FCC TEST REPORT

for

47 CFR, Part 2, Part 15 and CISPR PUB. 22 Class A

Equipment : HALF SIZE SBC

Model No. : SBC-657

FCC ID : N/A

Filing Type : Verification

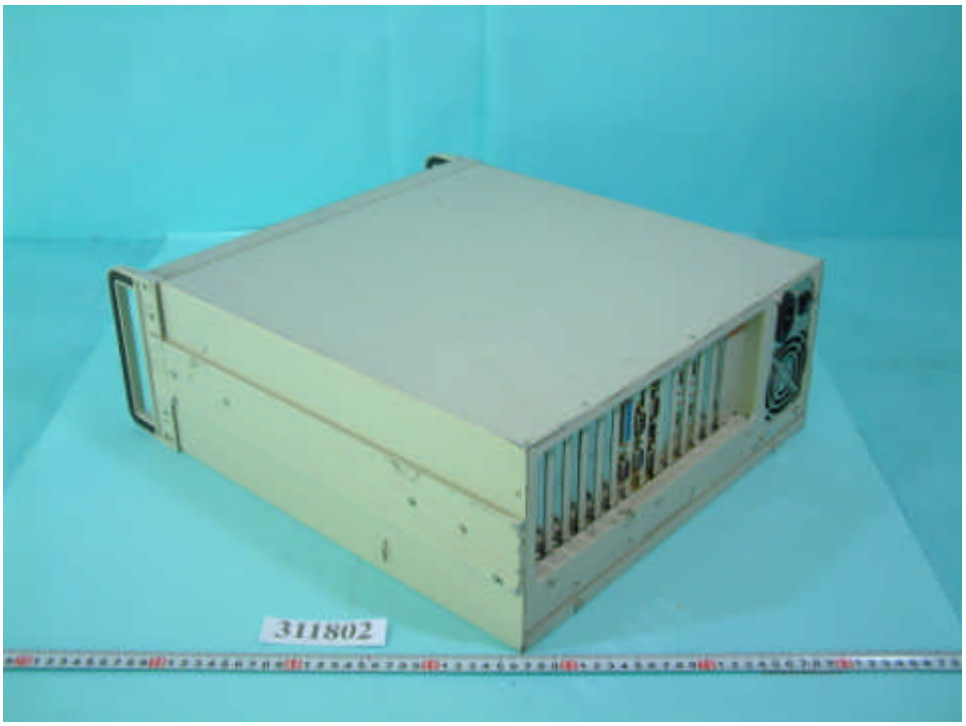
Applicant : **AAEON TECHNOLOGY INC.**
5F, No. 135, Lane235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.

SPORTON International Inc.

