FCC TEST REPORT

for

CISPR PUB. 22 Class B

Equipment	:	CARDEXpert SG4 PCI
Model No.	:	9911-01
FCC ID	:	ICUVGA-GW905P
Filing Type	:	Original Grant
Applicant	:	**GAINWARD CO., LTD.** 12F, No. 96, Hsin Tai Wu Rd., Sec. 1, Hsi-Chih, 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.
- **Certificate or Test Report must not be used by the applicant to claim the product in this test report endorsement by NVLAP or any agency of U.S. government.**

SPORTON International Inc.

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

Table of Contents

Certificate No. : F9N0202

CERTIFICATE OF COMPLIANCE

for

CISPR PUB. 22 Class B

Equipment : CARDEXpert SG4 PCI

Model No. : 9911-01

FCC ID : ICUVGA-GW905P

Applicant : **GAINWARD CO., LTD.**
12F, No. 96, Hsin Tai Wu Rd., Sec. 1,
Hsi-Chih, Taipei Hsien, Taiwan, R.O.C.

I **HEREBY** 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*** **CISPR PUB. 22** both radiated and conducted emission class B limits. Testing was carried out on Nov. 5, 1999 at **SPORTON International Inc.** LAB. in Lin Kou.

_____

W. L. Huang
General Manager

SPORTON International Inc.

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

1. General Description of Equipment under Test

1.1. Applicant

GAINWARD CO., LTD.
12F, No. 96, Hsin Tai Wu Rd., Sec. 1,
Hsi-Chih, Taipei Hsien, Taiwan, R.O.C.

1.2. Manufacturer

Same as 1.1.

1.3. Basic Description of Equipment under Test

Equipment : CARDEXpert SG4 PCI
Model No. : 9911-01
Trade Name : CARDEXpert
AV Data Cable : Non-Shielded, 1.4m
VGA Cable : Shielded, 1.15m
LCD Cable : Shielded, 1.15m
Power Supply Type: From PC
Power Cord : N/A

1.4. Feature of Equipment under Test

- 128-bit S3 Savage4 3D/2D/Video Graphics Accelerator.
- 8/16/32 MB SDRAM Display Memory.
- Flat Panel Desktop Monitor Support (Flat Panel Monitor dependent).
- Integrated 300MHz RAMDAC with Gamma Correction.
- High Quality Up/Down Scalar and Maximum Resolution 1600 x 1200.
- NTSC/PAL TV Output Support and Optimized Software DVD Decoders(optional).
- Full 2X/4X AGP @ 4X Speed & Bandwidth (4X AGP function is Savage4 chip dependent) (Only for AGP model)

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 HITACHI Monitor, DELL PS/2 Keyboard, PRIMAX PS/2 Mouse, HP Printer, ACEEX Modem, VIEWSONIC LCD Monitor, PANASONIC TV 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, 31.5 KHz to 106 KHz)
   2. Vertical frequency (60 Hz to 85 Hz)

d. According to the above tests, we listed the following display modes as the worst cases:
   1. 640 x 480 60Hz (TV).
   2. 1,024x768 60KHz 48K (VGA+LCD).
   3. 1,280x1,024 85Hz 91K (VGA).
   4. 1,600x1,200 85Hz 106K (VGA).

e. Frequency range investigated: conduction 150 KHz to 30 MHz, radiation 30 MHz to 2000 MHz.

2.2. Description of Test System

Support Unit 1. -- Personal Computer (FIC)

FCC ID	: N/A
Model No.	: P2L97
Power Supply Type	: Switching
Power Cord	: Non-Shielded
Serial No.	: SP0037
Data Cable	: Shielded
Remark	: This support device was tested to comply with FCC standards and authorized under a declaration of conformity.

Support Unit 2. -- Monitor (HITACHI)

FCC ID	: N/A
Model No.	: CM753ET
Power Supply Type	: Switching
Power Cord	: Non-Shielded
Serial No.	: SP0176
Data Cable	: Shielded, 1.15m
Remark	: This support device was tested to compy with FCC standards and authorized under a declaration of conformity.

Support Unit 3. -- PS/2 Keyboard (DELL)

FCC ID	: GYUM92SK
Model No.	: AT101(DE8M)
Serial No.	: SP0054
Data Cable	: Shielded, 1.9m

Support Unit 4. -- PS/2 Mouse (PRIMAX)

FCC ID	: EMJMUSJQ
Model No.	: MUS9J
Serial No.	: SP0045
Data Cable	: Shielded, 1.7m

Support Unit 5. -- Printer (HP)

FCC ID	: B94C2642X
Model No.	: DeskJet 400
Power Supply Type	: Linear
Power Cord	: Non-Shielded
Serial No.	: SP0048
Data Cable	: Braided-Shielded, 1.35m

