HomeTek Technology Inc.

ADDRESS: No. 67-9, Shir Men Road, Tu Cheng City,
Taipei Hsien, Taiwan, R. O. C.
PHONE : 886-2-22608375 FAX : 886-2-22748013
E - mail : hometek@ms15.hinet.net

FCC TEST REPORT
FOR

APPLICANT	:	SMART CABLING & TRANSMISSION CORP.
ADDRESS	:	7F-1, No. 168, Lien Cheng Rd.,
		Chung-Ho City, Taipei Hsien, Taiwan, R. O. C.
EUT	:	Power Distributor BOX
MODEL NO.	:	PD00XXX

NVLAP Lab Code:200331-0

Accredited by the National Voluntary Laboratory Accreditation Program
for the specific scope of accreditation under Lab Code 200331-0

MEASUREMENT PROCEDURE USED

FCC RULES AND CISPR 22 (DOCKET NO. 92-152, SEP. 1993) AND FCC / ANSI C63.4-2001

PREPARED BY :

HomeTek Technology Inc.

No. 67-9, Shir Men Road, Tu Cheng City,

Taipei Hsien. Taiwan, R. O. C.

Report # : FD4A026

TABLE OF CONTENTS

EMC LAB
HomeTek
HomeTek Technology Inc.

ADDRESS: No. 67-9, Shir Men Road, Tu Cheng City,
Taipei Hsien, Taiwan, R. O. C.
PHONE : 886-2-22608375 FAX : 886-2-22748013
E - mail : hometek@ms15.hinet.net

NVLAP
NVLAP Lab Code:200331-0

VERIFICATION

for

FCC Part 15, Subpart B Class B

APPLICANT	:	SMART CABLING & TRANSMISSION CORP.
ADDRESS	:	7F-1, No. 168, Lien Cheng Rd.,
		Chung-Ho City, Taipei Hsien, Taiwan, R. O. C.
Receipt Date	:	01/12/2005 Final Test Date: 01/26/2005
EUT	:	Power Distributor BOX
MODEL NO.	:	PD00XXX

MEASUREMENT PROCEDURE USED :
FCC RULES AND CISPR 22 (DOCKET NO. 92-152, SEP. 1993)
AND FCC / ANSI C63.4-2001
TEST PROCEDURE AND DATA ARE TRACEABLE TO NIST/USA,
TL or NML/TAIWAN.

- THE MAXIMUM EMISSION LEVELS WERE COMPARED TO THE CISPR 22 CLASS B LIMITS BOTH RADIATED AND CONDUCTED EMISSION.
- THE ABOVE DEVICE WAS TESTED BY HOMETEK TECHNOLOGY INC. TO SHOWS THE MAXIMUM EMISSION LEVEL FROM THE DEVICE.
- THIS TEST RESULTS OF THIS REPORT APPLIES TO ABOVE TESTED SAMPLE ONLY.
- THIS TEST REPORT SHALL NOT BE REPRODUCE IN PART WITHOUT WRITTEN APPROVAL OF HOMETEK TECHNOLOGY INC.
- THE REPORT MUST NOT BE USED BY THE CLIENT TO CLAIM PRODUCT ENDORSEMENT BY NVLAP OR ANY AGENCY OF THE U. S. GOVERNMENT.
- THE TEST RESULTS ARE TRACEABLE TO THE NATIONAL OR INTERNATIONAL STANDARD.

PREPARED BY : Frankie DATE : 1/31/2005
FRANKIE WANG

CHECK BY : Albert Tsai DATE : 2/1/2005
ALBERT TSAI / Senior Engineer

APPROVED BY : Tommy Rau DATE : 2/2/2005
TOMMY RAU / Manager

GENERAL INFORMATION

1 APPLICANT : SMART CABLING & TRANSMISSION CORP.

2 ADDRESS : 7F-1, No. 168, Lien Cheng Rd.,
Chung-Ho City, Taipei Hsien, Taiwan, R. O. C.

3 MANUFACTURER : SMART CABLING & TRANSMISSION CORP.

4 ADDRESS : 7F-1, No. 168, Lien Cheng Rd.,
Chung-Ho City, Taipei Hsien, Taiwan, R. O. C.

5 DESCRIPTION OF EUT :

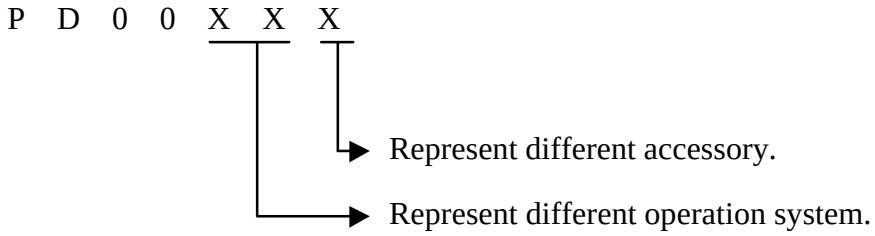
EUT : Power Distributor BOX

FCC ID : N/A

Model Number : PD00XXX

Serial # : N/A

5.1 The difference between series of models PD00XXX is shown as below:



The worst case of EMI test model is PD009 and the final test data were shown in this test report.

6 FEATURES OF EUT :

Please refer to user manual or product specification.

7 TEST MODE :

The EUT were investigated with two power source modes shown as below:

(1) DC 12V output mode;

(2) DC 24V output mode

The worst case of EMI test mode is (2) DC 24V output mode and the final test data were shown in this test report.

MODIFICATION LIST

THE FOLLOWING ACCESSORIES WERE ADDED TO THE EUT DURING TESTING :

NO MODIFICATION BY HOMETEK TECHNOLOGY INC.

CONDUCTED POWER LINE TEST

1 TEST PROCEDURE

According to **ANSI C63.4 - 2001 & CISPR 22**.

2 RESULT OF CONDUCTED EMISSION TEST

N/A (Conducted Power Line Test is not applicable to this EUT (Model : PD009)).

