

Test Report
Application for Certification
Class II Permissive Change
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
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Test results given in this report only relate to the specimen(s) tested, calibrated or measured.
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GTK99-F601
CLASS II CHANGE

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.

NVLAP[®]

Sample Received Date : January 10, 1999

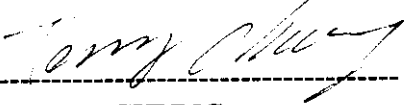
Final Test Date : January 12, 1999

Documented by : Winnie Chiu

Test Engineer :


ROBERT LEE

Approve & Authorized Signer :


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.

GTE99-F001

* CLASS II CHANGE

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 : Dixon 333MHz, Celeron 300MHz, Dixon 366MHz

Clock: 66/66/66MHz

Power Cord : 1.8m, Non-shielded

* AC POWER ADAPTOR: LITE-ON, MODEL PA-1480-19

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 Frequency (MHz)	Emission Level	Limit	Height of Antenna, Angel of Turntable
Conduction Mode 2	3.68269	38.9 dBuV Line 2	48 dBuV	N/A
Radiation Mode 1	240.011	44.16[dB(uV/m)], Horional	46.0 [dB(uV/m)]	4 M, 172°

* GTE99-F001
CLASS II CHANGE

2.2.2 Test Mode:

Mode 1			
* 1.	CPU Module	Dixon	333MHz
2.	Panel 12.1" TFT	LG	LP121S3
3.	4.3GB HDD	Fujitsu	MHF2043AT
4.	FDD 3.5"	NEC	FD-1238T-018
5.	CD ROM 24X	Toshiba	XM-1802B
6.	Battery	Panasonic	Ni-MH 3800mAh
* 7.	AC Adaptor	Lite-On	PA-1480-19
Mode 2			
* 1.	CPU Module	Celeron	300MHz
2.	Panel 12.1" TFT	LG	LP121S3
3.	6.4GB HDD	Fujitsu	MHE2064AT
4.	FDD 3.5"	NEC	FD-1238T-018
5.	CD ROM 24X	Toshiba	XM-1802B
6.	Battery	Panasonic	Ni-MH 3800mAh
* 7.	AC Adaptor	Lite-On	PA-1480-19
Mode 3			
* 1.	CPU Module	Dixon	366MHz
2.	Panel 12.1" TFT	LG	LP121S3
3.	6.4GB HDD	Hitachi	DK228A-65
4.	FDD	NEC	FD-1238T-018
5.	CD ROM 24X	Toshiba	XM-1802B
6.	Battery	Panasonic	Ni-MH 3800mAh
* 7.	AC Adaptor	Lite-ON	PA-1480-19

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 300, 333, 366MHz 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,

OEM	EMC	Win Logo
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 AL300 Pentium Model	
DAEWOO	CN600xxxxyyyzzz	
UMAX	ActionBook	

* G1K99-FOO/
CLASS II CHANGE

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.	CPU	Dixon 266 / 300/ 333/ 366MHz; Celeron 266/300MHz	
2.	LCD	LG 12.1" TFT	LP12153
3.	HDD	Hitachi 3.2GB	DK238A-32
4.	HDD	IBM 3.2GB	DKLA-23240
5.	HDD	Hitachi 4.3GB	DK238A-43
6.	HDD	IBM 4.3GB	DKLA-24320
7.	HDD	Toshiba 4.3GB	MK4309MAT
8.	HDD	Fujitsu 4.3GB	MHF2043AT
9.	HDD	Fujitsu 6.4GB	MHE2064AT
10.	HDD	Hitachi 6.4GB	DK228A-65
11.	FDD	NEC 3.5"	FD-1238T-018
12.	CD ROM 24X	Toshiba	XM-1802B
13.	LAN	CIS	FIC-D410
14.	AC Adaptor	Lite-On	PA-1480-19
15.	Battery	Panasonic	Ni-MH 3800mAh

☒ Monitor M01-011

Model Number : SyncMaster 700p
 Serial Number : H3MH903270Y
 Manufacturer : SAMSUNG
 FCC ID : A3LCGH760
 BCIQ No. : 3872A230
 Data Cable : Shielded, Undetachable, 1.5m
 Power Cord : 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(USB) M02-034

Model Number : M-UA34
Serial Number : LTC70500272
FCC ID : DZL211087
Manufacturer : LOGITECH
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)

☒ Earphone E01-007 ~ 011

Model Number : PH-12B

Serial Number : N/A

Manufacturer : PRO2 International Corp.

Power Cord : N/A

Data Cable : Non-Shielded, Undetachable, 1.2 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
Hsiang, Taipei County, Taiwan, R.O.C.

3. Conducted Emission

3.1 Test Equipments

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

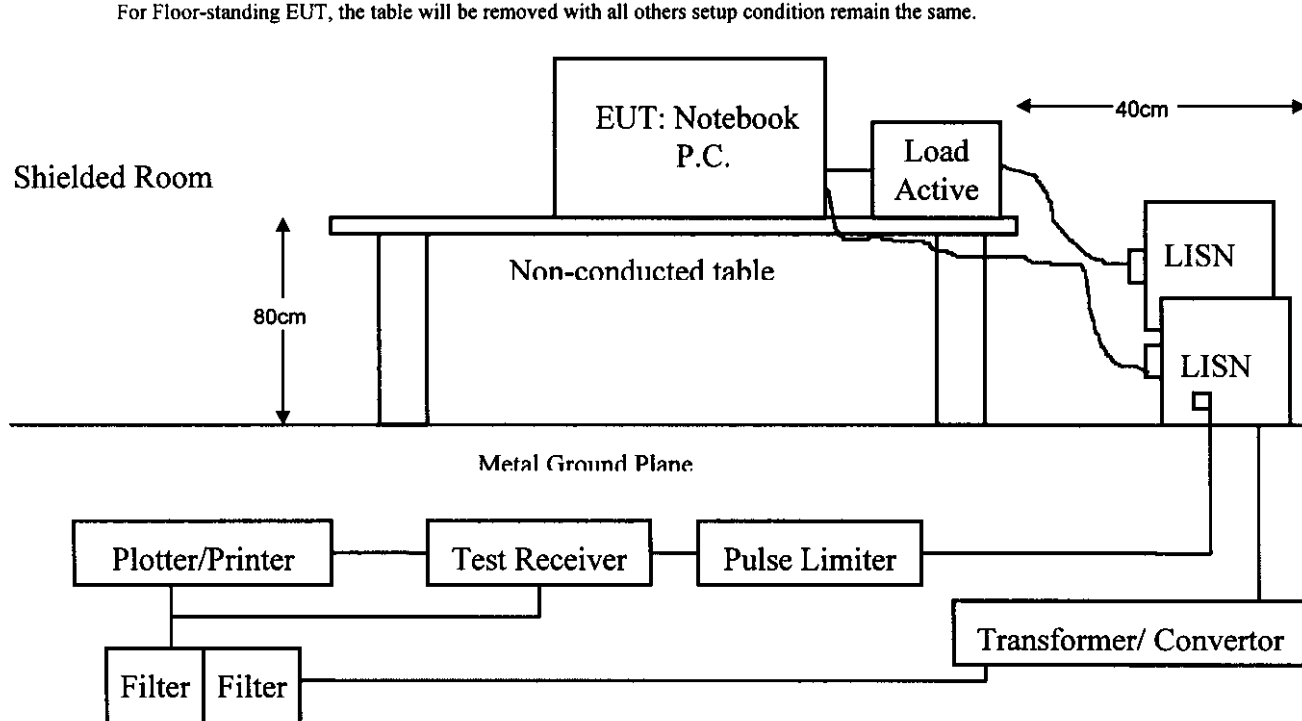
Instrument	Manufacturer	Type /Serial No.	Last Calibration	Location	C.E.
Test Receiver	Rohde & Schwarz	ESHS 30 / 828109/010	Dec. 15, 1998	Shield Room #1	✓
L.I.S.N.	Kyoritsu	KNW-407	Oct. 03, 1998	Shield Room #1	✓
L.I.S.N.	Solar	8012-50-R24 / 90038	Jun. 02, 1998	Shield Room #1	
L.I.S.N.	Rohde & Schwarz	ESH3-Z5 / 840567/002	Oct. 02, 1998	Shield Room #1	✓
L.I.S.N.	Schwarzbeck	NNLK 8121/8121358	Jun. 02, 1998	Shield Room #1	
Pulse Limiter	Rohde & Schwarz	ESH3-Z2/357.8810.52	Nov. 01, 1998	Shield Room #1	✓
Shielded Room	GesTek	GTK-RF-S04	Sep. 17, 1998	Shield Room #1	✓
RF CABLE	GesTek	GTK-RF-C07	Sep. 17, 1998	Shield Room #1	✓
50 Ohm Terminator	GesTek	GTK-RF-T01	Oct. 03, 1998	Shield Room #1	✓

