Certificate of Conformity

The products

EUT : Video distributor
Trade Name : SC&T
Model No. : CD104

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 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

Signature
Will Yauo
Manager of EMC Testing Department II
Electronics Testing Center, Taiwan

Report Number : 10-04-RBF-116
Date of Issue: Apr. 30, 2010

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

EMC

TEST REPORT

Responsible Party	: ***SMART CABLING & TRANSMISSION CORP.***
Manufacturer	: ***SMART CABLING&TRANSMISSION CORP.***
Description of Product	: ***Video distributor***
Trade Name	: ***SC&T***
Model No.	: ***CD104***
Test Report File No.	: ***10-04-RBF-116***
Date Test Item Received	: ***Apr. 19, 2010***
Date Test Campaign Completed	: ***Apr. 27, 2010***
Date of Issue	: ***Apr. 303. 2010***

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

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

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	:	Video distributor
Trade name	:	SC&T
Model No.	:	CD104
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 : _____
(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:

❶ ISO9002 : BSMI, TüV Product Service
❷ ISO/IEC 17025 : BSMI, CNLA, DGT, NVLAP, CCIBLAC, UL, Compliance
❸ EN45001 : TüV Rheinland, NEMKO, FIMKO, SGS
❹ Filing : FCC, Industry Canada, VCCI
❺ MRA : Australia, Hong Kong, New Zealand, Singapore, USA, Japan, Korea, China, APLAC through CNLA

2 GENERAL INFORMATIONS

2.1 Description of EUT

Video Input Channel: 1
Video Output Channel 4
Video Input Level: 0.8-1.2Vp-p, 75 Ohms
Video Output Level: 1Vp-p(Standard), 75 Ohms
Video Bandwidth: 10hz-10MHz

2.2 Related Information of EUT

Size of EUT	:	139mm z 85mm x 28mm							
Power Supply	:								
Adaptor 1	:	Adaptor: I/P: 100-240Vac 50/60Hz 0.2A; O/P: 12Vdc 0.5A							
Adaptor 2	:	Adaptor: I/P: 230Vac 50Hz ; O/P: 24Vdc 500mA							
Power Line	:	[X]	Nonshielded	[ ]	Shielded	[ ]	None,	Length:	1.5 m
Coaxial Cable	:	[ ]	Nonshielded	[X]	Shielded	[ ]	None,	Length:	2.0 m
HDMI Line	:	[ ]	Nonshielded	[ ]	Shielded	[X]	None,	Length:	m
D-Suib Line	:	[ ]	Nonshielded	[ ]	Shielded	[X]	None,	Length:	m
RS232 Line	:	[ ]	Nonshielded	[ ]	Shielded	[X]	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	Manufacture	Model	Description
Video distributor*	SMART CABLING & TRANSMISSION CORP.	CD104	1.5m Unshielded AC Adaptor Power Cord 2.0m Shielded Coaxial Cable*5
TV	KOLIN	KLT-230	1.5m Unshielded AC Power Cord
DVD Player	SONY	BDP-S350	1.6m Unshielded AC Power Cord
DVD Player	Pioneer	DV-410V	1.6m Unshielded AC Power Cord
TV	SONY	KDL-20S4000	1.6m Unshielded AC Power Cord

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

Mode: Adaptor 1(DC 12V)

[X] – PASS (Operation Mode -Neutral)

Minimum EMI Margin to the limit: -20.5 dB at 0.416 MHz

[X] – PASS (Operation Mode -Line)

Minimum EMI Margin to the limit: -17.1 dB at 0.416 MHz

Mode: Adaptor 1(DC 24V)

[X] – PASS (Operation Mode -Neutral)

Minimum EMI Margin to the limit: -28.1 dB at 0.224 MHz

[X] – PASS (Operation Mode -Line)

Minimum EMI Margin to the limit: -29.1 dB at 0.150 MHz

3.1.2 Radiated Emissions

Mode: Adaptor 1(DC 12V)

[X] – PASS (Operation Mode-HOR.)

Minimum EMI Margin to the limit: -13.6 dB at 193.140 MHz

[X] – PASS (Operation Mode-VER.)

Minimum EMI Margin to the limit: -12.0 dB at 158.450 MHz

Mode: Adaptor 1(DC 24V)

[X] – PASS (Operation Mode-HOR.)

Minimum EMI Margin to the limit: -10.0 dB at 713.000 MHz

[X] – PASS (Operation Mode-VER.)

Minimum EMI Margin to the limit: -6.7 dB at 713.000 MHz

3.1.3 Harmonics Current Emissions

[X] –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

[X] –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(Mode: Adaptor 1/Adaptor 2)

Requirement :Criterion B (or better)

[X]	- No Degradation of Function	- Satisfies Criterion A
[ ]	- Distortion of Function	- Satisfies Criterion B
[ ]	- Error of Function	- Satisfies Criterion C

3.2.3 RF Radiated Fields Immunity(Mode: Adaptor 1/Adaptor 2)

Requirement :Criterion A

[X]	- No Degradation of Function	- Satisfies Criterion A
[ ]	- Distortion of Function	- Satisfies Criterion B
[ ]	- Error of Function	- Satisfies Criterion C

3.2.4 EFT/Burst Immunity(Mode: Adaptor 1/Adaptor 2)

Requirement :Criterion B(or better)

[X]	- No Degradation of Function	- Satisfies Criterion A
[ ]	- Distortion of Function	- Satisfies Criterion B
[ ]	- Error of Function	- Satisfies Criterion C

3.2.5 Surge Immunity(Mode: Adaptor 1/Adaptor 2)

Requirement :Criterion B (or better)

[X]	- No Degradation of Function	- Satisfies Criterion A
[ ]	- Distortion of Function	- Satisfies Criterion B
[ ]	- Error of Function	- Satisfies Criterion C

3.2.6 RF Common Mode Immunity(Mode: Adaptor 1/Adaptor 2)

Requirement :Criterion A

[X]	- No Degradation of Function	- Satisfies Criterion A
[ ]	- Distortion of Function	- Satisfies Criterion B
[ ]	- Error of Function	- Satisfies Criterion C

3.2.7 Voltage Interruptions and Voltage Dips Immunity(Mode: Adaptor 1/Adaptor 2)

Requirement :Criterion C (or better)

[ ]	- No Degradation of Function	- Satisfies Criterion A
[X]	- Distortion of Function	- Satisfies Criterion B
[ ]	- 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

Adaptor 1(DC 12V) Test Date : Apr. 22, 2010

Test Specification	EN 55022:2006 (Class B)			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
EMI Test Receiver	Rohde & Schwarz	ESCI	2010/02/03	2011/02/02
LISN	EMCO	3625/2	2010/02/08	2011/02/07
LISN	Rohde & Schwarz	ESH2-Z5	2009/07/16	2010/07/15
Climatic Condition	Ambient Temperature: 25 °C		Relative Humidity: 58 %RH	
Power Supply System	AC Power : 230 Vac 50 Hz			
Test Set-up	Table-top Equipment			

Test data see the next pages.

Mode: Operation Mode Neutral

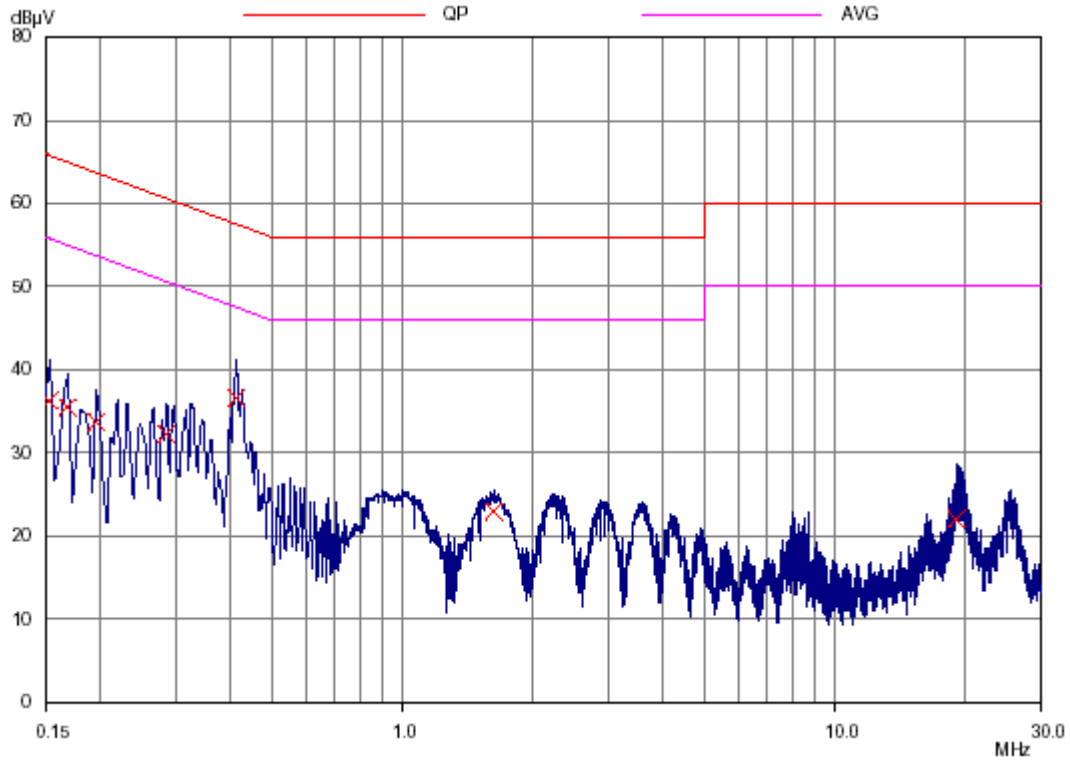
Frequency (MHz)	Meter Reading (dBμV)		Factor (dB)	Result (dBμV)		Limit (dBμV)		Margin (dBμV)	
	Q.P	AVG		Q.P	AVG	Q.P	AVG	Q.P	AVG
0.154	36.3	----	0.4	36.7	----	65.8	55.8	-29.1	----
0.170	35.4	----	0.4	35.8	----	65.0	55.0	-29.2	----
0.197	33.7	----	0.4	34.1	----	63.7	53.7	-29.6	----
0.287	32.2	----	0.4	32.6	----	60.6	50.6	-28.0	----
0.416	36.6	----	0.4	37.0	----	57.5	47.5	-20.5	----
1.642	22.9	----	0.4	23.3	----	56.0	46.0	-32.7	----

Mode: Operation Mode Line

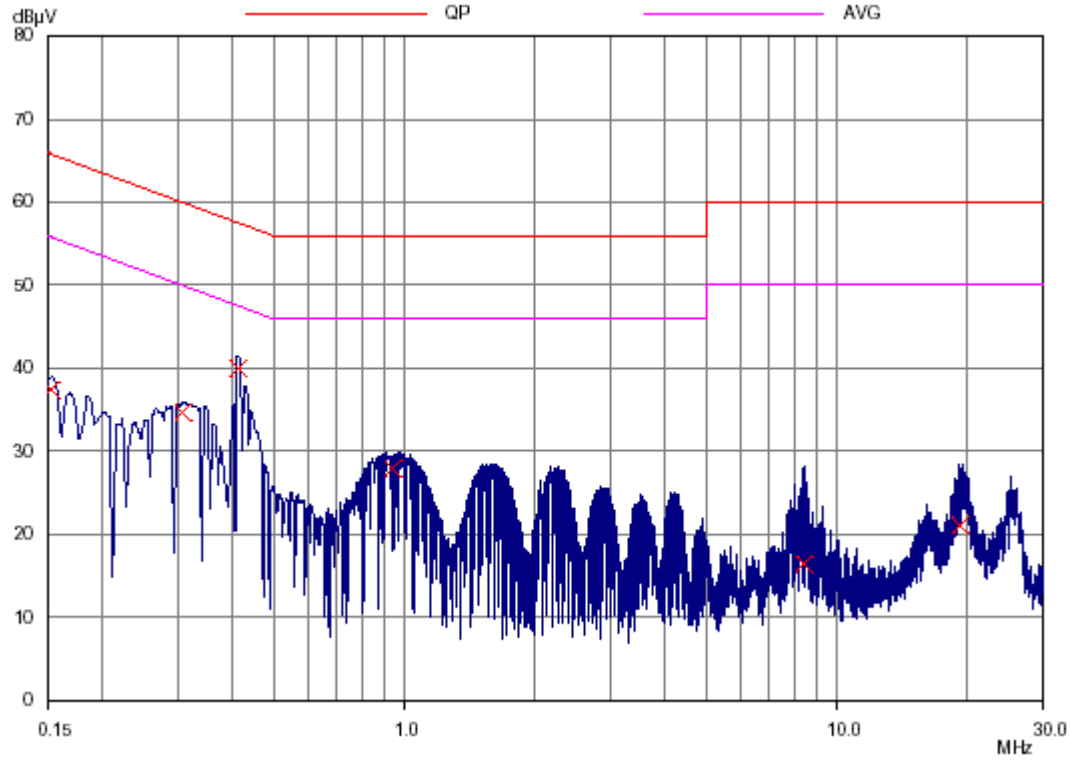
Frequency (MHz)	Meter Reading (dBμV)		Factor (dB)	Result (dBμV)		Limit (dBμV)		Margin (dBμV)	
	Q.P	AVG		Q.P	AVG	Q.P	AVG	Q.P	AVG
0.154	37.4	----	0.3	37.7	----	65.8	55.8	-28.1	----
0.310	34.6	----	0.3	34.9	----	60.0	50.0	-25.1	----
0.416	40.0	----	0.4	40.4	----	57.5	47.5	-17.1	----
0.951	27.9	----	0.4	28.3	----	56.0	46.0	-27.7	----
8.461	16.4	----	0.7	17.1	----	60.0	50.0	-42.9	----
19.359	21.1	----	1.2	22.3	----	60.0	50.0	-37.7	----

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



Operating Conditions of The EUT : Operation Mode

Adaptor 2(DC 24V) Test Date : Apr. 27, 2010

Test Specification	EN 55022:2006 (Class B)			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
EMI Test Receiver	Rohde & Schwarz	ESCI	2010/02/03	2011/02/02
LISN	EMCO	3625/2	2010/02/08	2011/02/07
LISN	Rohde & Schwarz	ESH2-Z5	2009/07/16	2010/07/15
Climatic Condition	Ambient Temperature: 24 °C		Relative Humidity: 58 %RH	
Power Supply System	AC Power : 230 Vac 50 Hz			
Test Set-up	Table-top Equipment			

Test data see the next pages.

