0363

EMC COMPLIANCE TEST REPORT

for

Industrial Panel PC

Trade Name : AAEON
Model Number : AWS-8150
Serial Number : N/A
Report Number : 010993-E
Date : November 21, 2001
Regulations : See below

Standards	Results (Pass/Fail)
EN 55022: 1994+ A1: 1995+ A2: 1997 (Group 1, Class A)	PASS
EN 61000-3-2: 1995 + A1: 1998 + A2: 1998+A14: 2000	PASS
EN 61000-3-3: 1995	PASS
EN 61000-6-2:1999	PASS
- EN 61000-4-2:1995	PASS
- EN 61000-4-3:1995	PASS
- EN 61000-4-4:1995	PASS
- EN 61000-4-5:1995	PASS
- EN 61000-4-6:1996	PASS
- EN 61000-4-8:1993	PASS
- EN 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.

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EC-Declaration of Conformity

For the following equipment:

Industrial Panel PC

(Product Name)

AWS-8150 / AAEON

(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:

☑ EN 55022: 1994+ A1: 1995+ A2: 1997 (Class A)
☑ EN 61000-3-2: 1995 + A1: 1998 + A2: 1998 + A14: 2000
☑ EN 61000-3-3: 1995
☑ EN 61000-6-2:1999
EN 61000-4-2: 1995; EN 61000-4-3: 1995; EN 61000-4-4: 1995;
EN 61000-4-5: 1995; EN 61000-4-6: 1996; EN 61000-4-8:1993
EN 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: Industrial Panel PC

Trade Name: AAEON

Model Number: AWS-8150

Serial Number: N/A

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

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

Type of Test: EMC Directive 89/336/EEC for CE Marking

Technical Standards:
EN 55022: 1994+ A1: 1995+ A2: 1997 (Group 1, Class A)
EN 61000-3-2: 1995 + A1: 1998 + A2: 1998+A14: 2000
EN 61000-3-3: 1995
EN 61000-6-2:1999
(EN 61000-4-2:1995;EN 61000-4-3:1995;
EN 61000-4-4:1995; EN 61000-4-5:1995;
EN 61000-4-6:1996; EN 61000-4-8:1993
EN 61000-4-11:1994)

File Number: 010993-E

Date of test: November 19 ~ 20, 2001

Deviation: According to applicant’s declaration this EUT is a class A product, and to be market in industrial environment only.

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: Kurt Chen

Kurt Chen / Q.A. Manager

GENERAL INFORMATION

Applicant:	**AAEON Technology Inc.** 5F, No. 135, Lane 235, Pao Chiao Rd., Hsin-Tien City, Taipei, Taiwan, R.O.C.
Contact Person:	Milo Wang
Manufacturer:	**AAEON Technology Inc.** 5F, No. 135, Lane 235, Pao Chiao Rd., Hsin-Tien City, Taipei, Taiwan, R.O.C.
File Number:	010993-E
Date of Test:	November 19 ~ 20, 2001
Equipment Under Test:	Industrial Panel PC
Model Number:	AWS-8150
Serial Number:	N/A
Technical Standards:	EN 55022: 1994+ A1: 1995+ A2: 1997 (Group 1, Class A) EN 61000-3-2: 1995 + A1: 1998 + A2: 1998+A14: 2000 EN 61000-3-3: 1995 EN 61000-6-2:1999 (EN 61000-4-2:1995;EN 61000-4-3:1995; EN 61000-4-4:1995; EN 61000-4-5:1995; EN 61000-4-6:1996; EN 61000-4-8:1993 EN 61000-4-11:1994)
Frequency Range (EN 55022):	150kHz to 30MHz for Line Conducted Test 30MHz to 1000MHz for Radiated Emission Test
Test Site	**C&C LABORATORY CO., LTD.** No. 81-1, 210 Lane, Pa-de 2nd Road, Lu-Chu Hsiang Taoyuan, Taiwan, R. O. C.

SYSTEM DESCRIPTION

EUT Test Program:

1. EMI test software was loaded and executed Windows mode.
2. A communicated software was loaded and executed to communicate between EUT and remote side.
3. EUT (Industrial Panel PC) sends and receives data from Notebook PC on remote side via LAN cable.
4. Data was sent to Monitor filling the screen with upper case of "H" patterns.
5. Test program sequentially exercised all related I/O's of EUT and sent "H" patterns to all applicable output ports of EUT.
6. Repeat 3 to 5 Test program is self-repeating throughout the test.

PRODUCT INFORMATION

Housing Type:	Metal case		
EUT Power Rating:	85-265VAC, 47-63Hz, 6-4A		
AC Power during Test	230VAC/50Hz		
Power Supply Manufacturer:	MAGIC		
Power Supply Model Number:	MPI-925A		
AC Power Cord Type:	Unshielded, 1.8m (Detachable)		
CPU Manufacture:	Intel	**Type:**	Celeron 533 MHz
OSC/Clock Frequencies:	14.318MHz, 24.576MHz, 133MHz		
Memory Capacity:		**Install:**	64MB
FDD Manufacturer:	TEAC	**Model:**	FD-235HF
HDD Manufacturer:	Seagate	**Model:**	ST310215A
CD-ROM Manufacturer:	VINTECH	**Model:**	VIN-S24A
Chassis Manufacturer:	AAEON	**Model:**	AWS-8150
VGA Card Manufacturer:	AAEON	**Model:**	MBC-268B
Main Board Manufacturer:	AAEON	**Model:**	PCA-6178
LVDS Board Manufacturer:	AAEON	**Model:**	LVDS-T200
15.0” LCD Panel Manufacturer:	Fujitsu	Model:	FLC38XGC6V-04

I/O Port of EUT

I/O PORT TYPES	Q’TY	TESTED WITH
1) Serial Port	1	1
2) Video Port	1	1
3) PS/2 Keyboard Port	1	1
4) PS/2 Mouse Port	1	1
5) LAN Port	1	1

SUPPORT EQUIPMENT

No.	**Equipment**	**Model #**	**Serial #**	**FCC ID**	**Trade Name**	**Data Cable**	**Power Cord**
1.	Monitor	CPD-G200	2716046	DoC	SONY	Shielded, 1.8m With a core	Unshielded, 1.5m
2.	Modem	231AA	A25531083541	BFJ9D93108US	Hayes	Shielded, 1.8m	Unshielded, 1.8m
3.	PS/2 Keyboard	SK-2800C	B1C790BCPJCN6L	GYUR79SK	Compaq	Shielded, 1.8m	N/A
4.	PS/2 Mouse	M-CAA43	LZA11750827	DoC	Logitech	Shielded, 1.8m	N/A
5.	Notebook PC (Remote)	Valiant 6380i9TD	N/A	FCC DoC	KDS	LAN Cable Shielded, 1.8m	AC I/P: Unshielded, 1.8m DC O/P: 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.

TEST FACILITY

Location: No. 81-1, 210 Lane, Pa-de 2nd Road, Lu-Chu Hsiang, Taoyuan, Taiwan, R. O. C.

Description: There are Four 3/10m open area test sites and three line conducted labs 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 NEMKO (Authorization #: ELA 124) for EMC & A2LA (Certificate #: 824.01) for Emission

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.

Site # 3 & # 4 Line Conducted Test Site: At Shielding Room

TEST EQUIPMENT LIST

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 10kHz to 1.0 / 2.0 GHz.

