



Certificate of Conformity

The products

EUT : **Power Distributer Box**
Trade Name : **SC&T**
Model No. : **PD00XXX**

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 of Directive 2004/108/EC on the basis of

EN 61000-6-3:2007
IEC CISPR 16-2-3:2006
EN 61000-6-1:2007
IEC 61000-4-2:2008; IEC 61000-4-3:2006/A1:2007

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

Report Number : 09-05-RBF-069

Date of Issue: Jul. 30, 2009

- Note:**
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EMC***TEST REPORT***

Responsible Party : ***SMART CABLING & TRANSMISSION CORP***
Manufacturer : ***SMART CABLING & TRANSMISSION CORP***
Description of Product : ***Power Distributer Box***
Trade Name : ***SC&T***
Model No. : ***PD00XXX***
Test Report File No. : ***09-05-RBF-069***
Date Test Item Received : ***MAY 09, 2009***
Date Test Campaign Completed : ***Jul. 25, 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.

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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 : Power Distributer Box
Trade name : SC&T
Model No. : PD00XXX
Serial Model No. : ----

Test specifications :
Emission : IEC CISPR 16-2-3:2006
Immunity : IEC 61000-4-2:2008
IEC 61000-4-3:2006/A1:2007

Regulations applied : EN 61000-6-3:2007
EN 61000-6-1:2007

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 : _____ / _____
(Chris Wu, 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

The PD00XXX power distribution box make it simple to supply multiple CCTV cameras or other security devices with separate auto-reset, PTC-fused* power. It provided 9 PTC fused outputs and individual status LEDs, as well as surge protection.

2.2 Related Information of EUT

Size of EUT : 138mm × 84mm × 28mm

Power : DC 12V

BNC coaxial cable : [] Nonshielded [X] Shielded [] None, Length: 3.0 mx1

2.3 Tested Configuration

The EUT connected with other devices.

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

For Conducted Emission Test and Radiated Emission Test

Device	Manufacturer	Model	Description
Power Distributer Box	SMART CABLING & TRANSMISSION CORP	PD00XXX	3.0m Shielded BNC coaxial cablex2
Resistor	----	----	----

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 (Neutral)

Minimum EMI Margin(QP) to the limit: -19.3 dB at 24.821 MHz

– PASS (Line)

Minimum EMI Margin(QP) to the limit: -20.4 dB at 23.072 MHz

3.1.1 Radiated Emissions

– PASS (Hor.)

Minimum EMI Margin to the limit: -6.4 dB at 213.800 MHz

– PASS (Ver.)

Minimum EMI Margin to the limit: -4.4 dB at 127.500 MHz

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

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 : Operating

Test Date : MAY 25, 2009

Test Specification	IEC CISPR 16-2-3:2006			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
EMI Test Receiver	Rohde & Schwarz	ESCI	2009/02/04	2010/02/04
LISN	Kyoritsu	KNW-403D	2008/10/06	2009/10/06
LISN	EMCO	3850/2	2009/05/07	2010/05/07
Climatic Condition	Ambient Temperature: <u>25</u> °C		Relative Humidity: <u>52</u> %RH	
Power Supply System	DC Power: <u>12</u> Vdc			
Test Set-up	Table-top Equipment			

Test data see the next pages.

Mode: Operating

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
0.154	29.3	----	0.2	29.5	----	65.8	55.8	-36.3	----
0.167	28.5	----	0.2	28.7	----	65.1	55.1	-36.4	----
0.207	20.3	----	0.2	20.5	----	63.3	53.3	-42.8	----
0.254	22.8	----	0.2	23.0	----	61.6	51.6	-38.6	----
0.373	25.6	----	0.3	25.9	----	58.4	48.4	-32.5	----
24.821	39.2	----	1.5	40.7	----	60.0	50.0	-19.3	----

Mode: Operating

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
0.155	27.3	----	0.2	27.5	----	65.7	55.7	-38.2	----
0.159	28.1	----	0.2	28.3	----	65.5	55.5	-37.2	----
0.243	22.8	----	0.2	23.0	----	62.0	52.0	-39.0	----
0.257	24.3	----	0.2	24.5	----	61.5	51.5	-37.0	----
0.390	25.7	----	0.3	26.0	----	58.1	48.1	-32.1	----
23.072	38.1	----	1.5	39.6	----	60.0	50.0	-20.4	----

