



Certification EMI TEST REPORT

Test Report No. : 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Type of equipment : DVD/VCR
Model number : VRDVD4001AC
FCC ID : A7RM2E5A
Test standard : FCC Part 15 Subpart B
ICES-003 Issue No.4 Class B
Test result : Complied

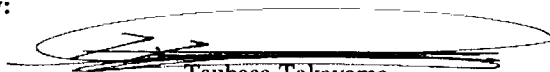
Similar model :

Model No.	Brand name	Model No.	Brand name
VR4100B	SANSUI	-	-
EH8008PC	ELECTROHOME	-	-
JDVD3825PC	CITIZEN	-	-
MVD4540D	MEMOREX	-	-

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.

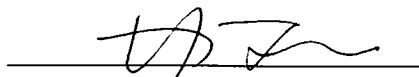
Date of test : August 24 to September 2, 2004

Tested by:


Tsubasa Takayama
EMC Service


Seigo Kakehi
EMC Service

Approved by:


Hiroya Tabata
Leader of EMC Service

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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 : SANSUI
Model number : VRDVD4001AC
FCC ID : A7RM2E5A
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 : August 22, 2004
Condition of EUT : Production Prototype
(Not for Sale: This sample is equivalent to mass-produced items.)

2.2 Product description

Model: VRDVD4001AC (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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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 IEEE 213:1987	CISPR 22	17.8 dB (0.1517 MHz, N/L1, AV Input + Rec. 1Vp-p / 0.1541 MHz, L1, AV Input + Rec. 5Vp-p)	Complied
Radiated emission	ANSI C63.4:2003 IEEE 187:1990	30–88 MHz: 100 uV/m 88–216 MHz: 150 uV/m 216–960 MHz: 200 uV/m above 960 MHz: 500 uV/m	3.3 dB (945.00 MHz, Vertical, VCR Play)	Complied
Antenna terminal voltage	ANSI C63.4:2003	2 nW (at 75 ohm)	28.3 dB (811.00450 MHz, CATV tuning)	Complied
RF output level	ANSI C63.4:2003	Video signal: 3000 uV Aural signal: 671 uV	5.8 dB (61.25 MHz, 3ch, TV Reception + Rec. 25dBmV)	Complied
Spurious emission		94.8 uV	15.9 dB (54.1100 MHz, 3ch, DVD Play)	Complied
Transfer switch	ANSI C63.4:2003	9.5 dB	5.4 dB (134.5000 MHz, 4ch, DVD Play)	Complied
Picture sensitivity	ANSI C63.4:2003	8 dB	4.3 dB	Complied
Noise figure	FCC/OET MP:2:1986	14 dB	6.4 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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3.5 Uncertainty

Conducted emission (150 kHz – 30 MHz)

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

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

Radiated emission

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

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

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

The data listed in this test report 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 ± 3.48 dB.

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

RF output level test / spurious emission test

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

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

Antenna transfer switch

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

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

Picture sensitivity test

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

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

Noise Figure Test

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

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

3.7 Test location

UL Apex Co., Ltd. Yokowa EMC Lab. No.2, No.3, No.7 shielded room and No.3 open site

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

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

4.1 Operating modes

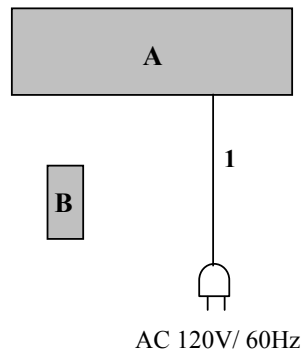
The EUT exercise program used during testing was designed exercise the various system components in a manner similar to typical use.

The sequence in used :
* TV Reception + Rec. mode (0 dBmV input / 25 dBmV input)
* AV Input + Rec. mode (1 Vp-p input / 5 Vp-p input)
* VCR 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	VRDVD4001AC	—	Orion Electric Co., Ltd.	A7RM2E5A	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

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Section 5 : Conducted emission

5.1 Operation environment

The test was carried out in a shielded room the size of 3.6 x 7.2 x 2.4m.

Date : August 27, 2004
Temperature : See data
Humidity : See data

5.2 Test configuration

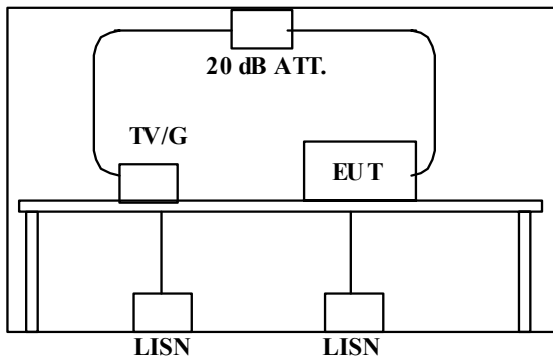
EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The rear of tabletop was located 40 cm to the vertical conducting plane. The rear of EUT was aligned and flushed with rear of tabletop. All other surfaces of tabletop was at least 80 cm from any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



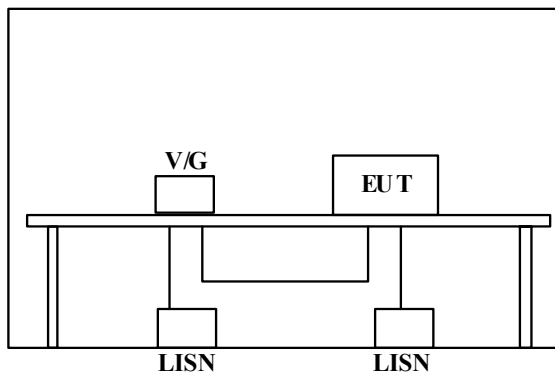
RF in: TV signal generator connected
Front video in: 75 ohm terminated
Front audio in: 47 k ohm terminated
Rear video out: 75 ohm terminated with video cable
Rear audio out: 1 k ohm terminated with audio cable
S-Video out: 75 ohm terminated with S-Video cable
Component out (Y/P_B/P_R): 75 ohm terminated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

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

Shielded room



RF in: 75 ohm terminated

Front video in: Video signal generator connected or
75 ohm terminated

Front audio in: 47 k ohm terminated

Rear video out: 75 ohm terminated with video cable

Rear audio out: 1 k ohm terminated with audio cable

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

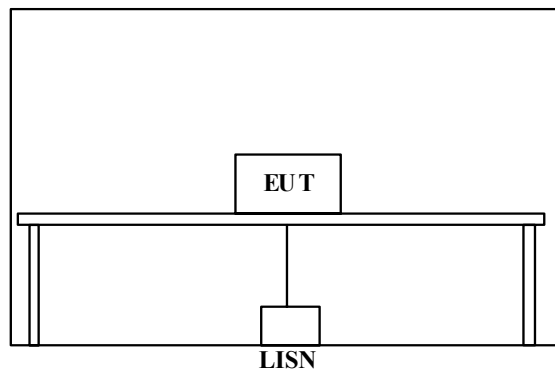
Component out (Y/P_B/P_R): 75 ohm terminated with
component cable

RF output: 75 ohm terminated with RF output cable

Coaxial out: 75 ohm terminated with coaxial cable

VCR Play mode

Shielded room



RF in: 75 ohm terminated with RF input cable

Front video in: 75 ohm terminated with video cable

Front audio in: 47 k ohm terminated with audio 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

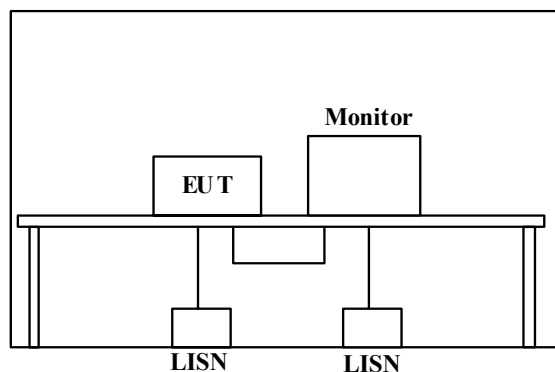
Component out (Y/P_B/P_R): 75 ohm terminated with
component cable

RF output: 75 ohm terminated with RF output cable

Coaxial out: 75 ohm terminated with coaxial cable

DVD Play mode

Shielded room



RF in: 75 ohm terminated with RF input cable

Front video in: 75 ohm terminated with video cable

Front audio in: 47 k ohm terminated with audio cable

Rear video out: monitor connected

Rear audio out: monitor connected

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

Component out (Y/P_B/P_R): 75 ohm terminated with
component cable

RF output: 75 ohm terminated with RF output cable

Coaxial out: 75 ohm terminated with coaxial cable

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5.3 Test conditions

Frequency range : 0.15 MHz – 30 MHz
EUT position : Table top
EUT operation mode : TV Reception + Rec., AV Input + 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: Seigo Kakehi

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Section 6 : Radiated emission

6.1 Operation environment

The test was carried out in an open site.

Date : August 24 and September 2, 2004

Temperature : See data

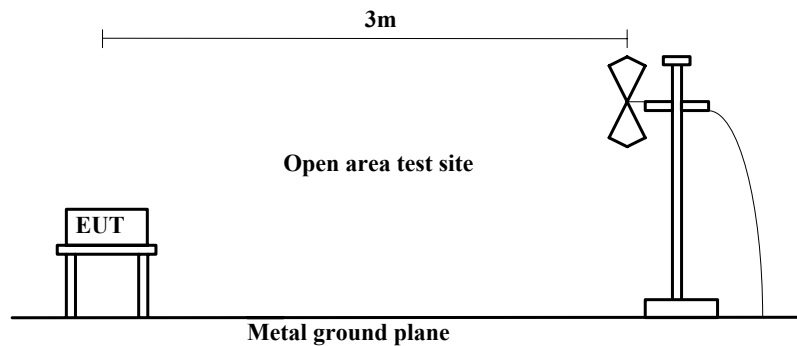
Humidity : See data

6.2 Test configuration

EUT was placed on a platform of nominal size, 1 m by 1.5 m, 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.

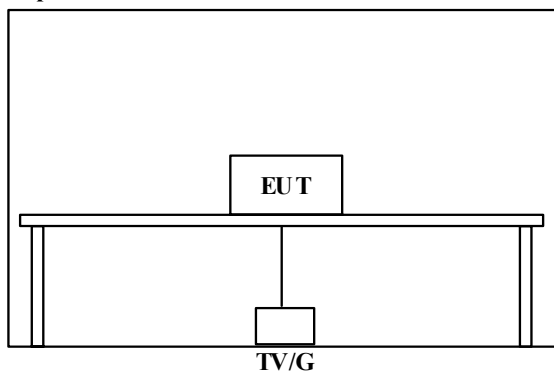
A drawing of the set up is shown in figure 2 and photographs in Appendix 1.

Figure 2. Radiated emission



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

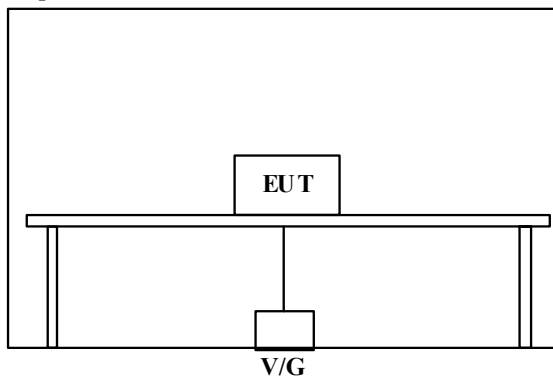
Open test site



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

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

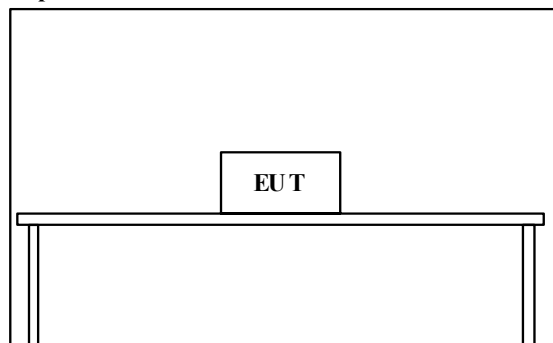
Open test site



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

VCR Play mode

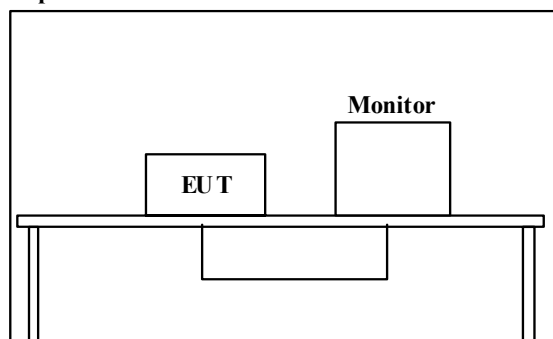
Open test site



RF in: 75 ohm terminated with RF input cable
Front video in: 75 ohm terminated with video cable
Front audio in: 47 k ohm terminated with audio 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
Component out (Y/P_B/P_R): 75 ohm terminated with component cable
RF output: 75 ohm terminated with RF output cable
Coaxial out: 75 ohm terminated with coaxial cable

DVD Play mode

Open test site



RF in: 75 ohm terminated with RF input cable
Front video in: 75 ohm terminated with video cable
Front audio in: 47 k ohm terminated with audio cable
Rear video out: monitor connected
Rear audio out: monitor connected
S-Video out: 75 ohm terminated with S-Video cable
Component out (Y/P_B/P_R): 75 ohm terminated with component 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., AV Input + 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.

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Section 7 : Antenna terminal voltage

7.1 Operation environment

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

Date : August 24, 2004

Temperature : See data

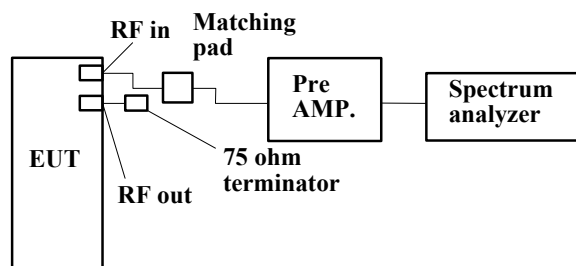
Humidity : See data

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 a shielded room the size of 9.3 x 3.4 x 2.7 m.

Date : August 24, 2004

Temperature : See data

Humidity : See data

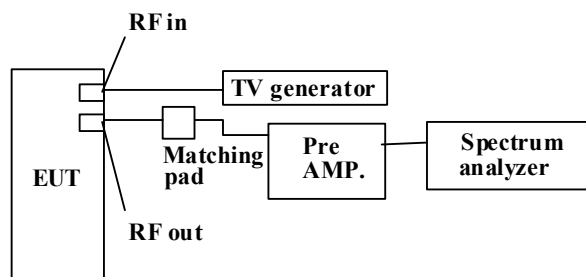
8.2 Test configuration

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

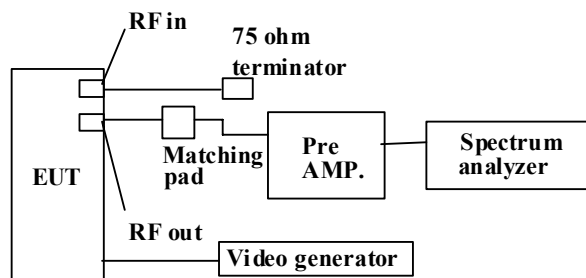
A drawing of the set up is shown in figure 4 and photographs in Appendix 1.

Figure 4. RF output level

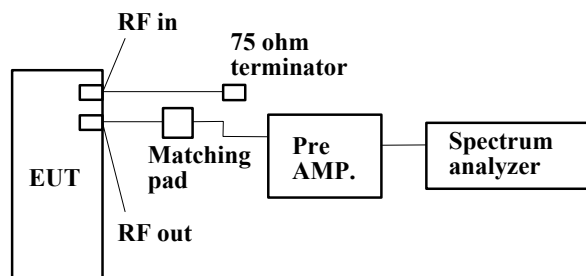
TV Reception + Rec. mode



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



VCR Play mode and DVD Play mode



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8.3 Test conditions

EUT position : Table top

EUT operation mode : TV Reception + Rec., AV Input + 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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Section 9 : Antenna transfer switch

9.1 Operation environment

The test was carried out in a shielded room the size of 9.3 x 3.4 x 2.7 m.

Date : August 24, 2004

Temperature : See data

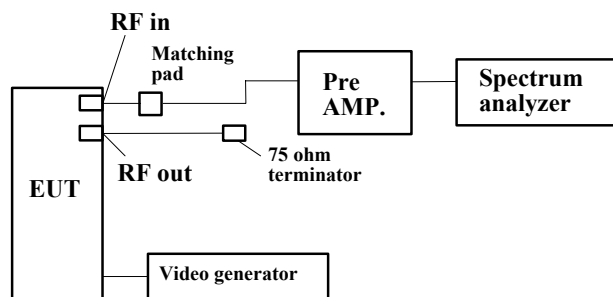
Humidity : See data

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 : AV Input + Rec., 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

Section 10 : Picture sensitivity

10.1 Operation environment

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

Date : August 24, 2004

Temperature : See data

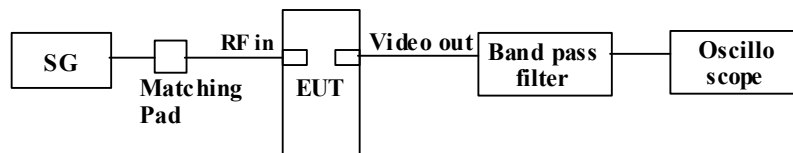
Humidity : See data

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

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 a shielded room the size of 4.5 x 3.6 x 2.7 m.

Date : August 24, 2004

Temperature : See data

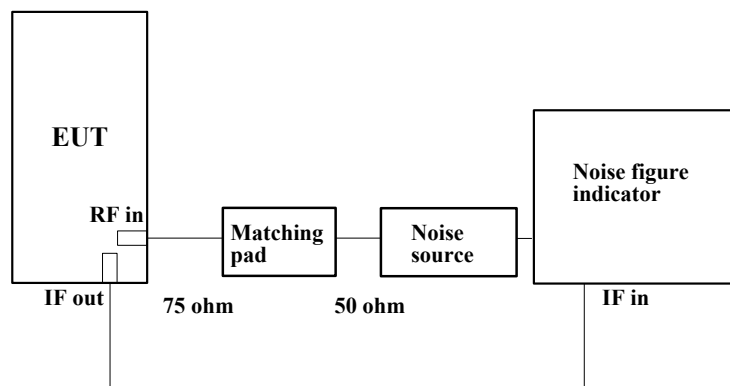
Humidity : See data

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

Appendix 1 : Photographs of test set up

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

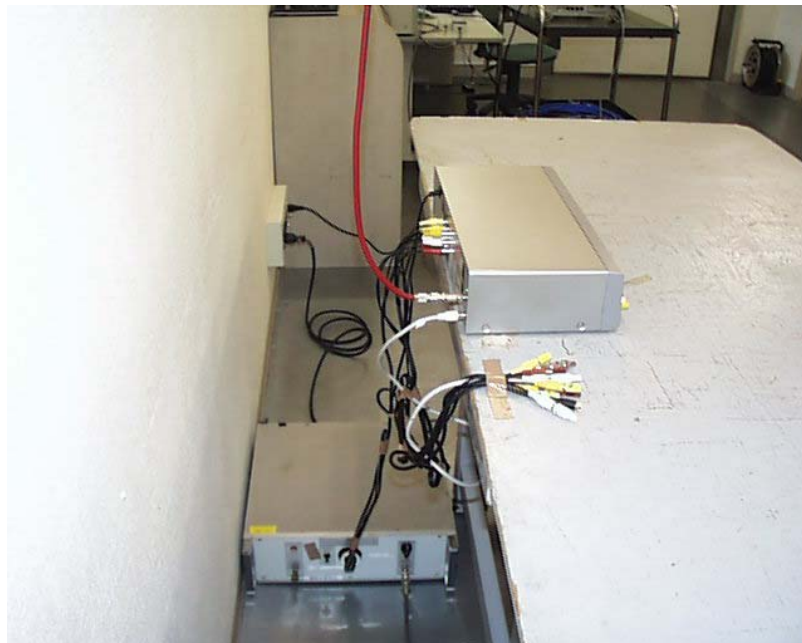
Appendix 2 : Data of EMI tests

Page 27 - 44 : Conducted emission
Page 45 - 67 : Radiated emission
Page 68 - 69 : Antenna terminal voltage
Page 70 - 87 : RF output level / spurious emission
Page 88 - 95 : Antenna transfer switch
Page 96 : Picture sensitivity
Page 97 : Noise figure

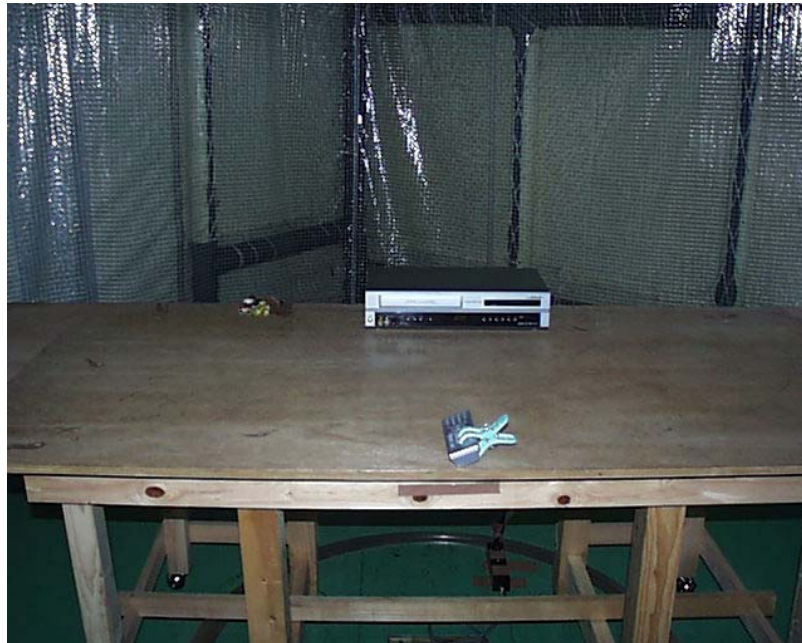
Appendix 3 : Test instruments

Page 98 : Test instruments

Conducted emission



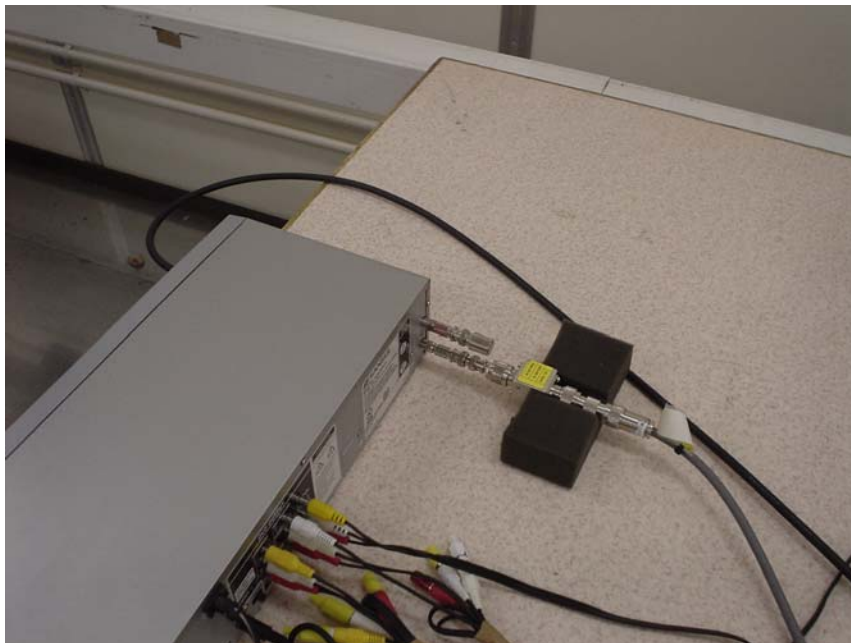
Radiated emission



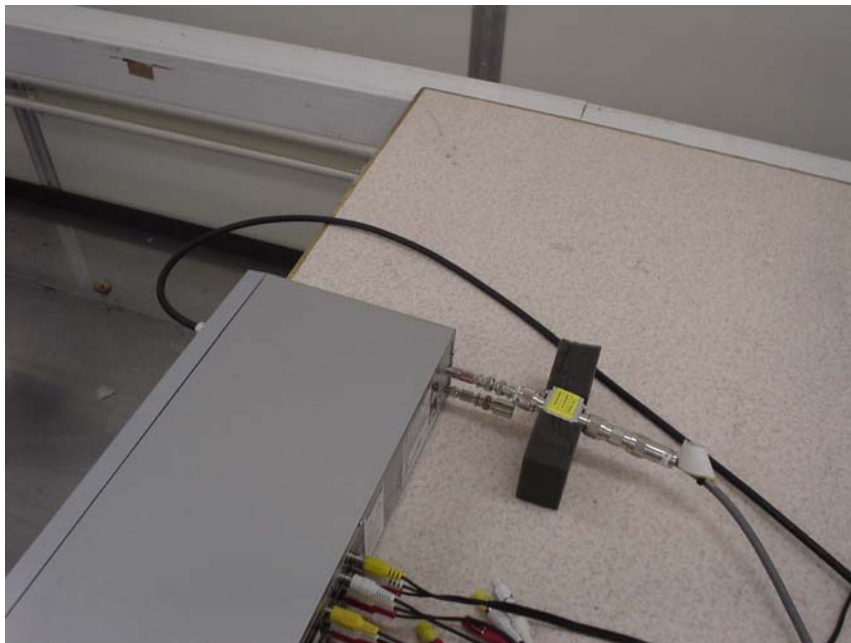
Antenna terminal voltage



RF output level / spurious emission



Antenna transfer switch



Picture sensitivity



Noise figure



DATA OF CONDUCTION TEST

UL Apex Co., Ltd.

