FCC PART 15
TEST REPORT

Applicant : AAEON Technology Inc.
Equipment : Half-size CPU Card
Model : SBC-357/4M (N)

Contain

Exhibit A **Label**

Exhibit B **Test Report**

Exhibit C **Photograph of EUT**

Exhibit A
LABEL

Size of Label

Long x Wide = 2.5cm x 1.25cm

This device complies with Part 15 of 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.

Model No.: SBC-357/4M (N)

Position of Label

Exhibit B
Test Report

Test Report Certification

Best Laboratory Co., Ltd.

No. 336, Ba Lian Rd., Sec. 1, Hsi Chih City, Taipei Hsien, Taiwan, R.O.C.
Tel: 886-2-2646-2899 Fax: 886-2-2646-2870

Applicant	: AAEON Technology Inc.
Address	: 5F, No.135, Lane 235, Pao Chiao Road, Hsin-Tien City, Taipei, Taiwan, R.O.C.
Equipment	: Half-size CPU Card
Model	: SBC-357/4M (N)
Device's Class	: Class A Device
Measurement Standard	: FCC Part 15.109(g)
Measurement Procedure	: CISPR 22
Operating Voltage	: 230VAC, 50Hz
Test Result	: **Compliance** (Detail showed in the test report)
Sample Received	: Dec 05, 2000
Test Date	: Dec 05, 2000
Report Number	: RE-A06-FC-138
Test Firm	: No. 336, Ba Lian Rd., Sec. 1, Hsi Chih City, Taipei Hsien, Taiwan, R.O.C.

Remark:

(1) The test report is only relating to the sample tested
(2) The test report shall not be reproduced except in full, without the written approval of Best Laboratory Co., Ltd.

Prepared : _____
JACKY WU

Approved : _____ (Title: Quality Department Manager)
JEFF CHIU

Date Issued : Dec 07. 2000

Contain

1. General Information

1.1 EUT Description

Applicant : AAEON Technology Inc.

Address : 5F, No.135, Lane 235, Pao Chiao Road,
Hsin-Tien City, Taipei, Taiwan, R.O.C.

Equipment : Half-size CPU Card

Model : SBC-357/4M (N)

Device's Class : Class A Device

Operation Voltage : 230VAC, 50Hz

Output Ports :

Keyboard : connect with a PS/2 keyboard with 120cm long, non-shielded, no ferrite bead, data cable.
Serial # 1Port: connected with serial port mouse which data cable is 120cm long, non-shielded, no ferrite bead.
Serial # 2Port: connected with a modem via one RS-232 cable that is 70cm long, non-shielded, no ferrite bead.
Serial # 3Port: connected with one RS-232 cable, which is 70cm long, non-shielded, no ferrite bead, left unterminal.
Serial # 4Port: connected with one RS-232 cable, which is 70cm long, non-shielded, no ferrite bead, left unterminal.
Parallel Port : connected with a printer which data cable is 120cm long, non-shielded, no ferrite bead.
VGA Port : via a 120cm long, shielded, with ferrite bead, data cable to the monitor.
Power Port : via a 180cm long, non-shielded, no ferrite bead, power cable to the AC power source.

Feature:

1. 386SX-40 compatible CPU
2. DiskOnchip (SSD) up to 72MB
3. Can display both CRT and LCD simultaneously
4. Connector for PC/104 module expansion
5. Support 4 serial ports : Three RS-232 ports and one RS-232 /422/485 port

1.2 Test System Detail

Monitor : Viewsonic
Model No. : VCDT321496-1D
Serial No. : HR94500066
FCC ID : DoC Approval
BSMI : 3882A702
Power Type : 100-240VAC, 50/60Hz, 1.5A, Switching
Power Cord : 180cm long, non-shielded, no ferrite bead.
Data Cable : 120cm long, shielded, with ferrite bead

Keyboard :Banco
Model No. : SG-1000
Serial No. : 6909012263
FCC ID : KU6-SG-1000
BSMI : 3862A347
Power Type : By PC
Data Cable : 120cm long, non-shielded, no ferrite bead

Mouse : AT Tech
Model No : OK-520
Serial No. : 990707032; 99070046
FCC ID : DoC Approval
BSMI : 3872B356
Power Type : By PC
Data Cable : 120cm long, non-shielded, no ferrite bead

Modem : ACEEX
Model No. : XDM-9624
Serial No. : 0017884
FCC ID : IFAXDM-9624
Power Type : 230VAC, 50Hz / 9VAC, 1A
Power Core : 1.9meters long, non-shielded, no ferrite bead
Data Cable : RS232, shielded, 1.2meters long, no ferrite bead
RJ11C x 2, 7' long, non-shielded, no ferrite bead

