HYUNDAI ELECTRONICS INDUSTRIES CO., LTD.

CORP QA OFFICE / INT'L STANDARD CERTIFICATION TEAM
SAN 136-1, AMI-RI , BUBAL-EUP, ICHEON-SI, KYOUNKI-DO, 467-701, KOREA
TEL : +82 31 639 8518 FAX : +82 31 639 8525

CERTIFICATION

Manufacture;
HYUNDAI ELECTRONICS INDUSTRIES CO., LTD.
San 136-1, Ami-Ri, Bubal-Eup, Icheon-Si
Kyoungki-Do 467-701, KOREA

Dates of Tests: MAY 22-25,2000
Test Report No.: HCT-F00-1001
Test Site: HYUNDAI ELECTRONICS INDUSTRIES CO., LTD.

FCC ID :	**CKLA526**
MODEL / TYPE :	**A526**

FCC Rule Part(s):	**Part 15 & 2; ET Docket 95-19**
Classification:	**FCC Class B Peripheral Device (JBP)**
Standard(s):	**FCC Class B: 1998 (CISPR 22)**
Equipment(EUT) Type:	**15" Color Monitor**
Max Resolution:	**800 X 600 Non-interlaced (@53.4KHz/ 85Hz)**
Port/ Connector(s)	**15-pon D-sub VGA connector**

The device bearing the trade name and model specified above, has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4-1992.(See Test Report if any modifications were made for compliance)

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

HYUNDAI certifies that no party to application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse of 1988,21 U.S.C.853(a).

Ki Soo Kim

Report prepared by : Ki-Soo Kim
Manager of QA Office-

HYUNDAI ELECTRONICS INDUSTRIES CO., LTD. EMC LAB.

TABLE OF CONTENTS

PAGE

HYUNDAI ELECTRONICS INDUSTRIES CO., LTD. CORP QA OFFICE /QUALITY MANAGEMENT TEAM
SAN 136-1, AMI-RI , BUBAL-EUP, ICHUON-SI,KYOUNKI-DO, 467-701,KOREA
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1. GENERAL INFORMATION

1.1 Product Description

The Hyundai Electronics Industries Co., Ltd. Model (refered to as the EUT in this report) is a 15"COLOR CRT Monitor HOR. Freq. 54 kHz w/max. Resolution of 800X600 Non-Interlaced.
Product specification information described herein was obtained from product data sheet or user's manual.

CHASSIS TYPE	**PLASTIC**
LIST OF EACH OSC. OR XTAL. FREQ.(FREQ. 1MHz)	**8 MHz**
CHIPSET BRAND AND PART NO.	**SAMSUNG: 3205001340** **SAMSUNG: 3203000863** **SAMSUNG: UKA3843** **SAMSUNG: 3200001194** **SAMSUNG: ULM7805CT** **SGS-THSON: UTDA9302H** **SAMSUNG: 3200001440** **SAMSUNG: 3200001439**
POWER REQUIREMENT	**100 - 240 VAC 50/60Hz 2.0A**
NUMBER OF LAYERS	**MAIN BOARD 1 LAYER** **CRT BOARD 1 LAYER**
MAX. RESOLUTION	**800X600 NON-INTERLACED (@ 54 kHz/85 Hz)**
H-SYNC FREQUENCY RANGE	**30 kHz 54 kHz**
V-SYNC FREQUENCY RANGE	**50 Hz 130Hz**
CRT TYPE	**15" (CRT Type :SAMSUNG M36QAW351X111)**

1.2 Related Submittal(s) / Grant(s)

ORIGINAL SUBMITTAL ONLY

HYUNDAI ELECTRONICS INDUSTRIES CO., LTD. CORP QA OFFICE /QUALITY MANAGEMENT TEAM
SAN 136-1, AMI-RI , BUBAL-EUP, ICHUON-SI,KYOUNKI-DO, 467-701,KOREA
TEL : +82.31.639.8518 FAX : +82.31.639.8525

1.3 Tested System Details

The Model names for all equipment, plus descriptions used in the tested system (including inserted cards) are:

DEVICE TYPE	MANUFACTURER	MODEL NUMBER	FCC ID / DoC	CONNECTED TO
COLOR MONITOR (EUT)	HYUNDAI	A526	CKLA526	HOST
PC(HOST)	H/P	DTPC-17	DoC	N/A
KEY BOARD	H/P	SK-2501-2D-K	GYUR385K	HOST
PRINTER	H/P	HP895C	DoC	HOST
MODEM	3COM CORPORATION	56K FAX MODEM	DoC	HOST
VIDEO CARD	DIAMOND	3D3000	DoC	HOST
MOUSE	H/P	M-S34	DZL211029	HOST

1.4 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 10 meters.

