



EMC UPDATE TEST REPORT

For

Advantech Co., Ltd.

Panel PC

Model: POC-173XX-YY-ZZ

(X = 0 ~ 9 or A ~ Z, Y = 0 ~ 9 or A ~ Z, Z = 0 ~ 9, A ~ Z or Blank)

Trade ADVANTECH

Date of Test: September 30 ~ October 20, 2003

Revision: 01

Description of Rev. 01:

1. Applicant adds one LCD Panel to re-test.
(Please refer to have ** mark items on this report)
2. Other information, please refer to the 021085 and this test report.

Approved by:

Jonson Lee
Director of Linkou Laboratory
Compliance Certification Services Inc.

Reviewed by:

Jessie Wang
Section Manager of Linkou Laboratory
Compliance Certification Services Inc.

Note: This report shall not be reproduced except in full, without the written approval of Compliance Certification Services Inc. Ltd. This document may be altered or revised by Compliance Certification Services Inc. personnel only, and shall be noted in the revision section of the document.



TABLE OF CONTENTS

| | | |
|-----|--|----|
| 1 | TEST RESULT CERTIFICATION | 3 |
| 2 | EUT DESCRIPTION..... | 4 |
| 3 | TEST METHODOLOGY | 6 |
| 3.1 | DECISION OF FINAL TEST MODE | 6 |
| 4 | SETUP OF EQUIPMENT UNDER TEST..... | 7 |
| 5 | INSTRUMENT AND CALIBRATION | 8 |
| 5.1 | MEASURING INSTRUMENT CALIBRATION..... | 8 |
| 5.2 | TEST AND MEASUREMENT EQUIPMENT | 8 |
| 6 | TEST RESULTS | 11 |
| 7 | POWER HARMONICS TEST..... | 14 |
| 8 | POWER VOLTAGE FLUCTUATION / FLICKER TEST | 16 |
| 9 | ELECTROSTATIC DISCHARGE (ESD) IMMUNITY TEST | 18 |
| 10 | RADIATED ELECTROMAGNETIC FIELD IMMUNITY TEST | 23 |
| 11 | FAST TRANSIENTS/BURST IMMUNITY TEST..... | 25 |
| 12 | SURGE IMMUNITY TEST..... | 27 |
| 13 | CONDUCTED DISTURBANCE/INDUCED RADIO-FREQUENCY FIELD IMMUNITY TEST..... | 29 |
| 14 | POWER FREQUENCY MAGNETIC FIELD IMMUNITY TEST..... | 31 |
| 15 | VOLTAGE DIPS / SHORT INTERRUPTIONS | 33 |
| | APPENDIX I - PHOTOGRAPHS OF TEST SETUP | 36 |
| | APPENDIX II – TEST RESULT OF EN 61000-3-2/-3 | 45 |



1 TEST RESULT CERTIFICATION

Applicant: Advantech Co., Ltd.
No. 1, Alley 20, Lane 26, Rueiguang Road, Neihu District,
Taipei 114, Taiwan, R.O.C.

Manufacturer: Advantech Co., Ltd.
No. 1, Alley 20, Lane 26, Rueiguang Road, Neihu District,
Taipei 114, Taiwan, R.O.C.

Equipment Under Test: Panel PC

Trade Name: ADVANTECH

Model: POC-173XX-YY-ZZ
(X = 0 ~ 9 or A ~ Z, Y = 0 ~ 9 or A ~ Z, Z = 0 ~ 9, A ~ Z or Blank)

Detailed EUT Description: See Item 2 of this report

Date of Test: September 30 ~ October 20, 2003

| Applicable Standard | Class/Limit/Criterion | Test Result |
|--|----------------------------|-------------------------|
| EN 60601-1-2: 2001, including | | |
| EN 55011: 1998 + A1: 1999 | Class B | No non-compliance noted |
| IEC 61000-4-2: 2001 | See Item 9 of this report | No non-compliance noted |
| IEC 61000-4-3: 1995 | See Item 10 of this report | No non-compliance noted |
| IEC 61000-4-4: 1995 | See Item 11 of this report | No non-compliance noted |
| IEC 61000-4-5: 1995 | See Item 12 of this report | No non-compliance noted |
| IEC 61000-4-6: 1996 | See Item 13 of this report | No non-compliance noted |
| IEC 61000-4-8: 1993 | See Item 14 of this report | No non-compliance noted |
| IEC 61000-4-11: 1994 | See Item 15 of this report | No non-compliance noted |
| EN 61000-3-2: 1995 + A1: 1998 + A2: 1998 | Class A | No non-compliance noted |
| EN 61000-3-3: 1995 | Limit | No non-compliance noted |
| Deviation from Applicable Standard | | |
| The RS immunity test item (1400MHz ~ 2500MHz) is tested at ASR Laboratory. | | |

The above equipment was tested by Compliance Certification Services Inc. for compliance with the requirements set forth in the EMC Directive 94/42/EMC and the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.



2 EUT DESCRIPTION

| | | | |
|---------------------------------------|--|-------|-------------|
| Product | Panel PC | | |
| Trade Name | ADVANTECH | | |
| Model | POC-173XX-YY-ZZ (X = 0 ~ 9 or A ~ Z, Y = 0 ~ 9 or A ~ Z, Z = 0 ~ 9, A ~ Z or Blank) | | |
| Housing Type | Plastic | | |
| EUT Power Rating | 100~250VAC, 50/60Hz, 3A | | |
| AC Power Cord Type | Unshielded, 1.8m (Detachable) | | |
| Power Supply Manufacturer | SKYNET | Model | SNP-8086-M |
| CPU Manufacture | Intel | Type | PIII 1GHz |
| OSC/Clock Frequencies | 133 MHz | | |
| FDD Manufacturer | NEC | Model | FD1238T |
| 17" TFT LCD Panel Manufacturer | AU | Model | M170EN04 |
| | | | ** M170EN05 |
| HDD Manufacturer | FUJITSU | Model | MHR2020AT |
| CD-ROM Manufacturer | ASUS | Model | SCD-2400 |

**I/O Port of EUT:**

| I/O Port Type | Q'TY | Tested with |
|------------------------|-------------|--------------------|
| 1.) Parallel Port | 1 | 1 |
| 2.) Serial Port | 4 | 4 |
| 3.) PS/2 Keyboard Port | 1 | 1 |
| 4.) Video-Out Port | 1 | 1 |
| 5.) Audio In Port | 1 | 1 |
| 6.) Audio Out Port | 1 | 1 |
| 7.) Microphone Port | 1 | 1 |
| 8.) Game Port | 1 | 1 |
| 9.) LAN Port | 1 | 1 |
| 10.) USB Port | 2 | 2 |

Note:

- The means of "XX" (X = A~Z, 0 ~ 9 or Blank) on the model number is different Panel as per Customer declaration.
 - The "CD" is Panel PC with the CD-ROM Device.
 - The "CR" is Panel PC with the CD-RW Device.
 - The "DR" is Panel PC with the DVD-ROM Device.
 - The "EW" is Panel PC Without Device.
- The means of "YY" (Y = 0 ~ 9 or A ~ Z) on the model number is different Power Supply as per customer declaration.
 - The "AC" is for the AC Power Supply.
- The means of "ZZ" (Z = 0 ~ 9, A ~ Z or Blank) on the model number is for the touch screen function as per customer declaration.
 - The "VT" is Panel PC with Touch Screen.
 - The "Blank" is Panel PC without Touch Screen.
- Client consigns only one model sample (Model Number : POC-173CD-AC-VT) to test. Therefore, testing Lab. just guarantees the units, which have been tested.



3 TEST METHODOLOGY

3.1 DECISION OF FINAL TEST MODE

1. The following test mode(s) were scanned during the preliminary test:

Mode 1

1280 x 1024 (100Mbps) + M170EN05 LCD Panel

Mode 2

1280 x 1024 (10Mbps) + M170EN05 LCD Panel

Mode 3

1024 x 768 (100Mbps) + M170EN05 LCD Panel

Mode 4

800 x 600 (100Mbps) + M170EN05 LCD Panel

2. After preliminary test, found mode 1 producing the highest emission level, used this mode for all final test.



4 SETUP OF EQUIPMENT UNDER TEST

Setup Diagram

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

Support Equipment

| No. | Equipment | Model No. | Serial No. | FCC ID | Trade Name | Data Cable | Power Cord |
|-----|---------------------------------------|---------------------|------------------|------------|------------|--------------------------------|--|
| 1. | Monitor | 959NF | AQ19H2RT706122K | FCC DoC | SAMSUNG | Shielded, 1.8m with two cores | Unshielded, 1.8m |
| 2. | Modem | DM-1414 | 0304012263 | IFAXDM1414 | ACEEX | Shielded, 1.5m with a core | Unshielded, 1.8m |
| 3. | Modem | DM-1414 | 0304012269 | IFAXDM1414 | ACEEX | Shielded, 1.5m with a core | Unshielded, 1.8m |
| 4. | Printer | STYLUS C60 | DR3K041737 | FCC DoC | EPSON | Shielded, 1.8m | Unshielded, 1.8m |
| 5. | PS/2 Keyboard (One to two adapter) | KB-0133 | N/A | FCC DoC | Compaq | Shielded, 1.8m | N/A |
| 6. | PS/2 Mouse (One to two adapter) | M-S69 | N/A | FCC DoC | Compaq | Shielded, 1.8m | N/A |
| 7. | Joystick | G-ZA-PHI | PHB01600992 | FCC DoC | Logitech | Shielded, 1.8m | N/A |
| 8. | USB 2.0 External HDD | F12-U | A0100214-2Bq0039 | FCC DoC | TeraSyS | Shielded, 1.5m | N/A |
| 9. | USB 2.0 External HDD | F12-U | A0100214-33i0019 | FCC DoC | TeraSyS | Shielded, 1.5m | N/A |
| 10. | Walkman | RQ-L10 | HB004471 | FCC DoC | Panasonic | Unshielded, 1.8m | N/A |
| 11. | Multimedia Headset | Axis-301 | N/A | FCC DoC | Labtec | Unshielded, 2 1.8m | N/A |
| 12. | Mouse | M-MM43 | LZE93353024 | FCC DoC | Logitech | Shielded, 1.8m | N/A |
| 13. | Mouse | M-MM43 | LZE94052771 | FCC DoC | Logitech | Shielded, 1.8m | N/A |
| 14. | HUB | TL-5008DS | XT942040616 | N/A | Link Pro | LAN Cable: Unshielded, 1.8m | Unshielded, 1.5m |
| 15. | Notebook PC (Remote) | Valiant 6380i9TD | N/A | FCC DoC | KDS | LAN Cable: Unshielded, 1.5m | AC Cable: Unshielded, 1.5m DC Cable: Unshielded, 1.8m |

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

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



5 INSTRUMENT AND CALIBRATION

5.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

5.2 TEST AND MEASUREMENT EQUIPMENT

The following list contains measurement equipment used for testing. The equipment conforms to the requirement of CISPR 16-1, ANSI C63.2 and. other required standards.

