# APPLICATION FOR CERTIFICATION
On Behalf of
Source Technology Inc.
LCD Monitor
Model : VW9901

FCC ID : OMVVW9901

Prepared for : Source Technology Inc.
14F, No. 96, Sec. 1, Hsin-Tai 5th Rd.,
Hsi-Chih, Taipei County, Taiwan, R.O.C.

Prepared By : Taiwan Tokin EMC Eng. Corp.
No. 53-11, Tin-Fu Tsun, Lin-Kou,
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| | | |
|---|---|---|
| File Number | : | ATM-G99179 |
| Report Number | : | TTEMC-F99102 |
| Date of Test | : | Jun. 19 ~ 23, 1999 |
| Date of Report | : | Jul. 15, 1999 |

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Tok99-F012

# TEST REPORT CERTIFICATION

| | | |
|---|---|---|
| Applicant | : | Source Technology Inc. |
| Manufacturer | : | Source Technology Inc. |
| FCC ID | : | OMVVW9901 |
| EUT Description | : | LCD Monitor |
| | | (A) MODEL NO. : VW9901 |
| | | (B) SERIAL NO. : N/A |
| | | (C) POWER SUPPLY : AC 120V/60Hz (Via Power Adapter) |

Measurement Procedure Used :

FCC RULES AND CISPR 22 (DOCKET NO. 92-152, SEP. 1993) AND
FCC / ANSI C63.4-1992

The device described above was tested by TAIWAN TOKIN EMC ENG. CORP. to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the CISPR 22 Class B limits both radiated and conducted emissions.
The measurement results are contained in this test report and TAIWAN TOKIN EMC ENG. CORP. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC official limits.
This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Taiwan Tokin EMC Eng. corp.

Date of Test : Jun. 19 ~ 23, 1999

Prepared by : (CHERRY WANG)

Test Engineer : Allen Wang 7/28, '99
(ALLEN WANG)

Approve & Authorized Signer : 7/28 '99
(JACKIE DENG)

# 1. GENERAL INFORMATION

## 1.1. Description of Device (EUT)

| | | |
|---|---|---|
| Description | : | LCD Monitor |
| Model Number | : | VW9901 |
| FCC ID. | : | OMVVW9901 |
| Applicant | : | Source Technology Inc.<br>14F, No. 96, Sec. 1, Hsin-Tai 5th Rd.,<br>Hsi-Chih, Taipei County, Taiwan, R.O.C. |
| Manufacturer | : | Source Technology Inc.<br>14F, No. 96, Sec. 1, Hsin-Tai 5th Rd.,<br>Hsi-Chih, Taipei County, Taiwan, R.O.C. |
| LCD Panel (15.1" TFT) | : | LG, M/N LM151X2<br>S/N 15191P2561539 |
| Data Cable<br>(D-Sub, 15-Pin) | : | Shielded, Detachable, 1.5m<br>Bonded a ferrite core |
| Power Adapter | : | M/N F1650 (K)<br>Input: 100-240V ~ 1.0A Max, 50-60Hz<br>Output: 12Vdc, 3.5A<br>Power Cable: Non-Shielded, Undetachable, 1.2m,<br>Bonded a ferrite core |
| Power Cord | : | Non-Shielded, Detachable, 1.8m |
| Data of Receipt of Sample | : | Apr. 27, 1999 |
| Date of Test | : | Jun. 19 ~ 23, 1999 |

## 1.2. Tested Supporting System Details

### 1.2.1. PERSONAL COMPUTER

| | | |
|---|---|---|
| Mother Board | : | ASUS, M/N P5A<br>FCC ID. By DoC |
| CPU | : | AMD K6-2 266MHz |
| Case | : | Enlight, M/N EN7105C |
| S.P.S. | : | SPI, M/N FSP250-61GT<br>S/N W13562615 |
| Floppy Driver 3.5" | : | Mitsumi, M/N D353M3 |
| Hard Disk Driver | : | Seagate, M/N ST34321A<br>S/N VTH20835 |
| VGA Card | : | Dataexpert, M/N CP765V2<br>FCC ID LUT-CP765 |
| Power Cord | : | Non-Shielded, Detachable, 1.8m |
| USB Cable | : | Shielded, Detachable, 1.8m |

(Link to EUT, from PC to EUT)