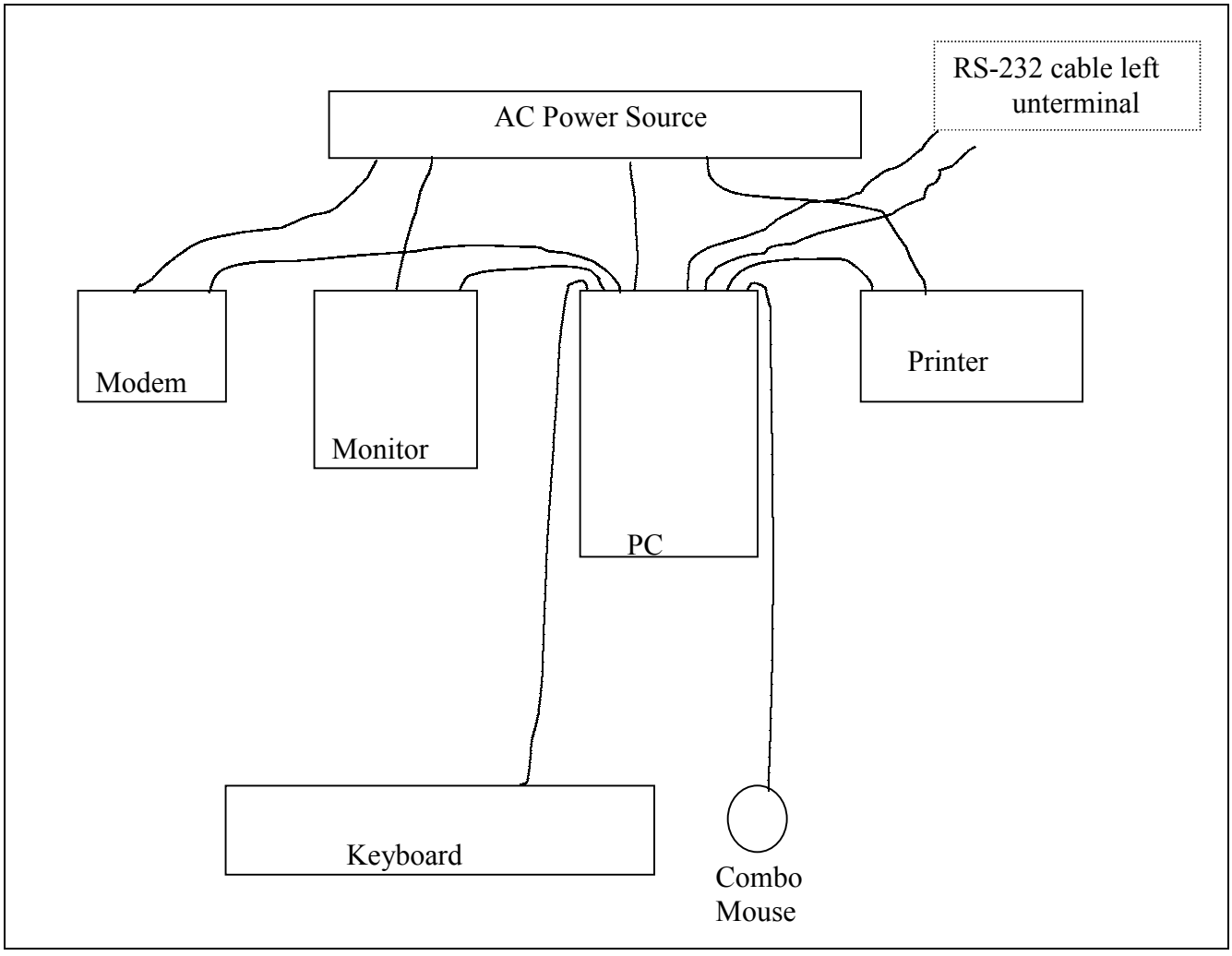
Printer : Epson
Model No. : P950
Serial No. : BW9Y113923
FCC ID : DoC approved
檢磁 : 3872P001
Power Type : 230VAC, 50Hz, 0.4A
Power Cord : 165cm long, non-shielded, no ferrite bead
Data Cable : 120cm long, shielded, no ferrite bead

1.3 EUT Configuration

(1) The power port of EUT is connected with the AC power source via a power cable.
(2) The keyboard port of EUT is connected with a PS/2 keyboard.
(3) The printer port of EUT is connected with a printer.
(4) The serial #1 port of EUT is connected with a serial port mouse.
(5) The serial #2 port of EUT is connected with an external modem.
(6) The serial #3, #4 ports of EUT are each connected with an RS-232 cable left unterminal.
(7) The VGA port of EUT is connected with a monitor.