Support Unit 6. -- Modem (ACEEX)

FCC ID	: IFAXDM1414
Model No.	: DM1414
Power Supply Type	: Linear
Power Cord	: Non-Shielded
Serial No.	: SP0015
Data Cable	: Shielded, 1.15m

Support Unit 7. -- LCD PANEL (ViewSonic)

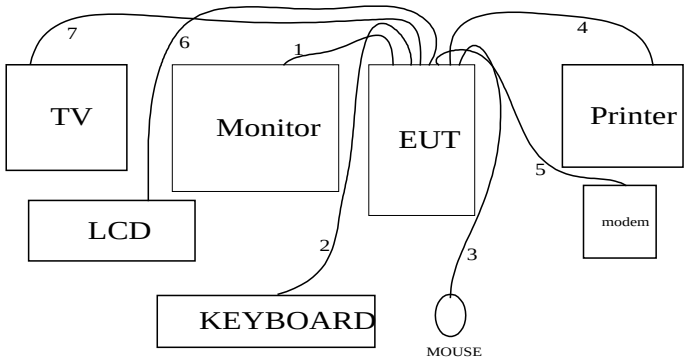
FCC ID	: N/A
Model No.	: VPD150
Serial No.	: SP0201
Power Supply Type	: Switching
Power Cord	: Non-Shielded
Data Cable	: Shielded, 1.15m
Remark	: This support device was tested to compy with FCC standards and authorized under a declaration of conformity.

Support Unit 8. -- TV (Panasonic)

FCC ID	: N/A
Model No.	: WV-CM1450
Power Supply Type	: Switching
Power Cord	: Non-Shielded
Serial No.	: SP0114
Data Cable	: Non-Shielded, 1.4m

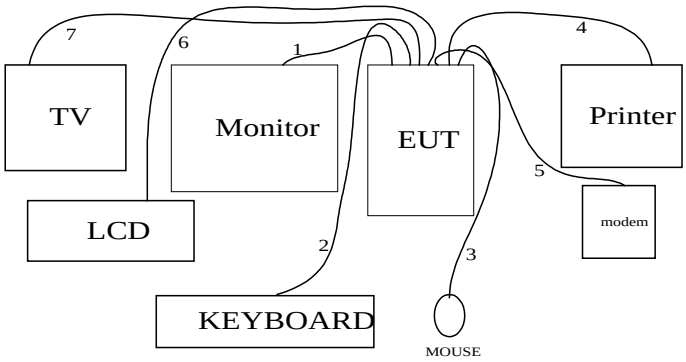
2.3. Connection Diagram of Test System

- TV mode



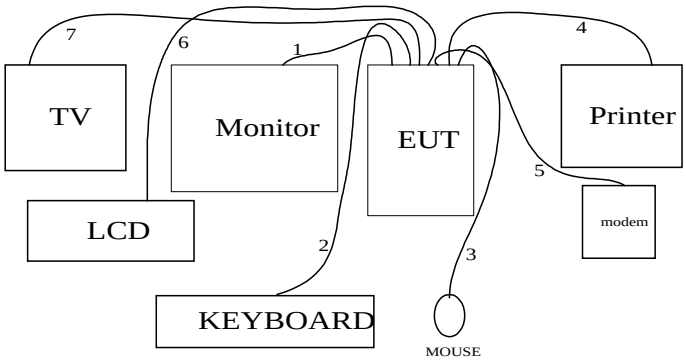
1. The I/O cable is connected from EUT to the support unit 2.
2. The I/O cable is connected to the support unit 3.
3. The I/O cable is connected to the support unit 4.
4. The I/O cable is connected to the support unit 5.
5. The I/O cable is connected to the support unit 6.
6. The I/O cable is connected from EUT to the support unit 7.
7. The AV-Video cable is connected from EUT to the support unit 8.

- VGA+LCD mode



1. The I/O cable is connected from EUT to the support unit 2.
2. The I/O cable is connected to the support unit 3.
3. The I/O cable is connected to the support unit 4.
4. The I/O cable is connected to the support unit 5.
5. The I/O cable is connected to the support unit 6.
6. The I/O cable is connected from EUT to the support unit 7.
7. The AV-Video cable is connected from EUT to the support unit 8.

- VGA mode



1. The I/O cable is connected from EUT to the support unit 2.
2. The I/O cable is connected to the support unit 3.
3. The I/O cable is connected to the support unit 4.
4. The I/O cable is connected to the support unit 5.
5. The I/O cable is connected to the support unit 6.
6. The I/O cable is connected from EUT to the support unit 7.
7. The AV-Video cable is connected from EUT to the support unit 8.

