Test Report
Application for Certification
Class II Permissive Change
On Behalf Of

First International Computer Inc.

Notebook PC

Model:Ruby 3.5+DESIGNote 5750

FCC ID: EUN5750

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.
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1. Test Report Certification

Applicant : First International Computer Inc.

Manufacturer : First International Computer Inc.

EUT Description : Notebook PC

(A) Model No. : EUN5750
(B) Serial No. : N/A
(C) Power : 110V/60Hz
(D) Rating DC-O/P : 19V

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 : Oct. 04, 1999
Final Test Date : Oct. 18, 1999
Documented by : Joan Chein

Test Engineer : Miller Lee
MILLER LEE

Approve & Authorized Signer : Raymond Chang
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 endosement by NVLAP or the United States government.

2. General Information

2.1 Production Description

Description	:	Notebook PC
Model Number	:	Ruby 3.5+DESIGNOTE 5750
Serial Number	:	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.
Power Supply	:	100-240Vac, 50/60Hz.

2.2 Results:

2.2.1 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 2	18.93360	42.1 dBuV Line 2, Q.P.	48.0dBuV	N/A
Radiation Mode 5	788.494	40.43[dB(uV/m)], Vertical	46.00 [dB(uV/m)]	1.1M, 145°

2.2.2 Test Mode:

Original Application Test Mode(GesTek#995027F):

Mode	CPU	LCD Panel	HDD	CD-ROM	Battery	FDD	Adapter	DVD-ROM	CARD
1	Celeron 266MHz	LG 12.1." M/N:LP121S3-A	TOSHIBA 6.4GB M/N:MK6409MAV		Panasonic 3800mAh 9.6V Ni-MH	NEC M/N:FD-1238T	Delta ADP-50MB	MKE SR-8171-C	LAN
2	Celeron 300MHz	Panasonic 14.1" M/N:EDTCB21-QAF	HITACHI 10GB M/N:DK229A-10	Toshiba M/N:XM-1902B	Sanyo 2800mAh 14.4V Li-Ion	Mitsubishi M/N:MF355H-48MN	Delta ADP-50MB		MODEM
3	Celeron 333MHz	LG 14.1" LP141X5-BNC	FUJITSU 4.3GB M/N: MHF2043AT		Sanyo 2800mAh 14.4V Li-Ion	Mitsubishi M/N:MF355H-48MN	Delta ADP-50MB	Toshiba SD-C2202	MODEM
4	Dixon 300MHz	Sanyo 12.1" M/N:TM121SV-02L03A	IBM 4.8GB M/N:DBCA-204860	TEAC M/N:CD-224E	Sanyo 2800mAh 14.4V Li-Ion	Mitsubishi M/N:MF355H-48MN	Delta ADP-50MB		MODEM
5	Dixon 366MHz	LG 14.1" LP141X5-BNC	IBM 10GB M/N:DCXA-210000	TEAC M/N:CD-224E	Panasonic 3800mAh 9.6V Ni-MH	NEC M/N:FD-1238T-020	Delta ADP-50MB		LAN
6	Dixon 333MHz	LG 14.1" LP141X5-BNC	IBM 10GB M/N:DCXA-21000	TEAC M/N:CD-224E	Panasonic 3800mAh 9.6V Ni-MH	NEC M/N:FD-1238T-020	Delta ADP-50MB		LAN

This Application Test Mode(GesTek#99A009F)

Mode	CPU	LCD Panel	HDD	CD-ROM	Battery	FDD	Adapter	DVD-ROM	Fax/ Modem
1	Intel Celeron 366MHz	LG 14.1." M/N:LP141X 5-A	TOSHIBA 4.3GB M/N:MK4313MAT	Toshiba 24X M/N:XM-1902B	Panasonic Li-ION 300mAh /14.4V	NEC 3.5" M/N:FD-1238T	Delta ADP-50MB		MODEM ADKEY 56K
2	Intel Celeron 400MHz	LG 14.1." M/N:LP141X 5-A	TOSHIBA 4.3GB M/N:MK4313MAT	Toshiba 24X M/N:XM-1902B	Panasonic Li-ION 300mAh /14.4V	NEC 3.5" M/N:FD-1238T	Delta ADP-50MB		MODEM ADKEY 56K
3	Intel Celeron 433MHz	CPT 14.1" M/N:CLAA141XB01	TOSHIBA 3.2GB M/N:MK3212MAT	Toshiba 24X M/N: XM-7002B	Panasonic Li-ION 300mAh /14.4V	NEC 3.5" M/N:FD-1238T	Delta ADP-50MB		MODEM ADKEY 56K
4	Intel Celeron 466MHz	CPT 14.1" M/N:CLAA141XB01	TOSHIBA 4.3GB M/N:MK4313MAT		Panasonic Li-ION 300mAh /14.4V	NEC 3.5" M/N:FD-1238T	Delta ADP-50MB	Toshiba, 6X M/N: SD-C2302	MODEM ADKEY 56K
5	Intel Dixon 400MHz	CPT 14.1" M/N:CLAA141XB01	TOSHIBA 4.3GB M/N:MK4313MAT		Panasonic Li-ION 300mAh /14.4V	NEC 3.5" M/N:FD-1238T	Delta ADP-50MB	Toshiba, 6X M/N: SD-C2302	MODEM ADKEY 56K

Note:

1. The Notebook was added the following item and original GesTek report No. is 995027F:
   a. **CPU**: Intel Celeron 366/400/433/466MHz; Dixon 400Mhz.
   b. **HDD**:Toshiba, 3.2 GB, M/N: MK3212MAT/ 4.3GB, M/N:MK4313MAT.
   c. **CD-ROM**:Toshiba, 24X, M/N:XM-1920B / XM-7002B.
   d. **DVD-ROM**:Toshiba, 6X, M/N:SD-C2302.
   e. **LCD Panel**:CPT, 14.1", M/N:CLAA141XB01 / LG, 14.1", M/N:LP141X5-A.
2. Each different CPU/PANEL has been investigated to find the maximum emission situation, 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 resolu tion.

