



Certification EMI TEST REPORT

Test Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Type of equipment : DVD Recorder with Video Cassette Recorder
Model number : DVR-RT501-S
FCC ID : A7RM2G0A
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
DVR-RT401-S	Pioneer	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

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 : February 16 to 28, 2005

Tested by:

Tsubasa Takayama
Engineer of EMC Service

Toyokazu Imamura
Engineer of 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 Recorder with Video Cassette Recorder
Brand Name : Pioneer
Model number : DVR-RT501-S
FCC ID : A7RM2G0A
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 : February 16, 2005
Condition of EUT : Production Prototype
(Not for Sale: This sample is equivalent to mass-produced items.)

2.2 Product description

Model: DVR-RT501-S(referred to as the EUT in this report) is a DVD Recorder 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, 27W
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	CISPR 22	14.7 dB (0.1500 MHz, N, AV, VCR Play + Rec.)	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	6.1 dB (732.85 MHz, Vertical, AV Input 1 + Rec 5Vp-p / DVD Play / 202.72 MHz, Horizontal, AV Input 2 + Rec. 5Vp-p)	Complied
Antenna terminal voltage	ANSI C63.4:2003	2 nW (at 75 ohm)	25.9 dB (621.42490 MHz, CATV tuning)	Complied
RF output level	ANSI C63.4:2003	Video signal: 3000 uV Aural signal: 671 uV	8.1 dB (3ch, DVD Play + Rec.)	Complied
Spurious emission		94.8 uV	23.5 dB (732.8500 MHz, 3ch, AV Input + Rec. 5Vp-p 122.5100 MHz, 3ch, VCR Play + Rec.)	Complied
Transfer switch	ANSI C63.4:2003	9.5 dB	6.3 dB (61.2500 MHz, 3ch, VCR Play + Rec./ 201.7500 MHz, 4ch, VCR Play + Rec.)	Complied
Picture sensitivity	ANSI C63.4:2003	8 dB	6.9 dB	Complied
Noise figure	FCC/OET MP:2:1986	14 dB	6.0 dB (133.25 MHz, 16ch)	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 has enough margin, more than site margin.

Antenna terminal voltage

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

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

RF output level test / spurious emission test

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

The data listed in this test report 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

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FAX : +81 596 39 0232

Test room	Width x Depth x Height (m)	Test room	Width x Depth x Height (m)
No.1 shielded room	5.5 x 6.4 x 2.7	No.7 shielded room	9.3 x 3.4 x 2.7
No.2 shielded room	4.5 x 3.6 x 2.7	No.1 EMS lab.	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		

UL Apex Co., Ltd. Yamakita EMC Lab.

907 Kawanishi, Yamakita-machi, Ashigarakami-gun, Kanagawa-ken, 258-0124 JAPAN

TEL : +81 465 77 1011

FAX : +81 465 77 2112

Test room	Width x Depth x Height (m)	Test room	Width x Depth x Height (m)
No.1 shielded room	8.0 x 5.0 x 2.5	No.1 EMS lab.	10.0 x 7.5 x 5.7
No.2 shielded room	5.0 x 4.0 x 2.5	(Semi-anechoic chamber)	
No.3 shielded room	4.0 x 5.0 x 2.7		

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 1+ Rec. / AV Input 2 + Rec. mode (1 Vp-p input / 5 Vp-p input)

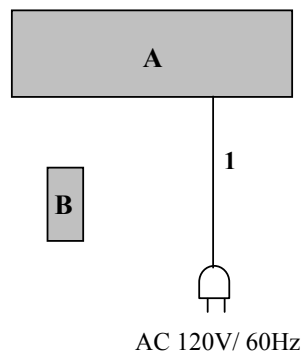
* VCR Play + Rec. mode

* DVD Play + Rec. 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 Recorder with Video Cassette Recorder	DVR-RT501-S	—	Orion Electric Co., Ltd.	A7RM2G0A	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 No.7 shielded room at Yokowa EMC Lab.

Date : February 27, 2005

Temperature : See data

Humidity : See data

5.2 Test configuration

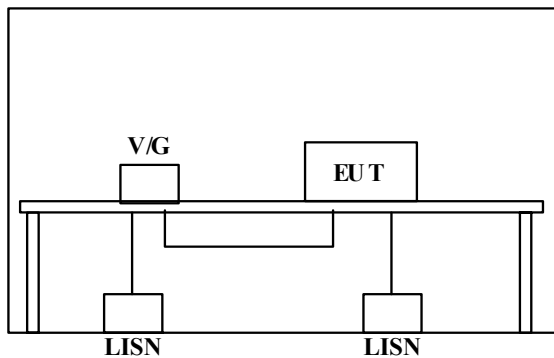
EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The rear of tabletop was located 40 cm to the vertical conducting plane. The rear of EUT was aligned and flushed with rear of tabletop. All other surfaces of tabletop was at least 80 cm from any 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: video generator connected with RF input cable
 RF out: 75ohm terminated with RF output cable
 Rear video in: 75 ohm terminated
 Front video in: 75 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
 Coaxial out: 75 ohm terminated with coaxial cable
 Front audio in: 47k ohm terminated
 Rear audio in: 47k ohm terminated
 Component out: 75 ohm terminated with component cable

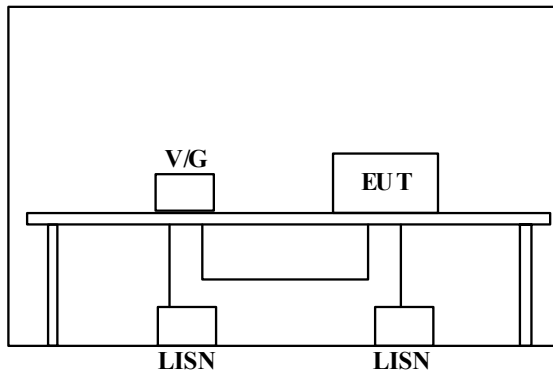
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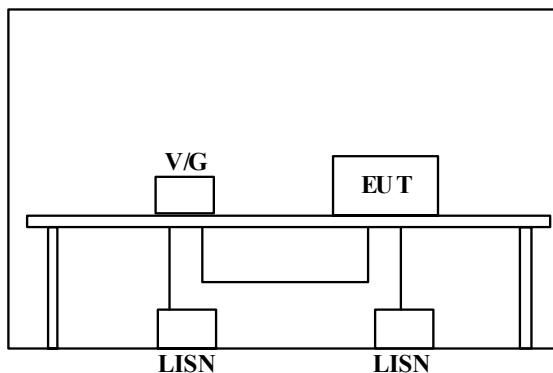
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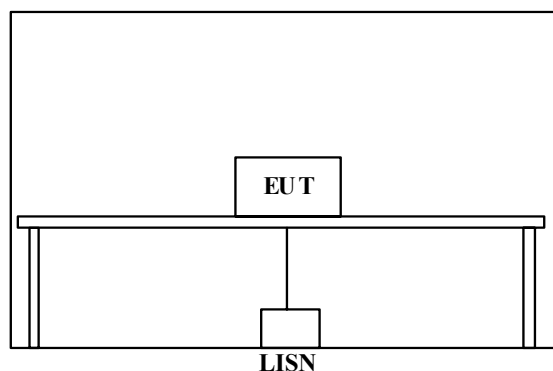
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AV Input 1 + Rec. mode (1 Vp-p input / 5 Vp-p input)**Shielded room**

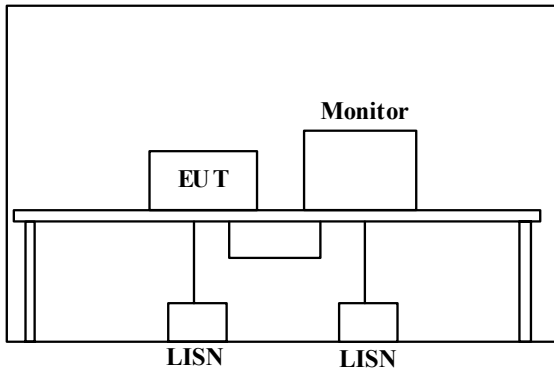
RF in: video generator connected
 RF out: 75ohm terminated with RF output cable
 Rear video in: 75 ohm terminated
 Front video in: video generator connected with video cable
 Rear video out: 75 ohm terminated with video cable
 Rear audio out: 1 k ohm terminated with audio cable
 S-Video out: 75 ohm terminated with S-Video cable
 Coaxial out: 75 ohm terminated with coaxial cable
 Front audio in: 47k ohm terminated
 Rear audio in: 47k ohm terminated
 Component out: 75 ohm terminated with component cable

AV Input 2 + Rec. mode (1 Vp-p input / 5 Vp-p input)**Shielded room**

RF in: video generator connected
 RF out: 75ohm terminated with RF output cable
 Rear video in: video generator connected with video cable
 Front video in: 75 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
 Coaxial out: 75 ohm terminated with coaxial cable
 Front audio in: 47k ohm terminated
 Rear audio in: 47k ohm terminated
 Component out: 75 ohm terminated with component cable

VCR Play + Rec. mode**Shielded room**

RF in: 75 ohm terminated with RF input cable
 RF out: 75ohm terminated with RF output cable
 Rear video in: 75 ohm terminated with video cable
 Front video in: 75 ohm terminated with video 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
 Coaxial out: 75 ohm terminated with coaxial cable
 Front audio in: 47k ohm terminated with audio cable
 Rear audio in: 47k ohm terminated audio cable
 Front S-video in: 75 ohm terminated with S-video cable
 Rear S-video in: 75 ohm terminated with S-video cable
 Component out: 75 ohm terminated with component cable

DVD Play + Rec. mode**Shielded room**

RF in: video generator connected with RF input cable
 RF out: 75ohm terminated with RF output cable
 Rear video in: 75 ohm terminated with video cable
 Front video in: 75 ohm terminated with video cable
 Rear video out: monitor connected with video cable
 Rear audio out: monitor connected with audio cable
 S-Video out: 75 ohm terminated with S-Video cable
 Coaxial out: 75 ohm terminated with coaxial cable
 Front audio in: 47k ohm terminated with audio cable
 Rear audio in: 47k ohm terminated audio cable
 Front S-video in: 75 ohm terminated with S-video cable
 Rear S-video in: 75 ohm terminated with S-video cable
 Component out: 75 ohm terminated with component cable

5.3 Test conditions

Frequency range : 0.15 MHz – 30 MHz
 EUT position : Table top
 EUT operation mode : TV Reception + Rec., AV Input 1+ Rec., AV Input 2 + Rec.,
 VCR Play + Rec., DVD Play + Rec.

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.

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

Detector Type : QP / AV
 IF Bandwidth : 10 kHz / 10 kHz

5.5 Test result**Passed**

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

Test engineer: Tsubasa Takayama

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Section 6 : Radiated emission

6.1 Operation environment

The test was carried out in No.1 semi-anechoic chamber at Yamakita EMC Lab.

Date : February 25 2005

Temperature : See data

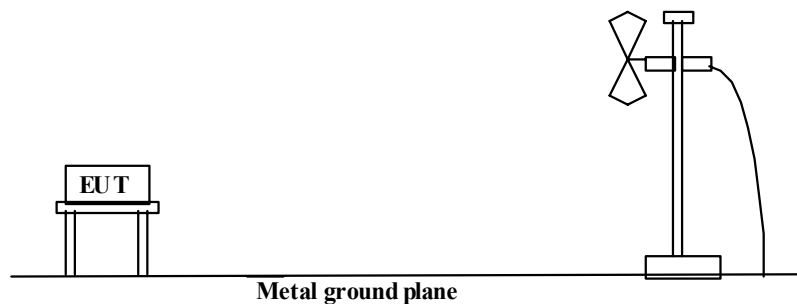
Humidity : See data

6.2 Test configuration

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

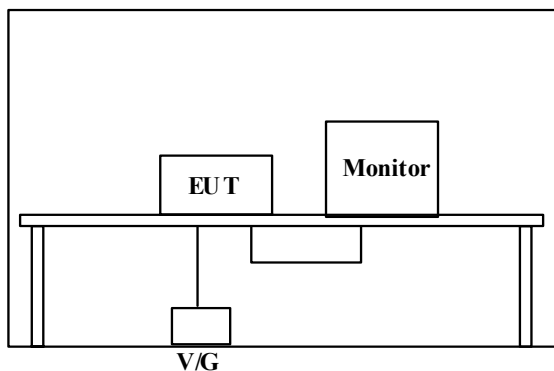
A drawing of the set up is shown in figure 2 and photographs in Appendix 1.

Figure 2. Radiated emission



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

Semi-anechoic chamber



RF in: video generator connected with RF input cable
 RF out: 75ohm terminated with RF output cable
 Rear video in: 75 ohm terminated
 Front video in: 75 ohm terminated
 Rear video out: monitor connected with video cable
 Rear audio out: 1 k ohm terminated with audio cable
 S-Video out: 75 ohm terminated with S-Video cable
 Coaxial out: 75 ohm terminated with coaxial cable
 Front audio in: 47k ohm terminated
 Rear audio in: 47k ohm terminated
 Component out: 75 ohm terminated with component cable

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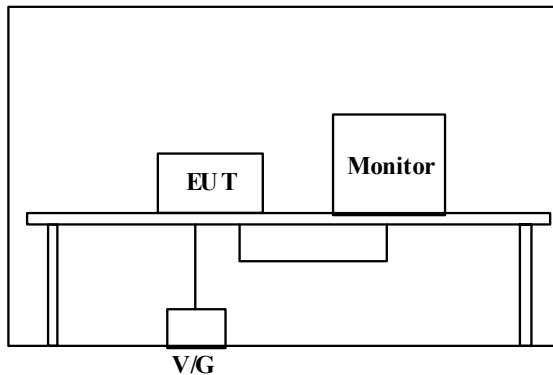
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AV Input 1 + Rec. mode (1 Vp-p input / 5 Vp-p input)

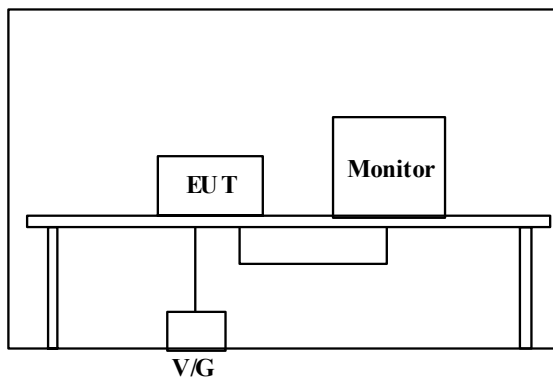
Semi-anechoic chamber



RF in: video generator connected
 RF out: 75ohm terminated with RF output cable
 Rear video in: 75 ohm terminated
 Front video in: video generator connected with video cable
 Rear video out: monitor connected with video cable
 Rear audio out: 1 k ohm terminated with audio cable
 S-Video out: 75 ohm terminated with S-Video cable
 Coaxial out: 75 ohm terminated with coaxial cable
 Front audio in: 47k ohm terminated
 Rear audio in: 47k ohm terminated
 Component out: 75 ohm terminated with component cable

AV Input 2 + Rec. mode (1 Vp-p input / 5 Vp-p input)

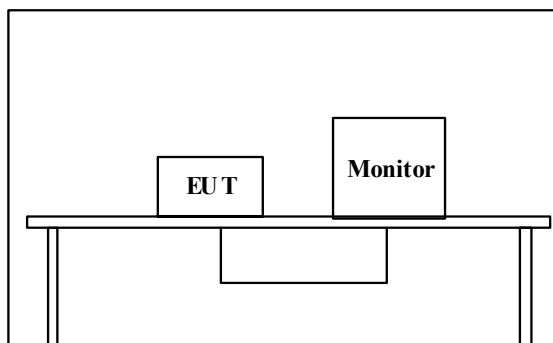
Semi-anechoic chamber



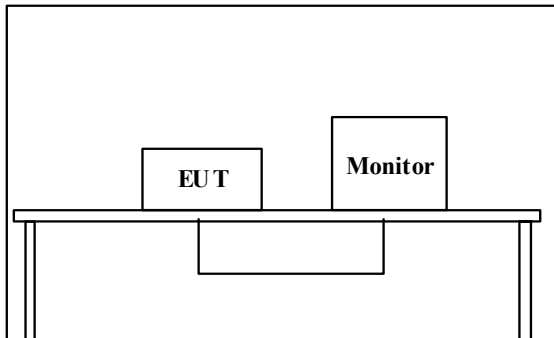
RF in: video generator connected
 RF out: 75ohm terminated with RF output cable
 Rear video in: video generator connected with video cable
 Front video in: 75 ohm terminated
 Rear video out: monitor connected with video cable
 Rear audio out: 1 k ohm terminated with audio cable
 S-Video out: 75 ohm terminated with S-Video cable
 Coaxial out: 75 ohm terminated with coaxial cable
 Front audio in: 47k ohm terminated
 Rear audio in: 47k ohm terminated
 Component out: 75 ohm terminated with component cable

VCR Play + Rec. mode

Semi-anechoic chamber



RF in: 75 ohm terminated with RF input cable
 RF out: 75ohm terminated with RF output cable
 Rear video in: 75 ohm terminated with video cable
 Front video in: 75 ohm terminated with video cable
 Rear video out: monitor connected with video cable
 Rear audio out: 1 k ohm terminated with audio cable
 S-Video out: 75 ohm terminated with S-Video cable
 Coaxial out: 75 ohm terminated with coaxial cable
 Front audio in: 47k ohm terminated with audio cable
 Rear audio in: 47k ohm terminated audio cable
 Front S-video in: 75 ohm terminated with S-video cable
 Rear S-video in: 75 ohm terminated with S-video cable
 Component out: 75 ohm terminated with component cable

DVD Play + Rec. mode**Semi-anechoic chamber**

RF in: video generator connected with RF input cable
 RF out: 75ohm terminated with RF output cable
 Rear video in: 75 ohm terminated with video cable
 Front video in: 75 ohm terminated with video cable
 Rear video out: monitor connected with video cable
 Rear audio out: 1k ohm terminated with audio cable
 S-Video out: 75 ohm terminated with S-Video cable
 Coaxial out: 75 ohm terminated with coaxial cable
 Front audio in: 47k ohm terminated with audio cable
 Rear audio in: 47k ohm terminated audio cable
 Front S-video in: 75 ohm terminated with S-video cable
 Rear S-video in: 75 ohm terminated with S-video cable
 Component out: 75 ohm terminated with component cable

6.3 Test conditions

Frequency range : 30 MHz – 5000 MHz
 Test distance : 3 m
 EUT position : Table top
 EUT operation mode : TV Reception + Rec., AV Input 1+ Rec., AV Input 2 + Rec.,
 VCR Play + Rec., DVD Play + Rec.

6.4 Test procedure

The Radiated Electric Field Strength intensity has been measured on a semi-anechoic chamber 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>1000-5000MHz (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 No.7 shielded room at Yokowa EMC Lab.

Date : February 16, 2005

Temperature : See data

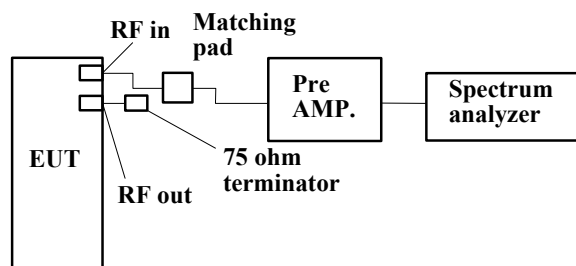
Humidity : See data

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 – 5000 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 (30-5000 MHz)

At frequency between 2000MHz and 5000 MHz, 75/50ohm conversion loss of impedance is used in speculation.

7.5 Test result

Passed

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

Test engineer: Tsubasa Takayama

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Section 8 : RF output level / spurious emission

8.1 Operation environment

The test was carried out in No.7 shielded room at Yokowa EMC Lab.

Date : February 27 and 28, 2005

Temperature : See data

Humidity : See data

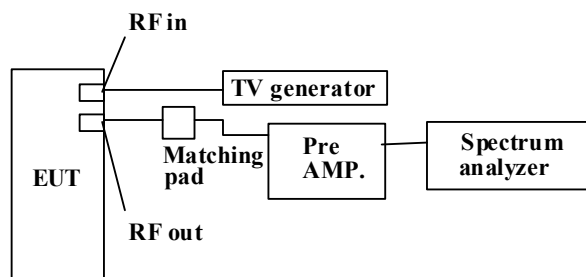
8.2 Test configuration

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

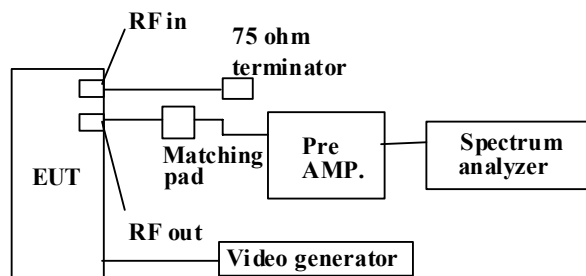
A drawing of the set up is shown in figure 4 and photographs in Appendix 1.

Figure 4. RF output level

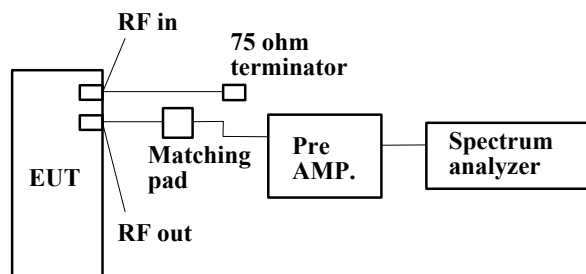
TV Reception + Rec. mode



AV Input 1 + Rec. / AV Input + 2 mode (1 Vp-p input / 5 Vp-p input)



VCR Play + Rec. mode and DVD Play + Rec. mode



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Facsimile: +81 596 39 0232

8.3 Test conditions

EUT position : Table top
EUT operation mode : TV Reception + Rec., AV Input 1+ Rec., AV Input 2 + Rec.,
VCR Play + Rec., DVD Play + Rec.

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

Section 9 : Antenna transfer switch

9.1 Operation environment

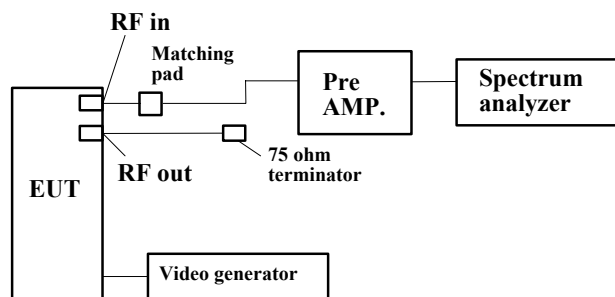
The test was carried out in No.7 shielded room at Yokowa EMC Lab.

Date : February 28, 2005
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 1 + Rec., AV Input 2 + Rec., VCR Play + Rec., DVD Play + Rec.

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

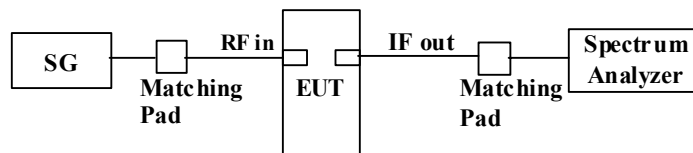
The test was carried out in No.7 shielded room at Yokowa EMC Lab.

Date : February 18, 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 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

Section 11 : Noise figure

11.1 Operating environment

The test was carried out in No.7 shielded room at Yokowa EMC Lab.

Date : February 27, 2005

Temperature : See data

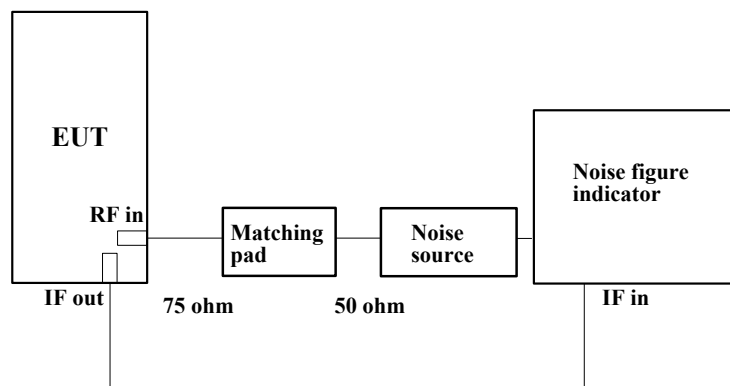
Humidity : See data

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. Measurement has been performed for VHF,UHF, Mid-band and Super-band receiver range.

11.5 Test result

Passed

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

Test engineer: Tsubasa Takayama

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Facsimile: +81 596 39 0232

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 - 50 :	Conducted emission
Page 51 - 97 :	Radiated emission
Page 98 - 99 :	Antenna terminal voltage
Page 100 - 120 :	RF output level / spurious emission
Page 121 - 132 :	Antenna transfer switch
Page 133 :	Picture sensitivity
Page 134 :	Noise figure

Appendix 3 : Test instruments

Page 135 :	Test instruments
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Conducted emission



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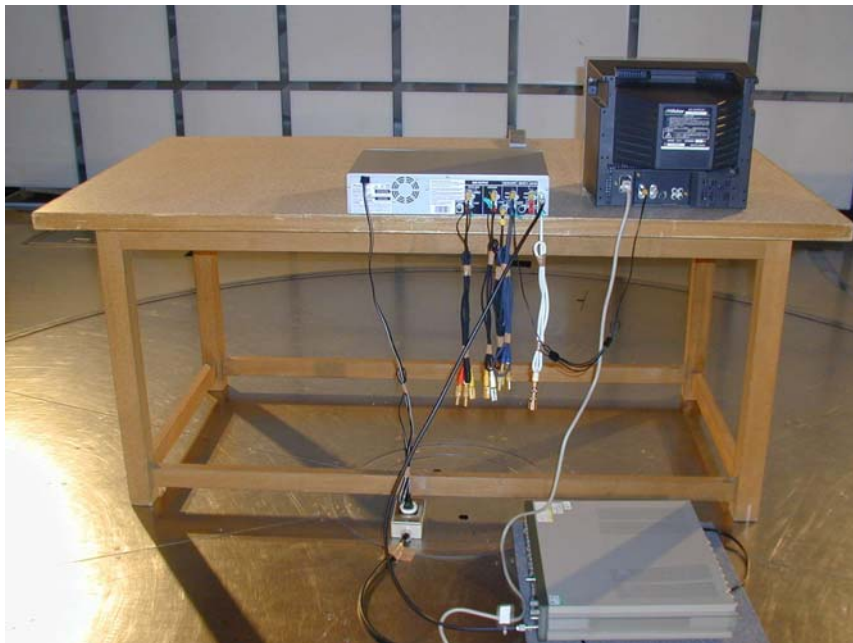
Yokowa EMC Lab.

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

Telephone: +81 596 39 1485

Facsimile: +81 596 39 0232

Radiated emission



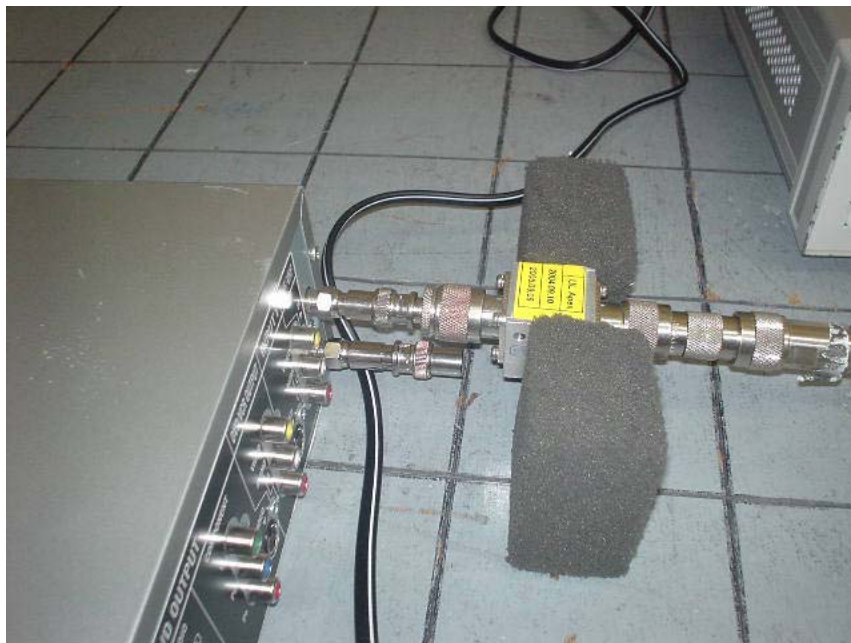
UL Apex Co., Ltd.
Yokowa EMC Lab.

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

Telephone: +81 596 39 1485

Facsimile: +81 596 39 0232

Antenna terminal voltage



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Yokowa EMC Lab.

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Telephone: +81 596 39 1485

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RF output level / spurious emission



UL Apex Co., Ltd.

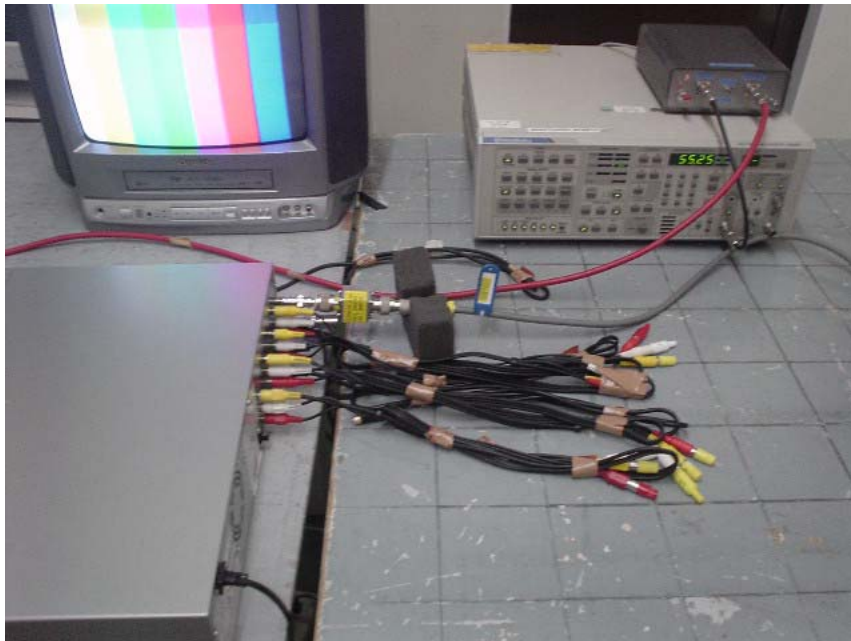
Yokowa EMC Lab.

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Antenna transfer switch



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Picture sensitivity



UL Apex Co., Ltd.

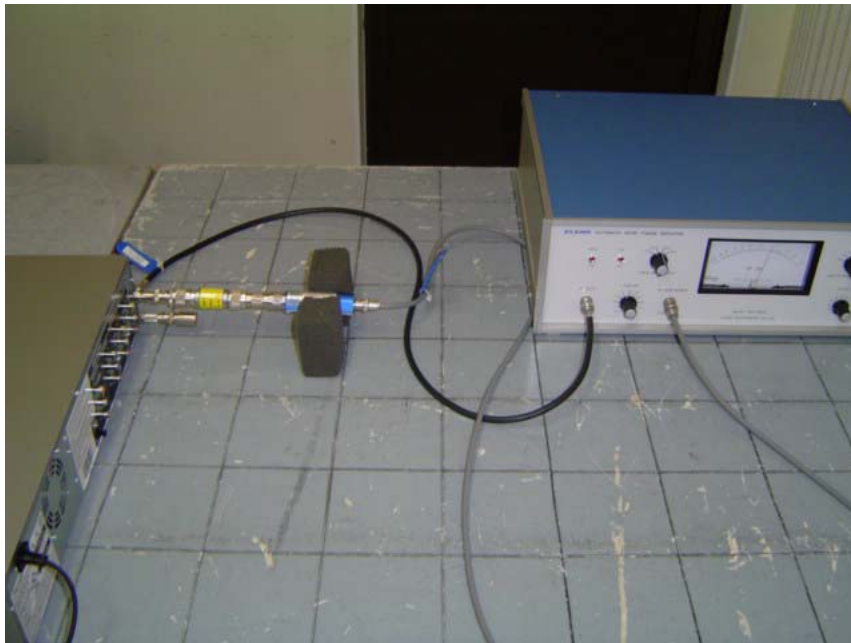
Yokowa EMC Lab.

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Telephone: +81 596 39 1485

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Noise figure



UL Apex Co., Ltd.

Yokowa EMC Lab.

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DATA OF CONDUCTION TEST

UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : TV RECEPTION + REC
Remarks : 0dBmV
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama

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 μV]	AV [dB]
1.	0.1500	38.9	-	39.6	-	0.0	0.0	0.0	39.6	-	66.0	56.0	26.4	-
2.	0.2163	39.3	-	38.8	-	0.1	0.0	0.0	39.4	-	63.0	53.0	23.6	-
3.	0.6411	37.3	-	37.2	-	0.1	0.1	0.0	37.5	-	56.0	46.0	18.5	-
4.	2.1546	35.2	-	35.6	-	0.1	0.2	0.0	35.9	-	56.0	46.0	20.1	-
5.	7.7879	27.1	-	26.1	-	0.4	0.2	0.0	27.7	-	60.0	50.0	32.3	-
6.	18.0687	29.7	-	29.2	-	0.8	0.4	0.0	30.9	-	60.0	50.0	29.1	-

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

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

DATA OF CONDUCTION TEST

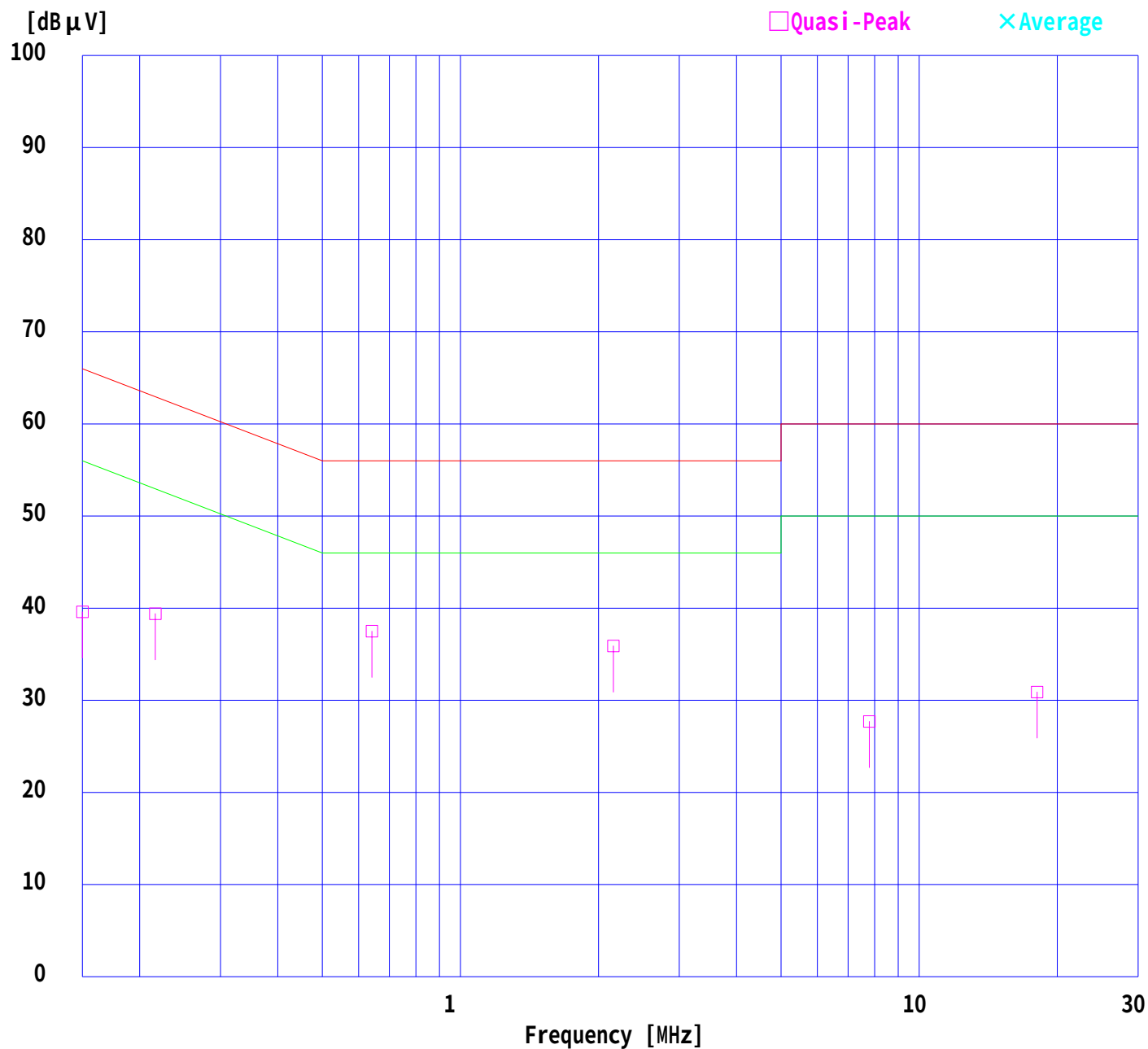
UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : TV RECEPTION + REC
Remarks : 0dBmV
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama



DATA OF CONDUCTION TEST CHART

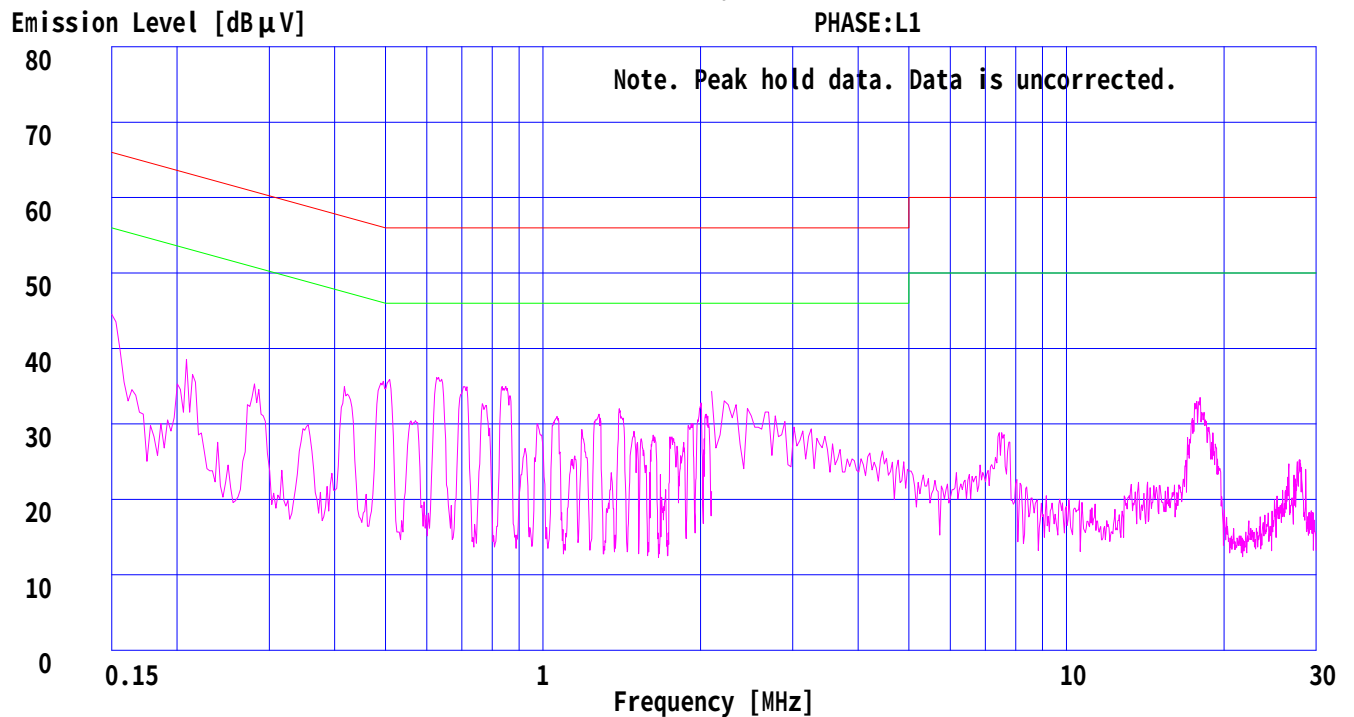
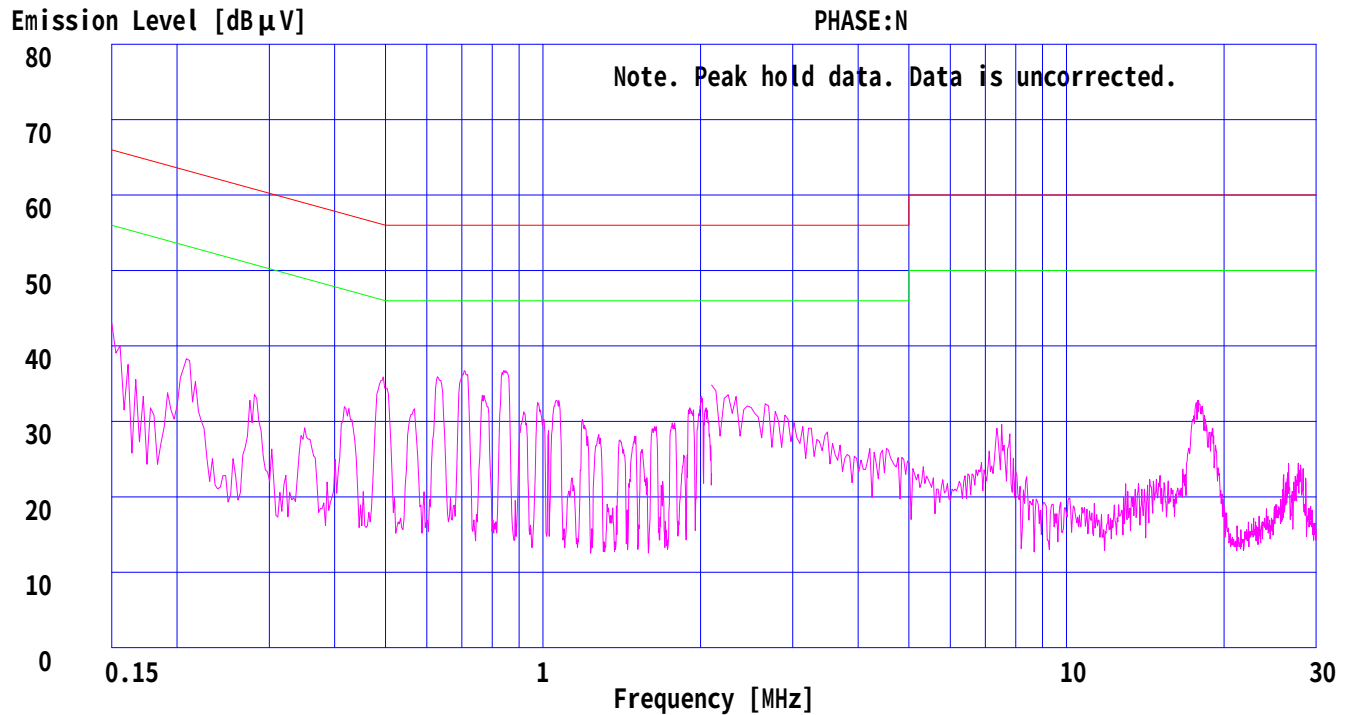
UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : TV RECEPTION + REC
Remarks : 0dBmV
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation 1 : FCC Part15B CLASS B(2003)
Regulation 2 : None

Engineer : Tsubasa Takayama



DATA OF CONDUCTION TEST

UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : TV RECEPTION + REC
Remarks : 25dBmV
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama

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 μV]	AV [dB]
1.	0.1500	42.5	-	40.2	-	0.0	0.0	0.0	42.5	-	66.0	56.0	23.5	-
2.	0.2162	39.0	-	39.1	-	0.1	0.0	0.0	39.2	-	63.0	53.0	23.8	-
3.	0.6449	37.4	-	37.1	-	0.1	0.1	0.0	37.6	-	56.0	46.0	18.4	-
4.	2.1502	35.4	-	36.0	-	0.1	0.2	0.0	36.3	-	56.0	46.0	19.7	-
5.	7.5201	24.2	-	24.5	-	0.3	0.2	0.0	25.0	-	60.0	50.0	35.0	-
6.	17.9499	30.3	-	29.7	-	0.8	0.4	0.0	31.5	-	60.0	50.0	28.5	-