3. Test Software

An executive program, EMC TEST under WIN 98, which generates a complete line of continuously repeating " H " pattern was 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, and the monitor displays " H " patterns on the screen. (For VGA mode)

d. The PC send " H" message to the LCD and monitor, and the LCD and monitor displays " H " patterns on the screen. (For VGA+LCD mode)

e. The PC send " H" message to the TV, and the TV displays " H " patterns on the screen. (For TV mode)

f. The PC sends " H " messages to the printer, then the printer prints them on the paper.

g. The PC sends " H " messages to the modem.

h. The PC sends " H " messages to the internal Hard Disk, and the Hard Disk reads and writes the message.

i. 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.

Test Site Location : No. 30-2, Lin 6, Diing-Fwu Tsuen, Lin-Kou-Hsiang,
Taipei Hsien, Taiwan, R.O.C.
TEL : 886-2-2601-1640
FAX : 886-2-2601-1695

4.2. Standard for Methods of Measurement

ANSI C63.4-1992

4.3. Test in Compliance with

CISPR PUB. 22 Class B

4.4. Frequency Range Investigated

a. Conduction: from 150 kHz to 30 MHz
b. Radiation : from 30 MHz to 2,000 MHz

4.5. Test Distance

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

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 section 5.3. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

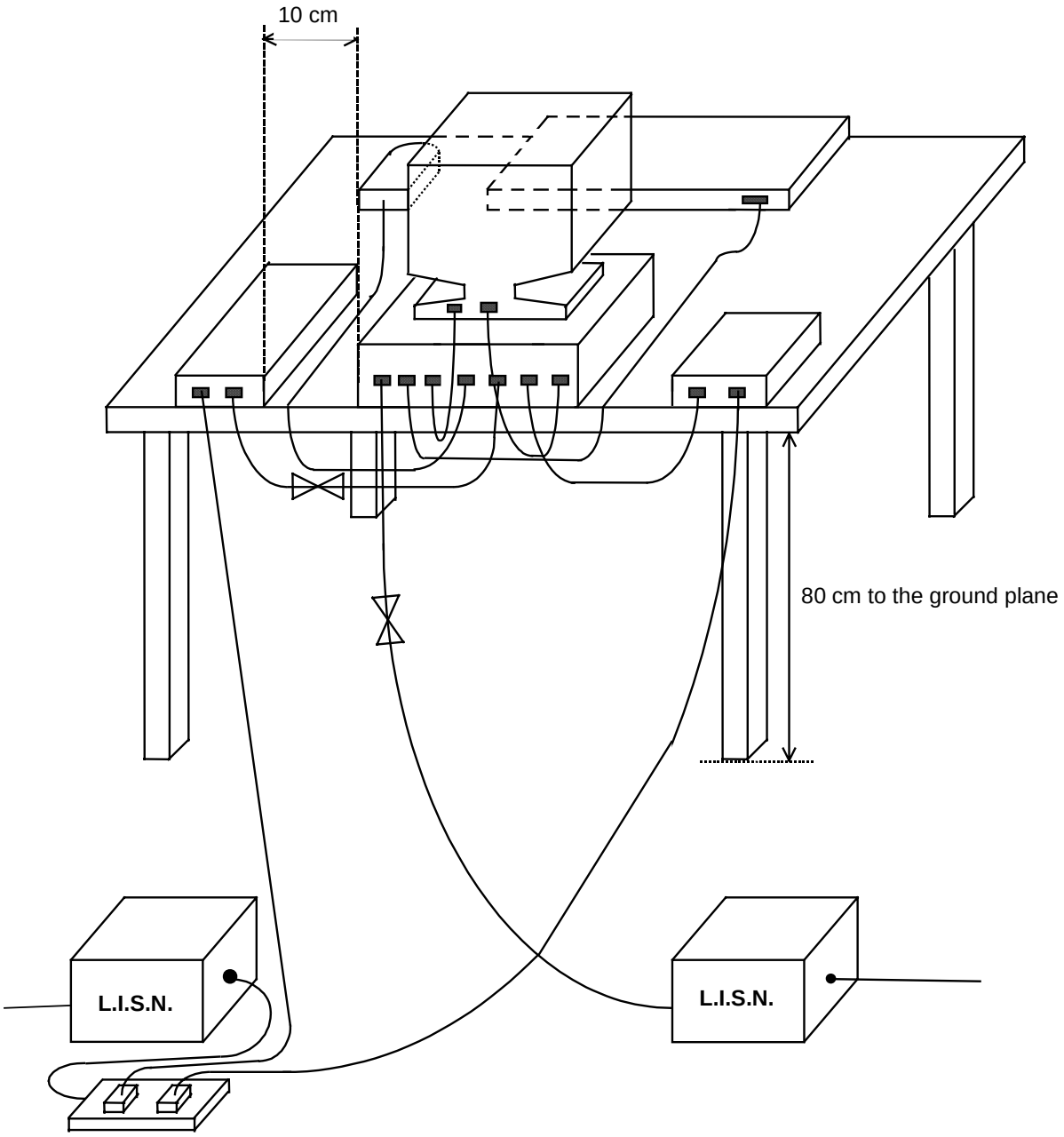
5.1. Major Measuring Instruments

Test Receiver	HP 8591EM
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 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 one by one using the quasi-peak method and reported.

