



HYUNDAI CALIBRATION & CERTIFICATION TECH. CO., LTD.

Product Compliance Division, EMC Team
SAN 136-1, AMI-RI, BUBAL-EUP, ICHEON-SI, KYOUNGKI-DO, 467-701, KOREA
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CERTIFICATION

Manufacture;

DVS KOREA CO., LTD

7TH & 8TH FL. KPS BLDG.

196 KUMGOK-DONG, BOONDONG-KU
SUNGNAM CITY, KYUNGKI-DO, KOREA

DVS KOREA FRN : 0010037380

Date of Issue: December 19, 2003

Test Report No.: HCT-F03-1204

Test Site: HYUNDAI CALIBRATION & CERTIFICATION
TECHNOLOGIES CO., LTD.

HCT FRN : 0005-8664-21

FCC ID :

PGJVXM2200

MODEL / TYPE :

VXM-2200 / DVD PLAYER

Rule Part(s):**Equipment Class:****Port/Connector(s)**

FCC PART 15 Subpart B & PART 15 Subpart C(2001)

CLASS B DVD Player & FM Transmitter

Video Output / RCA Jack

Audio Output / RCA Jack

S-Video Output / RCA Jack

Digital Output / RCA Jack

Component Output / RCA Jack

Remote Output / Jack

Car Pack/ Jack

VGA Output / DSUB

This equipment has been shown to be in compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4-1992 (Grant Notes: #19, #28).

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Report prepared by : Ki-Soo Kim

Manager of EMC Tech. Part

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ATTACHMENT A:	FCC ID LABEL & LOCATION
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ATTACHMENT D:	TEST SETUP PHOTOGRAPHS
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MEASUREMENT REPORT

1.1 Scope

Measurement and determination of electromagnetic emissions (EME) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission.

Applicant Name:	DVS KOREA CO., LTD
Address:	7 TH & 8 TH FL. KPS BLDG. 196 KUMGOK-DONG, BOONDONG-KU SUNGNAM CITY, KYUNGKI-DO, KOREA

- | | |
|---|---|
| • Equipment Class: | Digital Device |
| <input type="checkbox"/> • EUT Type: | DVD PLAYER |
| • Model(s): | VXM-2200 |
| • Signal System | PAL/MULTI, NTSC |
| • Output port | Video, Audio, S-Video, digital Out, Component, VGA, CAR Pack, |
| • Power | DC 12V ~ 24V, 1.5A |
| • Weight | 1.203g |
| • Operation temperature | -10°C ~ 50°C |
| • Operation humidity | 10% ~ 80% |
| • External Dimensions | 178(W) x 212.2(D), x 43.0(H) |
| • FM Transmitter Frequency | 88.1 MHz ~ 88.9 MHz
(88.1 MHz, 88.3 MHz, 88.5 MHz, 88.7 MHz, 88.9 MHz) |

KOREA

2.1 INTRODUCTION(Site Information)

The measurement procedure described in American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40GHz (ANSI C63.4-1992) was used in determining radiated and conducted emissions emanating from **DVSKOREA CO., LTD. DVD PLAYER. FCC ID : PGJVXM2200**

The open area test site and conducted measurement facility used to collect the radiated data are located at the 254-1, MAEKOK-RI, HOBUP-MYUN, ICHON-SI, KYOUNGKI-DO, 467-701, KOREA. The site is constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated July 24, 2000 (Registration Number: EA90661)

3.1 PRODUCT INFORMATION

3.1.1 Equipment Description

DVS KOREA'S DVD Player(VXM-2200) has two type

One is VGA type and another one is Component type. It's between under following and illustrate about different of type.

Difference point of two models.

The difference between VXM-2200 VGA type & VXM-2200 Component type are only output port .

TWO MODELS	Output PORT
VXM-2200 VGA type	VGA, S-VIDEO / VIDEO, AUDIO, REOMTE CONTROL, CASSETTE TAPE ADAPTOR, DIGITAL OUT
VXM-2200 Component type	COMPONENT / VIDEO, AUDIO, REMOTE CONTROL, CASSETTE TAPE ADAPTOR, DIGITAL OUT

Equipment Under Test (EUT) is **DVS KOREA.CO., LTD. DVD PLAYER.(FCC ID : PGJVXM2200)**