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

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

DATA OF CONDUCTION TEST

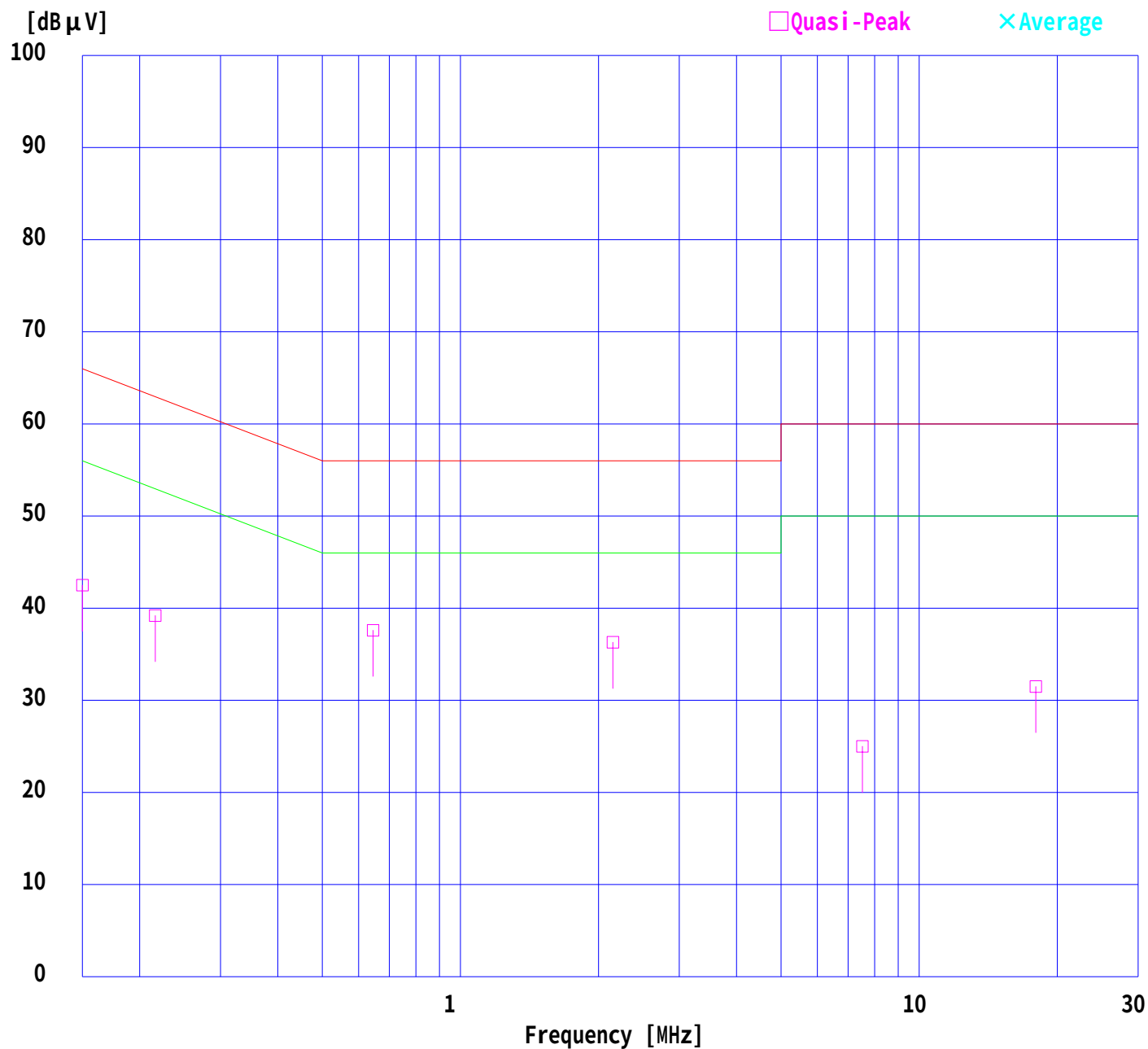
UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : TV RECEPTION + REC
Remarks : 25dBmV
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama



DATA OF CONDUCTION TEST CHART

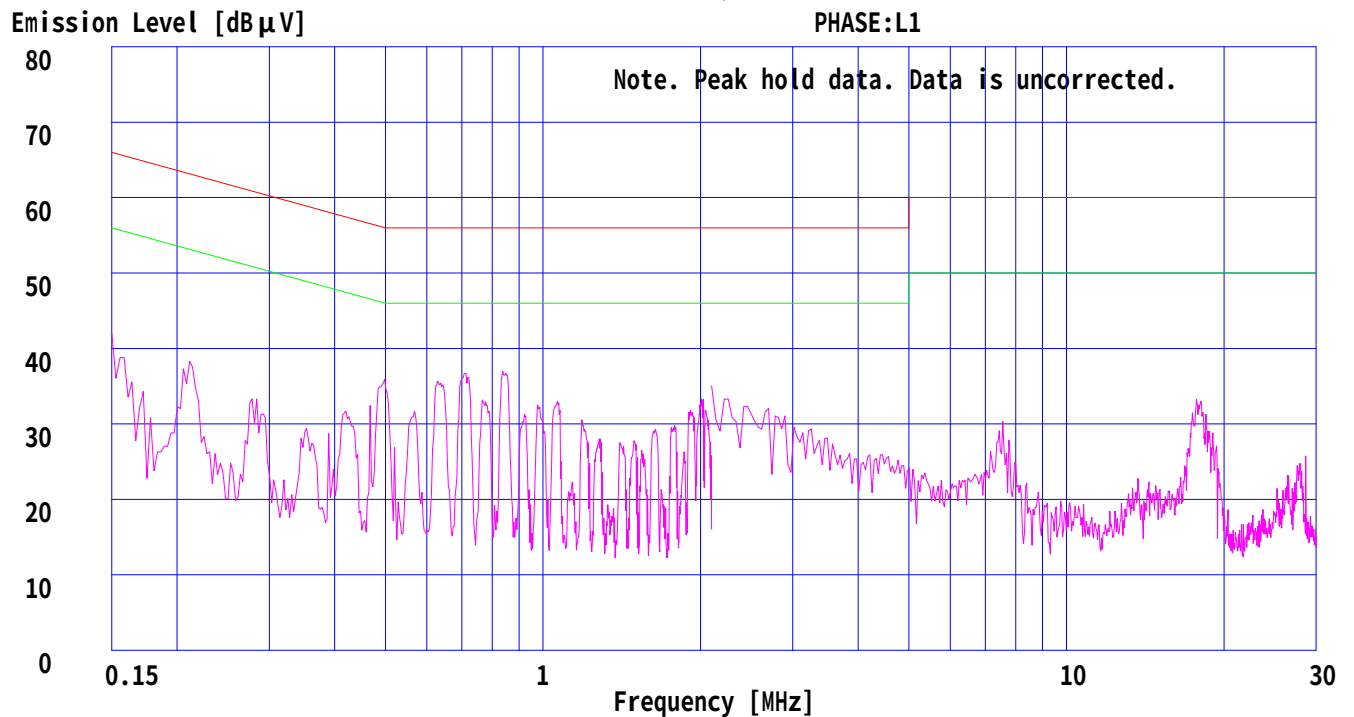
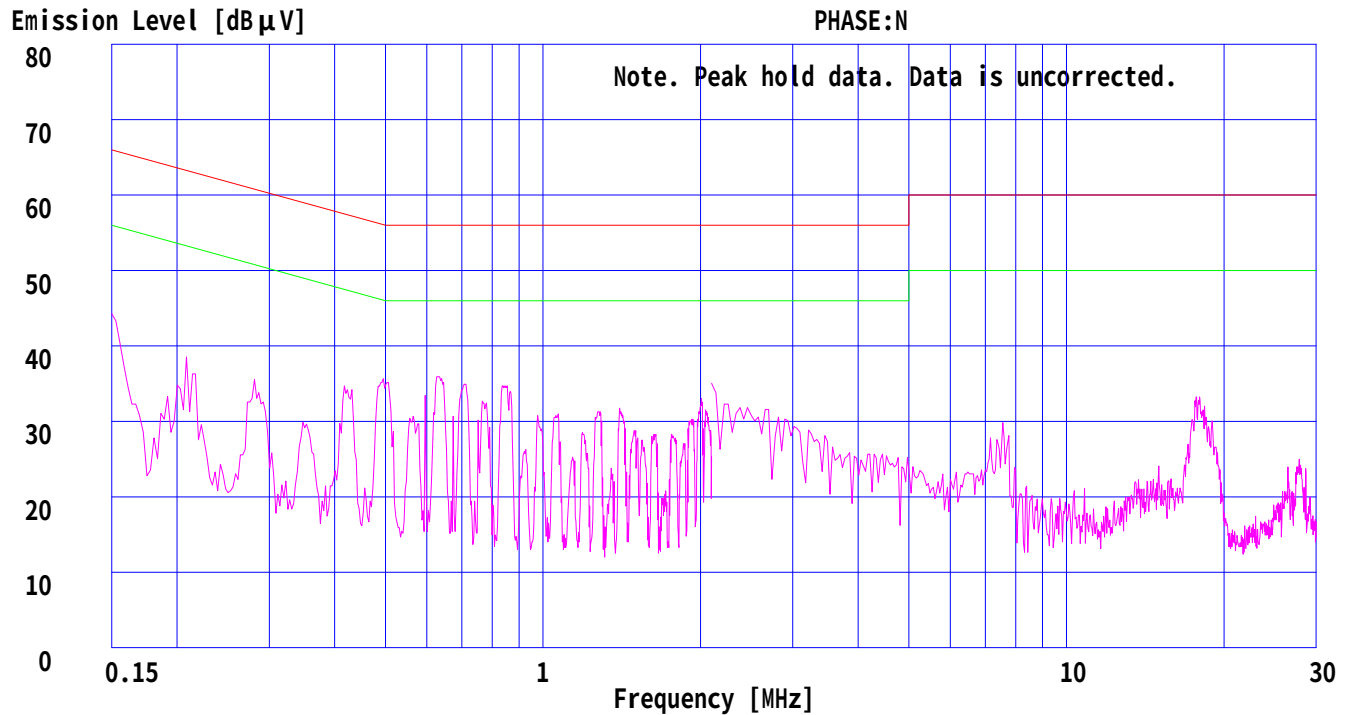
UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : TV RECEPTION + REC
Remarks : 25dBmV
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation 1 : FCC Part15B CLASS B(2003)
Regulation 2 : None

Engineer : Tsubasa Takayama



DATA OF CONDUCTION TEST

UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : AV INPUT 1 + REC
Remarks : 1Vp-p
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama

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 μ V]	AV [dB]
1.	0.1500	40.9	-	42.9	-	0.0	0.0	0.0	42.9	-	66.0	56.0	23.1	-
2.	0.2131	39.8	-	40.0	-	0.1	0.0	0.0	40.1	-	63.1	53.1	23.0	-
3.	0.6412	37.8	-	37.0	-	0.1	0.1	0.0	38.0	-	56.0	46.0	18.0	-
4.	2.1592	35.6	-	35.9	-	0.1	0.2	0.0	36.2	-	56.0	46.0	19.8	-
5.	6.9893	37.6	-	37.4	-	0.3	0.3	0.0	38.2	-	60.0	50.0	21.8	-
6.	17.1651	25.7	-	25.3	-	0.8	0.4	0.0	26.9	-	60.0	50.0	33.1	-

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

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

DATA OF CONDUCTION TEST

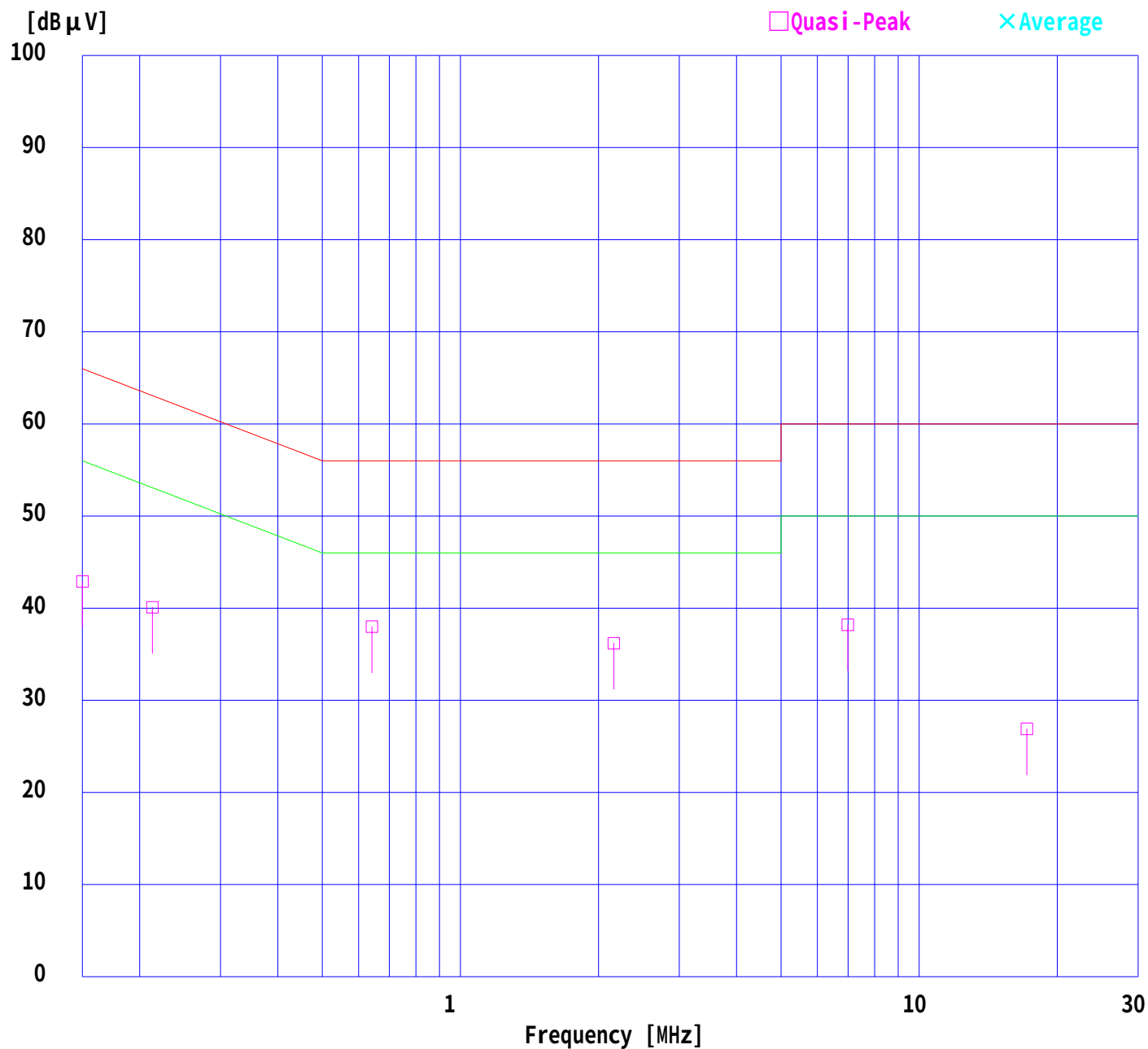
UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : AV INPUT 1 + REC
Remarks : 1Vp-p
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama



DATA OF CONDUCTION TEST CHART

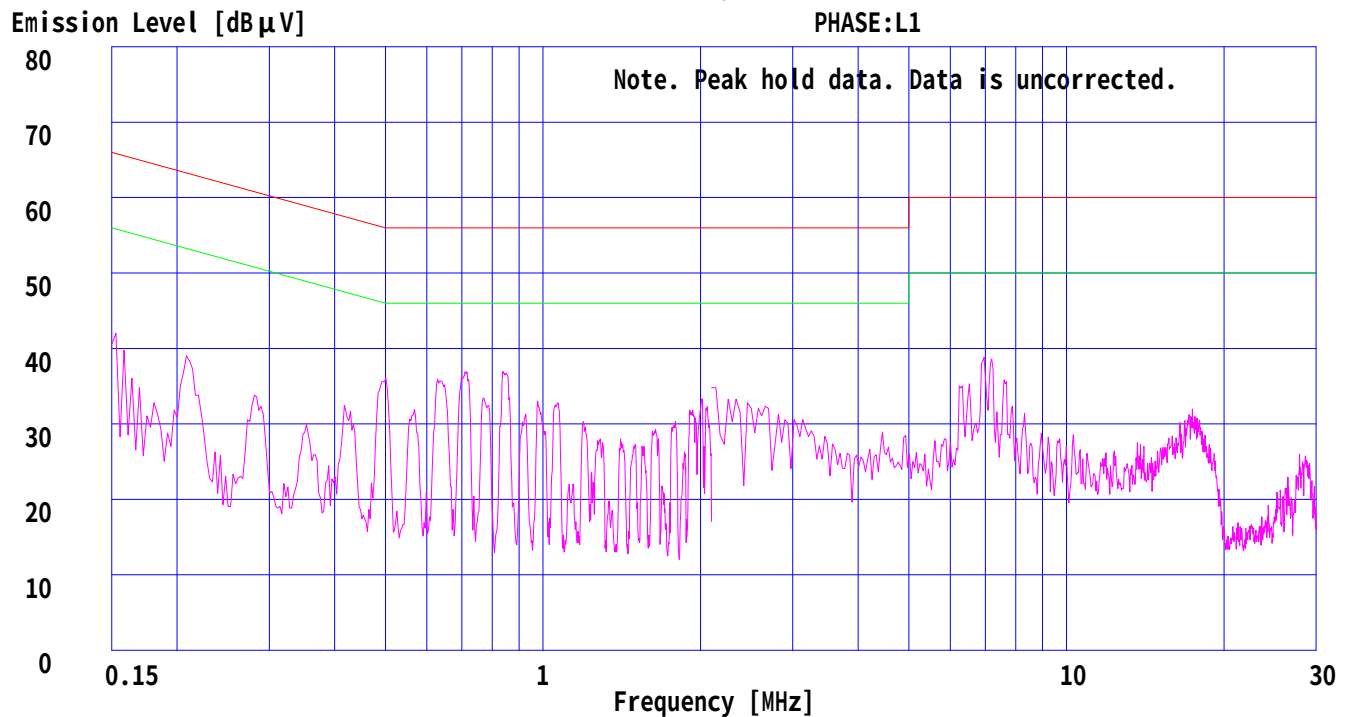
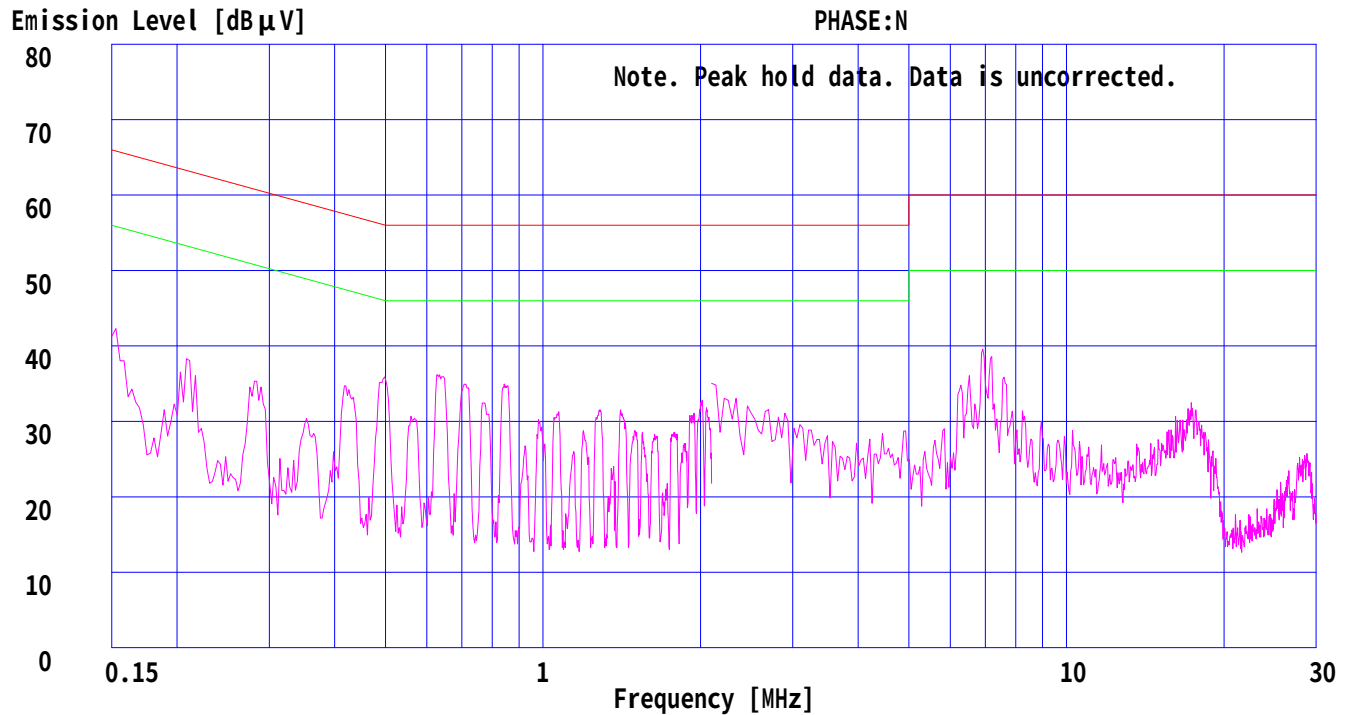
UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : AV INPUT 1 + REC
Remarks : 1Vp-p
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation 1 : FCC Part15B CLASS B(2003)
Regulation 2 : None

Engineer : Tsubasa Takayama



DATA OF CONDUCTION TEST

UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : AV INPUT 1 + REC
Remarks : 5Vp-p
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama

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 μV]	AV [dB]
1.	0.1500	41.5	-	42.6	-	0.0	0.0	0.0	42.6	-	66.0	56.0	23.4	-
2.	0.2130	40.0	-	40.0	-	0.1	0.0	0.0	40.1	-	63.1	53.1	23.0	-
3.	0.6396	37.6	-	37.3	-	0.1	0.1	0.0	37.8	-	56.0	46.0	18.2	-
4.	2.1635	35.1	-	35.9	-	0.1	0.2	0.0	36.2	-	56.0	46.0	19.8	-
5.	6.9696	38.0	-	38.0	-	0.3	0.3	0.0	38.6	-	60.0	50.0	21.4	-
6.	17.2837	26.9	-	26.6	-	0.8	0.4	0.0	28.1	-	60.0	50.0	31.9	-

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

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

DATA OF CONDUCTION TEST

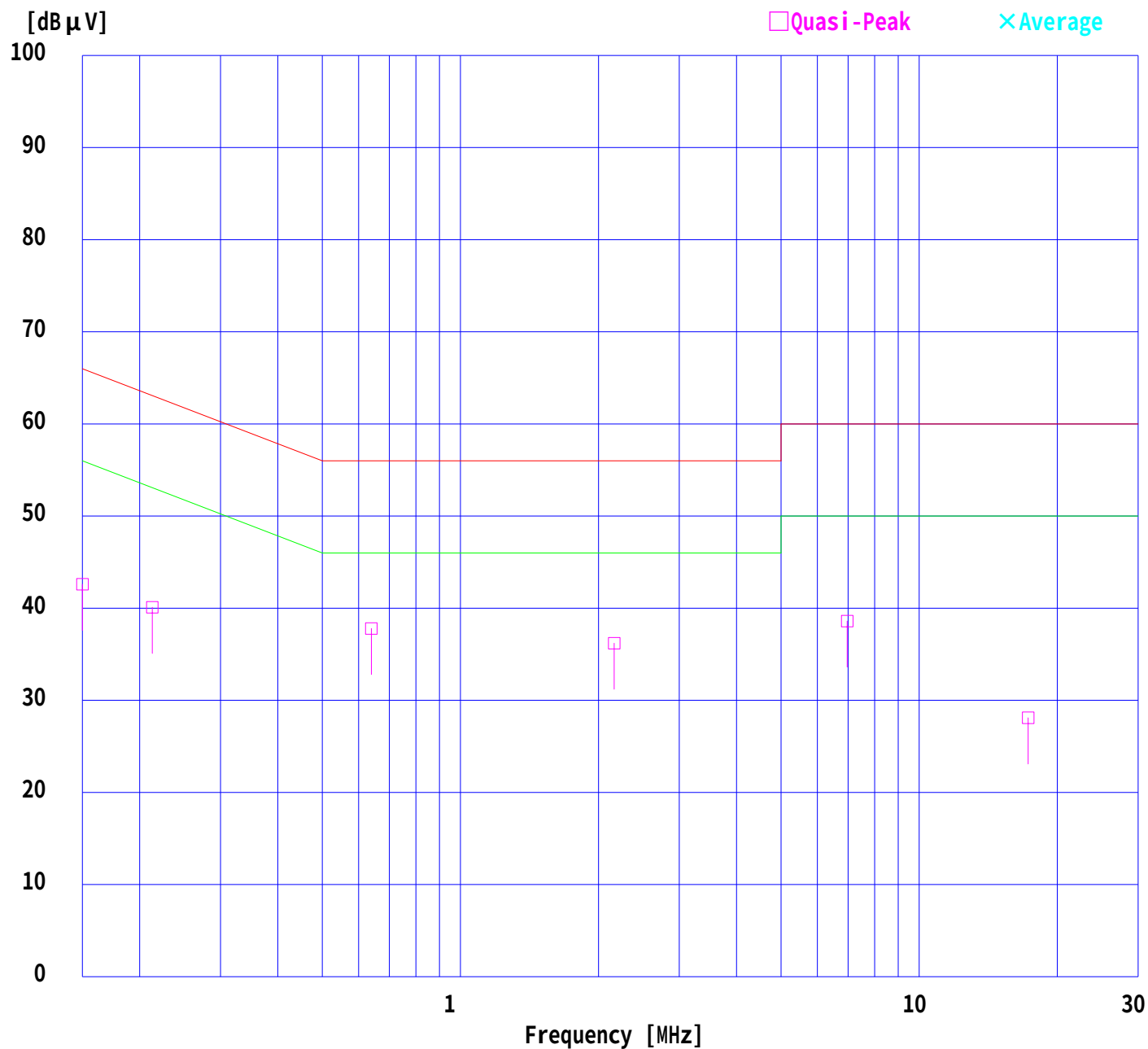
UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : AV INPUT 1 + REC
Remarks : 5Vp-p
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama



DATA OF CONDUCTION TEST CHART

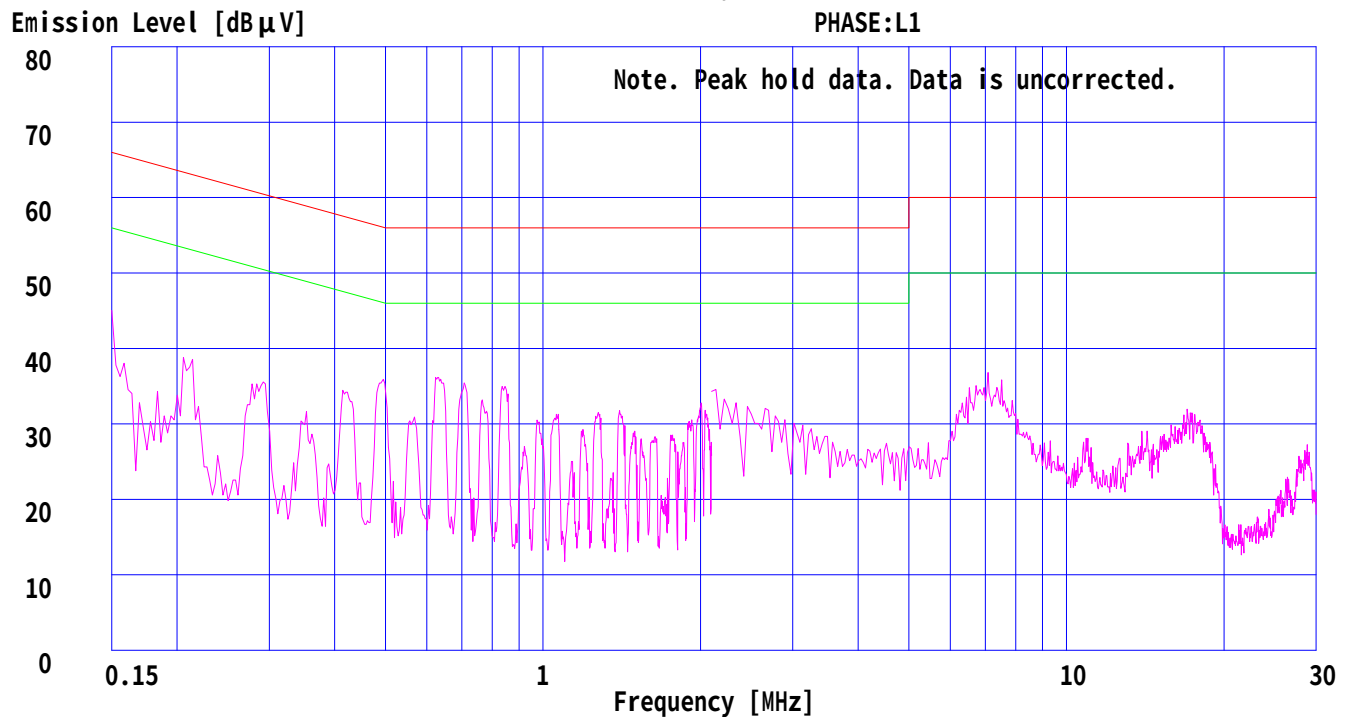
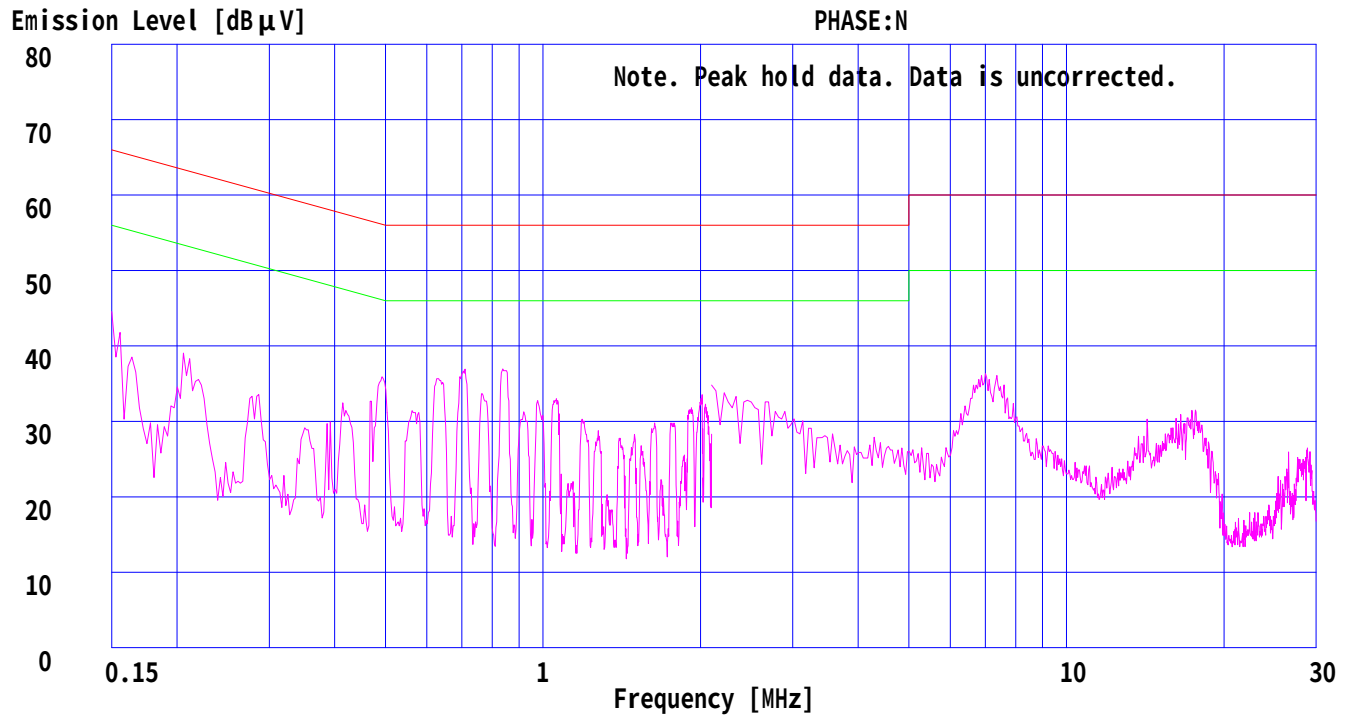
UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : AV INPUT 1 + REC
Remarks : 5Vp-p
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation 1 : FCC Part15B CLASS B(2003)
Regulation 2 : None

Engineer : Tsubasa Takayama



DATA OF CONDUCTION TEST

UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : AV INPUT 2 + REC
Remarks : 1Vp-p
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama

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 μV]	AV [dB]
1.	0.1500	42.6	-	41.7	-	0.0	0.0	0.0	42.6	-	66.0	56.0	23.4	-
2.	0.2115	39.2	-	38.1	-	0.1	0.0	0.0	39.3	-	63.1	53.1	23.8	-
3.	0.6377	37.8	-	36.6	-	0.1	0.1	0.0	38.0	-	56.0	46.0	18.0	-
4.	2.1489	35.4	-	35.7	-	0.1	0.2	0.0	36.0	-	56.0	46.0	20.0	-
5.	6.9223	37.0	-	37.1	-	0.3	0.3	0.0	37.7	-	60.0	50.0	22.3	-
6.	17.2210	23.9	-	24.0	-	0.8	0.4	0.0	25.2	-	60.0	50.0	34.8	-

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

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

DATA OF CONDUCTION TEST

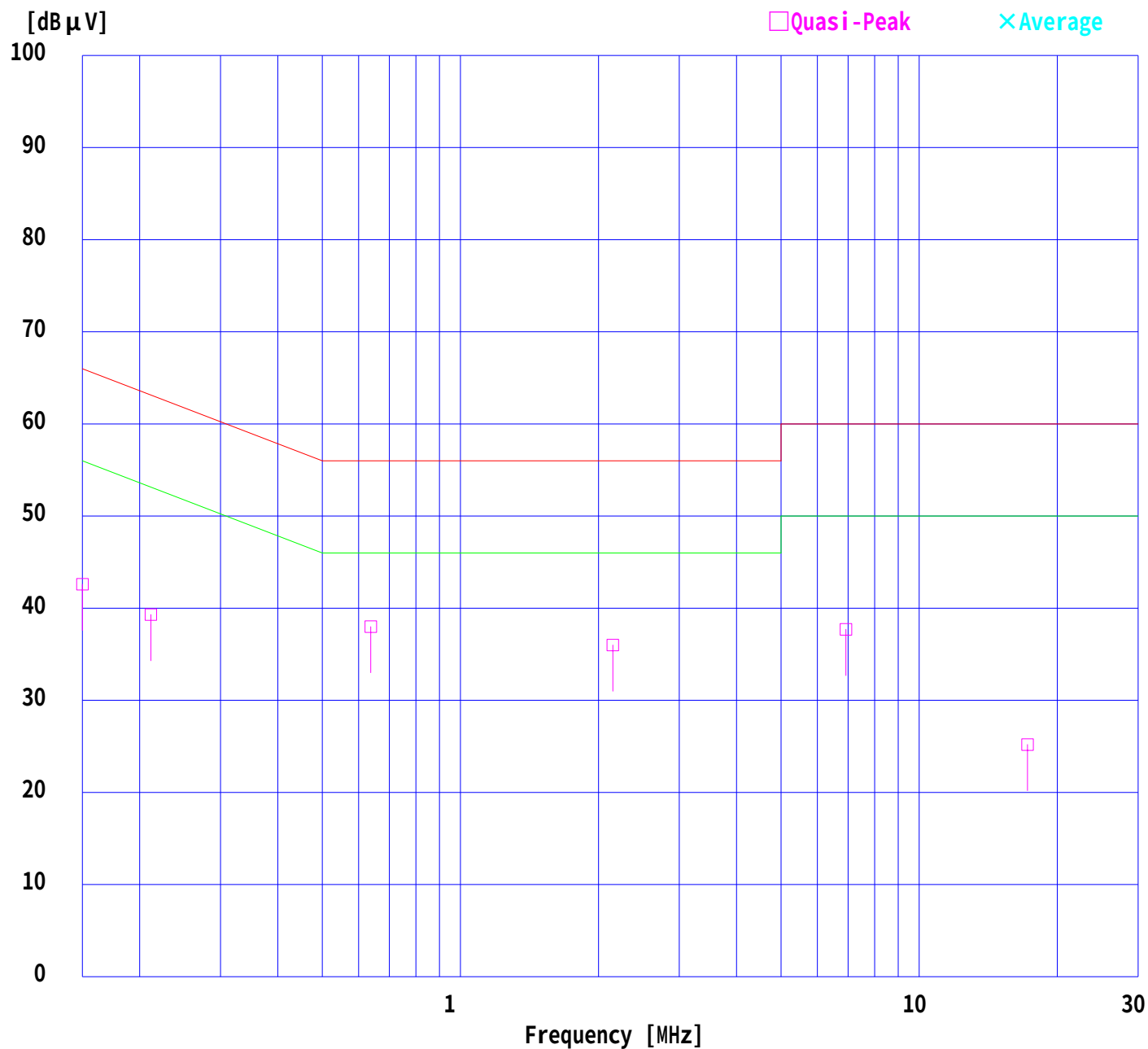
UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : AV INPUT 2 + REC
Remarks : 1Vp-p
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama



DATA OF CONDUCTION TEST CHART

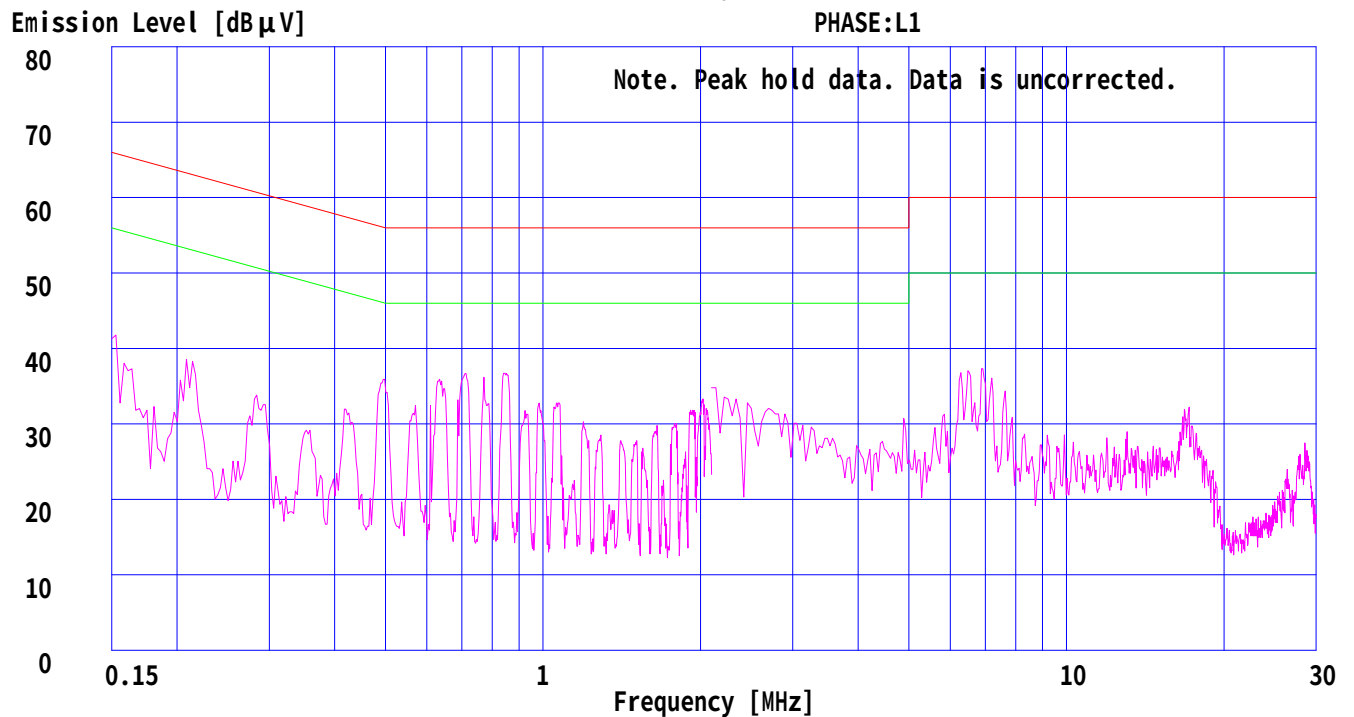
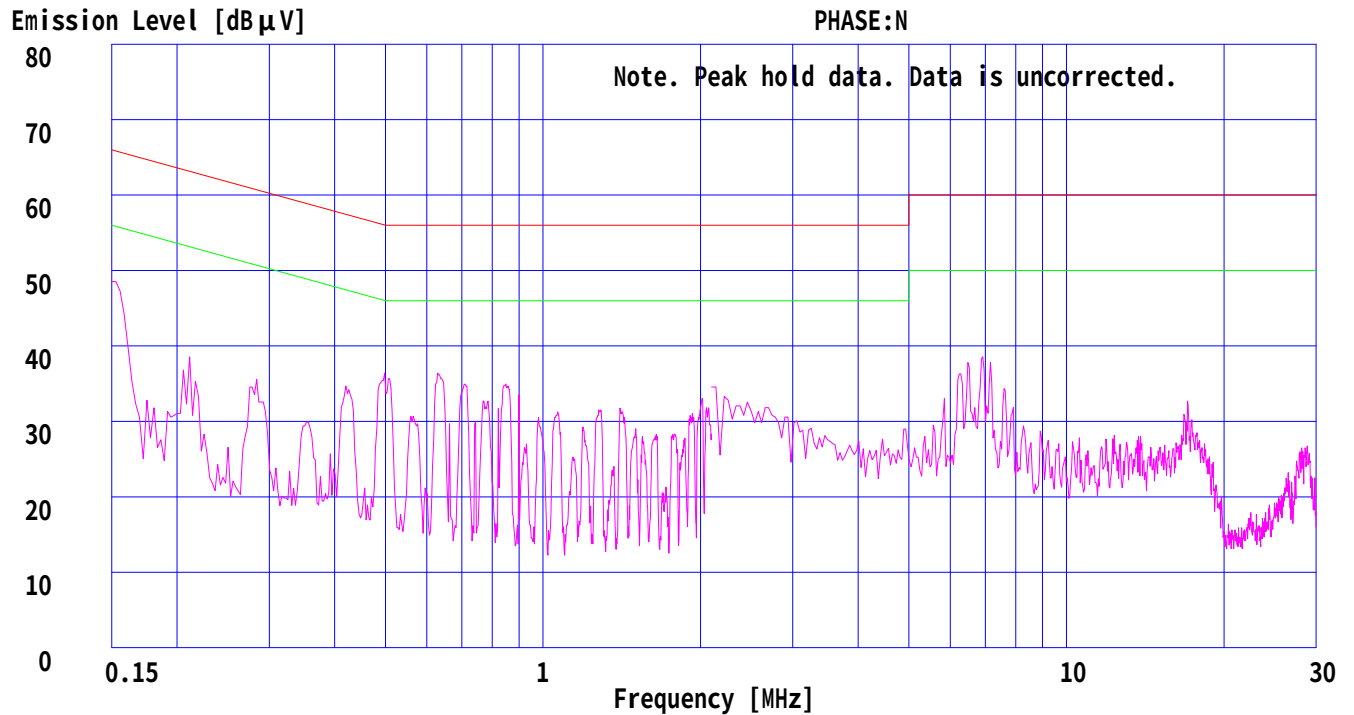
UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : AV INPUT 2 + REC
Remarks : 1Vp-p
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation 1 : FCC Part15B CLASS B(2003)
Regulation 2 : None

Engineer : Tsubasa Takayama



DATA OF CONDUCTION TEST

UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : AV INPUT 2 + REC
Remarks : 5Vp-p
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama

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 μV]	AV [dB]
1.	0.1500	41.1	-	42.8	-	0.0	0.0	0.0	42.8	-	66.0	56.0	23.2	-
2.	0.2130	39.8	-	39.9	-	0.1	0.0	0.0	40.0	-	63.1	53.1	23.1	-
3.	0.5054	36.8	-	37.1	-	0.1	0.1	0.0	37.3	-	56.0	46.0	18.7	-
4.	2.1548	35.4	-	36.0	-	0.1	0.2	0.0	36.3	-	56.0	46.0	19.7	-
5.	6.9436	37.2	-	37.0	-	0.3	0.3	0.0	37.8	-	60.0	50.0	22.2	-
6.	17.0498	27.6	-	26.3	-	0.8	0.4	0.0	28.8	-	60.0	50.0	31.2	-

