Certification of Compliance

CFR 47 Part 15 Subpart B

| Test Report File No. | : 05-IST-0185 |
|----------------------|--|
| Model(s) | : VR2946 (Go-Video) ○ Basic ● Alternated |
| | |
| | |
| | |
| Kind of Product | : DVD Recorder + VCR |
| Applicant | : Daewoo Electronics Corporation. |
| | 543, Dangjung-Dong, Kunpo-City, Kyounggi-DO, Korea |
| Manufacturer | : Daewoo Electronics Corporation. |
| | 295, Gondan-dong, Kumi-city, Kyungsangbuk-do, Korea. |

Reviewed By

Approved By

Sat. Pa

S.J.Cho / EMC Group Manager

J.H.LEE / Chief

- -Investigations requested : Measurement to the relevant clauses of F.C.C rules and regulations Part 15 Subpart B Unintentional Radiatiors
- -The test report with appendix consists of 31 pages.
- -The test result only responds to the tested sample.
- -It is not allowed to copy this report even partly without the allowance of IST EMC Laboratory.
- -This equipment as for has been shown to be capable of continued compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4 2003.



30-31

TABLE OF CONTENTS

| Table of contents | 2 |
|---|-------|
| Information of test laboratory, Environmental condition, Power used | 3 |
| Information of Model Name | 4 |
| Description of Test | 5-6 |
| Conducted Emission | 5 |
| Radiated Emission | 6 |
| Summary | 7 |
| | |
| | |
| | |
| Test Conditions and Data - Emission | |
| Conducted Emission 0.15MHz - 30MHz | |
| Test equipment / Data and Plots | 8-24 |
| Radiated Emission 30MHz - 1GHz | |
| Test equipment / Data and Plots | 25-27 |
| | |
| Appendix | |
| A. The DUT Photos | 28-29 |

Information of Tuners

Manufacture Manufacture Name

Korea ALPS TMZH2-030A LG Innotek Co., Ltd. TADM-H201F

B. The Test Setup Photos

Information of Loader

Manufacture Manufacture Name

LITE-ON IT CORP. DDW-813S

INFORMATIONS OF TEST LABORATORY

EMC LABORATORY of IST Co., Ltd. (FCC Filing Lab)

San 21-8, Goan-Ri, Baekam-Myun, Yongin-City

Kyonggi-Do, 449-860, Korea

TEL: +82 31 333 4093 FAX: +82 31 333 4094

ENVIRONMENTAL CONDITIONS

Temperature 20 $^{\circ}$ C Humidity 49 $^{\circ}$ 8

Atmospheric pressure 1008 mbar

POWER SUPPLY SYSTEM USED

Power supply system 120Vac , 60Hz

PRODUCT INFORMATIONS

-The Equipment Under Test(EUT) is DVD Recorder + VCR of Daewoo Electronics Co., Ltd.

(FCC ID : C5F7NF0015)

Power requirements 120Vac , 60Hz

Power consumption 34W

Operating conditions $41^{\circ}F$ to $95^{\circ}F(5^{\circ}C$ to $35^{\circ}C)$, 5% to 90% (humidity)

Mass (approx.) 13.51bs (6.18kg)

Dimensions (approx.) 16.9 X 3.54 X 14.0 inches (430 X 91 X 354mm) (w X h X d)

Signal system NTSC

Antenna IN / RF OUT Antenna or CATV input, 75Ω / Channel 3 or 4 (Switchable)

Signal-to-noise ratio 43dB(VCR) , More than 95dB(DVD)

Head system 4 Head Video, 2 Head Hi-Fi helical scan azimuth system

Laser system Semiconductor laser, wavelength 650mm

Inputs Video/Audio(RCA jack)

Outputs Video/Audio(RCA jack), S-video, component(RCA jack)

- -EMC suppression device is not used during the test.
- Please refer to user's manual.

IST Co., Ltd.
EMC LABORATORY
TEST REPORT NO.: 05-IST-0185

INFORMATIONS OF MODEL NAMES

| Model Name | Model description | TCB Issued Date | Applied Loader | Applied Tuner |
|---|---|-----------------|-----------------------|------------------|
| RV4000 SV294 DF-S04 VR2940 VR2945 | Basic Model | 06/07/2004 | BTC | LG, Alps |
| RV4000 SV294 DF-S04 VR2940 VR2945 | Permissive II Change (Loader change) | 09/02/2004 | LITE-ON (DDW-451S) | LG, Alps |
| RV4000 SV294 DF-S04 VR2940 VR2945 | Permissive II Change (Adding new loader) | 04/14/2005 | LITE-ON (DDW-813S) | LG, Alps |
| VR2946 | Permissive II Change (Front panel change) | | LITE-ON (DDW-813S) | LG, Alps |

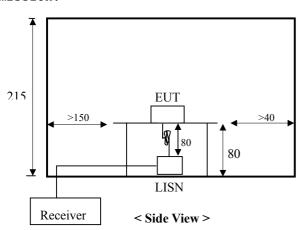
DESCRIPTIONS OF TEST

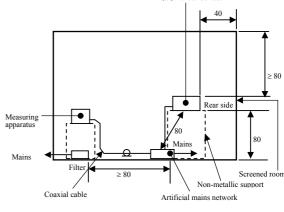
Conducted Emissions:

The measurement were performed over the frequency range of 0.15MHz to 30MHz using a $50\,\Omega/50\text{uH}$ LISN as the input transducer to a Spectrum Analyzer or a Field Intensity Meter. The measurements were made with the detector set for "Peak" amplitude within an bandwidth of 10KHz or for "quasi-peak" within a bandwidth of 9KHz.

- Procedure of Test

The line-conducted facility is located inside a shielded room No.1. A 1m \times 1.5m wooden table 80cm height is placed 40cm away from the vertical wall and 1.5m away from the other wall of the shielded room. The R/S ESH3-Z5 and EMCO 3825/2 LISN are bonded to bottom of the shielded room. The EUT is located on the wooden table with distance more than 80cm from the LISN and powered from the EMCO LISN .The peripheral equipment is powered from the other LISN. Power to the LISNs are filtered by a noise cut power line filters. All electrical cables are shielded by braided tinned steel tubing with inner ϕ 1.2cm. If the EUT is a DC-powered device, power will be derived from the source power supply it normally will be powered from and this supply lines will be connected to the EMCO LISN. All interconnecting cables more than 1m were shortened by non-inductive bundling to a 1m length. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating conditions. The RF output of the LISN was connected to the R/S receiver to determine the frequency producing the maximum emission from the EUT. The frequency producing the maximum level was reexamined using Quasi-Peak mode by manual measurement, after scanned by automatic Peak mode for frequency range from 0.15 to 30MHz. The bandwidth of the receiver was set to 10kHz. The EUT, peripheral equipment, and interconnecting cables were arranged and manipulated to maximize each EME emission.