Calibration of all test and measurement, including any accessories that may effect such calibration, is checked frequently to ensure the accuracy. Adjustments are made and correction factors are applied in accordance with the instructions contained in the respective manual.

Equipment Used for Emission Measurement

| Conducted Emission Test Site # 3 | | | | |
|----------------------------------|--------------|---------|---------------|-----------------|
| Name of Equipment | Manufacturer | Model | Serial Number | Calibration Due |
| EMI Test Receiver | R&S | ESHS30 | 828144/003 | 08/07/2004 |
| LISN | R&S | ESH2-Z5 | 843285/010 | 01/19/2004 |
| LISN | EMCO | 3825/2 | 9003-1628 | 07/27/2004 |

Note: The measurement uncertainty is less than +/- 2.83dB, which is evaluated as per the NAMAS NIS 81 and CISPR/A/291/CDV.

| Open Area Test Site # 3 | | | | |
|-------------------------|--------------|-----------|---------------|-----------------|
| Name of Equipment | Manufacturer | Model | Serial Number | Calibration Due |
| Spectrum Analyzer | ADVANTEST | R3261A | N/A | N.C.R |
| EMI Test Receiver | R&S | ESVS20 | 838804/004 | 01/08/2004 |
| Pre-Amplifier | HP | 8447D | 2944A09173 | 03/02/2004 |
| Bilog Antenna | SCHWAZBECK | VULB9163 | 128 | 07/04/2004 |
| Turn Table | EMCO | 2081-1.21 | 9709-1885 | N.C.R |
| Antenna Tower | EMCO | 2075-2 | 9707-2060 | N.C.R |
| Controller | EMCO | 2090 | 9709-1256 | N.C.R |
| RF Switch | ANRITSU | MP59B | M53867 | N.C.R |
| Site NSA | C&C | N/A | N/A | 09/05/2004 |
| Thermo-Hygro Meter | SATO | N/A | SITE3 | 05/12/2004 |

Note: The measurement uncertainty is less than +/- 3.36dB, which is evaluated as per the NAMAS NIS 81 and CISPR/A/291/CDV.



| Power Harmonic & Voltage Fluctuation/Flicker Measurement (EN 61000-3-2&-3-3) | | | | |
|---|---------------------|--------------|----------------------|------------------------|
| Name of Equipment | Manufacturer | Model | Serial Number | Calibration Due |
| Harmonic & Flicker Tester | HAEFELY TRENCH | PHF555 | 080 419-25 | 09/25/2004 |

Equipment Used for Immunity Measurement

| ESD Test Site (IEC/EN 61000-4-2) | | | | |
|---|---------------------|--------------|----------------------|------------------------|
| Name of Equipment | Manufacturer | Model | Serial Number | Calibration Due |
| EMI Test Receiver | SCHAFFNER | NSG438 | 170 | 04/23/2004 |

| Radiated Electromagnetic Field Immunity Test Site (IEC/EN 61000-4-3) (80-1000MHz) | | | | |
|--|----------------------|--------------|----------------------|------------------------|
| Name of Equipment | Manufacturer | Model | Serial Number | Calibration Due |
| Signal Generator | R&S | SMY01 | 840490/009 | 02/18/2004 |
| Amplifier | KALMUS | LA1000V | 091995-1 | N/A |
| Amplifier | KALMUS | 757LC | 091995-2 | N/A |
| BiconiLog Antenna | EMCO | 3141 | 1001 | N/A |
| Anechoic Chamber | COMTEST Compact Full | CFAC | ADT-S01 | 08/10/2004 |

| Radiated Electromagnetic Field Immunity Test Site (IEC/EN 61000-4-3) (1400-2500MHz) | | | | |
|--|----------------------|--------------|----------------------|------------------------|
| Name of Equipment | Manufacturer | Model | Serial Number | Calibration Due |
| Signal Generator | HP | E4422A | US37040138 | 07/10/2004 |
| Amplifier | Amplifier Research | 80S1G3 | 304334 | N/A |
| E-Field Sensor 3GHz | W&G | TYP-8 | AD-0034 | 12/22/2003 |
| EM Radiation Monitor | W&G | EMR-20 | AB-0039 | 12/22/2003 |
| Power Sensor | R&S | NRV-Z5 | 837878/038 | 11/20/2003 |
| Power Sensor | R&S | NRV-Z5 | 837878/039 | 11/20/2003 |
| Power Meter | R&S | NRVD | 837794/040 | 11/20/2003 |
| BiconiLog Antenna | EMCO | 3141 | 1001 | N/A |
| Anechoic Chamber | COMTEST Compact Full | CFAC | ADT-S01 | 08/10/2004 |



| Fast Transients/Burst Test Site (IEC/EN 61000-4-4) | | | | |
|---|---------------------|--------------|----------------------|------------------------|
| Name of Equipment | Manufacturer | Model | Serial Number | Calibration Due |
| Fast Transients/Burst Generator | HAEFELY TRENCH | PEFT- JUNIOR | 583 333-117 | 08/19/2004 |
| Clamp | HAEFELY TRENCH | 093 506.1 | 080 421.13 | N.C.R. |

| Surge Immunity Test Site (IEC/EN 61000-4-5) | | | | |
|--|---------------------|--------------|----------------------|------------------------|
| Name of Equipment | Manufacturer | Model | Serial Number | Calibration Due |
| Surge Tester | HAEFELY TRENCH | PSUGER 4010 | 583 334-71 | 08/19/2004 |

| CS Test Site (IEC/EN 61000-4-6) | | | | |
|--|---------------------|--------------|----------------------|------------------------|
| Name of Equipment | Manufacturer | Model | Serial Number | Calibration Due |
| S.G. | R&S | SMY02 | 100094 | 08/07/2003 |
| Power Meter | R&S | NRVD | 837794/029 | N.C.R. |
| Power Amplifier | ar | 500A100A | 300299 | N/A |
| CDN | Lüthi | 801-M3 | 1879 | 02/25/2004 |
| CDN | FRANKONIA | CDN-M2 | A3002010 | 04/27/2004 |
| CDN | SCHAFFNER | T400 | 16906 | 10/16/2004 |

| Power Frequency Magnetic Field Immunity Test Site (IEC/EN 61000-4-8) | | | | |
|---|---------------------|--------------|----------------------|------------------------|
| Name of Equipment | Manufacturer | Model | Serial Number | Calibration Due |
| TRIAX ELF Magnetic Field Meter | F.W.BELL | 4090 | 9711 | 10/19/2004 |
| Magnetic Field Tester | HAEFELY TRENCH | MAG 100.1 | 080 938-01 | N/A |

| Voltage Dips/Short Interruption and Voltage Variation Immunity Test Site (IEC/EN 61000-4-11) | | | | |
|---|---------------------|--------------|----------------------|------------------------|
| Name of Equipment | Manufacturer | Model | Serial Number | Calibration Due |
| Dips/Interruption and Variations Simulator | HAEFELY TRENCH | PLINE 1610 | 080 344-05 | 03/27/2004 |



6 TEST RESULTS

Line Conducted Emission

Model: POC-173CD-AC-VT**Test Mode:** Mode 1**Temperature:** 27°C**Humidity:** 63% RH**Tested by:** Bill Cheng**Test Results:** Passed

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

| Freq. (MHz) | Q.P. Raw (dBuV) | AVG Raw (dBuV) | Q.P. Limit (dBuV) | AVG Limit (dBuV) | Q.P. Margin (dB) | AVG Margin (dB) | NOTE |
|----------------|-----------------------|----------------------|-------------------------|------------------------|------------------------|-----------------------|------|
| 2.332 | 39.10 | --- | 56.00 | 46.00 | -16.90 | --- | L1 |
| 2.357 | 39.00 | --- | 56.00 | 46.00 | -17.00 | --- | L1 |
| 14.592 | 43.00 | --- | 60.00 | 50.00 | -17.00 | --- | L1 |
| 14.778 | 42.30 | --- | 60.00 | 50.00 | -17.70 | --- | L1 |
| 17.200 | 42.30 | --- | 60.00 | 50.00 | -17.70 | --- | L1 |
| 18.400 | 41.60 | --- | 60.00 | 50.00 | -18.40 | --- | L1 |
| | | | | | | | |
| 0.193 | 47.00 | --- | 63.90 | 53.90 | -16.90 | --- | L2 |
| 1.518 | 42.00 | --- | 56.00 | 46.00 | -14.00 | --- | L2 |
| 2.552 | 40.70 | --- | 56.00 | 46.00 | -15.30 | --- | L2 |
| 3.952 | 39.00 | --- | 56.00 | 46.00 | -17.00 | --- | L2 |
| 14.610 | 42.80 | --- | 60.00 | 50.00 | -17.20 | --- | L2 |
| 14.819 | 42.30 | --- | 60.00 | 50.00 | -17.70 | --- | L2 |

L1 = Line One (Live Line) / L2 = Line Two (Neutral Line)

Note: “---” denotes the emission level was or more than 2dB below the Average limit, so no re-check anymore.