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

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 and Enter to windows 98,
exercise EMILEXE 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	:	January 12, 1999	Temperature	:	19.7 °C
EUT	:	Notebook PC	Humidity	:	65 %
Test Mode	:	Mode 1	Display Pattern	:	H Pattern

FREQUENCY	READING LEVEL				LIMIT
	LINE 1		LINE 2		
MHz	dBuV	uV	dBuV	uV	uV
**0.49897	29.8	30.90	42.8	42.8	250
0.89996	34.8	54.95	27.3	27.3	250
1.79859	35.3	58.21	33.1	33.1	250
2.99867	36.2	64.57	36.0	36.0	250
15.23825	31.7	38.46	32.8	32.8	250
24.76196	34.4	52.48	34.6	34.6	250

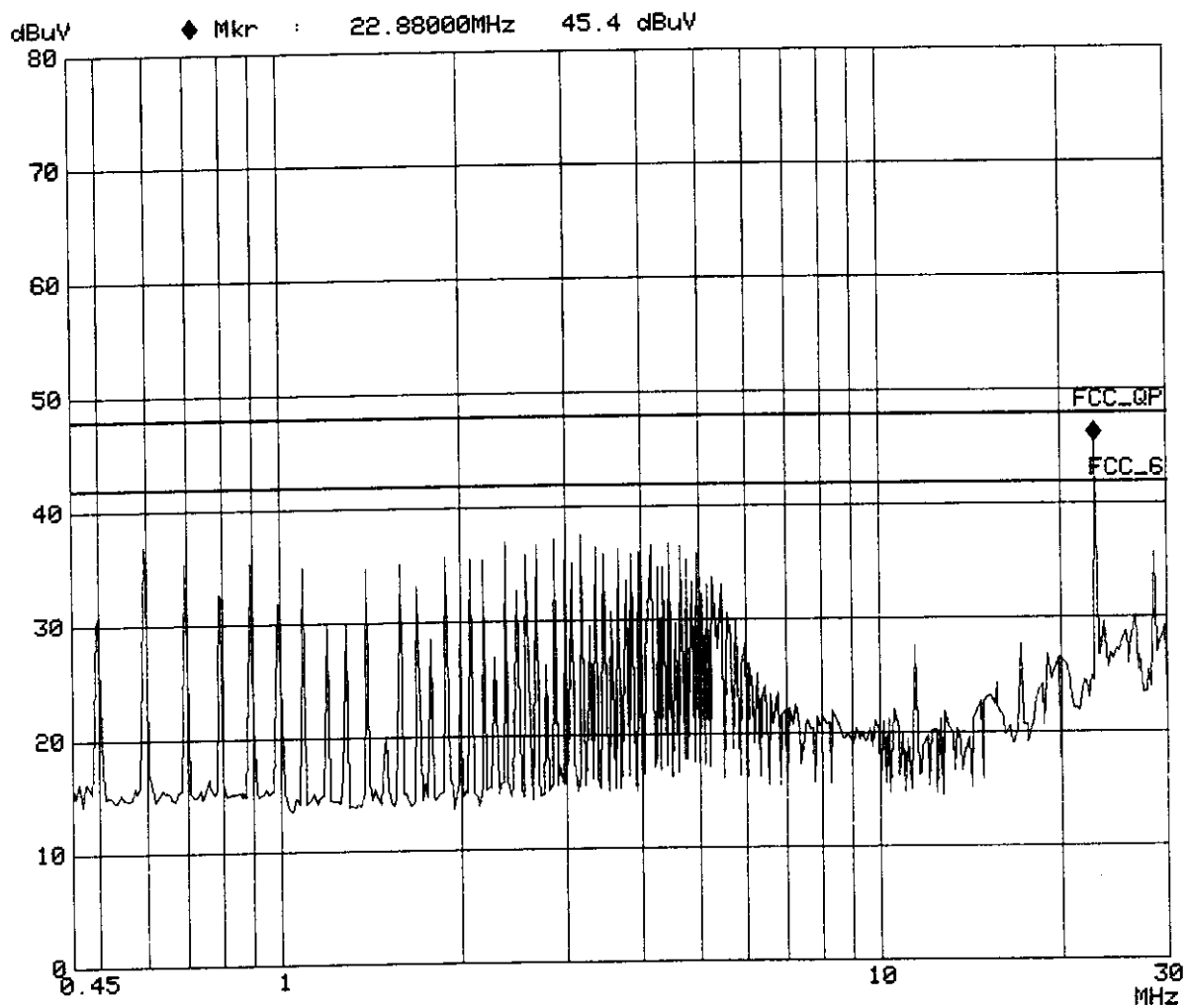
- Remarks :
1. All readings are Quasi-peak.
 2. “ ** ” means that this data is the worse case emission level.
 3. Deviations from the specifications: None.
 4. Final measurement = (Receiver reading) + (Correction factor if available)

Attached 2 individual pages of peak scan curve data sheets.

