



CERTIFICATE

Issued Date: Dec. 29, 2008
Report No. : 08C289R-ITCEP07V05

This is to certify that the following designated product

Product : HMI (Human Machine Interface)
Trade name : EasyView
Model Number : MT606T / MT6056T / MT8056T
Company Name : Weintek Labs., Inc.

This product, which has been issued the test report listed as above in Quietek Laboratory, is based on a single evaluation of one sample and confirmed to comply with the requirements of the following EMC standard.

EN 55022: 2006, Class A	EN 55024: 1998+A1: 2001+A2: 2003
EN 61000-3-2: 2006	IEC 61000-4-2 Edition 1.2: 2001-04
EN 61000-3-3: 1995+ A1: 2001+A2: 2005	IEC 61000-4-3 Edition 3.0: 2006
	IEC 61000-4-4: 2004
	IEC 61000-4-5 Edition 2.0: 2005
	IEC 61000-4-6 Edition 2.2: 2006
	IEC 61000-4-8 Edition 1.1: 2001-03
	IEC 61000-4-11 Second Edition: 2004-03

TEST LABORATORY

Vincent Lin / Manager



Appendix Report

Product Name : HMI (Human Machine Interface)
Model No. : MT606T / MT6056T / MT8056T

Applicant : Weintek Labs., Inc.

Address : 3F, No. 910, Chung Cheng Rd, Chung Ho City,
Taipei, Taiwan 235.

Date of Receipt : 2008/12/18
Issued Date : 2008/12/29
Report No. : 08C289R-ITCEP07V05
Version : V1.0

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by TAF, NVLAP or any agency of the Government.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.



Declaration of Conformity

The following product 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 (2004/108/EC). The listed standards as below were applied:

The following Equipment:

Product : HMI (Human Machine Interface)
Model Number : MT606T / MT6056T / MT8056T
Trade Name : EasyView

This product 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 (2004/108/EC). For the evaluation regarding EMC, the following standards were applied:

RFI Emission:

EN 55022:2006, Class A : Product family standard
EN 61000-3-2:2006, Class D : Limits for harmonic current emission
EN 61000-3-3:1995+A1: 2001+A2: 2005 : Limitation of voltage fluctuation and flicker in low-voltage supply system

Immunity:

EN 55024:1998+A1: 2001+A2: 2003 : Product family standard

The following importer/manufacturer is responsible for this declaration:

Company Name : _____
Company Address : _____
Telephone : _____ Facsimile : _____

Person is responsible for marking this declaration:

Name (Full Name)

Position/ Title

Date

Legal Signature

CE Statement of Conformity

This certifies that the following designated product:

Product : HMI (Human Machine Interface)
Model Number : MT606T / MT6056T / MT8056T
Trade Name : EasyView
Company Name : Weintek Labs., Inc.

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EN 61000-3-3:1995+A1: 2001+A2: 2005 : Limitation of voltage fluctuation and flicker in low-voltage supply system

Immunity:

EN 55024:1998+A1: 2001+A2: 2003 : Product family standard



TEST LABORATORY

Vincent Lin / Manager

The verification is based on a single evaluation of one sample of above-mentioned products. It does not imply an assessment of the whole production and does not permit the use of the test lab. Logo.

Test Report Certification

Issued Date : 2008/12/29

Report No. : 08C289R-ITCEP07V05



Product Name : HMI (Human Machine Interface)

Applicant : Weintek Labs., Inc.

Address : 3F, No. 910, Chung Cheng Rd, Chung Ho City, Taipei, Taiwan 235.

Manufacturer : Weintek Labs., Inc.

Model No. : MT606T / MT6056T / MT8056T

Rated Voltage : AC 230 V / 50 Hz


EUT Voltage : AC 230 V / 50 Hz


Trade Name : EasyView

Applicable Standard : EN 55022: 2006, Class A
 EN 55024: 1998+A1: 2001+A2: 2003
 EN 61000-3-2:2006
 EN 61000-3-3:1995+A1: 2001+A2: 2005

Test Result : Complied

Performed Location : Quietek Corporation (Linkou Laboratory)
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 (Manager / Vincent Lin)

Laboratory Information

We , **Quietek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted (audited or listed) by the following related bodies in compliance with ISO 17025, EN 45001 and specified testing scopes:

Taiwan R.O.C.	: BSMI, NCC, TAF
Germany	: TUV Rheinland
Norway	: Nemko, DNV
USA	: FCC, NVLAP
Japan	: VCCI

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site : <http://tw.quietek.com/modules/enterprise/services.php?item=100>
The address and introduction of Quietek Corporation's laboratories can be founded in our Web site : <http://www.quietek.com/>

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1. General Information**1.1. EUT Description**

Product Name	HMI (Human Machine Interface)
Trade Name	EasyView
Model No.	MT606T / MT6056T / MT8056T

Note:

This appendix report was based on Quietek report No. 074L086-ITCEP07V03, The different is change Panel.

1.2. Mode of Operation

Quietek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

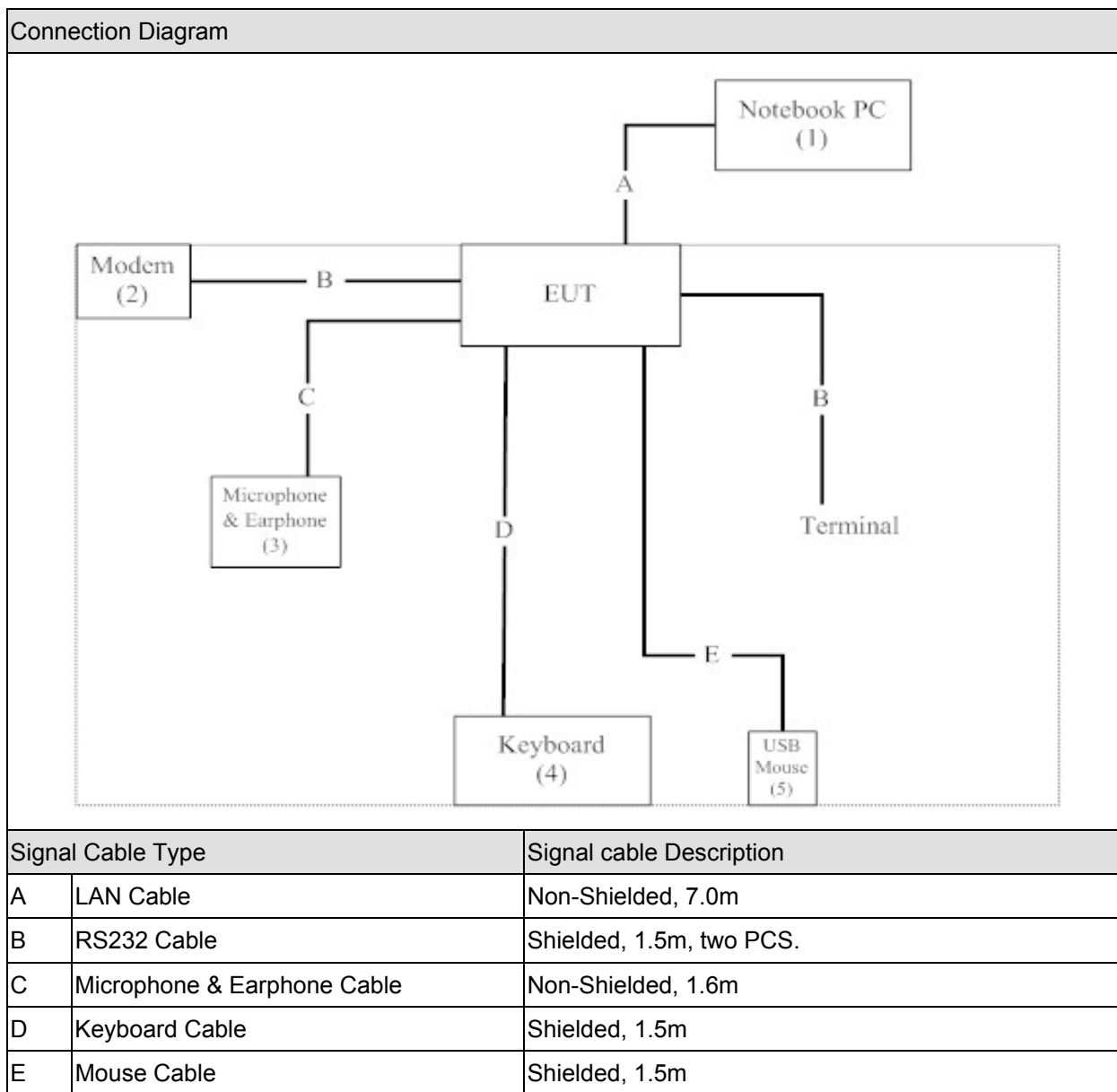
Pre-Test Mode	
Mode 1: Normal Operation	
Final Test Mode	
Emission	Mode 1: Normal Operation
Immunity	Mode 1: Normal Operation

1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	Power Cord
1 Notebook PC	DELL	PP04X	2D2ZM1S	Non-Shielded, 0.8m
2 Modem	ACEEX	DM-1414	0102027553	Non-Shielded, 1.8m
3 Microphone & Earphone	PCHOME	N/A	N/A	N/A
4 Keyboard	BTC	5200U	N/A	N/A
5 USB Mouse	Logitech	M-BE58	HCA30103357	N/A

1.4. Configuration of Tested System



1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on 1.4.
2	Turn on the power of all equipment.
3	Notebook reads and writes data into and from EUT.
4	Start test.

2. Technical Test

2.1. Summary of Test Result

- No deviations from the test standards
 Deviations from the test standards as below description:

Emission			
Performed Item	Normative References	Test Performed	Deviation
Conducted Emission	EN 55022:2006, Class A	Yes	No
Impedance Stabilization Network	EN 55022:2006, Class A	No	No
Radiated Emission	EN 55022:2006, Class A	Yes	No
Power Harmonics	EN 61000-3-2:2006	Yes	No
Voltage Fluctuation and Flicker	EN 61000-3-3:1995+A1: 2001+A2: 2005	Yes	No

Immunity			
Performed Item	Normative References	Test Performed	Deviation
Electrostatic Discharge	IEC 61000-4-2 Edition 1.2: 2001-04	Yes	No
Radiated susceptibility	IEC 61000-4-3 Edition 3.0: 2006	Yes	No
Electrical fast transient/burst	IEC 61000-4-4:2004	Yes	No
Surge	IEC 61000-4-5 Edition 2.0: 2005	Yes	No
Conducted susceptibility	IEC 61000-4-6 Edition 2.2: 2006	Yes	No
Power frequency magnetic field	IEC 61000-4-8 Edition 1.1: 2001-03	Yes	No
Voltage dips and interruption	IEC 61000-4-11 2nd Edition: 2004-03	Yes	No

2.2. List of Test Equipment

Conducted Emission / SR1

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
EMI Test Receiver	R&S	ESCS 30	100366	2008/10/18
LISN	R&S	ENV4200	833209/007	2008/08/12
LISN	R&S	ENV216	100085	2008/02/14
Pulse Limiter	R&S	ESH3-Z2	357.88.10.52	2008/09/04

Radiated Emission / Site6

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Bilog Antenna	Schaffner Chase	CBL6112B	2909	2008/08/10
Broadband Horn Antenna	Schwarzbeck	BBHA9170	208	2008/07/25
EMI Test Receiver	R&S	ESCS 30	100368	2008/08/22
Horn Antenna	Schwarzbeck	BBHA9120D	305	2008/08/10
Pre-Amplifier	QTK	AP-025C	0506002	N/A
Spectrum Analyzer	Advantest	R3162	120300652	2008/06/28

Power Harmonics / SR3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
AC Power Source(Harmonic)	Schaffner	NSG 1007	HK54148	2008/06/23
IEC1000-4-X Analyzer(Flicker)	Schaffner	CCN 1000-1	X7 1887	2008/06/23

Voltage Fluctuation and Flicker / SR3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
AC Power Source(Harmonic)	Schaffner	NSG 1007	HK54148	2008/06/23
IEC1000-4-X Analyzer(Flicker)	Schaffner	CCN 1000-1	X7 1887	2008/06/23

Electrostatic Discharge / SR3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
ESD simulator system	TESEQ	NSG 438	695	2008/01/17
Horizontal Coupling Plane(HCP)	Quietek	HCP AL50	N/A	N/A
Vertical Coupling Plane(VCP)	Quietek	VCP AL50	N/A	N/A

Radiated susceptibility / CB5

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
AF-BOX	R&S	AF-BOX ACCUST	100007	N/A
Audio Analyzer	R&S	UPL 16	100137	2008/04/23
Bilog Antenna	Schaffner Chase	CBL6112B	2450	2008/01/03
Broad-Band Antenna	Schwarzbeck	VULB 9166	1085	2008/08/02
Biconilog Antenna	EMCO	3149	00071675	2008/05/29
CMU200 UNIV.RADIOCOMM	R&S	CMU200	104846	2008/04/23
Directional Coupler	A&R	DC 6180	22735	N/A
Dual Microphone Supply	B&K	5935	2426784	2008/08/04
Mouth Simulator	B&K	4227	2439692	2008/08/04
Power Amplifier	A&R	30S1G3	309453	N/A
Power Amplifier	A&R	100W10000M7	A285000010	N/A