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

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

DATA OF CONDUCTION TEST

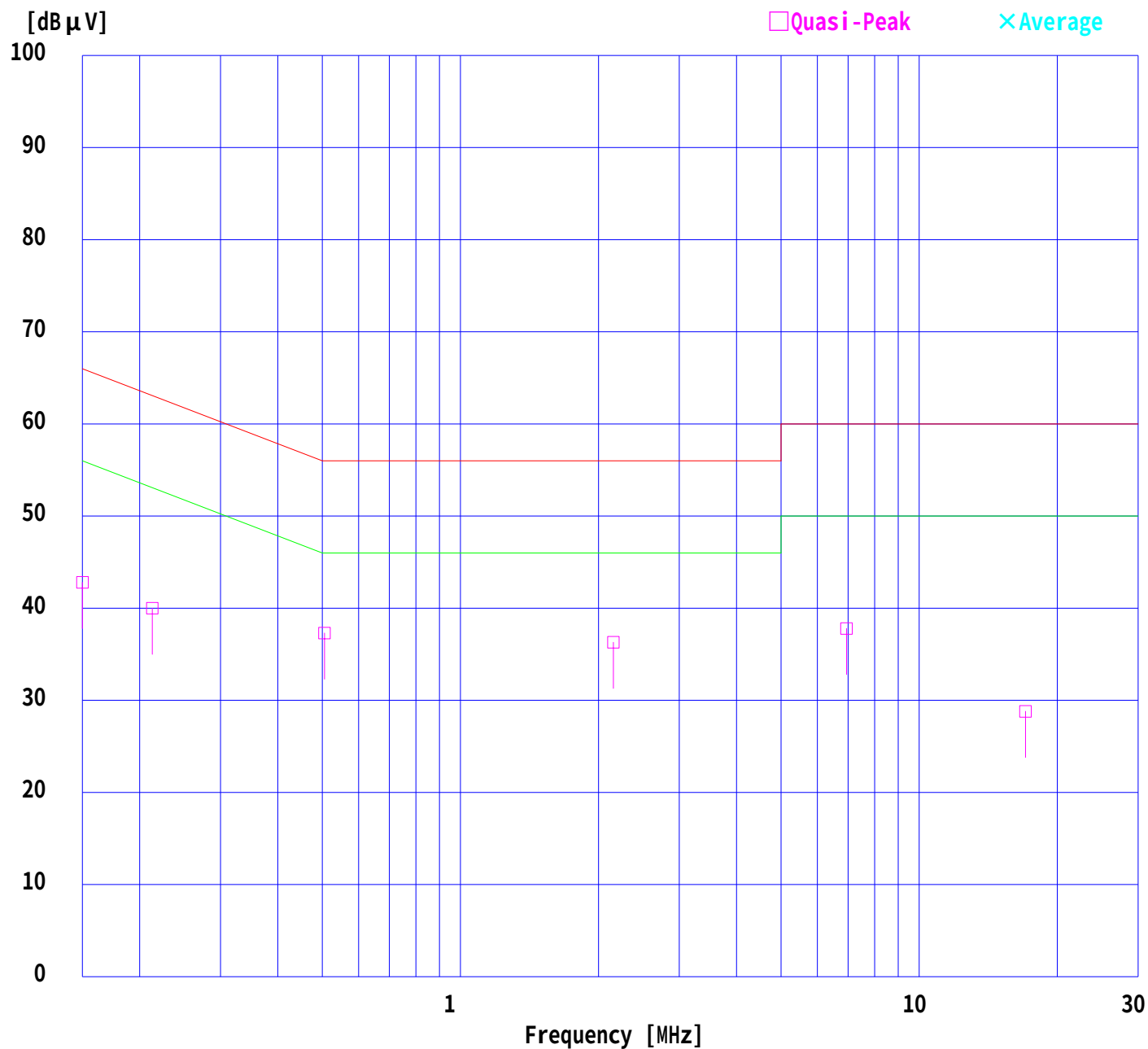
UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : AV INPUT 2 + REC
Remarks : 5Vp-p
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama

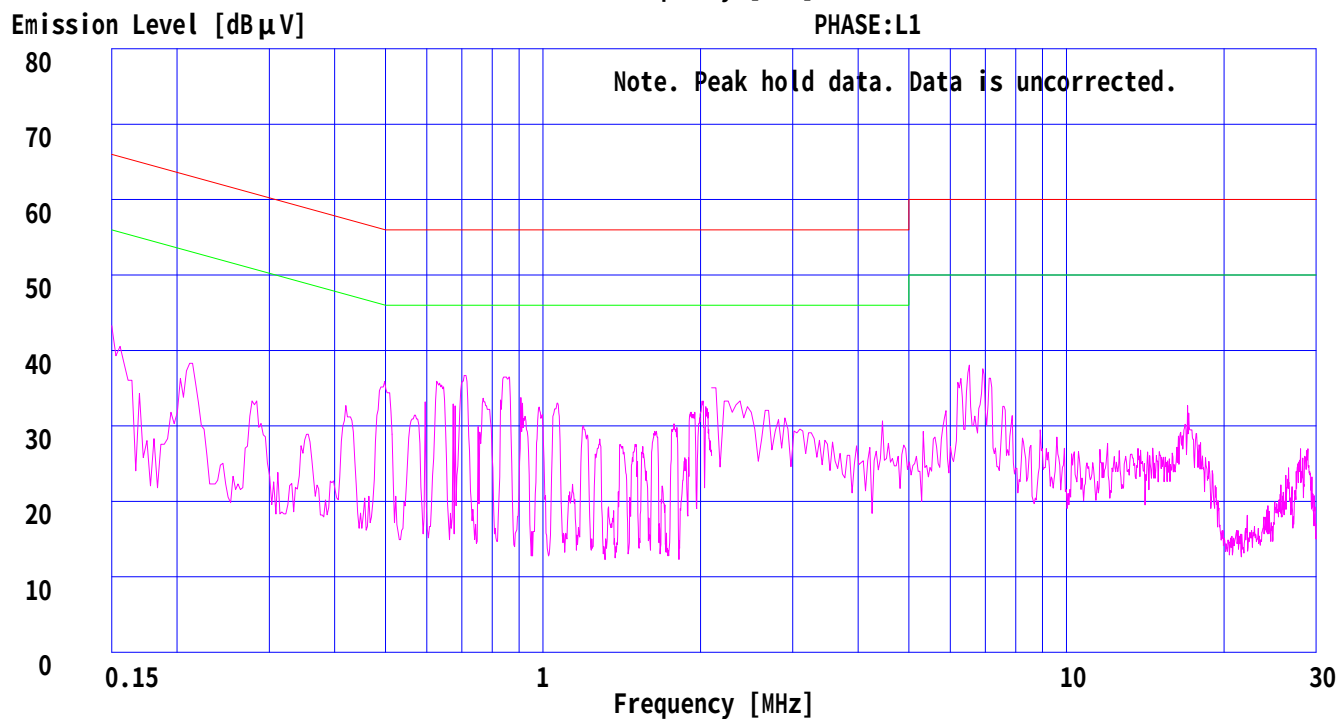
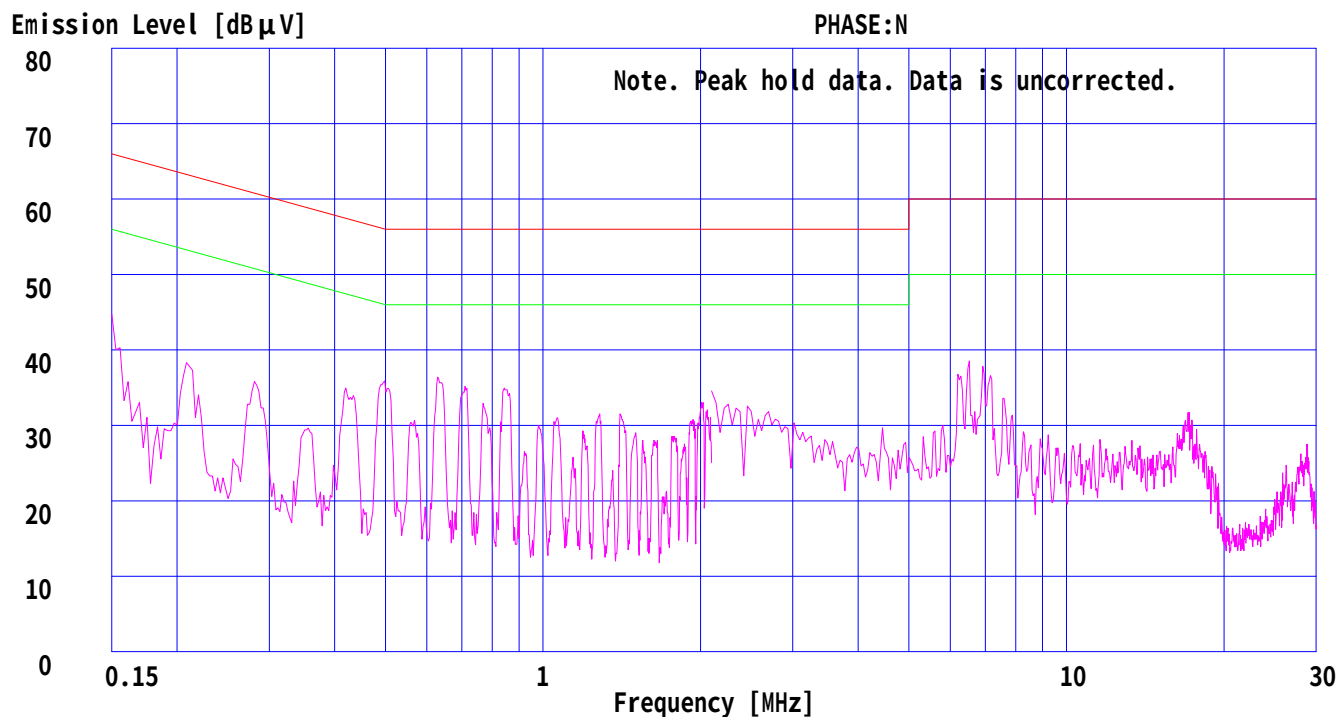


DATA OF CONDUCTION TEST CHART

UL Apex Co., Ltd.
YOKOWA No.7 SHIELD TEST ROOM
Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : AV INPUT 2 + REC
Remarks : 5Vp-p
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation 1 : FCC Part15B CLASS B(2003)
Regulation 2 : None

Engineer : Tsubasa Takayama



DATA OF CONDUCTION TEST

UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : VCR PLAYBACK + REC
Remarks :
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama

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 μV]	AV [dB]
1.	0.1500	49.3	41.3	49.2	41.1	0.0	0.0	0.0	49.3	41.3	66.0	56.0	16.7	14.7
2.	0.2192	38.7	-	39.1	-	0.1	0.0	0.0	39.2	-	62.8	52.8	23.6	-
3.	0.2940	33.7	-	36.0	-	0.1	0.0	0.0	36.1	-	60.4	50.4	24.3	-
4.	0.6554	34.0	-	35.4	-	0.1	0.1	0.0	35.6	-	56.0	46.0	20.4	-
5.	2.2157	35.8	-	35.5	-	0.1	0.2	0.0	36.1	-	56.0	46.0	19.9	-
6.	26.3105	20.8	-	21.6	-	1.0	0.5	0.0	23.1	-	60.0	50.0	36.9	-
7.	28.6371	32.0	-	32.4	-	1.0	0.5	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

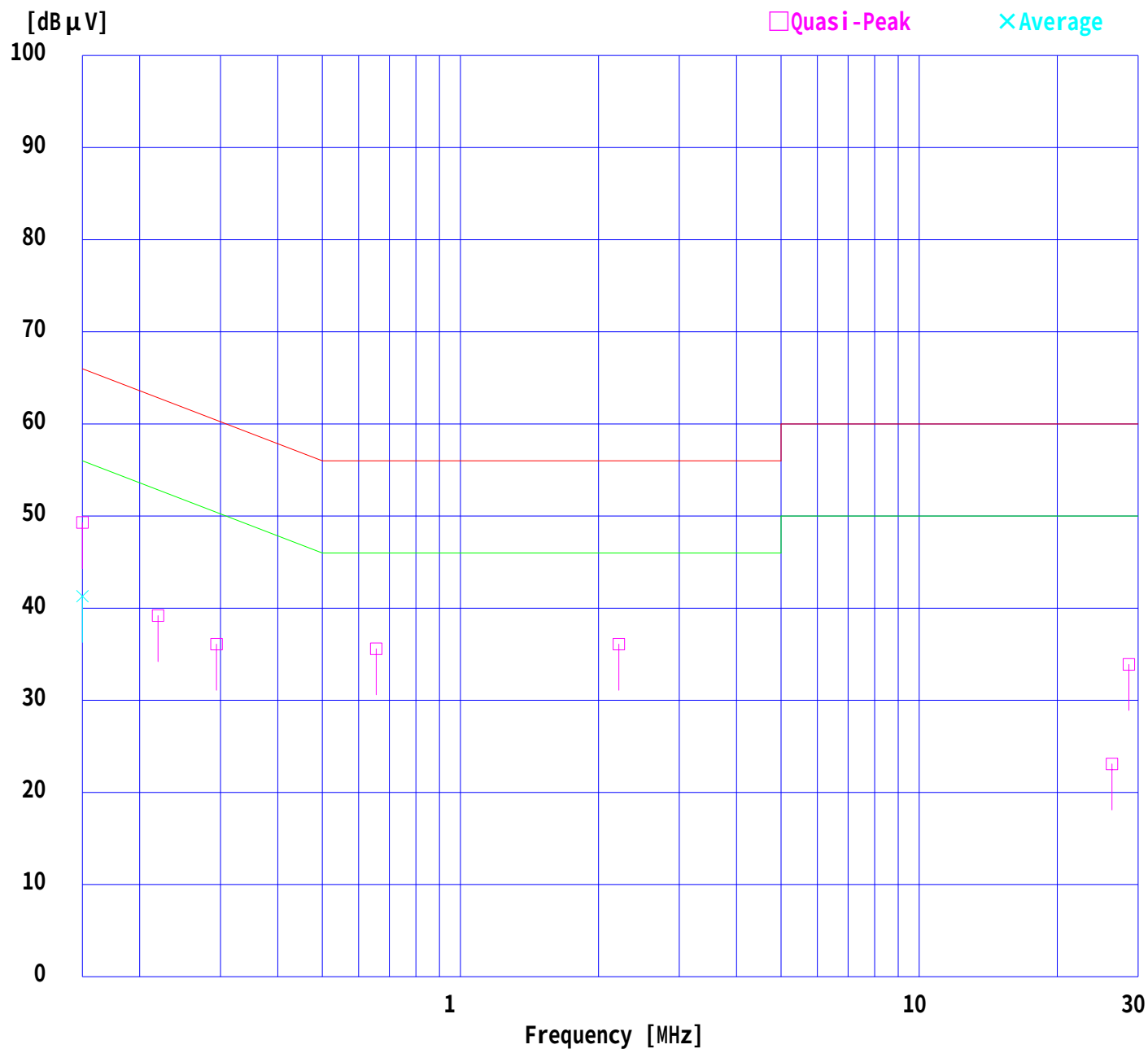
UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : VCR PLAYBACK + REC
Remarks :
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama



DATA OF CONDUCTION TEST CHART

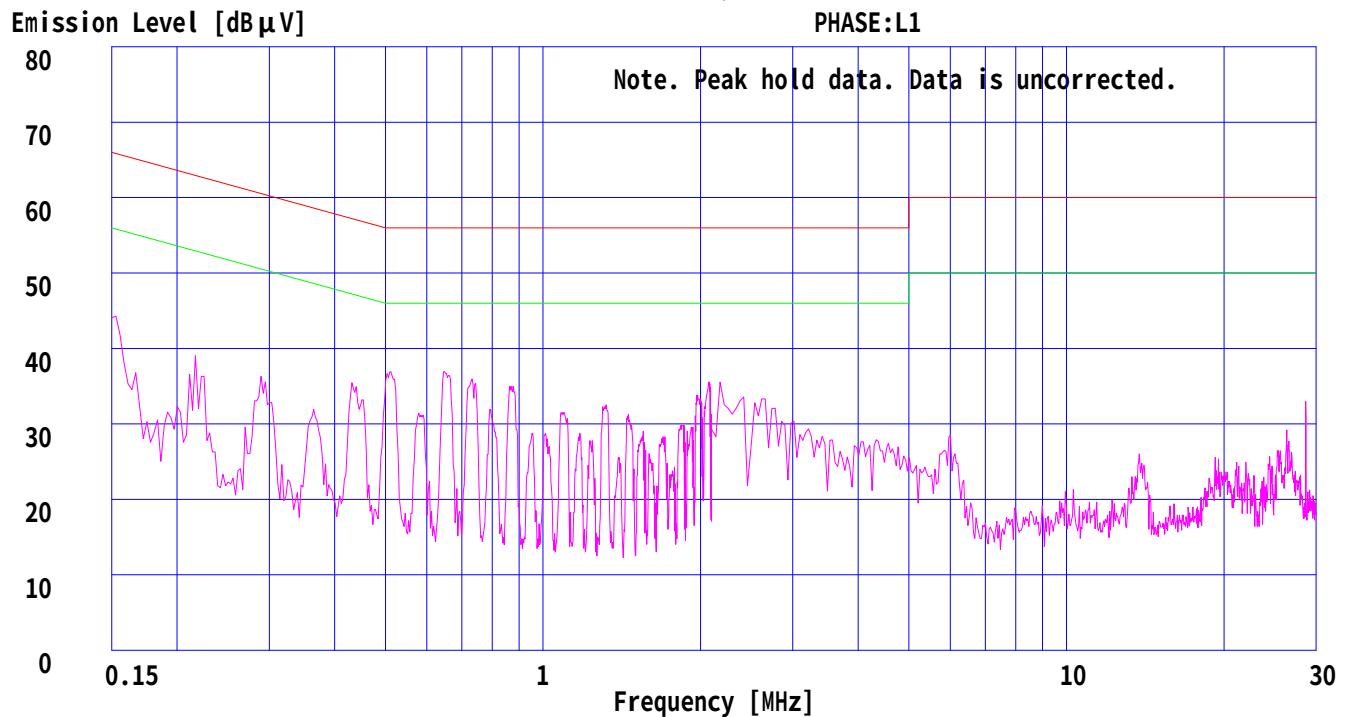
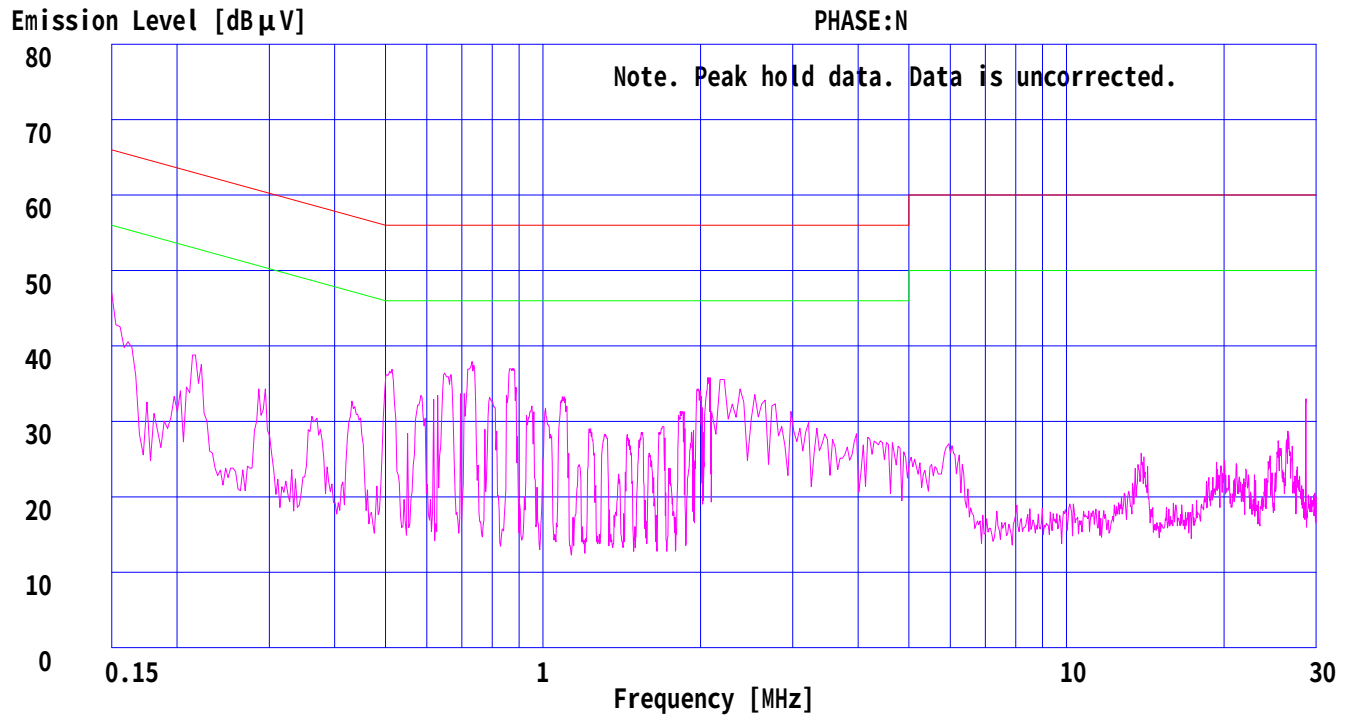
UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : VCR PLAYBACK + REC
Remarks :
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation 1 : FCC Part15B CLASS B(2003)
Regulation 2 : None

Engineer : Tsubasa Takayama



DATA OF CONDUCTION TEST

UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : DVD PLAY + REC
Remarks :
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama

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 μV]	AV [dB]
1.	0.1890	41.7	-	41.7	-	0.0	0.0	0.0	41.7	-	64.1	54.1	22.4	-
2.	0.2640	35.5	-	33.7	-	0.1	0.0	0.0	35.6	-	61.3	51.3	25.7	-
3.	0.3806	33.4	-	29.6	-	0.1	0.1	0.0	33.6	-	58.3	48.3	24.7	-
4.	0.5740	35.8	-	35.0	-	0.1	0.1	0.0	36.0	-	56.0	46.0	20.0	-
5.	2.0007	28.2	-	29.6	-	0.1	0.2	0.0	29.9	-	56.0	46.0	26.1	-
6.	25.7650	21.0	-	20.1	-	1.0	0.5	0.0	22.5	-	60.0	50.0	37.5	-
7.	28.6349	33.1	-	32.9	-	1.0	0.5	0.0	34.6	-	60.0	50.0	25.4	-

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

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

DATA OF CONDUCTION TEST

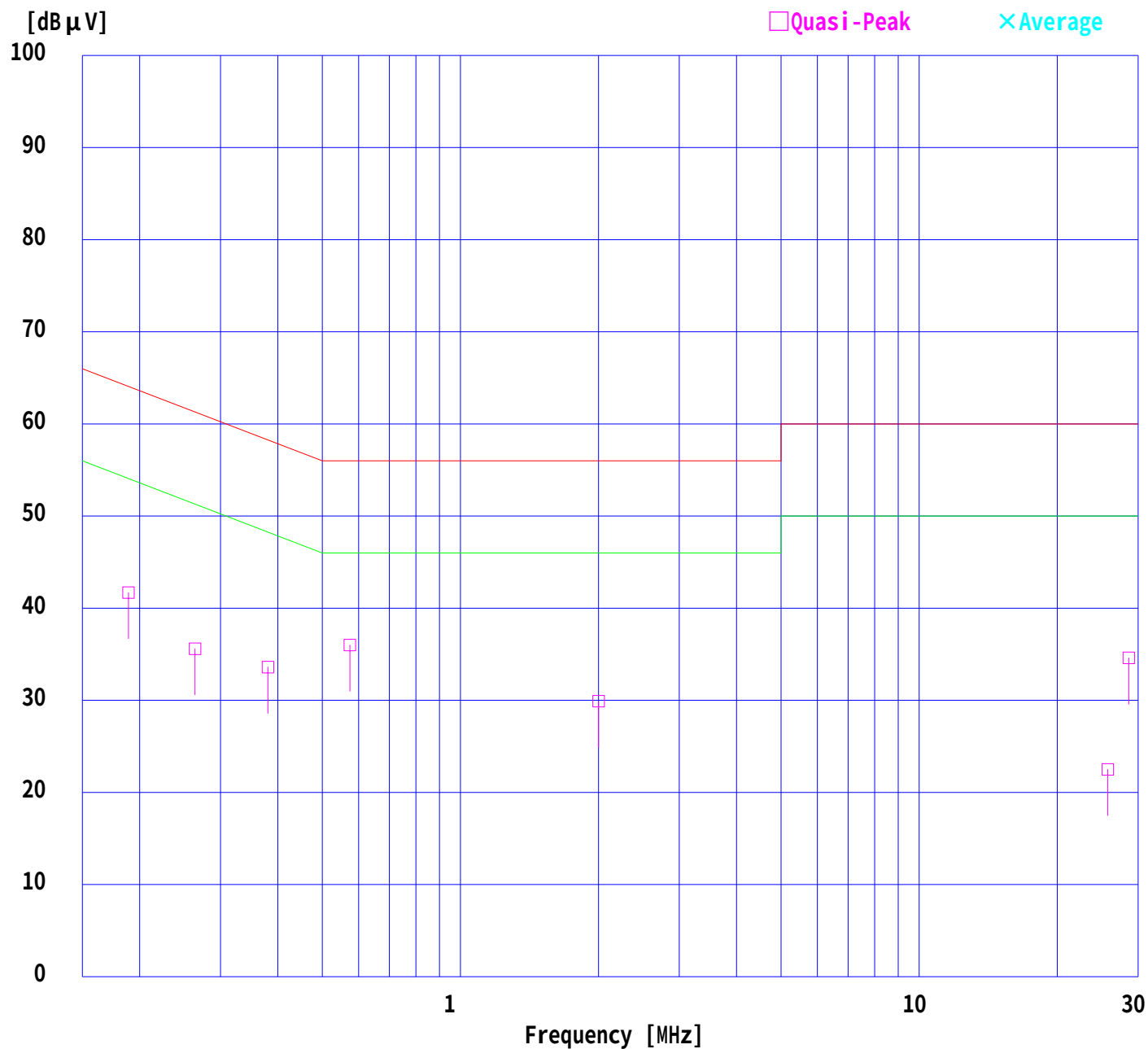
UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : DVD PLAY + REC
Remarks :
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation : FCC Part15B CLASS B(2003)

Engineer : Tsubasa Takayama



DATA OF CONDUCTION TEST CHART

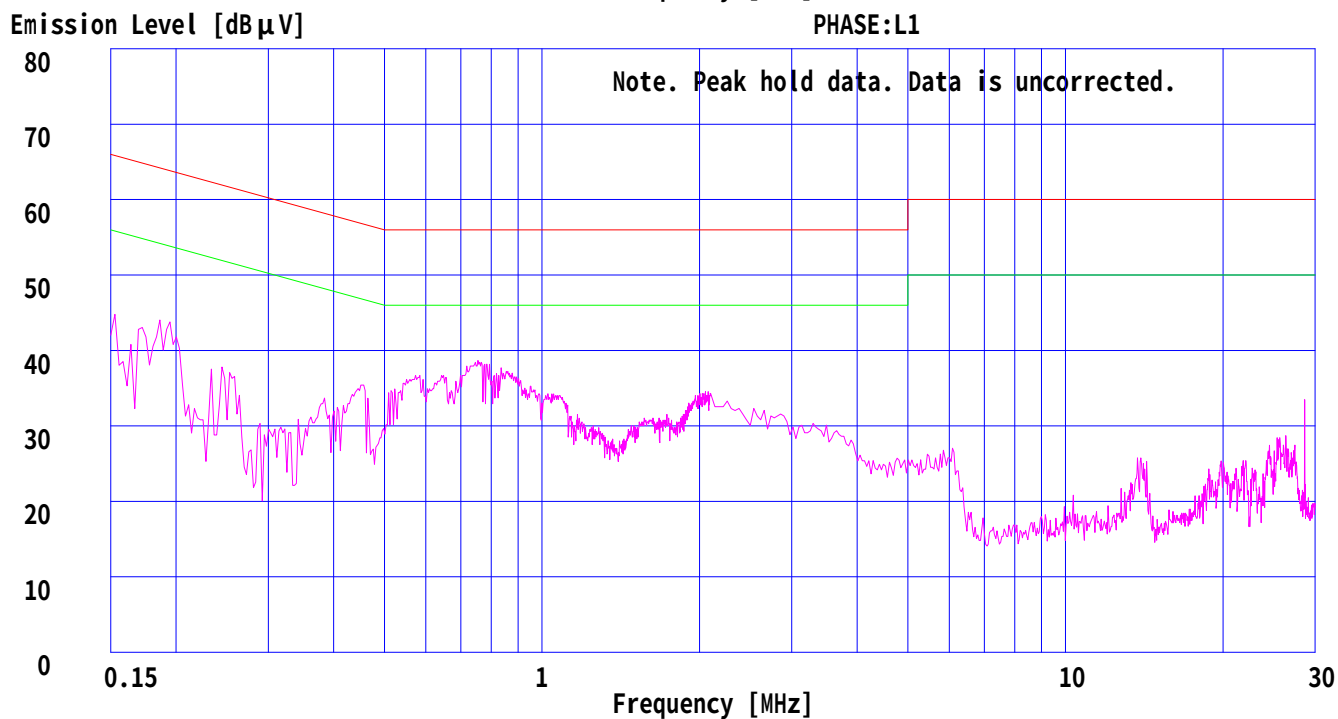
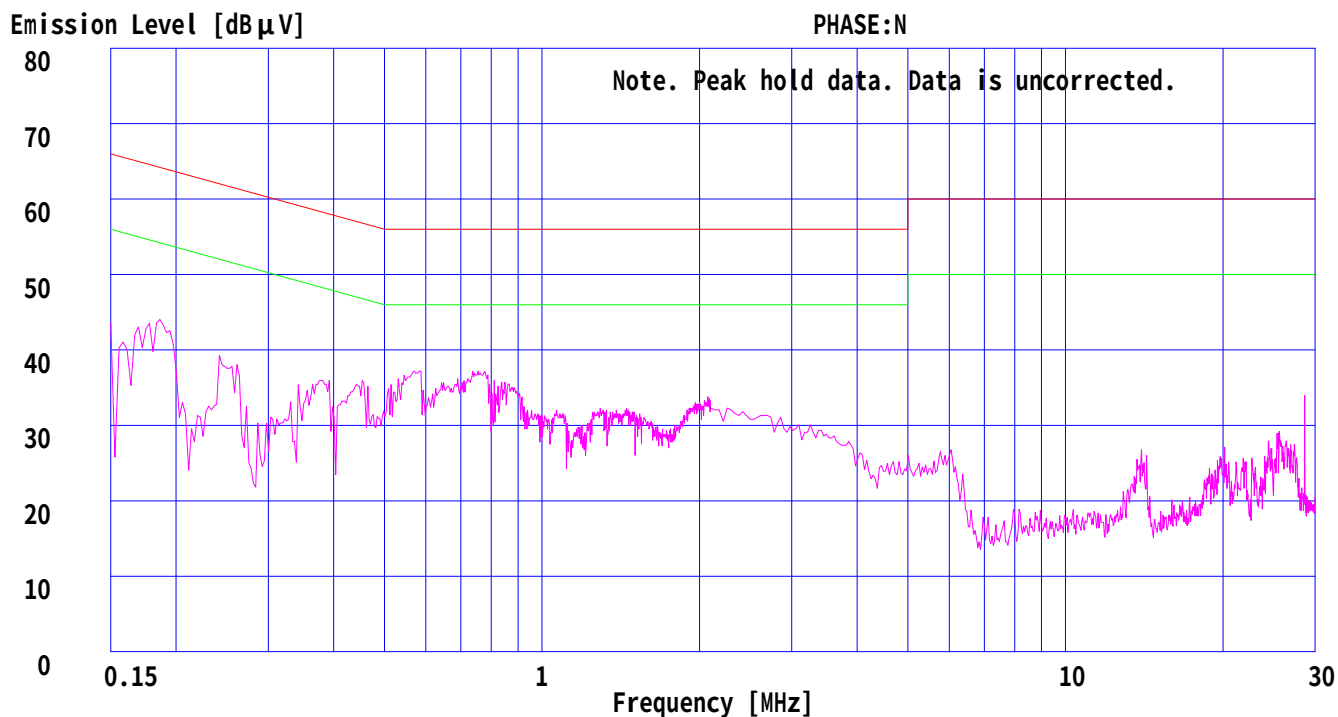
UL Apex Co., Ltd.

YOKOWA No.7 SHIELD TEST ROOM

Report No.: 25GE0166-YW-1

Applicant : Orion Electric Co., Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. : -
Power : AC120V/60Hz
Mode : DVD PLAY + REC
Remarks :
Date : 2/27/2005
Phase : Single Phase
Temperature : 23 °C
Humidity : 41 %
Regulation 1 : FCC Part15B CLASS B(2003)
Regulation 2 : None

Engineer : Tsubasa Takayama



DATA OF RADIATION TEST

UL Apex Co., Ltd.
Yamakita No.1 Anechoic chamber

COMPANY : Orion Electric Co.,Ltd.
EQUIPMENT : DVD Recorder with Video Cassette Recorder
MODEL No. : DVR-RT501-S
POWER : AC120V/60Hz
DESCRIPTION : TV Reception

REPORT No. : 25GE0166-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : February 25, 2005
TEMP./HUMID. : 23°C / 51%
ENGINEER : Toyokazu Imamura

*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.	HOR.	VER.	TYPE	[dBuV]	HOR.	VER.	HOR.	VER.	[dBuV/m]	HOR.	VER.	[dB]	
VHF																
2	101	21.6	22.0			BC	-10.2	11.4	11.8			43.5			32.2	31.7
	202					BC	-1.8					43.5			>10.0	
	303					LO	6.0					46.0				
	404					LO	-1.1					46.0				
	505					LO	0.1					46.0				
	606					LO	1.8					46.0				
	707					LO	3.3					46.0				
	808					LO	4.8					46.0				
	909					LO	6.8					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]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	[dB]					
		[dBuV]	[dBuV]													
	1010			HO	-12.1			74.0	54.0	>10.0	>10.0					
	1111			HO	-11.2			74.0	54.0							
	1212			HO	-10.4			74.0	54.0							
	1313			HO	-9.7			74.0	54.0							
	1414			HO	-8.9			74.0	54.0							
1515	HO			-8.1	74.0			54.0								
1616	HO			-7.2	74.0			54.0								
CH.	FREQ	READING(QP)				ANT	C.Factor	RESULT(QP)				LIMIT	MARGIN(QP)			
	[MHz]	HOR.	VER.	HOR.	VER.	TYPE	[dBuV]	HOR.	VER.	HOR.	VER.	[dBuV/m]	HOR.	VER.	[dB]	
3	107	21.7	21.6			BC	-9.1	12.6	12.5			43.5			30.9	31.0
	214					BC	-1.7					43.5			>10.0	
	321					LO	-3.4					46.0				
	428					LO	-0.9					46.0				
	535					LO	0.6					46.0				
	642					LO	2.3					46.0				
	749					LO	3.9					46.0				
	856					LO	5.8					46.0				
	963					LO	8.2					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]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	[dB]				
		[dBuV]	[dBuV]													
	1070			HO	-11.6			74.0	54.0	>10.0	>10.0					
	1177			HO	-10.8			74.0	54.0							
	1284			HO	-10.0			74.0	54.0							
	1391			HO	-9.2			74.0	54.0							
	1498			HO	-8.3			74.0	54.0							
1605	HO			-7.4	74.0			54.0								
CH.	FREQ	READING(QP)				ANT	C.Factor	RESULT(QP)				LIMIT	MARGIN(QP)			
	[MHz]	HOR.	VER.	HOR.	VER.	TYPE	[dBuV]	HOR.	VER.	HOR.	VER.	[dBuV/m]	HOR.	VER.	[dB]	
4	113	21.4	21.6			BC	-7.9	13.5	13.7			43.5			30.0	29.8
	226					BC	-1.5					46.0			>10.0	
	339					LO	-2.8					46.0				
	452					LO	-0.8					46.0				
	565					LO	1.2					46.0				
	678					LO	2.8					46.0				
	791					LO	4.5					46.0				
	904					LO	6.7					46.0				
						READING(PK)	READING(AV)					ANT				
		HOR. VER.	HOR. VER.	TYPE	[dBuV]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	[dB]				
		[dBuV]	[dBuV]													
	1017			HO	-12.0			74.0	54.0	>10.0	>10.0					
	1130			HO	-11.2			74.0	54.0							
	1243			HO	-10.3			74.0	54.0							
	1356			HO	-9.4			74.0	54.0							
	1469			HO	-8.5			74.0	54.0							
	1582			HO	-7.6			74.0	54.0							

DATA OF RADIATION TEST

UL Apex Co., Ltd.
Yamakita No.1 Anechoic chamber

COMPANY : Orion Electric Co.,Ltd.
EQUIPMENT : DVD Recorder with Video Cassette Recorder
MODEL No. : DVR-RT501-S
POWER : AC120V/60Hz
DESCRIPTION : TV Reception

REPORT No. : 25GE0166-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : February 25, 2005
TEMP./HUMID. : 23°C / 51 %
ENGINEER : Toyokazu Imamura

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	READINNG(QP)				ANT	C.Factor	RESULT(QP)				LIMIT	MARGIN(QP)			
	[MHz]	HOR.	VER.			TYPE	[dBuV]	HOR.	VER.			[dBuV/m]	HOR.	VER.		
		[dBuV]						[dBuV/m]					[dB]			
VHF																
5	123	21.5	22.0			BC	-6.4	15.1	15.6			43.5		28.4	27.9	
	246					BC	-1.1					46.0				
	369					LO	-2.1					46.0				
	492					LO	-0.2					46.0				
	615					LO	1.9					46.0				
	738					LO	3.7					46.0				
	861					LO	5.8					46.0				
	984					LO	8.8					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/m]	[dB]	[dB]	[dB]	[dB]
		[dBuV]	[dBuV]			[dBuV/m]	[dBuV/m]									
	1107					HO	-11.3					74.0	54.0			
	1230					HO	-10.3					74.0	54.0			
	1353					HO	-9.4					74.0	54.0			
	1476					HO	-8.5					74.0	54.0			
	1599					HO	-7.4					74.0	54.0			
CH.	FREQ	READING(QP)				ANT	C.Factor	RESULT(QP)				LIMIT	MARGIN(QP)			
	[MHz]	HOR.	VER.			TYPE	[dBuV]	HOR.	VER.			[dBuV/m]	[dB]	[dB]		
		[dBuV]						[dBuV/m]								
6	129	22.5	22.4			BC	-6.0	16.5	16.4			43.5		27.0	27.1	
	258					BC	-0.6					46.0				
	387					LO	-1.5					46.0				
	516					LO	0.3					46.0				
	645					LO	2.5					46.0				
	774					LO	4.2					46.0				
	903					LO	6.7					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/m]	[dB]	[dB]	[dB]	[dB]
		[dBuV]	[dBuV]			[dBuV/m]	[dBuV/m]									
	1032					HO	-11.9					74.0	54.0			
	1161					HO	-10.9					74.0	54.0			
	1290					HO	-9.9					74.0	54.0			
	1419					HO	-8.8					74.0	54.0			
	1548					HO	-7.9					74.0	54.0			
	1677					HO	-6.8					74.0	54.0			
CH.	FREQ	READING(QP)				ANT	C.Factor	RESULT(QP)				LIMIT	MARGIN(QP)			
	[MHz]	HOR.	VER.			TYPE	[dBuV]	HOR.	VER.			[dBuV/m]	[dB]	[dB]		
		[dBuV]						[dBuV/m]								
7	221	28.4	20.6			BC	-1.6	26.8	19.0			46.0		19.2	27.0	
	442					LO	-0.8					46.0				
	663					LO	2.6					46.0				
	884					LO	6.4					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/m]	[dB]	[dB]	[dB]	[dB]
		[dBuV]	[dBuV]			[dBuV/m]	[dBuV/m]									
	1105					HO	-11.3					74.0	54.0			
	1326					HO	-9.5					74.0	54.0			
	1547					HO	-7.9					74.0	54.0			
CH.	FREQ	READINNG(QP)				ANT	C.Factor	RESULT(QP)				LIMIT	MARGIN(QP)			
	[MHz]	HOR.	VER.			TYPE	[dBuV]	HOR.	VER.			[dBuV/m]	[dB]	[dB]		
		[dBuV]						[dBuV/m]								
8	227	27.5	20.6			BC	-1.5	26.0	19.1			46.0		20.0	26.9	
	454					LO	-0.8					46.0				
	681					LO	2.9					46.0				
	908					LO	6.8					46.0				
		READINNG(PK)	READINNG(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/m]	[dB]	[dB]	[dB]	[dB]
	[dBuV]	[dBuV]			[dBuV/m]	[dBuV/m]										
1135					HO	-11.0					74.0	54.0				
1362					HO	-9.4					74.0	54.0				
1589					HO	-7.5					74.0	54.0				

DATA OF RADIATION TEST

UL Apex Co., Ltd.
Yamakita No.1 Anechoic chamber

COMPANY : Orion Electric Co.,Ltd.
EQUIPMENT : DVD Recorder with Video Cassette Recorder
MODEL No. : DVR-RT501-S
POWER : AC120V/60Hz
DESCRIPTION : TV Reception

REPORT No. : 25GE0166-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : February 25, 2005
TEMP./HUMID. : 23°C / 51%
ENGINEER : Toyokazu Imamura

*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.			[dBuV/m]			[dB]	[dB]		
VHF																		
9	233	25.1	20.7			BC	-1.4	23.7	19.3			46.0			22.3	26.7		
	466					LO	-0.5					46.0			>10.0			
	699					LO	3.1					46.0						
	932					LO	7.4					46.0						
		READING(PK)		READING(NG)		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/m]	[dBuV/m]	[dB]	[dB]	[dB]	[dB]	
	1165					HO	-10.9					74.0	54.0	>10.0		>10.0		
	1398					HO	-9.1			74.0	54.0							
1631					HO	-7.1	74.0			54.0								
CH.	FREQ	READING(QP)				ANT	C.Factor	RESULT(QP)				LIMIT			MARGIN(QP)			
	[MHz]	HOR.	VER.			TYPE	[dBuV]	HOR.	VER.			[dBuV/m]			[dB]	[dB]		
10	239	24.5	20.6			BC	-1.2	23.3	19.4			46.0			22.8	26.6		
	478					LO	-0.4					46.0			>10.0			
	717					LO	3.4					46.0						
	956					LO	7.8					46.0						
		READING(PK)		READING(NG)		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/m]	[dBuV/m]	[dB]	[dB]	[dB]	[dB]	
	1195					HO	-10.7					74.0	54.0	>10.0		>10.0		
	1434					HO	-8.8			74.0	54.0							
1673					HO	-6.9	74.0			54.0								
CH.	FREQ	READING(QP)				ANT	C.Factor	RESULT(QP)				LIMIT			MARGIN(QP)			
	[MHz]	HOR.	VER.			TYPE	[dBuV]	HOR.	VER.			[dBuV/m]			[dB]	[dB]		
11	245	23.7	20.6			BC	-1.1	22.6	19.5			46.0			23.4	26.5		
	490					LO	-0.2					46.0			>10.0			
	735					LO	3.7					46.0						
	980					LO	8.6					54.0						
		READING(PK)		READING(NG)		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/m]	[dBuV/m]	[dB]	[dB]	[dB]	[dB]	
	1225					HO	-10.4					74.0	54.0	>10.0		>10.0		
	1470					HO	-8.5			74.0	54.0							
CH.	FREQ	READING(QP)				ANT	C.Factor	RESULT(QP)				LIMIT			MARGIN(QP)			
	[MHz]	HOR.	VER.			TYPE	[dBuV]	HOR.	VER.			[dBuV/m]			[dB]	[dB]		
12	251	30.5	20.5			BC	-0.9	29.6	19.6			46.0			16.4	26.4		
	502					LO	0.0					46.0			>10.0			
	753					LO	4.0					46.0						
		READING(PK)		READING(NG)		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/m]	[dBuV/m]	[dB]	[dB]	[dB]	[dB]	
	1004					HO	-12.1					74.0	54.0	>10.0		>10.0		
	1255					HO	-10.1			74.0	54.0							
	1506					HO	-8.3			74.0	54.0							
CH.	FREQ	READING(QP)				ANT	C.Factor	RESULT(QP)				LIMIT			MARGIN(QP)			
	[MHz]	HOR.	VER.			TYPE	[dBuV]	HOR.	VER.			[dBuV/m]			[dB]	[dB]		
13	257	21.6	20.4			BC	-0.6	21.0	19.8			46.0			25.0	26.2		
	514					LO	0.2					46.0			>10.0			
	771					LO	4.1					46.0						
		READING(PK)		READING(NG)		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/m]	[dBuV/m]	[dB]	[dB]	[dB]	[dB]	
	1028					HO	-11.9					74.0	54.0	>10.0		>10.0		
	1285					HO	-10.0			74.0	54.0							
	1542					HO	-7.9			74.0	54.0							

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REPORT No. : 25GE0166-YW-1
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ENGINEER : Toyokazu Imamura

