

**Attachment 3: TEST REPORT**

**FG05-073EAL (PART 1)**



Report No. : FG05-073EAL (1/9)

**EMI Test report**

CATEGORY : EN55022(1994),+A1,+A2/ CISPR 22(1993)+A1,+A2 ; Class B  
AS/NZS CISPR22 (2002)  
FCC Part-15 (2004)  
VCCI (2005)

MANUFACTURER : FUJITSU LIMITED  
4-1-1, Kamikodanaka, Nakahara-ku, Kawasaki, 211-8588, JAPAN

PRODUCT TYPE : Personal computer P7120  
AC Adapter SEC80N2-16.0  
Port Replicator FPCPR62  
Grouping model: P7120D

TEST SITE : FUJITSU GENERAL EMC LABORATORY  
1116, Suenaga, Takatsu-ku, Kawasaki 213-8502 JAPAN

DATE TESTED : August 19 , 2005      25°C      65%

TESTED BY : Hiroyuki Aikawa

Above EUT conforms mentioned regulations.

APPROVED BY : for K. Shimano      DATE : August 24 , 2005  
Hiroyuki Shimano, President

**FUJITSU GENERAL EMC LABORATORY LIMITED**

1116, Suenaga, Takatsu-ku, Kawasaki, 213-8502 JAPAN

TEL: (044)861-7897      FAX: (044)861-9890

CLIENT : Engineering Dept.1 Mobile Computing Division, FUJITSU LIMITED  
4-1-1, Kamikodanaka, Nakahara-ku, Kawasaki 211-8588 JAPAN

※ The description of the EUT and the system configuration in this report are provided by the client.



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## 1 . Description of EUT

The EUT: P7120 series personal computer using Pentium-M 1.2GHz ULV/ Celeron-M 1.2GHz ULV microprocessor has a system disk (60 GB). The EUT has the interface to extend for, RGB, MIC IN , Phone out , Speaker out, LAN, TEL, USB × 6 - 6 2 2 3, Multi memory (SD/ xD/ MS) card slot, PC card slot, BT and wireless LAN.

The following typecode are given according to the Centrino (CPU, Intel753 chipset).

| Type   | CPU, Chipset and Wireless LAN |
|--------|-------------------------------|
| P7120  | Centrino                      |
| P7120D | Non-Centrino                  |

Internal clock frequency : 4.000 MHz, 8.000 MHz, 12.000 MHz, 14.318 MHz, 24.576 MHz, 30.000 MHz, 25.000 MHz, 33.300 MHz, 48.300 MHz, 96.000 MHz, 100.000 MHz

Input power : AC 100 - 230V, 50 / 60 Hz, Single-phase 2 wires

The EUT is intended to general use in the residential / domestic area or commercial and light industrial area; category class B.

### 1.1 Test system configuration

The measurement was performed using P7120 (Pentium-M 1.2GHz ULV) with FPCPR62 as a maximum personal computer system with all related equipment shown in figure-1.

The EUT was selected from the pre-product line.

### 1.2 Operating condition

The following EUT and dependent devices were tested using “EMC.exe” and “SPBEST” program for continuously operating and to obtain maximize emission.

|      |                |                                                                                                                       |
|------|----------------|-----------------------------------------------------------------------------------------------------------------------|
| PC-1 | LCD-1:         | Display “H” character on screen (Maximum contrast / Luminescence/ (Display resolution 1280 × 768 / Refresh rate 60Hz) |
|      | LAN:           | Continuous transmission and reception of the “H” character (1000 Mbps)                                                |
|      | Modem:         | Continuous transmission of the test data (56 kbps)                                                                    |
|      | HDD-1:         | Read/write the test data                                                                                              |
|      | DVD:           | Play the test disk                                                                                                    |
|      | SD card:       | Connecting only                                                                                                       |
|      | PC card:       | Connecting only                                                                                                       |
|      | USB2.0 Memory: | Read/write the test data (480 Mbps)                                                                                   |
|      | LCD-2:         | Display “H” character on screen (Maximum contrast / Luminescence)                                                     |
|      | Headset:       | Connecting only                                                                                                       |
|      | USB mouse:     | Connecting only                                                                                                       |
|      | PC-2:          | Read/write “H” character and receiving serial data.                                                                   |

## 2 . EMI test results summary

Applied standard: EN55022(1994), +A1(1995), +A2(1997)

Limit value: Class B

The test samples met the class B limit of EN55022(1994), +A1(1995), +A2(1997) / CISPR22(1993), +A1(1995), +A2(1996) and applicable following regulations as shown following highest 6 points of each emission profiles.

Australia, New Zealand: AS/NZS CISPR22(2002)

FCC Part-15(2004), Canada: CAN/CSA-CEI/IEC CISPR22-02

Japan: VCCI(2005), Taiwan: CSN 13438(1997)

This test was done without deviation from the standard.

The test result effective only for the EUT.

### 2.1 Radiated emission (30 MHz to 1,000 MHz) : Measured at 10 m distance

< AC 230 V / 50 Hz single phase >

| Freq.<br>(MHz) | pol.  | Noise level<br>(dB $\mu$ V/m) | Class B limit<br>(dB $\mu$ V/m) | Margin<br>(dB) |
|----------------|-------|-------------------------------|---------------------------------|----------------|
| 162.59         | Horiz | 25.1                          | 30.0                            | 4.9            |
| 166.56         | Horiz | 25.7                          | 30.0                            | 4.3            |
| 168.00         | Horiz | 27.0                          | 30.0                            | 3.0            |
| 168.00         | Vert  | 28.0                          | 30.0                            | 2.0            |
| 957.90         | Horiz | 35.7                          | 37.0                            | 1.3            |
| 957.90         | Vert  | 32.9                          | 37.0                            | 4.1            |

• Limit value ; EN55022(1994) / CISPR 22(1993)

• Measurement uncertainty :  $\pm$  3.3 dB ( K=2, 95 % )

< AC 120 V / 60 Hz single phase >

| Freq.<br>(MHz) | pol.  | Noise level<br>(dB $\mu$ V/m) | Class B limit<br>(dB $\mu$ V/m) | Margin<br>(dB) |
|----------------|-------|-------------------------------|---------------------------------|----------------|
| 166.56         | Horiz | 25.5                          | 30.0                            | 4.5            |
| 168.00         | Horiz | 25.8                          | 30.0                            | 4.2            |
| 168.00         | Vert  | 26.6                          | 30.0                            | 3.4            |
| 638.71         | Vert  | 31.9                          | 37.0                            | 5.1            |
| 957.90         | Horiz | 35.7                          | 37.0                            | 1.3            |
| 957.90         | Vert  | 32.9                          | 37.0                            | 4.1            |

• Limit value ; FCC Part-15.

• Measurement uncertainty :  $\pm$  3.3 dB ( K=2, 95 % )

### 2.2 Above 1 GHz RF Radiated emission(1 GHz to 6 GHz) : Measured at 3 m distance

| Freq.<br>(GHz) | Pol  | Noise level<br>(dB $\mu$ V/m) | FCC Part-15<br>Class B limit<br>(dB $\mu$ V/m) |      | Margin<br>(dB to AV) |
|----------------|------|-------------------------------|------------------------------------------------|------|----------------------|
|                |      |                               | Peak                                           | A V  |                      |
| 1.3586         | Vert | 44.6                          | 74.0                                           | 54.0 | 9.4                  |
| 1.4343         | Vert | 47.2                          | 74.0                                           | 54.0 | 6.8                  |
| 1.5129         | Vert | 44.1                          | 74.0                                           | 54.0 | 12.9                 |
| 1.5929         | Vert | 40.7                          | 74.0                                           | 54.0 | 13.3                 |
| 1.7557         | Vert | 41.2                          | 74.0                                           | 54.0 | 12.8                 |
| 1.8300         | Vert | 44.5                          | 74.0                                           | 54.0 | 13.6                 |

## 2.3 AC power line conducted emission (150 kHz to 30 MHz)

< AC 100 V / 50 Hz single phase >

| Freq.<br>(MHz) | Line # | Noise level<br>(dB $\mu$ V) |      | Class B limit<br>(dB $\mu$ V) |      | Margin<br>(dB) |      |
|----------------|--------|-----------------------------|------|-------------------------------|------|----------------|------|
|                |        | Q P                         | A V  | Q P                           | A V  | Q P            | A V  |
| 0.193          | # 1    | 52.5                        | 43.5 | 63.9                          | 53.9 | 11.4           | 10.4 |
| 0.290          | # 1    | 41.9                        | 34.0 | 60.5                          | 50.5 | 18.6           | 16.5 |
| 0.567          | # 1    | 39.8                        | 27.9 | 56.0                          | 46.0 | 16.2           | 18.1 |
| 0.684          | # 1    | 37.8                        | 29.7 | 56.0                          | 46.0 | 18.2           | 16.3 |
| 17.693         | # 2    | 38.6                        | 34.1 | 60.0                          | 50.0 | 21.4           | 15.9 |
| 18.245         | # 2    | 38.1                        | 33.3 | 60.0                          | 50.0 | 21.9           | 16.7 |