YOKOWA No.3 SHIELD TEST ROOM

Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : TV RECEPTION + REC
Remarks : 0dBmV
Date : 8/27/2004
Phase : Single Phase
Temperature : 22 Engineer : Seigo Kakehi
Humidity : 53 %
Regulation : FCC Part15B CLASS B(2003)

No.	FREQ. [MHz]	READING(N)		READING(L1)		LISN FACTOR [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
		QP [dB μV]	AV [dB μV]	QP [dB μV]	AV [dB μV]				QP [dB]	AV [dB μV]	QP [dB μV]	AV [dB μV]	QP [dB]	AV [dB]
1.	0.1559	47.5	-	47.2	-	0.1	0.1	0.0	47.7	-	65.7	55.7	18.0	-
2.	0.4837	24.1	-	23.9	-	0.2	0.1	0.0	24.4	-	56.3	46.3	31.9	-
3.	0.8616	27.0	-	27.0	-	0.2	0.1	0.0	27.3	-	56.0	46.0	28.7	-
4.	1.3130	26.1	-	26.2	-	0.2	0.1	0.0	26.5	-	56.0	46.0	29.5	-
5.	7.4855	16.2	-	16.0	-	0.5	0.3	0.0	17.0	-	60.0	50.0	43.0	-
6.	7.6799	27.2	-	27.0	-	0.5	0.3	0.0	28.0	-	60.0	50.0	32.0	-
7.	14.3179	17.5	-	17.8	-	1.1	0.4	0.0	19.3	-	60.0	50.0	40.7	-
8.	18.4313	24.5	-	24.5	-	1.6	0.4	0.0	26.5	-	60.0	50.0	33.5	-

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

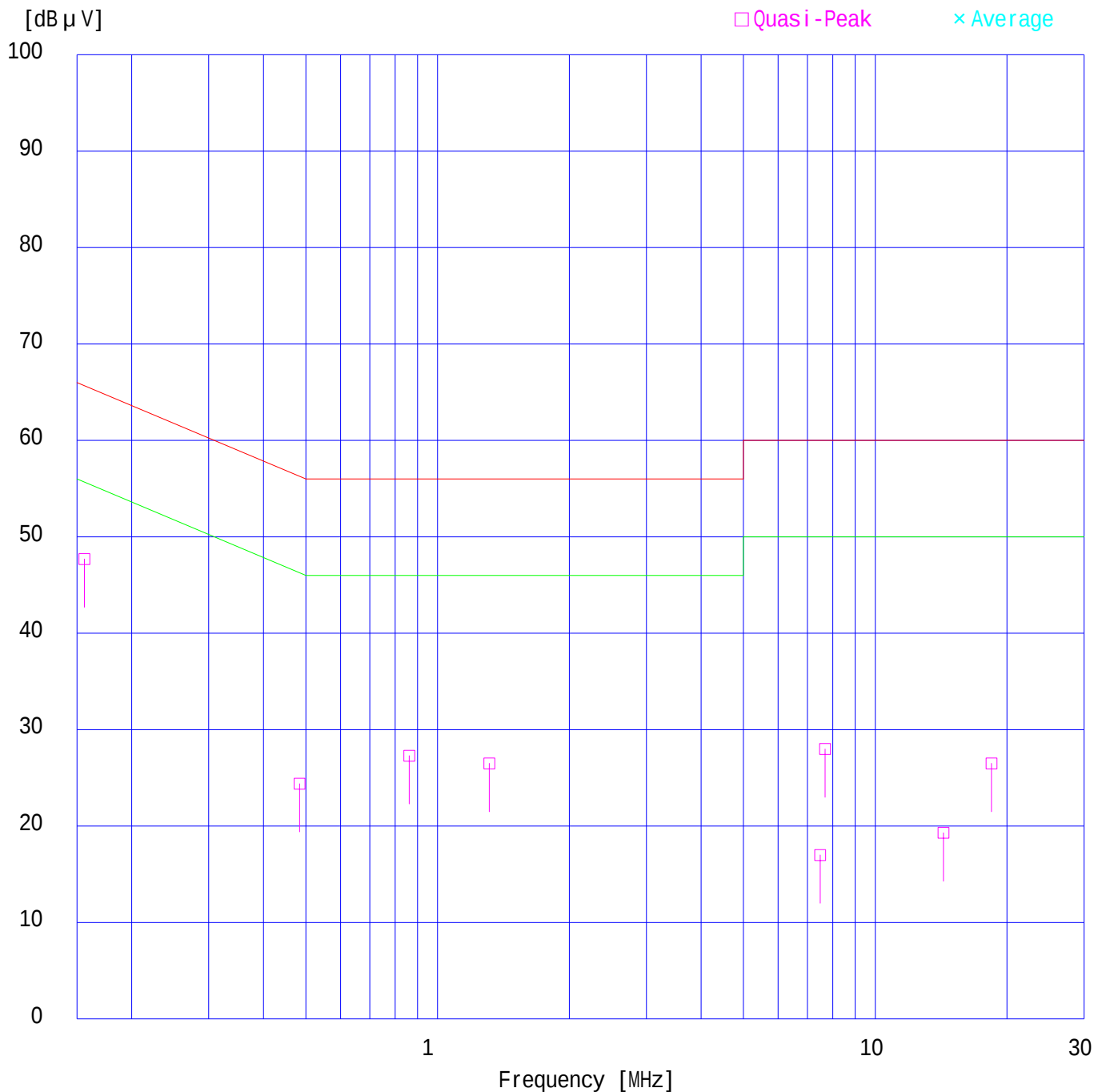
Except for the above table: adequate margin data below the limits.

DATA OF CONDUCTION TEST

UL Apex Co., Ltd.
YOKOWA No.3 SHIELD TEST ROOM
Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : TV RECEPTION + REC
Remarks : 0dBmV
Date : 8/27/2004
Phase : Single Phase
Temperature : 22
Humidity : 53 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Seigo Kakehi



DATA OF CONDUCTION TEST CHART

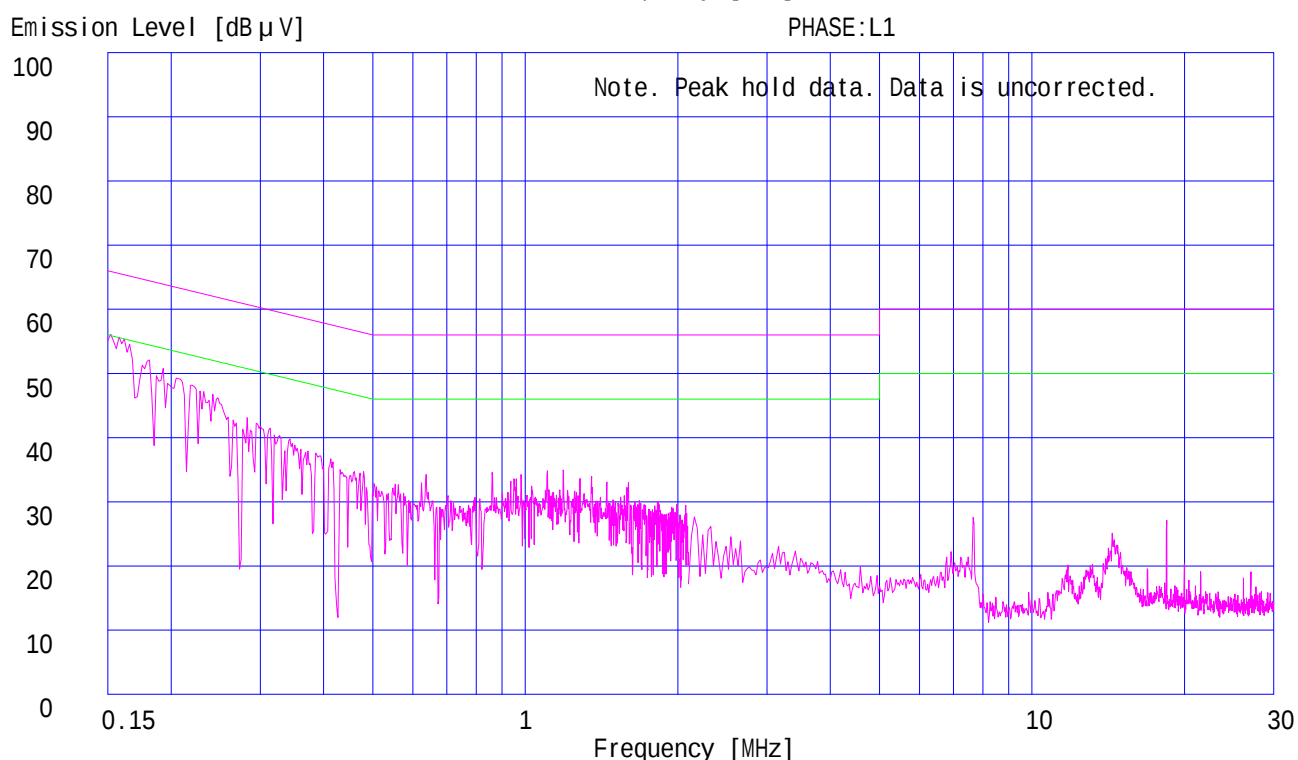
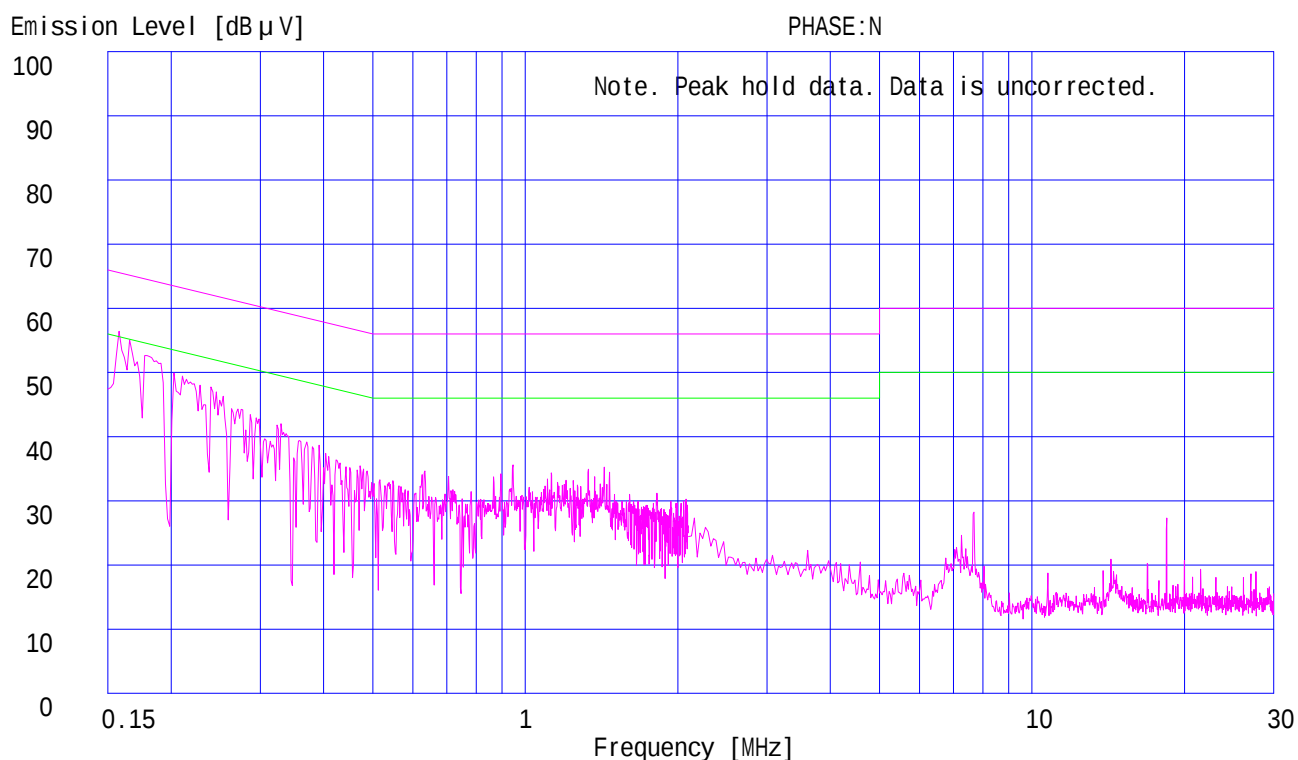
UL Apex Co., Ltd.

YOKOWA No.3 SHIELD TEST ROOM

Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : TV RECEPTION + REC
Remarks : 0dBmV
Date : 8/27/2004
Phase : Single Phase
Temperature : 22
Humidity : 53 %
Regulation 1 : FCC Part15B CLASS B(2003)
Regulation 2 : None

Engineer : Seigo Kakehi



DATA OF CONDUCTION TEST

UL Apex Co., Ltd.

YOKOWA No.3 SHIELD TEST ROOM

Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : TV RECEPTION + REC
Remarks : 25dBmV
Date : 8/27/2004
Phase : Single Phase
Temperature : 22 Engineer : Seigo Kakehi
Humidity : 53 %
Regulation : FCC Part15B CLASS B(2003)

No.	FREQ. [MHz]	READING(N)		READING(L1)		LISN FACTOR [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
		QP [dB μV]	AV [dB μV]	QP [dB μV]	AV [dB μV]				QP [dB]	AV [dB μV]	QP [dB μV]	AV [dB μV]	QP [dB μV]	AV [dB]
1.	0.1565	47.3	-	47.0	-	0.1	0.1	0.0	47.5	-	65.6	55.6	18.1	-
2.	0.4850	24.4	-	23.7	-	0.2	0.1	0.0	24.7	-	56.3	46.3	31.6	-
3.	0.8627	26.3	-	26.8	-	0.2	0.1	0.0	27.1	-	56.0	46.0	28.9	-
4.	1.3154	26.1	-	26.0	-	0.2	0.1	0.0	26.4	-	56.0	46.0	29.6	-
5.	7.4881	14.5	-	15.8	-	0.5	0.3	0.0	16.6	-	60.0	50.0	43.4	-
6.	7.6878	26.8	-	26.3	-	0.5	0.3	0.0	27.6	-	60.0	50.0	32.4	-
7.	14.3167	11.4	-	17.8	-	1.1	0.4	0.0	19.3	-	60.0	50.0	40.7	-
8.	18.4308	24.8	-	24.3	-	1.6	0.4	0.0	26.8	-	60.0	50.0	33.2	-

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

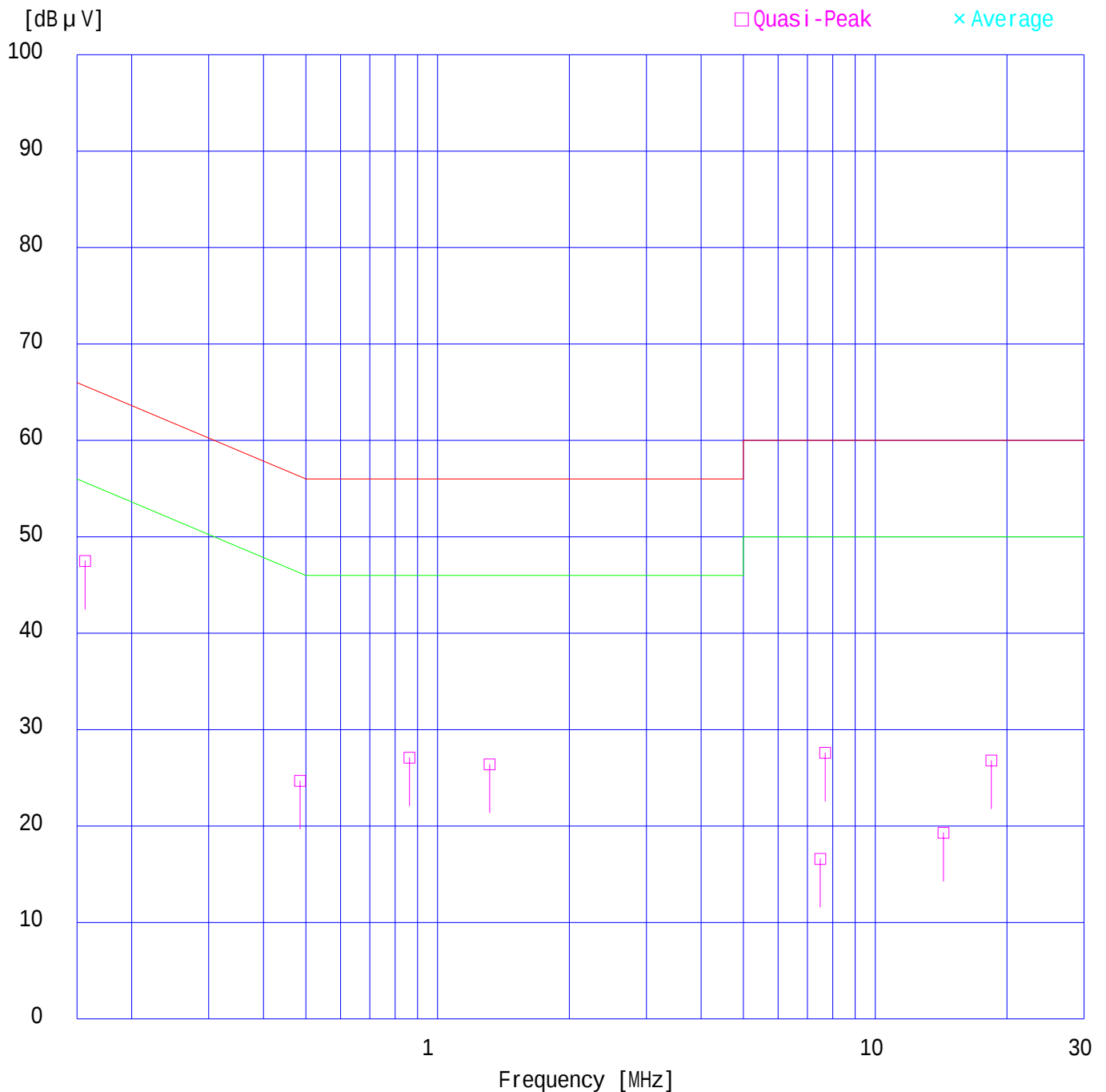
Except for the above table: adequate margin data below the limits.

DATA OF CONDUCTION TEST

UL Apex Co., Ltd.
YOKOWA No.3 SHIELD TEST ROOM
Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : TV RECEPTION + REC
Remarks : 25dBmV
Date : 8/27/2004
Phase : Single Phase
Temperature : 22
Humidity : 53 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Seigo Kakehi



DATA OF CONDUCTION TEST CHART

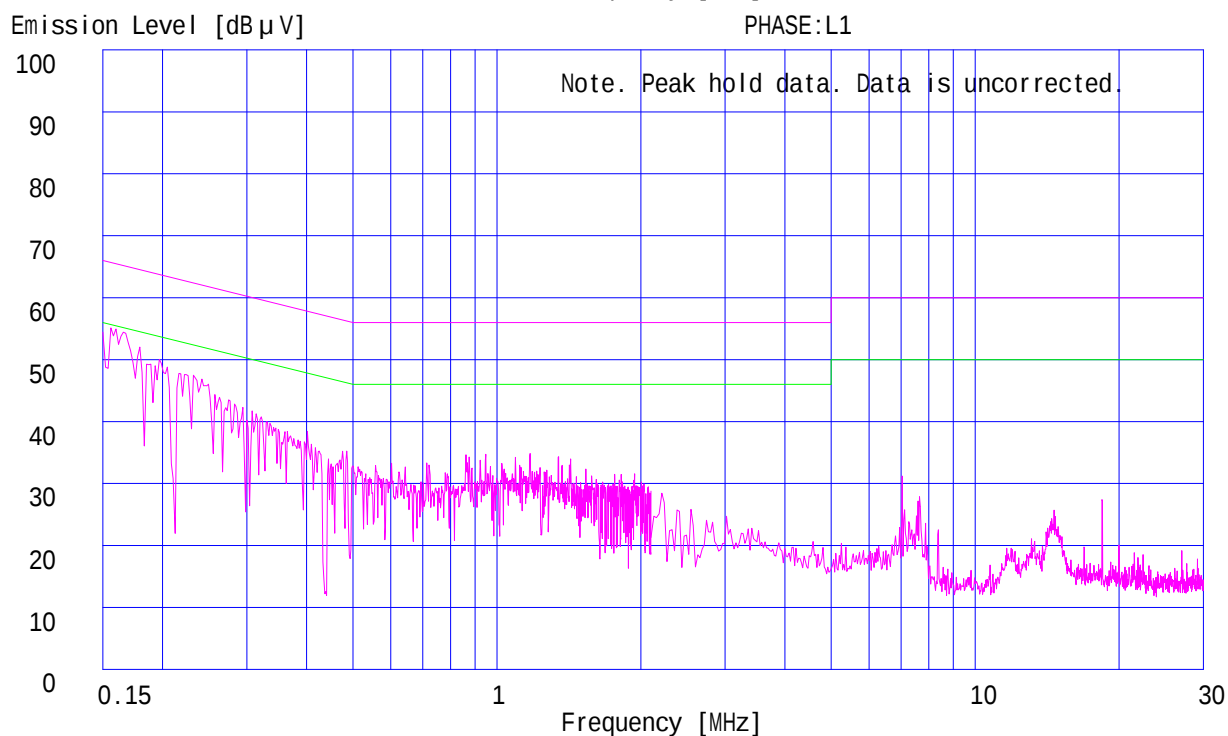
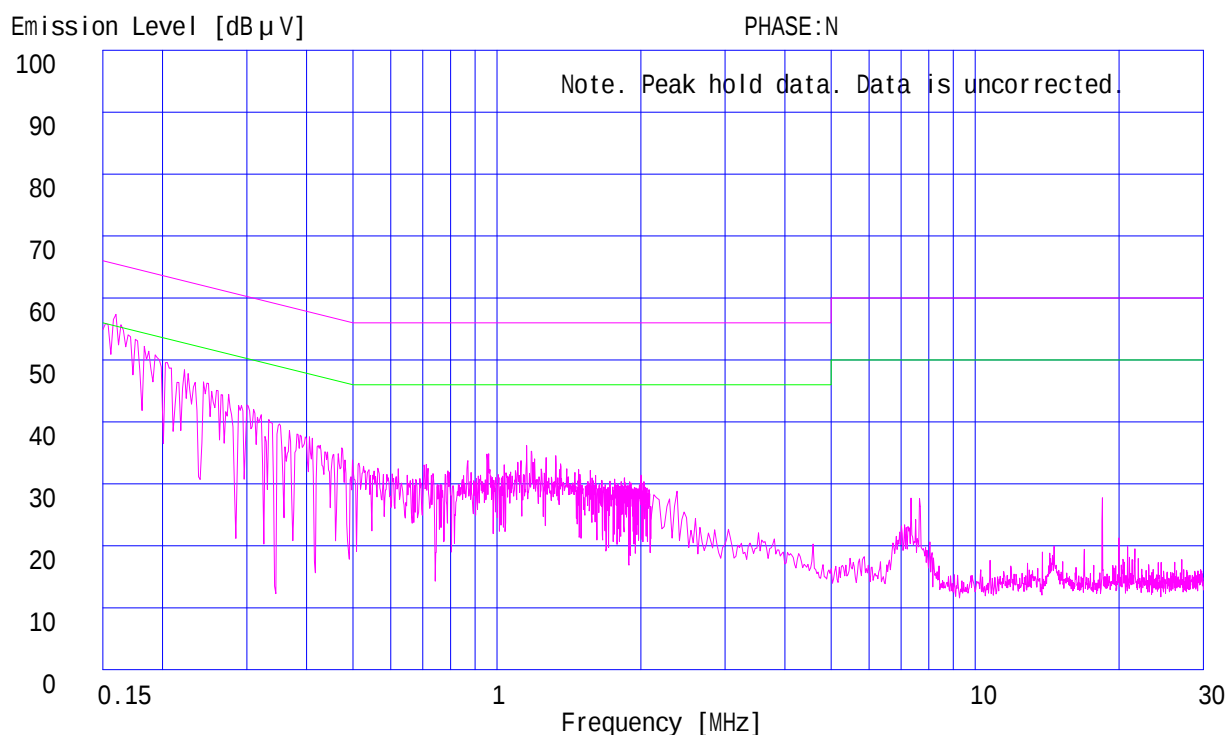
UL Apex Co., Ltd.