< Concept Drawing >

DESCRIPTION OF TEST

Radiated Emissions:

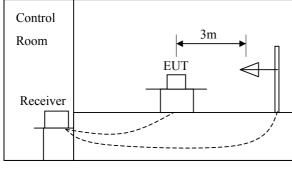
The measurement was performed over the frequency range of 30MHz to 1GHz using antenna as the input transducer to a Spectrum analyzer or a Field Intensity Meter. The measurement was made with the detector set for "quasi-peak" within a bandwidth of 120KHz.

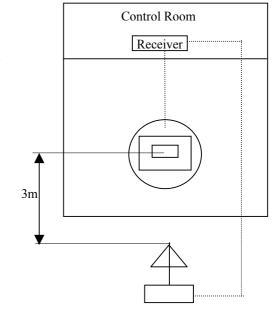
- Procedure of Test

Preliminary measurements were made at 3 meter using bi-conical and log-periodic antennas, and spectrum analyzer to determine the frequency producing the max. emission in anechoic chamber. Appropriate precaution was taken to ensure that all emission from the EUT were maximized and investigated. The system configuration, mode of operation, turn table azimuth and height with respect to the antenna were noted for each frequency found. The spectrum was scanned from 40MHz to 300MHz using S/B biconical antenna and 300 to 1000MHz using S/B log-periodic antenna. Above 1GHz, linearly polarized double ridge horn antennas were used. Final measurements were made at open site with 3-meters test distance using S/B bi-log antenna or horn antenna. The OATS have been verified in regular for its normalized site attenuations. The test equipment was placed on a wooden table. Sufficient time for the EUT, peripheral equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. Each frequency found during pre-scan measurements was reexamined by manual. The detector function was set to CISPR quasi-peak mode and the bandwidth of the receiver was set to 120kHz or 1MHz depending on the frequency of type of signal. The EUT, peripheral equipment and interconnecting cables were reconfigured to the set-up producing the max. emission for the frequency and were placed on top of a 0.8-meter high nonmetallic 1 x 1.5 meter table. The EUT, peripheral equipment, and interconnecting cables were re-arranged and manipulated to

maximize each emission. The turntable containing the system was rotated; the antenna height was varied 1 to 4 meters and stopped at the azimuth or height producing the maximum emission. Each emission was maximized by: varying the mode of operation to the EUT and/or peripheral equipment and changing the polarity of the antenna, whichever determined the worst-

emission





SUMMARY

| Conducted Emission | | |
|---|----------|-------------------|
| The requirements are | ● MET | ○ Not MET |
| Minimum limit margin | 3.1dB at | 4.071MHz |
| Maximum limit exceeding | | |
| Remarks: With Neutral phase for average detect mod | le | |
| (RF Receiving + DVD REC , LG Tuner) | | |
| ■ Radiated Emission | | |
| The requirements are | ● MET | ○ Not MET |
| Minimum limit margin | 3.1dB at | 196.6MHz |
| Maximum limit exceeding | | |
| Remarks : At RF Receiving + DVD REC , LG Tuner | | |
| ☐ Output Signal Level Measurements | | |
| The requirements are | O MET | ○ Not MET |
| Minimum limit margin | | |
| Maximum limit exceeding | | |
| Remarks : | | |
| | | |
| \Box Output Terminal Conducted Spurious Emission | | |
| The requirements are | O MET | ○ Not MET |
| Minimum limit margin | | |
| Maximum limit exceeding | | |
| Remarks : | | |
| ☐ Transfer Switch Isolation Measurements | | |
| The requirements are | O MET | ○ Not MET |
| Minimum limit margin | | |
| Maximum limit exceeding | | |
| Remarks : | | |
| gin of Test : April 28, 2005 d of Test : May 10, 2005 | Prepared | Ву |
| te : | N | Mond |
| lacksquare means the test is applicable, $lacksquare$ is not applicable | I.Y.Le | ee / EMC Engineer |
| | | |
| 7 621 | | |

TEST CONDITIONS AND DATA

Conducted Emissions

[Applicable]

◆ Test Equipment Used

The test equipment used is calibrated in regular for every year.

| Model Name | Manufacturer | Descriptions | Calibration Date | Serial Number |
|------------|-----------------|-------------------|------------------|---------------|
| ESH3 | Rohde & Schwarz | Test Receiver | July 15, 2004 | 892108/018 |
| ESH3-Z5 | Rohde & Schwarz | LISN | July 15, 2004 | 862770/025 |
| ESH3-Z2 | Rohde & Schwarz | Pulse Limiter | July 15, 2004 | 357.8810.52 |
| PM5418 | FLUKE | Pattern Generator | May 10, 2004 | L0796009 |

◆ Auxiliary Equipment Used

| Model Name | Manufacturer | Descriptions |
|------------|---------------------|-------------------|
| 14C5T BLU | Daewoo Electronics. | Color TV Receiver |

◆ Accessories including cables

| Name | Length | Port and Descriptions |
|------|--------|-----------------------|
| RCA | 1m | Audio/Video Out |

◆ Environmental Conditions

Temperature 20 $^{\circ}$ C Humidity 50 $^{\circ}$ Atmosphere pressure 1004 mbar

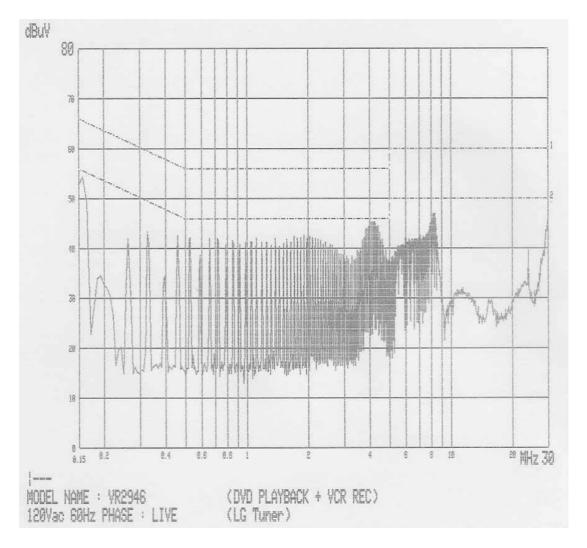
lacktriangle Test Program DVD Playback + VCR REC, VCR Playback + DVD REC,

RF Receiving + VCR REC, RF Receiving + DVD REC

◆ Test Area Conducted Room◆ Test Date March 28, 2005

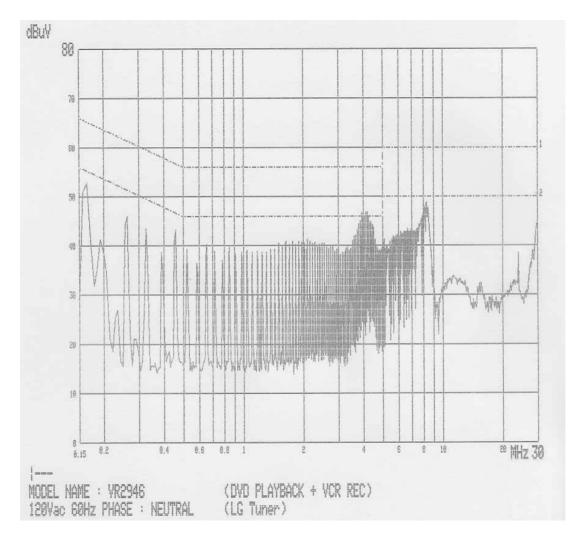
Note:

