



Certificate of Conformity

The products

**EUT : 19" RACK MOUNTING POWER SUPPLY
CENTER**

Trade Name : SC&T

Model No. : PRXXXX-XXX

which produced by

**SMART CABLING & TRANSMISSION CORP
10F, NO.493, Chung-Cheng Rd., Hsin Tien City, Taipei County, 231, Taiwan**

Has been tested by Electronics Testing Center, Taiwan ETC
And was found to comply with the EMC requirements Directive 2004/108/EC on the basis of

EN 55022:2006(Class B)

EN 55024:1998/A1:2001/A2:2003

EN 61000-3-2:2006

EN 61000-3-3:1995/A1:2001/A2:2005

Will Yaw

Signature

Will Yawo

Manager of EMC Testing Department II
Electronics Testing Center, Taiwan

Report Number : 09-05-RBF-077

Date of Issue: Jul. 30, 2009

- Note:
1. The results of the Test Report relate only to the items tested.
 2. The Test Report shall not be reproduced except in full, without the written approval of ETC.
 3. Together with the applicant's own documented production control, the applicant (or his European authorized representative) could draw up an EC Declaration of Conformity and affix the CE marking.
 4. EC Declaration of Conformity is the responsibility of the manufacturer/ importer.

ELECTRONICS TESTING CENTER, TAIWAN
NO. 34. LIN 5. DINGFU TSUEN, LINKOU
SHIANG TAIPEI COUNTY,
TAIWAN, 24442, R.O.C.

TEL:(02)26023052
INT:+886-2-26023052
FAX:(02)26010910
INT:+886-2-26010910



EMC

TEST REPORT

Responsible Party : ***SMART CABLING & TRANSMISSION CORP***
Manufacturer : ***SMART CABLING & TRANSMISSION CORP***
Description of Product : ***19" RACK MOUNTING POWER SUPPLY CENTER***
Trade Name : ***SC&T***
Model No. : ***PRXXXX-XXX***
Test Report File No. : ***09-05-RBF-077***
Date Test Item Received : ***May 09, 2009***
Date Test Campaign Completed : ***Jul. 21, 2009***
Date of Issue : ***Jul. 30, 2009***

Test Performed by

ELECTRONICS TESTING CENTER (ETC) , TAIWAN

NO. 34. LIN 5. DINGFU TSUEN, LINKOU SHIANG

TAIPEI COUNTY, TAIWAN, 24442, R.O.C.

TEL : (02)26023052 FAX : (02)26010910

http : // www.etc.org.tw ; e-mail : emc@etc.org.tw

This test report consists of 35 Pages. This test report is the property of ETC, and shall not be reproduced except in full, without the written consent of ETC. ETC hereby returns all rights-in-data to [***SMART CABLING & TRANSMISSION CORP***] for their exclusive legal use.

Note : 1. The results of the Test Report relate only to the items tested.
2. The Test Report shall not be reproduced except in full , without the written approval of ETC.

CONTENTS

● EMC TEST REPORT.....	1
● CONTENTS	2
1 TEST REPORT CERTIFICATION	4
2 GENERAL INFORMATIONS.....	6
2.1 Description of EUT	6
2.2 Related Information of EUT	6
2.3 Tested Configuration.....	6
2.4 Deviation Record.....	7
2.5 Modification Record	7
3 SUMMARY OF TEST RESULTS	8
3.1 Emissions	8
3.1.1 Conducted Emissions	8
3.1.2 Radiated Emissions	8
3.1.3 Harmonics Current Emissions	8
3.1.4 Voltage Fluctuations and Flicker	8
3.2 Immunity.....	9
3.2.1 Immunity Criteria	9
3.2.2 Electrostatic Discharge Immunity.....	9
3.2.3 RF Radiated Fields Immunity	9
3.2.4 EFT/Burst Immunity	9
3.2.5 Surge Immunity.....	10
3.2.6 RF Common Mode Immunity.....	10
3.2.7 Voltage Interruptions and Voltage Dips Immunity.....	10
4 TEST DATA & RELATED INFORMATIONS.....	11
4.1 Emissions	11
4.1.1 Conducted Emissions Test.....	11
4.1.1.1 Conducted Emissions Test Data.....	11
4.1.1.2 Conducted Emissions Test Setup Photos.....	14
4.1.2 Radiated Emissions Test.....	15
4.1.2.1 Radiated Emissions Test Data	15
4.1.2.2 Radiated Emissions Test Setup Photos.....	17
4.1.3 Harmonics Current Emissions Test	18
4.1.3.1 Harmonics Current Emissions Test Data.....	18
4.1.3.2 Harmonics Current Emissions Test Setup Photos	20
4.1.4 Voltage Fluctuations and Flicker Test	21

4.1.4.1	Voltage Fluctuations and Flicker Test Data.....	21
4.1.4.2	Voltage Fluctuations and Flicker Test Setup Photos	22
4.2	Immunity.....	23
4.2.1	Electrostatic Discharge Immunity Test	23
4.2.1.1	Electrostatic Discharge Immunity Test Data.....	23
4.2.1.2	Electrostatic Discharge Immunity Test Setup Photos	25
4.2.2	RF Radiated Fields Immunity Test.....	26
4.2.2.1	RF Radiated Fields Immunity Test Data	26
4.2.2.2	RF Radiated Fields Immunity Test Setup Photos.....	27
4.2.3	EFT/Burst Immunity Test.....	28
4.2.3.1	EFT/Burst Immunity Test Data	28
4.2.3.2	EFT/Burst Immunity Test Setup Photos.....	29
4.2.4	Surge Immunity Test	30
4.2.4.1	Surge Immunity Test Data.....	30
4.2.4.2	Surge Immunity Test Setup Photos	31
4.2.5	RF Common Mode Immunity Test	32
4.2.5.1	RF Common Mode Immunity Test Data.....	32
4.2.5.2	RF Common Mode Immunity Test Setup Photos	33
4.2.6	Voltage Interruptions and Voltage Dips Immunity Test	34
4.2.6.1	Voltage Interruptions and Voltage Dips Immunity Test Data.....	34
4.2.6.2	Voltage Interruptions and Voltage Dips Immunity Test Setup Photos	35

1 TEST REPORT CERTIFICATION

Client : SMART CABLING & TRANSMISSION CORP

Address : 10F, NO.493, Chung-Cheng Rd., Hsin Tien City, Taipei County, 231, Taiwan

Manufacturer : SMART CABLING & TRANSMISSION CORP

Address : 10F, NO.493, Chung-Cheng Rd., Hsin Tien City, Taipei County, 231, Taiwan

EUT : 19"RACK MOUNTING POWER SUPPLY CENTER

Trade name : SC&T

Model No. : PRXXXX-XXX

Test specifications :

Emissions : EN 55022:2006(Class B)
EN 61000-3-2:2006
EN 61000-3-3:1995/A1:2001/A2:2005

Immunity : IEC61000-4-2:2008
IEC61000-4-3:2006/A1:2007
IEC61000-4-4:2004
IEC61000-4-5:2005
IEC61000-4-6:2008
IEC61000-4-11:2004



Regulations applied :

Emissions : EN 55022:2006(Class B)
EN 61000-3-2:2006
EN 61000-3-3:1995/A1:2001/A2:2005

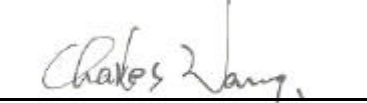
Immunity : EN 55024:1998/A1:2001/A2:2003

The testing described in this report has been carried out to the best of our knowledge and ability, and our responsibility is limited to the exercise of reasonable care. This certification is not intended to relieve the sellers from their legal and/or contractual obligations. Besides, the "Comment Issues" highlight above is important information for this test report. Responsible must read carefully about the description.