5.3. Typical Test Setup Layout of Conducted Powerline



5.4. Test Result of AC Powerline Conducted Emission

5.4.1. Test mode : 640 x 480 60Hz (TV)

- Temperature : 24°C
- Relative Humidity : 60 %
- Test Date : Nov. 5, 1999

The Conducted Emission test was passed at minimum margin

LINE 0.214 MHz / 42.20 dBuV.

Freq.	Line	Meter Reading				Limits				Margin	
	or	Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.
(MHz)	Neutral	(dBuV)	(dBuV)	(uV)	(uV)	(dBuV)	(dBuV)	(uV)	(uV)	(dB)	(dB)
16.033	L	29.50	25.50	29.85	18.84	60.00	50.00	1000.00	316.23	-30.5	-24.5
0.831	L	21.40	16.80	11.75	6.92	56.00	46.00	630.96	199.53	-34.6	-29.2
0.214	L	43.40	42.20	147.91	128.82	63.06	53.06	1423.01	449.99	-19.7	-10.9
16.033	N	29.50	25.50	29.85	18.84	60.00	50.00	1000.00	316.23	-30.5	-24.5
0.831	N	21.40	16.80	11.75	6.92	56.00	46.00	630.96	199.53	-34.6	-29.2
0.214	N	43.40	42.20	147.91	128.82	63.06	53.06	1423.01	449.99	-19.7	-10.9

Test Engineer : _____
Benny Lee

5.4.2. Test mode : 1024 x 768 60Hz/48K (VGA+LCD)

- Temperature : 24°C
- Relative Humidity : 60 %
- Test Date : Nov. 5, 1999

The Conducted Emission test was passed at minimum margin

LINE 0.250 MHz / 43.60 dBuV.

Freq.	Line	Meter Reading				Limits				Margin	
	or	Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.
(MHz)	Neutral	(dBuV)	(dBuV)	(uV)	(uV)	(dBuV)	(dBuV)	(uV)	(uV)	(dB)	(dB)
1.498	L	23.80	18.10	15.49	8.04	56.00	46.00	630.96	199.53	-32.2	-27.9
0.516	L	26.20	20.40	20.42	10.47	56.00	46.00	630.96	199.53	-29.8	-25.6
0.457	L	34.20	32.30	51.29	41.21	56.75	46.75	687.61	217.44	-22.5	-14.4
0.250	L	43.30	42.20	146.22	128.82	61.76	51.76	1224.22	387.13	-18.4	-9.5
0.517	N	26.70	20.90	21.63	11.09	56.00	46.00	630.96	199.53	-29.3	-25.1
0.250	N	44.50	43.60	167.88	151.36	61.76	51.76	1224.22	387.13	-17.2	-8.1

Test Engineer : _____

Benny Lee

5.4.3. Test mode : 1280 x 1024 85Hz/91K (VGA)

- Temperature : 24°C
- Relative Humidity : 60 %
- Test Date : Nov. 5, 1999

The Conducted Emission test was passed at minimum margin

LINE 0.250 MHz / 43.30 dBuV.

Freq.	Line or	Meter Reading				Limits				Margin	
		Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.
(MHz)	Neutral	(dBuV)	(dBuV)	(uV)	(uV)	(dBuV)	(dBuV)	(uV)	(uV)	(dB)	(dB)
15.550	L	28.50	27.30	26.61	23.17	60.00	50.00	1000.00	316.23	-31.5	-22.7
0.522	L	25.40	19.60	18.62	9.55	56.00	46.00	630.96	199.53	-30.6	-26.4
0.251	L	43.00	42.00	141.25	125.89	61.71	51.71	1218.16	385.22	-18.7	-9.7
23.776	N	26.40	20.60	20.89	10.72	60.00	50.00	1000.00	316.23	-33.6	-29.4
0.517	N	26.80	21.00	21.88	11.22	56.00	46.00	630.96	199.53	-29.2	-25.0
0.250	N	44.30	43.30	164.06	146.22	61.77	51.77	1226.09	387.72	-17.5	-8.5

Test Engineer : _____

Benny Lee

5.4.4. Test mode : 1600 x 1200 85Hz/106K (VGA)

- Temperature : 24°C
- Relative Humidity : 60 %
- Test Date : Nov. 5, 1999

The Conducted Emission test was passed at minimum margin

NEUTRAL 0.250 MHz / 43.20 dBuV.

