



EMISSION TEST REPORT

Test report file No. : **01-IST-036/FB** Date of issue : Mar. 14, 2001.

Model / Type No. : JS-501

Kind of product : 15" Color Display Monitor

Applicant : Jinsun Information Technology Co., Ltd

Manufacturer : Jinsun Information Technology Co., Ltd

Address : Eyon-Hansan Industrial Park, Yulbuk-Ri, Chungbuk-Myun,
Pyongteak-Shi, Kyonggi-Do, Korea

Test result according to the regulation(s)

☒ Positive ☐ Negative

at page 3.

This test report without appendix consists of 13 pages.

It is not allowed to copy this report even partly without the allowance of the Test Laboratory.

This equipment is complied 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.

DIRECTORY

A) Documentation.

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B) Test Data.

Conducted emissions (Mains)	: 450 kHz - 30 MHz	<u>9 ~ 11</u>
Radiated emissions	: 30 MHz – 1 GHz	<u>12</u>

C) Appendix

TEST REGULATIONS

The tests were performed according to the following regulations ;

EN 50081-1	/	2. 1991.		
EN 55011	/	3. 1991.	Croup 1.	Croup 2.
			Class A.	Class B.
EN 55014	/	4. 1993.	Household appliances and similar	
			Portable tools	
			Semiconductor devices	
- EN 55014 / A2:1990				
- EN 55015 / A1:1990		- EN 55015 / 2.1987	- EN 55015 / 12.1993	
- EN 55022 / 8.1994		- Class A	- Class B	

- - FCC Part 15, Subpart B (Unintentional Radiators, Class B)
- BS
- VCCI
- CISPR

All testing were conducted at IST EMC Laboratory.

ENVIRONMENTAL CONDITIONS

Temperature	<u>18</u>
Humidity	<u>45</u> %
Atmospheric pressure	<u>999</u> mbar

TEST CONDITIONS

The **measurement of the conducted emissions (Interference voltage)** was performed in a shielded room.

Test location :

■ - Shielded room. No.1

- Compact chamber 2

Used testing instruments :

<u>Name</u>	<u>Type</u>	<u>Manufacturer</u>	<u>Calibration. Date</u>	<u>Serial Number</u>
■ ESH 3	Test Receiver	Rohde & Schwarz	Oct. 08, 2000	861742/018
■ 3725/2	LISN	EMCO	Oct. 08, 2000	9102-1788
■ 3825/2	LISN	EMCO	Dec. 20, 2000	9103-1788
■ ESH 3-Z2	Pulse Limiter	Rohde & Schwarz	Mar. 30, 2001	357.8810.52

Test - accessories :

<u>Type</u>	<u>Manufacturer</u>
■ Aneroid Barometer	Sato
■ Hygrometer	Sato

Measurement Procedures :

Conducted emissions measurements were made in accordance with ANSI C-63.4-1992, "Method of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz". The measurement were performed over the frequency range of 0.45MHz to 30MHz using a 50Ω/ 50uH LISN as the input transducer to an EMI/Field Intensity Meter. The measurements were made with the detector set for "Peak" amplitude within an IF bandwidth of 10kHz or for "quasi-peak" within a bandwidth of 9kHz.

All used test-instruments as well as the test-accessories are calibrated regularly.

Test engineer :



B. K. Bae. / Research Engineer
IST EMC Lab.

The **measurement of the radiated emissions (Electric field)** in the frequency range from 30 MHz to 1GHz was performed in horizontal and vertical antenna polarization at a open-site which meet the site attenuation requirement of ANSI C63.4-1992 and a test distance of :

- - Open-site 1
- - 3 meters.
- - Compact chamber
- - 10 meters

Used testing instruments :

<u>Name</u>	<u>Type</u>	<u>Manufacturer</u>	<u>Calibration. Date</u>	<u>Serial Number</u>
■ ESVP	Test Receiver	Rohde & Schwarz	July. 21, 2000	861744/004
■ VULB 9160	Antenna	Schwarzbeck	July. 11, 2000	3048

Test - accessories :

Type	Manufacturer
■ Aneroid Barometer	Sato
■ Hygrometer	Sato

Measurement procedures

Radiated measurements were in accordance with ANSI C63.4-1992 “Method of Measurement of Radio Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz”. The measurements were performed over the frequency range of 30MHz to 1GHz using antenna as the input transducer to a EMI/Field Intensity Meter. The measurements were made with the detector set for “quasi-peak” within a bandwidth of 120kHz.

All used test-instruments as well as the test-accessories are calibrated regularly.

