

Test Report
Application for Certification
Class II Permissive Change
On Behalf Of
First International Computer Inc.
Notebook P.C.

Model: 2000

Prepared For:
First International Computer Inc.
6F.,Formosa Plastics Rear Bldg 201-24,Tun-Hwa N. Road,
Taipei, Taiwan, R.O.C.



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Test results given in this report only relate to the specimen(s) tested, calibrated or measured.
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1. Test Report Certification

Applicant : First International Computer Inc.

Manufacturer : First International Computer Inc.

EUT Description: Notebook P.C.

(A) Model No. : 2000
 (B) Serial No. : N/A
 (C) Power : 110V/60Hz

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. 18, 1999](#)
 Final Test Date : [Nov. 07, 1999](#)
 Documented by : [Joan Chein](#)

Test Engineer :

Approve & Authorized Signer :

[JEFF CHEN](#)

[RAYMOND CHANG](#)

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 P.C.
Model Number	:	2000
Serial Number	:	Prototype
Applicant	:	First International Computer Inc.
Address	:	6F., Formosa Plastics Rear Bldg 201-24, Tun-Hwa N. Road, Taipei, Taiwan, R.O.C.
Manufacturer	:	First International Computer Inc.
Address	:	122, Nan-Lin Rd., Taishan Hsiang, 243 Taipei, Taiwan, R.O.C.
Power Supply	:	100-240V~1.5A, 50/60Hz.

2.2 Results:

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

This Class B digital apparatus complies with Canadian ICES-003.

The Worst Emission data was found as following,

	Worst Emission Frequency (MHz)	Emission Level	Limit	Height of Antenna, Angel of Turntable
Conduction Mode 3	5.25631	42.8 dBuV Line 2, Q.P.	48.0dBuV	N/A
Radiation Mode 2	458.146	42.91[dB(uV/m)], Vertical	46.00 [dB(uV/m)]	1M, 121°

2.2.1 Test Mode:

Series Test Mode (GesTek Report No.#99A059F)

Mode 1	Item	Manufacturer	M/N & S/N
1.	CPU	AMD Mobile	K6-2P-400MHz, ACK
2.	LCD Panel 14.1 " TFT	Hyundai	M/N:HT14X11-103
3.	4.8GB HDD	Hitachi	M/N:DK239A-48
4.	FDD 3.5"	Mitsubishi	M/N:MF355H-347MN
5.	CD ROM 24X	TEAC	CD-224EA-92
6.	AC Adaptor	Delta	M/N:ADP-50MB
7.	Battery	Panasonic	Ni-MH 3800mAH 9.6V
8.	Resolution:1024 x 768, H-sync:48KHz, V-sync:60Hz.		
Mode 2			
1.	CPU	AMD Mobile	K6-2P, 433MHz, ADK
2.	LCD Panel 13.3" TFT	Hyundai	HT13X13-203
3.	6.4GB HDD	Fujitsu	M/N:MHH2064AT
4.	LS120	MKE	M/N:LKM-FB33-5
5.	DVD ROM 4X	MKE	SR-8173-C
6.	AC Adaptor	Lite-On	PA-1510-19FI
7.	Li-Ion Battery	Sanyo	4UR18650-2-1.6A.
8.	Resolution:1024 x 768, H-sync:48KHz, V-sync:60Hz.		
Mode 3			
1.	CPU	AMD Mobile	K6-III-P, 450MHz, ACK
2.	LCD Panel 14.1" TFT	LG	M/N:LP141XA-A1NA
3.	6.4GB HDD	Fujitsu	MHH2064AT
4.	FDD 3.5"	Mitsubishi	LS-120
5.	CD ROM 24X	TEAC	CD-224EA-92
6.	AC Adaptor	Delta	ADP-50MB
7.	Li-Ion Battery	Panasonic	CGR18650
8.	Resolution:1024 x 768, H-sync:48KHz, V-sync:60Hz.		
Mode 4			
1.	CPU	AMD Mobile	K6-2P-400MHz, AFK
2.	LCD Panel 14.1" TFT	Hitachi	TX36D81VC1CAC
3.	4.8GB HDD	Hitachi	DK239A-48
4.	LS120	Mitsubishi	MF357H-2252MG
5.	CD ROM 24X	TEAC	CD-224EA-92
6.	AC Adaptor	Lite-On	PA-1510-19FI
7.	Ni-MH Battery	Panasonic	Ni-MH 3800mAH, 9.6V
8.	Resolution:1024 x 768, H-sync:48KHz, V-sync:60Hz.		

Mode 5			
1.	CPU	AMD Mobile	K6-2P-450MHz, ADK
2.	LCD Panel 13.3" TFT	Hyundai	HT13X13-203
3.	4.8GB HDD	Hitachi	DK239A-48
4.	LS120	Misubishi	MF357H-2252MG
5.	CD ROM 24X	TEAC	CD-224EA-92
6.	AC Adaptor	Lite-On	PA-1510-19FI
7.	Ni-MH Battery	Panasonic	Ni-MH 3800mAH 9.6V
8.	Resolution:1024 x 768, H-sync:48KHz, V-sync:60Hz.		