< AC 120 V / 60 Hz single phase >

| Freq.<br>(MHz) | Line # | Noise level<br>(dB $\mu$ V) |      | Class B limit<br>(dB $\mu$ V) |      | Margin<br>(dB) |      |
|----------------|--------|-----------------------------|------|-------------------------------|------|----------------|------|
|                |        | Q P                         | A V  | Q P                           | A V  | Q P            | A V  |
| 0.180          | # 1    | 52.4                        | 45.1 | 64.5                          | 54.5 | 12.1           | 9.4  |
| 0.180          | # 2    | 53.7                        | 43.0 | 64.5                          | 54.5 | 10.8           | 11.5 |
| 0.269          | # 1    | 44.5                        | 38.1 | 61.2                          | 51.2 | 16.7           | 13.1 |
| 0.612          | # 1    | 40.6                        | 27.5 | 56.0                          | 46.0 | 15.4           | 18.5 |
| 0.612          | # 2    | 40.0                        | 32.2 | 56.0                          | 46.0 | 16.0           | 13.8 |
| 0.794          | # 1    | 35.6                        | 32.1 | 56.0                          | 46.0 | 20.4           | 13.9 |

< AC 230 V / 50 Hz single phase >

| Freq.<br>(MHz) | Line # | Noise level<br>(dB $\mu$ V) |      | Class B limit<br>(dB $\mu$ V) |      | Margin<br>(dB) |      |
|----------------|--------|-----------------------------|------|-------------------------------|------|----------------|------|
|                |        | Q P                         | A V  | Q P                           | A V  | Q P            | A V  |
| 0.186          | # 2    | 47.8                        | 34.4 | 64.2                          | 54.2 | 16.4           | 19.8 |
| 0.200          | # 2    | 46.6                        | 35.4 | 63.6                          | 53.6 | 17.0           | 18.2 |
| 0.664          | # 1    | 34.4                        | 30.5 | 56.0                          | 46.0 | 21.6           | 15.5 |
| 0.732          | # 1    | 39.5                        | 39.2 | 56.0                          | 46.0 | 16.5           | 6.8  |
| 0.732          | # 2    | 40.7                        | 39.8 | 56.0                          | 46.0 | 15.3           | 6.2  |
| 16.046         | # 2    | 39.0                        | 32.9 | 60.0                          | 50.0 | 21.0           | 17.1 |

- Limit value ; EN55022(1994) / CISPR 22(1993) and FCC Part-15.
- Measurement uncertainty :  $\pm 2.5$  dB ( K=2, 95 % )

## 3 . EUT modification under the test

None

## 4 . Measurement procedure and test equipment

### 4.1 Radiated emission

#### 4.1.1 Radiated emission (30MHz ~ 1,000MHz)

The EUT was set on the turntable in the 10 m RF semi-anechoic chamber.

The PC-2 and HUB were placed at outside of the chamber to make usual installation at the different place. The maximum noise level in the frequency range from 30 MHz to 1,000 MHz were measured by 10 m method with scanning the antenna height from 1 m to 4 m above the ground plane and rotates the EUT through 360 degrees for both horizontal and vertical polarization.

Preliminary measurement using spectrum analyzer peak detection was performed to arrange the minimum margin spectrum. The settings of the interface cables and the mouse were adjusted to obtain maximum level at the minimum margin spectrum. The final measurement was performed using the RFI receiver (CISPR Quasi-peak, 120 kHz band width) and calibrated broadband antennas or dipole antennas about the main spectrum's that is obtained by the preliminary measurement.

| Test equipment            | Manufacturer    | Type        | S/N         | Cal. Date  | Due. Date  |
|---------------------------|-----------------|-------------|-------------|------------|------------|
| Bi Log antenna            | Schwarzbeck     | VULB9160    | 3118        | 2004.12.29 | 2005.12.29 |
| Dipole antenna            | Schwarzbeck     | VHA9103     | VHA91031573 | 2004.12.29 | 2005.12.29 |
| Dipole antenna            | Schwarzbeck     | UHA9105     | UHA91052119 | 2004.12.29 | 2005.12.29 |
| Field strength meter      | Rohde & Schwarz | ESCS30      | 849650/002  | 2005.04.25 | 2006.04.25 |
| Spectrum analyzer         | HP              | 85422E      | 3746A00242  | 2005.04.25 | 2006.04.25 |
| RF switch                 | Rohde & Schwarz | PSU         | 848290/003  | 2005.04.25 | 2006.04.25 |
| RF cable                  | ————            | C61         | ————        | 2005.04.25 | 2006.04.25 |
| 2nd semi-anechoic chamber | Riken eletech   | ————        | ————        | 2005.01.16 | 2007.01.16 |
| EMI test program          | FGE             | Version 1.3 |             |            |            |

#### 4.1.2 Radiated emission (1 GHz ~ 6 GHz)

The EUT was set on the 80 cm height non-reflective desk on the turntable. The radiated emission measurement from 1 GHz to 6 GHz: Operating rate 1.2 GHz was performed using the spectrum analyzer (Peak detection, 1MHz band width) and the horn antenna that was positioned at 3 m from the EUT for class B. The measurement was performed with both horizontal and vertical polarization, rotate the EUT through 360 degrees and fixed the antenna height to the EUT center

| Test equipment    | Manufacturer | Type      | S/N        | Cal. Date  | Due. Date  |
|-------------------|--------------|-----------|------------|------------|------------|
| Horn antenna      | Schwarzbeck  | BBHA9120D | 136        | 2005.03.04 | 2007.03.04 |
| Spectrum analyzer | Advantest    | R3371A    | 75060396   | 2005.04.01 | 2006.04.01 |
| Pre amplifier     | HP           | 8449B     | 3008A01110 | 2005.03.24 | 2007.03.2  |

## 4.2 AC power line conducted emission

The conducted emission measurement was performed in the shielded room. The EUT was set on the 80 cm height wooden desk with using the  $50\Omega/50\mu\text{H}$  artificial mains network: AMN and operate the EUT by AC 100 V/ 50 Hz, AC 120 V/ 60 Hz and AC 230 V/ 50 Hz. Preliminary measurement using spectrum analyzer peak detection was performed in the frequency range from 150 kHz to 30 MHz to arrange the minimum margin spectrum. The setting of the cables was adjusted to obtain maximum level at the minimum margin spectrum. The final measurement was performed using the RFI receiver (CISPR Quasi-peak, 9 kHz band width) and recorded the maximum value in the monitored interval about the main spectrum that is obtained by the preliminary measurement.

| Test equipment       | Manufacturer    | Type        | S/N        | Cal. Date  | Due. Date  |
|----------------------|-----------------|-------------|------------|------------|------------|
| AMN for EUT          | Kyoritsu        | KNW-407     | 8-823-18   | 2005.01.14 | 2006.01.14 |
| AMN for AE           | Kyoritsu        | KNW-242C    | 8-1387-7   | 2005.01.14 | 2006.01.14 |
| Field strength meter | Rohde & Schwarz | ESCS30      | 849650/002 | 2005.04.25 | 2006.04.25 |
| Spectrum analyzer    | HP              | 85422E      | 3746A00242 | 2005.04.25 | 2006.04.25 |
| RF switch            | Rohde & Schwarz | PSU         | 848290/003 | 2005.04.25 | 2006.04.25 |
| Band pass filter     | Advantest       | TR14202     | 120200240  | 2005.04.25 | 2006.04.25 |
| 6 dB attenuator      | Kyoritsu        | CFA-03      | ———        | 2005.04.25 | 2006.04.25 |
| RF cable             | ———             | C63         | ———        | 2005.04.25 | 2006.04.25 |
| EMI test program     | FGE             | Version 1.3 |            |            |            |

