EMC Test Report

According to FCC Part 15 Subpart B

Project No.		**LBE050116**
Equipment under Test		
	Address	416 Maetan3-Dong,Yeongtong-Gu,Suwon-City,Gyeonggi-Do, Korea,443-742
	Product Name	**DVD RECORDER / VIDEO CASSETTE RECORDER**
	Model Name	**RDR-VX500**
	Manufacturer	SAMSUNG
	Brand Name	SONY
	Broadcasting System	NTSC-M
	Variant Model	See Page 3
FCC ID		**A3LRDRVX500**
Date of Test		January 7 , 2005 ~ January 17 , 2005
Issued Date		January 18, 2005

	Name/Position	Signature
Tested by	Sung Wook, Choi Test Engineer	S.W.Choi
Reviewed by	No Cheon, Park Manager of EMC Lab.	N. C. Park
Authorized by	Kyu Baek, Chung Chief of EMC Lab.	K. B. Chung

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

Table of Contents

1. General Information

1.1 Basic Information related Product

Applicant	Samsung Electronics Co., Ltd
Model name	RDR-VX500
Applicant Address	Samsung Electronics Co. Ltd; 416 Maetan3- Dong, Yeongtong-Gu, Suwon-City, Gyeonggi-Do, Korea, 443-742
Contact Person	WOOSUNG CHO
Kind of product	DVD RECORDER / VIDEO CASSETTE RECORDER
Valiant list	None
Manufacturer	Samsung Electronics Co.,Ltd

1.2 Detail Information related Product

Specification

Gerneral	Power Requirment	120V AC, 60Hz
	Power Consumption	42Watts
	Weight	4.1 kg
	Dimensions	430mm(W)*270mm(D)*79mm(H)
	VHF/UHF Tuner Type No.	TCMN0682PA20A
	Tuner Manufacturer	Samsung Electro-Mechanics
	VHF/UHF Tuner Type	TM-Block
	Type of Antenna	75 ohm Unbalance
	Intermediate Frequency	45.75MHz
	Frequency Tuning Range	VHF : CH 02 ~ CH 13 UHF : CH 14 ~ CH 69
Input	Video(1,2,3)	1.0V p-p at 75ohm load, sync negative
		S-Vedio input(Y:1.0V p-p,C:0.286V p-p at 75 ohm load)
	Max. Audio Inout Level	2 Vrms
	DV Input	IEEE 1394(4p) compatible jack
Output	Audio	Audio input jacks 1,2
		Optical/Coaxial digital audio output support
		Min 100dB signal-to-noise ratio
		Max. 0.005% total harmonic distortion(T.H.D) at average 1kHz
	Video	Video input jacks 1,2
		S-video output 1,2(Y:1.0V p-p,C:0.286Vp-p, at 75 ohm load)
		Component output(Y:1.0Vp-p,Pb:0.70Vp-p, Pr:0.70Vp-p at 75 ohm load)
DVD	Picture Compression format	MPEG-II
	Audio Compression format	Dolby AC-3 256kbps
	Recording Quality	LP(2 Mbps), SP(4 Mbps), XP(8 Mbps)
	Video S/N Ratio	Min. 50dB at standard recording
	Audio S/N Ratio	Min. 75dB

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 Configuration

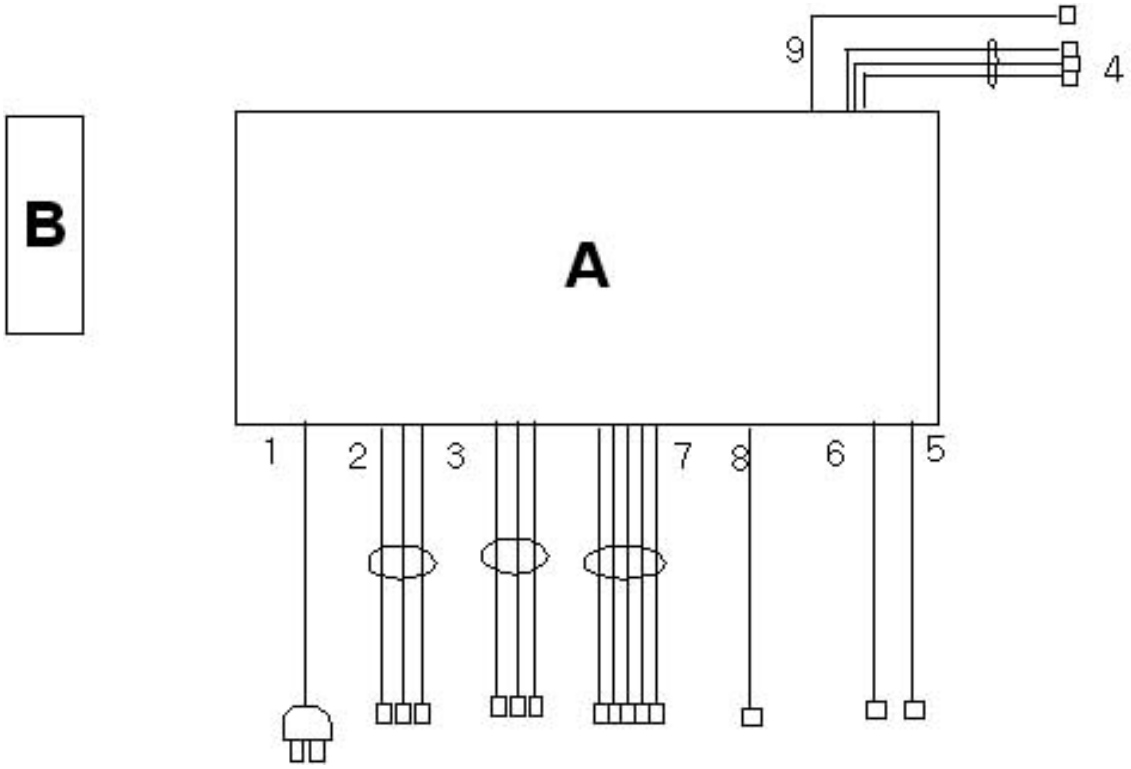
Used EUT and Peripherals

Seq	Device	Model Name	Serial #	Maker	Note
A	**DVD RECORDER / VIDEO CASSETTE RECORDER**	RDR-VX500	-	SAMSUNG	EUT
B	Remote Controller	-	-	SAMSUNG	EUT

Used Cable Description

	Connect Cable	Length [m]	Shielded [Y/N]	Remark
1	AC Power Cable	1.5	N	to the mains
2	AV In Cable	1.2	N	Terminated video : 75 ohm Audio In : 1k ohm
3	AV Out Cable	1.2	N	Terminated video : 75 ohm Audio In : 10k ohm
4	Front AV In Cable	1.2	N	Terminated video : 75 ohm Audio In : 1k ohm
5	RF In Cable	1.5	Y	75 ohm Terminated
6	RF Out Cable	1.2	Y	75 ohm Terminated
7	Component	1.2	N	Terminated video : 75 ohm Audio In : 1k ohm
8	S-Video	1.5	N	Terminated
9	S-Video	1.5	N	Terminated

Block Diagram



1.6 Applied Standards

List

Applied Standards	Test Procedure
FCC Part15 Subpart B	ANSI C63.4 : 2000

1.7 Test Facility

General Information

The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR 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
Conducted Emission	+/-1.64
Radiated Emission	+/-5.09

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	Sung Wook, Choi
	Test Date	January 12, 2005 ~ January 17, 2005
	Climate Condition	Ambient Temperature : 23℃ Relative Humidity : 45%
	Test Place	Shield Room #5

Test Equipments

Equipment	Modal Name	Manufacturer	Serial No.	Calibration	
				Next Date	Interval
Field strength meter	ESI	R&S	832692/002	2005-05-24	12
TV Signal Generator	PM5418-TDSI	PHILIPS	LO612437	2005-09-20	12
L.I.S.N	ESH3-Z5	R&S	100262	2005-02-11	12
Field strength meter	ESS	R&S	844661	2006-01-05	12
RF Relais Matrix	PSU	R&S	861206/024	N/A	12
Test Software	EP5CE	TOYO	None	N/A	N/A

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..

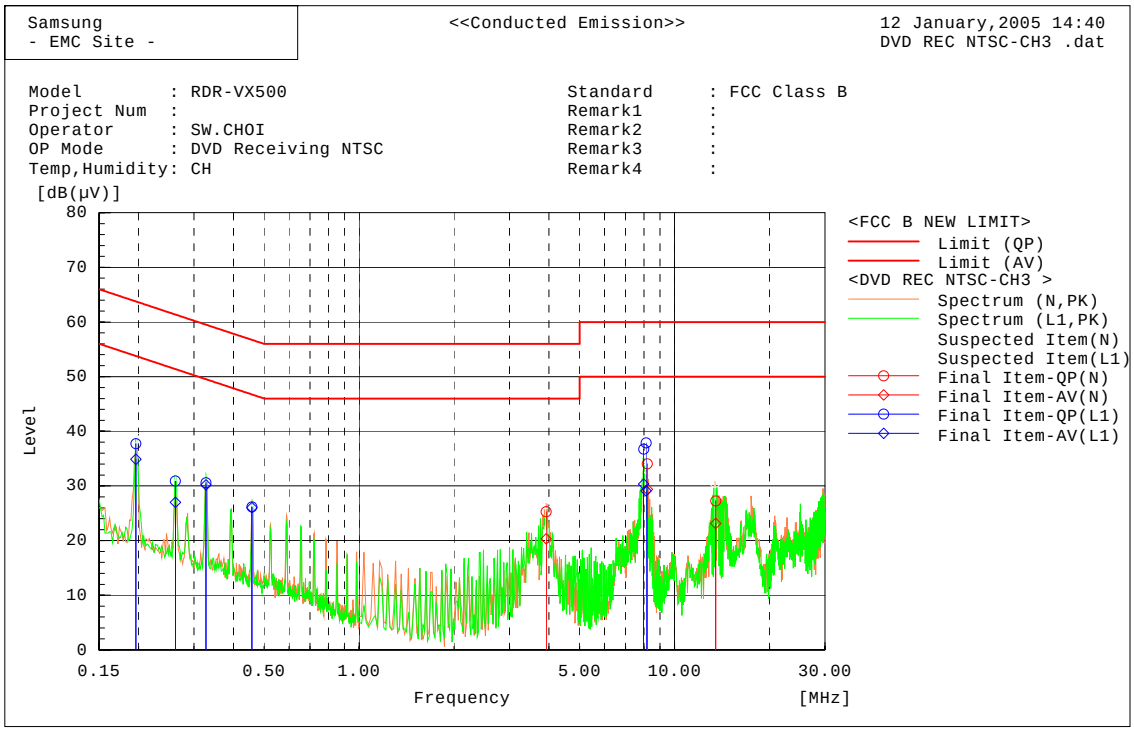
Test Result

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

Test Data

■ Operating Mode : DVD REC(NTSC)_CH03

[Graph and Data]



Final Result

--- N Phase ---

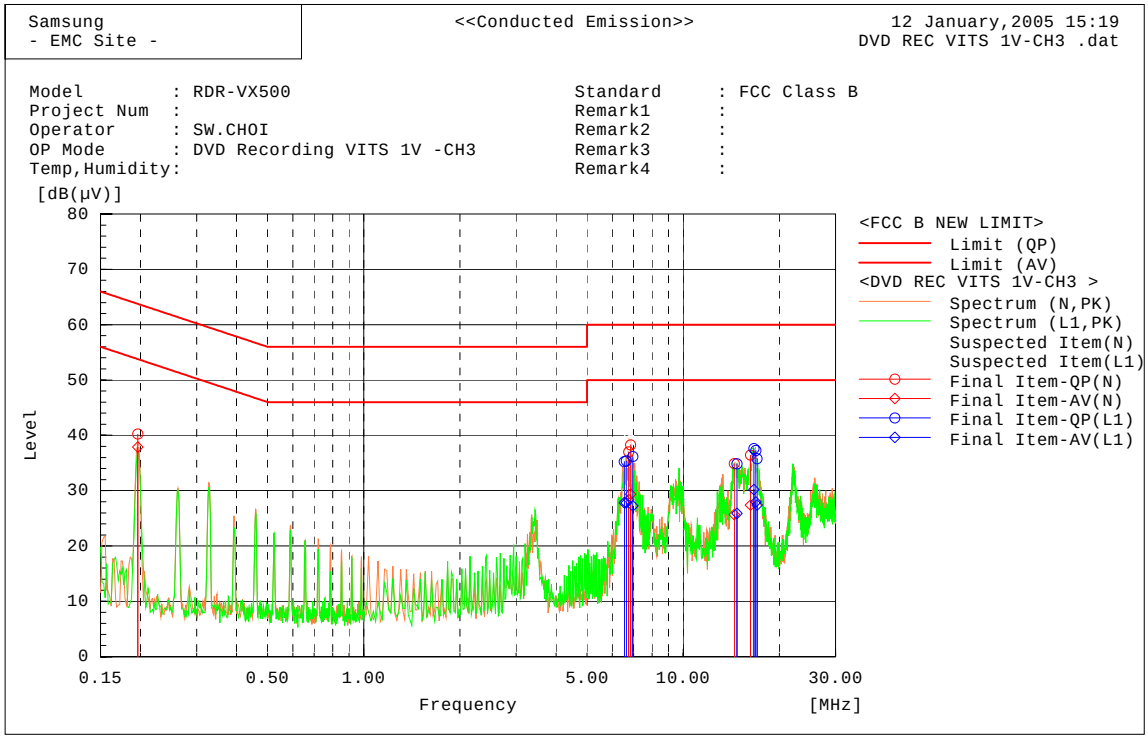
No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	3.91652	25.1	20.1	0.2	25.3	20.3	56.0	46.0	30.7	25.7
2	8.2064	33.7	29.1	0.3	34.0	29.4	60.0	50.0	26.0	20.6
3	13.51723	26.7	22.6	0.5	27.2	23.1	60.0	50.0	32.8	26.9

--- 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	0.19626	37.6	34.8	0.1	37.7	34.9	63.8	53.8	26.1	18.9
2	0.26168	30.8	26.9	0.1	30.9	27.0	61.4	51.4	30.5	24.4
3	0.32715	30.5	30.1	0.1	30.6	30.2	59.5	49.5	28.9	19.3
4	0.45802	26.1	25.9	0.1	26.2	26.0	56.7	46.7	30.5	20.7
5	7.99087	36.4	30.0	0.3	36.7	30.3	60.0	50.0	23.3	19.7
6	8.12326	37.6	28.8	0.3	37.9	29.1	60.0	50.0	22.1	20.9

■ Operating Mode : DVD REC(1V VITS)_CH03

[Graph and Data]



Final Result

--- N Phase ---

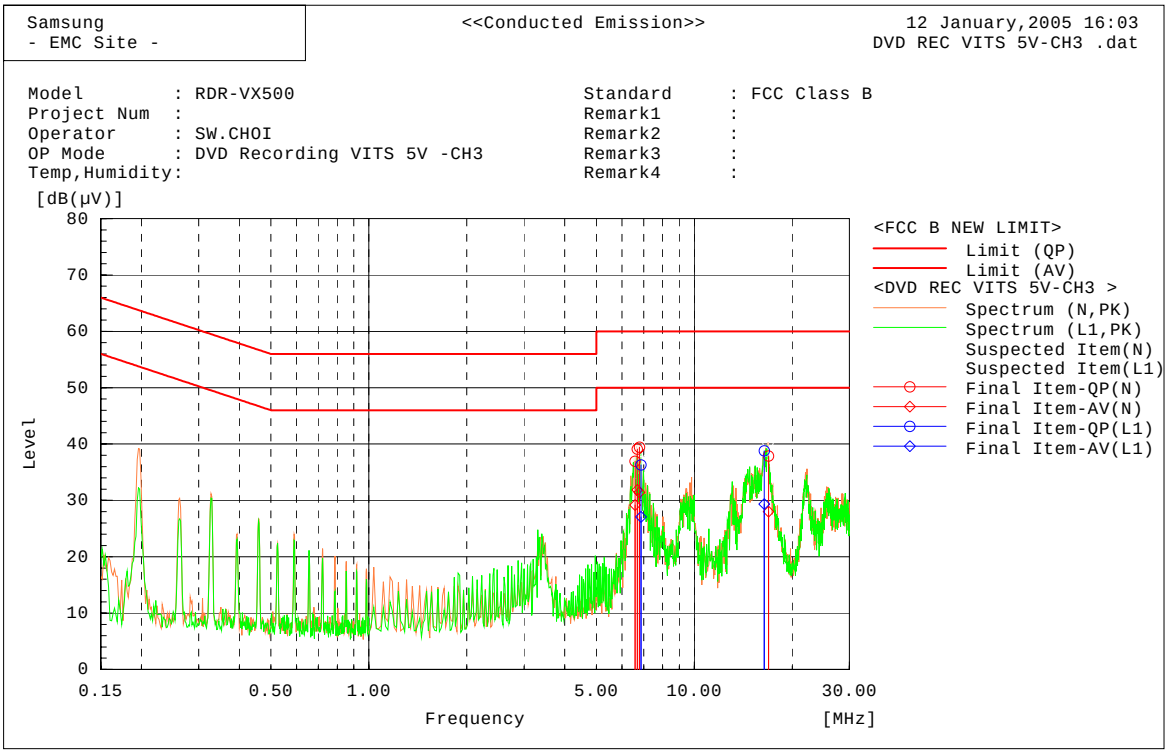
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	0.19632	40.1	37.8	0.1	40.2	37.9	63.8	53.8	23.6	15.9
2	6.75161	36.7	28.1	0.3	37.0	28.4	60.0	50.0	23.0	21.6
3	6.84522	38.0	29.1	0.3	38.3	29.4	60.0	50.0	21.7	20.6
4	14.46473	34.4	25.2	0.5	34.9	25.7	60.0	50.0	25.1	24.3
5	16.25471	35.9	26.9	0.5	36.4	27.4	60.0	50.0	23.6	22.6

--- 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	6.54077	34.9	27.5	0.3	35.2	27.8	60.0	50.0	24.8	22.2
2	6.63763	35.1	27.5	0.3	35.4	27.8	60.0	50.0	24.6	22.2
3	6.95867	35.8	26.9	0.3	36.1	27.2	60.0	50.0	23.9	22.8
4	14.73688	34.3	25.3	0.6	34.9	25.9	60.0	50.0	25.1	24.1
5	16.65952	36.9	29.5	0.7	37.6	30.2	60.0	50.0	22.4	19.8
6	16.88076	36.6	27.3	0.7	37.3	28.0	60.0	50.0	22.7	22.0
7	17.0507	35.1	26.7	0.7	35.8	27.4	60.0	50.0	24.2	22.6

■ Operating Mode : DVD REC(5V VITS)_CH03

[Graph and Data]



Final Result

--- N Phase ---

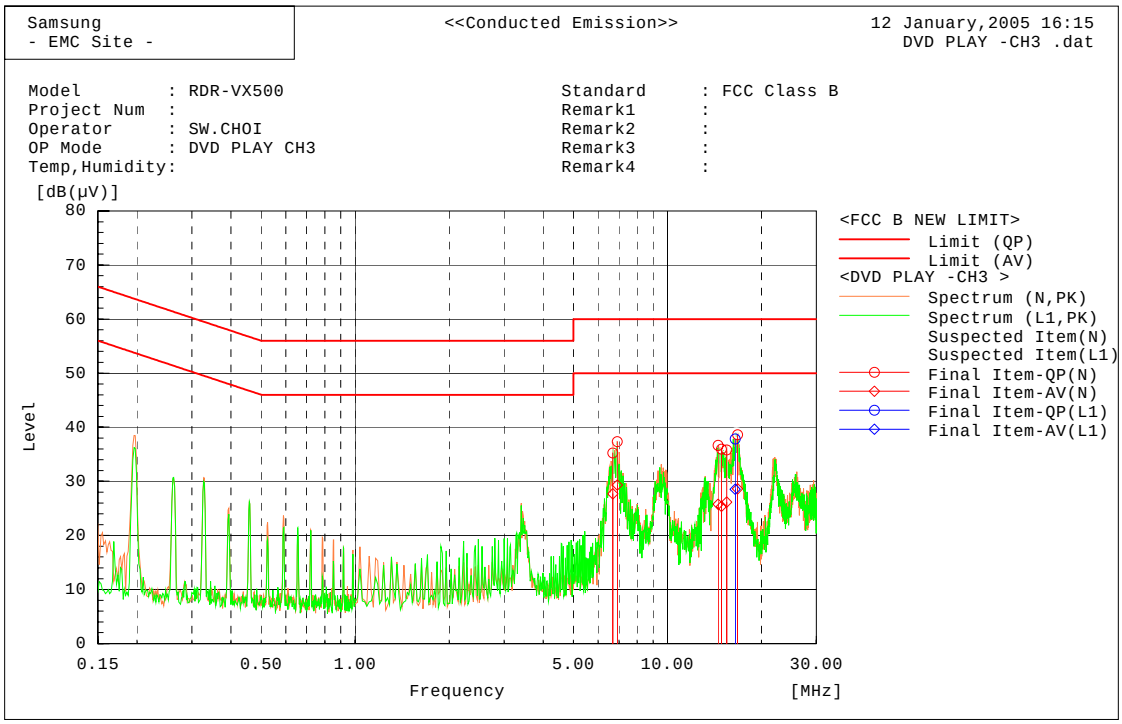
No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	6.57504	36.6	28.9	0.3	36.9	29.2	60.0	50.0	23.1	20.8
2	6.68271	38.8	31.6	0.3	39.1	31.9	60.0	50.0	20.9	18.1
3	6.78552	39.1	31.1	0.3	39.4	31.4	60.0	50.0	20.6	18.6
4	16.91403	37.4	27.5	0.5	37.9	28.0	60.0	50.0	22.1	22.0