Freq.	Line or	Meter Reading				Limits				Margin	
		Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.
(MHz)	Neutral	(dBuV)	(dBuV)	(uV)	(uV)	(dBuV)	(dBuV)	(uV)	(uV)	(dB)	(dB)
20.041	L	26.60	22.60	21.38	13.49	60.00	50.00	1000.00	316.23	-33.4	-27.4
0.524	L	25.10	18.30	17.99	8.22	56.00	46.00	630.96	199.53	-30.9	-27.7
0.214	L	43.30	42.20	146.22	128.82	63.06	53.06	1423.01	449.99	-19.8	-10.9
16.032	N	27.80	23.20	24.55	14.45	60.00	50.00	1000.00	316.23	-32.2	-26.8
0.601	N	23.40	17.50	14.79	7.50	56.00	46.00	630.96	199.53	-32.6	-28.5
0.250	N	44.20	43.20	162.18	144.54	61.77	51.77	1226.56	387.87	-17.6	-8.6

Test Engineer : _____
Benny Lee

5.5. Photographs of Counducted Powerline Test Configuration

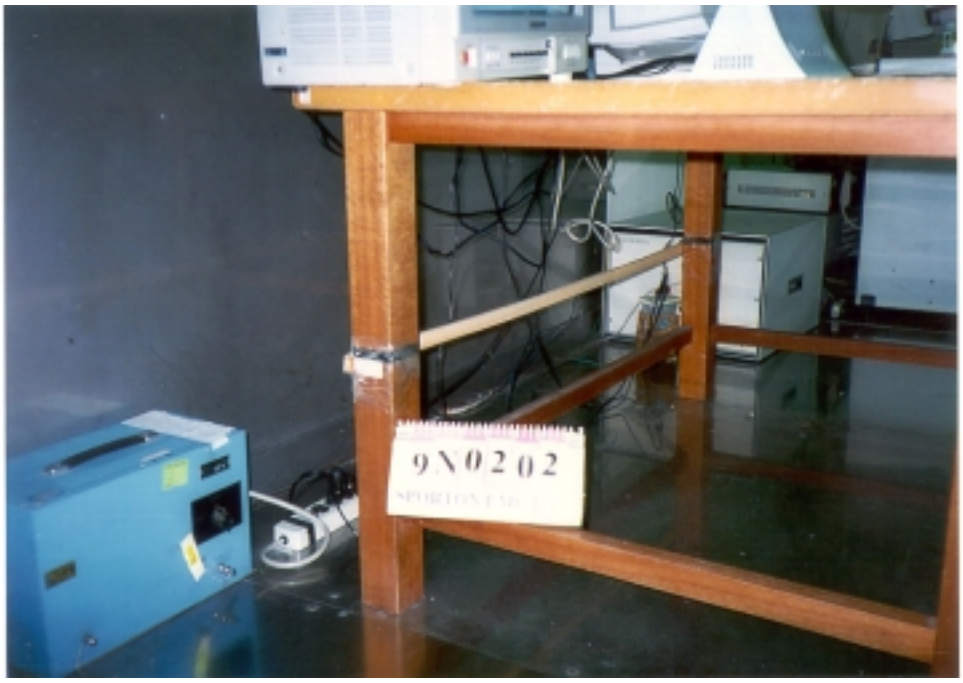
- The photographs show the configuration that generates the maximum emission.

TV mode

FRONT VIEW

REAR VIEW

SIDE VIEW



VGA+LCD mode

FRONT VIEW

REAR VIEW

SIDE VIEW

VGA mode

FRONT VIEW

REAR VIEW

SIDE VIEW

6. Test of Radiated Emission

Radiated emissions from 30 MHz to 2,000 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 section 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

- Amplifier (HP 87405A)