YOKOWA No.3 SHIELD TEST ROOM

Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : TV RECEPTION + REC
Remarks : 25dBmV
Date : 8/27/2004
Phase : Single Phase
Temperature : 22
Humidity : 53 %
Regulation 1 : FCC Part15B CLASS B(2003)
Regulation 2 : None

Engineer : Seigo Kakehi



Page:

DATA OF CONDUCTION TEST

UL Apex Co., Ltd.

YOKOWA No.3 SHIELD TEST ROOM

Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : AV INPUT + REC
Remarks : 1Vp-p
Date : 8/27/2004
Phase : Single Phase
Temperature : 22 Engineer : Seigo Kakehi
Humidity : 53 %
Regulation : FCC Part15B CLASS B(2003)

No.	FREQ. [MHz]	READING(N)		READING(L1)		LISN FACTOR [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
		QP [dB μV]	AV [dB μV]	QP [dB μV]	AV [dB μV]				QP [dB]	AV [dB μV]	QP [dB μV]	AV [dB μV]	QP [dB]	AV [dB]
1.	0.1517	47.9	-	47.9	-	0.1	0.1	0.0	48.1	-	65.9	55.9	17.8	-
2.	0.6336	26.8	-	26.4	-	0.2	0.1	0.0	27.1	-	56.0	46.0	28.9	-
3.	0.9333	27.5	-	26.4	-	0.2	0.1	0.0	27.8	-	56.0	46.0	28.2	-
4.	1.1884	26.0	-	27.0	-	0.2	0.1	0.0	27.3	-	56.0	46.0	28.7	-
5.	8.1157	31.2	-	31.3	-	0.5	0.3	0.0	32.1	-	60.0	50.0	27.9	-
6.	16.3410	30.6	-	31.5	-	1.4	0.4	0.0	33.3	-	60.0	50.0	26.7	-
7.	17.4893	30.6	-	31.9	-	1.5	0.4	0.0	33.8	-	60.0	50.0	26.2	-

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

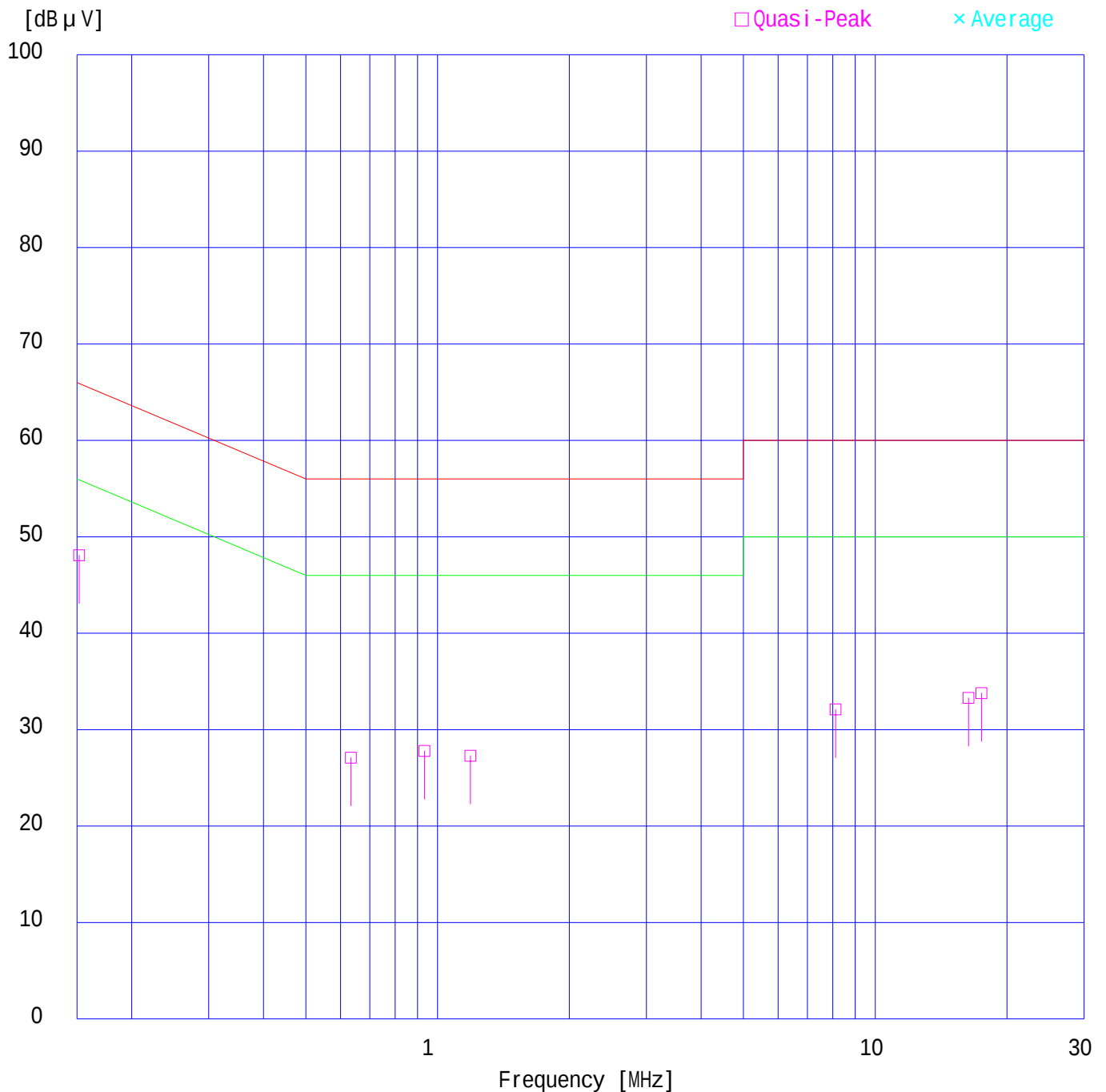
Except for the above table: adequate margin data below the limits.

DATA OF CONDUCTION TEST

UL Apex Co., Ltd.
YOKOWA No.3 SHIELD TEST ROOM
Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : AV INPUT + REC
Remarks : 1Vp-p
Date : 8/27/2004
Phase : Single Phase
Temperature : 22
Humidity : 53 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Seigo Kakehi



DATA OF CONDUCTION TEST CHART

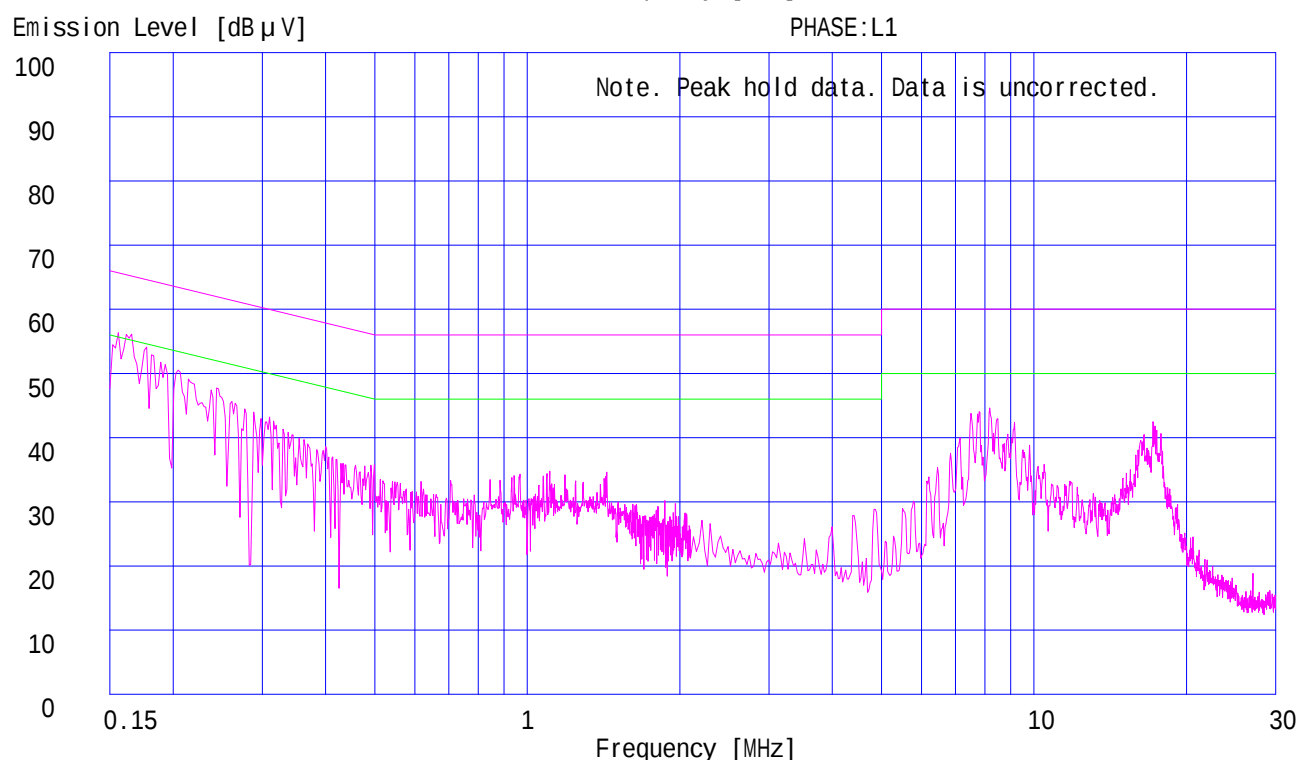
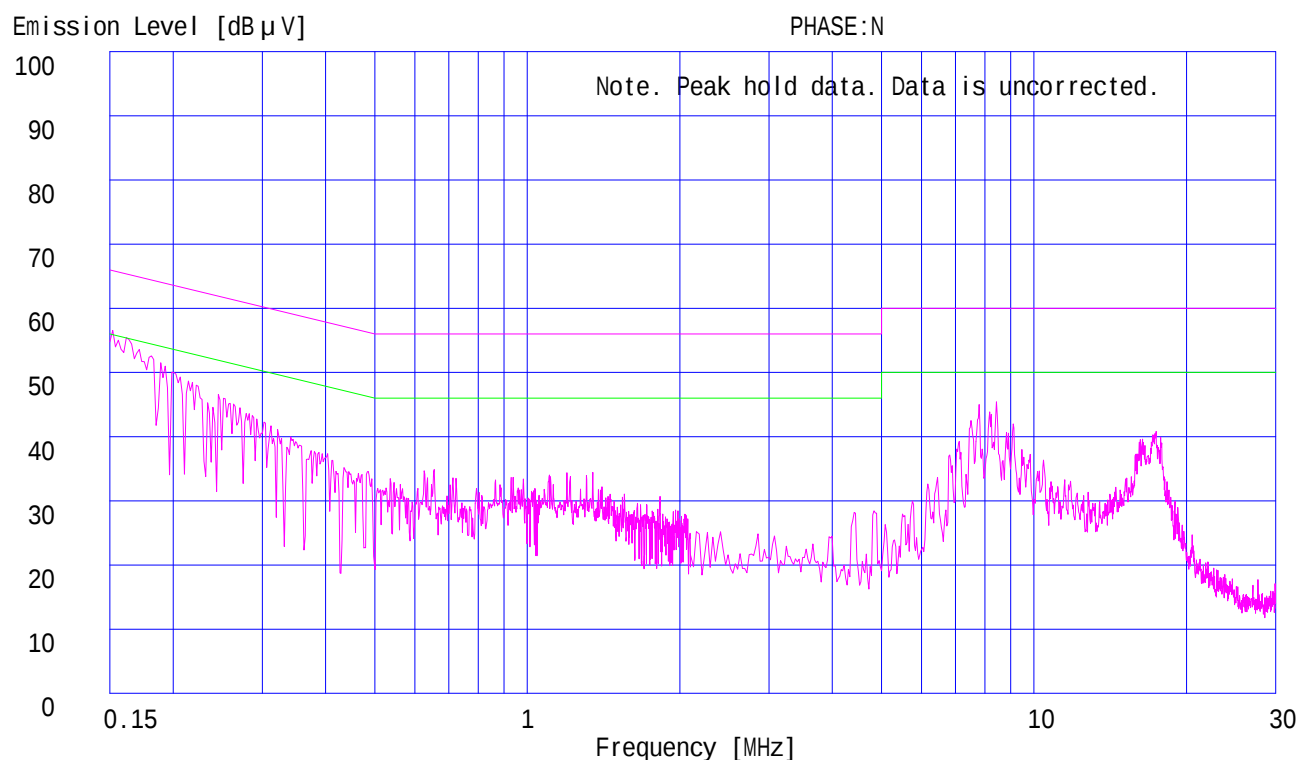
UL Apex Co., Ltd.

YOKOWA No.3 SHIELD TEST ROOM

Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : AV INPUT + REC
Remarks : 1Vp-p
Date : 8/27/2004
Phase : Single Phase
Temperature : 22
Humidity : 53 %
Regulation 1 : FCC Part15B CLASS B(2003)
Regulation 2 : None

Engineer : Seigo Kakehi



DATA OF CONDUCTION TEST

UL Apex Co., Ltd.

YOKOWA No.3 SHIELD TEST ROOM

Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : AV INPUT + REC
Remarks : 5Vp-p
Date : 8/27/2004
Phase : Single Phase
Temperature : 22 Engineer : Seigo Kakehi
Humidity : 53 %
Regulation : FCC Part15B CLASS B(2003)

No.	FREQ. [MHz]	READING(N)		READING(L1)		LISN FACTOR [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
		QP [dB μ V]	AV	QP [dB μ V]	AV				QP [dB]	AV [dB μ V]	QP [dB μ V]	AV [dB μ V]	QP [dB]	AV [dB]
1.	0.1541	47.7	-	47.8	-	0.1	0.1	0.0	48.0	-	65.8	55.8	17.8	-
2.	0.6344	26.8	-	26.1	-	0.2	0.1	0.0	27.1	-	56.0	46.0	28.9	-
3.	0.9333	25.6	-	26.2	-	0.2	0.1	0.0	26.5	-	56.0	46.0	29.5	-
4.	1.1918	26.1	-	27.2	-	0.2	0.1	0.0	27.5	-	56.0	46.0	28.5	-
5.	8.1183	36.5	-	36.8	-	0.5	0.3	0.0	37.6	-	60.0	50.0	22.4	-
6.	16.3451	32.4	-	33.2	-	1.4	0.4	0.0	35.0	-	60.0	50.0	25.0	-
7.	17.4919	31.9	-	32.0	-	1.5	0.4	0.0	33.9	-	60.0	50.0	26.1	-

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

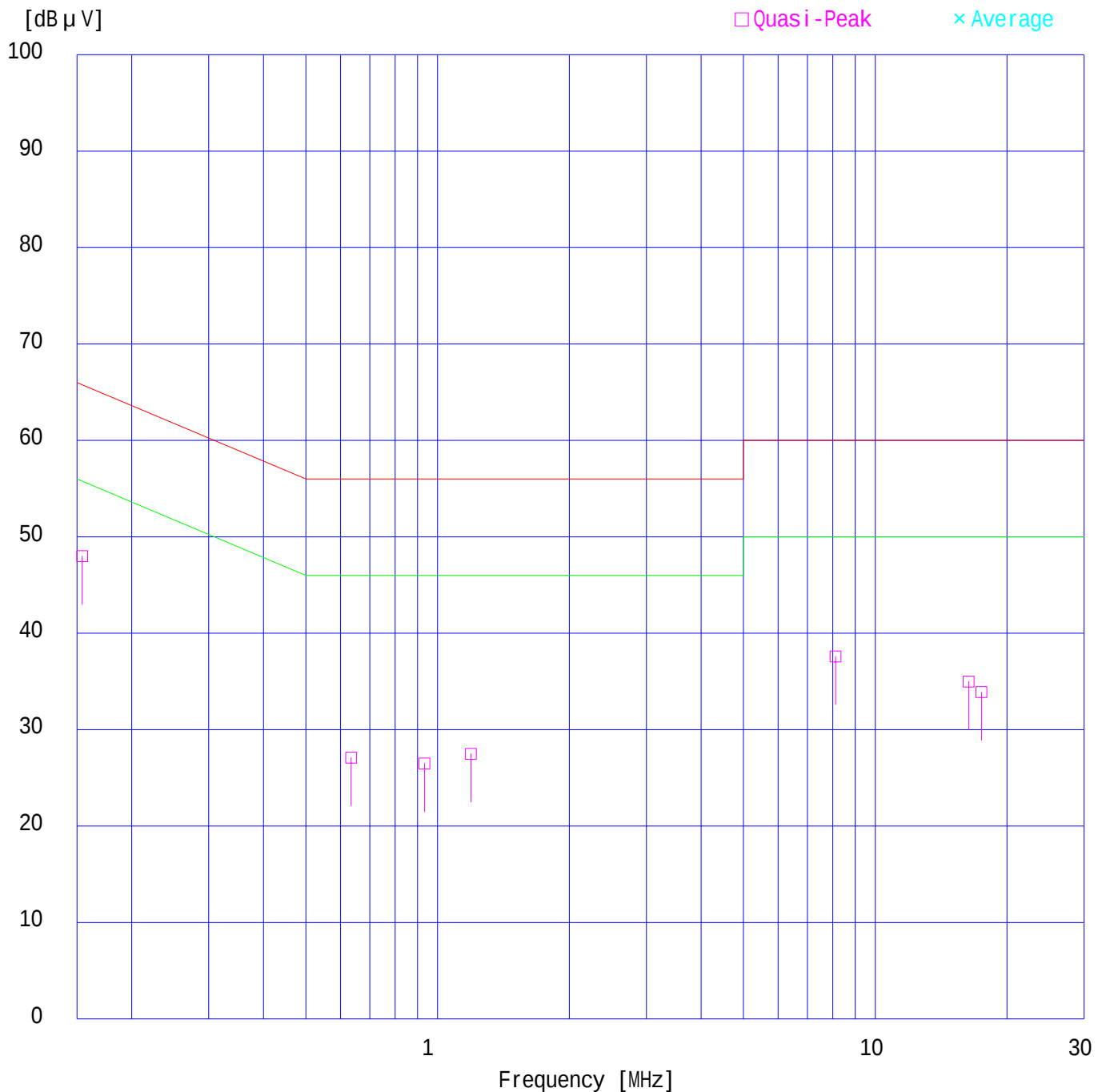
Except for the above table: adequate margin data below the limits.

DATA OF CONDUCTION TEST

UL Apex Co., Ltd.
YOKOWA No.3 SHIELD TEST ROOM
Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : AV INPUT + REC
Remarks : 5Vp-p
Date : 8/27/2004
Phase : Single Phase
Temperature : 22
Humidity : 53 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Seigo Kakehi



DATA OF CONDUCTION TEST CHART

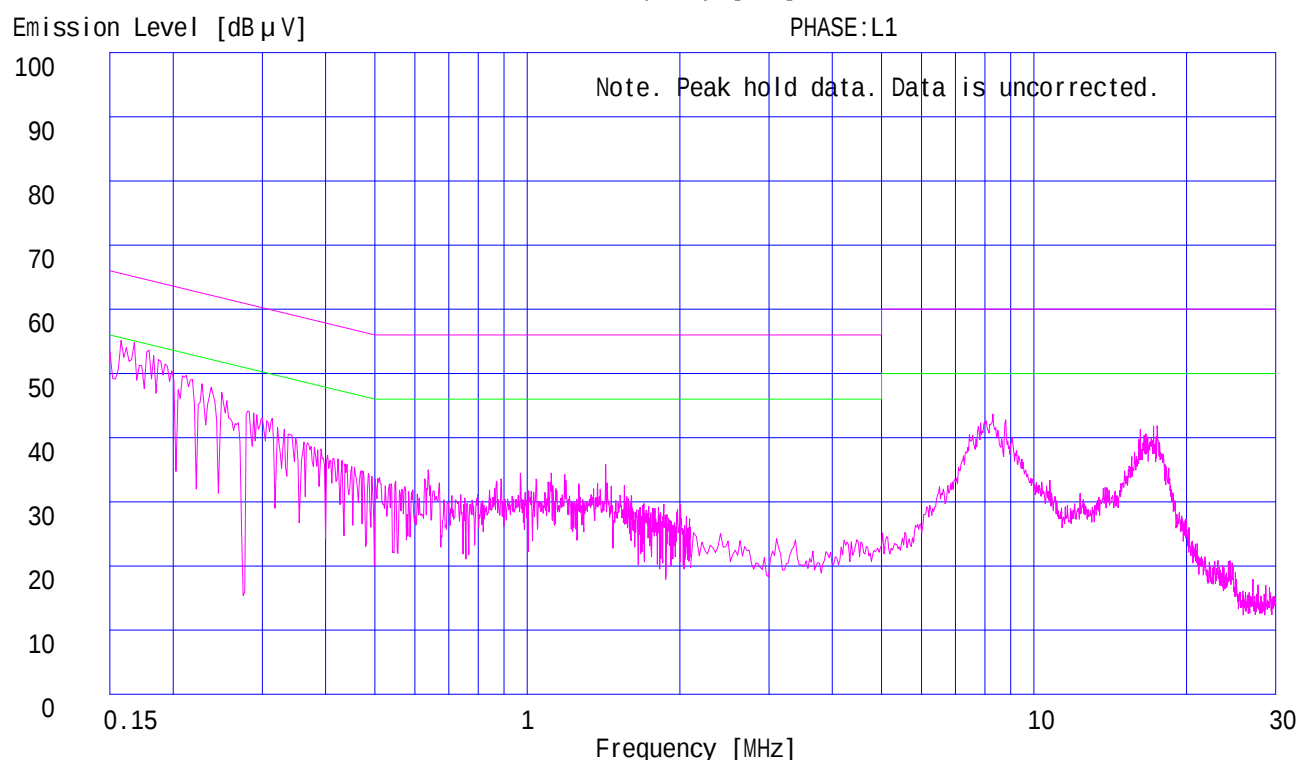
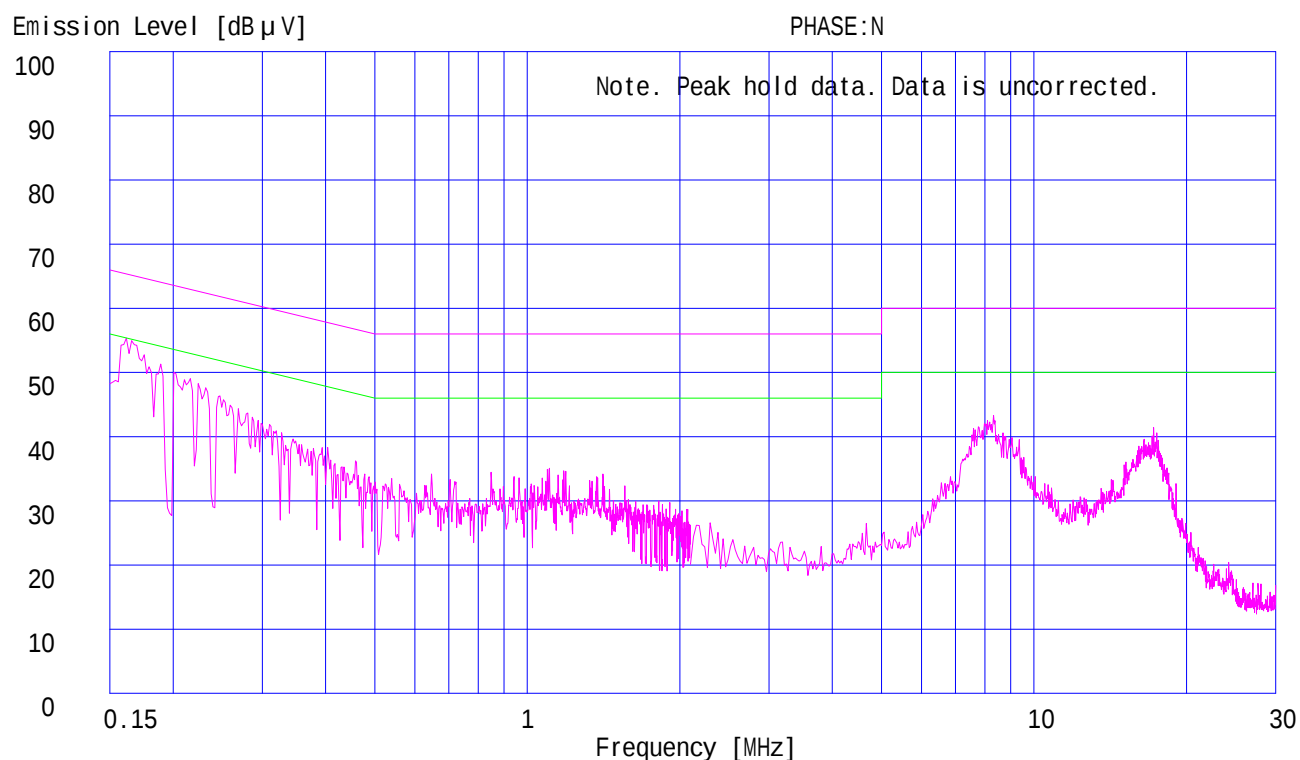
UL Apex Co., Ltd.

