



EMC TEST REPORT

Test Report No. : 26CE0157-YW-2

Applicant : Orion Electric Co., Ltd.
Type of equipment : DVD Player with Video Cassette Recorder
Model number : VRDVD4100BA
Test standard : BETS-7 Issue 1 : November 01, 1996
Test result : Complied

Similar model :

Model No.	Brand name	Model No.	Brand name
JDVD3825PCA	CITIZEN	-	-
EH8008PCA	ELECTROHOME	-	-
-	-	-	-
-	-	-	-
-	-	-	-

1. This test report shall not be reproduced except in full, 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.

Date of test : October 20 to November 2, 2005

Tested by:

Tsubasa Takayama
Engineer of EMC Service

Masaya Minami
Engineer of EMC Service

Approved by:

Hiroya Tabata
Leader of EMC Service

IC FILE NUMBER : IC 2973-3

UL Apex Co., Ltd.

Yokowa EMC Lab.

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

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Section 1 : Client information

Company name : Orion Electric Co., Ltd.
Address : 41-1 Iehisa-cho, Echizen-shi, Fukui-ken, 915-8555 JAPAN
Telephone number : +81 778 23 0019
Facsimile number : +81 778 23 7799
Contact person : Yoshimasa Tanikawa

Section 2 : Equipment under test (E.U.T.)**2.1 Identification of E.U.T.**

Type of equipment : DVD Player with Video Cassette Recorder
Model number : VRDVD4100BA
Brand name : SANSUI
Rating : AC 120V / 60Hz
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 : October 20, 2005
Condition of EUT : Production Prototype
(Not for Sale: This sample is equivalent to mass-produced items.)

2.2 Product description

Model: VRDVD4100BA (referred to as the EUT in this report) is a DVD Player with Video Cassette Recorder.
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 & results

3.1 Test specification

Basic standard : BETS-7 Issue 1 : November 01, 1996
 : Technical standards and
 requirements for radio apparatus
 capable of receiving television
 broadcasting
 Test methods : Technical Bulletin 3 : June 01, 1982
 : Cable compatible television
 apparatus measurement methods

3.2 Methods & procedures

Item	Test requirements	Test procedure	Limits	Worst margin	Results
Tuning-off set capability	BETS-7 Issue 1: November 01, 1996 Section 3.4 (a), (ii)	TB-3: June 01, 1982	Off-set Freq.: ± 0.55 MHz (VHF) Off-set Freq.: -1.31 MHz (Mid-band / Super-band)	-	Complied
Noise figure	BETS-7 Issue 1: November 01, 1996 Section 3.4 (a), (iii)	TB-3: June 01, 1982	10 dB	2.0 dB (38ch, 615.25 MHz)	Complied
Co-channel immunity	BETS-7 Issue 1: November 01, 1996 Section 3.4 (a), (iv)	TB-3: June 01, 1982	100 mV/m	More than 100 mV/m	Complied
Signal over load	BETS-7 Issue 1: November 01, 1996 Section 3.4 (a), (vi)	TB-3: June 01, 1982	5 mV (14dBmV)	More than 5 mV	Complied
Image rejection	BETS-7 Issue 1: November 01, 1996 Section 3.4 (a), (vii)	TB-3: June 01, 1982	at least 60 dB	7.2 dB (12ch, 296.75 MHz)	Complied
Disturbance voltage from antenna terminal	BETS-7 Issue 1: November 01, 1996 Section 3.4 (a), (viii)	TB-3: June 01, 1982	5 MHz–54 MHz: -50 dBmV 54 MHz–300 MHz: -26 dBmV 300 MHz–1000 MHz: -10 dBmV	1.8 dB (5.42143 MHz, CATV tuning)	Complied
Disturbance voltage from antenna terminal	BETS-7 Issue 1: November 01, 1996 Section 3.6 (a), (i-iii)	TB-3: June 01, 1982	5 MHz–54 MHz: -40 dBmV 54 MHz–500 MHz: -27 dBmV 500 MHz–1000 MHz: -10 dBmV	11.8 dB (5.42143 MHz, CATV tuning)	Complied
Field intensity	BETS-7 Issue 1: November 01, 1996 Section 3.6 (b), (i-V)	TB-3: June 01, 1982	5 MHz–88 MHz: 40 dBuV/m 88 MHz–216 MHz: 44 dBuV/m 216 MHz–1000 MHz: 46 dBuV/m 1 GHz–5 GHz: 56 dBuV/m 5 GHz–13 GHz: 66 dBuV/m	6.5 dB (540.02 MHz, Vertical, TV Reception+Rec.)	Complied

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3.3 Addition 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
BETS-7 Issue 1: November 01, 1996.

3.5 Test location

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

IC Registration No.:

No.1 site: IC 2973-1, No.2 site: IC 2973-2, No.3 site: IC 2973-3

3.6 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

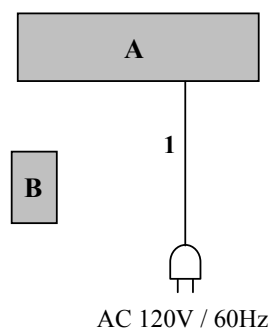
The EUT exercise program used during testing was designed exercise the various system components in a manner similar to typical use.

The sequence in used : - TV Reception + Rec. mode (0 dBmV input / 25 dBmV input)

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	Remark
A	DVD Player with Video Cassette Recorder	VRDVD4100BA	—	Orion Electric Co., Ltd.	EUT
B	Remote Controller	—	—	Orion Electric Co., Ltd.	EUT

List of cable used

No.	Item	Length (m)	Shield
1	AC Power Cable	1.6	Unshielded

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Section 5 : Tuning – offset capability

5.1 Operation environment

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

Date : October 22, 2005

Temperature : See data

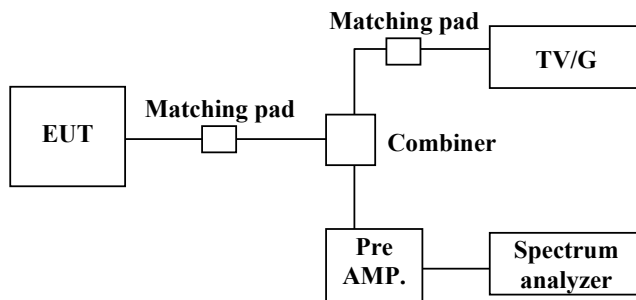
Humidity : See data

5.2 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 1 and photographs in Appendix 1.

Figure 1. Internally generated interference



5.3 Test conditions

Frequency range : VHF, Mid-band, Super-band

EUT position : Table top

EUT operation mode : TV Reception

5.4 Test procedure

EUT was connected to a spectrum analyzer through a matching pad, a combiner and a pre-amplifier inputting 75 ohm of EUT. EUT operated normally and it was tuned to VHF, Mid-band and Super-band, which was repeated. Spectrum analyzer was held in maximum mode during the measurement.

Detector Type : Peak

5.5 Test result

Passed

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

Test engineer : Tsubasa Takayama

Section 6 : Noise figure

6.1 Operating environment

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

Date : October 20, 2005

Temperature : See data

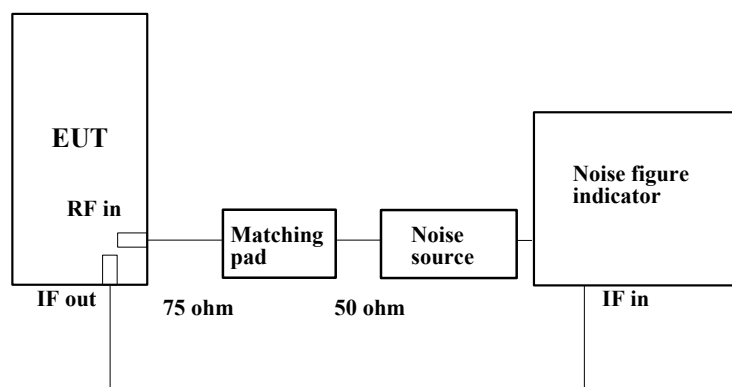
Humidity : See data

6.2 Test configuration

The EUT was placed on a non-metallic table.

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

Figure 2. Noise figure



6.3 Test condition

EUT position : Table top

EUT operation mode : TV Reception

6.4 Test procedure

The 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. Measurement was performed for VHF, UHF, Mid-band and Super-band receiver range.

6.5 Test result

Passed

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

Test engineer : Tsubasa Takayama

Section 7 : Co-channel immunity

7.1 Operating environment

The test was carried out in No.2 EMS Lab.

Date : October 20, 2005

Temperature : See data

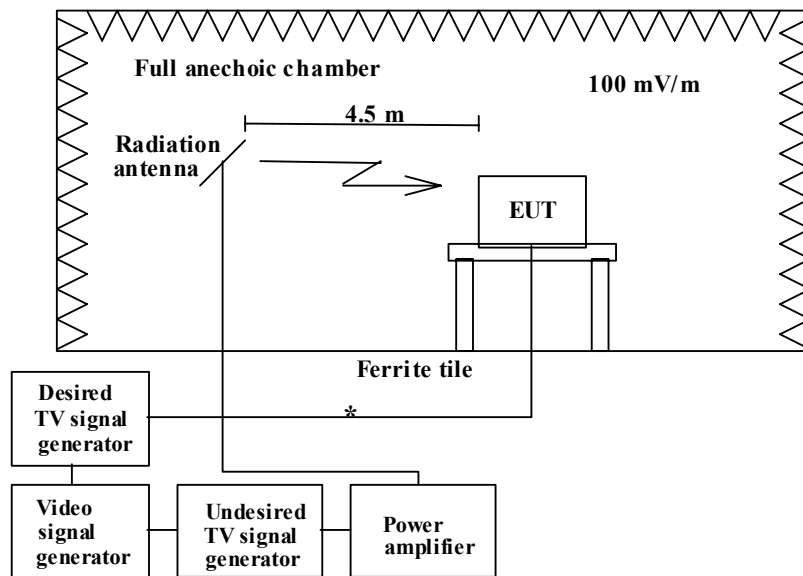
Humidity : See data

7.2 Test configuration

The EUT was placed on a non-metallic table height of 0.8 m.

A drawing of the test setup is found in figure 3 and photographs in Appendix 1.

Figure 3. Co-channel immunity



* : Cable between ANT in and desired TV signal generator : SUCOFLEX100, SUHNER,
4 m screening effectiveness : More than 120 dB in the frequency range of 50 MHz to 1 GHz

7.3 Test condition

Frequency range : 54 MHz – 300 MHz

Test level : 100 mV/m

Polarization : Horizontal

Antenna distance : 4.5 m

Antenna height : 1.5 m

EUT position : Table top

EUT operation mode : TV Reception

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7.4 Test procedure

Set up EUT in an anechoic chamber. Connect EUT with TV generator then input desired signal. Tune undesired signal to the receiver channel of the EUT then adjust the signal to gain electric field of 100 m/Vm. Evaluate influence of undesired signal for the EUT subjectively. Measurement should be performed for VHF receiver range.

7.5 Test result

Passed

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

Test engineer : Tsubasa Takayama

Section 8 : Signal over load

8.1 Operating environment

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

Date : October 25, 2005

Temperature : See data

Humidity : See data

8.2 Test configuration

The EUT was placed a non-metallic platform height of 0.8 m.

A drawing of the set up is shown in figure 4, 5 and photographs in Appendix 1.

Figure 4. Signal over load

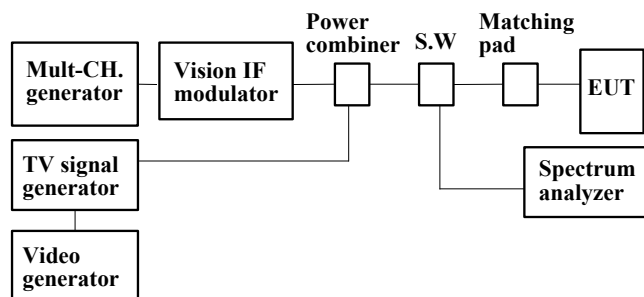
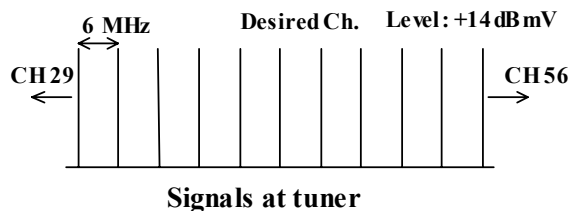


Figure 5. Spectrum distribution



Desired signal :

Video Carrier Level : + 14 dBmV

Modulation : Full field color bar

Aural Carrier Level : + 14 dBmV

Modulation : Unmodulated

Undesired Signal Level : + 14 dBmV

Modulation : 15.9 kHz

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8.3 Test condition

Frequency range : 50 MHz – 1000 MHz
Test level : 14 dBmV
EUT position : Table top
EUT operation mode : TV Reception

8.4 Test procedure

Confirm the level of undesired signal is 14 dBmV by connecting multi-channel generator and spectrum analyzer. Connect EUT with TV generator then input desired signal. Evaluate influence of interference wave for the EUT subjectively. Measurement should be performed for VHF and Mid-band receiver range.