Equipment used during the tests:

Open Area Test Site: # 4

Open Area Test Site # 4					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL. DUE**
Spectrum Analyzer	ADVANTEST	R3132	91700456	02/21/2001	02/20/2002
EMI Test Receiver	R&S	ESVS10	846285/016	04/16/2001	04/15/2002
Precision Dipole	SCHWAZBECK	VHAP	998/999	05/17/2001	05/16/2002
Precision Dipole	SCHWAZBECK	UHAP	981/982	05/17/2001	05/16/2002
Bilog Antenna	CHASE	CBL 6112B	2462	01/16/2001	01/15/2002
Turn Table	Chance most	N/A	N/A	N.C.R	N.C.R
Antenna Tower	Chance most	N/A	N/A	N.C.R	N.C.R
Controller	Chance most	N/A	N/A	N.C.R	N.C.R
RF Switch	ANRITSU	MP59B	M51067	N.C.R	N.C.R
Site NSA	C&C Lab.	N/A	N/A	11/24/2000	11/23/2001

Conducted Emission Test Site: # 4

Conducted Emission Test Site # 4					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL. DUE**
EMI Test Receiver	R&S	ESHS10	843743/015	12/15/2000	12/14/2001
LISN	R&S	ESH2-Z5	848773/014	10/27/2001	10/26/2002
LISN	EMCO	3825/2	9003/1382	02/08/2001	02/07/2002

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

Power Harmonic & Voltage Fluctuation/Flicker Measurement (61000-3-2&-3-3)

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Harmonic & Flicker Tester	HAEFELY TRENCH	PHF555	080 419-25	10/12/2001	10/11/2002

ESD test (61000-4-2)

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
ESD Generator	HAEFELY TRENCH	PESD 1600	H710203	09/01/2001	08/31/2002

Radiated Electromagnetic Field immunity Measurement (61000-4-3)

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Signal Generator	Maconi	2022D	119246/003	08/20/2001	08/19/2002
Power Amplifier	M2S	A00181/ 1000	9801-112	N/A	N/A
Power Amplifier	M2S	AC8113/ 800-250A	9801-179	N/A	N/A
Power Antenna	EMCO	93141	9712-1083	N/A	N/A
EM PROBE	GW	EMR-30	L-0013	03/13/2001	03/12/2002

Fast Transients/Burst test (61000-4-4)

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Fast Transients/Burst Generator	HAEFELY TRENCH	PEFT-JUNIOR	583 333-117	08/21/2001	08/20/2002
Clamp	HAEFELY TRENCH	093 506.1	080 421.13	N/A	N/A

Surge Immunity test (61000-4-5)

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Surge Tester	HAEFELY TRENCH	PSUGER 4010	583 334-71	09/01/2001	08/31/2002
CDN	HAEFELY TRENCH	IP6.2	148342	03/22/2001	03/21/2002
CDN	HAEFELY TRENCH	DEC1A	148050	01/17/2001	01/16/2002

CS test (61000-4-6)					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
Signal Generator	Maconi	2022D	119246/003	08/20/2001	08/19/2002
CDN	MEB	M3	3683	09/14/2001	09/13/2002
CDN	Lüthi	801-M3	1879	03/05/2001	03/04/2002
CDN	MEB	M2	A3002010	04/17/2001	04/16/2002
Power Amplifier	M2S	A00181/ 1000	9801-112	N/A	N/A
Clamp	MEB	KEMZ-801	13 602	N/A	N/A

Power Frequency Magnetic Field Immunity test (61000-4-8)					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
TRIAX ELF Magnetic Field Meter	F.W.BELL	4090	9711	10/30/2001	10/29/2002
Magnetic Field Tester	HAEFELY TRENCH	MAG 100.1	080 938-01	N/A	N/A

Voltage Dips/Short Interruption and Voltage Variation Immunity test (61000-4-11)					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
Dips/Interruption and Variations Simulator	HAEFELY TRENCH	PLINE 1610	080 344-05	02/08/2001	02/07/2002

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 AC power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.

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

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(s) were scanned during the preliminary test:

   Mode(s):

   1. **1024 x 768 Colors Resolution**
   2. **800 x 600 Colors Resolution**
   3. **640 x 480 Colors Resolution**

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

    Mode: 1.

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.

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

Data Sample:

Freq. MHz	Q.P. Raw dBuV	Average Raw dBuV	Q.P. Limit dBuV	Average Limit dBuV	Q.P. Margin dB	Average Margin dB	Note
x.xx	43.95	---	56	46	-12.05	-2.05	L 1

Freq.	= Emission frequency in MHz
Raw dBuV	= Uncorrected Analyzer/Receiver reading
Limit dBuV	= Limit stated in standard
Margin dB	= Reading in reference to limit
Note	= Current carrying line of reading
“---“	= The emission level complied with the Average limits, with at least 2 dB margin, so no further recheck.

LINE CONDUCTED EMISSION LIMIT

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 AC power source from the outlet socket under the turntable. All support equipment received 110VAC/60Hz power from another socket under the turntable.

5) The antenna was placed at some given distance 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 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(s) were scanned during the preliminary test:

Mode(s):

1. **1024 x 768 Colors Resolution**
2. **800 x 600 Colors Resolution**
3. **640 x 480 Colors Resolution**

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

Mode: 1.

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 Q.P. reading is presented.

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

Data Sample:

Freq.	Raw Data	Corr. Factor	Emiss. Level	Limits	Margin
(MHz)	(dBuV/m)	(dB)	(dBuV/m	)	(dB)
xx.xx	14.0	11.2	26.2	30	-3.8

Freq. = Emission frequency in MHz
Raw Data (dBuV/m) = Uncorrected Analyzer / Receiver reading
Corr. Factor (dB) = Correction factors of antenna factor and cable loss
Emiss. Level = Raw reading converted to dBuV and CF added
Limit dBuV/m = Limit stated in standard
Margin dB = Reading in reference to limit