**Radiated Emission (A)****Model:** POC-173CD-AC-VT**Test Mode:** Mode 1**Temperature:** 30°C**Humidity:** 60% RH**Detector Function:** Quasi-peak.**Antenna:** Vertical at 10m**Tested by:** Louis Tang**Test Results:** Passed

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

| Freq. (MHz) | Raw Data (dBuV) | Corr. Factor (dB/m) | Emiss. Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) |
|----------------|-----------------------|---------------------------|-----------------------------|--------------------|----------------|
| 50.80 | 13.7 | 11.4 | 25.1 | 30.0 | -4.9 |
| 70.88 | 19.5 | 5.7 | 25.2 | 30.0 | -4.8 |
| 132.00 | 15.7 | 12.1 | 27.8 | 30.0 | -2.2 |
| 141.70 | 10.1 | 12.1 | 22.2 | 30.0 | -7.8 |
| 400.00 | 15.0 | 20.0 | 35.0 | 37.0 | -2.0 |
| 617.09 | 3.6 | 22.6 | 26.2 | 37.0 | -10.8 |

**Radiated Emission (B)****Model:** POC-173CD-AC-VT**Test Mode:** Mode 1**Temperature:** 30°C**Humidity:** 60% RH**Detector Function:** Quasi-peak.**Antenna:** Horizontal at 10m**Tested by:** Louis Tang**Test Results:** Passed

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

| Freq. (MHz) | Raw Data (dBuV) | Corr. Factor (dB/m) | Emiss. Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) |
|----------------|-----------------------|---------------------------|-----------------------------|--------------------|----------------|
| 118.10 | 9.6 | 11.7 | 21.3 | 30.0 | -8.7 |
| 132.00 | 12.0 | 12.1 | 24.1 | 30.0 | -5.9 |
| 229.20 | 10.9 | 10.8 | 21.7 | 30.0 | -8.3 |
| 377.90 | 1.5 | 19.0 | 20.5 | 37.0 | -16.5 |
| 400.00 | 14.8 | 20.0 | 34.8 | 37.0 | -2.2 |
| 620.00 | 5.1 | 22.7 | 27.8 | 37.0 | -9.2 |

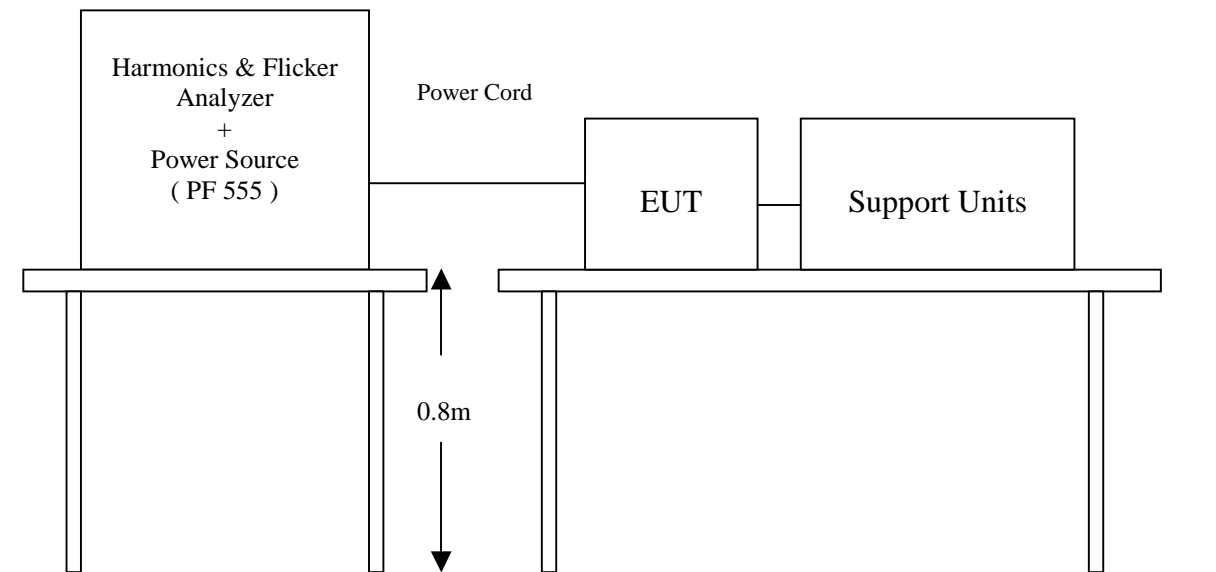


7 POWER HARMONICS TEST

Port : AC mains
Basic Standard : EN 61000-3-2 (1995 + A1: 1998 + A2: 1998)
Limits : ☒ CLASS A ; ☐ CLASS D
Tested by : Michael Chen
Temperature : 23°C
Humidity : 55%

Limit:

| Limits for Class A equipment | | Limits for Class D equipment | | |
|------------------------------|--|------------------------------|---|--|
| Harmonics Order n | Max. permissible harmonics current A | Harmonics Order n | Max. permissible harmonics current per watt mA/W | Max. permissible harmonics current A |
| Odd harmonics | | Odd Harmonics only | | |
| 3 | 2.30 | 3 | 3.4 | 2.30 |
| 5 | 1.14 | 5 | 1.9 | 1.14 |
| 7 | 0.77 | 7 | 1.0 | 0.77 |
| 9 | 0.40 | 9 | 0.5 | 0.40 |
| 11 | 0.33 | 11 | 0.35 | 0.33 |
| 13 | 0.21 | 13 | 0.30 | 0.21 |
| 15<=n<=39 | 0.15x15/n | 15<=n<=39 | 3.85/n | 0.15x15/n |
| Even harmonics | | | | |
| 2 | 1.08 | | | |
| 4 | 0.43 | | | |
| 6 | 0.30 | | | |
| 8<=n<=40 | 0.23x8/n | | | |

Block Diagram of Test Setup:**Test Procedure:**

- a. The EUT was placed on the top of a wooden table 0.8 meters above the ground and operated to produce the maximum harmonic components under normal operating conditions for each successive harmonic component in turn.
- b. The correspondent test program of test instrument to measure the current harmonics emanated from EUT is chosen. The measure time shall be not less than the time necessary for the EUT to be exercised.

Test Result : (See Appendix II for details)***PASS******FAIL***

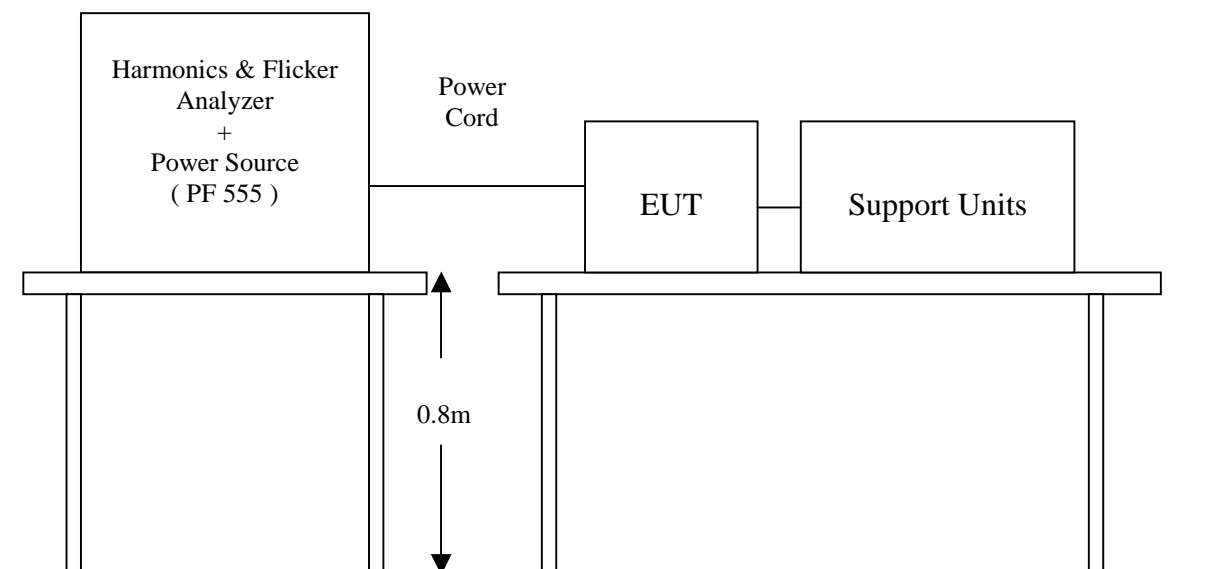
8 POWER VOLTAGE FLUCTUATION / FLICKER TEST

Port : AC mains
Basic Standard : EN 61000-3-3 (1995)
Limits : §5 of EN 61000-3-3
Tested by : Michael Chen
Temperature : 23°C
Humidity : 55%

Limit:

| TEST ITEM | LIMIT | REMARK |
|---------------|-------|--|
| P_{st} | 1.0 | P_{st} means short-term flicker indicator. |
| P_{lt} | 0.65 | P_{lt} means long-term flicker indicator. |
| T_{dt} (ms) | 200 | T_{dt} means maximum time that dt exceeds 3 %. |
| d_{max} (%) | 4% | d_{max} means maximum relative voltage change. |
| dc (%) | 3% | dc means relative steady-state voltage change |

Block Diagram of Test Setup:



Test Procedure:

- a. The EUT was placed on the top of a wooden table 0.8 meters above the ground and operated to produce the most unfavorable sequence of voltage changes under normal operating conditions.
- b. During the flick measurement, the measure time shall include that part of whole operation cycle in which the EUT produce the most unfavorable sequence of voltage changes. The observation period for short-term flicker indicator is 10 minutes and the observation period for long-term flicker indicator is 2 hours.

