FCC ID: BR8VD-695P

EMC

TEST REPORT

REPORT NO. : F87052606
MODEL NO. : VD-695P
DATE OF TEST : July 1, 1998

PREPARED FOR : ADI CORP.

ADDRESS : 14TH FL. NO. 1, SEC. 4, NAN-KING E. RD.,
TAIPEI, TAIWAN, R.O.C.

PREPARED BY: ADVANCE DATA TECHNOLOGY CORPORATION

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12F, NO.1, SEC.4, NAN-KING EAST RD.,
TAIPEI, TAIWAN, R.O.C.

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TABLE OF CONTENTS

1. CERTIFICATION

Issue Date: July 3, 1998

Product	:	COLOR MONITOR
Trade Name	:	ADI
Model No.	:	VD-695P
Applicant	:	ADI CORP.
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 July 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.

PREPARED BY: Sharon Hsiung , DATE: 7/3/98
(Sharon Hsiung)

TESTED BY: Chris Yang , DATE: 7/3/98
(Chris Yang)

APPROVED BY: Mike Su DATE: 7/3/98
(Mike Su)

ADVANCE DATA TECHNOLOGY CORPORATION

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2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product	:	COLOR MONITOR
Model No.	:	VD-695P
Power Supply Type	:	Switching
Power Cord of monitor	:	Nonshielded (1.8 m)
Data Cable of monitor	:	Shielded (1.5 m)
Power Cord of speaker from power adapter	:	Nonshielded (2.0m)
Audio cable of speaker	:	Nonshielded (1.5m)

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

The EUT also provides hooks for a set of external speaker connected to the sound card of PC. There is a separate conducted test data in this report. This speaker uses a HON- KWANG power adapter, model: D12-10. Its rating: Input: 120V 60Hz 25W, Output: 12Vdc 800mA.

The EUT was tested with a USB box, model: UH-200, which acted as a base for the EUT.

There is a 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	D4572A	FCC DoC Approved	Nonshielded Power (1.8m)
2	KEYBOARD	HP	C3758A	CIGE03633	Shielded Signal (1.8m)
3	USB BOX	ADI	UH-200	BR8UH-200	DC Power to monitor (0.45m) Shielded signal to PC (2m)
4	PRINTER	HP	2225C+	DSI6XU2225	Shielded Signal (1.2m) Nonshielded Power (1.8)
5	MODEM	ACEEX	1414	IFAXDM1414	Shielded Signal (1.5m) Nonshielded Power (1.8m)
6	MOUSE	HP	M-S34	DZL210582	Shielded Signal (1.8m)
7	VGA DISPLAY	DIAMOND	ST 3D 3000 CPI	FTUPC130208	Shielded Signal (1.8m)
8	CCD CAMERA	COMPAQ	YC72-CPQ	EDUYC72-CPQ	Shielded Signal (1.8m)

Note: 1. Support unit 8 was connected to the USB port of EUT.
2. Three USB cables (1.8m) were connected to the three USB port of EUT to form three open loop cables.

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	8594A	3144A00308	Sept. 1, 1998
HP Preamplifier	8447D	2944A08119	Aug. 2, 1998
HP Preamplifier	8347A	3307A01088	Sept. 4, 1998
ROHDE & SCHWARZ TEST RECEIVER	ESVP	893496/030	July 17, 1998
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 28, 1998
CHASE Bilog Antenna	CBL6112	2086	Dec. 26, 1998
EMCO Turn Table	1060	1195	N/A
EMCO Tower	1051	1163	N/A
Open Field Test Site	Site 2	ADT-R02	Sept. 26, 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 23, 1998
ROHDE & SCHWARZ Spectrum Monitor	EZM	893787/013	July 24, 1998
ROHDE & SCHWARZ Artificial Mains Network	ESH3-Z5	839135/006	Aug. 1, 1998
EMCO-L.I.S.N.	3825/2	9204-1964	July 22, 1998
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	:	28 ℃
Humidity	:	64 %
Atmospheric Pressure	:	998 mbar

TEST RESULT	Remarks
PASS	Minimum passing margin of conducted emission: -3.9 dB at 13.407 MHz Minimum passing margin of radiated emission: -2.1 dB at 120 & 228 MHz

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

* 1280x1024mode (64 kHz),
* 1024x768 mode (69 kHz),
* 640x480 mode (31.5 kHz)

The worst emission levels were found under 1280x1024mode (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. CCD camera captures an image and sends image messages to EUT and EUT displays them on its screen.
6. PC sends "H" messages to modem.
7. PC sends "H" messages to printer, and the printer prints them on paper.
8. PC sends audio messages to earphone and speaker.
9. Repeat steps 3-9.