YOKOWA No.3 SHIELD TEST ROOM

Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : AV INPUT + REC
Remarks : 5Vp-p
Date : 8/27/2004
Phase : Single Phase
Temperature : 22
Humidity : 53 %
Regulation 1 : FCC Part15B CLASS B(2003)
Regulation 2 : None

Engineer : Seigo Kakehi



DATA OF CONDUCTION TEST

UL Apex Co., Ltd.

YOKOWA No.3 SHIELD TEST ROOM

Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : VCR PLAYBACK
Remarks :
Date : 8/27/2004
Phase : Single Phase
Temperature : 22 Engineer : Seigo Kakehi
Humidity : 53 %
Regulation : FCC Part15B CLASS B(2003)

No.	FREQ. [MHz]	READING(N)		READING(L1)		LISN FACTOR [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
		QP [dB μV]	AV	QP [dB μV]	AV				QP [dB]	AV [dB μV]	QP [dB μV]	AV [dB μV]	QP [dB]	AV [dB]
1.	0.1661	44.6	-	44.5	-	0.1	0.1	0.0	44.8	-	65.2	55.2	20.4	-
2.	0.4869	23.0	-	23.0	-	0.2	0.1	0.0	23.3	-	56.2	46.2	32.9	-
3.	0.9927	24.1	-	30.6	-	0.2	0.1	0.0	30.9	-	56.0	46.0	25.1	-
4.	1.2646	23.9	-	25.0	-	0.2	0.1	0.0	25.3	-	56.0	46.0	30.7	-
5.	7.6800	14.3	-	14.2	-	0.5	0.3	0.0	15.1	-	60.0	50.0	44.9	-
6.	18.4318	23.0	-	23.9	-	1.6	0.4	0.0	25.9	-	60.0	50.0	34.1	-
7.	23.0398	13.0	-	15.4	-	1.7	0.5	0.0	17.6	-	60.0	50.0	42.4	-

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

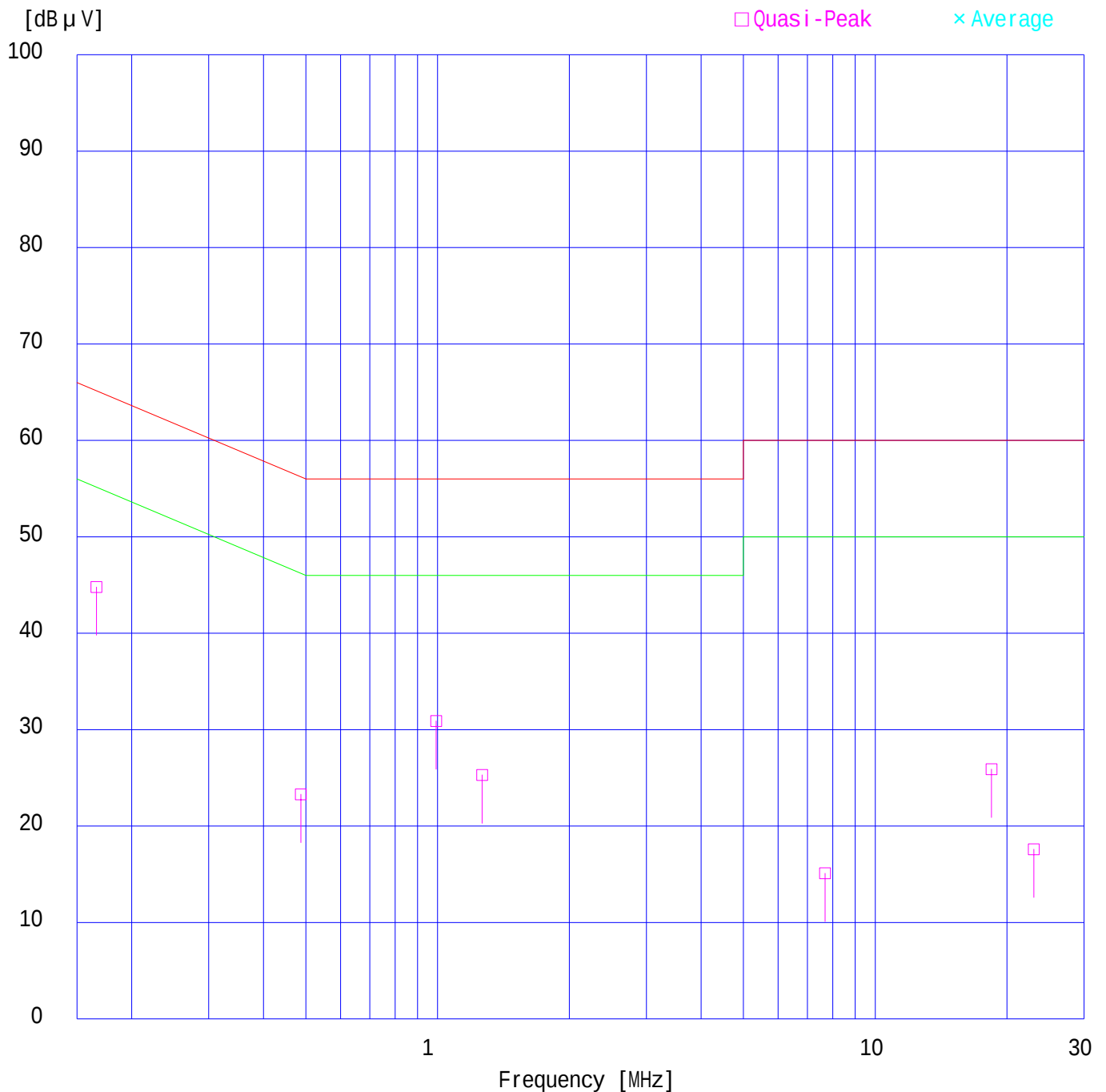
Except for the above table: adequate margin data below the limits.

DATA OF CONDUCTION TEST

UL Apex Co., Ltd.
YOKOWA No.3 SHIELD TEST ROOM
Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : VCR PLAYBACK
Remarks :
Date : 8/27/2004
Phase : Single Phase
Temperature : 22
Humidity : 53 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Seigo Kakehi



DATA OF CONDUCTION TEST CHART

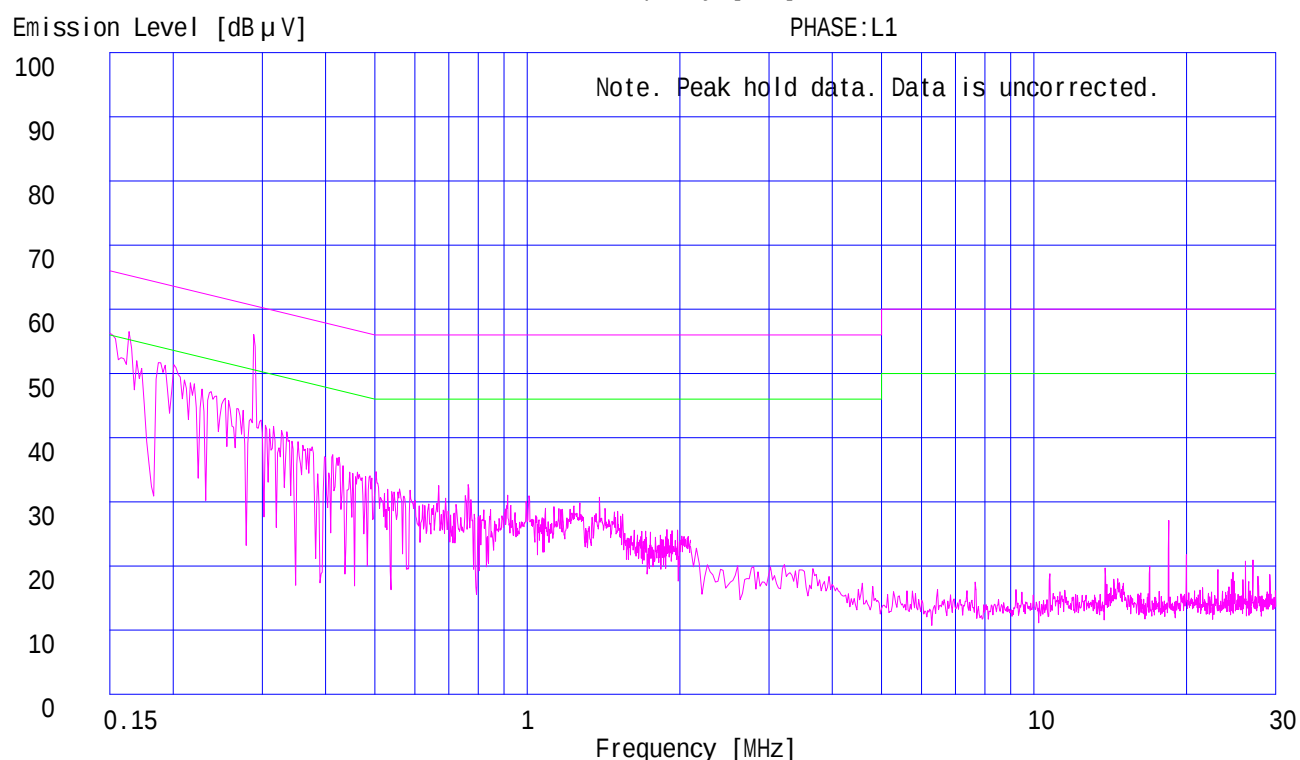
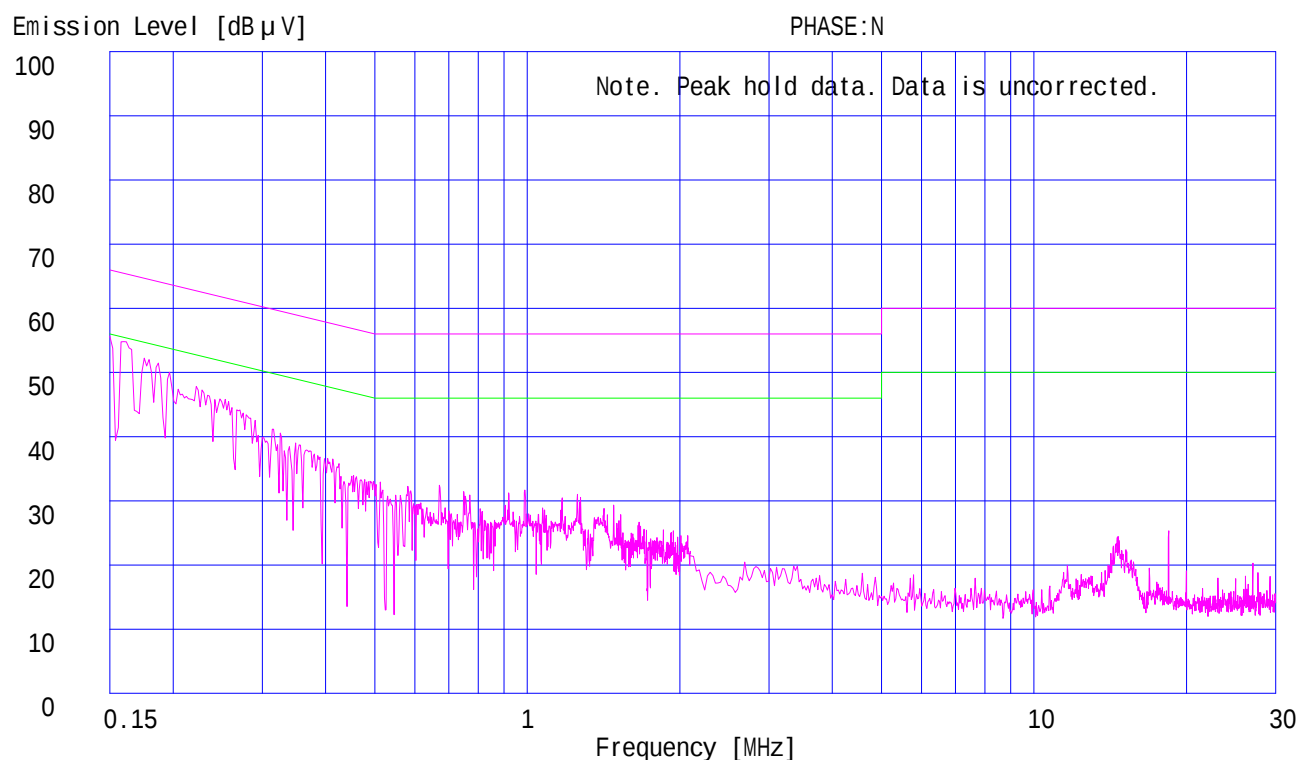
UL Apex Co., Ltd.

YOKOWA No.3 SHIELD TEST ROOM

Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : VCR PLAYBACK
Remarks :
Date : 8/27/2004
Phase : Single Phase
Temperature : 22
Humidity : 53 %
Regulation 1 : FCC Part15B CLASS B(2003)
Regulation 2 : None

Engineer : Seigo Kakehi



DATA OF CONDUCTION TEST

UL Apex Co., Ltd.

YOKOWA No.3 SHIELD TEST ROOM

Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : DVD PLAY
Remarks :
Date : 8/27/2004
Phase : Single Phase
Temperature : 22 Engineer : Seigo Kakehi
Humidity : 53 %
Regulation : FCC Part15B CLASS B(2003)

No.	FREQ. [MHz]	READING(N)		READING(L1)		LISN FACTOR [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
		QP [dB μ V]	AV	QP [dB μ V]	AV				QP [dB]	AV [dB μ V]	QP [dB μ V]	AV [dB μ V]	QP [dB]	AV [dB]
1.	0.1691	44.6	-	44.7	-	0.1	0.1	0.0	44.9	-	65.0	55.0	20.1	-
2.	0.6743	27.3	-	27.0	-	0.2	0.1	0.0	27.6	-	56.0	46.0	28.4	-
3.	0.9283	27.1	-	27.1	-	0.2	0.1	0.0	27.4	-	56.0	46.0	28.6	-
4.	1.2729	25.4	-	26.6	-	0.2	0.1	0.0	26.9	-	56.0	46.0	29.1	-
5.	9.2153	11.7	-	12.0	-	0.6	0.3	0.0	12.9	-	60.0	50.0	47.1	-
6.	17.3885	27.8	-	28.3	-	1.5	0.4	0.0	30.2	-	60.0	50.0	29.8	-
7.	28.6346	30.7	-	31.6	-	1.5	0.5	0.0	33.6	-	60.0	50.0	26.4	-

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

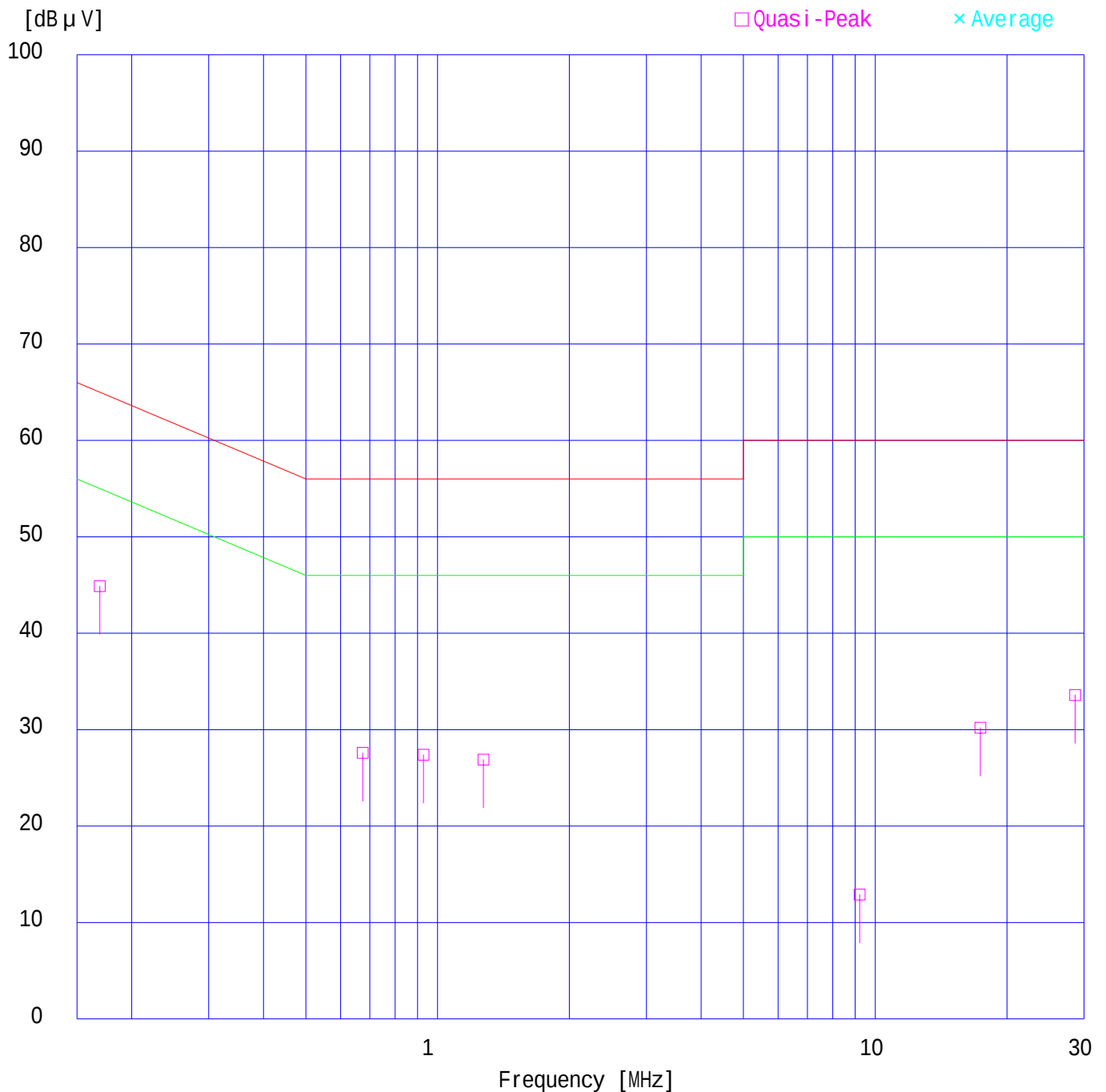
Except for the above table: adequate margin data below the limits.

DATA OF CONDUCTION TEST

UL Apex Co., Ltd.
YOKOWA No.3 SHIELD TEST ROOM
Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : DVD PLAY
Remarks :
Date : 8/27/2004
Phase : Single Phase
Temperature : 22
Humidity : 53 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Seigo Kakehi



DATA OF CONDUCTION TEST CHART

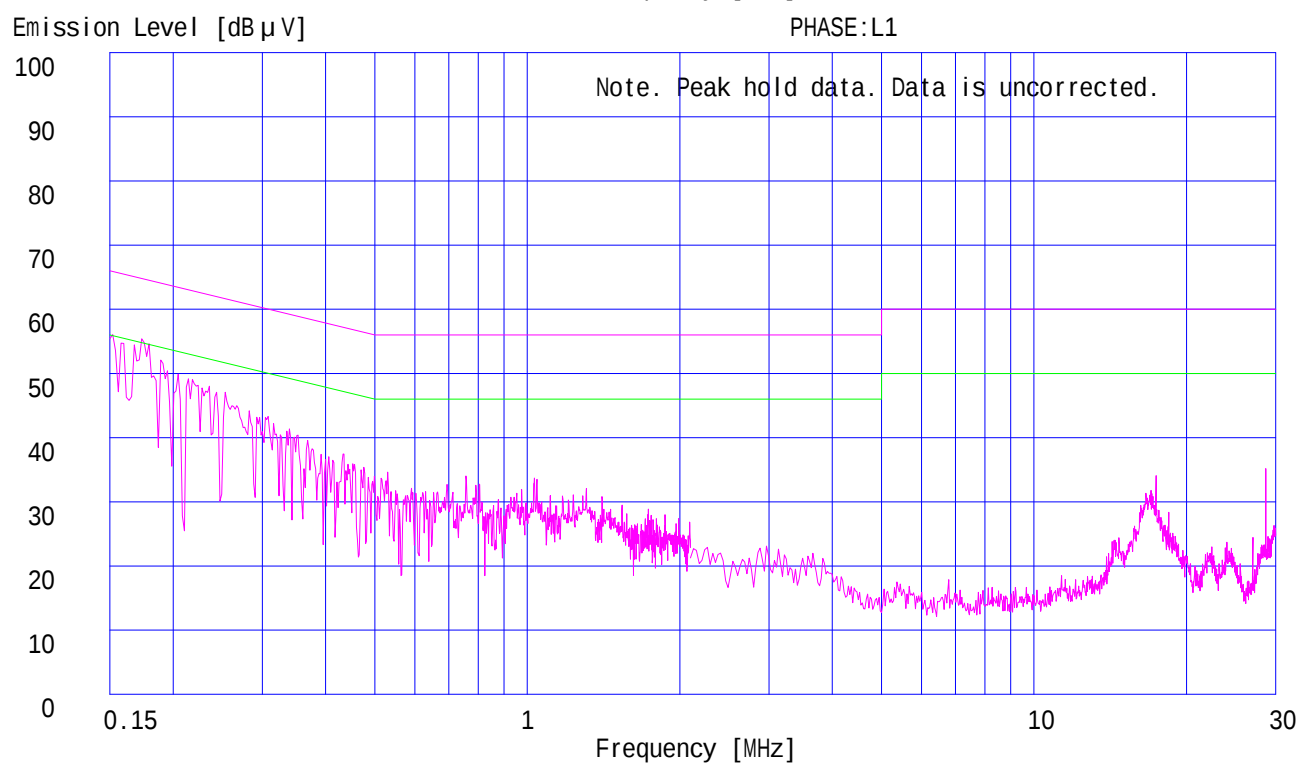
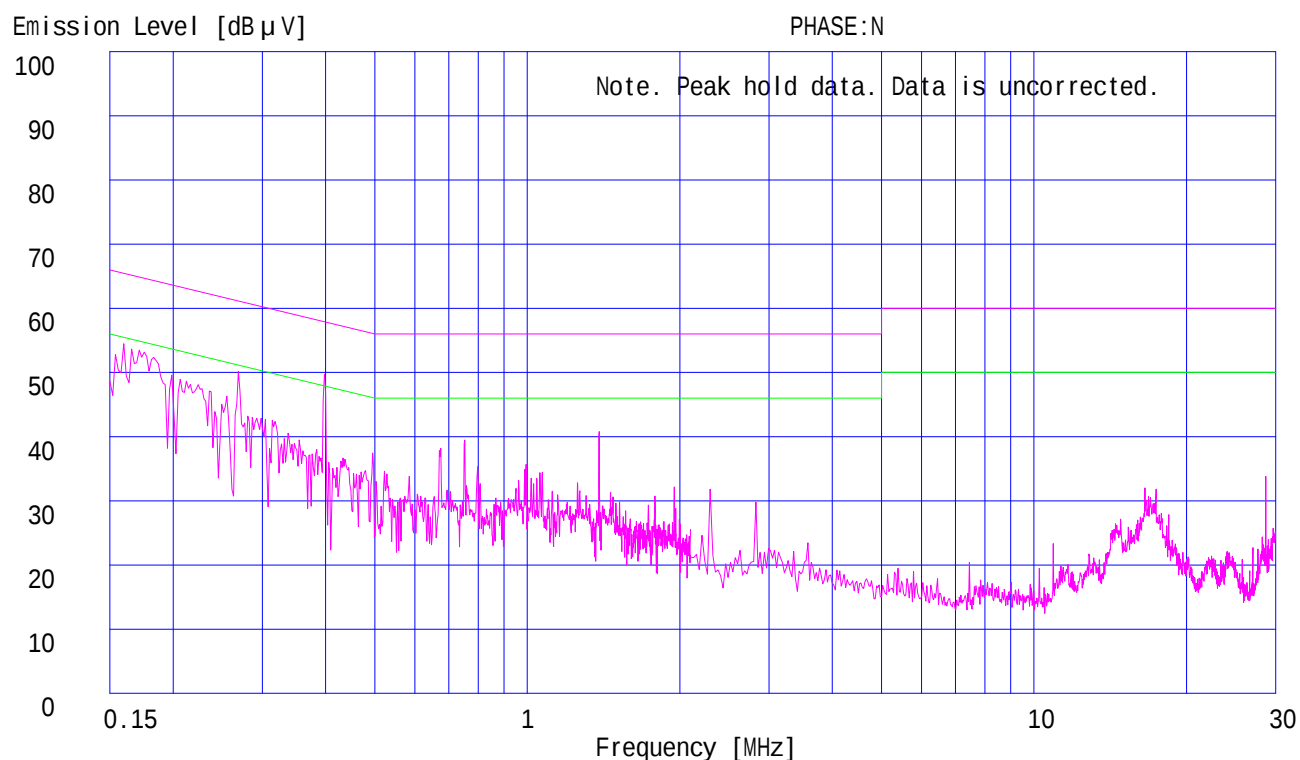
UL Apex Co., Ltd.

