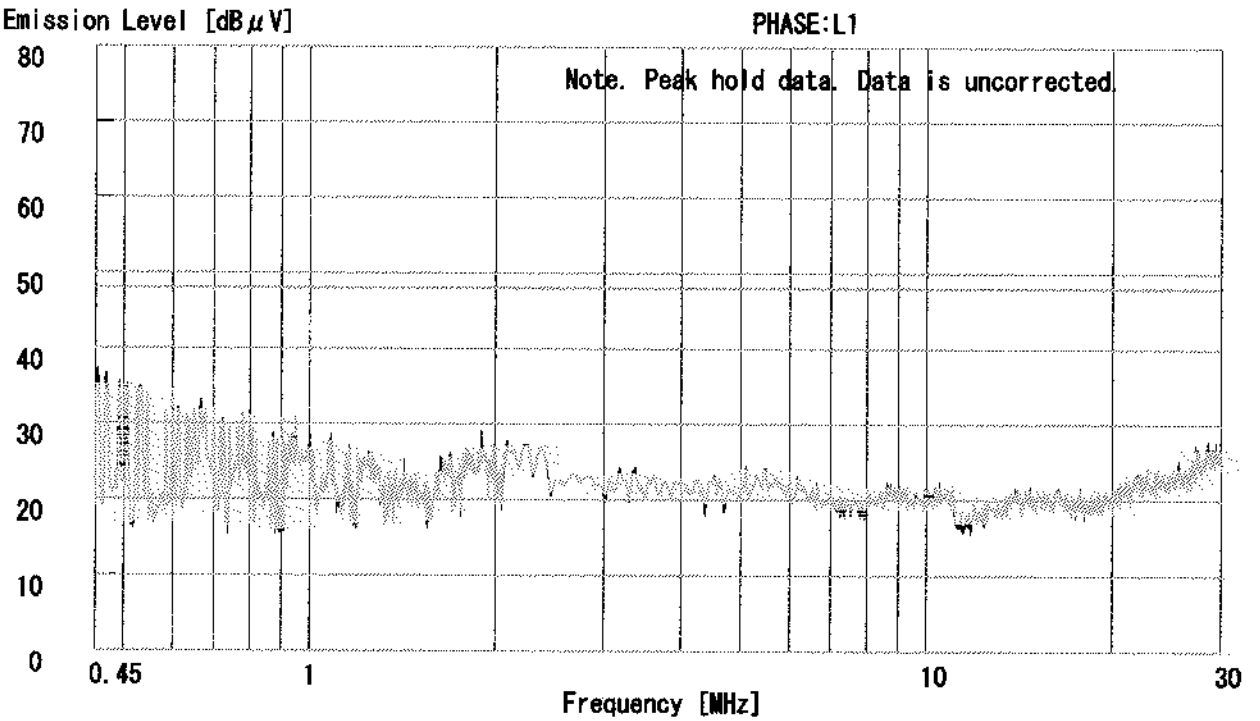
# DATA OF CONDUCTION TEST CHART

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 | : VCR Playback |
| Remarks | : - |
| Date | : 3/11/2003 |
| Phase | : Single Phase |
| Temperature | : 20 ℃ |
| Humidity | : 41 % |
| Regulation 1 | : FCC Part15B CLASS B |
| Regulation 2 | : None |

Engineer : Sadahiko Tanaka



# 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 ℃
Humidity : 41 %
Regulation : FCC Part15B CLASS B

Engineer : Sadahiko Tanaka

| No. | FREQ. [MHz] | READING(N) QP [dBuV] | READING(N) AV [dBuV] | READING(L1) QP [dBuV] | READING(L1) AV [dBuV] | LISN FACTOR [dBuV] | CABLE LOSS [dBuV] | ATTEN. [dBuV] | RESULT QP [dBuV] | RESULT AV [dBuV] | LIMITS QP [dBuV] | LIMITS AV [dBuV] | MARGIN QP [dBuV] | MARGIN AV [dBuV] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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.

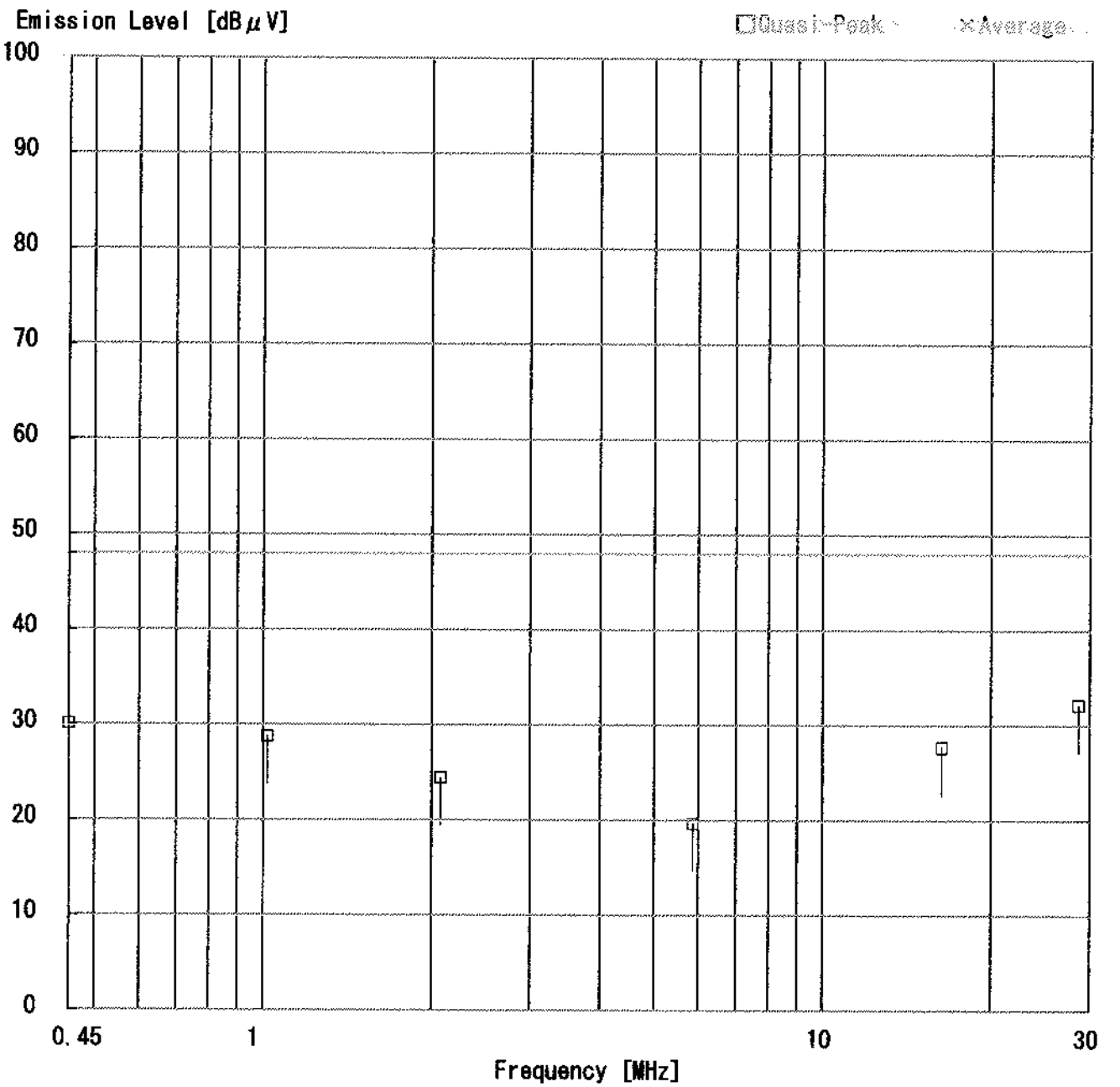
Except for the above table : adequate margin data below the limits.

# 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 ℃ |
| Humidity | : 41 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Sadahiko Tanaka

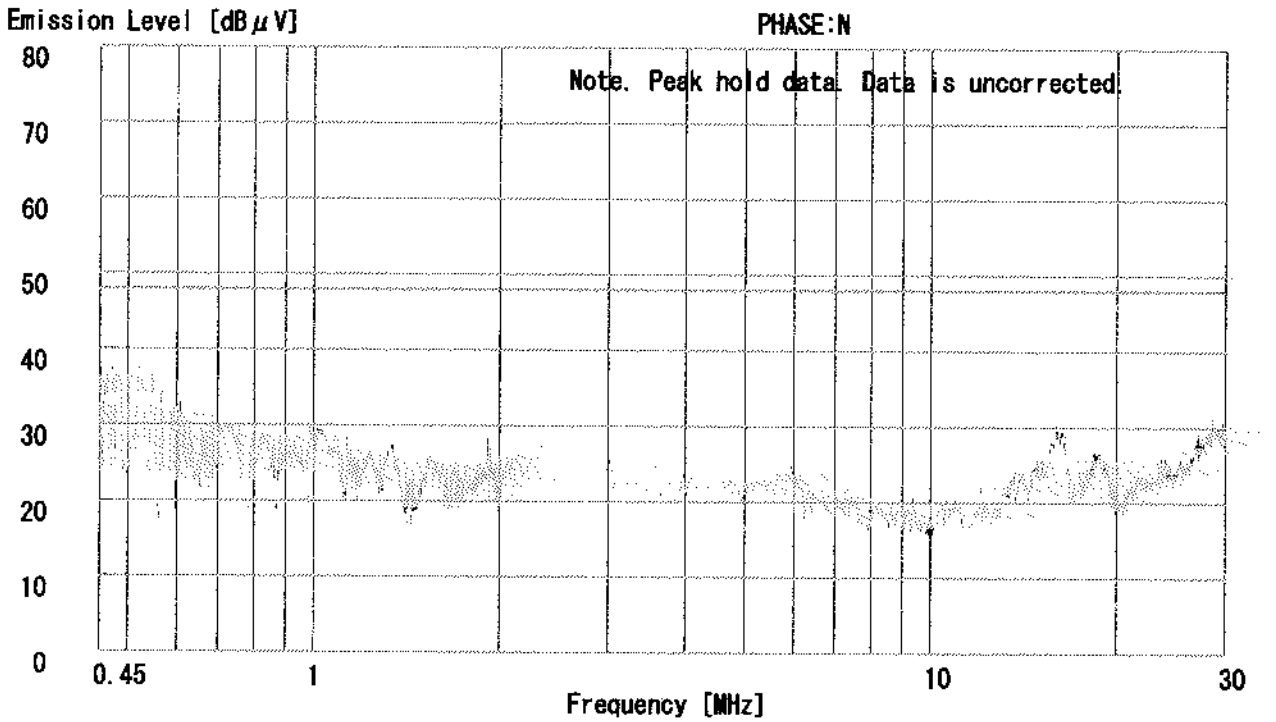


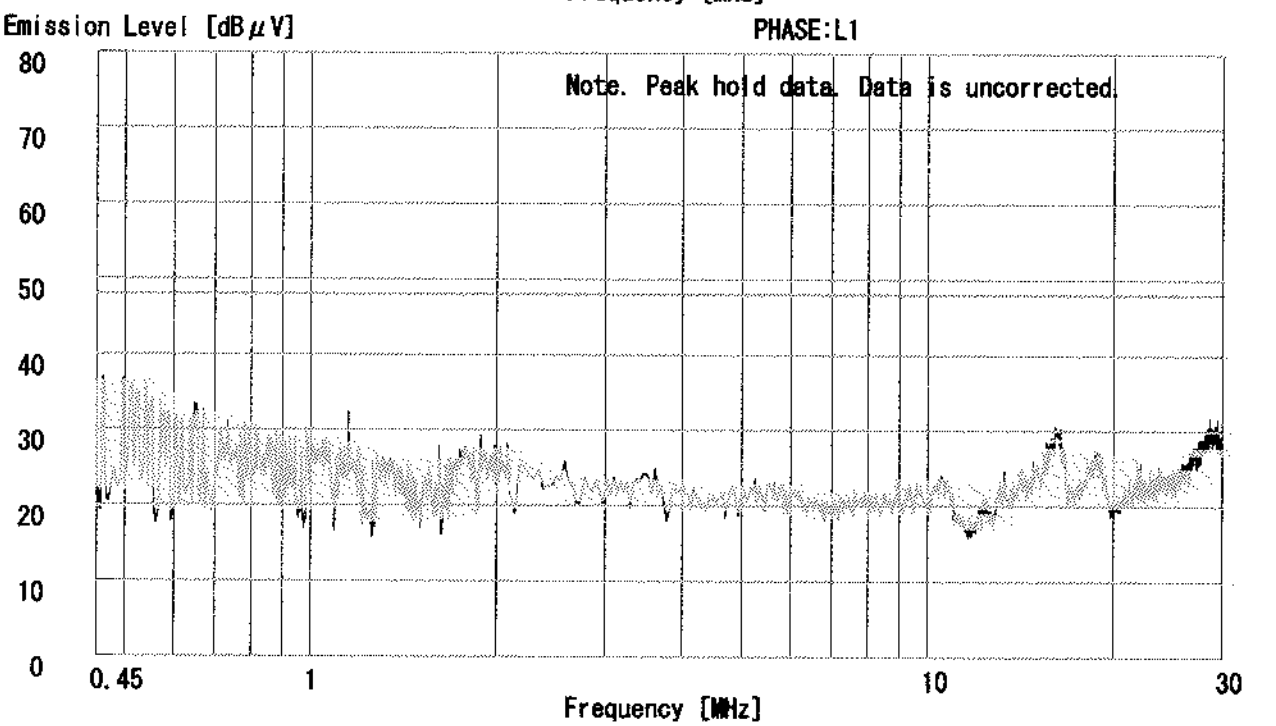
# DATA OF CONDUCTION TEST CHART

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 | : DVD Play |
| Remarks | : - |
| Date | : 3/11/2003 |
| Phase | : Single Phase |
| Temperature | : 20 ℃ |
| Humidity | : 41 % |
| Regulation 1 | : FCC Part15B CLASS B |
| Regulation 2 | : None |

Engineer : Sadahiko Tanaka



# 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 |
| DESCRIPTION | : TV Reception + Rec | | 1030-1694MHz 0dB |
| | | DATE | :March,07 2003 |
| | | Temp. / Humid. | : 21℃ / 39% |

ENGINEER : Hisayuki Kioka

| CH. | FREQ [MHz] | READINNG HOR. [dBuV] | READINNG VER. [dBuV] | ANT TYPE | ANT. FAC. [dB] | CABLE LOSS [dB] | AMP GAIN [dB] | RESULTS HOR. [dBuV/m] | RESULTS VER. [dBuV/m] | LIMIT [dBuV/m] | MARGIN HOR. [dB] | MARGIN 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.
EQUIPMENT : DVD Player and VCR
MODEL No. : HA-XVC25U
POWER : AC120V/60Hz
DESCRIPTION : TV Reception + Rec

REPORT No. : 23HE0021-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE :March,07 2003
Temp. / Humid. : 21℃ / 39%

ENGINEER : Hisayuki Kioka

| CH. | FREQ [MHz] | READINNG HOR. [dBuV] | READINNG VER. [dBuV] | ANT TYPE | ANT. FAC. [dB] | CABLE LOSS [dB] | AMP GAIN [dB] | RESULTS HOR. [dBuV/m] | RESULTS VER. [dBuV/m] | LIMIT [dBuV/m] | MARGIN HOR. [dB] | MARGIN 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.
EQUIPMENT : DVD Player and VCR
MODEL No. : HA-XVC25U
POWER : AC120V/60Hz
DESCRIPTION : TV Reception + Rec

REPORT No. : 23HE0021-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE :March,07 2003
Temp. / Humid. : 21℃ / 39%