ROHDE & SCHWARZ ESHS 30

GesTek, PowerLine Conducted Emission

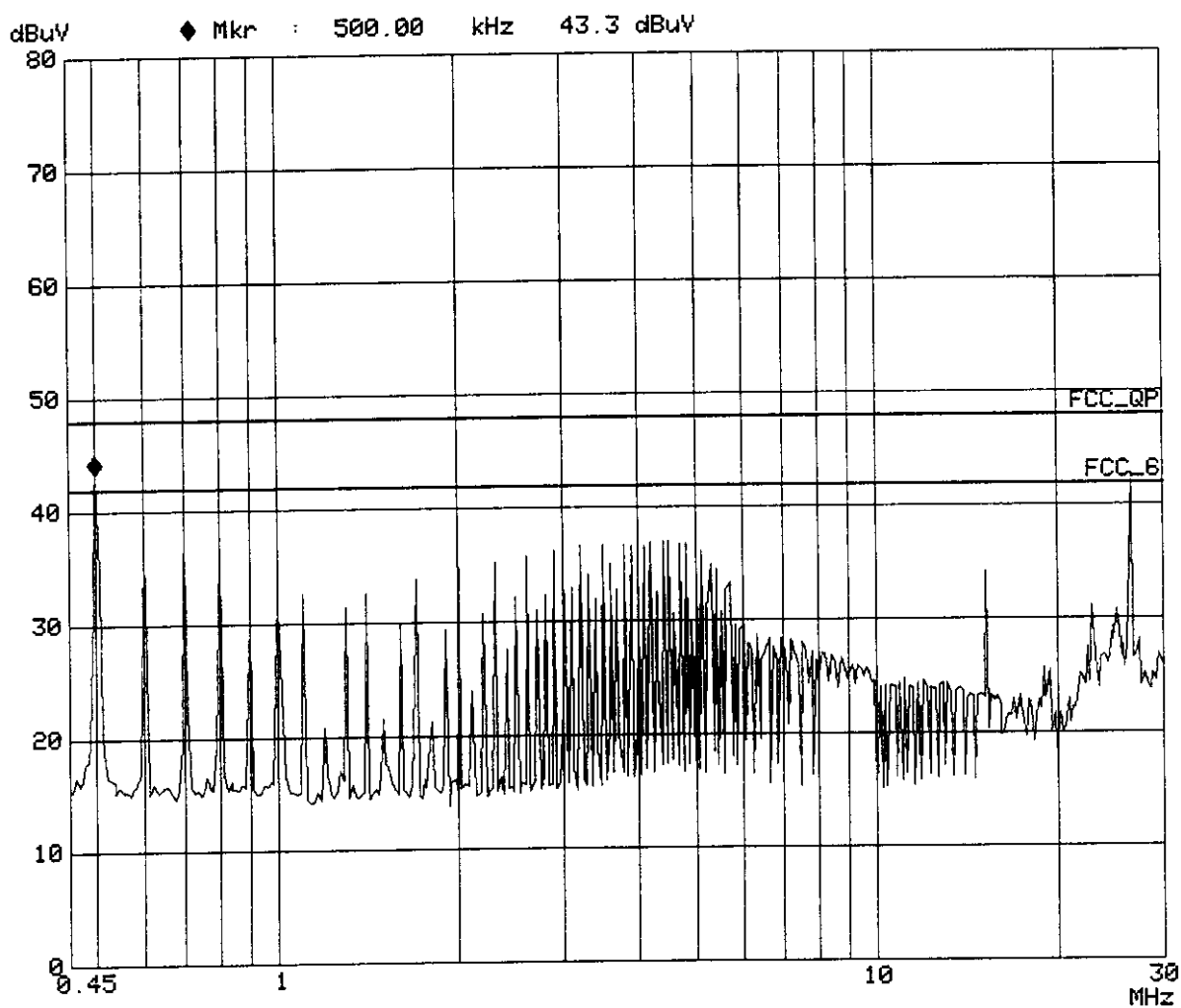
EUT: Notebook P.C.
Manuf: FIC
Op Cond: Mode:1, Full System
Operator: Robert Lee
Test Spec: FCC CLASS B
Comment: Line 1
M/N:Ruby 2.0
Date: 12. Jan 99 07:38



ROHDE & SCHWARZ ESHS 30

GesTek, PowerLine Conducted Emission

EUT: Notebook P.C.
Manuf: FIC
Op Cond: Mode:1, Full System
Operator: Robert Lee
Test Spec: FCC CLASS B
Comment: Line 2
M/N:Ruby 2.0
Date: 12. Jan 99 08:10



CONDUCTED EMISSION DATA

Date of Test	:	Jan. 12, 1999	Temperature	:	18.3 °C
EUT	:	Notebook PC	Humidity	:	67 %
Test Mode	:	Mode 2	Display Pattern	:	H Pattern

FREQUENCY	READING LEVEL				LIMIT
	LINE 1		LINE 2		
MHz	dBuV	uV	dBuV	uV	uV
0.50073	42.8	138.04	42.9	139.64	250
1.10130	35.3	58.21	34.3	51.88	250
2.40291	36.8	69.18	35.4	58.88	250
3.30457	37.3	73.28	36.6	67.61	250
4.90762	34.5	53.09	36.3	65.31	250
**22.96663	44.6	169.82	44.1	160.32	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.

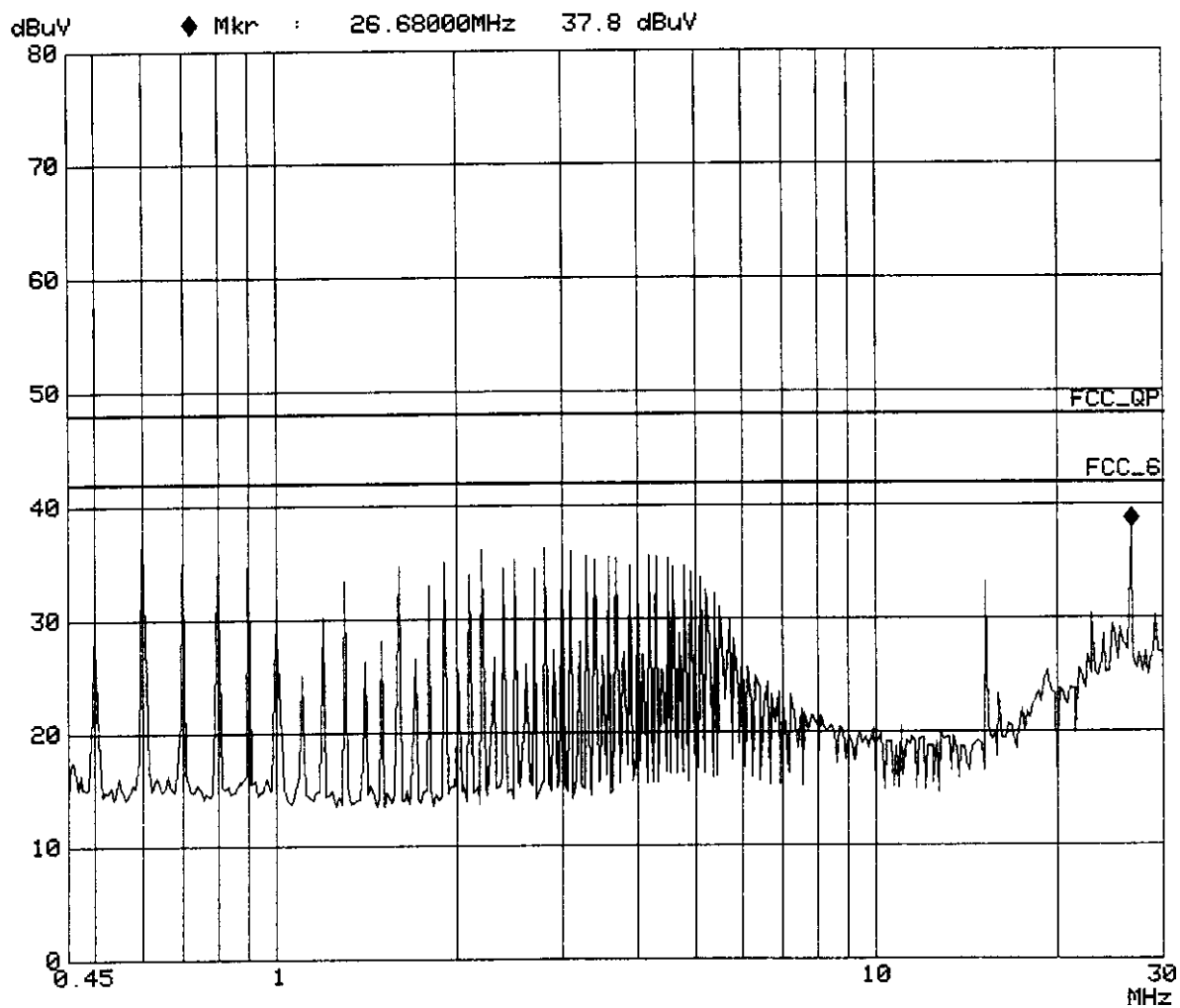
4. Final measurement = (Receiver reading) + (Correction factor if available)

