

6. TESTED SYSTEM DETAILS

6.1 Peripherals and Others :

<i>Description</i>	<i>Model Name</i>	<i>Serial No.</i>	<i>Manufacturer</i>	<i>FCC ID</i>
PC Monitor	M2978	CY5430HF3CV	LG Electronics, Inc.	BEJCA500
Personal Computer	PCG-505TR	3415556	Sony Corp.	DOC
Port Replicator	PCGA-PR5	126219	Sony Corp.	DOC
Floppy Disk Drive	PCGA-FD5	1215376	Sony Corp.	DOC
CD-ROM Drive	PCGA-CD51	3101473	Sony Corp.	DOC
AC Adapter	PCGA-AC51	9906A0361473	Sony Corp.	N/A
Key Board	SKR-2233	8AAE001175	Sejiner Electron, Inc.	GJJSKR-223C9
Mouse	2.1A	-	Microsoft Corp.	C3KKMP3
Scanner	AS-1	0009	Fuji Photo Film Co., Ltd.	F5GAS-1
Digital Camera	DX-9 Zoom	8A00003	Fuji Photo Film Co., Ltd.	F5GDX-9
AC Adapter (for EUT)	AC-5VN	9937	Fuji Photo Film Co., Ltd.	N/A
AC Adaptor (for DX-9)	AC-5VN	9914	Fuji Photo Film Co., Ltd.	N/A

(for AC Adapter of EUT and DX-9, Input: 120VAC, 60Hz / Output: 5VDC)

Note:

*DOC: Declaration of Conformity by Manufacturer, Sony Corp.

* N/A: Equipment required for the Verification.

6.2 List of Cables :

<i>Description</i>	<i>Length</i>	<i>Type of shield</i>	<i>Ferrite Core</i>
EUT / Personal Computer	1.5 m	Shielded	Add
Port Replicator / Personal Computer	0.2 m	Shielded	Provided
Scanner / Port Replicator	1.5 m	Shielded	Provided
Digital Camera / Port Replicator	2.0 m	Shielded	Provided
Personal Computer / CD-ROM	0.3 m	Shielded	Provided
Personal Computer / Floppy Drive	0.1 m	Shielded	Provided
Mouse / Personal Computer	1.9 m	Shielded	N/A
Key Board / Port Replicator	1.1 m	Shielded	N/A
PC Monitor / Port Replicator	1.65 m	Shielded	Provided
DC Power Cord (PC/AC adaptor)	2.2 m	Non-shielded	N/A
DC Power Cord (EUT/AC adaptor)	1.9 m	Non-shielded	Add
DC Power Cord (DX-9/AC adapter)	1.9 m	Non-shielded	Provided
AC Power Cord (PC Monitor)	1.7 m	Non-shielded	N/A
AC Power Cord (Scanner)	1.8 m	Non-shielded	N/A

Note:

* Provided : The cable is an accessory for Personal Computer, Digital Camera, Scanner or PC Monitor which was attached a ferrite core.