4.3 TEST DATA OF CONDUCTED EMISSION (A)

EUT: **COLOR MONITOR** MODEL: **VD-695P**

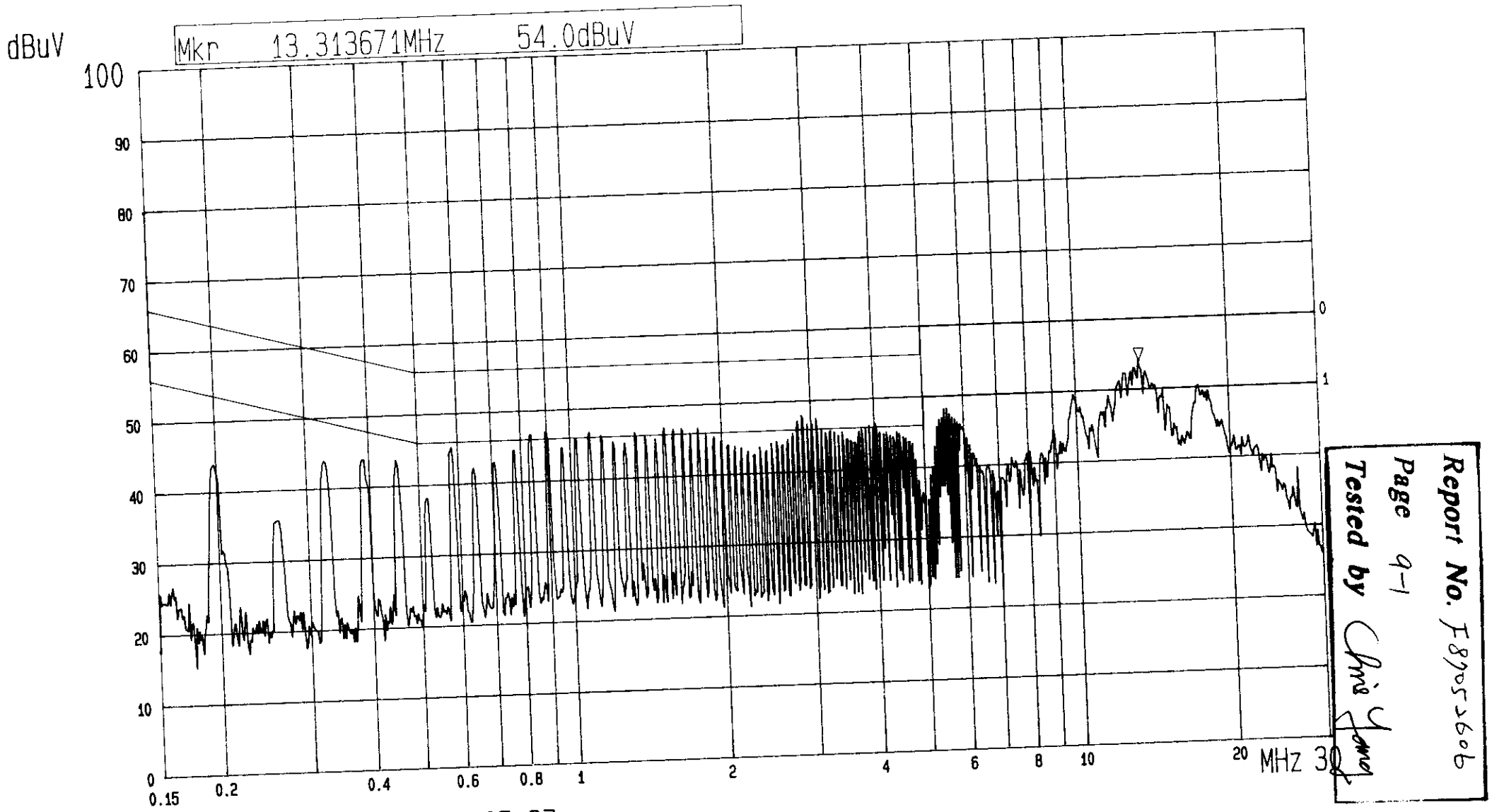
MODE: **1280x1024 (64 kHz)**

6 dB Band Width: 10 kHz

TEST PERSONNEL: Chris Yang

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
0.324	43.20	-	39.20	-	59.60	49.60	-16.4	-	-20.4	-
0.893	45.80	38.60	44.60	38.60	56.00	46.00	-10.2	-7.4	-11.4	-7.4
1.532	44.40	39.10	42.00	36.60	56.00	46.00	-11.6	-6.9	-14.0	-9.4
2.893	45.60	40.30	41.80	35.00	56.00	46.00	-10.4	-5.7	-14.2	-11.0
5.553	45.60	41.60	43.50	38.50	60.00	50.00	-14.4	-8.4	-16.5	-11.5
13.342	50.90	43.90	50.20	43.50	60.00	50.00	-9.1	-6.1	-9.8	-6.5

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.