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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. [dBuV]	TYPE	[dBuV]	HOR. VER. [dBuV/m]	[QP] [dBuV/m]	HOR. VER. [dB] [dB]
UHF							
14	517	25.2 29.9	LO	0.3	25.5 30.2	46.0	20.5 15.8
		READING(PK) HOR. VER. [dBuV]	READING(AN) HOR. VER. [dBuV]	C.Factor [dBuV]	RESULT(PK) HOR. VER. [dBuV/m]	RESULT(AN) HOR. VER. [dBuV/m]	MARGIN(PK) HOR. VER. [dB] [dB]
	1034		HO	-11.9		74.0	>10.0
	1551		HO	-7.9		74.0	>10.0
CH.	FREQ	READING(QP)	ANT	C.Factor	RESULT(QP)	LIMIT	MARGIN(QP)
	[MHz]	HOR. VER. [dBuV]	TYPE	[dBuV]	HOR. VER. [dBuV/m]	[QP] [dBuV/m]	HOR. VER. [dB] [dB]
19	547	24.3 28.7	LO	0.8	25.1 29.5	46.0	20.9 16.5
		READING(PK) HOR. VER. [dBuV]	READING(AN) HOR. VER. [dBuV]	C.Factor [dBuV]	RESULT(PK) HOR. VER. [dBuV/m]	RESULT(AN) HOR. VER. [dBuV/m]	MARGIN(PK) HOR. VER. [dB] [dB]
	1094	51.4 50.3	HO	-11.5	39.9 38.8	32.2 26.9	34.1 35.2
	1641		HO	-7.1		74.0	>10.0
CH.	FREQ	READING(QP)	ANT	C.Factor	RESULT(QP)	LIMIT	MARGIN(QP)
	[MHz]	HOR. VER. [dBuV]	TYPE	[dBuV]	HOR. VER. [dBuV/m]	[QP] [dBuV/m]	HOR. VER. [dB] [dB]
28	601	24.1 28.8	LO	1.8	25.9 30.6	46.0	20.1 15.4
		READING(PK) HOR. VER. [dBuV]	READING(AN) HOR. VER. [dBuV]	C.Factor [dBuV]	RESULT(PK) HOR. VER. [dBuV/m]	RESULT(AN) HOR. VER. [dBuV/m]	MARGIN(PK) HOR. VER. [dB] [dB]
	1202	50.0 51.5	HO	-10.7	39.3 40.8	23.2 30.0	34.8 33.2
							30.8 24.1
CH.	FREQ	READING(QP)	ANT	C.Factor	RESULT(QP)	LIMIT	MARGIN(QP)
	[MHz]	HOR. VER. [dBuV]	TYPE	[dBuV]	HOR. VER. [dBuV/m]	[QP] [dBuV/m]	HOR. VER. [dB] [dB]
36	649	24.5 28.7	LO	2.6	27.1 31.3	46.0	18.9 14.7
		READING(PK) HOR. VER. [dBuV]	READING(AN) HOR. VER. [dBuV]	C.Factor [dBuV]	RESULT(PK) HOR. VER. [dBuV/m]	RESULT(AN) HOR. VER. [dBuV/m]	MARGIN(PK) HOR. VER. [dB] [dB]
	1298	48.5 54.4	HO	-9.8	38.7 44.6	27.7 25.8	35.3 29.4
							26.3 28.2
CH.	FREQ	READING(QP)	ANT	C.Factor	RESULT(QP)	LIMIT	MARGIN(QP)
	[MHz]	HOR. VER. [dBuV]	TYPE	[dBuV]	HOR. VER. [dBuV/m]	[QP] [dBuV/m]	HOR. VER. [dB] [dB]
44	697	28.5 25.5	LO	3.1	31.6 28.6	46.0	14.4 17.4
		READING(PK) HOR. VER. [dBuV]	READING(AN) HOR. VER. [dBuV]	C.Factor [dBuV]	RESULT(PK) HOR. VER. [dBuV/m]	RESULT(AN) HOR. VER. [dBuV/m]	MARGIN(PK) HOR. VER. [dB] [dB]
	1394	47.5 47.1	HO	-9.1	38.4 38.0	26.3 25.7	35.6 36.0
							27.7 28.4
CH.	FREQ	READING(QP)	ANT	C.Factor	RESULT(QP)	LIMIT	MARGIN(QP)
	[MHz]	HOR. VER. [dBuV]	TYPE	[dBuV]	HOR. VER. [dBuV/m]	[QP] [dBuV/m]	HOR. VER. [dB] [dB]
53	751	31.3 29.8	LO	4.0	35.3 33.8	46.0	10.7 12.2
		READING(PK) HOR. VER. [dBuV]	READING(AN) HOR. VER. [dBuV]	C.Factor [dBuV]	RESULT(PK) HOR. VER. [dBuV/m]	RESULT(AN) HOR. VER. [dBuV/m]	MARGIN(PK) HOR. VER. [dB] [dB]
	1502	48.2 47.1	HO	-8.3	39.9 38.8	26.0 26.1	34.1 35.2
							28.0 27.9
CH.	FREQ	READING(QP)	ANT	C.Factor	RESULT(QP)	LIMIT	MARGIN(QP)
	[MHz]	HOR. VER. [dBuV]	TYPE	[dBuV]	HOR. VER. [dBuV/m]	[QP] [dBuV/m]	HOR. VER. [dB] [dB]
61	799	29.2 26.9	LO	4.6	33.8 31.5	46.0	12.2 14.5
		READING(PK) HOR. VER. [dBuV]	READING(AN) HOR. VER. [dBuV]	C.Factor [dBuV]	RESULT(PK) HOR. VER. [dBuV/m]	RESULT(AN) HOR. VER. [dBuV/m]	MARGIN(PK) HOR. VER. [dB] [dB]
	1598	47.3 48.2	HO	-7.5	39.8 40.7	27.3 28.0	34.2 33.3
							26.7 26.0
CH.	FREQ	READING(QP)	ANT	C.Factor	RESULT(QP)	LIMIT	MARGIN(QP)
	[MHz]	HOR. VER. [dBuV]	TYPE	[dBuV]	HOR. VER. [dBuV/m]	[QP] [dBuV/m]	HOR. VER. [dB] [dB]
69	847	32.1 26.3	LO	5.6	37.7 31.9	46.0	8.3 14.1
		READING(PK) HOR. VER. [dBuV]	READING(AN) HOR. VER. [dBuV]	C.Factor [dBuV]	RESULT(PK) HOR. VER. [dBuV/m]	RESULT(AN) HOR. VER. [dBuV/m]	MARGIN(PK) HOR. VER. [dB] [dB]
	1694	46.2 47.0	HO	-6.7	39.5 40.3	26.6 27.6	34.5 33.7
							27.4 26.4

DATA OF RADIATION TEST

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

CH.	FREQ	READING(QP)				ANT	C.Factor	RESULT(QP)				LIMIT	MARGIN(QP)					
	[MHz]	HOR.	VER.			TYPE	[dBuV]	HOR.	VER.			[QP]	HOR.	VER.				
		[dBuV]						[dBuV/m]				[dBuV/m]	[dB]	[dB]				
CATV																		
1	119	21.2	21.6			BC	-6.9	14.3	14.7			43.5		29.2	28.8			
	238					BC	-1.2					46.0		>10.0				
	357					LO	-2.4					46.0						
	476					LO	-0.4					46.0						
	595					LO	1.6					46.0						
	714					LO	3.3					46.0						
	833					LO	5.4					46.0						
	952	LO	7.8	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.	[dB]	[dB]	[dB]	[dB]			
		[dBuV]	[dBuV]			[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	[dB]	[dB]					
	1071					HO	-11.6					74.0	54.0	>10.0	>10.0			
1190	HO					-10.7	74.0					54.0						
1309	HO					-9.7	74.0					54.0						
1428	HO					-8.8	74.0					54.0						
1547	HO					-7.9	74.0					54.0						
1666	HO					-6.9	74.0					54.0						
CH.	FREQ	READING(QP)				ANT	C.Factor	RESULT(QP)				LIMIT	MARGIN(QP)					
	[MHz]	HOR.	VER.			TYPE	[dBuV]	HOR.	VER.			[QP]	HOR.	VER.				
		[dBuV]						[dBuV/m]				[dBuV/m]		[dB]	[dB]			
95	137	21.2	21.4			BC	-5.4	15.8	16.0			43.5		27.8	27.5			
	274					BC	0.3					46.0		>10.0				
	411					LO	-1.1					46.0						
	548					LO	0.9					46.0						
	685					LO	2.9					46.0						
	822					LO	5.2					46.0						
	959					LO	8.0					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.	[dB]	[dB]	[dB]	[dB]			
		[dBuV]	[dBuV]			[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	[dB]	[dB]					
	1096					HO	-11.4					74.0	54.0	>10.0	>10.0			
	1233					HO	-10.3					74.0	54.0					
1370	HO					-9.2	74.0					54.0						
1507	HO					-8.3	74.0					54.0						
1644	HO					-7.0	74.0					54.0						
CH.	FREQ	READING(QP)				ANT	C.Factor	RESULT(QP)				LIMIT	MARGIN(QP)					
	[MHz]	HOR.	VER.			TYPE	[dBuV]	HOR.	VER.			[QP]	HOR.	VER.				
		[dBuV]						[dBuV/m]				[dBuV/m]		[dB]	[dB]			
97	149	21.3	21.3			BC	-4.8	16.5	16.5			43.5		27.0	27.0			
	298					BC	2.2					46.0		>10.0				
	447					LO	-0.9					46.0						
	596					LO	1.7					46.0						
	745					LO	3.9					46.0						
	894					LO	6.5					46.0						
						READING(PK)	READING(AV)					ANT					C.Factor	RESULT(PK)
		HOR. VER.	HOR. VER.	TYPE	[dBuV]	HOR. VER.	HOR. VER.	[PK]	[AV]	HOR. VER.	HOR. VER.	[dB]	[dB]	[dB]	[dB]			
		[dBuV]	[dBuV]			[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	[dB]	[dB]					
	1043					HO	-11.8					74.0	54.0	>10.0	>10.0			
	1192					HO	-10.7					74.0	54.0					
	1341					HO	-9.5					74.0	54.0					
1490	HO					-8.3	74.0					54.0						
1639	HO					-7.1	74.0					54.0						
CH.	FREQ	READING(QP)				ANT	C.Factor	RESULT(QP)				LIMIT	MARGIN(QP)					
	[MHz]	HOR.	VER.			TYPE	[dBuV]	HOR.	VER.			[QP]	HOR.	VER.				
		[dBuV]						[dBuV/m]				[dBuV/m]		[dB]	[dB]			
99	161	21.7	21.8			BC	-4.1	17.6	17.7			43.5		25.9	25.8			
	322					LO	-3.3					46.0		>10.0				
	483					LO	-0.3					46.0						
	644					LO	2.5					46.0						
	805					LO	4.7					46.0						
	966					LO	8.2					46.0						
						READING(PK)	READING(AV)					ANT					C.Factor	RESULT(PK)
		HOR. VER.	HOR. VER.	TYPE	[dBuV]	HOR. VER.	HOR. VER.	[PK]	[AV]	HOR. VER.	HOR. VER.	[dB]	[dB]	[dB]	[dB]			
		[dBuV]	[dBuV]			[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	[dB]	[dB]					
	1127					HO	-11.2					74.0	54.0	>10.0	>10.0			
	1288					HO	-9.9					74.0	54.0					
	1449					HO	-8.6					74.0	54.0					
1610	HO					-7.3	74.0					54.0						

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

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

CH.	FREQ	READING(QP)		ANT	C.Factor	RESULT(QP)		LIMIT		MARGIN(QP)	
	[MHz]	HOR. VER.		TYPE	[dBuV]	HOR. VER.		[QP]		HOR. VER.	
		[dBuV]				[dBuV/m]		[dBuV/m]		[dB]	[dB]
CATV											
14	167	20.9	20.9	BC	-3.9	17.0	17.0	43.5		26.5	26.5
	334			LO	-3.1			46.0			
	501			LO	0.0			46.0			
	668			LO	2.6			46.0			
	835			LO	5.4			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]
	1002			HO	-12.1			74.0	54.0		
	1169			HO	-10.9			74.0	54.0		
	1336			HO	-9.5			74.0	54.0		
	1503			HO	-8.3			74.0	54.0		
	1670			HO	-6.9			74.0	54.0		
										>10.0	>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/m]		[dBuV/m]		[dB]	[dB]
18	191	21.0	20.8	BC	-2.4	18.6	18.4	43.5		24.9	25.1
	382			LO	-1.7			46.0			
	573			LO	1.3			46.0			
	764			LO	4.0			46.0			
	955			LO	7.8			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]
	1146			HO	-11.0			74.0	54.0		
	1337			HO	-9.5			74.0	54.0		
	1528			HO	-8.0			74.0	54.0		
										>10.0	>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/m]		[dBuV/m]		[dB]	
22	215	23.0	20.7	BC	-1.7	21.3	19.0	43.5		22.2	24.5
	430			LO	-1.0			46.0			
	645			LO	2.5			46.0			
	860			LO	5.8			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]
	1075			HO	-11.6			74.0	54.0		
	1290			HO	-9.9			74.0	54.0		
	1505			HO	-8.3			74.0	54.0		
										>10.0	>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/m]		[dBuV/m]		[dB]	
23	263	21.7	20.3	BC	-0.4	21.3	19.9	46.0	46.0	24.7	26.1
	526			LO	0.3			46.0	46.0		
	789			LO	4.4			46.0	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]
	1052			HO	-11.8			74.0	54.0		
	1315			HO	-9.7			74.0	54.0		
	1578			HO	-7.6			74.0	54.0		
										>10.0	>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/m]		[dBuV/m]		[dB]	
29	299	20.5	20.3	BC	2.3	22.8	22.6	46.0	46.0	23.2	23.4
	598			LO	1.7			46.0	46.0		
	897			LO	6.6			46.0	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]
	1196			HO	-10.7			74.0	54.0		
	1495			HO	-8.3			74.0	54.0		
										>10.0	>10.0

DATA OF RADIATION TEST

UL Apex Co., Ltd.
Yamakita No.1 Anechoic chamber

COMPANY : Orion Electric Co.,Ltd.
EQUIPMENT : DVD Recorder with Video Cassette Recorder
MODEL No. : DVR-RT501-S
POWER : AC120V/60Hz
DESCRIPTION : TV Reception

REPORT No. : 25GE0166-YW-1
REGULATION : FCC PART15 B
TEST DISTANCE : 3m
ATTENUATION : 101-847MHz 6dB
1030-1694MHz 0dB
DATE : February 25, 2005
TEMP./HUMID. : 23°C / 51 %
ENGINEER : Toyokazu Imamura

*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]				
CATV																	
36	341	27.2	21.4			LO	-2.8	24.4	18.6			46.0	46.0	21.6	27.5		
	682					LO	2.9					46.0	46.0	>10.0			
	READING(PK) HOR. VER. [dBuV]		READING(AV) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(PK) HOR. VER. [dBuV/m]		RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [PK] [dBuV/m]	LIMIT [AV] [dBuV/m]	MARGIN(PK) HOR. VER. [dB]		MARGIN(AV) HOR. VER. [dB]		
	1023					HO	-11.9			0.0 0.0		74.0	54.0	>10.0		>10.0	
	1364					HO	-9.3			0.0 0.0		74.0	54.0	>10.0		>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]				
37	347	29.3	24.4			LO	-2.7	26.6	21.7			46.0	46.0	19.4	24.3		
	694					LO	3.1					46.0	46.0	>10.0			
	READING(PK) HOR. VER. [dBuV]		READING(AV) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(PK) HOR. VER. [dBuV/m]		RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [PK] [dBuV/m]	LIMIT [AV] [dBuV/m]	MARGIN(PK) HOR. VER. [dB]		MARGIN(AV) HOR. VER. [dB]		
	1041					HO	-11.8					74.0	54.0	>10.0		>10.0	
	1388					HO	-9.2					74.0	54.0	>10.0		>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]				
65	515	21.6	21.9			LO	0.2	21.8	22.1			46.0	46.0	24.2	23.9		
	READING(PK) HOR. VER. [dBuV]		READING(AV) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(PK) HOR. VER. [dBuV/m]		RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [PK] [dBuV/m]	LIMIT [AV] [dBuV/m]	MARGIN(PK) HOR. VER. [dB]		MARGIN(AV) HOR. VER. [dB]		
	1030	50.1	48.6	35.7	35.6	HO	-11.9	38.2	36.7	23.8	23.7	74.0	54.0	35.8	37.3	30.2	30.3
	1545					HO	-7.9					74.0	54.0	>10.0		>10.0	
	READING(PK) HOR. VER. [dBuV]		READING(AV) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(PK) HOR. VER. [dBuV/m]		RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [PK] [dBuV/m]	LIMIT [AV] [dBuV/m]	MARGIN(PK) HOR. VER. [dB]		MARGIN(AV) HOR. VER. [dB]		
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	21.5	21.6			LO	2.9	24.4	24.5			46.0	46.0	21.6	21.5		
	READING(PK) HOR. VER. [dBuV]		READING(AV) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(PK) HOR. VER. [dBuV/m]		RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [PK] [dBuV/m]	LIMIT [AV] [dBuV/m]	MARGIN(PK) HOR. VER. [dB]		MARGIN(AV) HOR. VER. [dB]		
	1378	48.6	48.7	34.0	34.4	HO	-9.2	39.4	39.5	24.8	25.2	74.0	54.0	34.6	34.5	29.2	28.8
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	21.6	21.7			LO	3.1	24.7	24.8			46.0	46.0	21.3	21.2		
	READING(PK) HOR. VER. [dBuV]		READING(AV) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(PK) HOR. VER. [dBuV/m]		RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [PK] [dBuV/m]	LIMIT [AV] [dBuV/m]	MARGIN(PK) HOR. VER. [dB]		MARGIN(AV) HOR. VER. [dB]		
	1390	47.5	47.5	33.7	34.3	HO	-9.2	38.3	38.3	24.5	25.1	74.0	54.0	35.7	35.7	29.6	28.9
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	21.3	21.3			LO	4.1	25.4	25.4			46.0	46.0	20.6	20.6		
	READING(PK) HOR. VER. [dBuV]		READING(AV) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(PK) HOR. VER. [dBuV/m]		RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [PK] [dBuV/m]	LIMIT [AV] [dBuV/m]	MARGIN(PK) HOR. VER. [dB]		MARGIN(AV) HOR. VER. [dB]		
	1546	46.4	48.9	33.4	33.4	HO	-7.9	38.5	41.0	25.5	25.5	74.0	54.0	35.5	33.0	28.5	28.5
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	21.1	21.0			LO	5.6	26.7	26.6			46.0	46.0	19.3	19.4		
	READING(PK) HOR. VER. [dBuV]		READING(AV) HOR. VER. [dBuV]		ANT TYPE	C.Factor [dBuV]	RESULT(PK) HOR. VER. [dBuV/m]		RESULT(AV) HOR. VER. [dBuV/m]		LIMIT [PK] [dBuV/m]	LIMIT [AV] [dBuV/m]	MARGIN(PK) HOR. VER. [dB]		MARGIN(AV) HOR. VER. [dB]		
	1690	46.4	46.8	33.0	34.0	HO	-6.7	39.7	40.1	26.3	27.3	74.0	54.0	34.3	33.9	27.7	26.7

DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception+Rec (0dBmV)
Remarks : Other
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura

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.	732.85	BB	32.6	36.0	21.0	29.2	5.6	6.3	36.3	39.7	46.0	9.7	6.3

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

■ ANTENNA: KBA-03 (BBA9106) 30-299MHz/KLA-03 (USLP9143) 300-1000MHz

■ AMP: KAF-05 (8447D) ■ RECEIVER: KTR-01 (ES140) ■ KCC-30_31_32_34 (RE)

DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

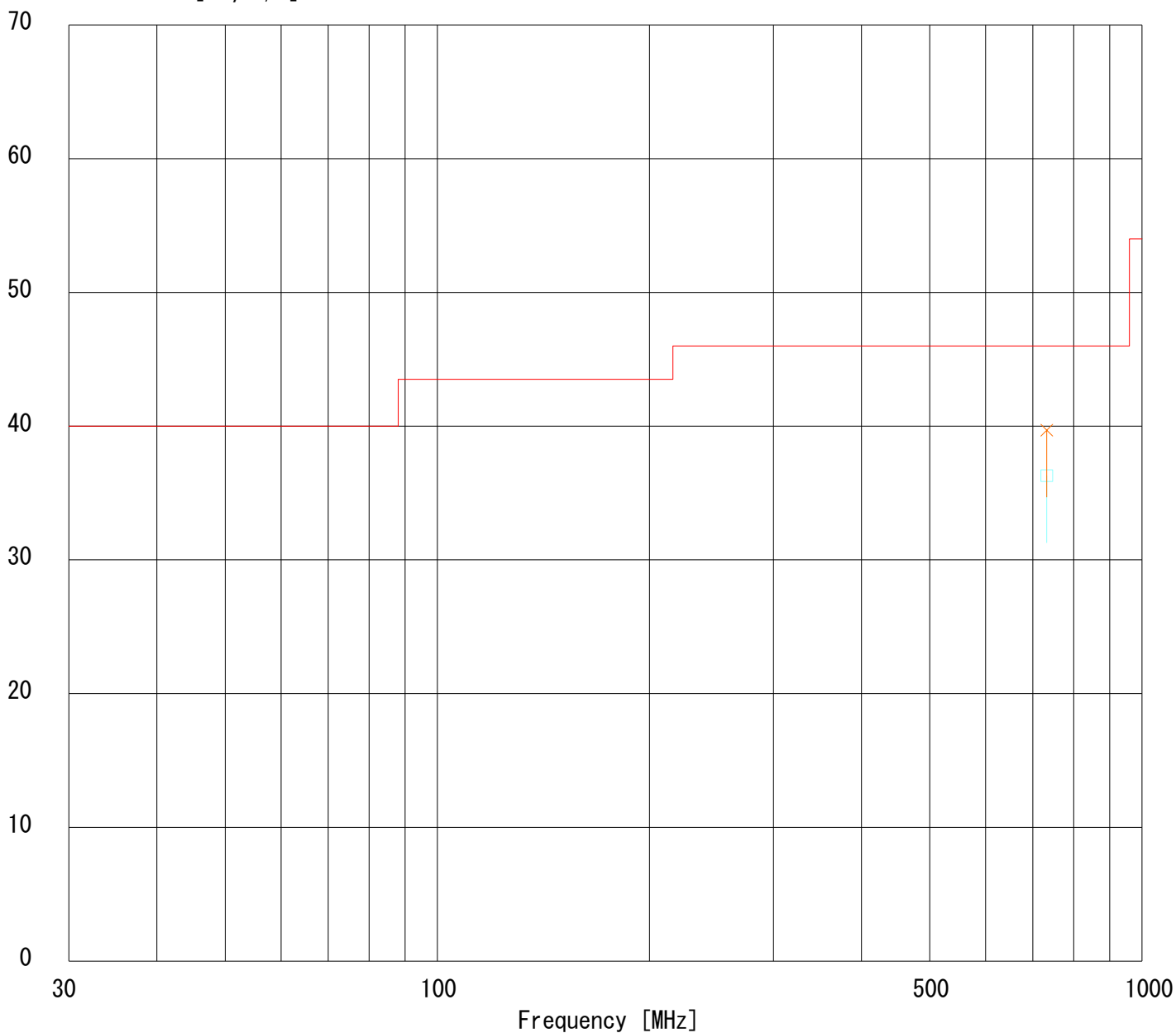
Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception+Rec (0dBmV)
Remarks : Other
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura

Emission Level [dB μ V/m]

□ Horizontal

× Vertical



DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception+Rec (25dBmV)
Remarks : Other
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura

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.	202.71	BB	36.5	27.0	17.3	28.1	2.8	6.2	34.7	25.2	43.5	8.8	18.3
2.	231.41	BB	34.1	22.1	17.4	28.0	3.0	6.2	32.7	20.7	46.0	13.3	25.3
3.	405.00	BB	34.7	40.8	17.1	28.6	4.2	6.2	33.6	39.7	46.0	12.4	6.3
4.	655.71	BB	29.0	36.3	20.3	29.3	5.3	6.3	31.6	38.9	46.0	14.4	7.1
5.	675.00	BB	31.0	34.2	20.5	29.4	5.4	6.3	33.8	37.0	46.0	12.2	9.0
6.	694.29	BB	31.3	33.6	20.7	29.4	5.5	6.3	34.4	36.7	46.0	11.6	9.3
7.	732.85	BB	31.9	36.1	21.0	29.2	5.6	6.3	35.6	39.8	46.0	10.4	6.2

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

■ ANTENNA: KBA-03 (BBA9106) 30-299MHz/KLA-03 (USLP9143) 300-1000MHz

■ AMP: KAF-05 (8447D) ■ RECEIVER: KTR-01 (ES140) ■ KCC-30_31_32_34 (RE)

DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

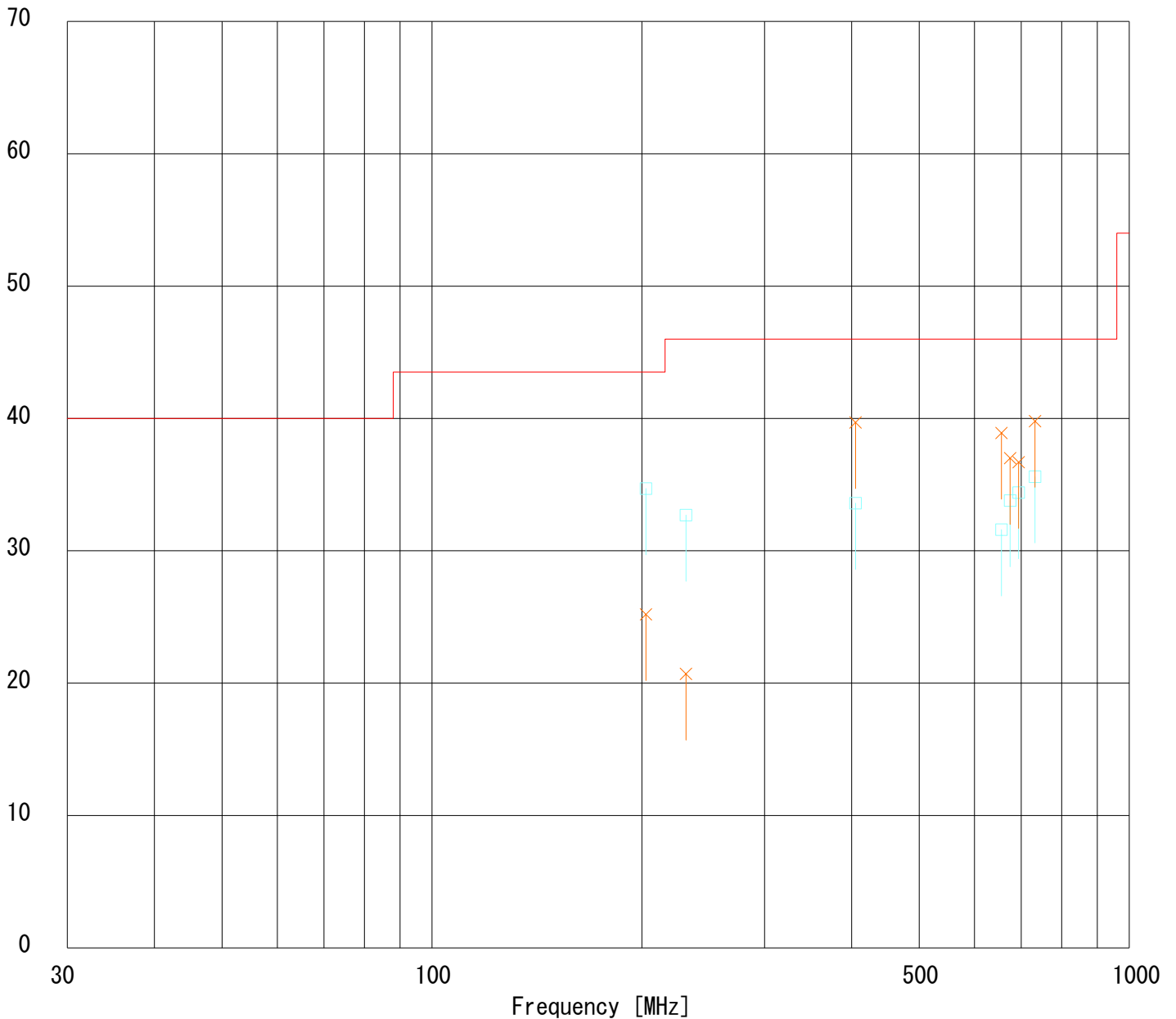
Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception+Rec (25dBmV)
Remarks : Other
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura

Emission Level [dB μ V/m]

□ Horizontal

× Vertical



DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception+Rec (25dBmV)
Remarks : Other
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura

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.	1311.39	BB	40.1	36.2	25.4	38.2	3.1	0.0	30.4	26.5	54.0	23.6	27.5

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

■ ANTENNA: KHA-01 (SAS-200 571) 1-18GHz/KHA-03 (3160-09) 18-26GHz

■ CABLE: KCC-D17/D13 ■ PREAMP: KAF-02 (8449B) ■ EMI RECEIVER: KTR-01 (ES140)

DATA OF RADIATION TEST

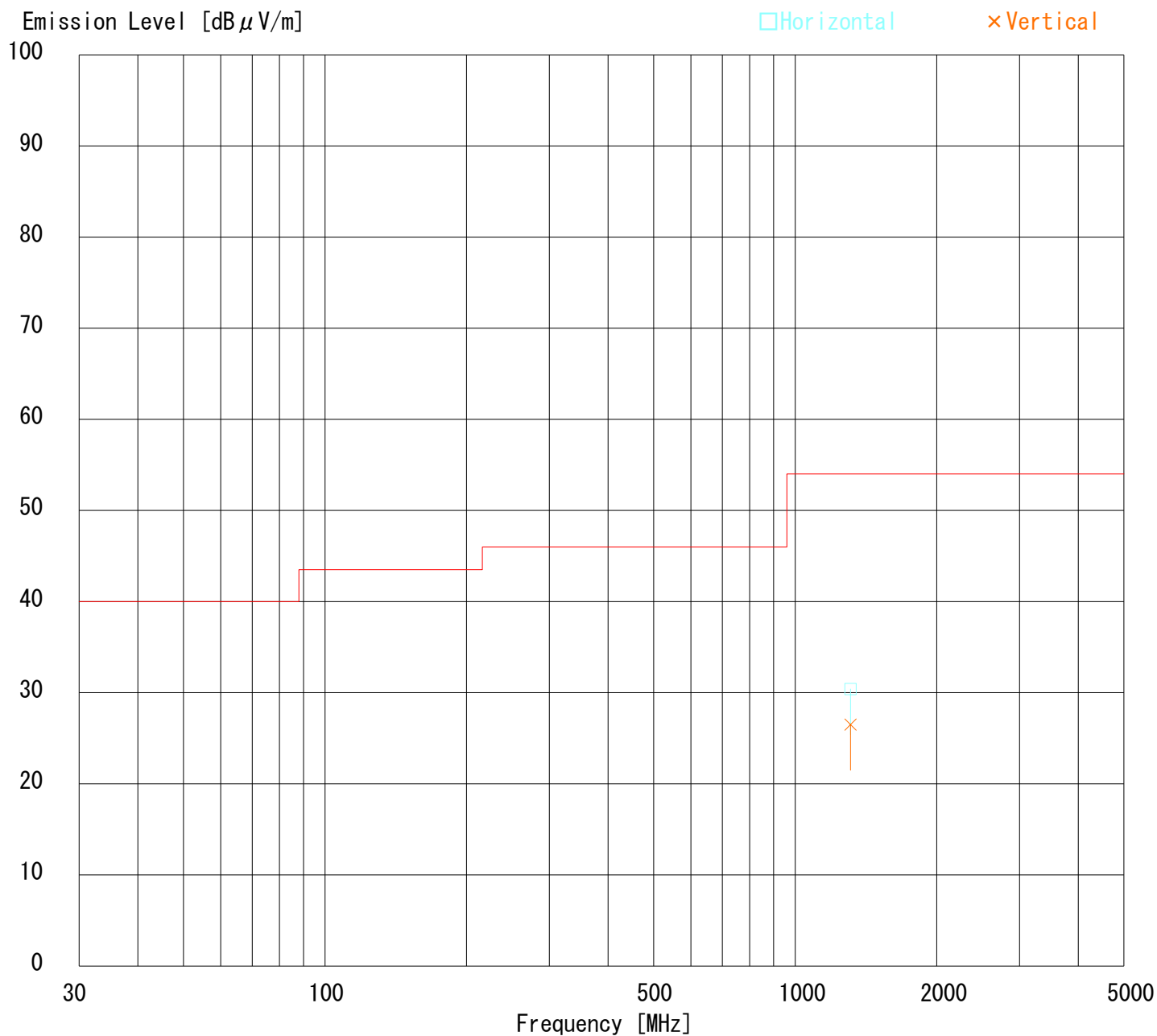
UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception+Rec (25dBmV)
Remarks : Other
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura



DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception+Rec (25dBmV)
Remarks : Other
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B CLASS B(PK)

Engineer : Toyokazu Imamura

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.	1311.39	BB	50.0	50.3	25.4	38.2	3.1	0.0	40.3	40.6	74.0	33.7	33.4

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

■ ANTENNA: KHA-01 (SAS-200 571) 1-18GHz/KHA-03 (3160-09) 18-26GHz

■ CABLE: KCC-D17/D13 ■ PREAMP: KAF-02 (8449B) ■ EMI RECEIVER: KTR-01 (ES140)

DATA OF RADIATION TEST

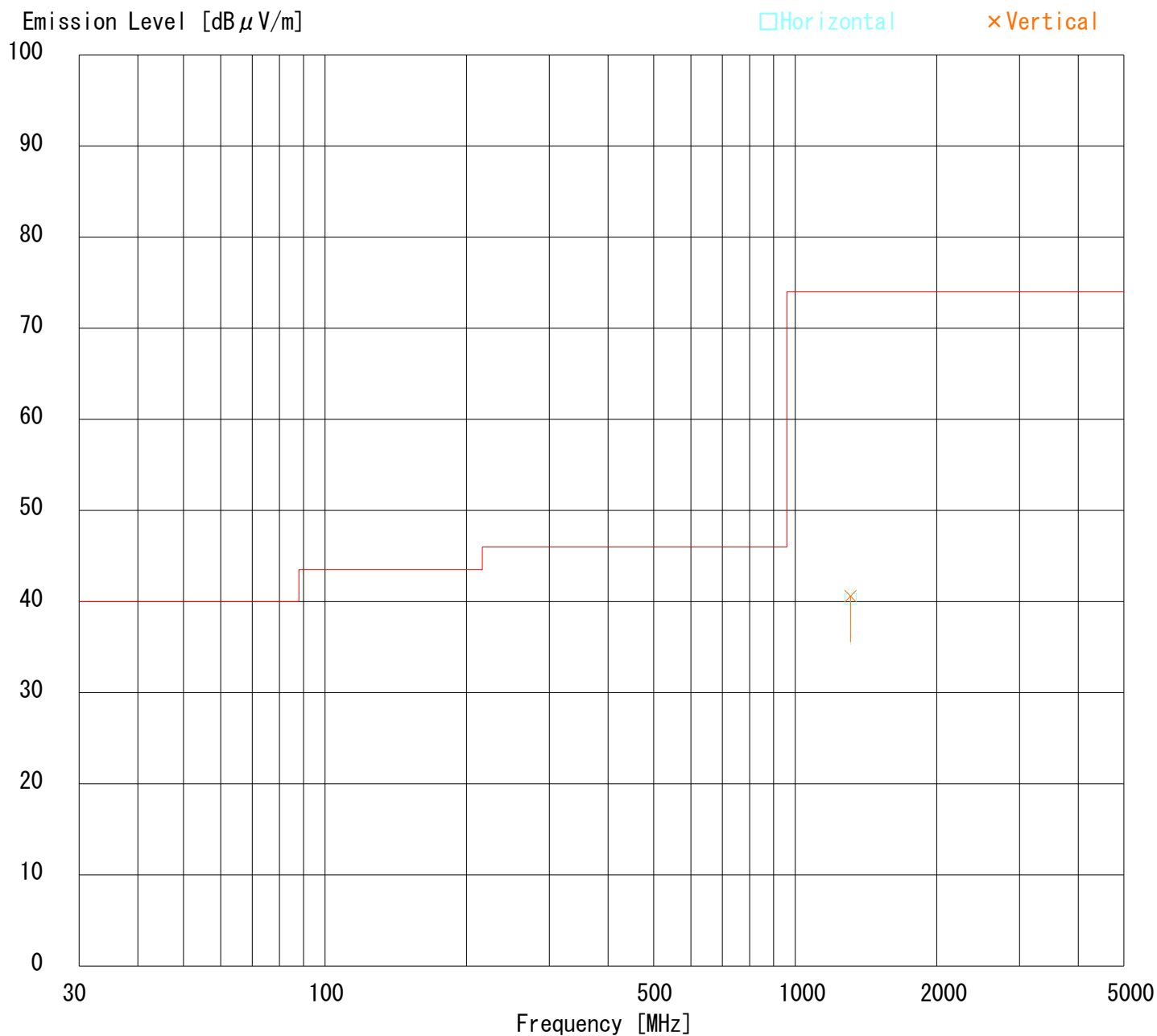
UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception+Rec (25dBmV)
Remarks : Other
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B CLASS B(PK)

Engineer : Toyokazu Imamura



DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : AV Input1 + Rec (1Vp-p)
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura

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.	732.86	BB	31.1	35.9	21.0	29.2	5.6	6.3	34.8	39.6	46.0	11.2	6.4

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

■ ANTENNA: KBA-03 (BBA9106) 30-299MHz/KLA-03 (USLP9143) 300-1000MHz

■ AMP: KAF-05 (8447D) ■ RECEIVER: KTR-01 (ES140) ■ KCC-30_31_32_34 (RE)

DATA OF RADIATION TEST

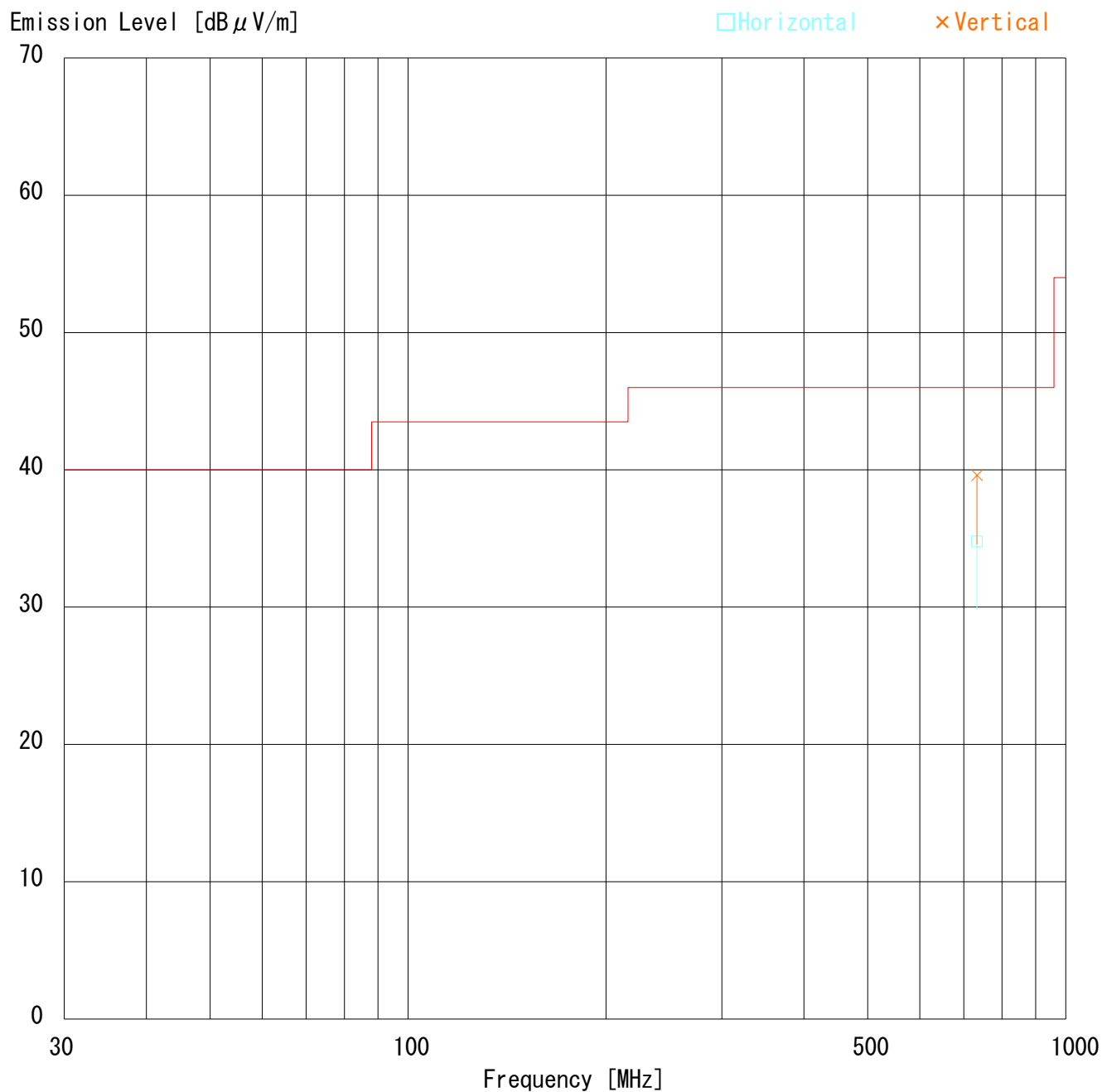
UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : AV Input1 + Rec (1Vp-p)
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura



DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : AV Input1 + Rec (5Vp-p)
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura

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.	30.00	BB	21.7	30.3	18.8	28.7	1.0	6.1	18.9	27.5	40.0	21.1	12.5
2.	71.57	BB	32.1	46.3	6.4	28.7	1.6	6.1	17.5	31.7	40.0	22.5	8.3
3.	202.72	BB	39.1	30.2	17.3	28.1	2.8	6.2	37.3	28.4	43.5	6.2	15.1
4.	231.42	BB	40.5	25.3	17.4	28.0	3.0	6.2	39.1	23.9	46.0	6.9	22.1
5.	405.00	BB	38.8	39.6	17.1	28.6	4.2	6.2	37.7	38.5	46.0	8.3	7.5
6.	655.71	BB	32.1	35.7	20.3	29.3	5.3	6.3	34.7	38.3	46.0	11.3	7.7
7.	674.99	BB	29.2	35.3	20.5	29.4	5.4	6.3	32.0	38.1	46.0	14.0	7.9
8.	694.28	BB	31.5	36.0	20.7	29.4	5.5	6.3	34.6	39.1	46.0	11.4	6.9
9.	732.85	BB	33.3	36.2	21.0	29.2	5.6	6.3	37.0	39.9	46.0	9.0	6.1

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

■ ANTENNA: KBA-03 (BBA9106) 30-299MHz/KLA-03 (USLP9143) 300-1000MHz
■ AMP: KAF-05 (8447D) ■ RECEIVER: KTR-01 (ESI40) ■ KCC-30_31_32_34 (RE)

