FCC ID: JVP7257C

EMC

TEST REPORT

REPORT NO. : F87050802B
MODEL NO. : 7257C
DATE OF TEST : Aug. 28, 1998

PREPARED FOR : ACER PERIPHERALS, INC.

ADDRESS : 157, SHAN-YING ROAD, KWEISHAN,
TAOYUAN 333, TAIWAN, R.O.C.

PREPARED BY: ADVANCE DATA TECHNOLOGY CORPORATION

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Accredited Laboratory

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TAIPEI, TAIWAN, R.O.C.

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1.

CERTIFICATION

Issue Date: Aug. 31, 1998

Product	:	COLOR MONITOR
Trade Name	:	ACER
Model No.	:	7257C
Applicant	:	ACER PERIPHERALS, INC.
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. 28, 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: John Liao , DATE: 8/31/98
(John Liao)

CHECKED BY: Ariel Hsieh , DATE: 8/31/98
(Ariel Hsieh)

APPROVED BY: Mike Su , DATE: 8/31/98
(Mike Su)

ADVANCE DATA TECHNOLOGY CORPORATION

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2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product	:	COLOR MONITOR
Model No.	:	7257C
Power Supply Type	:	Switching
Power Cord	:	Nonshielded (1.8m)
Data Cable	:	Shielded (1.5m)

Note: This report is prepared for Class II Permissive Change. The main changes are as follows:

1) Remove the original ferrite core on the RGB wires.
2) Added a ferrite core on the video cable inside the monitor. The original ferrite core outside the monitor is removed.
3) The original six ground wires, which are connected from the metal cover covering the CRT board to chassis, are deducted to three ground wires.
4) Added a ferrite core on the safety ground wire with three turns.
5) Added a ferrite core on the wires connected between CRT board and main board.
6) A piece of Aluminum plate added on the solder side of mainboard is enlarged.

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

The EUT was pretested with two power cords, shielded and nonshielded. During pretest, the highest emission levels were found using nonshielded power cord and therefore this nonshielded power cord was used in the final test.

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	B94VECTRA50 0T	Nonshielded Power (1.8 m)
2	KEYBOARD	FORWARD	FDA-104GA	F4ZDA-104G	Shielded Signal (1.4 m)
3	PRINTER	HP	2225C+	DSI6XU2225	Shielded Signal (2.2 m) Nonshielded Power (1.9m)
4	MODEM	ACEEX	1414	IFAXDM1414	Shielded Signal (1.9m) Nonshielded Power (1.2m)
5	MOUSE	DEXIN	A2P800A	NIYA2P800A	Shielded Signal (1.5m)
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	3544A00941	Dec. 14, 1998
HP Pre-Amplifier	8447D	2944A08312	Sept. 10, 1998
R&S Receiver	ESVS10	844591/010	Sept. 23, 1998
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 28, 1998
CHASE BILOG Antenna	CBL6111A	1500	Sept. 12, 1998
EMCO Turn Table	1060-04	1196	N/A
EMCO Tower	1051	1264	N/A
Open Field Test Site	Site 1	ADT-R01	Sept. 5, 1998

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) dBuV/m	Class B (at 10m) 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	:	33 ℃
Humidity	:	50 %
Atmospheric Pressure	:	995 mbar

TEST RESULT	Remarks
PASS	Minimum passing margin of conducted emission: -4.3 dB at 27.210 MHz
	Minimum passing margin of radiated emission: -3.0 dB at 36.25 MHz

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

- 1280 x 1024 (64 kHz)
- 1024 x 768 (69 kHz)
- 640 x 480 (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 equipment.
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: **7257C**

