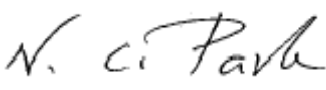


EMC Test Report

According to FCC Part 15 Subpart B

Project No.	LBE041536
Equipment under Test	
Address	416 Maetan3-Dong, Yeongtong-Gu, Suwon-City, Gyeonggi-Do, Korea, 443-742
Product Name	DVD/VHS DUAL DECK
Model Name	DVD-V4600C
Manufacturer	SAMSUNG
Brand Name	SAMSUNG
Broadcasting System	NTSC
Variant Model	See Page 3
Date of Test	July 26 ~ 28, 2004
Issued Date	July 29, 2004

	Name/Position	Signature
Tested by	Min Kyung Chul Test Engineer	
Reviewed by	No Cheon, Park Manager of EMC Lab.	
Authorized by	Kyu Baek, Chung Chief of EMC Lab.	

1. This test reports does not constitute an endorsement by NIST/NVLAP or U.S Government.
2. This test report is to certify that the tested device properly complies with the requirements of FCC Rules and Regulations Part 15 Subpart B Unintentional Radiators.
All tests necessary to show compliance to the requirements were and these results met the specifications requirement.

This laboratory is registered by the NIST/NVLAP, U.S.A.

The test reported herein have been performed in accordance
with its terms of registration.



NVLAP LAB CODE 200623-0

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1. General Information

1.1 Basic Information related Product

Applicant	Samsung Electronics Co. Ltd
Model name	DVD-V4600C
Applicant Address	Samsung Electronics Co. Ltd; 416 Maetan3- Dong, Yeongtong-Gu, Suwon-City, Gyeonggi-Do, Korea, 443-742
Contact Person	Min Kyung Chul
Kind of product	DVD/VHS DUAL DECK
Valiant list	None
Manufacturer	Samsung Electronics Co.Ltd
New / Alternative / Permissive change Information	This report is original report #

1.2 Detail Information related Product

Specification

Inputs	AUDIO	2 Stereo audio inputs, RCA Connector, -8dbm, 47K Ω , front and rear
	VIDEO	2 Composite video inputs, RCA Connector, 75 Ω , 1Vp-p
	RF	Antenna or CATV Input, F-Connector, 75 Ω
Outputs	AUDIO	1 Stereo audio outputs, RCA Connector, -8dbm, 1.5K Ω
	AUDIO (DVD only)	1 Digital audio output (1 coaxial) 1 pair Stereo audio outputs
	VIDEO	1 Composite video output, RCA Connector, 75 Ω , 1Vp-p
	VIDEO (DVD only)	1 S-Video output, S-Connector, 75 Ω , Y=1.0Vp-p, C=0.286Vp-p
		1 Component video output, 75 Ω , Y=1.0Vp-p, Pb=0.7Vp-p, Pr=0.7Vp-p
VCR	RF	Channel 3 or 4
	VIDEO SYSTEM	1/2-inch VHS system, 4 rotary head helical scanning; FM azimuth luminance;chrominance: converted sub system phase shift
	AUDIO TRACK	Normal: 1 track; Hi-Fi: 2 track
	PLAY/RECORD TIME	T-180 tape: SP 3 hours, SLP 9 hours
	FF/REW TIME	T-120 tape: <2 minutes
	HEADS	Video: DA 4 rotary Audio: 2 rotary heads (Hi-Fi); 1 stationary head (Linear) Control: 1 stationary head Erase: 1 full track, 1 audio track
	WOW & FLUTTER	Less than 0.005% (Hi-Fi)
	FREQ. RESPONSE	20-20,000 Hz (Hi-Fi)
DVD	DISC COMPATIBILITY	CD, CD-R, CD-R/W DVD-Video, CD-Digital Audio (5" and 3.5")
	FREQ. RESPONSE	96/48 kHz Sampling: 4 Hz-22kHz
	S/N RATIO	110 dB
	DYNAMIC RANGE	96 dB
	THD	0.003 %
SYSTEM	POWER REQUIREMENT	120V AC, 60 Hz, 25 watts
	ENVIRONMENT	41-104°F (5-40°C); 10%-75% humidity
	WEIGHT	13.8 lbs.

1.3 Operating Mode and Condition

The system was configured for testing in typical fashion use. Cable were attached to each of the available I/O Ports. The mode of operation utilized for testing was selected to best simulate typical EUT use.

This EUT has the following operating mode(s).

- VCR Record(TV Receiving)
- VCR Record(1V VITS)
- VCR Record(5V VITS)
- VCR Play
- DVD Play

1.4 Equipment Modifications

No equipment modifications were required.

1.5 Test Configuration

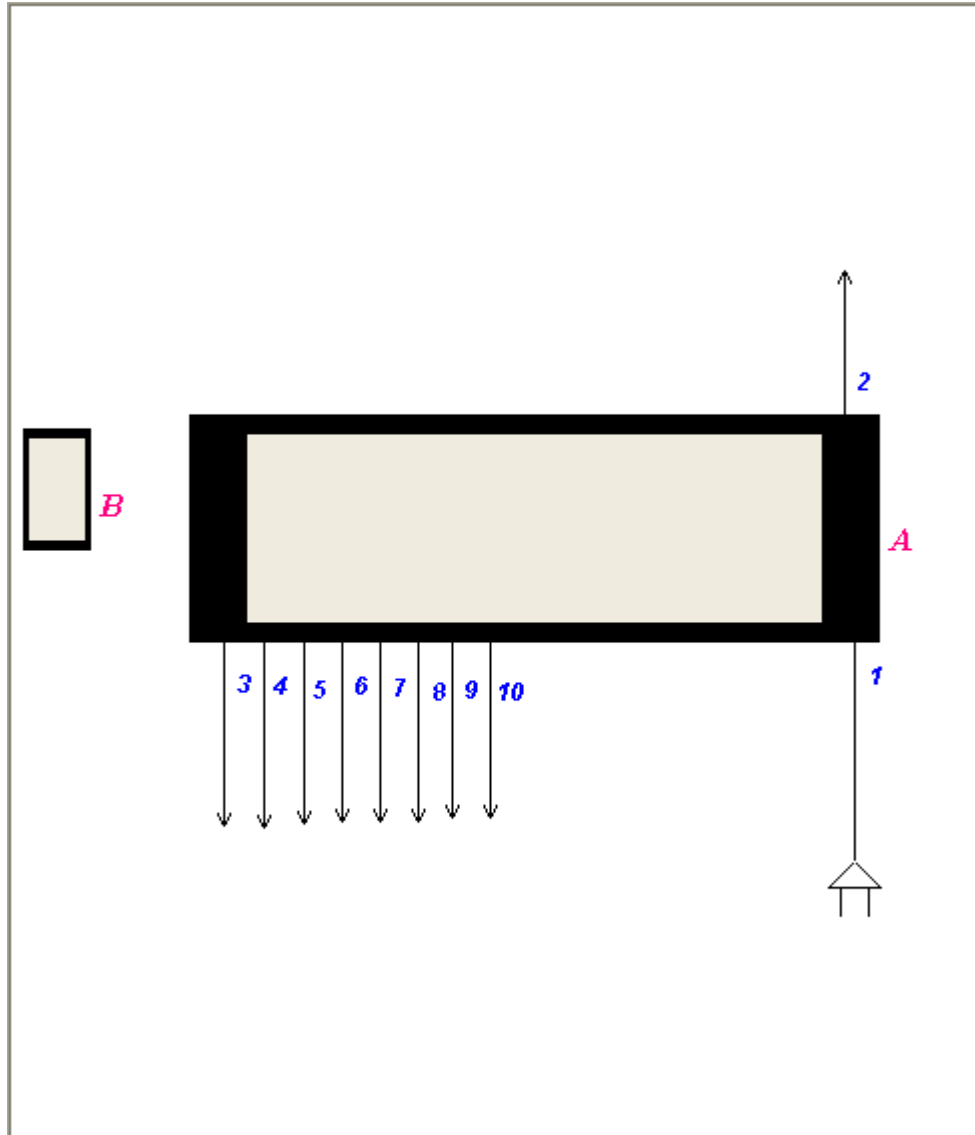
Used EUT and Peripherals

Seq	Device	Model Name	Serial #	Maker	Note
A	DVD/VHS DUAL DECK	DVD-V4600	-	SAMSUNG	
B	Remote Contoller	-	-	SAMSUNG	

Used Cable Description

	Connect Cable	Length	Shielded [Y/N]	Remark
1	Mains	1.5	N	
2	Front AV In	1.5	N	
3	S-Video Out	1.0	N	
4	Componet Video Out	1.5	N	
5	Audio Out	1.5	N	
6	Digital Audio Out	1.5	N	
7	AV In 1	1.5	N	
8	AV Out	1.5	N	
9	Ant In	1.5	Y	
10	Ant Out	1.5	Y	

Block Diagram



1.6 Applied Standards

List

Applied Standards	Test Procedure
FCC Part15 Subpart B	ANSI 63.4 : 2000

1.7 Test Facility

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.

Accreditation and Listing



Uncertainty

(According to NAMAS Pub.NIS81)

Test Item	Expanded Uncertainty
Radiated Disturbance	5.09
Disturbance voltage at the mains terminals	1.64

2. Summary of Test Results

Result : PASS

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

Test Name		Applied Standard	Result
Electromagnetic Emission Test			
3.1	Conducted Emission	FCC Part15 Subpart B	Complied
3.2	Radiated Emission	FCC Part15 Subpart B	Complied
3.3	Output Signal Level	FCC Part15 Subpart B	Complied
3.4	Output Terminal Conducted Spurious Emission	FCC Part15 Subpart B	Complied
3.5	Ant. Transfer Switch	FCC Part15 Subpart B	Complied

3. Description of Individual Tests

3.1 Conducted Emission

Test Information		
Test Engineer	Min Kyung Chul	
Test Date	July 28, 2004	
Climate Condition	Ambient Temperature : 23 Relative Humidity :43%	
Test Place	Shield Room #5	

Test Equipments

Equipment	Modal Name	Manufacturer	Serial No.	Calibration	
				Next Date	Interval
L.I.S.N	ESH3-Z5	R&S	100262	2005-02-11	12
Test Software	EP5CE	TOYO	None	N/A	N/A
TV Signal Generator	PM5418-TDSI	PHILIPS	LO612347	2004-09-20	12
Signal Generator	SMG	R&S	860288036	2004-11-06	12
Field strength meter	ESS	R&S	844661/005	2005-01-05	12
RF Relais Matrix	PSU	R&S	861206/024	N/A	N/A
L.I.S.N	ESH3-Z5	R&S	100260	2005-07-06	12
Spectrum Analyzer	ESI	R&S	100067	2005-01-09	12

EUT Test Setup

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

See photo..

