EMC TEST REPORT

Samsung Electronics Co., Ltd. 416 Maetan 3-Dong, Yeongtong-Gu, Suwon-Si,Gyeonggi-Do, 443-742 Korea (Tel: 031 277 7752, Fax: 031 277 7753)	Project No. : LBE052993 Page (1)/(98)	KOREA LABORATORY ACCREDITATION SCHEME KOLAS TESTING NO. 124

1. Applicant

◦ Name of organization : Samsung Electronics Co., Ltd.

◦ Address : 416 Maetan 3-Dong, Yeongtong-Gu, Suwon-Si, Gyeonggi-Do, 443-742 Korea

◦ Date of application : 2006.01. 02

2. Purpose for the report : Approval for EMC

3. Kind of product : DVD Recorder / Video Cassette Recorder (Model name : DVD-VR330)

4. Date of test : 2005. 12. 15 ~ 2005. 12. 26

5. Applied standard : FCC Part 15:2003 Subpart B

6. Test result : **PASS**

The equipment under test has found to be compliant with the applied standards.

(Refer to the attached test result for more detail.)

7. FCC ID : A3LDVDVR330

8. Broadcasting system : NTSC-M

Tested by	Reviewed by
Name : Young Jin, Kim	Name : No Cheon Park

This report is the test result about the sphere accredited by KOLAS which signed the Mutual Recognition Arrangement of International Laboratory Accreditation Cooperation.

2006. 01. 02

Samsung Electornics Co., Ltd.

Chief of CS Management Center

TEST RESULT

Test Report No.	:	LBE052993
Applicant / Address	:	Samsung Electronics Co., Ltd. 416 Maetan 3-Dong, Yeongtong-Gu,Suwon-Si,Gyeonggi-Do 443-742 Korea
Manufacture / Address	:	Samsung Electronics Co., Ltd. 416 Maetan 3-Dong, Yeongtong-Gu,Suwon-Si,Gyeonggi-Do 443-742 Korea
EUT	:	1. Product name : DVD Recorder / Video Casette Recorder 2. Model name : DVD-VR330 3. Brand name : Samsung 4. Variant model : None
Test Method	:	**ANSI C 63.4:2003**
Test Result	:	**PASS** The equipment under test has found to be compliant with the applied standards
Test Lab.	:	CS Management Center, Samsung Electronics Co., Ltd.
Tested by	:	Young Jin, Kim
Reviewed by	:	No Cheon Park
Date of Issue	:	2006. 01. 02

Table of contents

1. General information

1.1 Basic information related product

Applicant	Samsung Electronics Co., Ltd.
Model name	DVD-VR330
Applicant address	416 Maetan 3-Dong, Yeongtong-Gu,Suwon-Si,Gyeonggi-Do 443-742 Korea
Contact person	Woo Sung, Cho
Kind of product	DVD Recorder / Video Casette Recorder
Valiant model	None
Manufacturer	Samsung Electronics Co., Ltd. 416 Maetan 3-Dong, Yeongtong-Gu,Suwon-Si,Gyeonggi-Do 443-742 Korea
Rated power	AC 120 V, 60 Hz
New / Alternative / Permissive change information	New

1.2 Detail Information related product

1.2.1 Specification

General	Power requirements	120V AC, 60Hz
	Power consumption	45 Watts
	Weight	9.03 lb
	Dimensions	16.9 in(W) x 12.6 in(D) x 3.3 in(H)
	Operating temp.	+41°F to +95°F
	Other conditions	Keep level when operating. Less than 75% operating humidity
Input	Video	1.0 V p-p at 75Ω load, sync negative S-Video input (Y: 1.0Vp-p, C: 0.286Vp-p at 75Ω load)
	Max. Audio Input Level	2Vrms
	DV Input	IEEE 1394(4p) compatible jack
	Receivable Channels	Regular TV broadcasting: VHF (2~13), UHF (14~69) Cable TV broadcasting: 1~125
Output	Audio	Audio output jacks 1, 2 Optical/Coaxial digital audio output support Min. 100 dB signal-to-noise ratio Max. 0.005% total harmonic distortion (T.H.D) at average 1 KHz
	Video	Video output jacks 1 S-Video output 1 (Y:1.0Vp-p, C:0.286Vp-p at 75Ω load) Component output (Y: 1.0Vp-p, Pb: 0.70Vp-p, Pr: 0.70Vp-p at 75Ω load)
DVD	Picture Compression format	MPEG-II
	Audio Compression format	Dolby AC-3 256kbps
	Recording Quality	XP (about 8 Mbps), SP (about 4 Mbps), LP (about 2 Mbps), EP (about 1.2 Mbps)
	Video S/N Ratio	Min. 50dB at standard recording
	Audio S/N Ratio	Min. 75dB
	Audio frequency characteristics	20 Hz ~ 20 KHz

Audio Output
For DVD discs, audio signals recorded at 96kHz sampling frequency are converted into and output at 48kHz.

Disc Type	DVD	AUDIO CD(CD-DA)
Analog Audio Output	48 / 96KHz	44.1KHz
Digital Audio Output	48KHz	44.1KHz

1.3 Operating mode and condition

The EUT was tested in the following operating modes(at both channel 3 and 4)
for the tests mention in this report :

1) DVD Recording (NTSC Signal)
A NTSC signal(Color bar) was supplied at ch.69(801.25MHz) through the ant. Input connector
2) DVD Recording (1V VITS Signal)
A 1V peak-to-peak VITS signal was supplied through the video input connector for recording.
3) DVD Recording (5V VITS Signal)
A 5V peak-to-peak VITS signal was supplied through the video input connector for recording.
4) DVD Play
In this test mode, a DVD recorded with NTSC signal was played on the EUT.
5) DVD Copy mode
In this test mode, a video tape recorded with NTSC signal copy to DVD disc.
6) VCR Recording (NTSC Signal)
A NTSC signal(Color bar) was supplied at ch.5(77.25MHz) through the ant. Input connector
7) VCR Recording (1V VITS Signal)
A 1V peak-to-peak VITS signal was supplied through the video input connector for recording.
8) VCR Recording (5V VITS Signal)
A 5V peak-to-peak VITS signal was supplied through the video input connector for recording.
9) VCR Play
In this test mode, a video tape recorded with VITS signal was played on the EUT.
10) VCR Copy mode

Note: The NTSC TV signal input record mode is not applicable to the antenna transfer switch test.

1.4 Equipment modifications

No equipment modifications were required.

1.5 Test procedure

1.5.1 Conducted emission

EUT was placed on a platform 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 ground plane.
The rear of EUT, including peripherals was aligned and flush 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 cables that were connected to the peripherals were bundled in center.
They were folded back and forth forming a bindle 30 cm to 40 cm long and were handed at a 40 cm 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.

Frequency Band [MHz]	Instrument	Detector	Resolution Bandwidth	Video Bandwidth
0.15 to 30	EMI Receiver	Quasi-Peak	9 kHz	-
		Average	9 kHz	-

1.5.2 Radiated emission

EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The rear of EUT, including peripherals was aligned and flush with rear of tabletop. The I/O cables that were connected to the peripherals were bundle in center.
They were folded back and forth forming a bundle 30 cm to 40 cm long and 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 and the trun table azimuth was varied to obtain the maximum signal strength

The system configuration, clock speed, mode of operation or video resolution, turntable azimuth with respect to the antenna were noted for each frequency found.
The spectrum was scanned from 30 to 1 000 MHz using biconiLog antenna.

Also, the EMI Receiver was scanned from 1 000 to 2 000 MHz using linearly polarization
Double ridge horn antennas were used. The explanation of measuring instrument setup when Respective function is used in any frequency band is as following;

Frequency Band [MHz]	Instrument	Detector	Resolution Bandwidth	Video Bandwidth
30 to 1 000	EMI Receiver	Quasi-Peak	120 kHz	-
Above 1 000	EMI Receiver	Peak	1 MHz	1 MHz

1.6 Test configuration

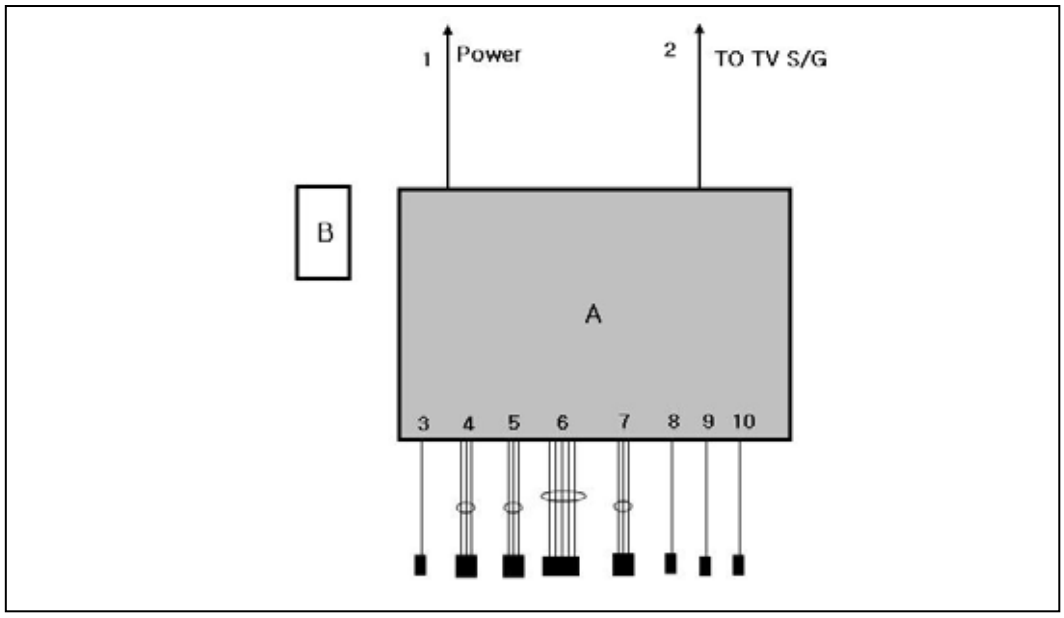
1.6.1 Used EUT and peripherals

Mark	Item	Model No.	Serial No.	Manufacturer	FCC ID/DoC
A	DVD Recorder / Video Casette Recorder	DVD-VR330	-	Samsung	A3LDVDVR330
B	Remote Controller	-	-	Samsung	DoC

1.6.2 Used cable description

No	Connect Cable	Length [m]	Shielded [Y/N]	Remark
1	Power	1.5	No	For EUT
2	ANT in	1.5	No	To the SG
3	RF out	1.5	No	Termination
4	Composite 1 in	1.5	No	Termination
5	Composite 2 in	1.5	No	Termination
6	Component out	1.5	No	Termination
7	Composite out	1.5	No	Termination
8	S-video out	1.5	No	Termination
9	S-Video In	1.5	No	Termination
10	Digital Audio Out	1.5	No	Termination

1.6.3 Block diagram



1.7 Applied Standards

Test standard	Test method
FCC Part 15:2003 Subpart B	ANSI C63.4:2003

1.8 Test Facility

1.8.1 General information

The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR 22, 16-1, 16-2.

This EMC Testing Lab. is accredited by Korea Laboratory Accreditation Scheme(KOLAS) which signed the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) for the above test item(s) and test method(s).

This Lab. is operated as testing laboratory in accordance with the requirements of ISO/IEC 17025:1998.

1.8.2 Accreditation and listing

1.8.3 Measurement uncertainty

(According to CISPR 16-4 and Lab. 34)

Test item		Measurement uncertainty
Conducted emission		± 3.3 dB
Radiated emission	Horizontal	± 4.2 dB
	Vertical	± 4.8 dB

2. Summary of test results

Result : PASS

The equipment under test(EUT) has been found to comply with the applied standards.

Section of the product standard		Applied standard	Test result
3.1	Conducted Emission	FCC Part 15:2003 Subpart B	Complied
3.2	Radiated Emission	FCC Part 15:2003 Subpart B	Complied
3.3	Output Signal Level	FCC Part 15:2003 Subpart B	Complied
3.4	Output Terminal Conducted Spurious Emission	FCC Part 15:2003 Subpart B	Complied
3.5	Antenna Transfer Switch	FCC Part 15:2003 Subpart B	Complied

3. Description of individual tests

3.1 Conducted emission

3.1.1 Test information

Test engineer	Young Jin, Kim
Test date	December 21, 2005
Climate condition	Ambient temperature : 21.0 ℃, Relative humidity : 32 % Atmospheric pressure 1 009 hPa
Test place	Shielded room # 1

3.1.2 Test equipment

Equipment	Model name	Manufacturer	Serial no.	Calibration	
				Next date	Interval (Month)
Test Software	EMC 32	R&S	None	N/A	N/A
Field strength meter	ESCI	R&S	100136	2006-04-17	12
L.I.S.N	ENV216	R&S	100116	2006-09-08	12
L.I.S.N	ENV216	R&S	100107	2006-08-18	12
TV Signal Generator	PM5418-TDSI	PHILIPS	LO612437	2006-10-10	12

EUT Test Setup

The EUT was set up as per normal use on a wooden table, 0.4 m from a vertical ground reference plane, At least 0.8 m from other conduction surfaces and 0.8 m from the LISN.

See photo.

Test Result

Measurement Results	Pass The measured emissions of the EUT have found to be below the specified limits.

Test Data

■ Operating Mode: VCR Play – RF out CH03

SAMSUNG ELECTRONICS EMC Report

Test Information

EUT Name:	DVD-VR330
Serial Number:	
Test Description:	
Operating Conditions:	VCR PLAY
Operator Name:	Y,J KIM
Comment:	RF OUT CH3

Hardware Setup: Voltage with 2-Line-LISN - [EMI conducted]

Subrange 1

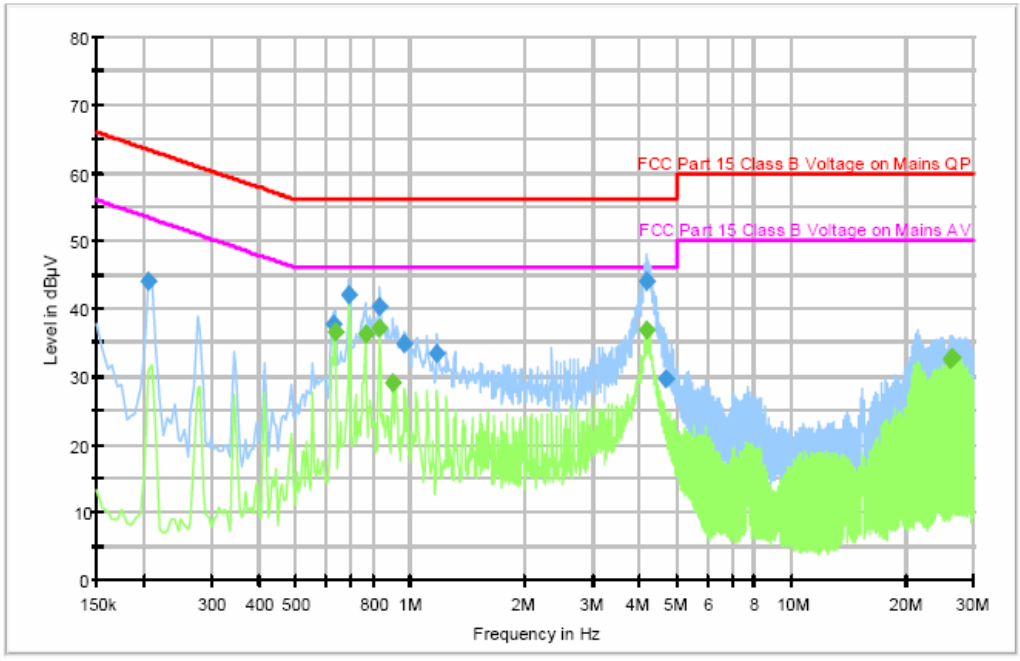
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC Part 15 Class B_2-Line-LISN fin [EMI conducted]

Hardware Setup:	Voltage with 2-Line-LISN
Level Unit:	dBµV

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150kHz - 30MHz	QuasiPeak; Average	9kHz	0.1s	ESCI 3

FCC Part 15 Class _B with 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.205500	44.0	100.000	9.000	On	N
0.630500	37.7	100.000	9.000	On	L1
0.689500	42.0	100.000	9.000	On	N
0.829500	40.2	100.000	9.000	On	N
0.964500	34.7	100.000	9.000	On	N
1.174500	33.4	100.000	9.000	On	N
4.188500	44.0	100.000	9.000	On	L1
4.699500	29.7	100.000	9.000	On	L1

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.205500	9.6	19.4	63.4	
0.630500	9.6	18.3	56.0	
0.689500	9.6	14.0	56.0	
0.829500	9.6	15.8	56.0	
0.964500	9.6	21.3	56.0	
1.174500	9.6	22.6	56.0	
4.188500	9.6	12.0	56.0	
4.699500	9.6	26.3	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.633500	36.7	100.000	9.000	On	L1
0.759500	36.1	100.000	9.000	On	N
0.829500	37.0	100.000	9.000	On	N
0.895500	29.1	100.000	9.000	On	N
4.175500	36.8	100.000	9.000	On	L1
26.249500	32.6	100.000	9.000	On	N
26.319500	32.8	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.633500	9.6	9.3	46.0	
0.759500	9.6	9.9	46.0	
0.829500	9.6	9.0	46.0	
0.895500	9.6	16.9	46.0	
4.175500	9.6	9.2	46.0	
26.249500	9.9	17.4	50.0	
26.319500	9.9	17.2	50.0	

■ Operating Mode: VCR record (NTSC) – RF out CH03

SAMSUNG ELECTRONICS EMC Report

Test Information

EUT Name:	DVD-VR330
Serial Number:	
Test Description:	
Operating Conditions:	VCR REC(NTSC)
Operator Name:	Y, J KIM
Comment:	RF OUT CH3

Hardware Setup: Voltage with 2-Line-LISN - [EMI conducted]

Subrange 1

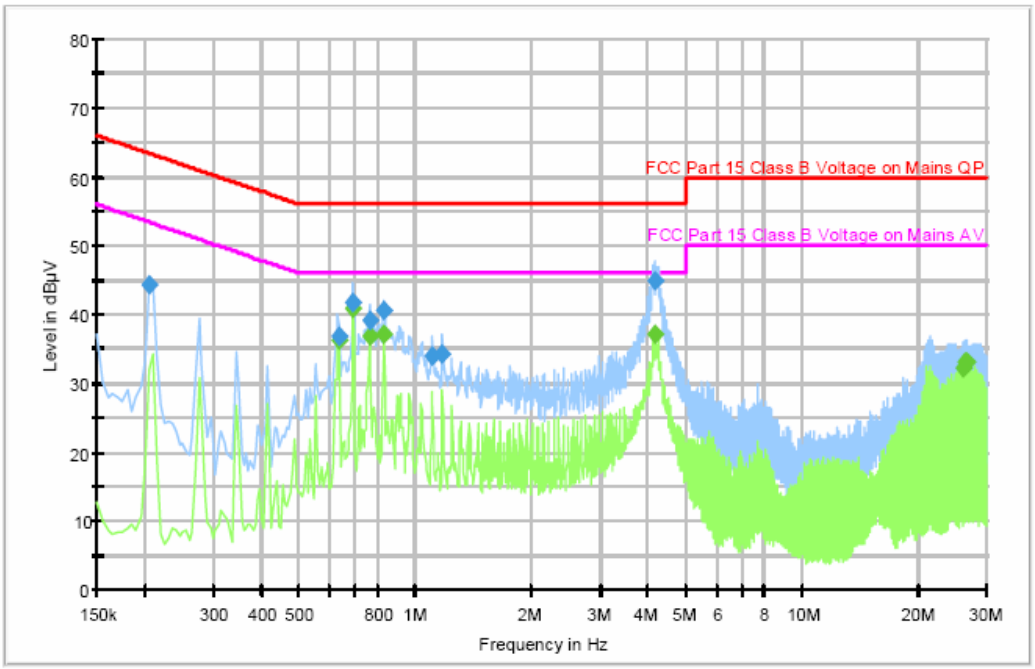
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC Part 15 Class B_2-Line-LISN fin [EMI conducted]

Hardware Setup:	Voltage with 2-Line-LISN
Level Unit:	dBµV

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150kHz - 30MHz	QuasiPeak; Average	9kHz	0.1s	ESCI 3

FCC Part 15 Class _B with 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.205500	44.2	100.000	9.000	On	N
0.633500	36.9	100.000	9.000	On	N
0.689500	41.7	100.000	9.000	On	N
0.759500	39.0	100.000	9.000	On	N
0.829500	40.7	100.000	9.000	On	N
1.108500	33.9	100.000	9.000	On	N
1.174500	34.2	100.000	9.000	On	N
4.175500	44.8	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.205500	9.6	19.2	63.4	
0.633500	9.6	19.1	56.0	
0.689500	9.6	14.3	56.0	
0.759500	9.6	17.0	56.0	
0.829500	9.6	15.3	56.0	
1.108500	9.6	22.1	56.0	
1.174500	9.6	21.8	56.0	
4.175500	9.6	11.2	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.633500	36.2	100.000	9.000	On	L1
0.689500	40.8	100.000	9.000	On	N
0.759500	36.9	100.000	9.000	On	N
0.829500	37.0	100.000	9.000	On	N
4.175500	37.2	100.000	9.000	On	L1
26.249500	32.3	100.000	9.000	On	N
26.319500	33.0	100.000	9.000	On	N
26.664500	33.0	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.633500	9.6	9.8	46.0	
0.689500	9.6	5.2	46.0	
0.759500	9.6	9.1	46.0	
0.829500	9.6	9.0	46.0	
4.175500	9.6	8.8	46.0	
26.249500	9.9	17.7	50.0	
26.319500	9.9	17.0	50.0	
26.664500	9.9	17.0	50.0	

■ Operating Mode: VCR record (1V VITS) – RF out CH03

SAMSUNG ELECTRONICS EMC Report

Test Information

EUT Name:	DVD-VR330
Serial Number:	
Test Description:	
Operating Conditions:	VCR REC (VITS 1V)
Operator Name:	Y,J KIM
Comment:	RF OUT CH3

Hardware Setup: Voltage with 2-Line-LISN - [EMI conducted]

Subrange 1

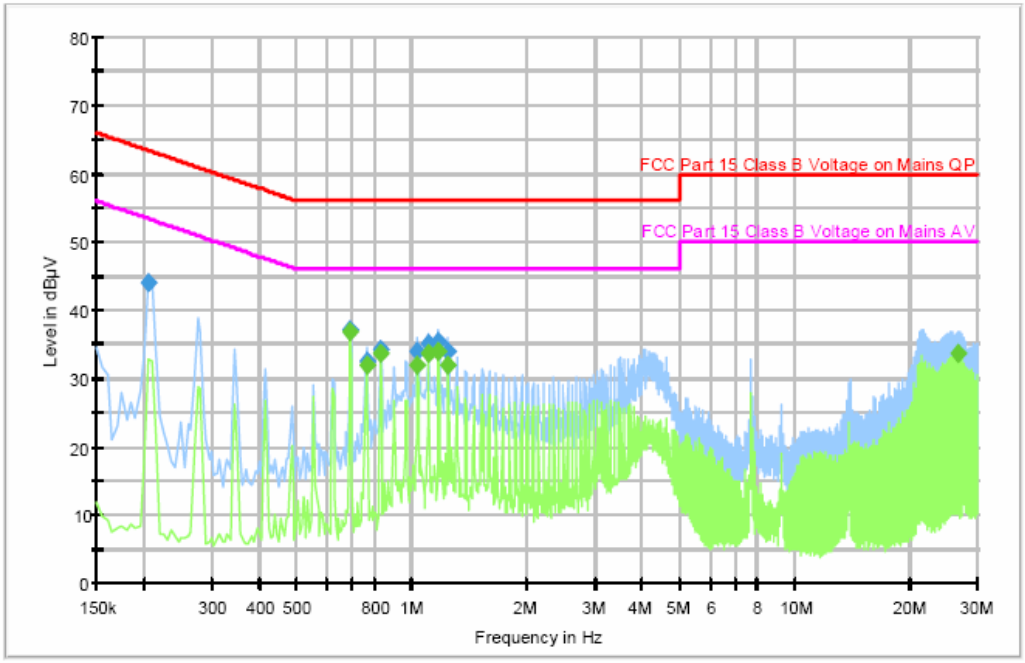
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC Part 15 Class B_2-Line-LISN fin [EMI conducted]

