

# FCC CLASS B COMPLIANCE REPORT (DoC)

for

Electromagnetic Emissions

of

**CPU Board**

**Trade Name** : N/A  
**Model Number** : SBC-776 (N)  
**Serial Number** : N/A  
**Report Number** : 010869-D  
**Date** : November 5, 2001

Prepared for :

**AAEON Technology Inc.**

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

Prepared by :



**C&C LABORATORY CO., LTD.**  
#B1, 1<sup>st</sup> Fl., Universal Center, No. 183, Sec. 1,  
Tatung Rd., Hsi Chih,  
Taipei Hsien, Taiwan, R.O.C.  
TEL: (02) 86422071  
FAX: (02) 86422256

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## VERIFICATION OF COMPLIANCE

**Equipment Under Test:** CPU Board

**Trade Name:** N/A

**Model Number:** SBC-776 (N)

**Serial Number:** N/A

**Applicant:** **AAEON Technology Inc.**  
5F, No. 135, Lane 235, Pao Chiao Rd., Hsin-Tien City,  
Taipei, Taiwan, R.O.C.

**Manufacturer:** **AAEON Technology Inc.**  
5F, No. 135, Lane 235, Pao Chiao Rd., Hsin-Tien City,  
Taipei, Taiwan, R.O.C.

**Type of Test:** FCC Class B (DoC)

**Measurement Procedure:** ANSI C63.4: 1992

**File Number:** 010869-D

**Date of test:** Oct. 3 ~ Nov. 1, 2001

**DeN/Ation:** None

**Condition of Test Sample:** Normal

The above equipment was tested by C&C Laboratory, Co., Ltd. for compliance with the requirements set forth in the FCC Rules and Regulations Part 15, Subpart B and the measurement procedure according to ANSI C63.4. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment are within the compliance requirements.

The test results of this report relate only to the tested sample identified in this report.



Authorized Signatory

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Responsible Party

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Officer of the Responsible Party



## SYSTEM DESCRIPTION

### **EUT Test Program:**

1. EMI test program was loaded and executed under Windows environment.
2. The EMI test program sequentially exercised all I/O's of EUT.
3. A communicated software was loaded and executed to communicate between EUT and remote side.
4. The EUT sends to and receives message from remote side, and filling the screen of monitor with upper case of "H" patterns.
5. Repeat 2. to 4. Throughout the test.



## PRODUCT INFORMATION

**Housing Type:** Metal case  
**EUT Power Rating:** 100-240VAC,47-63Hz, 7.5-3.3A  
**AC Power during Test** 120/60Hz  
**Power Supply Manufacturer:** CEMACS  
**Power Supply Model Number:** HP2-6460P  
**AC Power Cord Type:** Unshielded, 1.8m (Detachable) to Power Supply  
**CPU Manufacture:** Intel **Type:** PIII 933MHz  
**OSC/Clock Frequencies:** 133MHz  
**Memory Capacity:** **Install:** 64MB  
**HDD Manufacturer:** WDC **Model:** AC26400R  
**Chassis Manufacturer:** AAEVN Technology Inc. **Model:** ARC-6620  
**Backplane Manufacturer:** AAEVN Technology Inc. **Model:** BP-219SG-P4 Rev: A1.0  
**I/O Board Manufacturer:** On Board  
**Sound Card Manufacturer:** On Board  
**VGA Card Manufacturer:** On Board

### I/O Port of EUT

| I/O PORT TYPES               | Q'TY | TESTED WITH |
|------------------------------|------|-------------|
| 1) Parallel Port             | 1    | 1           |
| 2) Serial Port               | 2    | 2           |
| 3) Video Port                | 1    | 1           |
| 4) PS/2 Keyboard/ Mouse Port | 1    | 1           |
| 5) AT Keyboard Port          | 1    | 1           |
| 6) Microphone Port           | 1    | 1           |
| 7) Line-in                   | 1    | 1           |
| 8) Line-out                  | 1    | 1           |
| 9) LAN Port                  | 2    | 2           |
| 10) USB Port                 | 4    | 4           |