YOKOWA No.3 SHIELD TEST ROOM

Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : DVD PLAY
Remarks :
Date : 8/27/2004
Phase : Single Phase
Temperature : 22
Humidity : 53 %
Regulation 1 : FCC Part15B CLASS B(2003)
Regulation 2 : None

Engineer : Seigo Kakehi



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. : VRDVD4001AC
POWER : AC120V/60Hz
DESCRIPTION : TV Reception + Rec

REPORT No. : 25AE0230-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : 2004/08/24
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]	[dBuV]				TYPE	[dBuV]	[dBuV/m]				[QP]			[dB]			
VHF																		
2	101	24.5	25.5			BC	-9.8	14.7	15.7			43.5			28.8	27.8		
	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(QP)		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]	[dBuV]				TYPE	[dBuV]	[dBuV/m]				[QP]			[dB]			
3	107	24.7	27.6			BC	-8.9	15.8	18.7			43.5			27.7	24.8		
	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(QP)		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]	[dBuV]				TYPE	[dBuV]	[dBuV/m]				[QP]			[dB]			
4	113	23.7	22.5			BC	-7.9	15.8	14.6			43.5			27.7	28.9		
	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(QP)						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. : VRDVD4001AC
POWER : AC120V/60Hz
DESCRIPTION : TV Reception + Rec

REPORT No. : 25AE0230-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : 2004/08/24
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.			
VHF																	
5	123	22.9	23.0			BC	-6.5	16.4	16.5			43.5		27.1	27.0		
	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	[dBuV]	HOR. VER.	HOR. VER.	[PK]	[AV]	HOR. VER.	HOR. VER.						
		[dBuV]	[dBuV]			[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]						
		[dB]	[dB]			[dB]	[dB]			[dB]	[dB]						
	1107				HO					74.0	54.0	>27.0	>10.0				
	1230									74.0	54.0						
	1353									74.0	54.0						
1476	74.0									54.0							
1599	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]		
6	129	22.8	25.1			BC	-6.2	16.6	18.9			43.5		26.9	24.6		
	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	[dBuV]	HOR. VER.	HOR. VER.	[PK]	[AV]	HOR. VER.	HOR. VER.						
		[dBuV]	[dBuV]			[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]						
		[dB]	[dB]			[dB]	[dB]			[dB]	[dB]						
	1032				HO					74.0	54.0	>27.0	>10.0				
	1161									74.0	54.0						
	1290									74.0	54.0						
	1419									74.0	54.0						
1548	74.0									54.0							
1677	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]		
7	221	26.0	23.6			BC	-2.1	23.9	21.5			46.0		22.1	24.5		
	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	[dBuV]	HOR. VER.	HOR. VER.	[PK]	[AV]	HOR. VER.	HOR. VER.						
		[dBuV]	[dBuV]			[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]						
		[dB]	[dB]			[dB]	[dB]			[dB]	[dB]						
	1105				HO					74.0	54.0	>27.0	>10.0				
	1326									74.0	54.0						
1547	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]		
8	227	27.6	25.1			BC	-2.1	25.5	23.0			46.0		20.5	23.0		
	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	[dBuV]	HOR. VER.	HOR. VER.	[PK]	[AV]	HOR. VER.	HOR. VER.						
		[dBuV]	[dBuV]			[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]						
		[dB]	[dB]			[dB]	[dB]			[dB]	[dB]						
	1135				HO					74.0	54.0	>27.0	>10.0				
1362	74.0									54.0							
1589	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. : VRDVD4001AC
POWER : AC120V/60Hz
DESCRIPTION : TV Reception + Rec

REPORT No. : 25AE0230-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : 2004/08/24
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																		
9	233	28.7	24.8			BC	-1.9	26.8	22.9			46.0			19.2	23.1		
	466					LO						46.0			> 15.0			
	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		HOR.	VER.	HOR.	VER.	[PK]	[AV]	HOR.	VER.	HOR.	VER.	
		[dBuV]		[dBuV]			[dBuV]	[dBuV/m]		[dBuV/m]		[dBuV/m]	[dBuV/m]	[dB]	[dB]	[dB]	[dB]	
	1165					HO						74.0	54.0	>27.0		>10.0		
	1398					HO					74.0	54.0						
1631					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]		
10	239	31.1	26.8			BC	-1.7	29.4	25.1			46.0			16.6	20.9		
	478					LO						46.0			> 15.0			
	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		HOR.	VER.	HOR.	VER.	[PK]	[AV]	HOR.	VER.	HOR.	VER.	
		[dBuV]		[dBuV]			[dBuV]	[dBuV/m]		[dBuV/m]		[dBuV/m]	[dBuV/m]	[dB]	[dB]	[dB]	[dB]	
	1195					HO						74.0	54.0	>27.0		>10.0		
	1434					HO					74.0	54.0						
1673					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]		
11	245	32.8	28.3			BC	-1.6	31.2	26.7			46.0			14.8	19.3		
	490					LO						46.0			> 15.0			
	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		HOR.	VER.	HOR.	VER.	[PK]	[AV]	HOR.	VER.	HOR.	VER.	
		[dBuV]		[dBuV]			[dBuV]	[dBuV/m]		[dBuV/m]		[dBuV/m]	[dBuV/m]	[dB]	[dB]	[dB]	[dB]	
	1225					HO						74.0	54.0	>27.0		>10.0		
	1470					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]		
12	251	32.0	30.6			BC	-1.4	30.6	29.2			46.0			15.4	16.8		
	502					LO						46.0			> 15.0			
	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		HOR.	VER.	HOR.	VER.	[PK]	[AV]	HOR.	VER.	HOR.	VER.	
		[dBuV]		[dBuV]			[dBuV]	[dBuV/m]		[dBuV/m]		[dBuV/m]	[dBuV/m]	[dB]	[dB]	[dB]	[dB]	
	1004					HO						74.0	54.0	>27.0		>10.0		
	1255					HO					74.0	54.0						
	1506					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]		
13	257	29.6	28.9			BC	-1.0	28.6	27.9			46.0			17.4	18.1		
	514					LO						46.0			> 15.0			
	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		HOR.	VER.	HOR.	VER.	[PK]	[AV]	HOR.	VER.	HOR.	VER.	
		[dBuV]		[dBuV]			[dBuV]	[dBuV/m]		[dBuV/m]		[dBuV/m]	[dBuV/m]	[dB]	[dB]	[dB]	[dB]	
	1028					HO						74.0	54.0	>27.0		>10.0		
	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. : VRDVD4001AC
POWER : AC120V/60Hz
DESCRIPTION : TV Reception + Rec

REPORT No. : 25AE0230-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : 2004/08/24
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]		[dBuV/m]	[dB]	[dB]
UHF										
14	517	24.0	25.4	LO	3.2	27.2	28.6	46.0	18.8	17.4
		READING(PK)	READING(AV)	ANT	C.Factor	RESULT(PK)	RESULT(AV)	LIMIT	MARGIN(PK)	MARGIN(AV)
		HOR. VER.	HOR. VER.	TYPE		HOR. VER.	HOR. VER.	[PK]	[AV]	HOR. VER.
		[dBuV]	[dBuV]		[dBuV]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]
	1034			HO	-11.7			74.0	54.0	>27.0
	1551			HO	-7.5			74.0	54.0	>10.0
CH.	FREQ	READING(QP)	VER.	ANT	C.Factor	RESULT(QP)	VER.	LIMIT	MARGIN(QP)	VER.
	[MHz]	[dBuV]		TYPE	[dBuV]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
19	547	24.8	28.8	LO	3.5	28.3	32.3	46.0	17.7	13.7
		READING(PK)	READING(AV)	ANT	C.Factor	RESULT(PK)	RESULT(AV)	LIMIT	MARGIN(PK)	MARGIN(AV)
		HOR. VER.	HOR. VER.	TYPE		HOR. VER.	HOR. VER.	[PK]	[AV]	HOR. VER.
		[dBuV]	[dBuV]		[dBuV]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]
	1094			HO	-11.3			74.0	54.0	>27.0
	1641			HO	-5.8			74.0	54.0	>10.0
CH.	FREQ	READING(QP)	VER.	ANT	C.Factor	RESULT(QP)	VER.	LIMIT	MARGIN(QP)	VER.
	[MHz]	[dBuV]		TYPE	[dBuV]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
28	601	28.3	28.8	LO	4.4	32.7	33.2	46.0	13.3	12.8
		READING(PK)	READING(AV)	ANT	C.Factor	RESULT(PK)	RESULT(AV)	LIMIT	MARGIN(PK)	MARGIN(AV)
		HOR. VER.	HOR. VER.	TYPE		HOR. VER.	HOR. VER.	[PK]	[AV]	HOR. VER.
		[dBuV]	[dBuV]		[dBuV]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]
	1202			HO	-10.6			74.0	54.0	>27.0
										>10.0
CH.	FREQ	READING(QP)	VER.	ANT	C.Factor	RESULT(QP)	VER.	LIMIT	MARGIN(QP)	VER.
	[MHz]	[dBuV]		TYPE	[dBuV]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
36	649	26.6	28.8	LO	5.2	31.8	34.0	46.0	14.2	12.0
		READING(PK)	READING(AV)	ANT	C.Factor	RESULT(PK)	RESULT(AV)	LIMIT	MARGIN(PK)	MARGIN(AV)
		HOR. VER.	HOR. VER.	TYPE		HOR. VER.	HOR. VER.	[PK]	[AV]	HOR. VER.
		[dBuV]	[dBuV]		[dBuV]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]
	1298			HO	-9.8			74.0	54.0	>27.0
										>10.0
CH.	FREQ	READING(QP)	VER.	ANT	C.Factor	RESULT(QP)	VER.	LIMIT	MARGIN(QP)	VER.
	[MHz]	[dBuV]		TYPE	[dBuV]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
44	697	24.6	27.3	LO	5.9	30.5	33.2	46.0	15.5	12.8
		READING(PK)	READING(AV)	ANT	C.Factor	RESULT(PK)	RESULT(AV)	LIMIT	MARGIN(PK)	MARGIN(AV)
		HOR. VER.	HOR. VER.	TYPE		HOR. VER.	HOR. VER.	[PK]	[AV]	HOR. VER.
		[dBuV]	[dBuV]		[dBuV]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]
	1394			HO	-9.1			74.0	54.0	>27.0
										>10.0
CH.	FREQ	READING(QP)	VER.	ANT	C.Factor	RESULT(QP)	VER.	LIMIT	MARGIN(QP)	VER.
	[MHz]	[dBuV]		TYPE	[dBuV]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
53	751	28.0	30.5	LO	7.6	35.6	38.1	46.0	10.4	7.9
		READING(PK)	READING(AV)	ANT	C.Factor	RESULT(PK)	RESULT(AV)	LIMIT	MARGIN(PK)	MARGIN(AV)
		HOR. VER.	HOR. VER.	TYPE		HOR. VER.	HOR. VER.	[PK]	[AV]	HOR. VER.
		[dBuV]	[dBuV]		[dBuV]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]
	1502			HO	-8.4			74.0	54.0	>27.0
										>10.0
CH.	FREQ	READING(QP)	VER.	ANT	C.Factor	RESULT(QP)	VER.	LIMIT	MARGIN(QP)	VER.
	[MHz]	[dBuV]		TYPE	[dBuV]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
61	799	24.6	27.3	LO	9.2	33.8	36.5	46.0	12.2	9.5
		READING(PK)	READING(AV)	ANT	C.Factor	RESULT(PK)	RESULT(AV)	LIMIT	MARGIN(PK)	MARGIN(AV)
		HOR. VER.	HOR. VER.	TYPE		HOR. VER.	HOR. VER.	[PK]	[AV]	HOR. VER.
		[dBuV]	[dBuV]		[dBuV]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]
	1598			HO	-6.6			74.0	54.0	>27.0
										>10.0
CH.	FREQ	READING(QP)	VER.	ANT	C.Factor	RESULT(QP)	VER.	LIMIT	MARGIN(QP)	VER.
	[MHz]	[dBuV]		TYPE	[dBuV]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
69	847	23.8	28.0	LO	9.6	33.4	37.6	46.0	12.6	8.4
		READING(PK)	READING(AV)	ANT	C.Factor	RESULT(PK)	RESULT(AV)	LIMIT	MARGIN(PK)	MARGIN(AV)
		HOR. VER.	HOR. VER.	TYPE		HOR. VER.	HOR. VER.	[PK]	[AV]	HOR. VER.
		[dBuV]	[dBuV]		[dBuV]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]
	1694			HO	-4.9			74.0	54.0	>27.0
										>10.0

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

REPORT No. : 25AE0230-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : 2004/08/24
TEMP./HUMID. : 23deg.C / 50%
ENGINEER : Tsubasa Takavama

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

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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. : VRDVD4001AC
POWER : AC120V/60Hz
DESCRIPTION : TV Reception + Rec

REPORT No. : 25AE0230-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : 2004/08/24
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 [MHz]	READING(QP) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(QP) HOR. VER. [dBuV/m]		LIMIT [QP] [dBuV/m]		MARGIN(QP) HOR. VER. [dB] [dB]	
CATV											
14	167	22.2	22.4			BC	-3.8	18.4	18.6		
	334					LO					
	501					LO					
	668					LO					
	835					LO					
18	191	22.1	21.7			BC	-2.8	19.3	18.9		
	382					LO					
	573					LO					
	764					LO					
	955					LO					
22	215	22.3	22.1			BC	-2.4	19.9	19.7		
	430					LO					
	645					LO					
	860					LO					
23	263	21.8	21.7			BC	-0.6	21.2	21.1		
	526					LO					
	789					LO					
29	299	21.8	21.7			BC	1.9	23.7	23.6		
	598					LO					
	897					LO					

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. : VRDVD4001AC
POWER : AC120V/60Hz
DESCRIPTION : TV Reception + Rec

REPORT No. : 25AE0230-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : 2004/08/24
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]		
CATV														
36	341	22.4	21.8		LO	-0.2	22.2	21.6		46.0	46.0	23.8	24.4	
	682				LO					46.0	46.0	>15.0		
		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.	[dB]	[dB]	[dB]
		[dBuV]	[dBuV]		[dBuV]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	[dB]	[dB]	[dB]
	1023			HO	-11.8				74.0	54.0	>27.0		>10.0	
	1364			HO	-9.4				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]	[dBuV/m]		[dBuV/m]		[dB]				
37	347	21.7	21.9		LO	-0.1	21.6	21.8		46.0	46.0	24.4	24.2	
	694				LO					46.0	46.0	>15.0		
		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.	[dB]	[dB]	[dB]
		[dBuV]	[dBuV]		[dBuV]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	[dB]	[dB]	[dB]
	1041			HO	-11.7				74.0	54.0	>27.0		>10.0	
	1388			HO	-9.2				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]	[dBuV/m]		[dBuV/m]		[dB]				
65	515	23.6	25.2		LO	3.1	26.7	28.3		46.0	46.0	19.3	17.7	
		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.	[dB]	[dB]	[dB]
		[dBuV]	[dBuV]		[dBuV]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	[dB]	[dB]	[dB]
	1030			HO	-11.7				74.0	54.0	>27.0		>10.0	
	1545			HO	-7.6				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]	[dBuV/m]		[dBuV/m]		[dB]				
94	689	25.2	25.4		LO	5.8	31.0	31.2		46.0	46.0	15.0	14.8	
		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.	[dB]	[dB]	[dB]
	1378			HO	-9.2				74.0	54.0	>27.0		>10.0	
CH.	FREQ	READING(QP)		ANT	C.Factor	RESULT(QP)		LIMIT		MARGIN(QP)				
	[MHz]	HOR. VER.		TYPE	[dBuV]	HOR. VER.		[QP]		HOR. VER.				
		[dBuV]			[dBuV]	[dBuV/m]		[dBuV/m]		[dB]				
100	695	24.0	24.5		LO	5.9	29.9	30.4		46.0	46.0	16.1	15.6	
		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.	[dB]	[dB]	[dB]
	1390			HO	-9.1				74.0	54.0	>27.0		>10.0	
CH.	FREQ	READING(QP)		ANT	C.Factor	RESULT(QP)		LIMIT		MARGIN(QP)				
	[MHz]	HOR. VER.		TYPE	[dBuV]	HOR. VER.		[QP]		HOR. VER.				
		[dBuV]			[dBuV]	[dBuV/m]		[dBuV/m]		[dB]				
113	773	25.9	29.2		LO	8.3	34.2	37.5		46.0	46.0	11.8	8.5	
		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.	[dB]	[dB]	[dB]
	1546			HO	-7.6				74.0	54.0	>27.0		>10.0	
CH.	FREQ	READING(QP)		ANT	C.Factor	RESULT(QP)		LIMIT		MARGIN(QP)				
	[MHz]	HOR. VER.		TYPE	[dBuV]	HOR. VER.		[QP]		HOR. VER.				
		[dBuV]			[dBuV]	[dBuV/m]		[dBuV/m]		[dB]				
125	845	23.6	28.3		LO	9.6	33.2	37.9		46.0	46.0	12.8	8.1	
		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.	[dB]	[dB]	[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. : 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : TV RECEPTION + REC
Remarks : 0dBmV
Date : 8/24/2004
Test Distance : 3 m
Temperature : 24 °C
Humidity : 48 %
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]		HOR [dB]	VER [dB]
1.	945.00	BB	27.7	28.0	25.1	27.1	7.5	6.0	39.2	39.5	46.0	6.8	6.5

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. : 25AE0230-YW-1

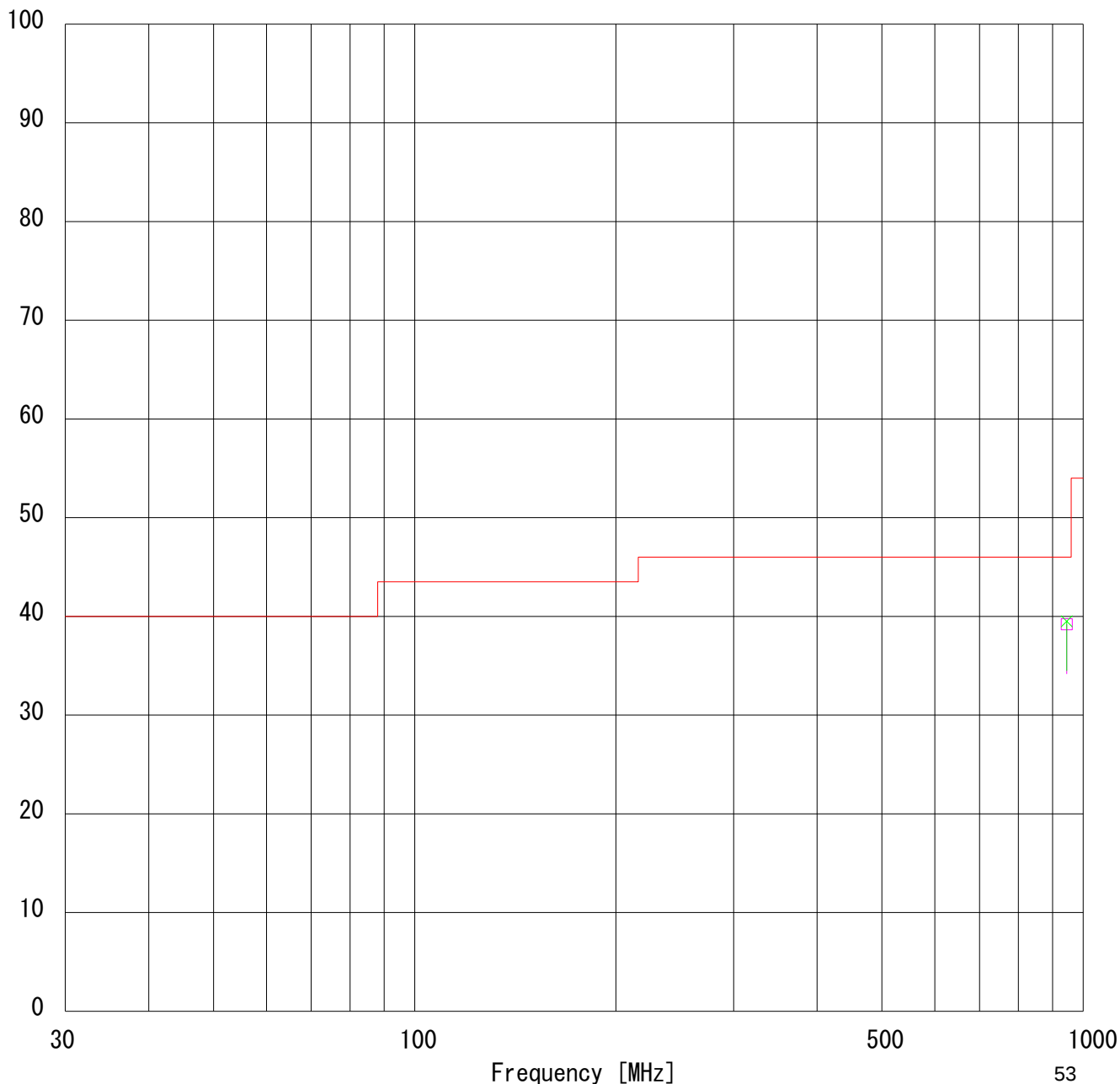
Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : TV RECEPTION + REC
Remarks : 0dBmV
Date : 8/24/2004
Test Distance : 3 m
Temperature : 24 °C
Humidity : 48 %
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama

Emission Level [dB μ V/m]

□ Horizontal

× Vertical



DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No. : 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : TV RECEPTION + REC
Remarks : 25dBmV
Date : 8/24/2004
Test Distance : 3 m
Temperature : 24 °C
Humidity : 48 %
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]		HOR [dB]	VER [dB]
1.	127.99	BB	25.9	28.4	13.9	28.2	2.2	5.9	19.7	22.2	43.5	23.8	21.3
2.	135.00	BB	36.3	42.0	14.3	28.2	2.3	5.9	30.6	36.3	43.5	12.9	7.2
3.	162.00	BB	26.2	27.2	15.6	28.1	2.5	5.9	22.1	23.1	43.5	21.4	20.4
4.	202.49	BB	35.6	32.2	16.5	28.0	2.9	5.9	32.9	29.5	43.5	10.6	14.0
5.	270.02	BB	28.8	26.4	18.3	27.9	3.5	6.0	28.7	26.3	46.0	17.3	19.7
6.	320.62	BB	33.7	27.6	17.4	27.9	3.8	6.0	33.0	26.9	46.0	13.0	19.1
7.	405.01	BB	26.5	31.1	18.7	27.9	4.5	6.0	27.8	32.4	46.0	18.2	13.6
8.	540.00	BB	28.4	31.7	19.9	27.8	5.4	6.0	31.9	35.2	46.0	14.1	10.8
9.	674.99	BB	29.1	29.5	20.9	27.4	6.1	6.0	34.7	35.1	46.0	11.3	10.9
10.	945.00	BB	27.8	28.1	25.1	27.1	7.5	6.0	39.3	39.6	46.0	6.7	6.4