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

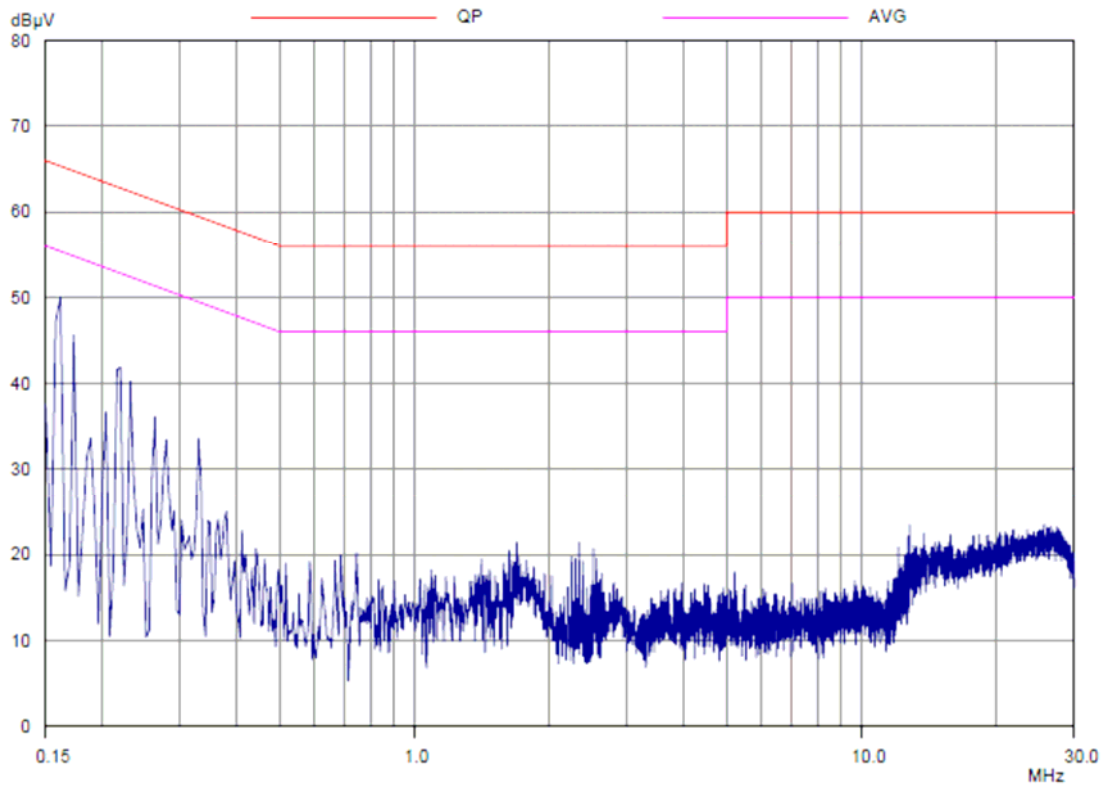
2) The EUT was placed 0.8m above reference ground plane.

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.