Attenuation	0 dB
RF Gain	20 dB
Signal Input	10 MHz to 3 GHz

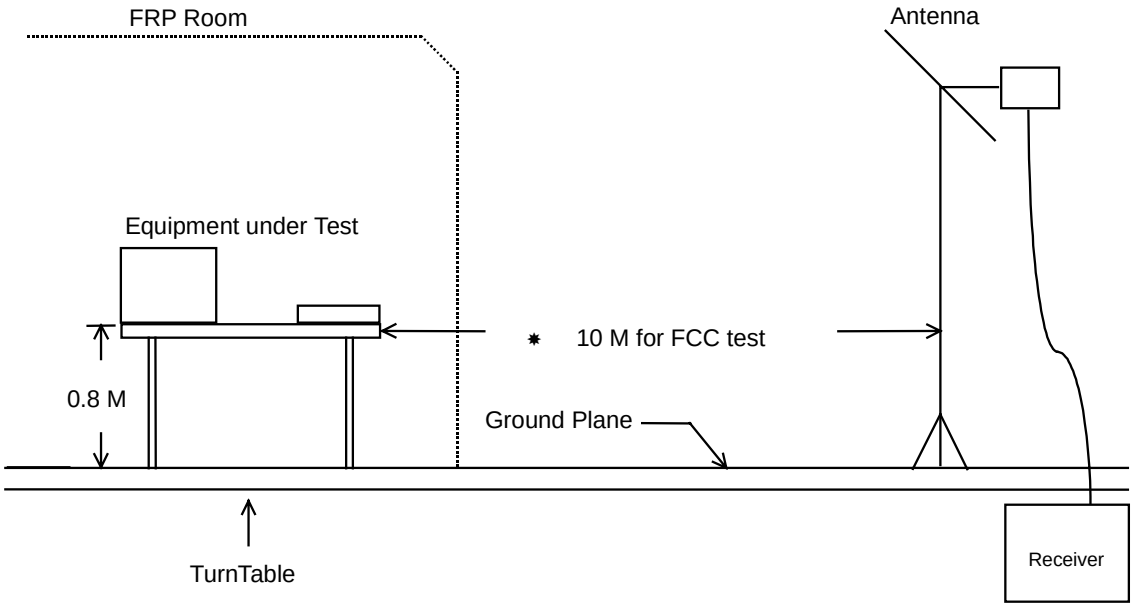
- Spectrum Analyzer (HP 8594A)

Attenuation	0 dB
Start Frequency	30 MHz
Stop Frequency	2000 MHz
Resolution Bandwidth	1 MHz
Video Bandwidth	1 MHz
Signal Input	9 KHz to 2.9 GHz

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

6.4.1. Test mode : 640 x 480 60Hz (TV)

- Test Distance : 10 M
- Temperature : 25°C
- Relative Humidity : 58 %
- Test Date : Nov. 5, 1999
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading : Antenna Factor + Cable Loss + Reading = Emission

The Radiated Emission test was passed at minimum margin

50.178 MHz / 18.81 dBuV (VERTICAL) Antenna Height 1.08 Meter, Turntable Degree 359 °.

Frequency	Polarity	Antenna Factor	Cable Loss	Reading	Limits		Emission	Level	Margin
(MHz)		(dB/m)	(dB)	(dBuV)	(dBuV/m)	(uV/m)	(dBuV/m)	(uV/m)	(dB)
50.178	V	7.91	0.90	10.00	30.00	31.62	18.81	8.72	-11.19
62.832	V	5.53	0.80	10.13	30.00	31.62	16.46	6.65	-13.54
130.035	V	12.02	1.60	3.03	30.00	31.62	16.65	6.80	-13.35
177.744	V	9.42	1.75	6.90	30.00	31.62	18.07	8.01	-11.93
110.028	H	12.06	1.41	4.24	30.00	31.62	17.71	7.68	-12.29
208.000	H	9.52	1.97	5.32	30.00	31.62	16.81	6.93	-13.19

Test Engineer : _____
KENNY CHUANG

6.4.2. Test mode : 1024 x 768 60Hz/48K (VGA+LCD)

- Test Distance : 10 M
- Temperature : 25°C
- Relative Humidity : 58 %
- Test Date : Nov. 4, 1999
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading : Antenna Factor + Cable Loss + Reading = Emission

The Radiated Emission test was passed at minimum margin

214.400 MHz / 26.89 dBuV (VERTICAL) Antenna Height 1.31 Meter, Turntable Degree 27 °.

Frequency	Polarity	Antenna Factor	Cable Loss	Reading	Limits		Emission	Level	Margin
(MHz)		(dB/m)	(dB)	(dBuV)	(dBuV/m)	(uV/m)	(dBuV/m)	(uV/m)	(dB)
169.023	V	9.95	1.61	12.28	30.00	31.62	23.84	15.56	-6.16
201.600	V	8.95	1.99	15.00	30.00	31.62	25.94	19.82	-4.06
214.400	V	10.02	1.94	14.93	30.00	31.62	26.89	22.11	-3.11
422.400	V	15.96	2.99	12.06	37.00	70.79	31.01	35.52	-5.99
201.600	H	8.95	1.99	12.80	30.00	31.62	23.74	15.38	-6.26
208.000	H	9.52	1.97	12.42	30.00	31.62	23.91	15.69	-6.09

Test Engineer : _____
KENNY CHUANG

6.4.3. Test mode : 1280 x 1024 85Hz/91K (VGA)

- Test Distance : 10 M
- Temperature : 25°C
- Relative Humidity : 58 %
- Test Date : Nov. 4, 1999
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading : Antenna Factor + Cable Loss + Reading = Emission

