EMC Test Report

According to FCC Part 15 Subpart B

Project No.		**LBE050101**
Equipment under Test		
	Address	416 Maetan3-Dong,Yeongtong-Gu,Suwon-City,Gyeonggi-Do, Korea,443-742
	Product Name	**TFT LCD MONITOR**
	Model Name	**VE15UO**
	Manufacturer	Samsung Electronics Co., Ltd
	Brand Name	SAMSUNG
	Variant Model	See Page 3
	FCC ID	A3LVE15UO
Date of Test		January 20 ~ 21, 2005
Issued Date		January 27, 2005

	Name/Position	Signature
Tested by	Dong Min, Lee Test Engineer	
Reviewed by	No Cheon, Park Manager of EMC Lab.	N. C. Park
Authorized by	Seung Kyu, Cha Chief of EMC Lab.	S. K. Cha

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

This laboratory is registered by the NIST/NVLAP, U.S.A.
The test reported herein have been performed in accordance with its terms of registration.

NVLAP LAB CODE 200623-0

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1. General Information

1.1 Basic Information related Product

Applicant	Samsung Electronics Co., Ltd
Model name	VE15UO
Applicant Address	Samsung Electronics Co., Ltd 416 Maetan3- Dong, Yeongtong-Gu, Suwon-City, Gyeonggi-Do, Korea, 443-742
Kind of product	TFT LCD Monitor
Valiant Model list	None
Manufacturer	Samsung Electronics Co.,Ltd
New / Alternative / Permissive change Information	This report is original report #

1.2 Detail Information related Product

Specification

Item(s)	Description
Model Name	VE15UO
Product Name	LCD MONITOR
Resolution	1024 * 768
Horizontal Frequency	30 ~ 69 KHz
Vertical Frequency	50 ~ 75 Hz

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1.3 Operating Mode and Condition

The system was configured for testing in typical fashion use. Cable were attached to each of the available I/O Ports.

The mode of operation utilized for testing was selected to best simulate typical EUT use.

1.4 Equipment Modifications

No equipment modifications were required.

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1.5 Test Configuration

Used EUT and Peripherals

Seq	Device	Model Name	Serial #	Maker	Note
A	LCD Monitor	VE15UO		SAMSUNG	EUT
B	Desktop PC	M6050	802092FRC02513	SAMSUNG	DOC
C	Printer	ML-1740	BABX820386E	SAMSUNG	A3LML-1710P
D	PS/2 Keyboard	5900	K03119305	Samsung	DOC
E	Mouse	FRE204-USB	020002943	Boan	DOC

Used Cable Description

No	Connect Cable	Length [m]	Shielded [Y/N]	Remark
1	Power	1.7	No	For EUT
2	Power	1.7	No	For PC
3	Power	1.7	No	For Printer
4	Monitor Analog	1.5	Yes	
5	Parallel (Printer)	1.5	Yes	
6	Keyboard	1.5	No	
7	PS/2 Mouse	1.5	No	

