

6. TESTED SYSTEM DETAILS

6.1 Peripherals and Others :

6.1 Peripherals and Others:

<i>Description</i>	<i>Model Name</i>	<i>Serial No.</i>	<i>Manufacturer</i>	<i>FCC ID</i>
Personal Computer	12XL212	1V08FHNJE1N5	Compaq Computer Co., Ltd.	DOC
Mouse	M-BB48	LZE01271677	Logitech	DOC
PC Monitor	M2978	CY5430HF3CV	LG Electronics, Inc.	BEJCA500
Scanner	AS-1	0009	Fuji Photo Film Co., Ltd.	F5GAS-1
AC Adapter (for PC)	LE-9702B-01	177625-001	Compaq Computer Co., Ltd.	N/A
AC Adaptor (for EUT)	AC-5V	0044	Fuji Photo Film Co., Ltd.	N/A

(for AC Adapter of EUT, Input: 120V AC, 60Hz / Output: 3V DC)

Note:

*DOC: Declaration of Conformity by Manufacturer, Compaq Computer Co., Ltd., or Logitech.

* 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	1.2 m	Shielded	Add
DC Power Cord (EUT/AC adaptor)	1.9 m	Non-shielded	Add
Scanner / Personal Computer	1.5 m	Shielded	Provided
PC Monitor / Personal Computer	1.65 m	Shielded	Provided
Mouse / Personal Computer	1.9 m	Shielded	N/A
DC Power Cord (PC/AC adaptor)	1.55 m	Non-shielded	Provided
AC Power Cord (PC/AC adapter)	1.7 m	Non-shielded	N/A
AC Power Cord (Scanner)	1.8 m	Non-shielded	N/A
AC Power Cord (PC Monitor)	1.7 m	Non-shielded	N/A

Note:

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



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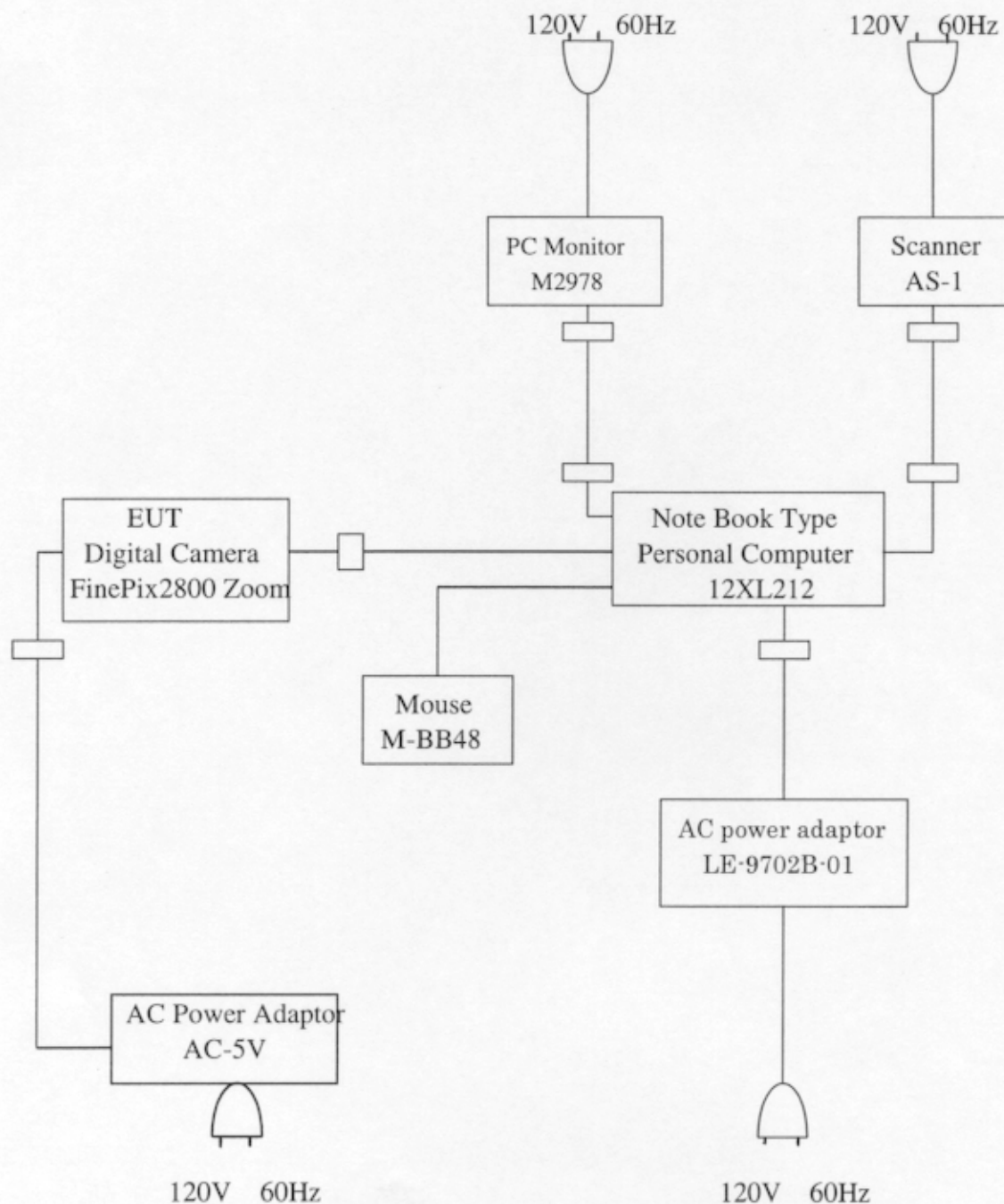
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Figure 6-1 System Configuration Diagram :