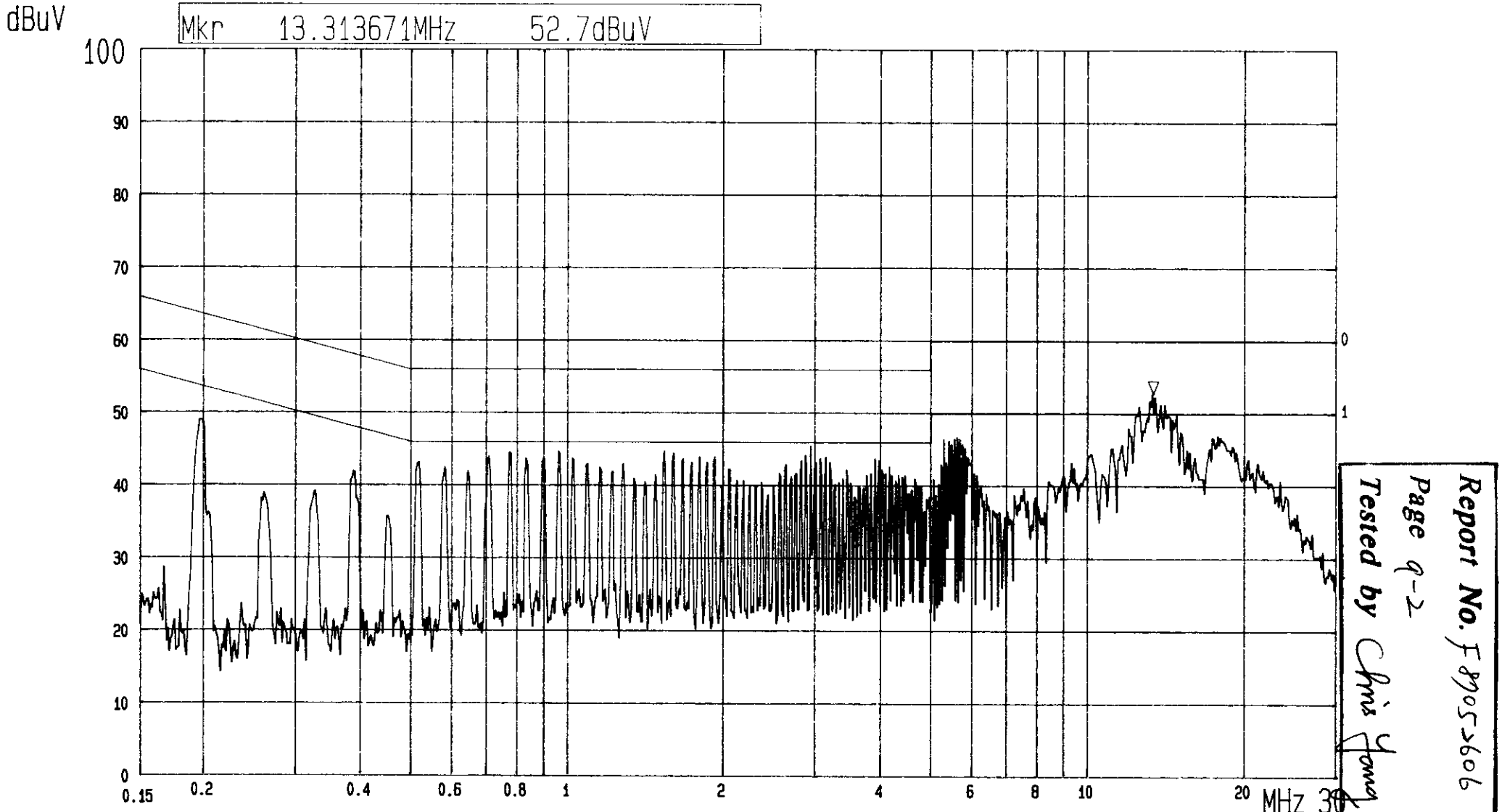


Report No. F8705260b
Page 9-1
Tested by Chris Yang

|--- Date 01.JUL.'98 Time 18:25:37
CISPR 22 CLASS B CONDUCTION TEST
MODEL : VD-695P 1280X1024 60Hz 64KHz

(PEAK VALUE)

ADT CORP
LISN: L



Report No. F#905606
Page 9-2
Tested by Chris Yang

|--- Date 01.JUL.'98 Time 18:28:28
CISPR 22 CLASS B CONDUCTION TEST (PEAK VALUE) ADT CORP
MODEL : VD-695P 1280X1024 60Hz 64KHz LISN: N