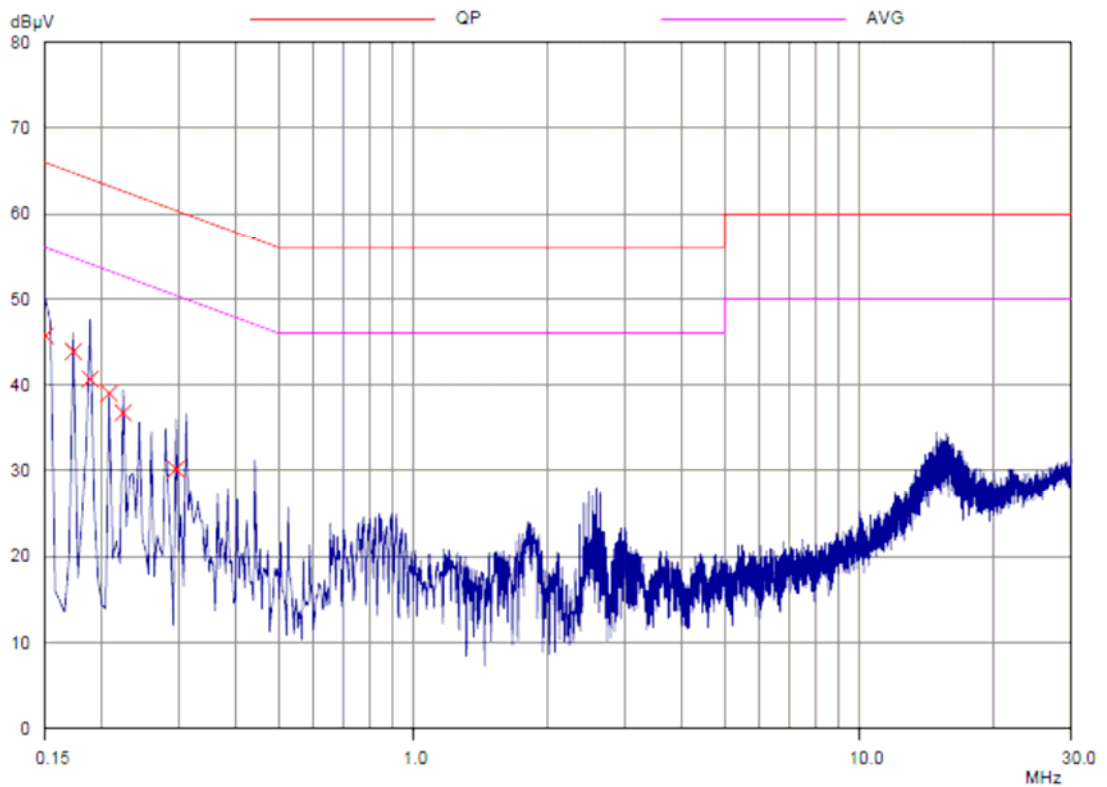
Mode: Operating

Neutral



Mode: Operating

Line



4.1.1.2 Conducted Emissions Test Setup Photos :

4.1.2 Radiated Emissions Test :

4.1.2.1 Radiated Emissions Test Data:

1. Operating Conditions of The EUT : Operation

Test Date : MAY 25, 2009

Test Specification	IEC CISPR 16-2-3:2006			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
Amplifier	HP	8447D	2009/05/07	2010/05/07
Bi-Log Antenna	Schaffner	CBL 6111(2733)	2009/05/06	2010/05/06
EMI Test Receiver	Rohde & Schwarz	ESVS30	2009/05/07	2010/05/07
Spectrum	R&S	FSP3	2009/02/27	2010/02/27
Climatic Condition	Ambient Temperature: <u>27</u> °C		Relative Humidity: <u>59</u> %RH	
Power Supply System	DC Power : <u>12.0</u> Vdc			
Test Set-up	Table-top Equipment			

Test data see the next pages.

Mode: Operation

Ant-Pol: Horizontal

Emission Frequency (MHz)	Meter Reading (dB μ V)	Corr'd Factor (dB)	Results (dB μ V/m)	Limit @10m (dB μ V/m)	Margin (dB)
87.800	37.4	-15.3	22.1	30.0	-7.9
127.500	35.8	-12.3	23.5	30.0	-6.5
213.800	36.9	-13.3	23.6	30.0	-6.4
305.600	39.1	-8.6	30.5	37.0	-6.5
427.400	34.0	-4.9	29.1	37.0	-7.9
513.600	34.5	-4.4	30.1	37.0	-6.9

Mode: Operation

Ant-Pol: Vertical

Emission Frequency (MHz)	Meter Reading (dB μ V)	Corr'd Factor (dB)	Results (dB μ V/m)	Limit @10m (dB μ V/m)	Margin (dB)
87.800	40.1	-15.3	24.8	30.0	-5.2
127.500	37.9	-12.3	25.6	30.0	-4.4
213.800	38.1	-13.3	24.8	30.0	-5.2
305.600	38.1	-8.6	29.5	37.0	-7.5
427.400	37.4	-4.9	32.5	37.0	-4.5
513.600	36.2	-4.4	31.8	37.0	-5.2

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 Photo:



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

Test Date : Jul. 21, 2009

Test Specification	IEC 61000-4-2:2008			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
Noise Ken	ESD Tester	ESS-2002	2008/09/18	2009/09/18
Climatic Condition	Ambient Temperature: <u>28</u> °C		Relative Humidity: <u>51</u> %RH	
	Atmospheric Pressure : 990 mbar			
Power Supply System	DC Power : <u>12.0</u> Vdc			
Test Set-up	Table-top Equipment			

Energy-Storage Capacitor : <u>150</u> pF	Contact Discharge Times : <u>10</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	___ kV	___ kV	<u>2</u> kV	<u>4</u> kV	<u>8</u> kV	___ kV						
\Points\Result\Polarity	+	-	+	-	+	-	+	-	+	-	+	-	+	-
VCP	A	A	A	A	---	---	---	---	---	---	---	---	---	---
HCP	A	A	A	A	---	---	---	---	---	---	---	---	---	---
P ₁ -P ₄	A	A	A	A	---	---	---	---	---	---	---	---	---	---
P ₅ -P ₁₀	---	---	---	---	---	---	---	---	A	A	A	A	A	A