Original Test Mode (Original Report No.#998018F)

Mode 1	Item	Manufacturer	M/N & S/N
1.	CPU	Mobile K6-2	350MHz
2.	LCD Panel 12.1 " DSTN	Panasonic	M/N:EDMGRB6KAF
3.	3.2GB HDD	Toshiba	M/N:3212MAT
4.	FDD 3.5"	Mitsubishi	MF355H-347MN
5.	CD ROM 24X	TEAC	CD-224EA-92
6.	AC Adaptor	Delta	M/N:ADP-50MB
7.	Battery	Panasonic	Ni-MH 3800mAH 9.6V
8.	Resolution:800 x 600, H-sync:38KHz, V-sync:60Hz.		
Mode 2			
1.	CPU	Mobile K6-2	380MHz
2.	LCD Panel 12.1" TFT	Sanyo	TM121SV-02L03A
3.	4.8GB HDD	Fujitsu	MHH2048AT
4.	FDD 3.5"	Mitsumi	D353F3
5.	DVD ROM 4X	MKE	SR-8173-C
6.	AC Adaptor	Lite-On	PA-1510-19FI
7.	Li-Ion Battery	Panasonic	CGR18650(2800mA)
8.	Resolution:800 x 600, H-sync:38KHz, V-sync:60Hz.		
Mode 3			
1.	CPU	Mobile K6-2	400MHz
2.	LCD Panel 14.1" TFT	CPT	CLAA141XB01
3.	10GB HDD	IBM	DCXA-21000
4.	FDD 3.5"	Mitsubishi	MF355H-347MN
5.	CD-ROM 24X	TEAC	CD-224EA-92
6.	AC Adaptor	Delta	ADP-50MB
7.	Li-Ion Battery	Panasonic	CGR18650(2800mA)
8.	Resolution:1024 x 768, H-sync:48KHz, V-sync:60Hz.		
Mode 4			
1.	CPU	Mobile K6-2	366MHz
2.	LCD Panel 13.3" TFT	ADT	L133X1-3
3.	6.4GB HDD	Hitachi	DK239A-65
4.	LS120	MKE	LKM-FB33-5
5.	DVD ROM 4X	Toshiba	SD-C2202
6.	AC Adaptor	Lite-On	PA-1510-19FI
7.	Ni-MH Battery	Panasonic	Ni-MH 3800mAH 9.6V
8.	Resolution:1024 x 768, H-sync:48KHz, V-sync:60Hz.		

2.2.2Note:

1. This Notebook computer can support different CPU/Clock frequency modes and can support different types of LCD panel. The test condition of 400, 433, 450MHz 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. The Notebook computer was upgrade CPU to 400, 433, 450 and added four panels' inverters; original report number is 998018F. the following is modification items:

a.Added four panel

LCD Panel 14.1" TFT	#1	Hyundai	HT14X11-103, S/N:49Q99710303100008
LCD Panel 14.1" TFT	#2	LG	LP141XA-A1NA, S/N:14198P1542857
LCD Panel 14.1" TFT	#3	Hitachi	TX36D81VC1CAC, S/N:35 01 00 9 H 01 290943
LCD Panel 13.3" TFT	#4	Hyundai	HT13X13-203, S/N:53Q99820354140045

b.Added four inverter

Inverter Board #1	AMBIT, Rev:1	T90.009.C.00,
Inverter Board #2	KAI HWA, Rev:1A	12-01294-02
Inverter Board #3	KAI HWA	PWB-IV12098T1B3
Inverter Board #4	KAI HWA	PWB-IV12098T1B3

c.Added five CPU

CPU #1	AMD Mobile	K6-2P, 400MHz, ACK/Clock:100MHz.
CPU #2	AMD Mobile	K6-2P, 433MHz, ADK/Clock:95MHz.
CPU #3	AMD Mobile	K6-III-P,450MHz, ACK/Clock:100MHz.
CPU #4	AMD Mobile	K6-2P,400MHz/ AFK/Clock:100MHz.
CPU #5	AMD Mobile	K6-2P,450MHz, ADK/Clock:100MHz.

3. The data shown in this test report reflects the worst-case data for each frequency/video resolution.

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 P.C. (EUT)

No.	Category	Vendor	Model
1.	Mother Board	FIC	50-70402-02, Ver:0.3
2.	Audio Board #1	FIC	P/N:50-70407-00, Ver:0.1
3.	Audio Board #2	FIC	P/N:50-70402-02, Ver:0.3
4.	DC to DC Board #1	FIC	50-70406-02, Ver:0.3
5.	DC to DC Board #2	FIC	50-70407-02, Ver:0.3
6.	CPU #1	AMD Mobile	K6-2P, 400MHz, ACK/Clock:100MHz.
7.	CPU #2	AMD Mobile	K6-2P, 433MHz, ADK/Clock:95MHz.
8.	CPU #3	AMD Mobile	K6-III-P,450MHz, ACK/Clock:100MHz.
9.	CPU #4	AMD Mobile	K6-2P,400MHz/, AFK/Clock:100MHz.
10.	CPU #5	AMD Mobile	K6-2P,450MHz, ADK/Clock:100MHz.
11.	LCD Panel 14.1" TFT #1	Hyundai	HT14X11-103, S/N:49Q99710303100008
12.	LCD Panel 14.1" TFT #2	LG	LP141XA-A1NA, S/N:14198P1542857
13.	LCD Panel 14.1" TFT #3	Hitachi	TX36D81VC1CAC, S/N:35 01 00 9 H 01 290943
14.	LCD Panel 13.3" TFT #4	Hyundai	HT13X13-203, S/N:53Q99820354140045
15.	4.8GB HDD #1	Hitachi	DK239A-48
16.	6.4GB HDD #2	Fujitsu	MHH2064AT
17.	FDD 3.5" #1	Mitsubishi	MF355H-347MN
18.	FDD 3.5" #2	Mitsumi	D353F3
19.	LS120 #1	MKE	LKM-FB33-5
20.	LS120 #2	Misubishi	MF357H-2252MG
21.	CD ROM 24X	TEAC	CD-224EA-92.
22.	DVD-ROM 4X	MKE	SR-8173-C.
23.	Ni-MH Battery #1	Panasonic	3800mAh, 9.6V
24.	Li-Ion Battery #2	Sanyo	4UR18650-2-1.6A
25.	Li-Ion Battery #3	Panasonic	CGR18650
26.	AC Adaptor #1	Delta	ADP-50MB
27.	AC Adaptor #2	Lite-On	PA-1510-19FI
28.	Inverter Board #1	AMBIT, Rev:1	T90.009.C.00,
29.	Inverter Board #2	KAI HWA, Rev:1A	12-01294-02
30.	Inverter Board #3	KAI HWA	PWB-IV12098T1B3
31.	Inverter Board #4	KAI HWA	PWB-IV12098T1B3
32.	Touch Pad	ALPS	KGDDG2941A
33.	Keyboard	JME	K980105S1 US *99/32, P/N:71-30411-00