4.4 TEST DATA OF CONDUCTED EMISSION (B)

EUT: **COLOR MONITOR** MODEL: **VD-695P**

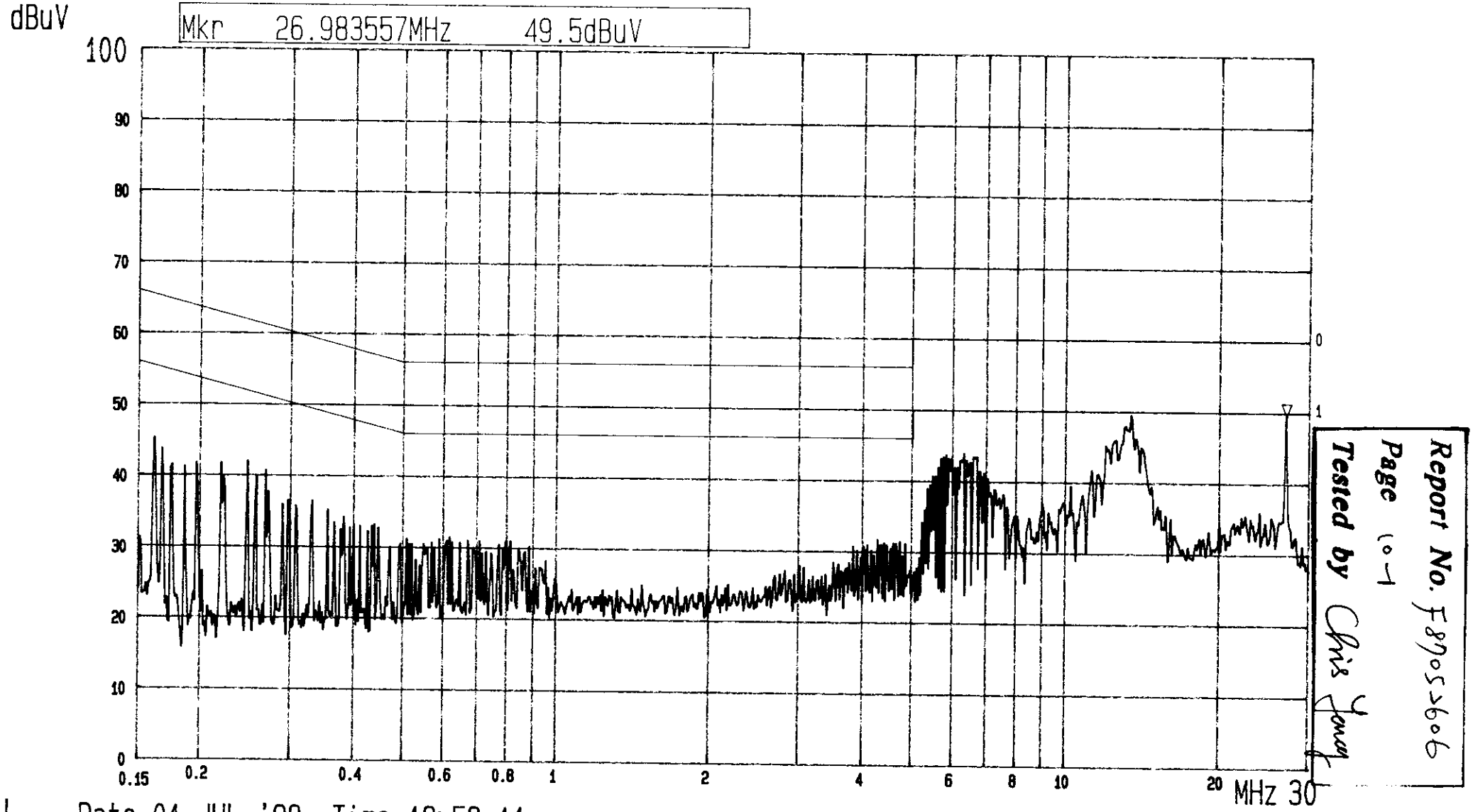
MODE: **1280x1024 (64 kHz)**

6 dB Band Width: 10 kHz

TEST PERSONNEL: Chris Jang

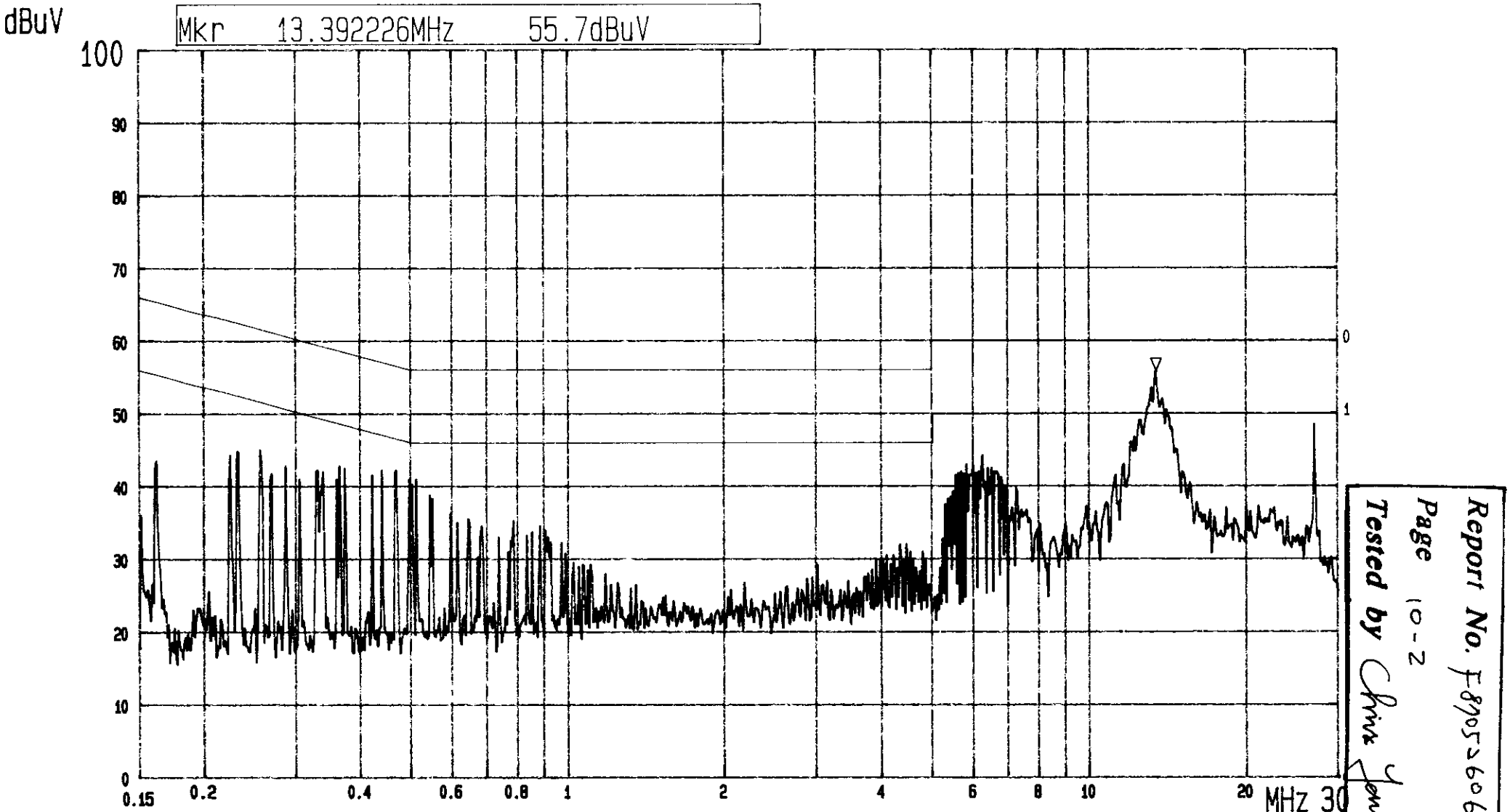
Freq.	L Level		N Level		Limit		Margin [dB (μV)]			
[MHz]	[dB (μV)]		[dB (μV)]		[dB (μV)]		L		N	
	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV
0.169	44.80	-	42.60	-	65.01	55.01	-20.2	-	-22.4	-
0.245	41.70	-	44.40	-	61.92	51.92	-20.2	-	-17.5	-