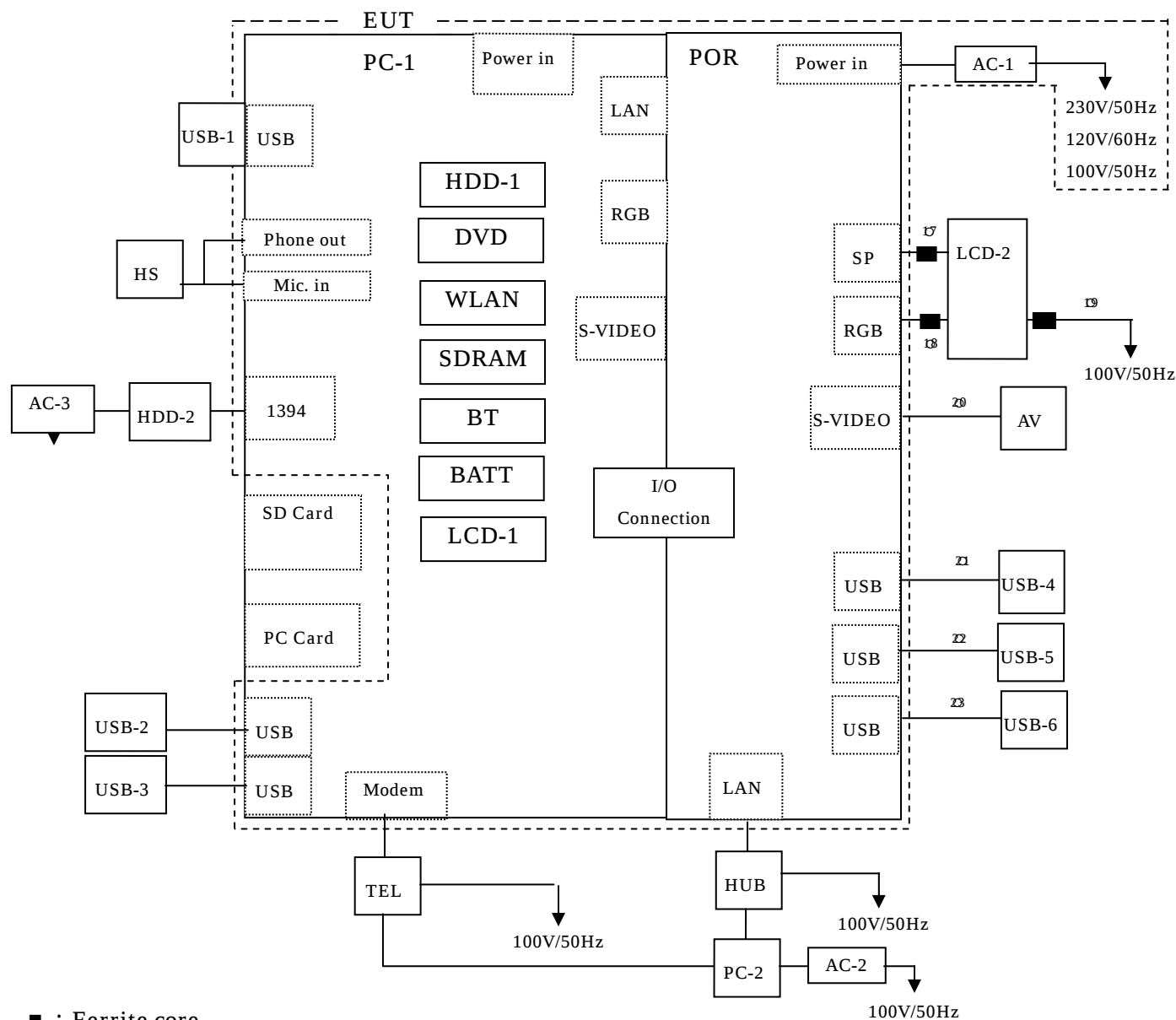
## 5 Test site and traceability

The FUJITSU GENERAL EMC LABORATORY performs the test for VCCI / EN / CISPR regulation and Fujitsu / Fujitsu General internal regulations. The test procedures and test facilities are comply with international standard. The laboratory is filed on VCCI (Japan), accredited from NVLAP (USA) and authorized from TÜV P. S. (Germany, CE-marking).

VCCI : 1st semi-anechoic chamber(R-753/C-776), Small shielded room(C-777)  
 Large shielded room(C-778)  
 2nd semi-anechoic chamber(R-1460/C-1547), 2nd shielded room(C-1548)  
 3rd shielded room(C-1549)  
 NVLAP : 1998.12.01 Accredited: Lab code 200373-0  
 TÜV P.S. : 1999.01.29 Authorized

The measuring equipment used in the laboratory and test data are traceable to the national or international standard. Each equipment is maintain by periodical calibration and by daily check as a total measurement system to keep those accuracy.

Figure-1 System configuration and cables



Main EUT

| Code | Name              | Type  | S/N                   | Product |
|------|-------------------|-------|-----------------------|---------|
| PC-1 | Personal computer | P7120 | pre-production sample | Fujitsu |

Related EUT

|      |                 |              |       |         |
|------|-----------------|--------------|-------|---------|
| POR  | Port Replicator | FPCPR62      | _____ | Fujitsu |
| AC-1 | AC adapter      | SEC80N2-16.0 | _____ | Fujitsu |

Included device; PC-1

| Code  | Name          | Type                  | S/N       | Product    |
|-------|---------------|-----------------------|-----------|------------|
| HDD-1 | 60GB          | MK6006GAH             | 75B70685A | TOSHIBA    |
| DVD   | DVD-Multi     | UJ-832S               | _____     | Matsushita |
| WLAN  | Wireless LAN  | WM3B2915ABG           | _____     | Intel      |
| BT    | Bluetooth     | UGX5-102A             | _____     | ALPS       |
| SDRAM | 512MB         | D2P400-X256MBJ-FJ × 2 | _____     | _____      |
| BATT  | 7800mA/h      | FMVNB137              | _____     | Fujitsu    |
| LCD-1 | 10.6inch WXGA | LQ106K1LA02           | _____     | Sharp      |

**Assisted equipment**

| <b>Code</b> | <b>Name</b>              | <b>Type</b>  | <b>S/N</b>       | <b>Product</b> |
|-------------|--------------------------|--------------|------------------|----------------|
| TEL         | Telephone line simulator | 3KDD002      | 2198003230       | ASCII Corp.    |
| LCD-2       | LCD display              | P19-1        | YEGA217498       | FSC            |
| HDD-2       | Hard disk drive          | KC4020-N     | 0007293          | FSC            |
| HS          | Head set                 | AP-210Pro    | _____            | FSC            |
| PC-2        | Personal computer        | FMV LOOX     | _____            | Fujitsu        |
| HUB         | Switching Hub            | GSW-8        | 0055690030400803 | Corega         |
| AC-2        | AC adapter               | FMV-AC313S   | _____            | Fujitsu        |
| AC-3        | AC adapter               | ACTN-21      | _____            | Sunfone        |
| USB-1       | USB Memory               | RUF-GP512-K2 | _____            | BUFFALO        |
| USB-2       | USB Mouse                | CP-154021-01 | HCA50506800      | Fujitsu        |
| USB-3       | USB Mouse                | CP-154021-01 | HCA50506759      | Fujitsu        |
| USB-4       | USB Mouse                | M-UV96       | HCA44800081      | Logitech       |
| USB-5       | USB Mouse                | M-UV96       | HCA44800205      | Logitech       |
| USB-6       | USB Mouse                | M-UV96       | HCA45001356      | Logitech       |
| SD card     | SD card                  | 64MB         | _____            | Panasonic      |
| PC card     | PC card                  | FMV-J502     | _____            | Fujitsu        |

**Cables** SLD: Shielded NSLD: Non-shielded CAX: Coaxial

Connector MC: Metal NMC: Non-metal PMC: Point contact metal

| <b>No.</b> | <b>I/O Port</b> | <b>Name</b>     | <b>Type</b> | <b>Length</b> | <b>Cable type</b>         |
|------------|-----------------|-----------------|-------------|---------------|---------------------------|
|            | Phone-out       | Headset cable   | _____       | 2.2m          | NSLD, MC                  |
|            | Mic-in          | Headset cable   | _____       | 2.2m          | NSLD, MC                  |
|            | 1394            | IEEE1394 cable  | _____       | 1.0m          | SLD, MC                   |
|            | _____           | DC cable        | _____       | 1.8m          | NSLD, NMC                 |
|            | USB-2           | USB mouse cable | _____       | 1.8m          | SLD, NMC                  |
|            | USB-3           | USB mouse cable | _____       | 1.5m          | SLD, NMC                  |
| 21         | USB-4           | USB mouse cable | _____       | 1.5m          | SLD, NMC                  |
| 22         | USB-5           | USB mouse cable | _____       | 1.8m          | SLD, NMC                  |
| 23         | USB-6           | USB mouse cable | _____       | 1.8m          | SLD, NMC                  |
|            | Modem           | Modem cable     | _____       | 20.0m         | NSLD, NMC                 |
|            | _____           | Modem cable     | _____       | 2.0m          | NSLD, NMC                 |
|            | _____           | Power cable     | _____       | 2.0m          | NSLD, NMC                 |
|            | LAN             | LAN cable       | _____       | 20.0m         | SLD, MC                   |
|            | _____           | LAN cable       | _____       | 1.0m          | SLD, MC                   |
|            | _____           | Power cable     | _____       | 2.0m          | NLD, NMC                  |
|            | _____           | DC cable        | _____       | 1.8m          | NSLD, NMC                 |
|            | _____           | Power cable     | _____       | 1.8m          | NSLD, NMC                 |
|            | _____           | DC cable        | _____       | 1.8m          | NSLD, NMC                 |
|            | _____           | Power cable     | _____       | 1.8m          | NSLD, NMC                 |
| 17         | SP              | SP cable        | _____       | 2.2m          | SLD, MC                   |
| 18         | RGB             | RGB cable       | _____       | 1.5m          | SLD, MC with fixed core   |
| 19         | _____           | Power cable     | _____       | 2.0m          | NSLD, NMC with fixed core |
| 20         | S-VIDEO         | S-VIDEO cable   | _____       | 2.2m          | SLD, MC                   |