--- 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	6.86488	36.0	26.8	0.3	36.3	27.1	60.0	50.0	23.7	22.9
2	16.42024	38.1	28.7	0.7	38.8	29.4	60.0	50.0	21.2	20.6

■ Operating Mode : DVD PLAY_CH03

[Graph and Data]



Final Result

--- N Phase ---

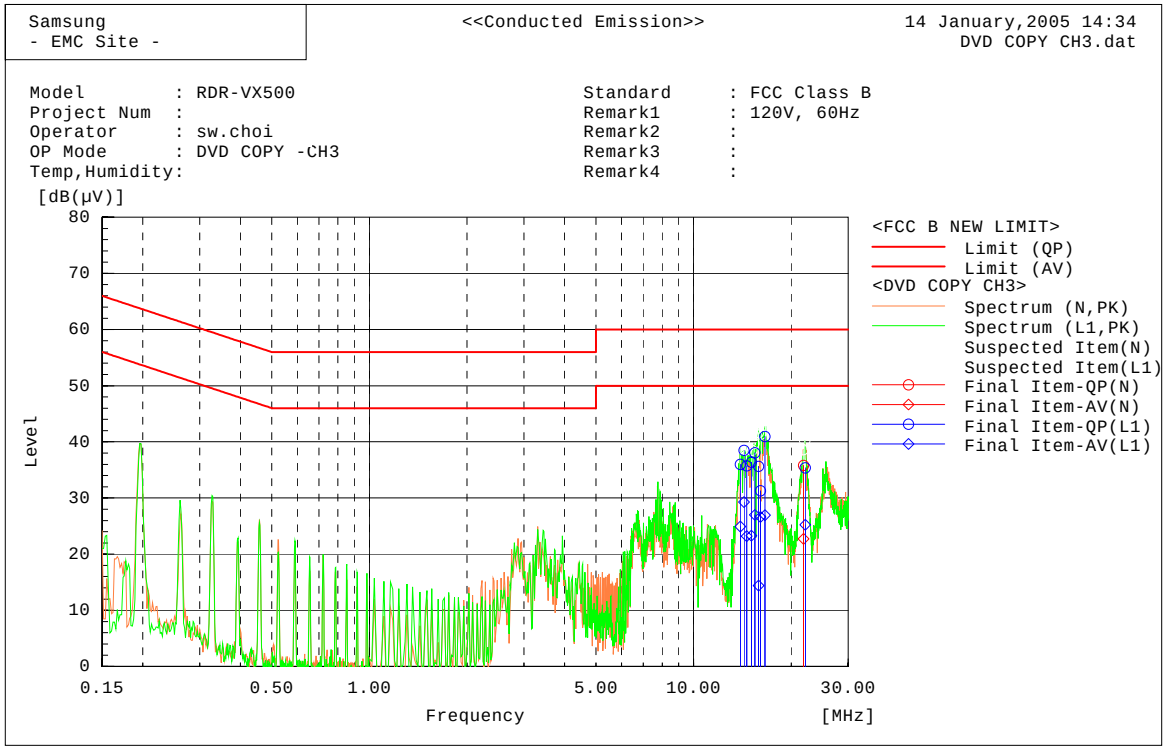
No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	6.68921	34.9	27.4	0.3	35.2	27.7	60.0	50.0	24.8	22.3
2	6.9069	37.1	29.0	0.3	37.4	29.3	60.0	50.0	22.6	20.7
3	14.53006	36.1	25.3	0.5	36.6	25.8	60.0	50.0	23.4	24.2
4	14.88557	35.4	24.9	0.5	35.9	25.4	60.0	50.0	24.1	24.6
5	15.49238	35.3	25.6	0.5	35.8	26.1	60.0	50.0	24.2	23.9
6	16.78137	38.1	28.1	0.5	38.6	28.6	60.0	50.0	21.4	21.4

--- 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	16.48838	37.1	27.8	0.7	37.8	28.5	60.0	50.0	22.2	21.5

■ Operating Mode : DVD COPY_CH03

[Graph and Data]



Final Result

--- N Phase ---

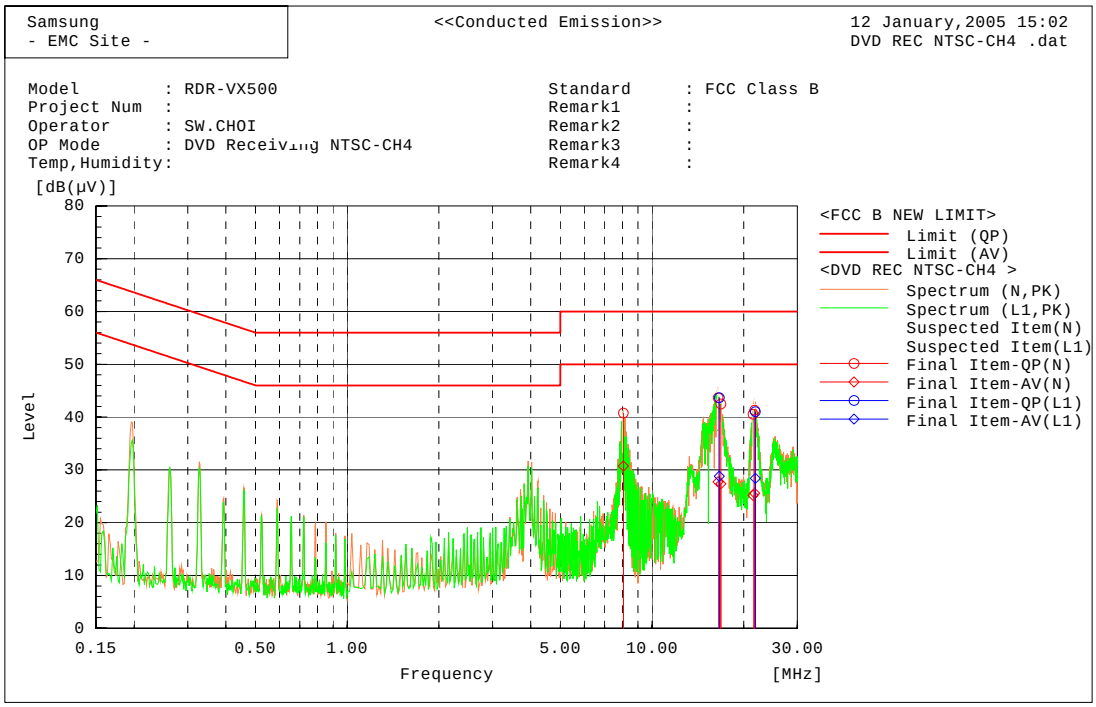
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	21.82986	35.2	22.2	0.6	35.8	22.8	60.0	50.0	24.2	27.3

--- 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	13.93367	35.4	24.3	0.6	36.0	24.9	60.0	50.0	24.0	25.1
2	14.31002	37.9	28.7	0.6	38.5	29.3	60.0	50.0	21.5	20.7
3	14.57816	35.1	22.6	0.6	35.7	23.2	60.0	50.0	24.3	26.8
4	15.09078	35.8	22.7	0.6	36.4	23.3	60.0	50.0	23.6	26.7
5	15.45751	37.5	26.4	0.6	38.1	27.0	60.0	50.0	21.9	23.0
6	15.8519	34.9	13.7	0.7	35.6	14.4	60.0	50.0	24.4	35.6
7	16.08396	30.6	26.0	0.7	31.3	26.7	60.0	50.0	28.7	23.4
8	16.60982	40.3	26.3	0.7	41.0	27.0	60.0	50.0	19.1	23.0
9	22.08958	34.6	24.5	0.8	35.4	25.3	60.0	50.0	24.7	24.8

■ Operating Mode : DVD REC(NTSC)_CH04

[Graph and Data]



Final Result

--- N Phase ---

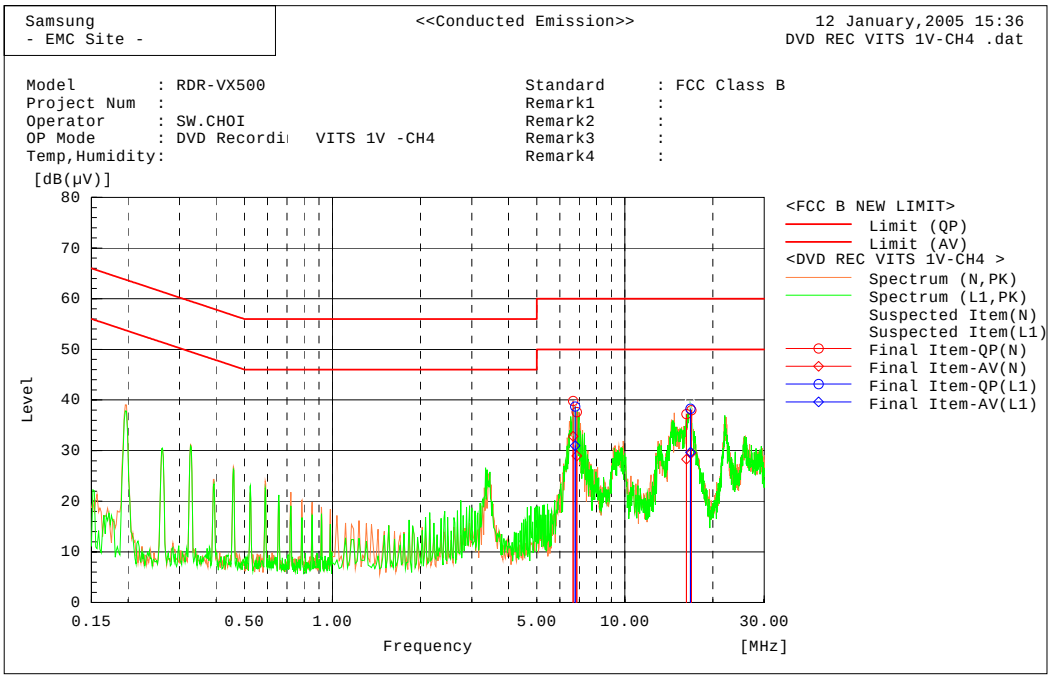
No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	8.05256	40.5	30.4	0.3	40.8	30.7	60.0	50.0	19.2	19.3
2	16.48037	43.1	27.2	0.5	43.6	27.7	60.0	50.0	16.4	22.3
3	16.84149	42.0	26.9	0.5	42.5	27.4	60.0	50.0	17.5	22.6
4	21.46714	39.9	24.6	0.6	40.5	25.2	60.0	50.0	19.5	24.8
5	21.70802	40.7	25.0	0.6	41.3	25.6	60.0	50.0	18.7	24.4

--- 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	16.62786	43.0	28.1	0.7	43.7	28.8	60.0	50.0	16.3	21.2
2	21.8503	40.2	27.6	0.8	41.0	28.4	60.0	50.0	19.0	21.6

■ Operating Mode : DVD REC(1V VITS)_CH04

[Graph and Data]



Final Result

--- N Phase ---

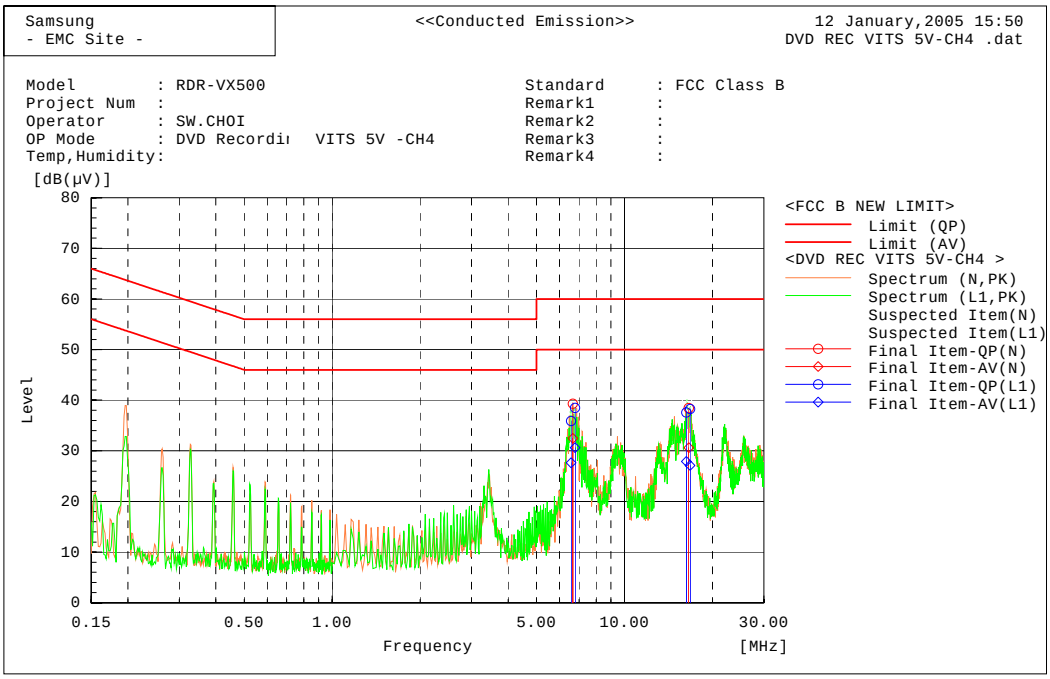
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	6.66414	39.5	32.5	0.3	39.8	32.8	60.0	50.0	20.2	17.2
2	6.84612	37.3	28.7	0.3	37.6	29.0	60.0	50.0	22.4	21.0
3	16.26233	36.7	27.8	0.5	37.2	28.3	60.0	50.0	22.8	21.7
4	16.88116	37.5	29.0	0.5	38.0	29.5	60.0	50.0	22.0	20.5

--- 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	6.76839	38.4	30.7	0.3	38.7	31.0	60.0	50.0	21.3	19.0
2	16.78537	37.6	29.0	0.7	38.3	29.7	60.0	50.0	21.7	20.3

■ Operating Mode : DVD REC(5V VITS)_CH04

[Graph and Data]



Final Result

--- N Phase ---

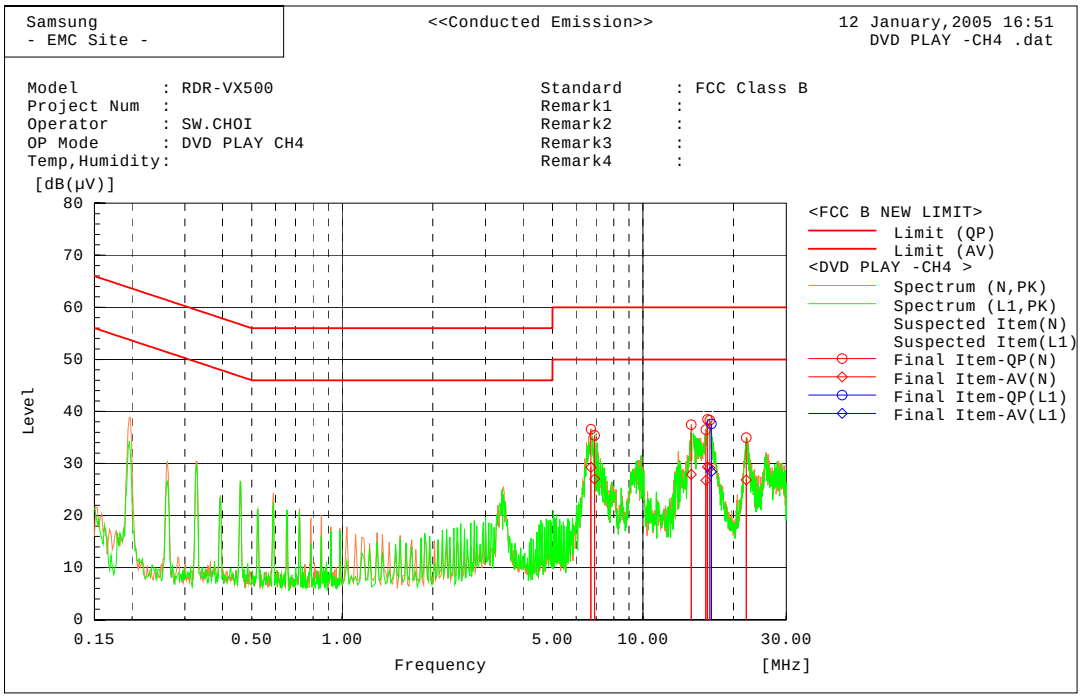
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	6.66233	39.0	32.2	0.3	39.3	32.5	60.0	50.0	20.7	17.5
2	16.59018	37.9	30.1	0.5	38.4	30.6	60.0	50.0	21.6	19.4

--- 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	6.56656	35.6	27.4	0.3	35.9	27.7	60.0	50.0	24.1	22.3
2	6.77632	38.2	30.3	0.3	38.5	30.6	60.0	50.0	21.5	19.4
3	16.28437	36.9	27.2	0.7	37.6	27.9	60.0	50.0	22.4	22.1
4	16.78497	37.6	26.4	0.7	38.3	27.1	60.0	50.0	21.7	22.9

■ Operating Mode : DVD PLAY_CH04

[Graph and Data]



Final Result

--- N Phase ---

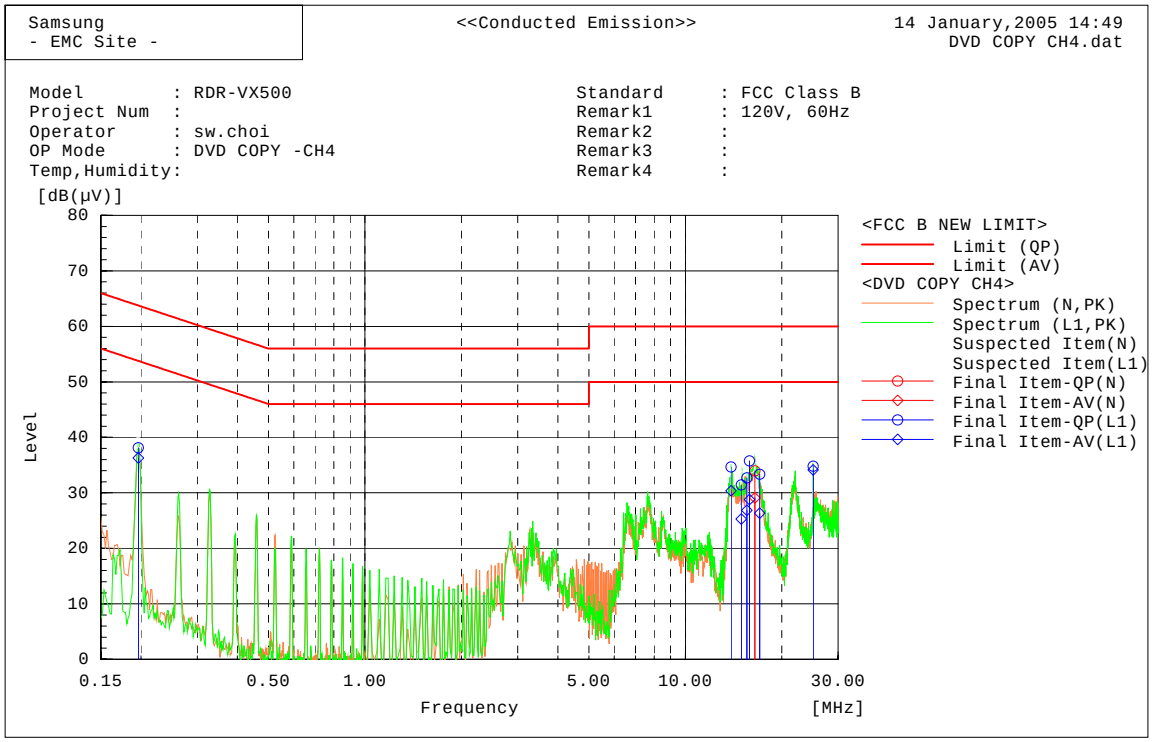
No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	6.71789	36.3	29.0	0.3	36.6	29.3	60.0	50.0	23.4	20.7
2	6.90763	35.1	26.7	0.3	35.4	27.0	60.0	50.0	24.6	23.0
3	14.47916	37.0	27.4	0.5	37.5	27.9	60.0	50.0	22.5	22.1
4	16.18937	36.0	26.3	0.5	36.5	26.8	60.0	50.0	23.5	23.2
5	16.3958	38.0	28.9	0.5	38.5	29.4	60.0	50.0	21.5	20.6
6	16.6968	37.8	28.7	0.5	38.3	29.2	60.0	50.0	21.7	20.8
7	22.05992	34.3	26.2	0.7	35.0	26.9	60.0	50.0	25.0	23.1

--- 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	16.90642	36.9	27.7	0.7	37.6	28.4	60.0	50.0	22.4	21.6

■ Operating Mode : DVD COPY_CH04

[Graph and Data]



