

FCC TEST REPORT

for

CISPR PUB. 22 CLASS B

EQUIPMENT : VGA Card

MODEL NO. : VS21

F C C I D : I27MM-VS21A

FILING TYPE : Original Grant

APPLICANT : **Biostar Microtech International Corp.**
2FL, No. 108-2 Min Chuan Road., Hsin Tien City,
Taipei Hsien, Taiwan, R.O.C.

- The test result refers exclusively to the test presented test model / sample.
- Without the written authorization of the test lab., the Test Report may not be copied.

SPORTON INTERNATIONAL INC.

6F, No. 106, Hsin Tai Wu Rd., Sec. 1, Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

TABLE OF CONTENT

SECTION TITLE	PAGE
CERTIFICATE OF COMPLIANCE	3
1. GENERAL DESCRIPTION OF EQUIPMENT UNDER TEST	4
1.1. APPLICANT	4
1.2. MANUFACTURER	4
1.3. BASIC DESCRIPTION OF EQUIPMENT UNDER TEST	4
1.4. FEATURE OF EQUIPMENT UNDER TEST	4
2. TEST CONFIGURATION OF EQUIPMENT UNDER TEST	5
2.1. TEST MANNER	5
2.3. CONNECTION DIAGRAM OF TEST SYSTEM	7
3. TEST SOFTWARE	8
4. GENERAL INFORMATION OF TEST	9
4.1. TEST FACILITY	9
4.2. STANDARD FOR METHODS OF MEASUREMENT	9
4.3. TEST IN COMPLIANCE WITH	9
4.4. FREQUENCY RANGE INVESTIGATED	9
4.5. TEST DISTANCE	9
5. TEST OF CONDUCTED POWERLINE	10
5.1. MAJOR MEASURING INSTRUMENTS	10
5.2. TEST PROCEDURES	11
5.3. TYPICAL TEST SETUP LAYOUT OF CONDUCTED POWERLINE	12
5.4. TEST RESULT OF AC POWERLINE CONDUCTED EMISSION	13
5.5. PHOTOGRAPHS OF CONDUCTED POWERLINE TEST CONFIGURATION	16
6. TEST OF RADIATED EMISSION	20
6.1. MAJOR MEASURING INSTRUMENTS	20
6.2. TEST PROCEDURES	21
6.3. TYPICAL TEST SETUP LAYOUT OF RADIATED EMISSION	22
6.4. TEST RESULT OF RADIATED EMISSION	23
6.5. PHOTOGRAPHS OF RADIATED EMISSION TEST CONFIGURATION	26
7. ANTENNA FACTOR AND CABLE LOSS	28
8. LIST OF MEASURING EQUIPMENT USED	29



CERTIFICATE OF COMPLIANCE

for

CISPR PUB. 22 CLASS B

EQUIPMENT : VGA Card

MODEL NO. : VS21

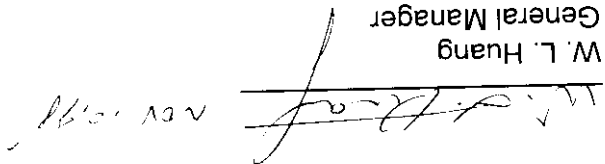
F C C I D : I27MM-VS21A

APPLICANT : Biostar Microtech International Corp.

**2FL, No. 108-2 Min Chuan Road, Hsin Tien City,
Taipei Hsien, Taiwan, R.O.C.**

I HEREBY CERTIFY THAT :

The measurement shown in this report were made in accordance with the procedures
given in **ANSI C63.4 -1992** and the energy emitted by this equipment was **passed**
CISPR PUB. 22 in both radiated and conducted emissions **Class B** limits.
Testing was carried out on **Oct. 19, 1998** at **SPORTON International Inc. in LIN KOU.**


W. L. Huang
General Manager

SPORTON INTERNATIONAL INC.

6F, No. 106, Hsin Tai Wu Rd., Sec. 1, Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

SPORTON International Inc.

TEL : 886-2-2696-2468
FAX : 886-2-2696-2255

F C C I D : I27MM-VS21A
PAGE NUMBER : 3 OF 29
ISSUED DATE : Oct. 27, 1998

1. GENERAL DESCRIPTION OF EQUIPMENT UNDER TEST

1.1. APPLICANT

Biostar Microtech International Corp.
2FL, No. 108-2 Min Chuan Road., Hsin Tien City,
Taipei Hsien, Taiwan, R.O.C.