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	Model No.	Vendor
1.	CPU#1	Celeron 366MHz	Intel
2.	CPU#2	Celeron 400MHz	Intel
3.	CPU#3	Celeron 433MHz	Intel
4.	CPU#4	Celeron 466MHz	Intel
5.	CPU#5	Dixon 400MHz	Intel
6.	14.1” LCD Panel #1	LP141X5-A	LG
7.	14.1” LCD Panel #2	CLAA141XB01	CPT
8.	24X CD-ROM #1	XM-1902B	Toshiba
9.	24X CD-ROM #2	XM-7002B	Toshiba
10.	6X DVD-ROM#1	SD-C2302	Toshiba
11.	4.3 GB HDD #1	MK4313MAT	Toshiba
12.	4.3 GB HDD#2	MK3212MAT	Toshiba
13.	3.2 GB HDD#3	MK3212MAT	Toshiba
14.	Li-Ion Battery	300mAh /14.4V	Panasonic
15.	3.5” FDD	FD-1238T	NEC
16.	AC Adapter	ADP-50MB	Delta
17.	Fax / Modem	ASKEY 56K	

☒ Monitor

Model Number : CM753ET
Serial Number : N/A
Manufacturer : Hitachi
BSMI ID : 7872A029
Data Cable : Shielded, Undetachable, 1.5m
Power Cord : Non-Shielded, Detachable, 1.8m

☒ Keyboard K01-031

Model Number	: FDA-104FA
Serial Number	: FDKB7027908
FCC ID	: F4Z4K3FDA-104F
Manufacturer	: TATUNG
Data Cable	: Sheiled, Undetachable, 2.0 m
Purchase Date	: 8/6/1998

☒ Printer P01-012

Model Number	: C2642A(DJ-400)
Serial Number	: MY7951C4QC
FCC ID	: B94C2642X
Manufacturer	: HP
Adaptor, Power Cord	: Non-Shielded, Detachable, 1.9m
Data Cable	: Shielded, Detachable, 1.8m

☒ Modem M03-011

Model Number	: 1414
Serial Number	: 960018041
FCC ID	: IFAXDM1414
Manufacturer	: ACEEX
Adaptor, Power Cord	: Non-Shielded, Detachable, 1.5m
Data Cable	: Shielded, Detachable, 1.2m

☒ Headset&Microphone E01-019

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 R02-013

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 M02-058 (USB)

Model Number : M-BB48
Serial Number : LZE93050386
Mnufacturer : Logitech Inc..
Data Cable : Shielded, Undetachable, 1.5m

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 Stated 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

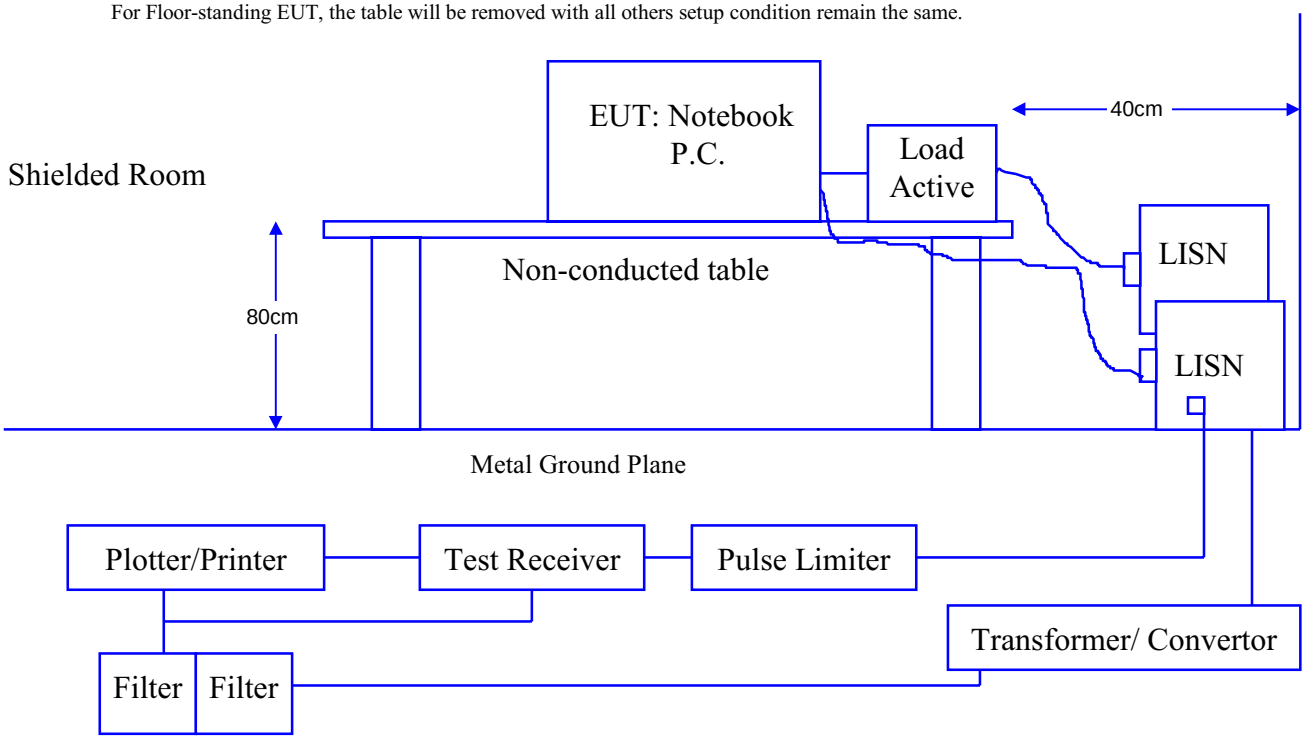
The following test equipments are used during the conducted power line tests:

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	V
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	V
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	V
6	Pulse Limiter	Rohde & Schwarz	ESH3-Z2/357.8810.52	Jun. 02, 1999	Shield Room #1	V
7	Shielded Room	GesTek	GTK-RF-S04	Sep. 05, 1999	Shield Room #1	V
8	RF CABLE	GesTek	GTK-RF-C07	Sep. 05, 1999	Shield Room #1	V
9	50 Ohm Terminator	GesTek	GTK-RF-T01	Sep. 28, 1999	Shield Room #1	V

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 representive 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 peripherials 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 Run windows 98.

3.5.4 Adjust to appropriate video Resolution.

3.5.5 Connected the modem and dial repeatedly.

3.5.6 Run "EMITEST.EXE" test program.

3.5.7 Run CD Player.(Mode 4,5 play DVD-ROM program)

3.5.8 PC sent "H" Pattern to Monitor.

3.5.9 PC sent "H" Pattern to Printer Port.

3.5.10 PC sent "H" Pattern to Modem Port.

3.5.11 Repeat the above procedure 3.5.5 to 3.5.10

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. 06, 1999	Temperature	:	23.5 ℃
EUT	:	Notebook PC	Humidity	:	43 %
Test Mode	:	Mode 1	Display Pattern	:	H Pattern

FREQUENCY	READING LEVEL				LIMIT
	LINE 1		LINE 2		
MHz	dBuV	uV	dBuV	uV	uV
0.52776	22.6	13.49	29.3	29.17	250
0.98140	16.7	6.84	22.3	13.03	250
5.19635	28.3	26.00	31.3	36.73	250
6.48112	33.2	45.71	33.2	45.71	250
**15.99919	35.0	56.23	35.0	56.23	250
21.50348	32.4	41.69	32.3	41.21	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.

CONDUCTED EMISSION DATA

Date of Test	:	Oct. 06, 1999	Temperature	:	23.5 ℃
EUT	:	Notebook PC	Humidity	:	43 %
Test Mode	:	Mode 2	Display Pattern	:	H Pattern

FREQUENCY	READING LEVEL				LIMIT
	LINE 1		LINE 2		
MHz	dBuV	uV	dBuV	uV	uV
0.59588	19.8	9.77	20.3	10.35	250
4.60551	27.9	24.83	28.5	26.61	250
6.65713	30.9	35.08	31.0	35.48	250
11.35866	36.3	65.31	36.0	63.10	250
15.14728	38.9	88.10	38.8	87.10	250
**18.93360	42.0	125.89	42.1	127.35	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.

CONDUCTED EMISSION DATA

Date of Test	:	Oct. 06, 1999	Temperature	:	25.0 ℃
EUT	:	Notebook PC	Humidity	:	43 %
Test Mode	:	Mode 3	Display Pattern	:	H Pattern

FREQUENCY	READING LEVEL				LIMIT
	LINE 1		LINE 2		
MHz	dBuV	uV	dBuV	uV	uV
0.45422	25.0	17.78	29.1	28.51	250
0.98443	21.0	11.22	24.2	16.22	250
**4.47102	33.4	46.77	30.9	35.08	250
6.48092	32.6	42.66	32.8	43.65	250
16.00074	30.5	33.50	32.8	43.65	250
21.50348	31.5	37.58	31.8	38.90	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.

CONDUCTED EMISSION DATA

Date of Test	:	Oct. 06, 1999	Temperature	:	24.3 ℃
EUT	:	Notebook PC	Humidity	:	46 %
Test Mode	:	Mode 4	Display Pattern	:	H Pattern

FREQUENCY	READING LEVEL				LIMIT
	LINE 1		LINE 2		
MHz	dBuV	uV	dBuV	uV	uV
0.52077	22.8	13.80	24.1	16.03	250
1.94473	25.0	17.78	28.2	25.70	250
4.25862	31.8	38.90	29.8	30.90	250
6.50697	31.0	35.48	30.4	33.11	250
**16.00030	31.9	39.36	31.9	39.36	250
17.40945	31.5	37.58	30.4	33.11	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.

