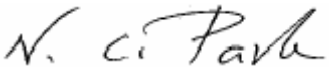
EMC Test Report

According to FCC Part 15 Subpart B

Project No.		**LBE05108**
Equipment under Test		
	Address	416 Maetan3-Dong,Yeongtong-Gu,Suwon-Si,Gyeonggi-Do, Korea,443-742
	Product Name	**LCD TV Monitor**
	Model Name	**VE20UO**
	Manufacturer	SAMSUNG
	Brand Name	SAMSUNG
	FCC ID	A3LVE20UO
	Variant Model	See Page 3
Date of Test		January 25 ~ 27, 2005
Issued Date		January 28, 2005

	Name/Position	Signature
Tested by	Kyung Chul,Min 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	VE20UO
Applicant Address	Samsung Electronics Co., Ltd 416 Maetan3- Dong, Yeongtong-Gu, Suwon-Si, Gyeonggi-Do, Korea, 443-742
Contact Person	Kyung Chul,Min
Kind of product	LCD TV Monitor
Valiant list	None
Manufacturer	Samsung Electronics Co., Ltd.

1.2 Detail Information related Product

Specification

Item(s)		Description
Frequency	Horizontal	28 ~ 47 kHz
	Vertical	50 ~ 75 Hz
Power Supply		AC 120V, 60 Hz
Max Power Consumption		55 W
Maximum Resolution		800 * 600, 75Hz
Optimum Resolution		800 * 600, 60Hz

1.3 Operating Mode and Condition

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

- PC Analog In (800 * 600, 75Hz)

- TV Receiving

: This operating mode was coverd by another report

1.4 Equipment Modifications

No equipment modifications were required.

1.5 Test Configuration

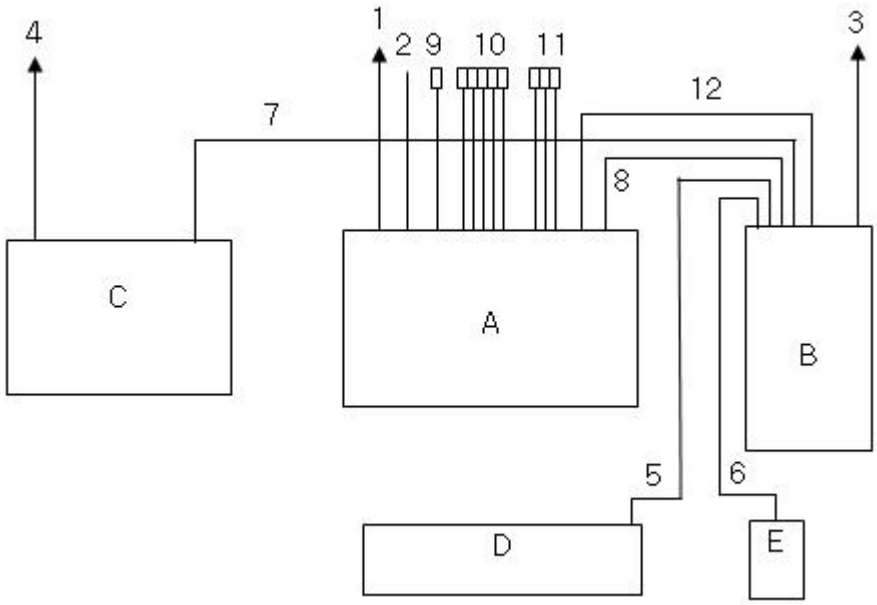
Used EUT and Peripherals

Seq	Device	Model Name	Serial #	Maker	Note
A	LCD TV Monitor	VE20UO	-	SAMSUNG	EUT
B	Personal Computer	M6050	812092FRC02513	SAMSUNG	DOC
C	Printer	ML-1740	BABX820386E	SAMSUNG	A3LML-1710P
D	PS/2 Keyboard	5900	K03119305	SAMSUNG	DOC
E	USB Mouse	F8E204-USB	020002943	BOAN	10WCH-USB

Port Description

	Connect Cable	Length [m]	Shielded [Y/N]	Remark
1	Power	1.8	No	to the Mains
2	ANT In	1.5	Yes	Termination
3	Power(For PC)	1.8	No	To the Mains
4	Power(For Printer)	1.8	No	To the Mains
5	PS/2 Cable	1.2	No	To the PC
6	USB Cable	1.2	No	To the PC
7	Parallel Cable	1.2	Yes	To the PC
8	PC Analog In	1.2	No	-
9	S-Video	1.2	No	Termination
10	Component In	1.2	No	Termination
11	AV In	1.2	No	Termination
12	PC Audio In	1.2	No	To the PC