Attached 2 individual pages of peak scan curve data sheets.

ROHDE & SCHWARZ ESHS 30

GesTek, PowerLine Conducted Emission

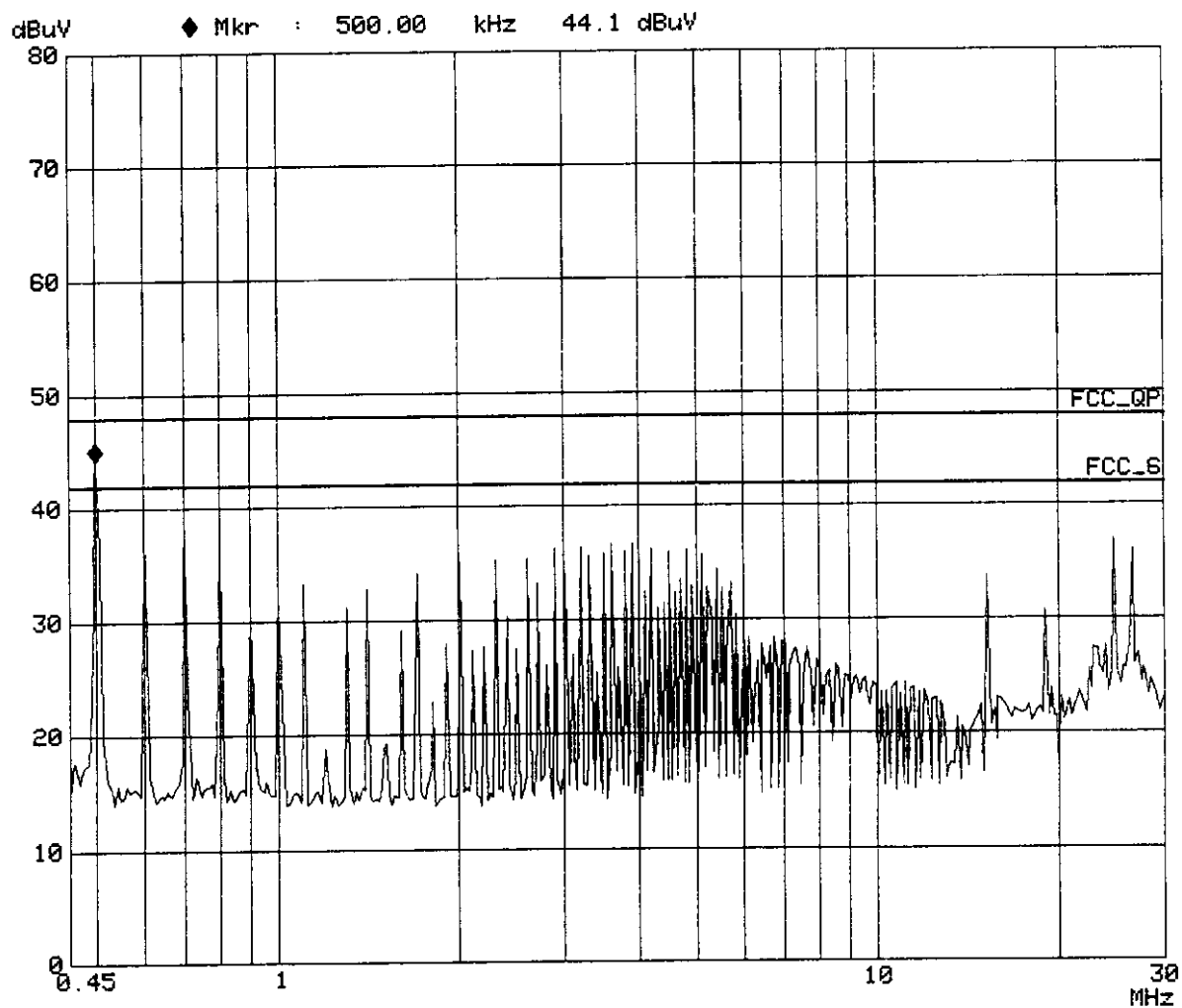
EUT: Notebook P.C.
Manuf: FIC
Op Cond: Mode:2, Full System
Operator: Robert Lee
Test Spec: FCC CLASS B
Comment: Line 1
M/N: Ruby 2.0
Date: 12. Jan 99 08:36



ROHDE & SCHWARZ ESHS 30

GesTek, PowerLine Conducted Emission

EUT: Notebook P.C.
Manuf: FIC
Op Cond: Mode:2, Full System
Operator: Robert Lee
Test Spec: FCC CLASS B
Comment: Line 2
M/N:Ruby 2.0
Date: 12. Jan 99 08:45



CONDUCTED EMISSION DATA

Date of Test	:	Jan. 12, 1999	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	
0.59972	37.5	74.99	35.2	57.54	250
0.89983	35.1	56.89	29.1	28.51	250
1.60009	35.0	56.23	34.4	52.48	250
2.80150	36.4	66.07	34.3	51.88	250
4.50201	34.8	54.95	35.4	58.88	250
**26.67022	42.0	125.89	41.5	118.85	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.

