CE

# EMC COMPLIANCE TEST REPORT

for

**CPU Board**

| | | |
|---|---|---|
| **Trade Name** | **:** | N/A |
| **Model Number** | **:** | GENE-6310(N) |
| **Serial Number** | **:** | N/A |
| **Report Number** | **:** | 02E0038-E |
| **Date** | **:** | April 9, 2002 |
| **Regulations** | **:** | See below |

| Standards | Results (Pass/Fail) |
|---|---|
| EN 55022: 1997 | PASS |
| EN 61000-3-2: 1995+A1: 1998+A2: 1998+A14: 2000 | PASS |
| EN 61000-3-3: 1995 | PASS |
| EN 50024: 1998 | PASS |
| - IEC 61000-4-2: 1995 +A2: 2000 | PASS |
| - IEC 61000-4-3: 1995 | PASS |
| - IEC 61000-4-4: 1995 | PASS |
| - IEC 61000-4-5: 1995 | PASS |
| - IEC 61000-4-6: 1996 | PASS |
| - IEC 61000-4-8: 1993 | N/A |
| - IEC 61000-4-11: 1994 | PASS |

Prepared for：

**AAEON Technology Inc.**
**5F, No. 135, Lane 235, Pao Chiao Rd., Hsin-Tien City,**
**Taipei, Taiwan, R. O. C.**

Prepared by：

**C&C LABORATORY CO., LTD.**
**#B1, 1st Fl., Universal Center,**
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CE

# EC-Declaration of Conformity

For the following equipment:

CPU Board

( Product Name )

GENE-6310(N)

( Model Designation / Trade name )

AAEON Technology Inc.

( Manufacturer Name )

5F, No. 135, Lane 235, Pao Chiao Rd., Hsin-Tien City, Taipei, Taiwan, R. O. C.

(Manufacturer Address)

is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility Directive (89/336/EEC, Amended by 92/31/EEC, 93/68/EEC & 98/13/EC), For the evaluation regarding the Electromagnetic Compatibility (89/336/EEC, Amended by 92/31/EEC & 93/68/EEC & 98/13/EC ) the following standards are applied:

[*V*] EN 55022: 1997

[*V*] EN 61000-3-2: 1995+A1: 1998+A2: 1998+A14: 2000

[*V*] EN 61000-3-3: 1995

[*V*] EN50024: 1998

IEC 61000-4-2: 1995 +A2: 2000, IEC 61000-4-3: 1995, IEC 61000-4-4: 1995

IEC 61000-4-5: 1995, IEC 61000-4-6: 1996, IEC 61000-4-11: 1994

The following manufacturer / importer or authorized representative established within the EUT is responsible for this declaration:

( Company Name )

( Company Address )

Person responsible for making this declaration:

( Name, Surname )

( Position / Title )

( Place ) ( Date ) ( Legal Signature )

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# VERIFICATION OF COMPLIANCE

| | |
|---|---|
| **Equipment Under Test:** | CPU Board |
| **Trade Name:** | N/A |
| **Model Number:** | GENE-6310(N) |
| **Serial Number:** | N/A |
| **Applicant:** | **AAEON Technology Inc.**<br>5F, No. 135, Lane 235, Pao Chiao Rd., Hsin-Tien City,<br>Taipei, Taiwan, R. O. C. |
| **Manufacturer:** | **AAEON Technology Inc.**<br>5F, No. 135, Lane 235, Pao Chiao Rd., Hsin-Tien City,<br>Taipei, Taiwan, R. O. C. |
| **Type of Test:** | EMC Directive 89/336/EEC for CE Marking |
| **Technical Standards:** | EN 55022: 1997<br>EN 61000-3-2: 1995+A1: 1998+A2: 1998+A14: 2000<br>EN 61000-3-3: 1995<br>EN 50024: 1998<br>(IEC 61000-4-2: 1995 +A2: 2000, IEC 61000-4-3: 1995<br>IEC 61000-4-4: 1995, IEC 61000-4-5: 1995<br>IEC 61000-4-6: 1996, IEC 61000-4-11: 1994) |
| **File Number:** | 02E0038-E |
| **Date of test:** | April 2, 2002 & April 3, 2002 |
| **Deviation:** | N/A |
| **Condition of Test Sample:** | Normal |

The above equipment was tested by C&C Laboratory Co., Ltd. for compliance with the requirements set forth in EMC Directive 89/336/EEC and the Technical Standards mentioned above. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment and the level of the immunity endurance of the equipment are within the compliance requirements.

The test results of this report relate only to the tested sample identified in this report.

Approved by Authorized Signatory: Rick Yeo

**Rick Yeo / Manager**

# GENERAL INFORMATION

| | |
|---|---|
| **Applicant:** | **AAEON Technology Inc.**<br>5F, No. 135, Lane 235, Pao Chiao Rd., Hsin-Tien City,<br>Taipei, Taiwan, R. O. C. |
| **Contact Person:** | Milo Wang / Q. E. Dept. Engineer |
| **Manufacturer:** | **AAEON Technology Inc.**<br>5F, No. 135, Lane 235, Pao Chiao Rd., Hsin-Tien City,<br>Taipei, Taiwan, R. O. C. |
| **File Number:** | 02E0038-E |
| **Date of Test:** | April 2, 2002 & April 3, 2002 |
| **Equipment Under Test:** | CPU Board |
| **Model Number:** | GENE-6310(N) |
| **Serial Number:** | N/A |
| **Type of Test:** | EMC Directive 89/336/EEC for CE Marking |
| **Technical Standards:** | EN 55022: 1997<br>EN 61000-3-2: 1995+A1: 1998+A2: 1998+A14: 2000<br>EN 61000-3-3: 1995<br>EN 50024: 1998<br>(IEC 61000-4-2: 1995 +A2: 2000, IEC 61000-4-3: 1995<br>IEC 61000-4-4: 1995, IEC 61000-4-5: 1995<br>IEC 61000-4-6: 1996, IEC 61000-4-11: 1994) |
| **Frequency Range (EN 55022):** | 150kHz to 30MHz for Line Conducted Test<br>30MHz to 1000MHz for Radiated Emission Test |
| **Test Site** | **C&C LABORATORY CO., LTD.**<br>No. 199, Chung Sheng Road, Hsin Tien City, Taipei<br>Taiwan, R. O. C. |

# SYSTEM DESCRIPTION

## EUT Test Procedure:

1. Windows 98 Boots System.
2. Run Winemc.Exe To Activate All Peripherals And Display “H” Pattern On Monitor Screen.
3. Run ReadWrite.Exe to Link EUT and Notebook PC.
   Data Through the EUT and Transmit Between Server Notebook and EUT Via RJ45 Cable.

# PRODUCT INFORMATION

| | |
|---|---|
| **Housing Type:** | METAL CASE |
| **EUT Power Rating:** | DC 12V from AC Adaptor |
| **AC power during Test:** | 230VAC, 50Hz to AC Adaptor |
| **AC Adaptor Manufacturer:** | CHI |
| **AC Adaptor Model Number:** | CH-1205 |
| **AC Power Cord Type:** | Unshielded, 1.8m (Detachable) |
| **DC Power Cable Type:** | Shielded, 0.75m (Non-Detachable),<br>One ferrite core on the cable of DC Plug |
| **EUT I/O Cable** | Shielded, 0.2m (Detachable) |
| **OSC/Clock Frequencies：** | Y1=14.318MHz; Y4=24.576MHz; Y5=14.318MHz; |

**I/O Port of EUT:**

| I/O PORT TYPES | Q'TY | TESTED WITH |
|---|---|---|
| A) USB Port | 2 | 2 |
| 1). PS/2 Port | 1/2 | 1/2 |
| 2). RJ45 Port | 1 | 1 |
| 3). Mini-DB26 | 1 | N/A |
| 4). DB9 Port (Serial) | 2 | 2 |
| 5). DB15 Port (VGA) | 1 | 1 |
| 6). DB25 Port (Parallel) | 1 | 1 |
| 7). Phone Jack | 3 | 3 |
| 8). RCA (Video) | 1 | 1 |
| 9). S-Video (Video) | 1 | 1 |

**Note:** N/A

# SUPPORT EQUIPMENT

## Host Computer:

| Equipment | Model# | Serial# | Trade Name |
|---|---|---|---|
| COMPACT FLASH | DMDM-10340 | N/A | IBM |
| RAM (32MB PC100) | N/A | N/A | SDRAM |
| CPU (133MHz x 5) | C3667A | N/A | VIA |
| Chassis | AEC-6000 | N/A | AAEON |
| Power Board | AEC-6000 Rev.A0.2 | N/A | AAEON |

## External Peripheral Devices:

| No | Equipment | Model # | Serial # | FCC ID | Trade Name | Data Cable | Power Cord |
|---|---|---|---|---|---|---|---|
| 1. | Player | RQ-L309GT | N/A | N/A | PANASONIC | Unshielded, 1.2m | N/A |
| 2. | Mic.&Ear. | MSB-206 | N/A | N/A | E.SENSE | Unshielded, 2.3m | N/A |
| 3. | USB Mouse | MU3UE | N/A | DoC | ACROX | Shielded, 1.7m | N/A |
| 4. | USB Mouse | MU3UE | N/A | DoC | ACROX | Shielded, 1.7m | N/A |
| 5. | PS/2 Mouse | M-S34 | LZED1303050 | DZL211029 | LOGITECH | Shielded, 1.9m | N/A |
| 6. | PS/2 Keyboard | 6311-TW4C/6 | N/A | DoC | ACER | Shielded, 1.7m | N/A |
| 7. | Monitor | RB15NS | N/A | DoC | SAMSUNG | Unshielded, 1.4m | Shielded, 1. 8m With a core |
| 8. | Modem | 2496CF | N/A | N/A | DATATRONICS | Shielded, 1.4m | Unshielded, 1.8m |
| 9. | Modem | 231AA | A25331083841 | BFJ9D9308US | HAYES | Shielded, 1.2m | Unshielded, 1.8m |
| 10. | Printer | 2225C | 2550540697 | BS46XU2225C | HP | Shielded, 1.8m | Unshielded, 1.8m |
| 11. | Monitor | RB17NS | N/A | DoC | SAMSUNG | Unshielded, 1.8m | Shielded, 1. 8m With a core |
| 12. | Monitor | PH19HS | N/A | DoC | SAMSUNG | Shielded, 1.8m With two cores | Unshielded, 1.8m |
| 13. | Server Notebook | PT900L-09G4H | X1046383J | N/A | Toshiba | Unshielded, 30m (RJ45) | Unshielded, 1.8m |

**Note:** All the above equipment/cables were placed in worse case positions to maximize emission signals.

**Grounding:** Grounding was in accordance with the manufacturer' s requirements and conditions for the intended use.

# TEST FACILITY

**Location:** No. 199, Chung Sheng Road, Hsin Tien City,
Taipei, Taiwan, R. O. C.

**Description:** There are two 3/10m open area test sites and one line conducted lab for final test.
The Open Area Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 1992 and CISPR 22/EN 55022 requirements.

**Site Filing:** A site description is on file with the Federal Communications Commission, 7435 Oakland Mills Road, Columbia, MD 21046.

Registration also was made with Voluntary Control Council for Interference (VCCI).

**Site Accreditation:** Accredited by A2LA (Certificate #: 824.01) for EMC.

Also accredited by BSMI for the product category of Information Technology Equipment.

**Instrument Tolerance:** All measuring equipment is in accord with ANSI C63.4 and CISPR 22 requirements that meet industry regulatory agency and accreditation agency requirement.

**Ground Plane:** Two conductive reference ground planes were used during the Line Conducted Emission, one in vertical and the other in horizontal. The dimensions of these ground planes are as below. The vertical ground plane was placed distancing 40 cm to the rear of the wooden test table on where the EUT and the support equipment were placed during test. The horizontal ground plane projected 50 cm beyond the footprint of the EUT system and distanced 80 cm to the wooden test table. For Radiated Emission Test, one horizontal conductive ground plane extended at least 1m beyond the periphery of the EUT and the largest measuring antenna, and covered the entire area between the EUT and the antenna. It has no holes or gaps having longitudinal dimensions larger than one-tenth of a wavelength at the highest frequency of measurement up to 1GHz.

# TEST EQUIPMENT LIST (EMISSION)

**Instrumentation:** The following list contains equipment used at C & C Laboratory, Co., Ltd. for testing. The equipment conforms to the CISPR 16-1 / ANSI C63.2-1988 Specifications for Electromagnetic Interference and Field Strength Instrumentation from 9kHz to 1.0 / 2.0 GHz.

**Equipment used during the tests:**

**Open Area Test Site:** #D

| EQUIPMENT TYPE | MFR | MODEL NUMBER | SERIAL NUMBER | LAST CAL. | CAL. DUE |
|---|---|---|---|---|---|
| EMI TEST DISPLAY | R&S | DSAI-D 804.8932.52 | 827832/001 | 10/29/01 | 10/28/02 |
| EMI TEST RF UNIT | R&S | ESBI-RF/1005.4300.52 | 827832/003 | 10/29/01 | 10/28/02 |
| AMPLIFIER | HP | 8447DB | 1644A02328 | 05/07/01 | 05/06/02 |
| ANTENNA | SCHWARZBECK | VULB 9160 | 3104 | 05/17/01 | 05/16/02 |
| CABLE | TIME MICROWAVE | LMR-400 | N-TYPE02 | 07/09/01 | 07/08/02 |

**Conducted Emission Test Site:** Conducted Room

| EQUIPMENT TYPE | MFR | MODEL NUMBER | SERIAL NUMBER | LAST CAL. | CAL. DUE |
|---|---|---|---|---|---|
| TEST RECEIVER | R&S | ESHS20 | 840455/006 | 03/16/02 | 03/15/03 |
| LISN | SOLAR | 8012-50-R-24-BNC | 8305114 | 07/23/01 | 07/22/02 |
| LISN(EUT) | EMCO | 3825/2 | 1435 | 01/16/02 | 01/15/03 |

The calibrations of the measuring instruments, including any accessories that may effect such calibration, are checked frequently to assure their accuracy. Adjustments are made and correction factors applied in accordance with instructions contained in the manual for the measuring instrument.

# TEST EQUIPMENT LIST

**For Power Harmonic & Voltage Fluctuation/Flicker Measurement:**

| Manufacturer/Type | Model No. | Serial No. | Last Cal. | Cal. Due |
|---|---|---|---|---|
| HP / Harmonic & Flicker Tester | 6842A | 3531A-000142 | 06/15/2001 | 06/14/2002 |

**For ESD test:**

| Manufacturer/Type | Model No. | Serial No. | Last Cal. | Cal. Due |
|---|---|---|---|---|
| S.G. / ESD Simulator | SESD 2000 | 812006 | 02/08/2002 | 02/07/2003 |

**For Radiated Electromagnetic Field immunity Measurement:**

| Manufacturer/Type | Model No. | Serial No. | Last Cal. | Cal. Due |
|---|---|---|---|---|
| R&S / Signal Generator | SMY 02 | DE13751 | 01/10/2002 | 01/09/2003 |
| IFI / "E" Field sensor/ Light Modulator Transmitter | EFS-5 | 713-0695 | 06/29/2001 | 06/28/2002 |
| IFI / Combination Amplifier | SMX100 | 2067-1196 | 06/28/2001 | 06/27/2002 |
| IFI / Leveling Pre-Amplifier | LPA-5B | 714-0695 | 05/01/2001 | 04/30/2002 |
| EMCO / Biconilog Antenna | 3142 | 9609-1087 | No Calibration Required | No Calibration Required |

**For Fast Transients/Burst test:**

| Manufacturer/Type | Model No. | Serial No. | Last Cal. | Cal. Due |
|---|---|---|---|---|
| KeyTek Instruments / EFT Generator | E421 | 9502326 | 11/01/2001 | 10/31/2002 |
| KeyTek Instruments / Capacitive Clamp | CCL-4 | 9503290 | No Calibration Required | No Calibration Required |
| HAEFELY TRENCH / Fast Transients/Burst Generator | PEFT- JUNIOR | 583 333-117 | 08/21/2001 | 08/20/2002 |
| HAEFELY TRENCH / Clamp | 093 506.1 | 080 421.13 | N/A | N/A |

**For Surge Immunity test:**

| Manufacturer/Type | Model No. | Serial No. | Last Cal. | Cal. Due |
|---|---|---|---|---|
| Surger Generator KeyTek Instruments | E501 | 9502324 | 11/01/2001 | 10/31/2002 |
| Telecom Lines Coupler DECOUPLER KeyTek Instruments | CM-TELCD | 0104399 | 05/01/2001 | 04/30/2002 |
| I/O Signal Line DECOUPLER KeyTek Instruments | CM-I/OCD | 0103234 | 05/01/2001 | 04/30/2002 |
| HAEFELY TRENCH / Surge Tester | PSUGER 4010 | 583 334-71 | 09/01/2001 | 08/31/2002 |

**For CS test:**

| Manufacturer/Type | Model No. | Serial No. | Last Cal. | Cal. Due |
|---|---|---|---|---|
| R&S / Signal Generator | SMY 02 | DE13751 | 01/10/2002 | 01/09/2003 |
| IFI / Combination Amplifier | SMX100 | 2067-1196 | 06/28/2001 | 06/27/2002 |
| IFI / Leveling Pre-Amplifier | LPA-5B | 714-0695 | 05/01/2001 | 04/30/2002 |
| FISCHER / Power Line Coupling Decoupling Network | FCC-801-M3-16A | 99122 | 10/27/2001 | 10/26/2002 |
| FISCHER / Bulk Current Injection Probe | F-120-9B | 54 | 10/30/2001 | 10/29/2002 |
| Narda / High Power Attenuator | 769-6 | 02541 | 10/26/2001 | 10/25/2002 |

**For Power Frequency Magnetic Field test :**

| Manufacturer/Type | Model No. | Serial No. | Last Cal. | Cal. Due |
|---|---|---|---|---|
| Haefely / Magic Field Tester | MAG 100.1 | 081436-02 | No Calibration Required | No Calibration Required |
| Extech Electronics / Frequency Converter | CFC-105 | 810390 | No Calibration Required | No Calibration Required |
| CHY/ AC/DC Clamp Meter | 932C | 2K0900285 | 10/25/2001 | 10/24/2002 |

**For Voltage Dips/Short Interruption and Voltage Variation Immunity test:**

| Manufacturer/Type | Model No. | Serial No. | Last Cal. | Cal. Due |
|---|---|---|---|---|
| Haefely / Dips/Inerruption/Variations Tester | PLINE 1610 | 081568-06 | 08/06/2001 | 08/05/2002 |
| FLUKE / 79 Series Ii Multimeter | 79-II | 66400868 | 07/03/2001 | 07/02/2002 |

## SECTION 1 EN 55022 (LINE CONDUCTED & RADIATED EMISSION)

# MEASUREMENT PROCEDURE
## (PRELIMINARY LINE CONDUCTED EMISSION TEST)

1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per EN 55022 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.

2) Support equipment, if needed, was placed as per EN 55022.

3) All I/O cables were positioned to simulate typical actual usage as per EN 55022.

4) The EUT received DC 12V power through AC Adaptor and Line Impedance Stabilization Network (LISN) which supplied power source of 230VAC/ 50Hz and was grounded to the ground plane.

5) All support equipment received power from a second LISN supplying power of 110VAC/60Hz, if any.

6) The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.

7) Analyzer / Receiver scanned from 150kHz to 30MHz for emissions in each of the test modes.

8) During the above scans, the emissions were maximized by cable manipulation.

9) The following test mode were scanned during the preliminary test:

**Mode(s):**

| No. | Mode of operation | Date | Data Report/Plot No. |
|---|---|---|---|
| **1** | **800 X 600** | **04/02/2002** | **0038C#(24)** |
| **2** | **1024 X 768** | **04/02/2002** | **0038C#(51, 54)** |
| **3** | **1600 X 1200** | **04/02/2002** | **0038C#(16)** |

10) After the preliminary scan, we found the following test mode(s) producing the highest emission level.

**Mode: 2.**

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

# MEASUREMENT PROCEDURE
## (FINAL LINE CONDUCTED EMISSION TEST)

1) EUT and support equipment was set up on the test bench as per step 10 of the preliminary test.

2) A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less –2dB to the A.V. limit in Q.P. mode, then the emission signal was re-checked using an A.V. detector.

3) The test data of the worst case condition(s) was reported on the Summary Data page.

**Data Sample:**

| Freq (MHz) | Meter Reading (dBuV) | C.F. (dB) | Corrected Reading (dBuV) | Limits (dBuV) | Margin (dB) | Reading Type (P/Q/A) | Line (L1/L2) |
|---|---|---|---|---|---|---|---|
| **x.xx** | **x.xx** | **x.xx** | **48.38** | **66.00** | **-17.62** | **A** | **L1** |

C.F.(Correction Factor)=Insertion Loss + Cable Loss
Corrected Reading = Metering Reading + C.F.
Margin=Corrected Reading - Limits

P=Peak Reading L1=Hot
Q=Quasi-peak L2=Neutral
A=Average Reading

Comments: **N/A**

# LINE CONDUCTED EMISSION LIMIT (EN 55022)

| Frequency | Maximum RF Line Voltage | |
|---|---|---|
| | Q.P. | AVERAGE |
| 150kHz-500kHz | 79dBuV | 66dBuV |
| 500kHz-5MHz | 73dBuV | 60dBuV |
| 5MHz-30MHz | 73dBuV | 60dBuV |

**Note:** The lower limit shall apply at the transition frequency.

# MEASUREMENT PROCEDURE
## (PRELIMINARY RADIATED EMISSION TEST)

1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden turntable with a height of 0.8 meters is used which is placed on the ground plane as per EN 55022 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.

2) Support equipment, if needed, was placed as per EN 55022.

3) All I/O cables were positioned to simulate typical actual usage as per EN 55022.

4) The EUT received DC 12V power source from AC Adaptor (AC 230V/50Hz) to the outlet socket under the turntable. All support equipment received 110VAC/60Hz power from another socket under the turntable, if any.

5) The antenna was placed at 10 meter away from the EUT as stated in EN 55022. The antenna connected to the analyzer via a cable and at times a pre-amplifier would be used.

6) The Analyzer / Receiver quickly scanned from 30MHz to 1000MHz. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.

7) The following test mode were scanned during the preliminary test:

**Mode(s):**

| No. | Mode of operation | Date | Data Report/Plot No. |
|---|---|---|---|
| 1 | **800 X 600** | **04/02/2002** | **9462D#(40)** |
| 2 | **1024 X 768** | **04/02/2002** | **9462D#(38)** |
| 3 | **1600 X 1200** | **04/02/2002** | **9462D#(37,41)** |

8) After the preliminary scan, we found the following test mode producing the highest emission level.

**Mode: 3.**

Then, the EUT and cable configuration, antenna position, polarization and turntable position of the above highest emission level were recorded for final testing.

# MEASUREMENT PROCEDURE
## (FINAL RADIATED EMISSION TEST)

1) EUT and support equipment were set up on the turntable as per step 8 of the preliminary test.

2) The Analyzer / Receiver scanned from 30MHz to 1000MHz. Emissions were scanned and measured rotating the EUT to 360 degrees, varying cable placement and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.

3) Recorded at least the six highest emissions. Emission frequency, amplitude, antenna position, polarization and turntable position were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit and only Peak reading is presented. If EUT emission level was less-2dB to the limit, then the emission signal was re-checked using a Q.P. detector.

4) The test data of the worst case condition(s) was reported on the Summary Data page.