General	System	DVD-Video, DVD-R/RW+R/+RW Super VCD/VCD/CD, CD-R/RW MP3 files/ Picture CD
	Power Supply	DC 12V-24V, 1.5A
	Power consumption	1A, 12W
	Weight	1.203g
	External Dimension	178(W) x 212.2(D), x 43.0(H)
Signal System	NTSC, PAL/MULTI	
Video output	Output lever	1.0Vp-p(75ohm)
	Jacks	RCA Jack
S-Video output	Y-Output lever	1.0Vp-p(75ohm)
	C-Output lever	0.286Vp-p(75ohm)
	Jacks	RCA Jack
Audio output	During audio output	2Vrms(1kHz,0dB)
	Number of channels	2
	Jacks	RCA Jack
Audio Characteristic	Frequency Response	4Hz to 44kHz(DVD is: 96kHz)
	S/N Milo	More than 85dB
	Dynamic Range	More than 85dB
	Total Harmonic distortion	0.08%
Digital Output	Coaxial digital output	RCA Jack

3.1.2 EMI Suppression Devices:

Modifications were made to the device.

Refer to cover letter

4.1 Description of Tests (Conducted & Radiated)

4.1.1 Power line Conducted RFI (150kHz- 30MHz)

The power line conducted RFI measurements were performed according to CISPR 22.

The EUT was placed on a non-conducting 1.0 by 1.5 meter table which is 0.8 meters in height and 0.40 meters away from the vertical wall of the shielded enclosure. Power to the EUT is provided through a Rohde & Schwarz 50 Ω / 50 uH Line Impedance Stabilization Network (LISN) and the support equipment through a separate Solar 50 Ω / 50 uH Line- Conducted Test Facility LISN. Sufficient time for the EUT, support equipment, and test equipment were allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the spectrum analyzer to determine the frequency producing the maximum EME. The spectrum was scanned from 150kHz to 30 MHz. Each maximum EME was measured using an EMI receiver. The detector function of the receiver was set to CISPR quasi- peak and average mode with the bandwidth set to 9 kHz. Each emission was maximized consistent with the typical applications by varying the configuration of the test sample. Interface cables were connected to the available interface ports of the test unit. The effect of varying the position of cables was investigated to find the configuration that produces maximum Diagram emission. Excess cable lengths were bundled at the centre with 30- 40cm. in length. The worst-case configuration is noted in the test report and the photographs are attached. Each EME reported was calibrated using the Rohde & Schwarz SMX signal generator and are listed on Table 1. RFI Conducted FCC Class B

RFI CONDUCTED	FCC CLASS B Limits dB(uV/m)	CISPR 22 CLASS B Limits dB(uV/m)	
Freq. Range	FCC Class B Quasi-Peak	CISPR 22 Quasi-Peak	CISPR 22 Average
150kHz - 0.5MHz	48*	66-56**	56-46**
0.5MHz - 5MHz	48	56	46
5MHz - 30MHz	48	60	50
*FCC Class B limits starts from 450kHz			
**Limits decreases linearly with the logarithm of frequency			

Table 1. CISPR 22 CLASS B RFI Conducted Limits

4.1.2 Radiated Emissions

Preliminary measurements were made indoors at 1 meter using broadband antennas, broadband amplifier, and spectrum analyzer to determine the frequency producing the maximum EME. Appropriate precaution was taken to ensure that all EME from the EUT were maximized and investigated. The spectrum was scanned from 30 to 300 MHz using biconical antenna, 300 to 1000 MHz using log- periodic antenna, and above 1 GHz using linearly polarized horn antennas. Final measurements were made outdoors at 10-meter test range using Dipole antennas and EMI receiver. For frequencies above 1 GHz, horn antennas were used. Sufficient time for the EUT, support equipment, and test equipment were allowed in order for them to warm up to their normal operating condition. The EMI receiver detector function was set to CISPR quasi-peak mode and the bandwidth of the receiver was set to 120 kHz. The EUT, support equipment, and interconnecting cables were arranged to the configuration that produces the maximum EME emission found during preliminary scan. 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. Horizontal and vertical antenna polarizations were checked. Each emission was maximized by: varying the mode of operation or resolution; clock or data exchange speed; scrolling H pattern to the EUT and/ or support equipment, and powering the monitor the computer aux AC outlet, if applicable; and changing the polarity of the antenna, whichever determined the worst-case emission.

