EMC Test Report

According to FCC Part 15 Subpart B

Project No.		**LBE051448**
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	**DVD-VR320**
	Manufacturer	Samsung Electronics Co., Ltd
	Brand Name	Samsung Electronics Co., Ltd
	Broadcasting System	NTSC-M
	Variant Model	See Page 3
FCC ID		**A3LDVDVR320A**
Date of Test		June 17, ~ 28 , 2005
Issued Date		June 30, 2005

	Name/Position	Signature
Tested by	Tae Young, Jang Test Engineer	
Reviewed by	No Cheon, Park Manager of EMC Lab.	
Authorized by	Seung Kyu, Cha 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

Table of Contents

1. General Information

1.1 Basic Information related Product

Applicant	Samsung Electronics Co., Ltd
Model name	DVD-VR320
Applicant Address	416 Maetan3- Dong, Yeongtong-Gu, Suwon-Si, Gyeonggi-Do, Korea, 443-742
Contact Person	WOOSUNG CHO
Kind of product	DVD RECORDER / VIDEO CASSETTE RECORDER
Valiant list	None

1.2 Detail Information related Product

Specification

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

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

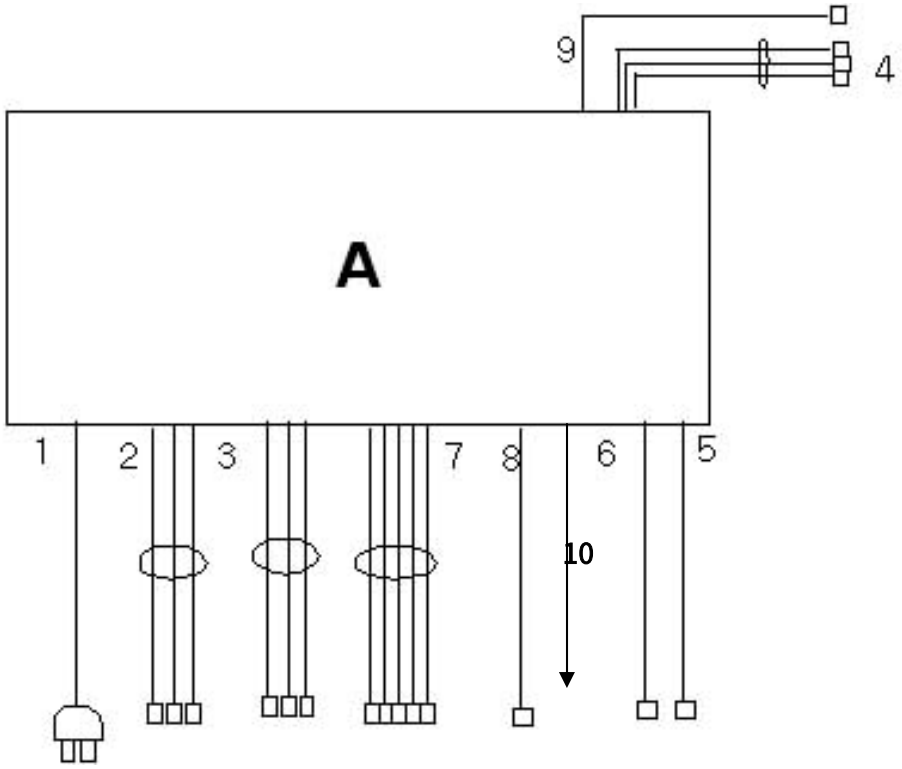
Used EUT and Peripherals

Seq	Device	Model Name	Serial #	Maker	Note
A	**DVD RECORDER / VIDEO CASSETTE RECORDER**	DVD-VR320	-	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 1 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	AV 2 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 In	1.5	N	Terminated
9	DV In	1.5	Y	Not Terminated
10	S-Video Out	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	+/- 3.30
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	Tae Young, Jang
	Test Date	June 27, 2005
	Climate Condition	Ambient Temperature : 25℃ Relative Humidity : 36%
	Test Place	Shield Room #5

Test Equipments

Equipment	Modal Name	Manufacturer	Serial No.	Calibration	
				Next Date	Interval
Test Software	EP5CE	TOYO	None	N/A	N/A
RF Relais Matrix	PSU	R&S	861206/024	N/A	N/A
EMC Analyzer	E7405A	AGILENT	US41110272	2006-01-20	12
TV Signal Generator	PM5418-TDSI	PHILIPS	LO612437	2005-09-23	12
Field strength meter	ESS	R&S	844661/005	2006-01-11	12
L.I.S.N	ESH3-Z5	R&S	100261	2005-07-23	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..

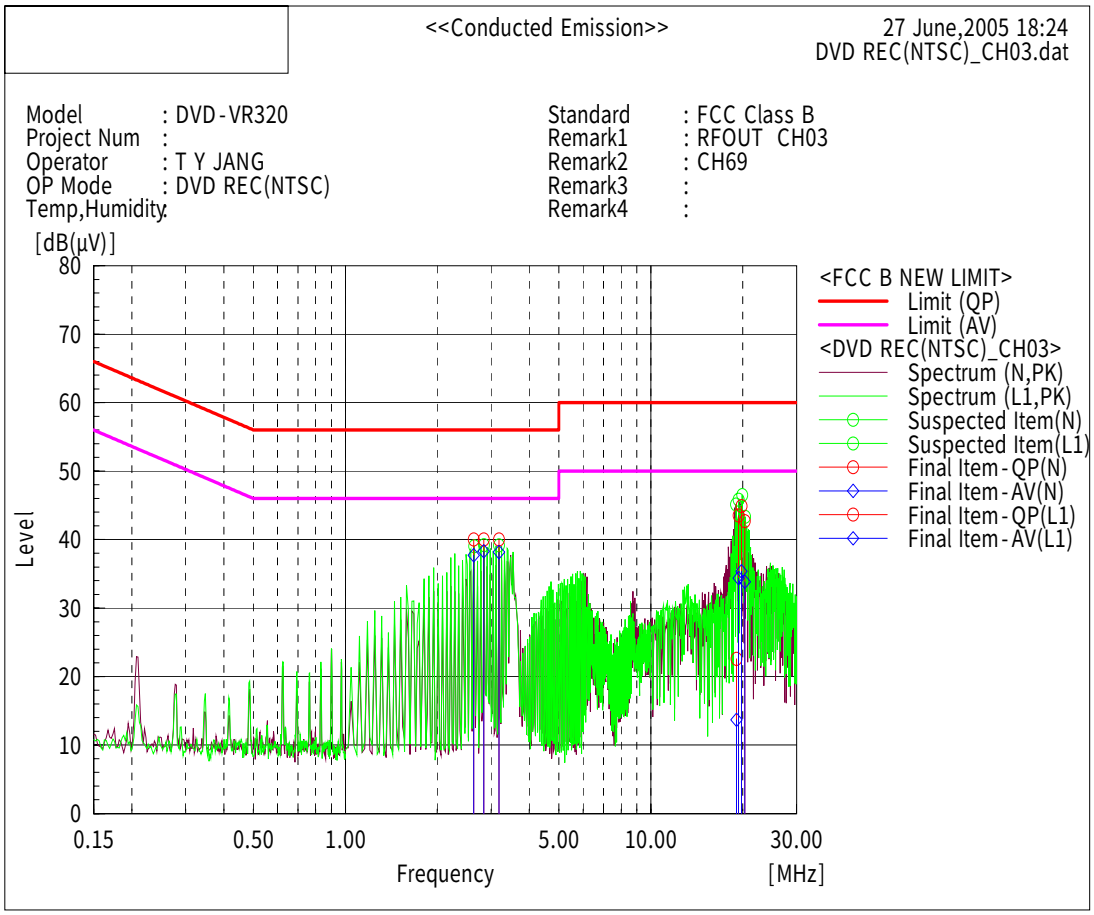
Test Result

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

Test Data

■ Operating Mode : DVD REC(NTSC)_CH03

[Graph and Data]



Final Result

--- N Phase ---

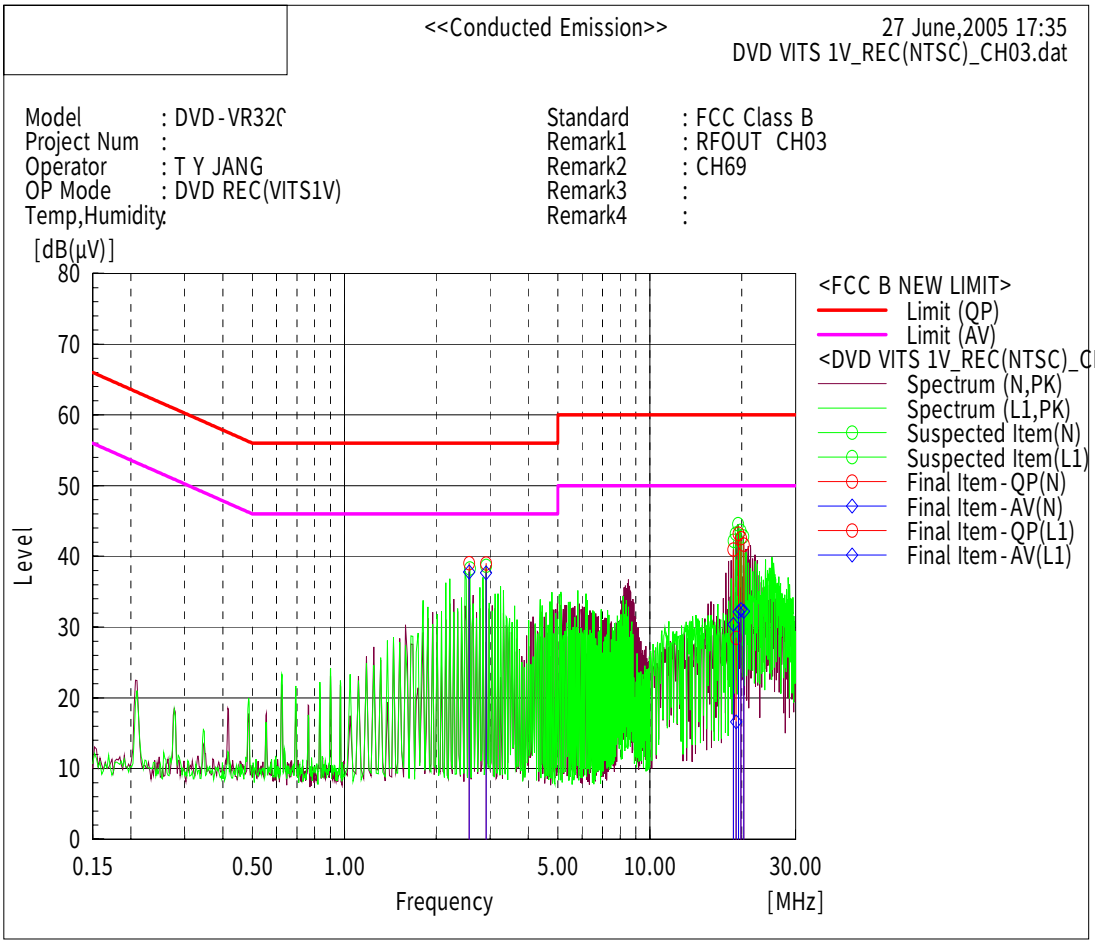
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	19.0805	21.7	12.8	0.9	22.6	13.7	60.0	50.0	37.4	36.3

--- 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	2.6326	39.9	37.6	0.1	40.0	37.7	56.0	46.0	16.0	8.3
2	2.8407	39.9	38.2	0.1	40.0	38.3	56.0	46.0	16.0	7.7
3	3.1868	39.9	38.1	0.1	40.0	38.2	56.0	46.0	16.0	7.8
4	19.3975	42.4	33.3	1.1	43.5	34.4	60.0	50.0	16.5	15.6
5	19.814	43.7	34.2	1.2	44.9	35.4	60.0	50.0	15.1	14.6
6	20.300	41.6	32.7	1.1	42.7	33.8	60.0	50.0	17.3	16.2

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

[Graph and Data]



Final Result

--- N Phase ---

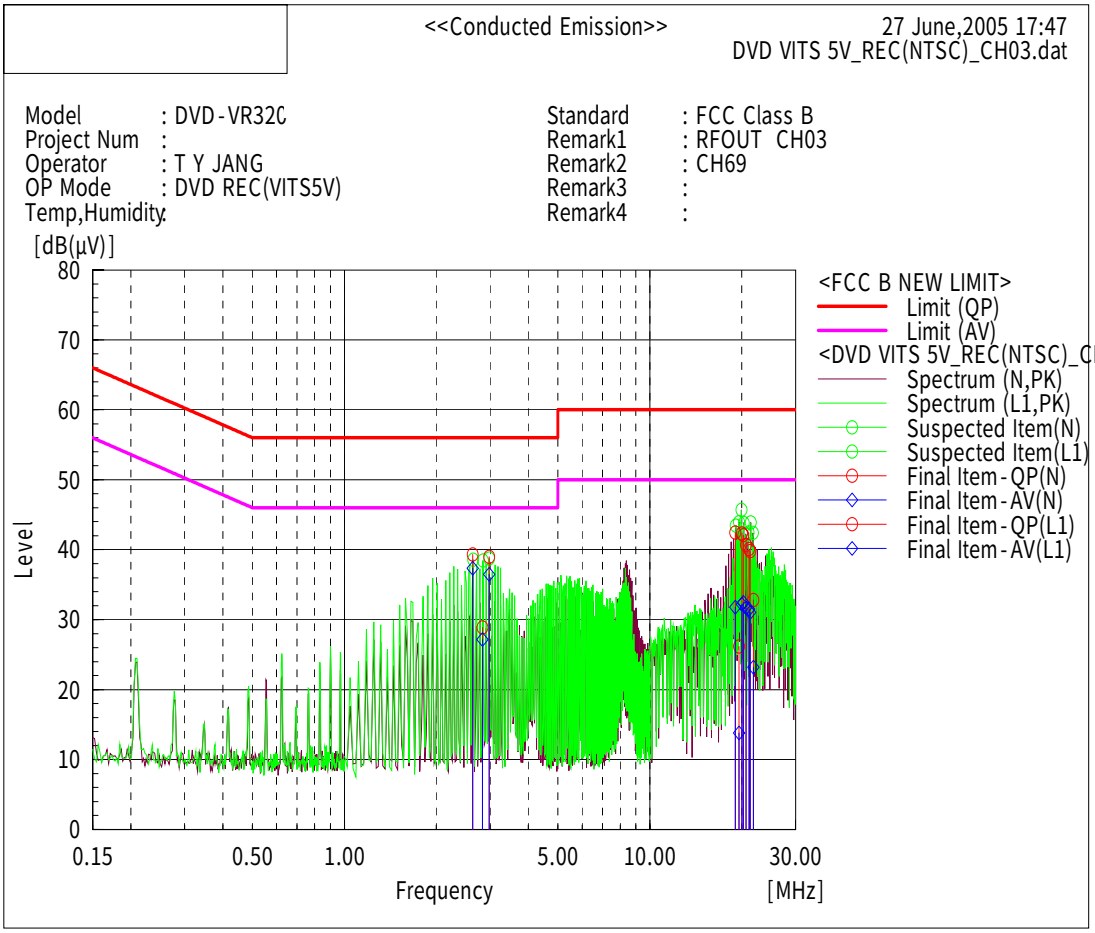
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	18.775	40.1	29.5	0.9	41.0	30.4	60.0	50.0	19.1	19.6
2	19.182	27.6	15.7	0.9	28.5	16.6	60.0	50.0	31.5	33.4
3	19.538	42.3	31.2	0.9	43.2	32.1	60.0	50.0	16.8	17.9
4	19.8835	41.7	31.6	0.9	42.6	32.5	60.0	50.0	17.4	17.5
5	20.2985	40.8	31.3	0.9	41.7	32.2	60.0	50.0	18.3	17.8

--- 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	2.5633	38.9	37.7	0.1	39.0	37.8	56.0	46.0	17.0	8.2
2	2.9098	38.9	37.6	0.1	39.0	37.7	56.0	46.0	17.0	8.3

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

[Graph and Data]



Final Result

--- N Phase ---

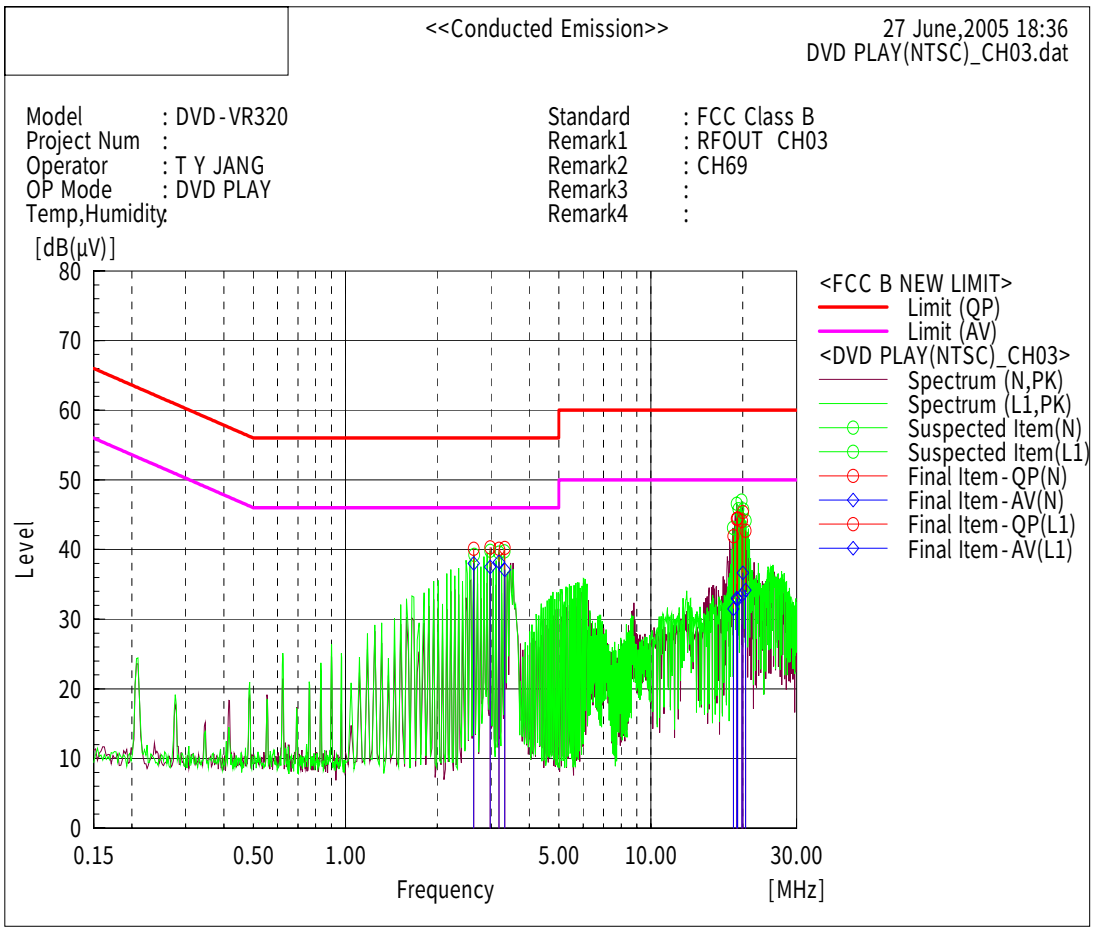
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	19.052	41.6	30.9	0.9	42.5	31.8	60.0	50.0	17.6	18.2
2	19.594	25.3	12.9	0.9	26.2	13.8	60.0	50.0	33.8	36.2
3	20.0205	41.4	31.3	0.9	42.3	32.2	60.0	50.0	17.7	17.8
4	20.230	41.2	31.6	0.9	42.1	32.5	60.0	50.0	17.9	17.5
5	20.644	39.8	30.8	0.9	40.7	31.7	60.0	50.0	19.3	18.3
6	21.131	39.2	30.6	0.9	40.1	31.5	60.0	50.0	19.9	18.5
7	21.3395	38.9	30.1	0.9	39.8	31.0	60.0	50.0	20.2	19.0
8	21.8175	32.1	22.5	0.7	32.8	23.2	60.0	50.0	27.2	26.8

--- 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	2.6328	39.2	37.2	0.1	39.3	37.3	56.0	46.0	16.7	8.7
2	2.8347	28.8	27.1	0.1	28.9	27.2	56.0	46.0	27.1	18.8
3	2.9793	38.9	36.4	0.1	39.0	36.5	56.0	46.0	17.0	9.5

■ Operating Mode : DVD PLAY_CH03

[Graph and Data]



Final Result

--- N Phase ---

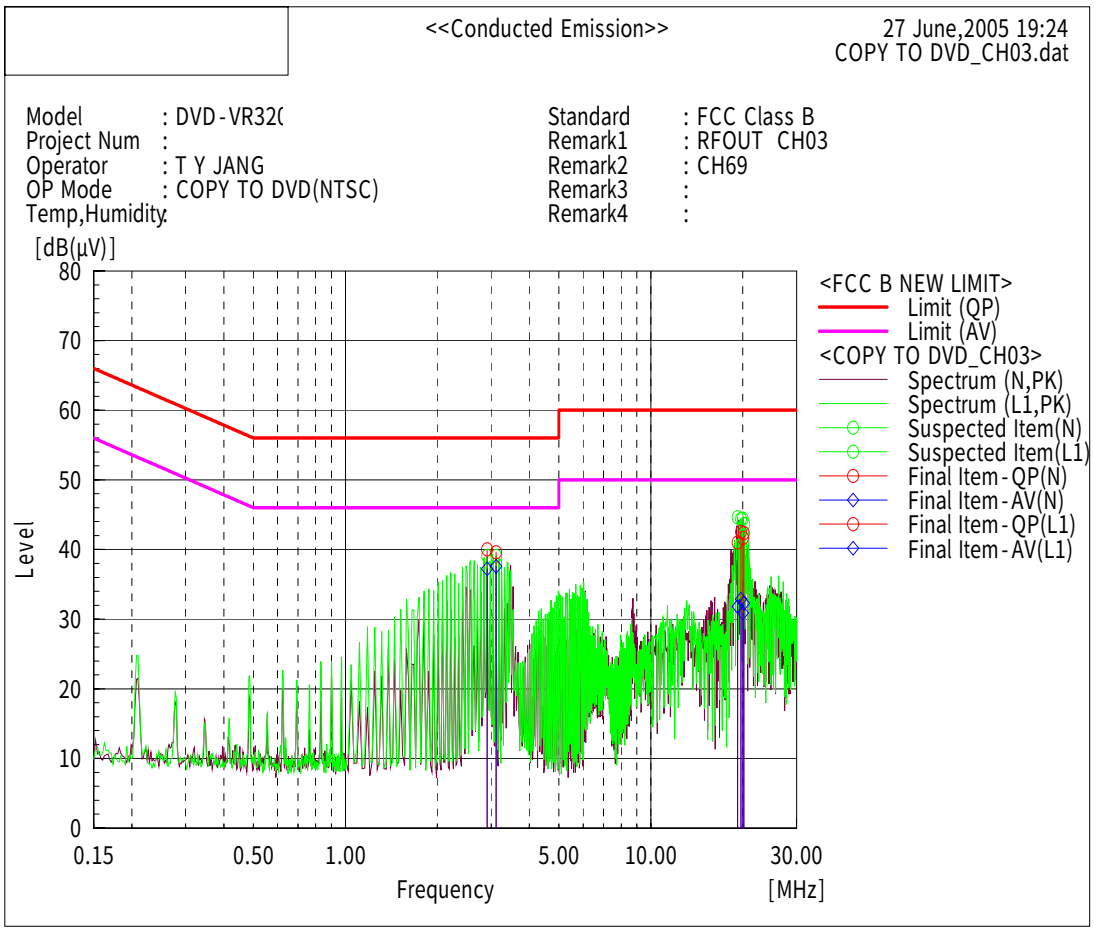
No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	18.6365	41.0	30.6	0.9	41.9	31.5	60.0	50.0	18.1	18.5
2	19.1215	43.5	32.1	0.9	44.4	33.0	60.0	50.0	15.6	17.0
3	19.259	43.6	31.9	0.9	44.5	32.8	60.0	50.0	15.5	17.2
4	19.8815	43.2	32.6	0.9	44.1	33.5	60.0	50.0	15.9	16.5

--- 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	2.6333	40.0	37.9	0.1	40.1	38.0	56.0	46.0	15.9	8.0
2	2.9789	40.2	37.4	0.1	40.3	37.5	56.0	46.0	15.7	8.5
3	3.187	40.0	38.1	0.1	40.1	38.2	56.0	46.0	15.9	7.8
4	3.3254	40.1	37.0	0.1	40.2	37.1	56.0	46.0	15.8	8.9
5	20.0215	44.2	35.5	1.2	45.4	36.7	60.0	50.0	14.6	13.3
6	20.438	41.6	33.1	1.1	42.7	34.2	60.0	50.0	17.3	15.8

■ Operating Mode : To DVD COPY_CH03

[Graph and Data]



Final Result

--- N Phase ---

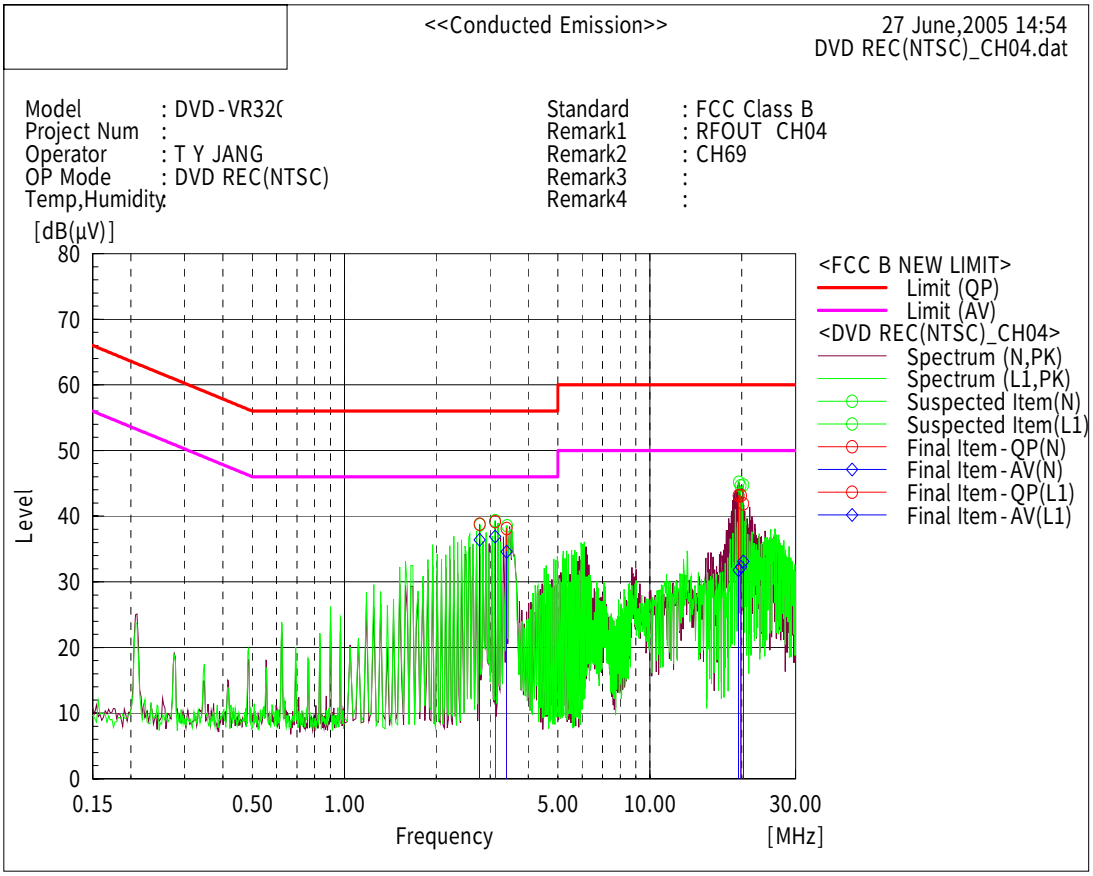
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	20.022	40.8	30.0	0.9	41.7	30.9	60.0	50.0	18.3	19.1

--- 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	2.910	39.9	37.1	0.1	40.0	37.2	56.0	46.0	16.0	8.8
2	3.1168	39.5	37.5	0.1	39.6	37.6	56.0	46.0	16.4	8.4
3	19.259	39.9	30.7	1.1	41.0	31.8	60.0	50.0	19.0	18.2
4	19.746	41.3	31.7	1.2	42.5	32.9	60.0	50.0	17.5	17.1
5	20.161	41.2	31.1	1.2	42.4	32.3	60.0	50.0	17.7	17.7

■ Operating Mode : DVD REC(NTSC)_CH04

[Graph and Data]



Final Result

--- N Phase ---

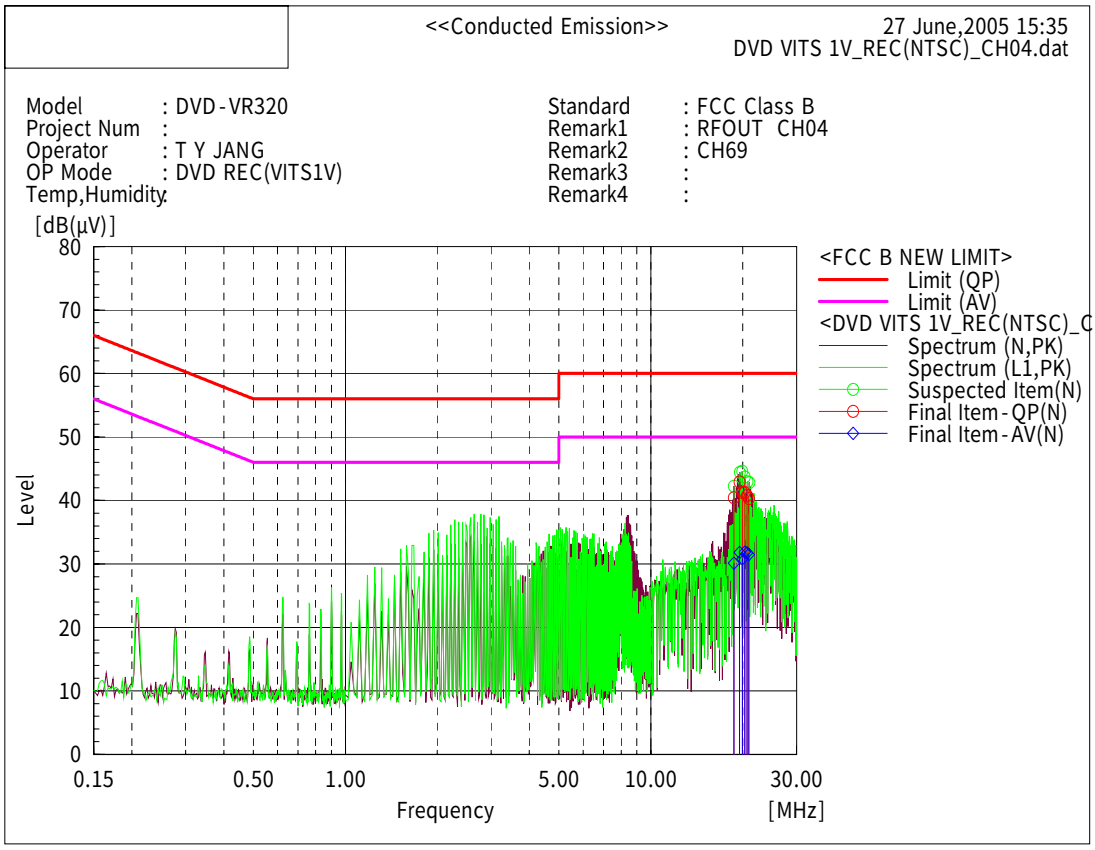
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	19.5395	42.3	30.9	0.9	43.2	31.8	60.0	50.0	16.8	18.2
2	19.8865	42.3	31.4	0.9	43.2	32.3	60.0	50.0	16.8	17.7