RADIATED EMISSION LIMIT

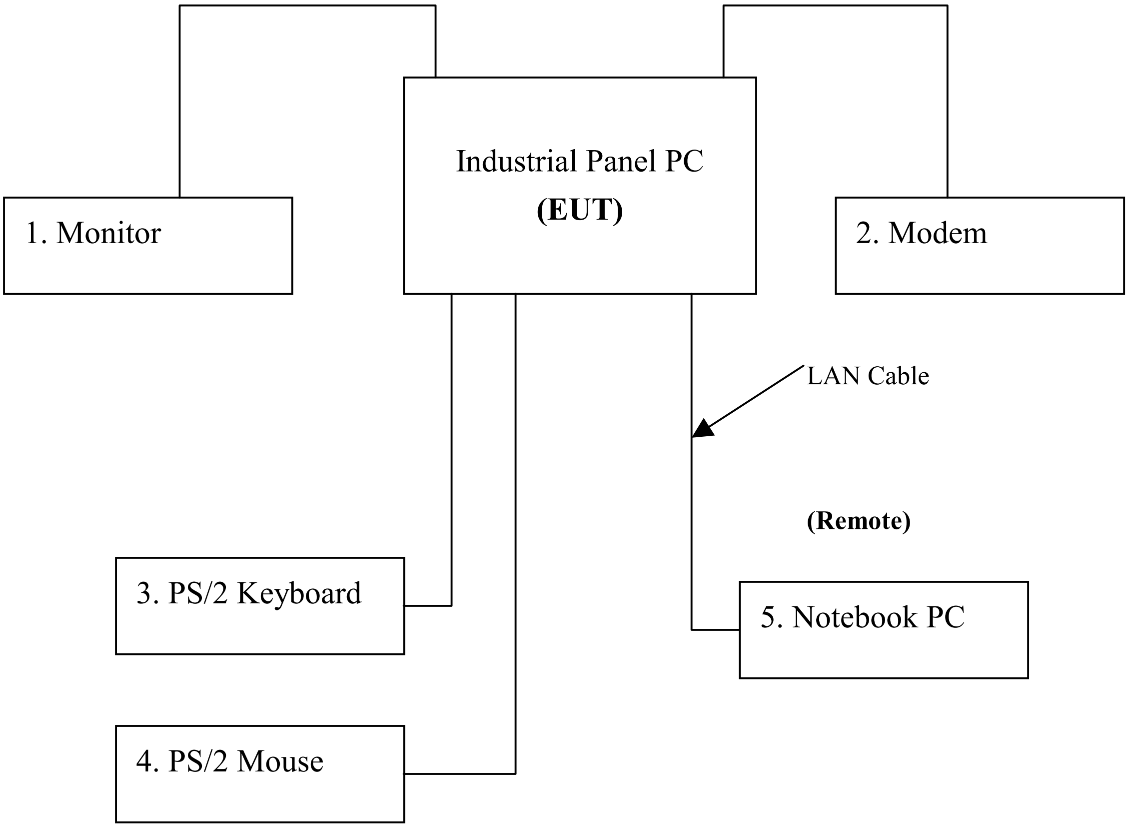
Frequency (MHz)	Distance (m)	Maximum Field Strength Limit (dBuV/m/ Q.P.)
30-230	10	40
230-1000	10	47

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

BLOCK DIAGRAM OF TEST SETUP

SYSTEM DIAGRAM OF CONNECTIONS BETWEEN EUT AND SIMULATORS

EUT: Industrial Panel PC
Trade Name: AAEON
Model Number: AWS-8150
Power Cord: Unshielded, 1.8m



SUMMARY DATA
(LINE CONDUCTED TEST)

Model Number: AWS-8150 **Location:** Site # 4

Tested by: Jacky Wang

Test Mode: Mode 1

Test Results: Passed

Temperature: 23^{0}C **Humidity:** 72%RH

(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
0.185	46.9	---	79.00	66.00	-32.1	---	L1
1.790	21.8	---	73.00	60.00	-51.2	---	L1
3.920	33.6	---	73.00	60.00	-39.4	---	L1
7.830	49.3	---	73.00	60.00	-23.7	---	L1
11.750	51.4	---	73.00	60.00	-21.6	---	L1
15.660	39.6	---	73.00	60.00	-33.4	---	L1
0.185	47.3	---	79.00	66.00	-31.7	---	L2
2.280	23.4	---	73.00	60.00	-49.6	---	L2
3.920	32.8	---	73.00	60.00	-40.2	---	L2
7.830	51.3	---	73.00	60.00	-21.7	---	L2
11.750	52.4	---	73.00	60.00	-20.6	---	L2
15.660	40.1	---	73.00	60.00	-32.9	---	L2

L1 = Line One (Hot side) / L2 = Line Two (Neutral side)

****NOTE: "---" denotes the emission level was or more than 2dB below the Average limit, so no re-check anymore.**

SUMMARY DATA
(RADIATED EMISSION TEST)

Model Number: AWS-8150 **Location:** Site # 4

Tested by: Jacky Wang

Test Mode: Mode 1 **Polar:** Vertical -- 10m

Detector Function: Quasi-Peak **Test Results:** Passed

Temperature: 23^{0}C **Humidity:** 72%RH

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

Freq. (MHz)	Raw Data (dBuV/m)	Corr. Factor (dB)	Emiss. Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)
64.43	30.6	6.7	37.3	40.0	-2.7
175.80	26.1	10.7	36.8	40.0	-3.2
180.20	24.2	10.6	34.8	40.0	-5.2
208.84	23.1	10.9	34.0	40.0	-6.0
302.74	26.2	15.1	41.3	47.0	-5.7
498.10	20.8	20.7	41.5	47.0	-5.5
898.50	18.4	24.4	42.8	47.0	-4.2

SUMMARY DATA
(RADIATED EMISSION TEST)

Model Number: AWS-8150 **Location:** Site # 4

Tested by: Jacky Wang

Test Mode: Mode 1 **Polar:** Horizontal -- 10m

Detector Function: Quasi-Peak **Test Results:** Passed

Temperature: 23^{0}C **Humidity:** 72%RH

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

Freq. (MHz)	Raw Data (dBuV/m)	Corr. Factor (dB)	Emiss. Level (dBuV/m	Limits)	Margin (dB)
64.30	25.0	6.8	31.8	40.0	-8.2
110.33	24.4	12.6	37.0	40.0	-3.0
175.13	24.1	10.7	34.8	40.0	-5.2
180.70	22.9	10.6	33.5	40.0	-6.5
334.25	27.5	15.8	43.3	47.0	-3.7
466.50	20.8	20.0	40.8	47.0	-6.2
598.34	19.6	21.9	41.5	47.0	-5.5