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 : Image rejection

9.1 Operating environment

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

Date : October 20, 2005

Temperature : See data

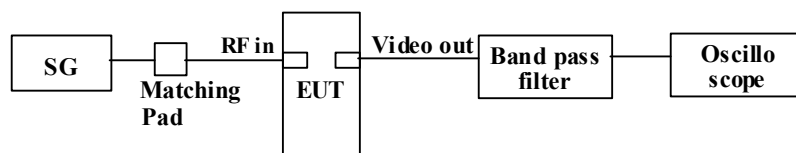
Humidity : See data

9.2 Test configuration

The EUT was placed on a non-metallic table height of 0.8 m of the reference ground plane.

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

Figure 6. Image rejection



9.3 Test condition

Frequency range : below 300 MHz

Test level : at least 60 dB

EUT position : Table top

EUT operation mode : TV Reception

9.4 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.

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 : Internally generated interference

10.1 Operation environment

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

Date : October 20, 2005

Temperature : See data

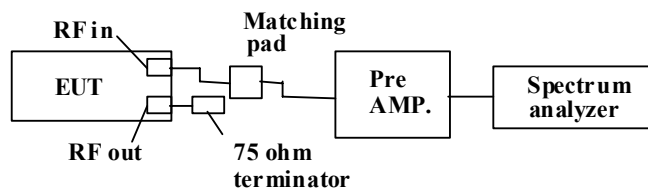
Humidity : See data

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 7 and photographs in Appendix 1.

Figure 7. Internally generated interference



10.3 Test conditions

Frequency range : 5 MHz – 1000 MHz

EUT position : Table top

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

10.4 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

10.5 Test result

Passed

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

Test engineer : Tsubasa Takayama

Section 11 : Field intensity

11.1 Operation environment

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

Date : October 21, November 1 and 2, 2005

Temperature : See data

Humidity : See data

11.2 Test configuration

EUT was placed on a platform of nominal size, 1 m by 1.5m or 1.8 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.

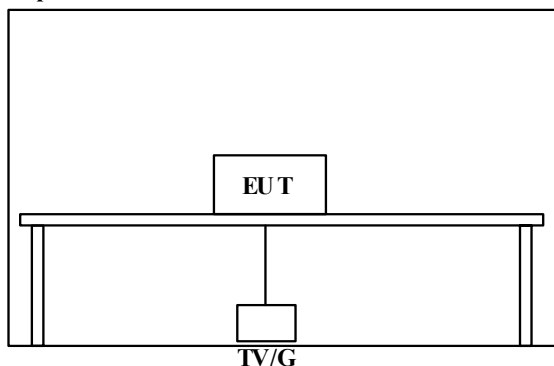
A drawing of the set up is shown in figure 8 and photographs in Appendix 1.

Figure 8. Field intensity



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

Open test site



RF in: TV signal generator connected

Rear video out: 75 ohm terminated with video cable

Rear audio out: 1 k ohm terminated with audio cable

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

RF output: 75 ohm terminated with RF output cable

Coaxial out: 75 ohm terminated with coaxial cable

Component out: 75 ohm terminated with component cable

Front Video In: 75 ohm terminated

Front Audio In: 47 ohm terminated

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11.3 Test conditions

Frequency range : 5 MHz – 13000 MHz
Test distance : 3 m
EUT position : Table top
EUT operation mode : TV Reception + Rec.

11.4 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. 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>5-30MHz</u>	<u>30-1000MHz</u>	<u>1000-13000 MHz</u>	
	: <u>Test receiver</u>	: <u>Test receiver</u>	: <u>Spectrum analyzer</u>	
Detector Type	: QP	: QP	: AV	: PK
IF Bandwidth	: 10kHz	: 120 kHz	: RBW 1 MHz / VBW 10 Hz	: RBW 1MHz / VBW 1MHz

11.5 Test result**Passed**

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

Test engineer: Tsubasa Takayama and Masaya Minami

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Appendix 1 : Photographs of test set up

Page 18	:	Tuning-offset capability
Page 19	:	Noise figure
Page 20	:	Co-channel immunity
Page 21	:	Signal over load
Page 22	:	Image rejection
Page 23	:	Internally generated interference
Page 24	:	Field intensity

Appendix 2 : Data of EMI tests

Page 25	:	Tuning-offset capability
Page 26	:	Noise figure
Page 27	:	Co-channel immunity
Page 28	:	Signal over load
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Page 34 - 53	:	Field intensity

Appendix 3 : Test instruments

Page 54	:	Test instruments
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Tuning -Offset Capability



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Noise figure



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Co-channel immunity



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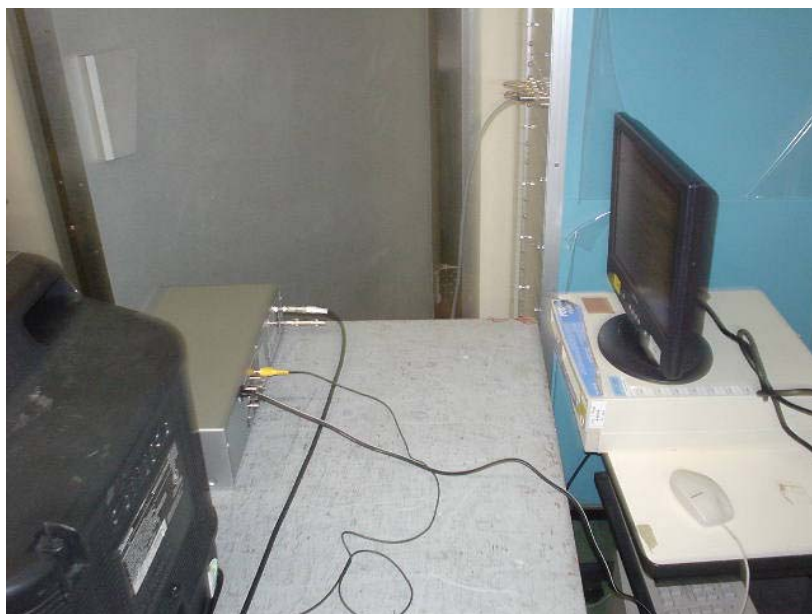
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Signal over load



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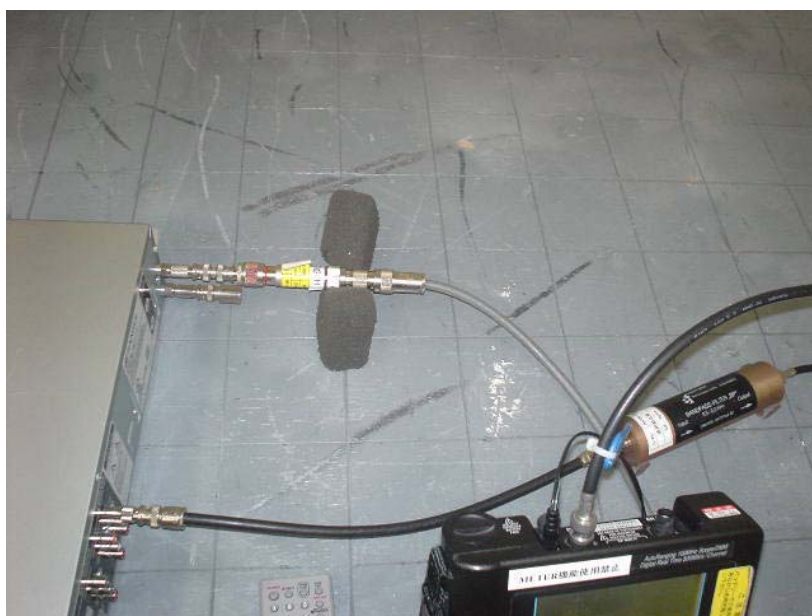
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Image rejection



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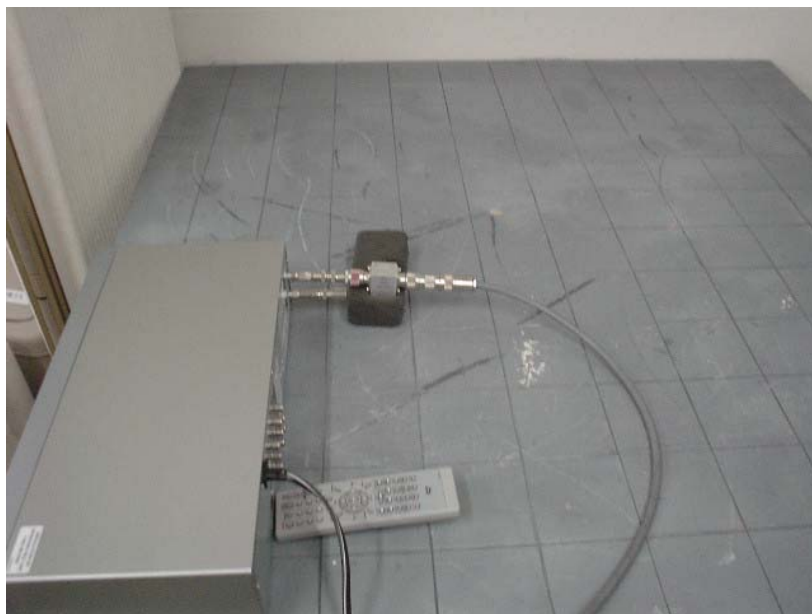
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Internally generated interference



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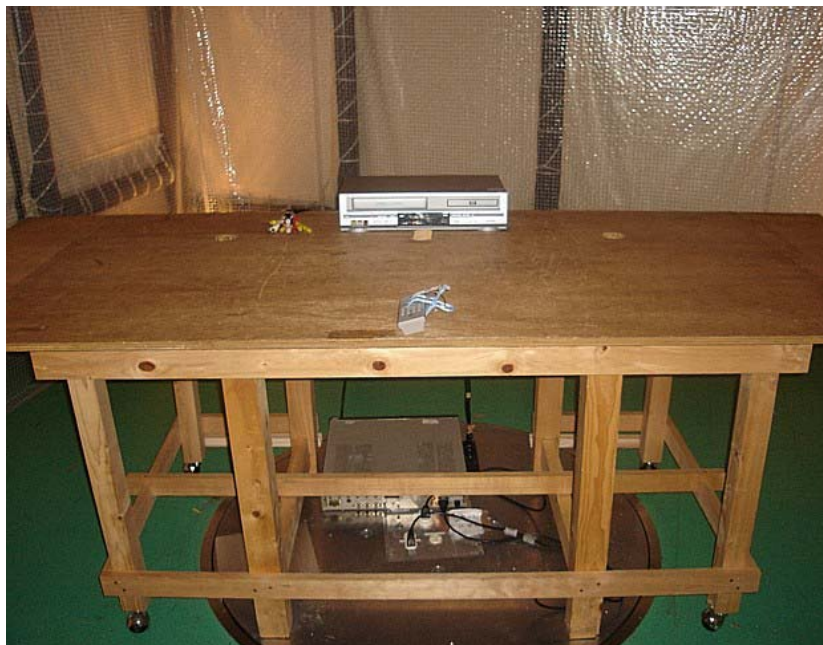
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Field intensity



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Tunning OffSet CapabilityTest

UL Apex Co.,Ltd.
Yokowa EMC Laboratory

Company : Orion Electric Co., Ltd.
Equipment : DVD/VCR
Model Number : VRDVD4100BA
Power : 120V/60Hz
Description : TV Reception
Remarks : -

Report Number : 26CE0157-YW-2
Regulation : BETS-7
Date : October 22, 2005
Temp / Humid : 23deg.C / 34%
Engineer : Tsubasa Takayama

Ch	Frequency [MHz]	Limit [MHz]	Result
VHF			
2	55.25	$\pm 0.55\text{MHz}$	Complied
7	175.25	$\pm 0.55\text{MHz}$	Complied
13	211.25	$\pm 0.55\text{MHz}$	Complied
Mid band			
14	121.25	-1.31MHz	Complied
22	169.25	-1.31MHz	Complied
Super band			
23	217.25	-1.31MHz	Complied
36	295.25	-1.31MHz	Complied

