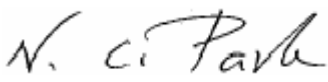


# EMC Test Report

## According to FCC Part 15 Subpart B

|                      |                                                                         |
|----------------------|-------------------------------------------------------------------------|
| Project No.          | LBE050050                                                               |
| Equipment under Test |                                                                         |
| Address              | 416 Maetan3-Dong, Yeongtong-Gu, Suwon-City, Gyeonggi-Do, Korea, 443-742 |
| Product Name         | PDP MONITOR                                                             |
| Model Name           | SR50P5                                                                  |
| Manufacturer         | Samsung Electronics Co., Ltd                                            |
| Brand Name           | SAMSUNG                                                                 |
| Variant Model        | See Page 3                                                              |
| Date of Test         | January 03 ~ 07, 2005                                                   |
| Issued Date          | January 14, 2004                                                        |

|               | Name/Position                         | Signature                                                                            |
|---------------|---------------------------------------|--------------------------------------------------------------------------------------|
| Tested by     | Dong Min, Lee<br>Test Engineer        |  |
| Reviewed by   | No Cheon, Park<br>Manager of EMC Lab. |  |
| Authorized by | Kyu Baek, Chung<br>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

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## 1. General Information

### 1.1 Basic Information related Product

|                                                      |                                                                                                       |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Applicant                                            | Samsung Electronics Co., Ltd                                                                          |
| Model name                                           | SR50P5                                                                                                |
| Applicant Address                                    | Samsung Electronics Co., Ltd 416 Maetan3- Dong, Yeongtong-Gu, Suwon-City, Gyeonggi-Do, Korea, 443-742 |
| Kind of product                                      | PDP Monitor                                                                                           |
| Valiant Model list                                   | None                                                                                                  |
| FCC ID                                               | A3LSR50P5                                                                                             |
| Manufacturer                                         | Samsung Electronics Co.,Ltd                                                                           |
| New / Alternative /<br>Permissive change Information | This report is original report #                                                                      |

### 1.2 Detail Information related Product

#### Specification

| Item(s)              | Description         |
|----------------------|---------------------|
| Model Name           | SR50P5              |
| Product Name         | PDP MONITOR         |
| Resolution           | 1024 * 768          |
| Horizontal Frequency | 48.363 ~ 60.023 KHz |
| Vertical Frequency   | 60.004 ~ 75.029 Hz  |