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

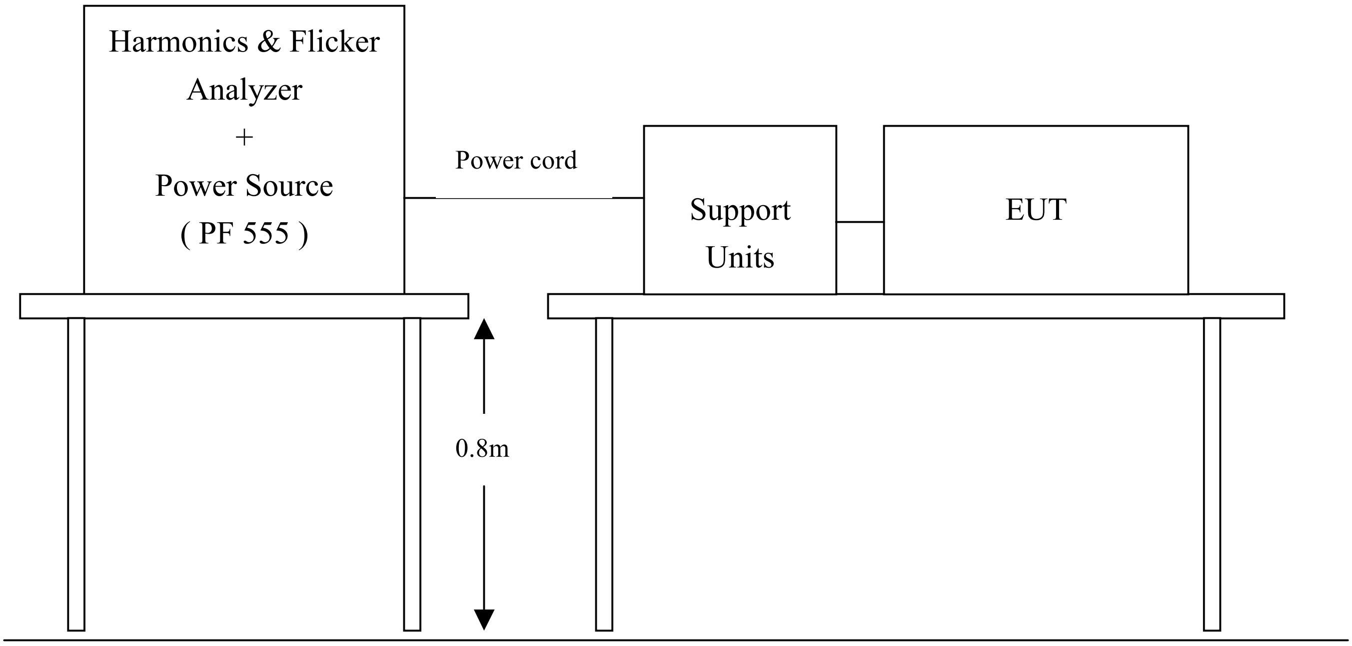
POWER HARMONICS MEASUREMENT

Port	: AC mains
Basic Standard	: EN 61000-3-2 (1995 + A1: 1998 + A2: 1998)
Limits	: ☐ CLASS A ; ☑ CLASS D
Tester	: Jacky Wang
Temperature	: 30°C
Humidity	: 54%

VOLTAGE FLUCTUATION/FLICER MEASUREMENT

Port	: AC mains
Basic Standard	: EN 61000-3-3 (1995)
Limits	: §5 of EN 61000-3-3
Tester	: Jacky Wang
Temperature	: 30°C
Humidity	: 54%

Block Diagram of Test Setup:



Result:

Please see the attached test data.

```
----------------------------------------------------------------------

EN 61000-3-2 TEST REPORT  2001/11/20  08:28 PM
----------------------------------------------------------------------

Unit:          Industrial Panel PC

Model No.:   AWS-8150

Remarks:       TEMP:30℃     HUM:54%

Operator:      Jacky

======================================================================


                              TEST SETUP
                              ----------

Test Freq.:           50.00 Hz.     Test Voltage:          230.0 vac
Waveform :            SINE          Test Time:              2.5 min.
Classification :      CLASS D       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: 460.000 uH


MAX WATTS:77.4W
```

TEST DATA

Result: PASS

Harmonic Current Results

Hn	AMPS	LO Limit	HI Limit	Result
0	0.000	0.000	0.000	PASS
1	0.384	NaN	NaN	PASS
2	0.003	NaN	NaN	PASS
3	0.108	0.249	0.249	PASS
4	0.001	NaN	NaN	PASS
5	0.026	0.146	0.146	PASS
6	0.001	NaN	NaN	PASS
7	0.019	0.072	0.072	PASS
8	0.001	NaN	NaN	PASS
9	0.011	0.038	0.038	PASS
10	0.000	NaN	NaN	PASS
11	0.012	0.024	0.024	PASS
12	0.000	NaN	NaN	PASS
13	0.009	0.023	0.023	PASS
14	0.000	NaN	NaN	PASS
15	0.007	0.019	0.019	PASS
16	0.000	NaN	NaN	PASS
17	0.007	0.015	0.015	PASS
18	0.000	NaN	NaN	PASS
19	0.006	0.016	0.016	PASS
20	0.000	NaN	NaN	PASS

21	0.005	0.013	0.013	PASS
22	0.000	NaN	NaN	PASS
23	0.005	0.012	0.012	PASS
24	0.000	NaN	NaN	PASS
25	0.005	0.010	0.010	PASS
26	0.000	NaN	NaN	PASS
27	0.004	0.011	0.011	PASS
28	0.000	NaN	NaN	PASS
29	0.004	0.009	0.009	PASS
30	0.000	NaN	NaN	PASS
31	0.004	0.009	0.009	PASS
32	0.000	NaN	NaN	PASS
33	0.004	0.008	0.008	PASS
34	0.000	NaN	NaN	PASS
35	0.003	0.008	0.008	PASS
36	0.000	NaN	NaN	PASS
37	0.003	0.007	0.007	PASS
38	0.000	NaN	NaN	PASS
39	0.003	0.008	0.008	PASS
40	0.000	NaN	NaN	PASS

END OF REPORT

```
-----------------------------------------------------------------------

EN 61000-3-3 TEST REPORT  2001/11/20  09:28 PM
-----------------------------------------------------------------------

Unit:          Industrial Panel PC

Model No.:   AWS-8150  (Manual Switch)

Remarks:       TEMP:30℃     HUM:54%

Operator:      Jacky

=======================================================================


                              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: 460.000 uH
```

TEST DATA

Result: PASS

	EUT Data	Limit	Result	Test Enabled
Pst max	0.009	1.00	PASS	true
Plt max	0.009	0.65	PASS	true
dc %	0.00	3.00	PASS	true
dmax %	0.00	4.00	PASS	true
d(t) sec.	0.00	0.20	PASS	true
	Power Source Data			
Source Pst max	0.025	0.400	PASS	true
% THD	0.03	3.00	PASS	true

END OF REPORT

```
-------------------------------------------------------------------------

EN 61000-3-3 TEST REPORT  2001/11/20  09:10 PM
-------------------------------------------------------------------------

Unit:          Industrial Panel PC

Model No.:    AWS-8150  (Continue)

Remarks:       TEMP:30℃     HUM:54%

Operator:      Jacky

=========================================================================


                              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: 460.000 uH
```

```
                                TEST DATA
                                ---------


                           Result:     PASS

                  EUT Data           Limit          Result    Test Enabled

Pst max           0.009              1.00           PASS          true
Plt max           0.009              0.65           PASS          true
dc %              0.00               3.00           PASS          true
dmax %            0.00               4.00           PASS          true
d(t) sec.         0.00               0.20           PASS          true

                        Power Source Data
Source Pst max    0.025              0.400          PASS          true
% THD             0.02               3.00           PASS          true


                             END OF REPORT
```

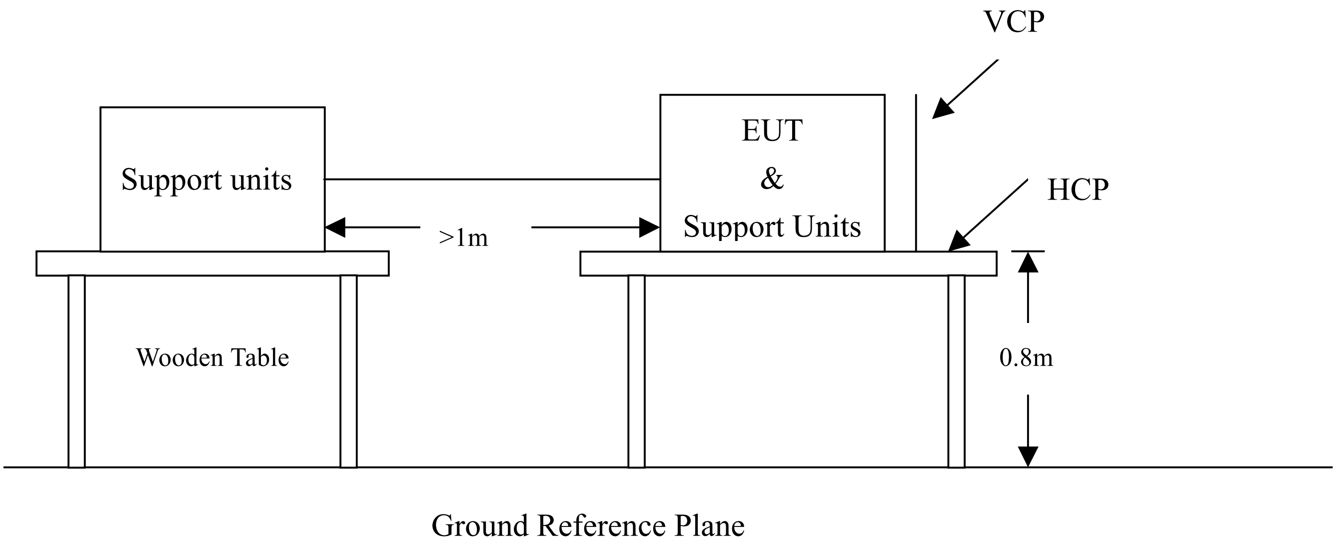
SECTION 3 EN 61000-4-2 (ELECTROSTATIC DISCHARGE)

