



# **Certification EMI TEST REPORT**

**Test Report No. : 25BE0324-YW-1**

**Applicant :** Orion Electric Co., Ltd.  
**Type of equipment :** DVD/VCR  
**Model number :** DVD2100-CA  
**FCC ID :** A7RM2E5C  
**Test standard :** FCC Part 15 Subpart B  
ICES-003 Issue No.4 Class B  
**Test result :** Complied

**Similar model :**

| Model No.  | Brand name | Model No. | Brand name |
|------------|------------|-----------|------------|
| DVD2100-PA | DISNEY     | -         | -          |
| -          | -          | -         | -          |
| -          | -          | -         | -          |
| -          | -          | -         | -          |
| -          | -          | -         | -          |

1. This test report shall not be reproduced except in full or partial, without the written approval of UL Apex 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 :** September 29 to October 5, 2004

**Tested by:**

  
Tsubasa Takayama  
EMC Service

**Approved by:**

  
Hiroya Tabata  
Leader of EMC Service

**UL Apex Co., Ltd.**

**Yokowa EMC Lab.**

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

Telephone: +81 596 39 1485

Facsimile: +81 596 39 0232

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## **Section 1 : Client information**

Company name : Orion Electric Co., Ltd.  
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  
Brand Name : DISNEY  
Model number : DVD2100-CA  
FCC ID : A7RM2E5C  
Rating : AC 120 V / 60 Hz  
Manufacturer : 1. World Electric (Thailand) Ltd.  
236 Moo 2 Nongchark, Banbung, Chonburi 20170, Thailand  
2. Korat Denki Ltd.  
149 Moo 10 Tambol Chokchai, Amphur Chokchai, Nakhonratchasima  
30190, Thailand  
228 Moo 3 Tambol Nongbuasala, Amphur Muang, Nakhonratchasima  
30000, Thailand  
3. Orion America, Inc.  
Hwy 41 North, Orion Place, Princeton, Indiana 47670, U.S.A  
Receipt Date of Sample : September 26, 2004  
Condition of EUT : Production Prototype  
(Not for Sale: This sample is equivalent to mass-produced items.)

### **2.2 Product description**

Model: DVD2100-CA (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

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**UL Apex Co., Ltd.**  
**Yokowa EMC Lab.**

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

### **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

Test Specification : ICES-003 Issue No. 4  
Title : Spectrum Management  
Interference-Causing Equipment Standard  
Digital Apparatus  
\*ICES-003 (Issue No. 4) is based on FCC Part 15.

#### **3.2 Procedures & results**

| Item                        | Test procedure                   | Limits                                                                                          | Worst margin                                                          | Result   |
|-----------------------------|----------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|----------|
| Conducted emission          | ANSI C63.4:2003<br>IEEE 213:1987 | CISPR 22                                                                                        | 17.4 dB (0.1751 MHz, N,<br>TV Reception + Rec. 25dBmV)                | Complied |
| Radiated emission           | ANSI C63.4:2003<br>IEEE 187:1990 | 30–88 MHz: 100 uV/m<br>88–216 MHz: 150 uV/m<br>216–960 MHz: 200 uV/m<br>above 960 MHz: 500 uV/m | 3.6 dB (472.53 MHz, Vertical,<br>TV Reception + Rec. 25dBmV)          | Complied |
| Antenna terminal<br>voltage | ANSI C63.4:2003                  | 2 nW (at 75 ohm)                                                                                | 23.3 dB<br>(624.56760 MHz, TV tuning /<br>621.42490 MHz, CATV tuning) | Complied |
| RF output level             | ANSI C63.4:2003                  | Video signal: 3000 uV<br>Aural signal: 671 uV                                                   | 4.5 dB (61.25 MHz, 3ch:<br>VCR Play / DVD Play)                       | Complied |
| Spurious emission           |                                  | 94.8 uV                                                                                         | 19.7 dB (122.4900 MHz, 3ch,<br>TV Reception + Rec. 0dBmV)             | Complied |
| Transfer switch             | ANSI C63.4:2003                  | 9.5 dB                                                                                          | 15.3 dB (67.2500 MHz, 4ch,<br>VCR Play)                               | Complied |
| Picture sensitivity         | ANSI C63.4:2003                  | 8 dB                                                                                            | 3.6 dB                                                                | Complied |
| Noise figure                | FCC/OET MP:2:1986                | 14 dB                                                                                           | 6.5 dB (55.25 MHz, 2ch)                                               | Complied |

For ICES-003, only the tests, which relate to the digital device of conducted emission and radiated emission, were performed.

#### **3.3 Additions or deviations to standard**

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

#### **3.4 Confirmation**

UL Apex Co., Ltd. hereby confirms that E.U.T., in the configuration tests, complies with the specifications  
FCC Part15 Subpart B and ICES-003 Issue No. 4.

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**Yokowa EMC Lab.**

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

**3.5 Uncertainty****Conducted emission (150 kHz – 30 MHz)**

The measurement uncertainty (with a 95% confidence level) for this test was  $\pm 1.74$  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  $\pm 4.4$  dB.

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

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

The data listed in this test report meets the limits unless the uncertainty is taken into consideration.

**Antenna terminal voltage**

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

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

**Antenna transfer switch**

The measurement uncertainty (with a 95% confidence level) for this test was  $\pm 3.48$  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  $\pm 1.0$  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  $\pm 1.2$  dB.

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

**3.7 Test location**

UL Apex Co., Ltd. Yokowa EMC Lab.

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

TEL : +81 596 39 1485

FAX : +81 596 39 0232

| Test room          | Width x Depth x Height (m) | Test room                                | Width x Depth x Height (m) |
|--------------------|----------------------------|------------------------------------------|----------------------------|
| No.1 shielded room | 5.5 x 6.4 x 2.7            | No.7 shielded room                       | 9.3 x 3.4 x 2.7            |
| No.2 shielded room | 4.5 x 3.6 x 2.7            | No.1 EMS lab.<br>(Full-anechoic chamber) | 5.0 x 8.0 x 3.5            |
| No.3 shielded room | 3.6 x 7.2 x 2.4            | No.2 EMS lab.<br>(Full-anechoic chamber) | 4.0 x 7.0 x 3.5            |
| No.4 shielded room | 5.5 x 5.0 x 2.4            |                                          |                            |
| No.5 shielded room | 5.5 x 4.3 x 2.5            |                                          |                            |
| No.6 shielded room | 5.2 x 3.2 x 2.9            |                                          |                            |

**No.3 open site**

This site has been fully described in a report submitted to FCC office, and listed on September 25, 2003.

(Registration number: 90412)

\*NVLAP Lab. Code : 200109-0

**3.8 Test setup, Data of EMI & Test instruments**

Please refer to Appendix 1 to 3.

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**UL Apex Co., Ltd.**

**Yokowa EMC Lab.**

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

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Facsimile: +81 596 39 0232

## **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)

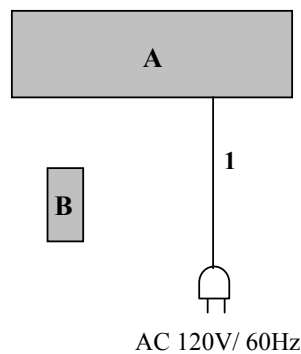
\* VCR Play mode

\* DVD Play mode

Operation : The EUT was tested at above operation mode.

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             | FCC ID   | Remark |
|------|-------------------|--------------|---------------|--------------------------|----------|--------|
| A    | DVD/VCR           | DVD2100-CA   | —             | Orion Electric Co., Ltd. | A7RM2E5C | 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        | Unshielded | Polyvinyl chloride |

**UL Apex Co., Ltd.**

**Yokowa EMC Lab.**

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

Telephone: +81 596 39 1485

Facsimile: +81 596 39 0232

## **Section 5 : Conducted emission**

### **5.1 Operation environment**

The test was carried out in No.2 shielded room.

Date : October 1, 2004

Temperature : See data

Humidity : See data

### **5.2 Test configuration**

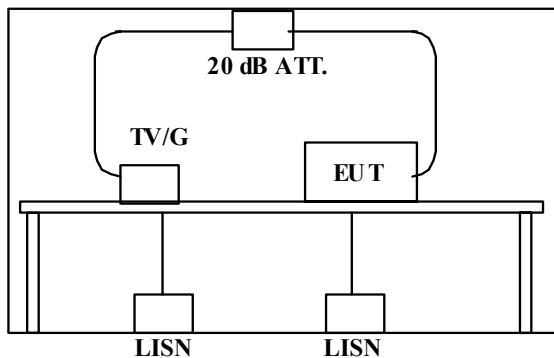
EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The rear of tabletop was located 40 cm to the vertical conducting plane. The rear of EUT was aligned and flushed with rear of tabletop. All other surfaces of tabletop was at least 80 cm from any 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)**

##### **Shielded room**



RF in: TV signal generator connected

Rear video out: 75 ohm terminated with video cable

Rear audio out: 1 k ohm terminated with audio cable

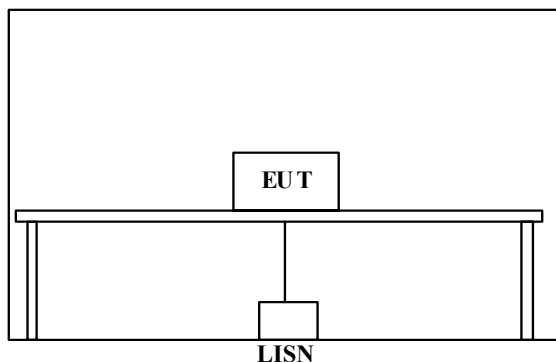
S-Video out: 75 ohm terminated with S-Video cable

RF output: 75 ohm terminated with RF output cable

Coaxial out: 75 ohm terminated with coaxial cable

#### **VCR Playback mode**

##### **Shielded room**



RF in: 75 ohm terminated with RF input cable

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

RF output: 75 ohm terminated with RF output cable

Coaxial out: 75 ohm terminated with coaxial cable

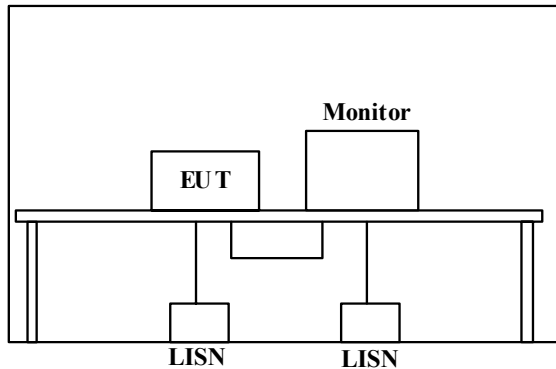
**UL Apex Co., Ltd.**

**Yokowa EMC Lab.**

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

Telephone: +81 596 39 1485

Facsimile: +81 596 39 0232

**DVD Play mode****Shielded room**

RF in: 75 ohm terminated with RF input cable  
Rear video out: monitor connected  
Rear audio out: monitor connected  
S-Video out: 75 ohm terminated with S-Video cable  
RF output: 75 ohm terminated with RF output cable  
Coaxial out: 75 ohm terminated with coaxial cable

**5.3 Test conditions**

Frequency range : 0.15 MHz – 30 MHz  
EUT position : Table top  
EUT operation mode : TV Reception + Rec., VCR Play, DVD Play

**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: Tsubasa Takayama

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**UL Apex Co., Ltd.****Yokowa EMC Lab.**

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

Telephone: +81 596 39 1485

Facsimile: +81 596 39 0232



## **Section 6 : Radiated emission**

### **6.1 Operation environment**

The test was carried out in No.3 open site.

Date : October 1, 2004

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 (No.1 open site) or 1m by 2.3m (No.3 open site), raised 80 cm above the conducting ground plane.

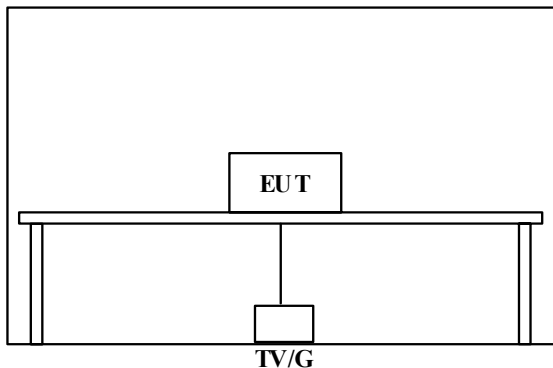
The rear of EUT was aligned and flushed with rear of tabletop. AC cable was bundled in center. I/O cables were hanged 40 cm height to the ground plane. Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna was varied in height above 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)**

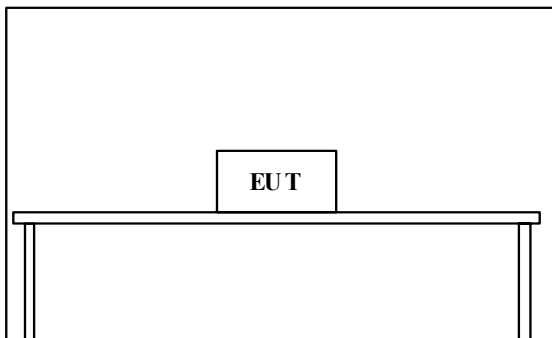
##### **Open test site**



RF in: TV signal generator connected  
 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  
 RF output: 75 ohm terminated with RF output cable  
 Coaxial out: 75 ohm terminated with coaxial cable

#### **VCR Playback mode**

##### **Open test site**



RF in: 75 ohm terminated with RF input cable  
 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  
 RF output: 75 ohm terminated with RF output cable  
 Coaxial out: 75 ohm terminated with coaxial cable

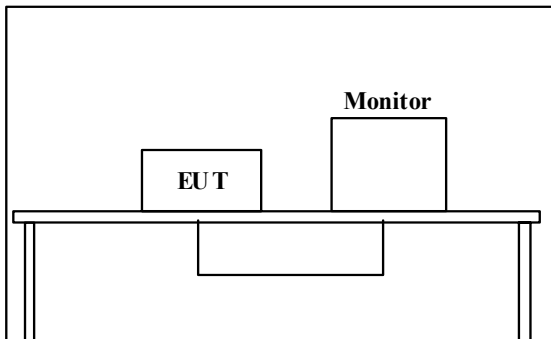
**UL Apex Co., Ltd.**

**Yokowa EMC Lab.**

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

Telephone: +81 596 39 1485

Facsimile: +81 596 39 0232

**DVD Play mode****Open test site**

RF in: 75 ohm terminated with RF input cable

Rear video out: monitor connected

Rear audio out: monitor connected

S-Video out: 75 ohm terminated with S-Video cable

RF output: 75 ohm terminated with RF output cable

Coaxial out: 75 ohm terminated with coaxial 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., VCR Play, DVD Play

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

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

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

**6.5 Test result****Passed**

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

Test engineer: Tsubasa Takayama

---

**UL Apex Co., Ltd.**

**Yokowa EMC Lab.**

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

Telephone: +81 596 39 1485

Facsimile: +81 596 39 0232

## **Section 7 : Antenna terminal voltage**

### **7.1 Operation environment**

The test was carried out in No.7 shielded room.

Date : September 29, 2004

Temperature : See data

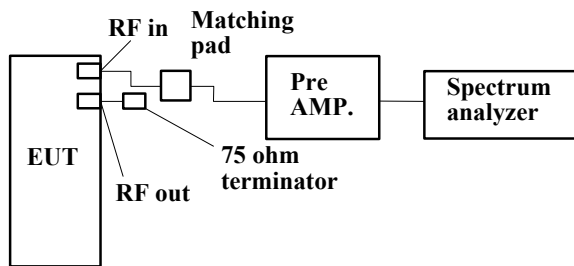
Humidity : See data

### **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: Tsubasa Takayama

## **Section 8 : RF output level / spurious emission**

### **8.1 Operation environment**

The test was carried out in No.7 shielded room.

Date : October 3, 2004

Temperature : See data

Humidity : See data

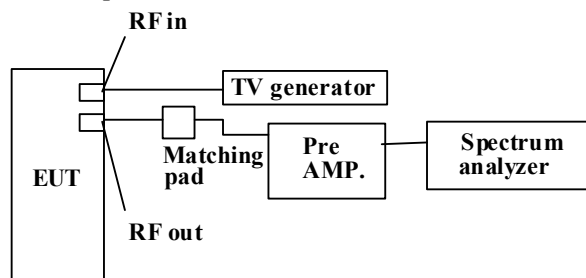
### **8.2 Test configuration**

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

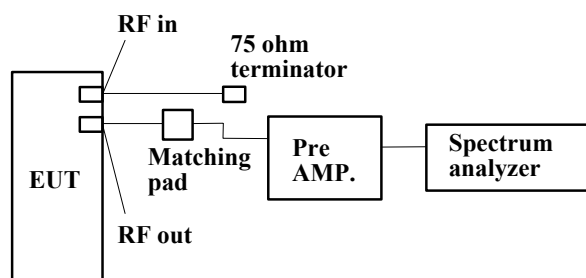
A drawing of the set up is shown in figure 4 and photographs in Appendix 1.

**Figure 4. RF output level**

#### **TV Reception + Rec. mode**



#### **VCR Play mode and DVD Play mode**



### **8.3 Test conditions**

EUT position : Table top

EUT operation mode : TV Reception + Rec., VCR Play, DVD Play

### **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: Tsubasa Takayama

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**UL Apex Co., Ltd.**

**Yokowa EMC Lab.**

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

Telephone: +81 596 39 1485

Facsimile: +81 596 39 0232

## **Section 9 : Antenna transfer switch**

### **9.1 Operation environment**

The test was carried out in No.7 shielded room.

Date : October 5, 2004

Temperature : See data

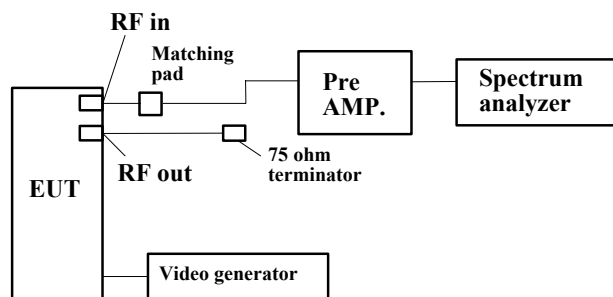
Humidity : See data

### **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 : VCR Play, DVD Play

### **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: Tsubasa Takayama

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**UL Apex Co., Ltd.**

**Yokowa EMC Lab.**

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

Telephone: +81 596 39 1485

Facsimile: +81 596 39 0232

## **Section 10 : Picture sensitivity**

### **10.1 Operation environment**

The test was carried out in No.7 shielded room.

Date : September 30, 2004

Temperature : See data

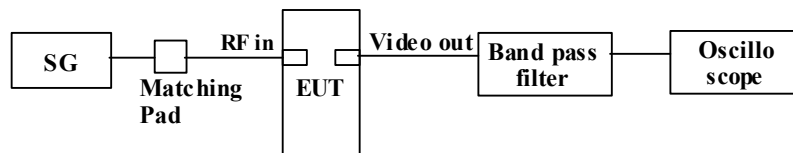
Humidity : See data

### **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: Tsubasa Takayama

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**UL Apex Co., Ltd.**

**Yokowa EMC Lab.**

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

Telephone: +81 596 39 1485

Facsimile: +81 596 39 0232

## **Section 11 : Noise figure**

### **11.1 Operating environment**

The test was carried out in No.7 shielded room.

Date : September 30, 2004

Temperature : See data

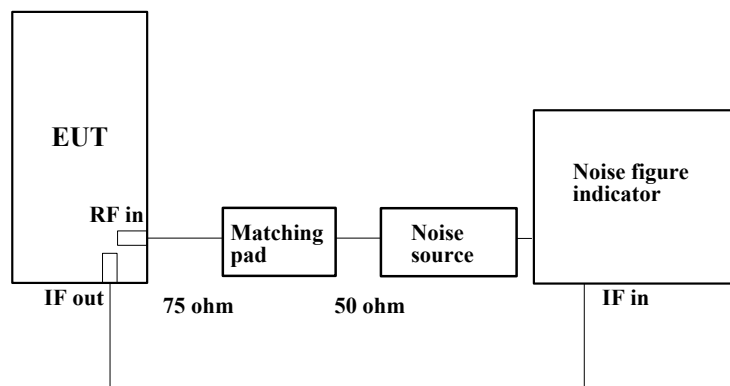
Humidity : See data

### **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: Tsubasa Takayama

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**UL Apex Co., Ltd.**

**Yokowa EMC Lab.**

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

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### **Appendix 1 : Photographs of test set up**

|           |                                                    |
|-----------|----------------------------------------------------|
| Page 17 : | Test set up of conducted emission                  |
| Page 18 : | Test set up of radiated emission                   |
| Page 19 : | Test set up of antenna terminal voltage            |
| Page 20 : | Test set up of RF output level / spurious emission |
| Page 21 : | Test set up of antenna transfer switch             |
| Page 22 : | Test set up of picture sensitivity                 |
| Page 23 : | Test set up of noise figure                        |

### **Appendix 2 : Data of EMI tests**

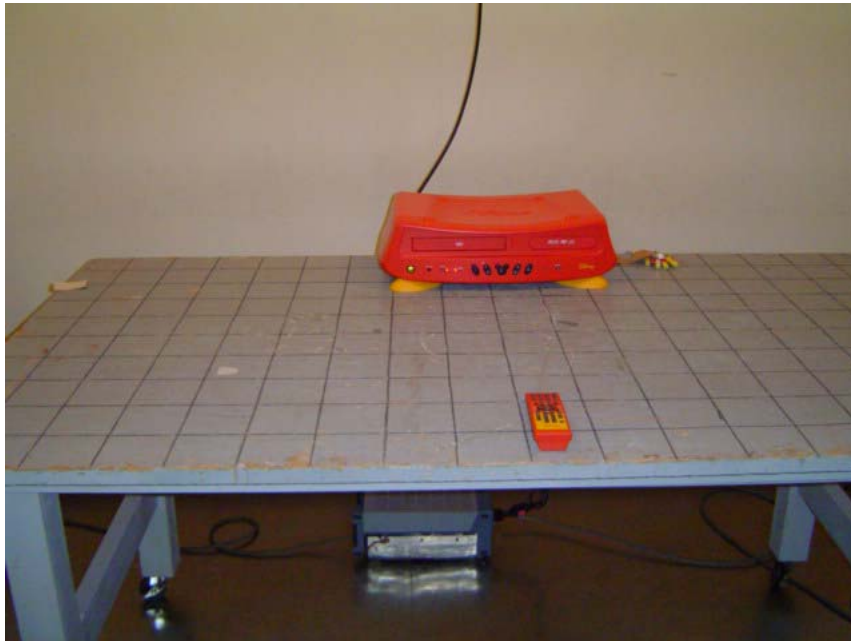
|                |                                     |
|----------------|-------------------------------------|
| Page 24 - 35 : | Conducted emission                  |
| Page 36 - 58 : | Radiated emission                   |
| Page 59 - 60 : | Antenna terminal voltage            |
| Page 61 - 72 : | RF output level / spurious emission |
| Page 73 - 76 : | Antenna transfer switch             |
| Page 77 :      | Picture sensitivity                 |
| Page 78 :      | Noise figure                        |

### **Appendix 3 : Test instruments**

|           |                  |
|-----------|------------------|
| Page 79 : | Test instruments |
|-----------|------------------|



## Conducted emission



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**UL Apex Co., Ltd.**

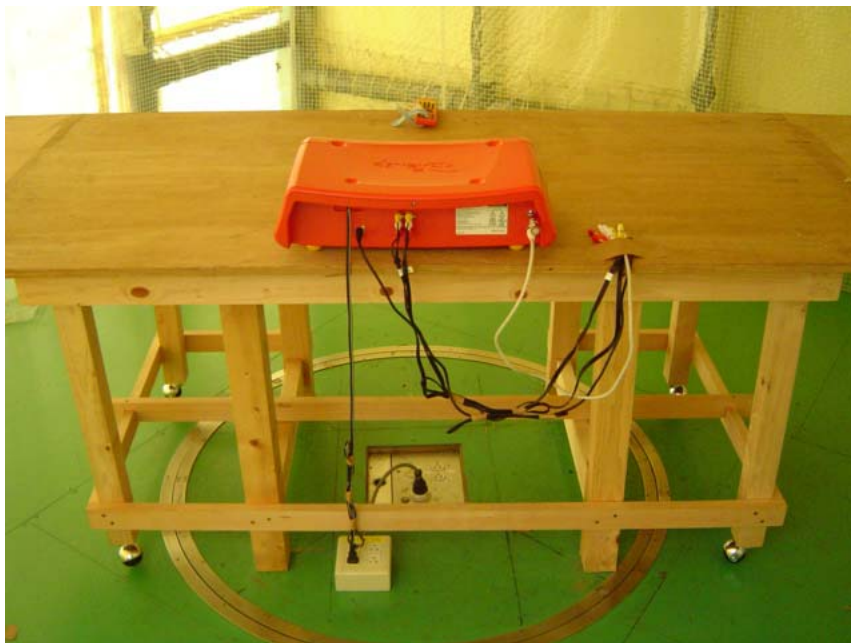
**Yokowa EMC Lab.**

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## Radiated emission



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**UL Apex Co., Ltd.**

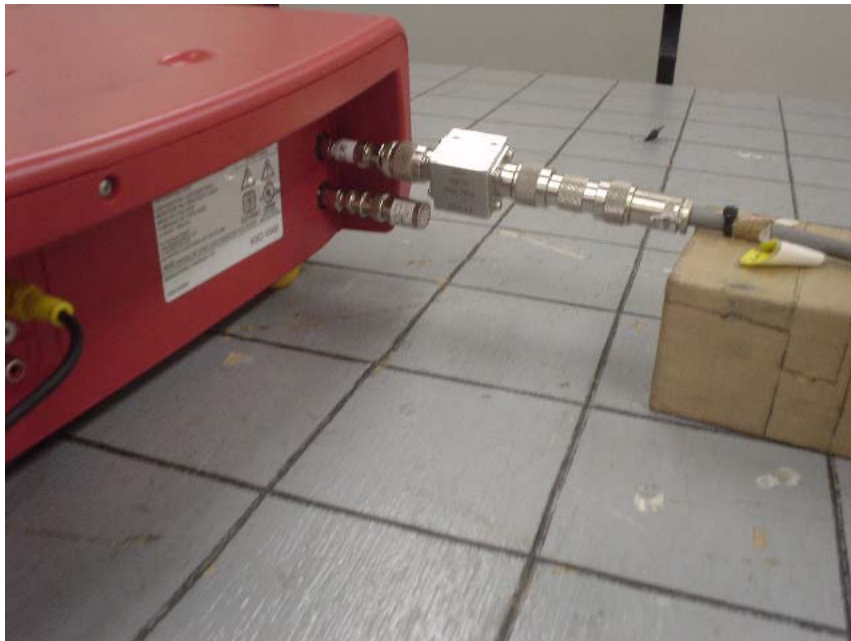
**Yokowa EMC Lab.**

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Facsimile: +81 596 39 0232

## Antenna terminal voltage



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**Yokowa EMC Lab.**

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## RF output level / spurious emission



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**UL Apex Co., Ltd.**

**Yokowa EMC Lab.**

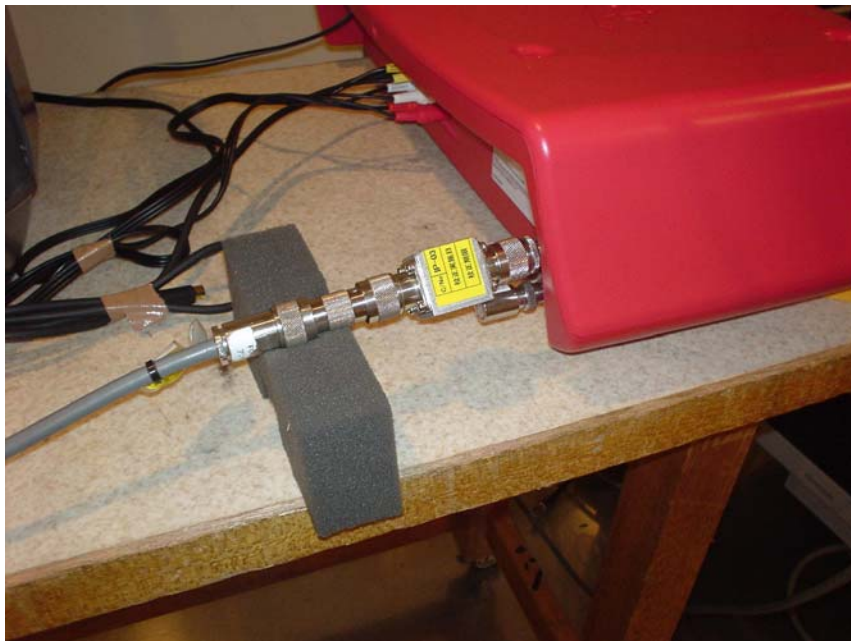
108 Yokowa-cho, Ise-shi, Mie-ken 516-1106 JAPAN

Telephone: +81 596 39 1485

Facsimile: +81 596 39 0232



## Antenna transfer switch



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**UL Apex Co., Ltd.**

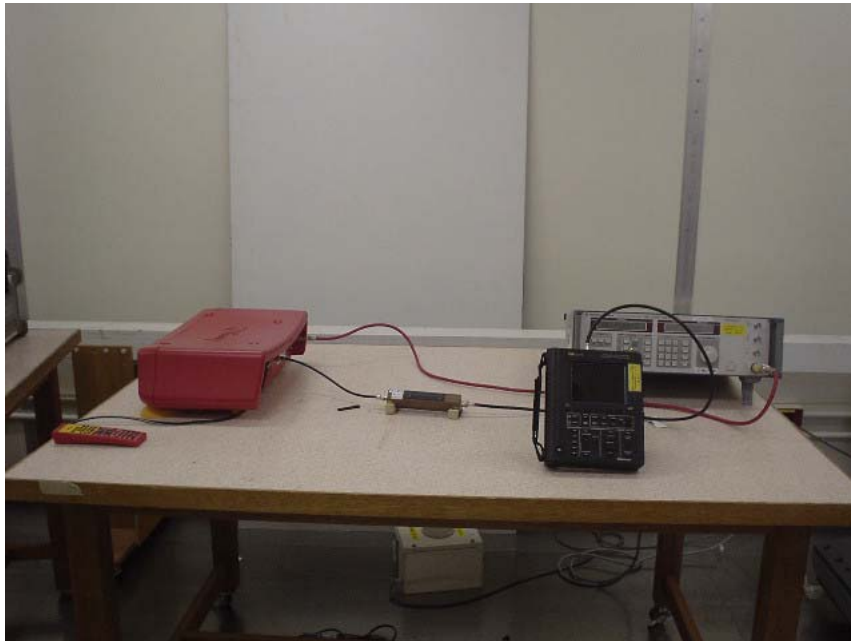
**Yokowa EMC Lab.**

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

Telephone: +81 596 39 1485

Facsimile: +81 596 39 0232

## Picture sensitivity



---

**UL Apex Co., Ltd.**

**Yokowa EMC Lab.**

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

Telephone: +81 596 39 1485

Facsimile: +81 596 39 0232

## Noise figure



---

**UL Apex Co., Ltd.**

**Yokowa EMC 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

UL Apex Co., Ltd.