1.2. MANUFACTURER

Same as 1.1

1.3. BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

EQUIPMENT : VGA Card
FCC ID: I27MM-VS21A
MODEL NO. : VS21
TRADE NAME : CRUX 390
DATA CABLE : Shielded
S-Video DATA : Non-Shielded
V-Video DATA : Non-Shielded
POWER SUPPLY TYPE : N/A
POWER CORD : N/A

1.4. FEATURE OF EQUIPMENT UNDER TEST

- ⇒ High quality front end up/down scalar
- ⇒ High Quality TV Out
- ⇒ Integrated NTSC/PAL encoder
- ⇒ Simultaneous CRT and TV display
- ⇒ High performance AGP 2X 133MHz interface
- ⇒ 125Mhz SDR SGRAM or SDRAM
- ⇒ Highly Optimized 128-bit graphics engine
- ⇒ Full feature 2D rasterizer for acceleration or bitblt, line draw, rectangle fill, panning and hardware cursor
- ⇒ Single-cycle 3D architecture

2. TEST CONFIGURATION OF EQUIPMENT UNDER TEST

2.1. TEST MANNER

- a. The EUT has been associated with personal computer and peripherals pursuant to ANSI C63.4-1992 and configuration operated in a manner which tended to maximize its emission characteristics in a typical application.
- b. The HP Printer, ACEEX Modem, HITACHI Monitor, SONY TV, HONEYWELL PS/2 Keyboard, GENIUS PS/2 Mouse and EUT were connected to the FIC PC for EMI test.
- c. The following display resolution were investigated during the compliance test:
 1. Horizontal frequency (640x480 to 1,600x1,200, 31 KHz to 106 KHz)
 2. Vertical frequency (60 Hz to 85 Hz)
 3. 640 x 480 (31KHz/ 60Hz) TV mode.
- d. According to the above tests, we listed the following display modes as the worst cases:
 1. 640 x 480 (31KHz/ 60Hz) TV mode.
 2. 1,280x1,024 (non-interlaced 91 KHz), refresh rate 85 Hz.
 3. 1,600x1,200 (non-interlaced 106 KHz), refresh rate 85 Hz.
- e. The V-video and S-video were tested in order to find the maximum emission. Since The V-video generates the worst case, the mode was used as the final data for TV mode.
- e. Frequency range investigated: conduction 150 KHz to 30 MHz, radiation 30 MHz to 2,000 MHz.

Description of Test System

Support Unit 1. -- Printer (HP)

FCC ID	: DSI6XU2225
Model No.	: 2225C
Power Supply Type	: Linear
Power Cord	: N/A
Serial No.	: SP0024
Data Cable	: Shielded, 360 degree via metal backshells

Support Unit 2. -- Modem (ACEEX)

FCC ID	: IFAXDM1414
Model No.	: DM1414
Power Supply Type	: Linear
Power Cord	: N/A
Serial No.	: SP0025
Data Cable	: Shielded, 360 degree via metal backshells

FCC TEST REPORT

REPORT NO. : F892903

Support Unit 3. -- Monitor (HITACHI)

FCC ID : DOC
Model No. : CM803ET
Power Supply Type : Switching
Power Cord : N/A
Serial No. : SP0096
Data Cable : Shielded, 360 degree via metal backshells
Remark : This support device was tested to comply with FCC standards
and authorized under a declaration of conformity.

Support Unit 4. -- TV (SONY)

Model No. : DVM-14N2E
Power Supply Type : Switching
Serial No. : SP0097
Data Cable : Shielded, 360 degree via metal backshells
S-Video data : Non-shielded
V-Video data : Non-Shielded

Support Unit 5. -- Personal Computer (FIC)

FCC ID : N/A
Model No. : P2L97
Power Supply Type : Switching
Power Cord : Non-Shielded
Serial No. : SP0006
Data Cable : Shielded, 360 degree via metal backshells
Remark : This support device was tested to comply with FCC standards
and authorized under a declaration of conformity.