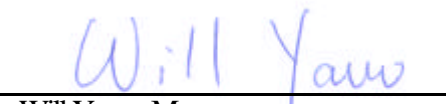
Test Engineer :


(Nudy Huang, Engineer)
(Tien-Lu Liao, Engineer)

Check By :


(Charles Wang, Supervisor)

Approve & Authorized :


Will Yauo, Manager
EMC Dept. II of ELECTRONICS
TESTING CENTER, TAIWAN

Laboratory Introduction: Electronics Testing Center, Taiwan is recognized, filed and mutual recognition arrangement as following:

- ① ISO9002 : BSMI, TÜV Product Service
- ② ISO/IEC 17025 : BSMI, CNLA, DGT, NVLAP, CCIBLAC, UL, Compliance
- ③ EN45001 : TÜV Rheinland, NEMKO, FIMKO, SGS
- ④ Filing : FCC, Industry Canada, VCCI
- ⑤ MRA : Australia, Hong Kong, New Zealand, Singapore, USA, Japan, Korea, China, APLAC through CNLA

2 GENERAL INFORMATIONS

2.1 Description of EUT

ITEM NO.	PR8XX-XXX
Port	16
Output Video	AC 24V
Output Current	0.5A/ Port
Video Trip Current	1A/ Port
Short Cut Time	0.2 Sec/ Port
Cut Current / Time	2.5A/ 4Sec
Reset able Output	AUTO
Reset able Output Time	1 Sec (Min)
Total Output Current	8A (Max)
Dimensions W x H x D mm	437 x 170 x 44
Weight kg.	4
STORAGE TEMPERATURE	-30 ~70
OPERATION TEMPERATURE	-10 ~45

2.2 Related Information of EUT

Size of EUT : 437 mm × 170mm × 44mm

Power Supply : AC 120V/230V to AC24V / 0.5A (Max) output

DC Power Line : Nonshielded Shielded None, Length: 1.8 m

USB Line : Nonshielded Shielded None, Length: m

* For more detailed features, please refer to User's Manual.

2.3 Tested Configuration

The EUT connected with other devices.

Following peripheral devices and interface cables were connected during the measurement:

Device	Model	Manufacture	Description
19" RACK MOUNTING POWER SUPPLY CENTER*	PRXXXX-XXX	SMART CABLING & TRANSMISSION CORP	1.8m Unshielded DC Power Line
Load*8	----	----	----

Remark "*" means equipment under test.

2.4 Deviation Record

No deviations were required.

2.5 Modification Record

No modifications were required. (That is the EUT complied with the requirement as tested.)

3 SUMMARY OF TEST RESULTS

3.1 Emissions

3.1.1 Conducted Emissions

– PASS (Operation Mode -Neutral)

Minimum EMI Margin to the limit: -32.4 dB at 0.243 MHz

– PASS (Operation Mode -Line)

Minimum EMI Margin to the limit: -36.7 dB at 0.407 MHz

3.1.2 Radiated Emissions

– PASS (Operation Mode -HOR)

Minimum EMI Margin to the limit: -4.1 dB at 604.200 MHz

– PASS (Operation Mode -VER)

Minimum EMI Margin to the limit: -3.4 dB at 604.200 MHz

3.1.3 Harmonics Current Emissions

–PASS

The harmonics current values were under the limits of the class A equipment of the EN 61000-3-2.

3.1.4 Voltage Fluctuations and Flicker

–PASS

The voltage fluctuations and flicker values were under the limits of the EN 61000-3-3 requirements.

3.2 Immunity

3.2.1 Immunity Criteria

The results of all of the immunity tests performed on the EUT were evaluated according to the following criteria, and according to the manufacturer's specifications for the EUT:

Performance criterion A : The EUT continued to operate as intended. No degradation of performance or loss of function was allowed below a performance level specified by the manufacturer, when the EUT was used as intended.

Performance criterion B : The EUT continued to operate as intended after the test. No degradation of performance or loss of function was allowed below a performance level specified by the manufacturer, when the EUT was used as intended. During the test, degradation of performance was however allowed. No change of actual operating state or stored data was allowed.

Performance criterion C : Temporary loss of function was allowed, provided the function was self recoverable or could be restored by the operation of the controls.

3.2.2 Electrostatic Discharge Immunity

- No Degradation of Function
- Distortion of Function
- Error of Function

Requirement :Criterion B (or better)

- Satisfies Criterion A
- Satisfies Criterion B
- Satisfies Criterion C

3.2.3 RF Radiated Fields Immunity

- No Degradation of Function
- Distortion of Function
- Error of Function

Requirement :Criterion A

- Satisfies Criterion A
- Satisfies Criterion B
- Satisfies Criterion C

3.2.4 EFT/Burst Immunity

- No Degradation of Function
- Distortion of Function
- Error of Function

Requirement :Criterion B(or better)

- Satisfies Criterion A
- Satisfies Criterion B
- Satisfies Criterion C

3.2.5 Surge Immunity

Requirement :Criterion B (or better)

- | | |
|--|-------------------------|
| <input checked="" type="checkbox"/> - No Degradation of Function | - Satisfies Criterion A |
| <input type="checkbox"/> - Distortion of Function | - Satisfies Criterion B |
| <input type="checkbox"/> - Error of Function | - Satisfies Criterion C |

3.2.6 RF Common Mode Immunity

Requirement :Criterion A

- | | |
|--|-------------------------|
| <input checked="" type="checkbox"/> - No Degradation of Function | - Satisfies Criterion A |
| <input type="checkbox"/> - Distortion of Function | - Satisfies Criterion B |
| <input type="checkbox"/> - Error of Function | - Satisfies Criterion C |

3.2.7 Voltage Interruptions and Voltage Dips Immunity

Requirement :Criterion C (or better)

- | | |
|--|-------------------------|
| <input checked="" type="checkbox"/> - No Degradation of Function | - Satisfies Criterion A |
| <input type="checkbox"/> - Distortion of Function | - Satisfies Criterion B |
| <input type="checkbox"/> - Error of Function | - Satisfies Criterion C |

4 TEST DATA & RELATED INFORMATIONS

4.1 Emissions

4.1.1 Conducted Emissions Test

4.1.1.1 Conducted Emissions Test Data

Operating Conditions of The EUT : Operation Mode

Test Date : May 25, 2009

Test Specification	EN 55022:2006 (Class B)			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
EMI Test Receiver	Rohde & Schwarz	ESCI	2009/02/04	2010/02/03
LISN	EMCO	3625/2	2009/02/06	2010/02/05
LISN	Rohde & Schwarz	ESH2-Z5	2009/06/27	2010/06/26
Climatic Condition	Ambient Temperature: <u>25</u> °C		Relative Humidity: <u>67</u> %RH	
Power Supply System	AC Power : <u>230</u> Vac <u>50</u> Hz			
Test Set-up	Table-top Equipment			

Test data see the next pages.

Mode: Operation Mode

Neutral

Frequency (MHz)	Meter Reading (dB μ V)		Factor (dB)	Result (dB μ V)		Limit (dB μ V)		Margin (dB μ V)	
	Q.P	AVG		Q.P	AVG	Q.P	AVG	Q.P	AVG
0.159	29.4	----	0.2	29.6	----	65.5	55.5	-35.9	----
0.173	25.8	----	0.2	26.0	----	64.8	54.8	-38.8	----
0.197	23.4	----	0.2	23.6	----	63.7	53.7	-40.1	----
0.243	29.4	----	0.2	29.6	----	62.0	52.0	-32.4	----
0.259	25.1	----	0.2	25.3	----	61.5	51.5	-36.1	----
0.307	22.7	----	0.3	23.0	----	60.1	50.1	-37.1	----

Mode: Operation Mode

Line

Frequency (MHz)	Meter Reading (dB μ V)		Factor (dB)	Result (dB μ V)		Limit (dB μ V)		Margin (dB μ V)	
	Q.P	AVG		Q.P	AVG	Q.P	AVG	Q.P	AVG
0.157	28.2	----	0.2	28.4	----	65.6	55.6	-37.2	----
0.165	25.8	----	0.2	26.0	----	65.2	55.2	-39.2	----
0.172	26.3	----	0.2	26.5	----	64.9	54.9	-38.4	----
0.243	19.3	----	0.2	19.5	----	62.0	52.0	-42.5	----
0.372	19.5	----	0.3	19.8	----	58.5	48.5	-38.7	----
0.407	20.7	----	0.3	21.0	----	57.7	47.7	-36.7	----