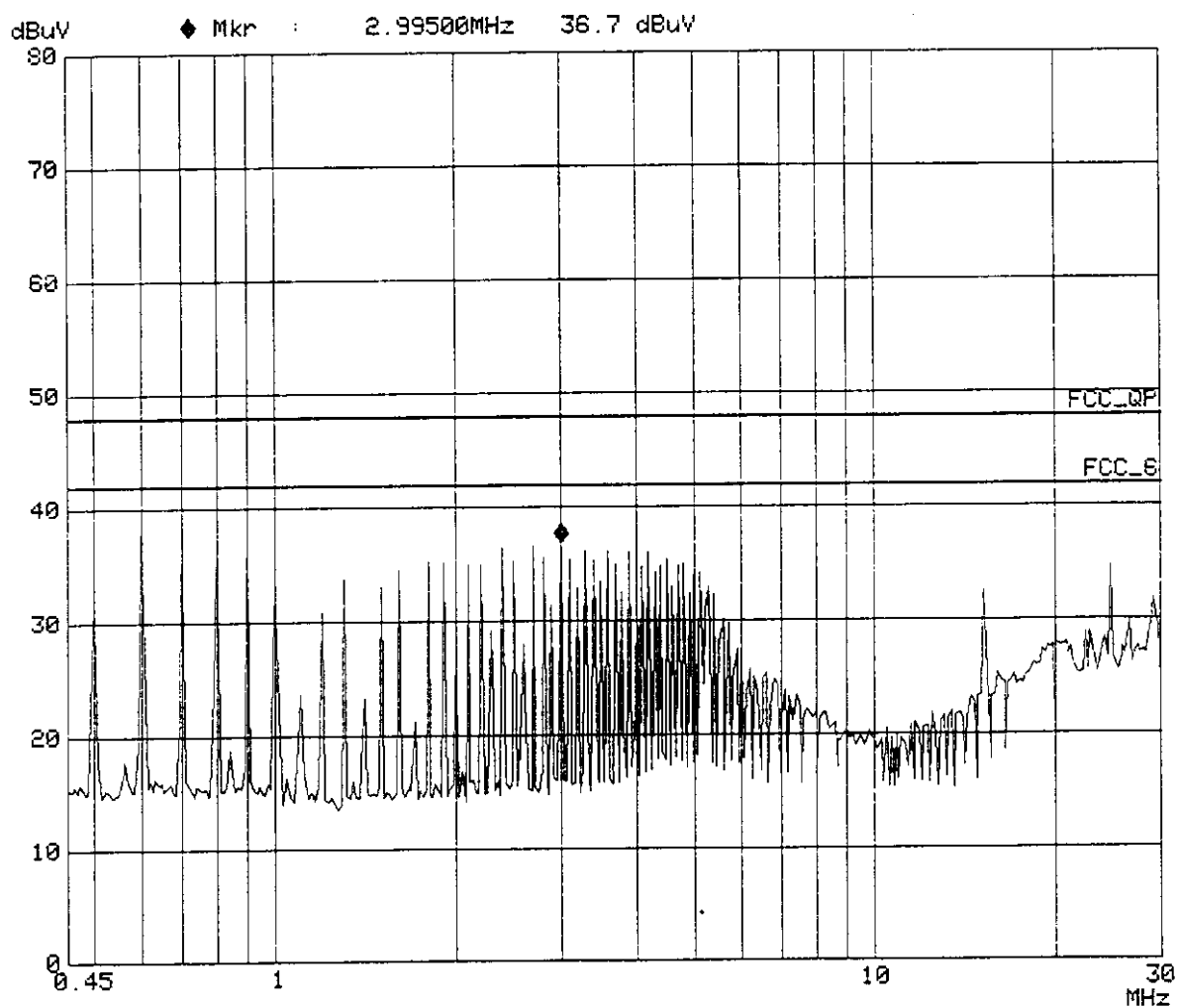
4. Final measurement = (Receiver reading) + (Correction factor if available)

Attached 2 individual pages of peak scan curve data sheets.

ROHDE & SCHWARZ ESHS 30

GesTek, PowerLine Conducted Emission

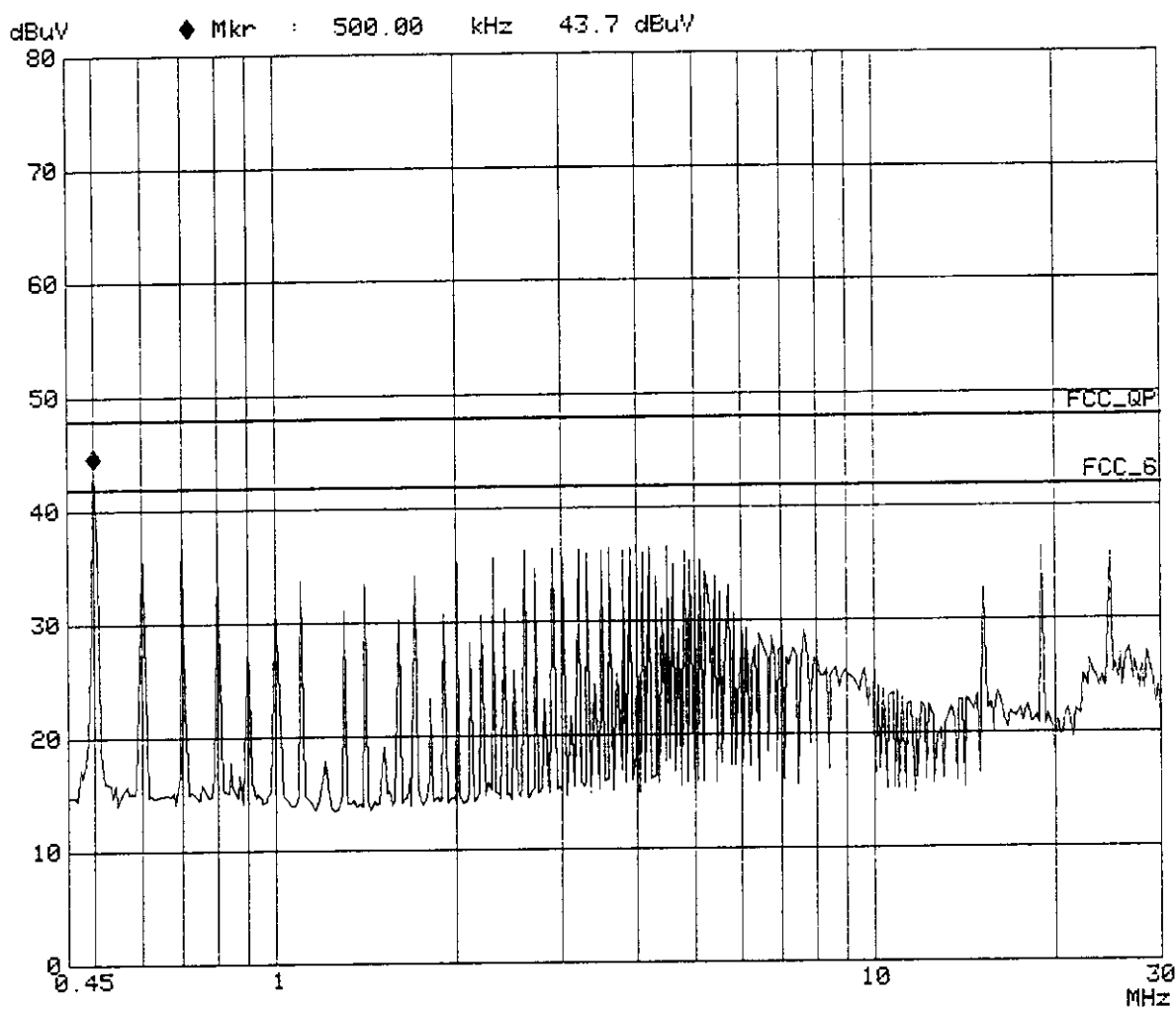
EUT: Notebook P.C.
Manuf: FIC
Op Cond: Mode:3, Full System
Operator: Robert Lee
Test Spec: FCC CLASS B
Comment: Line 1
M/N:Ruby 2.0
Date: 12. Jan 99 08:58



ROHDE & SCHWARZ ESHS 30

GesTek, PowerLine Conducted Emission

EUT: Notebook P.C.
Manuf: FIC
Op Cond: Mode:3, Full System
Operator: Robert Lee
Test Spec: FCC CLASS B
Comment: Line 2
M/N:Ruby 2.0
Date: 12. Jan 99 09:07