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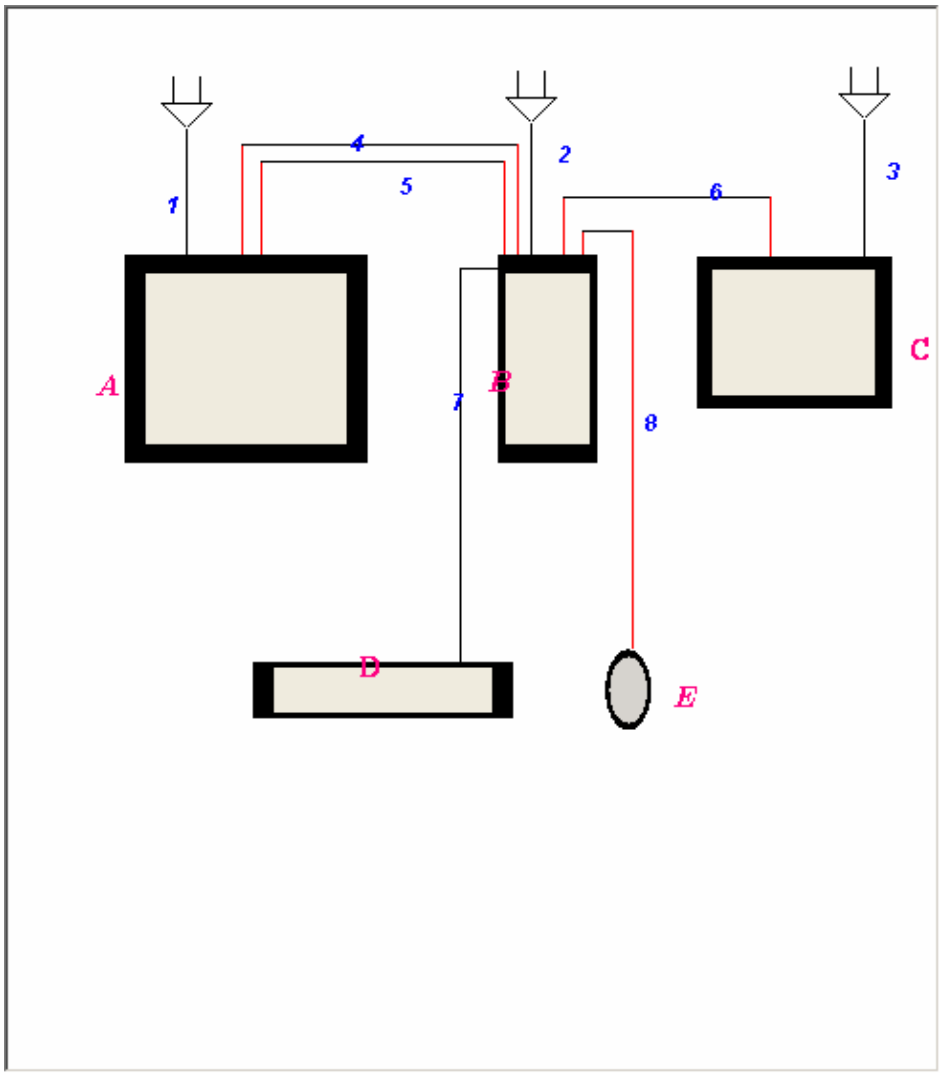
Block Diagram



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1.6 Applied Standards

List

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

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1.7 Test Facility

General Information

The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR 22.

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

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

Accreditation and Listing

Uncertainty (According to NAMAS Pub.NIS81)

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

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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

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3. Description of Individual Tests

3.1 Conducted Emission

Test Information		
	Test Engineer	Dong Min, Lee
	Test Date	January 21, 2005
	Climate Condition	Ambient Temperature : 24℃ Relative Humidity : 28%
	Test Place	Shield Room #5

Test Equipments

Equipment	Modal Name	Manufacturer	Serial No.	Calibration	
				Next Date	Interval
EMI Test Receiver	ESI	R&S	100147	2005-10-04	12
EMI Test Receiver	ESS-30	R&S	844861-005	2006-01-11	12
L.I.S.N	ESH3-Z5	R&S	100261	2005-10-29	12
RF Relais Matrix	PSU	R&S	861206/024	N/A	12
Test Software	EP5CE	TOYO	None	N/A	N/A

EUT Test Setup

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

See photo..

Test Result

Measurement Results	Pass No Operation errors were detected during or after the applied test.

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Test Data

[Graph and Data]