Test Result: (See Appendix II for details)

** Continue

| Test Parameter | Measurement Value | Limit | Result |
|----------------------|-------------------|-------|--------|
| P _{st} | 0.001 | 1.0 | Pass |
| P _{lt} | 0.001 | 0.65 | Pass |
| T _{dt} (ms) | 2 | 200 | Pass |
| d _{max} (%) | 0.002% | 4% | Pass |
| dc (%) | 0.004% | 3% | Pass |

** Manual Switch

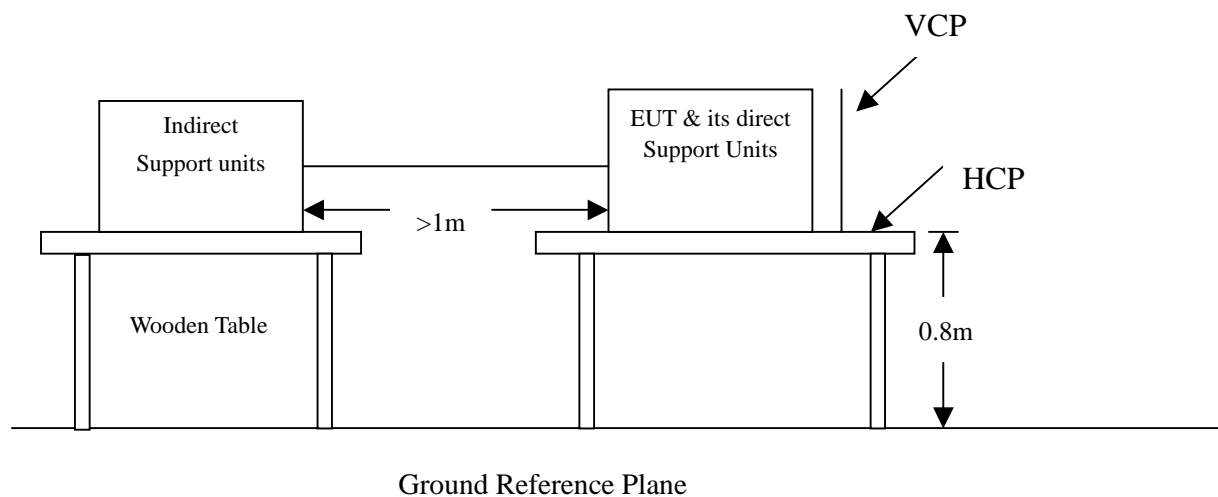
| Test Parameter | Measurement Value | Limit | Result |
|----------------------|-------------------|-------|--------|
| P _{st} | 0.038 | 1.0 | Pass |
| P _{lt} | 0.038 | 0.65 | Pass |
| T _{dt} (ms) | 8 | 200 | Pass |
| d _{max} (%) | 0.009% | 4% | Pass |
| dc (%) | 0.009% | 3% | Pass |

9 ELECTROSTATIC DISCHARGE (ESD) IMMUNITY TEST

| | |
|------------------------------|---|
| Port | : Enclosure |
| Basic Standard | : IEC/EN 61000-4-2 |
| Test Level | : $\pm 2, 4, 8$ kV (Air Discharge) $\pm 2, 4, 6$ kV (Contact Discharge) $\pm 2, 4, 6$ kV (Indirect Discharge) |
| Performance Criterion | : The Equipment or System shall be able to provide the essential performance and remain safe. |
| Tested by | : Michael Chen |
| Temperature | : 23°C |
| Humidity | : 54% RH |
| Pressure | : 1017mbar |

Block Diagram of Test Setup:

(The 470 k ohm resistors are installed per standard requirement.)



**Test Procedure:**

The electrostatic discharges were applied as follows:

| Amount of Discharges | Voltage | Coupling | Result (Pass/Fail) |
|----------------------|------------------|--------------------------------|--------------------|
| 10 / Point | $\pm 2, 4, 8$ kV | Air Discharge | Pass |
| 10 / Point | $\pm 2, 4, 6$ kV | Contact Discharge | Pass |
| 10 / Point | $\pm 2, 4, 6$ kV | Indirect Discharge HCP | Pass |
| 10 / Point | $\pm 2, 4, 6$ kV | Indirect Discharge VCP (Front) | Pass |
| 10 / Point | $\pm 2, 4, 6$ kV | Indirect Discharge VCP (Left) | N/A |
| 10 / Point | $\pm 2, 4, 6$ kV | Indirect Discharge VCP (Back) | N/A |
| 10 / Point | $\pm 2, 4, 6$ kV | Indirect Discharge VCP (Right) | N/A |

****For the tested points to EUT, please refer to attachment page.**

(Blue Arrow Mark For Contact Discharge And Red Arrow Mark For Air Discharge)

Observation: No any function degraded during the tests.

Compliance Criteria:

Under the test conditions specified in 36.202, the EQUIPMENT or SYSTEM shall be able to provide the ESSENTIAL PERFORMANCE and remain safe. The following DEGRADATIONS associated with ESSENTIAL PERFORMANCE and safety shall not be allowed:

- Component failures
- Changes in programmable parameters
- Reset to factory defaults (manufacturer's presets)
- Chang of operating mode
- False alarms
- Cessation or interruption of any intended operation, even if accompanied by an alarm
- Initiation of any unintended operation, including unintended or uncontrolled motion, even if accompanied by an alarm
- Error of a displayed numerical value sufficiently large to affect diagnosis or treatment
- Noise on a waveform in which the noise is indistinguishable from physiologically-produced signals or the noise interferes with interpretation of physiologically-produced signals
- Artefact or distortion in an image in which the artefact is indistinguishable from physiologically-produced signals or the distortion interferes with interpretation of physiologically-produced signals
- Failure of automatic diagnosis or treatment EQUIPMENT and SYSTEMS to diagnose or treat, even if accompanied by an alarm.

For EQUIPMENT and SYSTEMS with multiple FUNCTIONS, the criteria apply to each FUNCTION, parameter and channel.

The EQUIPMENT or SYSTEM may exhibit DEGRADATION of performance (e.g. deviation from manufacturer's specifications) that does not affect ESSENTIAL PERFORMANCE or safety.

The Tested Points of EUT



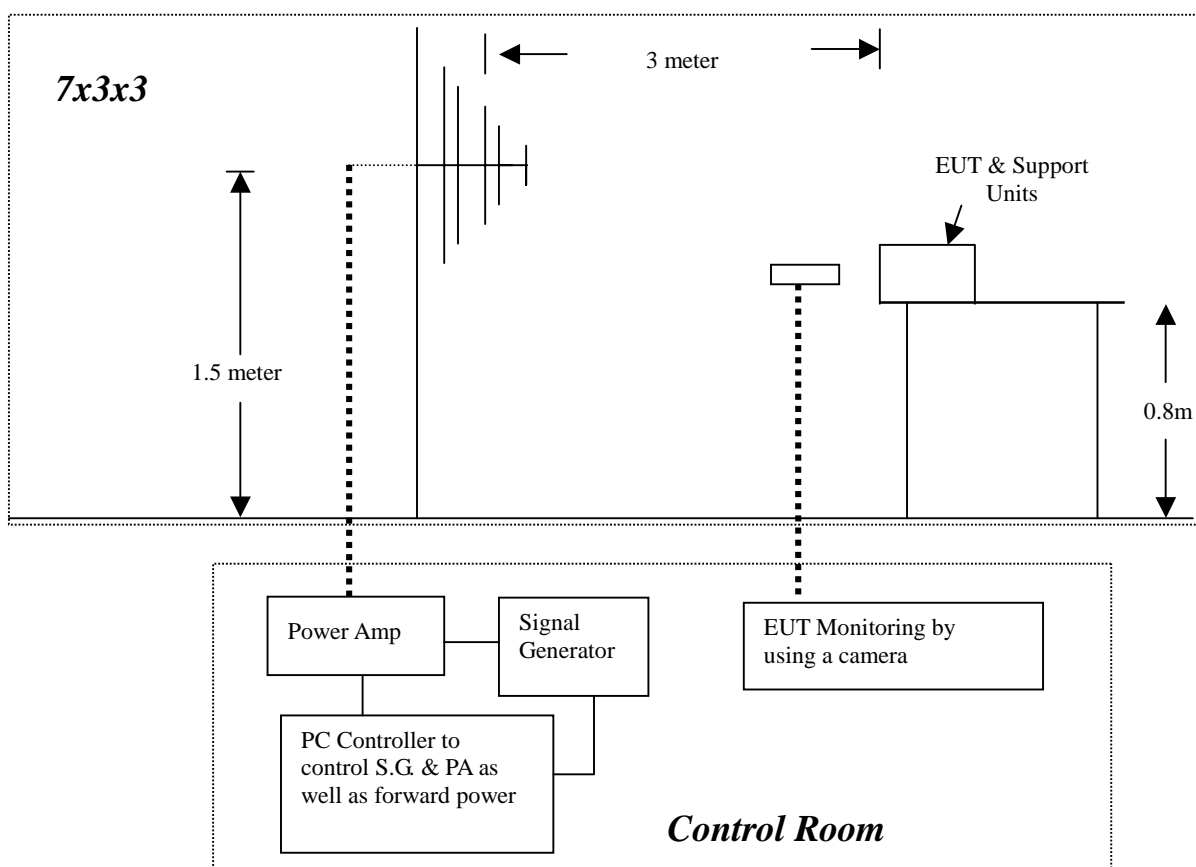




10 RADIATED ELECTROMAGNETIC FIELD IMMUNITY TEST

| | |
|------------------------------|---|
| Port | : Enclosure |
| Basic Standard | : IEC/EN 61000-4-3 |
| Requirements | : 10 V/m / with 80% AM. 1kHz Modulation. |
| Performance Criterion | : The Equipment or System shall be able to provide the essential performance and remain safe. |
| Tested by | : Michael Chen |
| Temperature | : 27°C |
| Humidity | : 62% RH |
| Pressure | : 1014mbar |