ENGINEER :Hisayuki Kioka

| CH. | FREQ [MHz] | READINNG HOR. [dBuV] | READINNG VER. [dBuV] | ANT TYPE | ANT. FAC. [dB] | CABLE LOSS [dB] | AMP GAIN [dB] | RESULTS HOR. [dBuV/m] | RESULTS VER. [dBuV/m] | LIMIT [dBuV/m] | MARGIN HOR. [dB] | MARGIN VER. [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CATV Fundamental | | | | | | | | | | | | |
| 1 | 119 | 28.3 | 29.3 | BC | 12.8 | 2.3 | 27.9 | 21.5 | 22.5 | 43.5 | 22.0 | 21.0 |
| 95 | 137 | 24.6 | 28.3 | BC | 14.4 | 2.5 | 27.9 | 19.6 | 23.3 | 43.5 | 23.9 | 20.2 |
| 97 | 149 | 25.3 | 26.3 | BC | 14.8 | 2.6 | 27.7 | 21.0 | 22.0 | 43.5 | 22.5 | 21.5 |
| 99 | 161 | 25.3 | 24.6 | BC | 15.0 | 2.8 | 27.8 | 21.3 | 20.6 | 43.5 | 22.2 | 22.9 |
| 14 | 167 | 25.6 | 24.8 | BC | 15.2 | 2.8 | 27.8 | 21.8 | 21.0 | 43.5 | 21.7 | 22.5 |
| 18 | 191 | 25.0 | 25.6 | BC | 16.0 | 3.0 | 27.8 | 22.2 | 22.8 | 43.5 | 21.3 | 20.7 |
| 22 | 215 | 25.3 | 25.9 | BC | 16.5 | 3.2 | 27.8 | 23.2 | 23.8 | 43.5 | 20.3 | 19.7 |
| 23 | 263 | 25.1 | 26.0 | BC | 17.7 | 3.3 | 27.5 | 24.6 | 25.5 | 46.0 | 21.4 | 20.5 |
| 29 | 299 | 24.6 | 25.0 | BC | 20.0 | 3.8 | 27.8 | 26.6 | 27.0 | 46.0 | 19.4 | 19.0 |
| 36 | 341 | 26.5 | 26.3 | LP | 17.4 | 4.5 | 27.9 | 26.5 | 26.3 | 46.0 | 19.5 | 19.7 |
| 37 | 347 | 26.6 | 26.3 | LP | 17.5 | 4.7 | 27.9 | 26.9 | 26.6 | 46.0 | 19.1 | 19.4 |
| 65 | 515 | 28.0 | 27.1 | LP | 19.7 | 5.3 | 27.9 | 31.1 | 30.2 | 46.0 | 14.9 | 15.8 |
| 94 | 689 | 27.0 | 24.6 | LP | 22.3 | 6.3 | 27.2 | 34.4 | 32.0 | 46.0 | 11.6 | 14.0 |
| 100 | 695 | 27.8 | 29.0 | LP | 22.4 | 6.3 | 27.1 | 35.4 | 36.6 | 46.0 | 10.6 | 9.4 |
| 113 | 773 | 27.3 | 25.6 | LP | 23.2 | 6.7 | 27.0 | 36.2 | 34.5 | 46.0 | 9.8 | 11.5 |
| 125 | 845 | 24.3 | 25.0 | LP | 24.1 | 7.1 | 27.0 | 34.5 | 35.2 | 46.0 | 11.5 | 10.8 |
| CATV 2nd Harmonic | | | | | | | | | | | | |
| 1 | 238 | 23.0 | 23.1 | BC | 16.8 | 3.1 | 27.5 | 21.4 | 21.5 | 46.0 | 24.6 | 24.5 |
| 95 | 274 | 22.9 | 23.3 | BC | 18.4 | 3.6 | 27.8 | 23.1 | 23.5 | 46.0 | 22.9 | 22.5 |
| 97 | 298 | 23.0 | 23.5 | BC | 20.0 | 3.8 | 27.8 | 25.0 | 25.5 | 46.0 | 21.0 | 20.5 |
| 99 | 322 | 24.9 | 23.6 | LP | 17.0 | 4.0 | 28.0 | 23.9 | 22.6 | 46.0 | 22.1 | 23.4 |
| 14 | 334 | 23.6 | 22.6 | LP | 17.3 | 4.3 | 28.0 | 23.2 | 22.2 | 46.0 | 22.8 | 23.8 |
| 18 | 382 | 24.0 | 23.0 | LP | 18.2 | 4.5 | 27.9 | 24.8 | 23.8 | 46.0 | 21.2 | 22.2 |
| 22 | 430 | 23.5 | 22.6 | LP | 18.9 | 4.8 | 27.8 | 25.4 | 24.5 | 46.0 | 20.6 | 21.5 |
| 23 | 526 | 22.2 | 23.6 | LP | 19.8 | 5.4 | 27.8 | 25.6 | 27.0 | 46.0 | 20.4 | 19.0 |
| 29 | 598 | 22.6 | 23.1 | LP | 20.5 | 5.7 | 27.5 | 27.3 | 27.8 | 46.0 | 18.7 | 18.2 |
| 36 | 682 | 23.5 | 22.9 | LP | 22.1 | 6.3 | 27.3 | 30.6 | 30.0 | 46.0 | 15.4 | 16.0 |
| 37 | 694 | 23.3 | 22.6 | LP | 22.4 | 6.3 | 27.1 | 30.9 | 30.2 | 46.0 | 15.1 | 15.8 |
| 65 | 1030 | 48.6 | 51.7 | HO | 24.9 | 1.6 | 39.0 | 36.1 | 39.2 | 54.0 | 17.9 | 14.8 |
| 94 | 1378 | 45.0 | 47.1 | HO | 26.5 | 2.0 | 38.6 | 34.9 | 37.0 | 54.0 | 19.1 | 17.0 |
| 100 | 1390 | 44.3 | 48.6 | HO | 26.5 | 2.0 | 38.6 | 34.2 | 38.5 | 54.0 | 19.8 | 15.5 |
| 113 | 1546 | 47.4 | 47.6 | HO | 27.1 | 2.1 | 38.5 | 38.1 | 38.3 | 54.0 | 15.9 | 15.7 |
| 125 | 1690 | 49.3 | 42.7 | HO | 27.4 | 2.3 | 38.3 | 40.7 | 34.1 | 54.0 | 13.3 | 19.9 |

# 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 ℃ |
| Humidity | : 43 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Hisayuki Kioka

| No. | FREQ. [MHz] | ANT TYPE | READING HOR [dBμV] | READING VER [dBμV] | ANT FACTOR [dB/m] | AMP GAIN [dB] | CABLE LOSS [dB] | ATTEN. [dB] | RESULT HOR [dBμV/m] | RESULT VER [dBμV/m] | LIMITS [dBμV/m] | MARGIN HOR [dB] | MARGIN VER [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.

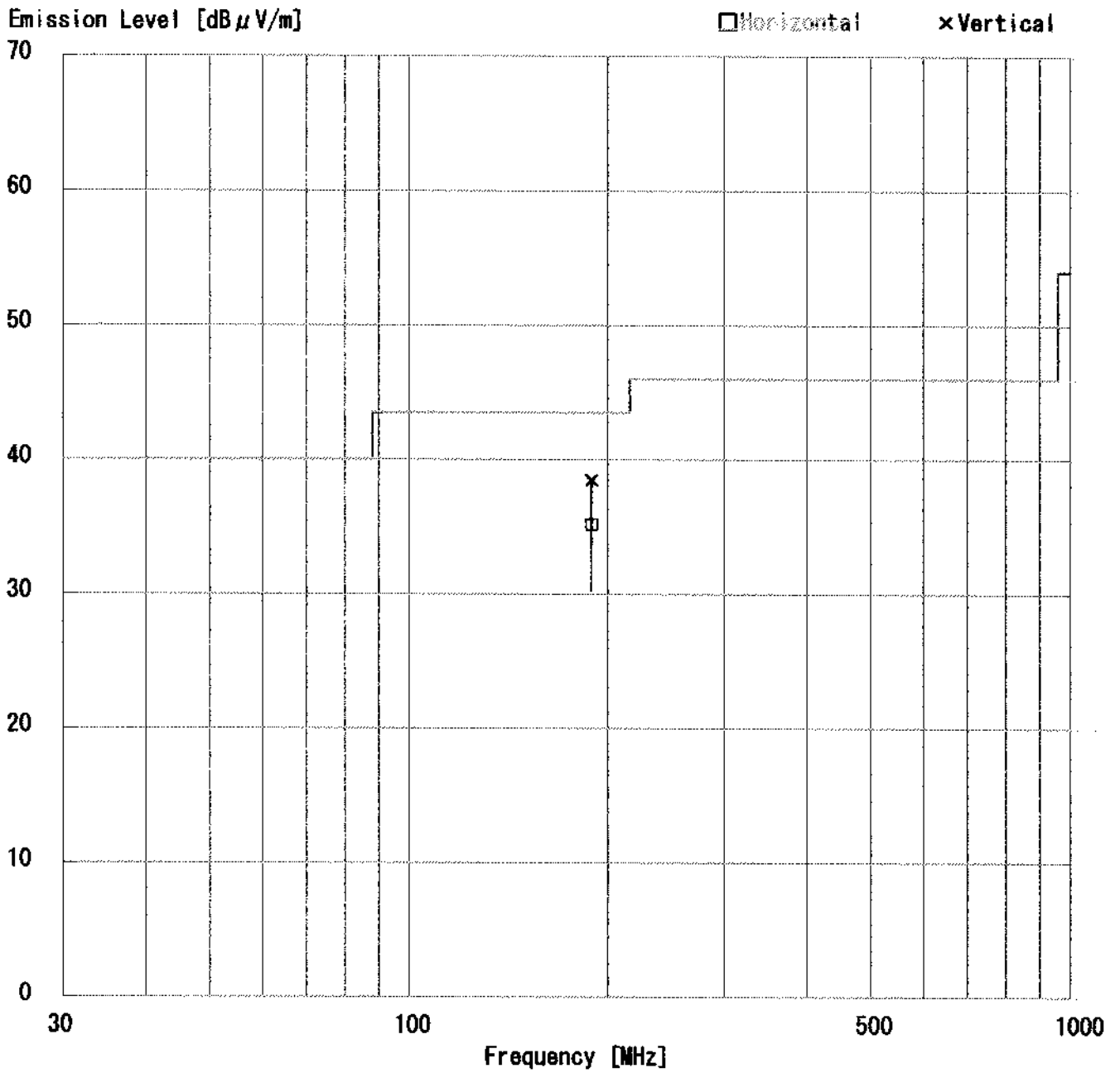
Except for the above table: adequate margin data below the limits.
ANT.TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

# 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 ℃ |
| Humidity | : 43 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Hisayuki 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 | : TV Reception + Rec |
| Remarks | : 25dBmV |
| Date | : 3/6/2003 |
| Test Distance | : 3 m |
| Temperature | : 21 ℃ |
| Humidity | : 43 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Hisayuki Kioka

| No. | FREQ. [MHz] | ANT TYPE | READING HOR [dBμV] | READING VER [dBμV] | ANT FACTOR [dB/m] | AMP GAIN [dB] | CABLE LOSS [dB] | ATTEN. [dB] | RESULT HOR [dBμV/m] | RESULT VER [dBμV/m] | LIMITS [dBμV/m] | MARGIN HOR [dB] | MARGIN 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.

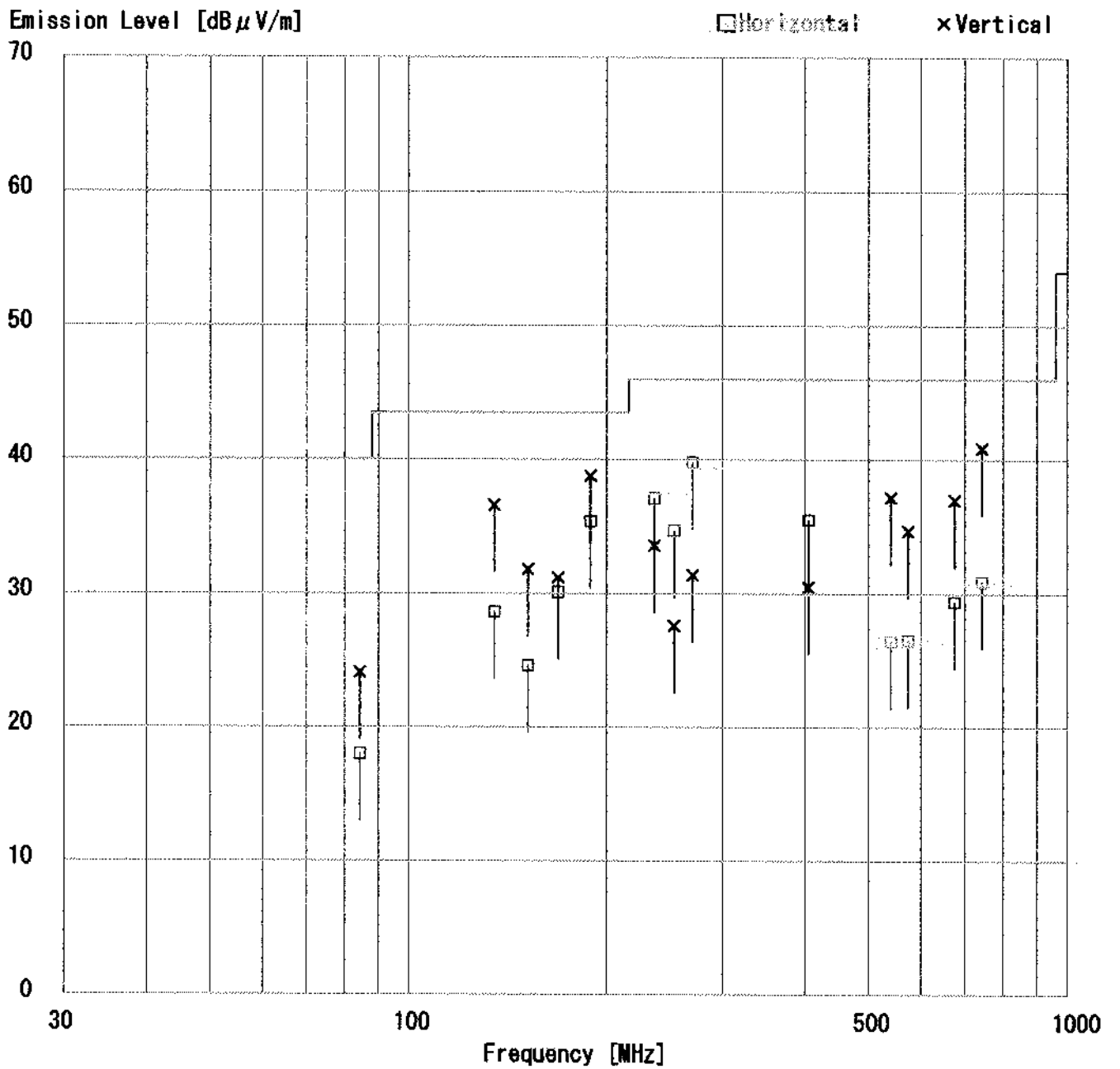
Except for the above table: adequate margin data below the limits.
ANT.TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

# 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 ℃ |
| Humidity | : 43 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Hisayuki 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 ℃ |
| Humidity | : 43 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Hisayuki Kioka