**Data Sample:**

| Freq (MHz) | Meter Reading (dBuV) | C.F. (dB/m) | Corrected Reading (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Reading Type P/Q/A | Pol. H/V |
|---|---|---|---|---|---|---|---|
| **x.xx** | **x.xx** | **x.xx** | **40.82** | **47.00** | **-6.18** | **P** | **V** |

C.F.(Correction Factor)=Antenna Factor + Cable Loss + Attenuator(6dB) - Amplifier Gain
Corrected Reading = Metering Reading + C.F.
Margin=Corrected Reading – Limits

P=Peak Reading
Q=Quasi-peak
A=Average Reading

H=Horizontal Polarization/Antenna
V=Vertical Polarization/Antenna

Comments: **N/A**

# RADIATED EMISSION LIMIT

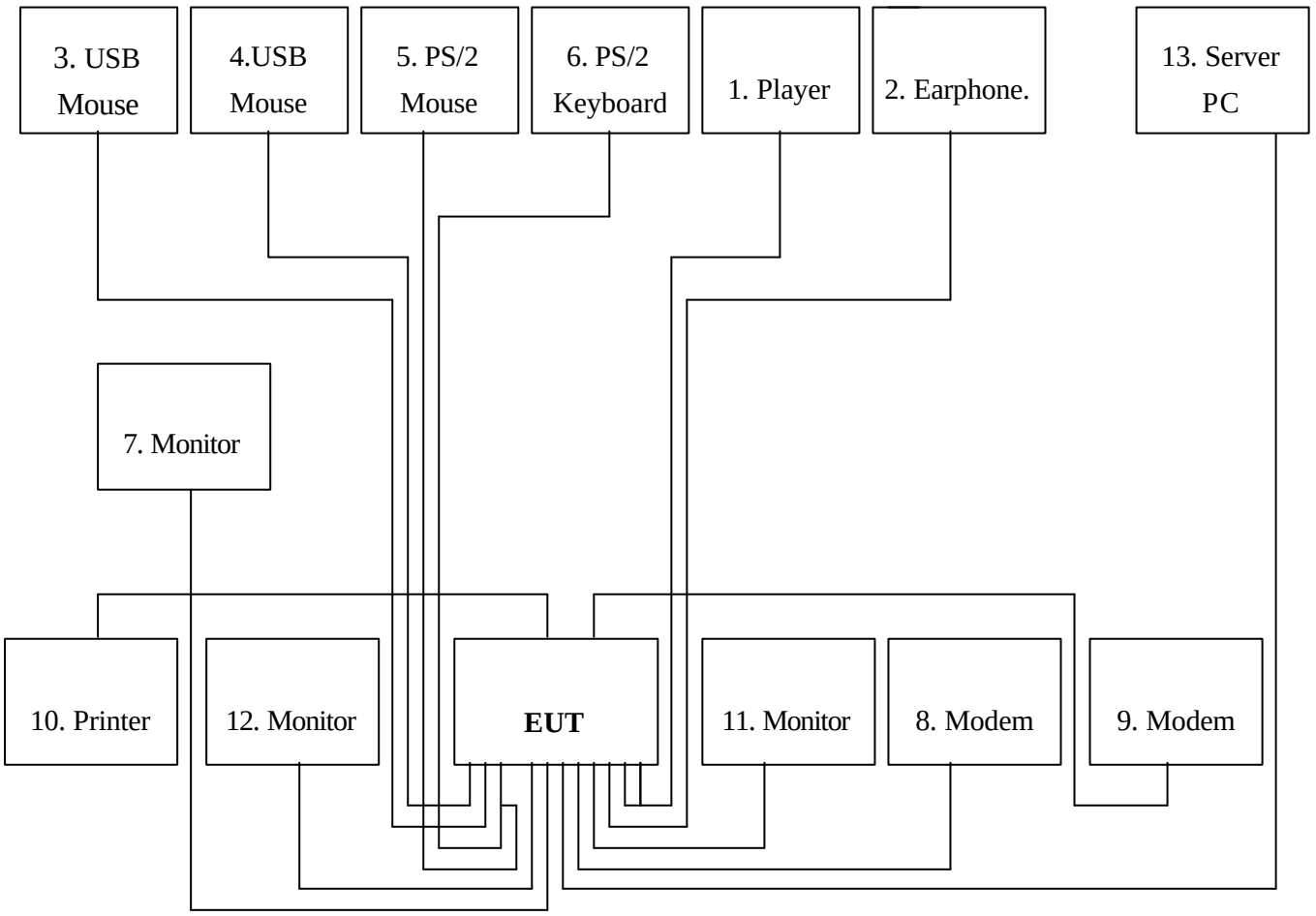
| Frequency (MHz) | Distance (m) | Maximum Field Strength Limit (dBu V/m/ Q.P.) |
|---|---|---|
| 30-230 | 10 | 40 |
| 230-1000 | 10 | 47 |

**Note:** The lower limit shall apply at the transition frequency.

# BLOCK DIAGRAM OF TEST SETUP

**System Diagram of Connections between EUT and Simulators**

**EUT:** CPU Board
**Trade Name:** N/A
**Model Number:** GENE-6310(N)



# SUMMARY DATA
# (LINE CONDUCTED TEST)

**Model Number:** GENE-6310(N) **Location:** Conducted Room

**Tested by:** Cliff Lai

**Test Mode:** Mode 2

**Test Results:** Passed

**Temperature:** 25℃ **Humidity:** 81%RH

(The chart below shows the highest readings taken from the final data)

| Frequency Range Investigated (150 kHz TO 30 MHz) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Freq (MHz) | Meter Reading (dBuV) | C.F. (dB) | Corrected Reading (dBuV) | Limits (dBuV) | Margin (dB) | Reading Type (P/Q/A) | Line (L1/L2) |
| **0.183** | **49.73** | **0.02** | **49.75** | **79.00** | **-29.25** | **P** | **L1** |
| **3.584** | **41.66** | **0.21** | **41.87** | **73.00** | **-31.13** | **P** | **L1** |
| **28.604** | **42.49** | **0.53** | **43.02** | **73.00** | **-29.98** | **P** | **L1** |
| **0.183** | **50.62** | **0.02** | **50.64** | **79.00** | **-28.36** | **P** | **L2** |
| **2.099** | **41.39** | **0.14** | **41.53** | **73.00** | **-31.47** | **P** | **L2** |
| **2.824** | **41.24** | **0.17** | **41.41** | **73.00** | **-31.59** | **P** | **L2** |

C.F.(Correction Factor)=Insertion Loss + Cable Loss
Corrected Reading = Metering Reading + C.F.
Margin=Corrected Reading - Limits

P=Peak Reading L1=Hot
Q=Quasi-peak L2=Neutral
A=Average Reading

Comments: **N/A**

# SUMMARY DATA
# (RADIATED EMISSION TEST)

**Model Number:** GENE-6310(N)

**Location:** Site # D

**Tested by:** Cliff Lai

**Polar:** Vertical / Horizontal– 10m

**Test Mode:** Mode 3

**Test Results:** Passed

**Temperature:** 25°C

**Humidity:** 81%RH

(The chart below shows the highest readings taken from the final data)

| Frequency Range Investigated (30 MHz TO 1000 MHz) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Freq (MHz) | Meter Reading (dBuV) | C.F. (dB/m) | Corrected Reading (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Reading Type P/Q/A | Pol. H/V |
| **33.598** | **44.55** | **-8.74** | **35.82** | **40.00** | **-4.18** | **P** | **V** |
| **42.917** | **42.16** | **-8.13** | **34.04** | **40.00** | **-5.96** | **P** | **V** |
| **57.438** | **42.94** | **-8.25** | **34.69** | **40.00** | **-5.32** | **P** | **V** |
| **71.938** | **42.12** | **-10.23** | **31.89** | **40.00** | **-8.11** | **P** | **V** |
| **199.622** | **39.36** | **-7.98** | **31.38** | **40.00** | **-8.62** | **P** | **V** |
| **33.598** | **42.70** | **-8.74** | **33.97** | **40.00** | **-6.03** | **P** | **H** |

C.F.(Correction Factor)=Antenna Factor + Cable Loss - Amplifier Gain ( + Attenuator 6dB)
Corrected Reading = Metering Reading + C.F.
Margin=Corrected Reading - Limits
P=Peak Reading H=Horizontal Polarization/Antenna
Q=Quasi-peak V=Vertical Polarization/Antenna
A=Average Reading

Comments: **N/A**

# SECTION 2 EN 61000-3-2 & EN 61000-3-3 (POWER HARMONICS & VOLTAGE FLUCTUATION / FLICKER)

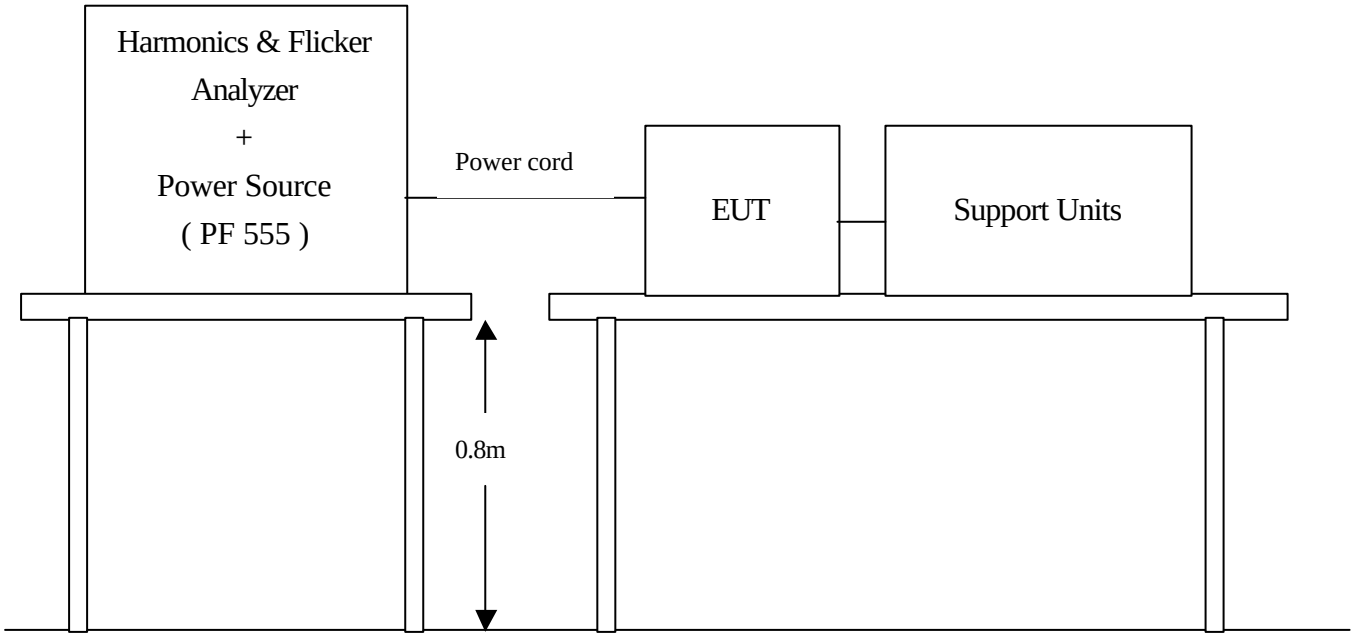
## POWER HARMONICS MEASUREMENT

**Port** : AC mains
**Basic Standard** : EN 61000-3-2 (1995+A1: 1998+A2: 1998 + A14: 2000)
**Limits** : ☐ Class A, ☑ Class D
**Temperature** : $24^0$C
**Humidity** : 74%
**Test By** : Yang

## VOLTAGE FLUCTUATION/FLICKER MEASUREMENT

**Port** : AC mains
**Basic Standard** : EN 61000-3-3 (1995)
**Limits** : § 5 of EN 61000-3-3
**Temperature** : $24^0$C
**Humidity** : 74%
**Test By** : Yang

## Block Diagram of Test Setup:




## Result:

Please see the attached test data.

Approved by: Vance Chiang

Signature: Yang Date: 4/2, 02

Final Test Result: PASS

Settings and Test Conditions Compliant to the Standard: Yes

Test Equipment Used:

Agilent 6842A Harmonic/Flicker Test System with serial number:
HFTS Software Version: A.05.03
Date Last Calibrated:

Test Equipment Settings:

| | |
|---|---|
| Line Voltage: 230.00 V | Current Measurement Range: High |
| Line Frequency: 50 Hz | Measurement Window Type: Rectangular |
| Device Class: D | Measurement Delay: 10 seconds |
| RMS Current Limit: 13.1 A | Quasi-stationary Test Duration: 30.00 minutes |
| Peak Current Limit: 80.8 A | Class Determination Pre-test Duration: 10.00 seconds |
| Number of Records: 5625 | |

Overrides:

Test Limit Source (Power Measurements/Statistics): Maximum
Power Overrides: None
Test Limit Overrides: None

Pre-test Results for Class Determination:

| | |
|---|---|
| Percent in Envelope: 100.0% | Voltage THD Out-of-Specification?: No |
| Class D Equipment?: Yes | Fundamental Current: 0.087 A |

| | | |
|---|---|---|
| RMS Voltage: 229.8 V | RMS Current: 0.2 A | Real Power: 19.8 W |
| Frequency: 50.0 Hz | Peak Current: 0.9 A | Apparent Power: 50.7 VA |
| Voltage THD: 0.03% | Current THD: 89.50% | Power Factor: 0.391 |
| Maximum Power: 19.8 W | Mean Power: 17.6 W | |

Active Power Statistics:

| | | |
|---|---|---|
| 100th Percentile: 19.8 W | 99th Percentile: 18.6 W | 95th Percentile: 18.6 |
| 90th Percentile: 18.0 W | 50th Percentile: 17.6 W | |

Total Number of Failures:

None

Total Number of Errors:

None

Final Test Data:

| Harmonic Number | Standard Limit (A rms) | Maximum Value (A rms) | Maximum Value (% Limit) | Mean Value (A rms) | Mean Value (% Limit) | Standard Deviation (A rms) | Standard Deviation (% Limit) | Pass (P) or Fail (F) |
|---|---|---|---|---|---|---|---|---|
| Fund. | | 0.0991 | | 0.0871 | | 0.0006 | | |
| 2 | | 0.0017 | | 0.0011 | | 0.0001 | | |
| 3 | 2.3000 | 0.0878 | 3.8 | 0.0752 | 3.3 | 0.0006 | 0.0 | P |
| 4 | | 0.0015 | | 0.0011 | | 0.0001 | | |
| 5 | 1.1400 | 0.0845 | 7.4 | 0.0726 | 6.4 | 0.0006 | 0.1 | P |
| 6 | | 0.0011 | | 0.0008 | | 0.0001 | | |
| 7 | 0.7700 | 0.0796 | 10.3 | 0.0688 | 8.9 | 0.0006 | 0.1 | P |
| 8 | | 0.0009 | | 0.0005 | | 0.0001 | | |
| 9 | 0.4000 | 0.0736 | 18.4 | 0.0641 | 16.0 | 0.0005 | 0.1 | P |
| 10 | | 0.0008 | | 0.0004 | | 0.0001 | | |
| 11 | 0.3300 | 0.0667 | 20.2 | 0.0588 | 17.8 | 0.0004 | 0.1 | P |
| 12 | | 0.0008 | | 0.0004 | | 0.0001 | | |
| 13 | 0.2100 | 0.0593 | 28.3 | 0.0529 | 25.2 | 0.0004 | 0.2 | P |
| 14 | | 0.0007 | | 0.0004 | | 0.0001 | | |
| 15 | 0.1500 | 0.0515 | 34.3 | 0.0467 | 31.1 | 0.0003 | 0.2 | P |
| 16 | | 0.0007 | | 0.0003 | | 0.0001 | | |
| 17 | 0.1324 | 0.0435 | 32.9 | 0.0403 | 30.5 | 0.0003 | 0.2 | P |
| 18 | | 0.0006 | | 0.0003 | | 0.0001 | | |
| 19 | 0.1184 | 0.0356 | 30.1 | 0.0339 | 28.6 | 0.0003 | 0.3 | P |
| 20 | | 0.0005 | | 0.0002 | | 0.0001 | | |
| 21 | 0.1071 | 0.0282 | 26.3 | 0.0275 | 25.7 | 0.0003 | 0.3 | P |
| 22 | | 0.0005 | | 0.0002 | | 0.0001 | | |
| 23 | 0.0978 | 0.0222 | 22.6 | 0.0214 | 21.9 | 0.0003 | 0.3 | P |
| 24 | | 0.0005 | | 0.0002 | | 0.0001 | | |
| 25 | 0.0900 | 0.0165 | 18.3 | 0.0158 | 17.6 | 0.0003 | 0.4 | P |
| 26 | | 0.0006 | | 0.0002 | | 0.0001 | | |
| 27 | 0.0833 | 0.0115 | 13.8 | 0.0108 | 13.0 | 0.0003 | 0.4 | P |
| 28 | | 0.0006 | | 0.0002 | | 0.0001 | | |
| 29 | 0.0776 | 0.0073 | 9.5 | 0.0067 | 8.7 | 0.0003 | 0.4 | P |
| 30 | | 0.0006 | | 0.0003 | | 0.0001 | | |
| 31 | 0.0726 | 0.0043 | 6.0 | 0.0039 | 5.4 | 0.0002 | 0.2 | P |
| 32 | | 0.0006 | | 0.0002 | | 0.0001 | | |
| 33 | 0.0682 | 0.0051 | 7.4 | 0.0032 | 4.7 | 0.0001 | 0.2 | P |
| 34 | | 0.0005 | | 0.0002 | | 0.0001 | | |
| 35 | 0.0643 | 0.0064 | 9.9 | 0.0042 | 6.5 | 0.0002 | 0.3 | P |
| 36 | | 0.0005 | | 0.0002 | | 0.0001 | | |
| 37 | 0.0608 | 0.0070 | 11.6 | 0.0053 | 8.7 | 0.0002 | 0.3 | P |
| 38 | | 0.0005 | | 0.0002 | | 0.0001 | | |
| 39 | 0.0577 | 0.0072 | 12.4 | 0.0059 | 10.2 | 0.0002 | 0.3 | P |
| 40 | | 0.0004 | | 0.0002 | | 0.0001 | | |

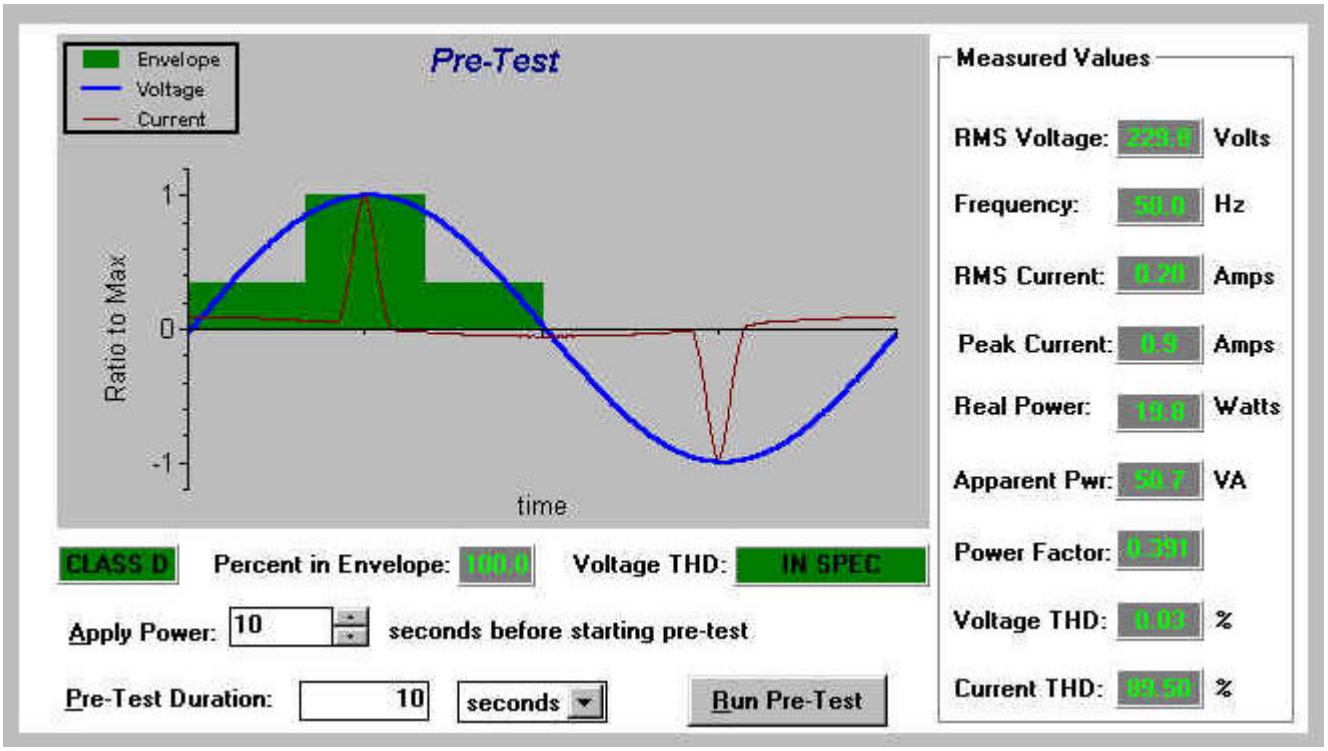
Pre-Test Source Voltage Harmonics Data:

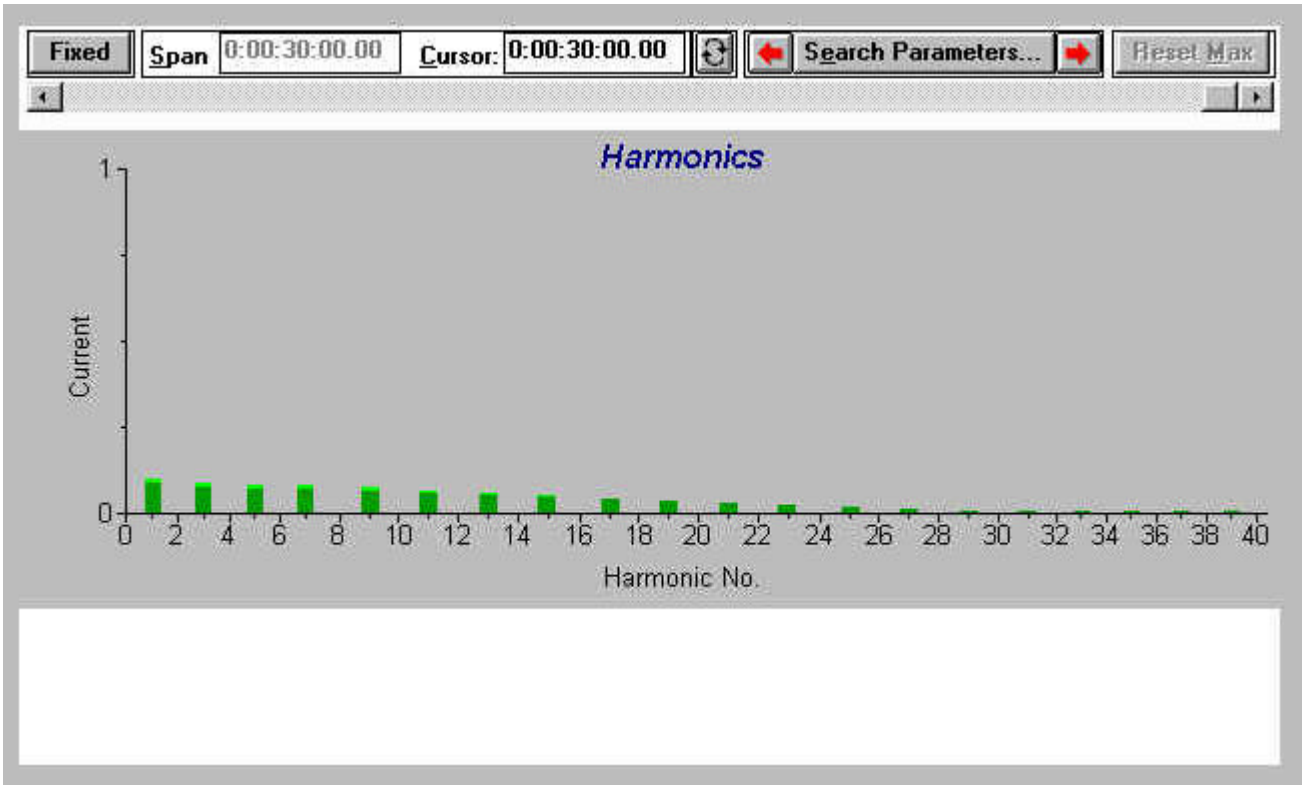
| Harmonic Number | Limit (%) | Limit (Volts) | Max (%) | Max (Volts) |
|---|---|---|---|---|
| Fund. | | | 100.0 | 229.840 |
| 2 | 0.20 | 0.460 | 0.004 | 0.010 |
| 3 | 0.90 | 2.069 | 0.006 | 0.013 |
| 4 | 0.20 | 0.460 | 0.005 | 0.012 |
| 5 | 0.40 | 0.919 | 0.007 | 0.016 |
| 6 | 0.20 | 0.460 | 0.003 | 0.006 |
| 7 | 0.30 | 0.690 | 0.005 | 0.012 |
| 8 | 0.20 | 0.460 | 0.001 | 0.003 |
| 9 | 0.20 | 0.460 | 0.006 | 0.013 |
| 10 | 0.20 | 0.460 | 0.003 | 0.007 |
| 11 | 0.10 | 0.230 | 0.005 | 0.011 |
| 12 | 0.10 | 0.230 | 0.003 | 0.007 |
| 13 | 0.10 | 0.230 | 0.007 | 0.016 |
| 14 | 0.10 | 0.230 | 0.001 | 0.003 |
| 15 | 0.10 | 0.230 | 0.005 | 0.011 |
| 16 | 0.10 | 0.230 | 0.003 | 0.007 |
| 17 | 0.10 | 0.230 | 0.008 | 0.018 |
| 18 | 0.10 | 0.230 | 0.003 | 0.007 |
| 19 | 0.10 | 0.230 | 0.008 | 0.018 |
| 20 | 0.10 | 0.230 | 0.002 | 0.005 |
| 21 | 0.10 | 0.230 | 0.007 | 0.016 |
| 22 | 0.10 | 0.230 | 0.003 | 0.007 |
| 23 | 0.10 | 0.230 | 0.005 | 0.011 |
| 24 | 0.10 | 0.230 | 0.002 | 0.005 |
| 25 | 0.10 | 0.230 | 0.005 | 0.010 |
| 26 | 0.10 | 0.230 | 0.003 | 0.006 |
| 27 | 0.10 | 0.230 | 0.001 | 0.003 |
| 28 | 0.10 | 0.230 | 0.002 | 0.004 |
| 29 | 0.10 | 0.230 | 0.005 | 0.012 |
| 30 | 0.10 | 0.230 | 0.001 | 0.002 |
| 31 | 0.10 | 0.230 | 0.001 | 0.003 |
| 32 | 0.10 | 0.230 | 0.002 | 0.004 |
| 33 | 0.10 | 0.230 | 0.002 | 0.004 |
| 34 | 0.10 | 0.230 | 0.003 | 0.006 |
| 35 | 0.10 | 0.230 | 0.001 | 0.003 |
| 36 | 0.10 | 0.230 | 0.001 | 0.003 |
| 37 | 0.10 | 0.230 | 0.001 | 0.003 |
| 38 | 0.10 | 0.230 | 0.002 | 0.004 |
| 39 | 0.10 | 0.230 | 0.003 | 0.006 |
| 40 | 0.10 | 0.230 | 0.001 | 0.003 |

Final Test Statistics:

| Harmonic Number | Standard Limit (A rms) | Maximum Value (A rms) | Maximum Value (% Limit) | >50% of Limit (Count) | >75% of Limit (Count) | >90% of Limit (Count) | >95% of Limit (Count) | >100% of Limit (Count) | Pass(P) or Fail(F) |
|---|---|---|---|---|---|---|---|---|---|
| Fund. | | 0.0991 | | | | | | | |
| 2 | | 0.0017 | | 0 | 0 | 0 | 0 | 0 | |
| 3 | 2.3000 | 0.0878 | 3.8 | 0 | 0 | 0 | 0 | 0 | P |
| 4 | | 0.0015 | | 0 | 0 | 0 | 0 | 0 | |
| 5 | 1.1400 | 0.0845 | 7.4 | 0 | 0 | 0 | 0 | 0 | P |
| 6 | | 0.0011 | | 0 | 0 | 0 | 0 | 0 | |
| 7 | 0.7700 | 0.0796 | 10.3 | 0 | 0 | 0 | 0 | 0 | P |
| 8 | | 0.0009 | | 0 | 0 | 0 | 0 | 0 | |
| 9 | 0.4000 | 0.0736 | 18.4 | 0 | 0 | 0 | 0 | 0 | P |
| 10 | | 0.0008 | | 0 | 0 | 0 | 0 | 0 | |
| 11 | 0.3300 | 0.0667 | 20.2 | 0 | 0 | 0 | 0 | 0 | P |
| 12 | | 0.0008 | | 0 | 0 | 0 | 0 | 0 | |
| 13 | 0.2100 | 0.0593 | 28.3 | 0 | 0 | 0 | 0 | 0 | P |
| 14 | | 0.0007 | | 0 | 0 | 0 | 0 | 0 | |
| 15 | 0.1500 | 0.0515 | 34.3 | 0 | 0 | 0 | 0 | 0 | P |
| 16 | | 0.0007 | | 0 | 0 | 0 | 0 | 0 | |
| 17 | 0.1324 | 0.0435 | 32.9 | 0 | 0 | 0 | 0 | 0 | P |
| 18 | | 0.0006 | | 0 | 0 | 0 | 0 | 0 | |
| 19 | 0.1184 | 0.0356 | 30.1 | 0 | 0 | 0 | 0 | 0 | P |
| 20 | | 0.0005 | | 0 | 0 | 0 | 0 | 0 | |
| 21 | 0.1071 | 0.0282 | 26.3 | 0 | 0 | 0 | 0 | 0 | P |
| 22 | | 0.0005 | | 0 | 0 | 0 | 0 | 0 | |
| 23 | 0.0978 | 0.0222 | 22.6 | 0 | 0 | 0 | 0 | 0 | P |
| 24 | | 0.0005 | | 0 | 0 | 0 | 0 | 0 | |
| 25 | 0.0900 | 0.0165 | 18.3 | 0 | 0 | 0 | 0 | 0 | P |
| 26 | | 0.0006 | | 0 | 0 | 0 | 0 | 0 | |
| 27 | 0.0833 | 0.0115 | 13.8 | 0 | 0 | 0 | 0 | 0 | P |
| 28 | | 0.0006 | | 0 | 0 | 0 | 0 | 0 | |
| 29 | 0.0776 | 0.0073 | 9.5 | 0 | 0 | 0 | 0 | 0 | P |
| 30 | | 0.0006 | | 0 | 0 | 0 | 0 | 0 | |
| 31 | 0.0726 | 0.0043 | 6.0 | 0 | 0 | 0 | 0 | 0 | P |
| 32 | | 0.0006 | | 0 | 0 | 0 | 0 | 0 | |
| 33 | 0.0682 | 0.0051 | 7.4 | 0 | 0 | 0 | 0 | 0 | P |
| 34 | | 0.0005 | | 0 | 0 | 0 | 0 | 0 | |
| 35 | 0.0643 | 0.0064 | 9.9 | 0 | 0 | 0 | 0 | 0 | P |
| 36 | | 0.0005 | | 0 | 0 | 0 | 0 | 0 | |
| 37 | 0.0608 | 0.0070 | 11.6 | 0 | 0 | 0 | 0 | 0 | P |
| 38 | | 0.0005 | | 0 | 0 | 0 | 0 | 0 | |
| 39 | 0.0577 | 0.0072 | 12.4 | 0 | 0 | 0 | 0 | 0 | P |
| 40 | | 0.0004 | | 0 | 0 | 0 | 0 | 0 | |

Remarks


Envelope
Voltage
Current
Pre-Test
Ratio to Max
1
0
-1
time
CLASS D
Percent in Envelope:
100.0
Voltage THD:
IN SPEC
Apply Power:
10
seconds before starting pre-test
Pre-Test Duration:
10
seconds
Run Pre-Test
Measured Values
RMS Voltage:
229.9
Volts
Frequency:
50.0
Hz
RMS Current:
0.20
Amps
Peak Current:
0.9
Amps
Real Power:
19.8
Watts
Apparent Pwr:
50.7
VA
Power Factor:
0.391
Voltage THD:
0.03
%
Current THD:
89.50
%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Span 0:00:30:00.00
Cursor: 0:00:30:00.00
Search Parameters...
Reset Max
Harmonics
Current
1
0
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40
Harmonic No.

Approved by: Vince Chiang

Signature: Yang Date: 4/2.02

Final Test Result: PASS

Settings and Test Conditions Compliant to the Standard: Yes

Test Equipment Used:

Agilent 6842A Harmonic/Flicker Test System with serial number:
HFTS Software Version: A.05.03
Date Last Calibrated:

Test Equipment Settings:

| | |
|---|---|
| Line Voltage: 230.00 V | Pst Integration Time: 10 minutes |
| Line Frequency: 50 Hz | Pst Integration Periods: 3 |
| Measurement Delay: 10.0 seconds | Test Duration: 00:30:00 |
| RMS Current Limit: 13.1 A | Peak Current Limit: 80.8 A |

Overrides:

Pst/Plt Test Limit Overrides: None
RMS Test Limit Overrides: None

Equipment Under Test Pre-test Results:

| | | |
|---|---|---|
| RMS Voltage: 229.8 V | RMS Current: 0.2 A | Real Power: 17.5 W |
| Frequency: 50.0 Hz | Peak Current: 0.9 A | Apparent Power: 46.1 VA |
| Voltage THD: 0.03% | Current THD: 89.58% | Power Factor: 0.380 |

Total Number of Failures:

| | | |
|---|---|---|
| Pst: 0 | Dc: 0 | |
| Plt: 0 | Dmax: 0 | |
| | Dt: 0 | |

Total Number of Errors:

None

Final Test Summary:
---

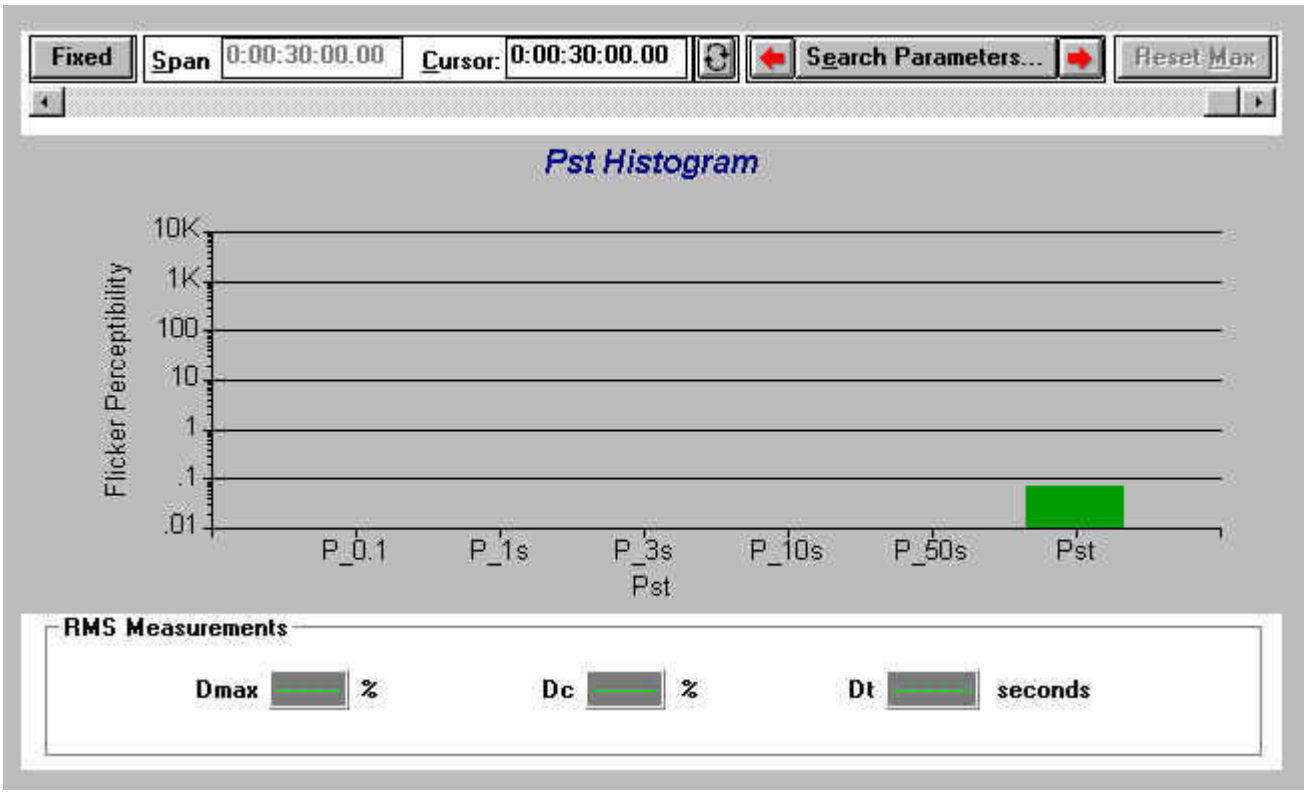
| | | | | | |
|---|---|---|---|---|---|
| Dmax: | 0.0 | Pst: | 0.07 | P_0.1: | 0.01 |
| Dc: | 0.0 | Plt: | 0.07 | P_1s: | 0.01 |
| Dt: | 0.00 | Plt Threshold: | 0.65 | P_3s: | 0.01 |
| | | | | P_10s: | 0.01 |
| | | | | P_50s: | 0.01 |

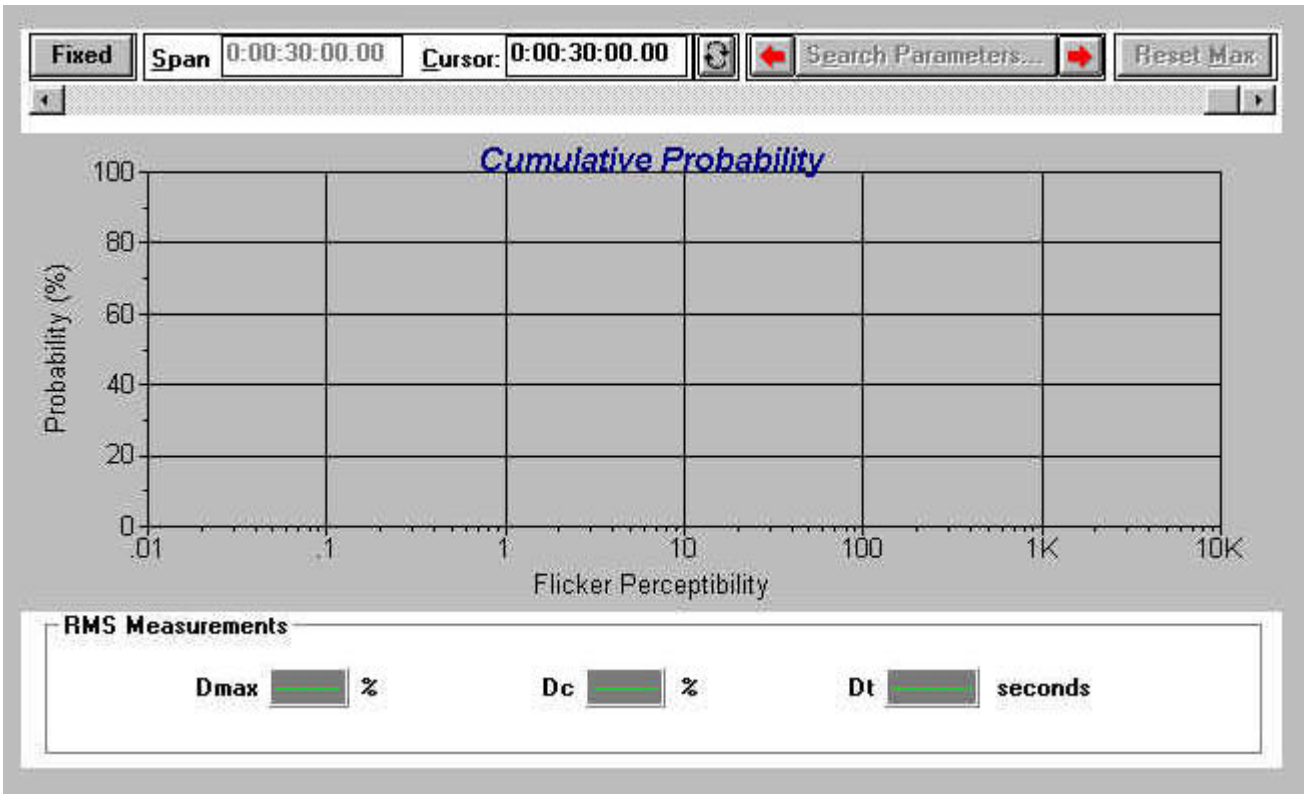
Final Test Data by Integration Period:
---

Number of Integration Periods: 3

| Integration Periods | Pst (P.U.) | P_0.1 (P.U.) | P_1.0s (P.U.) | P_3.0s (P.U.) | P_10s (P.U.) | P_50s (P.U.) | Dc (%) | Dmax (%) | Dt (seconds) | Pass(P) or Fail(F) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.07 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | ----- | ----- | -------- | N/A |
| 2 | 0.07 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | ----- | ----- | -------- | N/A |
| 3 | 0.07 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | ----- | ----- | -------- | N/A |

Remarks
---


Fixed
Span 0:00:30:00.00
Cursor: 0:00:30:00.00
Search Parameters...
Reset Max
Pst Histogram
Flicker Perceptibility
10K
1K
100
10
1
.1
.01
P_0.1
P_1s
P_3s
P_10s
P_50s
Pst
Pst
RMS Measurements
Dmax %
Dc %
Dt seconds

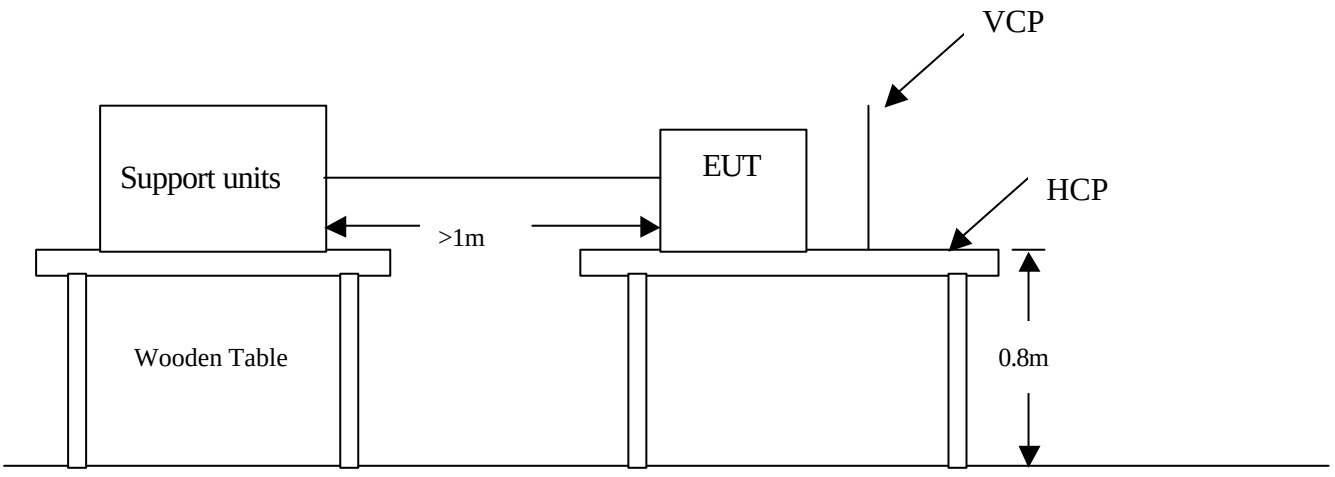

Fixed
Span 0:00:30:00.00
Cursor: 0:00:30:00.00
Search Parameters...
Reset Max
Cumulative Probability
Probability (%)
100
80
60
40
20
0
.01
.1
1
10
100
1K
10K
Flicker Perceptibility
RMS Measurements
Dmax %
Dc %
Dt seconds

# SECTION 3 IEC 61000-4-2 (ELECTROSTATIC DISCHARGE)

## ELECTROSTATIC DISCHARGE (ESD) IMMUNITY TEST

| | | |
|---|---|---|
| **Port** | **:** | Enclosure |
| **Basic Standard** | **:** | IEC 61000-4-2 |
| **Requirements** | **:** | ±8 kV (Air Discharge) |
| | | ±4kV (Contact Discharge) |
| | | ±4kV (Indirect Discharge) |
| **Performance Criteria** | **:** | B ( Standard require ) |
| **Temperature/Humidity** | **:** | $20^0$C /60% |
| **Test By** | **:** | Yang |

## Block Diagram of Test Setup:



## Test Procedure:

1. The EUT was located 0.1 m minimum from all side of the HCP.
2. The support units were located 1 m minimum away from the EUT.
3. A communication test program was loaded and executed in Windows mode.
4. PC sent transmit data to remote side via EUT.
5. As per the requirement of EN 55024; applying direct contact discharge at the sides other than front of EUT at minimum 50 discharges (25 positive and 25 negative) if applicable, can't be applied direct contact discharge side of EUT then the indirect discharge shall be applied. One of the test points shall be subjected to at least 50 indirect discharge (contact) to the front edge of horizontal coupling plane.
6. Other parts of EUT where it is not possible to perform contact discharge then selecting appropriate points of EUT for air discharge, a minimum of 10 single air discharges shall be applied.
7. The application of ESD to the contact of open connectors is not required.
8. Putting a mark on EUT to show tested points. The following test condition was followed during the tests.

The electrostatic discharges were applied as follows:

| Amount of Discharges | Voltage | Coupling | Result (Pass/Fail) |
|---|---|---|---|
| Mini 25 /Point | ±4kV | Contact Discharge | Pass |
| Mini 25 /Point | ±4kV | Indirect Discharge HCP (Front) | Pass |
| Mini 25 /Point | ±4kV | Indirect Discharge VCP (Back) | Pass |
| Mini 25 /Point | ±4kV | Indirect Discharge VCP (Left) | Pass |
| Mini 25 /Point | ±4kV | Indirect Discharge VCP (Right) | Pass |
| Mini 10 /Point | ±8kV | Air Discharge | Pass |

**** The tested points to EUT, please refer to attached page.**

**(Blue arrow mark for contact discharge, red arrow mark for air discharge.)**

## Performance & Result:

[V] **Criteria A:** The apparatus continues to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance.

[ ] **Criteria B:** The apparatus continues to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed.