RADIATED EMISSION TEST

1 TEST INSTRUMENTS & FACILITIES

The following test Instruments was used during the radiated emission test :

Item	Instruments /facilities	Specification	Manufacturer	Model # / S/N#	Date of Cal.
1	OPEN AREA TEST SITE	☑ OATS 3			JUL/2004
2	EMI TEST RECEIVER	30MHz ~ 1GHz	ROHDE & SCHWARZ	ESVS10 845165/017	SEP/2004
3	RF SPECTRUM ANALYZER	N/A	HEWLETT PACKARD	8591E 3710A06158	MAY/2004
4	PRE-AMPLIFIER	9KHz ~ 3000MHz	ADVANTEST	BB525C 90081001	SEP/2004
5	ANTENNA (BI-LOG)	25MHz ~ 2GHz	SCHAFFNER	CBL6112B S/N : 2614	MAY/2004
6	Attenuation	50Ω/6dB	JYE BAO	FAT-N (M-F) 001	JUL/2004
7	Cable	10m	SUHNER	RG214/U OS3-003	DEC/2004
8	Cable	14m	BELDEN	9913 OS3-001	DEC/2004
9	EMI 32 (software)	N/A	AUDIX	19991013-0923	N/A

Note : Items 1 ~ 9 were calibrated within period of 1 year.

2 TEST PROCEDURE

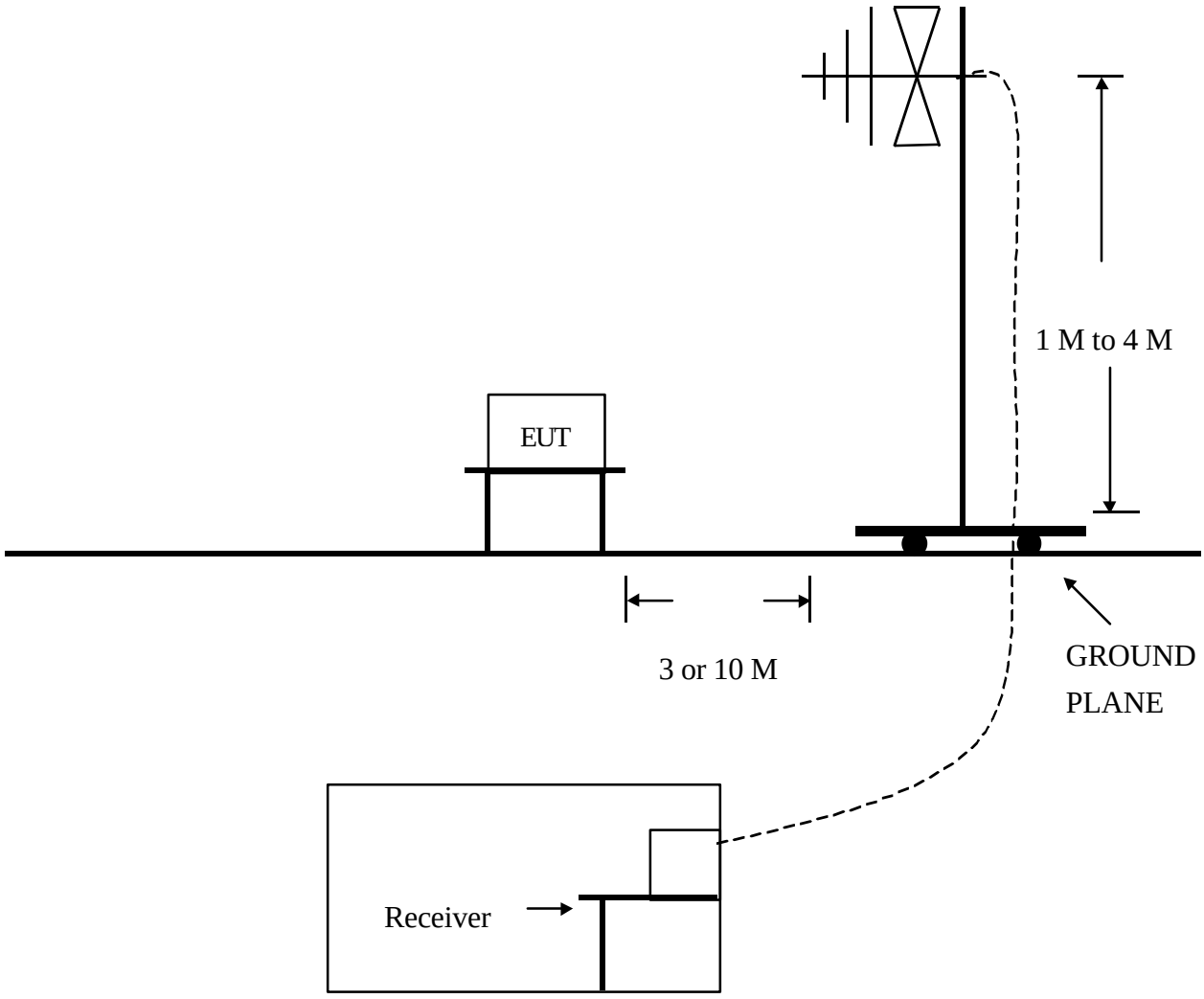
2.1 The EUT was test according to **ANSI C63.4 - 2001 & CISPR 22**.

