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 : 3F., No. 4, Lane 130, Min-Chung Rd.,
Hsin-Tien City, Taipei Hsien, Taiwan, R. O. C.
EUT : Twisted Pair Transmission
MODEL NO. : TPP0XXX
FCC ID : N/A

MEASUREMENT PROCEDURE USED

PART 15 SUBPART B OF FCC RULES AND REGULATIONS
(47 CFR PART 15) FCC / ANSI C63.4-2001 / CISPR 22-1997

Under Part 15, SUBPART B.

CLASS A

PREPARED BY :

HomeTek Technology Inc.

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

Taipei Hsien. Taiwan, R. O. C.

Report # : FA3C028

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CERTIFICATION

for

FCC Part 15, Subpart B Class A

EUT	:	Twisted Pair Transmission
MODEL NO.	:	TPP0XXX
FCC ID	:	N/A
Receipt Date	:	03/18/2004 Final Test Date: 03/30/2004
REPORT #	:	FA3C028
APPLICANT	:	SMART CABLING & TRANSMISSION CORP.
ADDRESS	:	3F., No. 4, Lane 130, Min-Chung Rd., Hsin-Tien City, Taipei Hsien, Taiwan, R. O. C.

MEASUREMENT PROCEDURE USED :

PART 15 SUBPART B OF FCC RULES AND REGULATIONS
(47 CFR PART 15) FCC / ANSI C63.4 (2001) / CISPR 22 (1997)

We hereby show that:

The measurement shown in this test report were made in accordance with and no deviation with the procedures indicated, and the maximum energy emitted by the equipment was found to be within the FCC limits applicable.

This test result 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.

PREPARED BY : Frankie DATE : 3/30/2004
FRANKIE WANG

CHECK BY : Albert Tsai DATE : 3/30/2004
ALBERT TSAI / Senior Engineer

APPROVED BY : Tommy Rau DATE : 3/30/2004
TOMMY RAU / Manager

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SAMPLE OF FCC LABEL **17**

APPENDIX A

PHOTOS OF TEST CONFIGURATION

APPENDIX B

PHOTOS OF EUT

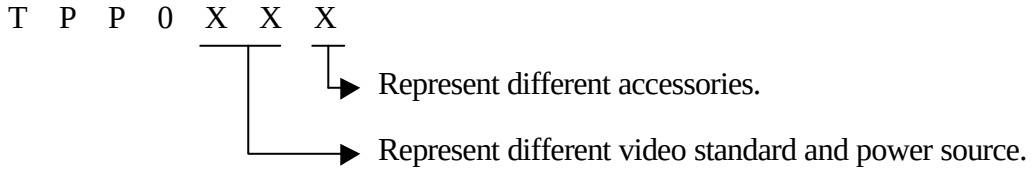
GENERAL INFORMATION

1	APPLICANT	:	SMART CABLING & TRANSMISSION CORP.
2	ADDRESS	:	3F., No. 4, Lane 130, Min-Chung Rd.,
			Hsin-Tien City, Taipei Hsien, Taiwan, R. O. C.
3	MANUFACTURER	:	SMART CABLING & TRANSMISSION CORP.
4	ADDRESS	:	3F., No. 4, Lane 130, Min-Chung Rd.,
			Hsin-Tien City, Taipei Hsien, Taiwan, R. O. C.

5 DESCRIPTION OF EUT :

EUT	:	Twisted Pair Transmission
FCC ID	:	N/A
Model Number	:	TPP0XXX
Serial #	:	N/A

5.1 The difference between series of models TPP0XXX is shown as below:



The worst case of EMI test model is TPP016 and the final test data were shown in this test report.

6 FEATURES OF EUT :

Model No. TPP016

6.1	Video Input Port	16 Port, 1Vp-p, 75ohms (BNC Connector)
6.2	Video Output Port	16 Port (Terminal Block)
6.3	Recommend Cable	CAT 5 Cable 4 Pairs (24 AWG)
6.4	Power Adapter	Included
6.5	Material	Metal Black

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 - 1997.**

2 RESULT OF CONDUCTED EMISSION TEST

N/A (This standard is not applicable to this EUT (Model : TPP016)).

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/2003
2	EMI TEST RECEIVER	20Hz ~ 26.5GHz	ROHDE & SCHWARZ	ESMI 845442/006	JAN/2004
3	PRE-AMPLIFIER	9KHz ~ 3000MHz	ADVANTEST	BB525C 90081001	OCT/2003
4	ANTENNA (BI-LOG)	25MHz ~ 2GHz	SCHAFFNER	CBL6112B S/N : 2611	MAY/2003
5	ANTENNA (DIPOLE)	30 ~ 300MHz	ROHDE & SCHWARZ	HZ-12 842899/0008	JUL/2003
6	ANTENNA (DIPOLE)	300 ~ 1000MHz	ROHDE & SCHWARZ	HZ-13 842007/0004	JUL/2003
7	Attenuation	50Ω/10dB	Mini-Circuit	NAT-10 AT-001	JUL/2003
8	Cable	10m	SUHNER	RG214/U OS3-003	DEC/2003
9	Cable	14m	BELDEN	9913 OS3-001	DEC/2003
10	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 - 1997**.