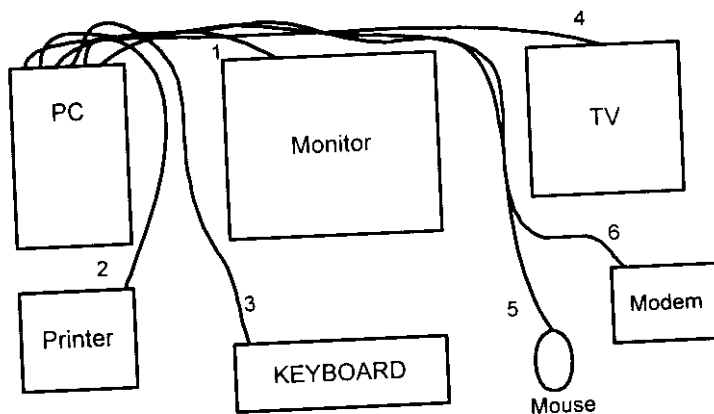
Support Unit 6. -- PS/2 Keyboard (Honeywell)

FCC ID : GJK101RX-6
Model No. : PC7XL-AA
Power Supply Type : N/A
Serial No. : SP0018
Data Cable : Shielded, 360 degree via metal backshells

Support Unit 7. -- PS/2 Mouse (Genius)

FCC ID : FSUGMZFC
Model No. : Netmouse
Power Supply Type : N/A
Serial No. : SP0022
Data Cable : Non-Shielded

2.3. CONNECTION DIAGRAM OF TEST SYSTEM



1. The I/O cable is connected from EUT to the support device 3.
2. The I/O cable is connected from PC to the support device 1.
3. The I/O cable is connected from PC to the support device 6.
4. The I/O cable is connected from EUT to the support device 4.
5. The I/O cable is connected from PC to the support device 7.
6. The I/O cable is connected from PC to the support device 2.

3. TEST SOFTWARE

An executive program, WINFCC.EXE under WIN98, which generates a complete line of continuously repeating "H" pattern is used as the test software.

The program was executed as follows :

- a. Turn on the power of all equipment.
- b. The PC reads the test program from the floppy disk drive and runs it.
- c. The PC sends "H" messages to the monitor or/ and TV, and the monitor or/ and TV displays "H" patterns on the screen.
- d. The PC sends "H" messages to the printer, then the printer prints them on the paper.
- e. The PC sends "H" messages to the modem.
- f. The PC sends "H" messages to the internal Hard Disk, and the Hard Disk reads and writes the message.
- g. Repeat the steps from b to f.

4. GENERAL INFORMATION OF TEST

4.1. TEST FACILITY

This test was carried out by SPORTON International Inc. in an openarea test site.
Openarea Test Site Location: No. 3, Lane 238, Kang Lo Street, Nei Hwu District,
Taipei 11424, Taiwan, R.O.C.
TEL : 886-2-2631-9739
FAX : 886-2-2631-9740

4.2. STANDARD FOR METHODS OF MEASUREMENT

ANSI C63.4-1992

4.3 .TEST IN COMPLIANCE WITH

CISPR PUB. 22

4.4. FREQUENCY RANGE INVESTIGATED

- a. Conduction : from 150 KHz to 30 MHz
- b. Radiation : from 30 MHz to 2000 MHz.

4.5. TEST DISTANCE

The test distance of radiated emission from antenna to EUT is 10M.

5. TEST OF CONDUCTED POWERLINE

Conducted Emissions were measured from 150 KHz to 30 MHz with a bandwidth of 9 KHz on the 115 VAC power and return leads of the EUT according to the methods defined in ANSI C63.4-1992 Section 3.1. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane as shown in Figure 5-3. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

