

**Test Report  
Application for Certification  
On Behalf Of  
First International Computer Inc.  
Notebook Computer**

**Model: Ruby 2.0 / DESIGNote 56XXXX /  
DESIGNote 6 / 56XXXX / Legend 66 / StepNote SR /  
friend V / Soliton / Soleil / AL300 Pentium II Model /  
AL300 Pentium Model / CN600xxxxyyyzzz / ActionBook**

FCC ID: EUNDESIGNOTE56

**Prepared For:  
First International Computer Inc.  
6F., Formosa Plastics Rear Bldg 201, Tung-Hwa N. Road,  
Taipei, Taiwan, R.O.C.**



**Report By : Global EMC Standard Tech. Corp.  
No.3 Pau-Tou-Tsuo Valley, Chia-Pau  
Tsuen, Lin Kou Hsiang, Taipei County,  
Taiwan, R.O.C.  
Tel : (02) 2603-5321  
Fax : (02) 2603-5325**

Test results given in this report only relate to the specimen(s) tested, calibrated or measured.  
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GTA98-F021

# 1. Test Report Certification

**Applicant** : First International Computer Inc.

**Manufacturer** : First International Computer Inc.

**EUT Description** : Notebook Computer

(A) Model No. : Ruby 2.0  
(B) Serial No. : N/A  
(C) Power : 110V/60Hz  
(D) Rating DC-O/P : 20V

## MEASUREMENT PROCEDURE / STANDARD USED :

- ☒ CFR 47, Part 15 Radio Frequency Device Subpart B Unintentional Radiators Class B :1996  
☐ CISPR 22 Limits and methods of measurement of radio disturbance characteristics of information technology equipment: 1993  
☒ ANSI C63.4 Methods of Measurements of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9kHz to 40GHz. :1992

THE MEASUREMENT SHOWN IN THE ATTACHMENT WERE MADE IN ACCORDANCE WITH THE PROCEDURES INDICATED, AND THE MAXIMUM ENERGY EMITTED BY THE EQUIPMENT WAS FOUND TO BE WITHIN THE ABOVE LIMITS APPLICABLE.



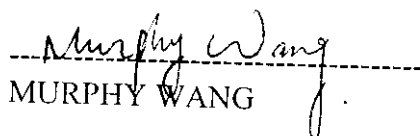
Sample Received Date : Oct. 09, 1998

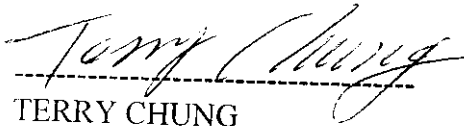
Final Test Date : Nov. 04, 1998

Documented by : May Tseng

Test Engineer :

Approve & Authorized Signer :

  
MURPHY WANG

  
TERRY CHUNG

This test data shown below is traceable to National or international standard such as NIST/USA, etc.  
The laboratory's NVLAP accreditation in no way constitutes or implies product certification, approval, or endorsement by NVLAP or the United States government.

## 2. General Information

### 2.1 Production Description

Description : Notebook Computer  
 Model Number : Ruby 2.0  
 Serial Number : N/A  
 Condition : Prototype  
 Applicant : First International Computer Inc.  
 Address : 6F., Formosa Plastics Rear Bldg 201, Tung-Hwa N. Road,  
 Taipei, Taiwan, R.O.C.  
 Manufacturer : First International Computer Inc.  
 Address : 6F., Formosa Plastics Rear Bldg 201, Tung-Hwa N. Road,  
 Taipei, Taiwan, R.O.C.  
 CPU : Pentium 233/266/300MHz , Clock: 66/66/66MHz  
 Power Adaptor : Delta, M/N: ADP-50MB, S/N: W882100083  
 AC-100~240V 1.5A/50-60Hz, DC O/P: 20V 2.8A  
 Power Cord : 1.8m, Non-shielded

### 2.2 Results:

#### 2.2.1 The EUT(s) met the FCC Part 15 Class B requirements.

The Worst Emission data was found as following,

|                      | Worst Emission<br>Frequency (MHz) | Emission Level               | Limit          | Height of Antenna,<br>Angel of Turntable |
|----------------------|-----------------------------------|------------------------------|----------------|------------------------------------------|
| Conduction<br>Mode 2 | 3.68269                           | 38.9 dBuV<br>Line 2          | 48 dBuV        | N/A                                      |
| Radiation<br>Mode 5  | 307.912                           | 43.67[dB(uV/m)],<br>Vertical | 46 [dB(uV/m)], | 2 M,<br>130°                             |

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## 2.2.2 Test Mode:

|                                                                  |                  |            |                       |
|------------------------------------------------------------------|------------------|------------|-----------------------|
| <b>Mode 1</b>                                                    |                  |            |                       |
| 1.                                                               | CPU Module       | Intel      | MMCI-MP II 300        |
| 2.                                                               | Panel 13.3" TFT  | Samsung    | LT133X5-122           |
| 3.                                                               | 6.4GB HDD        | IBM        | DADA-26480            |
| 4.                                                               | FDD              | NEC        | FD-1238T-018          |
| 5.                                                               | CD ROM 24X       | TEAC       | CD-224EA-93           |
| 6.                                                               | Li-ion Battery   | Panasonic  | 2800mAh / 14.4V(2P4S) |
| Resolution: 1024x768, H-sync 56KHz, V-sync 75Hz, non-interlaced. |                  |            |                       |
| <b>Mode 2</b>                                                    |                  |            |                       |
| 1.                                                               | CPU Module       | Intel      | MMCI-MP II 300        |
| 2.                                                               | Panel 13.3" TFT  | Sanyo      | TM133XG-02L02         |
| 3.                                                               | 6.4GB HDD        | Toshiba    | MK6409MAV             |
| 4.                                                               | FDD              | NEC        | FD-1238T-018          |
| 5.                                                               | CD ROM 24X       | Toshiba    | XM-1802B              |
| 6.                                                               | Li-ion Battery   | Panasonic  | 2800mAh / 14.4V(2P4S) |
| Resolution: 1024x768, H-sync 56KHz, V-sync 75Hz, non-interlaced. |                  |            |                       |
| <b>Mode 3</b>                                                    |                  |            |                       |
| 1.                                                               | CPU Module       | Intel      | MMCI-MP II 266        |
| 2.                                                               | Panel 12.1" DSTN | Panasonic  | EDMGRB6KAF            |
| 3.                                                               | 4.0GB HDD        | Fujitsu    | MHC2040AT             |
| 4.                                                               | FDD              | Mitsubishi | MF355H-348MN          |
| 5.                                                               | DVD ROM Drive    | MKE        | SR-8171-B             |
| 6.                                                               | NiMH Battery     | Panasonic  | 3800mAh / 9.6V        |
| Resolution: 800x600, H-sync 48KHz, V-sync 75Hz, non-interlaced.  |                  |            |                       |
| <b>Mode 4</b>                                                    |                  |            |                       |
| 1.                                                               | CPU Module       | Intel      | MMCI-MP II 233        |
| 2.                                                               | Panel 12.1 TFT   | LG         | LP121S3               |
| 3.                                                               | 3.2GB HDD        | Hitachi    | DK237A-32             |
| 4.                                                               | FDD              | Mitsubishi | MF355H-348MN          |
| 5.                                                               | DVD ROM Drive    | Toshiba    | SD-C2102              |
| 6.                                                               | NiMH Battery     | Panasonic  | 3800mAh / 9.6V        |
| Resolution: 800x600, H-sync 48KHz, V-sync 75Hz, non-interlaced.  |                  |            |                       |
| <b>Mode 5</b>                                                    |                  |            |                       |
| 1.                                                               | CPU Module       | Intel      | MMCI-MP II 300        |
| 2.                                                               | Panel 13.3" TFT  | Samsung    | LT133X5-122           |
| 3.                                                               | 6.4GB HDD        | IBM        | DADA-26480            |
| 4.                                                               | FDD              | NEC        | FD-1238T-018          |
| 5.                                                               | CD ROM 24X       | TEAC       | CD-224EA-93           |
| 6.                                                               | PORT BAR         | FIC        | Versa Note Portbar    |
| 7.                                                               | NiMH Battery     | Panasonic  | 3800mAh / 9.6V        |
| Resolution: 1024x768, H-sync 56KHz, V-sync 75Hz, non-interlaced. |                  |            |                       |

## 2.2.3 Note:

1. This Notebook computer can support different CPU/Clock frequency modes and can support different types of LCD panel. The test condition of 233, 266, 300MHz and all the components listed at section 2.3 were investigated. During the performance of the testing, peripherals were connected to all available ports. The data shown in this test report reflects the worst-case data for each frequency/video resolution.

2. Model Name Designation for Ruby 2.0 as following,

| <b>OEM</b> | <b>EMC</b>                                    | <b>Win Logo</b>                |
|------------|-----------------------------------------------|--------------------------------|
| LEO        | DESIGNote 56XXXX                              | DESIGNote 5600, DESIGNote 6800 |
| FIC        | 56XXXX                                        | 5600                           |
| Generic    | 56XXXX                                        | 5600                           |
| INCA       | Legend 66                                     | Legend 66                      |
| Everex     | StepNote SR                                   | StepNote SR                    |
| Hyun Ju    | friend V                                      | friend V                       |
| Elonex     | Soliton                                       | Soliton                        |
| Legen      | Soleil                                        | Soleil                         |
| Mitsubishi | AL300 Pentium II Model<br>AL300 Pentium Model |                                |
| DAEWOO     | CN600xxxxyyyzzz                               |                                |
| UMAX       | ActionBook                                    |                                |

GTK93-F021

## 2.3 Tested System Details

The FCC IDs/Types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards, which have grants) are:

☒ Notebook PC (EUT)

| No. | Category         | Manufacturer | Model No.             |
|-----|------------------|--------------|-----------------------|
| 1.  | Panel 12.1 TFT   | LG           | LP121S3               |
| 2.  | Panel 12.1" DSTN | Panasonic    | EDMGRB6KAF            |
| 3.  | Panel 13.3" TFT  | Samsung      | LT133X5-122           |
| 4.  | Panel 13.3" TFT  | Sanyo        | TM133XG-02L02         |
| 5.  | 3.2GB HDD        | Fujitsu      | MHD2032AT             |
| 6.  | 3.2GB HDD        | Hitachi      | DK237A-32             |
| 7.  | 4.1GB HDD        | Fujitsu      | MHC2040AT             |
| 8.  | 4.1GB HDD        | Hitachi      | DK227A-41             |
| 9.  | 6.4GB HDD        | IBM          | DADA-26480            |
| 10. | 6.4GB HDD        | Toshiba      | MK6409MAV             |
| 11. | Invertor(12.1")  | Delta        |                       |
| 12. | Invertor(13.3")  | Delta        |                       |
| 13. | Keyboard(US)     | Jing-Mold    |                       |
| 14. | LAN              | CIS          |                       |
| 15. | Fax/Modem        | Askey        |                       |
| 16. | AC Adaptor       | Delta        | ADP-50MB              |
| 17. | CD ROM 24X       | TEAC         | CD-224EA-93           |
| 18. | CD ROM 24X       | Toshiba      | XM-1802B              |
| 19. | DVD ROM Drive    | MKE          | SR-8171-B             |
| 20. | DVD ROM Drive    | Toshiba      | SD-C2102              |
| 21. | CPU Module       | Intel        | MMCI-MP II 233        |
| 22. | CPU Module       | Intel        | MMCI-MP II 266        |
| 23. | CPU Module       | Intel        | MMCI-MP II 300        |
| 24. | FDD              | Mitsubishi   | MF355H-348MN          |
| 25. | FDD              | NEC          | FD-1238T-018          |
| 26. | NiMH Battery     | Panasonic    | 3800mAh / 9.6V        |
| 27. | Li-ion Battery   | Panasonic    | 2800mAh / 14.4V(2P4S) |
| 28. | Glide Pad        | ALPS         | KGDDGQ941A            |
| 29. | PORT BAR         | FIC          | Versa Note Portbar    |

☒ Monitor M01-010

Model Number : SyncMaster 700p  
Serial Number : H3MH903296Y  
Manufacturer : SAMSUNG  
FCC ID : A3LCGH760  
BCIQ No. : 3872A230  
Data Cable : Shielded, Undetachable, 1.2m  
Power Cord : Non-Shielded, Detachable, 1.5m

☒ Keyboard K01-033

Model Number : KB-5923  
Serial Number : 8060032215  
FCC ID : E8HKB-5923  
Manufacturer : TATUNG  
BCIQ ID : 3862A177  
Data Cable : Sheiled, Undetachable, 2.0 m

☒ Printer P01-011

Model Number : C2642A(DJ-400)  
Serial Number : MY7951C4J5  
FCC ID : B94C2642X  
Manufacturer : HP  
Data Cable : Shielded, Detachable, 1.5m  
Adaptor & Power Cord : AC 110V, 60Hz To DC 30V  
: Non-Shielded, Detachable, 1.8m

☒ Modem M03-011

Model Number : 1414  
Serial Number : 960018041  
FCC ID : IFAXDM1414  
Manufacturer : ACEEX  
Adaptor & Power Cord : Non-Shielded, Detachable, 1.8m  
Data Cable : Shielded, Detachable, 1.5m

☒ Mouse(PS2) M02-027

Model Number : MUS3P  
Serial Number :  
FCC ID : JKGMUS3P01

Manufacturer : Tremon Enterprises Co., Ltd.  
Data Cable : Shielded, Undetachable, 1.5m

☒ Microphone M04-011 ~ 018  
Model Number : M02  
Serial Number : N/A  
FCC ID : N/A  
Manufacturer : GALAXY  
Data Cable : Non-Shielded, Undetachable, 1.2m

☒ Radio Receiver R02-010 ~ 014  
Model Number : HS-GS162  
Serial Number : LYJ1084567  
FCC ID : N/A  
Manufacturer : AIWA CO., LTD  
Power Cord : N/A (Battery)

☒ Mouse(USB) M02-034  
Model Number : M-UA34  
Serial Number : LTC70500272  
FCC ID : DZL211087  
Manufacturer : LOGITECH  
Data Cable : Shielded, Undetachable, 1.5m

☒ Telephone  
Model Number : SPF-208  
Serial Number : N/A  
FCC ID : N/A  
Manufacturer : Solomon  
Data Cable : Non-Shielded, detachable, 2.0m

☒ Earphone E01-012 ~ 017  
Model Number : FI-100HP  
Serial Number : N/A  
Manufacturer : SHINPO  
Power Cord : N/A  
Data Cable : Non-Shielded, Undetachable, 1.5 m

## 2.4 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4-1992.

Radiated testing was performed at an antenna to EUT distance of 3 meters.

## 2.5 Test Facility

Ambient conditions in the laboratory:

| Items                      | Required (IEC 68-1) | Actual   |
|----------------------------|---------------------|----------|
| Temperature (°C)           | 15-35               | 22-26    |
| Humidity (%RH)             | 25-75               | 50-60    |
| Barometric pressure (mbar) | 860-1060            | 950-1000 |

FCC Site Description : Aug. 10, 1995 /Aug. 25, 1998 File on  
Federal Communication Commission  
FCC Engineering Laboratory  
7435 Oakland Mills Road  
Columbia, MD 21046  
Reference 31040/SIT1300F2

NVLAP Lab Code : 200085-0  
United States Department of commerce  
National Institute of Standards and Technology  
National Voluntary Laboratory Accreditation Program

Name of firm : Global EMC Standard Tech. Corp.

Site location : No. 3 Pau-Tou Valley, Chia-Pau Tsuen, Lin Kou  
Tsiang, Taipei Country, Taiwan, R.O.C.