MODE: **1280x1024 (64 kHz)**

6 dB Bandwidth: 10 kHz

TEST PERSONNEL: John Liao

Freq.	L Level		N Level		Limit		Margin [dB (μV)]			
[MHz]	[dB (μV)]		[dB (μV)]		[dB (μV)]		L		N	
	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV
0.256	38.90	-	39.60	-	61.54	51.54	-22.6	-	-21.9	-
0.512	43.20	-	42.50	-	56.00	46.00	-12.8	-	-13.5	-
0.574	41.00	-	42.30	-	56.00	46.00	-15.0	-	-13.7	-
6.104	30.30	-	30.70	-	60.00	50.00	-29.7	-	-29.3	-
18.160	39.80	-	39.40	-	60.00	50.00	-20.2	-	-20.6	-
27.210	51.70	45.70	50.60	45.30	60.00	50.00	-8.3	-4.3	-9.4	-4.7

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

ADT CO. Shielded Room 2
CISPR 22 CLASS B

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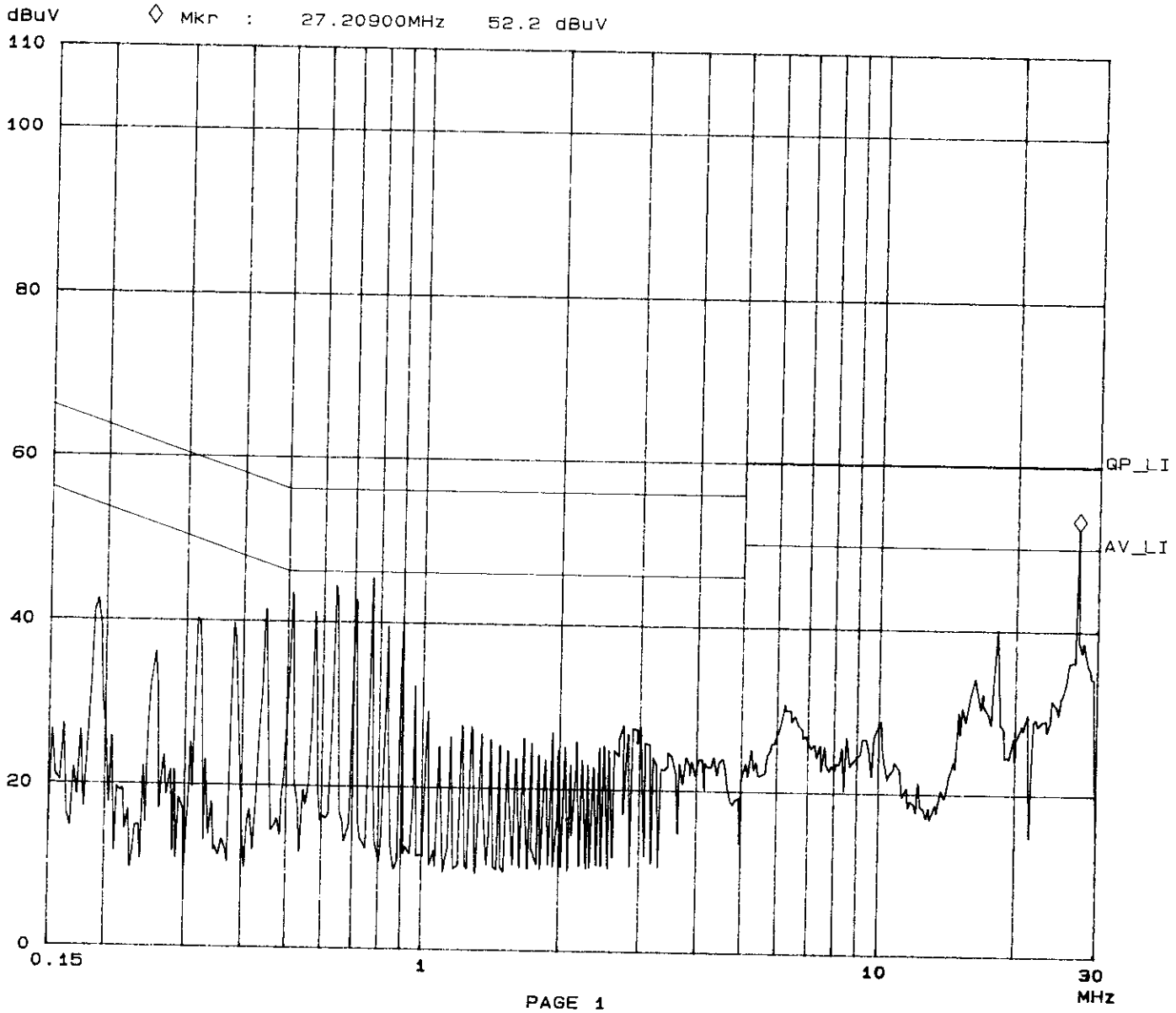
Tested by John Lin

