EMC TEST REPORT

Project No. : LBE030678

Product : PDP Monitor

Model No. : AX42S3

Date of test : April. 11, 2003 ~ April. 12, 2003

Issued Date : April. 15, 2003

Tested by:
Tae Young,JANG / Test Engineer

Reviewed by:
No Cheon, PARK / Manager of EMC Lab.

Authorized by:
Kyu Baek, CHUNG / Chief of EMC Lab.

SAMSUNG ELECTRONICS Co., Ltd.
EMC Test Laboratory
416 Maetan-3 Dong, Paldal-Ku, Suwon City, Kyungki-Do, Korea,442-742
Tel. : 81-31-200-2185 Fax. : 81-31-200-2189

This reports shall not be reproduced except in full, without the written approval of SEC EMC Testing laboratory.

Table of Contents

1. Introduction & Summary
1.1 Description of the EUT
1.2 Test facility
1.3 Test equipment

2. Test Set-up
2.1 Test mode
2.2 Justification
2.3 Test equipment setup
2.4 Tested System Details
2.5 System Block Diagram of Test Configuration
2.6 Test rule and Procedure
2.7 Test Summary

3. Test Results
3.1 AC POWERLINE CONDUCTED EMISSION MEASUREMENT
3.2 RADIATED EMISSION MEASUREMENT

This reports shall not be reproduced except in full, without the written approval of SEC EMC Testing laboratory.

1. Introduction & Summary

1.1 Description of the EUT

Applicant	SAMSUNG ELECTRONICS Co., Ltd.
Project Number	LBE030678
Equipment Under Test	PDP Monitor
Trade Name	SAMSUNG
Model Number	AX42S3
Variant Model	-
Operating Frequency	60Hz
FCC ID Number	A3LPPM42S3
Mains input	120V

1.2 Test facility

The EMI/EMS measurement facilities used to collect the tested data are located at 416 Maetan 3 Dong, Paldal-Ku, Suwon City, Kyungki Do, Korea.

The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1 & 16-2.
SAMSUNG Electronics Co.,Ltd 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).

Measured in Semi-anechoic chamber #1 that is FCC Registration Number 98856.

This reports shall not be reproduced except in full, without the written approval of SEC EMC Testing laboratory.

1.3 Test equipment

Equipment	Model No.	Serial No.	Makers	Last calibration and Interval
Spectrum analyzer	8566B	3340A21744	H.P	02/04/18, 12Months
	Firmware versions : Rev.29.9.86			
Quasi-peak adapter	85650A	2521A00687	H.P	02/10/09, 12Months
RF Preselector	85685A	2602A00224	H.P	02/10/09, 12Months
Field strength meter	ESCS30	839809/022	R & S	02/06/27, 12Months
	Firmware versions : Main 1.08, OTP 02.01, GRA 02.03			
Field strength meter	ESVP	880726/042	R & S	02/09/10, 12Months
L.I.S.N	ESH3-Z5	847265/028	R & S	02/10/09, 12Months
Bi-Log Antenna	CBL6112B	2767	SCHAFFNER	02/04/26, 12Months

This reports shall not be reproduced except in full, without the written approval of SEC EMC Testing laboratory.

2. Test Set-up

2.1 Test mode

The EUT was tested in the following operating modes for the tests mention in this report:

Description of Testing operating mode & Tested Resolution

Operating Mode	Resolutions	Refresh rates	Colors
"H" Pattern display	1024x768	Horizontal F.: 60kHz	32bits
		Vertical F. : 75Hz	

Measured each about 2 input(PC VIDEO INPUT mode & Digital Video Interface)of EUT.
Further details of cabling and configuration are shown in the test system configuration.
The EUT exercise program used during radiated and conducted testing was designed to exercise the various system components in a manner similar to typical use.

2.2 Justification

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.

2.3 Test equipment setup

The explanation of measuring equipment setup when respective function is used in any frequency band is as following:

Frequency Band [MHz]	Equipment	Detector function	Resolution Bandwidth	Video Bandwidth
0.45 to 30	EMI Test receiver	Quasi-Peak	9kHz	-
30 to 1000	Spectrum analyzer	Peak	100kHz	1MHz
	EMI Test receiver	Quasi-Peak	120kHz	-
Above 1000	EMI Test receiver	Peak	1MHz	1MHz

This reports shall not be reproduced except in full, without the written approval of SEC EMC Testing laboratory.

2.4 Tested System Details

1) Configuration of EUT and peripherals

Mark	Item	Model No.	Serial No.	Manufacturer	FCC ID
A	PDP Monitor	AX42S3	-	Samsung	-
B	Personal Computer	M6050	812092FRC00328	Samsung	
C	Printer	LQ-580H	CG2Y014537	EPSON	Doc
D	PS/2 Keyboard	7800	K1C111343	BTC	Doc
E	PS/2 Mouse	Scroll Mouse P801	1205148	Key Systems	Doc
F	Speaker	-	-	Samsung	-

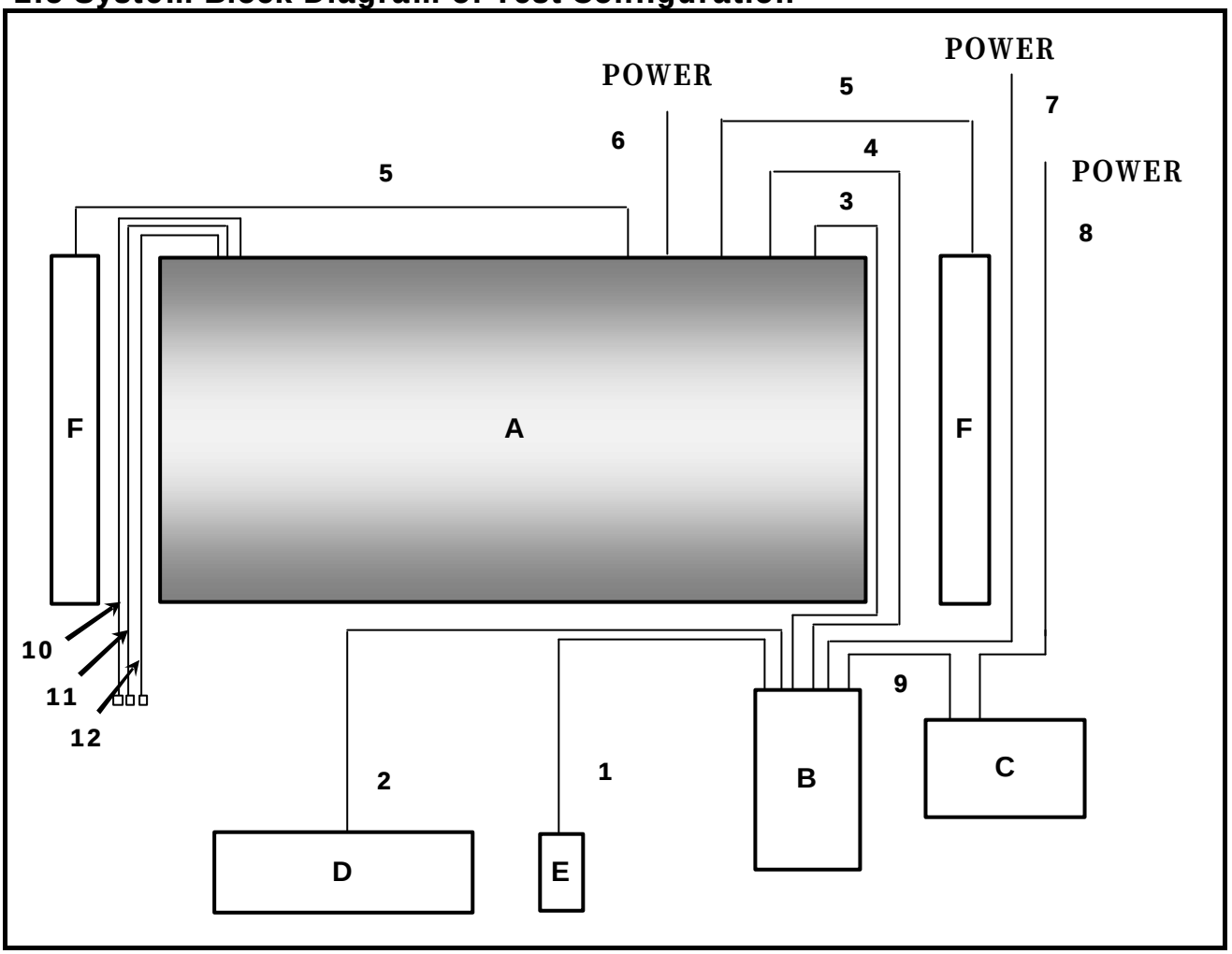
* DOC : FCC Declaration of Conformity

2) Used Cable Description

No.	Item	Length[m]	Shielded(Y/N)	Remark
1	PS/2 Mouse Cable	1.8	N	
2	PS/2 Keyboard Cable	1.6	N	
3	Video Cable(Analog)	1.5	Y	
4	Video Cable(Digital)	1.5	Y	
5	Speaker Cable	1.2	N	
6	AC Power Cable(Monitor)	1.8	N	
7	AC Power Cable(PC)	1.8	N	
8	AC Power Cable(Printer)	1.8	N	
9	Printer Cable	1.5	Y	
10	A/V In Cable	1.2	N	
11	S-Video In Cable	1.2	N	
12	BNC Cable	1.2	N	

This reports shall not be reproduced except in full, without the written approval of SEC EMC Testing laboratory.