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

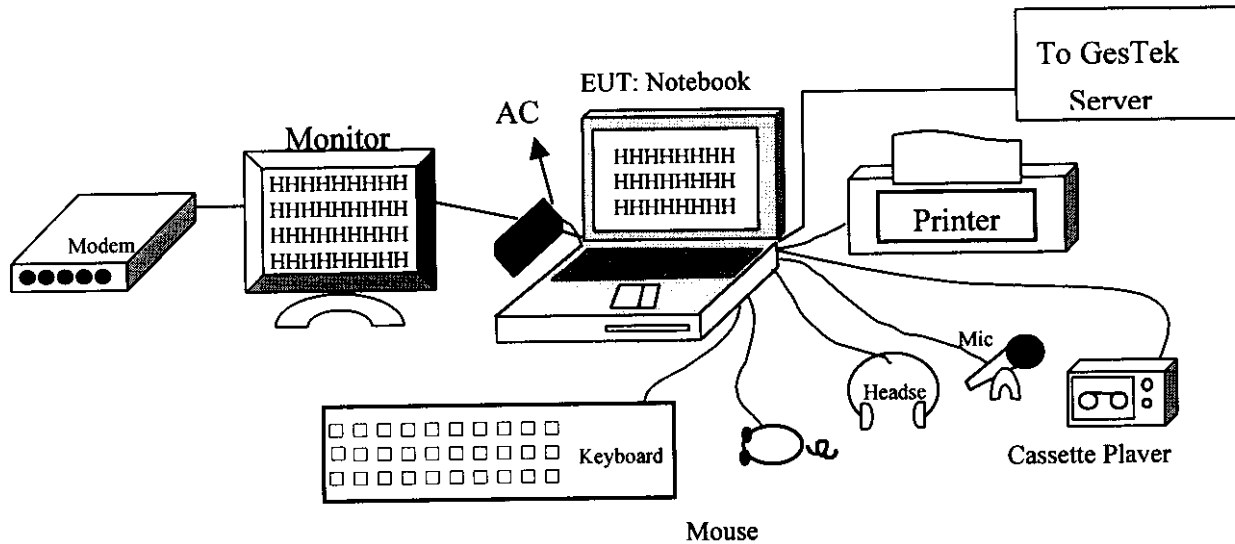
Instrument	Manufacturer	Type /Serial No.	Last Cal.	Site #1	Site #2
Test Receiver	Rohde & Schwarz	ESVS 10 / 842122/001	Dec. 16,1998	✓	
Spectrum Analyzer	HP	8594E / 3543A02689	N/A	✓	
Pre-Amplifier	HP	8447D / 2944A08272	N/A	✓	
Test Receiver	Rohde & Schwarz	ESCS 30/825022/003	Jul. 20,1998		✓
Spectrum Analyzer	HP	8591E/3543A05040	N/A		✓
Pre Amplifier	HP	8447D/2944A08273	N/A		✓
BILOG ANTENNA	Chase	CBL6112B/2417	May. 16,1998	✓	
BILOG ANTENNA	Chase	CBL6112B/2416	May. 16,1998		✓
Pre Amplifier	HP	8347A/3307A01401	N/A	✓	✓
Dipole Antenna	Schwarzbeck	VHAP/736,,737	May.19,1998	✓	✓
Dipole Antenna	Schwarzbeck	UHAP/719,,720	May.19,1998	✓	✓
Open Site	GesTek	GTK-RF-S01	Jul. 22, 1998	✓	
Open Site	GesTek	GTK-RF-S02	Jul. 03, 1998		✓
RF Cable	GesTek	GTK-RF-C01	May. 16,1998	✓	
RF Cable	GesTek	GTK-RF-C02	May. 16,1998	✓	
RF Cable	GesTek	GTK-RF-C03	May. 16,1998		✓
RF Cable	GesTek	GTK-RF-C04	May. 16,1998		✓
Test Program Software	GesTek	GTK-RF-P01	N/A	✓	
Test Program Software	GesTek	GTK-RF-P02	N/A		✓

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

GTK99-FOO1
CLASS II CHANGE

4.2 Test Setup

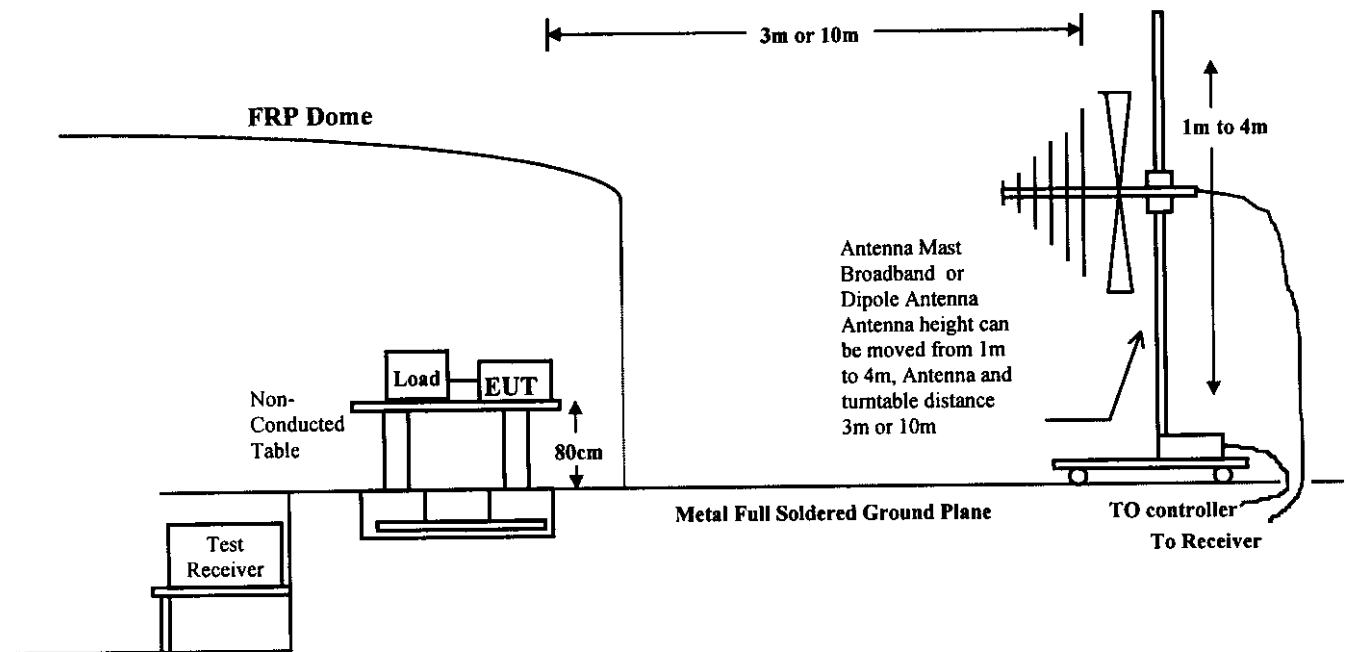
4.2.1 Block Diagram of Connections between EUT and simulators