(***PS: Please refers to the Photograph***)

Drawing of Configuration



1.4 EUT Exercise Software

The testing software is provided by the applicant.

It is designed to exercise the EUT in a manner similar to a typical use. The software will send an " H " pattern to the monitor and the " H " pattern will be shown on the monitor. It would be also sent to the parallel port and the printer will print out the " H " pattern. At the same time, the mouse and keyboard will be in continuously self-test mode and responded to the EUT. The software will enable all functions of EUT.

1.5 Test Performed

Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver which bandwidth is set at 9KHz.

Radiated emissions were invested over the frequency range from 30MHz to 1000MHz using a receiver which bandwidth is set at 120KHz. Radiated measurement was performed at distance that from an antenna to EUT is 10meters.

The testing result of pretest was shown out that the " Testing " mode is worse than the " Standby " mode. So, the final measurement was made on the " Testing " mode.

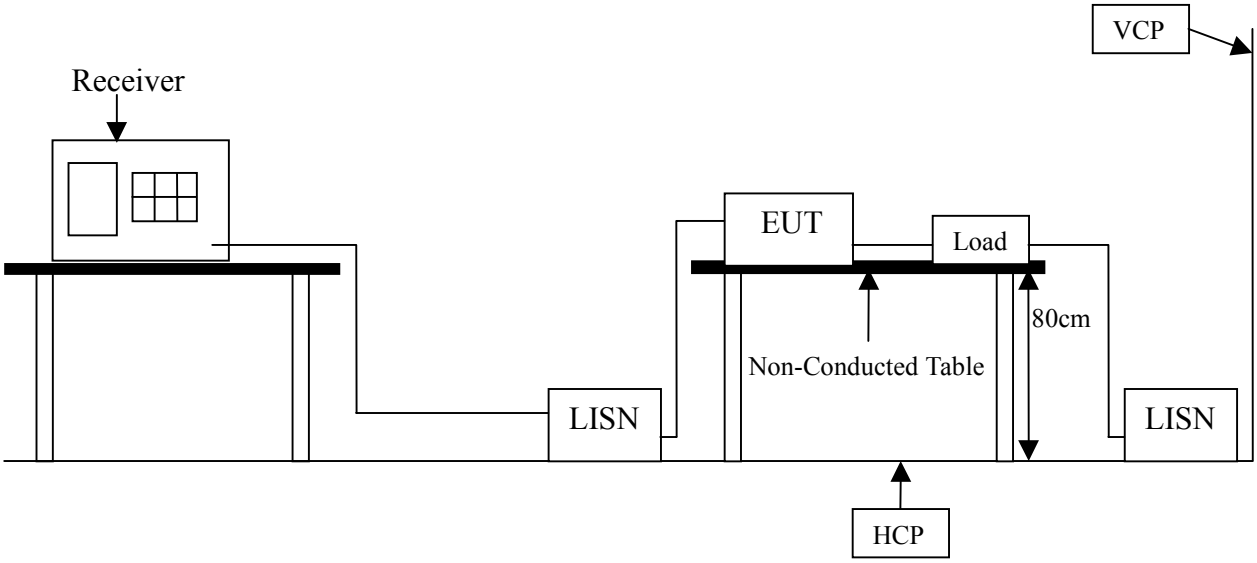
When the measurement was taken, there are three video resolution modes tested: 400 * 800, 640 * 480, 1024 * 768.

2 Conducted Emission Measurement

2.1 Test Equipment

No.	Instrument	Manufacture	Model	Serial No.	Last Calibrate
1.	LISN	Rolf Heine	NNB-2/16Z	99084	Dec. 14, 1999
2.	LISN	Rolf Heine	NNB-2/16Z	99086	Dec. 14, 1999
3.	EMI Receiver	Rohde & Schwarz	ESI 7	830154/001	Nov. 22, 1999

2.2 Test Set-Up



2.3 Limit

CISPR 22

Frequency	Limit (dBμV)			
	Class A		Class B	
MHz	QP	Avg.	QP	Avg.
0.15 ~ 0.50	79	66	66 ~ 56	56 ~ 46
0.50 ~ 5.0	73	60	56	46
5.0 ~ 30.0	73	60	60	50

FCC Part 15

Frequency	Limit (dBμV)	
	Class A	Class B
MHz	QP	QP
0.50 ~ 1.705	60	48.0
1.705 ~ 30	69.5	48.0

Remark: In the above table, the tighter limit applies at the band edges.