--- 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	2.7717	38.7	36.3	0.1	38.8	36.4	56.0	46.0	17.2	9.6
2	3.1184	39.1	36.8	0.1	39.2	36.9	56.0	46.0	16.8	9.1
3	3.3954	38.0	34.5	0.1	38.1	34.6	56.0	46.0	17.9	11.4
4	20.233	40.7	31.9	1.2	41.9	33.1	60.0	50.0	18.1	16.9

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

[Graph and Data]



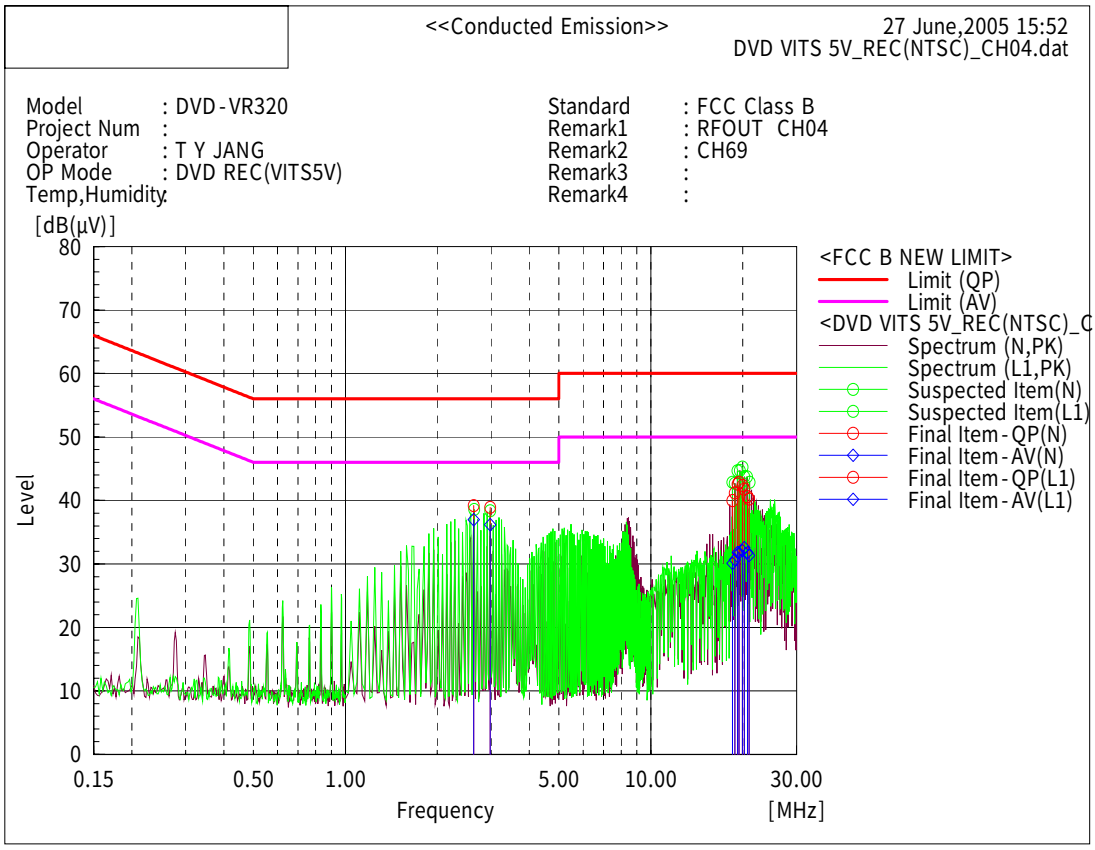
Final Result

--- 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	18.7085	39.6	29.2	0.9	40.5	30.1	60.0	50.0	19.6	19.9
2	19.540	42.0	30.9	0.9	42.9	31.8	60.0	50.0	17.1	18.2
3	19.9525	40.4	30.0	0.9	41.3	30.9	60.0	50.0	18.8	19.2
4	20.3025	40.4	30.9	0.9	41.3	31.8	60.0	50.0	18.7	18.2
5	20.648	39.9	30.8	0.9	40.8	31.7	60.0	50.0	19.2	18.3
6	20.9245	39.4	30.6	0.9	40.3	31.5	60.0	50.0	19.7	18.5

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

[Graph and Data]



Final Result

--- N Phase ---

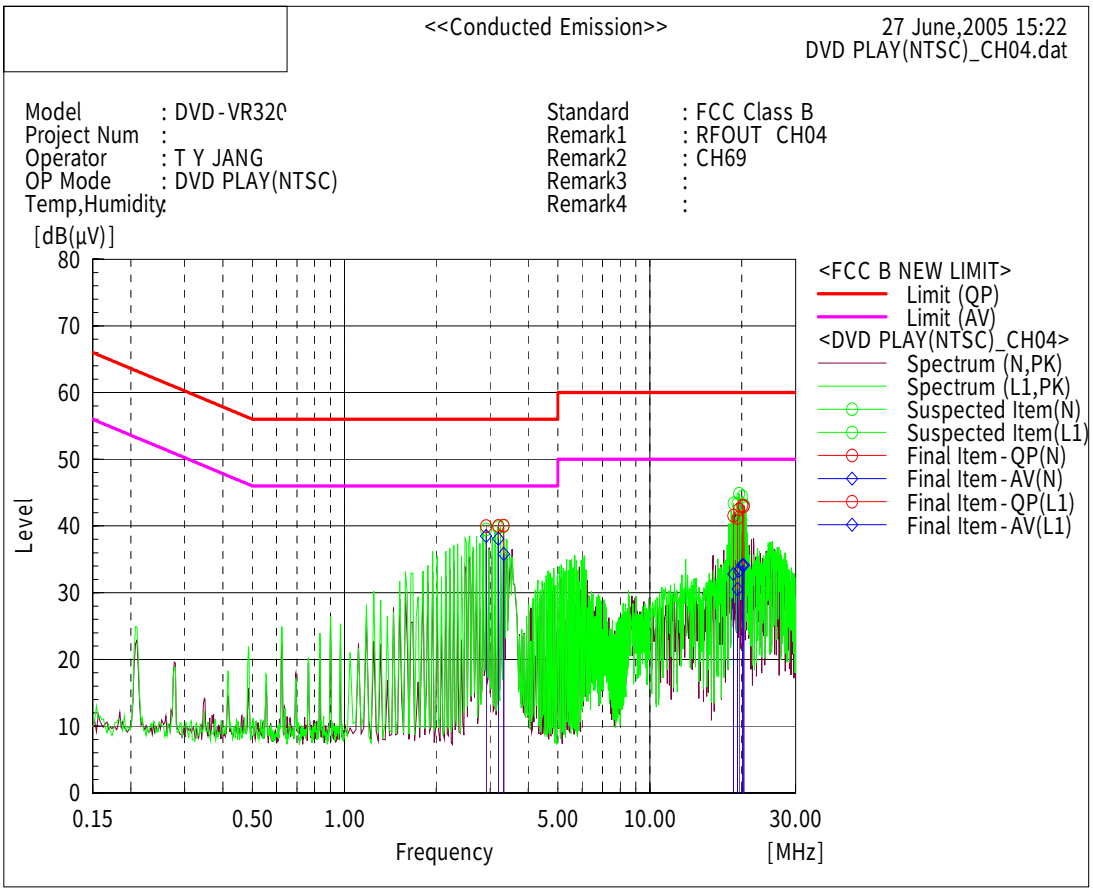
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	18.4985	39.1	29.2	0.9	40.0	30.1	60.0	50.0	20.0	19.9
2	18.845	40.3	29.8	0.9	41.2	30.7	60.0	50.0	18.8	19.3
3	19.262	41.7	30.9	0.9	42.6	31.8	60.0	50.0	17.4	18.2
4	19.471	42.0	30.8	0.9	42.9	31.7	60.0	50.0	17.1	18.3
5	19.9555	41.5	31.2	0.9	42.4	32.1	60.0	50.0	17.6	17.9
6	20.2325	40.9	31.6	0.9	41.8	32.5	60.0	50.0	18.2	17.5
7	20.7165	39.7	30.9	0.9	40.6	31.8	60.0	50.0	19.4	18.2
8	20.9925	39.3	30.4	0.9	40.2	31.3	60.0	50.0	19.8	18.7

--- 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	2.6333	39.1	36.9	0.1	39.2	37.0	56.0	46.0	16.8	9.0
2	2.9793	38.8	36.1	0.1	38.9	36.2	56.0	46.0	17.1	9.8

■ Operating Mode : DVD PLAY_CH04

[Graph and Data]



Final Result

--- N Phase ---

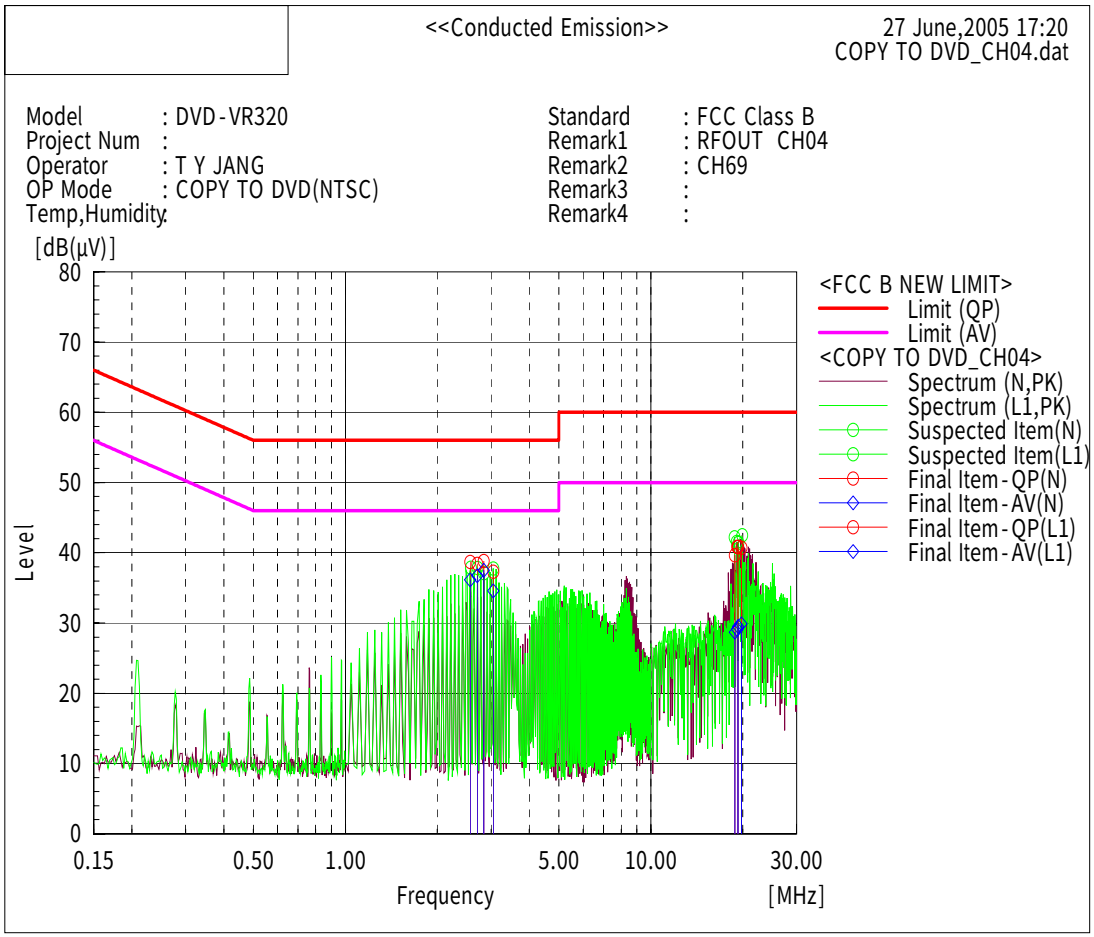
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	19.3995	40.3	29.7	0.9	41.2	30.6	60.0	50.0	18.8	19.4

--- 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	2.9105	39.9	38.4	0.1	40.0	38.5	56.0	46.0	16.0	7.5
2	3.1875	39.9	38.0	0.1	40.0	38.1	56.0	46.0	16.0	7.9
3	3.3261	40.0	35.7	0.1	40.1	35.8	56.0	46.0	15.9	10.2
4	18.7775	40.4	31.7	1.1	41.5	32.8	60.0	50.0	18.5	17.2
5	19.609	41.3	32.1	1.2	42.5	33.3	60.0	50.0	17.5	16.7
6	20.0945	41.9	32.9	1.2	43.1	34.1	60.0	50.0	16.9	15.9
7	20.301	41.8	33.0	1.1	42.9	34.1	60.0	50.0	17.1	15.9

■ Operating Mode : To DVD COPY_CH04

[Graph and Data]



Final Result

--- N Phase ---

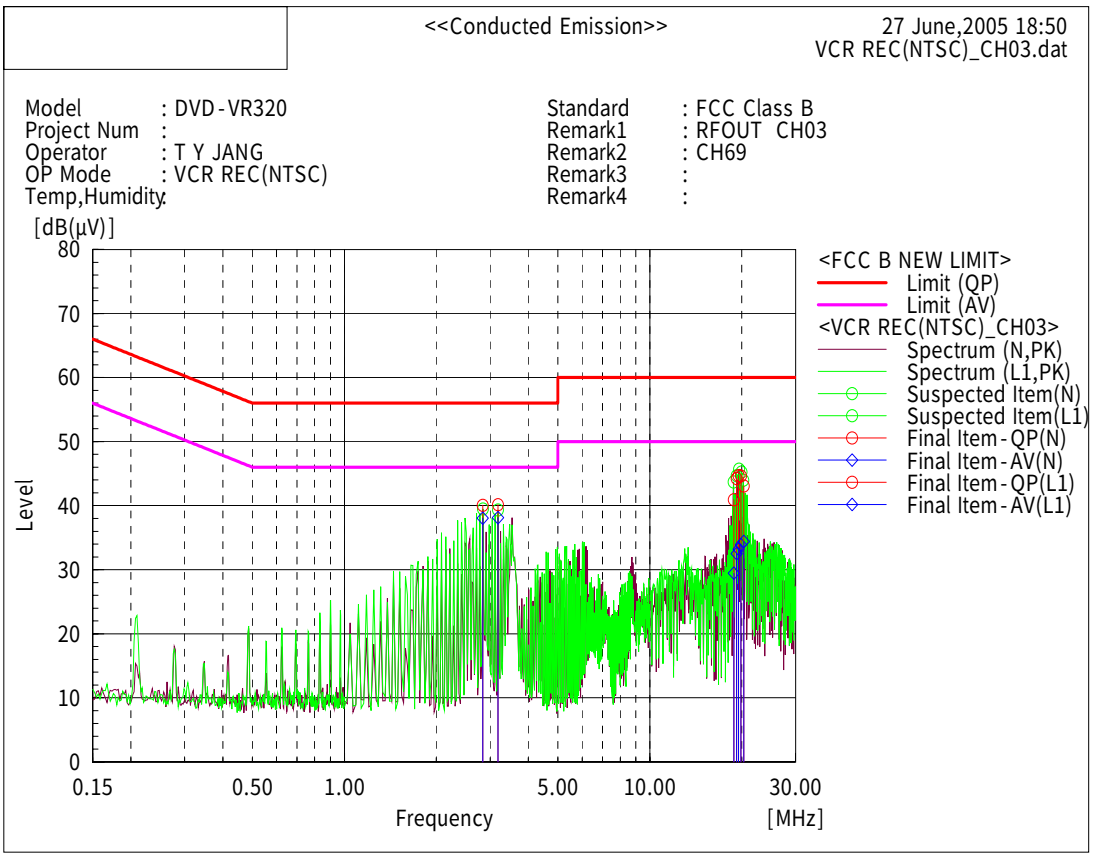
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	18.8455	38.7	27.8	0.9	39.6	28.7	60.0	50.0	20.4	21.3
2	19.1915	40.0	28.2	0.9	40.9	29.1	60.0	50.0	19.2	20.9
3	19.3305	40.0	28.6	0.9	40.9	29.5	60.0	50.0	19.2	20.5
4	19.8155	39.8	29.0	0.9	40.7	29.9	60.0	50.0	19.3	20.1

--- 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	2.5633	38.6	36.0	0.1	38.7	36.1	56.0	46.0	17.3	9.9
2	2.7024	38.3	36.6	0.1	38.4	36.7	56.0	46.0	17.6	9.3
3	2.8396	38.7	37.4	0.1	38.8	37.5	56.0	46.0	17.2	8.5
4	3.0482	37.2	34.5	0.1	37.3	34.6	56.0	46.0	18.7	11.4

■ Operating Mode : VCR REC(NTSC)_CH03

[Graph and Data]



Final Result

--- N Phase ---

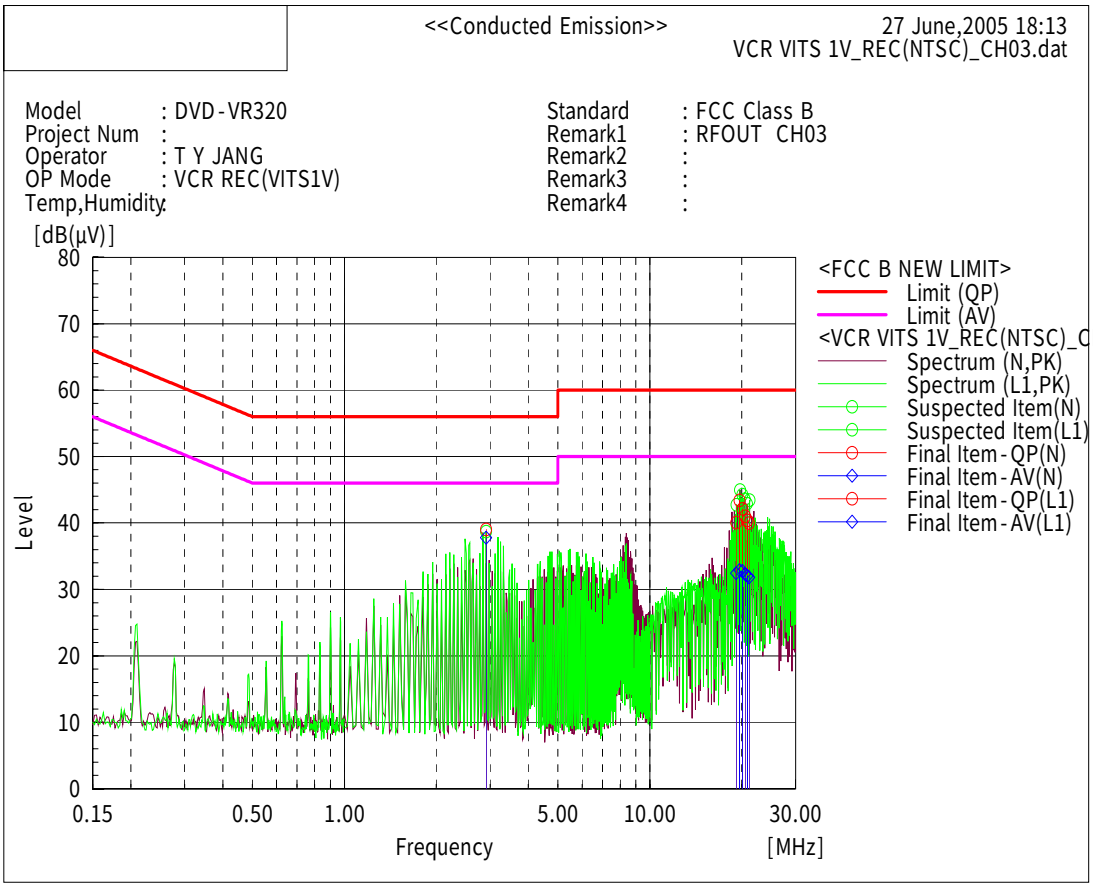
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	18.845	40.0	28.6	0.9	40.9	29.5	60.0	50.0	19.1	20.5
2	19.2615	43.3	31.6	0.9	44.2	32.5	60.0	50.0	15.8	17.5
3	19.5385	43.8	32.3	0.9	44.7	33.2	60.0	50.0	15.3	16.8
4	19.884	43.7	33.0	0.9	44.6	33.9	60.0	50.0	15.4	16.1

--- 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	2.8401	40.0	38.0	0.1	40.1	38.1	56.0	46.0	15.9	8.0
2	3.1868	40.0	38.0	0.1	40.1	38.1	56.0	46.0	15.9	7.9
3	20.299	42.0	33.3	1.1	43.1	34.4	60.0	50.0	16.9	15.6

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

[Graph and Data]



Final Result

--- N Phase ---

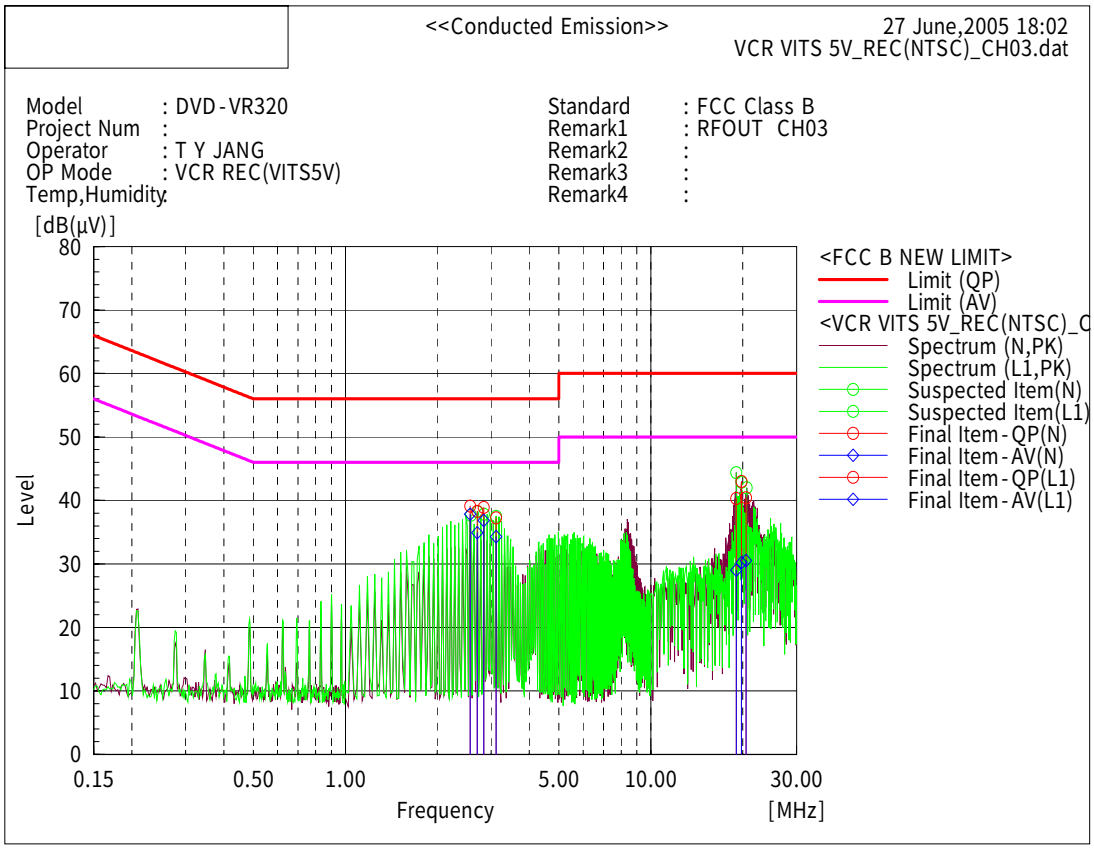
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	19.6765	42.5	32.0	0.9	43.4	32.9	60.0	50.0	16.6	17.1
2	20.0915	41.2	31.9	0.9	42.1	32.8	60.0	50.0	17.9	17.3
3	20.5065	40.1	31.4	0.9	41.0	32.3	60.0	50.0	19.0	17.7
4	20.854	39.5	31.1	0.9	40.4	32.0	60.0	50.0	19.6	18.0
5	21.129	39.1	30.9	0.9	40.0	31.8	60.0	50.0	20.0	18.2

--- 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	2.9098	38.9	37.7	0.1	39.0	37.8	56.0	46.0	17.0	8.2
2	19.191	39.0	31.3	1.1	40.1	32.4	60.0	50.0	19.9	17.6

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

[Graph and Data]



Final Result

--- N Phase ---

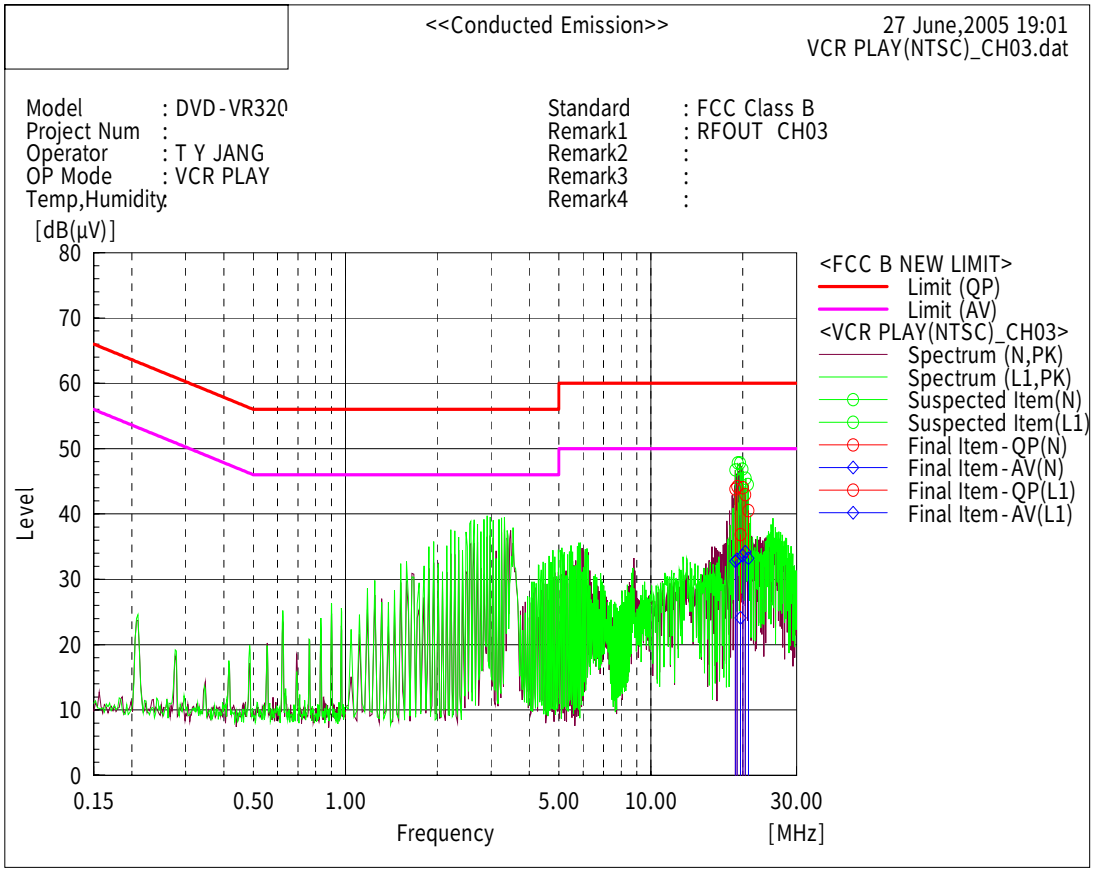
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	19.052	39.4	28.1	0.9	40.3	29.0	60.0	50.0	19.7	21.0
2	19.8155	42.1	29.3	0.9	43.0	30.2	60.0	50.0	17.0	19.8
3	20.5095	39.6	29.7	0.9	40.5	30.6	60.0	50.0	19.6	19.5

--- 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	2.5633	39.0	37.7	0.1	39.1	37.8	56.0	46.0	16.9	8.2
2	2.7019	38.2	34.8	0.1	38.3	34.9	56.0	46.0	17.7	11.1
3	2.8398	38.8	36.8	0.1	38.9	36.9	56.0	46.0	17.1	9.2
4	3.1182	37.2	34.2	0.1	37.3	34.3	56.0	46.0	18.8	11.7

■ Operating Mode : VCR PLAY_CH03

[Graph and Data]



Final Result

--- N Phase ---

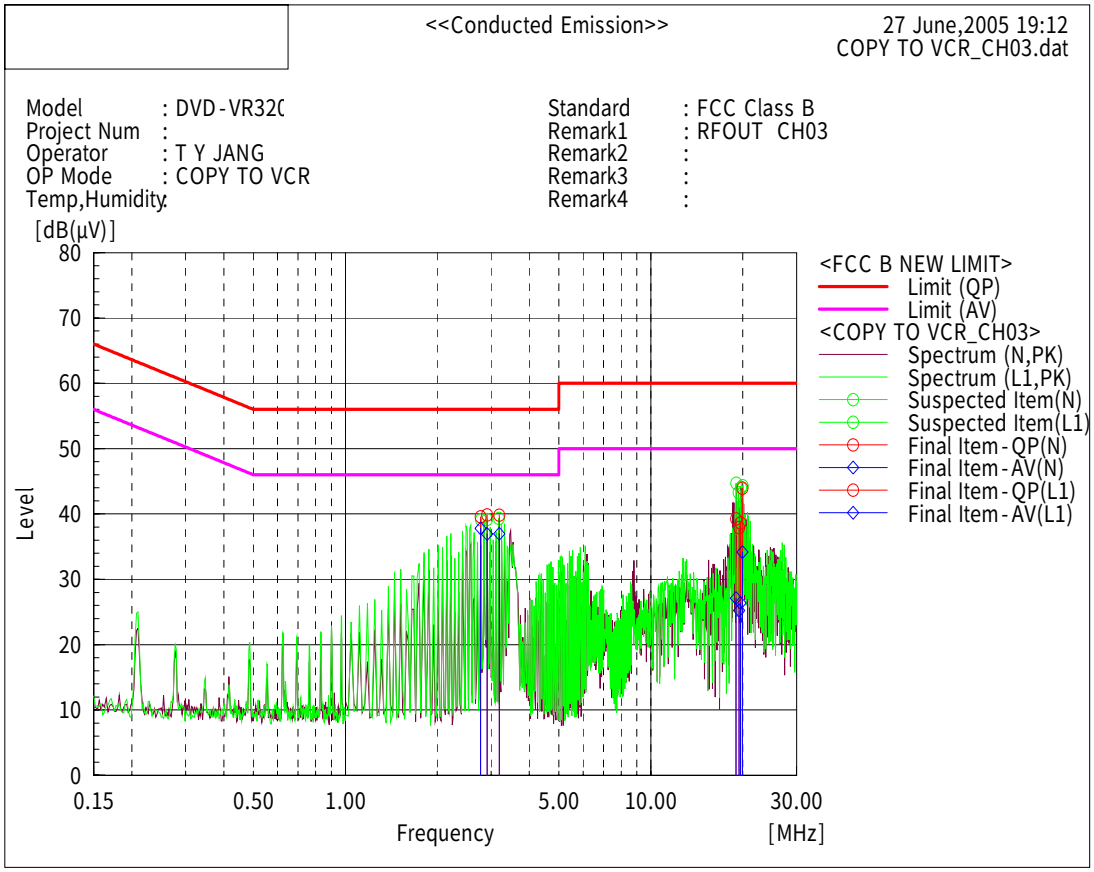
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	18.9135	42.9	31.9	0.9	43.8	32.8	60.0	50.0	16.2	17.2
2	19.1885	43.3	32.2	0.9	44.2	33.1	60.0	50.0	15.8	16.9
3	19.6685	36.0	23.2	0.9	36.9	24.1	60.0	50.0	23.1	25.9
4	20.0205	43.1	32.7	0.9	44.0	33.6	60.0	50.0	16.0	16.4