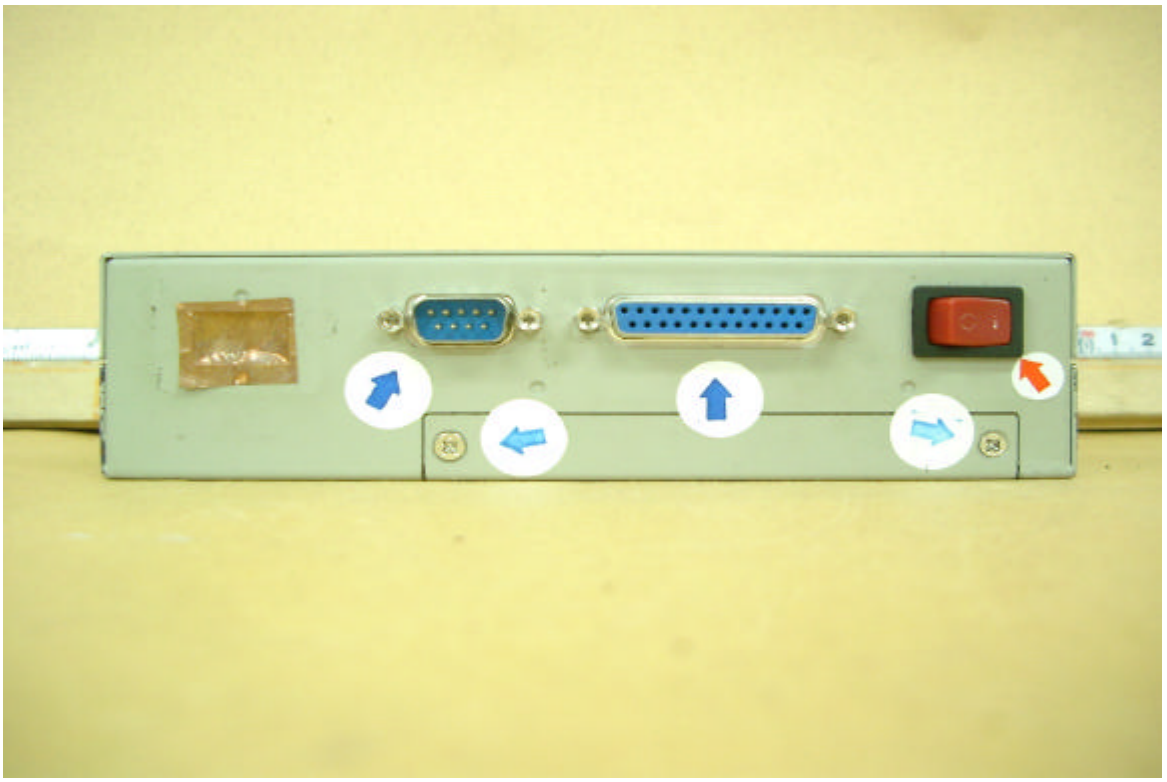
[ ] **Criteria C:** Temporary loss of function is allowed, provided the functions self recoverable or can be restored by the operation of controls.

[V] ***PASS*** [ ] ***FAILED***

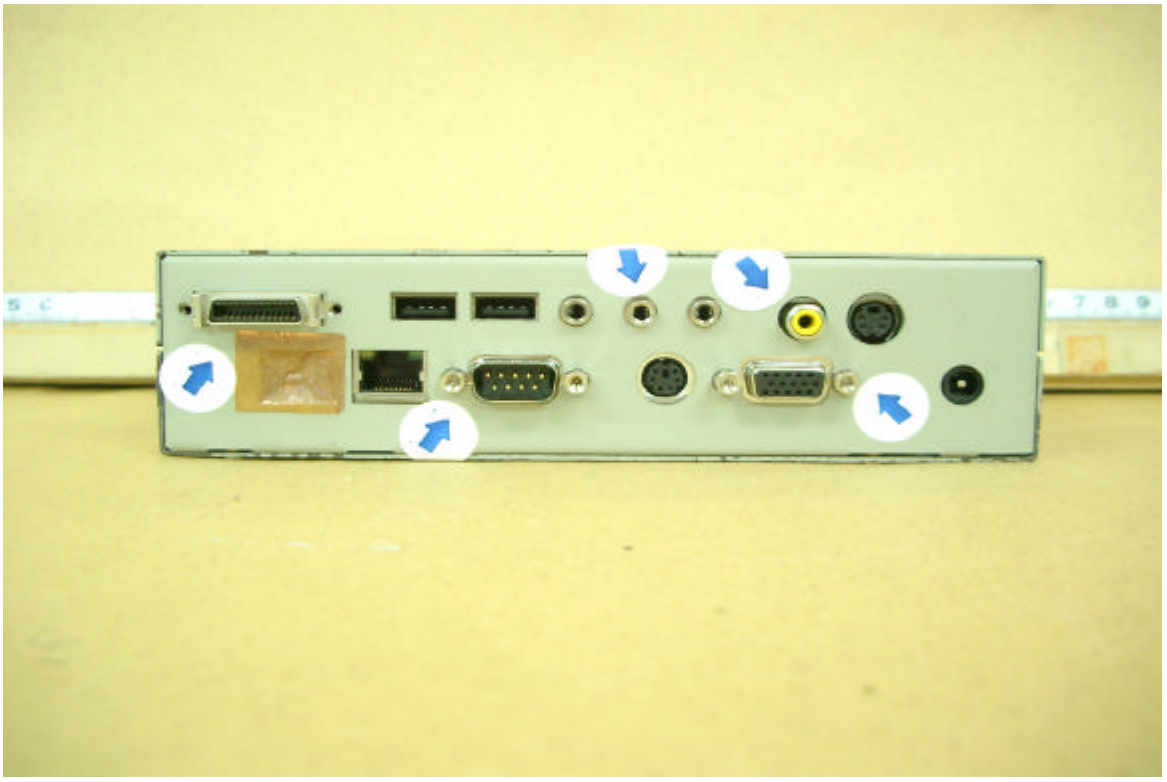
**Observation: No any function degraded during the tests.**

## *The Tested Points of EUT*

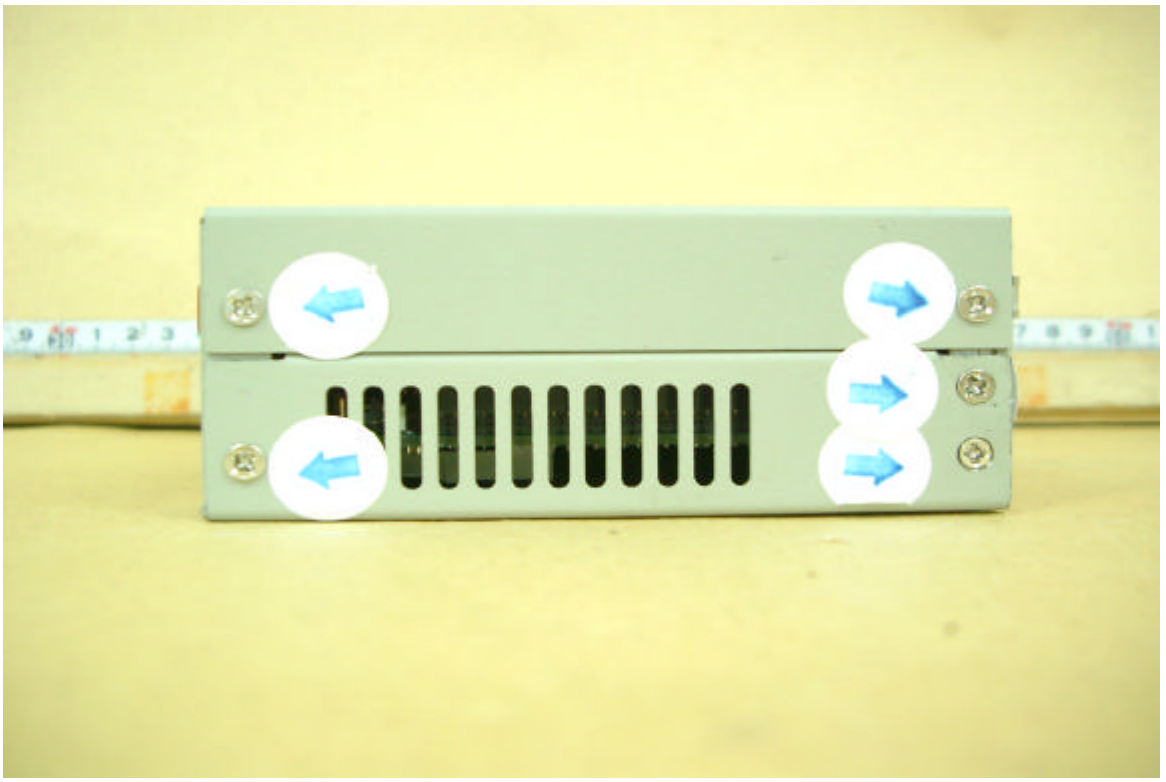
***(Photo 1 of 6)***



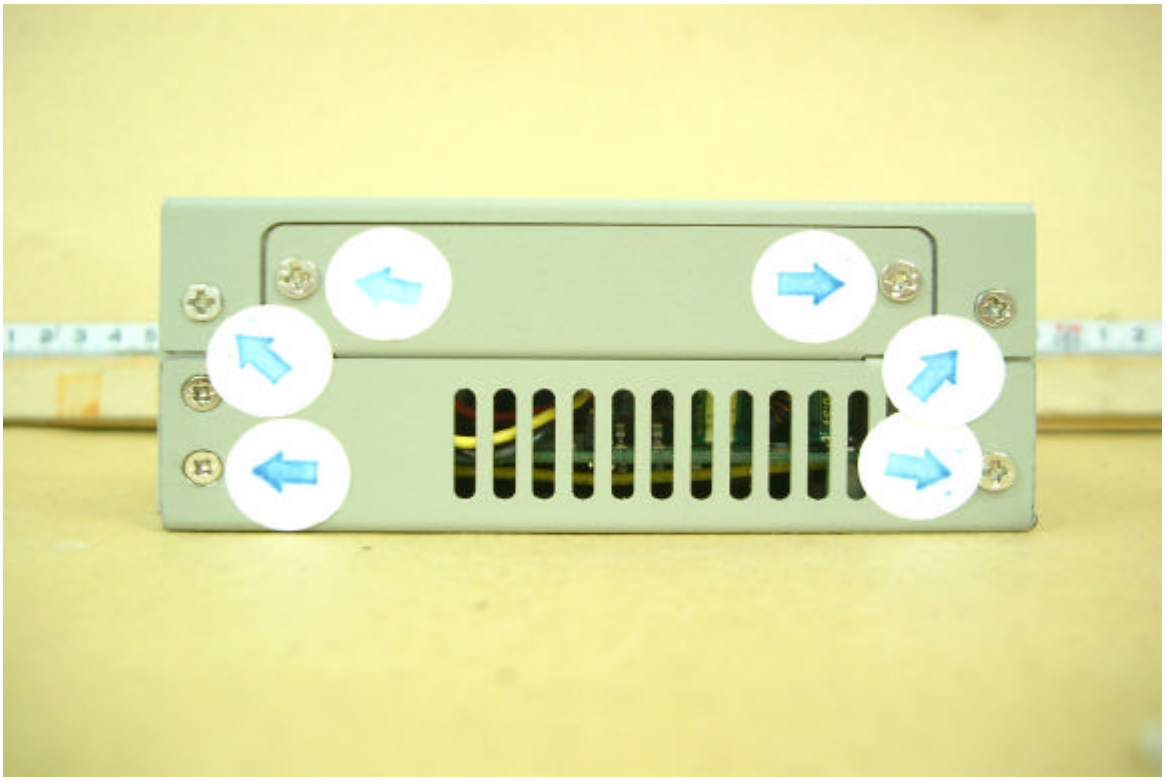
***(Photo 2 of 6)***



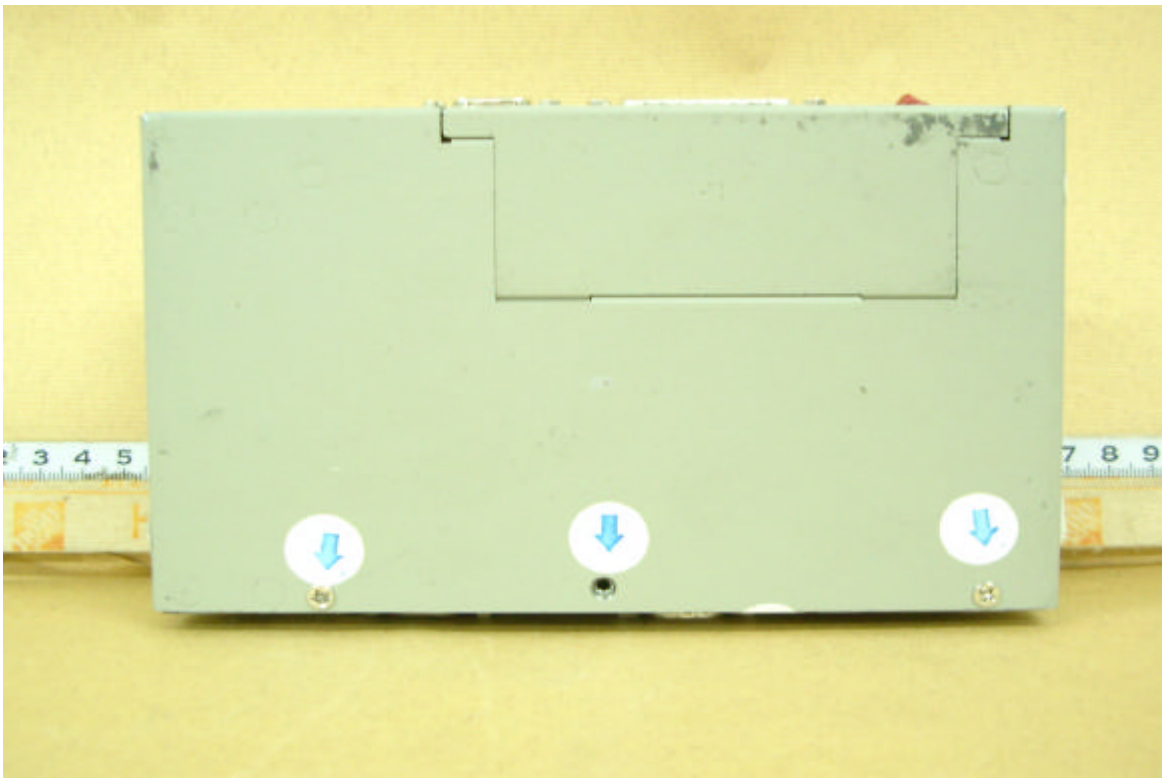
***(Photo 3 of 6)***



***(Photo 4 of 6)***



***(Photo 5 of 6)***



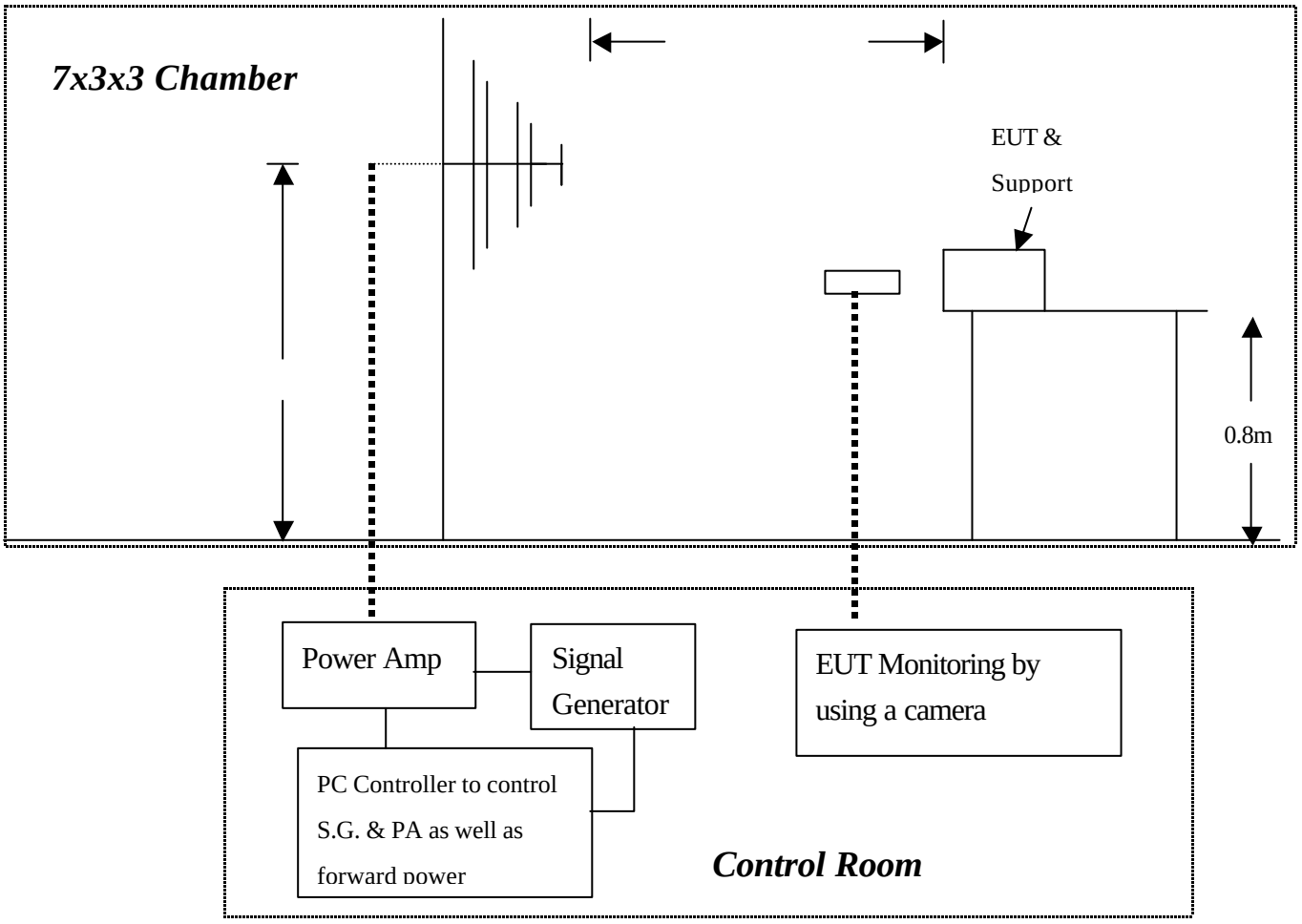
***(Photo6 of 6)***

# SECTION 4 IEC 61000-4-3 (RADIATED ELECTROMAGNETIC FIELD )

## RADIATED ELECTROMAGNETIC FIELD IMMUNITY TEST

| | | |
|---|---|---|
| **Port** | **:** | Enclosure |
| **Basic Standard** | **:** | IEC 61000-4-3 |
| **Requirements** | **:** | 3 V/m / with 80% AM. 1kHz Modulation |
| **Performance Criteria** | **:** | A (Standard require) |
| **Tester** | **:** | Yang |
| **Temperature** | **:** | 24℃ |
| **Humidity** | **:** | 74% |
| **Note** | **:** | The EUT not have acoustic interfaces, the annex A of EN 55024 should not be applied. |

## Block Diagram of Test Setup:



## Test Procedure:

1. The EUT and support units were located at the edge of supporting table keep 3 meter away from transmitting antenna, it just the calibrated square area of field uniformity.
2. Adjusting the cables to be exposed to the electromagnetic filed as possible.
3. Performing a Radiated Emission Scan in range of 30 to 1000 MHz prior to do RS test and records the more higher emission frequencies for the reference of RS test, due to antenna effectiveness.
4. Adjusting the monitoring camera to monitor the "H" message as clear as possible.
5. Setting the testing parameters of RS test software per IEC 61000-4-3.
6. Referring to the tested data of step 3 to performing the RS test from 80 to 1000 MHz.
7. Recording the test result in following table.
8. Changing the EUT to the other side and repeat step 3 to 6, until 4 sides of EUT were verified.

**IEC 61000-4-3 Final test conditions:**

Test level : 3V/m
Steps : 1 % of fundamental
Dwell Time : 3 sec

| Range (MHz) | Field | Modulation | Polarity | Position (°) | Result (Pass/Fail) |
|---|---|---|---|---|---|
| 80-1000 | 3V | Yes | H | Front | Pass |
| 80-1000 | 3V | Yes | V | Front | Pass |
| 80-1000 | 3V | Yes | H | Right | Pass |
| 80-1000 | 3V | Yes | V | Right | Pass |
| 80-1000 | 3V | Yes | H | Back | Pass |
| 80-1000 | 3V | Yes | V | Back | Pass |
| 80-1000 | 3V | Yes | H | Left | Pass |
| 80-1000 | 3V | Yes | V | Left | Pass |

## Performance & Result:

☑ **Criteria A:** The apparatus continues to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance.

☐ **Criteria B:** The apparatus continues to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed.

☐ **Criteria C:** Temporary loss of function is allowed, provided the functions self recoverable or can be restored by the operation of controls.

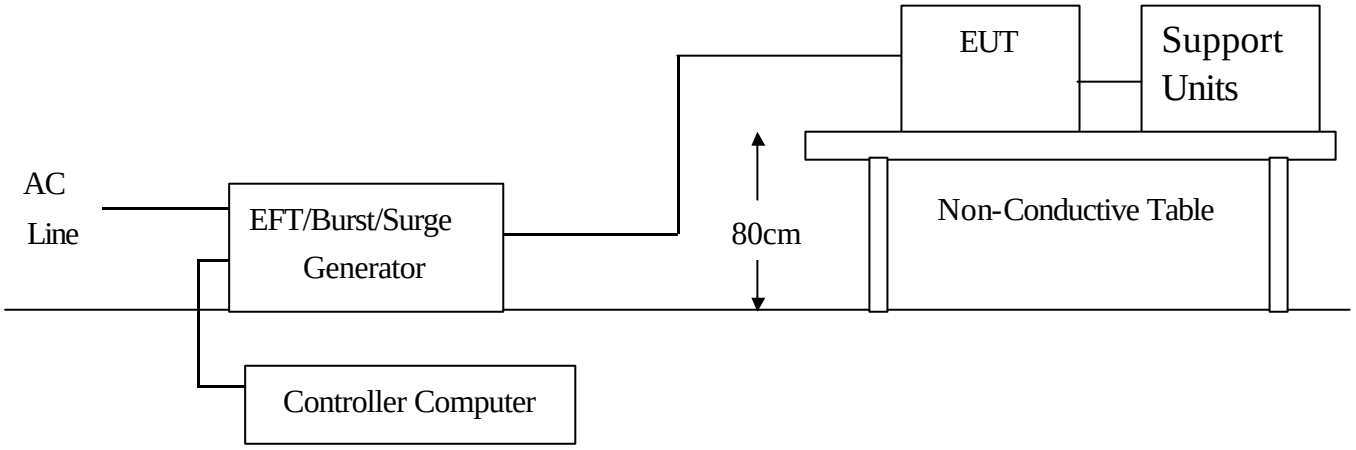
| ☑ ***PASS*** ☐ ***FAILED*** |
|---|
| **Observation: No any function degraded during the tests.** |

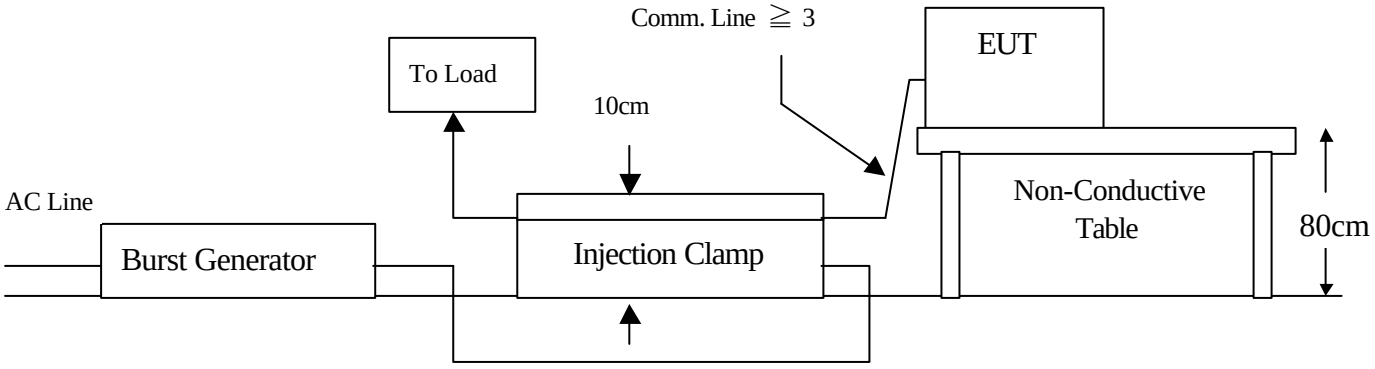
# SECTION 5 IEC 61000-4-4 (FAST TRANSIENTS/BURST)

## FAST TRANSIENTS/BURST IMMUNITY TEST

| | |
|---|---|
| **Port** | **:** On Power Lines and Data Line |
| **Basic Standard** | **:** IEC 61000-4-4 |
| **Requirements** | **:** ±1kV for Power Supply Lines<br>±0.5kV to Data Line |
| **Performance Criteria** | **:** B (Standard require) |
| **Temperature** | **:** $24^0$C |
| **Humidity** | **:** 74% |
| **Test By** | **:** Yang |

## Block Diagram of Test Setup:



## Test Procedure:

1. The EUT and support units were located on a wooden table 0.8 m away from ground reference plane.
2. A 1.0 meter long power cord was attached to EUT during the test.
3. The length of communication cable between communication port and clamp was keeping within 1 meter.
4. A test program was loaded and executed in Windows mode.
5. The data was display on the monitor and filling the screens.
6. The test program exercised related support units sequentially.
7. Repeating step 3 to 6 through the test.
8. Recording the test result as shown in following table.

