



UL Korea, Ltd

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|          |                 |
|----------|-----------------|
| Project: | 07C31821        |
| File:    | TC8312          |
| Report   | 07CA31821-FCC   |
| Date:    | August 30, 2007 |
| Model:   | FS-L4202D       |

# Electromagnetic Compatibility Test Report

## FCC Certification Part 15 Subpart B Class B

### For

**D&T Inc.**  
**Daedeok Valley, 60-1, jang Dong, Yuseong Gu, Daejeon,**  
**305-343, Korea**

**UL Korea Ltd.**

**33rdFl. Gangnam finance Center, 737 Yeoksam-Dong, Kangnam-Gu, Seoul, 135-984, Korea**  
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quality service for over 100 years**

Project Number: 07CA31821 File Number TC8312 Test Report No: 07CA31821-02-FCC  
Model Number: FS-L4202D Date of Issue: August 29, 2007

## TEST REPORT DETAILS

Test Report No: 07CA31821-02-FCC  
Tests Performed By: UL Korea Ltd.  
33<sup>rd</sup> FL. Gangnam Finance Center, 737 Yeoksam-dong,  
Kangnam-ku, Seoul, 135-984, Korea

Test site: BWS TECH Inc.  
611-1, Maesan-ri, Mohyeon-myeon, Yongin-si, Gyeonggi-do  
449-853, Korea  
Registration No: 553281

Tests Performed For: D&T Inc.  
Daedeok Valley, 60-1, jang Dong, Yuseong Gu, Daejeon,  
305-343, Korea

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Test Report Number: 07CA31821-FCC  
Test Report Date: August 29, 2007

Product Type: LCD Monitor

Product standards: FCC Part 15 Subpart B Class B

Model Number: FS-L4202D  
FCC ID: THCFS-L4202D

Sample Serial Number: None (Proto type)

Sample Receive Date: July 16, 2007

Testing Start Date: July 19, 2007

Date Testing Complete: August 29, 2007

**Overall Results: PASS**

UL Korea Ltd. reports apply only to the specific samples tested under stated test conditions. All samples tested were in good operating condition throughout the entire test program. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. UL Korea Ltd. shall have no liability for any deductions, inferences or generalizations drawn by the client or others from UL Korea Ltd. issued reports.

## TEST SUMMARY

### Test Result

| Requirement – Test                       | Reference standards           | Verdict  |
|------------------------------------------|-------------------------------|----------|
| Conducted Disturbance at the mains ports | FCC Part 15 Subpart B Class B | Complied |
| Radiated Disturbance                     |                               | Complied |

Remark: Modifications to EUT required for compliance

- See Clause 6 of this report for modification details required for Radiated Disturbance

The tests listed in the Summary of Testing section of this report have been performed and the results recorded by UL Korea, Ltd. in accordance with the procedures stated in each test requirement and specification. The applicant determined the list of tests performed were applicable to the Equipment Under Test. As a result, the subject product has been verified to comply or not comply as noted in the Summary of Testing with each test specification. The test results relate only to the items tested.

The equipment under test has

- ☒ met the technical requirements  
☐ not met the technical requirements



Tested by  
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Conformity Assessment Services - 3014ASEO  
UL Korea Ltd.  
August 29, 2007



Reviewed by  
Kyung Yong, Kim, Senior Project Engineer  
Conformity Assessment Services - 3014ASEO  
UL Korea Ltd.  
August 30, 2007

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## 1. EQUIPMENT UNDER TEST (EUT)

### 1.1 Equipment Description Specification

|                   |                                  |                                                                                                                                    |
|-------------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| LCD Panel         | Type                             | TFT-LCD                                                                                                                            |
|                   | Screen Size                      | 42 Inch                                                                                                                            |
|                   | Maximum Resolution               | 1920 X 1080 @ 60Hz                                                                                                                 |
|                   | Pixel pitch                      | 0.270(H) mm * 0.270(V) mm                                                                                                          |
|                   | Display Colors                   | 16.7 M                                                                                                                             |
|                   | Contrast Ratio                   | 1000:1                                                                                                                             |
|                   | Viewing Angle                    | 89° / 89° / 89° / 89°                                                                                                              |
|                   | Response Time                    | 10msec(Rising + Falling)                                                                                                           |
|                   | Luminance                        | 500 cd/m²                                                                                                                          |
| Synchronization   | Horizontal Frequency             | 30 KHz~75 KHz                                                                                                                      |
|                   | Vertical Frequency               | 50 Hz~75 Hz                                                                                                                        |
| Power Consumption | Maximum                          | Max 260 W                                                                                                                          |
|                   | Standby Mode                     | Under 20 W                                                                                                                         |
| Control Key       | Front side                       | INPUT, -, +, ▲, ▼, PIP, MENU, POWER                                                                                                |
| Input Signal      | Video                            | 1XDVI, 1XOptical DVI, 1XD-SUB, 1XBNC (CVBS)<br>2XBNC (SVHS Y/C), 1XBNC (SDI), 5XBNC<br>(Component Y/G, Pb/B, Pr/R, H/CS, VS Input) |
| Out Signal        | Video                            | 1XDVI, 1XBNC (SDI)                                                                                                                 |
| Input power       | AC 100-230 V~, 50-60 Hz, 3 A Max |                                                                                                                                    |
| Dimension         | Size and Weight                  | 1024.6 X 617.4 X 111.1(mm)/ 29 Kg                                                                                                  |

| Output Signal | SDI Video format Description                                                      |
|---------------|-----------------------------------------------------------------------------------|
| SMPTE-274M    | 1080i (60 / 59.94 / 50)<br>1080p (30 / 29.97 / 25 / 24 / 24sF / 23.98 / 23.98 sF) |
| SMPTE-296M    | 720p (60 / 59.94 / 50)                                                            |
| SMPTE-260M    | 1035i (60 / 59.94)                                                                |
| ITU-R BT.656  | 576i (50)                                                                         |

## 1.2 Equipment Marking Plate



### 1.3 Equipment Used During Test

| Use* | Product Type                          | Manufacturer      | Model                    |
|------|---------------------------------------|-------------------|--------------------------|
| EUT  | LCD Monitor                           | D&T Inc.          | FS-L4202D                |
| AE   | Video card                            | REX TECHNOLOGY    | FX6200A                  |
| AE   | Key board                             | YETFOUNDATE       | SK-2880                  |
| AE   | Serial mouse                          | SAMSUNG           | SMOP5000WX               |
| AE   | Mouse                                 | N/A               | ZOM-1400X                |
| AE   | Joy stick                             | MICROSOFT         | Side Winder Game Pad USB |
| SIM  | SUPER SACAN CONVERTER (SDI Generator) | ASTRODESIGN, Inc. | SC-2055A                 |
| AE   | PC                                    | HP                | d530                     |
| AE   | LCD Monitor                           | D&T Inc.          | FS-L2401D                |
| AE   | AC/DC Adaptor                         | AULT KOREA.CORP.  | JMW1150K2400F04          |

\* Note: **EUT** - Equipment Under Test, **AE** - Auxiliary/Associated Equipment, **SIM** - Simulator (Not Subjected to Test)