Mode: Operation Mode Neutral

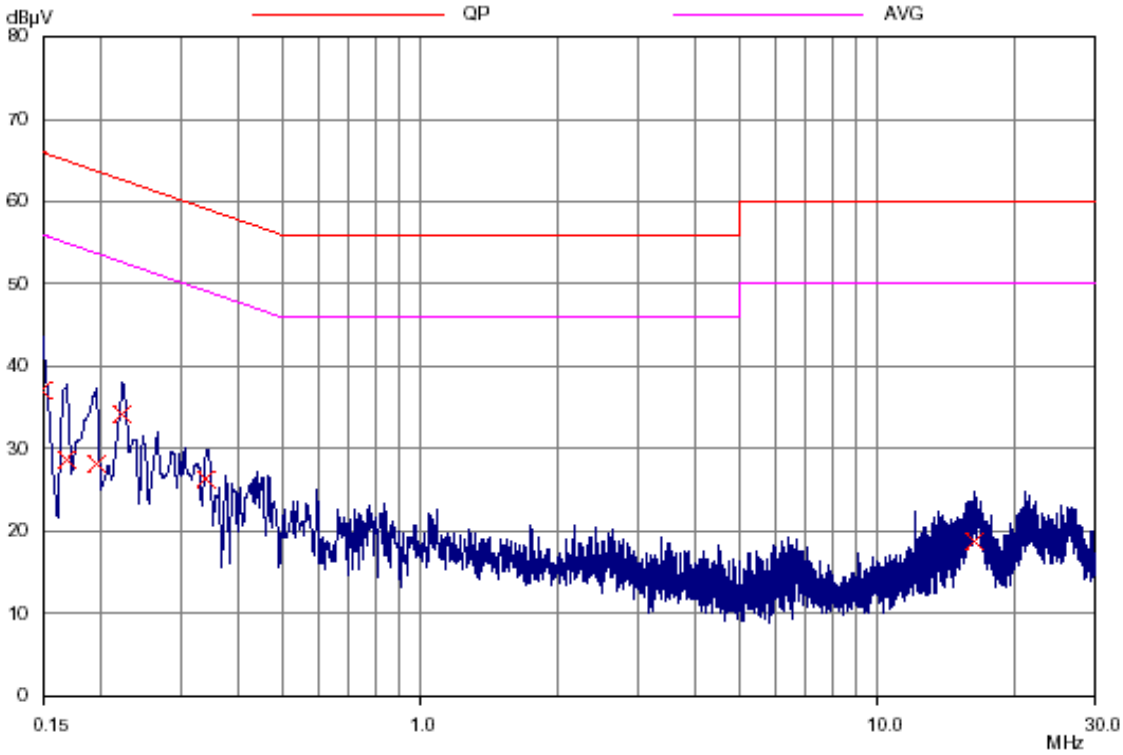
Frequency (MHz)	Meter Reading (dBμV)		Factor (dB)	Result (dBμV)		Limit (dBμV)		Margin (dBμV)	
	Q.P	AVG		Q.P	AVG	Q.P	AVG	Q.P	AVG
0.150	37.0	----	0.4	37.4	----	66.0	56.0	-28.6	----
0.170	28.6	----	0.4	29.0	----	65.0	55.0	-36.0	----
0.197	28.1	----	0.4	28.5	----	63.7	53.7	-35.2	----
0.224	34.2	----	0.4	34.6	----	62.7	52.7	-28.1	----
0.341	26.3	----	0.4	26.7	----	59.2	49.2	-32.5	----
16.438	18.7	----	1.0	19.7	----	60.0	50.0	-40.3	----

Mode: Operation Mode Line

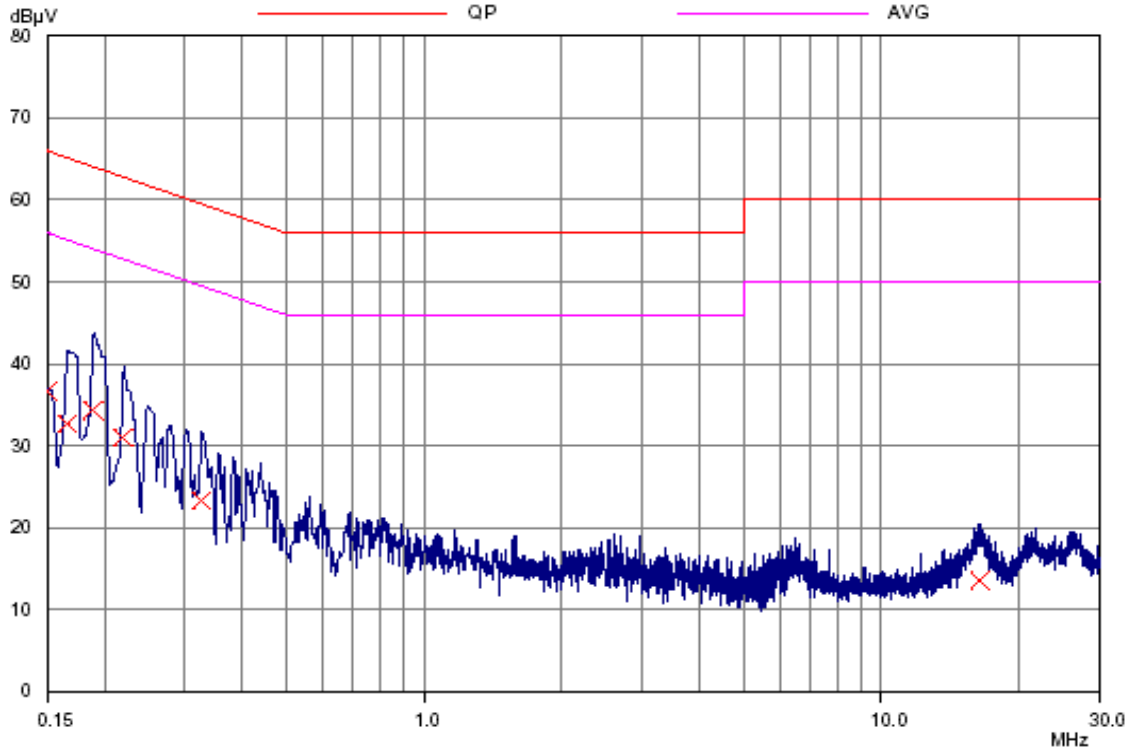
Frequency (MHz)	Meter Reading (dBμV)		Factor (dB)	Result (dBμV)		Limit (dBμV)		Margin (dBμV)	
	Q.P	AVG		Q.P	AVG	Q.P	AVG	Q.P	AVG
0.150	36.6	----	0.3	36.9	----	66.0	56.0	-29.1	----
0.166	32.7	----	0.3	33.0	----	65.2	55.2	-32.2	----
0.189	34.3	----	0.3	34.6	----	64.1	54.1	-29.5	----
0.220	31.0	----	0.3	31.3	----	62.8	52.8	-31.5	----
0.326	23.3	----	0.3	23.6	----	59.6	49.6	-36.0	----
16.445	13.5	----	1.1	14.6	----	60.0	50.0	-45.4	----

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



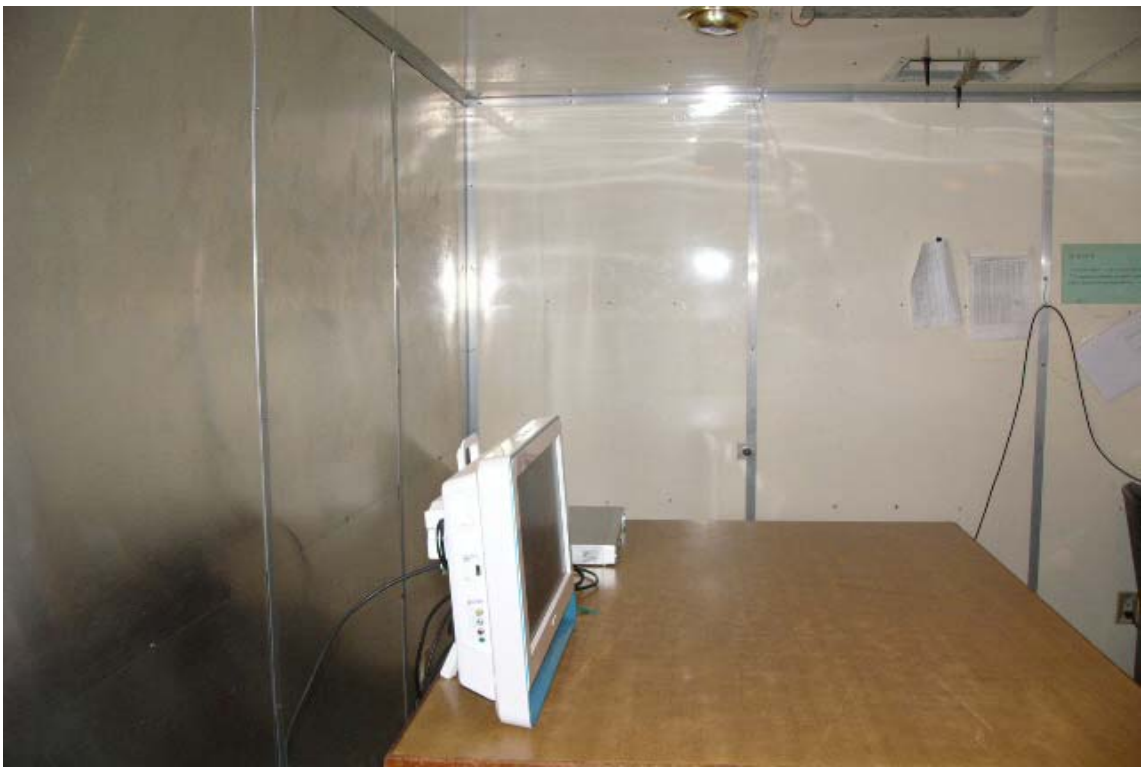
Mode: Operation Mode Line



4.1.1.2 Conducted Emissions Test Setup Photos

Adaptor 1(DC 12V)

Adaptor 2(DC 24V)



4.1.2 Radiated Emissions Test

4.1.2.1 Radiated Emissions Test Data

Operating Conditions of The EUT : Operation Mode

Adaptor 1(DC 12V) Test Date : Apr. 22, 2010

Test Specification	EN 55022:2006 (Class B)			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
Test Receiver	Rohde & Schwarz	ESCI	2010/02/03	2011/02/02
Amplifier	HP	8447D	2009/05/07	2010/05/06
Spectrum	Advantest	R3162	2010/02/03	2011/02/02
Bi-Log Antenna	Schaffner	CBL 6111	2009/05/06	2010/05/05
Climatic Condition	Ambient Temperature: 27 °C		Relative Humidity: 59 %RH	
Power Supply System	AC Power : 230 Vac 50 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.**		
35.960	-10.4	16.7	6.3	30.0	-23.7
101.000	-1.0	11.7	10.7	30.0	-19.3
125.120	-5.5	14.1	8.6	30.0	-21.4
159.540	0.9	13.0	13.9	30.0	-16.1
193.140	4.6	11.8	16.4	30.0	-13.6
500.000	----	23.0	----	37.0	----
800.000	----	29.0	----	37.0	----

Mode : Operation Mode -VER

Emission **Frequency** (MHz)	**Meter Reading** (dBuV)	CORR'd **Factor** (dB)	**Results** (dBuV/m)	**Limit** (dBuV/m)	**Margins** (dB)
	VER.		**VER.**		
75.260	-0.3	9.1	8.8	30.0	-21.2
118.350	-0.4	14.1	13.7	30.0	-16.3
126.210	2.0	14.1	16.1	30.0	-13.9
158.450	5.0	13.0	18.0	30.0	-12.0
194.230	3.6	11.9	15.5	30.0	-14.5
500.000	----	23.0	----	37.0	----
800.000	----	29.0	----	37.0	----

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.