Power Amplifier	SCHAFFNER	CBA9413B	4020	N/A
Power Amplifier	AR	75A250A	0325371	N/A
Power Meter	R&S	NRVD(P.M)	100219	2008/04/22
Pre-Amplifier	A&R	150A220	23067	N/A
Probe Microphone	B&K	4182	2278070	2008/08/04
Signal Generator	R&S	SMY02(9K-2080)	825454/028	2008/09/22

Electrical fast transient/burst / SR6

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
EMC immunity system	Thermo	N/A	411225	2008/12/01

Surge / SR6

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
EMC immunity system	Thermo	EMCPRO PLUS	0411225	2008/12/01

Conducted susceptibility / SR6

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Schaffner NSG 2070 RF-Generator	Schaffner	N/A	N/A	2008/04/21

Power frequency magnetic field / SR3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Induction Coil Interface	Schaffner	INA 2141	6002	N/A
Magnetic Loop Coil	Schaffner	INA 702	160	N/A
Triaxial ELF Magnetic Field Meter	F.B.BELL	4090	9852	2008/05/30

Voltage dips and interruption / SR6

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
EMC immunity system	Thermo	EMCPRO PLUS	0411225	2008/12/01

Schaffner NSG 2070 RF-Generator				
Instrument	Manufacturer	Type No.	Serial No	Cal. Date
CDN	Schaffner	CAL U100A	20405	2008/04/21
CDN	Schaffner	TRA U150	20454	2008/04/21
CDN M016S	Schaffner	CAL U100A	20410	2008/04/21
CDN M016S	Schaffner	TRA U150	21167	2008/04/21
CDN T002	Schaffner	CAL U100	20491	2008/04/21
CDN T002	Schaffner	TRA U150	21169	2008/04/21
CDN T400	Schaffner	CAL U100	17735	2008/04/21
CDN T400	Schaffner	TRA U150	21166	2008/04/21
Coupling Decoupling Network	Schaffner	CDN M016S	20822	2008/02/23
Coupling Decoupling Network	Schaffner	CDN M016S	20823	2008/04/21
Coupling Decoupling Network	Schaffner	CDN T002	19018	2008/04/21
Coupling Decoupling Network	Schaffner	CDN T400	21226	2008/04/21
EM-CLAMP	Schaffner	KEMZ 801	21024	2008/04/21

2.3. Measurement Uncertainty

Conducted Emission

The measurement uncertainty is evaluated as ± 2.26 dB.

Radiated Emission

The measurement uncertainty is evaluated as ± 3.19 dB. .

Electrostatic Discharge

As what is concluded in the document from Note2 of clause 5.4.6.2 of ISO/IEC 17025: 1999[2], the requirements for measurement uncertainty in ESD testing are deemed to have been satisfied, and the testing is reported in accordance with the relevant ESD standards. The immunity test signal from the ESD system meet the required specifications in IEC 61000-4-2 through the calibration report with the calibrated uncertainty for the waveform of voltage and timing as being 1.63 % and 2.76%.

Radiated susceptibility

As what is concluded in the document from Note2 of clause 5.4.6.2 of ISO/IEC 17025: 1999[2], the requirements for measurement uncertainty in RS testing are deemed to have been satisfied, and the testing is reported in accordance with the relevant RS standards. The immunity test signal from the RS system meet the required specifications in IEC 61000-4-3 through the calibration for the uniform field strength and monitoring for the test level with the uncertainty evaluation report for the electrical filed strength as being 2.72 Db.

Electrical fast transient/burst

As what is concluded in the document from Note2 of clause 5.4.6.2 of ISO/IEC 17025: 1999[2], the requirements for measurement uncertainty in EFT/Burst testing are deemed to have been satisfied, and the testing is reported in accordance with the relevant EFT/Burst standards. The immunity test signal from the EFT/Burst system meet the required specifications in IEC 61000-4-4 through the calibration report with the calibrated uncertainty for the waveform of voltage, frequency and timing as being 1.63 %, 2.8 10-10 and 2.76%.

Surge

As what is concluded in the document from Note2 of clause 5.4.6.2 of ISO/IEC 17025: 1999[2], the requirements for measurement uncertainty in Surge testing are deemed to have been satisfied, and the testing is reported in accordance with the relevant Surge standards. The immunity test signal from the Surge system meet the required specifications in IEC 61000-4-5 through the calibration report with the calibrated uncertainty for the waveform of voltage and timing as being 1.63 % and 2.76%.

Conducted susceptibility

As what is concluded in the document from Note2 of clause 5.4.6.2 of ISO/IEC 17025: 1999[2], the requirements for measurement uncertainty in CS testing are deemed to have been satisfied, and the testing is reported in accordance with the relevant CS standards. The immunity test signal from the CS system meet the required specifications in IEC 61000-4-6 through the calibration for unmodulated signal and monitoring for the test level with the uncertainty evaluation report for the injected modulated signal level through CDN and EM Clamp/Direct Injection as being 3.72 dB and 2.78 dB.

Power frequency magnetic field

As what is concluded in the document from Note2 of clause 5.4.6.2 of ISO/IEC 17025: 1999[2], the requirements for measurement uncertainty in PFM testing are deemed to have been satisfied, and the testing is reported in accordance with the relevant PFM standards. The immunity test signal from the PFM system meet the required specifications in IEC 61000-4-8 through the calibration report with the calibrated uncertainty for the Gauss Meter to verify the output level of magnetic field strength as being 2 %.

Voltage dips and interruption

As what is concluded in the document from Note2 of clause 5.4.6.2 of ISO/IEC 17025: 1999[2], the requirements for measurement uncertainty in DIP testing are deemed to have been satisfied, and the testing is reported in accordance with the relevant DIP standards. The immunity test signal from the DIP system meet the required specifications in IEC 61000-4-11 through the calibration report with the calibrated uncertainty for the waveform of voltage and timing as being 1.63 % and 2.76%.

2.4. Test Environment

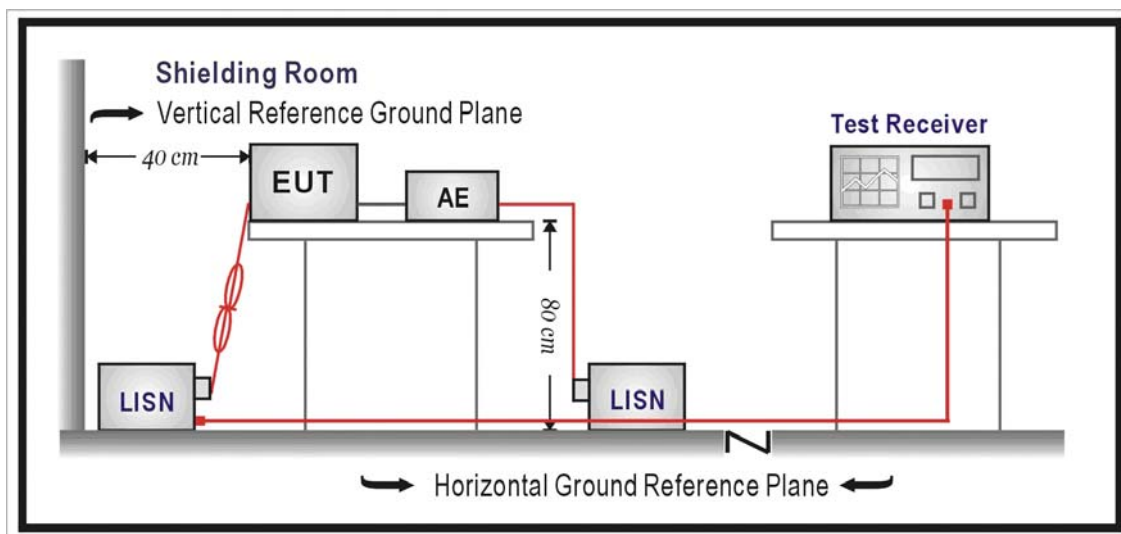
Performed Item	Items	Required	Actual
Conducted Emission	Temperature (°C)	25-75	25
	Humidity (%RH)	15-35	50
	Barometric pressure (mbar)	860-1060	950-1000
Radiated Emission	Temperature (°C)	15-35	25
	Humidity (%RH)	25-75	50
	Barometric pressure (mbar)	860-1060	950-1000
Electrostatic Discharge	Temperature (°C)	15-35	21
	Humidity (%RH)	30-60	52
	Barometric pressure (mbar)	860-1060	950-1000
Radiated susceptibility	Temperature (°C)	15-35	21
	Humidity (%RH)	25-75	53
	Barometric pressure (mbar)	860-1060	950-1000
Electrical fast transient/burst	Temperature (°C)	15-35	22
	Humidity (%RH)	25-75	53
	Barometric pressure (mbar)	860-1060	950-1000
Surge	Temperature (°C)	15-35	21
	Humidity (%RH)	10-75	51
	Barometric pressure (mbar)	860-1060	950-1000
Conducted susceptibility	Temperature (°C)	15-35	21
	Humidity (%RH)	25-75	53
	Barometric pressure (mbar)	860-1060	950-1000
Power frequency magnetic field	Temperature (°C)	15-35	21
	Humidity (%RH)	25-75	53
	Barometric pressure (mbar)	860-1060	950-1000
Voltage dips and interruption	Temperature (°C)	15-35	22
	Humidity (%RH)	25-75	53
	Barometric pressure (mbar)	860-1060	950-1000

3. Conducted Emission (Main Terminals)

3.1. Test Specification

According to EMC Standard : EN 55022

3.2. Test Setup



3.3. Limit

Limits		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	79	66
0.50-5.0	73	60
5.0 - 30	73	60

Remarks: In the above table, the tighter limit applies at the band edges.

3.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination.

(Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed on conducted measurement.

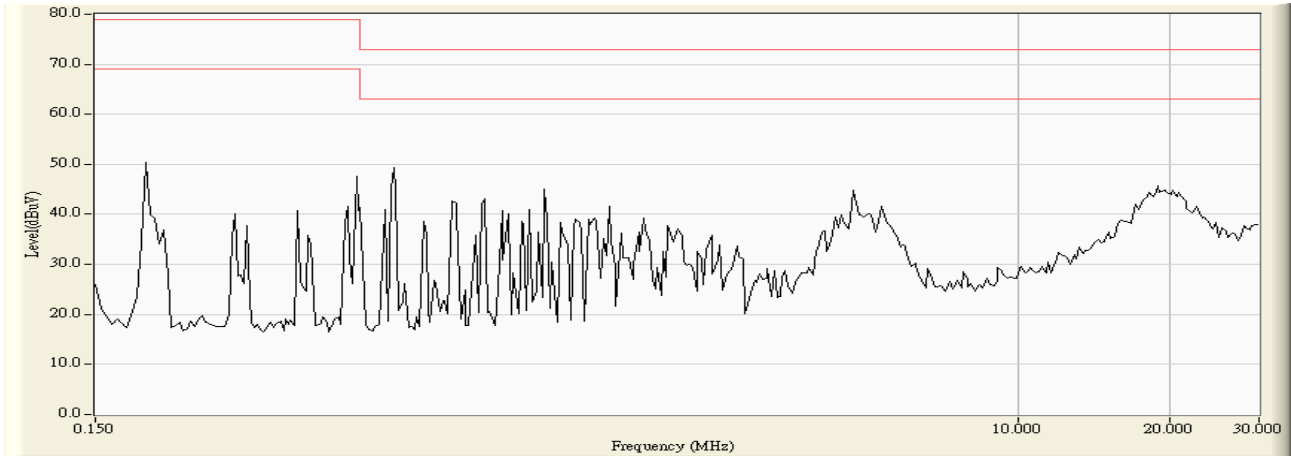
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

3.5. Deviation from Test Standard

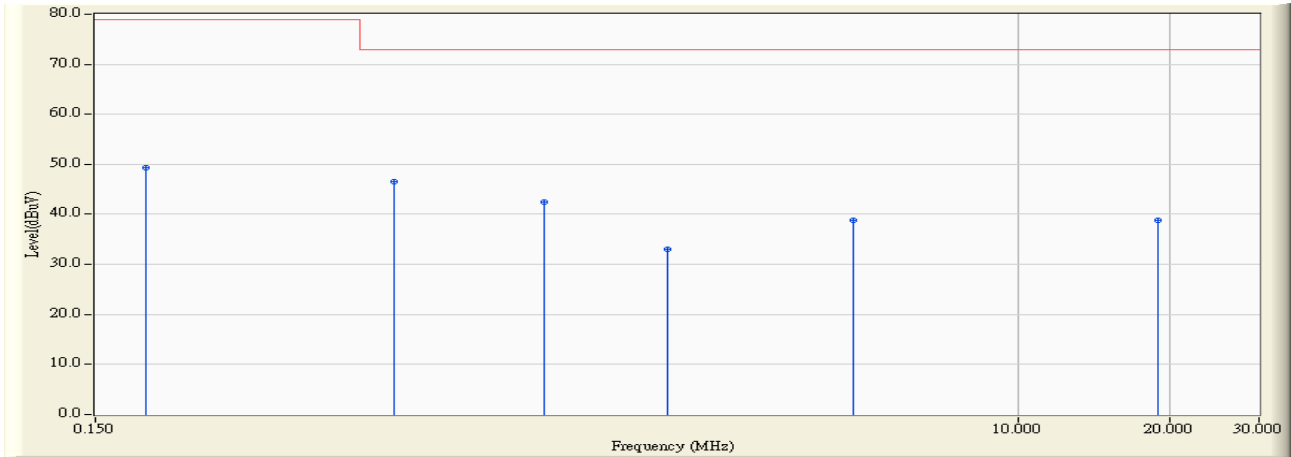
No deviation.