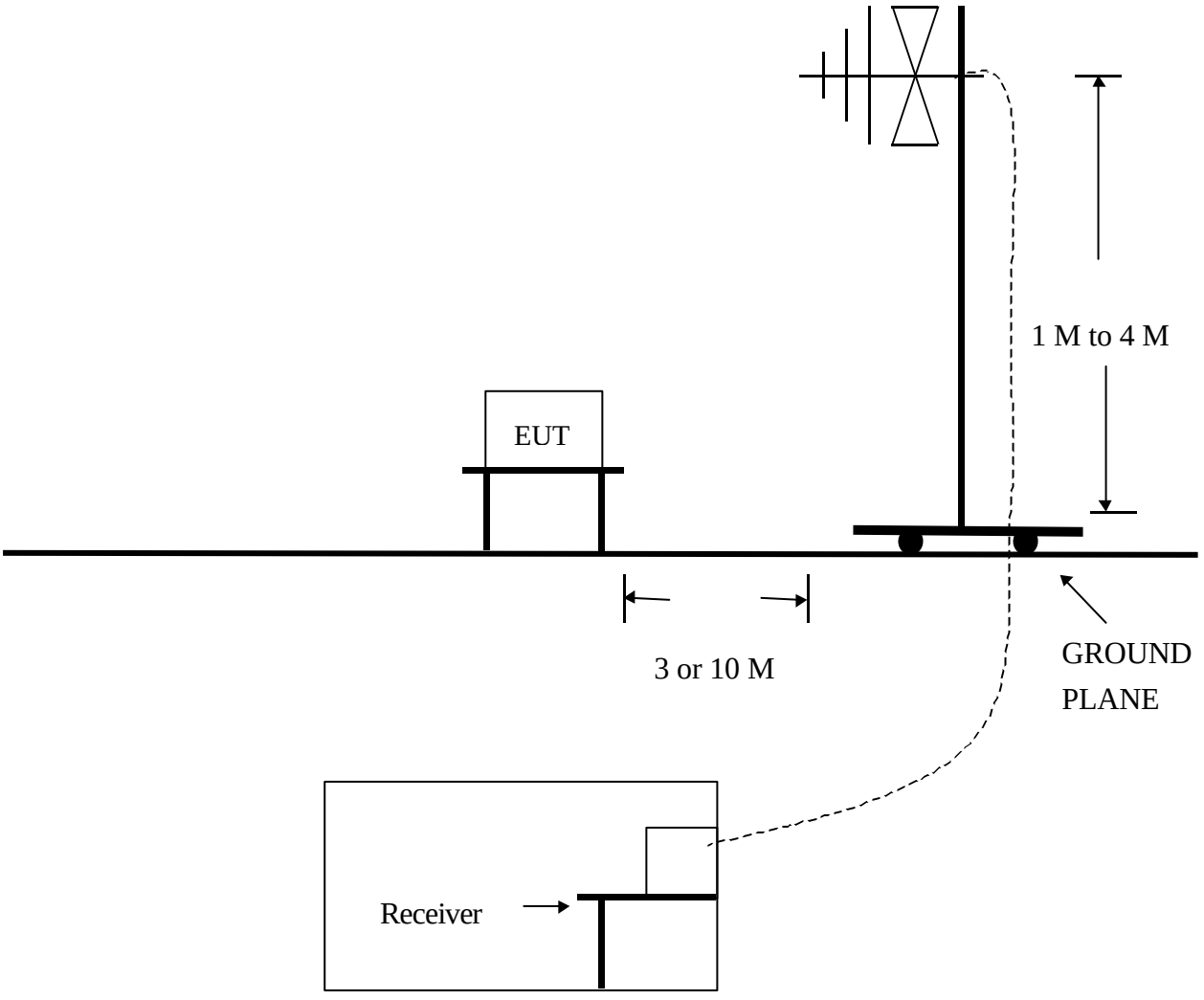
2.2 The radiated test was performed at HomeTek Lab' s Open Site III.

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

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

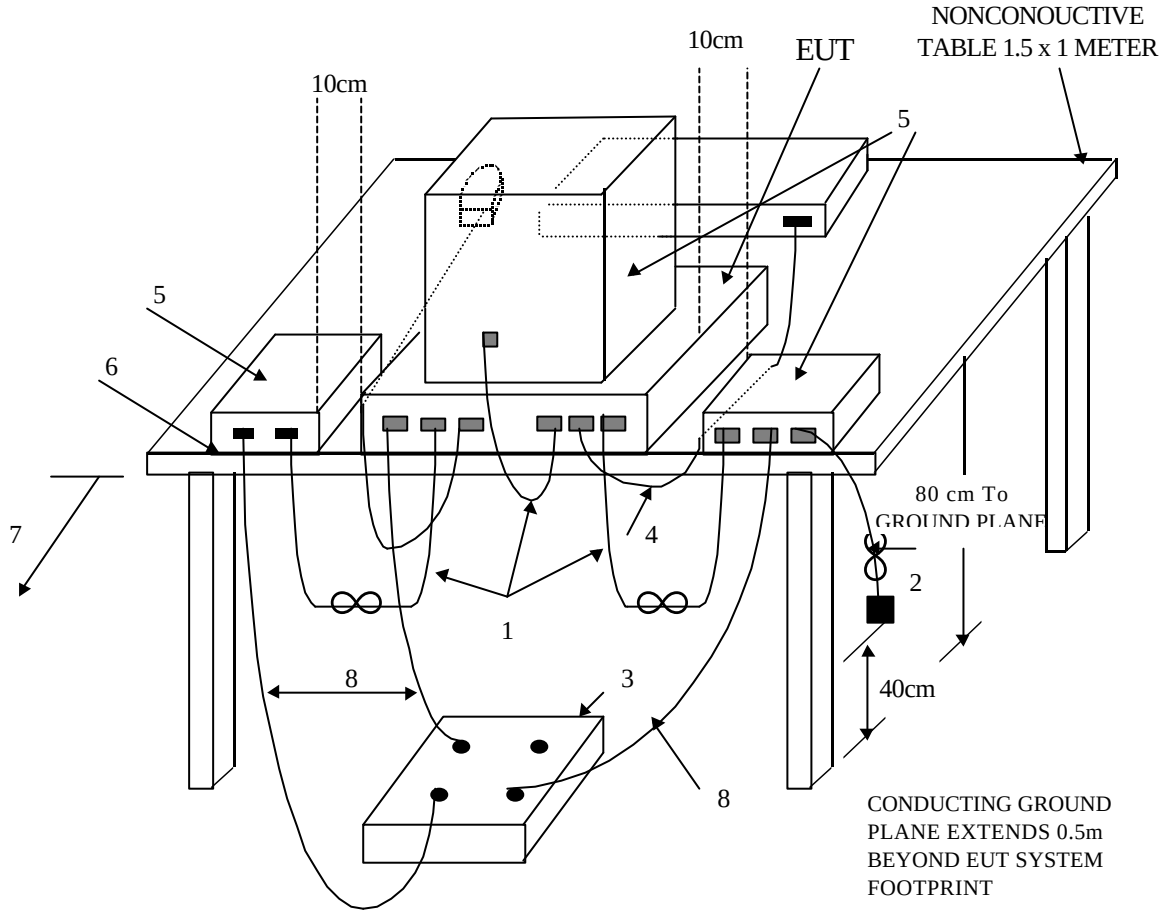
3 TEST SETUP

3.1 TEST SETUP OF OPEN SITE.



3.2 TEST SETUP OF EUT

ANSI
ELECTRICAL AND ELECTRONIC EQUIPMENT IN THE RANGE OF 9kHz TO 40 GHz 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 - 1997**. All I/O ports were connected to the appropriate peripherals. All peripherals and cables are listed below (including internal device) :