Final Result

--- N Phase ---

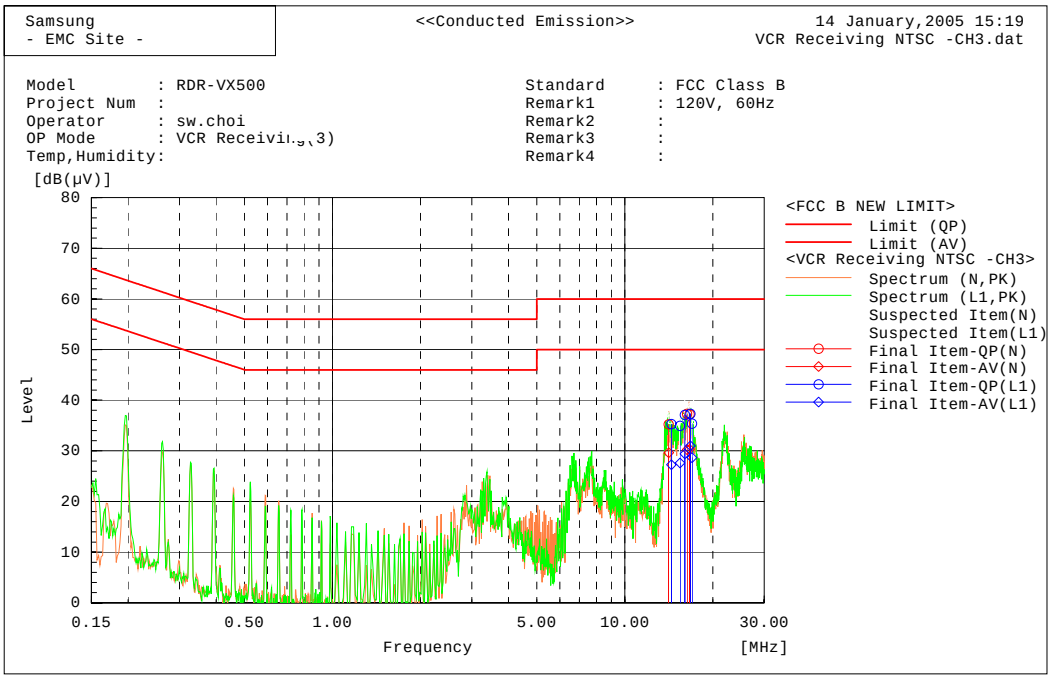
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	16.48878	33.5	28.6	0.5	34.0	29.1	60.0	50.0	26.0	20.9

--- 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	0.19634	38.0	36.2	0.1	38.1	36.3	63.8	53.8	25.7	17.5
2	13.88437	34.1	29.8	0.6	34.7	30.4	60.0	50.0	25.3	19.6
3	14.95331	30.8	24.7	0.6	31.4	25.3	60.0	50.0	28.6	24.7
4	15.55491	32.0	26.2	0.7	32.7	26.9	60.0	50.0	27.3	23.1
5	15.86913	35.1	28.1	0.7	35.8	28.8	60.0	50.0	24.3	21.2
6	17.06633	32.7	25.7	0.7	33.4	26.4	60.0	50.0	26.7	23.7
7	25.05912	33.9	33.2	0.9	34.8	34.1	60.0	50.0	25.2	15.9

■ Operating Mode : VCR REC(NTSC)_CH03

[Graph and Data]



Final Result

--- N Phase ---

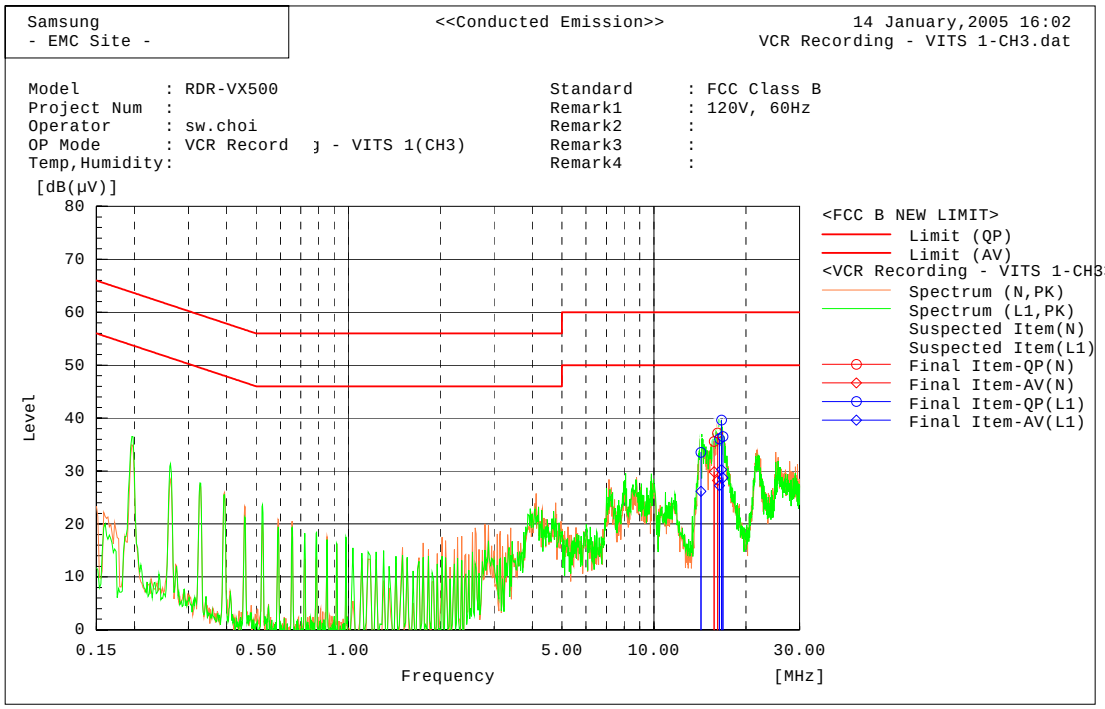
No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	14.12686	34.8	29.1	0.5	35.3	29.6	60.0	50.0	24.8	20.4
2	16.35371	36.8	29.7	0.5	37.3	30.2	60.0	50.0	22.7	19.8
3	16.65632	36.7	29.8	0.5	37.2	30.3	60.0	50.0	22.8	19.7

--- 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	14.42746	34.7	26.6	0.6	35.3	27.2	60.0	50.0	24.7	22.8
2	15.44829	34.3	27.0	0.6	34.9	27.6	60.0	50.0	25.1	22.4
3	16.05591	36.4	28.7	0.7	37.1	29.4	60.0	50.0	22.9	20.6
4	16.78698	36.6	30.3	0.7	37.3	31.0	60.0	50.0	22.7	19.0
5	16.96974	34.7	27.9	0.7	35.4	28.6	60.0	50.0	24.6	21.4

■ Operating Mode : VCR REC(1V VITS)_CH03

[Graph and Data]



Final Result

--- N Phase ---

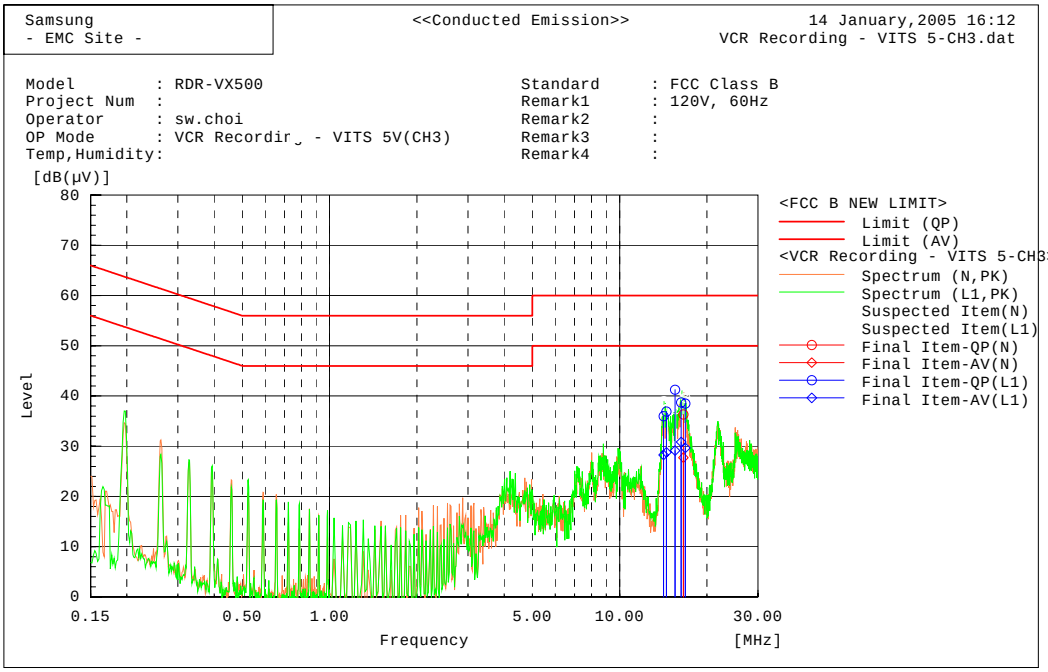
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	16.16613	36.7	27.7	0.5	37.2	28.2	60.0	50.0	22.9	21.8
2	15.74248	35.1	29.3	0.5	35.6	29.8	60.0	50.0	24.4	20.2

--- 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	16.3958	35.4	26.6	0.7	36.1	27.3	60.0	50.0	23.9	22.7
2	16.65591	38.9	29.6	0.7	39.6	30.3	60.0	50.0	20.4	19.7
3	16.84549	35.8	28.0	0.7	36.5	28.7	60.0	50.0	23.5	21.3
4	14.26433	32.9	25.6	0.6	33.5	26.2	60.0	50.0	26.5	23.8

■ Operating Mode : VCR REC(5V VITS)_CH03

[Graph and Data]



Final Result

--- N Phase ---

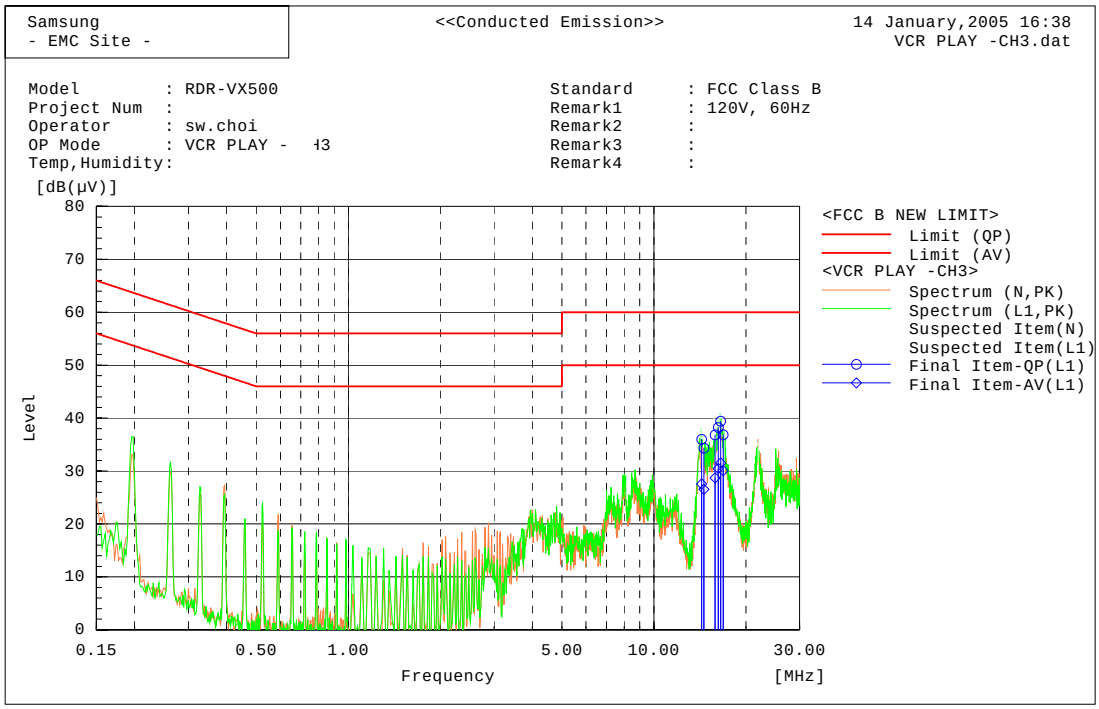
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	16.61022	35.8	27.2	0.5	36.3	27.7	60.0	50.0	23.7	22.3

--- 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	14.17936	35.4	27.7	0.6	36.0	28.3	60.0	50.0	24.0	21.7
2	14.50962	36.3	28.2	0.6	36.9	28.8	60.0	50.0	23.1	21.2
3	15.54729	40.6	28.5	0.6	41.2	29.1	60.0	50.0	18.8	20.9
4	16.32205	38.0	30.1	0.7	38.7	30.8	60.0	50.0	21.3	19.2
5	16.85311	37.8	29.0	0.7	38.5	29.7	60.0	50.0	21.5	20.3

■ Operating Mode : VCR PLAY_CH03

[Graph and Data]



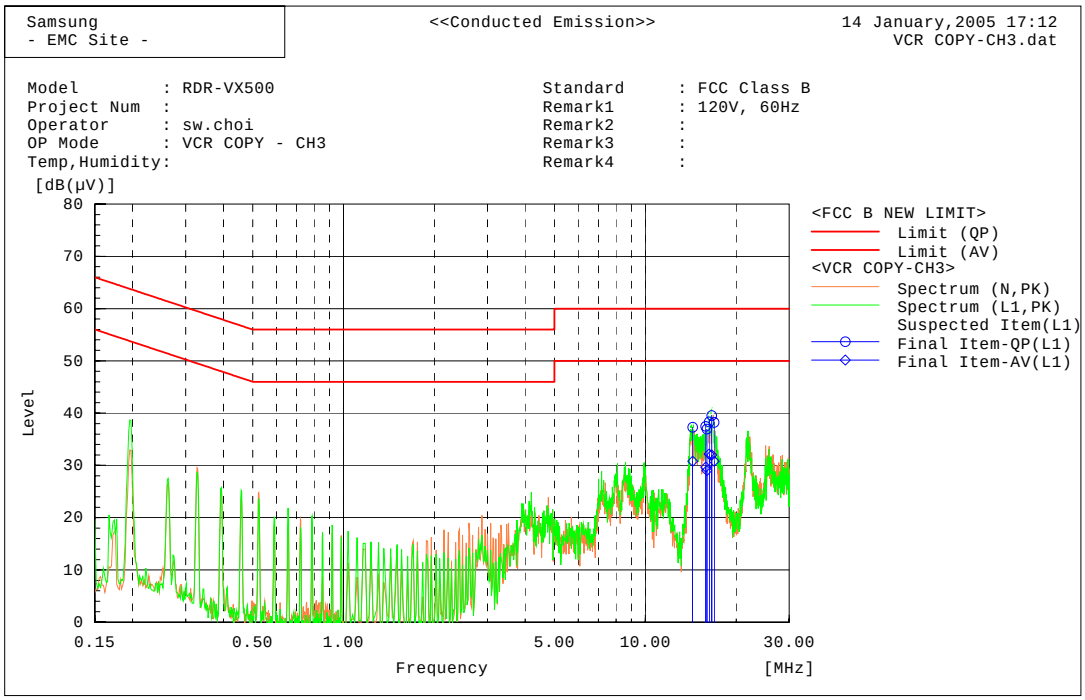
Final Result

--- 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	16.5481	38.7	30.8	0.7	39.4	31.5	60.0	50.0	20.6	18.5
2	16.24229	37.5	29.8	0.7	38.2	30.5	60.0	50.0	21.8	19.5
3	14.33648	35.4	27.0	0.6	36.0	27.6	60.0	50.0	24.0	22.4
4	16.87395	36.2	29.4	0.7	36.9	30.1	60.0	50.0	23.2	19.9
5	15.8503	36.1	28.0	0.7	36.8	28.7	60.0	50.0	23.2	21.3
6	14.5974	33.7	26.0	0.6	34.3	26.6	60.0	50.0	25.7	23.4

■ Operating Mode : VCR COPY_CH03

[Graph and Data]



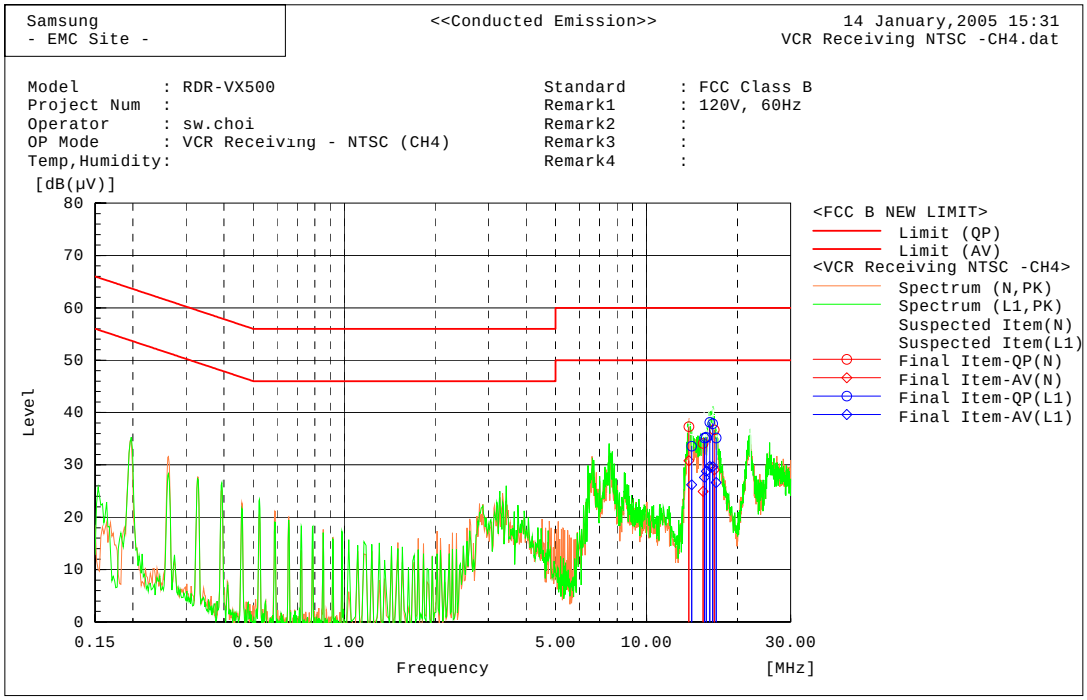
Final Result

--- 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	14.3489	36.7	30.2	0.6	37.3	30.8	60.0	50.0	22.7	19.2
2	15.87515	36.8	29.0	0.7	37.5	29.7	60.0	50.0	22.5	20.3
3	15.99458	36.2	28.3	0.7	36.9	29.0	60.0	50.0	23.1	21.0
4	16.29159	37.6	31.5	0.7	38.3	32.2	60.0	50.0	21.7	17.8
5	16.59459	38.9	31.3	0.7	39.6	32.0	60.0	50.0	20.5	18.0
6	16.91884	37.5	30.1	0.7	38.2	30.8	60.0	50.0	21.8	19.2

■ Operating Mode : VCR REC(NTSC)_CH04

[Graph and Data]



Final Result

--- N Phase ---

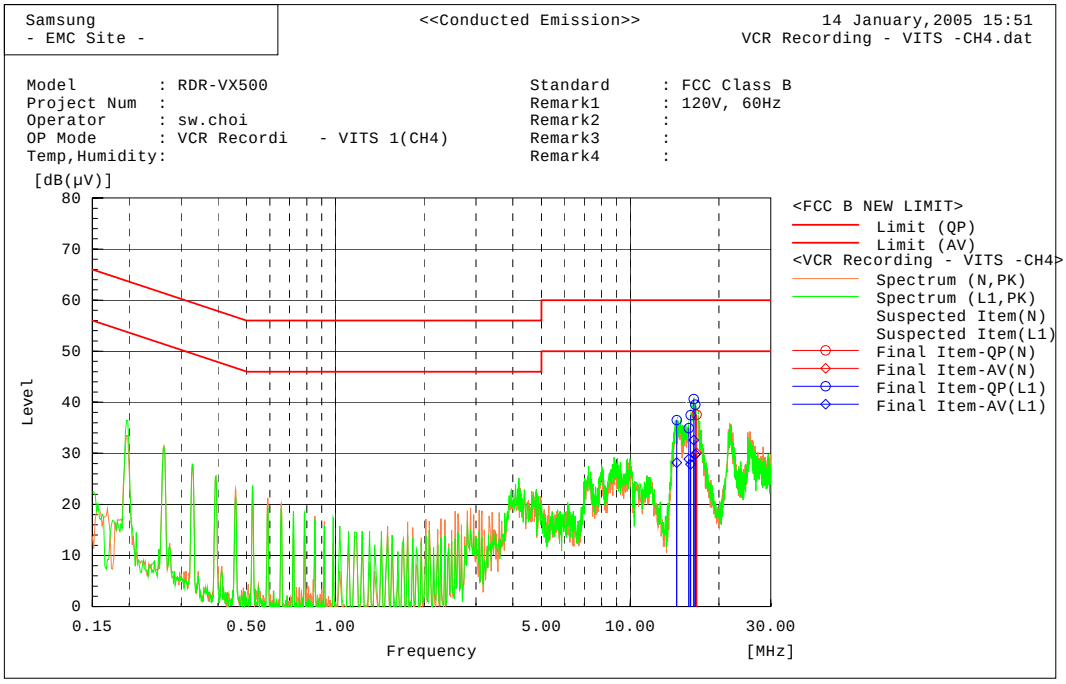
No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	13.82265	36.8	30.3	0.5	37.3	30.8	60.0	50.0	22.7	19.2
2	15.38978	33.6	24.4	0.5	34.1	24.9	60.0	50.0	25.9	25.1
3	16.78297	36.2	28.5	0.5	36.7	29.0	60.0	50.0	23.3	21.0