1.5 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data are located at the 254-1,MAEKOK-RI,HOBUP-MYUN,ICHON-SI,KYOUNGKI-DO, 467-701,KOREA. The site is constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated July 24, 2000(Confirmation Number: EA90661)

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2.SYSTEM TEST CONFIGURATION

2.1 Justification

The device was configured for testing in a typical fashion (as a customer would normally use it). During the tests, the following components and I/O cards inside the E.U.T were used.

DEVICE TYPE	MANUFACTURE	MODEL/PART NUMBER
MAIN BOARD	HYUNDAI	304010085901
CRT BOARD	HYUNDAI	304010086001

2.2 EUT exercise Software

The EUT exercise program used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use. The software, contained on a 3-1/2 inch disc, was inserted into drive A and is auto starting on power-up. Once loaded, the program sequentially exercises each system component in turn. The sequence used is :(1) Display test, (2) RS 232 test (3) Key board test,(4) Printer test,(5) FDD test,(6) HDD test. The complete cycle takes about 20 seconds and is repeated continuously. As the keyboard and mouse are strictly input devices, no data is transmitted to them during test. They are however, continuously scanned for data input activity. The video resolution modes setup and change program was used during the radiated and conducted emission testing.

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2.3 Cable Description

	Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (M)
PC(HOST)	N	N/A	1.8(P)
MONITOR(EUT)	N	Y	1.8(P), 1.5(D)
PRINTER	N	Y	2.0(P),1.5(D)
KEYBOARD	N/A	Y	2.0(D)
SPEAKER	N	Y	1.0
MODEM	N	Y	2.0(P),1.5(D)
MOUSE(PS/2)	N/A	Y	1.8(D)

The marked "(D)" means the Data Cable and "(P)" means the Power Cable.

2.4 Noise Suppression Parts on Cable.

	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
MONITOR(EUT)	Y	BOTH END	Y	BOTH END
PRINTER	N	N/A	Y	BOTH END
KEYBOARD	Y	PC END	N	N/A
SPEAKER	Y	SPEAKER END	N	N/A
MODEM	N	N/A	Y	BOTH END
MOUSE(PS/2)	N	N/A	N	N/A

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2.5 Equipment Modifications

N/A

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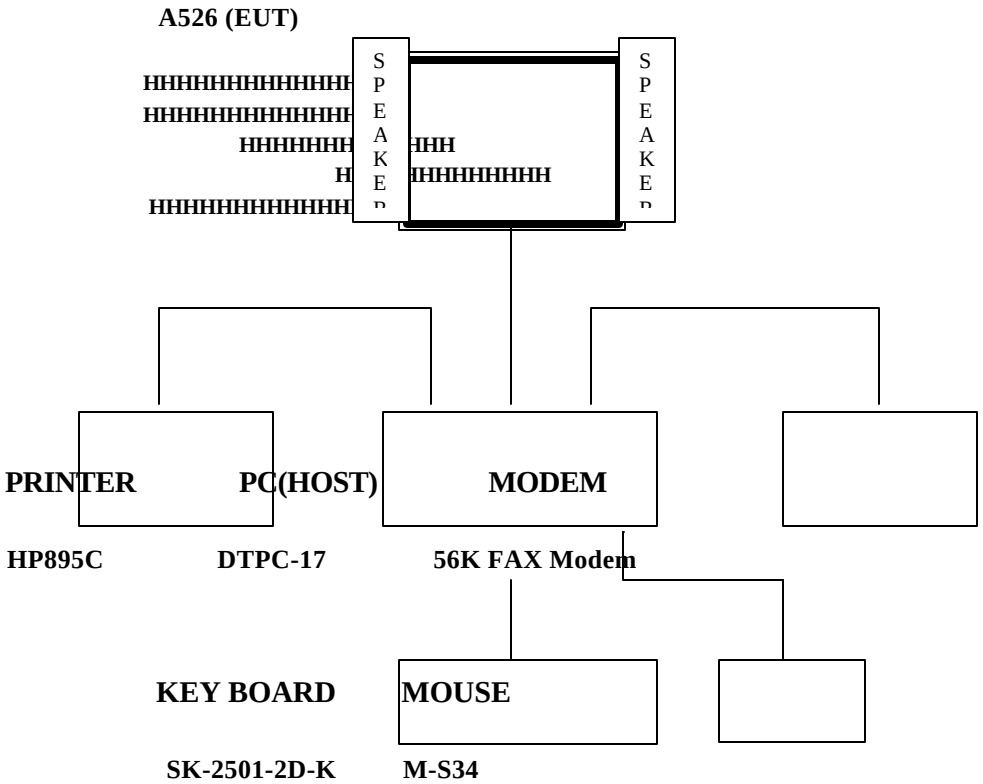
2.6 Configuration of Test system