### **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.

## 1.5 Test Configuration

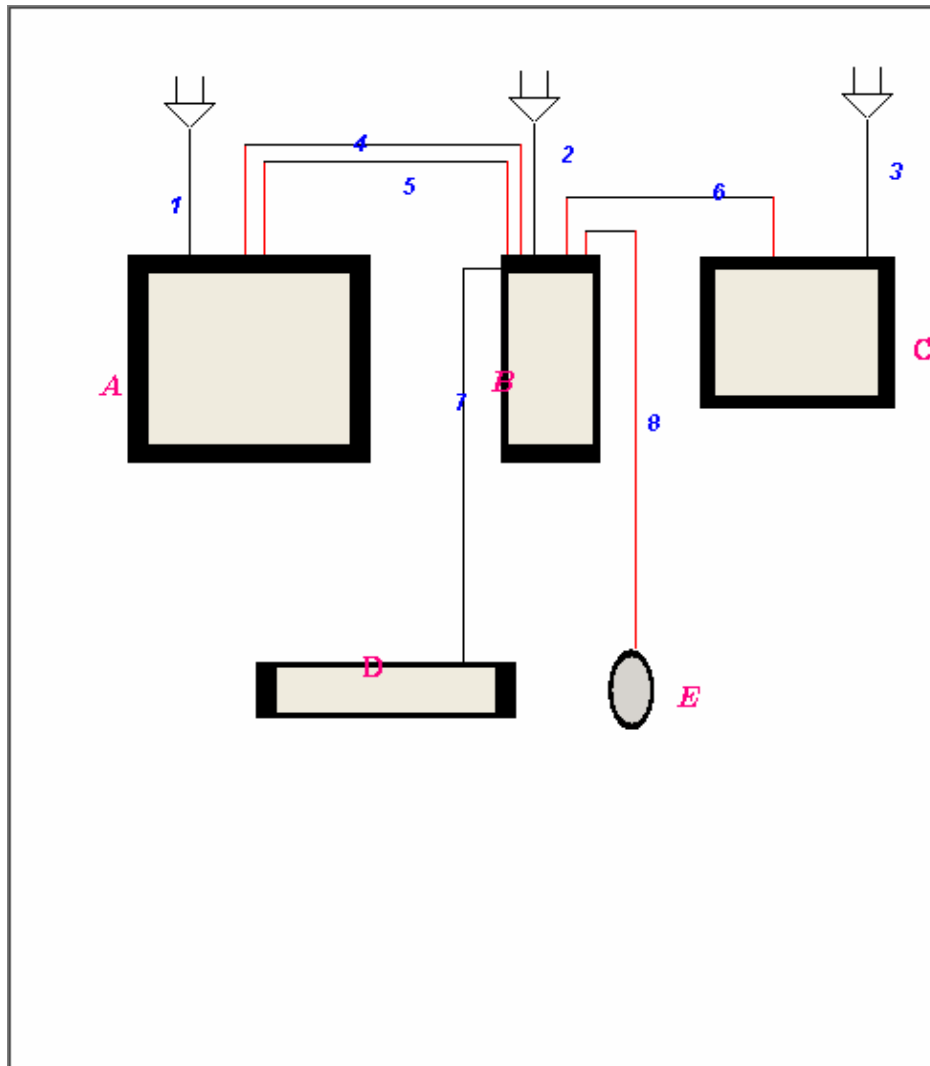
### Used EUT and Peripherals

| Seq | Device        | Model Name | Serial #       | Maker   | Note        |
|-----|---------------|------------|----------------|---------|-------------|
| A   | PDP Monitor   | SR50P5     | -              | 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      | Samsung | 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             |             |

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 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                       | $\pm 5.09$           |
| Disturbance voltage at the mains terminals | $\pm 1.64$           |

## 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     | Dong Min, Lee                                     |
|                  | Test Date         | January 05, 2005                                  |
|                  | Climate Condition | Ambient Temperature : 23℃ Relative Humidity : 37% |
|                  | Test Place        | Shield Room #5                                    |

#### Test Equipments

| Equipment            | Modal Name  | Manufacturer | Serial No. | Calibration |          |
|----------------------|-------------|--------------|------------|-------------|----------|
|                      |             |              |            | Next Date   | Interval |
| Spectrum Analyzer    | E7405A      | Agilent      | US4110272  | 2005-06-14  | 12       |
| TV Signal Generator  | PM5418-TDSI | PHILIPS      | LO612437   | 2005-09-20  | 12       |
| Signal Generator     | SMY01       | R&S          | 840703/019 | 2005-11-06  | 12       |
| L.I.S.N              | ESH3-Z5     | R&S          | 100261     | 2005-07-16  | 12       |
| Field strength meter | ESS         | R&S          | 844661     | 2005-05-31  | 12       |
| RF Relais Matrix     | PSU         | R&S          | 861206/024 | N/A         | 12       |
| L.I.S.N              | ESH3-Z5     | R&S          | 100260     | 2005-07-16  | 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.