☒ Monitor M01-009

Model Number : SyncMaster 700p
Serial Number : H3MH903253H
Manufacturer : SAMSUNG
FCC ID : A3LCGH760
BSMI ID : 3872A230
Data Cable : Shielded, Undetachable, 1.2m
Power Cord : Non-Shielded, Detachable, 1.5m

☒ Keyboard K01-038

Model Number : KB-5923
Serial Number : 8060032220
FCC ID : E8HKB-5923
Manufacturer : TATUNG
BSMI ID : 3862A177
Data Cable : Sheiled, Undetachable, 2.0 m
Purchase Date : 8/6/1998

☒ Printer P01-008

Model Number : C2642A(DJ-400)
Serial Number : MY7951C4RP
FCC ID : B94C2642X
Manufacturer : HP
Adaptor, Power Cord : Non-Shielded, Detachable, 1.8m
Data Cable : Shielded, Detachable, 1.2m

☒ Modem M03-007

Model Number : 1414
Serial Number : 960011394
FCC ID : IFAXDM1414
Manufacturer : ACEEX
Adaptor, Power Cord : Non-Shielded, Detachable, 1.8m
Data Cable : Shielded, Detachable, 1.2m

☒ Headset&Microphone E01-020

Model Number : SX-M1
Serial Number : N/A
Manufacturer : TOKYO
Power Cord : N/A
Data Cable : Non-Shielded, Undetachable, 1.8 m
Purchase Date : 2/22/1999

☒ Cassette Player R02-010

Model Number : HS-GS162
Serial Number : LYJ1084567
FCC ID : N/A
Manufacturer : AIWA CO., LTD
Power Cord : N/A (Battery)
Date Cable : Non-Shielded,Detachable,1.5m

☒ Mouse M02-044 (USB)

Model Number : M-UB48
Serial Number : LZB81900646
FCC ID : DZL211137
Manufacturer : Logitech Inc..
Data Cable : Shielded, Undetachable, 1.5m
BSMI ID : 4872A001

☒ Mouse M02-043 (USB)

Model Number : M-UB48
Serial Number : LZB81900646
FCC ID : DZL211137
Manufacturer : Logitech Inc..
Data Cable : Shielded, Undetachable, 1.5m
BSMI ID : 4872A001