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MINATO-KU, TOKYO 106, JAPAN

Telephone: (03) 3406-2934

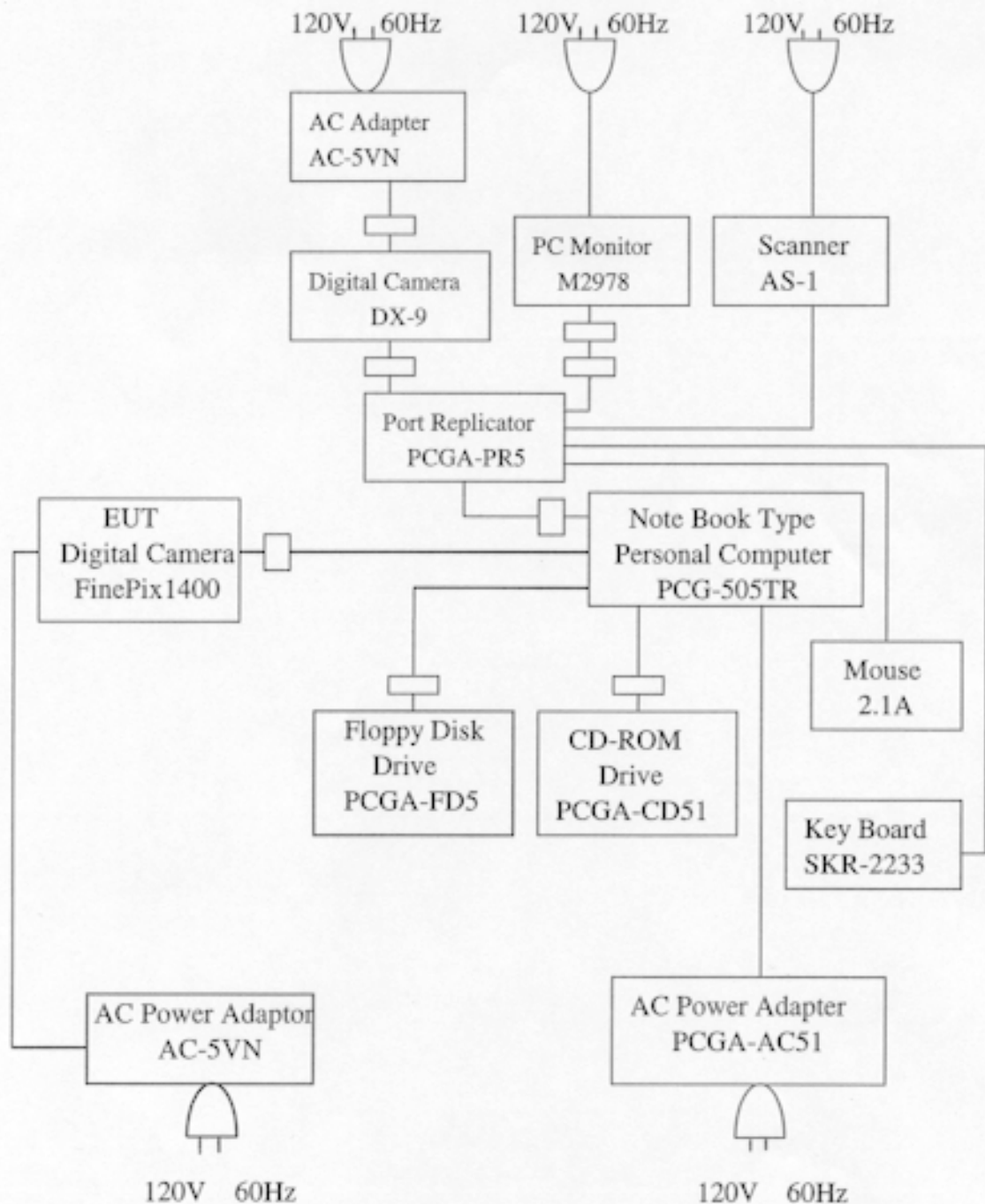
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Figure 6-1 System Configuration Diagram :





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7. TEST RESULTS

7.1 Conducted Radio Noise Measurement

7.1.1 Measurement Instrumentation Used:

(Model / Serial No. / Manufacturer)

Test Receiver ----- (ESH-3 / 872079-020 / Rohde & Schwarz)

L. I. S. N ----- (KNW-407 / 8-823-10 / Kyoritsu Electrical)

L. I. S. N ----- (KNW-407 / 8-680-7 / Kyoritsu Electrical)

Spectrum Analyzer System ----- (8568S / 2445A00924 / Hewlett Packard)

7.1.2 Measurement Procedure:

The power line conducted interference measurements were performed in a shield enclosure with peripherals placed on a table, 80cm high over a metal floor.

It was located more than required distance away from the shielded enclosure wall.

The EUT was plugged into the L.I.S.N. and the frequency range of interest scanned.


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7.1.3 Test Data

Table 7.1-1 Conducted Radio Noise Measurement Results:

Operating mode: PC Mode

Date of measurement: January 28, 2000

Test Procedure: ANSI C63.4-1992

Temperature: 18 degree C

Humidity: 32 %

Frequency (MHz)	Results		Results	Limit	Margin
	Meter Reading.		Emission Level		
	VA.	VB.			
	(dBuV/m)		(dBuV/m)	(dBuV/m)	(dBuV/m)
0.7100	41.7	41.1	41.7	47.9	6.2
0.8000	39.1	35.3	39.1	47.9	8.8
0.6000	41.0	42.3	42.3	47.9	5.6
0.5100	39.8	41.6	41.6	47.9	6.3
1.0000	30.5	24.3	30.5	47.9	17.4
0.9000	32.8	30.4	32.8	47.9	15.1
2.1100	20.8	21.2	21.2	47.9	26.7
9.0800	22.9	21.1	22.9	47.9	25.0
24.0700	23.6	24.3	24.3	47.9	23.6
28.0800	20.3	20.8	20.8	47.9	27.1

Note:

- 1) Emission Levels are higher levels of VA or VB of Meter Readings + Correction Factor.
- 2) VA: Between one end of the power cable and the grounded.
VB: Between the other end of power cable and the grounded.