6F, No.106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

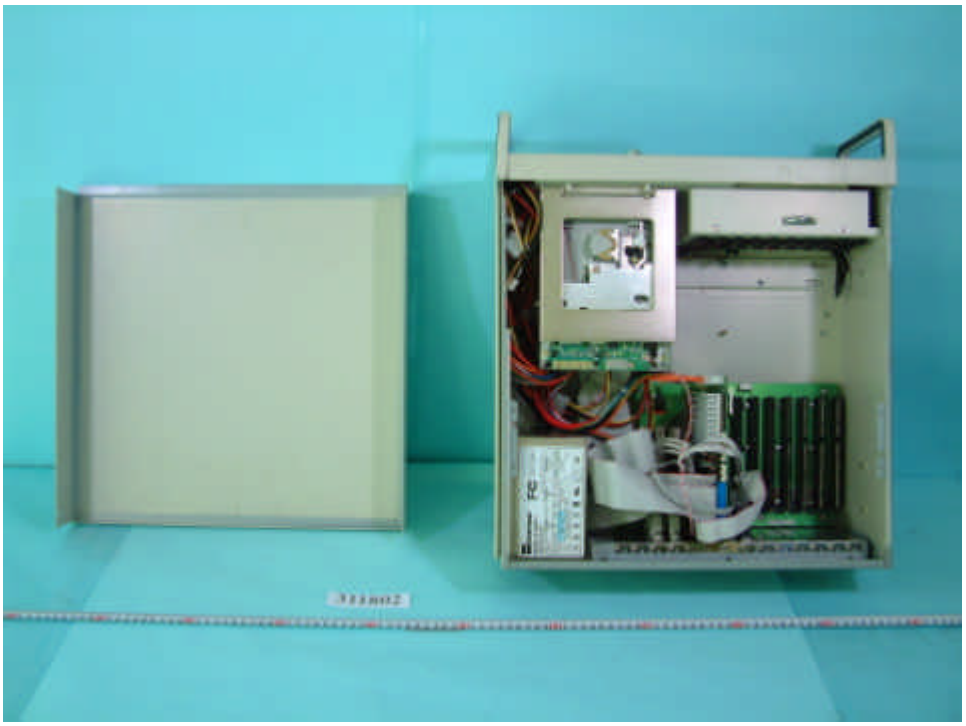
APPENDIX A. Photographs of EUT

311802-01.JPG

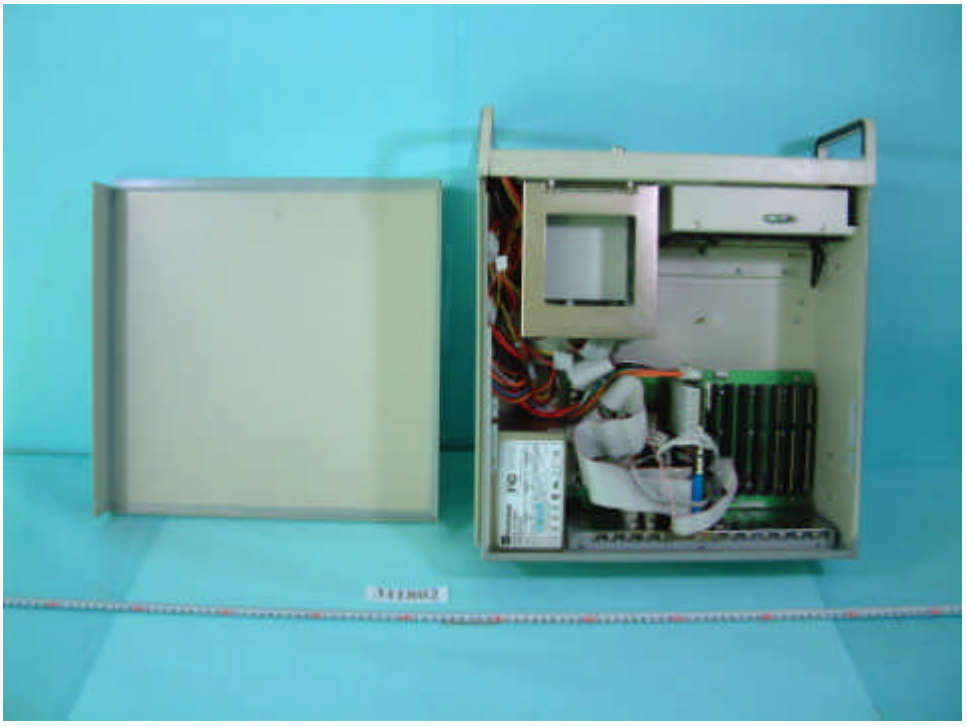


311802-02.JPG

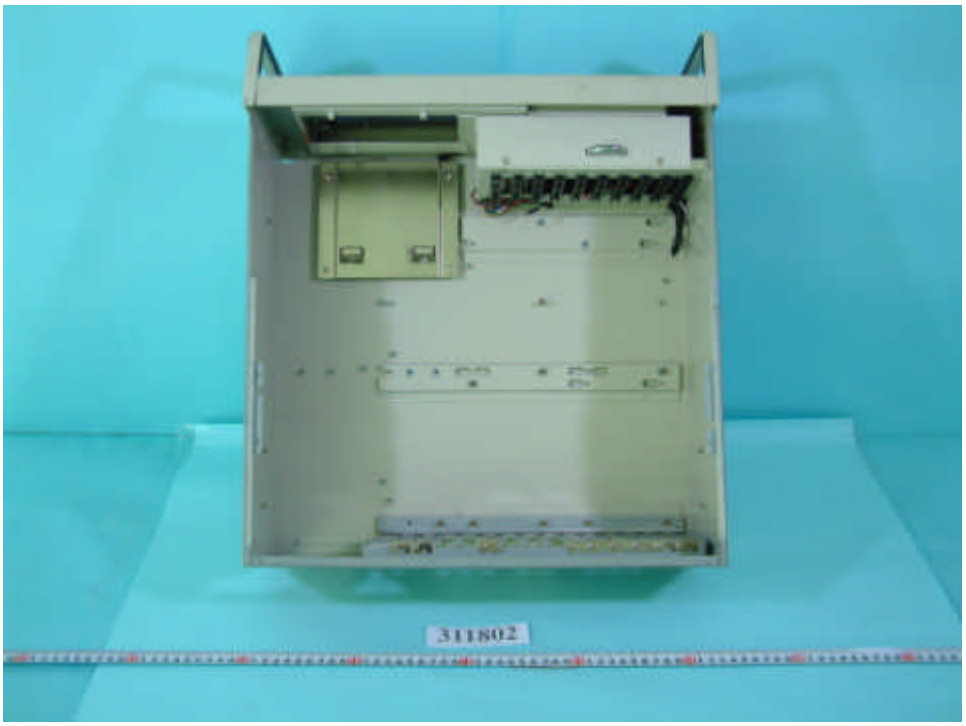
311802-03.JPG



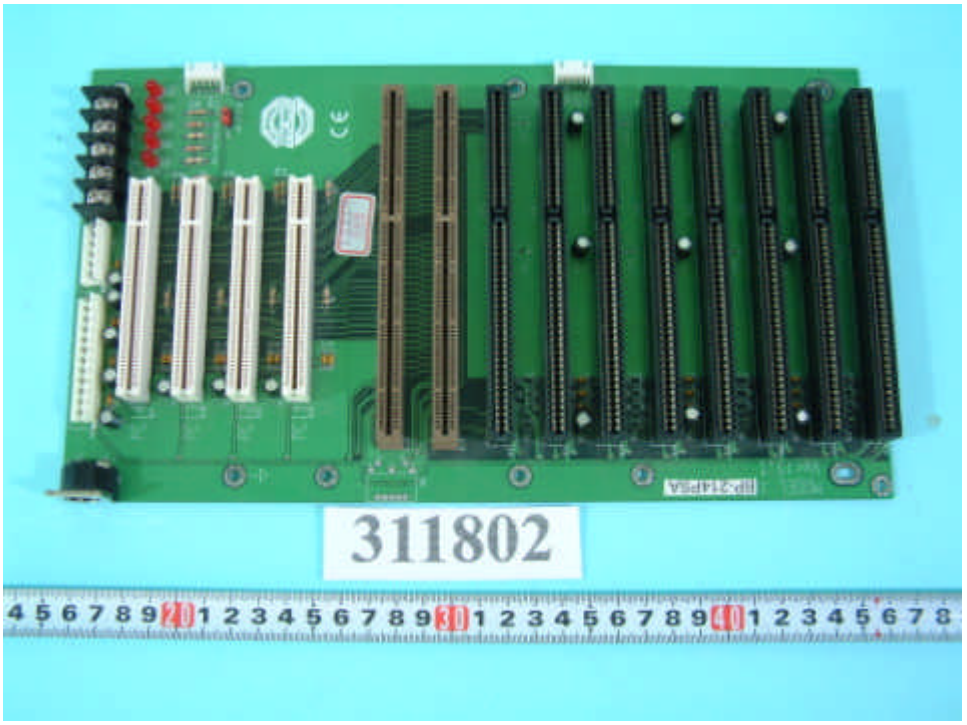
311802-04.JPG



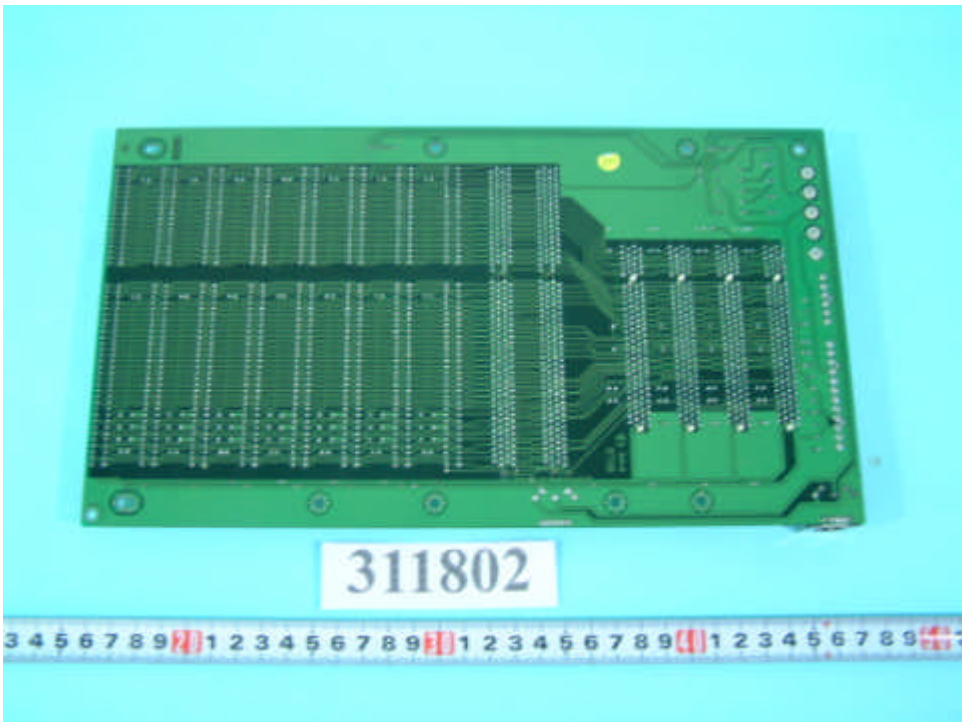
311802-05.JPG



311802-06.JPG



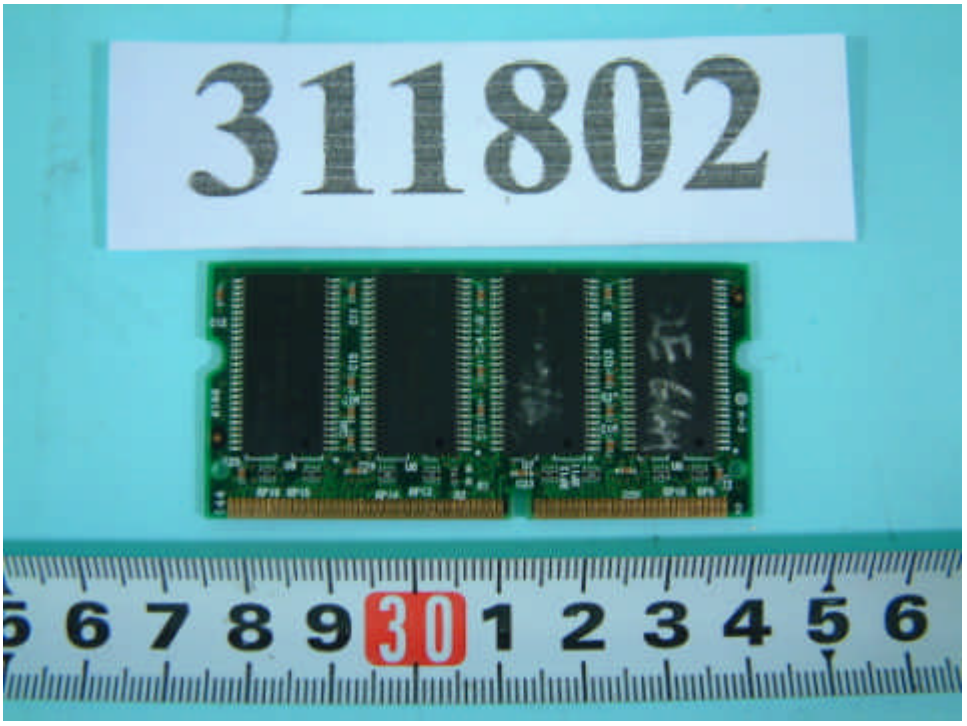
311802-07.JPG



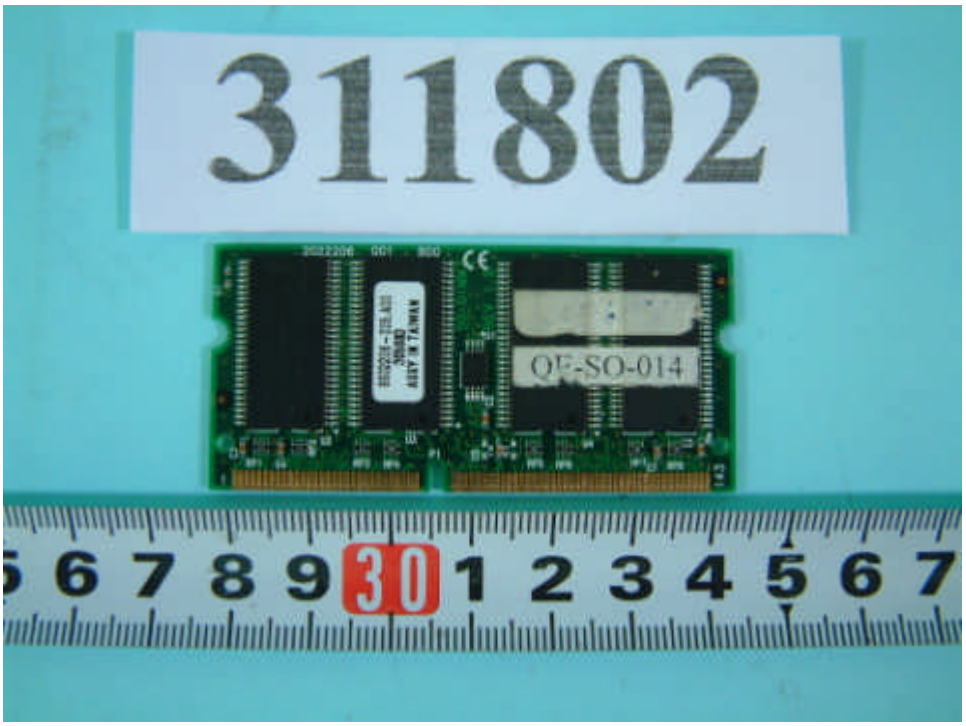
311802-08.JPG

311802-09.JPG

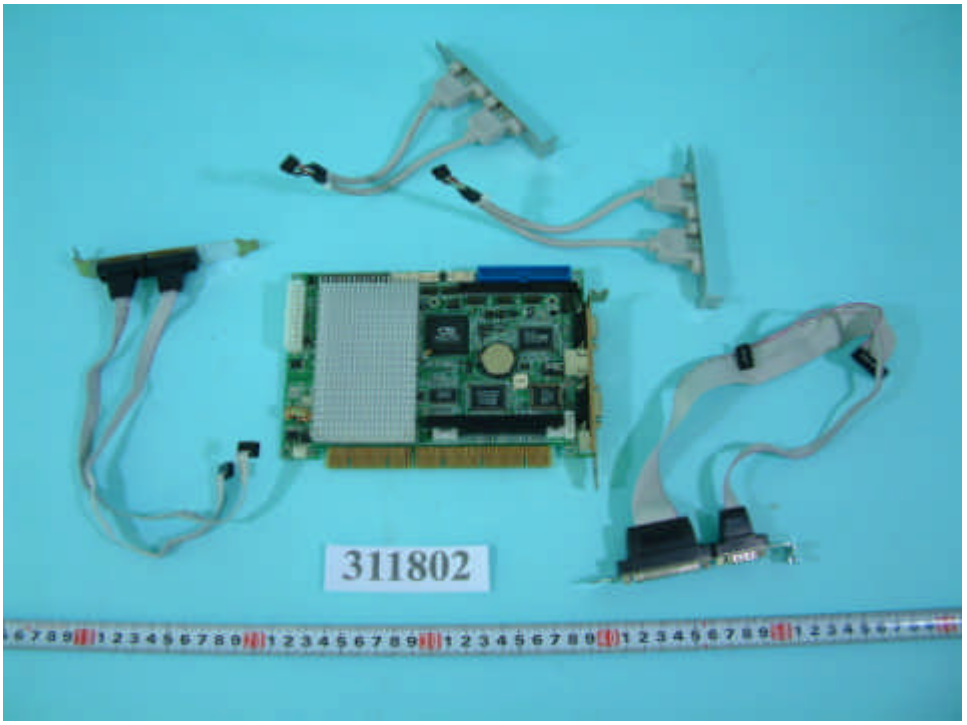
311802-10.JPG



311802-11.JPG



311802-12.JPG

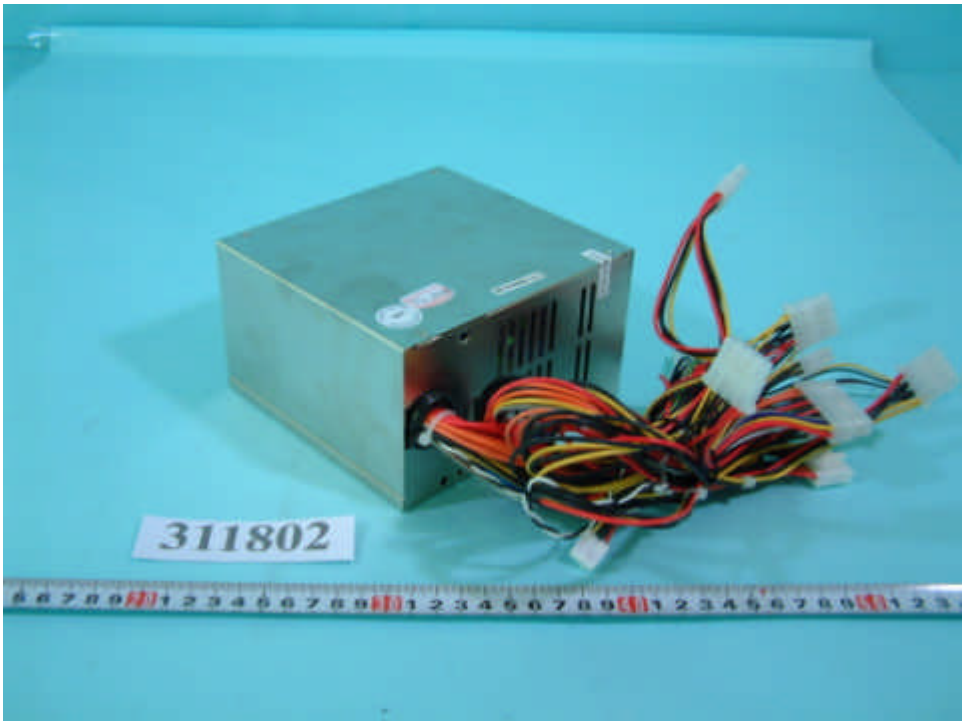


311802-13.JPG

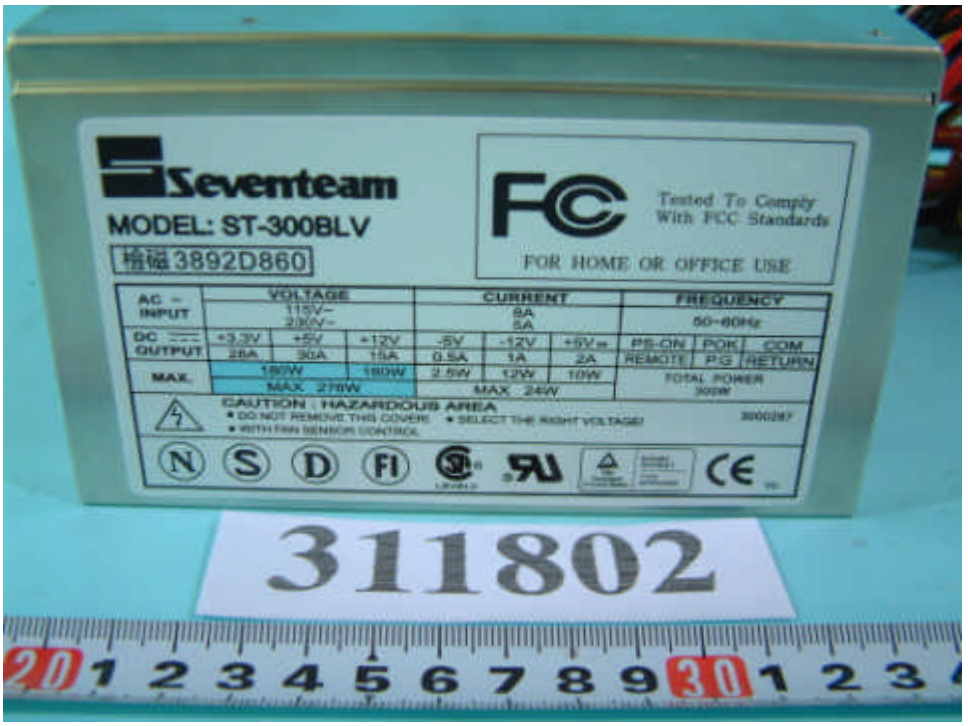
311802-14.JPG

311802-15.JPG

311802-16.JPG



311802-17.JPG



311802-18.JPG

311802-19.JPG

Table of Contents

History of this test report ..... **ii**

CERTIFICATE OF COMPLIANCE **1**

1. General Description of Equipment under Test **2**

1.1. Applicant 2
1.2. Manufacturer 2
1.3. Basic Description of Equipment under Test 2
1.4. Feature of Equipment under Test 3

2. Test Configuration of Equipment under Test **5**

2.1. Test Manner 5
2.2. Description of Test System 5
2.3. Connection Diagram of Test System 7

3. Test Software **8**

4. General Information of Test **9**

4.1. Test Facility 9
4.2. Test Voltage 9
4.3. Standard for Methods of Measurement 9
4.4. Test in Compliance with 9
4.5. Frequency Range Investigated 9
4.6. Test Distance 9

5. Test of Conducted Powerline **10**

5.1. Description of Major Test Instruments 10
5.2. Test Procedures 11
5.3. Typical Test Setup Layout of Conducted Powerline 12
5.4. Test Result of AC Powerline Conducted Emission 13
5.5. Photographs of Conducted Powerline Test Configuration 14

6. Test of Radiated Emission **16**

6.1. Description of Major Test Instruments 16
6.2. Test Procedures 17
6.3. Typical Test Setup Layout of Radiated Emission 18
6.4. Test Result of Radiated Emission 19
6.5. Photographs of Radiated Emission Test Configuration 20

7. Antenna Factor & Cable Loss **21**

8. List of Measuring Equipment Used **23**

9. Uncertainty of Test Site **24**

Appendix A. Photographs of EUT ..... **A1 ~ A10**

History of this test report

Original Report Issue Date: Jan. 27, 2003

■ No additional attachment.

□ Additional attachment were issued as following record:

Attachment No.	Issue Date	Description

Certificate No. : F311802

CERTIFICATE OF COMPLIANCE

for

47 CFR, Part 2, Part 15 and CISPR PUB. 22 Class A

Equipment : HALF SIZE SBC

Model No. : SBC-657

FCC ID : N/A

Applicant : **AAEON TECHNOLOGY INC.**