EUT: MODEL: 7257C
Op Cond: 1280X1024 64kHz
Test Spec: LISN : L
Comment: FULL SYSTEM

Fast Scan Settings (3 Ranges)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150k	450k	3k	10k	PK	1ms	10dBLN	OFF	60dB
450k	5M	3k	10k	PK	1ms	10dBLN	OFF	60dB
5M	30M	3k	10k	PK	1ms	10dBLN	OFF	60dB



ADT CO. Shielded Room 2

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CISPR 22 CLASS B

Report No. F870508028
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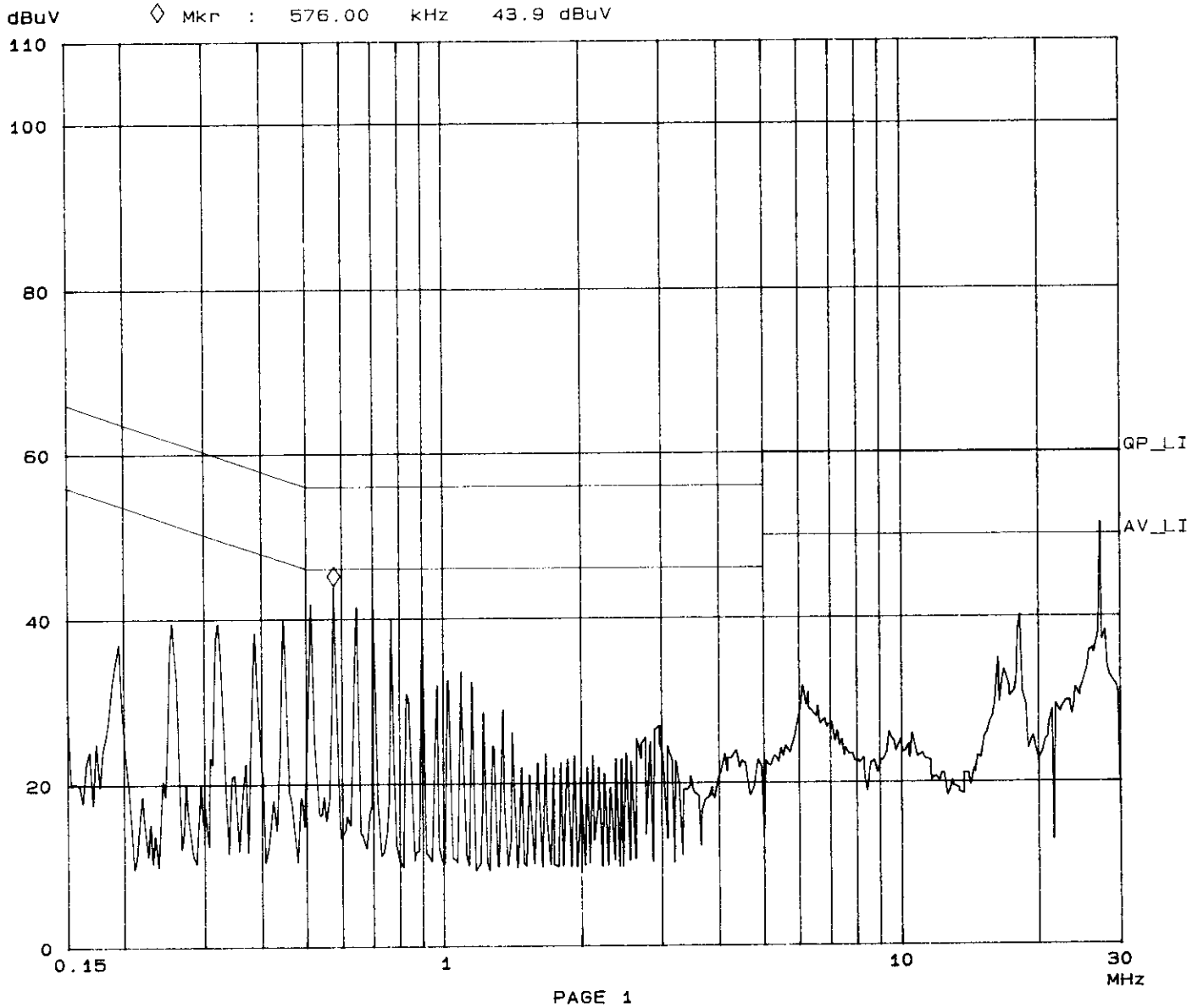
Tested by John Liao