### 1.4 EUT Input/Output Ports

| Port # | Name        | Type* | Cable Max. >3m | Cable Shielded | Comments      |
|--------|-------------|-------|----------------|----------------|---------------|
| 1      | DVI Out     | I/O   | 1.8            | Shielded       | 24 pin DVI-D  |
| 2      | DVI In      | I/O   | 4.6            | Shielded       | 24 pin DVI-D  |
| 3      | VGA         | I/O   | 1.8            | Shielded       | 15 pin D-Sub  |
| 4      | SDI-In      | I/O   | 4.6            | Shielded       | BNC           |
| 5      | SDI-Out     | I/O   | 1.8            | Shielded       | BNC           |
| 6      | Optical     | N/E   | 20.0           | Unshielded     | 4 pin Optical |
| 7      | RGBS (CVBS) | I/O   | 1.8            | Shielded       | 5 port BNC    |
| 8      | S-Video     | I/O   | 1.8            | Shielded       | BNC           |
| 9      | C-Video     | I/O   | 1.8            | Shielded       | BNC           |
| 10     | Mains       | AC    | 1.8            | Unshielded     |               |

Note:

\*AC = AC Power Port                      DC = DC Power Port                      N/E = Non-Electrical

I/O = Signal Input or Output Port (Not Involved in Process Control)

TP = Telecommunication Ports

\* RS-232 port is used for service purpose only. No user interface port

### 1.5 EUT Internal Operating Frequencies:

| Frequency (MHz) | Description  | Frequency (MHz) | Description  |
|-----------------|--------------|-----------------|--------------|
| 27.000 MHz      | DVI clock    | 154.000 MHz     | Panel clock  |
| 28.322 MHz      | System clock | 192.000 MHz     | Memory clock |

## 1.6 Power Interface:

| Mode # | Voltage (V) | Current (A) | Power (W) | Frequency (DC/AC-Hz) | Phases (#) | Comments                |
|--------|-------------|-------------|-----------|----------------------|------------|-------------------------|
| Rated  | AC 100-240  | 3.0         |           | 50~60                | Single     | Rating of AC/DC Adapter |
| 1      | AC 120      |             |           | 60Hz                 | Single     |                         |

## 2. EUT Operation Modes:

### 2.1 Modes of Testing

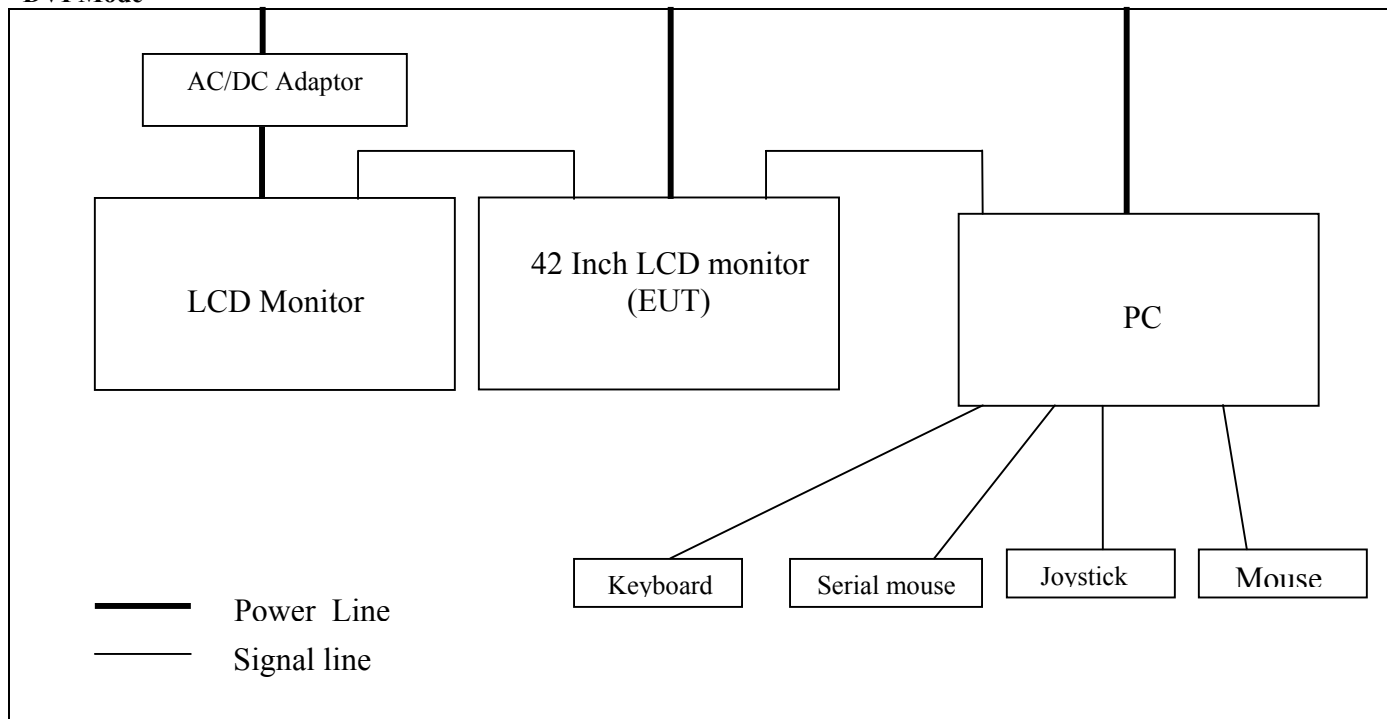
|                                                                                                                                                                                                                                                                                                                                                                                                                                      | Mode             | Comment              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------|
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                    | DVI Mode         | Worst case condition |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                    | Optical DVI Mode |                      |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                    | D-Sub Mode       |                      |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                    | SDI Mode         | Worst case condition |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                    | RGBS Mode        |                      |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                    | C-VIDEO Mode     |                      |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                    | S-VIDEO Mode     |                      |
| <b>Note</b><br>1. Emission testing have been performed under continuous displaying "H" Patten for configuration modes of 1,2,3<br>2. Emission testing have been performed under continuous displaying "Color Bar" Patten for configuration modes of 4,5,6,7<br>3. All the configuration described above have been investigated during the preliminary testing and selected two cases as worst case condition for final measurements. |                  |                      |