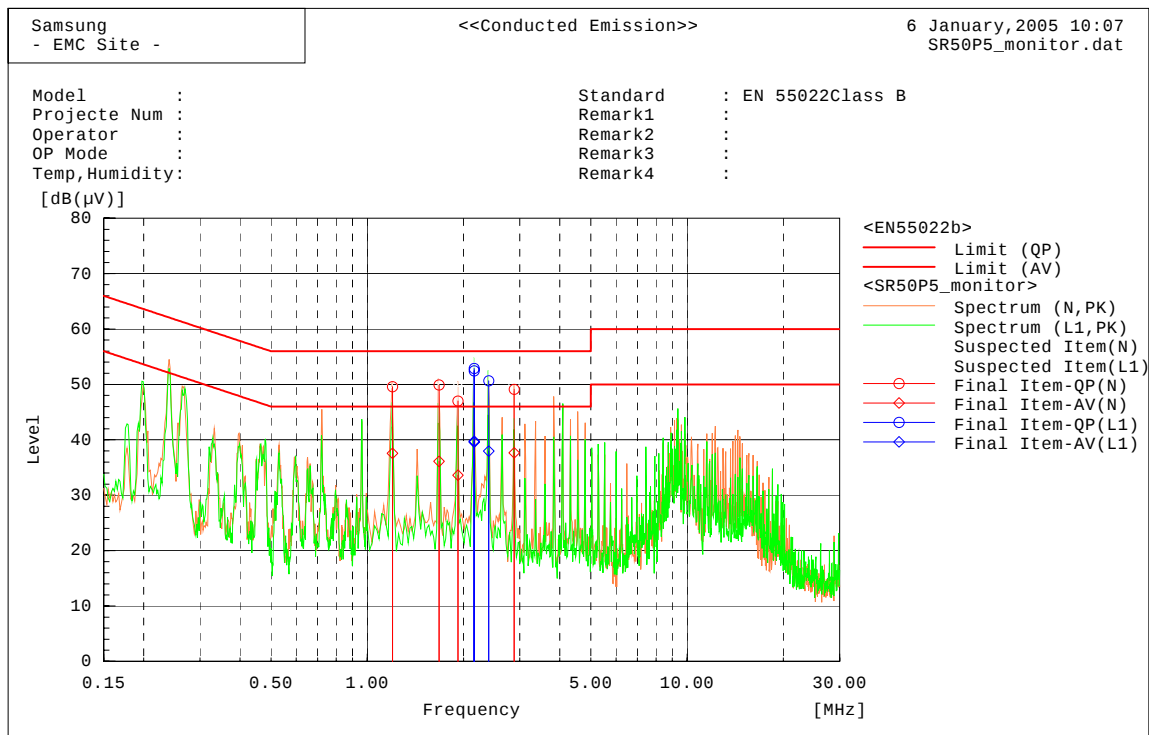
See photo..

#### Test Result

|                            |                                                                                        |
|----------------------------|----------------------------------------------------------------------------------------|
| <b>Measurement Results</b> | <p>Pass</p> <p>No Operation errors were detected during or after the applied test.</p> |
|----------------------------|----------------------------------------------------------------------------------------|

Test Data

[Graph and Data]



Final Result

--- N Phase ---

| No. | Frequency | Reading QP | Reading AV | c.f  | Result QP | Result AV | Limit QP | Limit AV | Margin QP | Margin AV |
|-----|-----------|------------|------------|------|-----------|-----------|----------|----------|-----------|-----------|
|     | [MHz]     | [dB(μV)]   | [dB(μV)]   | [dB] | [dB(μV)]  | [dB(μV)]  | [dB(μV)] | [dB(μV)] | [dB]      | [dB]      |
| 1   | 1.20047   | 49.5       | 37.5       | 0.1  | 49.6      | 37.6      | 56.0     | 46.0     | 6.4       | 8.4       |
| 2   | 1.67861   | 49.8       | 36.0       | 0.1  | 49.9      | 36.1      | 56.0     | 46.0     | 6.1       | 9.9       |
| 3   | 1.92318   | 46.9       | 33.5       | 0.1  | 47.0      | 33.6      | 56.0     | 46.0     | 9.0       | 12.4      |
| 4   | 2.88035   | 49.0       | 37.5       | 0.1  | 49.1      | 37.6      | 56.0     | 46.0     | 6.9       | 8.4       |