## Appendix data (#05-073E: Total 22 pages)

## 1 . Photograph

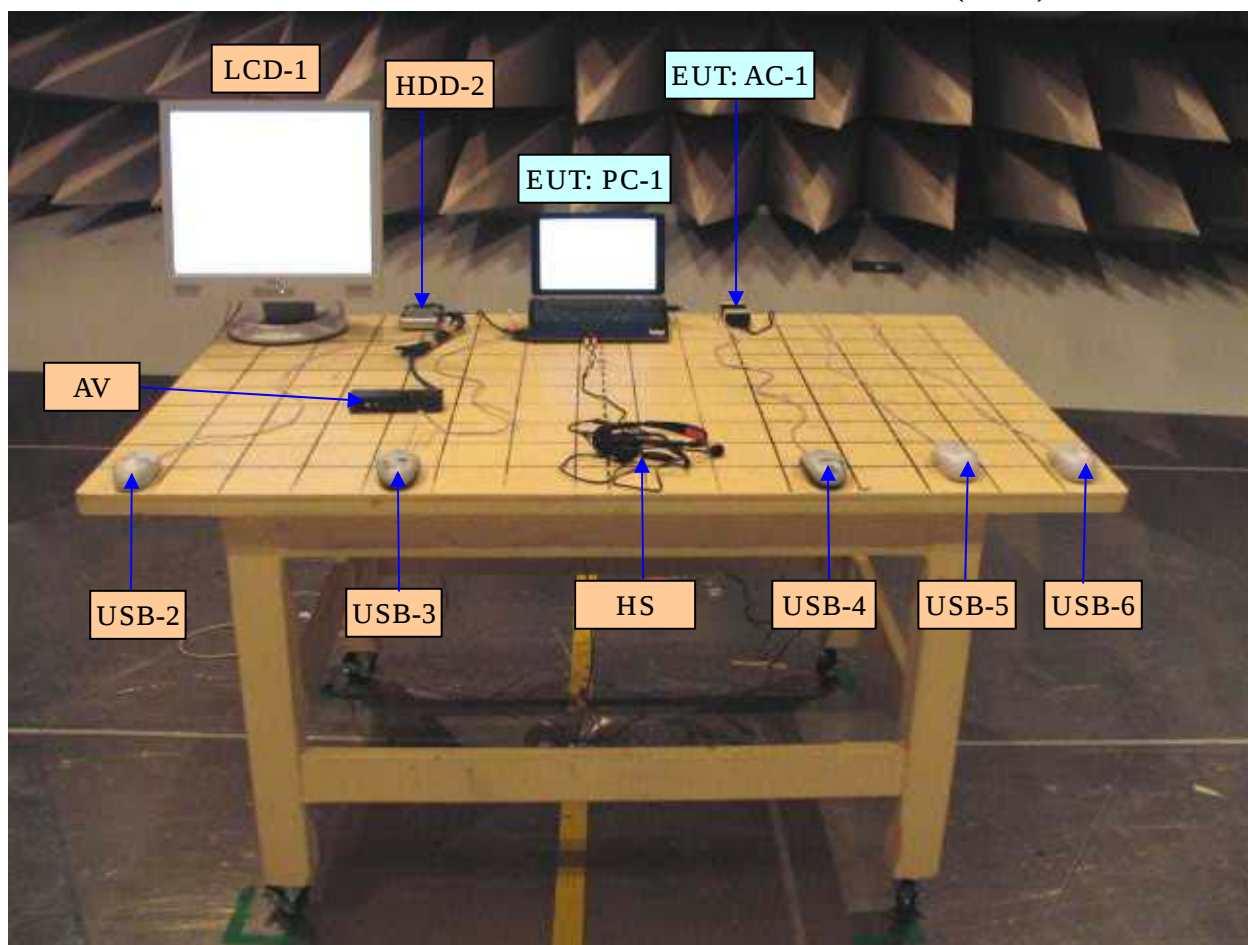
### 1.1 #05-073E (3 pages)

- |                                  |                    |                          |
|----------------------------------|--------------------|--------------------------|
| • Radiated emission measurement  | 30-1000 MHz(Front) | : Photo-1.1              |
|                                  | 30-1000 MHz (Back) | : Photo-1.2              |
|                                  | 1-6GHz (Front)     | : Photo-1.3              |
| • Conducted emission measurement |                    | : Photo-2                |
| • Label                          |                    | : Photo-3.1              |
|                                  | AC adapter         | SEC80N2-16.0 : Photo-3.2 |

## 2 . Test data (18 pages)

- |                      |                             |         |                |           |
|----------------------|-----------------------------|---------|----------------|-----------|
| • Radiated emission  | 30-1000 MHz (AC230V / 50Hz) |         | : #05-073E-RE1 | (2 pages) |
|                      | (AC120V / 60Hz)             |         | : #05-073E-RE2 | (2 pages) |
|                      | 1-6 GHz                     |         | : #05-073E-GH  | (2 pages) |
| • Conducted emission |                             |         |                |           |
| • SEC80N2-16.0       | AC 100 V / 50 Hz            | QP Mode | : #05-073E-CE1 | (2 pages) |
|                      |                             | AV Mode | : #05-073E-CE2 | (2 pages) |
|                      | AC 120 V / 60 Hz            | QP Mode | : #05-073E-CE3 | (2 pages) |
|                      |                             | AV Mode | : #05-073E-CE4 | (2 pages) |
|                      | AC 230 V / 50 Hz            | QP Mode | : #05-073E-CE5 | (2 pages) |
|                      |                             | AV Mode | : #05-073E-CE6 | (2 pages) |

Photo-1.1 Radiated emission measurement; 30-1000 MHz (Front)



• PC-2 and HUB were set at outside of the chamber.

Photo-1.2 Radiated emission measurement; 30-1000 MHz (Back)

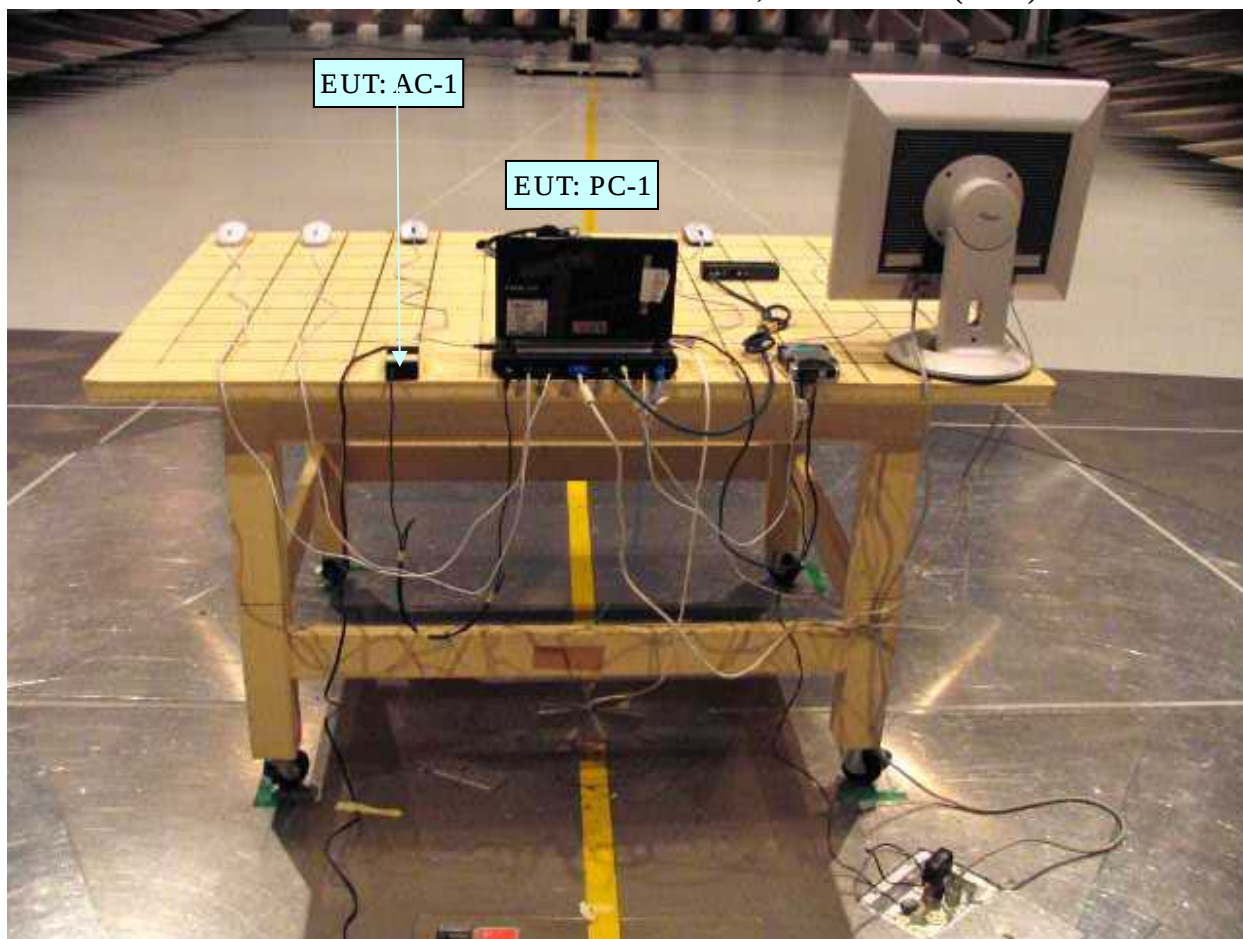


Photo-1.3 Radiated emission measurement; 1-6 GHz (Front)