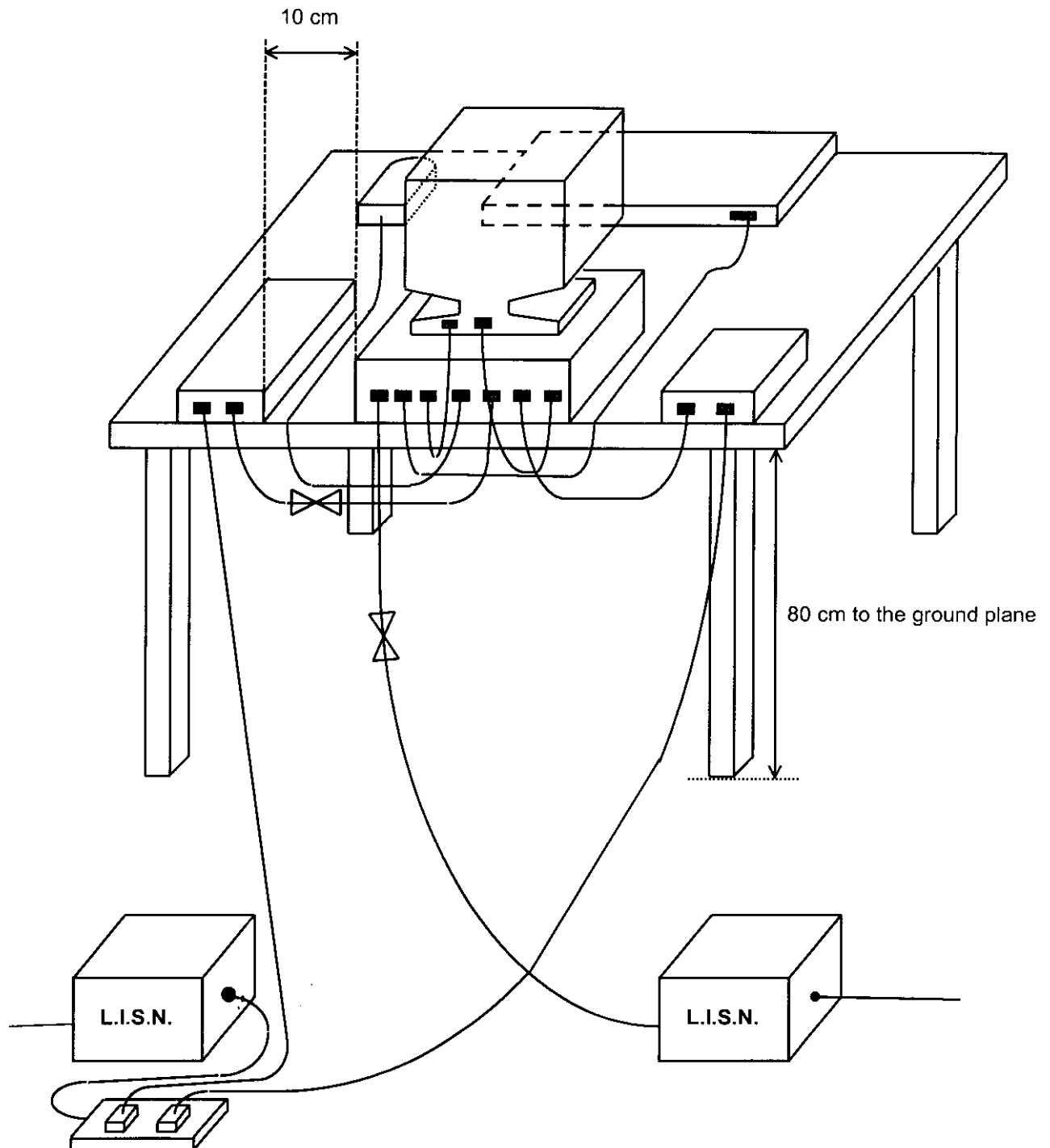
5.1. MAJOR MEASURING INSTRUMENTS

Test Receiver	R&S ESH3
Attenuation	0 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
Step MHz	0.007 MHz
IF Bandwidth	9 kHz

5.2. TEST PROCEDURES

- a. The EUT was placed 0.4 meter from the conducting wall of the shielding room and was kept at least 80 centimeters from any other grounded conducting surface.
- b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
- c. All the support units are connect to the other LISN.
- d. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- e. The FCC states that a 50 ohm , 50 microhenry LISN should be used.
- f. Both sides of AC line were checked for maximum conducted interference.
- g. The frequency range from 150 KHz to 30 MHz was searched.
- h. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- i. If the emission level of the EUT in peak mode was 6 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported otherwise the emissions which do not have 6 dB margin will be retested on by one using the quasi-peak method and reported.

5.3. TYPICAL TEST SETUP LAYOUT OF CONDUCTED POWERLINE



FCC TEST REPORT

REPORT NO. : F892903

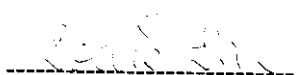
5.4. TEST RESULT OF AC POWERLINE CONDUCTED EMISSION

- Frequency Range of Test : from 0.15 MHz to 30 MHz
- All emissions not reported here are more than 10 dB below the prescribed limit.
- Temperature : 28°C
- Relative Humidity : 53% RH
- Test Mode : 640x480 31K/60Hz (CRT+TV MODE, S-Video)
- Test Date : Oct. 19, 1998

The Conducted Emission test was passed at Neutral 0.48 MHz / 28.50 dBuV.