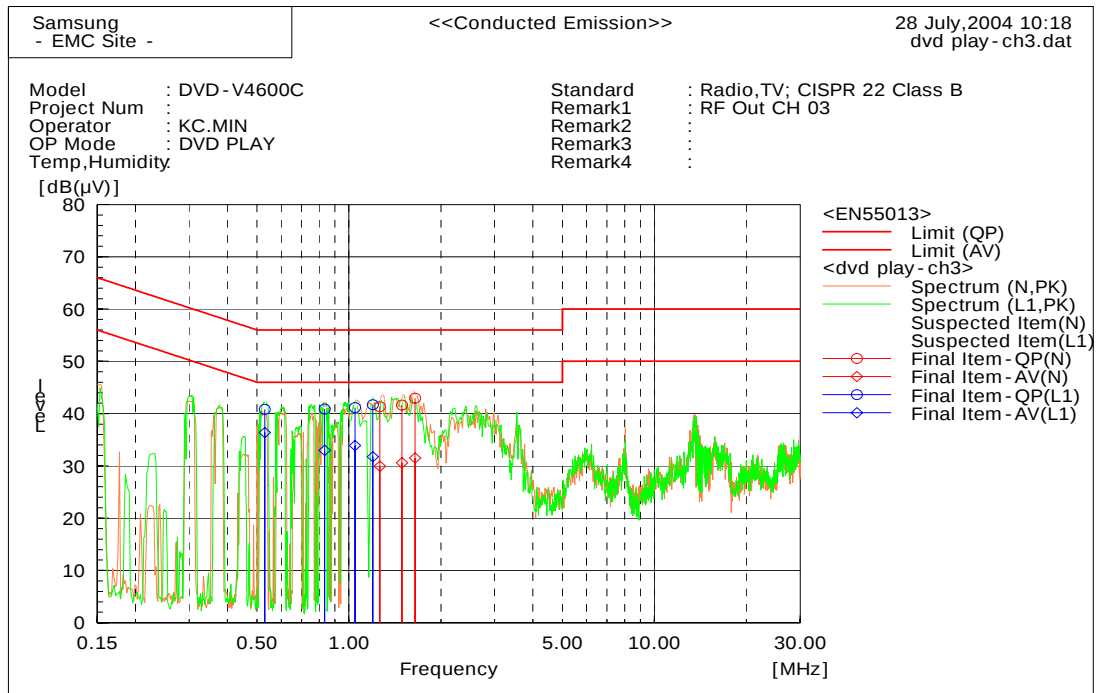
Test Result

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

Test Data

■ Operating Mode : DVD Play-CH 03

[Graph and Data]



Final Result

--- N Phase ---

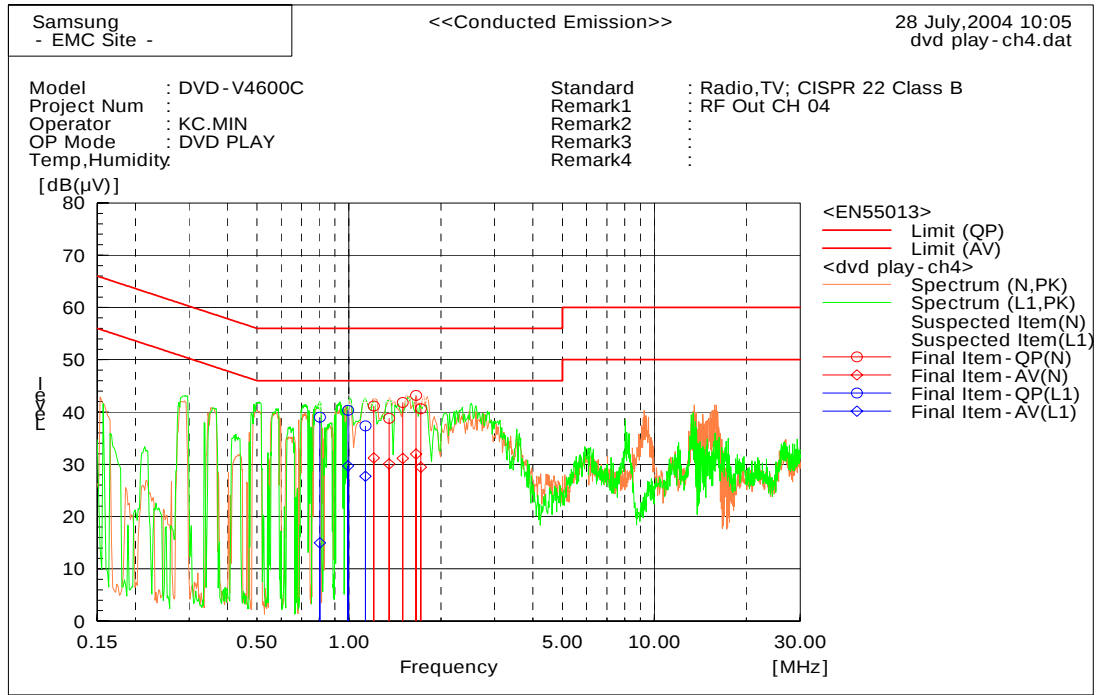
No.	Frequency	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c. f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	1.26252	41.2	29.9	0.1	41.3	30.0	56.0	46.0	14.7	16.1
2	1.49247	41.5	30.5	0.1	41.6	30.6	56.0	46.0	14.4	15.4
3	1.64794	42.9	31.4	0.1	43.0	31.5	56.0	46.0	13.0	14.5

--- L1 Phase ---

No.	Frequency	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c. f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.53069	40.7	36.3	0.1	40.8	36.4	56.0	46.0	15.2	9.6
2	0.83246	40.8	32.9	0.1	40.9	33.0	56.0	46.0	15.1	13.0
3	1.04789	41.1	33.8	0.1	41.2	33.9	56.0	46.0	14.8	12.1
4	1.19795	41.6	31.7	0.1	41.7	31.8	56.0	46.0	14.3	14.3

■ Operating Mode : DVD Play-CH 04

[Graph and Data]



Final Result

--- N Phase ---

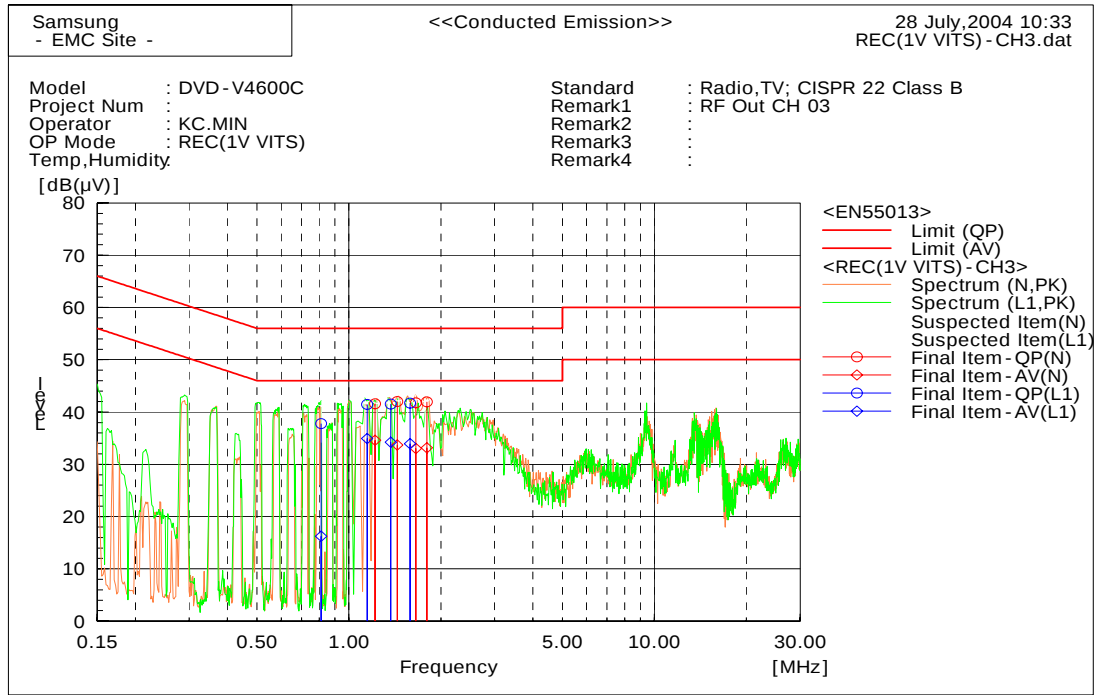
No.	Frequency	Reading QP	Reading AV	c. f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
1	1.2066	41.1	31.1	0.1	41.2	31.2	56.0	46.0	14.9	14.8
2	1.35306	38.7	30.0	0.1	38.8	30.1	56.0	46.0	17.2	15.9
3	1.49969	41.7	31.0	0.1	41.8	31.1	56.0	46.0	14.2	14.9
4	1.65805	43.1	31.8	0.1	43.2	31.9	56.0	46.0	12.8	14.1
5	1.72045	40.5	29.4	0.1	40.6	29.5	56.0	46.0	15.4	16.5

--- L1 Phase ---

No.	Frequency	Reading QP	Reading AV	c. f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
1	0.80347	38.9	14.9	0.1	39.0	15.0	56.0	46.0	17.0	31.0
2	0.99405	40.2	29.6	0.1	40.3	29.7	56.0	46.0	15.7	16.3
3	1.13356	37.3	27.6	0.1	37.4	27.7	56.0	46.0	18.6	18.3

■ Operating Mode : REC(1V VITS)-CH 03

[Graph and Data]



Final Result

--- N Phase ---

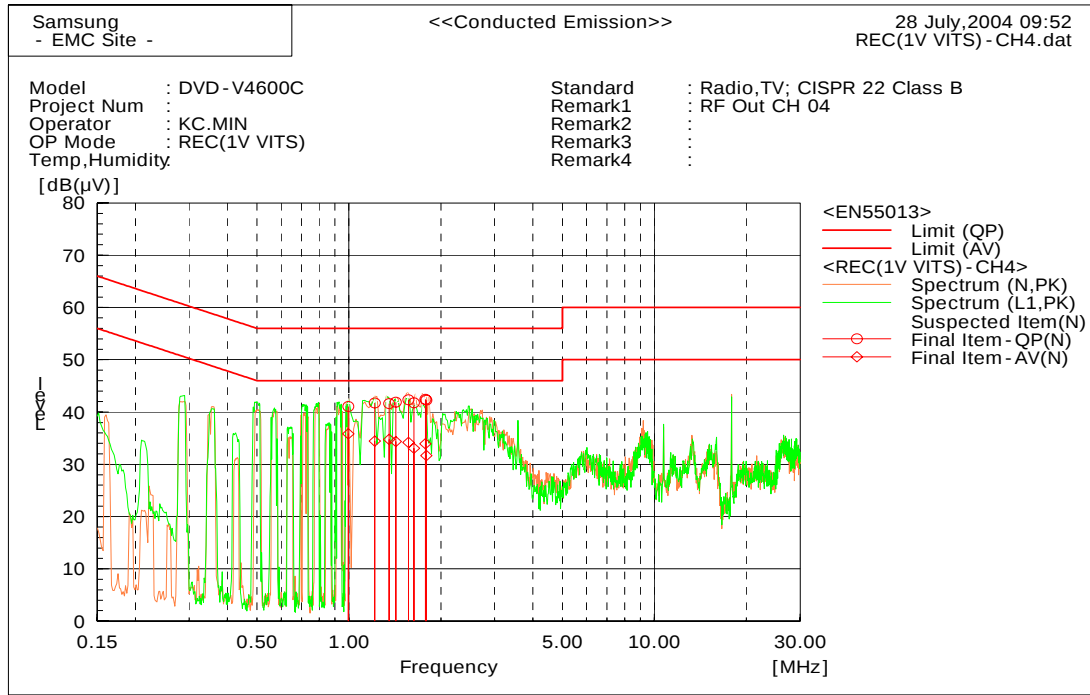
No.	Frequency	Reading QP	Reading AV	c. f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
1	1.21725	41.5	34.5	0.1	41.6	34.6	56.0	46.0	14.5	11.4
2	1.43999	41.9	33.6	0.1	42.0	33.7	56.0	46.0	14.0	12.3
3	1.65534	41.7	32.9	0.1	41.8	33.0	56.0	46.0	14.2	13.0
4	1.79782	41.8	33.1	0.1	41.9	33.2	56.0	46.0	14.1	12.8

--- L1 Phase ---

No.	Frequency	Reading QP	Reading AV	c. f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
1	0.81134	37.7	16.2	0.1	37.8	16.3	56.0	46.0	18.2	29.7
2	1.14835	41.3	34.8	0.1	41.4	34.9	56.0	46.0	14.6	11.1
3	1.37037	41.4	34.1	0.1	41.5	34.2	56.0	46.0	14.5	11.8
4	1.58716	41.6	33.9	0.1	41.7	34.0	56.0	46.0	14.3	12.1

■ Operating Mode : REC(1V VITS)-CH 04

[Graph and Data]