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 Test

3.1 Test Equipments

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

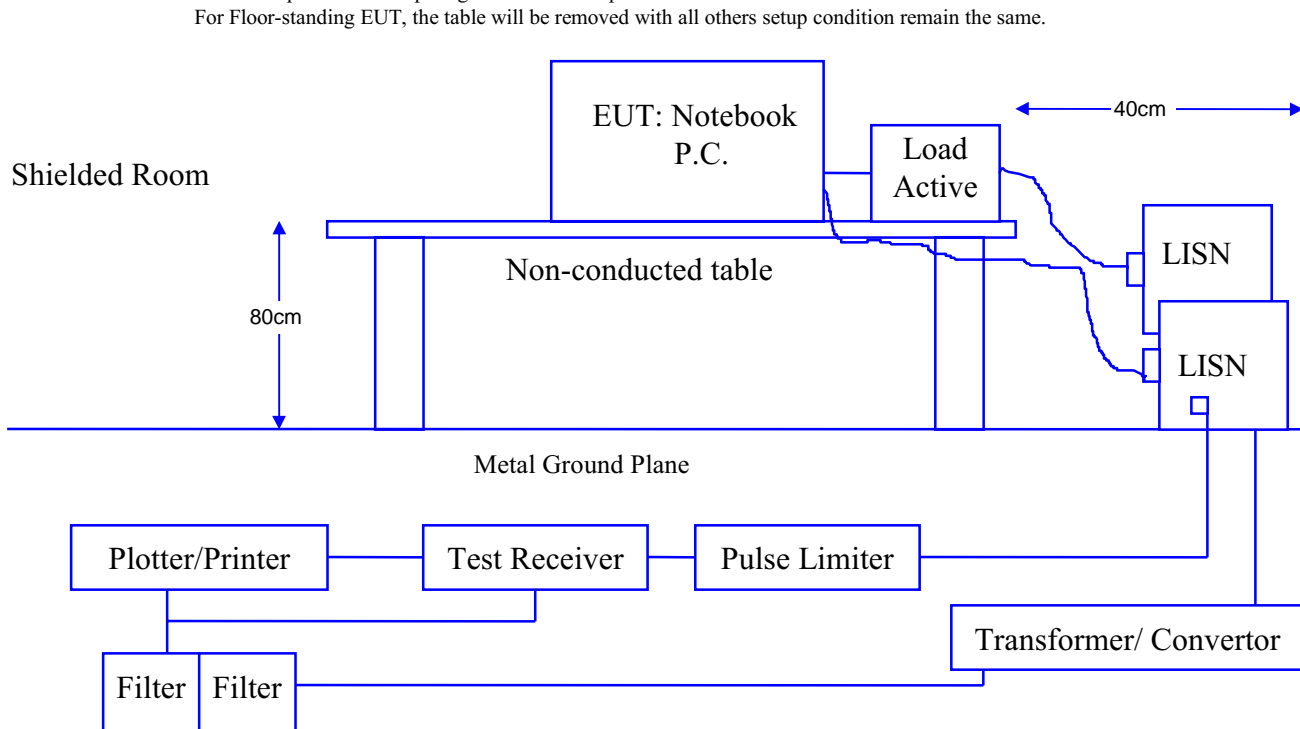
Item	Instrument	Manufacturer	Type /Serial No.	Last Calibration	Location	C.E.
1	Test Receiver	Rohde & Schwarz	ESHS 30 / 828109/010	Dec. 15, 1998	Shield Room #1	✓
2	L.I.S.N.	Kyoritsu	KNW-407	Sep. 28, 1999	Shield Room #1	
3	L.I.S.N.	Solar	8012-50-R24 / 90038	May 20, 1999	Shield Room #1	✓
4	L.I.S.N.	Rohde & Schwarz	ESH3-Z5 / 840567/002	Sep. 28, 1999	Shield Room #1	
5	L.I.S.N.	Schwarzbeck	NNLK 8121/8121358	May 20, 1999	Shield Room #1	✓
6	Pulse Limiter	Rohde & Schwarz	ESH3-Z2/357.8810.52	Jun. 02, 1999	Shield Room #1	✓
7	Shielded Room	GesTek	GTK-RF-S04	Sep. 05, 1999	Shield Room #1	✓
8	RF CABLE	GesTek	GTK-RF-C07	Sep. 05, 1999	Shield Room #1	✓
9	50 Ohm Terminator	GesTek	GTK-RF-T01	Sep. 28, 1999	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 80cm. 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 P.C. from Hard Disk and Enter to windows 98, exercise EMI.EXE test program to active all devices.
- 3.5.4 Play CD Disk audio (Mode 2 is play DVD-ROM) in windows environment, read HDD and FDD data.
- 3.5.5 P.C. sent "H" Pattern to Both LCD Panel And Ext. Monitor.
- 3.5.6 P.C. sent "H" Pattern to Parallel port.
- 3.5.7 P.C. 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	: <u>Oct. 29, 1999</u>	Temperature	: <u>24.9 °C</u>
EUT	: <u>Notebook P.C.</u>	Humidity	: <u>48 %</u>
Test Mode	: <u>Mode 1</u>	Display Pattern	: <u>H Pattern</u>

FREQUENCY	READING LEVEL				LIMIT
	LINE 1		LINE 2		
MHz	dBuV	uV	dBuV	uV	uV
0.53906	31.6	38.02	34.3	51.88	48.0
1.41451	32.0	39.81	33.3	46.24	48.0
3.23431	37.7	76.74	37.4	74.13	48.0
**4.91827	40.3	103.51	40.3	103.51	48.0
13.61584	31.6	38.02	31.1	35.89	48.0
21.50038	39.3	92.26	39.7	96.61	48.0

- 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.

CONDUCTED EMISSION DATA

Date of Test : Oct. 29, 1999 Temperature : 25.4 °C
 EUT : Notebook P.C. Humidity : 49 %
 Test Mode : Mode 2 Display Pattern : H Pattern

FREQUENCY	READING LEVEL				LIMIT
	LINE 1		LINE 2		
MHz	dBuV	uV	dBuV	uV	uV
1.28308	21.5	11.89	22.9	13.96	48.0
1.95034	22.9	13.96	20.2	10.23	48.0
3.94201	28.9	27.86	28.3	26.00	48.0
5.94379	31.5	37.58	31.5	37.58	48.0
12.28501	26.1	20.18	26.0	19.95	48.0
**21.50038	36.6	67.61	37.2	72.44	48.0

- 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.

CONDUCTED EMISSION DATA

Date of Test	: Oct. 29, 1999	Temperature	: 24.8 °C
EUT	: Notebook P.C.	Humidity	: 48 %
Test Mode	: Mode 3	Display Pattern	: H Pattern

FREQUENCY MHz	READING LEVEL				LIMIT uV
	LINE 1		LINE 2		
	dBuV	uV	dBuV	uV	
0.47110	33.4	46.77	35.7	60.95	48.0
1.21231	31.3	36.73	33.3	46.24	48.0
2.62771	37.3	73.28	38.9	88.10	48.0
**5.25631	41.6	120.23	42.8	138.04	48.0
11.78281	28.8	27.54	33.8	48.98	48.0
21.50038	38.2	81.28	40.6	107.15	48.0

- 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.