Frequency (MHz)	Line or Neutral	Meter Reading				Limits				Margin	
		Q.P. (dBuV)	A.V. (dBuV)	Q.P. (uV)	A.V. (uV)	Q.P. (dBuV)	A.V. (dBuV)	Q.P. (uV)	A.V. (uV)	Q.P. (dB)	A.V. (dB)
0.34	L	32.80	27.40	43.65	23.44	60.57	50.57	1068.00	337.73	-27.77	-23.17
0.48	L	31.80	26.50	38.90	21.13	56.57	46.57	673.86	213.09	-24.77	-20.07
15.88	L	34.70	29.40	54.33	29.51	60.00	50.00	1000.00	316.23	-25.30	-20.60
0.34	N	31.80	26.50	38.90	21.13	60.57	50.57	1068.00	337.73	-28.77	-24.07
0.48	N	34.00	28.50	50.12	26.61	56.57	46.57	673.86	213.09	-22.57	-18.07
15.89	N	34.90	28.10	55.59	25.41	60.00	50.00	1000.00	316.23	-25.10	-21.90

Test Engineer :


LOUIS LIN

FCC TEST REPORT

REPORT NO. : F892903

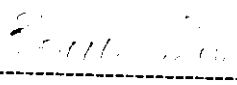
5.4.1 TEST RESULT OF AC POWERLINE CONDUCTED EMISSION

- Frequency Range of Test : from 0.15 MHz to 30 MHz
- All emissions not reported here are more than 10 dB below the prescribed limit.
- Temperature : 28°C
- Relative Humidity : 53% RH
- Test Mode : 1280X1024 91K/85Hz
- Test Date : Oct. 19, 1998

The Conducted Emission test was passed at Neutral 0.47 MHz / 29.00 dBuV.

Frequency (MHz)	Line or Neutral	Meter Reading				Limits				Margin	
		Q.P. (dBuV)	A.V. (dBuV)	Q.P. (uV)	A.V. (uV)	Q.P. (dBuV)	A.V. (dBuV)	Q.P. (uV)	A.V. (uV)	Q.P. (dB)	A.V. (dB)
0.36	L	33.10	27.80	45.19	24.55	60.00	50.00	1000.00	316.23	-26.90	-22.20
0.48	L	32.00	27.20	39.81	22.91	56.57	46.57	673.86	213.09	-24.57	-19.37
15.88	L	35.10	29.80	56.89	30.90	60.00	50.00	1000.00	316.23	-24.90	-20.20
0.36	N	32.90	26.80	44.16	21.88	60.00	50.00	1000.00	316.23	-27.10	-23.20
0.47	N	34.10	29.00	50.70	28.18	56.86	46.86	696.40	220.22	-22.76	-17.86
15.88	N	35.20	29.20	57.54	28.84	60.00	50.00	1000.00	316.23	-24.80	-20.80

Test Engineer :


LOUIS LIN

FCC TEST REPORT

REPORT NO. : F892903

5.4.2 TEST RESULT OF AC POWERLINE CONDUCTED EMISSION

- Frequency Range of Test : from 0.15 MHz to 30 MHz
- All emissions not reported here are more than 10 dB below the prescribed limit.
- Temperature : 28°C
- Relative Humidity : 53% RH
- Test Mode : 1600x1200 106K/85Hz
- Test Date : Oct. 19, 1998

The Conducted Emission test was passed at Neutral 0.47 MHz / 29.40 dBuV.

Frequency (MHz)	Line or Neutral	Meter Reading				Limits				Margin	
		Q.P. (dBuV)	A.V. (dBuV)	Q.P. (uV)	A.V. (uV)	Q.P. (dBuV)	A.V. (dBuV)	Q.P. (uV)	A.V. (uV)	Q.P. (dB)	A.V. (dB)
0.36	L	33.20	28.10	45.71	25.41	60.00	50.00	1000.00	316.23	-26.80	-21.90
0.48	L	32.30	27.90	41.21	24.83	56.57	46.57	673.86	213.09	-24.27	-18.67
15.88	L	35.40	30.50	58.88	33.50	60.00	50.00	1000.00	316.23	-24.60	-19.50
0.35	N	33.70	27.10	48.42	22.65	60.29	50.29	1033.44	326.80	-26.59	-23.19
0.47	N	34.50	29.40	53.09	29.51	56.86	46.86	696.40	220.22	-22.36	-17.46
15.88	N	15.88	29.50	6.22	29.85	60.00	50.00	1000.00	316.23	-44.12	-20.50

Test Engineer :

LOUIS LIN

6. TEST OF RADIATED EMISSION

Radiated emissions from 30 MHz to 2000 MHz were measured with a bandwidth of 120 KHz according to the methods defines in ANSI C63.4-1992. The EUT was placed on a nonmetallic stand in the open-field site, 0.8 meter above the ground plane, as shown in Figure 6-3. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions.