(Mains Terminal Disturbance Voltages)



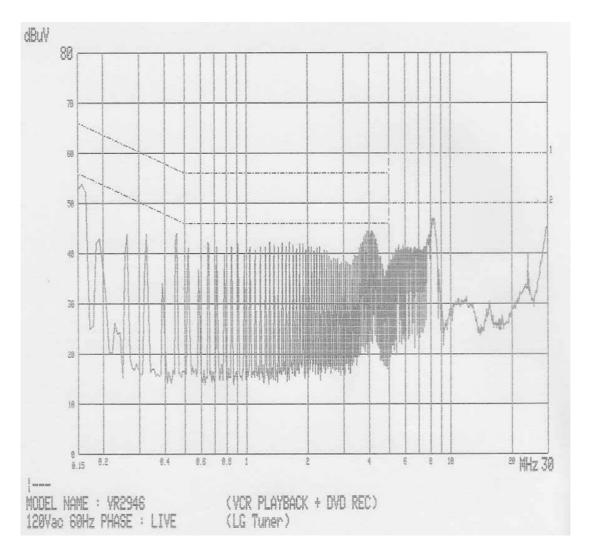
| Measurement Freq. [dB ៧] | | | mit 3 | Insertion Loss | Cable Loss | | sult BµV] | | rgin iB] | |
|--------------------------|--------|---------|----------|-------------------|---------------|--------|--------------|---------|-------------|---------|
| | Q-peak | Average | Q-peak | Average | [dB] | [dBuV] | Q-peak | Average | Q-peak | Average |
| 0.156 | 53.7 | 10.4 | 65.7 | 55.7 | 1.4 | 0.5 | 55.6 | 12.3 | 10.1 | 43.4 |
| 0.457 | 42.6 | 41.2 | 56.7 | 46.7 | 0.5 | 0.4 | 43.5 | 42.1 | 13.2 | 4.6 |
| 4.049 | 44.2 | 42.0 | 56.0 | 46.0 | 0.3 | 0.5 | 45.0 | 42.8 | 11.0 | 3.2 |
| 8.227 | 45.6 | 41.6 | 60.0 | 50.0 | 0.3 | 0.6 | 46.5 | 42.5 | 13.5 | 7.5 |

(Mains Terminal Disturbance Voltages)



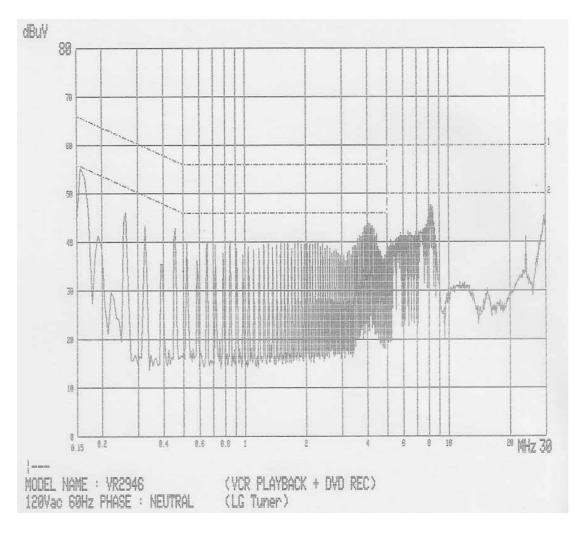
| Measurement Freq. [dB ៧] | | | mit 3 µV] | Insertion Loss | Cable Loss | | sult 3 ⊭V] | | rgin iB] | |
|--------------------------|--------|---------|--------------|-------------------|---------------|--------|---------------|---------|-------------|---------|
| | Q-peak | Average | Q-peak | Average | [dB] | [dBuV] | Q-peak | Average | Q-peak | Average |
| 0.157 | 52.5 | 10.5 | 65.6 | 55.6 | 1.4 | 0.5 | 54.4 | 12.4 | 11.2 | 43.2 |
| 0.456 | 42.4 | 41.7 | 56.8 | 46.8 | 0.5 | 0.4 | 43.3 | 42.6 | 13.5 | 4.2 |
| 4.104 | 44.1 | 41.1 | 56.0 | 46.0 | 0.3 | 0.5 | 44.9 | 41.9 | 11.1 | 4.1 |
| 8.271 | 46.3 | 43.5 | 60.0 | 50.0 | 0.3 | 0.6 | 47.2 | 44.4 | 12.8 | 5.6 |

(Mains Terminal Disturbance Voltages)



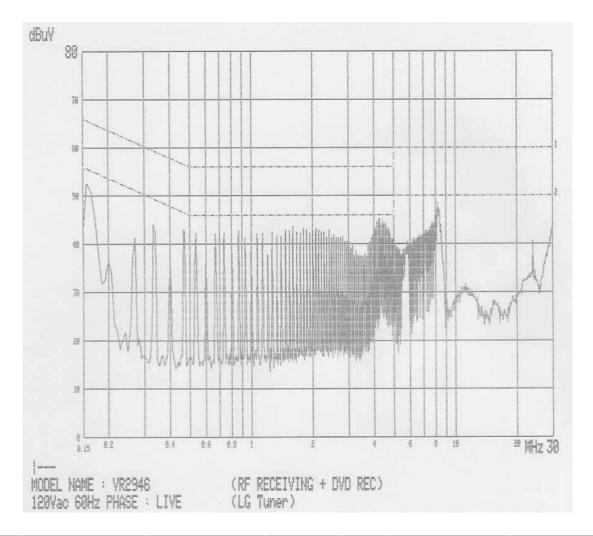
| Measurement Freq. [dB ៧] | | | mit 3 | Insertion Loss | Cable Loss | _ | sult B #}] | | rgin iB] | |
|--------------------------|--------|---------|----------|-------------------|---------------|--------|---------------|---------|-------------|---------|
| | Q-peak | Average | Q-peak | Average | [dB] | [dBuV] | Q-peak | Average | Q-peak | Average |
| 0.159 | 52.4 | 10.4 | 65.5 | 55.5 | 1.4 | 0.5 | 54.3 | 12.3 | 11.2 | 43.2 |
| 0.456 | 42.5 | 41.0 | 56.8 | 46.8 | 0.5 | 0.4 | 43.4 | 41.9 | 13.4 | 4.9 |
| 4.036 | 43.8 | 41.3 | 56.0 | 46.0 | 0.3 | 0.5 | 44.6 | 42.1 | 11.4 | 3.9 |
| 8.199 | 45.4 | 42.5 | 60.0 | 50.0 | 0.3 | 0.6 | 46.3 | 43.4 | 13.7 | 6.6 |