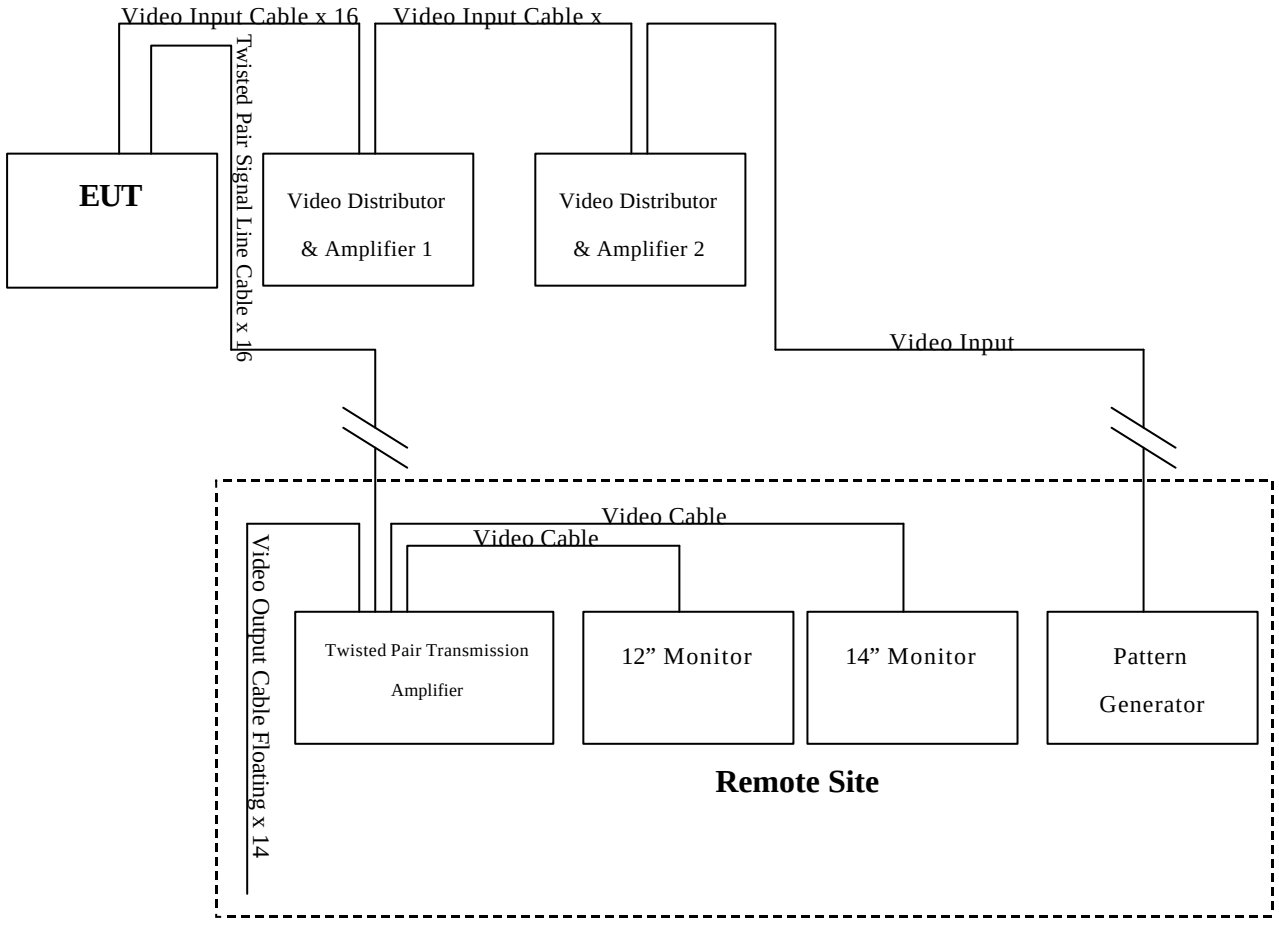


Figure 1

4.1 EUT

EUT Type	:	☐Proto Type ☑Engineer Type ☐Mass Production
Condition when received	:	☑Good ☐Damage : _____
Device	:	Twisted Pair Transmission
Applicant	:	SMART CABLING & TRANSMISSION CORP.
Manufacturer	:	SMART CABLING & TRANSMISSION CORP.
Model Number	:	TPP0XXX
Serial Number	:	N/A
FCC ID	:	N/A
Data Cable1 (Video Input)	:	Shielded, 1.8 m, Metal Type
Data Cable2 (Twisted Pair Signal Line)	:	Un-Shielded, 6.0 m, Plastics Type
Power Cord	:	N/A
Power Supply Type	:	N/A

4.2 PERIPHERALS

☑ Video Distributor & Amplifier 1

Manufacturer	:	SMART CABLING
Model Number	:	CD108
Serial Number	:	N/A
FCC ID	:	N/A
Data Cable	:	Shielded, 1.8 m
Power Cord	:	Un-Shielded, 1.9 m

☑ Video Distributor & Amplifier 2

Manufacturer	:	SMART CABLING
Model Number	:	CD816A
Serial Number	:	N/A
FCC ID	:	N/A
Data Cable	:	Shielded, 1.8 m
Power Cord	:	Un-Shielded, 1.9 m

☑ Pattern Generator (Remote Site)

Manufacturer	:	LEADER
Model Number	:	408
Serial Number	:	3037775
FCC ID	:	FCC DoC
Data Cable	:	Shielded, 10 m
Power Cord	:	Un-Shielded, 1.8 m

☑ Twisted Pair Transmission Amplifier (Remote Site)

Manufacturer	:	SMART CABLING
Model Number	:	TPA016
Serial Number	:	N/A
FCC ID	:	N/A
Data Cable	:	Un-Shielded, 6.0 m
Power Cord	:	Un-Shielded, 1.9 m

☑ 14” Monitor (Remote Site)

Manufacturer	:	YOKO
Model Number	:	YK-8111
Serial Number	:	N/A
FCC ID	:	N/A
Data Cable	:	Shielded, 1.8 m
Power Cord	:	Un-Shielded, 1.8 m

☑ 12” Monitor (Remote Site)

Manufacturer	:	YOKO
Model Number	:	YK-8102
Serial Number	:	N/A
FCC ID	:	N/A
Data Cable	:	Shielded, 1.8 m
Power Cord	:	Un-Shielded, 1.8 m

4.3 REMARK : N/A

5 EUT OPERATING CONDITION

5.1 The frequency of the EUT is none.

5.2 Configure the EUT according to the **ANSI C63.4 – 2001 & CISPR 22 - 1997**.

5.3 Turn on all the power of EUT and peripheral.

5.4 Remote pattern generator send 1KHz audio and color bar signal to EUT.

5.5 Monitor the output signal of EUT during the test. (For EMS testing)

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

6 LIMIT OF RADIATED EMISSION CLASS A

Frequency (MHz)	Measurement Distance	dBuV/m	uV/m
30 - 88	10 (M)	39	90
88 - 216	10 (M)	43.5	150
216 - 960	10 (M)	46.4	210
Above 960	10 (M)	49.5	300

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 °C, Humidity : 55 % RH.