--- 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	14.12285	33.0	25.6	0.6	33.6	26.2	60.0	50.0	26.4	23.8
2	15.57174	34.4	26.9	0.7	35.1	27.6	60.0	50.0	24.9	22.4
3	15.77936	34.6	28.1	0.7	35.3	28.8	60.0	50.0	24.7	21.2
4	16.19178	37.4	29.0	0.7	38.1	29.7	60.0	50.0	21.9	20.3
5	16.57375	37.2	29.0	0.7	37.9	29.7	60.0	50.0	22.1	20.4
6	17.02345	34.4	25.9	0.7	35.1	26.6	60.0	50.0	24.9	23.4

■ Operating Mode : VCR REC(1V VITS)_CH04

[Graph and Data]



Final Result

--- N Phase ---

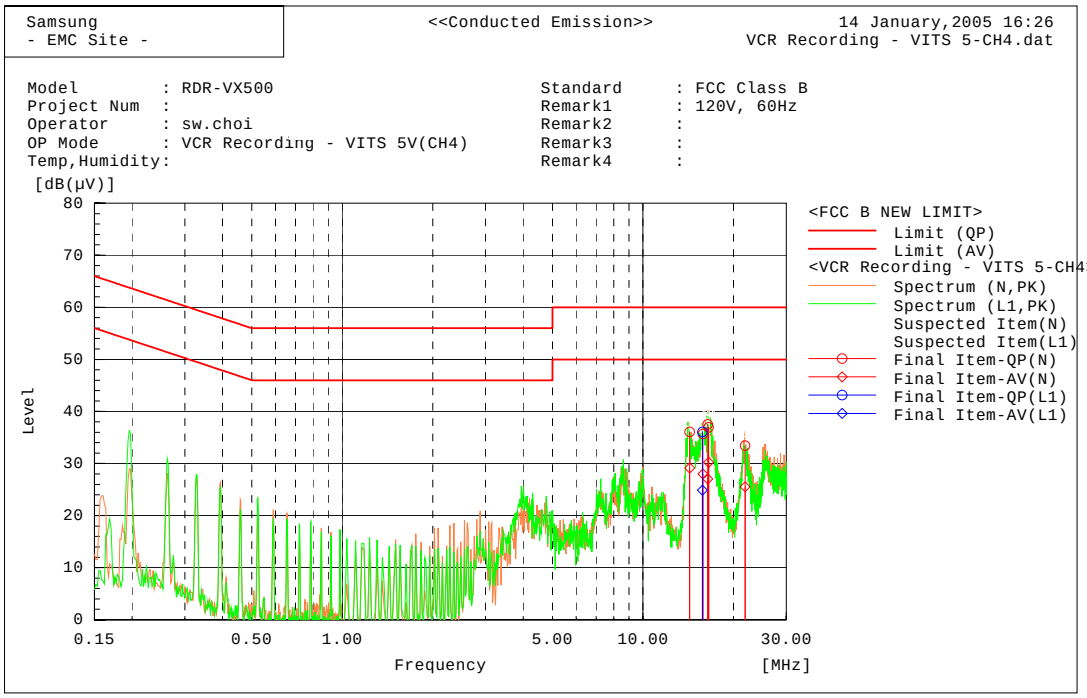
No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	16.80902	37.1	29.5	0.5	37.6	30.0	60.0	50.0	22.4	20.0

--- 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	14.38738	35.9	27.6	0.6	36.5	28.2	60.0	50.0	23.5	21.8
2	15.79739	34.2	28.2	0.7	34.9	28.9	60.0	50.0	25.1	21.1
3	16.03426	36.8	27.2	0.7	37.5	27.9	60.0	50.0	22.5	22.1
4	16.42626	39.9	31.9	0.7	40.6	32.6	60.0	50.0	19.4	17.4
5	16.64189	38.8	29.1	0.7	39.5	29.8	60.0	50.0	20.5	20.2

■ Operating Mode : VCR REC(5V VITS)_CH04

[Graph and Data]



Final Result

--- N Phase ---

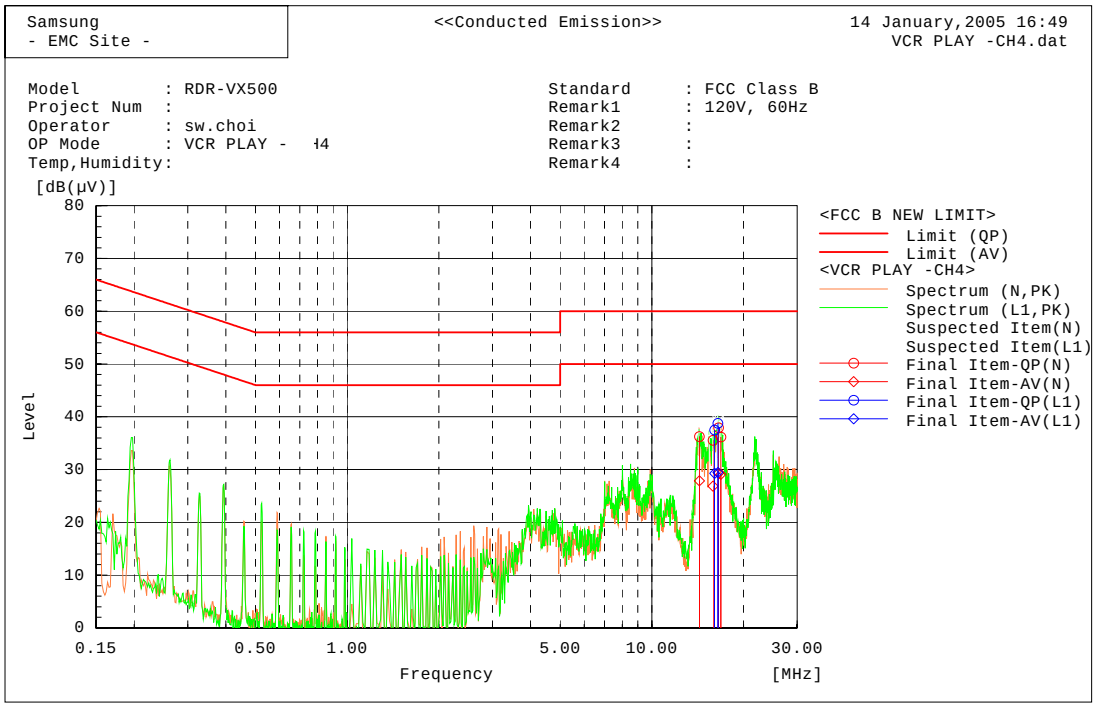
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	14.31604	35.6	28.6	0.5	36.1	29.1	60.0	50.0	23.9	20.9
2	15.83226	35.2	27.5	0.5	35.7	28.0	60.0	50.0	24.3	22.0
3	16.41864	37.0	26.6	0.5	37.5	27.1	60.0	50.0	22.5	23.0
4	16.55371	36.4	29.8	0.5	36.9	30.3	60.0	50.0	23.1	19.8
5	21.88998	32.8	24.9	0.6	33.4	25.5	60.0	50.0	26.6	24.5

--- 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	15.77575	35.4	24.2	0.7	36.1	24.9	60.0	50.0	23.9	25.1

■ Operating Mode : VCR PLAY_CH04

[Graph and Data]



Final Result

--- N Phase ---

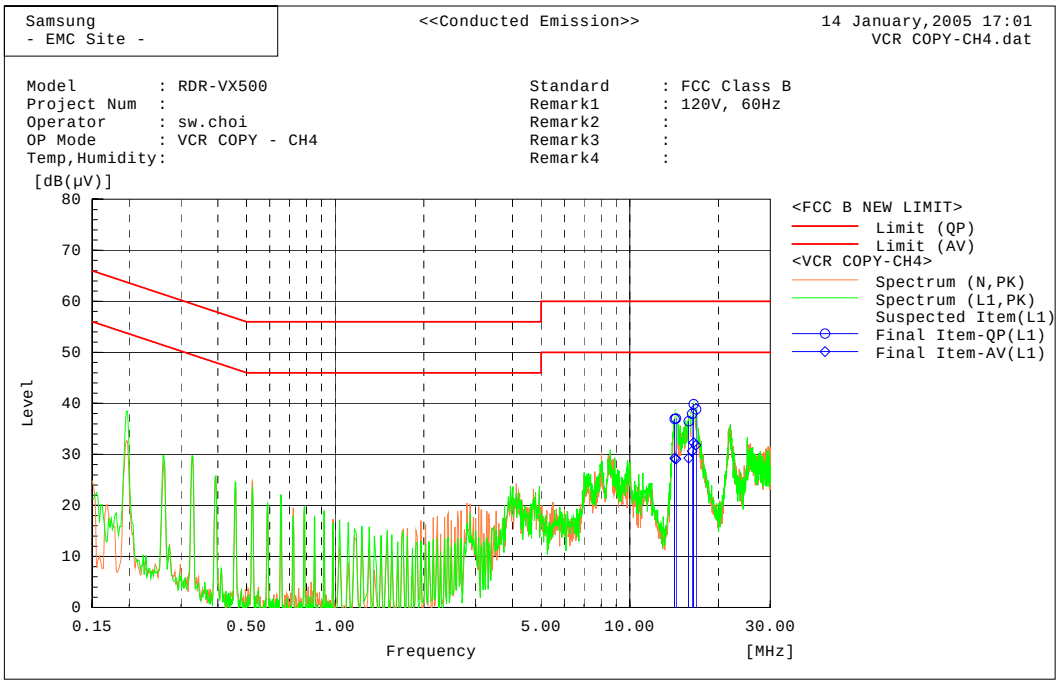
No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	16.55692	37.4	28.8	0.5	37.9	29.3	60.0	50.0	22.1	20.7
2	15.88276	35.0	26.4	0.5	35.5	26.9	60.0	50.0	24.5	23.2
3	16.86794	35.7	28.6	0.5	36.2	29.1	60.0	50.0	23.8	20.9
4	14.33968	35.7	27.4	0.5	36.2	27.9	60.0	50.0	23.8	22.2

--- 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	16.49119	38.0	28.8	0.7	38.7	29.5	60.0	50.0	21.3	20.5
2	16.08156	36.8	28.6	0.7	37.5	29.3	60.0	50.0	22.5	20.7

■ Operating Mode : VCR COPY_CH04

[Graph and Data]



Final Result

--- 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	14.21984	36.3	28.7	0.6	36.9	29.3	60.0	50.0	23.1	20.8
2	14.3493	36.5	28.5	0.6	37.1	29.1	60.0	50.0	23.0	20.9
3	15.87515	35.8	28.6	0.7	36.5	29.3	60.0	50.0	23.5	20.7
4	16.29439	37.2	29.9	0.7	37.9	30.6	60.0	50.0	22.1	19.4
5	16.47676	39.1	31.6	0.7	39.8	32.3	60.0	50.0	20.2	17.7
6	16.797	38.1	31.1	0.7	38.8	31.8	60.0	50.0	21.2	18.2

3.2 Radiated Emission

Test Information		
	Test Engineer	Sung Wook,Choi
	Test Date	January 7, 2005 ~ January 11, 2005
	Climate Condition	Ambient Temperature : 23℃ Relative Humidity : 45%
	Test Place	10m Semi-anechoic Chamber

Test Equipments

Equipment	Modal Name	Manufacturer	Serial No.	Calibration	
				Next Date	Interval
Field strength meter	ESCS	R&S	100104	2005-10-17	12
RF Selector	NS4900	TOYO	0303-015	N/A	N/A
Biconilog Antenna	6112B	SCHAFFNER	2767	2006-05-22	12
Mast Controller	HD2000	HD	HD20000902027	N/A	N/A
Test Software	EP5RE	TOYO	None	N/A	12
TV Signal Generator	PM5418-TDSI	PHILIPS	LO612437	2006-09-20	12
Spectrum Analyzer	E7405A	Agilent	MY42000109	2005-11-27	12

EUT Test Setup

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

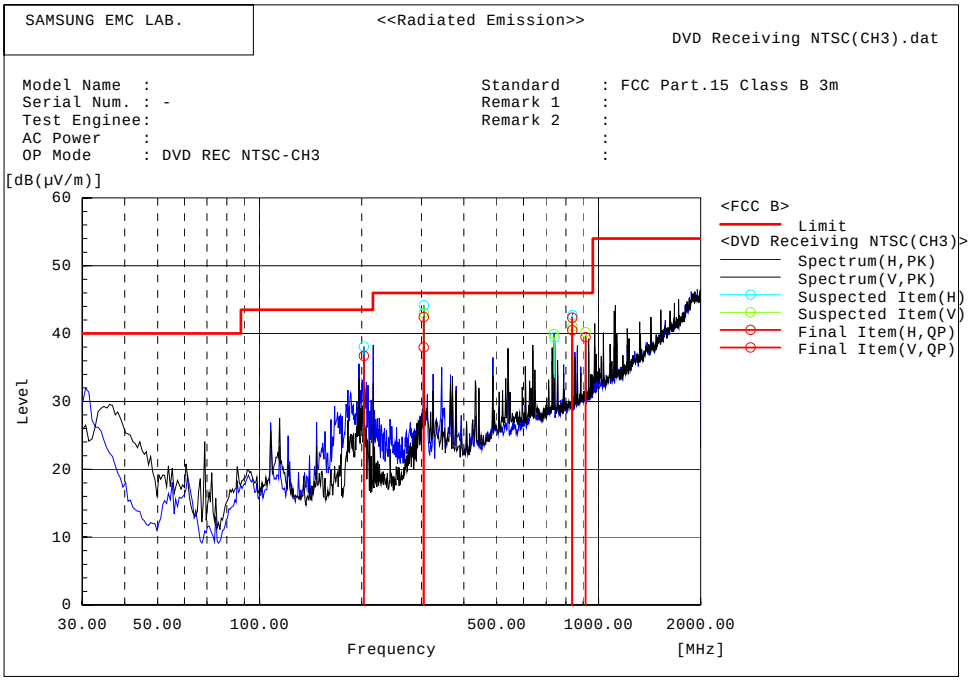
All ports terminated into characteristic loads.

Test Result

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

Test Data

■ Operating Mode : DVD REC(NTSC)_CH03



Final Result

--- Horizontal Polarization (QP)---

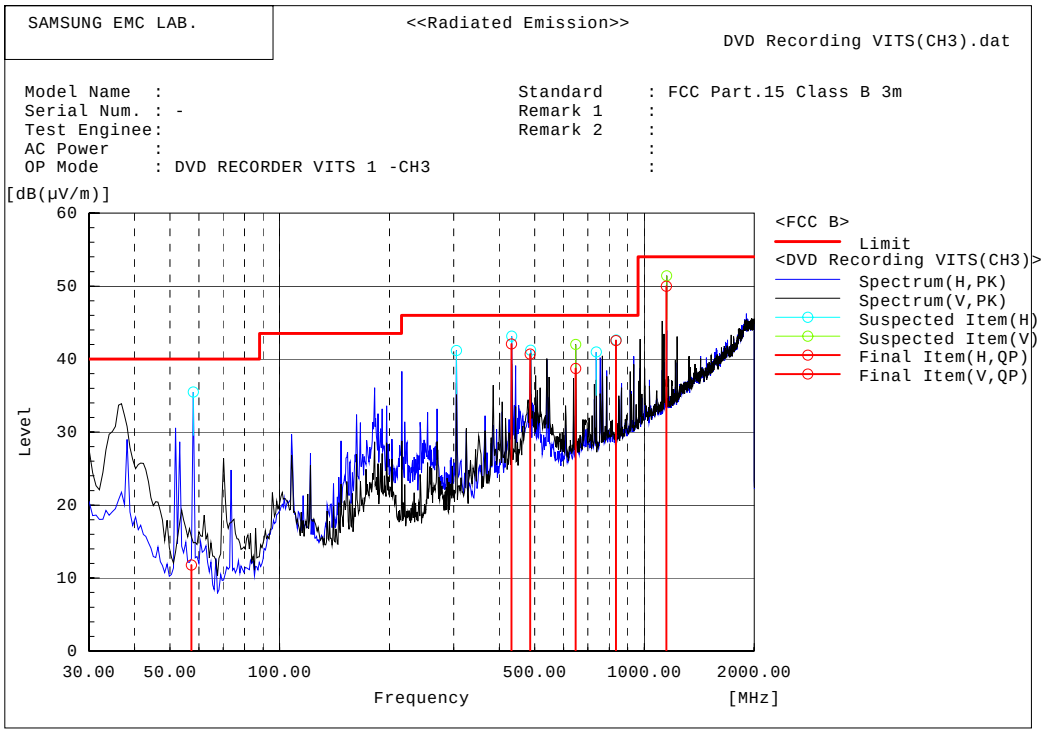
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	304.730	45.8	-7.8	38.0	46.0	8.0	
2	835.570	38.6	1.9	40.5	46.0	5.5	
3	203.138	50.6	-13.9	36.7	43.5	6.8	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	304.710	50.3	-7.8	42.5	46.0	3.6	
2	835.570	40.5	1.9	42.4	46.0	3.7	
3	914.130	36.0	3.5	39.5	46.0	6.5	

■ Operating Mode : DVD REC(1V VITS)_CH03

[Graph and Data]



Final Result

--- Horizontal Polarization (QP)---

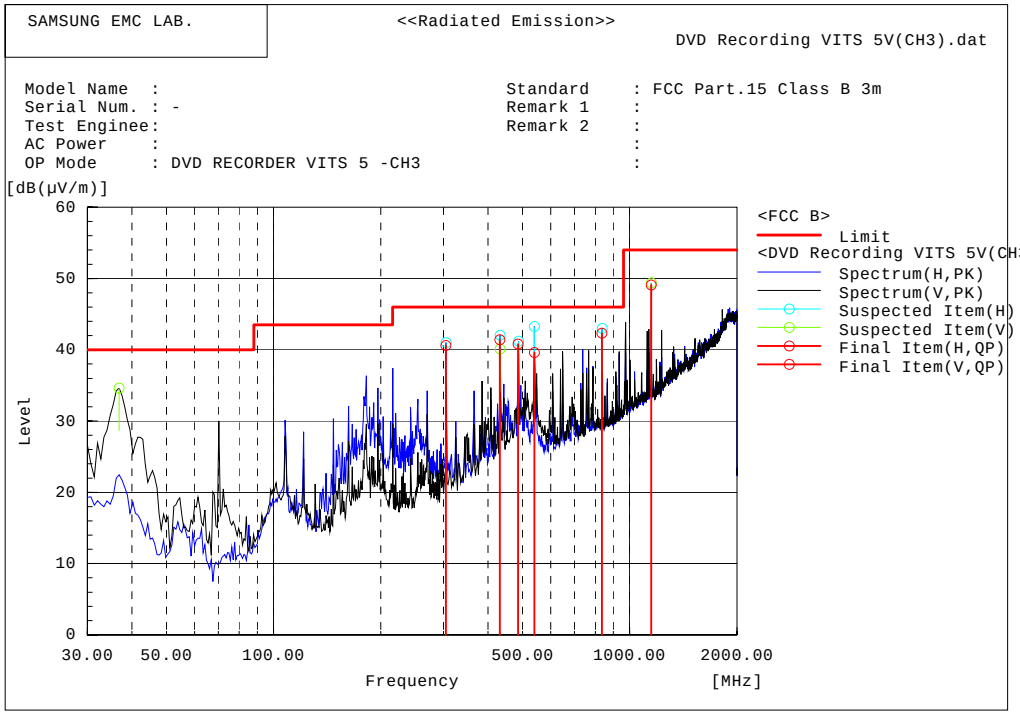
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	57.277	31.5	-19.7	11.8	40.0	28.2	
2	432.000	46.7	-4.6	42.1	46.0	3.9	
3	486.010	43.8	-3.1	40.7	46.0	5.3	
4	835.570	40.6	1.9	42.5	46.0	3.5	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	648.010	39.0	-0.3	38.7	46.0	7.3	
2	1149.710	42.5	7.5	50.0	54.0	4.0	

■ Operating Mode : DVD REC(5V VITS)_CH03

[Graph and Data]