## SUPPORT EQUIPMENT

| No. | Equipment               | Model #             | Serial #       | FCC ID     | Trade Name              | Data Cable                        | Power Cord  |
|-----|-------------------------|---------------------|----------------|------------|-------------------------|-----------------------------------|---|
| 1.  | Monitor                 | CPD-G200            | N/A            | FCC Doc    | SONY                    | Shielded, 1.8m<br>With one Core   | Unshielded, 1.8m  |
| 2.  | Printer                 | 2225C               | 2909S40149     | DSI6XU2225 | HP                      | Shielded, 1.8m                    | Unshielded, 1.8m  |
| 3.  | Modem                   | 2400                | 94-364-176268  | DK467GSM24 | Computer<br>Peripherals | Shielded, 1.8m                    | Unshielded, 1.8m  |
| 4.  | PS/2 Keyboard           | SK-2800C            | B1C790BCPJCN6L | GYUR79SK   | Compaq                  | Shielded, 1.8m                    | N/A   |
| 5.  | Mouse                   | M-CAA43             | LZA11752603    | DoC        | Logitech                | Shielded, 1.8m                    | N/A   |
| 6.  | USB Mouse               | M-BB48              | LZE01450726    | FCC DoC    | Logitech                | Shielded, 1.8m                    | N/A   |
| 7.  | USB Mouse               | M-BB48              | LZE92250243    | FCC DoC    | Logitech                | Shielded, 1.8m                    | N/A   |
| 8.  | USB Mouse               | M-BB48              | LZE92250102    | FCC DoC    | Logitech                | Shielded, 1.8m                    | N/A   |
| 9.  | USB Mouse               | M-BB48              | LZE1450642     | FCC DoC    | Logitech                | Shielded, 1.8m                    | N/A   |
| 10. | AT Keyboard             | KB-9000             | 9809051758     | LFCACEKEY1 | ACEKEY                  | Shielded, 1.8m                    | N/A   |
| 11. | Walkman                 | RQ-L10              | GB003969       | N/A        | Panasonic               | Unshielded,<br>1.8m               | N/A   |
| 13. | Multimedia<br>Headset   | SX-M                | A4-1           | N/A        | TOKYO                   | Shielded,<br>1.8m                 | N/A   |
| 14. | Hub<br>(Remote)         | TL-5008DS           | XT942040616    | N/A        | Link Pro                | LAN Cable x 2:<br>Unshielded, 10m | Unshielded, 1.8m  |
| 15. | Notebook PC<br>(Remote) | Valiant<br>6380i9TD | N/A            | N/A        | KDS                     | LAN Cable:<br>Unshielded, 1.8m    | AC I/P:<br>Unshielded, 1.8m<br>DC O/P:<br>Unshielded, 1.8m<br>With a core |

**Note:** All the above equipment/cables were placed in worse case positions to maximize emission signals during emission test.

**Grounding:** Grounding was in accordance with the manufacturer's requirements and conditions for the intended use.

## **MEASUREMENT PROCEDURE (PRELIMINARY LINE CONDUCTED EMISSION TEST)**

- 1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2) Support equipment, if needed, was placed as per ANSI C63.4.
- 3) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- 4) The EUT received AC power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5) All support equipment received power from a second LISN supplying power of 110VAC/60Hz, if any.
- 6) The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7) Analyzer / Receiver scanned from 150kHz to 30MHz for emissions in each of the test modes.
- 8) During the above scans, the emissions were maximized by cable manipulation.
- 9) The following test mode were scanned during the preliminary test:

**Mode(s):**

- 1. 1280 x 1024 Resolution + LAN 1+ LAN 2**
- 2. 1024 x 768 Resolution + LAN 1+ LAN 2**
- 3. 800 x 600 Resolution + LAN 1+ LAN 2**

- 10) After the preliminary scan, we found the following test mode producing the highest emission level.

**Mode: 1.**

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.



## MEASUREMENT PROCEDURE (FINAL LINE CONDUCTED EMISSION TEST)

- 1) EUT and support equipment was set up on the test bench as per step 10 of the preliminary test.
- 2) A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less -2dB to the A.V. limit in Q.P. mode, then the emission signal was re-checked using an Average detector.
- 3) The test data of the worst case condition(s) was reported on the Summary Data page.

### Data Sample:

| Freq.<br>MHz | Q.P.<br>Raw<br>dBuV | Average<br>Raw<br>dBuV | Q.P.<br>Limit<br>dBuV | Average<br>Limit<br>dBuV | Q.P.<br>Margin<br>dB | Average<br>Margin<br>dB | Note |
|--------------|---------------------|------------------------|-----------------------|--------------------------|----------------------|-------------------------|------|
| x.xx         | 43.95               | ---                    | 56                    | 46                       | -12.05               | -2.05                   | L 1  |

|            |  |
|------------|--|
| Freq.      | = Emission frequency in MHz  |
| Raw dBuV   | = Uncorrected Analyzer/Receiver reading  |
| Limit dBuV | = Limit stated in standard   |
| Margin dB  | = Reading in reference to limit  |
| Note       | = Current carrying line of reading   |
| “---“      | = The emission level complied with the Average limits, with at least 2 dB margin, so no further recheck. |

## LINE CONDUCTED EMISSION LIMIT

| Frequency     | Maximum RF Line Voltage |           |
|---------------|-------------------------|-----------|
|               | Q.P.                    | AVERAGE   |
| 150kHz-500kHz | 66-56dBuV               | 56-46dBuV |
| 500kHz-5MHz   | 56dBuV                  | 46dBuV    |
| 5MHz-30MHz    | 60dBuV                  | 50dBuV    |

Note: The lower limit shall apply at the transition frequency.



