### FCC CLASS A COMPLIANCE REPORT

for

**Electromagnetic Emissions** 

of

#### **CPU Board**

**Trade Name**: N/A

**Model Number**: MB-662 (N)

**Serial Number**: N/A

**Report Number**: 010004-F

**Date** : January 11, 2001

Prepared for:

AAECN Technology Co., Ltd. 5F, No. 135, Lane 235, Pao Chiao Rd., Hsin-Tien City, Taipei Hsien, 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)8642-2071~3 FAX: (02)8642-2256

This report shall not be reproduced, except in full, without the written approval of C&C Laboratory, Co., Ltd.

## **TABLE OF CONTENTS**

DESCRIPTION	PAGE
VERIFICATION OF COMPLIANCE	3
SYSTEM DESCRIPTION	4
PRODUCT INFORMATION	5
SUPPORT EQUIPMENT	6
MEASUREMENT PROCEDURE & LIMIT (LINE CONDUCTED EMISSION TEST)	7
MEASUREMENT PROCEDURE & LIMIT (RADIATED EMISSION TEST)	9
SUMMARY DATA	12
TEST FACILITY	17
TEST EQUIPMENT	18
BLOCK DIAGRAM OF TEST SETUP	21
APPENDIX 1 PHOTOGRAPHS OF SETUP	22
APPENDIX 2 PHOTOGRAPHS OF EUT	25

## **VERIFICATION OF COMPLIANCE**

<b>Equipment Under Test:</b>	CPU Board
Trade Name:	N/A
Model Number:	MB-662 (N)
Serial Number:	N/A
Applicant:	AAEON Technology Co., Ltd.
Manufacturou	5F, No.135, Lane 235, Pao Chiao Rd. Hsin-Tien City, Taipei, Taiwan, R.O.C. <b>AAEON Technology Co., Ltd.</b>
Manufacturer:	5F, No.135, Lane 235, Pao Chiao Rd. Hsin-Tien City, Taipei, Taiwan, R.O.C.
Type of Test:	FCC Class A
Measurement Procedure:	ANSI C63.4: 1992
File Number:	010004-F
Date of test:	January 5 ~ 11, 2001
Deviation:	According to applicant's declaration this EUT is a class A product, and to be market in industrial environment only.
<b>Condition of Test Sample:</b>	Normal
set forth in the FCC Rules according to ANSI C63.4. T maximum emission levels en	ested by C&C Laboratory, Co., Ltd. for compliance with the requirements and Regulations Part 15, Subpart B and the measurement procedure his said equipment in the configuration described in this report shows the nanating from equipment are within the compliance requirements.  relate only to the tested sample identified in this report.
The test results of this report	reface only to the tested sample identified in this report.
	Responsible Party
Wick chang	

**Authorized Signatory** 

Officer of the Responsible Party

## **SYSTEM DESCRIPTION**

#### **EUT Test Program:**

- 1. An EMI test software 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 step 2 to 4 throughout the test.