Block Diagram of Test Setup:



**Test Procedure:**

Frequency Range 80MHz ~ 2500MHz

Steps : 1 % of fundamental

Dwell Time : 3 sec

| Range (MHz) | Field | Modulation | Polarity | Position | Result (Pass/Fail) |
|-------------|-------|------------|----------|----------|--------------------|
| 80-2500 | 10V/m | No | H | 0 | Pass |
| 80-2500 | 10V/m | No | V | 0 | Pass |
| 80-2500 | 10V/m | No | H | 90 | Pass |
| 80-2500 | 10V/m | No | V | 90 | Pass |
| 80-2500 | 10V/m | No | H | 180 | Pass |
| 80-2500 | 10V/m | No | V | 180 | Pass |
| 80-2500 | 10V/m | No | H | 270 | Pass |
| 80-2500 | 10V/m | No | V | 270 | Pass |

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

Under the test conditions specified in 36.202, the EQUIPMENT or SYSTEM shall be able to provide the ESSENTIAL PERFORMANCE and remain safe. The following DEGRADATIONS associated with ESSENTIAL PERFORMANCE and safety shall not be allowed:

- Component failures
- Changes in programmable parameters
- Reset to factory defaults (manufacturer's presets)
- Chang of operating mode
- False alarms
- Cessation or interruption of any intended operation, even if accompanied by an alarm
- Initiation of any unintended operation, including unintended or uncontrolled motion, even if accompanied by an alarm
- Error of a displayed numerical value sufficiently large to affect diagnosis or treatment
- Noise on a waveform in which the noise is indistinguishable from physiologically-produced signals or the noise interferes with interpretation of physiologically-produced signals
- Artefact or distortion in an image in which the artefact is indistinguishable from physiologically-produced signals or the distortion interferes with interpretation of physiologically-produced signals
- Failure of automatic diagnosis or treatment EQUIPMENT and SYSTEMS to diagnose or treat, even if accompanied by an alarm.

For EQUIPMENT and SYSTEMS with multiple FUNCTIONS, the criteria apply to each FUNCTION, parameter and channel.

The EQUIPMENT or SYSTEM may exhibit DEGRADATION of performance (e.g. deviation from manufacturer's specifications) that does not affect ESSENTIAL PERFORMANCE or safety.



11 FAST TRANSIENTS/BURST IMMUNITY TEST

Port : On Power Supply Lines and Data Line

Basic Standard : IEC/EN 61000-4-4

Requirements : ± 2 kV for Power Supply Line
 ± 1 kV for LAN Cable

Performance Criterion : The Equipment or System shall be able to provide the essential performance and remain safe.

Performance Criteria : B (Standard Required)

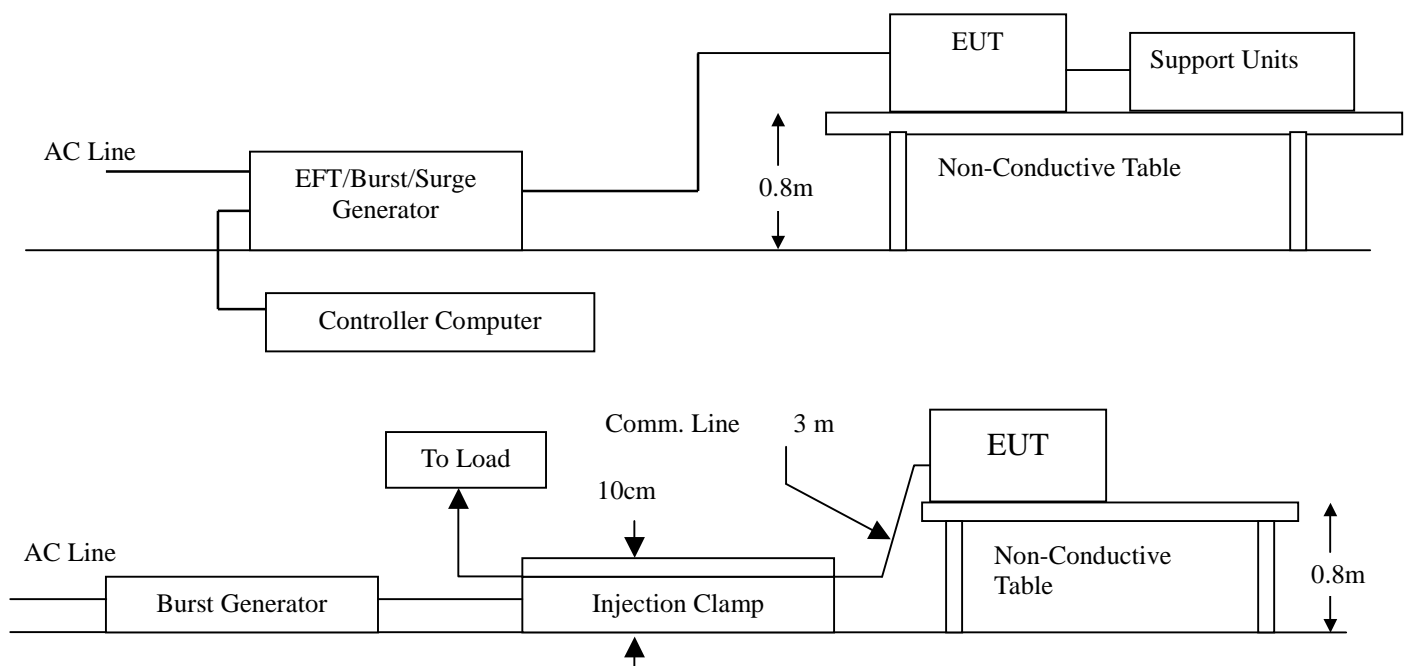
Tested by : Louis Tang

Temperature : 25 °C

Humidity : 56% RH

Pressure : 1017mbar

Block Diagram of Test Setup:



**Test Procedure:**

Impulse Frequency : 5kHz
Tr/Th : 5/50ns
Burst Duration : 15ms
Burst Period : 3Hz

| Inject Line | Voltage kV | Inject Method | Result (Pass/Fail) |
|------------------------|------------|---------------|--------------------|
| L | ± 2 | Direct | Pass |
| N | ± 2 | Direct | Pass |
| PE | ± 2 | Direct | Pass |
| L + N | ± 2 | Direct | Pass |
| L + PE | ± 2 | Direct | Pass |
| N + PE | ± 2 | Direct | Pass |
| L + N + PE | ± 2 | Direct | Pass |
| RJ 45 Port (LAN Cable) | ± 1 | Clamp | Pass |

Observation: No any function degraded during the tests.

Compliance Criteria:

Under the test conditions specified in 36.202, the EQUIPMENT or SYSTEM shall be able to provide the ESSENTIAL PERFORMANCE and remain safe. The following DEGRADATIONS associated with ESSENTIAL PERFORMANCE and safety shall not be allowed:

- Component failures
- Changes in programmable parameters
- Reset to factory defaults (manufacturer's presets)
- Chang of operating mode
- False alarms
- Cessation or interruption of any intended operation, even if accompanied by an alarm
- Initiation of any unintended operation, including unintended or uncontrolled motion, even if accompanied by an alarm
- Error of a displayed numerical value sufficiently large to affect diagnosis or treatment
- Noise on a waveform in which the noise is indistinguishable from physiologically-produced signals or the noise interferes with interpretation of physiologically-produced signals
- Artefact or distortion in an image in which the artefact is indistinguishable from physiologically-produced signals or the distortion interferes with interpretation of physiologically-produced signals
- Failure of automatic diagnosis or treatment EQUIPMENT and SYSTEMS to diagnose or treat, even if accompanied by an alarm.

For EQUIPMENT and SYSTEMS with multiple FUNCTIONS, the criteria apply to each FUNCTION, parameter and channel.

The EQUIPMENT or SYSTEM may exhibit DEGRADATION of performance (e.g. deviation from manufacturer's specifications) that does not affect ESSENTIAL PERFORMANCE or safety.

12 SURGE IMMUNITY TEST

Port : Power Cord

Basic Standard : IEC/EN 61000-4-5

Requirements : $\pm 0.5, 1 \text{ kV}$ (Line to Line)
 $\pm 0.5, 1, 2 \text{ kV}$ (Line to Ground)

Performance Criteria : The Equipment or System shall be able to provide the essential performance and remain safe.

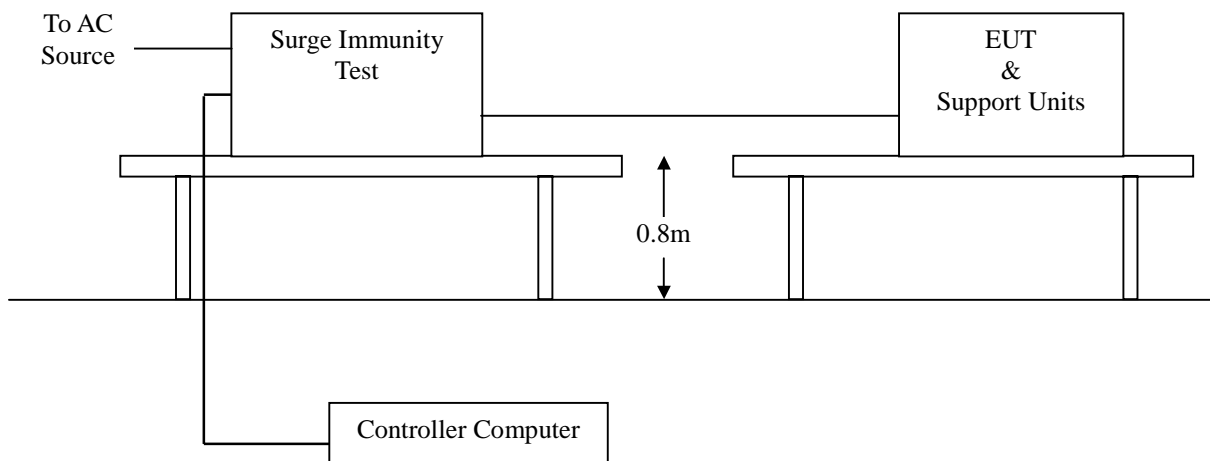
Tested by : Louis Tang

Temperature : 25°C

Humidity : 55% RH

Pressure : 1017mbar

Block Diagram of Test Setup:



**Test Procedure:**

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

| Coupling Line | Voltage (kV) | Polarity | Coupling Method | Result (Pass/Fail) |
|---------------|--------------|----------|-----------------|--------------------|
| L1-L2 | 0.5, 1 | Positive | Capacitive | Pass |
| L1-PE | 0.5, 1, 2 | Positive | Capacitive | Pass |
| L2-PE | 0.5, 1, 2 | Positive | Capacitive | Pass |
| L1-L2 | 0.5, 1 | Negative | Capacitive | Pass |
| L1-PE | 0.5, 1, 2 | Negative | Capacitive | Pass |
| L2-PE | 0.5, 1, 2 | Negative | Capacitive | Pass |

Observation: No any function degraded during the tests.