YOKOWA No.2 SHIELD TEST ROOM

Report No.: 24BE0324-YW-1

Applicant : Orion Electric Co.,Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : TV Reception+Rec(0dBmV)  
Remarks :  
Date : 10/1/2004  
Phase : Single Phase  
Temperature : 25 °C  
Humidity : 56 %  
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama

| No. | FREQ.<br>[MHz] | READING(N)    |    | READING(L1)   |    | LISN<br>FACTOR<br>[dB] | CABLE<br>LOSS<br>[dB] | ATTEN.<br>[dB] | RESULT     |               | LIMITS        |               | MARGIN        |            |
|-----|----------------|---------------|----|---------------|----|------------------------|-----------------------|----------------|------------|---------------|---------------|---------------|---------------|------------|
|     |                | QP<br>[dB μV] | AV | QP<br>[dB μV] | AV |                        |                       |                | QP<br>[dB] | AV<br>[dB μV] | QP<br>[dB μV] | AV<br>[dB μV] | QP<br>[dB μV] | AV<br>[dB] |
| 1.  | 0.1776         | 46.4          | -  | 46.5          | -  | 0.1                    | 0.2                   | 0.0            | 46.8       | -             | 64.6          | 54.6          | 17.8          | -          |
| 2.  | 0.4426         | 27.2          | -  | 28.1          | -  | 0.1                    | 0.2                   | 0.0            | 28.4       | -             | 57.0          | 47.0          | 28.6          | -          |
| 3.  | 0.7987         | 28.6          | -  | 28.6          | -  | 0.1                    | 0.2                   | 0.0            | 28.9       | -             | 56.0          | 46.0          | 27.1          | -          |
| 4.  | 1.3324         | 29.8          | -  | 28.9          | -  | 0.1                    | 0.3                   | 0.0            | 30.2       | -             | 56.0          | 46.0          | 25.8          | -          |
| 5.  | 3.5800         | 36.6          | -  | 36.7          | -  | 0.1                    | 0.3                   | 0.0            | 37.1       | -             | 56.0          | 46.0          | 18.9          | -          |
| 6.  | 14.7000        | 32.3          | -  | 31.8          | -  | 0.7                    | 0.6                   | 0.0            | 33.6       | -             | 60.0          | 50.0          | 26.4          | -          |

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

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



# DATA OF CONDUCTION TEST

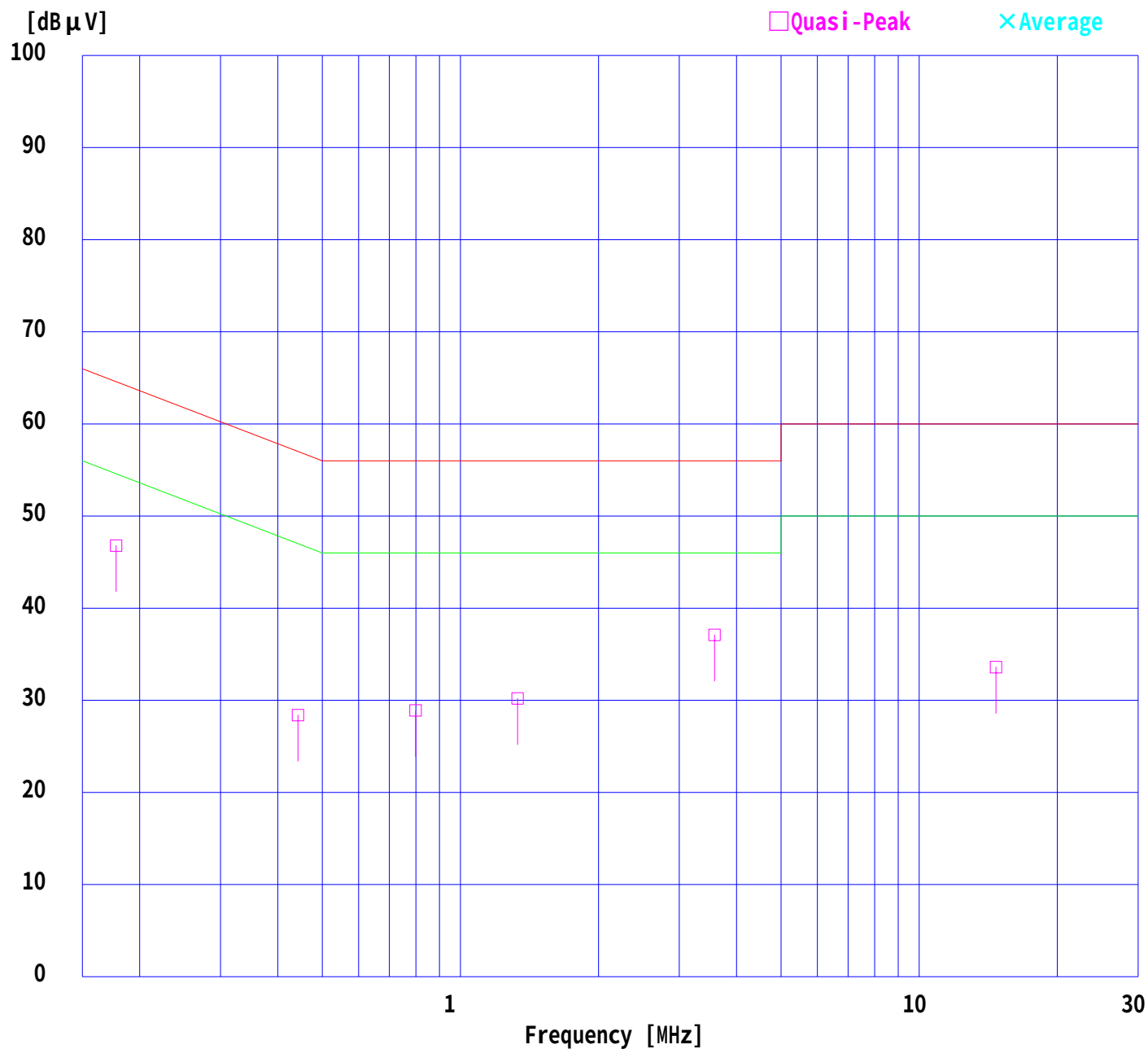
UL Apex Co., Ltd.

YOKOWA No.2 SHIELD TEST ROOM

Report No.: 24BE0324-YW-1

Applicant : Orion Electric Co.,Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : TV Reception+Rec(0dBmV)  
Remarks :  
Date : 10/1/2004  
Phase : Single Phase  
Temperature : 25 °C  
Humidity : 56 %  
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama



# DATA OF CONDUCTION TEST CHART

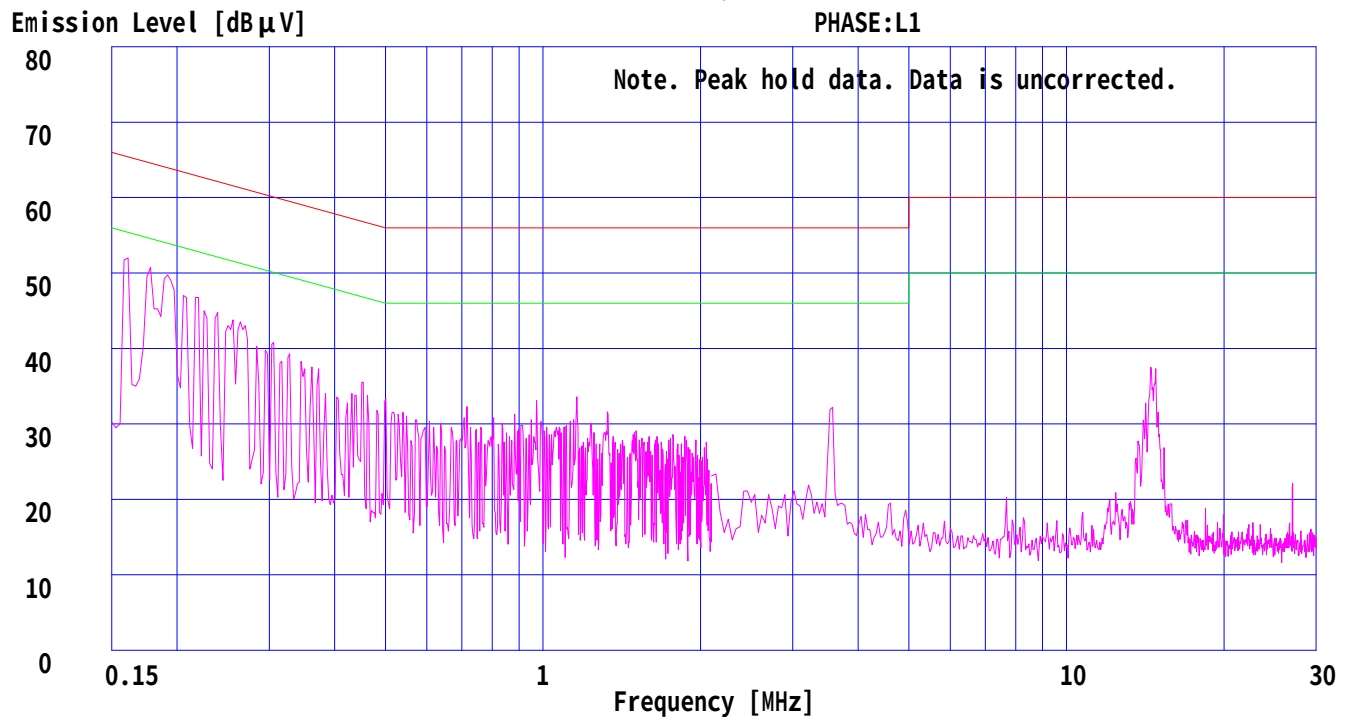
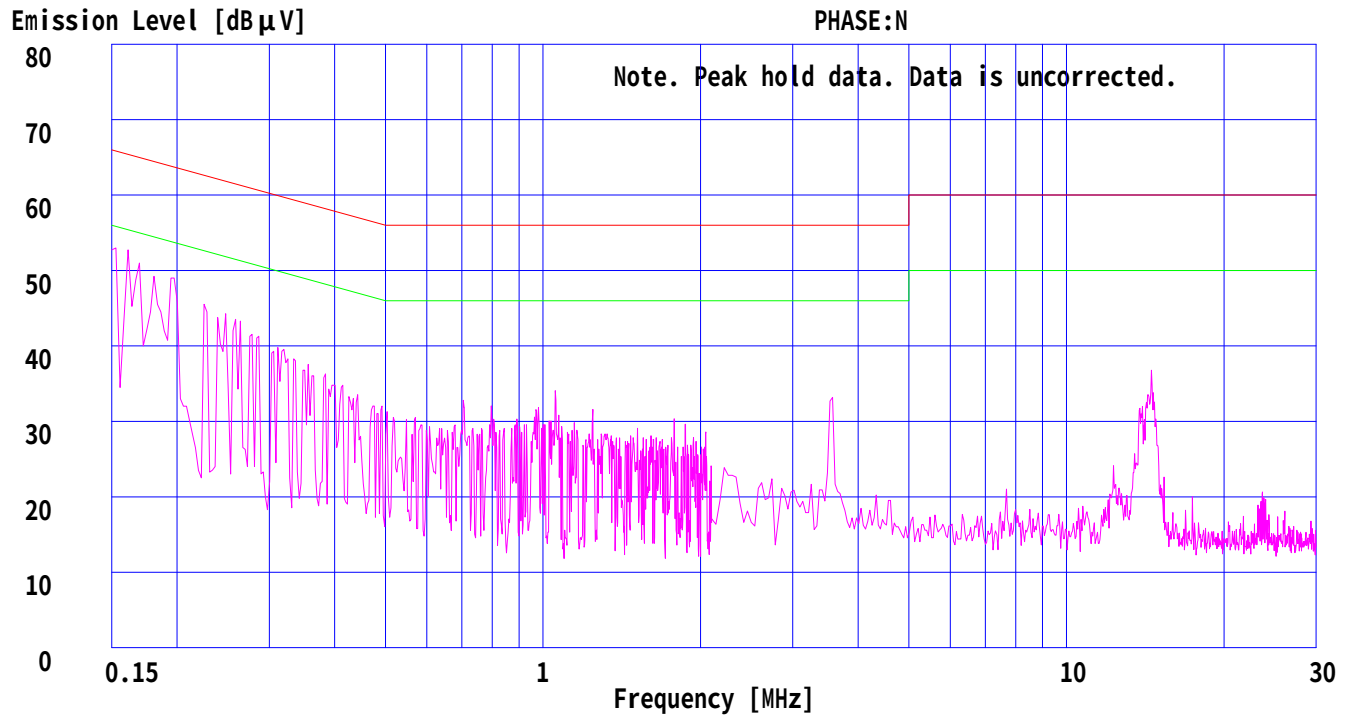
UL Apex Co., Ltd.

YOKOWA No.2 SHIELD TEST ROOM

Report No.: 24BE0324-YW-1

Applicant : Orion Electric Co.,Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : TV Reception+Rec(0dBmV)  
Remarks :  
Date : 10/1/2004  
Phase : Single Phase  
Temperature : 25 °C  
Humidity : 56 %  
Regulation 1 : FCC Part15B CLASS B(2003)  
Regulation 2 : None

Engineer : Tsubasa Takayama



# DATA OF CONDUCTION TEST

UL Apex Co., Ltd.

YOKOWA No.2 SHIELD TEST ROOM

Report No.: 24BE0324-YW-1

Applicant : Orion Electric Co.,Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : TV Reception+Rec(25dBmV)  
Remarks :  
Date : 10/1/2004  
Phase : Single Phase  
Temperature : 25 °C  
Humidity : 56 %  
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama

| No. | FREQ.<br>[MHz] | READING(N)    |    | READING(L1)   |    | LISN<br>FACTOR<br>[dB] | CABLE<br>LOSS<br>[dB] | ATTEN.<br>[dB] | RESULT     |               | LIMITS        |               | MARGIN        |            |
|-----|----------------|---------------|----|---------------|----|------------------------|-----------------------|----------------|------------|---------------|---------------|---------------|---------------|------------|
|     |                | QP<br>[dB μV] | AV | QP<br>[dB μV] | AV |                        |                       |                | QP<br>[dB] | AV<br>[dB μV] | QP<br>[dB μV] | AV<br>[dB μV] | QP<br>[dB μV] | AV<br>[dB] |
| 1.  | 0.1751         | 47.0          | -  | 46.7          | -  | 0.1                    | 0.2                   | 0.0            | 47.3       | -             | 64.7          | 54.7          | 17.4          | -          |
| 2.  | 0.3440         | 30.3          | -  | 30.3          | -  | 0.1                    | 0.2                   | 0.0            | 30.6       | -             | 59.1          | 49.1          | 28.5          | -          |
| 3.  | 0.7997         | 28.7          | -  | 28.7          | -  | 0.1                    | 0.2                   | 0.0            | 29.0       | -             | 56.0          | 46.0          | 27.0          | -          |
| 4.  | 1.3322         | 28.4          | -  | 28.4          | -  | 0.1                    | 0.3                   | 0.0            | 28.8       | -             | 56.0          | 46.0          | 27.2          | -          |
| 5.  | 3.5783         | 36.6          | -  | 36.5          | -  | 0.1                    | 0.3                   | 0.0            | 37.0       | -             | 56.0          | 46.0          | 19.0          | -          |
| 6.  | 14.5200        | 31.5          | -  | 31.8          | -  | 0.7                    | 0.6                   | 0.0            | 33.1       | -             | 60.0          | 50.0          | 26.9          | -          |

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

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

# DATA OF CONDUCTION TEST

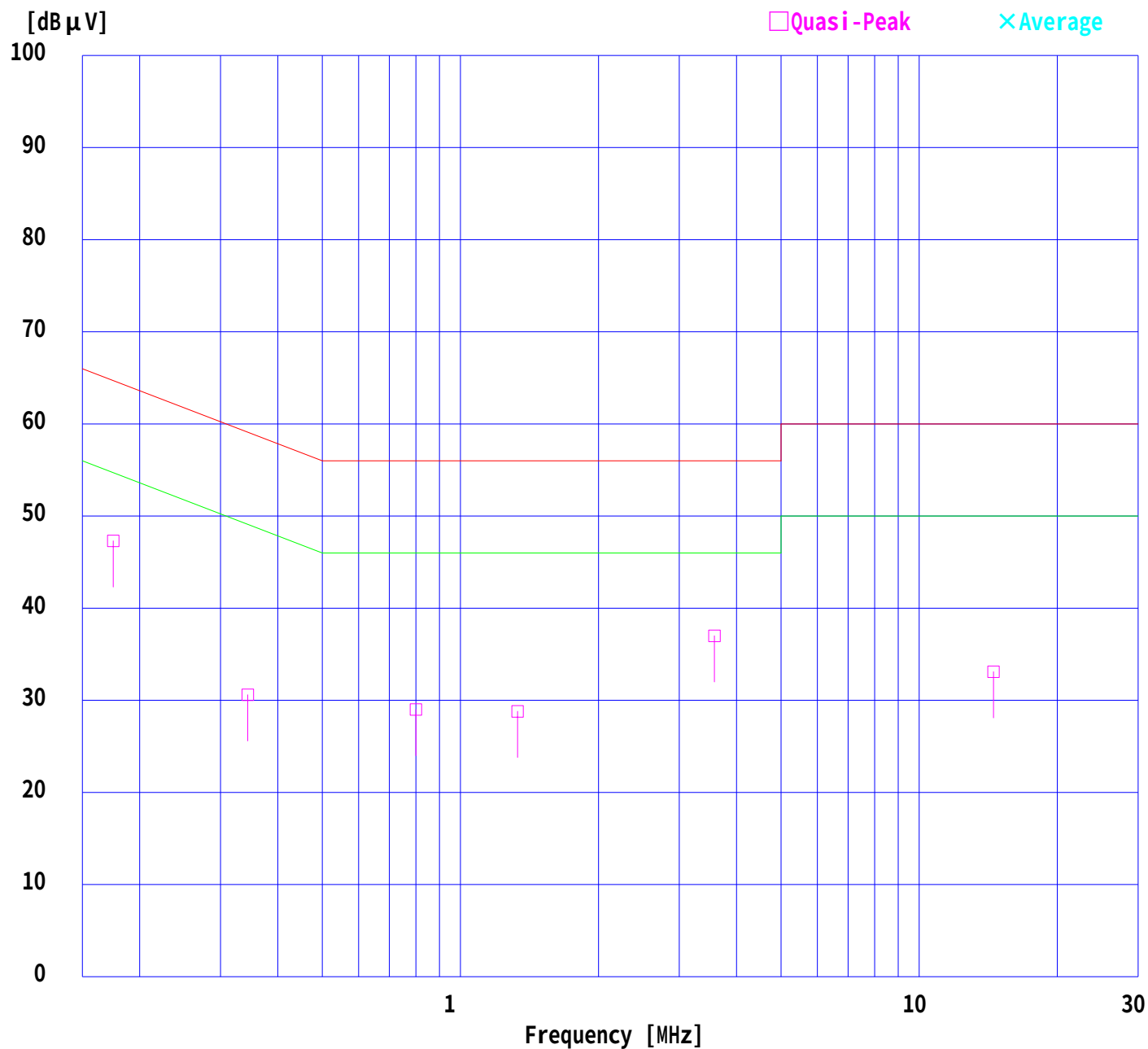
UL Apex Co., Ltd.

YOKOWA No.2 SHIELD TEST ROOM

Report No.: 24BE0324-YW-1

Applicant : Orion Electric Co.,Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : TV Reception+Rec(25dBmV)  
Remarks :  
Date : 10/1/2004  
Phase : Single Phase  
Temperature : 25 °C  
Humidity : 56 %  
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama



# DATA OF CONDUCTION TEST CHART

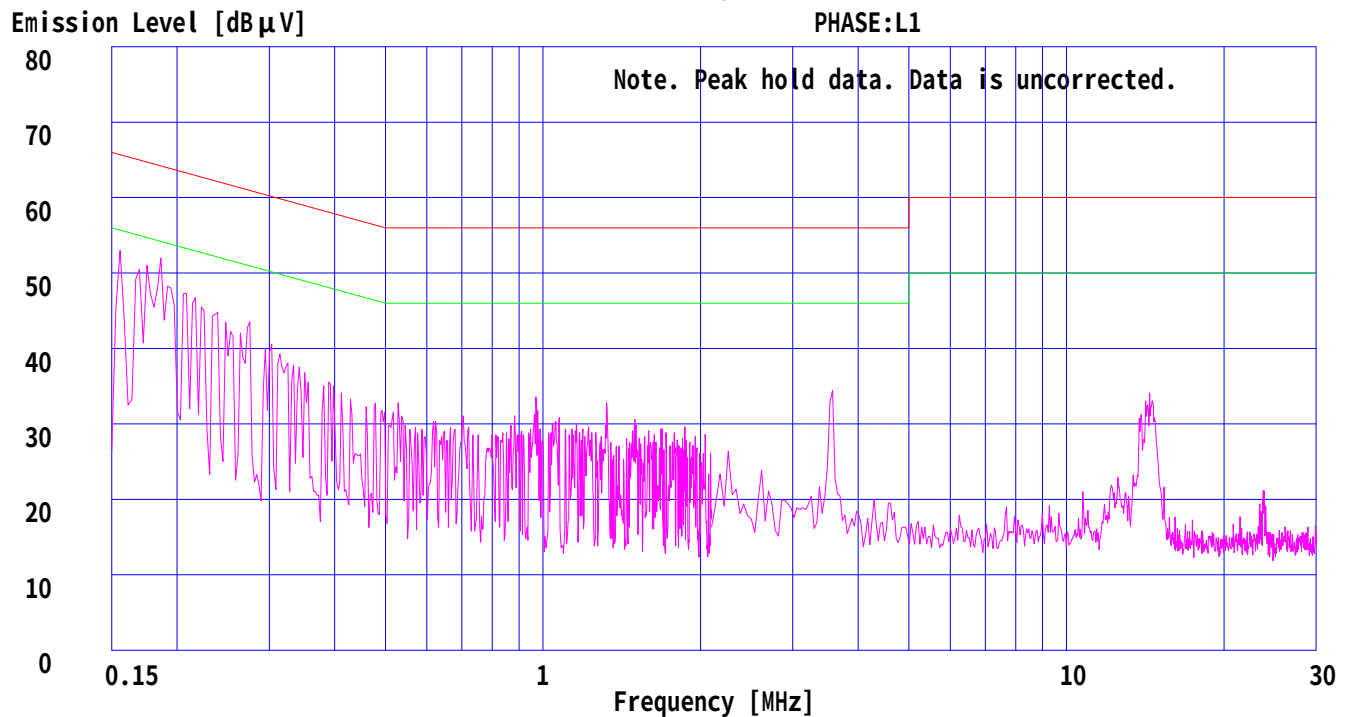
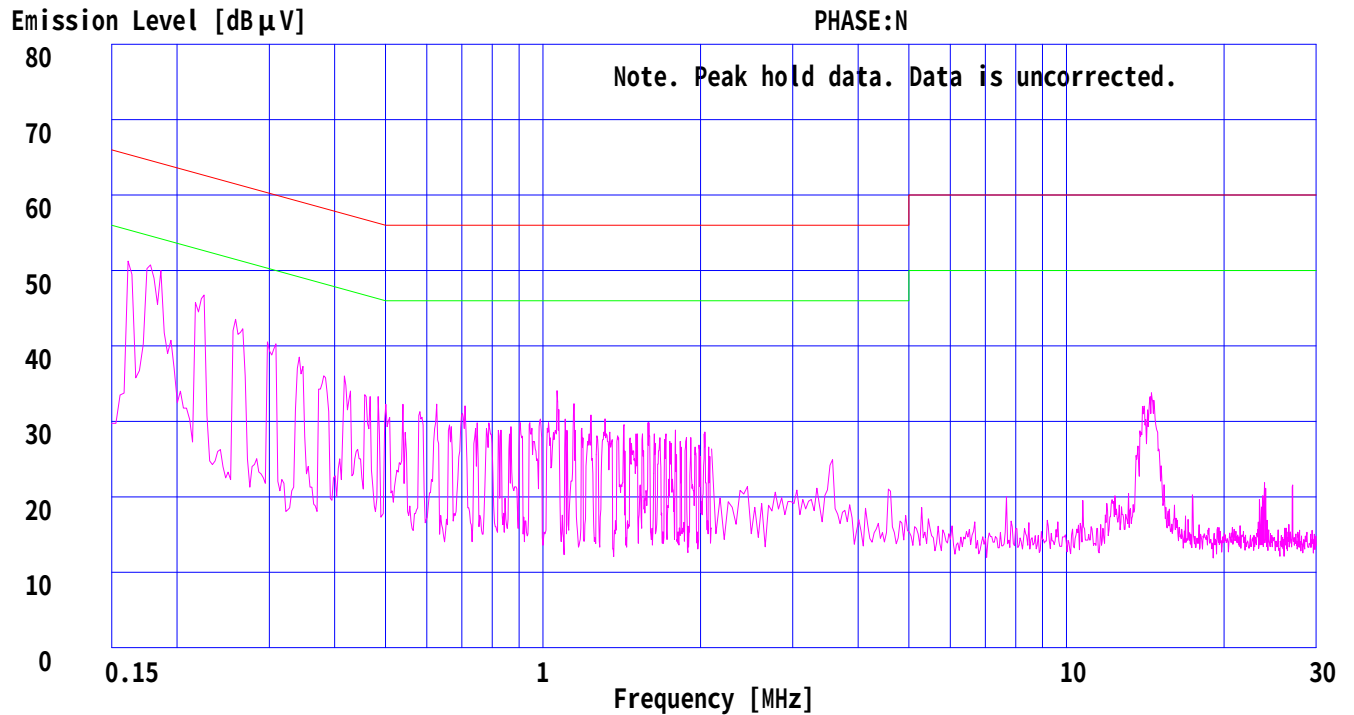
UL Apex Co., Ltd.

YOKOWA No.2 SHIELD TEST ROOM

Report No.: 24BE0324-YW-1

Applicant : Orion Electric Co.,Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : TV Reception+Rec(25dBmV)  
Remarks :  
Date : 10/1/2004  
Phase : Single Phase  
Temperature : 25 °C  
Humidity : 56 %  
Regulation 1 : FCC Part15B CLASS B(2003)  
Regulation 2 : None

Engineer : Tsubasa Takayama



# DATA OF CONDUCTION TEST

UL Apex Co., Ltd.

YOKOWA No.2 SHIELD TEST ROOM

Report No.: 24BE0324-YW-1

Applicant : Orion Electric Co.,Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : VCR Playback  
Remarks :  
Date : 10/1/2004  
Phase : Single Phase  
Temperature : 25 °C  
Humidity : 56 %  
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama

| No. | FREQ.<br>[MHz] | READING(N)    |    | READING(L1)   |    | LISN<br>FACTOR<br>[dB] | CABLE<br>LOSS<br>[dB] | ATTEN.<br>[dB] | RESULT     |               | LIMITS        |               | MARGIN        |            |
|-----|----------------|---------------|----|---------------|----|------------------------|-----------------------|----------------|------------|---------------|---------------|---------------|---------------|------------|
|     |                | QP<br>[dB μV] | AV | QP<br>[dB μV] | AV |                        |                       |                | QP<br>[dB] | AV<br>[dB μV] | QP<br>[dB μV] | AV<br>[dB μV] | QP<br>[dB μV] | AV<br>[dB] |
| 1.  | 0.1500         | 46.3          | -  | 46.3          | -  | 0.1                    | 0.2                   | 0.0            | 46.6       | -             | 66.0          | 56.0          | 19.4          | -          |
| 2.  | 0.3554         | 29.4          | -  | 29.2          | -  | 0.1                    | 0.2                   | 0.0            | 29.7       | -             | 58.8          | 48.8          | 29.1          | -          |
| 3.  | 0.8431         | 24.3          | -  | 23.5          | -  | 0.1                    | 0.2                   | 0.0            | 24.6       | -             | 56.0          | 46.0          | 31.4          | -          |
| 4.  | 1.4010         | 24.0          | -  | 23.0          | -  | 0.1                    | 0.3                   | 0.0            | 24.4       | -             | 56.0          | 46.0          | 31.6          | -          |
| 5.  | 3.5820         | 32.4          | -  | 34.0          | -  | 0.1                    | 0.3                   | 0.0            | 34.4       | -             | 56.0          | 46.0          | 21.6          | -          |
| 6.  | 18.4300        | 23.1          | -  | 23.8          | -  | 0.9                    | 0.7                   | 0.0            | 25.4       | -             | 60.0          | 50.0          | 34.6          | -          |

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

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

# DATA OF CONDUCTION TEST

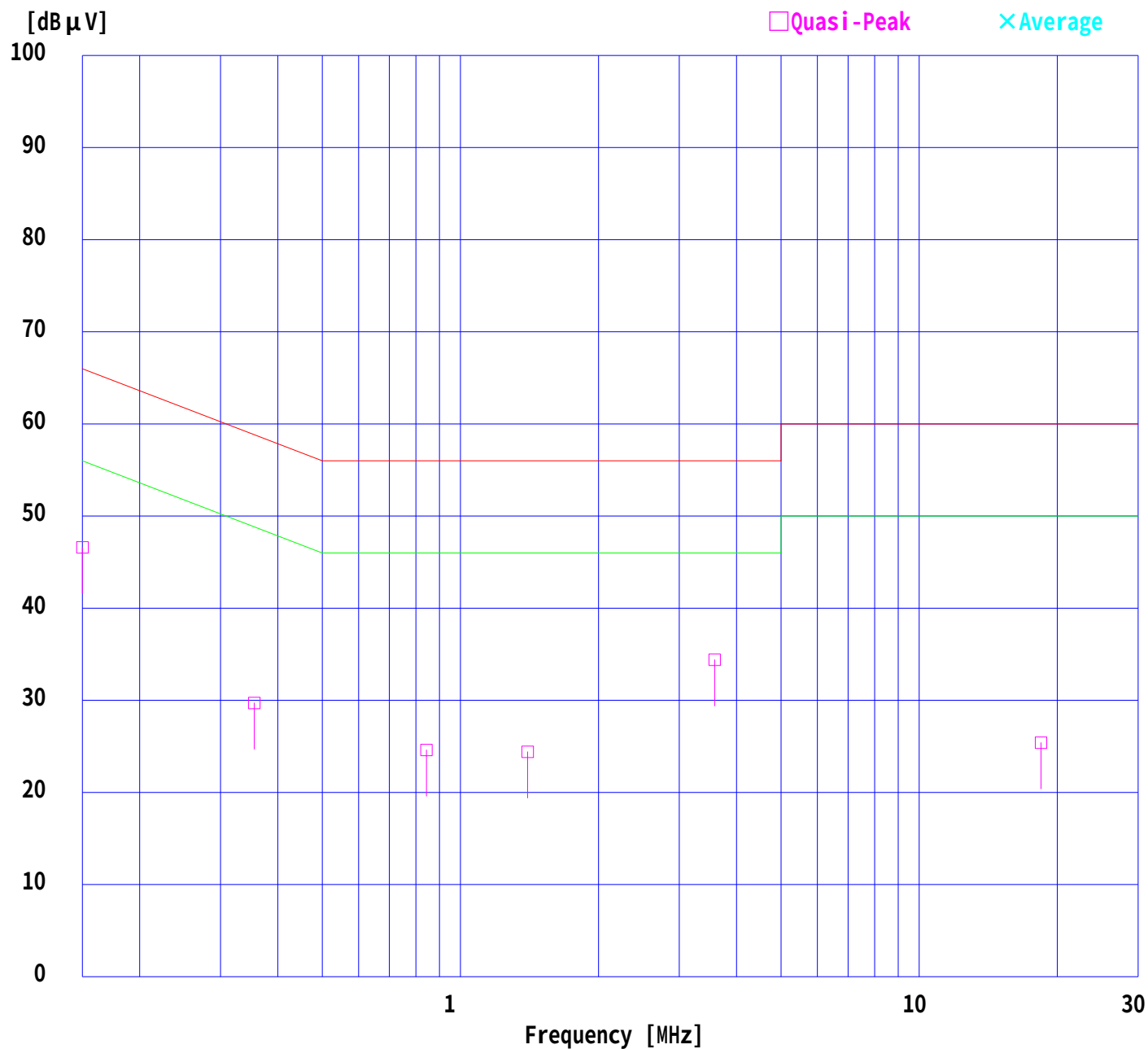
UL Apex Co., Ltd.