--- 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	20.3685	41.8	33.1	1.1	42.9	34.2	60.0	50.0	17.1	15.8
2	20.8535	39.4	32.1	1.1	40.5	33.2	60.0	50.0	19.5	16.8

■ Operating Mode : VCR COPY_CH03

[Graph and Data]



Final Result

--- N Phase ---

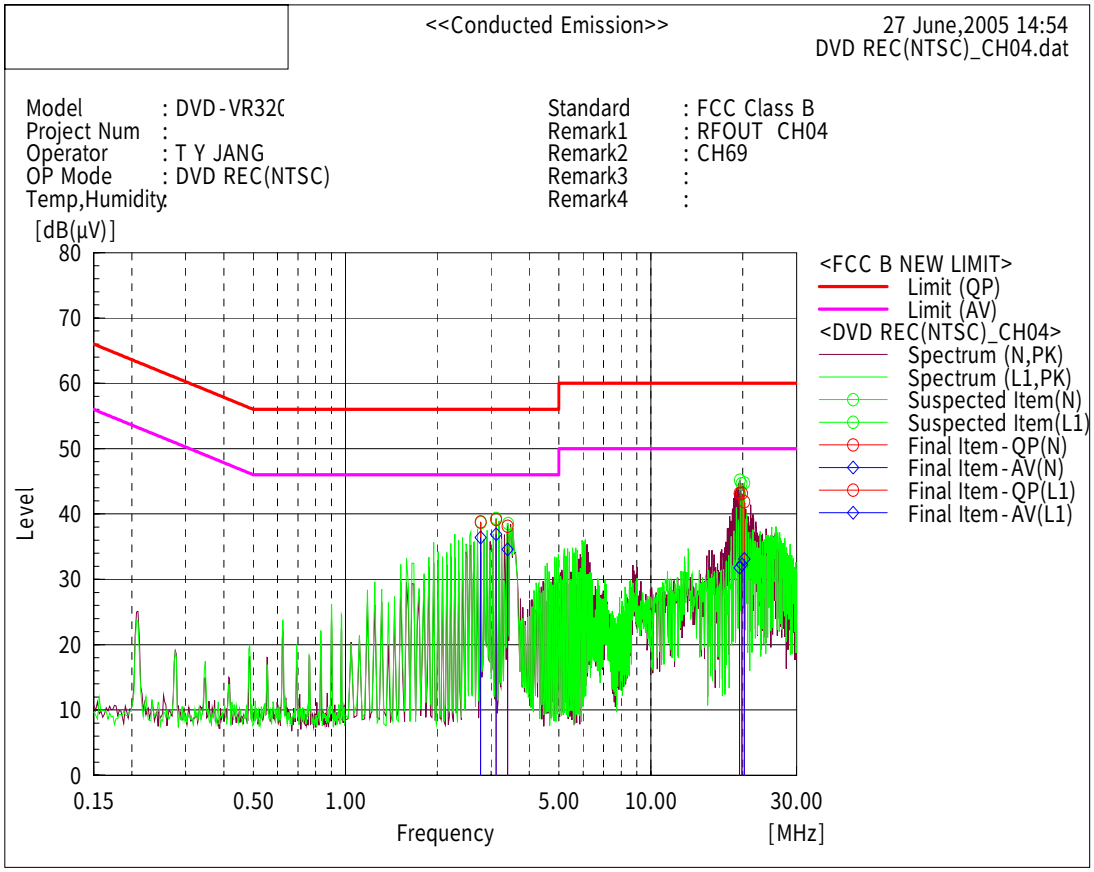
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	18.988	38.4	26.2	0.9	39.3	27.1	60.0	50.0	20.8	22.9
2	19.4635	37.0	24.3	0.9	37.9	25.2	60.0	50.0	22.1	24.8
3	19.682	37.7	25.5	0.9	38.6	26.4	60.0	50.0	21.4	23.6

--- 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	2.7712	39.5	37.7	0.1	39.6	37.8	56.0	46.0	16.5	8.2
2	2.9109	39.8	36.9	0.1	39.9	37.0	56.0	46.0	16.1	9.1
3	3.1872	39.7	36.9	0.1	39.8	37.0	56.0	46.0	16.2	9.0
4	19.9535	42.8	33.0	1.2	44.0	34.2	60.0	50.0	16.1	15.9

■ Operating Mode : VCR REC(NTSC)_CH04

[Graph and Data]



Final Result

--- N Phase ---

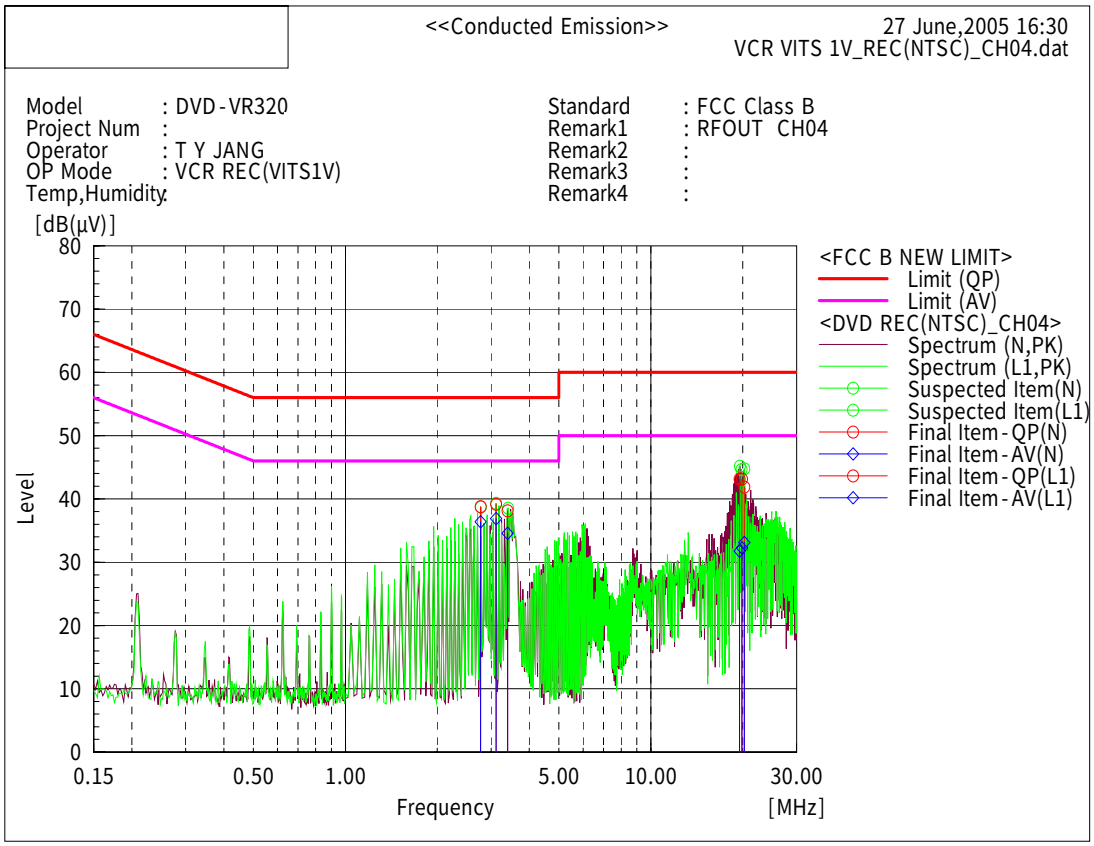
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	19.5395	42.3	30.9	0.9	43.2	31.8	60.0	50.0	16.8	18.2
2	19.8865	42.3	31.4	0.9	43.2	32.3	60.0	50.0	16.8	17.7

--- 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	2.7717	38.7	36.3	0.1	38.8	36.4	56.0	46.0	17.2	9.6
2	3.1184	39.1	36.8	0.1	39.2	36.9	56.0	46.0	16.8	9.1
3	3.3954	38.0	34.5	0.1	38.1	34.6	56.0	46.0	17.9	11.4
4	20.233	40.7	31.9	1.2	41.9	33.1	60.0	50.0	18.1	16.9

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

[Graph and Data]



Final Result

--- N Phase ---

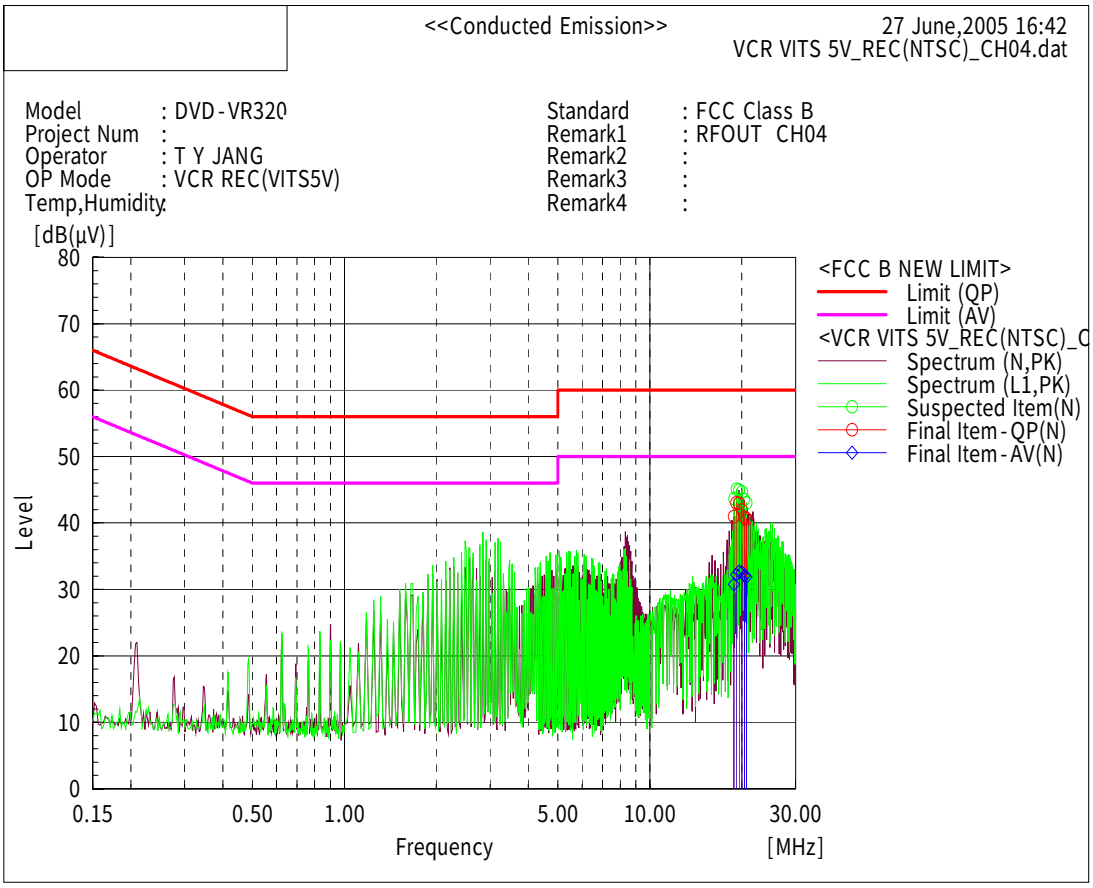
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	18.984	40.8	30.2	0.9	41.7	31.1	60.0	50.0	18.4	18.9
2	19.4695	42.3	31.5	0.9	43.2	32.4	60.0	50.0	16.8	17.6
3	19.6775	41.7	31.4	0.9	42.6	32.3	60.0	50.0	17.4	17.7
4	19.8855	41.8	31.9	0.9	42.7	32.8	60.0	50.0	17.3	17.2
5	20.231	41.3	32.1	0.9	42.2	33.0	60.0	50.0	17.8	17.0
6	20.6455	40.2	31.5	0.9	41.1	32.4	60.0	50.0	19.0	17.7
7	21.269	39.1	30.9	0.9	40.0	31.8	60.0	50.0	20.0	18.2

--- 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	8.7999	28.2	24.1	0.1	28.3	24.2	60.0	50.0	31.7	25.8

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

[Graph and Data]



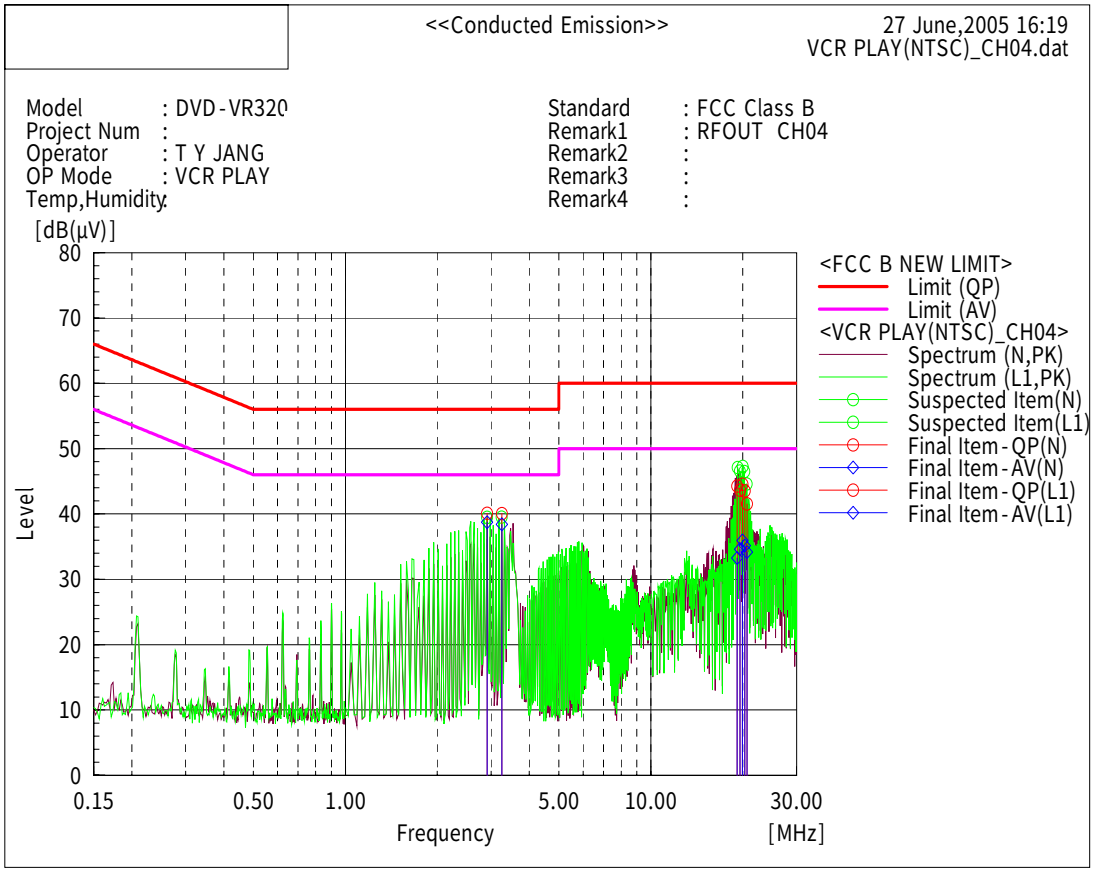
Final Result

--- 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	18.844	40.1	29.8	0.9	41.0	30.7	60.0	50.0	19.0	19.3
2	19.1915	42.1	31.3	0.9	43.0	32.2	60.0	50.0	17.0	17.8
3	19.6085	42.1	31.8	0.9	43.0	32.7	60.0	50.0	17.0	17.3
4	20.0225	41.0	31.7	0.9	41.9	32.6	60.0	50.0	18.1	17.4
5	20.438	40.0	31.1	0.9	40.9	32.0	60.0	50.0	19.1	18.0
6	20.717	39.7	31.0	0.9	40.6	31.9	60.0	50.0	19.4	18.1

■ Operating Mode : VCR PLAY_CH04

[Graph and Data]



Final Result

--- N Phase ---

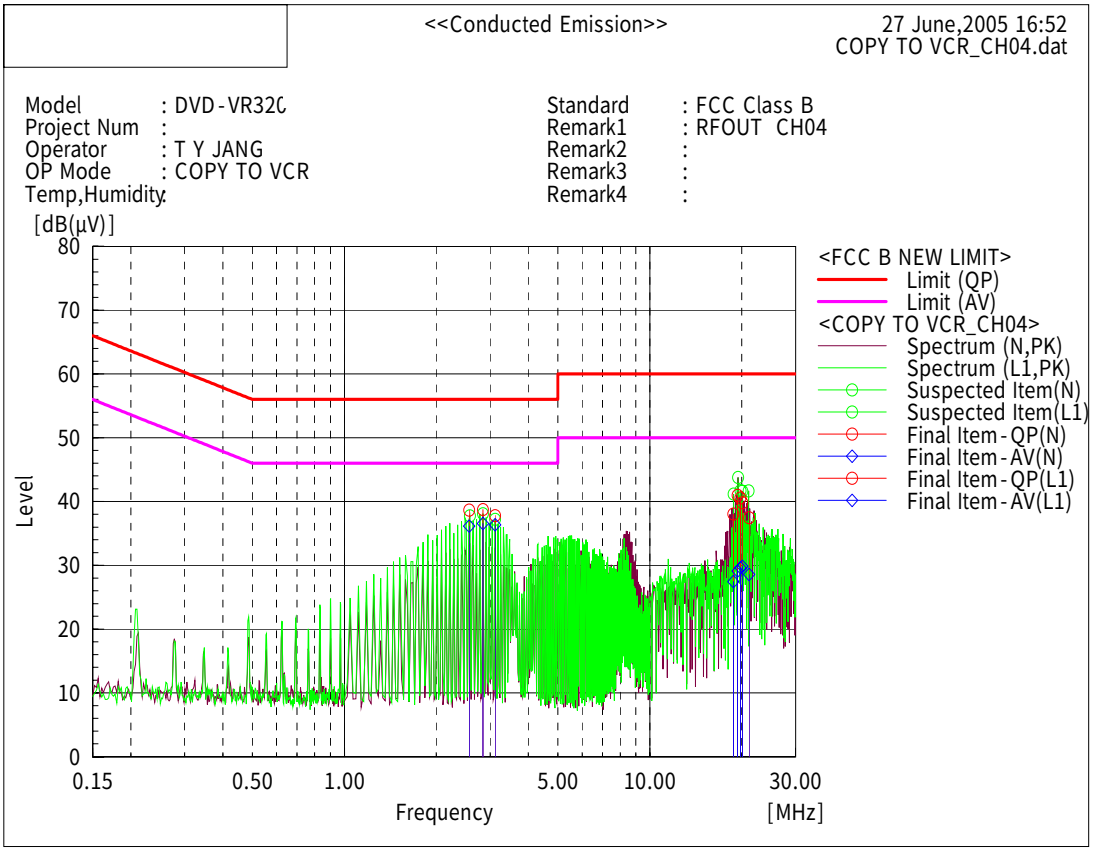
No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	19.1915	43.4	32.4	0.9	44.3	33.3	60.0	50.0	15.8	16.7

--- 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	2.9098	40.0	38.6	0.1	40.1	38.7	56.0	46.0	15.9	7.3
2	3.2561	40.0	38.3	0.1	40.1	38.4	56.0	46.0	15.9	7.6
3	19.606	42.5	33.4	1.2	43.7	34.6	60.0	50.0	16.3	15.4
4	19.9535	43.4	34.7	1.2	44.6	35.9	60.0	50.0	15.4	14.1
5	20.3005	42.4	34.1	1.1	43.5	35.2	60.0	50.0	16.5	14.8
6	20.6465	40.5	33.1	1.1	41.6	34.2	60.0	50.0	18.5	15.9

■ Operating Mode : VCR 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	18.776	37.2	26.5	0.9	38.1	27.4	60.0	50.0	22.0	22.6
2	19.401	40.1	28.2	0.9	41.0	29.1	60.0	50.0	19.0	20.9
3	19.817	39.7	28.8	0.9	40.6	29.7	60.0	50.0	19.5	20.4
4	20.093	38.9	29.0	0.9	39.8	29.9	60.0	50.0	20.2	20.1
5	21.131	36.6	27.7	0.9	37.5	28.6	60.0	50.0	22.5	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	2.5633	38.6	36.1	0.1	38.7	36.2	56.0	46.0	17.3	9.9
2	2.841	38.7	36.5	0.1	38.8	36.6	56.0	46.0	17.2	9.5
3	3.1182	37.7	36.3	0.1	37.8	36.4	56.0	46.0	18.2	9.6

3.2 Radiated Emission

Test Information		
	Test Engineer	Tae Young, Jang
	Test Date	June 17 ~ 24, 2005
	Climate Condition	Ambient Temperature : 24℃ Relative Humidity : 32%
	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
Bi-log Antenna	6112B	SCHAFFNER	2766	2005-07-06	12
Mast Controller	HD2000	HD	HD20000902027	N/A	N/A
TV Signal Generator	PM5418-TDSI	PHILIPS	LO612437	2005-09-23	12
EMC Analyzer	E7405A	Agilent	MY42000109	2005-11-27	12
Field strength meter	ESCS30	R&S	839809/002	2006-05-04	12
RF Amplifier	8447D	Agilent	2944A10430	2005-07-20	12
Mast Controller	HD 100	HD	100/374	N/A	N/A

EUT Test Setup

EUT was positioned on the center of table at 3m from antenna in10m semi-anechoic chamber.

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.

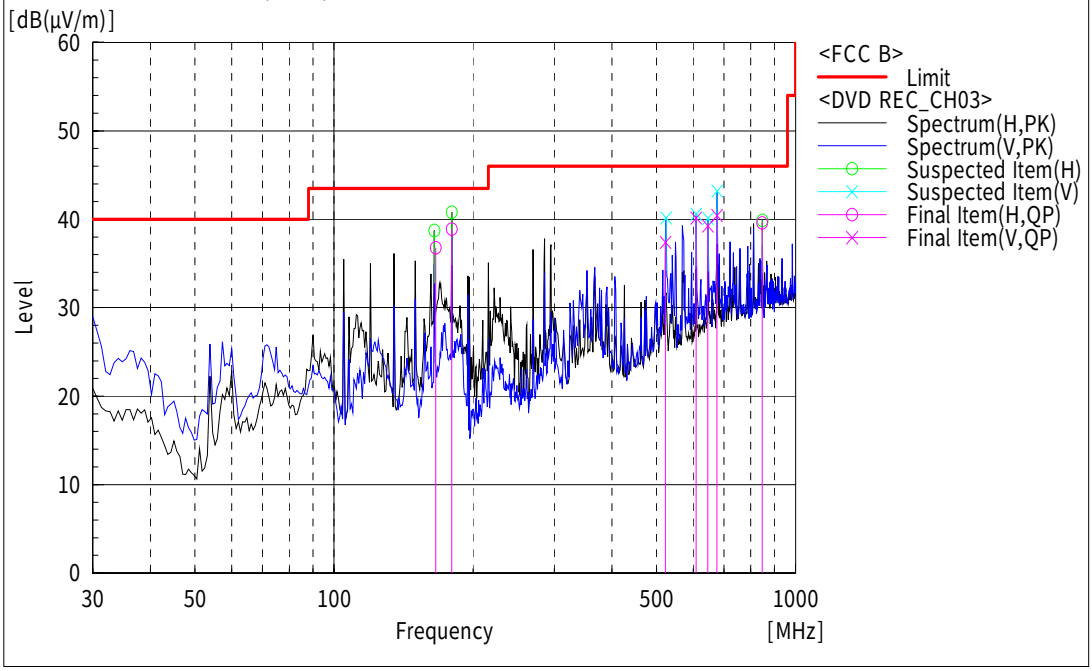
Test Data

■ Operating Mode : DVD REC(NTSC)_CH03

<<Radiated Emission>>

Model Name : DVD-VR320
Serial Num. : -
Test Enginee : T Y JANG
AC Power : 120V 60Hz
OP Mode : DVD REC(NTSC)

Standard : FCC Part.15 Class B 3m
Remark 1 : RFOUT CH03
Remark 2 : CH69
:
:



Final Result

--- Horizontal Polarization (QP)---

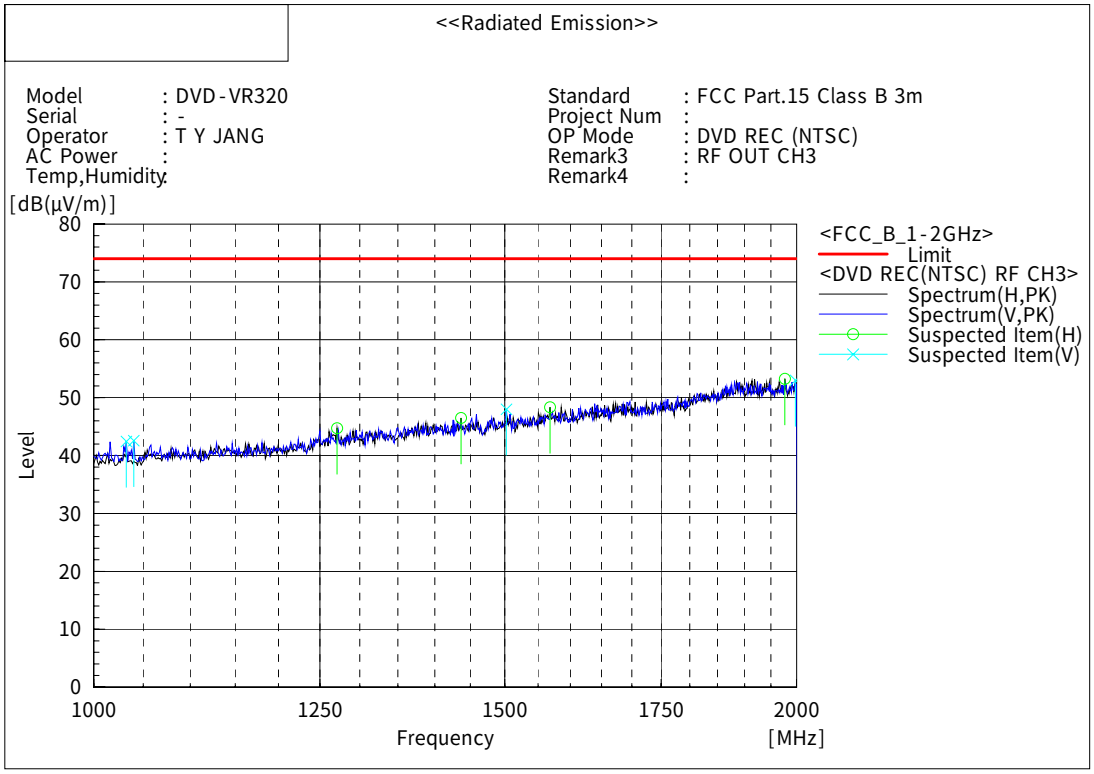
No.	Frequency [MHz]	Reading [dB(µV)]	c.f [dB(1/m)]	Result [dB(µV/m)]	Limit [dB(µV/m)]	Margin [dB]	Remark
1	166.046	51.5	-14.7	36.8	43.5	6.7	
2	179.992	53.6	-14.7	38.9	43.5	4.6	
3	846.980	37.6	2.0	39.6	46.0	6.4	

--- 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	522.635	39.8	-2.4	37.4	46.0	8.6	
2	608.858	41.5	-1.3	40.2	46.0	5.8	
3	645.765	39.9	-0.6	39.3	46.0	6.8	
4	675.008	40.4	0.0	40.4	46.0	5.6	

■ Operating Mode: DVD REC(NTSC)_CH03

Frequency: Up to 2GHz



Spectrum Selection

--- Horizontal Polarization ---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1271.438	35.0	9.7	44.7	74.0	29.3	
2	1436.825	34.2	12.3	46.5	74.0	27.5	
3	1568.175	33.5	14.9	48.4	74.0	25.6	
4	1977.225	31.3	21.9	53.2	74.0	20.8	

--- Vertical Polarization ---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1032.825	36.7	5.7	42.4	74.0	31.6	
2	1040.400	36.8	5.8	42.6	74.0	31.4	
3	1502.475	34.6	13.4	48.0	74.0	26.0	
4	1997.425	30.7	22.3	53.0	74.0	21.0	

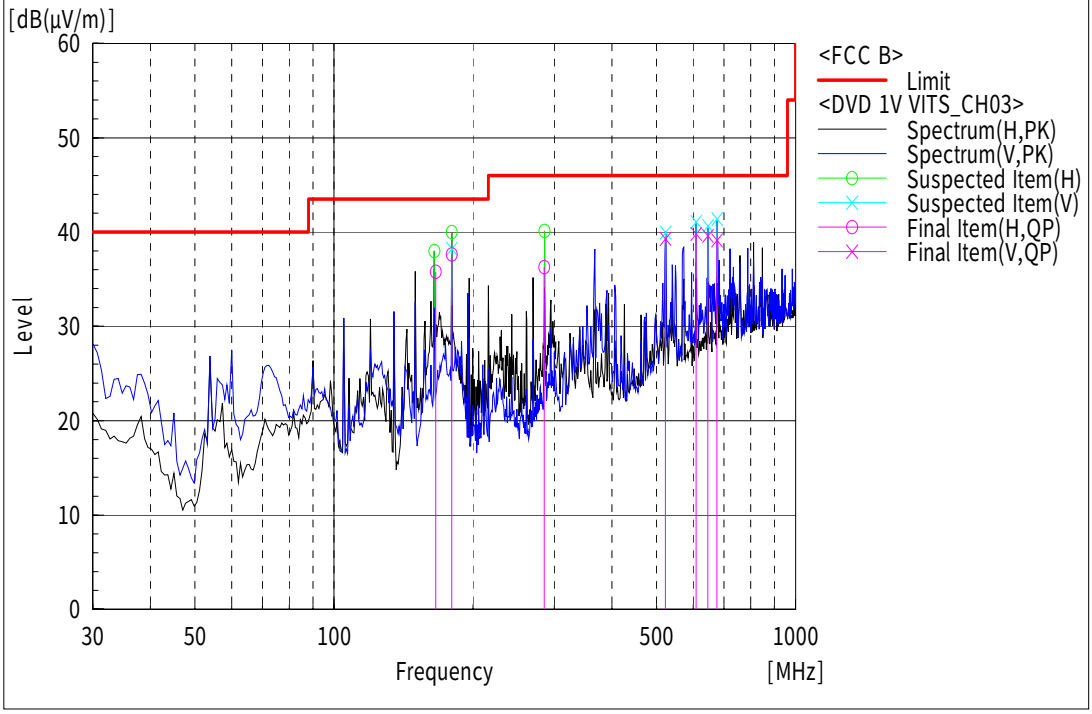
■ Operating Mode : DVD REC(1V VITS)_CH03

[Graph and Data]

<<Radiated Emission>>

Model Name : DVD-VR320
Serial Num. : -
Test Enginee : T Y JANG
AC Power : 120V 60Hz
OP Mode : DVD REC(1V VITS)

Standard : FCC Part.15 Class B 3m
Remark 1 : RFOUT CH03
Remark 2 :



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	166.046	50.5	-14.7	35.8	43.5	7.7	
2	179.985	52.3	-14.7	37.6	43.5	5.9	
3	285.521	44.6	-8.3	36.3	46.0	9.7	