Operating Conditions of The EUT : Operation Mode

Adaptor 2(DC 24V) Test Date : Apr. 27, 2010

Test Specification	EN 55022:2006 (Class B)			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
Test Receiver	Rohde & Schwarz	ESCI	2010/02/03	2011/02/02
Amplifier	HP	8447D	2009/05/07	2010/05/06
Spectrum	Advantest	R3162	2010/02/03	2011/02/02
Bi-Log Antenna	Schaffner	CBL 6111	2009/05/06	2010/05/05
Climatic Condition	Ambient Temperature: 25 °C		Relative Humidity: 61 %RH	
Power Supply System	AC Power : 230 Vac 50 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.**		
40.300	-4.4	14.0	9.6	30.0	-20.4
221.330	4.1	12.7	16.8	30.0	-13.2
368.600	4.5	19.1	23.6	37.0	-13.4
565.300	0.3	24.9	25.2	37.0	-11.8
615.000	1.3	25.6	26.9	37.0	-10.1
713.000	-0.4	27.4	27.0	37.0	-10.0

Mode : Operation Mode -VER

Emission **Frequency** (MHz)	**Meter Reading** (dBuV)	CORR'd **Factor** (dB)	**Results** (dBuV/m)	**Limit** (dBuV/m)	**Margins** (dB)
	VER.		**VER.**		
40.300	6.4	14.0	20.4	30.0	-9.6
92.870	7.9	11.2	19.1	30.0	-10.9
122.950	2.7	14.1	16.8	30.0	-13.2
466.600	1.1	22.2	23.3	37.0	-13.7
615.000	2.6	25.6	28.2	37.0	-8.8
713.000	2.9	27.4	30.3	37.0	-6.7

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

Adaptor 1(DC 12V)

Adaptor 2(DC 24V)

4.1.3 Harmonics Current Emissions Test

4.1.3.1 Harmonics Current Emissions Test Data

Operating Conditions of The EUT : Operation Mode

Adaptor 1(DC 12V) Test Date : Apr. 22, 2010

Test Specification	EN 61000-3-2:2006			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
Hormonics-1000	EMC-Partner	Hormonics-1000	2009/12/09	2010/12/08
Climatic Condition	Ambient Temperature: 25 °C		Relative Humidity: 50 %RH	
Power Supply System	AC Power : 230 Vac 50 Hz			
Test Set-up	Table-top Equipment			

Test data see the next pages.

Urms = 229.9V Freq = 50 Range: 0.25 A
Irms = 0.015A Ipk = 0.090A cf = 6.185
P = 1.577W S = 3.340VA pf = 0.472
THDi = 89.50% 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	0.0068	0.0069		21	1050	0	0.003	0.1071
2	100	0	0.0006	1.08	22	1100	0	0.0004	0.0836
3	150	0	0.0045	2.3	23	1150	0	0.0028	0.0978
4	200	0	0.0006	0.43	24	1200	0	0.0004	0.0767
5	250	0	0.0044	1.14	25	1250	0	0.0025	0.09
6	300	0	0.0006	0.3	26	1300	0	0.0004	0.0708
7	350	0	0.0043	0.77	27	1350	0	0.0023	0.0833
8	400	0	0.0006	0.23	28	1400	0	0.0004	0.0657
9	450	0	0.0042	0.4	29	1450	0	0.002	0.0776
10	500	0	0.0006	0.184	30	1500	0	0.0003	0.0613
11	550	0	0.0041	0.33	31	1550	0	0.0018	0.0726
12	600	0	0.0006	0.1533	32	1600	0	0.0003	0.0575
13	650	0	0.0039	0.21	33	1650	0	0.0015	0.0682
14	700	0	0.0006	0.1314	34	1700	0	0.0003	0.0541
15	750	0	0.0037	0.15	35	1750	0	0.0013	0.0643
16	800	0	0.0005	0.115	36	1800	0	0.0003	0.0511
17	850	0	0.0035	0.1324	37	1850	0	0.0011	0.0608
18	900	0	0.0005	0.1022	38	1900	0	0.0003	0.0484
19	950	0	0.0033	0.1184	39	1950	0	0.0009	0.0577
20	1000	0	0.0005	0.092	40	2000	0	0.0003	0.046

Operating Conditions of The EUT : Operation Mode

Adaptor 2(DC 24V) Test Date : Apr. 27, 2010

Test Specification	EN 61000-3-2:2006			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
Hormonics-1000	EMC-Partner	Hormonics-1000	2009/12/09	2010/12/08
Climatic Condition	Ambient Temperature: 24 °C		Relative Humidity: 51 %RH	
Power Supply System	AC Power : 230 Vac 50 Hz			
Test Set-up	Table-top Equipment			

Test data see the next pages.

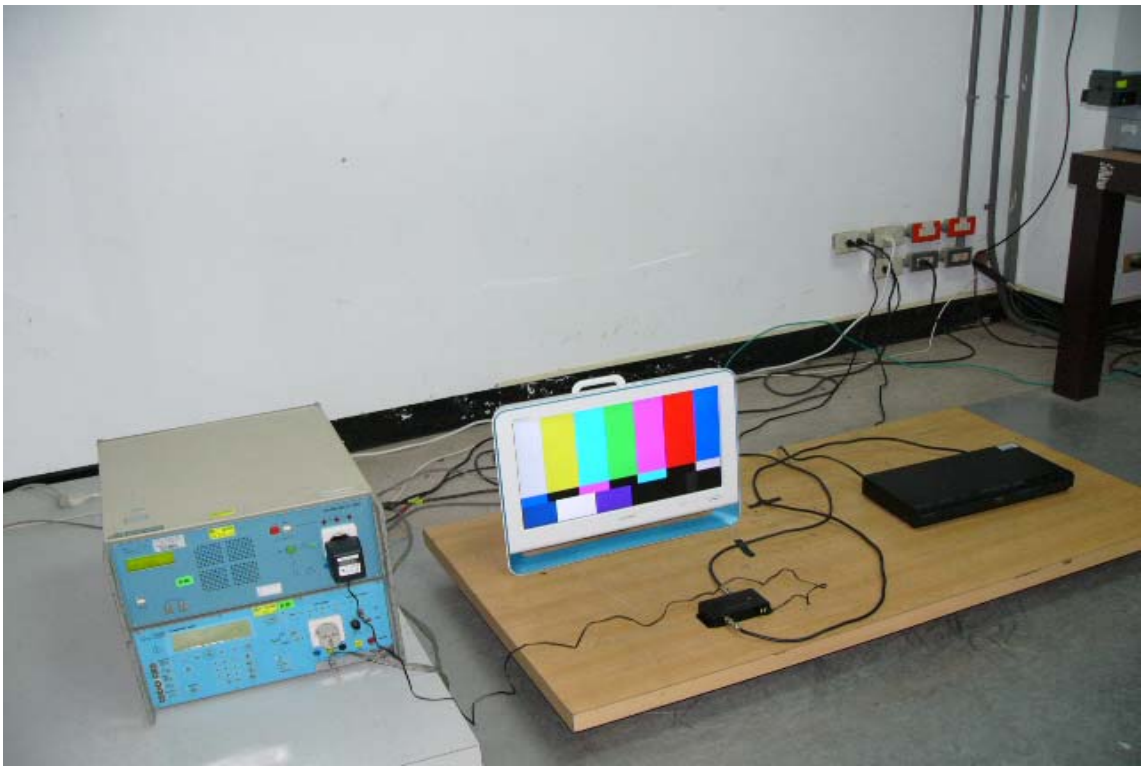
Urms = 229.9V Freq = 49.987 Range: 0.25 A
Irms = 0.061A Ipk = 0.153A cf = 2.503
P = 5.025W S = 14.06VA pf = 0.357
THDi = 48.10% THDu = 0.10% Class A
Test - Time :3min -100%
Test completed, Result: PASSED

Order	Freq. [Hz]	Iavg [A]	Imax [A]	Limit [A]	Order	Freq. [Hz]	Iavg [A]	Imax [A]	Limit [A]
1	50	0.0535	0.0537		21	1050	0	0	0.1071
2	100	0.0142	0.0142	1.08	22	1100	0	0	0.0836
3	150	0.0241	0.0241	2.3	23	1150	0	0	0.0978
4	200	0	0.0035	0.43	24	1200	0	0	0.0767
5	250	0.0075	0.0075	1.14	25	1250	0	0	0.09
6	300	0	0.0014	0.3	26	1300	0	0	0.0708
7	350	0	0.0029	0.77	27	1350	0	0	0.0833
8	400	0	0.0008	0.23	28	1400	0	0	0.0657
9	450	0	0.0018	0.4	29	1450	0	0	0.0776
10	500	0	0.0002	0.184	30	1500	0	0	0.0613
11	550	0	0.0004	0.33	31	1550	0	0	0.0726
12	600	0	0	0.1533	32	1600	0	0	0.0575
13	650	0	0.0002	0.21	33	1650	0	0	0.0682
14	700	0	0.0001	0.1314	34	1700	0	0	0.0541
15	750	0	0.0002	0.15	35	1750	0	0	0.0643
16	800	0	0.0001	0.115	36	1800	0	0	0.0511
17	850	0	0.0001	0.1324	37	1850	0	0	0.0608
18	900	0	0.0001	0.1022	38	1900	0	0	0.0484
19	950	0	0	0.1184	39	1950	0	0	0.0577
20	1000	0	0	0.092	40	2000	0	0	0.046

4.1.3.2 Harmonics Current Emissions Test Setup Photos

Adaptor 1(DC 12V)

Adaptor 2(DC 24V)



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

Adaptor 1(DC 12V) Test Date : Apr. 22, 2010

Test Specification	EN 61000-3-3:1995/A1:2001/A2:2005			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
Hormonics-1000	EMC-Partner	Hormonics-1000	2009/12/09	2010/12/08
Climatic Condition	Ambient Temperature: 25 °C		Relative Humidity: 50 %RH	
Power Supply System	AC Power : 230 Vac 50 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	0.00 ms	500 ms	Pass
dmax	0.00 %	4.0 %	Pass
dc	0.00 %	3.3 %	Pass

Operating Conditions of The EUT : Operation Mode

Adaptor 2(DC 24V) Test Date : Apr. 27, 2010

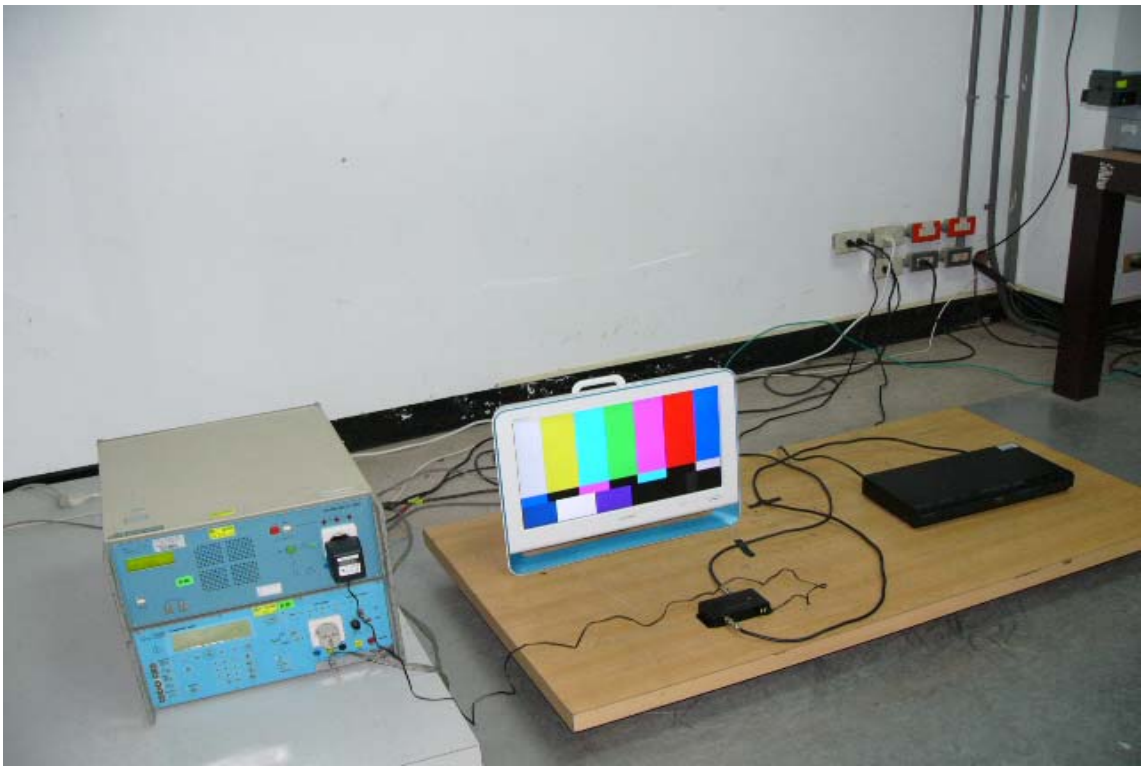
Test Specification	EN 61000-3-3:1995/A1:2001/A2:2005			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
Hormonics-1000	EMC-Partner	Hormonics-1000	2009/12/09	2010/12/08
Climatic Condition	Ambient Temperature: 24 °C		Relative Humidity: 51 %RH	
Power Supply System	AC Power : 230 Vac 50 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	0.00 ms	500 ms	Pass
dmax	0.00 %	4.0 %	Pass
dc	0.00 %	3.3 %	Pass