### 3. Conducted Emission

#### 3.1 Test Equipments

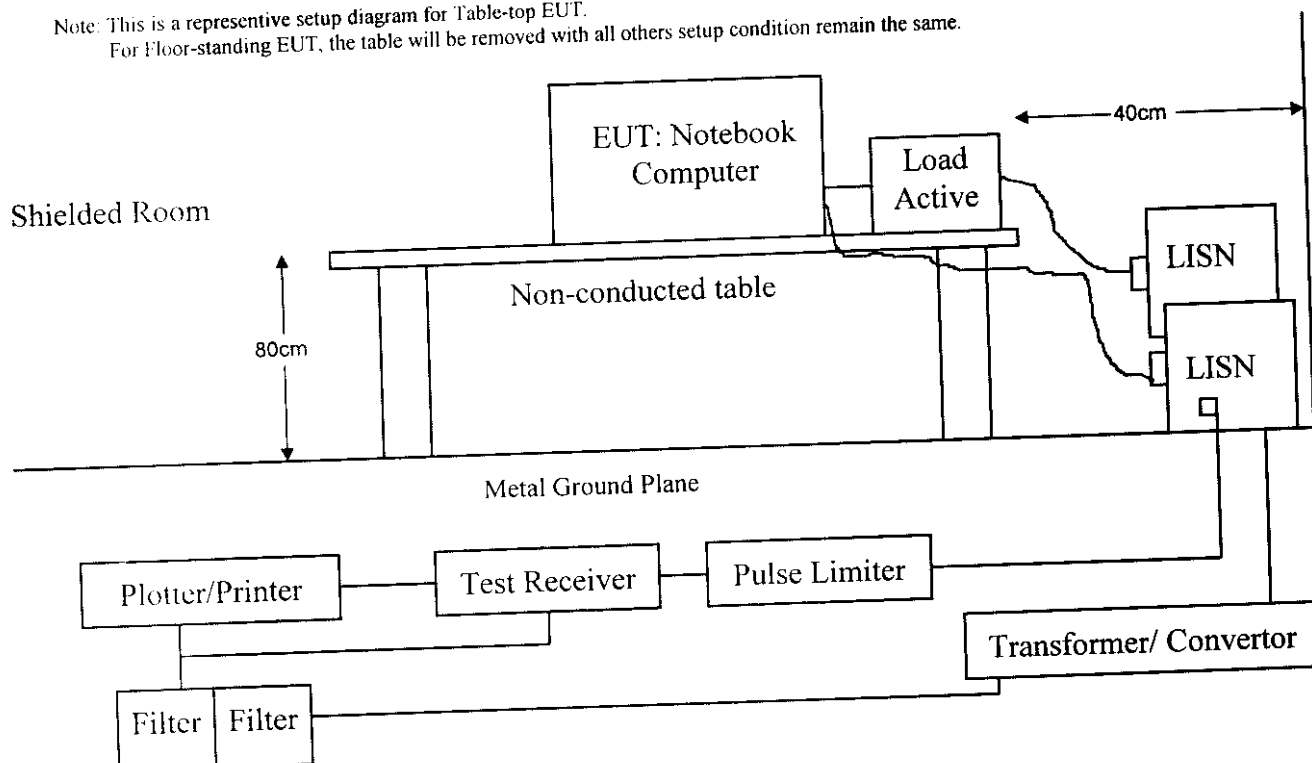
The following test equipments are used during the conducted power line tests:

| Instrument    | Manufacturer    | Type /Serial No.     | Last Calibration | Location       | C.E. |
|---------------|-----------------|----------------------|------------------|----------------|------|
| Test Receiver | Rohde & Schwarz | ESHS 30 / 8281091010 | Dec. 24, 1997    | Shield Room #1 | ✓    |
| L.I.S.N.      | Kyoritsu        | KNW-407              | Oct.03,1998      | Shield Room #1 | ✓    |
| L.I.S.N.      | Solar           | 8012-50-R24 / 90038  | Jun. 02, 1998    | Shield Room #1 |      |
| L.I.S.N.      | EMCO            | 3825/2 / 91111-1902  | Aug.10,1998      | Shield Room #1 |      |
| L.I.S.N.      | Rohde & Schwarz | ESH3-Z5 / 840567/002 | Jun. 02, 1998    | Shield Room #1 | ✓    |
| L.I.S.N.      | Schwarzbeck     | NNLK 8121            | Apr. 10, 1998    | Shield Room #1 |      |
| Pulse Limiter | Rohde & Schwarz | ESH3-Z2              | Jan. 11, 1998    | Shield Room #1 | ✓    |

#### 3.2 Block Diagram of Test Setup

Note: This is a representative setup diagram for Table-top EUT.

For Floor-standing EUT, the table will be removed with all others setup condition remain the same.



### 3.3 Conducted Emission Limit

#### 3.3.1 FCC Limits

| Frequency    | Maximum RF Line Voltage |      |         |      |
|--------------|-------------------------|------|---------|------|
|              | Class A                 |      | Class B |      |
| MHz          | uV                      | dBuV | uV      | dBuV |
| 0.45 - 1.705 | 1000                    | 60.0 | 250     | 48.0 |
| 1.705 - 30   | 3000                    | 69.5 | 250     | 48.0 |

Remarks : 1. RF Line Voltage (dBuV) =  $20 \log$  RF Line Voltage (uV)

2. In the Above Table, the tighter limit applies at the band edges.

#### 3.3.2 CISPR Limits

| Frequency   | Maximum RF Line Voltage dB(uV) |         |            |         |
|-------------|--------------------------------|---------|------------|---------|
|             | Class A                        |         | Class B    |         |
| MHz         | QUASI-PEAK                     | AVERAGE | QUASI-PEAK | AVERAGE |
| 0.15 - 0.50 | 79                             | 66      | 66-56      | 56-46   |
| 0.50-5.0    | 73                             | 60      | 56         | 46      |
| 5.0 - 30    | 73                             | 60      | 60         | 50      |

Remarks : In the Above Table, the tighter limit applies at the band edges.

### 3.4 EUT Configuration on Measurement

The equipments which is listed 3.2 are installed on Conducted Power Line Test to meet the Commission requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

The device under test, installed in a representative system as described in section 3.2, was placed on a non-conductive table whose total height equaled 80 CM. Powered from one LISN which signal output to receiver, and the other peripherals was powered from another LISN which signal output was terminated by 50Ω.

### 3.5 EUT Exercise Software

The EUT exercise program used during conducted testing was designed to exercise the EUT in a manner similar to a typical use. The exercise sequence is listed as below:

- 3.5.1 Setup the EUT and simulators as shown on 3.2.
- 3.5.2 Turn on the power of all equipments.
- 3.5.3 Boot the PC from Hard Disk to windows 98, exercise EMI.EXE test program to active all devices.
- 3.5.4 Play CD Disk audio in windows environment, read HDD and FDD data.
- 3.5.5 PC sent "H" Pattern to Both LCD Panel And Ext. Monitor.
- 3.5.6 PC sent "H" Pattern to Parallel (printer) port.
- 3.5.7 PC sent "H" Pattern to Serial port.
- 3.5.8 Repeat 3.5.4 to 3.5.7

### 3.6 Conducted Emission Data

The measurement range of conducted emission which is from **0.45 MHz to 30 MHz** was investigated. All readings are quasi-peak and average values with a resolution Bandwidth of 9 KHz, unless otherwise noted. The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range for all the test modes. The two different lines were each measured separately, and the worst modes datas were reported on the following data pages. The final measurement equal to Receiver reading plus Correction factor if available. When LISN insertion loss bigger than 0.5dB then the receiver will add correction factor to reading level automatically.

The total uncertainty for this test is as follows:

- Uncertainty in the field strength measured:  $< \pm 2.0$  dB

The uncertainty is calculated in accordance with NAMAS document NIS 81, and is given as 2 standard deviations.

**CONDUCTED EMISSION DATA**

|              |   |               |                 |   |           |
|--------------|---|---------------|-----------------|---|-----------|
| Date of Test | : | Oct. 28, 1998 | Temperature     | : | 23.8 °C   |
| EUT          | : | Notebook PC   | Humidity        | : | 56 %      |
| Test Mode    | : | Mode 1        | Display Pattern | : | H Pattern |

| FREQUENCY |        | READING LEVEL |        |       | LIMIT |
|-----------|--------|---------------|--------|-------|-------|
|           | LINE 1 |               | LINE 2 |       |       |
| MHz       | dBuV   | uV            | dBuV   | uV    | uV    |
| 0.47782   | 27.5   | 23.71         | 24.0   | 15.85 | 250   |
| 2.18471   | 25.0   | 17.78         | 25.2   | 18.20 | 250   |
| **3.68854 | 33.8   | 48.98         | 34.7   | 54.33 | 250   |
| 4.91902   | 32.9   | 44.16         | 32.6   | 42.66 | 250   |
| 21.56064  | 29.9   | 31.26         | 29.1   | 28.51 | 250   |
| 24.97180  | 27.5   | 23.71         | 26.5   | 21.13 | 250   |

Remarks : 1. All readings are Quasi-peak.

2. “ \*\* ” means that this data is the worse case emission level.

3. Deviations from the specifications: None.

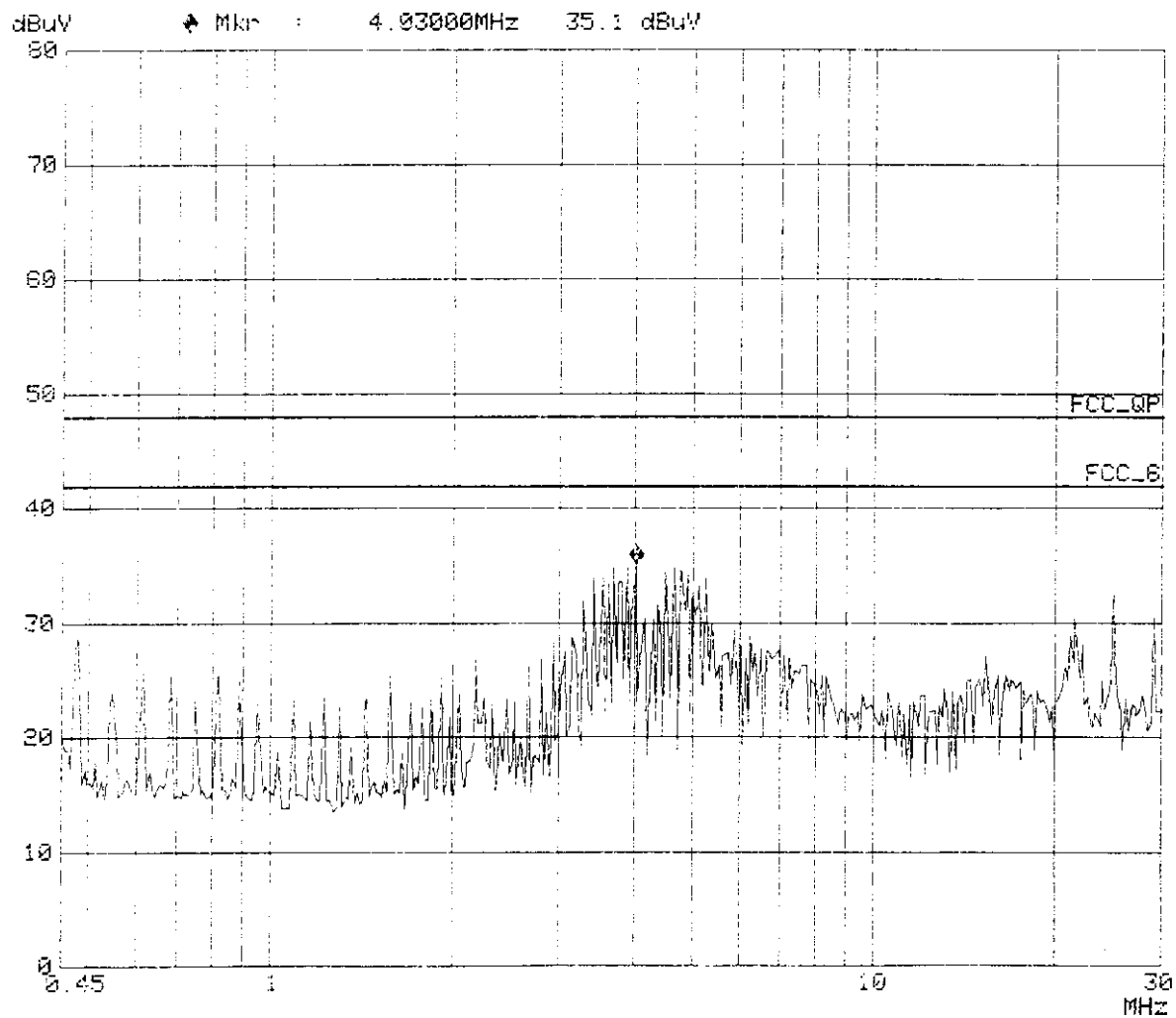
4. Final measurement = (Receiver reading) + (Correction factor if available)

Attached 2 individual pages of peak scan curve data sheets.

ROHDE & SCHWARZ ESHS 30

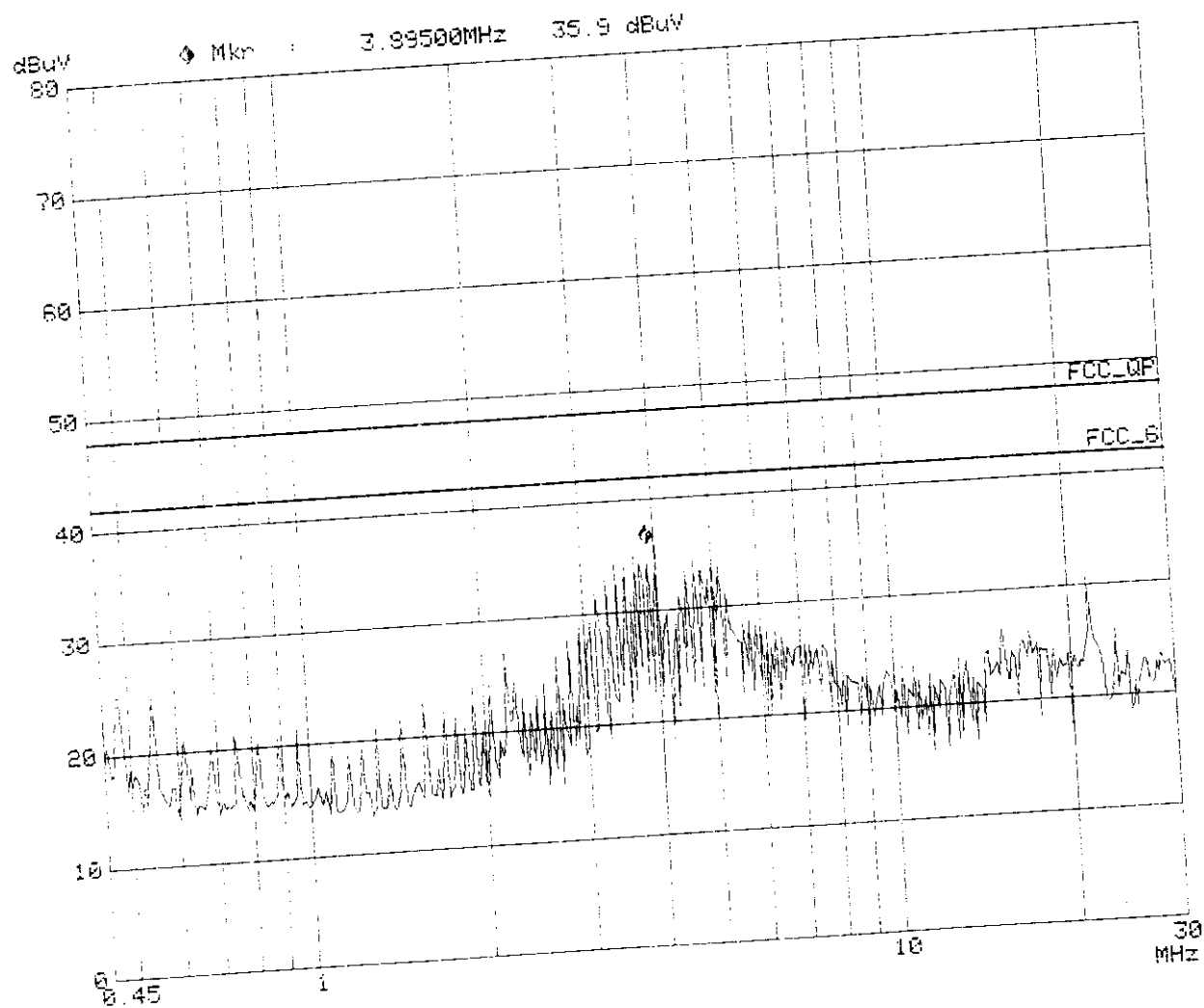
GesTek, PowerLine Conducted Emission

EUT: NOTEBOOK  
Manuf: FIC  
Op Cond: MODE 1  
Operator: IVAN  
Test Spec: FCC CLASS B  
Comment: Line 1  
M/N: RUBY 2.0  
Date: 28. Oct 98 17:35



