



EMC

TEST REPORT

REPORT NO. : F87072912

MODEL NO. : J51H

DATE OF TEST : Aug. 1, 1998

PREPARED FOR: JEAN CO., LTD.

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PREPARED BY: ADVANCE DATA TECHNOLOGY CORPORATION



Accredited Laboratory

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1. CERTIFICATION

Issue Date: Aug. 5, 1998

Product : COLOR MONITOR
Trade Name : JEAN
Model No. : J51H
Applicant : JEAN CO., LTD.
Standard : FCC Part 15, Subpart B, Class B
ANSI C63.4-1992
CISPR 22:1993+A1+A2

We hereby certify that one sample of the designation has been tested in our facility on Aug. 1, 1998. The test record, data evaluation and Equipment Under Test (EUT) configurations represent herein are true and accurate representation of the measurements of the sample's EMC characteristics under the conditions herein specified.

The test results show that the EUT as described in this report is in compliance with the Class B limits of conducted and radiated emission of applicable standards.

TESTED BY: Chris Yang, DATE: 8/5/98
(Chris Yang)

CHECKED BY: Ariel Hsieh, DATE: 8/5/98
(Ariel Hsieh)

APPROVED BY: Mike Su, DATE: 8/5/98
(Mike Su)

ADVANCE DATA TECHNOLOGY CORPORATION

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2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product : COLOR MONITOR
Model No. : J51H
Power Supply Type : Switching
Power Cord : Nonshielded (1.8m)
Data Cable : Shielded (1.8m)

Note: The EUT is a 15" color monitor with resolution up to 1280x1024.

There is one ferrite core on the video cable outside the monitor.

For more detailed features description, please refer to ATTACHMENT 1 -
TECHNICAL DESCRIPTION OF EUT and User's Manual.



2.2 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories are used to form representative test configuration during the tests.

No.	Product	Brand	Model No.	FCC ID	I/O Cable
1	PERSONAL COMPUTER	HP	VL SERIES 4 5/100	B94VECTRA500T	Nonshielded Power (1.8m)
2	KEYBOARD	FORWARD	FDA-104GA	F4ZDA-104G	Shielded Signal (1.4m)
3	MOUSE	DEXIN	A2P800A	NIYA2P800A	Shielded Signal (1.5m)
4	PRINTER	HP	2225C+	DSI6XU2225	Shielded Signal (1.2m) Nonshielded Power (1.8m)
5	MODEM	ACEEX	1414	IFAXDM1414	Shielded signal (1.2m) Nonshielded Power (1.8m)
6	VGA CARD	GORDIA	DSV3365	LUT-DSV3365	N/A

2.3 TEST METHODOLOGY AND CONFIGURATION

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 m on an open area test site.

Please refer to the photos of test configuration in Item 5.



3. TEST INSTRUMENTS

3.1 TEST INSTRUMENTS (EMISSION)

RADIATED EMISSION MEASUREMENT

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
HP Spectrum Analyzer	8590L	3544A01042	April 29, 1999
HP Preamplifier	8447D	2944A08313	Sept. 18, 1998
ROHDE & SCHWARZ TEST RECEIVER	ESVS 30	841977/008	Oct. 5, 1998
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 28, 1998
CHASE BiLOG Antenna	CBL6111A	1647	July 3, 1999
EMCO Turn Table	1016	1722	N/A
EMCO Tower	1051	1825	N/A
Open Field Test Site	Site 4	ADT-R04	June 19, 1999

Note: 1. The measurement uncertainty is less than +/- 3dB, which is calculated as per NAMA's document NIS81.

2. The calibration interval of the above test instruments is 12 months.
And the calibrations are traceable to NML/ROC and NIST/USA.