3.6. Test Result

Site : SR1	Time : 2008/12/25 - 00:07
Limit : CISPR_A_00M_QP	Margin : 10
EUT : HMI (Human Machine Interface)	Probe : ENV-216-L1 - Line1
Power : AC 230V/50Hz	Note : Mode 1



Site : SR1	Time : 2008/12/25 - 00:08
Limit : CISPR_A_00M_QP	Margin : 0
EUT : HMI (Human Machine Interface)	Probe : ENV-216-L1 - Line1
Power : AC 230V/50Hz	Note : Mode 1

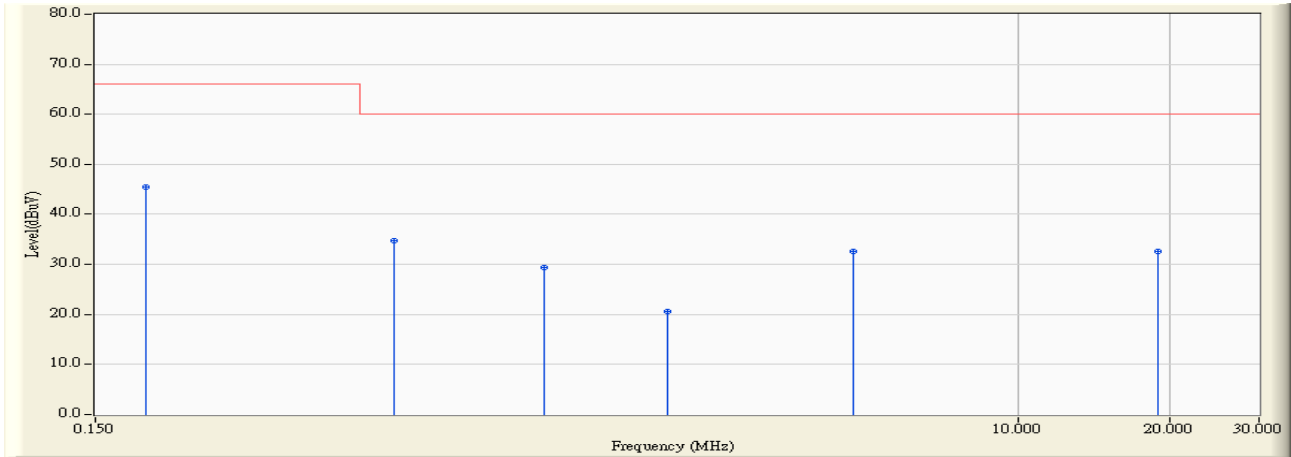


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.189	9.820	39.410	49.230	-29.770	79.000	QUASIPeAK
2	*	0.584	9.822	36.670	46.492	-26.508	73.000	QUASIPeAK
3		1.158	9.830	32.650	42.480	-30.520	73.000	QUASIPeAK
4		2.033	9.850	23.210	33.060	-39.940	73.000	QUASIPeAK
5		4.724	9.870	28.920	38.790	-34.210	73.000	QUASIPeAK
6		18.935	10.200	28.620	38.820	-34.180	73.000	QUASIPeAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : SR1	Time : 2008/12/25 - 00:08
Limit : CISPR_A_00M_AV	Margin : 0
EUT : HMI (Human Machine Interface)	Probe : ENV-216-L1 - Line1
Power : AC 230V/50Hz	Note : Mode 1

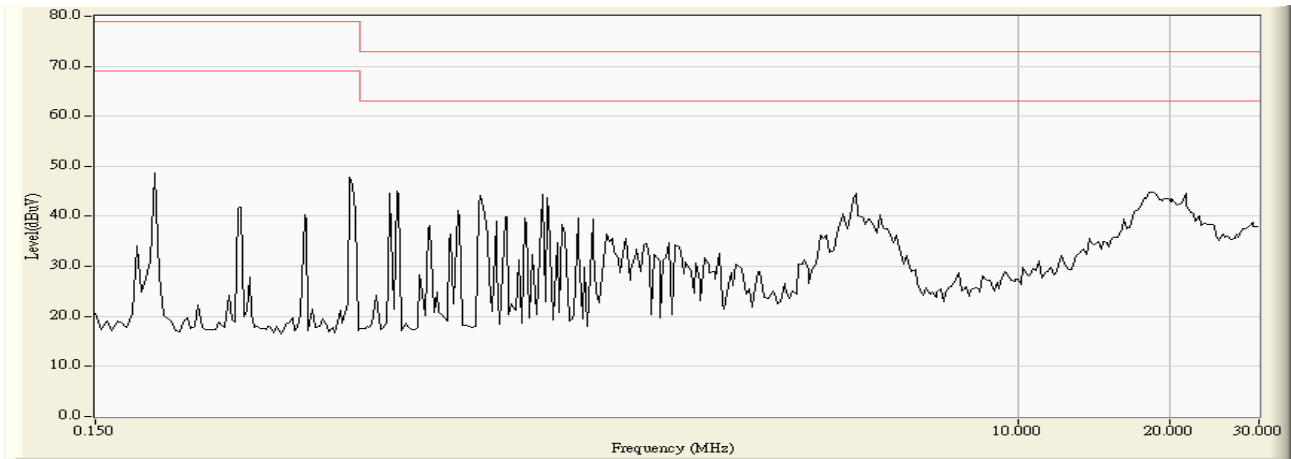


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.189	9.820	35.620	45.440	-20.560	66.000	AVERAGE
2		0.584	9.822	25.020	34.842	-25.158	60.000	AVERAGE
3		1.158	9.830	19.510	29.340	-30.660	60.000	AVERAGE
4		2.033	9.850	10.680	20.530	-39.470	60.000	AVERAGE
5		4.724	9.870	22.670	32.540	-27.460	60.000	AVERAGE
6		18.935	10.200	22.450	32.650	-27.350	60.000	AVERAGE

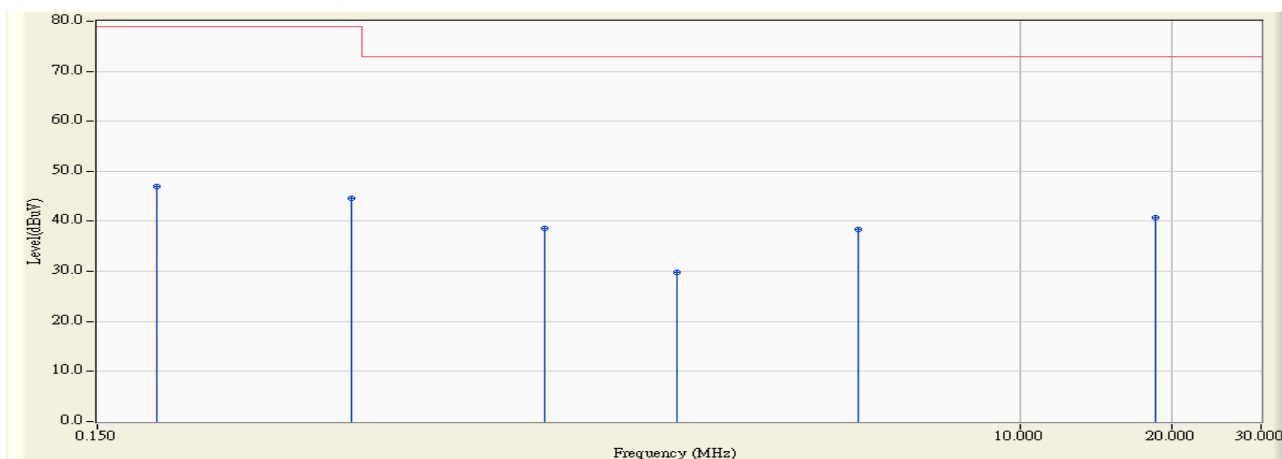
Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : SR1	Time : 2008/12/25 - 00:09
Limit : CISPR_A_00M_QP	Margin : 10
EUT : HMI (Human Machine Interface)	Probe : ENV-216-N - Line2
Power : AC 230V/50Hz	Note : Mode 1



Site : SR1	Time : 2008/12/25 - 00:09
Limit : CISPR_A_00M_QP	Margin : 0
EUT : HMI (Human Machine Interface)	Probe : ENV-216-N - Line2
Power : AC 230V/50Hz	Note : Mode 1

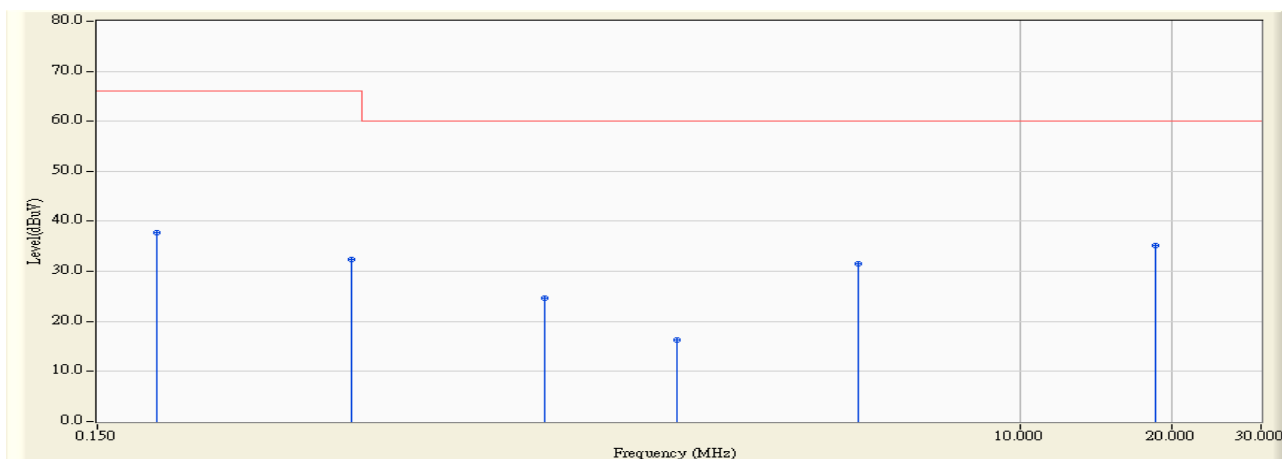


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.197	9.860	37.020	46.880	-32.120	79.000	QUASIPeAK
2		0.478	9.830	34.880	44.710	-34.290	79.000	QUASIPeAK
3		1.146	9.830	28.760	38.590	-34.410	73.000	QUASIPeAK
4		2.103	9.850	19.910	29.760	-43.240	73.000	QUASIPeAK
5		4.779	9.870	28.570	38.440	-34.560	73.000	QUASIPeAK
6		18.533	10.230	30.470	40.700	-32.300	73.000	QUASIPeAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : SR1	Time : 2008/12/25 - 00:09
Limit : CISPR_A_00M_AV	Margin : 0
EUT : HMI (Human Machine Interface)	Probe : ENV-216-N - Line2
Power : AC 230V/50Hz	Note : Mode 1



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.197	9.860	27.830	37.690	-28.310	66.000	AVERAGE
2		0.478	9.830	22.580	32.410	-33.590	66.000	AVERAGE
3		1.146	9.830	14.800	24.630	-35.370	60.000	AVERAGE
4		2.103	9.850	6.490	16.340	-43.660	60.000	AVERAGE
5		4.779	9.870	21.720	31.590	-28.410	60.000	AVERAGE
6	*	18.533	10.230	24.940	35.170	-24.830	60.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

3.7. Test Photograph

Test Mode : Mode 1: Normal Operation

Description : Front View of Conducted Test



Test Mode : Mode 1: Normal Operation

Description : Back View of Conducted Test

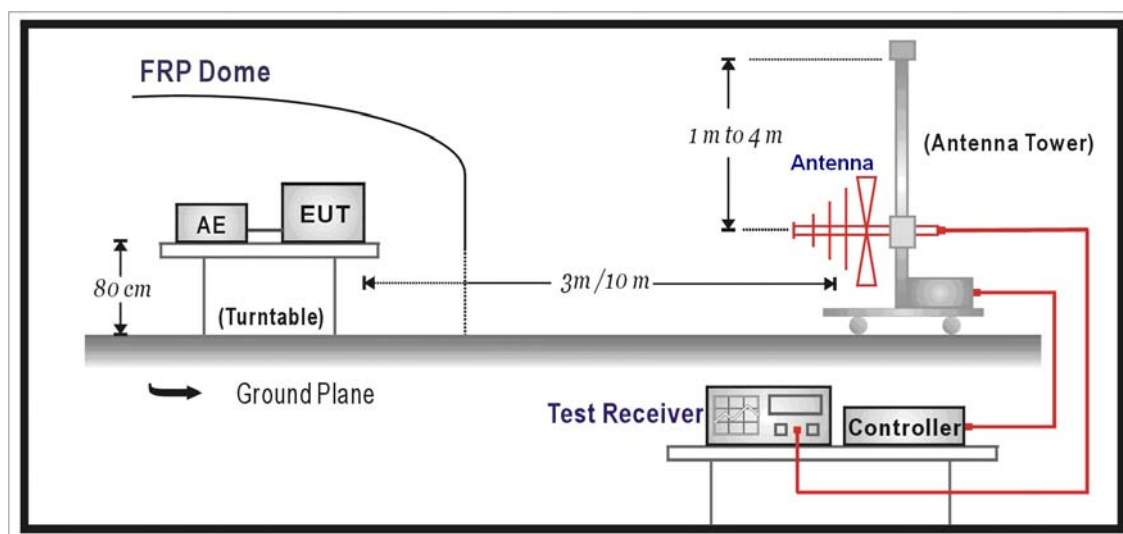


4. Radiated Emission

4.1. Test Specification

According to EMC Standard : EN 55022

4.2. Test Setup



4.3. Limit

Limits		
Frequency MHz	Distance (m)	dBuV/m
30 – 230	10	40
230 – 1000	10	47

Remark:

1. The tighter limit shall apply at the edge between two frequency bands.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

4.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 10 meters. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated on radiated measurement.