Line Conducted Test : EUT was connected to LISN, all other supporting equipment were connected to another LISN.
Preliminary Power line Conducted Emission tests were performed by using the procedure in ANSI C63.4/1992 7.2.3 to determine the worse operating conditions.

Radiated Emission Test : Preliminary Radiated Emissions tests were conducted using the procedure in ANSI C63.4/1992 8.3.1.1 to determine the worse operating condition. Final Radiated Emission tests were conducted at 3 meter open area test site.

[Configuration of Tested System]



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3. PRELIMINARY TESTS

3.1 AC Power line Conducted Emission Tests

During Preliminary Tests, the following operating mode were investigated

Processor Speed (MHz)	Video Resolution (w/max)	The worst operating condition
Pentium 350 MHz	1024 x 768 Non-Interlaced (48 kHz/60Hz)	
Pentium 350 MHz	800 x 600 Non-Interlaced (53.7 kHz/85Hz)	X
Pentium 350 MHz	640 x 480 Non-Interlaced (31.5 KHz/60 Hz)	

4.2 Radiated Emission Tests

Processor Speed (MHz)	Video Resolution (w/max)	The worst operating condition
Pentium 350 MHz	1024 x 768 Non-Interlaced (48 kHz/60Hz)	
Pentium 350 MHz	800 x 600 Non-Interlaced (53.7 kHz/85Hz)	X
Pentium 350 MHz	640 x 480 Non-Interlaced (31.5 KHz/60 Hz)	

During Preliminary Tests, the following operating mode were investigated

Tested by KEUN- HO PARK / Engineer **Date : MAY 22, 2000**

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4. FINAL CONDUCETD AND RADIATED EMISSION TESTS SUMMARY

4.1 Conducted Emission Test

The following table shows the highest levels of conducted emissions on both polarization of hot and neutral line.

Humidity Level : 32% Temperature : 25
Limit apply to : CISPR 22
Type of Tests : CLASS B
Date : MAY 24, 2000
Result : PASSED BY -3.5 dB
EUT : 15" CRT MONITOR

Operating Condition : 800 X 600 Non-Interlaced (Hf : 54 KHz, Vf : 85Hz)
Detector : CISPR Quasi-Peak (6 dB Bandwidth : 9 KHz)
CISPR Average(6 dB Bandwidth : 9 KHz)

Line Conducted Emission Tabulated Data

Power Line Conducted Emissions			CISPR 22 (Average)	
Frequency (MHz)	Amplitude (dBuV)	Conductor	Limit (dBuV)	Margin (dB)
0.157	51.8	N	55.8	-4.0
0.164	51.9	N	55.4	-3.5
4.293	41.6	H	46.0	-4.4
4.399	41.0	H	46.0	-5.0
4.616	41.6	H	46.0	-4.4

NOET:
1. All video modes and resolutions were investigated and the worst-case emissions are reported Other video modes & resolution were tested and found to be in compliance.