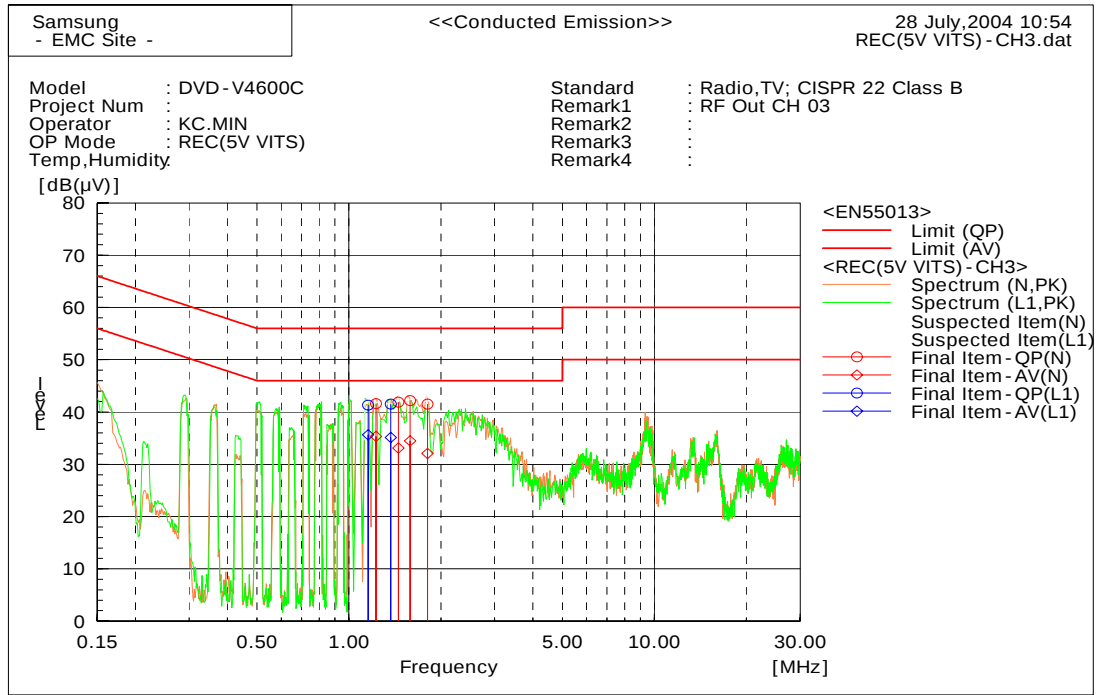
Final Result

--- N Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c. f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.99629	41.0	35.7	0.1	41.1	35.8	56.0	46.0	14.9	10.2
2	1.2149	41.7	34.3	0.1	41.8	34.4	56.0	46.0	14.3	11.6
3	1.35414	41.5	34.7	0.1	41.6	34.8	56.0	46.0	14.4	11.2
4	1.42376	41.8	34.3	0.1	41.9	34.4	56.0	46.0	14.1	11.7
5	1.5666	42.2	34.1	0.1	42.3	34.2	56.0	46.0	13.7	11.8
6	1.63388	41.7	33.0	0.1	41.8	33.1	56.0	46.0	14.2	12.9
7	1.78051	42.3	33.8	0.1	42.4	33.9	56.0	46.0	13.6	12.1
8	1.79332	42.2	31.6	0.1	42.3	31.7	56.0	46.0	13.7	14.3

■ Operating Mode : REC(5V VITS)-CH 03

[Graph and Data]



Final Result

--- N Phase ---

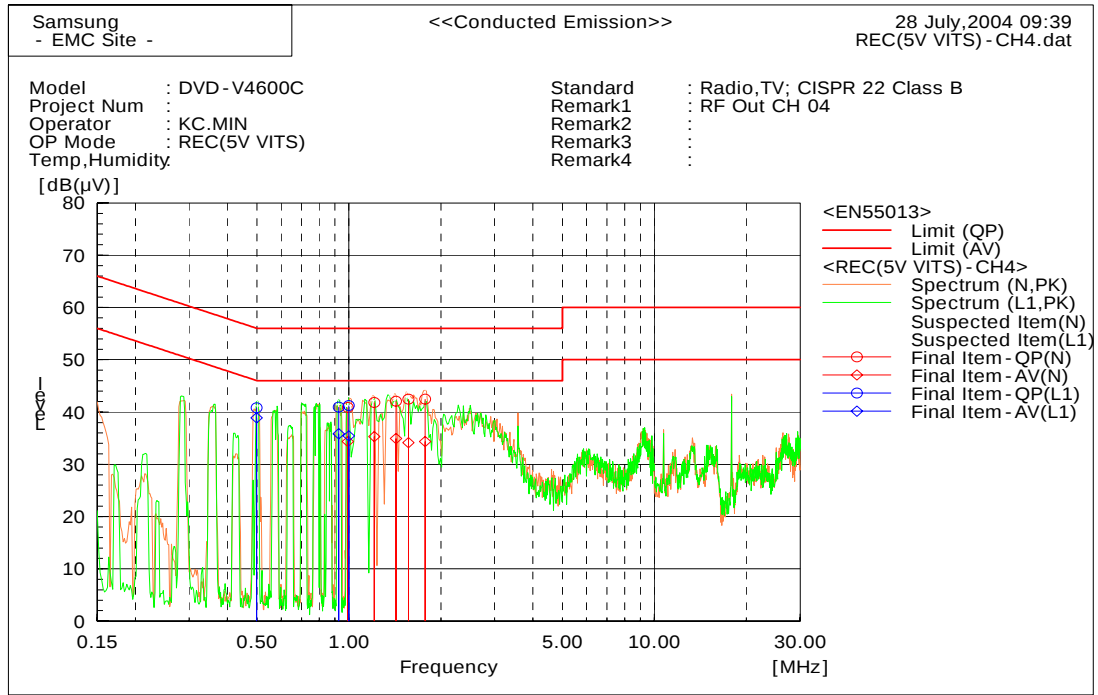
No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c. f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	1.22644	41.5	35.2	0.1	41.6	35.3	56.0	46.0	14.4	10.7
2	1.45244	41.8	33.0	0.1	41.9	33.1	56.0	46.0	14.1	12.9
3	1.58608	42.1	34.4	0.1	42.2	34.5	56.0	46.0	13.8	11.5
4	1.81063	41.4	32.0	0.1	41.5	32.1	56.0	46.0	14.5	13.9

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c. f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	1.15646	41.2	35.5	0.1	41.3	35.6	56.0	46.0	14.7	10.4
2	1.37235	41.4	35.0	0.1	41.5	35.1	56.0	46.0	14.5	10.9

■ Operating Mode : REC(5V VITS)-CH 04

[Graph and Data]



Final Result

--- N Phase ---

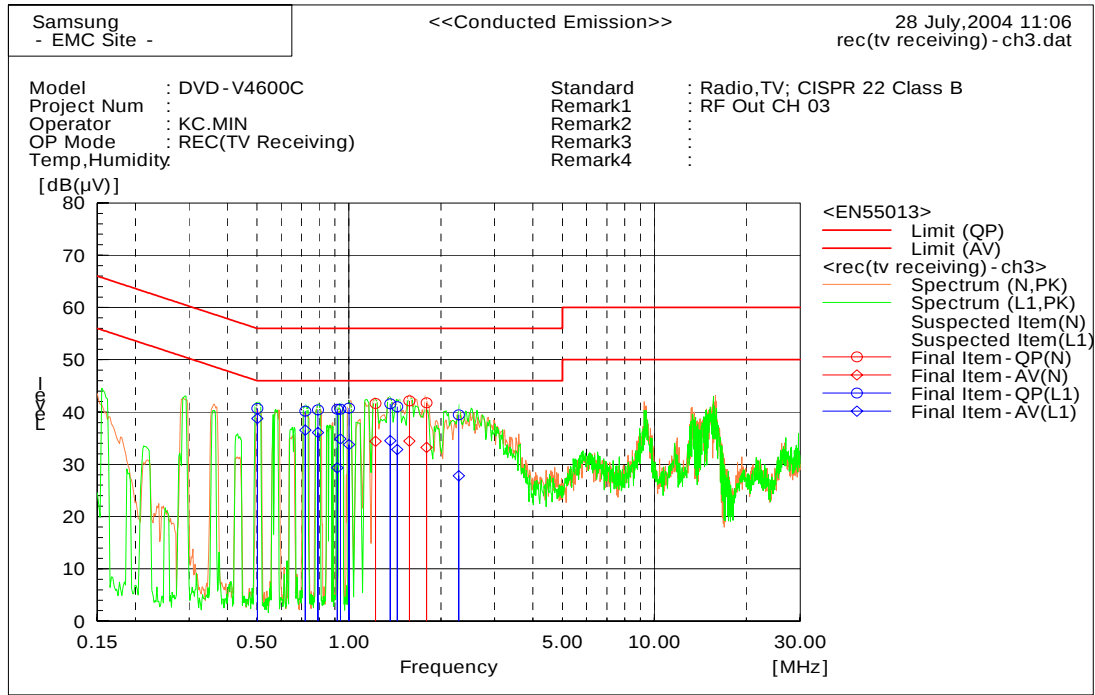
No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c. f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.99255	40.8	34.2	0.1	40.9	34.3	56.0	46.0	15.1	11.7
2	1.21111	41.7	35.2	0.1	41.8	35.3	56.0	46.0	14.2	10.7
3	1.42755	42.0	34.8	0.1	42.1	34.9	56.0	46.0	13.9	11.1
4	1.56588	42.4	34.0	0.1	42.5	34.1	56.0	46.0	13.5	11.9
5	1.77726	42.4	34.3	0.1	42.5	34.4	56.0	46.0	13.5	11.6

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c. f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.49853	40.7	38.8	0.1	40.8	38.9	56.0	46.0	15.2	7.1
2	0.9263	40.8	35.7	0.1	40.9	35.8	56.0	46.0	15.1	10.2
3	0.9987	41.2	35.3	0.1	41.3	35.4	56.0	46.0	14.8	10.6

■ Operating Mode : REC(TV RECEIVING)-CH 03

[Graph and Data]



Final Result

--- N Phase ---

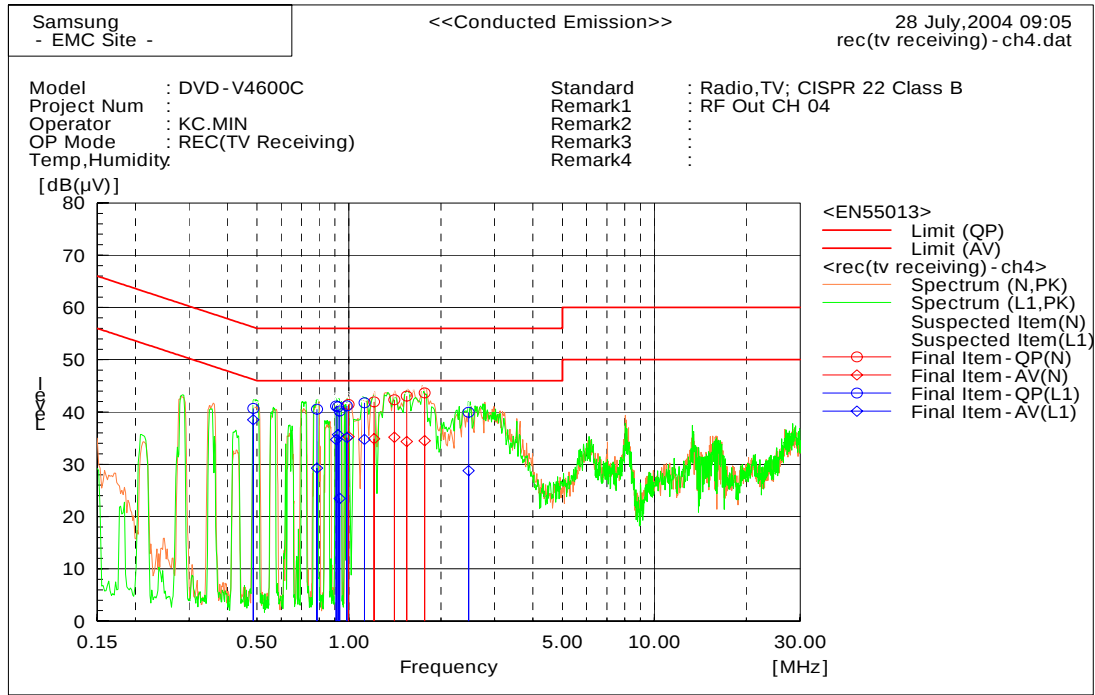
No.	Frequency	Reading QP	Reading AV	c. f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
1	1.22157	41.5	34.3	0.1	41.6	34.4	56.0	46.0	14.4	11.6
2	1.57869	42.0	34.3	0.1	42.1	34.4	56.0	46.0	13.9	11.6
3	1.79512	41.7	33.1	0.1	41.8	33.2	56.0	46.0	14.2	12.8