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

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

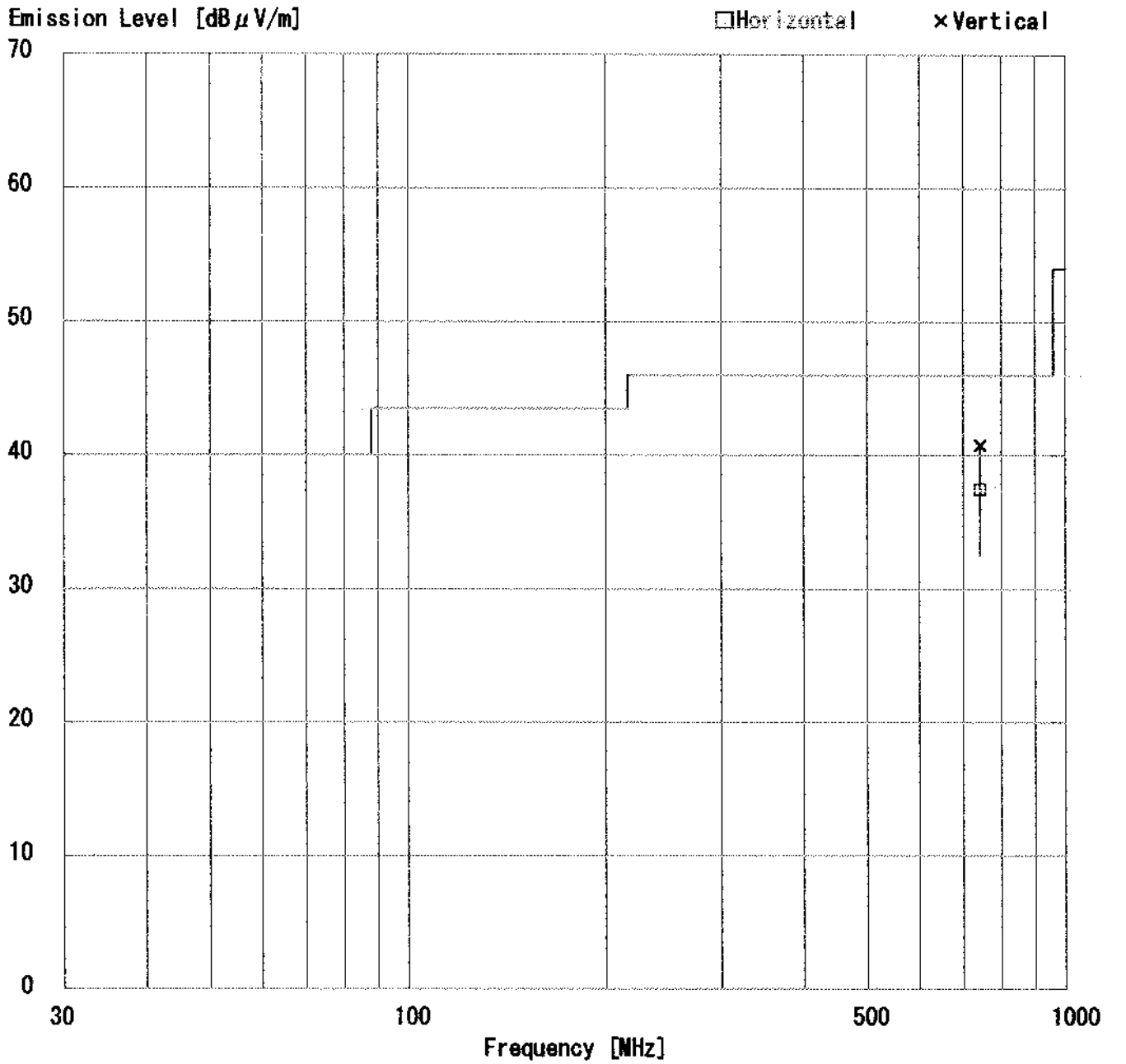
Except for the above table: adequate margin data below the limits.
ANT.TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

# 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 ℃ |
| Humidity | : 43 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Hisayuki 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 | : 5Vp-p |
| Date | : 3/6/2003 |
| Test Distance | : 3 m |
| Temperature | : 21 ℃ |
| Humidity | : 43 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Hisayuki Kioka

| No. | FREQ. [MHz] | ANT TYPE | READING HOR [dBμV] | READING VER [dBμV] | ANT FACTOR [dB/m] | AMP GAIN [dB] | CABLE LOSS [dB] | ATTEN. [dB] | RESULT HOR [dBμV/m] | RESULT VER [dBμV/m] | LIMITS [dBμV/m] | MARGIN HOR [dB] | MARGIN 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.

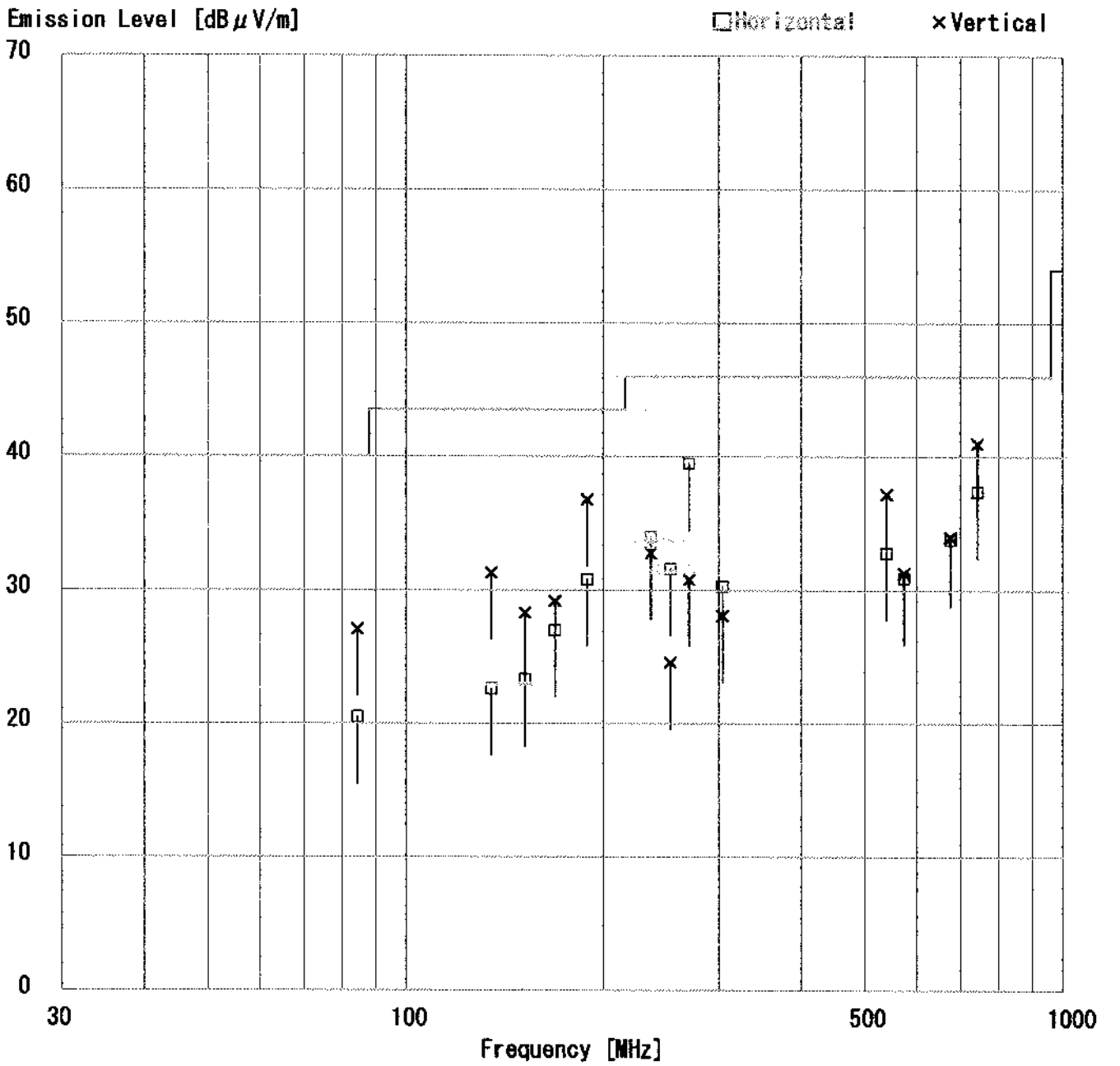
Except for the above table: adequate margin data below the limits.
ANT.TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

# 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 ℃ |
| Humidity | : 43 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Hisayuki 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 | : VCR Playback |
| Remarks | : - |
| Date | : 3/6/2003 |
| Test Distance | : 3 m |
| Temperature | : 21 ℃ |
| Humidity | : 43 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Hisayuki Kioka

| No. | FREQ. [MHz] | ANT TYPE | READING HOR [dBμV] | READING VER [dBμV] | ANT FACTOR [dB/m] | AMP GAIN [dB] | CABLE LOSS [dB] | ATTEN. [dB] | RESULT HOR [dBμV/m] | RESULT VER [dBμV/m] | LIMITS [dBμV/m] | MARGIN HOR [dB] | MARGIN 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 | 17.0 |
| 2. | 134.99 | BB | 36.0 | 40.9 | 14.0 | 27.9 | 2.5 | 6.0 | 30.6 | 35.5 | 43.5 | 12.9 | 8.0 |
| 3. | 151.88 | BB | 30.2 | 33.3 | 14.6 | 27.7 | 2.6 | 6.0 | 25.7 | 28.8 | 43.5 | 17.8 | 14.7 |
| 4. | 168.76 | BB | 31.9 | 33.9 | 15.2 | 27.8 | 2.8 | 6.0 | 28.1 | 30.1 | 43.5 | 15.4 | 13.4 |
| 5. | 189.00 | BB | 34.3 | 33.2 | 16.0 | 27.8 | 3.0 | 6.0 | 31.5 | 30.4 | 43.5 | 12.0 | 13.1 |
| 6. | 236.25 | BB | 34.5 | 30.9 | 16.5 | 27.6 | 3.1 | 6.0 | 32.5 | 28.9 | 46.0 | 13.5 | 17.1 |
| 7. | 253.14 | BB | 34.1 | 26.3 | 16.8 | 27.3 | 3.1 | 6.0 | 32.7 | 24.9 | 46.0 | 13.3 | 21.1 |
| 8. | 270.00 | BB | 40.3 | 32.3 | 17.9 | 27.7 | 3.5 | 6.1 | 40.1 | 32.1 | 46.0 | 5.9 | 13.9 |
| 9. | 404.99 | BB | 34.1 | 31.6 | 17.9 | 28.0 | 4.6 | 6.0 | 34.6 | 32.1 | 46.0 | 11.4 | 13.9 |
| 10. | 540.00 | BB | 25.1 | 35.0 | 19.6 | 27.7 | 5.5 | 6.1 | 28.6 | 38.5 | 46.0 | 17.4 | 7.5 |
| 11. | 573.74 | BB | 24.0 | 30.6 | 19.9 | 27.7 | 5.7 | 6.0 | 27.9 | 34.5 | 46.0 | 18.1 | 11.5 |
| 12. | 675.00 | BB | 24.8 | 28.0 | 21.4 | 27.3 | 6.3 | 6.1 | 31.3 | 34.5 | 46.0 | 14.7 | 11.5 |
| 13. | 742.49 | BB | 28.3 | 32.1 | 22.4 | 27.2 | 6.6 | 6.1 | 36.2 | 40.0 | 46.0 | 9.8 | 6.0 |

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

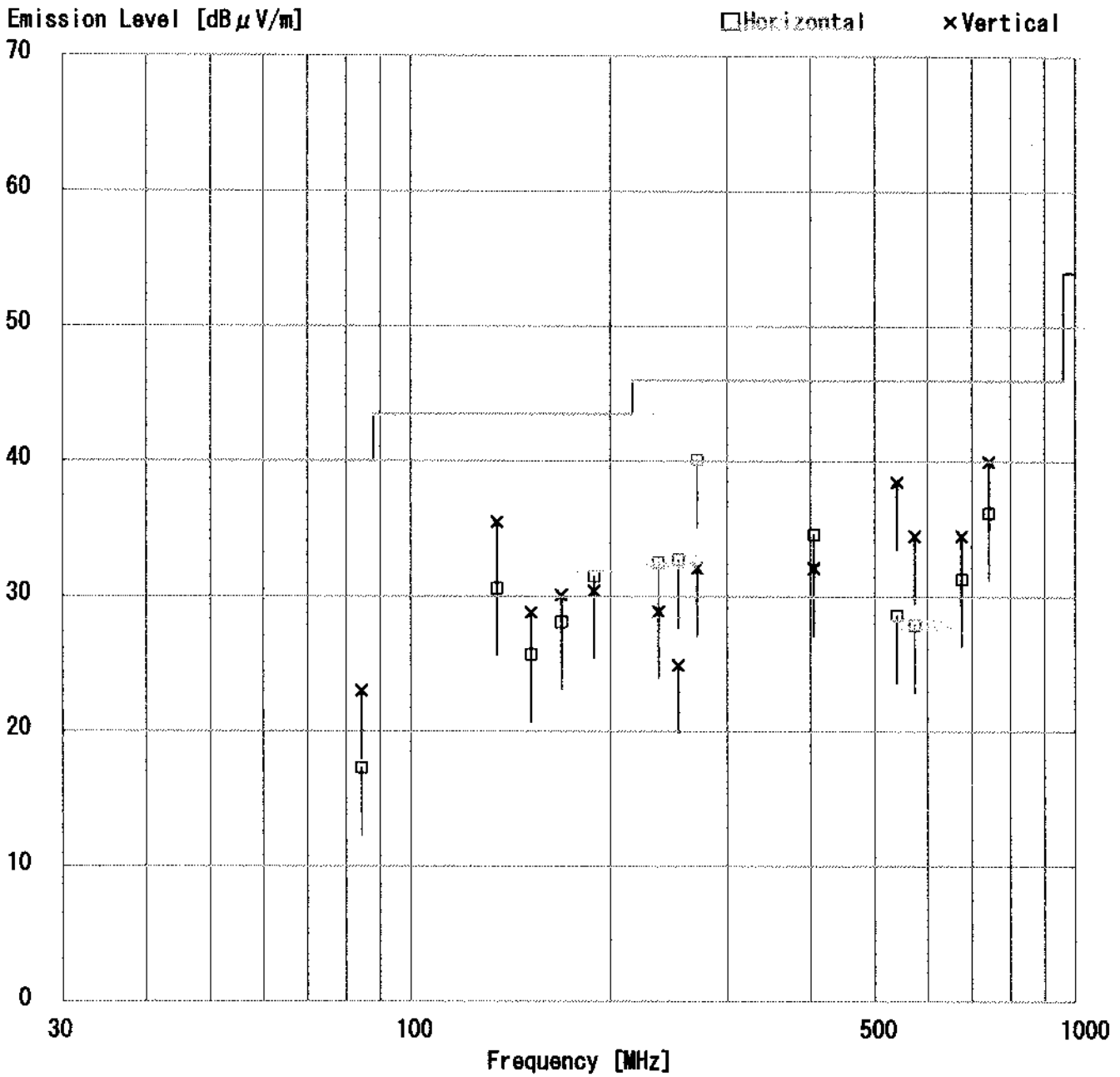
Except for the above table: adequate margin data below the limits.
ANT.TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

# 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 | : VCR Playback |
| Remarks | : - |
| Date | : 3/6/2003 |
| Test Distance | : 3 m |
| Temperature | : 21 ℃ |
| Humidity | : 43 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Hisayuki Kioka



# 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 ℃ |
| Humidity | : 43 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Hisayuki Kioka

| No. | FREQ. [MHz] | ANT TYPE | READING HOR [dBμV] | READING VER [dBμV] | ANT FACTOR [dB/m] | AMP GAIN [dB] | CABLE LOSS [dB] | ATTEN. [dB] | RESULT HOR [dBμV/m] | RESULT VER [dBμV/m] | LIMITS [dBμV/m] | MARGIN HOR [dB] | MARGIN VER [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.