Noise Figure Test

UL Apex Co.,Ltd.
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Company : Orion Electric Co., Ltd.
Equipment : DVD/VCR
Model Number : VRDVD4100BA
Power : 120V/60Hz
Description : TV Reception
Remarks : -

Report Number : 25CE0157-YW-2
Regulation : BETS-7
Date : October 20 ,2005
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	5.0	0.2	4.8	10.0	5.2
3	61.25	4.0	0.2	3.8	10.0	6.2
4	67.25	3.5	0.2	3.3	10.0	6.7
5	77.25	2.6	0.2	2.4	10.0	7.6
6	83.25	2.5	0.2	2.3	10.0	7.7
7	175.25	4.7	0.2	4.5	10.0	5.5
8	181.25	4.5	0.2	4.3	10.0	5.7
9	187.25	4.2	0.2	4.0	10.0	6.0
10	193.25	4.1	0.2	3.9	10.0	6.1
11	199.25	4.3	0.2	4.1	10.0	5.9
12	205.25	4.4	0.2	4.2	10.0	5.8
13	211.25	4.5	0.2	4.3	10.0	5.7
TV UHF Fundamental						
14	471.25	5.4	0.3	5.1	10.0	4.9
20	507.25	6.2	0.3	5.9	10.0	4.1
26	543.25	6.6	0.3	6.3	10.0	3.7
32	579.25	7.0	0.3	6.7	10.0	3.3
38	615.25	8.3	0.3	8.0	10.0	2.0
44	651.25	7.7	0.3	7.4	10.0	2.6
50	687.25	6.5	0.3	6.2	10.0	3.8
56	723.25	5.8	0.4	5.4	10.0	4.6
62	759.25	5.5	0.4	5.1	10.0	4.9
69	801.25	5.6	0.4	5.2	10.0	4.8
Mid band						
14	121.25	2.6	0.2	2.4	10.0	7.6
16	133.25	7.2	0.2	7.0	10.0	3.0
18	145.25	6.9	0.2	6.7	10.0	3.3
20	157.25	5.3	0.2	5.1	10.0	4.9
22	169.25	4.7	0.2	4.5	10.0	5.5
Super band						
23	217.25	4.7	0.2	4.5	10.0	5.5
26	235.25	5.2	0.2	5.0	10.0	5.0
29	253.25	5.5	0.2	5.3	10.0	4.7
32	271.25	5.9	0.2	5.7	10.0	4.3
36	295.25	6.0	0.2	5.8	10.0	4.2

Co channel immunity test

UL Apex Co.,Ltd.
Yokowa EMC Laboratory

Company	: Orion Electric Co., Ltd.	Report Number	: 25CE0157-YW-2
Equipment	: DVD/VCR	Regulation	: BETS-7
Model Number	: VRDVD4100BA	Date	: October 20 ,2005
Power	: 120V/60Hz	Temp / Humid	: 23deg.C / 45%
Description	: TV Reception	Engineer	: Tsubasa Takayama
Remarks	: -		

Ch	Picture frequency [MHz]	Desired signal level [dBμV]	Field strength [mV/m]	
			Limit	Result
2	55.25	60.0	100	> 100
3	61.25	60.0	100	> 100
4	67.25	60.0	100	> 100
5	77.25	60.0	100	> 100
6	83.25	60.0	100	> 100
7	175.25	60.0	100	> 100
8	181.25	60.0	100	> 100
9	187.25	60.0	100	> 100
10	193.25	60.0	100	> 100
11	199.25	60.0	100	> 100
12	205.25	60.0	100	> 100
13	211.25	60.0	100	> 100

Note

Limit>100mV/m(100dB μ V/m)

Test pattern	:Full field color bar
Exposed side	:Rear
Antenna orientation	:Horizontal
Test chamber	:Anechoic Chamber

Signal Over load

UL Apex Co.,Ltd.

Yokowa EMC Laboratory

Company : Orion Electric Co., Ltd.
 Equipment : DVD/VCR
 Model Number : VRDVD4100BA
 Power : 120V/60Hz
 Description : TV Reception
 Remarks : -

Report Number : 25CE0157-YW-2
 Regulation : BETS-7
 Date : October 25 ,2005
 Temp / Humid : 23deg.C / 45%
 Engineer : Tsubasa Takayama

Ch	Desired frequency [MHz]	Test level [dBμV]	Result	Remarks
VHF				
2	55.25	74.0	Pass	-
3	61.25	74.0	Pass	-
4	67.25	74.0	Pass	-
5	77.25	74.0	Pass	-
6	83.25	74.0	Pass	-
7	175.25	74.0	Pass	-
8	181.25	74.0	Pass	-
9	187.25	74.0	Pass	-
10	193.25	74.0	Pass	-
11	199.25	74.0	Pass	-
12	205.25	74.0	Pass	-
13	211.25	74.0	Pass	-
Mid-Band				
14	121.25	74.0	Pass	-
15	127.25	74.0	Pass	-
16	133.25	74.0	Pass	-
17	139.25	74.0	Pass	-
18	145.25	74.0	Pass	-
19	151.25	74.0	Pass	-
20	157.25	74.0	Pass	-
21	163.25	74.0	Pass	-
22	169.25	74.0	Pass	-

Image rejection Test

UL Apex Co.,Ltd.
Yokowa EMC Laboratory

Company : Orion Electric Co., Ltd.
Equipment : DVD/VCR
Model Number : VRDVD4100BA
Power : 120V/60Hz
Description : TV Reception
Remarks : -

Report Number : 25CE0157-YW-2
Regulation : BETS-7
Date : October 20 ,2005
Temp / Humid : 23deg.C / 45%
Engineer : Tsubasa Takayama

Ch	Frequency [MHz]		Desired Sensitivity [dB μ V]	Image Sensitivity [dB μ V]	Image Rejection [dB]	Limit [dB]
	Desired	Image				
VHF						
2	55.25	146.75	15.0	126.0	111.0	60.0
3	61.25	152.75	13.2	126.0	112.8	60.0
4	67.25	158.75	13.2	123.7	110.5	60.0
5	77.25	168.75	12.9	126.0	113.1	60.0
6	83.25	174.75	13.0	120.6	107.6	60.0
7	175.25	266.75	15.3	83.4	68.1	60.0
8	181.25	272.75	15.4	83.4	68.0	60.0
9	187.25	278.75	15.2	84.1	68.9	60.0
10	193.25	284.75	15.3	84.4	69.1	60.0
11	199.25	290.75	15.3	83.6	68.3	60.0
12	205.25	296.75	15.4	82.6	67.2	60.0
Mid band						
14	121.25	212.75	9.7	110.2	100.5	60.0
16	133.25	224.75	15.7	126.0	110.3	60.0
18	145.25	236.75	13.9	126.0	112.1	60.0
20	157.25	248.75	11.9	126.0	114.1	60.0
22	169.25	260.75	12.0	126.0	114.0	60.0

DATA OF ANTENNA TERMINAL TEST

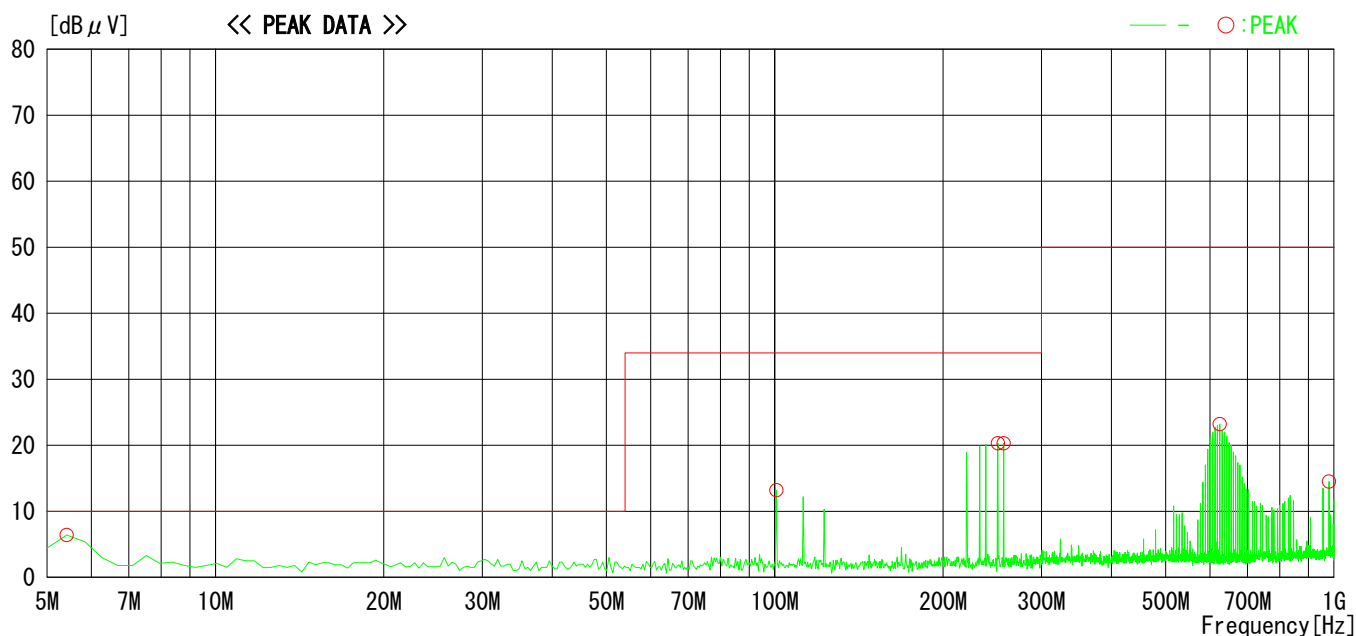
YOKOWA NO.7 S/R

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL NO. : VRDVD4100BA
OPERATION MODE : TV Tuning Mode

Report No. : 26CE0157-YW-2
DATE : October 20, 2005
REGULATION : BETS-7 3.4
TEST ENGINEER : Tsubasa Takayama

TEMP./HUMID. : 24deg. C/31%

LIMIT : BETS-7 3.4 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	5.42143	27.2	-20.8	6.4	10.0	3.6	-
2	100.66400	33.2	-20.0	13.2	34.0	20.8	-
3	250.69350	39.5	-19.2	20.3	34.0	13.7	-
4	256.59350	39.5	-19.2	20.3	34.0	13.7	-
5	624.85330	43.0	-19.8	23.2	50.0	26.8	-
6	979.43990	33.0	-18.5	14.5	50.0	35.5	-

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

DATA OF ANTENNA TERMINAL TEST

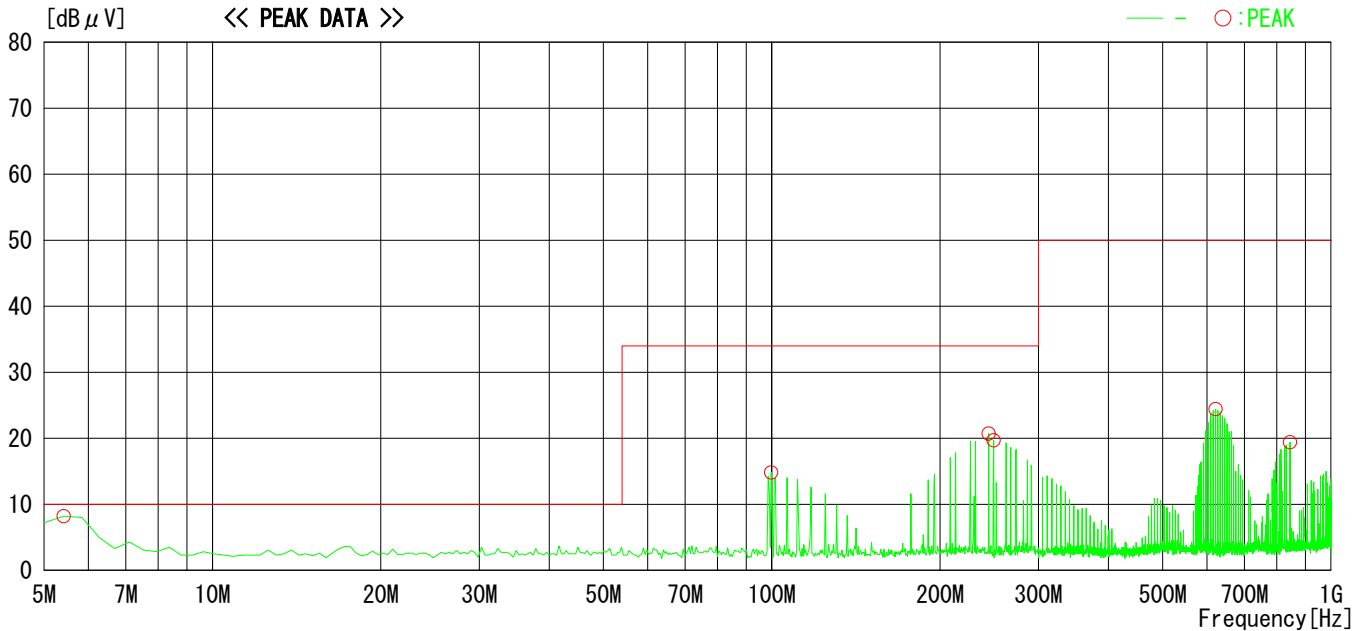
YOKOWA NO.7 S/R

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL NO. : VRDVD4100BA
OPERATION MODE : CATV Tuning Mode