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

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

ANT. TYPE : 30-300MHz Biconical, 300-1000MHz Logperiodic

DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No. : 25AE0230-YW-1

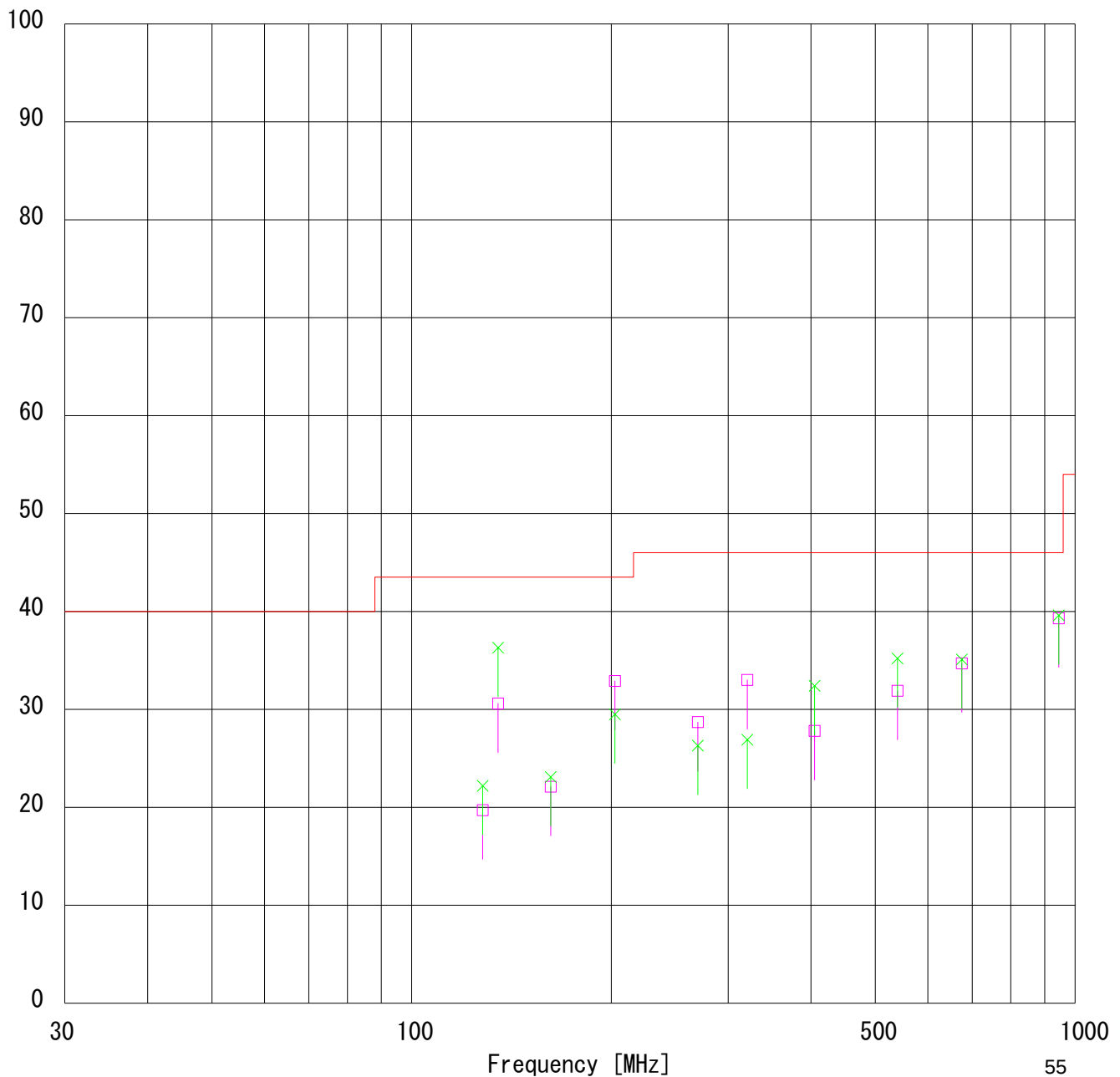
Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : TV RECEPTION + REC
Remarks : 25dBmV
Date : 8/24/2004
Test Distance : 3 m
Temperature : 24 °C
Humidity : 48 %
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama

Emission Level [dB μ V/m]

□ Horizontal

× Vertical



DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No. : 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : AV INPUT + REC
Remarks : 1Vp-p
Date : 8/24/2004
Test Distance : 3 m
Temperature : 24 °C
Humidity : 48 %
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]		HOR [dB]	VER [dB]
1.	945.00	BB	29.7	30.1	25.1	27.1	7.5	6.0	41.2	41.6	46.0	4.8	4.4

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

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

DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No. : 25AE0230-YW-1

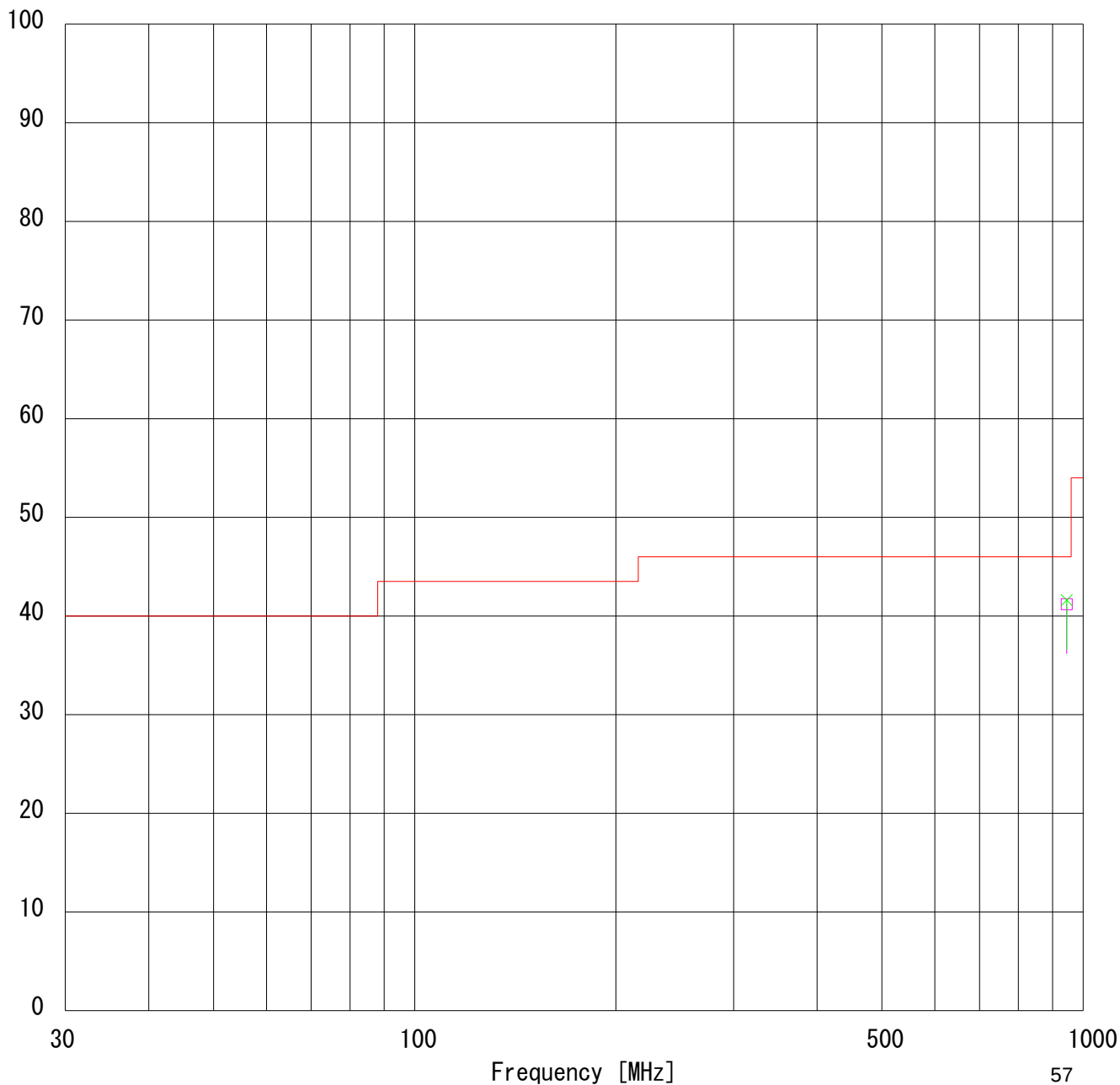
Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : AV INPUT + REC
Remarks : 1Vp-p
Date : 8/24/2004
Test Distance : 3 m
Temperature : 24 °C
Humidity : 48 %
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama

Emission Level [dB μ V/m]

□ Horizontal

× Vertical



DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No. : 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
 Kind of Equipment : DVD/VCR
 Model No. : VRDVD4001AC
 Serial No. : -
 Power : AC120V/60Hz
 Mode : AV INPUT + REC
 Remarks : 5Vp-p
 Date : 8/24/2004
 Test Distance : 3 m
 Temperature : 24 °C
 Humidity : 48 %
 Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]		HOR [dB]	VER [dB]
1.	128.01	BB	28.0	31.3	13.9	28.2	2.2	5.9	21.8	25.1	43.5	21.7	18.4
2.	134.99	BB	40.0	41.0	14.3	28.2	2.3	5.9	34.3	35.3	43.5	9.2	8.2
3.	162.00	BB	25.3	29.9	15.6	28.1	2.5	5.9	21.2	25.8	43.5	22.3	17.7
4.	202.49	BB	36.0	31.4	16.5	28.0	2.9	5.9	33.3	28.7	43.5	10.2	14.8
5.	270.00	BB	32.5	32.2	18.3	27.9	3.5	6.0	32.4	32.1	46.0	13.6	13.9
6.	320.63	BB	26.6	29.0	17.4	27.9	3.8	6.0	25.9	28.3	46.0	20.1	17.7
7.	405.00	BB	29.3	31.2	18.7	27.9	4.5	6.0	30.6	32.5	46.0	15.4	13.5
8.	540.01	BB	28.4	33.2	19.9	27.8	5.4	6.0	31.9	36.7	46.0	14.1	9.3
9.	675.00	BB	29.0	31.4	20.9	27.4	6.1	6.0	34.6	37.0	46.0	11.4	9.0
10.	945.00	BB	29.9	30.1	25.1	27.1	7.5	6.0	41.4	41.6	46.0	4.6	4.4

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

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

ANT. TYPE : 30-300MHz Biconical, 300-1000MHz Logperiodic

DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No. : 25AE0230-YW-1

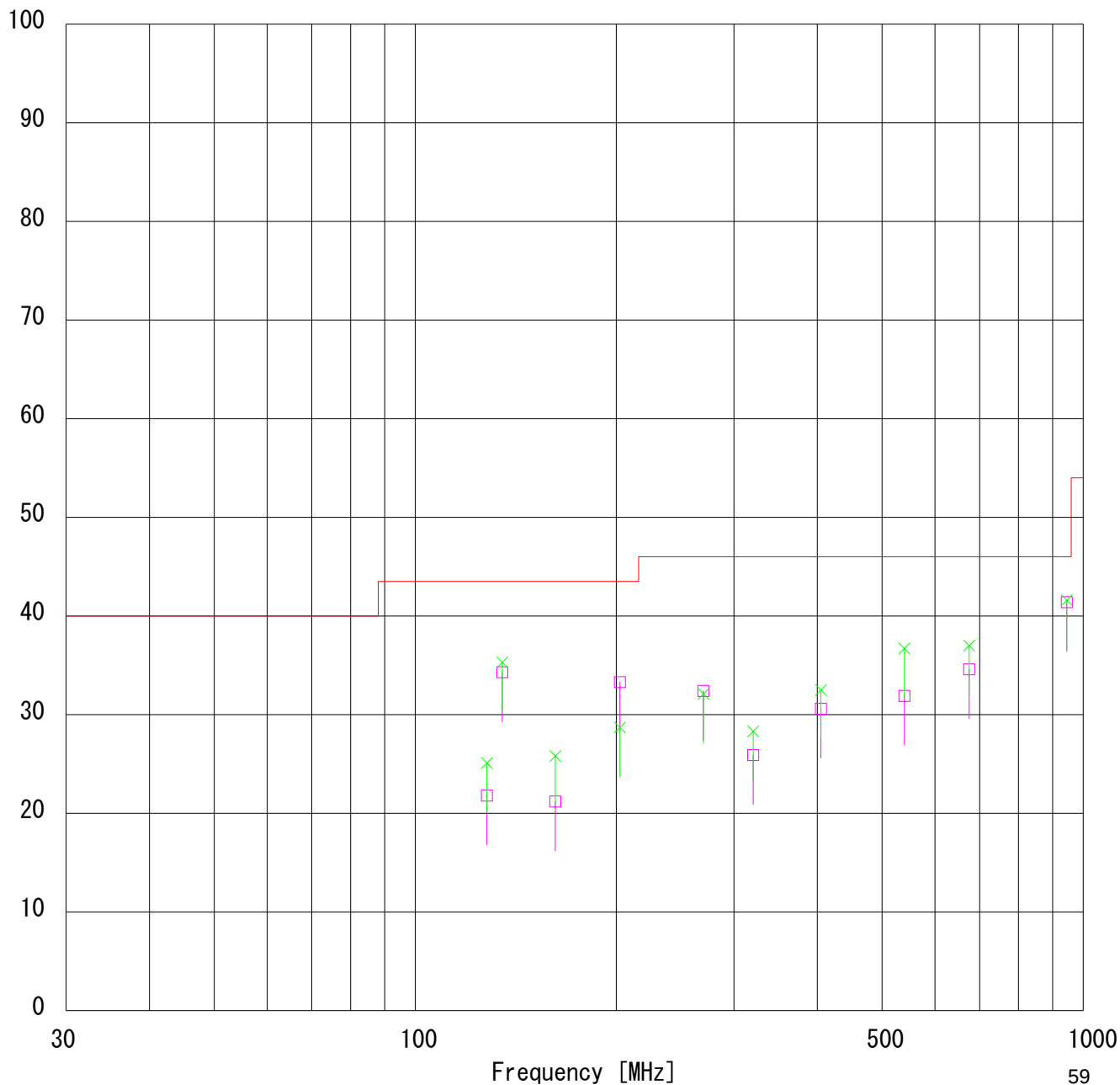
Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : AV INPUT + REC
Remarks : 5Vp-p
Date : 8/24/2004
Test Distance : 3 m
Temperature : 24 °C
Humidity : 48 %
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama

Emission Level [dB μ V/m]

□ Horizontal

× Vertical



DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No. : 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : VCR PLAYBACK
Remarks :
Date : 8/24/2004
Test Distance : 3 m
Temperature : 24 °C
Humidity : 48 %
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]		HOR [dB]	VER [dB]
1.	128.00	BB	27.8	31.3	13.9	28.2	2.2	5.9	21.6	25.1	43.5	21.9	18.4
2.	135.00	BB	42.9	42.3	14.3	28.2	2.3	5.9	37.2	36.6	43.5	6.3	6.9
3.	151.87	BB	37.7	35.1	15.1	28.1	2.5	5.9	33.1	30.5	43.5	10.4	13.0
4.	270.00	BB	34.6	34.2	18.3	27.9	3.5	6.0	34.5	34.1	46.0	11.5	11.9
5.	320.62	BB	35.2	34.9	17.4	27.9	3.8	6.0	34.5	34.2	46.0	11.5	11.8
6.	405.00	BB	29.1	34.2	18.7	27.9	4.5	6.0	30.4	35.5	46.0	15.6	10.5
7.	539.98	BB	26.5	32.4	19.9	27.8	5.4	6.0	30.0	35.9	46.0	16.0	10.1
8.	674.99	BB	27.6	31.9	20.9	27.4	6.1	6.0	33.2	37.5	46.0	12.8	8.5
9.	945.00	BB	28.6	31.2	25.1	27.1	7.5	6.0	40.1	42.7	46.0	5.9	3.3

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. : 25AE0230-YW-1

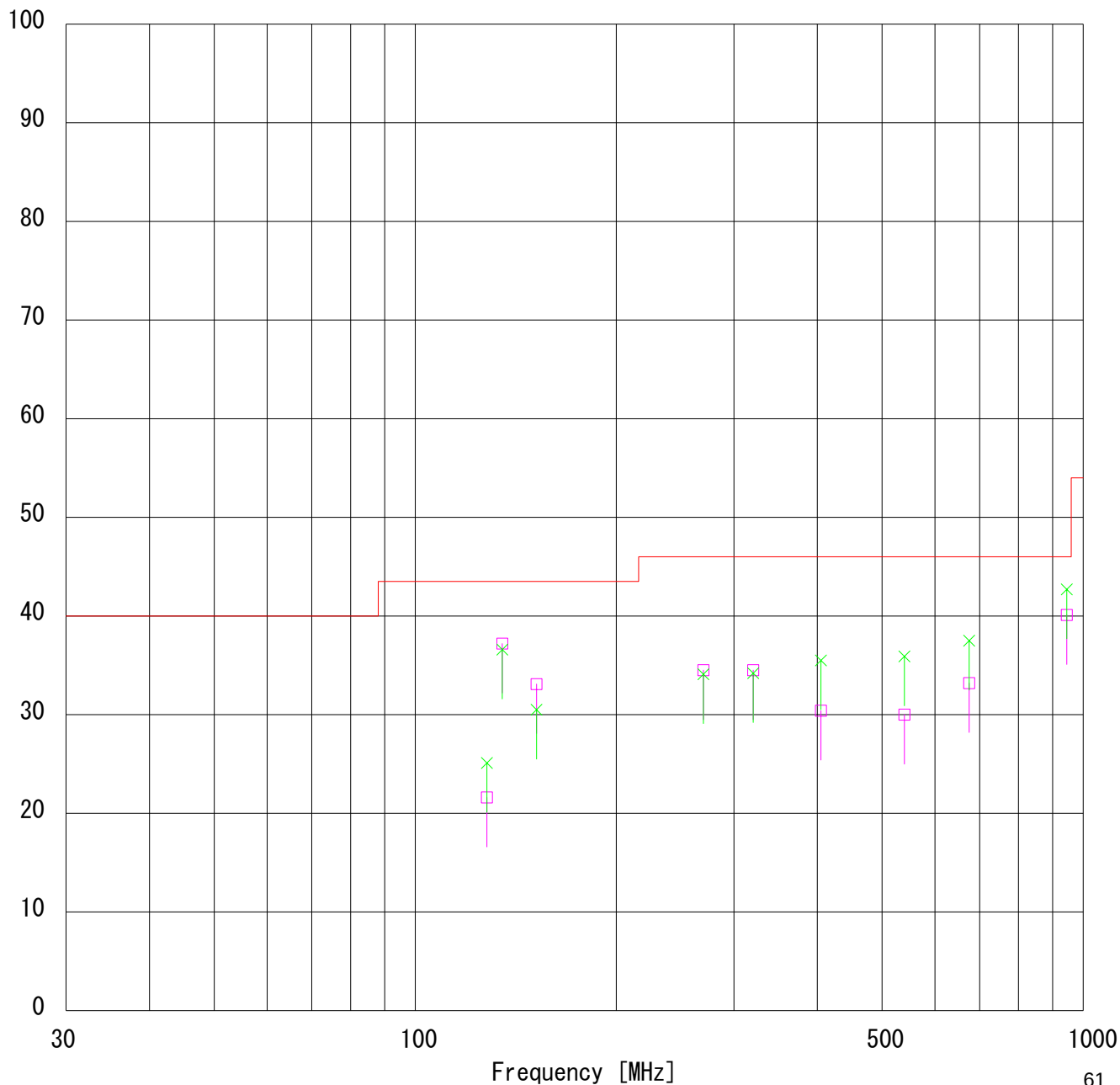
Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : VCR PLAYBACK
Remarks :
Date : 8/24/2004
Test Distance : 3 m
Temperature : 24 °C
Humidity : 48 %
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama

Emission Level [dB μ V/m]

□ Horizontal

× Vertical



DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
 Kind of Equipment : DVD/VCR
 Model No. : VRDVD4001AC
 Serial No. : -
 Power : AC120V/60Hz
 Mode : DVD PLAY
 Remarks :
 Date : 9/2/2004
 Test Distance : 3 m
 Temperature : 22
 Humidity : 31 %
 Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]		HOR [dB]	VER [dB]
1.	135.01	BB	41.1	38.5	14.3	28.2	2.3	5.9	35.4	32.8	43.5	8.1	10.7
2.	189.00	BB	29.0	29.7	16.4	28.0	2.8	5.9	26.1	26.8	43.5	17.4	16.7
3.	202.49	BB	32.3	28.3	16.5	28.0	2.9	5.9	29.6	25.6	43.5	13.9	17.9
4.	269.99	BB	39.4	36.3	18.3	27.9	3.5	6.0	39.3	36.2	46.0	6.7	9.8
5.	405.00	BB	26.9	29.6	18.7	27.9	4.5	6.0	28.2	30.9	46.0	17.8	15.1
6.	540.00	BB	23.4	26.5	19.9	27.8	5.4	6.0	26.9	30.0	46.0	19.1	16.0
7.	675.00	BB	30.6	33.4	20.9	27.4	6.1	6.0	36.2	39.0	46.0	9.8	7.0
8.	945.00	BB	24.7	27.9	25.1	27.1	7.5	6.0	36.2	39.4	46.0	9.8	6.6

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

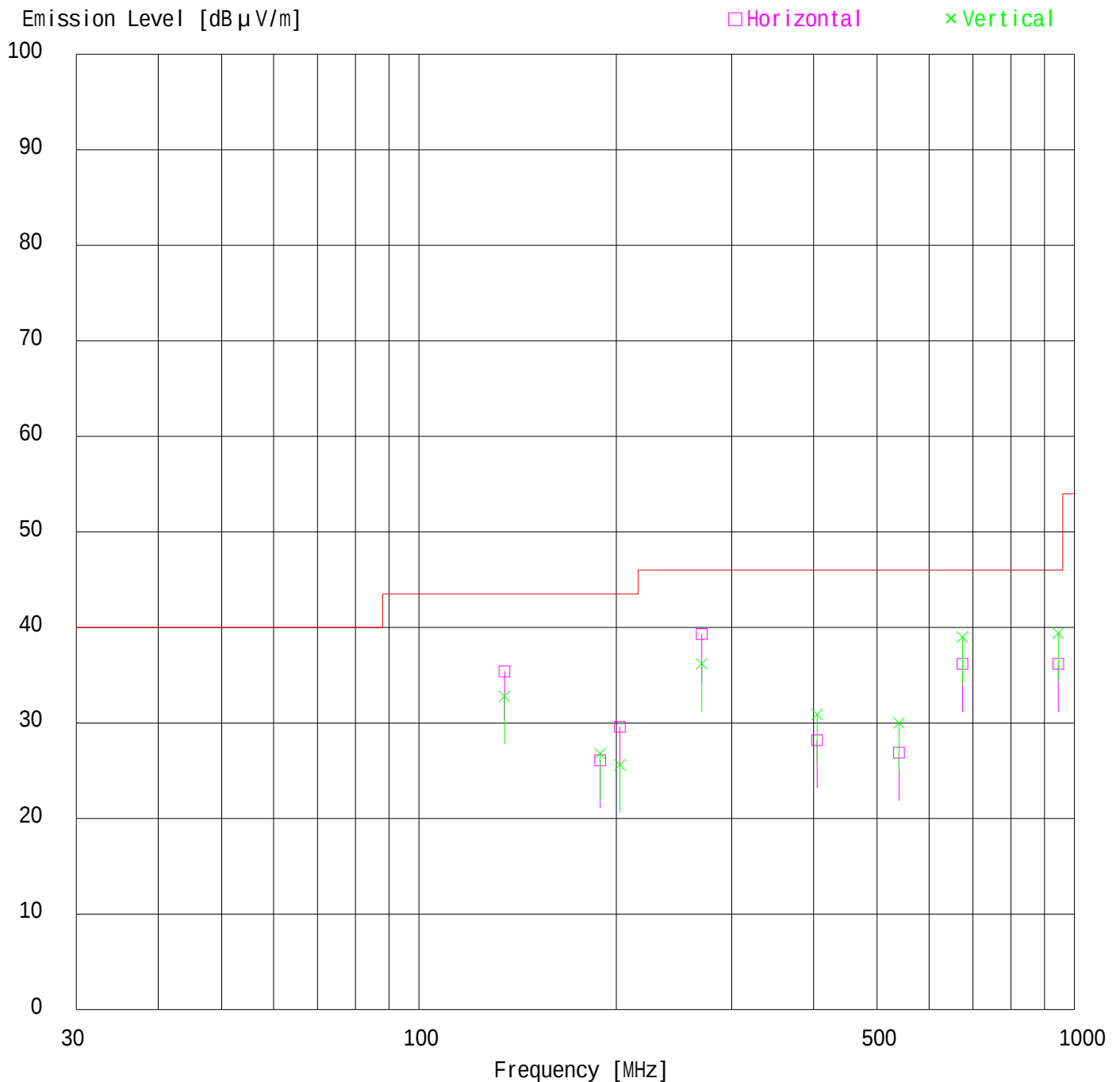
UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : DVD PLAY
Remarks :
Date : 9/2/2004
Test Distance : 3 m
Temperature : 22
Humidity : 31 %
Regulation : FCC Part15B CLASS B

