

## 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    | 12XL212           | 1V08FHNJE1N5      | Compaq Computer Co., Ltd. | DOC           |
| PC Monitor           | M2978             | CY52401HF3CV      | LG Electronics, Inc.      | BEJCA500      |
| Video Monitor        | PVM-8040          | 2029411           | Sony Corp.                | N/A           |
| Scanner              | AS-1              | 0009              | Fuji Photo Film Co., Ltd. | F5GAS-1       |
| Mouse                | M-BB48            | LZE01271677       | Logitech                  | DOC           |
| AC Adapter (for PC)  | LE-9702B-01       | 177625-001        | Compaq Computer Co., Ltd. | N/A           |
| AC Adaptor (for EUT) | AC-5VS            | 9956              | Fuji Photo Film Co., Ltd. | N/A           |

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

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**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> |
|--------------------------------|---------------|-----------------------|---------------------|
| Mouse / Personal Computer      | 1.9 m         | Shielded              | N/A                 |
| AC Power Cord (PC Monitor)     | 1.7 m         | Non-shielded          | N/A                 |
| PC Monitor / Personal Computer | 1.65 m        | Shielded              | Provided            |
| Scanner / Personal Computer    | 1.5 m         | Shielded              | Provided            |
| EUT / Personal Computer        | 1.5 m         | Shielded              | Add                 |
| DC Power Cord (PC/AC adaptor)  | 1.5 m         | Shielded              | Provided            |
| AC Power Cord (PC/AC adapter)  | 1.7 m         | Non-shielded          | N/A                 |
| DC Power Cord (EUT/AC adaptor) | 1.9 m         | Shielded              | Add                 |
| AC Power Cord (Scanner)        | 1.8 m         | Non-shielded          | N/A                 |
| EUT / Video Monitor            | 1.4 m         | Shielded              | Add                 |
| AC Power Cord (Video Monitor)  | 1.5 m         | Non-shielded          | N/A                 |

**Note:**

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



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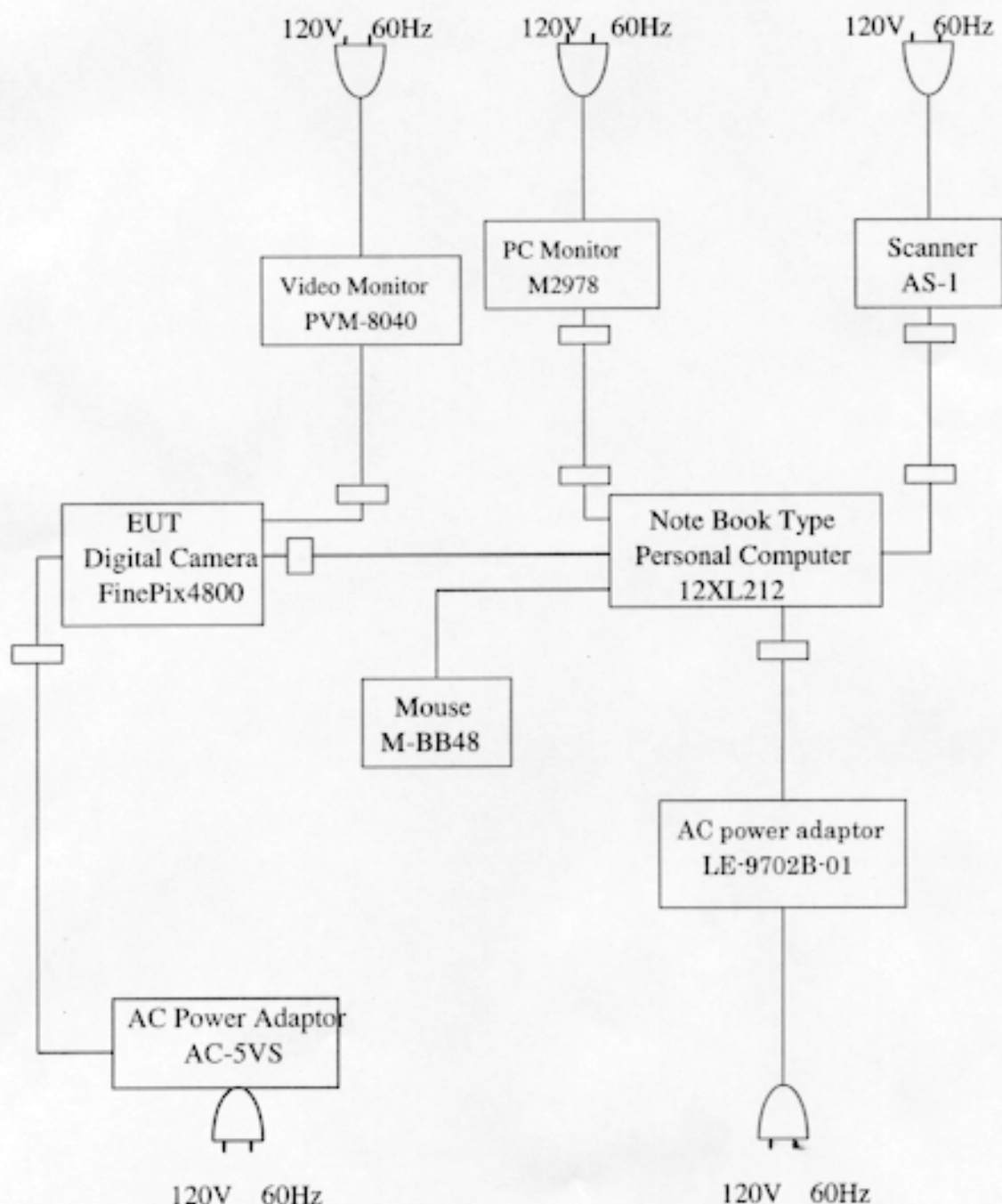
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Part 15 Sub.part B Class B Digital Device