Notes: 1) Place of measurement: EMC LAB. of the ETC

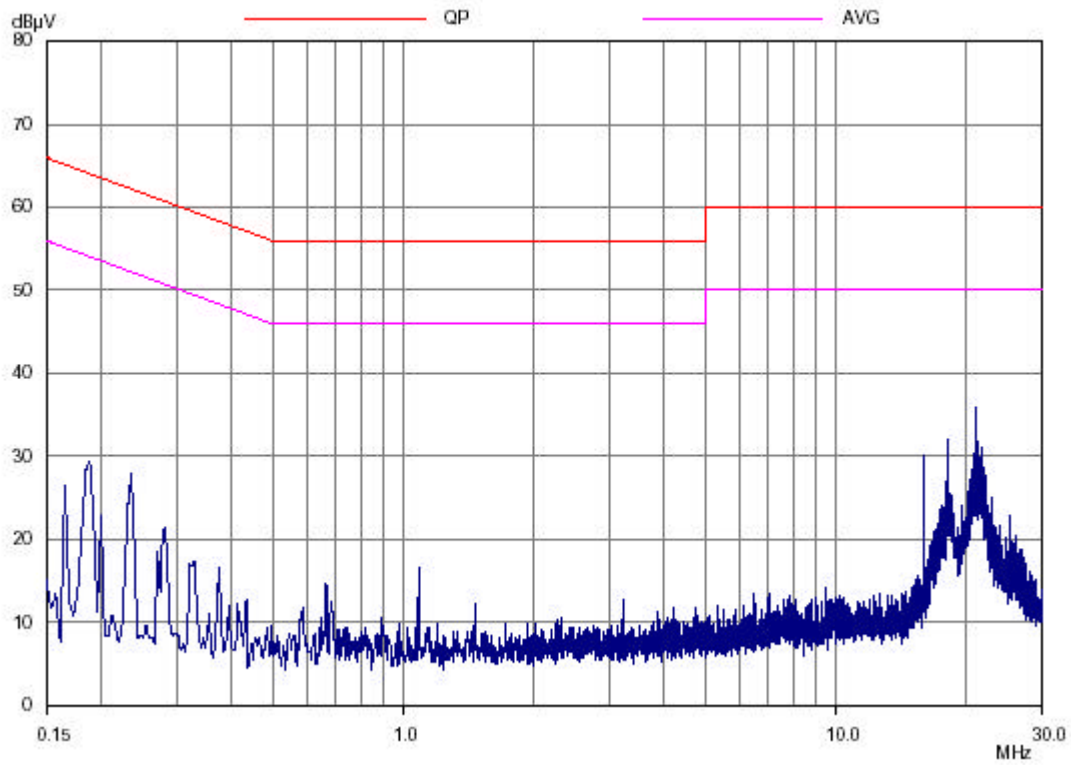
2) The EUT was placed 0.8m above reference ground plane.

3) The symbol of "----" means the Q.P. value is under the limit for AVG. so, the AVG. value doesn't need to be measured.

4) The expanded uncertainty of the conducted emission tests is 2.45 dB.

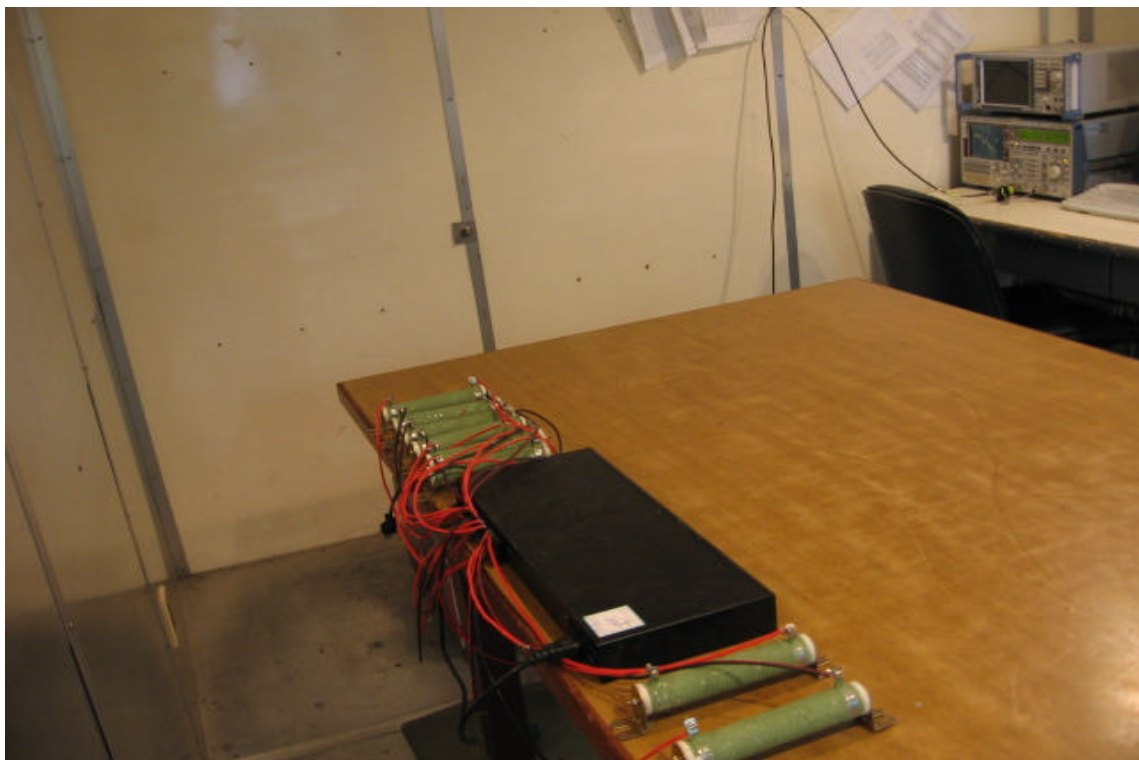
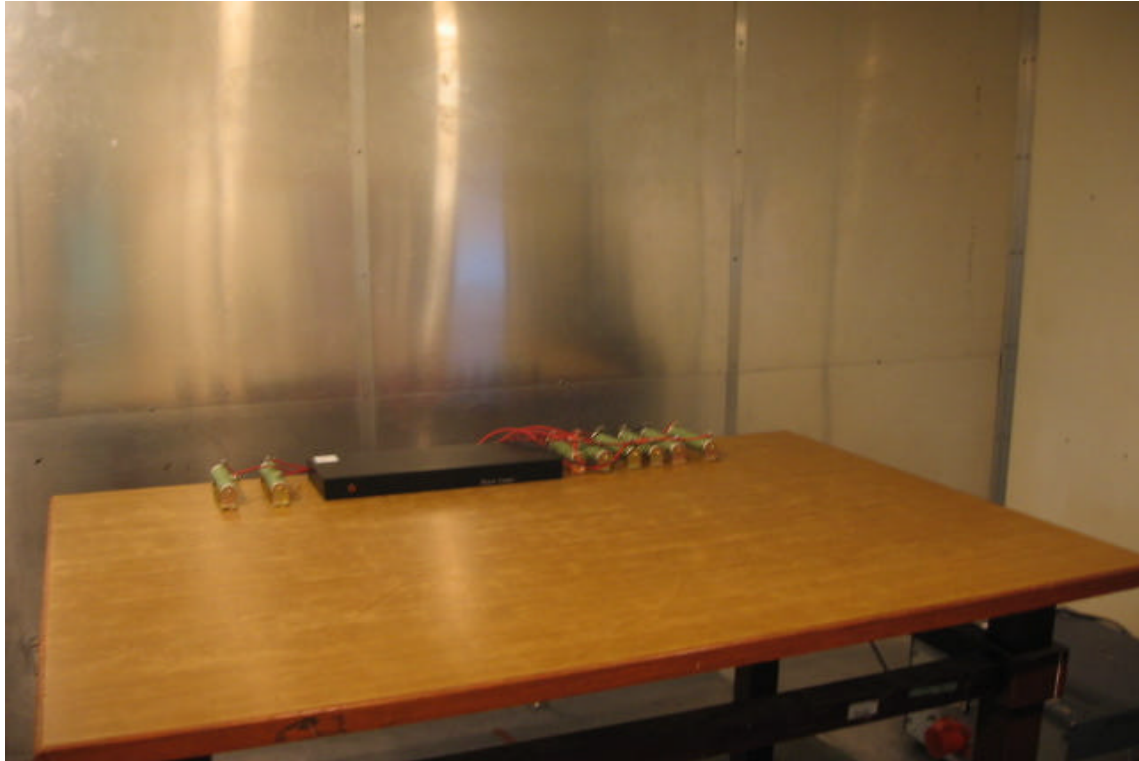
Mode: Operation Mode

Neutral

Mode: Operation Mode

Line



4.1.1.2 Conducted Emissions Test Setup Photos

4.1.2 Radiated Emissions Test

4.1.2.1 Radiated Emissions Test Data

Operating Conditions of The EUT : Operation Mode

Test Date : May 25, 2009

Test Specification	EN 55022:2006 (Class B)			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
Test Receiver	Rohde & Schwarz	ESCS 30	2009/02/10	2010/02/09
Amplifier	HP	8447D	2008/09/05	2009/09/04
Spectrum	Advantest	R3162	2009/02/03	2010/02/02
Bi-Log Antenna	Schaffner	CBL 6111	2009/05/06	2010/05/05
Climatic Condition	Ambient Temperature: <u>25</u> °C		Relative Humidity: <u>67</u> %RH	
Power Supply System	AC Power : <u>230</u> Vac <u>50</u> Hz			
Test Set-up	Table-top Equipment			

Test data see the next pages.