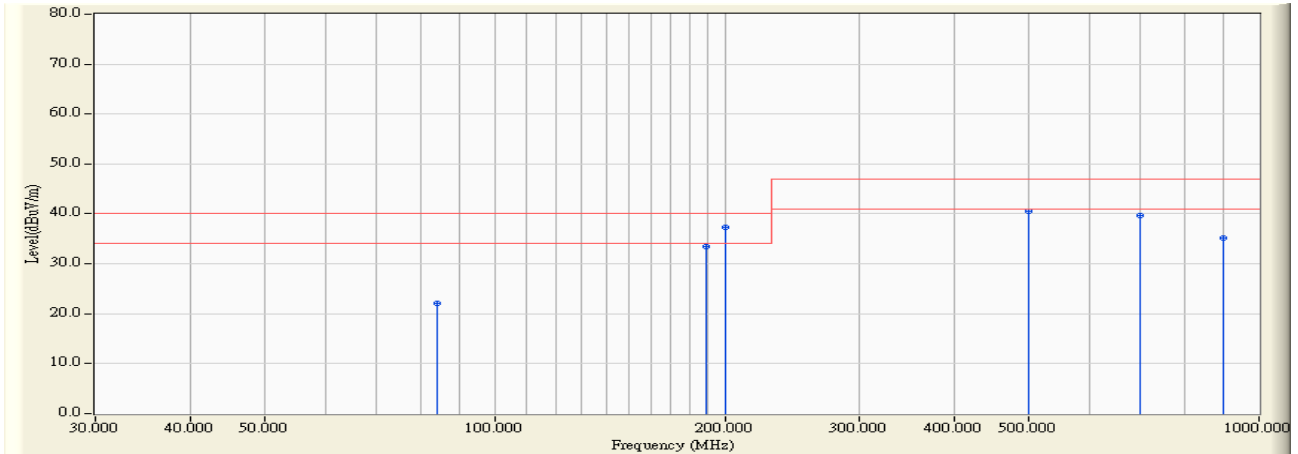
Radiated emissions were investigated over the frequency range from 30MHz to 1GHz using a receiver bandwidth of 120kHz. Radiated was performed at an antenna to EUT distance of 10 meters.

4.5. Deviation from Test Standard

No deviation.

4.6. Test Result

Site : OATS-6	Time : 2008/12/18 - 11:19
Limit : CISPR_A_10M_QP	Margin : 6
EUT : HMI (Human Machine Interface)	Probe : site6_2008_07_10M - HORIZONTAL
Power : AC 230V/50Hz	Note : Mode 1

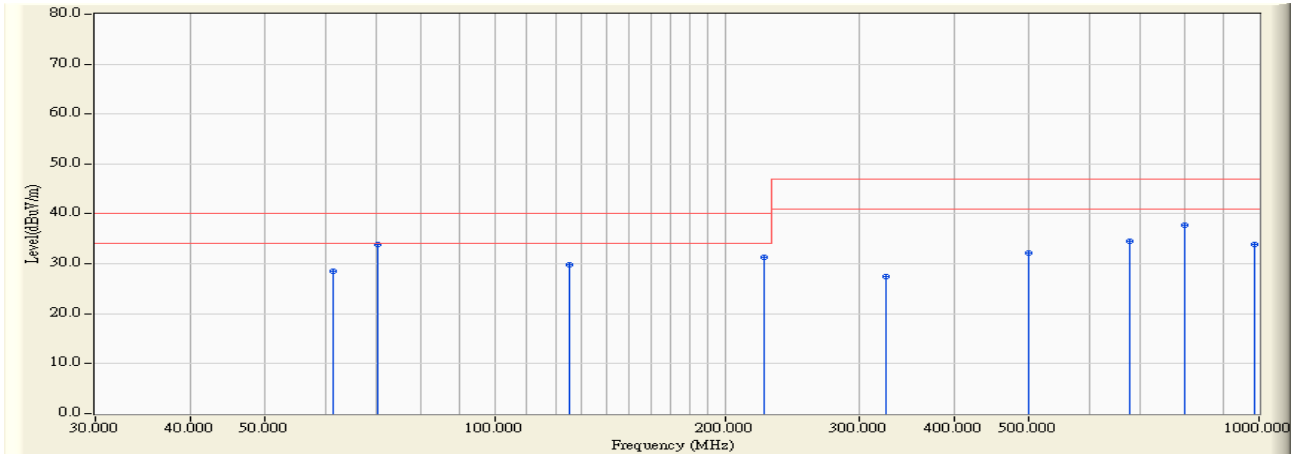


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	84.060	11.057	11.100	22.156	-17.844	40.000	QUASPEAK
2	188.895	13.617	19.840	33.458	-6.542	40.000	QUASPEAK
3	* 200.005	13.472	23.900	37.372	-2.628	40.000	QUASPEAK
4	500.022	23.930	16.500	40.429	-6.571	47.000	QUASPEAK
5	700.031	27.213	12.400	39.612	-7.388	47.000	QUASPEAK
6	900.042	29.783	5.400	35.183	-11.817	47.000	QUASPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : OATS-6	Time : 2008/12/18 - 10:31
Limit : CISPR_A_10M_QP	Margin : 6
EUT : HMI (Human Machine Interface)	Probe : site6_2008_07_10M - VERTICAL
Power : AC 230V/50Hz	Note : Mode 1



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		61.440	10.281	18.250	28.531	-11.469	40.000	QUASIPeAK
2	*	70.370	10.822	23.040	33.862	-6.138	40.000	QUASIPeAK
3		125.005	16.235	13.600	29.835	-10.165	40.000	QUASIPeAK
4		225.020	12.078	19.200	31.278	-8.722	40.000	QUASIPeAK
5		325.031	17.823	9.560	27.383	-19.617	47.000	QUASIPeAK
6		500.021	24.476	7.600	32.076	-14.924	47.000	QUASIPeAK
7		677.800	28.545	5.900	34.445	-12.555	47.000	QUASIPeAK
8		800.035	29.100	8.600	37.700	-9.300	47.000	QUASIPeAK
9		985.231	31.603	2.350	33.953	-13.047	47.000	QUASIPeAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

4.7. Test Photograph

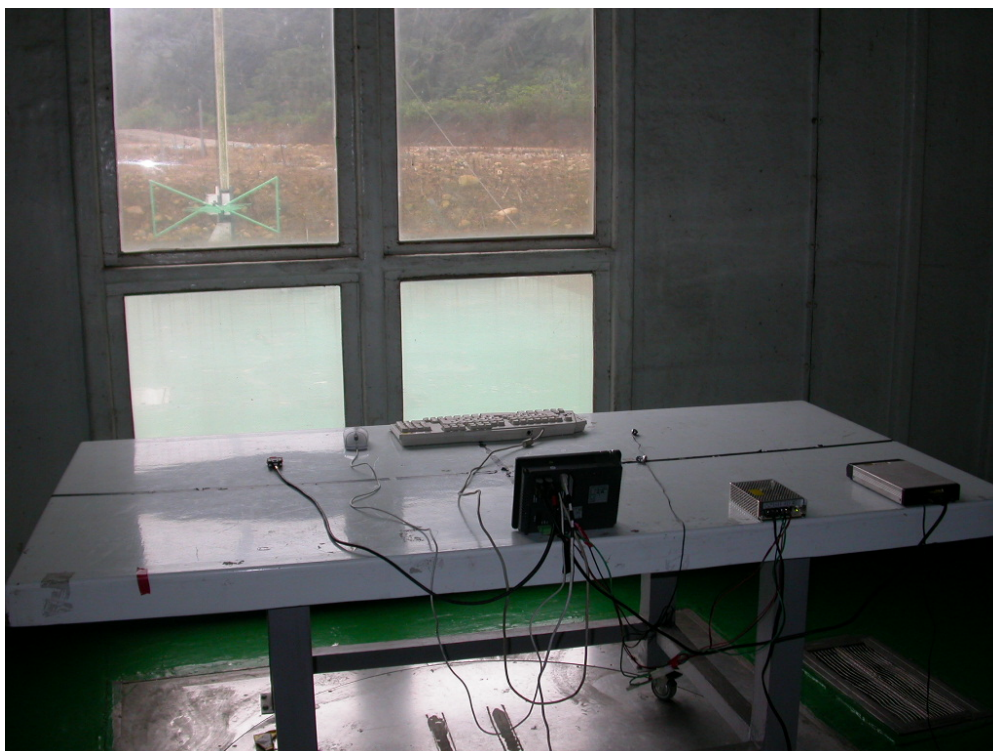
Test Mode : Mode 1: Normal Operation

Description : Front View of Radiated Test



Test Mode : Mode 1: Normal Operation

Description : Back View of Radiated Test

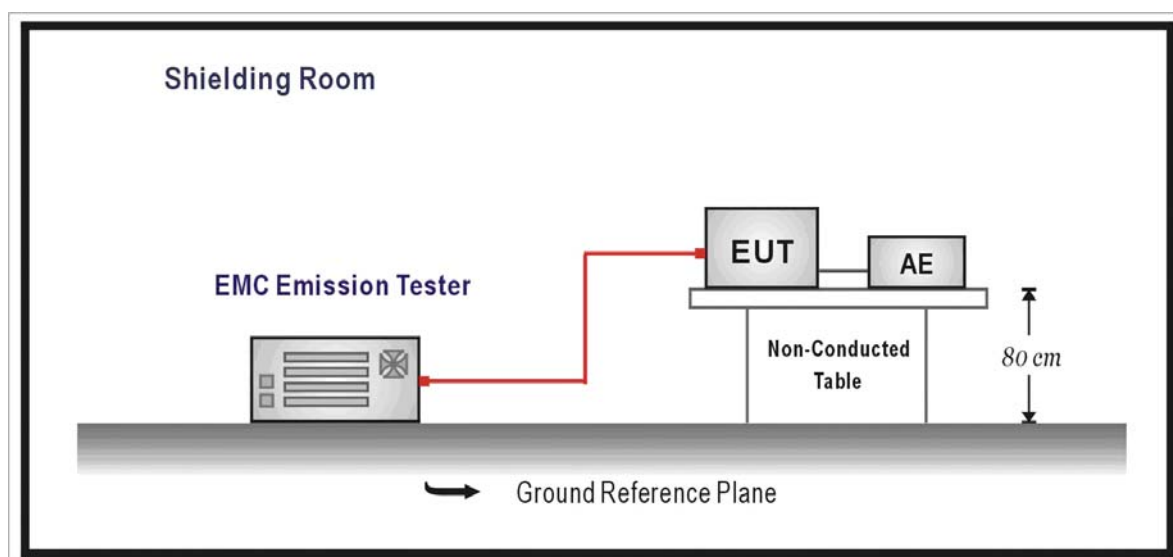


5. Harmonic Current Emission

5.1. Test Specification

According to EMC Standard : EN 61000-3-2

5.2. Test Setup



5.3. Limit

(a) Limits of Class A Harmonics Currents

Harmonics Order n	Maximum Permissible harmonic current A	Harmonics Order n	Maximum Permissible harmonic current A
Odd harmonics		Even harmonics	
3	2.30	2	1.08
5	1.14	4	0.43
7	0.77	6	0.30
9	0.40	8 ≤ n ≤ 40	0.23 * 8/n
11	0.33		
13	0.21		
15 ≤ n ≤ 39	0.15 * 15/n		

(b) Limits of Class B Harmonics Currents

For Class B equipment, the harmonic of the input current shall not exceed the maximum permissible values given in table that is the limit of Class A multiplied by a factor of 1.5.

(c) Limits of Class C Harmonics Currents

Harmonics Order n	Maximum Permissible harmonic current Expressed as a percentage of the input current at the fundamental frequency %
2	2
3	$30 \cdot \lambda^*$
5	10
7	7
9	5
$11 \leq n \leq 39$ (odd harmonics only)	3

* λ is the circuit power factor

(d) Limits of Class D Harmonics Currents

Harmonics Order n	Maximum Permissible harmonic current per watt mA/W	Maximum Permissible harmonic current A
3	3.4	2.30
5	1.9	1.14
7	1.0	0.77
9	0.5	0.40
11	0.35	0.33
$11 \leq n \leq 39$ (odd harmonics only)	$3.85/n$	See limit of Class A

5.4. Test Procedure

The EUT is supplied in series with power analyzer from a power source having the same normal voltage and frequency as the rated supply voltage and the equipment under test. And the rated voltage at the supply voltage of EUT of 0.94 times and 1.06 times shall be performed.