--- L1 Phase ---

No.	Frequency	Reading QP	Reading AV	c. f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
1	0.50188	40.6	38.7	0.1	40.7	38.8	56.0	46.0	15.3	7.2
2	0.71976	40.1	36.4	0.1	40.2	36.5	56.0	46.0	15.8	9.5
3	0.7916	40.3	36.0	0.1	40.4	36.1	56.0	46.0	15.6	9.9
4	0.91704	40.4	29.2	0.1	40.5	29.3	56.0	46.0	15.5	16.7
5	0.9387	40.5	34.8	0.1	40.6	34.9	56.0	46.0	15.5	11.2
6	1.00066	40.6	33.7	0.1	40.7	33.8	56.0	46.0	15.3	12.2
7	1.3673	41.5	34.4	0.1	41.6	34.5	56.0	46.0	14.4	11.5
8	1.44071	40.9	32.7	0.1	41.0	32.8	56.0	46.0	15.0	13.2
9	2.29111	39.4	27.7	0.1	39.5	27.8	56.0	46.0	16.5	18.2

■ Operating Mode : REC(TV RECEIVING)-CH 04

[Graph and Data]



Final Result

--- N Phase ---

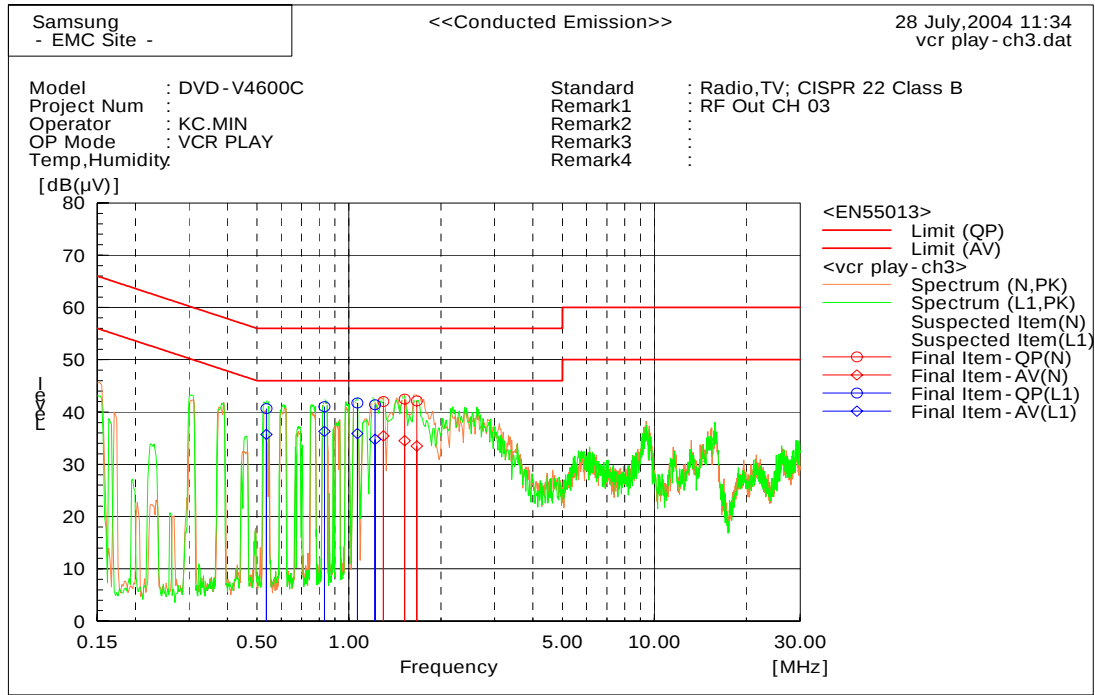
No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c. f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.99757	41.4	35.2	0.1	41.5	35.3	56.0	46.0	14.6	10.7
2	1.20985	41.8	34.8	0.1	41.9	34.9	56.0	46.0	14.1	11.1
3	1.40879	42.3	35.1	0.1	42.4	35.2	56.0	46.0	13.6	10.8
4	1.54694	43.0	34.3	0.1	43.1	34.4	56.0	46.0	13.0	11.6
5	1.77041	43.6	34.4	0.1	43.7	34.5	56.0	46.0	12.4	11.5

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c. f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.48652	40.6	38.4	0.1	40.7	38.5	56.2	46.2	15.5	7.7
2	0.78591	40.4	29.2	0.1	40.5	29.3	56.0	46.0	15.5	16.7
3	0.90835	41.1	34.6	0.1	41.2	34.7	56.0	46.0	14.9	11.3
4	0.92104	40.9	35.6	0.1	41.0	35.7	56.0	46.0	15.0	10.4
5	0.93293	40.1	23.4	0.1	40.2	23.5	56.0	46.0	15.8	22.5
6	0.9856	41.1	35.0	0.1	41.2	35.1	56.0	46.0	14.8	10.9
7	1.12454	41.7	34.7	0.1	41.8	34.8	56.0	46.0	14.2	11.3
8	2.46498	39.9	28.7	0.1	40.0	28.8	56.0	46.0	16.0	17.2

■ Operating Mode : VCR PLAY-CH 03

[Graph and Data]



Final Result

--- N Phase ---

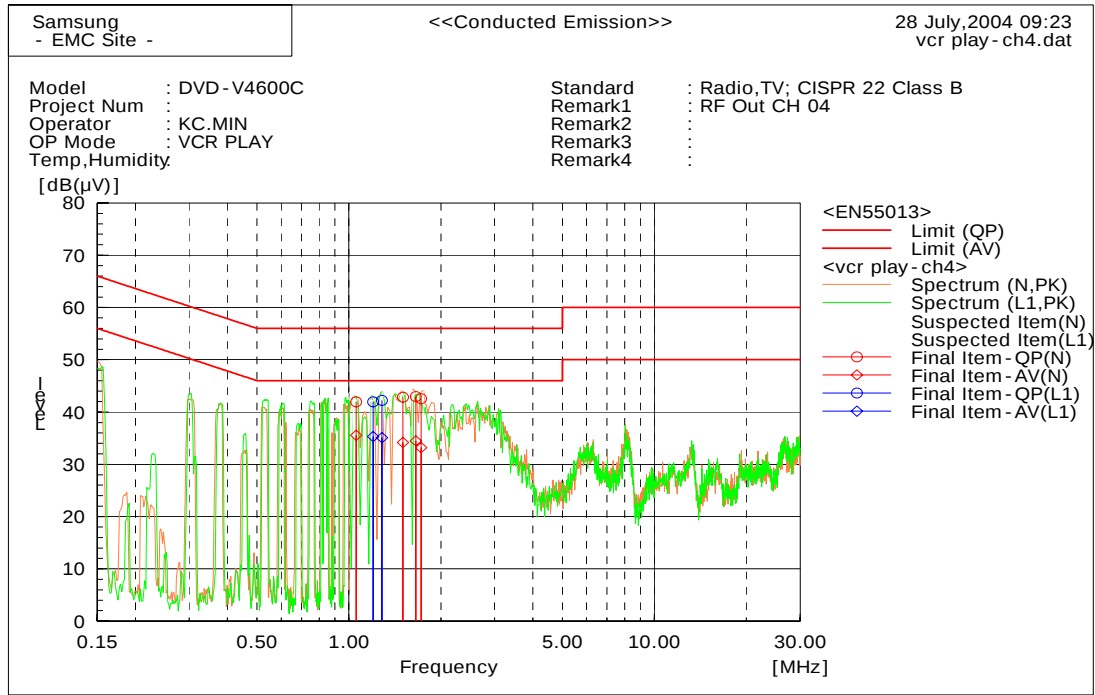
No.	Frequency	Reading QP	Reading AV	c. f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
1	1.29642	41.9	35.3	0.1	42.0	35.4	56.0	46.0	14.0	10.6
2	1.52115	42.4	34.4	0.1	42.5	34.5	56.0	46.0	13.5	11.5
3	1.66815	42.0	33.4	0.1	42.1	33.5	56.0	46.0	13.9	12.5

--- L1 Phase ---

No.	Frequency	Reading QP	Reading AV	c. f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
1	0.53747	40.6	35.6	0.1	40.7	35.7	56.0	46.0	15.4	10.3
2	0.83129	40.9	36.2	0.1	41.0	36.3	56.0	46.0	15.0	9.7
3	1.06682	41.6	35.8	0.1	41.7	35.9	56.0	46.0	14.3	10.1
4	1.21743	41.3	34.7	0.1	41.4	34.8	56.0	46.0	14.6	11.2

■ Operating Mode : VCR PLAY-CH 04

[Graph and Data]



Final Result

--- N Phase ---

No.	Frequency	Reading QP	Reading AV	c. f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
1	1.0569	41.8	35.5	0.1	41.9	35.6	56.0	46.0	14.1	10.4
2	1.50438	42.8	34.1	0.1	42.9	34.2	56.0	46.0	13.2	11.8
3	1.65624	42.9	34.4	0.1	43.0	34.5	56.0	46.0	13.0	11.5
4	1.7246	42.5	33.1	0.1	42.6	33.2	56.0	46.0	13.5	12.8

--- L1 Phase ---

No.	Frequency	Reading QP	Reading AV	c. f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]
1	1.20011	41.8	35.2	0.1	41.9	35.3	56.0	46.0	14.1	10.7
2	1.28344	42.1	35.0	0.1	42.2	35.1	56.0	46.0	13.8	10.9

3.2 Radiated Emission

Test Information		
	Test Engineer	Min Kyung Chul
	Test Date	July 27, 2004
	Climate Condition	Ambient Temperature : 23 Relative Humidity : 43%
	Test Place	10m Semi-anechoic Chamber

Test Equipments

Equipment	Modal Name	Manufacturer	Serial No.	Calibration	
				Next Date	Interval
RF Selector	NS4900	TOYO	0303-015	N/A	N/A
Biconilog Antenna	6112B	SCHAFFNER	2767	2005-05-22	12
Mast Controller	HD2000	HD	HD20000902027	N/A	N/A
Test Software	EP5RET	TOYO	None	N/A	N/A
EMI Receiver	ESI26	R&S	100067	2005-01-09	12
Test Software	EP5RE	TOYO	None	N/A	N/A
TV Signal Generator	PM5418-TDSI	PHILIPS	LO627116	2005-01-28	12
Signal Generator	SMG	R&S	860288036	2004-11-06	12
AMPLIFIER	310N	SONOMA	185861	2004-09-20	12
Spectrum Analyzer	E7405A	Agilent	MY42000109	2004-11-27	12
Field strength meter	ESCS30	R&S	839809/002	2005-04-28	12

EUT Test Setup

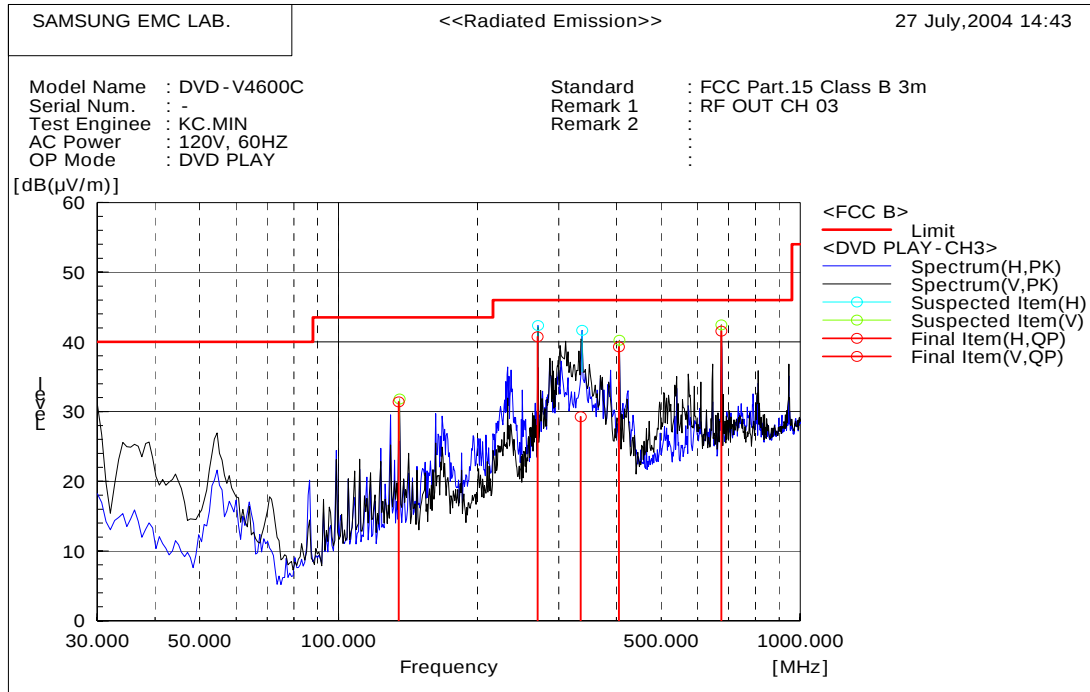
EUT set up in semi-anechoic chamber. EUT positioned at 3m from antenna in center of table.
All ports terminated into characteristic loads.