Mode Operation Mode (HOR)

Emission Frequency (MHz)	Meter Reading (dBuV)	CORR'd Factor (dB)	Results (dBuV/m)	Limit (dBuV/m)	Margins (dB)
	HOR.		HOR.		
68.100	42.5	-19.4	23.1	30.0	-6.9
103.700	38.3	-13.5	24.8	30.0	-5.2
179.600	39.3	-14.2	25.1	30.0	-4.9
483.700	36.1	-4.0	32.1	37.0	-4.9
512.300	36.1	-4.3	31.8	37.0	-5.2
604.200	36.6	-3.7	32.9	37.0	-4.1

Mode : Operation Mode (VER)

Emission Frequency (MHz)	Meter Reading (dBuV)	CORR'd Factor (dB)	Results (dBuV/m)	Limit (dBuV/m)	Margins (dB)
	VER.		VER.		
68.100	42.0	-19.4	22.6	30.0	-7.4
103.700	37.4	-13.5	23.9	30.0	-6.1
179.600	39.0	-14.2	24.8	30.0	-5.2
483.700	37.6	-4.0	33.6	37.0	-3.4
512.300	34.4	-4.3	30.1	37.0	-6.9
604.200	37.3	-3.7	33.6	37.0	-3.4

- Notes:
- 1) Place of Measurement: Measuring site of the ETC
 - 2) Measurement Distance: 10 m
 - 3) Height of table on which the EUT was placed: 0.8 m
 - 4) Height of Receiving Antenna: 1 - 4 m
 - 5) Remark “----“ means that the emissions level is too low to be measured.
 - 6) The expanded uncertainty of the radiated emission tests is 3.53 dB.

4.1.2.2 Radiated Emissions Test Setup Photos



4.1.3 Harmonics Current Emissions Test

4.1.3.1 Harmonics Current Emissions Test Data

Operating Conditions of The EUT : Operation Mode

Test Date : Jul. 21, 2009

Test Specification	EN 61000-3-2:2006			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
Harmonics-1000	EMC-Partner	Harmonics-1000	2008/12/10	2009/12/09
Climatic Condition	Ambient Temperature: <u>28</u> °C		Relative Humidity: <u>51</u> %RH	
Power Supply System	AC Power : <u>230</u> Vac <u>50</u> Hz			
Test Set-up	Table-top Equipment			

Test data see the next pages.

Urms = 229.9V Freq = 49.987 Range: 02:00 AM

Irms = 0.197A Ipk = 0.974A cf = 4.936

P = 18.46W S = 45.35VA pf = 0.407

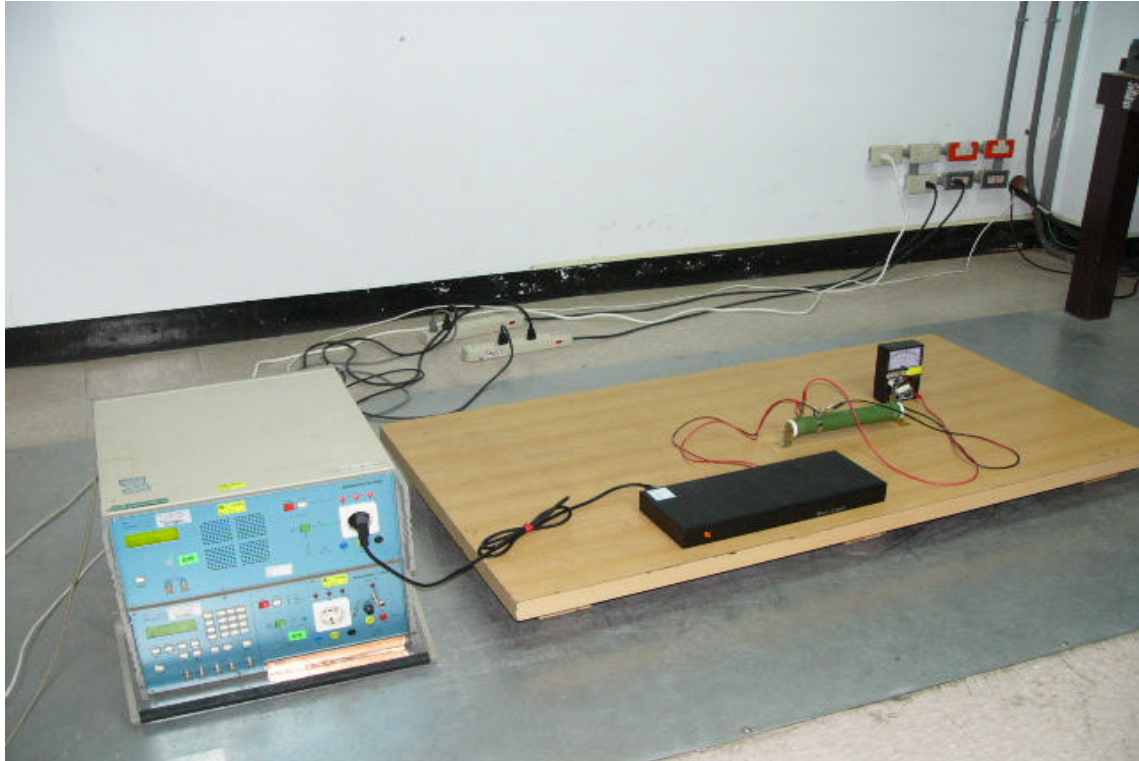
THDi = 83.70% THDu = 0.10% Class A

Test -

Time : 3min -100%

Test completed, Result: PASSED

Order	Freq. [Hz]	Iavg [A]	Imax [A]	Limit [A]	Order	Freq. [Hz]	Iavg [A]	Imax [A]	Limit [A]
1	50	0.1051	0.1055		21	1050	0	0.0045	0.1071
2	100	0.0705	0.0708	1.08	22	1100	0	0.0039	0.0836
3	150	0.0677	0.0679	2.3	23	1150	0	0.0034	0.0978
4	200	0.0619	0.0621	0.43	24	1200	0	0.0031	0.0767
5	250	0.0564	0.0566	1.14	25	1250	0	0.0026	0.09
6	300	0.0501	0.0503	0.3	26	1300	0	0.0023	0.0708
7	350	0.0441	0.0443	0.77	27	1350	0	0.002	0.0833
8	400	0.038	0.0382	0.23	28	1400	0	0.0017	0.0657
9	450	0.0325	0.0327	0.4	29	1450	0	0.0015	0.0776
10	500	0.0274	0.0276	0.184	30	1500	0	0.0012	0.0613
11	550	0.023	0.0231	0.33	31	1550	0	0.0011	0.0726
12	600	0.0192	0.0193	0.1533	32	1600	0	0.001	0.0575
13	650	0.0159	0.0161	0.21	33	1650	0	0.0009	0.0682
14	700	0.0133	0.0133	0.1314	34	1700	0	0.0007	0.0541
15	750	0.0111	0.0112	0.15	35	1750	0	0.0006	0.0643
16	800	0.0093	0.0094	0.115	36	1800	0	0.0006	0.0511
17	850	0.0079	0.0081	0.1324	37	1850	0	0.0005	0.0608
18	900	0.0068	0.0068	0.1022	38	1900	0	0.0005	0.0484
19	950	0.0059	0.006	0.1184	39	1950	0	0.0004	0.0577
20	1000	0.0051	0.0051	0.092	40	2000	0	0.0004	0.046