### 2.2 Modes of Video resolution

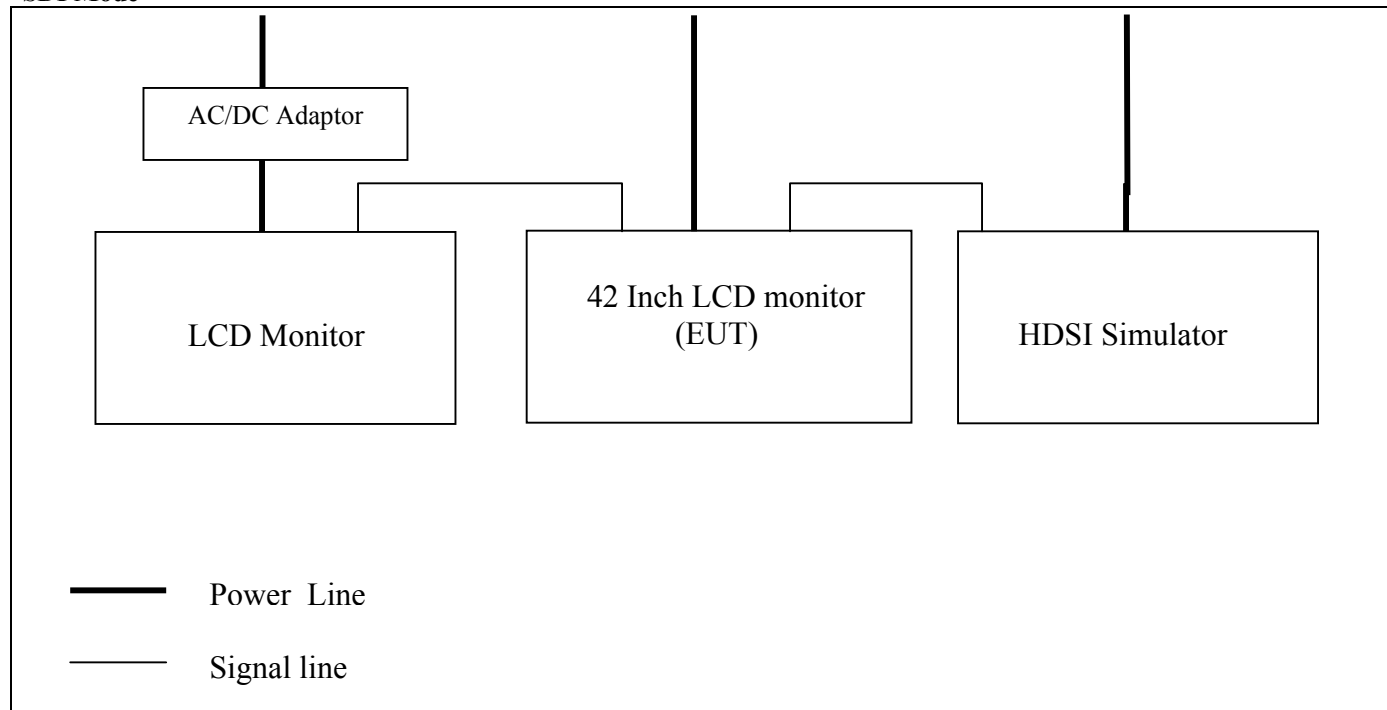
|                                                                                             | Resolution         | Comment  |
|---------------------------------------------------------------------------------------------|--------------------|----------|
| 1                                                                                           | 1024 * 768 @ 75Hz  | DVI mode |
| 2                                                                                           | 1920 * 1080 @ 60Hz | DVI mode |
| 3                                                                                           | SMPTE 296M         | SDI mode |
| <b>Note</b><br>1. Video resolution where it refers from above are representative worst case |                    |          |