ROHDE & SCHWARZ ESHS 3C  
GestTek, PowerLine Conducted Emission

EUT: NOTEBOOK  
Manuf: FIC  
Op Cond: MODE 1  
Operator: IVAN  
Test Spec: FCC CLASS B  
Comment: Line 2  
M/N: RUBY 2.0  
Date: 28. Oct 98 17:40



**CONDUCTED EMISSION DATA**

|              |   |               |                 |   |           |
|--------------|---|---------------|-----------------|---|-----------|
| Date of Test | : | Oct. 28, 1998 | Temperature     | : | 23.8 °C   |
| EUT          | : | Notebook PC   | Humidity        | : | 59 %      |
| Test Mode    | : | Mode 2        | Display Pattern | : | H Pattern |

| FREQUENCY | READING LEVEL |       |        |       | LIMIT |
|-----------|---------------|-------|--------|-------|-------|
|           | LINE 1        |       | LINE 2 |       |       |
|           | MHz           | dBuV  | uV     | dBuV  |       |
| 0.47705   | 26.9          | 22.13 | 27.6   | 23.99 | 250   |
| 1.70400   | 25.9          | 19.72 | 26.9   | 22.13 | 250   |
| 2.18058   | 29.4          | 29.51 | 31.5   | 37.58 | 250   |
| **3.68269 | 38.2          | 81.28 | 38.9   | 88.10 | 250   |
| 4.70500   | 36.8          | 69.18 | 36.5   | 66.83 | 250   |
| 15.95951  | 25.4          | 18.62 | 26.9   | 22.13 | 250   |

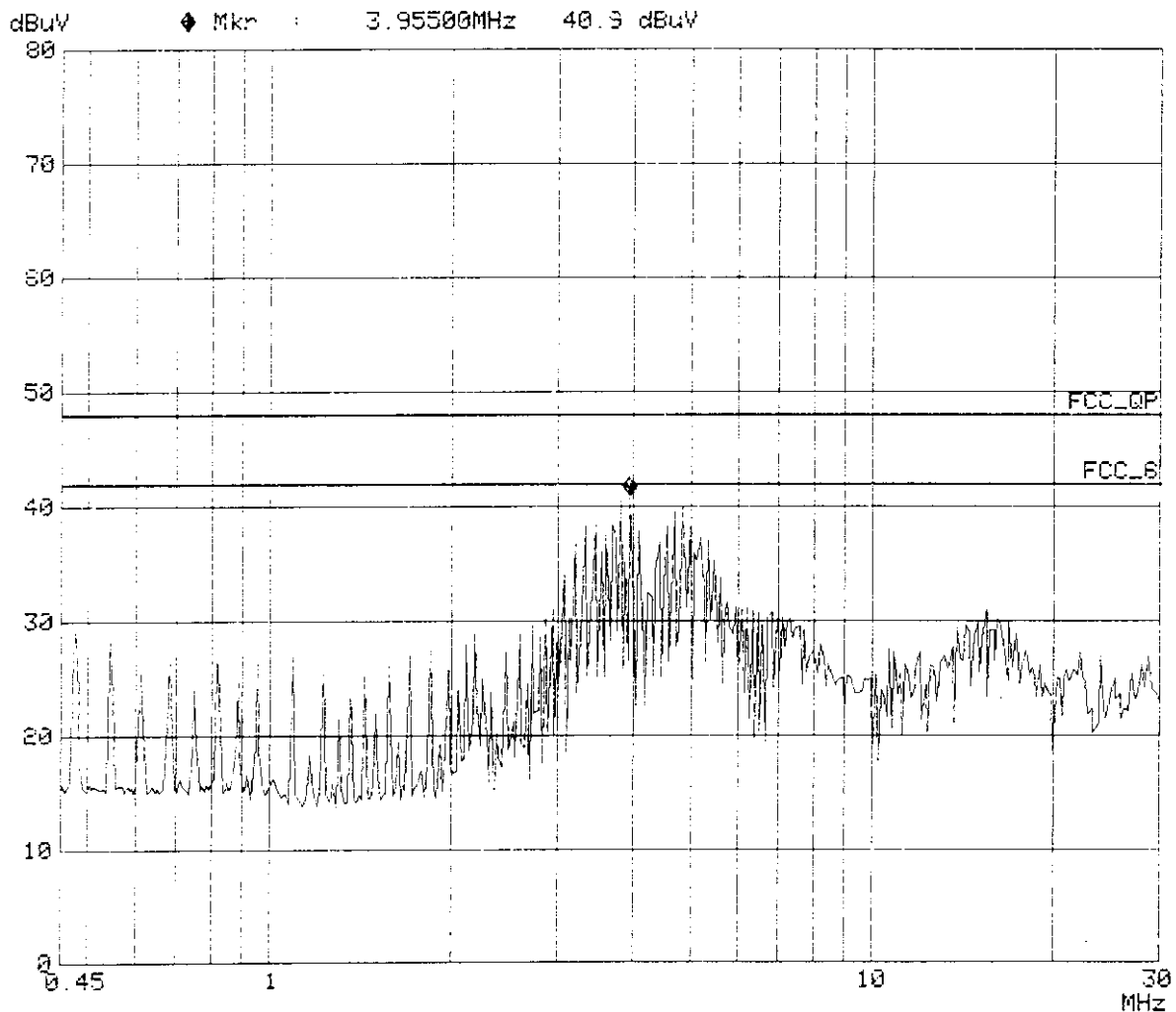
- Remarks :
1. All readings are Quasi-peak.
  2. “ \*\* ” means that this data is the worse case emission level.
  3. Deviations from the specifications: None.
  4. Final measurement = (Receiver reading) + (Correction factor if available)

Attached 2 individual pages of peak scan curve data sheets.

ROHDE & SCHWARZ ESHS 30

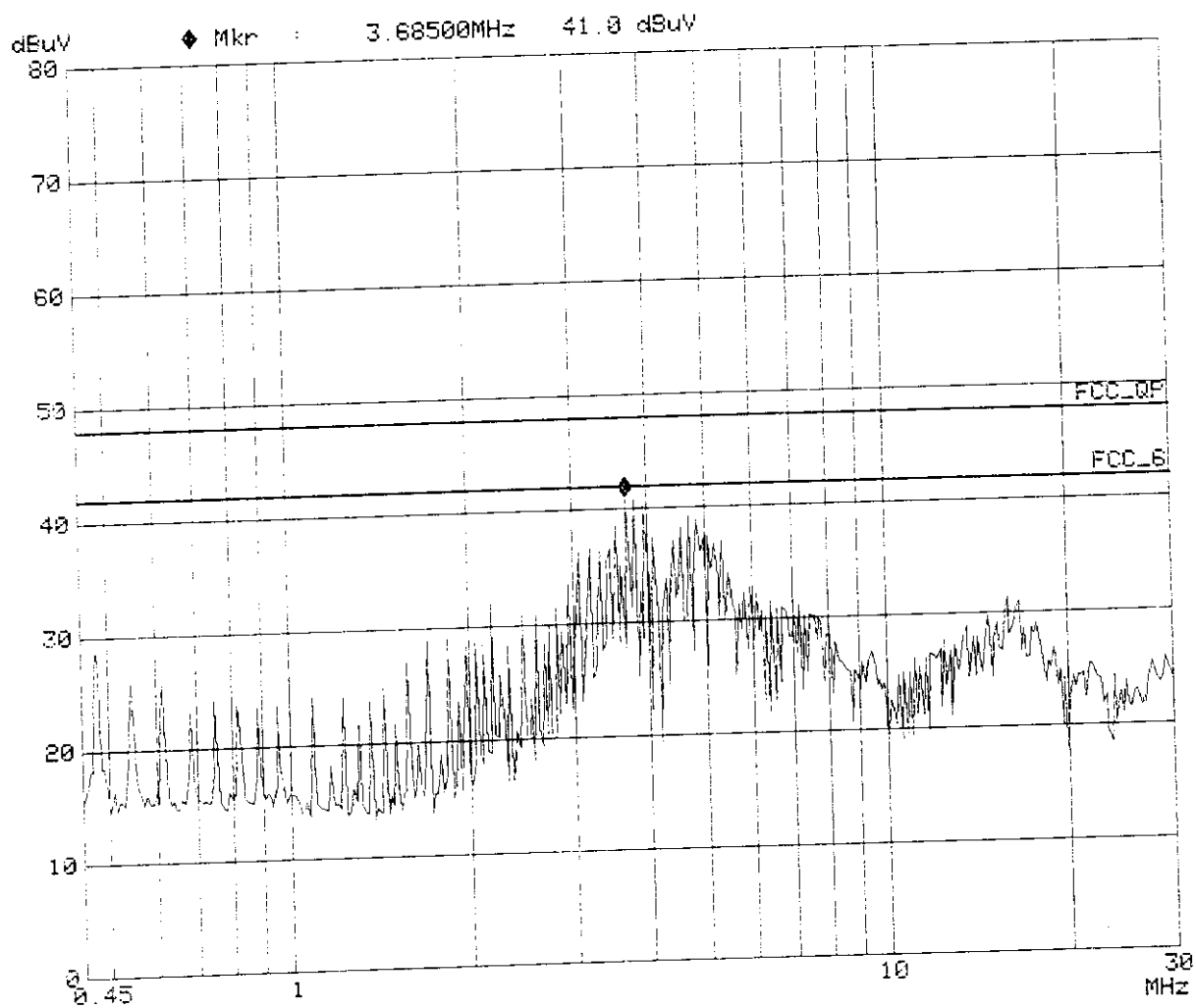
GesTek, PowerLine Conducted Emission

EUT: NOTEBOOK  
Manuf: FIC  
Op Cond: MODE 2  
Operator: IVAN  
Test Spec: FCC CLASS B  
Comment: Line 1  
M/N: RUBY 2.0  
Date: 28. Oct 98 15:37



ROHDE & SCHWARZ ESHS 30  
GesTek, PowerLine Conducted Emission

EUT: NOTEBOOK  
Manuf: FIC  
Op Cond: MODE 2  
Operator: IVAN  
Test Spec: FCC CLASS B  
Comment: Line 2  
M/N: RUBY 2.0  
Date: 28. Oct 98 15:31



## CONDUCTED EMISSION DATA

|              |                 |                 |             |
|--------------|-----------------|-----------------|-------------|
| Date of Test | : Oct. 28, 1998 | Temperature     | : 24.1 °C   |
| EUT          | : Notebook PC   | Humidity        | : 61 %      |
| Test Mode    | : Mode 3        | Display Pattern | : H Pattern |

| FREQUENCY | READING LEVEL |       |        |       | LIMIT |
|-----------|---------------|-------|--------|-------|-------|
|           | LINE 1        |       | LINE 2 |       |       |
| MHz       | dBuV          | uV    | dBuV   | uV    | uV    |
| 0.47801   | 27.3          | 23.17 | 24.1   | 16.03 | 250   |
| 1.56993   | 24.9          | 17.58 | 22.2   | 12.88 | 250   |
| 4.29967   | 36.2          | 64.57 | 31.1   | 35.89 | 250   |
| **4.64383 | 37.8          | 77.62 | 34.7   | 54.33 | 250   |
| 24.75711  | 36.5          | 66.83 | 36.2   | 64.57 | 250   |
| 27.24111  | 34.5          | 53.09 | 34.4   | 52.48 | 250   |

Remarks : 1. All readings are Quasi-peak.

2. " \*\* " means that this data is the worse case emission level.

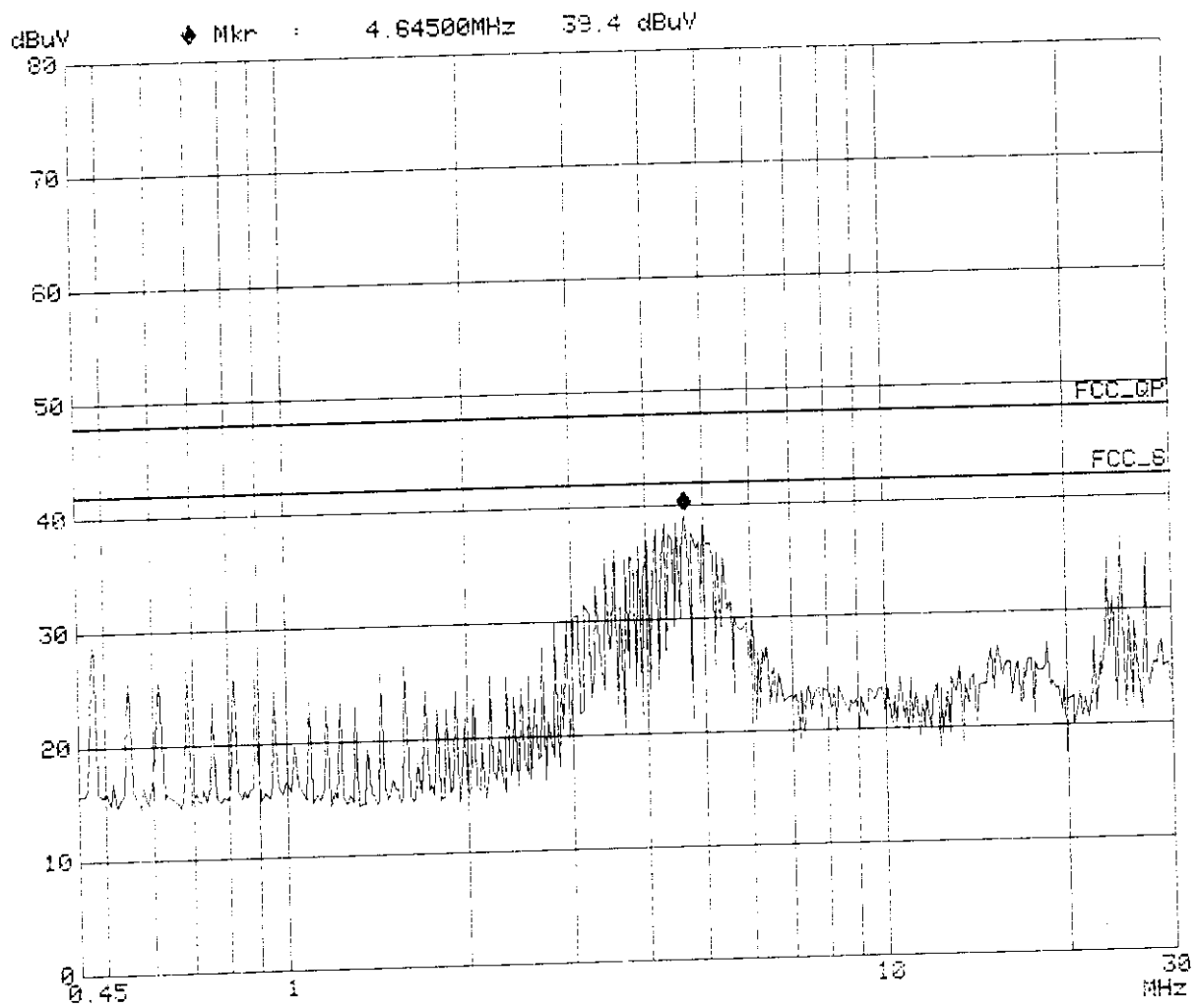
3. Deviations from the specifications: None.

4. Final measurement = (Receiver reading) + (Correction factor if available)

Attached 2 individual pages of peak scan curve data sheets.