ELECTROSTATIC DISCHARGE (ESD) IMMUNITY TEST

Port : Enclosure
Basic Standard : EN 61000-4-2
Requirements : ±8kV (Air Discharge)
(Customer requested) ±4kV (Contact Discharge)
±4kV (Indirect Discharge)
Performance Criteria : B (Standard Required)
Tested by : Jacky Wang
Temperature/Humidity: 28^{0}C /51%

Block Diagram of Test Setup:

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



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 scroll 'H' test program was loaded and executed in Windows mode.
4. The EUT sent above message to EUT and related peripherals through the test.
5. Active the communication function if the EUT with such port(s).
6. 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.
7. 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.
8. The application of ESD to the contact of open connectors is not required.
9. 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 (Left)	Pass
Mini 25 /Point	±4kV	Indirect Discharge VCP (Back)	N/A
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 pages.**
(Blue arrow mark for Contact Discharge, Red arrow mark for Air Discharge)

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.

The Tested Points of EUT

Photo 1 of 2

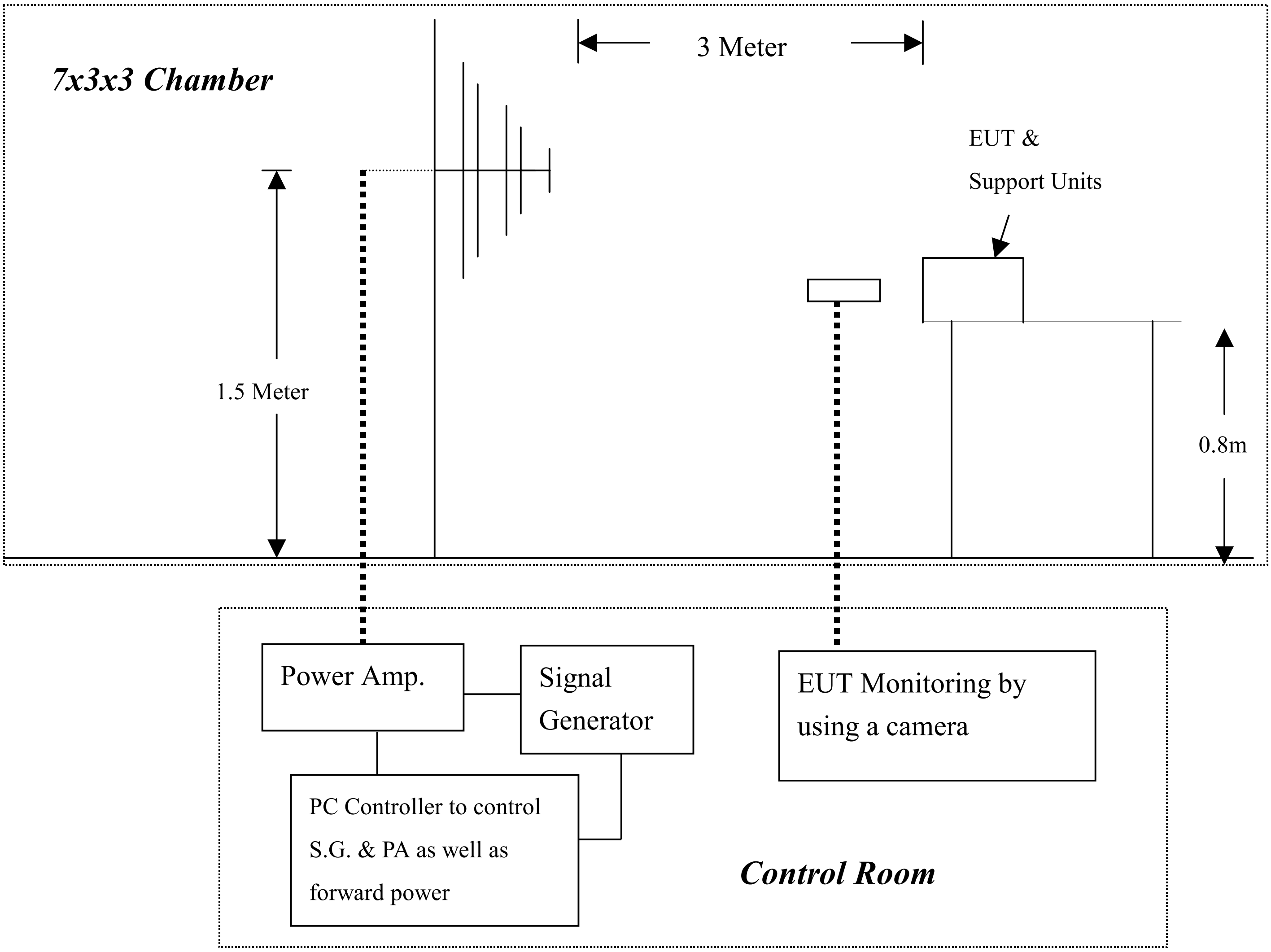
Photo 1 of 2

SECTION 4 EN 61000-4-3 (RADIATED ELECTROMAGNETIC FIELD)

RADIATED ELECTROMAGNETIC FIELD IMMUNITY TEST

Port	: Enclosure
Basic Standard	: EN 61000-4-3
Requirements	: 10 V/m, with 80% AM. 1kHz Modulation.
Performance Criteria	: A (Standard Required)
Tested by	: Jacky Wang
Temperature	: 28^{0}C
Humidity	: 51%

Block Diagram of Test Setup:



Test Procedure:

1. The EUT was located at the edge of supporting table keep 3 meter away from transmitting antenna, it just the calibrated square area of field uniformity. The support units were located outside of the uniformity area, but the cable(s) connected with EUT were exposed to the calibrated field as per EN 61000-4-3.
2. A scroll 'H' messages were displayed on part of screen of EUT and an enlarged 'H' characters were displayed on the other part of screen of EUT.
3. Adjusting the monitoring camera to monitor the 'H' message as clear as possible.
4. Setting the testing parameters of RS test software per EN 61000-4-3.
5. Performing the pre-test at each side of with double specified level (6V/m) at 4% steps.
6. From the result of pre-test in step 5, choice the worst side of EUT for final test from 80 MHz to 1000 MHz at 1% steps.
7. Recording the test result in following table.
8. It is not necessary to perform test as per annex A of EN 55024:1998 if the EUT doesn't belong to TTE product.

