



HYUNDAI CALIBRATION & CERTIFICATION TECH. CO., LTD.

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CERTIFICATION

Manufacture; IMAGEQUEST CO., LTD. SAN 136-1, AMI-RI, BUBAL-EUP, ICHEON-SI, KYOUNKI-DO, 467-701, KOREA IMAGEQUEST FRN : 0005-8664-39	Date of Issue: JUNE 19, 2002 Test Report No.: HCT-F02-0607 Test Site: HYUNDAI CALIBRATION & CERTIFICATION TECHNOLOGIES CO., LTD. HCT FRN : 0005-8664-21
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FCC ID :

PJISLIMVIEW727

MODEL / TYPE :

SlimView 727

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:

17" LCD Monitor

Max Resolution:

1280 X 1024 (@80KHz/ 75Hz)

Port/ Connector(s)

15-pin D-sub VGA connector, USB 1 upstream port and 4 downstream ports

LCD PANEL

Hyundai Display Technology.INC (HT17E11-300)

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 C-Tech. 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).

Report prepared by : Ki-Soo Kim
Manager of EMC Tech. Part



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1. GENERAL INFORMATION

1.1 Product Description

The ImageQuest CO., LTD. Model SlimView 727 (referred to as the EUT in this report) is a 17" LCD Monitor HOR. Freq. 80KHz w/max. Resolution of 1280 X 1024 . 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)	12MHz , 12MHz , 30MHz
POWER REQUIREMENT	100-240V AC 1.2A 60 / 50 Hz
NUMBER OF LAYERS	MAIN BOARD 4 LAYER OSD BOARD 1 LAYER POWER BOARD 2 LAYER INVERTER BOARD 2 LAYER
MAX. RESOLUTION	1280 X 1024 (@80KHz/ 75 Hz)
H-SYNC FREQUENCY RANGE	31.0KHz ~ 80.0KHz
V-SYNC FREQUENCY RANGE	56Hz ~ 75Hz
LCD TYPE	17" (LCD Type NO : HT17E11-300)

1.2 Related Submittal(s) / Grant(s)

ORIGINAL SUBMITTAL ONLY

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
MONITOR (EUT)	IMAGEQUEST CO., LTD.	SlimView 727	PJISLIMVIEW727	HOST
PC(HOST)	H/P	KR14111606	DoC	N/A
VIDEO CARD	NVIDIA	NVIDIA GeForce MX 200	DoC	HOST
KEY BOARD	H/P	5181	DoC	HOST
MOUSE	IntelliMouse	Optical USB and PS/2 Compatible	DoC	HOST
PRINTER	H/P	C6410A	DoC	HOST
MODEM	3COM CORPORATION	56K FAX MODEM	DoC	HOST
USB MOUSE	LOGITECH	M-BE55	DoC	EUT
USB MOUSE	IntelliMouse	Optical USB and PS/2 Compatible	DoC	EUT
USB FLASH DRIVE	Jung Myung Telecom Co.,Ltd	E-D900-00-4988	DoC	EUT
USB FLASH DRIVE	Jung Myung Telecom Co.,Ltd	E-D900-00-4988	DoC	EUT

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)

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	ImageQuest CO., Ltd.	3041001046
POWER BOARD	C&C TECH CO.,LTD.	3610200105
OSD BOARD	ImageQuest CO., Ltd.	3010700808
INVERTOR BOARD	ImageQuest CO., Ltd	3610400249
LCD BOARD	HYUNDAI DISPLAY TECHNOLOGY.INC	HT17E11-300

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.

2.3 Cable Description

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

	Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (M)
MONITOR(EUT)	N	Y	1.8(P), 1.5(D), 1.5(D)
PC(HOST)	N	N/A	1.8(P)
KEY BOARD	N/A	Y	2.0(D)
MOUSE	N/A	Y	1.8(D)
PRINTER	N	Y	2.0(P),1.8(D)
MODEM	N	Y	2.0(P),0.8(D)
UPLOAD	N/A	Y	1.8(D)
USB MOUSE	N/A	N/A	0.8(D)
USB MOUSE	N/A	Y	1.8(D)
USB FRESH DRIVE	N/A	N/A	N/A
USB FRESH DRIVE	N/A	N/A	N/A