Final Result

--- Horizontal Polarization (QP)---

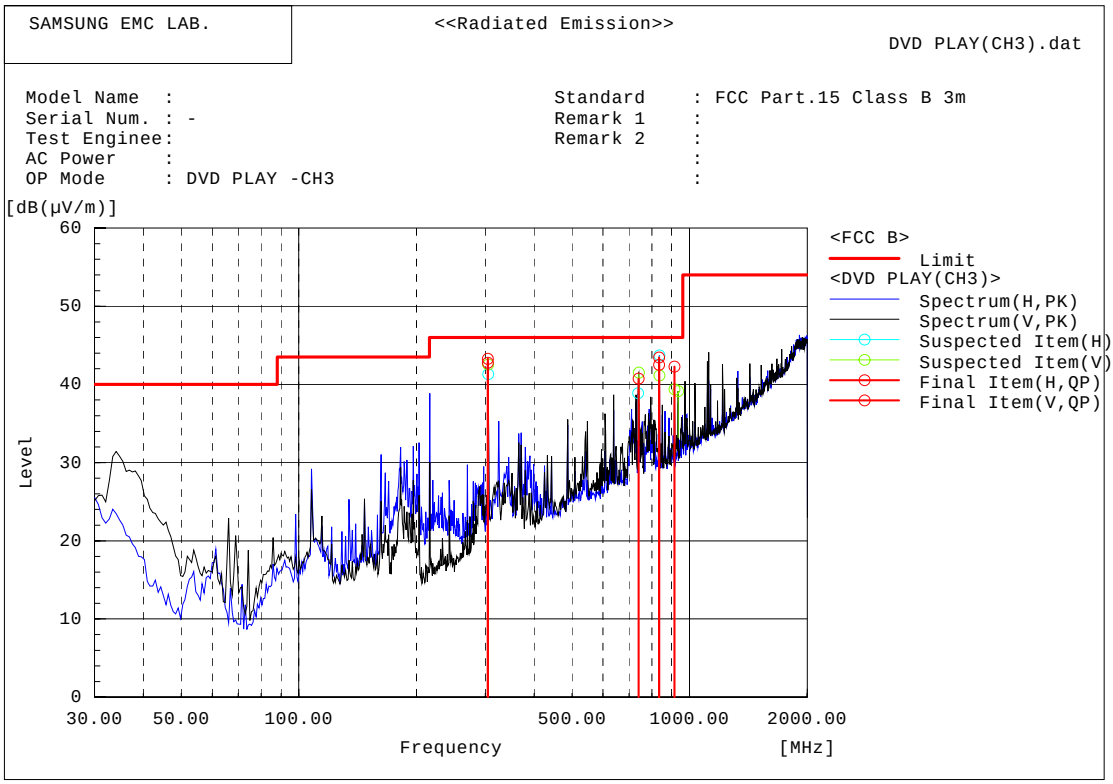
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	304.850	48.3	-7.7	40.6	46.0	5.4	
2	432.000	46.0	-4.6	41.4	46.0	4.6	
3	486.010	43.9	-3.1	40.8	46.0	5.2	
4	539.790	41.6	-2.0	39.6	46.0	6.4	
5	835.570	40.4	1.9	42.3	46.0	3.7	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1149.720	41.6	7.5	49.1	54.0	4.9	

■ Operating Mode : DVD PLAY_CH03

[Graph and Data]



Final Result

--- Horizontal Polarization (QP)---

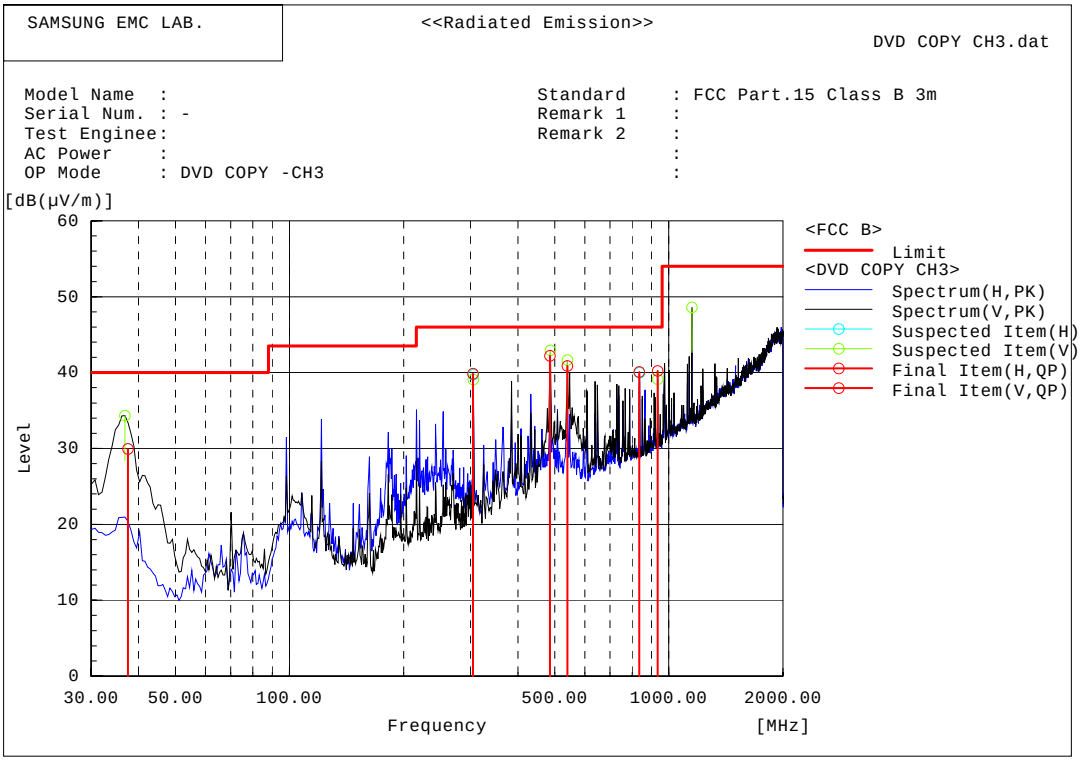
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	835.570	41.6	1.9	43.5	46.0	2.6	
2	304.710	50.6	-7.8	42.8	46.0	3.2	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	304.710	51.1	-7.8	43.3	46.0	2.7	
2	740.090	39.6	1.1	40.7	46.0	5.3	
3	835.570	40.6	1.9	42.5	46.0	3.5	
4	914.130	38.8	3.5	42.3	46.0	3.7	

■ Operating Mode : DVD COPY_CH03

[Graph and Data]



Final Result

--- Horizontal Polarization (QP)---

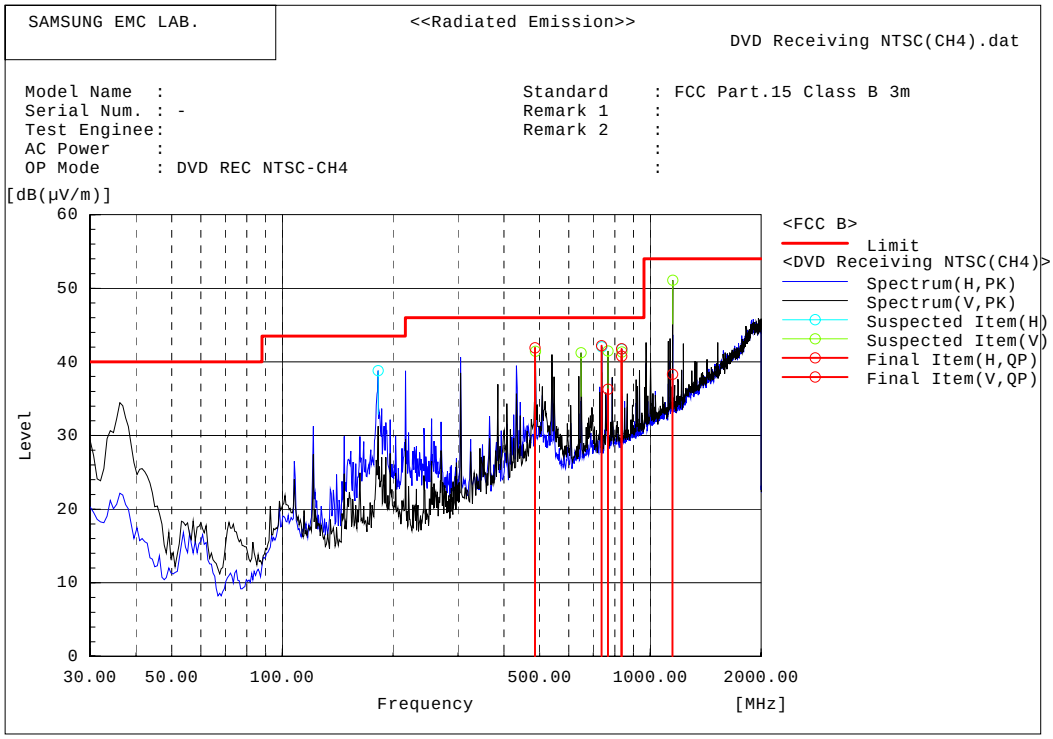
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	835.570	38.2	1.9	40.1	46.0	5.9	
2	304.850	47.6	-7.7	39.9	46.0	6.2	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	486.010	45.3	-3.1	42.2	46.0	3.8	
2	540.010	42.9	-2.0	40.9	46.0	5.1	
3	37.520	41.9	-12.0	29.9	40.0	10.1	
4	933.870	36.5	3.7	40.2	46.0	5.8	

■ Operating Mode : DVD REC(NTSC)_CH04

[Graph and Data]



Final Result

--- Horizontal Polarization (QP)---

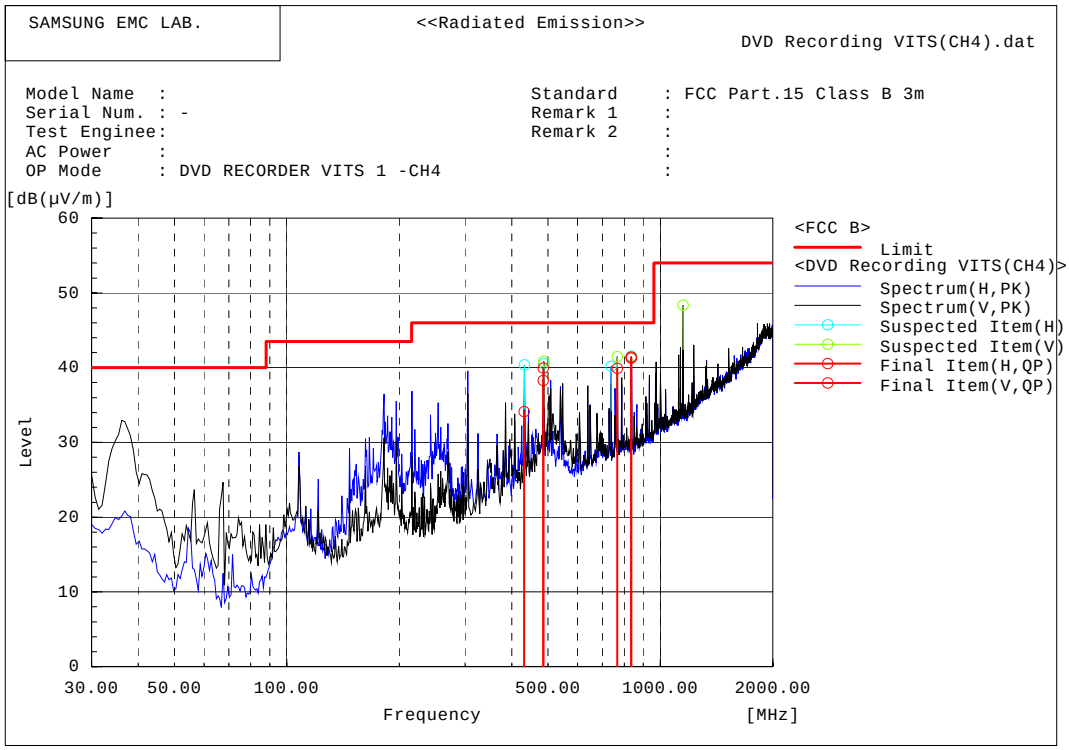
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	737.270	41.1	1.1	42.2	46.0	3.8	
2	835.570	39.9	1.9	41.8	46.0	4.2	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	486.010	45.0	-3.1	41.9	46.0	4.1	
2	766.500	35.0	1.3	36.3	46.0	9.7	
3	835.570	38.9	1.9	40.8	46.0	5.2	
4	1148.730	30.8	7.5	38.3	54.0	15.7	

■ Operating Mode : DVD REC(1V VITS)_CH04

[Graph and Data]



Final Result

--- Horizontal Polarization (QP)---

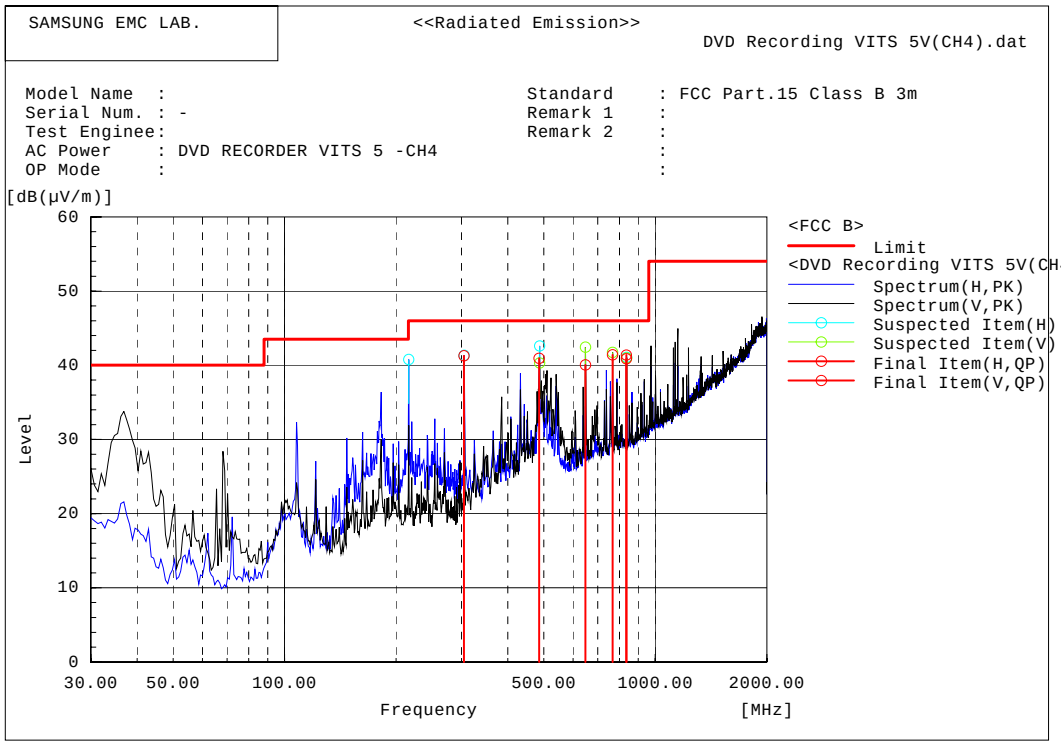
No.	Frequency [MHz]	Reading [dB(µV)]	c.f [dB(1/m)]	Result [dB(µV/m)]	Limit [dB(µV/m)]	Margin [dB]	Remark
1	432.000	38.7	-4.6	34.1	46.0	11.9	
2	486.010	43.1	-3.1	40.0	46.0	6.1	
3	835.570	39.4	1.9	41.3	46.0	4.7	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(µV)]	c.f [dB(1/m)]	Result [dB(µV/m)]	Limit [dB(µV/m)]	Margin [dB]	Remark
1	486.010	41.4	-3.1	38.3	46.0	7.7	
2	766.520	38.6	1.3	39.9	46.0	6.1	
3	835.570	39.5	1.9	41.4	46.0	4.6	

■ Operating Mode : DVD REC(5V VITS)_CH04

[Graph and Data]



Final Result

--- Horizontal Polarization (QP)---

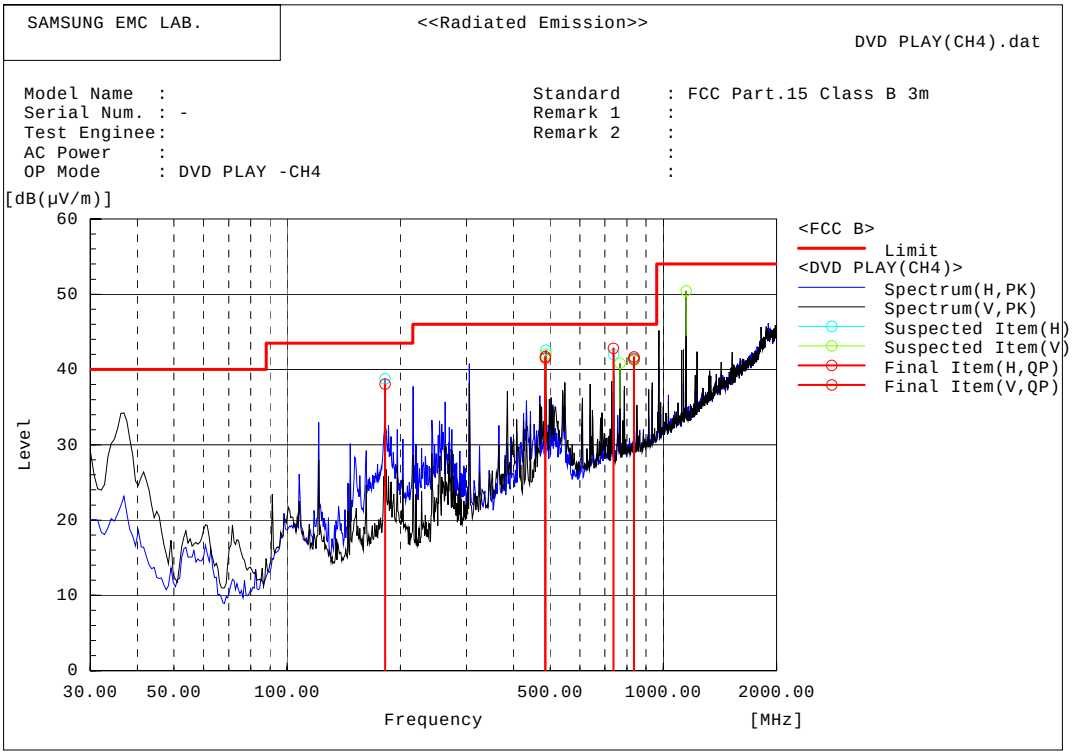
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	304.850	49.0	-7.7	41.3	46.0	4.7	
2	486.010	44.0	-3.1	40.9	46.0	5.1	
3	835.570	39.5	1.9	41.4	46.0	4.6	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	648.010	40.3	-0.3	40.0	46.0	6.0	
2	766.520	40.1	1.3	41.4	46.0	4.6	
3	835.570	39.0	1.9	40.9	46.0	5.1	

■ Operating Mode : DVD PLAY_CH04

[Graph and Data]



Final Result

--- Horizontal Polarization (QP)---

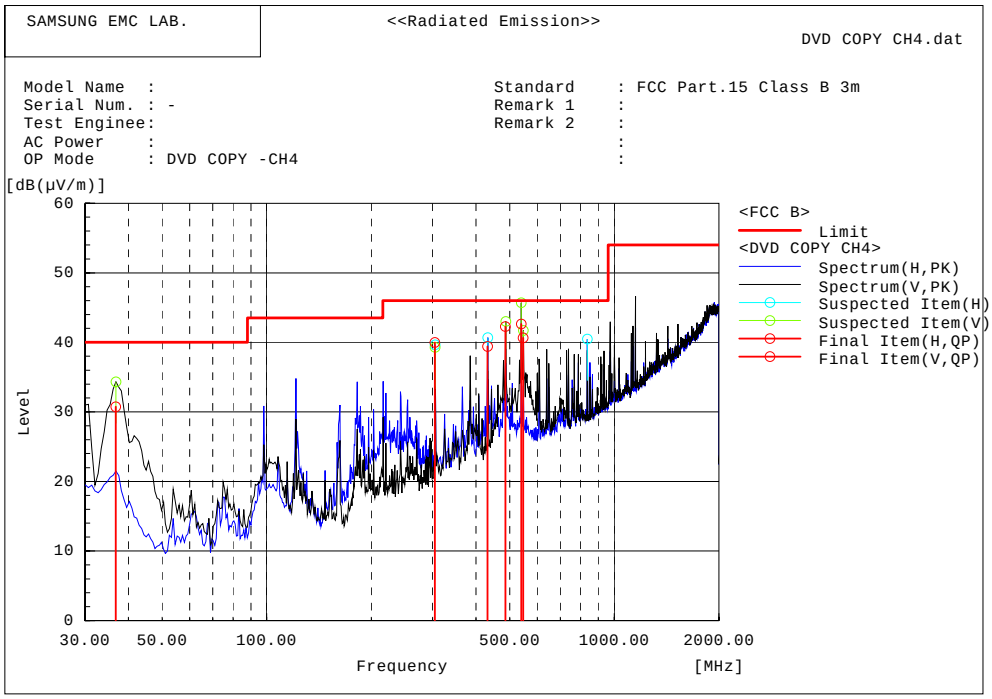
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	182.246	52.3	-14.3	38.0	43.5	5.5	
2	486.010	44.6	-3.1	41.5	46.0	4.5	
3	737.270	41.7	1.1	42.8	46.0	3.2	
4	835.570	39.8	1.9	41.7	46.0	4.3	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	486.010	44.8	-3.1	41.7	46.0	4.3	
2	835.570	39.5	1.9	41.4	46.0	4.6	

■ Operating Mode : DVD COPY_CH04

[Graph and Data]