0.608	30.20	-	35.70	-	56.00	46.00	-25.8	-	-20.3	-
5.804	42.10	-	42.30	-	60.00	50.00	-17.9	-	-17.7	-
13.407	47.40	-	52.70	46.10	60.00	50.00	-12.6	-	-7.3	-3.9
27.010	38.30	-	38.50	-	60.00	50.00	-21.7	-	-21.5	-

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
6. The above measured reading data are of speaker fixed on EUT.



Report No. F890526-06
Page 10-1
Tested by Chris Yang

| --- Date 01.JUL.'98 Time 18:58:11
CISPR 22 CLASS B CONDUCTION TEST (PEAK VALUE) ADT CORP
MODEL : VD-695P 1280X1024 60Hz 64KHz SPEAKER ADAPTOR LISN: L



Report No. F890536

Page 10-2

Tested by Chris Jeng

|--- Date 01.JUL.'98 Time 19:12:18

CISPR 22 CLASS B CONDUCTION TEST (PEAK VALUE) ADT CORP

MODEL : VD-695P 1280X1024 60Hz 64KHz SPEAKER ADAPTOR LISN: N

4.5 TEST DATA OF RADIATED EMISSION

EUT: **COLOR MONITOR** MODEL: **VD-695P**

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

ANTENNA: CHASE BILOG CBL6112 & EMCO 3115

DETECTOR FUNCTION AND BANDWIDTH: Quasi peak, 120 kHz (30-1000 MHz)
Peak, 1 MHz (1000 MHz-2000 MHz)