DATA OF RADIATION TEST

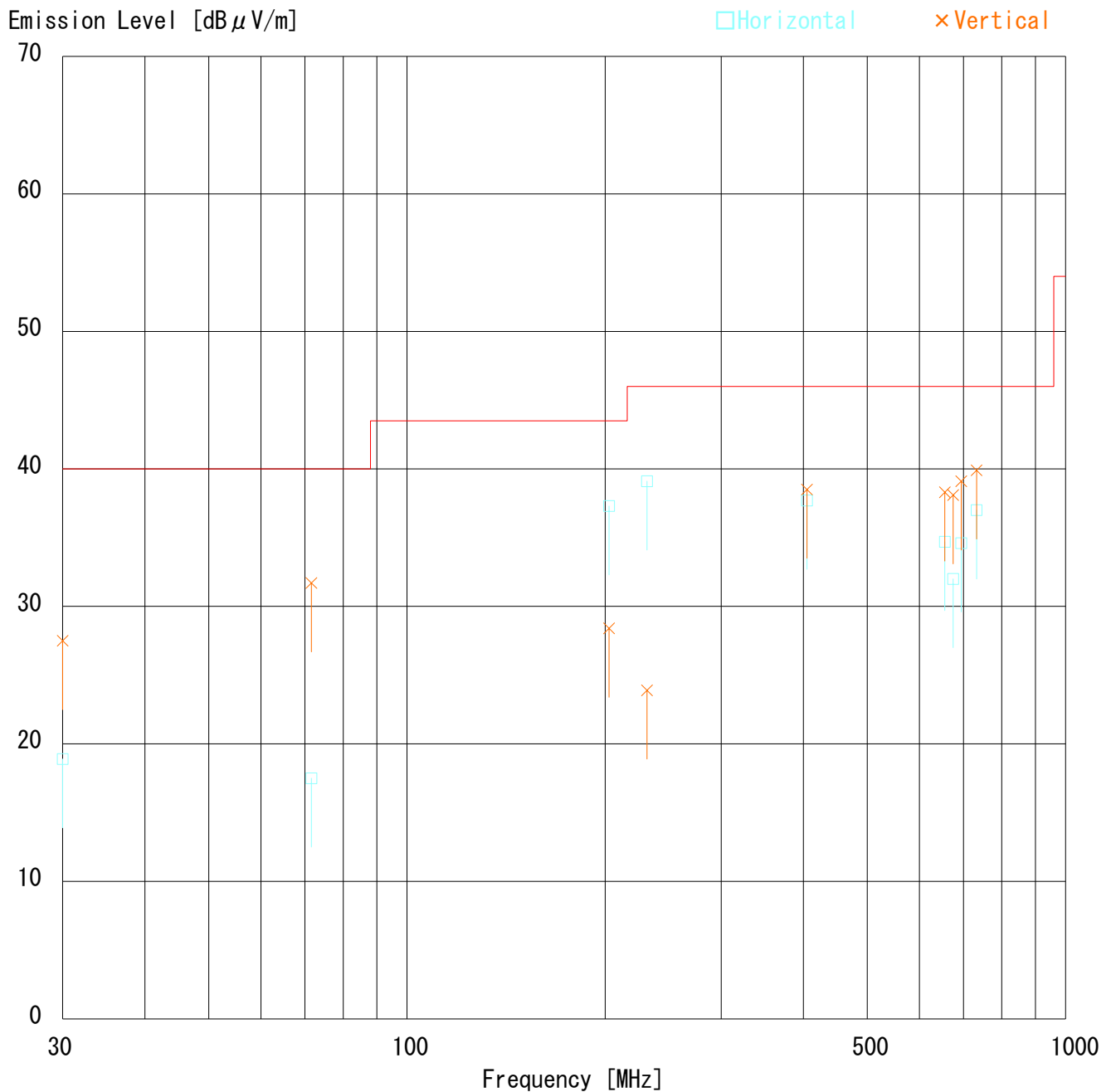
UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : AV Input1 + Rec (5Vp-p)
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15. 109(a)

Engineer : Toyokazu Imamura



DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : AV Input1 + Rec (5Vp-p)
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura

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.	1484.96	BB	44.1	42.7	26.1	37.7	3.2	0.0	35.7	34.3	54.0	18.3	19.7

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

■ ANTENNA: KHA-01 (SAS-200 571) 1-18GHz/KHA-03 (3160-09) 18-26GHz

■ CABLE: KCC-D17/D13 ■ PREAMP: KAF-02 (8449B) ■ EMI RECEIVER: KTR-01 (ES140)

DATA OF RADIATION TEST

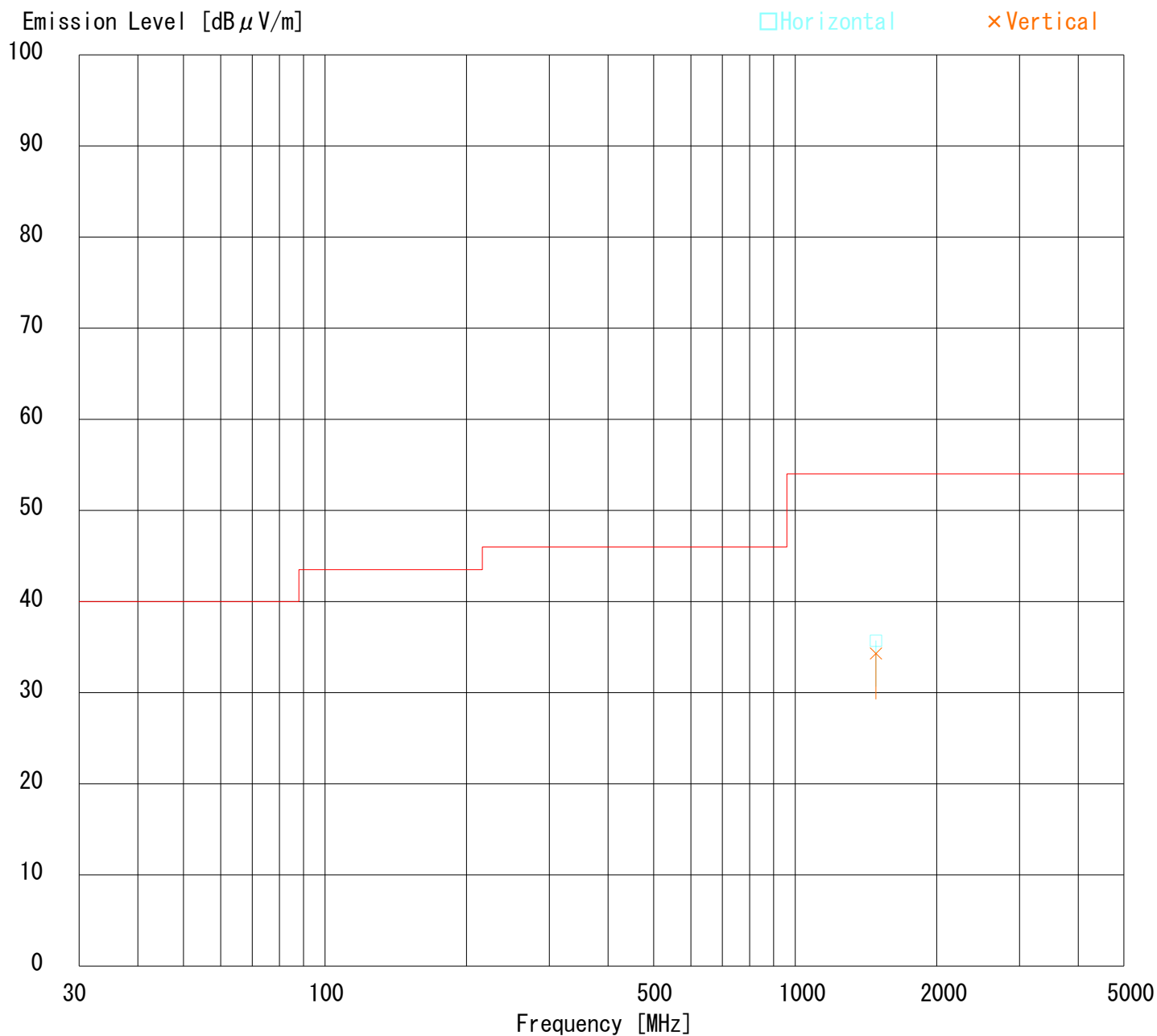
UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : AV Input1 + Rec (5Vp-p)
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura



DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : AV Input1 + Rec (5Vp-p)
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B CLASS B(PK)

Engineer : Toyokazu Imamura

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.	1484.96	BB	53.1	51.6	26.1	37.7	3.2	0.0	44.7	43.2	74.0	29.3	30.8

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

■ ANTENNA: KHA-01 (SAS-200 571) 1-18GHz/KHA-03 (3160-09) 18-26GHz

■ CABLE: KCC-D17/D13 ■ PREAMP: KAF-02 (8449B) ■ EMI RECEIVER: KTR-01 (ES140)

DATA OF RADIATION TEST

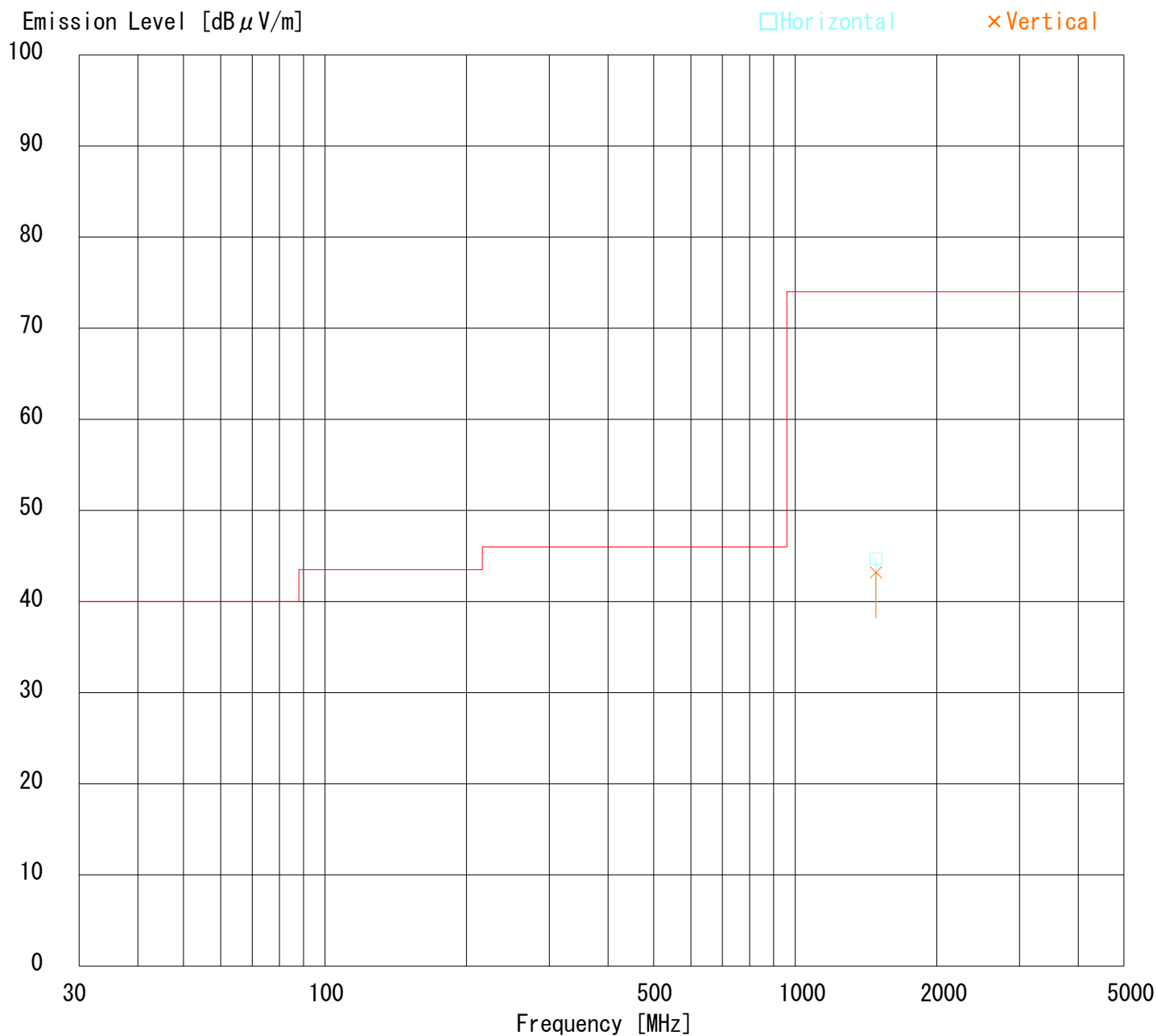
UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : AV Input1 + Rec (5Vp-p)
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B CLASS B(PK)

Engineer : Toyokazu Imamura



DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : AV Input2 + Rec (1Vp-p)
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura

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.	202.71	BB	39.0	32.5	17.3	28.1	2.8	6.2	37.2	30.7	43.5	6.3	12.8

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

■ ANTENNA: KBA-03 (BBA9106) 30-299MHz/KLA-03 (USLP9143) 300-1000MHz

■ AMP: KAF-05 (8447D) ■ RECEIVER: KTR-01 (ES140) ■ KCC-30_31_32_34 (RE)

DATA OF RADIATION TEST

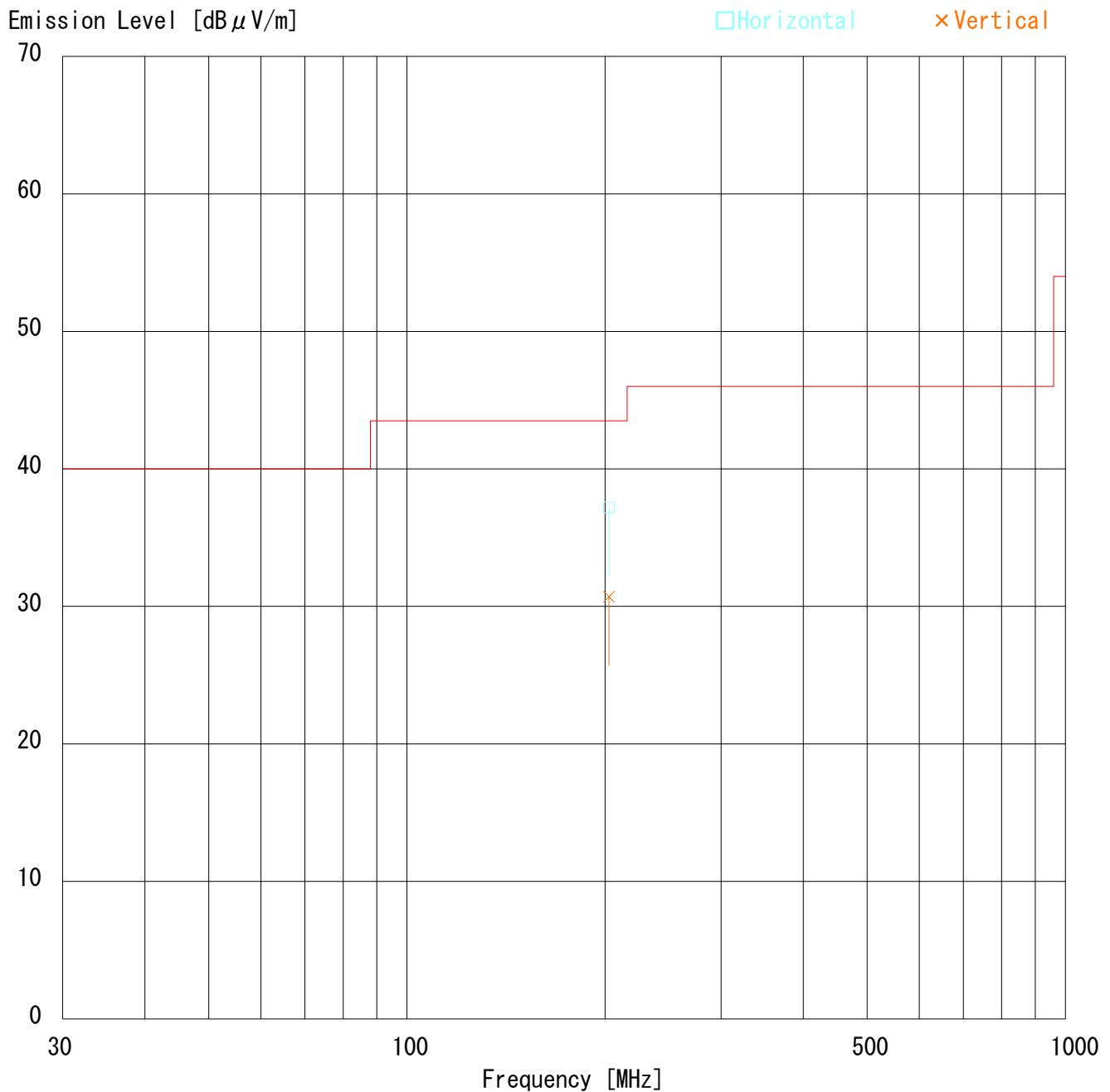
UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : AV Input2 + Rec (1Vp-p)
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura



DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : AV Input2 + Rec (5Vp-p)
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura

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.	42.95	BB	30.0	39.9	13.7	28.8	1.2	6.1	22.2	32.1	40.0	17.8	7.9
2.	71.58	BB	38.8	48.2	6.4	28.7	1.6	6.1	24.2	33.6	40.0	15.8	6.4
3.	202.72	BB	39.2	33.0	17.3	28.1	2.8	6.2	37.4	31.2	43.5	6.1	12.3
4.	231.43	BB	38.2	28.7	17.4	28.0	3.0	6.2	36.8	27.3	46.0	9.2	18.7
5.	405.00	BB	40.9	40.8	17.1	28.6	4.2	6.2	39.8	39.7	46.0	6.2	6.3
6.	655.71	BB	32.1	33.7	20.3	29.3	5.3	6.3	34.7	36.3	46.0	11.3	9.7
7.	674.99	BB	33.6	35.2	20.5	29.4	5.4	6.3	36.4	38.0	46.0	9.6	8.0
8.	694.28	BB	33.0	34.1	20.7	29.4	5.5	6.3	36.1	37.2	46.0	9.9	8.8
9.	732.84	BB	35.2	36.0	21.0	29.2	5.6	6.3	38.9	39.7	46.0	7.1	6.3

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

■ ANTENNA: KBA-03 (BBA9106) 30-299MHz/KLA-03 (USLP9143) 300-1000MHz
■ AMP: KAF-05 (8447D) ■ RECEIVER: KTR-01 (ESI40) ■ KCC-30_31_32_34 (RE)

DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

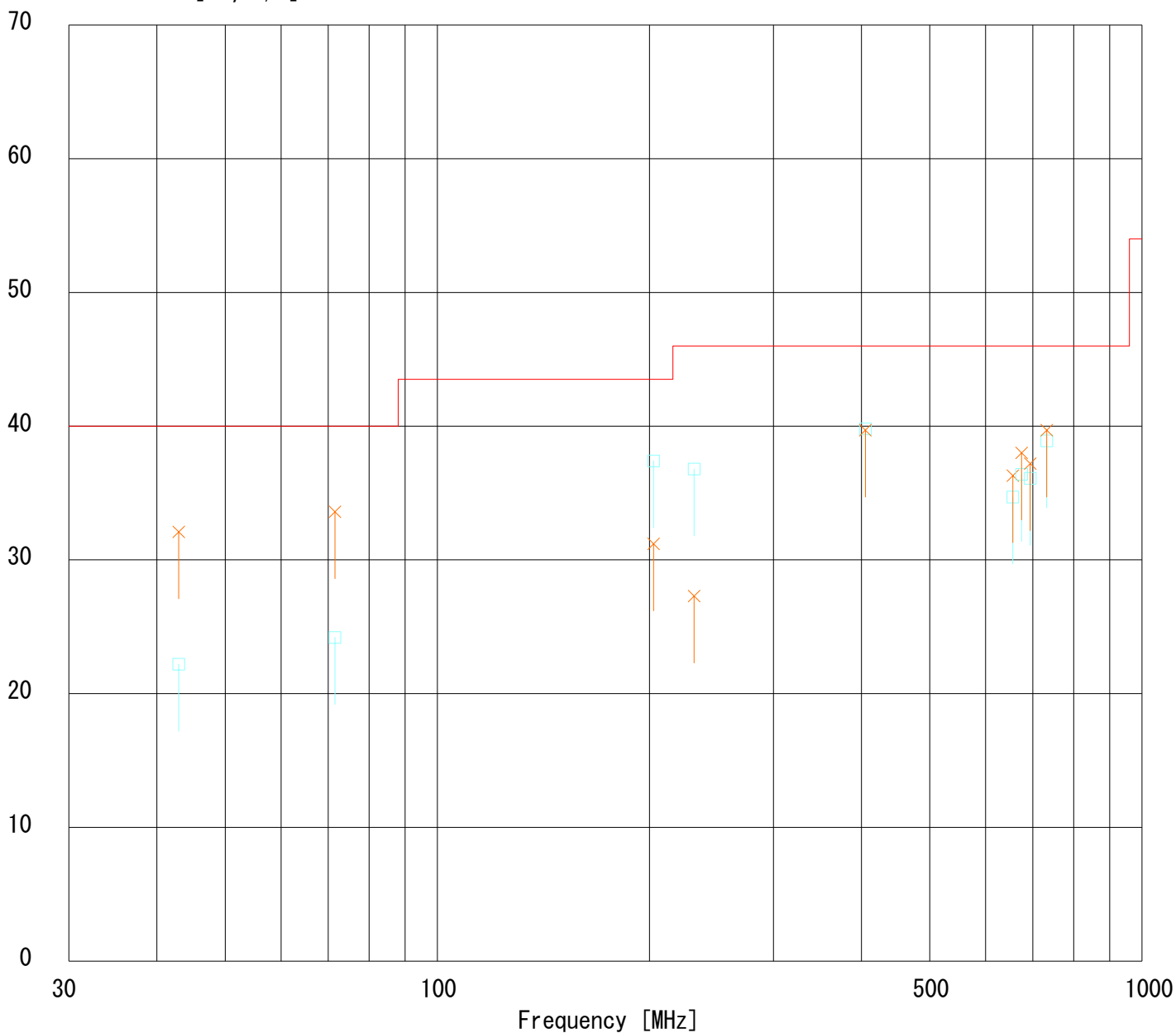
Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : AV Input2 + Rec (5Vp-p)
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15. 109 (a)

Engineer : Toyokazu Imamura

Emission Level [dB μ V/m]

□ Horizontal

× Vertical



DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : AV Input2 + Rec (5Vp-p)
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura

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.	1484.96	BB	45.2	43.6	26.1	37.7	3.2	0.0	36.8	35.2	54.0	17.2	18.8

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

■ ANTENNA: KHA-01 (SAS-200 571) 1-18GHz/KHA-03 (3160-09) 18-26GHz

■ CABLE: KCC-D17/D13 ■ PREAMP: KAF-02 (8449B) ■ EMI RECEIVER: KTR-01 (ES140)

DATA OF RADIATION TEST

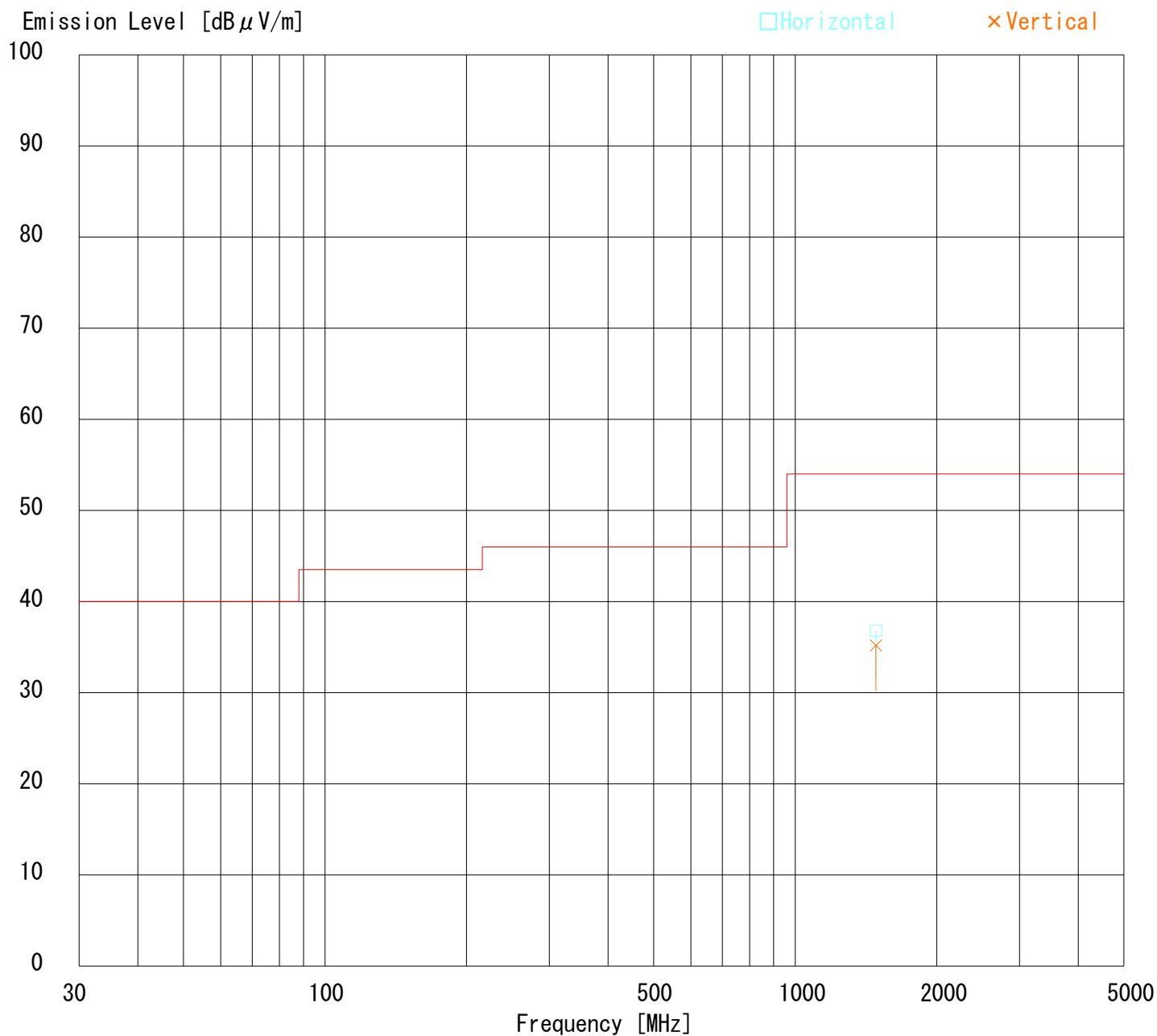
UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : AV Input2 + Rec (5Vp-p)
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura



DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : AV Input2 + Rec (5Vp-p)
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B CLASS B(PK)

Engineer : Toyokazu Imamura

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.	1484.96	BB	55.6	52.4	26.1	37.7	3.2	0.0	47.2	44.0	74.0	26.8	30.0

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

■ ANTENNA: KHA-01 (SAS-200 571) 1-18GHz/KHA-03 (3160-09) 18-26GHz

■ CABLE: KCC-D17/D13 ■ PREAMP: KAF-02 (8449B) ■ EMI RECEIVER: KTR-01 (ES140)

DATA OF RADIATION TEST

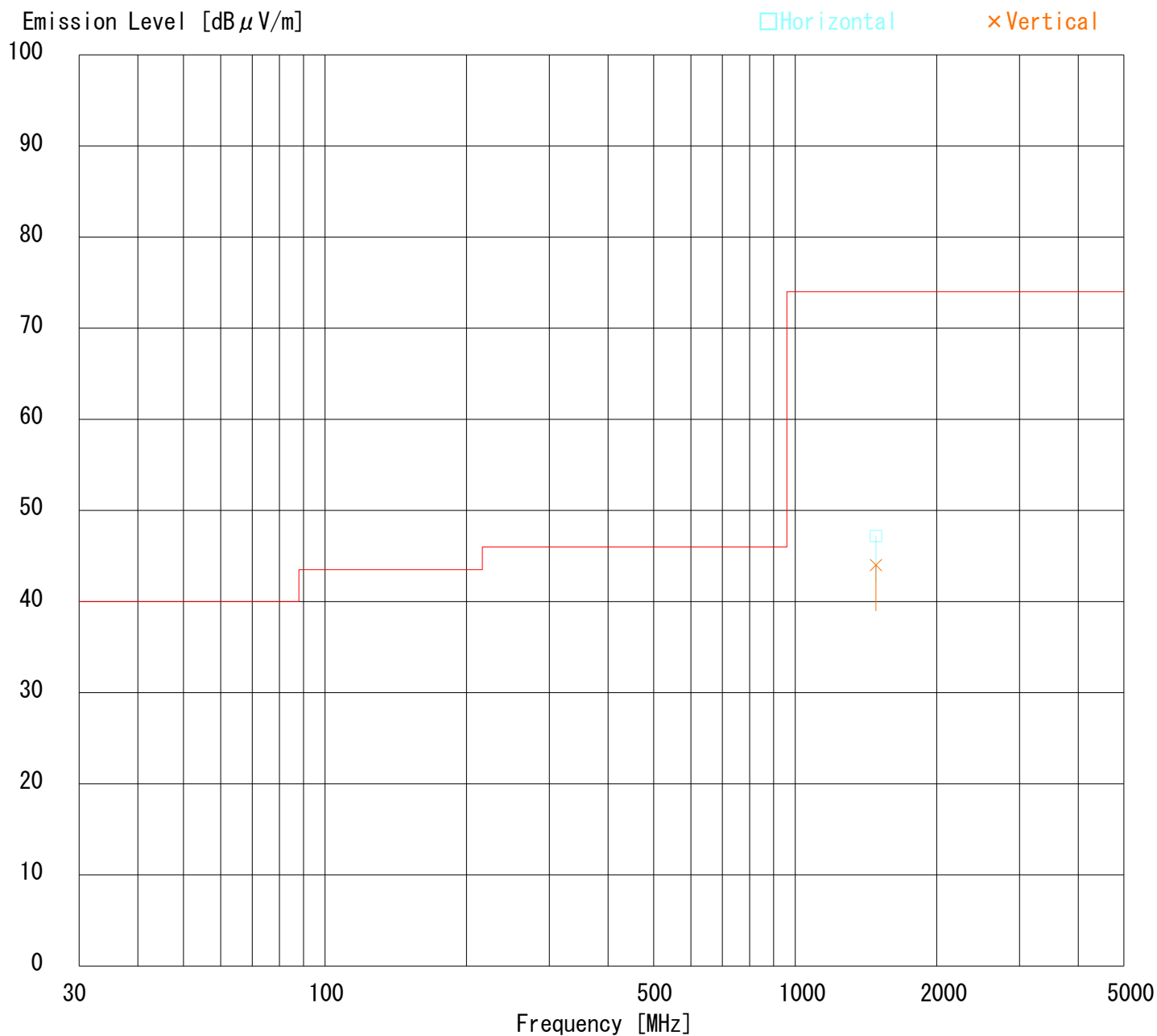
UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : AV Input2 + Rec (5Vp-p)
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B CLASS B(PK)

Engineer : Toyokazu Imamura



DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : VCR Playback
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura

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.	202.71	BB	39.0	31.4	17.3	28.1	2.8	6.2	37.2	29.6	43.5	6.3	13.9
2.	231.43	BB	41.0	30.4	17.4	28.0	3.0	6.2	39.6	29.0	46.0	6.4	17.0
3.	405.00	BB	35.7	40.5	17.1	28.6	4.2	6.2	34.6	39.4	46.0	11.4	6.6
4.	655.71	BB	33.6	34.4	20.3	29.3	5.3	6.3	36.2	37.0	46.0	9.8	9.0
5.	675.00	BB	32.2	34.8	20.5	29.4	5.4	6.3	35.0	37.6	46.0	11.0	8.4
6.	694.29	BB	32.0	34.6	20.7	29.4	5.5	6.3	35.1	37.7	46.0	10.9	8.3
7.	732.86	BB	31.9	36.0	21.0	29.2	5.6	6.3	35.6	39.7	46.0	10.4	6.3

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

■ ANTENNA: KBA-03 (BBA9106) 30-299MHz/KLA-03 (USLP9143) 300-1000MHz

■ AMP: KAF-05 (8447D) ■ RECEIVER: KTR-01 (ES140) ■ KCC-30_31_32_34 (RE)

DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

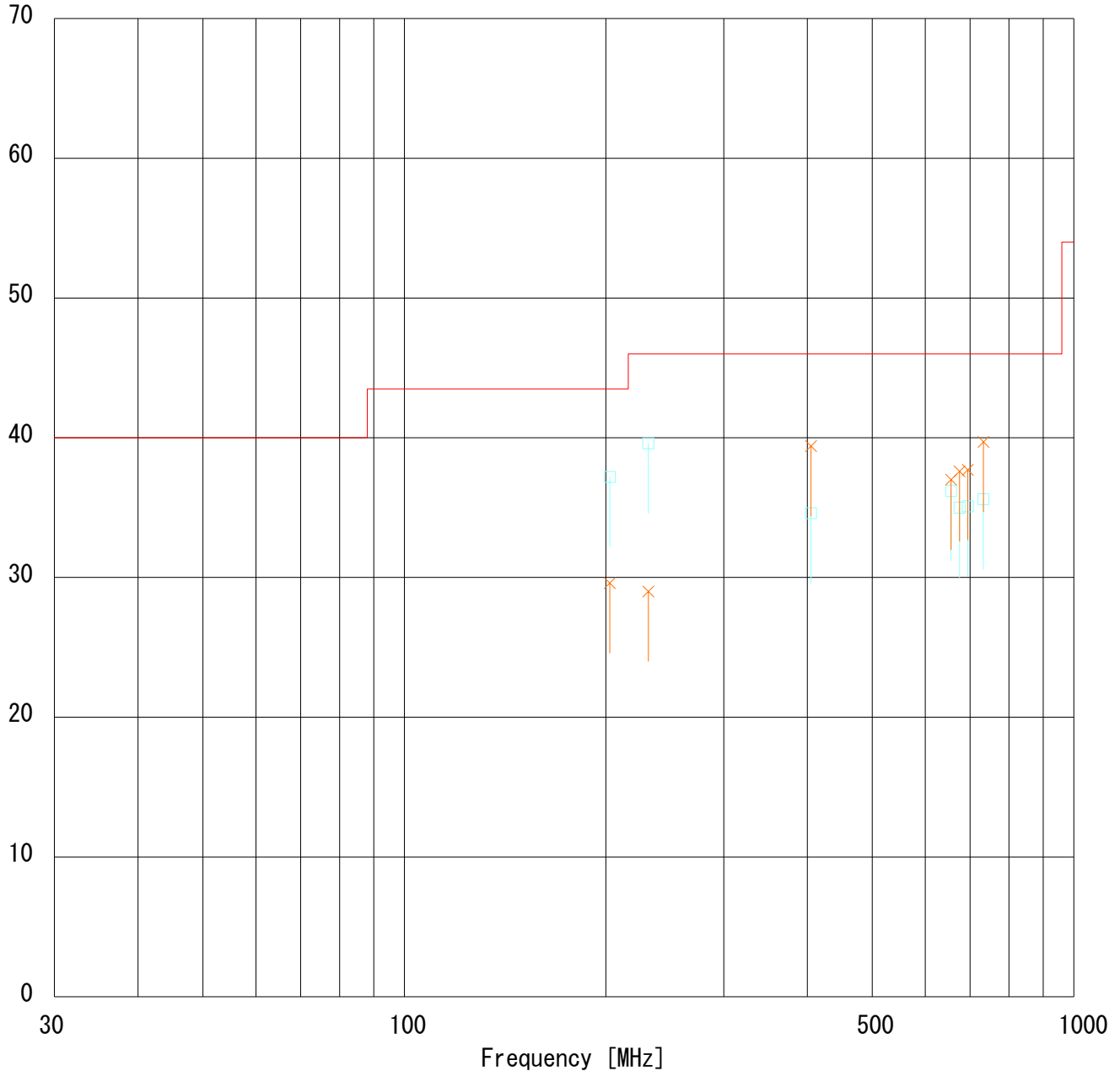
Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : VCR Playback
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura

Emission Level [dB μ V/m]

□ Horizontal

× Vertical



DATA OF RADIATION TEST

UL Apex Co.,Ltd.
Yamakita No.1 Anechoic Chamber
Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : VCR Playback
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura

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.	1484.96	BB	45.3	43.5	26.1	37.7	3.2	0.0	36.9	35.1	54.0	17.1	18.9

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

■ ANTENNA: KHA-01 (SAS-200 571) 1-18GHz/KHA-03 (3160-09) 18-26GHz
■ CABLE: KCC-D17/D13 ■ PREAMP: KAF-02 (8449B) ■ EMI RECEIVER: KTR-01 (ES140)

DATA OF RADIATION TEST

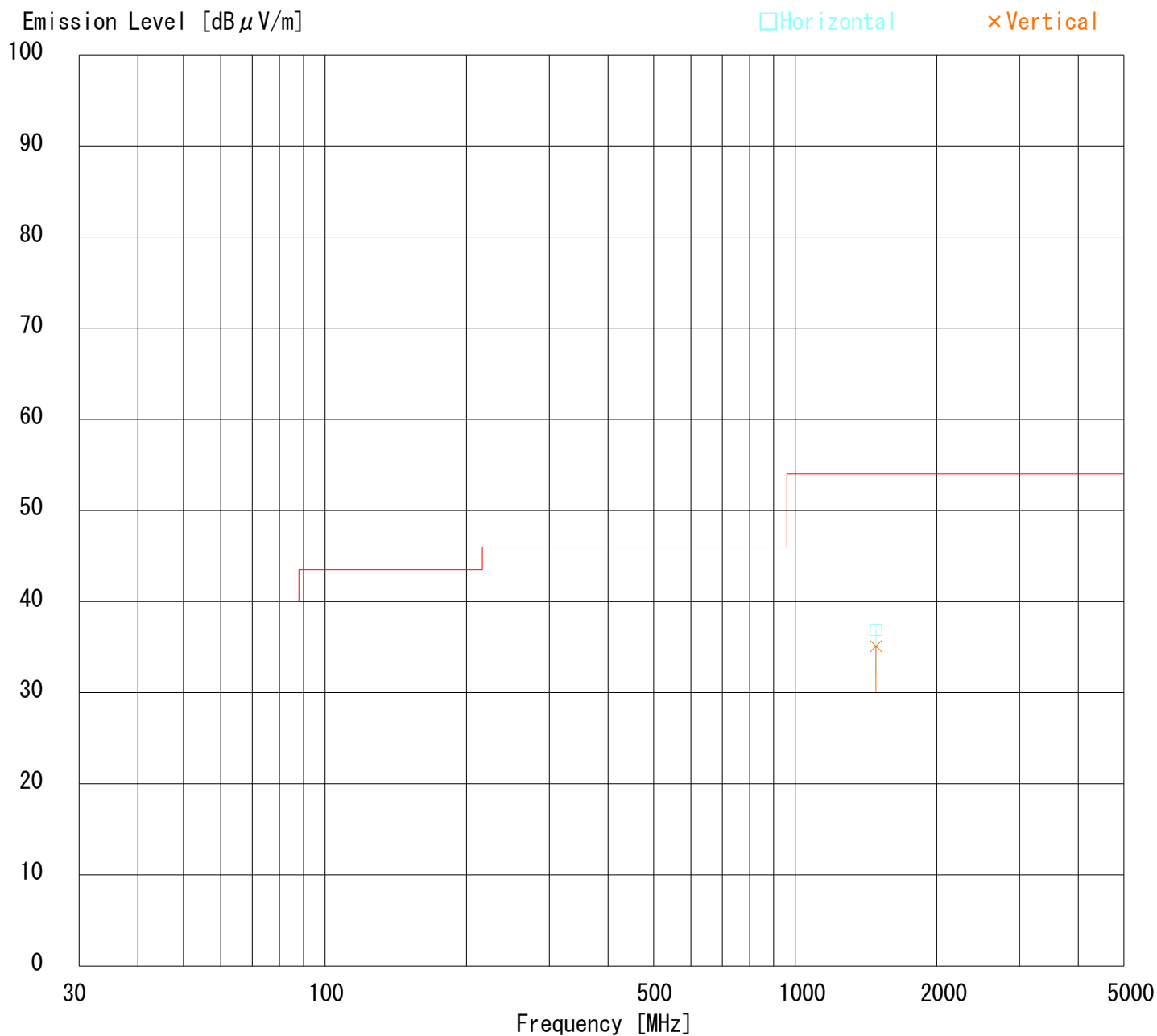
UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : VCR Playback
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura



DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : VCR Playback
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B CLASS B(PK)

Engineer : Toyokazu Imamura

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.	1484.96	BB	55.3	51.5	26.1	37.7	3.2	0.0	46.9	43.1	74.0	27.1	30.9

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

■ ANTENNA: KHA-01 (SAS-200 571) 1-18GHz/KHA-03 (3160-09) 18-26GHz

■ CABLE: KCC-D17/D13 ■ PREAMP: KAF-02 (8449B) ■ EMI RECEIVER: KTR-01 (ES140)

DATA OF RADIATION TEST

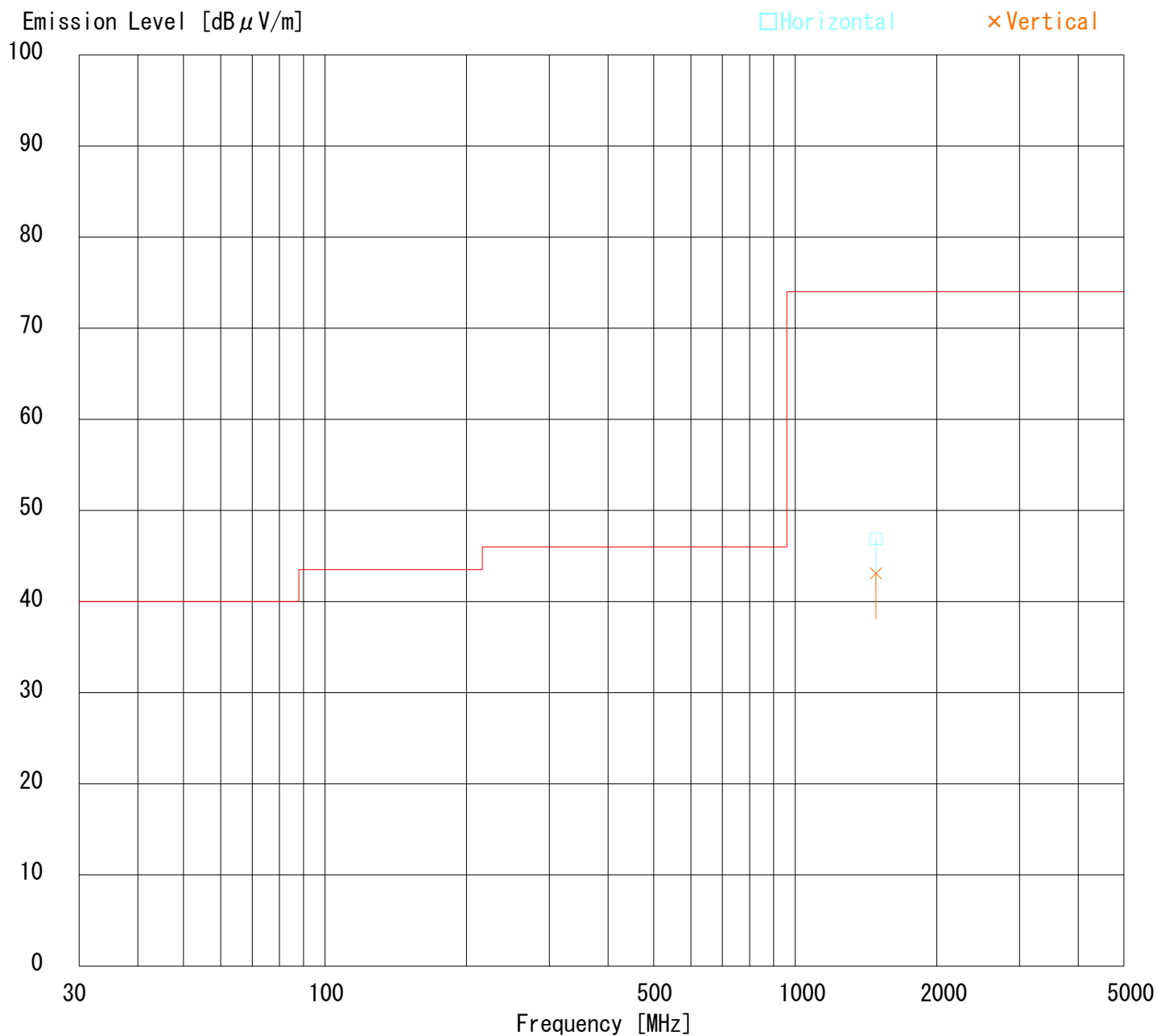
UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : VCR Playback
Remarks : -
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B CLASS B(PK)

Engineer : Toyokazu Imamura



DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : DVD Play
Remarks :
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura

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.	202.71	BB	39.0	31.0	17.3	28.1	2.8	6.2	37.2	29.2	43.5	6.3	14.3
2.	231.42	BB	40.2	29.4	17.4	28.0	3.0	6.2	38.8	28.0	46.0	7.2	18.0
3.	404.99	BB	36.0	40.7	17.1	28.6	4.2	6.2	34.9	39.6	46.0	11.1	6.4
4.	655.71	BB	34.4	33.9	20.3	29.3	5.3	6.3	37.0	36.5	46.0	9.0	9.5
5.	675.00	BB	31.3	35.5	20.5	29.4	5.4	6.3	34.1	38.3	46.0	11.9	7.7
6.	694.28	BB	31.5	34.1	20.7	29.4	5.5	6.3	34.6	37.2	46.0	11.4	8.8
7.	732.85	BB	32.4	36.2	21.0	29.2	5.6	6.3	36.1	39.9	46.0	9.9	6.1

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

■ ANTENNA: KBA-03 (BBA9106) 30-299MHz/KLA-03 (USLP9143) 300-1000MHz

■ AMP: KAF-05 (8447D) ■ RECEIVER: KTR-01 (ES140) ■ KCC-30_31_32_34 (RE)