**Test conditions:**
Impulse Frequency: 5kHz
Tr/Th: 5/50ns
Burst Duration: 15ms
Burst Period: 300mS

| Inject Line | Voltage kV | Inject Method | Result (Pass/Fail) |
|---|---|---|---|
| L1 | ±1 | Direct | Pass |
| N | ±1 | Direct | Pass |
| PE | ±1 | Direct | Pass |
| L1+N | ±1 | Direct | Pass |
| L1+PE | ±1 | Direct | Pass |
| N+PE | ±1 | Direct | Pass |
| L1 + N + PE | ±1 | Direct | Pass |
| RJ45 | ±0.5 | Clamp | Pass |

## Performance & Result:

[V] **Criteria A:** The apparatus continues to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance.

[ ] **Criteria B:** The apparatus continues to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed.

[ ] **Criteria C:** Temporary loss of function is allowed, provided the functions self recoverable or can be restored by the operation of controls.

[V] ***PASS*** [ ] ***FAILED***

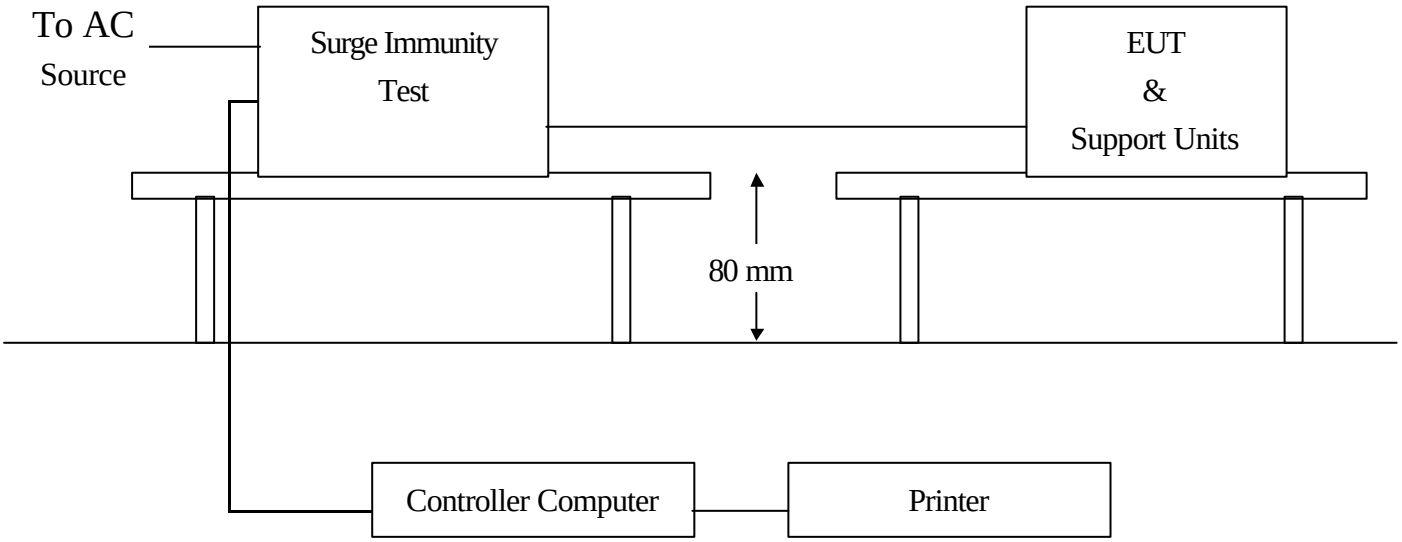
**Observation: No any function degraded during the tests.**

# SECTION 6 IEC 61000-4-5 ( SURGE IMMUNITY )

## SURGE IMMUNITY TEST

| | | |
|---|---|---|
| **Port** | **:** | Power Cord |
| **Basic Standard** | **:** | IEC 61000-4-5 |
| **Requirements** | **:** | +/- 1kV (Line to Line of Power Port) |
| | | +/- 2kV (Line to Earth of Power Port) |
| **Performance Criteria** | **:** | B (Standard require) |
| **Temperature** | **:** | 24℃ |
| **Humidity** | **:** | 74% |
| **Test By** | **:** | Yang |

## Block Diagram of Test Setup:



## Test Procedure:

1. The EUT and support units were located on a wooden table 0.8 m away from ground floor.
2. A test program was loaded and executed in Windows mode.
3. The data was display on the monitor and filling the screens.
4. The test program exercised related support units sequentially.
5. Repeating step 3 to 4 through the test.
6. Recording the test result as shown in following table.

**Test conditions:**
Voltage Waveform : 1.2/50 us
Current Waveform : 8/20 us
Polarity : Positive/Negative
Phase angle : 0°, 90°, 270°
Number of Test : 5

| Coupling Line | Voltage (kV) | Polarity | Coupling Method | Result (Pass/Fail) |
|---|---|---|---|---|
| L1-L2、 L1-PE、 L2-PE | 1 | Positive | Capacitive | Pass |
| L1-L2、 L1-PE、 L2-PE | 1 | Negative | Capacitive | Pass |
| L1-PE、L2-PE | 2 | Positive | Capacitive | Pass |
| L1-PE、L2-PE | 2 | Negative | Capacitive | Pass |

## Performance & Result:

[V] **Criteria A:** The apparatus continues to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance.

[ ] **Criteria B:** The apparatus continues to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed.

[ ] **Criteria C:** Temporary loss of function is allowed, provided the functions self recoverable or can be restored by the operation of controls.

[V] ***PASS*** [ ] ***FAILED***

**Observation: No any function degraded during the tests.**

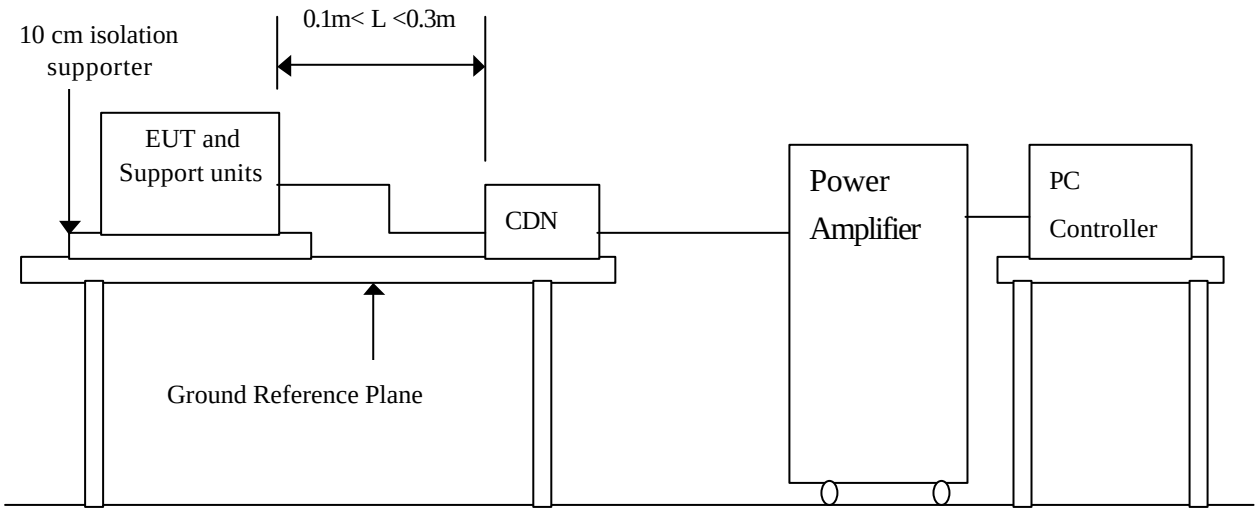
# SECTION 7 IEC 61000-4-6 (CONDUCTED DISTRBANCE/INDUCED BY RADIO-FREQUENCY FIELD)

# SECTION 7 IEC 61000-4-6 (CONDUCTED DISTRBANCE/INDUCED BY RADIO-FREQUENCY FIELD)

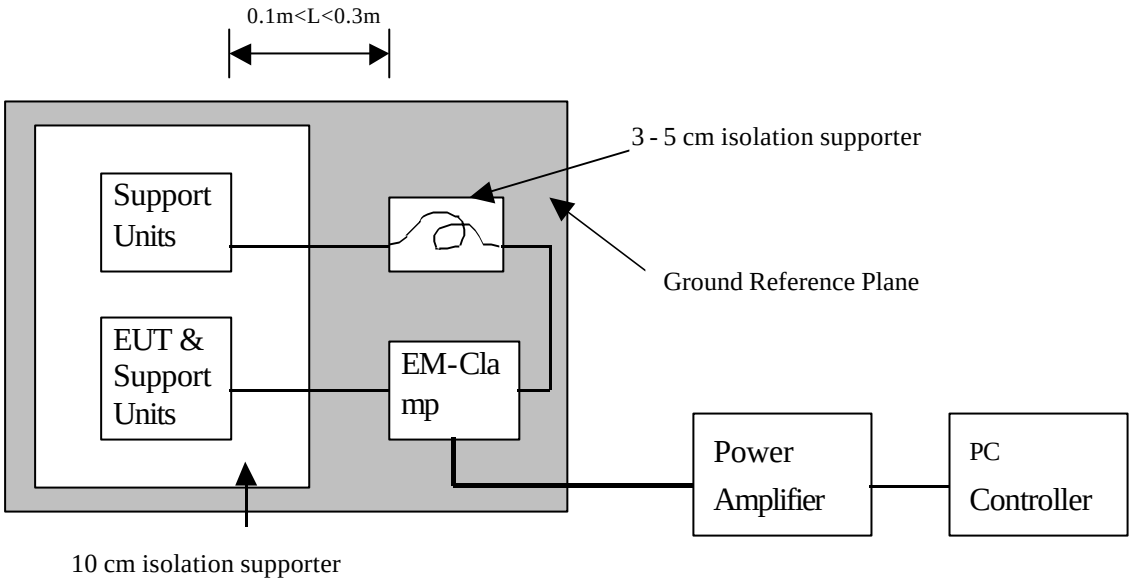
## CONDUCTED DISTURBANCE, INDUCED BY RADIO-FREQUENCY FIELDS

| | |
|---|---|
| **Port** | **:** AC Port and Line Cable |
| **Base Standard** | **:** IEC 61000-4-6 |
| **Requirements** | **:** 3 V with 80% AM. Modulation |
| **Injection Method** | **:** CDN for Power Cord |
| | RF Current Probe for I/O Cable |
| **Performance Criteria** | **:** A (Standard require) |
| **Temperature** | **:** $24^0$C |
| **Humidity** | **:** 74% |
| **Test By** | **:** Yang |

## Block Diagram of Test Setup:



## Top view:




## Test Procedure:

1. The EUT and support units were located at a ground reference plane with the interposition of a 0.1 m thickness insulating support and the CDN was located on GRP directly.
2. Transmit data messages were displayed on screen of Monitor.
3. Adjusting the monitoring camera to monitor the transmit data message as clear as possible.
4. Setting the testing parameters of CS test software per EN 61000-4-6.
5. Recording the test result in following table.

**Test conditions:**

Frequency Range : 0.15MHz-80MHz

Frequency Step : 1% of fundamental

Dwell Time : 3 sec

| Range (MHz) | Field | Modulation | Result (Pass/Fail) |
|---|---|---|---|
| 0.15-80 | 3V | Yes | Pass |

## Performance & Result:

☑ **Criteria A:** The apparatus continues to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance.

☐ **Criteria B:** The apparatus continues to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed.

☐ **Criteria C:** Temporary loss of function is allowed, provided the functions self-recoverable or can be restored by the operation of controls.

☑ ***PASS*** ☐ ***FAILED***

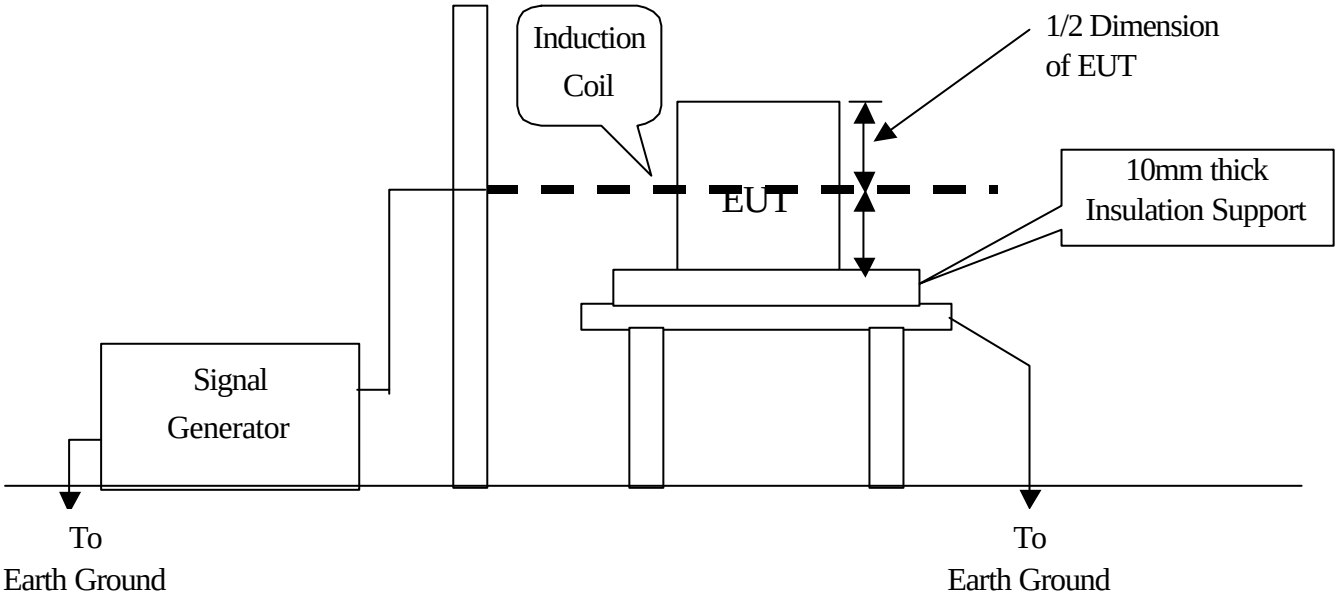
**Observation: No any function degraded during the tests.**

# SECTION 8 IEC 61000-4-8 (POWER FREQUENCY MAGNETIC FIELD IMMUNITY TEST)

## POWER FREQUENCY MAGNETIC FIELD IMMUNITY TEST

| | |
|---|---|
| **Port** | **:** Enclosure |
| **Basic Standard** | **:** IEC 61000-4-8 |
| **Requirements** | **:** 1 A/m |
| **Performance Criteria** | **:** A (Standard Required) |
| **Temperature** | **:** N/A |
| **Humidity** | **:** N/A |
| **Test By** | **:** N/A |

## Block Diagram of Test Setup:



## Test Procedure:

1. The EUT and support units were located on Ground Reference Plane with the interposition of a 0.1 m thickness insulation support.
2. Putting the induction coil on horizontal direction.( X direction )
3. A test program was loaded and executed in Windows mode.
4. The data was sent to the screen of EUT and filling the screen with upper case of "H" patterns.
5. The test program exercised related support units sequentially.
6. Repeating step 3 to 5 through the test.
7. Recording the test result as shown in following table.
8. Rotating the induction coil by $90^0$ ( Y direction ) then repeat step 3 to 7.
9. Rotating the induction coil by $90^0$ again ( Z direction ) then repeat step 3 to 7.

*. Test conditions:
Field Strength: 1A/m
Power Freq.: 50Hz
Orientation: X, Y, Z

| Orientation | Field | Result (Pass/Fail) | Remark |
|---|---|---|---|
| | | | |

****Note:** Not applicable, because no any component can be influenced by power magnetic fields.

## Performance & Result:

☐ **Criteria A:** The apparatus continues to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance.

☐ **Criteria B:** The apparatus continues to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed.

☐ **Criteria C:** Temporary loss of function is allowed, provided the functions self recoverable or can be restored by the operation of controls.

| ***PASS*** | ☐ ***FAILED*** |
|---|---|

**Observation: N/A(EUT Without any magnetic component)**

# SECTION 9 IEC 61000-4-11 (VOLTAGE DIPS, SHORT INTERRUPTIONS AND VOLTAGE VARIATIONS )

## VOLTAGE DIPS / SHORT INTERRUPTIONS

**Port** : AC mains

**Basic Standard** : IEC 61000-4-11 (1994)

**Requirement** : PHASE ANGLE 0, 45, 90, 135, 180, 225, 270, 315 degrees

| | Test Level % $U_T$ | Reduction (%) | Duration ( periods ) | Performance Criteria |
|---|---|---|---|---|
| **Voltage Dips** | <5 | >95 | 0.5 | B |
| | 70 | 30 | 25 | C |

| | Test Level % $U_T$ | Reduction (%) | Duration ( periods ) | Performance Criteria |
|---|---|---|---|---|
| **Voltage Interceptions** | <5 | >95 | 250 | C |

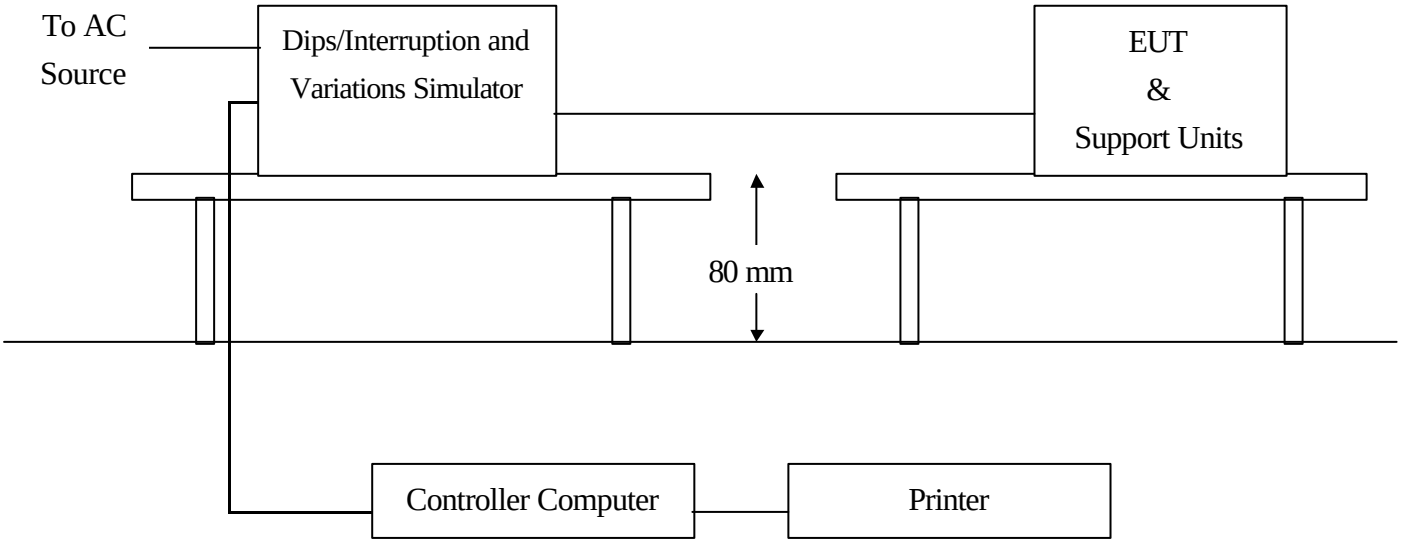
**Test Interval** : Min. 10 sec.

**Temperature** : $24^0$C

**Humidity** : 74%

**Test By** : Yang

## Block Diagram of Test Setup:



## Test Procedure:

1. The EUT and support units were located on a wooden table, 0.8 m away from ground floor.
2. A test program was loaded and executed in Windows mode.
3. The data was displayed on the monitor and filling the screens.
4. The test program exercised related support units sequentially.
5. Setting the parameter of tests and then Perform the test software of test simulator.
6. Conditions changes to occur at 0 degree crossover point of the voltage waveform.
7. Repeating step 3 to 4 through the test.
8. Recording the test result in test record form.

**Test conditions:**

The duration with a sequence of three dips/interruptions with interval of 10s minimum ( between each test events)

**Voltage Dips:**

| Test Level % $U_T$ | Reduction (%) | Duration ( periods) | Observation | Meet Performance Criteria |
|---|---|---|---|---|
| 0 | 100 | 0.5 | Normal | A |
| 70 | 30 | 25 | Normal | A |

**Voltage Interruptions:**

| Test Level % $U_T$ | Reduction (%) | Duration ( periods) | Observation | Meet Performance Criteria |
|---|---|---|---|---|
| 0 | 100 | 250 | EUT shut down, But EUT can be auto recovered after EUT restart. | C |

**Normal:** No any functions degrade during and after the test.

## Performance & Result:

**Criteria A:** The apparatus continues to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance.

**Criteria B:** The apparatus continues to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed.

**Criteria C:** Temporary loss of function is allowed, provided the functions self recoverable or can be restored by the operation of controls.