CONDUCTED EMISSION MEASUREMENT

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
ROHDE & SCHWARZ Test Receiver	ESH3	893495/006	July 15, 1999
ROHDE & SCHWARZ Spectrum Monitor	EZM	893787/013	July 16, 1999
ROHDE & SCHWARZ Artificial Mains Network	ESH3-Z5	839135/006	July 14, 1999
EMCO-L.I.S.N.	3825/2	9204-1964	July 14, 1999
Shielded Room	Site 2	ADT-C02	N/A

Note: 1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per NAMA's document NIS81.

2. The calibration interval of the above test instruments is 12 months.
And the calibrations are traceable to NML/ROC and NIST/USA.



3.2 LIMITS OF CONDUCTED AND RADIATED EMISSION

LIMIT OF RADIATED EMISSION OF CISPR 22

FREQUENCY (MHz)	Class A (at 10m)	Class B (at 10m)
	dBuV/m	dBuV/m
30 - 230	40	30
230 - 1000	47	37

LIMIT OF RADIATED EMISSION OF FCC PART 15, SUBPART B FOR FREQUENCY ABOVE 1000 MHz

FREQUENCY (MHz)	Class A (at 10m)		Class B (at 3m)	
	uV/m	dBuV/m	uV/m	dBuV/m
Above 1000	300	49.5	500	54.0

Note: (1) The lower limit shall apply at the transition frequencies.

(2) Emission level (dBuV/m) = 20 log Emission level (uV/m).

(3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

LIMIT OF CONDUCTED EMISSION OF CISPR 22

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

Note: (1) The lower limit shall apply at the transition frequencies.

(2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz

(3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.



4. TEST RESULTS (EMISSION)

4.1 RADIO DISTURBANCE

Frequency Range : 0.15 - 30 MHz (Conducted Emission)
 : 30 - 1000 MHz (Radiated Emission)
 Input Voltage : 120 Vac, 60 Hz
 Temperature : 30 °C
 Humidity : 56 %
 Atmospheric Pressure : 994 mbar

TEST RESULT	Remarks
PASS	Minimum passing margin of conducted emission: -5.5 dB at 21.753 MHz Minimum passing margin of radiated emission: -3.4 dB at 185.05 MHz

Note: The EUT was pretested under the following resolution & horizontal synchronization speed mode:

- * 1280x1024 mode (64 kHz),
- * 1024x768 mode (69 kHz),
- * 640x480 mode (31.5 kHz)

The worst emission levels were found under 1280x1024 (64 kHz) and therefore the test data of only this mode is recorded.

4.2 EUT OPERATION CONDITION

1. Turn on the power of all equipments.
2. PC runs a test program to enable all functions.
3. PC reads and writes messages from FDD and HDD.
4. PC sends "H" messages to monitor (EUT) and monitor displays "H" patterns on screen.
5. PC sends "H" messages to modem.
6. PC sends "H" messages to printer, and the printer prints them on paper.
7. Repeat steps 3-7.



4.3 TEST DATA OF CONDUCTED EMISSION

EUT: COLOR MONITOR

MODEL: J51H

MODE: 1280x1024 (64 kHz)