6.1. MAJOR MEASURING INSTRUMENTS

- RF Preselector (HP 85685A)
Attenuation 0 dB
RF Gain 25 dB
Signal Input 20 Hz to 1.5 GHz

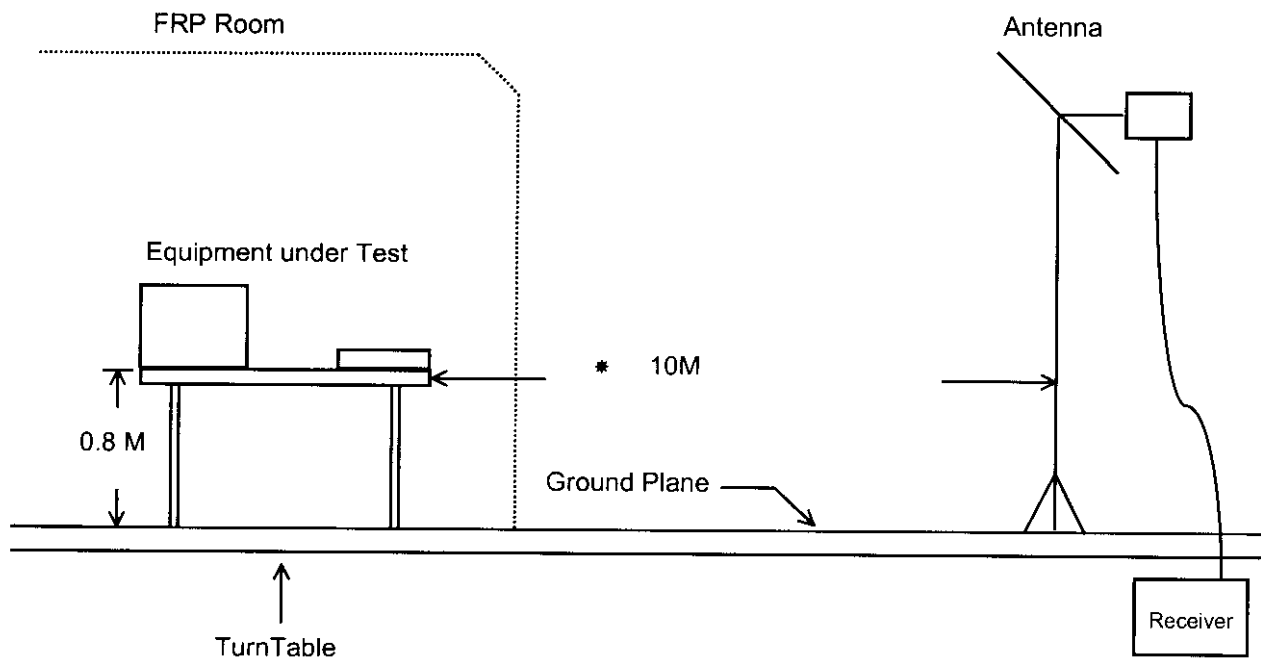
- Spectrum Analyzer (HP 8568B /8594A)
Attenuation 0 dB
Start Frequency 30 MHz
Stop Frequency 2000 MHz
Resolution Bandwidth 1 MHz
Video Bandwidth 1 MHz
Signal Input 100 Hz to 1.5 GHz

- Quasi-Peak Adapter (HP 85650A)
Resolution Bandwidth 120 KHz
Frequency Band 30 MHz to 1 GHz
Quasi-Peak Detector ON for Quasi-Peak Mode
OFF for Peak Mode

6.2. TEST PROCEDURES

- a. The EUT was placed on a rotatable table top 0.8 meter above ground.
- b. The EUT was set 10 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest radiation.
- d. The antenna is a half wave dipole and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
- e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
- f. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 6 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported otherwise the emissions which do not have 6 dB margin will be repeated one by one using the quasi-peak method and reported.

6.3. TYPICAL TEST SETUP LAYOUT OF RADIATED EMISSION



6.4. TEST RESULT OF RADIATED EMISSION

- For frequency 30-1Ghz equipment meets the CISPR PUB.22 CLASS B limits.
- For frequency 1Ghz-2Ghz equipment meets the FCC Class B limits.
- Test Distance : 10 M
- Temperature : 33°C
- Relative Humidity : 67 % RH
- Test Date : Oct. 19, 1998
- Test Mode : 640x480 31K/60Hz (CRT+TV, S-Video)
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Sample Calculation at 66.70 MHz
Corrected Reading = 6.07 + 1.37 + 13.62 = 21.06 (dBuV/m)

The Radiated Emission test was passed at

Horizontal 480.00 MHz / 28.32 dBuV

Antenna Height 4.0 Meter , Turntable Degree 50° .