2.5 System Block Diagram of Test Configuration



2.6 Test rule and Procedure

FCC Rule Part 15, Subpart B : Unintentional Radiators
Test Procedure : ANSI C63.4-1992

2.7 Test Summary

Test item	Test Procedure	Result
AC POWERLINE CONDUCTED EMISSION	ANSI C63.4-1992	Pass
RADIATED EMISSION	ANSI C63.4-1992	Pass

* N/A : Test not applicable

This reports shall not be reproduced except in full, without the written approval of SEC EMC Testing laboratory.

3. Test Results

3.1 AC POWERLINE CONDUCTED EMISSION MEASUREMENT

3.1.1 Test Procedure

Configurate the EUT System in accordance with ANSI C63.4-1992 section 7 and 12.2.
Connect the EUT's AC line cord to the EUT port of LISN.
All input terminals are terminated in the proper impedance.
The output ports are connected to the cable provided with the device and the ending port are terminated in the proper impedance.

Using a calibrated coaxial cable, the TEST RECEIVER is connected to the measuring port of the LISN for EUT. To the find out an EUT condition procedures the maximum emission, the position of cables, EUT operations mode are the position of cables, EUT operations mode are checked under normal usage of EUT.
Then, the emission are scanned from 150kHz to 30MHz relative to the limit are recorded.

This reports shall not be reproduced except in full, without the written approval of SEC EMC Testing laboratory.

3.1.2 Test Results

Test Data Sheet

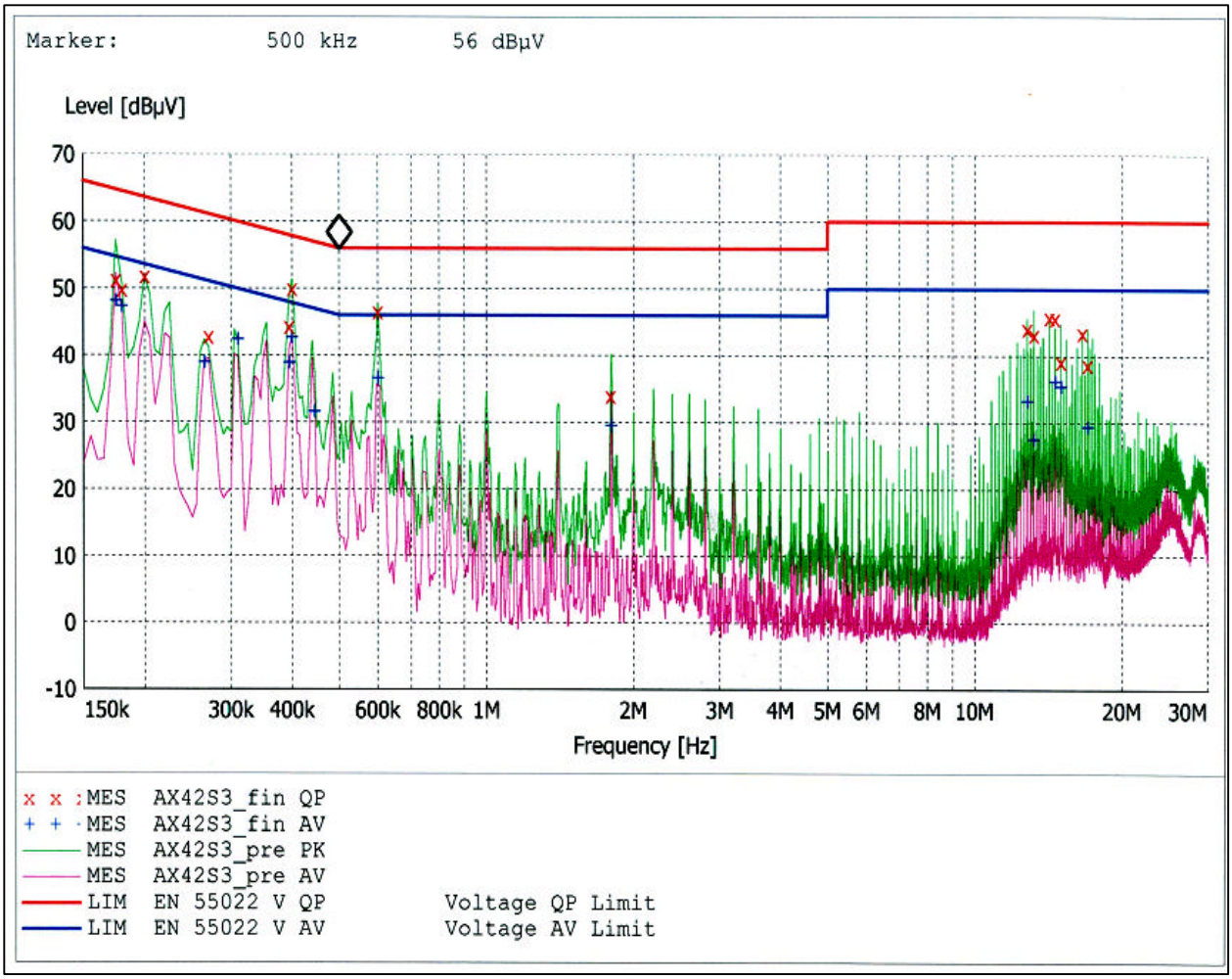
Frequency	LISN Pol.	Meter reading (a)		Total Loss	Results (a) + (b)		Limit		Margin (Limits-Result)	
		QP	AV	(b)	QP	AV	QP	AV	QP	AV
[MHz]	[L,N]	[dBuV]		[dB]	[dBuV]		[dBuV]		[dB]	
0.175	L	51.4	48.4	0.2	51.6	48.6	**64.7**	**54.7**	13.1	6.1
0.180	L	50.0	47.6	0.2	50.2	47.8	**64.5**	**54.5**	14.3	6.7
0.395	L	44.5	39.2	0.1	44.6	39.3	**58.0**	**48.0**	13.4	8.7
0.400	L	50.1	43.0	0.1	50.2	43.1	**57.9**	**47.9**	7.7	4.8
0.600	N	46.7	36.9	0.2	46.9	37.1	**56.0**	**46.0**	9.1	8.9
1.795	L	34.2	29.8	0.2	34.4	30.0	**56.0**	**46.0**	21.6	16.0
12.800	L	44.3	33.6	0.8	45.1	34.4	**60.0**	**50.0**	14.9	15.6
14.600	L	45.9	36.5	1.1	47.0	37.6	**60.0**	**50.0**	13.0	12.4
14.995	L	39.4	35.8	1.2	40.6	37.0	**60.0**	**50.0**	19.4	13.0
16.995	N	38.9	29.7	1.2	40.1	30.9	**60.0**	**50.0**	19.9	19.1

*** FCC Part 15, Subpart B, section 15.107**

"If the level of the emission measured using the quasi-peak instrumentation is 6 dB, or more, higher than the level of the same emission measured with instrumentation having an average detector and a 9kHz minimum bandwidth, that emission is considered broadband and the level obtained with the quasi-peak detector may be reduced by 13dB for comparison to the limits."

This reports shall not be reproduced except in full, without the written approval of SEC EMC Testing laboratory.

Graph (LISN Mode : Live & Neutral)



This reports shall not be reproduced except in full, without the written approval of SEC EMC Testing laboratory.