(Mains Terminal Disturbance Voltages)



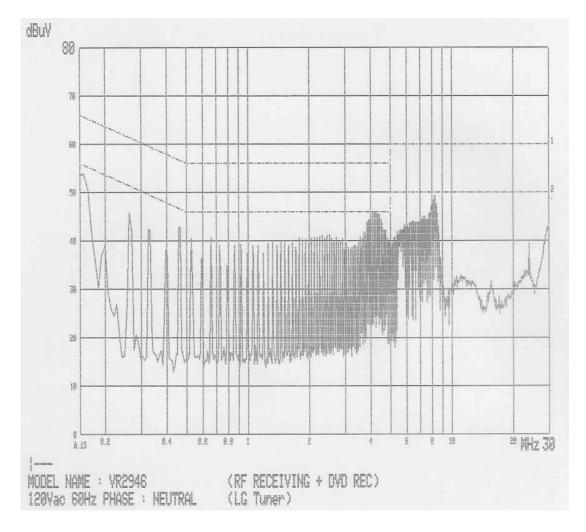
| Measurement Freq. [dB ៧] | | | mit 3 µV] | Insertion Loss | Cable Loss | | sult B Æ] | | rgin iB] | |
|--------------------------|--------|---------|--------------|-------------------|---------------|--------|--------------|---------|-------------|---------|
| | Q-peak | Average | Q-peak | Average | [dB] | [dBuV] | Q-peak | Average | Q-peak | Average |
| 0.157 | 53.2 | 10.5 | 65.6 | 55.6 | 1.4 | 0.5 | 55.1 | 12.4 | 10.5 | 43.2 |
| 0.456 | 42.3 | 41.4 | 56.8 | 46.8 | 0.5 | 0.4 | 43.2 | 42.3 | 13.6 | 4.5 |
| 4.038 | 43.0 | 40.5 | 56.0 | 46.0 | 0.3 | 0.5 | 43.8 | 41.3 | 12.2 | 4.7 |
| 8.204 | 45.6 | 42.8 | 60.0 | 50.0 | 0.3 | 0.6 | 46.5 | 43.7 | 13.5 | 6.3 |

(Mains Terminal Disturbance Voltages)



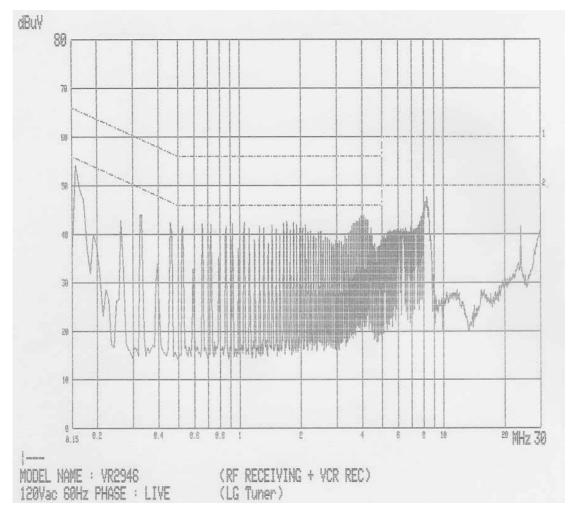
| Freq. | Measurement [dB /√] | | Limit [dB /\dag{\mathcal{U}}] | | Insertion Loss | Cable Loss | Result [dB /√] | | Margin [dB] | |
|-------|------------------------|---------|----------------------------------|---------|-------------------|---------------|-------------------|---------|----------------|---------|
| | • • | Average | Q-peak | Average | [dB] | [dBuV] | Q-peak | Average | Q-peak | Average |
| 0.153 | 53.3 | 10.4 | 65.8 | 55.8 | 1.4 | 0.5 | 55.2 | 12.3 | 10.6 | 43.5 |
| 0.463 | 42.4 | 41.0 | 56.6 | 46.6 | 0.5 | 0.4 | 43.3 | 41.9 | 13.3 | 4.7 |
| 1.586 | 41.9 | 36.9 | 56.0 | 46.0 | 0.3 | 0.5 | 42.7 | 37.7 | 13.3 | 8.3 |
| 4.359 | 43.3 | 40.7 | 56.0 | 46.0 | 0.3 | 0.5 | 44.1 | 41.5 | 11.9 | 4.5 |
| 8.249 | 45.2 | 41.6 | 60.0 | 50.0 | 0.3 | 0.6 | 46.1 | 42.5 | 13.9 | 7.5 |

(Mains Terminal Disturbance Voltages)



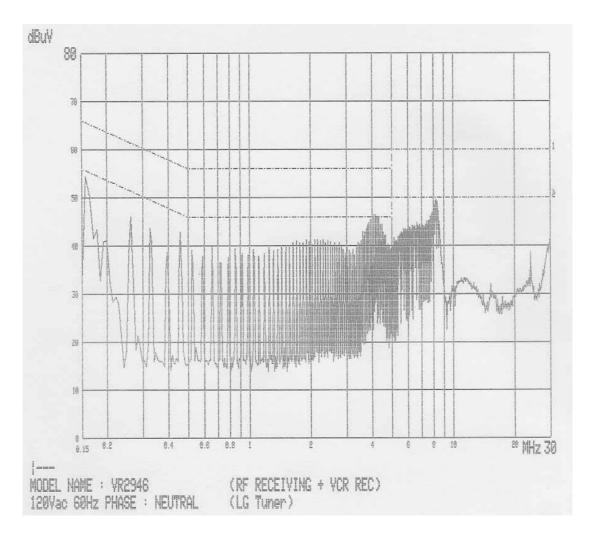
| Freq. | Measurement [dB /√] | | Limit [dB ≠V] | | Insertion Loss | Cable Loss | _ | Result [dB ⊭V] | | rgin iB] |
|-------|------------------------|---------|------------------|---------|-------------------|---------------|--------|-------------------|--------|-------------|
| | Q-peak | Average | Q-peak | Average | [dB] | [dBuV] | Q-peak | Average | Q-peak | Average |
| 0.154 | 53.0 | 10.3 | 65.8 | 55.8 | 1.4 | 0.5 | 54.9 | 12.2 | 10.9 | 43.6 |
| 0.460 | 42.4 | 41.6 | 56.7 | 46.7 | 0.5 | 0.4 | 43.3 | 42.5 | 13.4 | 4.2 |
| 2.628 | 40.6 | 36.0 | 56.0 | 46.0 | 0.3 | 0.5 | 41.4 | 36.8 | 14.6 | 9.2 |
| 4.071 | 45.0 | 42.1 | 56.0 | 46.0 | 0.3 | 0.5 | 45.8 | 42.9 | 10.2 | 3.1 |
| 8.271 | 47.6 | 44.6 | 60.0 | 50.0 | 0.3 | 0.6 | 48.5 | 45.5 | 11.5 | 4.5 |