--- L1 Phase ---

| No. | Frequency | Reading QP | Reading AV | c.f  | Result QP | Result AV | Limit QP | Limit AV | Margin QP | Margin AV |
|-----|-----------|------------|------------|------|-----------|-----------|----------|----------|-----------|-----------|
|     | [MHz]     | [dB(μV)]   | [dB(μV)]   | [dB] | [dB(μV)]  | [dB(μV)]  | [dB(μV)] | [dB(μV)] | [dB]      | [dB]      |
| 1   | 2.16034   | 52.8       | 39.7       | 0.1  | 52.9      | 39.8      | 56.0     | 46.0     | 3.1       | 6.2       |
| 2   | 2.39974   | 50.6       | 37.9       | 0.1  | 50.7      | 38.0      | 56.0     | 46.0     | 5.3       | 8.1       |
| 3   | 2.16124   | 52.3       | 39.5       | 0.1  | 52.4      | 39.6      | 56.0     | 46.0     | 3.6       | 6.4       |

### 3.2 Radiated Emission

| Test Information |                   |                                                   |
|------------------|-------------------|---------------------------------------------------|
|                  | Test Engineer     | Dong Min, Lee                                     |
|                  | Test Date         | January 06, 2005                                  |
|                  | Climate Condition | Ambient Temperature : 23℃ Relative Humidity : 37% |
|                  | Test Place        | 10m Semi Anechoic chamber                         |

#### Test Equipments

| Equipment            | Modal Name  | Manufacturer | Serial No.    | Calibration |          |
|----------------------|-------------|--------------|---------------|-------------|----------|
|                      |             |              |               | Next Date   | Interval |
| Field strength meter | ESCS        | R&S          | 100104        | 2005-10-17  | 12       |
| RF Selector          | NS4900      | TOYO         | 0303-015      | N/A         | N/A      |
| Biconilog Antenna    | 6112B       | SCHAFFNER    | 2767          | 2005-06-03  | 12       |
| Mast Controller      | HD2000      | HD           | HD20000902027 | N/A         | N/A      |
| EMI Receiver         | ESI26       | R&S          | 100067        | 2005-01-09  | 12       |
| Test Software        | EP5RE       | TOYO         | None          | N/A         | 12       |
| TV Signal Generator  | PM5418-TDSI | PHILIPS      | LO612437      | 2005-09-20  | 12       |
| Signal Generator     | SMY01       | R&S          | 840703/019    | 2005-11-06  | 12       |
| Biconilog Antenna    | 6112B       | SCHAFFNER    | 2766          | 2005-06-03  | 12       |
| Spectrum Analyzer    | E7405A      | Agilent      | MY42000109    | 2005-11-27  | 12       |