4.1.4.2 Voltage Fluctuations and Flicker Test Setup Photos

Adaptor 1(DC 12V)

Adaptor 2(DC 24V)



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

Adaptor 1(DC 12V) Test Date : Apr. 22, 2010

Test Specification	IEC 61000-4-2:2008			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
MiniZAP ESD Siniulator	Thermo	MZ-15	2009/07/27	2011/07/25
Climatic Condition	Ambient Temperature: 25 °C		Relative Humidity: 50 %RH	
	Atmospheric Pressure : 990 mbar			
Power Supply System	AC Power : 230 Vac 50 Hz			
Test Set-up	Table-top Equipment			

Energy-Storage Capacitor : 150 pF	Contact Discharge Times : 25 times/each condition
Discharge Resistor : 330 Ω	Air Discharge Times : 10 times/each condition

\ Discharge Mode	Contact Discharge								Air Discharge							
\ESD Voltage	2 kV		4 kV		___ kV		___ kV		2 kV		4 kV		8 kV		___ kV	
\Points\Result\Polarity	+	−	+	−	+	−	+	−	+	−	+	−	+	−	+	−
VCP	A	A	A	A	---	---	---	---	---	---	---	---	---	---	---	---
HCP	A	A	A	A	---	---	---	---	---	---	---	---	---	---	---	---
P_1, P_{10}	A	A	A	A	---	---	---	---	---	---	---	---	---	---	---	---
P_2~P_9	---	---	---	---	---	---	---	---	A	A	A	A	A	A	---	---

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

" A " means the EUT's function was correct normal performance during the test.

Operating Conditions of The EUT : Operation Mode

Adaptor 2(DC 24V) Test Date : Apr. 27, 2010

Test Specification	IEC 61000-4-2:2008			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
MiniZAP ESD Siniulator	Thermo	MZ-15	2009/07/27	2011/07/25
Climatic Condition	Ambient Temperature: 24 °C Relative Humidity: 51 %RH			
	Atmospheric Pressure : 990 mbar			
Power Supply System	AC Power : 230 Vac 50 Hz			
Test Set-up	Table-top Equipment			

Energy-Storage Capacitor : 150 pF	Contact Discharge Times : 25 times/each condition
Discharge Resistor : 330 Ω	Air Discharge Times : 10 times/each condition

\ Discharge Mode	**Contact Discharge**								**Air Discharge**							
\ESD Voltage	**2 kV**		**4 kV**		**___ kV**		**___ kV**		**2 kV**		**4 kV**		**8 kV**		**___ kV**	
\Points\Result\Polarity	+	−	+	−	+	−	+	−	+	−	+	−	+	−	+	−
VCP	A	A	A	A	---	---	---	---	---	---	---	---	---	---	---	---
HCP	A	A	A	A	---	---	---	---	---	---	---	---	---	---	---	---
P_1, P_9~P_{10}	A	A	A	A	---	---	---	---	---	---	---	---	---	---	---	---
P_2~P_8	---	---	---	---	---	---	---	---	A	A	A	A	A	A	---	---

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

" A " means the EUT's function was correct normal performance during the test.

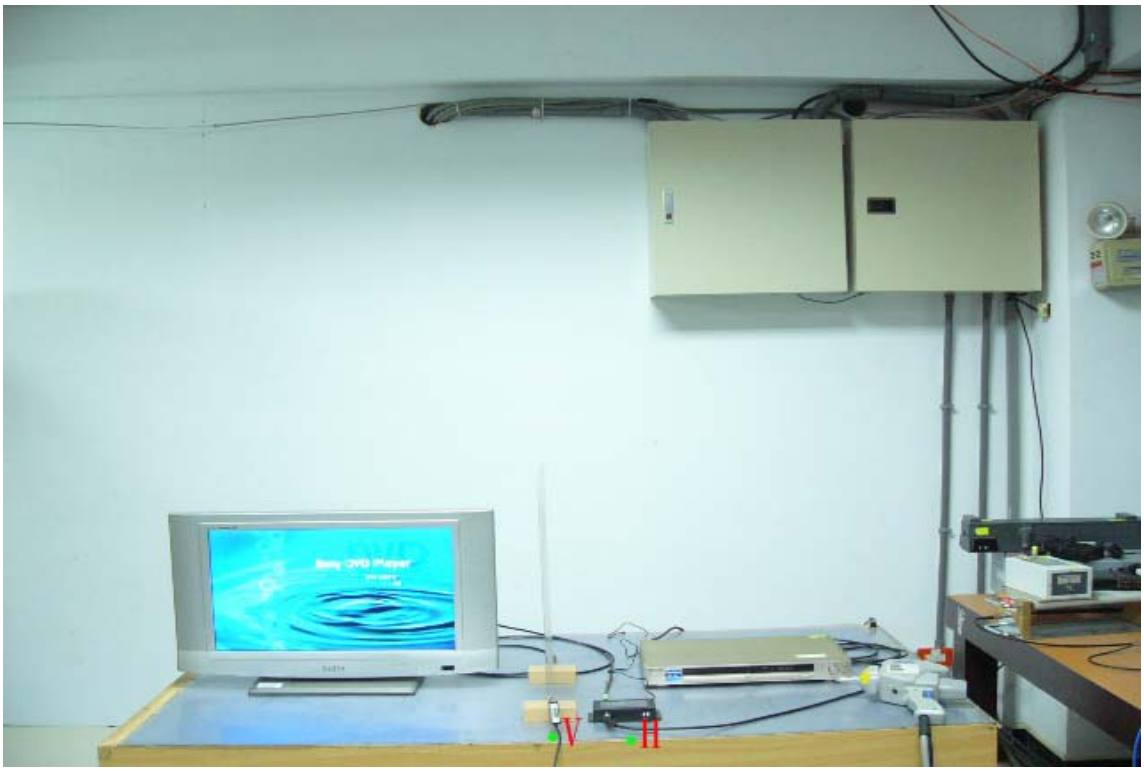
TEST POINTS

Adaptor 1(DC 12V)

Adaptor 2(DC 24V)

4.2.1.2 Electrostatic Discharge Immunity Test Setup Photos

Adaptor 1(DC 12V)



Adaptor 2(DC 24V)

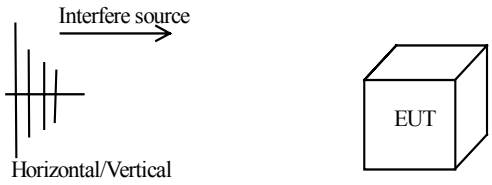
4.2.2 RF Radiated Fields Immunity Test

4.2.2.1 RF Radiated Fields Immunity Test Data

Operating Conditions of The EUT : Operation Mode

Adaptor 1(DC 12V) Test Date : Apr. 22, 2010

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	2009/08/06	2010/08/05
Amplifier	Ophir	5172	N/A	N/A
Amplifier	Ophir	5127	N/A	N/A
POWER METER	Booton	4232A	2009/08/11	2010/08/10
Climatic Condition	Ambient Temperature: 25 °C		Relative Humidity: 50 %RH	
	Atmospheric Pressure : 990 mbar			
Power Supply System	AC Power : 230 Vac 50 Hz			
Test Set-up	Table-top Equipment			



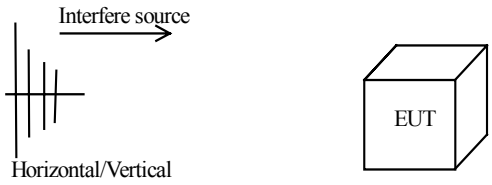
Frequency Range: 80 MHz ~ 1000 MHz		Field Strength: 3 V/m		Modulation (AM 1KHz 80%)	
Sweep Rate : ≤ 1.5×10-3 decades/s		Step Size : ≤ 1 % of preceding frequency value		Dwell time : 2.9 s	
Frequency Range (MHz)	Antenna-Polarization		Direction of Device		Test Result
80~1000	Horizontal		front		A
			rear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

Note : " A " means the EUT's function was correct normal performance during the test.

Operating Conditions of The EUT : Operation Mode

Adaptor 2(DC 24V) Test Date : Apr. 27, 2010

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	2009/08/06	2010/08/05
Amplifier	Ophir	5172	N/A	N/A
Amplifier	Ophir	5127	N/A	N/A
POWER METER	Booton	4232A	2009/08/11	2010/08/10
Climatic Condition	Ambient Temperature: 24 °C		Relative Humidity: 51 %RH	
	Atmospheric Pressure : 990 mbar			
Power Supply System	AC Power : 230 Vac 50 Hz			
Test Set-up	Table-top Equipment			



Frequency Range: 80 MHz ~ 1000 MHz	Field Strength: 3 V/m	Modulation (AM 1KHz 80%)
Sweep Rate : ≤ 1.5×10-3 decades/s	Step Size : ≤ 1 % of preceding frequency value	Dwell time : 2.9 s

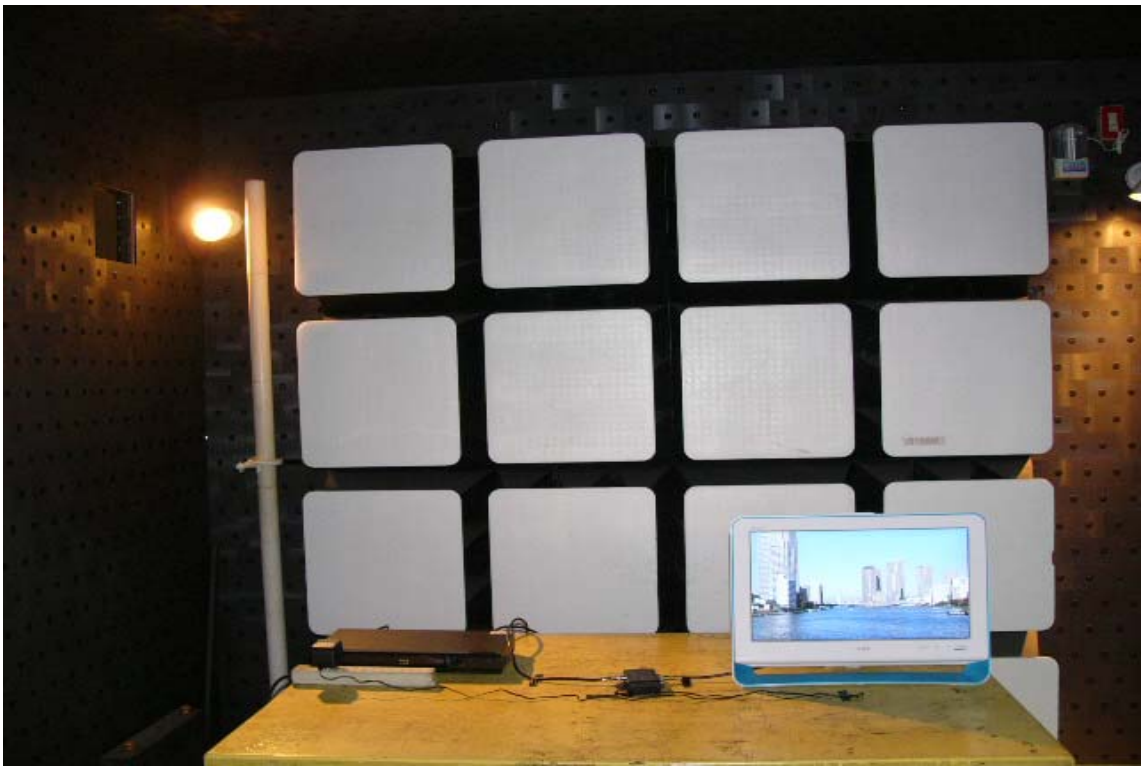
Frequency Range (MHz)	Antenna-Polarization	Direction of Device	Test Result
80~1000	Horizontal	front	A
		rear	A
		left	A
		right	A
80~1000	Vertical	front	A
		rear	A
		left	A
		right	A

Note : " A " means the EUT's function was correct normal performance during the test.