ITE Radiated Limits			
Frequency (MHz)	FCC Limit @ 3m. Quasi- Peak dB[μV/m]	FCC Limit @ 10m.* Quasi – Peak dB [μV/m]	CISPR Limit @ 10m. Quasi-Peak dB [μV/m]
30-88	40.0	29.5	30.0
88-216	43.5	33.0	30.0
216-230	46.0	35.6	30.0
230-960	46.0	35.6	37.0
960-1000	54.0	43.5	37.0
> 1000	54.0	43.5	No Specified Limit
* Limit extrapolated 20 dB/decade			

Table 2. Radiated Class A limits @ 10-meters

4.1.3 Field strength of emissions according to § 15.239(b)

Fundamental Frequency (MHz)	Field Strength of Fundamental at the 3m distance	
	$\mu\text{V}/\text{meter}$	$\text{dB}\mu\text{V}/\text{meter}$
88 – 108	250	48

According to §15.239(b), the field strength of emissions from intentional radiators operated under These frequency bands shall not exceed the following :

The test was performed in the anechoic chamber at 3 meter test distance. The EUT was placed on the top of the 0.8 meter high, 1 x 1.5 meter non-metallic table. The biconical antenna was used. To find the maximum radiation measuring antenna height was changed and the turntable was rotated 360. the antenna polarization was changed from vertical to horizontal. The EUT was operated in transmitting mode.

4.1.4 Emissions Band Measurement

4.1.4.1 Standard Applicable

According to 15.239(a), emissions from the intentional radiator shall be confined within a band 200kHz wide centered on the operating frequency. The 200kHz band shall lie wholly within the frequency range of 88-108 MHz

4.1.4.2 Measurement Procedure

The Measurement were performed at all channels.

the spectrum trace data around transmitter fundamental frequency was obtained with the spectrum analyzer in “Max Hold” mode. The bandwidth value was determined between two points 26 dB down from the center frequency. The measured results are less than 200kHz. The measured spectrum of the signal is shown in figure 1.

5.1 List of Support Equipment

5.1.1 Support Equipment used

DEVICE TYPE	MANUFACTURER	MODEL NUMBER	FCC ID / DoC	CONNECTED TO
DVD PLAYER (EUT)	DVS KOREA	VXM-2200	PGJVXM2200	N/A
TV	PANASONIC	TC-14S10R2	DoC	EUT
Cassette tape adaptor	SAISONIC	BP-4700	DoC	EUT
Termination	S-Video port 75Ω Component port 75Ω Digital Out port 75Ω Video port 75Ω Audio port 20kΩ			

5.1.2 Cable Description

		Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (M)
DVD PLAYER (EUT)	Power	N	N/A	1.8(P)
	Video	N/A	Y	1.6(D)
	Audio	N/A	Y	1.6(D)
	Component	N/A	Y	1.6(D)
	D-sub	N/A	Y	1.8(D)
	Remote	N/A	N	3.0(D)
	CAR Pack	N/A	N	0.6(D)
	S-video	N/A	Y	1.5(D)

The marked "(D)" means the Data Cable and "(P)" means the Power Cable.

5.1.3 Noise Suppression Parts on Cable (I/O CABLE)

		Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
DVD PLAYER (EUT)	Video	N	N/A	Y	BOTH END
	Audio	N	N/A	Y	BOTH END
	Component	N	N/A	Y	BOTH END
	D-sub	Y	BOTH END	Y	BOTH END
	Remote	N	N/A	Y	EUT END
	CAR Pack	N	N/A	Y	EUT END
	S-video	N	N/A	Y	BOTH END

6.1 PRELIMINARY TESTS

6.1.1 AC Power line Conducted Emission Tests

During Preliminary Tests, the following operating mode were investigated

TYPE	DVD Player Mode	The worst operating condition
VGA Type	VGA Mode	
	S-Video Mode	
	Video/Audio Mode	
Component Type	Component Mode	X
	Video/Audio Mode	

6.1.2 Radiated Emission Tests

During Preliminary Tests, the following operating mode were investigated

TYPE	DVD Player Mode	The worst operating condition
VGA Type	VGA Mode	
	S-Video Mode	
	Video/Audio Mode	
Component Type	Component Mode	X
	Video/Audio Mode	