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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 ----- (ESCS 30 / 825788-007 / 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: USB Mode

Date of measurement: July 11, 2001

Test Procedure: ANSI C63.4-1992

Temperature: 20 degree C

Humidity: 68 %

Frequency (MHz)	Results		Results	Limit	Margin
	Meter Reading.		Emission Level		
	VA.	VB.			
	(dBuV/m)		(dBuV/m)	(dBuV/m)	(dBuV/m)
0.5100	33.1	36.3	36.3	47.9	11.6
0.9600	33.8	32.0	33.8	47.9	14.1
1.9900	37.0	32.3	37.0	47.9	10.9
3.6800	39.0	38.5	39.0	47.9	8.9
7.9500	37.9	31.7	37.9	47.9	10.0
11.7100	38.4	34.6	38.4	47.9	9.5

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:

$$CRN = TRM + CF$$

$$Margin = Limit - CRN$$

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 ----- (ESCS 30 / 834115-020 / 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 turntable 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: Camera Mode

Date of measurement: July 11, 2001

Test Procedure: ANSI C63.4-1992

Temperature: 27 degree C

Humidity: 60 %

Frequency	Correction	Results		Results	Limit	Margin
	Factor	Meter Reading.		Emission Level		
(Mhz)	(dB)	(dBuV/m)		(dBuV/m)	(dBuV/m)	(dBuV/m)
		Hori.	Vert.			
44.610	14.2	-	30.0	30.0	40.0	10.0
59.700	9.3	-	28.0	28.0	40.0	12.0
68.400	7.7	22.5	-	22.5	40.0	17.5
79.000	7.6	-	24.2	24.2	40.0	15.8
120.010	14.7	-	20.1	20.1	43.5	23.4
220.030	20.0	34.6	23.6	34.6	46.0	11.4
252.000	20.4	30.7	29.6	30.7	46.0	15.3
254.150	20.4	32.4	-	32.4	46.0	13.6
270.000	21.1	31.1	29.7	31.1	46.0	14.9
311.420	19.4	33.5	28.9	33.5	46.0	12.5
324.000	19.7	36.3	30.5	36.3	46.0	9.7
342.000	20.0	32.9	-	32.9	46.0	13.1
360.000	20.4	34.9	-	34.9	46.0	11.1
499.780	22.8	-	33.2	33.2	46.0	12.8
501.130	22.8	33.3	-	33.3	46.0	12.7
522.000	23.3	34.5	34.4	34.5	46.0	11.5
580.920	24.7	32.5	33.6	33.6	46.0	12.4
899.040	31.0	42.6	42.4	42.6	46.0	3.4

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;

$$RRN = TRM + CF$$

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

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.