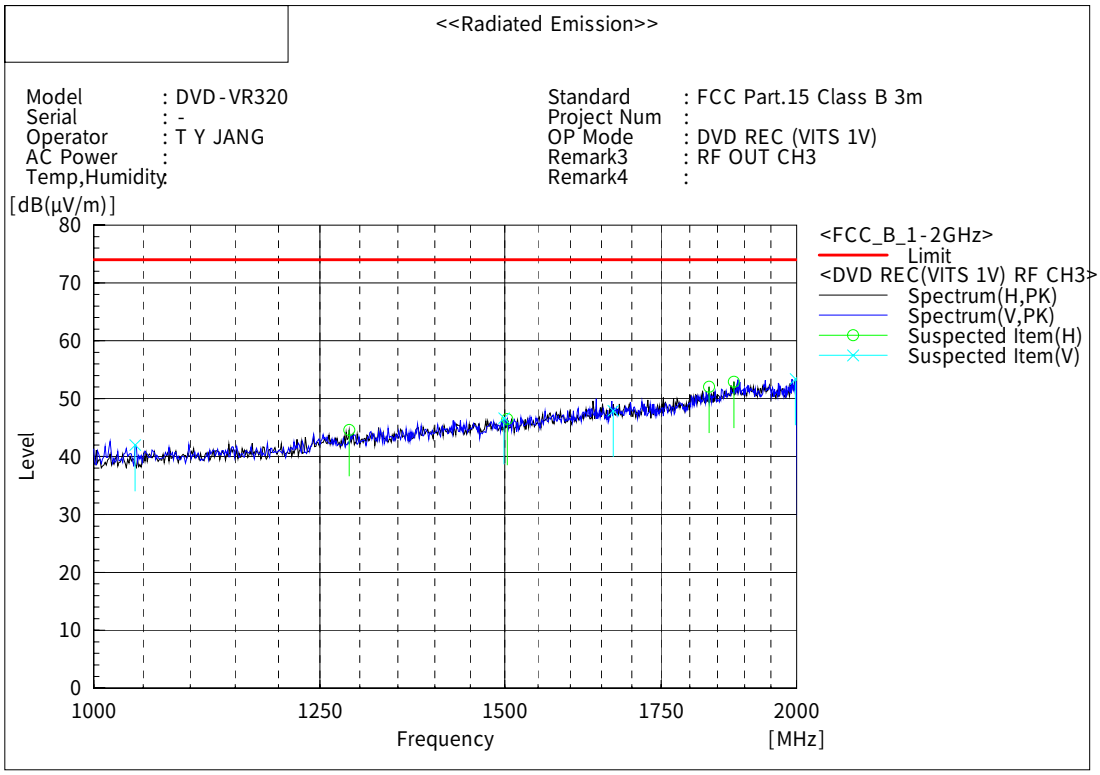
--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(µV)]	c.f [dB(1/m)]	Result [dB(µV/m)]	Limit [dB(µV/m)]	Margin [dB]	Remark
1	522.513	41.7	-2.4	39.3	46.0	6.7	
2	608.858	41.1	-1.3	39.8	46.0	6.2	
3	645.765	40.2	-0.6	39.6	46.0	6.4	
4	675.008	39.1	0.0	39.1	46.0	6.9	

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

Frequency: Up to 2GHz

[Graph and Data]



Spectrum Selection

--- Horizontal Polarization ---

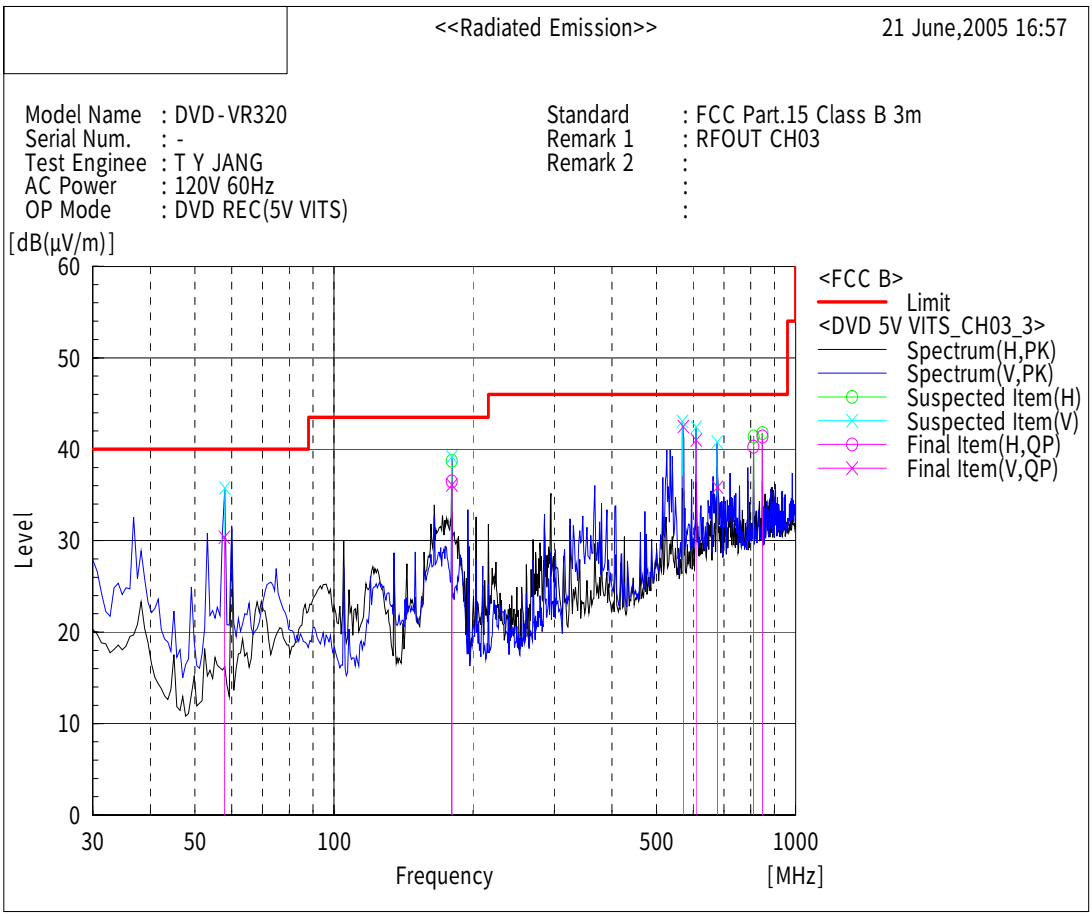
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1286.587	34.6	10.0	44.6	74.0	29.4	
2	1503.737	33.1	13.4	46.5	74.0	27.5	
3	1834.562	32.3	19.7	52.0	74.0	22.0	
4	1880.012	32.0	20.9	52.9	74.0	21.1	

--- Vertical Polarization ---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1041.663	36.2	5.8	42.0	74.0	32.0	
2	1498.687	33.3	13.3	46.6	74.0	27.4	
3	1669.175	31.3	16.6	47.9	74.0	26.1	
4	1997.425	31.1	22.3	53.4	74.0	20.6	

■ 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	179.985	51.2	-14.7	36.5	43.5	7.0	
2	810.003	38.6	1.7	40.3	46.0	5.7	
3	847.925	39.4	2.0	41.4	46.0	4.6	

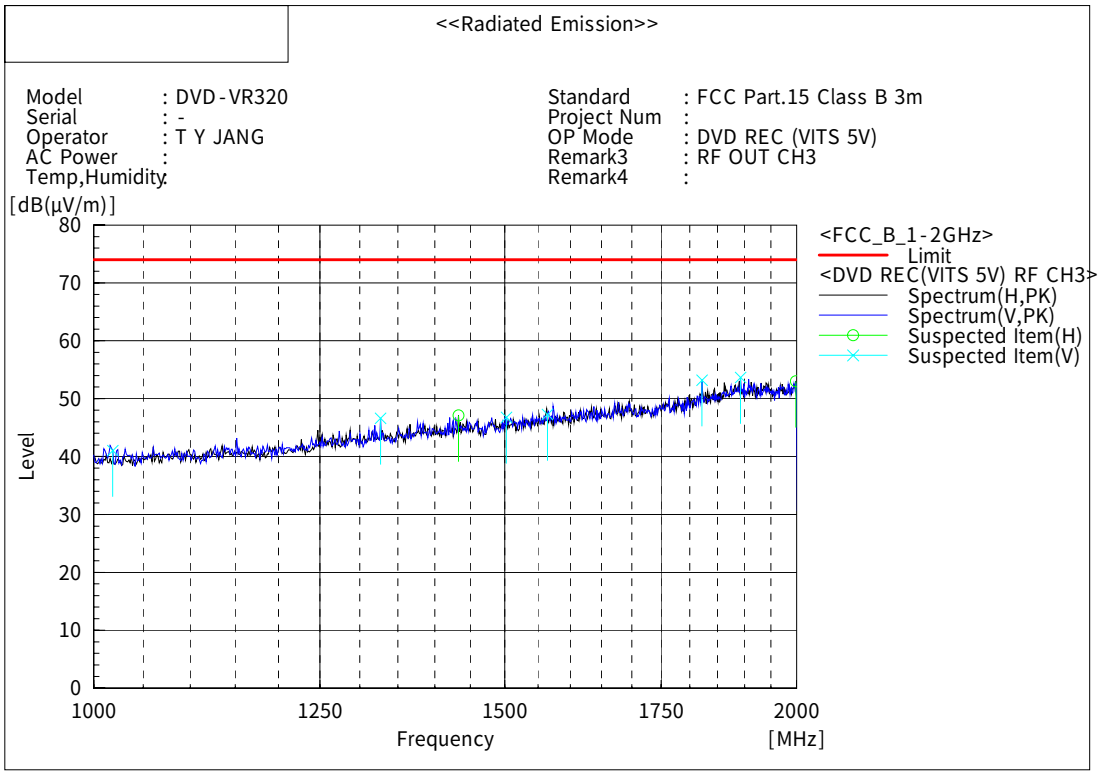
--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(µV)]	c.f [dB(1/m)]	Result [dB(µV/m)]	Limit [dB(µV/m)]	Margin [dB]	Remark
1	57.844	50.5	-20.1	30.4	40.0	9.6	
2	179.891	50.8	-14.7	36.1	43.5	7.4	
3	570.883	44.2	-1.7	42.5	46.0	3.5	
4	608.858	42.3	-1.3	41.0	46.0	5.0	
5	677.318	35.8	0.1	35.9	46.0	10.1	

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

Frequency: Up to 2GHz

[Graph and Data]



Spectrum Selection

--- Horizontal Polarization ---

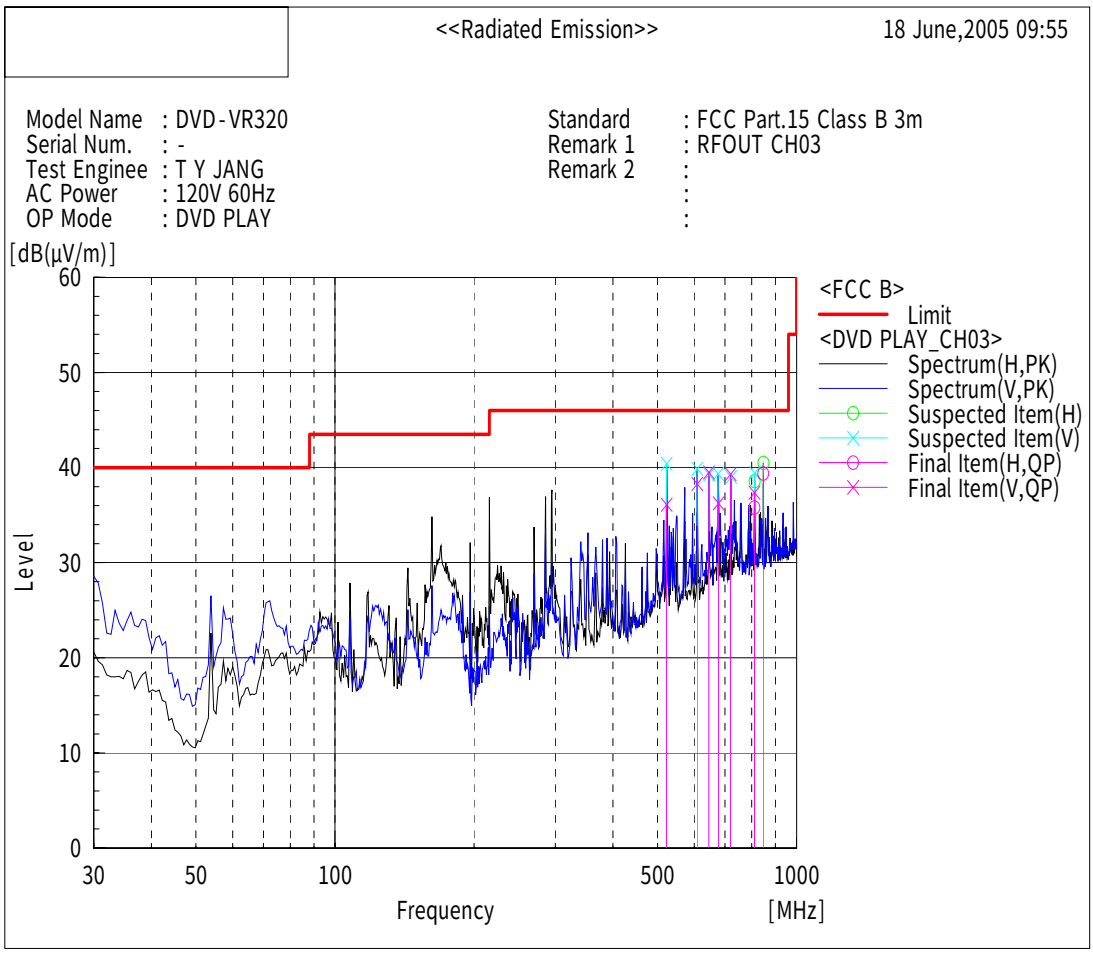
No.	Frequency [MHz]	Reading [dB(µV)]	c.f [dB(1/m)]	Result PK [dB(µV/m)]	Limit [dB(µV/m)]	Margin [dB]	Remark
1	1433.037	34.8	12.3	47.1	74.0	26.9	
2	1998.687	30.6	22.4	53.0	74.0	21.0	

--- Vertical Polarization ---

No.	Frequency [MHz]	Reading [dB(µV)]	c.f [dB(1/m)]	Result PK [dB(µV/m)]	Limit [dB(µV/m)]	Margin [dB]	Remark
1	1018.938	35.5	5.5	41.0	74.0	33.0	
2	1326.987	36.2	10.4	46.6	74.0	27.4	
3	1502.475	33.4	13.4	46.8	74.0	27.2	
4	1564.388	32.4	14.9	47.3	74.0	26.7	
5	1821.937	33.8	19.4	53.2	74.0	20.8	
6	1892.637	32.5	21.2	53.7	74.0	20.3	

■ 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	809.950	34.1	1.7	35.8	46.0	10.2	
2	846.980	37.4	2.0	39.4	46.0	6.6	

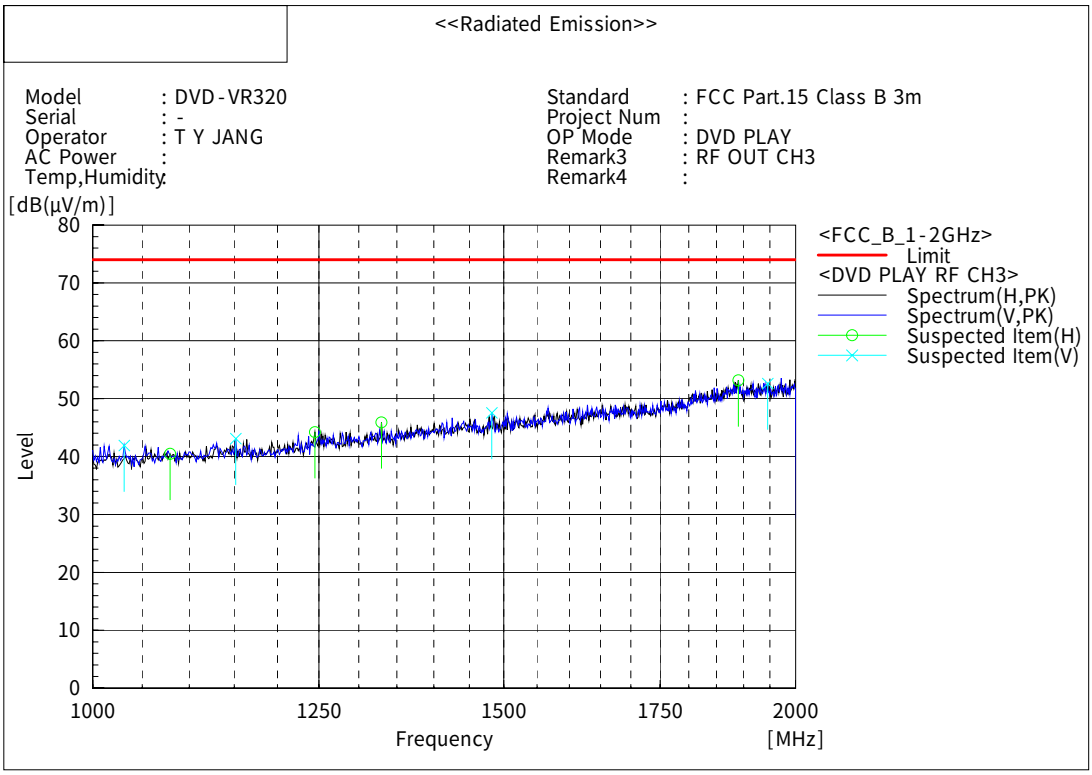
--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(µV)]	c.f [dB(1/m)]	Result [dB(µV/m)]	Limit [dB(µV/m)]	Margin [dB]	Remark
1	522.670	38.5	-2.4	36.1	46.0	9.9	
2	608.858	39.6	-1.3	38.3	46.0	7.7	
3	645.765	40.1	-0.6	39.5	46.0	6.5	
4	677.318	36.2	0.1	36.3	46.0	9.8	
5	719.563	38.4	0.9	39.3	46.0	6.7	
6	810.003	35.7	1.7	37.4	46.0	8.6	

■ Operating Mode : DVD Play_CH03

Frequency: Up to 2GHz

[Graph and Data]



Spectrum Selection

--- Horizontal Polarization ---

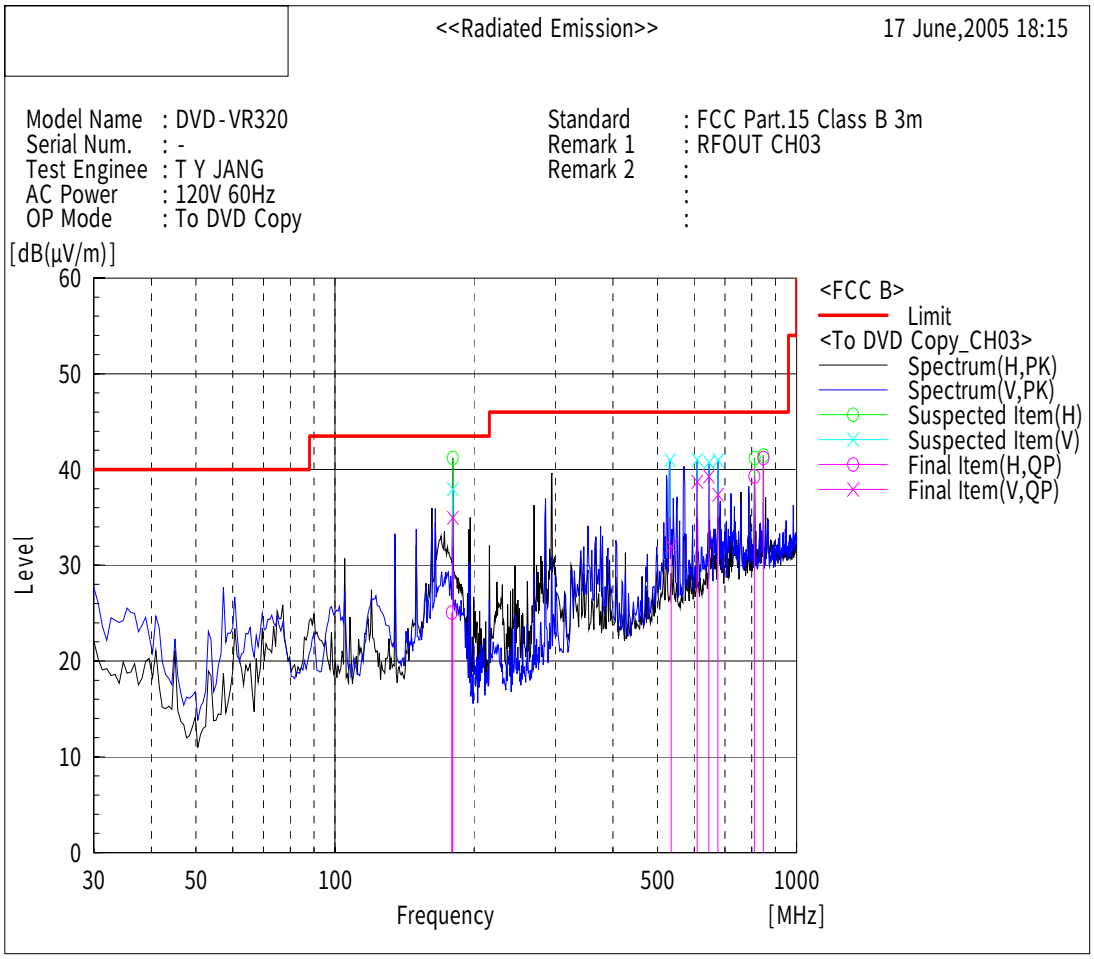
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1079.538	34.0	6.5	40.5	74.0	33.5	
2	1244.925	35.2	9.0	44.2	74.0	29.8	
3	1329.512	35.4	10.5	45.9	74.0	28.1	
4	1890.112	32.0	21.2	53.2	74.0	20.8	

--- Vertical Polarization ---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1031.563	36.2	5.7	41.9	74.0	32.1	
2	1151.500	35.6	7.5	43.1	74.0	30.9	
3	1482.275	34.7	12.9	47.6	74.0	26.4	
4	1945.662	31.2	21.5	52.7	74.0	21.3	

■ 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	178.979	39.8	-14.7	25.1	43.5	18.4	
2	809.950	37.6	1.7	39.3	46.0	6.7	
3	847.925	39.2	2.0	41.2	46.0	4.8	

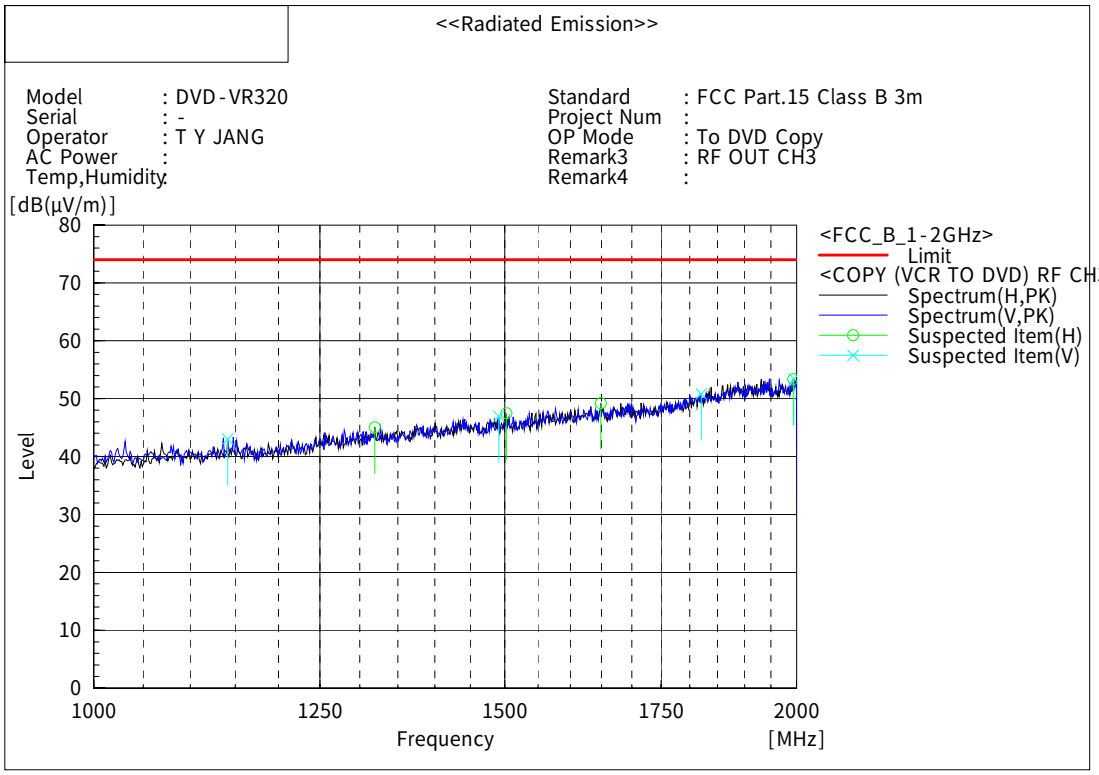
--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(µV)]	c.f [dB(1/m)]	Result [dB(µV/m)]	Limit [dB(µV/m)]	Margin [dB]	Remark
1	179.985	49.7	-14.7	35.0	43.5	8.5	
2	535.043	34.2	-2.2	32.0	46.0	14.0	
3	608.858	40.0	-1.3	38.7	46.0	7.3	
4	645.765	39.9	-0.6	39.3	46.0	6.7	
5	675.008	37.4	0.0	37.4	46.0	8.6	

■ Operating Mode : DVD Copy_CH03

Frequency: Up to 2GHz

[Graph and Data]



Spectrum Selection

--- Horizontal Polarization ---

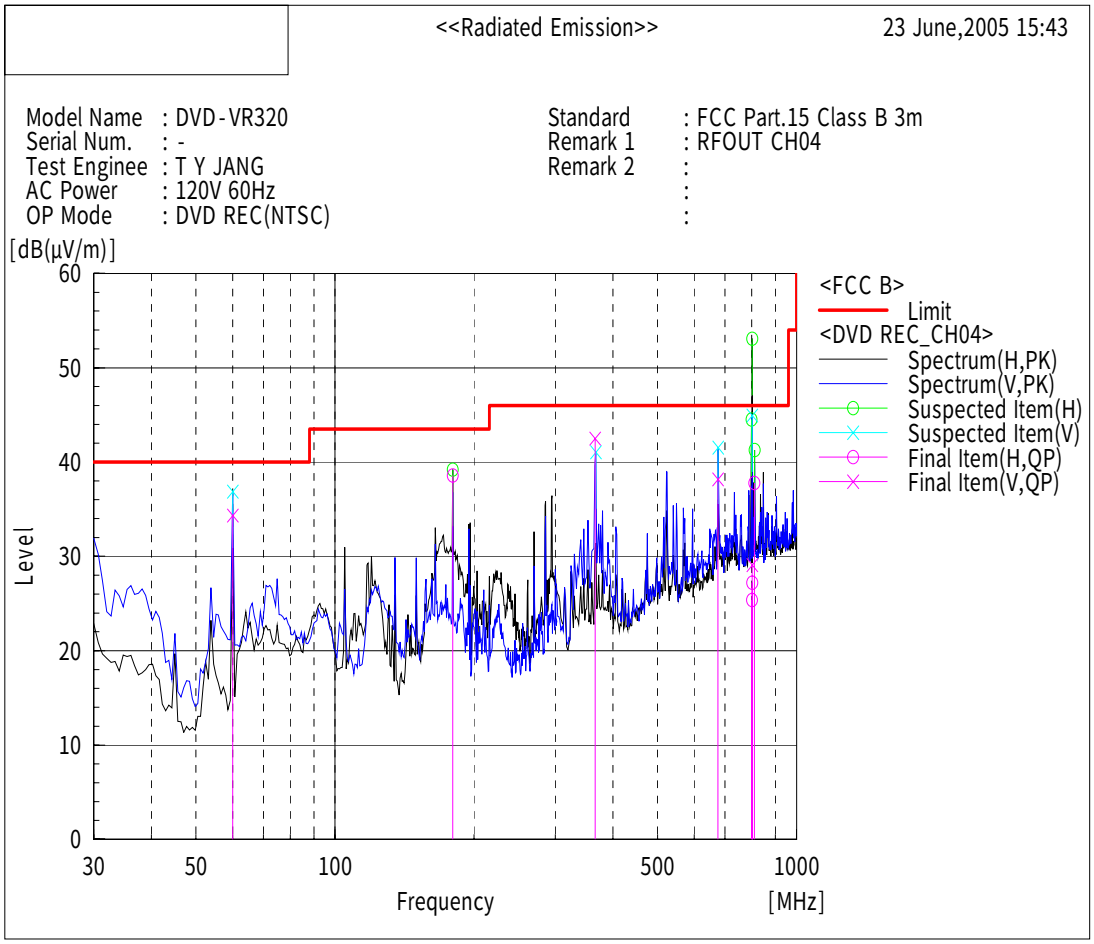
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1319.412	34.8	10.3	45.1	74.0	28.9	
2	1502.475	34.1	13.4	47.5	74.0	26.5	
3	1648.975	33.0	16.2	49.2	74.0	24.8	
4	1993.637	31.1	22.3	53.4	74.0	20.6	

--- Vertical Polarization ---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1141.400	35.6	7.4	43.0	74.0	31.0	
2	1491.112	33.9	13.1	47.0	74.0	27.0	
3	1820.675	31.5	19.3	50.8	74.0	23.2	
4	1994.900	31.2	22.3	53.5	74.0	20.5	

■ 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	179.992	53.3	-14.7	38.6	43.5	4.9	
2	801.043	23.8	1.6	25.4	46.0	20.6	
3	801.270	25.6	1.6	27.2	46.0	18.8	Pattern Generator Noise
4	810.003	36.1	1.7	37.8	46.0	8.2	

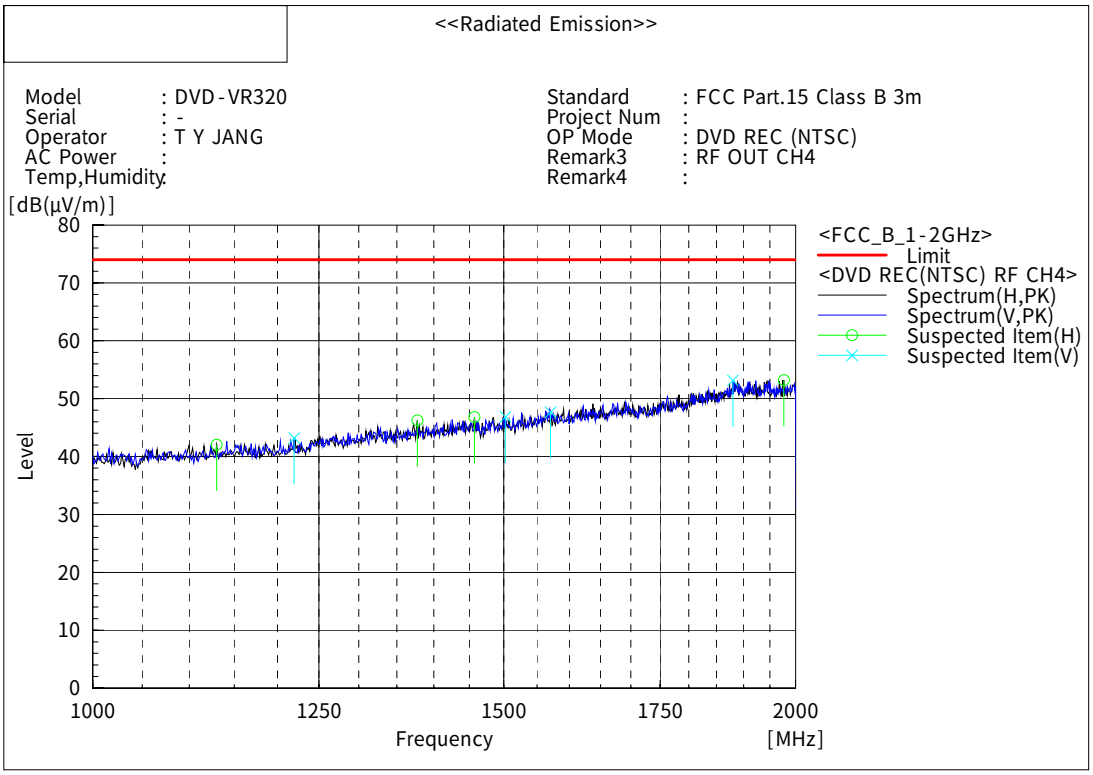
--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(µV)]	c.f [dB(1/m)]	Result [dB(µV/m)]	Limit [dB(µV/m)]	Margin [dB]	Remark
1	59.997	54.7	-20.4	34.3	40.0	5.7	
2	365.923	49.1	-6.6	42.5	46.0	3.5	
3	675.008	38.2	0.0	38.2	46.0	7.8	
4	801.270	27.5	1.6	29.1	46.0	16.9	Pattern Generator Noise