6 dB Bandwidth: 10 kHz

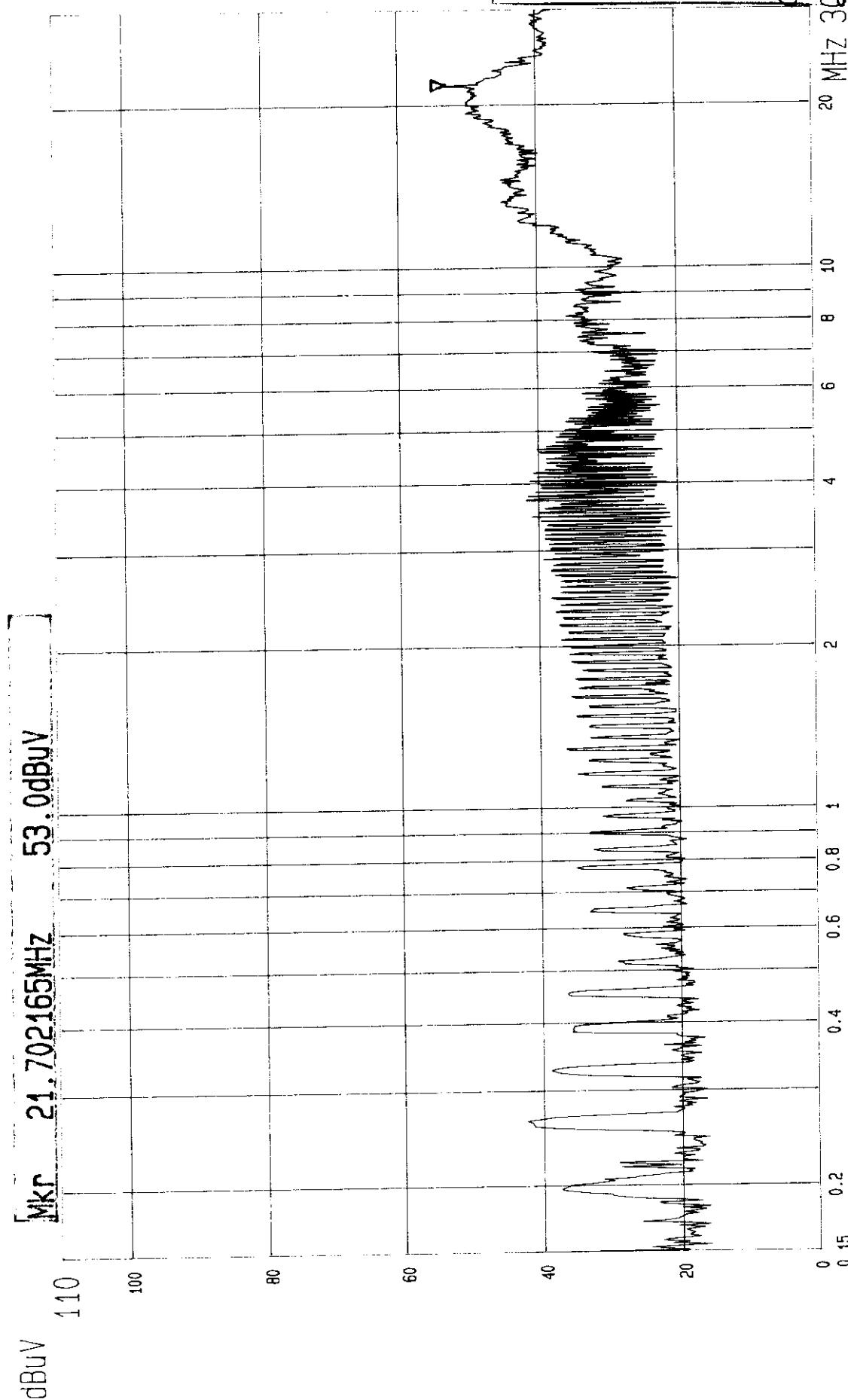
TEST PERSONNEL: *Chris Yaneff*

Freq. [MHz]	L Level		N Level		Limit		Margin [dB (μ V)]			
	[dB (μ V)]		[dB (μ V)]		[dB (μ V)]		L		N	
	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV
0.262	41.30	-	38.70	-	61.37	51.37	-20.1	-	-22.7	-
0.326	37.60	-	37.40	-	59.55	49.55	-21.9	-	-22.2	-
1.286	35.20	-	36.10	-	56.00	46.00	-20.8	-	-19.9	-
3.711	40.10	-	41.50	-	56.00	46.00	-15.9	-	-14.5	-
13.235	43.40	-	44.20	-	60.00	50.00	-16.6	-	-15.8	-
21.753	50.50	44.50	49.00	42.60	60.00	50.00	-9.5	-5.5	-11.0	-7.4

Remarks:

1. "*": Undetectable
2. Q.P. and AV. are abbreviations of quasi-peak and average individually.
3. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
4. The emission levels of other frequencies were very low against the limit.
5. Margin value = Emission level - Limit value

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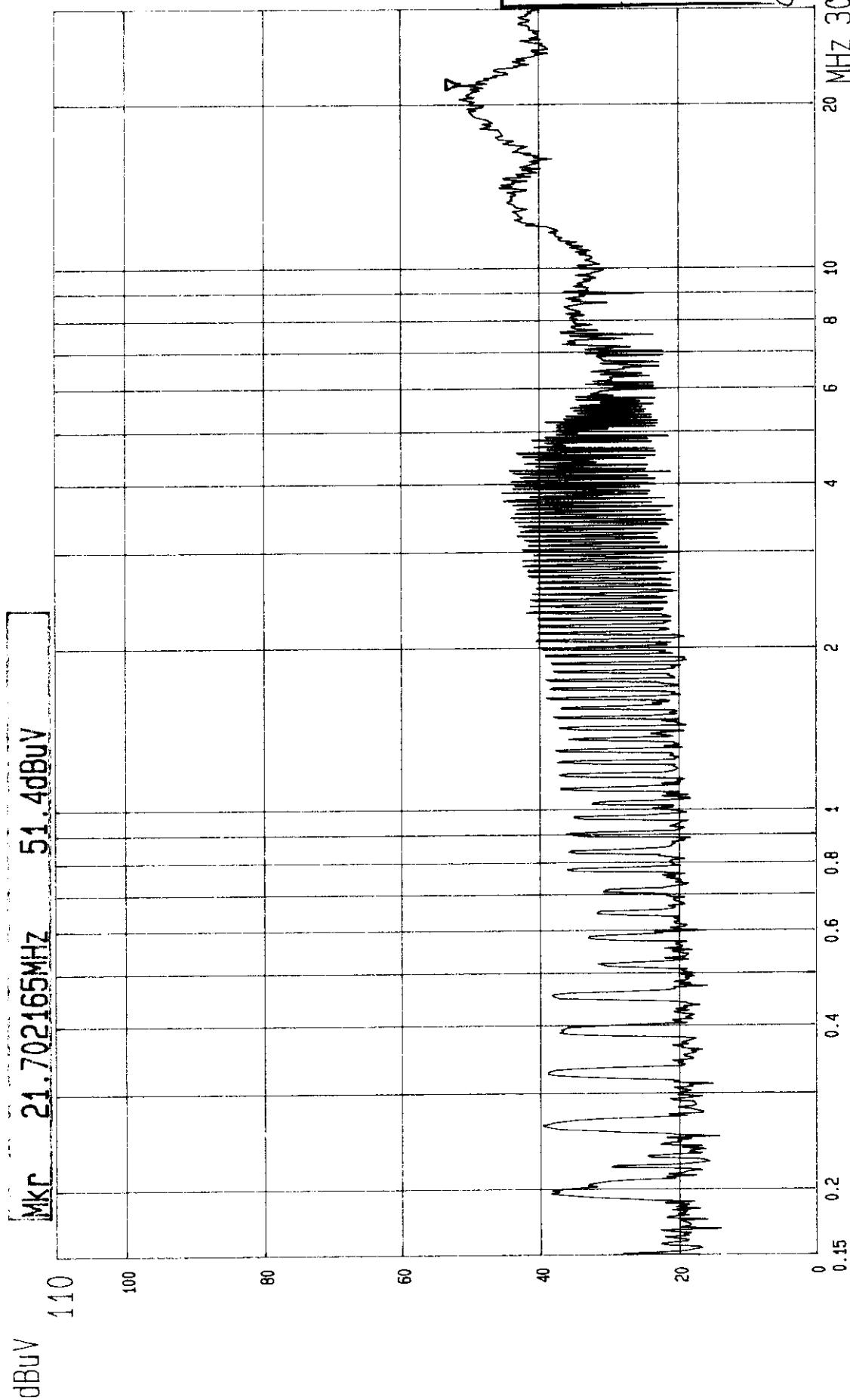