5F, No. 135, Lane235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.

I **HEREBY** CERTIFY THAT:

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4 - 1992** and the energy emitted by this equipment was ***passed*** **CISPR PUB. 22 and FCC Part 15 in** both radiated and conducted emission **Class A** limits. Testing was carried out on **Jan. 22, 2003** at **SPORTON International Inc.** LAB.

K. J. Lin
Manager

SPORTON International Inc.

6F, No.106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

1. General Description of Equipment under Test

1.1. Applicant

AAEON TECHNOLOGY INC.
5F, No. 135, Lane235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.

1.2. Manufacturer

Same as 1.1.

1.3. Basic Description of Equipment under Test

Equipment	: HALF SIZE SBC
Model No.	: SBC-657
Trade Name	: AAEON
Data cable	: Please see section 2.2 of this test report for details
TP Cable	: Non-Shielded, 10m
Power Supply Type	: Switching
AC Power Cord	: Non-Shielded, 1.8m, 3 pin

1.4. Feature of Equipment under Test

- Supports VIA C3 Samuel 2 EBGA mobile CPU **677** / 733/800 MHz
- Integrated AGP 4X 2D/3D
- Graphics Accelerator
- Supports CRT and 36-bit TFT panels
- Supports Compact Flash Storage
- Dual channel LVDS interface onboard
- Supports Single 100Base-T Fast Ethernet
- Supports Ultra DMA/100 mode with data transfer rate up to 100 MB/Sec.
- 4 COMs / 1 Parallel / 4USB / 1 IrDA Port
- ATX Power support
- PC/104 Connector

General Functions

CPU type: VIA Eden C3 mobile EBGA (**667** / 733MHz) integrated processor (133 FSB)

BIOS: Award 256KB FLASH BIOS

Chipset: VT8606 (66/100/133 FSB) / VT82C686B

Memory: Up to 512MB. One 144-Pin SODIMM socket onboard.

Enhanced IDE device interface:
Supports up to two hard disk drives. BIOS auto-detect. Supports PIO mode 5 and Bus Master. Also supports Multi-word DMA and Ultra DMA/100 One (20*2) 2.54mm pin header with box

Floppy disk drive interface: Supports up to two floppy disk drives, 5.25" (360KB and 1.2MB) and /or 3.5" (720KB, 1.44MB and 2.88MB)

Parallel port:
Supports SPP, ECP, and EPP.
One 17*2 2.54 mm pin header with box

Serial ports: W83977EF, Three RS-232 and one RS-232/422/485 serial ports. Ports can be configured as COM1, COM2,COM3,COM4 or disabled individually.(16C550 equivalent)

Ethernet Interface Onboard 100Base-T RJ-45 connector

Chipset: Realtek 8139C 10/100Base-T Ethernet controller, Optional Boot ROM function

IR interface: Supports one IrDA Tx / Rx header, Support SIR /CIR (don't test)
One 6-pin 2.54mm header

Keyboard/mouse connector: Dual 6-pin mini DIN connector supports PC/AT keyboard and PS/2 mouse.