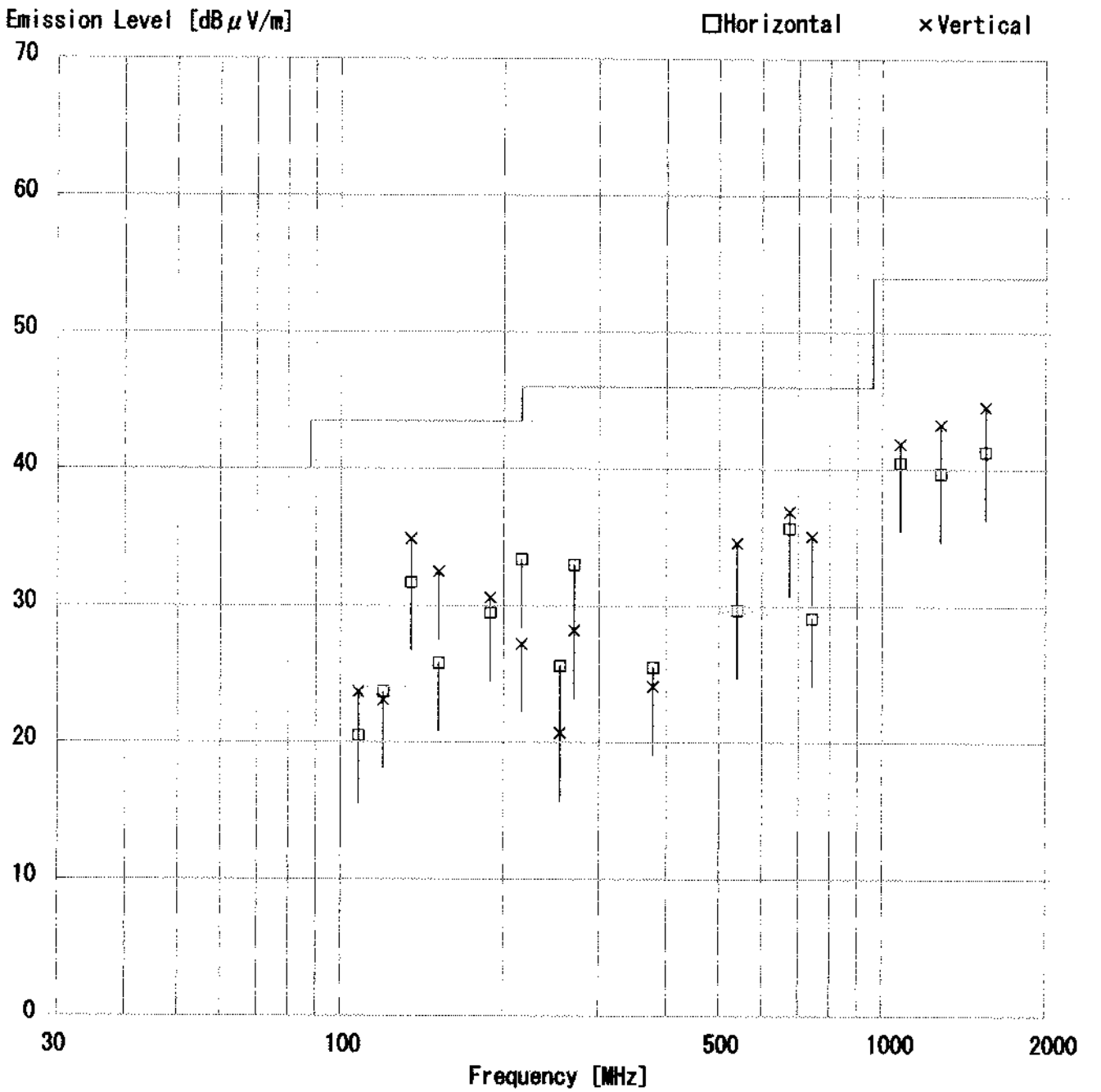
Except for the above table : adequate margin data below the limits.
ANT. TYPE : 30-300MHz Biconical, 300-1000MHz Logperiodic, 1-2GHz DRG Horn

# 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 ℃ |
| Humidity | : 43 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Hisayuki 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 : DVD Play
Remarks : Test Channel #3
Date : 3/6/2003
Test Distance : 3 m
Temperature : 21 ℃
Humidity : 43 %
Regulation : FCC Part15B CLASS B

Engineer : Hisayuki Kioka

| No. | FREQ. [MHz] | ANT TYPE | READING HOR [dBμV] | READING VER [dBμV] | ANT FACTOR [dB/m] | AMP GAIN [dB] | CABLE LOSS [dB] | ATTEN. [dB] | RESULT HOR [dBμV/m] | RESULT VER [dBμV/m] | LIMITS [dBμV/m] | MARGIN HOR [dB] | MARGIN VER [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.

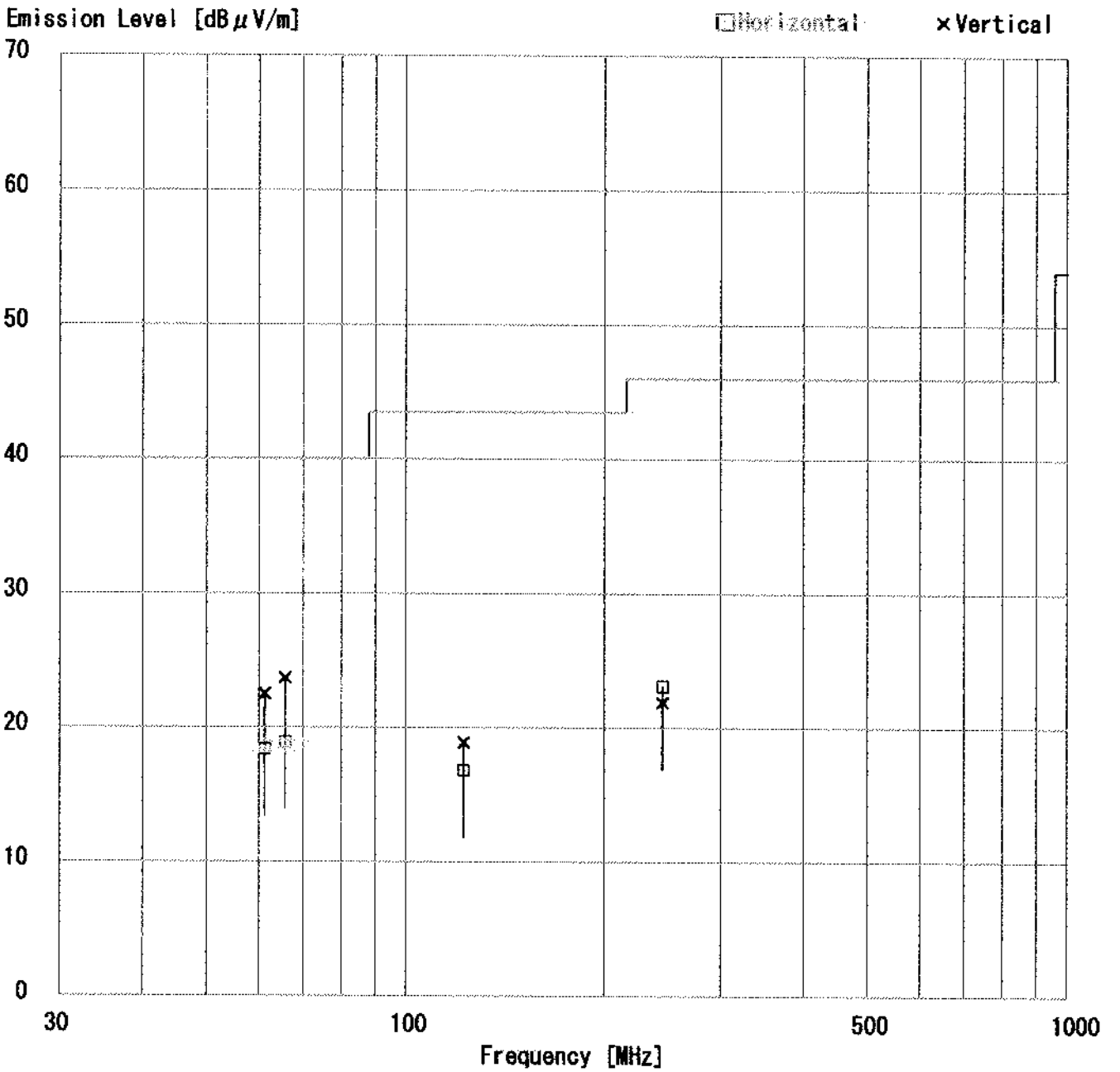
Except for the above table: adequate margin data below the limits.
ANT.TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

# 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 ℃ |
| Humidity | : 43 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Hisayuki 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 | : DVD Play |
| Remarks | : Test Channel #4 |
| Date | : 3/6/2003 |
| Test Distance | : 3 m |
| Temperature | : 21 ℃ |
| Humidity | : 43 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Hisayuki Kioka

| No. | FREQ. [MHz] | ANT TYPE | READING HOR [dBμV] | READING VER [dBμV] | ANT FACTOR [dB/m] | AMP GAIN [dB] | CABLE LOSS [dB] | ATTEN. [dB] | RESULT HOR [dBμV/m] | RESULT VER [dBμV/m] | LIMITS [dBμV/m] | MARGIN HOR [dB] | MARGIN VER [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | 67.25 | BB | 31.1 | 35.5 | 7.1 | 27.9 | 1.7 | 6.0 | 18.0 | 22.4 | 40.0 | 22.0 | 17.6 |
| 2. | 71.75 | BB | 32.6 | 35.7 | 6.6 | 27.9 | 1.8 | 6.0 | 19.1 | 22.2 | 40.0 | 20.9 | 17.8 |
| 3. | 134.50 | BB | 24.3 | 24.4 | 14.0 | 27.9 | 2.5 | 6.0 | 18.9 | 19.0 | 43.5 | 24.6 | 24.5 |
| 4. | 201.75 | BB | 23.3 | 23.0 | 16.2 | 27.8 | 3.1 | 6.0 | 20.8 | 20.5 | 43.5 | 22.7 | 23.0 |

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

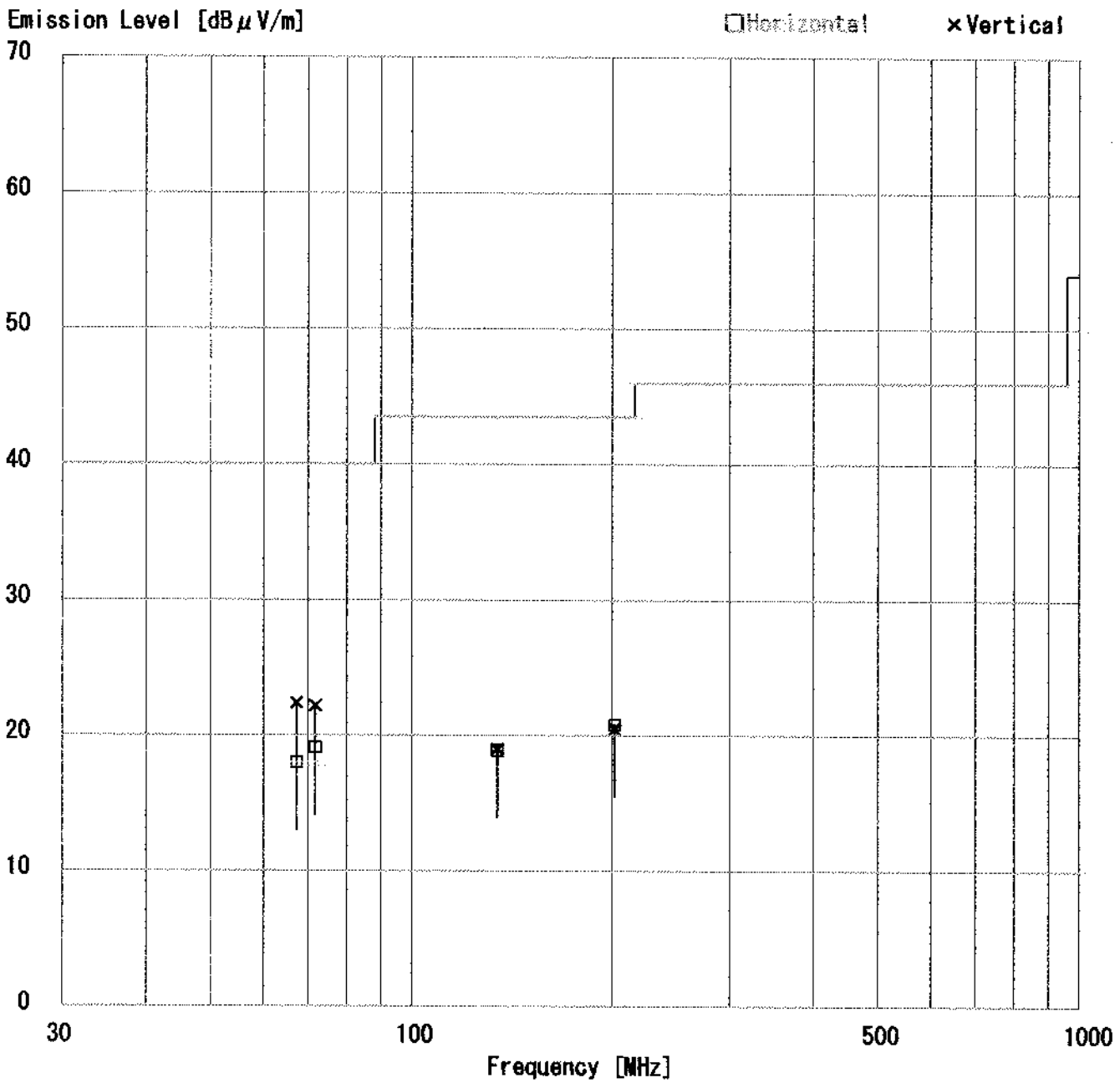
Except for the above table: adequate margin data below the limits.
ANT.TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

# 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 ℃ |
| Humidity | : 43 % |
| Regulation | : FCC Part15B CLASS B |

Engineer : Misayuki Kioka



# DATA OF ANTENNA TERMINAL TEST

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

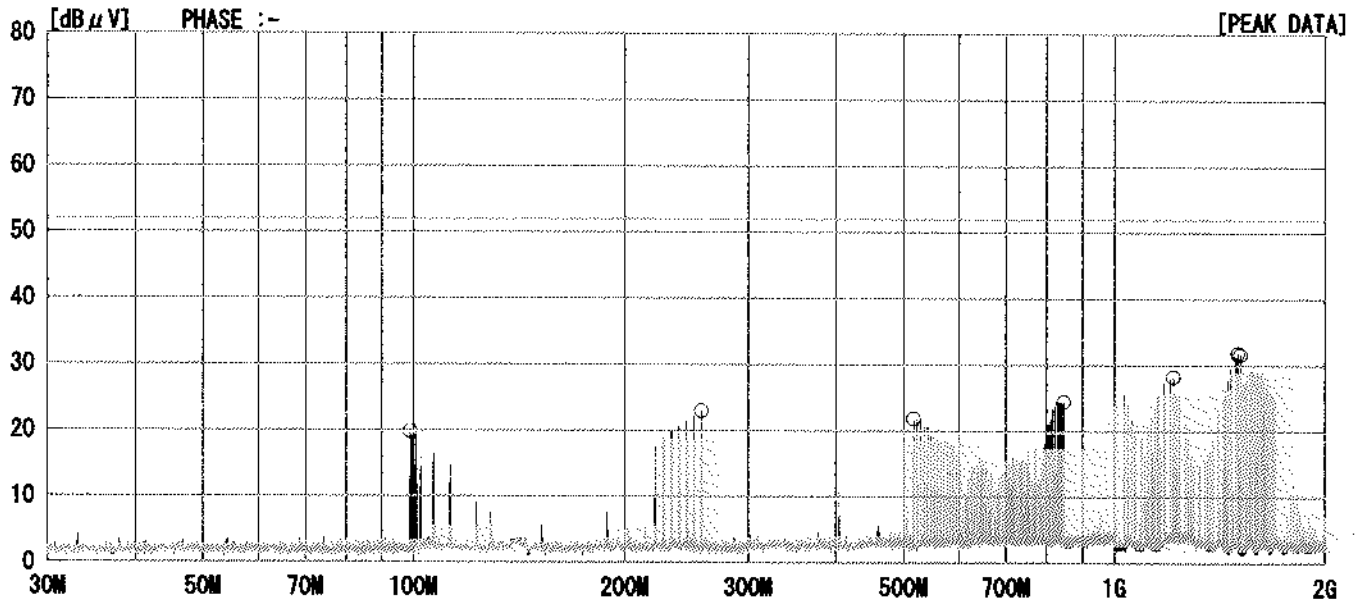
COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD Player and VCR
MODEL : HR-XVC25U
OPERATION MODE : TV TUNING MODE

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

TEMP./HUMID. : 22℃/45%

LIMIT : FCC 15B ANTENNA TERMINAL

S. Tanaka




| NO | FREQ [MHz] | READING(PK) [dBμV] | C.F [dB] | RESULT [dBμV] | LIMIT QP [dBμV] | LIMIT AV [dBμV] | MARGIN QP [dB] | MARGIN AV [dB] | PHASE |
|---|---|---|---|---|---|---|---|---|---|
| 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