4.2.2.2 RF Radiated Fields Immunity Test Setup Photos

Adaptor 1(DC 12V)

Adaptor 2(DC 24V)



4.2.3 EFT/Burst Immunity Test

4.2.3.1 EFT/Burst Immunity Test Data

Operating Conditions of The EUT : Operation Mode

Adaptor 1(DC 12V) Test Date : Apr. 22, 2010

Test Specification	IEC 61000-4-4:2004			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
EMC Immunity Tester	EMC-PARTNER	TRANSIENT-1000	2010/02/23	2011/02/22
Climatic Condition	Ambient Temperature: 25 °C		Relative Humidity: 50 %RH	
	Atmospheric Pressure : 990 mbar			
Power Supply System	AC Power: 230 Vac 50 Hz			
Test Set-up	Table-top Equipment			

Pulse : 5 /50ns Burst : 15ms /300ms		Repetition Rate : 5kHz	Test time : 1 min/each condition
\Voltage\Polarity\		1.0 kV	
\Test Point\Mode\Result\		+	-
Power Line	L	A	A
	N	A	A
	L-N	A	A
\Voltage\Polarity\		0.5 kV	
\Test Point\Mode\Result\		+	-
Video Output Cable		A	A

Note : " A " means the EUT's function was correct normal performance during the test.

Operating Conditions of The EUT : Operation Mode

Adaptor 2(DC 24V) Test Date : Apr. 27, 2010

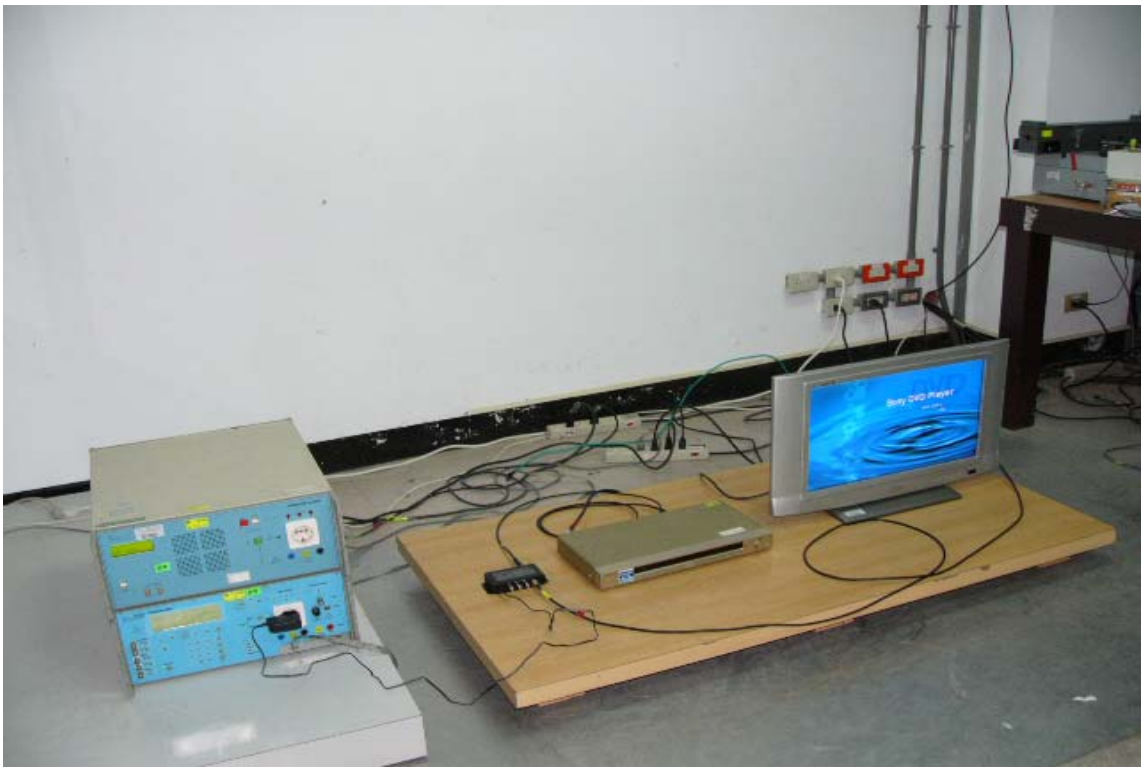
Test Specification	IEC 61000-4-4:2004			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
EMC Immunity Tester	EMC-PARTNER	TRANSIENT-1000	2010/02/23	2011/02/22
Climatic Condition	Ambient Temperature: 24 °C		Relative Humidity: 51 %RH	
	Atmospheric Pressure : 990 mbar			
Power Supply System	AC Power: 230 Vac 50 Hz			
Test Set-up	Table-top Equipment			

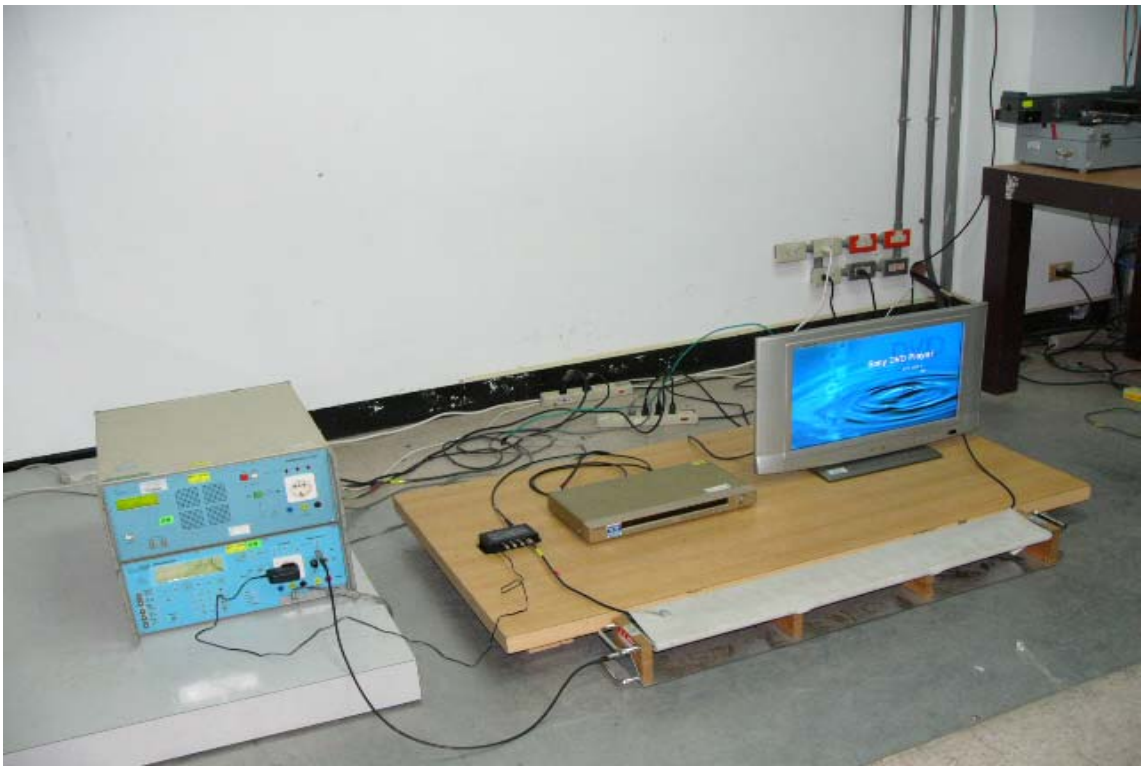
Pulse : 5 /50ns Burst : 15ms /300ms		Repetition Rate : 5kHz		Test time : 1 min/each condition
\Voltage\Polarity\		1.0 kV		
\Test Point\Mode\Result\		+		-
Power Line	L	A		A
	N	A		A
	L-N	A		A
\Voltage\Polarity\		0.5 kV		
\Test Point\Mode\Result\		+		-
Video Input Cable		A		A

Note : " A " means the EUT's function was correct normal performance during the test.

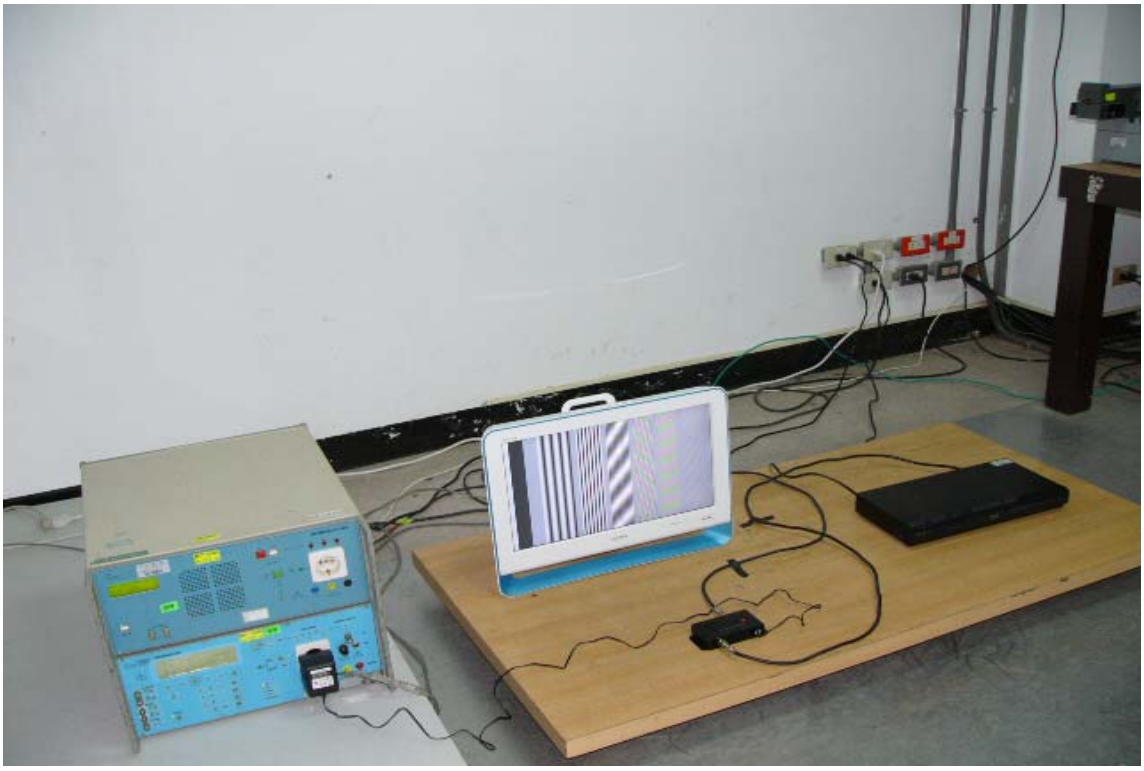
4.2.3.2 EFT/Burst Immunity Test Setup Photos

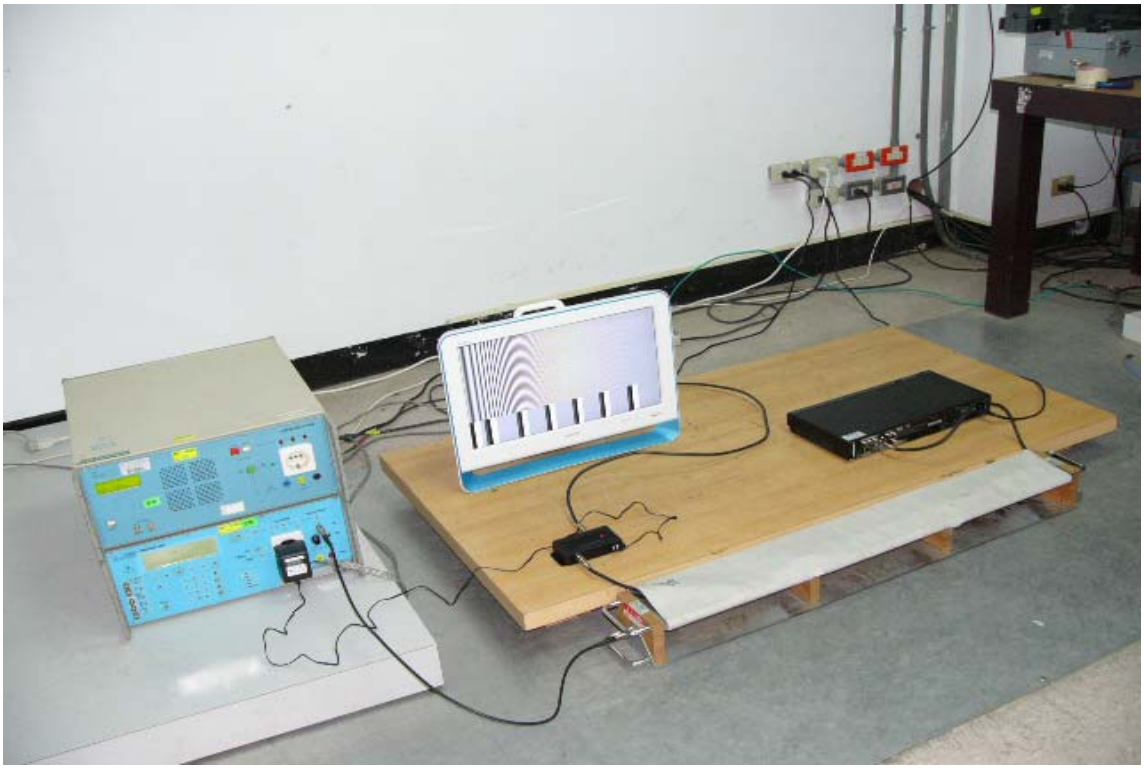
Adaptor 1(DC 12V)





Adaptor 2(DC 24V)





4.2.4 Surge Immunity Test

4.2.4.1 Surge Immunity Test Data

Operating Conditions of The EUT : Operation Mode

Adaptor 1(DC 12V) Test Date : Apr. 22, 2010

Test Specification	IEC 61000-4-5:2005			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
EMC Immunity Tester	EMC-PARTNER	TRANSIENT-1000	2010/02/23	2011/02/22
Climatic Condition	Ambient Temperature: 25 °C Relative Humidity: 50 %RH			
	Atmospheric Pressure : 990 mbar			
Power Supply System	AC Power: 230 Vac 50 Hz			
Test Set-up	Table-top Equipment			

Waveform : 1.2/50μs(8/20μs)		Repetition rate : 60 sec		Times : 5 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

Note : " A " means the EUT's function was correct normal performance during the test.