Final Result

--- Horizontal Polarization (QP)---

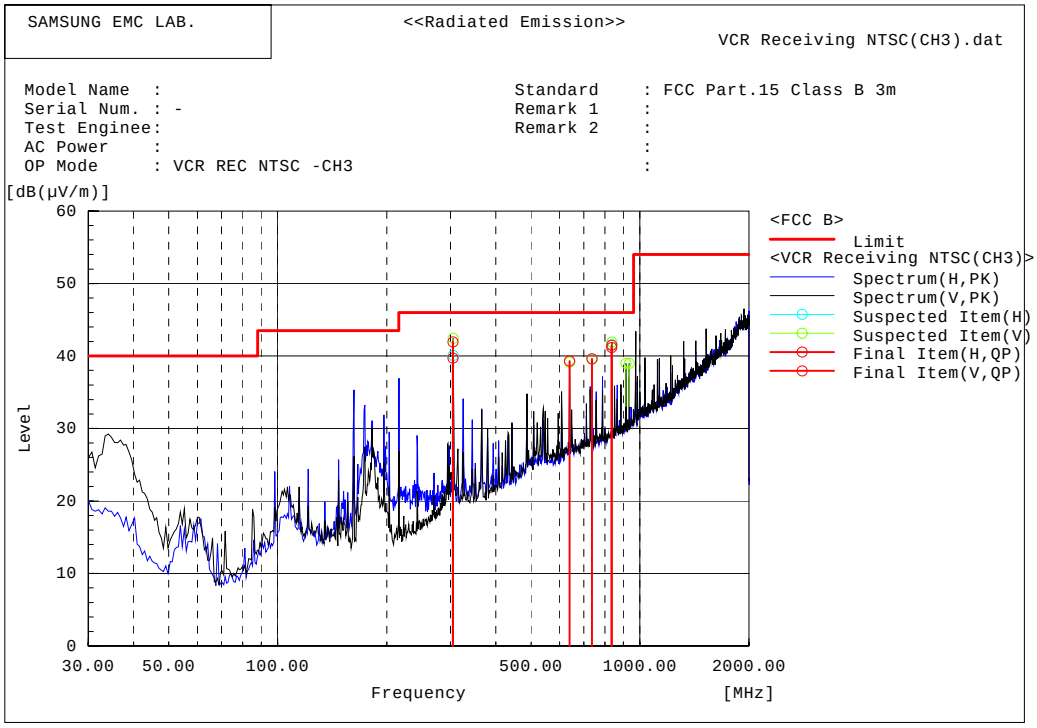
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	304.850	47.7	-7.7	40.0	46.0	6.0	
2	432.000	44.0	-4.6	39.4	46.0	6.6	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	36.784	42.3	-11.6	30.7	40.0	9.3	
2	540.010	44.7	-2.0	42.7	46.0	3.4	
3	486.010	45.4	-3.1	42.3	46.0	3.7	
4	546.750	42.6	-1.9	40.7	46.0	5.4	

■ Operating Mode : VCR REC(NTSC)_CH03

[Graph and Data]



Final Result

--- Horizontal Polarization (QP)---

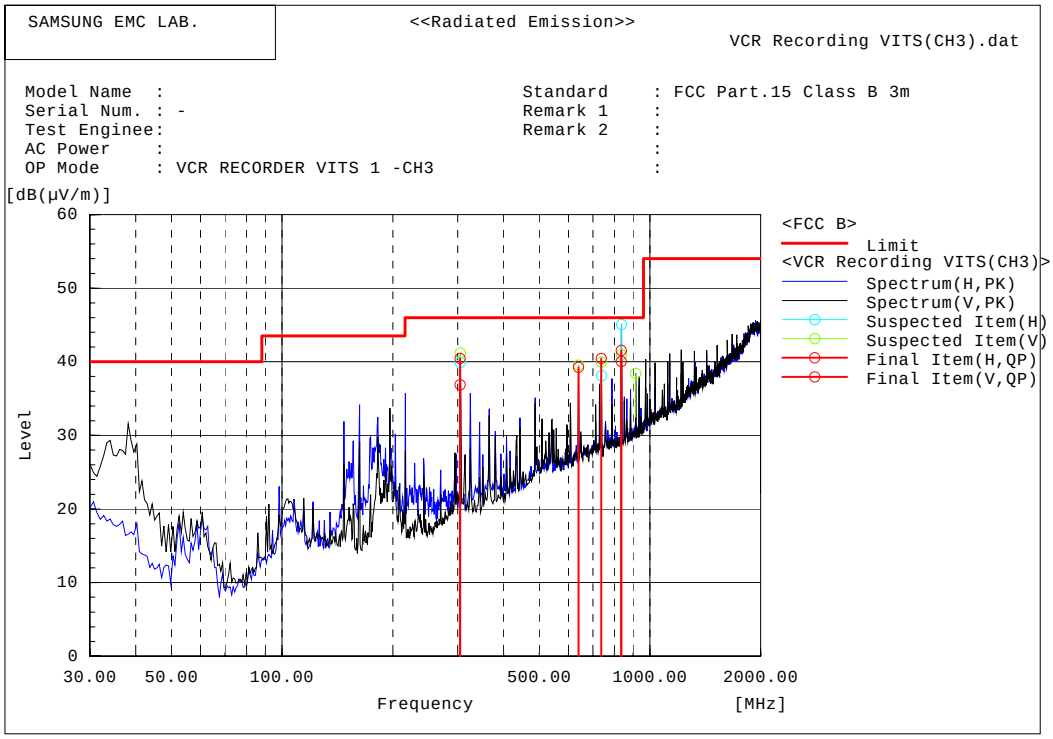
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	835.570	39.3	1.9	41.2	46.0	4.8	
2	304.730	47.5	-7.8	39.7	46.0	6.3	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	304.710	49.8	-7.8	42.0	46.0	4.1	
2	835.570	39.6	1.9	41.5	46.0	4.5	
3	737.270	38.5	1.1	39.6	46.0	6.4	
4	638.980	39.8	-0.5	39.3	46.0	6.7	

■ Operating Mode : VCR REC(1V VITS)_CH03

[Graph and Data]



Final Result

--- Horizontal Polarization (QP)---

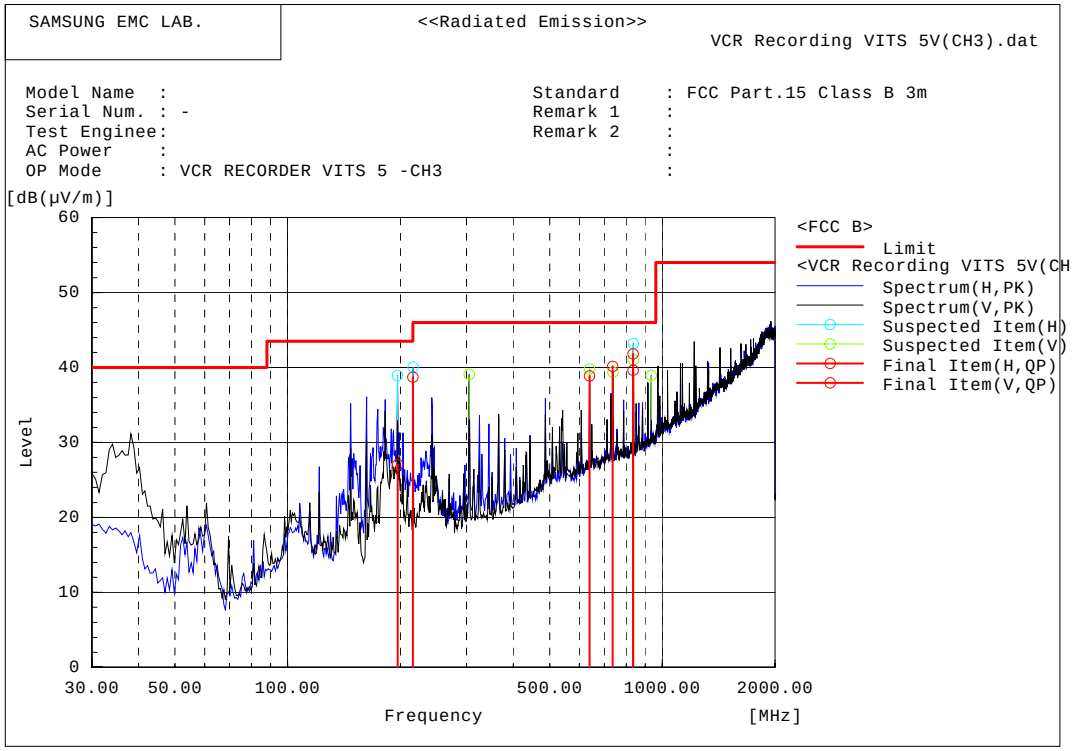
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	835.570	38.1	1.9	40.0	46.0	6.0	
2	304.730	44.7	-7.8	36.9	46.0	9.1	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	304.730	48.3	-7.8	40.5	46.0	5.6	
2	835.570	39.7	1.9	41.6	46.0	4.5	
3	737.270	39.3	1.1	40.4	46.0	5.6	
4	638.980	39.7	-0.5	39.2	46.0	6.8	

■ Operating Mode : VCR REC(5V VITS)_CH03

[Graph and Data]



Final Result

--- Horizontal Polarization (QP)---

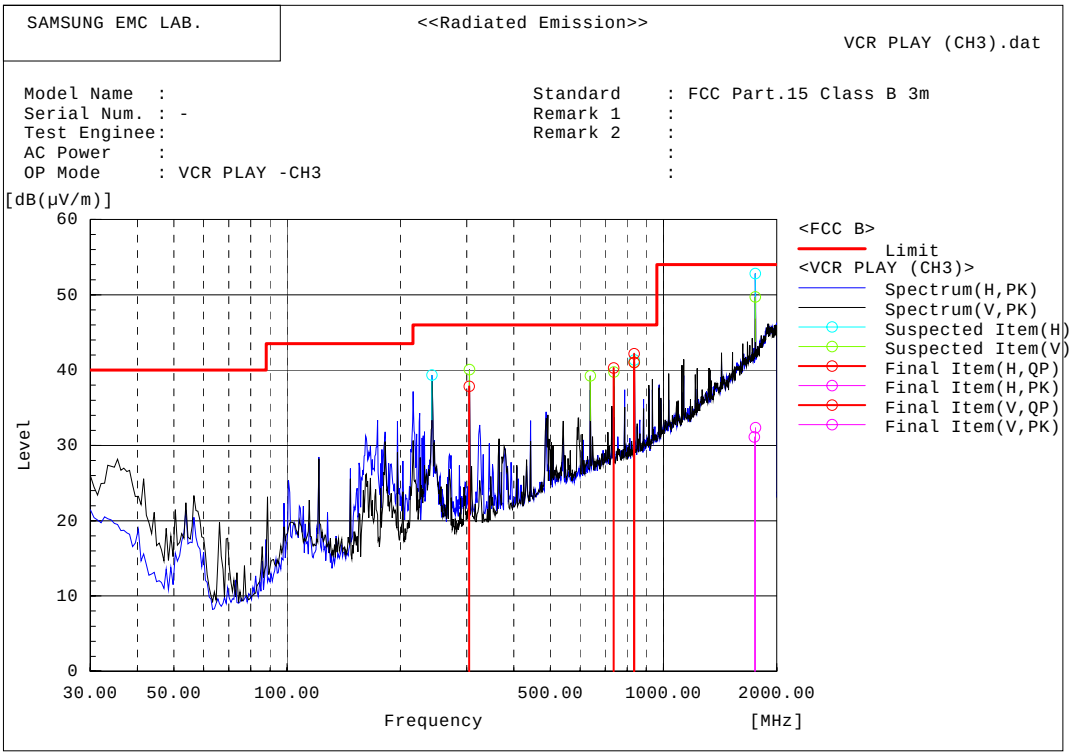
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	835.570	39.9	1.9	41.8	46.0	4.2	
2	196.604	41.0	-14.0	27.0	43.5	16.5	
3	216.017	52.4	-13.7	38.7	46.0	7.3	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	835.570	37.8	1.9	39.7	46.0	6.3	
2	638.980	39.4	-0.5	38.9	46.0	7.1	
3	737.270	39.1	1.1	40.2	46.0	5.8	

■ Operating Mode : VCR PLAY_CH03

[Graph and Data]



Final Result

--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1754.770	--------	17.6	--------	54.0	--------	
2	835.570	39.1	1.9	41.0	46.0	5.0	

--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1754.770	14.8	17.6	32.4	54.0	21.6	
2	835.570	--------	1.9	--------	46.0	--------	

--- Vertical Polarization (QP)---

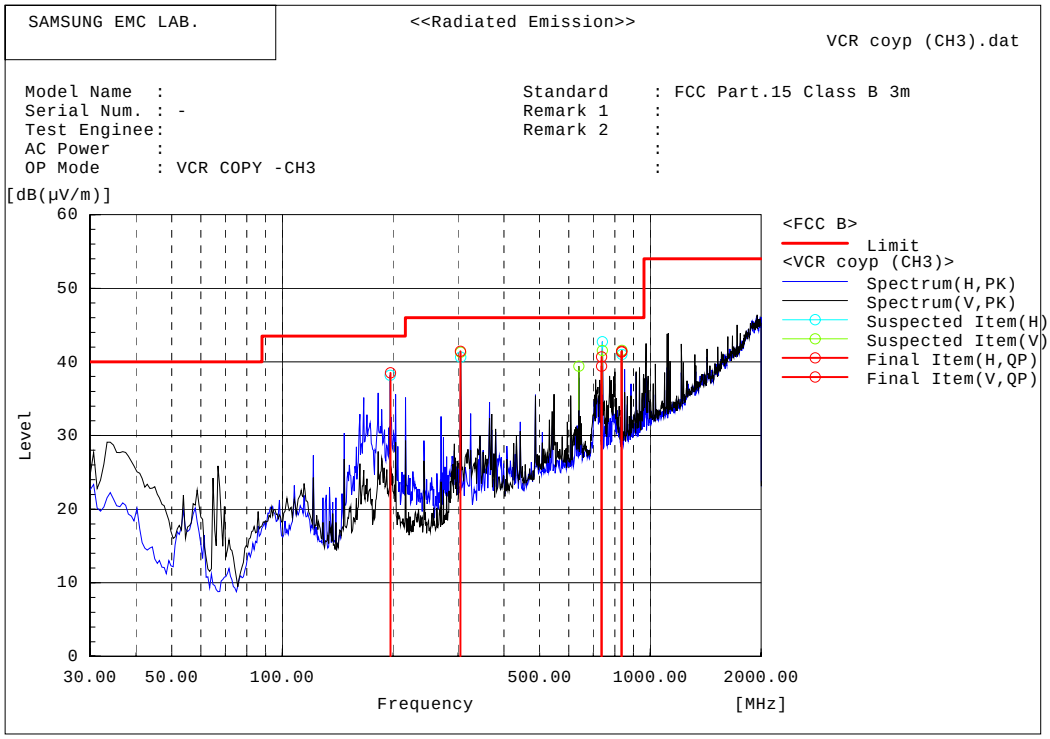
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1741.910	--------	17.3	--------	54.0	--------	
2	835.570	40.3	1.9	42.2	46.0	3.8	
3	304.730	45.7	-7.8	37.9	46.0	8.2	
4	737.270	39.2	1.1	40.3	46.0	5.7	

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1741.910	13.8	17.3	31.1	54.0	22.9	
2	835.570	--------	1.9	--------	46.0	--------	
3	304.730	--------	-7.8	--------	46.0	--------	
4	737.270	--------	1.1	--------	46.0	--------	

■ Operating Mode : VCR COPY_CH03

[Graph and Data]



Final Result

--- Horizontal Polarization (QP)---

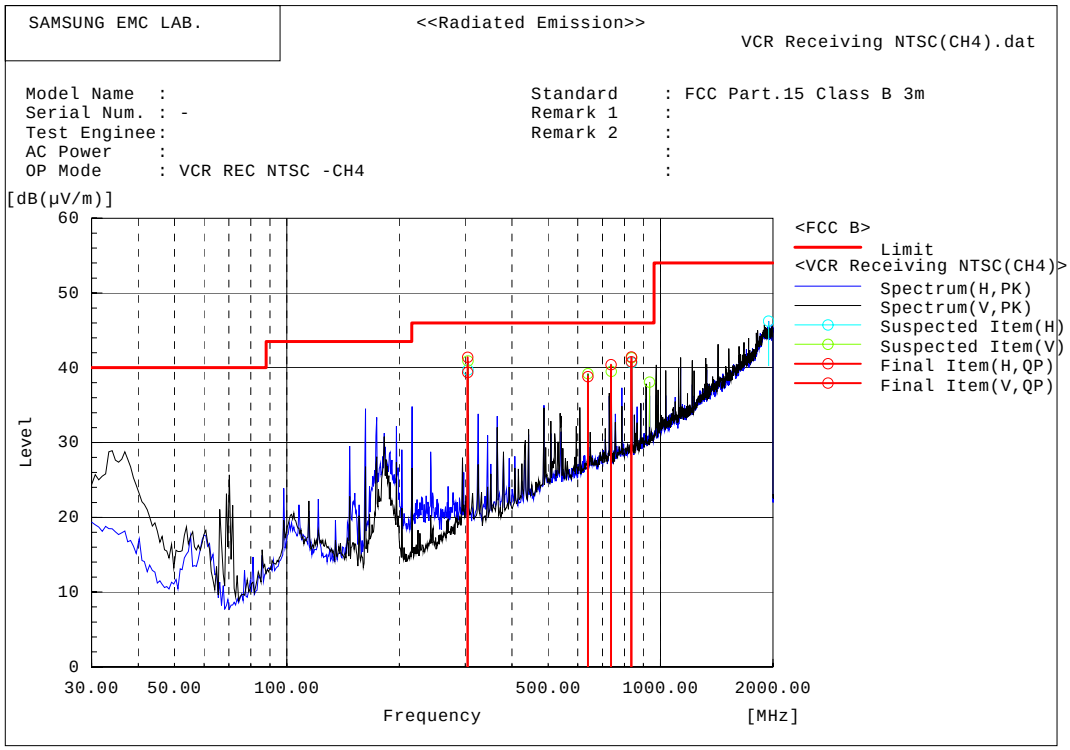
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	737.270	38.3	1.1	39.4	46.0	6.6	
2	835.570	39.4	1.9	41.3	46.0	4.7	
3	196.604	52.5	-14.0	38.5	43.5	5.0	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	835.570	39.5	1.9	41.4	46.0	4.6	
2	737.270	39.6	1.1	40.7	46.0	5.3	
3	304.710	49.2	-7.8	41.4	46.0	4.6	

■ Operating Mode : VCR REC(NTSC)_CH04

[Graph and Data]



Final Result

--- Horizontal Polarization (QP)---

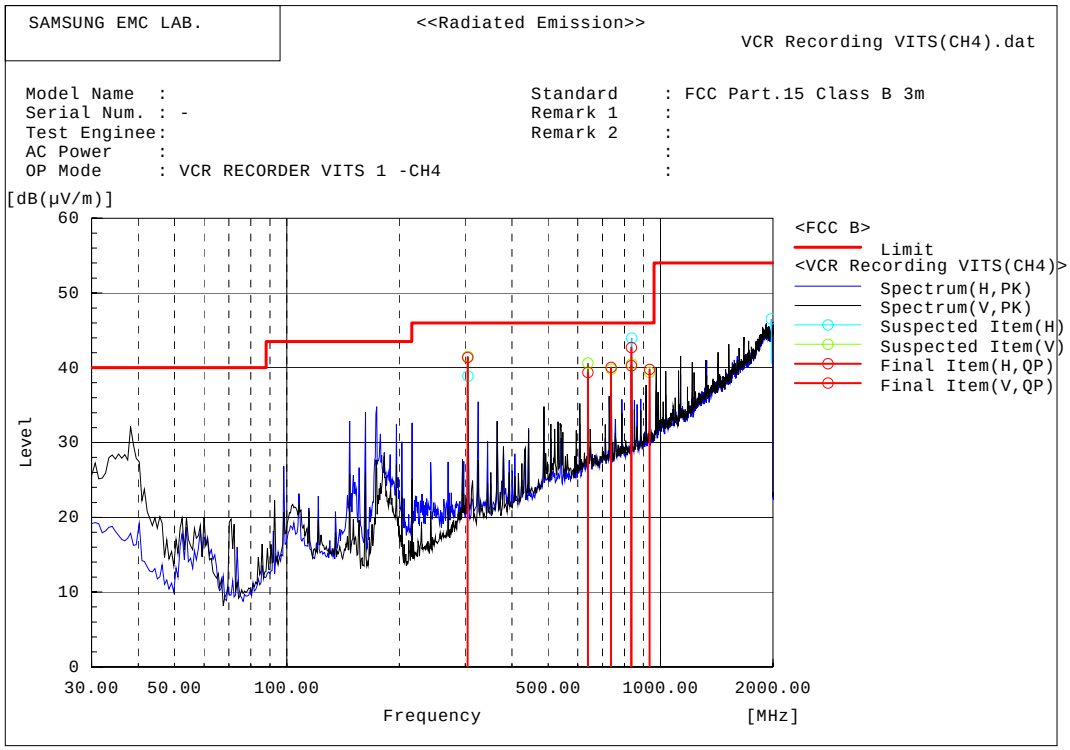
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	835.570	38.9	1.9	40.8	46.0	5.2	
2	304.730	47.2	-7.8	39.4	46.0	6.6	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	835.570	39.6	1.9	41.5	46.0	4.6	
2	304.730	49.2	-7.8	41.4	46.0	4.6	
3	737.270	39.3	1.1	40.4	46.0	5.6	
4	638.980	39.3	-0.5	38.8	46.0	7.2	