2.2 The radiated test was performed at HomeTek Lab' s Open Site Ⅲ.

2.3 The frequency range from 30 MHz to 1 GHz, the measurement were made at 10 meters, with a BI-log antenna.

3 TEST SETUP

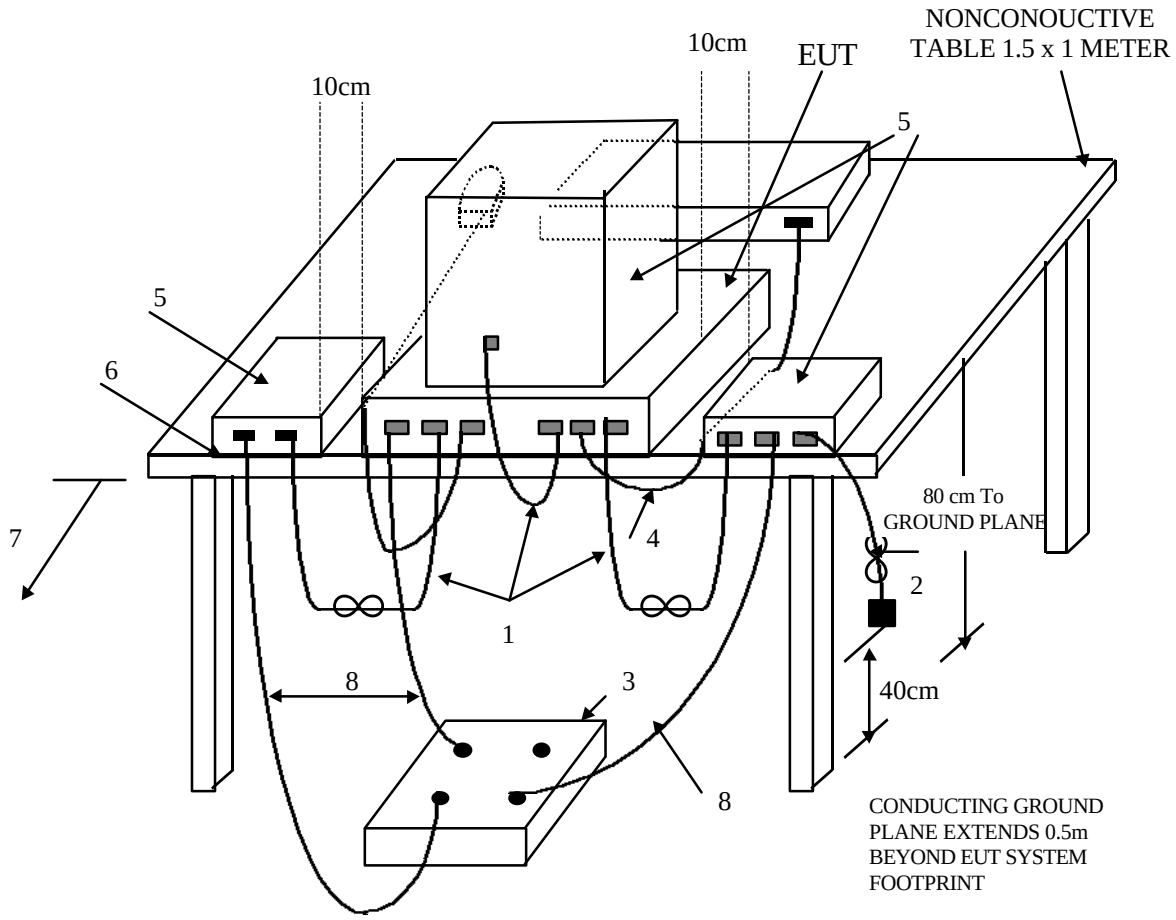
3.1 TEST SETUP OF OPEN SITE.



3.2 TEST SETUP OF EUT

ELECTRICAL AND ELECTRONIC EQUIPMENT IN THE RANGE OF 9kHz TO 40 GHz

ANSI C63.4-2001



(Details for setup configuration, please refer to appendix A.)

LEGEND:

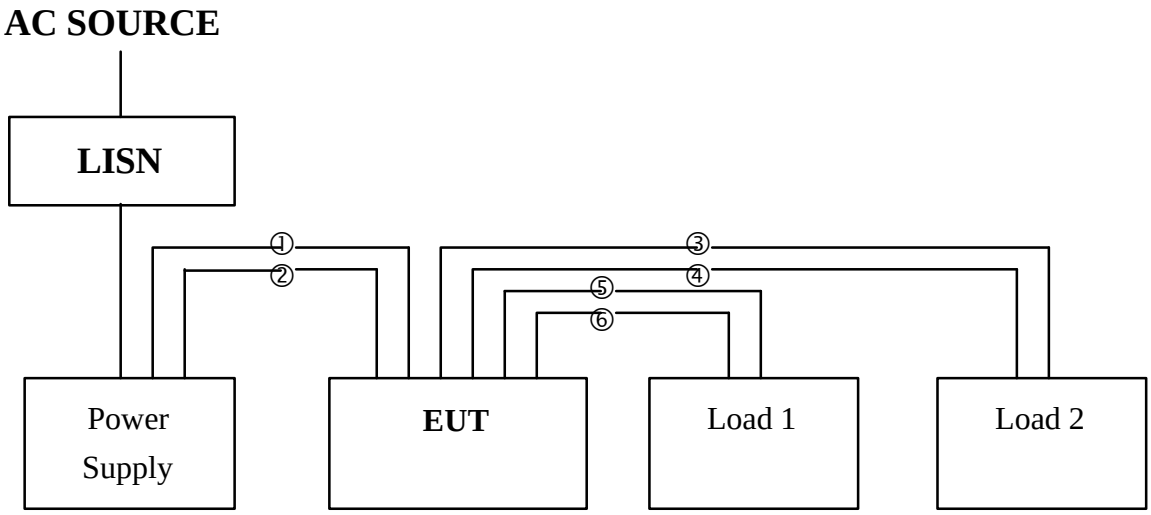
1. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth forming a bundle 30 to 40 cm long, hanging approximately in the middle between ground plane and table.
2. I/O cables that are connected to a peripheral shall be bundled in center. The end of the cable may be terminated if required using correct terminating impedance. The total length shall not exceed 1m.
3. If LISNs are kept in the test setup for radiated emissions, it is preferred that they be installed under the ground plane with the receptacle flush with the ground plane.
4. Cables of hand-operated devices, such as keyboards, mouses, etc., have to be placed as close as possible to the controller.
5. Non-EUT components of EUT system being tested.
6. The rear of all components of the system under test shall be located flush with the rear of the table.
7. No vertical conducting wall used.
8. Power cords drape to the floor and are routed over to receptacle.