ROHDE & SCHWARZ ESHS 30  
GesTek, PowerLine Conducted Emission

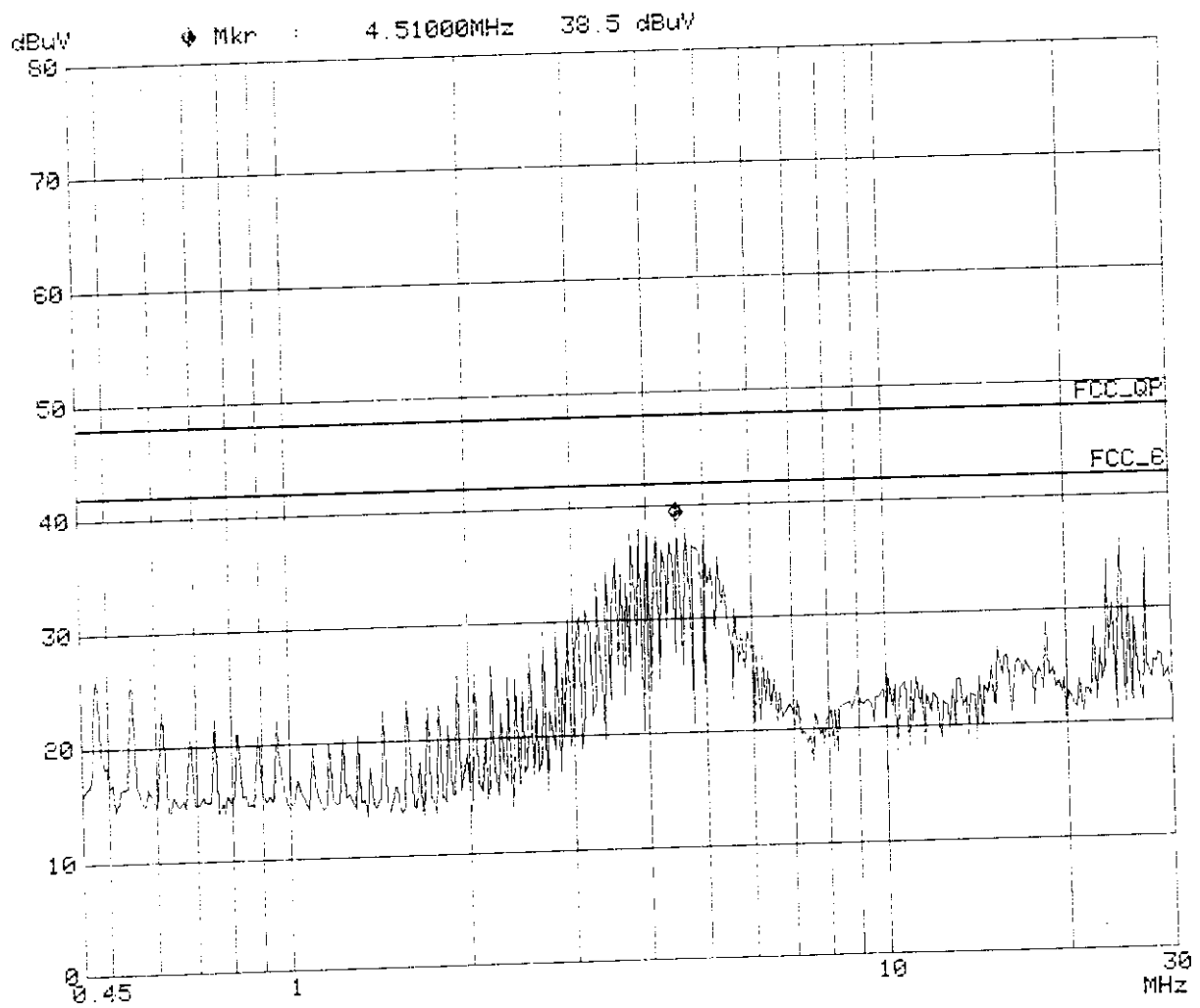
EUT: NOTEBOOK  
Manuf: FIC  
Op Cond: MODE 3  
Operator: IVAN  
Test Spec: FCC CLASS B  
Comment: Line 1  
M/N: RUBY 2.0  
Date: 28. Oct 98 15:11



ROHDE & SCHWARZ ESHS 30

GesTek, PowerLine Conducted Emission

EUT: NOTEBOOK  
Manuf: FIC  
Op Cond: MODE 3  
Operator: IVAN  
Test Spec: FCC CLASS B  
Comment: Line 2  
M/N: RUBY 2.0  
Date: 28. Oct 98 15:17



**CONDUCTED EMISSION DATA**

|              |   |               |                 |   |           |
|--------------|---|---------------|-----------------|---|-----------|
| Date of Test | : | Oct. 28, 1998 | Temperature     | : | 24.1 °C   |
| EUT          | : | Notebook PC   | Humidity        | : | 57 %      |
| Test Mode    | : | Mode 4        | Display Pattern | : | H Pattern |

| FREQUENCY | READING LEVEL |       |        |       | LIMIT |
|-----------|---------------|-------|--------|-------|-------|
|           | LINE 1        |       | LINE 2 |       |       |
| MHz       | dBuV          | uV    | dBuV   | uV    | uV    |
| 0.54056   | 24.3          | 16.41 | 25.6   | 19.05 | 250   |
| **2.18267 | 26.2          | 20.42 | 38.2   | 81.28 | 250   |
| 3.20627   | 30.9          | 35.08 | 32.3   | 41.21 | 250   |
| 3.82100   | 34.2          | 51.29 | 36.8   | 69.18 | 250   |
| 4.91520   | 33.1          | 45.19 | 36.7   | 68.39 | 250   |
| 16.00015  | 28.9          | 27.86 | 30.8   | 34.67 | 250   |

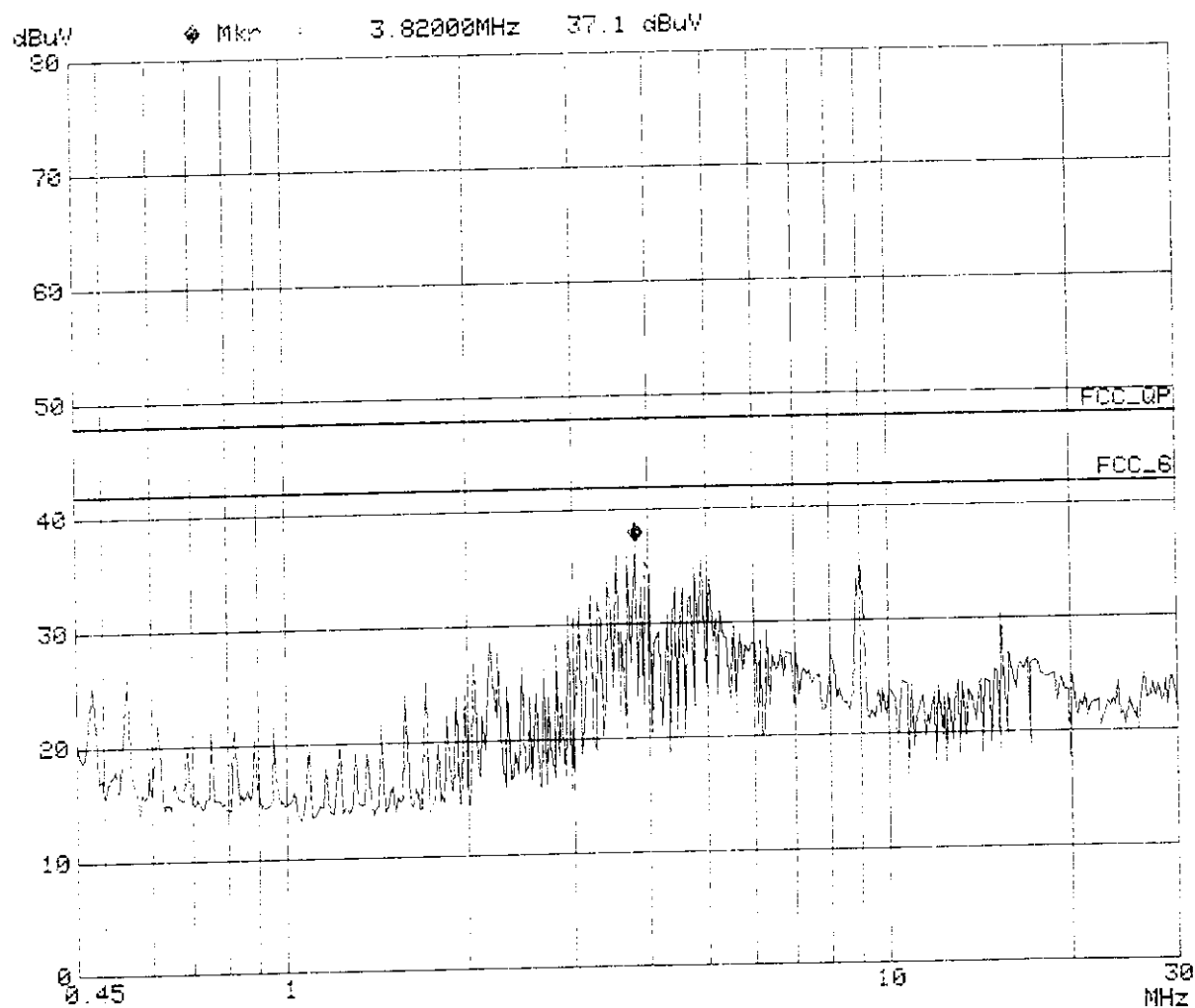
- Remarks :
1. All readings are Quasi-peak.
  2. " \*\* " means that this data is the worse case emission level.
  3. Deviations from the specifications: None.
  4. Final measurement = (Receiver reading) + (Correction factor if available)

Attached 2 individual pages of peak scan curve data sheets.

ROHDE & SCHWARZ ESHS 30

GesTek, PowerLine Conducted Emission

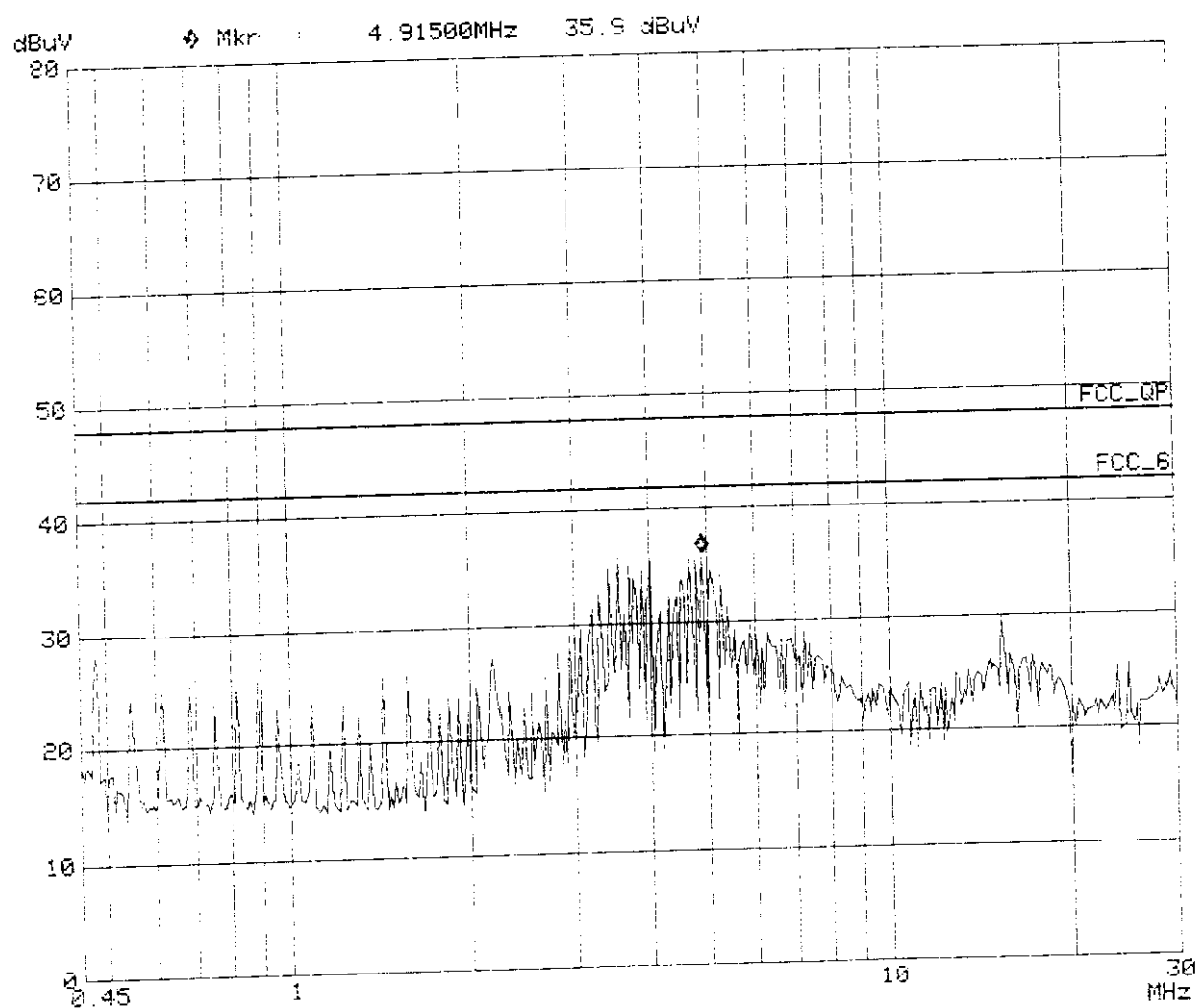
EUT: NOTEBOOK  
Manuf: FIC  
Op Cond: MODE 4  
Operator: IVAN  
Test Spec: FCC CLASS B  
Comment: Line 1  
M/N: RUBY 2.0  
Date: 28. Oct 98 17:10



ROHDE & SCHWARZ ESHS 30

GesTek, PowerLine Conducted Emission

EUT: NOTEBOOK  
Manuf: FIC  
Op Cond: MODE 4  
Operator: IVAN  
Test Spec: FCC CLASS B  
Comment: Line 2  
M/N: RUBY 2.0  
Date: 28. Oct 98 17:16



## CONDUCTED EMISSION DATA

|              |                 |                 |             |
|--------------|-----------------|-----------------|-------------|
| Date of Test | : Oct. 28, 1998 | Temperature     | : 23.0 °C   |
| EUT          | : Notebook PC   | Humidity        | : 56 %      |
| Test Mode    | : Mode 5        | Display Pattern | : H Pattern |

| FREQUENCY |  | READING LEVEL |       |        | LIMIT |
|-----------|--|---------------|-------|--------|-------|
|           |  | LINE 1        |       | LINE 2 |       |
| MHz       |  | dBuV          | uV    | dBuV   | uV    |
| 0.47758   |  | 27.8          | 24.55 | 25.2   | 18.20 |
| 1.43460   |  | 24.8          | 17.38 | 21.3   | 11.61 |
| 3.62501   |  | 31.5          | 37.58 | 32.1   | 40.27 |
| **3.89648 |  | 35.2          | 57.54 | 35.1   | 56.89 |
| 4.98954   |  | 33.9          | 49.55 | 32.4   | 41.69 |
| 16.00015  |  | 26.2          | 20.42 | 26.1   | 20.18 |