CONDUCTED EMISSION DATA

Date of Test : Oct. 29, 1999 Temperature : 25 °C
 EUT : Notebook P.C. Humidity : 49 %
 Test Mode : Mode 4 Display Pattern : H Pattern

FREQUENCY	READING LEVEL				LIMIT
	LINE 1		LINE 2		
MHz	dBuV	uV	dBuV	uV	uV
0.52385	17.2	7.24	22.4	13.18	48.0
1.75825	24.4	16.60	24.6	16.98	48.0
4.04311	28.2	25.70	27.5	23.71	48.0
10.67797	13.1	4.52	17.4	7.41	48.0
16.50105	15.3	5.82	14.8	5.50	48.0
**21.50038	36.9	69.98	35.5	59.57	48.0

- 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.

CONDUCTED EMISSION DATA

Date of Test	: Nov. 02, 1999	Temperature	: 24 °C
EUT	: Notebook P.C.	Humidity	: 56 %
Test Mode	: Mode 5	Display Pattern	: H Pattern

FREQUENCY MHz	READING LEVEL				LIMIT uV
	LINE 1		LINE 2		
	dBuV	uV	dBuV	uV	
0.56725	35.4	58.88	33.1	45.19	48.0
0.84842	34.4	52.48	32.0	39.81	48.0
2.26055	35.7	60.95	34.3	51.88	48.0
3.81912	39.2	91.20	39.6	95.50	48.0
**4.17377	40.6	107.15	40.5	105.93	48.0
21.50518	38.6	85.11	38.5	84.14	48.0

- 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.

4. Radiation Emission Test

4.1 Test Equipment

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

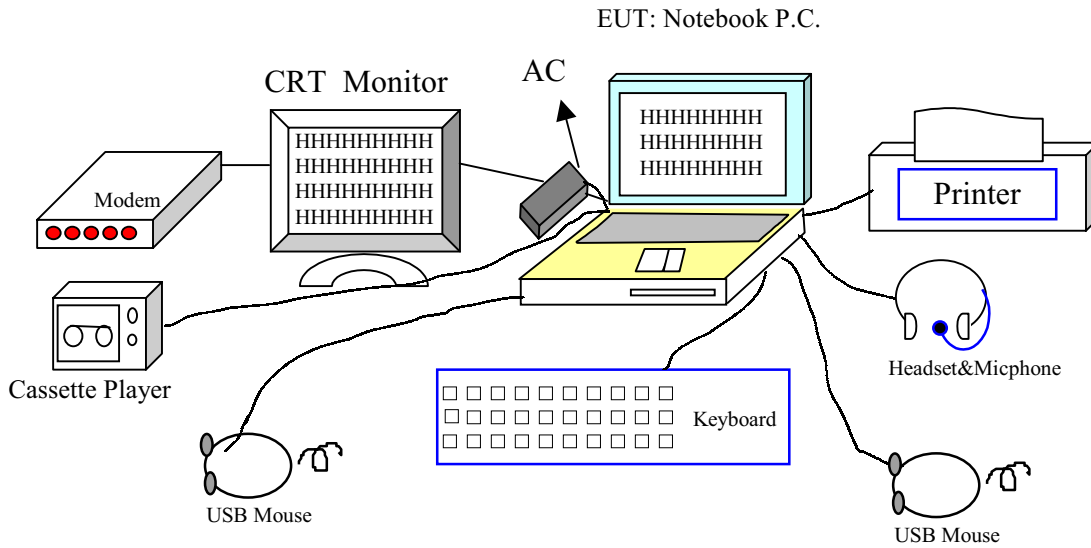
Radiated test was performed on : Site #1 Site #2

Item	Instrument	Manufacturer	Type /Serial No.	Last Cal.	Site #1	Site #2
1	Test Receiver	Rohde & Schwarz	ESVS 30 / 829007/014	Nov. 23,1998	√	
2	Spectrum Analyzer	HP	8594E / 3543A02689	N/A	√	
3	Pre-Amplifier	HP	8447D / 2944A08272	N/A	√	
4	Test Receiver	Rohde & Schwarz	ESCS 30/825022/003	Jun. 17,1999		√
5	Spectrum Analyzer	HP	8591E/3543A05040	N/A		√
6	Pre Amplifier	HP	8447D/2944A08273	N/A		√
7	BILOG ANTENNA	Chase	CBL6112B/2417	May. 15,1999	√	
8	BILOG ANTENNA	Chase	CBL6112B/2416	May. 15,1999		√
9	Pre Amplifier	HP	8347A/3307A01401	N/A	√	√
10	Open Site	GesTek	GTK-RF-S01	Jan. 05, 1999	√	
11	Open Site	GesTek	GTK-RF-S02	Jan. 03, 1999		√
12	RF Cable	GesTek	GTK-RF-C01	May. 15,1999	√	
13	RF Cable	GesTek	GTK-RF-C02	May. 15,1999	√	
14	RF Cable	GesTek	GTK-RF-C03	Mar. 26,1999		√
15	Test Program Software	GesTek	GTK-RF-P01	N/A	√	
16	Test Program Software	GesTek	GTK-RF-P02	N/A		√
17	Spectrum Analyzer	Advantest	R3272 / 82420372	May, 05, 1999		√
18	Spectrum Analyzer	Advantest	R3272 / 82420232	May, 06, 1999	√	
19	Pre Amplifier	HP	8449B / 3008A01264	N/A		√
20	Pre Amplifier	HP	8449B / 3008A01263	N/A	√	
21	Horn Antenna	Electro-Metrics	EM-6961 / 103329	Apr, 30, 1999		√
22	Horn Antenna	Electro-Metrics	EM-6961 / 103318	Apr, 30, 1999	√	