#### EUT Test Setup

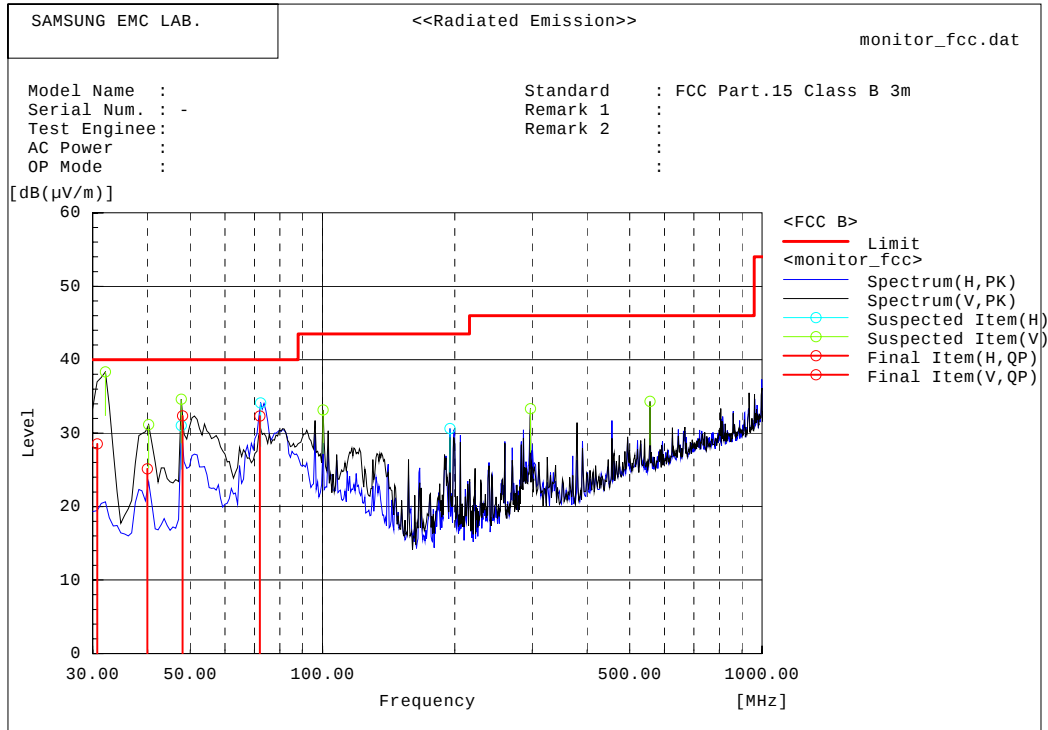
EUT set up in semi-anechoic chamber. EUT positioned at 3m from antenna in center of table.  
All ports terminated into characteristic loads.

#### Test Result

|                            |                                                                             |
|----------------------------|-----------------------------------------------------------------------------|
| <b>Measurement Results</b> | Pass<br>No Operation errors were detected during or after the applied test. |
|----------------------------|-----------------------------------------------------------------------------|

**Test Data (Other Frequency)**

■ Operating Mode : 30 ~1000 MHz



**Final Result**

--- Horizontal Polarization (QP)---

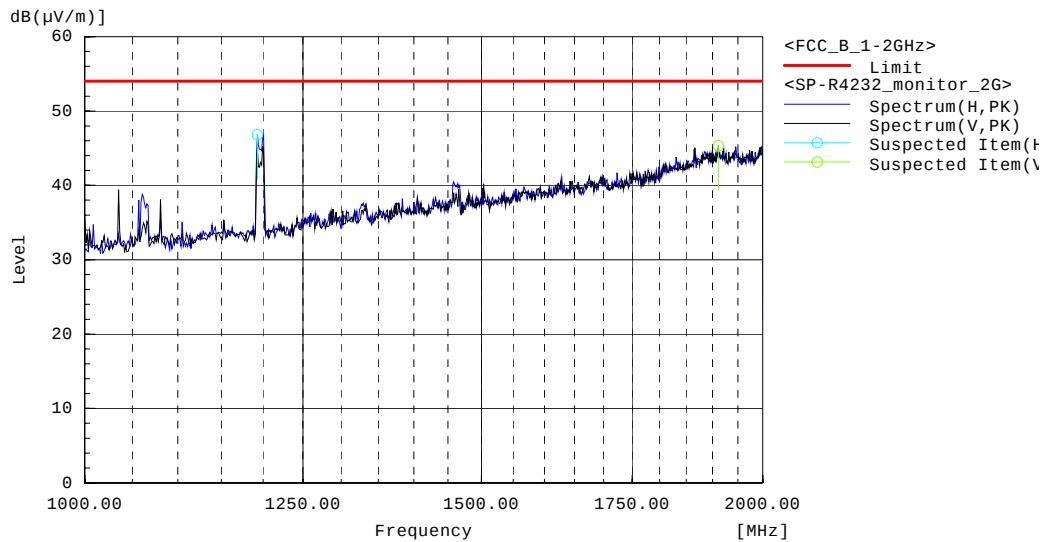
| No. | Frequency [MHz] | Reading [dB(μV)] | c.f [dB(1/m)] | Result [dB(μV/m)] | Limit [dB(μV/m)] | Margin [dB] | Remark |
|-----|-----------------|------------------|---------------|-------------------|------------------|-------------|--------|
| 1   | 72.005          | 52.0             | -19.7         | 32.3              | 40.0             | 7.7         |        |