Operating Conditions of The EUT : Operation Mode

Adaptor 2(DC 24V) Test Date : Apr. 27, 2010

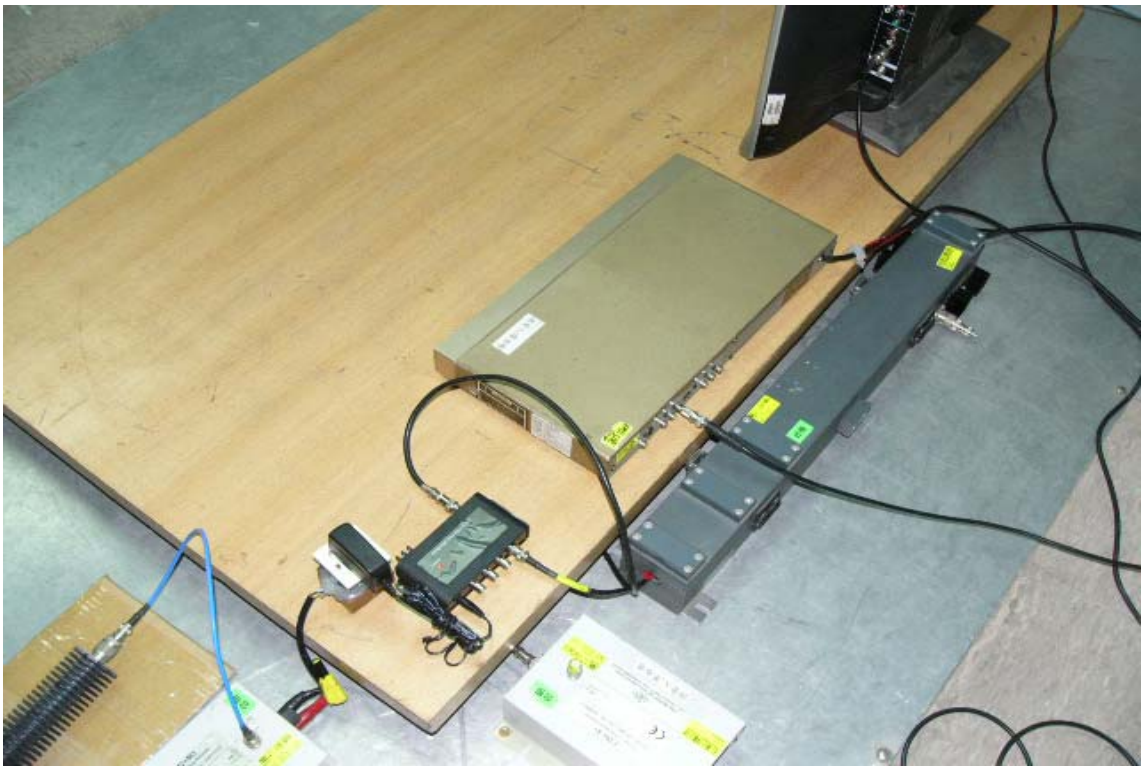
Test Specification	IEC 61000-4-5:2005			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
EMC Immunity Tester	EMC-PARTNER	TRANSIENT-1000	2010/02/23	2011/02/22
Climatic Condition	Ambient Temperature: 24 °C Relative Humidity: 51 %RH			
	Atmospheric Pressure : 990 mbar			
Power Supply System	AC Power: 230 Vac 50 Hz			
Test Set-up	Table-top Equipment			

Waveform : 1.2/50μs(8/20μs)		Repetition rate : 60 sec		Times : 5 time/each condition		
\Phase \Voltage \Mode \Polarity \Result			**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

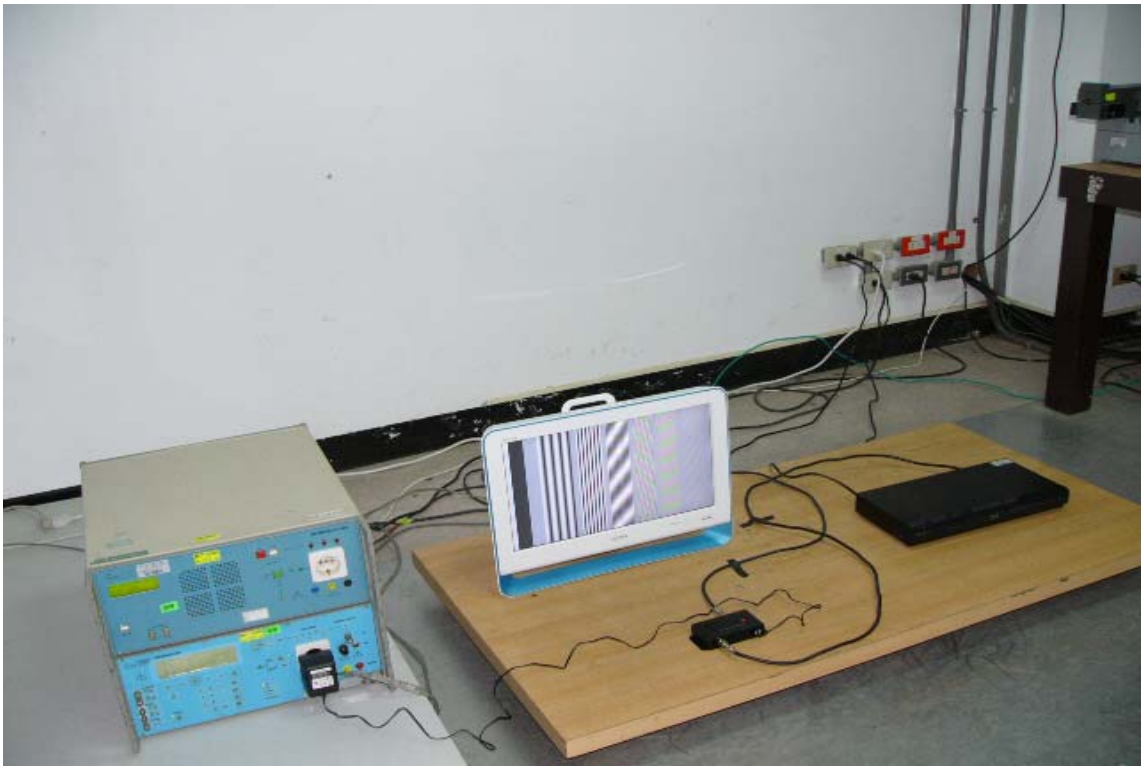
Note : " A " means the EUT's function was correct normal performance during the test.

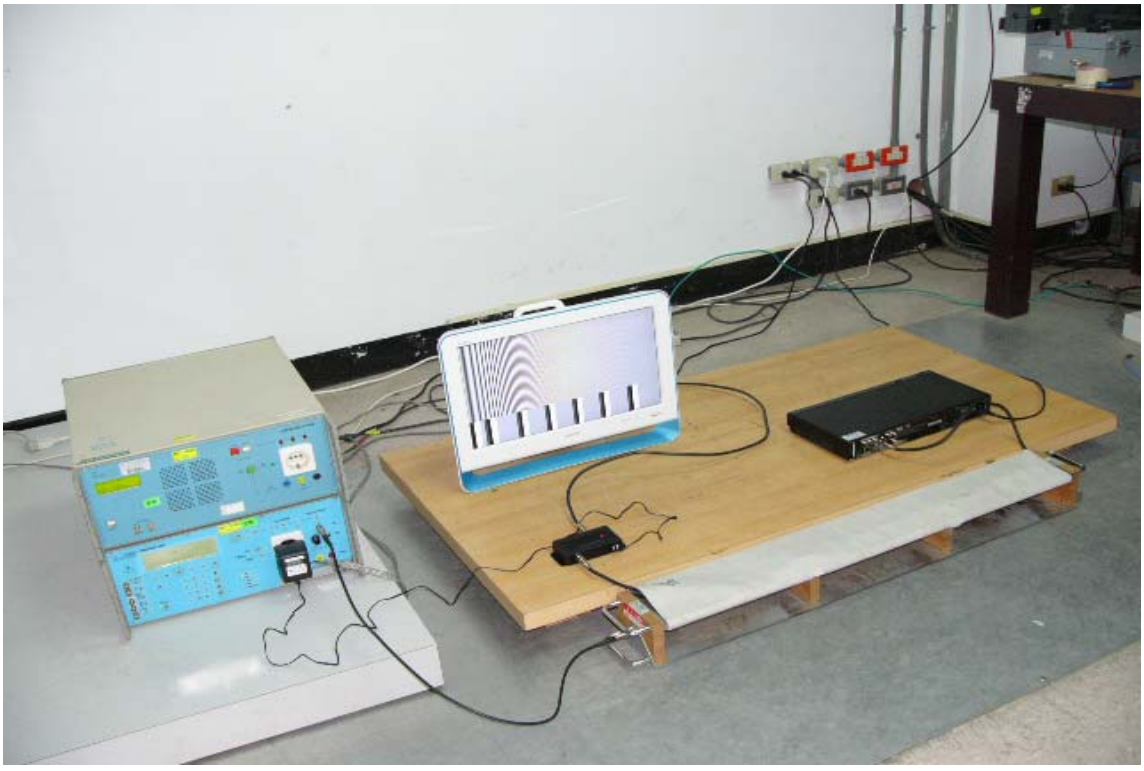
4.2.4.2 Surge Immunity Test Setup Photos

Adaptor 1(DC 12V)



Adaptor 2(DC 24V)





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

Adaptor 1(DC 12V) Test Date : Apr. 22, 2010

Test Specification	IEC 61000-4-6:2008			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
CS TESTER	FRANKONIA	CIT-10	2009/09/24	2010/09/23
M2+3 CDN-KIT	FRANKONIA	M2+3	2009/09/07	2010/09/06
SCHAFFUER	CS-CLAMP	KEMZ801	2009/09/19	2010/09/18
Climatic Condition	Ambient Temperature: 25 °C		Relative Humidity: 50 %RH	
Power Supply System	AC Power : 230 Vac 50 Hz			
Test Set-up	Table-top Equipment			

Frequency Range ：0.15 MHz ~ 80 MHz		Test Level ：3 Vrms	Modulation (AM 1kHz 80%)
Sweep Rate	：≤ 1.5×10^{-3} decades/s	Step Size ：≤ 1 % of preceding frequency value	Dwell Time ：2.9 s

Frequency Range (MHz)	Tested Line	Test Result
0.15~80	Power Line (M2)	A
0.15~80	Video Output Cable (clamp)	A

Note : " A " means the EUT's function was correct normal performance during the test.