Compliance Criteria:

Under the test conditions specified in 36.202, the EQUIPMENT or SYSTEM shall be able to provide the ESSENTIAL PERFORMANCE and remain safe. The following DEGRADATIONS associated with ESSENTIAL PERFORMANCE and safety shall not be allowed:

- Component failures
- Changes in programmable parameters
- Reset to factory defaults (manufacturer's presets)
- Chang of operating mode
- False alarms
- Cessation or interruption of any intended operation, even if accompanied by an alarm
- Initiation of any unintended operation, including unintended or uncontrolled motion, even if accompanied by an alarm
- Error of a displayed numerical value sufficiently large to affect diagnosis or treatment
- Noise on a waveform in which the noise is indistinguishable from physiologically-produced signals or the noise interferes with interpretation of physiologically-produced signals
- Artefact or distortion in an image in which the artefact is indistinguishable from physiologically-produced signals or the distortion interferes with interpretation of physiologically-produced signals
- Failure of automatic diagnosis or treatment EQUIPMENT and SYSTEMS to diagnose or treat, even if accompanied by an alarm.

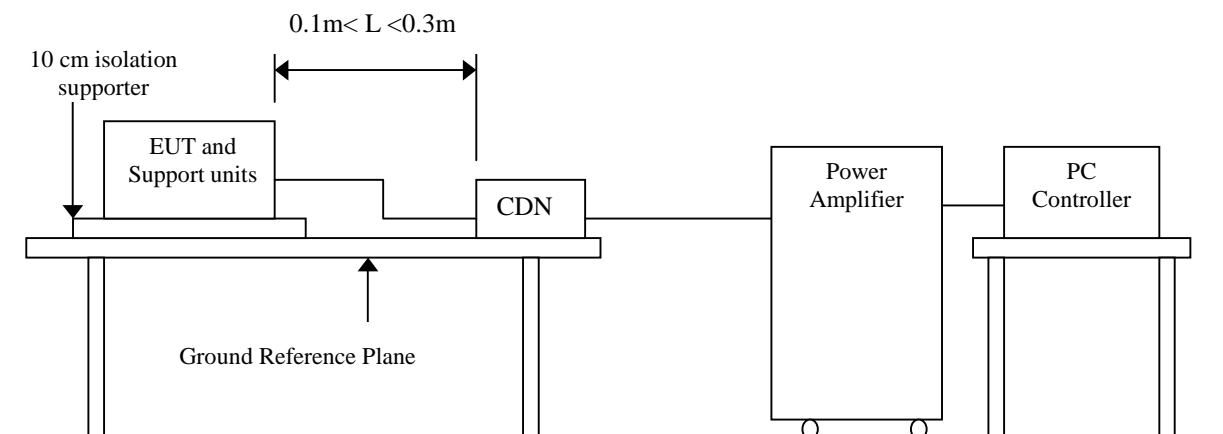
For EQUIPMENT and SYSTEMS with multiple FUNCTIONS, the criteria apply to each FUNCTION, parameter and channel.

The EQUIPMENT or SYSTEM may exhibit DEGRADATION of performance (e.g. deviation from manufacturer's specifications) that does not affect ESSENTIAL PERFORMANCE or safety.

13 CONDUCTED DISTURBANCE/INDUCED RADIO-FREQUENCY FIELD IMMUNITY TEST

| | |
|------------------------------|---|
| Port | : AC Port and Signal Lines |
| Basic Standard | : IEC/EN 61000-4-6 |
| Requirements | : 10 V with 80% AM. 1kHz Modulation. |
| Injection Method | : CDN-M3 for Power Cord |
| Performance Criterion | : The Equipment or System shall be able to provide the essential performance and remain safe. |
| Performance Criterion | : A (Standard Required) |
| Tested by | : Michael Chen |
| Temperature | : 27°C |
| Humidity | : 62% RH |
| Pressure | : 1014mbar |

Block Diagram of Test Setup:



**Test Procedure:**

Frequency Range : 0.15MHz-80MHz

Frequency Step : 1% of fundamental

Dwell Time : 3 sec

| Range (MHz) | Field | Modulation | Result (Pass/Fail) |
|-------------|-------|------------|--------------------|
| 0.15-80 | 10V | Yes | Pass |

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

Under the test conditions specified in 36.202, the EQUIPMENT or SYSTEM shall be able to provide the ESSENTIAL PERFORMANCE and remain safe. The following DEGRADATIONS associated with ESSENTIAL PERFORMANCE and safety shall not be allowed:

- Component failures
- Changes in programmable parameters
- Reset to factory defaults (manufacturer's presets)
- Chang of operating mode
- False alarms
- Cessation or interruption of any intended operation, even if accompanied by an alarm
- Initiation of any unintended operation, including unintended or uncontrolled motion, even if accompanied by an alarm
- Error of a displayed numerical value sufficiently large to affect diagnosis or treatment
- Noise on a waveform in which the noise is indistinguishable from physiologically-produced signals or the noise interferes with interpretation of physiologically-produced signals
- Artefact or distortion in an image in which the artefact is indistinguishable from physiologically-produced signals or the distortion interferes with interpretation of physiologically-produced signals
- Failure of automatic diagnosis or treatment EQUIPMENT and SYSTEMS to diagnose or treat, even if accompanied by an alarm.

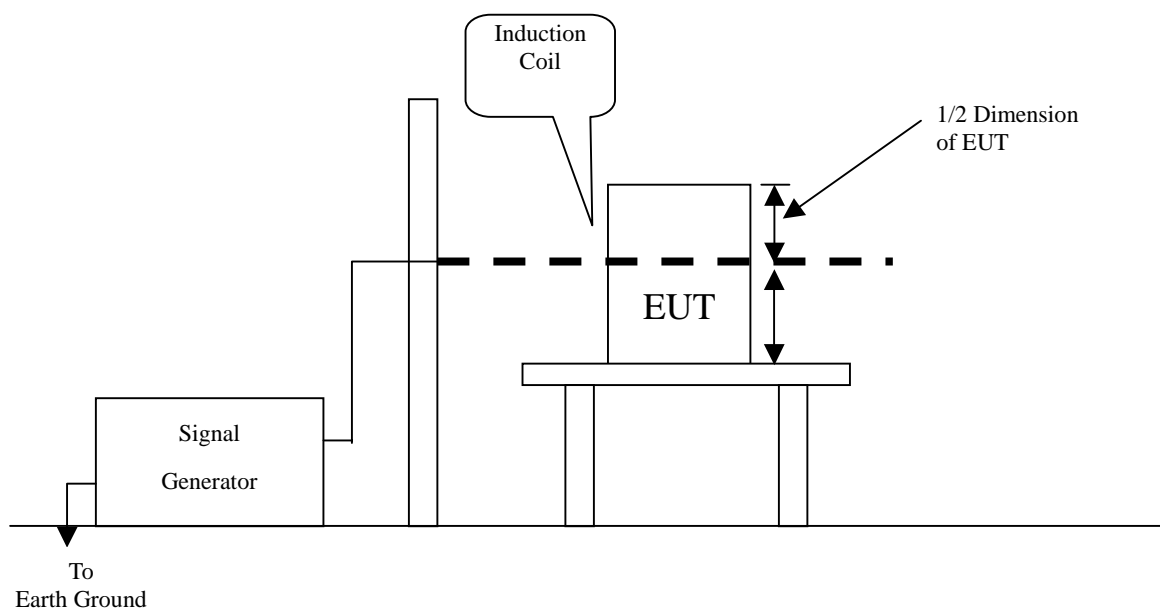
For EQUIPMENT and SYSTEMS with multiple FUNCTIONS, the criteria apply to each FUNCTION, parameter and channel.

The EQUIPMENT or SYSTEM may exhibit DEGRADATION of performance (e.g. deviation from manufacturer's specifications) that does not affect ESSENTIAL PERFORMANCE or safety.