YOKOWA No.2 SHIELD TEST ROOM

Report No.: 24BE0324-YW-1

Applicant : Orion Electric Co.,Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : VCR Playback  
Remarks :  
Date : 10/1/2004  
Phase : Single Phase  
Temperature : 25 °C  
Humidity : 56 %  
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama



# DATA OF CONDUCTION TEST CHART

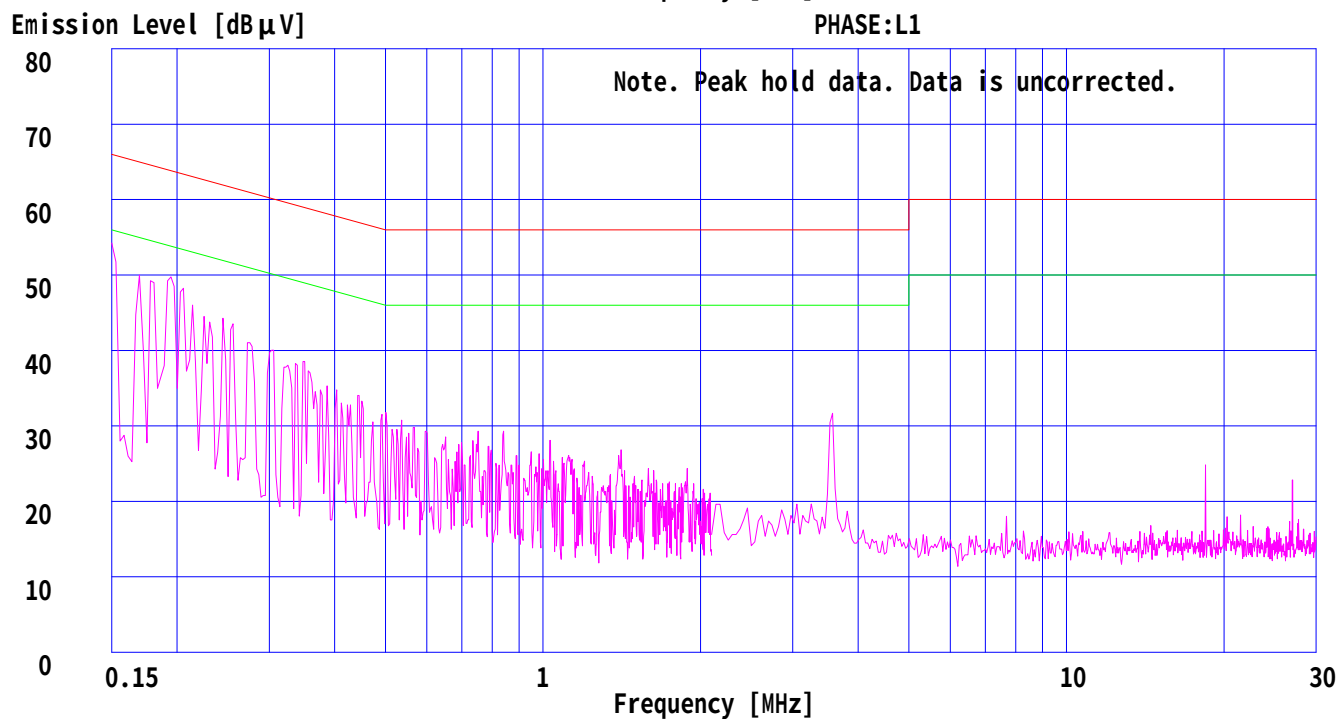
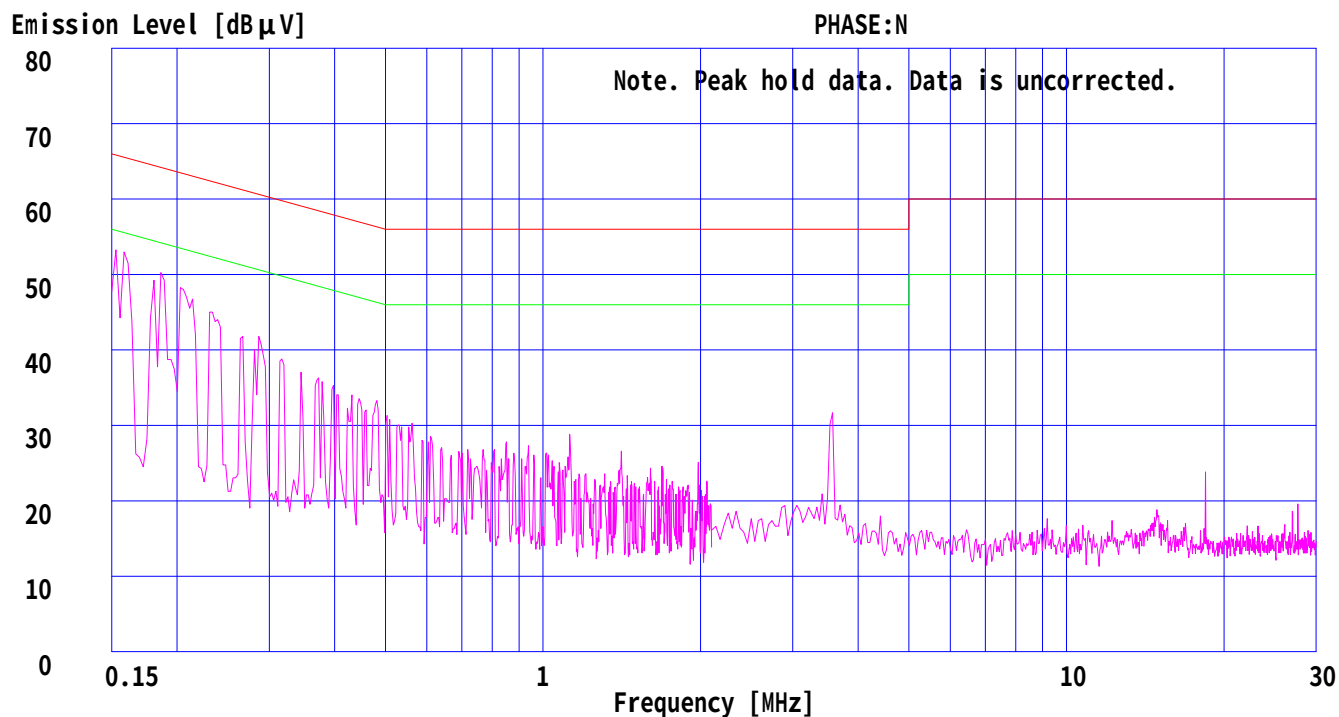
UL Apex Co., Ltd.

YOKOWA No.2 SHIELD TEST ROOM

Report No.: 24BE0324-YW-1

Applicant : Orion Electric Co.,Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : VCR Playback  
Remarks :  
Date : 10/1/2004  
Phase : Single Phase  
Temperature : 25 °C  
Humidity : 56 %  
Regulation 1 : FCC Part15B CLASS B(2003)  
Regulation 2 : None

Engineer : Tsubasa Takayama





# DATA OF CONDUCTION TEST

UL Apex Co., Ltd.

YOKOWA No.2 SHIELD TEST ROOM

Report No.: 24BE0324-YW-1

Applicant : Orion Electric Co.,Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : DVD Play  
Remarks :  
Date : 10/1/2004  
Phase : Single Phase  
Temperature : 25 °C  
Humidity : 56 %  
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama

| No. | FREQ.<br>[MHz] | READING(N)    |    | READING(L1)   |    | LISN<br>FACTOR<br>[dB] | CABLE<br>LOSS<br>[dB] | ATTEN.<br>[dB] | RESULT     |               | LIMITS        |               | MARGIN     |            |
|-----|----------------|---------------|----|---------------|----|------------------------|-----------------------|----------------|------------|---------------|---------------|---------------|------------|------------|
|     |                | QP<br>[dB μV] | AV | QP<br>[dB μV] | AV |                        |                       |                | QP<br>[dB] | AV<br>[dB μV] | QP<br>[dB μV] | AV<br>[dB μV] | QP<br>[dB] | AV<br>[dB] |
| 1.  | 0.1500         | 46.4          | -  | 46.8          | -  | 0.1                    | 0.2                   | 0.0            | 47.1       | -             | 66.0          | 56.0          | 18.9       | -          |
| 2.  | 0.4448         | 26.1          | -  | 25.9          | -  | 0.1                    | 0.2                   | 0.0            | 26.4       | -             | 57.0          | 47.0          | 30.6       | -          |
| 3.  | 0.7979         | 26.1          | -  | 25.8          | -  | 0.1                    | 0.2                   | 0.0            | 26.4       | -             | 56.0          | 46.0          | 29.6       | -          |
| 4.  | 1.0621         | 26.7          | -  | 26.1          | -  | 0.1                    | 0.3                   | 0.0            | 27.1       | -             | 56.0          | 46.0          | 28.9       | -          |
| 5.  | 3.5493         | 33.7          | -  | 34.2          | -  | 0.1                    | 0.3                   | 0.0            | 34.6       | -             | 56.0          | 46.0          | 21.4       | -          |
| 6.  | 18.4300        | 29.3          | -  | 29.4          | -  | 0.9                    | 0.7                   | 0.0            | 31.0       | -             | 60.0          | 50.0          | 29.0       | -          |
| 7.  | 24.5782        | 28.9          | -  | 28.3          | -  | 0.8                    | 0.8                   | 0.0            | 30.5       | -             | 60.0          | 50.0          | 29.5       | -          |

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

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

# DATA OF CONDUCTION TEST

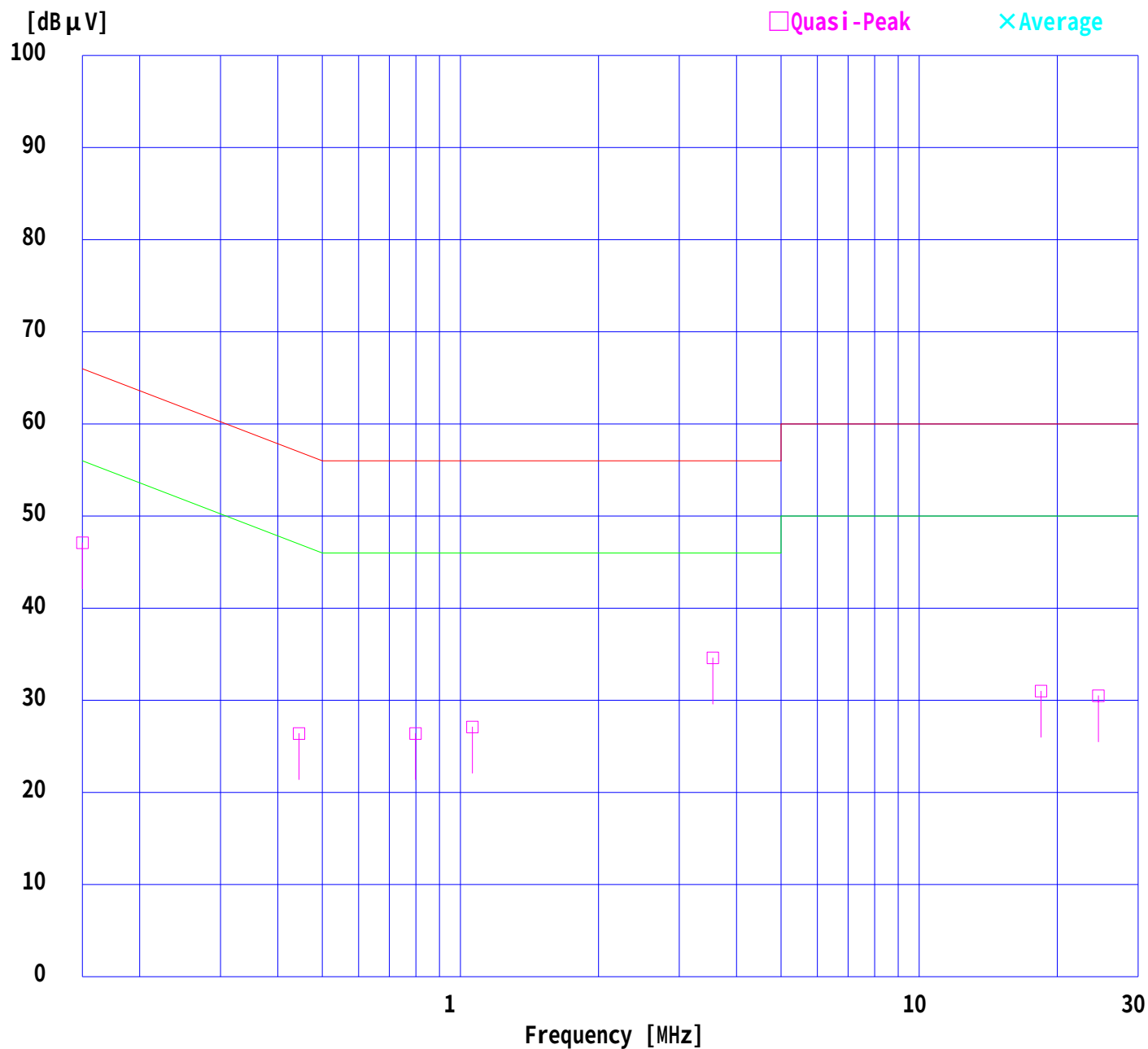
UL Apex Co., Ltd.

YOKOWA No.2 SHIELD TEST ROOM

Report No.: 24BE0324-YW-1

Applicant : Orion Electric Co.,Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : DVD Play  
Remarks :  
Date : 10/1/2004  
Phase : Single Phase  
Temperature : 25 °C  
Humidity : 56 %  
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama



# DATA OF CONDUCTION TEST CHART

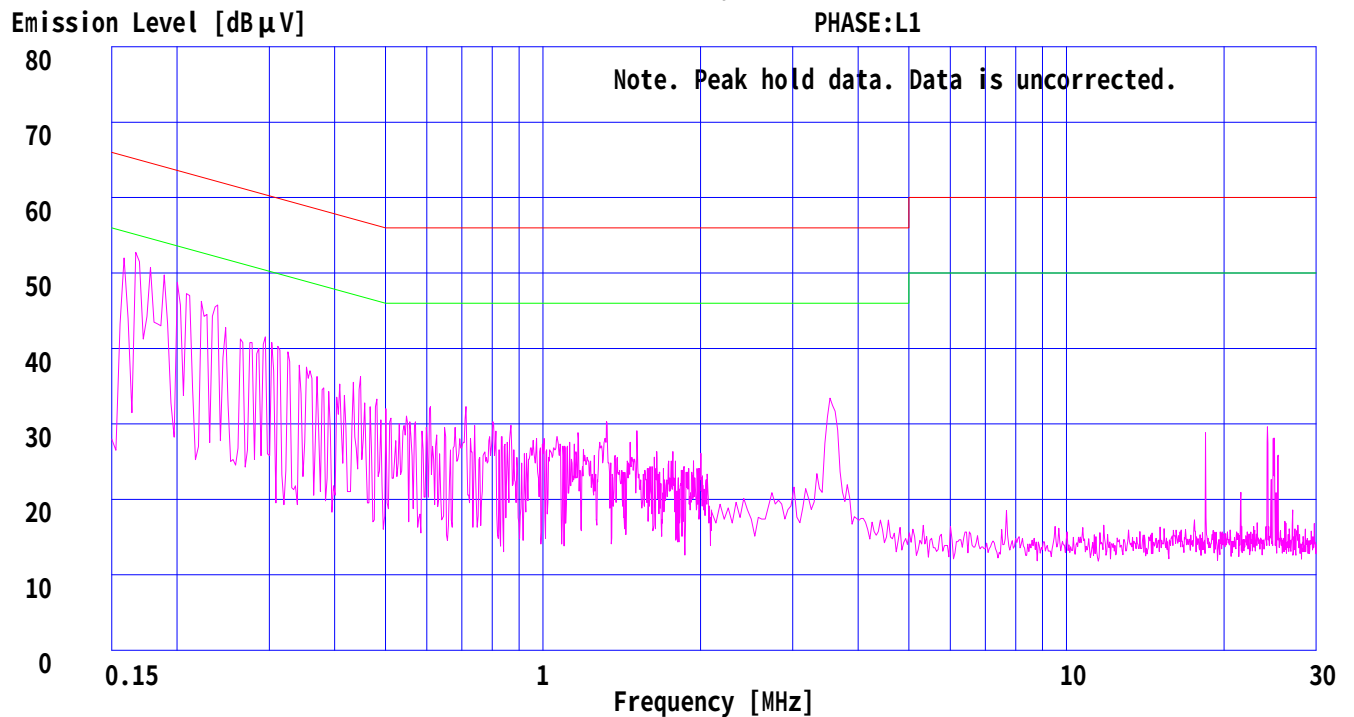
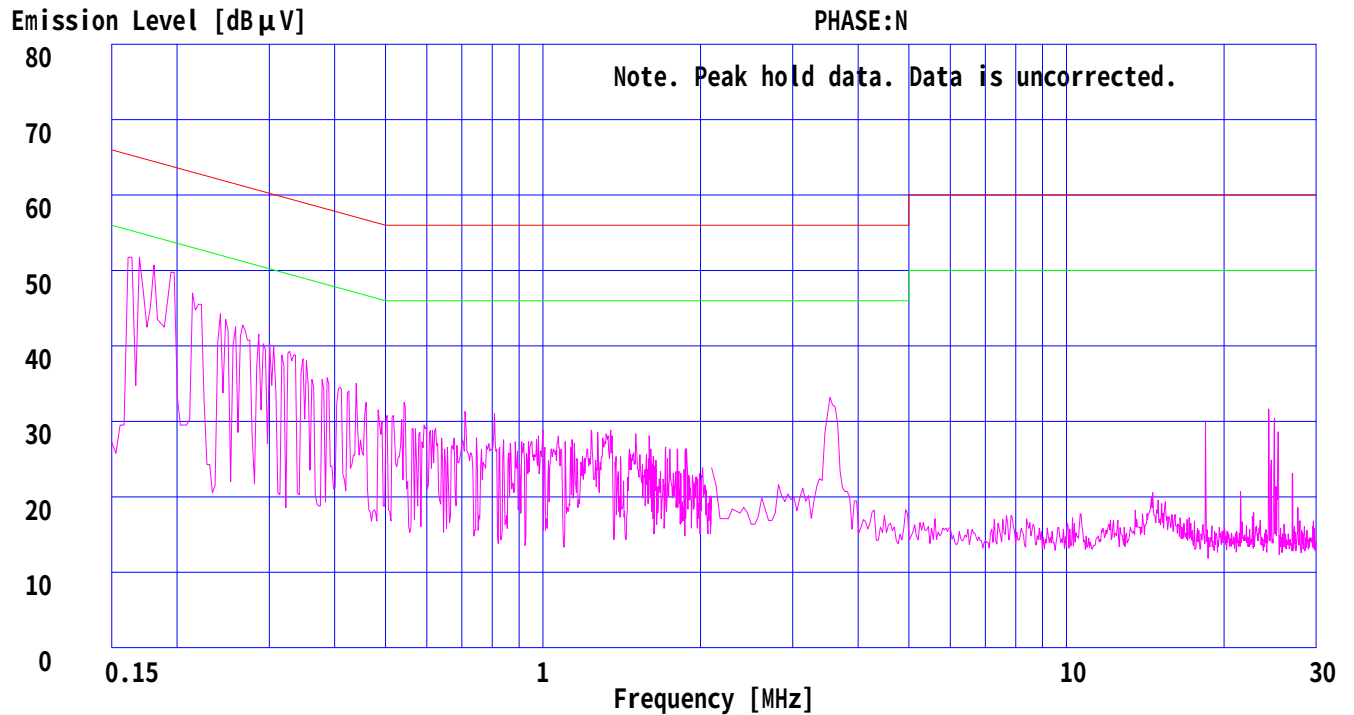
UL Apex Co., Ltd.

YOKOWA No.2 SHIELD TEST ROOM

Report No.: 24BE0324-YW-1

Applicant : Orion Electric Co.,Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : DVD Play  
Remarks :  
Date : 10/1/2004  
Phase : Single Phase  
Temperature : 25 °C  
Humidity : 56 %  
Regulation 1 : FCC Part15B CLASS B(2003)  
Regulation 2 : None

Engineer : Tsubasa Takayama



# DATA OF RADIATION TEST

UL Apex Co., Ltd.  
Yokowa EMC No.3 Open Test Site

COMPANY : Orion Electric Co.,Ltd.  
EQUIPMENT : DVD/VCR  
MODEL No. : DVD2100-CA  
POWER : AC120V/60Hz  
DESCRIPTION : TV Reception + Rec

REPORT No. : 25BE0324-YW-1  
REGULATION : FCC PART15 B  
TEST DISTANCE : 3m  
ATTENUATION : 101-847MHz 6dB  
1030-1694MHz 0dB  
DATE : 2004/10/01  
TEMP./HUMID. : 23deg.C / 50%  
ENGINEER : Tsubasa Takayama

\*C.Factor[dB]=ANT Factor + Cable Loss - Amp Gain

For the measurement above 1GHz, measurement of AV detector is performed only when the result of PK detector exceed the limit of AV.

| CH. | FREQ  | READING(QP) |             |      |          | ANT         | C.Factor   | RESULT(QP) |            |            |            | LIMIT       | MARGIN(QP) |            |       |  |  |
|-----|-------|-------------|-------------|------|----------|-------------|------------|------------|------------|------------|------------|-------------|------------|------------|-------|--|--|
|     | [MHz] | HOR.        | VER.        |      |          | TYPE        | [dBuV]     | HOR.       | VER.       |            |            | [QP]        | HOR.       | VER.       |       |  |  |
|     |       | [dBuV]      |             |      |          |             |            | [dBuV/m]   |            |            |            | [dBuV/m]    | [dBuV/m]   | [dB]       |       |  |  |
| VHF |       |             |             |      |          |             |            |            |            |            |            |             |            |            |       |  |  |
| 2   | 101   | 23.7        | 24.5        |      |          | BC          | -9.8       | 13.9       | 14.7       |            |            | 43.5        |            | 29.6       | 28.8  |  |  |
|     | 202   |             |             |      |          | BC          |            |            |            |            |            | 43.5        |            | >15.0      |       |  |  |
|     | 303   |             |             |      |          | LO          |            |            |            |            |            | 46.0        |            |            |       |  |  |
|     | 404   |             |             |      |          | LO          |            |            |            |            |            | 46.0        |            |            |       |  |  |
|     | 505   |             |             |      |          | LO          |            |            |            |            |            | 46.0        |            |            |       |  |  |
|     | 606   |             |             |      |          | LO          |            |            |            |            |            | 46.0        |            |            |       |  |  |
|     | 707   |             |             |      |          | LO          |            |            |            |            |            | 46.0        |            |            |       |  |  |
|     | 808   |             |             |      |          | LO          |            |            |            |            |            | 46.0        |            |            |       |  |  |
|     | 909   |             |             |      |          | LO          |            |            |            |            |            | 46.0        |            |            |       |  |  |
|     |       | READING(PK) | READING(AV) | ANT  | C.Factor | RESULT(PK)  | RESULT(AV) | LIMIT      | LIMIT      | MARGIN(PK) | MARGIN(AV) |             |            |            |       |  |  |
|     |       | HOR. VER.   | HOR. VER.   | TYPE | [dBuV]   | HOR. VER.   | HOR. VER.  | [PK]       | [AV]       | HOR. VER.  | HOR. VER.  |             |            |            |       |  |  |
|     |       | [dBuV]      | [dBuV]      |      |          | [dBuV/m]    | [dBuV/m]   | [dBuV/m]   | [dBuV/m]   | [dB]       | [dB]       | [dB]        |            |            |       |  |  |
|     | 1010  |             |             |      |          | HO          |            |            |            |            |            | 74.0        | 54.0       | >27.0      | >10.0 |  |  |
|     | 1111  |             |             |      |          | HO          |            |            |            |            |            | 74.0        | 54.0       |            |       |  |  |
|     | 1212  |             |             |      |          | HO          |            |            |            |            |            | 74.0        | 54.0       |            |       |  |  |
|     | 1313  |             |             |      |          | HO          |            |            |            |            |            | 74.0        | 54.0       |            |       |  |  |
|     | 1414  |             |             |      |          | HO          |            |            |            |            |            | 74.0        | 54.0       |            |       |  |  |
|     | 1515  |             |             |      |          | HO          |            |            |            |            |            | 74.0        | 54.0       |            |       |  |  |
|     | 1616  | HO          | 74.0        | 54.0 |          |             |            |            |            |            |            |             |            |            |       |  |  |
| CH. | FREQ  | READING(QP) |             |      |          | ANT         | C.Factor   | RESULT(QP) |            |            |            | LIMIT       | MARGIN(QP) |            |       |  |  |
|     | [MHz] | HOR.        | VER.        |      |          | TYPE        | [dBuV]     | HOR.       | VER.       |            |            | [QP]        | HOR.       | VER.       |       |  |  |
|     |       | [dBuV]      |             |      |          |             |            | [dBuV/m]   |            |            |            | [dBuV/m]    | [dBuV/m]   | [dB]       |       |  |  |
| 3   | 107   | 23.6        | 24.5        |      |          | BC          | -8.9       | 14.7       | 15.6       |            |            | 43.5        |            | 28.8       | 27.9  |  |  |
|     | 214   |             |             |      |          | BC          |            |            |            |            |            | 43.5        |            | >15.0      |       |  |  |
|     | 321   |             |             |      |          | LO          |            |            |            |            |            | 46.0        |            |            |       |  |  |
|     | 428   |             |             |      |          | LO          |            |            |            |            |            | 46.0        |            |            |       |  |  |
|     | 535   |             |             |      |          | LO          |            |            |            |            |            | 46.0        |            |            |       |  |  |
|     | 642   |             |             |      |          | LO          |            |            |            |            |            | 46.0        |            |            |       |  |  |
|     | 749   |             |             |      |          | LO          |            |            |            |            |            | 46.0        |            |            |       |  |  |
|     | 856   |             |             |      |          | LO          |            |            |            |            |            | 46.0        |            |            |       |  |  |
|     | 963   |             |             |      |          | LO          |            |            |            |            |            | 54.0        |            |            |       |  |  |
|     |       | READING(PK) | READING(AV) | ANT  | C.Factor | RESULT(PK)  | RESULT(AV) | LIMIT      | LIMIT      | MARGIN(PK) | MARGIN(AV) |             |            |            |       |  |  |
|     |       | HOR. VER.   | HOR. VER.   | TYPE | [dBuV]   | HOR. VER.   | HOR. VER.  | [PK]       | [AV]       | HOR. VER.  | HOR. VER.  |             |            |            |       |  |  |
|     |       | [dBuV]      | [dBuV]      |      |          | [dBuV/m]    | [dBuV/m]   | [dBuV/m]   | [dBuV/m]   | [dB]       | [dB]       | [dB]        |            |            |       |  |  |
|     | 1070  |             |             |      |          | HO          |            |            |            |            |            | 74.0        | 54.0       | >27.0      | >10.0 |  |  |
|     | 1177  |             |             |      |          | HO          |            |            |            |            |            | 74.0        | 54.0       |            |       |  |  |
|     | 1284  |             |             |      |          | HO          |            |            |            |            |            | 74.0        | 54.0       |            |       |  |  |
|     | 1391  |             |             |      |          | HO          |            |            |            |            |            | 74.0        | 54.0       |            |       |  |  |
|     | 1498  |             |             |      |          | HO          |            |            |            |            |            | 74.0        | 54.0       |            |       |  |  |
|     | 1605  |             |             |      |          | HO          |            |            |            |            |            | 74.0        | 54.0       |            |       |  |  |
|     | CH.   | FREQ        | READING(QP) |      |          |             | ANT        | C.Factor   | RESULT(QP) |            |            |             | LIMIT      | MARGIN(QP) |       |  |  |
|     | [MHz] | HOR.        | VER.        |      |          | TYPE        | [dBuV]     | HOR.       | VER.       |            |            | [QP]        | HOR.       | VER.       |       |  |  |
|     |       | [dBuV]      |             |      |          |             |            | [dBuV/m]   |            |            |            | [dBuV/m]    | [dBuV/m]   | [dB]       |       |  |  |
| 4   | 113   | 22.7        | 25.0        |      |          | BC          | -7.9       | 14.8       | 17.1       |            |            | 43.5        |            | 28.7       | 26.4  |  |  |
|     | 226   |             |             |      |          | BC          |            |            |            |            |            | 46.0        |            | >15.0      |       |  |  |
|     | 339   |             |             |      |          | LO          |            |            |            |            |            | 46.0        |            |            |       |  |  |
|     | 452   |             |             |      |          | LO          |            |            |            |            |            | 46.0        |            |            |       |  |  |
|     | 565   |             |             |      |          | LO          |            |            |            |            |            | 46.0        |            |            |       |  |  |
|     | 678   |             |             |      |          | LO          |            |            |            |            |            | 46.0        |            |            |       |  |  |
|     | 791   |             |             |      |          | LO          |            |            |            |            |            | 46.0        |            |            |       |  |  |
|     | 904   |             |             |      |          | LO          |            |            |            |            |            | 46.0        |            |            |       |  |  |
|     |       |             |             |      |          | READING(PK) |            |            |            |            |            | READING(AV) |            |            |       |  |  |
|     |       | HOR. VER.   | HOR. VER.   | TYPE | [dBuV]   | HOR. VER.   | HOR. VER.  | [PK]       | [AV]       | HOR. VER.  | HOR. VER.  |             |            |            |       |  |  |
|     |       | [dBuV]      | [dBuV]      |      |          | [dBuV/m]    | [dBuV/m]   | [dBuV/m]   | [dBuV/m]   | [dB]       | [dB]       | [dB]        |            |            |       |  |  |
|     | 1017  |             |             |      |          | HO          |            |            |            |            |            | 74.0        | 54.0       | >27.0      | >10.0 |  |  |
|     | 1130  |             |             |      |          | HO          |            |            |            |            |            | 74.0        | 54.0       |            |       |  |  |
|     | 1243  |             |             |      |          | HO          |            |            |            |            |            | 74.0        | 54.0       |            |       |  |  |
|     | 1356  |             |             |      |          | HO          |            |            |            |            |            | 74.0        | 54.0       |            |       |  |  |
|     | 1469  |             |             |      |          | HO          |            |            |            |            |            | 74.0        | 54.0       |            |       |  |  |
|     | 1582  |             |             |      |          | HO          |            |            |            |            |            | 74.0        | 54.0       |            |       |  |  |

# DATA OF RADIATION TEST

UL Apex Co., Ltd.  
Yokowa EMC No.3 Open Test Site

COMPANY : Orion Electric Co.,Ltd.  
EQUIPMENT : DVD/VCR  
MODEL No. : DVD2100-CA  
POWER : AC120V/60Hz  
DESCRIPTION : TV Reception + Rec

REPORT No. : 25BE0324-YW-1  
REGULATION : FCC PART15 B  
TEST DISTANCE : 3m  
ATTENUATION : 101-847MHz 6dB  
1030-1694MHz 0dB  
DATE : 2004/10/01  
TEMP./HUMID. : 23deg.C / 50%  
ENGINEER : Tsubasa Takayama

\*C.Factor[dB]=ANT Factor + Cable Loss - Amp Gain

For the measurement above 1GHz, measurement of AV detector is performed only when the result of PK detector exceed the limit of AV.