Block Diagram



1.6 Applied Standards

List

Product or Generic Standards	Basic Standards
FCC Part15 Subpart B	ANSI C63.4 : 2003

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
Radiated Emission	±5.09
Conducted Emission	±1.64

2. Summary of Test Results

Result : PASS

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

Test Name		Applied Standard	Result
Electromagnetic Emission Test			
3.1	Conducted Emission	FCC Part15 Subpart B	Complied
3.2	Radiated Emission	FCC Part15 Subpart B	Complied

3. Description of Individual Tests

3.1 Conducted Emission

Test Information		
	Test Engineer	Kyung Chul,Min
	Test Date	January 27, 2005
	Climate Condition	Ambient Temperature : 25.5℃ Relative Humidity : 34%
	Test Place	Shield Room #5

Test Equipments

Equipment	Modal Name	Manufacturer	Serial No.	Calibration	
				Next Date	Interval
Spectrum Analyzer	ESIB26	R&S	100147	2005-10-04	12
L.I.S.N	ESH3-Z5	R&S	100260	2005-10-29	12
EMI Test Receiver	ESS	R&S	844661/005	2006-01-11	12
L.I.S.N	ESH3-Z5	R&S	100262	2005-02-11	12
RF Relais Matrix	PSU	R&S	861206/024	N/A	N/A

EUT Test Setup

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

See photo..

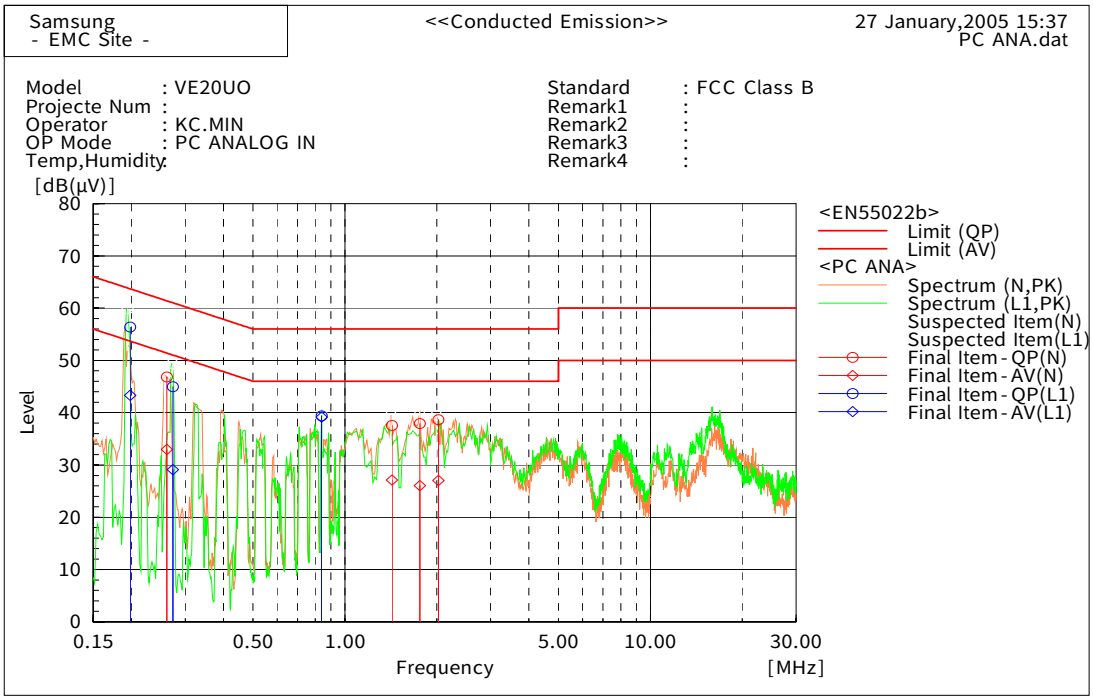
Test Result

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

Test Data

■ Operating Mode : PC Analog In

[Graph and Data]