Report No. : 26CE0157-YW-2
DATE : October 20 , 2005
REGULATION : BETS-7 3.4
TEST ENGINEER : Tsubasa Takayama

TEMP./HUMID. : 24deg. C/31%

LIMIT : BETS-7 3.4 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	5.42143	29.0	-20.8	8.2	10.0	1.8	-
2	99.82113	34.8	-20.0	14.8	34.0	19.2	-
3	244.37200	40.0	-19.3	20.7	34.0	13.3	-
4	249.42920	39.0	-19.3	19.7	34.0	14.3	-
5	621.71060	44.2	-19.8	24.4	50.0	25.6	-
6	844.86300	38.8	-19.4	19.4	50.0	30.6	-

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

DATA OF ANTENNA TERMINAL TEST

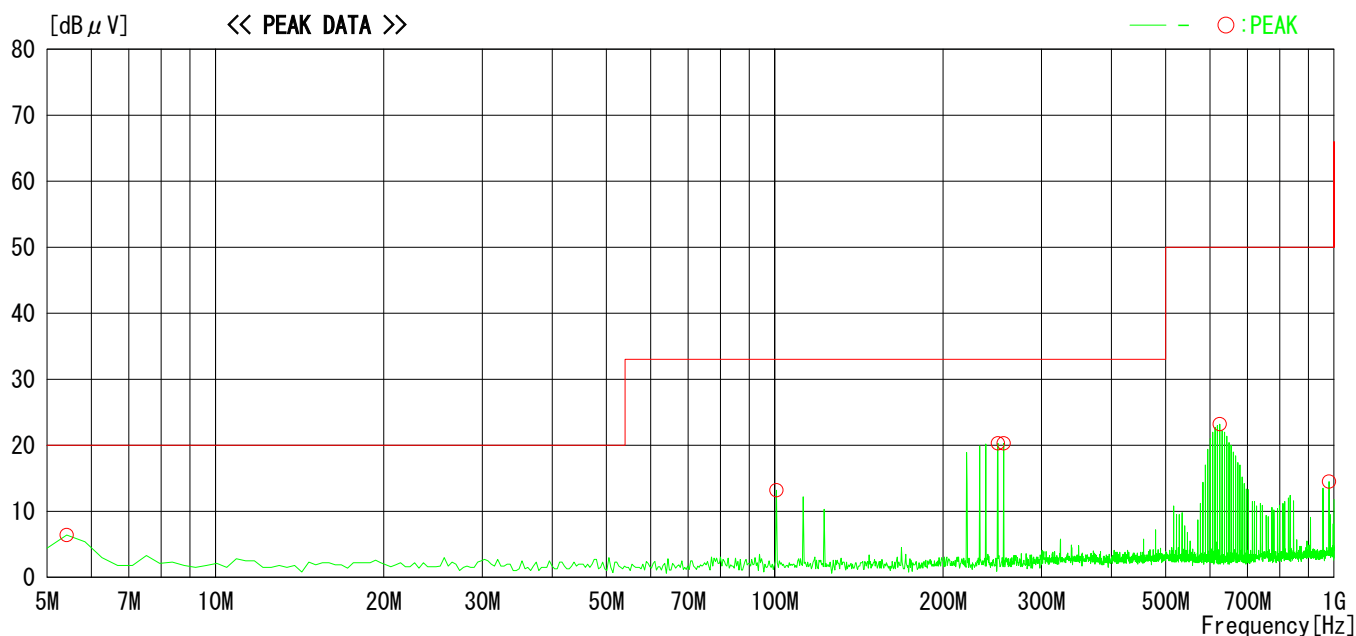
YOKOWA NO.7 S/R

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL NO. : VRDVD4100BA
OPERATION MODE : TV Tuning Mode

Report No. : 26CE0157-YW-2
DATE : October 20, 2005
REGULATION : BETS-7 3.6
TEST ENGINEER : Tsubasa Takayama

TEMP./HUMID. : 24deg. C/31%

LIMIT : BETS-7 3.6 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	5.42143	27.2	-20.8	6.4	20.0	13.6	-
2	100.66400	33.2	-20.0	13.2	33.0	19.8	-
3	250.69350	39.5	-19.2	20.3	33.0	12.7	-
4	256.59350	39.5	-19.2	20.3	33.0	12.7	-
5	624.85330	43.0	-19.8	23.2	50.0	26.8	-
6	979.43990	33.0	-18.5	14.5	50.0	35.5	-

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

DATA OF ANTENNA TERMINAL TEST

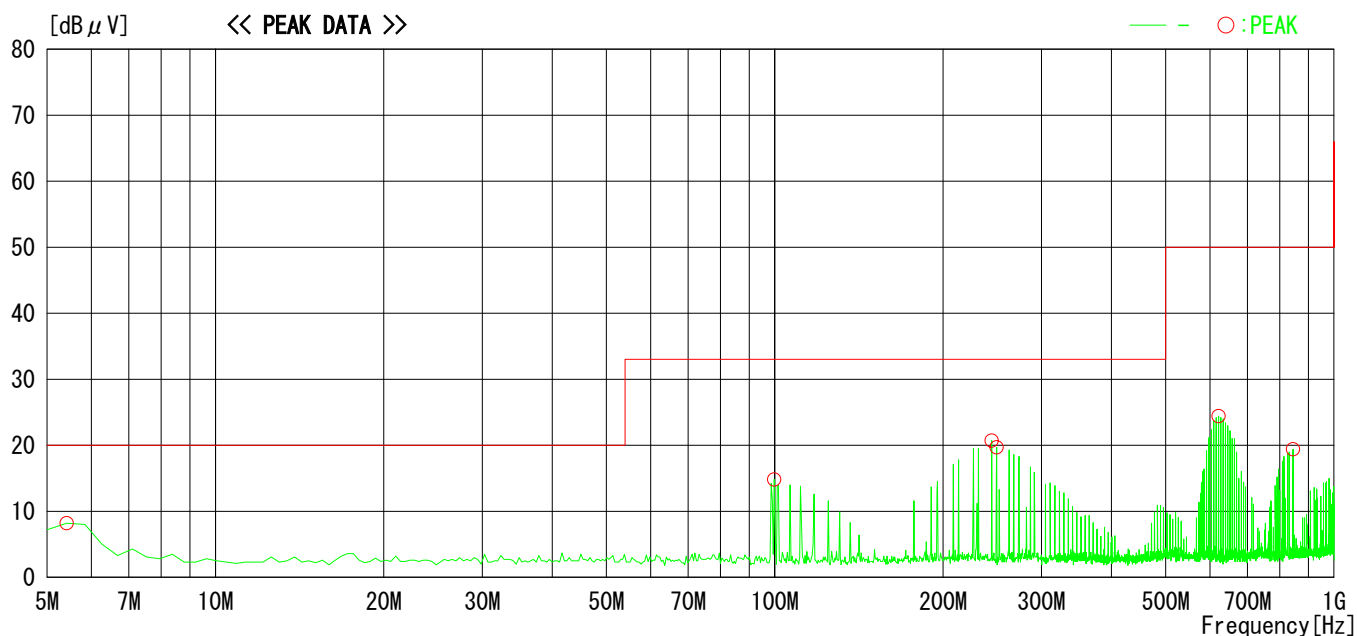
YOKOWA NO.7 S/R

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL NO. : VRDVD4100BA
OPERATION MODE : CATV Tuning Mode

Report No. : 26CE0157-YW-2
DATE : October 20 , 2005
REGULATION : BETS-7 3.6
TEST ENGINEER : Tsubasa Takayama

TEMP./HUMID. : 24deg. C/31%

LIMIT : BETS-7 3.6 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	5.42143	29.0	-20.8	8.2	20.0	11.8	-
2	99.82113	34.8	-20.0	14.8	33.0	18.2	-
3	244.37200	40.0	-19.3	20.7	33.0	12.3	-
4	249.42920	39.0	-19.3	19.7	33.0	13.3	-
5	621.71060	44.2	-19.8	24.4	50.0	25.6	-
6	844.86300	38.8	-19.4	19.4	50.0	30.6	-

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

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. : VRDVD4100BA
POWER : AC120V/60Hz
DESCRIPTION : TV Reception + Rec

REPORT No. : 25CE0157-YW-2
REGULATION : BETS-7
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : 2005/10/21
TEMP./HUMID. : 24deg.C / 42%
ENGINEER : Masaya Minami

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

CH.	FREQ	READING(QP)				ANT	C.Factor	RESULT(QP)				LIMIT			MARGIN(QP)										
	[MHz]	HOR. VER.				TYPE	[dBuV]	HOR. VER.				[QP]			HOR. VER.										
																		[dBuV/m]				[dB]			
VHF																									
2	101	23.3	22.7			BC	-9.8	13.5	12.9			44.0			30.5	31.1									
	202					BC						44.0			>15.0										
	303					LO						46.0													
	404					LO						46.0													
	505					LO						46.0													
	606					LO						46.0													
	707					LO						46.0													
	808					LO						46.0													
	909					LO						46.0													
		READING(PK)				ANT	C.Factor	RESULT(AV)				LIMIT			MARGIN(AV)										
		HOR. VER.				TYPE	[dBuV]	HOR. VER.				[AV]			HOR. VER.										
		[dBuV]						[dBuV/m]				[dBuV/m]			[dB]										
	1010					HO						56.0			>10.0										
	1111					HO						56.0													
	1212					HO						56.0													
	1313					HO						56.0													
	1414					HO						56.0													
1515	HO					56.0																			
1616	HO					56.0																			
CH.	FREQ	READING(QP)				ANT	C.Factor	RESULT(QP)				LIMIT			MARGIN(QP)										
	[MHz]	HOR. VER.				TYPE	[dBuV]	HOR. VER.				[QP]			HOR. VER.										
																		[dBuV/m]				[dB]			
3	107	22.3	22.8			BC	-8.9	13.4	13.9			44.0			30.6	30.1									
	214					BC						44.0													
	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						46.0													
		READING(PK)				ANT	C.Factor	RESULT(AV)				LIMIT			MARGIN(AV)										
		HOR. VER.				TYPE	[dBuV]	HOR. VER.				[AV]			HOR. VER.										
		[dBuV]						[dBuV/m]				[dBuV/m]			[dB]										
	1070					HO						56.0			>10.0										
	1177					HO						56.0													
	1284					HO						56.0													
	1391					HO						56.0													
	1498					HO						56.0													
1605	HO					56.0																			
CH.	FREQ	READING(QP)				ANT	C.Factor	RESULT(QP)				LIMIT			MARGIN(QP)										
	[MHz]	HOR. VER.				TYPE	[dBuV]	HOR. VER.				[QP]			HOR. VER.										
																		[dBuV/m]				[dB]			
4	113	21.8	24.1			BC	-7.9	13.9	16.2			44.0			30.1	27.8									
	226					BC						46.0			>15.0										
	339					LO						46.0													
	452					LO						46.0													
	565					LO						46.0													
	678					LO						46.0													
	791					LO						46.0													
	904					LO						46.0													
						READING(PK)												ANT	C.Factor	RESULT(AV)				LIMIT	
		HOR. VER.				TYPE	[dBuV]	HOR. VER.				[AV]			HOR. VER.										
		[dBuV]						[dBuV/m]				[dBuV/m]			[dB]										
	1017					HO						56.0			>10.0										
	1130					HO						56.0													
	1243					HO						56.0													
	1356					HO						56.0													
	1469					HO						56.0													
	1582					HO						56.0													

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. : VRDVD4100BA
POWER : AC120V/60Hz
DESCRIPTION : TV Reception + Rec