| CH.  | FREQ  | READING(QP) |      |             |  | ANT  | C.Factor | RESULT(QP) |      |            |  | LIMIT    | MARGIN(QP) |            |            |            |            |
|------|-------|-------------|------|-------------|--|------|----------|------------|------|------------|--|----------|------------|------------|------------|------------|------------|
|      | [MHz] | HOR.        | VER. |             |  | TYPE | [dBuV]   | HOR.       | VER. |            |  | [QP]     |            | HOR.       | VER.       |            |            |
|      |       | [dBuV]      |      |             |  |      |          | [dBuV/m]   |      |            |  | [dBuV/m] |            | [dB]       | [dB]       |            |            |
| VHF  |       |             |      |             |  |      |          |            |      |            |  |          |            |            |            |            |            |
| 5    | 123   | 23.6        | 24.8 |             |  | BC   | -6.5     | 17.1       | 18.3 |            |  | 43.5     |            | 26.4       | 25.2       |            |            |
|      | 246   |             |      |             |  | BC   |          |            |      |            |  | 46.0     |            | >15.0      |            |            |            |
|      | 369   |             |      |             |  | LO   |          |            |      |            |  | 46.0     |            |            |            |            |            |
|      | 492   |             |      |             |  | LO   |          |            |      |            |  | 46.0     |            |            |            |            |            |
|      | 615   |             |      |             |  | LO   |          |            |      |            |  | 46.0     |            |            |            |            |            |
|      | 738   |             |      |             |  | LO   |          |            |      |            |  | 46.0     |            |            |            |            |            |
|      | 861   |             |      |             |  | LO   |          |            |      |            |  | 46.0     |            |            |            |            |            |
|      | 984   |             |      |             |  | LO   |          |            |      |            |  | 54.0     |            |            |            |            |            |
|      |       | READING(PK) |      | READING(AV) |  | ANT  | C.Factor | RESULT(PK) |      | RESULT(AV) |  | LIMIT    | LIMIT      | MARGIN(PK) |            | MARGIN(AV) |            |
|      |       | HOR. VER.   |      | HOR. VER.   |  | TYPE |          | HOR. VER.  |      | HOR. VER.  |  | [PK]     | [AV]       | HOR. VER.  |            | HOR. VER.  |            |
|      |       | [dBuV]      |      | [dBuV]      |  |      | [dBuV]   | [dBuV/m]   |      | [dBuV/m]   |  | [dBuV/m] | [dBuV/m]   | [dB]       |            | [dB]       |            |
|      | 1107  |             |      |             |  | HO   |          |            |      |            |  | 74.0     | 54.0       | >27.0      | >10.0      |            |            |
|      | 1230  |             |      |             |  | HO   |          |            |      |            |  | 74.0     | 54.0       |            |            |            |            |
|      | 1353  |             |      |             |  | HO   |          |            |      |            |  | 74.0     | 54.0       |            |            |            |            |
|      | 1476  |             |      |             |  | HO   |          |            |      |            |  | 74.0     | 54.0       |            |            |            |            |
|      | 1599  |             |      |             |  | HO   |          |            |      |            |  | 74.0     | 54.0       |            |            |            |            |
| CH.  | FREQ  | READING(QP) |      |             |  | ANT  | C.Factor | RESULT(QP) |      |            |  | LIMIT    | MARGIN(QP) |            |            |            |            |
|      | [MHz] | [dBuV]      |      |             |  | TYPE | [dBuV]   | [dBuV/m]   |      |            |  | [dBuV/m] |            | [dB]       | [dB]       |            |            |
| 6    | 129   | 23.4        | 25.0 |             |  | BC   | -6.2     | 17.2       | 18.8 |            |  | 43.5     |            | 26.3       | 24.7       |            |            |
|      | 258   |             |      |             |  | BC   |          |            |      |            |  | 46.0     |            | >15.0      |            |            |            |
|      | 387   |             |      |             |  | LO   |          |            |      |            |  | 46.0     |            |            |            |            |            |
|      | 516   |             |      |             |  | LO   |          |            |      |            |  | 46.0     |            |            |            |            |            |
|      | 645   |             |      |             |  | LO   |          |            |      |            |  | 46.0     |            |            |            |            |            |
|      | 774   |             |      |             |  | LO   |          |            |      |            |  | 46.0     |            |            |            |            |            |
|      | 903   |             |      |             |  | LO   |          |            |      |            |  | 46.0     |            |            |            |            |            |
|      |       | READING(PK) |      | READING(AV) |  | ANT  | C.Factor | RESULT(PK) |      | RESULT(AV) |  | LIMIT    | LIMIT      | MARGIN(PK) |            | MARGIN(AV) |            |
|      |       | HOR. VER.   |      | HOR. VER.   |  | TYPE |          | HOR. VER.  |      | HOR. VER.  |  | [PK]     | [AV]       | HOR. VER.  |            | HOR. VER.  |            |
|      |       | [dBuV]      |      | [dBuV]      |  |      | [dBuV]   | [dBuV/m]   |      | [dBuV/m]   |  | [dBuV/m] | [dBuV/m]   | [dB]       |            | [dB]       |            |
|      | 1032  |             |      |             |  | HO   |          |            |      |            |  | 74.0     | 54.0       | >27.0      | >10.0      |            |            |
|      | 1161  |             |      |             |  | HO   |          |            |      |            |  | 74.0     | 54.0       |            |            |            |            |
|      | 1290  |             |      |             |  | HO   |          |            |      |            |  | 74.0     | 54.0       |            |            |            |            |
|      | 1419  |             |      |             |  | HO   |          |            |      |            |  | 74.0     | 54.0       |            |            |            |            |
|      | 1548  |             |      |             |  | HO   |          |            |      |            |  | 74.0     | 54.0       |            |            |            |            |
|      | 1677  |             |      |             |  | HO   |          |            |      |            |  | 74.0     | 54.0       |            |            |            |            |
| CH.  | FREQ  | READING(QP) |      |             |  | ANT  | C.Factor | RESULT(QP) |      |            |  | LIMIT    | MARGIN(QP) |            |            |            |            |
|      | [MHz] | [dBuV]      |      |             |  | TYPE | [dBuV]   | [dBuV/m]   |      |            |  | [dBuV/m] |            | [dB]       | [dB]       |            |            |
| 7    | 221   | 22.9        | 22.7 |             |  | BC   | -2.1     | 20.8       | 20.6 |            |  | 46.0     |            | 25.2       | 25.4       |            |            |
|      | 442   |             |      |             |  | LO   |          |            |      |            |  | 46.0     |            | >15.0      |            |            |            |
|      | 663   |             |      |             |  | LO   |          |            |      |            |  | 46.0     |            |            |            |            |            |
|      | 884   |             |      |             |  | LO   |          |            |      |            |  | 46.0     |            |            |            |            |            |
|      |       | READING(PK) |      | READING(AV) |  | ANT  | C.Factor | RESULT(PK) |      | RESULT(AV) |  | LIMIT    | LIMIT      |            | MARGIN(PK) |            | MARGIN(AV) |
|      |       | HOR. VER.   |      | HOR. VER.   |  | TYPE |          | HOR. VER.  |      | HOR. VER.  |  | [PK]     | [AV]       | HOR. VER.  |            | HOR. VER.  |            |
|      |       | [dBuV]      |      | [dBuV]      |  |      | [dBuV]   | [dBuV/m]   |      | [dBuV/m]   |  | [dBuV/m] | [dBuV/m]   | [dB]       |            | [dB]       |            |
|      | 1105  |             |      |             |  | HO   |          |            |      |            |  | 74.0     | 54.0       | >27.0      | >10.0      |            |            |
|      | 1326  |             |      |             |  | HO   |          |            |      |            |  | 74.0     | 54.0       |            |            |            |            |
|      | 1547  |             |      |             |  | HO   |          |            |      |            |  | 74.0     | 54.0       |            |            |            |            |
| CH.  | FREQ  | READING(QP) |      |             |  | ANT  | C.Factor | RESULT(QP) |      |            |  | LIMIT    | MARGIN(QP) |            |            |            |            |
|      | [MHz] | [dBuV]      |      |             |  | TYPE | [dBuV]   | [dBuV/m]   |      |            |  | [dBuV/m] |            | [dB]       | [dB]       |            |            |
| 8    | 227   | 23.5        | 22.6 |             |  | BC   | -2.1     | 21.4       | 20.5 |            |  | 46.0     |            | 24.6       | 25.5       |            |            |
|      | 454   |             |      |             |  | LO   |          |            |      |            |  | 46.0     |            | >15.0      |            |            |            |
|      | 681   |             |      |             |  | LO   |          |            |      |            |  | 46.0     |            |            |            |            |            |
|      | 908   |             |      |             |  | LO   |          |            |      |            |  | 46.0     |            |            |            |            |            |
|      |       | READING(PK) |      | READING(AV) |  | ANT  | C.Factor | RESULT(PK) |      | RESULT(AV) |  | LIMIT    | LIMIT      |            | MARGIN(PK) |            | MARGIN(AV) |
|      |       | HOR. VER.   |      | HOR. VER.   |  | TYPE |          | HOR. VER.  |      | HOR. VER.  |  | [PK]     | [AV]       | HOR. VER.  |            | HOR. VER.  |            |
|      |       | [dBuV]      |      | [dBuV]      |  |      | [dBuV]   | [dBuV/m]   |      | [dBuV/m]   |  | [dBuV/m] | [dBuV/m]   | [dB]       |            | [dB]       |            |
|      | 1135  |             |      |             |  | HO   |          |            |      |            |  | 74.0     | 54.0       | >27.0      | >10.0      |            |            |
|      | 1362  |             |      |             |  | HO   |          |            |      |            |  | 74.0     | 54.0       |            |            |            |            |
| 1589 | HO    |             |      |             |  | 74.0 |          |            |      |            |  | 54.0     |            |            |            |            |            |

# DATA OF RADIATION TEST

UL Apex Co., Ltd.  
Yokowa EMC No.3 Open Test Site

COMPANY : Orion Electric Co.,Ltd.  
EQUIPMENT : DVD/VCR  
MODEL No. : DVD2100-CA  
POWER : AC120V/60Hz  
DESCRIPTION : TV Reception + Rec

REPORT No. : 25BE0324-YW-1  
REGULATION : FCC PART15 B  
TEST DISTANCE : 3m  
ATTENUATION : 101-847MHz 6dB  
1030-1694MHz 0dB  
DATE : 2004/10/01  
TEMP./HUMID. : 23deg.C / 50%  
ENGINEER : Tsubasa Takayama

\*C.Factor[dB]=ANT Factor + Cable Loss - Amp Gain

For the measurement above 1GHz, measurement of AV detector is performed only when the result of PK detector exceed the limit of AV.

| CH. | FREQ  | READING(QP) | VER.        | ANT  | C.Factor | RESULT(QP) | VER.       | LIMIT    | MARGIN(QP) | VER.       |            |
|-----|-------|-------------|-------------|------|----------|------------|------------|----------|------------|------------|------------|
|     | [MHz] | [dBuV]      |             | TYPE | [dBuV]   | [dBuV/m]   |            | [QP]     | [dB]       | [dB]       |            |
| VHF |       |             |             |      |          |            |            |          |            |            |            |
| 9   | 233   | 23.6        | 23.9        | BC   | -1.9     | 21.7       | 22.0       | 46.0     | 24.3       | 24.0       |            |
|     | 466   |             |             | LO   |          |            |            | 46.0     |            |            |            |
|     | 699   |             |             | LO   |          |            |            | 46.0     |            |            |            |
|     | 932   |             |             | LO   |          |            |            | 46.0     |            |            |            |
|     |       | READING(PK) | READING(AV) | ANT  | C.Factor | RESULT(PK) | RESULT(AV) | LIMIT    | LIMIT      | MARGIN(PK) | MARGIN(AV) |
|     |       | HOR. VER.   | HOR. VER.   | TYPE | [dBuV]   | HOR. VER.  | HOR. VER.  | [PK]     | [AV]       | HOR. VER.  | HOR. VER.  |
|     |       | [dBuV]      | [dBuV]      |      |          | [dBuV/m]   | [dBuV/m]   | [dBuV/m] | [dBuV/m]   | [dB]       | [dB]       |
|     | 1165  |             |             | HO   |          |            |            | 74.0     | 54.0       |            |            |
|     | 1398  |             |             | HO   |          |            |            | 74.0     | 54.0       |            |            |
|     | 1631  |             |             | HO   |          |            |            | 74.0     | 54.0       |            |            |
| 10  | 239   | 23.7        | 23.3        | BC   | -1.7     | 22.0       | 21.6       | 46.0     | 24.0       | 24.4       |            |
|     | 478   |             |             | LO   |          |            |            | 46.0     |            |            |            |
|     | 717   |             |             | LO   |          |            |            | 46.0     |            |            |            |
|     | 956   |             |             | LO   |          |            |            | 46.0     |            |            |            |
|     |       | READING(PK) | READING(AV) | ANT  | C.Factor | RESULT(PK) | RESULT(AV) | LIMIT    | LIMIT      | MARGIN(PK) | MARGIN(AV) |
|     |       | HOR. VER.   | HOR. VER.   | TYPE | [dBuV]   | HOR. VER.  | HOR. VER.  | [PK]     | [AV]       | HOR. VER.  | HOR. VER.  |
|     |       | [dBuV]      | [dBuV]      |      |          | [dBuV/m]   | [dBuV/m]   | [dBuV/m] | [dBuV/m]   | [dB]       | [dB]       |
|     | 1195  |             |             | HO   |          |            |            | 74.0     | 54.0       |            |            |
|     | 1434  |             |             | HO   |          |            |            | 74.0     | 54.0       |            |            |
|     | 1673  |             |             | HO   |          |            |            | 74.0     | 54.0       |            |            |
| 11  | 245   | 23.4        | 23.2        | BC   | -1.6     | 21.8       | 21.6       | 46.0     | 24.2       | 24.4       |            |
|     | 490   |             |             | LO   |          |            |            | 46.0     |            |            |            |
|     | 735   |             |             | LO   |          |            |            | 46.0     |            |            |            |
|     | 980   |             |             | LO   |          |            |            | 54.0     |            |            |            |
|     |       | READING(PK) | READING(AV) | ANT  | C.Factor | RESULT(PK) | RESULT(AV) | LIMIT    | LIMIT      | MARGIN(PK) | MARGIN(AV) |
|     |       | HOR. VER.   | HOR. VER.   | TYPE | [dBuV]   | HOR. VER.  | HOR. VER.  | [PK]     | [AV]       | HOR. VER.  | HOR. VER.  |
|     |       | [dBuV]      | [dBuV]      |      |          | [dBuV/m]   | [dBuV/m]   | [dBuV/m] | [dBuV/m]   | [dB]       | [dB]       |
|     | 1225  |             |             | HO   |          |            |            | 74.0     | 54.0       |            |            |
|     | 1470  |             |             | HO   |          |            |            | 74.0     | 54.0       |            |            |
|     |       |             |             |      |          |            |            |          |            |            |            |
| 12  | 251   | 23.0        | 23.4        | BC   | -1.4     | 21.6       | 22.0       | 46.0     | 24.4       | 24.0       |            |
|     | 502   |             |             | LO   |          |            |            | 46.0     |            |            |            |
|     | 753   |             |             | LO   |          |            |            | 46.0     |            |            |            |
|     |       | READING(PK) | READING(AV) | ANT  | C.Factor | RESULT(PK) | RESULT(AV) | LIMIT    | LIMIT      | MARGIN(PK) | MARGIN(AV) |
|     |       | HOR. VER.   | HOR. VER.   | TYPE | [dBuV]   | HOR. VER.  | HOR. VER.  | [PK]     | [AV]       | HOR. VER.  | HOR. VER.  |
|     |       | [dBuV]      | [dBuV]      |      |          | [dBuV/m]   | [dBuV/m]   | [dBuV/m] | [dBuV/m]   | [dB]       | [dB]       |
|     | 1004  |             |             | HO   |          |            |            | 74.0     | 54.0       |            |            |
|     | 1255  |             |             | HO   |          |            |            | 74.0     | 54.0       |            |            |
|     | 1506  |             |             | HO   |          |            |            | 74.0     | 54.0       |            |            |
|     |       |             |             |      |          |            |            |          |            |            |            |
| 13  | 257   | 22.9        | 23.4        | BC   | -1.0     | 21.9       | 22.4       | 46.0     | 24.1       | 23.6       |            |
|     | 514   |             |             | LO   |          |            |            | 46.0     |            |            |            |
|     | 771   |             |             | LO   |          |            |            | 46.0     |            |            |            |
|     |       | READING(PK) | READING(AV) | ANT  | C.Factor | RESULT(PK) | RESULT(AV) | LIMIT    | LIMIT      | MARGIN(PK) | MARGIN(AV) |
|     |       | HOR. VER.   | HOR. VER.   | TYPE | [dBuV]   | HOR. VER.  | HOR. VER.  | [PK]     | [AV]       | HOR. VER.  | HOR. VER.  |
|     |       | [dBuV]      | [dBuV]      |      |          | [dBuV/m]   | [dBuV/m]   | [dBuV/m] | [dBuV/m]   | [dB]       | [dB]       |
|     | 1028  |             |             | HO   |          |            |            | 74.0     | 54.0       |            |            |
|     | 1285  |             |             | HO   |          |            |            | 74.0     | 54.0       |            |            |
|     | 1542  |             |             | HO   |          |            |            | 74.0     | 54.0       |            |            |
|     |       |             |             |      |          |            |            |          |            |            |            |

# DATA OF RADIATION TEST

UL Apex Co., Ltd.  
Yokowa EMC No.3 Open Test Site

COMPANY : Orion Electric Co.,Ltd.  
EQUIPMENT : DVD/VCR  
MODEL No. : DVD2100-CA  
POWER : AC120V/60Hz  
DESCRIPTION : TV Reception + Rec

REPORT No. : 25BE0324-YW-1  
REGULATION : FCC PART15 B  
TEST DISTANCE : 3m  
ATTENUATION : 101-847MHz 6dB  
1030-1694MHz 0dB  
DATE : 2004/10/01  
TEMP/HUMID. : 23deg.C / 50%  
ENGINEER : Tsubasa Takayama

\*C.Factor[dB]=ANT Factor + Cable Loss - Amp Gain

For the measurement above 1GHz, measurement of AV detector is performed only when the result of PK detector exceed the limit of AV.

| CH. | FREQ<br>[MHz] | READING(QP)<br>HOR. VER.<br>[dBuV] |                                    | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(QP)<br>HOR. VER.<br>[dBuV/m] |                                     | LIMIT<br>[QP]<br>[dBuV/m] |                           | MARGIN(QP)<br>HOR. VER.<br>[dB] |                                 |
|-----|---------------|------------------------------------|------------------------------------|-------------|--------------------|-------------------------------------|-------------------------------------|---------------------------|---------------------------|---------------------------------|---------------------------------|
| UHF |               |                                    |                                    |             |                    |                                     |                                     |                           |                           |                                 |                                 |
| 14  | 517           | 23.5                               | 25.4                               |             | LO                 | 3.2                                 | 26.7                                | 28.6                      |                           | 46.0                            |                                 |
|     |               | READING(PK)<br>HOR. VER.<br>[dBuV] | READING(AV)<br>HOR. VER.<br>[dBuV] | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(PK)<br>HOR. VER.<br>[dBuV/m] | RESULT(AV)<br>HOR. VER.<br>[dBuV/m] | LIMIT<br>[PK]<br>[dBuV/m] | LIMIT<br>[AV]<br>[dBuV/m] | MARGIN(PK)<br>HOR. VER.<br>[dB] | MARGIN(AV)<br>HOR. VER.<br>[dB] |
|     | 1034          |                                    |                                    | HO          | -11.7              |                                     |                                     | 74.0                      | 54.0                      | >27.0                           | >10.0                           |
|     | 1551          |                                    |                                    | HO          | -7.5               |                                     |                                     | 74.0                      | 54.0                      |                                 |                                 |
| CH. | FREQ<br>[MHz] | READING(QP)<br>HOR. VER.<br>[dBuV] |                                    | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(QP)<br>HOR. VER.<br>[dBuV/m] |                                     | LIMIT<br>[QP]<br>[dBuV/m] |                           | MARGIN(QP)<br>HOR. VER.<br>[dB] |                                 |
| 19  | 547           | 22.7                               | 25.2                               |             | LO                 | 3.5                                 | 26.2                                | 28.7                      |                           | 46.0                            |                                 |
|     |               | READING(PK)<br>HOR. VER.<br>[dBuV] | READING(AV)<br>HOR. VER.<br>[dBuV] | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(PK)<br>HOR. VER.<br>[dBuV/m] | RESULT(AV)<br>HOR. VER.<br>[dBuV/m] | LIMIT<br>[PK]<br>[dBuV/m] | LIMIT<br>[AV]<br>[dBuV/m] | MARGIN(PK)<br>HOR. VER.<br>[dB] | MARGIN(AV)<br>HOR. VER.<br>[dB] |
|     | 1094          |                                    |                                    | HO          | -11.3              |                                     |                                     | 74.0                      | 54.0                      | >27.0                           | >10.0                           |
|     | 1641          |                                    |                                    | HO          | -5.8               |                                     |                                     | 74.0                      | 54.0                      |                                 |                                 |
| CH. | FREQ<br>[MHz] | READING(QP)<br>HOR. VER.<br>[dBuV] |                                    | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(QP)<br>HOR. VER.<br>[dBuV/m] |                                     | LIMIT<br>[QP]<br>[dBuV/m] |                           | MARGIN(QP)<br>HOR. VER.<br>[dB] |                                 |
| 28  | 601           | 22.4                               | 25.5                               |             | LO                 | 4.4                                 | 26.8                                | 29.9                      |                           | 46.0                            |                                 |
|     |               | READING(PK)<br>HOR. VER.<br>[dBuV] | READING(AV)<br>HOR. VER.<br>[dBuV] | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(PK)<br>HOR. VER.<br>[dBuV/m] | RESULT(AV)<br>HOR. VER.<br>[dBuV/m] | LIMIT<br>[PK]<br>[dBuV/m] | LIMIT<br>[AV]<br>[dBuV/m] | MARGIN(PK)<br>HOR. VER.<br>[dB] | MARGIN(AV)<br>HOR. VER.<br>[dB] |
|     | 1202          |                                    |                                    | HO          | -10.6              |                                     |                                     | 74.0                      | 54.0                      | >27.0                           | >10.0                           |
| CH. | FREQ<br>[MHz] | READING(QP)<br>HOR. VER.<br>[dBuV] |                                    | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(QP)<br>HOR. VER.<br>[dBuV/m] |                                     | LIMIT<br>[QP]<br>[dBuV/m] |                           | MARGIN(QP)<br>HOR. VER.<br>[dB] |                                 |
| 36  | 649           | 23.0                               | 24.5                               |             | LO                 | 5.2                                 | 28.2                                | 29.7                      |                           | 46.0                            |                                 |
|     |               | READING(PK)<br>HOR. VER.<br>[dBuV] | READING(AV)<br>HOR. VER.<br>[dBuV] | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(PK)<br>HOR. VER.<br>[dBuV/m] | RESULT(AV)<br>HOR. VER.<br>[dBuV/m] | LIMIT<br>[PK]<br>[dBuV/m] | LIMIT<br>[AV]<br>[dBuV/m] | MARGIN(PK)<br>HOR. VER.<br>[dB] | MARGIN(AV)<br>HOR. VER.<br>[dB] |
|     | 1298          |                                    |                                    | HO          | -9.8               |                                     |                                     | 74.0                      | 54.0                      | >27.0                           | >10.0                           |
| CH. | FREQ<br>[MHz] | READING(QP)<br>HOR. VER.<br>[dBuV] |                                    | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(QP)<br>HOR. VER.<br>[dBuV/m] |                                     | LIMIT<br>[QP]<br>[dBuV/m] |                           | MARGIN(QP)<br>HOR. VER.<br>[dB] |                                 |
| 44  | 697           | 23.1                               | 23.8                               |             | LO                 | 5.9                                 | 29.0                                | 29.7                      |                           | 46.0                            |                                 |
|     |               | READING(PK)<br>HOR. VER.<br>[dBuV] | READING(AV)<br>HOR. VER.<br>[dBuV] | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(PK)<br>HOR. VER.<br>[dBuV/m] | RESULT(AV)<br>HOR. VER.<br>[dBuV/m] | LIMIT<br>[PK]<br>[dBuV/m] | LIMIT<br>[AV]<br>[dBuV/m] | MARGIN(PK)<br>HOR. VER.<br>[dB] | MARGIN(AV)<br>HOR. VER.<br>[dB] |
|     | 1394          |                                    |                                    | HO          | -9.1               |                                     |                                     | 74.0                      | 54.0                      | >27.0                           | >10.0                           |
| CH. | FREQ<br>[MHz] | READING(QP)<br>HOR. VER.<br>[dBuV] |                                    | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(QP)<br>HOR. VER.<br>[dBuV/m] |                                     | LIMIT<br>[QP]<br>[dBuV/m] |                           | MARGIN(QP)<br>HOR. VER.<br>[dB] |                                 |
| 53  | 751           | 23.5                               | 24.9                               |             | LO                 | 7.6                                 | 31.1                                | 32.5                      |                           | 46.0                            |                                 |
|     |               | READING(PK)<br>HOR. VER.<br>[dBuV] | READING(AV)<br>HOR. VER.<br>[dBuV] | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(PK)<br>HOR. VER.<br>[dBuV/m] | RESULT(AV)<br>HOR. VER.<br>[dBuV/m] | LIMIT<br>[PK]<br>[dBuV/m] | LIMIT<br>[AV]<br>[dBuV/m] | MARGIN(PK)<br>HOR. VER.<br>[dB] | MARGIN(AV)<br>HOR. VER.<br>[dB] |
|     | 1502          |                                    |                                    | HO          | -8.4               |                                     |                                     | 74.0                      | 54.0                      | >27.0                           | >10.0                           |
| CH. | FREQ<br>[MHz] | READING(QP)<br>HOR. VER.<br>[dBuV] |                                    | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(QP)<br>HOR. VER.<br>[dBuV/m] |                                     | LIMIT<br>[QP]<br>[dBuV/m] |                           | MARGIN(QP)<br>HOR. VER.<br>[dB] |                                 |
| 61  | 799           | 23.6                               | 25.0                               |             | LO                 | 9.2                                 | 32.8                                | 34.2                      |                           | 46.0                            |                                 |
|     |               | READING(PK)<br>HOR. VER.<br>[dBuV] | READING(AV)<br>HOR. VER.<br>[dBuV] | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(PK)<br>HOR. VER.<br>[dBuV/m] | RESULT(AV)<br>HOR. VER.<br>[dBuV/m] | LIMIT<br>[PK]<br>[dBuV/m] | LIMIT<br>[AV]<br>[dBuV/m] | MARGIN(PK)<br>HOR. VER.<br>[dB] | MARGIN(AV)<br>HOR. VER.<br>[dB] |
|     | 1598          |                                    |                                    | HO          | -6.6               |                                     |                                     | 74.0                      | 54.0                      | >27.0                           | >10.0                           |
| CH. | FREQ<br>[MHz] | READING(QP)<br>HOR. VER.<br>[dBuV] |                                    | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(QP)<br>HOR. VER.<br>[dBuV/m] |                                     | LIMIT<br>[QP]<br>[dBuV/m] |                           | MARGIN(QP)<br>HOR. VER.<br>[dB] |                                 |
| 69  | 847           | 23.5                               | 25.7                               |             | LO                 | 9.6                                 | 33.1                                | 35.3                      |                           | 46.0                            |                                 |
|     |               | READING(PK)<br>HOR. VER.<br>[dBuV] | READING(AV)<br>HOR. VER.<br>[dBuV] | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(PK)<br>HOR. VER.<br>[dBuV/m] | RESULT(AV)<br>HOR. VER.<br>[dBuV/m] | LIMIT<br>[PK]<br>[dBuV/m] | LIMIT<br>[AV]<br>[dBuV/m] | MARGIN(PK)<br>HOR. VER.<br>[dB] | MARGIN(AV)<br>HOR. VER.<br>[dB] |
|     | 1694          |                                    |                                    | HO          | -4.9               |                                     |                                     | 74.0                      | 54.0                      | >27.0                           | >10.0                           |

# DATA OF RADIATION TEST

UL Apex Co., Ltd.  
Yokowa EMC No.3 Open Test Site

COMPANY : Orion Electric Co.,Ltd.  
EQUIPMENT : DVD/VCR  
MODEL No. : DVD2100-CA  
POWER : AC120V/60Hz  
DESCRIPTION : TV Reception + Rec

REPORT No. : 25BE0324-YW-1  
REGULATION : FCC PART15 B  
TEST DISTANCE : 3m  
ATTENUATION : 101-847MHz 6dB  
1030-1694MHz 0dB  
DATE : 2004/10/01  
TEMP./HUMID. : 23deg.C / 50%  
ENGINEER : Tsubasa Takayama

\*C.Factor[dB]=ANT Factor + Cable Loss - Amp Gain

For the measurement above 1GHz, measurement of AV detector is performed only when the result of PK detector exceed the limit of AV.

| CH.  | FREQ  | READING(QP) |             |              | ANT    | C.Factor | RESULT(QP) |            |          | LIMIT    |            | MARGIN(QP) |            |       |
|------|-------|-------------|-------------|--------------|--------|----------|------------|------------|----------|----------|------------|------------|------------|-------|
|      | [MHz] | HOR.        | VER.        |              | TYPE   | [dBuV]   | HOR.       | VER.       |          | [QP]     |            | HOR.       | VER.       |       |
|      |       | [dBuV]      |             |              |        |          | [dBuV/m]   |            |          | [dBuV/m] |            | [dB]       | [dB]       |       |
| CATV |       |             |             |              |        |          |            |            |          |          |            |            |            |       |
| 1    | 119   | 24.1        | 25.3        |              | BC     | -7.0     | 17.1       | 18.3       |          | 43.5     |            | 26.4       | 25.2       |       |
|      | 238   |             |             |              | BC     |          |            |            |          | 46.0     |            | >15.0      |            |       |
|      | 357   |             |             |              | LO     |          |            |            |          | 46.0     |            |            |            |       |
|      | 476   |             |             |              | LO     |          |            |            |          | 46.0     |            |            |            |       |
|      | 595   |             |             |              | LO     |          |            |            |          | 46.0     |            |            |            |       |
|      | 714   |             |             |              | LO     |          |            |            |          | 46.0     |            |            |            |       |
|      | 833   |             |             |              | LO     |          |            |            |          | 46.0     |            |            |            |       |
|      | 952   |             | LO          |              | 46.0   |          |            |            |          |          |            |            |            |       |
|      |       | READING(PK) |             | READINNG(AV) | ANT    | C.Factor | RESULT(PK) | RESULT(AV) | LIMIT    | LIMIT    | MARGIN(PK) | MARGIN(AV) |            |       |
|      |       | HOR. VER.   | HOR. VER.   | TYPE         | [dBuV] | [dBuV/m] | [dBuV/m]   | [dBuV/m]   | [dBuV/m] | [dBuV/m] | HOR. VER.  | HOR. VER.  |            |       |
|      |       | [dBuV]      | [dBuV]      |              |        |          |            |            |          |          | [dB]       | [dB]       | [dB]       | [dB]  |
|      | 1071  |             |             | HO           |        |          |            |            | 74.0     | 54.0     | >27.0      | >10.0      |            |       |
|      | 1190  |             |             | HO           |        |          |            |            | 74.0     | 54.0     |            |            |            |       |
|      | 1309  |             |             | HO           |        |          |            |            | 74.0     | 54.0     |            |            |            |       |
|      | 1428  |             |             | HO           |        |          |            |            | 74.0     | 54.0     |            |            |            |       |
| 1547 | HO    |             |             | 74.0         |        |          |            |            | 54.0     |          |            |            |            |       |
| 1666 | HO    |             |             | 74.0         |        |          |            |            | 54.0     |          |            |            |            |       |
| CH.  | FREQ  | READING(QP) |             |              | ANT    | C.Factor | RESULT(QP) |            |          | LIMIT    |            | MARGIN(QP) |            |       |
|      | [MHz] | HOR.        | VER.        |              | TYPE   | [dBuV]   | HOR.       | VER.       |          | [QP]     |            | HOR.       | VER.       |       |
|      |       | [dBuV]      |             |              |        |          | [dBuV/m]   |            |          | [dBuV/m] |            | [dB]       | [dB]       |       |
| 95   | 137   | 22.7        | 23.0        |              | BC     | -5.5     | 17.2       | 17.5       |          | 43.5     |            | 26.3       | 26.0       |       |
|      | 274   |             |             |              | BC     |          |            |            |          | 46.0     |            | >15.0      |            |       |
|      | 411   |             |             |              | LO     |          |            |            |          | 46.0     |            |            |            |       |
|      | 548   |             |             |              | LO     |          |            |            |          | 46.0     |            |            |            |       |
|      | 685   |             |             |              | LO     |          |            |            |          | 46.0     |            |            |            |       |
|      | 822   |             |             |              | LO     |          |            |            |          | 46.0     |            |            |            |       |
|      | 959   |             |             |              | LO     |          |            |            |          | 46.0     |            |            |            |       |
|      |       | READING(PK) |             | READINNG(AV) | ANT    | C.Factor | RESULT(PK) | RESULT(AV) | LIMIT    | LIMIT    | MARGIN(PK) | MARGIN(AV) |            |       |
|      |       | HOR. VER.   | HOR. VER.   | TYPE         | [dBuV] | [dBuV/m] | [dBuV/m]   | [dBuV/m]   | [dBuV/m] | [dBuV/m] | HOR. VER.  | HOR. VER.  |            |       |
|      |       | [dBuV]      | [dBuV]      |              |        |          |            |            |          |          | [dB]       | [dB]       | [dB]       | [dB]  |
|      | 1096  |             |             | HO           |        |          |            |            | 74.0     | 54.0     | >27.0      | >10.0      |            |       |
|      | 1233  |             |             | HO           |        |          |            |            | 74.0     | 54.0     |            |            |            |       |
|      | 1370  |             |             | HO           |        |          |            |            | 74.0     | 54.0     |            |            |            |       |
|      | 1507  |             |             | HO           |        |          |            |            | 74.0     | 54.0     |            |            |            |       |
|      | 1644  |             |             | HO           |        |          |            |            | 74.0     | 54.0     |            |            |            |       |
| CH.  | FREQ  | READING(QP) |             |              | ANT    | C.Factor | RESULT(QP) |            |          | LIMIT    |            | MARGIN(QP) |            |       |
|      | [MHz] | HOR.        | VER.        |              | TYPE   | [dBuV]   | HOR.       | VER.       |          | [QP]     |            | HOR.       | VER.       |       |
|      |       | [dBuV]      |             |              |        |          | [dBuV/m]   |            |          | [dBuV/m] |            | [dB]       | [dB]       |       |
| 97   | 149   | 21.9        | 22.5        |              | BC     | -4.8     | 17.1       | 17.7       |          | 43.5     |            | 26.4       | 25.8       |       |
|      | 298   |             |             |              | BC     |          |            |            |          | 46.0     |            | >15.0      |            |       |
|      | 447   |             |             |              | LO     |          |            |            |          | 46.0     |            |            |            |       |
|      | 596   |             |             |              | LO     |          |            |            |          | 46.0     |            |            |            |       |
|      | 745   |             |             |              | LO     |          |            |            |          | 46.0     |            |            |            |       |
|      | 894   |             |             |              | LO     |          |            |            |          | 46.0     |            |            |            |       |
|      |       | READING(PK) |             | READINNG(AV) | ANT    | C.Factor | RESULT(PK) | RESULT(AV) | LIMIT    | LIMIT    | MARGIN(PK) | MARGIN(AV) |            |       |
|      |       | HOR. VER.   | HOR. VER.   | TYPE         | [dBuV] | [dBuV/m] | [dBuV/m]   | [dBuV/m]   | [dBuV/m] | [dBuV/m] | HOR. VER.  | HOR. VER.  |            |       |
|      |       | [dBuV]      | [dBuV]      |              |        |          |            |            |          |          | [dB]       | [dB]       | [dB]       | [dB]  |
|      | 1043  |             |             | HO           |        |          |            |            | -        | -        | 74.0       | 54.0       | >27.0      | >10.0 |
|      | 1192  |             |             | HO           |        |          |            |            | -        | -        | 74.0       | 54.0       |            |       |
|      | 1341  |             |             | HO           |        |          |            |            | -        | -        | 74.0       | 54.0       |            |       |
|      | 1490  |             |             | HO           |        |          |            |            | -        | -        | 74.0       | 54.0       |            |       |
|      | 1639  |             |             | HO           |        |          |            |            | -        | -        | 74.0       | 54.0       |            |       |
|      | CH.   | FREQ        | READING(QP) |              |        | ANT      | C.Factor   | RESULT(QP) |          |          | LIMIT      |            | MARGIN(QP) |       |
|      | [MHz] | HOR.        | VER.        |              | TYPE   | [dBuV]   | HOR.       | VER.       |          | [QP]     |            | HOR.       | VER.       |       |
|      |       | [dBuV]      |             |              |        |          | [dBuV/m]   |            |          | [dBuV/m] |            | [dB]       | [dB]       |       |
| 99   | 161   | 22.1        | 22.3        |              | BC     | -4.2     | 17.9       | 18.1       |          | 43.5     |            | 25.6       | 25.4       |       |
|      | 322   |             |             |              | LO     |          |            |            |          | 46.0     |            | >15.0      |            |       |
|      | 483   |             |             |              | LO     |          |            |            |          | 46.0     |            |            |            |       |
|      | 644   |             |             |              | LO     |          |            |            |          | 46.0     |            |            |            |       |
|      | 805   |             |             |              | LO     |          |            |            |          | 46.0     |            |            |            |       |
|      | 966   |             |             |              | LO     |          |            |            |          | 46.0     |            |            |            |       |
|      |       | READING(PK) |             | READINNG(AV) | ANT    | C.Factor | RESULT(PK) | RESULT(AV) | LIMIT    | LIMIT    | MARGIN(PK) | MARGIN(AV) |            |       |
|      |       | HOR. VER.   | HOR. VER.   | TYPE         | [dBuV] | [dBuV/m] | [dBuV/m]   | [dBuV/m]   | [dBuV/m] | [dBuV/m] | HOR. VER.  | HOR. VER.  |            |       |
|      |       | [dBuV]      | [dBuV]      |              |        |          |            |            |          |          | [dB]       | [dB]       | [dB]       | [dB]  |
|      | 1127  |             |             | HO           |        |          |            |            | 74.0     | 54.0     | >27.0      | >10.0      |            |       |
|      | 1288  |             |             | HO           |        |          |            |            | 74.0     | 54.0     |            |            |            |       |
|      | 1449  |             |             | HO           |        |          |            |            | 74.0     | 54.0     |            |            |            |       |
|      | 1610  |             |             | HO           |        |          |            |            | 74.0     | 54.0     |            |            |            |       |