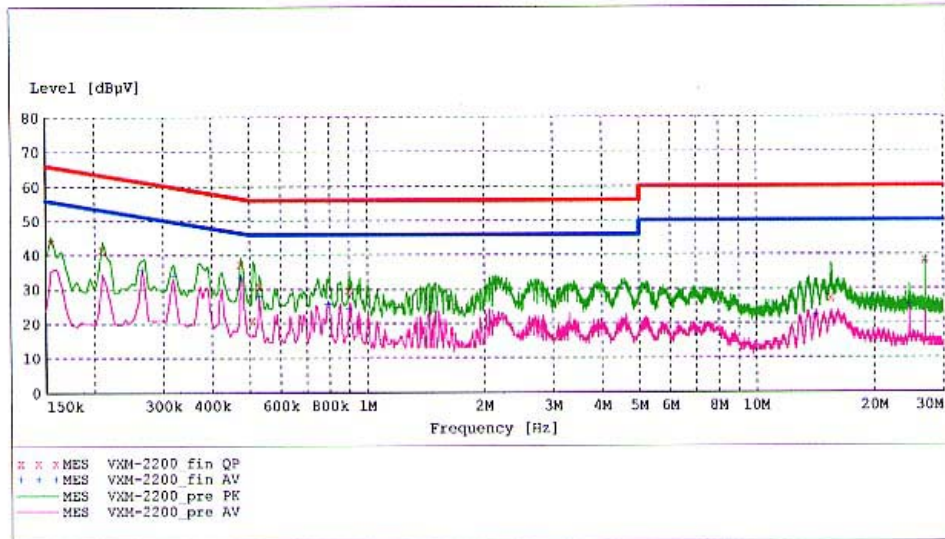
7.1 LINE-CONDUCTED TEST DATA

HYUNDAI C-TECH.
EMC Testing Laboratory

EUT: VXM-2200
 Manufacturer: DVSKOREA
 Operating Condition: NORMAL
 Test Site: SHIELD ROOM
 Operator: JP-HONG
 Test Specification: CISPR 22 CLASS B
 Comment: H
 Start of Test: 12/1/03 / 8:57:12AM

SCAN TABLE: "CISPR 22 Voltage"

Short Description:		CISPR 22 Voltage					
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer	
Frequency	Frequency	Width					
150.0 kHz	500.0 kHz	5.0 kHz	MaxPeak	10.0 ms	9 kHz	None	
			Average				
500.0 kHz	5.0 MHz	5.0 kHz	MaxPeak	10.0 ms	9 kHz	None	
			Average				



MEASUREMENT RESULT: "VXM-2200_fin_QP"

12/1/03 9:00AM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Line	PE
0.155000	43.90	10.1	66	21.9	---	---
0.210000	41.60	10.1	63	21.6	---	---
0.475000	37.30	10.1	56	19.1	---	---
0.510000	21.00	10.1	56	35.0	---	---
0.530000	30.80	10.1	56	25.2	---	---
0.900000	29.60	10.2	56	26.4	---	---
15.510000	27.30	11.3	60	32.7	---	---
15.525000	27.30	11.3	60	32.7	---	---
27.000000	38.30	11.8	60	21.7	---	---

MEASUREMENT RESULT: "VXM-2200 fin AV"

12/1/03 9:00AM

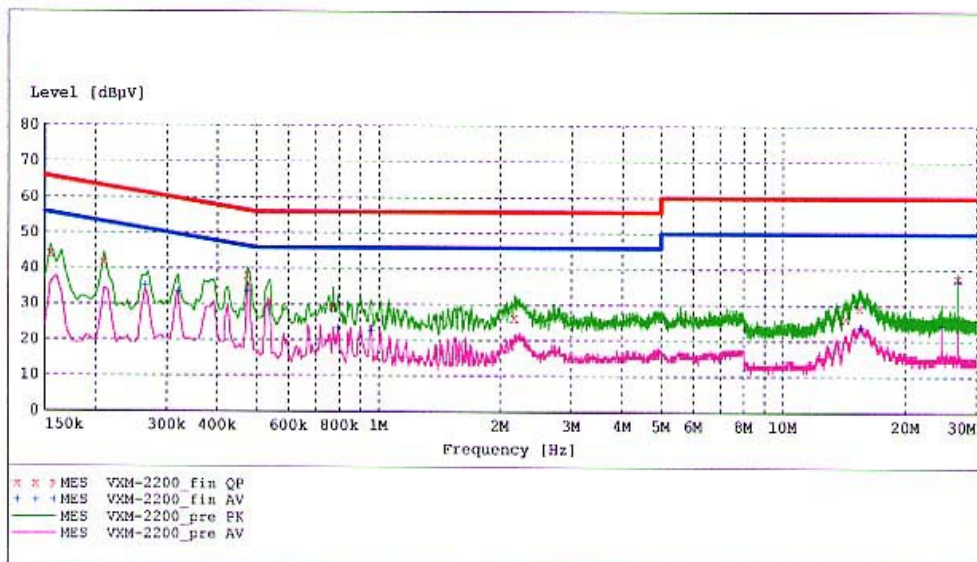
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.265000	35.60	10.1	51	15.7	---	---
0.320000	34.00	10.1	50	15.7	---	---
0.475000	33.60	10.1	46	12.8	---	---
0.530000	28.00	10.1	46	18.0	---	---
0.795000	25.60	10.2	46	20.4	---	---
0.900000	24.40	10.2	46	21.6	---	---
14.165000	22.50	11.1	50	27.5	---	---
24.575000	25.30	11.7	50	24.7	---	---
27.000000	37.80	11.8	50	12.2	---	---