Test Configuration

Tabletop Equipment Radiated Emission

4 CONFIGURATION OF THE EUT

The EUT was configured according to **ANSI C63.4 - 2001 & CISPR 22**. All I/O ports were connected to the appropriate peripherals. All peripherals and cables are listed below (including internal device) :



① *DC+ Power Cable x 16*
② *DC- Power Cable x 16*
③ *DC+ Power Cable x 5*
④ *DC- Power Cable x 5*
⑤ *DC+ Power Cable x 4*
⑥ *DC- Power Cable x 4*

Figure 1

4.1 EUT

EUT Type	:	☐Proto Type ☑Engineer Type ☐Mass Production
Condition when received	:	☑Good ☐Damage : _____
Device	:	Power Distributor BOX
Applicant	:	SMART CABLING & TRANSMISSION CORP.
Manufacturer	:	SMART CABLING & TRANSMISSION CORP.
Model Number	:	PD00XXX
Serial Number	:	N/A
FCC ID	:	N/A
Data Cable	:	N/A
Power Cord (DC-IN)	:	Un-Shielded, 1.0 m, 2 pin
Power Cord (DC-OUT)	:	Un-Shielded, 1.0 m, 2 pin
Power Supply Type	:	Linear power supply

4.2 PERIPHERALS

☑ Power Supply

Manufacturer	:	SMART CABLING & TRANSMISSION CORP.
Model Number	:	PW816
Serial Number	:	N/A
FCC ID	:	N/A
Data Cable	:	N/A
Power Cord (AC)	:	Un-Shielded, 1.8 m
Power Cord (DC)	:	Un-Shielded, 1.0 m

☑ Load 1 x 2

Manufacturer	:	HomeTek
Specification	:	DC 24V / 6R / 120W
Power Cord	:	Un-Shielded, 1.0 m

☑ Load 2

Manufacturer	:	HomeTek
Specification	:	DC 12V / 1.5R / 120W
Power Cord	:	Un-Shielded, 1.0 m

4.3 REMARK : N/A

5 EUT OPERATING CONDITION

5.1 The frequency of the EUT is none.

5.2 The radiated emission in the frequency range from 30 MHz - 1000 MHz was investigated in a horizontal and vertical polarization at HomeTek Lab' s open site III.

5.3 Connect AC source 110V to input port of Support Unit (Power Supply)

5.4 DC 24V output mode:

- DC 24V output port of Support Unit (Power Supply) connect to input port of EUT.
- EUT' s DC 24V output port connect to dummy load (6R/120W Resistor x 2).
- Monitor the status of output port of EUT during the test (For EMS Testing).

5.5 DC 12V output mode:

- DC 12V output port of Support Unit (Power Supply) connect to input port of EUT.
- EUT' s DC 12V output port connect to dummy load (1.5R/120W Resistor).
- Monitor the status of output port of EUT during the test (For EMS Testing)

5.6 The photos of radiated test configuration, please refer to appendix A.

6 LIMIT OF RADIATED EMISSION CLASS B

CISPR 22

Frequency (MHz)	Measurement Distance	Limit (dBuV/m)
30 - 230	10 (M)	30
230 - 1000	10 (M)	37

6.1 The tighter limit shall apply at the edge between two frequency bands.

6.2 Measurement distance in meters between the measuring instrument antenna and the closed point of any part of the EUT or peripherals.

7 RESULT OF RADIATED EMISSION TEST

7.1 The frequency range from 30 MHz to 1 GHz was investigated.

7.2 All readings below or equal 1 GHz are quasi-peak or peak values with resolution bandwidth of 120 KHz.

7.3 All readings above 1 GHz are average or peak values with resolution bandwidth of 1 MHz

7.4 The measurements were made at 10 meters of HomeTek Lab' s open site III.

7.5 Temperature : 33 ℃, Humidity : 55 % RH.

7.6 Deviation form the test standards and rules : None

7.7 The radiation emission result were gained by the following method :
Level = Reading Level + Probe Factor (Antenna Factor) + Cable Loss – Preamp Factor
Over Limit = Level – Limit Line

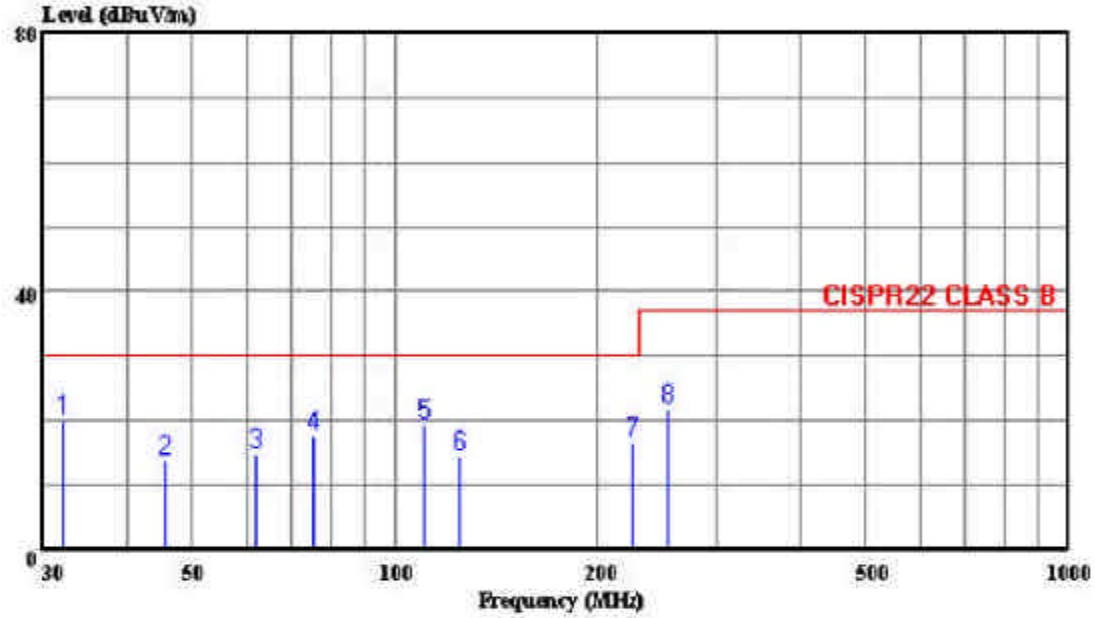
7.8 The radiated mission test was passed at minimum margin :
Vertical 32.03 MHz/ 23.16 dBuV/m, Antenna Height 1.0 Meter,
Turn Table 90 degree, The Mode : DC 24V output mode , Model : PD009 .