2.4 Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). It provides a 50 ohm / 50 μH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50 ohm / 50 μH coupling impedance with 50 ohm termination. (Please refers to the block diagram of the test setup and photograph.)

Both sides of AC line are checked for the maximum conducted emission interference. In order to find the maximum emissions, the relating positions of equipment and all of the interference cables must be changed according to ANSI C63.4-1992 regulation: The measurement procedure on conducted emission interference.

The resolution bandwidth of the field strength meter (Rohde & Schwarz) is set at 9KHz.

2.5 Test Specification

According to the ANSI C63.4-1992

2.6 Test Result

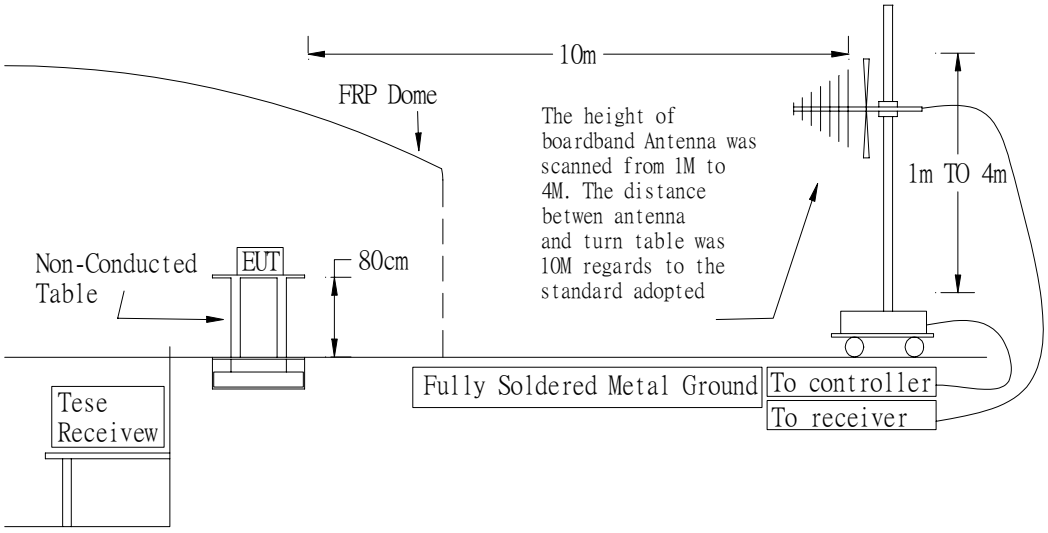
The emissions that come from the EUT were below the specified limits. The worst case of conducted emissions measurement are shown in the appendix A. The acceptance criterion was met and the EUT has pass the measurement.

3. Radiated Emission Measurement

3.1 Test Equipment List

No.	Instrument	Manufacture	Model	Serial No.	Last Calibrate
1.	Antenna	Mess-Elektronik	VULB 9160	9160-3078	Jan. 19, 2000
2.	EMI Receiver	Rohde & Schwarz	ESI 7	830154/001	Nov. 22, 1999

3.2 Test Setup



3.3 Limit

CISPR 22

Frequency	Class A		Class B	
MHz	Distance (Meter)	Limit (dBμV)	Distance (Meter)	Limit (dBμV)
30 ~ 230	10	40	10	30
230 ~ 1000	10	47	10	37

FCC Part 15

Frequency	Class A		Class B	
MHz	Distance (Meter)	Limit (dBμV)	Distance (Meter)	Limit (dBμV)
30 ~ 88	10	39	3	40
88 ~ 216	10	43.5	3	43.5
216 ~ 960	10	46.5	3	46
960 Above	10	49.5	3	54

Remark: In the above table, the tighter limit applies at the band edges

3.4 Test Procedure

The EUT and its simulators are placed on turn table, non-ducted and wooden, which is 0.8 meter above ground. The turn table rotates 360 degree to determine the position of the maximum emission level. The EUT was positioned such that distance from antenna to the EUT is 10 meters.

The antenna is moved up and down between 1 meter to 4 meter to receive the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interference cables must be manipulated according to ANSI C63.4-1992 regulation: the test procedure of the radiated emission measurement.

The bandwidth set on the field strength is 120KHz when the frequency range is below 1GHz

3.5 Test Specification

According to ANSI C63.4-1992

3.6 Test Result

The emissions that come from the EUT was below the specified limits. The worst case of conducted emissions measurement are shown in the appendix A. The acceptance criterion was met and the EUT has pass the measurement.