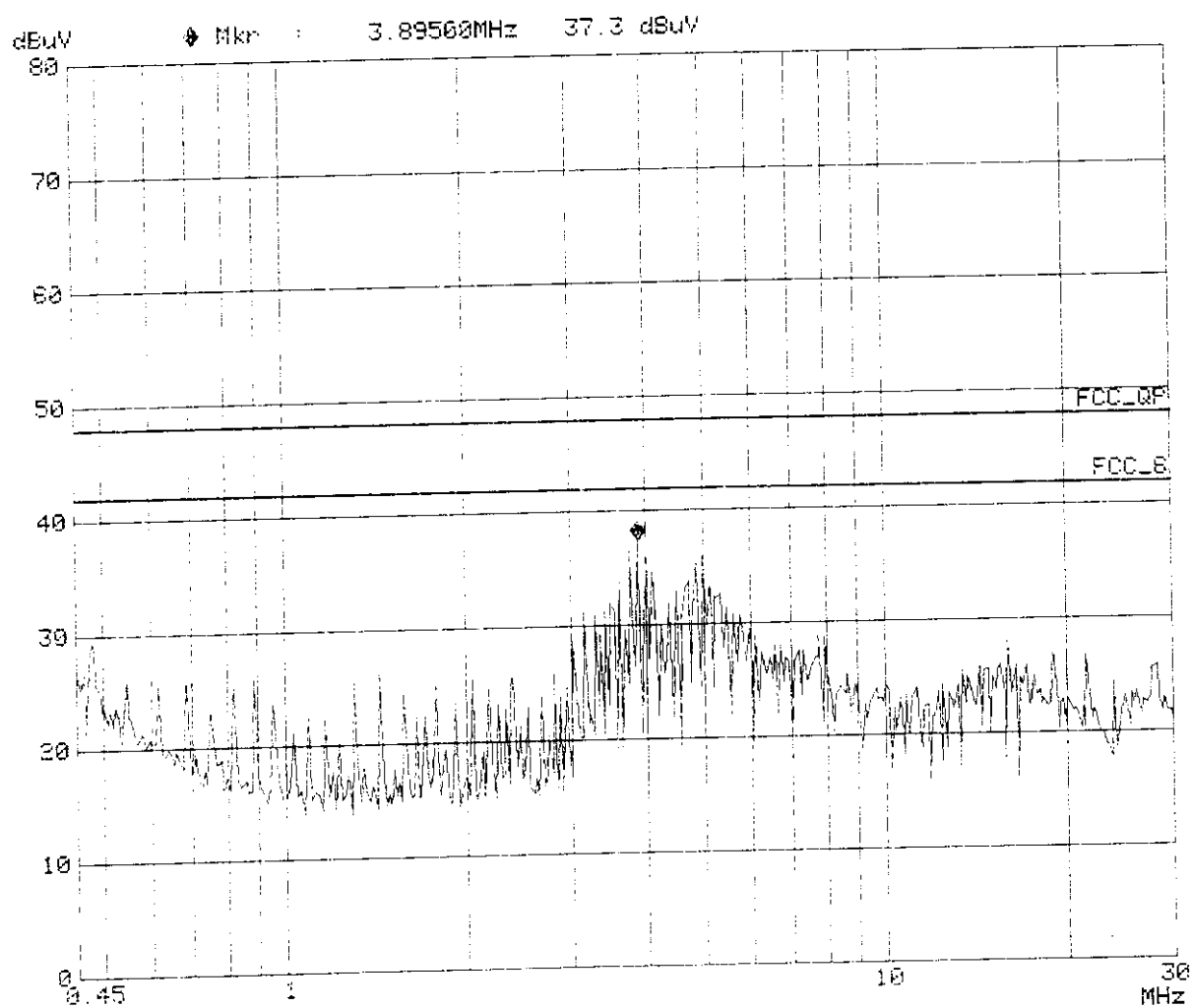
- Remarks :
1. All readings are Quasi-peak.
  2. “ \*\* ” means that this data is the worse case emission level.
  3. Deviations from the specifications: None.
  4. Final measurement = (Receiver reading) + (Correction factor if available)

Attached 2 individual pages of peak scan curve data sheets.

ROHDE & SCHWARZ ESHS 30

GesTek, PowerLine Conducted Emission

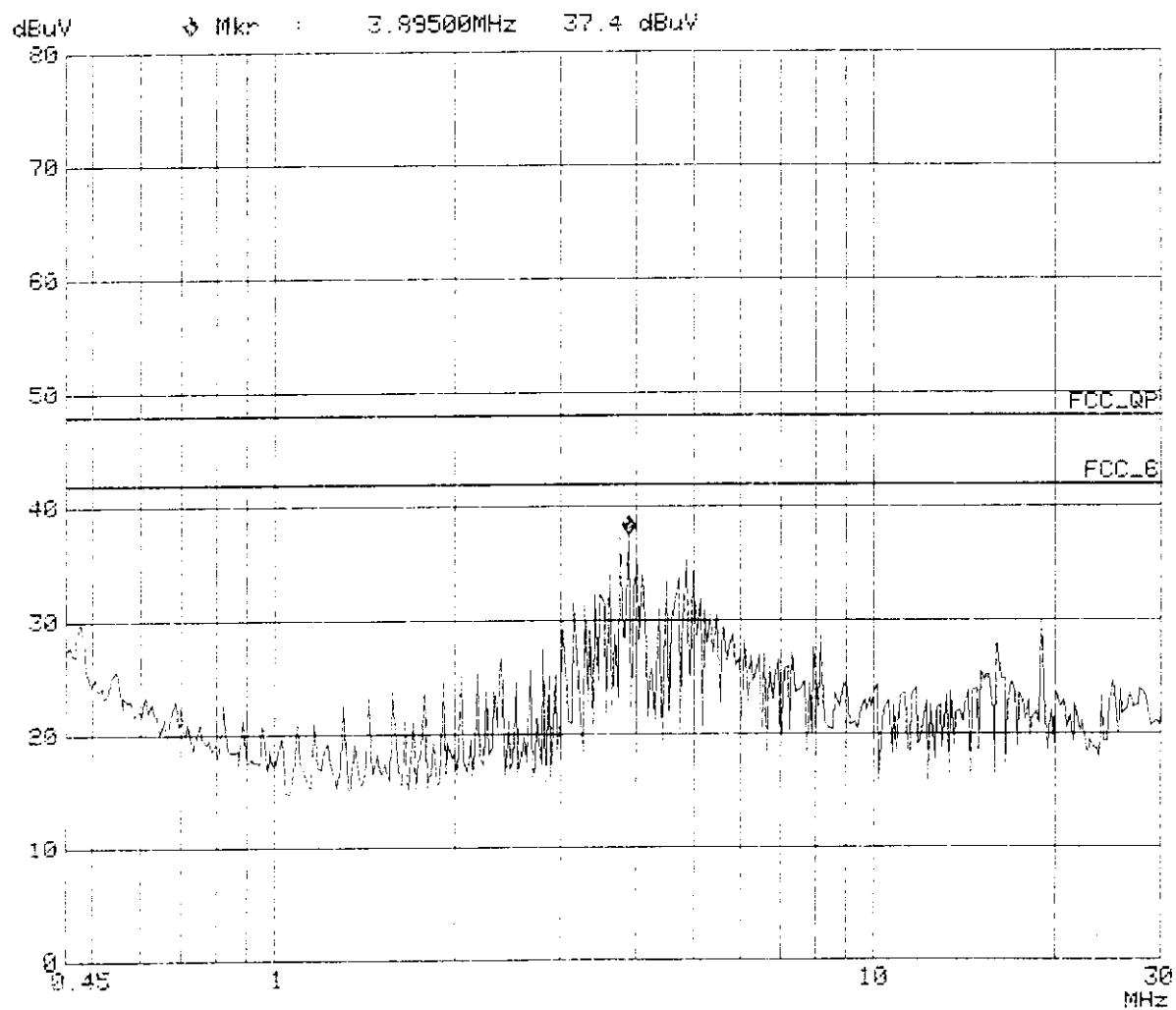
EUT: NOTEBOOK  
Manuf: FIC  
Op Cond: MODE 5  
Operator: IVAN  
Test Spec: FCC CLASS B  
Comment: Line 1  
M/N: RUBY 2.0  
Date: 28. Oct 98 19:31



ROHDE & SCHWARZ ESHS 30

GesTek, PowerLine Conducted Emission

EUT: NOTEBOOK  
Manuf: FIC  
Op Cond: MODE 5  
Operator: IVAN  
Test Spec: FCC CLASS B  
Comment: Line 2  
M/N: RUBY 2.0  
Date: 28. Oct 98 19:36



## 4. Radiation Emission Test

### 4.1 Test Equipment

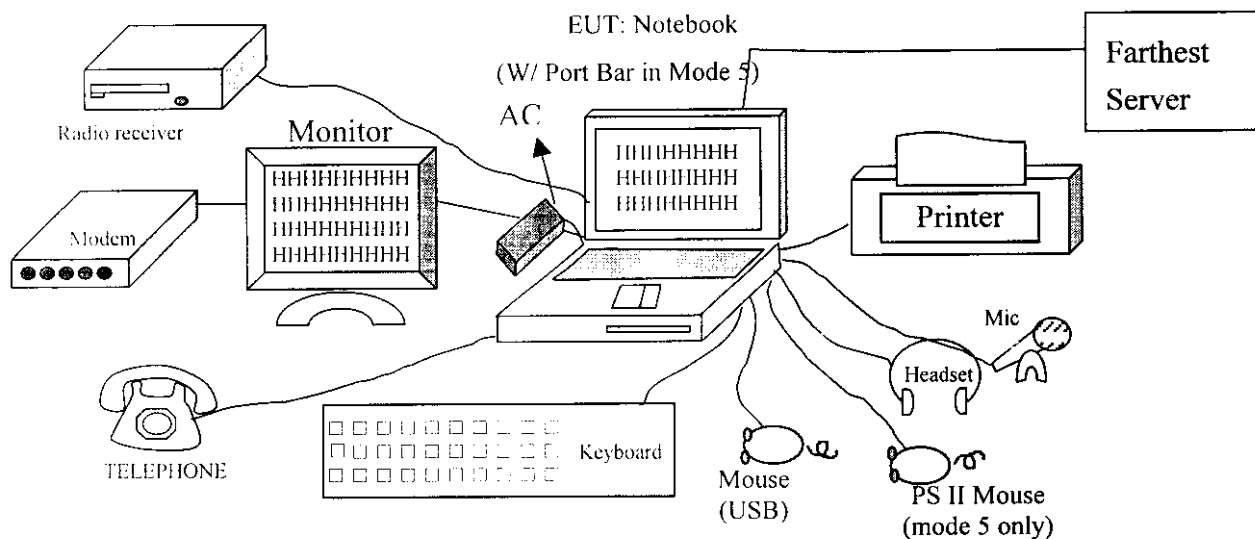
The following test equipments are used during the radiated emission measures:

Radiated test was performed on : ☐ Site #1 ☒ Site #2

| Instrument         | Manufacturer    | Type /Serial No.    | Last Calibration | Site #1 | Site #2 |
|--------------------|-----------------|---------------------|------------------|---------|---------|
| Test Receiver      | Rohde & Schwarz | ESVS 30/829007/014  | Nov. 15,1997     | ✓       |         |
| Spectrum Analyzer  | Anristu         | MA2601B/MT16442     | Jun. 15,1998     | ✓       |         |
| Pre-Amplifier      | HP              | 7447F/3113A04998    | Nov. 16,1997     | ✓       |         |
| Test Receiver      | Rohde & Schwarz | ESVS 10/8421122/001 | Dec. 26,1997     |         | ✓       |
| Spectrum Analyzer  | HP              | 8568B/4315B05847    | Jan. 05,1998     |         | ✓       |
| Pre Amplifier      | HP              | 8447D/3113A04487    | Jan. 05,1998     |         | ✓       |
| Antenna 30Mhz-2Ghz | Chase           | CBL 6112/2039       | May. 16,1998     | ✓       |         |
| Bilog Antenna      | Chase           | CBL6111/1380        | May. 16,1998     |         | ✓       |
| Dipole Antenna     | Schwarzbeck     | VHAP/719,UHAP/736   | May.19,1998      |         |         |

### 4.2 Test Setup

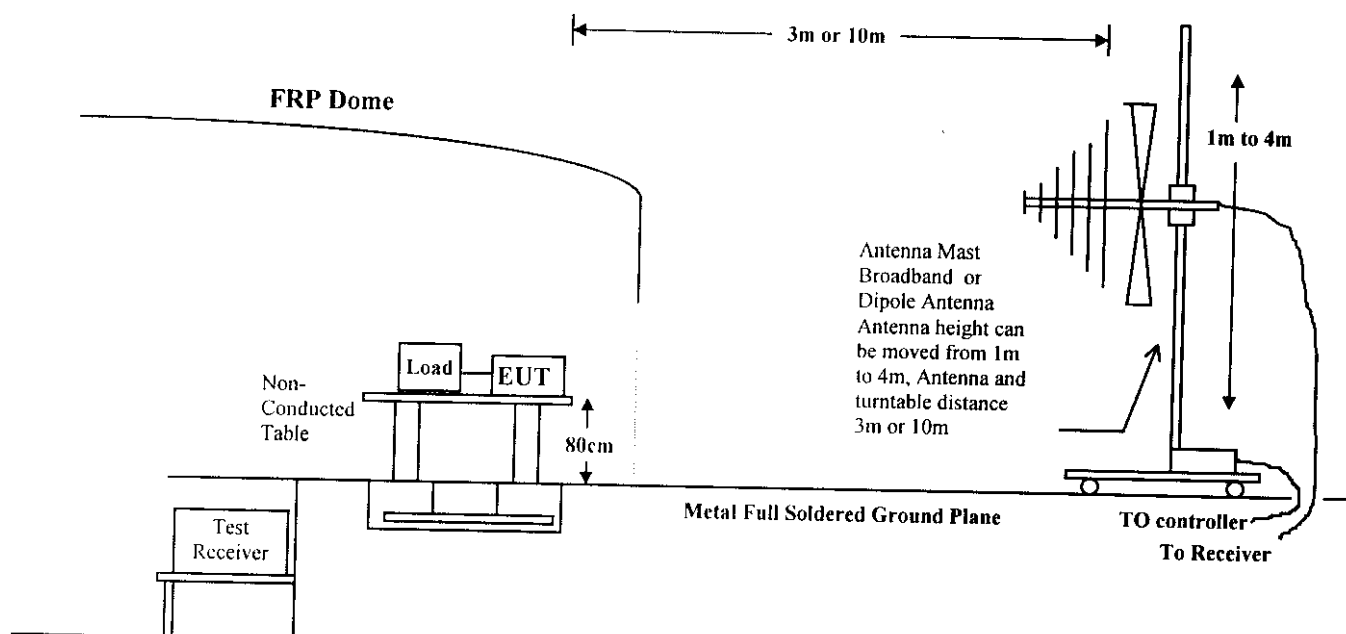
#### 4.2.1 Block Diagram of Connections between EUT and simulators



## 4.2.2 Open Test Site Setup Diagram

Note: This is a representative setup diagram for Table-top EUT.

For Floor-standing EUT, the table will be removed with all others setup condition remain the same.



## 4.3 Radiated Emission Limit

### 4.3.1 FCC Class B Limits at 3m

| Frequency  | Distance | Field Strength  |                          |
|------------|----------|-----------------|--------------------------|
| MHz        | Meter    | $\mu\text{V/M}$ | $\text{dB}\mu\text{V/M}$ |
| 30 - 88    | 3        | 100             | 40.0                     |
| 88 - 216   | 3        | 150             | 43.5                     |
| 216 - 960  | 3        | 200             | 46.0                     |
| 960 - 2000 | 3        | 500             | 54.0                     |

### 4.3.2 CISPR Class B Limits at 10m

| Frequency  | Distance | Field Strength             |
|------------|----------|----------------------------|
| MHz        | Meter    | $\text{dB}(\mu\text{V/M})$ |
| 30 - 230   | 10       | 30                         |
| 230 - 1000 | 10       | 37                         |

- Remark :
1. The tighter limit shall apply at the edge between two frequency bands.
  2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

## 4.4 EUT Configuration

The equipments which is listed 2.3 are installed on Radiated Emission Test to meet the Commission requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

The device under test, installed in a representative system as described in section 4.2.2, was placed on a non-conductive table whose total height equaled 80 CM. This table can be rotated 360 degree. The measurement antenna was mounted to a non-conductive mast capable of moving the antenna vertically. Antenna height was varied from 1 meter to 4 meters and the system under test was rotated from 0 degree through 360 degrees relative to the antenna position and polarization (Horizontal and Vertical). Also the I/O cable position was investigated to find the maximum emission condition.

## 4.5 Operating Condition of EUT

Same as Conducted Power Line Test which is listed in 3.5.

## 4.6 Radiated Emission Data

Radiated emission were investigated over the frequency range of **30 MHz to 2 GHz**. All readings below 1GHz are quasi-peak values with a resolution Bandwidth of 120 KHz, unless otherwise noted. From 1-2GHz was investigated use both peak and average detector use bandwidth 1MHz. The initial step in collecting radiated emission data is a spectrum analyzer peak scan of the measurement range for all the test modes. Then the worst modes reading was measured use a test receiver and reported in the following data pages.

The total uncertainty for this test is as follows:

- Uncertainty in the field strength measured (3m antenna distance):  $< \pm 4.0$  dB
- Uncertainty in the field strength measured (10m antenna distance):  $< \pm 4.0$  dB

The uncertainty is calculated in accordance with NAMAS document NIS 81, and is given as 2 standard deviations.