4.1.3.2 Harmonics Current Emissions Test Setup Photos

4.1.4 Voltage Fluctuations and Flicker Test

4.1.4.1 Voltage Fluctuations and Flicker Test Data

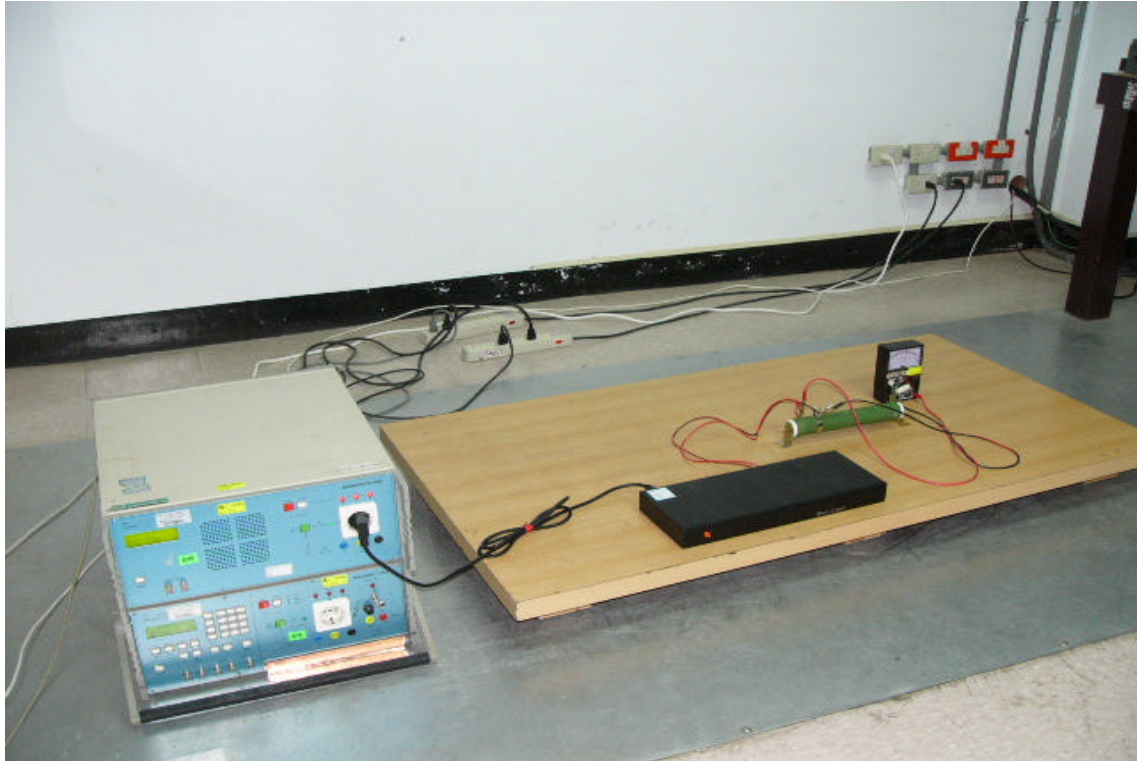
Operating Conditions of The EUT : Operation Mode

Test Date : Jul. 21, 2009

Test Specification	EN 61000-3-3:1995/A1:2001/A2:2005			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
Harmonics-1000	EMC-Partner	Harmonics-1000	2008/12/10	2009/12/09
Climatic Condition	Ambient Temperature: <u>28</u> °C		Relative Humidity: <u>51</u> %RH	
Power Supply System	AC Power : <u>230</u> Vac <u>50</u> Hz			
Test Set-up	Table-top Equipment			

	Test Data	Limit	Pass or Fail
Plt	0.072	0.65	Pass
Pst	0.072	1.00	Pass
dt	0.00ms	500ms	Pass
dmax	0.00%	4.0 %	Pass
dc	0.03%	3.3 %	Pass

4.1.4.2 Voltage Fluctuations and Flicker Test Setup Photos



4.2 Immunity

4.2.1 Electrostatic Discharge Immunity Test

4.2.1.1 Electrostatic Discharge Immunity Test Data

Operating Conditions of The EUT : Operation Mode

Test Date : Jul. 21, 2009

Test Specification	IEC 61000-4-2:2008			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
Electrostatic Discharge Simulator	Noiseken	ESS2002	2008/09/18	2009/09/17
Climatic Condition	Ambient Temperature: <u>28</u> °C		Relative Humidity: <u>51</u> %RH	
	Atmospheric Pressure : <u>990</u> mbar			
Power Supply System	AC Power : <u>230</u> Vac <u>50</u> Hz			
Test Set-up	Table-top Equipment			

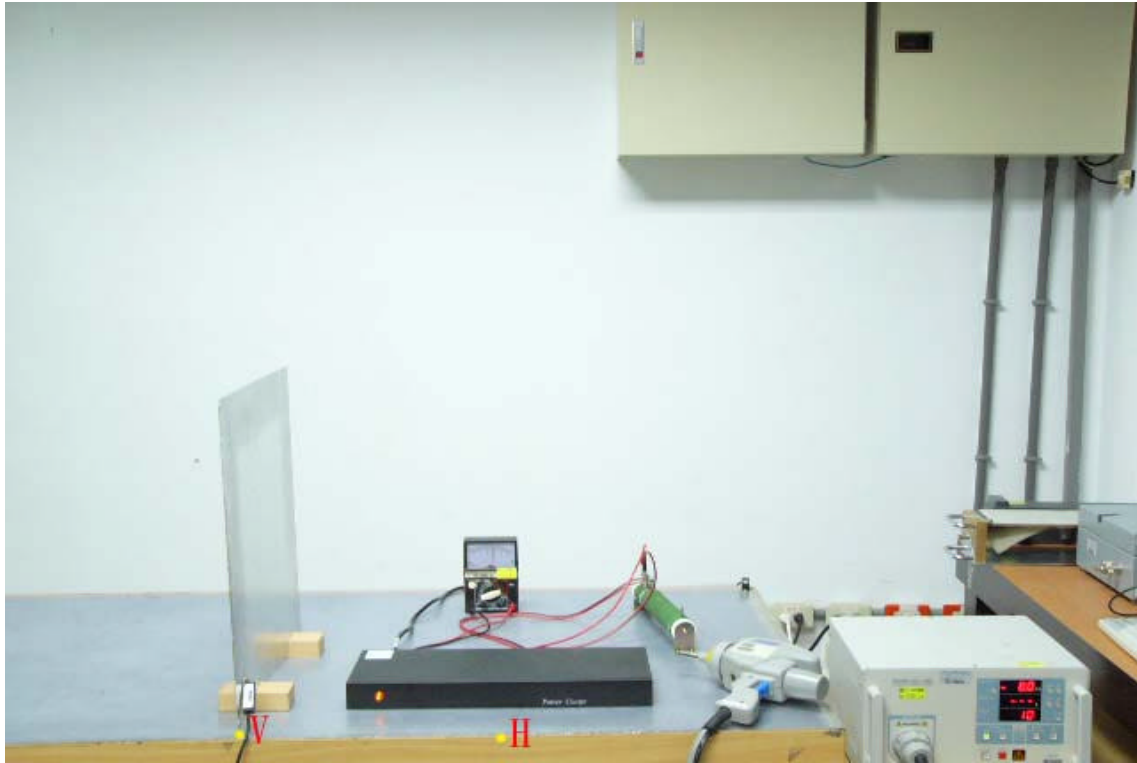
Energy-Storage Capacitor : <u>150</u> pF	Contact Dis charge Times : <u>25</u> times/each condition															
Discharge Resistor : <u>330</u> Ω	Air Discharge Times : <u>10</u> times/each condition															
\ Discharge Mode	Contact Discharge				Air Discharge											
\ESD Voltage	<u>2</u> kV	<u>4</u> kV	<u> </u> kV	<u> </u> kV	<u>2</u> kV	<u>4</u> kV	<u>8</u> kV	<u> </u> kV								
\Points\Result\Polarity	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
VCP	A	A	A	A	---	---	---	---	---	---	---	---	---	---	---	---
HCP	A	A	A	A	---	---	---	---	---	---	---	---	---	---	---	---
P1, P10	---	---	---	---	---	---	---	---	A	A	A	A	A	A	---	---
P2~P9	A	A	A	A	---	---	---	---	---	---	---	---	---	---	---	---

Note : “---“means the test could not be carrier out.