■ Operating Mode : DVD REC(NTSC)_CH04

Frequency: Up to 2GHz

[Graph and Data]



Spectrum Selection

--- Horizontal Polarization ---

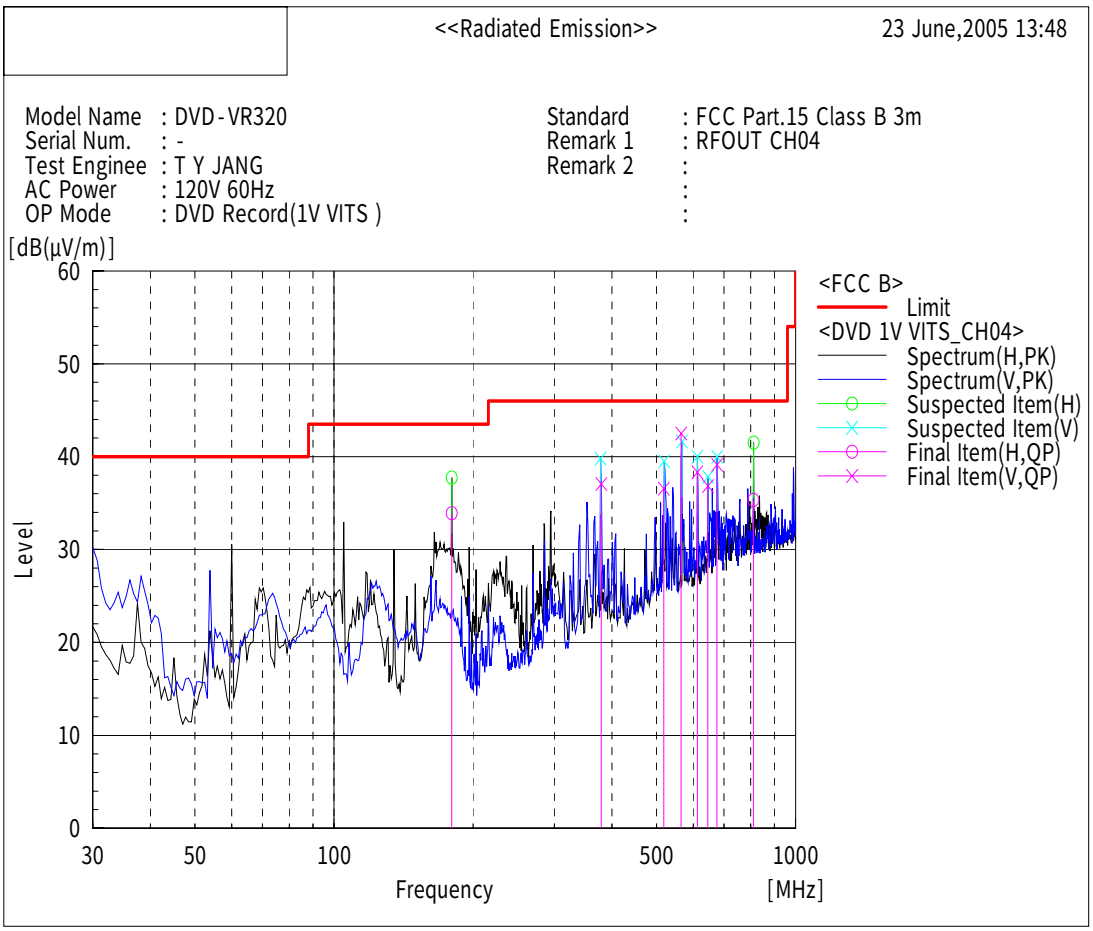
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1130.038	34.8	7.2	42.0	74.0	32.0	
2	1377.487	34.8	11.4	46.2	74.0	27.8	
3	1457.025	34.2	12.6	46.8	74.0	27.2	
4	1977.225	31.3	21.9	53.2	74.0	20.8	

--- Vertical Polarization ---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1219.675	35.1	8.2	43.3	74.0	30.7	
2	1502.475	33.5	13.4	46.9	74.0	27.1	
3	1570.700	32.7	15.0	47.7	74.0	26.3	
4	1880.012	32.3	20.9	53.2	74.0	20.8	

■ 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	179.884	48.6	-14.7	33.9	43.5	9.6	
2	810.003	33.6	1.7	35.3	46.0	10.7	

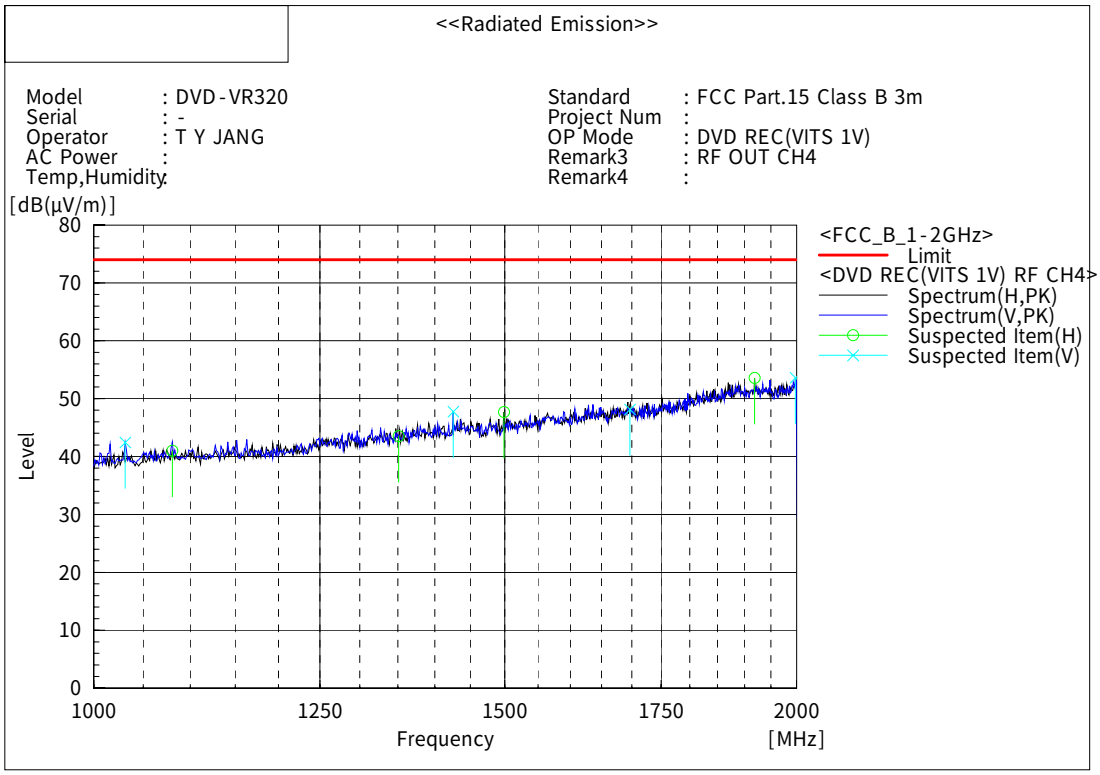
--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(µV)]	c.f [dB(1/m)]	Result [dB(µV/m)]	Limit [dB(µV/m)]	Margin [dB]	Remark
1	379.293	43.3	-6.2	37.1	46.0	8.9	
2	518.068	39.1	-2.5	36.6	46.0	9.4	
3	565.143	44.3	-1.8	42.5	46.0	3.5	
4	612.375	39.5	-1.2	38.3	46.0	7.7	
5	645.765	37.5	-0.6	36.9	46.0	9.2	
6	675.008	39.1	0.0	39.1	46.0	6.9	

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

Frequency: Up to 2GHz

[Graph and Data]



Spectrum Selection

--- Horizontal Polarization ---

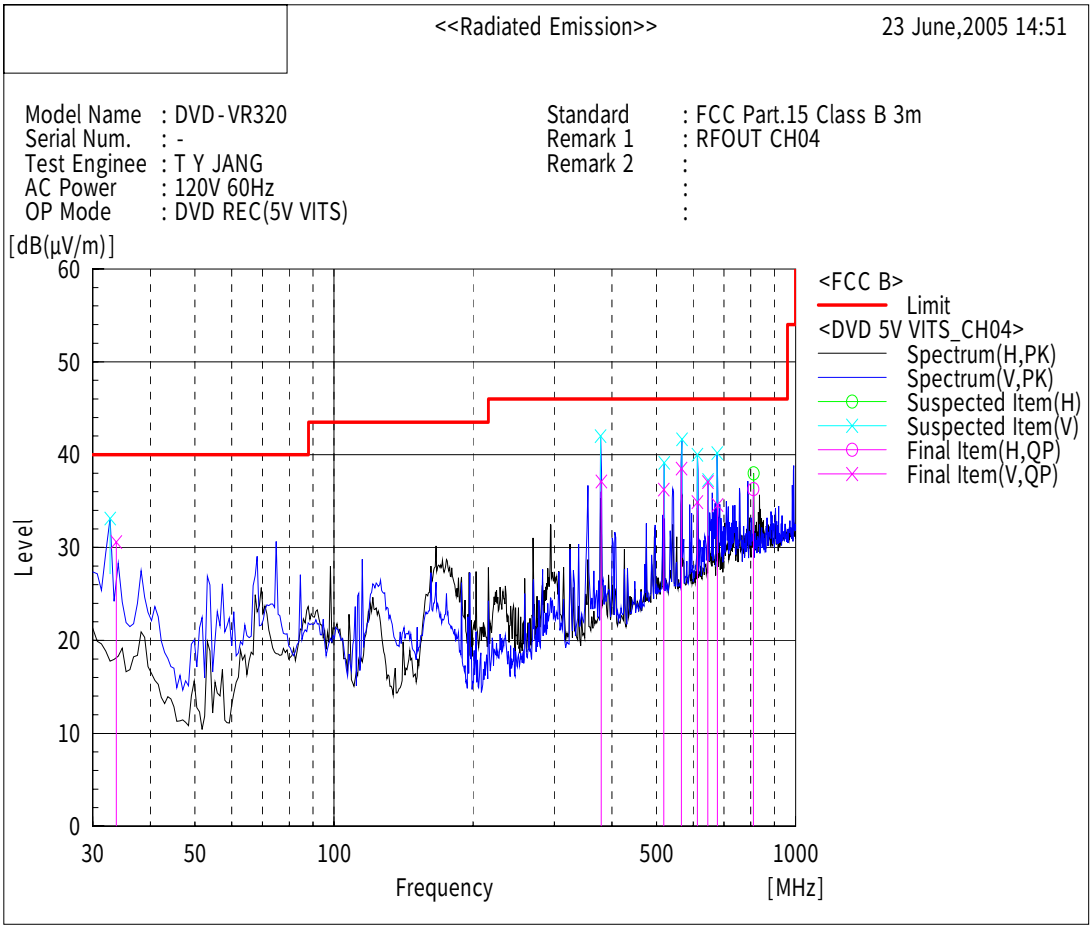
No.	Frequency	Reading	c.f	Result PK	Limit	Margin	Remark
	[MHz]	[dB(μV)]	[dB(1/m)]	[dB(μV/m)]	[dB(μV/m)]	[dB]	
1	1080.800	34.5	6.5	41.0	74.0	33.0	
2	1350.975	32.7	10.8	43.5	74.0	30.5	
3	1498.687	34.4	13.3	47.7	74.0	26.3	
4	1919.150	32.0	21.6	53.6	74.0	20.4	

--- Vertical Polarization ---

No.	Frequency	Reading	c.f	Result PK	Limit	Margin	Remark
	[MHz]	[dB(μV)]	[dB(1/m)]	[dB(μV/m)]	[dB(μV/m)]	[dB]	
1	1031.563	36.8	5.7	42.5	74.0	31.5	
2	1425.462	35.6	12.2	47.8	74.0	26.2	
3	1696.950	31.3	16.8	48.1	74.0	25.9	
4	1997.425	31.3	22.3	53.6	74.0	20.4	

■ 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	810.003	34.6	1.7	36.3	46.0	9.7	

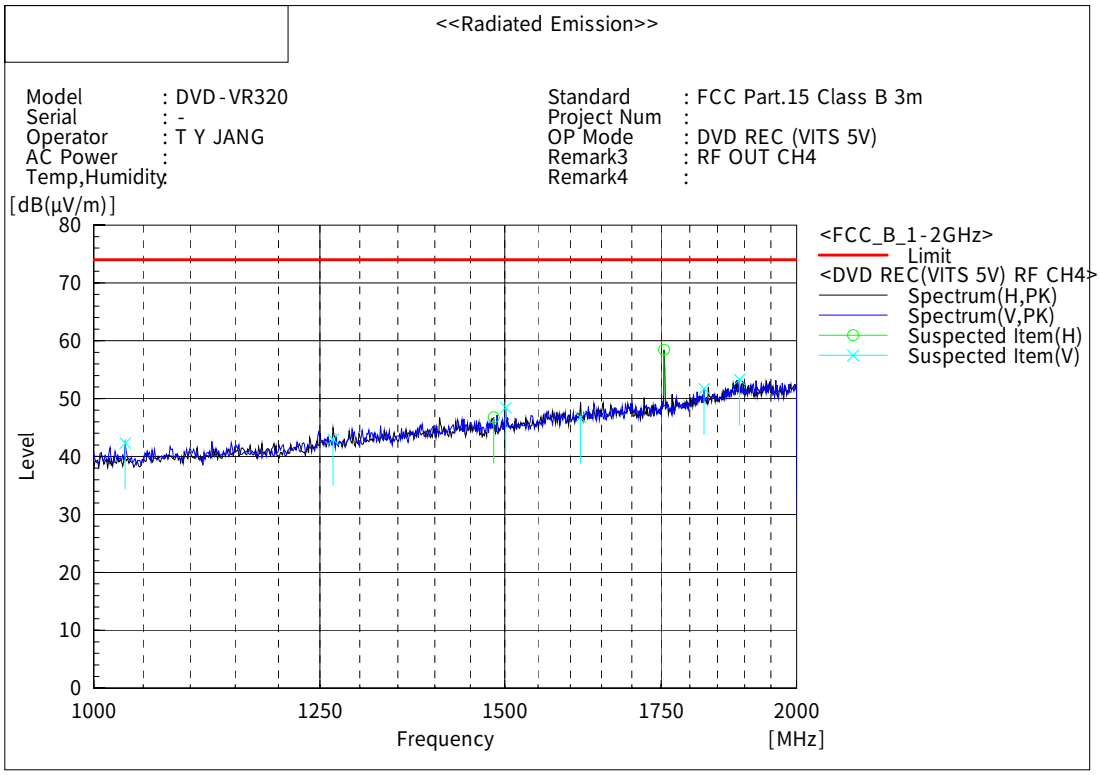
--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(µV)]	c.f [dB(1/m)]	Result [dB(µV/m)]	Limit [dB(µV/m)]	Margin [dB]	Remark
1	33.740	40.8	-10.2	30.6	40.0	9.4	
2	379.293	43.3	-6.2	37.1	46.0	8.9	
3	518.155	38.8	-2.5	36.3	46.0	9.8	
4	565.440	40.3	-1.8	38.5	46.0	7.5	
5	612.620	36.1	-1.2	34.9	46.0	11.1	
6	645.765	37.7	-0.6	37.1	46.0	8.9	
7	677.318	34.5	0.1	34.6	46.0	11.4	

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

Frequency: Up to 2GHz

[Graph and Data]



Spectrum Selection

--- Horizontal Polarization ---

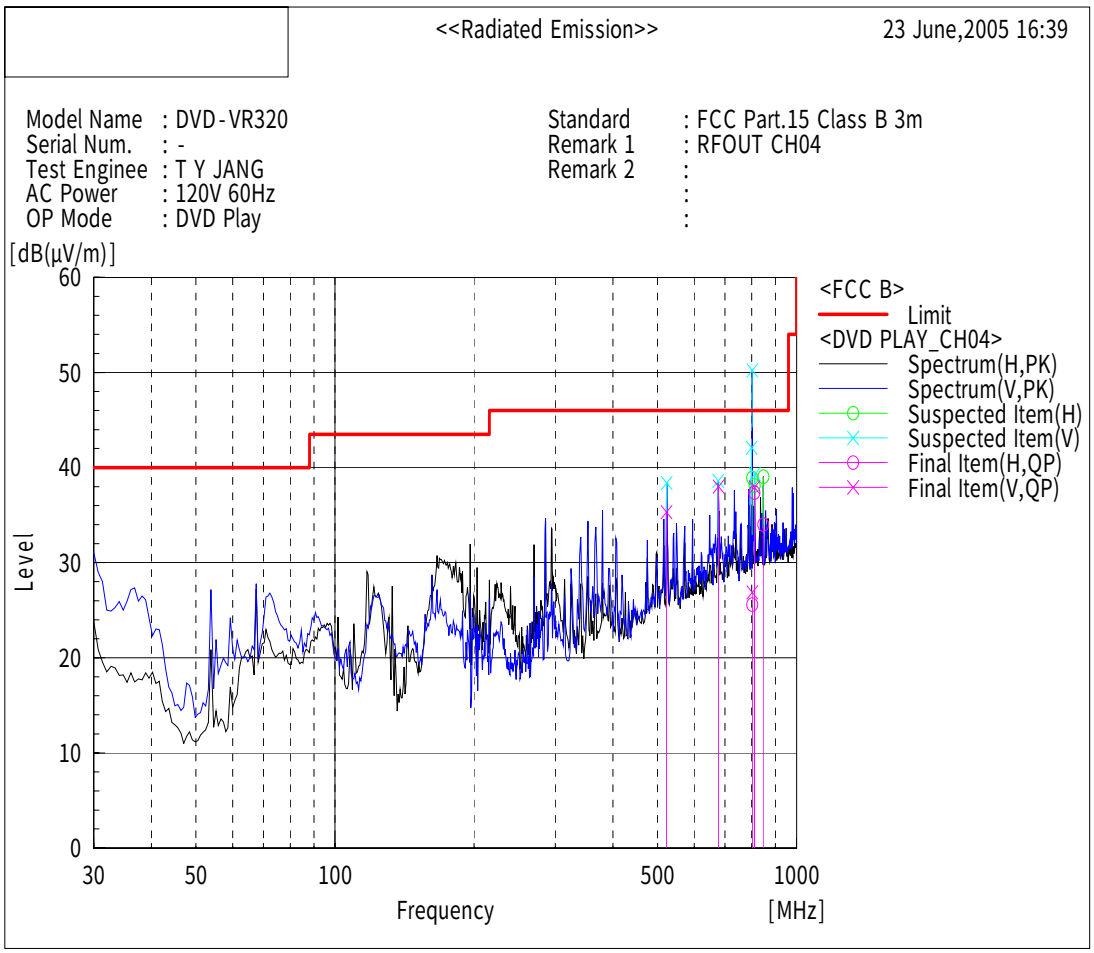
No.	Frequency	Reading	c.f	Result PK	Limit	Margin	Remark
	[MHz]	[dB(µV)]	[dB(1/m)]	[dB(µV/m)]	[dB(µV/m)]	[dB]	
1	1483.537	33.8	13.0	46.8	74.0	27.2	
2	1755.025	40.8	17.6	58.4	74.0	15.6	

--- Vertical Polarization ---

No.	Frequency	Reading	c.f	Result PK	Limit	Margin	Remark
	[MHz]	[dB(µV)]	[dB(1/m)]	[dB(µV/m)]	[dB(µV/m)]	[dB]	
1	1031.563	36.6	5.7	42.3	74.0	31.7	
2	1266.388	33.4	9.6	43.0	74.0	31.0	
3	1501.212	35.2	13.3	48.5	74.0	25.5	
4	1616.150	31.2	15.6	46.8	74.0	27.2	
5	1825.725	32.2	19.5	51.7	74.0	22.3	
6	1890.112	32.1	21.2	53.3	74.0	20.7	

■ 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	801.270	24.0	1.6	25.6	46.0	20.4	Pattern Generator Noise
2	810.003	35.7	1.7	37.4	46.0	8.6	
3	846.980	32.0	2.0	34.0	46.0	12.0	

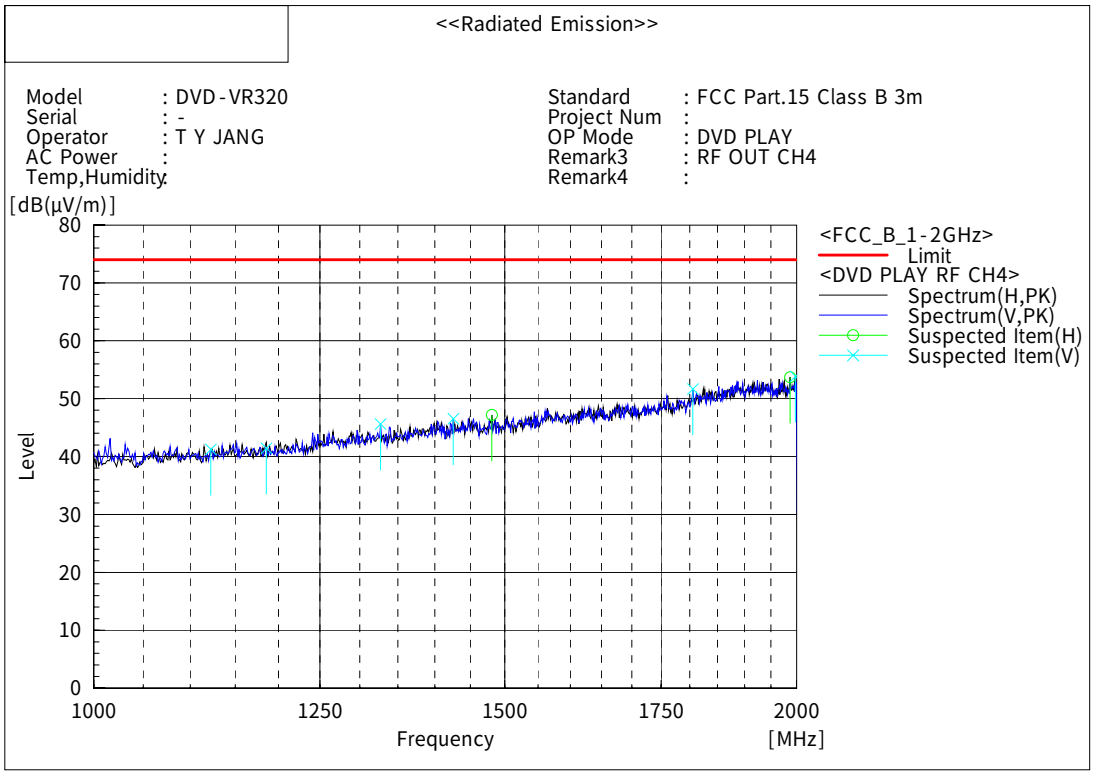
--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	522.583	37.7	-2.4	35.3	46.0	10.7	
2	677.318	37.9	0.1	38.0	46.0	8.0	
3	801.270	25.3	1.6	26.9	46.0	19.1	Pattern Generator Noise
4	810.003	36.2	1.7	37.9	46.0	8.1	

■ Operating Mode : DVD Play_CH04

Frequency: Up to 2GHz

[Graph and Data]



Spectrum Selection

--- Horizontal Polarization ---

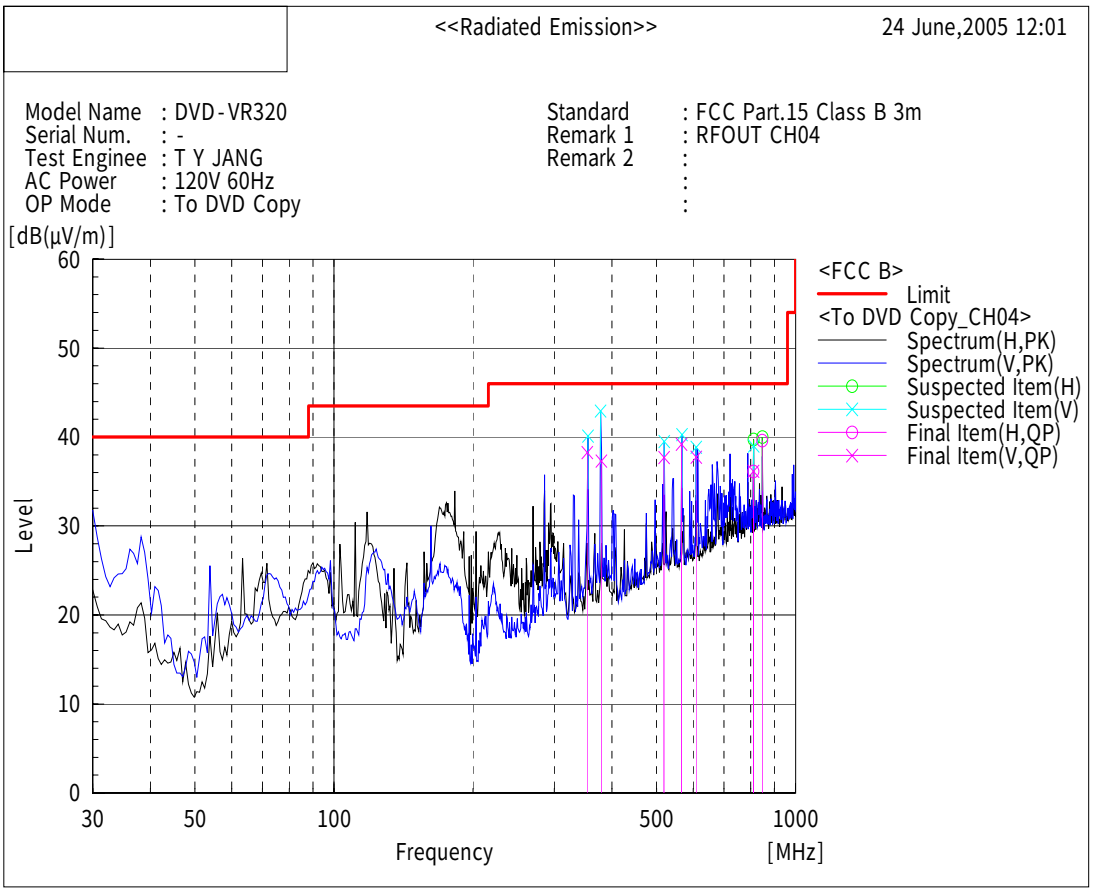
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1987.325	31.6	22.1	53.7	74.0	20.3	
2	1481.012	34.3	12.9	47.2	74.0	26.8	

--- Vertical Polarization ---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1997.425	31.6	22.3	53.9	74.0	20.2	
2	1805.525	32.8	18.9	51.7	74.0	22.3	
3	1425.462	34.3	12.2	46.5	74.0	27.5	
4	1326.987	35.2	10.4	45.6	74.0	28.4	
5	1185.588	33.8	7.7	41.5	74.0	32.5	
6	1122.463	34.3	7.0	41.3	74.0	32.7	

■ 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	810.003	34.4	1.7	36.1	46.0	9.9	
2	847.015	37.6	2.0	39.6	46.0	6.4	

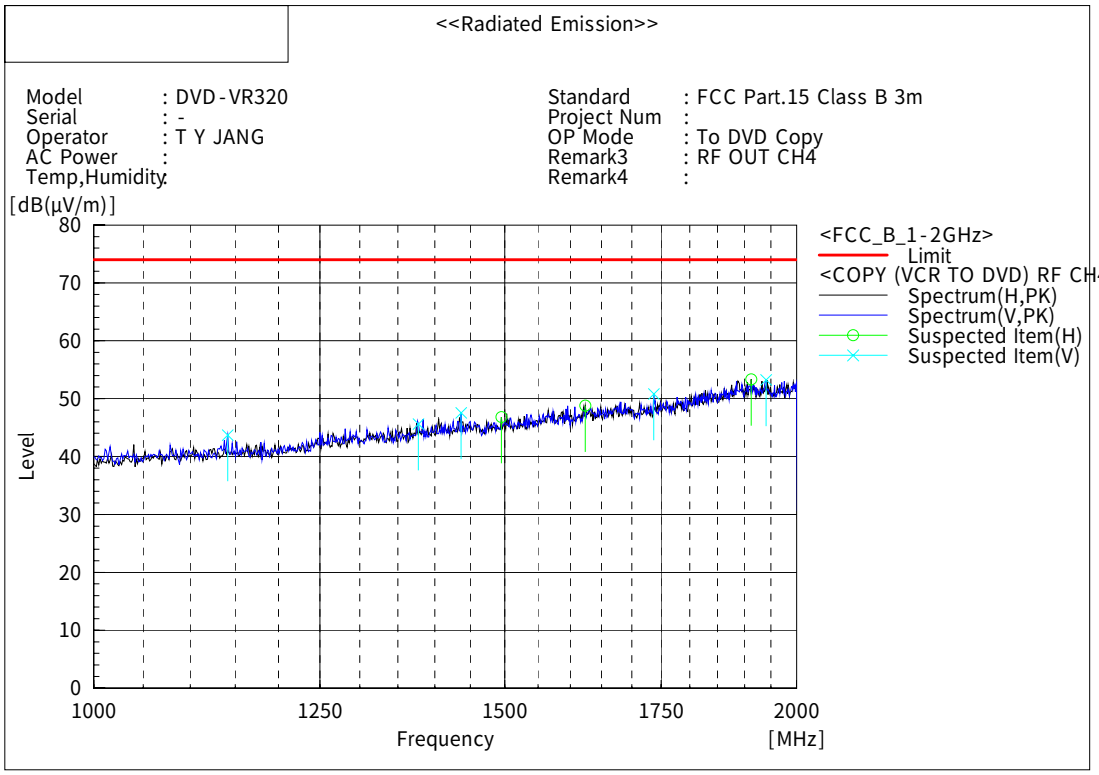
--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	353.638	45.3	-7.0	38.3	46.0	7.7	
2	379.293	43.5	-6.2	37.3	46.0	8.7	
3	518.610	40.2	-2.5	37.7	46.0	8.3	
4	565.545	41.0	-1.8	39.2	46.0	6.8	
5	608.858	39.0	-1.3	37.7	46.0	8.3	
6	810.003	34.5	1.7	36.2	46.0	9.8	

■ Operating Mode : DVD Copy_CH04

Frequency: Up to 2GHz

[Graph and Data]



Spectrum Selection

--- Horizontal Polarization ---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1494.900	33.6	13.2	46.8	74.0	27.2	
2	1623.725	33.1	15.7	48.8	74.0	25.2	
3	1912.837	31.9	21.5	53.4	74.0	20.7	

--- Vertical Polarization ---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1141.400	36.3	7.4	43.7	74.0	30.3	
2	1377.487	34.2	11.4	45.6	74.0	28.4	
3	1436.825	35.3	12.3	47.6	74.0	26.4	
4	1737.350	33.6	17.2	50.8	74.0	23.2	
5	1940.612	31.8	21.5	53.3	74.0	20.7	