12 Modification List for EMC Complying Test

The modification is solely made by the applicant

6 Appendix

Appendix A: Summary of Test Result

Appendix B: The test photograph of EUT

Appendix C: The Detail Photograph of EUT

Appendix A: Summary of Test Result

The test result in the emission and immunity were performed according to the requirement of measurement standard and procedures. Best Laboratory is assumed full responsibility for the accuracy and completeness of these measurements. The Test data of the emissions and immunity are listed as the appendix data.

All these tests are were carried out with the EUT in normal operation, which was defined as:

******* EMC Test Result: The EUT has be passed the all measurements. *******

The uncertainty is calculated in accordance with NAMAS NIS 81, the total uncertainty for this test is as follows:

⇒ Emission Test

- Uncertainty in the Conducted Emission Test: <±2.0dB
- Uncertainty in the Field Strength measurement: <±4.0dB

Conducted Emission Test

Date Measurement Performed: Dec 05, 2000
EUT : Half-size CPU Card
Temperature : 25°C
Humidity : 67%RH

Line 1:

Frequency	Corrected Amplitude (dBμV/m)			Limit (dBμV/m)		Margin
(KHz)	Peak	QP	Avg.	QP	Avg.	dB
158.500	63.05	*.**	*.**	79.00	66.00	-2.95
178.050	49.75	*.**	*.**	79.00	66.00	-16.25
201.850	54.63	*.**	*.**	79.00	66.00	-11.37
245.200	45.22	*.**	*.**	79.00	66.00	-20.78
290.250	44.82	*.**	*.**	79.00	66.00	-21.18
11896.000	28.48	*.**	*.**	73.00	60.00	-31.52
21320.000	24.38	*.**	*.**	73.00	60.00	-35.62
23304.000	24.83	*.**	*.**	73.00	60.00	-35.17
25088.000	25.28	*.**	*.**	73.00	60.00	-34.72
***						

Line 2:

Frequency	Corrected Amplitude (dBμV/m)			Limit (dBμV/m)		Margin
(KHz)	Peak	QP	Avg.	QP	Avg.	dB
158.500	63.08	*.**	*.**	79.00	66.00	-2.92
180.600	46.86	*.**	*.**	79.00	66.00	-19.14
201.850	54.11	*.**	*.**	79.00	66.00	-11.89
246.900	43.62	*.**	*.**	79.00	66.00	-22.38
290.250	41.66	*.**	*.**	79.00	66.00	-24.34
11384.000	26.69	*.**	*.**	73.00	60.00	-33.31
22136.000	23.54	*.**	*.**	73.00	60.00	-36.46
27016.000	24.37	*.**	*.**	73.00	60.00	-35.63
***						

*** Remark: The above corrected amplitudes are all under the average limit. ***

Field Strength Test

Date Measurement Performed: Dec 04, 2000
EUT : Half-size CPU Card
Polarity : Vertical
Temperature : 26°C
Humidity : 64%RH

Frequency (MHz)	Reading Amplitude (dBμV/m)	Table Degree (°)	Antenna Height (Meter)	Correction Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
144.763	47.70	315	1.00	12.98	34.73	40.00	-5.27
150.355	44.52	284	1.00	13.35	31.17	40.00	-8.83
157.337	43.81	95	1.00	13.43	30.38	40.00	-9.62
160.499	45.37	111	1.00	13.42	31.94	40.00	-8.06
169.908	48.00	122	1.00	12.75	35.26	40.00	-4.74
264.000	41.29	344	1.00	12.45	28.85	47.00	-18.15
***							

Remark:
1. The " Correction Factor " contains antenna factor, cable loss.
2. The formula of " Corrected Amplitude " is as follow"
   Reading Amplitude – Correction Factor = Corrected Amplitude.

Field Strength Measurement

Date Measurement Performed: Dec 04, 2000
EUT : Half-size CPU Card
Polarity : Horizontal
Temperature : 26°C
Humidity : 68%RH

Frequency (MHz)	Reading Amplitude (dBμV/m)	Table Degree (°)	Antenna Height (Meter)	Correction Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
106.980	40.15	90	2.00	10.37	29.78	40.00	-10.22
116.415	40.44	78	4.00	11.15	29.29	40.00	-10.71
119.567	45.19	27	1.00	11.39	33.80	40.00	-6.20
144.744	45.32	73	4.00	12.98	32.34	40.00	-7.66
166.462	35.39	340	2.00	12.99	22.40	40.00	-17.60
191.940	36.71	63	4.00	10.60	26.10	40.00	-13.90
***							

Remark:
1. The " Correction Factor " contains antenna factor, cable loss.
2. The formula of " Corrected Amplitude " is as follow"
   Reading Amplitude – Correction Factor = Corrected Amplitude.