USB connector: Two 5 x 2 header onboard supports four USB ports
Connector: Two 5*2 2.0mm pin header

Battery: Lithium battery for data retention

DMA channel: 7 DMA channels (8237 equivalent)

Interrupt level: 15 interrupt levels (8259 equivalent)

- HDD : Maxtor / 4D040H2 / 40GB
- FDD : MITSUMI / D353M3 / 1.44MB
- POWER : Seventeam / ST-300BLV / 300W

2. Test Configuration of Equipment under Test

2.1. Test Manner

a. The EUT has been associated with peripherals pursuant to ANSI C63.4-1992 and configuration operated in a manner which tended to maximize its emission characteristics in a typical application.

b. The complete test system included remote workstation, SONY Monitor, GENUINE PS/2 Keyboard, LOGITECH PS/2 Mouse, LOGITECH USB Mouse, HP Printer, ACEEX Modem and EUT for EMI test. The remote workstation included SONY Monitor, GENUINE PS/2 Keyboard, LOGITECH PS/2 Mouse and FIC PC.

c. Frequency range investigated: Conduction 150 KHz to 30 MHz, Radiation 30 MHz to 5000MHz.

2.2. Description of Test System

Support Unit 1. -- Monitor (SONY) – for local and remote workstation

FCC ID	: AK8GDM17SE2T
Model No.	: GDM-17SE2T
Power Supply Type	: Switching
Power Cord	: Non-Shielded
Serial No.	: SP0013
Data Cable	: Shielded, 1.15m
Remark	: This support device was tested to comply with FCC standards and authorized under a declaration of conformity.

Support Unit 2. -- PS/2 Keyboard (GENUINE) – for local and remote workstation

FCC ID	: N/A
Model No.	: K288
Serial No.	: SP0014
Data Cable	: Shielded, 1.3m
Remark	: This support device was tested to comply with FCC standards and authorized under a declaration of conformity.

Support Unit 3. -- PS/2 Mouse (LOGITECH) – for local and remote workstation

FCC ID	: DZL211029
Model No.	: M-S34
Serial No.	: SP0011
Data Cable	: Shielded, 1.7m

Support Unit 4. -- USB Mouse (LOGITECH) – for local workstation

FCC ID	: N/A
Model No.	: M-BE58
Serial No.	: SP0011
Data Cable	: Shielded, 1.7m
Remark	: This support device was tested to comply with FCC standards and authorized under a declaration of conformity.

Support Unit 5. -- Printer (HP) – for local workstation

FCC ID	: B94C2642X
Model No.	: DJ400
Power Supply Type	: Linear
Power Cord	: Non-Shielded
Serial No.	: SP0048
Data Cable	: Shielded, 360 degree via metal backshells, 1.35m

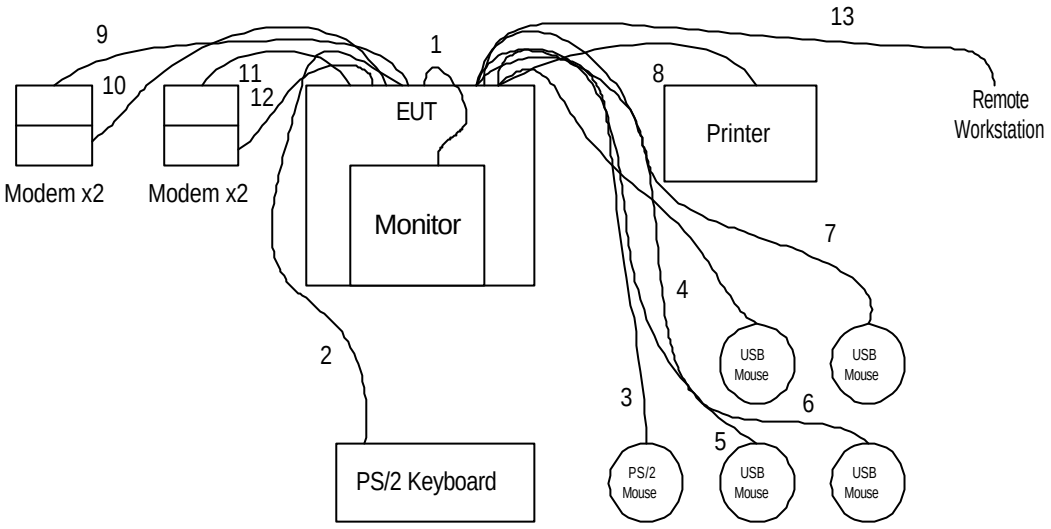
Support Unit 6. -- Modem (ACEEX) – for local workstation

FCC ID	: IFAXDM1414
Model No.	: DM1414
Power Supply Type	: Linear
Power Cord	: Non-Shielded
Serial No.	: SP0015
Data Cable	: Shielded, 360 degree via metal backshells, 1.15m

Support Unit 7. – Personal Computer (FIC) -- for remote workstation

FCC ID	: N/A
Model No.	: P2L97
Power Supply Type	: Switching
Power Cord	: Non-Shielded
Serial No.	: SP0037
Remark	: This support device was tested to comply with FCC standards and authorized under a declaration of conformity.

2.3. Connection Diagram of Test System



1. The I/O cable is connected from EUT to the support unit 1.
2. The I/O cable is connected from EUT to the support unit 2.
3. The I/O cable is connected from EUT to the support unit 3.
4. The I/O cable is connected from EUT to the support unit 4.
5. The I/O cable is connected from EUT to the support unit 4.
6. The I/O cable is connected from EUT to the support unit 4.
7. The I/O cable is connected from EUT to the support unit 4.
8. The I/O cable is connected from EUT to the support unit 5.
9. The I/O cable is connected from EUT to the support unit 6.
10. The I/O cable is connected from EUT to the support unit 6.
11. The I/O cable is connected from EUT to the support unit 6.
12. The I/O cable is connected from EUT to the support unit 6.
13. The TP cable is connected from EUT to the remote workstation.

3. Test Software

An executive program, ″ EMITEST.EXE″ under WIN 2000, which generate a complete line of continuously repeating " H" pattern was used as the test software.

The program was executed as follows:
a. Turn on the power of all equipment.
b. The PC reads the test program from the hard disk drive and runs it.
c. The PC sends " H" messages to the monitor, and the monitor displays " H" patterns on the screen.
d. The PC sends " H" messages to the printer, then the printer prints them on the paper.
e. The PC sends " H" messages to the modem.
f. The PC sends " H" messages to the internal hard Disk, and the Hard Disk reads and writes the message.
g. Repeat the steps from c to f.

At the same time, "Ping.EXE" was executed to link with the remote workstation receive and transmit data by TP Cable.

4. General Information of Test

4.1. Test Facility

Test Site Location : No. 30-2, Lin 6, Diing-Fwu Tsuen, Lin-Kou-Hsiang,
Taipei Hsien, Taiwan, R.O.C.
TEL : 886-2-2601-1640
FAX : 886-2-2601-1695

Test Site No. : CO01-LK, OS02-LK

Test Site No. : 03CH02-HY

4.2. Test Voltage

115V/60Hz

4.3. Standard for Methods of Measurement

ANSI C63.4-1992

4.4. Test in Compliance with

CISPR PUB. 22 and FCC Part 15

4.5. Frequency Range Investigated

a. Conduction: from 150 kHz to 30 MHz
b. Radiation: from 30 MHz to 5,000 MHz

4.6. Test Distance

a. The test distance of radiated emission from antenna to EUT is 10 M (from 30MHz~1000MHz).
b. The test distance of radiated emission from antenna to EUT is 3 M (from 1GHz~5GHz).

5. Test of Conducted Powerline

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz and return leads of the EUT according to the methods defined in ANSI C63.4-1992 Section 3.1. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane as shown in section 5.3. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

5.1. Description of Major Test Instruments

• EMC Analyzer	(HP 8591EM)
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9KHz

5.2. Test Procedures

a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.

b. Connect EUT to the power mains through a line impedance stabilization network (LISN).

c. All the support units are connect to the other LISN.

d. The LISN provides 50 ohm coupling impedance for the measuring instrument.