### 3. EUT Configurations:

#### DVI Mode



#### SDI Mode

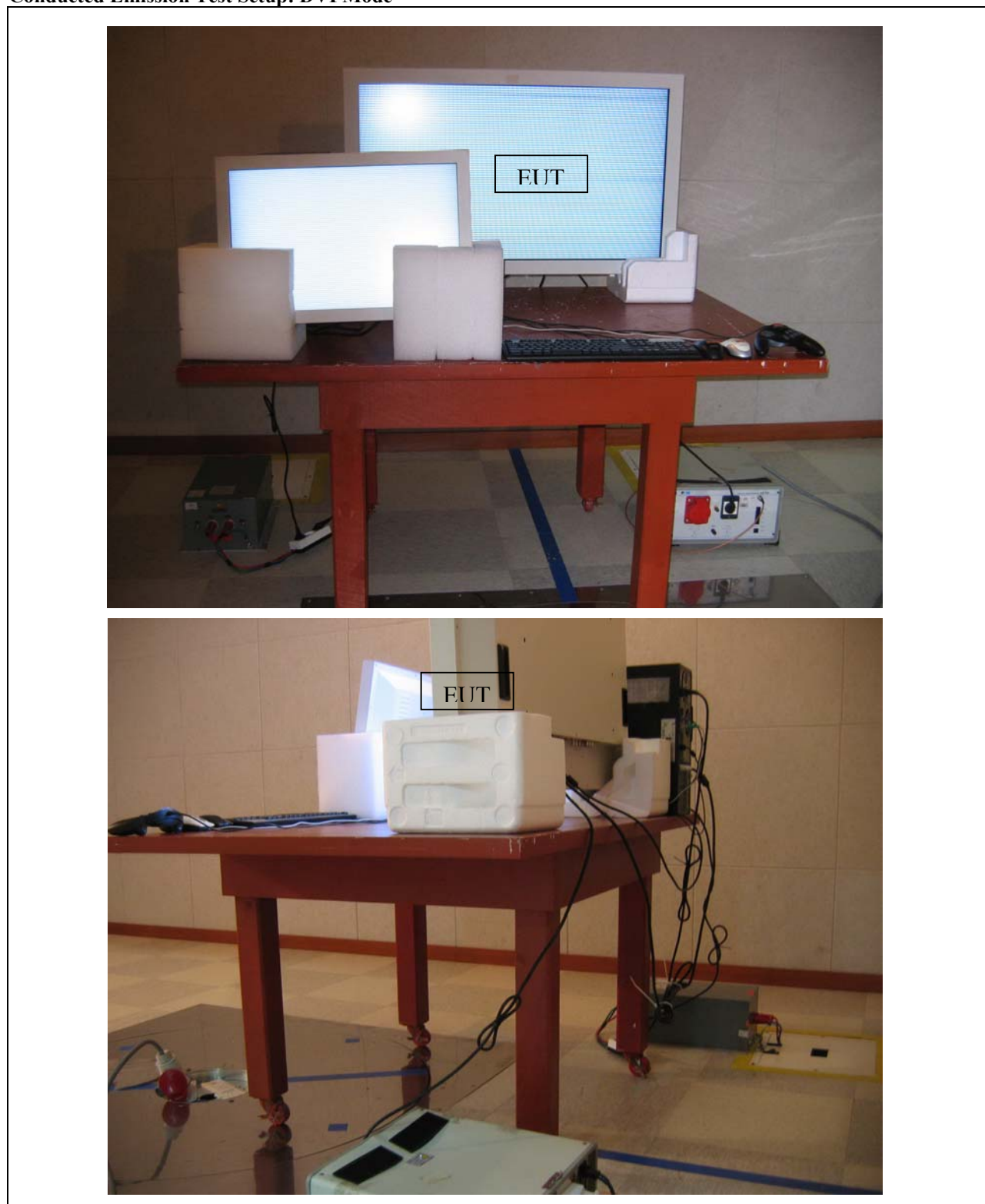


#### 4. CONDUCTED EMISSION

|                                                                    |                                                                                                                                                                                                                                                                                  |                                      |          |                   |   |
|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----------|-------------------|---|
|                                                                    | <b>TEST:</b> Limits of mains terminal disturbance voltage                                                                                                                                                                                                                        |                                      |          |                   |   |
| Method                                                             | Measurements were made on a ground plane that extends 1-meter minimum beyond all sides of the system under test. All power was connected to the system through Artificial Mains Network (AMN). Conducted voltage measurements on mains lines were made at the output of the AMN. |                                      |          |                   | — |
| Parameters required prior to the test                              |                                                                                                                                                                                                                                                                                  | Laboratory Ambient Temperature       |          | 10 to 40 °C       |   |
|                                                                    |                                                                                                                                                                                                                                                                                  | Relative Humidity                    |          | 10 to 90 %        |   |
| Parameters recorded during the test                                |                                                                                                                                                                                                                                                                                  | Laboratory Ambient Temperature       |          | 22 °C             |   |
|                                                                    |                                                                                                                                                                                                                                                                                  | Relative Humidity                    |          | 40 %              |   |
|                                                                    |                                                                                                                                                                                                                                                                                  | Frequency range on each side of line |          | Measurement Point |   |
| Fully configured sample scanned over the following frequency range |                                                                                                                                                                                                                                                                                  | 150 kHz to 30 MHz                    |          | Mains             |   |
| Limits – Class A                                                   |                                                                                                                                                                                                                                                                                  |                                      |          |                   |   |
| Frequency (MHz)                                                    | Limit (dBµV)                                                                                                                                                                                                                                                                     |                                      |          |                   |   |
|                                                                    | Quasi-Peak                                                                                                                                                                                                                                                                       | Results                              | Average  | Results           |   |
| 0.15 to 0.50                                                       | 79                                                                                                                                                                                                                                                                               | N/A                                  | 66       | N/A               |   |
| 0.50 to 30                                                         | 73                                                                                                                                                                                                                                                                               | N/A                                  | 60       | N/A               |   |
| Limits – Class B                                                   |                                                                                                                                                                                                                                                                                  |                                      |          |                   |   |
| Frequency (MHz)                                                    | Limit (dBµV)                                                                                                                                                                                                                                                                     |                                      |          |                   |   |
|                                                                    | Quasi-Peak                                                                                                                                                                                                                                                                       | Results                              | Average  | Results           |   |
| 0.15 to 0.50                                                       | 66 to 56                                                                                                                                                                                                                                                                         | Pass                                 | 56 to 46 | Pass              |   |
| 0.50 to 5                                                          | 56                                                                                                                                                                                                                                                                               | Pass                                 | 46       | Pass              |   |
| 5 to 30                                                            | 60                                                                                                                                                                                                                                                                               | Pass                                 | 50       | Pass              |   |
| Supplementary information: None                                    |                                                                                                                                                                                                                                                                                  |                                      |          |                   |   |

| Test Equipment Used      |              |                     |            |              |              |
|--------------------------|--------------|---------------------|------------|--------------|--------------|
| Description              | Manufacturer | Model               | Identifier | Cal. Date    | Cal. Due     |
| Test Receiver            | PMM          | PMM 9000            | 3100570602 | 2006. 09. 22 | 2007. 09. 22 |
| Artificial Mains Network | PMM          | L3-25               | 1110K70403 | 2006. 09. 09 | 2007. 09. 09 |
| LISN                     | FCC          | FCC-LISN-50-50-2-02 | 03074      | 2006. 11. 13 | 2007. 11. 13 |

**Figure 1**  
**Conducted Emission Test Setup: DVI Mode**



**Figure 2**  
**Conducted Emission Test Setup: SDI Mode**



**Table 1. Test data for conducted emission: DVI Mode**

| Test Frequency (MHz) | Correction Factor |      | Reading value(dBuV) |       | Line | Level(dBuV) |       | Limit (dBuV) |       | Margin (dB) |       |
|----------------------|-------------------|------|---------------------|-------|------|-------------|-------|--------------|-------|-------------|-------|
|                      | Cable             | LISN | QP                  | AV    |      | QP          | AV    | QP           | AV    | QP          | AV    |
| 0.152                | 0.06              | 0.03 | 55.00               | 38.10 | N    | 55.09       | 38.19 | 66.00        | 56.00 | 10.91       | 17.90 |
| 0.175                | 0.06              | 0.03 | 48.90               | 31.30 | N    | 48.99       | 31.39 | 65.10        | 55.10 | 16.11       | 23.71 |
| 0.221                | 0.07              | 0.10 | 47.10               | 27.60 | N    | 47.27       | 27.77 | 63.90        | 53.90 | 16.63       | 26.13 |
| 0.293                | 0.07              | 0.16 | 45.60               | 24.40 | H    | 45.83       | 24.63 | 62.30        | 52.30 | 16.47       | 27.67 |
| 0.321                | 0.08              | 0.22 | 44.20               | 25.50 | N    | 44.50       | 25.80 | 60.90        | 50.90 | 16.40       | 25.10 |
| 0.401                | 0.08              | 0.26 | 44.10               | 25.20 | N    | 44.44       | 25.54 | 57.10        | 47.10 | 12.66       | 21.56 |
| 0.589                | 0.07              | 0.30 | 45.80               | 25.20 | H    | 46.17       | 25.57 | 56.00        | 46.00 | 9.83        | 20.43 |
| 0.639                | 0.07              | 0.30 | 43.80               | 23.60 | H    | 44.17       | 23.97 |              |       | 11.83       | 22.03 |
| 0.892                | 0.06              | 0.33 | 44.20               | 26.70 | H    | 44.59       | 27.09 |              |       | 11.41       | 18.91 |
| 0.972                | 0.04              | 0.38 | 46.10               | 28.40 | N    | 46.52       | 28.82 |              |       | 9.48        | 17.18 |
| 1.019                | 0.04              | 0.40 | 46.00               | 28.50 | N    | 46.44       | 28.94 |              |       | 9.56        | 17.06 |
| 1.044                | 0.04              | 0.40 | 46.90               | 27.70 | N    | 47.34       | 28.14 |              |       | 8.66        | 17.86 |
| 13.370               | 0.06              | 1.19 | 35.50               | 21.70 | H    | 36.75       | 22.95 | 60.00        | 50.00 | 23.25       | 27.05 |
| 13.700               | 0.06              | 1.20 | 38.50               | 25.30 | H    | 39.76       | 26.56 |              |       | 20.24       | 23.44 |
| 24.120               | 0.08              | 1.50 | 33.50               | 23.10 | H    | 35.08       | 24.68 |              |       | 24.92       | 25.32 |
| 24.590               | 0.09              | 1.49 | 36.00               | 24.90 | H    | 37.58       | 26.48 |              |       | 22.42       | 23.52 |
| 25.060               | 0.10              | 1.48 | 37.90               | 26.40 | H    | 39.48       | 27.98 |              |       | 20.52       | 22.02 |
| 25.810               | 0.15              | 1.52 | 38.10               | 28.50 | H    | 39.77       | 30.17 |              |       | 20.23       | 19.83 |

**Note**

- Margin (dB)= Limit (dBuV) - Level (dBuV)
- If no frequencies are specified in the tables, no measurement for quasi-peak or average was necessary.