--- 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   | 39.936          | 38.3             | -13.2         | 25.1              | 40.0             | 14.9        |        |
| 2   | 48.002          | 49.3             | -16.9         | 32.4              | 40.0             | 7.7         |        |
| 3   | 30.722          | 36.9             | -8.4          | 28.5              | 40.0             | 11.5        |        |

■ Operating Mode : 1 ~ 2GHz

Model : Standard : FCC Part.15 Class B 3m  
Serial : - Project Num :  
Operator : OP Mode :  
AC Power : Remark3 :  
Temp, Humidity Remark4 :



#### Spectrum Selection

--- Horizontal Polarization ---

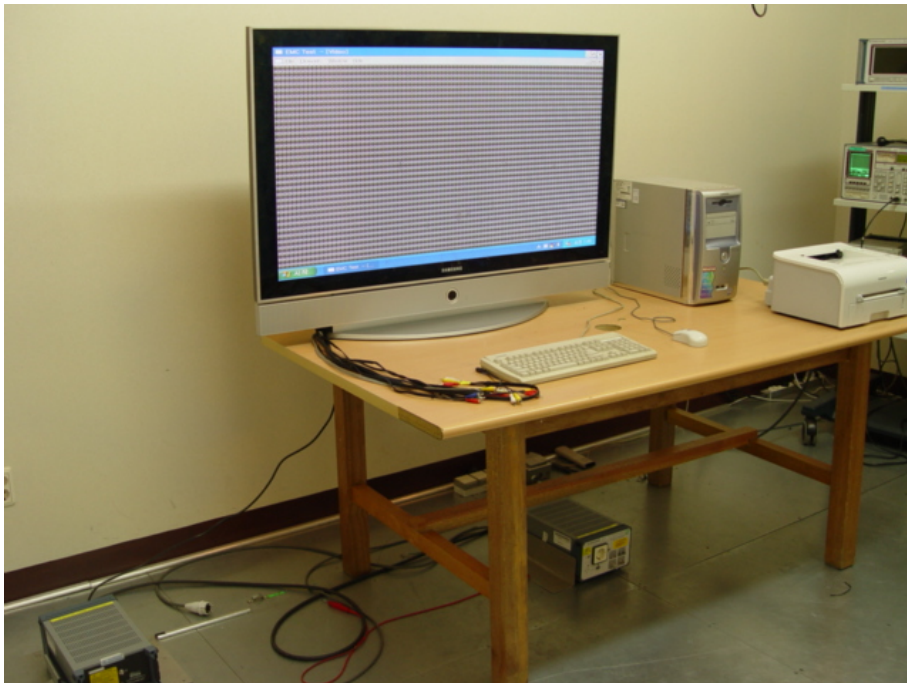
| No. | Frequency | Reading  | c.f       | Result<br>PK | Limit      | Margin | Remark |
|-----|-----------|----------|-----------|--------------|------------|--------|--------|
|     | [MHz]     | [dB(μV)] | [dB(1/m)] | [dB(μV/m)]   | [dB(μV/m)] | [dB]   |        |
| 1   | 1193.163  | 39.0     | 7.8       | 46.8         | 54.0       | 7.2    |        |

--- Vertical Polarization ---

| No. | Frequency | Reading  | c.f       | Result<br>PK | Limit      | Margin | Remark |
|-----|-----------|----------|-----------|--------------|------------|--------|--------|
|     | [MHz]     | [dB(μV)] | [dB(1/m)] | [dB(μV/m)]   | [dB(μV/m)] | [dB]   |        |
| 1   | 1911.575  | 23.8     | 21.5      | 45.3         | 54.0       | 8.7    |        |