7.6 Deviation form the test standards and rules : None

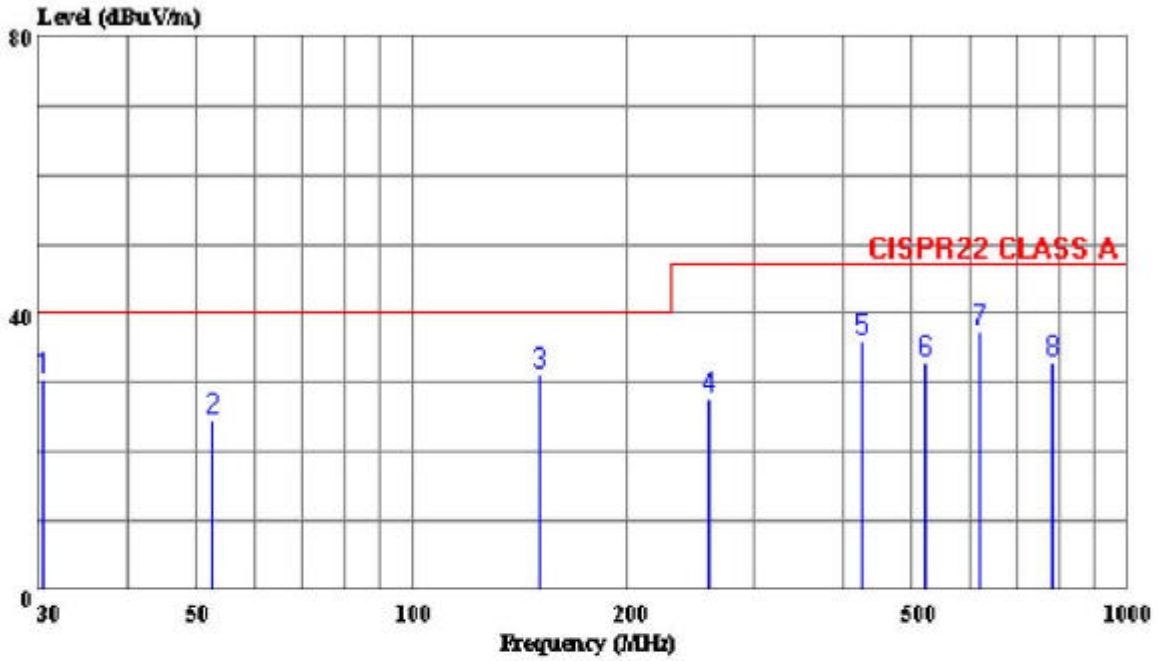
7.7 The radiation emission result were gained by the following method :
Level = Reading Level + Probe Factor (Antenna Factor) + Cable Loss – Preamp Factor
Over Limit = Level – Limit Line

7.8 The radiated mission test was passed at minimum margin :
Vertical 215.50 MHz/ 31.63 dBuV/m, Antenna Height 1 Meter,
Turn Table 270 degree, Model : TPP016 .

7.1 Result : **PASSED**

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#: 3C028.EMI Date: 2004-03-30 Time: 10:39:50



Trace: Ref Trace:

Condition: CISPR22 CLASS A 10m CHASE 2611 052703 HORIZONTAL
eut : Twisted Pair Transmission
power: N/A
memo : TPP016 ALL CABLE

	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	30.420	30.38	40.00	-9.62	40.00	17.76	0.82	28.20	Peak
2	52.600	24.59	40.00	-15.41	45.00	6.67	1.12	28.20	Peak
3	150.300	31.09	40.00	-8.91	48.00	9.42	1.72	28.05	Peak
4	260.300	27.85	47.00	-19.15	41.00	12.40	2.25	27.80	Peak
5	425.200	36.09	47.00	-10.91	45.00	15.71	2.97	27.59	Peak
6	523.200	32.83	47.00	-14.17	39.00	17.58	3.37	27.12	Peak
7	620.500	37.44	47.00	-9.56	42.00	18.41	3.75	26.72	Peak
8	786.500	32.86	47.00	-14.14	35.00	19.70	4.41	26.25	Peak

HomeTek Technology Inc.
No 67-9,Shi-Men Rd;,Tu-Chen City,
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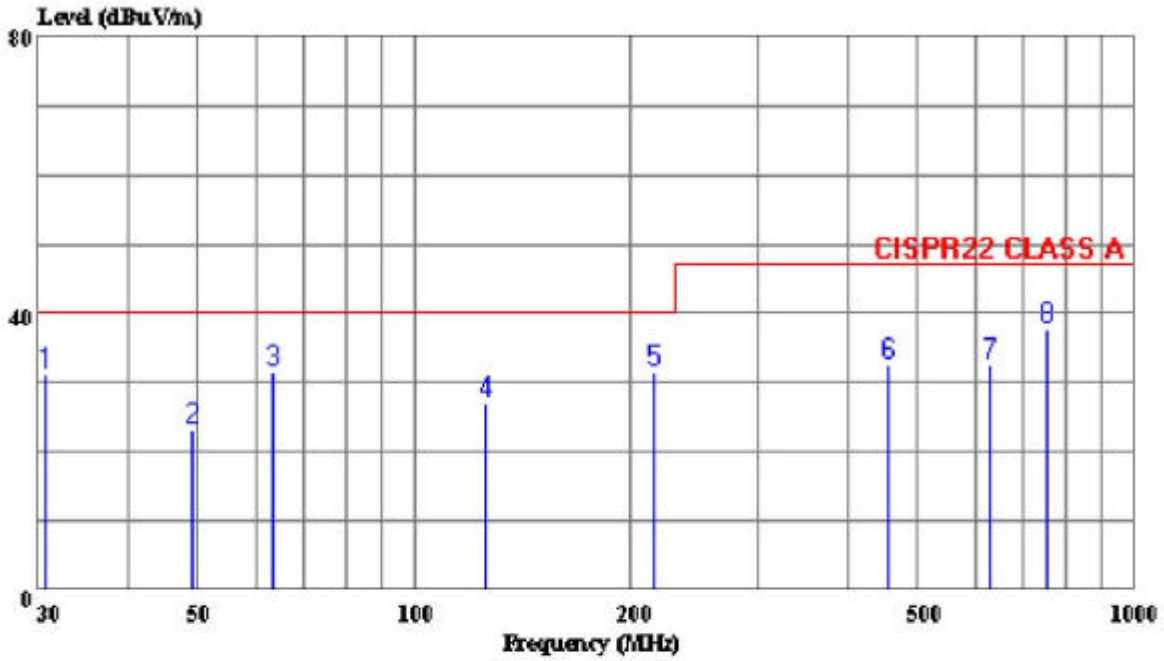
Tel:02-22608375
Fax:02-22748013