3.2 RADIATED EMISSION MEASUREMENT

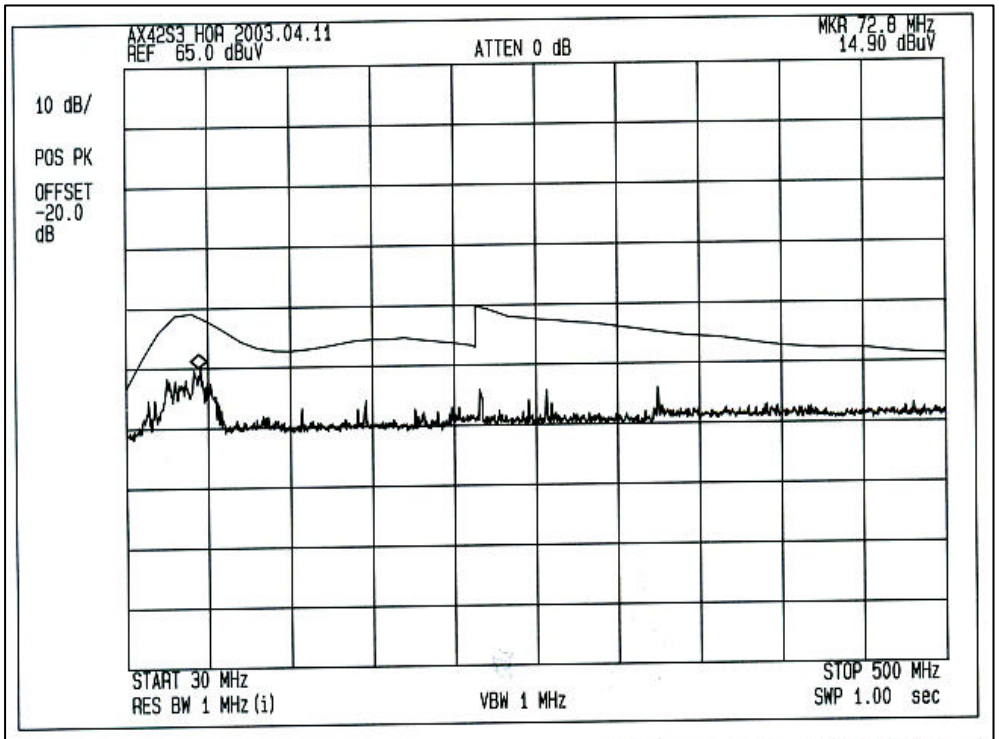
3.2.1 Test Procedure

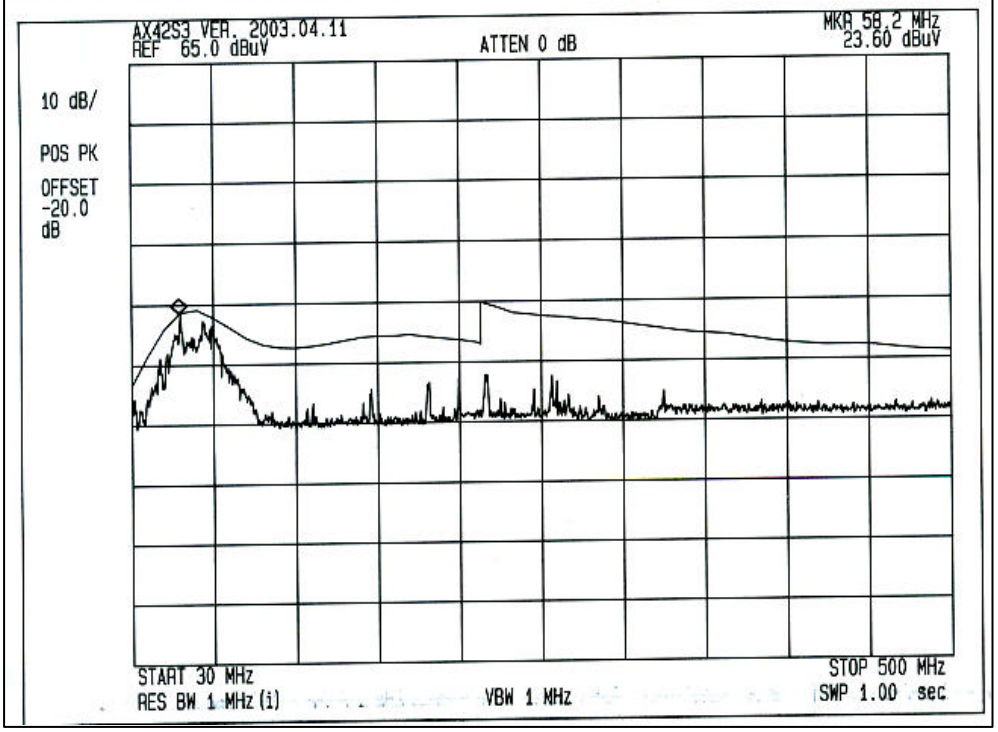
Configurate the EUT System in accordance with ANSI C63.4-1992section 8 and 12.2.
Power cords for the EUT System are connected the receptacle on the ground plane.
The output ports are connected to the cable provided with the device and the ending port of the cable are terminated in the proper impedance.
To find out the maximum emission, change the position of the cable, and the EUT operation mode under normal usage of the EUT.
The spectrum analyzer are scanned from 30MHz to 2,000MHz.
And, detecting waves mode is peak mode, Graph's result in worst arrangement state of EUT. Spectrum analyzer result did horizontal and vertical polarization maxhold.

This reports shall not be reproduced except in full, without the written approval of SEC EMC Testing laboratory.

3.2.2 Test Results

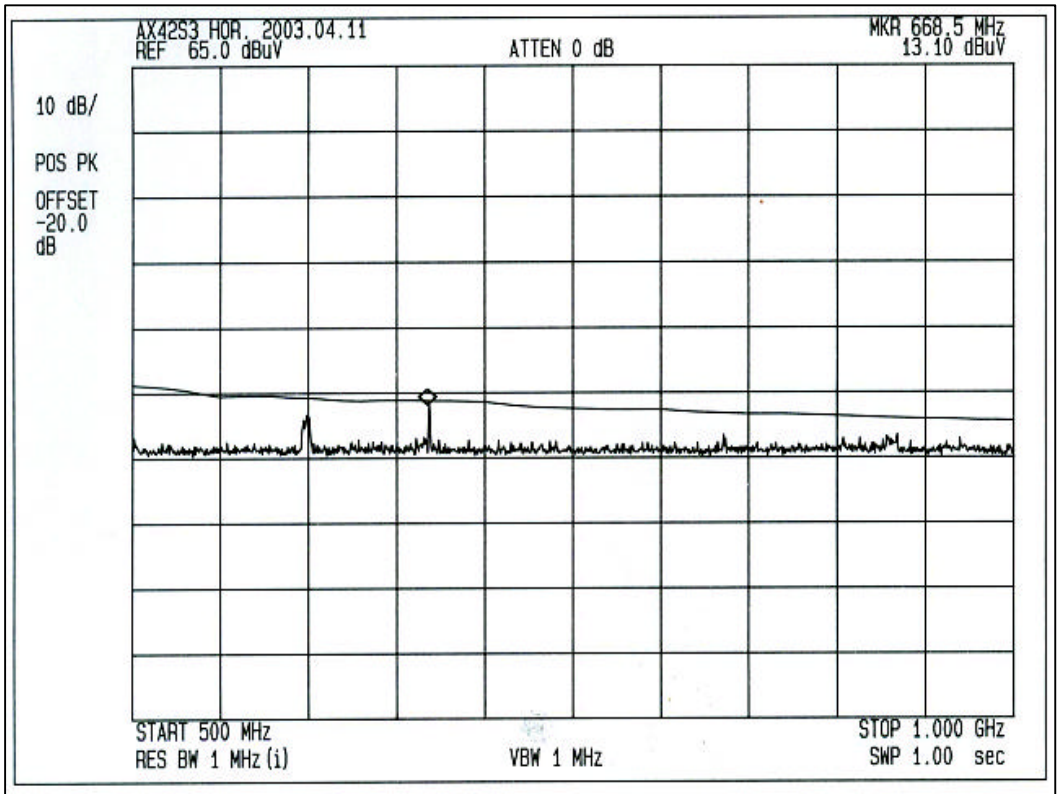
[Test range : 30 - 500MHz]

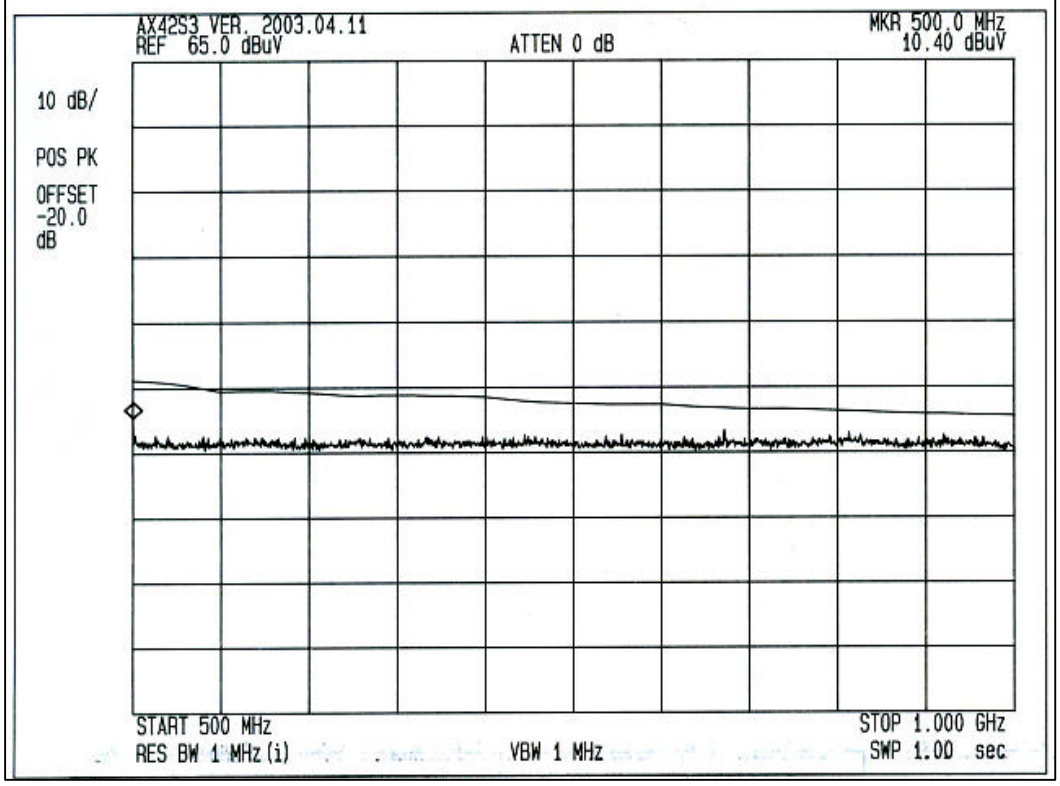




This reports shall not be reproduced except in full, without the written approval of SEC EMC Testing laboratory.