## Radiated Emission Data

Date of Test :10-09,1998 Fri      Temperature :24.5 deg/C  
 EUT :NOTEBOOK      Humidity :61 %RH  
 Working Cond.:MODE 1      Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level | Limit         |
|-----------|-------|---------|---------------|----------------|---------------|
| [MHz]     | Loss  | Factor  | Horizontal    | Horizontal     |               |
|           | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)]     | (uV/m) (uV/m) |
| 57.747    | 1.16  | 6.32    | 23.87         | 31.35          | 36.95 100     |
| 66.309    | 1.20  | 6.08    | 18.73         | 26.01          | 19.97 100     |
| 113.842   | 1.47  | 12.25   | 18.80         | 32.51          | 42.24 150     |
| 147.458   | 1.93  | 10.75   | 19.79         | 32.47          | 42.02 150     |
| 159.746   | 2.09  | 10.06   | 21.92         | 34.07          | 50.52 150     |
| 172.040   | 2.04  | 9.60    | 21.17         | 32.82          | 43.73 150     |
| 194.068   | 2.14  | 9.95    | 19.49         | 31.58          | 37.92 150     |
| 198.674   | 2.17  | 10.11   | 18.41         | 30.69          | 34.25 150     |
| 199.838   | 2.20  | 10.20   | 19.43         | 31.83          | 39.04 150     |
| 213.992   | 2.28  | 10.83   | 14.43         | 27.55          | 23.84 150     |
| 243.384   | 2.46  | 12.19   | 22.22         | 36.88          | 69.79 200     |
| 307.922   | 2.95  | 13.74   | 14.19         | 30.88          | 35.01 200     |
| 331.694   | 3.09  | 14.17   | 18.93         | 36.19          | 64.49 200     |
| 356.361   | 3.25  | 14.80   | 18.24         | 36.28          | 65.18 200     |
| * 368.648 | 3.36  | 15.49   | 19.69         | 38.53          | 84.43 200     |
| 414.014   | 3.65  | 17.09   | 13.78         | 34.53          | 53.27 200     |
| 416.429   | 3.67  | 17.13   | 16.20         | 37.00          | 70.76 200     |
| 516.112   | 4.00  | 18.56   | 11.81         | 34.37          | 52.28 200     |
| 596.340   | 4.47  | 19.35   | 10.90         | 34.73          | 54.49 200     |

- Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.  
 2. " \* ", means this data is worse case emission level.  
 3. Emission Level = Reading Level + Antenna Factor + Cable loss  
 4. Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :10-09,1998 Fri

Temperature :24.5 deg/C

EUT :NOTEBOOK

Humidity :61 %RH

Working Cond.:MODE 1

Display Pattern:H Pattern

| Frequency<br>[MHz] | Cable<br>Loss<br>[dB] | Antenna<br>Factor<br>[dB/m] | Reading Level<br>Vertical<br>[dB(uV)] | Emission Level<br>Vertical<br>[dB(uV/m)] | Limit<br>(uV/m) | Limit<br>(uV/m) |
|--------------------|-----------------------|-----------------------------|---------------------------------------|------------------------------------------|-----------------|-----------------|
| 57.747             | 1.16                  | 6.32                        | 20.58                                 | 28.06                                    | 25.30           | 100             |
| 128.854            | 1.63                  | 12.27                       | 16.15                                 | 30.05                                    | 31.81           | 150             |
| 144.924            | 1.87                  | 11.02                       | 16.12                                 | 29.02                                    | 28.24           | 150             |
| 147.459            | 1.93                  | 10.75                       | 17.92                                 | 30.60                                    | 33.88           | 150             |
| 178.531            | 2.01                  | 9.46                        | 16.66                                 | 28.13                                    | 25.50           | 150             |
| 199.871            | 2.20                  | 10.20                       | 19.19                                 | 31.59                                    | 37.98           | 150             |
| 214.749            | 2.29                  | 10.92                       | 14.13                                 | 27.35                                    | 23.30           | 150             |
| 219.941            | 2.32                  | 11.11                       | 20.59                                 | 34.01                                    | 50.19           | 200             |
| 258.764            | 2.57                  | 12.67                       | 19.17                                 | 34.41                                    | 52.56           | 200             |
| 323.449            | 3.05                  | 14.03                       | 20.58                                 | 37.65                                    | 76.30           | 200             |
| 331.761            | 3.09                  | 14.17                       | 15.80                                 | 33.06                                    | 44.97           | 200             |
| 356.358            | 3.25                  | 14.80                       | 12.55                                 | 30.59                                    | 33.85           | 200             |
| * 452.827          | 3.80                  | 17.44                       | 18.45                                 | 39.69                                    | 96.53           | 200             |
| 491.672            | 3.88                  | 18.23                       | 10.78                                 | 32.89                                    | 44.11           | 200             |
| 517.522            | 4.00                  | 18.56                       | 15.99                                 | 38.55                                    | 84.59           | 200             |
| 549.985            | 4.21                  | 18.90                       | 11.48                                 | 34.59                                    | 53.62           | 200             |
| 569.988            | 4.32                  | 19.10                       | 9.74                                  | 33.16                                    | 45.49           | 200             |
| 596.807            | 4.49                  | 19.37                       | 11.31                                 | 35.17                                    | 57.33           | 200             |
| 614.413            | 4.55                  | 19.57                       | 10.92                                 | 35.04                                    | 56.49           | 200             |
| 663.568            | 4.82                  | 20.00                       | 8.42                                  | 33.24                                    | 45.90           | 200             |
| 711.593            | 5.17                  | 20.09                       | 8.87                                  | 34.13                                    | 50.90           | 200             |
| 761.875            | 5.47                  | 20.52                       | 10.08                                 | 36.07                                    | 63.59           | 200             |

Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.  
 2. " \* ", means this data is worse case emission level.  
 3. Emission Level = Reading Level + Antenna Factor + Cable loss  
 4. Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :10-09,1998 Fri      Temperature :24.5 deg/C  
 EUT :NOTEBOOK      Humidity :61 %RH  
 Working Cond.:MODE 2      Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level | Limit         |
|-----------|-------|---------|---------------|----------------|---------------|
|           | Loss  | Factor  | Horizontal    | Horizontal     |               |
| [MHz]     | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)]     | (uV/m) (uV/m) |
| 57.317    | 1.16  | 6.32    | 16.00         | 23.48          | 14.93 100     |
| 66.450    | 1.20  | 6.08    | 10.06         | 17.34          | 7.36 100      |
| 157.482   | 2.09  | 10.06   | 13.53         | 25.68          | 19.23 150     |
| 166.149   | 2.07  | 9.75    | 20.81         | 32.63          | 42.82 150     |
| 186.122   | 2.06  | 9.64    | 16.52         | 28.21          | 25.75 150     |
| 214.750   | 2.29  | 10.92   | 20.23         | 33.45          | 47.03 150     |
| 232.893   | 2.40  | 11.74   | 19.05         | 33.19          | 45.68 200     |
| 243.386   | 2.46  | 12.19   | 17.33         | 31.99          | 39.74 200     |
| 299.189   | 2.89  | 13.54   | 18.02         | 34.45          | 52.77 200     |
| 307.913   | 2.95  | 13.74   | 16.40         | 33.09          | 45.16 200     |
| 313.077   | 2.98  | 13.81   | 16.26         | 33.05          | 44.92 200     |
| 323.452   | 3.05  | 14.03   | 19.82         | 36.89          | 69.91 200     |
| 336.027   | 3.12  | 14.24   | 16.94         | 34.29          | 51.84 200     |
| * 388.142 | 3.51  | 16.47   | 20.09         | 40.07          | 100.81 200    |
| 398.923   | 3.59  | 16.96   | 13.93         | 34.48          | 52.97 200     |
| 417.802   | 3.67  | 17.13   | 10.28         | 31.08          | 35.79 200     |
| 432.031   | 3.73  | 17.25   | 16.29         | 37.27          | 73.06 200     |
| 437.314   | 3.75  | 17.28   | 13.01         | 34.04          | 50.36 200     |
| 452.830   | 3.80  | 17.44   | 15.72         | 36.96          | 70.50 200     |
| 478.703   | 3.86  | 17.95   | 12.57         | 34.38          | 52.35 200     |
| 599.949   | 4.50  | 19.40   | 2.23          | 26.13          | 20.25 200     |
| 646.901   | 4.69  | 19.97   | 3.88          | 28.53          | 26.71 200     |

Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.  
 2.“ \* ”, means this data is worse case emission level.  
 3.Emission Level = Reading Level + Antenna Factor + Cable loss  
 4.Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :10-09,1998 Fri

Temperature :24.5 deg/C

EUT :NOTEBOOK

Humidity :61 %RH

Working Cond.:MODE 2

Display Pattern:H Pattern

| Frequency<br>[MHz] | Cable<br>Loss<br>[dB] | Antenna<br>Factor<br>[dB/m] | Reading Level<br>Vertical<br>[dB(uV)] | Emission Level<br>Vertical<br>[dB(uV/m)] | (uV/m) | Limit<br>(uV/m) |
|--------------------|-----------------------|-----------------------------|---------------------------------------|------------------------------------------|--------|-----------------|
| 69.873             | 1.20                  | 6.20                        | 12.68                                 | 20.08                                    | 10.09  | 100             |
| 166.025            | 2.07                  | 9.75                        | 15.39                                 | 27.21                                    | 22.94  | 150             |
| 172.039            | 2.04                  | 9.60                        | 13.73                                 | 25.38                                    | 18.57  | 150             |
| 178.536            | 2.01                  | 9.46                        | 18.10                                 | 29.57                                    | 30.09  | 150             |
| 194.076            | 2.14                  | 9.95                        | 13.48                                 | 25.57                                    | 18.98  | 150             |
| 198.766            | 2.17                  | 10.11                       | 8.96                                  | 21.24                                    | 11.54  | 150             |
| 209.607            | 2.26                  | 10.65                       | 12.07                                 | 24.98                                    | 17.74  | 150             |
| 214.750            | 2.29                  | 10.92                       | 14.19                                 | 27.41                                    | 23.46  | 150             |
| 221.189            | 2.33                  | 11.20                       | 13.34                                 | 26.87                                    | 22.06  | 200             |
| 232.899            | 2.40                  | 11.74                       | 16.97                                 | 31.11                                    | 35.95  | 200             |
| 258.761            | 2.57                  | 12.67                       | 12.62                                 | 27.86                                    | 24.73  | 200             |
| 298.366            | 2.89                  | 13.54                       | 13.01                                 | 29.44                                    | 29.64  | 200             |
| 323.456            | 3.05                  | 14.03                       | 17.02                                 | 34.09                                    | 50.65  | 200             |
| 336.021            | 3.12                  | 14.24                       | 13.62                                 | 30.97                                    | 35.37  | 200             |
| 362.274            | 3.29                  | 15.09                       | 9.90                                  | 28.28                                    | 25.95  | 200             |
| 388.140            | 3.51                  | 16.47                       | 20.63                                 | 40.61                                    | 107.28 | 200             |
| 426.959            | 3.71                  | 17.20                       | 12.49                                 | 33.40                                    | 46.79  | 200             |
| * 452.831          | 3.80                  | 17.44                       | 21.11                                 | 42.35                                    | 131.12 | 200             |
| 466.955            | 3.83                  | 17.75                       | 11.26                                 | 32.85                                    | 43.90  | 200             |
| 516.111            | 4.00                  | 18.56                       | 12.68                                 | 35.24                                    | 57.79  | 200             |
| 646.905            | 4.69                  | 19.97                       | 5.41                                  | 30.06                                    | 31.86  | 200             |

Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.

2.“ \* ”, means this data is worse case emission level.

3.Emission Level = Reading Level + Antenna Factor + Cable loss

4.Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :10-09,1998 Fri

Temperature :24.5 deg/C

EUT :NOTEBOOK

Humidity :61 %RH

Working Cond.:MODE 3

Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level    | Limit  |
|-----------|-------|---------|---------------|-------------------|--------|
|           | Loss  | Factor  | Horizontal    | Horizontal        |        |
| [MHz]     | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)] (uV/m) | (uV/m) |
| 55.717    | 1.12  | 6.60    | 25.28         | 33.00 44.67       | 100    |
| 61.893    | 1.20  | 5.96    | 27.95         | 35.11 56.94       | 100    |
| 66.563    | 1.20  | 6.08    | 21.34         | 28.62 26.97       | 100    |
| 82.820    | 1.40  | 8.01    | 15.91         | 25.32 18.45       | 100    |
| 120.273   | 1.51  | 12.90   | 19.66         | 34.07 50.55       | 150    |
| 134.418   | 1.72  | 11.80   | 15.11         | 28.63 26.99       | 150    |
| 157.494   | 2.09  | 10.06   | 21.76         | 33.91 49.60       | 150    |
| * 166.463 | 2.07  | 9.75    | 27.88         | 39.70 96.64       | 150    |
| 183.918   | 2.04  | 9.56    | 26.54         | 38.14 80.69       | 150    |
| 198.104   | 2.17  | 10.11   | 25.91         | 38.19 81.23       | 150    |
| 212.211   | 2.27  | 10.74   | 23.02         | 36.03 63.34       | 150    |
| 232.157   | 2.39  | 11.65   | 23.00         | 37.04 71.14       | 200    |
| 240.029   | 2.44  | 12.01   | 25.90         | 40.35 104.12      | 200    |
| 265.754   | 2.63  | 12.85   | 21.10         | 36.58 67.44       | 200    |
| 297.100   | 2.87  | 13.50   | 23.11         | 39.48 94.18       | 200    |
| 331.781   | 3.09  | 14.17   | 20.06         | 37.32 73.45       | 200    |
| 348.004   | 3.19  | 14.45   | 13.52         | 31.16 36.13       | 200    |
| 445.634   | 3.79  | 17.36   | 12.08         | 33.23 45.86       | 200    |
| 464.270   | 3.83  | 17.68   | 11.93         | 33.43 46.95       | 200    |
| 528.074   | 4.07  | 18.68   | 10.47         | 33.21 45.79       | 200    |
| 761.869   | 5.47  | 20.52   | 9.06          | 35.05 56.55       | 200    |
| 812.000   | 5.75  | 21.02   | 1.74          | 28.51 26.63       | 200    |

Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.

2.“ \* ”, means this data is worse case emission level.