CONDUCTED EMISSION DATA

Date of Test	:	Oct. 06, 1999	Temperature	:	25.0 ℃
EUT	:	Notebook PC	Humidity	:	43.0 %
Test Mode	:	Mode 5	Display Pattern	:	H Pattern

FREQUENCY	READING LEVEL				LIMIT
	LINE 1		LINE 2		
MHz	dBuV	uV	dBuV	uV	uV
0.51065	25.4	18.62	23.2	14.45	250
2.26424	26.3	20.65	29.0	28.18	250
4.68452	32.9	44.16	30.5	33.50	250
6.47935	31.4	37.15	30.8	34.67	250
**15.87905	40.6	107.15	35.5	59.57	250
21.50409	32.6	42.66	32.3	41.21	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.

4. Radiation Emission Test

4.1 Test Equipment

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

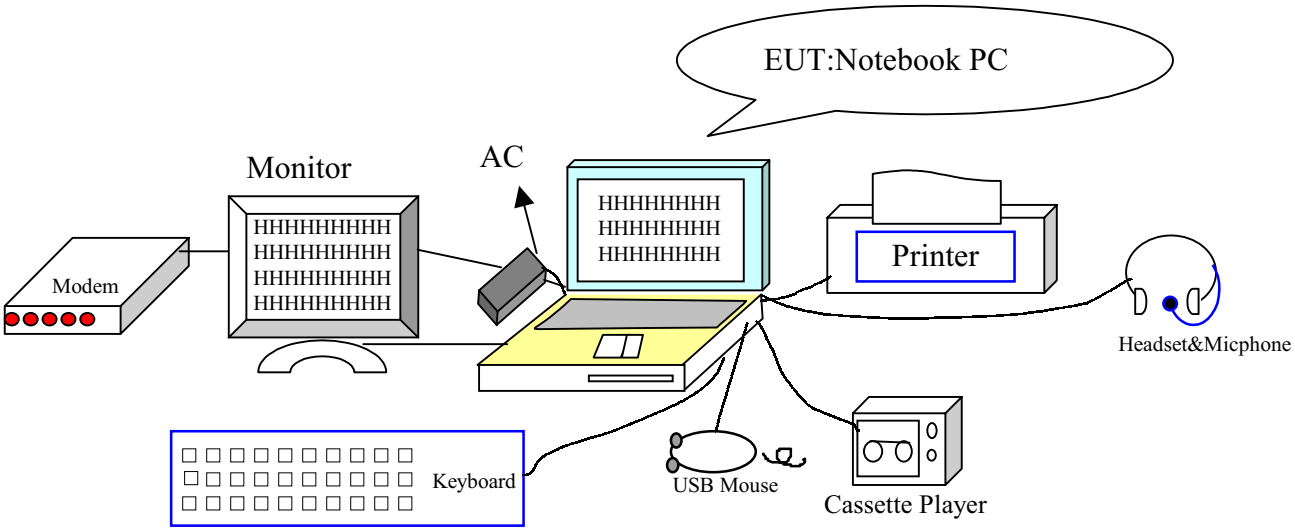
Radiated test was performed on : ☐ Site #1 ☒ Site #2