FREQUENCY RANGE: 30-1000 MHz MEASURED DISTANCE: 10 M

FREQUENCY RANGE: 1000-2000 MHz MEASURED DISTANCE: 3 M

TEST PERSONNEL: Chris Jong

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
54.15	9.3	14.9	24.2	30.0	-5.8
81.22	9.0	15.2	24.2	30.0	-5.8
108.31	13.8	11.8	25.6	30.0	-4.4
120.00	15.1	12.8	27.9	30.0	-2.1
132.00	14.5	10.7	25.2	30.0	-4.8
135.39	14.4	8.4	22.8	30.0	-7.2
189.55	12.7	10.4	23.1	30.0	-6.9
203.99	13.5	12.1	25.6	30.0	-4.4
216.00	14.1	13.6	27.7	30.0	-2.3
228.00	14.6	13.3	27.9	30.0	-2.1
240.00	15.2	17.1	32.3	37.0	-4.7

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

FCC ID: BR8VD-695P

TEST DATA OF RADIATED EMISSION

EUT: **COLOR MONITOR** MODEL: **VD-695P**

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

ANTENNA: CHASE BILOG CBL6112 & EMCO 3115

DETECTOR FUNCTION AND BANDWIDTH: Quasi peak, 120 kHz (30-1000 MHz)
Peak, 1 MHz (1000 MHz-2000 MHz)

FREQUENCY RANGE: 30-1000 MHz MEASURED DISTANCE: 10 M

FREQUENCY RANGE: 1000-2000 MHz MEASURED DISTANCE: 3 M

TEST PERSONNEL: Chris Young

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
45.43	11.6	13.8	25.4	30.0	-4.6
54.16	9.1	18.0	27.1	30.0	-2.9
81.23	8.4	19.1	27.5	30.0	-2.5
108.28	12.8	13.0	25.8	30.0	-4.2
119.98	15.5	12.3	27.8	30.0	-2.2
132.00	15.3	9.9	25.2	30.0	-4.8
135.39	15.2	10.1	25.3	30.0	-4.7
189.54	13.1	12.9	26.0	30.0	-4.0
216.00	14.2	11.6	25.8	30.0	-4.2
227.99	14.7	11.1	25.8	30.0	-4.2
239.98	15.2	17.8	33.0	37.0	-4.0

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 I -TECHNICAL DESCRIPTION OF EUT

SPECIFICATIONS:

* Picture Tube	15" (13.8" diagonal viewable image) flat square tube (FST) with enhanced contrast, dark-tinted CRT, 0.28 mm dot pitch, invar shadow mask, advanced anti-reflection, anti-glare, and anti-static coating with low electromagnetic field.
* Rec. Resolution	1280 x 1024@ 60 Hz, 1024 x 768@ 85Hz
* Deflection Frequency Horizontal: Vertical:	 30 to 69 KHz 47.5 to 125 Hz
* Max. Video Input Bandwidth	110MHz
* Display Area Factory Setting: Active Area:	 approx. 260 mm x 195 mm approx. 278 mm x 209 mm
* Input Signals Video: Sync:	 Analog. 0.7 Vp-p/75 Ohms Separate sync. TTL level, 3 Vp-p typical
* Input Connector	15-pin D-sub Type
* Display Colors	Analog input, unlimited colors
* Power Source	90-240 Vac (Universal)
* Power Consumption	85 watts (max.)
* Power Management	EPA/ Energy Star VESA DPMS signaling method
* PnP Compatibility	VESA DDC 1 & 2B standards compliant
* USB hub (Option)	Locally powered hub with 4 downstream ports and 1 upstream port. (+5V, 2Amps. max.; 0.5 Amps. each port) Monitor control class
* Front Panel Controls	-(Decrease), Function key, +(Increase), Contrast, Brightness, POWER
* EasyScreen™	H-Size, H-Position, V-Size, V-Position, Pincushion, Tilt, Trapezoid, Color Adjustment, Management (Power Saver, Display Mode), Language, Factory Reset
* Monitor Dimension	381 mm (W) x 376 mm (H) x 481 mm (D)
* Net Weight	13kg
* Ambient Temperature Operating: Storage:	 0℃ ~ 40℃ -20℃ ~ -65℃
* Humidity Operating Storage	 20% ~ -95% 10% ~ -95%