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	uV/M	dBuV/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	dB(uV/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 :01-12,1999 Tue Temperature :20 deg/C
 EUT :NOTEBOOK P.C.(Mode 1) Humidity :70 %RH
 Working Cond.:RUBY 2.0, FULL SYSTE 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)	
66.401	1.60	6.08	22.55	30.23	32.46	100
84.536	1.85	8.36	23.50	33.71	48.49	100
128.847	2.19	12.27	18.71	33.17	45.53	150
152.326	2.36	10.47	22.27	35.11	56.92	150
157.479	2.40	10.06	22.58	35.04	56.47	150
168.363	2.49	9.70	23.42	35.61	60.33	150
199.519	2.80	10.20	27.34	40.34	103.99	150
200.430	2.80	10.20	25.08	38.08	80.17	150
224.996	2.96	11.38	23.44	37.78	77.40	200
*240.011	3.04	12.01	29.11	44.16	161.45	200
274.996	3.29	13.02	23.29	39.60	95.54	200
280.601	3.34	13.15	24.80	41.29	116.02	200
299.043	3.49	13.54	21.53	38.56	84.70	200
320.686	3.66	13.95	17.67	35.29	58.13	200
360.773	4.00	15.09	20.08	39.17	90.86	200
360.773	4.00	15.09	20.95	40.04	100.43	200
400.859	4.31	17.00	15.92	37.23	72.68	200
499.991	4.90	18.39	16.46	39.74	97.08	200
574.989	5.34	19.14	13.44	37.92	78.69	200
749.986	6.50	20.40	12.28	39.18	90.99	200
841.804	6.77	21.31	10.78	38.86	87.71	200

- Remarks: 1. All Readings below 1GHz are Quasi-Peak.
 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 :01-12,1999 Tue Temperature :20 deg/C
 EUT :NOTEBOOK P.C. (Mode 1) Humidity :70 %RH
 Working Cond.:RUBY 2.0, FULL SYSTE 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)
32.073	1.09	18.40	15.04	34.53	53.28 100
40.086	1.32	12.30	16.95	30.57	33.77 100
48.100	1.48	9.73	17.96	29.17	28.73 100
92.198	1.94	9.97	21.65	33.56	47.62 150
*100.215	2.00	11.27	27.93	41.19	114.75 150
108.233	2.04	11.77	18.39	32.20	40.75 150
128.277	2.19	12.27	18.75	33.21	45.75 150
157.481	2.40	10.06	25.19	37.65	76.26 150
168.363	2.49	9.70	20.95	33.14	45.40 150
200.430	2.80	10.20	19.67	32.67	43.00 150
224.996	2.96	11.38	16.96	31.30	36.71 200
240.010	3.04	12.01	19.68	34.73	54.52 200
298.761	3.49	13.54	17.43	34.46	52.83 200
360.773	4.00	15.09	14.86	33.95	49.82 200
400.860	4.31	17.00	17.28	38.59	84.99 200
499.991	4.90	18.39	17.23	40.51	106.08 200
774.986	6.55	20.66	10.16	37.37	73.85 200
857.212	6.80	21.48	11.11	39.39	93.21 200

Remarks: 1. All Readings below 1GHz are Quasi-Peak.

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 :01-12,1999 Tue Temperature :20 deg/C
 EUT :NOTEBOOK P.C.(Mode 2) Humidity :70 %RH
 Working Cond.:RUBY 2.0, FULL SYSTE 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)
40.086	1.32	12.30	9.16	22.78	13.77	100
66.403	1.60	6.08	22.99	30.67	34.15	100
84.179	1.83	8.01	21.56	31.40	37.15	100
128.847	2.19	12.27	19.66	34.12	50.80	150
157.481	2.40	10.06	24.41	36.87	69.71	150
200.430	2.80	10.20	24.63	37.63	76.12	150
224.996	2.96	11.38	24.71	39.05	89.59	200
297.787	3.49	13.54	26.79	43.82	155.21	200
324.993	3.71	14.06	20.58	38.35	82.70	200
360.773	4.00	15.09	19.43	38.52	84.31	200
400.859	4.31	17.00	15.78	37.09	71.51	200
*499.990	4.90	18.39	18.61	41.89	124.35	200
524.991	5.00	18.64	11.95	35.58	60.14	200
674.988	5.90	20.00	14.30	40.20	102.35	200
724.987	6.30	20.20	14.29	40.80	109.61	200
774.986	6.55	20.66	11.17	38.38	82.95	200

- Remarks:
1. All Readings below 1GHz are Quasi-Peak.
 - 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 :01-11,1999 Mon Temperature :20 deg/C
 EUT :NOTEBOOK P.C.(Mode 2) Humidity :70 %RH
 Working Cond.:RUBY 2.0, FULL SYSTE 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)
*33.060	1.09	18.40	16.82	36.31 65.39	100
70.496	1.60	6.20	18.89	26.69 21.60	100
128.848	2.19	12.27	11.48	25.94 19.81	150
157.481	2.40	10.06	17.25	29.71 30.57	150
199.996	2.80	10.20	23.76	36.76 68.87	150
224.996	2.96	11.38	21.49	35.83 61.84	200
272.012	3.28	12.98	22.34	38.60 85.07	200
298.603	3.49	13.54	21.82	38.85 87.58	200
360.773	4.00	15.09	17.49	36.58 67.43	200
400.859	4.31	17.00	20.48	41.79 122.85	200
481.031	4.82	17.99	19.25	42.06 126.78	200
521.117	4.98	18.60	16.67	40.25 102.90	200
624.988	5.65	19.71	14.24	39.60 95.47	200
674.987	5.90	20.00	12.30	38.20 81.30	200
801.719	6.60	20.90	11.27	38.77 86.83	200

- Remarks: 1. All Readings below 1GHz are Quasi-Peak.
 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 :01-11,1999 Mon Temperature :20 deg/C
 EUT :NOTEBOOK P.C (Mode 3) Humidity :70 %RH
 Working Cond.:RUBY 2.0, FULL SYSTE 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)
40.086	1.32	12.30	8.62	22.24	12.94	100
57.158	1.52	6.60	17.72	25.84	19.59	100
66.401	1.60	6.08	20.28	27.96	25.00	100
84.179	1.83	8.01	21.48	31.32	36.81	100
128.848	2.19	12.27	18.78	33.24	45.90	150
157.481	2.40	10.06	22.25	34.71	54.36	150
168.362	2.49	9.70	22.23	34.42	52.60	150
199.997	2.80	10.20	24.34	37.34	73.62	150
208.898	2.86	10.65	20.72	34.23	51.47	150
240.010	3.04	12.01	27.26	42.31	130.48	200
280.600	3.34	13.15	24.15	40.64	107.65	200
300.644	3.51	13.60	25.69	42.80	138.00	200
324.994	3.71	14.06	20.26	38.03	79.71	200
384.002	4.17	16.17	17.92	38.26	81.86	200
499.991	4.90	18.39	14.85	38.13	80.66	200
574.990	5.34	19.14	9.82	34.30	51.87	200
724.987	6.30	20.20	14.29	40.80	109.61	200
*841.805	6.77	21.31	15.12	43.20	144.55	200
924.983	7.05	22.09	9.19	38.33	82.52	200