Test Result

Measurement Results	Pass The measured emissions of the EUT have found to be below the specified limits.
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Test Data (Other Frequency)

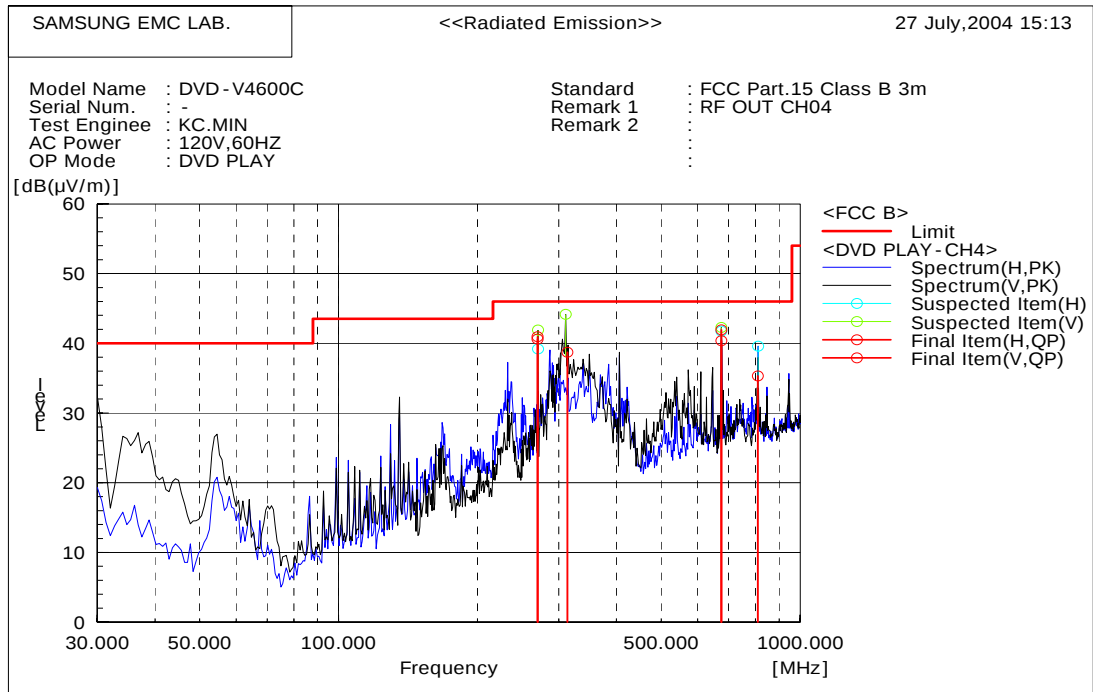
■ Operating Mode : DVD PLAY-CH 03



Final Result

No.	Frequency [MHz]	(P)	S.C	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]
1	270.003	H	S	55.7	-15.0	40.7	46.0	5.3	109.0	70.0
2	334.860	H	S	42.3	-13.0	29.3	46.0	16.7	112.0	282.0
3	405.000	V	S	49.8	-10.5	39.3	46.0	6.7	142.0	356.0
4	674.990	V	S	46.3	-4.8	41.5	46.0	4.5	102.0	14.0
5	135.003	V	S	49.9	-18.5	31.4	43.5	12.1	104.0	13.0

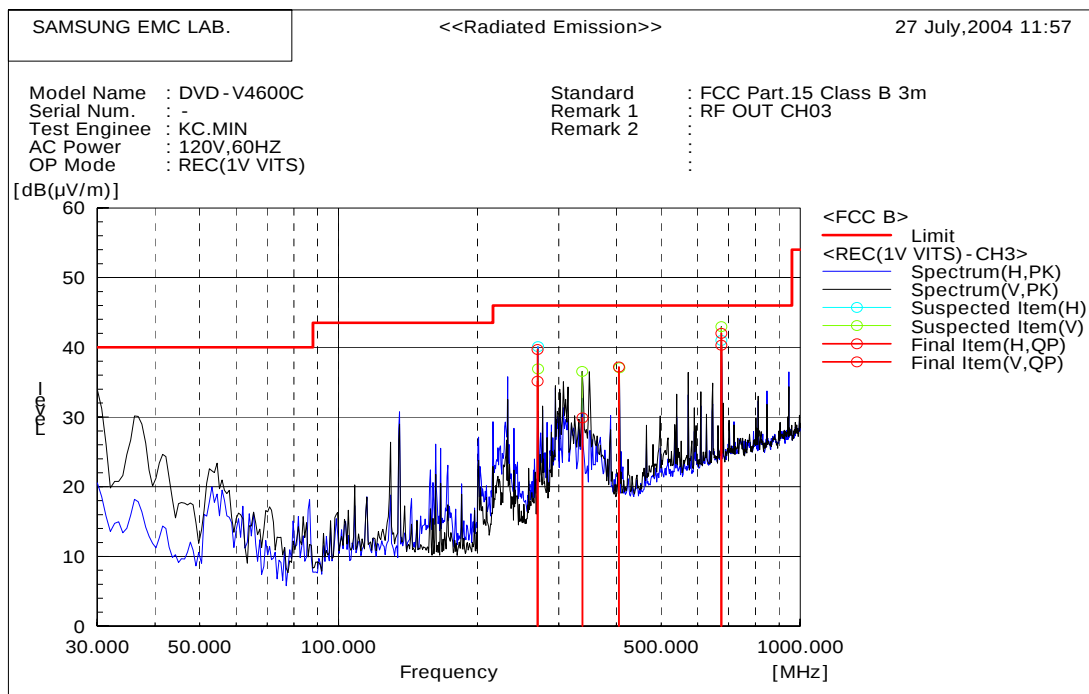
■ Operating Mode : DVD PLAY-CH 04



Final Result

No.	Frequency [MHz]	(P)	S.C	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]
1	270.003	V	S	56.0	-15.0	41.0	46.0	5.0	202.0	350.0
2	270.003	H	S	55.6	-15.0	40.6	46.0	5.4	101.0	72.0
3	313.350	V	S	52.2	-13.5	38.7	46.0	7.3	152.0	171.0
4	674.990	V	S	46.8	-4.8	42.0	46.0	4.1	102.0	12.0
5	674.990	H	S	45.2	-4.8	40.4	46.0	5.7	104.0	218.0
6	810.000	H	S	38.8	-3.5	35.3	46.0	10.7	104.0	107.0

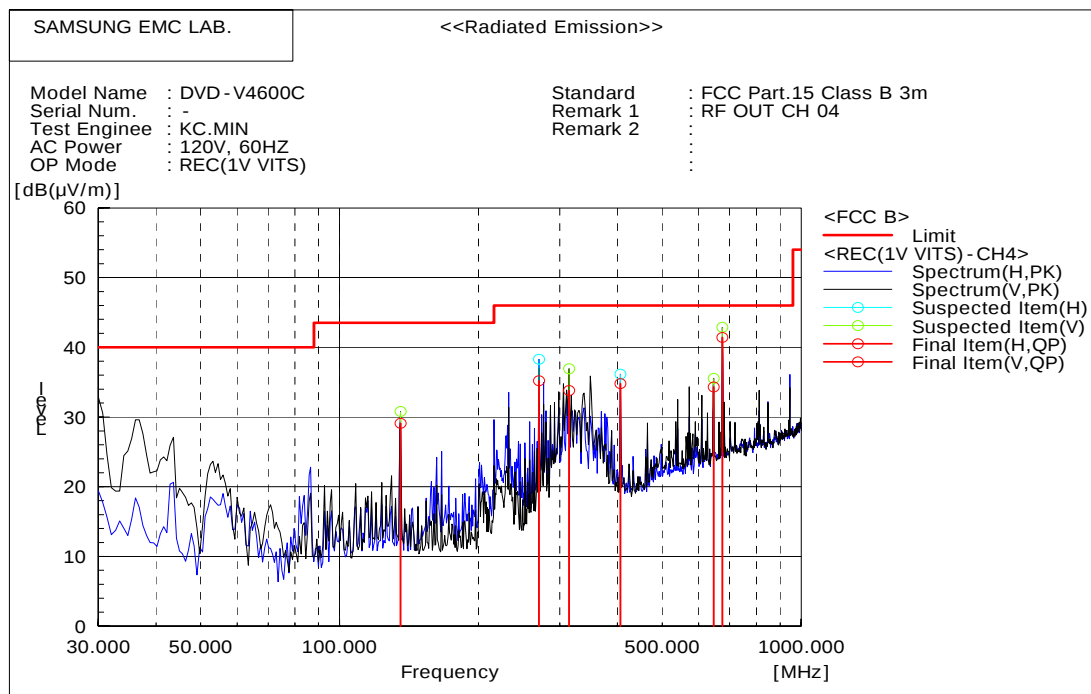
■ Operating Mode : REC(1V VITS)-CH 03



Final Result

No.	Frequency [MHz]	(P)	S.C	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]
1	270.003	H	S	54.7	-15.0	39.7	46.0	6.3	102.0	63.0
2	270.003	V	S	50.1	-15.0	35.1	46.0	10.9	213.0	354.0
3	337.500	V	S	42.8	-12.9	29.9	46.0	16.1	166.0	350.0
4	405.000	V	S	47.7	-10.5	37.2	46.0	8.8	132.0	15.0
5	674.990	V	S	46.8	-4.8	42.0	46.0	4.0	102.0	12.0
6	674.990	H	S	45.1	-4.8	40.3	46.0	5.7	105.0	214.0