HYUNDAI C-TECH.
EMC Testing Laboratory

EUT: VXM-2200
Manufacturer: DVSKOREA
Operating Condition: NORMAL
Test Site: SHIELD ROOM
Operator: JP-HONG
Test Specification: CISPR 22 CLASS B
Comment: N
Start of Test: 12/1/03 / 8:52:50AM

SCAN TABLE: "CISPR 22 Voltage"

Short Description:		CISPR 22 Voltage				
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
Frequency	Frequency	Width				
150.0 kHz	500.0 kHz	5.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
500.0 kHz	5.0 MHz	5.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			



MEASUREMENT RESULT: "VXM-2200_fin_QP"

12/1/03 8:55AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.155000	44.30	10.1	66	21.4	---	---
0.210000	41.70	10.1	63	21.5	---	---
0.475000	38.00	10.1	56	18.4	---	---
0.540000	30.70	10.1	56	25.3	---	---
0.775000	29.40	10.1	56	26.6	---	---
2.170000	26.30	10.3	56	29.7	---	---
14.300000	26.50	11.2	60	33.5	---	---
15.460000	29.20	11.3	60	30.8	---	---
27.000000	37.60	11.8	60	22.4	---	---

MEASUREMENT RESULT: "VXM-2200_fin AV"

12/1/03 8:56AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.265000	35.40	10.1	51	15.9	---	---
0.320000	33.60	10.1	50	16.1	---	---
0.475000	33.80	10.1	46	12.6	---	---
0.535000	28.80	10.1	46	17.2	---	---
0.795000	23.50	10.2	46	22.5	---	---
0.960000	22.90	10.2	46	23.1	---	---
15.570000	24.00	11.3	50	26.0	---	---
24.575000	24.40	11.7	50	25.6	---	---
27.000000	37.10	11.8	50	12.9	---	---

NOTES:

1. All modes of operation were investigated and the worst-case emissions are reported.
2. The CISPR RFI conducted limits are listed on Table 1 (Page 4).
3. Line A = Phase Line B = Neutral
4. Deviations to the Specifications: **None**

** Measurements using CISPR quasi-peak mode.

8.1 Radiated Emissions

Frequency MHz	Reading dBuV	Ant. Factor dB/m	Cable Loss dB	ANT POL (H/V)	Total dBuV/m	Limit dBuV/m	Margin dB
49.1	21.3	11.5	1.5	V	34.3	40	-5.7
135.0	18.5	14.1	2.6	V	35.2	43.5	-8.3
135.0	17.0	14.1	2.6	H	33.7	43.5	-9.8
276.4	13.8	18.2	3.8	H	35.8	46	-10.2
350.9	14.3	16.4	4.3	H	35.0	46	-11.0
377.7	15.6	16.7	4.5	V	36.8	46	-9.2
499.4	12.2	19.1	5.1	V	36.4	46	-9.6
566.9	13.3	20.5	5.4	H	39.2	46	-6.8

Radiated Measurements at 3-meters.

NOTES:

1. All modes of operation were investigated, and the worst-case emissions are reported(Page 24).
2. The radiated limits are listed on Table 2 (Page 7).

*** Measurements using CISPR quasi-peak mode. Above 1GHz, peak detector function mode is used using a resolution bandwidth of 1MHz and a video bandwidth of 3MHz. The peak level complies with the average limit. Peak mode is used with linearly polarized horn antenna and low-loss microwave cable.

8.1.1 Field strength of emissions according to § 15.239(b)

Frequency MHz	Reading dBuV	Ant. Factor dB/m	Cable Loss dB	ANT POL (H/V)	Total dBuV/m	Limit dBuV/m	Margin dB
88.1	31.5	8.5	2.1	V	42.1 Av	48	-5.9
88.1	33.5	8.5	2.1	V	44.1 Pk	68	-23.9
88.3	31.9	8.5	2.1	V	42.5 Av	48	-5.5
88.3	33.3	8.5	2.1	V	43.9 Pk	68	-24.1
88.5	32.9	8.5	2.1	V	43.5 Av	48	-4.5
88.5	34.3	8.5	2.1	V	44.9 Pk	68	-23.1
88.7	32.9	8.5	2.1	V	43.5 Av	48	-4.5
88.7	34.5	8.5	2.1	V	45.1 Pk	68	-22.9
88.9	32.2	8.5	2.1	V	42.8 Av	48	-5.2
88.9	34.2	8.5	2.1	V	44.8 Pk	68	-23.2

Radiated Measurements at 3-meters.