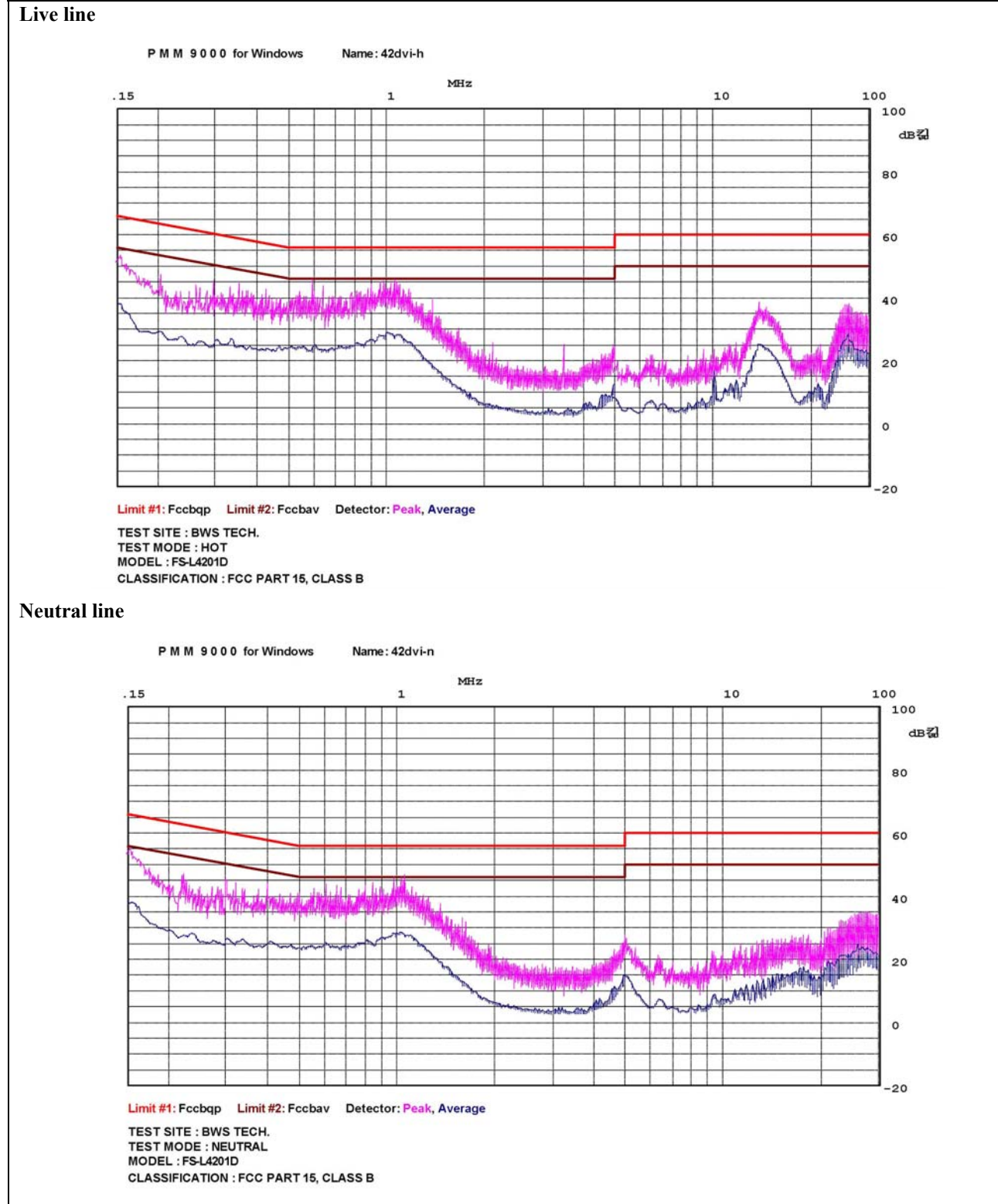
**Table 2. Test data for conducted emission: SDI Mode**

| Test Frequency (MHz) | Correction Factor |      | Reading value(dBuV) |       | Line | Level(dBuV) |       | Limit (dBuV) |       | Margin (dB) |       |
|----------------------|-------------------|------|---------------------|-------|------|-------------|-------|--------------|-------|-------------|-------|
|                      | Cable             | LISN | QP                  | AV    |      | QP          | AV    | QP           | AV    | QP          | AV    |
| 0.151                | 0.06              | 0.03 | 54.90               | 39.00 | N    | 54.99       | 39.09 | 66.00        | 56.00 | 11.01       | 16.91 |
| 0.167                | 0.06              | 0.03 | 51.70               | 36.00 | N    | 51.79       | 36.09 | 64.90        | 54.90 | 13.11       | 18.81 |
| 0.196                | 0.06              | 0.03 | 49.90               | 28.60 | N    | 49.99       | 28.09 | 63.90        | 53.90 | 13.91       | 25.81 |
| 0.291                | 0.07              | 0.16 | 45.50               | 24.30 | N    | 45.73       | 24.53 | 62.00        | 52.00 | 16.27       | 27.47 |
| 0.294                | 0.07              | 0.16 | 47.50               | 24.60 | H    | 47.73       | 24.83 | 60.70        | 50.70 | 12.97       | 25.7  |
| 0.405                | 0.08              | 0.26 | 44.80               | 23.90 | N    | 45.14       | 24.24 | 57.40        | 47.40 | 12.26       | 23.16 |
| 0.529                | 0.07              | 0.30 | 44.90               | 24.70 | N    | 45.27       | 25.07 | 56.00        | 46.00 | 10.73       | 20.93 |
| 0.613                | 0.07              | 0.30 | 43.30               | 23.20 | N    | 43.67       | 23.57 |              |       | 12.33       | 22.43 |
| 0.776                | 0.08              | 0.30 | 43.90               | 24.50 | H    | 44.28       | 24.80 |              |       | 11.72       | 21.20 |
| 0.853                | 0.06              | 0.33 | 47.20               | 27.00 | N    | 47.59       | 27.39 |              |       | 8.41        | 18.61 |
| 0.974                | 0.04              | 0.38 | 44.40               | 28.20 | N    | 44.82       | 28.62 |              |       | 11.81       | 17.38 |
| 1.036                | 0.04              | 0.40 | 47.90               | 28.80 | N    | 48.34       | 29.24 |              |       | 7.66        | 16.76 |
| 13.180               | 0.05              | 1.18 | 37.40               | 26.30 | N    | 38.63       | 27.53 | 60.00        | 50.00 | 21.37       | 22.47 |
| 23.640               | 0.08              | 1.48 | 34.10               | 23.80 | H    | 35.66       | 25.36 |              |       | 24.34       | 24.64 |
| 24.110               | 0.08              | 1.50 | 36.50               | 26.90 | H    | 38.08       | 28.48 |              |       | 21.92       | 21.52 |
| 24.580               | 0.09              | 1.49 | 38.20               | 28.70 | H    | 39.78       | 30.28 |              |       | 20.22       | 19.72 |
| 24.990               | 0.10              | 1.48 | 38.50               | 28.90 | H    | 40.08       | 30.48 |              |       | 19.92       | 19.52 |
| 25.520               | 0.12              | 1.50 | 38.70               | 28.80 | H    | 40.32       | 30.42 |              |       | 19.68       | 19.58 |