Data#: 1 File#: 3C028.EMI Date: 2004-03-30 Time: 10:36:18



Trace: Ref Trace:

Condition: CISPR22 CLASS A 10m CHASE 2611 052703 VERTICAL
eut : Twisted Pair Transmission
power: N/A
memo : TPP016 ALL CABLE

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	30.590	31.17	40.00	-8.83	41.00	17.54	0.83	28.20	Peak
2	49.260	23.22	40.00	-16.78	43.00	7.33	1.09	28.20	Peak
3	63.500	31.45	40.00	-8.55	53.00	5.45	1.20	28.20	Peak
4	125.600	27.14	40.00	-12.86	42.00	11.68	1.60	28.13	Peak
5	215.500	31.63	40.00	-8.37	49.00	8.47	2.04	27.87	Peak
6	456.260	32.69	47.00	-14.31	41.00	16.04	3.10	27.44	Peak
7	630.200	32.57	47.00	-14.43	37.00	18.49	3.77	26.69	Peak
8	756.260	37.64	47.00	-9.36	40.00	19.70	4.25	26.31	Peak

SAMPLE OF FCC LABEL

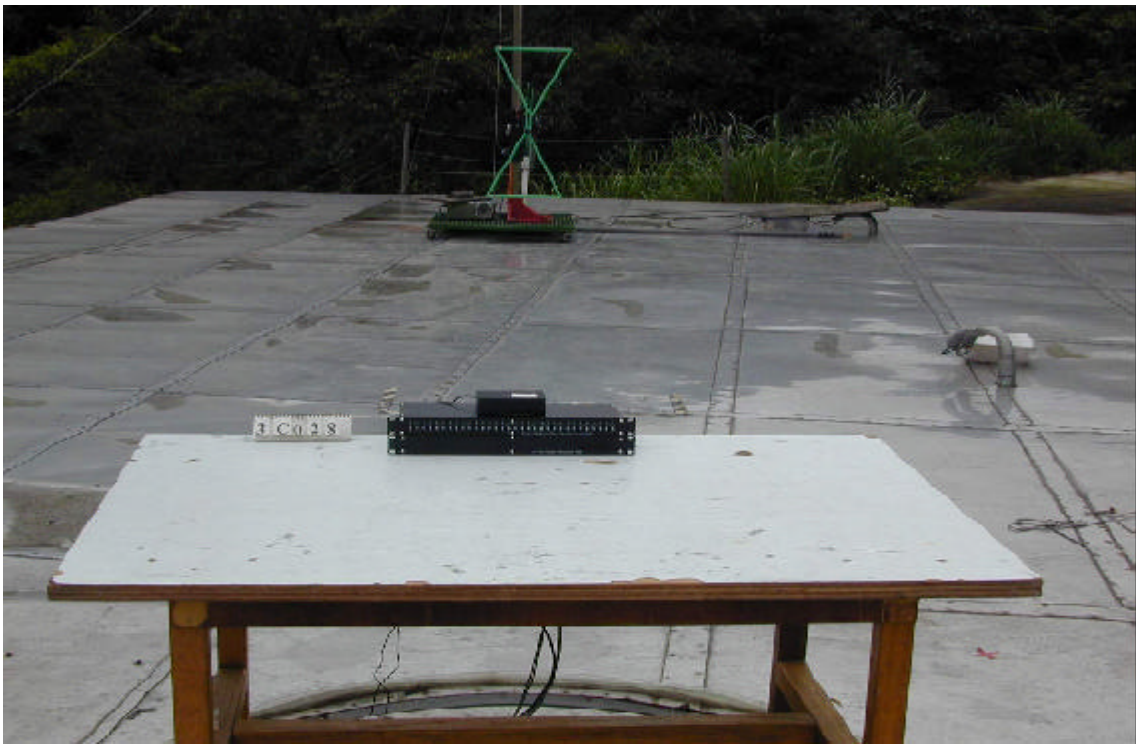
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference. And (2) this device must accept any interference received, including interference that may cause undesired operation.