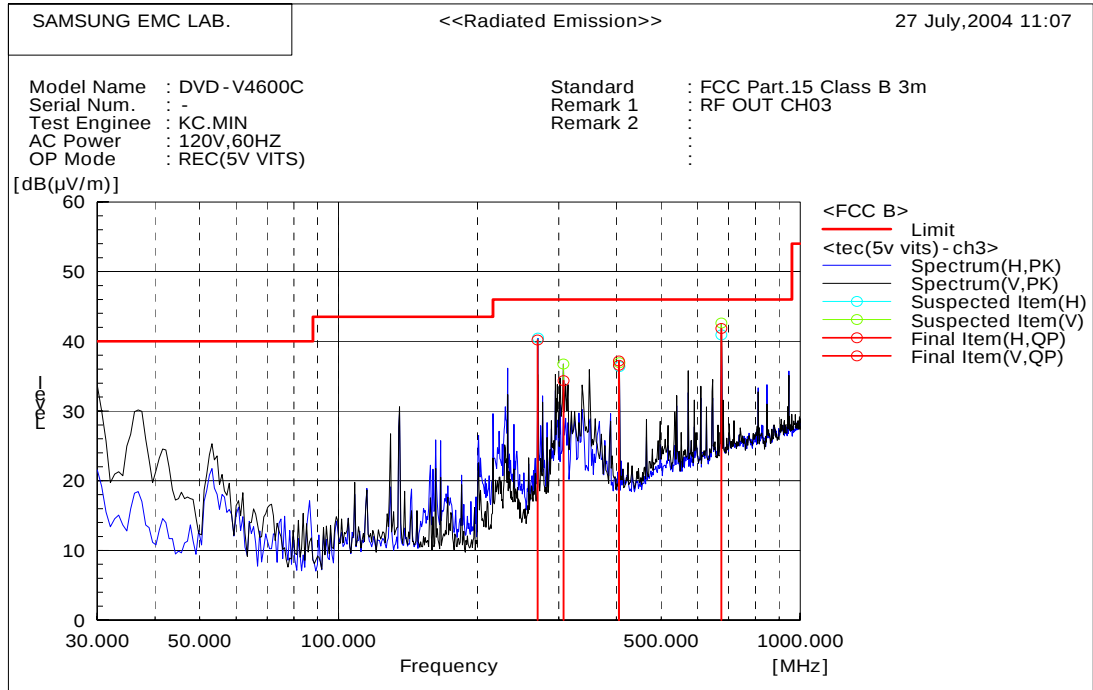
■ Operating Mode : REC(1V VITS)-CH 04



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]
1	270.658	H	50.1	-14.9	35.2	46.0	10.8	101.0	132.0
2	314.140	V	47.3	-13.5	33.8	46.0	12.2	151.0	179.0
3	406.050	H	45.3	-10.5	34.8	46.0	11.2	101.0	298.0
4	674.710	V	46.2	-4.8	41.4	46.0	4.6	123.0	11.0
5	135.671	V	47.6	-18.5	29.1	43.5	14.4	104.0	356.0
6	646.430	V	39.5	-5.2	34.3	46.0	11.7	101.0	33.0

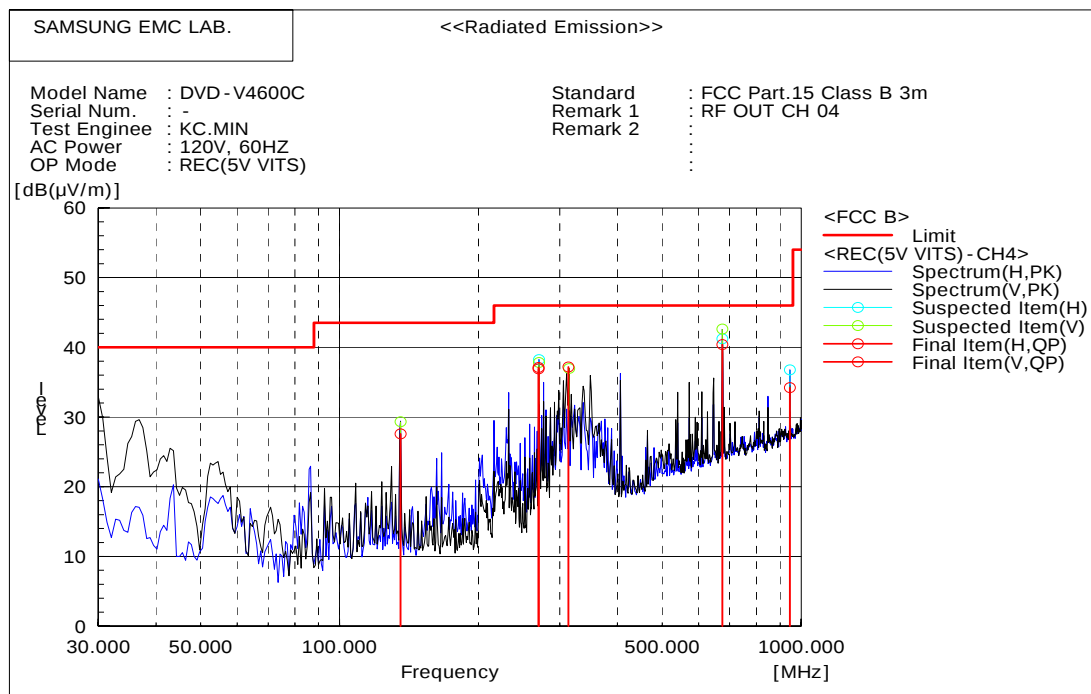
■ Operating Mode : REC(5V VITS)-CH 03



Final Result

No.	Frequency [MHz]	(P)	S.C	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]
1	270.003	H	S	55.2	-15.0	40.2	46.0	5.8	102.0	58.0
2	307.210	V	S	48.1	-13.7	34.4	46.0	11.6	206.0	352.0
3	405.000	V	S	47.7	-10.5	37.2	46.0	8.8	140.0	2.0
4	405.000	H	S	47.1	-10.5	36.6	46.0	9.4	102.0	303.0
5	674.990	V	S	46.6	-4.8	41.8	46.0	4.2	102.0	14.0

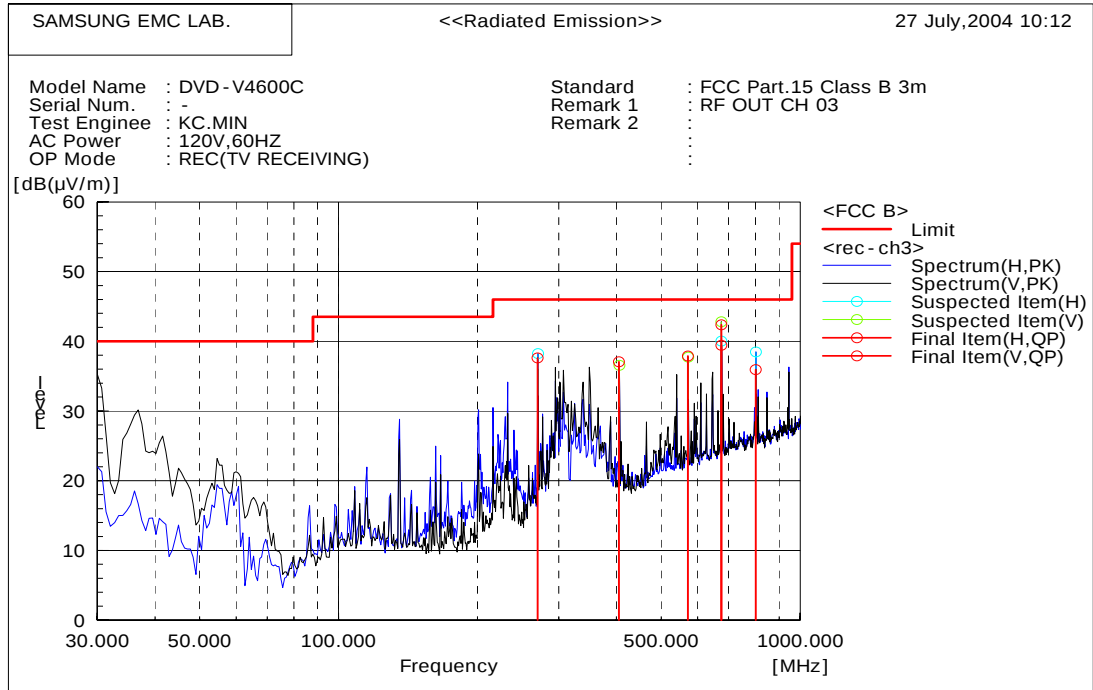
■ Operating Mode : REC(5V VITS)-CH 04



Final Result

No.	Frequency [MHz]	(P)	S.C	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]
1	135.671	V	S	46.1	-18.5	27.6	43.5	15.9	101.0	346.0
2	270.003	H	S	52.1	-15.0	37.1	46.0	8.9	108.0	57.0
3	270.003	V	S	51.9	-15.0	36.9	46.0	9.1	200.0	352.0
4	313.350	V	S	50.7	-13.5	37.2	46.0	8.8	163.0	178.0
5	674.710	V	S	45.2	-4.8	40.4	46.0	5.6	101.0	14.0
6	945.138	H	S	34.8	-0.6	34.2	46.0	11.8	101.0	85.0

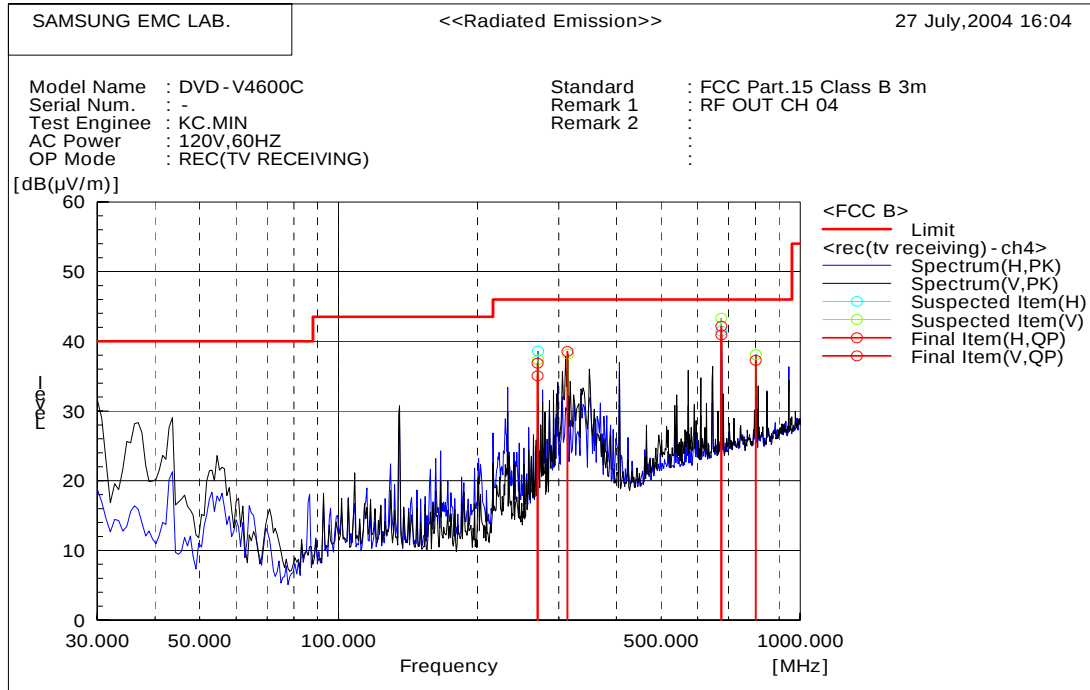
■ Operating Mode : REC(TV RECEIVING)-CH 03



Final Result

No.	Frequency [MHz]	(P)	S.C	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]
1	270.003	H	S	52.6	-15.0	37.6	46.0	8.4	102.0	77.0
2	405.000	V	S	47.6	-10.5	37.1	46.0	8.9	144.0	358.0
3	571.430	V	S	44.2	-6.3	37.9	46.0	8.1	102.0	42.0
4	674.990	V	S	47.2	-4.8	42.4	46.0	3.6	102.0	23.0
5	674.990	H	S	44.2	-4.8	39.4	46.0	6.6	155.0	74.0
6	801.270	H	S	39.4	-3.5	35.9	46.0	10.1	102.0	105.0