The Radiated Emission test was passed at minimum margin

204.000 MHz / 21.50 dBuV (VERTICAL) Antenna Height 1.14 Meter, Turntable Degree 351 °.

Frequency	Polarity	Antenna Factor	Cable Loss	Reading	Limits		Emission	Level	Margin
(MHz)		(dB/m)	(dB)	(dBuV)	(dBuV/m)	(uV/m)	(dBuV/m)	(uV/m)	(dB)
42.483	V	12.17	0.70	8.40	30.00	31.62	21.27	11.57	-8.73
69.501	V	5.56	1.00	10.24	30.00	31.62	16.80	6.92	-13.20
110.883	V	12.06	1.41	6.64	30.00	31.62	20.11	10.13	-9.89
133.968	V	11.87	1.60	3.23	30.00	31.62	16.70	6.84	-13.30
204.000	V	9.11	1.98	10.41	30.00	31.62	21.50	11.89	-8.50
204.800	H	9.19	1.98	8.21	30.00	31.62	19.38	9.31	-10.62

Test Engineer : _____
KENNY CHUANG

6.4.4. Test mode : 1600 x 1200 85Hz/106K (VGA)

- Test Distance : 10 M
- Temperature : 25°C
- Relative Humidity : 58 %
- Test Date : Nov. 4, 1999
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading : Antenna Factor + Cable Loss + Reading = Emission

The Radiated Emission test was passed at minimum margin

45.732 MHz / 20.87 dBuV (VERTICAL) Antenna Height 1.14 Meter, Turntable Degree 358 °.

Frequency	Polarity	Antenna Factor	Cable Loss	Reading	Limits		Emission	Level	Margin
(MHz)		(dB/m)	(dB)	(dBuV)	(dBuV/m)	(uV/m)	(dBuV/m)	(uV/m)	(dB)
45.732	V	10.47	0.90	9.50	30.00	31.62	20.87	11.05	-9.13
68.646	V	5.56	0.96	12.84	30.00	31.62	19.36	9.29	-10.64
138.243	V	11.67	1.60	5.06	30.00	31.62	18.33	8.25	-11.67
163.038	V	10.32	1.67	6.35	30.00	31.62	18.34	8.26	-11.66
216.000	V	10.18	1.93	7.54	30.00	31.62	19.65	9.61	-10.35
206.400	H	9.36	1.97	9.21	30.00	31.62	20.54	10.64	-9.46

Test Engineer : _____
KENNY CHUANG

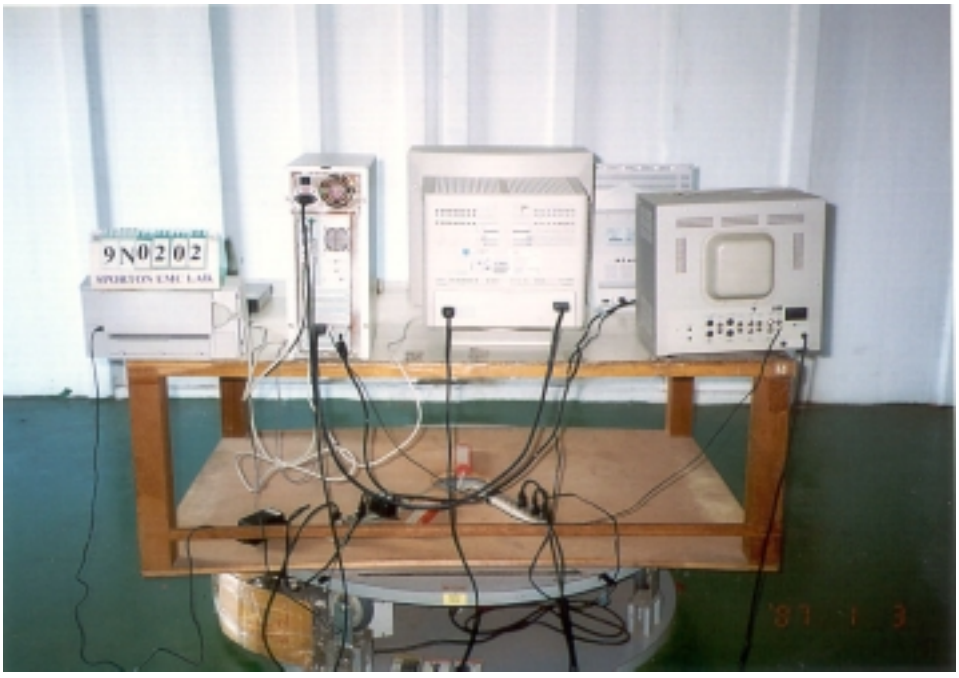
6.5. Photographs of Radiated Emission Test Configuration

- The photographs show the configuration that generates the maximum emission.