Measured by : KEUN-HO PARK / Engineer **Date : MAY 24, 2000**

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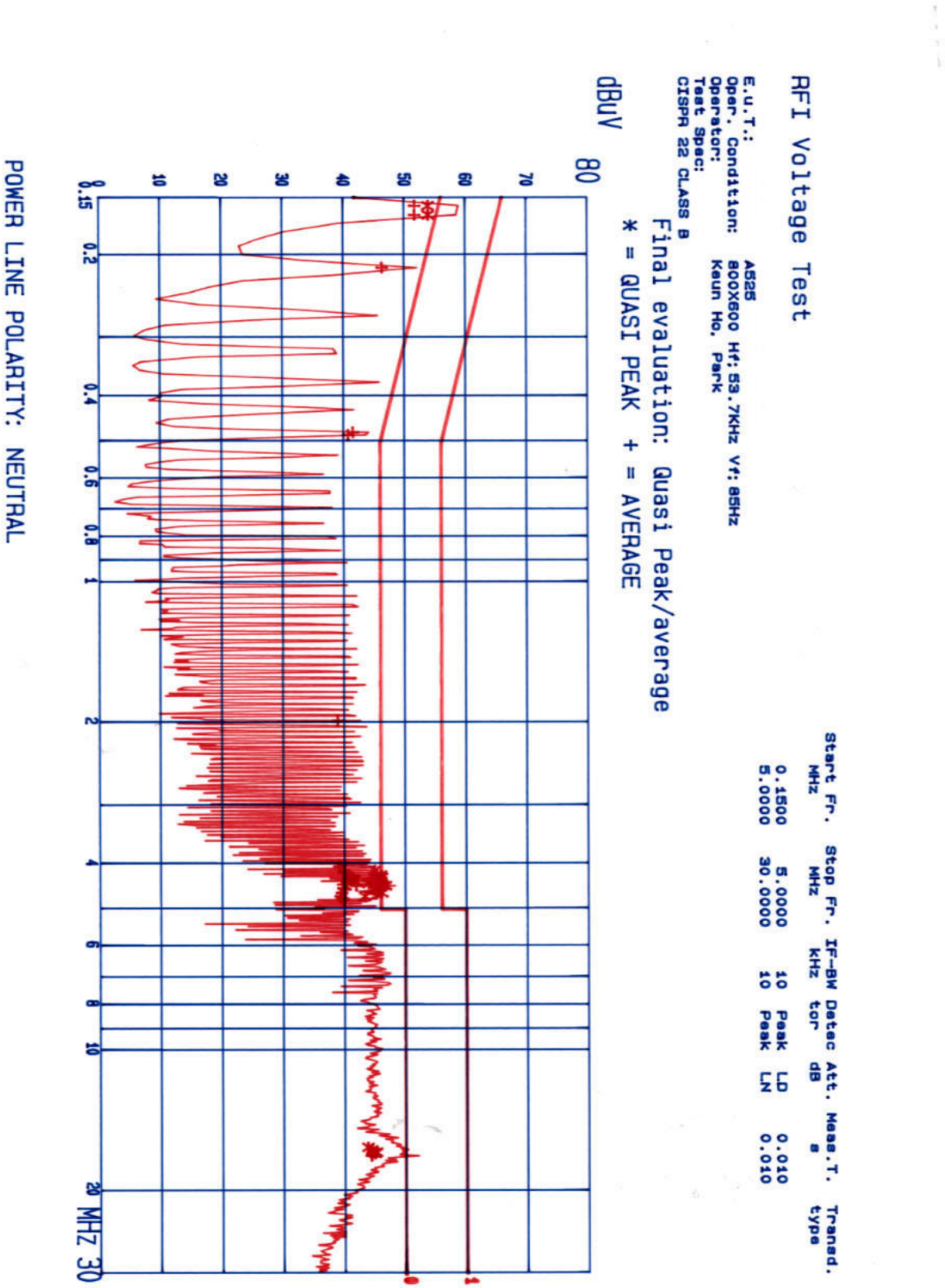

RFI Voltage Test
E.U.T.: A525
Oper. Condition: 800X600 Hf: 53.7KHz Vf: 85Hz
Operator: Keun Ho. Park
Test Spec:
CISPR 22 CLASS B
Final evaluation: Quasi Peak/average
* = QUASI PEAK + = AVERAGE
dBuV
80
70
60
50
40
30
20
10
0
0.15
0.2
0.4
0.6
0.8
1
2
4
6
8
10
20
MHz 30
POWER LINE POLARITY: NEUTRAL
Start Fr. MHz
Stop Fr. MHz
IF-BW kHz
Detec tor
Att. dB
Meas.T. s
Transed. type
0.1500 5.0000 10 Peak LD 0.010
5.0000 30.0000 10 Peak LN 0.010

RFI Voltage Test

E.u.T.: A525
Oper. Condition: 800X600 Hf: 53.7KHz Vf: 85Hz
Operator: Keun Ho. Park
Test Spec:
CISPR 22 CLASS B