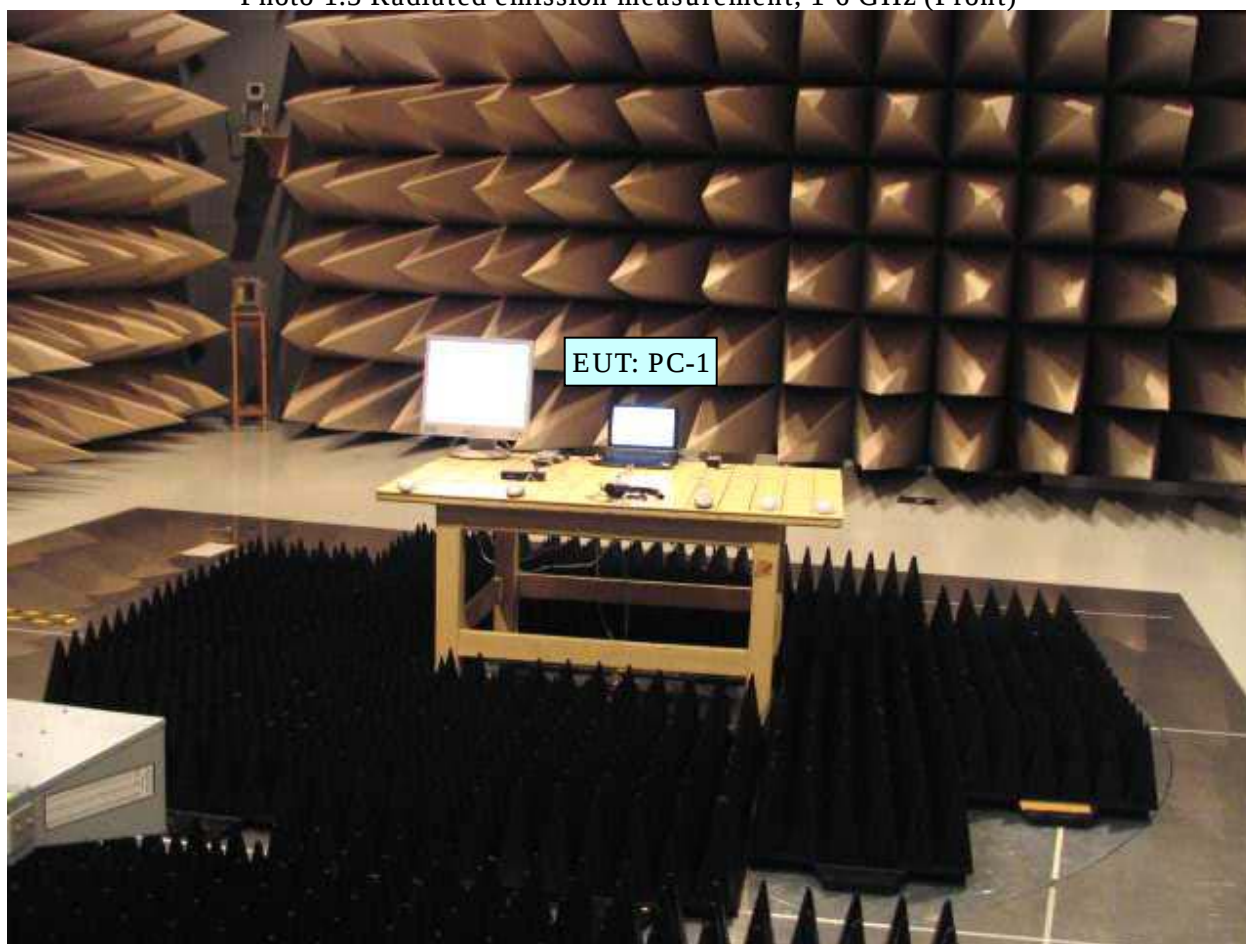


Photo-2.1 Conducted emission measurement

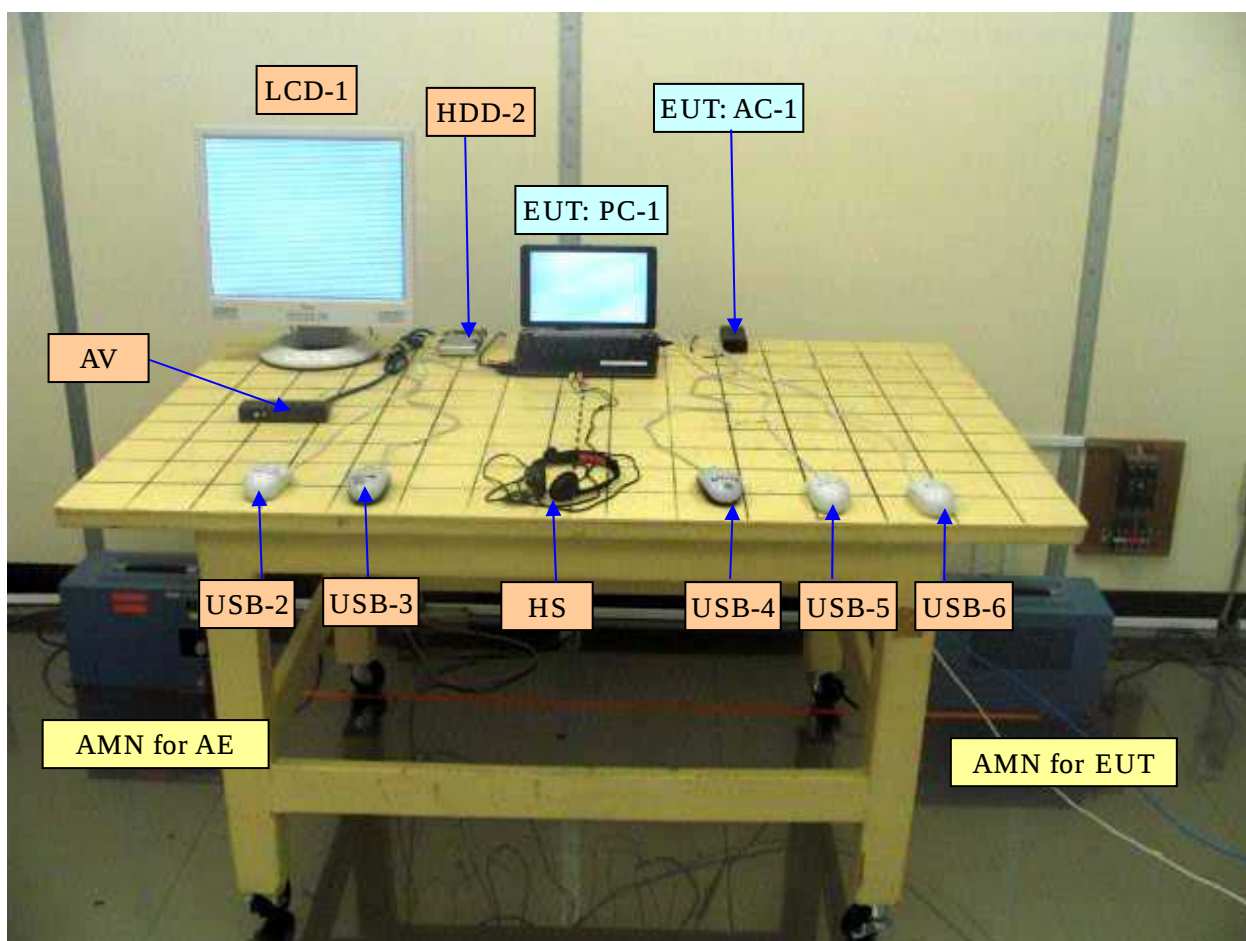


Photo-3.1 PC-1 Label

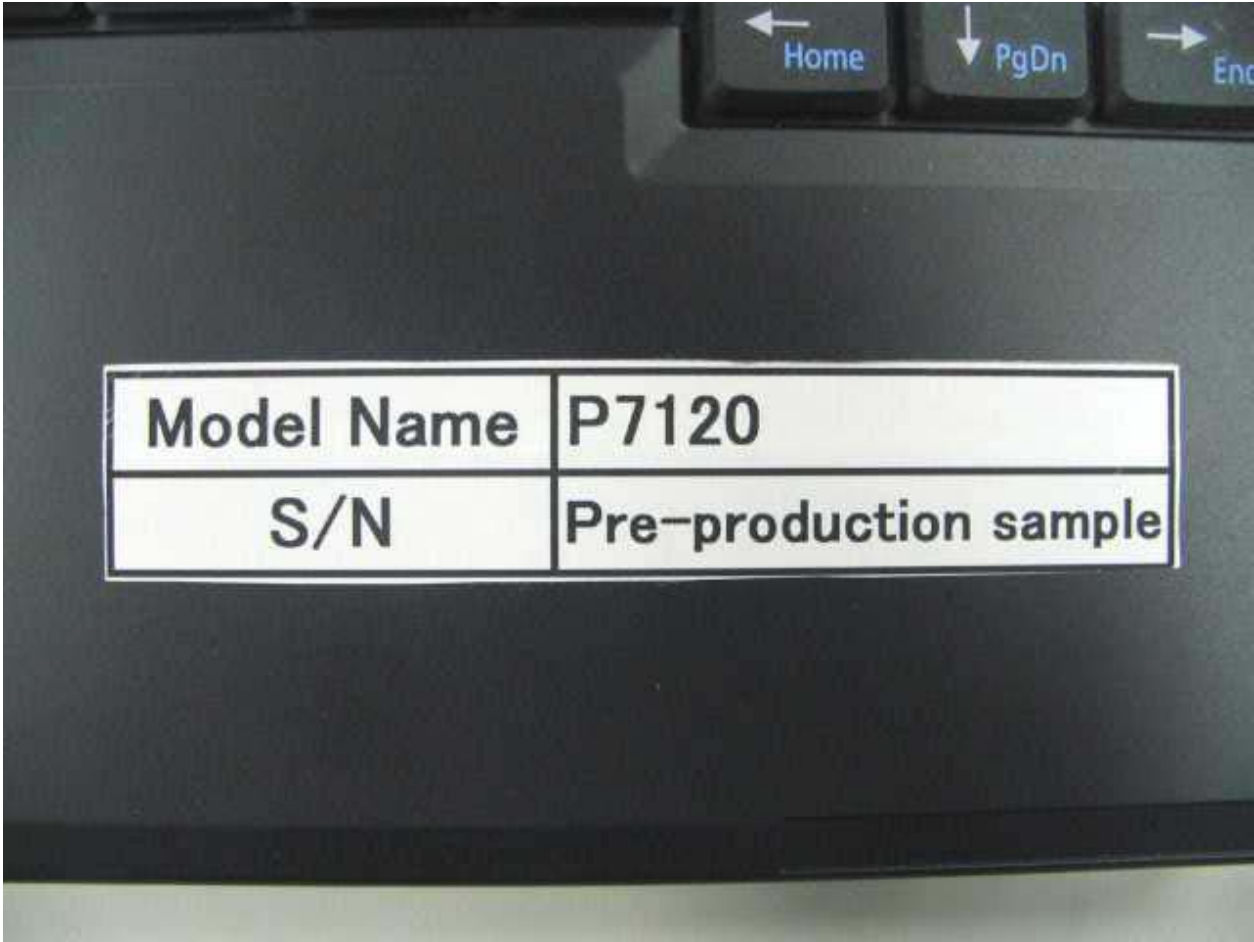


Photo-3.2 AC-1 Label ( SEC80N2-16.0 )



**RADIATED EMISSION MEASUREMENT (30MHz~1000MHz)** — Quasi-Peak Mode —

EUT Name: Personal computer Type: P7120

S/N: Pre-production sample

Limit: CISPR22 Class B: Measurement distance is 10 m

Test date: 2005/08/17 Temp: 25 °C R/H: 65 %

Antenna: SME Bi-log VULB9160 S/N:3118 Receiver: HP 85422E S/N:3746A00242

Test site: 2nd semianchoic chamber

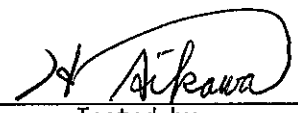
Assisted software: EMI measurement software of Version 1.3

| Freq.<br>(MHz) | Pol.  | Meter<br>Reading<br>(dBuV) | Corr.<br>Factor<br>(dB) | Noise<br>Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|----------------|-------|----------------------------|-------------------------|----------------------------|-------------------|----------------|
| 32.11          | Vert  | 8.1                        | 12.7                    | 20.8                       | 30.0              | 9.2            |
| 96.27          | Vert  | 10.1                       | 10.9                    | 21.0                       | 30.0              | 9.0            |
| 104.30         | Horiz | 6.6                        | 12.7                    | 19.3                       | 30.0              | 10.7           |
| 133.97         | Vert  | 7.9                        | 15.1                    | 23.0                       | 30.0              | 7.0            |
| 162.59         | Horiz | 9.1                        | 16.0                    | 25.1                       | 30.0              | 4.9            |
| 166.56         | Horiz | 9.9                        | 15.8                    | 25.7                       | 30.0              | 4.3            |
| 168.00         | Horiz | 11.2                       | 15.8                    | 27.0                       | 30.0              | 3.0            |