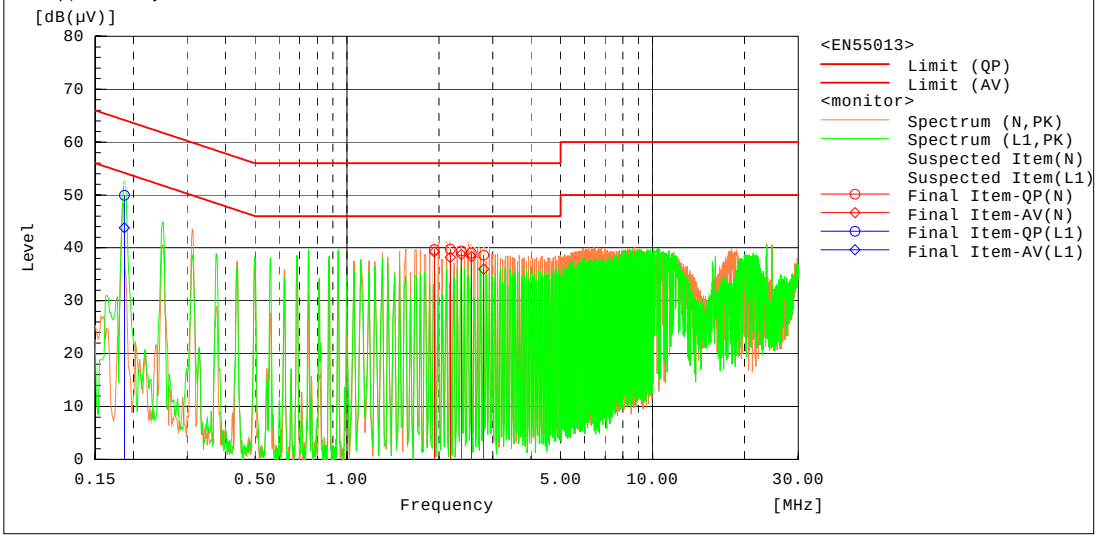
Samsung
- EMC Site -

<<Conducted Emission>>

21 January,2005 08:58
monitor.dat

Model : VE15UO
Project Num :
Operator : dm.lee
OP Mode : monitor
Temp,Humidity:

Standard :
Remark1 :
Remark2 :
Remark3 :
Remark4 :



Final Result

--- N Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	1.93129	39.6	39.1	0.1	39.7	39.2	56.0	46.0	16.4	6.8
2	2.18001	39.7	38.1	0.1	39.8	38.2	56.0	46.0	16.2	7.8
3	2.36596	39.3	38.7	0.1	39.4	38.8	56.0	46.0	16.6	7.2
4	2.55372	38.9	38.3	0.1	39.0	38.4	56.0	46.0	17.0	7.7
5	2.80081	38.4	35.8	0.2	38.6	36.0	56.0	46.0	17.4	10.0

--- 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	0.18675	49.8	43.7	0.1	49.9	43.8	64.2	54.2	14.3	10.4

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3.2 Radiated Emission

Test Information		
	Test Engineer	Dong Min, Lee
	Test Date	January 20, 2005
	Climate Condition	Ambient Temperature : 23℃ Relative Humidity : 28%
	Test Place	10m Semi Anechoic chamber

Test Equipments

Equipment	Modal Name	Manufacturer	Serial No.	Calibration	
				Next Date	Interval
EMC Test Receiver	ESCS 30	R&S	839809-002	2005-04-28	12
RF Selector	NS4900	TOYO	0303-015	N/A	N/A
Biconilog Antenna	6112B	SCHAFFNER	2767	2005-04-29	12
Mast Controller	HD2000	HD	HD20000902027	N/A	N/A
EMC Analyzer	E7405A	Agilent	MY42000052	2005-08-26	12
Test Software	EP5RE	TOYO	None	N/A	12
Controller	HD100	HD	100/374	N/A	N/A
RF Amplifier	8447D	Agilent	2944A10430	2005-07-20	12

EUT Test Setup

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

All ports terminated into characteristic loads.

Test Result

Measurement Results	Pass No Operation errors were detected during or after the applied test.

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Test Data

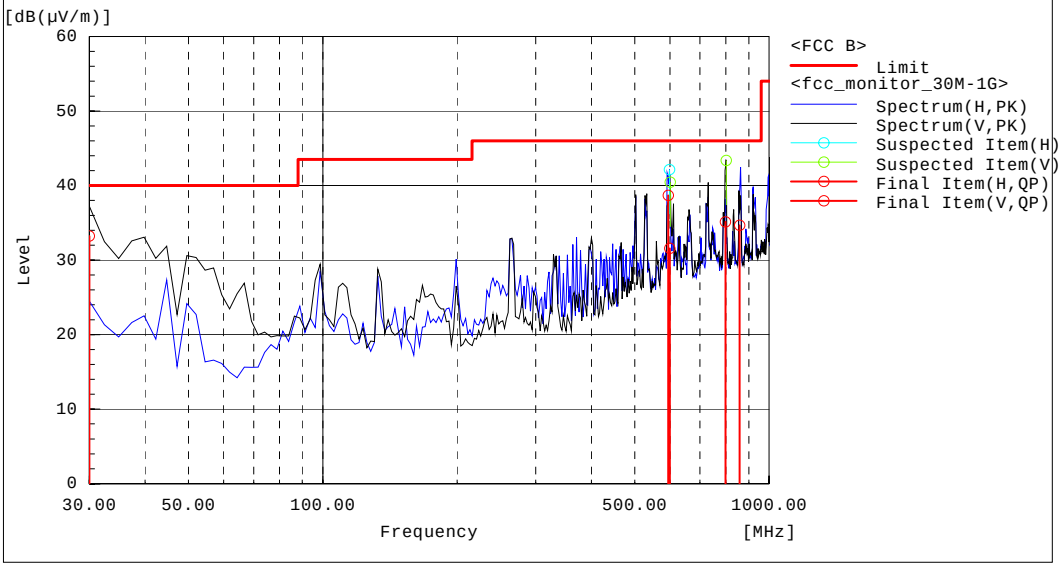
SAMSUNG EMC LAB.