Appendix A

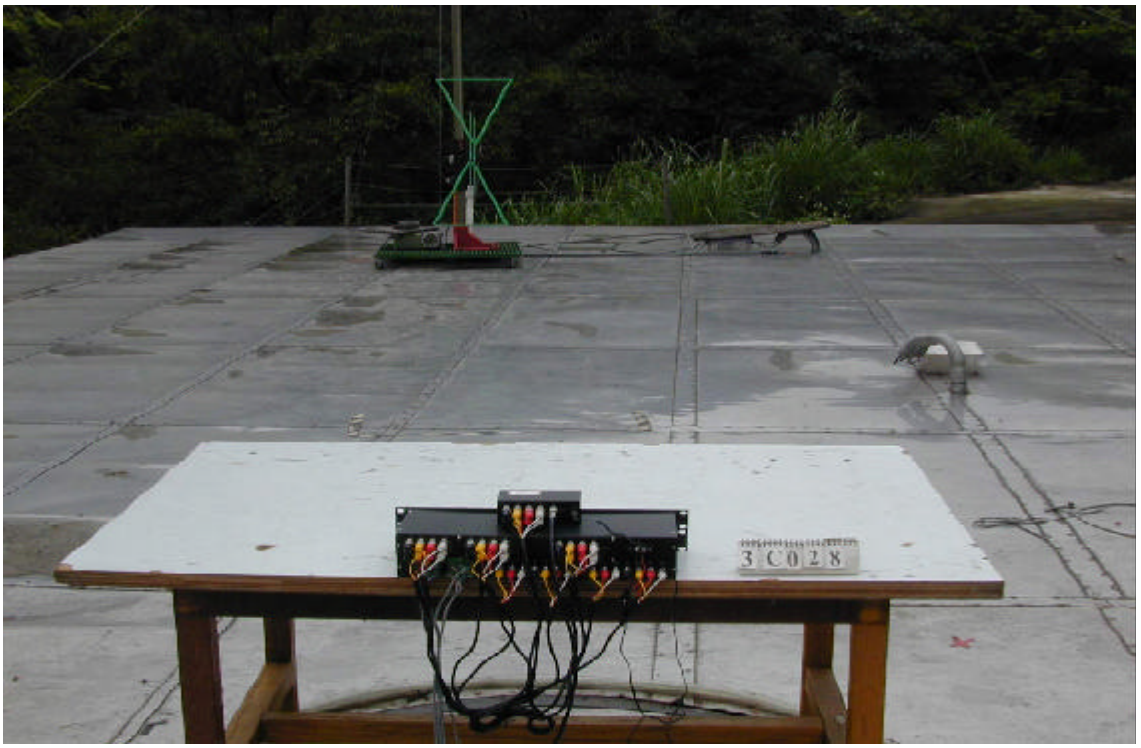
PHOTOS OF TEST CONFIGURATION

PHOTO OF RADIATED EMISSION TEST

Model : TPP016



Front View



Rear View

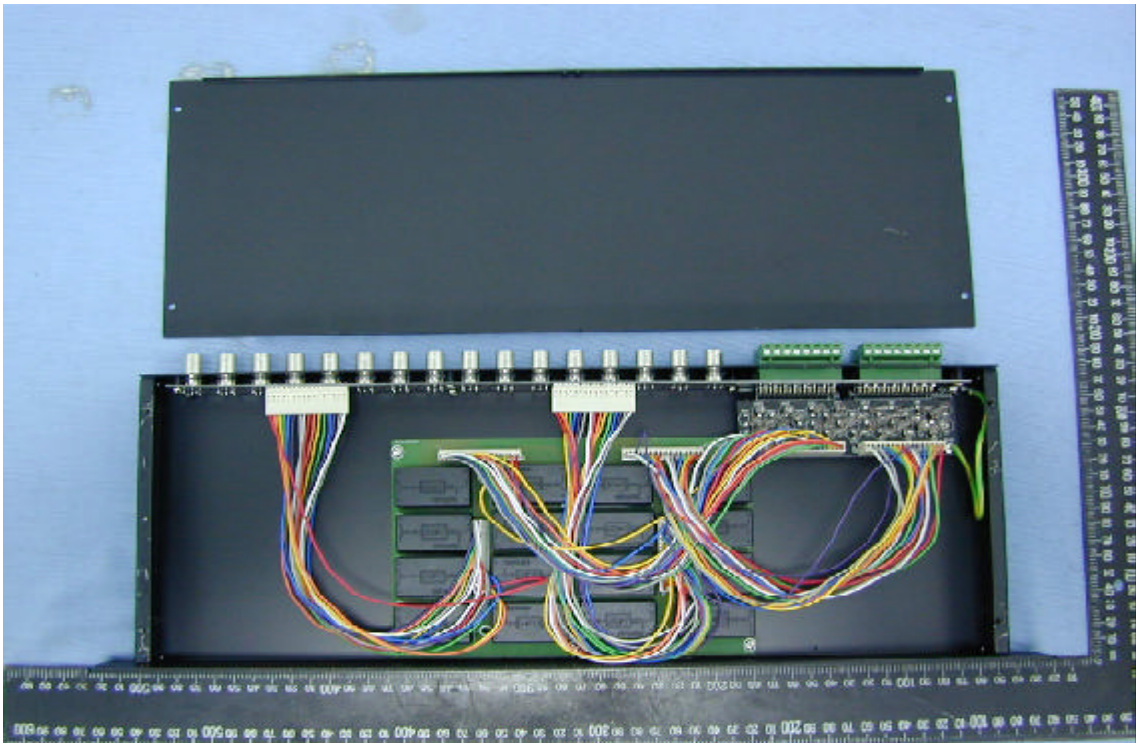
Appendix B

PHOTOS OF EUT

PHOTO OF EUT

Model : TPP016

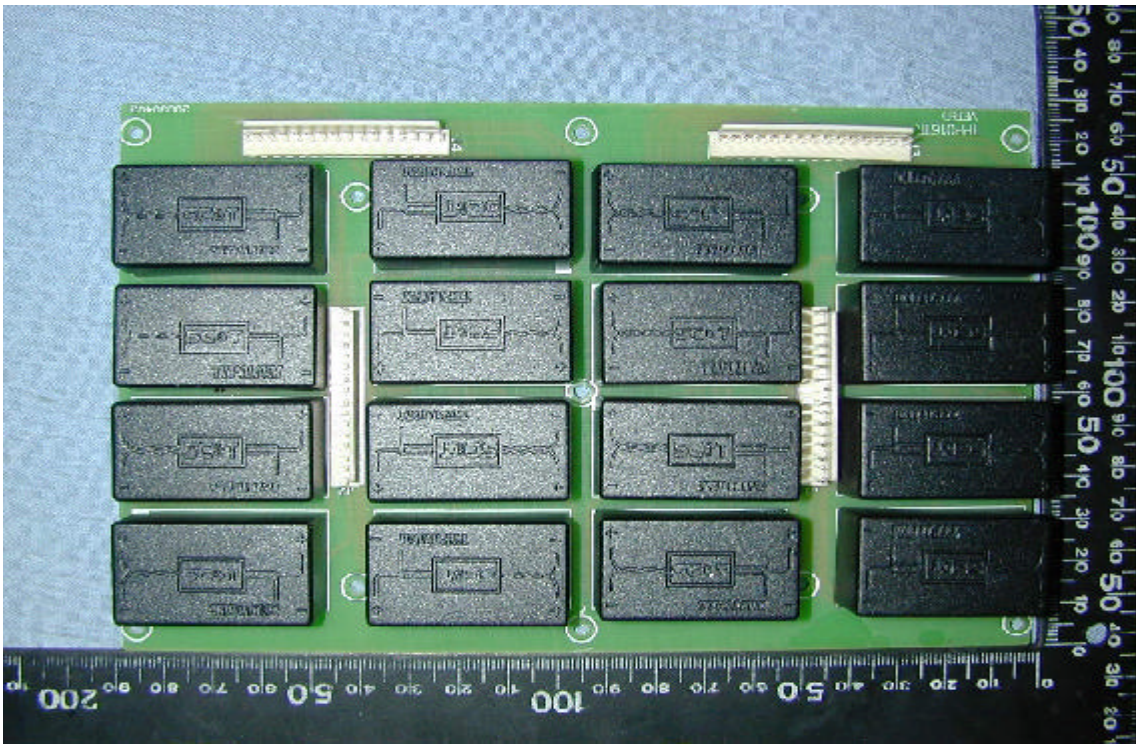