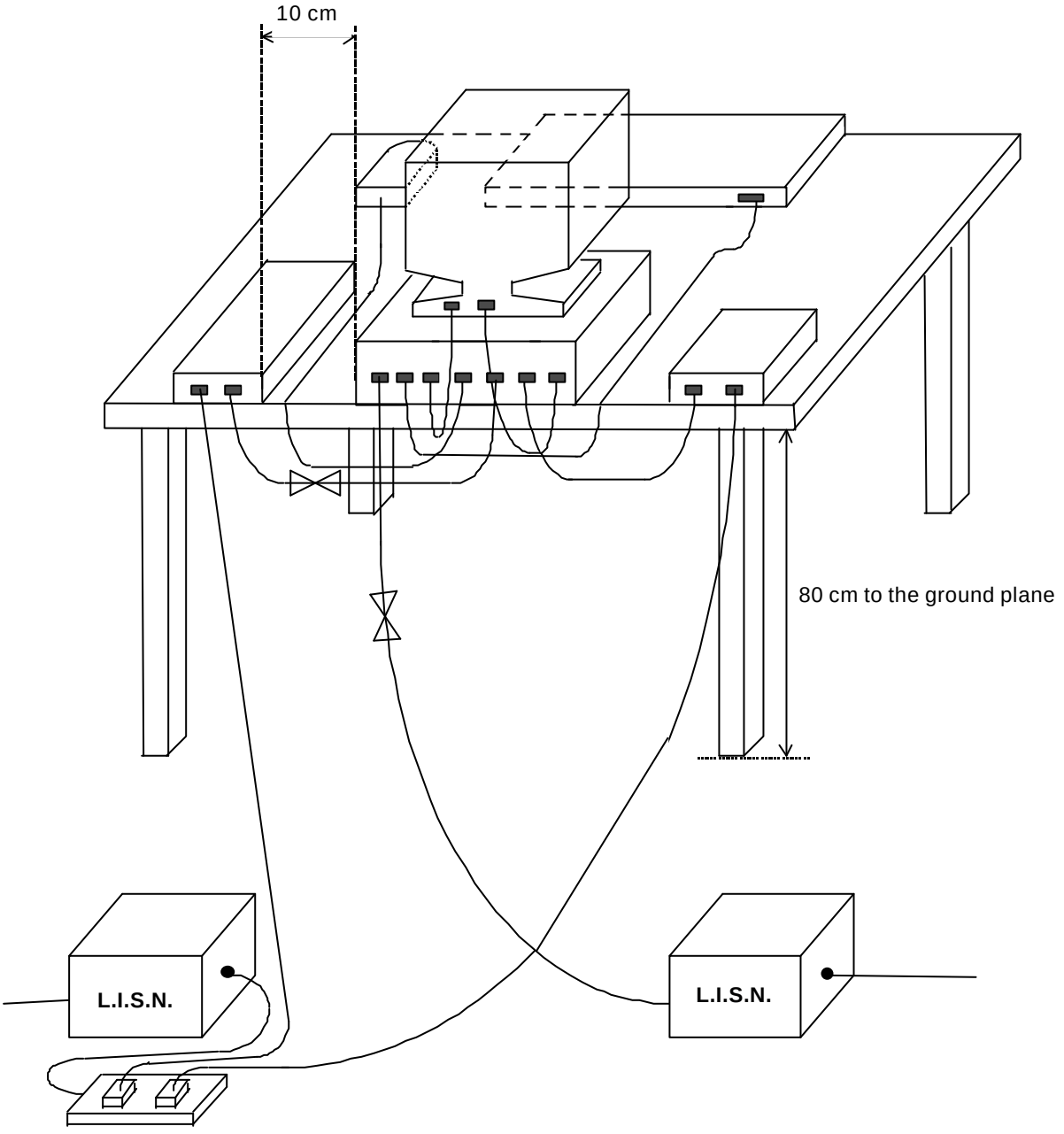
e. The FCC states that a 50 ohm, 50 microhenry LISN should be used.

f. Both sides of AC line were checked for maximum conducted interference.

g. The frequency range from 150 kHz to 30 MHz was searched.

h. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

5.3. Typical Test Setup Layout of Conducted Powerline



5.4. Test Result of AC Powerline Conducted Emission

- Frequency Range of Test: from 0.15 MHz to 30 MHz
- Temperature: 20°C
- Relative Humidity: 59 %
- Test Date: Jan. 22, 2003
- All emissions not reported here are more than 10 dB below the prescribed limit.

■ The test was passed at the minimum margin that marked under gray area in the following table

Frequency	Line	Meter Reading		Limits		Margin	
	or	Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.
(MHz)	Neutral	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)
0.240	L	41.10	39.30	79.00	66.00	-37.90	-26.70
0.320	L	41.30	40.60	79.00	66.00	-37.70	-25.40
0.405	L	41.20	39.20	79.00	66.00	-37.80	-26.80
7.003	L	41.60	40.80	73.00	60.00	-31.40	-19.20
8.001	L	43.70	43.00	73.00	60.00	-29.30	-17.00
27.033	L	47.40	42.00	73.00	60.00	-25.60	-18.00
0.239	N	41.20	39.30	79.00	66.00	-37.80	-26.70
0.320	N	41.50	40.70	79.00	66.00	-37.50	-25.30
0.401	N	40.80	39.10	79.00	66.00	-38.20	-26.90
2.549	N	31.70	29.90	73.00	60.00	-41.30	-30.10
9.997	N	27.10	21.00	73.00	60.00	-45.90	-39.00
27.034	N	46.60	41.20	73.00	60.00	-26.40	-18.80

Test Engineer : Neil Huang

5.5. Photographs of Conducted Powerline Test Configuration

- The photographs show the configuration that generates the maximum emission.

FRONT VIEW

REAR VIEW

SIDE VIEW

6. Test of Radiated Emission

Radiated emissions from 30 MHz to 5000 MHz were measured with a bandwidth of 120 kHz for 30 MHz to 1000 MHz and 1 MHz for above 1GHz according to the methods defines in ANSI C63.4-1992. The EUT was placed on a nonmetallic stand in the open-field site, 0.8 meter above the ground plane, as shown in section 6.3. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions.

6.1. Description of Major Test Instruments

6.1.1. From 30MHz to 1GHz

• Amplifier	(HP 87405A)
RF Gain	25 dB
Signal Input	10 MHz – 3 GHz
• Spectrum Analyzer	(HP 8560E)
Attenuation	10 dB
Start Frequency	30 MHz
Stop Frequency	1000 MHz
Resolution Bandwidth	120 KHz
Signal Input	30 MHz – 2.9 GHz

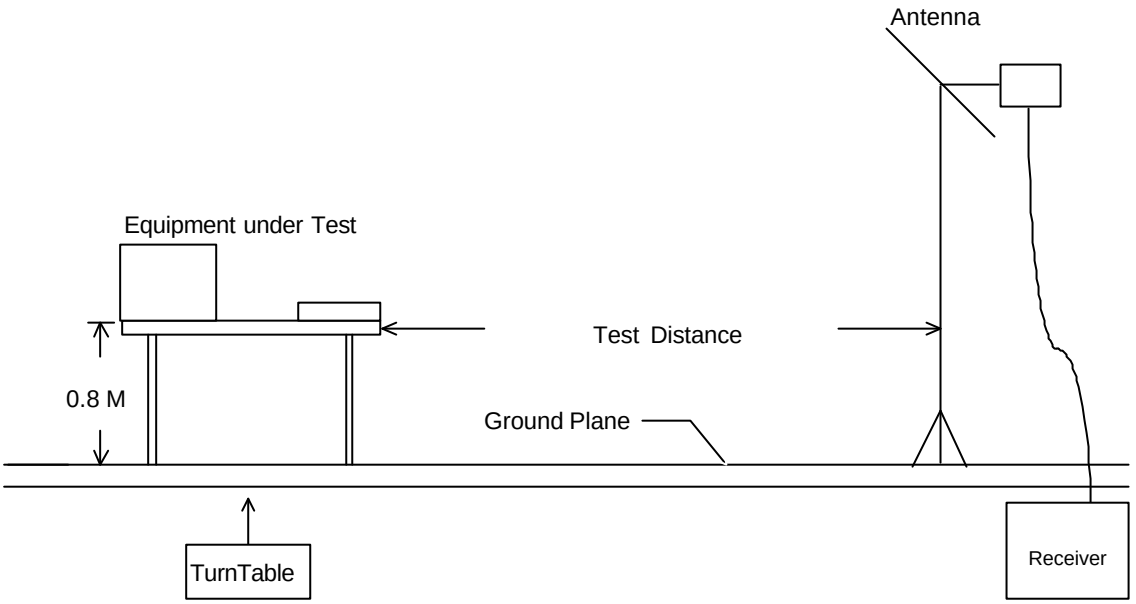
6.1.2. From 1GHz to 5GHz

• Spectrum analyzer	(R&S FSP30)
Attenuation	10 dB
Start Frequency	1 GHz
Stop Frequency	18 GHz
Resolution Bandwidth	1 MHz
Video Bandwidth	1 MHz
Signal Input	9 KHz to 30 GHz
• Amplifier	(MITEQ NSP2650-NF)
RF Gain	30 dB
Signal Input	100 MHz to 26.5GHz

6.2. Test Procedures

a. The EUT was placed on a rotatable table top 0.8 meter above ground.
b. The EUT was set 3/10 meters from the interference-receiving antenna which was mounted on the top of a variable height antenna tower.
c. The table was rotated 360 degrees to determine the position of the highest radiation.
d. The antenna is a half wave dipole and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
f. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.
h. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

6.3. Typical Test Setup Layout of Radiated Emission



6.4. Test Result of Radiated Emission

- Frequency Range of Test: from 30 MHz to 1000 MHz
- Test Distance: 10M
- Temperature: 27°C
- Relative Humidity: 53%
- Test Date: Jan. 19, 2003
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading: Antenna Factor + Cable Loss + Reading = Emission

■ **The test was passed at the minimum margin that marked under gray area in the following table, and its antenna height is 4m, turn table degree is 360°**

- Test Distance: 10M for 30MHz ~ 1GHz

Frequency (MHz)	Polarity	Antenna Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Limits (dBuV/m)	Level (dBuV/m)	Margin (dB)
33.800	V	16.20	0.24	15.30	40.00	31.74	-8.26
48.200	V	8.40	0.45	22.25	40.00	31.10	-8.90
166.600	V	9.40	1.95	19.93	40.00	31.28	-8.72
175.500	V	8.61	2.30	21.45	40.00	32.36	-7.64
996.800	V	25.17	3.68	9.30	47.00	38.15	-8.85
175.500	H	8.61	2.30	22.45	40.00	33.36	-6.64

- Test Distance: 3M for 1GHz ~ 4GHz

Frequency (MHz)	Polarity	Antenna Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Limits (dBuV/m)	Level (dBuV/m)	Margin (dB)
1651.000	V	20.00	5.20	11.02	80.00	36.22	-43.78
1651.000	V	20.00	5.20	-0.23	80.00	24.97	-55.03
1330.000	H	20.00	4.60	12.16	80.00	36.76	-43.24
1330.000	H	20.00	4.60	1.62	80.00	26.22	-53.78
1780.000	H	20.00	5.53	12.54	80.00	38.07	-41.93
1780.000	H	20.00	5.53	1.31	80.00	26.84	-53.16

Carr

Test Engineer : _____

Carr Chuang

6.5. Photographs of Radiated Emission Test Configuration

- The photographs show the configuration that generates the maximum emission.