## MEASUREMENT PROCEDURE (PRELIMINARY RADIATED EMISSION TEST)

- 1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden turntable with a height of 0.8 meters is used which is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2) Support equipment, if needed, was placed as per ANSI C63.4.
- 3) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- 4) The EUT received AC power source from the outlet socket under the turntable. All support equipment received 110VAC/60Hz power from another socket under the turntable, if any.
- 5) The antenna was placed at 10 meter away from the EUT as stated in ANSI C63.4. The antenna connected to the Analyzer N/A a cable and at times a pre-amplifier would be used.
- 6) The Analyzer / Receiver quickly scanned from 30MHz to 5000MHz. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- 7) The following test mode were scanned during the preliminary test:

**Mode(s):**

- 1. 1280 x 1024 Resolution + LAN 1+ LAN 2**
- 2. 1024 x 768 Resolution + LAN 1+ LAN 2**
- 3. 800 x 600 Resolution + LAN 1+ LAN 2**

- 8) After the preliminary scan, we found the following test mode producing the highest emission level.

**Mode: 1.**

Then, the EUT and cable configuration, antenna position, polarization and turntable position of the above highest emission level were recorded for reference of final testing.



## MEASUREMENT PROCEDURE (FINAL RAIDATED EMISSION TEST)

- 1) EUT and support equipment were set up on the turntable as per step 8 of the preliminary test.
- 2) The Analyzer / Receiver scanned from 30MHz to 5000MHz. Emissions were scanned and measured rotating the EUT to 360 degrees, varying cable placement and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- 3) Recorded at least the six highest emissions. Emission frequency, amplitude, antenna position, polarization and turntable position were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit and only Q.P. reading is presented.
- 4) The test data of the worst case condition(s) was reported on the Summary Data page.

### Data Sample:

| Freq.<br>(MHz) | Raw<br>Data<br>(dBuV/m ) | Corr.<br>Factor<br>(dB) | Emiss.<br>Level<br>( dBuV/m ) | Limits | Margin<br>(dB) |
|----------------|--------------------------|-------------------------|-------------------------------|--------|----------------|
| xx.xx          | 14.0                     | 11.2                    | 26.2                          | 30     | -3.8           |

- Freq. = Emission frequency in MHz
- Raw Data (dBuV/m) = Uncorrected Analyzer / Receiver reading
- Corr. Factor (dB) = Correction factors of antenna factor and cable loss
- Emiss. Level = Raw reading converted to dBuV and CF added
- Limit dBuV/m = Limit stated in standard
- Margin dB = Reading in reference to limit

## RADIATED EMISSION LIMIT

| Frequency<br>(MHz) | Distance<br>(m) | Maximum Field Strength Limit<br>(dBuV/m) |         |      |
|--------------------|-----------------|--|---------|------|
|                    |                 | Q.P.                                     | AVERAGE | PEAK |
| 30-230             | 10              | 30                                       | /       | /    |
| 230-1000           | 10              | 37                                       | /       | /    |
| Above 1000         | 3               | /  | 53.9    | 73.9 |

**Note:** The lower limit shall apply at the transition frequency.



## SUMMARY DATA

### (LINE CONDUCTED TEST)

**Model Number:** SBC-776 (N)

**Location:** Site # 4

**Tested by:** Lung Tsai

**Test Mode:** Mode 1

**Test Results:** Passed

**Temperature:** 25<sup>0</sup>C

**Humidity:** 69%RH

(The chart below shows the highest readings taken from the final data)