Full View of EUT



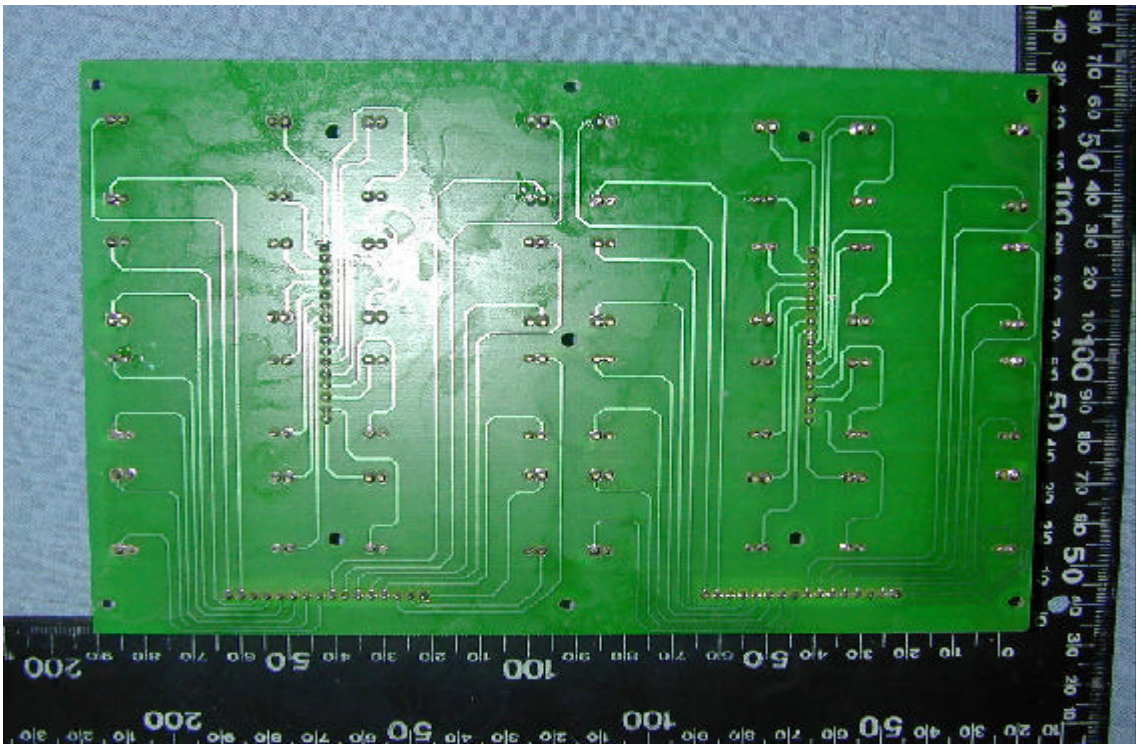
Inside View of EUT

PHOTO OF EUT

Model : TPP016



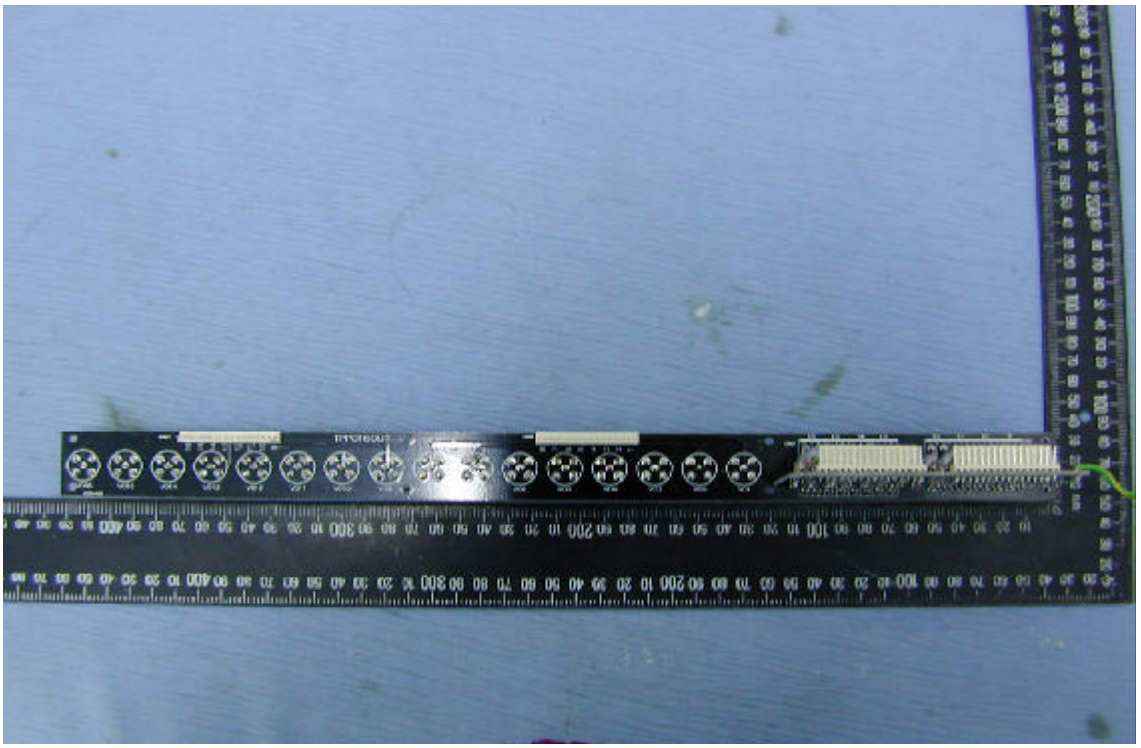
Component Side of Main Board - 1



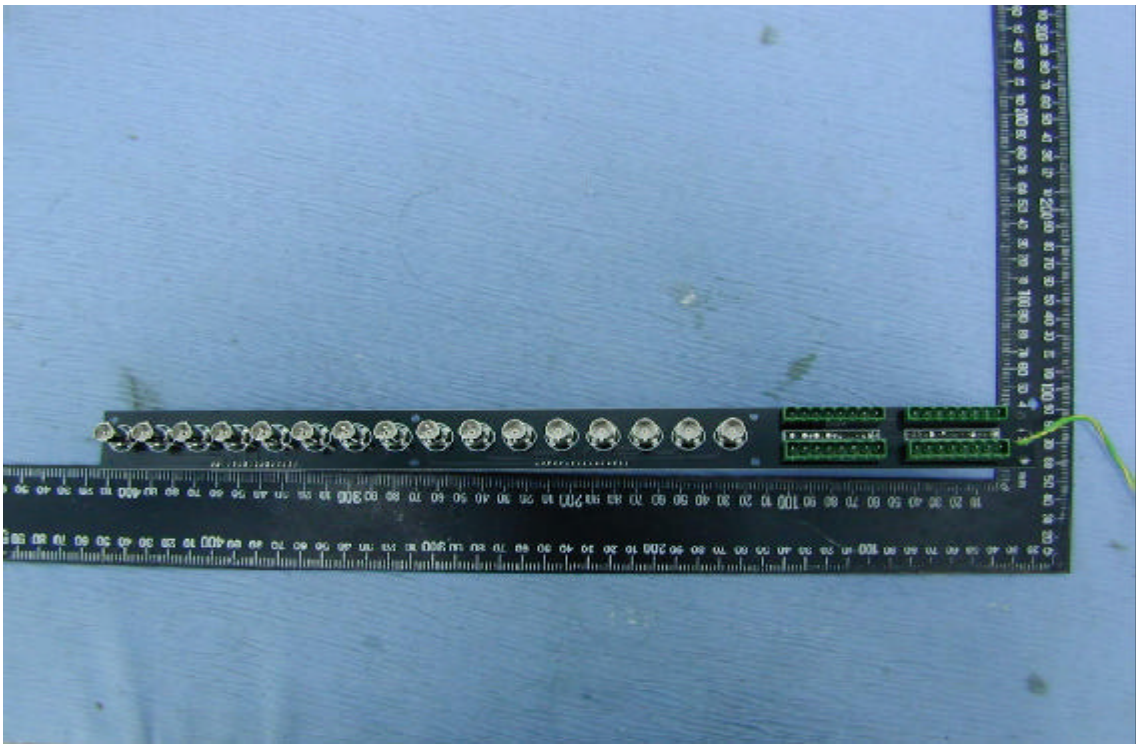
Solder Side of Main Board - 1