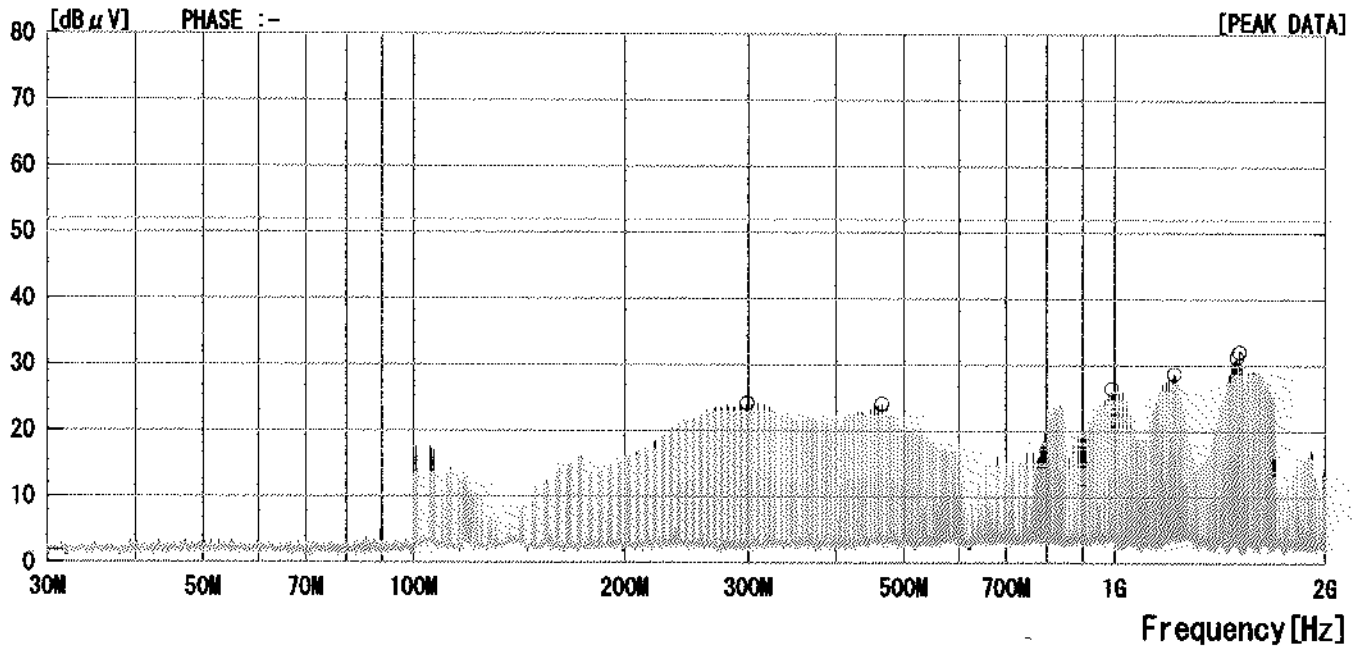
COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD Player and VCR
MODEL : HR-XVC25U
OPERATION MODE : CATV TUNING MODE

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

TEMP./HUMID. : 22℃/45%

LIMIT : FCC 15B ANTENNA TERMINAL

S. Tanaka




| NO | FREQ [MHz] | READING(PK) [dBμV] | C.F [dB] | RESULT [dBμV] | LIMIT QP [dBμV] | LIMIT AV [dBμV] | MARGIN QP [dB] | MARGIN AV [dB] | PHASE |
|---|---|---|---|---|---|---|---|---|---|
| 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℃ / 43% |
| Description | : | TV Reception + Rec. (0dBmV) | | | |

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 | 73.8 | 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℃ / 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. | 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℃ / 43% |
| Description | : | AV Input + Rec. (1V p-p) | | | |

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℃ / 43% |
| Description | : | AV Input + Rec. (5V p-p) | | | |

Engineer : 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. | 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℃ / 43% |
| Description | : | VCR Playback | | | |

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. | 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℃ / 43% |
| Description | : | DVD Play | | | |

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 | 86.9 | 21.2 | 65.7 | 69.5 | 3.8 |

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 | 72.7 | 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

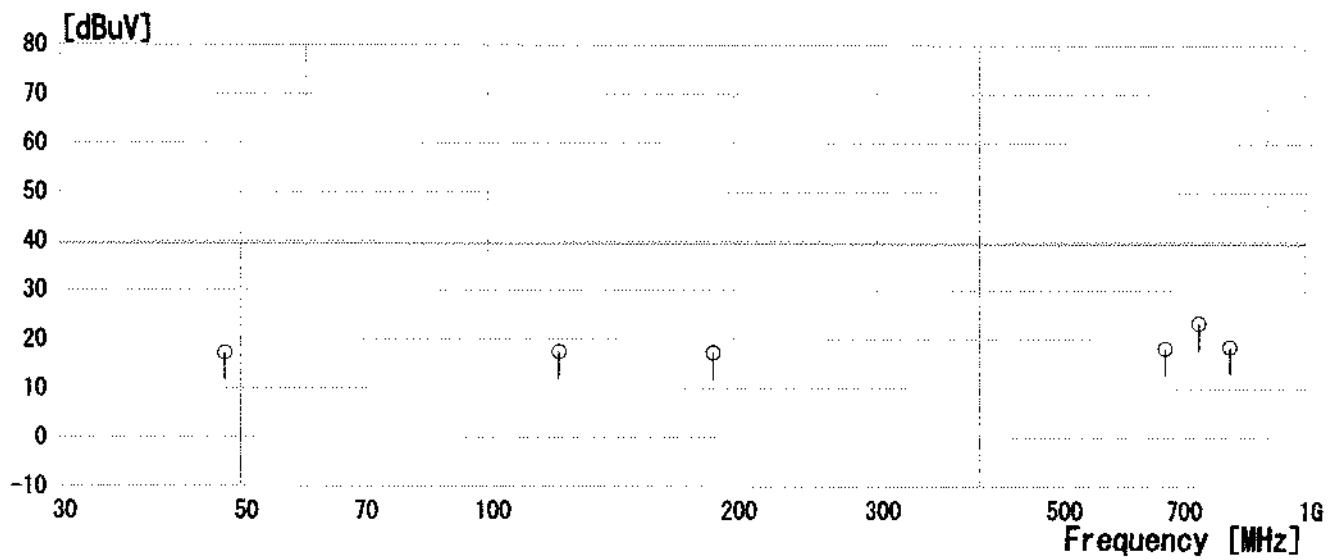
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE: TV Reception + Rec
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : 0dBmV Input
REMARKS 2 : 3CH Output

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

Engineer:Sadahiko Tanaka

| No. | FREQ [MHz] | READING QP [dBuV] | READING AV [dBuV] | C.FACTOR [dB] | RESULT QP [dBuV] | RESULT AV [dBuV] | LIMIT QP [dBuV] | LIMIT AV [dBuV] | MARGIN QP [dB] | MARGIN AV [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 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[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



# DATA OF RF SPURIOUS

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

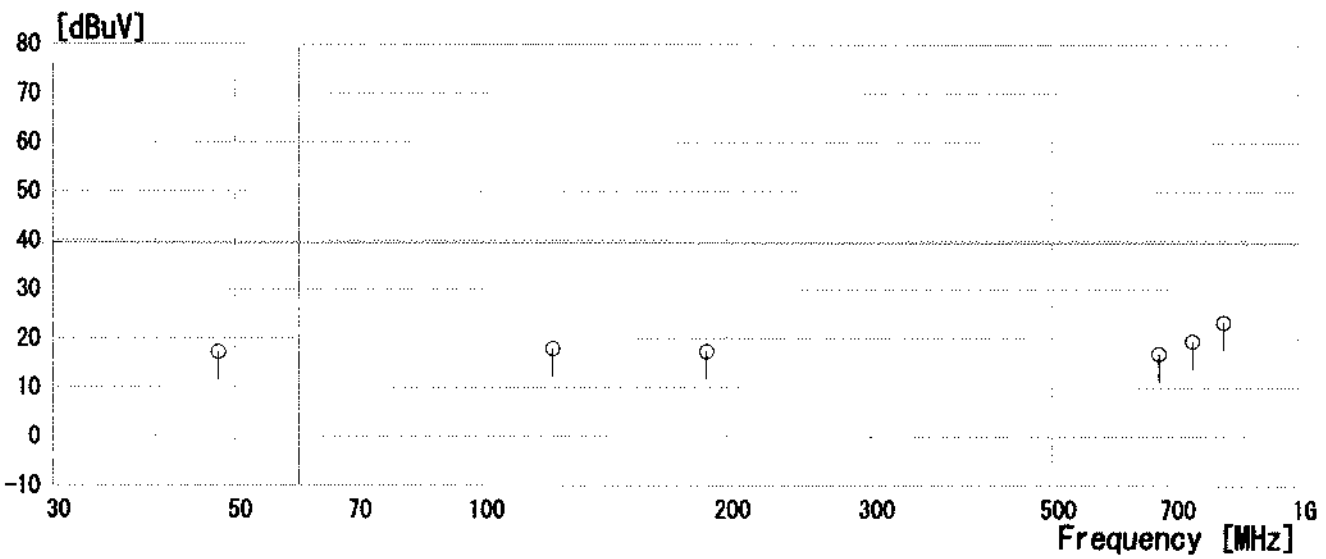
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE: TV Reception + Rec
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : 25dBmV Input
REMARKS 2 : 3CH Output

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

A. Tanaka
Engineer:Sadahiko Tanaka

| No. | FREQ [MHz] | READING QP [dBuV] | READING AV [dBuV] | C.FACTOR [dB] | RESULT QP [dBuV] | RESULT AV [dBuV] | LIMIT QP [dBuV] | LIMIT AV [dBuV] | MARGIN QP [dB] | MARGIN AV [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 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[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



# DATA OF RF SPURIOUS

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

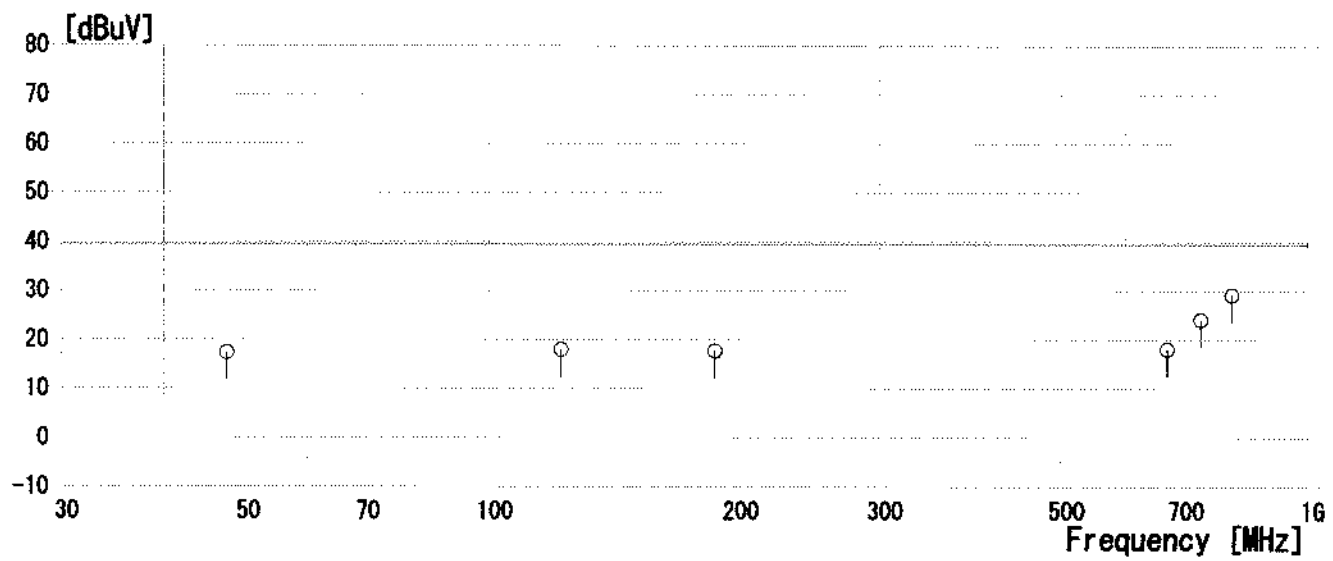
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE: AV Input + Rec
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : 1Vp-p Input
REMARKS 2 : 3CH Output

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

Engineer:Sadahiko Tanaka

| No. | FREQ [MHz] | READING QP [dBuV] | READING AV [dBuV] | C.FACTOR [dB] | RESULT QP [dBuV] | RESULT AV [dBuV] | LIMIT QP [dBuV] | LIMIT AV [dBuV] | MARGIN QP [dB] | MARGIN AV [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 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[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



# DATA OF RF SPURIOUS

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

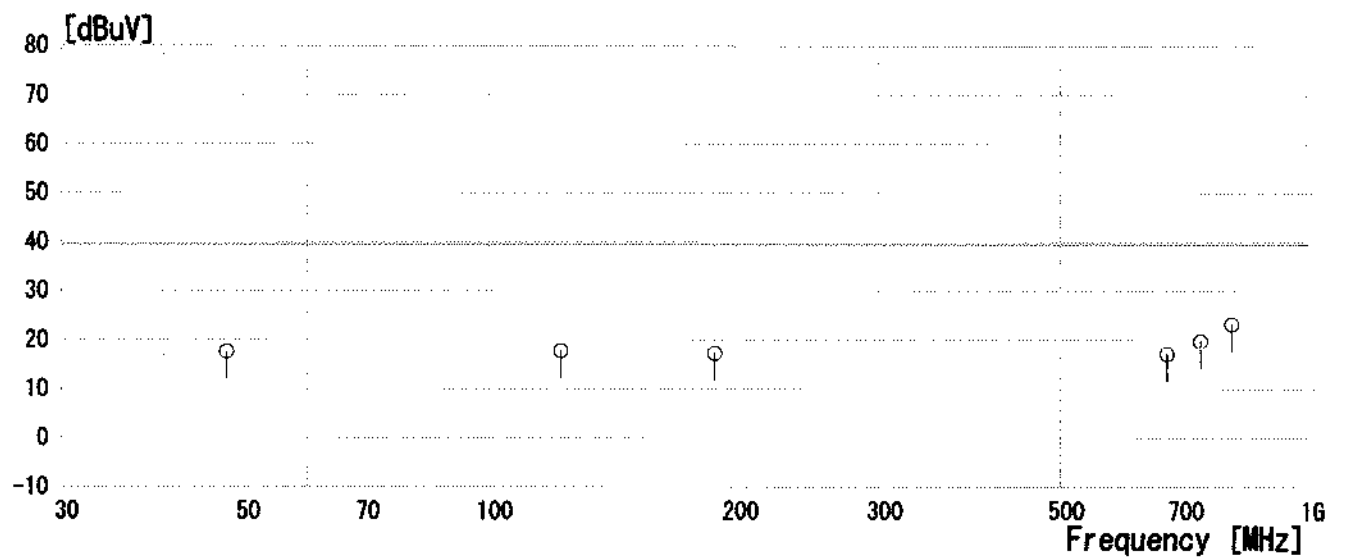
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE: AV Input + Rec
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : 5Vp-p Input
REMARKS 2 : 3CH Output

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

A. Tanaka
Engineer:Sadahiko Tanaka

| No. | FREQ [MHz] | READING QP [dBuV] | READING AV [dBuV] | C.FACTOR [dB] | RESULT QP [dBuV] | RESULT AV [dBuV] | LIMIT QP [dBuV] | LIMIT AV [dBuV] | MARGIN QP [dB] | MARGIN AV [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 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[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



# DATA OF RF SPURIOUS

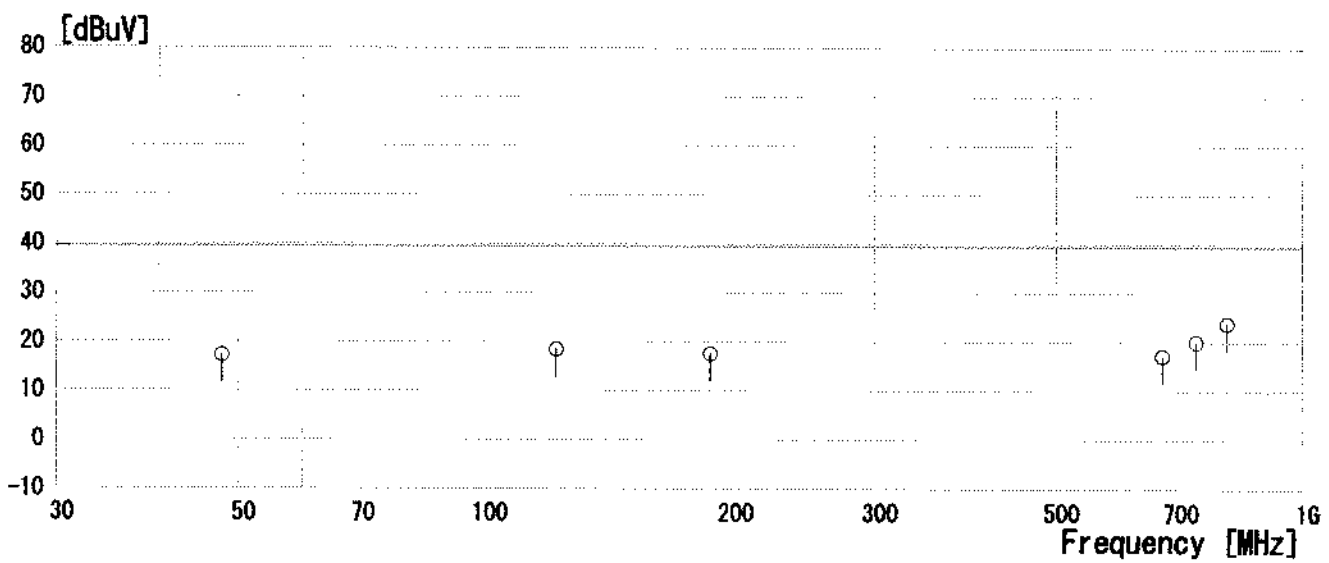
A-PEX INTERNATIONAL CO.,LTD.
YOKOWA EMC LABORATORY

| | | | |
|---|---|---|---|
| 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 | : VCR Playback | | : |
| PORT | : RF OUTPUT TERMINAL | | : |
| POWER | : AC120V/60Hz | | |
| REMARKS 1 | : - | | |
| REMARKS 2 | : 3CH Output | | |