| FREQ<br>MHz | Q.P.<br>Raw<br>dBuV | AVG<br>Raw<br>dBuV | Q.P.<br>Limit<br>dBuV | AVG<br>Limit<br>dBuV | Q.P.<br>Margin<br>dB | AVG<br>Margin<br>dB | NOTE |
|-------------|---------------------|--------------------|-----------------------|----------------------|----------------------|---------------------|------|
| 0.150       | 51.20               | ---                | 66.00                 | 56.00                | -14.80               | ---                 | L1   |
| 1.092       | 19.40               | ---                | 56.00                 | 46.00                | -36.60               | ---                 | L1   |
| 4.103       | 15.80               | ---                | 56.00                 | 46.00                | -40.20               | ---                 | L1   |
| 11.637      | 19.30               | ---                | 60.00                 | 50.00                | -40.70               | ---                 | L1   |
| 23.700      | 26.70               | ---                | 60.00                 | 50.00                | -33.30               | ---                 | L1   |
| 25.098      | 24.70               | ---                | 60.00                 | 50.00                | -35.30               | ---                 | L1   |
| 0.150       | 52.00               | ---                | 66.00                 | 56.00                | -14.00               | ---                 | L2   |
| 1.093       | 18.30               | ---                | 56.00                 | 46.00                | -37.70               | ---                 | L2   |
| 3.288       | 15.70               | ---                | 56.00                 | 46.00                | -40.30               | ---                 | L2   |
| 18.033      | 19.60               | ---                | 60.00                 | 50.00                | -40.40               | ---                 | L2   |
| 23.707      | 26.10               | ---                | 60.00                 | 50.00                | -33.90               | ---                 | L2   |
| 25.094      | 24.80               | ---                | 60.00                 | 50.00                | -35.20               | ---                 | L2   |

L1 = Line One (Hot side) / L2 = Line Two (Neutral side)

**\*\*NOTE:** “---” denotes the emission level was less -2 dB to the Average limit, so no re-check anymore.



## SUMMARY DATA (RADIATED EMISSION TEST)

**Model Number:** SBC-776 (N)

**Location:** Site # 1

**Tested by:** Terry Su

**Polar:** Vertical--10m

**Test Mode:** Mode 1

**Test Results:** Passed

**Detector Function:** Quasi-Peak

**Temperature:** 23°C

**Humidity:** 68%RH

(The chart below shows the highest readings taken from the final data)

| Freq.<br>(MHz) | Raw<br>Data<br>( dBuV/m ) | Corr.<br>Factor<br>(dB) | Emiss.<br>Level<br>( dBuV/m ) | Limits | Margin<br>(dB) |
|----------------|---------------------------|-------------------------|-------------------------------|--------|----------------|
| 33.47          | 9.3                       | 18.7                    | 28.0                          | 30.0   | -2.0           |
| 199.90         | 13.6                      | 10.9                    | 24.5                          | 30.0   | -5.5           |
| 369.00         | 13.2                      | 18.2                    | 31.4                          | 37.0   | -5.6           |
| 638.00         | 7.5                       | 23.7                    | 31.2                          | 37.0   | -5.8           |
| 800.00         | 5.5                       | 25.6                    | 31.1                          | 37.0   | -5.9           |
| 931.00         | 5.8                       | 27.1                    | 32.9                          | 37.0   | -4.1           |



## SUMMARY DATA

### (RADIATED EMISSION TEST)

**Model Number:** SBC-776 (N)

**Location:** Site # 1

**Tested by:** Terry Su

**Polar:** Horizontal--10m

**Test Mode:** Mode 1

**Test Results:** Passed

**Detector Function:** Quasi-Peak

**Temperature:** 23°C

**Humidity:** 68%RH

(The chart below shows the highest readings taken from the final data)

| Freq.<br>(MHz) | Raw<br>Data<br>( dBuV/m ) | Corr.<br>Factor<br>(dB) | Emiss.<br>Level<br>( dBuV/m ) | Limits | Margin<br>(dB) |
|----------------|---------------------------|-------------------------|-------------------------------|--------|----------------|
| 33.56          | 7.5                       | 18.7                    | 26.2                          | 30.0   | -3.8           |
| 165.04         | 13.5                      | 11.3                    | 24.8                          | 30.0   | -5.2           |
| 200.70         | 14.4                      | 10.9                    | 25.3                          | 30.0   | -4.7           |
| 210.70         | 14.0                      | 11.2                    | 25.2                          | 30.0   | -4.8           |
| 233.70         | 18.9                      | 12.5                    | 31.4                          | 37.0   | -5.6           |
| 302.00         | 17.0                      | 15.8                    | 32.8                          | 37.0   | -4.2           |
| 370.00         | 13.7                      | 18.2                    | 31.9                          | 37.0   | -5.1           |
| 930.00         | 6.1                       | 27.1                    | 33.2                          | 37.0   | -3.8           |