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

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

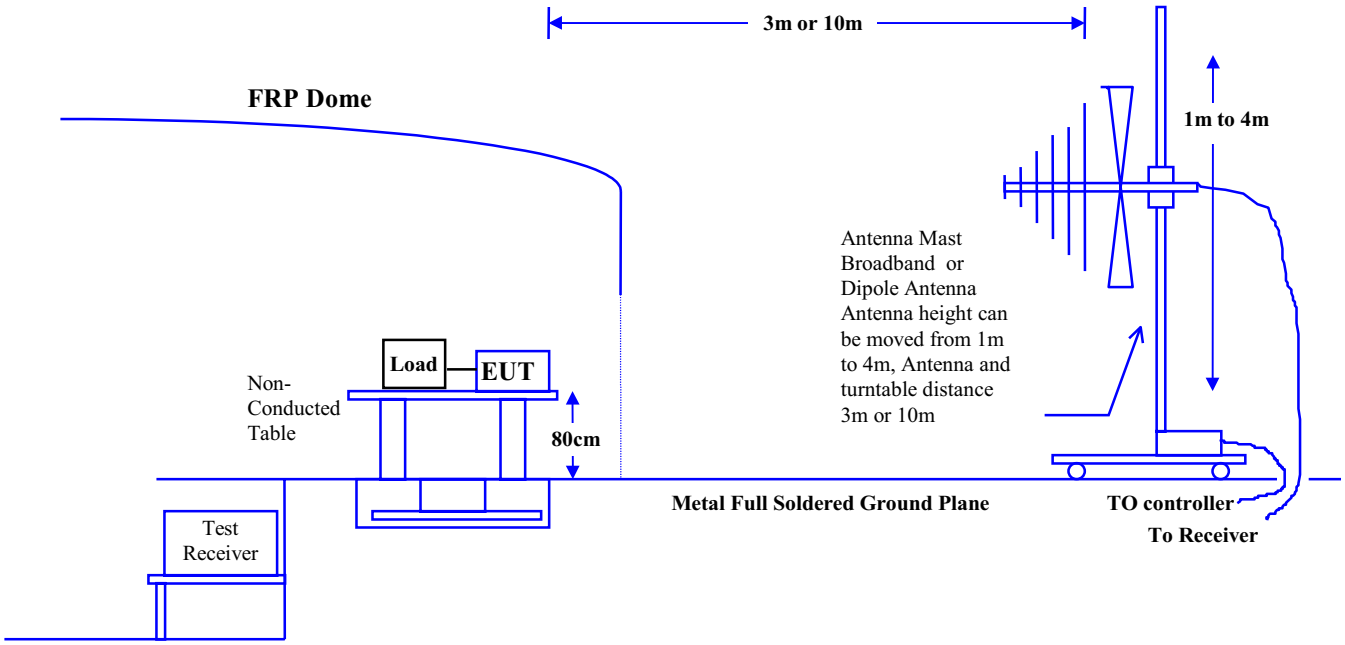
4.2 Test Setup

4.2.1 Block Diagram of Connections between EUT and simulators



4.2.2 Open Test Site Setup Diagram

Note: This is a representive 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 frequrncies 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 bandwith 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 :10-11,1999 Mon
EUT :NOTEBOOK PC
Working Cond.:Mode 1
Temperature :23 deg/C
Humidity :43 %RH
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)
	66.550	1.06	6.73	20.09	27.88	24.78	100
	133.240	1.34	12.00	12.40	25.74	19.37	150
	195.428	1.92	9.84	19.57	31.33	36.85	150
	228.033	2.00	11.29	17.86	31.15	36.10	200
	260.570	2.08	12.72	17.86	32.66	42.93	200
	271.432	2.16	12.93	19.34	34.43	52.67	200
*	287.712	2.32	13.28	20.60	36.20	64.53	200
	336.573	2.64	14.57	12.51	29.72	30.62	200
	348.445	2.70	14.90	16.86	34.46	52.84	200
	455.995	3.24	16.95	6.39	26.58	21.32	200
	732.518	4.43	19.61	6.65	30.68	34.22	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 :10-11,1999 Mon
EUT :NOTEBOOK PC
Working Cond.:Mode 1
Temperature :23 deg/C
Humidity :43 %RH
Display Pattern:H Pattern

	Frequency [MHz]	Cable Loss [dB]	Antenna Factor [dB/m]	Reading Level Vertical [dB(uV)]	Emission Level Vertical [dB(uV/m)]	Emission Level Vertical (uV/m)	Limit (uV/m)
	66.230	1.06	6.73	19.42	27.21	22.94	100
	75.997	1.10	7.40	23.49	31.99	39.74	100
	133.250	1.34	12.00	20.55	33.89	49.49	150
	168.281	1.50	10.36	14.56	26.42	20.95	150
	191.830	1.80	9.88	8.70	20.38	10.45	150
	195.425	1.92	9.84	19.64	31.40	37.14	150
	206.284	2.00	10.12	19.06	31.18	36.22	150
	222.572	2.00	10.97	15.37	28.34	26.12	200
	227.995	2.00	11.29	17.94	31.23	36.43	200
	260.570	2.08	12.72	18.36	33.16	45.48	200
	271.427	2.16	12.93	14.96	30.05	31.81	200
	287.715	2.32	13.28	14.91	30.51	33.52	200
	333.090	2.61	14.47	9.93	27.01	22.42	200
	348.450	2.70	14.90	8.51	26.11	20.21	200
	401.598	3.02	16.23	16.37	35.61	60.35	200
*	455.995	3.24	16.95	19.51	39.70	96.57	200
	521.138	3.54	17.65	5.31	26.51	21.15	200
	696.917	4.29	18.53	7.48	30.31	32.76	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 :10-09,1999 Sat
EUT :NOTEBOOK PC
Working Cond.:Mode 2
Temperature :23 deg/C
Humidity :52 %RH
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)
	66.180	1.06	6.73	17.61	25.40	18.62	100
	84.802	1.34	8.25	16.05	25.64	19.13	100
	110.593	1.40	11.14	15.34	27.88	24.77	150
*	133.238	1.34	12.00	19.61	32.95	44.42	150
	145.369	1.33	11.72	10.73	23.78	15.46	150
	168.697	1.50	10.36	14.69	26.55	21.26	150
	181.178	1.60	10.00	13.40	25.00	17.78	150
	195.434	1.92	9.84	11.60	23.36	14.72	150
	206.182	2.00	10.12	15.57	27.69	24.24	150
	224.933	2.00	11.08	12.83	25.91	19.74	200
	260.576	2.08	12.72	15.08	29.88	31.17	200
	287.427	2.32	13.28	18.39	33.99	50.03	200
	348.453	2.70	14.90	17.02	34.62	53.83	200
	456.005	3.24	16.95	14.99	35.18	57.39	200
	521.146	3.54	17.65	11.91	33.11	45.22	200
	733.490	4.43	19.67	4.09	28.19	25.67	200
	787.630	4.65	20.59	4.88	30.12	32.08	200
	929.211	5.02	21.28	3.34	29.64	30.33	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 :10-11,1999 Mon Temperature :23 deg/C
EUT :NOTEBOOK PC Humidity :52 %RH
Working Cond.:Mode 2 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)
	66.190	1.06	6.73	17.11	24.90	17.58	100
	132.490	1.36	12.00	14.21	27.57	23.91	150
	168.285	1.50	10.36	10.64	22.50	13.34	150
	184.560	1.72	9.96	14.15	25.83	19.56	150
*	191.750	1.80	9.88	23.16	34.84	55.20	150
	195.425	1.92	9.84	17.70	29.46	29.71	150
	232.296	2.00	11.50	19.80	33.30	46.25	200
	244.288	2.00	12.14	14.30	28.44	26.43	200
	249.700	2.00	12.46	11.00	25.46	18.75	200
	260.573	2.08	12.72	19.10	33.90	49.52	200
	271.423	2.16	12.93	15.02	30.11	32.03	200
	276.853	2.24	13.06	14.41	29.71	30.58	200
	287.710	2.32	13.28	17.42	33.02	44.75	200
	314.850	2.49	13.96	10.27	26.72	21.68	200
	348.451	2.70	14.90	11.59	29.19	28.81	200
	455.997	3.24	16.95	14.73	34.92	55.70	200
	599.412	4.01	18.80	8.41	31.22	36.40	200
	696.907	4.29	18.53	4.94	27.77	24.45	200
	799.078	4.70	20.69	4.28	29.68	30.47	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 :10-09,1999 Sat
Temperature :25 deg/C
EUT :NOTEBOOK PC
Humidity :43 %RH
Working Cond.:Mode 3
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)
66.006	1.06	6.73	14.78	22.57	13.44	100
73.731	1.10	7.30	5.59	13.99	5.00	100
109.031	1.40	10.97	16.12	28.49	26.58	150
116.156	1.40	11.47	16.61	29.48	29.79	150
133.191	1.34	12.00	19.04	32.38	41.60	150
184.290	1.72	9.96	10.76	22.44	13.24	150
232.306	2.00	11.50	17.22	30.72	34.36	200
287.426	2.32	13.28	18.18	33.78	48.84	200
312.402	2.49	13.91	15.06	31.46	37.42	200
348.453	2.70	14.90	12.46	30.06	31.84	200
456.002	3.24	16.95	5.72	25.91	19.74	200
459.830	3.24	16.98	10.85	31.07	35.76	200
580.775	3.90	18.55	1.58	24.04	15.91	200
732.800	4.43	19.61	3.71	27.74	24.39	200
* 866.000	4.84	21.43	11.33	37.60	75.83	200
929.239	5.02	21.28	6.05	32.35	41.44	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 :10-09,1999 Sat
Temperature :25 deg/C
EUT :NOTEBOOK PC
Humidity :43 %RH
Working Cond.:Mode 3
Display Pattern:H Pattern