[Test range : 500 - 1000MHz]





This reports shall not be reproduced except in full, without the written approval of SEC EMC Testing laboratory.

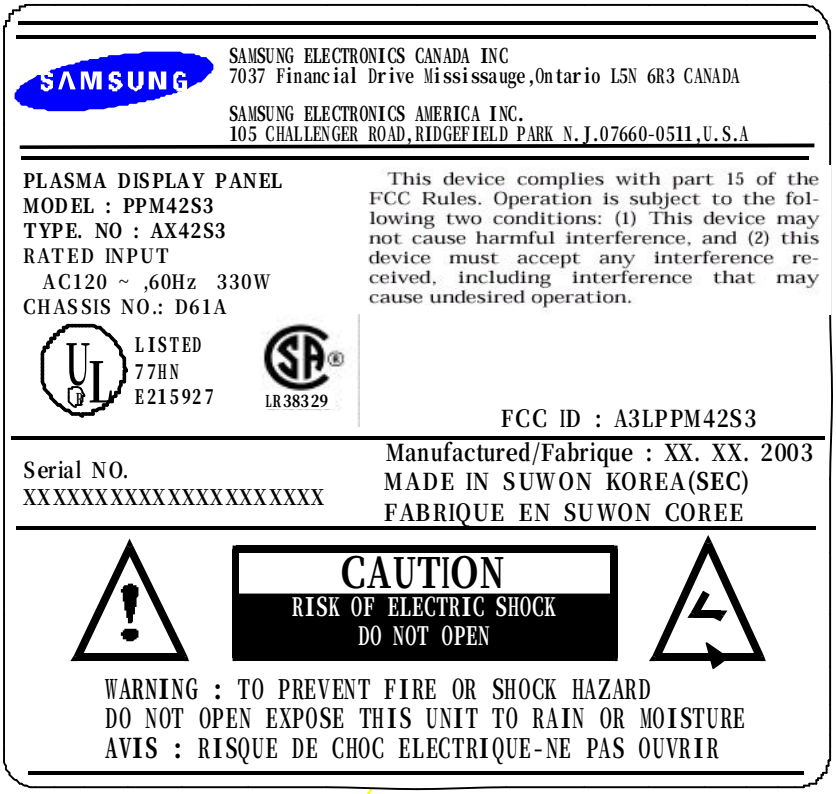
Test Set up Photographs

[AC POWERLINE CONDUCTED EMISSION MEASUREMENT]

[RADIATED EMISSION MEASUREMENT]

EUT Photographs

[Label and Label position]



SAMSUNG

SAMSUNG ELECTRONICS CANADA INC
7037 Financial Drive Mississauge,Ontario L5N 6R3 CANADA

SAMSUNG ELECTRONICS AMERICA INC.
105 CHALLENGER ROAD,RIDGEFIELD PARK N.J.07660-0511,U.S.A

PLASMA DISPLAY PANEL
MODEL : PPM42S3
TYPE. NO : AX42S3
RATED INPUT
AC120 ~ ,60Hz 330W
CHASSIS NO.: D61A

LISTED
77HN
E215927

LR38329

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

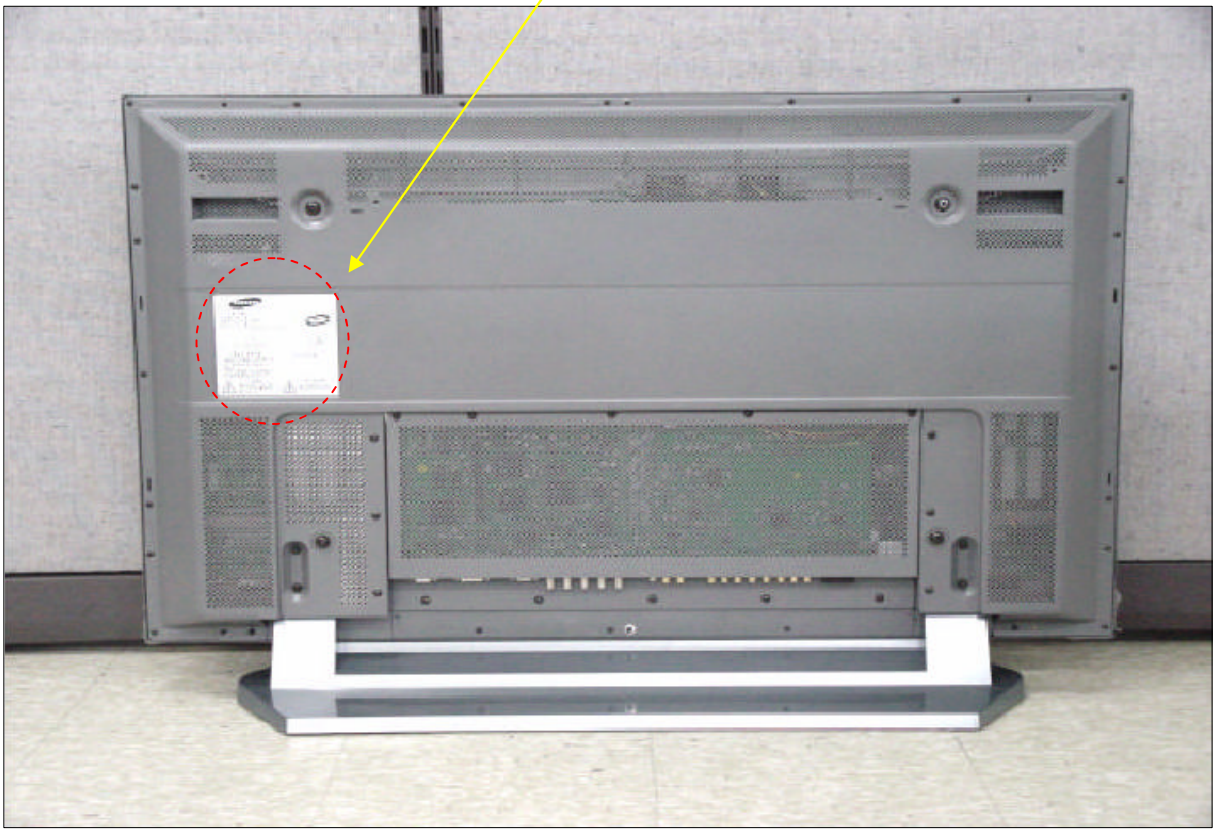
FCC ID : A3LPPM42S3

Serial NO.
XXXXXXXXXXXXXXXXXXXX

Manufactured/Fabrique : XX. XX. 2003
MADE IN SUWON KOREA(SEC)
FABRIQUE EN SUWON COREE

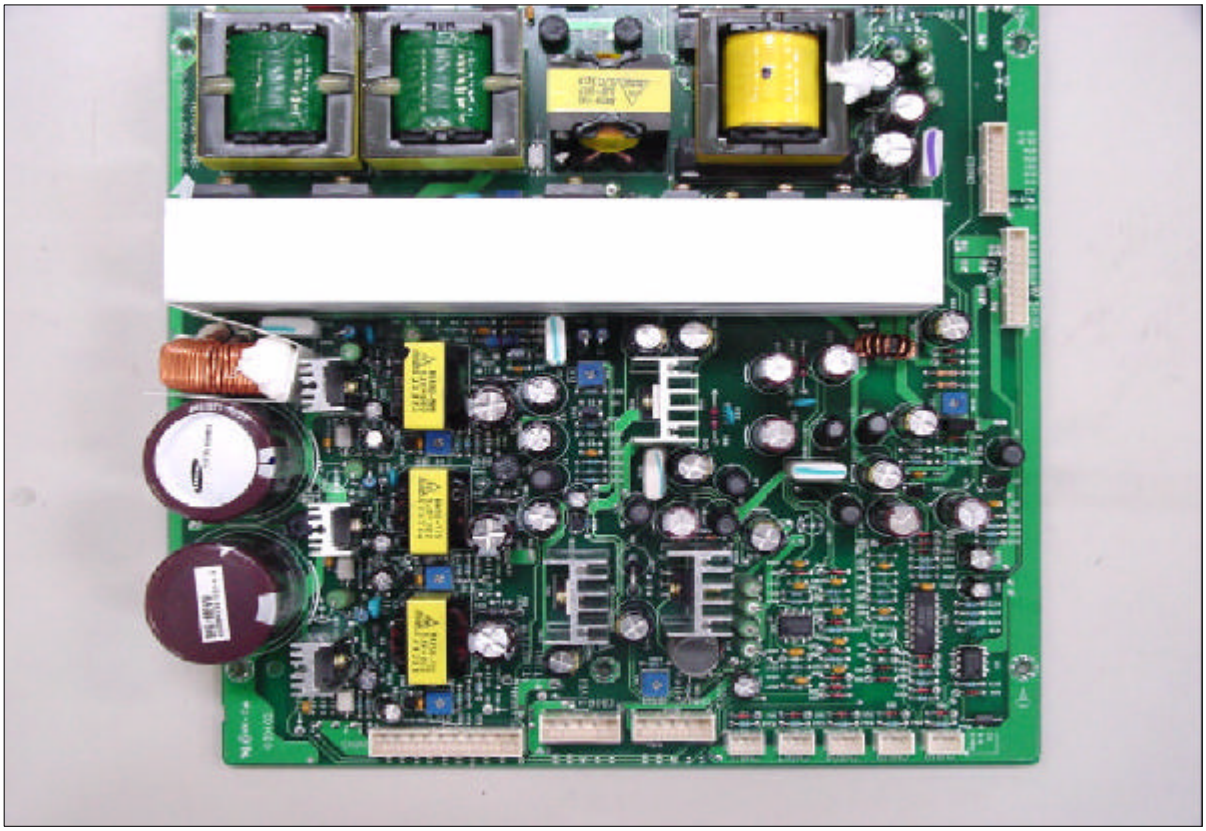
CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