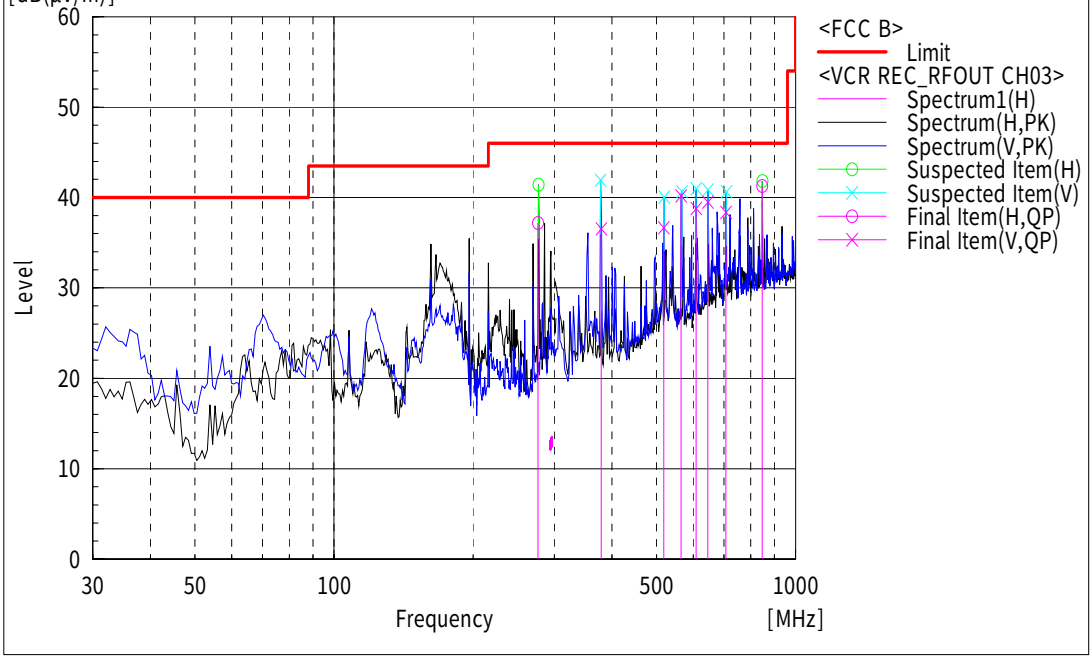
■ Operating Mode : VCR REC(NTSC)_CH03

[Graph and Data]

<<Radiated Emission>>

Model Name : DVD-VR320
Serial Num. : -
Test Enginee : T Y JANG
AC Power : 120V 60Hz
OP Mode : VCR RECORD(NTSC)

Standard : FCC Part.15 Class B 3m
Remark 1 : RFOUT CH03
Remark 2 : CH69



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	846.928	39.3	2.0	41.3	46.0	4.7	
2	276.746	45.9	-8.7	37.2	46.0	8.8	

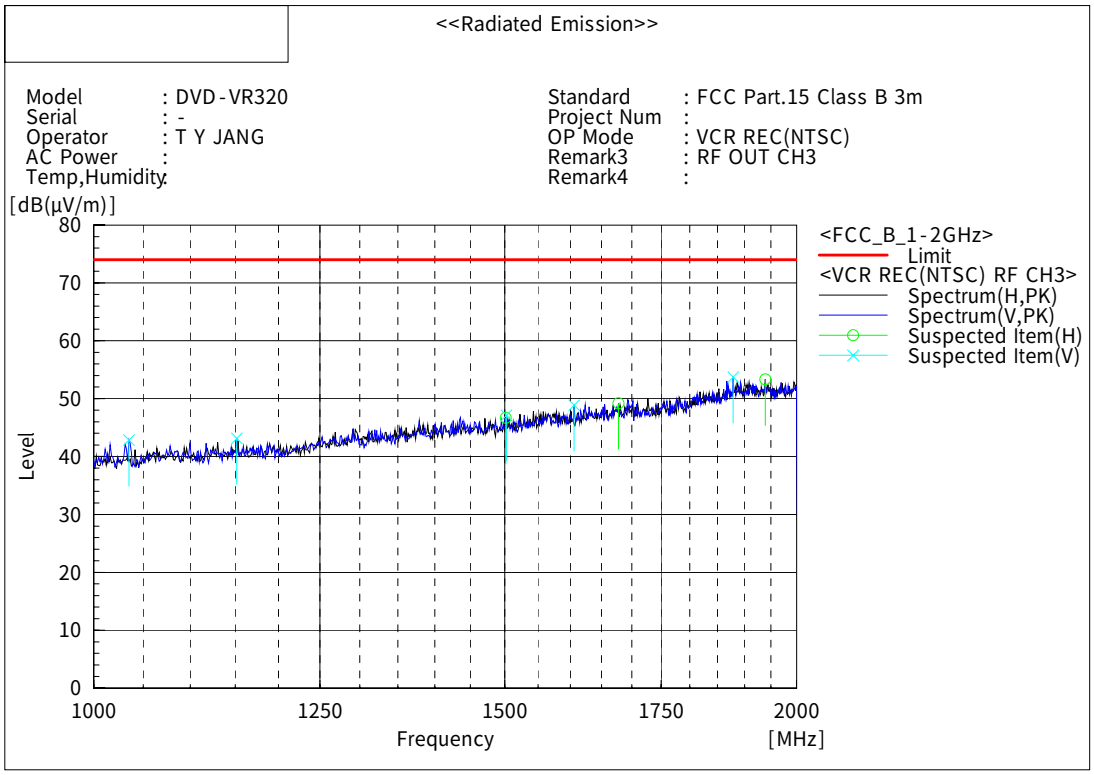
--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	379.293	42.8	-6.2	36.6	46.0	9.5	
2	608.858	40.1	-1.3	38.8	46.0	7.2	
3	645.765	40.1	-0.6	39.5	46.0	6.5	
4	706.525	37.7	0.7	38.4	46.0	7.6	
5	565.230	42.0	-1.8	40.2	46.0	5.8	
6	518.173	39.2	-2.5	36.7	46.0	9.3	

■ Operating Mode : VCR REC(NTSC)_CH03

Frequency: Up to 2GHz

[Graph and Data]



Spectrum Selection

--- Horizontal Polarization ---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1501.212	33.4	13.3	46.7	74.0	27.3	
2	1678.013	32.4	16.8	49.2	74.0	24.8	
3	1939.350	31.8	21.5	53.3	74.0	20.7	

--- Vertical Polarization ---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1035.350	37.2	5.7	42.9	74.0	31.1	
2	1151.500	35.7	7.5	43.2	74.0	30.8	
3	1502.475	33.7	13.4	47.1	74.0	26.9	
4	1606.050	33.4	15.5	48.9	74.0	25.1	
5	1878.750	32.8	20.9	53.7	74.0	20.3	

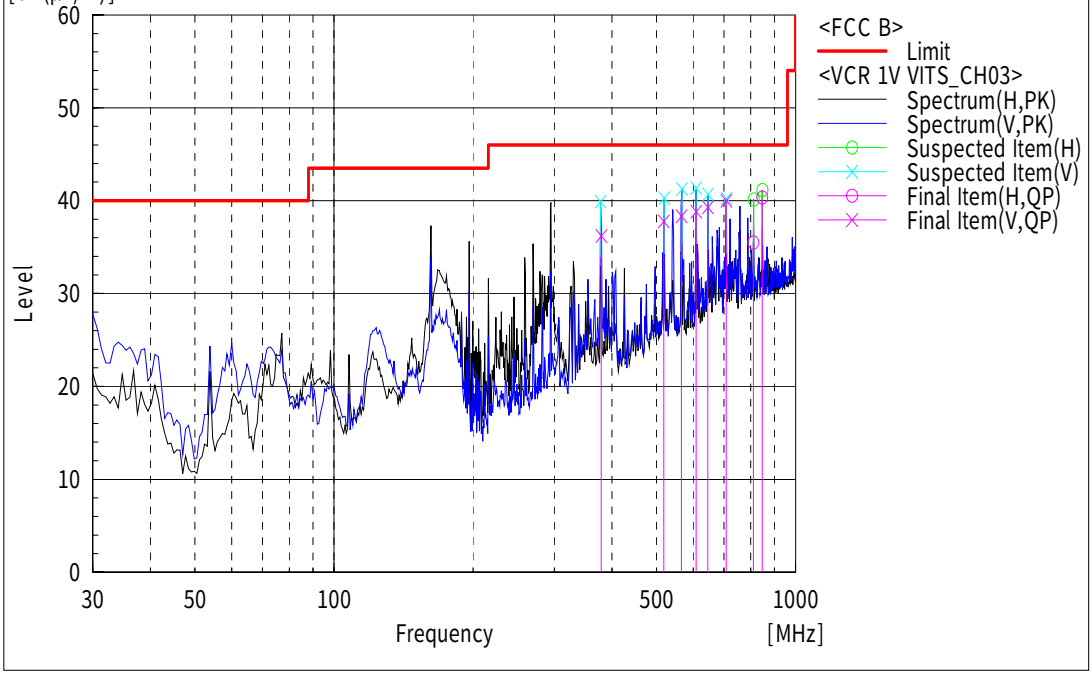
■ Operating Mode : VCR REC(1V VITS)_CH03

[Graph and Data]

<<Radiated Emission>>

Model Name : DVD-VR320
Serial Num. : -
Test Enginee : T Y JANG
AC Power : 120V 60Hz
OP Mode : VCR REC(1V VITS)

Standard : FCC Part.15 Class B 3m
Remark 1 : RFOUT CH03
Remark 2 :



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	809.950	33.8	1.7	35.5	46.0	10.5	
2	846.963	38.4	2.0	40.4	46.0	5.7	

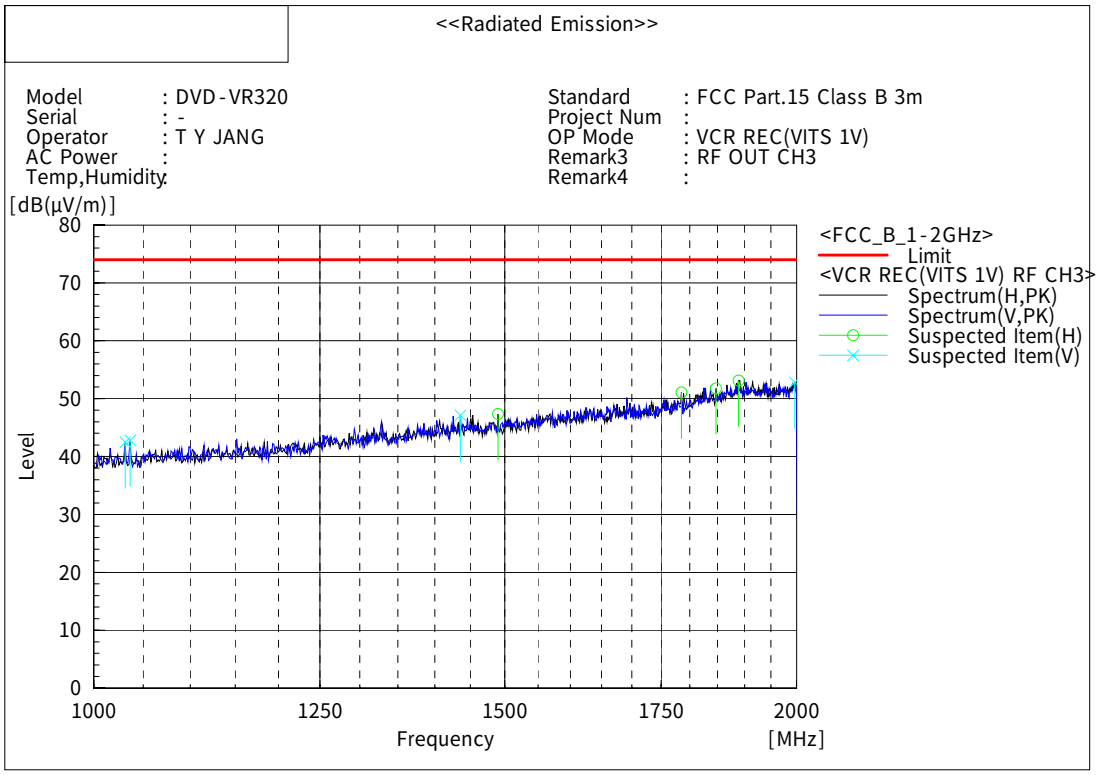
--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	379.293	42.4	-6.2	36.2	46.0	9.8	
2	518.260	40.3	-2.5	37.8	46.0	8.2	
3	565.510	40.1	-1.8	38.3	46.0	7.7	
4	608.858	40.1	-1.3	38.8	46.0	7.2	
5	645.765	39.9	-0.6	39.3	46.0	6.7	
6	707.155	39.3	0.7	40.0	46.0	6.0	

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

Frequency: Up to 2GHz

[Graph and Data]



Spectrum Selection

--- Horizontal Polarization ---

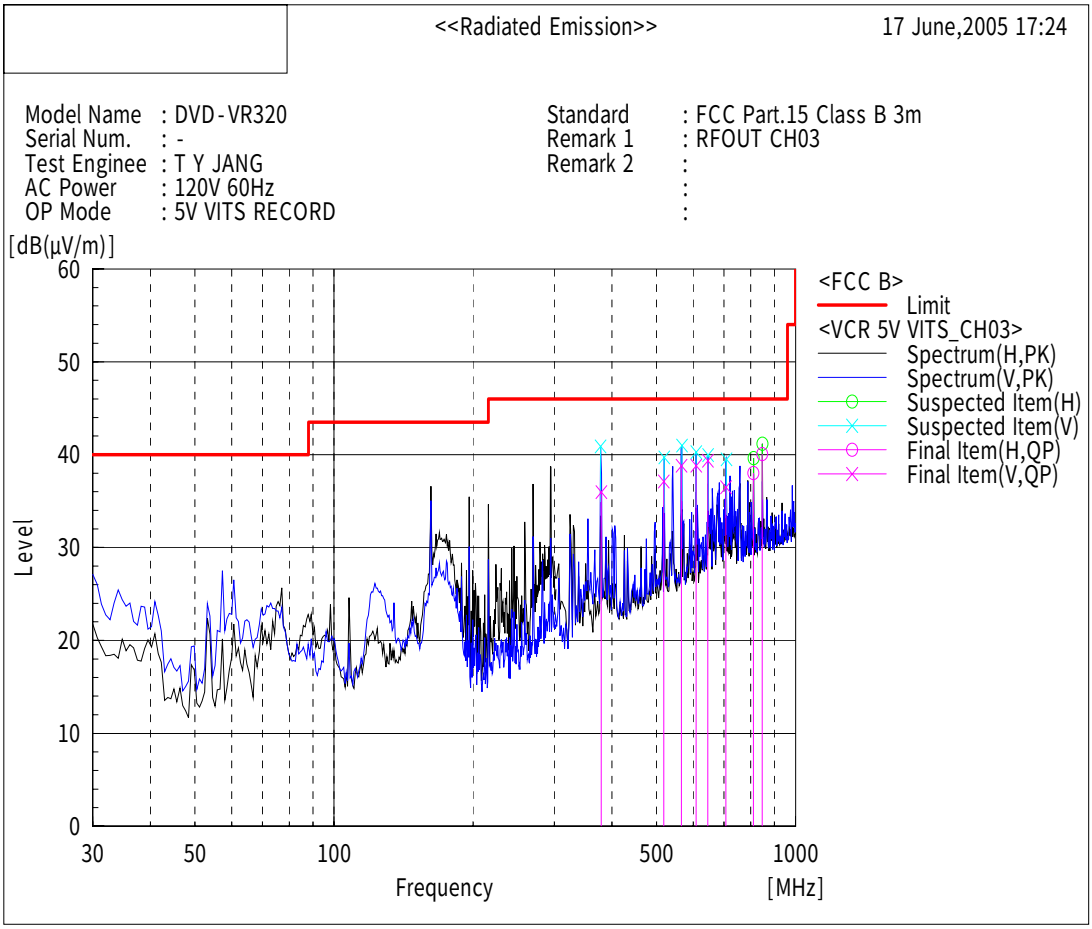
No.	Frequency	Reading	c.f	Result PK	Limit	Margin	Remark
	[MHz]	[dB(μV)]	[dB(1/m)]	[dB(μV/m)]	[dB(μV/m)]	[dB]	
1	1489.850	34.2	13.1	47.3	74.0	26.7	
2	1785.325	32.8	18.3	51.1	74.0	22.9	
3	1847.187	31.8	20.0	51.8	74.0	22.3	
4	1888.850	31.9	21.2	53.1	74.0	20.9	

--- Vertical Polarization ---

No.	Frequency	Reading	c.f	Result PK	Limit	Margin	Remark
	[MHz]	[dB(μV)]	[dB(1/m)]	[dB(μV/m)]	[dB(μV/m)]	[dB]	
1	1031.563	36.8	5.7	42.5	74.0	31.5	
2	1036.613	37.1	5.7	42.8	74.0	31.2	
3	1435.562	34.9	12.3	47.2	74.0	26.8	
4	1996.162	30.5	22.3	52.8	74.0	21.2	

■ 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	809.950	36.3	1.7	38.0	46.0	8.0	
2	846.963	38.1	2.0	40.1	46.0	6.0	

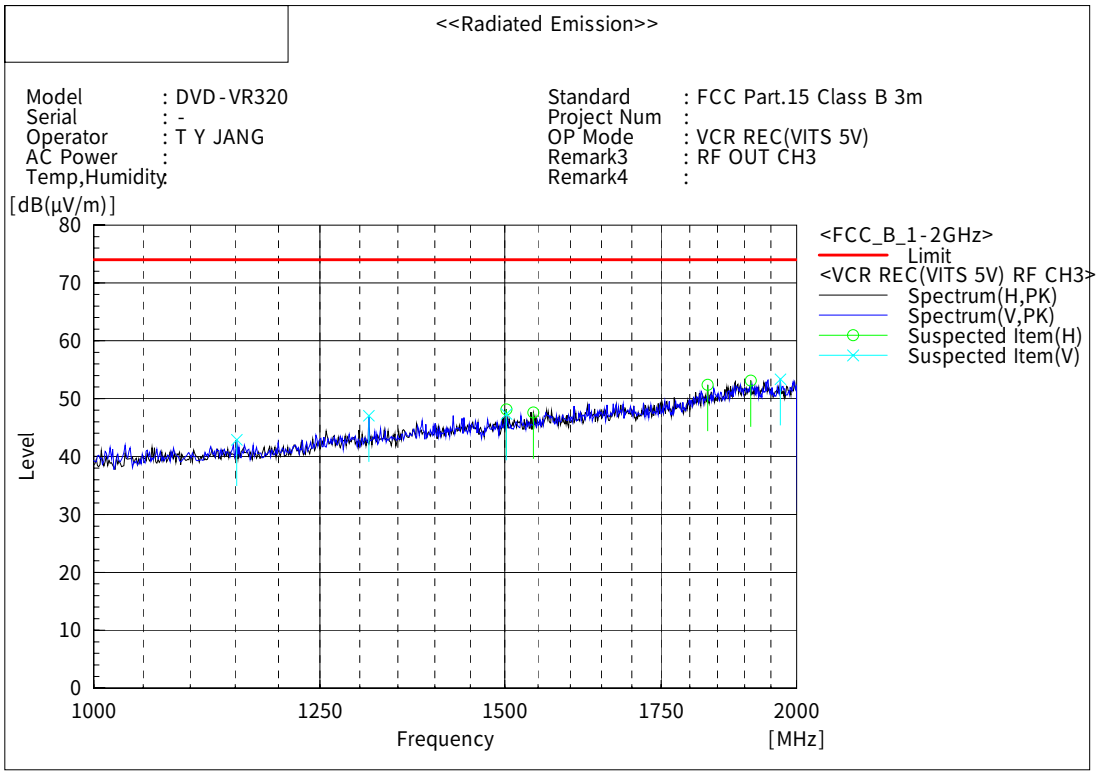
--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	379.293	42.2	-6.2	36.0	46.0	10.0	
2	518.068	39.6	-2.5	37.1	46.0	8.9	
3	565.423	40.6	-1.8	38.8	46.0	7.2	
4	608.858	40.1	-1.3	38.8	46.0	7.2	
5	645.765	40.0	-0.6	39.4	46.0	6.7	
6	706.648	35.8	0.7	36.5	46.0	9.5	

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

Frequency: Up to 2GHz

[Graph and Data]



Spectrum Selection

--- Horizontal Polarization ---

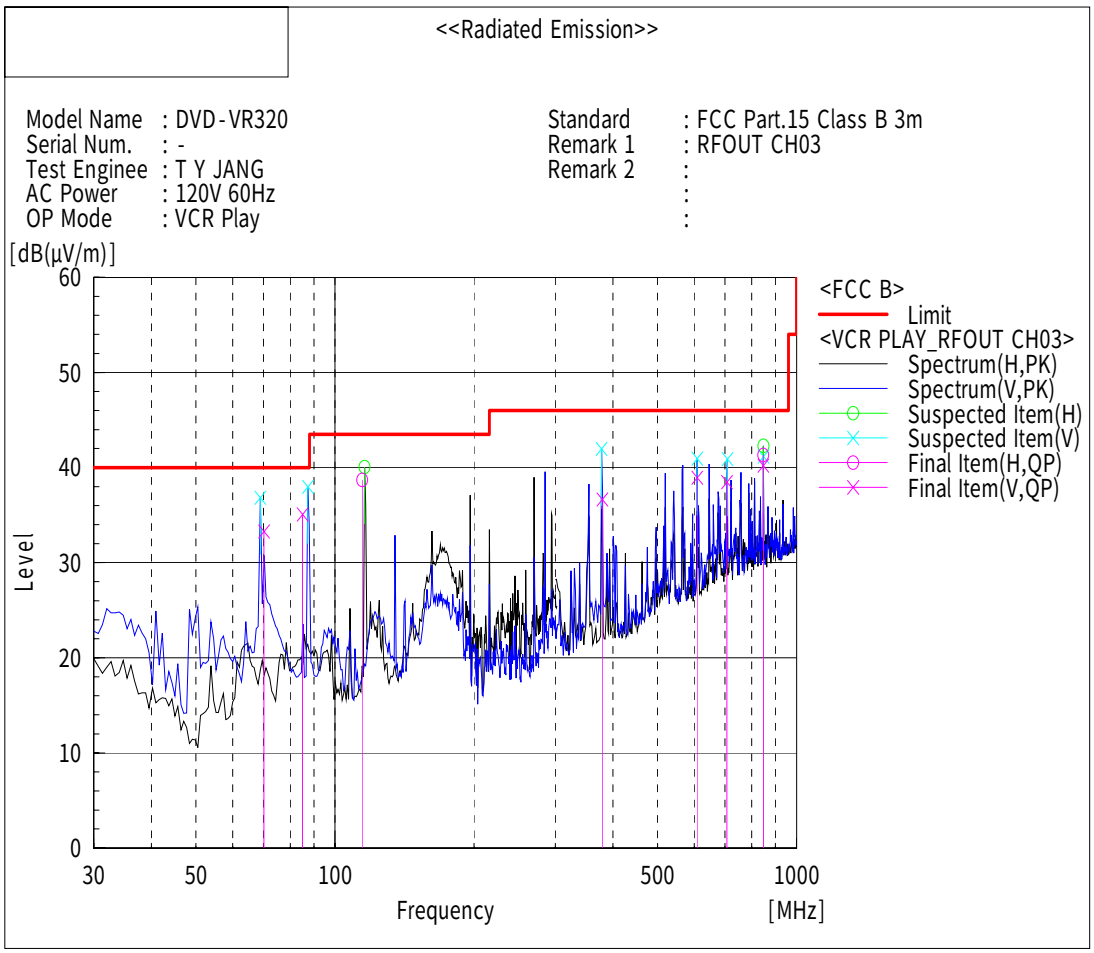
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1502.475	34.7	13.4	48.1	74.0	25.9	
2	1542.925	33.2	14.4	47.6	74.0	26.4	
3	1832.037	32.8	19.6	52.4	74.0	21.6	
4	1911.575	31.6	21.5	53.1	74.0	20.9	

--- Vertical Polarization ---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1151.500	35.4	7.5	42.9	74.0	31.1	
2	1311.837	36.8	10.3	47.1	74.0	26.9	
3	1502.475	34.0	13.4	47.4	74.0	26.6	
4	1968.387	31.7	21.7	53.4	74.0	20.6	

■ 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	114.550	51.8	-13.1	38.7	43.5	4.8	
2	846.928	39.3	2.0	41.3	46.0	4.7	

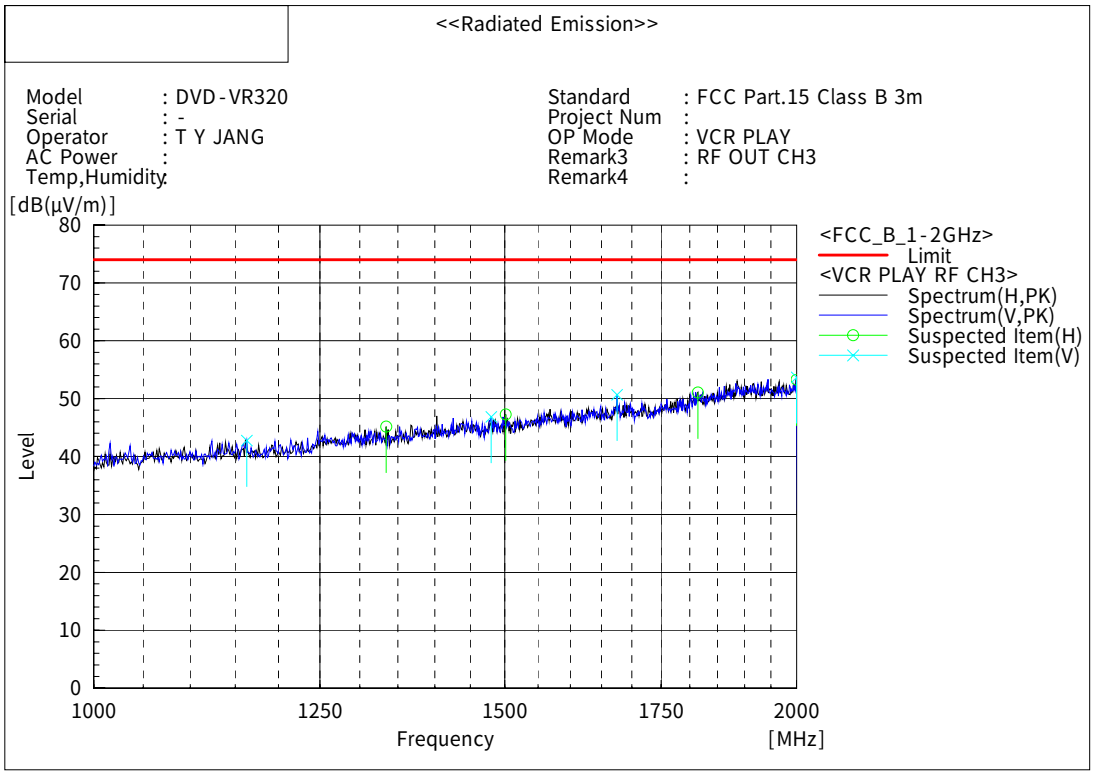
--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	70.108	53.5	-20.2	33.3	40.0	6.7	
2	85.000	52.4	-17.3	35.1	40.0	4.9	
3	379.293	42.9	-6.2	36.7	46.0	9.4	
4	608.858	40.2	-1.3	38.9	46.0	7.1	
5	706.753	37.8	0.7	38.5	46.0	7.5	
6	846.928	38.2	2.0	40.2	46.0	5.8	

■ Operating Mode : VCR Play_CH03

Frequency: Up to 2GHz

[Graph and Data]



Spectrum Selection

--- Horizontal Polarization ---

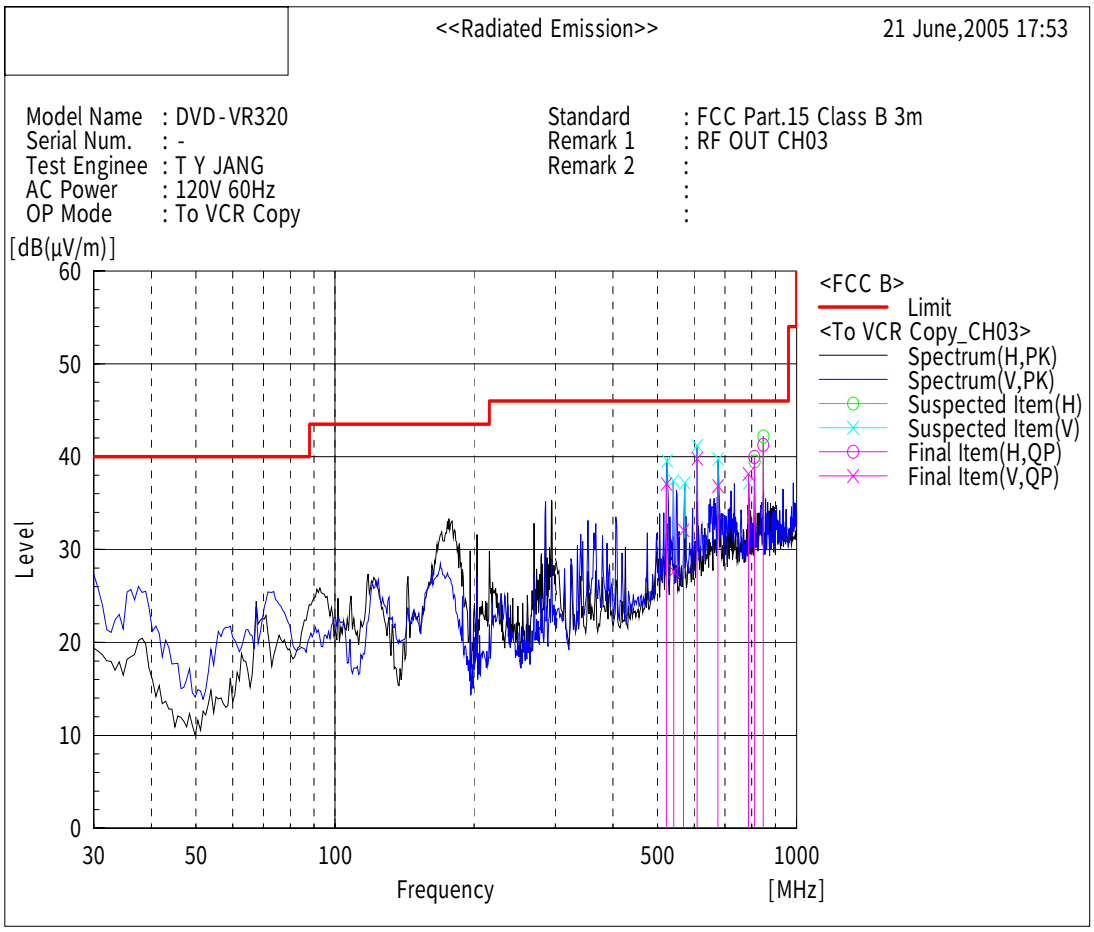
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1334.562	34.7	10.5	45.2	74.0	28.8	
2	1501.212	34.0	13.3	47.3	74.0	26.7	
3	1814.362	31.9	19.2	51.1	74.0	22.9	
4	1999.950	30.9	22.4	53.3	74.0	20.7	

--- Vertical Polarization ---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1162.863	35.2	7.6	42.8	74.0	31.2	
2	1479.750	34.0	12.9	46.9	74.0	27.1	
3	1675.488	33.9	16.8	50.7	74.0	23.3	
4	1999.950	31.3	22.4	53.7	74.0	20.3	

■ 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	810.003	38.3	1.7	40.0	46.0	6.0	
2	847.015	39.3	2.0	41.3	46.0	4.7	