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

4.2 Test Setup

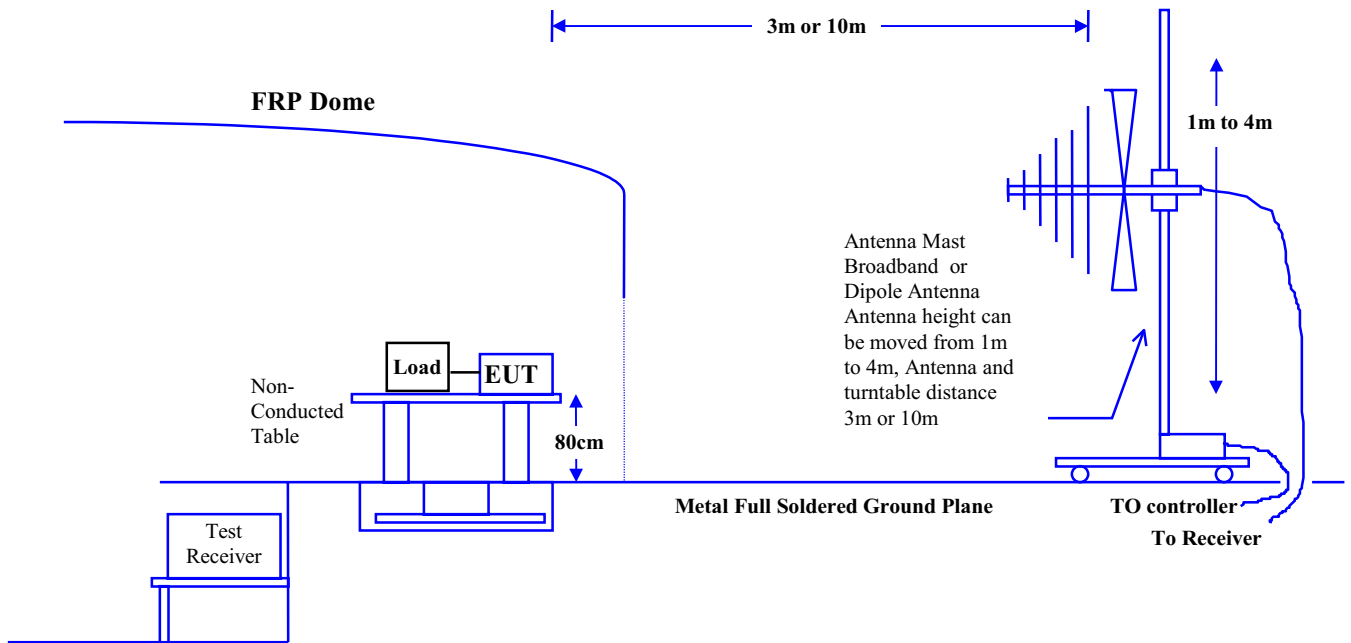
4.2.1 Block Diagram of Connections between EUT and simulators



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

Note: The frequencies above 1000MHz, as measured using instrumentation with a peak detector function was corresponding to 20dB above the maximum permitted average limit.

(refer 47CFR Ch. 1 (10-1-98 Edition §15.35(b))

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 :10-20,1999 Wed. Temperature :25 deg/C
 EUT :NOTEBOOK P.C. Humidity :50 %RH
 Working Cond.:Mode 1 Display Pattern:H Pattern

Frequency [MHz]	Cable Loss [dB]	Antenna Factor [dB/m]	Reading Level Vertical [dB(uV)]	Emission Level Vertical [dB(uV/m)]	(uV/m)	Limit (uV/m)
84.549	1.34	8.25	14.04	23.63	15.18	100
108.840	1.40	10.97	5.23	17.60	7.59	150
154.625	1.38	11.03	8.65	21.06	11.30	150
185.439	1.72	9.94	10.59	22.25	12.96	150
192.000	1.92	9.88	16.60	28.40	26.29	150
207.260	2.00	10.23	11.85	24.08	15.99	150
231.600	2.00	11.50	10.56	24.06	15.96	200
250.891	2.00	12.50	14.57	29.07	28.41	200
288.000	2.32	13.28	11.97	27.57	23.89	200
*300.711	2.40	13.60	15.60	31.60	38.02	200
401.129	3.02	16.20	5.94	25.16	18.10	200
501.252	3.41	17.30	2.72	23.43	14.85	200
589.050	3.92	18.67	7.95	30.55	33.68	200
638.986	4.12	18.09	3.32	25.53	18.90	200
801.460	4.70	20.70	1.68	27.08	22.60	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 :10-29,1999 Fri. Temperature :25 deg/C
 EUT :NOTEBOOK P.C. Humidity :58 %RH
 Working Cond.:Mode 2 Display Pattern:H Pattern

Frequency [MHz]	Cable Loss [dB]	Antenna Factor [dB/m]	Reading Level Horizontal [dB(uV)]	Emission Level Horizontal [dB(uV/m)]	(uV/m)	Limit (uV/m)
62.220	1.02	6.38	20.52	27.92	24.88	100
122.882	1.39	12.00	13.94	27.33	23.25	150
159.128	1.40	10.76	16.98	29.14	28.64	150
196.349	1.92	9.84	22.04	33.80	48.96	150
223.320	2.00	11.08	17.55	30.63	33.99	200
327.248	2.58	14.32	22.33	39.22	91.46	200
336.031	2.61	14.52	13.08	30.21	32.41	200
392.697	2.97	16.03	10.00	29.00	28.18	200
*458.147	3.24	16.96	17.40	37.60	75.88	200
719.945	4.39	19.23	7.65	31.27	36.59	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 :11-02,1999 Tue. Temperature :25 deg/C
 EUT :NOTEBOOK P.C. Humidity :55 %RH
 Working Cond.:MODE:5 Display Pattern:H Pattern