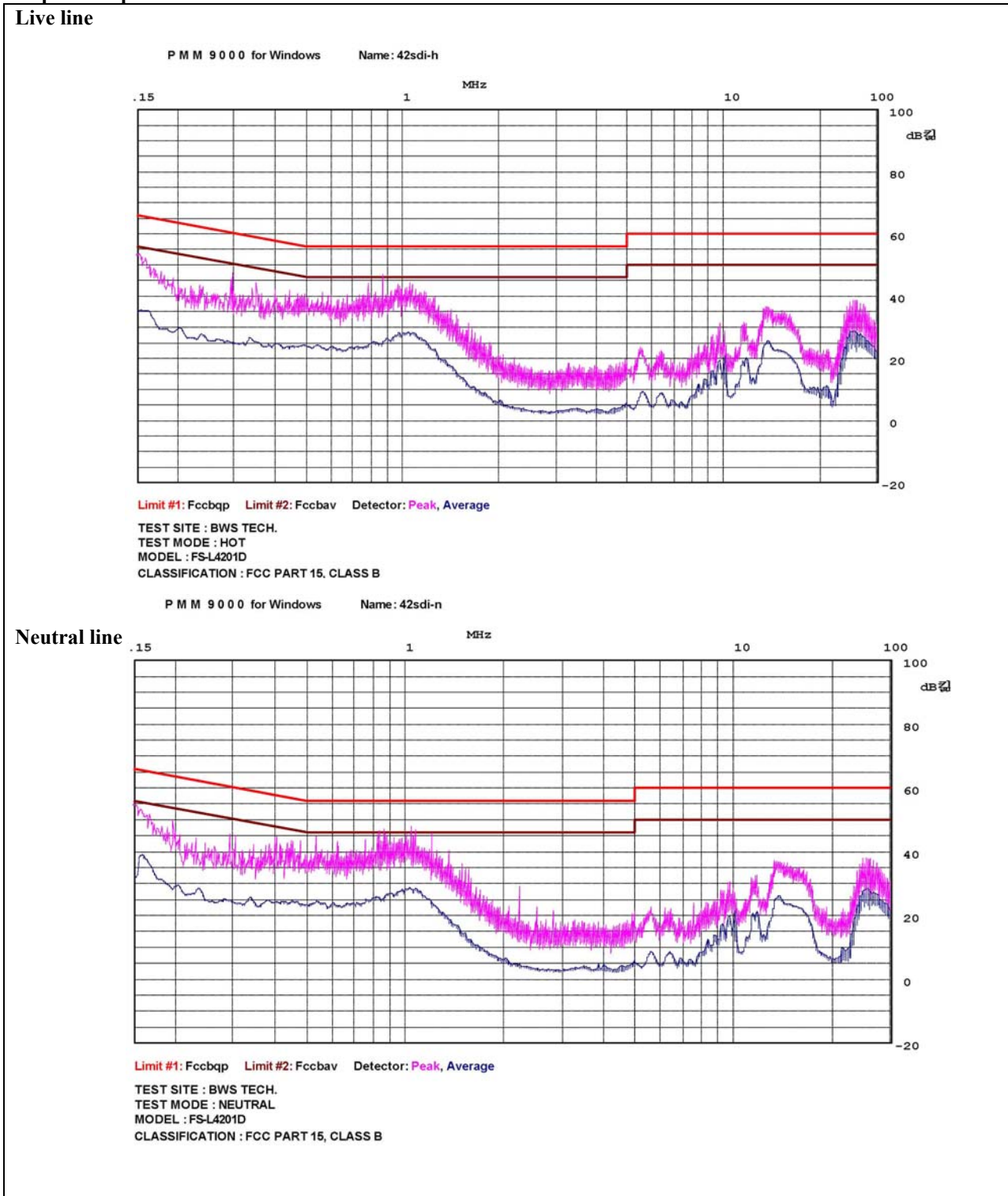
**Note:**

1. Margin (dB)= Limit (dBuV) - Level (dBuV)
2. If no frequencies are specified in the tables, no measurement for quasi-peak or average was necessary.