Hardware Setup:	Voltage with 2-Line-LISN
Level Unit:	dBµV

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150kHz - 30MHz	QuasiPeak; Average	9kHz	0.1s	ESCI 3

FCC Part 15 Class _B with 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.205500	44.1	100.000	9.000	On	N
0.689500	37.0	100.000	9.000	On	N
0.759500	32.5	100.000	9.000	On	N
0.829500	34.3	100.000	9.000	On	N
1.034500	34.0	100.000	9.000	On	N
1.104500	35.2	100.000	9.000	On	N
1.174500	35.3	100.000	9.000	On	N
1.244500	33.9	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.205500	9.6	19.3	63.4	
0.689500	9.6	19.0	56.0	
0.759500	9.6	23.5	56.0	
0.829500	9.6	21.7	56.0	
1.034500	9.6	22.0	56.0	
1.104500	9.6	20.8	56.0	
1.174500	9.6	20.7	56.0	
1.244500	9.6	22.1	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.689500	36.9	100.000	9.000	On	N
0.759500	32.0	100.000	9.000	On	N
0.829500	33.7	100.000	9.000	On	N
1.034500	31.9	100.000	9.000	On	N
1.104500	33.7	100.000	9.000	On	N
1.174500	34.1	100.000	9.000	On	N
1.244500	31.9	100.000	9.000	On	N
26.664500	33.6	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.689500	9.6	9.1	46.0	
0.759500	9.6	14.0	46.0	
0.829500	9.6	12.3	46.0	
1.034500	9.6	14.1	46.0	
1.104500	9.6	12.3	46.0	
1.174500	9.6	11.9	46.0	
1.244500	9.6	14.1	46.0	
26.664500	9.9	16.4	50.0	

■ Operating Mode: VCR record (5V VITS) – RF out CH03

SAMSUNG ELECTRONICS EMC Report

Test Information

EUT Name:	DVD-VR330
Serial Number:	
Test Description:	
Operating Conditions:	VCR REC (VITS 5V)
Operator Name:	Y,J KIM
Comment:	RF OUT CH3

Hardware Setup: Voltage with 2-Line-LISN - [EMI conducted]

Subrange 1

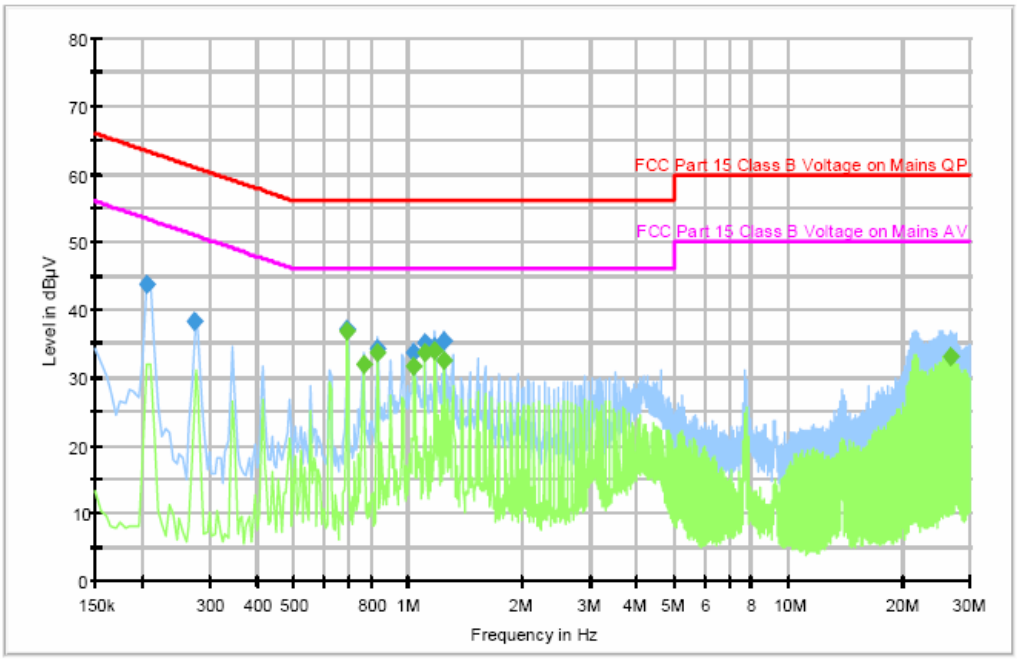
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC Part 15 Class B_2-Line-LISN fin [EMI conducted]

Hardware Setup:	Voltage with 2-Line-LISN
Level Unit:	dBµV

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150kHz - 30MHz	QuasiPeak; Average	9kHz	0.1s	ESCI 3

FCC Part 15 Class _B with 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.205500	43.9	100.000	9.000	On	L1
0.274500	38.2	100.000	9.000	On	N
0.689500	37.0	100.000	9.000	On	N
0.829500	34.2	100.000	9.000	On	N
1.034500	33.7	100.000	9.000	On	N
1.104500	35.1	100.000	9.000	On	N
1.174500	34.6	100.000	9.000	On	N
1.244500	35.3	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.205500	9.6	19.5	63.4	
0.274500	9.6	22.8	61.0	
0.689500	9.6	19.0	56.0	
0.829500	9.6	21.8	56.0	
1.034500	9.6	22.3	56.0	
1.104500	9.6	20.9	56.0	
1.174500	9.6	21.4	56.0	
1.244500	9.6	20.7	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.689500	36.9	100.000	9.000	On	N
0.759500	31.9	100.000	9.000	On	N
0.829500	33.6	100.000	9.000	On	N
1.034500	31.8	100.000	9.000	On	N
1.104500	33.7	100.000	9.000	On	N
1.174500	34.1	100.000	9.000	On	N
1.244500	32.5	100.000	9.000	On	N
26.799500	33.1	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.689500	9.6	9.1	46.0	
0.759500	9.6	14.1	46.0	
0.829500	9.6	12.4	46.0	
1.034500	9.6	14.2	46.0	
1.104500	9.6	12.3	46.0	
1.174500	9.6	11.9	46.0	
1.244500	9.6	13.5	46.0	
26.799500	9.9	16.9	50.0	

■ Operating Mode: Copy (VCR To DVD) – RF out CH03

SAMSUNG ELECTRONICS EMC Report

Test Information

EUT Name:	DVD-VR330
Serial Number:	
Test Description:	
Operating Conditions:	COPY (VCR to DVD)
Operator Name:	Y,J KIM
Comment:	RF OUT CH3

Hardware Setup: Voltage with 2-Line-LISN - [EMI conducted]

Subrange 1

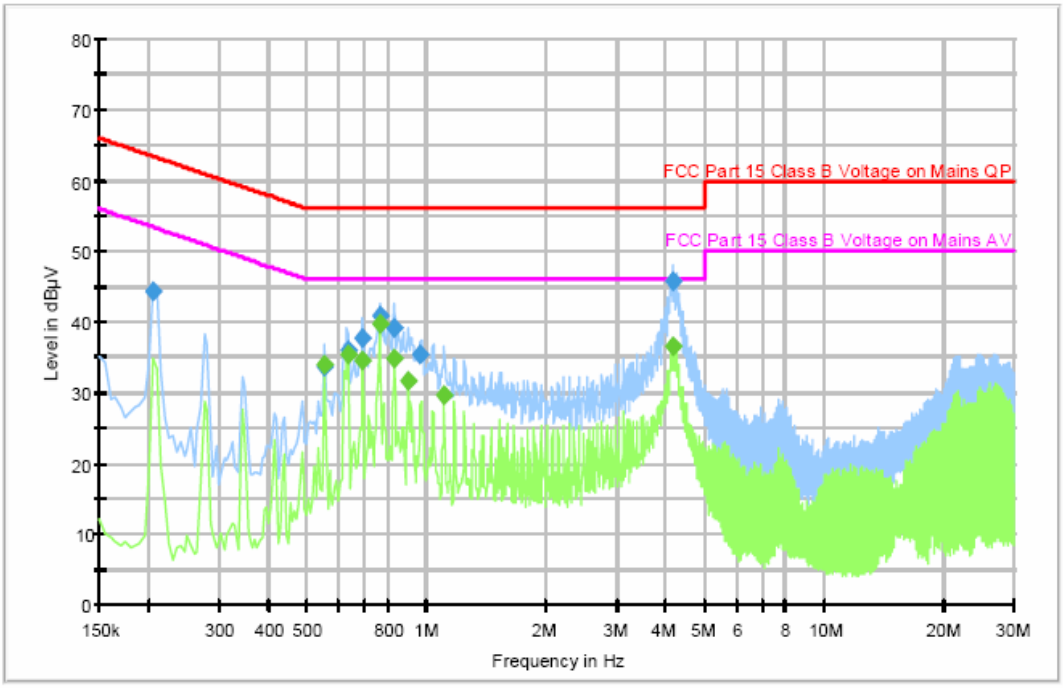
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC Part 15 Class B_2-Line-LISN fin [EMI conducted]

Hardware Setup:	Voltage with 2-Line-LISN
Level Unit:	dBµV

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150kHz - 30MHz	QuasiPeak; Average	9kHz	0.1s	ESCI 3

FCC Part 15 Class _B with 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.205500	44.4	100.000	9.000	On	N
0.550500	33.8	100.000	9.000	On	N
0.633500	36.0	100.000	9.000	On	N
0.689500	37.6	100.000	9.000	On	N
0.759500	40.9	100.000	9.000	On	N
0.828500	39.2	100.000	9.000	On	N
0.965500	35.4	100.000	9.000	On	N
4.175500	45.8	100.000	9.000	On	L1

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.205500	9.6	19.0	63.4	
0.550500	9.6	22.2	56.0	
0.633500	9.6	20.0	56.0	
0.689500	9.6	18.4	56.0	
0.759500	9.6	15.1	56.0	
0.828500	9.6	16.8	56.0	
0.965500	9.6	20.6	56.0	
4.175500	9.6	10.2	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.554500	33.9	100.000	9.000	On	N
0.633500	35.4	100.000	9.000	On	L1
0.689500	34.6	100.000	9.000	On	N
0.759500	39.6	100.000	9.000	On	N
0.829500	34.9	100.000	9.000	On	N
0.899500	31.6	100.000	9.000	On	N
1.104500	29.7	100.000	9.000	On	N
4.178500	36.5	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.554500	9.6	12.1	46.0	
0.633500	9.6	10.6	46.0	
0.689500	9.6	11.4	46.0	
0.759500	9.6	6.4	46.0	
0.829500	9.6	11.1	46.0	
0.899500	9.6	14.4	46.0	
1.104500	9.6	16.3	46.0	
4.178500	9.6	9.5	46.0	

■ Operating Mode: VCR Play – RF out CH04

SAMSUNG ELECTRONICS EMC Report

Test Information

EUT Name:	DVD-VR330
Serial Number:	
Test Description:	
Operating Conditions:	VCR PLAY
Operator Name:	Y,J KIM
Comment:	RF OUT CH4

Hardware Setup: Voltage with 2-Line-LISN - [EMI conducted]

Subrange 1

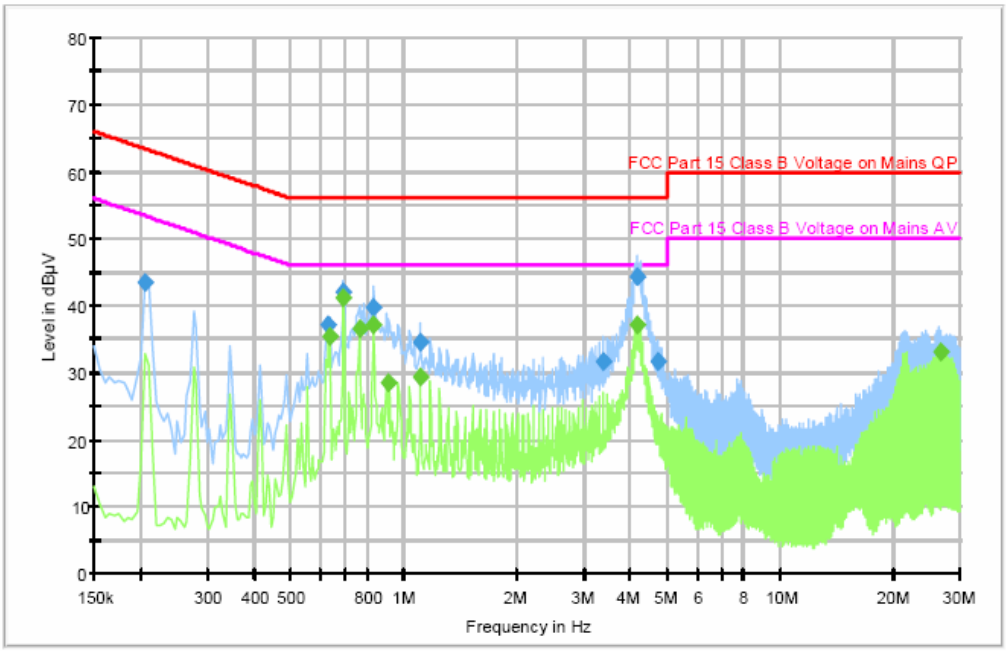
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC Part 15 Class B_2-Line-LISN fin [EMI conducted]

Hardware Setup:	Voltage with 2-Line-LISN
Level Unit:	dBµV

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150kHz - 30MHz	QuasiPeak; Average	9kHz	0.1s	ESCI 3

FCC Part 15 Class _B with 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.205500	43.6	100.000	9.000	On	N
0.630500	37.1	100.000	9.000	On	L1
0.689500	42.0	100.000	9.000	On	N
0.829500	39.8	100.000	9.000	On	N
1.104500	34.4	100.000	9.000	On	N
3.384500	31.8	100.000	9.000	On	N
4.170500	44.2	100.000	9.000	On	L1
4.749500	31.6	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.205500	9.6	19.8	63.4	
0.630500	9.6	18.9	56.0	
0.689500	9.6	14.0	56.0	
0.829500	9.6	16.2	56.0	
1.104500	9.6	21.6	56.0	
3.384500	9.6	24.2	56.0	
4.170500	9.6	11.8	56.0	
4.749500	9.6	24.4	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.633500	35.4	100.000	9.000	On	N
0.689500	41.0	100.000	9.000	On	N
0.759500	36.6	100.000	9.000	On	N
0.829500	37.0	100.000	9.000	On	N
0.909500	28.5	100.000	9.000	On	N
1.104500	29.3	100.000	9.000	On	N
4.173500	37.0	100.000	9.000	On	L1
26.729500	33.1	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.633500	9.6	10.6	46.0	
0.689500	9.6	5.0	46.0	
0.759500	9.6	9.4	46.0	
0.829500	9.6	9.0	46.0	
0.909500	9.6	17.5	46.0	
1.104500	9.6	16.7	46.0	
4.173500	9.6	9.0	46.0	
26.729500	9.9	16.9	50.0	

■ Operating Mode: VCR Record (NTSC) – RF out CH04

SAMSUNG ELECTRONICS EMC Report

Test Information

EUT Name:	DVD-VR330
Serial Number:	
Test Description:	
Operating Conditions:	VCR REC(NTSC)
Operator Name:	Y,J KIM
Comment:	RF OUT CH4

Hardware Setup: Voltage with 2-Line-LISN - [EMI conducted]

Subrange 1

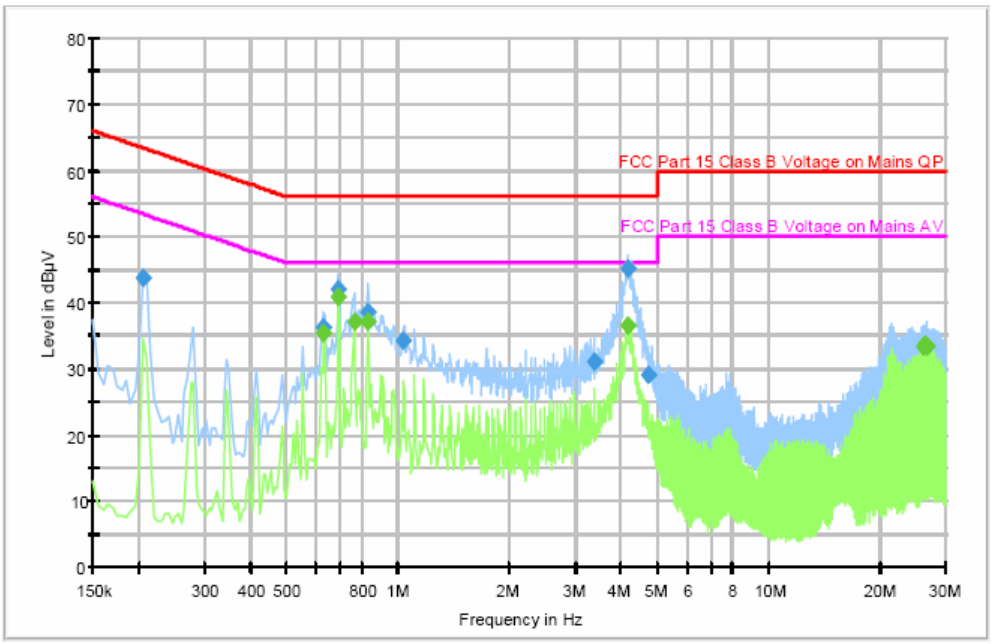
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC Part 15 Class B_2-Line-LISN fin [EMI conducted]

Hardware Setup:	Voltage with 2-Line-LISN
Level Unit:	dBµV

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150kHz - 30MHz	QuasiPeak; Average	9kHz	0.1s	ESCI 3

FCC Part 15 Class _B with 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.205500	43.6	100.000	9.000	On	N
0.629500	36.2	100.000	9.000	On	N
0.689500	41.9	100.000	9.000	On	N
0.825500	38.4	100.000	9.000	On	N
1.035500	34.1	100.000	9.000	On	N
3.384500	31.1	100.000	9.000	On	N
4.184500	45.2	100.000	9.000	On	N
4.713500	28.9	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.205500	9.6	19.8	63.4	
0.629500	9.6	19.8	56.0	
0.689500	9.6	14.1	56.0	
0.825500	9.6	17.6	56.0	
1.035500	9.6	21.9	56.0	
3.384500	9.6	24.9	56.0	
4.184500	9.6	10.8	56.0	
4.713500	9.6	27.1	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.629500	35.5	100.000	9.000	On	N
0.689500	41.0	100.000	9.000	On	N
0.759500	37.2	100.000	9.000	On	N
0.829500	37.0	100.000	9.000	On	N
4.184500	36.6	100.000	9.000	On	N
26.109500	33.3	100.000	9.000	On	N
26.524500	33.6	100.000	9.000	On	N
26.869500	33.3	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.629500	9.6	10.5	46.0	
0.689500	9.6	5.0	46.0	
0.759500	9.6	8.8	46.0	
0.829500	9.6	9.0	46.0	
4.184500	9.6	9.4	46.0	
26.109500	9.9	16.7	50.0	
26.524500	9.9	16.4	50.0	
26.869500	9.9	16.7	50.0	

■ Operating Mode: VCR Record (VITS 1V) – RF out CH04

SAMSUNG ELECTRONICS EMC Report

Test Information

EUT Name:	DVD-VR330
Serial Number:	
Test Description:	
Operating Conditions:	VCR REC (VITS 1V)
Operator Name:	Y,J KIM
Comment:	RF OUT CH4

Hardware Setup: Voltage with 2-Line-LISN - [EMI conducted]

Subrange 1

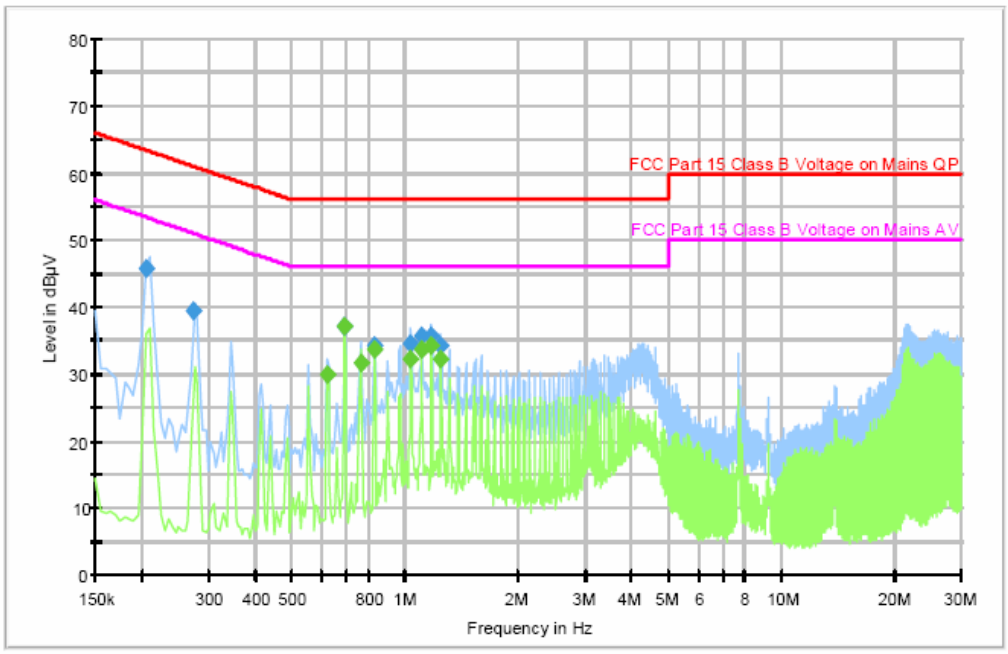
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC Part 15 Class B_2-Line-LISN fin [EMI conducted]

Hardware Setup:	Voltage with 2-Line-LISN
Level Unit:	dBµV

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150kHz - 30MHz	QuasiPeak; Average	9kHz	0.1s	ESCI 3

FCC Part 15 Class _B with 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.205500	45.7	100.000	9.000	On	N
0.274500	39.6	100.000	9.000	On	N
0.689500	37.0	100.000	9.000	On	N
0.829500	34.4	100.000	9.000	On	N
1.034500	34.6	100.000	9.000	On	N
1.104500	35.6	100.000	9.000	On	N
1.174500	35.7	100.000	9.000	On	N
1.244500	34.2	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.205500	9.6	17.7	63.4	
0.274500	9.6	21.4	61.0	
0.689500	9.6	19.0	56.0	
0.829500	9.6	21.6	56.0	
1.034500	9.6	21.4	56.0	
1.104500	9.6	20.4	56.0	
1.174500	9.6	20.3	56.0	
1.244500	9.6	21.8	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.623500	30.0	100.000	9.000	On	N
0.689500	37.0	100.000	9.000	On	N
0.759500	31.8	100.000	9.000	On	N
0.829500	33.7	100.000	9.000	On	N
1.034500	32.1	100.000	9.000	On	N
1.104500	33.6	100.000	9.000	On	N
1.174500	34.3	100.000	9.000	On	N
1.244500	32.3	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.623500	9.6	16.0	46.0	
0.689500	9.6	9.0	46.0	
0.759500	9.6	14.2	46.0	
0.829500	9.6	12.3	46.0	
1.034500	9.6	13.9	46.0	
1.104500	9.6	12.4	46.0	
1.174500	9.6	11.7	46.0	
1.244500	9.6	13.7	46.0	

■ Operating Mode: VCR Record (VITS 5V) – RF out CH04

SAMSUNG ELECTRONICS EMC Report

Test Information

EUT Name:	DVD-VR330
Serial Number:	
Test Description:	
Operating Conditions:	VCR REC (VITS 5V)
Operator Name:	Y,J KIM
Comment:	RF OUT CH4

Hardware Setup: Voltage with 2-Line-LISN - [EMI conducted]