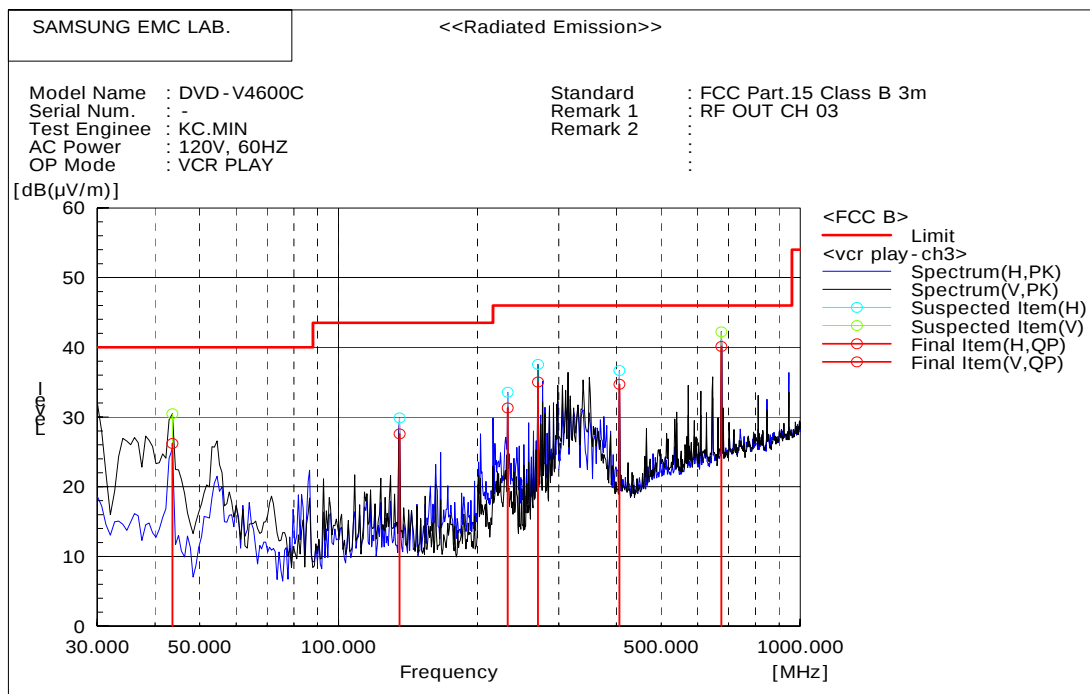
■ Operating Mode : REC(TV RECEIVING)-CH 04



Final Result

No.	Frequency [MHz]	(P)	S.C	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]
1	270.003	H	S	50.0	-15.0	35.0	46.0	11.0	108.0	59.0
2	270.003	V	S	51.9	-15.0	36.9	46.0	9.1	193.0	349.0
3	313.350	V	S	52.0	-13.5	38.5	46.0	7.5	156.0	174.0
4	674.990	V	S	47.0	-4.8	42.2	46.0	3.9	102.0	14.0
5	674.990	H	S	45.7	-4.8	40.9	46.0	5.1	101.0	230.0
6	801.270	V	S	40.8	-3.5	37.3	46.0	8.7	119.0	96.0

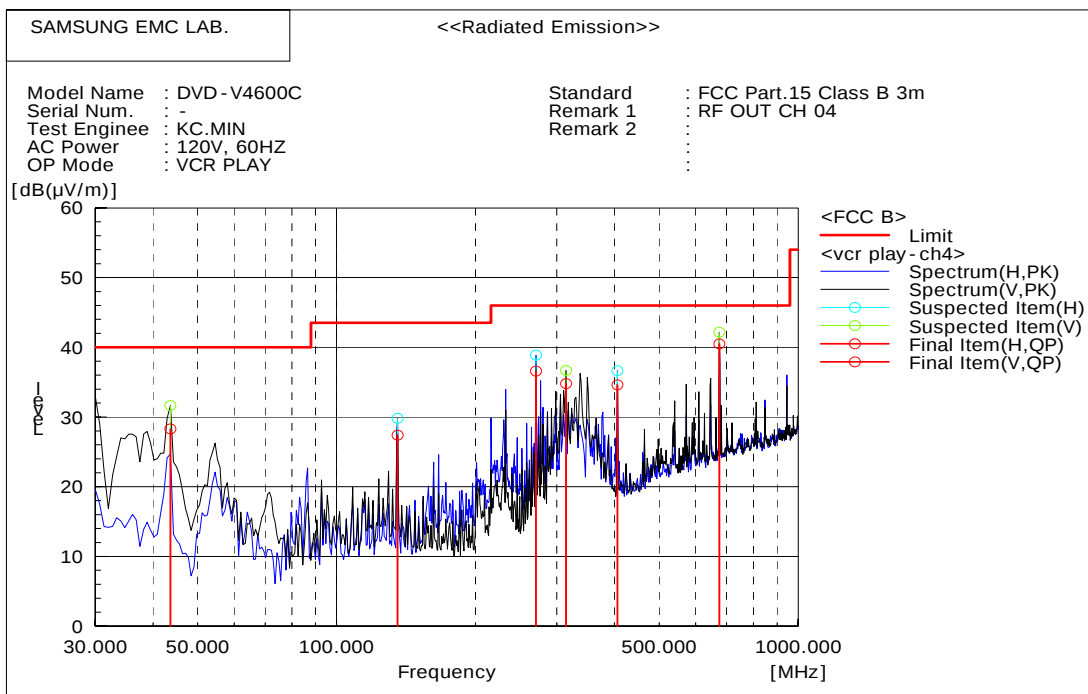
■ Operating Mode : VCR PLAY-CH 03



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]
1	43.635	V	46.2	-20.0	26.2	40.0	13.8	156.0	53.0
2	135.671	H	46.1	-18.5	27.6	43.5	15.9	213.0	165.0
3	232.480	H	49.1	-17.8	31.3	46.0	14.7	143.0	34.0
4	270.658	H	49.9	-14.9	35.0	46.0	11.0	100.0	234.0
5	406.050	H	45.2	-10.5	34.7	46.0	11.3	105.0	307.0
6	674.710	V	44.9	-4.8	40.1	46.0	5.9	100.0	13.0

■ Operating Mode : VCR PLAY-CH 04



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]
1	43.635	V	48.3	-20.0	28.3	40.0	11.7	111.0	115.0
2	270.658	H	51.5	-14.9	36.6	46.0	9.4	103.0	55.0
3	674.710	V	45.3	-4.8	40.5	46.0	5.5	100.0	15.0
4	406.050	H	45.1	-10.5	34.6	46.0	11.4	100.0	7.0
5	314.140	V	48.3	-13.5	34.8	46.0	11.2	149.0	185.0
6	135.671	H	45.9	-18.5	27.4	43.5	16.1	203.0	167.0

3.3 Output Signal Level

Test Information		
	Test Engineer	Min Kyung Chul
	Test Date	July 28, 2004
	Climate Condition	Ambient Temperature : 23 Relative Humidity : 37%
	Test Place	Shield Room #5

Test Equipments

Equipment	Model Name	Manufacturer	Serial No.	Calibration	
				Next Date	Interval
TV Signal Generator	PM5418-TDSI	PHILIPS	LO612437	2004-09-20	12
Pre-Amplifier	310N	SONOMA	185861	2004-09-20	12
Test Receiver	ESS	R&S	844861/005	2005-01-05	12
Matching Pad	RAM	R&S	834188/009	2005-01-08	12
Spectrum Analyzer	ESI	R&S	100067	2005-01-09	12
RF Matrix	PSU	R&S	861206/024	N/A	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 No Operation errors were detected during or after the applied test.
----------------------------	--

Test Data

■ Operating Mode : REC(TV RECEIVING)

RF Output CH No. :3CH

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
56.76603	71.9	-20	51.9	56.5	4.6
61.25701	86.1	-20	66.1	69.5	3.4
65.76403	70.7	-20	50.7	56.5	5.8

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

■ Operating Mode : REC(TV RECEIVING)

RF Output CH No. :4CH

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
62.73998	71.2	-20	51.2	56.5	5.3
67.23096	84.9	-19.9	65	69.5	4.5
71.72195	69.5	-19.9	49.6	56.5	6.9

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

■ Operating Mode : REC(1V VITS)

RF Output CH No. :3CH

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
56.75	71.9	-20	51.9	56.5	4.6
61.251	86	-20	66	69.5	3.6
65.75602	70.8	-20	50.8	56.5	5.7

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

■ Operating Mode : REC(1V VITS)

RF Output CH No. :4CH

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
62.73196	71.1	-20	51.1	56.5	5.4
67.26503	84.9	-19.9	65	69.5	4.5
71.72796	69.6	-19.9	49.7	56.5	6.9

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

■ Operating Mode : REC(5V VITS) RF Output CH No. :3CH

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
56.75601	72	-20	52	56.5	4.5
61.25902	86.1	-20	66.1	69.5	3.4
65.75201	70.7	-20	50.7	56.5	5.8

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

■ Operating Mode : REC(5V VITS) RF Output CH No. :4CH

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
62.73196	71	-20	51	56.5	5.5
67.23297	85	-19.9	65.1	69.5	4.4
71.73197	69.6	-19.9	49.7	56.5	6.8

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

■ Operating Mode : VCR PLAY RF Output CH No. :3CH

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
56.76603	71.9	-20	51.9	56.5	4.6
61.25501	86.1	-20	66.1	69.5	3.4
65.74398	70.6	-20	50.6	56.5	5.9

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

■ Operating Mode : VCR PLAY RF Output CH No. :4CH

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
62.73397	71.2	-20	51.2	56.5	5.3
67.22495	84.6	-19.9	64.7	69.5	4.8
71.72195	69.6	-19.9	49.7	56.5	6.8

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

■ Operating Mode : DVD PLAY

RF Output CH No. :3CH

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
56.79008	71.9	-20	51.9	56.5	4.6
61.25701	86.1	-20	66.1	69.5	3.4
65.72395	70.7	-20	50.7	56.5	5.8

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

■ Operating Mode : DVD PLAY

RF Output CH No. :4CH

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
62.76402	71.2	-20	51.2	56.5	5.3
67.23096	84.9	-19.9	65	69.5	4.5
71.71594	69.9	-19.9	50	56.5	6.5

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

3.4 Output Terminal Conducted Spurious

Test Information		
	Test Engineer	Min Kyung Chul
	Test Date	July 28, 2004
	Climate Condition	Ambient Temperature : 23 Relative Humidity : 37%
	Test Place	Shield Room #5

Test Equipments

Equipment	Modal Name	Manufacturer	Serial No.	Calibration	
				Next Date	Interval
Pre-Amplifier	310N	SONOMA	185861	2004-09-20	12
RF Matrix	PSU	R&S	861206/024	N/A	12
Spectrum Analyzer	ESI	R&S	100067	2005-01-09	12
TV PATTERN GENERATOR	PM5418-TDSI	PHILIPS	LO612437	2004-09-20	12
Test Receiver	ESS	R&S	844861/005	2005-01-05	12
Matching Pad	RAM	R&S	834188/009	2005-01-08	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 No Operation errors were detected during or after the applied test.
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Test Data

■ Operating Mode : REC(TV RECEIVING)

RF Output CH No. :3CH[Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
38.60518	35	-20.2	14.8	39.5	24.7
53.70915	34.5	-20	14.5	39.5	25
55.24086	34.7	-20	14.7	39.5	24.8

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

■ Operating Mode : REC(TV RECEIVING)

RF Output CH No. :3CH[Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
74.4022	32.9	-19.9	13	39.5	26.5
134.4787	32.3	-19.4	12.9	39.5	26.6
945.00513	32.2	-17.7	14.5	39.5	25

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

■ Operating Mode : REC(TV RECEIVING)

RF Output CH No. :4CH[Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
53.70789	34.5	-20	14.5	39.5	25
55.24224	34.7	-20	14.7	39.5	24.8
60.08348	34.3	-20	14.3	39.5	25.3

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

■ Operating Mode : REC(TV RECEIVING)

RF Output CH No. :4CH[Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
134.48098	32.4	-19.4	13	39.5	26.5
672.39981	29.5	-18.9	10.6	39.5	28.9
945.01513	32.4	-17.7	14.7	39.5	24.8

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

■ Operating Mode : REC(1V VITS) RF Output CH No. :3CH[Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
38.61212	35.3	-20.2	15.1	39.5	24.4
53.74867	34.8	-20	14.8	39.5	24.7
55.24193	34.8	-20	14.8	39.5	24.8

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

■ Operating Mode : REC(1V VITS) RF Output CH No. :3CH[Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
134.4787	32.2	-19.4	12.8	39.5	26.7
331.43709	29.7	-18.5	11.2	39.5	28.3
945.00513	32.3	-17.7	14.6	39.5	24.9

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

■ Operating Mode : REC(1V VITS) RF Output CH No. :4CH[Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
59.04901	34.3	-20	14.3	39.5	25.2
60.09984	34.5	-20	14.5	39.5	25
61.43266	34	-20	14	39.5	25.5