2.4 Noise Suppression Parts on Cable. (I/O CABLE)

	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
MONITOR(EUT)	Y	BOTH END	Y	BOTH END
PRINTER	Y	PC END	Y	BOTH END
KEY BOARD	Y	PC END	Y	PC END
MOUSE	N	N/A	Y	PC END
MODEM	Y	PC END	Y	BOTH END
UPLOAD	Y	BOTH END	Y	BOTH END
USB MOUSE	N	N/A	Y	EUT END
USB MOUSE	N	N/A	Y	EUT END
USB FRESH DRIVE	N	N/A	Y	EUT END
USB FRESH DRIVE	N	N/A	Y	EUT END

2.5 Equipment Modifications

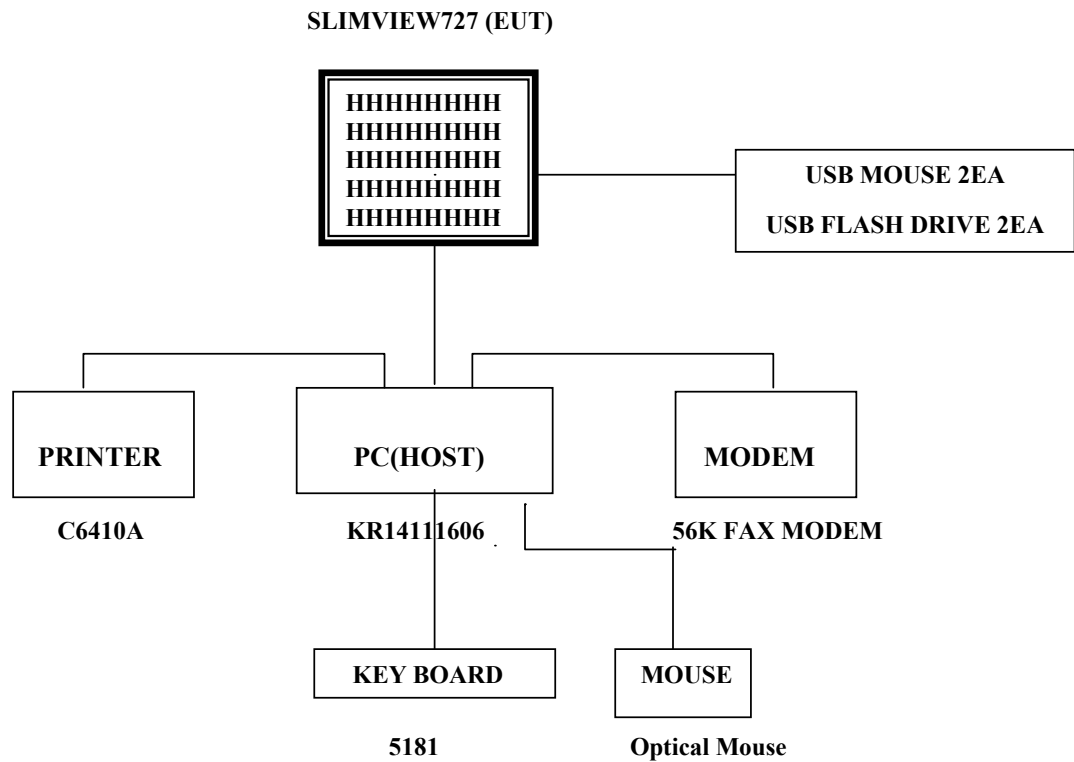
N/A

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 10 meter open area test site.

[Configuration of Tested System]



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 1GHz	1280 x 1024 (80KHz/75Hz)	X
	1024X768 (60KHz/75Hz)	
	1024X768 (56.5KHz/70Hz)	
	800X600 (37.9KHz/60Hz)	
	800X600 (35.2 KHz/56Hz)	
	640X480 (31.5KHz/70Hz)	

4.2 Radiated Emission Tests

During Preliminary Tests, the following operating mode were investigated

Processor Speed (MHz)	Video Resolution (w/max)	The worst operating condition
Pentium 1GHz	1280 x 1024 (80KHz/75Hz)	X
	1024X768 (60KHz/75Hz)	
	1024X768 (56.5KHz/70Hz)	
	800X600 (37.9KHz/60Hz)	
	800X600 (35.2 KHz/56Hz)	
	640X480 (31.5KHz/70Hz)	