REPORT No. : 25CE0157-YW-2
REGULATION : BETS-7
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : 2005/10/21
TEMP/HUMID. : 24deg.C / 42%
ENGINEER : Masaya Minami

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

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]			
VHF																		
5	123	21.6	21.5			BC	-6.5	15.1	15.0			44.0			28.9	29.0		
	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	46.0															
		READING(PK) HOR. VER. [dBuV]				ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]				LIMIT [AV] [dBuV/m]			MARGIN(AV) HOR. VER. [dB]			
	1107					HO						56.0			>10.0			
1230	HO					56.0												
1353	HO					56.0												
1476	HO					56.0												
1599	HO	56.0																
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]			
6	129	21.6	22.2			BC	-6.2	15.4	16.0			44.0			28.6	28.0		
	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) HOR. VER. [dBuV]				ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]				LIMIT [AV] [dBuV/m]			MARGIN(AV) HOR. VER. [dB]			
	1032					HO						56.0			>10.0			
	1161					HO						56.0						
1290	HO					56.0												
1419	HO					56.0												
1548	HO					56.0												
1677	HO	56.0																
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]			
7	221	21.2	21.1			BC	-2.1	19.1	19.0			46.0			26.9	27.0		
	442					LO						46.0			>15.0			
	663					LO						46.0						
	884					LO						46.0						
		READING(PK) HOR. VER. [dBuV]				ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]				LIMIT [AV] [dBuV/m]			MARGIN(AV) HOR. VER. [dB]			
	1105					HO						56.0			>10.0			
	1326					HO						56.0						
1547	HO					56.0												
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]			
8	227	21.1	21.1			BC	-2.1	19.0	19.0			46.0			27.0	27.0		
	454					LO						46.0			>15.0			
	681					LO						46.0						
	908					LO						46.0						
		READING(PK) HOR. VER. [dBuV]				ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]				LIMIT [AV] [dBuV/m]			MARGIN(AV) HOR. VER. [dB]			
	1135					HO						56.0			>10.0			
	1362					HO						56.0						
1589	HO					56.0												

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. : VRDVD4100BA
POWER : AC120V/60Hz
DESCRIPTION : TV Reception + Rec

REPORT No. : 25CE0157-YW-2
REGULATION : BETS-7
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : 2005/10/21
TEMP./HUMID. : 24deg.C / 42%
ENGINEER : Masaya Minami

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

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]			
VHF																	
9	233	21.5	21.3			BC	-1.9	19.6	19.4			46.0		26.4	26.6		
	466					LO						46.0		> 15.0			
	699					LO					46.0						
	932					LO					46.0						
		READING(PK) HOR. VER. [dBuV]				ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]				LIMIT [AV] [dBuV/m]		MARGIN(AV) HOR. VER. [dB]			
	1165					HO						56.0		>10.0			
	1398					HO					56.0						
1631					HO					56.0							
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]			
10	239	21.3	21.1			BC	-1.7	19.6	19.4			46.0		26.4	26.6		
	478					LO						46.0		> 15.0			
	717					LO					46.0						
	956					LO					46.0						
		READING(PK) HOR. VER. [dBuV]				ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]				LIMIT [AV] [dBuV/m]		MARGIN(AV) HOR. VER. [dB]			
	1195					HO						56.0		>10.0			
	1434					HO					56.0						
1673					HO					56.0							
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]			
11	245	21.2	21.5			BC	-1.6	19.6	19.9			46.0		26.4	26.1		
	490					LO						46.0		> 15.0			
	735					LO					46.0						
	980					LO					46.0						
		READING(PK) HOR. VER. [dBuV]				ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]				LIMIT [AV] [dBuV/m]		MARGIN(AV) HOR. VER. [dB]			
	1225					HO						56.0		>10.0			
	1470					HO					56.0						
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]			
12	251	22.1	21.7			BC	-1.4	20.7	20.3			46.0		25.3	25.7		
	502					LO						46.0		> 15.0			
	753					LO					46.0						
		READING(PK) HOR. VER. [dBuV]				ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]				LIMIT [AV] [dBuV/m]		MARGIN(AV) HOR. VER. [dB]			
	1004					HO						56.0		>10.0			
	1255					HO					56.0						
	1506					HO					56.0						
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]			
13	257	22.2	22.1			BC	-1.0	21.2	21.1			46.0		24.8	24.9		
	514					LO						46.0		> 15.0			
	771					LO					46.0						
		READING(PK) HOR. VER. [dBuV]				ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]				LIMIT [AV] [dBuV/m]		MARGIN(AV) HOR. VER. [dB]			
	1028					HO						56.0		>10.0			
	1285					HO					56.0						
	1542					HO					56.0						

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. : VRDVD4100BA
POWER : AC120V/60Hz
DESCRIPTION : TV Reception + Rec

REPORT No. : 25CE0157-YW-2
REGULATION : BETS-7
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : 2005/10/21
TEMP./HUMID. : 24deg.C / 42%
ENGINEER : Masaya Minami

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

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]		
UHF												
14	517	26.5	28.9		LO	3.2	29.7	32.1		46.0	16.3	13.9
		READING(PK) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [AV] [dBuV/m]		MARGIN(AV) HOR. VER. [dB]		
	1034			HO				56.0		>10.0		
	1551			HO				56.0				
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]		
19	547	25.1	24.7		LO	3.5	28.6	28.2		46.0	17.4	17.8
		READING(PK) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [AV] [dBuV/m]		MARGIN(AV) HOR. VER. [dB]		
	1094			HO				56.0		>10.0		
	1641			HO				56.0				
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]		
28	601	24.4	27.2		LO	4.4	28.8	31.6		46.0	17.2	14.4
		READING(PK) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [AV] [dBuV/m]		MARGIN(AV) HOR. VER. [dB]		
	1202			HO				56.0		>10.0		
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]		
36	649	24.6	24.5		LO	5.2	29.8	29.7		46.0	16.2	16.3
		READING(PK) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [AV] [dBuV/m]		MARGIN(AV) HOR. VER. [dB]		
	1298			HO				56.0		>10.0		
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]		
44	697	22.3	22.9		LO	5.9	28.2	28.8		46.0	17.8	17.2
		READING(PK) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [AV] [dBuV/m]		MARGIN(AV) HOR. VER. [dB]		
	1394			HO				56.0		>10.0		
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]		
53	751	23.5	26.7		LO	7.6	31.1	34.3		46.0	14.9	11.7
		READING(PK) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [AV] [dBuV/m]		MARGIN(AV) HOR. VER. [dB]		
	1502			HO				56.0		>10.0		
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]		
61	799	24.5	25.6		LO	9.2	33.7	34.8		46.0	12.3	11.2
		READING(PK) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [AV] [dBuV/m]		MARGIN(AV) HOR. VER. [dB]		
	1598			HO				56.0		>10.0		
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]		
69	847	25.4	29.2		LO	9.6	35.0	38.8		46.0	11.0	7.2
		READING(PK) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [AV] [dBuV/m]		MARGIN(AV) HOR. VER. [dB]		
	1694			HO				56.0		>10.0		

DATA OF RADIATION TEST

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

COMPANY : Orion Electric Co.,Ltd.
EQUIPMENT : DVD/VCR
MODEL No. : VRDVD4100BA
POWER : AC120V/60Hz
DESCRIPTION : TV Reception + Rec

REPORT No. : 25CE0157-YW-2
REGULATION : BETS-7
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : 2005/10/21
TEMP./HUMID. : 24deg.C / 42%
ENGINEER : Masaya Minami

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

CH.	FREQ	READING(QP)				ANT	C.Factor	RESULT(QP)				LIMIT	MARGIN(QP)								
	[MHz]	HOR.	VER.			TYPE	[dBuV]	HOR.	VER.			[QP]		HOR.	VER.						
CATV																					
1	119	21.8	21.9			BC	-7.0	14.8	14.9			44.0		29.2	29.1						
	238					BC						46.0		>15.0							
	357					LO						46.0									
	476					LO						46.0									
	595					LO						46.0									
	714					LO						46.0									
	833					LO						46.0									
	952					LO						46.0									
		READING(PK)				ANT	C.Factor	RESULT(AV)				LIMIT	MARGIN(AV)								
		HOR.	VER.			TYPE	[dBuV]	HOR.	VER.			[AV]	HOR.		VER.						
		[dBuV]						[dBuV]					[dBuV/m]		[dB]	[dB]					
	1071					HO						56.0		>10.0							
	1190					HO						56.0									
	1309					HO						56.0									
	1428					HO						56.0									
	1547					HO						56.0									
1666					HO						56.0										
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]		[dB]	[dB]						
95	137	21.5	21.6			BC	-5.5	16.0	16.1			44.0		28.0	27.9						
	274					BC						46.0		>15.0							
	411					LO						46.0									
	548					LO						46.0									
	685					LO						46.0									
	822					LO						46.0									
	959					LO						46.0									
		READING(PK)				ANT	C.Factor	RESULT(AV)				LIMIT	MARGIN(AV)								
		HOR.	VER.			TYPE	[dBuV]	HOR.	VER.			[AV]	HOR.		VER.						
		[dBuV]						[dBuV]					[dBuV/m]		[dB]	[dB]					
	1096					HO						56.0		>10.0							
	1233					HO						56.0									
	1370					HO						56.0									
	1507					HO						56.0									
	1644					HO						56.0									
	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]		[dB]	[dB]						
97	149	22.1	22.3			BC	-4.8	17.3	17.5			44.0		26.7	26.5						
	298					BC						46.0		>15.0							
	447					LO						46.0									
	596					LO						46.0									
	745					LO						46.0									
	894					LO						46.0									
		READING(PK)				ANT	C.Factor	RESULT(AV)				LIMIT	MARGIN(AV)								
		HOR.	VER.			TYPE	[dBuV]	HOR.	VER.			[AV]	HOR.		VER.						
		[dBuV]						[dBuV]					[dBuV/m]		[dB]	[dB]					
	1043					HO						56.0		>10.0							
	1192					HO						56.0									
	1341					HO						56.0									
	1490					HO						56.0									
	1639					HO						56.0									
	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]		[dB]	[dB]						
99	161	21.5	22.0			BC	-4.2	17.3	17.8			44.0		26.7	26.2						
	322					LO						46.0		>15.0							
	483					LO						46.0									
	644					LO						46.0									
	805					LO						46.0									
	966					LO						46.0									
		READING(PK)				ANT	C.Factor	RESULT(AV)				LIMIT	MARGIN(AV)								
		HOR.	VER.			TYPE	[dBuV]	HOR.	VER.			[AV]	HOR.		VER.						
		[dBuV]						[dBuV]					[dBuV/m]		[dB]	[dB]					
	1127					HO						56.0		>10.0							
	1288					HO						56.0									
	1449					HO						56.0									
	1610					HO						56.0									
						HO						56.0									

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. : VRDVD4100BA
POWER : AC120V/60Hz
DESCRIPTION : TV Reception + Rec

REPORT No. : 25CE0157-YW-2
REGULATION : BETS-7
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : 2005/10/21
TEMP./HUMID. : 24deg.C / 42%
ENGINEER : Masaya Minami

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

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	21.6	21.6			BC	-3.8	17.8	17.8		
	334					LO					
	501					LO					
	668					LO					
	835					LO					
		READING(PK) HOR. VER. [dBuV]				ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [AV] [dBuV/m]	MARGIN(AV) HOR. VER. [dB]
	1002					HO					
	1169					HO					
	1336					HO					
	1503					HO					
	1670					HO					
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]	
18	191	21.7	21.9			BC	-2.8	18.9	19.1		
	382					LO					
	573					LO					
	764					LO					
	955					LO					
		READING(PK) HOR. VER. [dBuV]				ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [AV] [dBuV/m]	MARGIN(AV) HOR. VER. [dB]
	1146					HO					
	1337					HO					
	1528					HO					
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]	
22	215	21.9	21.3			BC	-2.4	19.5	18.9		
	430					LO					
	645					LO					
	860					LO					
		READING(PK) HOR. VER. [dBuV]				ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [AV] [dBuV/m]	MARGIN(AV) HOR. VER. [dB]
	1075					HO					
	1290					HO					
	1505					HO					
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]	
23	263	20.9	20.9			BC	-0.6	20.3	20.3		
	526					LO					
	789					LO					
		READING(PK) HOR. VER. [dBuV]				ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [AV] [dBuV/m]	MARGIN(AV) HOR. VER. [dB]
	1052					HO					
	1315					HO					
	1578					HO					
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]	
29	299	21.0	21.2			BC	1.9	22.9	23.1		
	598					LO					
	897					LO					
		READING(PK) HOR. VER. [dBuV]				ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [AV] [dBuV/m]	MARGIN(AV) HOR. VER. [dB]
	1196					HO					
	1495					HO					