FRONT VIEW

REAR VIEW

7. Antenna Factor & Cable Loss

< 30MHZ~ 1GHz >

Frequency (MHz)	Antenna Factor (dB)	Cable Loss (dB)
30	18.10	0.5
36	14.90	0.2
40	12.80	1.0
46	9.60	0.4
50	7.60	0.5
56	5.50	0.7
60	4.60	0.8
66	4.60	1.3
70	5.30	1.8
76	6.50	1.4
80	7.10	0.8
86	8.10	0.9
90	8.50	1.0
96	9.10	1.3
100	9.50	1.5
110	10.30	1.5
115	10.60	1.5
130	11.00	1.3
140	10.90	1.2
150	10.60	1.4
160	10.10	1.7
170	9.10	2.1
180	8.20	2.5
190	8.10	2.0
200	8.30	1.5
220	8.60	1.6
240	10.80	1.8
260	13.30	1.6
280	12.70	1.2
300	13.10	0.9
320	13.30	1.4
340	13.90	2.0
360	14.60	2.3
380	15.30	2.2
400	15.90	2.2
450	16.70	2.7
500	18.10	2.2
550	19.70	3.0
600	19.70	2.3
650	19.80	2.7
700	20.70	3.0
750	22.10	3.3
800	22.10	2.8
850	23.40	3.8
900	23.70	3.3
950	24.80	3.8
1000	25.20	3.7

< 1GHz ~ 4GHz >

Frequency (MHz)	Antenna Factor (dB)	Cable Loss (dB)
1000	23.90	3.37
2000	28.50	4.79
3000	30.30	6.13
4000	32.60	7.28

8. List of Measuring Equipment Used

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Analyzer	HP	8591EM	3710A01187	9KHz ~ 1.8GHz	Sep. 23, 2002	Conduction (CO01-LK)
LISN	Rolf Heine	NNB-2/16Z	02/10070	9KHz ~ 30MHz	Jul. 29, 2002	Conduction (CO01-LK)
LISN	Rolf Heine	NNB-2/16Z	02/10084	9KHz ~ 30MHz	Jul. 29, 2002	Conduction (CO01-LK)
Spectrum Analyzer	HP	8560E	3728A03185	30MHz – 2.9GHz	Sep. 20, 2002	Radiation (OS02-LK)
Amplifier	HP	87405A	3207A01441	10MHz – 3GHz	Aug. 21, 2002	Radiation (OS02-LK)
Bilog Antenna	CHASE	CBL6111C	2715	30MHz -1GHz	Mar. 22, 2002	Radiation (OS02-LK)
Half-wave dipole antenna	R&S	HZ12 HZ13	83924403 83924503	30MHz - 1GHz	Sep. 23, 2002	Radiation (OS02-LK)
Turn Table	EMCO	2080	9711-1090	0 ~ 360 degree	N/A	Radiation (OS02-LK)
Antenna Mast	EMCO	2075	9711-2114	1 m- 4 m	N/A	Radiation (OS02-LK)
Horn Antenna	EMCO	3115	9610-4976	1GHz ~ 18GHz	Jul. 12, 2002	Radiation (OS02-LK)
Amplifier	MITEQ	NSP 2650-NF	805858	100MHz~26.5GHz	Jul. 11, 2002	Radiation (OS02-LK)
Spectrum Analyzer	R&S	FSP30	100023	9 K –30 GHz	Apr. 02, 2002	Radiation (OS02-LK)

※ Calibration Interval of instruments listed above is one year.

9. Uncertainty of Test Site

Uncertainty of Conducted Emission Measurement

Contribution	Probability Distribution	150KHz – 30MHz
Cable and I/P attenuator calibration	normal(k=2)	±0.3
RCV/SPA specification	rectangular	±2.5
LISN coupling specification	rectangular	±1.5
Transducer factor frequency interpolation	rectangular	±0.2
Mismatch Receiver VSWR Γ1=0.09 LISN VSWR Γ2=0.33 Uncertainty=20log(1-Γ1*Γ2)	U-shaped	0.2
combined standard uncertainty Ue(y)	**normal**	**±1.7**
Measuring uncertainty for a level of confidence of 95% U=2Ue(y)	**normal (k=2)**	**±3.4**

$U=\sqrt{\{(0.3/2)^2 +(2.5^2+1.5^2+0.2^2)/3+(0.2)^2/2\}}=1.7$

Uncertainty of Radiated Emission Measurement

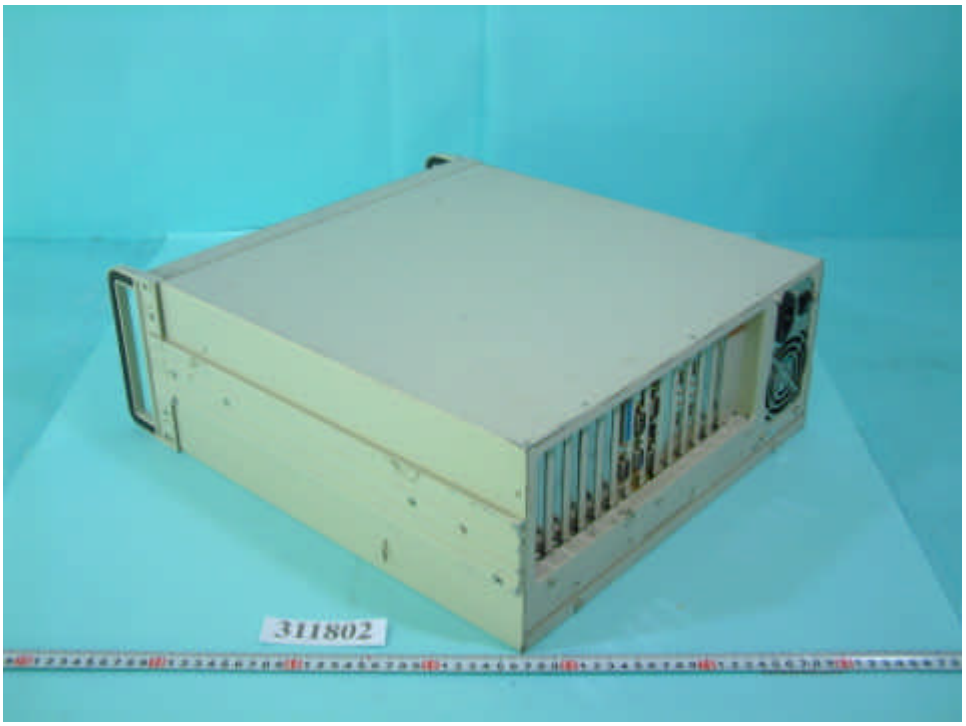
Contribution	**Probability Distribution**	3m	10m
Antenna factor calibration	normal(k=2)	±1.6	±1.6
cable loss calibration	normal(k=2)	±0.3	±0.3
RCV/SPA specification	rectangular	±2	±2
Antenna Directivity	rectangular	±3	±0.5
Antenna Factor V.S. Height	rectangular	±2	±2
Antenna Factor Interpolation for Frequency	rectangular	±0.25	±0.25
site imperfection	rectangular	±2	±2
Mismatch Receiver VSWR Γ1=0.09 Antenna VSWR Γ2=0.67 Uncertainty=20log(1-Γ1*Γ2)	U-shaped	±0.54	±0.54
combined standard uncertainty Ue(y)	**normal**	**±2.8**	**±2.2**
Measuring uncertainty for a level of confidence of 95% U=2Ue(y)	**normal (k=2)**	**±5.6**	**±4.4**

$U=\sqrt{\{(1.6/2)^2+(0.3/2)^2+(3^2+0.5^2+2^2+0.25^2+2^2)/3+(0.54)^2/2\}}=2.6$ for 10m test distance

$U=\sqrt{\{(1.6/2)^2+(0.3/2)^2+(3^2+3^2+2^2+0.25^2+2^2)/3+(0.54)^2/2\}}=3.1$ for 3m test distance