14 POWER FREQUENCY MAGNETIC FIELD IMMUNITY TEST

| | |
|------------------------------|---|
| Port | : Enclosure |
| Basic Standard | : IEC/EN 61000-4-8 |
| Requirements | : 3 A/m |
| Performance Criterion | : The Equipment or System shall be able to provide the essential performance and remain safe. |
| Tested by | : Louis Tang |
| Temperature | : 26°C |
| Humidity | : 56% RH |
| Pressure | : 1017mbar |

Block Diagram of Test Setup:



**Test Procedure:**

Field Strength : 3A/m

Power Freq. : 50Hz

Orientation : X, Y, Z

| Orientation | Field | Result (Pass/Fail) | Remark |
|-------------|-------|--------------------|--------|
| X | 3A/m | Pass | |
| Y | 3A/m | Pass | |
| Z | 3A/m | Pass | |

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

Under the test conditions specified in 36.202, the EQUIPMENT or SYSTEM shall be able to provide the ESSENTIAL PERFORMANCE and remain safe. The following DEGRADATIONS associated with ESSENTIAL PERFORMANCE and safety shall not be allowed:

- Component failures
- Changes in programmable parameters
- Reset to factory defaults (manufacturer's presets)
- Chang of operating mode
- False alarms
- Cessation or interruption of any intended operation, even if accompanied by an alarm
- Initiation of any unintended operation, including unintended or uncontrolled motion, even if accompanied by an alarm
- Error of a displayed numerical value sufficiently large to affect diagnosis or treatment
- Noise on a waveform in which the noise is indistinguishable from physiologically-produced signals or the noise interferes with interpretation of physiologically-produced signals
- Artefact or distortion in an image in which the artefact is indistinguishable from physiologically-produced signals or the distortion interferes with interpretation of physiologically-produced signals
- Failure of automatic diagnosis or treatment EQUIPMENT and SYSTEMS to diagnose or treat, even if accompanied by an alarm.

For EQUIPMENT and SYSTEMS with multiple FUNCTIONS, the criteria apply to each FUNCTION, parameter and channel.

The EQUIPMENT or SYSTEM may exhibit DEGRADATION of performance (e.g. deviation from manufacturer's specifications) that does not affect ESSENTIAL PERFORMANCE or safety.

15 VOLTAGE DIPS / SHORT INTERRUPTIONS

Port : AC mains

Basic Standard : IEC/EN 61000-4-11

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

| Voltage Dips | Test Level % U _T | Reduction (%) | Duration (periods) |
|-----------------|--------------------------------|------------------|-------------------------|
| | <5 | >95 | 0.5 |
| | 40 | 60 | 5 |
| | 70 | 30 | 25 |

| Voltage Interruptions | Test Level % U _T | Reduction (%) | Duration (periods) |
|--------------------------|--------------------------------|------------------|-------------------------|
| | <5 | >95 | 250 |

Test Interval : Min. 10 sec.

Performance Criteria : The Equipment or System shall be able to provide the essential performance and remain safe.

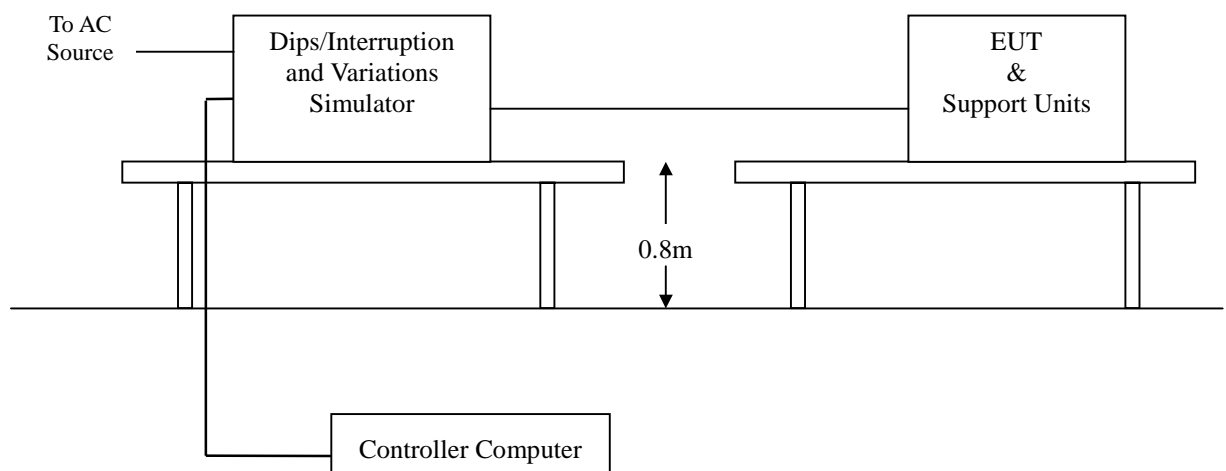
Tested by : Louis Tang

Temperature : 25 °C

Humidity : 55% RH

Pressure : 1017mbar

Block Diagram of Test Setup:



**Test Procedure:**

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

Voltage Dips:

| Test Level % U _T | Reduction (%) | Duration (periods) | Observation | Result |
|--------------------------------|------------------|-------------------------|-------------|--------|
| 0 | 100 | 0.5 | Normal | PASS |
| 40 | 60 | 5 | Normal | PASS |
| 70 | 30 | 25 | Normal | PASS |

Voltage Interruptions:

| Test Level % U _T | Reduction (%) | Duration (periods) | Observation | Result |
|--------------------------------|------------------|-------------------------|---|--------|
| 0 | 100 | 250 | EUT shut down, but can be auto recovered as the events disappear. | PASS |

Note:

1. Normal - No any functions degrade during and after the test.
2. For Voltage Interruption, EQUIPMENT and SYSTEMS are allowed a deviation from the requirements of 36.202.1 j) at the IMMUNITY TEST LEVEL specified in Table 211, provided the EQUIPMENT or SYSTEM remains safe, experiences no component failures and is restorable to the pre-test state with OPERATOR intervention. Determination of compliance is based upon performance of the EQUIPMENT or SYSTEM during and after application of the test sequence.

Observation: No any function degraded during the tests.



Compliance Criteria:

Under the test conditions specified in 36.202, the EQUIPMENT or SYSTEM shall be able to provide the ESSENTIAL PERFORMANCE and remain safe. The following DEGRADATIONS associated with ESSENTIAL PERFORMANCE and safety shall not be allowed:

- Component failures
- Changes in programmable parameters
- Reset to factory defaults (manufacturer's presets)
- Change of operating mode
- False alarms
- Cessation or interruption of any intended operation, even if accompanied by an alarm
- Initiation of any unintended operation, including unintended or uncontrolled motion, even if accompanied by an alarm
- Error of a displayed numerical value sufficiently large to affect diagnosis or treatment
- Noise on a waveform in which the noise is indistinguishable from physiologically-produced signals or the noise interferes with interpretation of physiologically-produced signals
- Artefact or distortion in an image in which the artefact is indistinguishable from physiologically-produced signals or the distortion interferes with interpretation of physiologically-produced signals
- Failure of automatic diagnosis or treatment EQUIPMENT and SYSTEMS to diagnose or treat, even if accompanied by an alarm.

For EQUIPMENT and SYSTEMS with multiple FUNCTIONS, the criteria apply to each FUNCTION, parameter and channel.

The EQUIPMENT or SYSTEM may exhibit DEGRADATION of performance (e.g. deviation from manufacturer's specifications) that does not affect ESSENTIAL PERFORMANCE or safety.

APPENDIX I - PHOTOGRAPHS OF TEST SETUP

LINE CONDUCTED EMISSION TEST (EN 55011)



RADIATED EMISSION TEST (EN 55011)