Engineer:Sadahiko Tanaka

| No. | FREQ | READING QP | READING AV | C.FACTOR | RESULT QP | RESULT AV | LIMIT QP | LIMIT AV | MARGIN QP | MARGIN AV |
|---|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | [dBuV] | | [dB] | [dBuV] | | [dBuV] | | [dB] | |
| 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[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



# DATA OF RF SPURIOUS

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

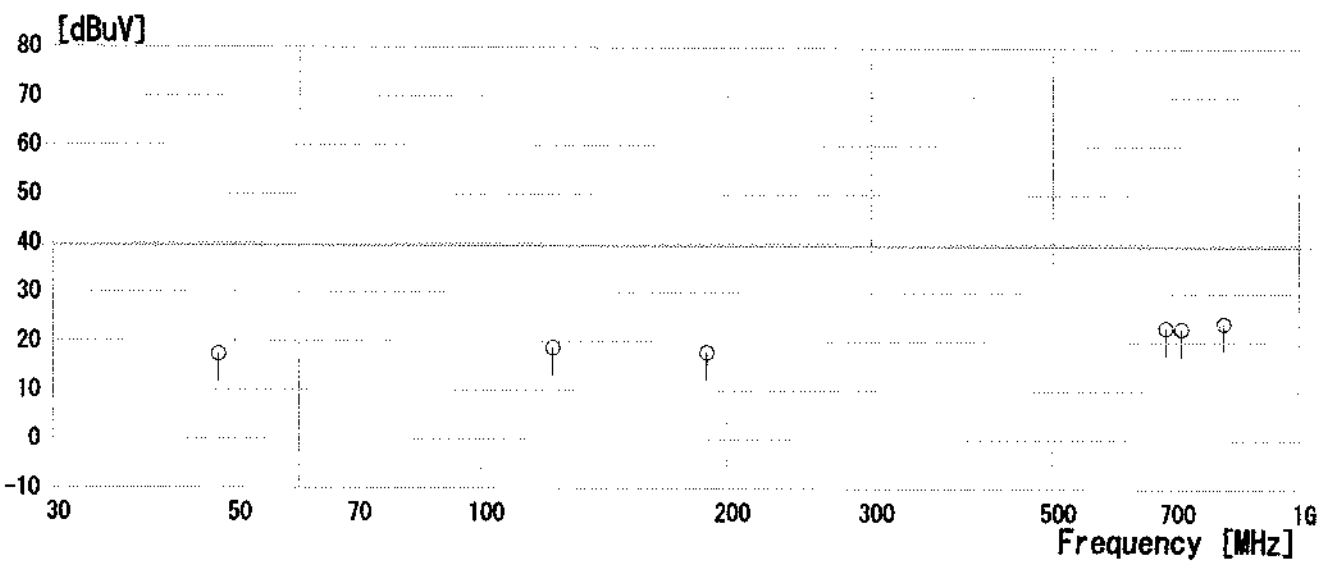
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE: DVD Play
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : -
REMARKS 2 : 3CH Output

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

S. Tanaka
Engineer:Sadahiko Tanaka

| No. | FREQ [MHz] | READING QP [dBuV] | READING AV [dBuV] | C.FACTOR [dB] | RESULT QP [dBuV] | RESULT AV [dBuV] | LIMIT QP [dBuV] | LIMIT AV [dBuV] | MARGIN QP [dB] | MARGIN AV [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 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[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



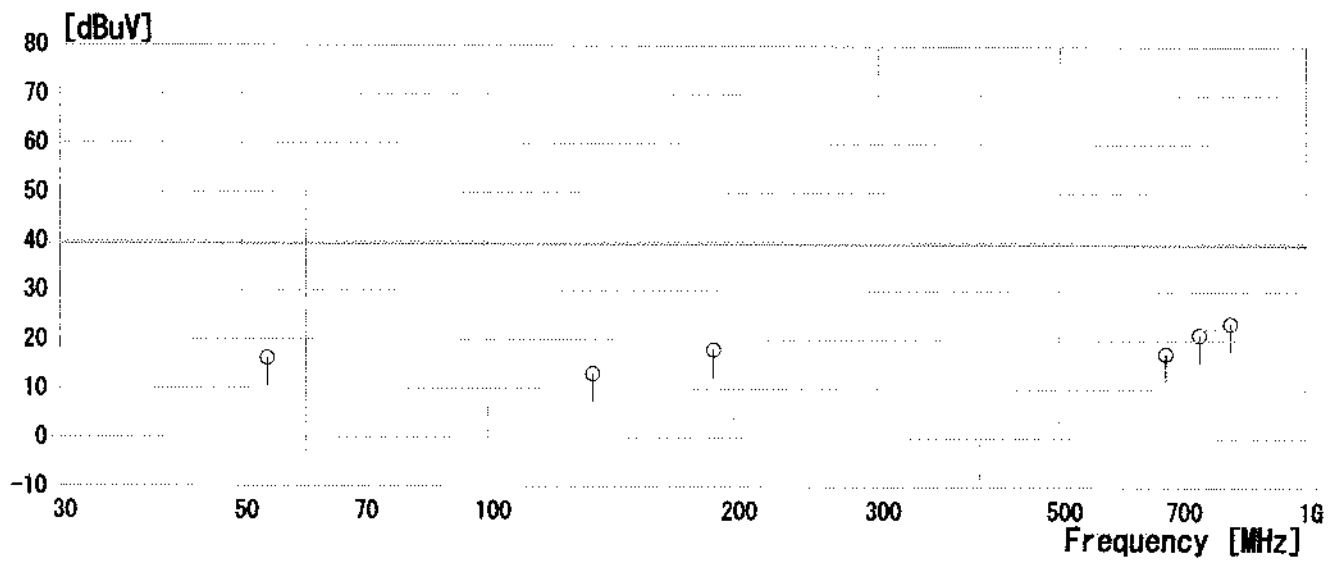
# DATA OF RF SPURIOUS

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 | | S. Tanaka |
| REMARKS 1 | : 0dBmV Input | Engineer:Sadahiko Tanaka | |
| REMARKS 2 | : 4CH Output | | |

| No. | FREQ | READING QP | READING AV | C.FACTOR | RESULT QP | RESULT AV | LIMIT QP | LIMIT AV | MARGIN QP | MARGIN AV |
|---|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | [dBuV] | | [dB] | [dBuV] | | [dBuV] | | [dB] | |
| 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[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



# DATA OF RF SPURIOUS

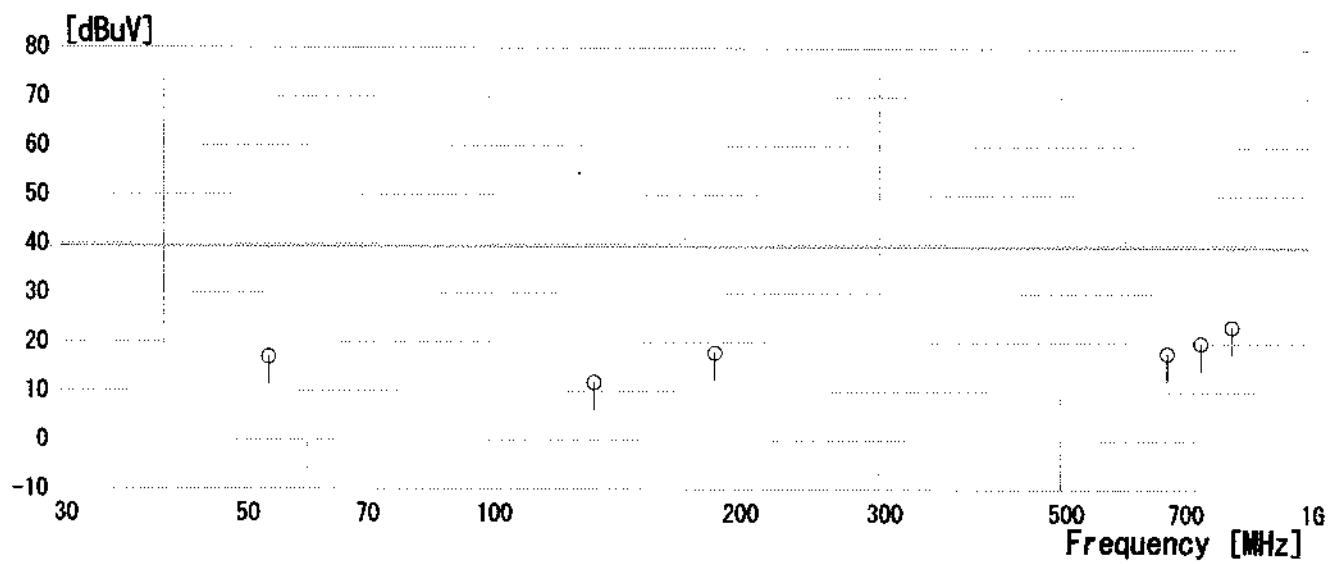
A-PEX INTERNATIONAL CO.,LTD.
YOKOWA EMC LABORATORY

| | | | |
|---|---|---|---|
| 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 | | |

Engineer:Sadahiko Tanaka

| No. | FREQ | READING QP | READING AV | C.FACTOR | RESULT QP | RESULT AV | LIMIT QP | LIMIT AV | MARGIN QP | MARGIN AV |
|---|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | [dBuV] | | [dB] | [dBuV] | | [dBuV] | | [dB] | |
| 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[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



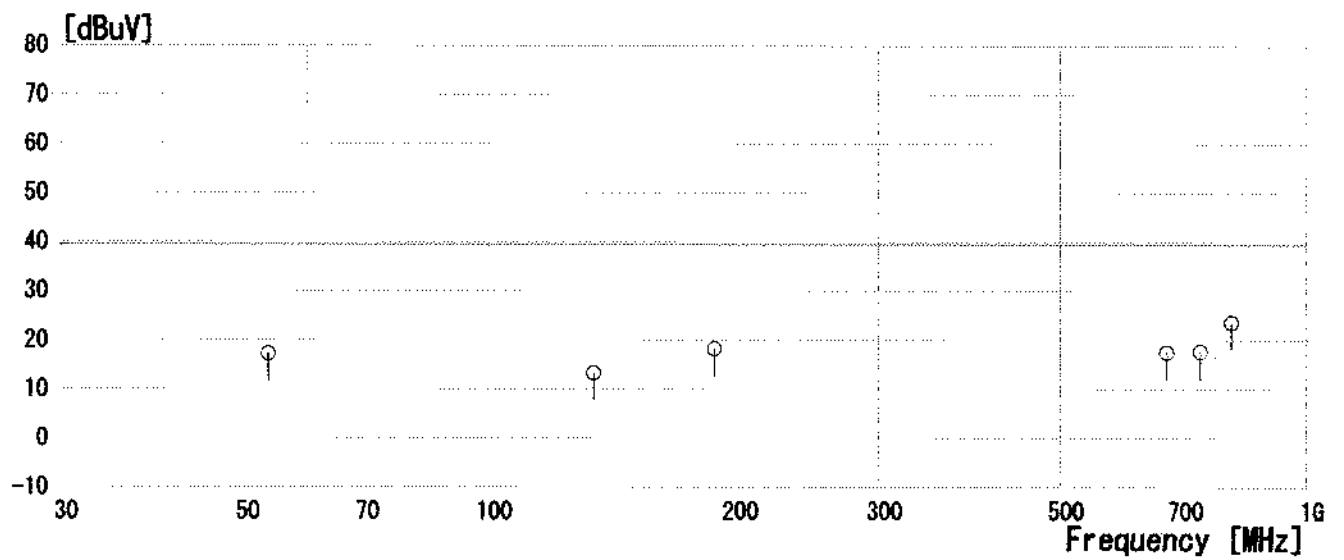
# DATA OF RF SPURIOUS

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 | : AV Input + Rec | | : |
| PORT | : RF OUTPUT TERMINAL | | : |
| POWER | : AC120V/60Hz | | : A.Tanaka |
| REMARKS 1 | : 1Vp-p Input | | Engineer:Sadahiko Tanaka |
| REMARKS 2 | : 4CH Output | | |

| No. | FREQ | READING QP | READING AV | C.FACTOR | RESULT QP | RESULT AV | LIMIT QP | LIMIT AV | MARGIN QP | MARGIN AV |
|---|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | [dBuV] | | [dB] | [dBuV] | | [dBuV] | | [dB] | |
| 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[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



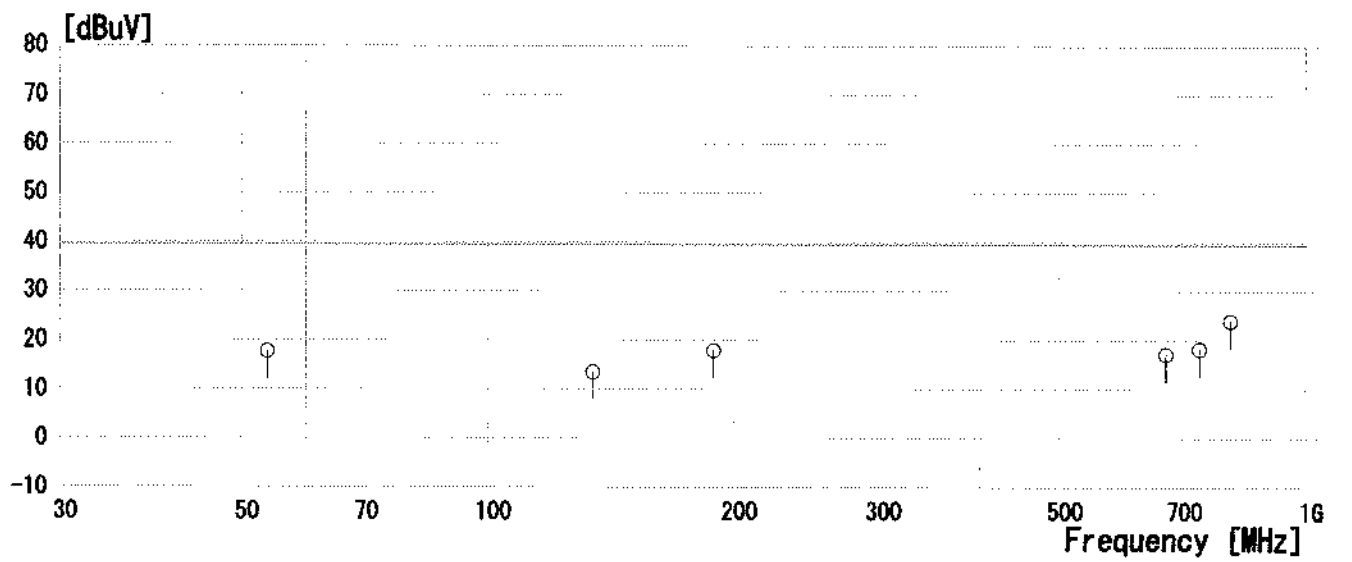
# DATA OF RF SPURIOUS

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 | : AV Input + Rec | | : |
| PORT | : RF OUTPUT TERMINAL | | : |
| POWER | : AC120V/60Hz | | : A. Tanaka |
| REMARKS 1 | : 5Vp-p Input | Engineer:Sadahiko Tanaka | |
| REMARKS 2 | : 4CH Output | | |

| No. | FREQ | READING QP | READING AV | C.FACTOR | RESULT QP | RESULT AV | LIMIT QP | LIMIT AV | MARGIN QP | MARGIN AV |
|---|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | [dBuV] | | [dB] | [dBuV] | | [dBuV] | | [dB] | |
| 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[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