# DATA OF RADIATION TEST

UL Apex Co., Ltd.  
Yokowa EMC No.3 Open Test Site

COMPANY : Orion Electric Co.,Ltd.  
EQUIPMENT : DVD/VCR  
MODEL No. : DVD2100-CA  
POWER : AC120V/60Hz  
DESCRIPTION : TV Reception + Rec

REPORT No. : 25BE0324-YW-1  
REGULATION : FCC PART15 B  
TEST DISTANCE : 3m  
ATTENUATION : 101-847MHz 6dB  
1030-1694MHz 0dB  
DATE : 2004/10/01  
TEMP./HUMID. : 23deg.C / 50%  
ENGINEER : Tsubasa Takayama

\*C.Factor[dB]=ANT Factor + Cable Loss - Amp Gain

For the measurement above 1GHz, measurement of AV detector is performed only when the result of PK detector exceed the limit of AV.

| CH.  | FREQ  | READING(QP) |      |                 |      | ANT  | C.Factor | RESULT(QP) |            |          |       | LIMIT      | MARGIN(QP) |       |      |       |      |
|------|-------|-------------|------|-----------------|------|------|----------|------------|------------|----------|-------|------------|------------|-------|------|-------|------|
|      | [MHz] | HOR.        | VER. |                 |      | TYPE | [dBuV]   | HOR.       | VER.       |          |       | [QP]       | HOR.       | VER.  |      |       |      |
|      |       | [dBuV]      |      |                 |      |      |          | [dBuV/m]   |            |          |       | [dBuV/m]   |            | [dB]  | [dB] |       |      |
| CATV |       |             |      |                 |      |      |          |            |            |          |       |            |            |       |      |       |      |
| 14   | 167   | 22.3        | 22.3 |                 |      | BC   | -3.8     | 18.5       | 18.5       |          |       | 43.5       |            | 25.0  | 25.0 |       |      |
|      | 334   |             |      |                 |      | LO   |          |            |            |          |       | 46.0       |            | >15.0 |      |       |      |
|      | 501   |             |      |                 |      | LO   |          |            |            |          |       | 46.0       |            |       |      |       |      |
|      | 668   |             |      |                 |      | LO   |          |            |            |          |       | 46.0       |            |       |      |       |      |
|      | 835   |             |      |                 |      | LO   |          |            |            |          |       | 46.0       |            |       |      |       |      |
|      |       | READING(PK) | VER. | READING(NNG(AV) | VER. | ANT  | C.Factor | RESULT(PK) | RESULT(AV) | LIMIT    | LIMIT | MARGIN(PK) | MARGIN(AV) |       |      |       |      |
|      |       | HOR.        |      | HOR.            |      | TYPE | [dBuV]   | HOR.       | VER.       | HOR.     | VER.  | HOR.       | VER.       |       |      |       |      |
|      |       | [dBuV]      |      | [dBuV]          |      |      |          | [dBuV/m]   |            | [dBuV/m] |       | [PK]       | [AV]       | [dB]  | [dB] | [dB]  | [dB] |
|      | 1002  |             |      |                 |      | HO   |          |            |            |          |       | 74.0       | 54.0       | >27.0 |      | >10.0 |      |
|      | 1169  |             |      |                 |      | HO   |          |            |            |          |       | 74.0       | 54.0       |       |      |       |      |
| 1336 | HO    |             |      |                 |      |      | 74.0     |            |            |          |       | 54.0       |            |       |      |       |      |
| 1503 | HO    |             |      |                 |      |      | 74.0     |            |            |          |       | 54.0       |            |       |      |       |      |
| 1670 | HO    |             |      |                 |      |      | 74.0     |            |            |          |       | 54.0       |            |       |      |       |      |
| CH.  | FREQ  | READING(QP) |      |                 |      | ANT  | C.Factor | RESULT(QP) |            |          |       | LIMIT      | MARGIN(QP) |       |      |       |      |
|      | [MHz] | HOR.        | VER. |                 |      | TYPE | [dBuV]   | HOR.       | VER.       |          |       | [QP]       | HOR.       | VER.  |      |       |      |
|      |       | [dBuV]      |      |                 |      |      |          | [dBuV/m]   |            |          |       | [dBuV/m]   |            | [dB]  | [dB] |       |      |
| 18   | 191   | 22.4        | 22.8 |                 |      | BC   | -2.8     | 19.6       | 20.0       |          |       | 43.5       |            | 23.9  | 23.5 |       |      |
|      | 382   |             |      |                 |      | LO   |          |            |            |          |       | 46.0       |            | >15.0 |      |       |      |
|      | 573   |             |      |                 |      | LO   |          |            |            |          |       | 46.0       |            |       |      |       |      |
|      | 764   |             |      |                 |      | LO   |          |            |            |          |       | 46.0       |            |       |      |       |      |
|      | 955   |             |      |                 |      | LO   |          |            |            |          |       | 46.0       |            |       |      |       |      |
|      |       | READING(PK) | VER. | READING(NNG(AV) | VER. | ANT  | C.Factor | RESULT(PK) | RESULT(AV) | LIMIT    | LIMIT | MARGIN(PK) | MARGIN(AV) |       |      |       |      |
|      |       | HOR.        |      | HOR.            |      | TYPE | [dBuV]   | HOR.       | VER.       | HOR.     | VER.  | HOR.       | VER.       |       |      |       |      |
|      |       | [dBuV]      |      | [dBuV]          |      |      |          | [dBuV/m]   |            | [dBuV/m] |       | [PK]       | [AV]       | [dB]  | [dB] | [dB]  | [dB] |
|      | 1146  |             |      |                 |      | HO   |          |            |            |          |       | 74.0       | 54.0       | >27.0 |      | >10.0 |      |
|      | 1337  |             |      |                 |      | HO   |          |            |            |          |       | 74.0       | 54.0       |       |      |       |      |
| 1528 | HO    |             |      |                 |      |      | 74.0     |            |            |          |       | 54.0       |            |       |      |       |      |
|      | HO    |             |      |                 |      |      | 74.0     |            |            |          |       | 54.0       |            |       |      |       |      |
| CH.  | FREQ  | READING(QP) |      |                 |      | ANT  | C.Factor | RESULT(QP) |            |          |       | LIMIT      | MARGIN(QP) |       |      |       |      |
|      | [MHz] | HOR.        | VER. |                 |      | TYPE | [dBuV]   | HOR.       | VER.       |          |       | [QP]       | HOR.       | VER.  |      |       |      |
|      |       | [dBuV]      |      |                 |      |      |          | [dBuV/m]   |            |          |       | [dBuV/m]   |            | [dB]  |      |       |      |
| 22   | 215   | 23.7        | 23.7 |                 |      | BC   | -2.4     | 21.3       | 21.3       |          |       | 43.5       |            | 22.2  | 22.2 |       |      |
|      | 430   |             |      |                 |      | LO   |          |            |            |          |       | 46.0       |            | >15.0 |      |       |      |
|      | 645   |             |      |                 |      | LO   |          |            |            |          |       | 46.0       |            |       |      |       |      |
|      | 860   |             |      |                 |      | LO   |          |            |            |          |       | 46.0       |            |       |      |       |      |
|      |       | READING(PK) | VER. | READING(AV)     | VER. | ANT  | C.Factor | RESULT(PK) | RESULT(AV) | LIMIT    | LIMIT | MARGIN(PK) | MARGIN(AV) |       |      |       |      |
|      |       | HOR.        |      | HOR.            |      | TYPE | [dBuV]   | HOR.       | VER.       | HOR.     | VER.  | HOR.       | VER.       |       |      |       |      |
|      |       | [dBuV]      |      | [dBuV]          |      |      |          | [dBuV/m]   |            | [dBuV/m] |       | [PK]       | [AV]       | [dB]  | [dB] | [dB]  | [dB] |
|      | 1075  |             |      |                 |      | HO   |          |            |            |          |       | 74.0       | 54.0       | >27.0 |      | >10.0 |      |
|      | 1290  |             |      |                 |      | HO   |          |            |            |          |       | 74.0       | 54.0       |       |      |       |      |
|      | 1505  |             |      |                 |      | HO   |          |            |            |          |       | 74.0       | 54.0       |       |      |       |      |
|      | HO    |             |      |                 |      |      | 74.0     |            |            |          |       | 54.0       |            |       |      |       |      |
| CH.  | FREQ  | READING(QP) |      |                 |      | ANT  | C.Factor | RESULT(QP) |            |          |       | LIMIT      | MARGIN(QP) |       |      |       |      |
|      | [MHz] | HOR.        | VER. |                 |      | TYPE | [dBuV]   | HOR.       | VER.       |          |       | [QP]       | HOR.       | VER.  |      |       |      |
|      |       | [dBuV]      |      |                 |      |      |          | [dBuV/m]   |            |          |       | [dBuV/m]   |            | [dB]  |      |       |      |
| 23   | 263   | 22.8        | 22.4 |                 |      | BC   | -0.6     | 22.2       | 21.8       |          |       | 46.0       | 46.0       | 23.8  | 24.2 |       |      |
|      | 526   |             |      |                 |      | LO   |          |            |            |          |       | 46.0       | 46.0       |       |      |       |      |
|      | 789   |             |      |                 |      | LO   |          |            |            |          |       | 46.0       | 46.0       |       |      |       |      |
|      |       | READING(PK) | VER. | READING(AV)     | VER. | ANT  | C.Factor | RESULT(PK) | RESULT(AV) | LIMIT    | LIMIT | MARGIN(PK) | MARGIN(AV) |       |      |       |      |
|      |       | HOR.        |      | HOR.            |      | TYPE | [dBuV]   | HOR.       | VER.       | HOR.     | VER.  | HOR.       | VER.       |       |      |       |      |
|      |       | [dBuV]      |      | [dBuV]          |      |      |          | [dBuV/m]   |            | [dBuV/m] |       | [PK]       | [AV]       | [dB]  | [dB] | [dB]  | [dB] |
|      | 1052  |             |      |                 |      | HO   |          |            |            |          |       | 74.0       | 54.0       | >27.0 |      | >10.0 |      |
|      | 1315  |             |      |                 |      | HO   |          |            |            |          |       | 74.0       | 54.0       |       |      |       |      |
|      | 1578  |             |      |                 |      | HO   |          |            |            |          |       | 74.0       | 54.0       |       |      |       |      |
|      |       |             |      |                 |      | HO   |          |            |            |          |       | 74.0       | 54.0       |       |      |       |      |
| CH.  | FREQ  | READING(QP) |      |                 |      | ANT  | C.Factor | RESULT(QP) |            |          |       | LIMIT      | MARGIN(QP) |       |      |       |      |
|      | [MHz] | HOR.        | VER. |                 |      | TYPE | [dBuV]   | HOR.       | VER.       |          |       | [QP]       | HOR.       | VER.  |      |       |      |
|      |       | [dBuV]      |      |                 |      |      |          | [dBuV/m]   |            |          |       | [dBuV/m]   |            | [dB]  |      |       |      |
| 29   | 299   | 23.2        | 22.2 |                 |      | BC   | 1.9      | 25.1       | 24.1       |          |       | 46.0       | 46.0       | 20.9  | 21.9 |       |      |
|      | 598   |             |      |                 |      | LO   |          |            |            |          |       | 46.0       | 46.0       | >15.0 |      |       |      |
|      | 897   |             |      |                 |      | LO   |          |            |            |          |       | 46.0       | 46.0       |       |      |       |      |
|      |       | READING(PK) | VER. | READING(AV)     | VER. | ANT  | C.Factor | RESULT(PK) | RESULT(AV) | LIMIT    | LIMIT | MARGIN(PK) | MARGIN(AV) |       |      |       |      |
|      |       | HOR.        |      | HOR.            |      | TYPE | [dBuV]   | HOR.       | VER.       | HOR.     | VER.  | HOR.       | VER.       |       |      |       |      |
|      |       | [dBuV]      |      | [dBuV]          |      |      |          | [dBuV/m]   |            | [dBuV/m] |       | [PK]       | [AV]       | [dB]  | [dB] | [dB]  | [dB] |
|      | 1196  |             |      |                 |      | HO   |          |            |            |          |       | 74.0       | 54.0       | >27.0 |      | >10.0 |      |
|      | 1495  |             |      |                 |      | HO   |          |            |            |          |       | 74.0       | 54.0       |       |      |       |      |

# DATA OF RADIATION TEST

UL Apex Co., Ltd.  
Yokowa EMC No.3 Open Test Site

COMPANY : Orion Electric Co.,Ltd.  
EQUIPMENT : DVD/VCR  
MODEL No. : DVD2100-CA  
POWER : AC120V/60Hz  
DESCRIPTION : TV Reception + Rec

REPORT No. : 25BE0324-YW-1  
REGULATION : FCC PART15 B  
TEST DISTANCE : 3m  
ATTENUATION : 101-847MHz 6dB  
1030-1694MHz 0dB  
DATE : 2004/10/01  
TEMP./HUMID. : 23deg.C / 50%  
ENGINEER : Tsubasa Takayama

\*C.Factor[dB]=ANT Factor + Cable Loss - Amp Gain

For the measurement above 1GHz, measurement of AV detector is performed only when the result of PK detector exceed the limit of AV.

| CH.  | FREQ<br>[MHz] | READING(QP)<br>HOR. VER.<br>[dBuV] |                                    |             | ANT<br>TYPE        | C.Factor<br>[dBuV]                  | RESULT(QP)<br>HOR. VER.<br>[dBuV/m] |                           |                           | LIMIT<br>[QP]<br>[dBuV/m]       |                                 | MARGIN(QP)<br>HOR. VER.<br>[dB] |      |       |
|------|---------------|------------------------------------|------------------------------------|-------------|--------------------|-------------------------------------|-------------------------------------|---------------------------|---------------------------|---------------------------------|---------------------------------|---------------------------------|------|-------|
| CATV |               |                                    |                                    |             |                    |                                     |                                     |                           |                           |                                 |                                 |                                 |      |       |
| 36   | 341           | 22.1                               | 22.3                               |             | LO                 | -0.2                                | 21.9                                | 22.1                      |                           | 46.0                            | 46.0                            | 24.1                            | 23.9 |       |
|      | 682           |                                    |                                    |             | LO                 |                                     |                                     |                           |                           | 46.0                            | 46.0                            | >15.0                           |      |       |
|      |               | READING(PK)<br>HOR. VER.<br>[dBuV] | READING(AV)<br>HOR. VER.<br>[dBuV] | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(PK)<br>HOR. VER.<br>[dBuV/m] | RESULT(AV)<br>HOR. VER.<br>[dBuV/m] | LIMIT<br>[PK]<br>[dBuV/m] | LIMIT<br>[AV]<br>[dBuV/m] | MARGIN(PK)<br>HOR. VER.<br>[dB] | MARGIN(AV)<br>HOR. VER.<br>[dB] |                                 |      |       |
|      | 1023          |                                    |                                    |             | HO                 | -11.8                               |                                     |                           |                           | 74.0                            | 54.0                            | >27.0                           |      | >10.0 |
|      | 1364          |                                    |                                    |             | HO                 | -9.4                                |                                     |                           |                           | 74.0                            | 54.0                            |                                 |      |       |
| CH.  | FREQ<br>[MHz] | READING(QP)<br>HOR. VER.<br>[dBuV] |                                    |             | ANT<br>TYPE        | C.Factor<br>[dBuV]                  | RESULT(QP)<br>HOR. VER.<br>[dBuV/m] |                           |                           | LIMIT<br>[QP]<br>[dBuV/m]       |                                 | MARGIN(QP)<br>HOR. VER.<br>[dB] |      |       |
| 37   | 347           | 22.9                               | 23.9                               |             | LO                 | -0.1                                | 22.8                                | 23.8                      |                           | 46.0                            | 46.0                            | 23.2                            | 22.2 |       |
|      | 694           |                                    |                                    |             | LO                 |                                     |                                     |                           |                           | 46.0                            | 46.0                            | >15.0                           |      |       |
|      |               | READING(PK)<br>HOR. VER.<br>[dBuV] | READING(AV)<br>HOR. VER.<br>[dBuV] | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(PK)<br>HOR. VER.<br>[dBuV/m] | RESULT(AV)<br>HOR. VER.<br>[dBuV/m] | LIMIT<br>[PK]<br>[dBuV/m] | LIMIT<br>[AV]<br>[dBuV/m] | MARGIN(PK)<br>HOR. VER.<br>[dB] | MARGIN(AV)<br>HOR. VER.<br>[dB] |                                 |      |       |
|      | 1041          |                                    |                                    |             | HO                 | -11.7                               |                                     |                           |                           | 74.0                            | 54.0                            | >27.0                           |      | >10.0 |
|      | 1388          |                                    |                                    |             | HO                 | -9.2                                |                                     |                           |                           | 74.0                            | 54.0                            |                                 |      |       |
| CH.  | FREQ<br>[MHz] | READING(QP)<br>HOR. VER.<br>[dBuV] |                                    |             | ANT<br>TYPE        | C.Factor<br>[dBuV]                  | RESULT(QP)<br>HOR. VER.<br>[dBuV/m] |                           |                           | LIMIT<br>[QP]<br>[dBuV/m]       |                                 | MARGIN(QP)<br>HOR. VER.<br>[dB] |      |       |
| 65   | 515           | 23.7                               | 24.0                               |             | LO                 | 3.1                                 | 26.8                                | 27.1                      |                           | 46.0                            | 46.0                            | 19.2                            | 18.9 |       |
|      |               | READING(PK)<br>HOR. VER.<br>[dBuV] | READING(AV)<br>HOR. VER.<br>[dBuV] | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(PK)<br>HOR. VER.<br>[dBuV/m] | RESULT(AV)<br>HOR. VER.<br>[dBuV/m] | LIMIT<br>[PK]<br>[dBuV/m] | LIMIT<br>[AV]<br>[dBuV/m] | MARGIN(PK)<br>HOR. VER.<br>[dB] | MARGIN(AV)<br>HOR. VER.<br>[dB] |                                 |      |       |
|      | 1030          |                                    |                                    |             | HO                 | -11.7                               |                                     |                           |                           | 74.0                            | 54.0                            | >27.0                           |      | >10.0 |
|      | 1545          |                                    |                                    |             | HO                 | -7.6                                |                                     |                           |                           | 74.0                            | 54.0                            |                                 |      |       |
| CH.  | FREQ<br>[MHz] | READING(QP)<br>HOR. VER.<br>[dBuV] |                                    |             | ANT<br>TYPE        | C.Factor<br>[dBuV]                  | RESULT(QP)<br>HOR. VER.<br>[dBuV/m] |                           |                           | LIMIT<br>[QP]<br>[dBuV/m]       |                                 | MARGIN(QP)<br>HOR. VER.<br>[dB] |      |       |
| 94   | 689           | 24.4                               | 23.8                               |             | LO                 | 5.8                                 | 30.2                                | 29.6                      |                           | 46.0                            | 46.0                            | 15.8                            | 16.4 |       |
|      |               | READING(PK)<br>HOR. VER.<br>[dBuV] | READING(AV)<br>HOR. VER.<br>[dBuV] | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(PK)<br>HOR. VER.<br>[dBuV/m] | RESULT(AV)<br>HOR. VER.<br>[dBuV/m] | LIMIT<br>[PK]<br>[dBuV/m] | LIMIT<br>[AV]<br>[dBuV/m] | MARGIN(PK)<br>HOR. VER.<br>[dB] | MARGIN(AV)<br>HOR. VER.<br>[dB] |                                 |      |       |
|      | 1378          |                                    |                                    |             | HO                 | -9.2                                |                                     |                           |                           | 74.0                            | 54.0                            | >27.0                           |      | >10.0 |
| CH.  | FREQ<br>[MHz] | READING(QP)<br>HOR. VER.<br>[dBuV] |                                    |             | ANT<br>TYPE        | C.Factor<br>[dBuV]                  | RESULT(QP)<br>HOR. VER.<br>[dBuV/m] |                           |                           | LIMIT<br>[QP]<br>[dBuV/m]       |                                 | MARGIN(QP)<br>HOR. VER.<br>[dB] |      |       |
| 100  | 695           | 24.5                               | 23.5                               |             | LO                 | 5.9                                 | 30.4                                | 29.4                      |                           | 46.0                            | 46.0                            | 15.6                            | 16.6 |       |
|      |               | READING(PK)<br>HOR. VER.<br>[dBuV] | READING(AV)<br>HOR. VER.<br>[dBuV] | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(PK)<br>HOR. VER.<br>[dBuV/m] | RESULT(AV)<br>HOR. VER.<br>[dBuV/m] | LIMIT<br>[PK]<br>[dBuV/m] | LIMIT<br>[AV]<br>[dBuV/m] | MARGIN(PK)<br>HOR. VER.<br>[dB] | MARGIN(AV)<br>HOR. VER.<br>[dB] |                                 |      |       |
|      | 1390          |                                    |                                    |             | HO                 | -9.1                                |                                     |                           |                           | 74.0                            | 54.0                            | >27.0                           |      | >10.0 |
| CH.  | FREQ<br>[MHz] | READING(QP)<br>HOR. VER.<br>[dBuV] |                                    |             | ANT<br>TYPE        | C.Factor<br>[dBuV]                  | RESULT(QP)<br>HOR. VER.<br>[dBuV/m] |                           |                           | LIMIT<br>[QP]<br>[dBuV/m]       |                                 | MARGIN(QP)<br>HOR. VER.<br>[dB] |      |       |
| 113  | 773           | 23.3                               | 25.1                               |             | LO                 | 8.3                                 | 31.6                                | 33.4                      |                           | 46.0                            | 46.0                            | 14.4                            | 12.6 |       |
|      |               | READING(PK)<br>HOR. VER.<br>[dBuV] | READING(AV)<br>HOR. VER.<br>[dBuV] | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(PK)<br>HOR. VER.<br>[dBuV/m] | RESULT(AV)<br>HOR. VER.<br>[dBuV/m] | LIMIT<br>[PK]<br>[dBuV/m] | LIMIT<br>[AV]<br>[dBuV/m] | MARGIN(PK)<br>HOR. VER.<br>[dB] | MARGIN(AV)<br>HOR. VER.<br>[dB] |                                 |      |       |
|      | 1546          |                                    |                                    |             | HO                 | -7.6                                |                                     |                           |                           | 74.0                            | 54.0                            | >27.0                           |      | >10.0 |
| CH.  | FREQ<br>[MHz] | READING(QP)<br>HOR. VER.<br>[dBuV] |                                    |             | ANT<br>TYPE        | C.Factor<br>[dBuV]                  | RESULT(QP)<br>HOR. VER.<br>[dBuV/m] |                           |                           | LIMIT<br>[QP]<br>[dBuV/m]       |                                 | MARGIN(QP)<br>HOR. VER.<br>[dB] |      |       |
| 125  | 845           | 22.5                               | 25.8                               |             | LO                 | 9.6                                 | 32.1                                | 35.4                      |                           | 46.0                            | 46.0                            | 13.9                            | 10.6 |       |
|      |               | READING(PK)<br>HOR. VER.<br>[dBuV] | READING(AV)<br>HOR. VER.<br>[dBuV] | ANT<br>TYPE | C.Factor<br>[dBuV] | RESULT(PK)<br>HOR. VER.<br>[dBuV/m] | RESULT(AV)<br>HOR. VER.<br>[dBuV/m] | LIMIT<br>[PK]<br>[dBuV/m] | LIMIT<br>[AV]<br>[dBuV/m] | MARGIN(PK)<br>HOR. VER.<br>[dB] | MARGIN(AV)<br>HOR. VER.<br>[dB] |                                 |      |       |
|      | 1690          |                                    |                                    |             | HO                 | -4.9                                |                                     |                           |                           | 74.0                            | 54.0                            | >27.0                           |      | >10.0 |

# DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No.: 25BE0324-YW-1

Applicant : Orion Electric Co., Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : TV Reception + Rec  
Remarks : 0dBmV  
Date : 10/1/2004  
Test Distance : 3 m  
Temperature : 24 °C  
Humidity : 60 %  
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama

| No. | FREQ.<br>[MHz] | ANT<br>TYPE | READING         |                 | ANT<br>FACTOR<br>[dB/m] | AMP<br>GAIN<br>[dB] | CABLE<br>LOSS<br>[dB] | ATTEN.<br>[dB] | RESULT            |                   | LIMITS<br>[dB μ V/m] | MARGIN      |             |
|-----|----------------|-------------|-----------------|-----------------|-------------------------|---------------------|-----------------------|----------------|-------------------|-------------------|----------------------|-------------|-------------|
|     |                |             | HOR<br>[dB μ V] | VER<br>[dB μ V] |                         |                     |                       |                | HOR<br>[dB μ V/m] | VER<br>[dB μ V/m] |                      | HOR<br>[dB] | VER<br>[dB] |
| 1.  | 472.53         | BB          | 39.4            | 39.6            | 19.4                    | 27.9                | 5.0                   | 6.0            | 41.9              | 42.1              | 46.0                 | 4.1         | 3.9         |

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

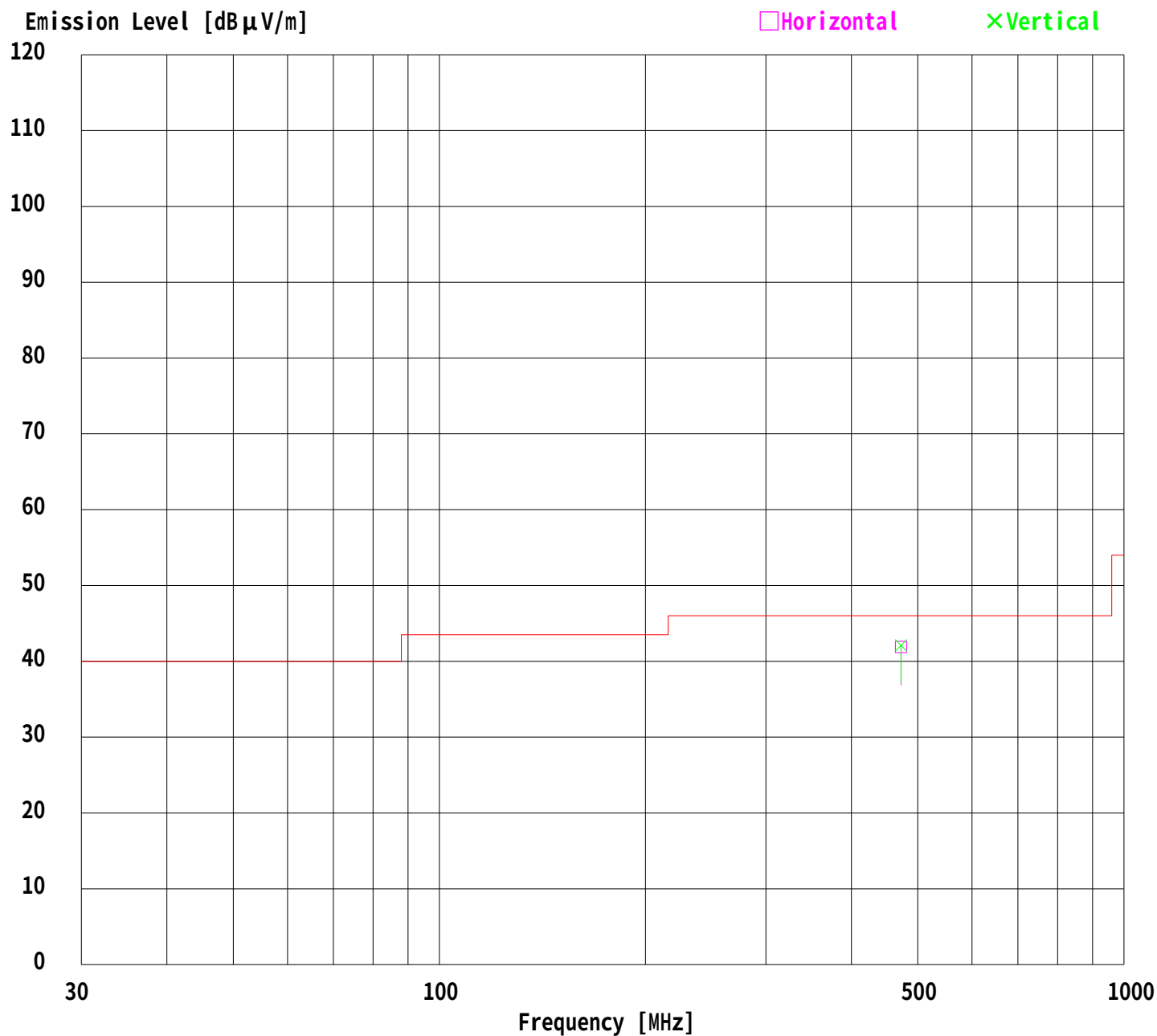
UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No.: 25BE0324-YW-1

Applicant : Orion Electric Co., Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : TV Reception + Rec  
Remarks : 0dBmV  
Date : 10/1/2004  
Test Distance : 3 m  
Temperature : 24 °C  
Humidity : 60 %  
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama



# DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No.: 24BE0324-YW-1

Applicant : Orion Electric Co.,Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120/60Hz  
Mode : TV Reception+Rec(0dbmV)  
Remarks : Test Channel #3  
Date : 10/1/2004  
Test Distance : 3 m  
Temperature : 23 °C  
Humidity : 58 %  
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama

| No. | FREQ.<br>[MHz] | ANT<br>TYPE | READING         |                 | ANT<br>FACTOR<br>[dB/m] | AMP<br>GAIN<br>[dB] | CABLE<br>LOSS<br>[dB] | ATTEN.<br>[dB] | RESULT            |                   | LIMITS<br>[dB μ V/m] | MARGIN      |             |
|-----|----------------|-------------|-----------------|-----------------|-------------------------|---------------------|-----------------------|----------------|-------------------|-------------------|----------------------|-------------|-------------|
|     |                |             | HOR<br>[dB μ V] | VER<br>[dB μ V] |                         |                     |                       |                | HOR<br>[dB μ V/m] | VER<br>[dB μ V/m] |                      | HOR<br>[dB] | VER<br>[dB] |
| 1.  | 61.25          | BB          | 26.5            | 25.9            | 7.4                     | 28.4                | 1.5                   | 5.9            | 12.9              | 12.3              | 40.0                 | 27.1        | 27.7        |
| 2.  | 65.75          | BB          | 27.6            | 25.6            | 7.0                     | 28.3                | 1.5                   | 5.9            | 13.7              | 11.7              | 40.0                 | 26.3        | 28.3        |
| 3.  | 122.50         | BB          | 23.8            | 23.6            | 13.6                    | 28.2                | 2.2                   | 5.9            | 17.3              | 17.1              | 43.5                 | 26.2        | 26.4        |
| 4.  | 245.00         | BB          | 23.3            | 23.0            | 17.0                    | 27.9                | 3.3                   | 6.0            | 21.7              | 21.4              | 46.0                 | 24.3        | 24.6        |

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

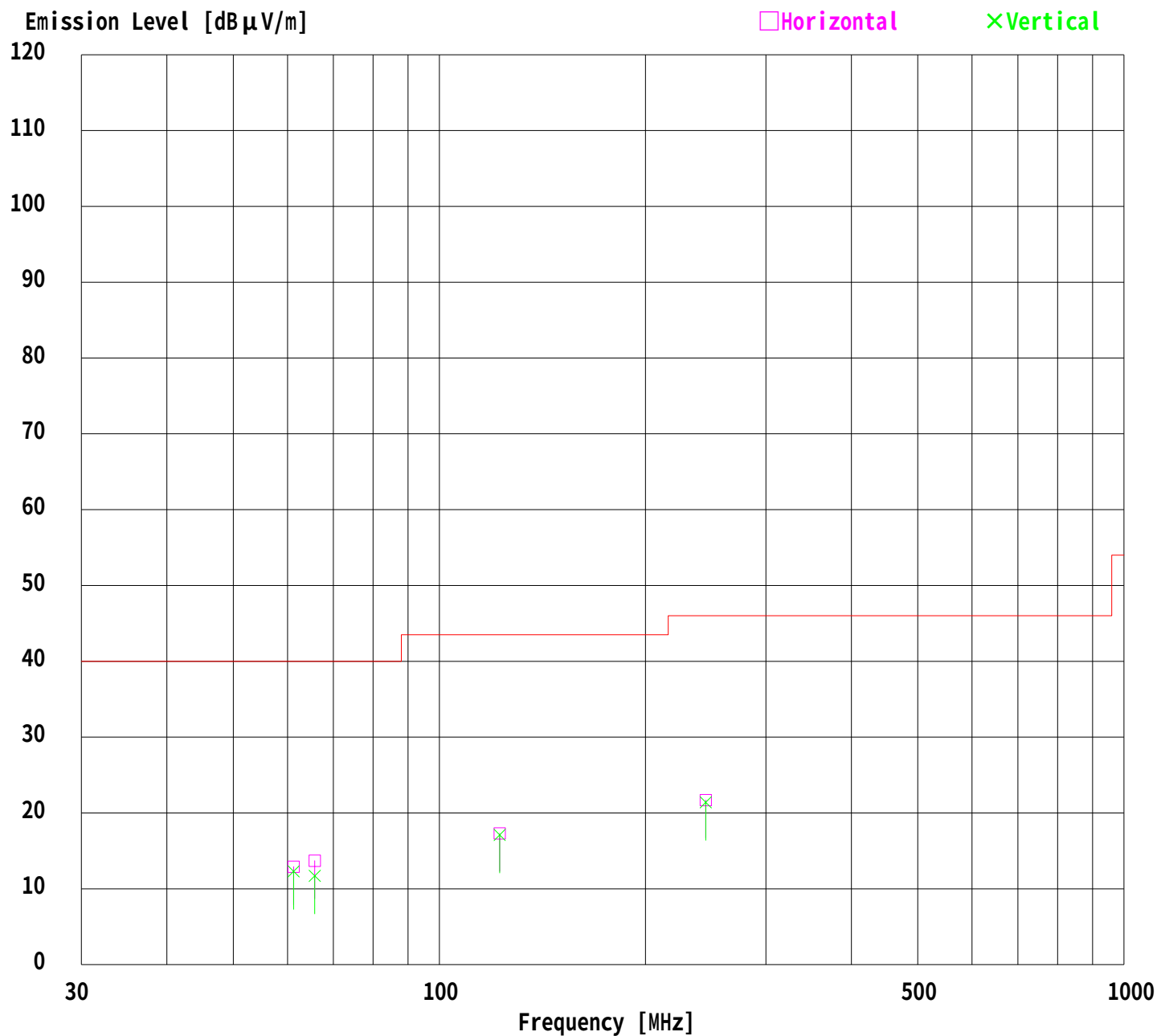
UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No.: 24BE0324-YW-1

Applicant : Orion Electric Co.,Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120/60Hz  
Mode : TV Reception+Rec(0dbmV)  
Remarks : Test Channel #3  
Date : 10/1/2004  
Test Distance : 3 m  
Temperature : 23 °C  
Humidity : 58 %  
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama



# DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No.: 24BE0324-YW-1

Applicant : Orion Electric Co.,Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120/60Hz  
Mode : TV Reception+Rec(0dbmV)  
Remarks : Test Channel #4  
Date : 10/1/2004  
Test Distance : 3 m  
Temperature : 23 °C  
Humidity : 58 %  
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama

| No. | FREQ.<br>[MHz] | ANT<br>TYPE | READING         |                 | ANT<br>FACTOR<br>[dB/m] | AMP<br>GAIN<br>[dB] | CABLE<br>LOSS<br>[dB] | ATTEN.<br>[dB] | RESULT            |                   | LIMITS<br>[dB μ V/m] | MARGIN      |             |
|-----|----------------|-------------|-----------------|-----------------|-------------------------|---------------------|-----------------------|----------------|-------------------|-------------------|----------------------|-------------|-------------|
|     |                |             | HOR<br>[dB μ V] | VER<br>[dB μ V] |                         |                     |                       |                | HOR<br>[dB μ V/m] | VER<br>[dB μ V/m] |                      | HOR<br>[dB] | VER<br>[dB] |
| 1.  | 67.25          | BB          | 26.0            | 25.8            | 6.8                     | 28.3                | 1.6                   | 5.9            | 12.0              | 11.8              | 40.0                 | 28.0        | 28.2        |
| 2.  | 71.75          | BB          | 25.8            | 25.2            | 6.6                     | 28.3                | 1.6                   | 5.9            | 11.6              | 11.0              | 40.0                 | 28.4        | 29.0        |
| 3.  | 134.50         | BB          | 23.6            | 23.4            | 14.3                    | 28.2                | 2.3                   | 5.9            | 17.9              | 17.7              | 43.5                 | 25.6        | 25.8        |
| 4.  | 201.75         | BB          | 23.0            | 23.1            | 16.5                    | 28.0                | 2.9                   | 5.9            | 20.3              | 20.4              | 43.5                 | 23.2        | 23.1        |

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

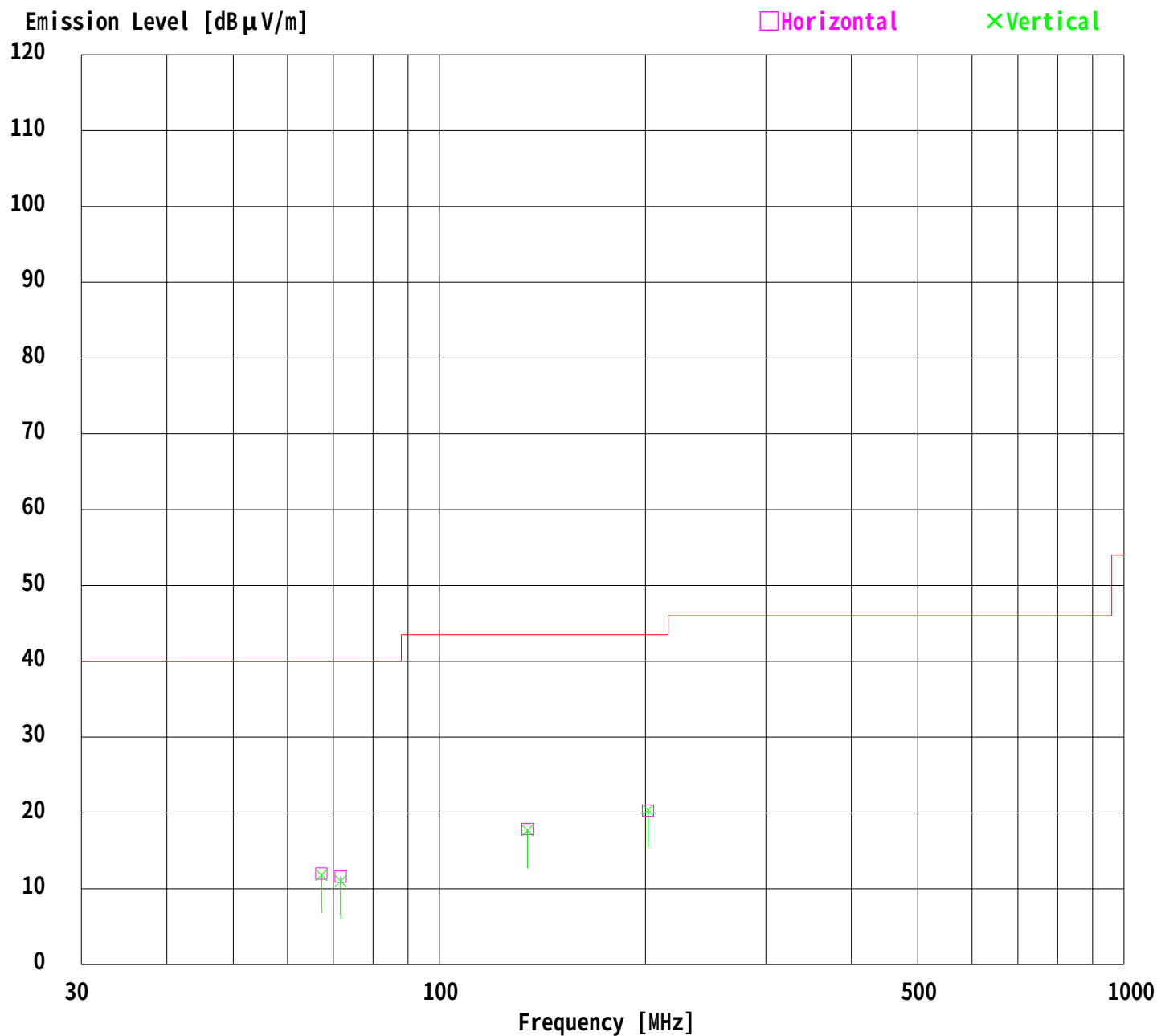
UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No.: 24BE0324-YW-1

Applicant : Orion Electric Co.,Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120/60Hz  
Mode : TV Reception+Rec(0dbmV)  
Remarks : Test Channel #4  
Date : 10/1/2004  
Test Distance : 3 m  
Temperature : 23 °C  
Humidity : 58 %  
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama





# DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No.: 25BE0324-YW-1

Applicant : Orion Electric Co., Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : TV Reception + Rec  
Remarks : 25dBmV  
Date : 10/1/2004  
Test Distance : 3 m  
Temperature : 24 °C  
Humidity : 60 %  
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama

| No. | FREQ.<br>[MHz] | ANT<br>TYPE | READING        |                | ANT<br>FACTOR<br>[dB/m] | AMP<br>GAIN<br>[dB] | CABLE<br>LOSS<br>[dB] | ATTEN.<br>[dB] | RESULT           |                  | LIMITS<br>[dB μV/m] | MARGIN      |             |
|-----|----------------|-------------|----------------|----------------|-------------------------|---------------------|-----------------------|----------------|------------------|------------------|---------------------|-------------|-------------|
|     |                |             | HOR<br>[dB μV] | VER<br>[dB μV] |                         |                     |                       |                | HOR<br>[dB μV/m] | VER<br>[dB μV/m] |                     | HOR<br>[dB] | VER<br>[dB] |
| 1.  | 38.70          | BB          | 25.5           | 29.8           | 14.2                    | 28.5                | 1.2                   | 6.0            | 18.4             | 22.7             | 40.0                | 21.6        | 17.3        |
| 2.  | 108.00         | BB          | 38.9           | 41.0           | 11.5                    | 28.2                | 2.0                   | 5.9            | 30.1             | 32.2             | 43.5                | 13.4        | 11.3        |
| 3.  | 135.00         | BB          | 41.0           | 45.5           | 14.3                    | 28.2                | 2.3                   | 5.9            | 35.3             | 39.8             | 43.5                | 8.2         | 3.7         |
| 4.  | 189.02         | BB          | 34.0           | 35.3           | 16.4                    | 28.0                | 2.8                   | 5.9            | 31.1             | 32.4             | 43.5                | 12.4        | 11.1        |
| 5.  | 202.49         | BB          | 32.7           | 31.8           | 16.5                    | 28.0                | 2.9                   | 5.9            | 30.0             | 29.1             | 43.5                | 13.5        | 14.4        |
| 6.  | 215.99         | BB          | 38.1           | 37.0           | 16.7                    | 28.0                | 3.0                   | 5.9            | 35.7             | 34.6             | 43.5                | 7.8         | 8.9         |
| 7.  | 286.88         | BB          | 31.3           | 34.1           | 19.4                    | 27.9                | 3.6                   | 6.0            | 32.4             | 35.2             | 46.0                | 13.6        | 10.8        |
| 8.  | 324.00         | BB          | 36.2           | 36.2           | 17.4                    | 27.9                | 3.9                   | 6.0            | 35.6             | 35.6             | 46.0                | 10.4        | 10.4        |
| 9.  | 405.02         | BB          | 31.9           | 33.6           | 18.7                    | 27.9                | 4.5                   | 6.0            | 33.2             | 34.9             | 46.0                | 12.8        | 11.1        |
| 10. | 472.53         | BB          | 39.1           | 39.9           | 19.4                    | 27.9                | 5.0                   | 6.0            | 41.6             | 42.4             | 46.0                | 4.4         | 3.6         |
| 11. | 540.00         | BB          | 27.0           | 31.8           | 19.9                    | 27.8                | 5.4                   | 6.0            | 30.5             | 35.3             | 46.0                | 15.5        | 10.7        |
| 12. | 675.00         | BB          | 27.1           | 27.9           | 20.9                    | 27.4                | 6.1                   | 6.0            | 32.7             | 33.5             | 46.0                | 13.3        | 12.5        |
| 13. | 945.02         | BB          | 27.2           | 26.1           | 22.5                    | 29.3                | 10.2                  | 5.9            | 36.5             | 35.4             | 46.0                | 9.5         | 10.6        |

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

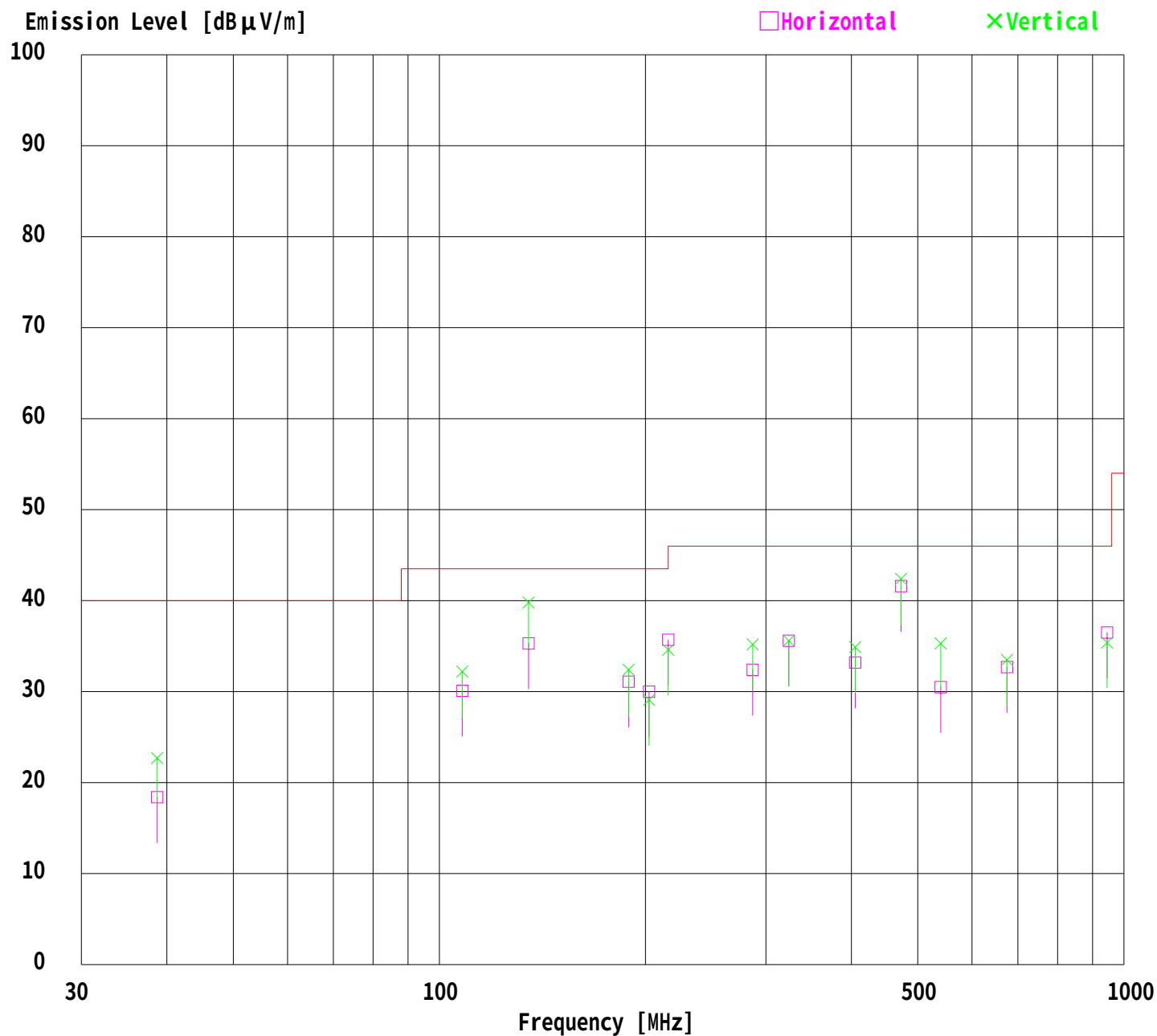
UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No.: 25BE0324-YW-1

Applicant : Orion Electric Co., Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : TV Reception + Rec  
Remarks : 25dBmV  
Date : 10/1/2004  
Test Distance : 3 m  
Temperature : 24 °C  
Humidity : 60 %  
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama



# DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No.: 25BE0324-YW-YW-1

Applicant : Orion Electric Co., Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : VCR Playback  
Remarks : -  
Date : 10/1/2004  
Test Distance : 3 m  
Temperature : 24 °C  
Humidity : 39 %  
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama

| No. | FREQ.<br>[MHz] | ANT<br>TYPE | READING         |                 | ANT<br>FACTOR<br>[dB/m] | AMP<br>GAIN<br>[dB] | CABLE<br>LOSS<br>[dB] | ATTEN.<br>[dB] | RESULT            |                   | LIMITS<br>[dB μ V/m] | MARGIN      |             |
|-----|----------------|-------------|-----------------|-----------------|-------------------------|---------------------|-----------------------|----------------|-------------------|-------------------|----------------------|-------------|-------------|
|     |                |             | HOR<br>[dB μ V] | VER<br>[dB μ V] |                         |                     |                       |                | HOR<br>[dB μ V/m] | VER<br>[dB μ V/m] |                      | HOR<br>[dB] | VER<br>[dB] |
| 1.  | 38.45          | BB          | 26.5            | 28.8            | 14.3                    | 28.5                | 1.2                   | 6.0            | 19.5              | 21.8              | 40.0                 | 20.5        | 18.2        |
| 2.  | 108.00         | BB          | 28.9            | 36.0            | 11.5                    | 28.2                | 2.0                   | 5.9            | 20.1              | 27.2              | 43.5                 | 23.4        | 16.3        |
| 3.  | 135.00         | BB          | 38.3            | 43.0            | 14.3                    | 28.2                | 2.3                   | 5.9            | 32.6              | 37.3              | 43.5                 | 10.9        | 6.2         |
| 4.  | 189.02         | BB          | 32.7            | 30.4            | 16.4                    | 28.0                | 2.8                   | 5.9            | 29.8              | 27.5              | 43.5                 | 13.7        | 16.0        |
| 5.  | 202.49         | BB          | 31.1            | 27.7            | 16.5                    | 28.0                | 2.9                   | 5.9            | 28.4              | 25.0              | 43.5                 | 15.1        | 18.5        |
| 6.  | 215.99         | BB          | 37.0            | 33.3            | 16.7                    | 28.0                | 3.0                   | 5.9            | 34.6              | 30.9              | 43.5                 | 8.9         | 12.6        |
| 7.  | 270.00         | BB          | 34.9            | 33.3            | 18.3                    | 27.9                | 3.5                   | 6.0            | 34.8              | 33.2              | 46.0                 | 11.2        | 12.8        |
| 8.  | 286.88         | BB          | 26.7            | 26.0            | 19.4                    | 27.9                | 3.6                   | 6.0            | 27.8              | 27.1              | 46.0                 | 18.2        | 18.9        |
| 9.  | 324.00         | BB          | 34.0            | 35.5            | 17.4                    | 27.9                | 3.9                   | 6.0            | 33.4              | 34.9              | 46.0                 | 12.6        | 11.1        |
| 10. | 405.02         | BB          | 30.9            | 34.6            | 18.7                    | 27.9                | 4.5                   | 6.0            | 32.2              | 35.9              | 46.0                 | 13.8        | 10.1        |
| 11. | 472.53         | BB          | 33.9            | 35.0            | 19.4                    | 27.9                | 5.0                   | 6.0            | 36.4              | 37.5              | 46.0                 | 9.6         | 8.5         |
| 12. | 540.00         | BB          | 27.1            | 32.0            | 19.9                    | 27.8                | 5.4                   | 6.0            | 30.6              | 35.5              | 46.0                 | 15.4        | 10.5        |
| 13. | 675.00         | BB          | 27.8            | 30.0            | 20.9                    | 27.4                | 6.1                   | 6.0            | 33.4              | 35.6              | 46.0                 | 12.6        | 10.4        |
| 14. | 945.05         | BB          | 27.1            | 25.9            | 22.5                    | 29.3                | 10.2                  | 5.9            | 36.4              | 35.2              | 46.0                 | 9.6         | 10.8        |

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

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

# DATA OF RADIATION TEST

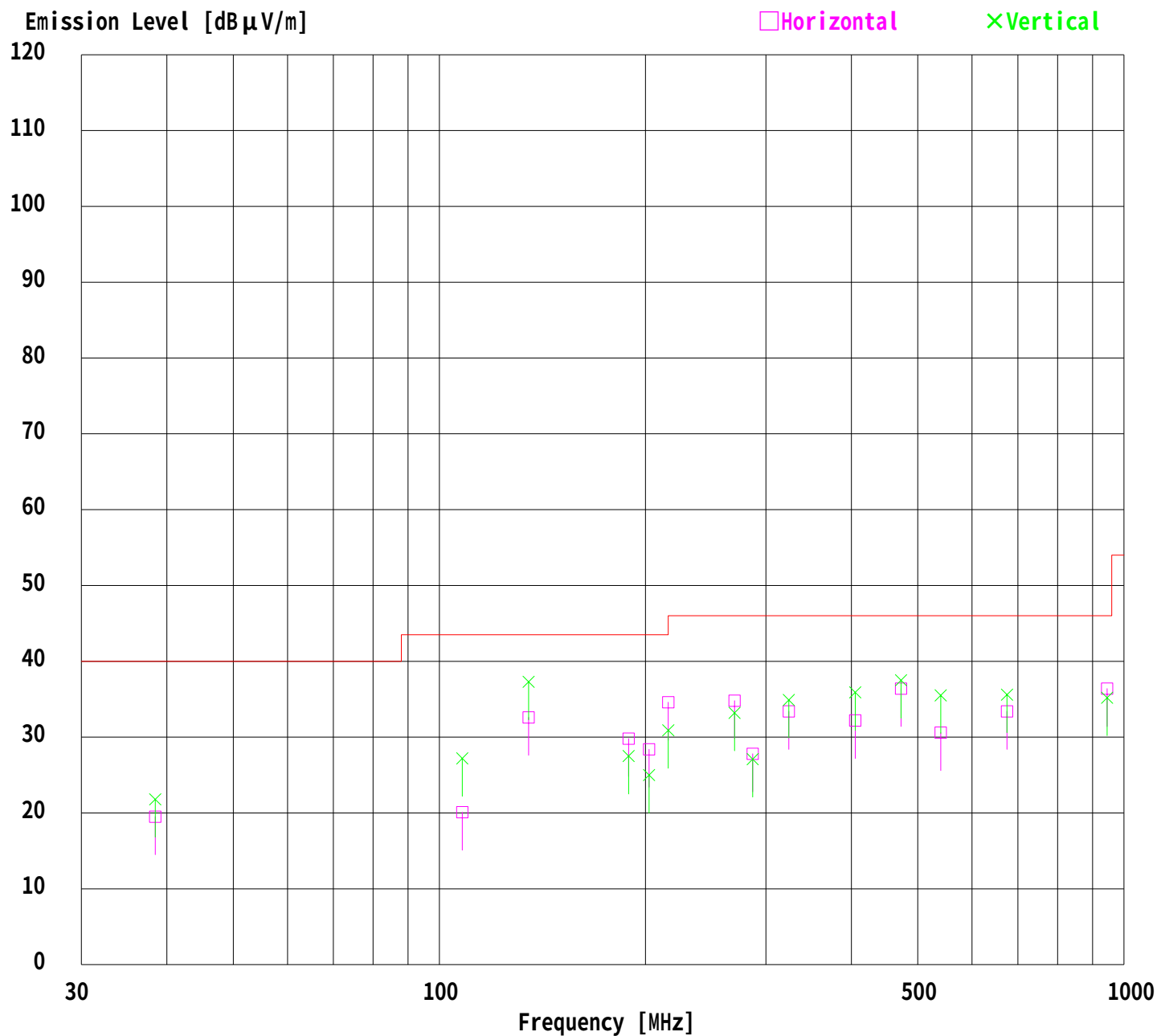
UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No.: 25BE0324-YW-YW-1

Applicant : Orion Electric Co., Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : VCR Playback  
Remarks : -  
Date : 10/1/2004  
Test Distance : 3 m  
Temperature : 24 °C  
Humidity : 39 %  
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama



# DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No.: 25BE0324-YW-1

Applicant : Orion Electric Co., Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : DVD Play  
Remarks : -  
Date : 10/1/2004  
Test Distance : 3 m  
Temperature : 24 °C  
Humidity : 60 %  
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama

| No. | FREQ.<br>[MHz] | ANT<br>TYPE | READING        |                | ANT<br>FACTOR<br>[dB/m] | AMP<br>GAIN<br>[dB] | CABLE<br>LOSS<br>[dB] | ATTEN.<br>[dB] | RESULT           |                  | LIMITS<br>[dB μV/m] | MARGIN      |             |
|-----|----------------|-------------|----------------|----------------|-------------------------|---------------------|-----------------------|----------------|------------------|------------------|---------------------|-------------|-------------|
|     |                |             | HOR<br>[dB μV] | VER<br>[dB μV] |                         |                     |                       |                | HOR<br>[dB μV/m] | VER<br>[dB μV/m] |                     | HOR<br>[dB] | VER<br>[dB] |
| 1.  | 38.08          | BB          | 27.9           | 29.3           | 14.5                    | 28.5                | 1.2                   | 6.0            | 21.1             | 22.5             | 40.0                | 18.9        | 17.5        |
| 2.  | 135.00         | BB          | 41.5           | 40.0           | 14.3                    | 28.2                | 2.3                   | 5.9            | 35.8             | 34.3             | 43.5                | 7.7         | 9.2         |
| 3.  | 189.02         | BB          | 34.0           | 31.5           | 16.4                    | 28.0                | 2.8                   | 5.9            | 31.1             | 28.6             | 43.5                | 12.4        | 14.9        |
| 4.  | 202.49         | BB          | 34.9           | 28.2           | 16.5                    | 28.0                | 2.9                   | 5.9            | 32.2             | 25.5             | 43.5                | 11.3        | 18.0        |
| 5.  | 215.99         | BB          | 37.3           | 32.4           | 16.7                    | 28.0                | 3.0                   | 5.9            | 34.9             | 30.0             | 43.5                | 8.6         | 13.5        |
| 6.  | 270.00         | BB          | 37.8           | 37.8           | 18.3                    | 27.9                | 3.5                   | 6.0            | 37.7             | 37.7             | 46.0                | 8.3         | 8.3         |
| 7.  | 324.01         | BB          | 32.6           | 33.2           | 17.4                    | 27.9                | 3.9                   | 6.0            | 32.0             | 32.6             | 46.0                | 14.0        | 13.4        |
| 8.  | 405.02         | BB          | 34.8           | 34.9           | 18.7                    | 27.9                | 4.5                   | 6.0            | 36.1             | 36.2             | 46.0                | 9.9         | 9.8         |
| 9.  | 472.52         | BB          | 33.2           | 36.3           | 19.4                    | 27.9                | 5.0                   | 6.0            | 35.7             | 38.8             | 46.0                | 10.3        | 7.2         |
| 10. | 540.02         | BB          | 27.0           | 31.6           | 19.9                    | 27.8                | 5.4                   | 6.0            | 30.5             | 35.1             | 46.0                | 15.5        | 10.9        |
| 11. | 675.03         | BB          | 26.7           | 30.7           | 20.9                    | 27.4                | 6.1                   | 6.0            | 32.3             | 36.3             | 46.0                | 13.7        | 9.7         |
| 12. | 945.07         | BB          | 26.8           | 25.8           | 22.5                    | 29.3                | 10.2                  | 5.9            | 36.1             | 35.1             | 46.0                | 9.9         | 10.9        |

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

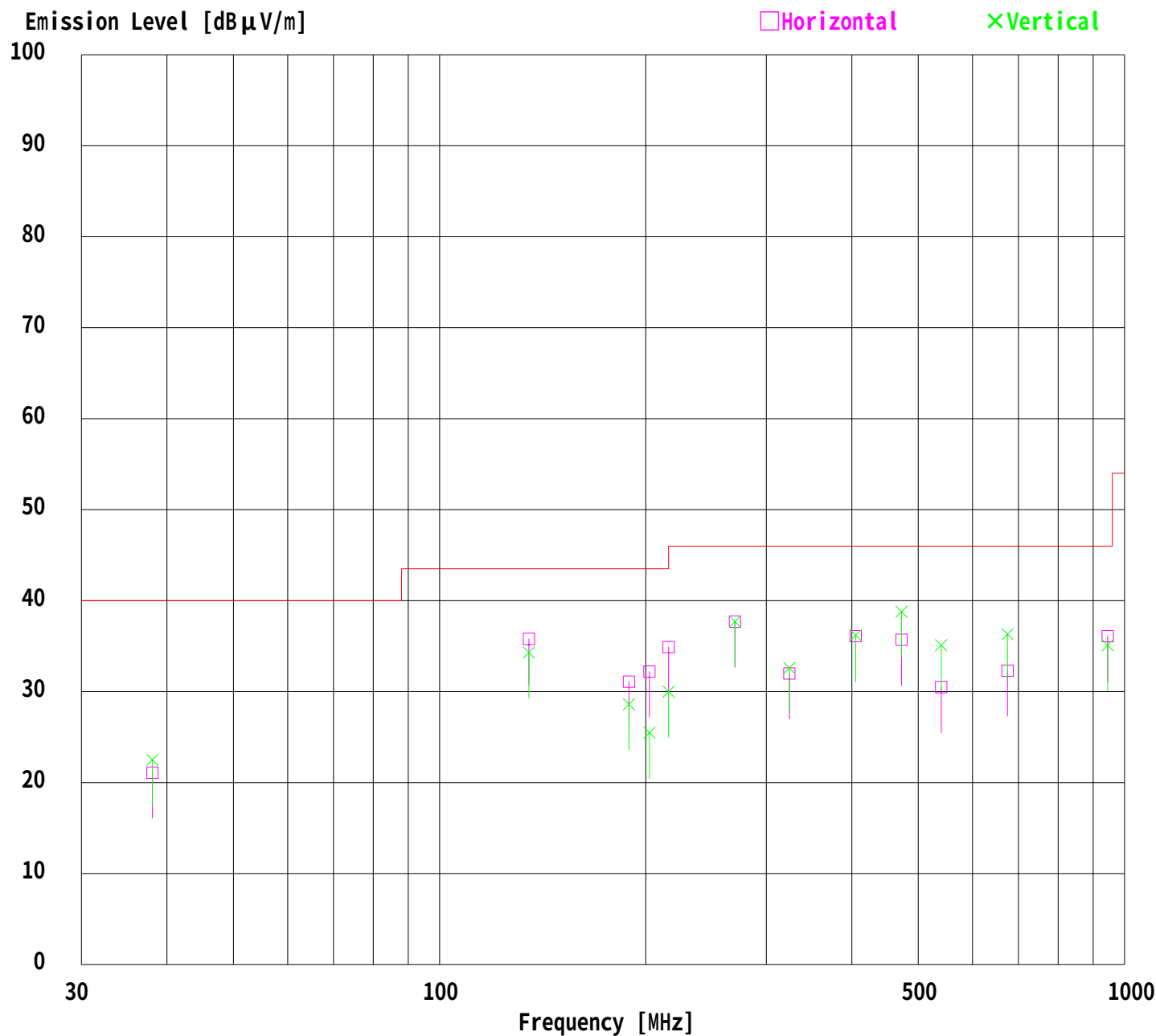
UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No.: 25BE0324-YW-1

Applicant : Orion Electric Co., Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : DVD Play  
Remarks : -  
Date : 10/1/2004  
Test Distance : 3 m  
Temperature : 24 °C  
Humidity : 60 %  
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama



# DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No.: 25BE0324-YW-1

Applicant : Orion Electric Co., Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : DVD Play  
Remarks : -  
Date : 10/1/2004  
Test Distance : 3 m  
Temperature : 24 °C  
Humidity : 39 %  
Regulation : FCC Part15B CLASS B(Peak Limit / Upper1GHz)

Engineer : Tsubasa Takayama

| No. | FREQ.<br>[MHz] | ANT<br>TYPE | READING         |                 | ANT<br>FACTOR<br>[dB/m] | AMP<br>GAIN<br>[dB] | CABLE<br>LOSS<br>[dB] | ATTEN.<br>[dB] | RESULT            |                   | LIMITS<br>[dB μ V/m] | MARGIN      |             |
|-----|----------------|-------------|-----------------|-----------------|-------------------------|---------------------|-----------------------|----------------|-------------------|-------------------|----------------------|-------------|-------------|
|     |                |             | HOR<br>[dB μ V] | VER<br>[dB μ V] |                         |                     |                       |                | HOR<br>[dB μ V/m] | VER<br>[dB μ V/m] |                      | HOR<br>[dB] | VER<br>[dB] |
| 1.  | 1215.12        | BB          | 55.9            | 55.3            | 26.0                    | 35.2                | 2.2                   | 0.0            | 48.9              | 48.3              | 74.0                 | 25.1        | 25.7        |
| 2.  | 1350.05        | BB          | 53.9            | 55.5            | 26.7                    | 35.0                | 2.3                   | 0.0            | 47.9              | 49.5              | 74.0                 | 26.1        | 24.5        |
| 3.  | 1620.04        | BB          | 50.7            | 50.0            | 28.2                    | 34.7                | 2.5                   | 0.0            | 46.7              | 46.0              | 74.0                 | 27.3        | 28.0        |

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

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

# DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No.: 25BE0324-YW-1

Applicant : Orion Electric Co., Ltd.