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: Camera Mode      Date of measurement: February 19, 2001  
Test Procedure: ANSI C63.4-1992      Temperature: 18 degree C  
Humidity: 65 %

| Frequency<br><br>(MHz) | Results        |      | Results        | Limit    | Margin   |
|------------------------|----------------|------|----------------|----------|----------|
|                        | Meter Reading. |      | Emission Level |          |          |
|                        | VA.            | VB.  |                |          |          |
|                        | (dBuV/m)       |      | (dBuV/m)       | (dBuV/m) | (dBuV/m) |
| 0.5000                 | 31.3           | 35.9 | 35.9           | 47.9     | 12.0     |
| 1.3900                 | 34.3           | 33.7 | 34.3           | 47.9     | 13.6     |
| 2.5300                 | 33.6           | 32.7 | 33.6           | 47.9     | 14.3     |
| 6.4000                 | 33.6           | 33.0 | 33.6           | 47.9     | 14.3     |
| 10.3600                | 29.1           | 27.5 | 29.1           | 47.9     | 18.8     |
| 19.0000                | 24.0           | 25.8 | 25.8           | 47.9     | 22.1     |

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:

$$CRN = TRM + CF$$

$$Margin = Limit - CRN$$

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 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: Camera

Date of measurement: February 19, 2001

Test Procedure: ANSI C63.4-1992

Temperature: 15 degree C

Humidity: 56 %

| Frequency | Correction | Results        |       | Results        | Limit    | Margin   |
|-----------|------------|----------------|-------|----------------|----------|----------|
|           | Factor     | Meter Reading. |       | Emission Level |          |          |
| (Mhz)     | (dB)       | (dBuV/m)       |       | (dBuV/m)       | (dBuV/m) | (dBuV/m) |
|           |            | Hori.          | Vert. |                |          |          |
| 53.640    | 11.3       | -              | 27.0  | 27.0           | 40.0     | 13.0     |
| 69.550    | 7.8        | 24.3           | -     | 24.3           | 40.0     | 15.7     |
| 71.660    | 7.7        | -              | 28.7  | 28.7           | 40.0     | 11.3     |
| 261.820   | 21.1       | 30.6           | 32.0  | 32.0           | 46.0     | 14.0     |
| 304.260   | 19.7       | 37.5           | -     | 37.5           | 46.0     | 8.5      |
| 311.420   | 19.8       | 41.2           | 34.8  | 41.2           | 46.0     | 4.8      |
| 320.050   | 20.0       | 37.9           | -     | 37.9           | 46.0     | 8.1      |
| 327.280   | 20.2       | -              | 34.5  | 34.5           | 46.0     | 11.5     |
| 336.020   | 20.3       | -              | 35.4  | 35.4           | 46.0     | 10.6     |
| 360.000   | 20.8       | 36.5           | 36.0  | 36.5           | 46.0     | 9.5      |
| 499.810   | 23.6       | 34.1           | 40.2  | 40.2           | 46.0     | 5.8      |
| 520.070   | 24.0       | 36.8           | -     | 36.8           | 46.0     | 9.2      |
| 540.080   | 24.4       | 37.9           | -     | 37.9           | 46.0     | 8.1      |
| 600.980   | 26.0       | -              | 34.7  | 34.7           | 46.0     | 11.3     |
| 699.780   | 27.6       | -              | 35.9  | 35.9           | 46.0     | 10.1     |
| 787.500   | 28.5       | -              | 34.9  | 34.9           | 46.0     | 11.1     |
| 899.830   | 31.8       | 42.5           | 39.8  | 42.5           | 46.0     | 3.5      |

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.