**Figure 3**  
**Graphical representation of conducted emissions: DVI Mode**



**Figure 4.**  
**Graphical representation of conducted emissions: SDI Mode**

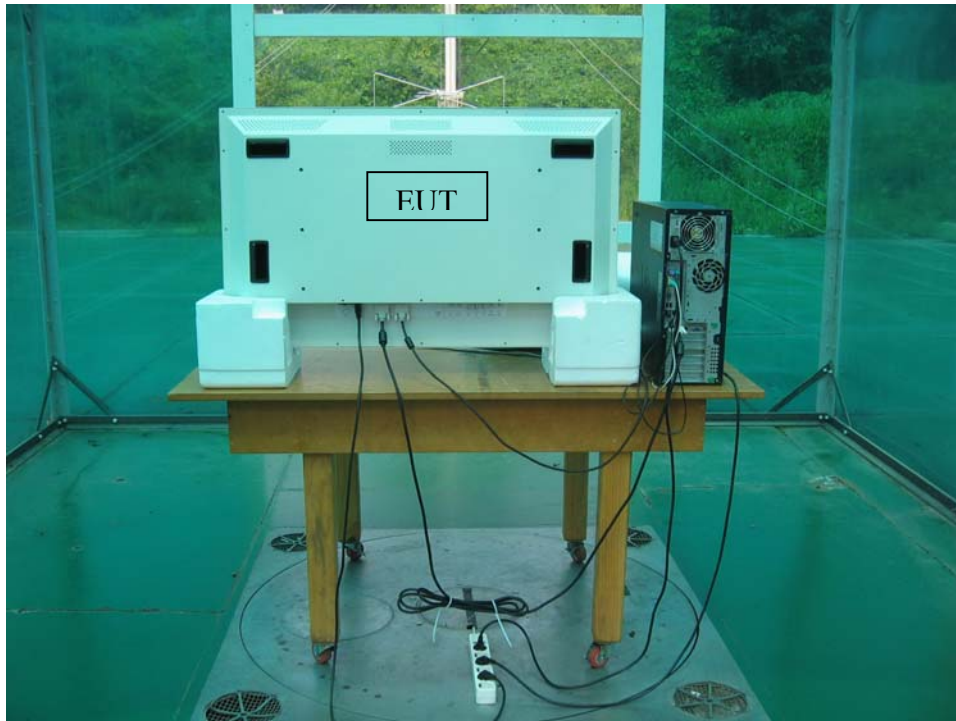


## 5. RADIATED EMISSION

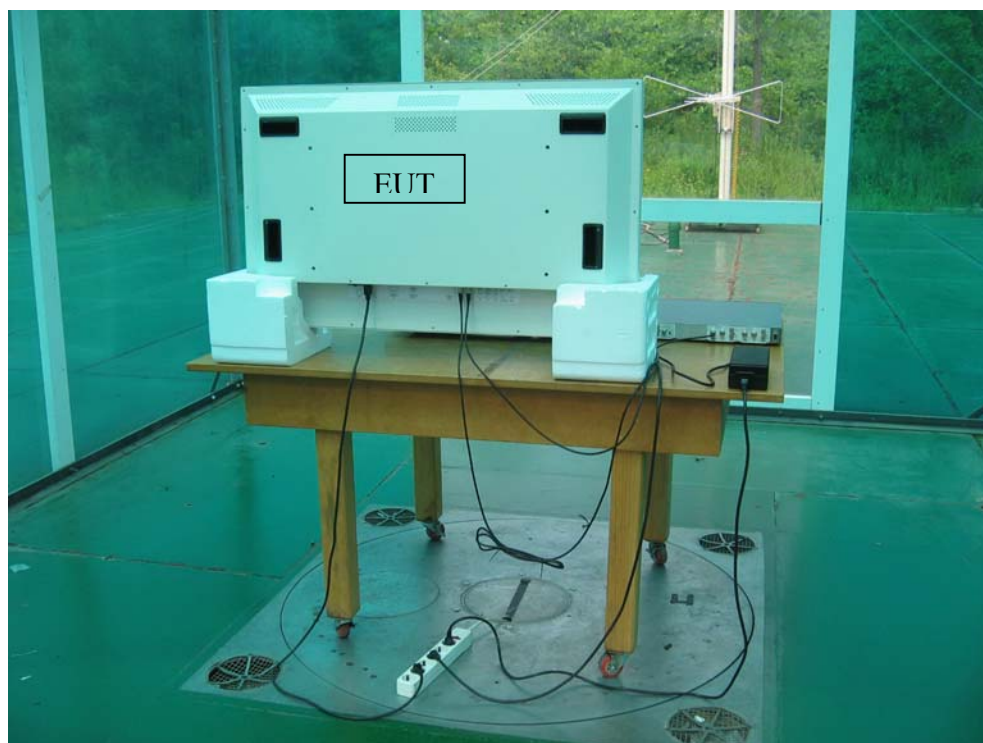
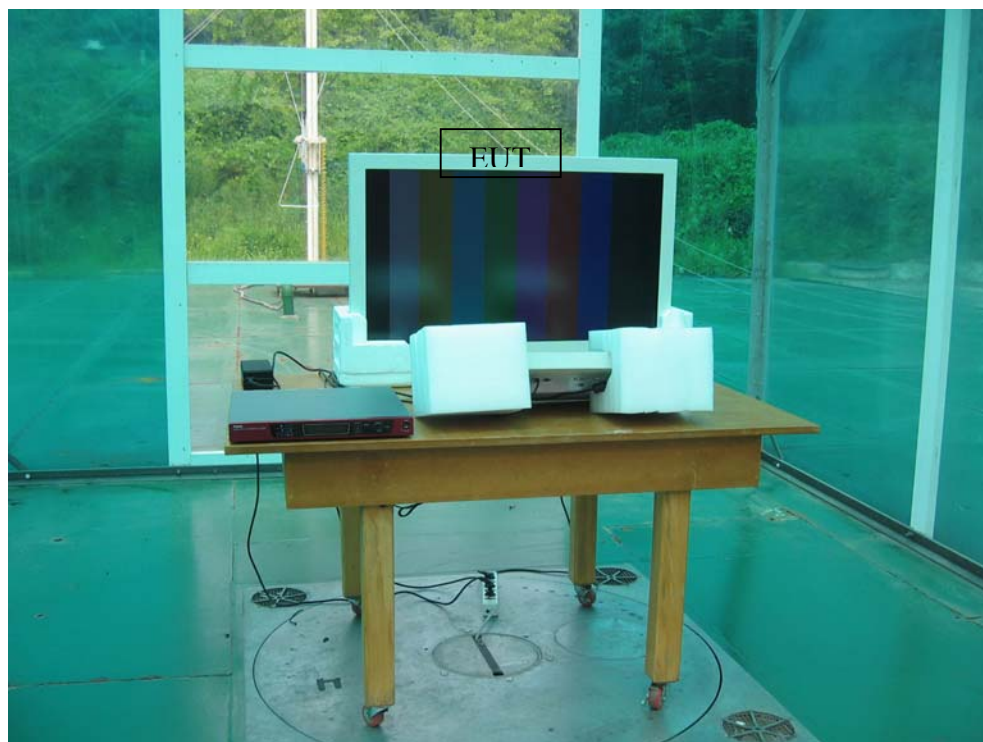
|                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                 |   |
|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---|
|                                                                    | <b>TEST:</b> Limits for radiated disturbance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                 |   |
| Method                                                             | Measurements were made at Open area test site that complies to CISPR 16/ANSI C63.4. Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 10-meter. The EUT was rotated 360° about its azimuth with the receive antenna located at 1, 2, 3 and 4 meter heights in both horizontal and vertical polarities. Final measurements (quasi-peak or average as noted) were then performed by rotating the EUT 360° and adjusting the receive antenna height from 1 to 4-meters. All frequencies were investigated in both horizontal and vertical antenna polarity, where applicable. |                                 | — |
| Parameters required prior to the test                              | Laboratory Ambient Temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 10 to 40 °C                     |   |
|                                                                    | Relative Humidity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 10 to 90 %                      |   |
| Parameters recorded during the test                                | Laboratory Ambient Temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 13 °C                           |   |
|                                                                    | Relative Humidity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 38 %                            |   |
|                                                                    | Frequency range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Measurement Point               |   |
| Fully configured sample scanned over the following frequency range | 30 MHz – 2.0 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | (10 meter measurement distance) |   |
|                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                 |   |
| <b>Limits - Class B</b>                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                 |   |
| Frequency (MHz)                                                    | Limit (dBμV/m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                 |   |
|                                                                    | Quasi-Peak                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Results                         |   |
| 30 to 230                                                          | 30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Pass                            |   |
| 230 to 1000                                                        | 37                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Pass                            |   |
| 1000 to 2000                                                       | 43.5 (Average)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Pass                            |   |
| Supplementary information:                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                 |   |

| Test Equipment Used          |                 |          |            |              |              |
|------------------------------|-----------------|----------|------------|--------------|--------------|
| Description                  | Manufacturer    | Model    | Identifier | Cal. Date    | Cal. Due     |
| EMI test receiver            | Rohde & Schwarz | ESVS10   | 863247/019 | 2007. 06.    | 2008. 06.    |
| Bilog antenna                | Schwarzbeck     | VULB9160 | 3122       | 2006. 12. 29 | 2007. 12. 29 |
| Open Site Cable              | N/A             | N/A      | N/A        | N/A          | N/A          |
| Antenna Mast                 | Dae Il EMC      | JAC-3    | N/A        | N/A          | N/A          |
| Antenna Turntable Controller | JAEMC           | JAC-2    | N/A        | N/A          | N/A          |

**Figure 5**  
**Photo of Radiated emission test setup: DVI Mode**



**Figure 6**  
**Photo of Radiated emission test setup: SDI Mode**



**Table 3**

**Radiated emission Test data: DVI Mode**

| Test Frequency (MHz) | Meter Reading (dBuV) | Detector (PK/QP) | Polarity (V/H) | Azimuth (Degrees) | Antenna Height (m) | Gain/Loss Factor (dB) | Transducer Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) |
|----------------------|----------------------|------------------|----------------|-------------------|--------------------|-----------------------|--------------------------|----------------|----------------|-------------|
| 40.06                | 11.07                | QP               | V              | 20                | 1.0                | 1.42                  | 12.31                    | 24.80          | 30.00          | 5.20        |
| 41.88                | 8.95                 | QP               | V              | 20                | 1.1                | 1.45                  | 12.32                    | 22.72          | 30.00          | 7.28        |
| 51.26                | 10.30                | QP               | V              | 20                | 1.0                | 1.62                  | 12.18                    | 24.1           | 30.00          | 5.90        |
| 74.24                | 12.36                | QP               | V              | 200               | 1.8                | 1.89                  | 9.65                     | 23.9           | 30.00          | 6.10        |
| 148.42               | 10.03                | QP               | H              | 190               | 4.0                | 2.69                  | 13.18                    | 25.9           | 30.00          | 4.10        |
| 408.24               | 10.54                | QP               | V              | 200               | 1.8                | 4.59                  | 15.98                    | 31.11          | 37.00          | 5.89        |
| 593.98               | 6.32                 | QP               | H              | 150               | 3.1                | 5.55                  | 19.74                    | 31.61          | 37.00          | 5.39        |
| 891.36               | 3.08                 | QP               | H              | 200               | 3.0                | 7.11                  | 23.41                    | 33.60          | 37.00          | 3.40        |
| 967.02               | 1.76                 | QP               | H              | 210               | 1.9                | 7.52                  | 24.38                    | 33.66          | 37.00          | 3.34        |
| 996.12               | 2.20                 | QP               | H              | 210               | 1.8                | 7.56                  | 24.41                    | 34.17          | 37.00          | 2.83        |