Operating Conditions of The EUT : Operation Mode

Adaptor 2(DC 24V) Test Date : Apr. 27, 2010

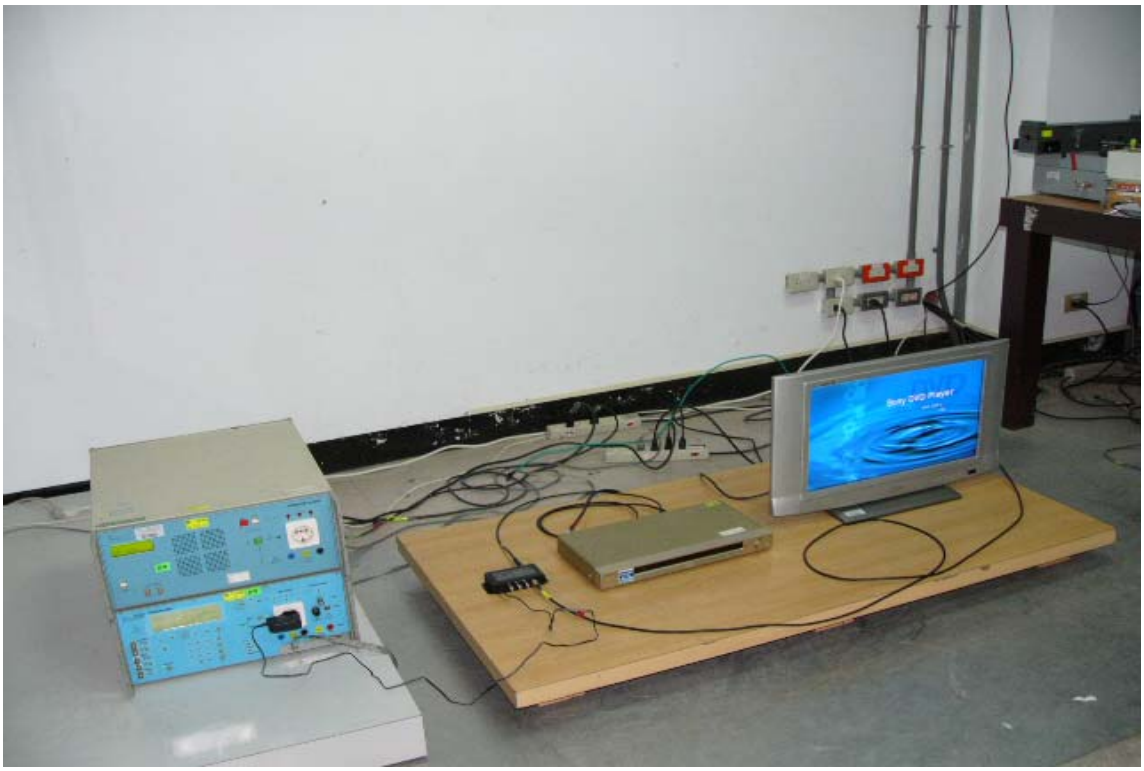
Test Specification	IEC 61000-4-6:2008			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
CS TESTER	FRANKONIA	CIT-10	2009/09/24	2010/09/23
M2+3 CDN-KIT	FRANKONIA	M2+3	2009/09/07	2010/09/06
SCHAFFUER	CS-CLAMP	KEMZ801	2009/09/19	2010/09/18
Climatic Condition	Ambient Temperature: 24 °C		Relative Humidity: 51 %RH	
Power Supply System	AC Power : 230 Vac 50 Hz			
Test Set-up	Table-top Equipment			

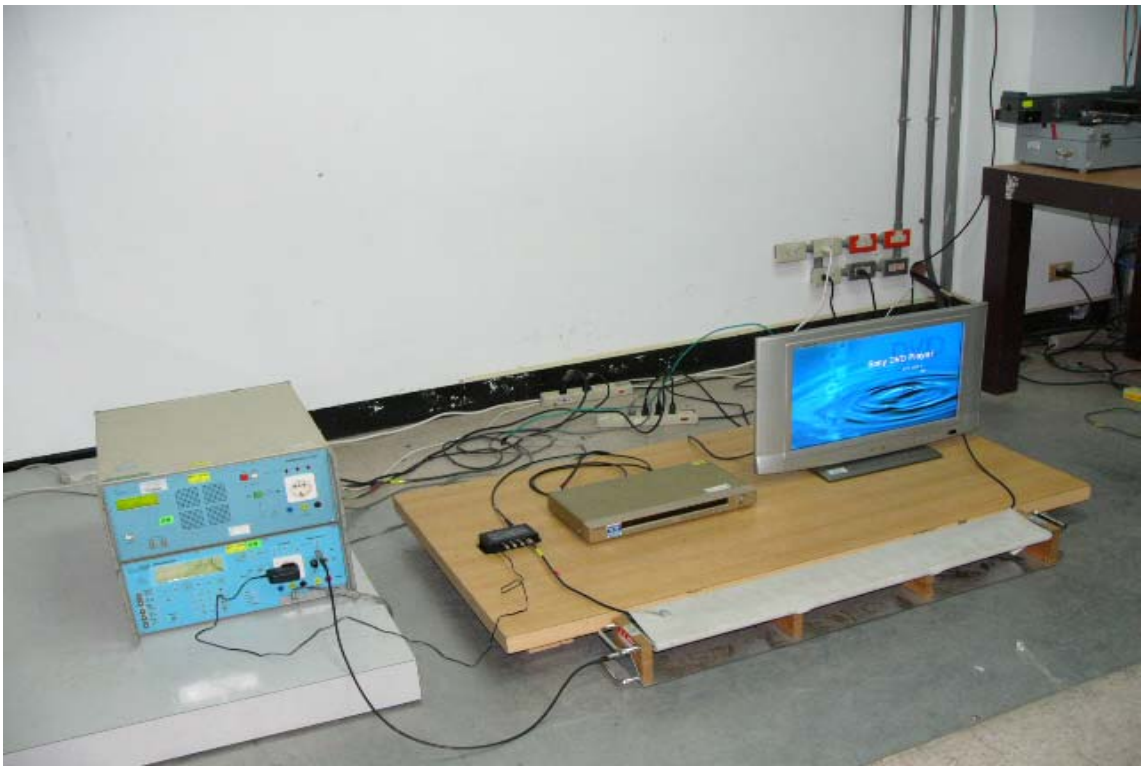
Frequency Range ：0.15 MHz ~ 80 MHz		Test Level ：3 Vrms	Modulation (AM 1kHz 80%)
Sweep Rate	：≤ 1.5×10^{-3} decades/s	Step Size ：≤ 1 % of preceding frequency value	Dwell Time ：2.9 s
Frequency Range (MHz)		Tested Line	Test Result
0.15~80		Power Line (M2)	A

Note : " A " means the EUT's function was correct normal performance during the test.

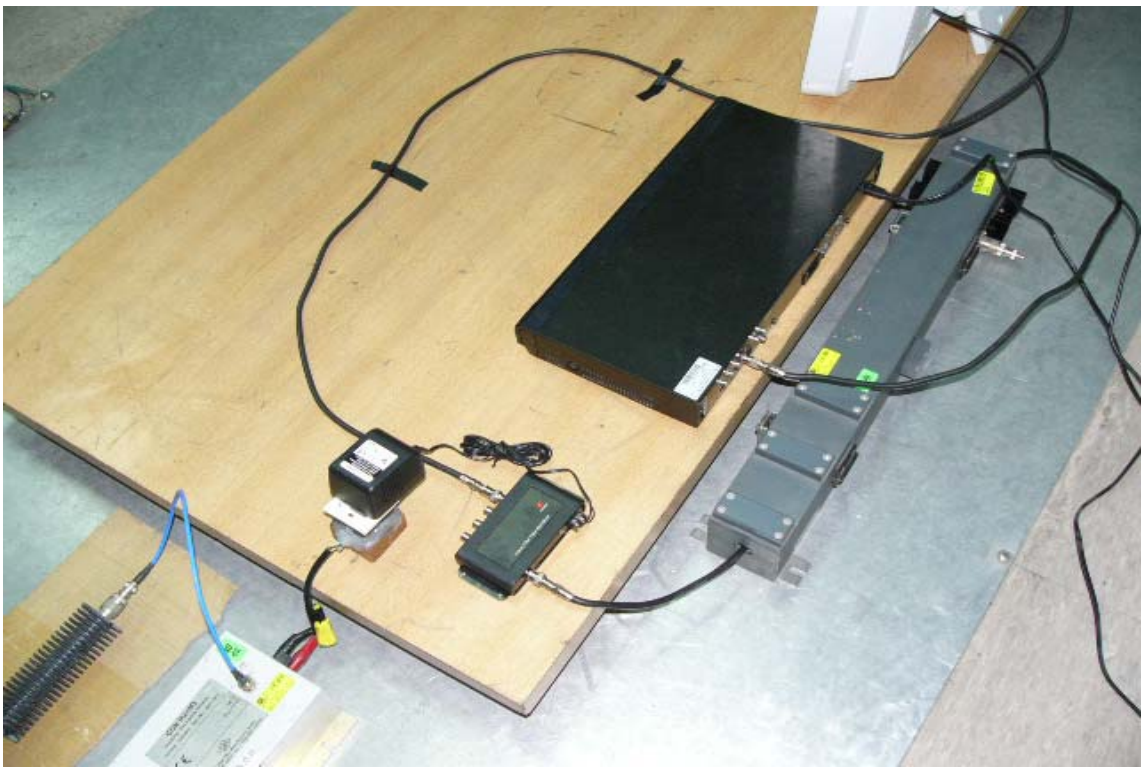
4.2.5.2 RF Common Mode Immunity Test Setup Photos

Adaptor 1(DC 12V)





Adaptor 2(DC 24V)



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

Adaptor 1(DC 12V) Test Date : Apr. 22, 2010

Test Specification	IEC 61000-4-11:2004			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
EMC Immunity Tester	EMC-PARTNER	TRANSIENT-1000	2010/02/23	2011/02/22
Climatic Condition	Ambient Temperature: 25 °C		Relative Humidity: 50 %RH	
Power Supply System	AC Power: 240 Vac 50 Hz / 100 Vac 60 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°	B
	>95%	300	10	3	0°/180°	B
Voltage dips in %U_T	>95%	0.5	10	3	0°/180°	B
	30%	25	10	3	0°/180°	B
	30%	30	10	3	0°/180°	B

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

" A " means the EUT's function was correct normal performance during the test.

" B" means the EUT's function was temporary loss of function or degradation of performance during the test. After test, the EUT recovers its normal performance, without operator intervention.

Operating Conditions of The EUT : Operation Mode

Adaptor 2(DC 24V) Test Date : Apr. 27, 2010

Test Specification	IEC 61000-4-11:2004			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
EMC Immunity Tester	EMC-PARTNER	TRANSIENT-1000	2010/02/23	2011/02/22
Climatic Condition	Ambient Temperature: 24 °C		Relative Humidity: 51 %RH	
Power Supply System	AC Power: 230 Vac 50 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°	B
Voltage dips in %U_T	>95%	0.5	10	3	0°/180°	B
	30%	25	10	3	0°/180°	B

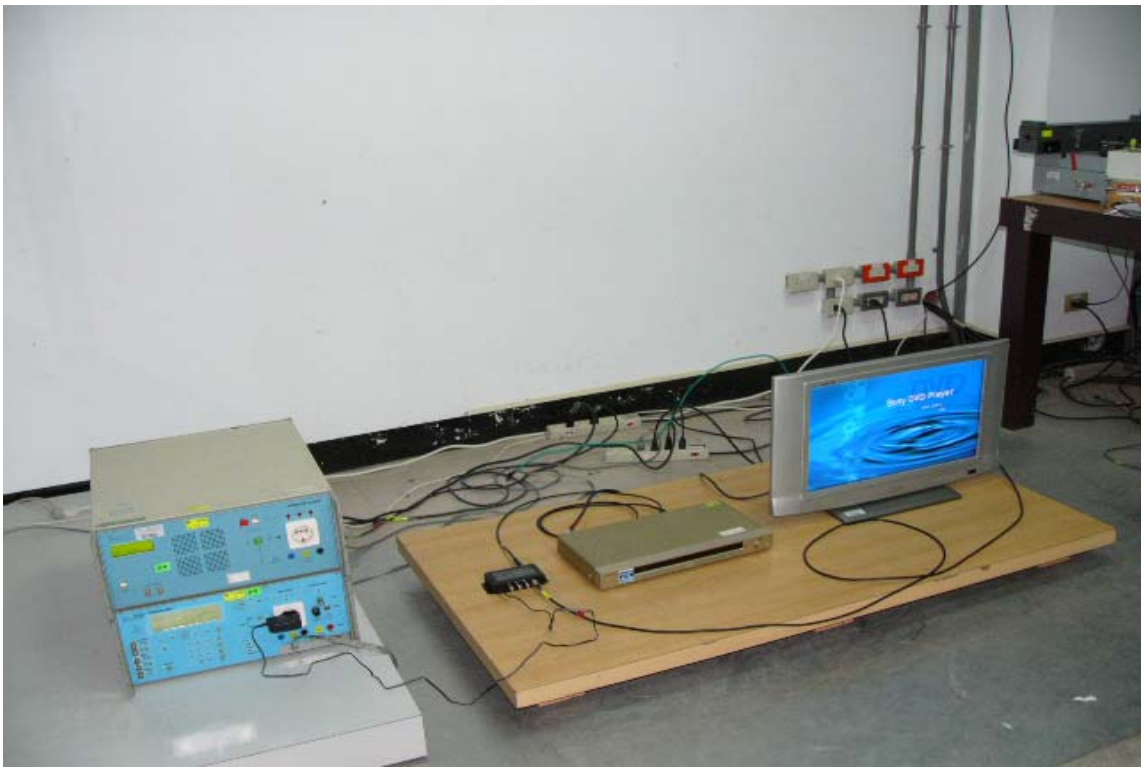
Note : "---"means the test could not be carrier out.