## SUMMARY DATA

### (RADIATED EMISSION TEST)

**Model Number:** SBC-776 (N)

**Location:** 3 meter chamber

**Tested by:** Terry Su

**Polar:** Vertical ---3 m

**Test Mode:** Mode 1.

**Detector Function:** Pk / A.V.

**Test Results:** Passed

**Temperature:** 26<sup>0</sup>C

**Humidity:** 65%RH

(The chart below shows the highest readings taken from the final data)

| Freq.<br>(MHz) | Raw<br>Data<br>(dBuV/m ) | Corr.<br>Factor<br>(dB) | Emiss.<br>Level (Pk)<br>( dBuV/m ) | Limits<br>(Pk) | Margin<br>(dB) |
|----------------|--------------------------|-------------------------|------------------------------------|----------------|----------------|
| 1074.00        | 14.7                     | 26.6                    | 41.3                               | 73.9           | -32.6          |
| 1211.00        | 14.8                     | 27.1                    | 41.9                               | 73.9           | -32.0          |
| 1469.00        | 17.8                     | 27.9                    | 45.7                               | 73.9           | -28.2          |
| 1606.00        | 14.5                     | 28.3                    | 42.8                               | 73.9           | -31.1          |

**Note:** In case of peak reading complied with the limit at least 22dB margin, no measurement with A.V. detector required.



## SUMMARY DATA

### (RADIATED EMISSION TEST)

**Model Number:** SBC-776 (N)

**Location:** 3 meter chamber

**Tested by:** Terry Su

**Polar:** Horizontal ---3 m

**Test Mode:** Mode 1.

**Detector Function:** Pk / A.V.

**Test Results:** Passed

**Temperature:** 26<sup>0</sup>C

**Humidity:** 65%RH

(The chart below shows the highest readings taken from the final data)

| Freq.<br>(MHz) | Raw<br>Data<br>(dBuV/m ) | Corr.<br>Factor<br>(dB) | Emiss.<br>Level (Pk)<br>( dBuV/m ) | Limits<br>(Pk)<br>( ) | Margin<br>(dB) |
|----------------|--------------------------|-------------------------|------------------------------------|-----------------------|----------------|
| 1337.00        | 17.7                     | 27.5                    | 45.2                               | 73.9                  | -28.7          |
| 1474.00        | 19.5                     | 27.9                    | 47.4                               | 73.9                  | -26.5          |
| 1606.00        | 18.5                     | 28.3                    | 46.8                               | 73.9                  | -27.1          |
| 2143.00        | 13.7                     | 30.1                    | 43.8                               | 73.9                  | -30.1          |

**Note:** In case of peak reading complied with the limit at least 22dB margin, no measurement with A.V. detector required.



## TEST FACILITY

- Location:** No. 81-1, 210 Lane, Pa-de 2<sup>nd</sup> Road, Lu-Chu Hsiang, Taoyuan, Taiwan, R. O. C.
- Description:** There are four 3/10m open area test sites and three line conducted labs for final test. The Open Area Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 1992 and CISPR 22/EN 55022 requirements.
- Site Filing:** A site description is on file with the Federal Communications Commission, 7435 Oakland Mills Road, Columbia, MD 21046.
- Registration also was made with Voluntary Control Council for Interference (VCCI).
- Site Accreditation:** Accredited by NEMKO (Authorization #: ELA 124) for EMC & A2LA (Certificate #: 824.01) for Emission
- Also accredited by BCIQ for the product category of Information Technology Equipment.
- Instrument Tolerance:** All measuring equipment is in accord with ANSI C63.4 and CISPR 22 requirements that meet industry regulatory agency and accreditation agency requirement.
- Ground Plane:** Two conductive reference ground planes were used during the Line Conducted Emission, one in vertical and the other in horizontal. The dimensions of these ground planes are as below. The vertical ground plane was placed distancing 40 cm to the rear of the wooden test table on where the EUT and the support equipment were placed during test. The horizontal ground plane projected 50 cm beyond the footprint of the EUT system and distanced 80 cm to the wooden test table. For Radiated Emission Test, one horizontal conductive ground plane extended at least 1m beyond the periphery of the EUT and the largest measuring antenna, and covered the entire area between the EUT and the antenna. It has no holes or gaps having longitudinal dimensions larger than one-tenth of a wavelength at the highest frequency of measurement up to 1GHz.

**Site#3 & # 4Line Conducted Test Site:** At Shielding Room

## TEST EQUIPMENT LIST

**Instrumentation:** The following list contains equipment used at C & C Laboratory, Co., Ltd. for testing. The equipment conforms to the CISPR 16-1 / ANSI C63.2-1988 Specifications for Electromagnetic Interference and Field Strength Instrumentation from 10kHz to 1.0 GHz or above.  
**Equipment used during the tests:**