Subrange 1

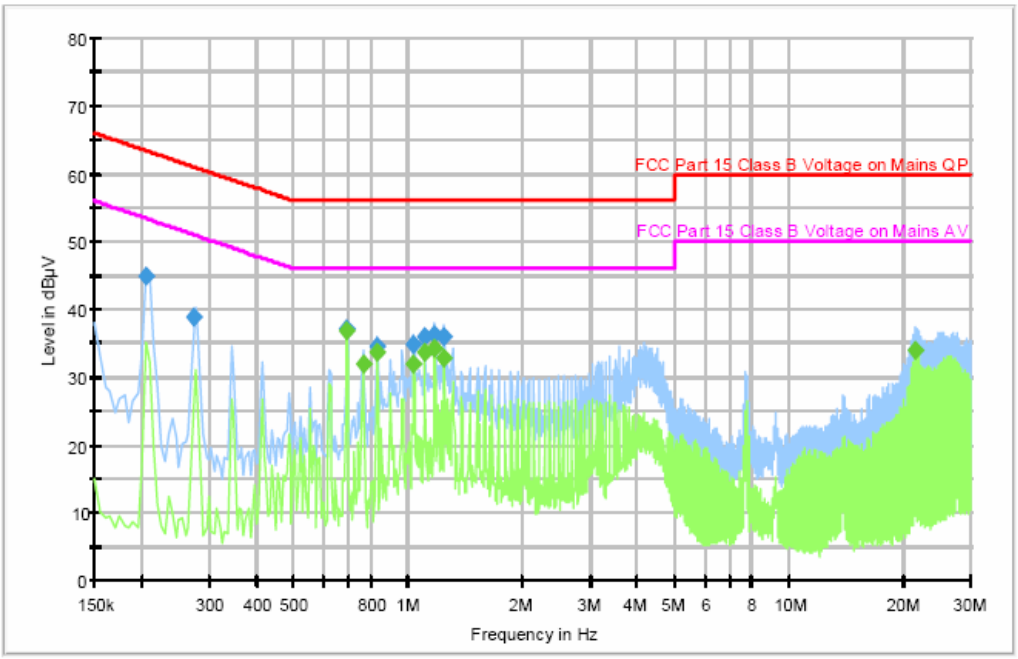
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC Part 15 Class B_2-Line-LISN fin [EMI conducted]

Hardware Setup:	Voltage with 2-Line-LISN
Level Unit:	dBµV

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150kHz - 30MHz	QuasiPeak; Average	9kHz	0.1s	ESCI 3

FCC Part 15 Class _B with 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.205500	44.8	100.000	9.000	On	N
0.274500	38.9	100.000	9.000	On	N
0.689500	37.1	100.000	9.000	On	N
0.829500	34.4	100.000	9.000	On	N
1.034500	34.9	100.000	9.000	On	N
1.104500	35.9	100.000	9.000	On	N
1.174500	36.2	100.000	9.000	On	N
1.244500	36.0	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.205500	9.6	18.6	63.4	
0.274500	9.6	22.1	61.0	
0.689500	9.6	18.9	56.0	
0.829500	9.6	21.6	56.0	
1.034500	9.6	21.1	56.0	
1.104500	9.6	20.1	56.0	
1.174500	9.6	19.8	56.0	
1.244500	9.6	20.0	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.689500	36.9	100.000	9.000	On	N
0.759500	31.8	100.000	9.000	On	N
0.829500	33.8	100.000	9.000	On	N
1.034500	32.1	100.000	9.000	On	N
1.104500	33.7	100.000	9.000	On	N
1.174500	34.4	100.000	9.000	On	N
1.244500	32.9	100.000	9.000	On	N
21.484500	34.0	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.689500	9.6	9.1	46.0	
0.759500	9.6	14.2	46.0	
0.829500	9.6	12.2	46.0	
1.034500	9.6	13.9	46.0	
1.104500	9.6	12.3	46.0	
1.174500	9.6	11.6	46.0	
1.244500	9.6	13.1	46.0	
21.484500	9.9	16.0	50.0	

■ Operating Mode: COPY (VCR To DVD) – RF out CH04

SAMSUNG ELECTRONICS EMC Report

Test Information

EUT Name:	DVD-VR330
Serial Number:	
Test Description:	
Operating Conditions:	COPY (VCR to DVD)
Operator Name:	Y,J KIM
Comment:	RF OUT CH4

Hardware Setup: Voltage with 2-Line-LISN - [EMI conducted]

Subrange 1

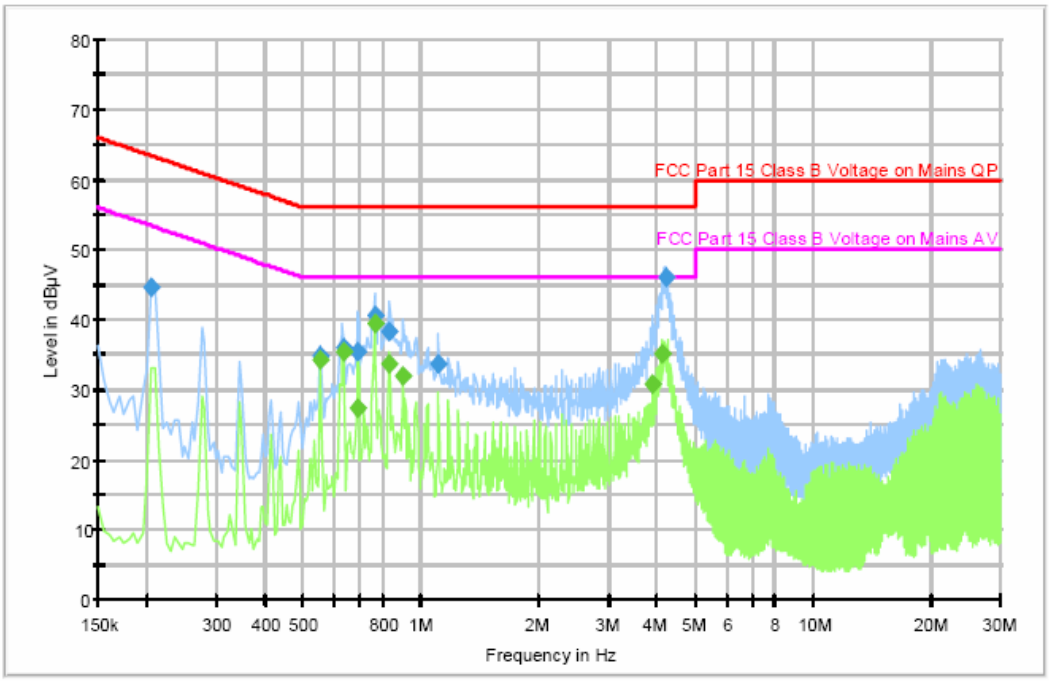
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC Part 15 Class B_2-Line-LISN fin [EMI conducted]

Hardware Setup:	Voltage with 2-Line-LISN
Level Unit:	dBµV

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150kHz - 30MHz	QuasiPeak; Average	9kHz	0.1s	ESCI 3

FCC Part 15 Class _B with 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.205500	44.5	100.000	9.000	On	N
0.554500	34.8	100.000	9.000	On	N
0.633500	36.0	100.000	9.000	On	N
0.689500	35.3	100.000	9.000	On	N
0.759500	40.5	100.000	9.000	On	N
0.825500	38.1	100.000	9.000	On	N
1.104500	33.7	100.000	9.000	On	N
4.194500	45.9	100.000	9.000	On	L1

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.205500	9.6	18.9	63.4	
0.554500	9.6	21.2	56.0	
0.633500	9.6	20.0	56.0	
0.689500	9.6	20.7	56.0	
0.759500	9.6	15.5	56.0	
0.825500	9.6	17.9	56.0	
1.104500	9.6	22.3	56.0	
4.194500	9.6	10.1	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.554500	34.2	100.000	9.000	On	N
0.633500	35.4	100.000	9.000	On	N
0.689500	27.4	100.000	9.000	On	N
0.759500	39.5	100.000	9.000	On	N
0.829500	33.5	100.000	9.000	On	N
0.899500	32.0	100.000	9.000	On	N
3.904500	30.7	100.000	9.000	On	N
4.123500	35.0	100.000	9.000	On	L1

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.554500	9.6	11.8	46.0	
0.633500	9.6	10.6	46.0	
0.689500	9.6	18.6	46.0	
0.759500	9.6	6.5	46.0	
0.829500	9.6	12.5	46.0	
0.899500	9.6	14.0	46.0	
3.904500	9.6	15.3	46.0	
4.123500	9.6	11.0	46.0	

■ Operating Mode: DVD Play – RF out CH03

SAMSUNG ELECTRONICS EMC Report

Test Information

EUT Name:	DVD-VR330
Serial Number:	
Test Description:	
Operating Conditions:	DVD PLAY
Operator Name:	Y,J KIM
Comment:	RF OUT CH3

Hardware Setup: Voltage with 2-Line-LISN - [EMI conducted]

Subrange 1

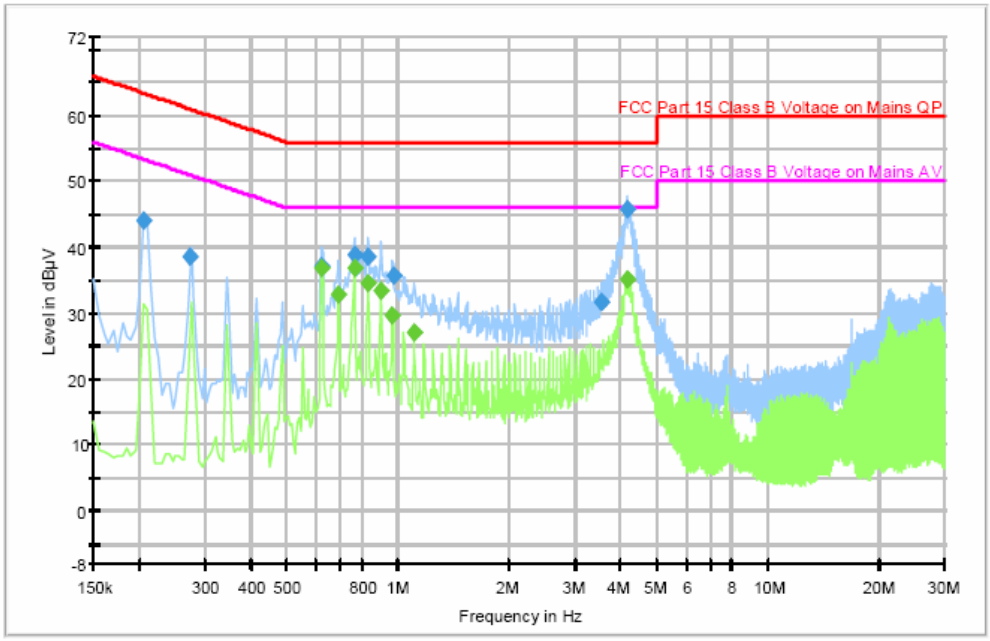
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC Part 15 Class B_2-Line-LISN fin [EMI conducted]

Hardware Setup:	Voltage with 2-Line-LISN
Level Unit:	dBµV

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150kHz - 30MHz	QuasiPeak; Average	9kHz	0.1s	ESCI 3

FCC Part 15 Class _B with 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.205500	44.0	100.000	9.000	On	N
0.274500	38.7	100.000	9.000	On	N
0.619500	37.3	100.000	9.000	On	N
0.759500	38.9	100.000	9.000	On	N
0.829500	38.7	100.000	9.000	On	N
0.968500	35.8	100.000	9.000	On	N
3.534500	31.6	100.000	9.000	On	N
4.183500	45.9	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.205500	9.6	19.4	63.4	
0.274500	9.6	22.2	61.0	
0.619500	9.6	18.7	56.0	
0.759500	9.6	17.1	56.0	
0.829500	9.6	17.3	56.0	
0.968500	9.6	20.2	56.0	
3.534500	9.6	24.4	56.0	
4.183500	9.6	10.1	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.623500	37.0	100.000	9.000	On	N
0.689500	32.9	100.000	9.000	On	N
0.759500	36.9	100.000	9.000	On	N
0.829500	34.6	100.000	9.000	On	N
0.899500	33.6	100.000	9.000	On	N
0.964500	29.8	100.000	9.000	On	N
1.104500	27.1	100.000	9.000	On	N
4.179500	35.3	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.623500	9.6	9.0	46.0	
0.689500	9.6	13.1	46.0	
0.759500	9.6	9.1	46.0	
0.829500	9.6	11.4	46.0	
0.899500	9.6	12.4	46.0	
0.964500	9.6	16.2	46.0	
1.104500	9.6	18.9	46.0	
4.179500	9.6	10.7	46.0	

■ Operating Mode: DVD Record (NTSC) – RF out CH03

SAMSUNG ELECTRONICS EMC Report

Test Information

EUT Name:	DVD-VR330
Serial Number:	
Test Description:	
Operating Conditions:	DVD REC (NTSC)
Operator Name:	Y,J KIM
Comment:	RF OUT CH3

Hardware Setup: Voltage with 2-Line-LISN - [EMI conducted]

Subrange 1

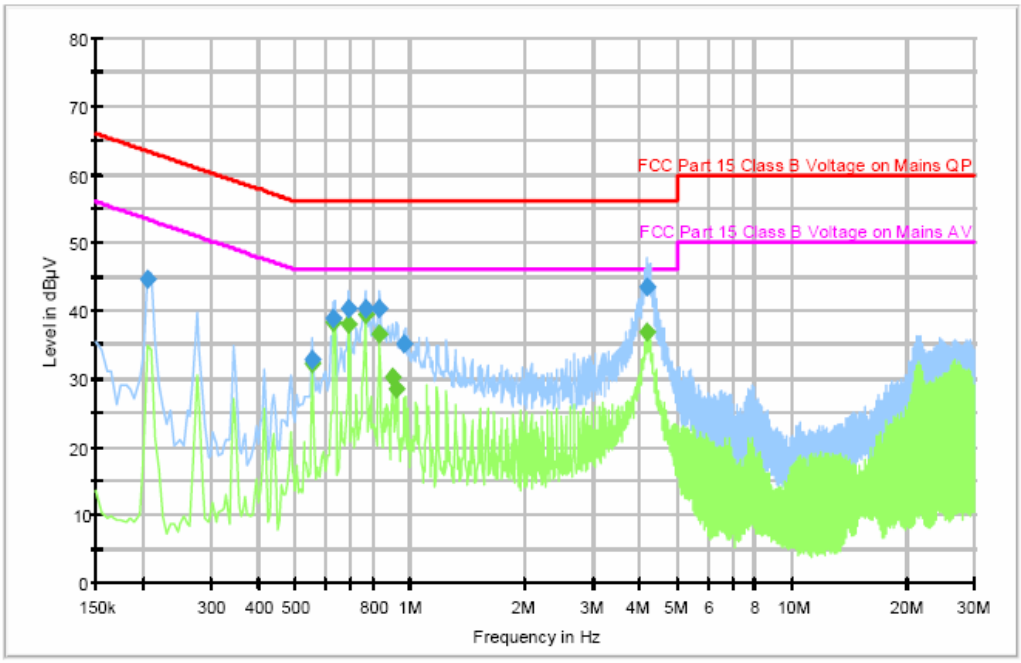
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC Part 15 Class B_2-Line-LISN fin [EMI conducted]

Hardware Setup:	Voltage with 2-Line-LISN
Level Unit:	dBµV

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150kHz - 30MHz	QuasiPeak; Average	9kHz	0.1s	ESCI 3

FCC Part 15 Class _B with 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.205500	44.7	100.000	9.000	On	N
0.550500	32.7	100.000	9.000	On	N
0.630500	38.8	100.000	9.000	On	L1
0.689500	40.4	100.000	9.000	On	N
0.759500	40.2	100.000	9.000	On	N
0.829500	40.3	100.000	9.000	On	N
0.965500	35.0	100.000	9.000	On	N
4.188500	43.4	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.205500	9.6	18.7	63.4	
0.550500	9.6	23.3	56.0	
0.630500	9.6	17.2	56.0	
0.689500	9.6	15.6	56.0	
0.759500	9.6	15.8	56.0	
0.829500	9.6	15.7	56.0	
0.965500	9.6	21.0	56.0	
4.188500	9.6	12.6	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.554500	32.1	100.000	9.000	On	N
0.630500	38.3	100.000	9.000	On	L1
0.689500	38.0	100.000	9.000	On	N
0.759500	39.5	100.000	9.000	On	N
0.829500	36.6	100.000	9.000	On	N
0.899500	30.2	100.000	9.000	On	N
0.919500	28.4	100.000	9.000	On	L1
4.179500	36.9	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.554500	9.6	13.9	46.0	
0.630500	9.6	7.7	46.0	
0.689500	9.6	8.0	46.0	
0.759500	9.6	6.5	46.0	
0.829500	9.6	9.4	46.0	
0.899500	9.6	15.8	46.0	
0.919500	9.6	17.6	46.0	
4.179500	9.6	9.1	46.0	

■ Operating Mode: DVD Record (VITS 1V) – RF out CH03

SAMSUNG ELECTRONICS EMC Report

Test Information

EUT Name:	DVD-VR330
Serial Number:	
Test Description:	
Operating Conditions:	DVD REC (VITS 1V)
Operator Name:	Y,J KIM
Comment:	RF OUT CH3

Hardware Setup: Voltage with 2-Line-LISN - [EMI conducted]

Subrange 1

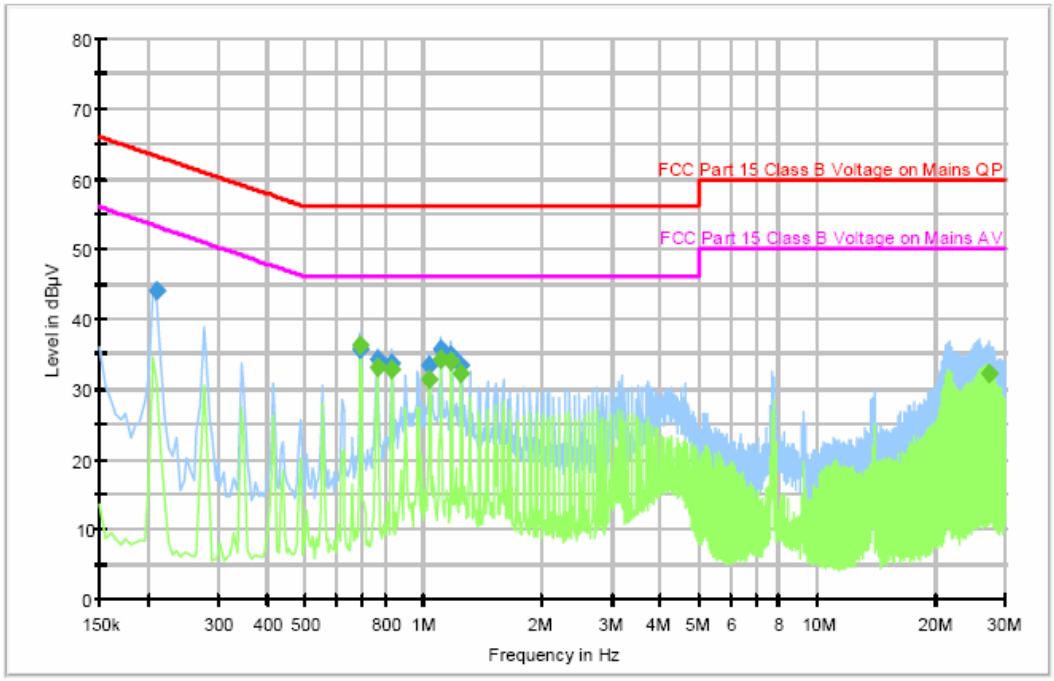
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC Part 15 Class B_2-Line-LISN fin [EMI conducted]

Hardware Setup:	Voltage with 2-Line-LISN
Level Unit:	dBµV

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150kHz - 30MHz	QuasiPeak; Average	9kHz	0.1s	ESCI 3

FCC Part 15 Class _B with 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.208500	44.1	100.000	9.000	On	L1
0.689500	35.8	100.000	9.000	On	N
0.759500	34.2	100.000	9.000	On	N
0.829500	33.8	100.000	9.000	On	N
1.034500	33.3	100.000	9.000	On	N
1.104500	35.6	100.000	9.000	On	N
1.174500	34.8	100.000	9.000	On	N
1.244500	33.5	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.208500	9.6	19.2	63.3	
0.689500	9.6	20.2	56.0	
0.759500	9.6	21.8	56.0	
0.829500	9.6	22.2	56.0	
1.034500	9.6	22.7	56.0	
1.104500	9.6	20.4	56.0	
1.174500	9.6	21.2	56.0	
1.244500	9.6	22.5	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.689500	36.3	100.000	9.000	On	N
0.759500	33.1	100.000	9.000	On	N
0.829500	32.7	100.000	9.000	On	N
1.034500	31.4	100.000	9.000	On	N
1.104500	34.1	100.000	9.000	On	N
1.174500	34.0	100.000	9.000	On	N
1.244500	32.2	100.000	9.000	On	N
27.355500	32.3	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.689500	9.6	9.7	46.0	
0.759500	9.6	12.9	46.0	
0.829500	9.6	13.3	46.0	
1.034500	9.6	14.6	46.0	
1.104500	9.6	11.9	46.0	
1.174500	9.6	12.0	46.0	
1.244500	9.6	13.8	46.0	
27.355500	9.9	17.7	50.0	

■ Operating Mode: DVD Record (VITS 5V) – RF out CH03

SAMSUNG ELECTRONICS EMC Report

Test Information

EUT Name:	DVD-VR330
Serial Number:	
Test Description:	
Operating Conditions:	DVD REC (VITS 5V)
Operator Name:	Y,J KIM
Comment:	RF OUT CH3

Hardware Setup: Voltage with 2-Line-LISN - [EMI conducted]

Subrange 1

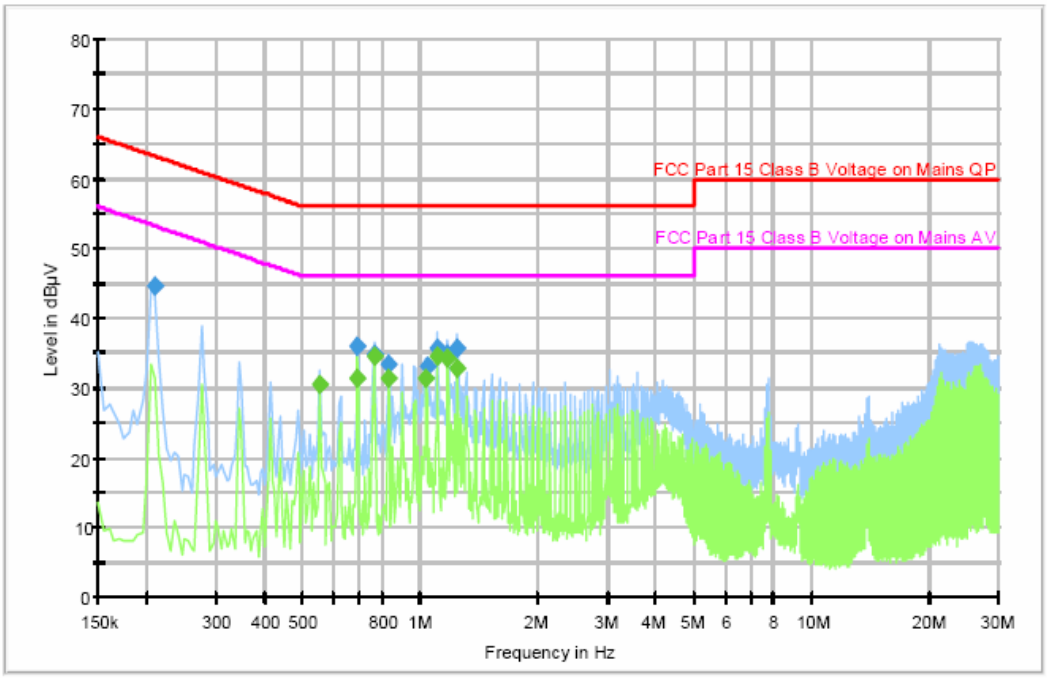
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC Part 15 Class B_2-Line-LISN fin [EMI conducted]

Hardware Setup:	Voltage with 2-Line-LISN
Level Unit:	dBµV

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150kHz - 30MHz	QuasiPeak; Average	9kHz	0.1s	ESCI 3