Kind of Equipment : DVD/VCR

Model No. : DVD2100-CA

Serial No. : -

Power : AC120V/60Hz

Mode : DVD Play

Remarks : -

Date : 10/1/2004

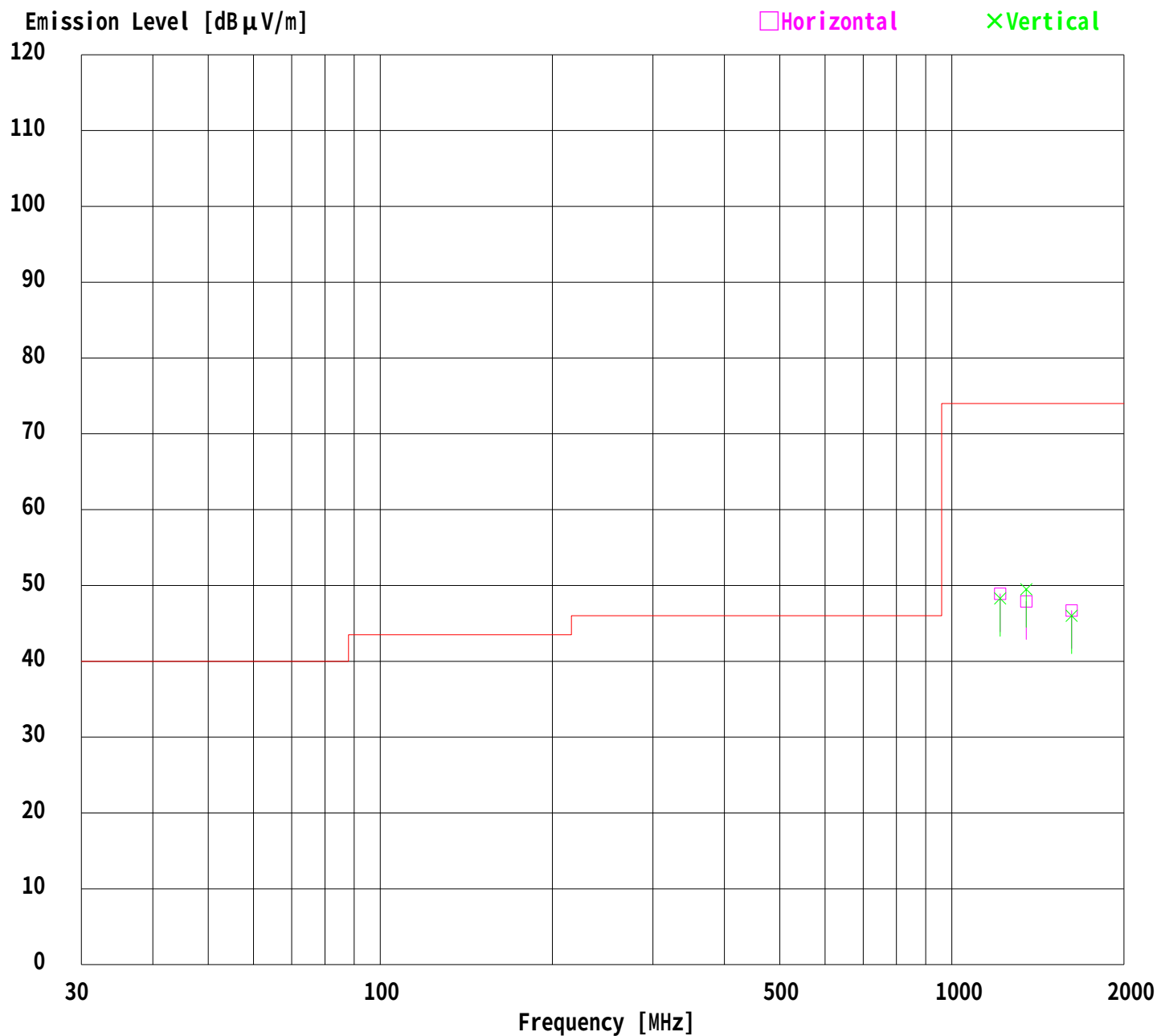
Test Distance : 3 m

Temperature : 24 °C

Humidity : 39 %

Regulation : FCC Part15B CLASS B(Peak Limit / Upper1GHz)

Engineer : Tsubasa Takayama





# DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No.: 25BE0324-YW-1

Applicant : Orion Electric Co., Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : DVD Play  
Remarks : -  
Date : 10/1/2004  
Test Distance : 3 m  
Temperature : 24 °C Engineer : Tsubasa Takayama  
Humidity : 39 %  
Regulation : FCC Part15B CLASS B(Average Limit / Upper1GHz)

| No. | FREQ.<br>[MHz] | ANT<br>TYPE | READING         |                 | ANT<br>FACTOR<br>[dB/m] | AMP<br>GAIN<br>[dB] | CABLE<br>LOSS<br>[dB] | ATTEN.<br>[dB] | RESULT            |                   | LIMITS<br>[dB μ V/m] | MARGIN      |             |
|-----|----------------|-------------|-----------------|-----------------|-------------------------|---------------------|-----------------------|----------------|-------------------|-------------------|----------------------|-------------|-------------|
|     |                |             | HOR<br>[dB μ V] | VER<br>[dB μ V] |                         |                     |                       |                | HOR<br>[dB μ V/m] | VER<br>[dB μ V/m] |                      | HOR<br>[dB] | VER<br>[dB] |
| 1.  | 1215.12        | BB          | 49.8            | 48.6            | 26.0                    | 35.2                | 2.2                   | 0.0            | 42.8              | 41.6              | 54.0                 | 11.2        | 12.4        |
| 2.  | 1350.05        | BB          | 46.3            | 48.4            | 26.7                    | 35.0                | 2.3                   | 0.0            | 40.3              | 42.4              | 54.0                 | 13.7        | 11.6        |
| 3.  | 1620.04        | BB          | 41.2            | 39.4            | 28.2                    | 34.7                | 2.5                   | 0.0            | 37.2              | 35.4              | 54.0                 | 16.8        | 18.6        |

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

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

# DATA OF RADIATION TEST

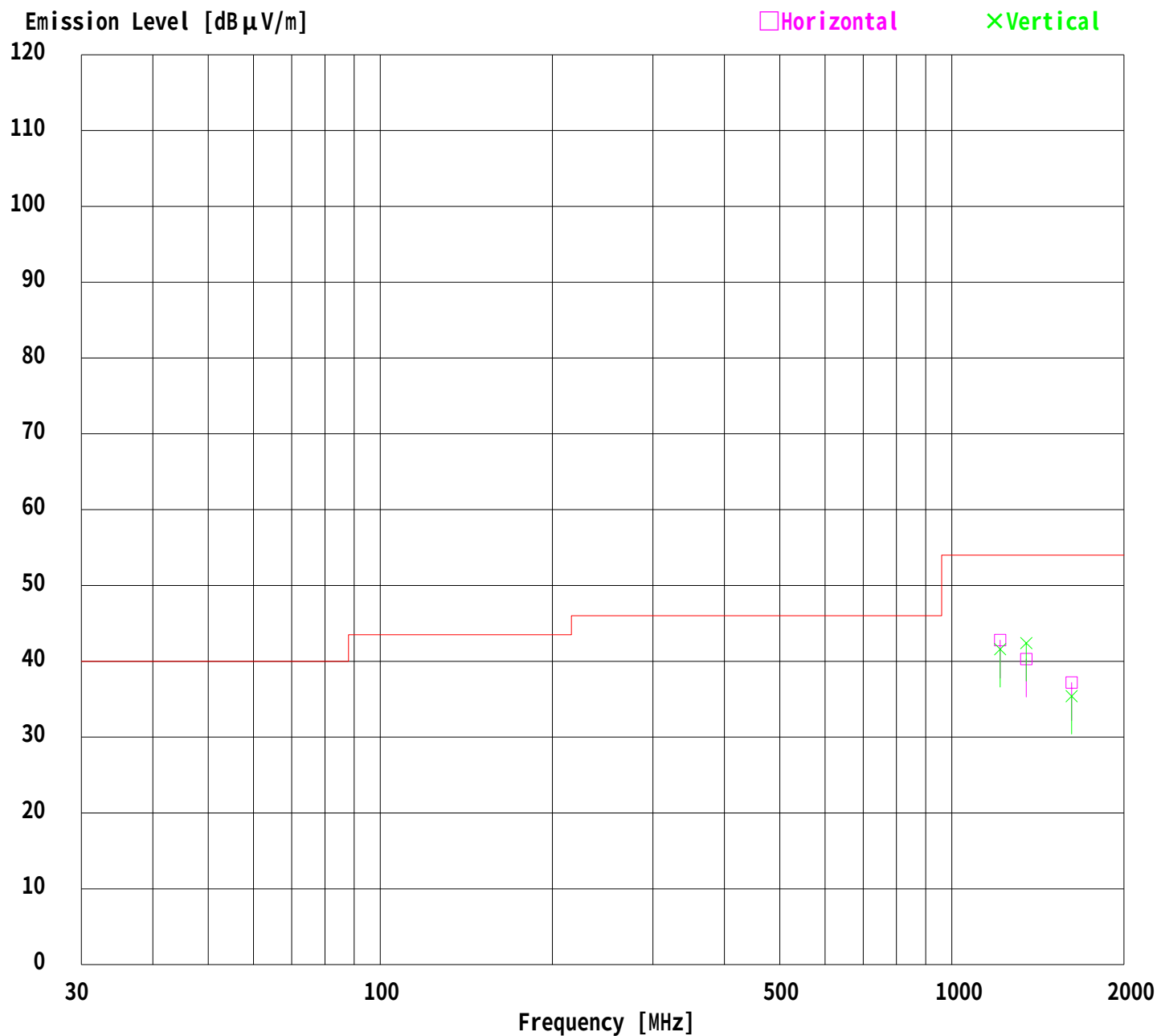
UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No.: 25BE0324-YW-YW-1

Applicant : Orion Electric Co., Ltd.  
Kind of Equipment : DVD/VCR  
Model No. : DVD2100-CA  
Serial No. : -  
Power : AC120V/60Hz  
Mode : DVD Play  
Remarks : -  
Date : 10/1/2004  
Test Distance : 3 m  
Temperature : 24 °C  
Humidity : 39 %  
Regulation : FCC Part15B CLASS B(Average Limit / Upper1GHz)

Engineer : Tsubasa Takayama



# DATA OF ANTENNA TERMINAL TEST

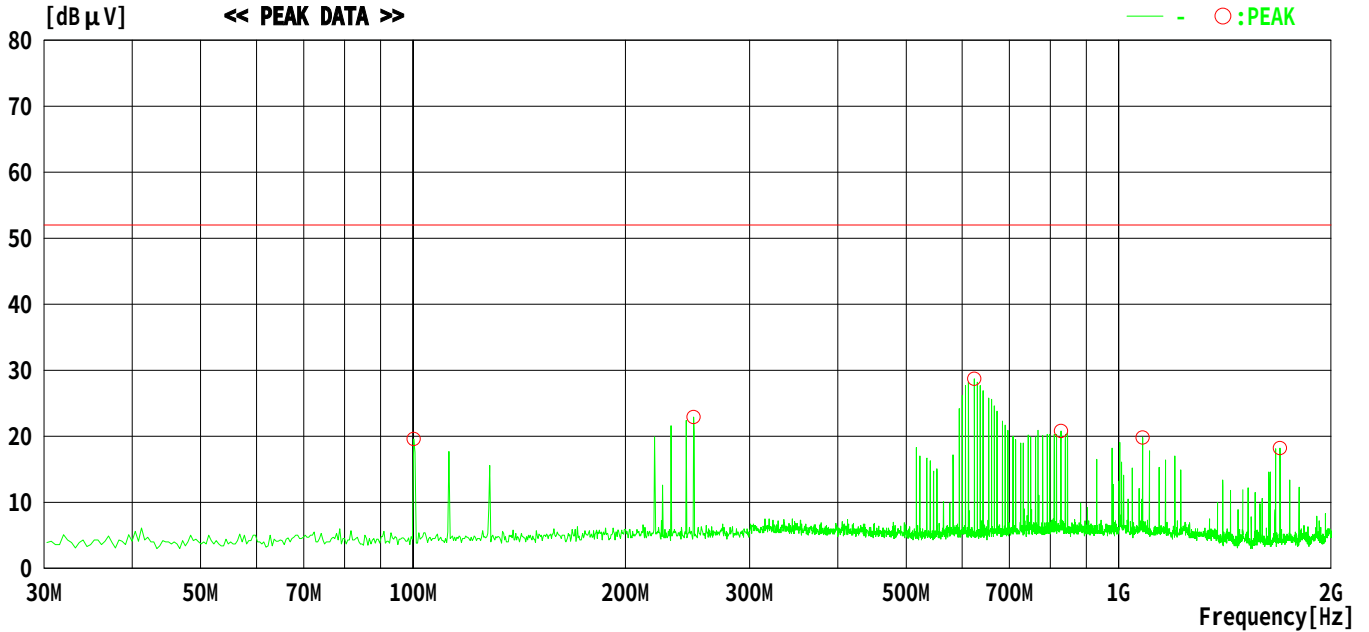
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.  
EQUIPMENT : DVD/VCR  
MODEL : DVD2100-CA  
OPERATION MODE : TV Tuning mode

REPORT NO : 25BE0324-YW-1  
DATE : September 29, 2004  
REGULATION : FCC 15B  
TEST ENGINEER : Tsubasa Takayama

TEMP./HUMID. : 26°C/68%

LIMIT : FCC 15B ANTENNA TERMINAL



| NO | FREQ<br>[MHz] | READING<br>Peak<br>[dB $\mu$ V] | C.F<br>[dB] | RESULT<br>Peak<br>[dB $\mu$ V] | LIMIT<br>Peak<br>[dB $\mu$ V] | MARGIN<br>-<br>[dB $\mu$ V] | MARGIN<br>[dB] | PHASE |
|----|---------------|---------------------------------|-------------|--------------------------------|-------------------------------|-----------------------------|----------------|-------|
| 1  | 100.24260     | 40.0                            | -20.4       | 19.6                           | 52.0                          | ----                        | 32.4           | ----  |
| 2  | 249.85060     | 42.5                            | -19.6       | 22.9                           | 52.0                          | ----                        | 29.1           | ----  |
| 3  | 624.56760     | 49.0                            | -20.3       | 28.7                           | 52.0                          | ----                        | 23.3           | ----  |
| 4  | 828.57670     | 40.5                            | -19.7       | 20.8                           | 52.0                          | ----                        | 31.2           | ----  |
| 5  | 1081.42500    | 45.5                            | -25.7       | 19.8                           | 52.0                          | ----                        | 32.2           | ----  |
| 6  | 1693.14600    | 43.8                            | -25.6       | 18.2                           | 52.0                          | ----                        | 33.8           | ----  |

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

# DATA OF ANTENNA TERMINAL TEST

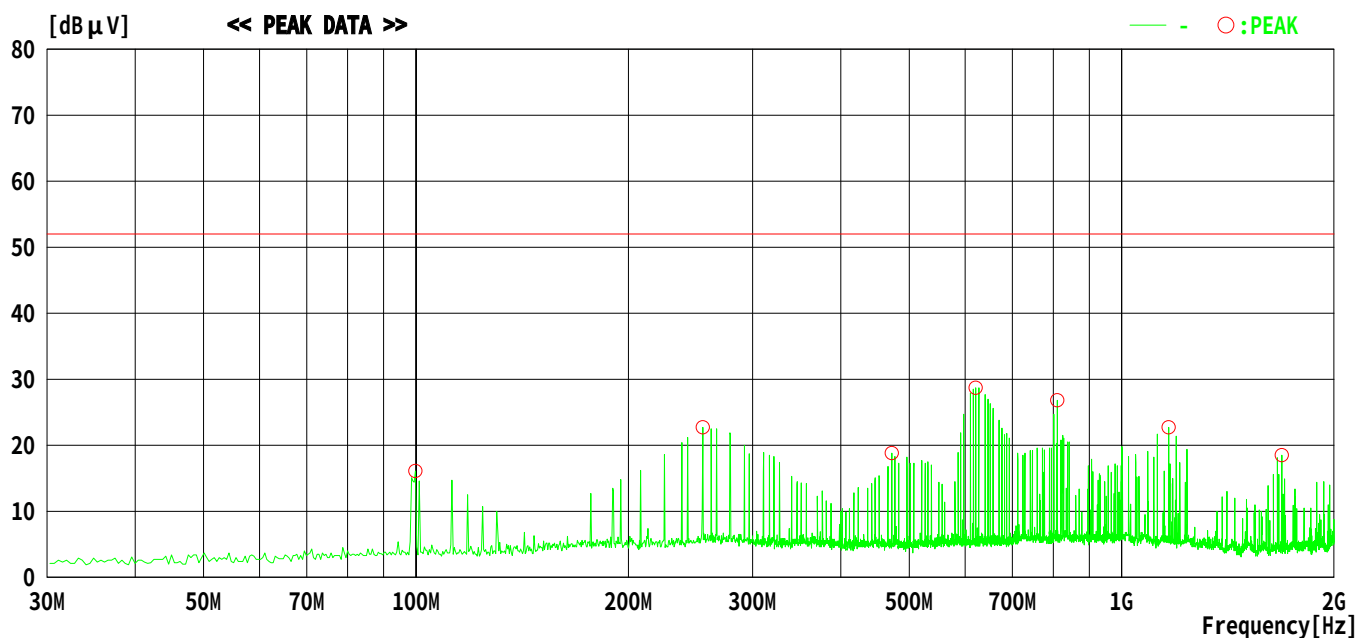
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.  
EQUIPMENT : DVD/VCR  
MODEL : DVD2100-CA  
OPERATION MODE : CATV Tuning mode

REPORT NO : 25BE0324-YW-1  
DATE : September 29, 2004  
REGULATION : FCC 15B  
TEST ENGINEER : Tsubasa Takayama

TEMP./HUMID. : 26°C/68%

LIMIT : FCC 15B ANTENNA TERMINAL



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

## **RF output level**

UL Apex Co., LTD.  
YOKOWA EMC LAB.

|              |                             |               |                         |
|--------------|-----------------------------|---------------|-------------------------|
| Company      | : Orion Electric Co.,Ltd.   | Report Number | : 24BE0324-YW-1         |
| Equipment    | : DVD/VCR                   | Regulation    | : FCC Prat15B Subpart B |
| Model number | : DVD2100-CA                | Date          | : October 3, 2004       |
| Power        | : AC 120 V / 60 Hz          | Temp./Humid   | : 22°C/51%              |
| Description  | : TV Reception + Rec(0dBmV) | Engineer      | : Tsubasa Takayama      |

### Video signal

| Ch. | Frequency<br>[MHz] | Meter reading<br>[dBuV] | Correction<br>factor<br>[dB] | Result<br>[dB] | Limits<br>[dBuV] | Margin<br>[dB] |
|-----|--------------------|-------------------------|------------------------------|----------------|------------------|----------------|
| 3   | 61.25              | 84.8                    | 20.0                         | 64.8           | 69.5             | 4.7            |
| 4   | 67.25              | 84.4                    | 19.9                         | 64.5           | 69.5             | 5.0            |

### Audio signal

| Ch. | Frequency<br>[MHz] | Meter reading<br>[dBuV] | Correction<br>factor<br>[dB] | Result<br>[dB] | Limits<br>[dBuV] | Margin<br>[dB] |
|-----|--------------------|-------------------------|------------------------------|----------------|------------------|----------------|
| 3   | 56.75              | 69.3                    | 20.0                         | 49.3           | 56.5             | 7.2            |
|     | 65.75              | 68.2                    | 20.0                         | 48.2           | 56.5             | 8.3            |
| 4   | 62.75              | 68.7                    | 20.0                         | 48.7           | 56.5             | 7.8            |
|     | 71.75              | 67.4                    | 20.0                         | 47.4           | 56.5             | 9.1            |

## **RF output level**

UL Apex Co., LTD.  
YOKOWA EMC LAB.

|              |                              |               |                         |
|--------------|------------------------------|---------------|-------------------------|
| Company      | : Orion Electric Co.,Ltd.    | Report Number | : 24BE0324-YW-1         |
| Equipment    | : DVD/VCR                    | Regulation    | : FCC Part15B Subpart B |
| Model number | : DVD2100-CA                 | Date          | : October 3, 2004       |
| Power        | : AC 120 V / 60 Hz           | Temp./Humid   | : 22°C/51%              |
| Description  | : TV Reception + Rec(25dBmV) | Engineer      | : Tsubasa Takayama      |

### Video signal

| Ch. | Frequency<br>[MHz] | Meter reading<br>[dBuV] | Correction<br>factor<br>[dB] | Result<br>[dB] | Limits<br>[dBuV] | Margin<br>[dB] |
|-----|--------------------|-------------------------|------------------------------|----------------|------------------|----------------|
| 3   | 61.25              | 84.6                    | 20.0                         | 64.6           | 69.5             | 4.9            |
| 4   | 67.25              | 84.2                    | 19.9                         | 64.3           | 69.5             | 5.2            |

### Audio signal

| Ch. | Frequency<br>[MHz] | Meter reading<br>[dBuV] | Correction<br>factor<br>[dB] | Result<br>[dB] | Limits<br>[dBuV] | Margin<br>[dB] |
|-----|--------------------|-------------------------|------------------------------|----------------|------------------|----------------|
| 3   | 56.75              | 69.3                    | 20.0                         | 49.3           | 56.5             | 7.2            |
|     | 65.75              | 68.2                    | 20.0                         | 48.2           | 56.5             | 8.3            |
| 4   | 62.75              | 68.7                    | 20.0                         | 48.7           | 56.5             | 7.8            |
|     | 71.75              | 67.4                    | 20.0                         | 47.4           | 56.5             | 9.1            |

## **RF output level**

UL Apex Co., LTD.  
YOKOWA EMC LAB.

|              |                           |               |                         |
|--------------|---------------------------|---------------|-------------------------|
| Company      | : Orion Electric Co.,Ltd. | Report Number | : 24BE0324-YW-1         |
| Equipment    | : DVD/VCR                 | Regulation    | : FCC Part15B Subpart B |
| Model number | : DVD2100-CA              | Date          | : October 3, 2004       |
| Power        | : AC 120 V / 60 Hz        | Temp./Humid   | : 22°C/51%              |
| Description  | : VCR Playback            | Engineer      | : Tsubasa Takayama      |

### Video signal

| Ch. | Frequency<br>[MHz] | Meter reading<br>[dBuV] | Correction<br>factor<br>[dB] | Result<br>[dB] | Limits<br>[dBuV] | Margin<br>[dB] |
|-----|--------------------|-------------------------|------------------------------|----------------|------------------|----------------|
| 3   | 61.25              | 85.0                    | 20.0                         | 65.0           | 69.5             | 4.5            |
| 4   | 67.25              | 84.3                    | 19.9                         | 64.4           | 69.5             | 5.1            |

### Audio signal

| Ch. | Frequency<br>[MHz] | Meter reading<br>[dBuV] | Correction<br>factor<br>[dB] | Result<br>[dB] | Limits<br>[dBuV] | Margin<br>[dB] |
|-----|--------------------|-------------------------|------------------------------|----------------|------------------|----------------|
| 3   | 56.75              | 69.3                    | 20.0                         | 49.3           | 56.5             | 7.2            |
|     | 65.75              | 68.2                    | 20.0                         | 48.2           | 56.5             | 8.3            |
| 4   | 62.75              | 68.6                    | 20.0                         | 48.6           | 56.5             | 7.9            |
|     | 71.75              | 67.4                    | 20.0                         | 47.4           | 56.5             | 9.1            |

## **RF output level**

UL Apex Co., LTD.  
YOKOWA EMC LAB.

|              |                           |               |                         |
|--------------|---------------------------|---------------|-------------------------|
| Company      | : Orion Electric Co.,Ltd. | Report Number | : 24BE0324-YW-1         |
| Equipment    | : DVD/VCR                 | Regulation    | : FCC Part15B Subpart B |
| Model number | : DVD2100-CA              | Date          | : October 3, 2004       |
| Power        | : AC 120 V / 60 Hz        | Temp./Humid   | : 22°C/51%              |
| Description  | : DVD Play                | Engineer      | : Tsubasa Takayama      |

### Video signal

| Ch. | Frequency<br>[MHz] | Meter reading<br>[dBuV] | Correction<br>factor<br>[dB] | Result<br>[dB] | Limits<br>[dBuV] | Margin<br>[dB] |
|-----|--------------------|-------------------------|------------------------------|----------------|------------------|----------------|
| 3   | 61.25              | 85.0                    | 20.0                         | 65.0           | 69.5             | 4.5            |
| 4   | 67.25              | 84.3                    | 19.9                         | 64.4           | 69.5             | 5.1            |

### Audio signal

| Ch. | Frequency<br>[MHz] | Meter reading<br>[dBuV] | Correction<br>factor<br>[dB] | Result<br>[dB] | Limits<br>[dBuV] | Margin<br>[dB] |
|-----|--------------------|-------------------------|------------------------------|----------------|------------------|----------------|
| 3   | 56.75              | 69.4                    | 20.0                         | 49.4           | 56.5             | 7.1            |
|     | 65.75              | 68.1                    | 20.0                         | 48.1           | 56.5             | 8.4            |
| 4   | 62.75              | 68.6                    | 20.0                         | 48.6           | 56.5             | 7.9            |
|     | 71.75              | 67.5                    | 20.0                         | 47.5           | 56.5             | 9.0            |



# DATA OF RF SUPRIIOUS TEST

UL Apex Co.,Ltd.  
Date : 2004/10/03 21:17:49

COMPANY : Orion Electric Co., Ltd.  
EQUIPMENT : DVD/VCR  
MODEL : DVD2100-CA  
TEMP./HUMID. : 22°C/51%

REPORT NO : 25BE0324-YW-1  
DATE : October 3, 2004  
REGULATION : FCC Part15 Subpart B  
TEST ENGINEER : Tubasa Takayama

OPERATION MODE : TV Receotion+Rec.(0dBmV) : 3ch

LIMIT : FCC 15B RF OUT SPURIOUS

| NO | FREQ<br>[MHz] | READING        |             | C.F<br>[dB] | RESULT         |             | LIMIT          |             | MARGIN |      | PHASE |
|----|---------------|----------------|-------------|-------------|----------------|-------------|----------------|-------------|--------|------|-------|
|    |               | Peak<br>[dBμV] | -<br>[dBμV] |             | Peak<br>[dBμV] | -<br>[dBμV] | Peak<br>[dBμV] | -<br>[dBμV] | [dB]   | [dB] |       |
| 1  | 47.7100       | 35.3           | ----        | -21.0       | 14.3           | ----        | 39.5           | ----        | 25.2   | ---- | -     |
| 2  | 74.7700       | 33.0           | ----        | -21.0       | 12.0           | ----        | 39.5           | ----        | 27.5   | ---- | -     |
| 3  | 122.4900      | 40.6           | ----        | -20.8       | 19.8           | ----        | 39.5           | ----        | 19.7   | ---- | -     |
| 4  | 171.8000      | 31.7           | ----        | -20.7       | 11.0           | ----        | 39.5           | ----        | 28.5   | ---- | -     |
| 5  | 244.9900      | 32.5           | ----        | -20.9       | 11.6           | ----        | 39.5           | ----        | 27.9   | ---- | -     |
| 6  | 945.0100      | 39.4           | ----        | -20.5       | 18.9           | ----        | 39.5           | ----        | 20.6   | ---- | -     |

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

# DATA OF RF SUPRIIOUS TEST

UL Apex Co.,Ltd.  
Date : 2004/10/03 21:17:49

COMPANY : Orion Electric Co., Ltd.  
EQUIPMENT : DVD/VCR  
MODEL : DVD2100-CA  
TEMP./HUMID. : 22°C/51%

REPORT NO : 25BE0324-YW-1  
DATE : October 3, 2004  
REGULATION : FCC Part15 Subpart B  
TEST ENGINEER : Tubasa Takayama

OPERATION MODE : TV Receotion+Rec.(25dBmV) : 3ch

LIMIT : FCC 15B RF OUT SPURIOUS

| NO | FREQ<br>[MHz] | READING        |             | C.F<br>[dB] | RESULT         |             | LIMIT          |             | MARGIN |      | PHASE |
|----|---------------|----------------|-------------|-------------|----------------|-------------|----------------|-------------|--------|------|-------|
|    |               | Peak<br>[dBμV] | -<br>[dBμV] |             | Peak<br>[dBμV] | -<br>[dBμV] | Peak<br>[dBμV] | -<br>[dBμV] | [dB]   | [dB] |       |
| 1  | 47.7100       | 35.3           | ----        | -21.0       | 14.3           | ----        | 39.5           | ----        | 25.2   | ---- | -     |
| 2  | 74.7500       | 33.0           | ----        | -21.0       | 12.0           | ----        | 39.5           | ----        | 27.5   | ---- | -     |
| 3  | 122.5000      | 40.0           | ----        | -20.8       | 19.2           | ----        | 39.5           | ----        | 20.3   | ---- | -     |
| 4  | 171.7900      | 31.2           | ----        | -20.7       | 10.5           | ----        | 39.5           | ----        | 29.0   | ---- | -     |
| 5  | 244.9900      | 32.2           | ----        | -20.9       | 11.3           | ----        | 39.5           | ----        | 28.2   | ---- | -     |
| 6  | 945.0000      | 39.2           | ----        | -20.5       | 18.7           | ----        | 39.5           | ----        | 20.8   | ---- | -     |