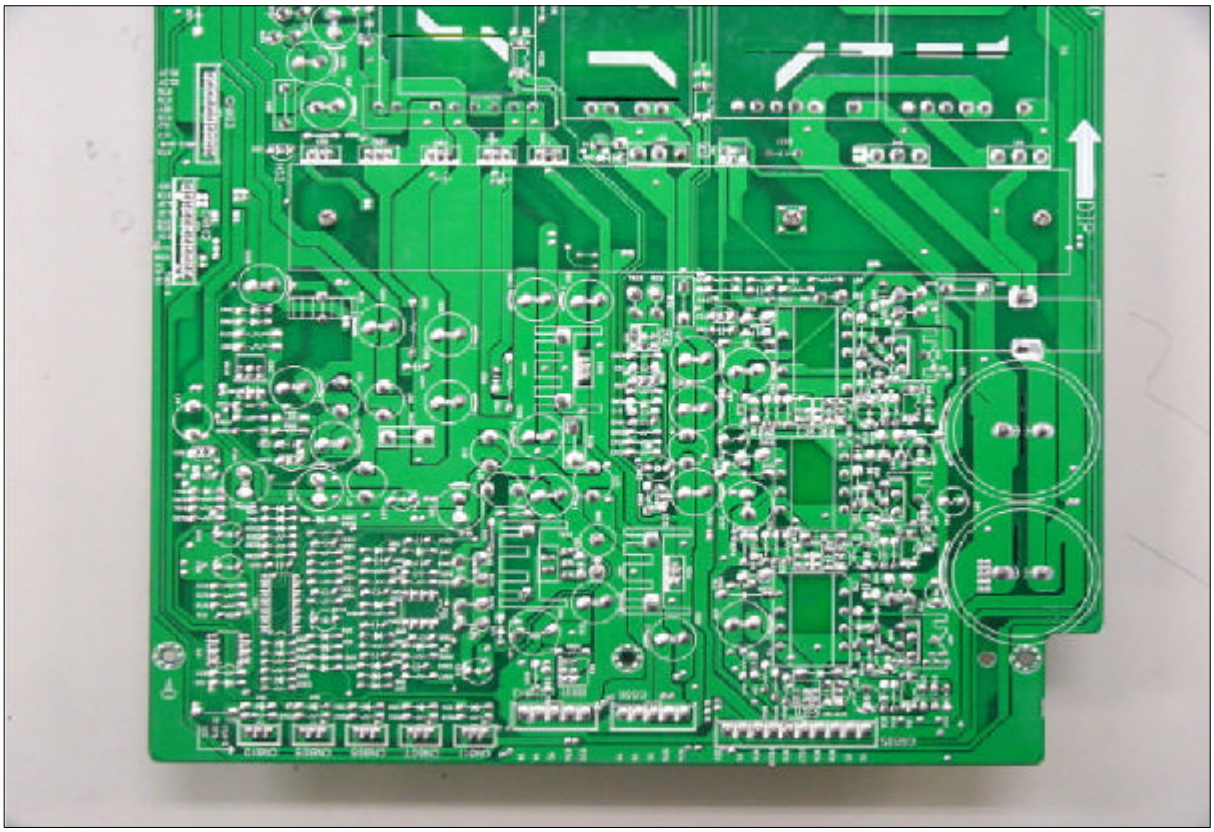
WARNING : TO PREVENT FIRE OR SHOCK HAZARD
DO NOT OPEN EXPOSE THIS UNIT TO RAIN OR MOISTURE
AVIS : RISQUE DE CHOC ELECTRIQUE-NE PAS OUVRIR