Start Fr. MHz	Stop Fr. MHz	IF-BW kHz	Detec tor	Att. dB	Meas.T. s	Transd. type
0.1500	5.0000	10	Peak	LO	0.010	
5.0000	30.0000	10	Peak	LN	0.010	

POWER LINE POLARITY: NEUTRAL

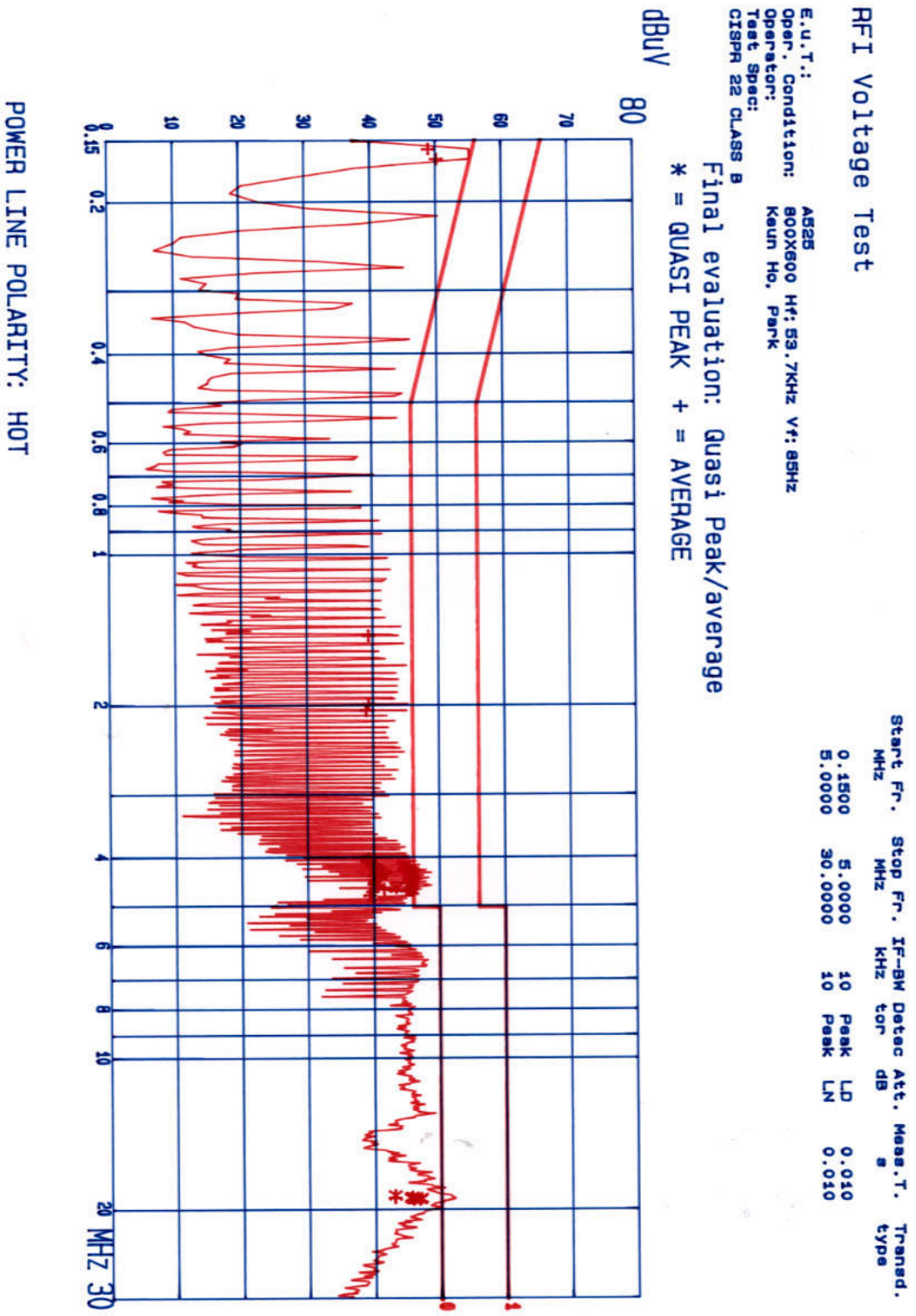
Quasi Peak values

Frequency MHz	Peak dBuV	Q-Peak dBuV	QP-Margin dB
0.1570	59.1	54.0	-11.7
0.1640	58.6	54.0	-11.3
4.1330	45.6	45.1	-10.8
4.2380	46.3	46.0	-9.9
4.2939	47.1	46.3	-9.6
4.3430	47.0	41.5	-14.4
4.3500	46.7	45.4	-10.5
4.3990	47.7	46.1	-9.8
4.4060	46.0	44.0	-11.9
4.4550	48.4	46.9	-9.0
4.5110	46.7	45.5	-10.4
4.5599	46.1	44.9	-11.0
4.6160	49.4	46.3	-9.6
4.7210	46.3	43.4	-12.5
16.2630	49.6	43.9	-16.0
16.3750	50.4	44.4	-15.5
16.5850	49.9	44.6	-15.3
16.6409	49.9	45.2	-14.7
16.6970	49.7	45.1	-14.8

Average values

Frequency MHz	Peak dBuV	Average dBuV	Average-Margin dB
0.1570	59.1	51.8	-4.0
0.1640	58.6	51.9	-3.5
0.2130	52.3	46.5	-6.7
0.4790	44.2	41.6	-4.8
0.4860	43.8	40.8	-5.5
1.9840	42.9	39.1	-6.9
4.0770	44.8	39.3	-6.7
4.1330	45.6	40.0	-6.0
4.1890	45.3	40.0	-6.0
4.2380	46.3	40.9	-5.1
4.2939	47.1	41.4	-4.6
4.3500	46.7	41.0	-5.0
4.3990	47.7	40.5	-5.5
4.4550	48.4	42.0	-4.0
4.5110	46.7	39.8	-6.2
4.5599	46.1	40.3	-5.7
4.6160	45.7	39.6	-6.4
4.7210	46.3	39.4	-6.6
4.7770	45.5	39.8	-6.2
16.8580	52.2	44.5	-5.5

* Limit exceeded


RFI Voltage Test
E.u.T.: A525
Oper. Condition: 800X600 Hf: 53.7KHz Vf: 85Hz
Operator: Keun Ho. Park
Test Spec:
CISPR 22 CLASS B
Final evaluation: Quasi Peak/average
* = QUASI PEAK + = AVERAGE
dBuV
80
70
60
50
40
30
20
10
0
0.15
0.2
0.4
0.6
0.8
1
2
4
6
8
10
20
30 MHz
POWER LINE POLARITY: HOT
Start Fr. MHz