■ Operating Mode : VCR REC(1V VITS)_CH04

[Graph and Data]



Final Result

--- Horizontal Polarization (QP)---

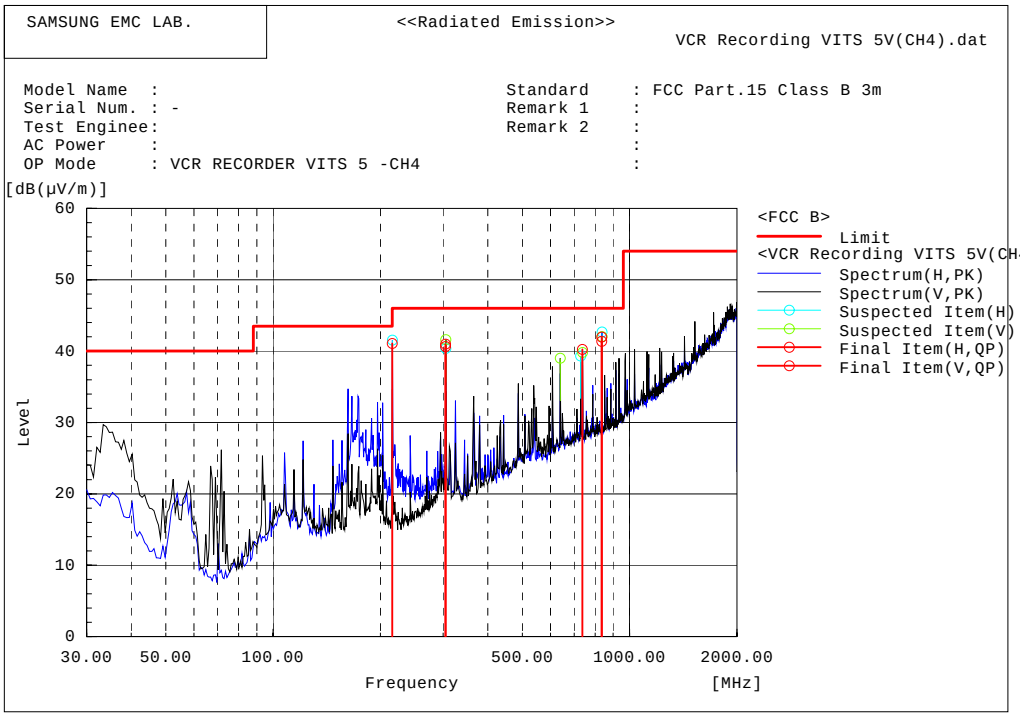
No.	Frequency [MHz]	Reading [dB(µV)]	c.f [dB(1/m)]	Result [dB(µV/m)]	Limit [dB(µV/m)]	Margin [dB]	Remark
1	835.570	40.8	1.9	42.7	46.0	3.3	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(µV)]	c.f [dB(1/m)]	Result [dB(µV/m)]	Limit [dB(µV/m)]	Margin [dB]	Remark
1	304.730	49.2	-7.8	41.4	46.0	4.6	
2	638.980	39.9	-0.5	39.4	46.0	6.6	
3	835.570	38.4	1.9	40.3	46.0	5.7	
4	737.270	39.0	1.1	40.1	46.0	5.9	
5	933.890	36.1	3.7	39.8	46.0	6.2	

■ Operating Mode : VCR REC(5V VITS)_CH04

[Graph and Data]



Final Result

--- Horizontal Polarization (QP)---

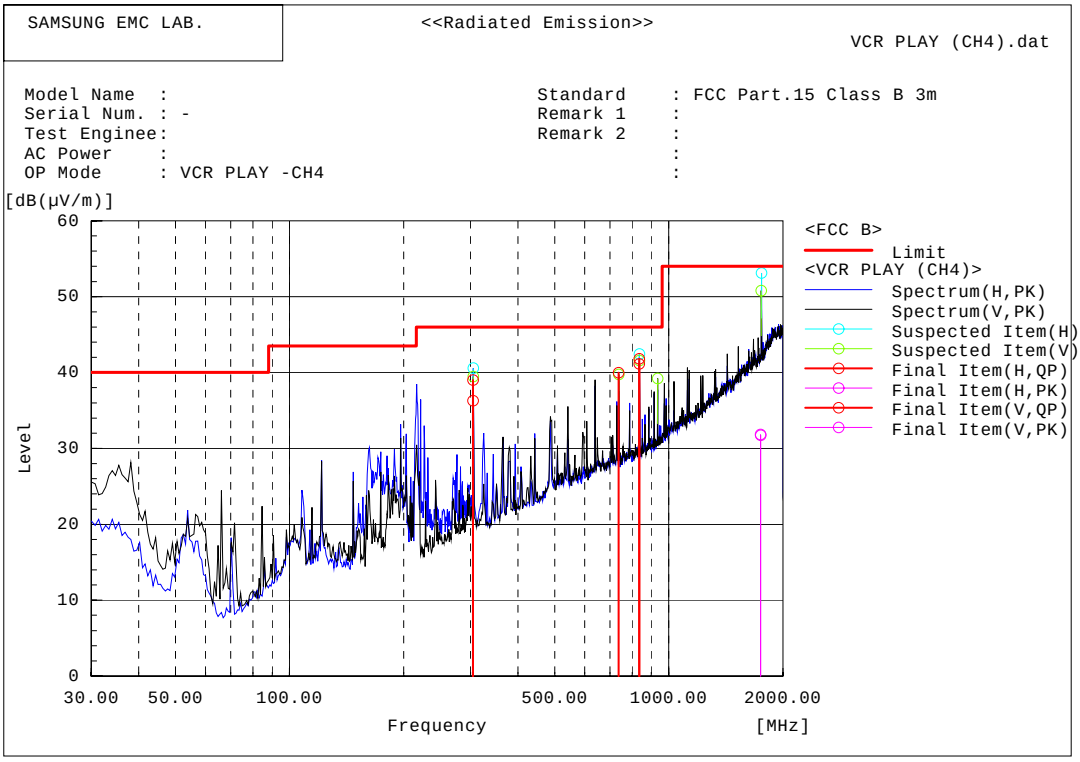
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	835.570	40.1	1.9	42.0	46.0	4.0	
2	216.017	54.8	-13.7	41.1	46.0	4.9	
3	304.710	48.5	-7.8	40.7	46.0	5.4	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	835.570	39.5	1.9	41.4	46.0	4.6	
2	304.710	48.8	-7.8	41.0	46.0	5.0	
3	737.270	39.1	1.1	40.2	46.0	5.8	

■ Operating Mode : VCR PLAY_CH04

[Graph and Data]



Final Result

--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1747.600	--------	17.4	--------	54.0	--------	
2	835.570	39.9	1.9	41.8	46.0	4.2	
3	304.730	44.1	-7.8	36.3	46.0	9.7	

--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1747.600	14.3	17.4	31.7	54.0	22.3	
2	835.570	--------	1.9	--------	46.0	--------	
3	304.730	--------	-7.8	--------	46.0	--------	

--- Vertical Polarization (QP)---

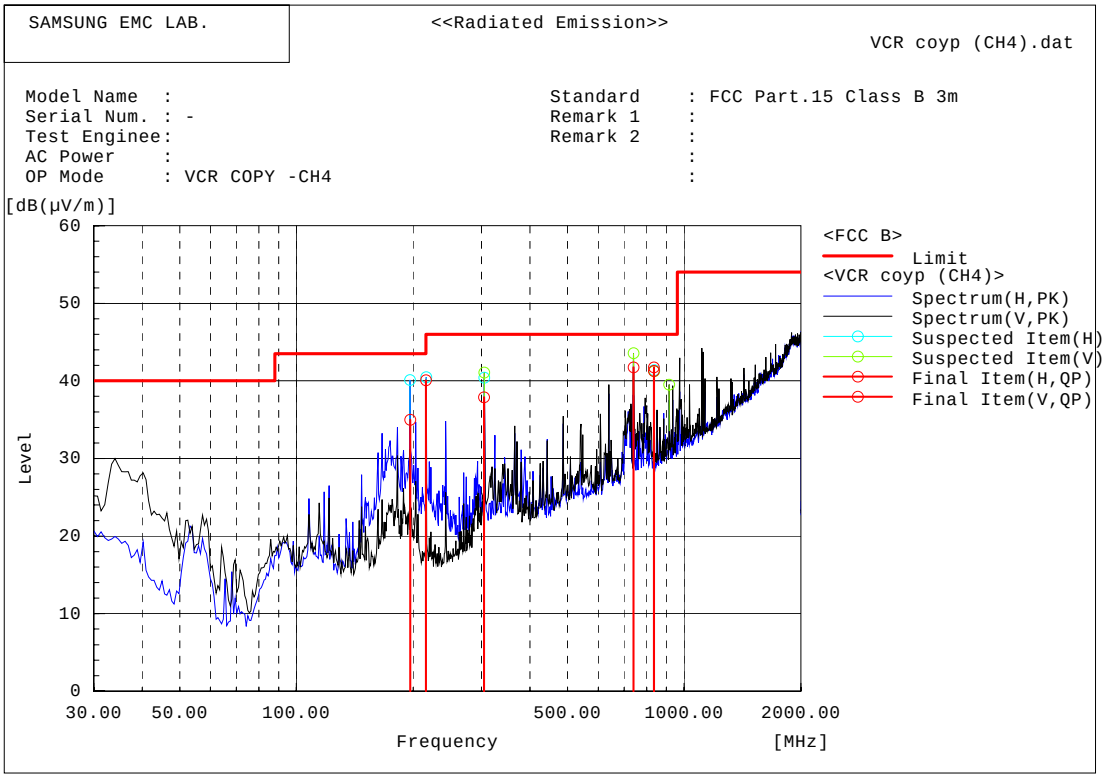
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1744.490	--------	17.3	--------	54.0	--------	
2	835.570	39.2	1.9	41.1	46.0	4.9	
3	737.270	38.9	1.1	40.0	46.0	6.0	
4	304.730	46.8	-7.8	39.0	46.0	7.0	

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1744.490	14.5	17.3	31.8	54.0	22.2	
2	835.570	--------	1.9	--------	46.0	--------	
3	737.270	--------	1.1	--------	46.0	--------	
4	304.730	--------	-7.8	--------	46.0	--------	

■ Operating Mode : VCR COPY_CH04

[Graph and Data]



Final Result

--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(µV)]	c.f [dB(1/m)]	Result [dB(µV/m)]	Limit [dB(µV/m)]	Margin [dB]	Remark
1	196.604	49.0	-14.0	35.0	43.5	8.5	
2	835.570	39.9	1.9	41.8	46.0	4.3	
3	215.990	53.8	-13.7	40.1	43.5	3.4	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(µV)]	c.f [dB(1/m)]	Result [dB(µV/m)]	Limit [dB(µV/m)]	Margin [dB]	Remark
1	740.070	40.6	1.1	41.7	46.0	4.3	
2	835.570	39.4	1.9	41.3	46.0	4.7	
3	304.710	45.7	-7.8	37.9	46.0	8.1	

3.3 Output Signal Level

Test Information		
	Test Engineer	Sung Wook, Choi
	Test Date	January 14, 2005
	Climate Condition	Ambient Temperature : 23℃ Relative Humidity : 45%
	Test Place	Shied Room #5

Test Equipments

Equipment	Modal Name	Manufacturer	Serial No.	Calibration	
				Next Date	Interval
TV Signal Generator	PM5418-TDSI	PHILIPS	LO612437	2005-09-20	12
Pre-Amplifier	8447D	Agilent	2944A10430	2005-07-20	12
Test Receiver	ESS	R&S	844861/005	2006-01-05	12
Matching Pad	RAM	R&S	834188/009	2006-01-08	12
Field strength meter	ESI	R&S	832692/002	2005-05-24	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 The measured emissions of the EUT have found to be below the specified limits.

Test Data

■ **Operating Mode : DVD RECORD(NTSC)** **RF Output CH No. :3CH**

Frequency [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV]	Limit [dBuV]	Margin [dB]
56.76202	69.4	-24.7	44.7	56.5	11.8
61.251	83.5	-24.7	58.8	69.5	10.7
65.748	69.8	-24.7	45.1	56.5	11.5

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

■ **Operating Mode : DVD RECORD(NTSC)** **RF Output CH No. :4CH**

Frequency [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV]	Limit [dBuV]	Margin [dB]
62.72395	68.5	-24.7	43.8	56.5	12.7
67.20491	79.9	-24.7	55.2	69.5	14.3
71.70591	67.1	-24.7	42.4	56.5	14.1

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

■ **Operating Mode : DVD RECORD(1V VITS)** RF Output CH No. :3CH

Frequency [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV]	Limit [dBuV]	Margin [dB]
56.75601	70.5	-24.7	45.8	56.5	10.7
61.25702	84.5	-24.7	59.8	69.5	9.7
65.75802	70.4	-24.7	45.7	56.5	10.8

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

■ **Operating Mode : DVD RECORD(1V VITS)** **RF Output CH No. :4CH**

Frequency [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV]	Limit [dBuV]	Margin [dB]
62.7039	65.9	-24.7	41.2	56.5	15.4
67.20691	80.4	-24.7	55.7	69.5	13.8
71.70792	66.1	-24.7	41.4	56.5	15.1

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

■ **Operating Mode : DVD RECORD(5V VITS)** **RF Output CH No. :3CH**

Frequency [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV]	Limit [dBuV]	Margin [dB]
56.75802	70.7	-24.7	46	56.5	10.5
61.25702	84.7	-24.7	60	69.5	9.5
65.75802	70.7	-24.7	46	56.5	10.5

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

■ **Operating Mode : DVD RECORD(5V VITS)** **RF Output CH No. :4CH**

Frequency [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV]	Limit [dBuV]	Margin [dB]
62.70591	66.1	-24.7	41.4	56.5	15.1
67.23698	82.7	-24.7	58	69.5	11.5
71.70391	65.7	-24.7	41	56.5	15.5

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

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

Frequency [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV]	Limit [dBuV]	Margin [dB]
56.74198	70.6	-24.7	45.9	56.5	10.6
61.25702	84.8	-24.7	60.1	69.5	9.4
65.76804	70.6	-24.7	45.9	56.5	10.6

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

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

Frequency [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV]	Limit [dBuV]	Margin [dB]
62.72195	68.9	-24.7	44.2	56.5	12.3
67.20691	80.6	-24.7	55.9	69.5	13.6
71.69791	66.6	-24.7	41.9	56.5	14.6

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

■ **Operating Mode : DVD COPY** **RF Output CH No. :3CH**

Frequency [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV]	Limit [dBuV]	Margin [dB]
56.76603	69.8	-24.7	45.1	56.5	11.5
61.25702	83.9	-24.7	59.2	69.5	10.3
65.75001	69.8	-24.7	45.1	56.5	11.5

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

■ **Operating Mode : DVD COPY** **RF Output CH No. :4CH**

Frequency [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV]	Limit [dBuV]	Margin [dB]
62.71794	68.3	-24.7	43.6	56.5	12.9
67.20892	80.8	-24.7	56.1	69.5	13.4
71.71794	68	-24.7	43.3	56.5	13.2

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

■ **Operating Mode : VCR RECORD(NTSC)** **RF Output CH No. :3CH**

Frequency [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV]	Limit [dBuV]	Margin [dB]
56.75	70	-24.7	45.3	56.5	11.2
61.25702	84.1	-24.7	59.4	69.5	10.1
65.74799	70	-24.7	45.3	56.5	11.2

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

■ **Operating Mode : VCR RECORD(NTSC)** **RF Output CH No. :4CH**

Frequency [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV]	Limit [dBuV]	Margin [dB]
62.70791	67.9	-24.7	43.2	56.5	13.3
67.20091	79.7	-24.7	55	69.5	14.5
71.70792	67.6	-24.7	42.9	56.5	13.6

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

■ **Operating Mode : VCR RECORD(1V VITS)** **RF Output CH No. :3CH**

Frequency [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV]	Limit [dBuV]	Margin [dB]
56.76202	69.9	-24.7	45.2	56.5	11.3
61.26102	83.9	-24.7	59.2	69.5	10.3
65.76203	69.9	-24.7	45.2	56.5	11.3

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

■ **Operating Mode : VCR RECORD(1V VITS)** **RF Output CH No. :4CH**

Frequency [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV]	Limit [dBuV]	Margin [dB]
62.71393	66.8	-24.7	42.1	56.5	14.4
67.21293	80.8	-24.7	56.1	69.5	13.4
71.70992	65.9	-24.7	41.2	56.5	15.3

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

■ **Operating Mode : VCR RECORD(5V VITS)** **RF Output CH No. :3CH**

Frequency [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV]	Limit [dBuV]	Margin [dB]
56.75802	69.9	-24.7	45.2	56.5	11.3
61.25902	83.9	-24.7	59.2	69.5	10.3
65.75802	69.9	-24.7	45.2	56.5	11.3

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

■ **Operating Mode : VCR RECORD(5V VITS)** **RF Output CH No. :4CH**

Frequency [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV]	Limit [dBuV]	Margin [dB]
62.70991	66.8	-24.7	42.1	56.5	14.4
67.20691	80.4	-24.7	55.7	69.5	13.8
71.70792	66.2	-24.7	41.5	56.5	15

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

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

Frequency [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV]	Limit [dBuV]	Margin [dB]
56.75802	69.7	-24.7	45	56.5	11.5
61.25902	83.8	-24.7	59.1	69.5	10.4
65.75802	69.8	-24.7	45.1	56.5	11.5

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

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

Frequency [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV]	Limit [dBuV]	Margin [dB]
62.7039	65.8	-24.7	41.1	56.5	15.4
67.20892	80.6	-24.7	55.9	69.5	13.6
71.70992	66.4	-24.7	41.7	56.5	14.8

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

■ **Operating Mode : VCR COPY** **RF Output CH No. :3CH**

Frequency [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV]	Limit [dBuV]	Margin [dB]
56.74399	69.6	-24.7	44.9	56.5	11.7
61.25702	83.8	-24.7	59.1	69.5	10.4
65.74198	69.6	-24.7	44.9	56.5	11.6

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

■ **Operating Mode : VCR COPY** **RF Output CH No. :4CH**

Frequency [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV]	Limit [dBuV]	Margin [dB]
62.7039	67.7	-24.7	43	56.5	13.5
67.21293	81.4	-24.7	56.7	69.5	12.8
71.69791	66.8	-24.7	42.1	56.5	14.4

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

3.4 Output Terminal Conducted Spurious

Test Information		
	Test Engineer	Sung Wook, Choi
	Test Date	January 14 ~17, 2005
	Climate Condition	Ambient Temperature : 23℃ Relative Humidity : 45%
	Test Place	Shied Room #5

Test Equipments

Equipment	Modal Name	Manufacturer	Serial No.	Calibration	
				Next Date	Interval
TV Signal Generator	PM5418-TDSI	PHILIPS	LO612437	2005-09-20	12
Pre-Amplifier	8447D	Agilent	2944A10430	2005-07-20	12
Test Receiver	ESS	R&S	844861/005	2006-01-05	12
Matching Pad	RAM	R&S	834188/009	2006-01-08	12
Field strength meter	ESI	R&S	832692/002	2005-05-24	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).

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.