#### PRODUCT INFORMATION

**Housing Type:** N/A

**EUT Power Rating:** DCV from Power Supply

**AC power during Test:** 120VAC/60Hz

**Power Supply Manufacturer:** Seven team **Power Supply Model Number:** ST-230WHF

**AC Power Cord Type:** Unshielded, 1.8m (Detachable) to Power Supply

**DC Power Cable Type:** N/A

**CPU Manufacturer:** Intel **Type:** Celeron/500 MHz

OSC/Clock Frequencies: 66 MHz

Memory Capacity: Installed: 32 MB

**HDD Manufacturer:** Maxtor **Model:** 33073V4

FDD Manufacturer: Panasonic Model: JU-257A 605P

Chassis Manufacturer: N/A Model: ALPX-250

VGA Card Type: On Board

#### I/O Port of EUT:

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

## SUPPORT EQUIPMENT

No.	Equipment	Model	Serial	FCC	Trade Name	Data	Power
		#	#	ID		Cable	Cord
1.	Monitor	CM753ET	T9A000038	FCC DoC	НІТАСНІ	Shielded, 1.6m	Unshielded, 1.8m
2.	Modem	2400	94-364-176281	DK467GSM24	Computer Peripherals	Shielded, 1.6m	Unshielded, 1.8m
3.	Printer	2225C	2804S03094	DSI6XU2225	НР	Shielded, 1.6m	Unshielded, 1.5m
4.	PS/2 Keyboard	SK-2502C	M990543832	FCC DoC	НР	Shielded, 1.8m	N/A
5.	PS/2 Mouse	M-S43	LZA93401262	DZL211106	Logitech	Shielded, 1.8m	N/A
6.	USB Mouse	M-BB48	LZE93050088	FCC DoC	Logitech	Shielded, 1.8m	N/A
7.	USB Mouse	M-BB48	LZE93050148	FCC DoC	Logitech	Shielded, 1.8m	N/A
8.	COM Mouse	M-MM43	LZE93353074	DoC	Logitech	Shielded, 1.9m	N/A
9.	COM Mouse	M-MM43	LZE94052791	DoC	Logitech	Shielded, 1.9m	N/A
10.	Multimedia Headset	SX-M	A5-4	N/A	ТОКҮО	Unshielded, 1.8m	N/A
11.	Walkman	YX-328	W4	N/A	YING-KO	Unshielded, 1.8m	N/A
12.	Joystick	WINGMAN	LZB83457474	DZL211071	Logitech	Unshielded, 2.2m	N/A
13.	Notebook PC (Remote)	365	TZ30518	FCC DoC		LAN Cable: Shielded, 15m	AC I/P: Unshielded, 0.9m DC O/P: Unshielded, 1.9m

**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 of 120VAC/60Hz 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(s) were scanned during the preliminary test:

#### Mode(s):

#### 1. 1024 x 768 with Celeron/500MHz

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.
- 3) The test data of the worst case condition(s) was reported on the Summary Data page.

**Data Sample:** 

Freq.	Q.P.	Average	Q.P.	Average	Q.P.	Average	Note
MHz	Raw	Raw	Limit	Limit	Margin	Margin	
	dBuV	dBuV	dBuV	dBuV	dB	dB	
x.xx	39.2		79	66	-39.8	-26.8	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	79dBuV	66dBuV		
500kHz-5MHz	73dBuV	60dBuV		
5MHz-30MHz	73dBuV	60dBuV		

**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: 1992 (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: 1992.
- 3) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4: 1992.
- 4) The EUT received 120VAC/60Hz 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: 1992. The antenna connected to the analyzer via a cable and at times a pre-amplifier would be used.
- 6) The Analyzer / Receiver quickly scanned from 30MHz to 2000MHz. 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(s) were scanned during the preliminary test:

#### Mode(s):

#### 1. 1024 x 768 with Celeron/500MHz

8) After the preliminary scan, we found the following test mode

#### 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 2000MHz. 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, were recorded into a computer (The antenna position, polarization and turntable position were kept in raw data file) in which correction factors were used to calculate the emission level and compare reading to the applicable limit.
- 4) The test data of the worst case condition(s) was reported on the Summary Data page.

#### **Data Sample:**

Freq. (MHz)	Raw Data (dBuV/m)	Corr. Factor (dB)	Emiss. Level ( dBuV/m	Limits	Margin (dB)		
xx.xx	14.0	11.2	26.2	40	-13.8		
Freq.			= Emission frequency in MHz				
Raw Data (	(dBuV/m)		= Uncorrected Ar	nalyzer / Re	ceiver reading		
Corr. Facto	or (dB)		= Correction fact	ors of anten	na factor and cable loss		
Emiss. Level = Raw reading converted to dBuV/m an				dBuV/m and CF added			
Limit dBu\	uV/m = Limit stated in standard						
Margin dB = Reading in reference to limit					nit		

## **RADIATED EMISSION LIMIT**

Frequency	Distance	Maximum Field Strength Limit			
(MHz)	(m)	(dBuV/m)			
		Q.P. AVERAGE PEAK			
30-230	10	40	/	/	
230-1000	10	47	/	/	
Above 1000	3	/	60	80	

<sup>\*\*</sup>Note: "/" means the limit line isn't applicable.

# SUMMARY DATA (LINE CONDUCTED TEST)

**Model Number:** MB-662 (N) **Location:** Site # 4

Tested by: Jacky Wang

**Test Mode:** Mode 1

Test Results: Passed

**Temperature:** 20°C **Humidity:** 70%RH

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

FREQ MHz	Q.P. Raw dBuV	AVG Raw dBuV	Q.P. Limit dBuV	AVG Limit dBuV	Q.P. Margin dB	AVG Margin dB	NOTE
0.165	41.2		79.00	66.00	-37.8		L1
0.950	39.2		73.00	60.00	-33.8		L1
2.390	33.6		73.00	60.00	-39.4		L1
4.260	28.7		73.00	60.00	-44.3		L1
6.900	23.4		73.00	60.00	-49.6		L1
24.880	40.1		73.00	60.00	-32.9		L1
		ī	ī		1	ī	
0.165	42.7		79.00	66.00	-36.3		L2
1.020	38.6		73.00	60.00	-34.4		L2
2.460	31.7		73.00	60.00	-41.3		L2
4.200	27.4		73.00	60.00	-45.6		L2
5.430	22.2		73.00	60.00	-50.8		L2
24.890	43.6		73.00	60.00	-29.4		L2