Preliminary test conditions:

Test level : 6V/m

Steps : 4 % of fundamental;

Dwell Time : 3 sec

Range (MHz)	Field	Modulation	Polarity	Position (°)	Result (Pass/Fail)
80-1000	10V	Yes	H	Front	Pass
80-1000	10V	Yes	V	Front	Pass
80-1000	10V	Yes	H	Right	Pass
80-1000	10V	Yes	V	Right	Pass
80-1000	10V	Yes	H	Back	Pass
80-1000	10V	Yes	V	Back	Pass
80-1000	10V	Yes	H	Left	Pass
80-1000	10V	Yes	V	Left	Pass

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	10V	Yes	H	Front	Pass
80-1000	10V	Yes	V	Front	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***

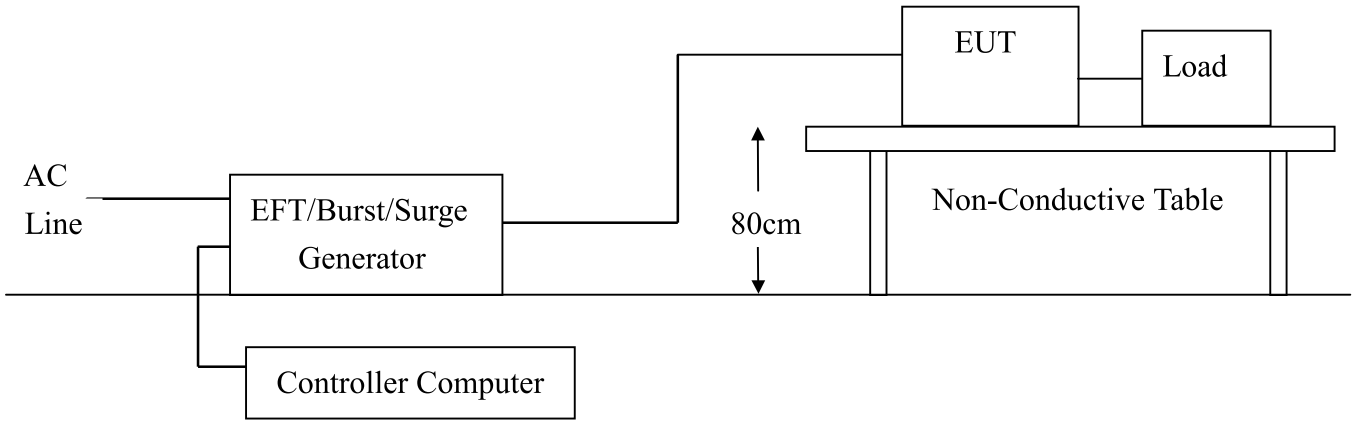
Observation: No any function degraded during the tests.

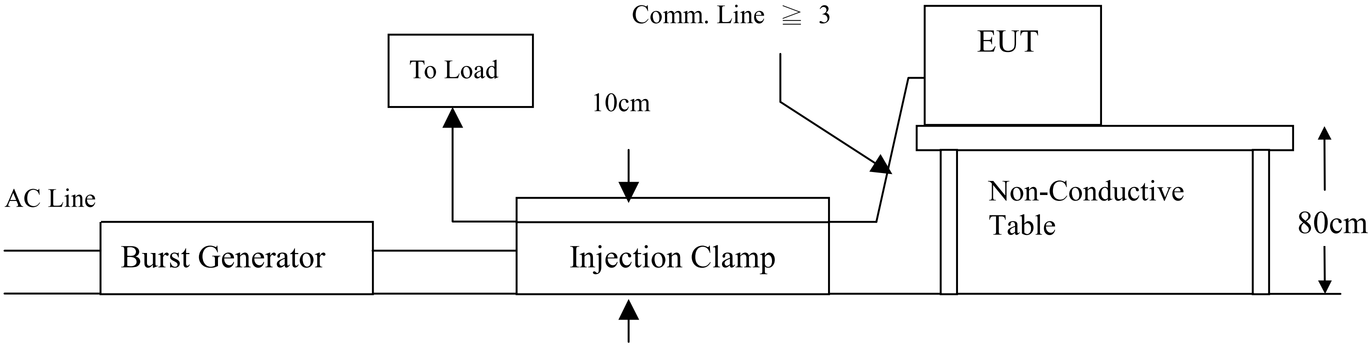
SECTION 5 EN 61000-4-4 (FAST TRANSIENTS/BURST)

FAST TRANSIENTS/BURST IMMUNITY TEST

Port : On Power Supply Lines and Data Cable
Basic Standard : EN 61000-4-4
Requirements : ±2kV for Power Supply Line
±1kV for Data Cable
Performance Criteria : B (Standard require)
Tested by : Jacky Wang
Temperature : 27^0C
Humidity : 50%

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 sent to and monitor (via EUT), filling the screens with upper case of “H” patterns.
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: 3Hz

Inject Line	Voltage kV	Inject Method	Result (Pass/Fail)
L1	±2	Direct	Pass
N	±2	Direct	Pass
PE	±2	Direct	Pass
L1 + N	±2	Direct	Pass
L1 + PE	±2	Direct	Pass
N + PE	±2	Direct	Pass
L1 + N + PE	±2	Direct	Pass
LAN Cable	±1	Clamp	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***

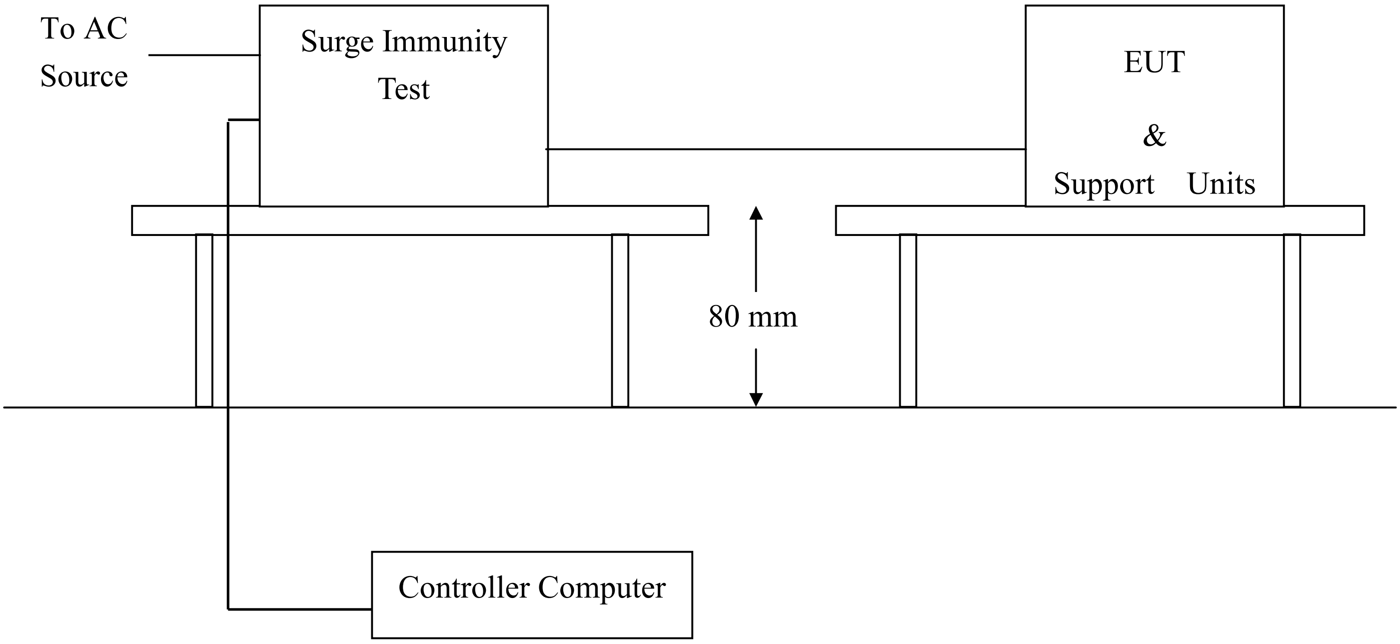
Observation: No any function degraded during the tests.