FCC Part 15 Class _B with 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.208500	44.5	100.000	9.000	On	N
0.689500	36.0	100.000	9.000	On	N
0.759500	34.8	100.000	9.000	On	N
0.829500	33.3	100.000	9.000	On	N
1.038500	33.0	100.000	9.000	On	N
1.104500	35.7	100.000	9.000	On	N
1.174500	34.9	100.000	9.000	On	N
1.244500	35.6	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.208500	9.6	18.8	63.3	
0.689500	9.6	20.0	56.0	
0.759500	9.6	21.2	56.0	
0.829500	9.6	22.7	56.0	
1.038500	9.6	23.0	56.0	
1.104500	9.6	20.3	56.0	
1.174500	9.6	21.1	56.0	
1.244500	9.6	20.4	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.554500	30.6	100.000	9.000	On	N
0.689500	31.3	100.000	9.000	On	N
0.759500	34.5	100.000	9.000	On	N
0.829500	31.5	100.000	9.000	On	N
1.034500	31.4	100.000	9.000	On	N
1.104500	34.5	100.000	9.000	On	N
1.174500	34.1	100.000	9.000	On	N
1.244500	32.8	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.554500	9.6	15.4	46.0	
0.689500	9.6	14.7	46.0	
0.759500	9.6	11.5	46.0	
0.829500	9.6	14.5	46.0	
1.034500	9.6	14.6	46.0	
1.104500	9.6	11.5	46.0	
1.174500	9.6	11.9	46.0	
1.244500	9.6	13.2	46.0	

■ Operating Mode: COPY (DVD To VCR) – RF out CH03

SAMSUNG ELECTRONICS EMC Report

Test Information

EUT Name:	DVD-VR330
Serial Number:	
Test Description:	
Operating Conditions:	COPY (DVD to VCR)
Operator Name:	Y,J KIM
Comment:	RF OUT CH3

Hardware Setup: Voltage with 2-Line-LISN - [EMI conducted]

Subrange 1

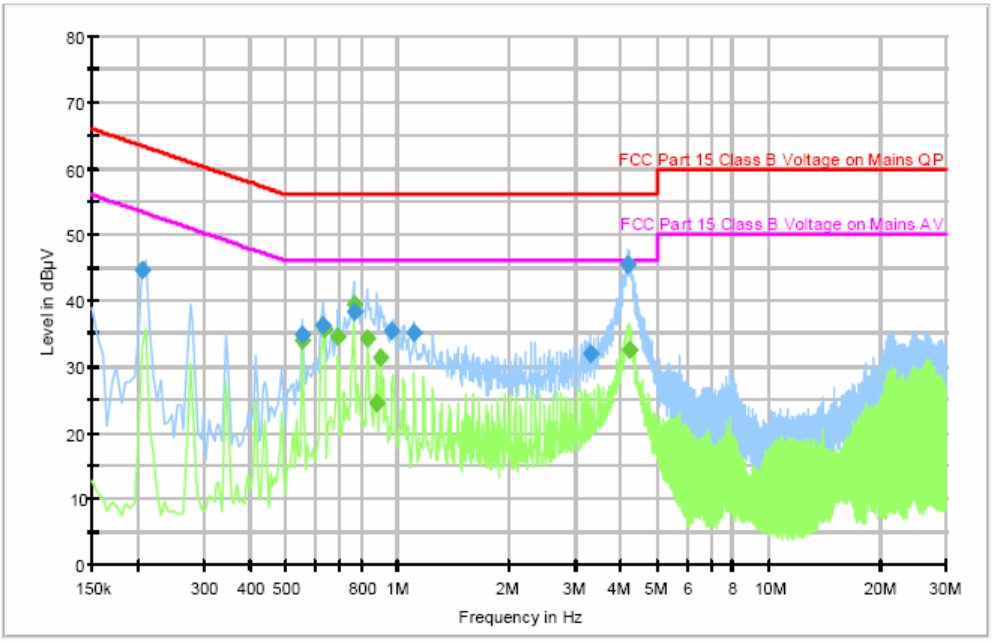
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC Part 15 Class B_2-Line-LISN fin [EMI conducted]

Hardware Setup:	Voltage with 2-Line-LISN
Level Unit:	dBµV

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150kHz - 30MHz	QuasiPeak; Average	9kHz	0.1s	ESCI 3

FCC Part 15 Class _B with 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.205500	44.7	100.000	9.000	On	N
0.554500	34.8	100.000	9.000	On	N
0.629500	36.1	100.000	9.000	On	L1
0.763500	38.3	100.000	9.000	On	N
0.965500	35.3	100.000	9.000	On	N
1.105500	35.2	100.000	9.000	On	N
3.319500	31.9	100.000	9.000	On	N
4.180500	45.4	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.205500	9.6	18.7	63.4	
0.554500	9.6	21.2	56.0	
0.629500	9.6	19.9	56.0	
0.763500	9.6	17.7	56.0	
0.965500	9.6	20.7	56.0	
1.105500	9.6	20.8	56.0	
3.319500	9.6	24.1	56.0	
4.180500	9.6	10.6	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.554500	34.1	100.000	9.000	On	N
0.633500	35.7	100.000	9.000	On	N
0.689500	34.6	100.000	9.000	On	N
0.759500	39.5	100.000	9.000	On	N
0.829500	34.2	100.000	9.000	On	N
0.875500	24.5	100.000	9.000	On	N
0.899500	31.5	100.000	9.000	On	N
4.204500	32.6	100.000	9.000	On	L1

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.554500	9.6	11.9	46.0	
0.633500	9.6	10.3	46.0	
0.689500	9.6	11.4	46.0	
0.759500	9.6	6.5	46.0	
0.829500	9.6	11.8	46.0	
0.875500	9.6	21.5	46.0	
0.899500	9.6	14.5	46.0	
4.204500	9.6	13.4	46.0	

■ Operating Mode: DVD Play – RF out CH04

SAMSUNG ELECTRONICS EMC Report

Test Information

EUT Name:	DVD-VR330
Serial Number:	
Test Description:	
Operating Conditions:	DVD PLAY
Operator Name:	Y,J KIM
Comment:	RF OUT CH4

Hardware Setup: Voltage with 2-Line-LISN - [EMI conducted]

Subrange 1

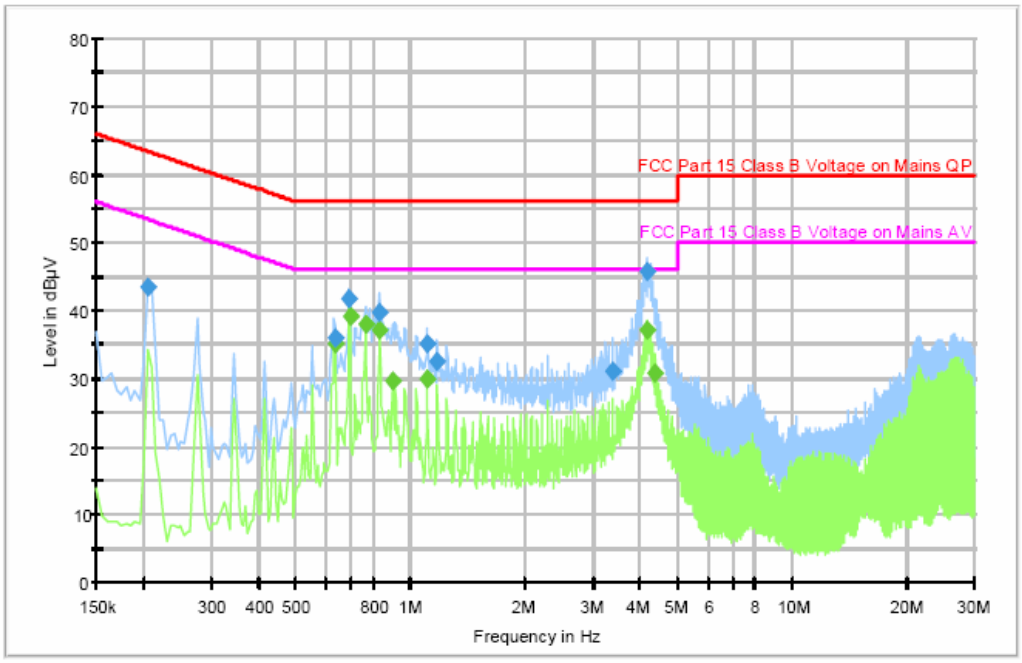
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC Part 15 Class B_2-Line-LISN fin [EMI conducted]

Hardware Setup:	Voltage with 2-Line-LISN
Level Unit:	dBµV

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150kHz - 30MHz	QuasiPeak; Average	9kHz	0.1s	ESCI 3

FCC Part 15 Class _B with 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.205500	43.5	100.000	9.000	On	N
0.633500	35.9	100.000	9.000	On	N
0.689500	41.7	100.000	9.000	On	N
0.829500	39.8	100.000	9.000	On	N
1.104500	35.0	100.000	9.000	On	N
1.174500	32.5	100.000	9.000	On	N
3.388500	31.2	100.000	9.000	On	N
4.174500	45.6	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.205500	9.6	19.9	63.4	
0.633500	9.6	20.1	56.0	
0.689500	9.6	14.3	56.0	
0.829500	9.6	16.2	56.0	
1.104500	9.6	21.0	56.0	
1.174500	9.6	23.5	56.0	
3.388500	9.6	24.8	56.0	
4.174500	9.6	10.4	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.633500	35.1	100.000	9.000	On	L1
0.693500	39.2	100.000	9.000	On	N
0.759500	37.9	100.000	9.000	On	N
0.829500	37.1	100.000	9.000	On	N
0.898500	29.8	100.000	9.000	On	N
1.104500	29.9	100.000	9.000	On	N
4.174500	37.2	100.000	9.000	On	N
4.389500	30.9	100.000	9.000	On	L1

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.633500	9.6	10.9	46.0	
0.693500	9.6	6.8	46.0	
0.759500	9.6	8.1	46.0	
0.829500	9.6	8.9	46.0	
0.898500	9.6	16.2	46.0	
1.104500	9.6	16.1	46.0	
4.174500	9.6	8.8	46.0	
4.389500	9.6	15.1	46.0	

■ Operating Mode: DVD Record (NTSC) – RF out CH04

SAMSUNG ELECTRONICS EMC Report

Test Information

EUT Name:	DVD-VR330
Serial Number:	
Test Description:	
Operating Conditions:	DVD REC(NTSC)
Operator Name:	Y,J KIM
Comment:	RF OUT CH4

Hardware Setup: Voltage with 2-Line-LISN - [EMI conducted]

Subrange 1

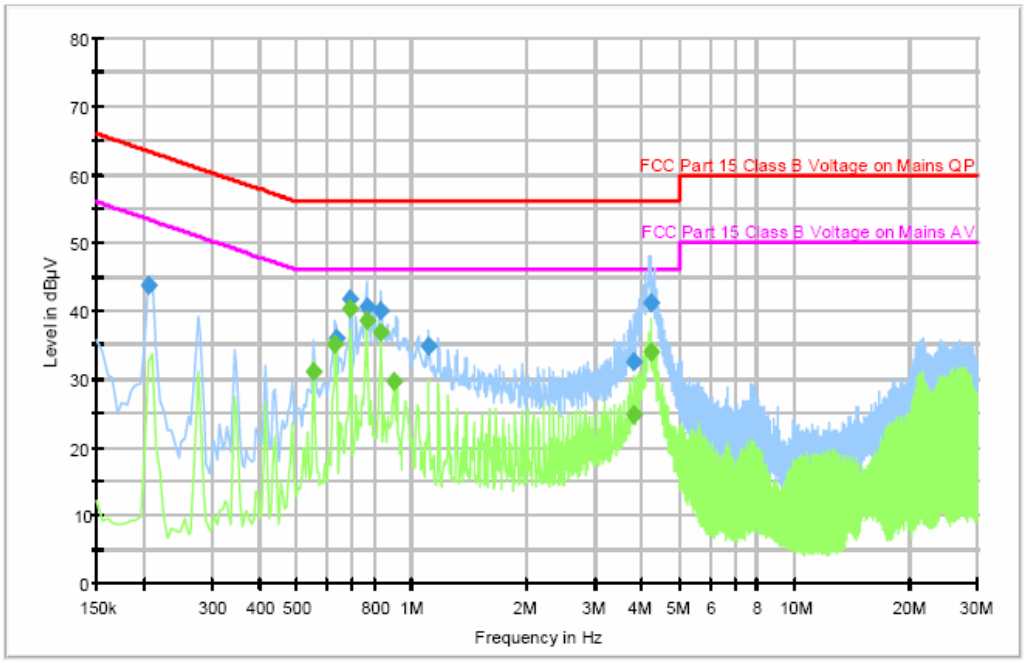
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC Part 15 Class B_2-Line-LISN fin [EMI conducted]

Hardware Setup:	Voltage with 2-Line-LISN
Level Unit:	dBµV

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150kHz - 30MHz	QuasiPeak; Average	9kHz	0.1s	ESCI 3

FCC Part 15 Class _B with 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.205500	43.7	100.000	9.000	On	L1
0.633500	35.9	100.000	9.000	On	N
0.689500	41.6	100.000	9.000	On	N
0.759500	40.7	100.000	9.000	On	N
0.829500	40.0	100.000	9.000	On	N
1.104500	34.9	100.000	9.000	On	N
3.803500	32.6	100.000	9.000	On	L1
4.229500	41.2	100.000	9.000	On	L1

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.205500	9.6	19.6	63.4	
0.633500	9.6	20.1	56.0	
0.689500	9.6	14.4	56.0	
0.759500	9.6	15.3	56.0	
0.829500	9.6	16.0	56.0	
1.104500	9.6	21.1	56.0	
3.803500	9.6	23.4	56.0	
4.229500	9.6	14.8	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.554500	31.2	100.000	9.000	On	N
0.629500	35.0	100.000	9.000	On	N
0.689500	40.2	100.000	9.000	On	N
0.759500	38.5	100.000	9.000	On	N
0.829500	36.7	100.000	9.000	On	N
0.899500	29.6	100.000	9.000	On	N
3.804500	24.6	100.000	9.000	On	N
4.224500	33.9	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.554500	9.6	14.8	46.0	
0.629500	9.6	11.0	46.0	
0.689500	9.6	5.8	46.0	
0.759500	9.6	7.5	46.0	
0.829500	9.6	9.3	46.0	
0.899500	9.6	16.4	46.0	
3.804500	9.6	21.4	46.0	
4.224500	9.6	12.1	46.0	

■ Operating Mode: DVD Record (VITS 1V) – RF out CH04

SAMSUNG ELECTRONICS EMC Report

Test Information

EUT Name:	DVD-VR330
Serial Number:	
Test Description:	
Operating Conditions:	DVD REC (VITS 1V)
Operator Name:	Y,J KIM
Comment:	RF OUT CH4

Hardware Setup: Voltage with 2-Line-LISN - [EMI conducted]

Subrange 1

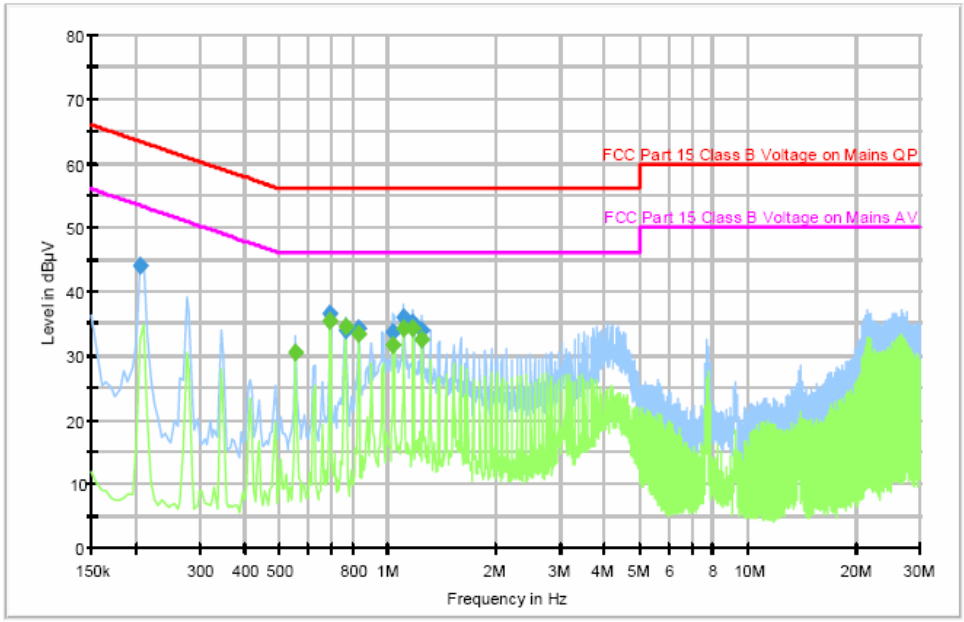
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC Part 15 Class B_2-Line-LISN fin [EMI conducted]

Hardware Setup:	Voltage with 2-Line-LISN
Level Unit:	dBµV

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150kHz - 30MHz	QuasiPeak; Average	9kHz	0.1s	ESCI 3

FCC Part 15 Class _B with 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.205500	44.1	100.000	9.000	On	N
0.689500	36.5	100.000	9.000	On	N
0.759500	34.1	100.000	9.000	On	N
0.829500	34.4	100.000	9.000	On	N
1.034500	33.7	100.000	9.000	On	N
1.104500	35.9	100.000	9.000	On	N
1.174500	35.2	100.000	9.000	On	N
1.244500	34.0	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.205500	9.6	19.2	63.4	
0.689500	9.6	19.5	56.0	
0.759500	9.6	21.9	56.0	
0.829500	9.6	21.6	56.0	
1.034500	9.6	22.3	56.0	
1.104500	9.6	20.1	56.0	
1.174500	9.6	20.8	56.0	
1.244500	9.6	22.0	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.554500	30.6	100.000	9.000	On	N
0.689500	35.4	100.000	9.000	On	N
0.759500	34.4	100.000	9.000	On	N
0.829500	33.5	100.000	9.000	On	N
1.034500	31.7	100.000	9.000	On	N
1.104500	34.2	100.000	9.000	On	N
1.174500	34.1	100.000	9.000	On	N
1.244500	32.6	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.554500	9.6	15.4	46.0	
0.689500	9.6	10.6	46.0	
0.759500	9.6	11.6	46.0	
0.829500	9.6	12.5	46.0	
1.034500	9.6	14.3	46.0	
1.104500	9.6	11.8	46.0	
1.174500	9.6	11.9	46.0	
1.244500	9.6	13.4	46.0	

■ Operating Mode: DVD Record (VITS 5V) – RF out CH04

SAMSUNG ELECTRONICS EMC Report

Test Information

EUT Name:	DVD-VR330
Serial Number:	
Test Description:	
Operating Conditions:	DVD REC (VITS 5V)
Operator Name:	Y,J KIM
Comment:	RF OUT CH4

Hardware Setup: Voltage with 2-Line-LISN - [EMI conducted]

Subrange 1

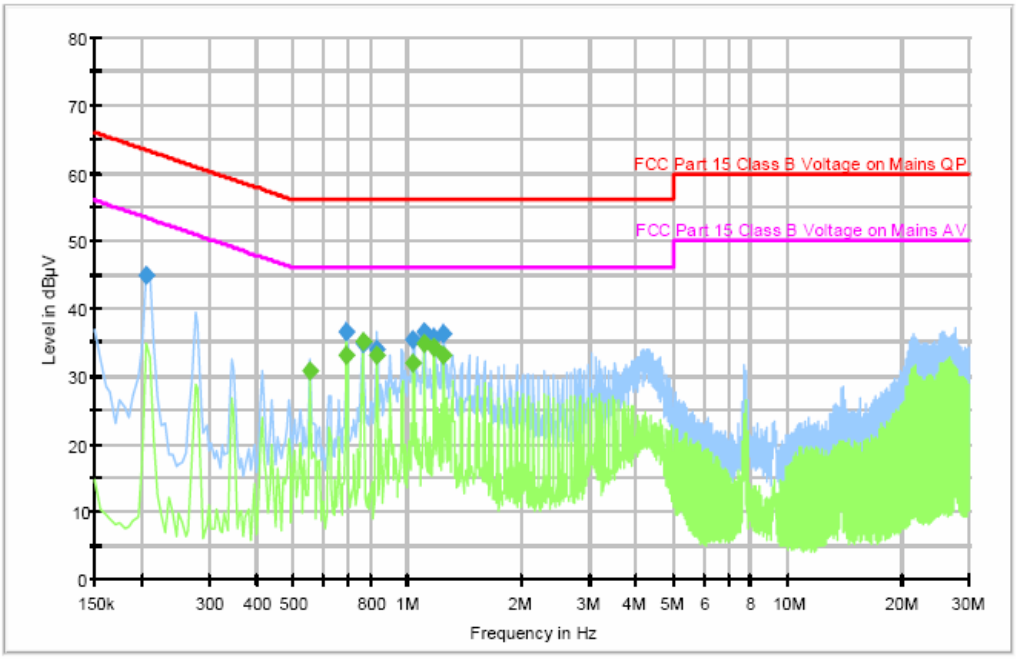
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC Part 15 Class B_2-Line-LISN fin [EMI conducted]

Hardware Setup:	Voltage with 2-Line-LISN
Level Unit:	dBµV

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150kHz - 30MHz	QuasiPeak; Average	9kHz	0.1s	ESCI 3

FCC Part 15 Class _B with 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.205500	44.9	100.000	9.000	On	N
0.689500	36.6	100.000	9.000	On	N
0.759500	34.8	100.000	9.000	On	N
0.829500	34.0	100.000	9.000	On	N
1.035500	35.4	100.000	9.000	On	N
1.104500	36.4	100.000	9.000	On	N
1.174500	35.6	100.000	9.000	On	N
1.244500	36.2	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.205500	9.6	18.5	63.4	
0.689500	9.6	19.4	56.0	
0.759500	9.6	21.2	56.0	
0.829500	9.6	22.0	56.0	
1.035500	9.6	20.6	56.0	
1.104500	9.6	19.6	56.0	
1.174500	9.6	20.4	56.0	
1.244500	9.6	19.8	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.554500	30.8	100.000	9.000	On	N
0.689500	33.1	100.000	9.000	On	N
0.759500	35.1	100.000	9.000	On	N
0.829500	33.0	100.000	9.000	On	N
1.034500	31.9	100.000	9.000	On	N
1.104500	34.8	100.000	9.000	On	N
1.174500	34.2	100.000	9.000	On	N
1.244500	33.2	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.554500	9.6	15.2	46.0	
0.689500	9.6	12.9	46.0	
0.759500	9.6	10.9	46.0	
0.829500	9.6	13.0	46.0	
1.034500	9.6	14.1	46.0	
1.104500	9.6	11.2	46.0	
1.174500	9.6	11.8	46.0	
1.244500	9.6	12.8	46.0	

■ Operating Mode: COPY (DVD To VCR) – RF out CH04

SAMSUNG ELECTRONICS EMC Report

Test Information

EUT Name:	DVD-VR330
Serial Number:	
Test Description:	
Operating Conditions:	COPY (DVD to VCR)
Operator Name:	Y,J KIM
Comment:	RF OUT CH4

Hardware Setup: Voltage with 2-Line-LISN - [EMI conducted]

Subrange 1

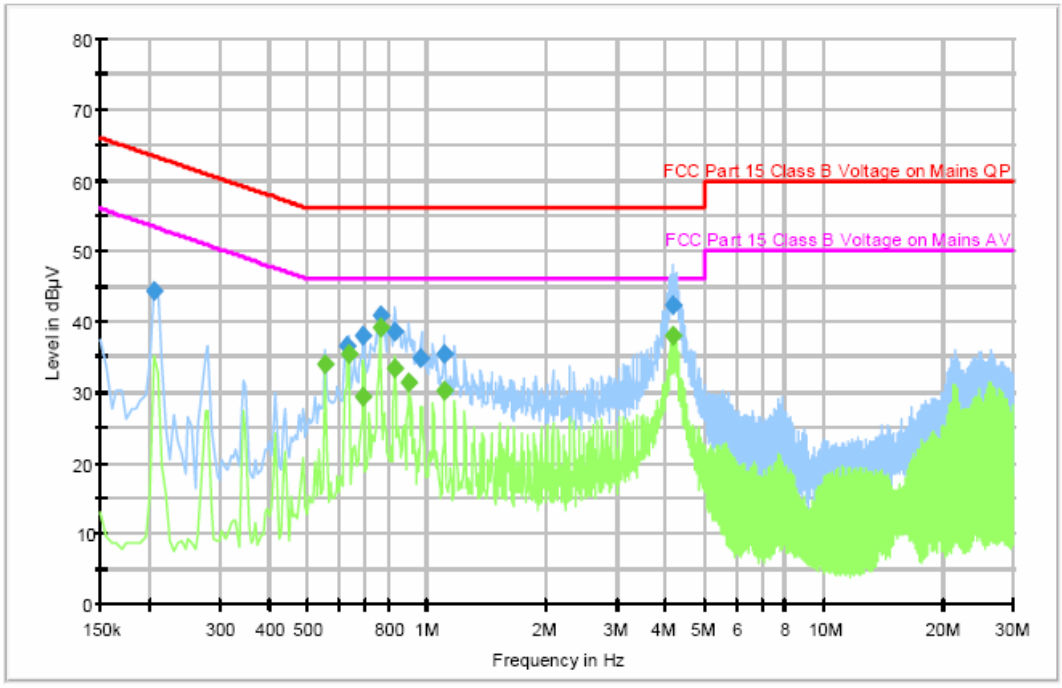
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC Part 15 Class B_2-Line-LISN fin [EMI conducted]

Hardware Setup:	Voltage with 2-Line-LISN
Level Unit:	dBµV

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150kHz - 30MHz	QuasiPeak; Average	9kHz	0.1s	ESCI 3

FCC Part 15 Class _B with 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.205500	44.3	100.000	9.000	On	N
0.630500	36.5	100.000	9.000	On	L1
0.689500	38.0	100.000	9.000	On	N
0.759500	40.8	100.000	9.000	On	N
0.829500	38.6	100.000	9.000	On	N
0.965500	34.8	100.000	9.000	On	L1
1.104500	35.4	100.000	9.000	On	N
4.165500	42.4	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.205500	9.6	19.0	63.4	
0.630500	9.6	19.5	56.0	
0.689500	9.6	18.0	56.0	
0.759500	9.6	15.2	56.0	
0.829500	9.6	17.4	56.0	
0.965500	9.6	21.2	56.0	
1.104500	9.6	20.6	56.0	
4.165500	9.6	13.6	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line
0.554500	34.0	100.000	9.000	On	N
0.633500	35.5	100.000	9.000	On	N
0.689500	29.4	100.000	9.000	On	N
0.759500	39.2	100.000	9.000	On	N
0.829500	33.5	100.000	9.000	On	N
0.899500	31.4	100.000	9.000	On	N
1.104500	30.2	100.000	9.000	On	N
4.169500	37.9	100.000	9.000	On	N

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.554500	9.6	12.0	46.0	
0.633500	9.6	10.5	46.0	
0.689500	9.6	16.6	46.0	
0.759500	9.6	6.8	46.0	
0.829500	9.6	12.5	46.0	
0.899500	9.6	14.6	46.0	
1.104500	9.6	15.8	46.0	
4.169500	9.6	8.1	46.0	

3.2 Radiated emission

3.2.1 Test information

Test engineer	Young Jin, Kim
Test date	December 15 ~ 23, 2005
Climate condition	Ambient temperature : 21.5 ℃, Relative humidity : 35 % Atmospheric pressure 1 020 hPa
Test place	3 m Semi-anechoic Chamber

3.2.2 Test equipment

Equipment	Model name	Manufacturer	Serial no.	Calibration	
				Next date	Interval (Month)
Bi-con Antenna	CBL6141A	SCHAFFNER	4258	2006-03-08	12
EMI Receiver	ESI26	R&S	100291	2006-06-09	12
AMPLIFIER	310N	SONOMA	251674	2006-03-08	12
Ant Mast	MA4000	Inn-co	-	N/A	
Mast Controller	CO2000	Inn-co	-	N/A	
RF Selector	NS4900	TOYO	-	N/A	
TV Signal Generator	PM5418-TDSI	PHILIPS	LO612437	2006-10-10	12

EUT Test Setup

EUT set up in semi-anechoic chamber. EUT positioned at 3 m from antenna in center of table.