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

\*\*NOTE: "---" denotes the emission level was or more than 2dB below the Average limit, so no re-check anymore.

## (RADIATED EMISSION TEST)

**Model Number:** MB-662 (N) **Location:** Site # 4

Tested by: Jacky Wang

**Test Mode:** Mode 1 **Polar:** Vertical -- 10m

**Detector Function:** Quasi-Peak **Test Results:** Passed

**Temperature:** 20°C **Humidity:** 70%RH

Freq. Data (MHz)	Raw Factor (dBuV/m)	Corr. Level (dB)	Emiss.	Limits V/m )	Margin (dB)
66.45	29.8	5.7	35.5	40.0	-4.5
100.23	21.9	12.4	34.3	40.0	-5.7
133.28	23.1	13.2	36.3	40.0	-3.7
200.14	24.4	11.6	36.0	40.0	-4.0
333.25	27.5	16.0	43.5	47.0	-3.5
601.00	21.6	21.4	43.0	47.0	-4.0
667.50	19.8	22.5	42.3	47.0	-4.7

## (RADIATED EMISSION TEST)

**Model Number:** MB-662 (N) **Location:** Site # 4

**Tested by:** Jacky Wang

**Test Mode:** Mode 1 **Polar:** Horizontal -- 10m

**Detector Function:** Quasi-Peak **Test Results:** Passed

**Temperature:** 20°C **Humidity:** 70%RH

Freq. Data (MHz)	Raw Factor (dBuV/m)	Level	Emiss.	Limits V/m )	Margin (dB)
66.45	29.6	5.7	35.3	40.0	-4.7
100.23	21.1	12.4	33.5	40.0	-6.5
133.28	21.3	13.2	34.5	40.0	-5.5
200.14	24.2	11.6	35.8	40.0	-4.2
466.25	23.3	19.5	42.8	47.0	-4.2
601.00	21.1	21.4	42.5	47.0	-4.5
734.00	18.2	23.1	41.3	47.0	-5.7

## (RADIATED EMISSION TEST)

Model Number: MB-662 (N)

Location: 3 meter chamber

**Tested by:** Jacky Wang **Polar:** Vertical ---3 m

Test Mode: Mode 1

**Detector Function:** Pk / A.V. **Test Results:** Passed

**Temperature:** 21°C **Humidity:** 71%RH

Freq. (MHz)	Raw Data (dBuV/m)	Corr. Factor (dB)	Emiss. Level ( dBuV/m	Limits (A.V)	Margin (dB)
1006.00	20.7	26.3	47.0(Pk)	53.9	-6.9
1143.00	18.4	26.9	45.3(Pk)	<b>5</b> 3.9	-8.6
1274.00	14.6	27.4	42.0(Pk)	<b>5</b> 3.9	-11.9
1543.00	13.5	28.4	41.9(Pk)	53.9	-12.0

<sup>\*\*</sup>Note: In case of peak reading complied with the A.V. limit at least 2dB margin, no further measurement with A.V. detector required.

## (RADIATED EMISSION TEST)

Model Number: MB-662 (N) Location: 3 meter chamber

**Tested by:** Jacky Wang **Polar:** Horizontal ---3 m

Test Mode: Mode 1

**Detector Function:** Pk / A.V. **Test Results:** Passed

**Temperature:** 21°C **Humidity:** 71%RH

Freq. (MHz)	Raw Data (dBuV/m)	Corr. Factor (dB)	Emiss. Level ( dBuV/m	\ /	Margin (dB)
1006.00	17.3	26.3	43.6(Pk)	53.9	-10.3
1143.00	19.8	26.9	46.7(Pk)	53.9	-7.2
1274.00	19.8	27.4	47.2(Pk)	53.9	-6.7
1406.00	14.5	27.9	42.4(Pk)	53.9	-11.5
1543.00	12.5	28.4	40.9(Pk)	53.9	-13.0

<sup>\*\*</sup>Note: In case of peak reading complied with the A.V. limit at least 2dB margin, no further measurement with A.V. detector required.