(Mains Terminal Disturbance Voltages)



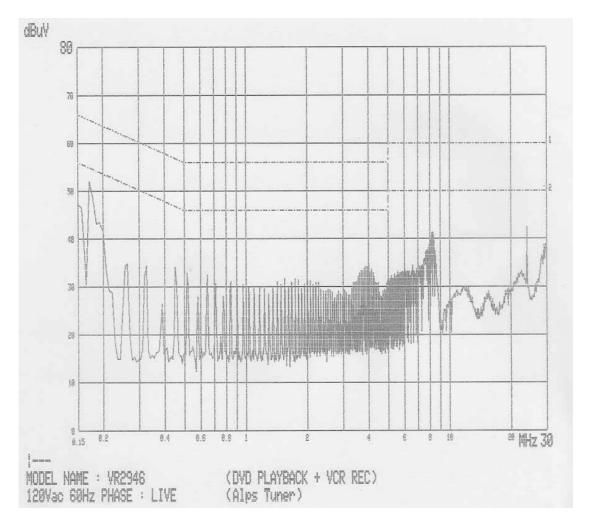
| Freq. | Measurement [dB ៧] | | | | Insertion Loss | Cable Loss | Result [dB /\mathcal{M}] | | Margin [dB] | |
|-------|-----------------------|---------|--------|---------|-------------------|---------------|-----------------------------|---------|----------------|---------|
| | Q-peak | Average | Q-peak | Average | [dB] | [dBuV] | Q-peak | Average | Q-peak | Average |
| 0.156 | 53.1 | 10.2 | 65.7 | 55.7 | 1.4 | 0.5 | 55.0 | 12.1 | 10.7 | 43.6 |
| 0.460 | 42.1 | 40.5 | 56.7 | 46.7 | 0.5 | 0.4 | 43.0 | 41.4 | 13.7 | 5.3 |
| 3.947 | 43.0 | 39.9 | 56.0 | 46.0 | 0.3 | 0.5 | 43.8 | 40.7 | 12.2 | 5.3 |
| 8.287 | 46.1 | 41.9 | 60.0 | 50.0 | 0.3 | 0.6 | 47.0 | 42.8 | 13.0 | 7.2 |

(Mains Terminal Disturbance Voltages)



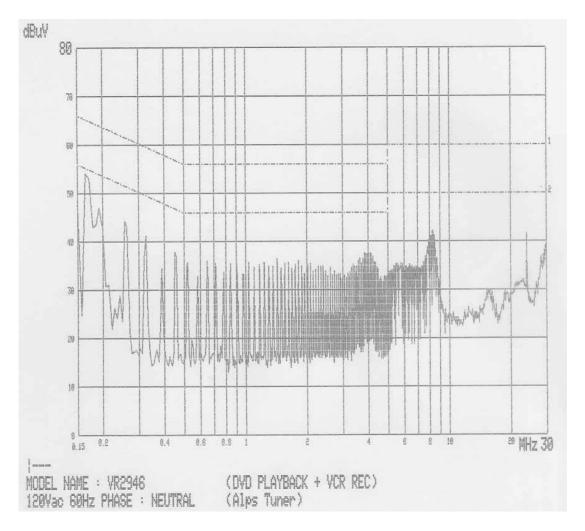
| Freq. | - [ab //v] | | Limit [dB ₩] | | Insertion Loss | Cable Loss | Result [dB /₩] | | Margin [dB] | |
|-------|--------------|---------|-----------------|---------|-------------------|---------------|-------------------|---------|----------------|---------|
| | Q-peak | Average | Q-peak | Average | [dB] | [dBuV] | Q-peak | Average | Q-peak | Average |
| 0.156 | 52.2 | 10.4 | 65.7 | 55.7 | 1.4 | 0.5 | 54.1 | 12.3 | 11.6 | 43.4 |
| 0.459 | 42.1 | 41.2 | 56.7 | 46.7 | 0.5 | 0.4 | 43.0 | 42.1 | 13.7 | 4.6 |
| 4.073 | 44.3 | 42.0 | 56.0 | 46.0 | 0.3 | 0.5 | 45.1 | 42.8 | 10.9 | 3.2 |
| 8.279 | 47.8 | 43.7 | 60.0 | 50.0 | 0.3 | 0.6 | 48.7 | 44.6 | 11.3 | 5.4 |

(Mains Terminal Disturbance Voltages)



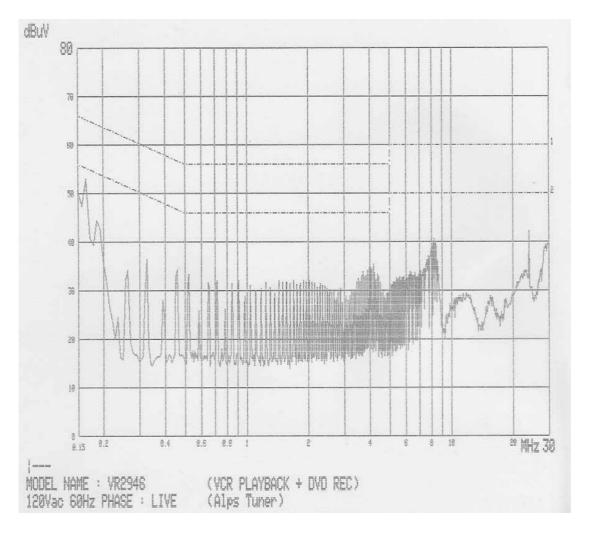
| Freq. | Measurement [dB ៧] | | Limit [dB /l] | | Insertion Loss | Cable Loss | Result [dB ⊭V] | | Margin [dB] | |
|--------|-----------------------|---------|------------------|---------|-------------------|---------------|-------------------|---------|----------------|---------|
| | Q-peak | Average | Q-peak | Average | [dB] | [dBuV] | Q-peak | Average | Q-peak | Average |
| 0.168 | 50.9 | 10.0 | 65.1 | 55.1 | 1.3 | 0.5 | 52.7 | 11.8 | 12.4 | 43.3 |
| 8.275 | 39.5 | 35.1 | 60.0 | 50.0 | 0.3 | 0.6 | 40.4 | 36.0 | 19.6 | 14.0 |
| 24.007 | 42.0 | 40.9 | 60.0 | 50.0 | 0.3 | 0.7 | 43.0 | 41.9 | 17.0 | 8.1 |

(Mains Terminal Disturbance Voltages)