DATA OF RADIATION TEST

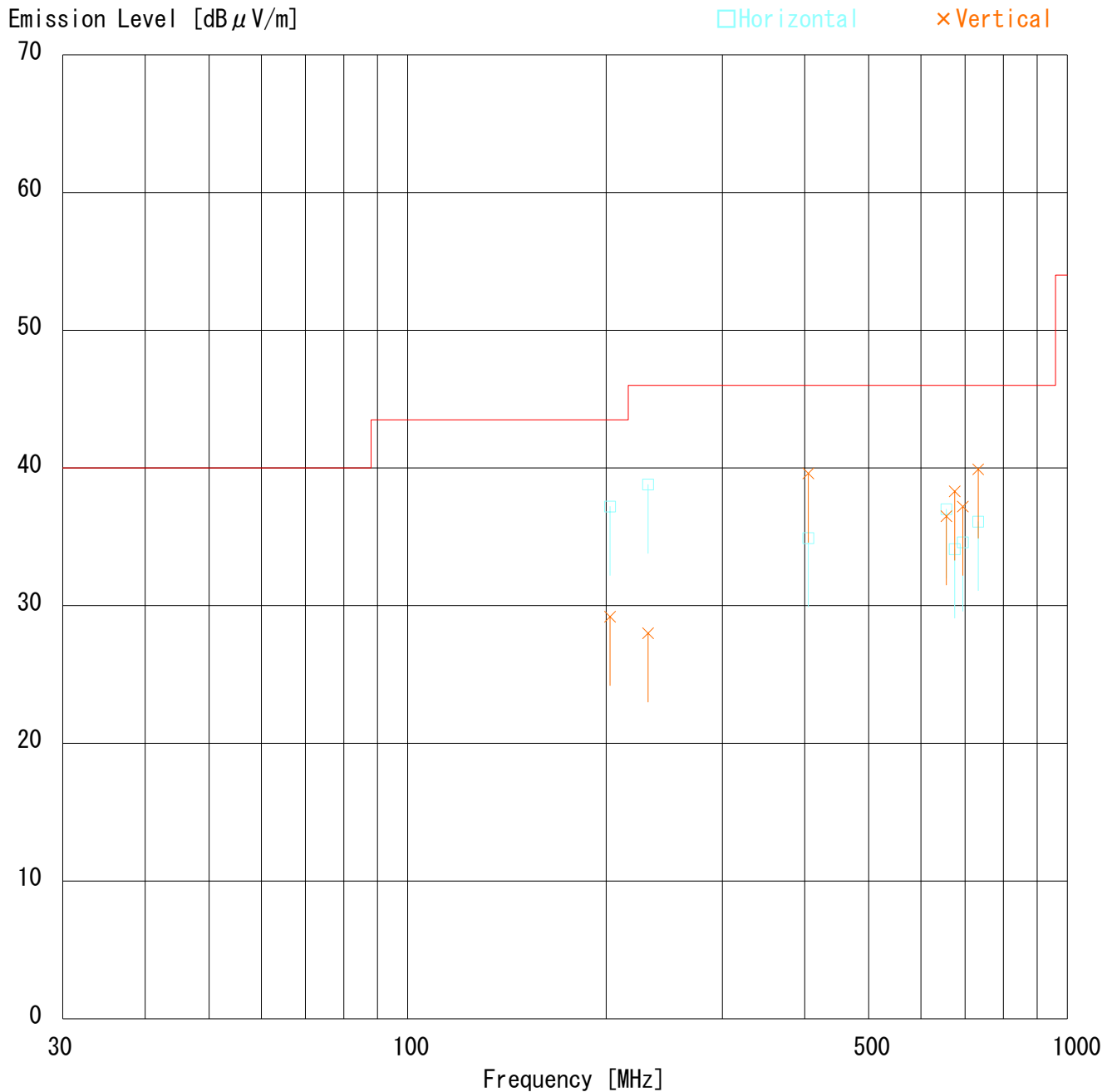
UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : DVD Play
Remarks :
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura



DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : DVD Play
Remarks :
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura

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.	1157.19	BB	40.2	47.6	24.8	38.6	2.9	0.0	29.3	36.7	54.0	24.7	17.3

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

■ ANTENNA: KHA-01 (SAS-200 571) 1-18GHz/KHA-03 (3160-09) 18-26GHz

■ CABLE: KCC-D17/D13 ■ PREAMP: KAF-02 (8449B) ■ EMI RECEIVER: KTR-01 (ES140)

DATA OF RADIATION TEST

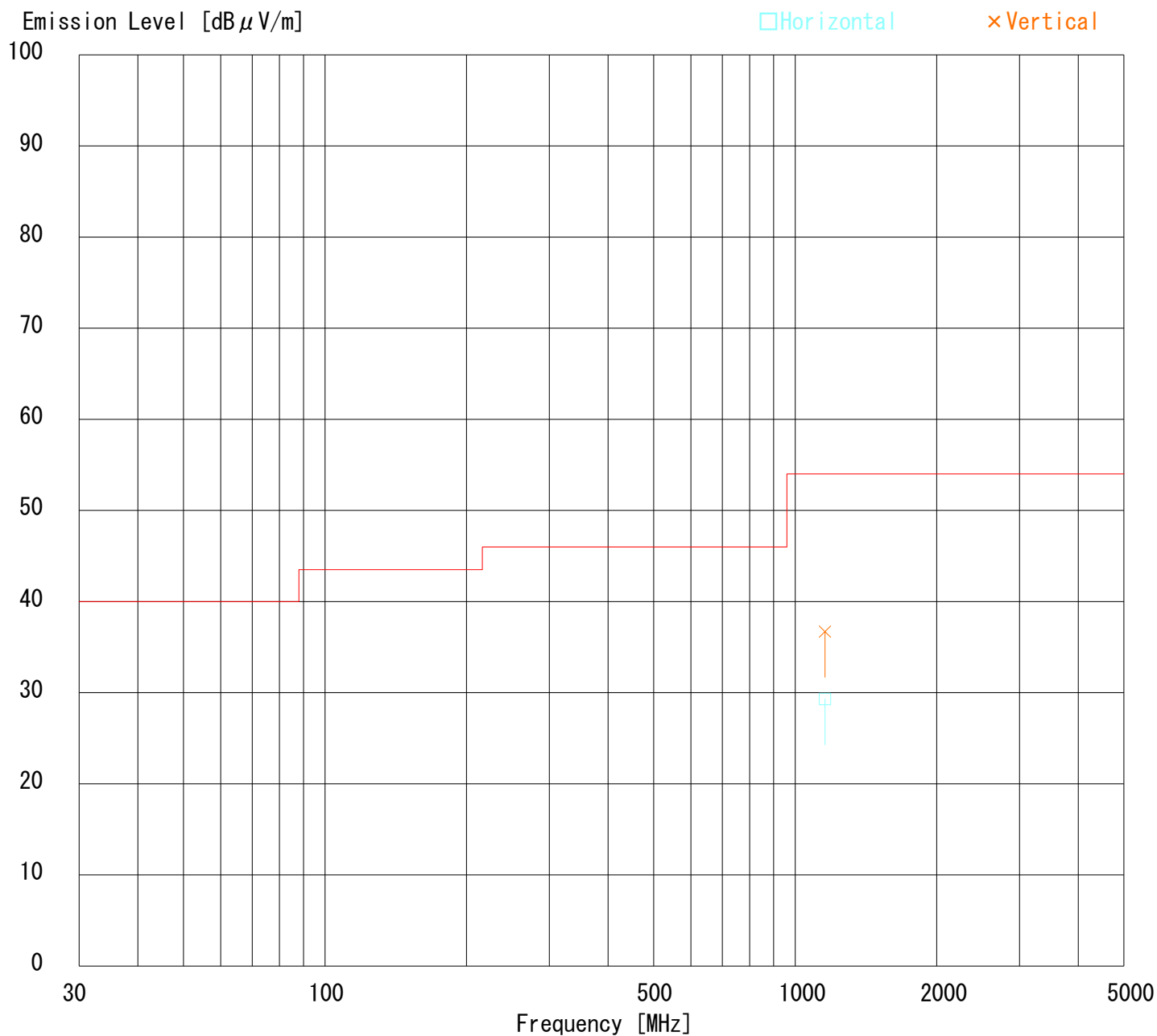
UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : DVD Play
Remarks :
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura



DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : DVD Play
Remarks :
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B CLASS B(PK)

Engineer : Toyokazu Imamura

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.	1157.19	BB	50.6	55.3	24.8	38.6	2.9	0.0	39.7	44.4	74.0	34.3	29.6

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

■ ANTENNA:KHA-01 (SAS-200 571) 1-18GHz/KHA-03 (3160-09) 18-26GHz

■ CABLE:KCC-D17/D13 ■ PREAMP:KAF-02 (8449B) ■ EMI RECEIVER:KTR-01 (ES140)

DATA OF RADIATION TEST

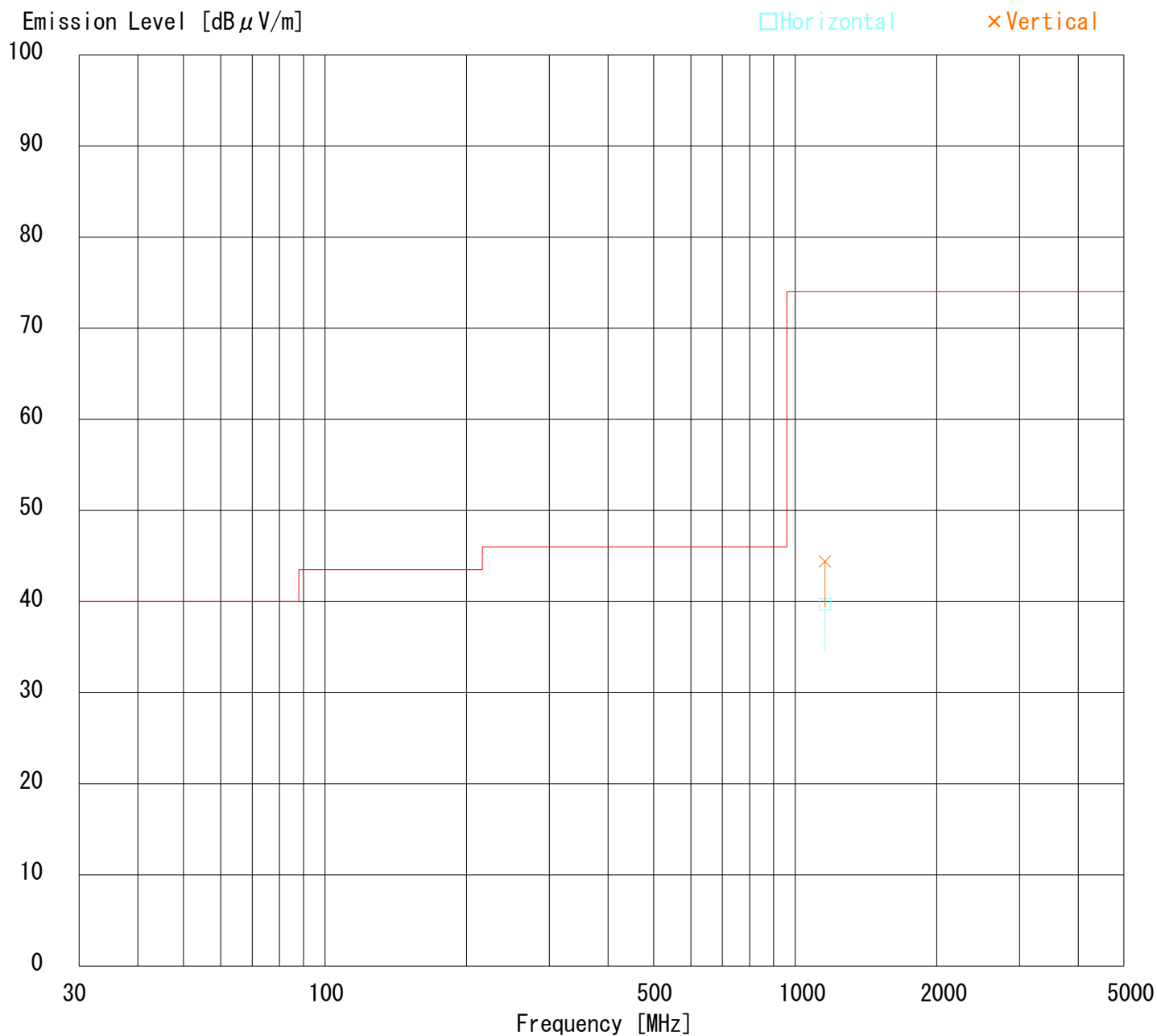
UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : DVD Play
Remarks :
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B CLASS B(PK)

Engineer : Toyokazu Imamura



DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception (25dBmV)
Remarks : Test Channel #3
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura

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.	61.25	BB	21.7	22.6	8.1	28.7	1.5	6.1	8.7	9.6	40.0	31.3	30.4
2.	65.75	BB	21.7	22.1	7.3	28.7	1.5	6.1	7.9	8.3	40.0	32.1	31.7
3.	122.50	BB	22.6	22.0	13.6	28.5	2.2	6.2	16.1	15.5	43.5	27.4	28.0
4.	245.00	BB	20.6	22.3	17.5	27.9	3.1	6.2	19.5	21.2	46.0	26.5	24.8

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

■ ANTENNA: KBA-03 (BBA9106) 30-299MHz/KLA-03 (USLP9143) 300-1000MHz

■ AMP: KAF-05 (8447D) ■ RECEIVER: KTR-01 (ESI40) ■ KCC-30_31_32_34 (RE)

DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception (25dBmV)
Remarks : Test Channel #3
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura

Emission Level [dB μ V/m]

□ Horizontal

× Vertical

70

60

50

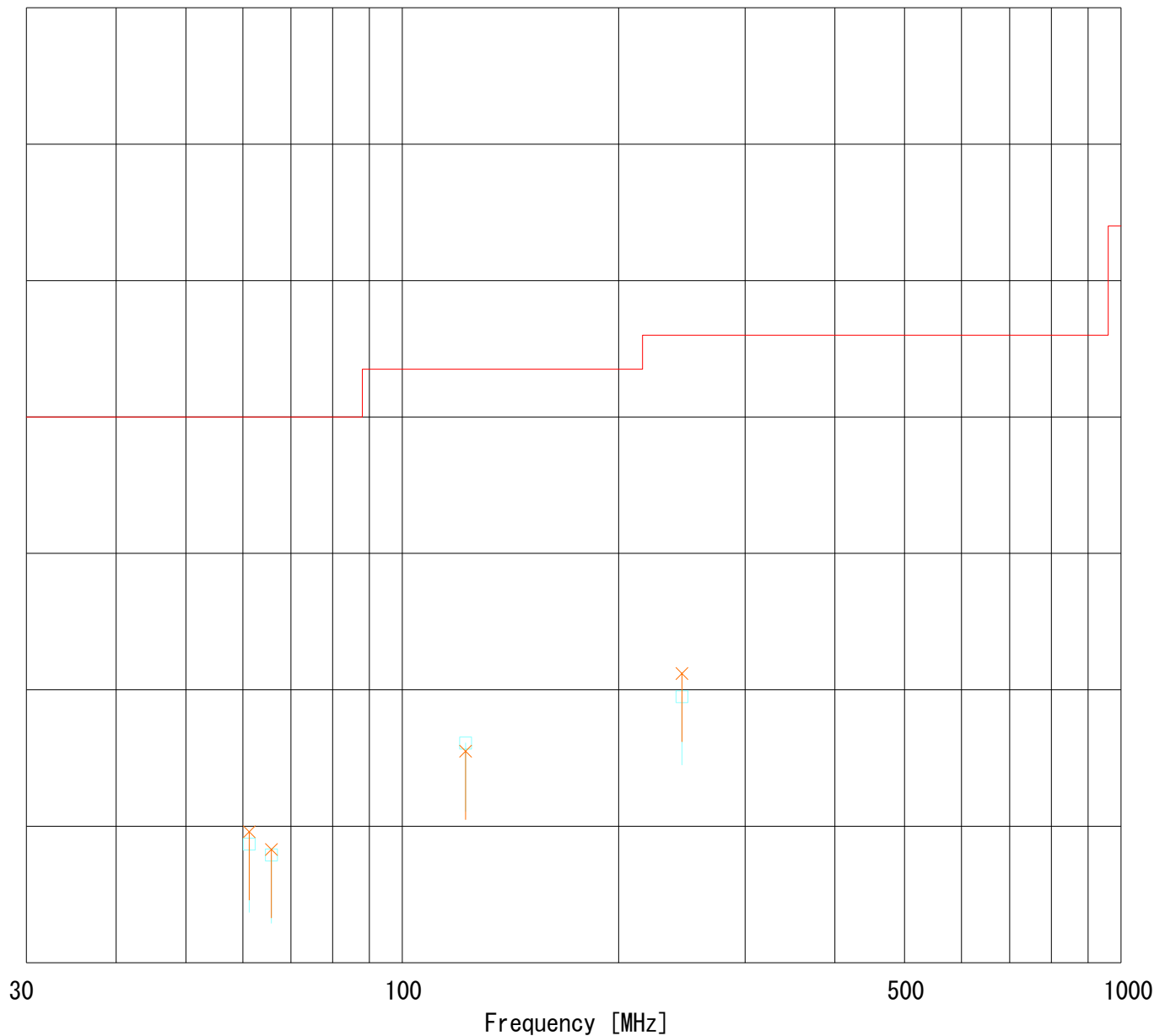
40

30

20

10

0



DATA OF RADIATION TEST

UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception (25dBmV)
Remarks : Test Channel #4
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura

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.	61.75	BB	21.6	22.1	8.0	28.7	1.5	6.1	8.5	9.0	40.0	31.5	31.0
2.	71.75	BB	21.7	22.0	6.4	28.7	1.6	6.1	7.1	7.4	40.0	32.9	32.6
3.	134.50	BB	21.4	21.6	14.4	28.4	2.3	6.2	15.9	16.1	43.5	27.6	27.4
4.	201.75	BB	20.9	20.8	17.3	28.1	2.8	6.2	19.1	19.0	43.5	24.4	24.5

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

■ ANTENNA: KBA-03 (BBA9106) 30-299MHz/KLA-03 (USLP9143) 300-1000MHz

■ AMP: KAF-05 (8447D) ■ RECEIVER: KTR-01 (ESI40) ■ KCC-30_31_32_34 (RE)

DATA OF RADIATION TEST

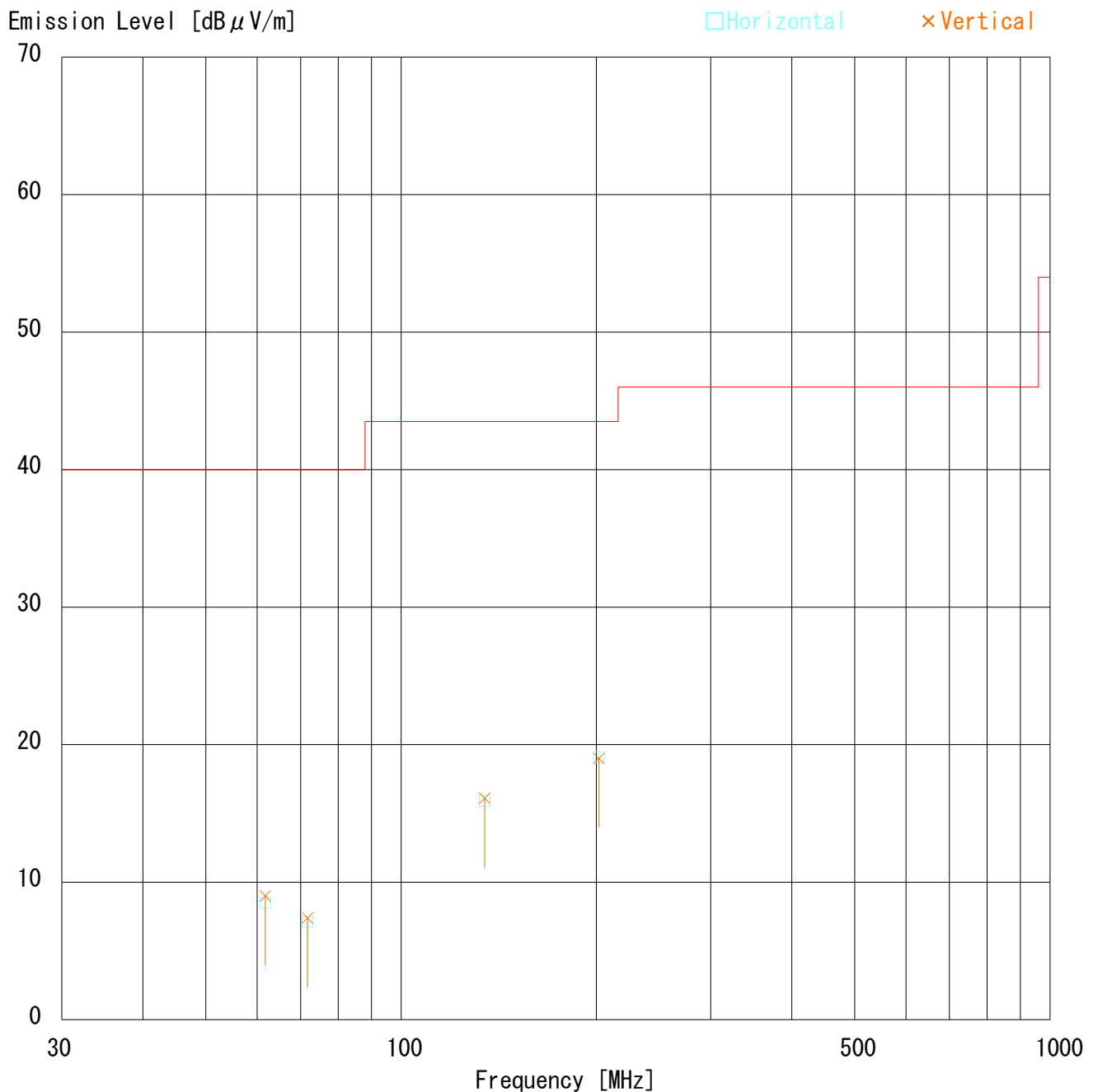
UL Apex Co.,Ltd.

Yamakita No.1 Anechoic Chamber

Report No. : 25GE0166-YW-1

Applicant : Orion Electric Co.,Ltd.
Kind of Equipment : DVD-RW/VCR
Model No. : DVR-RT501-S
Serial No. :
Power : AC120V/60Hz
Mode : TV Reception (25dBmV)
Remarks : Test Channel #4
Date : 2/25/2005
Test Distance : 3 m
Temperature : 23 °C
Humidity : 35 %
Regulation : FCC Part15B § 15.109(a)

Engineer : Toyokazu Imamura



DATA OF ANTENNA TERMINAL TEST

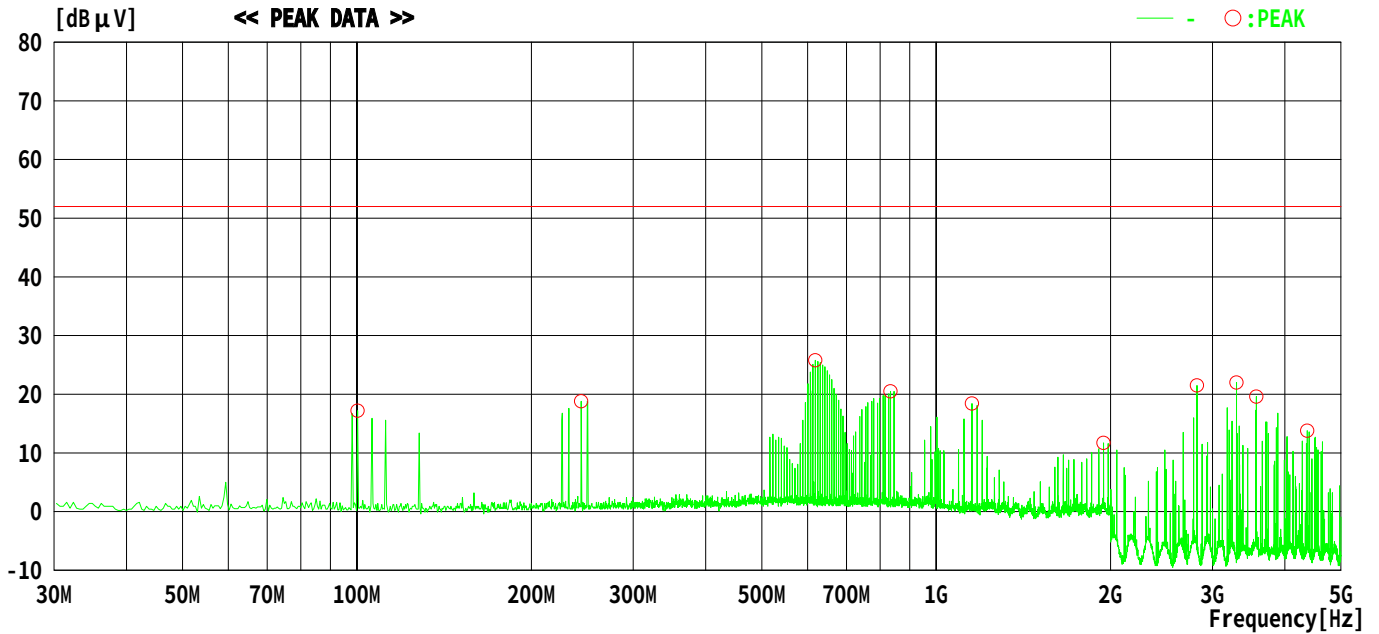
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co.,Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
OPERATION MODE : TV Tuning mode

REPORT NO : 25GE0166-YW-1
DATE : February 16,2005
REGULATION : FCC Part15 SubpartB
TEST ENGINEER : Tsubasa Takayama

TEMP./HUMID. : 26°C/68%

LIMIT : FCC 15B ANTENNA TERMINAL



NO	FREQ [MHz]	READING Peak [dB μV]	C.F [dB]	RESULT Peak [dB μV]	LIMIT Peak [dB μV]	MARGIN [dB]	PHASE
1	100.24260	37.8	-20.6	17.2	52.0	34.8	-
2	243.95050	39.2	-20.4	18.8	52.0	33.2	-
3	618.56780	46.2	-20.4	25.8	52.0	26.2	-
4	834.14830	41.2	-20.7	20.5	52.0	31.5	-
5	1152.84800	48.8	-30.4	18.4	52.0	33.6	-
6	1945.68200	41.2	-29.5	11.7	52.0	40.3	-
7	2819.94400	57.5	-36.0	21.5	52.0	30.5	-
8	3299.97800	58.2	-36.2	22.0	52.0	30.0	-
9	3571.38700	55.8	-36.2	19.6	52.0	32.4	-
10	4371.44800	50.0	-36.2	13.8	52.0	38.2	-

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

DATA OF ANTENNA TERMINAL TEST

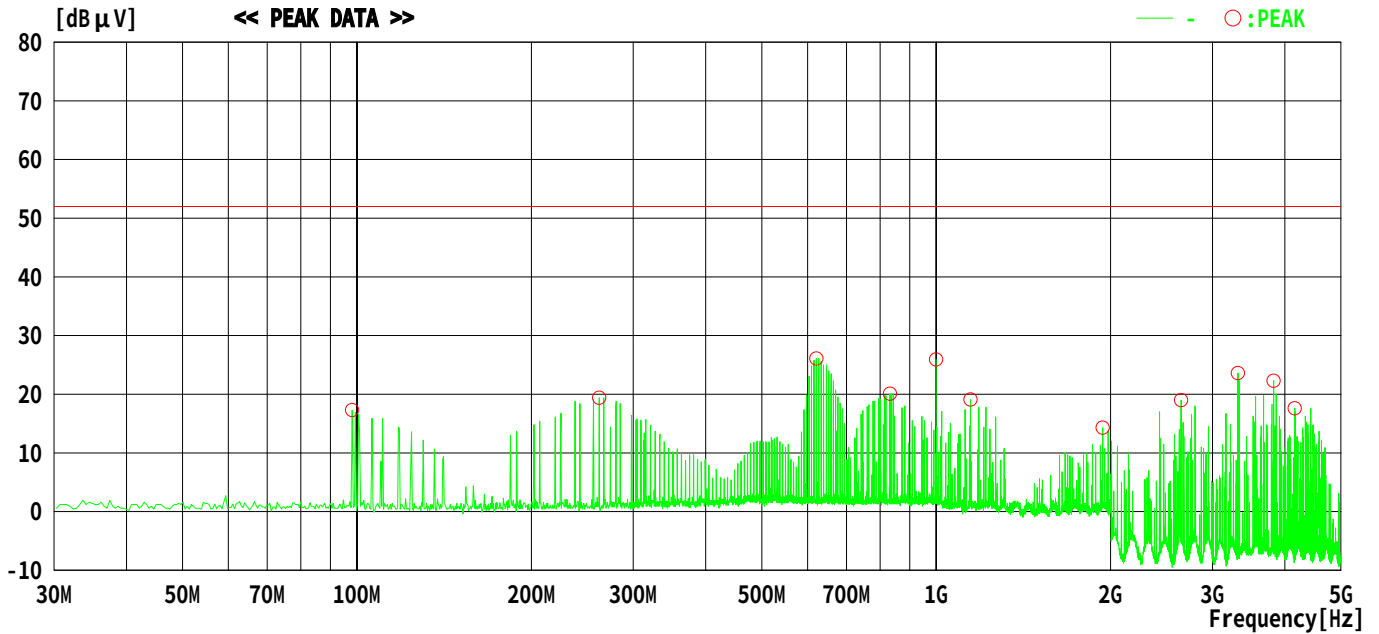
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co.,Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
OPERATION MODE : CATV Tuning mode

REPORT NO : 25GE0166-YW-1
DATE : February 16,2005
REGULATION : FCC Part15 SubpartB
TEST ENGINEER : Tsubasa Takayama

TEMP./HUMID. : 26°C/68%

LIMIT : FCC 15B ANTENNA TERMINAL



NO	FREQ [MHz]	READING Peak [dB μV]	C.F [dB]	RESULT Peak [dB μV]	LIMIT Peak [dB μV]	MARGIN - [dB]	PHASE
1	98.13543	37.8	-20.5	17.3	52.0	34.7	-
2	262.07190	39.8	-20.4	19.4	52.0	32.6	-
3	621.42490	46.5	-20.4	26.1	52.0	25.9	-
4	832.43400	40.8	-20.7	20.1	52.0	31.9	-
5	1000.00000	46.5	-20.6	25.9	52.0	26.1	-
6	1146.42000	49.5	-30.4	19.1	52.0	32.9	-
7	1938.53900	43.8	-29.5	14.3	52.0	37.7	-
8	2647.10000	55.0	-36.0	19.0	52.0	33.0	-
9	3319.97700	59.8	-36.2	23.6	52.0	28.4	-
10	3825.65400	58.5	-36.2	22.3	52.0	29.7	-
11	4159.99900	53.8	-36.2	17.6	52.0	34.4	-

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

RF Output Level

UL Apex Co.,Ltd.
Yokowa EMC Laboratory

Company	: Orion Electric Co., Ltd.	Report Number	: 25GE0166-YW-1
Equipment	: DVD-RW/VCR	Regulation	: FCC15B SubpartB
Model Number	: DVR-RT501-S	Date	: February 27, 2005
Power	: 120V/60Hz	Temp / Humid	: 21deg.C/41%
Description	: TV RECEPTION + REC	Engineer	: Tsubasa Takayama
Remarks	: -		

TV Reception(0dBmV)

Ch	Frequency [MHz]	Meter Reading [dB μ V]	Correction Factor [dB]	Result [dB]	Limits [dB μ V]	Margin [dB]
Video Signal						
3	61.25	82.1	20.9	61.2	69.5	8.3
4	67.25	82.0	20.9	61.1	69.5	8.4
Audio Signal						
3	56.75	68.8	20.9	47.9	56.5	8.7
	65.75	67.5	20.9	46.6	56.5	9.9
4	62.75	68.0	20.9	47.1	56.5	9.4
	71.75	66.8	20.9	45.9	56.5	10.6

TV Reception(25dBmV)

Ch	Frequency [MHz]	Meter Reading [dB μ V]	Correction Factor [dB]	Result [dB]	Limits [dB μ V]	Margin [dB]
Video Signal						
3	61.25	81.9	20.9	61.0	69.5	8.5
4	67.25	81.9	20.9	61.0	69.5	8.5
Audio Signal						
3	56.75	68.1	20.9	47.2	56.5	9.3
	65.75	67.5	20.9	46.6	56.5	9.9
4	62.75	68.2	20.9	47.3	56.5	9.2
	71.75	66.8	20.9	45.9	56.5	10.6

RF Output Level

UL Apex Co.,Ltd.
Yokowa EMC Laboratory

Company : Orion Electric Co., Ltd.	Report Number : 25GE0166-YW-1
Equipment : DVD-RW/VCR	Regulation : FCC15B SubpartB
Model Number : DVR-RT501-S	Date : February 27, 2005
Power : 120V/60Hz	Temp / Humid : 21deg.C/41%
Description : AV Input 1 + REC	Engineer : Tsubasa Takayama
Remarks : -	

AV Input1(1Vp-p)

Ch	Frequency [MHz]	Meter Reading [dB μ V]	Correction Factor [dB]	Result [dB]	Limits [dB μ V]	Margin [dB]
Video Signal						
3	61.25	82.0	20.9	61.1	69.5	8.4
4	67.25	82.1	20.9	61.2	69.5	8.3
Audio Signal						
3	56.75	68.1	20.9	47.2	56.5	9.3
	65.75	67.1	20.9	46.2	56.5	10.3
4	62.75	68.2	20.9	47.3	56.5	9.2
	71.75	67.0	20.9	46.1	56.5	10.4

AV Input1(5Vp-p)

Ch	Frequency [MHz]	Meter Reading [dB μ V]	Correction Factor [dB]	Result [dB]	Limits [dB μ V]	Margin [dB]
Video Signal						
3	61.25	81.9	20.9	61.0	69.5	8.6
4	67.25	82.1	20.9	61.2	69.5	8.3
Audio Signal						
3	56.75	68.5	20.9	47.6	56.5	8.9
	65.75	67.4	20.9	46.5	56.5	10.0
4	62.75	68.3	20.9	47.4	56.5	9.1
	71.75	67.0	20.9	46.1	56.5	10.4

RF Output Level

UL Apex Co.,Ltd.
Yokowa EMC Laboratory

Company : Orion Electric Co., Ltd.
Equipment : DVD-RW/VCR
Model Number : DVR-RT501-S
Power : 120V/60Hz
Description : AV Input 2 + REC
Remarks : -

Report Number : 25GE0166-YW-1
Regulation : FCC15B SubpartB
Date : February 27, 2005
Temp / Humid : 21deg.C/41%
Engineer : Tsubasa Takayama

AV Input2(1Vp-p)

Ch	Frequency [MHz]	Meter Reading [dB μ V]	Correction Factor [dB]	Result [dB]	Limits [dB μ V]	Margin [dB]
Video Signal						
3	61.25	81.9	20.9	61.0	69.5	8.6
4	67.25	82.0	20.9	61.1	69.5	8.4
Audio Signal						
3	56.75	69.0	20.9	48.1	56.5	8.4
	65.75	67.4	20.9	46.5	56.5	10.0
4	62.75	68.3	20.9	47.4	56.5	9.1
	71.75	67.3	20.9	46.4	56.5	10.1

AV Input2(5Vp-p)

Ch	Frequency [MHz]	Meter Reading [dB μ V]	Correction Factor [dB]	Result [dB]	Limits [dB μ V]	Margin [dB]
Video Signal						
3	61.25	81.9	20.9	61.0	69.5	8.5
4	67.25	82.1	20.9	61.2	69.5	8.3
Audio Signal						
3	56.75	68.6	20.9	47.7	56.5	8.8
	65.75	67.3	20.9	46.4	56.5	10.1
4	62.75	68.1	20.9	47.2	56.5	9.3
	71.75	67.0	20.9	46.1	56.5	10.4

RF Output Level

UL Apex Co.,Ltd.
Yokowa EMC Laboratory

Company	: Orion Electric Co., Ltd.	Report Number	: 25GE0166-YW-1
Equipment	: DVD-RW/VCR	Regulation	: FCC15B SubpartB
Model Number	: DVR-RT501-S	Date	: February 27, 2005
Power	: 120V/60Hz	Temp / Humid	: 21deg.C/41%
Description	: VCR PLAYBACK + REC	Engineer	: Tsubasa Takayama
Remarks	: -		

Ch	Frequency [MHz]	Meter Reading [dB μ V]	Correction Factor [dB]	Result [dB]	Limits [dB μ V]	Margin [dB]
Video Signal						
3	61.25	80.5	20.9	59.6	69.5	9.9
4	67.25	81.2	20.9	60.3	69.5	9.2
Audio Signal						
3	56.75	68.6	20.9	47.7	56.5	8.8
	65.75	67.5	20.9	46.6	56.5	10.0
4	62.75	68.3	20.9	47.4	56.5	9.1
	71.75	67.0	20.9	46.1	56.5	10.4

RF Output Level

UL Apex Co.,Ltd.
Yokowa EMC Laboratory

Company : Orion Electric Co., Ltd.
Equipment : DVD-RW/VCR
Model Number : DVR-RT501-S
Power : 120V/60Hz
Description : DVD PLAY + REC
Remarks : -

Report Number : 25GE0166-YW-1
Regulation : FCC15B SubpartB
Date : February 27, 2005
Temp / Humid : 21deg.C/41%
Engineer : Tsubasa Takayama

Ch	Frequency [MHz]	Meter Reading [dB μ V]	Correction Factor [dB]	Result [dB]	Limits [dB μ V]	Margin [dB]
Video Signal						
3	61.25	82.3	20.9	61.4	69.5	8.1
4	67.25	81.9	20.9	61.0	69.5	8.5
Audio Signal						
3	56.75	68.5	20.9	47.6	56.5	8.9
	65.75	67.4	20.9	46.5	56.5	10.0
4	62.75	68.3	20.9	47.4	56.5	9.1
	71.75	66.9	20.9	46.0	56.5	10.5

DATA OF RF SPURIOUS TEST

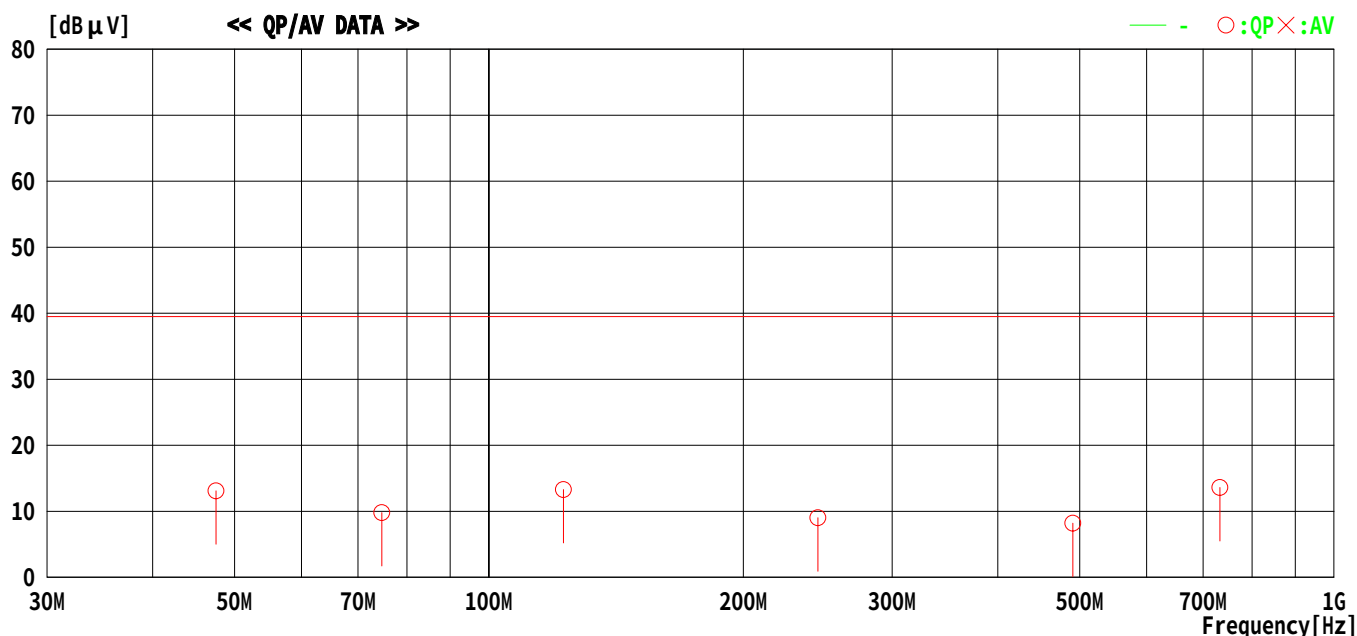
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

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

LIMIT : FCC 15B RF OUT SPURIOUS



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

DATA OF RF SPURIOUS TEST

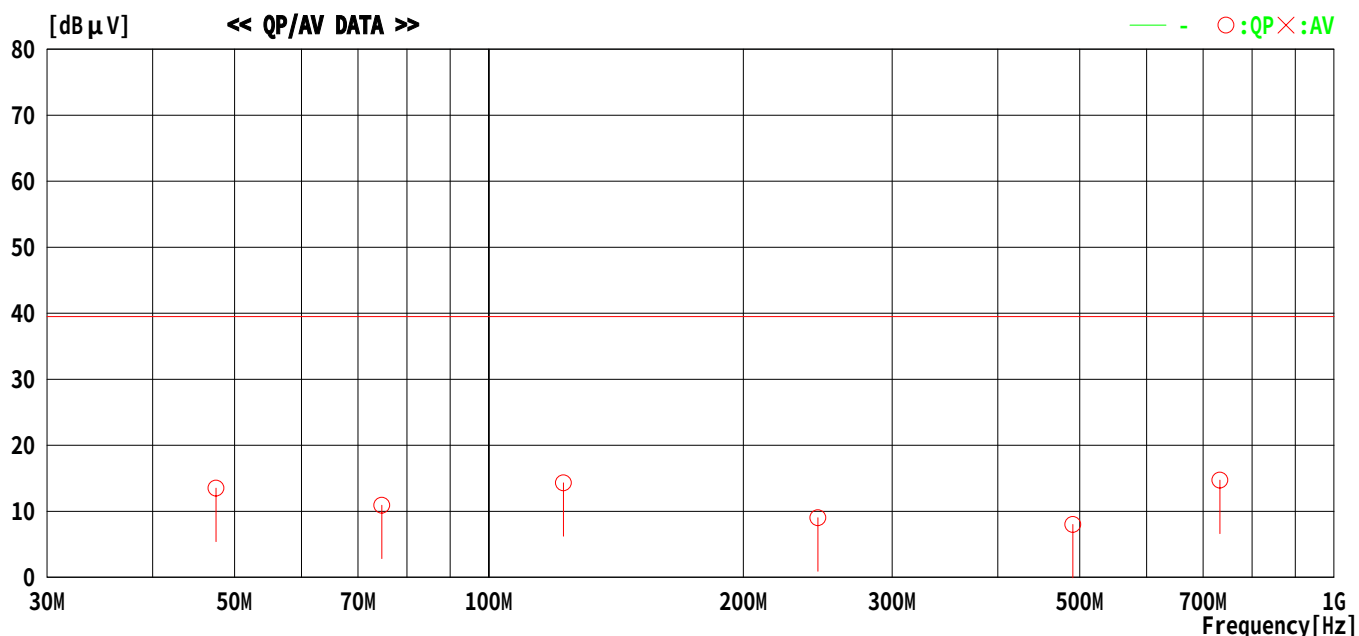
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