Frequency	Antenna	Cable	Reading	Limits	Emission	Level	Margin		
Polarity	Factor	Loss							
(MHz)	(dB/m)	(dB)	(dBuV)	(dBuV/m)	(uV/m)	(dBuV/m)	(uV/m)	(dB)	
66.70	H	6.07	1.37	13.62	30.00	32	21.06	11.30	-8.94
180.60	H	9.00	2.01	7.49	30.00	32	18.50	8.41	-11.50
480.00	H	17.54	3.70	7.08	37.00	71	28.32	26.06	-8.68
179.60	V	9.03	2.00	7.35	30.00	32	18.38	21.25	-11.62
209.60	V	9.25	2.38	9.25	30.00	32	20.88	11.07	-9.12
442.40	V	17.15	3.65	7.37	37.00	71	28.17	25.62	-8.83

Test Engineer :

Louis Lin

LOUIS LIN

6.4.1 TEST RESULT OF RADIATED EMISSION

- For frequency 30-1Ghz equipment meets the CISPR PUB.22 CLASS B limits.
- For frequency 1Ghz-2Ghz equipment meets the FCC Class B limits.
- Test Distance : 10 M
- Temperature : 33°C
- Relative Humidity : 67 % RH
- Test Date : Oct. 19, 1998
- Test Mode : 1280x1024 91K/85Hz
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Sample Calculation at 179.80 MHz
Corrected Reading = 9.01 + 2.00 + 9.86 = 20.88 (dBuV/m)

The Radiated Emission test was passed at

Vertical 196.90 MHz / 21.56 dBuV

Antenna Height 1.0 Meter , Turntable Degree 18°

Frequency	Antenna	Cable	Reading	Limits	Emission	Level	Margin		
Polarity	Factor	Loss							
(MHz)	(dB/m)	(dB)	(dBuV)	(dBuV/m)	(uV/m)	(dBuV/m)	(uV/m)	(dB)	
179.80	H	9.01	2.00	9.86	30.00	32	20.88	11.07	-9.12
196.80	H	9.08	2.25	9.32	30.00	32	20.66	10.79	-9.34
200.00	H	9.10	2.30	8.70	30.00	32	20.10	10.12	-9.90
468.80	H	17.45	3.70	6.48	37.00	71	27.63	21.25	-9.37
196.90	V	9.08	2.25	10.22	30.00	32	21.56	11.97	-8.44
200.00	V	9.10	2.30	8.60	30.00	32	20.00	10.00	-10.00

Test Engineer :

Louis Lin

LOUIS LIN

FCC TEST REPORT

REPORT NO. : F892903

6.4.2 TEST RESULT OF RADIATED EMISSION

- For frequency 30-1Ghz equipment meets the CISPR PUB.22 CLASS B limits.
- For frequency 1Ghz-2Ghz equipment meets the FCC Class B limits.
- Test Distance : 10 M
- Temperature : 33°C
- Relative Humidity : 67 % RH
- Test Date : Oct. 19, 1998
- Test Mode : 1600x1200 106K/85Hz
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Sample Calculation at 171.80 MHz
 $\text{Corrected Reading} = 9.61 + 2.04 + 10.29 = 21.95 \text{ (dBuV/m)}$

The Radiated Emission test was passed at

Horizontal 179.90 MHz / 25.20 dBuV

Antenna Height 4.0 Meter , Turntable Degree 13°.

Frequency (MHz)	Antenna Polarity	Antenna Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Limits (dBuV/m)	Emission (uV/m)	Level (dBuV/m)	Margin (dB)
171.80	H	9.61	2.04	10.29	30.00	32	21.95	12.52
179.90	H	9.01	2.00	14.19	30.00	32	25.20	18.20
200.00	H	9.10	2.30	9.90	30.00	32	21.30	11.61
67.60	V	6.16	1.35	14.43	30.00	32	21.94	21.25
132.70	V	11.34	2.22	9.43	30.00	32	22.98	14.09
171.80	V	9.61	2.04	13.49	30.00	32	25.15	18.09

Test Engineer :

Louis Lin
LOUIS LIN

SPORTON International Inc.