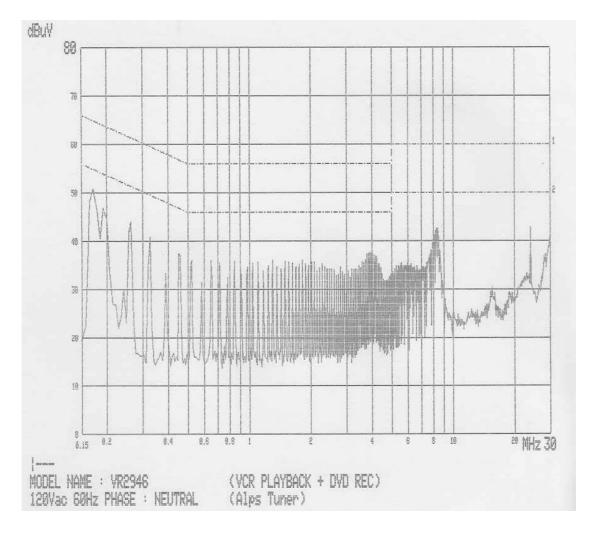
| Freq. | - [α <i>ω μ</i> ν] | | Limit [dB /dV] | | Insertion Loss | Cable Loss | Result [dB ⊭V] | | | |
|--------|--------------------|---------|-------------------|---------|-------------------|---------------|-------------------|---------|--------|---------|
| | Q-peak | Average | Q-peak | Average | [dB] | [dBuV] | Q-peak | Average | Q-peak | Average |
| 0.164 | 51.2 | 9.8 | 65.3 | 55.3 | 1.3 | 0.5 | 53.0 | 11.6 | 12.3 | 43.7 |
| 0.259 | 44.0 | 42.2 | 61.5 | 51.5 | 0.8 | 0.4 | 45.2 | 43.4 | 16.3 | 8.1 |
| 8.279 | 41.9 | 37.5 | 60.0 | 50.0 | 0.3 | 0.6 | 42.8 | 38.4 | 17.2 | 11.6 |
| 24.007 | 41.6 | 40.5 | 60.0 | 50.0 | 0.3 | 0.7 | 42.6 | 41.5 | 17.4 | 8.5 |

(Mains Terminal Disturbance Voltages)



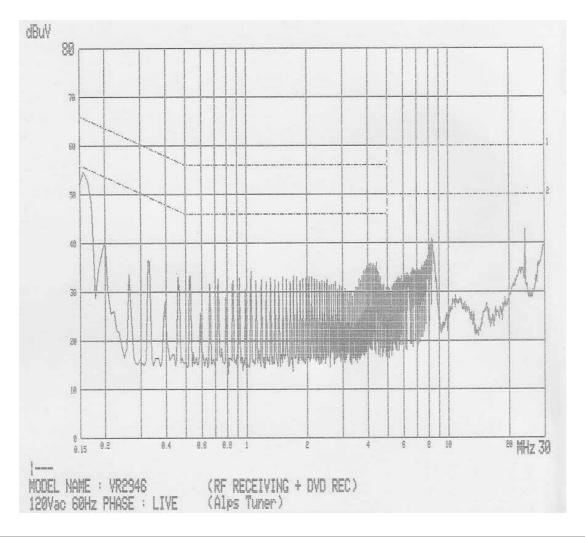
| Freq. | - [QB (LV] | | Limit [dB /\dag{\mathcal{V}}] | | Insertion Loss | Cable Loss | Result [dB ⊭V] | | Margin [dB] | |
|--------|------------|---------|----------------------------------|---------|-------------------|---------------|-------------------|---------|----------------|---------|
| | Q-peak | Average | Q-peak | Average | [dB] | [dBuV] | Q-peak | Average | Q-peak | Average |
| 0.164 | 51.5 | 10.0 | 65.3 | 55.3 | 1.3 | 0.5 | 53.3 | 11.8 | 12.0 | 43.5 |
| 8.306 | 39.1 | 34.1 | 60.0 | 50.0 | 0.3 | 0.6 | 40.0 | 35.0 | 20.0 | 15.0 |
| 24.007 | 42.4 | 40.9 | 60.0 | 50.0 | 0.3 | 0.7 | 43.4 | 41.9 | 16.6 | 8.1 |

(Mains Terminal Disturbance Voltages)



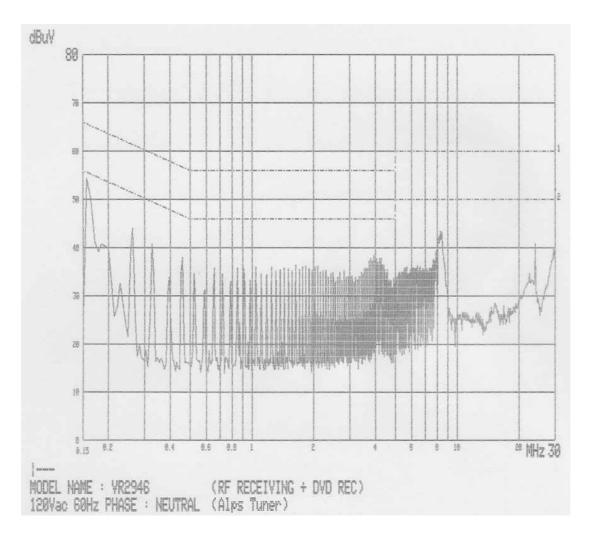
| Freq. | - [(ab #v] | | Limit [dB /\dag{\mathcal{V}}] | | Insertion Loss | Cable Loss | Result [dB ≠V] | | Margin [dB] | |
|--------|--------------|---------|----------------------------------|---------|-------------------|---------------|-------------------|---------|----------------|---------|
| | Q-peak | Average | Q-peak | Average | [dB] | [dBuV] | Q-peak | Average | Q-peak | Average |
| 0.164 | 50.8 | 9.7 | 65.3 | 55.3 | 1.3 | 0.5 | 52.6 | 11.5 | 12.7 | 43.8 |
| 0.259 | 43.7 | 41.8 | 61.5 | 51.5 | 0.8 | 0.4 | 44.9 | 43.0 | 16.6 | 8.5 |
| 8.371 | 41.7 | 37.0 | 60.0 | 50.0 | 0.3 | 0.6 | 42.6 | 37.9 | 17.4 | 12.1 |
| 24.007 | 42.0 | 40.4 | 60.0 | 50.0 | 0.3 | 0.7 | 43.0 | 41.4 | 17.0 | 8.6 |

(Mains Terminal Disturbance Voltages)