Frequency [MHz]	Cable Loss [dB]	Antenna Factor [dB/m]	Reading Level Horizontal [dB(uV)]	Emission Level Horizontal [dB(uV/m)]	(uV/m)	Limit (uV/m)
52.347	0.94	8.67	20.24	29.85	31.09	100
66.323	1.06	6.73	20.56	28.35	26.15	100
*85.074	1.34	8.25	20.59	30.18	32.27	100
130.901	1.36	12.00	18.78	32.14	40.46	150
163.626	1.46	10.54	16.65	28.65	27.07	150
183.251	1.72	9.98	15.69	27.39	23.41	150
192.016	1.92	9.88	20.76	32.56	42.45	150
196.352	1.92	9.84	21.26	33.02	44.76	150
209.450	2.00	10.33	21.14	33.47	47.16	150
215.974	2.00	10.65	16.74	29.39	29.48	150
229.072	2.00	11.40	15.39	28.79	27.50	200
248.696	2.00	12.46	15.40	29.86	31.12	200
274.896	2.19	13.02	18.14	33.35	46.50	200
327.247	2.58	14.32	12.69	29.58	30.15	200
392.699	2.97	16.03	13.41	32.41	41.73	200
902.080	4.90	21.48	4.30	30.68	34.21	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 :10-20,1999 Wed.	Temperature :25 deg/C
EUT :Notebook P.C.	Humidity :50 %RH
Working Cond.:Mode 1 PK+AV	Display Pattern:H Pattern

Frequency [MHz]	Cable Loss [dB]	Antenna Factor [dB/m]	Reading Level Horizontal [dB(uV)]	Emission Level Horizontal [dB(uV/m)]	(uV/m)	Limit (uV/m)
1001.680	5.31	21.33	48.60	37.54	75.36	500 PK
1001.680	5.31	21.33	34.66	23.60	15.14	500 AV
1201.700	6.31	23.30	50.65	42.89	139.45	500 PK
1201.700	6.31	23.30	35.38	27.62	24.04	500 AV
1603.240	7.61	25.41	40.27	36.43	66.30	500 PK
1603.240	7.61	25.41	30.59	26.75	21.75	500 AV

Remarks:

- 1.All Readings are Quasi-Peak & average values.
- 2.Emission Level = Reading Level + Antenna Factor + Cable loss-Amp Factor(37.00,37.37,36.86)
- 3.Deviations from the specifications: None.
- 4.The frequncies above 1000MHz, as measured using instrumentation with a peak detector function was corresponding to 20dB above the maximum permitted average limit.

Radiated Emission Data

Date of Test :10-21,1999 Thu.	Temperature :25 deg/C
EUT :Notebook P.C.	Humidity :55 %RH
Working Cond.:Mode 3 PK+AV	Display Pattern:H Pattern

Frequency [MHz]	Cable Loss [dB]	Antenna Factor [dB/m]	Reading Level Horizontal [dB(uV)]	Emission Level Horizontal [dB(uV/m)]	(uV/m)	Limit (uV/m)
1002.450	5.34	21.33	32.45	21.42	11.78	500 AV
1002.450	5.34	21.33	45.23	34.20	51.29	500 PK
1354.500	6.76	24.27	29.90	23.80	15.49	500 AV
1354.500	6.76	24.27	46.61	40.51	106.09	500 PK
1806.500	8.22	26.19	43.38	41.01	112.29	500 PK
1806.500	8.22	26.19	34.06	31.69	38.40	500 AV

Remarks:

1. All Readings are Quasi-Peak & average values.
2. Emission Level = Reading Level + Antenna Factor + Cable loss-Amp Factor(37.70,37.13,36.78)
3. Deviations from the specifications: None.
4. The frequncies above 1000MHz, as measured using instrumentation with a peak detector function was corresponding to 20dB above the maximum permitted average limit.

Radiated Emission Data

Date of Test :10-21,1999 Thu.	Temperature :25 deg/C
EUT :Notebook P.C.	Humidity :55 %RH
Working Cond.:Mode 3 PK+AV	Display Pattern:H Pattern

Frequency [MHz]	Cable Loss [dB]	Antenna Factor [dB/m]	Reading Level Vertical [dB(uV)]	Emission Level Vertical [dB(uV/m)]	(uV/m)	Limit (uV/m)
1002.400	5.34	21.33	42.87	31.84	39.09	500 PK
1002.400	5.34	21.33	31.84	20.81	10.98	500 AV
1304.300	6.61	23.93	42.97	36.30	65.31	500 PK
1304.300	6.61	23.93	33.02	26.35	20.77	500 AV
1802.600	8.22	26.12	42.91	40.46	105.46	500 PK
1802.600	8.22	26.12	31.34	28.89	27.83	500 AV

Remarks:

1. All Readings are Quasi-Peak & average values.
2. Emission Level = Reading Level + Antenna Factor + Cable loss-Amp Factor(37.00,37.21,36.79)
3. Deviations from the specifications: None.
4. The frequncies above 1000MHZ, as measured using instrumentation with a peak detector function was corresponding to 20dB above the maximum permitted average limit.