# DATA OF RF SPURIOUS

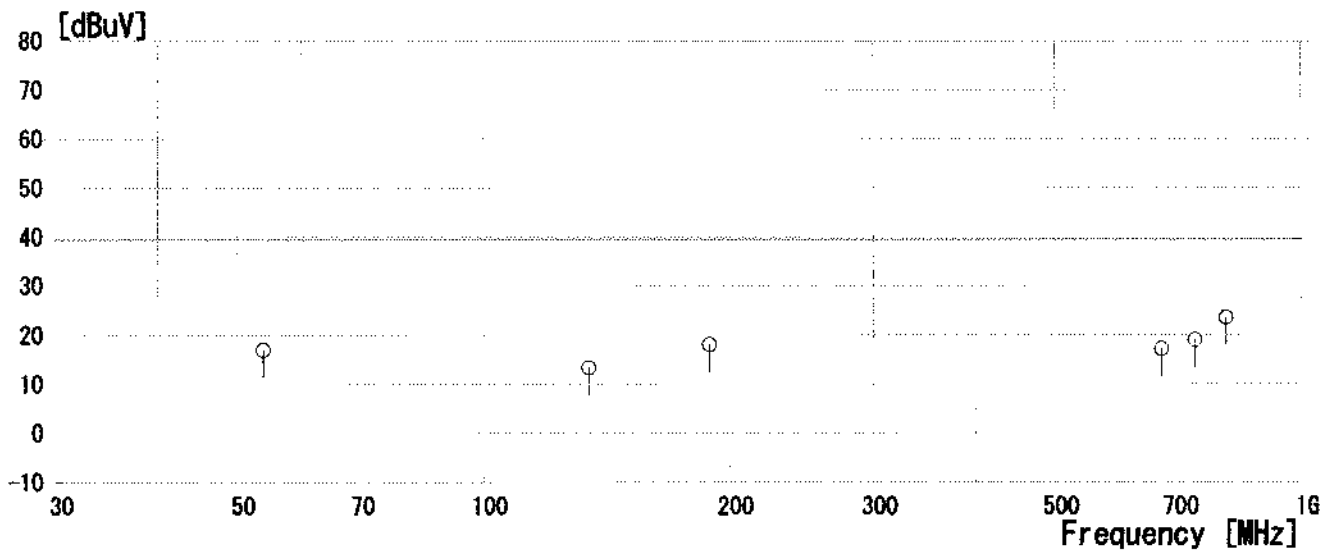
A-PEX INTERNATIONAL CO.,LTD.
YOKOWA EMC LABORATORY

| | | | |
|---|---|---|---|
| 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 | : VCR Playback | | : |
| PORT | : RF OUTPUT TERMINAL | | : |
| POWER | : AC120V/60Hz | | |
| REMARKS 1 | : - | | |
| REMARKS 2 | : 4CH Output | | |

Engineer:Sadahiko Tanaka

| No. | FREQ | READING QP | READING AV | C.FACTOR | RESULT QP | RESULT AV | LIMIT QP | LIMIT AV | MARGIN QP | MARGIN AV |
|---|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | [dBuV] | | [dB] | [dBuV] | | [dBuV] | | [dB] | |
| 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[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



# DATA OF RF SPURIOUS

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

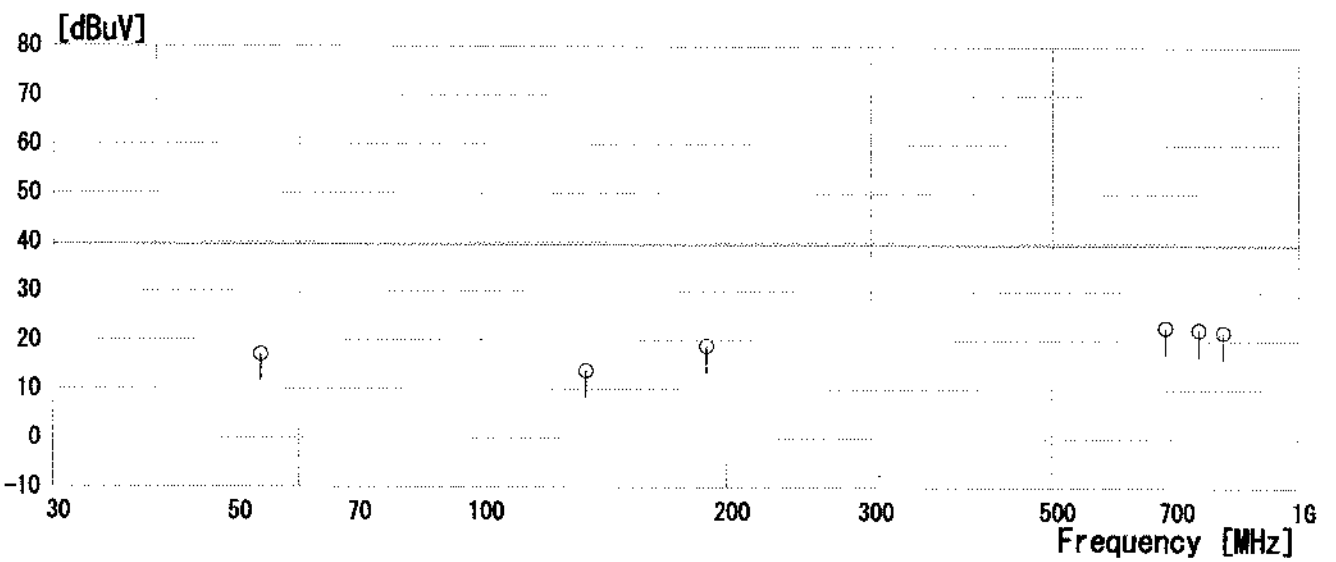
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE: DVD Play
PORT : RF OUTPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : -
REMARKS 2 : 4CH Output

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

A. Tanaka
Engineer:Sadahiko Tanaka

| No. | FREQ [MHz] | READING QP [dBuV] | READING AV [dBuV] | C.FACTOR [dB] | RESULT QP [dBuV] | RESULT AV [dBuV] | LIMIT QP [dBuV] | LIMIT AV [dBuV] | MARGIN QP [dB] | MARGIN AV [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 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[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



# DATA OF ANTENNA TRANSFER SWITCH

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

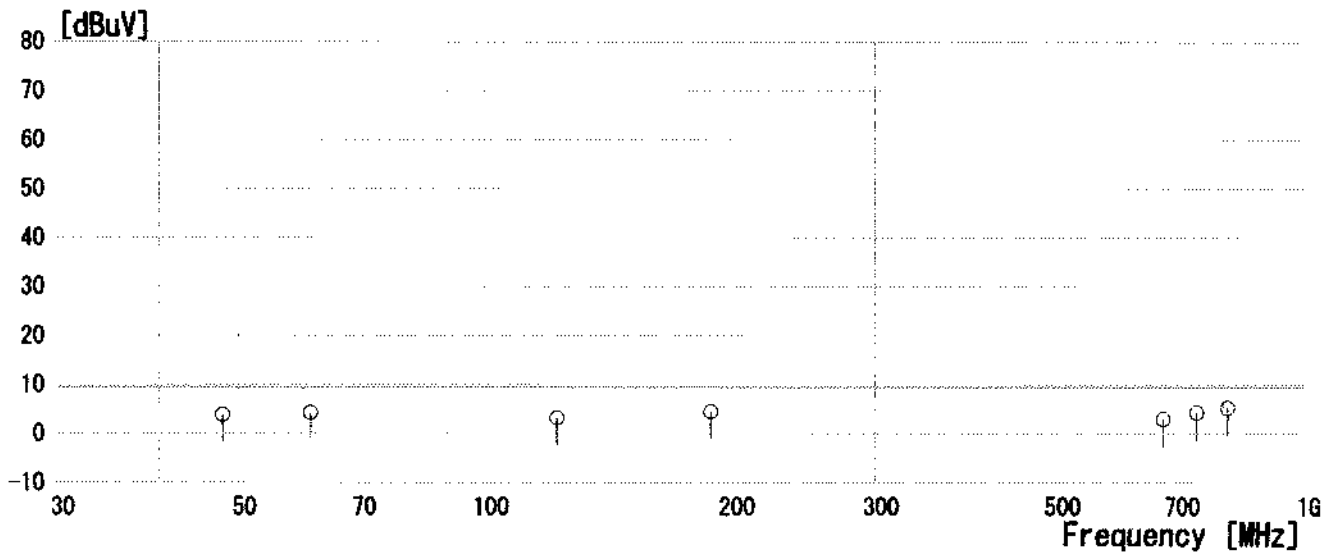
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE: AV INPUT + REC
PORT : RF INPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : 1Vp-p INPUT
REMARKS 2 : 3CH Output

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

Engineer:Sadahiko Tanaka

| No. | FREQ [MHz] | READING QP [dBuV] | READING AV [dBuV] | C.FACTOR [dB] | RESULT QP [dBuV] | RESULT AV [dBuV] | LIMIT QP [dBuV] | LIMIT AV [dBuV] | MARGIN QP [dB] | MARGIN AV [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 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[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



# DATA OF ANTENNA TRANSFER SWITCH

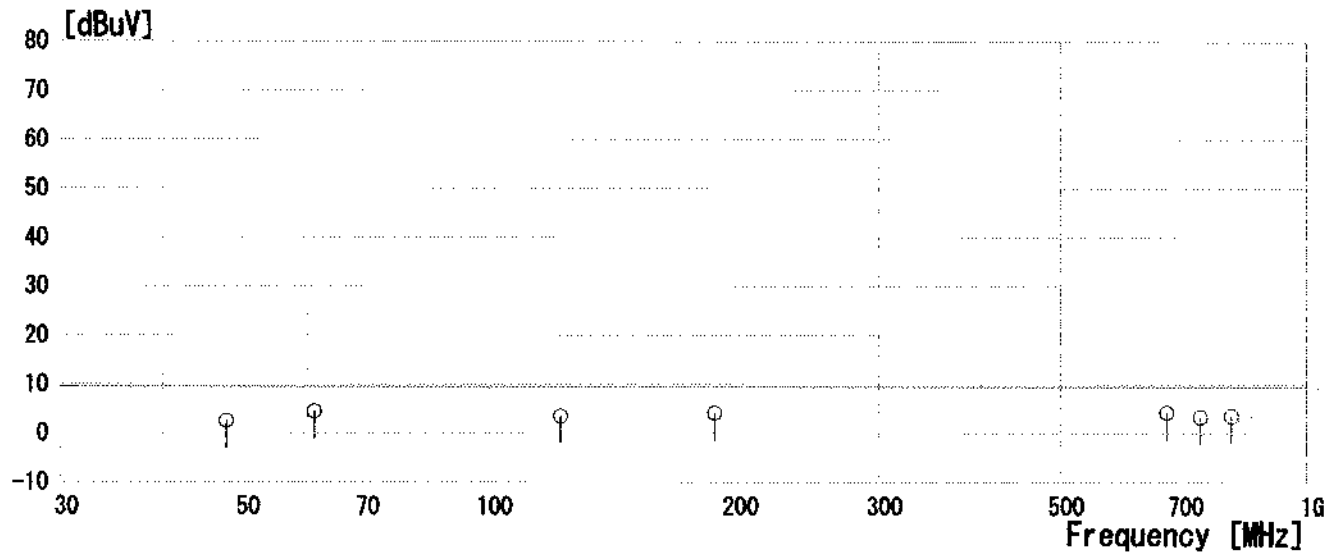
A-PEX INTERNATIONAL CO.,LTD.
YOKOWA EMC LABORATORY

| | | | |
|---|---|---|---|
| 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 | : AV INPUT + REC | | : |
| PORT | : RF INPUT TERMINAL | | : |
| POWER | : AC120V/60Hz | | : |
| REMARKS 1 | : 5Vp-p INPUT | | : |
| REMARKS 2 | : 3CH Output | | : |

A. Tanaka
Engineer:Sadahiko Tanaka

| No. | FREQ | READING QP | READING AV | C.FACTOR | RESULT QP | RESULT AV | LIMIT QP | LIMIT AV | MARGIN QP | MARGIN AV |
|---|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | [dBuV] | | [dB] | [dBuV] | | [dBuV] | | [dB] | |
| 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[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



# DATA OF ANTENNA TRANSFER SWITCH

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

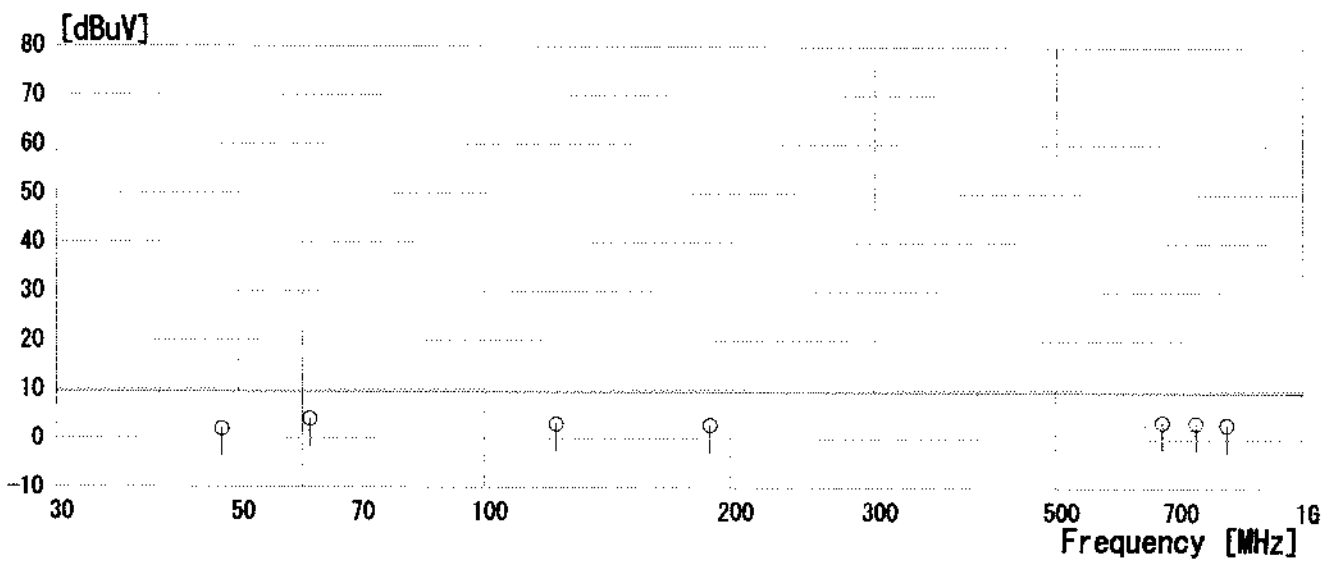
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE: VCR Playback
PORT : RF INPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : -
REMARKS 2 : 3CH Output

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

Engineer:Sadahiko Tanaka

| No. | FREQ [MHz] | READING QP [dBuV] | READING AV [dBuV] | C.FACTOR [dB] | RESULT QP [dBuV] | RESULT AV [dBuV] | LIMIT QP [dBuV] | LIMIT AV [dBuV] | MARGIN QP [dB] | MARGIN AV [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 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[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