7.1.4 Conducted Radio Noise Calculation

The conducted radio noise is calculated by adding the calibration factor to the measured reading. The basic equation and a sample calculation are as follows:

$$\text{CRN} = \text{TRM} + \text{CF}$$

$$\text{Margin} = \text{Limit} - \text{CRN}$$

where CRN = Conducted Radio Noise (dBuV)

TRM = Test Receiver Reading (dBuV)

CF : Correction Factor (dB/m)

The Correction factor includes cable loss and LISN factor.

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7.2 Radiated Radio Noise Measurement

7.2.1 Measurement Instrumentation Used :

(Model / Serial No. / Manufacturer)

Test Receiver ----- (ESVP / 879529-016 / Rohde & Schwarz)

Bi-Conical Antenna ----- (BBA9106 / D-6901 No.2 / Schwarzbeck)

Log-Periodic Antenna ----- (UHALP9107 / 424-517 / Schwarzbeck)

Spectrum Analyzer System ----- (8568S / 2445A00924 / Hewlett Packard)

7.2.2 Measurement Procedure:

The EUT was placed in a 80cm high table along with the peripherals.

The turn table was separated from the antenna at a distance of 3 meter. Cables were placed in a position to produce maximum emission as determined by experimentation, and operation mode was selected for maximum.

The frequencies and amplitudes of maximum emission were measured at varying azimuths, antenna heights and antenna polarities.

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7.2.3 Test Data

Table 7.2-1 Radiated Radio Noise Measurement Results:

Operating mode: PC Mode

Date of measurement: January 28, 2000

Test Procedure: ANSI C63.4-1992

Temperature: 15 degree C

Humidity: 26 %

Frequency	Correction	Results		Results	Limit	Margin
	Factor	Meter Reading.		Emission Level		
(Mhz)	(dB)	(dBuV/m)		(dBuV/m)	(dBuV/m)	(dBuV/m)
		Hori.	Vert.			
30.000	20.0	-	30.7	30.7	40.0	9.3
39.400	16.2	-	31.0	31.0	40.0	9.0
46.980	13.6	-	25.8	25.8	40.0	14.2
62.200	9.0	-	22.5	22.5	40.0	17.5
90.000	10.1	-	17.2	17.2	43.5	26.3
122.730	15.4	27.7	22.8	27.7	43.5	15.8
135.000	16.4	34.6	27.1	34.6	43.5	8.9
171.820	18.2	25.4	24.5	25.4	43.5	18.1
220.910	20.6	25.6	24.3	25.6	46.0	20.4
257.720	21.2	35.9	-	35.9	46.0	10.1
311.420	20.1	39.2	32.0	39.2	46.0	6.8
320.050	20.3	38.3	33.8	38.3	46.0	7.7
340.050	20.7	37.3	30.2	37.3	46.0	8.7
343.630	20.8	30.3	27.8	30.3	46.0	15.7
392.720	21.8	31.6	29.0	31.6	46.0	14.4
417.270	22.3	26.5	25.6	26.5	46.0	19.5
529.770	24.7	38.5	31.3	38.5	46.0	7.5
540.080	25.0	38.7	32.6	38.7	46.0	7.3
638.170	27.3	37.3	35.3	37.3	46.0	8.7
736.350	28.7	33.5	34.2	34.2	46.0	11.8

Note: 1) Meter Readings are corrected by all Correction Factors.

2) Emission Levels are higher levels of Hori. or Vert. of Meter Readings.

3) Margin = Limit - Emission Level.



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7.2.4 Radiated Radio Noise Calculation

The radiated radio noise is calculated by adding the correction factor to the measured reading. The basic equation and a sample of calculation are as follows;

$$\text{RRN} = \text{TRM} + \text{CF}$$

$$\text{Margin} = \text{Limit} - \text{RRN}$$

where RRN = Radiated Radio Noise (dBuV)

TRM = Test Receiver Reading (dBuV)

CF : Correction Factor (dB/m), The correction factor includes pre-amplifier gain, cable loss and antenna factor.