--- Date 01 AUG '98 Time 09:10:16
CISPR 22 CLASS B CONDUCTION TEST (PEAK VALUE)
MODEL: J51H 1280X1024 60Hz/64KHz
ADT CORP
LISN: L

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--- Date 01 AUG '98 Time 09:14:55
CISPR 22 CLASS B CONDUCTION TEST (PEAK VALUE)
MODEL: J51H 1280X1024 60Hz/64KHz

ADT CORP
LISN: N



4.4 TEST DATA OF RADIATED EMISSION

EUT: COLOR MONITOR

MODEL: J51H

MODE: 1280x1024 (64 kHz)

ANTENNA: CHASE BILOG CBL6111A

POLARITY: Horizontal

DETECTOR FUNCTION: Quasi-peak

6 dB BANDWIDTH: 120 kHz

FREQUENCY RANGE: 30-1000 MHz

MEASURED DISTANCE: 10 M

TEST PERSONNEL:

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
76.14	9.2	16.6	25.8	30.0	-4.2
108.86	12.7	12.3	25.0	30.0	-5.0
163.31	12.0	13.5	25.5	30.0	-4.5
185.05	11.6	15.0	26.6	30.0	-3.4
195.92	11.6	12.5	24.1	30.0	-5.9
249.44	14.9	18.2	33.1	37.0	-3.9

REMARKS:

1. Emission level (dBuV/m) = Correction Factor (dB/m) + Meter Reading (dBuV).
2. Correction Factor (dB/m) = Ant. Factor (dB/m) + Cable loss (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level - Limit value



TEST DATA OF RADIATED EMISSION

EUT: COLOR MONITOR

MODEL: J51H

MODE: 1280x1024 (64 kHz)

ANTENNA: CHASE BILOG CBL6111A

POLARITY: Vertical

DETECTOR FUNCTION: Quasi-peak

6 dB BANDWIDTH: 120 kHz

FREQUENCY RANGE: 30-1000 MHz

MEASURED DISTANCE: 10 M

TEST PERSONNEL: *Chris Yang*

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
32.66	18.3	8.0	26.3	30.0	-3.7
60.64	7.7	18.0	25.7	30.0	-4.3
73.89	7.6	17.8	25.4	30.0	-4.6
108.89	11.5	13.6	25.1	30.0	-4.9
163.24	12.6	12.3	24.9	30.0	-5.1
185.06	11.6	13.6	25.2	30.0	-4.8
195.94	12.0	13.3	25.3	30.0	-4.7
249.39	14.1	13.9	28.0	37.0	-9.0

REMARKS:

1. Emission level (dBuV/m) = Correction Factor (dB/m) + Meter Reading (dBuV).
2. Correction Factor (dB/m) = Ant. Factor (dB/m) + Cable loss (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level - Limit value



6. ATTACHMENT 1 - TECHNICAL DESCRIPTION OF EUT

Specifications:

* CRT	Size	15-Inch Diagonal Flat Square Type
	Viewable Size	Specified on carton box
	Dot Pitch	0.28 mm (optional)
	Deflection	90 °
* Display	Size	260 mm x 195 mm
	Color	Unlimited Colors
	Resolution	1024*768 (55 kHz) 1280*1024 (70 kHz)
* Input Signal	Video Signal	RGB Analogue 0.7 Vpp 75 Ohms H/V. Separated, TTL.
	Sync. Signal	Level Positive or Negative
	Scanning Freq.	Horizontal: 30 kHz to 55/70 kHz Vertical: 50 Hz to 120 Hz
* Power Source	Power Supply	AC 100-240 V, 60 Hz/50 Hz.
	Power Consumption	100W Max.
* Weight	Net Weight	Specified on carton box.