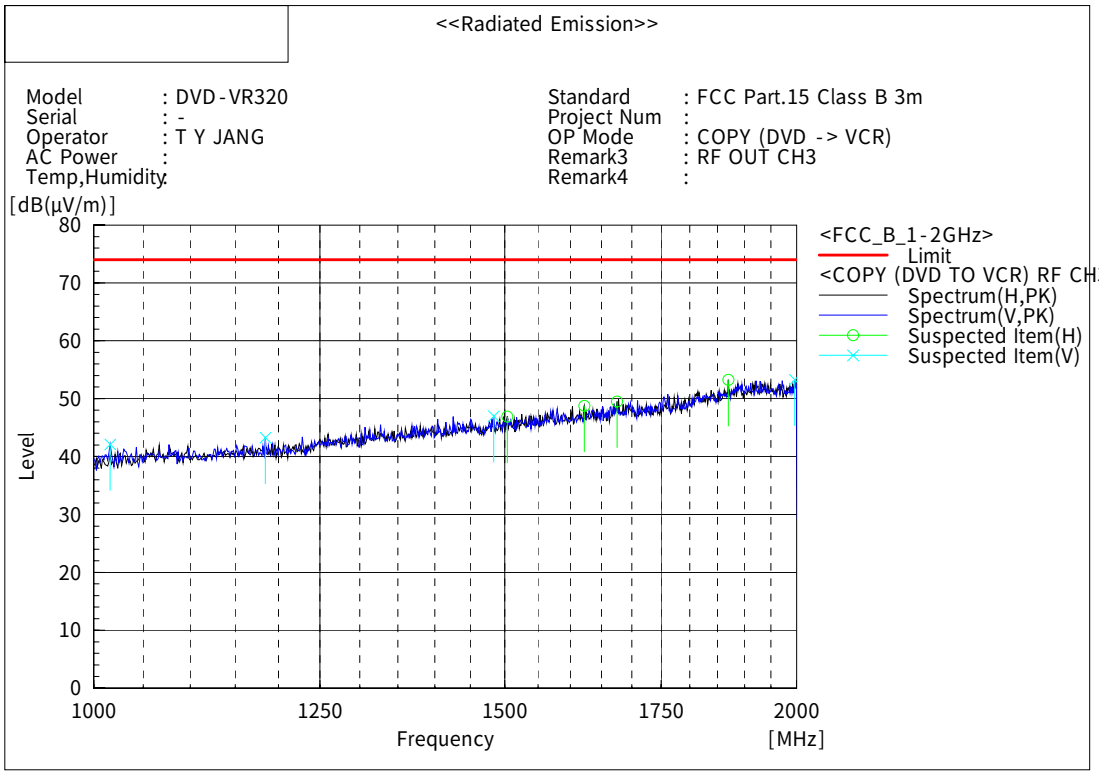
--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(µV)]	c.f [dB(1/m)]	Result [dB(µV/m)]	Limit [dB(µV/m)]	Margin [dB]	Remark
1	522.635	39.5	-2.4	37.1	46.0	8.9	
2	541.850	29.8	-2.1	27.7	46.0	18.3	
3	568.940	33.9	-1.8	32.1	46.0	13.9	
4	608.858	41.1	-1.3	39.8	46.0	6.2	
5	675.008	36.9	0.0	36.9	46.0	9.1	
6	786.290	36.7	1.5	38.2	46.0	7.9	

■ Operating Mode : VCR Copy_CH03

Frequency: Up to 2GHz

[Graph and Data]



Spectrum Selection

--- Horizontal Polarization ---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1503.737	33.5	13.4	46.9	74.0	27.1	
2	1622.463	33.0	15.7	48.7	74.0	25.3	
3	1675.488	32.7	16.8	49.5	74.0	24.5	
4	1869.912	32.6	20.6	53.2	74.0	20.8	

--- Vertical Polarization ---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1016.413	36.7	5.4	42.1	74.0	31.9	
2	1184.325	35.6	7.7	43.3	74.0	30.7	
3	1483.537	34.0	13.0	47.0	74.0	27.0	
4	1996.162	31.0	22.3	53.3	74.0	20.7	

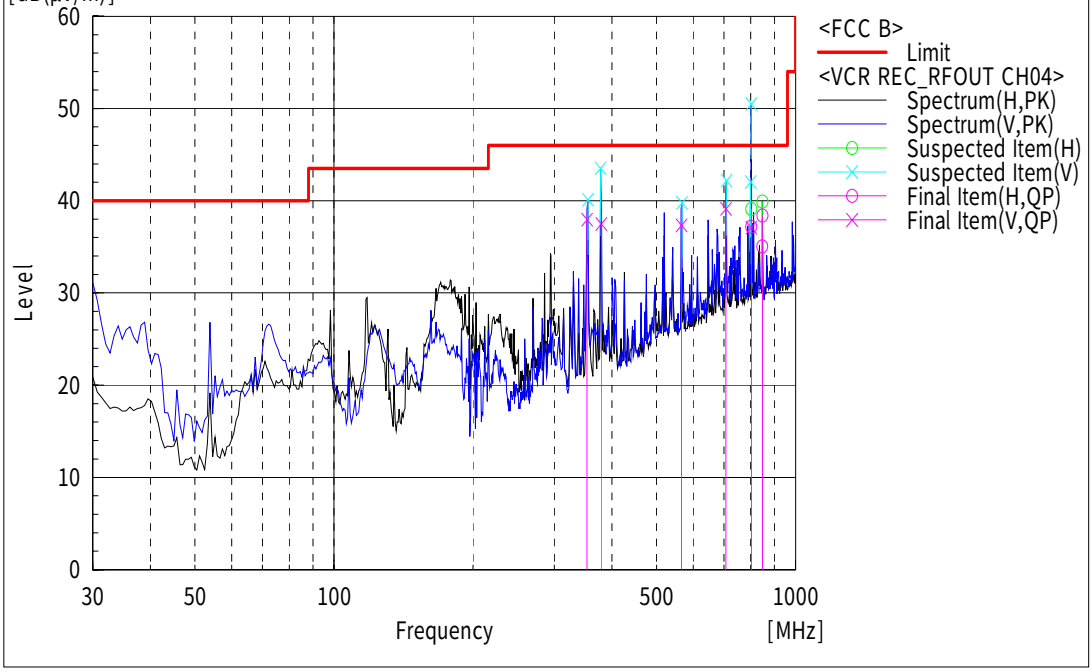
■ Operating Mode : VCR REC(NTSC)_CH04

[Graph and Data]

<<Radiated Emission>>

Model Name : DVD-VR320
Serial Num. : -
Test Enginee : T Y JANG
AC Power : 120V 60Hz
OP Mode : VCR REC(NTSC)

Standard : FCC Part.15 Class B 3m
Remark 1 : RFOUT CH04
Remark 2 :



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	846.998	33.1	2.0	35.1	46.0	11.0	
2	801.970	35.6	1.6	37.2	46.0	8.8	
3	847.925	36.4	2.0	38.4	46.0	7.6	

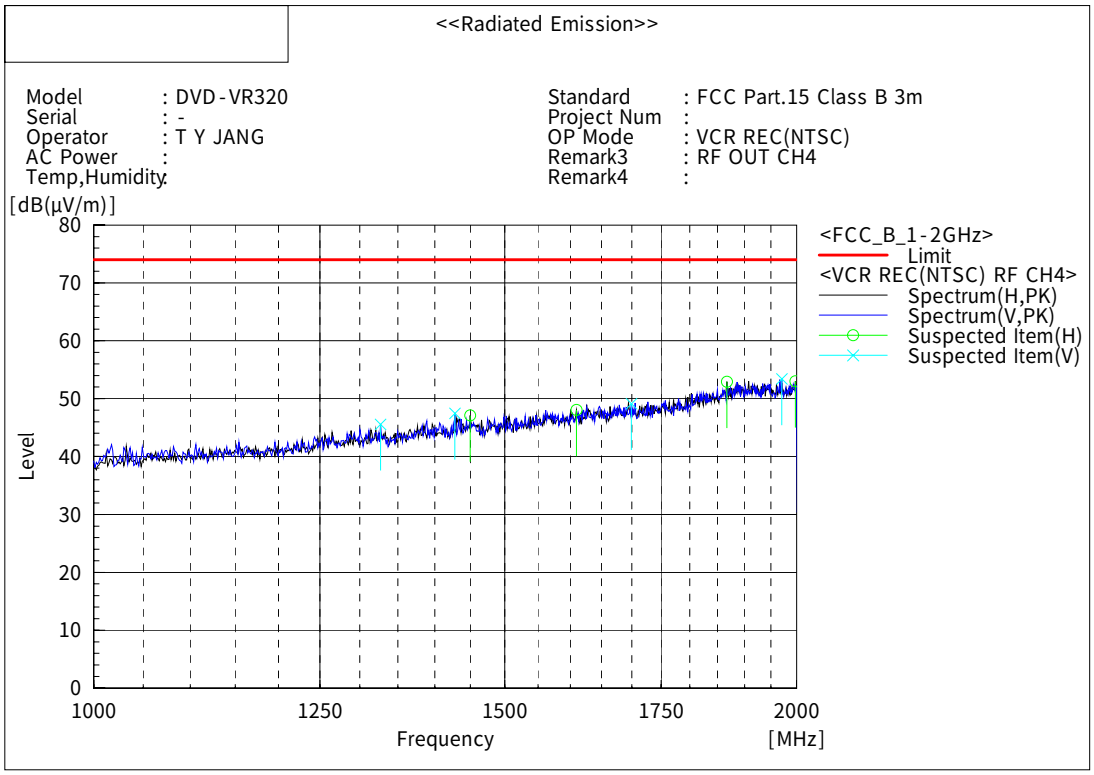
--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	353.358	45.0	-7.0	38.0	46.0	8.0	
2	379.293	43.7	-6.2	37.5	46.0	8.5	
3	565.493	39.1	-1.8	37.3	46.0	8.7	
4	706.823	38.4	0.7	39.1	46.0	6.9	
5	801.970	35.5	1.6	37.1	46.0	8.9	Pattern Generator Noise

■ Operating Mode : VCR REC(NTSC)_CH04

Frequency: Up to 2GHz

[Graph and Data]



Spectrum Selection

--- Horizontal Polarization ---

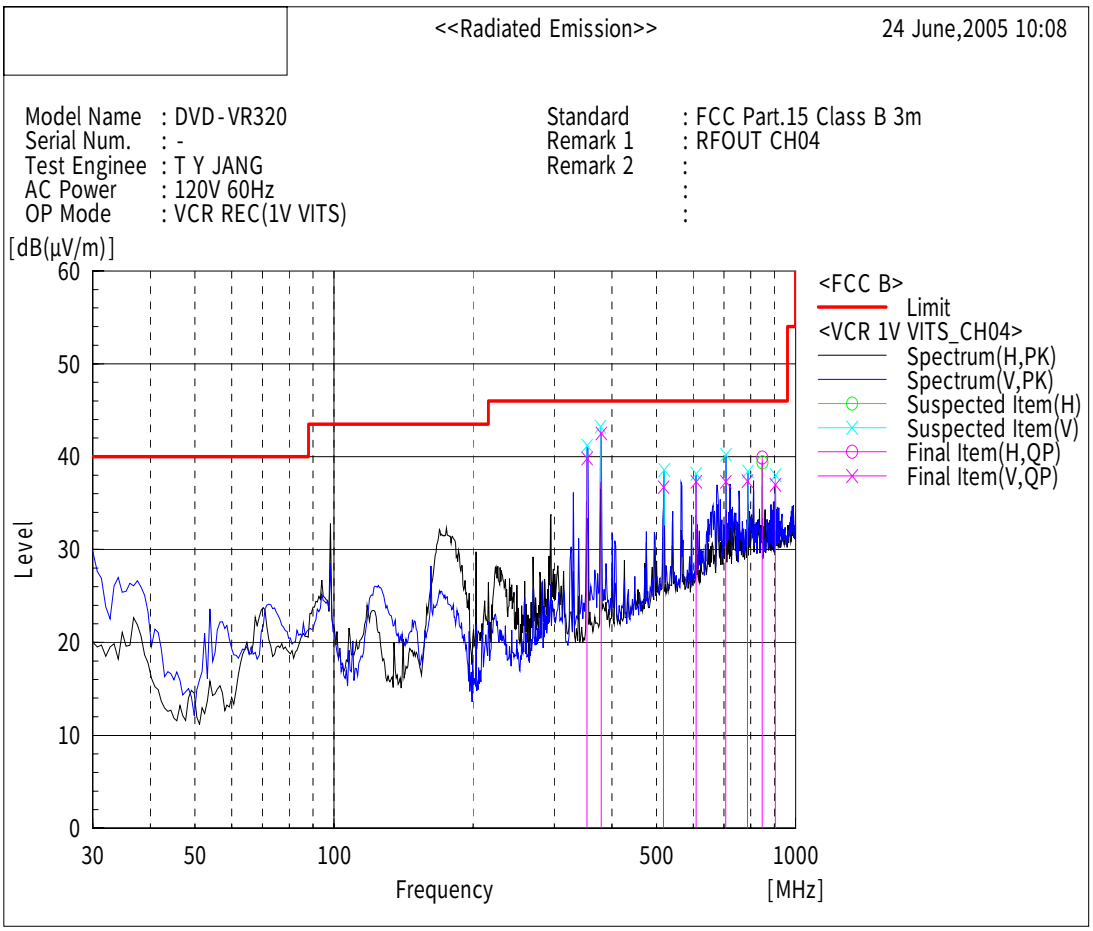
No.	Frequency [MHz]	Reading [dB(µV)]	c.f [dB(1/m)]	Result PK [dB(µV/m)]	Limit [dB(µV/m)]	Margin [dB]	Remark
1	1449.450	34.6	12.5	47.1	74.0	26.9	
2	1609.838	32.5	15.5	48.0	74.0	26.0	
3	1867.387	32.3	20.6	52.9	74.0	21.1	
4	1997.425	30.7	22.3	53.0	74.0	21.0	

--- Vertical Polarization ---

No.	Frequency [MHz]	Reading [dB(µV)]	c.f [dB(1/m)]	Result PK [dB(µV/m)]	Limit [dB(µV/m)]	Margin [dB]	Remark
1	1326.987	35.2	10.4	45.6	74.0	28.4	
2	1427.987	35.3	12.2	47.5	74.0	26.5	
3	1699.475	32.3	16.8	49.1	74.0	24.9	
4	1970.912	31.7	21.7	53.4	74.0	20.6	

■ 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	847.050	37.9	2.0	39.9	46.0	6.1	

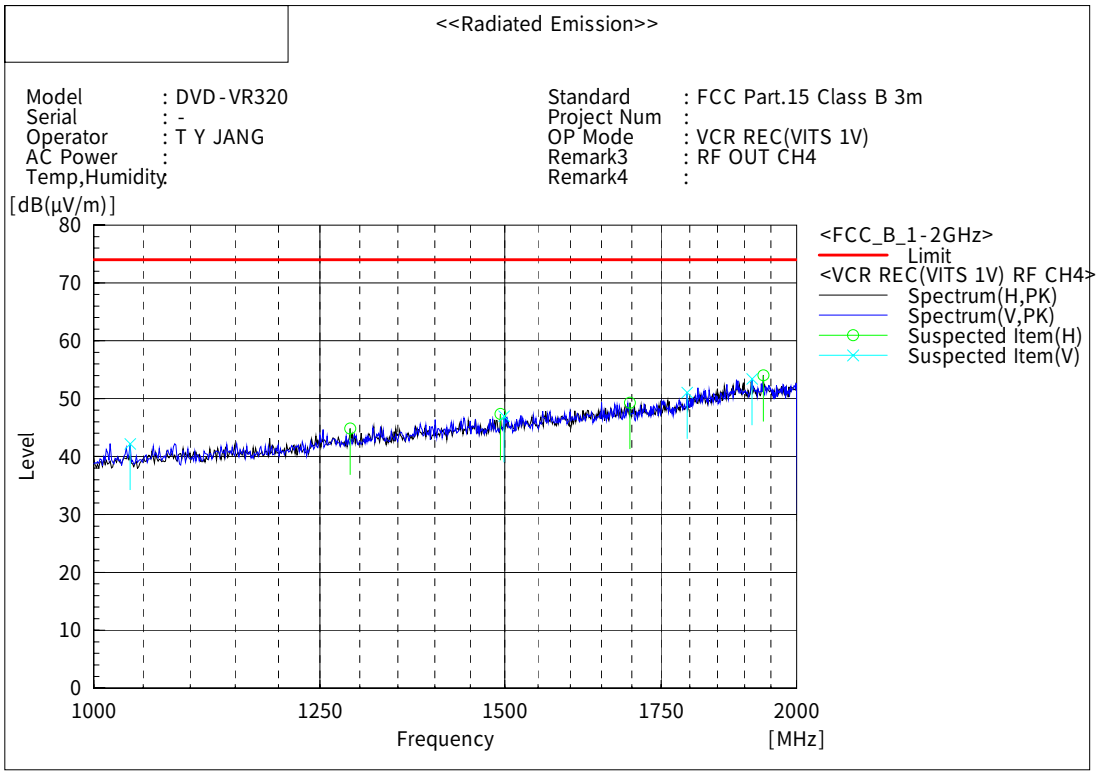
--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(µV)]	c.f [dB(1/m)]	Result [dB(µV/m)]	Limit [dB(µV/m)]	Margin [dB]	Remark
1	353.025	46.8	-7.0	39.8	46.0	6.2	
2	379.293	48.7	-6.2	42.5	46.0	3.5	
3	517.665	39.2	-2.5	36.7	46.0	9.3	
4	608.858	38.6	-1.3	37.3	46.0	8.7	
5	706.140	36.6	0.7	37.3	46.0	8.7	
6	786.290	35.9	1.5	37.4	46.0	8.6	
7	904.065	33.5	3.5	37.0	46.0	9.0	

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

Frequency: Up to 2GHz

[Graph and Data]



Spectrum Selection

--- Horizontal Polarization ---

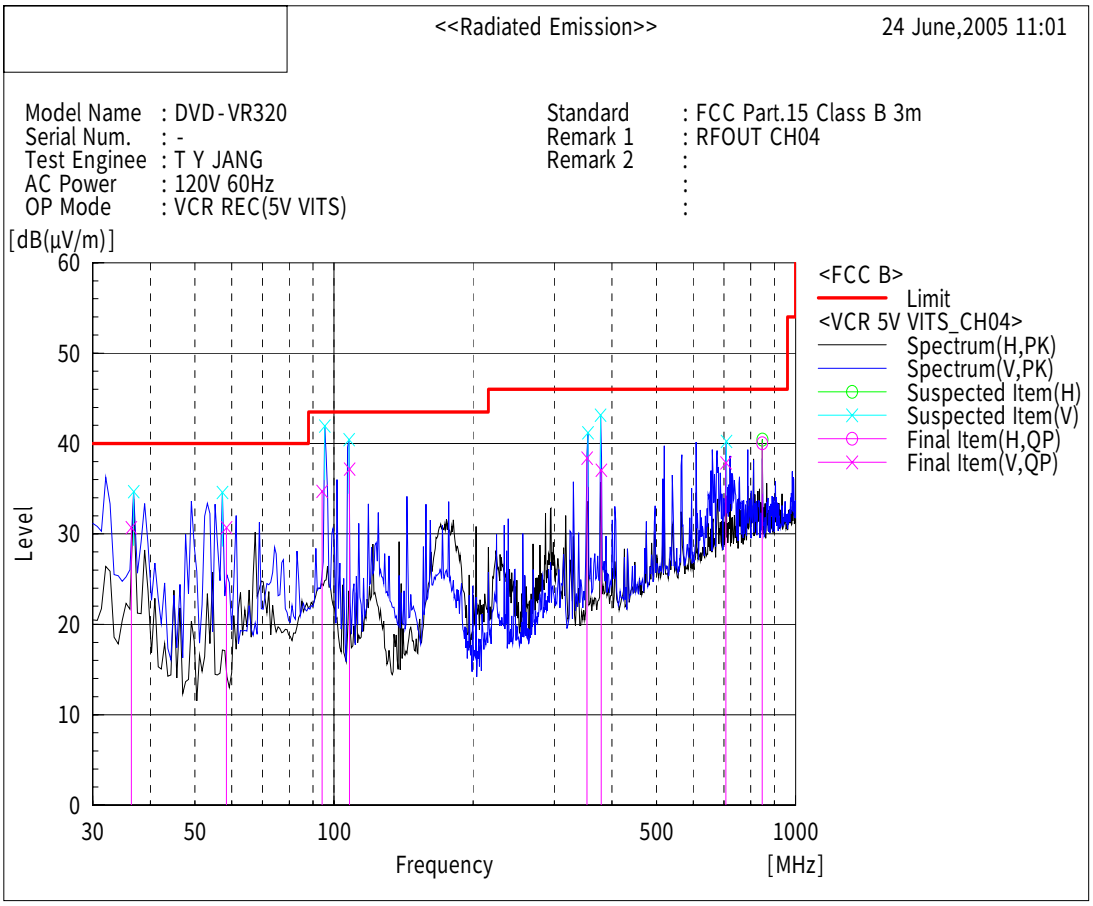
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1287.850	34.9	10.0	44.9	74.0	29.1	
2	1493.637	34.1	13.2	47.3	74.0	26.7	
3	1696.950	32.5	16.8	49.3	74.0	24.7	
4	1935.562	32.5	21.5	54.0	74.0	20.0	

--- Vertical Polarization ---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1036.613	36.5	5.7	42.2	74.0	31.8	
2	1498.687	33.7	13.3	47.0	74.0	27.0	
3	1795.425	32.5	18.6	51.1	74.0	22.9	
4	1914.100	31.9	21.5	53.4	74.0	20.6	

■ 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	847.050	38.0	2.0	40.0	46.0	6.0	

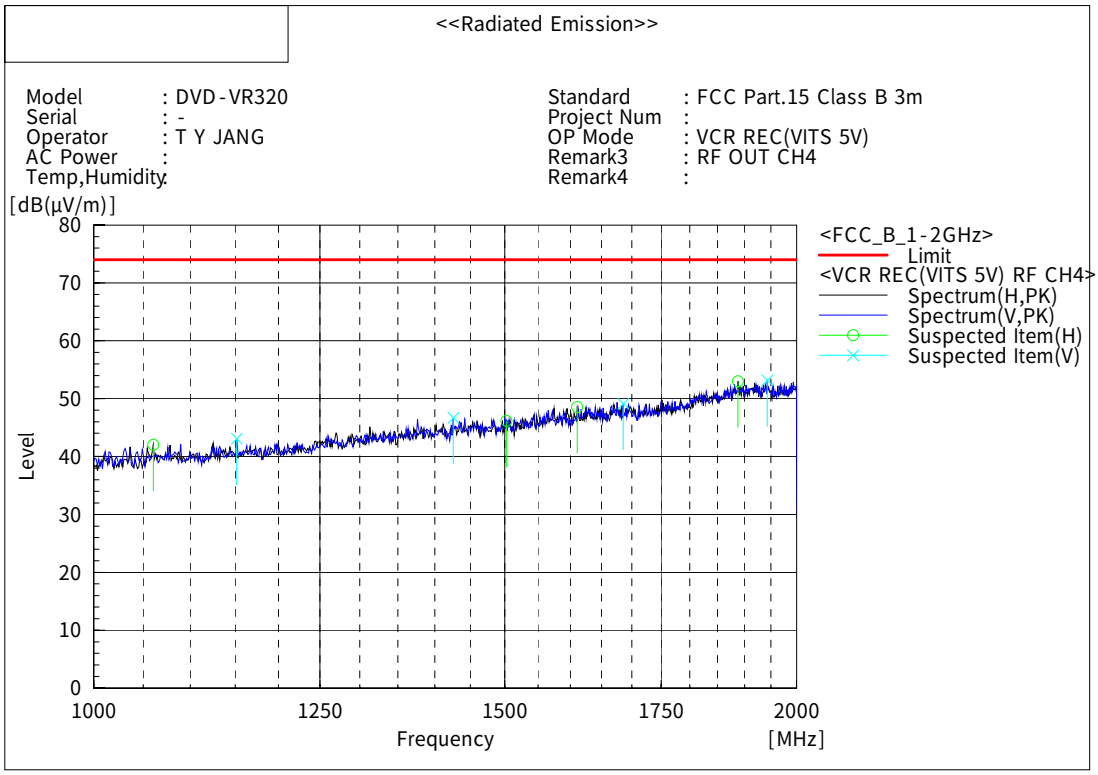
--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	36.372	42.3	-11.6	30.7	40.0	9.3	
2	58.465	50.9	-20.2	30.7	40.0	9.3	
3	94.192	50.0	-15.3	34.7	43.5	8.8	
4	107.996	50.6	-13.4	37.2	43.5	6.3	
5	353.095	45.4	-7.0	38.4	46.0	7.6	
6	379.293	43.3	-6.2	37.1	46.0	8.9	
7	706.350	37.2	0.7	37.9	46.0	8.1	

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

Frequency: Up to 2GHz

[Graph and Data]



Spectrum Selection

--- Horizontal Polarization ---

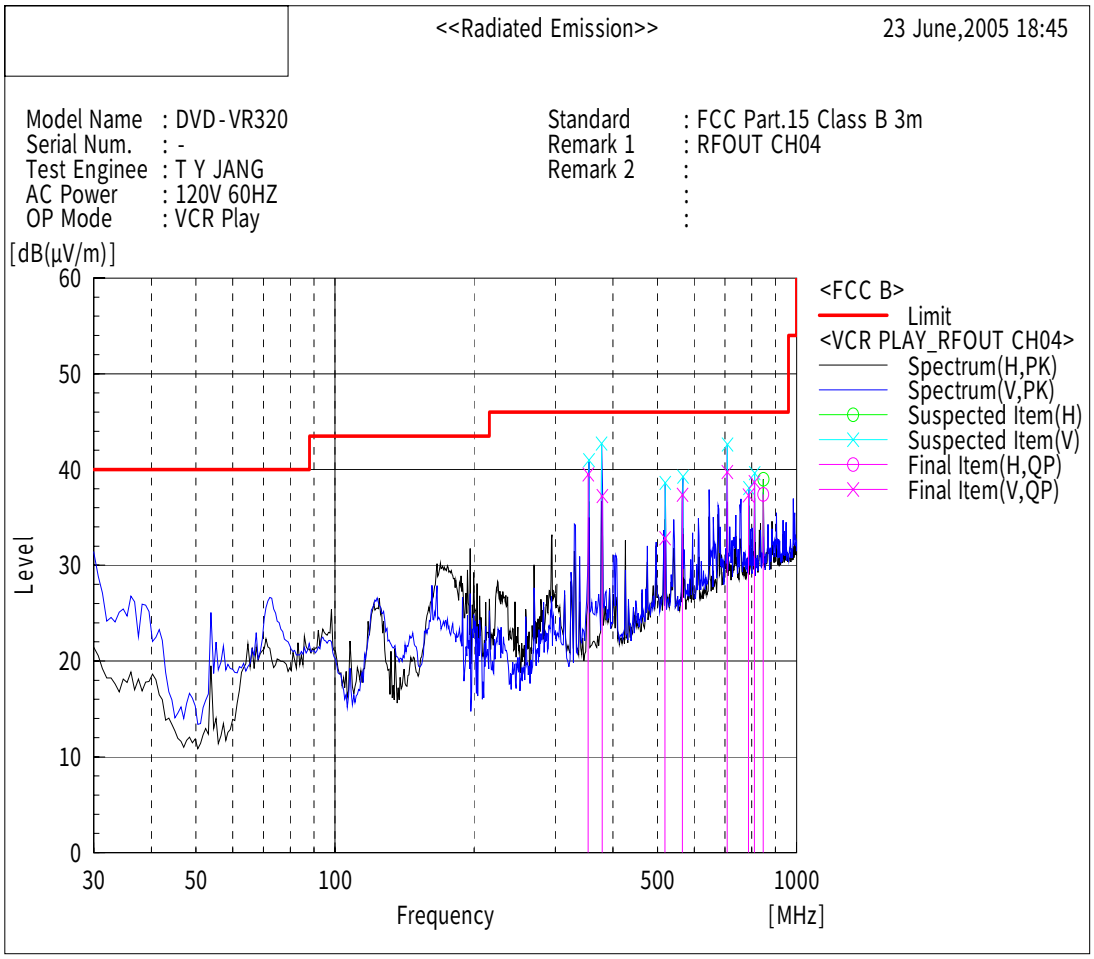
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1060.600	35.9	6.2	42.1	74.0	31.9	
2	1502.475	32.8	13.4	46.2	74.0	27.8	
3	1611.100	33.1	15.5	48.6	74.0	25.4	
4	1887.587	31.9	21.1	53.0	74.0	21.0	

--- Vertical Polarization ---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1151.500	35.6	7.5	43.1	74.0	30.9	
2	1425.462	34.5	12.2	46.7	74.0	27.3	
3	1685.588	32.3	16.8	49.1	74.0	24.9	
4	1943.137	31.7	21.5	53.2	74.0	20.8	

■ 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	846.980	35.4	2.0	37.4	46.0	8.6	

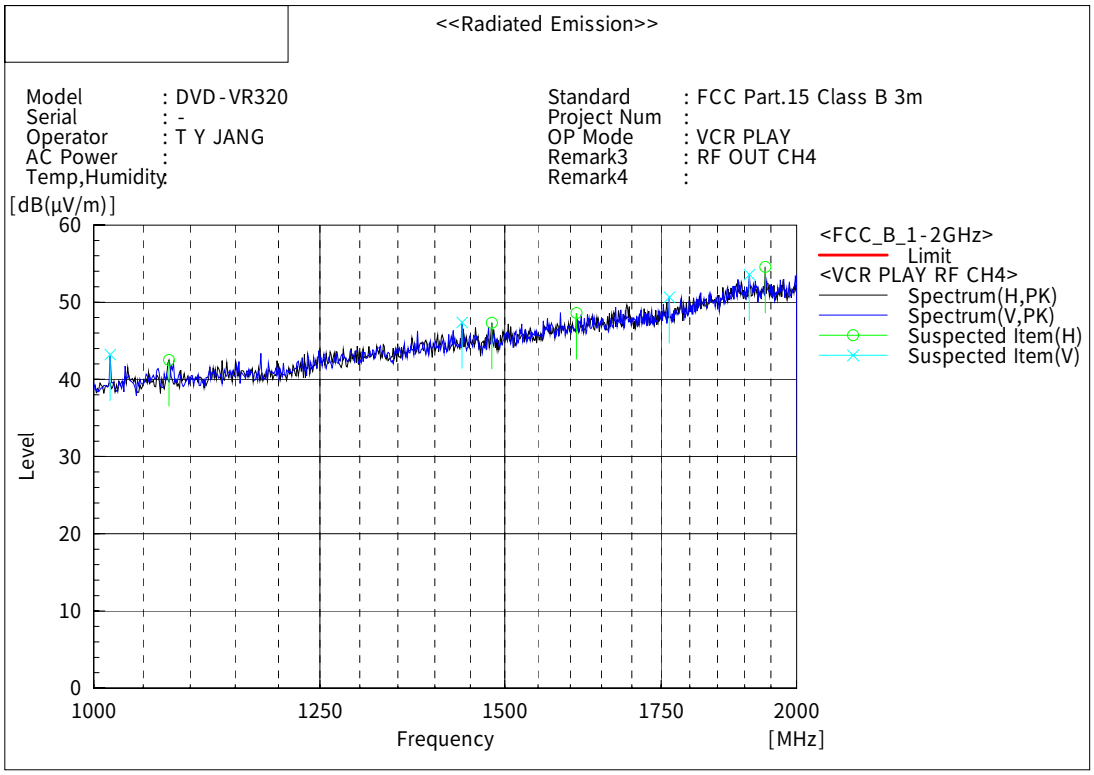
--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	353.533	46.5	-7.0	39.5	46.0	6.5	
2	379.293	43.5	-6.2	37.3	46.0	8.8	
3	518.330	35.3	-2.5	32.8	46.0	13.2	
4	565.650	39.2	-1.8	37.4	46.0	8.6	
5	707.085	39.0	0.7	39.7	46.0	6.3	
6	786.290	35.8	1.5	37.3	46.0	8.7	
7	810.003	37.0	1.7	38.7	46.0	7.3	