EUT: MODEL: 7257C
Op Cond: 1280X1024 64kHz
Test Spec: LISN : N
Comment: FULL SYSTEM

Fast Scan Settings (3 Ranges)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150k	450k	3k	10k	PK	1ms	10dBLN	OFF	60dB
450k	5M	3k	10k	PK	1ms	10dBLN	OFF	60dB
5M	30M	3k	10k	PK	1ms	10dBLN	OFF	60dB



4.4 TEST DATA OF RADIATED EMISSION

EUT: **COLOR MONITOR** MODEL: **7257C**

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: John Liao

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
36.25	17.7	2.8	20.5	30.0	-9.5
39.46	16.5	0.6	17.1	30.0	-12.9
45.40	13.7	7.0	20.7	30.0	-9.3
54.43	9.4	8.5	17.9	30.0	-12.1
115.69	14.2	5.4	19.6	30.0	-10.4
192.01	12.4	8.4	20.8	30.0	-9.2
203.34	12.9	14.0	26.9	30.0	-3.1
229.09	15.4	8.5	23.9	30.0	-6.1

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

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TEST DATA OF RADIATED EMISSION

EUT: **COLOR MONITOR** MODEL: **7257C**

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: John Liao

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
36.25	16.5	10.5	27.0	30.0	-3.0
39.48	15.2	9.0	24.2	30.0	-5.8
45.41	13.1	13.2	26.3	30.0	-3.7
54.41	9.3	14.9	24.2	30.0	-5.8
108.00	13.2	12.8	26.0	30.0	-4.0
186.13	13.0	5.5	18.5	30.0	-11.5
229.11	15.3	5.8	21.1	30.0	-8.9

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

6. ATTACHMENT I -TECHNICAL DESCRIPTION OF EUT

SPECIFICATIONS:

* Picture Tube	Size: 15", diagonal Dot Pitch: 0.28mm Surface: AR, AS coating
* Bandwidth	80 MHz
* Maximum Viewable Size	13.7" diagonal
* Power Supply	Input voltage: 90-264 Vac, 47-63 Hz Power Consumption: 75 watts (max.)
* Max. Resolution	1280x1024
* Horizontal Frequency	30-70 kHz
* Vertical Frequency	50-120 Hz
* Dimensions	376mm(W) x 373mm(H) x 385mm (D)
* Operating Conditions	Temperature: 5℃ ~ 40℃ Humidity: 20% to 90%
* Storage Conditions	Temperature: 0℃ to 60 ℃ Humidity: 10% to 90%
* Weight	12.5 kg.