“A” means the EUT function was correct during the test.

TEST POINTS



4.2.1.2 Electrostatic Discharge Immunity Test Setup Photos

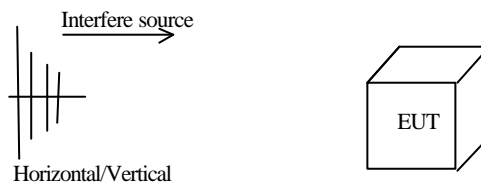
4.2.2 RF Radiated Fields Immunity Test

4.2.2.1 RF Radiated Fields Immunity Test Data

Operating Conditions of The EUT : Operation Mode

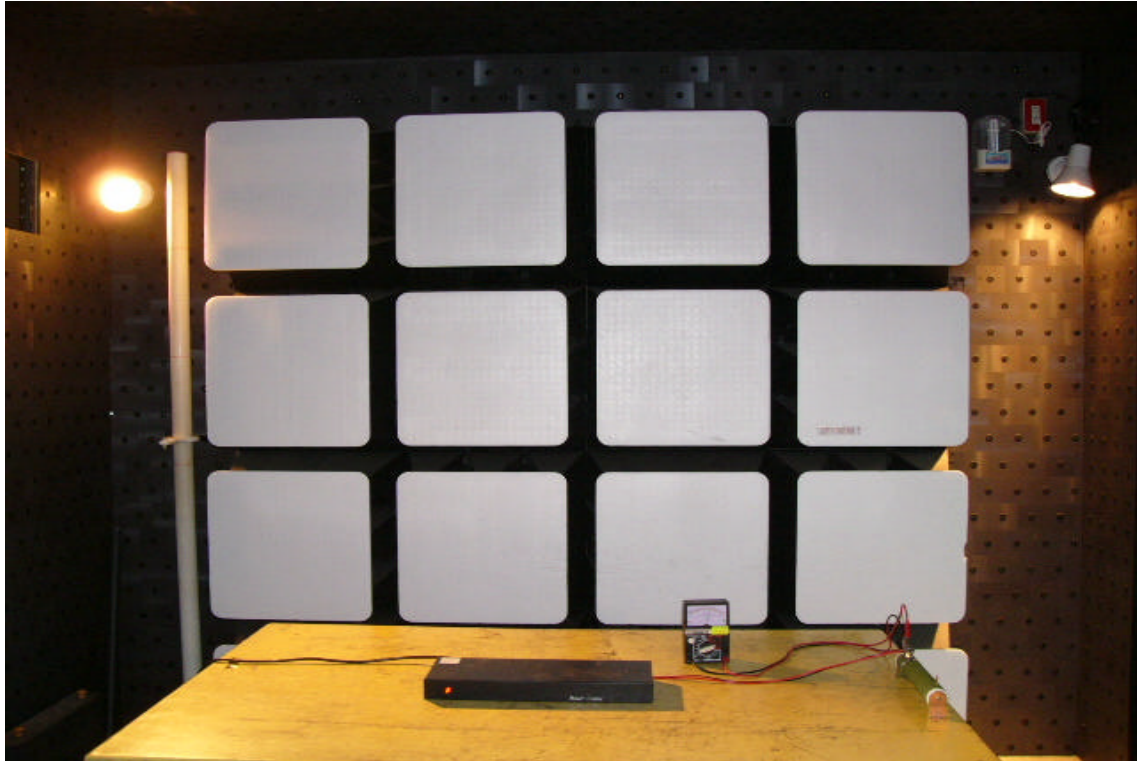
Test Date : Jul. 21, 2009

Test Specification	IEC 61000-4-3:2006/A1:2007			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
Antenna	AR	AT5080	N/A	N/A
signal Generator	Aglient	E4421B	2008/08/07	2009/08/06
Amplifier	Ophir	5172	N/A	N/A
Amplifier	Ophir	5127	N/A	N/A
POWER METER	Booton	4232A	2008/08/08	2009/08/07
Climatic Condition	Ambient Temperature: <u>28</u> °C		Relative Humidity: <u>51</u> %RH	
	Atmospheric Pressure : <u>990</u> mbar			
Power Supply System	AC Power : <u>230</u> Vac <u>50</u> Hz			
Test Set-up	Table-top Equipment			



Frequency Range: <u>80</u> MHz ~ <u>1000</u> MHz	Field Strength: <u>3</u> V/m	Modulation (AM 1KHz 80%)	
Sweep Rate : $\leq 1.5 \times 10^{-3}$ decades/s	Step Size : $\leq 1\%$ of preceding frequency value	Dwell time : 2.9 s	
Frequency Range (MHz)	Antenna-Polarization	Direction of Device	Test Result
80~1000	Horizontal	front	A
		rear	A
		left	A
		right	A
80~1000	Vertical	front	A
		rear	A
		left	A
		right	A

Note : “A” means the EUT function was correct during the test .

4.2.2.2 RF Radiated Fields Immunity Test Setup Photos

4.2.3 EFT/Burst Immunity Test

4.2.3.1 EFT/Burst Immunity Test Data

Operating Conditions of The EUT : Operation Mode

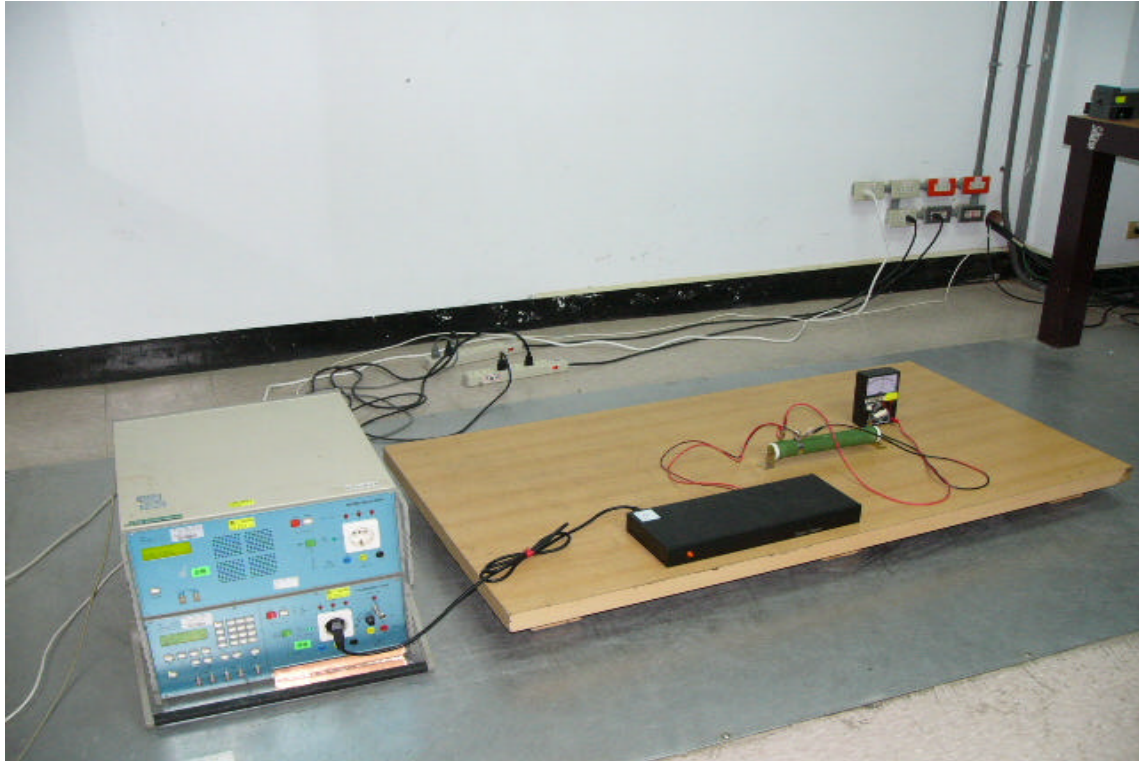
Test Date : Jul. 21, 2009

Test Specification	IEC 61000-4-4:2004			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
EMC Immunity Tester	EMC-PARTNER	TRANSIENT-1000	2009/02/23	2010/02/22
Climatic Condition	Ambient Temperature: <u>28</u> °C		Relative Humidity: <u>51</u> %RH	
	Atmospheric Pressure : <u>990</u> mbar			
Power Supply System	AC Power: <u>230</u> Vac <u>50</u> Hz			
Test Set-up	Table-top Equipment			

Pulse : 5 /50ns Burst : 15ms /300ms		Repetition Rate : <u>5kHz</u>		Test time : <u>1</u> min/each condition	
\Voltage\Polarity\ \Test Point\Mode\Result\		<u>1.0 kV</u>			
		+	-		
Power Line	L	A	A		
	N	A	A		
	L-N	A	A		
	PE	A	A		
	L-PE	A	A		
	N-PE	A	A		
	L-N-PE	A	A		

Note : "A" means the EUT function was correct during the test.