Test Data

■ **Operating Mode : DVD REC(NTSC)** **RF Output CH No. :3CH[Spurious Low]**

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
47.79542	31.6	-24.8	6.8	39.5	32.7
55.24354	29.6	-24.7	4.9	39.5	34.6
56.17868	28.4	-24.7	3.7	39.5	35.8

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

■ **Operating Mode : DVD REC(NTSC)** **RF Output CH No. :3CH[Spurious High]**

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
245.0151	50.9	-24.1	26.8	39.5	12.7
490.0288	46.5	-23.7	22.8	39.5	16.7
735.0451	48.2	-23.2	25	39.5	14.5

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

■ **Operating Mode : DVD REC(NTSC)** **RF Output CH No. :4CH[Spurious Low]**

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
53.78379	31.7	-24.7	7	39.5	32.5
61.61325	27.1	-24.7	2.4	39.5	37.1
62.32186	28.5	-24.7	3.8	39.5	35.7

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

■ **Operating Mode : DVD REC(NTSC)** **RF Output CH No. :4CH[Spurious High]**

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
268.9599	52.4	-24	28.4	39.5	11.1
537.9208	46.4	-23.5	22.9	39.5	16.6
806.8688	50.3	-23	27.3	39.5	12.2

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
47.75696	31.9	-24.8	7.1	39.5	32.5
51.83191	30.1	-24.8	5.3	39.5	34.2
56.26947	30.5	-24.7	5.8	39.5	33.7

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
245.0324	51.2	-24.1	27.1	39.5	12.4
735.0952	48.3	-23.2	25.1	39.5	14.4
823.4218	22.8	-22.9	-0.1	39.5	39.6

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
57.93015	30.3	-24.7	5.6	39.5	33.9
61.94564	28.9	-24.7	4.2	39.5	35.3
62.19754	30	-24.7	5.3	39.5	34.2

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
268.977	52.3	-24	28.3	39.5	11.2
537.9509	46.2	-23.5	22.7	39.5	16.8
806.9389	50.4	-23	27.4	39.5	12.1

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
51.79559	33.6	-24.8	8.8	39.5	30.7
54.06378	35.2	-24.7	10.5	39.5	29.1
55.40214	44	-24.7	19.3	39.5	20.2

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
245.0151	51.1	-24.1	27	39.5	12.5
490.0461	46.5	-23.7	22.8	39.5	16.7
735.0551	48.2	-23.2	25	39.5	14.5

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
57.81957	34.1	-24.7	9.4	39.5	30.1
60.1103	35	-24.7	10.3	39.5	29.2
61.39274	43.2	-24.7	18.5	39.5	21

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
268.9685	52.5	-24	28.5	39.5	11
537.9308	46.2	-23.5	22.7	39.5	16.8
806.8888	50.3	-23	27.3	39.5	12.2

* 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]
47.79809	31.4	-24.8	6.6	39.5	32.9
54.56954	25.4	-24.7	0.7	39.5	38.8
56.25398	30.5	-24.7	5.8	39.5	33.7

* 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]
245.0238	51.3	-24.1	27.2	39.5	12.3
490.0202	46.2	-23.7	22.5	39.5	17
735.0451	48.1	-23.2	24.9	39.5	14.6

* 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]
53.70069	31.4	-24.7	6.7	39.5	32.8
60.6658	25.5	-24.7	0.8	39.5	38.7
62.40954	29.9	-24.7	5.2	39.5	34.4

* 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]
268.9599	52.4	-24	28.4	39.5	11.2
537.9108	45.9	-23.5	22.4	39.5	17.1
806.8789	50.3	-23	27.3	39.5	12.2

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

■ **Operating Mode : DVD COPY** **RF Output CH No. :3CH[Spurious Low]**

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
47.77138	31.6	-24.8	6.8	39.5	32.7
54.84725	25.9	-24.7	1.2	39.5	38.3
56.05211	29.2	-24.7	4.5	39.5	35.1

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

■ **Operating Mode : DVD COPY** **RF Output CH No. :3CH[Spurious High]**

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
245.0151	51.2	-24.1	27.1	39.5	12.4
490.0288	46.5	-23.7	22.8	39.5	16.8
735.0451	48.2	-23.2	25	39.5	14.5

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

■ **Operating Mode : DVD COPY** **RF Output CH No. :4CH[Spurious Low]**

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
53.74191	32.1	-24.7	7.4	39.5	32.1
61.30964	25.4	-24.7	0.7	39.5	38.8
62.19034	28	-24.7	3.3	39.5	36.2

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

■ **Operating Mode : DVD COPY** **RF Output CH No. :4CH[Spurious High]**

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
268.9599	52.4	-24	28.4	39.5	11.1
537.9208	46.2	-23.5	22.7	39.5	16.8
806.8789	50.3	-23	27.3	39.5	12.2

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

■ **Operating Mode : VCR REC(NTSC)** **RF Output CH No. :3CH[Spurious Low]**

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
47.79649	31.4	-24.8	6.6	39.5	32.9
55.24353	29.4	-24.7	4.7	39.5	34.8
56.24811	29.5	-24.7	4.8	39.5	34.7

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

■ **Operating Mode : VCR REC(NTSC)** **RF Output CH No. :3CH[Spurious High]**

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
245.0151	51.4	-24.1	27.3	39.5	12.2
490.0288	46.5	-23.7	22.8	39.5	16.8
735.0451	48.1	-23.2	24.9	39.5	14.6

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

■ **Operating Mode : VCR REC(NTSC)** **RF Output CH No. :4CH[Spurious Low]**

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
53.70069	31.4	-24.7	6.7	39.5	32.8
55.24159	27.8	-24.7	3.1	39.5	36.4
62.40888	30.1	-24.7	5.4	39.5	34.2

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

■ **Operating Mode : VCR REC(NTSC)** **RF Output CH No. :4CH[Spurious High]**

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
268.9599	52.4	-24	28.4	39.5	11.1
537.9208	46.2	-23.5	22.7	39.5	16.8
806.8888	50.4	-23	27.4	39.5	12.2

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
47.75696	31.8	-24.8	7	39.5	32.5
51.78224	28.7	-24.8	3.9	39.5	35.6
56.28977	30	-24.7	5.3	39.5	34.2

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
245.0324	51.5	-24.1	27.4	39.5	12.1
490.0634	46.5	-23.7	22.8	39.5	16.7
735.0952	48.2	-23.2	25	39.5	14.5

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
53.74453	32	-24.7	7.3	39.5	32.2
57.83723	30.3	-24.7	5.6	39.5	33.9
62.27344	30.1	-24.7	5.4	39.5	34.1

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
268.977	52.3	-24	28.3	39.5	11.2
537.9509	46.1	-23.5	22.6	39.5	16.9
806.9289	50.3	-23	27.3	39.5	12.2

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
51.84472	34.1	-24.8	9.3	39.5	30.2
54.06431	34	-24.7	9.3	39.5	30.2
55.40214	43.3	-24.7	18.6	39.5	20.9

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
245.0151	51.6	-24.1	27.5	39.5	12
490.0375	46.6	-23.7	22.9	39.5	16.6
735.035	48	-23.2	24.8	39.5	14.7

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
57.89416	34.6	-24.7	9.9	39.5	29.6
60.05272	33.9	-24.7	9.2	39.5	30.3
61.38882	43.4	-24.7	18.7	39.5	20.8

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
268.9599	52.2	-24	28.2	39.5	11.3
537.9308	46.2	-23.5	22.7	39.5	16.8
806.8789	50.2	-23	27.2	39.5	12.3

* 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]
47.71531	31.1	-24.8	6.3	39.5	33.2
55.34019	24.5	-24.7	-0.2	39.5	39.7
56.23422	36.7	-24.7	12	39.5	27.5

* 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]
245.0151	51.6	-24.1	27.5	39.5	12
490.0288	46.6	-23.7	22.9	39.5	16.6
735.0451	48.2	-23.2	25	39.5	14.5

* 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]
61.38947	26.1	-24.7	1.4	39.5	38.1
61.85993	26.1	-24.7	1.4	39.5	38.1
62.29438	29	-24.7	4.3	39.5	35.2

* 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]
268.9599	52.3	-24	28.3	39.5	11.2
537.9208	46.2	-23.5	22.7	39.5	16.8
806.8789	50.3	-23	27.3	39.5	12.2

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

■ **Operating Mode : VCR COPY** **RF Output CH No. :3CH[Spurious Low]**

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
47.7137	31.2	-24.8	6.4	39.5	33.1
55.59602	26.8	-24.7	2.1	39.5	37.4
56.25025	30.2	-24.7	5.5	39.5	34

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

■ **Operating Mode : VCR COPY** **RF Output CH No. :3CH[Spurious High]**

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
245.0065	51.4	-24.1	27.3	39.5	12.2
490.0116	46.3	-23.7	22.6	39.5	16.9
735.035	48.2	-23.2	25	39.5	14.5

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

■ **Operating Mode : VCR COPY** **RF Output CH No. :4CH[Spurious Low]**

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
53.78182	31.6	-24.7	6.9	39.5	32.6
61.35937	26.7	-24.7	2	39.5	37.6
62.32055	29	-24.7	4.3	39.5	35.2

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

■ Operating Mode **: VCR COPY** **RF Output CH No. :4CH[Spurious High]**

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
268.9599	52.2	-24	28.2	39.5	11.3
537.9108	46.2	-23.5	22.7	39.5	16.8
806.8688	50.3	-23	27.3	39.5	12.2

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

3.5 Antenna Transfer Switch Measurement

Test Information		
	Test Engineer	Sung Wook, Choi
	Test Date	January 17, 2005
	Climate Condition	Ambient Temperature : 23℃ Relative Humidity : 45%
	Test Place	Shied Room #5

Test Equipments

Equipment	Modal Name	Manufacturer	Serial No.	Calibration	
				Next Date	Interval
TV Signal Generator	PM5418-TDSI	PHILIPS	LO612437	2005-09-20	12
Pre-Amplifier	8447D	Agilent	2944A10430	2005-07-20	12
Test Receiver	ESS	R&S	844861/005	2006-01-05	12
Matching Pad	RAM	R&S	834188/009	2006-01-08	12
Field strength meter	ESI	R&S	832692/002	2005-05-24	12
RF Matrix	PSU	R&S	861206/024	N/A	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.

Test Data

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
61.51146	23.2	-24.7	-1.5	9.5	11

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
67.24799	23.2	-24.7	-1.5	9.5	11

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
61.61343	23.2	-24.7	-1.6	9.5	11.1

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
67.93738	23.1	-24.7	-1.7	9.5	11.2

* 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]
62.19258	23.2	-24.7	-1.5	9.5	11

* 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]
67.74098	23.1	-24.7	-1.6	9.5	11.1

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

■ **Operating Mode : DVD COPY** **RF Output CH No. :3CH**

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
61.95832	23.1	-24.7	-1.6	9.5	11.1

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

■ **Operating Mode : DVD COPY** **RF Output CH No. :4CH**

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
67.24398	23.2	-24.7	-1.5	9.5	11

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
60.94393	23.2	-24.7	-1.5	9.5	11

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
67.24398	23.2	-24.7	-1.5	9.5	11

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
61.98701	23.2	-24.7	-1.5	9.5	11

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

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

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
66.57866	23.1	-24.7	-1.6	9.5	11.1

* 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]
61.399	23.2	-24.7	-1.5	9.5	11

* 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]
67.23597	23.2	-24.7	-1.6	9.5	11.1

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

■ **Operating Mode : VCR COPY** **RF Output CH No. :3CH**

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
61.96821	23.2	-24.7	-1.5	9.5	11

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

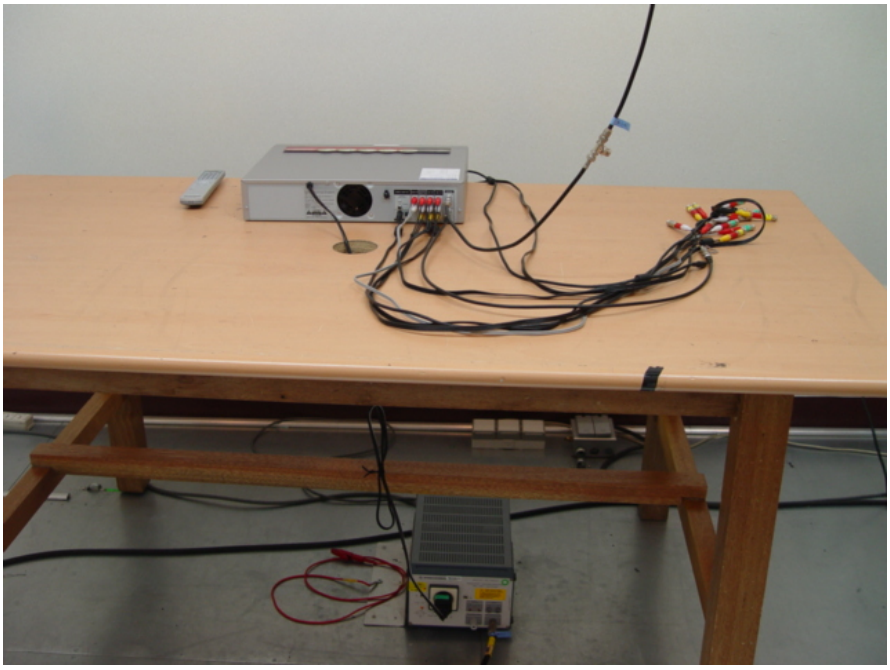
■ **Operating Mode : VCR COPY** **RF Output CH No. :4CH**

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
67.23998	23.2	-24.7	-1.5	9.5	11

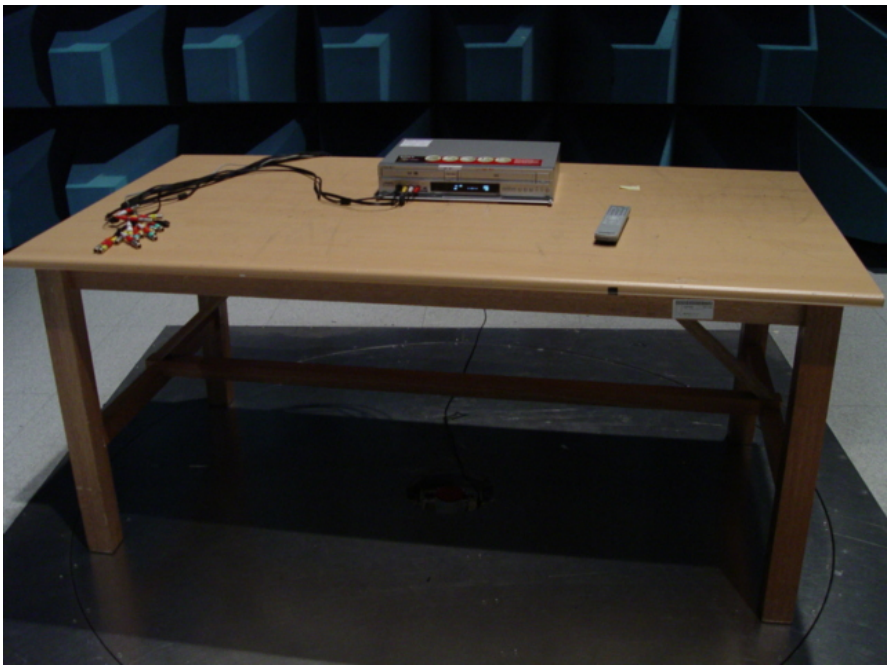
* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

4. Appendix A

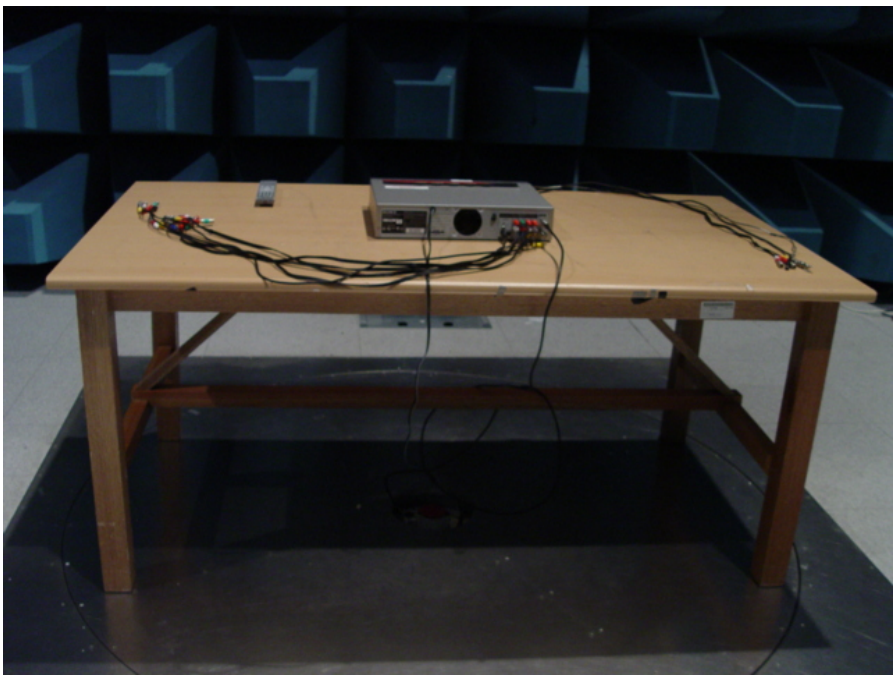
4.1 Test Photography



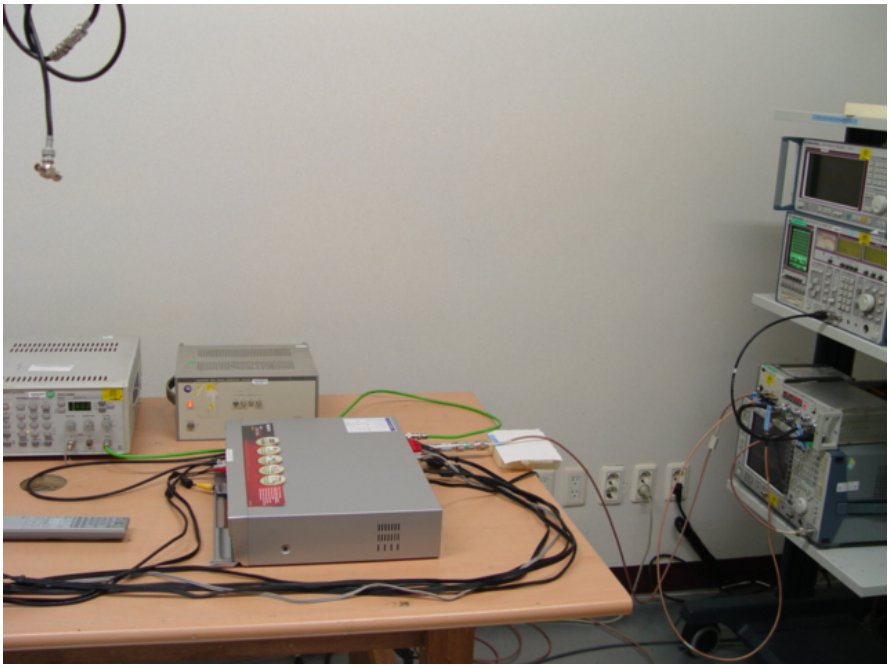
Picture 1. Conducted Emission (Rear)



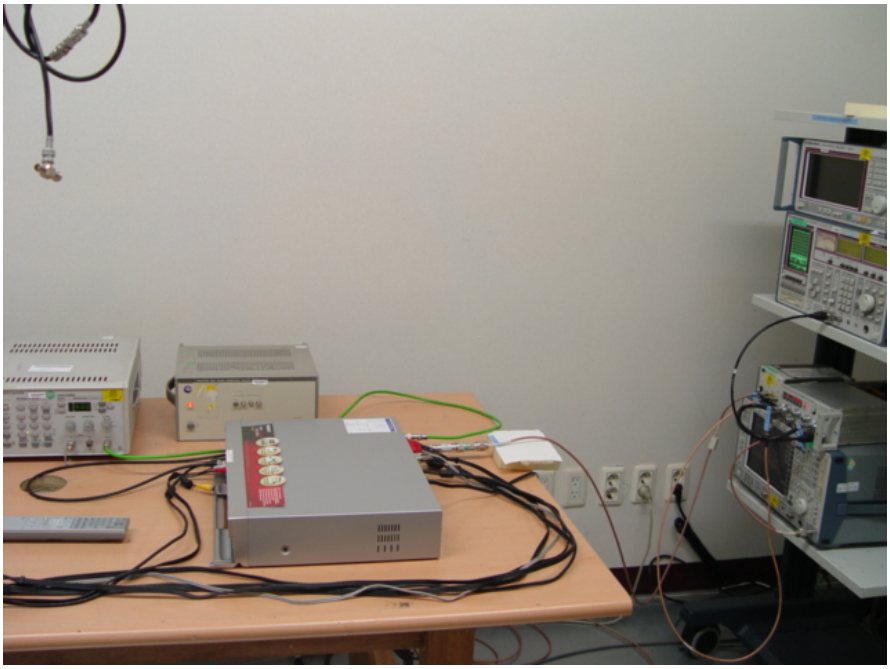
Picture 2. Radiated Emission (Front)



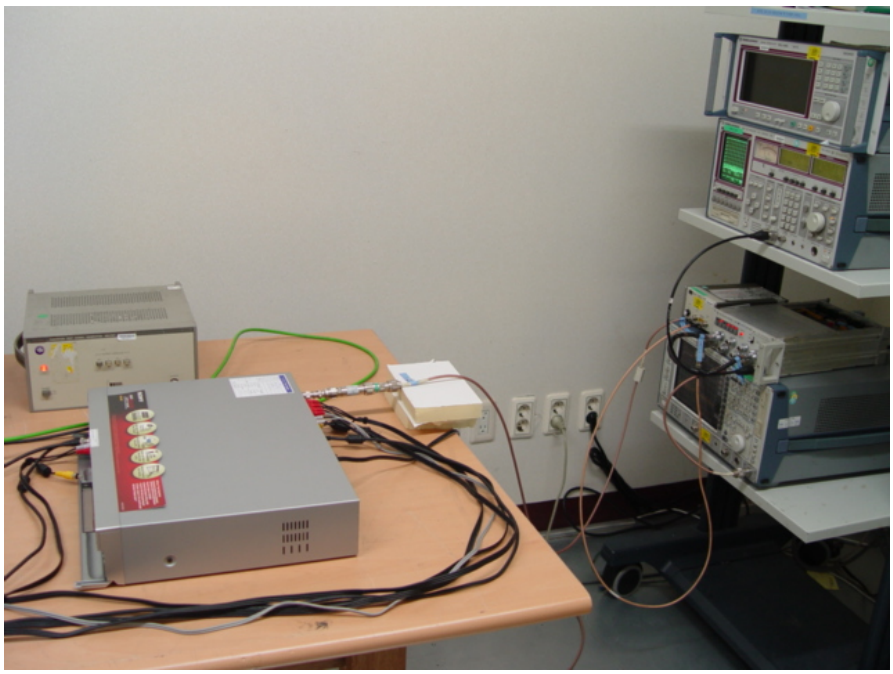
Picture 3. Radiated Emission (Rear)



Picture 4. Output Signal Level



Picture 5. Output Terminal Conducted Spurious Emission



Picture 6. Ant. Transfer Switch

4.2 EUT Photography

Picture 7. EUT (Front)

Picture 8. EUT (Rear)

Picture 8. Label