[V] ***PASS*** [ ] ***FAILED***

# APPENDIX 1

# PHOTOGRAPHS OF TEST SETUP

# LINE CONDUCTED EMISSION TEST (EN 55022)

# RADIATED EMISSION TEST (EN 55022)

# POWER HARMONIC & VOLTAGE FLUCTUATION / FLICKER TEST

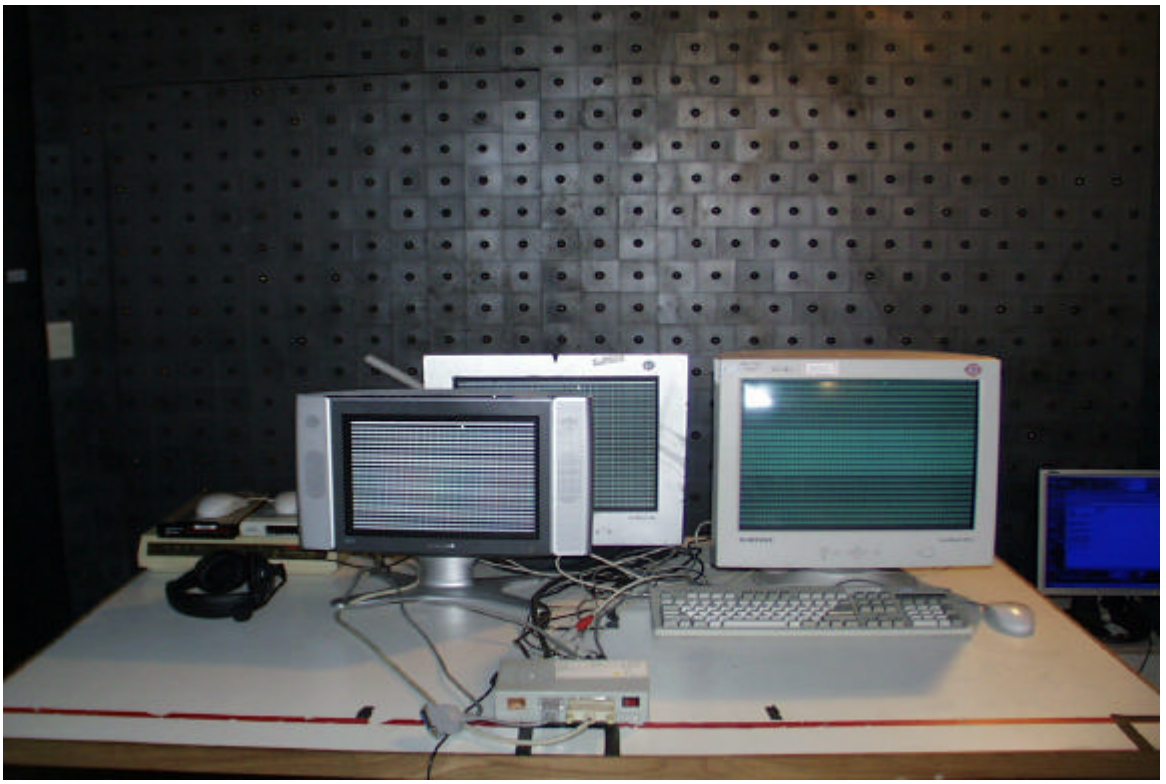
# (EN 61000-3-2, EN 61000-3-3)

# ELECTROSTATIC DISCHARGE TEST (IEC 61000-4-2)

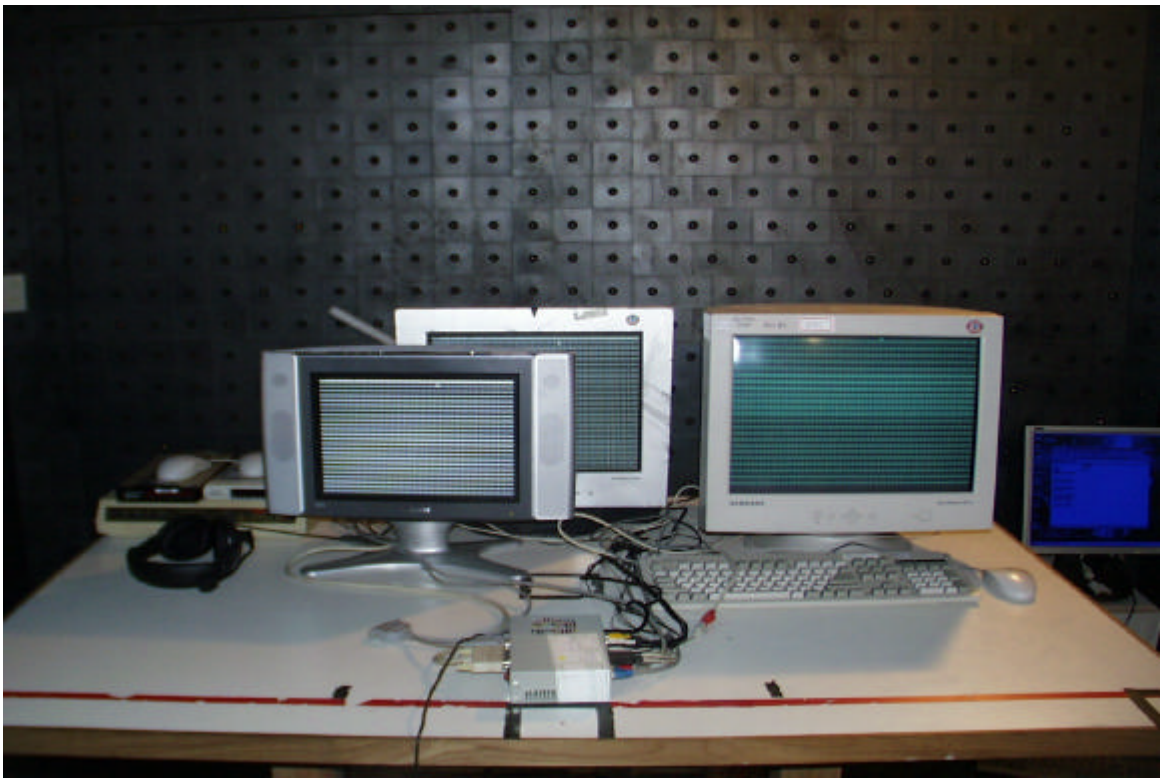
# RADIATED ELECTROMAGNETIC FIELD (IEC 61000-4-3)

**Front View**

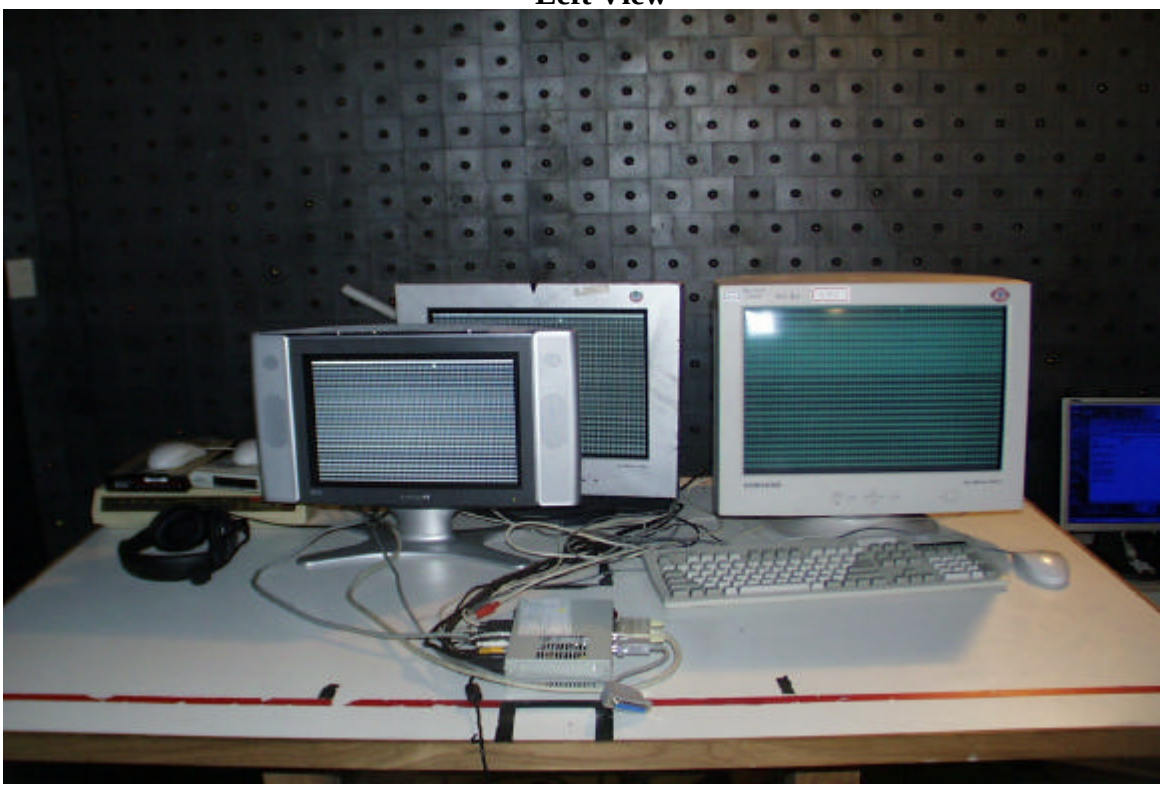
**Back View**



**Right View**



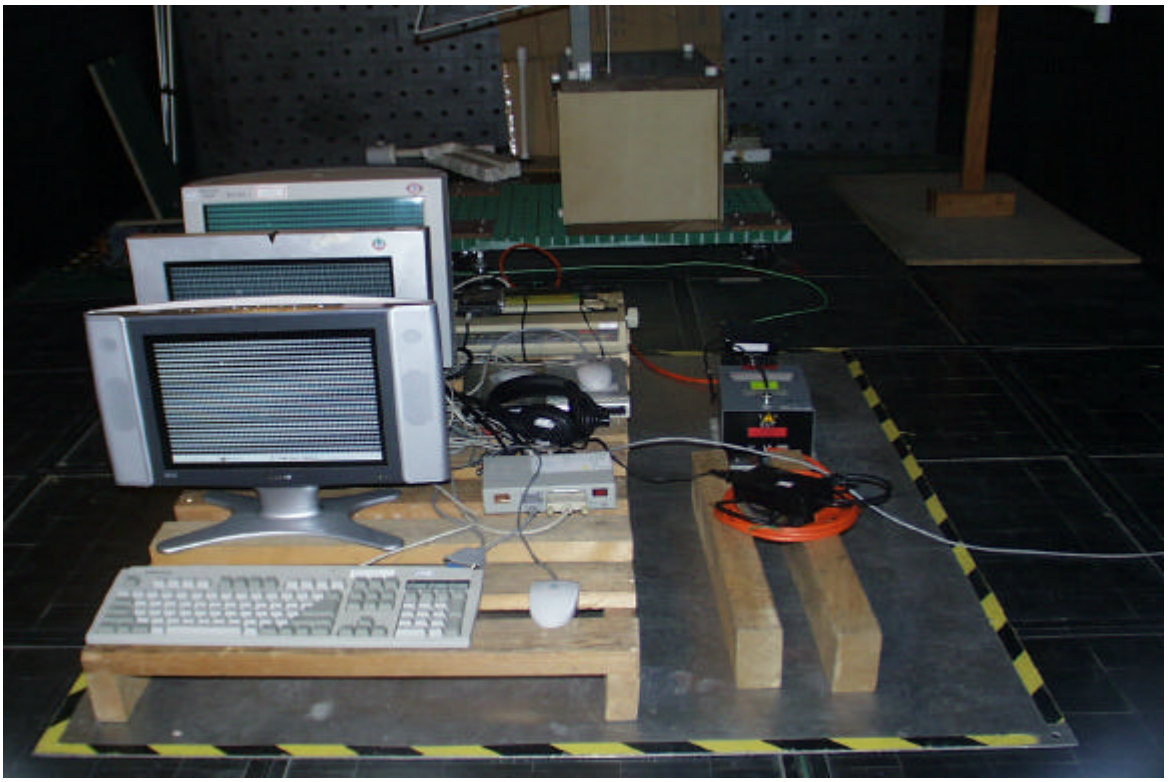
**Left View**



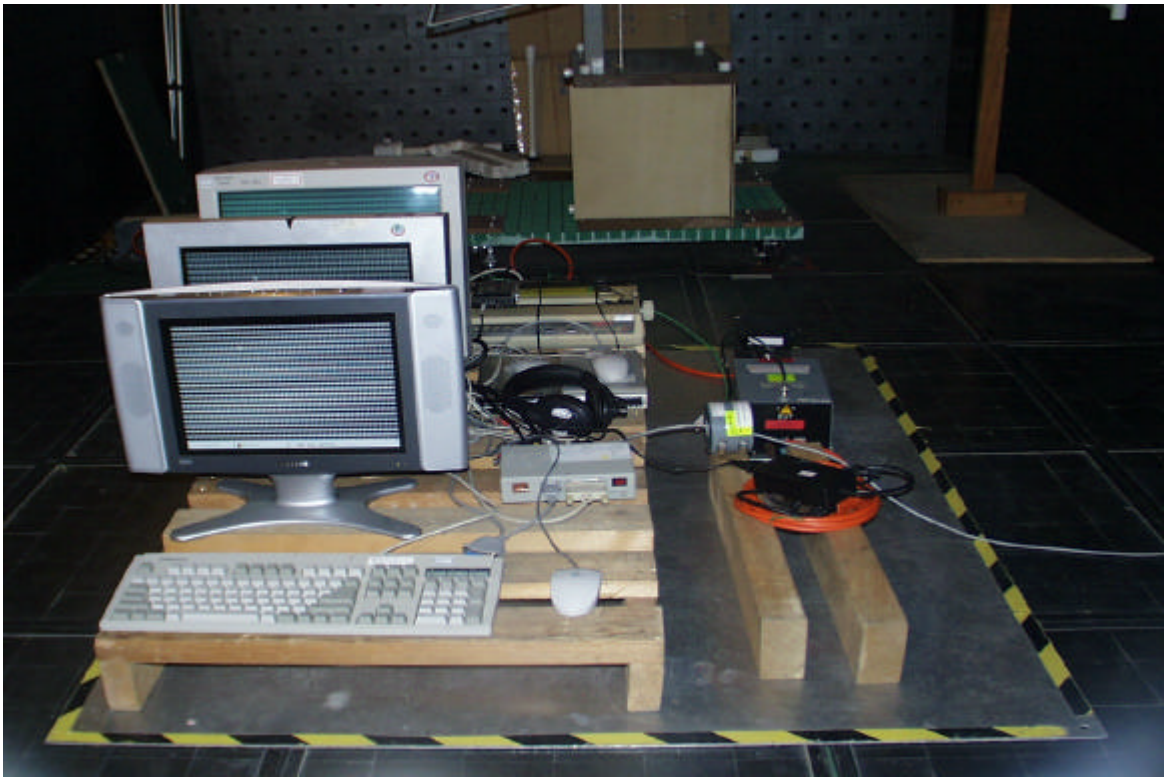
# FAST TRANSIENTS/BURST TEST & SURGE IMMUNITY TEST (IEC 61000-4-4/5 FOR POWER)

# (IEC 61000-4-4 FOR I/O)

# CONDUCTED DISTURBANCE, INDUCED BY RADIO-FREQUENCY FIELDS TEST (IEC 61000-4-6 FOR POWER)



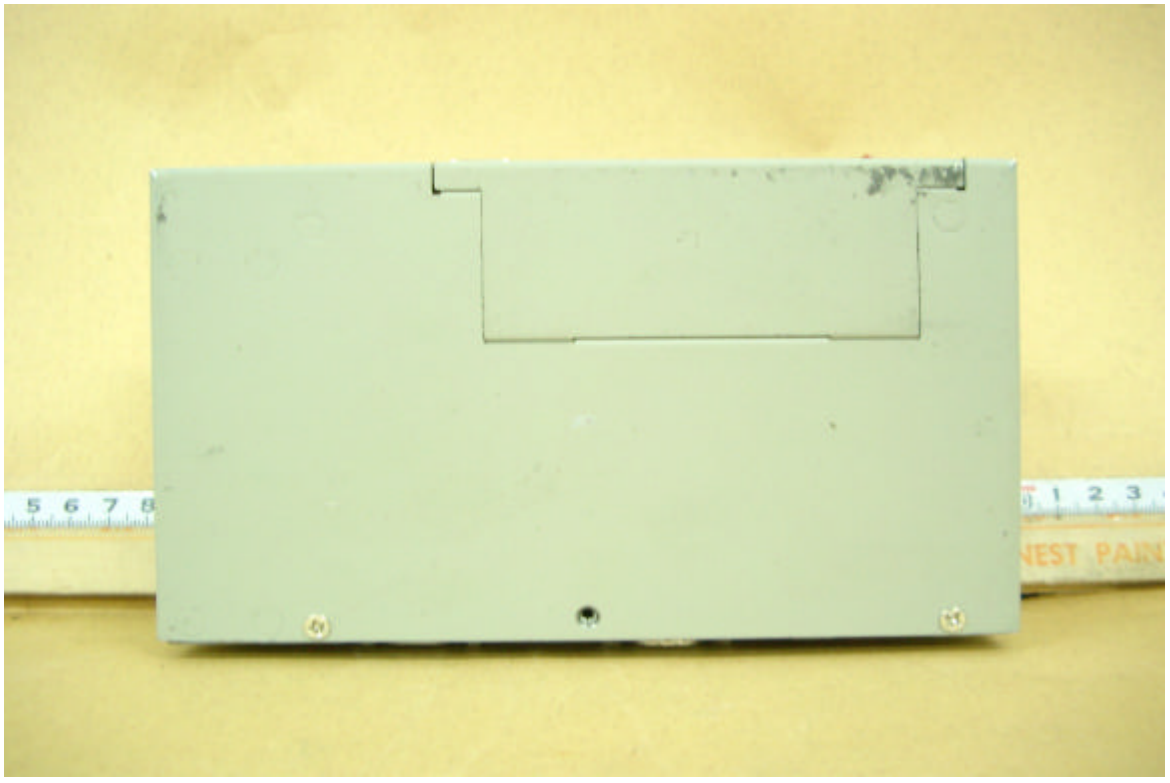
# TEST (IEC 61000-4-6 FOR I/O)

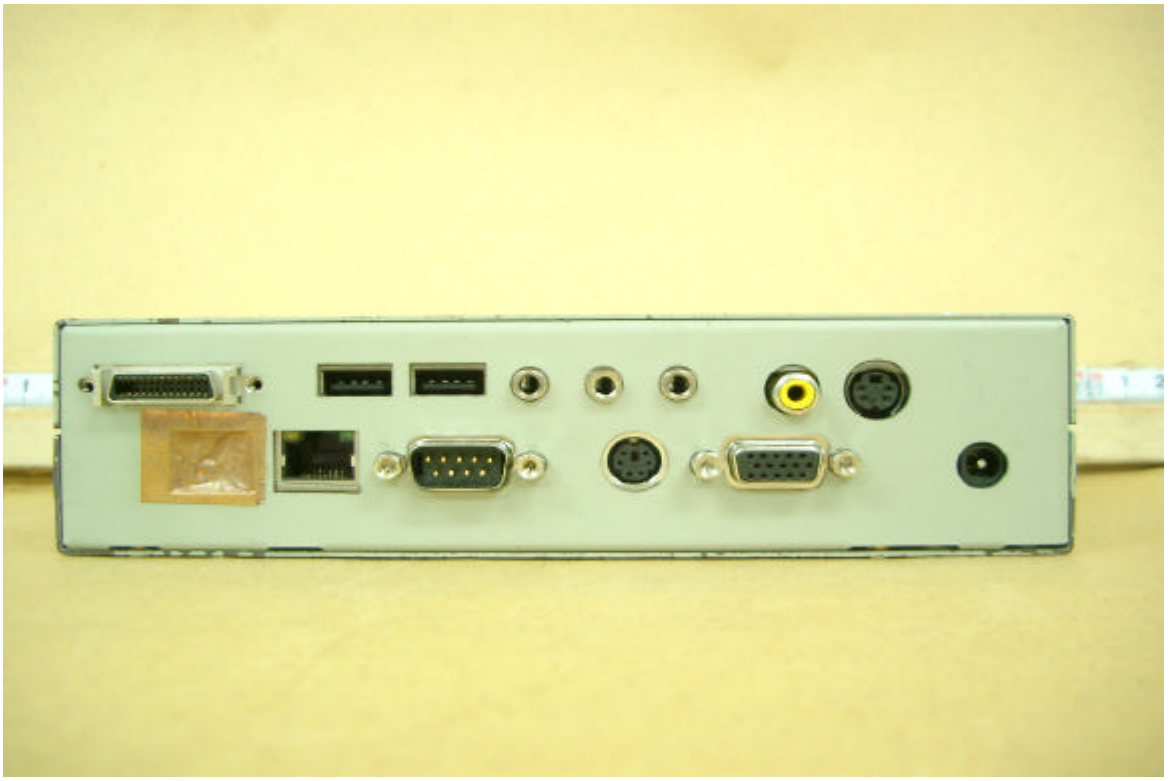


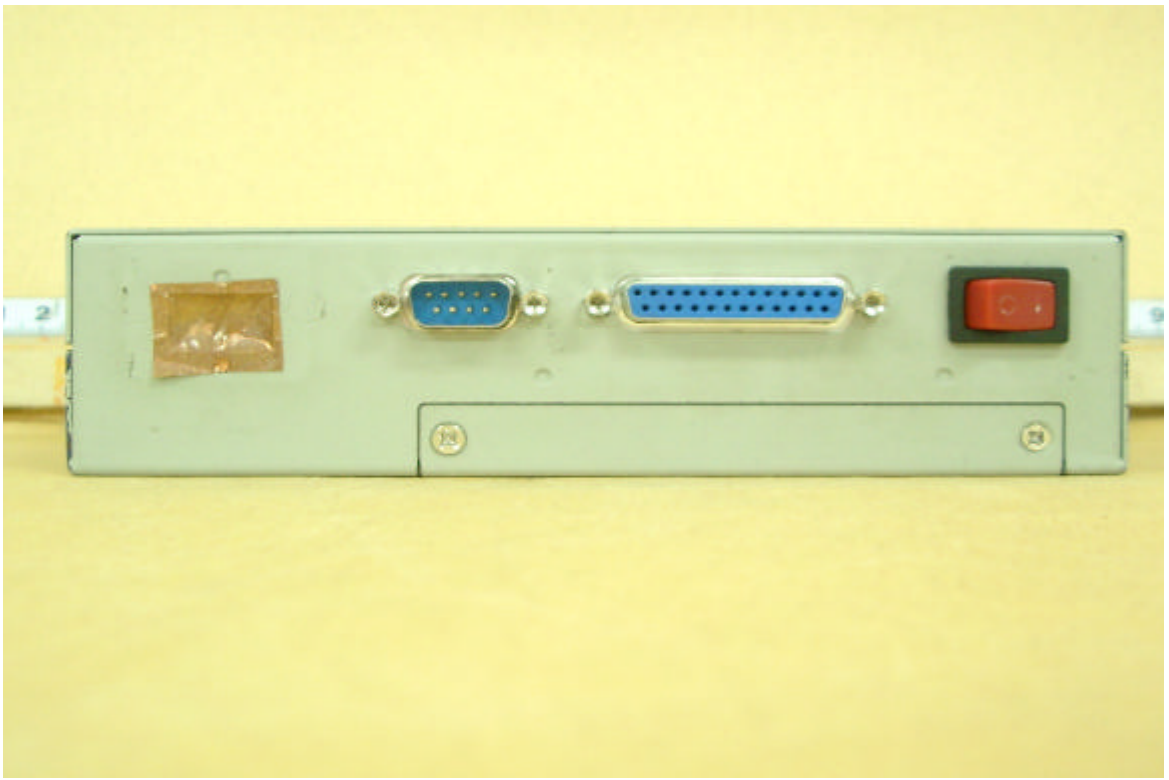
# VOLTAGE DIPS / INTERRUPTION TEST (IEC 61000-4-11)