**Open Area Test Site:** # 1

| Open Area Test Site # 1 |            |              |               |            |            |
|-------------------------|------------|--------------|---------------|------------|------------|
| EQUIPMENT TYPE          | MFR        | MODEL NUMBER | SERIAL NUMBER | LAST CAL.  | CAL DUE.   |
| EMI Test Receiver       | R&S        | ESCS30       | 845552/030    | 12/07/2000 | 12/06/2001 |
| Pre-Amplifier           | HP         | 8447F        | 2944A03748    | 11/10/2000 | 11/09/2001 |
| Precision Dipole        | SCHWAZBECK | VHAP         | 998/999       | 05/17/2001 | 05/16/2002 |
| Precision Dipole        | SCHWAZBECK | UHAP         | 981/982       | 05/17/2001 | 05/16/2002 |
| Bilog Antenna           | CHASE      | CBL6112A     | 2309          | 02/11/2001 | 02/10/2002 |
| Turn Table              | EMCO       | 2081-1.21    | N/A           | N.C.R      | N.C.R      |
| Antenna Tower           | EMCO       | 2075-2       | 9707-2604     | N.C.R      | N.C.R      |
| Controller              | EMCO       | 2090         | N/A           | N.C.R      | N.C.R      |
| RF Switch               | ANRITSU    | MP59B        | M54367        | N.C.R      | N.C.R      |
| Site NSA                | C&C        | N/A          | N/A           | 11/05/2000 | 11/04/2001 |
| Spectrum Analyzer       | ADVANTEST  | R3261A       | 21070279      | 08/16/2001 | 08/15/2002 |

| 3 meter Chamber   |           |              |               |            |            |
|-------------------|-----------|--------------|---------------|------------|------------|
| EQUIPMENT TYPE    | MFR       | MODEL NUMBER | SERIAL NUMBER | LAST CAL.  | CAL DUE.   |
| Spectrum Analyzer | ADVANTEST | R3271A       | 85060321      | 10/15/2001 | 10/14/2002 |
| Pre-Amplifier     | HP        | 8449B        | 3008A00965    | 10/11/2001 | 10/10/2002 |
| Horn Antenna      | EMCO      | 3115         | 9602-4659     | 04/17/2001 | 04/16/2002 |
| Coaxial Cable     | ANOREW    | LDF-2-50     | 79027         | 09/22/2001 | 09/21/2002 |
| Turn Table        | HD        | HD320        | N/A           | N.C.R      | N.C.R      |
| Antenna Tower     | HD        | MA 240       | N/A           | N.C.R      | N.C.R      |
| Controller        | HD        | HD 100       | N/A           | N.C.R      | N.C.R      |

**Conducted Emission Test Site:** # 4

| Conducted Emission Test Site # 4 |      |              |               |            |            |
|----------------------------------|------|--------------|---------------|------------|------------|
| EQUIPMENT TYPE                   | MFR  | MODEL NUMBER | SERIAL NUMBER | LAST CAL.  | CAL DUE.   |
| EMI Test Receiver                | R&S  | ESHS10       | 843743/015    | 12/15/2000 | 12/14/2001 |
| LISN                             | R&S  | ENV 4200     | 8303261016    | 11/18/2000 | 11/17/2001 |
| LISN                             | EMCO | 3825/2       | 9003/1382     | 02/08/2001 | 02/07/2002 |

The calibrations of the measuring instruments, including any accessories that may effect such calibration, are checked frequently to assure their accuracy. Adjustments are made and correction factors applied in accordance with instructions contained in the manual for the measuring instrument.