" A " means the EUT's function was correct normal performance during the test.

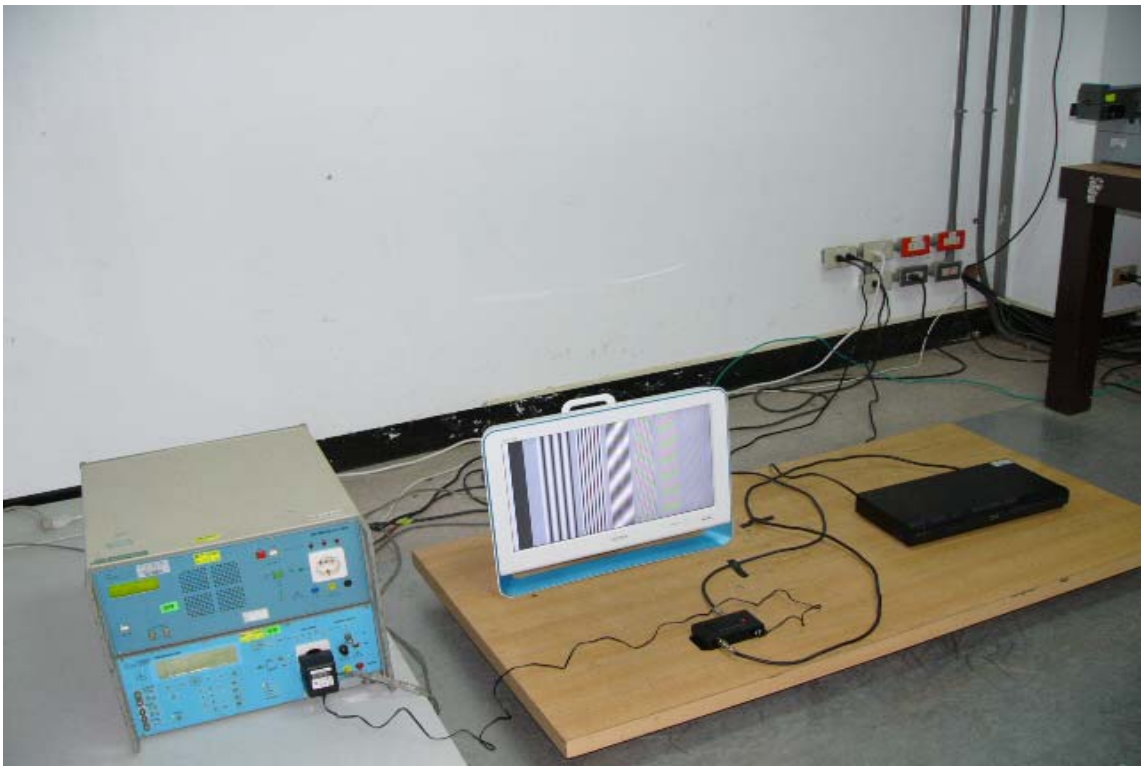
" B" means the EUT's function was temporary loss of function or degradation of performance during the test. After test, the EUT recovers its normal performance, without operator intervention.

4.2.6.2 Voltage Interruptions and Voltage Dips Immunity Test Setup Photos

Adaptor 1(DC 12V)



Adaptor 2(DC 24V)



CONSTRUCTED PHOTOS of EUT

1. Top View of EUT

2. Side View of EUT

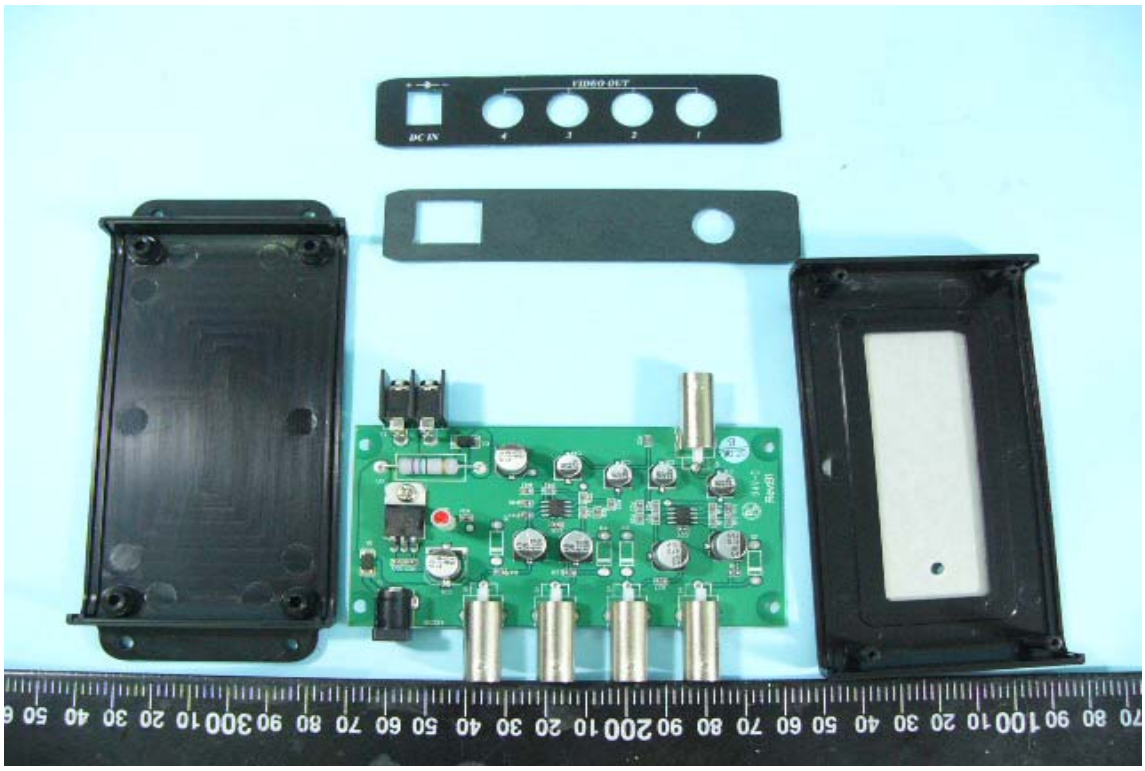
CONSTRUCTED PHOTOS of EUT

3. Side View of EUT

4. Bottom View of EUT

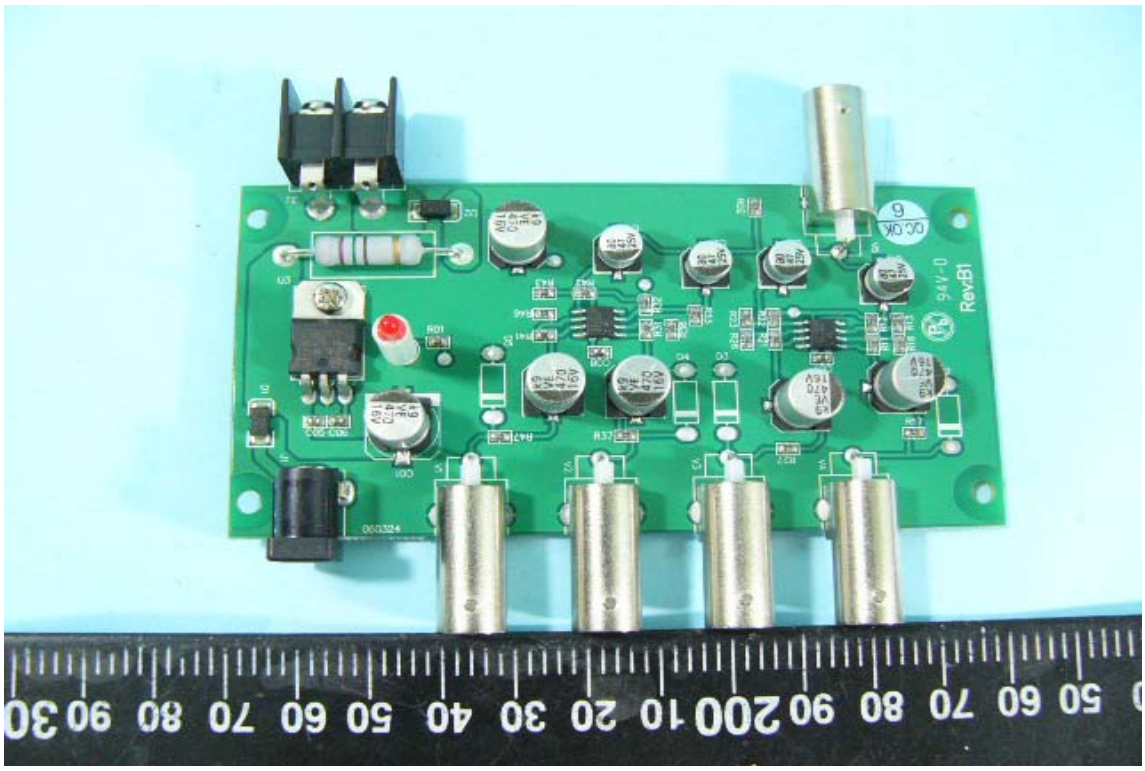
CONSTRUCTED PHOTOS of EUT

5. Internal View of EUT

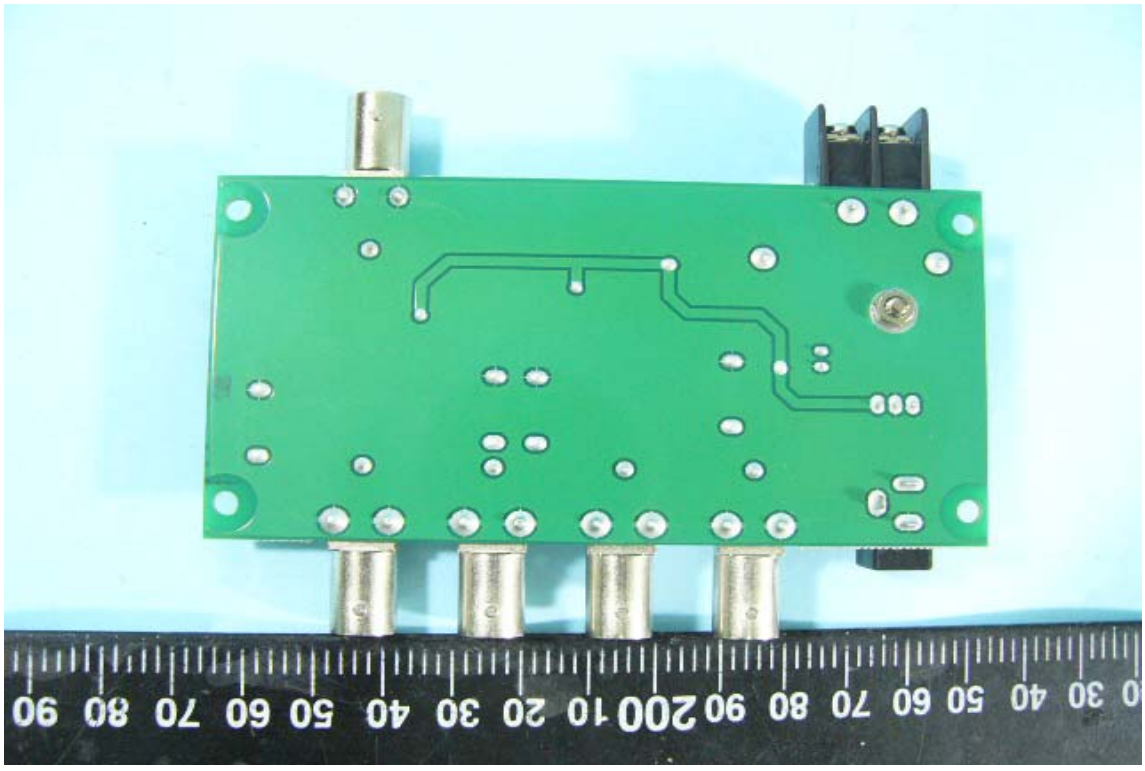


CONSTRUCTED PHOTOS of EUT

6. Component View of PCB



7. Solder View of PCB



CONSTRUCTED PHOTOS of EUT

Mode: Adaptor 1(DC 12V)

1. Top View of Adaptor

2. Side View of Adaptor

CONSTRUCTED PHOTOS of EUT

3. Side View of Adaptor

4. Bottom View of Adaptor

CONSTRUCTED PHOTOS of EUT

Mode: Adaptor 2(DC 24V)

1. Top View of Adaptor

2. Side View of Adaptor

CONSTRUCTED PHOTOS of EUT

3. Side View of Adaptor

4. Bottom View of Adaptor