| 168.00         | Vert  | 12.2                       | 15.8                    | 28.0                       | 30.0              | 2.0            |
| 169.37         | Horiz | 4.7                        | 15.8                    | 20.5                       | 30.0              | 9.5            |
| 176.50         | Horiz | 4.6                        | 15.2                    | 19.8                       | 30.0              | 10.2           |
| 187.33         | Vert  | 6.4                        | 14.1                    | 20.5                       | 30.0              | 9.5            |
| 191.92         | Vert  | 6.8                        | 13.8                    | 20.6                       | 30.0              | 9.4            |
| 216.61         | Vert  | 8.6                        | 13.4                    | 22.0                       | 30.0              | 8.0            |
| 224.64         | Vert  | 8.9                        | 14.1                    | 23.0                       | 30.0              | 7.0            |
| 278.89         | Horiz | 13.0                       | 16.6                    | 29.6                       | 37.0              | 7.4            |
| 417.18         | Vert  | 8.7                        | 21.4                    | 30.1                       | 37.0              | 6.9            |
| 638.71         | Vert  | 5.6                        | 26.3                    | 31.9                       | 37.0              | 5.1            |
| 957.90         | Horiz | 3.2                        | 32.5                    | 35.7                       | 37.0              | 1.3            |
| 957.90         | Vert  | 0.4                        | 32.5                    | 32.9                       | 37.0              | 4.1            |

The emissions above 957.90 MHz were below - 20 dB from limits.

\* Corrected reading = meter reading + corr.factor (= antenna factor + cable loss - preamp gain)

\* The limit of CISPR 22 is applied for FCC Part-15.

\* Measurement uncertainty:  $\pm 3.3$  dB (K = 2, 95 %)