7.9 Result : **PASSED**

8 RADIATED EMISSION TEST DATA (PAGE 1)

HomeTek Technology Inc.
No 67-9,Shi-Men Rd;,Tu-Chen City,
Taipei County, Taiwan R.O.C.
Tel:02-22608375
Fax:02-22748013

Data#: 2 File#: 4a026.emi Date: 2005-01-18 Time: 10:35:33



Trace: Ref Trace:

Condition: CISPR22 CLASS B 10m CHASE 2614 OS2604 HORIZONTAL
eut : Power Distributor Box (PD009)
power: FROM Power Supply (110V/60Hz)
memo : 24V MODE

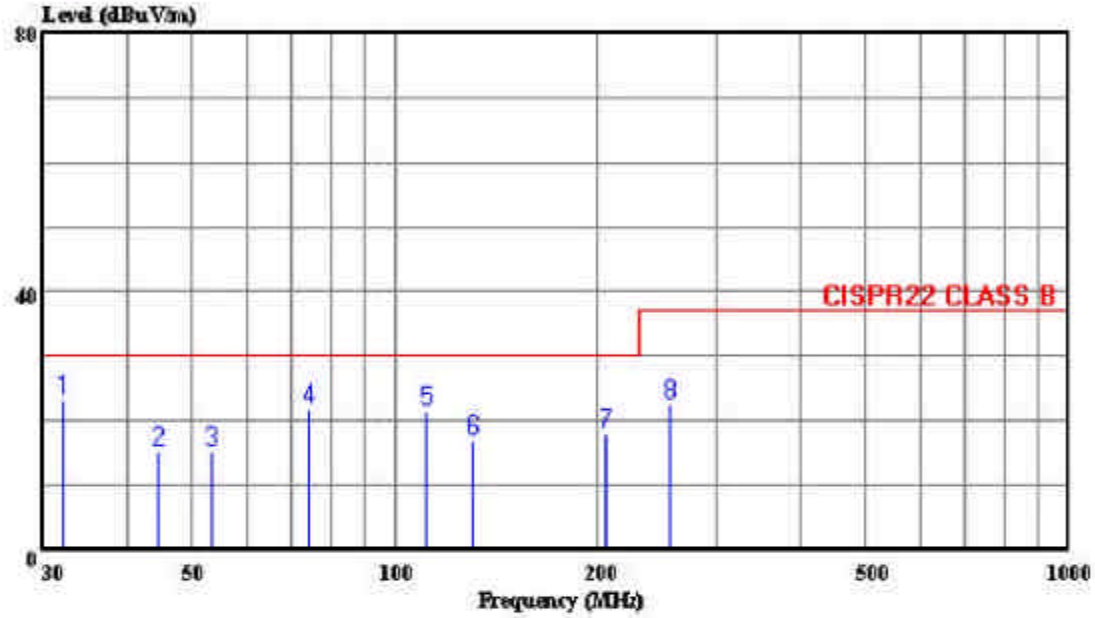
Page: 1

	Freq	Level	Limit Line	Over Limit	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	
1	32.104	20.16	30.00	-9.84	32.52	16.74	0.79	29.89	Peak
2	45.362	13.76	30.00	-16.24	32.42	10.33	0.91	29.89	Peak
3	62.054	14.85	30.00	-15.15	37.81	5.67	1.04	29.67	Peak
4	75.462	17.58	30.00	-12.42	39.52	6.37	1.14	29.45	Peak
5	110.268	19.41	30.00	-10.59	35.62	11.51	1.38	29.10	Peak
6	124.510	14.71	30.00	-15.29	30.87	11.56	1.46	29.18	Peak
7	224.316	16.47	30.00	-13.53	35.27	8.75	2.05	29.59	Peak
8	254.637	21.83	37.00	-15.17	37.15	12.00	2.25	29.56	Peak

9 RADIATED EMISSION TEST DATA (PAGE 2)

HomeTek Technology Inc.
No 67-9,Shi-Men Rd:,Tu-Chen City,
Taipei County, Taiwan R.O.C.
Tel:02-22608375
Fax:02-22748013

Data#: 1 File#: 4a026.emi Date: 2005-01-18 Time: 10:00:38



Trace: Ref Trace:

Condition: CISPR22 CLASS B 10m CHASE 2614 052604 VERTICAL
eut : Power Distributor Box (PD009)
power: FROM Power Supply (110V/60Hz)
memo : 24V MODE

Page: 1

	Freq	Level	Limit Line	Over Limit	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	
1	32.034	23.16	30.00	-6.84	35.53	16.74	0.79	29.89	Peak
2	44.632	15.09	30.00	-14.91	33.28	10.80	0.90	29.89	Peak
3	53.157	15.22	30.00	-14.78	37.25	6.82	0.97	29.82	Peak
4	74.628	21.80	30.00	-8.20	43.84	6.29	1.13	29.46	Peak
5	111.035	21.32	30.00	-8.68	37.52	11.52	1.38	29.10	Peak
6	130.641	16.84	30.00	-13.16	33.24	11.32	1.49	29.22	Peak
7	205.332	18.08	30.00	-11.92	37.15	8.62	1.93	29.61	Peak
8	255.232	22.40	37.00	-14.60	37.62	12.08	2.26	29.56	Peak