4.2.3.2 EFT/Burst Immunity Test Setup Photos



4.2.4 Surge Immunity Test

4.2.4.1 Surge Immunity Test Data

Operating Conditions of The EUT : Operation Mode

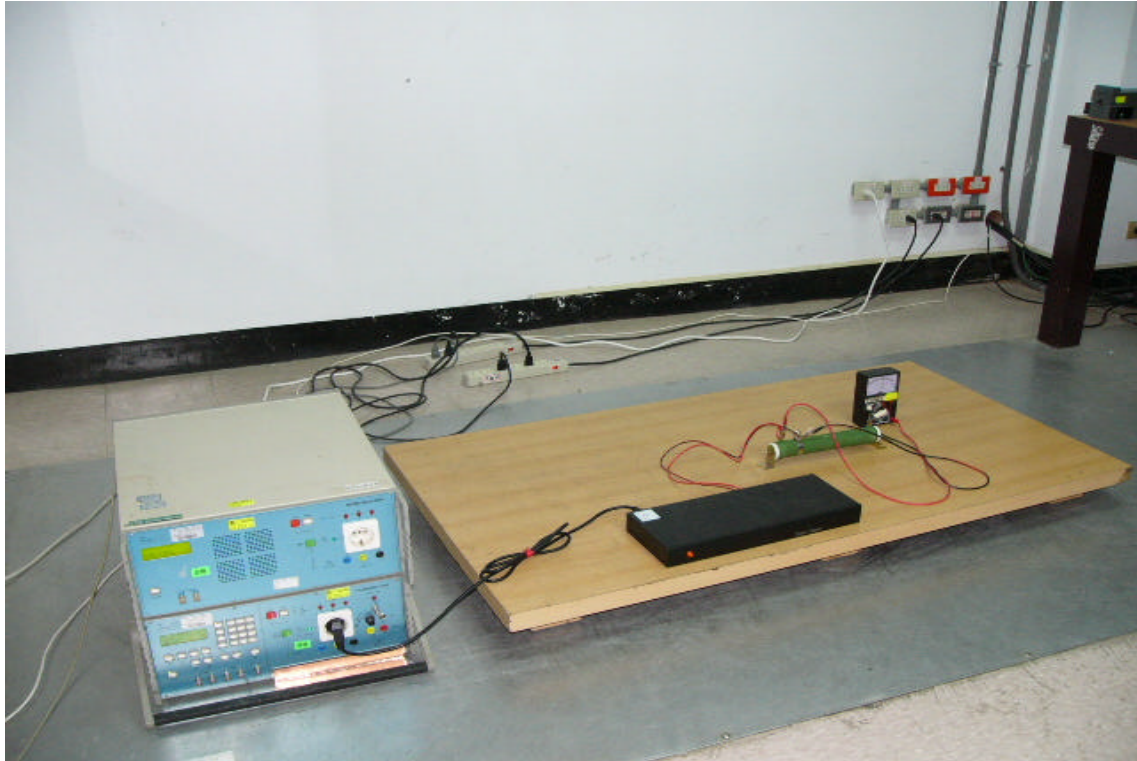
Test Date : Jul. 21, 2009

Test Specification	IEC 61000-4-5:2005			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
EMC Immunity Tester	EMC-PARTNER	TRANSIENT-1000	2009/02/23	2010/02/22
Climatic Condition	Ambient Temperature: <u>28</u> °C		Relative Humidity: <u>51</u> %RH	
	Atmospheric Pressure : <u>990</u> mbar			
Power Supply System	AC Power: <u>230</u> Vac <u>50</u> Hz			
Test Set-up	Table-top Equipment			

Waveform : 1.2/50µs(8/20µs)		Repetition rate : <u>60</u> sec		Times : <u>5</u> time/each condition		
\Voltage \Mode \Polarity \Result		\Phase	0°	90°	180°	270°
0.5kV	L – N	+	A	A	A	A
		–	A	A	A	A
1.0kV	L – N	+	A	A	A	A
		–	A	A	A	A
0.5kV	L – PE	+	A	A	A	A
		–	A	A	A	A
	N – PE	+	A	A	A	A
		–	A	A	A	A
1.0kV	L – PE	+	A	A	A	A
		–	A	A	A	A
	N – PE	+	A	A	A	A
		–	A	A	A	A
2.0kV	L – PE	+	A	A	A	A
		–	A	A	A	A
	N – PE	+	A	A	A	A
		–	A	A	A	A

Note : “A” means the EUT function was correct during the test.

4.2.4.2 Surge Immunity Test Setup Photos



4.2.5 RF Common Mode Immunity Test

4.2.5.1 RF Common Mode Immunity Test Data

Operating Conditions of The EUT : Operation Mode

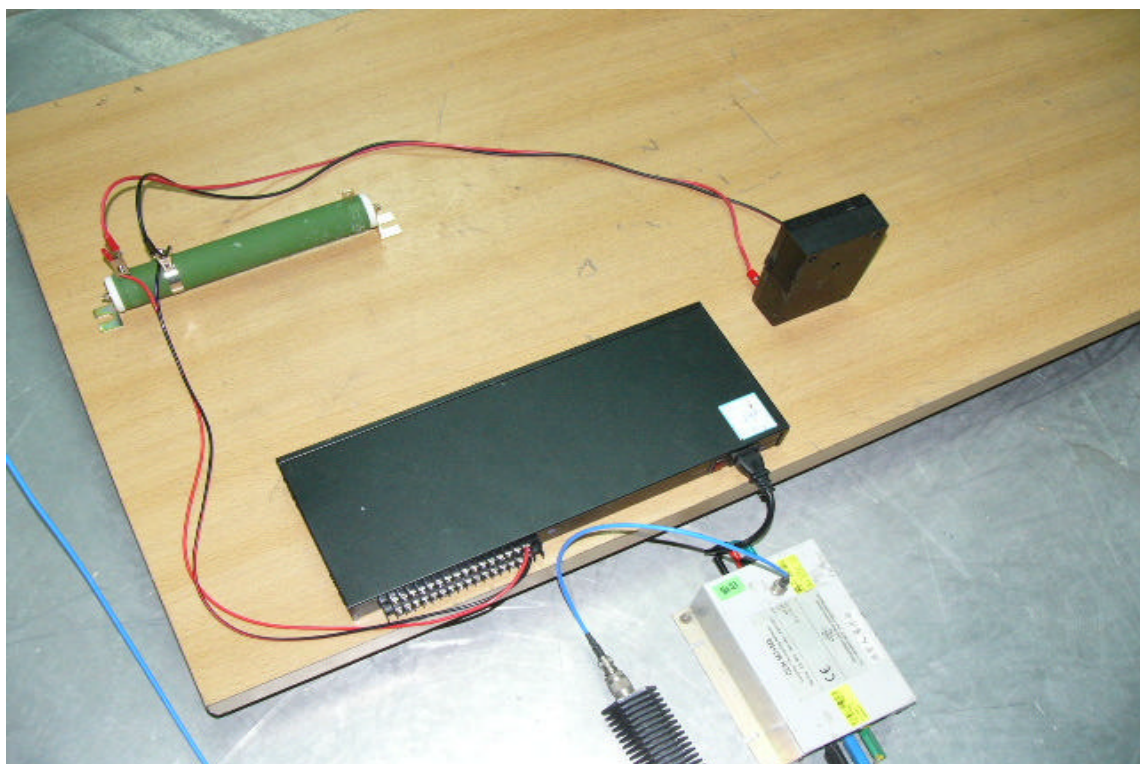
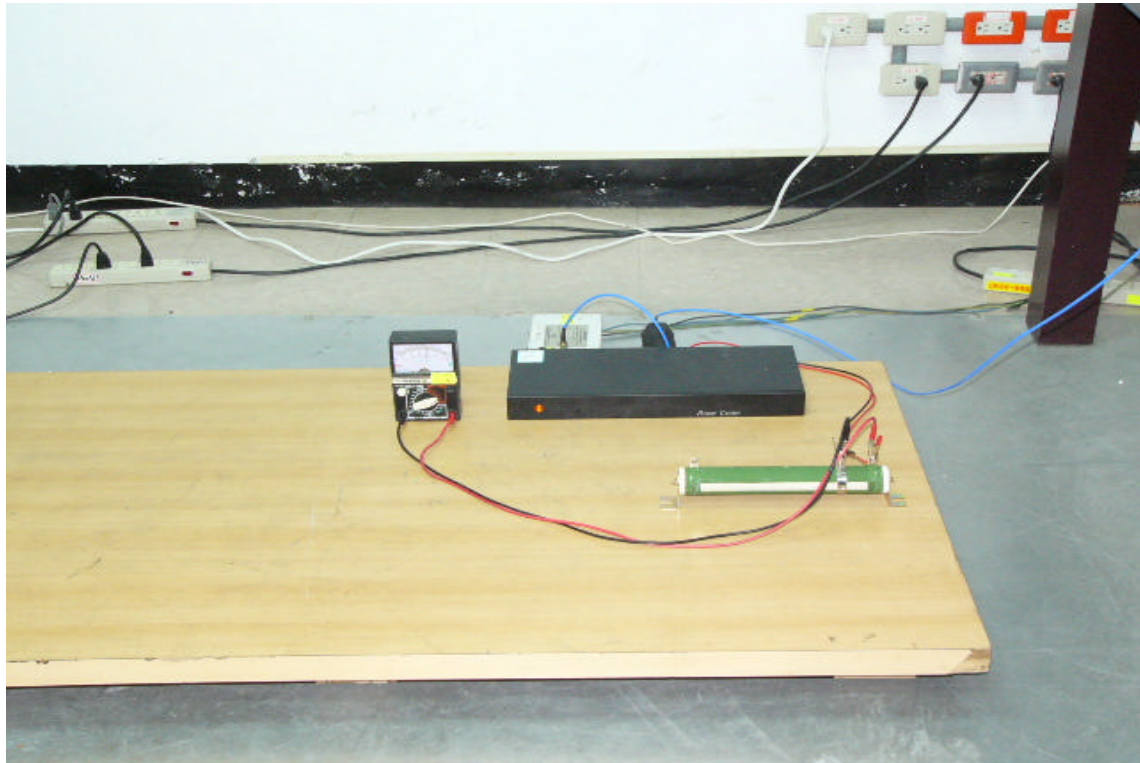
Test Date : Jul. 21, 2009