Frequency [MHz]	Cable Loss [dB]	Antenna Factor [dB/m]	Reading Level Vertical [dB(uV)]	Emission Level Vertical [dB(uV/m)]	Emission Level Vertical (uV/m)	Limit (uV/m)
109.031	1.40	10.97	15.09	27.46	23.60	150
118.732	1.40	11.81	11.38	24.59	16.96	150
133.186	1.34	12.00	14.66	28.00	25.12	150
168.699	1.50	10.36	10.61	22.47	13.29	150
195.431	1.92	9.84	10.73	22.49	13.32	150
232.309	2.00	11.50	11.21	24.71	17.20	200
287.426	2.32	13.28	17.02	32.62	42.73	200
348.458	2.70	14.90	12.36	29.96	31.48	200
399.838	3.00	16.20	4.55	23.75	15.39	200
466.590	3.28	17.04	3.18	23.50	14.96	200
600.080	4.01	18.80	1.85	24.66	17.10	200
651.433	4.16	17.90	6.62	28.68	27.15	200
* 866.680	4.84	21.43	7.52	33.79	48.90	200
929.197	5.02	21.28	3.00	29.30	29.17	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 :10-08,1999 Fri
EUT :NOTEBOOK PC
Working Cond.:Mode 4
Temperature :24 deg/C
Humidity :46 %RH
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)
	76.006	1.10	7.40	11.57	20.07	10.08	100
	109.027	1.40	10.97	14.61	26.98	22.34	150
*	116.149	1.40	11.47	18.19	31.06	35.74	150
	131.680	1.36	12.00	16.98	30.34	32.89	150
	154.827	1.38	11.03	11.06	23.47	14.92	150
	184.139	1.72	9.96	19.04	30.72	34.35	150
	194.969	1.92	9.84	14.57	26.33	20.72	150
	205.798	2.00	10.12	14.31	26.43	20.96	150
	250.155	2.00	12.46	7.20	21.66	12.11	200
	287.038	2.32	13.28	14.64	30.24	32.49	200
	348.453	2.70	14.90	12.01	29.61	30.23	200
	586.290	3.92	18.63	4.03	26.58	21.33	200
	929.197	5.02	21.28	1.96	28.26	25.87	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 :10-08,1999 Fri
EUT :NOTEBOOK PC
Working Cond.:Mode 4
Temperature :24 deg/C
Humidity :46 %RH
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)
66.034	1.06	6.73	18.37	26.16	20.33	100
75.824	1.10	7.40	22.73	31.23	36.41	100
86.650	1.34	8.47	22.62	32.42	41.80	100
110.592	1.40	11.14	17.03	29.57	30.09	150
131.489	1.36	12.00	21.58	34.94	55.85	150
154.827	1.38	11.03	14.23	26.64	21.49	150
167.886	1.50	10.36	11.26	23.12	14.33	150
172.030	1.50	10.25	11.57	23.31	14.65	150
184.139	1.72	9.96	12.08	23.76	15.41	150
195.429	1.92	9.84	14.77	26.53	21.20	150
205.800	2.00	10.12	15.91	28.03	25.20	150
222.050	2.00	10.97	14.66	27.63	24.07	200
287.035	2.32	13.28	20.37	35.97	62.84	200
348.453	2.70	14.90	12.46	30.06	31.84	200
455.997	3.24	16.95	11.11	31.30	36.71	200
580.756	3.90	18.55	4.39	26.85	21.99	200
651.430	4.16	17.90	7.15	29.21	28.86	200
929.231	5.02	21.28	4.99	31.29	36.68	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 :10-08,1999 Fri
EUT :NOTEBOOK PC
Working Cond.:Mode 5
Temperature :25 deg/C
Humidity :43 %RH
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)
	72.684	1.10	7.30	13.19	21.59	12.00	100
	84.800	1.34	8.25	12.73	22.32	13.06	100
	109.026	1.40	10.97	13.45	25.82	19.54	150
	116.151	1.40	11.47	14.00	26.87	22.06	150
	154.829	1.38	11.03	13.23	25.64	19.15	150
	168.699	1.50	10.36	12.07	23.93	15.73	150
	181.172	1.60	10.00	12.46	24.06	15.96	150
	193.827	1.92	9.86	11.00	22.78	13.77	150
	206.181	2.00	10.12	15.41	27.53	23.79	150
	232.302	2.00	11.50	18.21	31.71	38.51	200
*	299.905	2.40	13.60	17.71	33.71	48.47	200
	312.379	2.49	13.91	14.92	31.32	36.82	200
	318.647	2.52	14.06	16.43	33.01	44.72	200
	456.003	3.24	16.95	9.09	29.28	29.10	200
	697.000	4.29	18.53	0.69	23.52	14.99	200
	789.050	4.67	20.59	3.30	28.57	26.81	200
	813.083	4.73	20.87	5.63	31.23	36.42	200
	929.234	5.02	21.28	1.63	27.93	24.91	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 :10-08,1999 Fri
EUT :NOTEBOOK PC
Working Cond.:Mode 5
Temperature :25 deg/C
Humidity :43 %RH
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)
66.323	1.06	6.73	16.05	23.84	15.56	100
133.259	1.34	12.00	14.74	28.08	25.35	150
174.962	1.56	10.19	11.20	22.94	14.03	150
195.430	1.92	9.84	11.31	23.07	14.24	150
206.186	2.00	10.12	14.66	26.78	21.83	150
212.452	2.00	10.54	14.63	27.17	22.84	150
232.307	2.00	11.50	13.67	27.17	22.84	200
299.908	2.40	13.60	9.15	25.15	18.09	200
331.135	2.61	14.42	10.40	27.43	23.53	200
348.455	2.70	14.90	10.24	27.84	24.66	200
456.001	3.24	16.95	11.11	31.30	36.71	200
586.284	3.92	18.63	9.57	32.12	40.36	200
696.911	4.29	18.53	7.57	30.40	33.10	200
* 788.494	4.65	20.59	15.19	40.43	105.12	200