SECTION 6 EN 61000-4-5 (SURGE IMMUNITY)

SURGE IMMUNITY TEST

Port	**:** Power Cord
Basic Standard	**:** EN 61000-4-5
Requirements	**:** +/- 1kV (Line to Line)
	: +/- 2kV (Line to Ground)
Performance Criteria	**:** B (Standard require)
Tester	**:** Jacky Wang
Temperature	**:** 27°C
Humidity	**:** 50 %

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 scroll H test program was loaded and executed in Windows mode.
4. The PC sent above message to EUT and related peripherals through the test.
5. Selecting appropriate points of EUT for discharge and put a mark on EUT to show tested points.
6. The following test condition was followed during the tests.

Test conditions:
Voltage Waveform : 1.2/50 *u*s
Current Waveform : 8/20 *u*s
Polarity : Positive/Negative
Phase angle : 0^{o}, 90^{o}, 270^{o}
Number of Test : 5

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

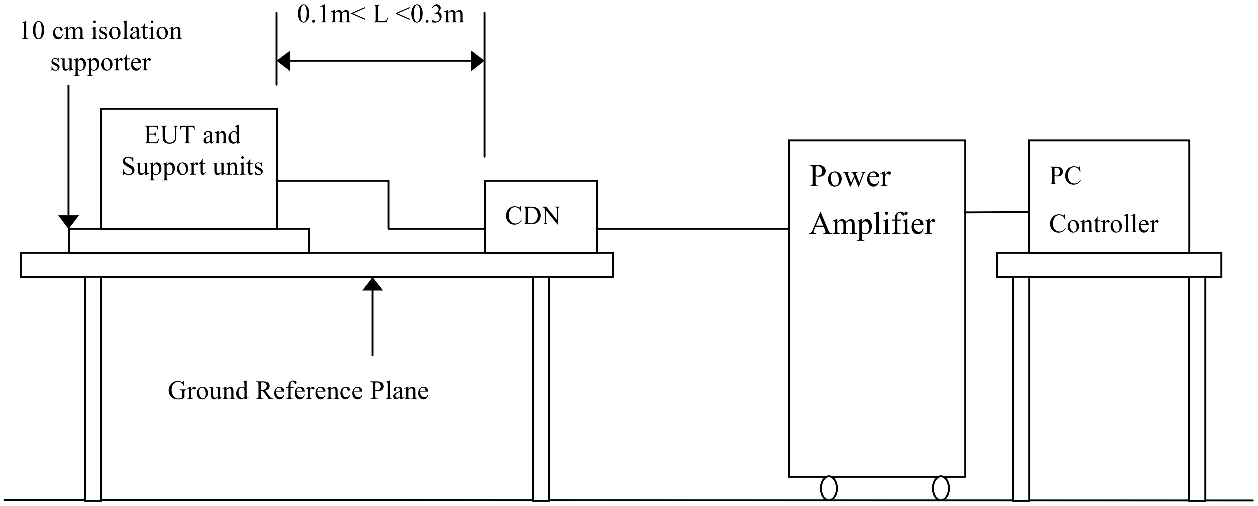
Observation: No any function degraded during the tests.

SECTION 7 EN 61000-4-6 (CONDUCTED DISTURBANCE/INDUCED BY RADIO-FREQUENCY FIELD)

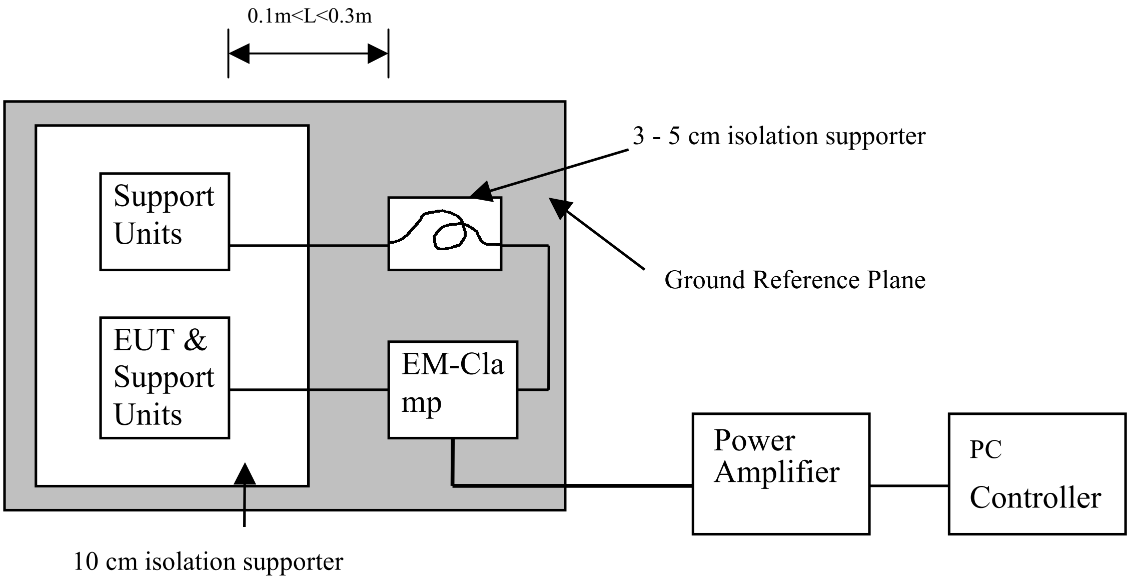
Port	:	Power cord and LAN Cable
Basic Standard	:	EN 61000-4-6
Requirements	:	10 V with Modulated
Injection Method	:	CDN-M3 for Power Cord EM-Clamp for LAN Cable
Tested by	:	Jacky Wang
Performance Criteria	:	A (Standard require)
Temperature	:	27C
Humidity	:	50%

Block Diagram of Test Setup:

Side View:



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. A 'H' messages were displayed on EUT.
3. Adjusting the monitoring camera to monitor the H 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	10V	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.