Test engineer :

BHR

B. K. Bae. / Research Engineer
IST EMC Lab.

EQUIPMENT UNDER TEST

Equipment Description

The Equipment Under Test (EUT) is the **17" Color Monitor of Jinsun Information Technology Co., Ltd. (FCC ID: ***JS501)**

Picture Tube	-	Type: 15" (Viewing area:14.0") Normal Tube Type
	-	Dot Pitch: 0.28mm
Video	-	Input Signal: Analog R,G,B
	-	Max Video Bandwidth: 65 MHz
	-	Input Sync: TTL, separate negative/positive
Scan Frequency	-	Horizontal: 30~54 kHz
	-	Vertical: 50~160 Hz
Power rating	-	100~240 Vac, 50/60 Hz
	-	Consumption: Max. 70 W
Dimension	-	360(W) x 379(H) x 389(D) mm : set with stand
Operating	-	Temperature: 10~40°C / 50~104°F
Condition	-	Relative Humidity: 8~80%

Operation - mode of the E.U.T. :

The equipment under test was operated during the measurement under following conditions :
 Standby.
 Test program (H – Pattern) : Scrolling “H” characters under MS Windows98
 Test program (customer specific)

Configuration of the equipment under test :

Following peripheral devices and interface cables were connected during the measurement :

Equipment	Type	Brand	Serial No	FCC ID
PC	CT6470	Daewoo	N/A	N/A
Keyboard	M-S34	Logitek	LZA72050837	DZL211029
Printer	A0302384	Northern Telecom	26633S60168	BS16XU2225C-L
Mouse1	M-S48A	HP	LZA00850320	JNZ201213
Mouse2	M-M28	Logitech	LCA53305547	DZL210365

- Unshielded AC power cable : 1.8m
- Shielded monitor's signal cable : 1.5m

TEST RESULT

Conducted emissions : 450 kHz - 30 MHz

The requirements are.

■ KEPT

NOT KEPT

Min. limit margin

8.9 dB at 7.549 MHz

Remarks : See test-graph to be attached at pages 9~11.

Radiated emissions (magnetic field) : 10 kHz - 30 MHz

The requirements are

KEPT

NOT KEPT

Max. limit margin.

_____ dB at _____ MHz

Remarks :