929.197	5.02	21.28	4.66	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 :10-18,1999 Mon
EUT :N/B PK+AV
Working Cond.:MODE:1
Temperature :23 deg/C
Humidity :43 %RH
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)
1069.236	5.80	22.33	48.65	41.19	114.70	500 PK
1069.236	5.80	22.33	35.62	28.16	25.59	500 AV
1135.265	6.11	22.98	47.59	41.19	114.68	500 PK
1135.265	6.11	22.98	34.44	28.04	25.23	500 AV
1330.732	6.70	24.11	48.65	44.29	163.78	500 PK
1330.732	6.70	24.11	37.11	32.75	43.38	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(35.59,35.59,35.48,35.48,35.17,35.17)
4. Deviations from the specifications: None.
5. The frequrncies 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
EUT :N/B PK+AV
Working Cond.:MODE:1
Temperature :23 deg/C
Humidity :43 %RH
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)
1070.233	5.80	22.36	48.21	40.78	109.42	500 PK
1070.233	5.80	22.36	35.87	28.44	26.43	500 AV
1137.266	6.12	22.99	47.66	41.28	115.94	500 PK
1137.266	6.12	22.99	34.24	27.86	24.73	500 AV
1329.745	6.68	24.09	47.24	42.84	138.71	500 PK
1329.745	6.68	24.09	32.44	28.04	25.24	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(35.59,35.59,35.48,35.48,35.17,35.17)
4.Deviations from the specifications: None.
5. The frequrncies 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
EUT :N/B PK+AV
Working Cond.:MODE:2
Temperature :23 deg/C
Humidity :52 %RH
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)
1062.138	5.77	22.25	50.37	42.78	137.78	500 PK
1062.138	5.77	22.25	33.48	25.89	19.71	500 AV
1128.288	6.09	22.94	48.85	42.38	131.54	500 PK
1128.288	6.09	22.94	34.68	28.21	25.74	500 AV
1326.738	6.68	24.08	45.68	41.26	115.66	500 PK
1326.738	6.68	24.08	33.78	29.36	29.39	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(35.60,35.60,35.50,35.50,35.18,35.18)
4.Deviations from the specifications: None.
5. The frequrncies 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
EUT :N/B PK+AV
Working Cond.:MODE:2
Temperature :23 deg/C
Humidity :52 %RH
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)
1061.519	5.73	22.22	50.37	42.71	136.63	500 PK
1061.519	5.73	22.22	34.58	26.92	22.18	500 AV
1127.896	6.09	22.94	48.74	42.27	129.86	500 PK
1127.896	6.09	22.94	31.36	24.89	17.56	500 AV
1326.209	6.68	24.08	47.90	43.48	149.34	500 PK
1326.209	6.68	24.08	28.75	24.33	16.47	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(35.60,35.60,35.50,35.50,35.18,35.18)
4.Deviations from the specifications: None.
5. The frequrncies 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
EUT :N/B PK+AV
Working Cond.:MODE:3
Temperature :25 deg/C
Humidity :43 %RH
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)
1063.613	5.77	22.25	48.49	40.91	110.98	500 PK
1063.613	5.77	22.25	33.35	25.77	19.42	500 AV
1128.785	6.09	22.94	49.05	42.58	134.61	500 PK
1128.785	6.09	22.94	33.21	26.74	21.73	500 AV
1194.870	6.28	23.27	48.87	43.04	141.85	500 PK
1194.870	6.28	23.27	32.43	26.60	21.37	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 (35.60,35.60,35.50,35.50,35.39,35.39)
4.Deviations from the specifications: None.
5. The frequrncies 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
EUT :N/B PK+AV
Working Cond.:MODE:3
Temperature :25 deg/C
Humidity :43 %RH
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)
1061.665	5.73	22.22	49.23	41.57	119.83	500 PK
1061.665	5.73	22.22	36.97	29.31	29.21	500 AV
1193.584	6.28	23.26	47.25	41.41	117.56	500 PK
1193.584	6.28	23.26	33.29	27.45	23.57	500 AV
1325.170	6.68	24.07	48.92	44.49	167.65	500 PK
1325.170	6.68	24.07	31.02	26.59	21.35	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 (35.60,35.60,35.39,35.39,35.18,35.18)
4.Deviations from the specifications: None.
5. The frequrncies 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
EUT :N/B PK+AV
Working Cond.:MODE:4
Temperature :24 deg/C
Humidity :46 %RH
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)
1061.750	5.73	22.22	48.36	40.70	108.41	500 PK
1061.750	5.73	22.22	30.26	22.60	13.49	500 AV
1194.000	6.28	23.27	52.15	46.32	206.94	500 PK
1194.000	6.28	23.27	34.25	28.42	26.35	500 AV
1401.250	6.92	24.61	33.21	29.68	30.47	500 AV
1401.250	6.92	24.61	48.26	44.73	172.33	500 PK