NOTES:

1. The radiated limits are listed on Table 2 (Page 8).

2. Av = Average detection mode, Pk = Peak detection mode.

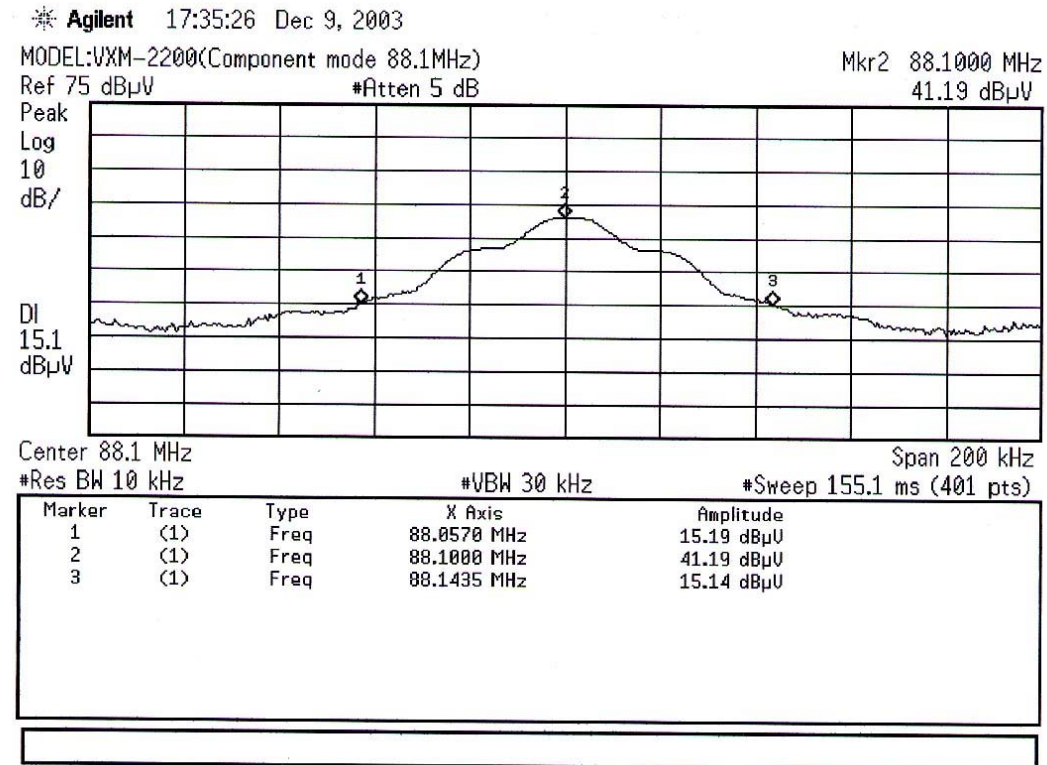
Center Frequency (MHz)	Measured occupied bandwidth (KHz)	Pass/Fail
88.1	43.5	Pass
88.3	47.5	Pass
88.5	45.5	Pass
88.7	45.0	Pass
88.9	45.0	Pass

8.1.2 Emissions Band Measurement

NOTES:

1. All modes of operation were investigated, and the worst-case emissions are reported(Page 24).
2. The radiated limits are listed on Table 2 (Page 8).

Figure 1 : Occupied bandwidth measurement results



* Agilent 17:47:24 Dec 9, 2003

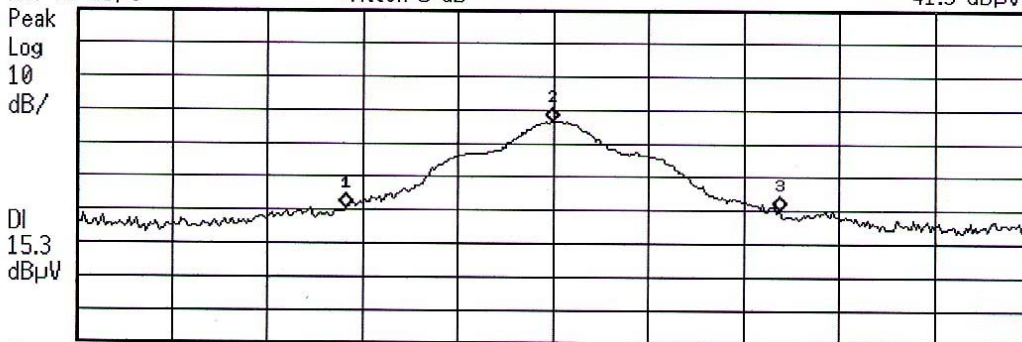
MODEL:VXM-2200(Component mode 88.3MHz)