# DATA OF ANTENNA TRANSFER SWITCH

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

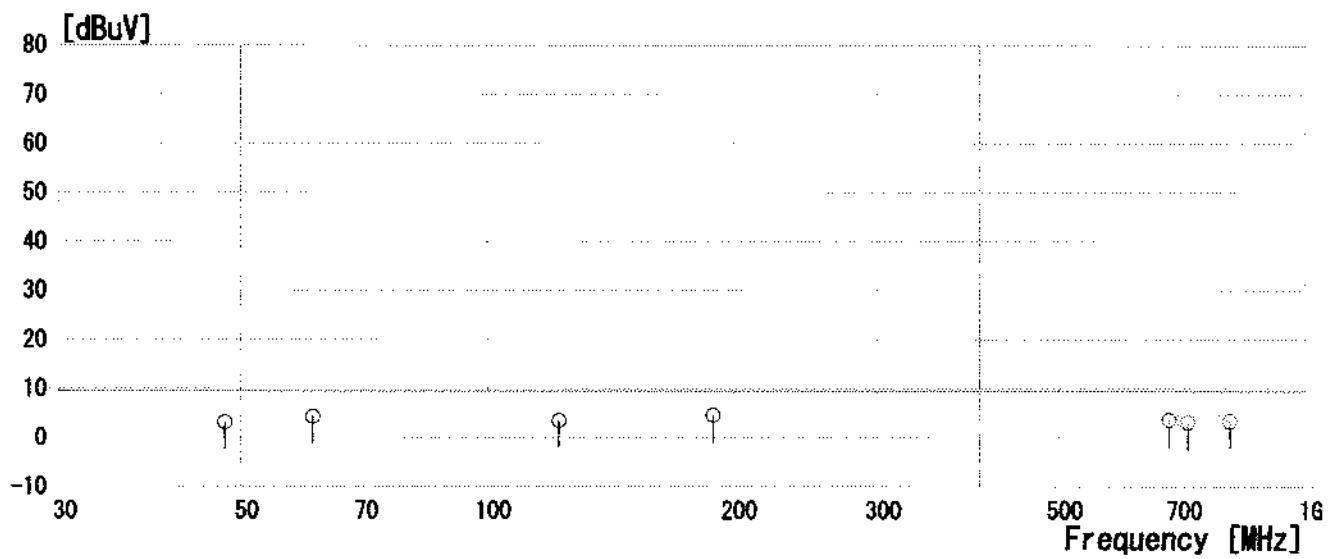
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE: DVD Play
PORT : RF INPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : -
REMARKS 2 : 3CH Output

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

Engineer:Sadahiko Tanaka

| No. | FREQ [MHz] | READING QP [dBuV] | READING AV [dBuV] | C.FACTOR [dB] | RESULT QP [dBuV] | RESULT AV [dBuV] | LIMIT QP [dBuV] | LIMIT AV [dBuV] | MARGIN QP [dB] | MARGIN AV [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 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[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



# DATA OF ANTENNA TRANSFER SWITCH

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

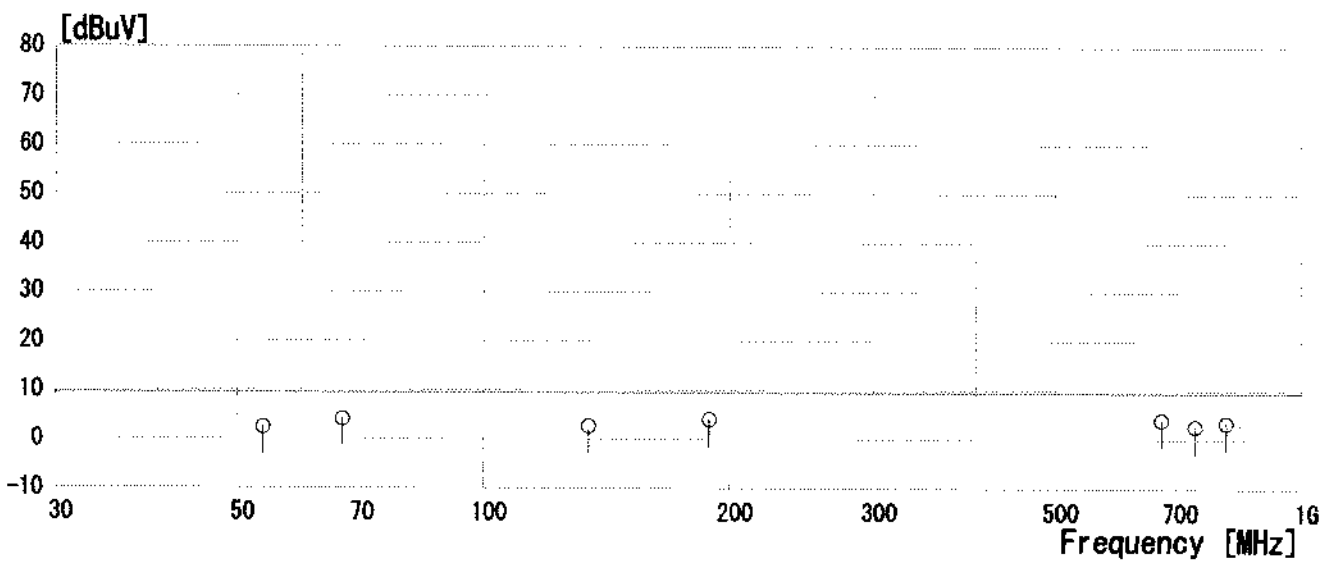
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE: AV INPUT + REC
PORT : RF INPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : 1Vp-p INPUT
REMARKS 2 : 4CH Output

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

Engineer:Sadahiko Tanaka

| No. | FREQ [MHz] | READING QP [dBuV] | READING AV [dBuV] | C.FACTOR [dB] | RESULT QP [dBuV] | RESULT AV [dBuV] | LIMIT QP [dBuV] | LIMIT AV [dBuV] | MARGIN QP [dB] | MARGIN AV [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 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[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



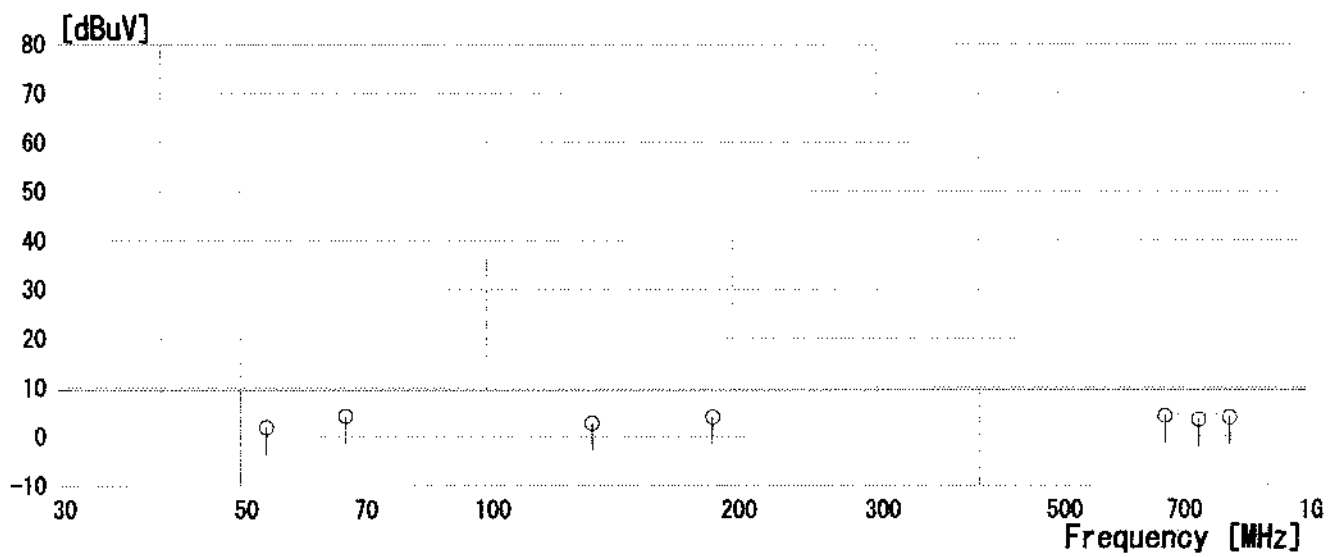
# DATA OF ANTENNA TRANSFER SWITCH

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 | : AV INPUT + REC | | : |
| PORT | : RF INPUT TERMINAL | | : |
| POWER | : AC120V/60Hz | | S. Tanaka |
| REMARKS 1 | : 5Vp-p INPUT | Engineer:Sadahiko Tanaka | |
| REMARKS 2 | : 4CH Output | | |

| No. | FREQ | READING QP | READING AV | C.FACTOR | RESULT QP | RESULT AV | LIMIT QP | LIMIT AV | MARGIN QP | MARGIN AV |
|---|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | [dBuV] | | [dB] | [dBuV] | | [dBuV] | | [dB] | |
| 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[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



# DATA OF ANTENNA TRANSFER SWITCH

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

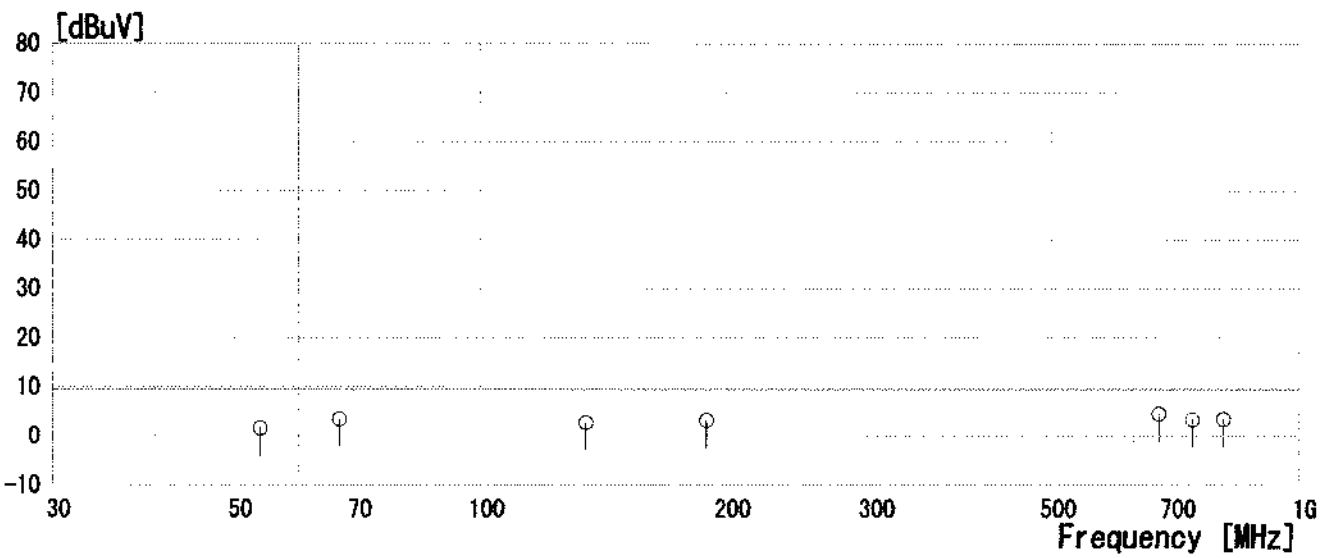
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE: VCR Playback
PORT : RF INPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : -
REMARKS 2 : 4CH Output

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

Engineer:Sadahiko Tanaka

| No. | FREQ | READING QP | READING AV | C.FACTOR | RESULT QP | RESULT AV | LIMIT QP | LIMIT AV | MARGIN QP | MARGIN AV |
|---|---|---|---|---|---|---|---|---|---|---|
| | [MHz] | [dBuV] | | [dB] | [dBuV] | | [dBuV] | | [dB] | |
| 1 | 53.800 | 22.8 | —— | -21.2 | 1.6 | —— | 9.5 | —— | 7.9 | —— |
| 2 | 67.250 | 24.6 | —— | -21.2 | 3.4 | —— | 9.5 | —— | 6.1 | —— |
| 3 | 134.550 | 23.3 | —— | -20.6 | 2.7 | —— | 9.5 | —— | 6.8 | —— |
| 4 | 189.050 | 23.9 | —— | -20.7 | 3.2 | —— | 9.5 | —— | 6.3 | —— |
| 5 | 675.200 | 25.0 | —— | -20.5 | 4.5 | —— | 9.5 | —— | 5.0 | —— |
| 6 | 742.300 | 23.8 | —— | -20.4 | 3.3 | —— | 9.5 | —— | 6.2 | —— |
| 7 | 809.800 | 23.8 | —— | -20.4 | 3.4 | —— | 9.5 | —— | 6.1 | —— |

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



# DATA OF ANTENNA TRANSFER SWITCH

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

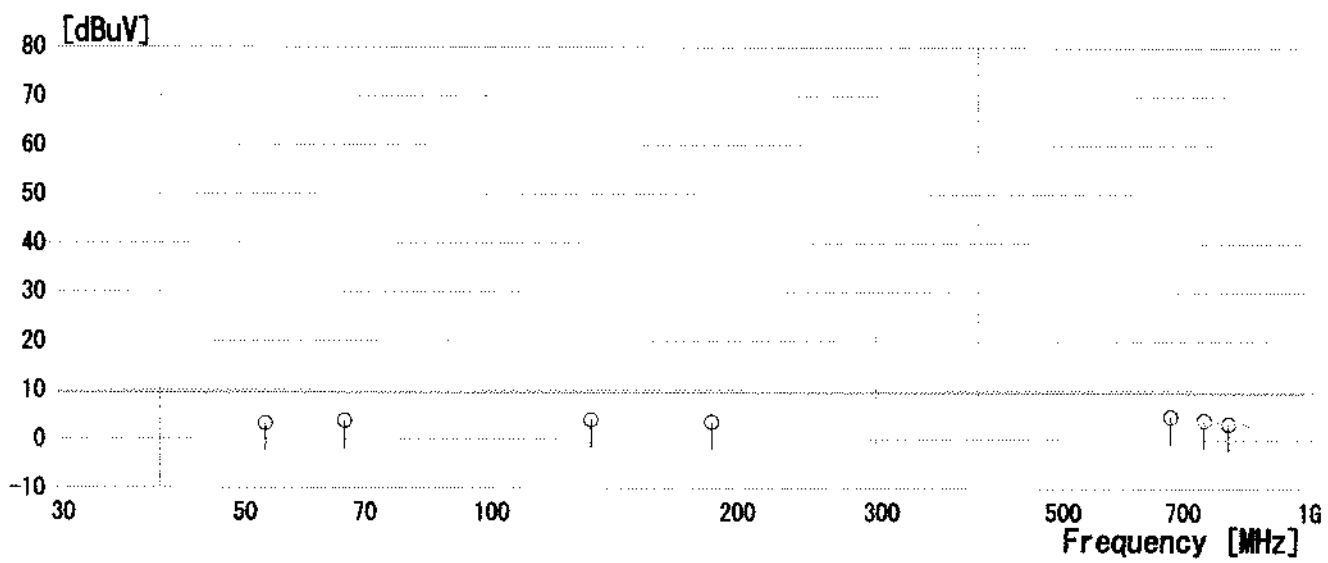
COMPANY : ORION ELECTRIC CO., LTD.
EQUIPMENT : DVD Player and VCR
Model Name : HR-XVC25U
OPERATION MODE: DVD Play
PORT : RF INPUT TERMINAL
POWER : AC120V/60Hz
REMARKS 1 : -
REMARKS 2 : 4CH Output

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

S. Tanaka
Engineer:Sadahiko Tanaka

| No. | FREQ [MHz] | READING QP [dBuV] | READING AV [dBuV] | C.FACTOR [dB] | RESULT QP [dBuV] | RESULT AV [dBuV] | LIMIT QP [dBuV] | LIMIT AV [dBuV] | MARGIN QP [dB] | MARGIN AV [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 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[dBμV]
+ CABLE LOSS[dBμV] - AMPLIFIER GAIN[dBμV]



# Picture sensitivity test

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

| | | | | | |
|---|---|---|---|---|---|
| Company | : | Orion Electric Co., Ltd. | Report Number | : | 23HE0021-YW-1 |
| Equipment | : | DVD Player and VCR | Regulation | : | FCC Part 15B subpart B |
| Model number | : | HR-XVC25U | Date | : | March 11,2003 |
| Power | : | AC 120 V / 60 Hz | Temp./Humid. | : | 20℃/41% |
| Description | : | TV Reception | | | |

Engineer : Sadahiko Tanaka

| Ch. | Frequency | Sensitivity | | Ch. | Frequency | Sensitivity | |
|---|---|---|---|---|---|---|---|
| [VHF] | [MHz] | [dBuV] | [uV] | [UHF] | [MHz] | [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 UHF[uV]/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 | Report Number | : | 23HE0021-YW-1 |
| Equipment | : | DVD Player and VCR | Regulation | : | FCC Prat15B Subpart B |
| Model number | : | HR-XVC25U | Date | : | March 11,2003 |
| Power | : | AC 120 V / 60 Hz | temp./humid | : | 20℃ / 41/% |
| Description | : | TV Reception | | | |

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 * (Last calibrated) |
|---|---|---|---|---|---|
| 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,CC-26,CC-28,CC-29,SW-21,SW-22 | 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,CC-33,CC-34,CC-35,CC-36,CC-37,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 |
| YOATS-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**