

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>
Personal Computer	iMac DV	PT9420C6HB6	Apple Computer, Inc.	DoC
Keyboard	M2452	NK93602D5H6Q	Apple Computer, Inc.	DoC
Apple USB Mouse	M4848	MN93906WMH6W	Apple Computer, Inc.	DoC
AC Adapter	AC-5VN	9945	Fuji Photo Film Co., Ltd.	N/A
Printer	C6429A	MY9BC1207Y	Hewlett Packard	DoC

Note:

*DoC: Device was tested and authorized under a Declaration of Conformity to the applicable FCC rules.

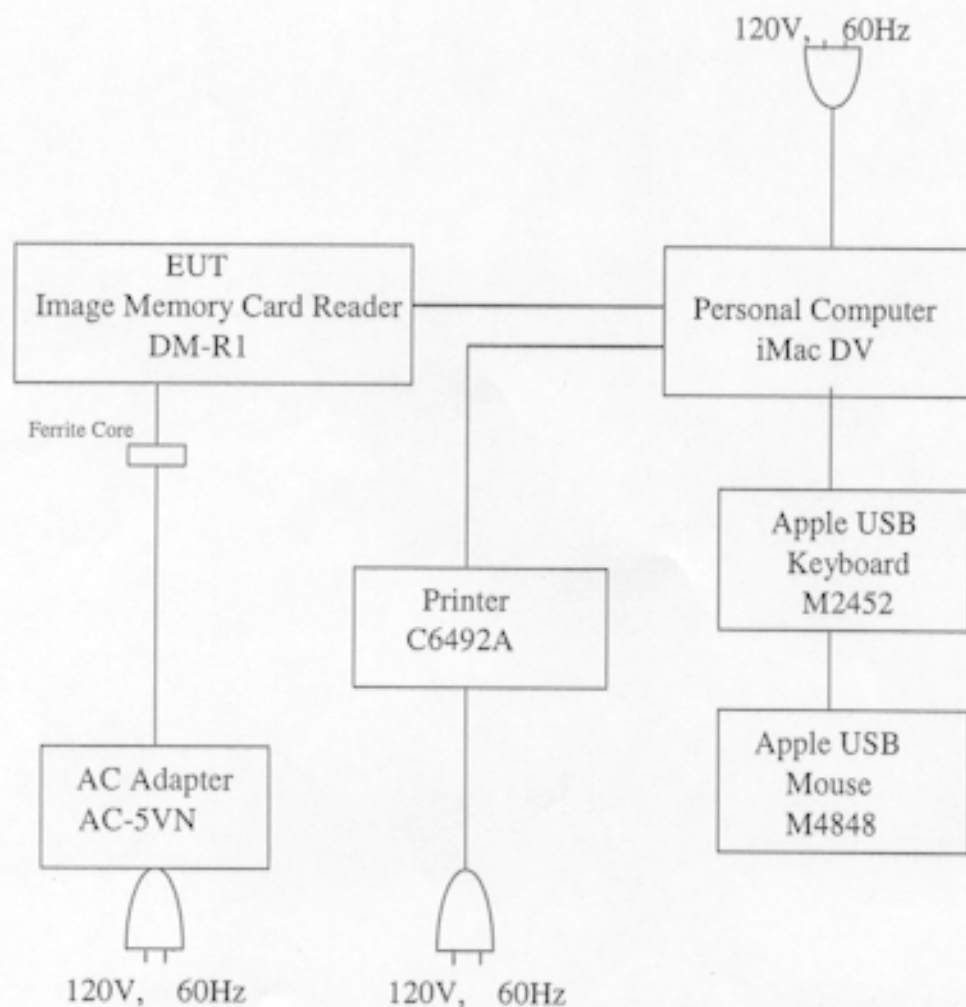
6.2 List of Cables :

<i>Description</i>	<i>Length</i>	<i>Type of shield</i>	<i>Ferrite Core</i>
EUT / Personal Computer	0.9 m	Shielded	N/A
Keyboard / Personal Computer	0.8 m	Shielded	N/A
Mouse / Personal Computer	0.6 m	Shielded	N/A
Printer / Personal Computer	1.0 m	Shielded	N/A
DC Power Cord for AC-5VN	1.9 m	Non-shielded	Provided
AC Power Cord for PC	2.0 m	Non-shielded	N/A
AC Power Cord for Printer	1.8 m	Non-shielded	N/A

Note:

*Provided: The cable is one with a ferrite core for AC-5VN.