Mkr2 88.3000 MHz

Ref 75 dBμV

#Atten 5 dB

41.3 dBμV



Center 88.3 MHz

Span 200 kHz

#Res BW 10 kHz

#VBW 30 kHz

#Sweep 155.1 ms (401 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	88.2565 MHz	15.65 dBμV
2	(1)	Freq	88.3000 MHz	41.3 dBμV
3	(1)	Freq	88.3475 MHz	15.2 dBμV

* Agilent 17:49:33 Dec 9, 2003

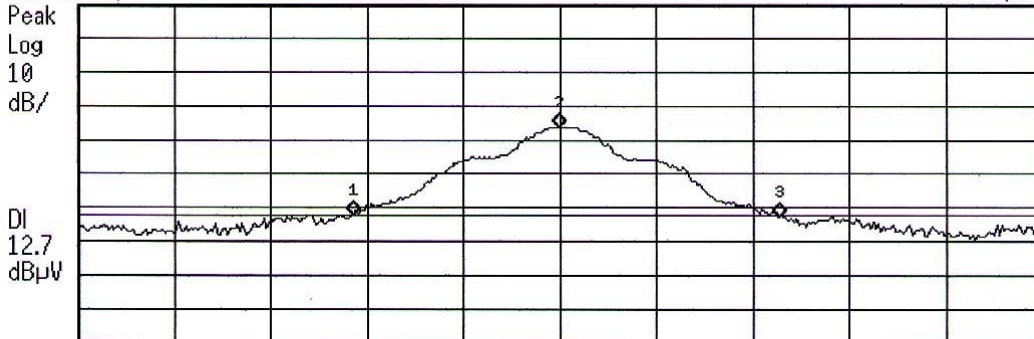
MODEL:VXM-2200(Component mode 88.5 MHz)

Mkr2 88.5000 MHz

Ref 75 dBμV

#Atten 5 dB

38.73 dBμV



Center 88.5 MHz

Span 200 kHz

#Res BW 10 kHz

#VBW 30 kHz

#Sweep 155.1 ms (401 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	88.4570 MHz	12.71 dBμV
2	(1)	Freq	88.5000 MHz	38.73 dBμV
3	(1)	Freq	88.5455 MHz	12.15 dBμV

* Agilent 17:54:51 Dec 9, 2003

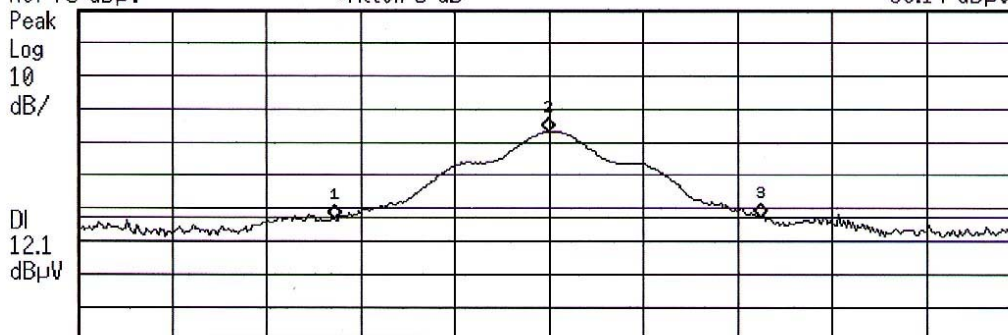
MODEL:VXM-2200(Component mode 88.7 MHz)

Mkr2 88.7000 MHz

Ref 75 dBμV

*Atten 5 dB

38.14 dBμV



Center 88.7 MHz

Span 200 kHz

*Res BW 10 kHz

*VBW 30 kHz

*Sweep 155.1 ms (401 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	88.6545 MHz	12.07 dBμV
2	(1)	Freq	88.7000 MHz	38.14 dBμV
3	(1)	Freq	88.7450 MHz	12.33 dBμV