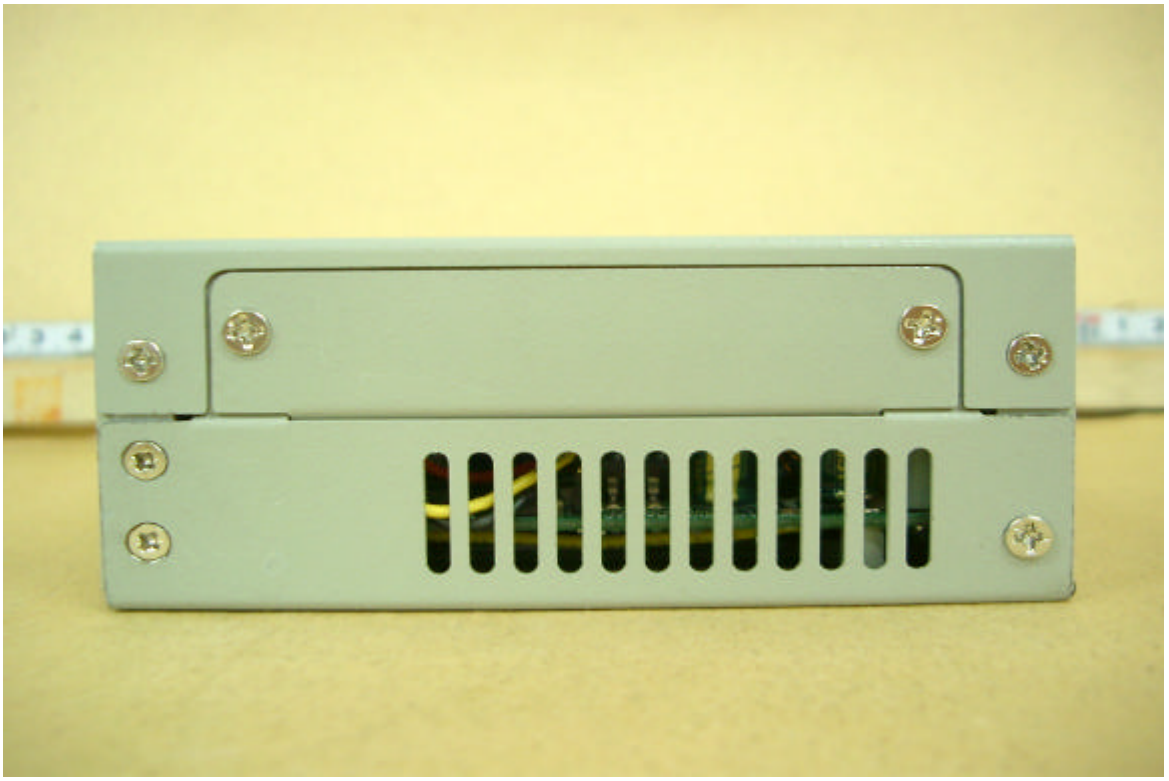
# APPENDIX 2

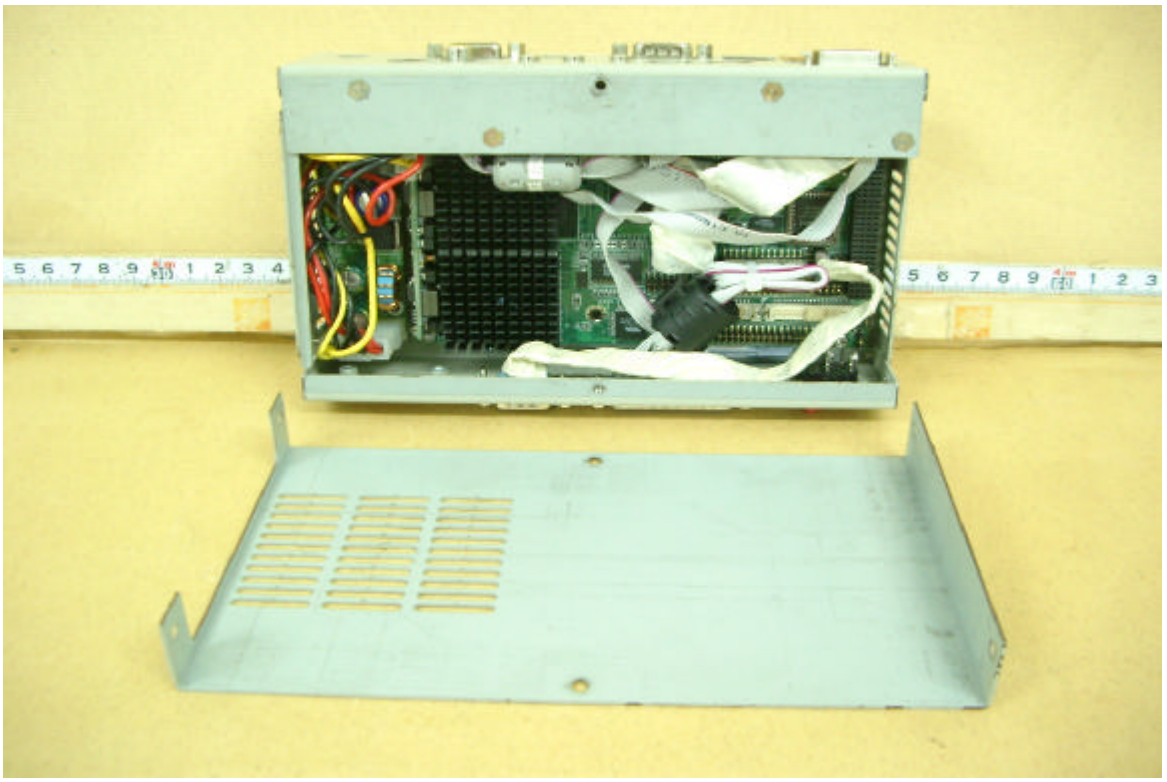
# PHOTOGRAPHS OF EUT

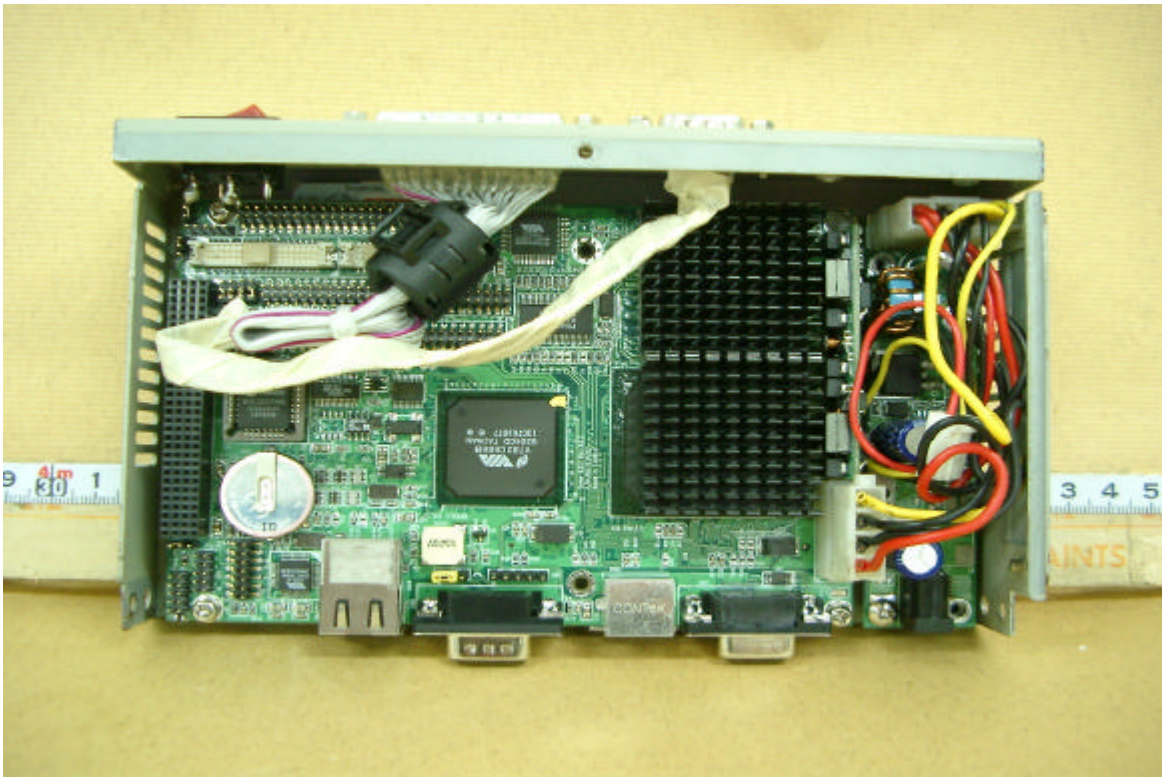


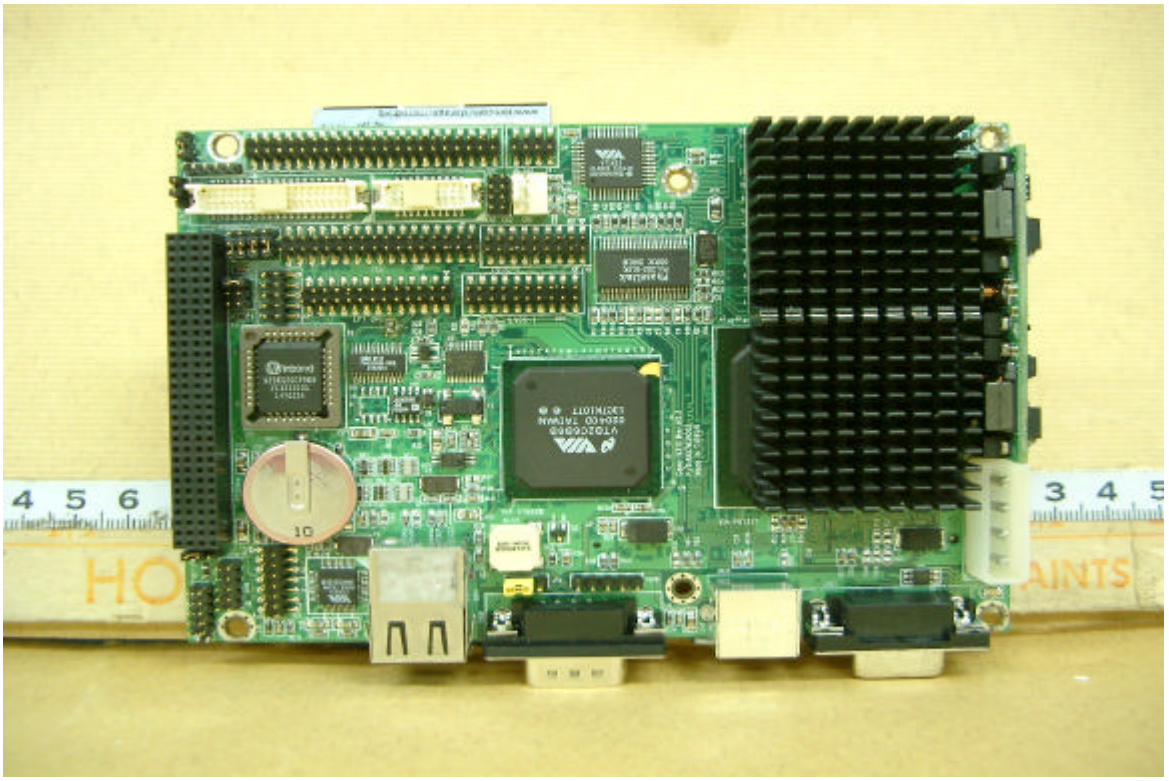










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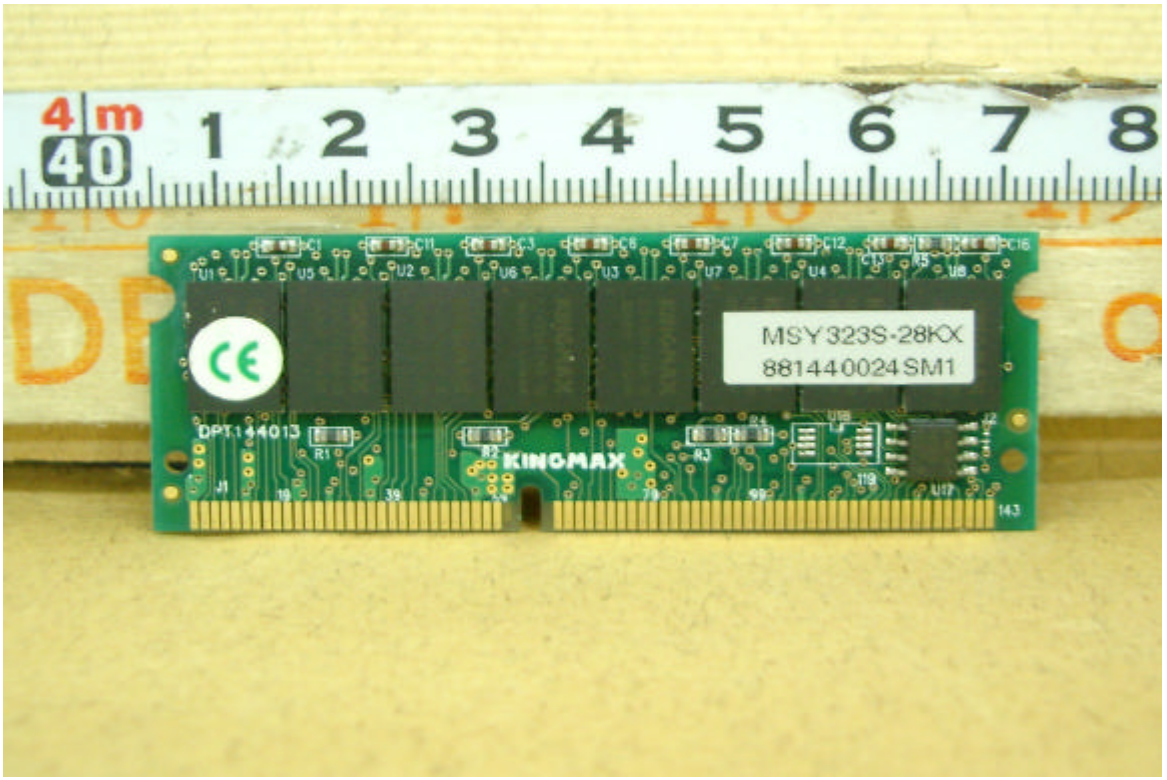
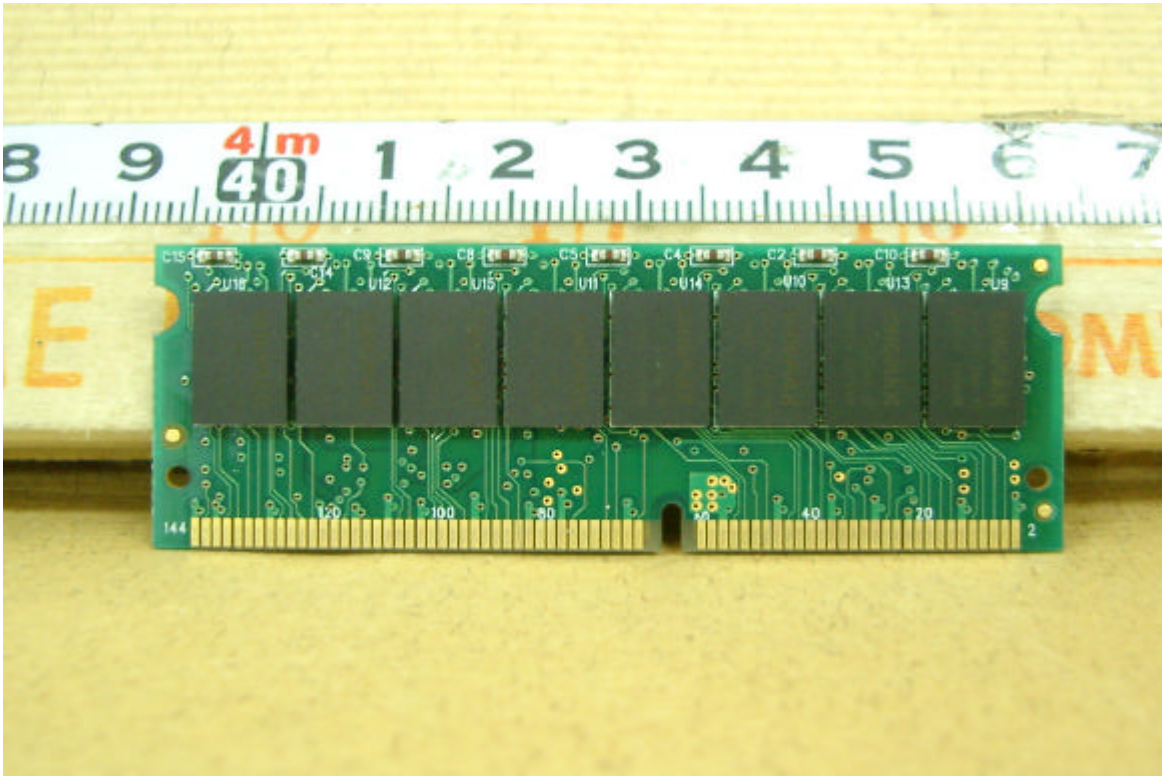
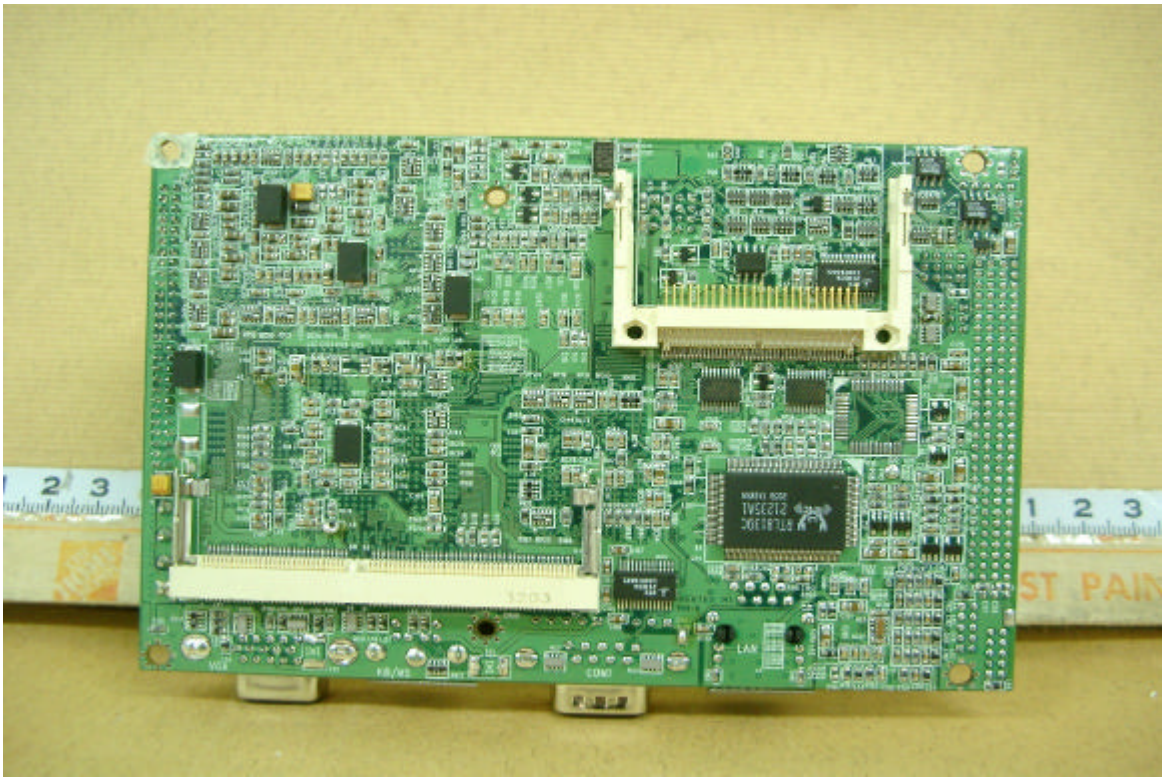
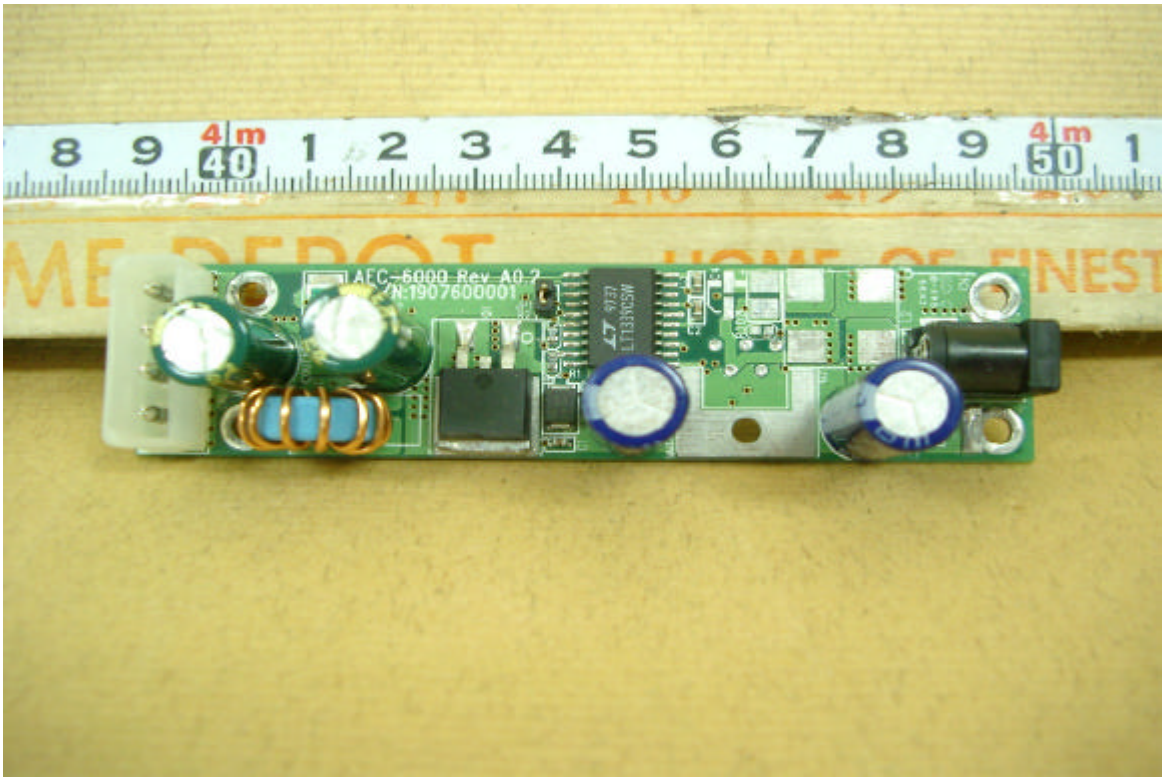
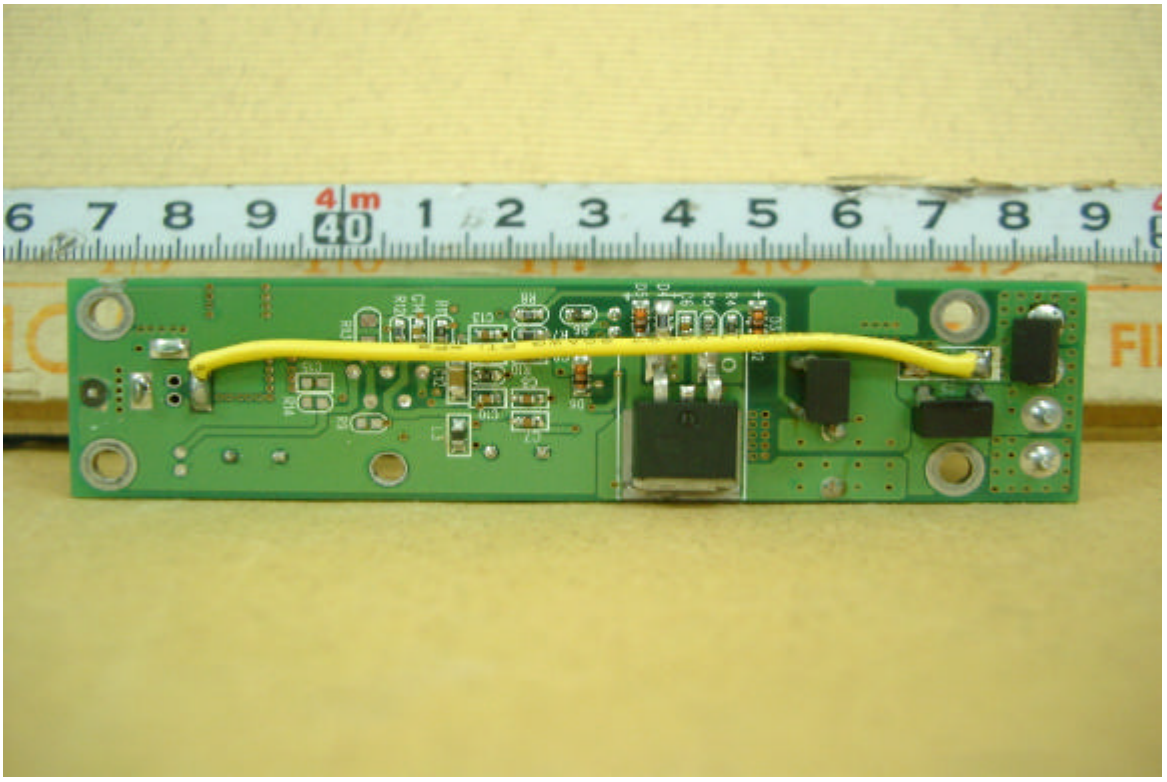
N79
www.ibm.com/storage/microdrive