## 4. Appendix A

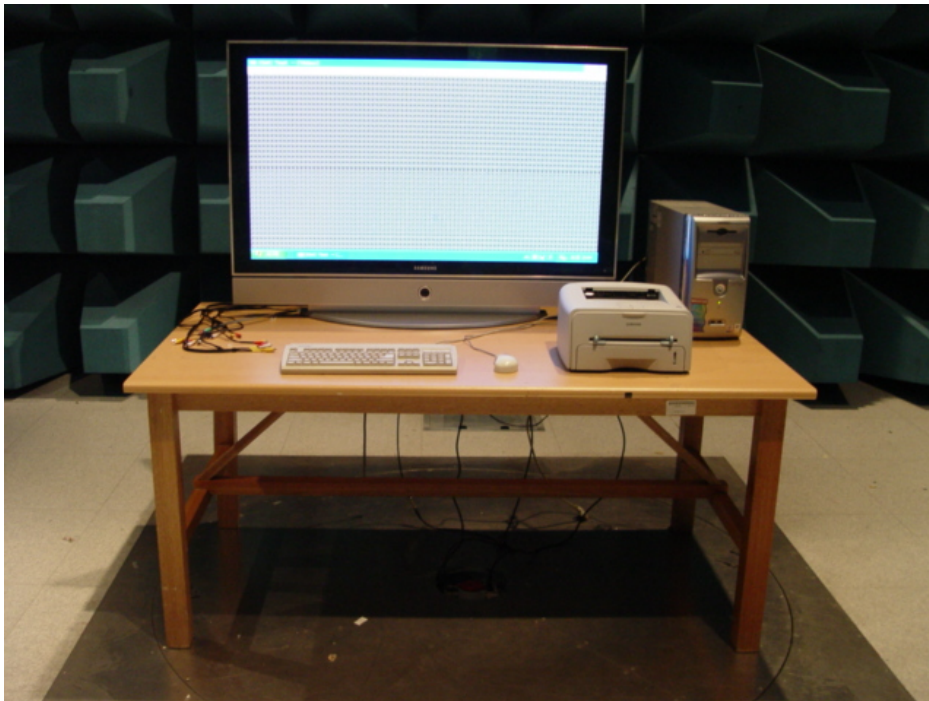
### 4.1 Test Photography



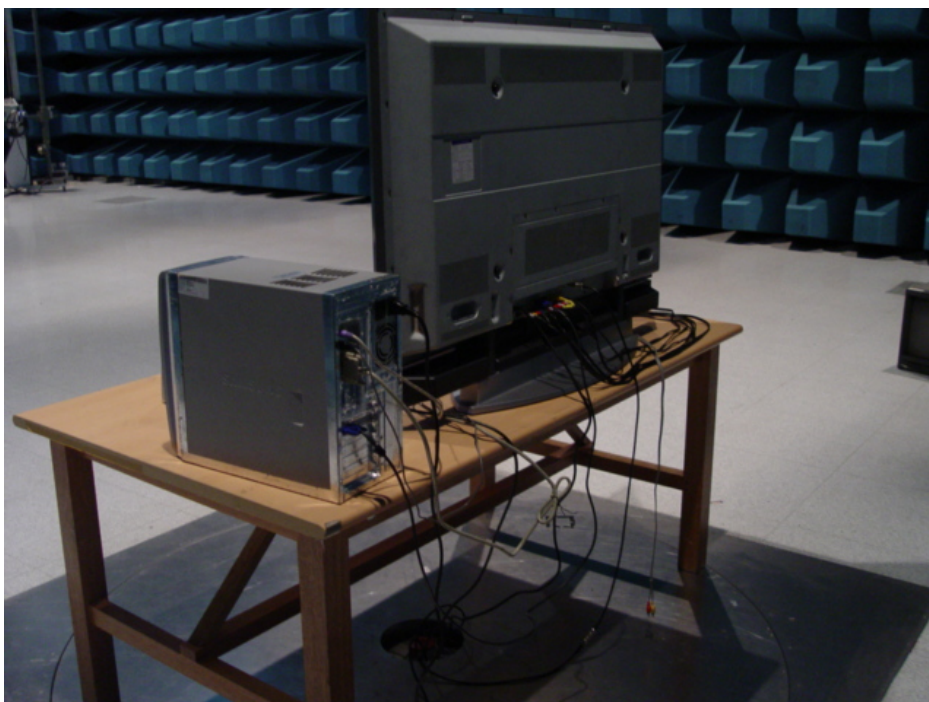
Picture 1. Conducted Emission (Front)