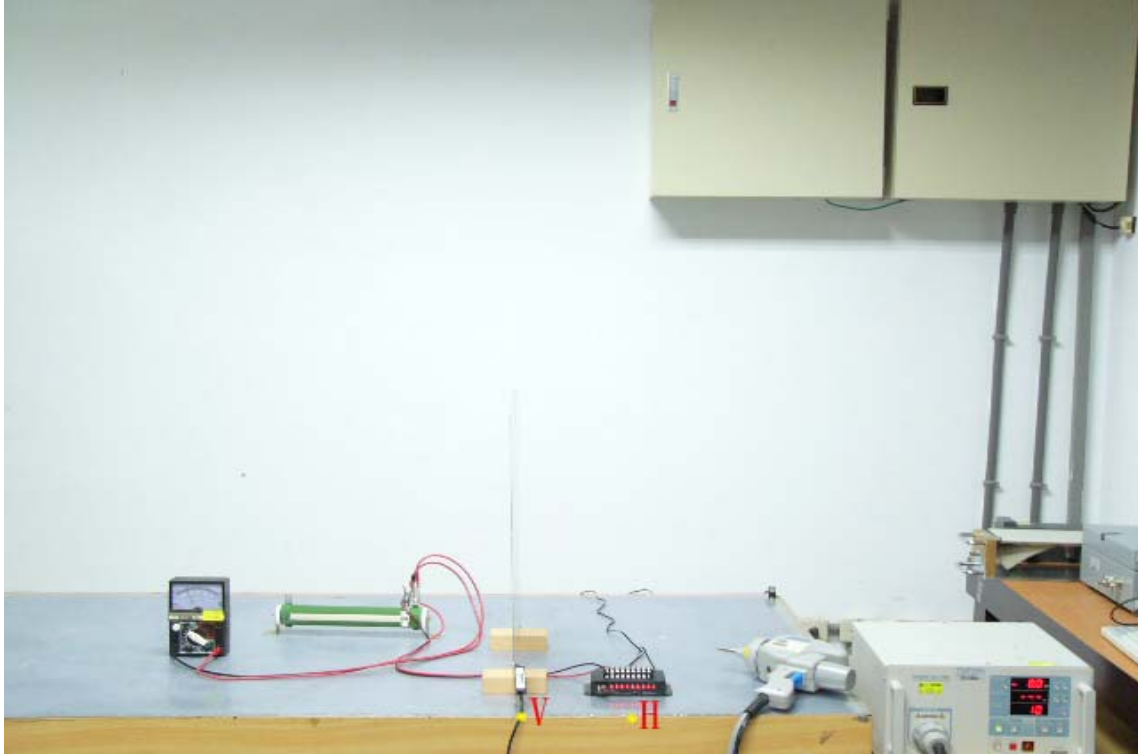
Note : “---“means the test could not be carrier out.

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

TEST POINTS



4.2.1.2 Electrostatic Discharge Immunity Test Setup Photos :

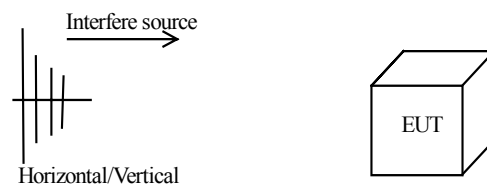


4.2.2 RF Radiated Fields Immunity Test :
4.2.2.1 RF Radiated Fields Immunity Test Data:

 Operating Conditions of The EUT : Operation

Test Date : Jul. 21, 2009

Test Specification	IEC 61000-4-3:2006/A1:2008			
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	Boonton	4232A	2008/08/08	2009/08/07
Climatic Condition	Ambient Temperature: <u>28</u> °C		Relative Humidity: <u>51</u> %RH	
Power Supply System	DC Power : <u>12.0</u> Vdc			
Test Set-up	Table-top Equipment			



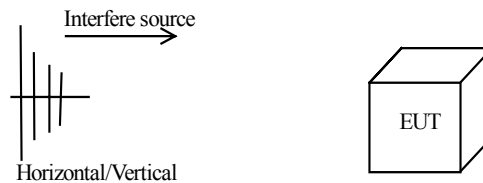
Frequency Range: <u>80</u> MHz ~ <u>1000</u> MHz	Field Strength: <u>3</u> V/m	Modulation (AM 1kHz 80%)	
Sweep Rate : $\leq 1.5 \times 10^{-3}$ decades/s	Step Size : ≤ 1 % of preceding frequency value	Dwell time : <u>2.9</u> s	
Frequency Range (MHz)	Antenna-Polarization	Direction of Device	Test Result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

Operating Conditions of The EUT : Operation

Test Date : Jul. 21, 2009

Test Specification	EN 61000-4-3:2006/A1:2008			
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	
Power Supply System	DC Power : <u>12.0</u> Vdc			
Test Set-up	Table-top Equipment			