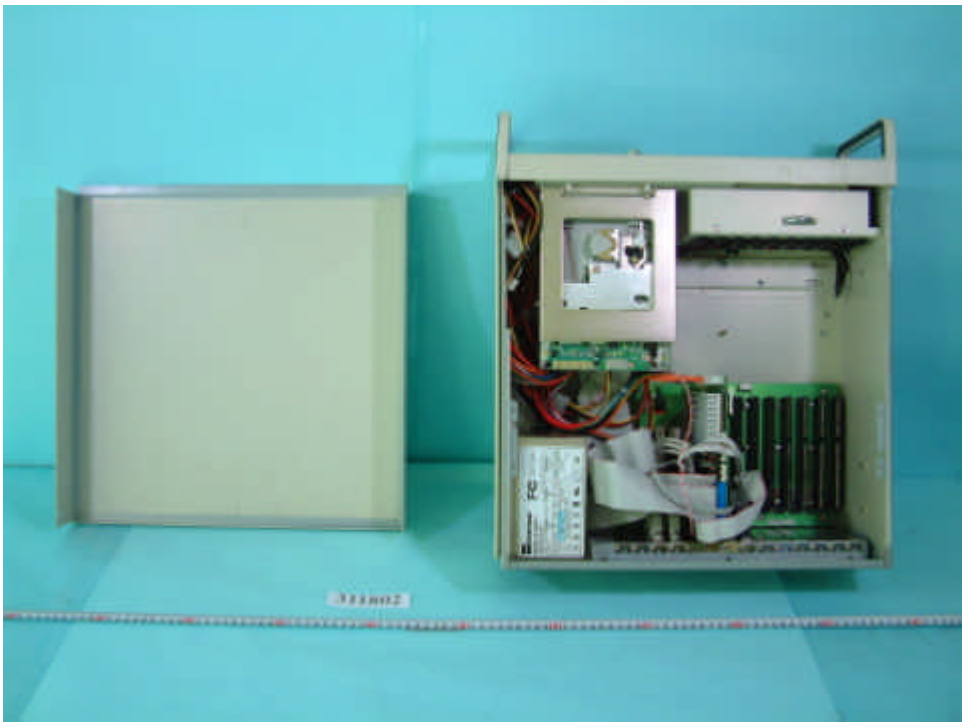
APPENDIX A. Photographs of EUT

311802-01.JPG

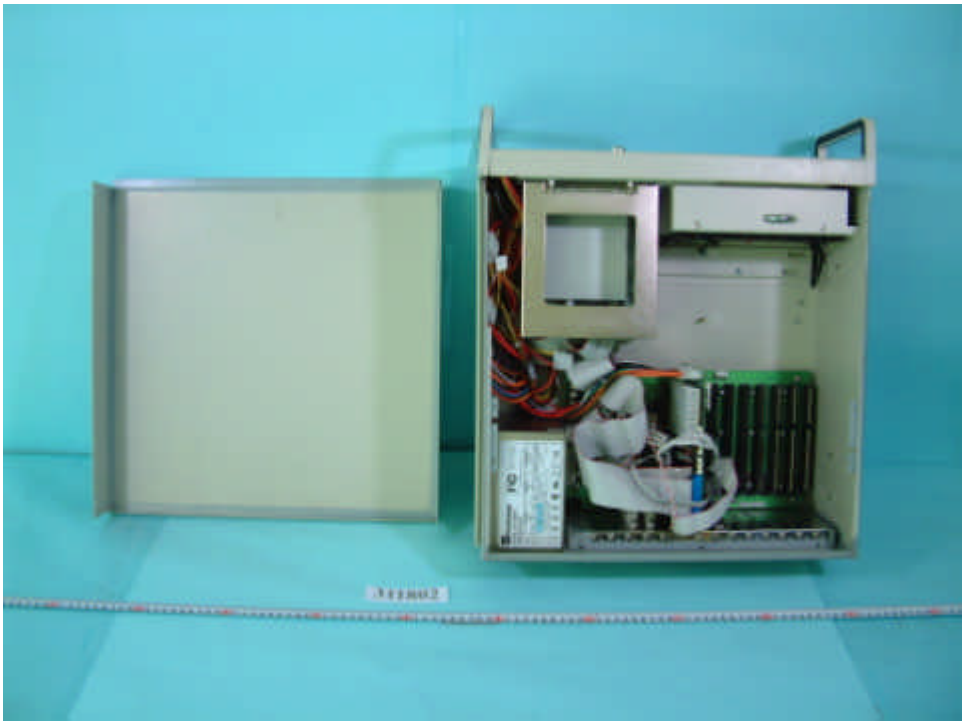


311802-02.JPG

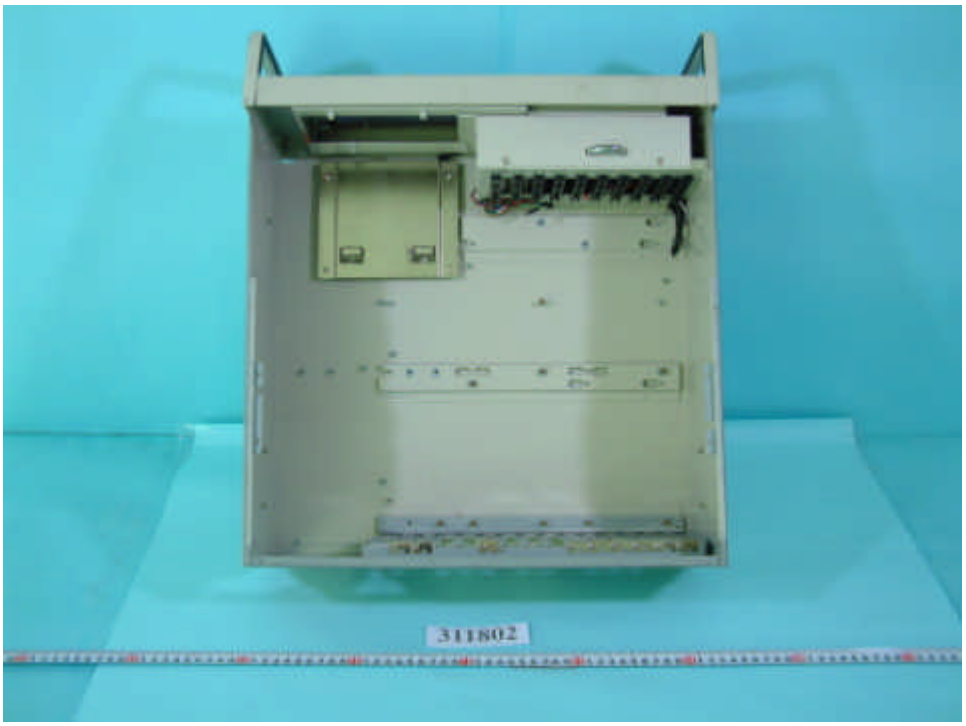
311802-03.JPG



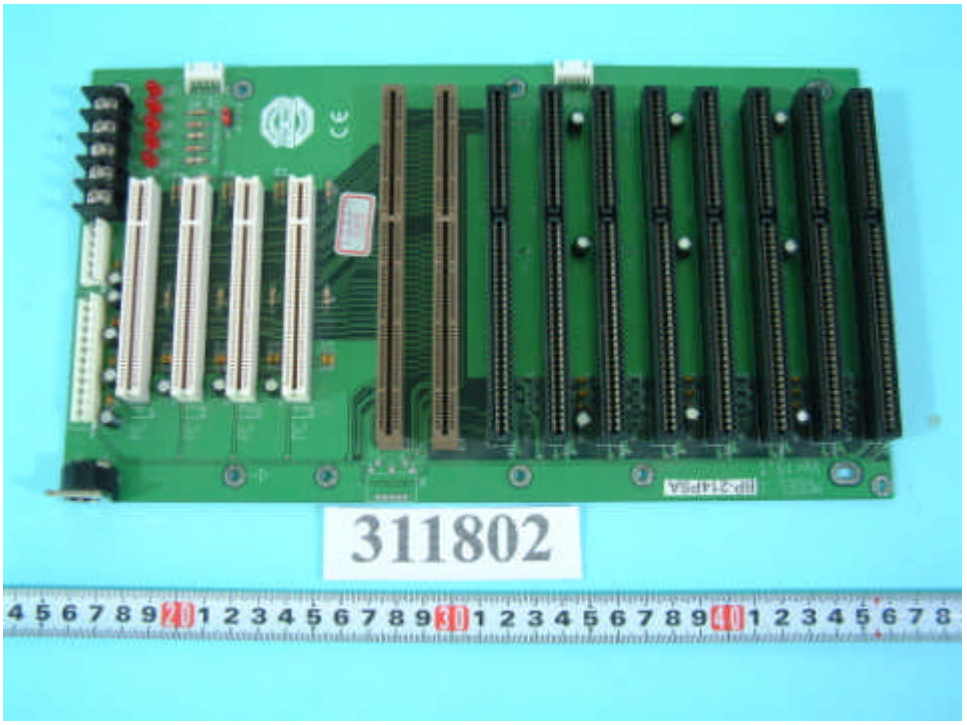
311802-04.JPG



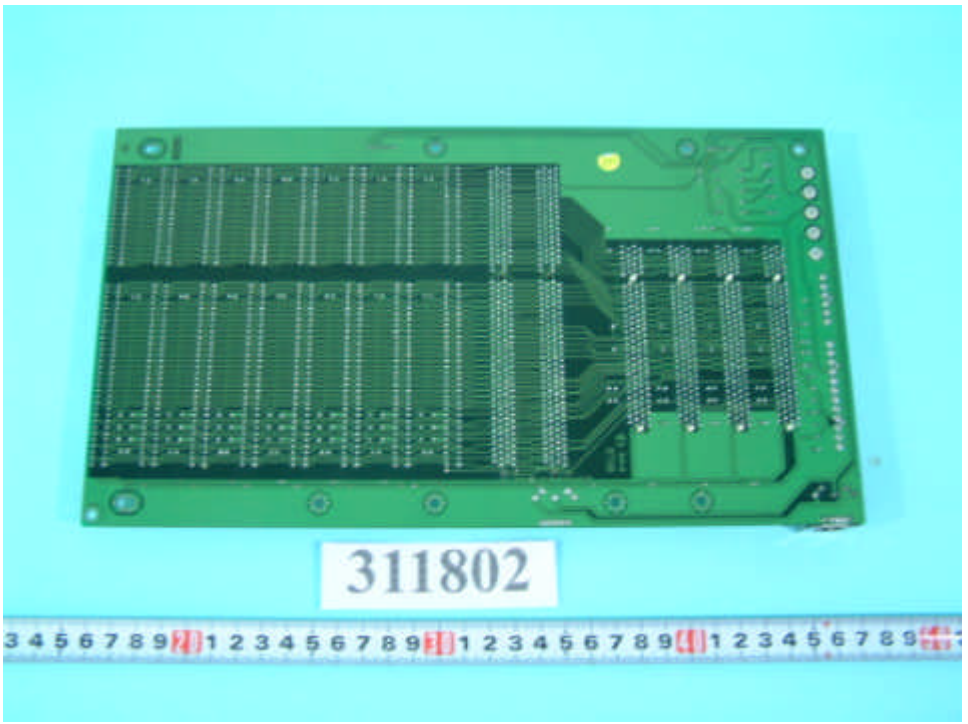
311802-05.JPG



311802-06.JPG



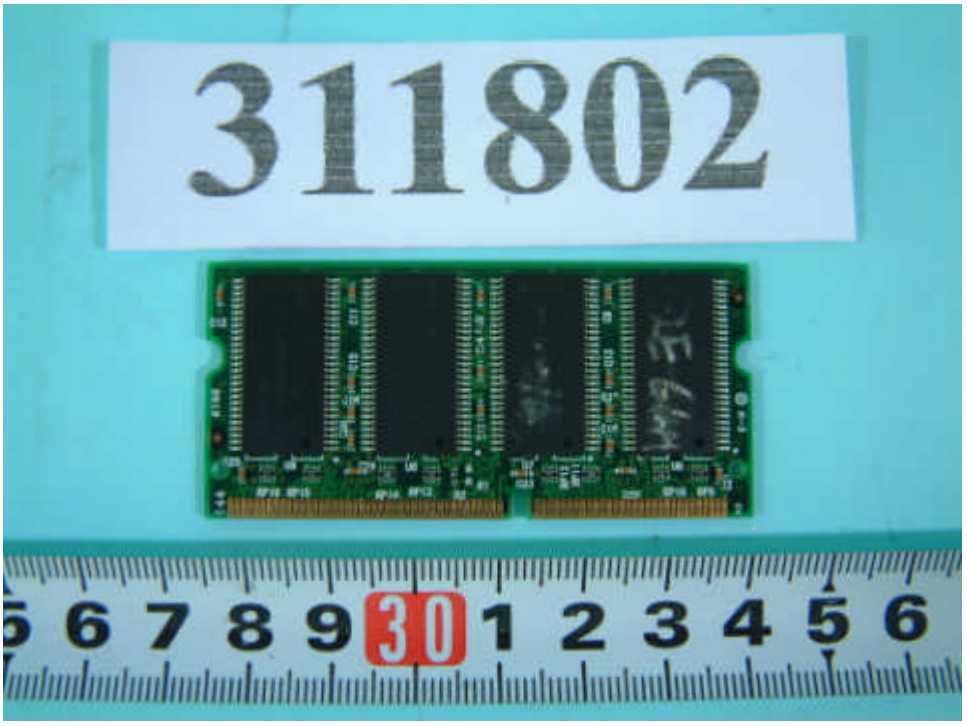