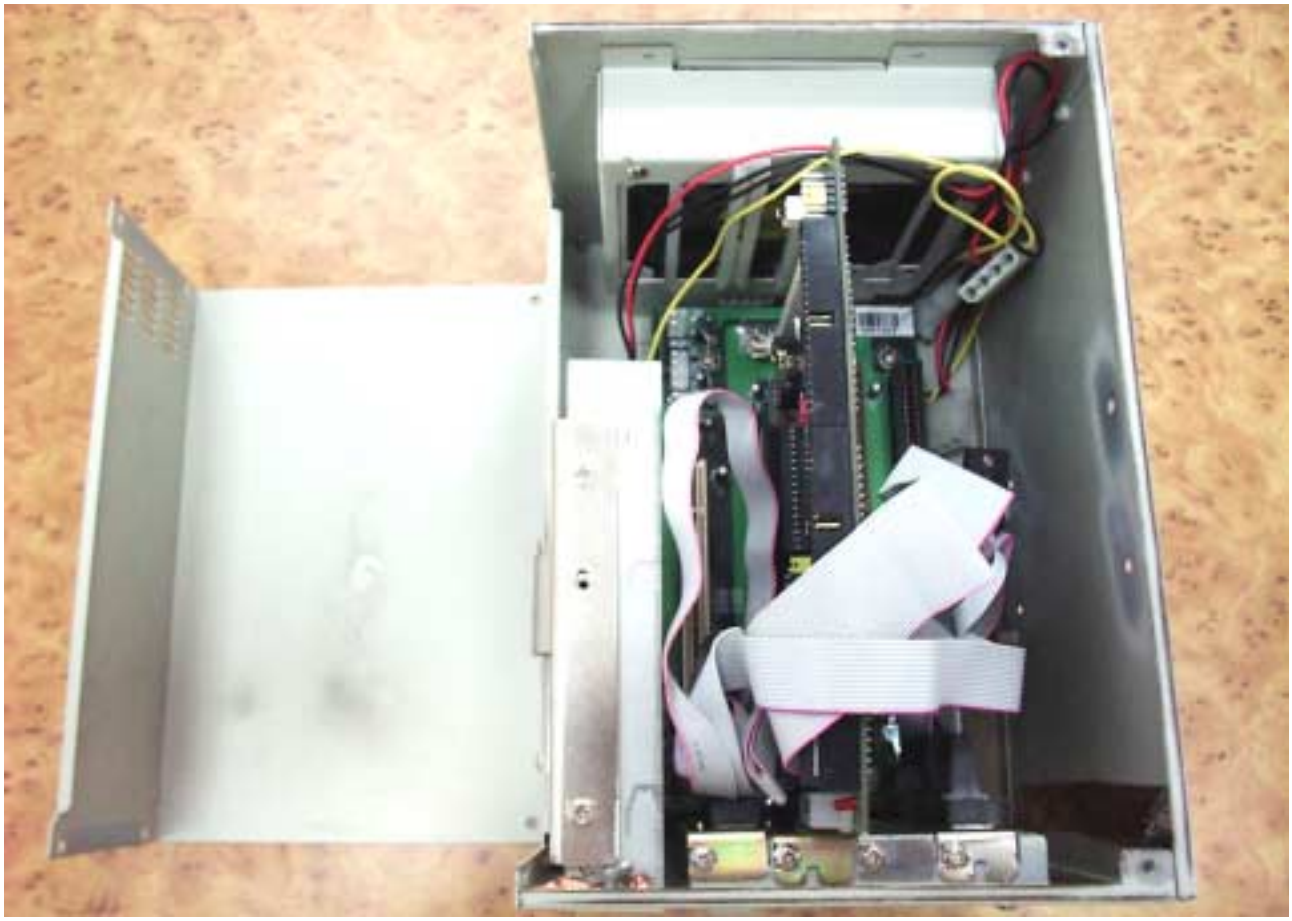
Appendix B: The Test Photograph of EUT

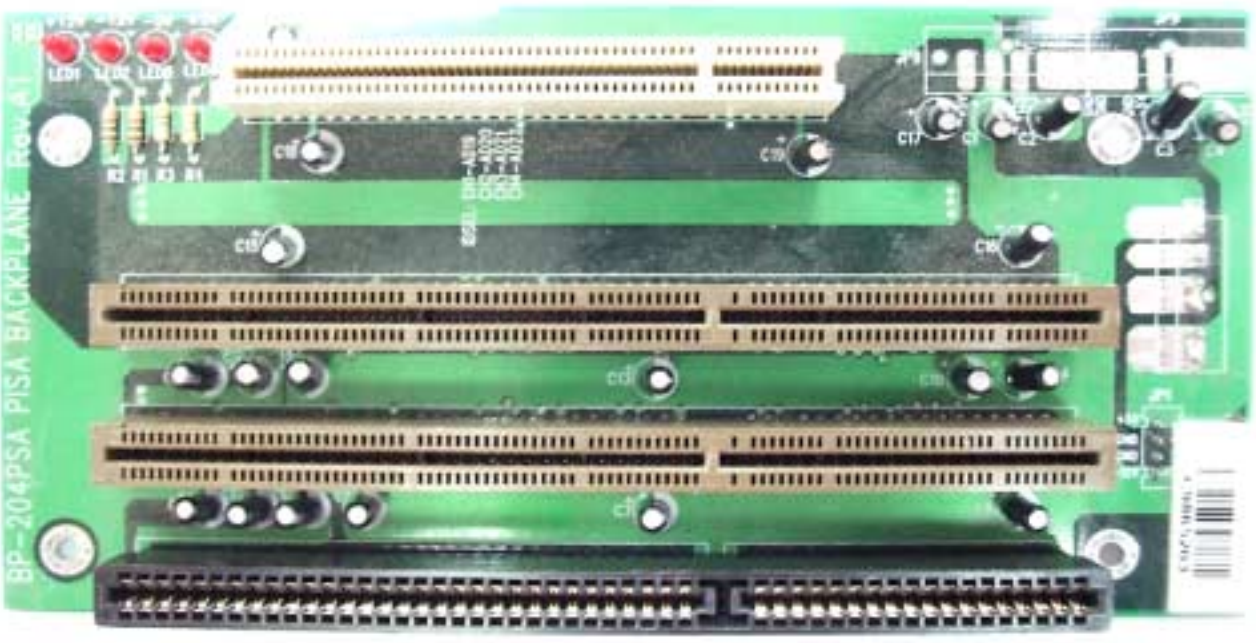