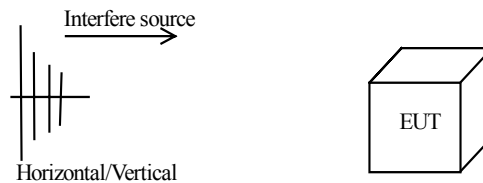
Frequency Range: <u>1400</u> MHz ~ <u>2000</u> MHz	Field Strength: <u>3</u> V/m	Modulation (AM 1kHz 80%)	
Sweep Rate : $\leq 1.5 \times 10^{-3}$ decades/s	Step Size : $\leq 1\%$ of preceding frequency value	Dwell time : <u>2.9</u> s	
Frequency Range (MHz)	Antenna-Polarization	Direction of Device	Test Result
1400-2000	Horizontal	front	A
		rear	A
		left	A
		right	A
1400-2000	Vertical	front	A
		rear	A
		left	A
		right	A

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

Operating Conditions of The EUT : Operation

Test Date : Jul. 21, 2009

Test Specification	EN 61000-4-3:2006/A1:2008			
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	
Power Supply System	DC Power : <u>12.0</u> Vdc			
Test Set-up	Table-top Equipment			



Frequency Range: <u>2000</u> MHz ~ <u>2700</u> MHz	Field Strength: <u>1</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 : <u>2.9</u> s	
Frequency Range (MHz)	Antenna-Polarization	Direction of Device	Test Result
2000-2700	Horizontal	front	A
		rear	A
		left	A
		right	A
2000-2700	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 :



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

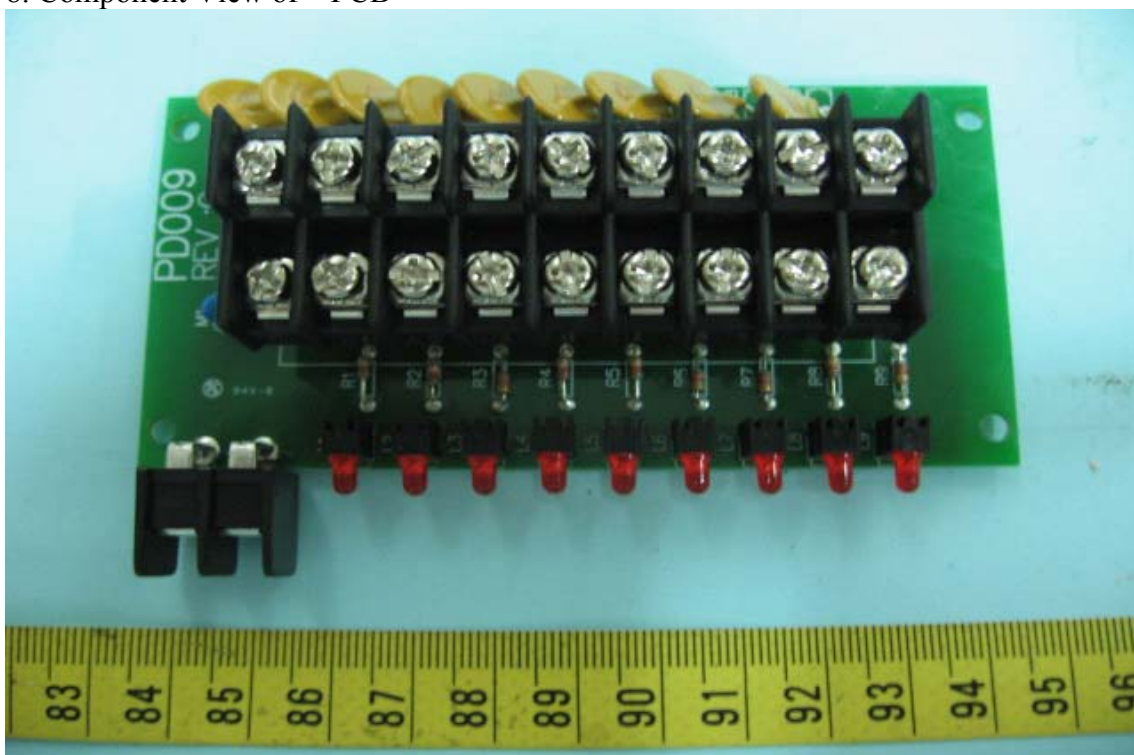


CONSTRUCTED PHOTOS of EUT

7. Internal View of EUT



8. Component View of PCB



CONSTRUCTED PHOTOS of EUT

9. Solder View of PCB