## BLOCK DIAGRAM OF TEST SETUP

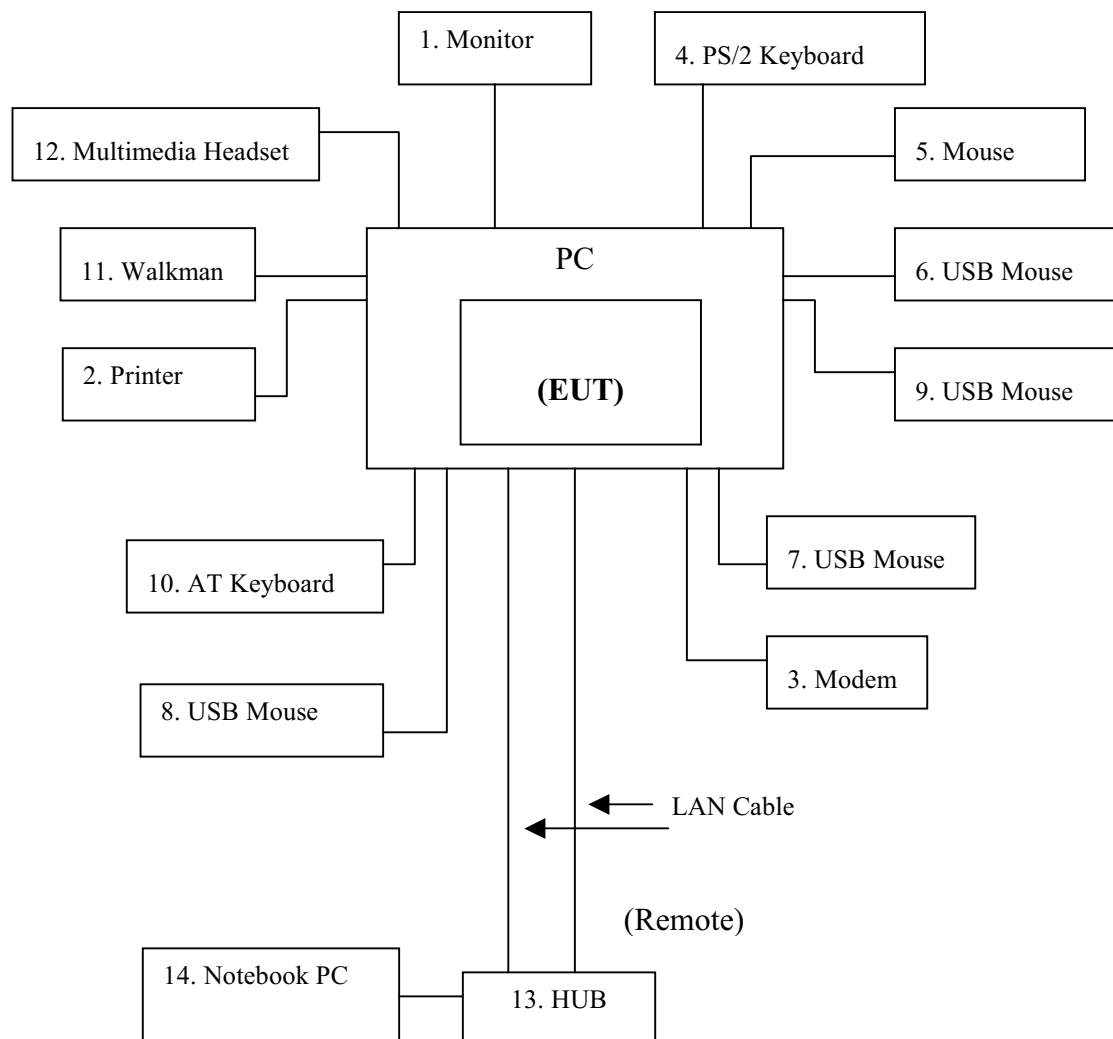
### SYSTEM DIAGRAM OF CONNECTIONS BETWEEN EUT AND SIMULATORS

**EUT:** CPU Board

**Trade Name:** N/A

**Model Number:** SBC-776 (N)

**Power Cord:** Unshielded, 1.8m





## **APPENDIX 1**

### **PHOTOGRAPHS (TEST SETUP OF LINE CONDUCTED EMISSION TEST)**

## LINE CONDUCTED EMISSION TEST

Front View



Back View