Final Result

--- N Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.26139	46.7	32.9	0.1	46.8	33.0	61.4	51.4	14.6	18.4
2	1.4261	37.5	27.0	0.1	37.6	27.1	56.0	46.0	18.5	18.9
3	1.76103	37.8	26.0	0.1	37.9	26.1	56.0	46.0	18.1	20.0
4	2.0231	38.6	26.9	0.1	38.7	27.0	56.0	46.0	17.3	19.0

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.19825	56.3	43.2	0.1	56.4	43.3	63.7	53.7	7.3	10.4
2	0.27316	44.9	29.0	0.1	45.0	29.1	61.0	51.0	16.1	21.9
3	0.83955	39.3	39.1	0.1	39.4	39.2	56.0	46.0	16.6	6.8

3.2 Radiated Emission

Test Information		
	Test Engineer	Kyung Chul,Min
	Test Date	January 26, 2005
	Climate Condition	Ambient Temperature : 25℃ Relative Humidity : 33%
	Test Place	10m Semi Anechoic chamber

Test Equipments

Equipment	Modal Name	Manufacturer	Serial No.	Calibration	
				Next Date	Interval
Biconilog Antenna	6112B	SCHAFFNER	2767	2005-04-29	12
EMI Receiver	ESI26	R&S	832692/002	2005-05-24	12
Biconilog Antenna	6112B	SCHAFFNER	2766	2005-07-06	12
AMPLIFIER	8447D	Agilent	2944A10430	2005-07-20	12
RF Selector	NS4900	TOYO	0303-015	N/A	N/A
Spectrum Analyzer	E7405A	Agilent	MY42000052	2005-08-26	12
Field strength meter	ESCS30	R&S	839809/002	2005-04-28	12

EUT Test Setup

EUT set up in semi-anechoic chamber. EUT positioned at 10m(or 3m) from antenna in center of table.

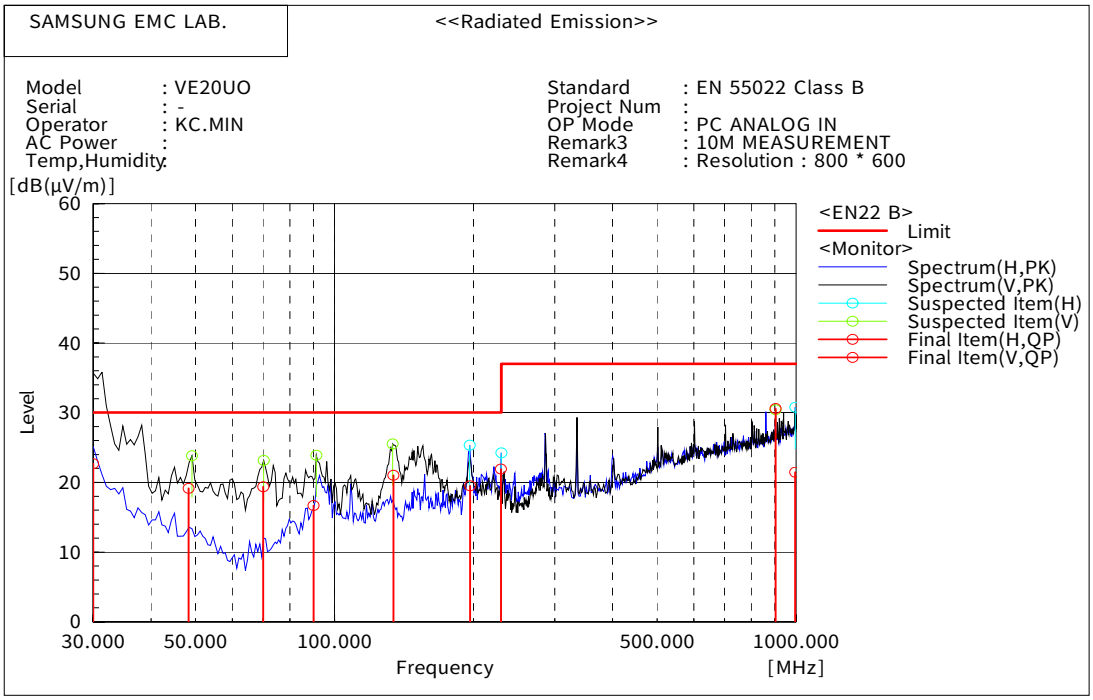
All unused ports terminated into characteristic loads.