5.5. Deviation from Test Standard

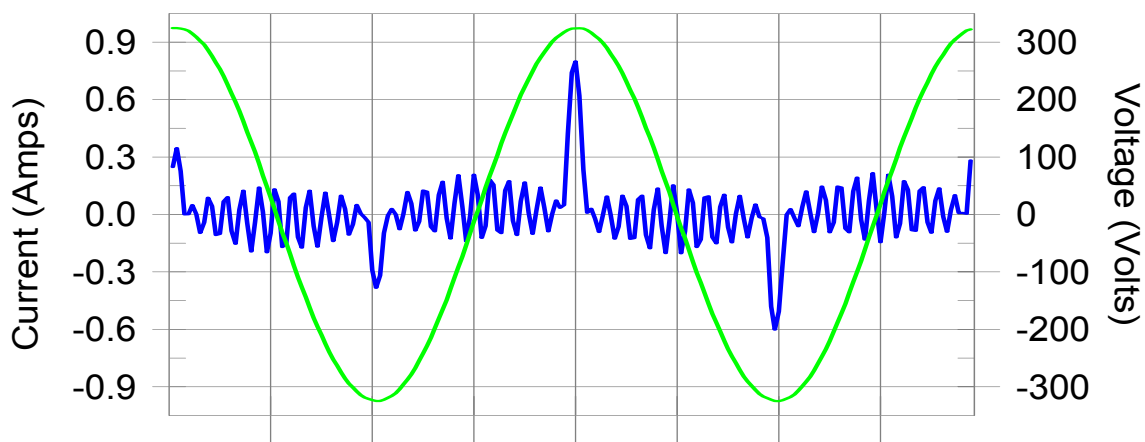
No deviation.

5.6. Test Result

Product	HMI (Human Machine Interface)		
Test Item	Power Harmonics		
Test Mode	Mode 1: Normal Operation		
Date of Test	2008/12/25	Test Site	No.3 Shielded Room

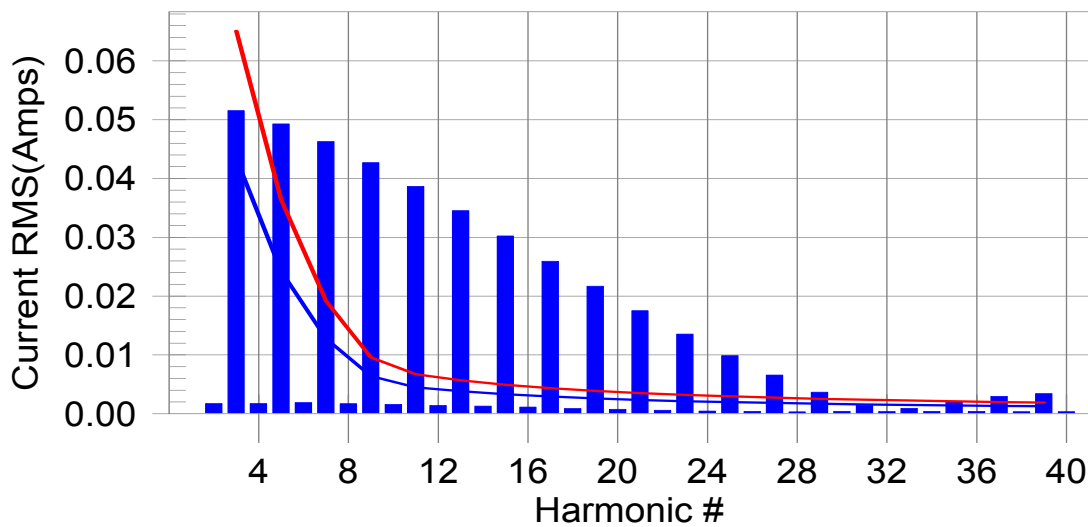
Test Result: N/L Source qualification: Normal

Current & voltage waveforms



Harmonics and Class D limit line

European Limits



Test result: N/L Worst harmonic was #15 with 0.00% of the limit.

Test Result: N/L Source qualification: Normal
 THC(A): 0.00 I-THD(%): 0.00 POHC(A): 0.000 POHC Limit(A): 0.000
 Highest parameter values during test:

V_RMS (Volts):	229.63	Frequency(Hz):	50.00
I_Peak (Amps):	0.825	I_RMS (Amps):	0.168
I_Fund (Amps):	0.060	Crest Factor:	5.718
Power (Watts):	12.8	Power Factor:	0.331

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.002						
3	0.051	0.043	0.0	0.052	0.065	0.00	N/L
4	0.002						
5	0.049	0.024	0.0	0.049	0.036	0.00	N/L
6	0.002						
7	0.046	0.013	0.0	0.046	0.019	0.00	N/L
8	0.002						
9	0.042	0.006	0.0	0.043	0.010	0.00	N/L
10	0.002						
11	0.038	0.004	0.0	0.039	0.007	0.00	N/L
12	0.001						
13	0.034	0.004	0.0	0.035	0.006	0.00	N/L
14	0.001						
15	0.030	0.003	0.0	0.030	0.005	0.00	N/L
16	0.001						
17	0.025	0.003	0.0	0.026	0.004	0.00	N/L
18	0.001						
19	0.021	0.003	0.0	0.022	0.004	0.00	N/L
20	0.001						
21	0.017	0.002	0.0	0.018	0.004	0.00	N/L
22	0.001						
23	0.013	0.002	0.0	0.014	0.003	0.00	N/L
24	0.000						
25	0.010	0.002	0.0	0.010	0.003	0.00	N/L
26	0.000						
27	0.006	0.002	0.0	0.007	0.003	0.00	N/L
28	0.000						
29	0.003	0.002	0.0	0.004	0.003	0.00	N/L
30	0.000						
31	0.001	0.002	0.0	0.001	0.002	0.00	N/L
32	0.000						
33	0.001	0.001	0.0	0.001	0.002	0.00	N/L
34	0.000						
35	0.002	0.001	0.0	0.002	0.002	0.00	N/L
36	0.000						
37	0.003	0.001	0.0	0.003	0.002	0.00	N/L
38	0.000						
39	0.003	0.001	0.0	0.003	0.002	0.00	N/L
40	0.000						

1.Dynamic limits were applied for this test. The highest harmonics values in the above table may not occur at the same window as the maximum harmonics/limit ratio.

2:According to EN61000-3-2 paragraph 7 the note 1 and 2 are valid for all applications having an active input power >75W. Others the result should be pass.

5.7. Test Photograph

Test Mode : Mode 1: Normal Operation

Description : Power Harmonics Test Setup

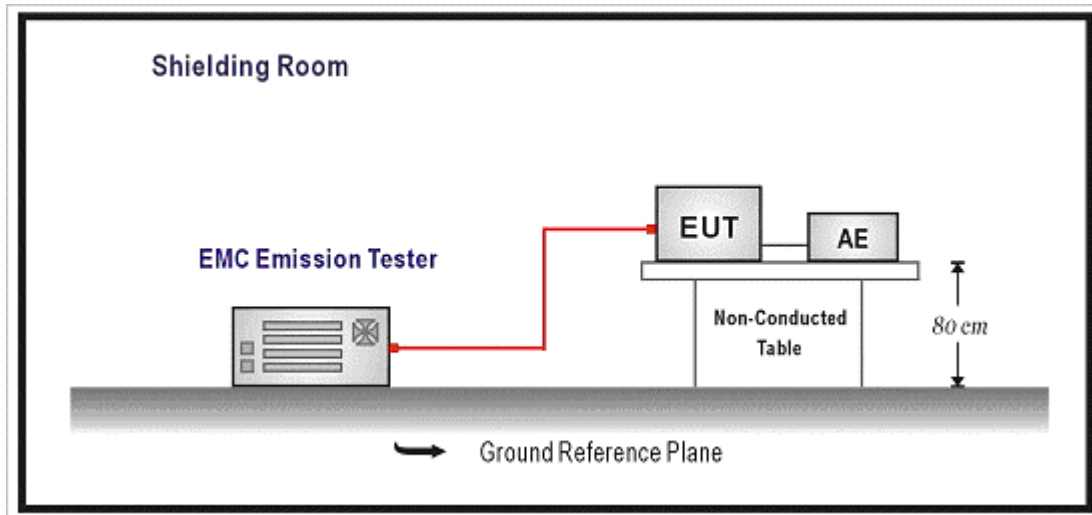


6. Voltage Fluctuation and Flicker

6.1. Test Specification

According to EMC Standard : EN 61000-3-3

6.2. Test Setup



6.3. Limit

The following limits apply:

- the value of P_{st} shall not be greater than 1.0;
 - the value of P_{1t} shall not be greater than 0.65;
 - the value of $d(t)$ during a voltage change shall not exceed 3.3 % for more than 500 ms;
 - the relative steady-state voltage change, d_c , shall not exceed 3.3 %;
 - the maximum relative voltage change, d_{max} , shall not exceed;
- a) 4 % without additional conditions;
 - b) 6 % for equipment which is:
 - switched manually, or
 - switched automatically more frequently than twice per day, and also has either a delayed restart (the delay being not less than a few tens of seconds), or manual restart, after a power supply interruption.

NOTE The cycling frequency will be further limited by the P_{st} and P_{1t} limit.

For example: a d_{max} of 6% producing a rectangular voltage change characteristic twice per hour will give a P_{1t} of about 0.65.

- c) 7 % for equipment which is:
- attended whilst in use (for example: hair dryers, vacuum cleaners, kitchen equipment such as mixers, garden equipment such as lawn mowers, portable tools such as electric drills), or
 - switched on automatically, or is intended to be switched on manually, no more than twice per day, and also has either a delayed restart (the delay being not less than a few tens of seconds) or manual restart, after a power supply interruption.

P_{st} and P_{1t} requirements shall not be applied to voltage changes caused by manual switching.

6.4. Test Procedure

The EUT is supplied in series with power analyzer from a power source having the same normal voltage and frequency as the rated supply voltage and the equipment under test. And the rated voltage at the supply voltage of EUT of 0.94 times and 1.06 times shall be performed.

6.5. Deviation from Test Standard

No deviation.

6.6. Test Result

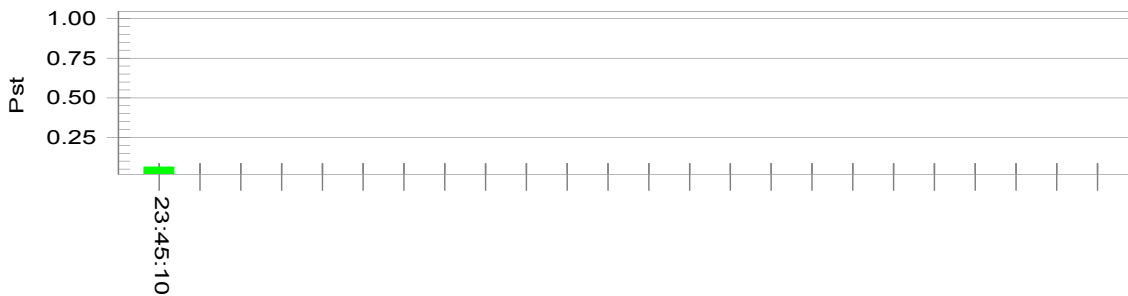
Product	HMI (Human Machine Interface)		
Test Item	Voltage Fluctuation and Flicker		
Test Mode	Mode 1: Normal Operation		
Date of Test	2008/12/25	Test Site	No.3 Shielded Room

Test Result: Pass

Status: Test Completed

Pstj and limit line

European Limits



Plt and limit line



Parameter values recorded during the test:

Vrms at the end of test (Volt):	229.59			
Highest dt (%):	0.00	Test limit (%):	3.30	Pass
Time(mS) > dt:	0.0	Test limit (mS):	500.0	Pass
Highest dc (%):	0.00	Test limit (%):	3.30	Pass
Highest dmax (%):	0.00	Test limit (%):	4.00	Pass
Highest Pst (10 min. period):	0.064	Test limit:	1.000	Pass
Highest Plt (2 hr. period):	0.028	Test limit:	0.650	Pass

6.7. Test Photograph

Test Mode : Mode 1: Normal Operation

Description : Flicker Test Setup

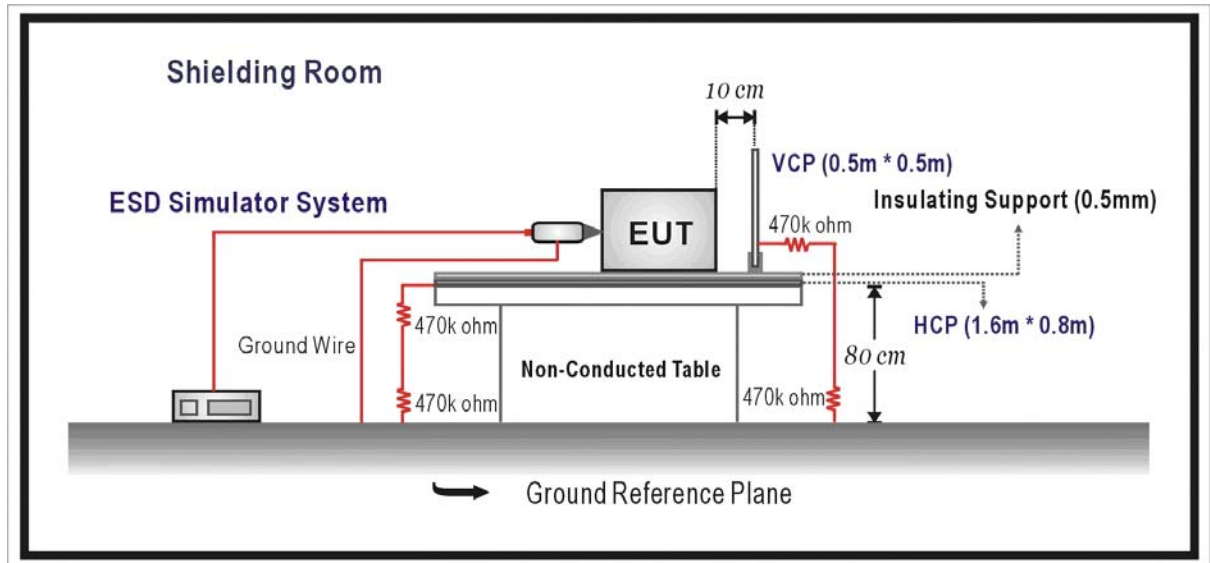


7. Electrostatic Discharge

7.1. Test Specification

According to Standard : IEC 61000-4-2

7.2. Test Setup



7.3. Limit

Item	Environmental Phenomena	Units	Test Specification	Performance Criteria
Enclosure Port				
	Electrostatic Discharge	kV(Charge Voltage)	±8 Air Discharge ±4 Contact Discharge	B

7.4. Test Procedure

Direct application of discharges to the EUT:

Contact discharge was applied only to conductive surfaces of the EUT.