Stop Fr. MHz
IF-BW kHz
Detector
Att. dB
Meas.T. s
Transd. type
0.1500 5.0000 10 Peak LD 0.010
5.0000 30.0000 10 Peak LN 0.010

RFI Voltage Test

E.u.T.: A525
Oper. Condition: 800X600 Hf: 53.7KHz Vf: 85Hz
Operator: Keun Ho, Park
Test Spec:
CISPR 22 CLASS B

Start Fr. MHz	Stop Fr. MHz	IF-BW kHz	Detec tor	Att. dB	Meas.T. s	Transd. type
0.1500	5.0000	10	Peak	LD	0.010	
5.0000	30.0000	10	Peak	LN	0.010	

Quasi Peak values

Frequency MHz	Peak dBuV	Q-Peak dBuV	QP-Margin dB
4.1330	47.1	44.7	-11.4
4.2380	48.1	45.5	-10.6
4.2939	48.8	46.0	-10.1
4.3500	47.7	45.4	-10.7
4.3990	48.4	45.8	-10.3
4.4550	48.1	46.0	-10.1
4.5110	47.8	45.6	-10.5
4.5599	48.8	45.8	-10.5
4.5670	47.0	43.5	-12.6
4.6160	47.2	45.8	-10.3
18.7339	51.6	43.0	-17.1
18.9510	51.6	45.6	-14.5
19.0000	52.3	45.4	-14.7
19.0560	51.7	47.1	-13.0
19.1119	51.8	46.9	-13.2
19.1680	51.3	45.9	-14.2

Average values

Frequency MHz	Peak dBuV	Average dBuV	Average-Margin dB
0.1570	55.3	49.0	-6.8
0.1640	55.3	50.3	-5.1
1.4520	44.0	39.5	-6.5
1.9840	45.5	39.5	-6.5
2.0400	45.2	39.1	-6.9
4.0279	45.7	39.3	-6.7
4.0770	46.5	39.1	-6.9
4.1330	47.1	40.3	-5.7
4.1880	46.9	40.5	-5.5
4.2380	48.1	40.4	-5.6
4.2939	48.8	41.6	-4.4
4.3500	47.7	40.5	-5.5
4.3990	48.4	41.0	-5.0
4.4550	48.1	40.3	-5.7
4.5110	47.8	40.0	-6.0
4.5599	48.8	40.7	-5.3
4.6160	47.2	41.6	-4.4
4.6720	46.3	39.9	-6.1
4.7770	46.0	39.5	-6.5
19.0560	51.7	43.1	-6.9

M Limit exceeded

POWER LINE POLARITY: HOT

4.2 Radiated Emissions Tests

The following table shows the highest levels of Radiated Emissions on both polarization of horizontal and vertical.