PHOTO OF EUT

Model : TPP016



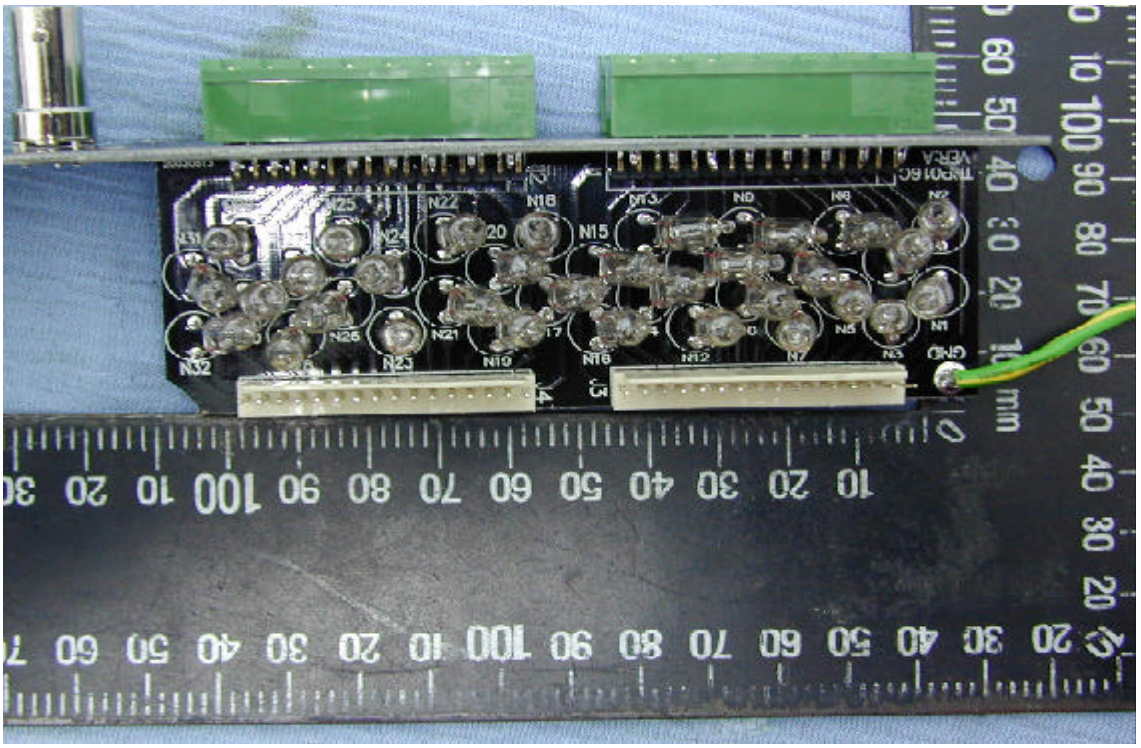
Component Side of Main Board - 2



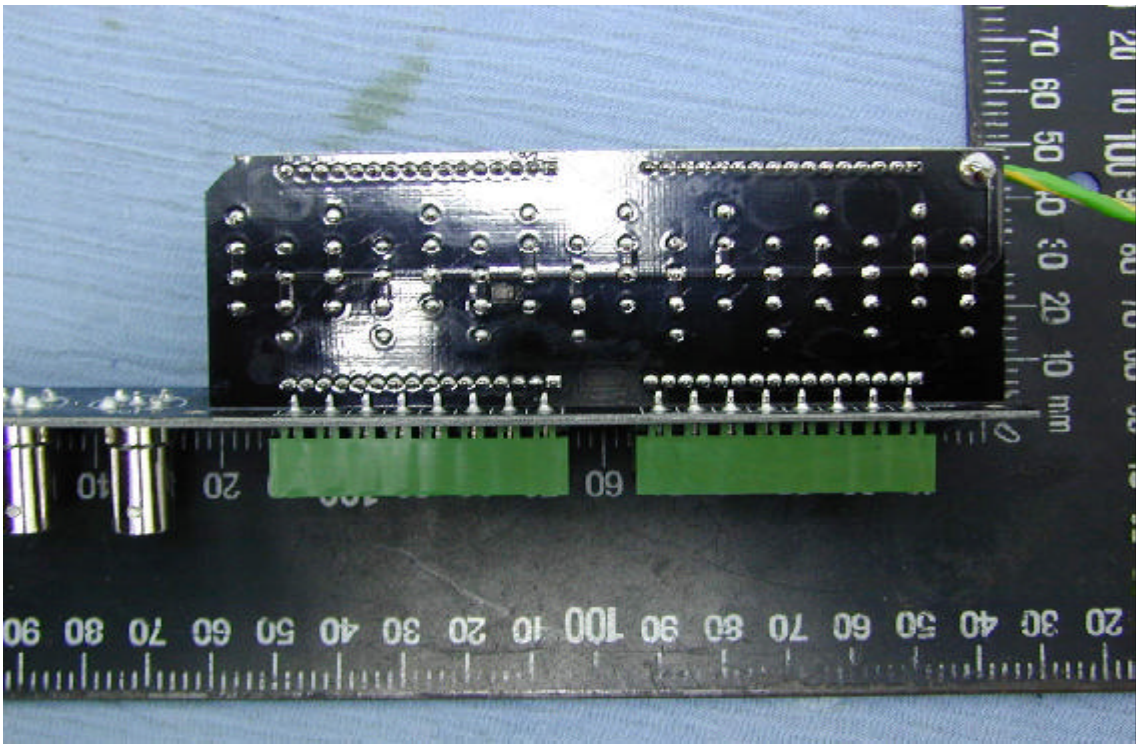
Solder Side of Main Board - 2

PHOTO OF EUT

Model : TPP016



Component Side of Main Board - 3



Solder Side of Main Board - 3