Engineer : Tsubasa Takayama



DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : DVD PLAY
Remarks :
Date : 8/24/2004
Test Distance : 3 m
Temperature : 23 Engineer : Tsubasa Takayama
Humidity : 50 %
Regulation : FCC Part15B CLASS B(Peak Limit / Upper1GHz)

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μV/m]	MARGIN	
			HOR [dB μV]	VER [dB μV]					HOR [dB μV/m]	VER [dB μV/m]		HOR [dB]	VER [dB]
1.	1079.99	BB	51.6	53.4	25.3	38.7	2.0	0.0	40.2	42.0	74.0	33.8	32.0
2.	1214.99	BB	57.0	53.2	26.0	38.5	2.2	0.0	46.7	42.9	74.0	27.3	31.1
3.	1349.99	BB	50.0	51.6	26.6	38.4	2.3	0.0	40.5	42.1	74.0	33.5	31.9
4.	1511.33	BB	45.1	47.4	27.5	38.1	2.4	0.0	36.9	39.2	74.0	37.1	34.8
5.	1619.99	BB	50.7	47.5	28.2	37.0	2.5	0.0	44.4	41.2	74.0	29.6	32.8

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

Except for the above table: adequate margin data below the limits.
ANT.TYPE:1GHz-2GHz DRG Horn Antenna

DATA OF RADIATION TEST

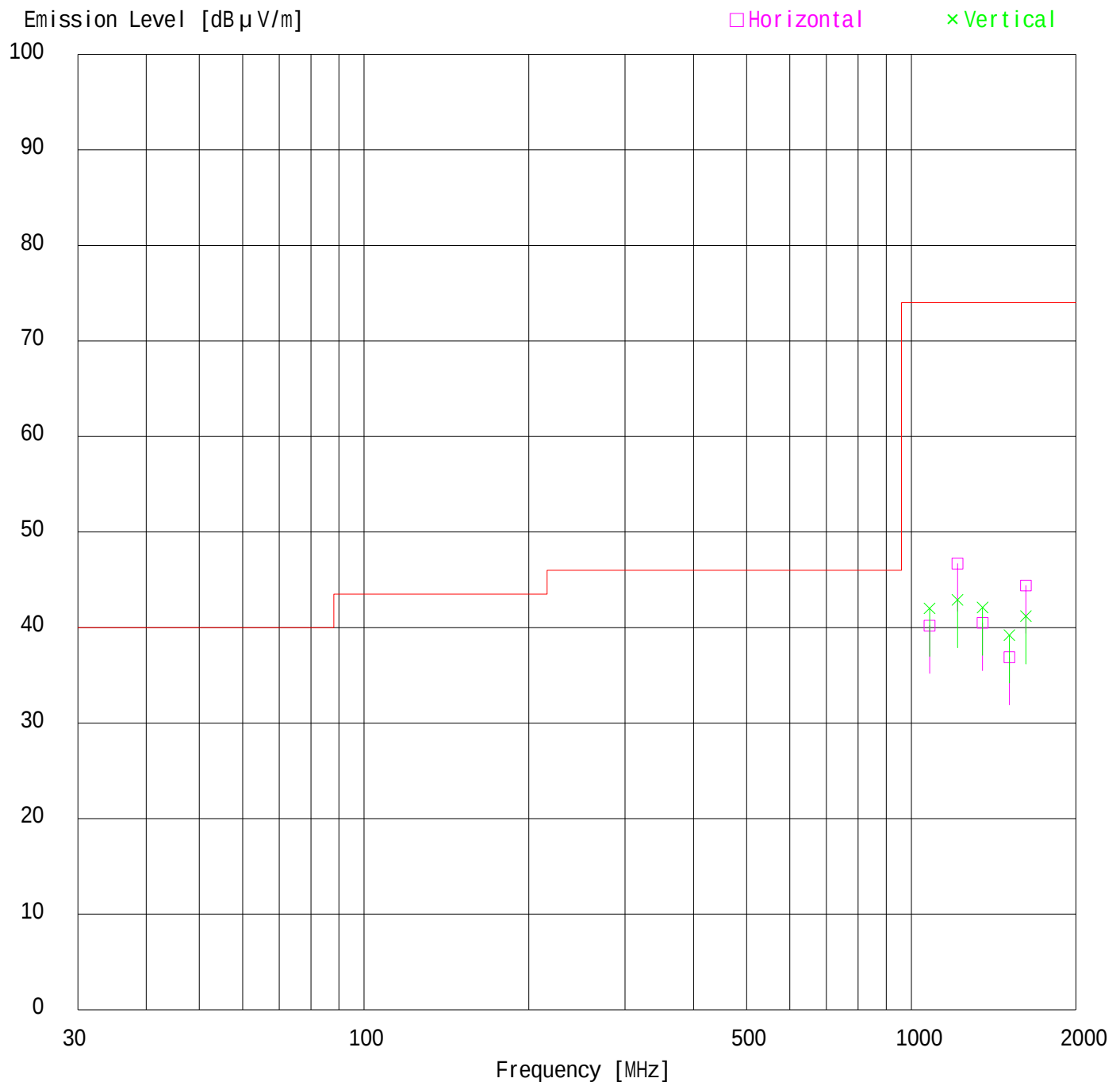
UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : DVD PLAY
Remarks :
Date : 8/24/2004
Test Distance : 3 m
Temperature : 23
Humidity : 50 %
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.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : DVD PLAY
Remarks :
Date : 8/24/2004
Test Distance : 3 m
Temperature : 23 Engineer : Tsubasa Takayama
Humidity : 50 %
Regulation : FCC Part15B CLASS B(Average Limit / Upper1GHz)

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]		HOR [dB]	VER [dB]
1.	1079.99	BB	43.8	44.3	25.3	38.7	2.0	0.0	32.4	32.9	54.0	21.6	21.1
2.	1214.99	BB	52.3	46.5	26.0	38.5	2.2	0.0	42.0	36.2	54.0	12.0	17.8
3.	1349.99	BB	41.8	43.6	26.6	38.4	2.3	0.0	32.3	34.1	54.0	21.7	19.9
4.	1511.33	BB	35.6	36.7	27.5	38.1	2.4	0.0	27.4	28.5	54.0	26.6	25.5
5.	1619.99	BB	41.7	38.7	28.2	37.0	2.5	0.0	35.4	32.4	54.0	18.6	21.6

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

Except for the above table: adequate margin data below the limits.
ANT.TYPE:1GHz-2GHz DRG Horn Antenna

DATA OF RADIATION TEST

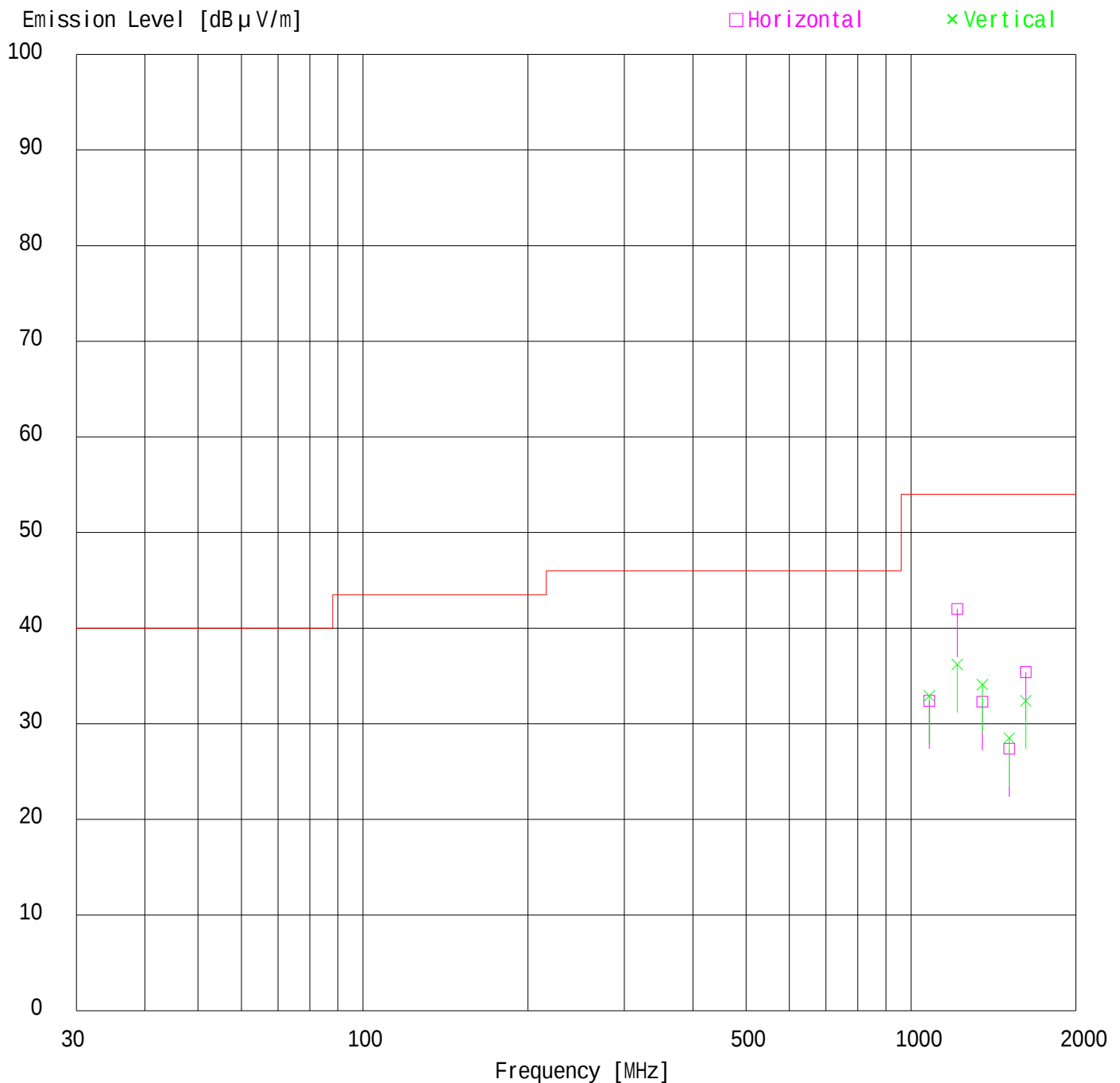
UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No.: 25AE0230-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD/VCR
Model No. : VRDVD4001AC
Serial No. : -
Power : AC120V/60Hz
Mode : DVD PLAY
Remarks :
Date : 8/24/2004
Test Distance : 3 m
Temperature : 23
Humidity : 50 %
Regulation : FCC Part15B CLASS B(Average Limit / Upper1GHz)

Engineer : Tsubasa Takayama



DATA OF ANTENNA TERMINAL TEST

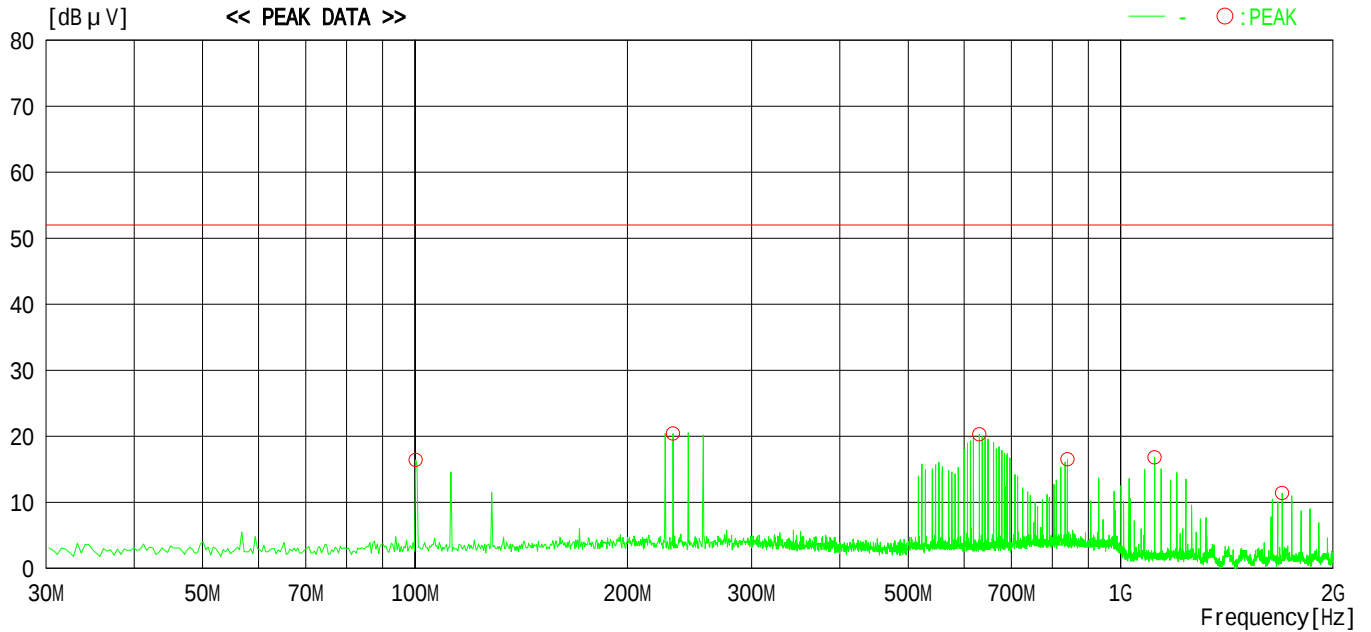
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : VRDVD4001AC
OPERATION MODE : TV Tuning mode

REPORT NO : 25AE0230-YW-1
DATE : August 24, 2004
REGULATION : FCC 15B Subpart B
TEST ENGINEER : Tsubasa Takayama

TEMP./HUMID. : 26 /68%

LIMIT : FCC 15B ANTENNA TERMINAL



NO	FREQ [MHz]	READING PEAK [dB μ V]	C.F [dB]	RESULT [dB μ V]	LIMIT Peak [dB μ V]	- [dB μ V]	MARGIN Peak [dB]	- [dB]	PHASE
1	100.24260	36.0	-19.6	16.4	52.0	----	35.6	----	-
2	232.15040	39.5	-19.1	20.4	52.0	----	31.6	----	-
3	630.56740	40.5	-20.2	20.3	52.0	----	31.7	----	-
4	840.57710	36.2	-19.7	16.5	52.0	----	35.5	----	-
5	1117.13600	46.5	-29.7	16.8	52.0	----	35.2	----	-
6	1694.07500	40.2	-28.8	11.4	52.0	----	40.6	----	-

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

DATA OF ANTENNA TERMINAL TEST

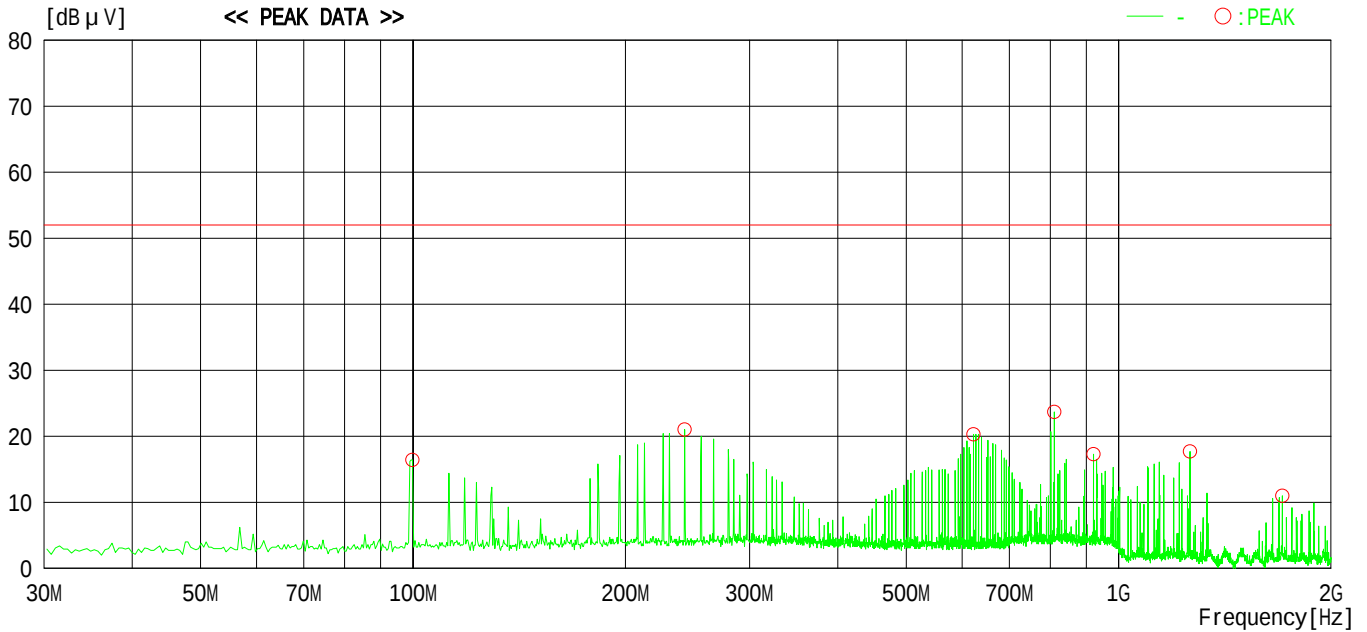
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : VRDVD4001AC
OPERATION MODE : CATV Tuning mode

REPORT NO : 25AE0230-YW-1
DATE : August 24, 2004
REGULATION : FCC 15B Subpart B
TEST ENGINEER : Tsubasa Takayama

TEMP./HUMID. : 26 /68%

LIMIT : FCC 15B ANTENNA TERMINAL



NO	FREQ [MHz]	READING PEAK [dB μ V]	C.F [dB]	RESULT [dB μ V]	LIMIT Peak [dB μ V]	MARGIN Peak [dB]	PHASE
1	99.82113	36.0	-19.6	16.4	52.0	35.6	-
2	242.68620	40.0	-19.0	21.0	52.0	31.0	-
3	622.56770	40.5	-20.2	20.3	52.0	31.7	-
4	811.00450	43.5	-19.8	23.7	52.0	28.3	-
5	921.15190	36.8	-19.5	17.3	52.0	34.7	-
6	1262.12600	47.2	-29.5	17.7	52.0	34.3	-
7	1706.14700	39.8	-28.8	11.0	52.0	41.0	-

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	: 25AE0230-YW-1
Equipment	: DVD/VCR	Regulation	: FCC Part15B Subpart B
Model number	: VRDVD4001AC	Date	: August 25,2004
Power	: AC 120 V / 60 Hz	Temp./Humid	: 24 /35%
Description	: TV Reception + Rec (0dBmV)	Engineer	: Tsubasa Takayama

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	82.8	20.0	62.8	69.5	6.7
4	67.25	82.6	20.0	62.6	69.5	6.9

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	68.5	20.0	48.5	56.5	8.0
	65.75	67.3	20.0	47.3	56.5	9.2
4	62.75	67.8	20.0	47.8	56.5	8.7
	71.75	66.6	20.0	46.6	56.5	9.9

RF output level

UL Apex Co., LTD.
YOKOWA EMC LAB.

Company	: Orion Electric Co.,Ltd.	Report Number	: 25AE0230-YW-1
Equipment	: DVD/VCR	Regulation	: FCC Part15B Subpart B
Model number	: VRDVD4001AC	Date	: August 25,2004
Power	: AC 120 V / 60 Hz	Temp./Humid	: 24 /35%
Description	: TV Reception + Rec(25dBmV)	Engineer	: Tsubasa Takayama

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	83.7	20.0	63.7	69.5	5.8
4	67.25	81.8	20.0	61.8	69.5	7.7

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	68.6	20.0	48.6	56.5	7.9
	65.75	67.4	20.0	47.4	56.5	9.1
4	62.75	67.9	20.0	47.9	56.5	8.6
	71.75	66.7	20.0	46.7	56.5	9.8

RF output level

UL Apex Co., LTD.
YOKOWA EMC LAB.

Company	: Orion Electric Co.,Ltd.	Report Number	: 25AE0230-YW-1
Equipment	: DVD/VCR	Regulation	: FCC Part15B Subpart B
Model number	: VRDVD4001AC	Date	: August 25,2004
Power	: AC 120 V / 60 Hz	Temp./Humid	: 24 /35%
Description	: AV Input + Rec(1Vp-p)	Engineer	: Tsubasa Takayama

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	83.2	20.0	63.2	69.5	6.3
4	67.25	81.9	20.0	61.9	69.5	7.6

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	68.6	20.0	48.6	56.5	7.9
	65.75	67.3	20.0	47.3	56.5	9.2
4	62.75	68.3	20.0	48.3	56.5	8.2
	71.75	67.0	20.0	47.0	56.5	9.5

RF output level

UL Apex Co., LTD.
YOKOWA EMC LAB.

Company	: Orion Electric Co.,Ltd.	Report Number	: 25AE0230-YW-1
Equipment	: DVD/VCR	Regulation	: FCC Part15B Subpart B
Model number	: VRDVD4001AC	Date	: August 25,2004
Power	: AC 120 V / 60 Hz	Temp./Humid	: 24 /35%
Description	: AV Input1 + Rec(5Vp-p)	Engineer	: Tsubasa Takayama

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	82.9	20.0	62.9	69.5	6.6
4	67.25	82.8	20.0	62.8	69.5	6.7

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	68.5	20.0	48.5	56.5	8.0
	65.75	67.3	20.0	47.3	56.5	9.2
4	62.75	67.9	20.0	47.9	56.5	8.6
	71.75	66.7	20.0	46.7	56.5	9.8

RF output level

UL Apex Co., LTD.
YOKOWA EMC LAB.

Company	: Orion Electric Co.,Ltd.	Report Number	: 25AE0230-YW-1
Equipment	: DVD/VCR	Regulation	: FCC Part15B Subpart B
Model number	: VRDVD4001AC	Date	: August 25,2004
Power	: AC 120 V / 60 Hz	Temp./Humid	: 24 /35%
Description	: VCR Playback	Engineer	: Tsubasa Takayama

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	82.4	20.0	62.4	69.5	7.1
4	67.25	83.1	20.0	63.1	69.5	6.4

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	67.9	20.0	47.9	56.5	8.6
	65.75	68.2	20.0	48.2	56.5	8.3
4	62.75	68.5	20.0	48.5	56.5	8.0
	71.75	68.2	20.0	48.2	56.5	8.3

RF output level

UL Apex Co., LTD.
YOKOWA EMC LAB.