* Agilent 17:56:34 Dec 9, 2003

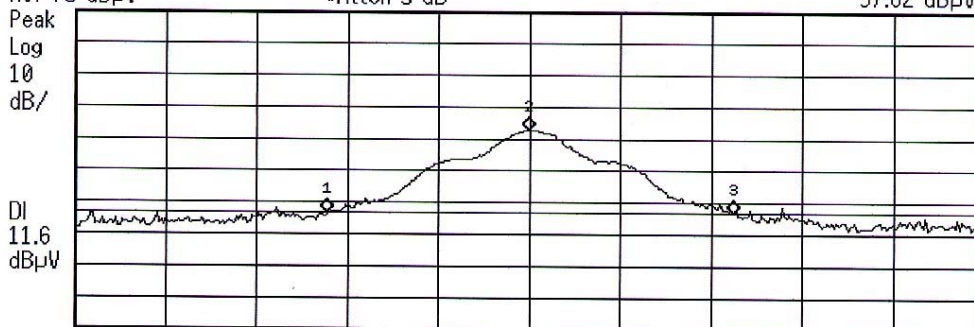
MODEL:VXM-2200(Component mode 88.9 MHz)

Mkr2 88.9000 MHz

Ref 75 dBμV

*Atten 5 dB

37.62 dBμV



Center 88.9 MHz

Span 200 kHz

*Res BW 10 kHz

*VBW 30 kHz

*Sweep 155.1 ms (401 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	88.8555 MHz	11.91 dBμV
2	(1)	Freq	88.9000 MHz	37.62 dBμV
3	(1)	Freq	88.9450 MHz	11.81 dBμV



9.1 Sample Calculations

$$\text{dB } \mu\text{V} = 20 \log_{10} \mu\text{V}$$

$$\text{dB } \mu\text{V} = \text{dBm} + 107$$

8.1.2 Example 1:

@ 20.3 MHz

Class B limit	= 250 μV = 47.96 dB μV
Reading	= - 67.8 dBm (calibrated level)
Convert to dB μV	= - 67.8 + 107 = 39.2 dB μV
$10^{(39.2/20)}$	= 91.2 μV

$$\begin{aligned}\text{Margin} &= 39.2 - 47.96 = - 8.76 \\ &= \mathbf{8.8 \text{ dB below limit}}\end{aligned}$$

8.1.3 Example 2:

@ 66.7 MHz

$$\begin{aligned}\text{Class B limit} &= 100 \mu\text{V/m} = 40.0 \text{ dB}\mu\text{V/m} \\ \text{Reading} &= - 76.0 \text{ dBm (calibrated level)} \\ \text{Convert to dB}\mu\text{V/m} &= - 76.0 + 107 = 31.0 \text{ dB}\mu\text{V/m} \\ \text{Antenna Factor + Cable Loss} &= 5.8 \text{ dB} \\ \text{Total} &= 36.8 \text{ dB}\mu\text{V/m} \\ \text{Margin} &= 36.8 - 40.0 = - 3.2 \\ &= \mathbf{3.2 \text{ dB below limit}}\end{aligned}$$

10.1 Test Equipment

<u>Type</u>	<u>Manufacture</u>	<u>Model Number</u>	<u>CAL Date</u>
EMI Test Receiver	Rohed & Schwarz	ESI40	2003.11.16
EMI Test Receiver	Rohed & Schwarz	ESVS30	2003.07.16
LISN	Rohed & Schwarz	ESH2-Z5	2003.08.21
LISN	EMCO	3825/2	2003.02.24
Amplifier	Hewlett-Packard	8447E	2003.08.23
Absorbing Clamp	Rohed & Schwarz	MDS-21	2003.04.24
Dipole Antennas	Schwarzbeck	VHAP	2003.07.24
Dipole Antennas	Schwarzbeck	UHAP	2003.07.24
Biconical Antenna	Schwarzbeck	VHA9103	2003.07.23

Log-Periodic Antenna	Schwarzbeck	UHALP9107	2003.07.23
Antenna Position Tower	HD	MA240	N/A
Turn Table	EMCO	1050	N/A
Power Analyzer	Voltech	PM 3300	2003.02.15
Reference Network Impedance	Voltech	IEC 555	N/A
AC Power Source	PACIFIC	Magnetic Module	N/A
AC Power Source	PACIFIC	360AMX	2003.11.25
Controller	HD GmbH	HD 100	N/A
SlideBar	HD GmbH	KMS 560	N/A

11.1 Test Software Used

The EUT was acted standby mode during radiated and conducted testing.

NOTE: This is a sample of the basic program used during the test. However, during testing, a different software program may be used; whichever determines the worst-case condition. In addition, the program used also depends on the number and type of devices being tested.

The device under test was operated during the measurement under following conditions:

- 100/0/75/0 Colour bars
- 1000 Hz Audio signal
- DVD Play mode
- MP-3 mode

12.1 Conclusion

The data collected shows that **DVS KOREA.CO., LTD. DVD PLAYER.(FCC ID : PGJVM2200)**

complies with §15.107, §15.109, §15.239(a) and §15.239(b) of the FCC Rules.