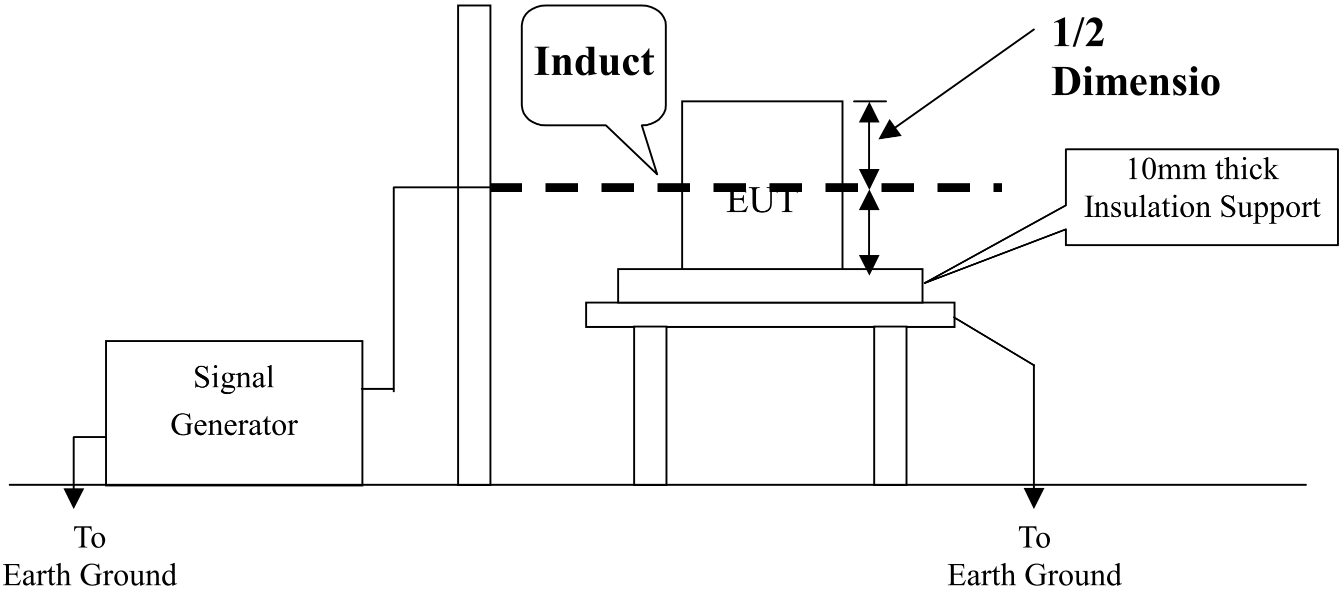
☑ ***PASS*** ☐ ***FAILED***

Observation: No any function degraded during the tests.

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

Port : Enclosure
Basic Standard : EN 61000-4-8
Requirements : 30 A/m
Performance Criteria : A (Standard Required)
Temperature : 27℃
Humidity : 50%

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° (Y direction) then repeat step 3 to 7.
9. Rotating the induction coil by 90 ° again (Z direction) then repeat step 3 to 7.

***. Test conditions:**

Field Strength:	30A/m
Power Freq.:	50Hz
Orientation:	X, Y, Z

Orientation	Field	Result (Pass/Fail)	Remark
X	30A	Pass	
Y	30A	Pass	
Z	30A	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 9 EN 61000-4-11 (VOLTAGE DIPS, SHORT INTERRUPTIONS AND VOLTAGE VARIATIONS)

VOLTAGE DIPS / SHORT INTERRUPTIONS

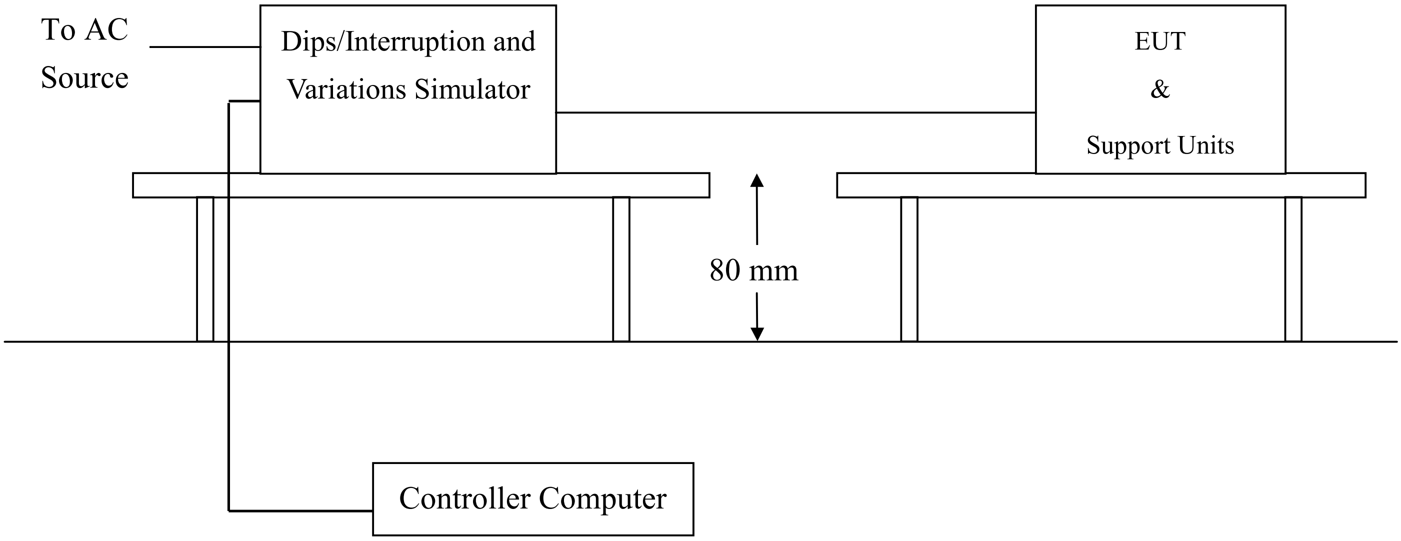
Port : AC mains
Basic Standard : EN 61000-4-11 (1994)
Requirement : PHASE ANGLE 0, 45, 90, 135, 180, 225, 270, 315 degrees

	Test Level % U_T	Reduction (%)	Duration	Performance Criteria
Voltage Dips	70	30	10ms	B
	40	60	100 and 1000ms	C

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

Test Interval : Min. 10 sec.
Tester : Jacky Wang
Temperature : 27°C
Humidity : 50%

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 sent to Monitor filling the screens with upper case of “H” patterns.
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 10 s minimum
(Between each test event)

Voltage Dips:

Test Level % U_T	Reduction (%)	Duration (periods)	Observation	Meet Performance Criteria
70	30	0.5(10ms)	Normal	A
40	60	5(100ms)	Normal	A
40	60	50(1000ms)	Normal	A

Voltage Interruptions:

Test Level % U_T	Reduction (%)	Duration (periods)	Observation	Meet Performance Criteria
0	100	250 (5000ms)	EUT shut down, but can be recovered by manual, as the events disappear.	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.

☑ ***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 (EN 61000-4-2)

RADIATED ELECTROMAGNETIC FIELD (EN 61000-4-3)

FAST TRANSIENTS/BURST TEST (EN 61000-4-4)

SURGE IMMUNITY TEST (EN 61000-4-5)

CONDUCTED DISTURBANCE, INDUCED BY RADIO-FREQUENCY FIELDS TEST (EN 61000-4-6)

POWER FREQUENCY MAGNETIC FIELD IMMUNITY TEST (EN 61000-4-8)

VOLTAGE DIPS / INTERRUPTION TEST (EN 61000-4-11)

APPENDIX 2

PHOTOGRAPHS OF EUT

Front view of EUT

Back view of EUT

Open View of EUT