Tested by **Kyoung-Houn SEO / Engineer**

Date : **MAY 29, 2002**

4. FINAL CONDUCTED 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	: 35 %	Temperature	: 25 °C
Limit apply to	: CISPR 22		
Type of Tests	: CLASS B		
Date	: JUNE 3, 2002		
Result	: PASSED BY -3.3 dB		
EUT	: 17" LCD MONITOR		

Operating Condition : 1280 X 1024 (Hf : 80KHz, Vf : 75Hz)
 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		
Frequency (MHz)	Amplitude (dBuV)	Conductor	Limit (dBuV)	Margin (dB)	Detector Mode
0.213	43.8	NEUTRAL	47.0	-3.3	Average
0.210	43.6	HOT	47.0	-3.6	Average
0.156	51.4	NEUTRAL	60.0	-8.3	Quasi-Peak
0.285	36.4	HOT	45.0	-8.3	Average

Measured by : Kyoung-Houn SEO / Engineer

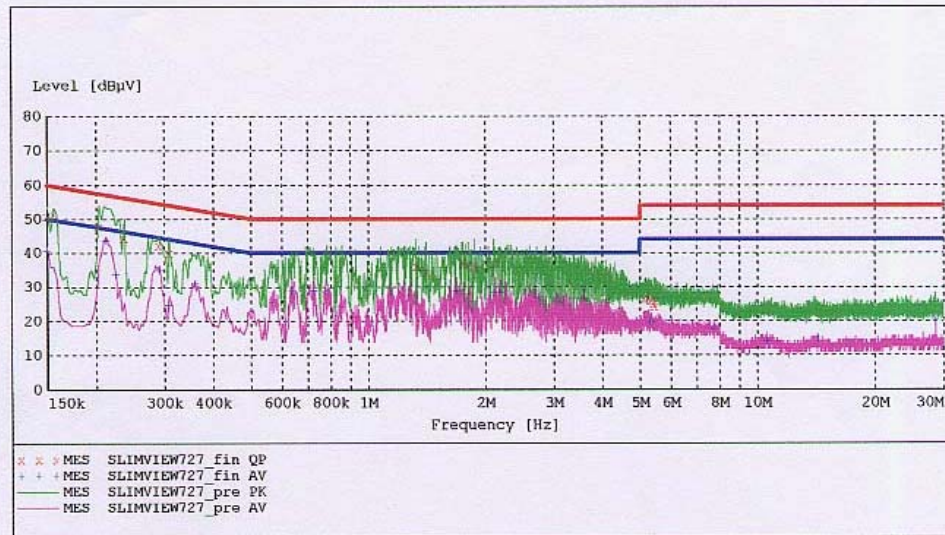
Date : JUNE 11, 2002

HYUNDAI C-TECH. CO., LTD.
EMC TEST LAB.

EUT: SLIMVIEW727
 Manufacturer: IMAGEQUEST
 Operating Condition: 1280 X 1024 75Hz
 Test Site: Shield Room
 Operator: KH-SEO
 Test Specification: CLASS B
 Comment: N
 Start of Test: 6/11/02 / 5:01:57PM

SCAN TABLE: "EN 55022 V (PKH)"

Short Description:			EN 55022 Voltage			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	500.0 kHz	3.0 kHz	MaxPeak	10.0 ms	9 kHz	old-C/E FACTOR
			Average			
500.0 kHz	5.0 MHz	3.0 kHz	MaxPeak	5.0 ms	9 kHz	old-C/E FACTOR
			Average			



MEASUREMENT RESULT: "SLIMVIEW727_fin QP"

6/11/02 5:06PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.150000	50.90	0.1	60	9.1	1	---
0.156000	51.40	0.1	60	8.3	1	---
0.204000	47.90	0.2	57	9.5	1	---
0.237000	44.30	0.2	56	11.9	1	---
0.291000	42.20	0.2	55	12.3	1	---
0.309000	39.90	0.2	54	14.1	1	---
1.331000	36.10	0.3	50	13.9	1	---
1.415000	34.30	0.3	50	15.7	1	---
1.748000	37.00	0.3	50	13.0	1	---
1.814000	36.20	0.3	50	13.8	1	---
1.883000	35.60	0.3	50	14.4	1	---
2.108000	36.90	0.3	50	13.1	1	---
5.171000	26.70	0.5	54	27.3	1	---
5.258000	26.70	0.5	54	27.3	1	---