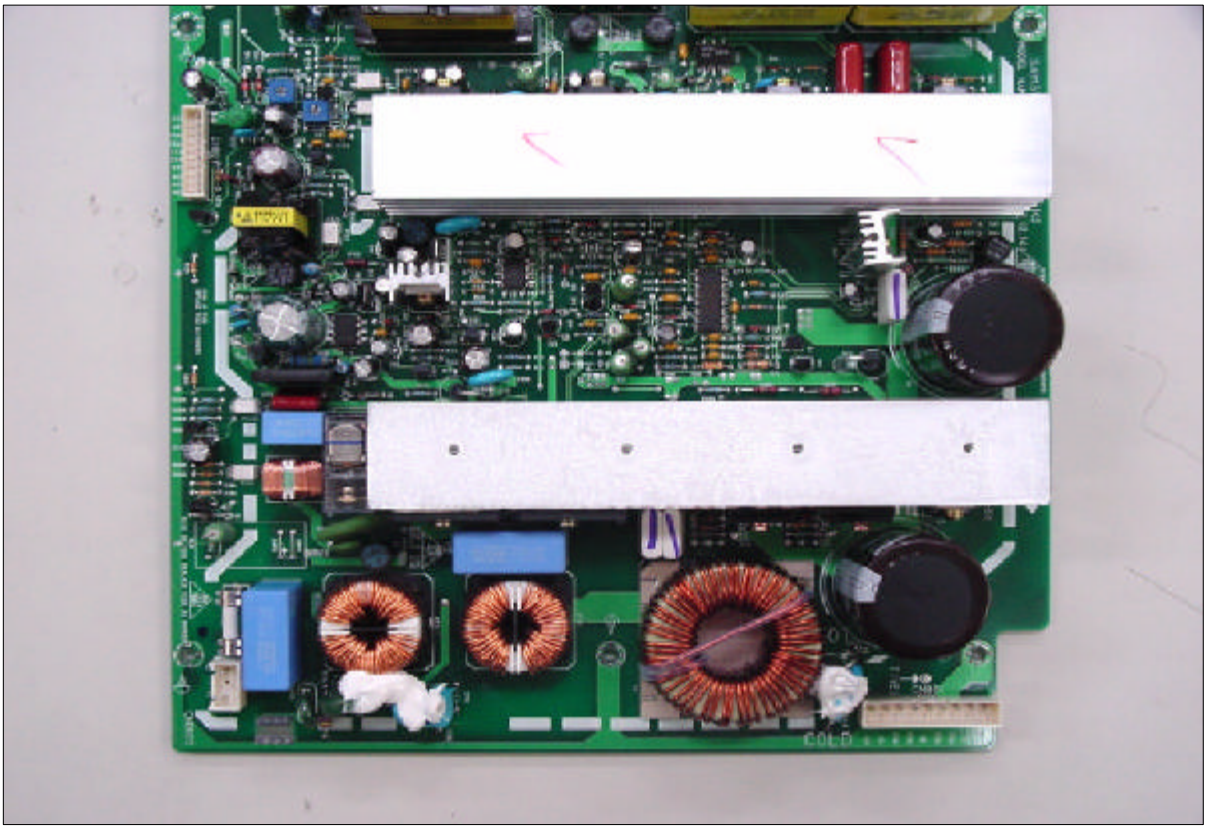
EUT Photographs

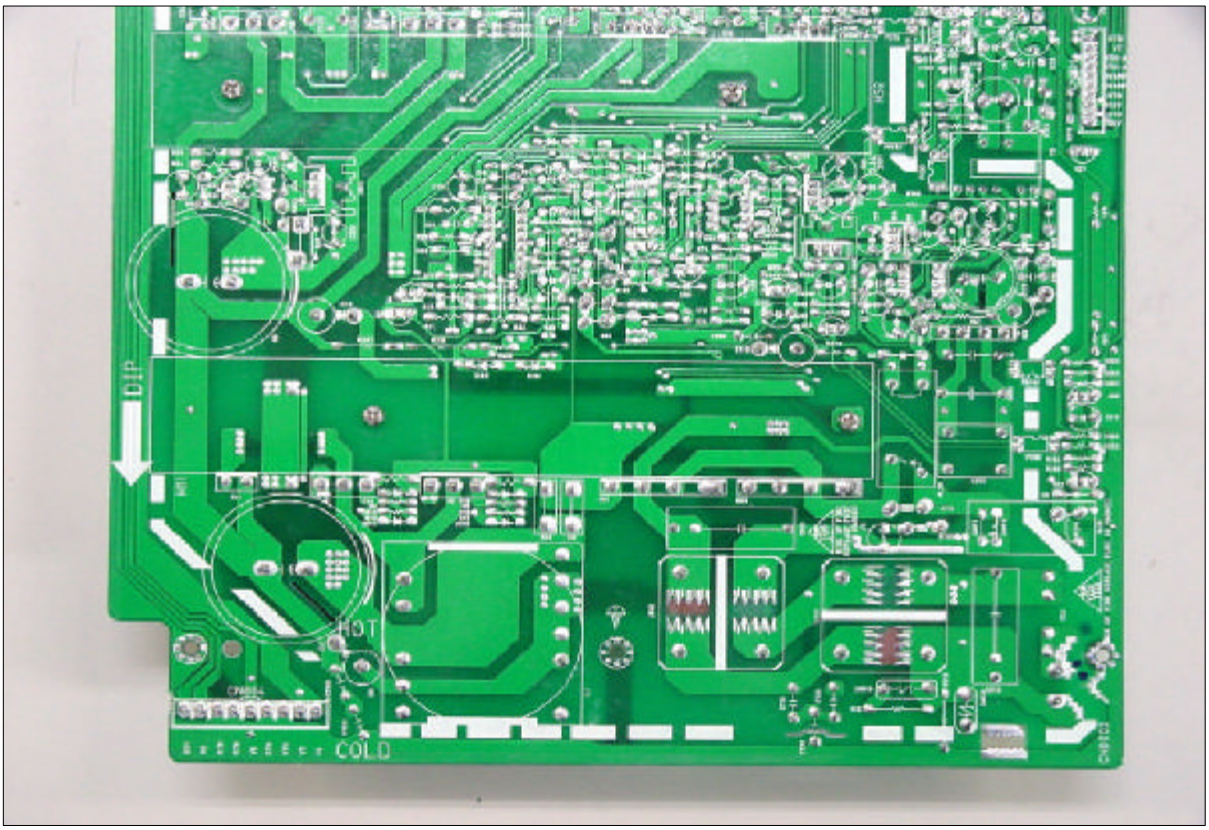
EUT Photographs



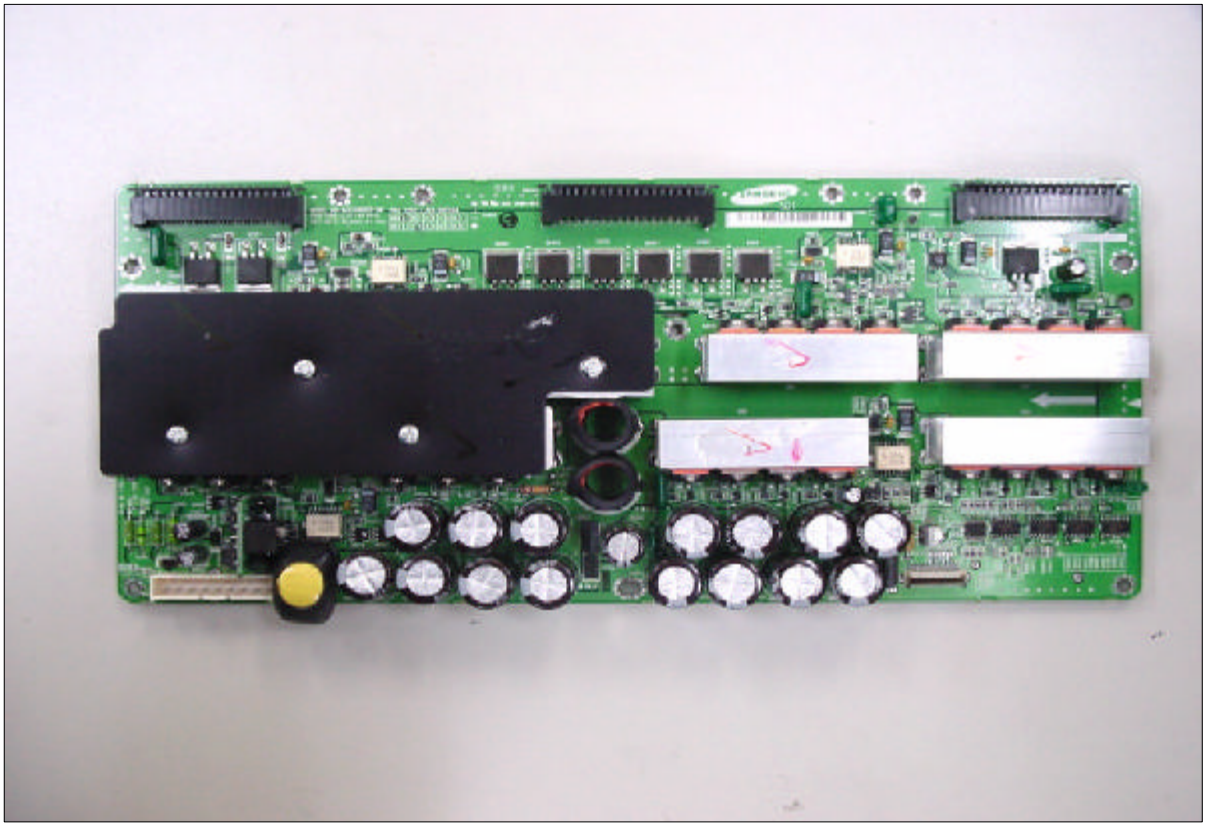


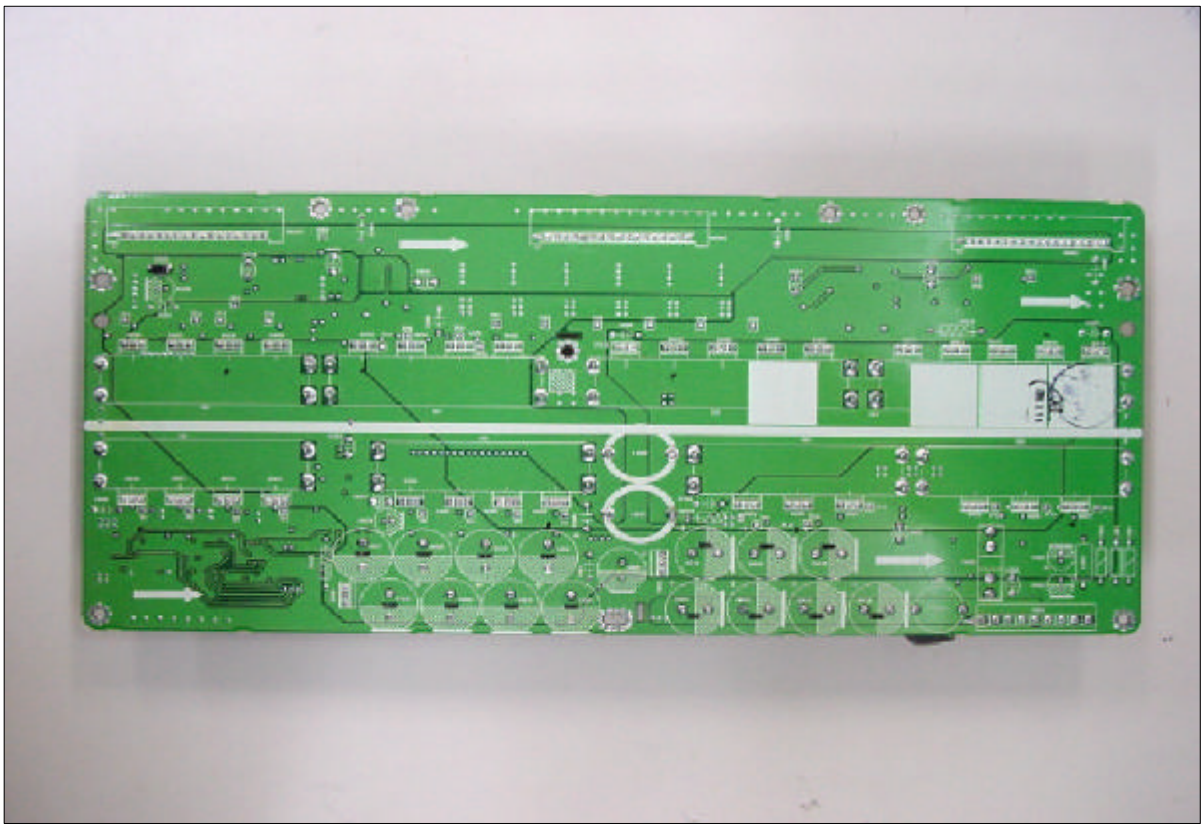