Radiated emissions (electric field) 30 MHz - 1000 MHz

The requirements are

■ KEPT

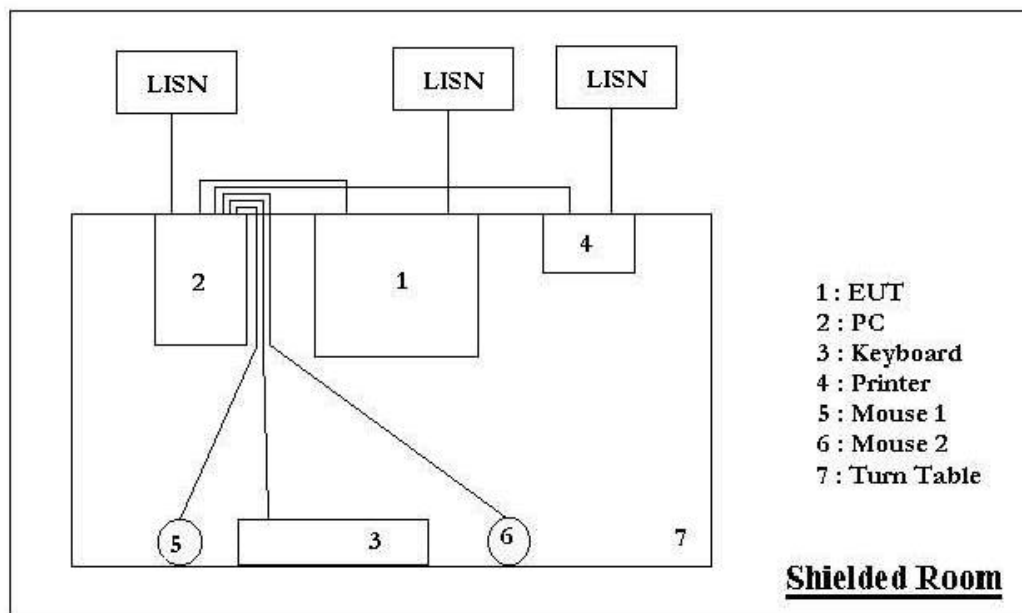
NOT KEPT

Min. limit margin

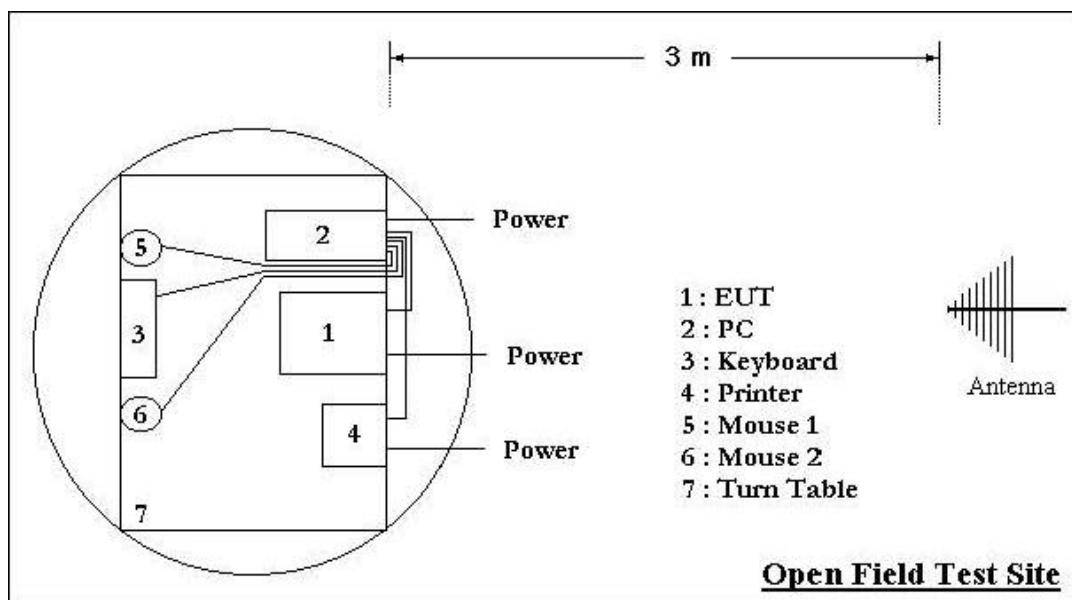
4.0 dB at 260.1 MHz

Remarks : See test-data at page 12.

Test Set-Up (Type : JS-501)



Picture 1 : Conducted emission 450kHz ~ 30MHz



Picture 2 : Radiated emission 30MHz ~ 1000MHz

Conducted Emission Test Data

Type : JS-501
 Manufacturer : Jinsun Information Technology Co.,Ltd.
 Operation mode : Scrolling "H" pattern display 1024 X 768, 60Hz
 Date : Mar. 5, 2001