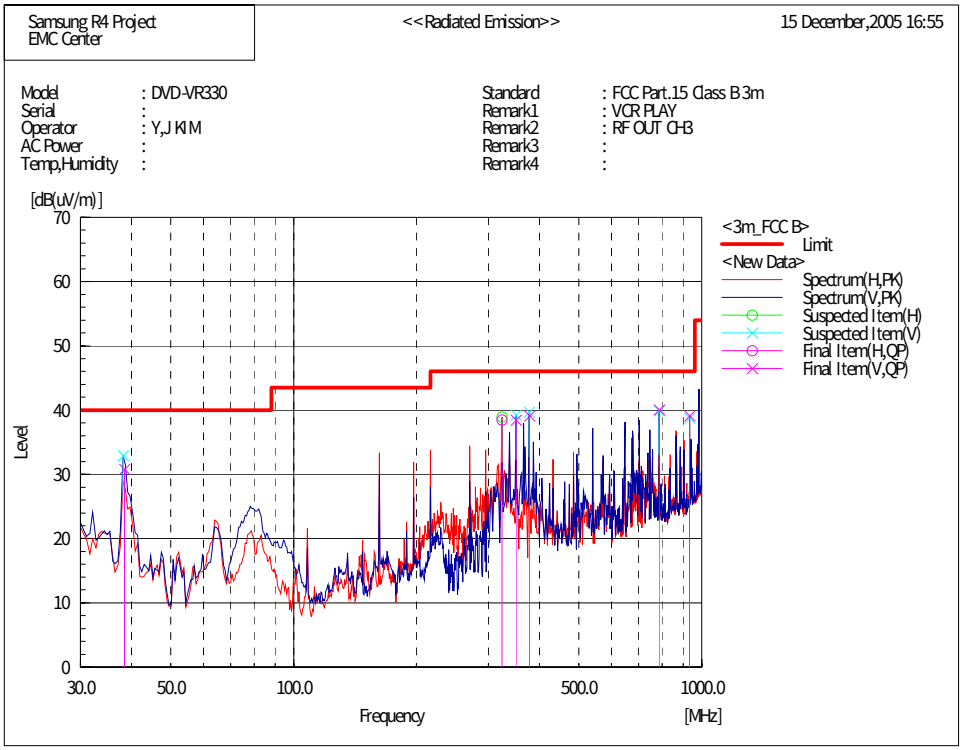
All ports terminated into characteristic loads.

Test Result

Measurement Results	Pass The measured emissions of the EUT have found to be below the specified limits.

Test Data

■ Operating Mode: VCR Play – RF out CH03



Final Result

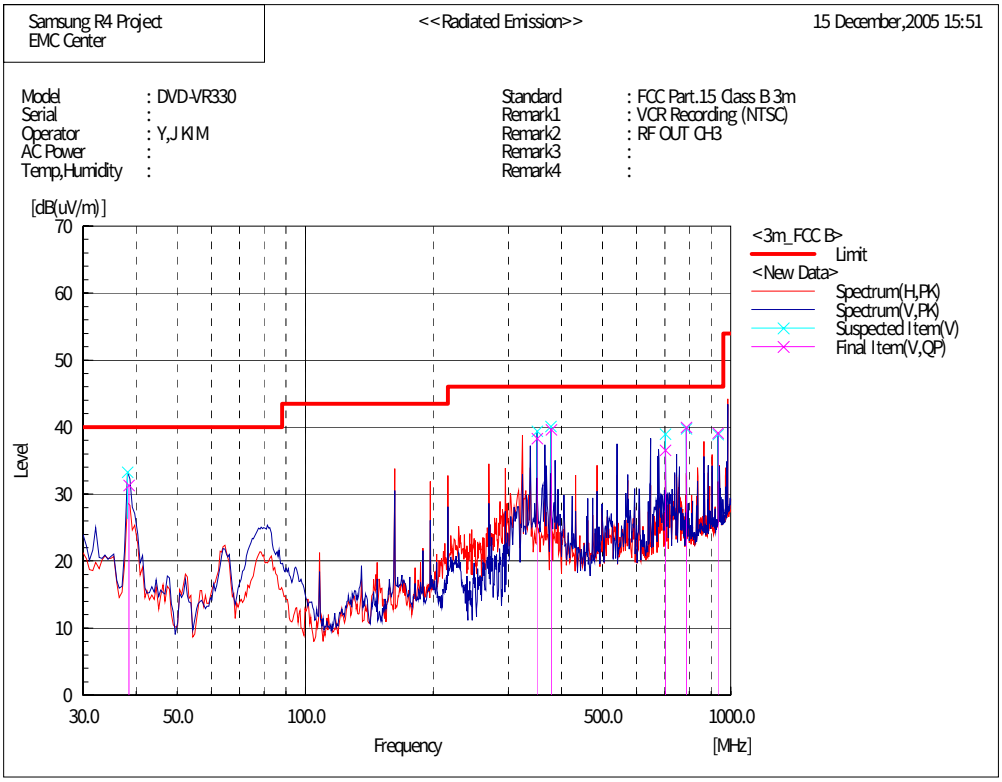
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	324.009	53.3	-14.8	38.5	46.0	7.5	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	38.454	41.4	-10.6	30.8	40.0	9.2	
2	350.578	52.5	-14.0	38.5	46.0	7.5	
3	378.017	52.3	-13.2	39.1	46.0	6.9	
4	786.304	45.3	-5.2	40.1	46.0	5.9	
5	933.725	41.1	-2.0	39.1	46.0	6.9	

■ Operating Mode: VCR record (NTSC) – RF out CH03

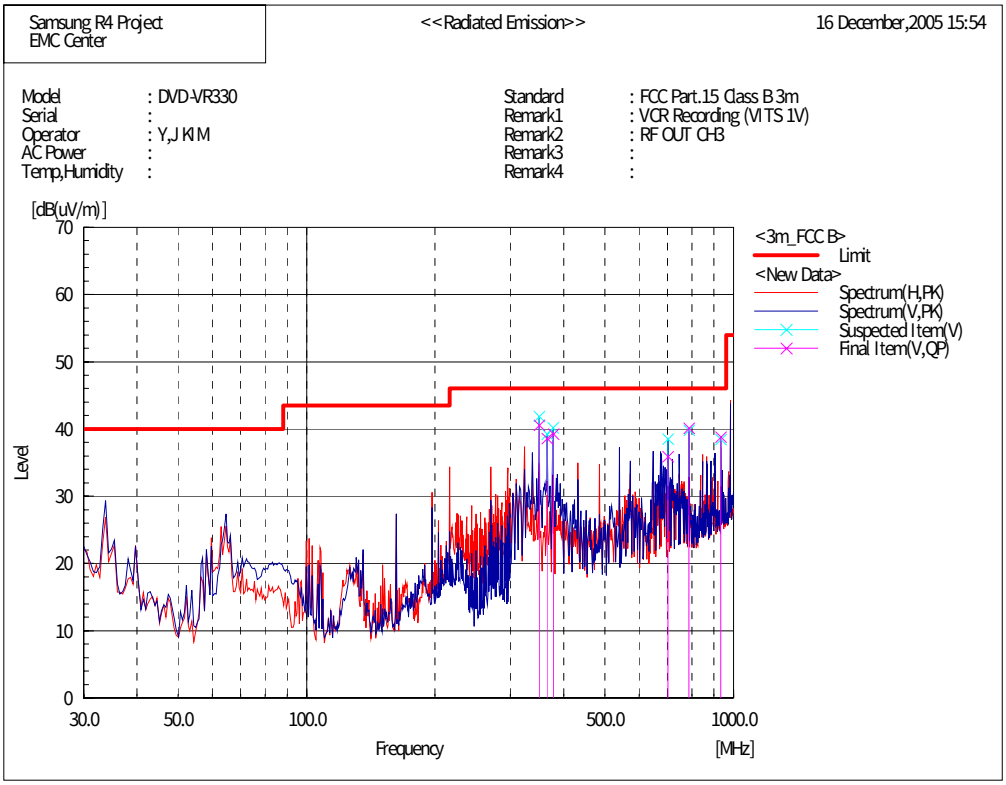


Final Result

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	38.449	41.9	-10.6	31.3	40.0	8.7	
2	350.578	52.3	-14.0	38.3	46.0	7.7	
3	378.003	52.8	-13.2	39.6	46.0	6.4	
4	702.023	42.9	-6.3	36.6	46.0	9.4	
5	786.290	45.2	-5.2	40.0	46.0	6.0	
6	933.725	41.1	-2.0	39.1	46.0	6.9	

■ Operating Mode: VCR record (1V VITS) – RF out CH03

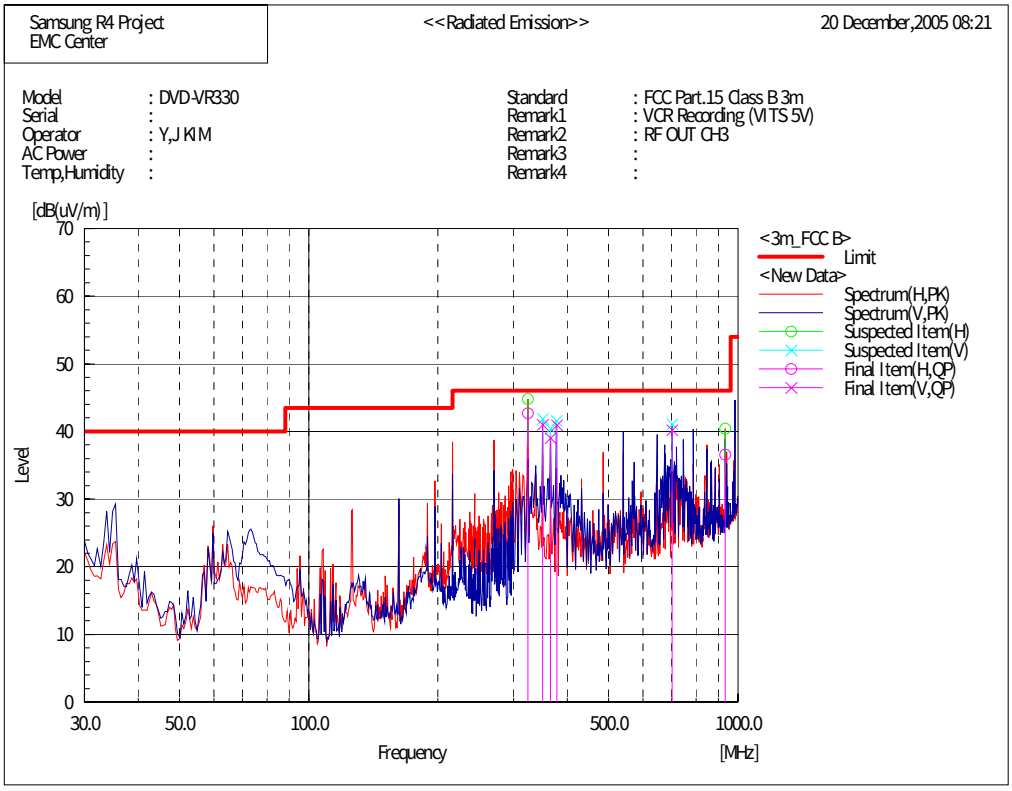


Final Result

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	350.550	54.6	-14.0	40.6	46.0	5.4	
2	365.995	52.1	-13.5	38.6	46.0	7.4	
3	378.017	52.5	-13.2	39.3	46.0	6.7	
4	702.009	42.2	-6.3	35.9	46.0	10.1	
5	786.304	45.4	-5.2	40.2	46.0	5.8	
6	933.725	40.8	-2.0	38.8	46.0	7.2	

■ Operating Mode: VCR record (5V VITS) – RF out CH03



Final Result

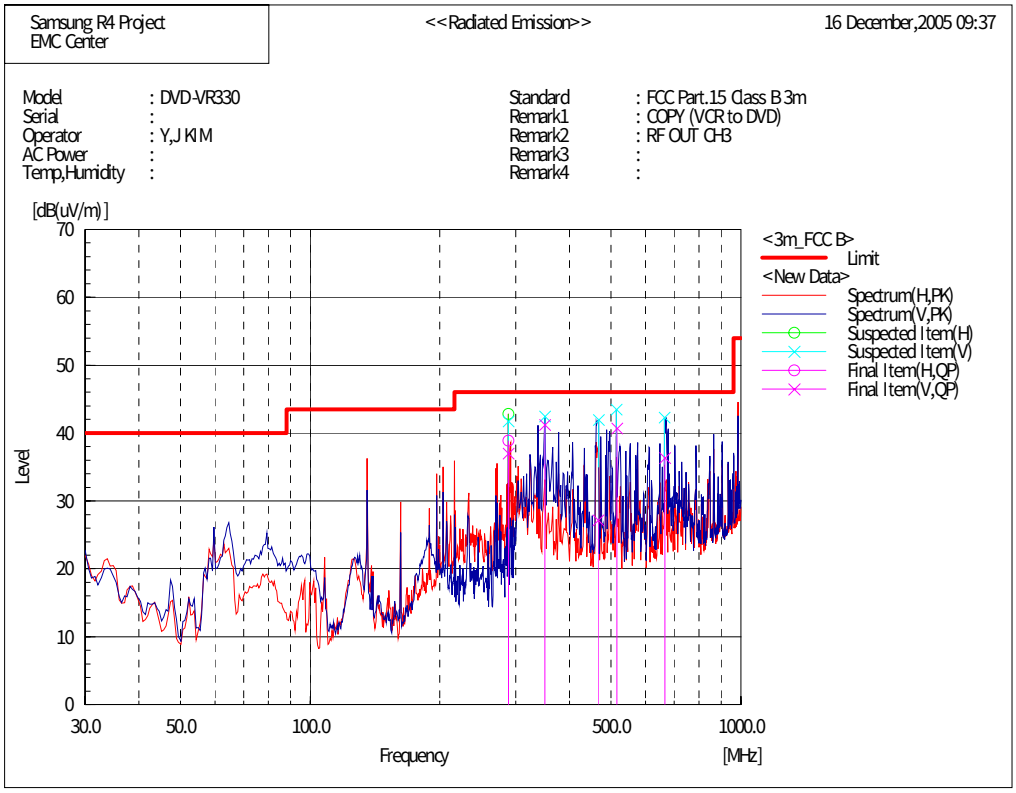
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	324.023	57.5	-14.8	42.7	46.0	3.3	
2	933.725	38.6	-2.0	36.6	46.0	9.4	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	350.578	55.0	-14.0	41.0	46.0	5.0	
2	366.009	52.5	-13.5	39.0	46.0	7.0	
3	378.003	54.2	-13.2	41.0	46.0	5.0	
4	702.009	46.5	-6.3	40.2	46.0	5.8	

■ Operating Mode: COPY (VCR To DVD) – RF out CH03



Final Result

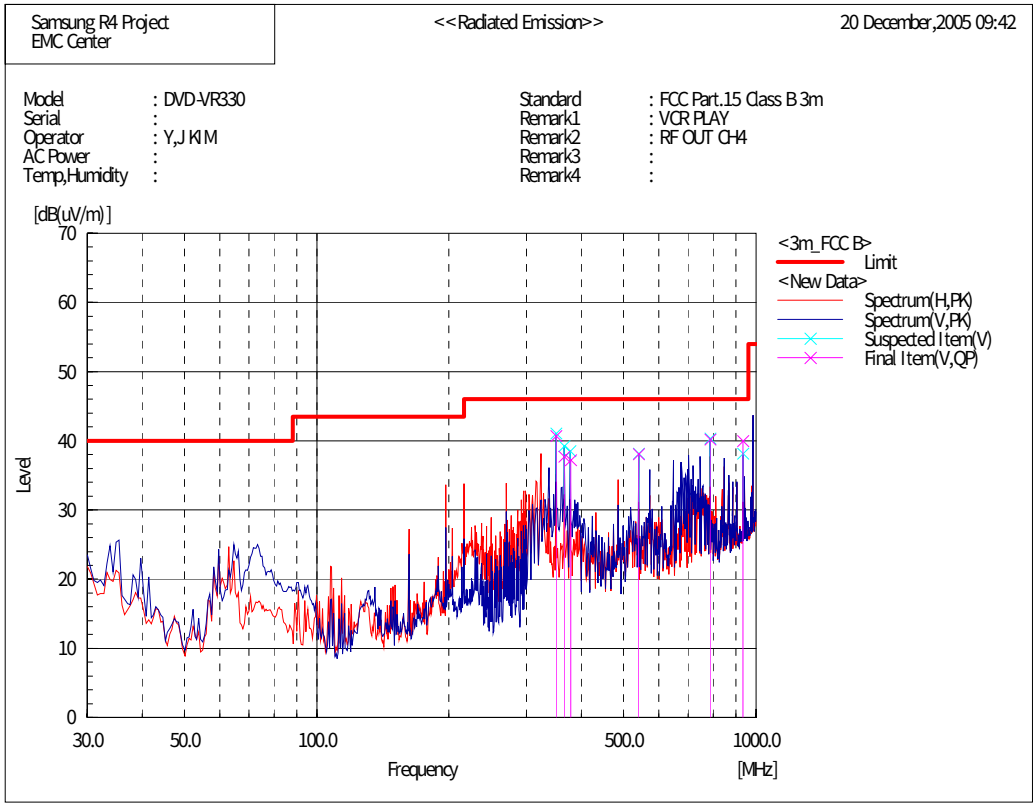
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	288.126	55.0	-16.1	38.9	46.0	7.1	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	288.223	53.1	-16.1	37.0	46.0	9.0	
2	350.564	55.2	-14.0	41.2	46.0	4.8	
3	465.805	38.4	-11.3	27.1	46.0	18.9	
4	515.254	51.1	-10.4	40.7	46.0	5.3	
5	666.266	43.1	-6.7	36.4	46.0	9.6	

■ Operating Mode: VCR Play – RF out CH04

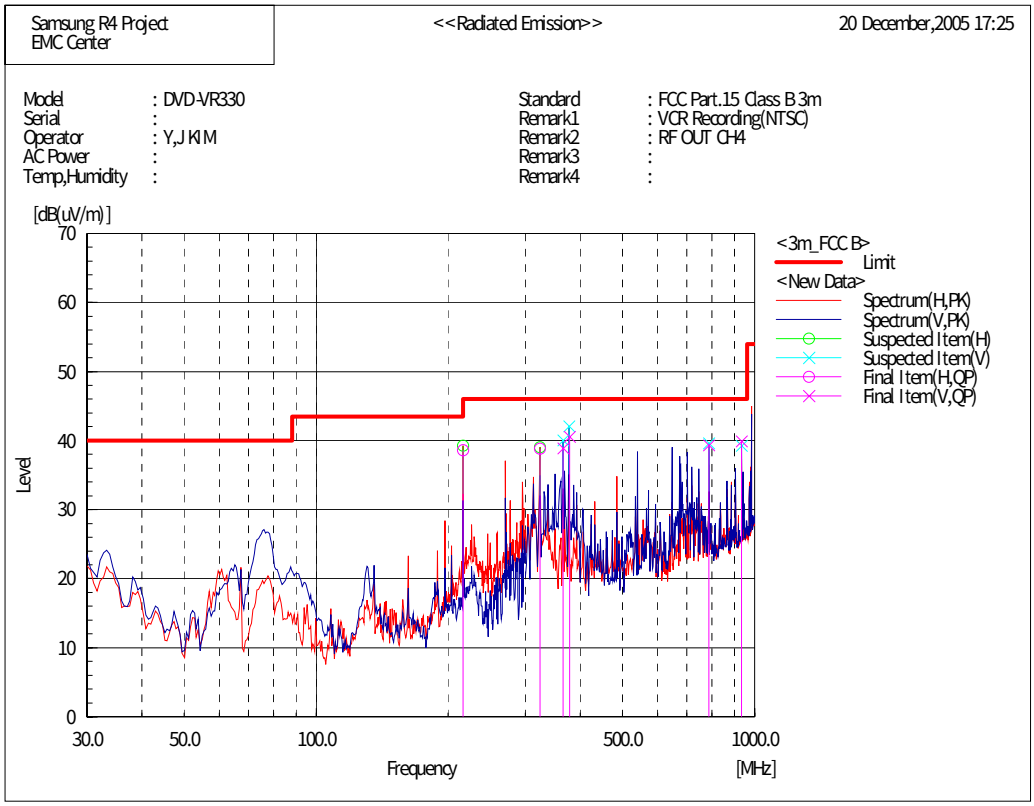


Final Result

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	350.550	54.7	-14.0	40.7	46.0	5.3	
2	365.995	51.2	-13.5	37.7	46.0	8.3	
3	378.031	50.4	-13.2	37.2	46.0	8.8	
4	539.999	48.2	-10.1	38.1	46.0	7.9	
5	786.304	45.4	-5.2	40.2	46.0	5.8	
6	933.725	42.0	-2.0	40.0	46.0	6.0	