EUT Photographs



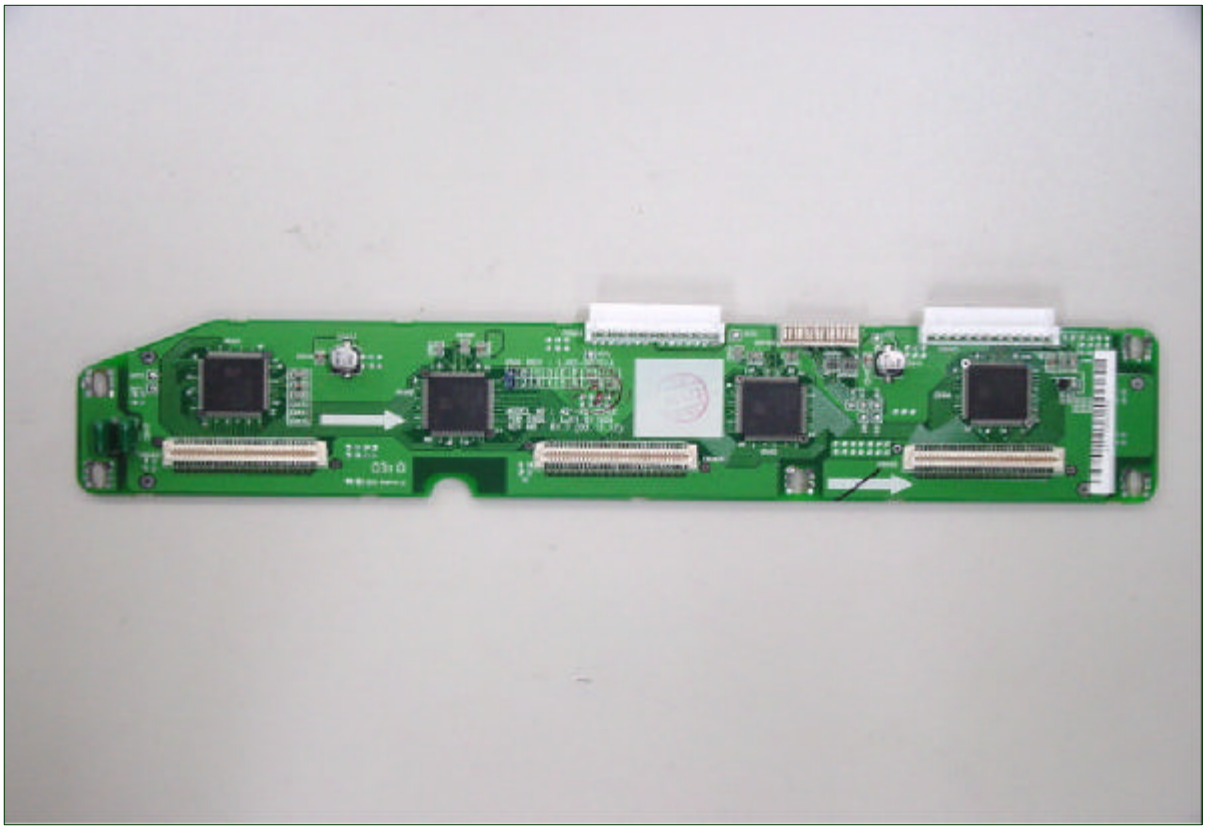


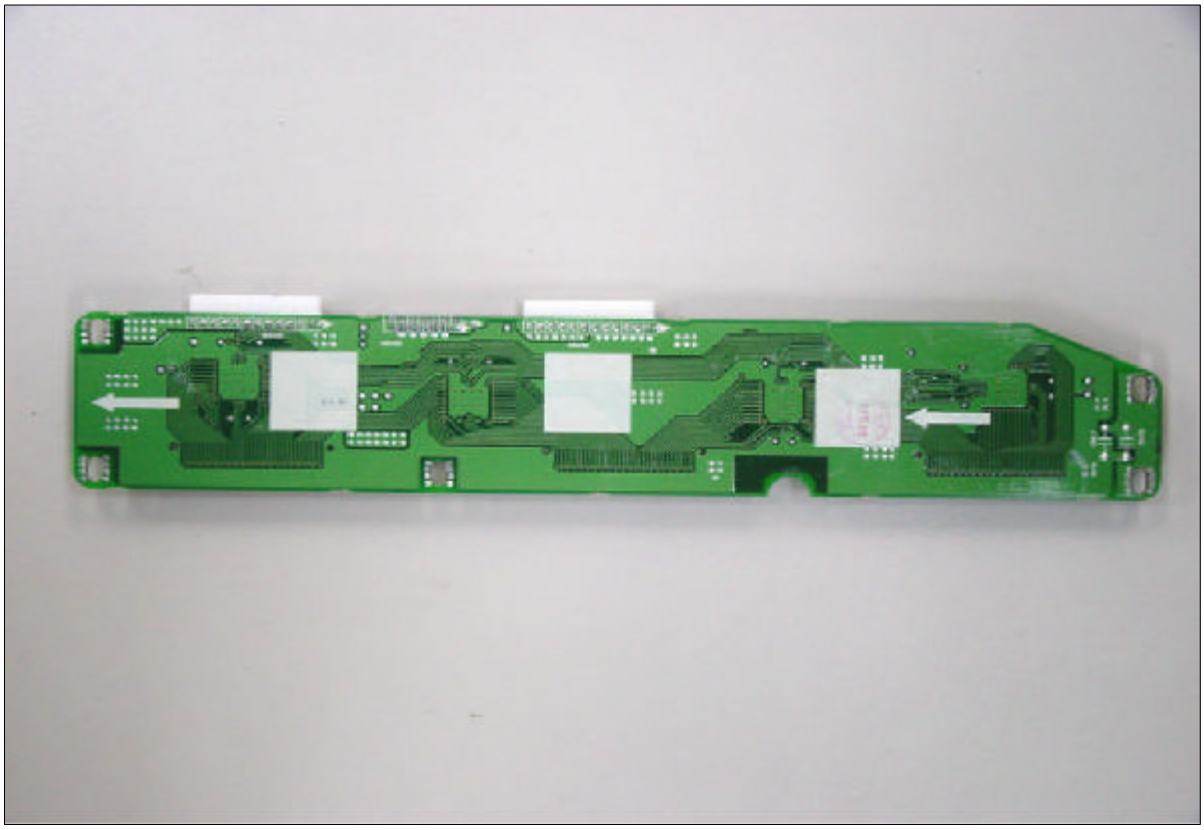
EUT Photographs



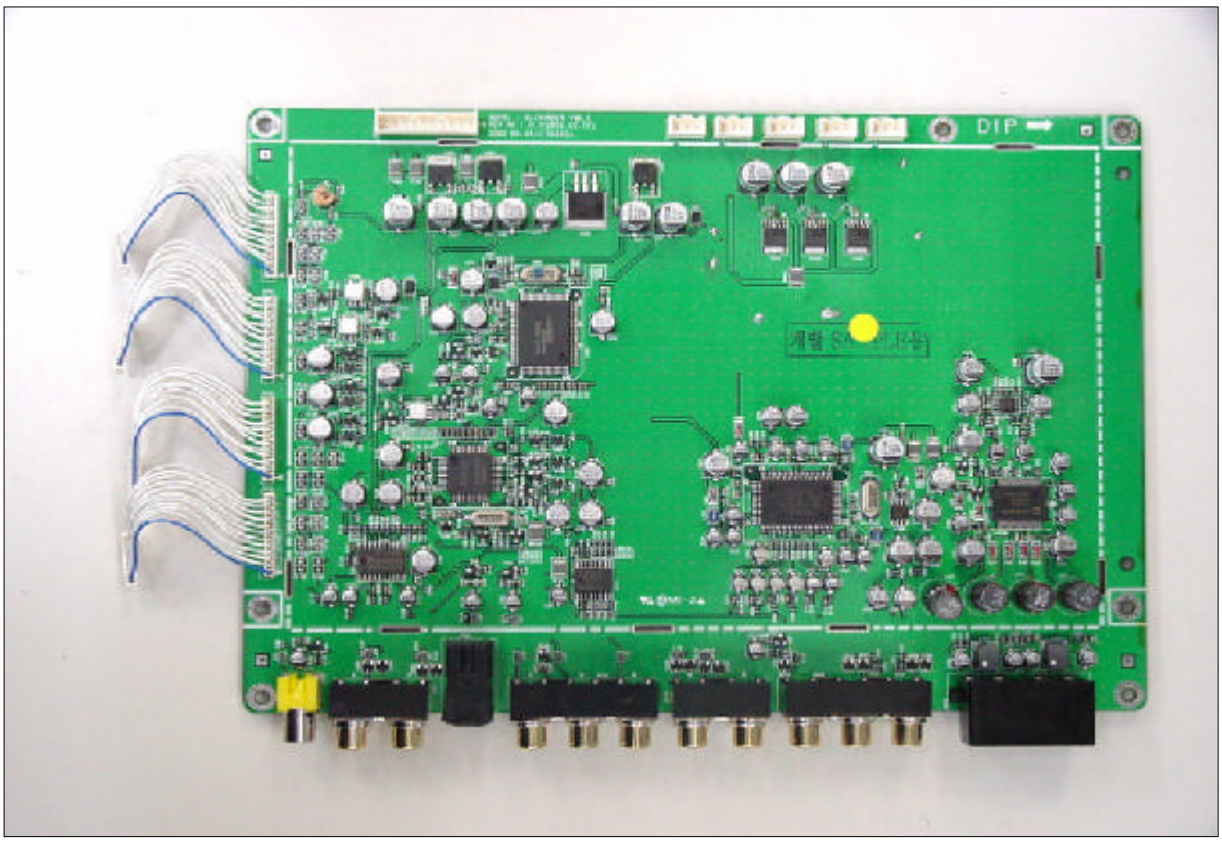