<<Radiated Emission>>

fcc_monitor_30M-1G.dat

Model Name : VE15UO
Serial Num. : -
Test Enginee:
AC Power :
OP Mode :

Standard : FCC Part.15 Class B 3m
Remark 1 :
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	594.560	40.0	-1.3	38.7	46.0	7.3	
2	858.720	32.4	2.3	34.7	46.0	11.3	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	30.000	41.2	-8.0	33.2	40.0	6.8	
2	599.030	32.8	-1.2	31.6	46.0	14.5	
3	798.700	33.6	1.5	35.1	46.0	10.9	

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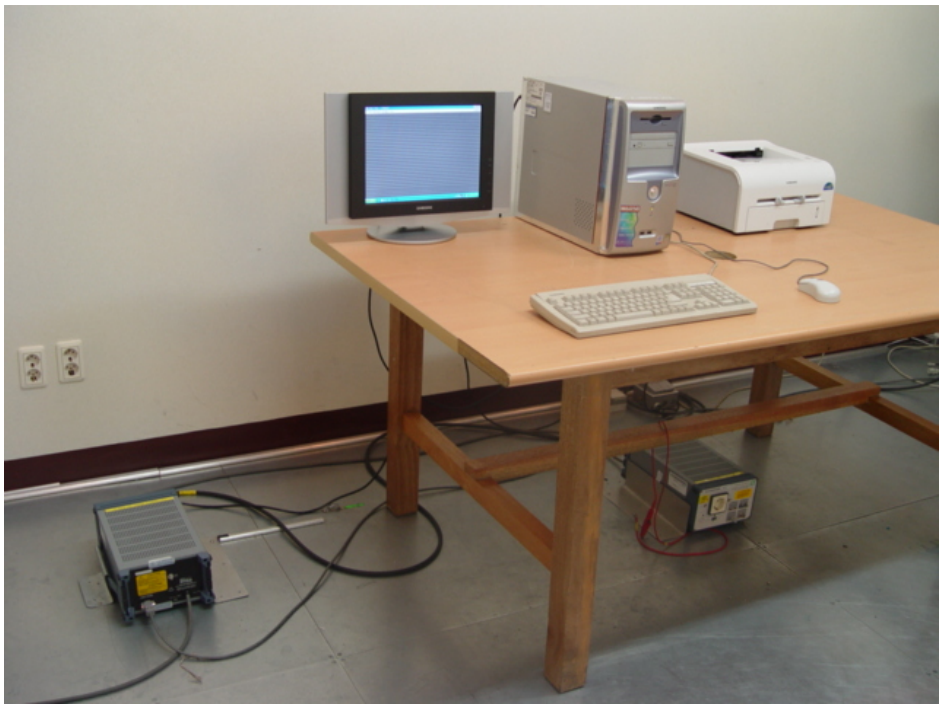
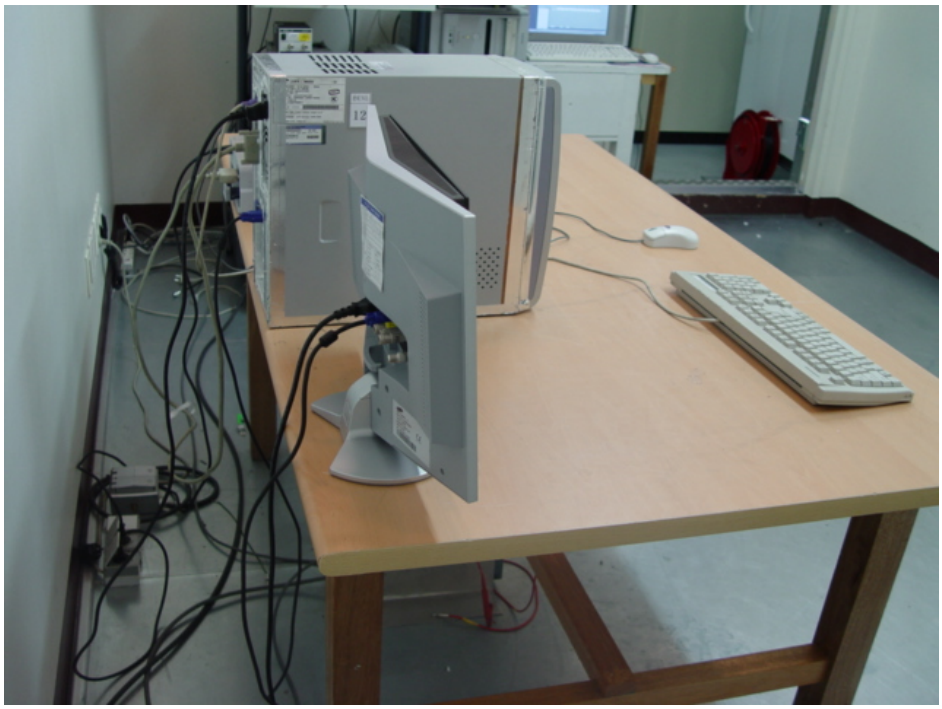
4. Appendix A