■ Operating Mode: VCR Record (NTSC) – RF out CH04



Final Result

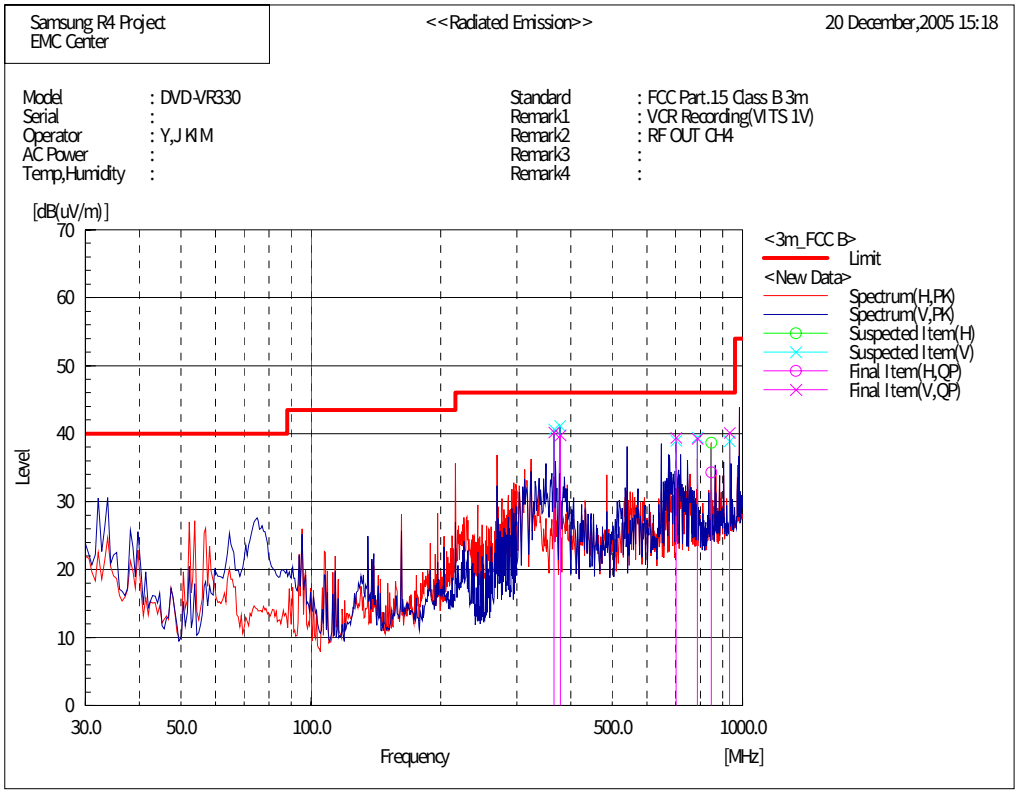
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	216.005	55.7	-17.1	38.6	46.0	7.4	
2	324.009	53.7	-14.8	38.9	46.0	7.1	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	366.009	52.4	-13.5	38.9	46.0	7.1	
2	378.003	53.8	-13.2	40.6	46.0	5.4	
3	786.318	44.5	-5.2	39.3	46.0	6.7	
4	933.739	41.9	-2.0	39.9	46.0	6.1	

■ Operating Mode: VCR Record (VITS 1V) – RF out CH04



Final Result

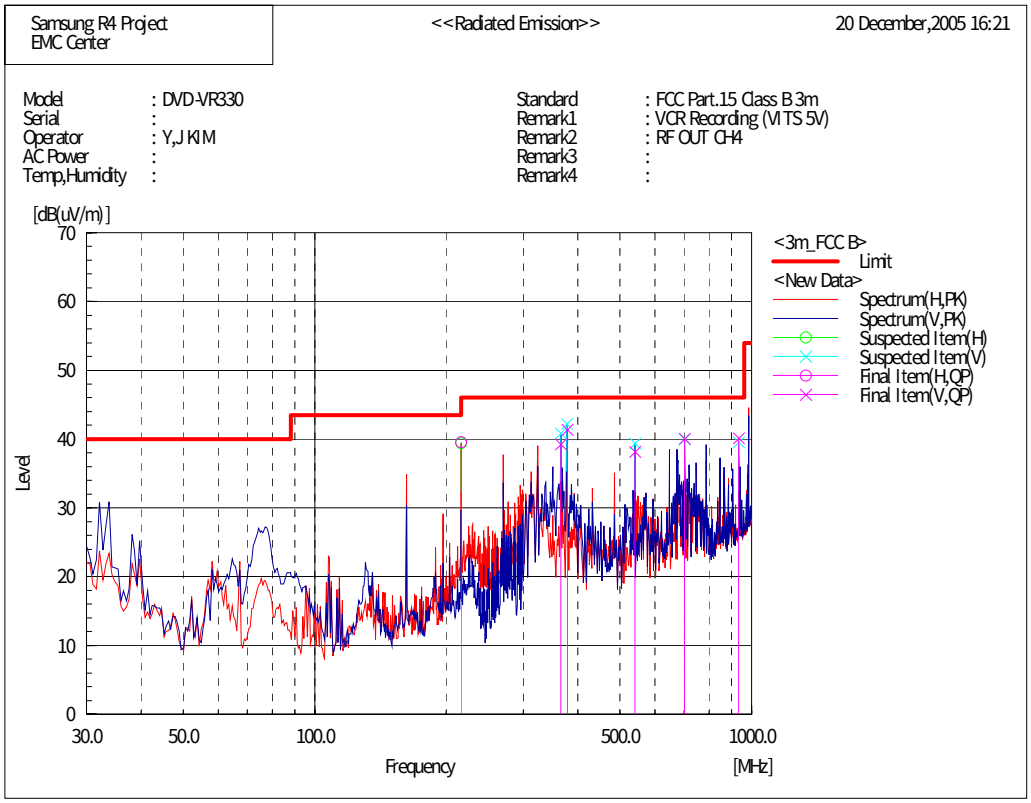
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	845.937	38.3	-4.0	34.3	46.0	11.7	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	366.009	53.7	-13.5	40.2	46.0	5.8	
2	378.017	53.0	-13.2	39.8	46.0	6.2	
3	702.009	45.7	-6.3	39.4	46.0	6.6	
4	786.304	44.4	-5.2	39.2	46.0	6.8	
5	933.739	42.2	-2.0	40.2	46.0	5.9	

■ Operating Mode: VCR Record (VITS 5V) – RF out CH04



Final Result

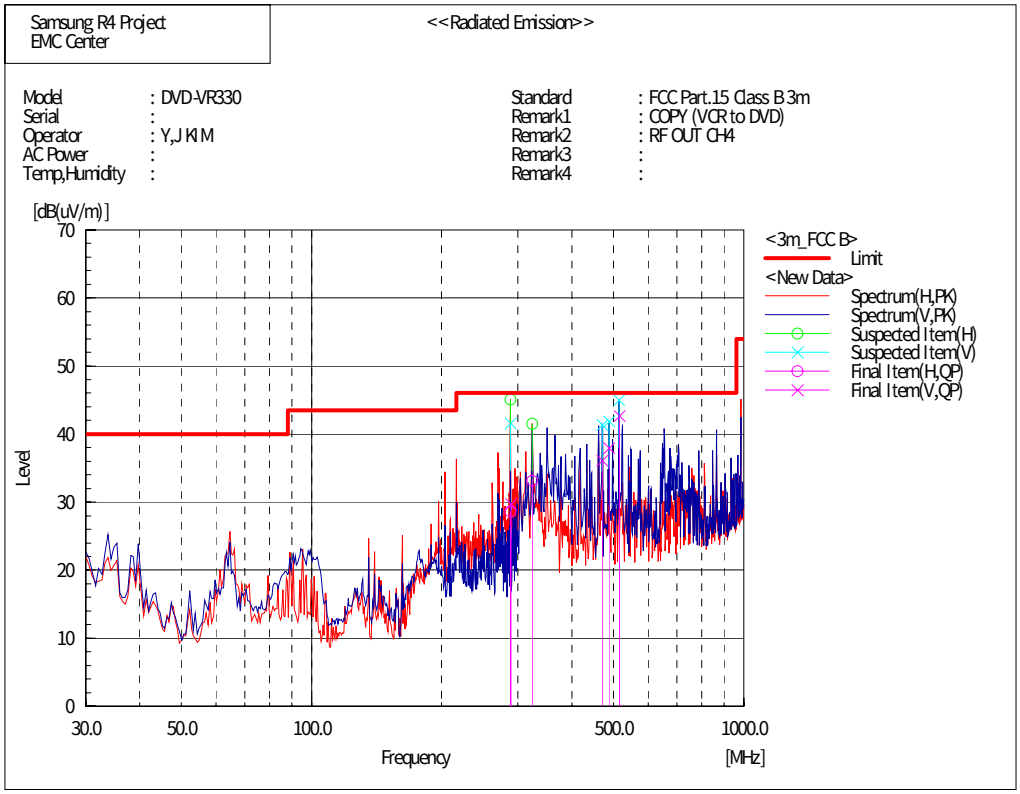
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	216.016	56.7	-17.1	39.6	46.0	6.4	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	366.009	52.7	-13.5	39.2	46.0	6.8	
2	378.017	54.6	-13.2	41.4	46.0	4.6	
3	540.027	48.3	-10.1	38.2	46.0	7.8	
4	701.995	46.4	-6.3	40.1	46.0	5.9	
5	933.739	42.1	-2.0	40.1	46.0	5.9	

■ Operating Mode: COPY (VCR To DVD) – RF out CH04



Final Result

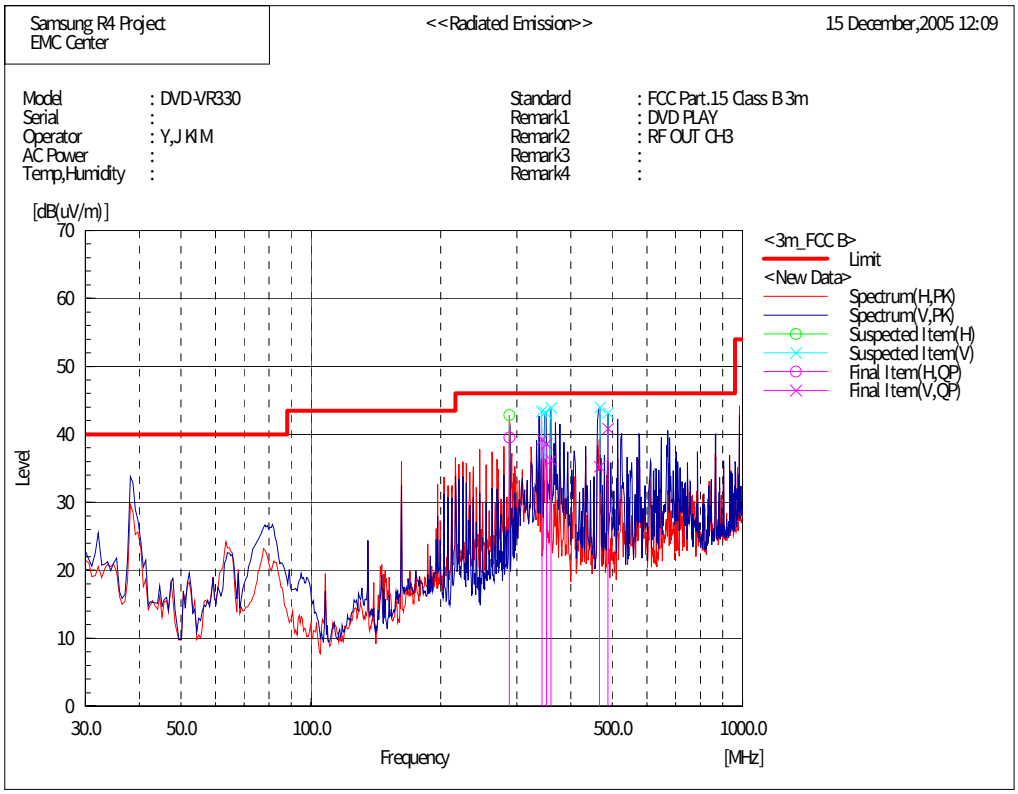
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	288.399	44.7	-16.1	28.6	46.0	17.4	
2	324.009	47.9	-14.8	33.1	46.0	12.9	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	288.713	45.8	-16.1	29.7	46.0	16.3	
2	470.336	47.3	-11.1	36.2	46.0	9.8	
3	488.151	48.7	-10.7	38.0	46.0	8.0	
4	515.268	53.1	-10.4	42.7	46.0	3.3	

■ Operating Mode: DVD Play – RF out CH03



Final Result

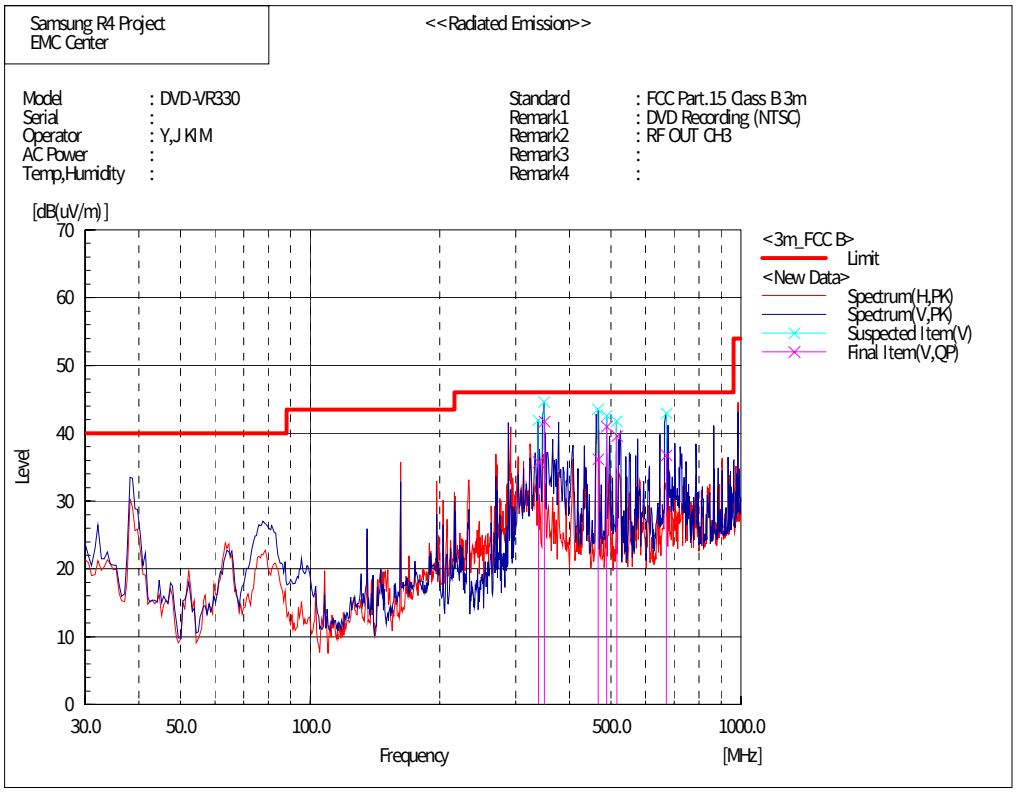
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	288.564	55.7	-16.1	39.6	46.0	6.4	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	343.228	53.6	-14.3	39.3	46.0	6.7	
2	351.714	52.5	-13.9	38.6	46.0	7.4	
3	360.173	49.8	-13.6	36.2	46.0	9.8	
4	466.829	46.5	-11.2	35.3	46.0	10.7	
5	488.151	51.6	-10.7	40.9	46.0	5.1	

■ Operating Mode: DVD Record (NTSC) – RF out CH03

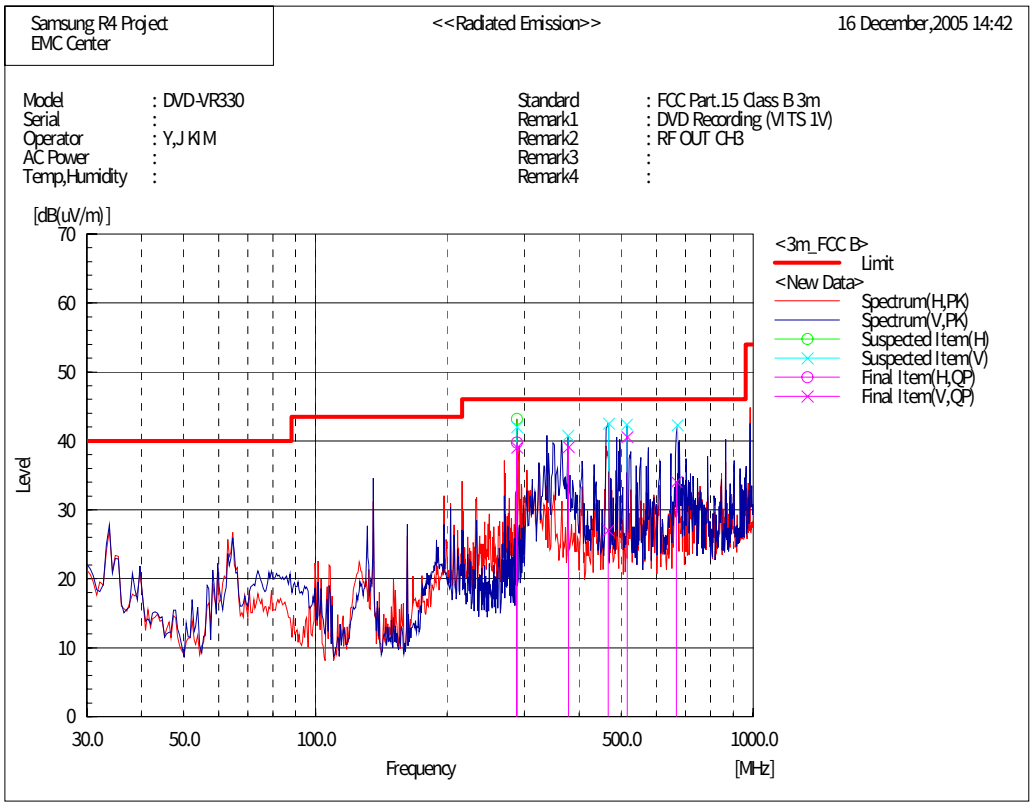


Final Result

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	349.652	55.7	-14.0	41.7	46.0	4.3	
2	339.005	50.2	-14.4	35.8	46.0	10.2	
3	466.787	47.4	-11.2	36.2	46.0	9.8	
4	488.137	51.7	-10.7	41.0	46.0	5.0	
5	515.268	50.0	-10.4	39.6	46.0	6.4	
6	671.035	43.4	-6.6	36.8	46.0	9.2	

■ Operating Mode: DVD Record (VITS 1V) – RF out CH03



Final Result

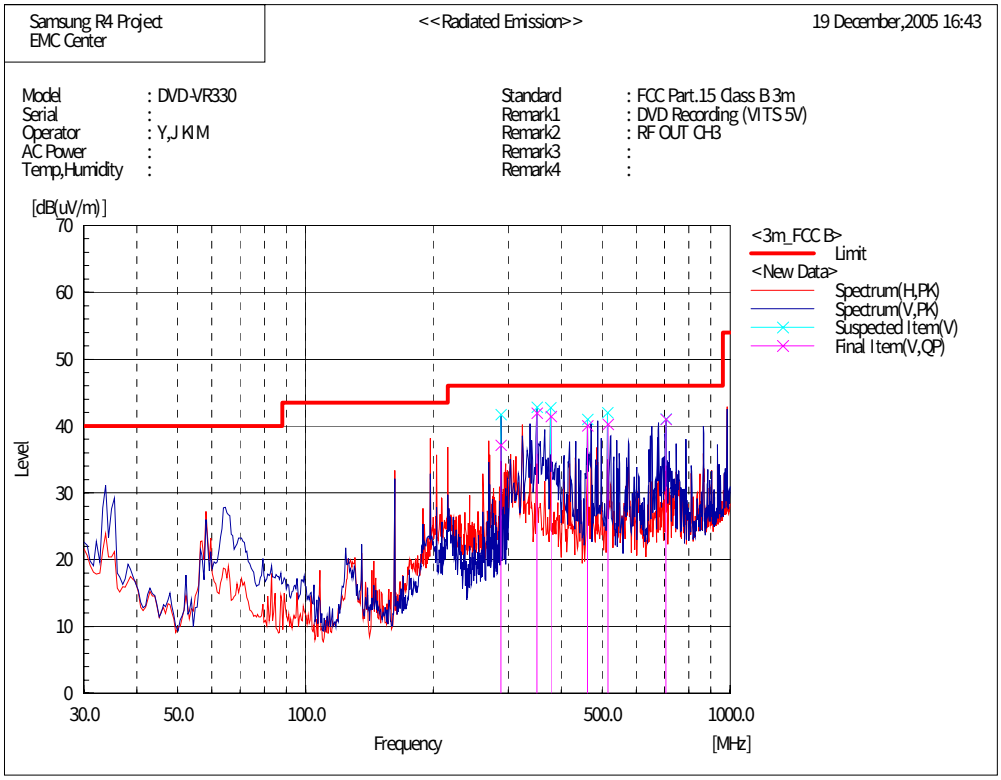
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	288.191	55.9	-16.1	39.8	46.0	6.2	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	288.223	55.1	-16.1	39.0	46.0	7.0	
2	378.017	52.3	-13.2	39.1	46.0	6.9	
3	465.791	38.3	-11.3	27.0	46.0	19.0	
4	515.268	51.0	-10.4	40.6	46.0	5.4	
5	667.332	40.8	-6.7	34.1	46.0	11.9	

■ Operating Mode: DVD Record (VITS 5V) – RF out CH03

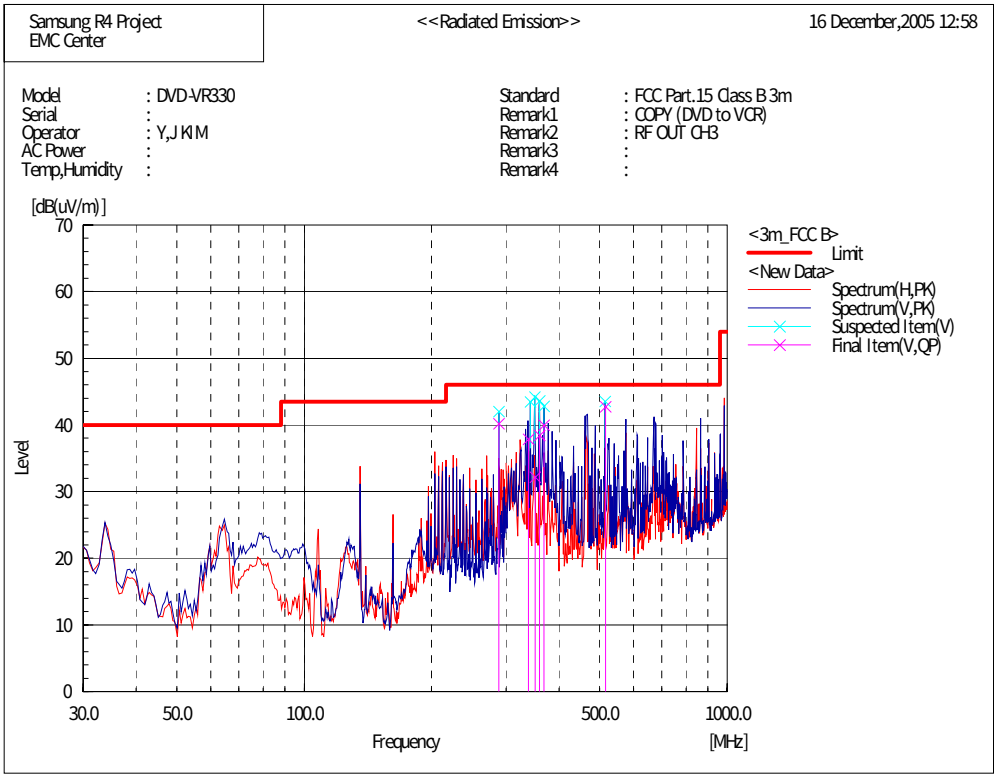


Final Result

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	288.321	53.3	-16.1	37.2	46.0	8.8	
2	350.564	55.9	-14.0	41.9	46.0	4.1	
3	378.017	54.6	-13.2	41.4	46.0	4.6	
4	461.035	51.4	-11.4	40.0	46.0	6.0	
5	515.268	50.6	-10.4	40.2	46.0	5.8	
6	705.628	47.2	-6.2	41.0	46.0	5.0	