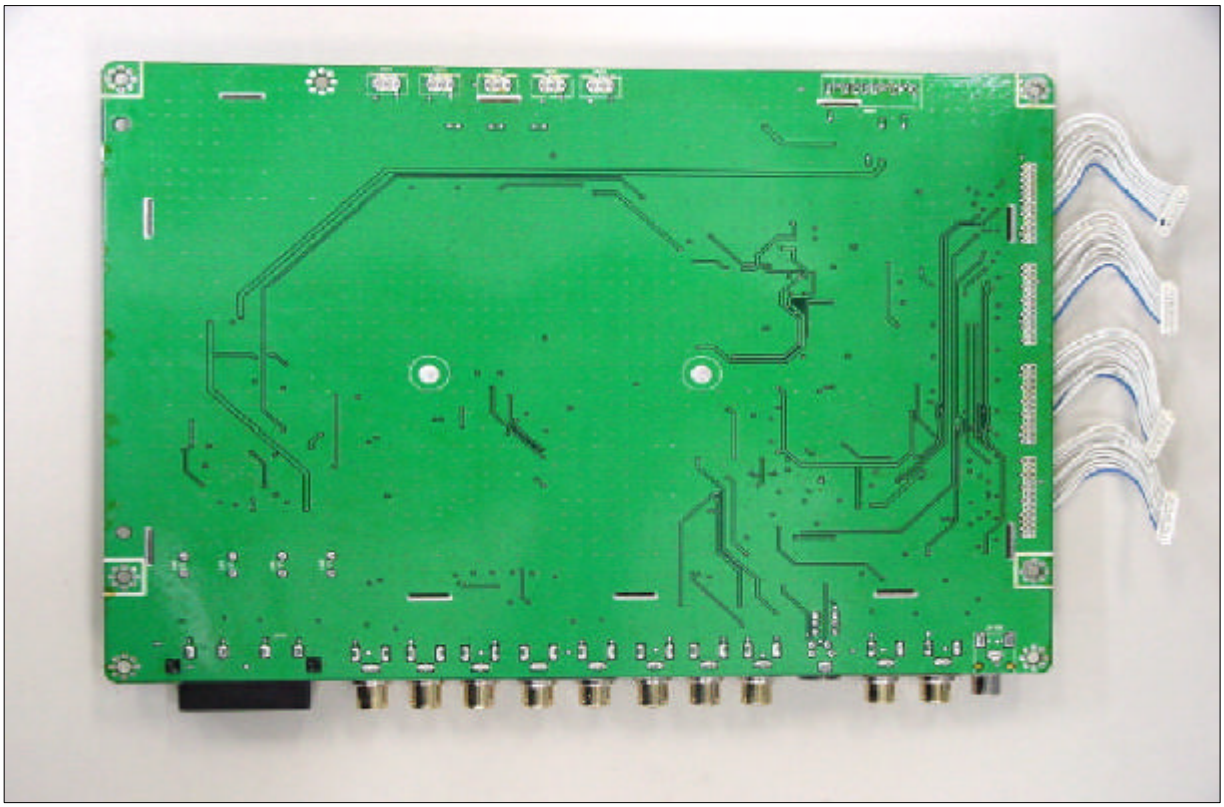
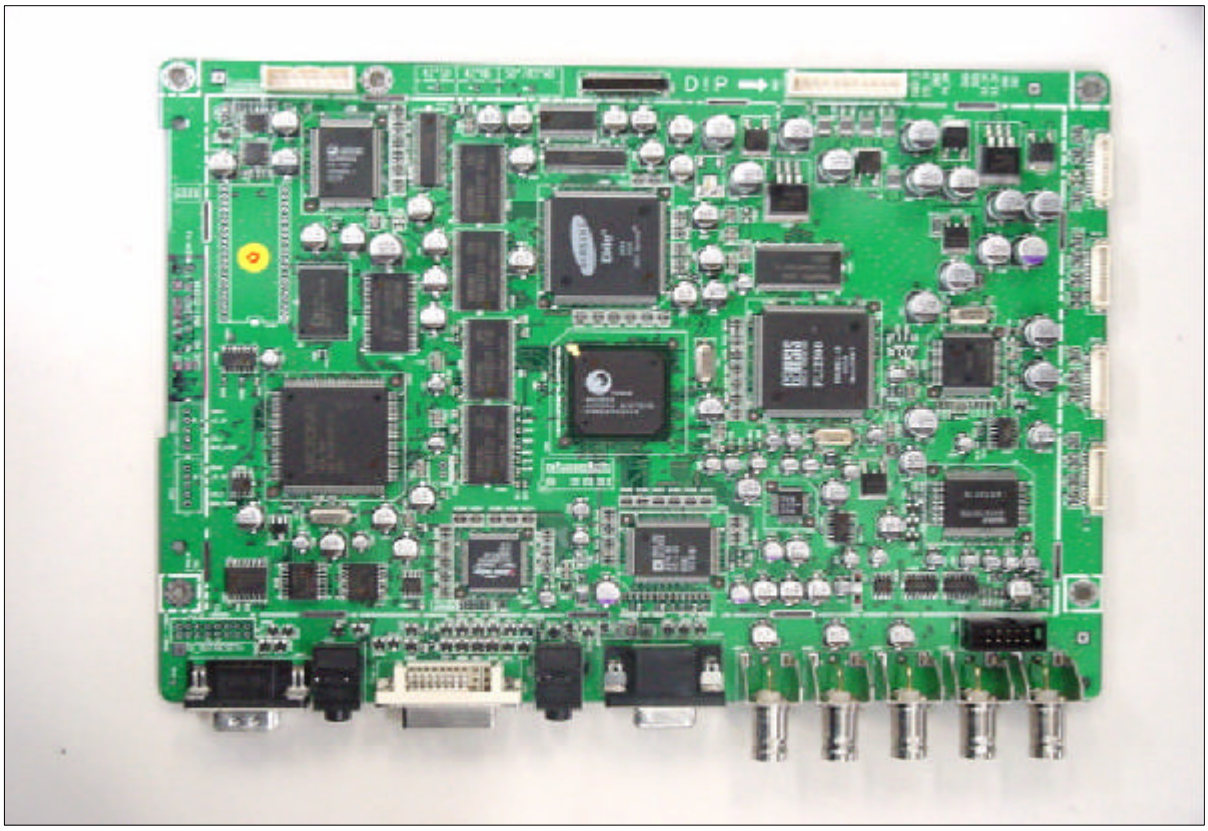
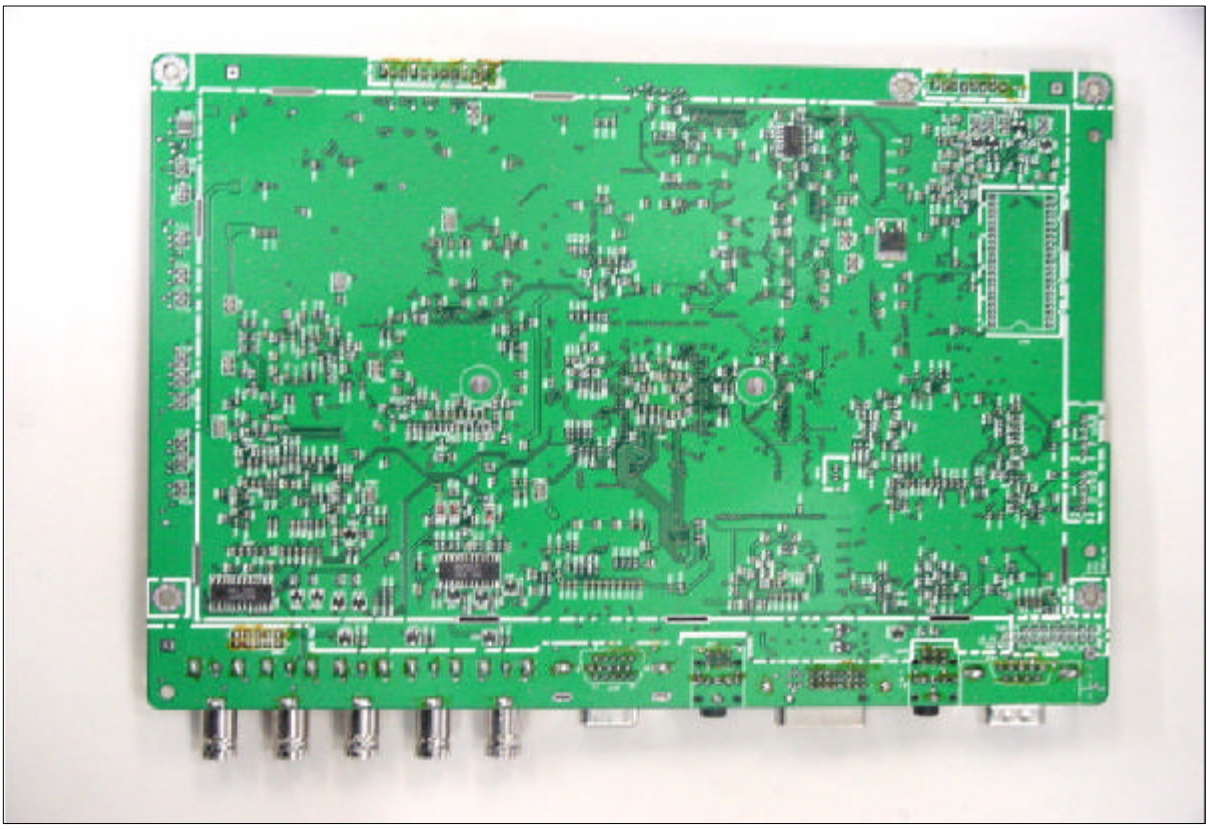
EUT Photographs





EUT Photographs





EUT Photographs