311802-07.JPG



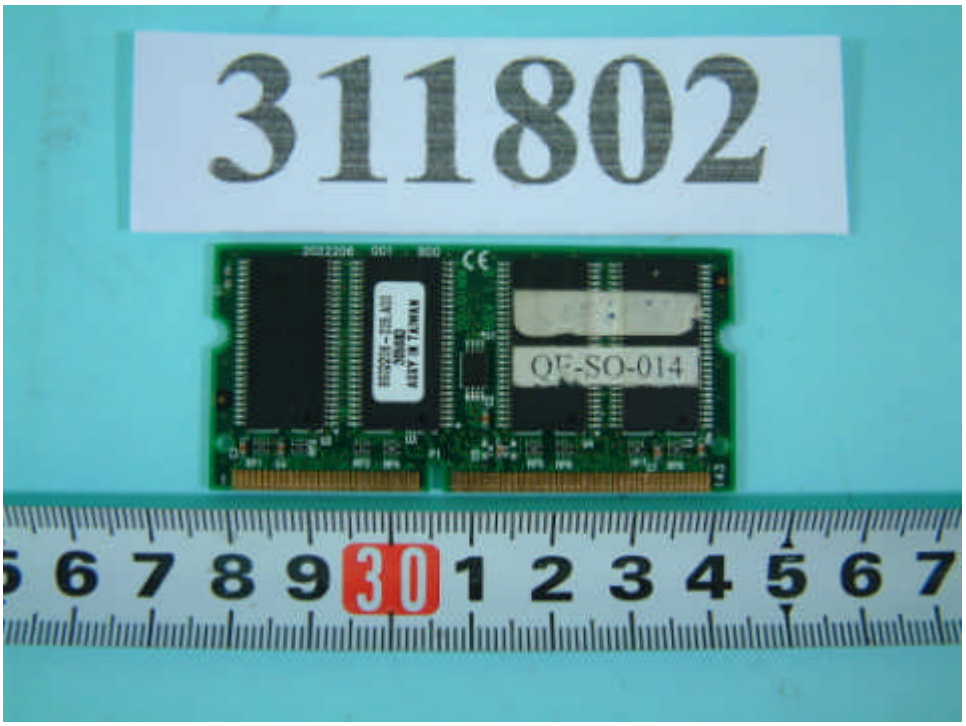
311802-08.JPG

311802-09.JPG

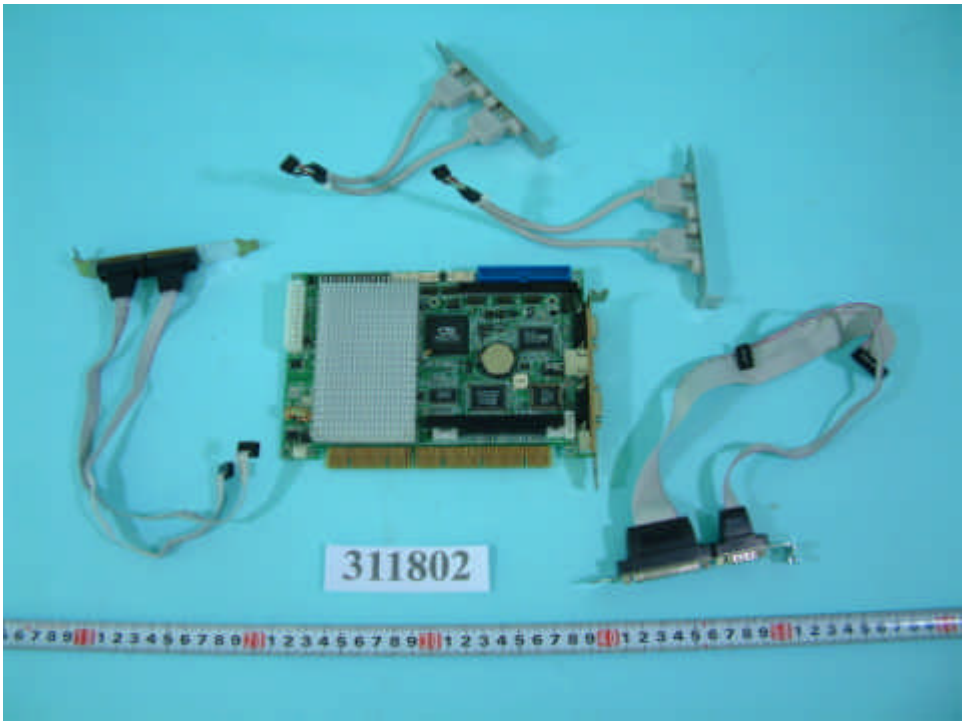
311802-10.JPG



311802-11.JPG



311802-12.JPG

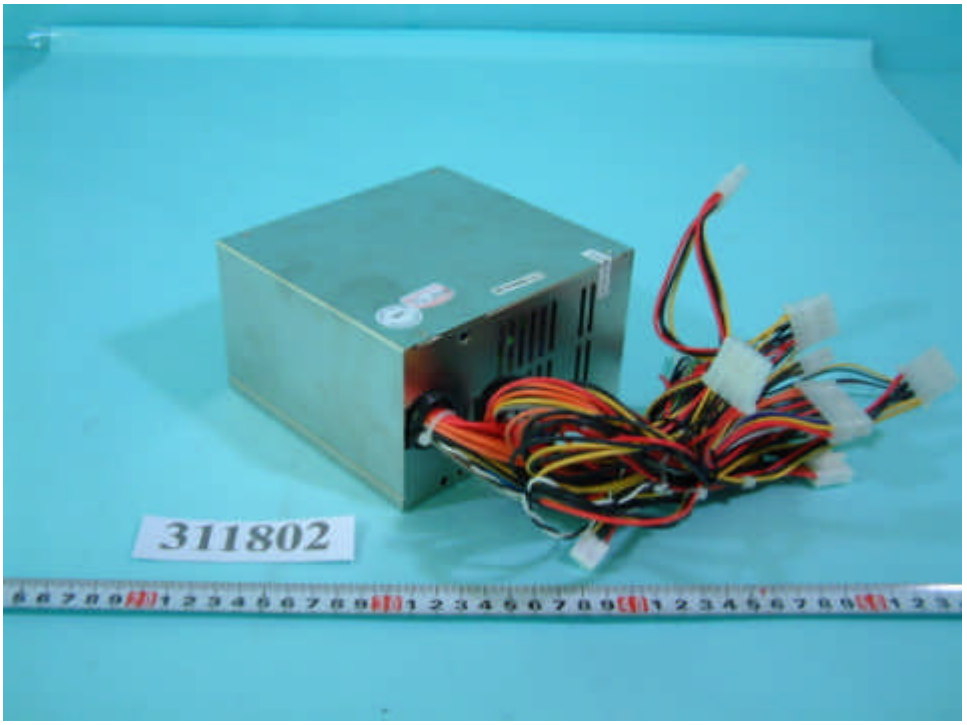


311802-13.JPG

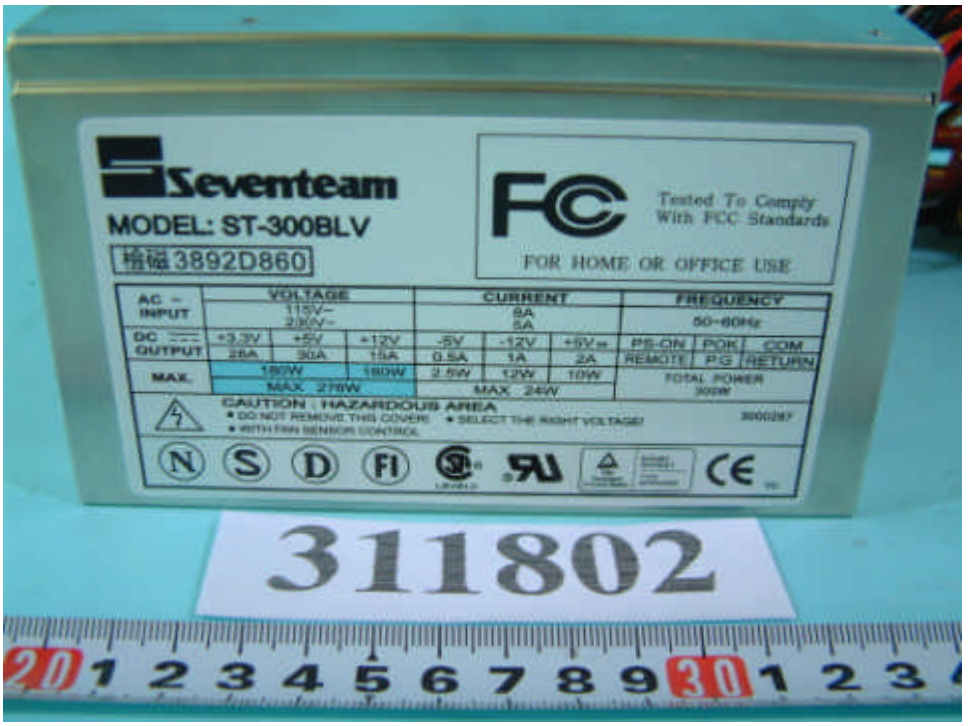
311802-14.JPG

311802-15.JPG

311802-16.JPG



311802-17.JPG



311802-18.JPG

311802-19.JPG