Test Result

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

Test Data (Other Frequency)

■ Operating Mode : PC Analog In

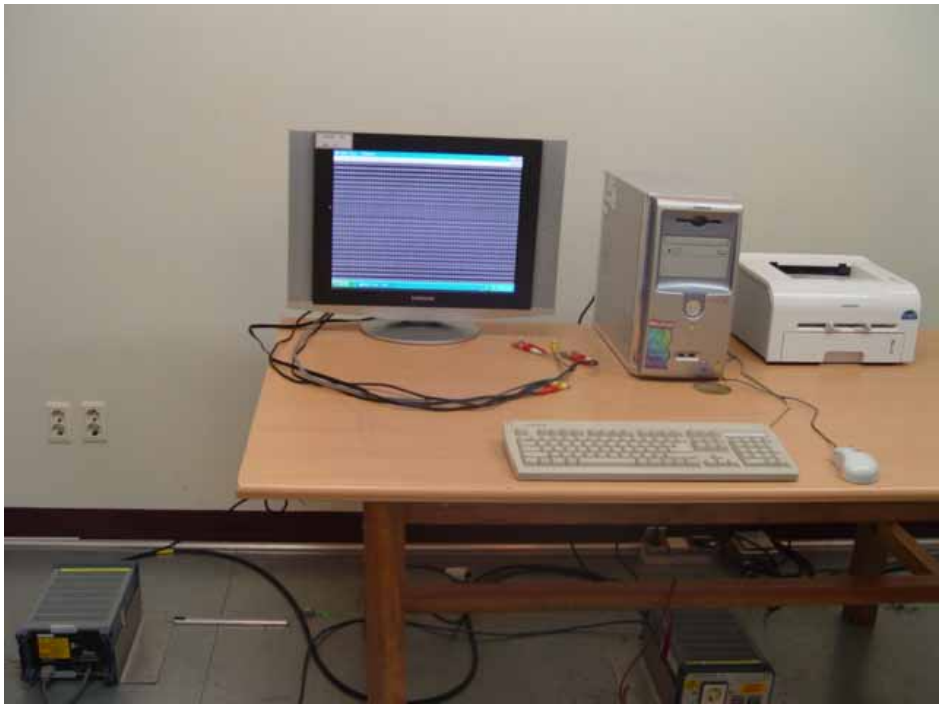


Final Result

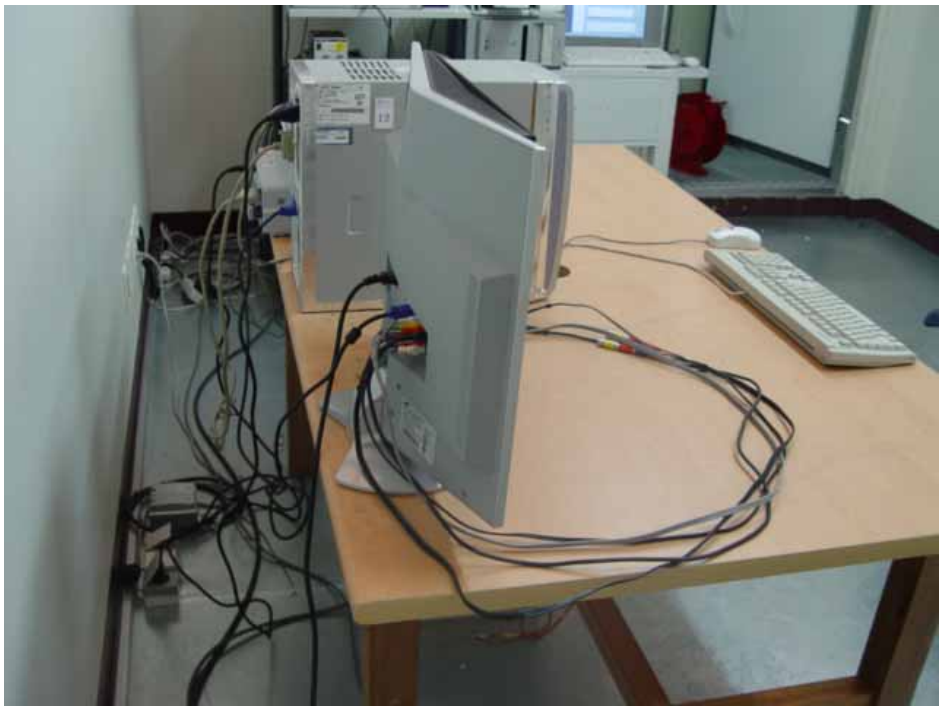
No.	Frequency [MHz]	(P)	S.C	Reading QP [dB(µV)]	c.f [dB(1/m)]	Result QP [dB(µV/m)]	Limit [dB(µV/m)]	Margin QP [dB]	Height [cm]	Angle [°]
1	30.000	V	S	31.5	-8.8	22.7	30.0	7.3	260.0	282.0
2	48.306	V	S	37.1	-18.0	19.1	30.0	10.9	148.0	57.0
3	70.055	V	S	40.6	-21.2	19.4	30.0	10.6	146.0	226.0
4	90.062	V	S	33.9	-17.2	16.7	30.0	13.3	142.0	117.0
5	134.078	V	S	35.7	-14.7	21.0	30.0	9.0	109.0	349.0
6	196.610	H	S	35.3	-15.8	19.5	30.0	10.5	361.0	276.0
7	229.442	H	S	36.2	-14.3	21.9	30.0	8.1	391.0	352.0
8	902.250	V	S	31.1	-0.5	30.6	37.0	6.4	148.0	162.0
9	994.940	H	S	20.7	0.8	21.5	37.0	15.5	192.0	308.0