SAMPLE OF FCC LABEL

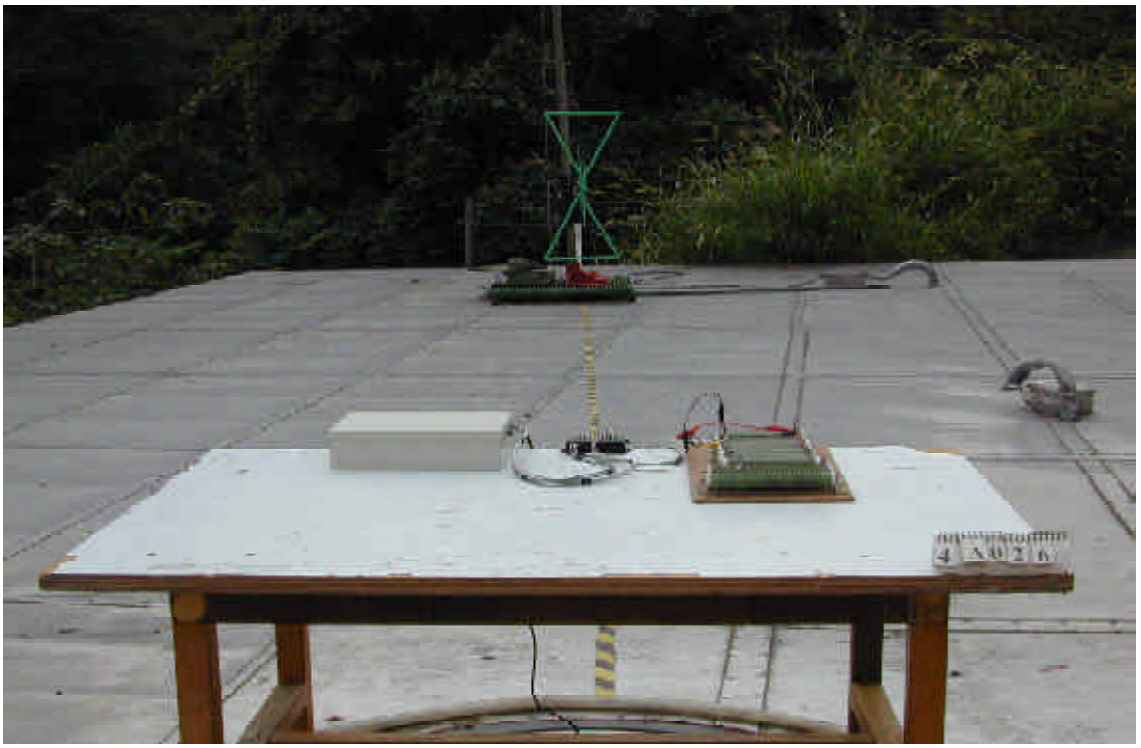
This device complies with part 15 of the FCC Rules.
Operation is subject to the following two conditions: (1)
This device may not cause harmful interference. And (2)
this device must accept any interference received, including interference that may cause undesired operation.