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

■ Operating Mode : REC(1V VITS) RF Output CH No. :4CH[Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
134.48098	32.3	-19.4	12.9	39.5	26.6
331.44178	29.8	-18.5	11.3	39.5	28.2
945.01513	32.4	-17.7	14.7	39.5	24.9

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

■ Operating Mode : REC(5V VITS) RF Output CH No. :3CH[Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
52.92461	35.4	-20.1	15.3	39.5	24.2
55.24139	34.9	-20	14.9	39.5	24.6
56.49699	33	-20	13	39.5	26.5

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

■ Operating Mode : REC(5V VITS) RF Output CH No. :3CH[Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
80.73322	31.1	-19.8	11.3	39.5	28.2
134.49581	32.3	-19.4	12.9	39.5	26.6
945.00513	32.3	-17.7	14.6	39.5	24.9

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

■ Operating Mode : REC(5V VITS) RF Output CH No. :4CH[Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
52.92599	35.3	-20.1	15.2	39.5	24.3
55.24289	35	-20	15	39.5	24.5
56.49525	33	-20	13	39.5	26.5

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

■ Operating Mode : REC(5V VITS) RF Output CH No. :4CH[Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
134.48098	32.3	-19.4	12.9	39.5	26.6
675.005	28.2	-18.9	9.3	39.5	30.2
945.00513	32.4	-17.7	14.7	39.5	24.8

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

■ Operating Mode : VCR PLAY

RF Output CH No. :3CH[Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
51.63163	24.5	-20.1	4.4	39.5	35.1
52.92247	30	-20.1	9.9	39.5	29.6
56.19096	23.1	-20	3.1	39.5	36.4

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

■ Operating Mode : VCR PLAY

RF Output CH No. :3CH[Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
76.2423	26.3	-19.9	6.4	39.5	33.1
80.74177	31.4	-19.8	11.6	39.5	27.9
945.00513	32.3	-17.7	14.6	39.5	24.9

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

■ Operating Mode : VCR PLAY

RF Output CH No. :4CH[Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
38.60579	35.9	-20.2	15.7	39.5	23.8
43.31224	23.6	-20.1	3.5	39.5	36
55.24224	35	-20	15	39.5	24.5

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

■ Operating Mode : VCR PLAY

RF Output CH No. :4CH[Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
134.48098	32.4	-19.4	13	39.5	26.5
672.38981	29.6	-18.9	10.7	39.5	28.8
944.995	32.4	-17.7	14.7	39.5	24.8

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

■ Operating Mode : DVD PLAY

RF Output CH No. :3CH[Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
50.72638	27.2	-20.1	7.1	39.5	32.4
53.84641	34.1	-20	14.1	39.5	25.4
55.24193	34.6	-20	14.6	39.5	24.9

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

■ Operating Mode : DVD PLAY

RF Output CH No. :3CH[Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
134.4787	32.3	-19.4	12.9	39.5	26.6
675.005	30.9	-18.9	12	39.5	27.6
945.01513	32.4	-17.7	14.7	39.5	24.8

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

■ Operating Mode : DVD PLAY

RF Output CH No. :4CH[Spurious Low]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
53.63657	34.1	-20	14.1	39.5	25.4
55.24289	34.7	-20	14.7	39.5	24.8
62.32579	29.9	-20	9.9	39.5	29.6

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

■ Operating Mode : DVD PLAY

RF Output CH No. :4CH[Spurious High]

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
134.48098	32.4	-19.4	13	39.5	26.5
675.005	30.9	-18.9	12	39.5	27.5
944.975	32.4	-17.7	14.7	39.5	24.8

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

3.5 Antenna Transfer Switch Measurement

Test Information		
	Test Engineer	Min Kyung Chul
	Test Date	July 28, 2004
	Climate Condition	Ambient Temperature : 23 Relative Humidity : 37%
	Test Place	Shield Room #5

Test Equipments

Equipment	Model Name	Manufacturer	Serial No.	Calibration	
				Next Date	Interval
TV Signal Generator	PM5418-TDSI	PHILIPS	LO612437	2004-09-20	12
Pre-Amplifier	310N	SONOMA	185861	2004-09-20	12
Matching Pad	RAM	R&S	834188/009	2005-01-08	12
RF Matrix	PSU	R&S	861206/024	N/A	12
Spectrum Analyzer	ESI	R&S	100067	2005-01-09	12
Test Receiver	ESS	R&S	844861/005	2005-01-05	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 No Operation errors were detected during or after the applied test.
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Test Data

■ Operating Mode : REC(1V VITS) RF Output CH No. :3CH

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
61.24957	22	-20	2	9.5	7.5

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

■ Operating Mode : REC(1V VITS) RF Output CH No. :4CH

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
67.24173	22.6	-19.9	2.7	9.5	6.8

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

■ Operating Mode : REC(5V VITS) RF Output CH No. :3CH

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
61.25691	22	-20	2	9.5	7.5

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

■ Operating Mode : REC(5V VITS) RF Output CH No. :4CH

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
67.23998	22.6	-19.9	2.7	9.5	6.8

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

■ Operating Mode : VCR PLAY RF Output CH No. :3CH

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
61.25178	22.1	-20	2.1	9.5	7.4

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

■ Operating Mode : VCR PLAY RF Output CH No. :4CH

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
67.23998	22.5	-19.9	2.6	9.5	6.9

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

■ Operating Mode : DVD PLAY RF Output CH No. :3CH

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
61.25828	22.1	-20	2.1	9.5	7.4

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

■ Operating Mode : DVD PLAY RF Output CH No. :4CH

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
67.24398	22.8	-19.9	2.9	9.5	6.6

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

4. Appendix A

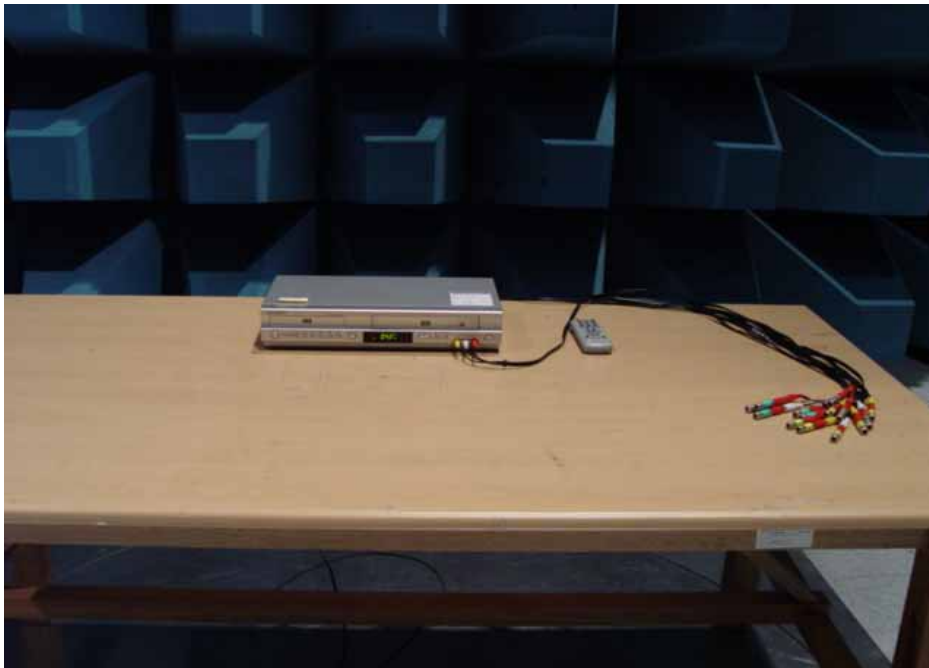
4.1 Test Photography



Picture 1. Conducted Emission (Front)



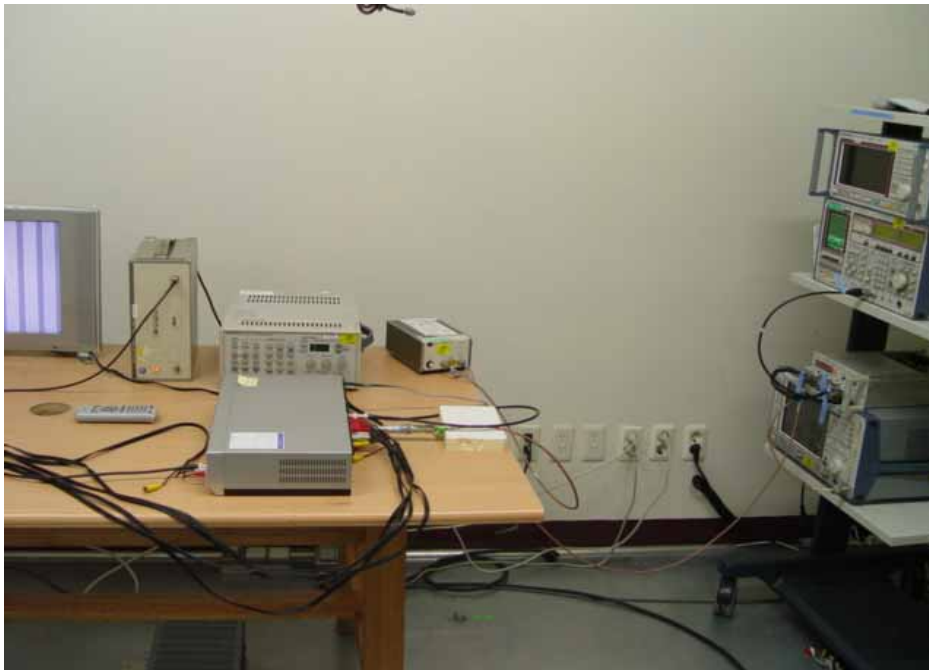
Picture 2. Conducted Emission (Rear)



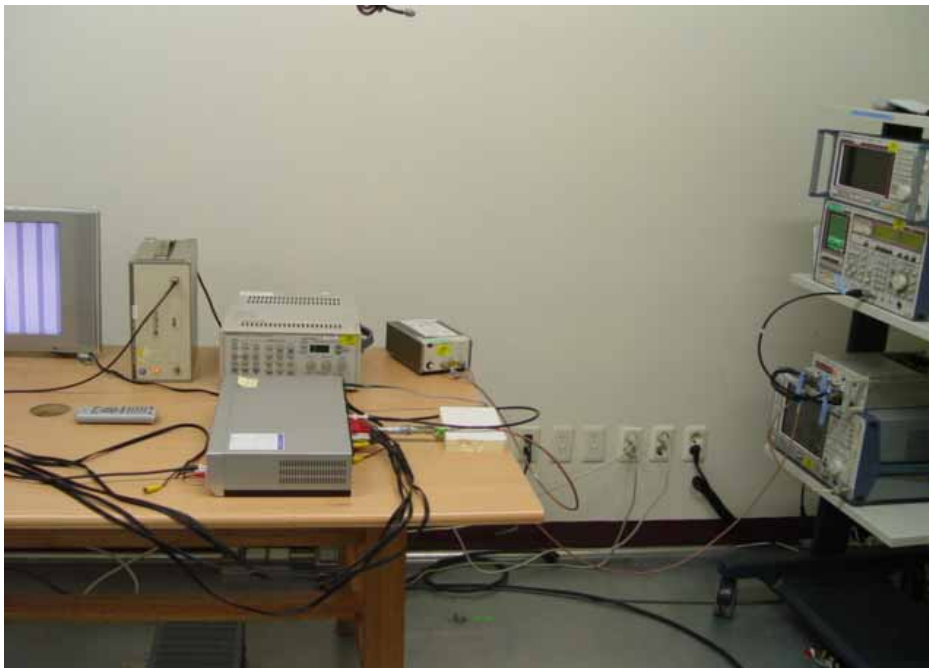
Picture 3. Radiated Emission (Front)



Picture 4. Radiated Emission (Rear)



Picture 5. Output Signal Level



Picture 6. Output Terminal Conducted Spurious Emission



Picture 7. Ant. Transfer Switch

4.2 EUT Photography



Picture 8. EUT (Front)



Picture 9. EUT (Rear)