■ Operating Mode: COPY (DVD To VCR) – RF out CH03

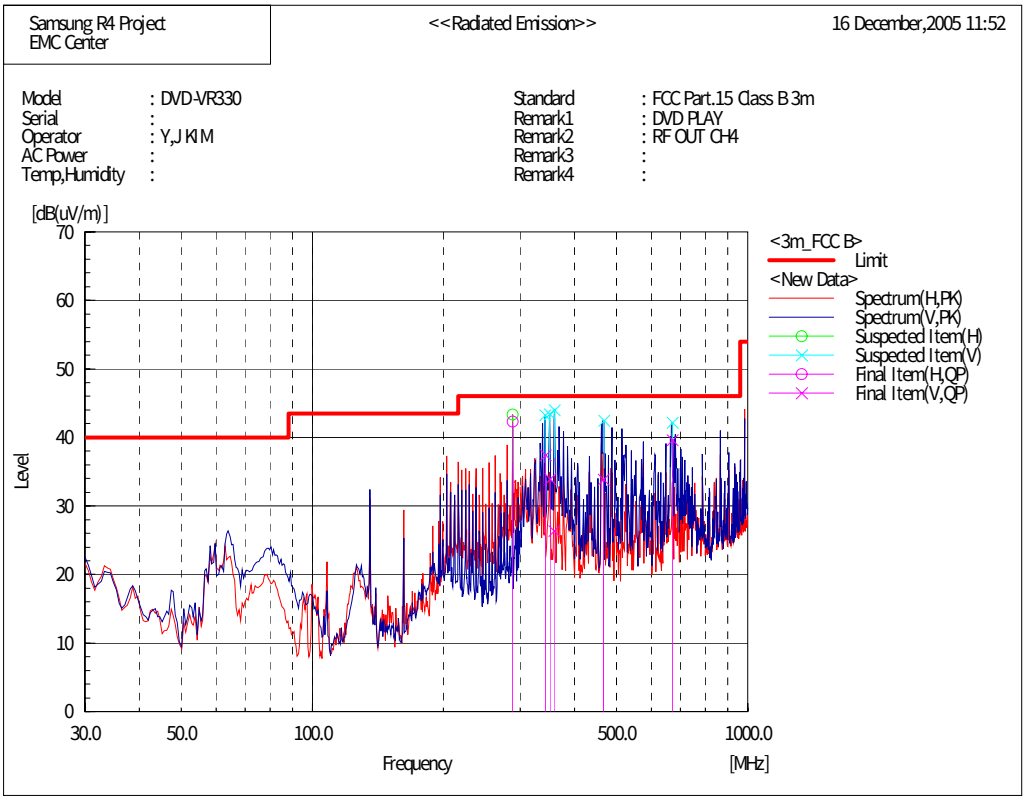


Final Result

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	288.131	56.3	-16.1	40.2	46.0	5.8	
2	338.991	52.3	-14.4	37.9	46.0	8.1	
3	351.700	46.1	-13.9	32.2	46.0	13.8	
4	360.173	52.1	-13.6	38.5	46.0	7.5	
5	368.632	53.5	-13.5	40.0	46.0	6.0	
6	515.254	53.1	-10.4	42.7	46.0	3.3	

■ Operating Mode: DVD Play – RF out CH04



Final Result

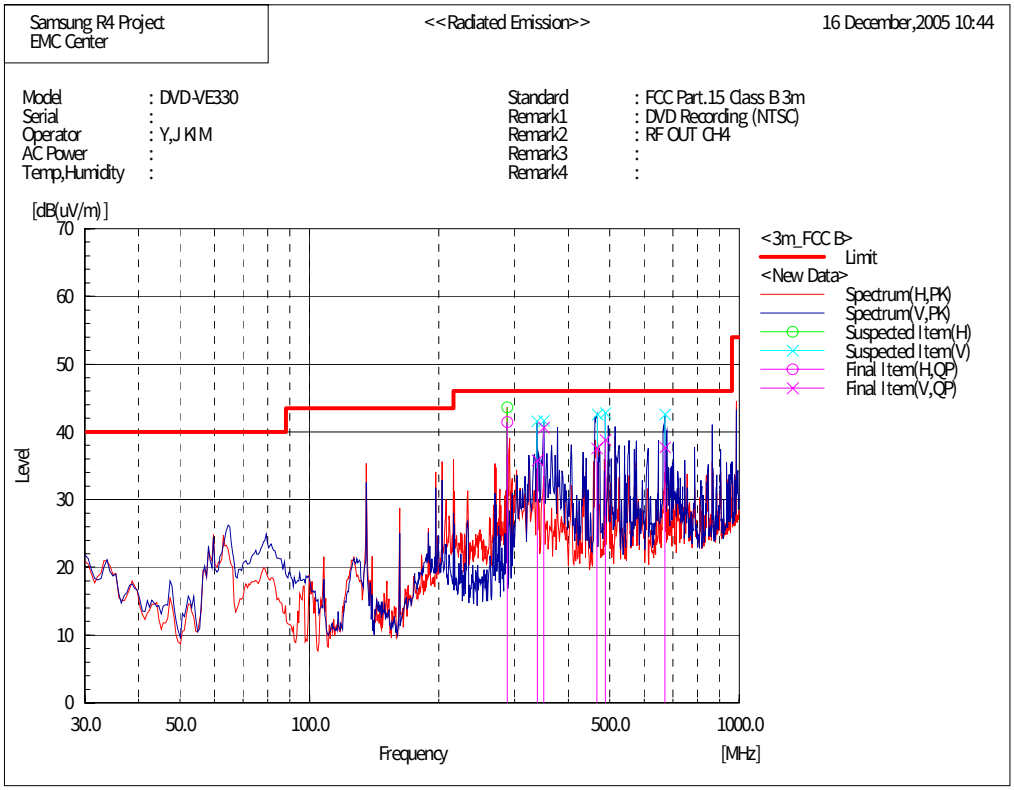
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	288.126	58.4	-16.1	42.3	46.0	3.7	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	343.242	51.8	-14.3	37.5	46.0	8.5	
2	351.686	47.9	-13.9	34.0	46.0	12.0	
3	358.700	40.1	-13.7	26.4	46.0	19.6	
4	466.380	45.2	-11.3	33.9	46.0	12.1	
5	670.460	46.2	-6.6	39.6	46.0	6.4	

■ Operating Mode: DVD Record (NTSC) – RF out CH04



Final Result

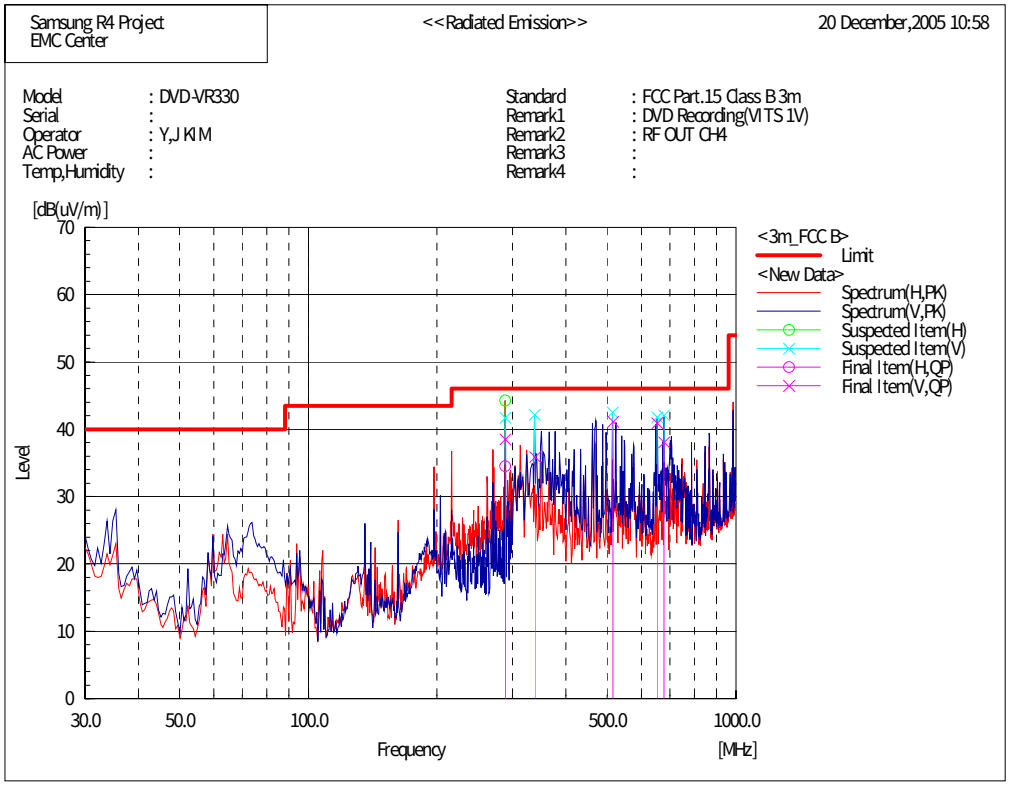
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	288.094	57.5	-16.1	41.4	46.0	4.6	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	339.019	50.3	-14.4	35.9	46.0	10.1	
2	350.578	54.7	-14.0	40.7	46.0	5.3	
3	466.436	48.8	-11.2	37.6	46.0	8.4	
4	488.151	49.6	-10.7	38.9	46.0	7.1	
5	670.839	44.3	-6.6	37.7	46.0	8.3	

■ Operating Mode: DVD Record (VITS 1V) – RF out CH04



Final Result

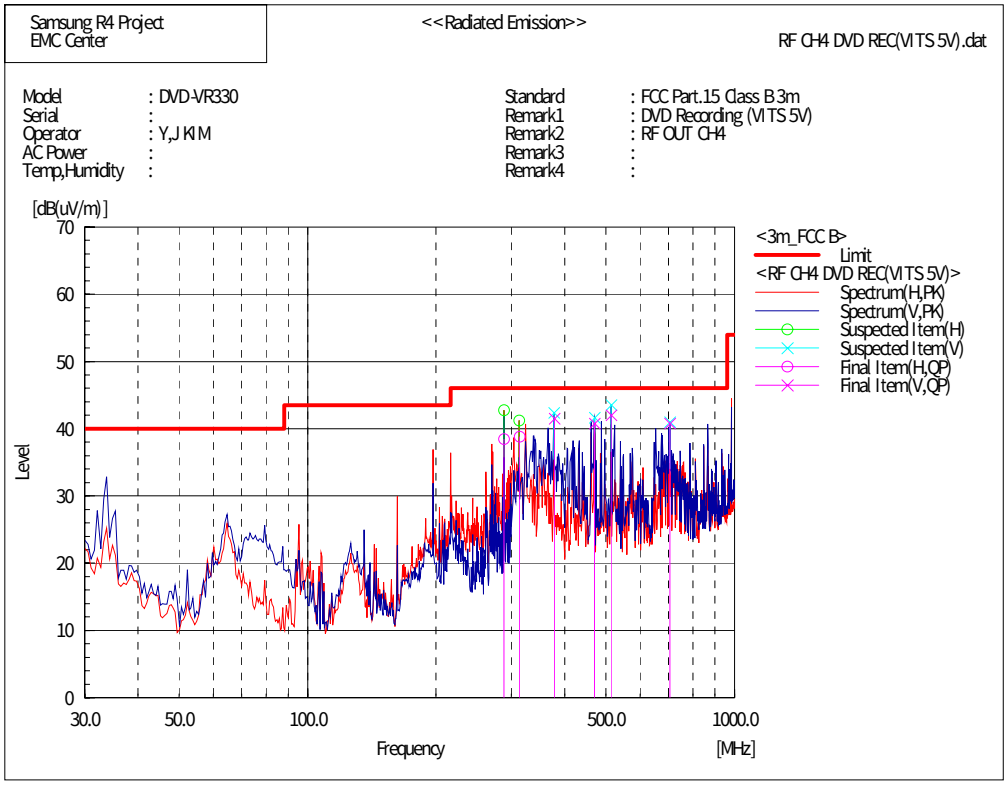
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	288.261	50.6	-16.1	34.5	46.0	11.5	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	288.489	54.6	-16.1	38.5	46.0	7.5	
2	339.005	50.3	-14.4	35.9	46.0	10.1	
3	515.268	51.5	-10.4	41.1	46.0	4.9	
4	653.528	47.9	-7.0	40.9	46.0	5.1	
5	677.993	44.7	-6.6	38.1	46.0	7.9	

■ Operating Mode: DVD Record (VITS 5V) – RF out CH04



Final Result

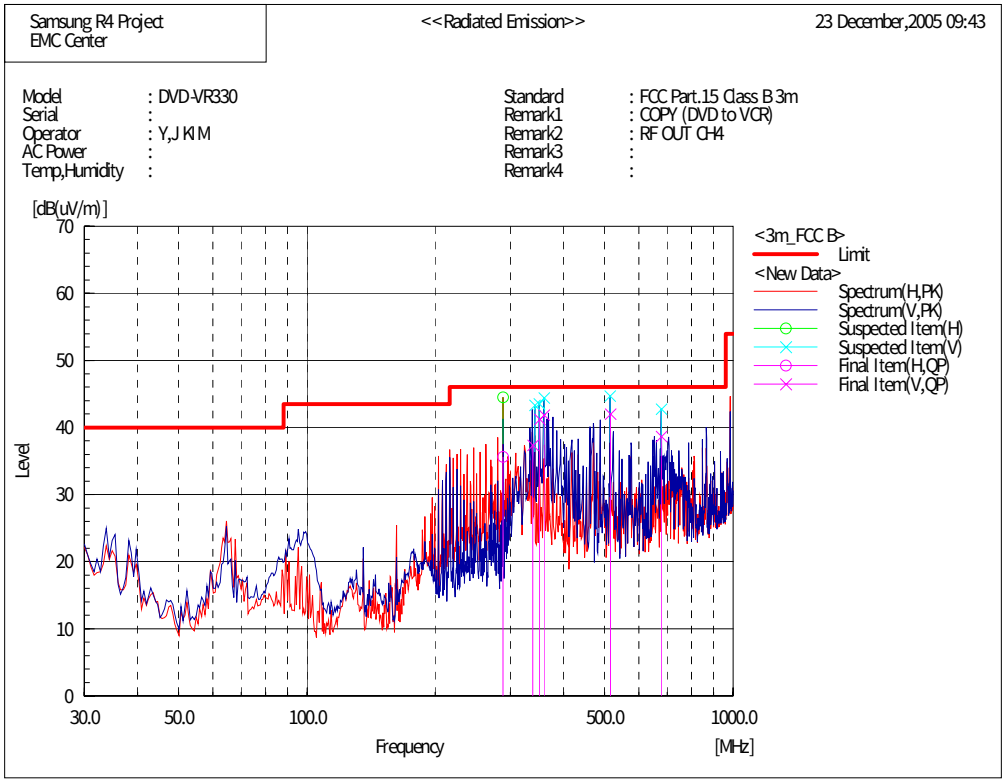
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	288.234	54.6	-16.1	38.5	46.0	7.5	
2	313.713	53.7	-14.9	38.8	46.0	7.2	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	378.017	54.7	-13.2	41.5	46.0	4.5	
2	469.745	52.0	-11.2	40.8	46.0	5.2	
3	514.634	52.4	-10.4	42.0	46.0	4.0	
4	705.402	47.0	-6.2	40.8	46.0	5.2	

■ Operating Mode: COPY (DVD To VCR) – RF out CH04



Final Result

--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	288.315	51.7	-16.1	35.6	46.0	10.4	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(uV)]	c.f [dB(1/m)]	Result [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Remark
1	338.991	51.8	-14.4	37.4	46.0	8.6	
2	351.714	55.2	-13.9	41.3	46.0	4.7	
3	360.187	55.5	-13.6	41.9	46.0	4.1	
4	515.282	52.4	-10.4	42.0	46.0	4.0	
5	678.007	45.3	-6.6	38.7	46.0	7.3	

3.3 Output Signal Level

3.3.1 Test information

Test engineer	Young Jin, Kim
Test date	December 26, 2005
Climate condition	Ambient temperature : 21.5 ℃, Relative humidity : 38 % Atmospheric pressure 1 018 hPa
Test place	Shield room # 1

3.3.2 Test equipment

Equipment	Model name	Manufacturer	Serial no.	Calibration	
				Next date	Interval (Month)
Field strength meter	ESCI	R&S	100136	2006-04-17	12
Amplifier	8447D	Agilent	2994A10430	2006-09-10	12
Matching pad	RAM	R&S	860175/025	2006-01-08	12
TV Signal Generator	PM5418-TDSI	PHILIPS	LO612437	2006-10-10	12

EUT Test Setup

The RF output terminal was connected to the test receiver through the matching pad(75-50 ohm) with a cable. Then, the RF output signal level was measured under the EUT Operating mode(s).

Test Result

Measurement Results	Pass The measured emissions of the EUT have found to be below the specified limits.

■ Operating Mode: DVD REC(NTSC) - RF out CH03

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
56.757	70.4	-20.2	50.2	56.5	6.3
61.260	85.1	-20.2	64.9	69.5	4.6
65.759	69.1	-20.2	48.9	56.5	7.6

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD REC(NTSC) - RF out CH04

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
62.707	70.2	-20.2	50.0	56.5	6.5
67.216	85.0	-20.2	64.8	69.5	4.7
71.705	69.0	-20.2	48.8	56.5	7.7

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD REC(1V VITS) - RF out CH03

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
56.750	70.5	-20.2	50.3	56.5	6.2
61.250	84.7	-20.2	64.5	69.5	5.0
65.749	69.3	-20.2	49.1	56.5	7.4

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD REC(1V VITS) - RF out CH04

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
62.713	70.3	-20.2	50.1	56.5	6.4
67.218	84.5	-20.2	64.3	69.5	5.2
71.719	69.1	-20.2	48.9	56.5	7.6

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD REC(5V VITS) - RF out CH03

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
56.751	70.5	-20.2	50.3	56.5	6.2
61.250	84.7	-20.2	64.5	69.5	5.0
65.750	69.3	-20.2	49.1	56.5	7.4

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD REC(5V VITS) - RF out CH04

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
62.712	70.2	-20.2	50.0	56.5	6.5
67.218	84.2	-20.2	64.0	69.5	5.5
71.721	69.0	-20.2	48.8	56.5	7.7

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD PLAY - RF out CH03

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
56.750	70.4	-20.2	50.2	56.5	6.3
61.254	84.4	-20.2	64.2	69.5	5.3
65.751	69.2	-20.2	49.0	56.5	7.5

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD PLAY - RF out CH04

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
62.723	70.2	-20.2	50.0	56.5	6.5
67.215	84.2	-20.2	64.0	69.5	5.5
71.719	69.0	-20.2	48.8	56.5	7.7

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD COPY - RF out CH03

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
56.745	70.3	-20.2	50.1	56.5	6.4
61.246	85.1	-20.2	64.9	69.5	4.6
65.735	69.1	-20.2	48.9	56.5	7.6

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD COPY - RF out CH04

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
62.712	70.1	-20.2	49.9	56.5	6.6
67.216	84.9	-20.2	64.7	69.5	4.8
71.711	68.9	-20.2	48.7	56.5	7.8

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR REC(NTSC) - RF out CH03

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
56.757	70.4	-20.2	50.2	56.5	6.3
61.252	85.1	-20.2	64.9	69.5	4.6
65.747	69.1	-20.2	48.9	56.5	7.6

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR REC(NTSC) - RF out CH04

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
62.731	70.1	-20.2	49.9	56.5	6.6
67.223	84.8	-20.2	64.6	69.5	4.9
71.721	68.9	-20.2	48.7	56.5	7.8

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR REC(VITS 1V) - RF out CH03

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
56.752	70.4	-20.2	50.2	56.5	6.3
61.252	84.6	-20.2	64.4	69.5	5.1
65.753	69.2	-20.2	49.0	56.5	7.5

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR REC(VITS 1V) - RF out CH04

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
62.722	70.2	-20.2	50.0	56.5	6.5
67.219	84.4	-20.2	64.2	69.5	5.3
71.719	69.0	-20.2	48.8	56.5	7.7

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR REC(VITS 5V) - RF out CH03

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
56.751	70.4	-20.2	50.2	56.5	6.3
61.250	84.4	-20.2	64.2	69.5	5.3
65.749	69.2	-20.2	49.0	56.5	7.5

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR REC(VITS 5V) - RF out CH04

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
62.723	70.2	-20.2	50.0	56.5	6.5
67.215	84.2	-20.2	64.0	69.5	5.5
71.719	69.0	-20.2	48.8	56.5	7.7

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR PLAY - RF out CH03

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
56.754	70.3	-20.2	50.1	56.5	6.4
61.250	84.9	-20.2	64.7	69.5	4.8
65.753	69.1	-20.2	48.9	56.5	7.6

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR PLAY - RF out CH04

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
62.719	70.2	-20.2	50.0	56.5	6.5
67.216	84.6	-20.2	64.4	69.5	5.1
71.703	68.9	-20.2	48.7	56.5	7.8

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR COPY - RF out CH03

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
56.757	70.3	-20.2	50.1	56.5	6.4
61.250	84.9	-20.2	64.7	69.5	4.8
65.757	69.1	-20.2	48.9	56.5	7.6

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR COPY - RF out CH04

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
62.719	70.2	-20.2	50.0	56.5	6.5
67.212	84.6	-20.2	64.4	69.5	5.1
71.713	68.9	-20.2	48.7	56.5	7.8

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

3.4 Output Terminal Conducted Spurious Emission

3.4.1 Test information

Test engineer	Young Jin, Kim
Test date	December 26, 2005
Climate condition	Ambient temperature : 21.5 ℃, Relative humidity : 38 % Atmospheric pressure 1 018 hPa
Test place	Shield room # 1

3.4.2 Test equipment

Equipment	Model name	Manufacturer	Serial no.	Calibration	
				Next date	Interva (Month)
Field strength meter	ESCI	R&S	100136	2006-04-17	12
Amplifier	8447D	Agilent	2994A10430	2006-09-10	12
Matching pad	RAM	R&S	860175/025	2006-01-08	12
TV Signal Generator	PM5418-TDSI	PHILIPS	LO612437	2006-10-10	12

EUT Test Setup

The RF output terminal was connected to the test receiver through the matching pad(75-50 ohm) with a cable. Then, the RF output signal level was measured under the EUT Operating mode(s).Tested frequency range were from 30MHz to more than 4.6MHz below the visual carrier frequency, and from more than 7.4MHz above the visual carrier frequency to 1000MHz

Test Result

Measurement Results	Pass The measured emissions of the EUT have found to be below the specified limits.