#### **TEST FACILITY**

**Location:** No. 15, 14 Line, Chin Twu Chi, 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 BSMI 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 # 1 & # 3 Line Conducted Test Site: Vertical ground plane (2.2m x 2.2m)

Horizontal ground plane (2.5m x 2.5m)

**Site # 4 Line 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 / 2.0 GHz.

**Equipment used during the tests:** 

**Open Area Test Site:** # 1; # 2; # 3; # 4

Open Area Test Site # 1						
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL. DUE	
Q.P Adaptor	HP	85650A	2811A01399	05/05/2000	05/04/2001	
RF Pre-selector	HP	85685A	2947A01064	05/05/2000	05/04/2001	
Spectrum Analyzer	HP	8568B	3001A05004	05/05/2000	05/04/2001	
S.P.A Display	HP	8568B	3014A18846	05/05/2000	05/04/2001	
Precision Dipole	R&S	HZ-12	846932/0004	07/14/2000	07/13/2001	
Precision Dipole	R&S	HZ-13	846556/0008	07/14/2000	07/13/2001	
Bilog Antenna	CHASE	CBL6112A	2309	02/13/2000	02/12/2001	
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	

Open Area Test Site # 2							
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL. DUE		
Spectrum Analyzer	ADVANTEST	R3261A	N/A	03/08/2000	03/07/2001		
Pre-Amplifier	HP	8447D	2944A08432	11/28/2000	11/27/2001		
EMI Test Receiver	R&S	ESVS10	834468/006	03/24/2000	03/23/2001		
Precision Dipole	R&S	HZ-12	846932/0004	07/14/2000	07/13/2001		
Precision Dipole	R&S	HZ-13	846556/0008	07/14/2000	07/13/2001		
Bilog Antenna	CHASE	CBL 6112B	2635	12/01/2000	11/30/2001		
Turn Table	Chance Most	CM-T003-1	T807-6	N.C.R	N.C.R		
Antenna Tower	Chance Most	CM-A003-1	A807-6	N.C.R	N.C.R		
Controller	Chance Most	N/A	N/A	N.C.R	N.C.R		
RF Switch	ANRITSU	MP59B	M76890	N.C.R	N.C.R		
Site NSA	C&C Lab.	N/A	N/A	11/11/2000	11/10/2001		

Open Area Test Site # 3							
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL. DUE		
Spectrum Analyzer	ADVANTEST	R3261A	21720279	08/15/2000	08/14/2001		
Pre-Amplifier	HP	8447D	2944A09173	02/01/2000	01/31/2001		
EMI Test Receiver	R&S	ESVS20	838804/004	12/28/2000	12/27/2001		
Precision Dipole	R&S	HZ-12	846932/0004	07/14/2000	07/13/2001		
Precision Dipole	R&S	HZ-13	846556/0008	07/14/2000	07/13/2001		
Bilog Antenna	CHASE	CBL6112A	2179	12/01/2000	11/30/2001		
Turn Table	EMCO	2081-1.21	9709-1885	N.C.R	N.C.R		
Antenna Tower	EMCO	2075-2	9707-2060	N.C.R	N.C.R		
Controller	EMCO	2090	9709-1256	N.C.R	N.C.R		
RF Switch	ANRITSU	MP59B	M53867	N.C.R	N.C.R		
Site NSA	C&C	N/A	N/A	01/29/2000	01/28/2001		

Open Area Test Site # 4							
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL.		
TYPE		NUMBER	NUMBER	CAL.	DUE		
Spectrum Analyzer	ADVANTEST	R3132	91700456	02/15/2000	02/14/2001		
EMI Test Receiver	R&S	ESCS30	847793/012	11/10/2000	11/09/2001		
Precision Dipole	R&S	HZ-12	846932/0004	07/14/2000	07/13/2001		
Precision Dipole	R&S	HZ-13	846556/0008	07/14/2000	07/13/2001		
Bilog Antenna	CHASE	CBL 6112B	2462	01/13/2000	01/12/2001		
Turn Table	Chance most	N/A	N/A	N.C.R	N.C.R		
Antenna Tower	Chance most	N/A	N/A	N.C.R	N.C.R		
Controller	Chance most	N/A	N/A	N.C.R	N.C.R		
RF Switch	ANRITSU	MP59B	M51067	N.C.R	N.C.R		
Site NSA	C&C Lab.	N/A	N/A	11/24/2000	11/24/2001		