Tested by

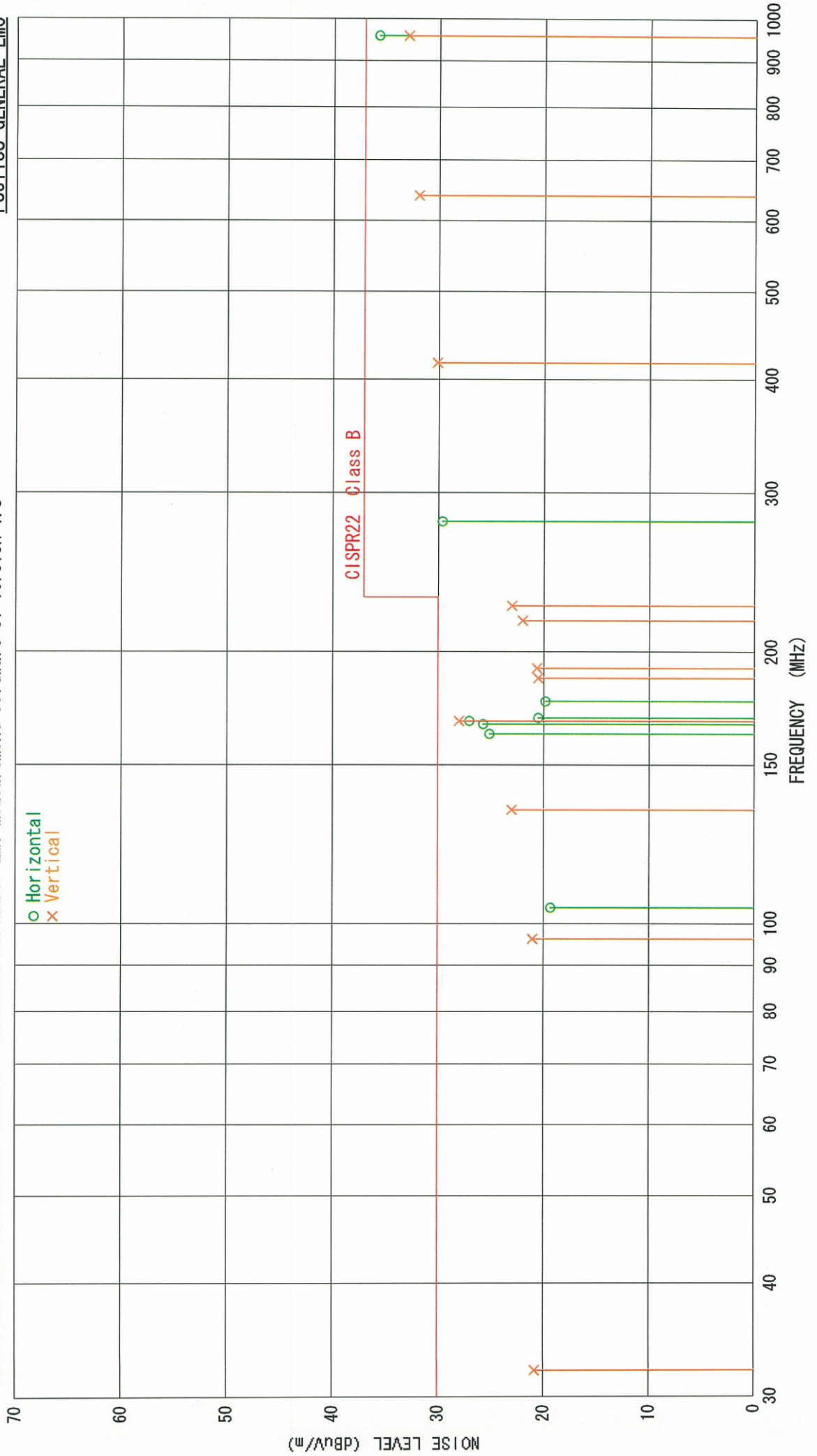
# RADIATED EMISSION MEASUREMENT

No: #05-073E-RE1 ( 2 / 2 )

-- Quasi-Peak Mode --

EUT Name: Personal computer TYPE: P7120 S/N: Pre-production sample  
Limit: CISPR22 Class B : Measurement distance is 10 m  
Test date: 2005/08/17 Temp: 25 °C R/H: 65 %  
Antenna: SME BI-log VULB9160 S/N:3118 Receiver: HP 85422E S/N:3746A00242  
Test site: 2nd semianchoic chamber Assisted software: EMI measurement software of Version 1.3

FUJITSU GENERAL EMC



**RADIATED EMISSION MEASUREMENT (30MHz~1000MHz)** — Quasi-Peak Mode —

EUT Name: Personal computer Type: P7120

S/N: Pre-production sample

Limit: FCC Part15 Class B: Measurement distance is 10 m

Test date: 2005/08/17 Temp: 25 °C R/H: 65 %

Antenna: SME Bi-log VULB9160 S/N:3118 Receiver: HP 85422E S/N:3746A00242

Test site: 2nd semianchoic chamber

Assisted software: EMI measurement software of Version 1.3

| Freq.<br>(MHz) | Pol.  | Meter<br>Reading<br>(dBuV) | Corr.<br>Factor<br>(dB) | Noise<br>Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|----------------|-------|----------------------------|-------------------------|----------------------------|-------------------|----------------|
| 32.11          | Vert  | 7.2                        | 12.7                    | 19.9                       | 30.0              | 10.1           |
| 96.27          | Vert  | 9.9                        | 10.9                    | 20.8                       | 30.0              | 9.2            |
| 104.30         | Horiz | 5.8                        | 12.7                    | 18.5                       | 30.0              | 11.5           |
| 133.97         | Vert  | 7.9                        | 15.1                    | 23.0                       | 30.0              | 7.0            |
| 162.59         | Horiz | 8.7                        | 16.0                    | 24.7                       | 30.0              | 5.3            |
| 166.56         | Horiz | 9.7                        | 15.8                    | 25.5                       | 30.0              | 4.5            |
| 168.00         | Horiz | 10.0                       | 15.8                    | 25.8                       | 30.0              | 4.2            |
| 168.00         | Vert  | 10.8                       | 15.8                    | 26.6                       | 30.0              | 3.4            |
| 169.37         | Horiz | 4.7                        | 15.8                    | 20.5                       | 30.0              | 9.5            |
| 176.50         | Horiz | 4.1                        | 15.2                    | 19.3                       | 30.0              | 10.7           |
| 187.33         | Vert  | 6.4                        | 14.1                    | 20.5                       | 30.0              | 9.5            |
| 191.92         | Vert  | 6.8                        | 13.8                    | 20.6                       | 30.0              | 9.4            |
| 216.61         | Vert  | 8.6                        | 13.4                    | 22.0                       | 30.0              | 8.0            |
| 224.64         | Vert  | 8.6                        | 14.1                    | 22.7                       | 30.0              | 7.3            |
| 278.89         | Horiz | 13.0                       | 16.6                    | 29.6                       | 37.0              | 7.4            |
| 417.18         | Vert  | 8.7                        | 21.4                    | 30.1                       | 37.0              | 6.9            |
| 638.71         | Vert  | 5.6                        | 26.3                    | 31.9                       | 37.0              | 5.1            |
| 957.90         | Horiz | 3.2                        | 32.5                    | 35.7                       | 37.0              | 1.3            |
| 957.90         | Vert  | 0.4                        | 32.5                    | 32.9                       | 37.0              | 4.1            |

The emissions above 957.90 MHz were below - 20 dB from limits.

\* Corrected reading = meter reading + corr.factor (= antenna factor + cable loss - preamp gain)

\* Measurement uncertainty:  $\pm 3.3$  dB (K = 2, 95 %)


Tested by

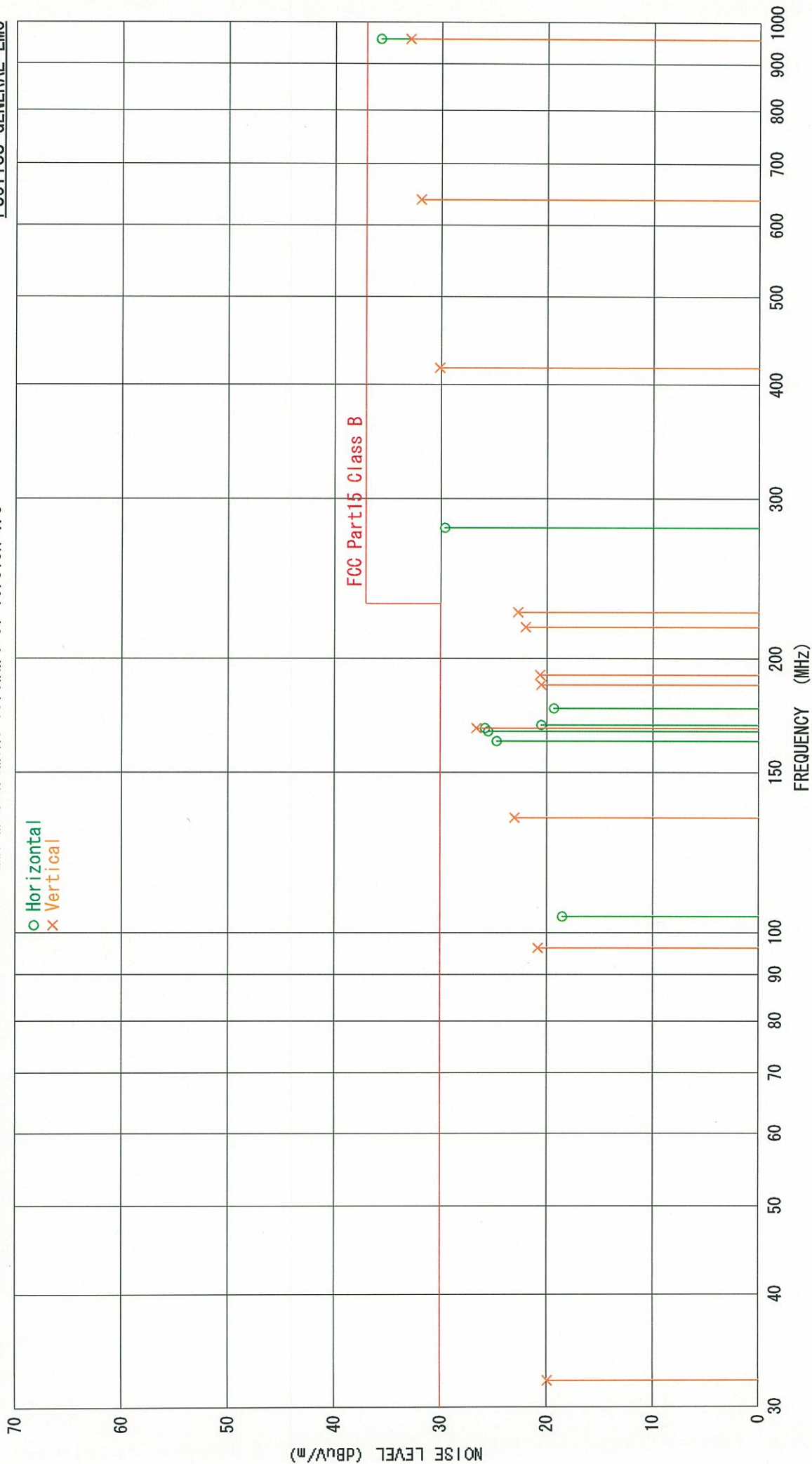
# RADIATED EMISSION MEASUREMENT

No: #05-073E-RE2 ( 2 / 2 )