Air discharges were applied only to non-conductive surfaces of the EUT.

During the test, it was performed with single discharges. For the single discharge time between successive single discharges will be keep longer 1 second. It was at least ten single discharges with positive and negative at the same selected point.

The selected point, which was performed with electrostatic discharge, was marked on the red label of the EUT.

Indirect application of discharges to the EUT:

Vertical Coupling Plane (VCP):

The coupling plane, of dimensions 0.5m x 0.5m, is placed parallel to, and positioned at a distance 0.1m from, the EUT, with the Discharge Electrode touching the coupling plane.

The four faces of the EUT will be performed with electrostatic discharge. It was at least ten single discharges with positive and negative at the same selected point.

Horizontal Coupling Plane (HCP):

The coupling plane is placed under to the EUT. The generator shall be positioned vertically at a distance of 0.1m from the EUT, with the Discharge Electrode touching the coupling plane.

The four faces of the EUT will be performed with electrostatic discharge. It was at least ten single discharges with positive and negative at the same selected point.

7.5. Deviation from Test Standard

No deviation.

7.6. Test Result

Product	HMI (Human Machine Interface)		
Test Item	Electrostatic Discharge		
Test Mode	Mode 1: Normal Operation		
Date of Test	2008/12/26	Test Site	No.3 Shielded Room

Item	Amount of Discharge	Voltage	Required Criteria	Complied To Criteria (A,B,C)	Results
Air Discharge	10	+8kV	B	A	Pass
	10	-8kV	B	A	Pass
Contact Discharge	25	+4kV	B	A	Pass
	25	-4kV	B	A	Pass
Indirect Discharge (HCP)	50	+4kV	B	A	Pass
	50	-4kV	B	A	Pass
Indirect Discharge (VCP Front)	50	+4kV	B	A	Pass
	50	-4kV	B	A	Pass
Indirect Discharge (VCP Left)	50	+4kV	B	A	Pass
	50	-4kV	B	A	Pass
Indirect Discharge (VCP Back)	50	+4kV	B	A	Pass
	50	-4kV	B	A	Pass
Indirect Discharge (VCP Right)	50	+4kV	B	A	Pass
	50	-4kV	B	A	Pass

Note:

The testing performed is from lowest level up to the highest level as required by standard, but only highest level is shown on the report.

NR: No Requirement

- Meet criteria A: Operate as intended during and after the test
- Meet criteria B: Operate as intended after the test
- Meet criteria C: Loss/Error of function
- Additional Information
 - EUT stopped operation and could / could not be reset by operator at ____ kV.
 - No false alarms or other malfunctions were observed during or after the test.

Remark:

The Contact discharges were applied at least total 200 discharges at a minimum of four test points.

7.7. Test Photograph

Test Mode : Mode 1: Normal Operation

Description : ESD Test Setup

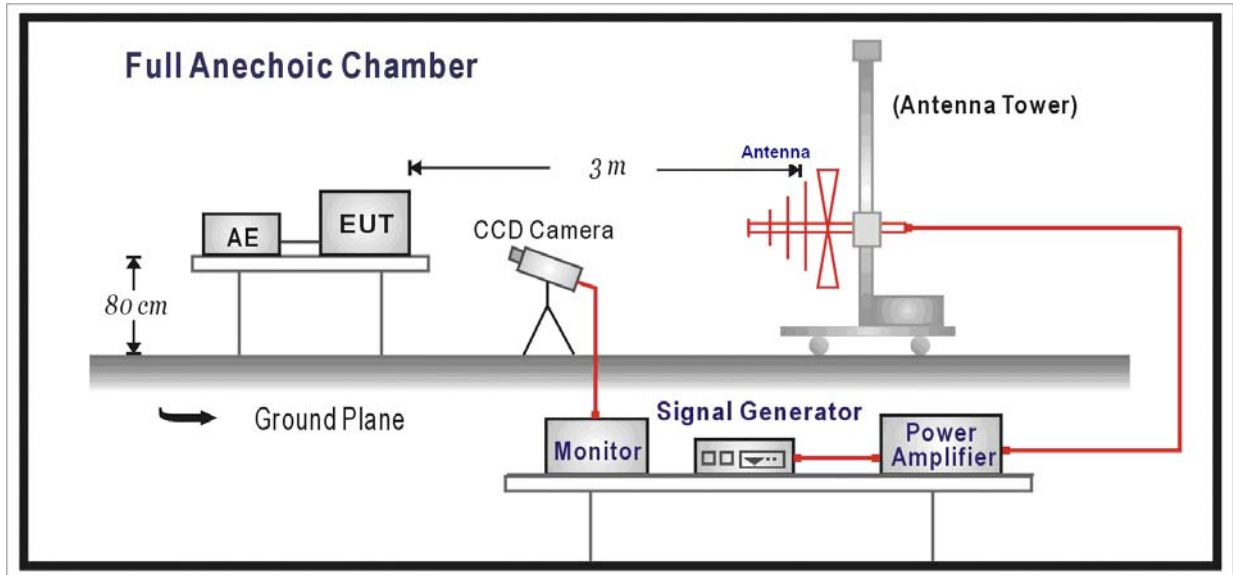


8. Radiated Susceptibility

8.1. Test Specification

According to Standard : IEC 61000-4-3

8.2. Test Setup



8.3. Limit

Item	Environmental Phenomena	Units	Test Specification	Performance Criteria
Enclosure Port				
	Radio-Frequency	MHz	80-1000	A
	Electromagnetic Field	V/m(Un-modulated, rms)	3	
	Amplitude Modulated	% AM (1kHz)	80	

8.4. Test Procedure

The EUT and load, which are placed on a table that is 0.8 meter above ground, are placed with one coincident with the calibration plane such that the distance from antenna to the EUT was 3 meters.

Both horizontal and vertical polarization of the antenna and four sides of the EUT are set on measurement.

In order to judge the EUT performance, a CCD camera is used to monitor EUT screen.

All the scanning conditions are as follows:

Condition of Test	Remarks
1. Field Strength	3 V/m Level 2
2. Radiated Signal	AM 80% Modulated with 1kHz
3. Scanning Frequency	80MHz - 1000MHz
4. Dwell Time	3 Seconds
5. Frequency step size Δf :	1%
6. The rate of Swept of Frequency	1.5×10^{-3} decades/s

8.5. Deviation from Test Standard

No deviation.

8.6. Test Result

Product	HMI (Human Machine Interface)		
Test Item	Radiated susceptibility		
Test Mode	Mode 1: Normal Operation		
Date of Test	2008/12/26	Test Site	Chamber5

Frequency (MHz)	Position (Angle)	Polarity (H or V)	Field Strength (V/m)	Required Criteria	Complied To Criteria (A,B,C)	Results
80-1000	FRONT	H	3	A	A	PASS
80-1000	FRONT	V	3	A	A	PASS
80-1000	BACK	H	3	A	A	PASS
80-1000	BACK	V	3	A	A	PASS
80-1000	RIGHT	H	3	A	A	PASS
80-1000	RIGHT	V	3	A	A	PASS
80-1000	LEFT	H	3	A	A	PASS
80-1000	LEFT	V	3	A	A	PASS
80-1000	UP	H	3	A	A	PASS
80-1000	UP	V	3	A	A	PASS
80-1000	DOWN	H	3	A	A	PASS
80-1000	DOWN	V	3	A	A	PASS

Note:

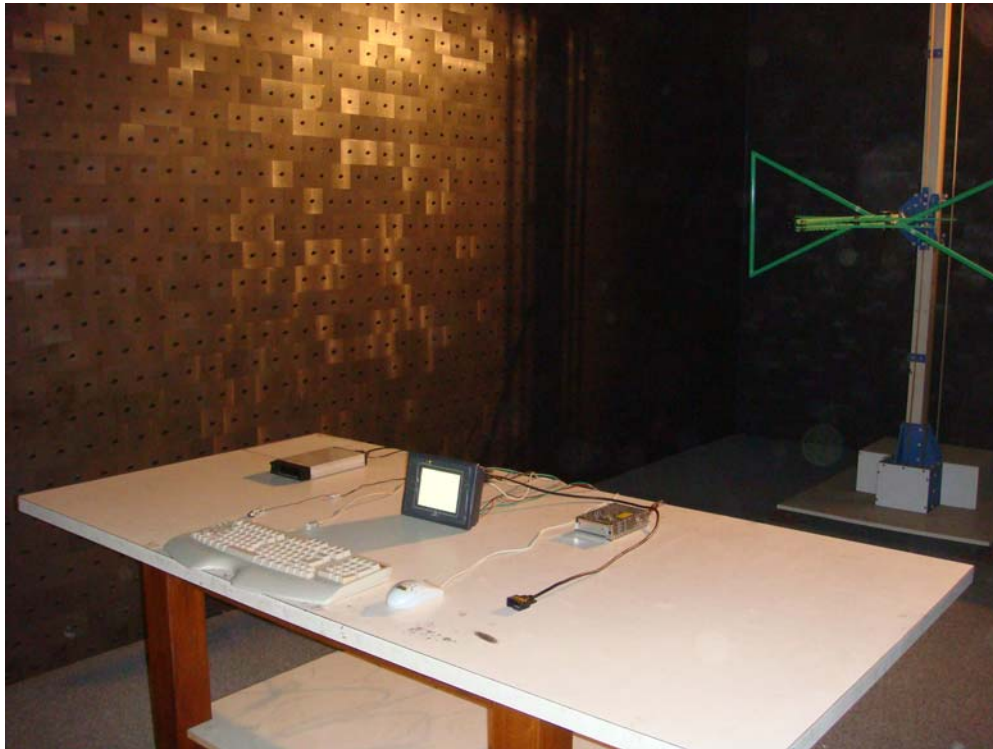
The testing performed is from lowest level up to the highest level as required by standard, but only highest level is shown on the report.

- Meet criteria A: Operate as intended during and after the test
- Meet criteria B: Operate as intended after the test
- Meet criteria C: Loss/Error of function
- Additional Information
 - There was no observable degradation in performance.
 - EUT stopped operation and could / could not be reset by operator at _____ V/m at frequency _____ MHz.
- No false alarms or other malfunctions were observed during or after the test.