## **APPENDIX 2**

### **PHOTOGRAPHS (TEST SETUP OF RADIATED EMISSION TEST)**

## RADIATED EMISSION TEST (EN55022)

### Front View



### Back View





## **APPENDIX 3**

### **PHOTOGRAPHS (EUT)**



**Front view of EUT**



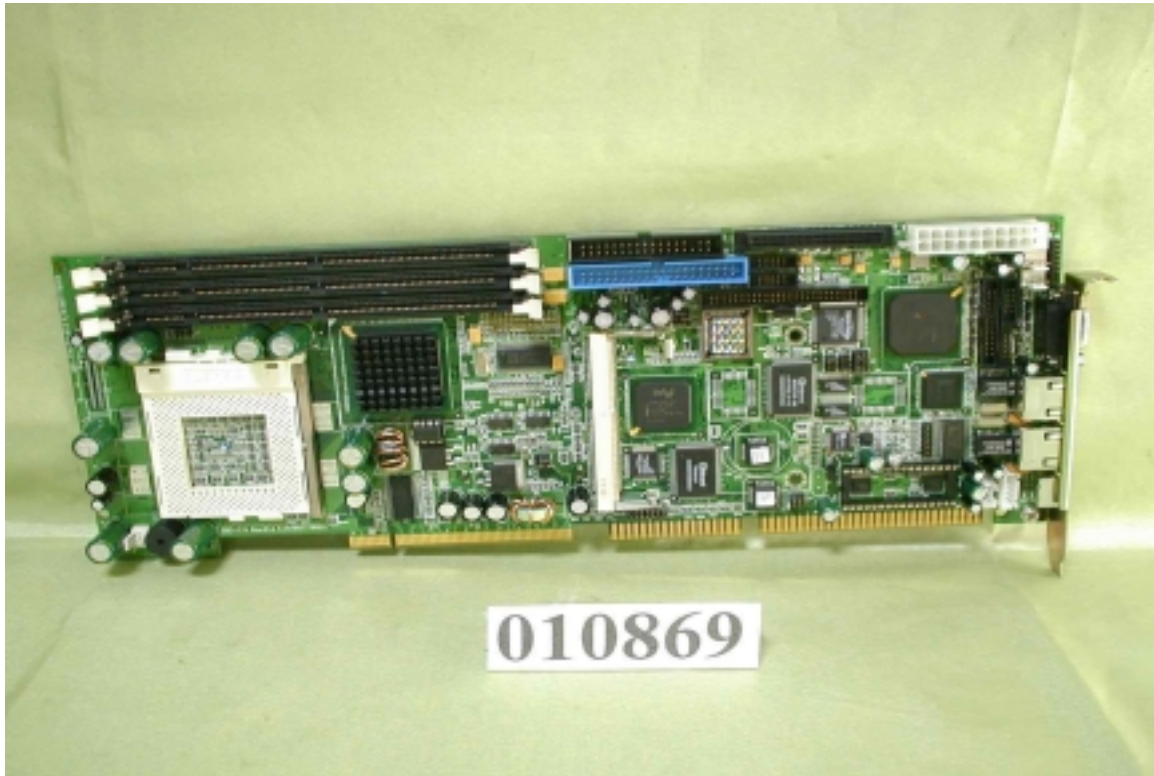
**Back view of EUT**



### Open view of EUT



**SBC-776 (N)**  
**Front view of EUT**



**Back view of EUT**



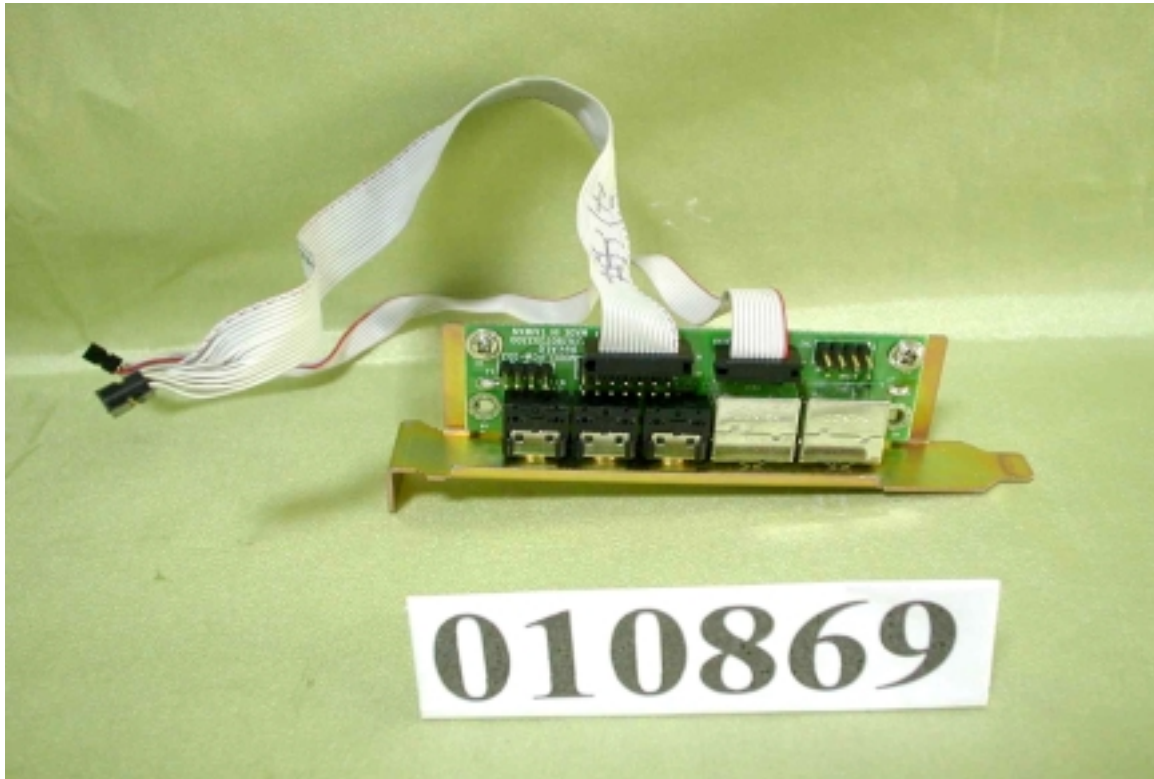
### I/O Port of EUT



### I/O Port of EUT



**Front view of Sound Card**



**Back view of Sound Card**