4.1 Test Photography



Picture 1. Conducted Emission (Front)



Picture 2. Conducted Emission (Side)

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Picture 3. Radiated Emission (Front)

Picture 4. Radiated Emission (Rear)

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4.2 EUT Photography

Picture 5. EUT (Front)

Picture 6. EUT (Rear)

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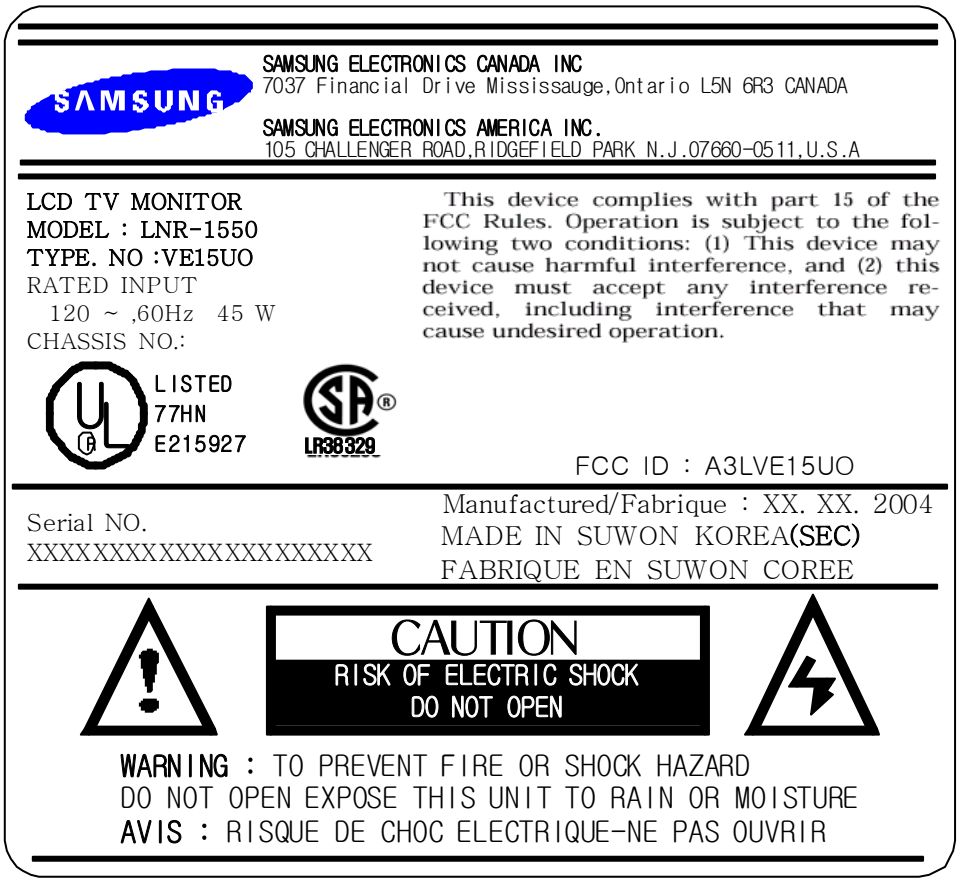

Picture 7. Label