3.Emission Level = Reading Level + Antenna Factor + Cable loss

4.Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :10-09,1998 Fri

Temperature :24.5 deg/C

EUT :NOTEBOOK

Humidity :61 %RH

Working Cond.:MODE 3

Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level    | Limit  |
|-----------|-------|---------|---------------|-------------------|--------|
|           | Loss  | Factor  | Vertical      | Vertical          |        |
| [MHz]     | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)] (uV/m) | (uV/m) |
| 35.356    | 0.82  | 17.10   | 13.25         | 31.17 36.19       | 100    |
| 56.578    | 1.12  | 6.60    | 26.92         | 34.64 53.95       | 100    |
| 63.679    | 1.20  | 6.02    | 24.53         | 31.75 38.67       | 100    |
| 70.743    | 1.24  | 6.42    | 25.51         | 33.17 45.53       | 100    |
| * 84.867  | 1.40  | 8.36    | 25.32         | 35.08 56.78       | 100    |
| 120.241   | 1.51  | 12.90   | 23.28         | 37.69 76.69       | 150    |
| 127.318   | 1.60  | 12.43   | 20.02         | 34.05 50.40       | 150    |
| 134.384   | 1.72  | 11.80   | 18.36         | 31.88 39.24       | 150    |
| 162.708   | 2.09  | 9.85    | 20.26         | 32.20 40.74       | 150    |
| 169.755   | 2.05  | 9.65    | 20.85         | 32.56 42.44       | 150    |
| 199.281   | 2.20  | 10.20   | 20.50         | 32.90 44.16       | 150    |
| 232.502   | 2.39  | 11.65   | 20.22         | 34.26 51.65       | 200    |
| 297.087   | 2.87  | 13.50   | 16.96         | 33.33 46.39       | 200    |
| 332.456   | 3.09  | 14.17   | 14.67         | 31.93 39.49       | 200    |
| 346.616   | 3.19  | 14.45   | 12.73         | 30.37 32.98       | 200    |
| 381.941   | 3.45  | 16.08   | 10.98         | 30.50 33.51       | 200    |
| 445.604   | 3.79  | 17.36   | 15.42         | 36.57 67.37       | 200    |
| 464.240   | 3.83  | 17.68   | 14.11         | 35.61 60.35       | 200    |
| 528.062   | 4.07  | 18.68   | 8.55          | 31.29 36.71       | 200    |
| 594.190   | 4.46  | 19.33   | 5.98          | 29.78 30.82       | 200    |
| 614.411   | 4.55  | 19.57   | 10.69         | 34.81 55.02       | 200    |
| 927.670   | 6.16  | 22.10   | 2.69          | 30.96 35.31       | 200    |

- Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.  
 2.“ \* ”, means this data is worse case emission level.  
 3.Emission Level = Reading Level + Antenna Factor + Cable loss  
 4.Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :10-09,1998 Fri

Temperature :24.5 deg/C

EUT :NOTEBOOK

Humidity :61 %RH

Working Cond.:MODE 4

Display Pattern:H Pattern

| Frequency<br>[MHz] | Cable<br>Loss<br>[dB] | Antenna<br>Factor<br>[dB/m] | Reading Level<br>Horizontal<br>[dB(uV)] | Emission Level<br>Horizontal<br>[dB(uV/m)] | Limit<br>(uV/m) | Limit<br>(uV/m) |
|--------------------|-----------------------|-----------------------------|-----------------------------------------|--------------------------------------------|-----------------|-----------------|
| 66.343             | 1.20                  | 6.08                        | 13.84                                   | 21.12                                      | 11.37           | 100             |
| 112.256            | 1.46                  | 12.09                       | 13.15                                   | 26.70                                      | 21.62           | 150             |
| 132.300            | 1.69                  | 11.95                       | 14.61                                   | 28.25                                      | 25.86           | 150             |
| 148.280            | 1.93                  | 10.75                       | 14.62                                   | 27.30                                      | 23.17           | 150             |
| 166.221            | 2.07                  | 9.75                        | 20.86                                   | 32.68                                      | 43.07           | 150             |
| 172.391            | 2.04                  | 9.60                        | 15.34                                   | 26.99                                      | 22.35           | 150             |
| 192.438            | 2.12                  | 9.87                        | 23.76                                   | 35.75                                      | 61.30           | 150             |
| 199.753            | 2.20                  | 10.20                       | 20.61                                   | 33.01                                      | 44.72           | 150             |
| 204.465            | 2.22                  | 10.38                       | 14.29                                   | 26.89                                      | 22.12           | 150             |
| 212.478            | 2.28                  | 10.83                       | 22.21                                   | 35.33                                      | 58.38           | 150             |
| 232.525            | 2.39                  | 11.65                       | 22.60                                   | 36.64                                      | 67.94           | 200             |
| 265.680            | 2.62                  | 12.80                       | 14.42                                   | 29.84                                      | 31.04           | 200             |
| * 298.722          | 2.89                  | 13.54                       | 25.69                                   | 42.12                                      | 127.62          | 200             |
| 312.708            | 2.98                  | 13.81                       | 20.46                                   | 37.25                                      | 72.85           | 200             |
| 331.800            | 3.09                  | 14.17                       | 21.88                                   | 39.14                                      | 90.57           | 200             |
| 336.045            | 3.12                  | 14.24                       | 20.66                                   | 38.01                                      | 79.56           | 200             |
| 364.780            | 3.32                  | 15.29                       | 14.65                                   | 33.26                                      | 46.04           | 200             |
| 398.474            | 3.59                  | 16.96                       | 15.96                                   | 36.51                                      | 66.92           | 200             |
| 464.913            | 3.83                  | 17.72                       | -3.40                                   | 18.15                                      | 8.08            | 200             |
| 528.085            | 4.07                  | 18.68                       | 7.65                                    | 30.39                                      | 33.09           | 200             |
| 660.030            | 4.79                  | 20.00                       | 5.74                                    | 30.53                                      | 33.59           | 200             |
| 796.918            | 5.69                  | 20.87                       | 6.04                                    | 32.60                                      | 42.65           | 200             |
| 909.326            | 6.05                  | 21.96                       | 5.12                                    | 33.14                                      | 45.37           | 200             |

Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.

2.“ \* ”, means this data is worse case emission level.

3.Emission Level = Reading Level + Antenna Factor + Cable loss

4.Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :10-09,1998 Fri

Temperature :24.5 deg/C

EUT :NOTEBOOK

Humidity :61 %RH

Working Cond.:MODE 4

Display Pattern:H Pattern

| Frequency<br>[MHz] | Cable<br>Loss<br>[dB] | Antenna<br>Factor<br>[dB/m] | Reading Level<br>Vertical<br>[dB(uV)] | Emission Level<br>Vertical<br>[dB(uV/m)] | Limit<br>(uV/m) | Limit<br>(uV/m) |
|--------------------|-----------------------|-----------------------------|---------------------------------------|------------------------------------------|-----------------|-----------------|
| 32.081             | 0.86                  | 18.40                       | 13.75                                 | 33.01                                    | 44.72           | 100             |
| 48.096             | 1.08                  | 9.73                        | 22.05                                 | 32.86                                    | 43.94           | 100             |
| 68.146             | 1.20                  | 6.14                        | 24.81                                 | 32.15                                    | 40.49           | 100             |
| 72.171             | 1.24                  | 6.42                        | 22.15                                 | 29.81                                    | 30.92           | 100             |
| 113.530            | 1.47                  | 12.25                       | 18.26                                 | 31.97                                    | 39.69           | 150             |
| 120.269            | 1.51                  | 12.90                       | 22.00                                 | 36.41                                    | 66.18           | 150             |
| 157.494            | 2.09                  | 10.06                       | 20.15                                 | 32.30                                    | 41.21           | 150             |
| 165.830            | 2.07                  | 9.75                        | 19.10                                 | 30.92                                    | 35.17           | 150             |
| 168.365            | 2.06                  | 9.70                        | 17.48                                 | 29.24                                    | 28.99           | 150             |
| 188.410            | 2.08                  | 9.72                        | 19.50                                 | 31.29                                    | 36.70           | 150             |
| * 192.438          | 2.12                  | 9.87                        | 27.91                                 | 39.90                                    | 98.85           | 150             |
| 200.446            | 2.20                  | 10.20                       | 23.63                                 | 36.03                                    | 63.31           | 150             |
| 266.450            | 2.63                  | 12.85                       | 13.55                                 | 29.03                                    | 28.28           | 200             |
| 299.727            | 2.91                  | 13.60                       | 13.86                                 | 30.37                                    | 32.98           | 200             |
| 331.782            | 3.09                  | 14.17                       | 13.42                                 | 30.68                                    | 34.20           | 200             |
| 360.803            | 3.29                  | 15.09                       | 18.34                                 | 36.72                                    | 68.58           | 200             |
| 396.060            | 3.57                  | 16.86                       | 14.37                                 | 34.81                                    | 55.00           | 200             |
| 440.982            | 3.76                  | 17.32                       | 16.79                                 | 37.87                                    | 78.24           | 200             |
| 493.108            | 3.89                  | 18.27                       | 13.38                                 | 35.53                                    | 59.80           | 200             |
| 521.159            | 4.02                  | 18.60                       | 16.31                                 | 38.93                                    | 88.40           | 200             |
| 561.248            | 4.26                  | 19.00                       | 13.18                                 | 36.44                                    | 66.39           | 200             |
| 792.086            | 5.66                  | 20.83                       | 6.48                                  | 32.97                                    | 44.51           | 200             |

Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.

2. " \* ", means this data is worse case emission level.

3. Emission Level = Reading Level + Antenna Factor + Cable loss

4. Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :10-09,1998 Fri

Temperature :24.5 deg/C

EUT :NOTEBOOK

Humidity :61 %RH

Working Cond.:MODE 5

Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level |        | Limit  |
|-----------|-------|---------|---------------|----------------|--------|--------|
|           | Loss  | Factor  | Horizontal    | Horizontal     |        |        |
| [MHz]     | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)]     | (uV/m) | (uV/m) |
| 66.342    | 1.20  | 6.08    | 17.51         | 24.79          | 17.35  | 100    |
| 113.842   | 1.47  | 12.25   | 15.03         | 28.74          | 27.36  | 150    |
| 147.458   | 1.93  | 10.75   | 17.03         | 29.71          | 30.58  | 150    |
| 159.748   | 2.09  | 10.06   | 22.39         | 34.54          | 53.33  | 150    |
| 172.037   | 2.04  | 9.60    | 22.48         | 34.13          | 50.85  | 150    |
| 194.072   | 2.14  | 9.95    | 22.13         | 34.22          | 51.39  | 150    |
| 198.644   | 2.17  | 10.11   | 23.53         | 35.81          | 61.76  | 150    |
| 199.838   | 2.20  | 10.20   | 27.62         | 40.02          | 100.23 | 150    |
| 214.750   | 2.29  | 10.92   | 24.08         | 37.30          | 73.27  | 150    |
| 243.221   | 2.46  | 12.19   | 24.43         | 39.09          | 90.01  | 200    |
| * 307.912 | 2.95  | 13.74   | 26.98         | 43.67          | 152.66 | 200    |
| 331.784   | 3.09  | 14.17   | 24.32         | 41.58          | 119.94 | 200    |
| 356.361   | 3.25  | 14.80   | 17.06         | 35.10          | 56.90  | 200    |
| 368.648   | 3.36  | 15.49   | 19.28         | 38.12          | 80.54  | 200    |
| 414.009   | 3.65  | 17.09   | 11.94         | 32.69          | 43.10  | 200    |
| 516.108   | 4.00  | 18.56   | 13.46         | 36.02          | 63.22  | 200    |
| 596.340   | 4.47  | 19.35   | 6.42          | 30.25          | 32.53  | 200    |
| 720.077   | 5.22  | 20.16   | 7.53          | 32.90          | 44.18  | 200    |
| 776.307   | 5.56  | 20.68   | 5.14          | 31.38          | 37.06  | 200    |

Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.

2.“ \* ”, means this data is worse case emission level.

3.Emission Level = Reading Level + Antenna Factor + Cable loss

4.Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :10-09,1998 Fri

Temperature :24.5 deg/C

EUT :NOTEBOOK

Humidity :61 %RH

Working Cond.:MODE 5

Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level    | Limit  |
|-----------|-------|---------|---------------|-------------------|--------|
|           | Loss  | Factor  | Vertical      | Vertical          |        |
| [MHz]     | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)] (uV/m) | (uV/m) |
| 147.459   | 1.93  | 10.75   | 14.96         | 27.64 24.10       | 150    |
| 199.869   | 2.20  | 10.20   | 19.82         | 32.22 40.83       | 150    |
| 214.752   | 2.29  | 10.92   | 23.31         | 36.53 67.05       | 150    |
| 219.942   | 2.32  | 11.11   | 19.19         | 32.61 42.72       | 200    |
| 258.764   | 2.57  | 12.67   | 14.65         | 29.89 31.24       | 200    |
| 307.912   | 2.95  | 13.74   | 21.61         | 38.30 82.26       | 200    |
| 323.452   | 3.05  | 14.03   | 22.18         | 39.25 91.74       | 200    |
| 331.783   | 3.09  | 14.17   | 18.98         | 36.24 64.86       | 200    |
| 356.360   | 3.25  | 14.80   | 18.08         | 36.12 63.99       | 200    |
| * 452.831 | 3.80  | 17.44   | 21.38         | 42.62 135.26      | 200    |
| 491.643   | 3.88  | 18.23   | 10.93         | 33.04 44.88       | 200    |
| 517.522   | 4.00  | 18.56   | 12.69         | 35.25 57.85       | 200    |
| 549.985   | 4.21  | 18.90   | 8.82          | 31.93 39.47       | 200    |
| 569.988   | 4.32  | 19.10   | 7.48          | 30.90 35.07       | 200    |
| 596.781   | 4.49  | 19.37   | 11.24         | 35.10 56.87       | 200    |
| 614.415   | 4.55  | 19.57   | 8.90          | 33.02 44.77       | 200    |
| 663.567   | 4.82  | 20.00   | 7.69          | 32.51 42.20       | 200    |
| 711.593   | 5.17  | 20.09   | 7.93          | 33.19 45.68       | 200    |
| 761.872   | 5.47  | 20.52   | 9.64          | 35.63 60.45       | 200    |

Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.

2.“ \* ”, means this data is worse case emission level.

3.Emission Level = Reading Level + Antenna Factor + Cable loss

4.Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :11-01,1998 Sun

Temperature :24.1 deg/C

EUT :NOTEBOOK

Humidity :59 %RH

Working Cond.:Mode 1 (Peak)

Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level | Limit         |
|-----------|-------|---------|---------------|----------------|---------------|
| [MHz]     | Loss  | Factor  | Horizontal    | Horizontal     |               |
|           | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)]     | (uV/m) (uV/m) |
| 1098.645  | 6.73  | 22.78   | 35.40         | 29.36          | 29.37 500     |
| 1256.684  | 7.09  | 23.90   | 40.30         | 36.00          | 63.11 500     |
| 1369.887  | 7.35  | 24.40   | 39.90         | 36.54          | 67.12 500     |

- Remarks:
1. All Readings below 1GHz are Quasi-Peak, above are average value.
  2. " \* ", means this data is worse case emission level.
  3. Emission Level = Reading Level + Antenna Factor + Cable loss -  
Amp Factor(35.54, 35.29, 35.11)
  4. Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :11-01,1998 Sun

Temperature :24.1 deg/C

EUT :NOTEBOOK

Humidity :59 %RH

Working Cond.:Mode 1 (Peak)

Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level | Limit         |
|-----------|-------|---------|---------------|----------------|---------------|
| [MHz]     | Loss  | Factor  | Vertical      | Vertical       |               |
|           | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)]     | (uV/m) (uV/m) |
| 1056.684  | 6.63  | 22.10   | 45.60         | 38.72          | 86.27 500     |
| 1198.504  | 6.96  | 23.31   | 36.60         | 31.49          | 37.53 500     |
| 1263.546  | 7.11  | 23.90   | 36.80         | 32.52          | 42.29 500     |

- Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.  
 2. " \* ", means this data is worse case emission level.  
 3. Emission Level = Reading Level + Antenna Factor + Cable loss-  
 Amp Factor( 35.61, 35.38, 35.28)  
 4. Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :11-01,1998 Sun      Temperature :24.1 deg/C  
 EUT :NOTEBOOK      Humidity :59 %RH  
 Working Cond.:Mode 1 (Average)      Display Pattern:H Pattern

| Frequency<br>[MHz] | Cable<br>Loss<br>[dB] | Antenna<br>Factor<br>[dB/m] | Reading Level<br>Horizontal<br>[dB(uV)] | Emission Level<br>Horizontal<br>[dB(uV/m)] | (uV/m) | Limit<br>(uV/m) |
|--------------------|-----------------------|-----------------------------|-----------------------------------------|--------------------------------------------|--------|-----------------|
| 1098.645           | 6.73                  | 22.78                       | 30.60                                   | 24.56                                      | 16.90  | 500             |
| 1256.684           | 7.09                  | 23.90                       | 36.60                                   | 32.30                                      | 41.22  | 500             |
| 1369.887           | 7.35                  | 24.40                       | 35.20                                   | 31.84                                      | 39.07  | 500             |

- Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.  
 2.“ \* ”, means this data is worse case emission level.  
 3.Emission Level = Reading Level + Antenna Factor + Cable loss-  
 Amp Factor( 35.54, 35.29, 35.11)  
 4.Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :11-01,1998 Sun  
 EUT :NOTEBOOK  
 Working Cond.:Mode 1 (Average)

Temperature :24.1 deg/C  
 Humidity :59 %RH  
 Display Pattern:H Pattern

| Frequency<br>[MHz] | Cable<br>Loss<br>[dB] | Antenna<br>Factor<br>[dB/m] | Reading Level<br>Vertical<br>[dB(uV)] | Emission Level<br>Vertical<br>[dB(uV/m)] | Limit<br>(uV/m) | Limit<br>(uV/m) |
|--------------------|-----------------------|-----------------------------|---------------------------------------|------------------------------------------|-----------------|-----------------|
| 1056.684           | 6.63                  | 22.10                       | 40.30                                 | 33.42                                    | 46.87           | 500             |
| 1198.504           | 6.96                  | 23.31                       | 30.90                                 | 25.79                                    | 19.47           | 500             |
| 1263.546           | 7.11                  | 23.90                       | 31.50                                 | 27.22                                    | 22.97           | 500             |

- Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.  
 2. " \* ", means this data is worse case emission level.  
 3. Emission Level = Reading Level + Antenna Factor + Cable loss-  
 Amp Factor(35.61, 35.38, 35.28)  
 4. Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :11-01,1998 Sun      Temperature :24.1 deg/C  
EUT :NOTEBOOK      Humidity :59 %RH  
Working Cond.:Mode 2 (Peak)      Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level | Limit  |        |
|-----------|-------|---------|---------------|----------------|--------|--------|
|           | Loss  | Factor  | Horizontal    | Horizontal     |        |        |
| [MHz]     | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)]     | (uV/m) | (uV/m) |
| 1023.954  | 6.55  | 22.00   | 35.80         | 28.69          | 27.19  | 500    |
| 1198.557  | 6.96  | 23.31   | 40.20         | 35.09          | 56.81  | 500    |
| 1369.197  | 7.35  | 24.40   | 34.60         | 31.24          | 36.46  | 500    |

- Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.  
2.“ \* ”, means this data is worse case emission level.  
3.Emission Level = Reading Level + Antenna Factor + Cable loss-  
Amp Factor( 35.66, 35.38, 35.11)  
4.Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :11-01,1998 Sun

Temperature :24.1 deg/C

EUT :NOTEBOOK

Humidity :59 %RH

Working Cond.:Mode 2 (Peak)

Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level | Limit         |
|-----------|-------|---------|---------------|----------------|---------------|
|           | Loss  | Factor  | Vertical      | Vertical       |               |
| [MHz]     | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)]     | (uV/m) (uV/m) |
| 1023.954  | 6.55  | 22.00   | 36.90         | 29.79          | 30.87 500     |
| 1198.557  | 6.96  | 23.31   | 39.60         | 34.49          | 53.02 500     |
| 1369.197  | 7.35  | 24.40   | 35.80         | 32.44          | 41.87 500     |

- Remarks:
1. All Readings below 1GHz are Quasi-Peak, above are average value.
  - 2.“ \* ”, means this data is worse case emission level.
  - 3.Emission Level = Reading Level + Antenna Factor + Cable loss-  
Amp Factor(35.66, 35.38, 35.11)
  - 4.Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :11-01,1998 Sun      Temperature :24.1 deg/C  
 EUT :NOTEBOOK      Humidity :59 %RH  
 Working Cond.:Mode 2 (Average)      Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level       | Limit  |
|-----------|-------|---------|---------------|----------------------|--------|
|           | Loss  | Factor  | Horizontal    | Horizontal           |        |
| [MHz]     | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)]    (uV/m) | (uV/m) |
| 1023.954  | 6.55  | 22.00   | 30.30         | 23.19    14.44       | 500    |
| 1198.557  | 6.96  | 23.31   | 35.80         | 30.69    34.23       | 500    |
| 1369.197  | 7.35  | 24.40   | 30.10         | 26.74    21.72       | 500    |

- Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.  
 2.“ \* ”, means this data is worse case emission level.  
 3.Emission Level = Reading Level + Antenna Factor + Cable loss-  
 Amp Factor(35.66, 35.38, 35.11)  
 4.Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :11-01,1998 Sun      Temperature :24.1 deg/C  
 EUT :NOTEBOOK      Humidity :59 %RH  
 Working Cond.:Mode 2 (Average)      Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level | Limit  |        |
|-----------|-------|---------|---------------|----------------|--------|--------|
|           | Loss  | Factor  | Vertical      | Vertical       |        |        |
| [MHz]     | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)]     | (uV/m) | (uV/m) |
| 1023.954  | 6.55  | 22.00   | 30.60         | 23.49          | 14.94  | 500    |
| 1198.557  | 6.96  | 23.31   | 34.60         | 29.49          | 29.81  | 500    |
| 1369.197  | 7.35  | 24.40   | 29.90         | 26.54          | 21.23  | 500    |

- Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.  
 2.“ \* ”, means this data is worse case emission level.  
 3.Emission Level = Reading Level + Antenna Factor + Cable loss-  
 Amp Factor(35.66, 35.38, 35.11)  
 4.Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :11-01,1998 Sun

Temperature :24.1 deg/C

EUT :NOTEBOOK

Humidity :59 %RH

Working Cond.:Mode 3 (Peak)

Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level    | Limit  |
|-----------|-------|---------|---------------|-------------------|--------|
| [MHz]     | Loss  | Factor  | Horizontal    | Horizontal        |        |
|           | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)] (uV/m) | (uV/m) |
| 1023.954  | 6.55  | 22.00   | 42.30         | 35.19 57.48       | 500    |
| 1198.557  | 6.96  | 23.31   | 46.10         | 40.99 112.05      | 500    |
| 1369.197  | 7.35  | 24.40   | 38.50         | 35.14 57.13       | 500    |

- Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.  
 2. " \* ", means this data is worse case emission level.  
 3. Emission Level = Reading Level + Antenna Factor + Cable loss-  
 Amp Factor(35.66, 35.38, 35.11)  
 4. Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :11-01,1998 Sun      Temperature :24.1 deg/C  
 EUT :NOTEBOOK      Humidity :59 %RH  
 Working Cond.:Mode 3 (Peak)      Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level | Limit  |        |
|-----------|-------|---------|---------------|----------------|--------|--------|
|           | Loss  | Factor  | Vertical      | Vertical       |        |        |
| [MHz]     | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)]     | (uV/m) | (uV/m) |
| 1023.954  | 6.55  | 22.00   | 42.30         | 35.19          | 57.48  | 500    |
| 1198.557  | 6.96  | 23.31   | 46.30         | 41.19          | 114.66 | 500    |
| 1369.197  | 7.35  | 24.40   | 39.80         | 36.44          | 66.35  | 500    |

- Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.  
 2.“ \* ”, means this data is worse case emission level.  
 3.Emission Level = Reading Level + Antenna Factor + Cable loss-  
 Amp Factor(35.66, 35.38, 35.11)  
 4.Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :11-01,1998 Sun      Temperature :24.1 deg/C  
 EUT :NOTEBOOK      Humidity :59 %RH  
 Working Cond.:Mode 3 (Average)      Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level       | Limit  |
|-----------|-------|---------|---------------|----------------------|--------|
|           | Loss  | Factor  | Horizontal    | Horizontal           |        |
| [MHz]     | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)]    (uV/m) | (uV/m) |
| 1023.954  | 6.55  | 22.00   | 38.30         | 31.19    36.26       | 500    |
| 1198.557  | 6.96  | 23.31   | 42.60         | 37.49    74.89       | 500    |
| 1369.197  | 7.35  | 24.40   | 34.30         | 30.94    35.23       | 500    |

Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.  
 2. " \* ", means this data is worse case emission level.  
 3. Emission Level = Reading Level + Antenna Factor + Cable loss-  
 Amp Factor(35.66, 35.38, 35.11)  
 4. Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :11-01,1998 Sun      Temperature :24.1 deg/C  
 EUT :NOTEBOOK      Humidity :59 %RH  
 Working Cond.:Mode 3 (Average)      Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level | Limit         |
|-----------|-------|---------|---------------|----------------|---------------|
|           | Loss  | Factor  | Vertical      | Vertical       |               |
| [MHz]     | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)]     | (uV/m) (uV/m) |
| 1023.954  | 6.55  | 22.00   | 38.60         | 31.49          | 37.54 500     |
| 1198.557  | 6.96  | 23.31   | 40.90         | 35.79          | 61.58 500     |
| 1369.197  | 7.35  | 24.40   | 36.60         | 33.24          | 45.90 500     |

Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.  
 2.“ \* ”, means this data is worse case emission level.  
 3.Emission Level = Reading Level + Antenna Factor + Cable loss-  
 Amp Factor(35.66, 35.38, 35.11)  
 4.Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :11-01,1998 Sun      Temperature :24.1 deg/C  
 EUT :NOTEBOOK      Humidity :59 %RH  
 Working Cond.:Mode 4 (Peak)      Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level | Limit  |        |
|-----------|-------|---------|---------------|----------------|--------|--------|
|           | Loss  | Factor  | Horizontal    | Horizontal     |        |        |
| [MHz]     | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)]     | (uV/m) | (uV/m) |
| 1023.887  | 6.55  | 22.00   | 44.31         | 37.20          | 72.44  | 500    |
| 1200.023  | 6.96  | 23.33   | 47.59         | 42.50          | 133.35 | 500    |
| 1369.200  | 7.35  | 24.40   | 38.20         | 34.84          | 55.21  | 500    |

- Remarks:
1. All Readings below 1GHz are Quasi-Peak, above are average value.
  - 2.“ \* ”, means this data is worse case emission level.
  - 3.Emission Level = Reading Level + Antenna Factor + Cable loss-  
Amp Factor(35.66, 35.38, 35.11)
  - 4.Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :11-01,1998 Sun

Temperature :24.1 deg/C

EUT :NOTEBOOK

Humidity :59 %RH

Working Cond.:Mode 4 (Peak)

Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level | Limit  |        |
|-----------|-------|---------|---------------|----------------|--------|--------|
|           | Loss  | Factor  | Vertical      | Vertical       |        |        |
| [MHz]     | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)]     | (uV/m) | (uV/m) |
| 1023.770  | 6.55  | 22.00   | 8.65          | 37.20          | 72.44  | 500    |
| 1201.230  | 6.96  | 23.33   | 9.91          | 40.20          | 102.33 | 500    |
| 1369.177  | 7.35  | 24.40   | 6.50          | 38.25          | 81.75  | 500    |

- Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.  
 2.“ \* ”, means this data is worse case emission level.  
 3.Emission Level = Reading Level + Antenna Factor + Cable loss-  
 Amp Factor(35.69, 35.39, 35.25)  
 4.Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :11-01,1998 Sun      Temperature :24.1 deg/C  
 EUT :NOTEBOOK      Humidity :59 %RH  
 Working Cond.:Mode 4 (Average)      Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level | Limit  |        |
|-----------|-------|---------|---------------|----------------|--------|--------|
|           | Loss  | Factor  | Horizontal    | Horizontal     |        |        |
| [MHz]     | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)]     | (uV/m) | (uV/m) |
| 1022.540  | 6.55  | 22.00   | 35.25         | 28.14          | 25.53  | 500    |
| 1198.557  | 6.96  | 23.31   | 38.43         | 33.32          | 46.34  | 500    |
| 1369.180  | 7.35  | 24.40   | 32.78         | 29.42          | 29.58  | 500    |

- Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.  
 2.“ \* ”, means this data is worse case emission level.  
 3.Emission Level = Reading Level + Antenna Factor + Cable loss-  
 Amp Factor(35.66, 35.38, 35.11)  
 4.Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :11-01,1998 Sun      Temperature :24.1 deg/C  
EUT :NOTEBOOK      Humidity :59 %RH  
Working Cond.:Mode 4 (Average)      Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level | Limit  |        |
|-----------|-------|---------|---------------|----------------|--------|--------|
|           | Loss  | Factor  | Vertical      | Vertical       |        |        |
| [MHz]     | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)]     | (uV/m) | (uV/m) |
| 1008.200  | 6.52  | 22.00   | 34.80         | 27.63          | 24.07  | 500    |
| 1195.980  | 6.95  | 23.29   | 38.04         | 32.89          | 44.11  | 500    |
| 1282.137  | 7.15  | 23.88   | 31.35         | 27.13          | 22.72  | 500    |

- Remarks:
1. All Readings below 1GHz are Quasi-Peak, above are average value.
  - 2.“ \* ”, means this data is worse case emission level.
  - 3.Emission Level = Reading Level + Antenna Factor + Cable loss-  
Amp Factor(35.69, 35.39, 35.25)
  - 4.Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :11-01,1998 Sun

Temperature :24.1 deg/C

EUT :NOTEBOOK

Humidity :59 %RH

Working Cond.:Mode 5 (Peak)

Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level | Limit         |
|-----------|-------|---------|---------------|----------------|---------------|
|           | Loss  | Factor  | Horizontal    | Horizontal     |               |
| [MHz]     | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)]     | (uV/m) (uV/m) |
| 1003.523  | 6.51  | 22.00   | 41.39         | 34.20          | 51.29 500     |
| 1102.762  | 6.73  | 22.83   | 45.17         | 39.20          | 91.20 500     |
| 1270.798  | 7.12  | 23.89   | 36.40         | 32.14          | 40.46 500     |

- Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.  
2.“ \* ”, means this data is worse case emission level.  
3.Emission Level = Reading Level + Antenna Factor + Cable loss-  
Amp Factor(35.70, 35.54, 35.27)  
4.Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :11-01,1998 Sun

Temperature :24.1 deg/C

EUT :NOTEBOOK

Humidity :59 %RH

Working Cond.:Mode 5 (Peak)

Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level | Limit         |
|-----------|-------|---------|---------------|----------------|---------------|
|           | Loss  | Factor  | Vertical      | Vertical       |               |
| [MHz]     | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)]     | (uV/m) (uV/m) |
| 1007.850  | 6.52  | 22.00   | 45.73         | 38.56          | 84.72 500     |
| 1097.400  | 6.73  | 22.78   | 46.05         | 40.01          | 100.12 500    |
| 1208.400  | 6.98  | 23.42   | 40.50         | 35.53          | 59.77 500     |

- Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.  
 2.“ \* ”, means this data is worse case emission level.  
 3.Emission Level = Reading Level + Antenna Factor + Cable loss-  
 Amp Factor(35.69, 35.54, 35.37)  
 4.Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :11-01,1998 Sun      Temperature :24.1 deg/C  
 EUT :NOTEBOOK      Humidity :59 %RH  
 Working Cond.:Mode 5 (Average)      Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level       | Limit  |
|-----------|-------|---------|---------------|----------------------|--------|
|           | Loss  | Factor  | Horizontal    | Horizontal           |        |
| [MHz]     | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)]    (uV/m) | (uV/m) |
| 1008.180  | 6.52  | 22.00   | 34.77         | 27.60    23.99       | 500    |
| 1100.040  | 6.73  | 22.82   | 38.53         | 32.54    42.36       | 500    |
| 1209.940  | 6.98  | 23.42   | 31.44         | 26.48    21.09       | 500    |

- Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.  
 2.“ \* ”, means this data is worse case emission level.  
 3.Emission Level = Reading Level + Antenna Factor + Cable loss-  
 Amp Factor(35.69, 35.54, 35.37)  
 4.Deviations from the specifications: None.

## Radiated Emission Data

Date of Test :11-01,1998 Sun      Temperature :24.1 deg/C  
EUT :NOTEBOOK      Humidity :59 %RH  
Working Cond.:Mode 5 (Average)      Display Pattern:H Pattern

| Frequency | Cable | Antenna | Reading Level | Emission Level | Limit         |
|-----------|-------|---------|---------------|----------------|---------------|
|           | Loss  | Factor  | Vertical      | Vertical       |               |
| [MHz]     | [dB]  | [dB/m]  | [dB(uV)]      | [dB(uV/m)]     | (uV/m) (uV/m) |
| 1001.008  | 6.50  | 22.00   | 31.99         | 24.80          | 17.38 500     |
| 1109.040  | 6.75  | 22.86   | 33.31         | 27.40          | 23.44 500     |
| 1222.315  | 7.01  | 23.58   | 28.65         | 23.90          | 15.67 500     |

Remarks: 1. All Readings below 1GHz are Quasi-Peak, above are average value.  
2.“ \* ”, means this data is worse case emission level.  
3.Emission Level = Reading Level + Antenna Factor + Cable loss-  
Amp Factor(35.70, 35.53, 35.34)  
4.Deviations from the specifications: None.

## 7. EMI Reduction Method During Compliance Testing

1. Taped a copper foil tape from LG LCD Panel to panel rear cover.
2. Added a spring finger to touch the keyboard rear side on PCMCIA metal frame
3. Added a spring finger to touch the CD-ROM drive on HDD metal frame
4. Added two gasket on chassis left and right bottom sides of the Fax/modem module area.
5. Added a ferrite ring core on internal cable of phone jack.
6. Added a ferrite ring core near DC output side of AC adaptor.
7. Added three gaskets on I/O bracket.