The Photograph of Conducted Emission Test

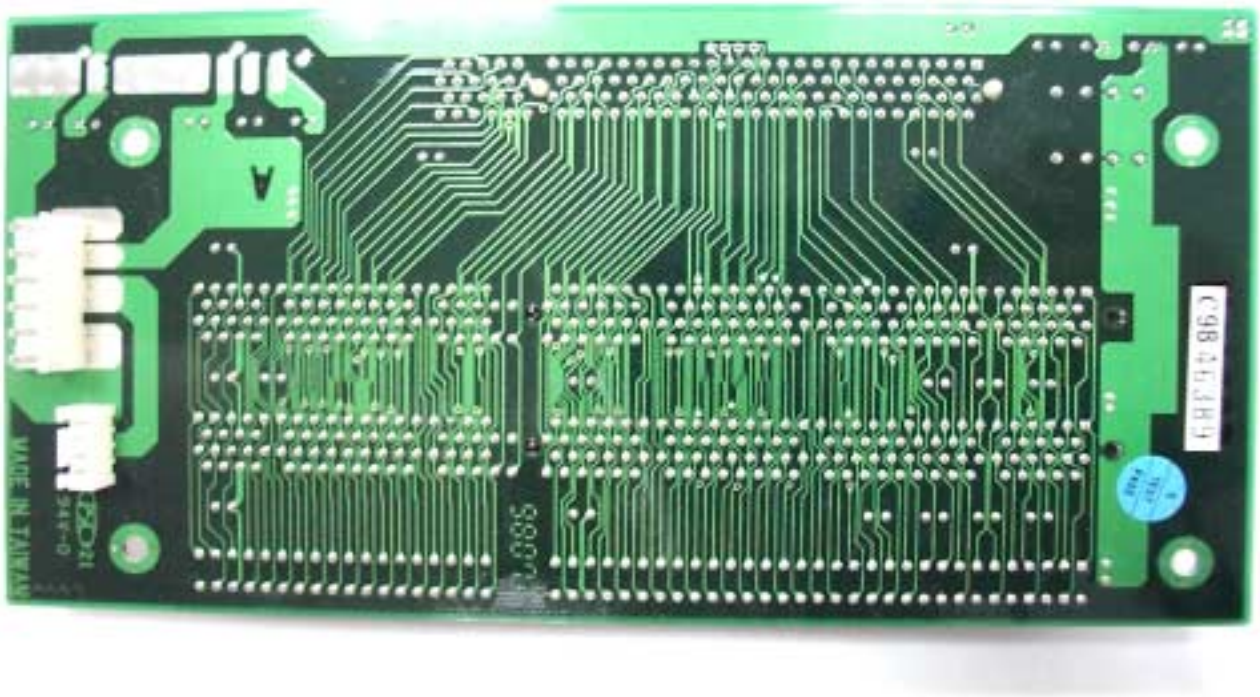
The Photograph of Radiated Emission Test