DATA OF RADIATION TEST

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

COMPANY : Orion Electric Co.,Ltd.
EQUIPMENT : DVD/VCR
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POWER : AC120V/60Hz
DESCRIPTION : TV Reception + Rec

REPORT No. : 25CE0157-YW-2
REGULATION : BETS-7
TEST DISTANCE : 3m
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TEMP./HUMID. : 24deg.C / 42%
ENGINEER : Masaya Minami

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

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]	
CATV											
36	341	21.6	21.1	LO	-0.2	21.4	20.9	46.0		24.6	25.1
	682			LO				46.0		>15.0	
		READING(PK) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [AV] [dBuV/m]		MARGIN(AV) HOR. VER. [dB]	
	1023			HO				56.0		>10.0	
	1364			HO				56.0			
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]	
37	347	22.1	21.1	LO	-0.1	22.0	21.0	46.0		24.0	25.0
	694			LO				46.0		>15.0	
		READING(PK) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [AV] [dBuV/m]		MARGIN(AV) HOR. VER. [dB]	
	1041			HO				56.0		>10.0	
	1388			HO				56.0			
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]	
65	515	24.6	25.3	LO	3.1	27.7	28.4	46.0		18.3	17.6
		READING(PK) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [AV] [dBuV/m]		MARGIN(AV) HOR. VER. [dB]	
	1030			HO				56.0		>10.0	
	1545			HO				56.0			
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]	
94	689	25.6	19.7	LO	5.8	31.4	25.5	46.0		14.6	20.5
		READING(PK) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [AV] [dBuV/m]		MARGIN(AV) HOR. VER. [dB]	
	1378			HO				56.0		>10.0	
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]	
100	695	24.5	22.5	LO	5.9	30.4	28.4	46.0		15.6	17.6
		READING(PK) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [AV] [dBuV/m]		MARGIN(AV) HOR. VER. [dB]	
	1390			HO				56.0		>10.0	
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]	
113	773	22.9	23.1	LO	8.3	31.2	31.4	46.0		14.8	14.6
		READING(PK) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [AV] [dBuV/m]		MARGIN(AV) HOR. VER. [dB]	
	1546			HO				56.0		>10.0	
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]	
125	845	27.7	26.8	LO	9.6	37.3	36.4	46.0		8.7	9.6
		READING(PK) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [AV] [dBuV/m]		MARGIN(AV) HOR. VER. [dB]	
	1690			HO				56.0		>10.0	

DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No. : 26CE0157-YW-2

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player with Video Cassette Recorder
Model No. : VRDVD4100BA
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception+Rec
Remarks :
Date : 10/21/2005
Test Distance : 3 m
Temperature : 24 °C
Humidity : 42 %
Regulation : BETS-7

Engineer : Masaya Minami

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.	5.46	BB	27.5	28.8	19.5	29.0	0.6	5.8	24.4	25.7	40.0	15.6	14.3
2.	21.73	BB	23.3	24.9	19.8	28.4	1.0	5.8	21.5	23.1	40.0	18.5	16.9

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

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

DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No. : 26CE0157-YW-2

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player with Video Cassette Recorder
Model No. : VRDVD4100BA
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception+Rec
Remarks : 0dBmV
Date : 11/1/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 51 %
Regulation : BETS-7

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.	945.01	BB	22.9	24.1	26.1	27.1	7.8	6.0	35.7	36.9	46.0	10.3	9.1

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

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

DATA OF RADIATION TEST

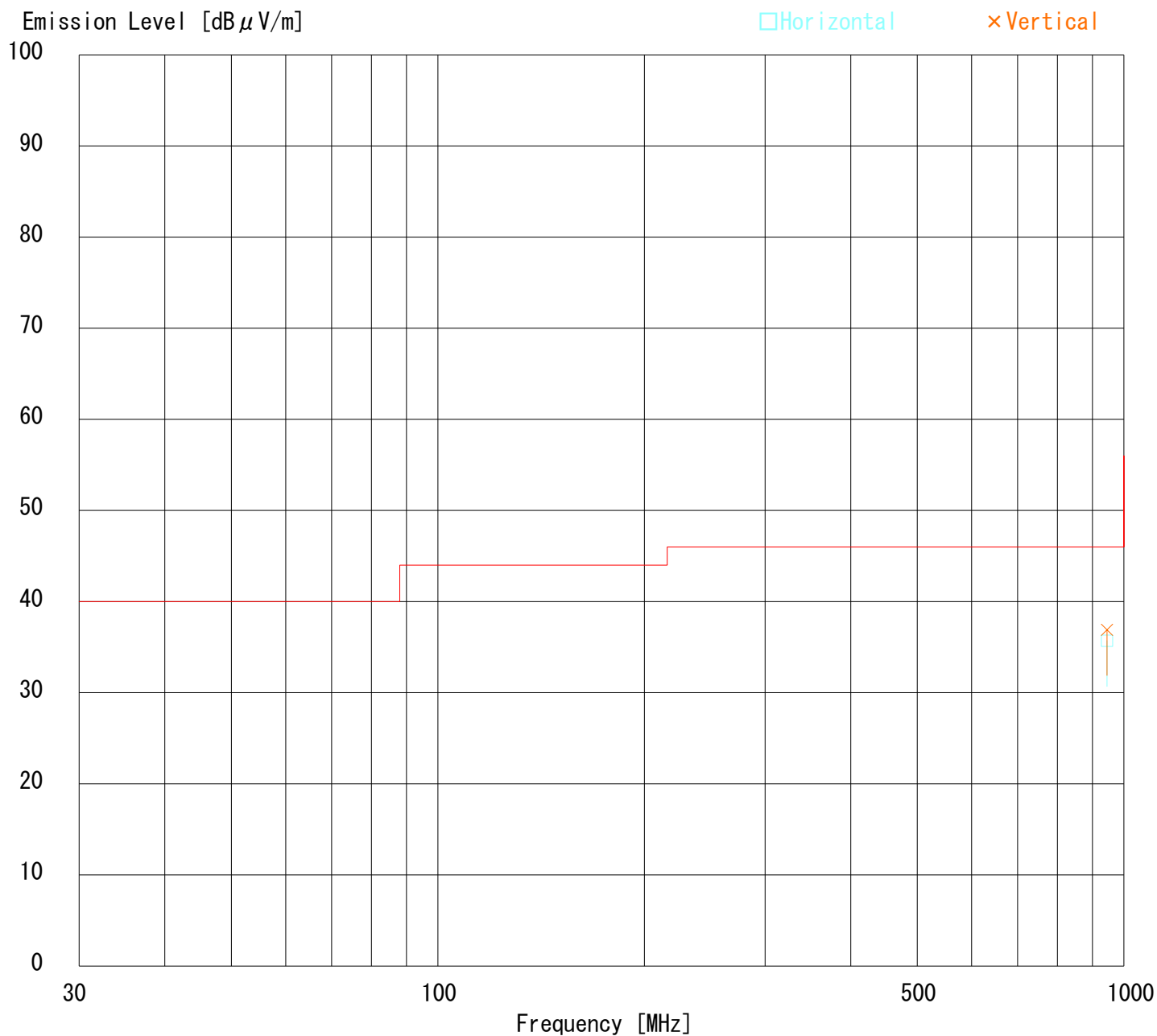
UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No. : 26CE0157-YW-2

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player with Video Cassette Recorder
Model No. : VRDVD4100BA
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception+Rec
Remarks : 0dBmV
Date : 11/1/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 51 %
Regulation : BETS-7

Engineer : Tsubasa Takayama



DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No. : 26CE0147-YW-2

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player with Video Cassette Recorder
Model No. : VRDVD4100BA
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception+Rec
Remarks : 25dBmV
Date : 11/2/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 55 %
Regulation : BETS-7

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	26.0	27.0	14.4	27.9	2.4	5.8	20.7	21.7	44.0	23.3	22.3
2.	189.01	BB	32.3	34.7	16.7	27.9	3.0	5.8	29.9	32.3	44.0	14.1	11.7
3.	202.52	BB	37.0	33.8	17.1	27.8	3.1	5.8	35.2	32.0	44.0	8.8	12.0
4.	270.01	BB	30.2	26.5	18.5	27.8	3.7	5.8	30.4	26.7	46.0	15.6	19.3
5.	337.52	BB	36.7	36.8	17.1	27.9	4.2	5.9	36.0	36.1	46.0	10.0	9.9
6.	540.02	BB	31.4	36.2	19.8	27.9	5.5	5.9	34.7	39.5	46.0	11.3	6.5
7.	675.02	BB	28.1	28.9	22.0	27.3	6.3	5.9	35.0	35.8	46.0	11.0	10.2
8.	945.01	BB	22.7	24.1	26.1	27.1	7.8	6.0	35.5	36.9	46.0	10.5	9.1

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

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

DATA OF RADIATION TEST

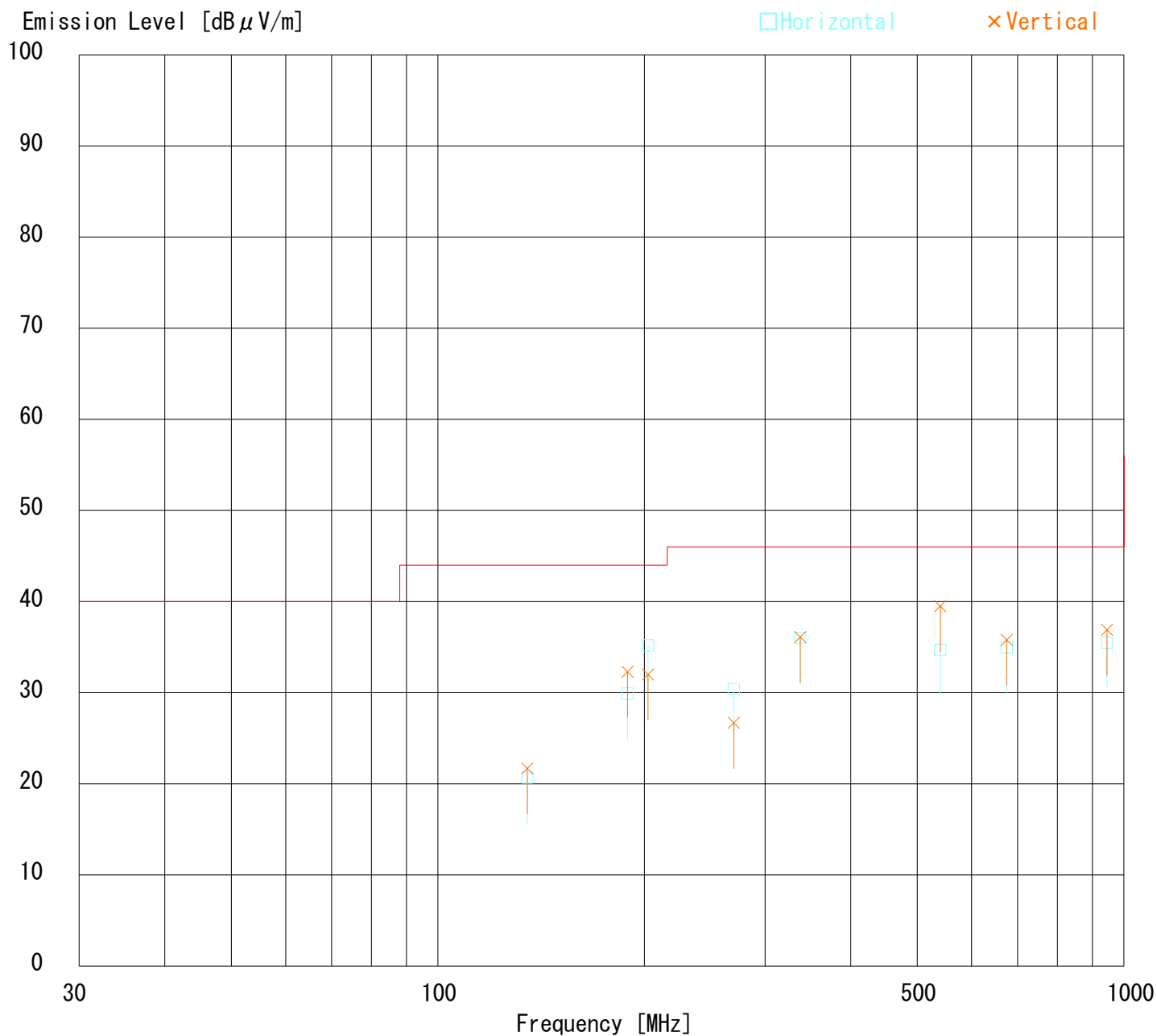
UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No. : 26CE0147-YW-2