POWER HARMONIC & VOLTAGE FLUCTUATION / FLICKER TEST



ELECTROSTATIC DISCHARGE TEST



RADIATED ELECTROMAGNETIC FIELD TEST



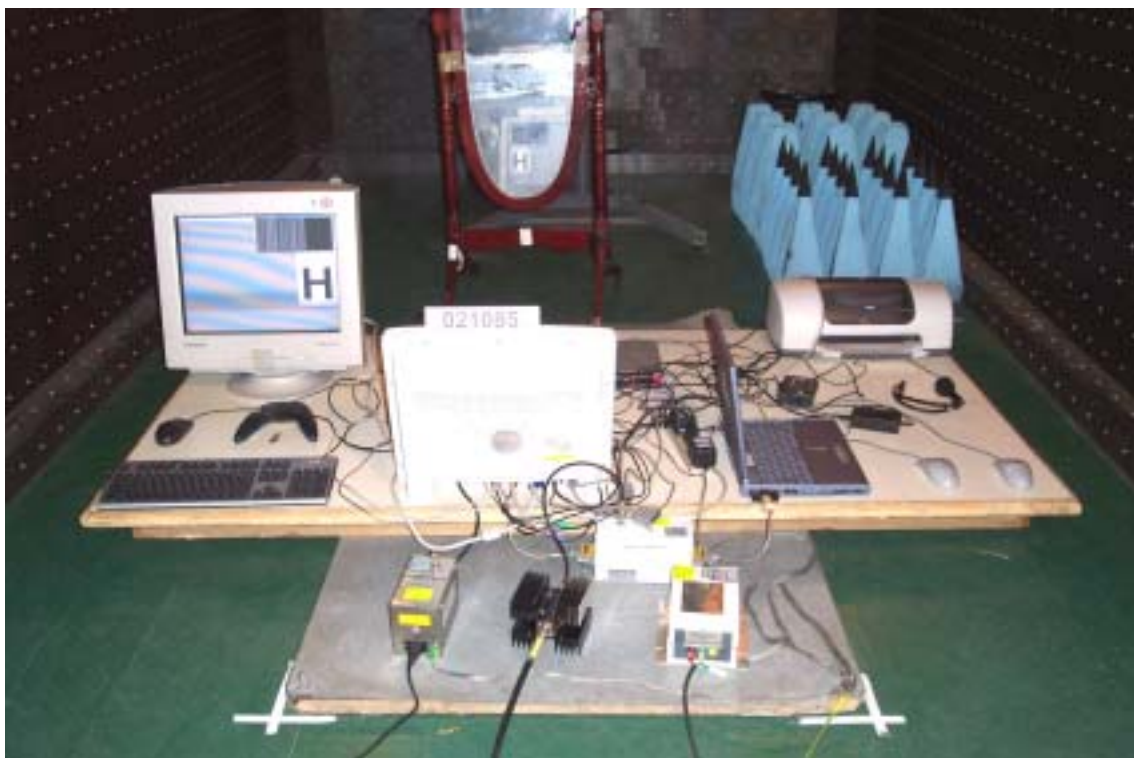
FAST TRANSIENTS/BURST TEST



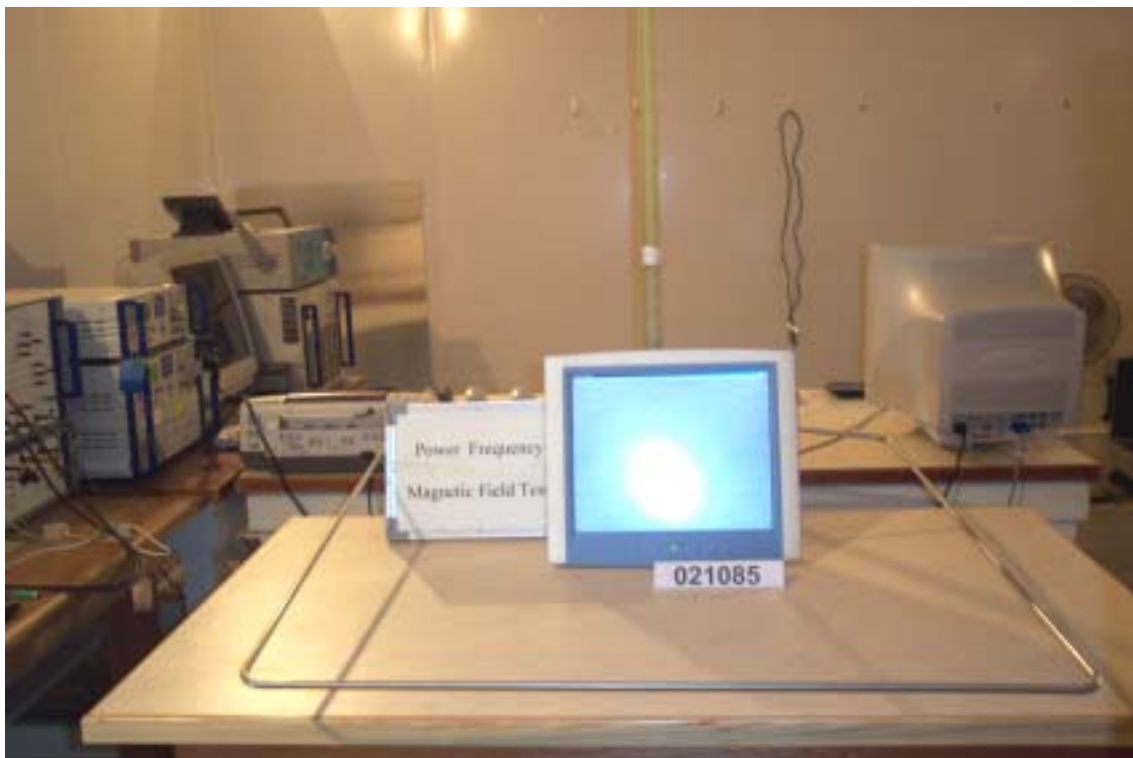
SURGE IMMUNITY TEST



CONDUCTED DISTURBANCE, INDUCED BY RADIO-FREQUENCY FIELDS TEST



POWER FREQUENCY MAGNETIC FIELD IMMUNITY TEST



VOLTAGE DIPS / INTERRUPTION TEST





APPENDIX II – TEST RESULT OF EN 61000-3-2/-3

EN 61000-3-2 TEST REPORT 2003/10/17 05:13 PM

Unit: Panel PC

Model No.: POC-173CD-AC-VT

Remarks: Temp: 23°C Humid: 55%

Operator: Michael Chen

=====

TEST SETUP

| | | | |
|------------------|-----------|---------------|--------------|
| Test Freq.: | 50.00 Hz. | Test Voltage: | 230.0 vac |
| Waveform : | SINE | Test Time: | 2.5 min. |
| Classification : | CLASS A | Test Type: | STEADY-STATE |

| | | | |
|-------------------|-----|-----------|-------|
| Prog. Zo Enabled: | YES | Prog. Zo: | 0.000 |
|-------------------|-----|-----------|-------|

| | |
|--|--------|
| Motor Driven with Phase Angle Control: | NO |
| Impedance selected: | DIRECT |

| | |
|------------------------|----------------------|
| Synthetic R+L Enabled: | NO |
| Resistance: 0.380 Ohms | Inductance: 0.250 uH |

Max Watts: 70.9W



TEST DATA

Result: PASS

Harmonic Current Results

| Hn | AMPS | LO Limit | HI Limit | Result |
|----|-------|----------|----------|--------|
| 0 | 0.000 | 0.000 | 0.000 | PASS |
| 1 | 0.314 | NaN | NaN | PASS |
| 2 | 0.008 | 1.080 | 1.080 | PASS |
| 3 | 0.275 | 2.300 | 2.300 | PASS |
| 4 | 0.008 | 0.430 | 0.430 | PASS |
| 5 | 0.252 | 1.140 | 1.140 | PASS |
| 6 | 0.007 | 0.300 | 0.300 | PASS |
| 7 | 0.220 | 0.770 | 0.770 | PASS |
| 8 | 0.006 | 0.230 | 0.230 | PASS |
| 9 | 0.181 | 0.400 | 0.400 | PASS |
| 10 | 0.004 | 0.184 | 0.184 | PASS |
| 11 | 0.139 | 0.330 | 0.330 | PASS |
| 12 | 0.003 | 0.153 | 0.153 | PASS |
| 13 | 0.099 | 0.210 | 0.210 | PASS |
| 14 | 0.003 | 0.131 | 0.131 | PASS |
| 15 | 0.066 | 0.150 | 0.150 | PASS |
| 16 | 0.002 | 0.115 | 0.115 | PASS |
| 17 | 0.045 | 0.132 | 0.132 | PASS |
| 18 | 0.002 | 0.102 | 0.102 | PASS |
| 19 | 0.027 | 0.118 | 0.118 | PASS |
| 20 | 0.002 | 0.092 | 0.092 | PASS |



| | | | | |
|----|-------|-------|-------|------|
| 21 | 0.021 | 0.107 | 0.107 | PASS |
| 22 | 0.002 | 0.084 | 0.084 | PASS |
| 23 | 0.026 | 0.098 | 0.098 | PASS |
| 24 | 0.002 | 0.077 | 0.077 | PASS |
| 25 | 0.026 | 0.090 | 0.090 | PASS |
| 26 | 0.001 | 0.071 | 0.071 | PASS |
| 27 | 0.023 | 0.083 | 0.083 | PASS |
| 28 | 0.001 | 0.066 | 0.066 | PASS |
| 29 | 0.018 | 0.078 | 0.078 | PASS |
| 30 | 0.001 | 0.061 | 0.061 | PASS |
| 31 | 0.015 | 0.073 | 0.073 | PASS |
| 32 | 0.001 | 0.058 | 0.058 | PASS |
| 33 | 0.011 | 0.068 | 0.068 | PASS |
| 34 | 0.001 | 0.054 | 0.054 | PASS |
| 35 | 0.008 | 0.064 | 0.064 | PASS |
| 36 | 0.001 | 0.051 | 0.051 | PASS |
| 37 | 0.011 | 0.061 | 0.061 | PASS |
| 38 | 0.001 | 0.048 | 0.048 | PASS |
| 39 | 0.011 | 0.058 | 0.058 | PASS |
| 40 | 0.001 | 0.046 | 0.046 | PASS |

END OF REPORT



EN 61000-3-3 TEST REPORT 2003/10/17 05:29 PM

Unit: Panel PC

Model No.: POC-173CD-AC-VT (CONTINUE)

Remarks: Temp: 23°C Humid: 55%

Operator: Michael Chen

=====

TEST SETUP

Test Freq.: 50.00 Hz. Test Voltage: 230.0 vac

Waveform : SINE

Test Time: 10.0 min. Tshort: 10.0 min.

Prog. Zo Enabled: YES Prog. Zo: 0.000

Voltage Change less than once per Hour: NO

Impedance selected: DIRECT

Synthetic R+L Enabled: NO

Resistance: 0.380 Ohms Inductance: 0.250 uH



TEST DATA

Result: PASS

| | EUT Data | Limit | Result | Test Enabled |
|-----------|----------|-------|--------|--------------|
| Pst max | 0.001 | 1.00 | PASS | true |
| Plt max | 0.001 | 0.65 | PASS | true |
| dc % | 0.004 | 3.00 | PASS | true |
| dmax % | 0.002 | 4.00 | PASS | true |
| d(t) sec. | 0.002 | 0.20 | PASS | true |

Power Source Data

| | | | | |
|----------------|-------|-------|------|------|
| Source Pst max | 0.021 | 0.400 | PASS | true |
| % THD | 0.030 | 3.000 | PASS | true |

END OF REPORT



EN 61000-3-3 TEST REPORT 2003/10/17 05:57 PM

Unit: Panel PC

Model No.: POC-173CD-AC-VT (MANUALSWITCH)

Remarks: Temp: 23°C Humid: 55%

Operator: Michael Chen

=====

TEST SETUP

Test Freq.: 50.00 Hz. Test Voltage: 230.0 vac

Waveform : SINE

Test Time: 10.0 min. Tshort: 10.0 min.

Prog. Zo Enabled: YES Prog. Zo: 0.000

Voltage Change less than once per Hour: NO

Impedance selected: DIRECT

Synthetic R+L Enabled: NO

Resistance: 0.380 Ohms Inductance: 0.250 uH

**TEST DATA**

Result: PASS

| | EUT Data | Limit | Result | Test Enabled |
|--------------------------|-----------------|--------------|---------------|---------------------|
| Pst max | 0.038 | 1.00 | PASS | true |
| Plt max | 0.038 | 0.65 | PASS | true |
| dc % | 0.009 | 3.00 | PASS | true |
| dmax % | 0.009 | 4.00 | PASS | true |
| d(t) sec. | 0.008 | 0.20 | PASS | true |
| Power Source Data | | | | |
| Source Pst max | 0.021 | 0.400 | PASS | true |
| % THD | 0.030 | 3.000 | PASS | true |

END OF REPORT