4. Appendix A

4.1 Test Photography



Picture 1. Conducted Emission (Front)



Picture 2. Conducted Emission (Side)

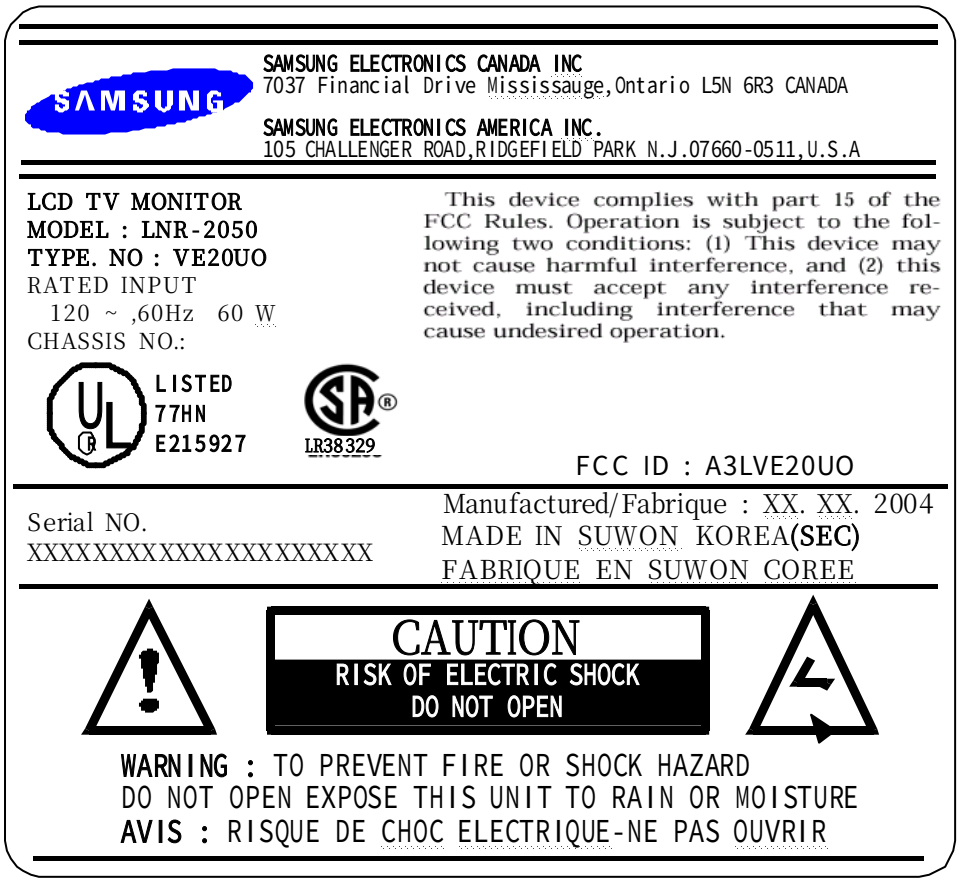
Picture 3. Radiated Emission (Front)

Picture 4. Radiated Emission (Rear)

4.2 EUT Photography

Pictur 5. EUT (Front)

Picture 6. EUT (Rear)



Picture 7. Label