TEL : 886-2-2696-2468

FAX : 886-2-2696-2255

FCC ID : I27MM-VS21A

PAGE NUMBER : 25 OF 29

ISSUED DATE : Oct 27 1998

7. ANTENNA FACTOR AND CABLE LOSS

Frequency (MHz)	Antenna Factor (dB)	Cable Loss (dB)
30	17.7	0.9
35	15.6	1.1
40	13.0	1.0
45	10.1	1.2
50	8.0	1.2
55	6.4	1.2
60	6.1	1.2
65	5.9	1.4
70	6.4	1.3
75	6.3	1.5
80	7.2	1.5
85	7.5	1.6
90	8.5	1.6
100	10.1	1.7
110	10.4	1.9
120	11.8	1.8
130	11.2	2.3
140	11.7	2.0
150	11.9	2.2
160	10.5	2.1
180	9.0	2.0
200	9.1	2.3
225	9.5	2.5
250	11.8	2.6
300	13.6	2.9
350	14.8	3.1
400	16.3	3.4
450	17.3	3.7
500	17.7	3.7
550	19.5	3.9
600	20.0	4.1
650	20.4	4.3
700	21.0	4.6
750	21.4	4.9
800	22.1	4.8
850	22.9	5.0
900	22.7	5.1
950	24.1	5.3
1000	24.9	5.5
2000	26.4	9.7

8. LIST OF MEASURING EQUIPMENT USED

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Test Receiver	R&S	ESH3	893495/013	9 KHz - 30MHz	Apr. 13, 1998	Conduction
Test Receiver	R&S	ESVP	893610/003	20MHz - 1.3 GHz	Apr. 13, 1998	Conduction
LISN	EMCO	3825/2	9510-2484	50 ohm / 50 μ H	Nov. 29, 1997	Conduction
LISN	KYORITSU	KNW-407	8-1010-15	50 ohm / 50 μ H	Nov. 10, 1997	Conduction
EMI Filter	CORCOM	MRI-2030	N/A	480VAC / 30A	N/A	Conduction
Spectrum Monitor	R & S	EZM	894987/011	N/A	Apr. 13, 1998	Conduction
Amplifier (Site 1)	HP	87405A	3207A01437	10MHz - 3.0GHz	Jun. 26, 1998	Radiation
Spectrum Analyzer (site 1)	HP	8594A	3051A00172	9KHz - 2.9GHz	Apr. 17, 1998	Radiation
Bilog Antenna (site 1)	CHASE	CBL6112A	2302	30MHz - 2GHz	Jan. 27, 1998	Radiation
Half-wave dipole antenna (site 1)	EMCO	3121C	8912-496	20MHz - 1GHz	Aug. 12, 1998	Radiation
Turn Table	EMCO	1060-1.211	9507-1805	0 - 360 degree	N/A	Radiation
Antenna Mast	EMCO	1051-1.2	9502-1868	1 m - 4 m	N/A	Radiation
Quasi-peak Adapter (site 1)	HP	85650A	2811A01285	9KHz - 1GHz	Jul. 18, 1998	Radiation
RF Preselector (Site 1)	HP	85685A	2926A00951	20Hz - 1.5GHz	Jul. 18, 1998	Radiation
Spectrum Analyzer (site 1)	HP	8568B	2928A04713	100Hz - 1.5GHz	Jul. 18, 1998	Radiation



SPORTON LAB.

Certificate No: D7O0701

CERTIFICATE OF COMPLIANCE

Authorized under Declaration of Conformity
according to

47 CFR, Part 2 and Part 15 of the FCC Rules

● Equipment Under Test : PERSONAL COMPUTER

Model No. : P2L97

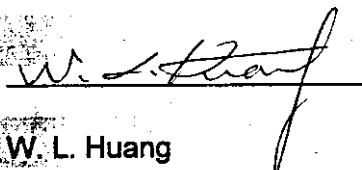
Applicant : FIRST INTERNATIONAL COMPUTER INC.

6F, Formosa Plastics Rear Building 201,
Tung Hwa N. Rd., Taipei, Taiwan, R.O.C.



CERTIFY THAT:

THE MEASUREMENTS SHOWN IN THIS TEST REPORT WERE MADE IN
ACCORDANCE WITH THE PROCEDURES GIVEN IN ANSI C63.4-1992 AND THE
ENERGY EMITTED BY THIS EQUIPMENT WAS **PASSED** BOTH RADIATED AND
CONDUCTED EMISSIONS CLASS B LIMITS. THE TESTING WAS COMPLETED ON SEP. 02,
1997 AT SPORTON INTERNATIONAL INC. LAB IN NEI HWU.

 OCT 08, 97
W. L. Huang
GENERAL MANAGER