**Note**

1. Margin (dB)= Limit (dBuV) - Level (dBuV)
2. If no frequencies are specified in the tables, no measurement for quasi-peak or average was necessary.

**Table 4**

**Radiated emission Test data: SDI Mode**

| Test Frequency (MHz) | Meter Reading (dBuV) | Detector (PK/QP) | Polarity (V/H) | Azimuth (Degrees) | Antenna Height (m) | Gain/Loss Factor (dB) | Transducer Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) |
|----------------------|----------------------|------------------|----------------|-------------------|--------------------|-----------------------|--------------------------|----------------|----------------|-------------|
| 33.19                | 11.70                | QP               | V              | 10                | 1.1                | 1.29                  | 11.94                    | 24.93          | 30.00          | 5.06        |
| 55.27                | 9.91                 | QP               | V              | 30                | 1.0                | 1.68                  | 12.22                    | 23.81          | 30.00          | 6.19        |
| 74.22                | 14.06                | QP               | V              | 200               | 1.8                | 1.89                  | 9.65                     | 25.60          | 30.00          | 4.40        |
| 185.92               | 11.01                | QP               | V              | 30                | 1.3                | 3.03                  | 11.46                    | 25.50          | 30.00          | 4.50        |
| 222.76               | 11.00                | QP               | V              | 180               | 1.0                | 3.31                  | 10.39                    | 24.70          | 30.00          | 5.30        |
| 297.28               | 10.99                | QP               | V              | 100               | 1.0                | 3.86                  | 13.32                    | 28.17          | 37.00          | 8.83        |
| 418.24               | 10.98                | QP               | H              | 170               | 3.0                | 4.63                  | 16.20                    | 31.81          | 37.00          | 5.19        |
| 666.28               | 5.74                 | QP               | H              | 190               | 3.5                | 5.96                  | 20.56                    | 32.36          | 37.00          | 4.64        |
| 445.50               | 10.54                | QP               | H              | 190               | 3.0                | 4.75                  | 16.82                    | 32.11          | 37.00          | 4.89        |

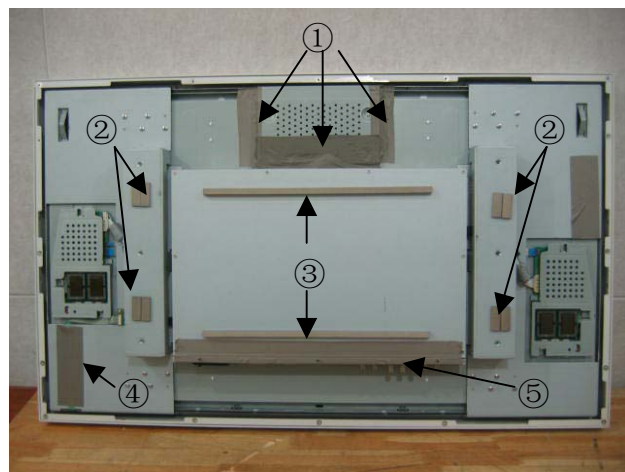
**Note**

1. Margin (dB)= Limit (dBuV) - Level (dBuV)
2. If no frequencies are specified in the tables, no measurement for quasi-peak or average was necessary.

## 6. EUT Modification

### EUT Modification for Radiation Disturbance

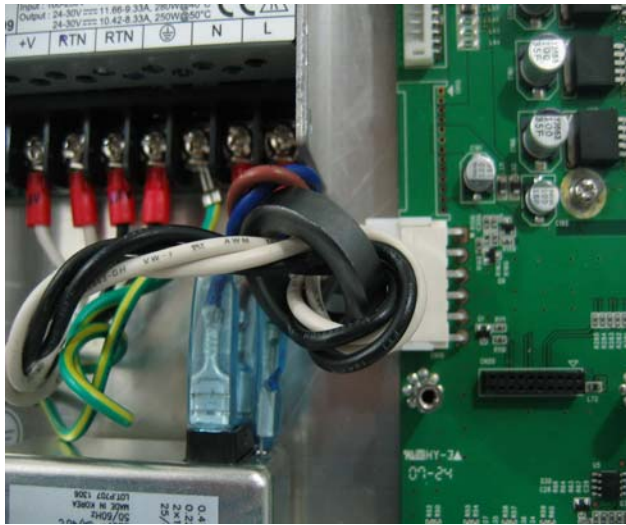
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #1 | ① Adhere EMI tape at this 3 points to make more strong ground contact<br>② Attach the EMI form gasket (20x2x120mm) at this 4 points to make strong shielding ground with rear cover<br>③ Attach the EMI form gasket (10x11x380mm) at this 2 points to make strong shielding ground with rear cover<br>④ Adhere EMI tape at this point to prevent leaking of the internal frequencies from OSD function cable of the internal frequencies.<br>⑤ Adhere EMI tape along the separation line with I/O bracket and shield cover plate<br>Wrap the LCD Data cable with EMI tape or AL tape (50x100mm) and adhere it to LCD body closely, insert flat Ferrite core (SCC Co., Ltd. Type: PC2910). |
| #2 | Attach EMI form gasket (20x8x175mm) to make contact with LCD body and chassis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| #3 | Insert the ring style ferrite core (FEELUX CO., LTD. Type: RING29) and tern the wire 1 time.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| #4 | Insert the flat style ferrite core (SCC Co., Ltd. Type: PC2910) to LCD data cable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| #5 | Insert the flat style ferrite core (SCC Co., Ltd. Type: PC2910) to the RGB cable and vide cable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| #6 | Insert the clip style ferrite core (TDK type: ZACT1518-0730) to LCD data cable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| #7 | Insert the clip style ferrite core (TDK type: ZACT2035-0930) to Inverter cable 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| #8 | Insert the clip style ferrite core (TDK type: ZACT2035-0930) to Inverter cable 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| #9 | Insert the EMI Filter (Dongil Technology Type: IQ-0640-H2) to AC Power Inlet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |



#1



#2



#3



#4



#5



#6



#7



#8



#9

## 7. Measurement Uncertainties

| Test                | Uncertainty   |
|---------------------|---------------|
| Radiated Emissions  | $\pm 3.56$ dB |
| Conducted Emissions | $\pm 5.52$ dB |