Radiated Emission Data

Date of Test :10-18,1999 Mon.	Temperature :25 deg/C
EUT :Notebook P.C.	Humidity :55 %RH
Working Cond.:Mode 4 PK+AV	Display Pattern:H Pattern

Frequency [MHz]	Cable Loss [dB]	Antenna Factor [dB/m]	Reading Level Horizontal [dB(uV)]	Emission Level Horizontal [dB(uV/m)] (uV/m)		Limit (uV/m)
1203.220	6.31	23.31	54.00	48.25	258.52	500 PK
1203.220	6.31	23.31	43.16	37.41	74.22	500 AV
1310.790	6.64	23.97	48.97	44.38	165.58	500 PK
1310.790	6.64	23.97	43.26	38.67	85.80	500 AV
1639.050	7.72	25.68	46.87	45.43	186.85	500 PK
1639.050	7.72	25.68	36.21	34.77	54.76	500 AV

Remarks:

1. All Readings are Quasi-Peak & average values.
2. Emission Level = Reading Level + Antenna Factor + Cable loss-Amp Factor(35.38,35.20,34.84)
3. Deviations from the specifications: None.
4. The frequncies above 1000MHz, as measured using instrumentation with a peak detector function was corresponding to 20dB above the maximum permitted average limit.

Radiated Emission Data

Date of Test :10-18,1999 Mon.	Temperature :25 deg/C
EUT :Notebook P.C.	Humidity :55 %RH
Working Cond.:Mode 4 PK+AV	Display Pattern:H Pattern

Frequency [MHz]	Cable Loss [dB]	Antenna Factor [dB/m]	Reading Level Vertical [dB(uV)]	Emission Level Vertical [dB(uV/m)]	(uV/m)	Limit (uV/m)
1203.410	6.31	23.31	52.54	46.79	218.52	500 PK
1203.410	6.31	23.31	42.13	36.38	65.92	500 AV
1304.310	6.61	23.93	50.94	46.27	205.83	500 PK
1304.310	6.61	23.93	41.10	36.43	66.30	500 AV
1410.720	6.96	24.66	49.06	45.63	191.21	500 PK
1410.720	6.96	24.66	39.28	35.85	62.02	500 AV

Remarks:

1. All Readings are Quasi-Peak & average values.
2. Emission Level = Reading Level + Antenna Factor + Cable loss-Amp Factor(35.38,35.21,35.04)
3. Deviations from the specifications: None.
4. The frequncies above 1000MHz, as measured using instrumentation with a peak detector function was corresponding to 20dB above the maximum permitted average limit.

Radiated Emission Data

Date of Test :11-02,1999 Tue.	Temperature :25 deg/C
EUT :Notebook P.C.	Humidity :55 %RH
Working Cond.:Mode 5 PK+AV	Display Pattern:H Pattern

Frequency [MHz]	Cable Loss [dB]	Antenna Factor [dB/m]	Reading Level Horizontal [dB(uV)]	Emission Level Horizontal [dB(uV/m)] (uV/m)		Limit (uV/m)
1351.200	6.76	24.26	46.20	42.08	127.05	500 PK
1351.200	6.76	24.26	37.60	33.48	47.20	500 AV
1799.996	8.21	26.10	48.00	47.53	237.83	500 PK
1799.996	8.21	26.10	37.00	36.53	67.03	500 AV

Remarks:

1. All Readings are Quasi-Peak & average values.
2. Emission Level = Reading Level + Antenna Factor + Cable loss-Amp Factor(35.14,34.78)
3. Deviations from the specifications: None.
4. The frequencies above 1000MHz, as measured using instrumentation with a peak detector function was corresponding to 20dB above the maximum permitted average limit.

Radiated Emission Data

Date of Test :11-02,1999 Tue.	Temperature :25 deg/C
EUT :Notebook P.C.	Humidity :55 %RH
Working Cond.:Mode 5 PK+AV	Display Pattern:H Pattern

Frequency [MHz]	Cable Loss [dB]	Antenna Factor [dB/m]	Reading Level Vertical [dB(uV)]	Emission Level Vertical [dB(uV/m)]	(uV/m)	Limit (uV/m)
1350.600	6.76	24.24	51.10	46.96	222.95	500 PK
1350.600	6.76	24.24	36.55	32.41	41.76	500 AV
1805.400	8.22	26.17	49.96	49.56	300.77	500 PK
1805.400	8.22	26.17	39.30	38.90	88.15	500 AV

Remarks:

1. All Readings are Quasi-Peak & average values.
2. Emission Level = Reading Level + Antenna Factor + Cable loss-Amp Factor(35.14,34.78)
3. Deviations from the specifications: None.
4. The frequncies above 1000MHz, as measured using instrumentation with a peak detector function was corresponding to 20dB above the maximum permitted average limit.

5. EMI Reduction Method During Compliance Testing

1. Added conductive tape at FPC cable of LCD 13.3" TFT and 14.1" TFT panel.
2. Changed the case to plate copper and nickel.

Appendix A

Circuit (Block) Diagram

The same as original report

Appendix B

User Manual

The same as original report

FCC Compliance Statement:

This equipment has been tested and found to comply with limits for a class B digital device, pursuant to part 15 reasonable protection against harmful interference in residential installations. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television equipment reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Move the equipment away from the receiver
- Plug the equipment into an outlet on a circuit
Different from that to which the receiver is connected
- Consult the dealer or an experienced
Radio/ television technician for additional suggestions

Only equipment certified to comply with class B should be attached to this equipment to continuing compliance with FCC emission limit, and must have shielded interface cables.

You are cautioned that any change or modifications to the equipment not expressly approved by the party responsible for compliance could void your authority to operate such equipment.

6.FCC ID Location

Location of lable the same as original report

The FCC ID Label will be placed on the equipment as shown in the photograph below.