■ Operating Mode: DVD REC(NTSC) - RF out CH03 [Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
35.874	32.8	-20.3	12.5	39.5	27.0
54.141	29.0	-20.2	8.8	39.5	30.7
56.260	28.2	-20.2	8.0	39.5	31.5

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD REC(NTSC) - RF out CH03 [Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
367.502	38.3	-19.4	18.9	39.5	20.6
801.265	49.5	-19.3	30.2	39.5	9.3
846.987	54.8	-19.1	35.7	39.5	3.8

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD REC(NTSC) - RF out CH04 [Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
36.125	32.7	-20.3	12.4	39.5	27.1
60.057	29.3	-20.2	9.1	39.5	30.4
62.549	32.7	-20.2	12.5	39.5	27.0

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD REC(NTSC) - RF out CH04 [Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
403.297	41.9	-19.6	22.3	39.5	17.2
801.265	49.6	-19.3	30.3	39.5	9.2
846.987	53.9	-19.1	34.8	39.5	4.7

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD REC(1V VITS) - RF out CH03 [Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
35.999	33.4	-20.3	13.1	39.5	26.4
44.682	23.4	-20.3	3.1	39.5	36.4
56.438	36.7	-20.2	16.5	39.5	23.0

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD REC(1V VITS) - RF out CH03 [Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
801.265	49.4	-19.3	30.1	39.5	9.4
805.775	37.8	-19.3	18.5	39.5	21.0
846.987	54.8	-19.1	35.7	39.5	3.8

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD REC(1V VITS) - RF out CH04 [Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
36.001	33.5	-20.3	13.2	39.5	26.3
49.577	3.6	-20.3	12.3	39.5	27.2
62.498	41.0	-20.2	20.8	39.5	18.7

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD REC(1V VITS) - RF out CH04 [Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
403.297	41.7	-19.6	22.1	39.5	17.4
801.265	49.7	-19.3	30.4	39.5	9.1
846.990	55.3	-19.1	36.2	39.5	3.3

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD REC(5V VITS) - RF out CH03 [Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
36.001	33.5	-20.3	13.2	39.5	26.3
53.712	35.5	-20.2	15.3	39.5	24.2
55.288	50.4	-20.2	30.2	39.5	9.3

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD REC(5V VITS) - RF out CH03 [Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
367.503	38.2	-19.4	18.8	39.5	20.7
801.265	49.3	-19.3	30.0	39.5	9.5
846.987	54.8	-19.1	35.7	39.5	3.8

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD REC(5V VITS) - RF out CH04 [Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
36.001	33.5	-20.3	13.2	39.5	26.3
59.680	35.2	-20.2	15.0	39.5	24.5
61.253	50.2	-20.2	30.0	39.5	9.5

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD REC(5V VITS) - RF out CH04 [Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
403.288	41.6	-19.6	22.0	39.5	17.5
431.988	38.9	-19.8	19.1	39.5	20.4
846.967	55.5	-19.1	36.4	39.5	3.1

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD PLAY - RF out CH03 [Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
36.001	33.5	-20.3	13.2	39.5	26.3
53.714	35.3	-20.2	15.1	39.5	24.4
55.287	50.4	-20.2	30.2	39.5	9.3

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD PLAY - RF out CH03 [Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
367.494	38.2	-19.4	18.8	39.5	20.7
431.989	38.4	-19.8	18.6	39.5	20.9
846.967	55.5	-19.1	36.4	39.5	3.1

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD PLAY - RF out CH04 [Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
36.001	33.5	-20.3	13.2	39.5	26.3
42.624	28.6	-20.3	8.3	39.5	31.2
61.252	50.2	-20.2	30.0	39.5	9.5

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD PLAY - RF out CH04 [Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
403.288	41.6	-19.6	22.0	39.5	17.5
431.987	38.6	-19.8	18.8	39.5	20.7
846.967	54.7	-19.1	35.6	39.5	3.9

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD COPY - RF out CH03 [Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
36.122	32.8	-20.3	12.5	39.5	27.0
36.688	28.0	-20.3	7.7	39.5	31.8
54.153	28.4	-20.2	8.2	39.5	31.3

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD COPY - RF out CH03 [Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
377.996	37.8	-19.5	18.3	39.5	21.2
431.989	38.4	-19.8	18.6	39.5	20.9
846.957	55.5	-19.1	36.4	39.5	3.1

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD COPY - RF out CH04 [Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
36.001	33.4	-20.3	13.1	39.5	26.4
38.624	30.6	-20.3	10.3	39.5	29.2
62.478	40.5	-20.2	20.3	39.5	19.2

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD COPY - RF out CH04 [Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
403.281	41.6	-19.6	22.0	39.5	17.5
485.989	38.1	-20.0	18.1	39.5	21.4
846.957	55.6	-19.1	36.5	39.5	3.0

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR REC(NTSC) - RF out CH03 [Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
36.114	32.6	-20.3	12.3	39.5	27.2
54.075	30.0	-20.2	9.8	39.5	29.7
56.319	28.1	-20.2	7.9	39.5	31.6

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR REC(NTSC) - RF out CH03 [Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
367.503	38.1	-19.4	18.7	39.5	20.8
801.235	45.9	-19.3	26.6	39.5	12.9
847.007	55.6	-19.1	36.5	39.5	3.0

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR REC(NTSC) - RF out CH04 [Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
36.113	32.6	-20.3	12.3	39.5	27.2
60.057	29.8	-20.2	9.6	39.5	29.9
62.612	56.5	-20.2	36.3	39.5	3.2

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: : VCR REC(NTSC) - RF out CH04 [Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
403.297	41.8	-19.6	22.2	39.5	17.3
801.235	45.9	-19.3	26.6	39.5	12.9
847.007	55.5	-19.1	36.4	39.5	3.1

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR REC(VITS 1V) - RF out CH03 [Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
36.001	33.4	-20.3	13.1	39.5	26.4
55.445	30.7	-20.2	10.5	39.5	29.0
56.279	33.9	-20.2	13.7	39.5	25.8

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR REC(VITS 1V) - RF out CH03 [Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
367.511	38.2	-19.4	18.8	39.5	20.7
801.235	45.8	-19.3	26.5	39.5	13.0
847.017	56.1	-19.1	36.0	39.5	3.5

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR REC(VITS 1V) - RF out CH04 [Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
36.001	33.4	-20.3	13.7	39.5	26.4
61.414	30.5	-20.2	10.3	39.5	29.2
62.497	40.9	-20.2	20.7	39.5	18.8

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR REC(VITS 1V) - RF out CH04 [Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
403.506	41.7	-19.6	22.1	39.5	17.4
801.235	45.8	-19.3	26.5	39.5	13.0
847.027	55.3	-19.1	36.2	39.5	3.3

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR REC(VITS 5V) - RF out CH03 [Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
36.002	33.4	-20.3	13.1	39.5	26.4
53.715	35.2	-20.2	15.0	39.5	24.5
55.289	50.1	-20.2	29.9	39.5	9.6

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR REC(VITS 5V) - RF out CH03 [Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
431.989	38.2	-19.8	18.4	39.5	21.1
801.235	45.8	-19.3	26.5	39.5	13.0
847.047	56.1	-19.1	36.0	39.5	3.5

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR REC(VITS 5V) - RF out CH04 [Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
36.002	33.4	-20.3	13.1	39.5	26.4
59.668	35.2	-20.2	15.0	39.5	24.5
61.255	49.9	-20.2	29.7	39.5	9.8

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR REC(VITS 5V) - RF out CH04 [Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
403.314	41.6	-19.6	22.0	39.5	17.5
801.235	45.7	-19.3	26.4	39.5	13.1
847.017	56.2	-19.1	36.1	39.5	3.4

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR PLAY - RF out CH03 [Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
34.081	24.9	-20.3	4.6	39.5	34.9
35.999	33.4	-20.3	13.1	39.5	26.4
56.428	26.5	-20.2	6.3	39.5	33.2

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR PLAY - RF out CH03 [Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
367.502	38.1	-19.4	18.7	39.5	20.8
801.235	45.8	-19.3	26.5	39.5	13.0
846.997	56.1	-19.1	36.0	39.5	3.5

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode VCR PLAY - RF out CH04 [Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
34.376	28.9	-20.3	8.6	39.5	30.9
36.001	33.5	-20.3	13.2	39.5	26.3
42.559	29.9	-20.3	9.6	39.5	29.9

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR PLAY - RF out CH04 [Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
403.289	41.6	-19.6	22.0	39.5	17.5
801.235	45.8	-19.3	26.5	39.5	13.0
846.997	56.2	-19.1	36.1	39.5	3.4

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR COPY - RF out CH03 [Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
35.999	33.4	-20.3	13.1	39.5	26.4
55.959	44.4	-20.2	24.2	39.5	15.3
56.569	29.3	-20.2	9.1	39.5	30.4

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR COPY - RF out CH03 [Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
367.493	38.3	-19.4	18.9	39.5	20.6
801.235	45.7	-19.3	26.4	39.5	13.1
846.997	56.2	-19.1	36.1	39.5	3.4

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR COPY - RF out CH04 [Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
60.969	39.1	-20.2	18.9	39.5	20.6
61.873	44.4	-20.2	24.2	39.5	15.4
62.615	54.0	-20.2	33.8	39.5	5.79

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR COPY - RF out CH04 [Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
403.388	41.6	-19.6	22.0	39.5	17.5
810.235	45.5	-19.3	26.2	39.5	13.3
846.997	56.1	-19.1	36.0	39.5	3.5

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

3.5 Antenna Transfer Switch

3.5.1 Test information

Test engineer	Young Jin, Kim
Test date	December 26, 2005
Climate condition	Ambient temperature : 21.5 ℃, Relative humidity : 38 % Atmospheric pressure 1 018 hPa
Test place	Shield room # 1

3.5.2 Test equipment

Equipment	Model name	Manufacturer	Serial no.	Calibration	
				Next date	Interval (Month)
Field strength meter	ESCI	R&S	100136	2006-04-17	12
Amplifier	8447D	Agilent	2994A10430	2006-09-10	12
Matching pad	RAM	R&S	860175/025	2006-01-08	12
TV Signal Generator	PM5418-TDSI	PHILIPS	LO612437	2006-10-10	12

EUT Test Setup

The Antenna input terminal is connected to the test receiver through the matching pad (75 – 50 ohm) with a calibrated cable. Then, the RF output leakage level is measured under the EUT operating mode(s).

Test Result

Measurement Results	Pass The measured emissions of the EUT have found to be below the specified limits.

■ Operating Mode: DVD REC (1V VITS) - RF out CH03

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
61.251	24.0	-20.2	3.8	9.5	5.7

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD REC (1V VITS) - RF out CH04

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
67.218	25.1	-20.2	4.9	9.5	4.6

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD REC (5V VITS) - RF out CH03

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
61.251	23.5	-20.2	3.3	9.5	6.2

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD REC (5V VITS) - RF out CH04

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
67.217	24.6	-20.2	4.4	9.5	5.1

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD PLAY - RF out CH03

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
61.252	23.5	-20.2	3.3	9.5	6.2

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD PLAY - RF out CH04

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
67.217	25.1	-20.2	4.9	9.5	4.6

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD COPY - RF out CH03

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
61.252	24.0	-20.2	3.8	9.5	5.7

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: DVD COPY - RF out CH04

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
67.215	25.0	-20.2	4.8	9.5	4.7

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR REC (1V VITS) - RF out CH03

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
61.252	24.0	-20.2	3.8	9.5	5.7

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR REC (1V VITS) - RF out CH04

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
67.217	25.1	-20.2	4.9	9.5	4.6

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR REC(5V VITS) - RF out CH03

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
61.251	23.8	-20.2	3.6	9.5	5.9

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR REC(5V VITS) - RF out CH04

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
67.218	25.0	-20.2	4.8	9.5	4.7

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR PLAY - RF out CH03

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
61.253	23.5	-20.2	3.3	9.5	6.2

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR PLAY - RF out CH04

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
67.215	25.5	-20.2	5.3	9.5	4.2

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

■ Operating Mode: VCR COPY - RF out CH03

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
61.252	24.2	-20.2	4.0	9.5	5.5

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

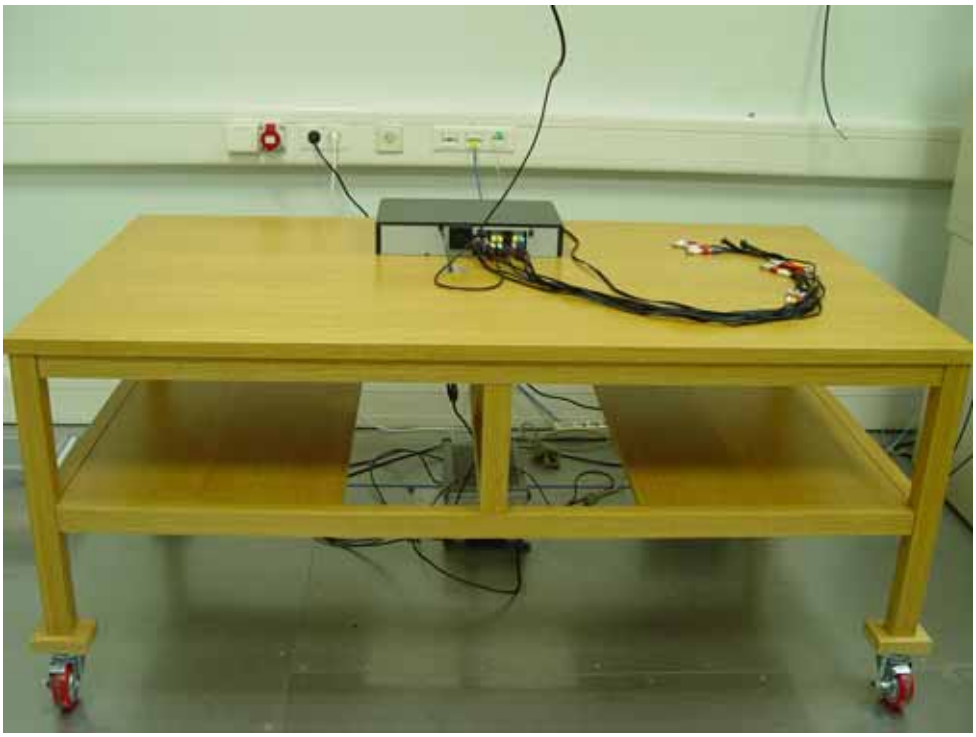
■ Operating Mode: VCR COPY - RF out CH04

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
67.217	25.1	-20.2	4.9	9.5	4.6

* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

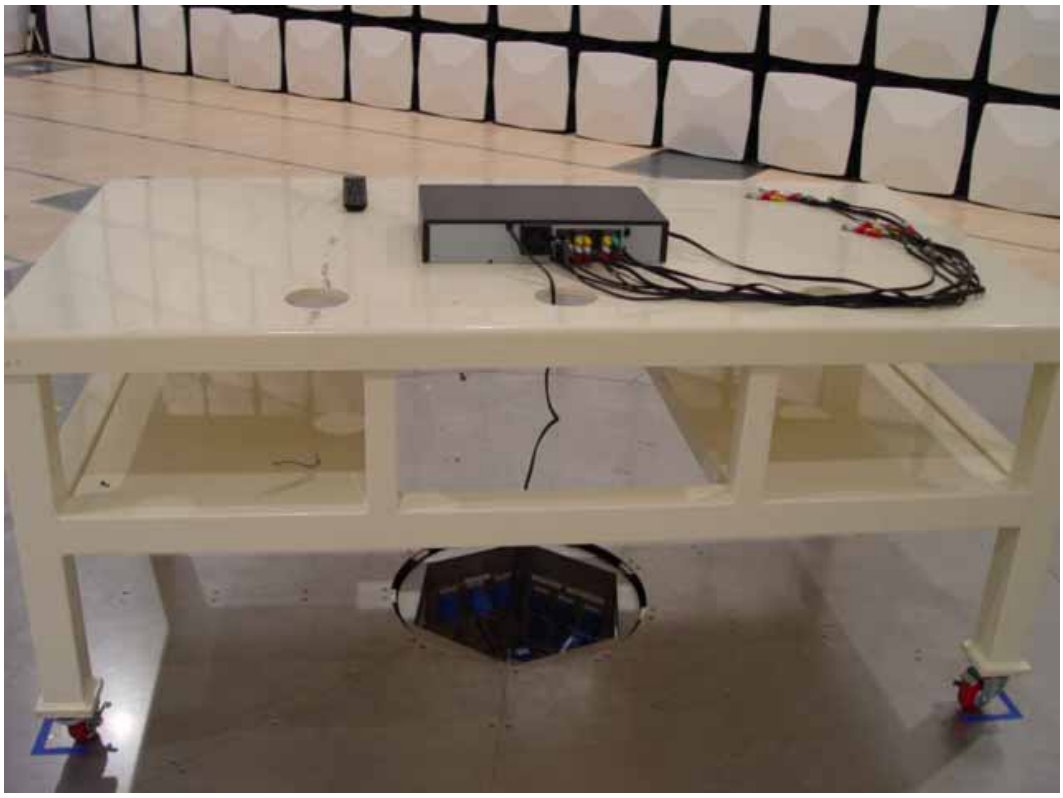
4. Appendix

4.1 Test photography

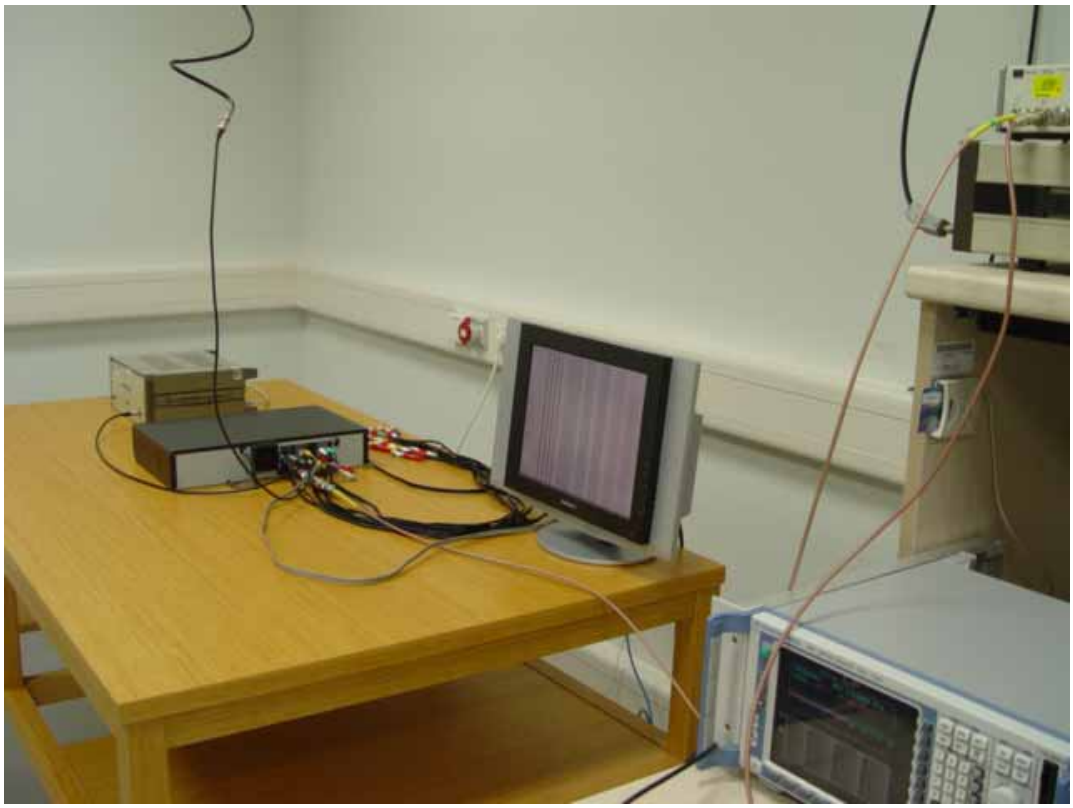


Picture 1. Conducted emission

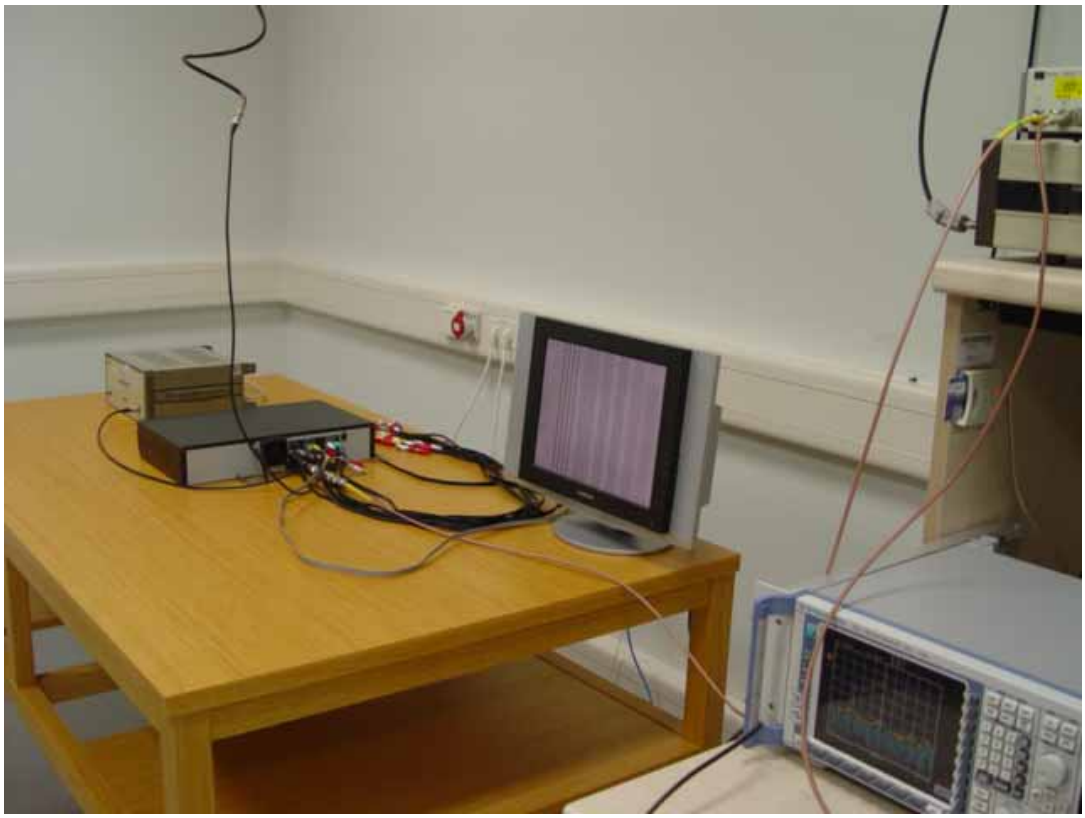
Picture 2. Radiated emission (Front)



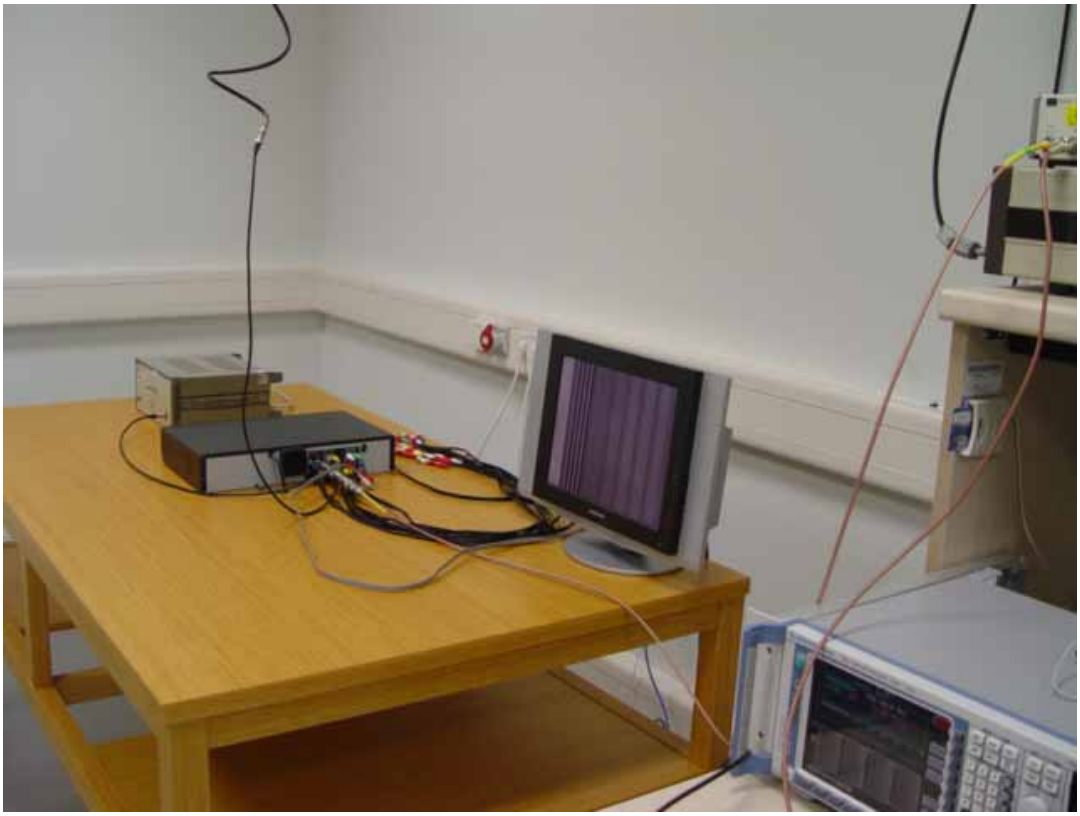
Picture 3. Radiated emission (Rear)



Picture 4. Output Signal Level



Picture 5. Output Terminal Conducted Spurious Emission



Picture 6. Antenna Transfer Swithch

4.2 EUT photography

Picture 7. EUT (Front)

Picture 8. EUT (Rear)