MEASUREMENT RESULT: "SLIMVIEW727_fin QP"

(continued)

Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Line	PE
5.357000	26.00	0.5	54	28.0	1	---
5.441000	25.30	0.5	54	28.7	1	---
5.468000	24.40	0.5	54	29.6	1	---
5.507000	25.80	0.5	54	28.2	1	---

MEASUREMENT RESULT: "SLIMVIEW727_fin AV"

6/11/02 5:06PM

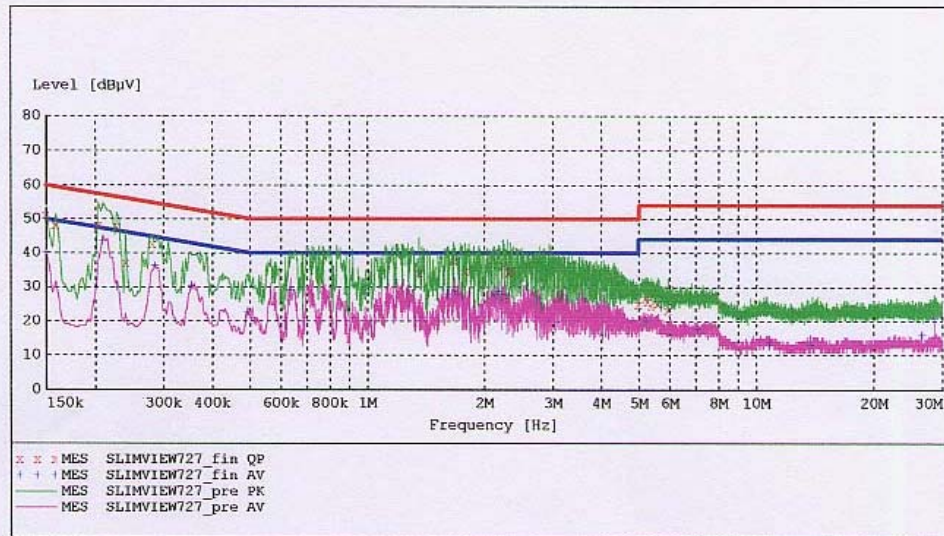
Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Line	PE
0.150000	40.80	0.1	50	9.2	1	---
0.213000	43.80	0.2	47	3.3	1	---
0.225000	33.70	0.2	47	12.9	1	---
0.291000	35.00	0.2	45	9.5	1	---
0.309000	24.80	0.2	44	19.2	1	---
0.360000	31.10	0.2	43	11.6	1	---
0.638000	29.10	0.2	40	10.9	1	---
0.728000	29.00	0.2	40	11.0	1	---
0.779000	28.80	0.2	40	11.2	1	---
1.688000	29.00	0.3	40	11.0	1	---
2.120000	28.50	0.3	40	11.5	1	---
2.186000	28.60	0.3	40	11.4	1	---
5.291000	20.00	0.5	44	24.0	1	---
5.357000	19.70	0.5	44	24.3	1	---
7.724000	17.80	0.5	44	26.2	1	---
10.619000	14.30	0.6	44	29.7	1	---
14.318000	15.20	0.8	44	28.8	1	---
28.634000	20.30	1.3	44	23.7	1	---

HYUNDAI C-TECH. CO., LTD.
EMC TEST LAB.