Company	: Orion Electric Co.,Ltd.	Report Number	: 25AE0230-YW-1
Equipment	: DVD/VCR	Regulation	: FCC Part15B Subpart B
Model number	: VRDVD4001AC	Date	: August 25,2004
Power	: AC 120 V / 60 Hz	Temp./Humid	: 24 /35%
Description	: DVD Play	Engineer	: Tsubasa Takayama

Video signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	61.25	83.4	20.0	63.4	69.5	6.1
4	67.25	81.4	20.0	61.4	69.5	8.1

Audio signal

Ch.	Frequency [MHz]	Meter reading [dBuV]	Correction factor [dB]	Result [dB]	Limits [dBuV]	Margin [dB]
3	56.75	67.8	20.0	47.8	56.5	8.7
	65.75	66.6	20.0	46.6	56.5	9.9
4	62.75	68.5	20.0	48.5	56.5	8.0
	71.75	67.5	20.0	47.5	56.5	9.0

DATA OF RF SUPRIIOUS TEST

UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : VRDVD4001AC
TEMP./HUMID. : 23 /43%

REPORT NO : 25AE0230-YW-1
DATE : August 25,2004
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

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

LIMIT : FCC 15B RF OUT SPURIOUS

NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μ V]	- [dB μ V]		Peak [dB μ V]	- [dB μ V]	Peak [dB μ V]	- [dB μ V]	[dB]	[dB]	
1	32.6500	35.0	----	-20.2	14.8	----	39.5	----	24.7	----	-
2	47.8500	33.9	----	-20.0	13.9	----	39.5	----	25.6	----	-
3	122.5000	33.7	----	-19.5	14.2	----	39.5	----	25.3	----	-
4	489.7300	31.3	----	-20.1	11.2	----	39.5	----	28.3	----	-
5	674.9100	37.0	----	-20.1	16.9	----	39.5	----	22.6	----	-
6	944.7300	37.1	----	-19.6	17.5	----	39.5	----	22.0	----	-

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

DATA OF RF SUPRIIOUS TEST

UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : VRDVD4001AC
TEMP./HUMID. : 23 /43%

REPORT NO : 25AE0230-YW-1
DATE : August 25,2004
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

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

LIMIT : FCC 15B RF OUT SPURIOUS

NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μ V]	- [dB μ V]		Peak [dB μ V]	- [dB μ V]	Peak [dB μ V]	- [dB μ V]	[dB]	[dB]	
1	32.6500	34.9	----	-20.2	14.7	----	39.5	----	24.8	----	-
2	47.8500	34.8	----	-20.0	14.8	----	39.5	----	24.7	----	-
3	122.5000	34.0	----	-19.5	14.5	----	39.5	----	25.0	----	-
4	489.7300	32.3	----	-20.1	12.2	----	39.5	----	27.3	----	-
5	674.9100	37.1	----	-20.1	17.0	----	39.5	----	22.5	----	-
6	944.7300	37.3	----	-19.6	17.7	----	39.5	----	21.8	----	-

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

DATA OF RF SUPRIIOUS TEST

UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : VRDVD4001AC
TEMP./HUMID. : 23 /43%

REPORT NO : 25AE0230-YW-1
DATE : August 25,2004
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : AV Input + Rec (1Vp-p) : 3ch

LIMIT : FCC 15B RF OUT SPURIOUS

NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μ V]	- [dB μ V]		Peak [dB μ V]	- [dB μ V]	Peak [dB μ V]	- [dB μ V]	[dB]	[dB]	
1	32.7200	33.5	----	-20.2	13.3	----	39.5	----	26.2	----	-
2	47.8200	35.3	----	-20.0	15.3	----	39.5	----	24.2	----	-
3	122.5000	33.4	----	-19.5	13.9	----	39.5	----	25.6	----	-
4	489.7300	32.4	----	-20.1	12.3	----	39.5	----	27.2	----	-
5	674.9100	37.3	----	-20.1	17.2	----	39.5	----	22.3	----	-
6	944.7300	38.2	----	-19.6	18.6	----	39.5	----	20.9	----	-

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

DATA OF RF SUPRIIOUS TEST

UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : VRDVD4001AC
TEMP./HUMID. : 23 /43%

REPORT NO : 25AE0230-YW-1
DATE : August 25,2004
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : AV Input + Rec (5Vp-p) : 3ch

LIMIT : FCC 15B RF OUT SPURIOUS

NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μ V]	- [dB μ V]		Peak [dB μ V]	- [dB μ V]	Peak [dB μ V]	- [dB μ V]	[dB]	[dB]	
1	32.7200	32.7	----	-20.2	12.5	----	39.5	----	27.0	----	-
2	47.8200	34.9	----	-20.0	14.9	----	39.5	----	24.6	----	-
3	122.5000	32.3	----	-19.5	12.8	----	39.5	----	26.7	----	-
4	489.7300	33.1	----	-20.1	13.0	----	39.5	----	26.5	----	-
5	674.9100	37.1	----	-20.1	17.0	----	39.5	----	22.5	----	-
6	944.7300	37.8	----	-19.6	18.2	----	39.5	----	21.3	----	-

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

DATA OF RF SUPRIIOUS TEST

UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : VRDVD4001AC
TEMP./HUMID. : 23 /43%

REPORT NO : 25AE0230-YW-1
DATE : August 25,2004
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : VCR Playback : 3ch

LIMIT : FCC 15B RF OUT SPURIOUS

NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μ V]	- [dB μ V]		Peak [dB μ V]	- [dB μ V]	Peak [dB μ V]	- [dB μ V]	[dB]	[dB]	
1	32.7200	31.5	----	-20.2	11.3	----	39.5	----	28.2	----	-
2	47.8200	34.5	----	-20.0	14.5	----	39.5	----	25.0	----	-
3	122.5000	33.9	----	-19.5	14.4	----	39.5	----	25.1	----	-
4	489.7300	31.7	----	-20.1	11.6	----	39.5	----	27.9	----	-
5	674.9100	36.4	----	-20.1	16.3	----	39.5	----	23.2	----	-
6	944.7300	37.6	----	-19.6	18.0	----	39.5	----	21.5	----	-

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

DATA OF RF SUPRIIOUS TEST

UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : VRDVD4001AC
TEMP./HUMID. : 23 /43%

REPORT NO : 25AE0230-YW-1
DATE : August 25,2004
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : DVD Play : 3ch

LIMIT : FCC 15B RF OUT SPURIOUS

NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μ V]	- [dB μ V]		Peak [dB μ V]	- [dB μ V]	Peak [dB μ V]	- [dB μ V]	[dB]	[dB]	
1	47.8200	34.6	----	-20.0	14.6	----	39.5	----	24.9	----	-
2	54.1100	43.6	----	-20.0	23.6	----	39.5	----	15.9	----	-
3	122.5000	34.2	----	-19.5	14.7	----	39.5	----	24.8	----	-
4	489.7300	33.2	----	-20.1	13.1	----	39.5	----	26.4	----	-
5	674.9100	38.2	----	-20.1	18.1	----	39.5	----	21.4	----	-
6	944.7300	37.9	----	-19.6	18.3	----	39.5	----	21.2	----	-

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

DATA OF RF SUPRIIOUS TEST

UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : VRDVD4001AC
TEMP./HUMID. : 23 /43%

REPORT NO : 25AE0230-YW-1
DATE : August 25,2004
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

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

LIMIT : FCC 15B RF OUT SPURIOUS

NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μ V]	- [dB μ V]		Peak [dB μ V]	- [dB μ V]	Peak [dB μ V]	- [dB μ V]	[dB]	[dB]	
1	38.6000	34.2	----	-20.1	14.1	----	39.5	----	25.4	----	-
2	55.2100	35.2	----	-20.0	15.2	----	39.5	----	24.3	----	-
3	134.5000	34.1	----	-19.5	14.6	----	39.5	----	24.9	----	-
4	674.5400	37.4	----	-20.1	17.3	----	39.5	----	22.2	----	-
5	809.7400	34.4	----	-19.8	14.6	----	39.5	----	24.9	----	-
6	944.7300	39.0	----	-19.6	19.4	----	39.5	----	20.1	----	-

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

DATA OF RF SUPRIIOUS TEST

UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : VRDVD4001AC
TEMP./HUMID. : 23 /43%

REPORT NO : 25AE0230-YW-1
DATE : August 25,2004
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

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

LIMIT : FCC 15B RF OUT SPURIOUS

NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μ V]	- [dB μ V]		Peak [dB μ V]	- [dB μ V]	Peak [dB μ V]	- [dB μ V]	[dB]	[dB]	
1	38.6000	34.5	----	-20.1	14.4	----	39.5	----	25.1	----	-
2	55.2100	35.5	----	-20.0	15.5	----	39.5	----	24.0	----	-
3	134.5000	34.4	----	-19.5	14.9	----	39.5	----	24.6	----	-
4	674.5400	37.7	----	-20.1	17.6	----	39.5	----	21.9	----	-
5	809.7400	34.5	----	-19.8	14.7	----	39.5	----	24.8	----	-
6	944.7300	39.3	----	-19.6	19.7	----	39.5	----	19.8	----	-

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

DATA OF RF SUPRIIOUS TEST

UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : VRDVD4001AC
TEMP./HUMID. : 23 /43%

REPORT NO : 25AE0230-YW-1
DATE : August 25,2004
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : Av Input + Rec (1Vp-p) : 4ch

LIMIT : FCC 15B RF OUT SPURIOUS

NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μ V]	- [dB μ V]		Peak [dB μ V]	- [dB μ V]	Peak [dB μ V]	- [dB μ V]	[dB]	[dB]	
1	38.6000	34.2	----	-20.1	14.1	----	39.5	----	25.4	----	-
2	59.0000	38.3	----	-20.0	18.3	----	39.5	----	21.2	----	-
3	134.5000	34.2	----	-19.5	14.7	----	39.5	----	24.8	----	-
4	674.5400	36.7	----	-20.1	16.6	----	39.5	----	22.9	----	-
5	809.7400	34.7	----	-19.8	14.9	----	39.5	----	24.6	----	-
6	944.7300	38.6	----	-19.6	19.0	----	39.5	----	20.5	----	-

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

DATA OF RF SUPRIIOUS TEST

UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : VRDVD4001AC
TEMP./HUMID. : 23 /43%

REPORT NO : 25AE0230-YW-1
DATE : August 25,2004
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : Av Input + Rec (5Vp-p) : 4ch

LIMIT : FCC 15B RF OUT SPURIOUS

NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μ V]	- [dB μ V]		Peak [dB μ V]	- [dB μ V]	Peak [dB μ V]	- [dB μ V]	[dB]	[dB]	
1	38.6000	34.6	----	-20.1	14.5	----	39.5	----	25.0	----	-
2	59.0000	39.6	----	-20.0	19.6	----	39.5	----	19.9	----	-
3	134.5000	33.5	----	-19.5	14.0	----	39.5	----	25.5	----	-
4	674.5400	37.2	----	-20.1	17.1	----	39.5	----	22.4	----	-
5	809.7400	35.1	----	-19.8	15.3	----	39.5	----	24.2	----	-
6	944.7300	38.8	----	-19.6	19.2	----	39.5	----	20.3	----	-

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

DATA OF RF SUPRIIOUS TEST

UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : VRDVD4001AC
TEMP./HUMID. : 23 /43%

REPORT NO : 25AE0230-YW-1
DATE : August 25,2004
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : VCR Playback : 4ch

LIMIT : FCC 15B RF OUT SPURIOUS

NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μ V]	- [dB μ V]		Peak [dB μ V]	- [dB μ V]	Peak [dB μ V]	- [dB μ V]	[dB]	[dB]	
1	38.6000	33.1	----	-20.1	13.0	----	39.5	----	26.5	----	-
2	57.3200	35.2	----	-20.0	15.2	----	39.5	----	24.3	----	-
3	134.5000	34.5	----	-19.5	15.0	----	39.5	----	24.5	----	-
4	499.7400	31.8	----	-20.2	11.6	----	39.5	----	27.9	----	-
5	674.5400	37.8	----	-20.1	17.7	----	39.5	----	21.8	----	-
6	944.7300	37.8	----	-19.6	18.2	----	39.5	----	21.3	----	-

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

DATA OF RF SUPRIIOUS TEST

UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : VRDVD4001AC
TEMP./HUMID. : 23 /43%

REPORT NO : 25AE0230-YW-1
DATE : August 25,2004
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : DVD Play : 4ch

LIMIT : FCC 15B RF OUT SPURIOUS

NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μ V]	- [dB μ V]		Peak [dB μ V]	- [dB μ V]	Peak [dB μ V]	- [dB μ V]	[dB]	[dB]	
1	50.1200	43.0	----	-20.0	23.0	----	39.5	----	16.5	----	-
2	134.5000	35.6	----	-19.5	16.1	----	39.5	----	23.4	----	-
3	537.7300	33.9	----	-20.1	13.8	----	39.5	----	25.7	----	-
4	674.5400	39.5	----	-20.1	19.4	----	39.5	----	20.1	----	-
5	809.7400	34.8	----	-19.8	15.0	----	39.5	----	24.5	----	-
6	944.7300	35.6	----	-19.6	16.0	----	39.5	----	23.5	----	-

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 : VRDVD4001AC
TEMP./HUMID. : 23 /43%

REPORT NO : 25AE0230-YW-1
DATE : August 24, 2004
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : AV Input + Rec (1Vp-p) : 3ch

LIMIT : FCC15B ANTENNA TRANSFER SWITCH

NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		PK [dB μ V]	- [dB μ V]		PK [dB μ V]	- [dB μ V]	PK [dB μ V]	- [dB μ V]	[dB]	[dB]	
1	61.2500	22.3	----	-20.0	2.3	----	9.5	----	7.2	----	-
2	122.5000	22.1	----	-19.5	2.6	----	9.5	----	6.9	----	-
3	183.7500	20.3	----	-19.2	1.1	----	9.5	----	8.4	----	-
4	245.0000	20.1	----	-19.0	1.1	----	9.5	----	8.4	----	-
5	306.2500	20.3	----	-19.0	1.3	----	9.5	----	8.2	----	-
6	367.5000	20.3	----	-19.3	1.0	----	9.5	----	8.5	----	-

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 : VRDVD4001AC
TEMP./HUMID. : 23 /43%

REPORT NO : 25AE0230-YW-1
DATE : August 24, 2004
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : AV Input + Rec (5Vp-p) : 3ch

LIMIT : FCC15B ANTENNA TRANSFER SWITCH

NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		PK [dB μ V]	- [dB μ V]		PK [dB μ V]	- [dB μ V]	PK [dB μ V]	- [dB μ V]	[dB]	[dB]	
1	61.2500	22.1	----	-20.0	2.1	----	9.5	----	7.4	----	-
2	122.5000	22.4	----	-19.5	2.9	----	9.5	----	6.6	----	-
3	183.7500	20.3	----	-19.2	1.1	----	9.5	----	8.4	----	-
4	245.0000	20.1	----	-19.0	1.1	----	9.5	----	8.4	----	-
5	306.2500	20.4	----	-19.0	1.4	----	9.5	----	8.1	----	-
6	367.5000	20.3	----	-19.3	1.0	----	9.5	----	8.5	----	-

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 : VRDVD4001AC
TEMP./HUMID. : 23 /43%

REPORT NO : 25AE0230-YW-1
DATE : August 24, 2004
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : VCR Playback : 3ch

LIMIT : FCC15B ANTENNA TRANSFER SWITCH

NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		PK [dB μ V]	- [dB μ V]		PK [dB μ V]	- [dB μ V]	PK [dB μ V]	- [dB μ V]	[dB]	[dB]	
1	61.2500	22.3	----	-20.0	2.3	----	9.5	----	7.2	----	-
2	122.5000	22.4	----	-19.5	2.9	----	9.5	----	6.6	----	-
3	183.7500	20.4	----	-19.2	1.2	----	9.5	----	8.3	----	-
4	245.0000	20.3	----	-19.0	1.3	----	9.5	----	8.2	----	-
5	306.2500	20.2	----	-19.0	1.2	----	9.5	----	8.3	----	-
6	367.5000	20.2	----	-19.3	0.9	----	9.5	----	8.6	----	-

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 : VRDVD4001AC
TEMP./HUMID. : 23 /43%

REPORT NO : 25AE0230-YW-1
DATE : August 24, 2004
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : DVD play : 3ch

LIMIT : FCC15B ANTENNA TRANSFER SWITCH

NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		PK [dB μ V]	- [dB μ V]		PK [dB μ V]	- [dB μ V]	PK [dB μ V]	- [dB μ V]	[dB]	[dB]	
1	61.2500	22.5	----	-20.0	2.5	----	9.5	----	7.0	----	-
2	122.5000	22.4	----	-19.5	2.9	----	9.5	----	6.6	----	-
3	183.7500	20.3	----	-19.2	1.1	----	9.5	----	8.4	----	-
4	245.0000	20.2	----	-19.0	1.2	----	9.5	----	8.3	----	-
5	306.2500	20.4	----	-19.0	1.4	----	9.5	----	8.1	----	-
6	367.5000	20.2	----	-19.3	0.9	----	9.5	----	8.6	----	-

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 : VRDVD4001AC
TEMP./HUMID. : 23 /43%

REPORT NO : 25AE0230-YW-1
DATE : August 24, 2004
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : AV Input + Rec (1Vp-p) : 4ch

LIMIT : FCC15B ANTENNA TRANSFER SWITCH

NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		PK [dB μ V]	- [dB μ V]		PK [dB μ V]	- [dB μ V]	PK [dB μ V]	- [dB μ V]	[dB]	[dB]	
1	67.2500	22.1	----	-19.9	2.2	----	9.5	----	7.3	----	-
2	134.5000	23.4	----	-19.5	3.9	----	9.5	----	5.6	----	-
3	201.7500	20.3	----	-19.1	1.2	----	9.5	----	8.3	----	-
4	269.0000	20.6	----	-18.9	1.7	----	9.5	----	7.8	----	-
5	336.2500	20.5	----	-19.1	1.4	----	9.5	----	8.1	----	-
6	403.5000	20.3	----	-19.6	0.7	----	9.5	----	8.8	----	-

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 : VRDVD4001AC
TEMP./HUMID. : 23 /43%

REPORT NO : 25AE0230-YW-1
DATE : August 24, 2004
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : AV Input + Rec (5Vp-p) : 4ch

LIMIT : FCC15B ANTENNA TRANSFER SWITCH

NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		PK [dB μ V]	- [dB μ V]		PK [dB μ V]	- [dB μ V]	PK [dB μ V]	- [dB μ V]	[dB]	[dB]	
1	67.2500	22.4	----	-19.9	2.5	----	9.5	----	7.0	----	-
2	134.5000	23.1	----	-19.5	3.6	----	9.5	----	5.9	----	-
3	201.7500	20.5	----	-19.1	1.4	----	9.5	----	8.1	----	-
4	269.0000	20.8	----	-18.9	1.9	----	9.5	----	7.6	----	-
5	336.2500	20.4	----	-19.1	1.3	----	9.5	----	8.2	----	-
6	403.5000	20.3	----	-19.6	0.7	----	9.5	----	8.8	----	-

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 : VRDVD4001AC
TEMP./HUMID. : 23 /43%

REPORT NO : 25AE0230-YW-1
DATE : August 24, 2004
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : VCR Playback : 4ch

LIMIT : FCC15B ANTENNA TRANSFER SWITCH

NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		PK [dB μ V]	- [dB μ V]		PK [dB μ V]	- [dB μ V]	PK [dB μ V]	- [dB μ V]	[dB]	[dB]	
1	67.2500	22.5	----	-19.9	2.6	----	9.5	----	6.9	----	-
2	134.5000	23.1	----	-19.5	3.6	----	9.5	----	5.9	----	-
3	201.7500	20.3	----	-19.1	1.2	----	9.5	----	8.3	----	-
4	269.0000	20.3	----	-18.9	1.4	----	9.5	----	8.1	----	-
5	336.2500	20.1	----	-19.1	1.0	----	9.5	----	8.5	----	-
6	403.5000	20.2	----	-19.6	0.6	----	9.5	----	8.9	----	-

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 : VRDVD4001AC
TEMP./HUMID. : 23 /43%

REPORT NO : 25AE0230-YW-1
DATE : August 24, 2004
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : DVD Play : 4ch

LIMIT : FCC15B ANTENNA TRANSFER SWITCH

NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		PK [dB μ V]	- [dB μ V]		PK [dB μ V]	- [dB μ V]	PK [dB μ V]	- [dB μ V]	[dB]	[dB]	
1	67.2500	22.6	----	-19.9	2.7	----	9.5	----	6.8	----	-
2	134.5000	23.6	----	-19.5	4.1	----	9.5	----	5.4	----	-
3	201.7500	20.3	----	-19.1	1.2	----	9.5	----	8.3	----	-
4	269.0000	20.5	----	-18.9	1.6	----	9.5	----	7.9	----	-
5	336.2500	20.3	----	-19.1	1.2	----	9.5	----	8.3	----	-
6	403.5000	20.3	----	-19.6	0.7	----	9.5	----	8.8	----	-

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

Picture Sensitivity Test

UL Apex Co.,Ltd.
Yokowa EMC Laboratory

Company : Orion Electric Co., Ltd.
Equipment : DVD/VCR
Model Number : VRDVD4001AC
Power : 120V/60Hz
Description : TV Reception
Remarks : -

Report Number : 25AE0230-YW-1
Regulation : FCC 15B
Date : August 24, 2004
Temp / Humid : 23deg.C/45%
Engineer : Tsubasa Takayama

Ch [VHF]	Frequency [MHz]	Sensitivity [MHz]		Ch [UHF]	Frequency [MHz]	Sensitivity [MHz]	
		[dBμV]	[μV]			[dB μ V]	[μ V]
2	55.25	20.0	10.0	14	471.25	20.0	10.0
3	61.25	17.0	7.1	20	507.25	20.0	10.0
4	67.25	16.4	6.6	26	543.25	21.2	11.5
5	77.25	16.4	6.6	32	579.25	21.2	11.5
6	83.25	16.5	6.7	38	615.25	22.9	14.0
7	175.25	18.3	8.2	44	651.25	21.3	11.6
8	181.25	18.8	8.7	50	687.25	22.3	13.0
9	187.25	18.1	8.0	56	723.25	21.4	11.7
10	193.25	17.7	7.7	62	759.25	22.7	13.6
11	199.25	18.1	8.0	69	801.25	21.9	12.4
12	205.25	18.2	8.1	-	-	-	-
13	211.25	18.2	8.1	-	-	-	-
Average VHF			7.8	Average UHF			11.9
Average UHF/VHF : $20 \log \text{UHF}[\mu\text{V}] / \text{VHF}[\mu\text{V}] =$				3.7 [Limit : 8.0dB]			

Noise Figure Test

UL Apex Co.,Ltd.
Yokowa EMC Laboratory

Company : Orion Electric Co., Ltd.
Equipment : DVD/VCR
Model Number : VRDVD4001AC
Power : 120V/60Hz
Description : TV Reception
Remarks : -

Report Number : 25AE0230-YW-1
Regulation : FCC 15B
Date : August 24, 2004
Temp / Humid : 23deg.C/45%
Engineer : Tsubasa Takayama

Ch	Frequency [MHz]	Meter Reading [dB]	Correction Factor [dB]	Noise Figure [dB]	Limits [dB]	Margin [dB]
TV VHF Fundamental						
2	55.25	7.8	0.2	7.6	14.0	6.4
3	61.25	2.7	0.2	2.5	14.0	11.5
4	67.25	2.0	0.2	1.8	14.0	12.2
5	77.25	1.6	0.2	1.4	14.0	12.6
6	83.25	2.7	0.2	2.5	14.0	11.5
7	175.25	3.3	0.2	3.1	14.0	10.9
8	181.25	3.0	0.2	2.8	14.0	11.2
9	187.25	2.9	0.2	2.7	14.0	11.3
10	193.25	2.8	0.2	2.6	14.0	11.4
11	199.25	3.0	0.2	2.8	14.0	11.2
12	205.25	2.8	0.2	2.6	14.0	11.4
13	211.25	2.9	0.2	2.7	14.0	11.3
TV UHF Fundamental						
14	471.25	3.9	0.3	3.6	14.0	10.4
20	507.25	4.0	0.3	3.7	14.0	10.3
26	543.25	4.1	0.3	3.8	14.0	10.2
32	579.25	4.6	0.3	4.3	14.0	9.7
38	615.25	5.4	0.3	5.1	14.0	8.9
44	651.25	4.6	0.3	4.3	14.0	9.7
50	687.25	4.4	0.3	4.1	14.0	9.9
56	723.25	4.4	0.4	4.0	14.0	10.0
62	759.25	4.4	0.4	4.0	14.0	10.0
69	801.25	4.6	0.4	4.2	14.0	9.8
Mid band						
14	121.25	1.2	0.2	1.0	14.0	13.0
16	133.25	7.2	0.2	7.0	14.0	7.0
18	145.25	5.4	0.2	5.2	14.0	8.8
20	157.25	4.6	0.2	4.4	14.0	9.6
22	169.25	4.1	0.2	3.9	14.0	10.1
Super band						
23	217.25	2.9	0.2	2.7	14.0	11.3
26	235.25	3.1	0.2	2.9	14.0	11.1
29	253.25	3.3	0.2	3.1	14.0	10.9
32	271.25	3.4	0.2	3.2	14.0	10.8
36	295.25	3.7	0.2	3.5	14.0	10.5

Test Report No : 25AE0230-YW-1

APPENDIX 3

Test Instruments

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * 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
APMAT05	Matching Pad	TME	ZT-130	AT, RF, ATS, PS, NF	2003/12/16 * 12
APNFM01	Noise Figure Indicator	Elena	ENF-2005	NF	2002/09/27 * 24
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	2003/10/03 * 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-15	Digital Humidity Indicator	SATO	PC-5000TRH	RF, ATS, PS, NF	2004/05/06 * 12
AF-01	Pre Amplifier	Hewlett Packard	8447D	RE	2004/03/28 * 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
LS-04	LISN(AMN)	Rohde & Schwarz	ESH3-Z5	CE	2003/10/31 * 12
SA-06	Spectrum Analyzer	Advantest	R3273	CE, RE	2003/11/13 * 12
TR-05	Test Receiver	Rohde & Schwarz	ESHS10	CE	2003/08/28 * 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-3S	Yokowa No.3 shield coaxial(0.01-1000MHz)	UL Apex	CC-34,CC-35,CC-36, CC-38,SW-31,SW-32	CE	2004/03/28 * 12
YOATS-03	Open Test Site	JSE	3m, 10m	RE	2004/08/15 * 12
OS-11	Digital Humidity Indicator	SATO	PC-5000TRH	CE	2004/04/20 * 12
OS-16	Digital Humidity Indicator	SATO	PC-5000TRH	RE	2004/05/07 * 12
HA-02	Horn Antenna	A.H.Systems	SAS-200/571	RE	2004/04/10 * 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