Test Specification	IEC 61000-4-6:2008			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
CS TESTER	FRANKONIA	CIT-10	2008/09/24	2009/09/23
M2+3 CDN-KIT	FRANKONIA	M2+3	2008/09/19	2009/09/18
SCHAFFUER	CS-CLAMP	KEMZ801	2008/09/19	2009/09/18
Climatic Condition	Ambient Temperature: <u>28</u> °C		Relative Humidity: <u>51</u> %RH	
Power Supply System	AC Power : <u>230</u> Vac <u>50</u> Hz			
Test Set-up	Table-top Equipment			

Frequency Range	: 0.15 MHz ~ 80 MHz	Test Level	: 3 Vms	Modulation (AM 1kHz 80%)
Sweep Rate	: $\leq 1.5 \times 10^{-3}$ decades/s	Step Size	: ≤ 1 % of preceding frequency value	
				Dwell Time : <u>2.9</u> s
Frequency Range (MHz)	Tested Line		Test Result	
0.15~80	M3		A	

Note : "A" means the EUT function was correct during the test.

4.2.5.2 RF Common Mode Immunity Test Setup Photos



4.2.6 Voltage Interruptions and Voltage Dips Immunity Test
4.2.6.1 Voltage Interruptions and Voltage Dips Immunity Test Data

 Operating Conditions of The EUT : Operation Mode

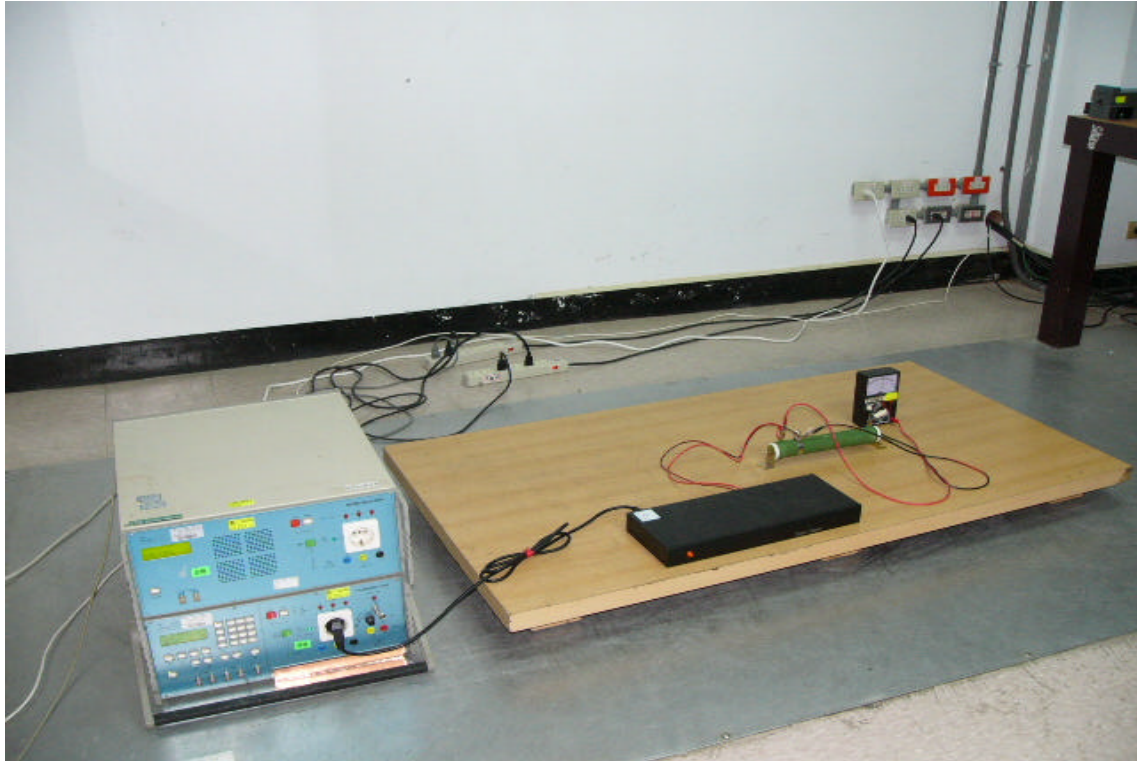
Test Date : Jul. 21, 2009

Test Specification	IEC 61000-4-11:2004			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
EMC Immunity Tester	EMC-PARTNER	TRANSIENT-1000	2009/02/23	2010/02/22
Climatic Condition	Ambient Temperature: <u>28</u> °C		Relative Humidity: <u>51</u> %RH	
Power Supply System	AC Power: <u>230</u> Vac <u>50</u> Hz			
Test Set-up	Table-top Equipment			

Test mode	Voltage dips	Durations (periods)	Interval(s)	Times	Phase	Result
Voltage interruptions	>95%	250	10	3	0°/180°	A
Voltage dips in %U _T	60%	0.5	10	3	0°/180°	A
	30%	25	10	3	0°/180°	A

 Note : “A” means the EUT function was correct during the test.

4.2.6.2 Voltage Interruptions and Voltage Dips Immunity Test Setup Photos



CONSTRUCTED PHOTOS of EUT

1. Top View of EUT



2. Bottom View of EUT



CONSTRUCTED PHOTOS of EUT

3. Front View of EUT



4. Rear View of EUT



CONSTRUCTED PHOTOS of EUT

5. Side View of EUT



6. Side View of EUT



CONSTRUCTED PHOTOS of EUT

7. Internal View of EUT