Remarks: 1. All Readings below 1GHz are Quasi-Peak.
 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 :01-11,1999 Mon Temperature :20 deg/C
 EUT :NOTEBOOK P.C (Mode 3) Humidity :70 %RH
 Working Cond.:RUBY 2.0, FULL SYSTE 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)
40.086	1.32	12.30	16.77	30.39	33.07 100
66.215	1.60	6.08	22.15	29.83	31.00 100
111.285	2.06	12.09	17.21	31.36	36.97 150
128.847	2.19	12.27	20.78	35.24	57.79 150
140.300	2.30	11.30	17.79	31.39	37.13 150
157.480	2.40	10.06	26.28	38.74	86.46 150
186.114	2.66	9.64	19.01	31.30	36.75 150
199.998	2.80	10.20	22.98	35.98	62.95 150
232.499	2.99	11.65	19.10	33.74	48.65 200
300.643	3.51	13.60	17.83	34.94	55.83 200
400.859	4.31	17.00	19.51	40.82	109.87 200
440.945	4.63	17.32	18.23	40.17	101.99 200
*481.031	4.82	17.99	21.24	44.05	159.43 200
561.203	5.21	19.00	15.69	39.90	98.80 200
624.989	5.65	19.71	12.80	38.16	80.89 200
801.716	6.60	20.90	14.01	41.51	119.04 200

Remarks: 1. All Readings below 1GHz are Quasi-Peak.
 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 :01-12,1999 Tue Temperature :20 deg/C
 EUT :NOTEBOOK P.C.(Mode 1) Humidity :70 %RH
 Working Cond.:RUBY 2.0 (Peak& 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)
1000.000	7.70	22.00	45.18	39.18	90.99	500 PK
1000.000	7.70	22.00	40.56	34.56	53.46	500 AV
1025.000	7.73	22.00	39.83	33.90	49.53	500 PK
1025.000	7.73	22.00	32.64	26.71	21.65	500 AV
1074.945	7.78	22.39	41.37	35.96	62.80	500 PK
1074.945	7.78	22.39	33.23	27.82	24.60	500 AV
1174.945	7.89	23.17	38.55	34.19	51.24	500 PK
1174.945	7.89	23.17	31.67	27.31	23.21	500 AV
1249.953	7.97	23.91	39.07	35.65	60.63	500 PK
1249.953	7.97	23.91	32.19	28.77	27.46	500 AV

- 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, 35.66, 35.58, 35.42, 35.30)
 4. Deviations from the specifications: None.

Radiated Emission Data

Date of Test :01-12,1999 Tue Temperature :20 deg/C
 EUT :NOTEBOOK P.C (Mode 1) Humidity :70 %RH
 Working Cond.:RUBY 2.0(Peak & 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)
1000.000	7.70	22.00	45.68	39.68	96.38	500 PK
1000.000	7.70	22.00	45.52	39.52	94.62	500 AV
1000.000	7.70	22.00	46.21	40.21	102.45	500 PK
1000.000	7.70	22.00	45.42	39.42	93.54	500 AV
1000.000	7.70	22.00	46.17	40.17	101.98	500 PK
1000.000	7.70	22.00	41.53	35.53	59.77	500 AV
1025.028	7.73	22.00	35.97	30.04	31.76	500 AV
1025.055	7.73	22.00	42.10	36.17	64.32	500 PK
1075.047	7.78	22.39	41.26	35.85	62.02	500 PK
1075.047	7.78	22.39	36.50	31.09	35.85	500 AV
1100.072	7.81	22.82	39.59	34.68	54.20	500 PK
1100.072	7.81	22.82	33.49	28.58	26.85	500 AV
1249.847	7.97	23.91	38.79	35.37	58.70	500 PK
1249.847	7.97	23.91	31.62	28.20	25.71	500 AV

- 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, 35.70, 35.70, 35.66, 35.58,35.54, 35.30)
 4.Deviations from the specifications: None.

Radiated Emission Data

Date of Test :01-11,1999 Mon Temperature :20 deg/C
 EUT :NOTEBOOK P.C (Mode 2) Humidity :70 %RH
 Working Cond.:RUBY 2.0 (Peak & 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)
1000.010	7.70	22.00	44.41	38.41	83.27	500 PK
1000.010	7.70	22.00	39.82	33.82	49.09	500 AV
1074.950	7.78	22.39	41.95	36.54	67.13	500 PK
1074.950	7.78	22.39	36.15	30.74	34.43	500 AV
1249.880	7.97	23.91	39.28	35.86	62.11	500 PK
1249.880	7.97	23.91	30.34	26.92	22.19	500 AV

- 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, 35.58, 35.30)
 4.Deviations from the specifications: None.

Radiated Emission Data

Date of Test :01-11,1999 Mon Temperature :20 deg/C
 EUT :NOTEBOOK P.C. (Mode 2) Humidity :70 %RH
 Working Cond.:RUBY 2.0(Peak& 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)
1000.000	7.70	22.00	45.04	39.04	89.54	500 PK
1000.000	7.70	22.00	40.97	34.97	56.04	500 AV
1025.000	7.73	22.00	41.08	35.15	57.20	500 PK
1025.000	7.73	22.00	36.27	30.34	32.88	500 AV
1074.950	7.78	22.39	43.30	37.89	78.42	500 PK
1074.950	7.78	22.39	39.46	34.05	50.40	500 AV
1250.138	7.97	23.91	38.58	35.16	57.31	500 PK
1250.138	7.97	23.91	30.37	26.95	22.27	500 AV

- 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, 35.66, 35.58, 35.30)
 4. Deviations from the specifications: None.

Radiated Emission Data

Date of Test :01-11,1999 Mon Temperature :20 deg/C
 EUT :NOTEBOOK P.C (Mode 3) Humidity :70 %RH
 Working Cond.:RUBY 2.0 (Peak& 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)
1000.000	7.70	22.00	45.01	39.01	89.23 500 PK
1000.000	7.70	22.00	41.30	35.30	58.21 500 AV
1025.100	7.73	22.00	42.10	36.17	64.32 500 PK
1025.100	7.73	22.00	36.85	30.92	35.15 500 AV
1060.050	7.77	22.16	38.78	33.10	45.21 500 PK
1060.050	7.77	22.16	25.68	20.00	10.01 500 AV
1250.013	7.97	23.91	38.33	34.91	55.69 500 PK
1250.013	7.97	23.91	30.98	27.56	23.89 500 AV

- 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, 35.66, 35.60, 35.30)
 4. Deviations from the specifications: None.

Radiated Emission Data

Date of Test :01-11,1999 Mon Temperature :20 deg/C
 EUT :NOTEBOOK P.C.(Mode 3) Humidity :70 %RH
 Working Cond.:RUBY 2.0(Peak & 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)
1000.000	7.70	22.00	45.31	39.31	92.36	500 PK
1000.000	7.70	22.00	42.65	36.65	68.00	500 AV
1024.975	7.73	22.00	44.29	38.36	82.76	500 PK
1024.975	7.73	22.00	40.29	34.36	52.21	500 AV
1140.038	7.85	22.99	37.54	32.90	44.17	500 PK
1140.038	7.85	22.99	30.18	25.54	18.93	500 AV
1250.175	7.97	23.91	39.00	35.58	60.15	500 PK
1250.175	7.97	23.91	32.21	28.79	27.53	500 AV

- 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, 35.66, 35.48, 35.30)
 4.Deviations from the specifications: None.