Figure 6-1 System Configuration Diagram :





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FCC ID : F5GDM-R1

Part 15 Subpart B Class B Digital Device

7. TEST RESULTS

7.1 Conducted Radio Noise Measurement

7.1.1 Measurement Instrumentation Used:

(Model / Serial No. / Manufacturer)

Test Receiver ----- (ESH-3 / 872992-047 / Rohde & Schwarz)

L. I. S. N ----- (KNW-407 / 8-833-5 / Kyoritsu Electrical Works)

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: Read/Write

Date of measurement: April 12, 2000

Test Procedure: ANSI C63.4-1992

Temperature: 18 degree C

Humidity: 33.0 %

<i>Frequency</i> (MHz)	<i>Results</i> <i>Meter Reading.</i>		<i>Results</i> <i>Emission Level</i> (dBuV/m)	<i>Limit</i> (dBuV/m)	<i>Margin</i> (dBuV/m)
	<i>VA.</i>	<i>VB.</i>			
	(dBuV/m)	(dBuV/m)			
0.4500	36.6	37.8	37.8	48.0	10.2
0.6000	31.1	30.5	31.1	48.0	16.9
0.8000	24.6	25.0	25.0	48.0	23.0
1.0000	17.9	17.4	17.9	48.0	30.1
1.2000	12.4	12.5	12.5	48.0	35.5
1.5000	<10.1	<10.1	<10.1	48.0	>37.9
1.9200	<10.1	<10.1	<10.1	48.0	>37.9
2.1600	<10.1	12.7	12.7	48.0	35.3
3.0000	15.1	20.7	20.7	48.0	27.3
4.0200	22.4	29.5	29.5	48.0	18.5
5.0400	30.0	35.3	35.3	48.0	12.7
7.6200	36.9	37.7	37.7	48.0	10.3
9.1200	25.2	28.7	28.7	48.0	19.3
10.9100	25.6	29.5	29.5	48.0	18.5
12.1200	27.5	32.0	32.0	48.0	16.0
14.1500	<10.3	11.4	11.4	48.0	36.6
17.0000	<10.3	<10.3	<10.3	48.0	>37.7
20.0000	<10.4	<10.4	<10.4	48.0	>37.6
23.0000	<10.5	<10.5	<10.5	48.0	>37.5
26.0000	<10.5	<10.5	<10.5	48.0	>37.5

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.

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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.

7.2 Radiated Radio Noise Measurement

7.2.1 Measurement Instrumentation Used :

(Model / Serial No. / Manufacturer)

Test Receiver ----- (ESVS10 / 84231-004 / Rohde & Schwarz)

Biconical Antenna ----- (BBA9106 / G4397001 / Schwarzbeck)

Log-periodic Antenna ----- (UHALP9107 / G43597003 / Schwarzbeck)

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: Read/Writer

Date of measurement: April 12, 2000

Test Procedure: ANSI C63.4-1992

Temperature: 19 degree C

Humidity: 30 %

Frequency (Mhz)	Correction Factor (dB)	Results		Results	Limit	Margin
		Meter Reading.		Emission Level		
		(dBuV/m)		(dBuV/m)	(dBuV/m)	(dBuV/m)
		Hori.	Vert.			
33.00	17.5	25.5	30.6	30.6	40.0	9.4
43.00	13.9	16.5	18.7	18.7	40.0	21.3
49.20	11.9	23.5	31.5	31.5	40.0	8.5
64.60	7.6	24.6	26.1	26.1	40.0	13.9
73.70	6.3	25.5	31.5	31.5	40.0	8.5
87.70	8.6	17.5	19.3	19.3	40.0	20.7
98.30	10.3	38.6	40.4	40.4	43.5	3.1
124.30	13.7	18.7	23.0	23.0	43.5	20.5
147.50	15.9	36.7	36.0	36.7	43.5	6.8
169.40	17.4	22.3	21.0	22.3	43.5	21.2
191.90	18.7	22.7	21.7	22.7	43.5	20.8
214.50	19.9	28.5	22.9	28.5	43.5	15.0
245.80	19.9	32.7	33.6	33.6	46.0	12.4
294.90	21.0	29.9	29.5	29.9	46.0	16.1
319.40	17.9	26.3	23.9	26.3	46.0	19.7
344.10	18.7	39.7	36.1	39.7	46.0	6.3
393.20	19.7	31.2	30.7	31.2	46.0	14.8
466.90	20.9	29.9	31.0	31.0	46.0	15.0
540.70	21.9	27.7	29.3	29.3	46.0	16.7
638.90	23.5	29.5	32.7	32.7	46.0	13.3
737.30	25.0	29.6	34.5	34.5	46.0	11.5
850.00	26.7	< - 2.0	< - 2.0	< 24.7	46.0	>21.3
1000.00	28.9	< - 2.0	< - 2.0	< 26.9	54.0	>27.1

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.