-- Quasi-Peak Mode --

EUT Name: Personal computer TYPE: P7120 S/N: Pre-production sample  
Limit: FCC Part15 Class B ; Measurement distance is 10 m  
Test date: 2005/08/17 Temp: 25 °C R/H: 65 %  
Antenna: SME Bi-log VULB9160 S/N:3118 Receiver: HP 85422E S/N:3746A00242  
Test site: 2nd semianchoic chamber Assisted software: EMI measurement software of Version 1.3

FUJITSU GENERAL EMC



**RADIATED EMISSION MEASUREMENT (1GHz~6GHz)**

EUT Name: Personal Computer      Type: P7120      S/N: Pre-production sample  
 Limit : FCC Part-15 Class B ; Measurement distance is 3 m  
 Test date: 2005/08/17      Temp: 25 °C      R/H: 65 %  
 Antenna : Schwarzbeck BBHA9120D S/N:136  
 Receiver : Spectrum analyzer : Advantest R3371A S/N:75060396  
 Test site: 2nd semi-anechoic chamber

| Freq.<br>(GHz) | Pol.  | Meter<br>Reading<br>(dBuV) | Corr.<br>Factor<br>(dB) | Noise<br>Level<br>(dBuV/m) | Limit<br>Peak AV<br>(dBuV/m) | Margin<br>(dB) |
|----------------|-------|----------------------------|-------------------------|----------------------------|------------------------------|----------------|
| 1.0400         | Horiz | 43.5                       | -7.0                    | 36.5                       | 74.0 54.0                    | 17.5           |
| 1.0400         | Vert  | 46.5                       | -7.0                    | 39.5                       | 74.0 54.0                    | 14.5           |
| 1.1157         | Vert  | 42.5                       | -6.6                    | 35.9                       | 74.0 54.0                    | 18.1           |
| 1.1986         | Vert  | 46.3                       | -6.2                    | 40.0                       | 74.0 54.0                    | 14.0           |
| 1.2814         | Vert  | 41.3                       | -5.8                    | 35.4                       | 74.0 54.0                    | 18.6           |
| 1.3586         | Vert  | 50.0                       | -5.4                    | 44.6                       | 74.0 54.0                    | 9.4            |
| 1.4343         | Vert  | 52.3                       | -5.1                    | 47.2                       | 74.0 54.0                    | 6.8            |
| 1.5129         | Vert  | 45.7                       | -4.5                    | 44.1                       | 74.0 54.0                    | 12.9           |
| 1.5929         | Vert  | 44.5                       | -3.8                    | 40.7                       | 74.0 54.0                    | 13.3           |
| 1.7557         | Vert  | 43.3                       | -2.0                    | 41.2                       | 74.0 54.0                    | 12.8           |
| 1.8300         | Vert  | 44.5                       | -1.2                    | 43.3                       | 74.0 54.0                    | 10.7           |

The emissions above 1.8300 GHz were below - 10 dB from limits.

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 \* Corrected reading: = meter reading + corr. factor (= antenna factor + cable loss - preamp gain)

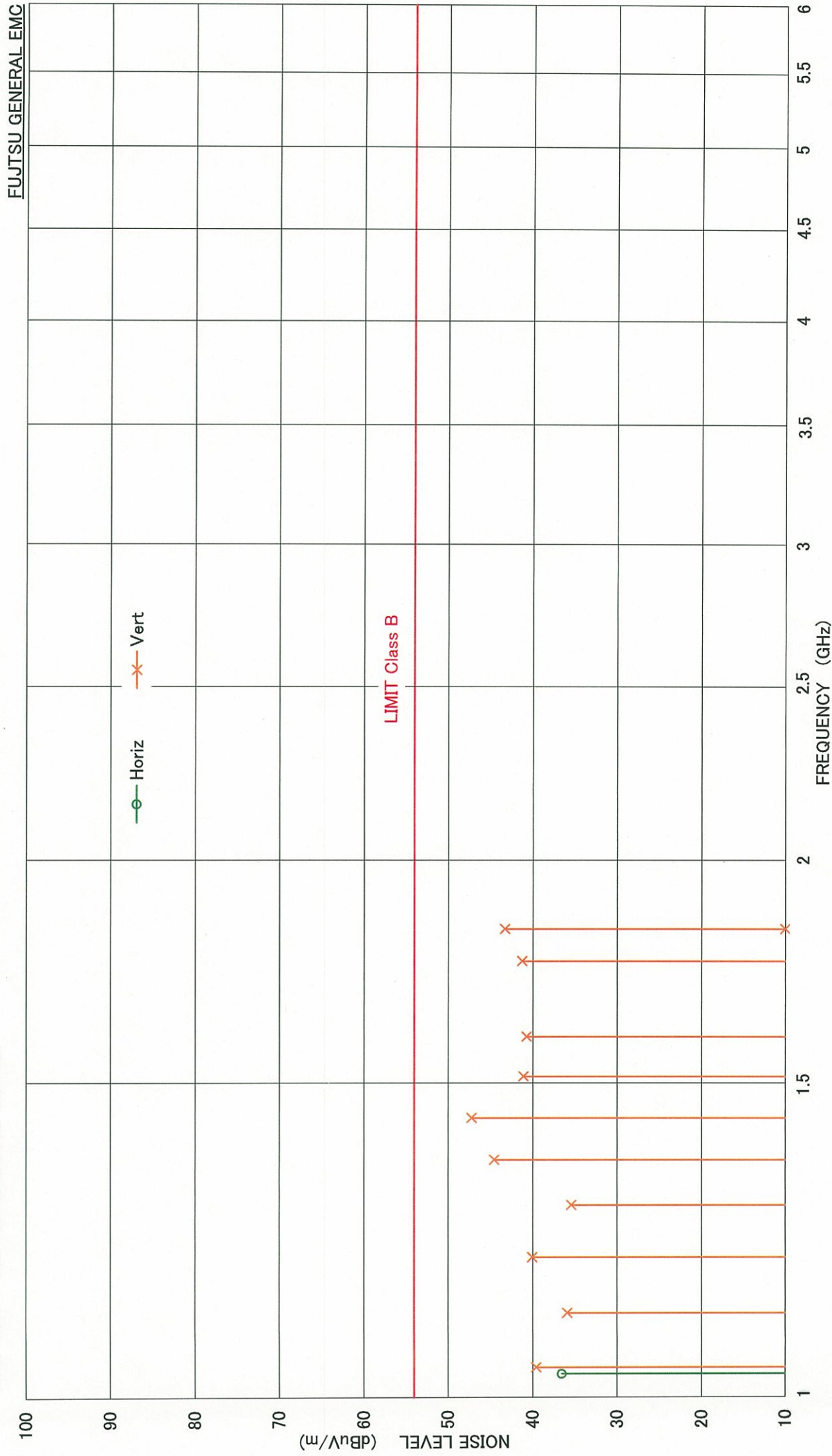


Tested by

**RADIATED EMISSION MEASUREMENT (1GHz - 6GHz)**

No: #05-073E-GH2 (2/2)

EUT Name : Personal computer      TYPE : P7120      S/N : Pre-production sample  
LIMIT : FCC Part-15 class B      ; Measurement distance is 3m  
Test date : 2005/08/17      Temp : 25 °C      R/H : 65 %  
Antenna : Schwarzbeck BBHA9120D S/N:136      Receiver : Advantest R3371A S/N:75060396  
Test site : 2nd semianechoic chamber



— FUJITSU GENERAL EMC —

# POWER LINE CONDUCTED EMISSION MEASUREMENT

No: #05-073E-CE1 ( 2 / 2 )

-- Quasi-Peak Mode --

EUT Name: Personal computer TYPE: P7120 S/N: Pre-production sample  
Limit: CISPR22 Class B Test voltage: 100 VAC, Single phase  
Test date: 2005/08/17 Temp: 25 °C R/H: 65 %  
AMN: Kyoritsu KMW-407 S/N: 8-823-18 Receiver: HP 85422E S/N: 3746A00242  
Test site: 2nd semianchoic chamber Assisted software: EMI measurement software of Version 1.3

FUJITSU GENERAL EMC