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

LIMIT : FCC 15B RF OUT SPURIOUS



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

DATA OF RF SPURIOUS TEST

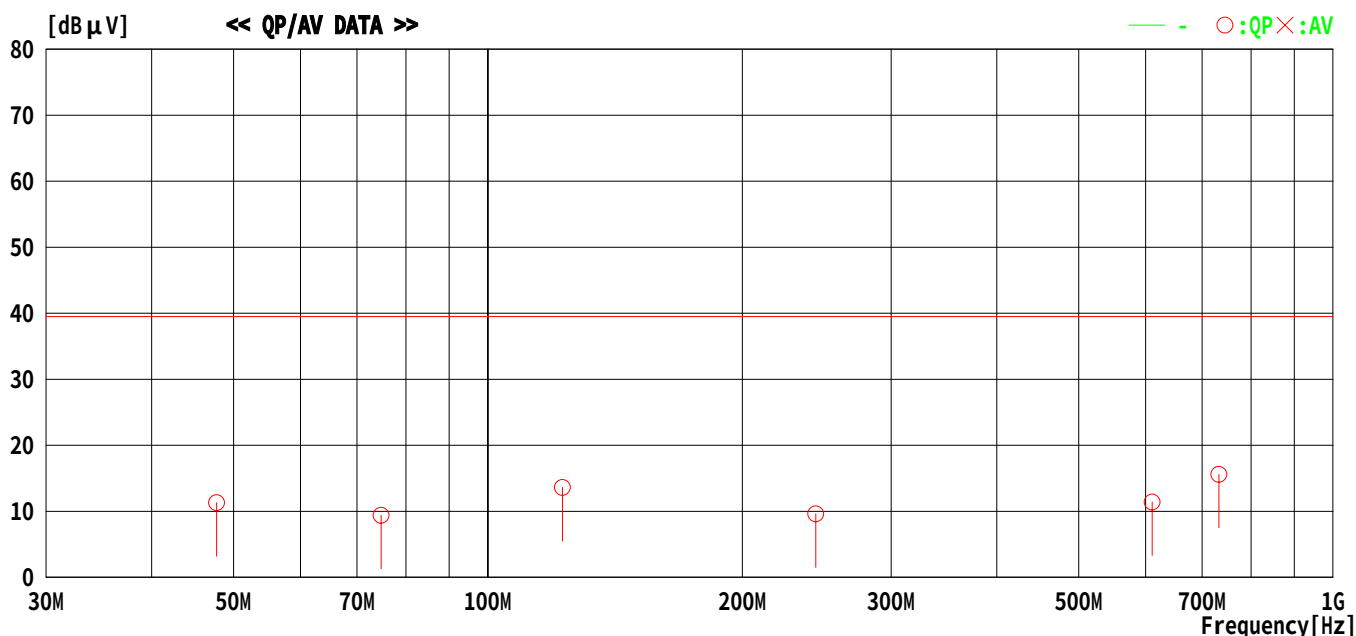
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : AV Input1 + Rec (1V p-p : 3ch)

LIMIT : FCC 15B RF OUT SPURIOUS



NO	FREQ [MHz]	READING Peak [dB μV]	READING - [dB μV]	C.F [dB]	RESULT Peak [dB μV]	RESULT - [dB μV]	LIMIT Peak [dB μV]	LIMIT - [dB μV]	MARGIN [dB]	MARGIN [dB]	PHASE
1	47.7500	42.9	----	-31.6	11.3	----	39.5	----	28.2	----	-
2	74.7500	40.9	----	-31.5	9.4	----	39.5	----	30.1	----	-
3	122.5100	45.1	----	-31.5	13.6	----	39.5	----	25.9	----	-
4	244.3200	41.1	----	-31.5	9.6	----	39.5	----	29.9	----	-
5	610.8700	43.2	----	-31.8	11.4	----	39.5	----	28.1	----	-
6	732.8500	47.6	----	-32.0	15.6	----	39.5	----	23.9	----	-

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

DATA OF RF SPURIOUS TEST

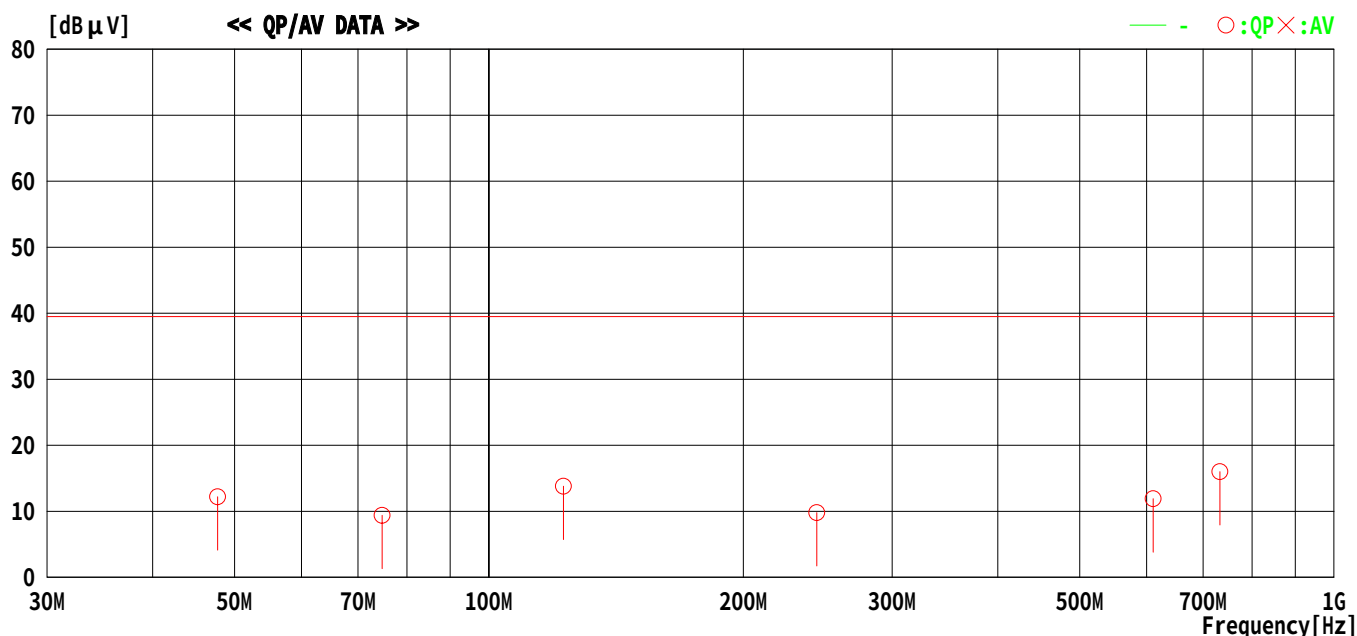
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

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

LIMIT : FCC 15B RF OUT SPURIOUS



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

DATA OF RF SPURIOUS TEST

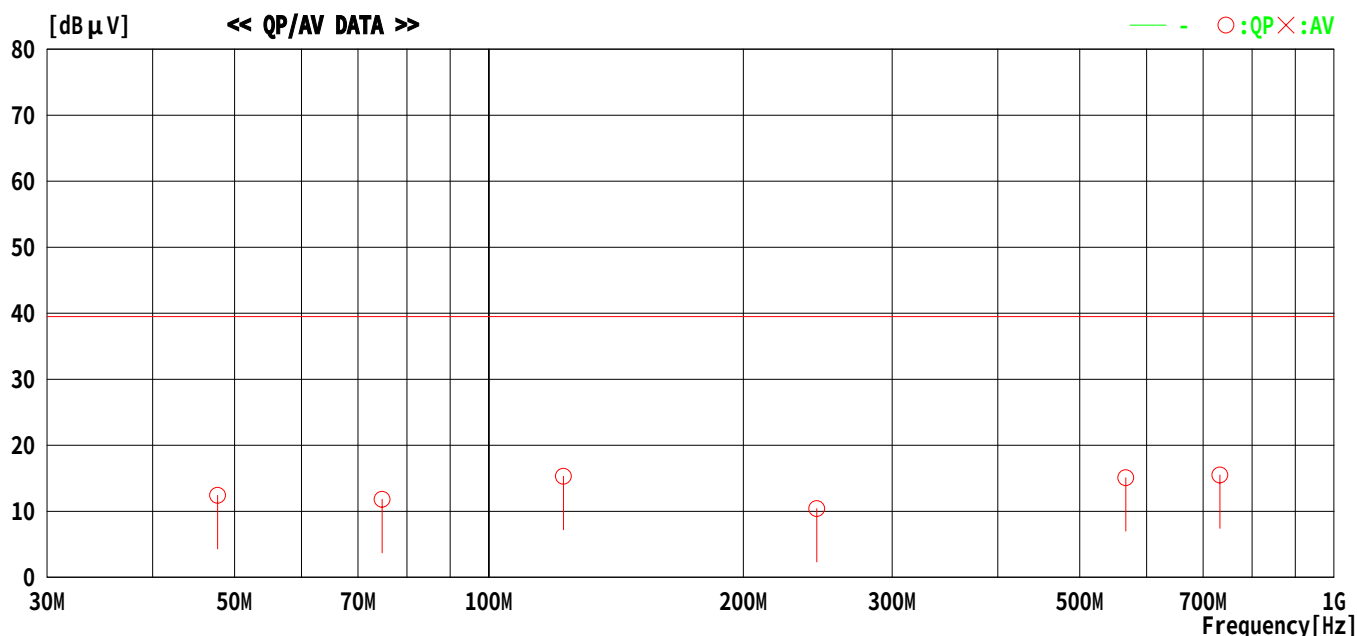
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : AV Input2 + Rec (1V p-p : 3ch)

LIMIT : FCC 15B RF OUT SPURIOUS



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

DATA OF RF SPURIOUS TEST

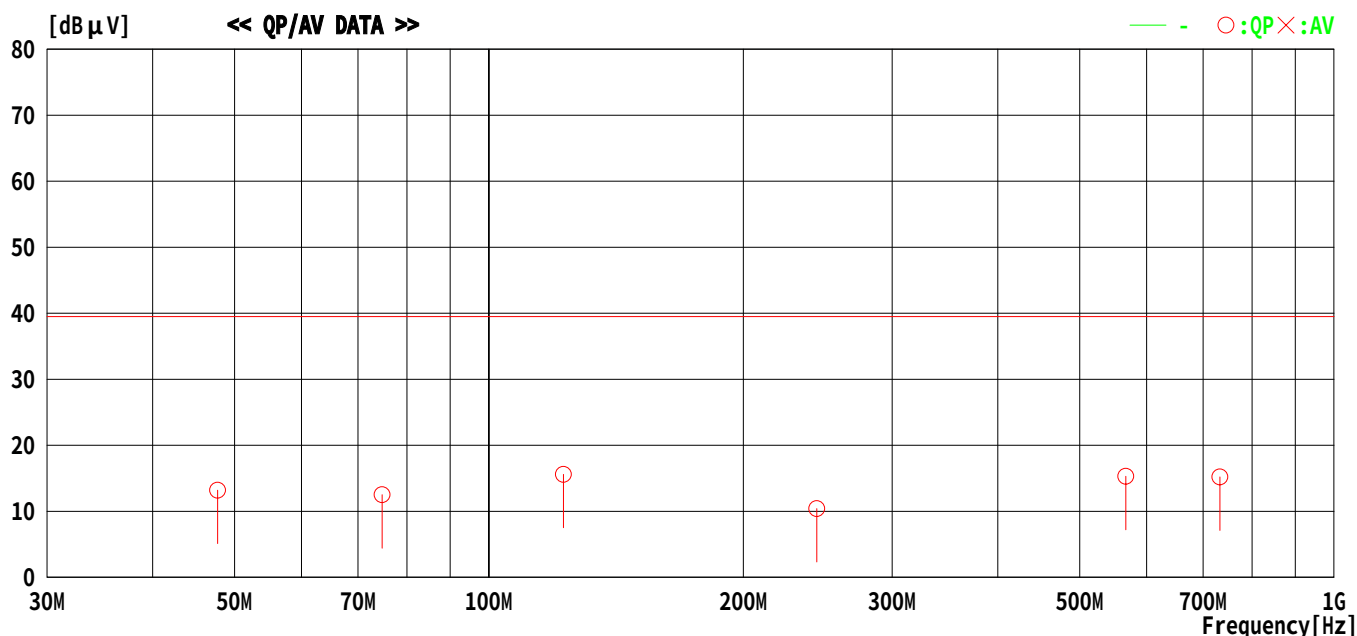
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : AV Input2 + Rec (5V p-p : 3ch)

LIMIT : FCC 15B RF OUT SPURIOUS



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

DATA OF RF SPURIOUS TEST

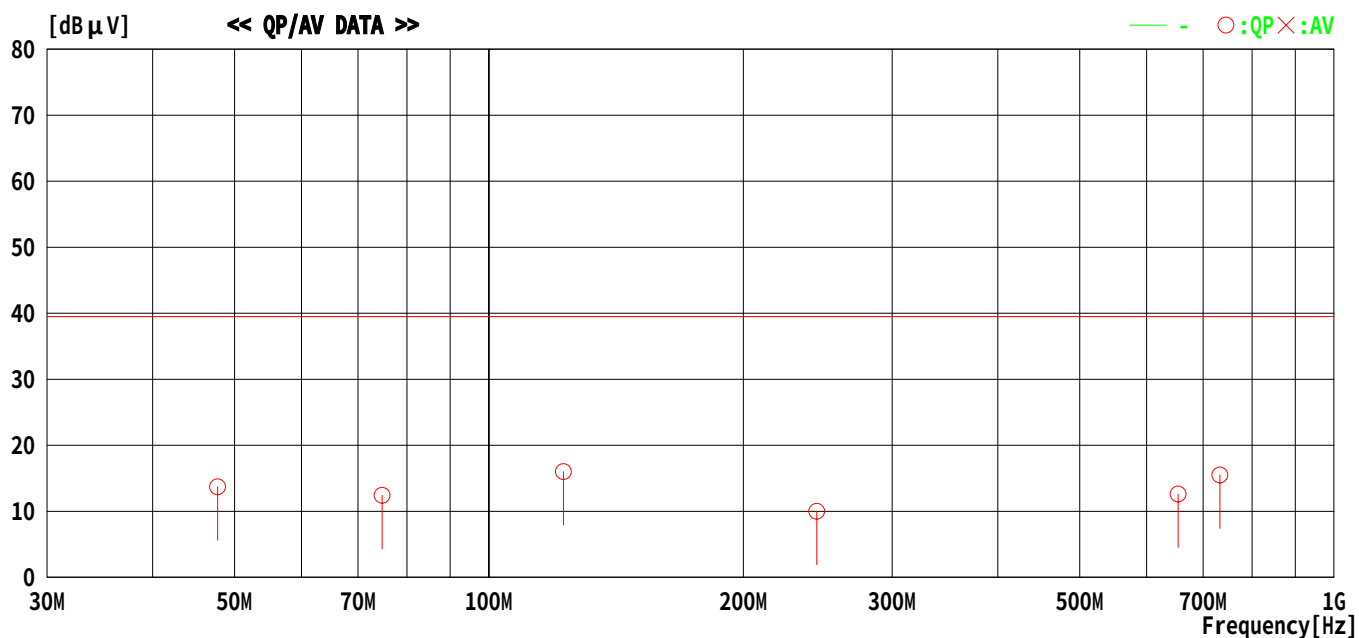
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : VCR Playback + Rec (3ch)

LIMIT : FCC 15B RF OUT SPURIOUS



NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μV]	- [dB μV]		Peak [dB μV]	- [dB μV]	Peak [dB μV]	- [dB μV]	[dB]	[dB]	
1	47.7500	45.3	----	-31.6	13.7	----	39.5	----	25.8	----	-
2	74.7500	43.9	----	-31.5	12.4	----	39.5	----	27.1	----	-
3	122.5100	47.5	----	-31.5	16.0	----	39.5	----	23.5	----	-
4	244.3200	41.5	----	-31.5	10.0	----	39.5	----	29.5	----	-
5	654.0000	44.5	----	-31.9	12.6	----	39.5	----	26.9	----	-
6	732.8500	47.5	----	-32.0	15.5	----	39.5	----	24.0	----	-

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

DATA OF RF SPURIOUS TEST

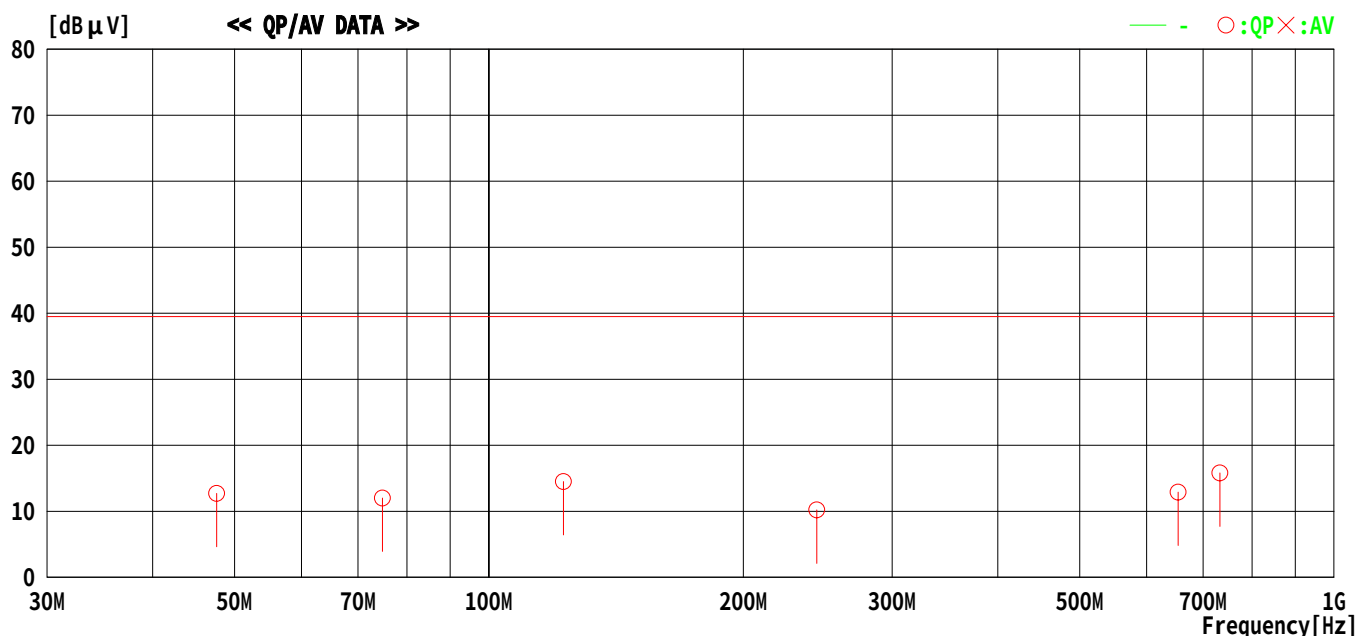
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : DVD play + Rec (3ch)

LIMIT : FCC 15B RF OUT SPURIOUS



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

DATA OF RF SPURIOUS TEST

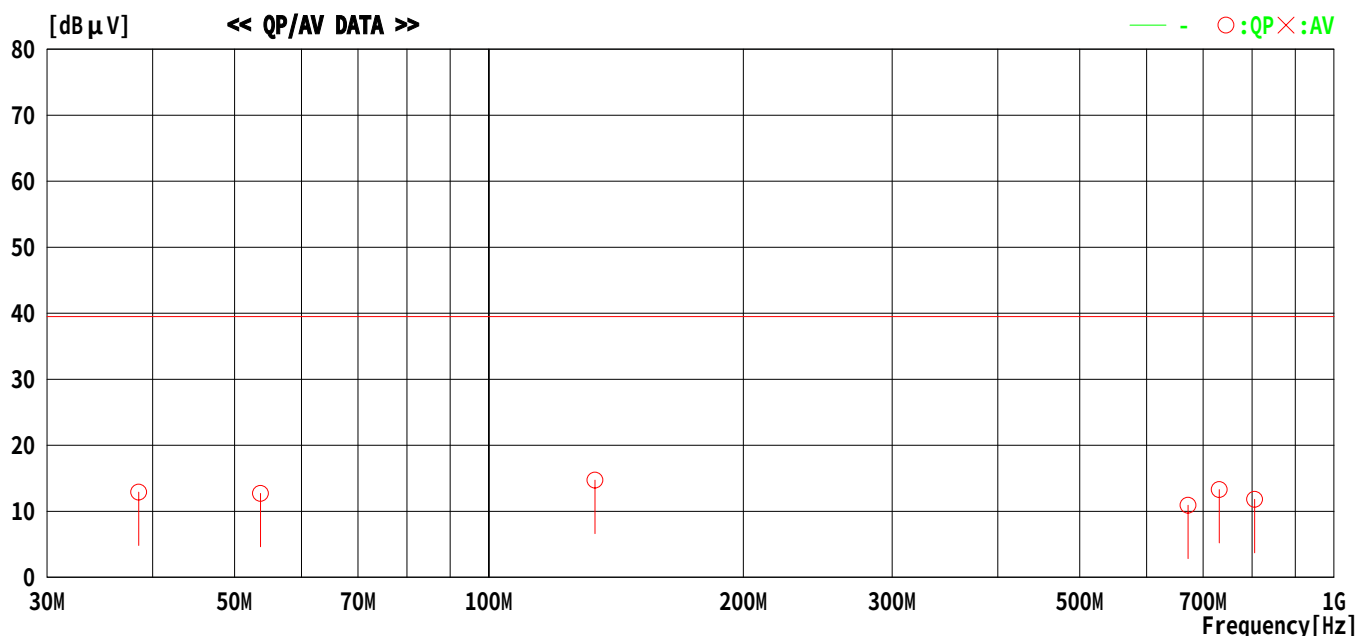
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

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

LIMIT : FCC 15B RF OUT SPURIOUS



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

DATA OF RF SPURIOUS TEST

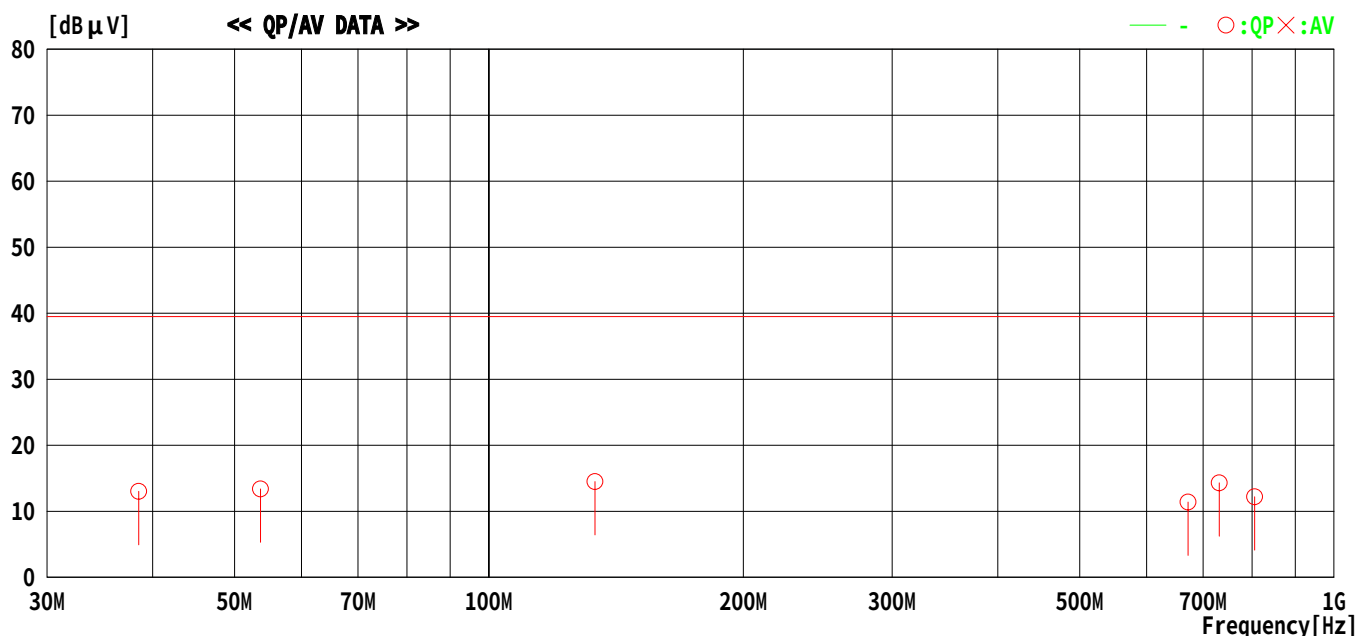
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
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 [dBμV]	- [dBμV]		Peak [dBμV]	- [dBμV]	Peak [dBμV]	- [dBμV]	[dB]	[dB]	
1	38.5200	44.6	----	-31.6	13.0	----	39.5	----	26.5	----	-
2	53.6800	45.0	----	-31.6	13.4	----	39.5	----	26.1	----	-
3	133.5000	46.0	----	-31.5	14.5	----	39.5	----	25.0	----	-
4	672.0000	43.4	----	-32.0	11.4	----	39.5	----	28.1	----	-
5	731.5400	46.3	----	-32.0	14.3	----	39.5	----	25.2	----	-
6	805.5700	44.3	----	-32.1	12.2	----	39.5	----	27.3	----	-

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

DATA OF RF SPURIOUS TEST

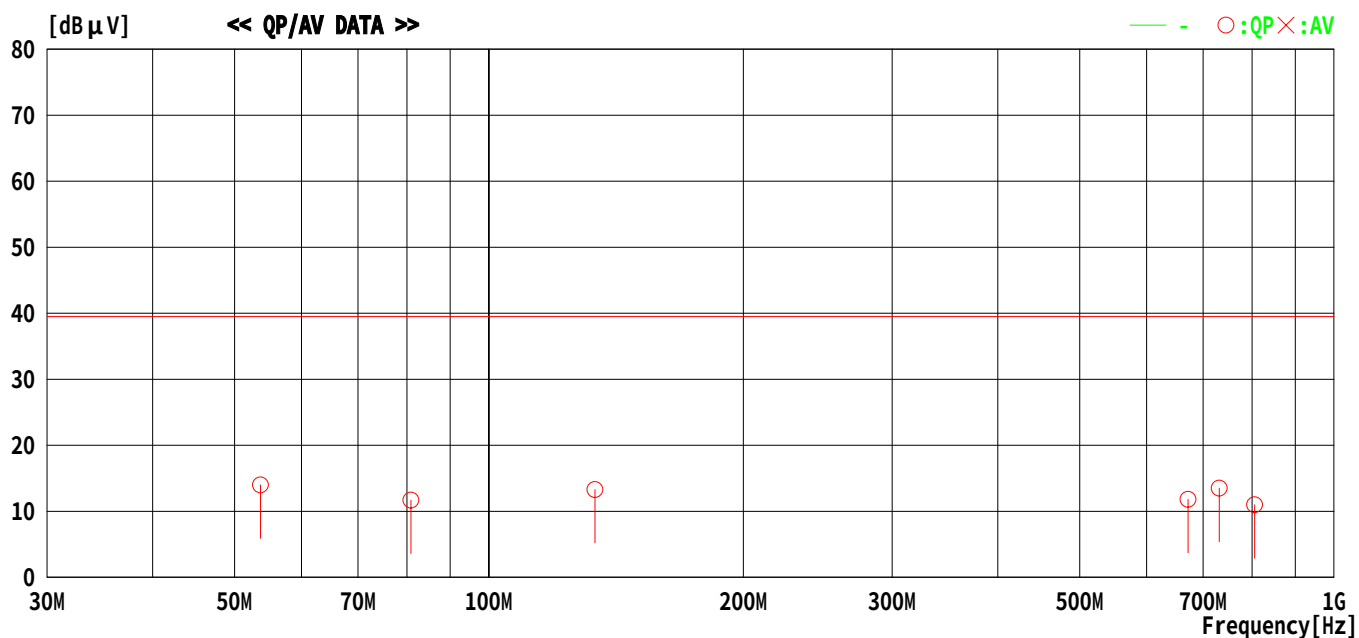
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

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

LIMIT : FCC 15B RF OUT SPURIOUS



NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μV]	- [dB μV]		Peak [dB μV]	- [dB μV]	Peak [dB μV]	- [dB μV]	[dB]	[dB]	
1	53.6800	45.6	----	-31.6	14.0	----	39.5	----	25.5	----	-
2	80.8700	43.2	----	-31.5	11.7	----	39.5	----	27.8	----	-
3	133.5000	44.8	----	-31.5	13.3	----	39.5	----	26.2	----	-
4	672.0000	43.8	----	-32.0	11.8	----	39.5	----	27.7	----	-
5	731.5400	45.5	----	-32.0	13.5	----	39.5	----	26.0	----	-
6	805.5700	43.1	----	-32.1	11.0	----	39.5	----	28.5	----	-

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

DATA OF RF SPURIOUS TEST

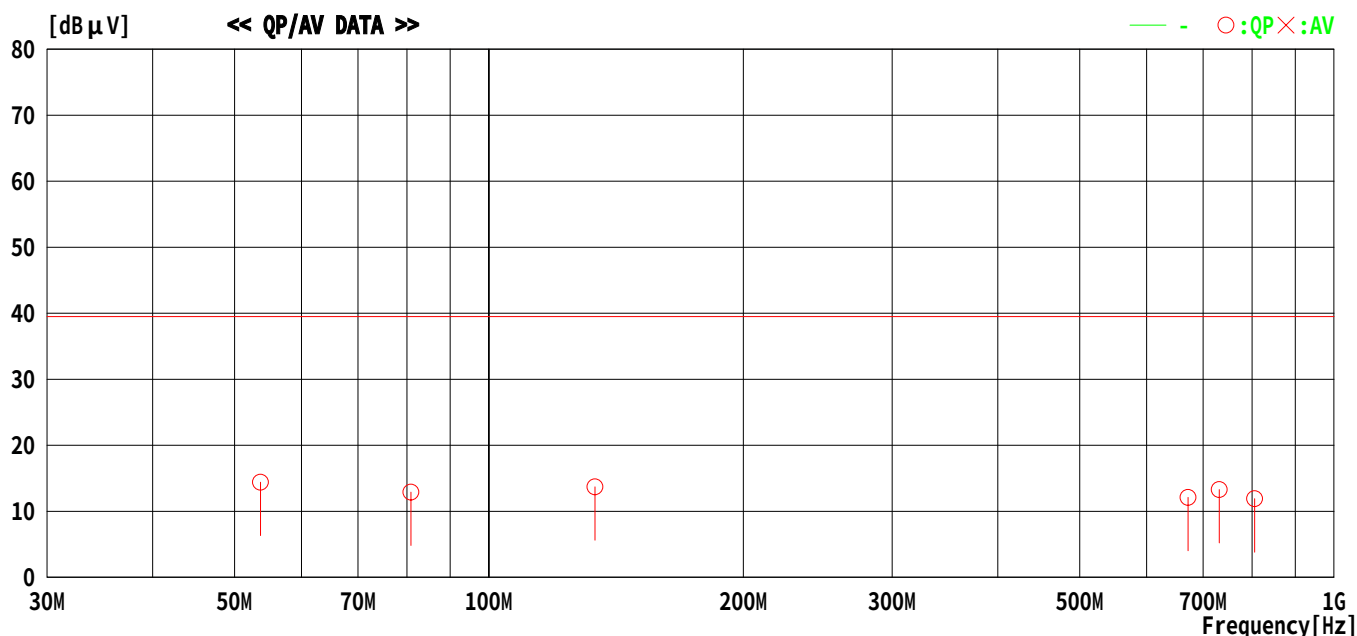
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : AV Input 1 + Rec (5V p-p : 4ch)

LIMIT : FCC 15B RF OUT SPURIOUS



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

DATA OF RF SPURIOUS TEST

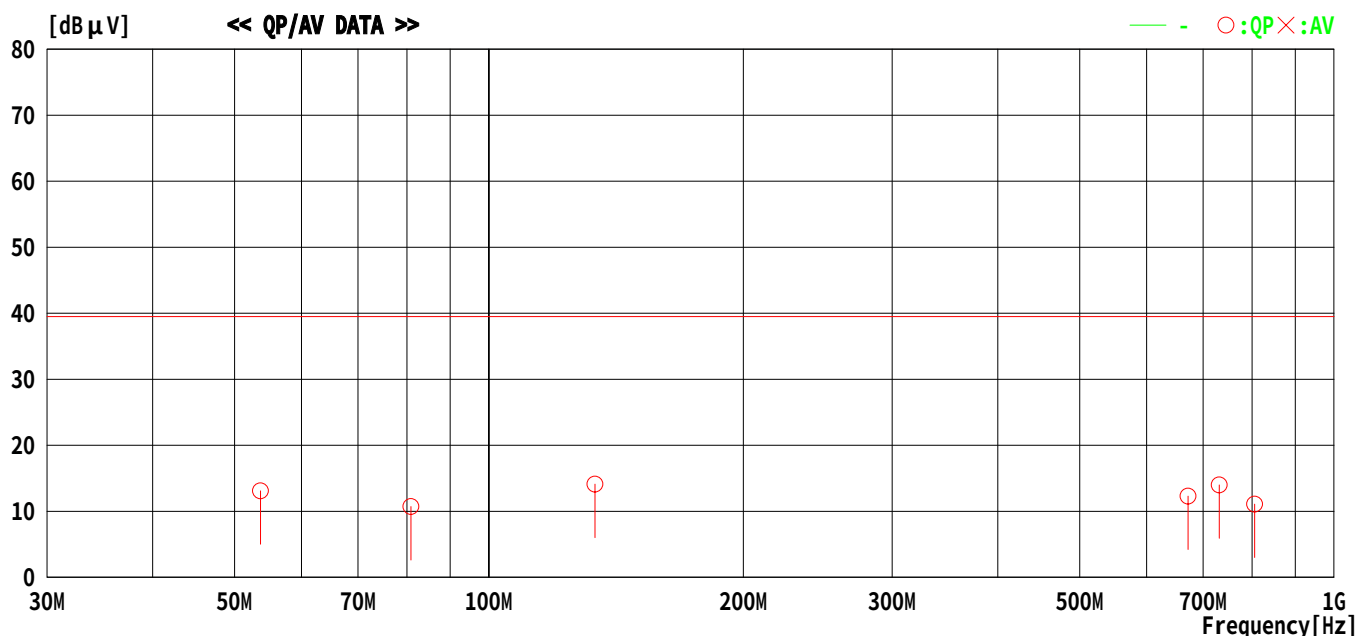
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : AV Input 2 + Rec (1V p-p : 4ch)

LIMIT : FCC 15B RF OUT SPURIOUS



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

DATA OF RF SPURIOUS TEST

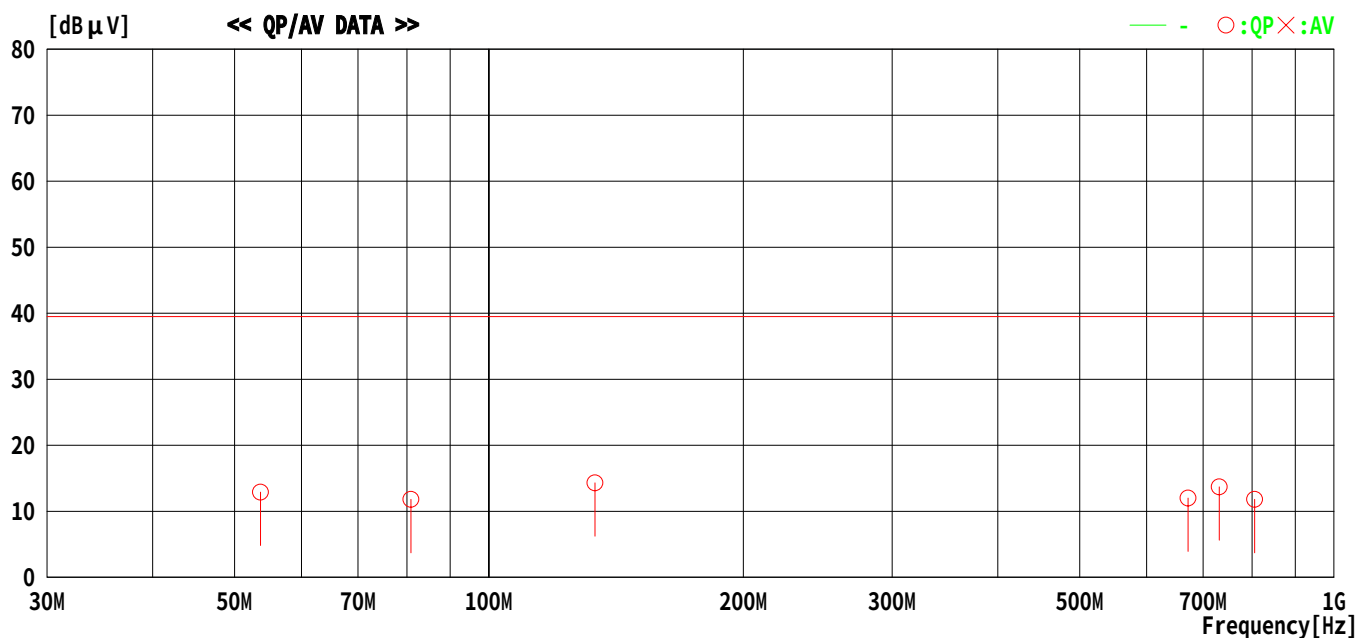
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : AV Input 2 + Rec (5V p-p : 4ch)

LIMIT : FCC 15B RF OUT SPURIOUS



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

DATA OF RF SPURIOUS TEST

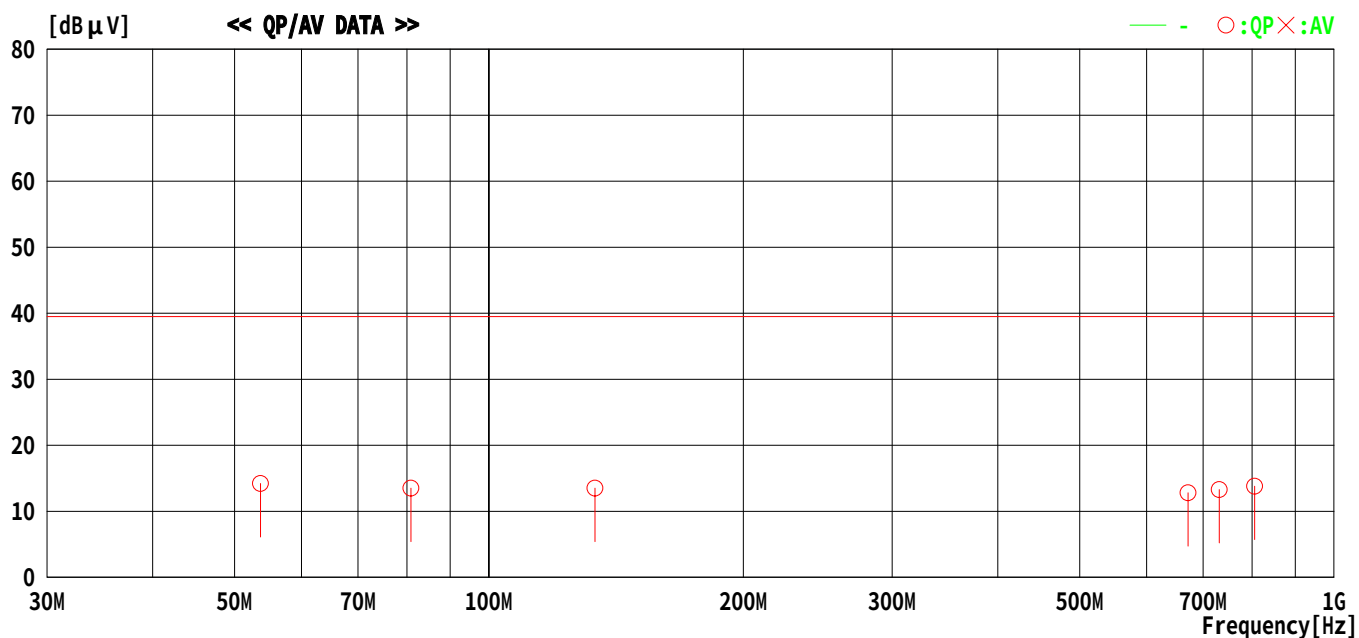
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : VCR Playback + Rec (4ch)

LIMIT : FCC 15B RF OUT SPURIOUS



NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μV]	- [dB μV]		Peak [dB μV]	- [dB μV]	Peak [dB μV]	- [dB μV]	[dB]	[dB]	
1	53.6800	45.8	----	-31.6	14.2	----	39.5	----	25.3	----	-
2	80.8700	45.0	----	-31.5	13.5	----	39.5	----	26.0	----	-
3	133.5000	45.0	----	-31.5	13.5	----	39.5	----	26.0	----	-
4	672.0000	44.8	----	-32.0	12.8	----	39.5	----	26.7	----	-
5	731.5400	45.3	----	-32.0	13.3	----	39.5	----	26.2	----	-
6	805.5700	45.9	----	-32.1	13.8	----	39.5	----	25.7	----	-

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

DATA OF RF SPURIOUS TEST

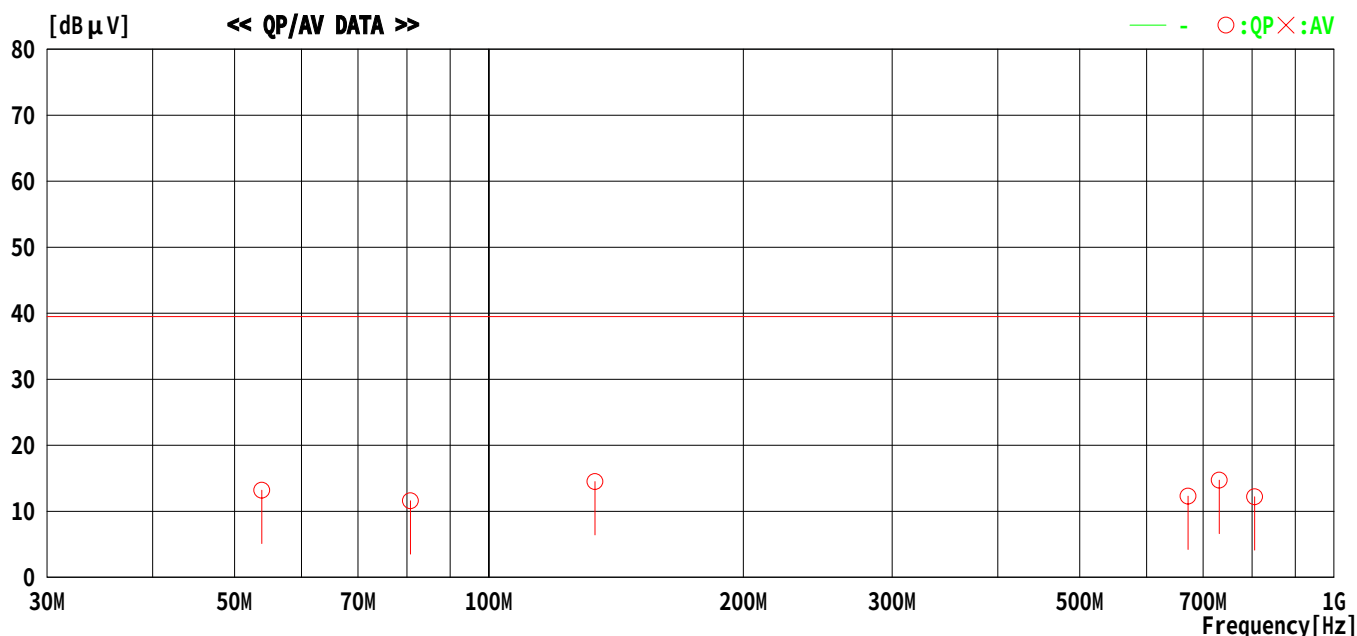
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : DVD play + Rec (4ch)

LIMIT : FCC 15B RF OUT SPURIOUS



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

DATA OF ANTENNA TRANSFER SWITCH TEST

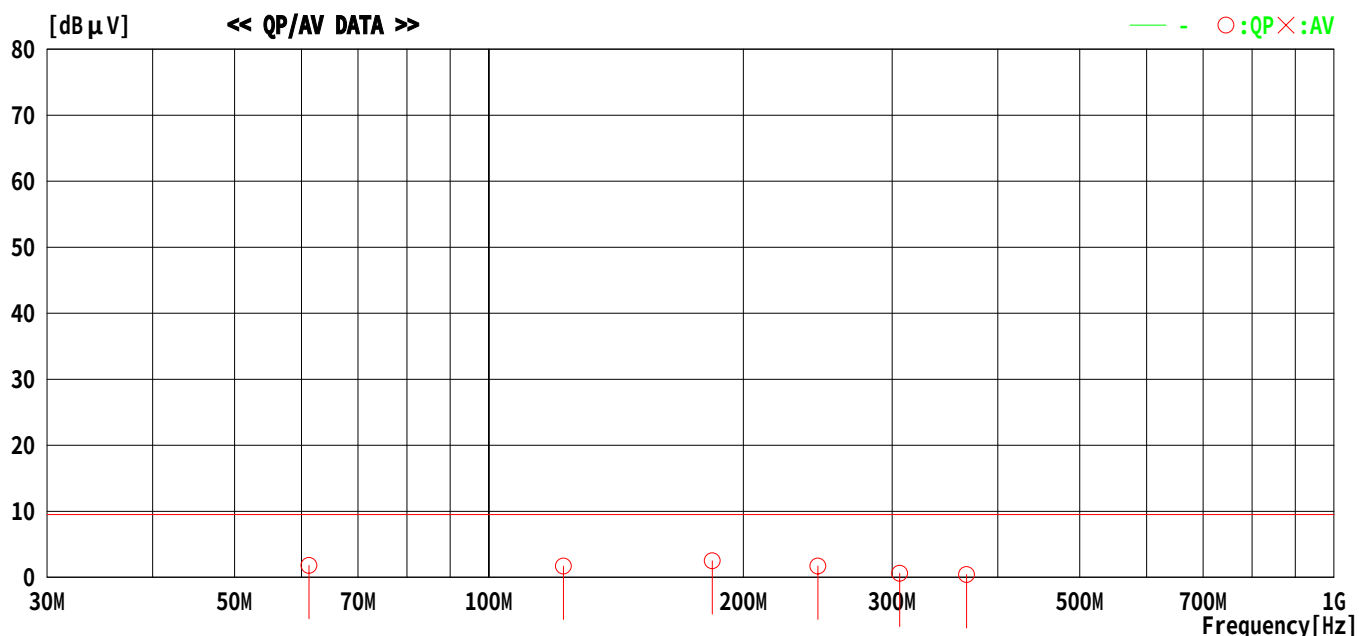
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