Appendix A

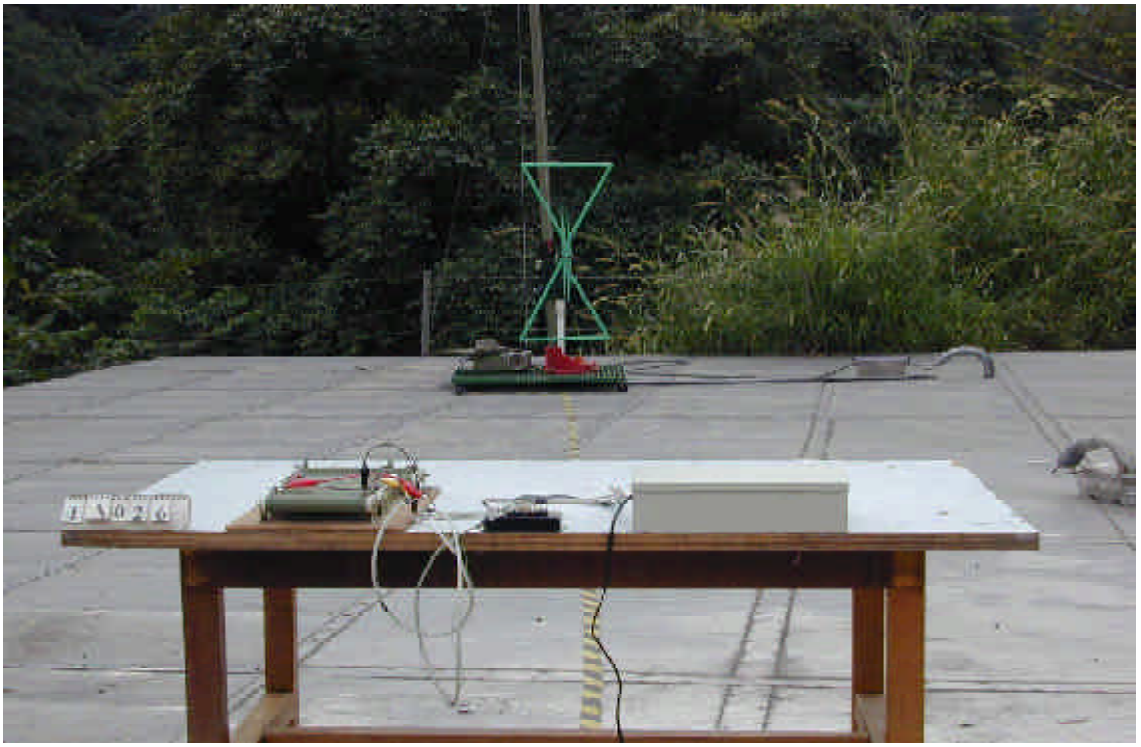
PHOTOS OF TEST CONFIGURATION

PHOTO OF RADIATED EMISSION TEST

Test Mode : DC 24V MOE , Model : PD009



Front View



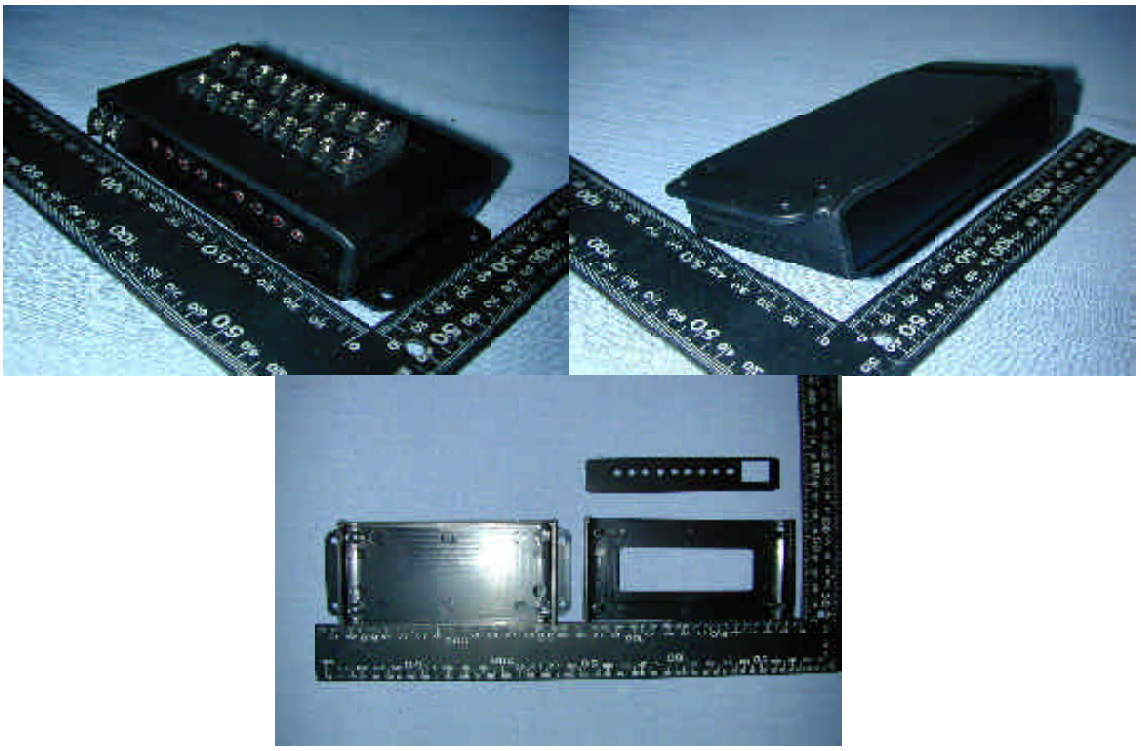
Rear View

Appendix B

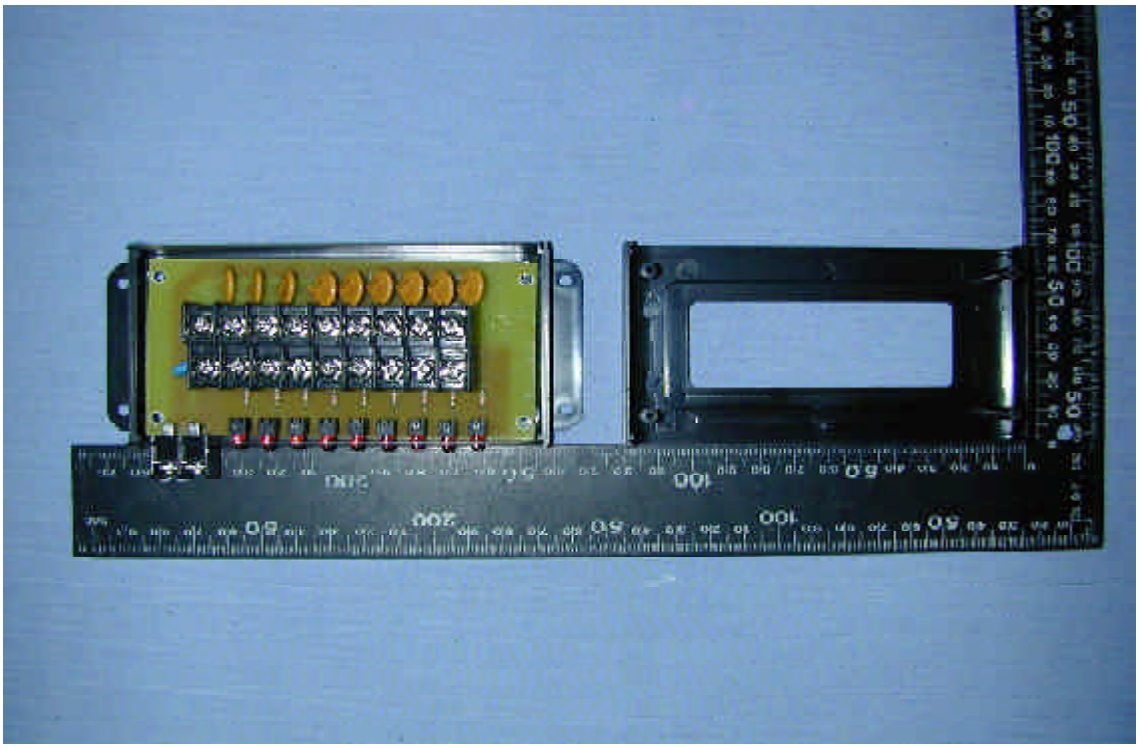
PHOTOS OF EUT

PHOTO OF EUT

Model : PD009



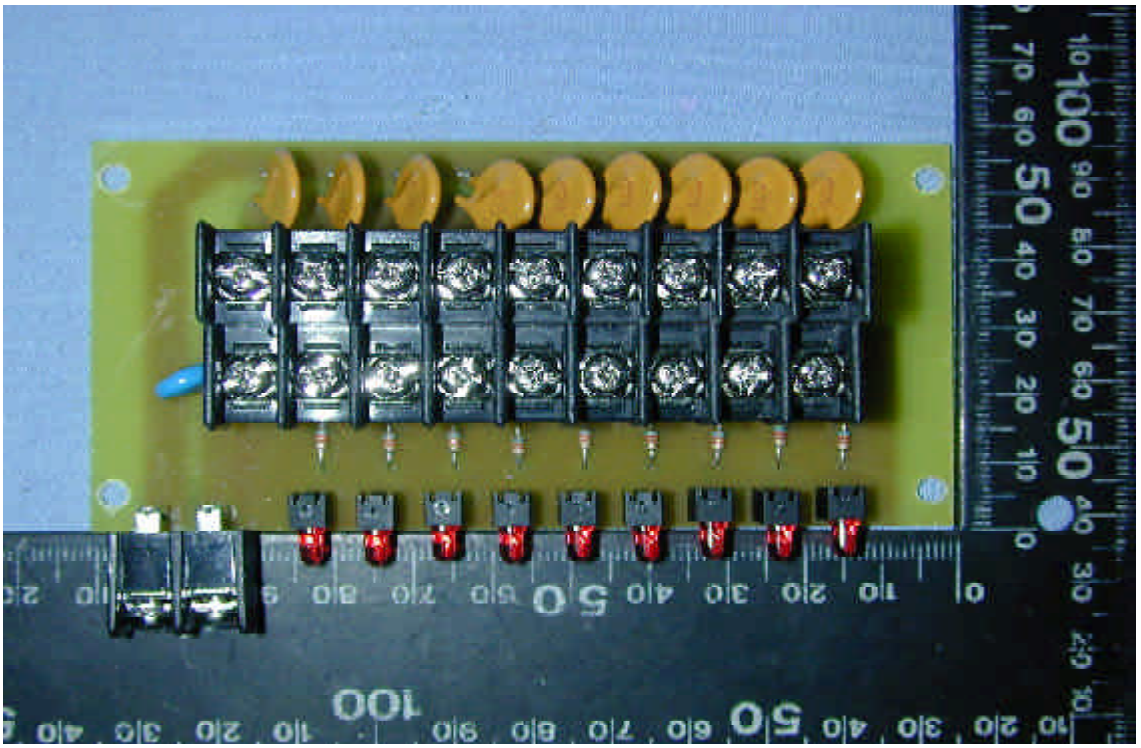
Full View of EUT



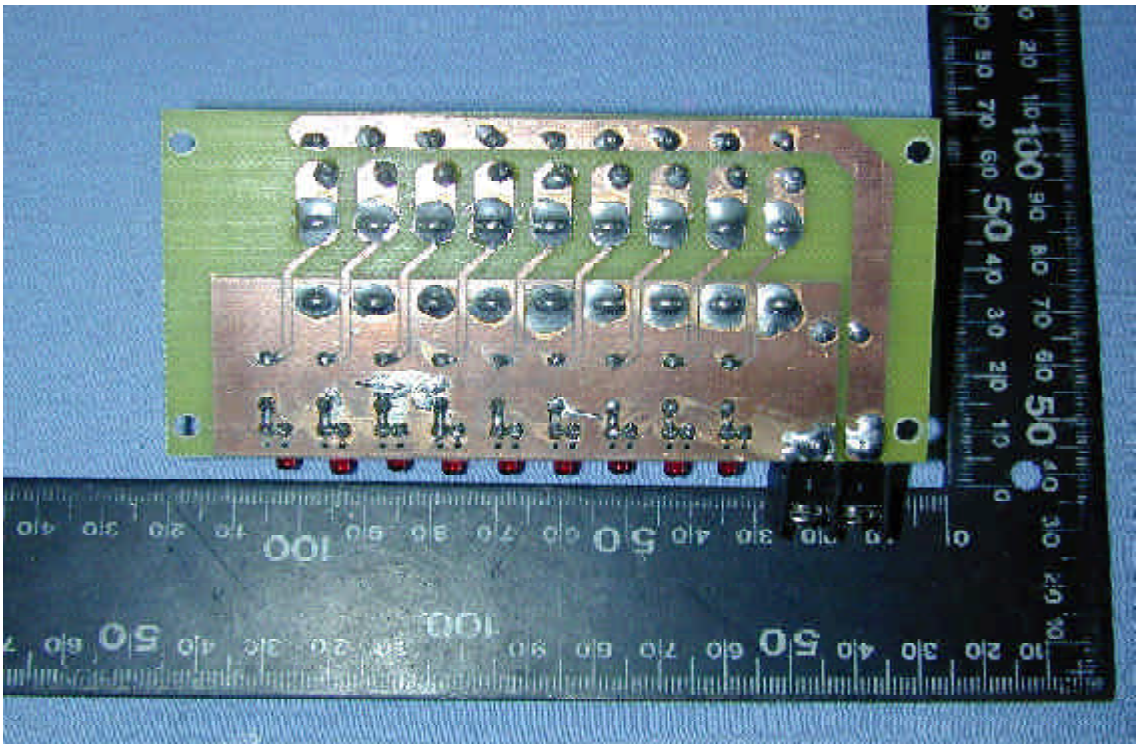
Inside View of EUT

PHOTO OF EUT

Model : PD009



Component Side of Main Board



Solder Side of Main Board

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

ISO/IEC 17025:1999
ISO 9002:1994

Certificate of Accreditation

HOMETEK TECHNOLOGY INC.
TAIPEI SHIEN 236
TAIWAN

is recognized by the National Voluntary Laboratory Accreditation Program for satisfactory compliance with criteria set forth in NIST Handbook 150:2001, all requirements of ISO/IEC 17025:1999, and relevant requirements of ISO 9002:1994. Accreditation is awarded for specific services, listed on the Scope of Accreditation, for:

ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS

September 30, 2005
Effective through

For the National Institute of Standards and Technology
NVLAP Lab Code: 200331-0

NVLAP-01C (06-01)

National Institute of Standards and Technology

NVLAP®

National Voluntary Laboratory Accreditation Program

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation

ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS

NVLAP LAB CODE 200331-0

HOMETEK TECHNOLOGY INC.
P.O Box: 13-131, Pan-Chiao City
No. 67-9 Shir Men Rd., Tu Chen City
Taipei Shien 236
TAIWAN
Mr. Grant Huang
Phone: 886-2-22608375 Fax: 886-2-22748013
E-Mail: hometek@ms15.hinet.net

NVLAP Code	*Designation / Description*
Emissions Test Methods:	
12/CIS22	IEC/CISPR 22 (1997) & EN 55022 (1998) + A1(2000): Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22 (1993) and EN 55022 (1994): Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1 (1995) and Amendment 2 (1996)
12/CIS22b	CNS 13438 (1997): Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/FCC15b	ANSI C63.4 (2001) with FCC Method 47 CFR Part 15, Subpart B: Unintentional Radiators

September 30, 2005

Effective through

For the National Institute of Standards and Technology

National Institute of Standards and Technology

NVLAP®

National Voluntary Laboratory Accreditation Program

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation

ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS

NVLAP LAB CODE 200331-0

HOMETEK TECHNOLOGY INC.

NVLAP Code	*Designation / Description*
12/T51	AS/NZS CISPR 22 (2002) and AS/NZS 3548 (1997): Electromagnetic Interference - Limits and Methods of Measurement of Information Technology Equipment

September 30, 2005

Effective through

For the National Institute of Standards and Technology