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player with Video Cassette Recorder
Model No. : VRDVD4100BA
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception+Rec
Remarks : 25dBmV
Date : 11/2/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 55 %
Regulation : BETS-7

Engineer : Tsubasa Takayama



DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No. : 26CE0157-YW-2

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player with Video Cassette Recorder
Model No. : VRDVD4100BA
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception+Rec
Remarks : 0dBmV
Date : 10/21/2005
Test Distance : 3 m
Temperature : 24 °C
Humidity : 42 %
Regulation : BETS-7

Engineer : Masaya Minami

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.	1143.77	BB	36.3	36.5	24.6	39.8	3.5	0.0	24.6	24.8	56.0	31.4	31.2
2.	1755.06	BB	43.2	44.0	27.6	38.8	4.5	0.0	36.5	37.3	56.0	19.5	18.7

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

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

DATA OF RADIATION TEST

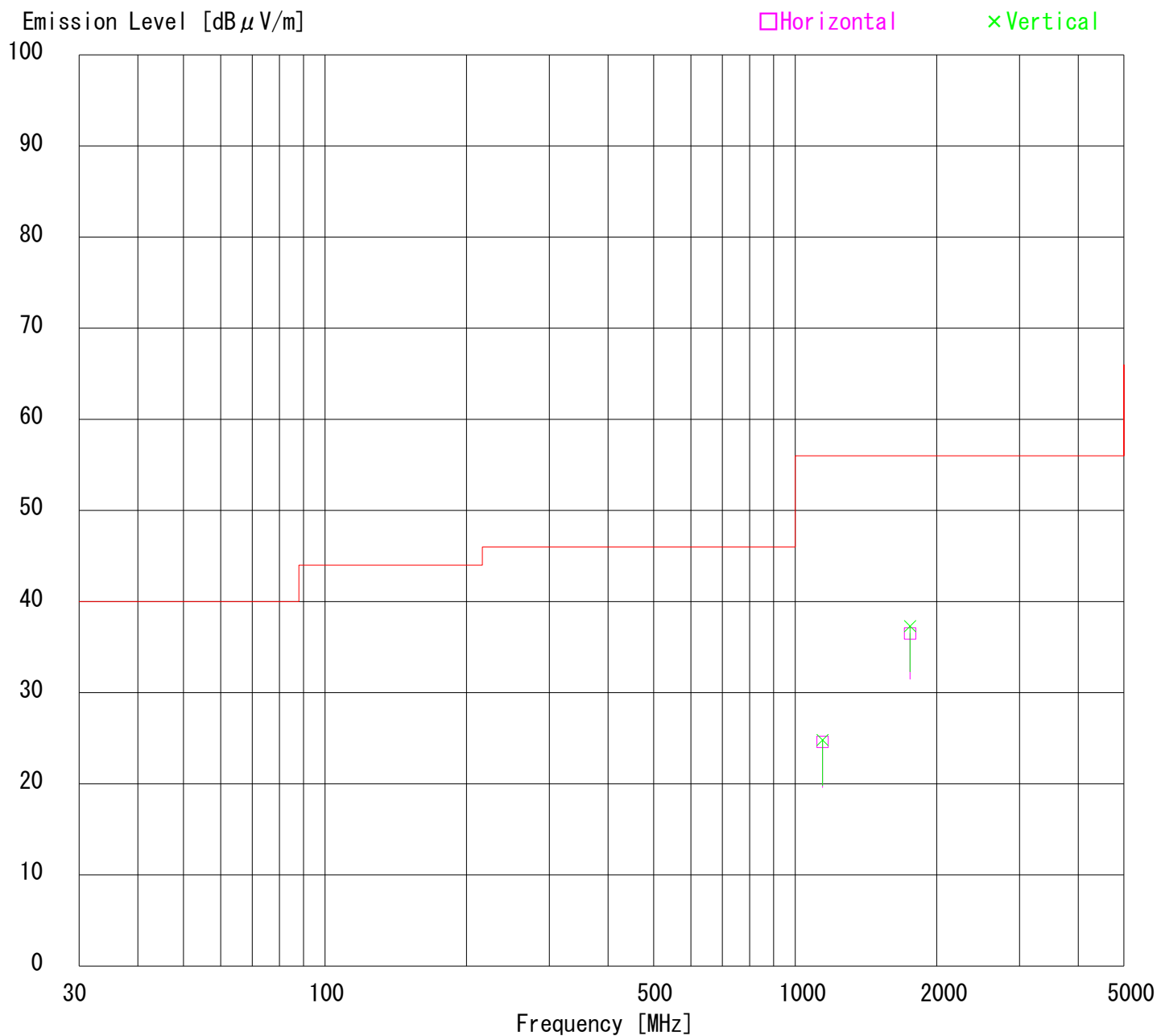
UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No. : 26CE0157-YW-2

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player with Video Cassette Recorder
Model No. : VRDVD4100BA
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception+Rec
Remarks : 0dBmV
Date : 10/21/2005
Test Distance : 3 m
Temperature : 24 °C
Humidity : 42 %
Regulation : BETS-7

Engineer : Masaya Minami



DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No. : 26CE0157-YW-2

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player with Video Cassette Recorder
Model No. : VRDVD4100BA
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception+Rec
Remarks : 25dBmV
Date : 10/21/2005
Test Distance : 3 m
Temperature : 24 °C
Humidity : 42 %
Regulation : BETS-7

Engineer : Masaya Minami

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.	1143.77	BB	36.4	36.5	24.6	39.8	3.5	0.0	24.7	24.8	56.0	31.3	31.2
2.	1755.06	BB	43.2	44.4	27.6	38.8	4.5	0.0	36.5	37.7	56.0	19.5	18.3

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

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

DATA OF RADIATION TEST

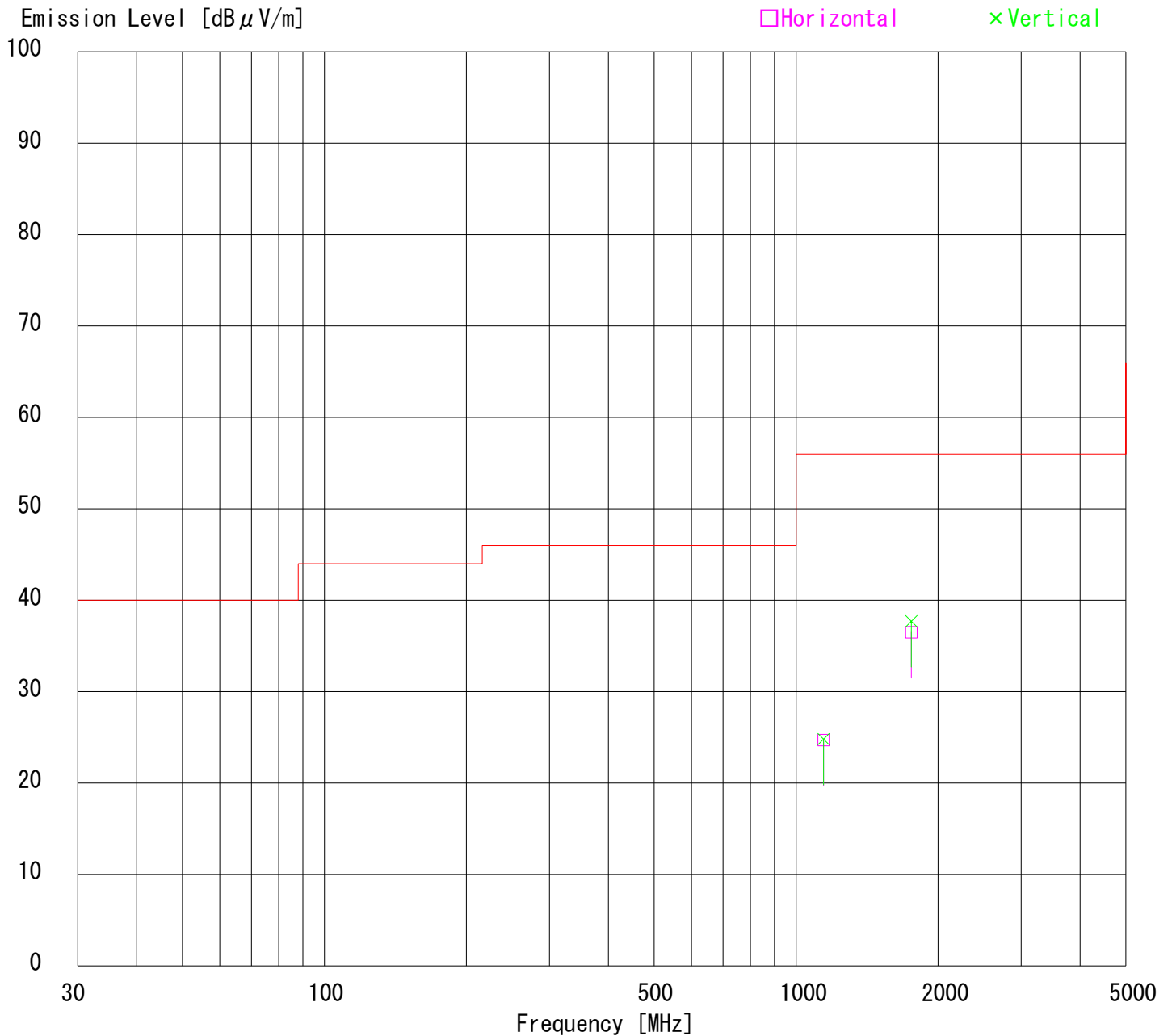
UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No. : 26CE0157-YW-2

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player with Video Cassette Recorder
Model No. : VRDVD4100BA
Serial No. : -
Power : AC120V/60Hz
Mode : TV Reception+Rec
Remarks : 25dBmV
Date : 10/21/2005
Test Distance : 3 m
Temperature : 24 °C
Humidity : 42 %
Regulation : BETS-7

Engineer : Masaya Minami



DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No. : 26CE0157-YW-2

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player with Video Cassette Recorder
Model No. : VRDVD4100BA
Serial No. : -
Power : AC120V/60Hz
Mode : DVD Play+Rec
Remarks : Test Channel #3
Date : 10/21/2005
Test Distance : 3 m
Temperature : 24 °C
Humidity : 42 %
Regulation : BETS-7

Engineer : Masaya Minami

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.	61.25	BB	24.1	25.3	8.2	28.1	1.6	5.8	11.6	12.8	40.0	28.4	27.2
2.	65.75	BB	25.8	26.3	7.3	28.1	1.7	5.8	12.5	13.0	40.0	27.5	27.0
3.	122.50	BB	21.7	21.9	13.7	27.9	2.3	5.8	15.6	15.8	44.0	28.4	28.2
4.	245.00	BB	21.3	21.2	17.3	27.8	3.5	5.8	20.1	20.0	46.0	25.9	26.0