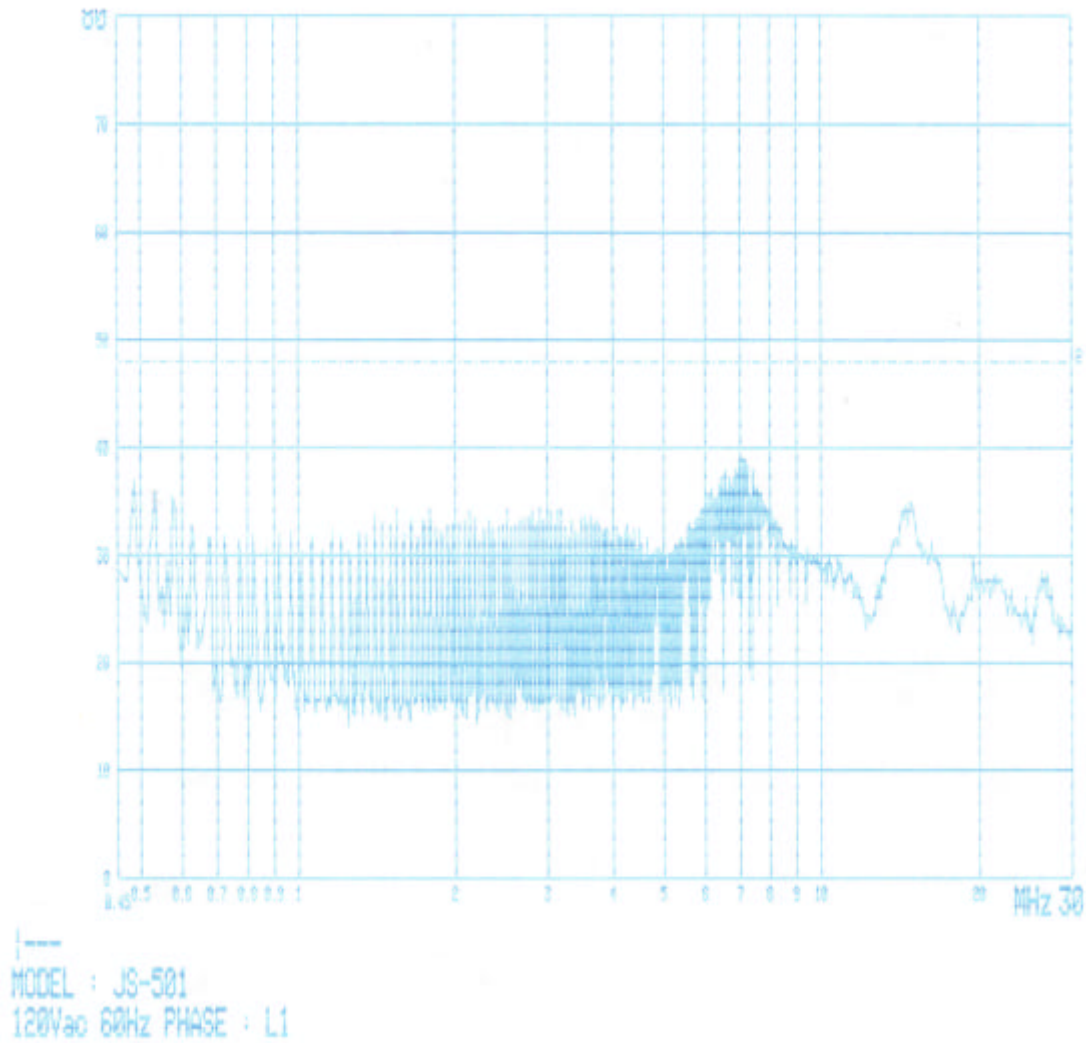
Highest Emissions relative to the limit

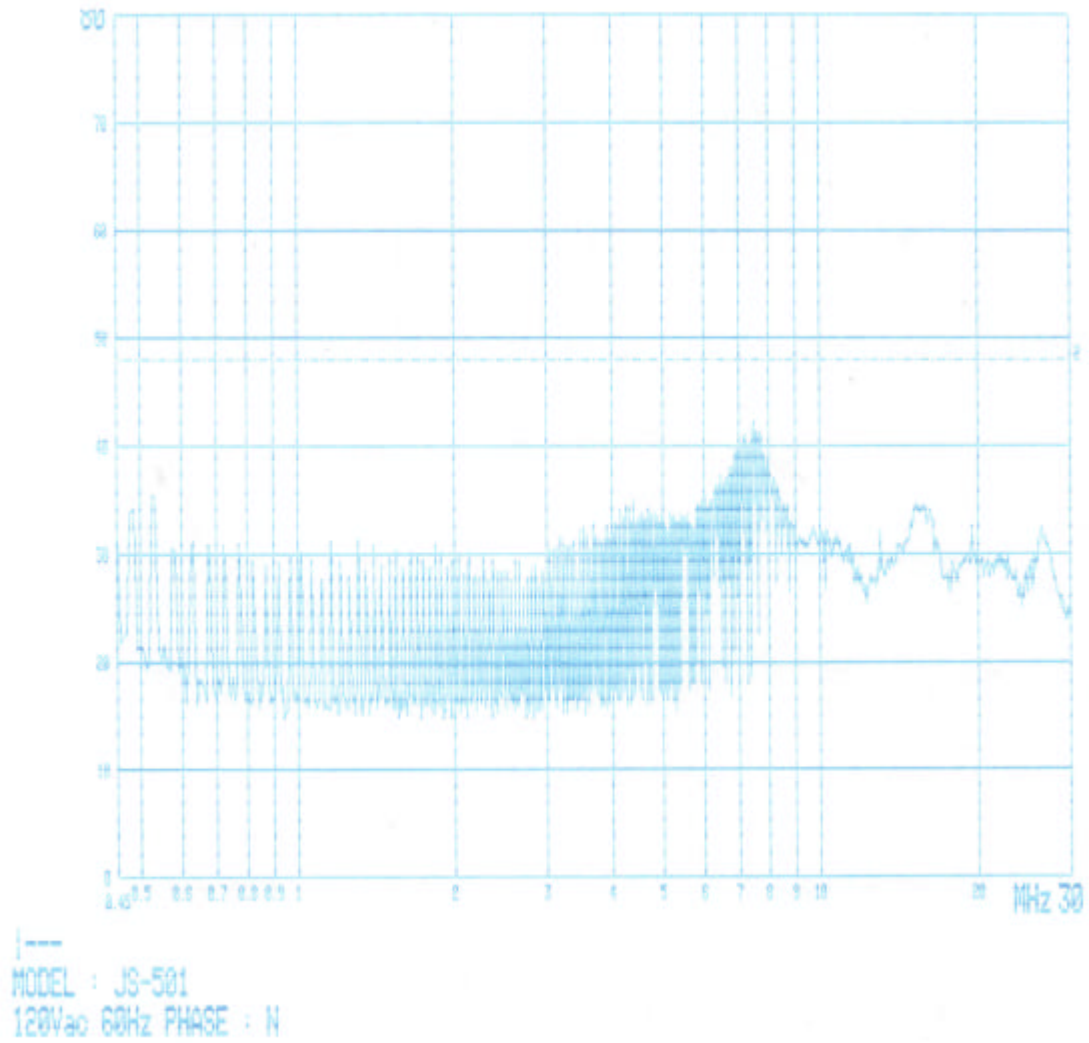
Frequenc y [MHz]	Reading [dBμV]	Insertion loss [dB]	Phase (*L1/**N)	Limit [dBμV]	Margin [dB]
0.484	37.0	0.8	L1	48.0	10.2
1.549	31.7	0.8		48.0	15.5
3.194	32.0	0.8		48.0	15.2
7.066	36.1	0.8		48.0	11.1
15.001	33.7	0.8		48.0	13.5
19.500	28.4	0.8		48.0	18.8
0.532	34.5	0.8	N	48.0	12.7
1.306	29.0	0.8		48.0	18.2
4.401	31.1	0.8		48.0	16.1
7.549	38.3	0.8		48.0	8.9
15.336	32.3	0.8		48.0	14.9
26.565	29.2	0.8		48.0	18.0
Cable loss are less than 0.1 dB					