Humidity Level : 27 % Temperature : 24
Limit apply to : CISPR 22
Type of Tests : CLASS B
Date : MAY 25, 2000
Result : PASSED BY -3.9 dB

==========

EUT : 15" COLOR MONITOR
Operating Condition : 800X600 Non-Interlaced (Hf :54 kHz, Vf : 85 Hz)
Detector : CISPR Quasi-Peak (6 dB Bandwidth : 120 KHz)

Radiated Emissions		Ant.	Correction Factors	Total	CISPR 22	
Freq. (MHz)	Ampl. (dBuV)	Pol.	Antenna & Cable Loss (dB/m)	Ampl. (dBuV/m)	Limit (dBuV/m)	Margin (dB)
36.8	10.1	V	16.0	26.1	30.0	-3.9
45.0	11.4	V	13.8	25.2	30.0	-4.8
169.9	4.3	H	18.5	22.8	30.0	-7.2
208.3	3.1	V	20.4	23.5	30.0	-6.5
208.3	3.1	H	20.4	23.5	30.0	-6.5
214.0	2.4	V	20.8	23.2	30.0	-6.8
214.0	3.6	H	20.8	24.4	30.0	-5.6

NOTE:
1.All video modes and resolutions were investigated and the worst-case emissions are reported.
2.Other video modes & resolution were tested and found to be in compliance.

Measured by : KEUN HO-PARK / Engineer **Date : MAY 25, 2000**

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5. Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor.
The basic equation with a sample calculation is as follows:

FS = RA + AF + CF

where FS = Field Strength

RA = Receiver Amplitude

AF = Antenna Factor

CF = Cable Attenuation Factor

Assume a receiver reading of 21.5 dBuV is obtained. The Antenna Factor of 7.4 and a Cable Factor of 1.1 is added. The 30 dBuV/m value was mathematically converted to its corresponding level in uV/m.

FS = 21.5 + 7.4 + 1.1 = 30 dBuV/m

Level in uV/m = Common Antilogarithm [(30 dBuV/m)/20] = 31.6 uV/m

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6. LIST OF TEST EQUIPMENT

TYPE	MANUFACTURE	MODEL	CAL. DATE
EMI Test Receiver	Rohde & Schwarz	ESH3	2000.6.29
EMI Test Receiver	Rohde & Schwarz	ESVP	2000.2.14
EMI Test Receiver	Rohde & Schwarz	ESI40	2000.1.18
EMI Test Receiver	Rohde & Schwarz	ESVS30	2000.6.29
Spectrum Monitor	Rohde & Schwarz	EZM	N.A
Graphic Plotter	Rohde & Schwarz	DOP2	N.A
Printer	Rohde & Schwarz	PDN	N.A
Spectrum Analyzer	H.P	8591EM	2000.7.11
LISN	EMCO	3825/2	2000.10.13
LISN	Rohde & Schwarz	ESH2-Z5	2000.7.14
Amplifier	Hewlett-Packard	8447E	2001.3.6
Dipole Antennas	Rohde & Schwarz	VHAP	2000.6.29
Dipole Antennas	Rohde & Schwarz	UHAP	2000.6.29
Biconical Antenna	Rohde & Schwarz	BBA-9106	2000.6.29
Log-Periodic Antenna	Rohde & Schwarz	UHALP-9107	2000.6.29
Antenna Position Tower	EMCO	1051-12	N.A
Turn Table	EMCO	1060-06	N.A
Line Filter	KEENE	ULW 2X30-60	N.A
Power Analyzer	Voltech	PM 3300	2000.12.20
Reference Network Impedance	Voltech	IEC 555	N.A
AC Power Source	PACIFIC	Magnetic Module	N.A
AC Power Source	PACIFIC	360AMX	N.A

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