Picture 2. Conducted Emission (Side)



Picture 3. Radiated Emission (Front)



Picture 4. Radiated Emission (Rear)

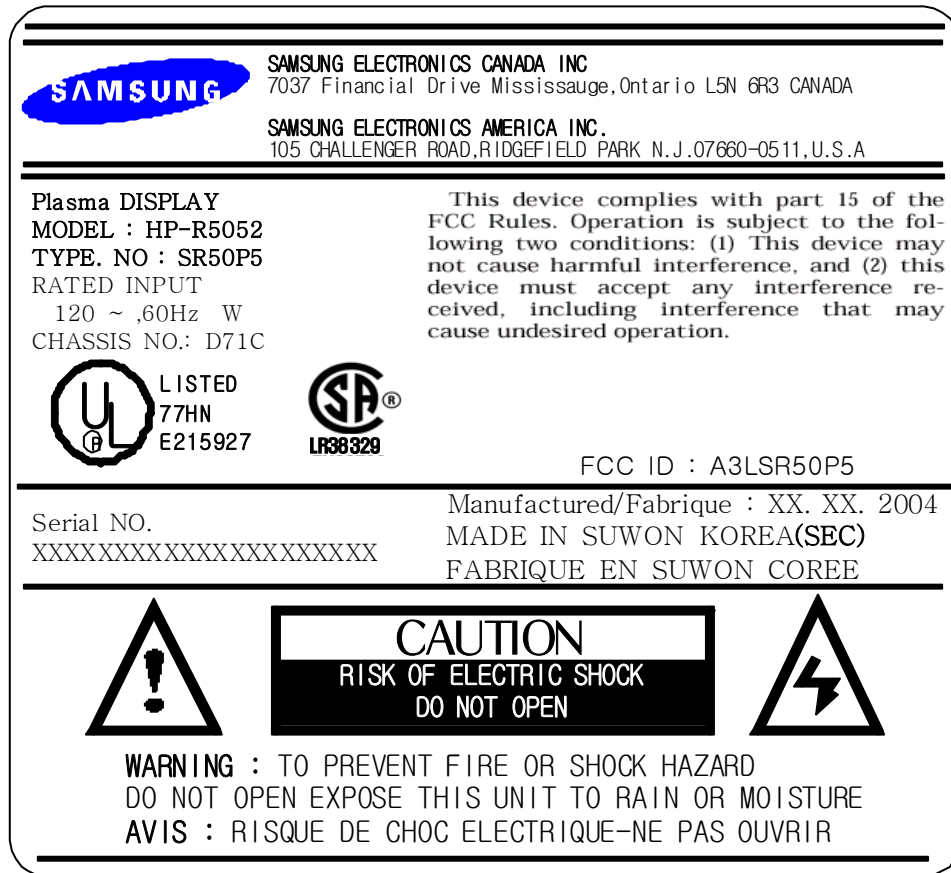
## 4.2 EUT Photography



Picture 5. EUT (Front)



Picture 6. EUT (Rear)



Picture 7. Label