*L1 : Live Line

**N : Neutral Line

*** Please refer to data graphs at page 12 ~ 13





Radiation Test Data

Type : JS-501
 Manufacturer : Jinsun Information Technology Co.,Ltd.
 Operation mode : Scrolling "H" pattern display 1024 X 768, 60Hz
 Test distance : 3 m
 Antenna : VULB9160
 Date : Mar. 06, 2001.

Freq. [MHz]	Reading [dBuV]	Antenna Factor [dB]	Cable Loss [dB]	Angle [deg]	Height [m]	Polar [H/V]	Result [dBuV]	Limit [dBuV]	Margin [dB]
45.6	13.3	9.9	1.2	220	100	V	24.4	40.0	15.6
65.0	18.0	10.5	1.5	275	100	V	30.0	40.0	10.0
78.0	17.6	8.2	1.6	270	100	V	27.4	40.0	12.6
130.1	16.5	10.5	2.1	45	100	V	29.1	43.5	14.4
149.6	23.1	12.1	2.3	182	100	V	37.5	43.5	6.0
169.1	16.0	12.3	2.4	273	300	H	30.7	43.5	12.8
182.1	20.0	10.3	2.4	300	100	V	32.7	43.5	10.8
195.1	20.0	8.8	2.5	315	110	H	31.3	43.5	12.2
208.1	22.3	8.4	2.5	300	100	V	33.2	43.5	10.3
214.6	25.0	8.4	2.6	325	186	H	36.0	43.5	7.5
240.6	23.2	10.3	2.9	297	100	H	36.4	46.0	9.6
247.1	24.0	10.5	2.9	293	123	H	37.4	46.0	8.6
253.6	22.7	10.9	2.8	273	100	H	36.4	46.0	9.6
260.1	27.8	11.3	2.9	96	100	H	42.0	46.0	4.0
312.2	15.3	11.7	3.3	270	100	H	30.3	46.0	15.7
374.0	14.0	12.1	3.7	236	100	H	29.8	46.0	16.2
474.8	15.0	14.3	4.7	212	100	H	34.0	46.0	12.0

SUMMARY

GENERAL REMARKS :

The equipment is not modified anything, mechanical or circuit to improve EMI status during a measurement and complied the regulation “Part 15 subpart B Class B of CFR 47”

FINAL JUDGMENT :

The requirements according to the technical regulations are

■ Kept Not kept

The equipment under test does

- - Fulfill the general approval requirements mentioned on page 3.
- Not fulfill the general approval requirements mentioned on page 3.

Begin of testing : Dec. 20, 2000

End of testing : Jan. 10, 2001

Reviewed by :

Approved by :

Juan H. Lee

Qin Meng

Joon H. Lee. EMC Manager
IST EMC Lab.

G. Chung Chief of EMC Lab.