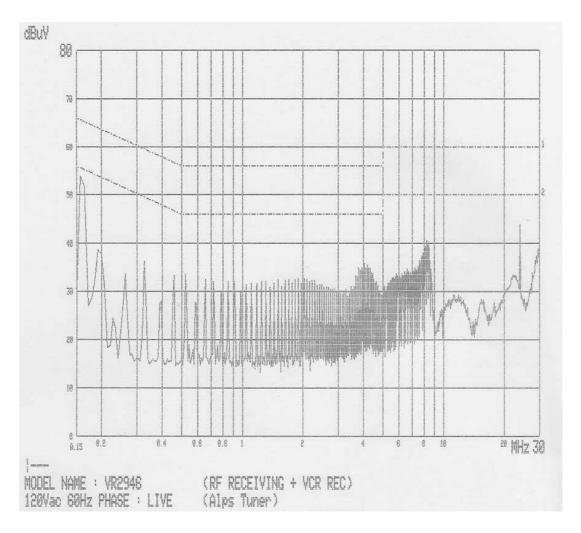
| Freq. | Measurement [dB /√] | | Limit [dB #] | | Insertion Loss | Cable Loss | | sult BµV] | Margin [dB] | |
|--------|------------------------|---------|-----------------|---------|-------------------|---------------|--------|--------------|----------------|---------|
| | Q-peak | Average | Q-peak | Average | [dB] | [dBuV] | Q-peak | Average | Q-peak | Average |
| 0.154 | 52.9 | 10.3 | 65.8 | 55.8 | 1.4 | 0.5 | 54.8 | 12.2 | 11.0 | 43.6 |
| 4.189 | 34.6 | 32.1 | 56.0 | 46.0 | 0.3 | 0.5 | 35.4 | 32.9 | 20.6 | 13.1 |
| 8.307 | 40.5 | 34.5 | 60.0 | 50.0 | 0.3 | 0.6 | 41.4 | 35.4 | 18.6 | 14.6 |
| 24.007 | 42.2 | 41.0 | 60.0 | 50.0 | 0.3 | 0.7 | 43.2 | 42.0 | 16.8 | 8.0 |

(Mains Terminal Disturbance Voltages)



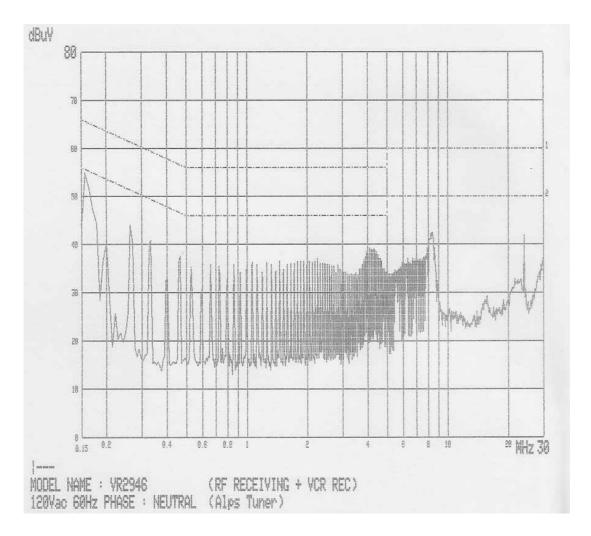
| Freq. | | | Limit [dB #] | | Insertion Loss | Cable Loss | Result [dB /W] | | Margin [dB] | |
|--------|--------|---------|-----------------|---------|-------------------|---------------|-------------------|---------|----------------|---------|
| | Q-peak | Average | Q-peak | Average | [dB] | [dBuV] | Q-peak | Average | Q-peak | Average |
| 0.165 | 51.2 | 9.9 | 65.2 | 55.2 | 1.3 | 0.5 | 53.0 | 11.7 | 12.2 | 43.5 |
| 4.041 | 39.1 | 35.2 | 56.0 | 46.0 | 0.3 | 0.5 | 39.9 | 36.0 | 16.1 | 10.0 |
| 8.276 | 42.9 | 37.8 | 60.0 | 50.0 | 0.3 | 0.6 | 43.8 | 38.7 | 16.2 | 11.3 |
| 24.007 | 40.0 | 39.8 | 60.0 | 50.0 | 0.3 | 0.7 | 41.0 | 40.8 | 19.0 | 9.2 |

(Mains Terminal Disturbance Voltages)



| Freq. | - [α <i>ω μ</i> ν] | | Limit [dB #] | | Insertion Loss | Cable Loss | Result [dB ⊭V] | | Margin [dB] | |
|--------|--------------------|---------|-----------------|---------|-------------------|---------------|-------------------|---------|----------------|---------|
| | Q-peak | Average | Q-peak | Average | [dB] | [dBuV] | Q-peak | Average | Q-peak | Average |
| 0.158 | 52.2 | 10.1 | 65.6 | 55.6 | 1.4 | 0.5 | 54.1 | 12.0 | 11.5 | 43.6 |
| 8.333 | 39.0 | 34.0 | 60.0 | 50.0 | 0.3 | 0.6 | 39.9 | 34.9 | 20.1 | 15.1 |
| 24.007 | 41.9 | 40.8 | 60.0 | 50.0 | 0.3 | 0.7 | 42.9 | 41.8 | 17.1 | 8.2 |

(Mains Terminal Disturbance Voltages)



| Freq. | Measurement [dB /Å] | | Limit [dB /\dag{\mathcal{V}}] | | Insertion Loss | Cable Loss | Result [dB ≠V] | | Margin [dB] | |
|--------|------------------------|---------|----------------------------------|---------|-------------------|---------------|-------------------|---------|----------------|---------|
| | Q-peak | Average | Q-peak | Average | [dB] | [dBuV] | Q-peak | Average | Q-peak | Average |
| 0.158 | 53.0 | 10.2 | 65.6 | 55.6 | 1.4 | 0.5 | 54.9 | 12.1 | 10.7 | 43.5 |
| 0.262 | 43.5 | 41.9 | 61.4 | 51.4 | 0.8 | 0.4 | 44.7 | 43.1 | 16.7 | 8.3 |
| 8.373 | 42.6 | 38.4 | 60.0 | 50.0 | 0.3 | 0.6 | 43.5 | 39.3 | 16.5 | 10.7 |
| 24.007 | 40.2 | 40.3 | 60.0 | 50.0 | 0.3 | 0.7 | 41.2 | 41.3 | 18.8 | 8.7 |

TEST CONDITIONS AND DATA

Radiated Emissions

[Applicable]

◆ Test Equipment Used

The test equipment used is calibrated in regular for every year.

| Model Name | Manufacturer | Descriptions | Calibration Date | Serial Number |
|------------|-----------------|-------------------|------------------|---------------|
| ESVP | Rohde & Schwarz | Test Receiver | July 15, 2004 | 861744/004 |
| VULB9160 | Schwarzbeck | Antenna | July 10, 2004 | 3047 |
| PM5418 | FLUKE | Pattern Generator | May 10, 2004 | L0796009 |

◆ Auxiliary Equipment Used

| Model Name | Manufacturer | Descriptions | | |
|------------|---------------------|-------------------|--|--|
| 14C5T | Daewoo Electronics. | Color TV Receiver | | |

lacktriangle Accessories including cables

| Name | Length | Port and Descriptions |
|------|--------|-----------------------|
| RCA | 1.5m | Audio/Video Out |

◆ Environmental Conditions

Temperature $17\,^{\circ}$ C Humidity $49\,^{\circ}$ Atmosphere pressure $1004\,\mathrm{mbar}$

lacktriangle Test Program DVD Playback + VCR REC, VCR Playback + DVD REC,

RF Receiving + VCR REC, RF Receiving + DVD REC

♦ Test Area Open Area Test Site #2

◆ Test Date May 10, 2005

Note:

Radiated Emissions

(Disturbance Radiation)