TV mode

FRONT VIEW

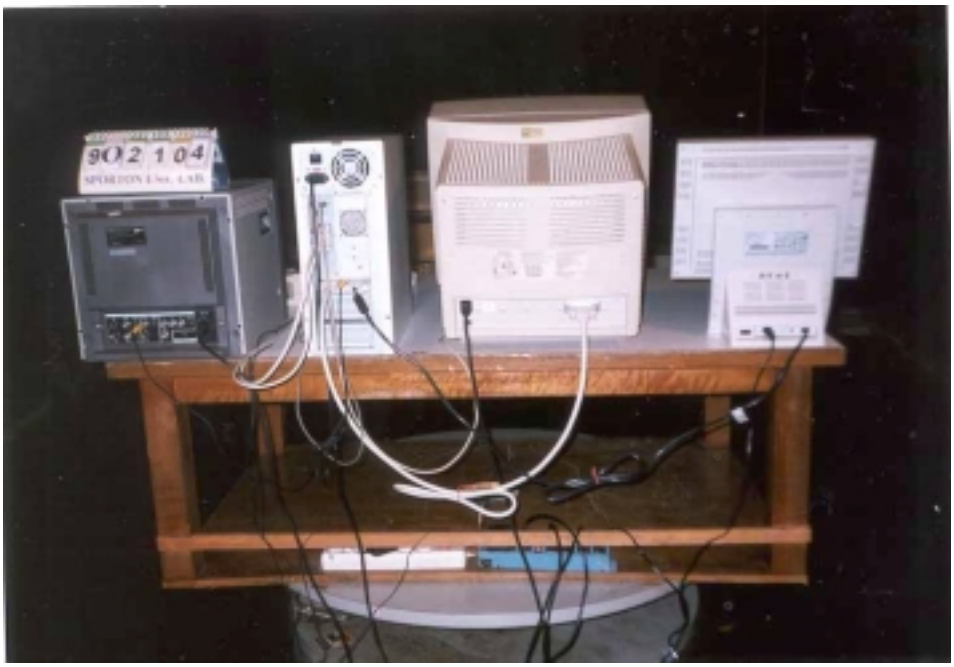
REAR VIEW



VGA+LCD mode

FRONT VIEW

REAR VIEW



VGA mode

FRONT VIEW

REAR VIEW

7. Antenna Factor & Cable Loss

Frequency (MHz)	Antenna Factor (dB)	Cable Loss (dB)
30	17.9	0.8
35	16.1	0.9
40	14.0	0.4
45	10.5	0.9
50	7.9	0.9
55	6.7	0.8
60	5.5	0.8
65	5.5	0.8
70	5.6	1.0
75	6.5	1.2
80	7.5	1.2
85	8.5	1.3
90	9.4	1.1
95	10.4	1.3
100	11.5	1.3
110	12.1	1.4
120	12.6	1.5
130	12.0	1.6
140	11.6	1.6
150	10.5	1.5
160	10.5	1.7
170	9.8	1.6
180	9.2	1.8
190	9.0	1.8
200	8.8	2.0
220	10.5	1.9
240	12.2	2.0
260	13.1	2.2
280	13.2	2.3
300	13.4	2.4
320	13.4	2.4
340	13.4	2.5
360	13.9	2.7
380	14.9	2.8
400	15.6	2.9
450	16.4	3.1
500	16.6	3.2
550	19.7	3.5
600	19.3	3.4
650	20.0	3.7
700	19.5	3.8
750	18.5	4.2
800	17.8	4.3
850	18.3	4.5
900	20.5	4.8
950	21.4	5.0
1000	21.2	5.1
2000	31.5	6.2

LKOP5

8. List of Measuring Equipment Used

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver (site 1)	HP	8591EM	3536A00672	9 KHz – 1.8 GHz	Aug. 30, 1999	Conduction
LISN (EUT) (site 1)	EMCO	3850/2	9510-1035	50 ohm / 50 uH	Oct. 22, 1999	Conduction
LISN (Support Unit) (site 1)	KYORITSU	KNW-47	8-693-10	50 ohm / 50 uH	Oct. 22, 1999	Conduction
EMI Filter (site 1)	CORCOM	MRI-2030	N/A	480 VAC / 30 A	N/A	Conduction
Amplifier (Site 5)	HP	87405A	3207A01437	10MHz –3.0GHz	Jun. 25, 1999	Radiation
Spectrum Analyzer (Site 5)	HP	8594A	3051A00172	9KHz –2.9GHz	Apr. 16, 1999	Radiation
Bilog Antenna (Site 5)	CHASE	CBL6112A	2287	30MHz -2GHz	Jan. 07, 1999	Radiation
Half-wave dipole antenna (Site 5)	EMCO	3121C	9705-1285	28 M - 1GHz	May 18. 1999	Radiation
Turn Table (site 5)	EMCO	2080	9711-2021	0 ~ 360 degree	N/A	Radiation
Antenna Mast (site 5)	EMCO	2075	9711-2115	1 m- 4 m	N/A	Radiation