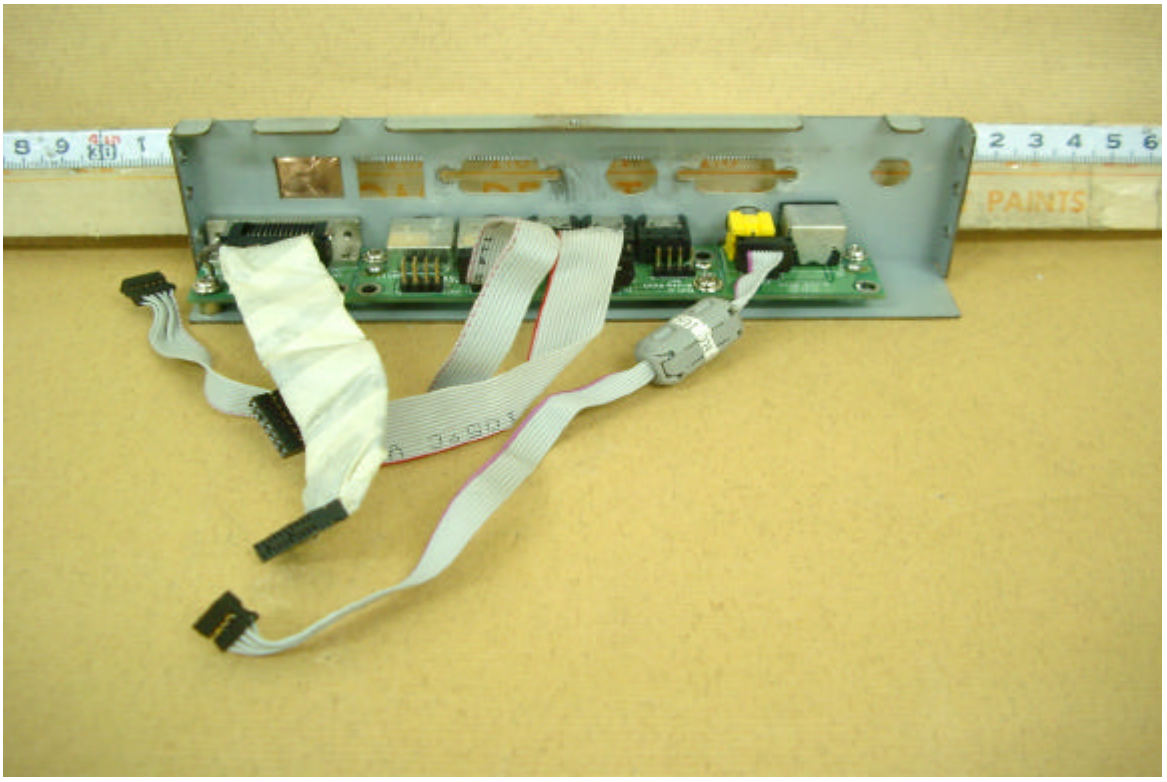

MSY323S-28KX
881440024SM1
KINGMAX

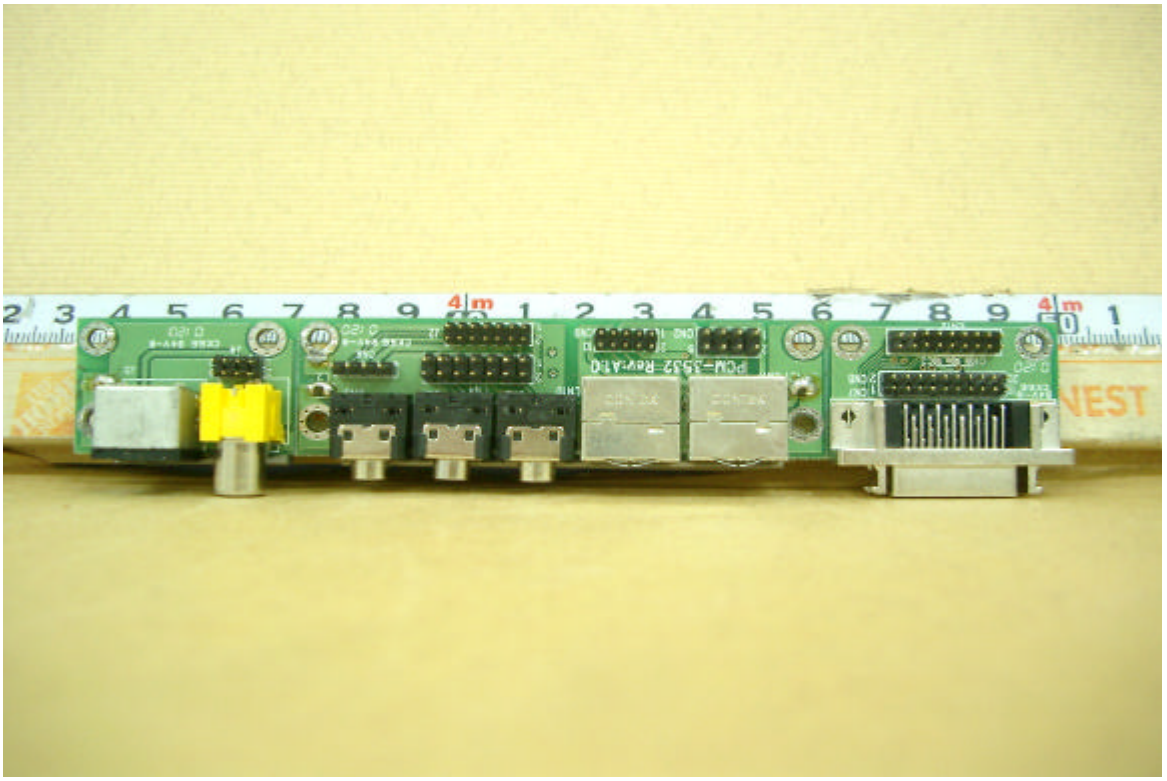


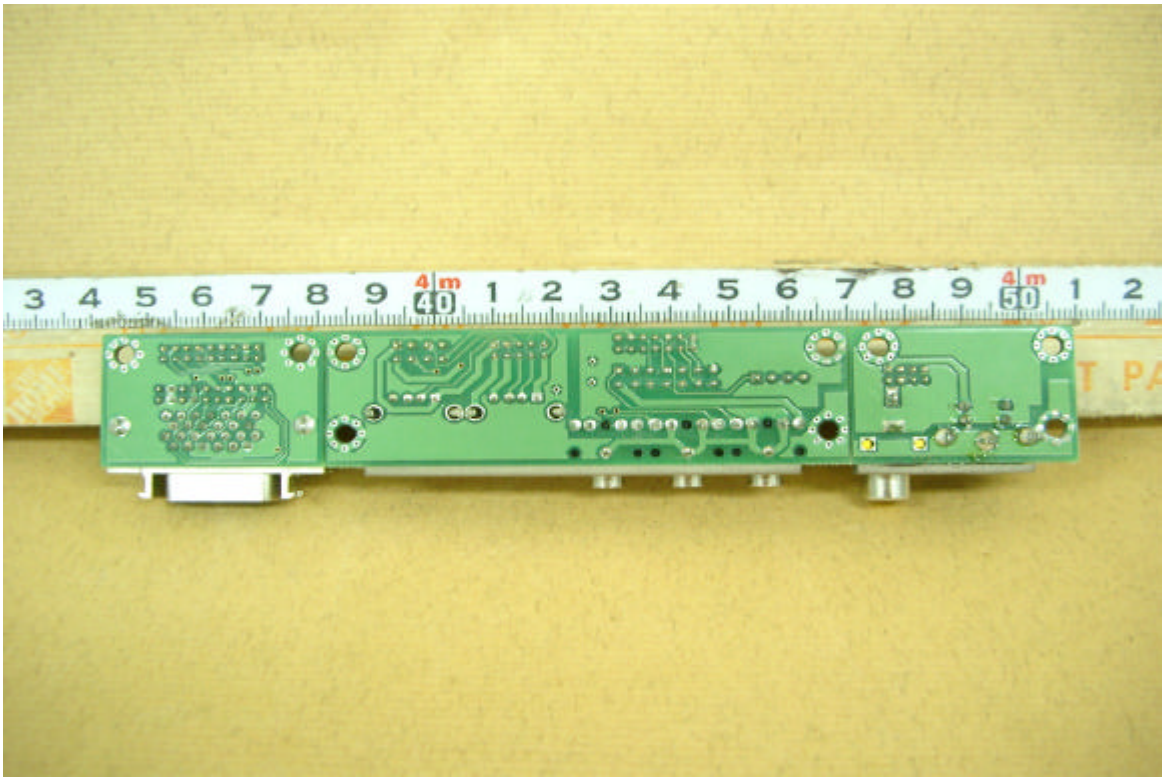



AEC-6000 Rev A0.2
P/N:1907600001










HOME DEPOT
HOME OF FINEST PAINTS


Chi
AC ADAPTER
CH - 1205
INPUT:100-240VAC ~ 47-63Hz 1.5A MAX
OUTPUT:+12VCD ⎓ /5.0A 60W MAX
S/N:
CAUTION:
ATTENTION:
HOME DEP
FINEST PAINTS

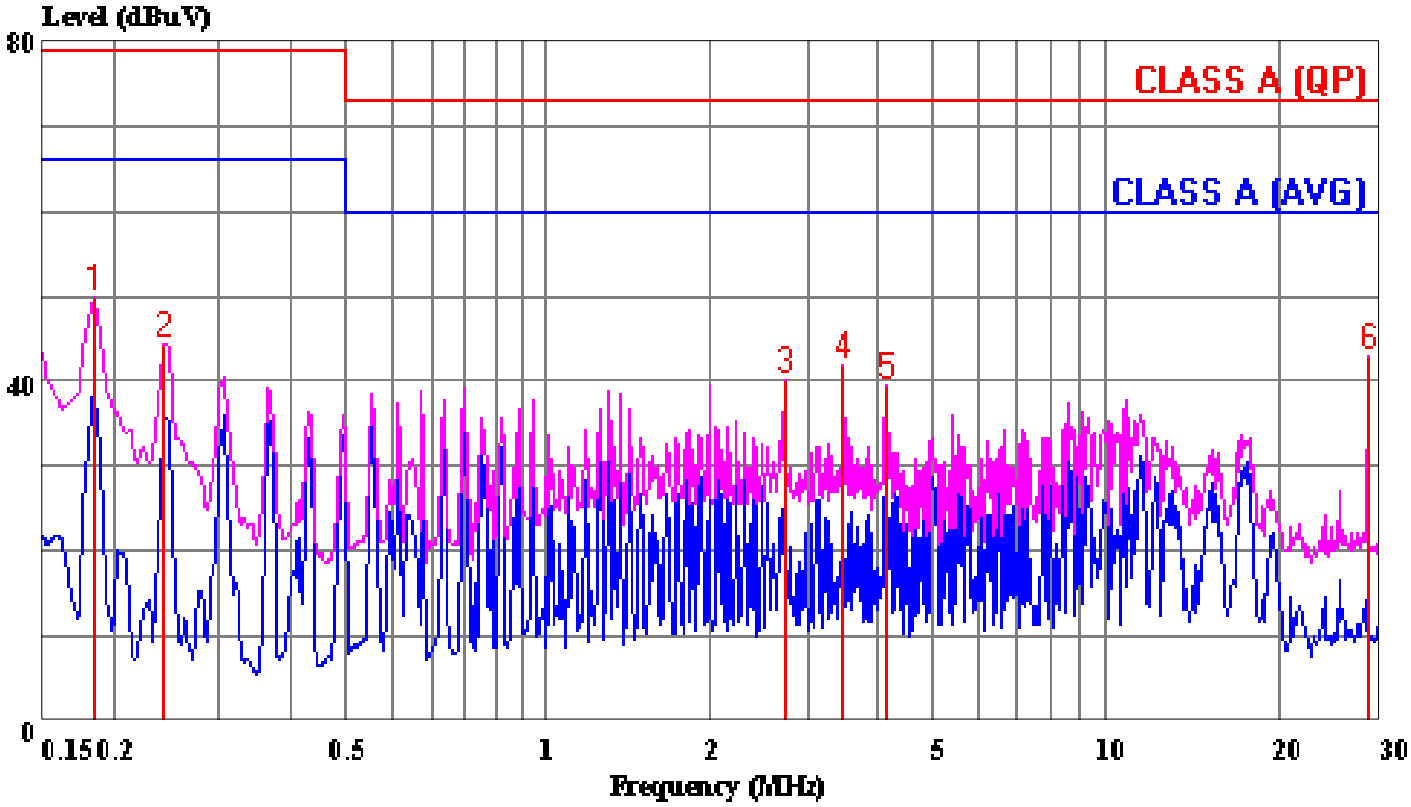
# APPENDIX 3

# CONDUCTED EMISSION PLOT
# RADIATED EMISSION DATA

COMPLIANCE Engineering Service, Inc.
FCC,VCCI,CISPR,CE
UL,CSA,TUV

No. 199, Chung Sheng Road,
Hsin Tien City, Taipei,
Taiwan, R.O.C.
Tel:02-2217-0894  Fax:02-2217-1254

Data#: 51  File#: 0038c.emi  Date: 2002-04-02  Time: 17:07:31




(Conducted)

Trace: 49  50  Ref Trace:

Condition: LINE
Report No.  : 02E0038
Test Engr.  : CLIFF LAI
Company     : AAEON Technology Inc.
EUT         : GENE-6310(N)
Test Config : EUT/ALL PERIPHERALS
Type of Test: EN 55022 CLASS A
Mode of Op. : 1024 X 768 (WORST)

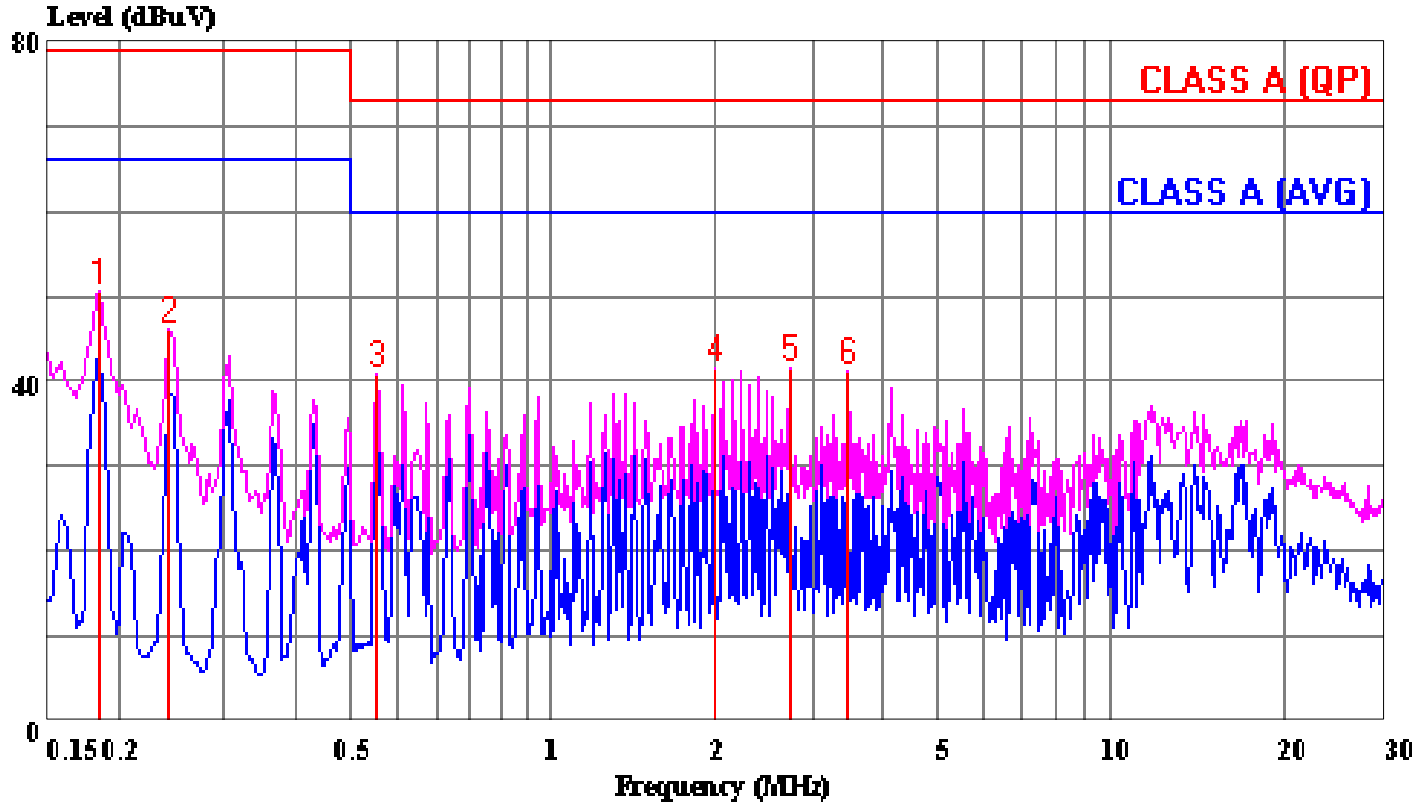


| | Freq | Read Level | Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dBuV | dBuV | dB | |
| 1 | 0.183 | 49.73 | 0.02 | 49.75 | 79.00 | -29.25 | Peak |
| 2 | 0.243 | 44.40 | 0.02 | 44.42 | 79.00 | -34.58 | Peak |
| 3 | 2.824 | 40.01 | 0.17 | 40.18 | 73.00 | -32.82 | Peak |
| 4 | 3.584 | 41.66 | 0.21 | 41.87 | 73.00 | -31.13 | Peak |
| 5 | 4.224 | 39.18 | 0.24 | 39.42 | 73.00 | -33.58 | Peak |
| 6 | 28.603 | 42.49 | 0.53 | 43.02 | 73.00 | -29.98 | Peak |

COMPLIANCE Engineering Service, Inc.
FCC,VCCI,CISPR,CE
UL,CSA,TUV

No. 199, Chung Sheng Road,
Hsin Tien City, Taipei,
Taiwan, R.O.C.
Tel:02-2217-0894  Fax:02-2217-1254

Data#: 54  File#: 0038c.emi  Date: 2002-04-02  Time: 16:51:09




(Conducted)

Trace: 41  42  Ref Trace:

Condition: NEUTRAL
Report No.  : 02E0038
Test Engr.  : CLIFF LAI
Company  : AAEON Technology Inc.
EUT  : GENE-6310(N)
Test Config : EUT/ALL PERIPHERALS
Type of Test: EN 55022 CLASS A
Mode of Op. : 1024 X 768 (WORST)



| | Freq | Read Level | Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dBuV | dBuV | dB | |
| 1 | 0.183 | 50.62 | 0.02 | 50.64 | 79.00 | -28.36 | Peak |
| 2 | 0.243 | 46.11 | 0.02 | 46.13 | 79.00 | -32.87 | Peak |
| 3 | 0.555 | 40.66 | 0.05 | 40.71 | 73.00 | -32.29 | Peak |
| 4 | 2.099 | 41.39 | 0.14 | 41.53 | 73.00 | -31.47 | Peak |
| 5 | 2.824 | 41.24 | 0.17 | 41.41 | 73.00 | -31.59 | Peak |
| 6 | 3.584 | 41.06 | 0.21 | 41.27 | 73.00 | -31.73 | Peak |

COMPLIANCE Engineering Service, Inc.
FCC,VCCI,CISPR,CE
UL,CSA,TUV

No. 199, Chung Sheng Road,
Hsin Tien City, Taipei,
Taiwan, R.O.C.
Tel:02-2217-0894  Fax:02-2217-1254

Data#: 37  File#: 9462d.emi  Date: 2002-04-02  Time: 11:10:26
D-Site

Condition: VERTICAL / 10m
Report No.  : 02E0038
Test Engr.  : CLIFF LAI
Company  : AAEON Technology Inc.
EUT  : GENE-6310(N)
Test Config : EUT/ALL PERIPHERALS
Type of Test: EN 55022 CLASS A
Mode of Op. : 1600 X 1200 (WORST)



| | Freq | Read Level | Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | |
| 1 | 33.598 | 44.55 | -8.74 | 35.82 | 40.00 | -4.18 | Peak |
| 2 | 42.917 | 42.16 | -8.13 | 34.04 | 40.00 | -5.96 | Peak |
| 3 | 57.438 | 42.94 | -8.25 | 34.69 | 40.00 | -5.32 | Peak |
| 4 | 71.938 | 42.12 | -10.23 | 31.89 | 40.00 | -8.11 | Peak |
| 5 | 86.067 | 39.49 | -11.71 | 27.77 | 40.00 | -12.23 | Peak |
| 6 | 133.249 | 34.32 | -6.62 | 27.70 | 40.00 | -12.30 | Peak |
| 7 | 199.622 | 39.36 | -7.98 | 31.38 | 40.00 | -8.62 | Peak |
| 8 | 258.811 | 41.69 | -6.03 | 35.66 | 47.00 | -11.34 | Peak |
| 9 | 266.389 | 41.89 | -5.76 | 36.13 | 47.00 | -10.87 | Peak |
| 10 | 277.022 | 39.82 | -5.35 | 34.47 | 47.00 | -12.53 | Peak |
| 11 | 299.633 | 41.35 | -4.82 | 36.53 | 47.00 | -10.47 | Peak |
| 12 | 399.556 | 40.44 | -2.24 | 38.20 | 47.00 | -8.80 | Peak |

COMPLIANCE Engineering Service, Inc.
FCC,VCCI,CISPR,CE
UL,CSA,TUV

No. 199, Chung Sheng Road,
Hsin Tien City, Taipei,
Taiwan, R.O.C.
Tel:02-2217-0894  Fax:02-2217-1254

Data#: 41  File#: 9462d.emi  Date: 2002-04-02  Time: 11:47:19
D-Site

Condition: HORIZONTAL / 10m
Report No.  : 02E0038
Test Engr.  : CLIFF LAI
Company     : AAEON Technology Inc.
EUT         : GENE-6310(N)
Test Config : EUT/ALL PERIPHERALS
Type of Test: EN 55022 CLASS A
Mode of Op. : 1600 X 1200 (WORST)



| | Freq | Read Level | Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | |
| 1 | 33.598 | 42.70 | -8.74 | 33.97 | 40.00 | -6.03 | Peak |
| 2 | 42.233 | 38.12 | -8.15 | 29.96 | 40.00 | -10.04 | Peak |
| 3 | 58.796 | 36.66 | -8.20 | 28.46 | 40.00 | -11.54 | Peak |
| 4 | 71.749 | 36.56 | -10.23 | 26.33 | 40.00 | -13.67 | Peak |
| 5 | 86.120 | 38.88 | -11.71 | 27.16 | 40.00 | -12.84 | Peak |
| 6 | 133.147 | 31.12 | -6.62 | 24.50 | 40.00 | -15.50 | Peak |
| 7 | 199.796 | 38.83 | -8.04 | 30.80 | 40.00 | -9.21 | Peak |
| 8 | 266.311 | 36.63 | -5.76 | 30.87 | 47.00 | -16.13 | Peak |
| 9 | 399.556 | 40.18 | -2.24 | 37.94 | 47.00 | -9.06 | Peak |