■ Operating Mode : VCR Play_CH04

Frequency: Up to 2GHz

[Graph and Data]



Spectrum Selection

--- Horizontal Polarization ---

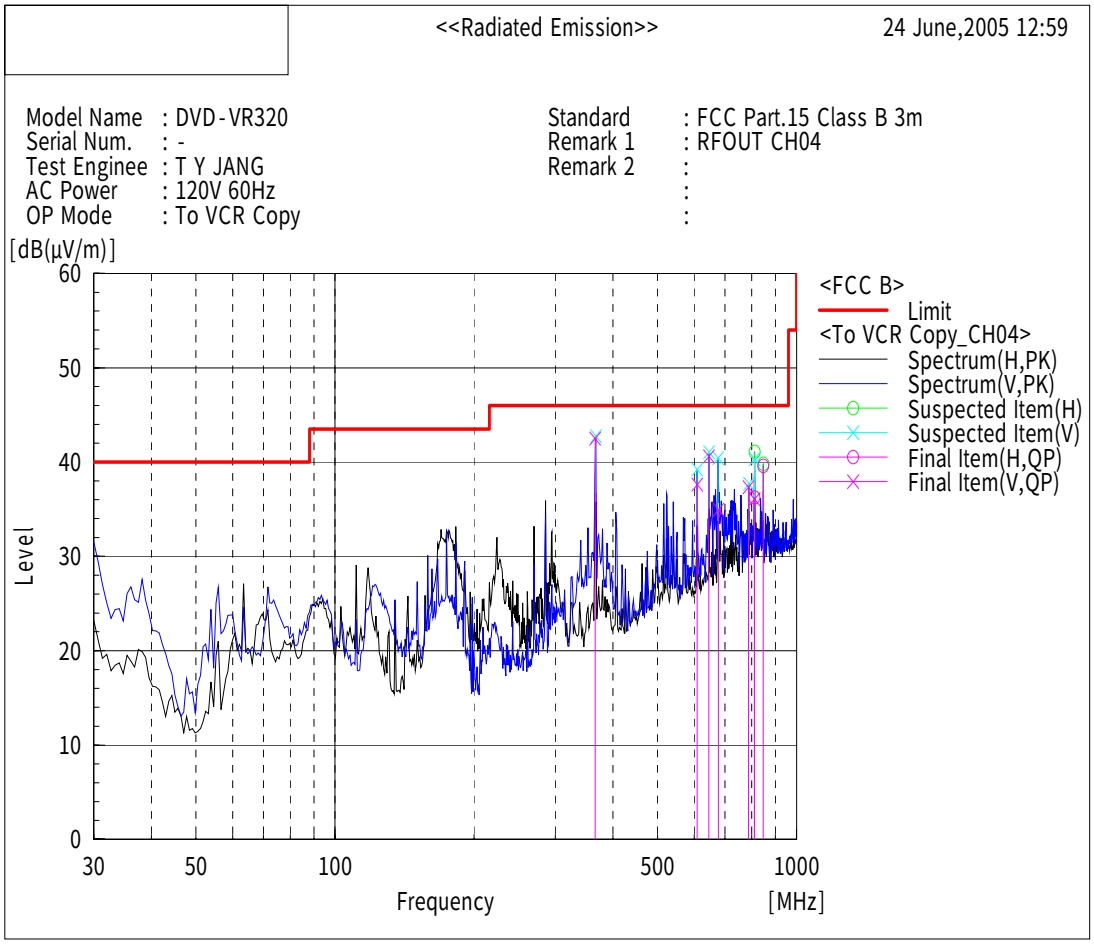
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1077.013	36.0	6.5	42.5	74.0	31.5	
2	1481.012	34.4	12.9	47.3	74.0	26.7	
3	1609.838	33.1	15.5	48.6	74.0	25.4	
4	1939.350	33.1	21.5	54.6	74.0	19.4	

--- Vertical Polarization ---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1016.413	37.8	5.4	43.2	74.0	30.8	
2	1438.087	35.1	12.3	47.4	74.0	26.6	
3	1763.863	32.9	17.8	50.7	74.0	23.3	
4	1909.050	32.1	21.5	53.6	74.0	20.4	

■ 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	810.003	34.6	1.7	36.3	46.0	9.8	
2	847.015	37.6	2.0	39.6	46.0	6.4	

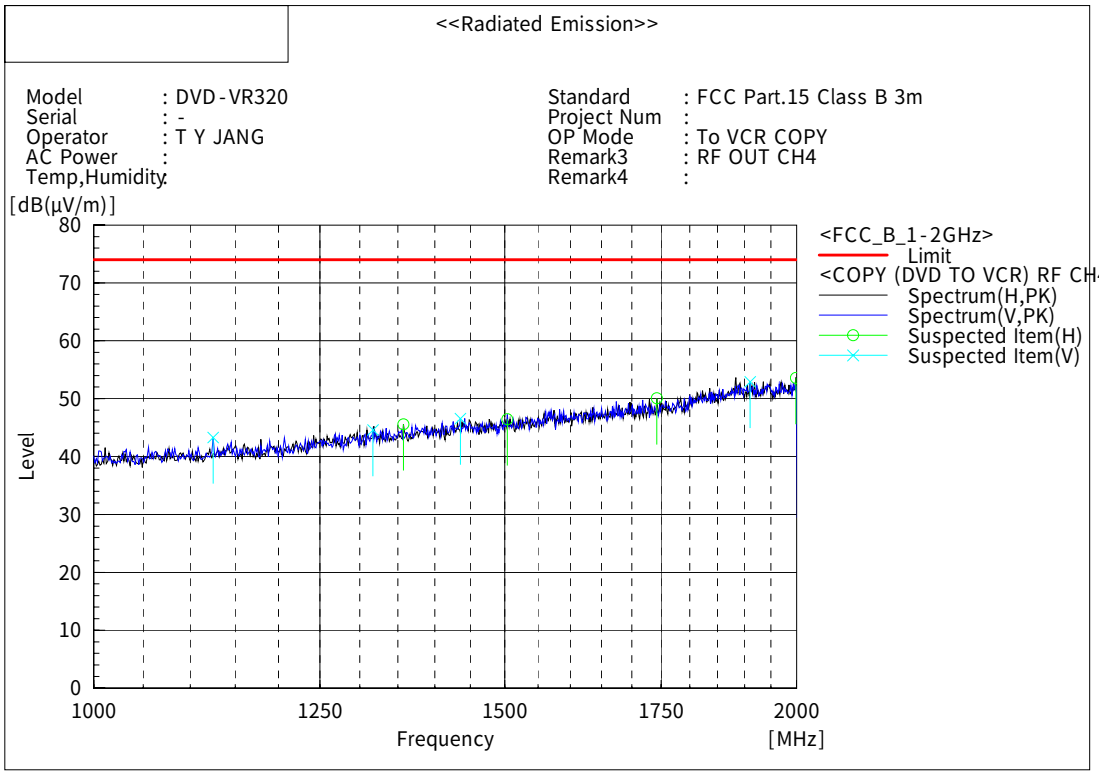
--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	365.870	49.1	-6.6	42.5	46.0	3.5	
2	608.858	38.9	-1.3	37.6	46.0	8.4	
3	645.765	41.2	-0.6	40.6	46.0	5.4	
4	677.318	34.9	0.1	35.0	46.0	11.0	
5	786.290	35.8	1.5	37.3	46.0	8.7	
6	810.003	34.4	1.7	36.1	46.0	9.9	

■ Operating Mode : VCR Copy_CH04

Frequency: Up to 2GHz

[Graph and Data]



Spectrum Selection

--- Horizontal Polarization ---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1357.287	34.6	11.0	45.6	74.0	28.4	
2	1503.737	33.1	13.4	46.5	74.0	27.5	
3	1742.400	32.8	17.3	50.1	74.0	23.9	
4	1998.687	31.2	22.4	53.6	74.0	20.4	

--- Vertical Polarization ---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	1124.988	36.3	7.0	43.3	74.0	30.7	
2	1316.887	34.3	10.3	44.6	74.0	29.4	
3	1435.562	34.3	12.3	46.6	74.0	27.4	
4	1910.312	31.4	21.5	52.9	74.0	21.1	

3.3 Output Signal Level

Test Information		
	Test Engineer	Tae Young, Jang
	Test Date	June 28, 2005
	Climate Condition	Ambient Temperature : 23℃ Relative Humidity : 35%
	Test Place	Shied Room #5

Test Equipments

Equipment	Modal Name	Manufacturer	Serial No.	Calibration	
				Next Date	Interval
TV Signal Generator	PM5418-TDSI	PHILIPS	LO612437	2005-09-23	12
Pre-Amplifier	310N	SONOMA	185861	2005-10-08	12
Field strength meter	ESS	R&S	844661/005	2006-01-11	12
Matching Pad	RAM	R&S	100539	2006-01-13	12
EMC Analyzer	E7405A	AGILENT	US41110272	2006-01-20	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]
56.768	77	-24.7	52.3	56.5	4.2
61.255	91.5	-24.7	66.8	69.5	2.7
65.738	75.7	-24.7	51	56.5	5.5

* 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]
62.75	76.4	-24.7	51.7	56.5	4.8
67.238	90.8	-24.7	66.1	69.5	3.5
71.735	75.2	-24.7	50.5	56.5	6.0

* 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]
56.75	76.8	-24.7	52.1	56.5	4.4
61.25	91.3	-24.7	66.6	69.5	2.9
65.753	75.8	-24.7	51.1	56.5	5.4

* 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]
62.748	76.4	-24.7	51.7	56.5	4.8
67.243	90.7	-24.7	66	69.5	3.5
71.74	75	-24.7	50.3	56.5	6.2

* 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]
56.753	76.9	-24.7	52.2	56.5	4.3
61.253	91.4	-24.7	66.7	69.5	2.8
65.755	75.9	-24.7	51.2	56.5	5.3

* 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]
62.738	76.2	-24.7	51.5	56.5	5
67.243	90.7	-24.7	66	69.5	3.6
71.745	75.2	-24.7	50.5	56.5	6.0

* 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]
56.743	76.9	-24.7	52.2	56.5	4.3
61.255	91.4	-24.7	66.7	69.5	2.8
65.743	75.8	-24.7	51.1	56.5	5.4

* 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]
62.738	76.3	-24.7	51.6	56.5	4.9
67.24	90.8	-24.7	66.1	69.5	3.4
71.738	75.1	-24.7	50.4	56.5	6.1

* 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]
56.755	76.9	-24.7	52.2	56.5	4.3
61.27	91.5	-24.7	66.8	69.5	2.7
65.753	75.8	-24.7	51.1	56.5	5.4

* 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]
62.74	76.3	-24.7	51.6	56.5	4.9
67.24	90.8	-24.7	66.1	69.5	3.4
71.738	75.1	-24.7	50.4	56.5	6.1

* 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]
56.765	77	-24.7	52.3	56.5	4.2
61.253	91.4	-24.7	66.7	69.5	2.8
65.74	75.8	-24.7	51.1	56.5	5.4

* 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]
62.738	76.3	-24.7	51.6	56.5	4.9
67.24	90.8	-24.7	66.1	69.5	3.4
71.738	75.1	-24.7	50.4	56.5	6.1

* 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]
56.755	77	-24.7	52.3	56.5	4.2
61.25	91.3	-24.7	66.6	69.5	2.9
65.753	75.8	-24.7	51.1	56.5	5.4

* 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]
62.738	76.3	-24.7	51.6	56.5	4.9
67.24	90.8	-24.7	66.1	69.5	3.4
71.738	75.1	-24.7	50.4	56.5	6.1

* 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]
56.755	76.9	-24.7	52.2	56.5	4.3
61.253	91.2	-24.7	66.5	69.5	3
65.76	75.9	-24.7	51.2	56.5	5.3

* 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]
62.743	76.3	-24.7	51.6	56.5	4.9
67.24	90.5	-24.7	65.8	69.5	3.7
71.738	75	-24.7	50.3	56.5	6.2

* 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]
56.755	77	-24.7	52.3	56.5	4.2
61.25	91.3	-24.7	66.6	69.5	2.9
65.753	75.8	-24.7	51.1	56.5	5.4

* 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]
62.743	76.4	-24.7	51.7	56.5	4.8
67.243	90.8	-24.7	66.1	69.5	3.4
71.74	75.1	-24.7	50.4	56.5	6.1

* 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]
56.753	77	-24.7	52.3	56.5	4.2
61.255	91.4	-24.7	66.7	69.5	2.8
65.753	75.8	-24.7	51.1	56.5	5.4

* 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]
62.733	76.3	-24.7	51.6	56.5	4.9
67.24	90.8	-24.7	66.1	69.5	3.4
71.723	75	-24.7	50.3	56.5	6.2

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

3.4 Output Terminal Conducted Spurious

Test Information		
	Test Engineer	Tae Young, Jang
	Test Date	June 28, 2005
	Climate Condition	Ambient Temperature : 23℃ Relative Humidity : 35%
	Test Place	Shied Room #5

Test Equipments

Equipment	Modal Name	Manufacturer	Serial No.	Calibration	
				Next Date	Interval
TV Signal Generator	PM5418-TDSI	PHILIPS	LO612437	2005-09-23	12
Pre-Amplifier	310N	SONOMA	185861	2005-10-08	12
Field strength meter	ESS	R&S	844661/005	2006-01-11	12
Matching Pad	RAM	R&S	100539	2006-01-13	12
EMC Analyzer	E7405A	AGILENT	US41110272	2006-01-20	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]
47.7962	39.7	-24.8	14.9	39.5	24.6
52.2248	32.2	-24.8	7.4	39.5	32.1
54.0963	40.3	-24.7	15.6	39.5	23.9

* 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]
122.51	45.1	-24.5	20.6	39.5	18.9
675	44.6	-23.4	21.2	39.5	18.3
846.99	54	-22.7	31.3	39.5	8.2

* 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]
53.7839	39.1	-24.7	14.4	39.5	25.1
60.0984	39.9	-24.7	15.2	39.5	24.3
61.8501	29.9	-24.7	5.2	39.5	34.3

* 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]
675	44.5	-23.4	21.1	39.5	18.4
810	42.7	-22.9	19.8	39.5	19.7
846.99	54	-22.7	31.3	39.5	8.2

* 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]
47.7529	40	-24.8	15.2	39.5	24.3
52.2541	32.9	-24.8	8.1	39.5	31.4
56.2822	40.5	-24.7	15.8	39.5	23.7

* 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]
122.51	45.1	-24.5	20.6	39.5	18.9
675.01	45.1	-23.4	21.7	39.5	17.9
847.01	53.9	-22.7	31.2	39.5	8.4

* 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]
53.7398	39.3	-24.7	14.6	39.5	24.9
58.239	32.1	-24.7	7.4	39.5	32.1
62.2688	40.5	-24.7	15.8	39.5	23.7

* 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]
675	45.2	-23.4	21.8	39.5	17.7
756.46013	43.4	-23.1	20.3	39.5	19.3
846.99	54	-22.7	31.3	39.5	8.2

* 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]
54.033	41.6	-24.7	16.9	39.5	22.6
55.2909	55.2	-24.7	30.5	39.5	9.1
56.3135	46.7	-24.7	22	39.5	17.5

* 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]
675	45.1	-23.4	21.7	39.5	17.9
682.65	44.7	-23.4	21.3	39.5	18.2
847.01	53.9	-22.7	31.2	39.5	8.3

* 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]
60.0331	42.1	-24.7	17.4	39.5	22.1
61.2763	55.7	-24.7	31	39.5	8.5
62.1554	43	-24.7	18.3	39.5	21.2

* 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]
675.01	45.1	-23.4	21.7	39.5	17.8
756.45	43.2	-23.1	20.1	39.5	19.4
846.99	54	-22.7	31.3	39.5	8.2

* 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]
46.8981	30	-24.8	5.2	39.5	34.3
47.6929	39.5	-24.8	14.7	39.5	24.8
54.1103	41.6	-24.7	16.9	39.5	22.6

* 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]
122.51	45.1	-24.5	20.6	39.5	18.9
675	44.5	-23.4	21.1	39.5	18.4
846.99	54	-22.7	31.3	39.5	8.3

* 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]
53.6982	38.9	-24.7	14.2	39.5	25.3
58.2129	31.6	-24.7	6.9	39.5	32.6
60.096	39.9	-24.7	15.2	39.5	24.3

* 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]
645.75	43.6	-23.4	20.2	39.5	19.3
756.45	42.7	-23.1	19.6	39.5	19.9
846.99	54	-22.7	31.3	39.5	8.2

* 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]
47.6936	39.5	-24.8	14.7	39.5	24.8
50.5705	34.2	-24.8	9.4	39.5	30.1
54.1409	41.7	-24.7	17	39.5	22.5

* 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]
122.51	45.2	-24.5	20.7	39.5	18.9
675	45	-23.4	21.6	39.5	17.9
846.97988	54	-22.7	31.3	39.5	8.2

* 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]
53.6966	38.9	-24.7	14.2	39.5	25.4
56.4849	31.1	-24.7	6.4	39.5	33.1
60.0968	40	-24.7	15.3	39.5	24.2

* 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]
675	44.9	-23.4	21.5	39.5	18
682.65	44.3	-23.4	20.9	39.5	18.6
846.97988	54	-22.7	31.3	39.5	8.2

* 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]
47.7116	39.6	-24.8	14.8	39.5	24.7
50.5005	31.9	-24.8	7.1	39.5	32.4
54.0949	40.1	-24.7	15.4	39.5	24.1

* 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]
122.51	45.2	-24.5	20.7	39.5	18.9
830.25988	40.1	-22.8	17.3	39.5	22.2
846.99	54	-22.7	31.3	39.5	8.2

* 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]
53.6974	38.9	-24.7	14.2	39.5	25.3
60.0813	39.3	-24.7	14.6	39.5	24.9
61.8011	29.2	-24.7	4.5	39.5	35.0

* 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]
645.75	44	-23.4	20.6	39.5	18.9
682.65	45	-23.4	21.6	39.5	17.9
846.99	54	-22.7	31.3	39.5	8.2

* 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]
47.7556	40	-24.8	15.2	39.5	24.3
52.2561	32.8	-24.8	8	39.5	31.5
56.2856	41	-24.7	16.3	39.5	23.2

* 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]
122.51	45.1	-24.5	20.6	39.5	18.9
756.45	42.7	-23.1	19.6	39.5	19.9
846.99	54.1	-22.7	31.4	39.5	8.1

* 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]
53.7423	39.3	-24.7	14.6	39.5	24.9
61.4362	36.5	-24.7	11.8	39.5	27.7
62.268	40.6	-24.7	15.9	39.5	23.6

* 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]
675.01	44.5	-23.4	21.1	39.5	18.4
682.65	45	-23.4	21.6	39.5	17.9
847.04	54	-22.7	31.3	39.5	8.3

* 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]
54.0323	41.5	-24.7	16.8	39.5	22.7
55.2948	55.6	-24.7	30.9	39.5	8.6
56.3169	46.8	-24.7	22.1	39.5	17.4

* 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]
122.51	45.1	-24.5	20.6	39.5	18.9
682.65988	44.8	-23.4	21.4	39.5	18.1
846.99	54.1	-22.7	31.4	39.5	8.1

* 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]
60.0992	43.5	-24.7	18.8	39.5	20.7
61.2763	55.6	-24.7	30.9	39.5	8.6
62.1603	43.1	-24.7	18.4	39.5	21.1

* 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]
675	44.6	-23.4	21.2	39.5	18.3
682.65988	45	-23.4	21.6	39.5	17.9
847.03	54	-22.7	31.3	39.5	8.2

* 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]
47.7529	40	-24.8	15.2	39.5	24.3
52.2528	32.9	-24.8	8.1	39.5	31.4
56.3409	34.2	-24.7	9.5	39.5	30.0

* 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]
122.51	45.1	-24.5	20.6	39.5	18.9
675	44.7	-23.4	21.3	39.5	18.2
846.97988	54	-22.7	31.3	39.5	8.2

* 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]
53.8002	39.1	-24.7	14.4	39.5	25.1
56.5722	33.7	-24.7	9	39.5	30.5
60.0796	41	-24.7	16.3	39.5	23.2

* 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]
675	44	-23.4	20.6	39.5	18.9
810	41.2	-22.9	18.3	39.5	21.2
846.97988	54.1	-22.7	31.4	39.5	8.1

* 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]
54.0323	41.5	-24.7	16.8	39.5	22.7
55.2948	55.6	-24.7	30.9	39.5	8.6
56.3169	46.8	-24.7	22.1	39.5	17.4

* 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]
122.51	45.1	-24.5	20.6	39.5	18.9
675	44.1	-23.4	20.7	39.5	18.9
846.99	54	-22.7	31.3	39.5	8.2

* 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]
53.6957	38.8	-24.7	14.1	39.5	25.4
58.221	31.8	-24.7	7.1	39.5	32.4
60.0796	39.3	-24.7	14.6	39.5	24.9

* 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]
675	44.1	-23.4	20.7	39.5	18.8
810	43.1	-22.9	20.2	39.5	19.3
846.99	54.1	-22.7	31.4	39.5	8.1

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

3.5 Antenna Transfer Switch Measurement

Test Information		
	Test Engineer	Tae Young, Jang
	Test Date	June 28, 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	2005-09-23	12
Pre-Amplifier	310N	SONOMA	185861	2005-10-08	12
Field strength meter	ESS	R&S	844661/005	2006-01-11	12
Matching Pad	RAM	R&S	100539	2006-01-13	12
EMC Analyzer	E7405A	AGILENT	US41110272	2006-01-20	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]
61.2534	30.5	-24.7	5.8	9.5	3.8

* 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]
67.245	31.2	-24.7	6.5	9.5	3.0

* 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]
61.25205	30.7	-24.7	6	9.5	3.5

* 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]
67.245	30.9	-24.7	6.2	9.5	3.3

* 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]
61.25145	30.4	-24.7	5.7	9.5	3.8

* 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]
67.24	31.3	-24.7	6.6	9.5	2.9

* 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]
61.25265	30.4	-24.7	5.7	9.5	3.8

* 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]
67.24	31.2	-24.7	6.5	9.5	3

* 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]
61.2556	30.4	-24.7	5.7	9.5	3.8

* 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]
67.245	31.2	-24.7	6.5	9.5	3.0

* 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]
61.2554	30.7	-24.7	6	9.5	3.6

* 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]
67.245	31	-24.7	6.3	9.5	3.3

* 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]
61.2524	30.4	-24.7	5.7	9.5	3.8

* 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]
67.24	31.3	-24.7	6.6	9.5	2.9

* 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]
61.2524	30.4	-24.7	5.7	9.5	3.8

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

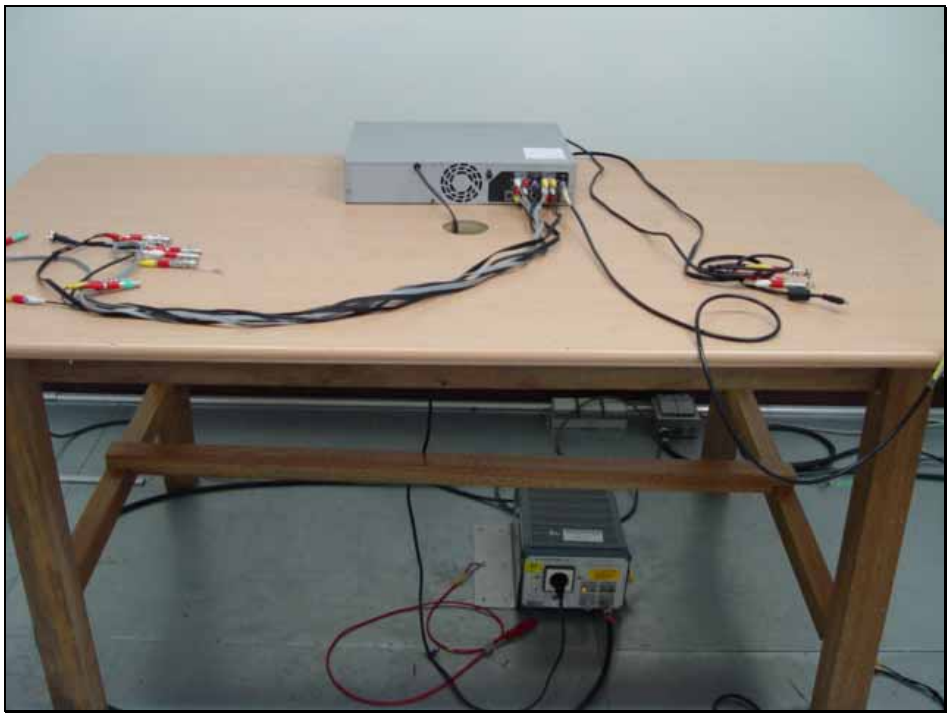
■ **Operating Mode : VCR COPY** **RF Output CH No. :4CH**

Frequency	Reading	Factor	Level	Limit	Margin
[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
67.24	31.3	-24.7	6.6	9.5	2.9

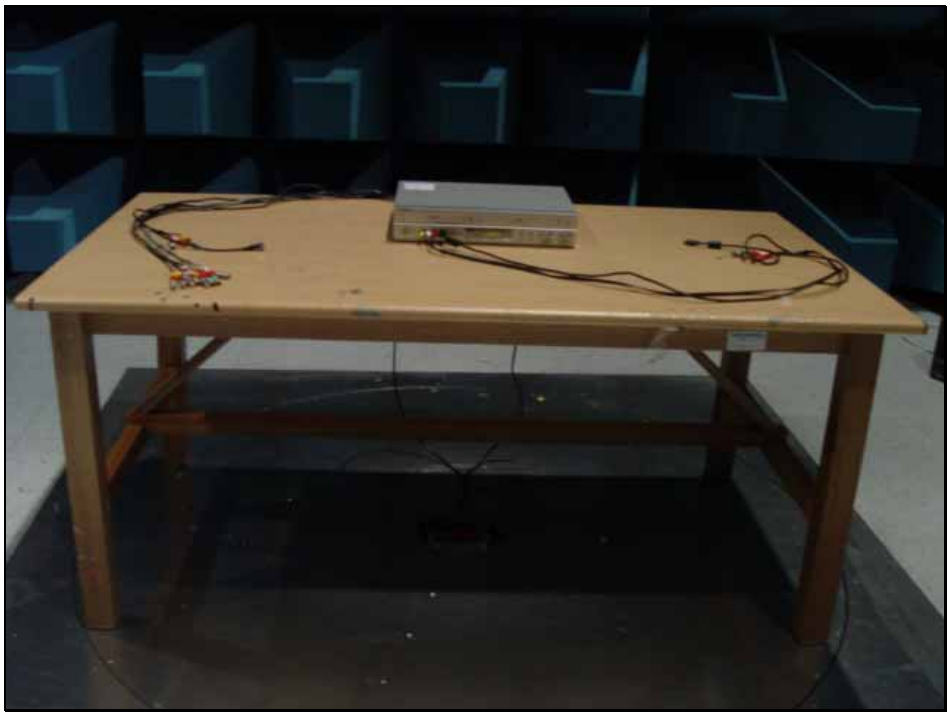
* Factor = Preamp Gain + Matching Pad Loss + Cable Loss

4. Appendix A

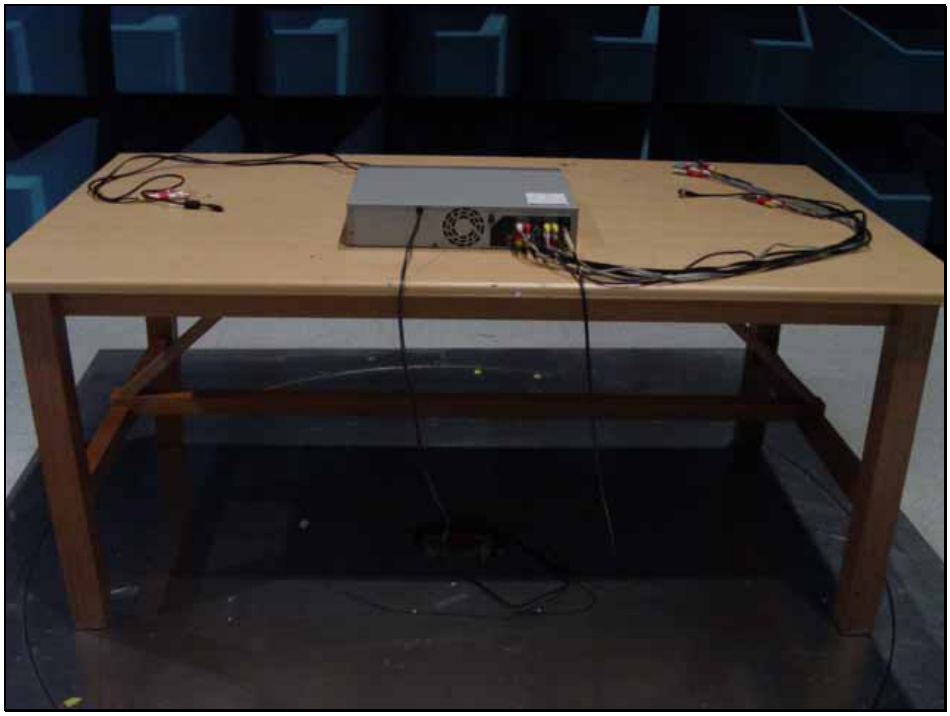
4.1 Test Photography



Picture 1. Conducted Emission (Rear)



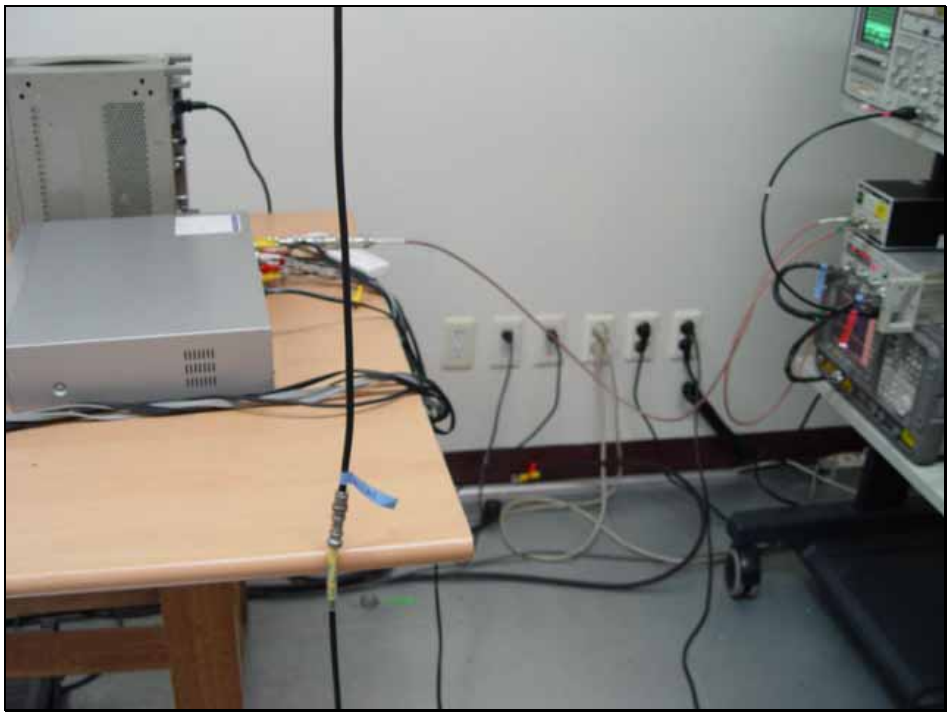
Picture 2. Radiated Emission (Front)



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)