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

# DATA OF RF SUPRIIOUS TEST

UL Apex Co.,Ltd.  
Date : 2004/10/03 21:17:49

COMPANY : Orion Electric Co., Ltd.  
EQUIPMENT : DVD/VCR  
MODEL : DVD2100-CA  
TEMP./HUMID. : 22°C/51%

REPORT NO : 25BE0324-YW-1  
DATE : October 3, 2004  
REGULATION : FCC Part15 Subpart B  
TEST ENGINEER : Tubasa Takayama

OPERATION MODE : VCR Playback : 3ch

LIMIT : FCC 15B RF OUT SPURIOUS

| NO | FREQ<br>[MHz] | READING        |             | C.F<br>[dB] | RESULT         |             | LIMIT          |             | MARGIN |      | PHASE |
|----|---------------|----------------|-------------|-------------|----------------|-------------|----------------|-------------|--------|------|-------|
|    |               | Peak<br>[dBμV] | -<br>[dBμV] |             | Peak<br>[dBμV] | -<br>[dBμV] | Peak<br>[dBμV] | -<br>[dBμV] | [dB]   | [dB] |       |
| 1  | 47.7400       | 35.3           | ----        | -21.0       | 14.3           | ----        | 39.5           | ----        | 25.2   | ---- | -     |
| 2  | 74.7200       | 32.6           | ----        | -21.0       | 11.6           | ----        | 39.5           | ----        | 27.9   | ---- | -     |
| 3  | 122.4800      | 40.4           | ----        | -20.8       | 19.6           | ----        | 39.5           | ----        | 19.9   | ---- | -     |
| 4  | 171.8100      | 31.7           | ----        | -20.7       | 11.0           | ----        | 39.5           | ----        | 28.5   | ---- | -     |
| 5  | 244.9900      | 32.7           | ----        | -20.9       | 11.8           | ----        | 39.5           | ----        | 27.7   | ---- | -     |
| 6  | 945.0000      | 39.9           | ----        | -20.5       | 19.4           | ----        | 39.5           | ----        | 20.1   | ---- | -     |

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

# DATA OF RF SUPRIIOUS TEST

UL Apex Co.,Ltd.  
Date : 2004/10/03 21:17:49

COMPANY : Orion Electric Co., Ltd.  
EQUIPMENT : DVD/VCR  
MODEL : DVD2100-CA  
TEMP./HUMID. : 22°C/51%

REPORT NO : 25BE0324-YW-1  
DATE : October 3, 2004  
REGULATION : FCC Part15 Subpart B  
TEST ENGINEER : Tubasa Takayama

OPERATION MODE : DVD Play : 3ch

LIMIT : FCC 15B RF OUT SPURIOUS

| NO | FREQ<br>[MHz] | READING        |             | C.F<br>[dB] | RESULT         |             | LIMIT          |             | MARGIN |      | PHASE |
|----|---------------|----------------|-------------|-------------|----------------|-------------|----------------|-------------|--------|------|-------|
|    |               | Peak<br>[dBμV] | -<br>[dBμV] |             | Peak<br>[dBμV] | -<br>[dBμV] | Peak<br>[dBμV] | -<br>[dBμV] | [dB]   | [dB] |       |
| 1  | 47.6700       | 35.3           | ----        | -21.0       | 14.3           | ----        | 39.5           | ----        | 25.2   | ---- | -     |
| 2  | 74.7100       | 32.5           | ----        | -21.0       | 11.5           | ----        | 39.5           | ----        | 28.0   | ---- | -     |
| 3  | 122.5000      | 40.4           | ----        | -20.8       | 19.6           | ----        | 39.5           | ----        | 19.9   | ---- | -     |
| 4  | 171.8000      | 31.7           | ----        | -20.7       | 11.0           | ----        | 39.5           | ----        | 28.5   | ---- | -     |
| 5  | 244.9900      | 32.7           | ----        | -20.9       | 11.8           | ----        | 39.5           | ----        | 27.7   | ---- | -     |
| 6  | 612.5000      | 34.3           | ----        | -20.6       | 13.7           | ----        | 39.5           | ----        | 25.8   | ---- | -     |

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

# DATA OF RF SUPRIIOUS TEST

UL Apex Co.,Ltd.  
Date : 2004/10/03 21:17:49

COMPANY : Orion Electric Co., Ltd.  
EQUIPMENT : DVD/VCR  
MODEL : DVD2100-CA  
TEMP./HUMID. : 22°C/51%

REPORT NO : 25BE0324-YW-1  
DATE : October 3, 2004  
REGULATION : FCC Part15 Subpart B  
TEST ENGINEER : Tubasa Takayama

OPERATION MODE : TV Reception+Rec.(0dBmV) : 4ch

LIMIT : FCC 15B RF OUT SPURIOUS

| NO | FREQ<br>[MHz] | READING        |             | C.F<br>[dB] | RESULT         |             | LIMIT          |             | MARGIN |      | PHASE |
|----|---------------|----------------|-------------|-------------|----------------|-------------|----------------|-------------|--------|------|-------|
|    |               | Peak<br>[dBμV] | -<br>[dBμV] |             | Peak<br>[dBμV] | -<br>[dBμV] | Peak<br>[dBμV] | -<br>[dBμV] | [dB]   | [dB] |       |
| 1  | 53.7300       | 35.2           | ----        | -20.9       | 14.3           | ----        | 39.5           | ----        | 25.2   | ---- | -     |
| 2  | 80.7600       | 31.9           | ----        | -21.2       | 10.7           | ----        | 39.5           | ----        | 28.8   | ---- | -     |
| 3  | 134.4500      | 38.0           | ----        | -20.7       | 17.3           | ----        | 39.5           | ----        | 22.2   | ---- | -     |
| 4  | 171.8000      | 30.8           | ----        | -20.7       | 10.1           | ----        | 39.5           | ----        | 29.4   | ---- | -     |
| 5  | 268.9600      | 31.7           | ----        | -20.9       | 10.8           | ----        | 39.5           | ----        | 28.7   | ---- | -     |
| 6  | 945.0000      | 39.8           | ----        | -20.5       | 19.3           | ----        | 39.5           | ----        | 20.2   | ---- | -     |

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

# DATA OF RF SUPRIIOUS TEST

UL Apex Co.,Ltd.  
Date : 2004/10/03 21:17:49

COMPANY : Orion Electric Co., Ltd.  
EQUIPMENT : DVD/VCR  
MODEL : DVD2100-CA  
TEMP./HUMID. : 22°C/51%

REPORT NO : 25BE0324-YW-1  
DATE : October 3, 2004  
REGULATION : FCC Part15 Subpart B  
TEST ENGINEER : Tubasa Takayama

OPERATION MODE : TV Reception+Rec.(25dBmV) : 4ch

LIMIT : FCC 15B RF OUT SPURIOUS

| NO | FREQ<br>[MHz] | READING        |             | C.F<br>[dB] | RESULT         |             | LIMIT          |             | MARGIN |      | PHASE |
|----|---------------|----------------|-------------|-------------|----------------|-------------|----------------|-------------|--------|------|-------|
|    |               | Peak<br>[dBμV] | -<br>[dBμV] |             | Peak<br>[dBμV] | -<br>[dBμV] | Peak<br>[dBμV] | -<br>[dBμV] | [dB]   | [dB] |       |
| 1  | 53.7200       | 35.3           | ----        | -20.9       | 14.4           | ----        | 39.5           | ----        | 25.1   | ---- | -     |
| 2  | 80.7500       | 31.7           | ----        | -21.2       | 10.5           | ----        | 39.5           | ----        | 29.0   | ---- | -     |
| 3  | 134.4400      | 38.0           | ----        | -20.7       | 17.3           | ----        | 39.5           | ----        | 22.2   | ---- | -     |
| 4  | 171.8000      | 30.5           | ----        | -20.7       | 9.8            | ----        | 39.5           | ----        | 29.7   | ---- | -     |
| 5  | 268.9600      | 31.5           | ----        | -20.9       | 10.6           | ----        | 39.5           | ----        | 28.9   | ---- | -     |
| 6  | 945.0100      | 39.8           | ----        | -20.5       | 19.3           | ----        | 39.5           | ----        | 20.2   | ---- | -     |

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

# DATA OF RF SUPRIIOUS TEST

UL Apex Co.,Ltd.  
Date : 2004/10/03 21:17:49

COMPANY : Orion Electric Co., Ltd.  
EQUIPMENT : DVD/VCR  
MODEL : DVD2100-CA  
TEMP./HUMID. : 22°C/51%

REPORT NO : 25BE0324-YW-1  
DATE : October 3, 2004  
REGULATION : FCC Part15 Subpart B  
TEST ENGINEER : Tubasa Takayama

OPERATION MODE : VCR Playback : 4ch

LIMIT : FCC 15B RF OUT SPURIOUS

| NO | FREQ<br>[MHz] | READING        |             | C.F<br>[dB] | RESULT         |             | LIMIT          |             | MARGIN |      | PHASE |
|----|---------------|----------------|-------------|-------------|----------------|-------------|----------------|-------------|--------|------|-------|
|    |               | Peak<br>[dBμV] | -<br>[dBμV] |             | Peak<br>[dBμV] | -<br>[dBμV] | Peak<br>[dBμV] | -<br>[dBμV] | [dB]   | [dB] |       |
| 1  | 53.7400       | 35.0           | ----        | -20.9       | 14.1           | ----        | 39.5           | ----        | 25.4   | ---- | -     |
| 2  | 80.7100       | 32.2           | ----        | -21.2       | 11.0           | ----        | 39.5           | ----        | 28.5   | ---- | -     |
| 3  | 134.4500      | 38.2           | ----        | -20.7       | 17.5           | ----        | 39.5           | ----        | 22.0   | ---- | -     |
| 4  | 171.8200      | 30.7           | ----        | -20.7       | 10.0           | ----        | 39.5           | ----        | 29.5   | ---- | -     |
| 5  | 268.9500      | 32.0           | ----        | -20.9       | 11.1           | ----        | 39.5           | ----        | 28.4   | ---- | -     |
| 6  | 945.0000      | 39.2           | ----        | -20.5       | 18.7           | ----        | 39.5           | ----        | 20.8   | ---- | -     |

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

# DATA OF RF SUPRIIOUS TEST

UL Apex Co.,Ltd.  
Date : 2004/10/03 21:17:49

COMPANY : Orion Electric Co., Ltd.  
EQUIPMENT : DVD/VCR  
MODEL : DVD2100-CA  
TEMP./HUMID. : 22°C/51%

REPORT NO : 25BE0324-YW-1  
DATE : October 3, 2004  
REGULATION : FCC Part15 Subpart B  
TEST ENGINEER : Tubasa Takayama

OPERATION MODE : DVD Play : 4ch

LIMIT : FCC 15B RF OUT SPURIOUS

| NO | FREQ<br>[MHz] | READING        |             | C.F<br>[dB] | RESULT         |             | LIMIT          |             | MARGIN |      | PHASE |
|----|---------------|----------------|-------------|-------------|----------------|-------------|----------------|-------------|--------|------|-------|
|    |               | Peak<br>[dBμV] | -<br>[dBμV] |             | Peak<br>[dBμV] | -<br>[dBμV] | Peak<br>[dBμV] | -<br>[dBμV] | [dB]   | [dB] |       |
| 1  | 53.7400       | 34.8           | ----        | -20.9       | 13.9           | ----        | 39.5           | ----        | 25.6   | ---- | -     |
| 2  | 80.7600       | 31.7           | ----        | -21.2       | 10.5           | ----        | 39.5           | ----        | 29.0   | ---- | -     |
| 3  | 134.4600      | 37.9           | ----        | -20.7       | 17.2           | ----        | 39.5           | ----        | 22.3   | ---- | -     |
| 4  | 171.8000      | 30.4           | ----        | -20.7       | 9.7            | ----        | 39.5           | ----        | 29.8   | ---- | -     |
| 5  | 268.9200      | 31.4           | ----        | -20.9       | 10.5           | ----        | 39.5           | ----        | 29.0   | ---- | -     |
| 6  | 945.0100      | 37.7           | ----        | -20.5       | 17.2           | ----        | 39.5           | ----        | 22.3   | ---- | -     |

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



# DATA OF ANTENNA TRANSFER SWITCH TEST

UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.  
EQUIPMENT : DVD/VCR  
MODEL : DVD2100-CA  
TEMP./HUMID. : 23°C/43%

REPORT NO : 25BE0324-YW-1  
DATE : October 05, 2004  
REGULATION : FCC Part15 Subpart B  
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : VCR Playback : 3ch

LIMIT : FCC15B ANTENNA TRANSFER SWITCH

| NO | FREQ<br>[MHz] | READING        |             | C.F<br>[dB] | RESULT         |             | LIMIT          |             | MARGIN |      | PHASE |
|----|---------------|----------------|-------------|-------------|----------------|-------------|----------------|-------------|--------|------|-------|
|    |               | Peak<br>[dBμV] | -<br>[dBμV] |             | Peak<br>[dBμV] | -<br>[dBμV] | Peak<br>[dBμV] | -<br>[dBμV] | [dB]   | [dB] |       |
| 1  | 61.2500       | 24.6           | ----        | -20.8       | 3.8            | ----        | 9.5            | ----        | 5.7    | ---- | -     |
| 2  | 122.5000      | 24.0           | ----        | -20.3       | 3.7            | ----        | 9.5            | ----        | 5.8    | ---- | -     |
| 3  | 183.7500      | 22.0           | ----        | -19.7       | 2.3            | ----        | 9.5            | ----        | 7.2    | ---- | -     |
| 4  | 245.0000      | 23.0           | ----        | -19.6       | 3.4            | ----        | 9.5            | ----        | 6.1    | ---- | -     |
| 5  | 306.2500      | 23.3           | ----        | -19.5       | 3.8            | ----        | 9.5            | ----        | 5.7    | ---- | -     |
| 6  | 367.5000      | 23.7           | ----        | -19.8       | 3.9            | ----        | 9.5            | ----        | 5.6    | ---- | -     |

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

# DATA OF ANTENNA TRANSFER SWITCH TEST

UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.  
EQUIPMENT : DVD/VCR  
MODEL : DVD2100-CA  
TEMP./HUMID. : 23°C/43%

REPORT NO : 25BE0324-YW-1  
DATE : October 05, 2004  
REGULATION : FCC Part15 Subpart B  
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : DVD Play : 3ch

LIMIT : FCC15B ANTENNA TRANSFER SWITCH

| NO | FREQ<br>[MHz] | READING        |             | C.F<br>[dB] | RESULT         |             | LIMIT          |             | MARGIN |      | PHASE |
|----|---------------|----------------|-------------|-------------|----------------|-------------|----------------|-------------|--------|------|-------|
|    |               | Peak<br>[dBμV] | -<br>[dBμV] |             | Peak<br>[dBμV] | -<br>[dBμV] | Peak<br>[dBμV] | -<br>[dBμV] | [dB]   | [dB] |       |
| 1  | 61.2500       | 24.2           | ----        | -20.8       | 3.4            | ----        | 9.5            | ----        | 6.1    | ---- | -     |
| 2  | 122.5000      | 24.2           | ----        | -20.3       | 3.9            | ----        | 9.5            | ----        | 5.6    | ---- | -     |
| 3  | 183.7500      | 23.1           | ----        | -19.7       | 3.4            | ----        | 9.5            | ----        | 6.1    | ---- | -     |
| 4  | 245.0000      | 23.9           | ----        | -19.6       | 4.3            | ----        | 9.5            | ----        | 5.2    | ---- | -     |
| 5  | 306.2500      | 23.4           | ----        | -19.5       | 3.9            | ----        | 9.5            | ----        | 5.6    | ---- | -     |
| 6  | 367.5000      | 23.6           | ----        | -19.8       | 3.8            | ----        | 9.5            | ----        | 5.7    | ---- | -     |

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

# DATA OF ANTENNA TRANSFER SWITCH TEST

UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.  
EQUIPMENT : DVD/VCR  
MODEL : DVD2100-CA  
TEMP./HUMID. : 23°C/43%

REPORT NO : 25BE0324-YW-1  
DATE : October 05, 2004  
REGULATION : FCC Part15 Subpart B  
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : VCR Playback : 4ch

LIMIT : FCC15B ANTENNA TRANSFER SWITCH

| NO | FREQ<br>[MHz] | READING        |             | C.F<br>[dB] | RESULT         |             | LIMIT          |             | MARGIN |      | PHASE |
|----|---------------|----------------|-------------|-------------|----------------|-------------|----------------|-------------|--------|------|-------|
|    |               | Peak<br>[dBμV] | -<br>[dBμV] |             | Peak<br>[dBμV] | -<br>[dBμV] | Peak<br>[dBμV] | -<br>[dBμV] | [dB]   | [dB] |       |
| 1  | 67.2500       | 25.8           | ----        | -20.5       | 5.3            | ----        | 9.5            | ----        | 4.2    | ---- | -     |
| 2  | 134.5000      | 24.0           | ----        | -20.2       | 3.8            | ----        | 9.5            | ----        | 5.7    | ---- | -     |
| 3  | 201.7500      | 23.5           | ----        | -19.6       | 3.9            | ----        | 9.5            | ----        | 5.6    | ---- | -     |
| 4  | 269.0000      | 23.4           | ----        | -19.5       | 3.9            | ----        | 9.5            | ----        | 5.6    | ---- | -     |
| 5  | 336.2500      | 23.4           | ----        | -19.6       | 3.8            | ----        | 9.5            | ----        | 5.7    | ---- | -     |
| 6  | 403.5000      | 23.7           | ----        | -20.1       | 3.6            | ----        | 9.5            | ----        | 5.9    | ---- | -     |

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

# DATA OF ANTENNA TRANSFER SWITCH TEST

UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.  
EQUIPMENT : DVD/VCR  
MODEL : DVD2100-CA  
TEMP./HUMID. : 23°C/43%

REPORT NO : 25BE0324-YW-1  
DATE : October 05, 2004  
REGULATION : FCC Part15 Subpart B  
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : DVD Play : 4ch

LIMIT : FCC15B ANTENNA TRANSFER SWITCH

| NO | FREQ<br>[MHz] | READING        |             | C.F<br>[dB] | RESULT         |             | LIMIT          |             | MARGIN |      | PHASE |
|----|---------------|----------------|-------------|-------------|----------------|-------------|----------------|-------------|--------|------|-------|
|    |               | Peak<br>[dBμV] | -<br>[dBμV] |             | Peak<br>[dBμV] | -<br>[dBμV] | Peak<br>[dBμV] | -<br>[dBμV] | [dB]   | [dB] |       |
| 1  | 67.2500       | 25.5           | ----        | -20.5       | 5.0            | ----        | 9.5            | ----        | 4.5    | ---- | -     |
| 2  | 134.5000      | 24.4           | ----        | -20.2       | 4.2            | ----        | 9.5            | ----        | 5.3    | ---- | -     |
| 3  | 201.7500      | 23.6           | ----        | -19.6       | 4.0            | ----        | 9.5            | ----        | 5.5    | ---- | -     |
| 4  | 269.0000      | 23.7           | ----        | -19.5       | 4.2            | ----        | 9.5            | ----        | 5.3    | ---- | -     |
| 5  | 336.2500      | 23.5           | ----        | -19.6       | 3.9            | ----        | 9.5            | ----        | 5.6    | ---- | -     |
| 6  | 403.5000      | 23.9           | ----        | -20.1       | 3.8            | ----        | 9.5            | ----        | 5.7    | ---- | -     |

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

## Picture Sensitivity Test

UL Apex Co.,Ltd.  
Yokowa EMC Laboratory

|              |                           |               |                       |
|--------------|---------------------------|---------------|-----------------------|
| Company      | : Orion Electric Co.,Ltd. | Report Number | : 25BE0324-YW-1       |
| Equipment    | : DVD/VCR                 | Regulation    | : FCC Part15 SubpartB |
| Model Number | : DVD2100-CA              | Date          | : 9/30/2004           |
| Power        | : AC120 V / 60Hz          | Temp / Humid  | : deg.C/ %            |
| Description  | : TV Reception            | Engineer      | : Tsubasa Takayama    |
| Remarks      | : -                       |               |                       |

| Ch<br>[VHF]                                 | Frequency<br>[MHz] | Sensitivity<br>[MHz] |      | Ch<br>[UHF] | Frequency<br>[MHz] | Sensitivity<br>[MHz] |        |
|---------------------------------------------|--------------------|----------------------|------|-------------|--------------------|----------------------|--------|
|                                             |                    | [dBμV]               | [μV] |             |                    | [dB μ V]             | [ μ V] |
| 2                                           | 55.25              | 20.0                 | 10.0 | 14          | 471.25             | 18.2                 | 8.1    |
| 3                                           | 61.25              | 15.0                 | 5.6  | 20          | 507.25             | 19.1                 | 9.0    |
| 4                                           | 67.25              | 14.5                 | 5.3  | 26          | 543.25             | 20.6                 | 10.7   |
| 5                                           | 77.25              | 15.0                 | 5.6  | 32          | 579.25             | 20.8                 | 11.0   |
| 6                                           | 83.25              | 15.0                 | 5.6  | 38          | 615.25             | 23.7                 | 15.3   |
| 7                                           | 175.25             | 17.0                 | 7.1  | 44          | 651.25             | 22.7                 | 13.6   |
| 8                                           | 181.25             | 16.9                 | 7.0  | 50          | 687.25             | 22.7                 | 13.6   |
| 9                                           | 187.25             | 17.0                 | 7.1  | 56          | 723.25             | 21.3                 | 11.6   |
| 10                                          | 193.25             | 17.0                 | 7.1  | 62          | 759.25             | 21.3                 | 11.6   |
| 11                                          | 199.25             | 17.1                 | 7.2  | 69          | 801.25             | 19.5                 | 9.4    |
| 12                                          | 205.25             | 17.7                 | 7.7  | -           | -                  | -                    |        |
| 13                                          | 211.25             | 17.6                 | 7.6  | -           | -                  | -                    | -      |
| Average VHF                                 |                    |                      | 6.9  | Average UHF |                    |                      | 11.4   |
| Average UHF/VHF : 20 log UHF[μV] / VHF[μV]= |                    |                      |      | 4.4         | [Limit : 8.0dB]    |                      |        |

# Noise Figure Test

UL Apex Co.,Ltd.  
Yokowa EMC Laboratory

Company : Orion Electric Co.,Ltd.  
Equipment : DVD/VCR  
Model Number : DVD2100-CA  
Power : 120V/60Hz  
Description : TV Reception  
Remarks : -

Report Number : 25BE0324-YW-1  
Regulation : FCC 15B SubpartB  
Date : 9/30/2004  
Temp / Humid : deg.C/%  
Engineer : Tsubasa Takayama

| Ch                 | Frequency<br>[MHz] | Meter<br>Reading<br>[dB] | Correction<br>Factor<br>[dB] | Noise<br>Figure<br>[dB] | Limits<br>[dB] | Margin<br>[dB] |
|--------------------|--------------------|--------------------------|------------------------------|-------------------------|----------------|----------------|
| TV VHF Fundamental |                    |                          |                              |                         |                |                |
| 2                  | 55.25              | 7.7                      | 0.2                          | 7.5                     | 14.0           | 6.5            |
| 3                  | 61.25              | 3.0                      | 0.2                          | 2.8                     | 14.0           | 11.2           |
| 4                  | 67.25              | 2.2                      | 0.2                          | 2.0                     | 14.0           | 12.0           |
| 5                  | 77.25              | 1.7                      | 0.2                          | 1.5                     | 14.0           | 12.5           |
| 6                  | 83.25              | 1.9                      | 0.2                          | 1.7                     | 14.0           | 12.3           |
| 7                  | 175.25             | 4.5                      | 0.2                          | 4.3                     | 14.0           | 9.7            |
| 8                  | 181.25             | 4.2                      | 0.2                          | 4.0                     | 14.0           | 10.0           |
| 9                  | 187.25             | 4.0                      | 0.2                          | 3.8                     | 14.0           | 10.2           |
| 10                 | 193.25             | 4.0                      | 0.2                          | 3.8                     | 14.0           | 10.2           |
| 11                 | 199.25             | 4.1                      | 0.2                          | 3.9                     | 14.0           | 10.1           |
| 12                 | 205.25             | 4.0                      | 0.2                          | 3.8                     | 14.0           | 10.2           |
| 13                 | 211.25             | 4.0                      | 0.2                          | 3.8                     | 14.0           | 10.2           |
| TV UHF Fundamental |                    |                          |                              |                         |                |                |
| 14                 | 471.25             | 2.1                      | 0.3                          | 1.8                     | 14.0           | 12.2           |
| 20                 | 507.25             | 5.5                      | 0.3                          | 5.2                     | 14.0           | 8.8            |
| 26                 | 543.25             | 5.4                      | 0.3                          | 5.1                     | 14.0           | 8.9            |
| 32                 | 579.25             | 5.5                      | 0.3                          | 5.2                     | 14.0           | 8.8            |
| 38                 | 615.25             | 5.7                      | 0.3                          | 5.4                     | 14.0           | 8.6            |
| 44                 | 651.25             | 4.6                      | 0.3                          | 4.3                     | 14.0           | 9.7            |
| 50                 | 687.25             | 4.0                      | 0.3                          | 3.7                     | 14.0           | 10.3           |
| 56                 | 723.25             | 3.9                      | 0.4                          | 3.5                     | 14.0           | 10.5           |
| 62                 | 759.25             | 4.1                      | 0.4                          | 3.7                     | 14.0           | 10.3           |
| 69                 | 801.25             | 4.4                      | 0.4                          | 4.0                     | 14.0           | 10.0           |
| Mid band           |                    |                          |                              |                         |                |                |
| 14                 | 121.25             | 1.9                      | 0.2                          | 1.7                     | 14.0           | 12.3           |
| 16                 | 133.25             | 7.5                      | 0.2                          | 7.3                     | 14.0           | 6.7            |
| 18                 | 145.25             | 6.0                      | 0.2                          | 5.8                     | 14.0           | 8.2            |
| 20                 | 157.25             | 5.2                      | 0.2                          | 5.0                     | 14.0           | 9.0            |
| 22                 | 169.25             | 5.1                      | 0.2                          | 4.9                     | 14.0           | 9.1            |
| Super band         |                    |                          |                              |                         |                |                |
| 23                 | 217.25             | 4.1                      | 0.2                          | 3.9                     | 14.0           | 10.1           |
| 26                 | 235.25             | 4.1                      | 0.2                          | 3.9                     | 14.0           | 10.1           |
| 29                 | 253.25             | 4.2                      | 0.2                          | 4.0                     | 14.0           | 10.0           |
| 32                 | 271.25             | 4.2                      | 0.2                          | 4.0                     | 14.0           | 10.0           |
| 36                 | 295.25             | 4.1                      | 0.2                          | 3.9                     | 14.0           | 10.1           |

Test Report No : 25BE0324-YW-1

### APPENDIX 3

#### Test Instruments

| Control No. | Instrument                                   | Manufacturer    | Model No                                                | Test Item           | Calibration Date *<br>Interval(month) |
|-------------|----------------------------------------------|-----------------|---------------------------------------------------------|---------------------|---------------------------------------|
| APVBT01     | VIDEO BOOSTER                                | UL Apex         | -                                                       | RF, ATS             | -                                     |
| APTVG01     | TV Generator                                 | Leader          | 408NPS                                                  | RF, ATS             | Pre Check                             |
| APSPA04     | Spectrum Analyzer                            | Advantest       | R3265                                                   | AT, RF, ATS         | 2004/05/14 * 12                       |
| IP-06       | Matching Pad                                 | TME             | ZT-301                                                  | PS, NF              | 2004/05/06 * 12                       |
| APMAT05     | Matching Pad                                 | TME             | ZT-130                                                  | AT, RF, ATS         | 2003/12/16 * 12                       |
| APNFM01     | Noise Figure Indicator                       | Elena           | ENF-2005                                                | NF                  | 2004/10/04 * 12                       |
| APNFS01     | Noise Source                                 | Elena           | MC1100                                                  | NF                  | -                                     |
| AV01-01     | Signal Generator                             | Rohde & Schwarz | SMY01                                                   | PS                  | 2004/02/19 * 12                       |
| SS-05       | Digitizing Oscilloscope                      | Sony Tektronix  | 2221                                                    | PS                  | 2004/01/22 * 12                       |
| APBPF01     | Band pass filter                             | Erika Fiedler   | BP                                                      | PS                  | Pre Check                             |
| APPRA01     | Pre Amplifier                                | Anritsu         | MH648A                                                  | AT, RF, ATS         | 2004/09/24 * 12                       |
| APPRA05     | Pre Amplifier                                | Hewlett Packard | 8449B                                                   | AT                  | 2003/12/10 * 12                       |
| APCBL-01    | Coaxial Cable                                | Fujikura        | 5D-2W                                                   | AT, RF, ATS         | 2004/01/08 * 12                       |
| APCBL-02    | Coaxial Cable                                | Fujikura        | 5D-2W                                                   | AT, RF, ATS         | 2004/01/08 * 12                       |
| OS-09       | Digital Humidity Indicator                   | SATO            | PC-5000TRH                                              | AT, RF, ATS, PS, NF | 2004/05/10 * 12                       |
| HA-01       | Horn Antenna                                 | A.H.Systems     | SAS-200/571                                             | RE                  | 2004/04/10 * 12                       |
| LS-03       | LISN(AMN)                                    | Schwarzbeck     | NSLK8127                                                | CE                  | 2003/10/31 * 12                       |
| SA-05       | Spectrum Analyzer                            | Advantest       | R3271                                                   | RE                  | 2003/12/21 * 12                       |
| TR-03       | Test Receiver                                | Rohde & Schwarz | ESHS30                                                  | CE                  | 2004/05/21 * 12                       |
| CC-2S       | Yokowa No.2 shield coaxial(0.01MHz-1000M Hz) | UL Apex         | CC-24,CC-25,CC-26, CC-28,CC-29,SW-21, SW-22             | CE                  | 2004/03/28 * 12                       |
| AF-01       | Pre Amplifier                                | Hewlett Packard | 8447D                                                   | RE                  | 2004/03/28 * 12                       |
| AF-06       | Pre Amplifier                                | Agilent         | HP8449B                                                 | RE                  | 2003/12/17 * 12                       |
| AT-06       | Attenuator                                   | Anritsu         | MP721B                                                  | RE                  | 2004/03/27 * 12                       |
| BA-06       | Biconical Antenna                            | Schwarzbeck     | BBA9106                                                 | RE                  | 2004/01/31 * 12                       |
| LA-07       | Logperiodic Antenna                          | Schwarzbeck     | UKLP9140-A                                              | RE                  | 2004/01/31 * 12                       |
| SA-06       | Spectrum Analyzer                            | Advantest       | R3273                                                   | RE                  | 2003/11/13 * 12                       |
| TR-06       | Test Receiver                                | Rohde & Schwarz | ESVS10                                                  | RE                  | 2003/10/28 * 12                       |
| CC-3ORC     | Yokowa No.3 open coaxial(0.01-1000MHz)       | UL Apex         | CC-31,CC-32,CC-33, CC-34,CC-35,CC-36, CC-37,SW-31,SW-32 | RE                  | 2004/03/28 * 12                       |
| CC-C15      | Microwave Cable                              | Suhner          | SUCOFLEX                                                | RE                  | 2004/05/02 * 12                       |
| CC-C17      | Microwave Cable                              | Suhner          | SUCOFLEX                                                | RE                  | 2004/05/02 * 12                       |
| YOATS-03    | Open Test Site                               | JSE             | 3m, 10m                                                 | RE                  | 2004/08/15 * 12                       |
| OS-16       | Digital Humidity Indicator                   | SATO            | PC-5000TRH                                              | RE                  | 2004/05/07 * 12                       |
| OS-15       | Digital Humidity Indicator                   | SATO            | PC-5000TRH                                              | CE                  | 2004/05/06 * 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  
 ATS: Antenna transfer switch  
 PS: Picture sensitivity  
 NF: Noise figure