[Applicable]

| | | _ | | | - 1 1. | |
|--------------|----|----------------|---------------|--------------------|-------------------|----------------|
| System | СН | Freq. (MHz) | Pol. (H/V) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) |
| DVD Playback | | | | | | |
| + | | 172.0 | Н | 31.9 | 43.5 | 11.6 |
| VCR record | | 184.3 | Н | 30.4 | 43.5 | 13.1 |
| | | 196.6 | Н | 40.2 | 43.5 | 3.3 |
| | | 221.2 | Н | 31.6 | 46.0 | 14.4 |
| | | 245.8 | Н | 32.8 | 46.0 | 13.2 |
| | | 254.8 | Н | 38.0 | 46.0 | 8.0 |
| | | 344.9 | Н | 36.1 | 46.0 | 9.9 |
| | | 764.5 | Н | 39.2 | 46.0 | 6.8 |
| | | | | | | |
| VCR Playback | | 172.1 | Н | 32.3 | 43.5 | 11.2 |
| + | | 184.3 | Н | 36.1 | 43.5 | 7.4 |
| DVD record | | 196.6 | Н | 40.1 | 43.5 | 3.4 |
| | | 221.2 | Н | 35.5 | 46.0 | 10.5 |
| | | 245.8 | Н | 36.5 | 46.0 | 9.5 |
| | | 254.8 | Н | 35.5 | 46.0 | 10.5 |
| | | 764.5 | Н | 38.6 | 46.0 | 7.4 |
| | | | | | | |
| RF Receiving | | 172.1 | Н | 31.5 | 43.5 | 12.0 |
| + | | 184.3 | Н | 33.7 | 43.5 | 9.8 |
| VCR record | | 196.6 | Н | 39.8 | 43.5 | 3.7 |
| | | 221.2 | Н | 30.7 | 46.0 | 15.3 |
| | | 245.8 | Н | 33.3 | 46.0 | 12.7 |
| | | 254.8 | Н | 35.1 | 46.0 | 10.9 |
| | | 764.5 | Н | 39.5 | 46.0 | 6.5 |
| | | | | | | |
| RF Receiving | | 172.1 | Н | 31.9 | 43.5 | 11.6 |
| + | | 184.3 | Н | 35.9 | 43.5 | 7.6 |
| DVD record | | 196.6 | Н | 40.4 | 43.5 | 3.1 |
| | | 221.8 | Н | 34.8 | 46.0 | 11.2 |
| | | 245.8 | Н | 34.9 | 46.0 | 11.1 |
| | | 254.8 | Н | 37.8 | 46.0 | 8.2 |
| | | 764.7 | Н | 38.5 | 46.0 | 7.5 |

Radiated Emissions

(Disturbance Radiation)

[Applicable]

| System | СН | Freq. (MHz) | Pol. (H/V) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) |
|--------------|----|----------------|---------------|--------------------|-------------------|----------------|
| DVD Playback | | 169.0 | V | 35.3 | 43.5 | 8.2 |
| + | | 172.0 | Н | 28.8 | 43.5 | 14.7 |
| VCR record | | 221.2 | Н | 26.0 | 46.0 | 20.0 |
| | | 230.9 | Н | 25.0 | 46.0 | 21.0 |
| | | 238.1 | Н | 30.5 | 46.0 | 15.5 |
| | | 245.8 | Н | 35.5 | 46.0 | 10.5 |
| | | 254.7 | Н | 42.2 | 46.0 | 3.8 |
| | | | | | | |
| VCR Playback | | 172.1 | V | 36.0 | 43.5 | 7.5 |
| + | | 221.2 | Н | 28.4 | 46.0 | 17.6 |
| DVD record | | 230.9 | Н | 24.3 | 46.0 | 21.7 |
| | | 238.0 | Н | 28.1 | 46.0 | 17.9 |
| | | 245.8 | Н | 33.5 | 46.0 | 12.5 |
| | | 254.7 | Н | 42.1 | 46.0 | 3.9 |
| | | | | | | |
| RF Receiving | | 169.7 | V | 29.5 | 43.5 | 14.0 |
| + | | 172.0 | Н | 34.8 | 43.5 | 8.7 |
| VCR record | | 221.2 | Н | 29.8 | 46.0 | 16.2 |
| | | 230.9 | Н | 30.1 | 46.0 | 15.9 |
| | | 238.1 | Н | 29.1 | 46.0 | 16.9 |
| | | 245.8 | Н | 35.0 | 46.0 | 11.0 |
| | | 259.7 | Н | 35.0 | 46.0 | 11.0 |
| | | | | | | |
| RF Receiving | | 172.0 | V | 35.1 | 43.5 | 8.4 |
| + | | 221.2 | Н | 28.6 | 46.0 | 17.4 |
| DVD record | | 230.9 | Н | 23.3 | 46.0 | 22.7 |
| | | 238.1 | Н | 23.8 | 46.0 | 22.2 |
| | | 245.8 | Н | 32.6 | 46.0 | 13.4 |
| | | 254.7 | Н | 41.8 | 46.0 | 4.2 |

IST Co., Ltd. EMC LABORATORY TEST REPORT NO.: 05-IST-0185

The DUT photos



Front View

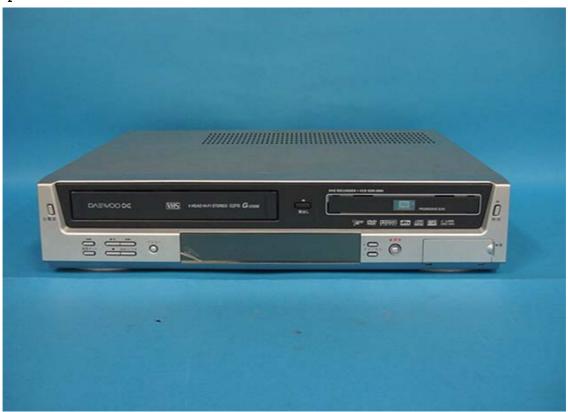


Rear View

28 of 31

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The DUT photos



Front View

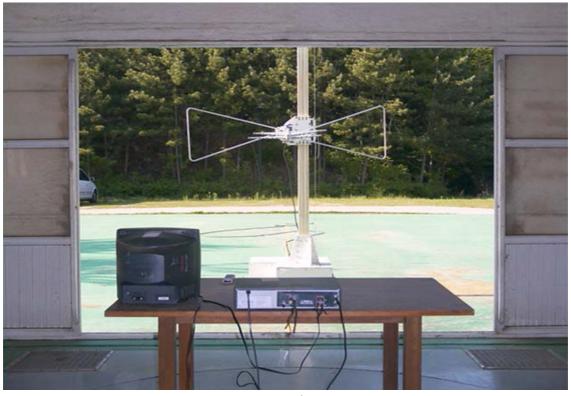


Rear View 29 of 31

Test Setup Photos - Radiated Emissions



Front View



Rear View 30 of 31

Test Setup Photos - Conducted Emissions



Front View



Rear View