3 meter chamber						
<b>EQUIPMENT</b>	PMENT MFR MODEL SERIAL LAST CAI					
TYPE		NUMBER	NUMBER	CAL.	DUE	
Spectrum Analyzer	ADVANTEST	R3271A	85060321	10/04/2000	10/03/2001	
Pre-Amplifier	HP	8449B	3008A00965	10/03/2000	10/02/2001	
Horn Antenna	EMCO	3115	9602-4659	04/06/2000	04/05/2001	
Coaxial Cable	ANOREW	LDF-2-50	79027	09/22/2000	09/21/2001	
Turn Table	HD	DS 415	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 MFR MODEL SERIAL LAST CAL.							
TYPE		NUMBER	NUMBER	CAL.	DUE		
EMI Test Receiver	R&S	ESHS10	843743/015	12/15/2000	12/14/2001		
LISN	EMCO	3825/2	9003/1382	01/10/2000	01/09/2001		
LISN	R&S	ENV 4200	8303261016	11/18/2000	11/17/2001		

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.

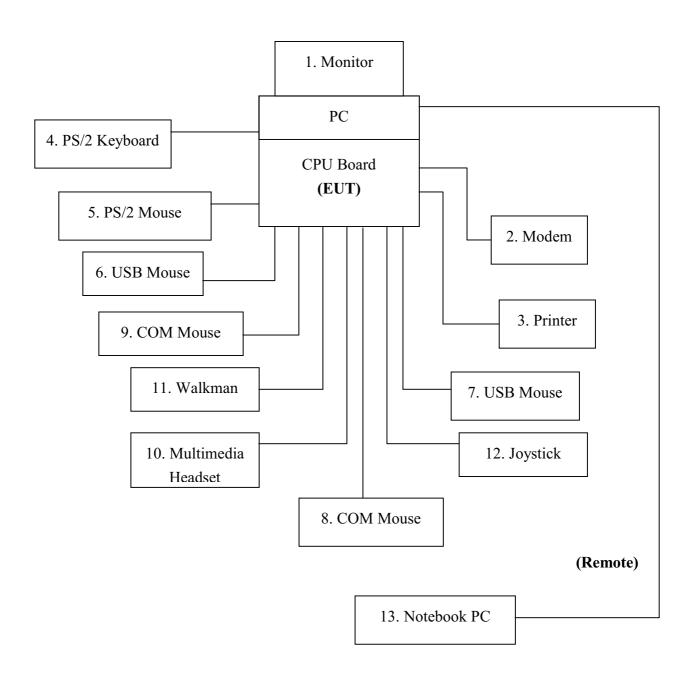
#### **BLOCK DIAGRAM OF TEST SETUP**

#### SYSTEM DIAGRAM OF CONNECTIONS BETWEEN EUT AND SIMULATORS

**EUT:** CPU Board **Trade Name:** N/A

Model Number: MB-662 (N)

**Power Cord:** Unshielded, 1.8m to Power Supply



## **APPENDIX 1**

## PHOTOGRAPHS OF TEST SETUP

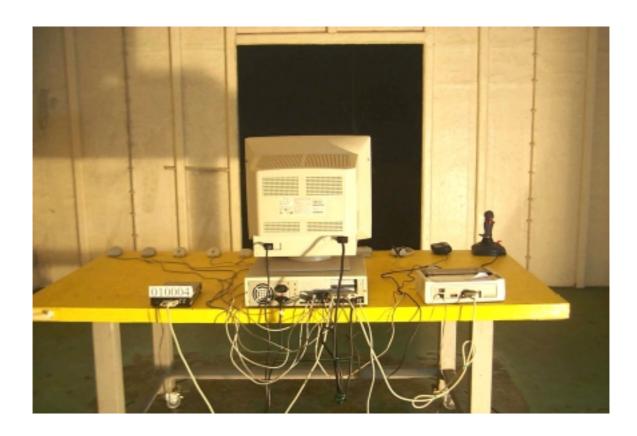
## TEST SETUP OF LINE CONDUCTED EMISSION TEST





## TEST SETUP OF RADIATED EMISSION TEST





## **APPENDIX 2**

## PHOTOGRAPHS OF EUT

#### **Front View of PC**



**Rear View of PC** 



#### **Front View of EUT**



#### **Rear View of EUT**



#### I/O Port of EUT