EUT: SLIMVIEW727
 Manufacturer: IMAGEQUEST
 Operating Condition: 1280 X 1024 75Hz
 Test Site: Shield Room
 Operator: KH-SEO
 Test Specification: CLASS B
 Comment: H
 Start of Test: 6/11/02 / 4:54:51PM

SCAN TABLE: "EN 55022 V (PKH)"

Short Description:		EN 55022 Voltage					
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer	
150.0 kHz	500.0 kHz	3.0 kHz	MaxPeak	10.0 ms	9 kHz	old-C/E FACTOR	
500.0 kHz	5.0 MHz	3.0 kHz	Average	5.0 ms	9 kHz	old-C/E FACTOR	
			MaxPeak				
			Average				



MEASUREMENT RESULT: "SLIMVIEW727_fin QP"

6/11/02 4:59PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.150000	51.20	0.1	60	8.8	1	---
0.159000	48.10	0.1	60	11.4	1	---
0.204000	48.20	0.2	57	9.2	1	---
0.228000	47.80	0.2	57	8.7	1	---
0.240000	37.00	0.2	56	19.1	1	---
0.282000	42.70	0.2	55	12.0	1	---
1.361000	34.10	0.3	50	15.9	1	---
1.673000	37.40	0.3	50	12.6	1	---
1.787000	34.60	0.3	50	15.4	1	---
2.243000	36.40	0.3	50	13.6	1	---
2.309000	34.10	0.3	50	15.9	1	---
2.345000	35.00	0.3	50	15.0	1	---
5.000000	25.00	0.5	50	25.0	1	---
5.210000	26.90	0.5	54	27.1	1	---

MEASUREMENT RESULT: "SLIMVIEW727_fin QP"

(continued)

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Line	PE
5.294000	25.80	0.5	54	28.2	1	---
5.384000	24.70	0.5	54	29.3	1	---
5.609000	25.30	0.5	54	28.7	1	---
5.945000	23.20	0.5	54	30.8	1	---

MEASUREMENT RESULT: "SLIMVIEW727_fin AV"

6/11/02 4:59PM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Line	PE
0.150000	40.30	0.1	50	9.7	1	---
0.210000	43.60	0.2	47	3.6	1	---
0.228000	30.00	0.2	47	16.5	1	---
0.285000	36.40	0.2	45	8.3	1	---
0.354000	30.50	0.2	43	12.3	1	---
0.495000	22.90	0.2	40	17.1	1	---
0.635000	29.30	0.2	40	10.7	1	---
1.616000	28.00	0.3	40	12.0	1	---
1.679000	29.10	0.3	40	10.9	1	---
2.120000	28.00	0.3	40	12.0	1	---
2.186000	28.90	0.3	40	11.1	1	---
2.252000	28.30	0.3	40	11.7	1	---
5.216000	20.30	0.5	44	23.7	1	---
7.076000	17.90	0.5	44	26.1	1	---
10.838000	14.00	0.7	44	30.0	1	---
13.772000	13.30	0.8	44	30.7	1	---
26.570000	16.20	1.2	44	27.8	1	---
28.637000	20.80	1.3	44	23.2	1	---

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.

$$FS = 21.5 + 7.4 + 1.1 = 30 \text{ dBuV/m}$$

$$\text{Level in uV/m} = \text{Common Antilogarithm} [(30 \text{ dBuV/m})/20] = 31.6 \text{ uV/m}$$

6. LIST OF TEST EQUIPMENT

<u>TYPE</u>	<u>MANUFACTURE</u>	<u>MODEL</u>	<u>CAL. DATE</u>
EMI Test Receiver	Rohde & Schwarz	ESH3	2001.6.29
EMI Test Receiver	Rohde & Schwarz	ESVP	2002.2.14
EMI Test Receiver	Rohde & Schwarz	ESI40	2001.11.5
EMI Test Receiver	Rohde & Schwarz	ESVS30	2002.3.6
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	2001.7.11
LISN	EMCO	3825/2	2002.2.7
LISN	Rohde & Schwarz	ESH2-Z5	2001.8.12
Amplifier	Hewlett-Packard	8447E	2002.3.2
Dipole Antennas	Rohde & Schwarz	VHAP	2001.6.28
Dipole Antennas	Rohde & Schwarz	UHAP	2001.6.28
Biconical Antenna	Rohde & Schwarz	BBA-9106	2001.6.28
Log-Periodic Antenna	Rohde & Schwarz	UHALP-9107	2001.6.26
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	2002.2.20
Reference Network Impedance	Voltech	IEC 555	N.A
AC Power Source	PACIFIC	Magnetic Module	N.A
AC Power Source	PACIFIC	360AMX	N.A