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

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

DATA OF RADIATION TEST

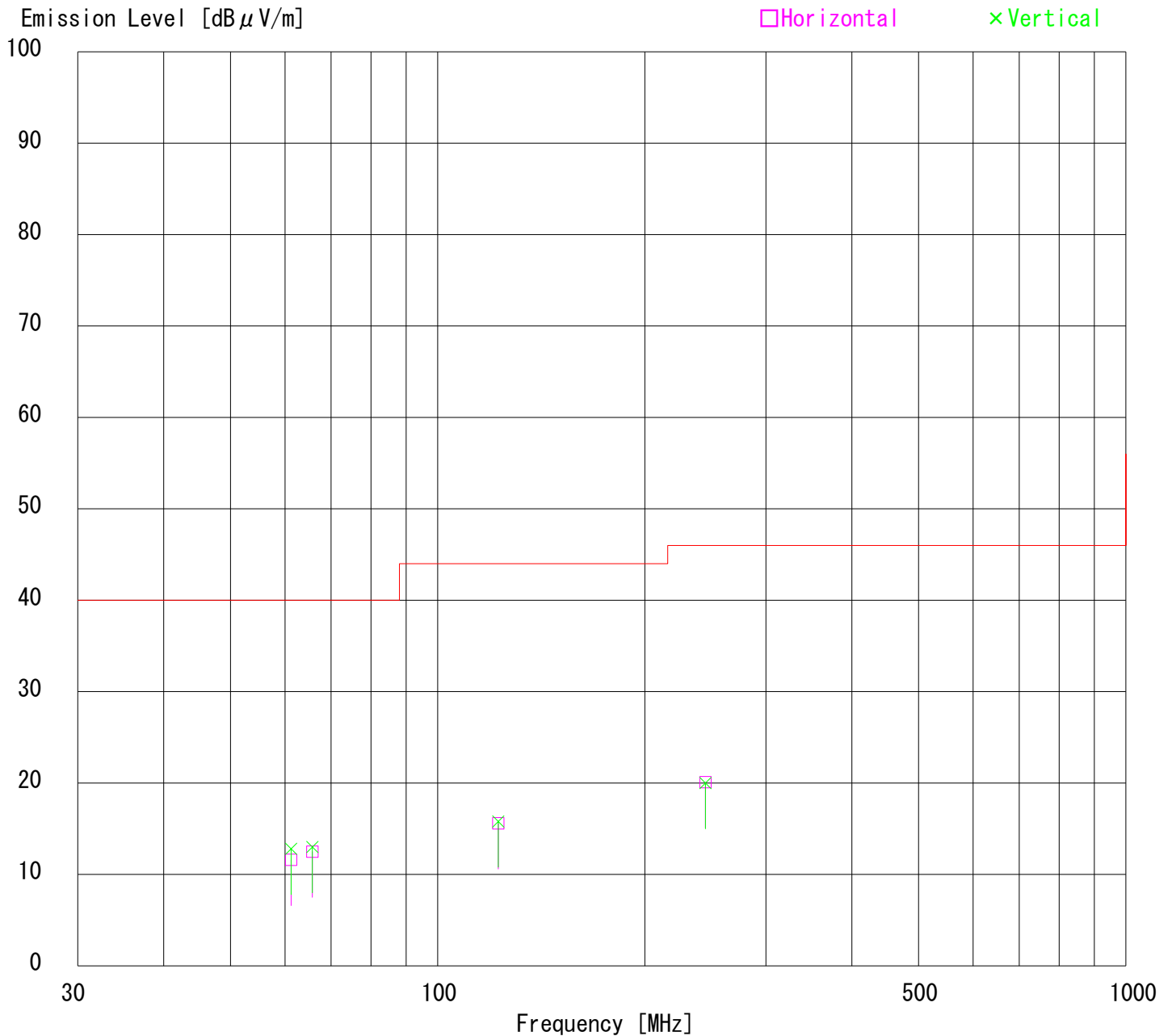
UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No. : 26CE0157-YW-2

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player with Video Cassette Recorder
Model No. : VRDVD4100BA
Serial No. : -
Power : AC120V/60Hz
Mode : DVD Play+Rec
Remarks : Test Channel #3
Date : 10/21/2005
Test Distance : 3 m
Temperature : 24 °C
Humidity : 42 %
Regulation : BETS-7

Engineer : Masaya Minami



DATA OF RADIATION TEST

UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No. : 26CE0157-YW-2

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player with Video Cassette Recorder
Model No. : VRDVD4100BA
Serial No. : -
Power : AC120V/60Hz
Mode : DVD Play+Rec
Remarks : Test Channel #4
Date : 10/21/2005
Test Distance : 3 m
Temperature : 24 °C
Humidity : 42 %
Regulation : BETS-7

Engineer : Masaya Minami

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.	67.25	BB	23.7	23.6	7.0	28.1	1.7	5.8	10.1	10.0	40.0	29.9	30.0
2.	71.75	BB	24.1	23.5	6.5	28.1	1.8	5.8	10.1	9.5	40.0	29.9	30.5
3.	134.50	BB	21.7	23.7	14.4	27.9	2.4	5.8	16.4	18.4	44.0	27.6	25.6
4.	201.75	BB	21.2	21.1	17.1	27.8	3.1	5.8	19.4	19.3	44.0	24.6	24.7

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

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

DATA OF RADIATION TEST

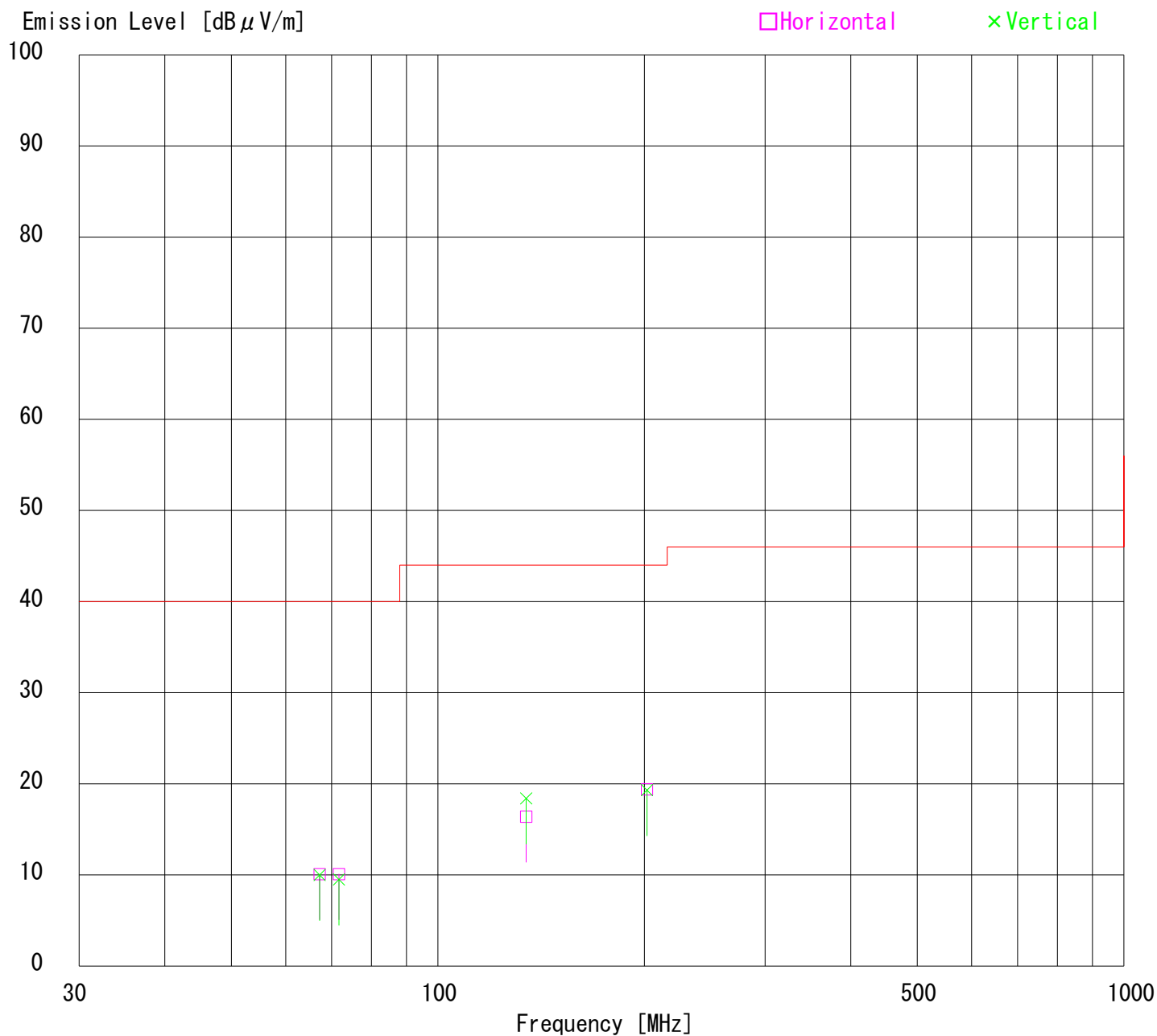
UL Apex Co., Ltd.

YOKOWA No.3 OPEN TEST SITE

Report No. : 26CE0157-YW-2

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD Player with Video Cassette Recorder
Model No. : VRDVD4100BA
Serial No. : -
Power : AC120V/60Hz
Mode : DVD Play+Rec
Remarks : Test Channel #4
Date : 10/21/2005
Test Distance : 3 m
Temperature : 24 °C
Humidity : 42 %
Regulation : BETS-7

Engineer : Masaya Minami



APPENDIX 3

Test Instruments

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
APTVG01	TV Generator	Leader	408NPS	TO, CO, SOL	Pre Check
APSPA04	Spectrum Analyzer	Advantest	R3265	TO, SOL, AT	2005/05/06 * 12
ES04-04	Isotropic field Monitor	Amplifier Research	FM2000	CO	2005/05/13 * 12
ES04-05	Isotropic field Probe	Amplifier Research	FP2000	CO	2005/05/13 * 12
ES05-03	Power Reflection meter	Rohde & Schwarz	NAP	CO	2005/08/04 * 12
ES05-04	Power Reflection meter	Rohde & Schwarz	NRVS	CO	2005/01/17 * 12
YAEC-02	Anechoic Chamber	JSE	Full 2.5m	CO	2005/06/03 * 12
ES07-04	Logbicon Antenna	Schwarzbeck	VULB9166	CO	Pre Check
IP-06	Matching Pad	TME	ZT-301	TO, NF, CO, SOL, IR	2005/05/17 * 12
IP-03	Matching Pad	TME	ZT-130	TO, CO, AT	2005/09/30 * 12
APNFM02	Noise Figure Analyzer	Agilent	N8973A	NF	2005/08/25 * 12
APNFS02	Noise Source	Agilent	346A	NF	2005/08/02 * 12
AV01-01	Signal Generator	Rohde & Schwarz	SMY01	IR	2005/02/23 * 12
APMCG01	Multi Carrier Generator	Eiden	3109A	SOL	2005/01/18 * 12
APSPFM01	All Channel Generator	Rohde & Schwarz	SFM	CO, SOL	Pre Check
APTRA01	Variable Attenuator	TME	TRA-603D	CO, SOL	2005/05/17 * 12
AF-06	Pre Amplifier	Agilent	HP8449B	TO, CO, AT	2005/07/14 * 12
AF-05	Pre Amplifier	Hewlett Packard	8447D	AT	2005/07/12 * 12
APCBL-01	Coaxial Cable	Fujikura	5D-2W	AT	2005/11/01 * 12
APCBL-02	Coaxial Cable	Fujikura	5D-2W	AT	2005/11/01 * 12
IP-07	Power Combiner	Mini-Circuit	ZFRSC-2050	TO, SOL	2005/07/11 * 12
ES03-08	Wide Band RF Amplifier	RF Power Labs	R7100LC	CO	2005/09/24 * 12
OS-09	Digital Humidity Indicator	SATO	PC-5000TRH	SOL	2004/05/10 * 24
OS-02	Digital Humidity Indicator	SATO	PC-5000TRH-	TO, NF, IR, AT	2004/04/06 * 24
OS-21	Digital Humidity Indicator	SATO	PC-5000TRH	CO	2004/05/06 * 24
AF-01	Pre Amplifier	Hewlett Packard	8447D	RE	2005/03/25 * 12
AF-06	Pre Amplifier	Agilent	HP8449B	RE	2005/07/14 * 12
AT-06	Attenuator	Anritsu	MP721B	RE	2005/07/11 * 12
BA-06	Biconical Antenna	Schwarzbeck	BBA9106	RE	2005/01/29 * 12
HA-02	Horn Antenna	A.H.Systems	SAS-200/571	RE	2005/04/06 * 12
LA-07	Logperiodic Antenna	Schwarzbeck	UKLP9140-A	RE	2005/01/29 * 12
SA-06	Spectrum Analyzer	Advantest	R3273	RE	2005/11/01 * 12
TR-06	Test Receiver	Rohde & Schwarz	ESVS10	RE	2005/11/01 * 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	2005/03/25 * 12
YOATS-03	Open Test Site	JSE	3m, 10m	RE	2005/05/04 * 12
OS-16	Digital Humidity Indicator	SATO	PC-5000TRH	RE	2004/05/07 * 24
CC-C3	Microwave Cable	-	-	RE	2004/12/16 * 12
OS-16	Digital Humidity Indicator	SATO	PC-5000TRH	RE	2004/05/07 * 24
DA-10	Dipole Antenna	Schwarzbeck	UHA9105	RE	2005/02/12 * 12
APANT08	Loop Antenna	Rohde & Schwarz	HFH2-Z2	RE	2005/09/09 * 12

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

Test Item :

TO: Tuning-offset capability

NF: Noise figure

CO: Co-channel immunity

SOL: Signal over load

IR: Image rejection

AT: Internally generated interference

RE: Field intensity