8.7. Test Photograph

Test Mode : Mode 1: Normal Operation

Description : Radiated Susceptibility Test Setup

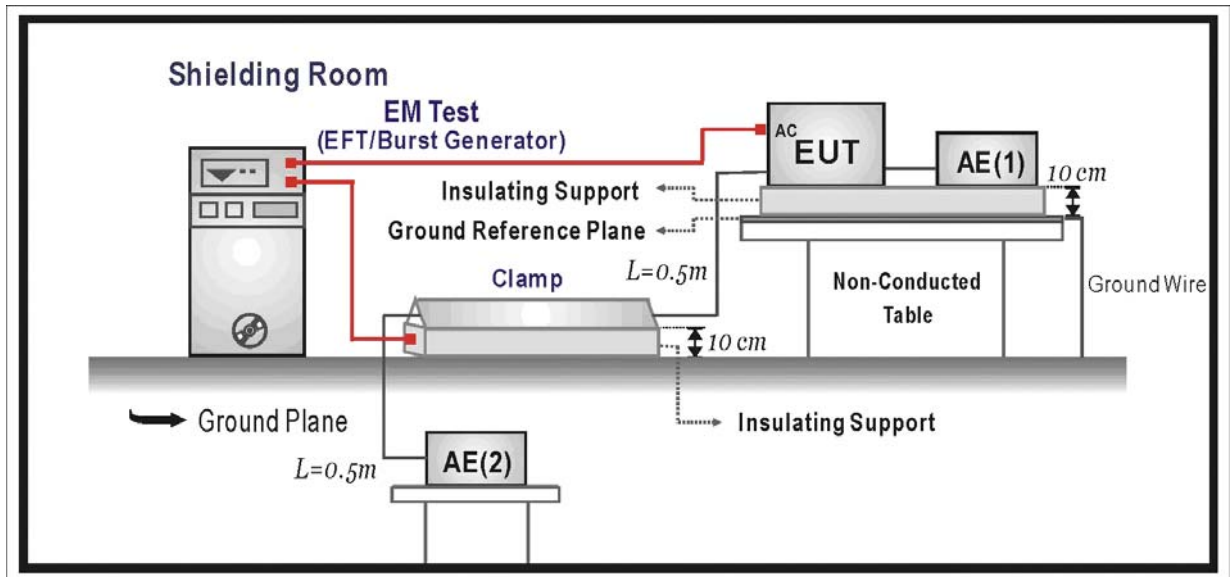


9. Electrical Fast Transient/Burst

9.1. Test Specification

According to Standard : IEC 61000-4-4

9.2. Test Setup



9.3. Limit

Item	Environmental Phenomena	Units	Test Specification	Performance Criteria
I/O and communication ports				
	Fast Transients Common Mode	kV (Peak) Tr/Th ns Rep. Frequency kHz	+0.5 5/50 5	B
Input DC Power Ports				
	Fast Transients Common Mode	kV (Peak) Tr/Th ns Rep. Frequency kHz	+0.5 5/50 5	B
Input AC Power Ports				
	Fast Transients Common Mode	kV (Peak) Tr/Th ns Rep. Frequency kHz	+1 5/50 5	B

9.4. Test Procedure

The EUT is placed on a table that is 0.8 meter height. A ground reference plane is placed on the table, and uses a 0.1m insulation between the EUT and ground reference plane.

The minimum area of the ground reference plane is 1m*1m, and 0.65mm thick min, and projected beyond the EUT by at least 0.1m on all sides.

Test on I/O and communication ports:

The EFT interference signal is through a coupling clamp device couples to the signal and control lines of the EUT with burst noise for 1 minute.

Test on power supply ports:

The EUT is connected to the power mains through a coupling device that directly couples the EFT/B interference signal.

Each of the Line and Neutral conductors is impressed with burst noise for 1 minute.

The length of the signal and power lines between the coupling device and the EUT is 0.5m.

9.5. Deviation from Test Standard

No deviation.

9.6. Test Result

Product	HMI (Human Machine Interface)		
Test Item	Electrical fast transient/burst		
Test Mode	Mode 1: Normal Operation		
Date of Test	2008/12/26	Test Site	No.6 Shielded Room

Inject Line	Polarity	Voltage kV	Inject Time (Second)	Inject Method	Required Criteria	Complied to Criteria	Result
L+N	±	1kV	60	Direct	B	A	PASS

Note:

The testing performed is from lowest level up to the highest level as required by standard, but only highest level is shown on the report.

- Meet criteria A : Operate as intended during and after the test
- Meet criteria B : Operate as intended after the test
- Meet criteria C : Loss/Error of function
- Additional Information
 - EUT stopped operation and could / could not be reset by operator at _____ kV of Line _____.
- No false alarms or other malfunctions were observed during or after the test.

9.7. Test Photograph

Test Mode : Mode 1: Normal Operation

Description : EFT/B Test Setup

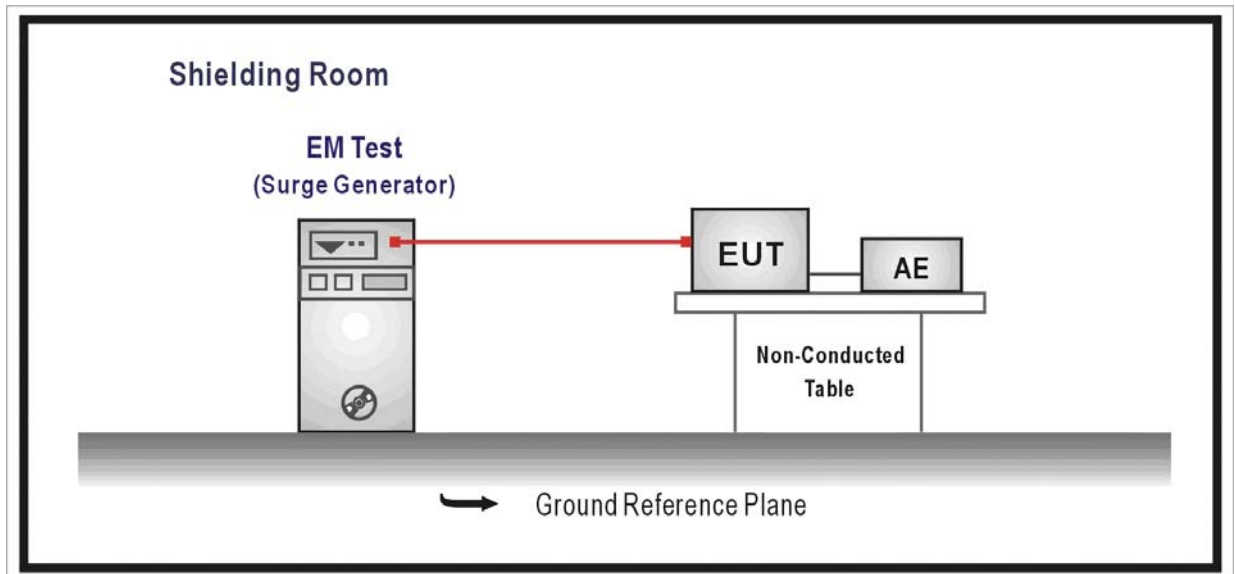


10. Surge

10.1. Test Specification

According to Standard : IEC 61000-4-5

10.2. Test Setup



10.3. Limit

Item	Environmental Phenomena	Units	Test Specification	Performance Criteria
Signal Ports and Telecommunication Ports(See 1) and 2))				
	Surges Line to Ground	Tr/Th us kV	1.2/50 (8/20) ± 1	B
Input DC Power Ports				
	Surges Line to Ground	Tr/Th us kV	1.2/50 (8/20) ± 0.5	B
AC Input and AC Output Power Ports				
	Surges Line to Line Line to Ground	Tr/Th us kV kV	1.2/50 (8/20) ± 1 ± 2	B

Notes:

- 1) Applicable only to ports which according to the manufacturer’s may directly to outdoor cables.
- 2) Where normal functioning cannot be achieved because of the impact of the CDN on the EUT, no immunity test shall be required.

10.4. Test Procedure

The EUT and its load are placed on a table that is 0.8 meter above a metal ground plane measured 1m*1m min. and 0.65mm thick min. And projected beyond the EUT by at least 0.1m on all sides. The length of power cord between the coupling device and the EUT shall be 2m or less.

For Input and Output AC Power or DC Input and DC Output Power Ports:

The EUT is connected to the power mains through a coupling device that directly couples the Surge interference signal.

The surge noise shall be applied synchronized to the voltage phase at 0° , 90° , 180° , 270° and the peak value of the a.c. voltage wave. (Positive and negative)

Each of Line-Earth and Line-Line is impressed with a sequence of five surge voltages with interval of 1 min.

10.5. Deviation from Test Standard

No deviation.

10.6. Test Result

Product	HMI (Human Machine Interface)		
Test Item	Surge		
Test Mode	Mode 1: Normal Operation		
Date of Test	2008/12/26	Test Site	No.6 Shielded Room

Inject Line	Polarity	Angle	Voltage kV	Time Interval (Second)	Inject Method	Required Criteria	Complied to Criteria	Result
L-N	±	0	1kV	60	Direct	B	A	PASS
L-N	±	90	1kV	60	Direct	B	A	PASS
L-N	±	180	1kV	60	Direct	B	A	PASS
L-N	±	270	1kV	60	Direct	B	A	PASS

Note:

The testing performed is from lowest level up to the highest level as required by standard, but only highest level is shown on the report.

- Meet criteria A : Operate as intended during and after the test
- Meet criteria B : Operate as intended after the test
- Meet criteria C : Loss/Error of function
- Additional Information
 - EUT stopped operation and could / could not be reset by operator at _____ kV of Line _____.
- No false alarms or other malfunctions were observed during or after the test.

10.7. Test Photograph

Test Mode : Mode 1: Normal Operation

Description : SURGE Test Setup



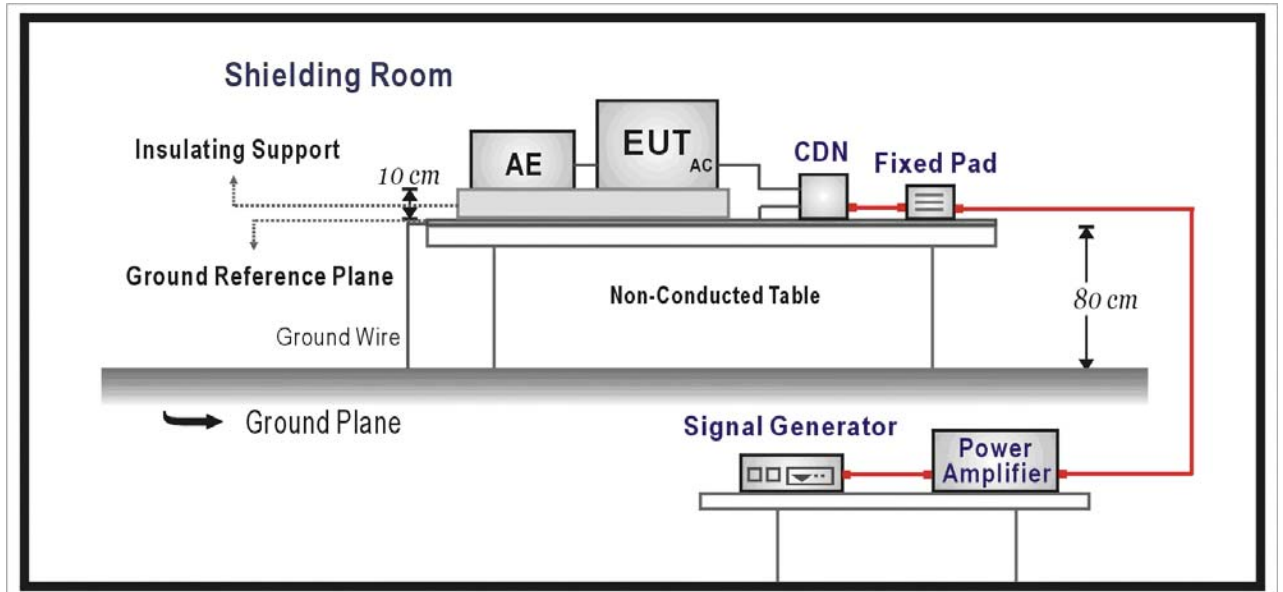
11. Conducted Susceptibility

11.1. Test Specification

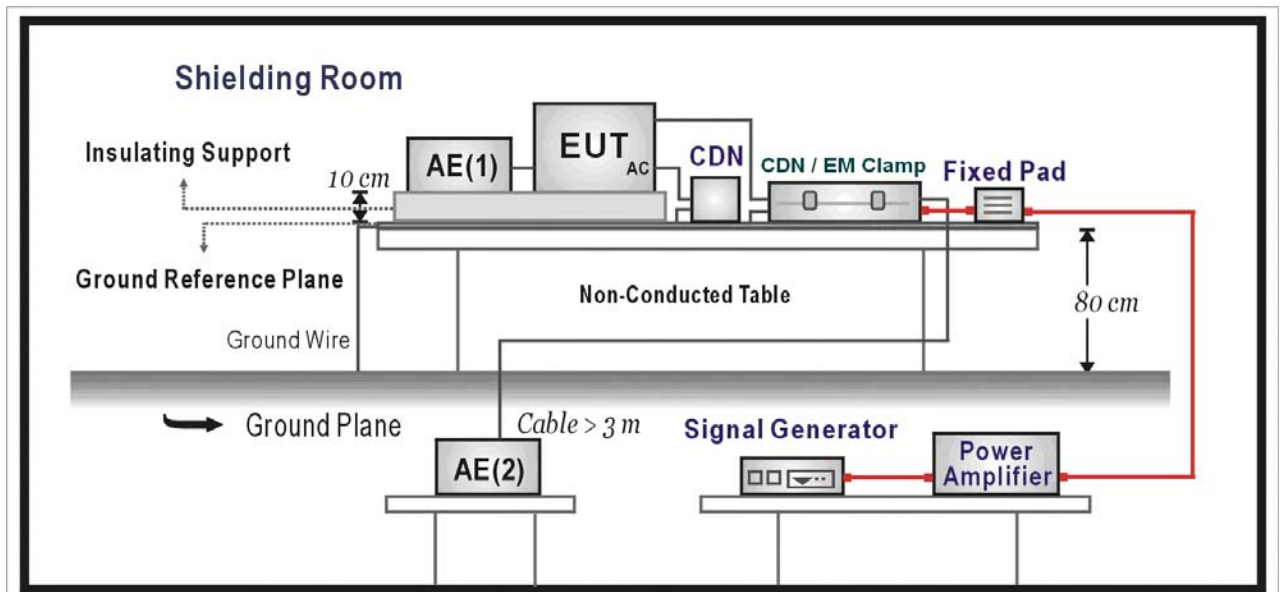
According to Standard : IEC 61000-4-6

11.2. Test Setup

CDN Test Mode



EM Clamp Test Mode



11.3. Limit

Item	Environmental Phenomena	Units	Test Specification	Performance Criteria
Signal Ports and Telecommunication Ports				
	Radio-Frequency Continuous Conducted	MHz V (rms, Un-modulated) % AM (1kHz)	0.15-80 3 80	A
Input DC Power Ports				
	Radio-Frequency Continuous Conducted	MHz V (rms, Un-modulated) % AM (1kHz)	0.15-80 3 80	A
Input AC Power Ports				
	Radio-Frequency Continuous Conducted	MHz V (rms, Un-modulated) % AM (1kHz)	0.15-80 3 80	A

11.4. Test Procedure

The EUT are placed on a table that is 0.8 meter height, and a Ground reference plane on the table, EUT are placed upon table and use a 10cm insulation between the EUT and Ground reference plane.