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

LIMIT : FCC15B ANTENNA TRANSFER SWITCH



NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μV]	- [dB μV]		Peak [dB μV]	- [dB μV]	Peak [dB μV]	- [dB μV]	[dB]	[dB]	
1	61.2500	33.4	----	-31.6	1.8	----	9.5	----	7.7	----	-
2	122.5000	33.2	----	-31.5	1.7	----	9.5	----	7.8	----	-
3	183.7500	33.9	----	-31.4	2.5	----	9.5	----	7.0	----	-
4	245.0000	33.2	----	-31.5	1.7	----	9.5	----	7.8	----	-
5	306.2500	32.3	----	-31.7	0.6	----	9.5	----	8.9	----	-
6	367.5000	32.1	----	-31.7	0.4	----	9.5	----	9.1	----	-

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

DATA OF ANTENNA TRANSFER SWITCH TEST

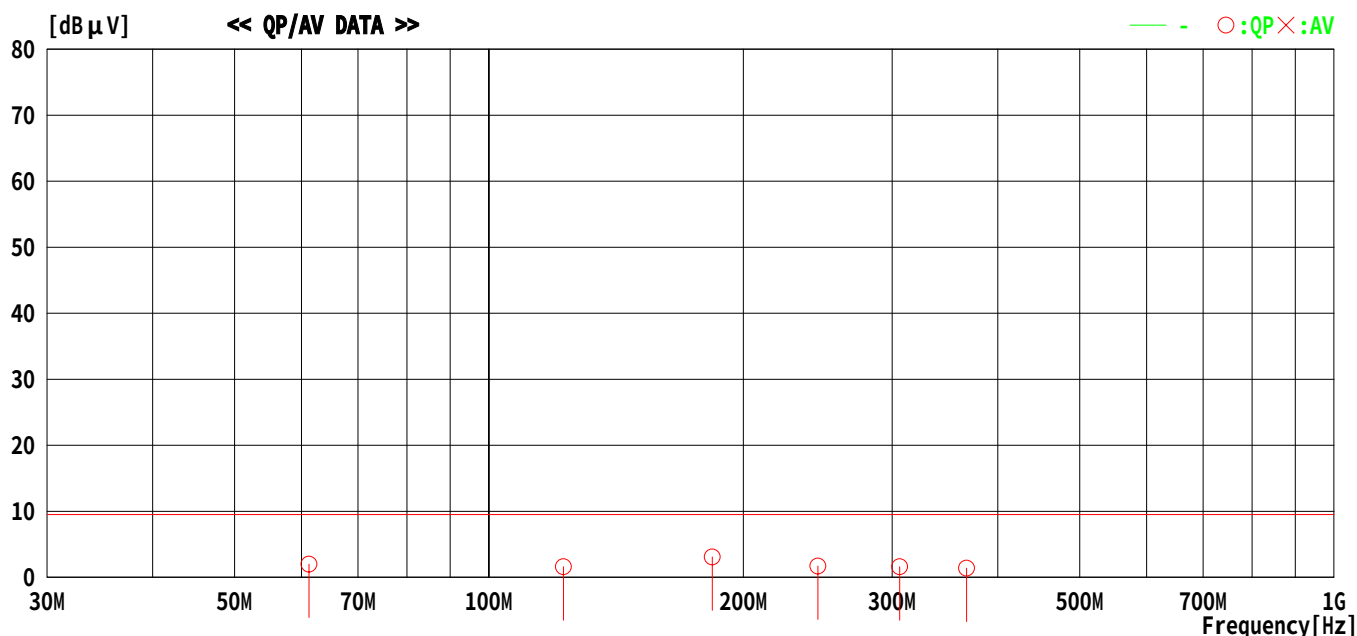
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : AV Input 1 + Rec (5V p-p : 3ch)

LIMIT : FCC15B ANTENNA TRANSFER SWITCH



NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μV]	- [dB μV]		Peak [dB μV]	- [dB μV]	Peak [dB μV]	- [dB μV]	[dB]	[dB]	
1	61.2500	33.6	----	-31.6	2.0	----	9.5	----	7.5	----	-
2	122.5000	33.1	----	-31.5	1.6	----	9.5	----	7.9	----	-
3	183.7500	34.5	----	-31.4	3.1	----	9.5	----	6.4	----	-
4	245.0000	33.2	----	-31.5	1.7	----	9.5	----	7.8	----	-
5	306.2500	33.3	----	-31.7	1.6	----	9.5	----	7.9	----	-
6	367.5000	33.1	----	-31.7	1.4	----	9.5	----	8.1	----	-

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

DATA OF ANTENNA TRANSFER SWITCH TEST

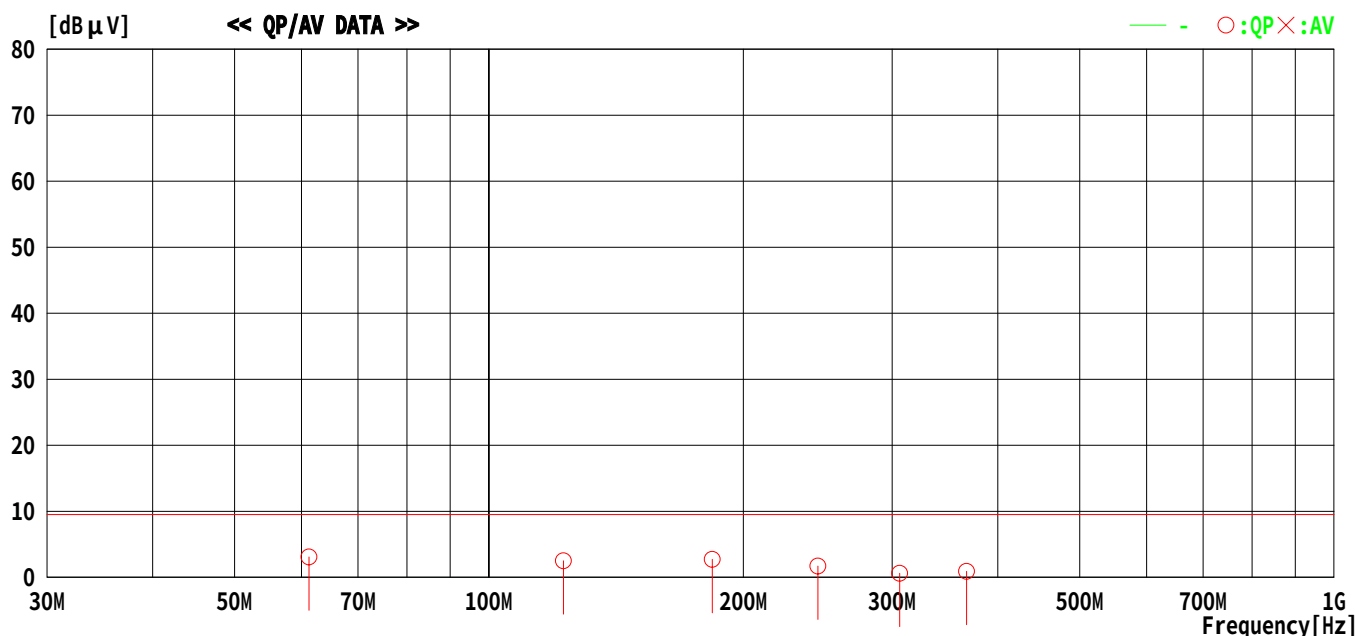
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : AV Input 2 + Rec (1V p-p : 3ch)

LIMIT : FCC15B ANTENNA TRANSFER SWITCH



NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μV]	- [dB μV]		Peak [dB μV]	- [dB μV]	Peak [dB μV]	- [dB μV]	[dB]	[dB]	
1	61.2500	34.7	----	-31.6	3.1	----	9.5	----	6.4	----	-
2	122.5000	34.0	----	-31.5	2.5	----	9.5	----	7.0	----	-
3	183.7500	34.1	----	-31.4	2.7	----	9.5	----	6.8	----	-
4	245.0000	33.2	----	-31.5	1.7	----	9.5	----	7.8	----	-
5	306.2500	32.3	----	-31.7	0.6	----	9.5	----	8.9	----	-
6	367.5000	32.6	----	-31.7	0.9	----	9.5	----	8.6	----	-

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

DATA OF ANTENNA TRANSFER SWITCH TEST

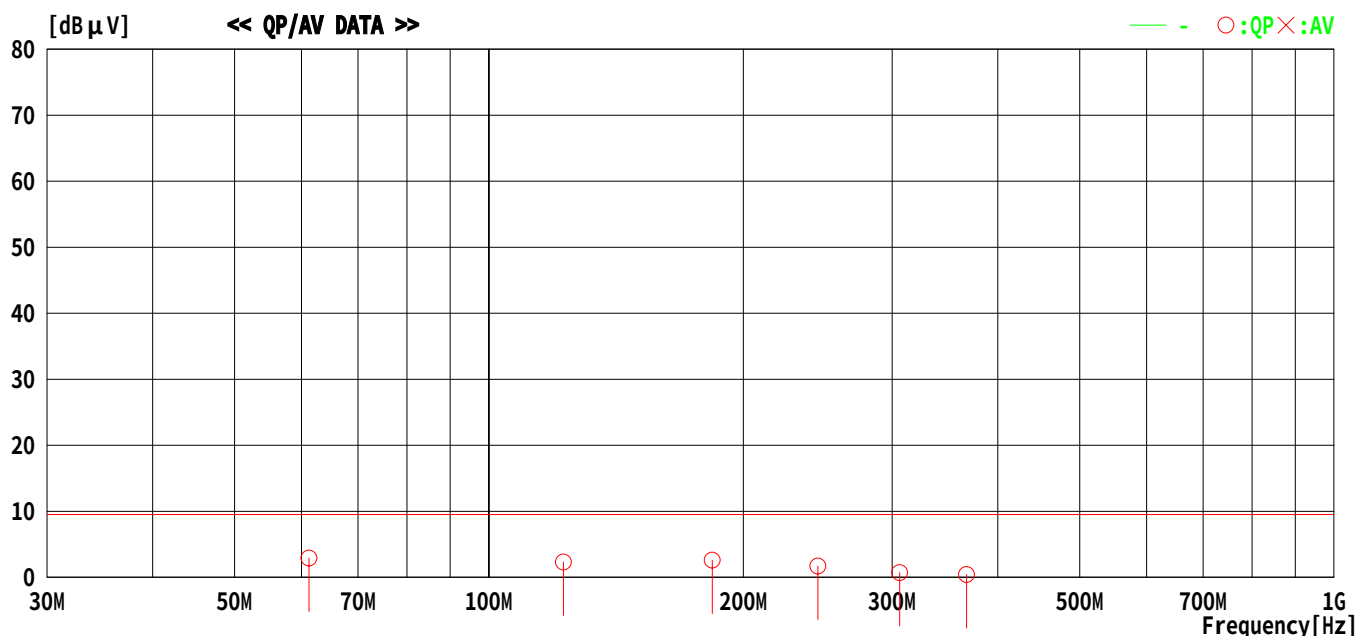
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : AV Input 2 + Rec (1V p-p : 3ch)

LIMIT : FCC15B ANTENNA TRANSFER SWITCH



NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μV]	- [dB μV]		Peak [dB μV]	- [dB μV]	Peak [dB μV]	- [dB μV]	[dB]	[dB]	
1	61.2500	34.5	----	-31.6	2.9	----	9.5	----	6.6	----	-
2	122.5000	33.8	----	-31.5	2.3	----	9.5	----	7.2	----	-
3	183.7500	34.0	----	-31.4	2.6	----	9.5	----	6.9	----	-
4	245.0000	33.2	----	-31.5	1.7	----	9.5	----	7.8	----	-
5	306.2500	32.4	----	-31.7	0.7	----	9.5	----	8.8	----	-
6	367.5000	32.1	----	-31.7	0.4	----	9.5	----	9.1	----	-

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

DATA OF ANTENNA TRANSFER SWITCH TEST

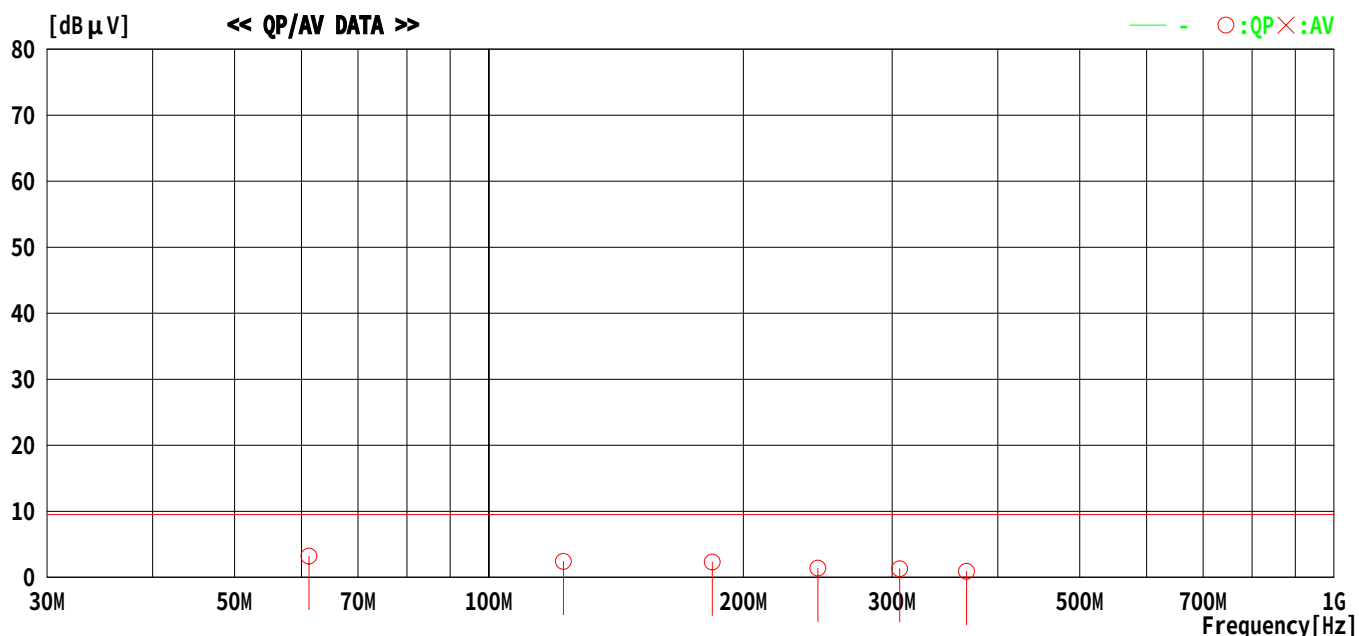
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : VCR Playback + Rec (3ch)

LIMIT : FCC15B ANTENNA TRANSFER SWITCH



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

DATA OF ANTENNA TRANSFER SWITCH TEST

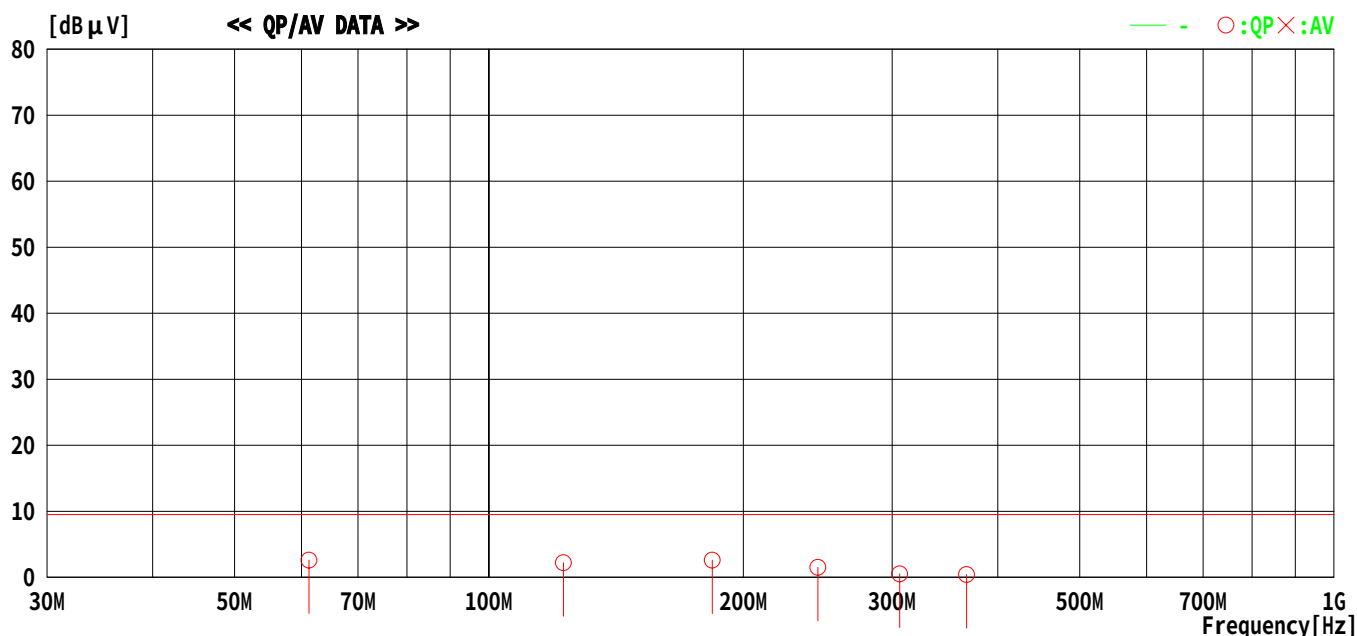
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : DVD Play + Rec (3ch)

LIMIT : FCC15B ANTENNA TRANSFER SWITCH



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

DATA OF ANTENNA TRANSFER SWITCH TEST

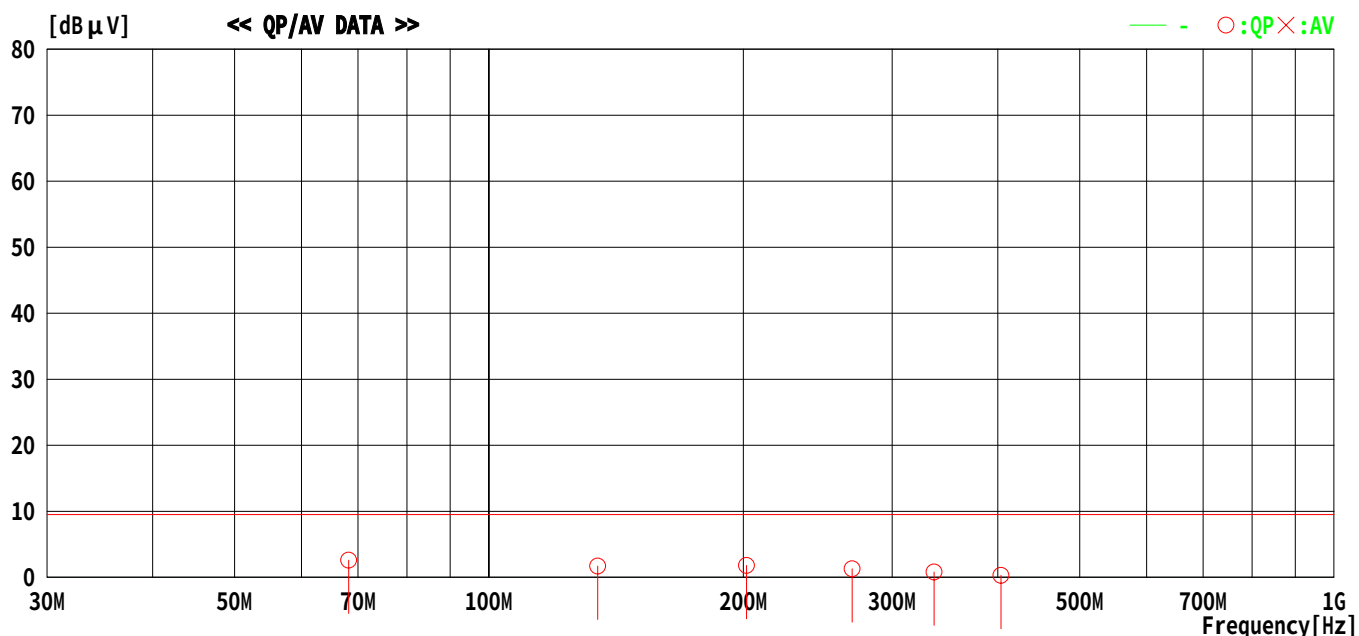
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : AV Input1 + Rec (1V p-p:4ch)

LIMIT : FCC15B ANTENNA TRANSFER SWITCH



NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μV]	- [dB μV]		Peak [dB μV]	- [dB μV]	Peak [dB μV]	- [dB μV]	[dB]	[dB]	
1	68.2500	34.1	----	-31.5	2.6	----	9.5	----	6.9	----	-
2	134.5000	33.2	----	-31.5	1.7	----	9.5	----	7.8	----	-
3	201.7500	33.2	----	-31.4	1.8	----	9.5	----	7.7	----	-
4	269.0000	32.9	----	-31.6	1.3	----	9.5	----	8.2	----	-
5	336.2500	32.5	----	-31.7	0.8	----	9.5	----	8.7	----	-
6	403.5000	32.1	----	-31.8	0.3	----	9.5	----	9.2	----	-

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

DATA OF ANTENNA TRANSFER SWITCH TEST

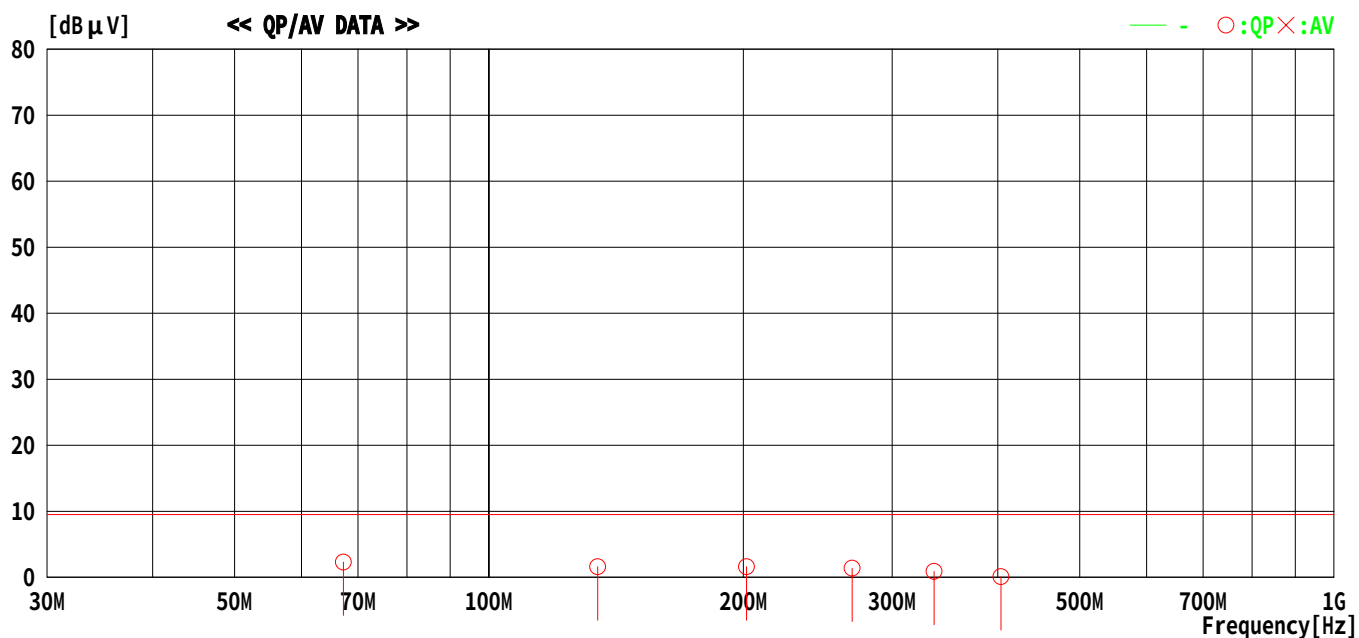
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : AV Input1 + Rec (5V p-p:4ch)

LIMIT : FCC15B ANTENNA TRANSFER SWITCH



NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μV]	- [dB μV]		Peak [dB μV]	- [dB μV]	Peak [dB μV]	- [dB μV]	[dB]	[dB]	
1	67.2500	33.8	----	-31.5	2.3	----	9.5	----	7.2	----	-
2	134.5000	33.1	----	-31.5	1.6	----	9.5	----	7.9	----	-
3	201.7500	33.0	----	-31.4	1.6	----	9.5	----	7.9	----	-
4	269.0000	33.0	----	-31.6	1.4	----	9.5	----	8.1	----	-
5	336.2500	32.6	----	-31.7	0.9	----	9.5	----	8.6	----	-
6	403.5000	31.9	----	-31.8	0.1	----	9.5	----	9.4	----	-

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

DATA OF ANTENNA TRANSFER SWITCH TEST

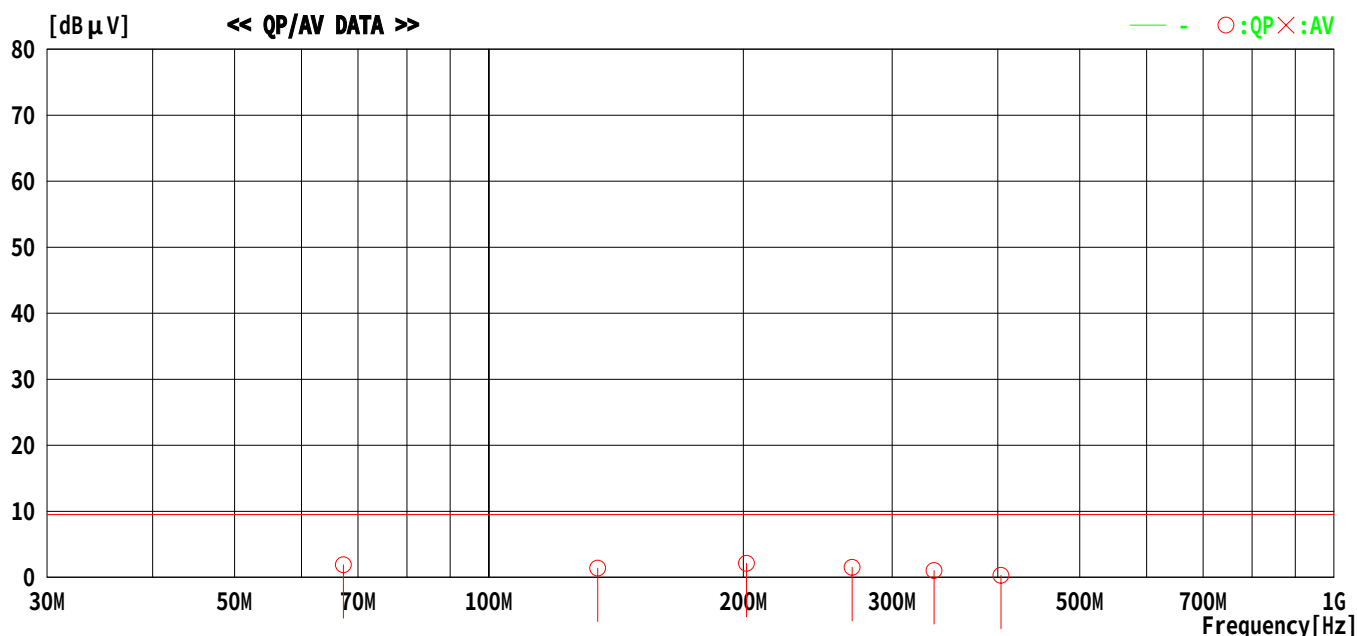
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : AV Input2 + Rec (1V p-p:4ch)

LIMIT : FCC15B ANTENNA TRANSFER SWITCH



NO	FREQ [MHz]	READING		C.F [dB]	RESULT		LIMIT		MARGIN		PHASE
		Peak [dB μV]	- [dB μV]		Peak [dB μV]	- [dB μV]	Peak [dB μV]	- [dB μV]	[dB]	[dB]	
1	67.2500	33.4	----	-31.5	1.9	----	9.5	----	7.6	----	-
2	134.5000	32.9	----	-31.5	1.4	----	9.5	----	8.1	----	-
3	201.7500	33.5	----	-31.4	2.1	----	9.5	----	7.4	----	-
4	269.0000	33.1	----	-31.6	1.5	----	9.5	----	8.0	----	-
5	336.2500	32.7	----	-31.7	1.0	----	9.5	----	8.5	----	-
6	403.5000	32.1	----	-31.8	0.3	----	9.5	----	9.2	----	-

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

DATA OF ANTENNA TRANSFER SWITCH TEST

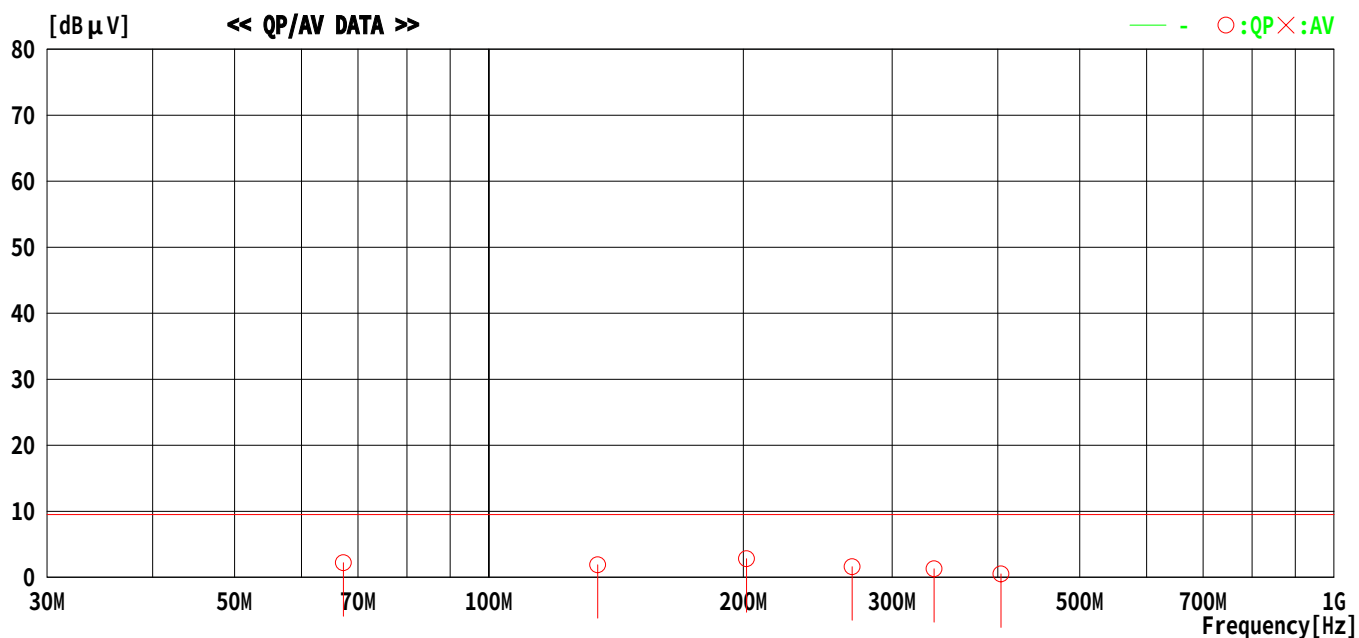
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : AV Input2 + Rec (5V p-p:4ch)

LIMIT : FCC15B ANTENNA TRANSFER SWITCH



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

DATA OF ANTENNA TRANSFER SWITCH TEST

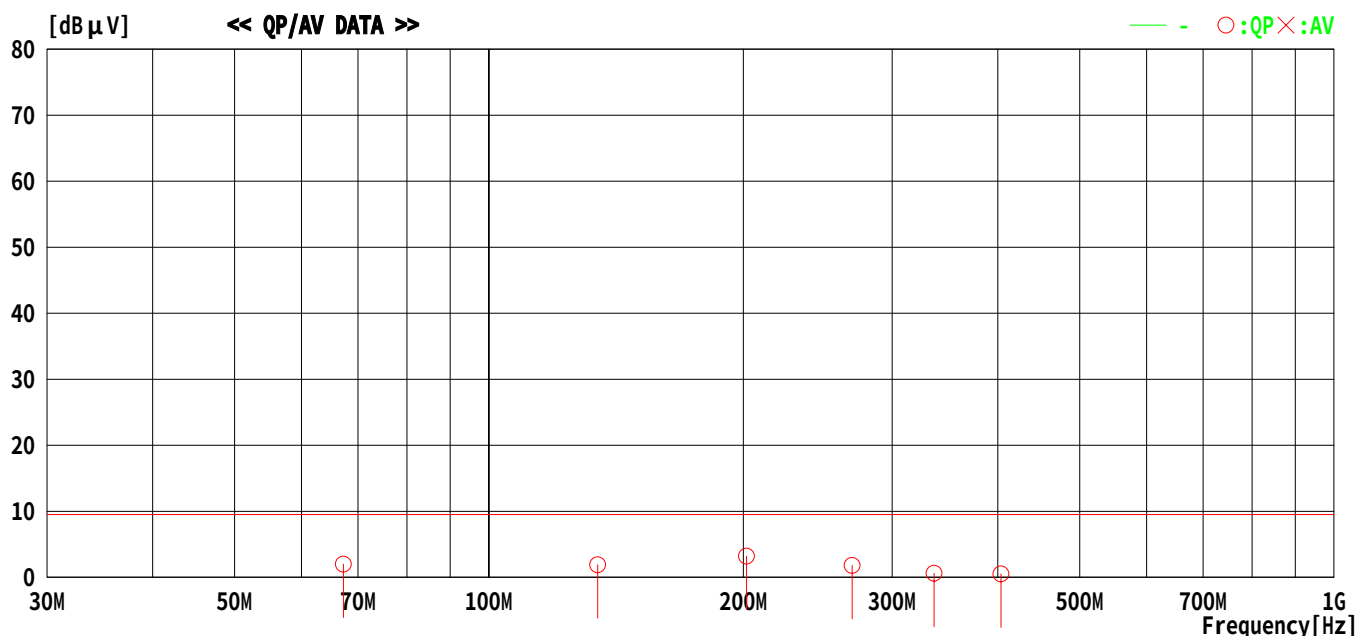
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : VCR Playback + Rec (4ch)

LIMIT : FCC15B ANTENNA TRANSFER SWITCH



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

DATA OF ANTENNA TRANSFER SWITCH TEST

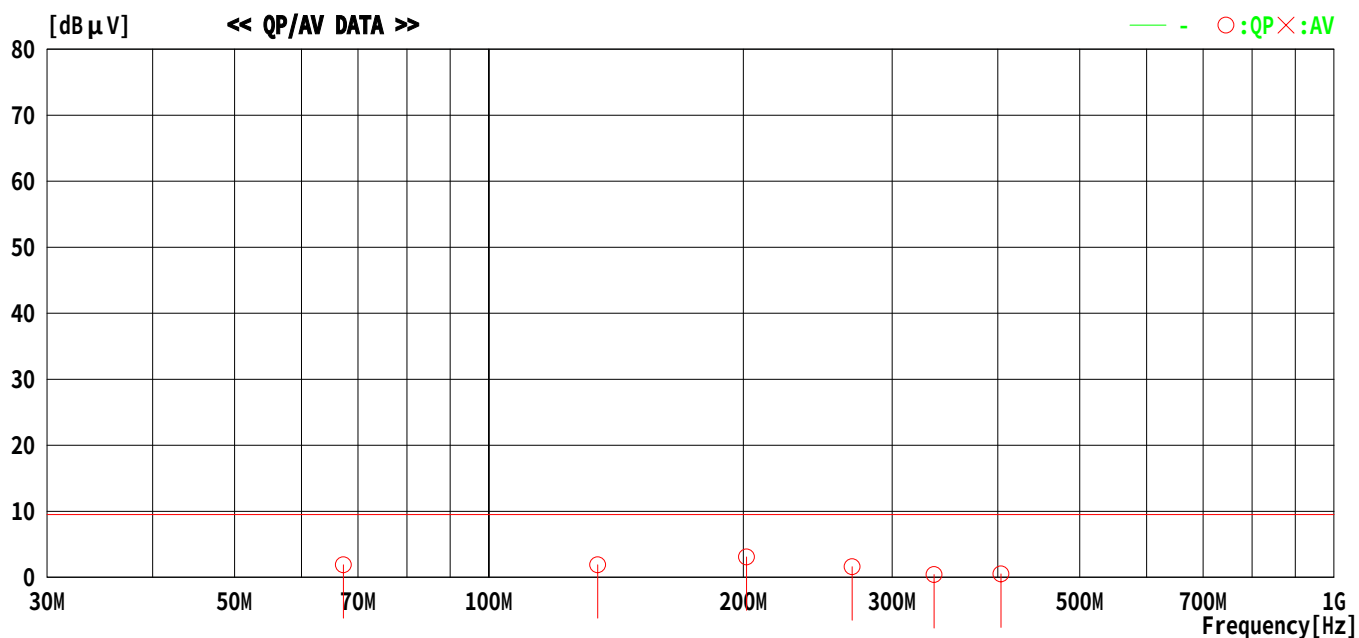
UL Apex Co.,Ltd.

COMPANY : Orion Electric Co., Ltd.
EQUIPMENT : DVD/VCR
MODEL : DVR-RT501-S
TEMP./HUMID. : 26°C/68%

REPORT NO : 25GE0166-YW-1
DATE : February 28 ,2005
REGULATION : FCC Part15 Subpart B
TEST ENGINEER : Tsubasa Takayama

OPERATION MODE : DVD Play + Rec (4ch)

LIMIT : FCC15B ANTENNA TRANSFER SWITCH



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-RW/VCR
Model Number : DVR-RT501-S
Power : 120V/60Hz
Description : TV Reception
Remarks : -

Report Number : 25GE0166-YW-1
Regulation : FCC Part15 Subpart B
Date : February 18 ,2005
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	18.8	8.7	20	507.25	20.0	10.0
4	67.25	18.1	8.0	26	543.25	20.3	10.4
5	77.25	17.8	7.8	32	579.25	21.1	11.4
6	83.25	17.1	7.2	38	615.25	20.6	10.7
7	175.25	20.0	10.0	44	651.25	20.6	10.7
8	181.25	20.0	10.0	50	687.25	21.0	11.2
9	187.25	20.0	10.0	56	723.25	20.6	10.7
10	193.25	20.0	10.0	62	759.25	20.0	10.0
11	199.25	20.0	10.0	69	801.25	20.0	10.0
12	205.25	20.0	10.0	-	-	-	-
13	211.25	20.0	10.0	-	-	-	-
Average VHF			9.3	Average UHF			10.5
Average UHF/VHF : $20 \log \text{UHF}[\mu\text{V}] / \text{VHF}[\mu\text{V}] =$				1.1 [Limit : 8.0dB]			

Noise Figure Test

UL Apex Co.,Ltd.
Yokowa EMC Laboratory

Company : Orion Electric Co., Ltd.	Report Number : 25GE0166-YW-1
Equipment : DVD-RW/VCR	Regulation : FCC SubpartB 15B
Model Number : DVR-RT501-S	Date : February 27, 2005
Power : 120V/60Hz	Temp / Humid : 23deg.C/41%
Description : TV Reception	Engineer : Tsubasa Takayama
Remarks : -	

Ch	Frequency [MHz]	Meter Reading [dB]	Correction Factor [dB]	Noise Figure [dB]	Limits [dB]	Margin [dB]
TV VHF Fundamental						
2	55.25	6.7	0.2	6.5	14.0	7.5
3	61.25	5.9	0.2	5.7	14.0	8.3
4	67.25	5.0	0.2	4.8	14.0	9.2
5	77.25	4.2	0.2	4.0	14.0	10.0
6	83.25	3.8	0.2	3.6	14.0	10.4
7	175.25	5.0	0.2	4.8	14.0	9.2
8	181.25	4.8	0.2	4.6	14.0	9.4
9	187.25	4.8	0.2	4.6	14.0	9.4
10	193.25	4.8	0.2	4.6	14.0	9.4
11	199.25	4.8	0.2	4.6	14.0	9.4
12	205.25	4.5	0.2	4.3	14.0	9.7
13	211.25	4.5	0.2	4.3	14.0	9.7
TV UHF Fundamental						
14	471.25	5.9	0.3	5.6	14.0	8.4
20	507.25	5.7	0.3	5.4	14.0	8.6
26	543.25	5.7	0.3	5.4	14.0	8.6
32	579.25	6.0	0.3	5.7	14.0	8.3
38	615.25	7.4	0.3	7.1	14.0	6.9
44	651.25	6.7	0.3	6.4	14.0	7.6
50	687.25	6.0	0.3	5.7	14.0	8.3
56	723.25	6.9	0.4	6.5	14.0	7.5
62	759.25	5.9	0.4	5.5	14.0	8.5
69	801.25	6.3	0.4	5.9	14.0	8.1
Mid band						
14	121.25	3.2	0.2	3.0	14.0	11.0
16	133.25	8.2	0.2	8.0	14.0	6.0
18	145.25	6.8	0.2	6.6	14.0	7.4
20	157.25	6.0	0.2	5.8	14.0	8.2
22	169.25	5.5	0.2	5.3	14.0	8.7
Super band						
23	217.25	4.5	0.2	4.3	14.0	9.7
26	235.25	4.5	0.2	4.3	14.0	9.7
29	253.25	4.6	0.2	4.4	14.0	9.6
32	271.25	4.7	0.2	4.5	14.0	9.5
36	295.25	4.8	0.2	4.6	14.0	9.4

Test Report No : 25GE0166-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	CE, AT, RF, ATS, PS	2004/05/14 * 12
IP-06	Matching Pad	TME	ZT-301	PS, NF	2004/05/06 * 12
IP-03	Matching Pad	TME	ZT-130	AT, RF, ATS	2004/09/10 * 12
APNFM01	Noise Figure Indicator	Elena	ENF-2005	NF	2004/10/04 * 12
APNFS01	Noise Source	Elena	MC1100	NF	-
AV01-01	Signal Generator	Rohde & Schwarz	SMY01	PS	2005/02/23 * 12
APBPF01	Band pass filter	Erika Fiedler	BP	PS	Pre Check
APPRA01	Pre Amplifier	Anritsu	MH648A	AT, RF, ATS	2004/09/24 * 12
AF-04	Pre Amplifier	Hewlett Packard	8449B	AT	2005/01/18 * 12
APCBL-01	Coaxial Cable	Fujikura	5D-2W	AT, RF, ATS	2004/12/27 * 12
APCBL-02	Coaxial Cable	Fujikura	5D-2W	AT, RF, ATS	2004/12/27 * 12
OS-02	Digital Humidity Indicator	SATO	PC-5000TRH- II	CE, RF, ATS, PS, NF	2004/04/06 * 12
APRCV05	Test Receiver	Rohde & Schwarz	ESS	CE	2004/06/10 * 12
CC-7S	Yokowa No7 Shielded room(CE)	UL Apex	CC-71,CC-72,CC-73, CC-75,SW-71,SW-72	CE	2004/09/09 * 12
LS-04	LISN(AMN)	Rohde & Schwarz	ESH3-Z5	CE (EUT)	2004/10/29 * 12
LS-02	LISN(AMN)	Rohde & Schwarz	ESH3-Z5	CE	2004/10/29 * 12
KAEC-01(NSA)	Anechoic Chamber	JSE	Semi 3m	RE	2004/09/05 * 12
KAF-02	Pre Amplifier	Hewlett Packard	8449B	RE	2004/05/07 * 12
KAF-05	Pre Amplifier	Agilent	8447D	RE	2004/05/26 * 12
KAT6-02	Attenuator	INMET	18N-6dB	RE	2004/04/27 * 12
KBA-03	Biconical Antenna	Schwarzbeck	BBA9106	RE	2005/01/29 * 12
KCC-30/31/32 /34	Coaxial Cable	Fujikura/Suhner	5D-2W/S04272B	RE	2005/01/06 * 12
KHA-01	Horn Antenna	A.H.Systems	SAS-200/571	RE	2004/07/30 * 12
KLA-03	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2005/01/29 * 12
KLP-01	Loop Antenna	Rohde & Schwarz	HFH2-Z2	RE	2004/06/15 * 12
KSA-04	Spectrum Analyzer	Advantest	R3271A	RE	2004/09/15 * 12
KTR-01	Test Receiver	Rohde & Schwarz	ES140	RE	2004/07/28 * 12
KCC-D7/D13	Coaxial cable	Advantest/Suhner	A01002/SUCOFLEX1 04	RE	2004/04/15 * 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