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(35.60,35.60,35.39,35.39,35.06,35.06)
4.Deviations from the specifications: None.
5.The frequrncies 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
EUT :N/B PK+AV
Working Cond.:MODE:4
Temperature :24 deg/C
Humidity :46 %RH
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]
1061.750	5.73	22.22	48.22	40.56	106.67	500 PK
1061.750	5.73	22.22	32.26	24.60	16.98	500 AV
1194.750	6.28	23.27	48.98	43.15	143.66	500 PK
1194.750	6.28	23.27	34.34	28.51	26.63	500 AV
1394.500	6.88	24.55	47.55	43.91	156.79	500 PK
1394.500	6.88	24.55	33.26	29.62	30.26	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(35.60,35.60,35.39,35.39,35.07,35.07)
4.Deviations from the specifications: None.
5. The frequrncies 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
EUT :N/B PK+AV
Working Cond.:MODE:5
Temperature :25 deg/C
Humidity :43 %RH
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)
1000.360	5.31	21.30	49.56	40.47	105.61	500 PK
1000.360	5.31	21.30	37.48	28.39	26.28	500 AV
1099.370	6.00	22.80	50.27	43.53	150.11	500 PK
1099.370	6.00	22.80	32.54	25.80	19.49	500 AV
1200.480	6.30	23.30	51.24	45.46	187.50	500 PK
1200.480	6.30	23.30	36.89	31.11	35.93	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(35.70,35.70,35.54,35.54,35.38,35.38)
4. Deviations from the specifications: None.
5. The frequrncies 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
EUT :N/B PK+AV
Working Cond.:MODE:5
Temperature :25 deg/C
Humidity :43 %RH
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)
1000.370	5.31	21.30	52.37	43.28	145.95	500 PK
1000.370	5.31	21.30	38.24	29.15	28.69	500 AV
1100.190	6.00	22.80	48.57	41.83	123.45	500 PK
1100.190	6.00	22.80	34.15	27.41	23.47	500 AV
1200.390	6.30	23.30	50.69	44.91	175.99	500 PK
1200.390	6.30	23.30	36.33	30.55	33.69	500 AV

Remarks:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. 2.“ * ”, means this data is worse case emission level.
3. Emission Level = Reading Level + Antenna Factor + Cable loss -Amp Factor(35.70,35.70,35.54,35.54,35.38,35.38)
4. Deviations from the specifications: None.
5. The frequrncies 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 1 pcs of gasket on fpc cable of LCD for LG 14.1” and CPT 14.1”.
2. Added 1 pcs of copper foil on LCD module for CPT 14.1”.
3. Added 1 pcs of insulator sheet between left and right bracket of LCD for LG 14.1”.
4. Change all case coating procedure from single side silver paint to double side electro-plate except front bezel of LCD for CPT 14.1”.

Appendix A

Circuit (Block) Diagram

The same as original report.

Appendix B

FCC ID

FCC ID

The same as original report.

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