For Signal Ports and Telecommunication Ports

The disturbance signal is through a coupling and decoupling networks (CDN) or EM-clamp device couples to the signal and Telecommunication lines of the EUT.

For Input DC and AC Power Ports

The EUT is connected to the power mains through a coupling and decoupling networks for power supply lines. And directly couples the disturbances signal into EUT.

Used CDN-M2 for two wires or CDN-M3 for three wires.

All the scanning conditions are as follows:

Condition of Test	Remarks
1. Field Strength	130dBuV(3V) Level 2
2. Radiated Signal	AM 80% Modulated with 1kHz
3. Scanning Frequency	0.15MHz – 80MHz
4. Dwell Time	3 Seconds
5. Frequency step size Δf :	1%
6. The rate of Swept of Frequency	1.5×10^{-3} decades/s

11.5. Deviation from Test Standard

No deviation.

11.6. Test Result

Product	HMI (Human Machine Interface)		
Test Item	Conducted susceptibility		
Test Mode	Mode 1: Normal Operation		
Date of Test	2008/12/26	Test Site	No.6 Shielded Room

Frequency Range (MHz)	Voltage Applied dBuV(V)	Inject Method	Tested Port of EUT	Required Criteria	Performance Criteria Complied To	Result
0.15~80	130 (3V)	CDN	AC IN	A	A	PASS

Note:

The testing performed is from lowest level up to the highest level as required by standard, but only highest level is shown on the report.

- Meet criteria A : Operate as intended during and after the test
- Meet criteria B : Operate as intended after the test
- Meet criteria C : Loss/Error of function
- Additional Information
 - EUT stopped operation and could / could not be reset by operator at _____ dBuV(V) at frequency _____MHz.
 - No false alarms or other malfunctions were observed during or after the test. The acceptance criteria were met, and the EUT passed the test.

11.7. Test Photograph

Test Mode : Mode 1: Normal Operation

Description : Conducted Susceptibility Test Setup

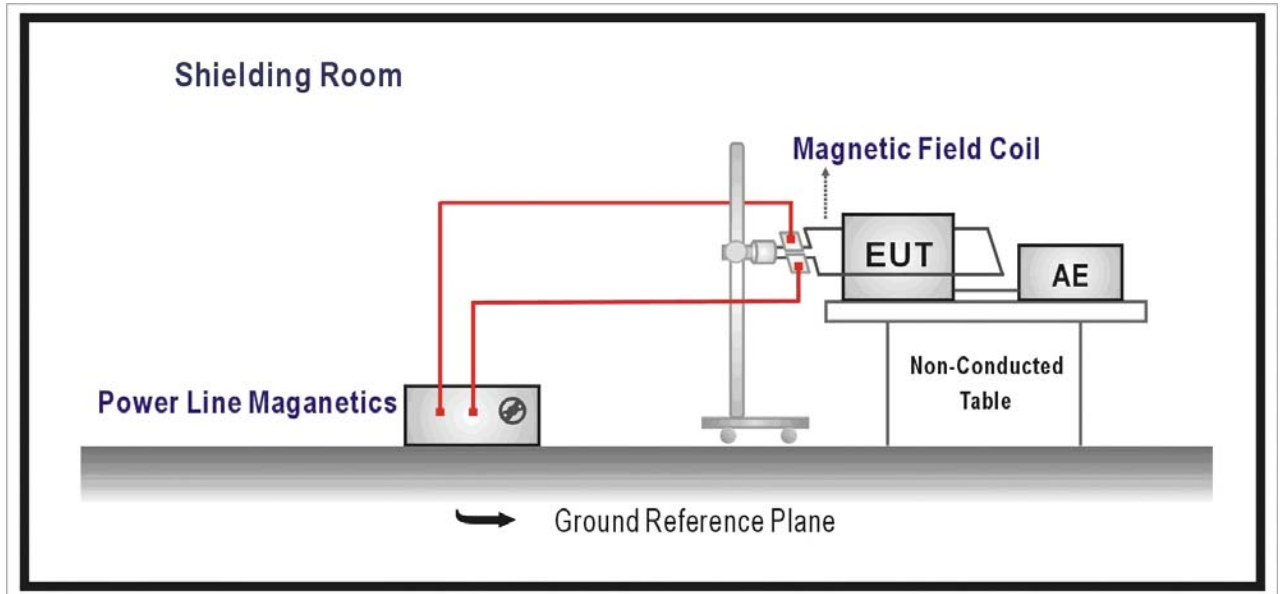


12. Power Frequency Magnetic Field

12.1. Test Specification

According to Standard : IEC 61000-4-8

12.2. Test Setup



12.3. Limit

Item	Environmental Phenomena	Units	Test Specification	Performance Criteria
Enclosure Port				
	Power-Frequency Magnetic Field	Hz A/m (r.m.s.)	50 1	A

12.4. Test Procedure

The EUT and its load are placed on a table which is 0.8 meter above a metal ground plane measured at least 1m*1m min. The test magnetic field shall be placed at central of the induction coil.

The test magnetic Field shall be applied 10 minutes by the immersion method to the EUT. And the induction coil shall be rotated by 90° in order to expose the EUT to the test field with different orientation (X, Y, Z Orientations).

12.5. Deviation from Test Standard

No deviation.

12.6. Test Result

Product	HMI (Human Machine Interface)		
Test Item	Power frequency magnetic field		
Test Mode	Mode 1: Normal Operation		
Date of Test	2008/12/26	Test Site	No.3 Shielded Room

Polarization	Frequency (Hz)	Magnetic Strength (A/m)	Required Performance Criteria	Performance Criteria Complied To	Test Result
X Orientation	50	1	A	A	PASS
Y Orientation	50	1	A	A	PASS
Z Orientation	50	1	A	A	PASS

- Meet criteria A: Operate as intended during and after the test
- Meet criteria B: Operate as intended after the test
- Meet criteria C: Loss/Error of function
- Additional Information
 - EUT stopped operation and could / could not be reset by operator at _____ kV of Line _____.
- No false alarms or other malfunctions were observed during or after the test. The acceptance criteria were met, and the EUT passed the test.

12.7. Test Photograph

Test Mode : Mode 1: Normal Operation

Description : Power Frequency Magnetic Field Test Setup

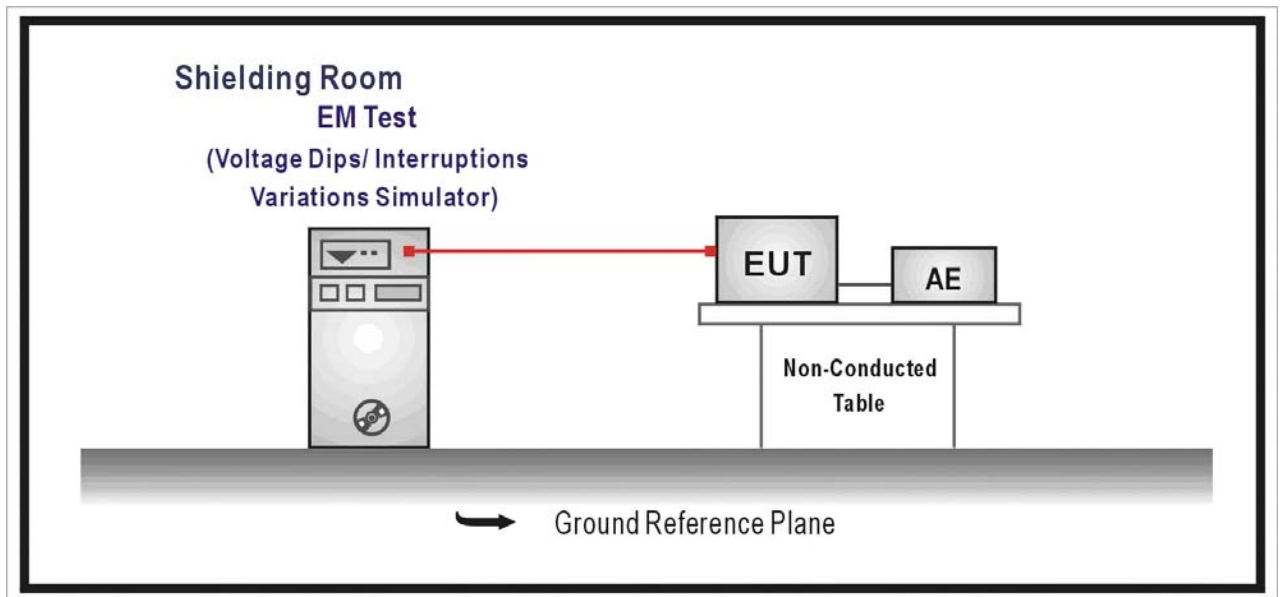


13. Voltage Dips and Interruption

13.1. Test Specification

According to Standard : IEC 61000-4-11

13.2. Test Setup



13.3. Limit

Item	Environmental Phenomena	Units	Test Specification	Performance Criteria
Input AC Power Ports				
	Voltage Dips	% Reduction	30	C
		Period	25	
	Voltage Interruptions	% Reduction	>95	B
		Period	0.5	
	Voltage Interruptions	% Reduction	> 95	C
		Period	250	

13.4. Test Procedure

The EUT and its load are placed on a table which is 0.8 meter above a metal ground plane measured 1m*1m min. And 0.65mm thick min. And projected beyond the EUT by at least 0.1m on all sides. The power cord shall be used the shortest power cord as specified by the manufacturer.

For Voltage Dips/ Interruptions test:

The selection of test voltage is based on the rated power range. If the operation range is large than 20% of lower power range, both end of specified voltage shall be tested.

Otherwise, the typical voltage specification is selected as test voltage.

The EUT is connected to the power mains through a coupling device that directly couples to the Voltage Dips and Interruption Generator.

The EUT shall be tested for 30% voltage dip of supplied voltage and duration 25 Periods, for 95% voltage dip of supplied voltage and duration 0.5 Periods with a sequence of three voltage dips with intervals of 10 seconds, and for 95% voltage interruption of supplied voltage and duration 250 Periods with a sequence of three voltage interruptions with intervals of 10 seconds.

Voltage phase shifting are shall occur at 0° , 45° , 90° , 135° , 180° , 225° , 270° , 315° of the voltage.

13.5. Deviation from Test Standard

No deviation.

13.6. Test Result

Product	HMI (Human Machine Interface)		
Test Item	Voltage dips and interruption		
Test Mode	Mode 1: Normal Operation		
Date of Test	2008/12/26	Test Site	No.6 Shielded Room

Voltage Dips and Interruption Reduction(%)	Angle	Test Duration (Periods)	Required Performance Criteria	Performance Criteria Complied To	Test Result
30(161V)	0	25	C	A	PASS
30(161V)	45	25	C	A	PASS
30(161V)	90	25	C	A	PASS
30(161V)	135	25	C	A	PASS
30(161V)	180	25	C	A	PASS
30(161V)	225	25	C	A	PASS
30(161V)	270	25	C	A	PASS
30(161V)	315	25	C	A	PASS
>95(0V)	0	0.5	B	A	PASS
>95(0V)	45	0.5	B	A	PASS
>95(0V)	90	0.5	B	A	PASS
>95(0V)	135	0.5	B	A	PASS
>95(0V)	180	0.5	B	A	PASS
>95(0V)	225	0.5	B	A	PASS
>95(0V)	270	0.5	B	A	PASS
>95(0V)	315	0.5	B	A	PASS
>95(0V)	0	250	C	C	PASS
>95(0V)	45	250	C	C	PASS
>95(0V)	90	250	C	C	PASS
>95(0V)	135	250	C	C	PASS
>95(0V)	180	250	C	C	PASS
>95(0V)	225	250	C	C	PASS
>95(0V)	270	250	C	C	PASS
>95(0V)	315	250	C	C	PASS

- Meet criteria A: Operate as intended during and after the test
- Meet criteria B: Operate as intended after the test
- Meet criteria C: Loss/Error of function
- Additional Information
 - The nominal voltage of EUT is 230V.
 - EUT stopped operation and could / could not be reset by operator at _____ kV of Line _____.
- No false alarms or other malfunctions were observed during or after the test. The acceptance criteria were met, and the EUT passed the test.

13.7. Test Photograph

Test Mode : Mode 1: Normal Operation

Description : Voltage Dips Test Setup



14. Attachment

➤ EUT Photograph

(1) EUT Photo



(2) EUT Photo



(3) EUT Photo



(4) EUT Photo