Exhibit C
Photograph of EUT

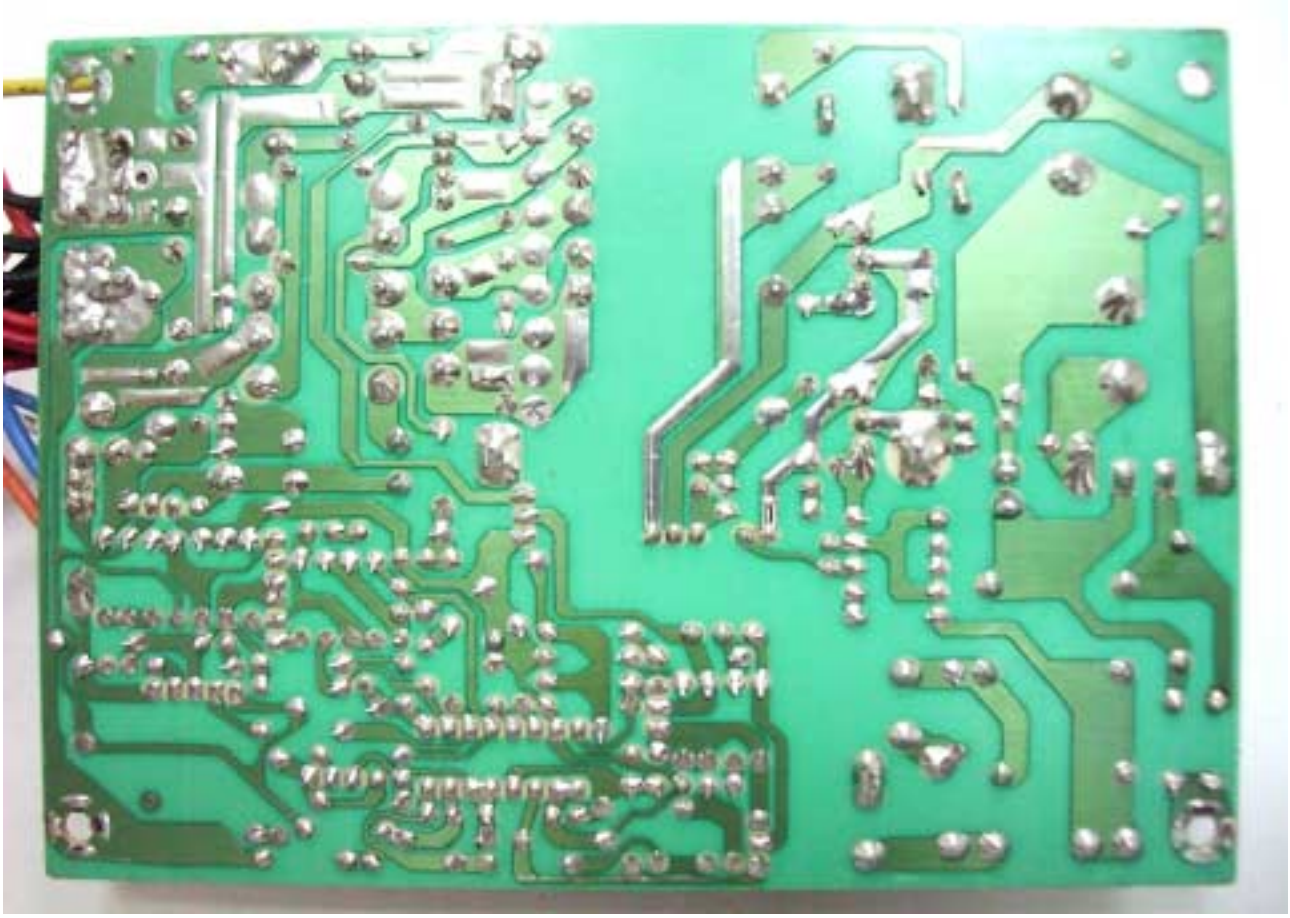

5204-001




BP-204PSA PISA BACKPLANE Rev:A1


MADE IN TAIWAN


CAUTION:
Heat Sink Presents
Risk of Shock. Test
Before Touching.
T1
T2
VERSION 0

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