### 1.2.2. PS2 KEYBOARD

| | | |
|---|---|---|
| Model Number | : | 5121 |
| Serial Number | : | J83300817 |
| FCC ID | : | E5XKBM104M10UC |
| Manufacturer | : | Behavior Tech Computer Corp. |
| Data Cable | : | Shielded, Undetachable, 1.0m |

### 1.2.3. USB KEYBOARD #1 (Link to EUT)

| | | |
|---|---|---|
| Model Number | : | KU-8933 |
| Serial Number | : | 8H17800109 |
| FCC ID | : | By DoC |
| Manufacturer | : | Chicony Electronics Co., Ltd. |
| Data Cable | : | Shielded, Undetachable, 1.8m |

### 1.2.4. USB KEYBOARD #2

| | | |
|---|---|---|
| Model Number | : | KU-8933 |
| Serial Number | : | 8H17800111 |
| FCC ID | : | By DoC |
| Manufacturer | : | Chicony Electronics Co., Ltd. |
| Data Cable | : | Shielded, Undetachable, 1.8m |

### 1.2.5. PRINTER

| | | |
|---|---|---|
| Model Number | : | 2225C+ |
| Serial Number | : | 3121S96627 |
| FCC ID | : | DSI6XU2225 |
| Manufacturer | : | Hewlett Packard |
| Power Adapter | : | Hewlett Packard, M/N 82241A<br>Non-Shielded, Undetachable, 2.0m |
| Data Cable | : | Shielded, Detachable, 1.2m |

1.2.6. MODEM #1

| | | |
|---|---|---|
| Model Number | : | DM-1414 |
| Serial Number | : | 980034400 |
| FCC ID | : | IFAXDM1414 |
| Manufacturer | : | Aceex |
| Data Cable | : | Shielded, Detachable, 1.2m |
| Power Adapter | : | Amigo, Model AM-91000A<br>Non-Shielded, Undetachable, 1.8m |

1.2.7. MODEM #2

| | | |
|---|---|---|
| Model Number | : | DM-1414 |
| Serial Number | : | 980034399 |
| FCC ID | : | IFAXDM1414 |
| Manufacturer | : | Aceex |
| Data Cable | : | Shielded, Detachable, 1.2m |
| Power Adapter | : | Amigo, Model AM-91000A<br>Non-Shielded, Undetachable, 1.8m |

1.2.8. PS2 MOUSE

| | | |
|---|---|---|
| Model Number | : | M-S35 |
| Serial Number | : | LZA82103128 |
| FCC ID | : | DZL211029 |
| Manufacturer | : | Logitech |
| Data Cable | : | Non-Shielded, Undetachable, 1.8m |

1.2.9. USB MOUSE #1 (Link to EUT)

| | | |
|---|---|---|
| Model Number | : | M-UB48 |
| Serial Number | : | LZB81900212 |
| FCC ID | : | DZL211137 |
| Manufacturer | : | Logitech |
| Data Cable | : | Shielded, Undetachable, 1.8m |

1.2.10. USB MOUSE #2 (Link to EUT)

| | | |
|---|---|---|
| Model Number | : | M-UB48 |
| Serial Number | : | LZB81900216 |
| FCC ID | : | DZL211137 |
| Manufacturer | : | Logitech |
| Data Cable | : | Shielded, Undetachable, 1.8m |

1.2.11. USB MOUSE #3 (Link to EUT)

| | | |
|---|---|---|
| Model Number | : | M-UB48 |
| Serial Number | : | LZB81900209 |
| FCC ID | : | DZL211137 |
| Manufacturer | : | Logitech |
| Data Cable | : | Shielded, Undetachable, 1.8m |

## 1.3. Description of Test Facility

| | | |
|---|---|---|
| Site Description (No. 1 Open Site) | : | Oct. 21, 1996 File on<br>Federal Communication Commission<br>FCC Engineering Laboratory<br>7435 Oakland Mills Road<br>Columbia, MD 21046, U.S.A. |
| Site Description (Anechoic Chamber) | : | Aug. 22, 1997 Re-file on<br>Federal Communication Commission<br>FCC Engineering Laboratory<br>7435 Oakland Mills Road<br>Columbia, MD 21046, U.S.A. |
| Name of Firm | : | Taiwan Tokin EMC Eng. Corp. |
| Site Location | : | No. 53-11, Tin-Fu Tsun, Lin-Kou,<br>Taipei Hsien, Taiwan, R.O.C. |
| NVLAP lab. Code | : | 200077-0 |

# 2. POWERLINE CONDUCTED TEST

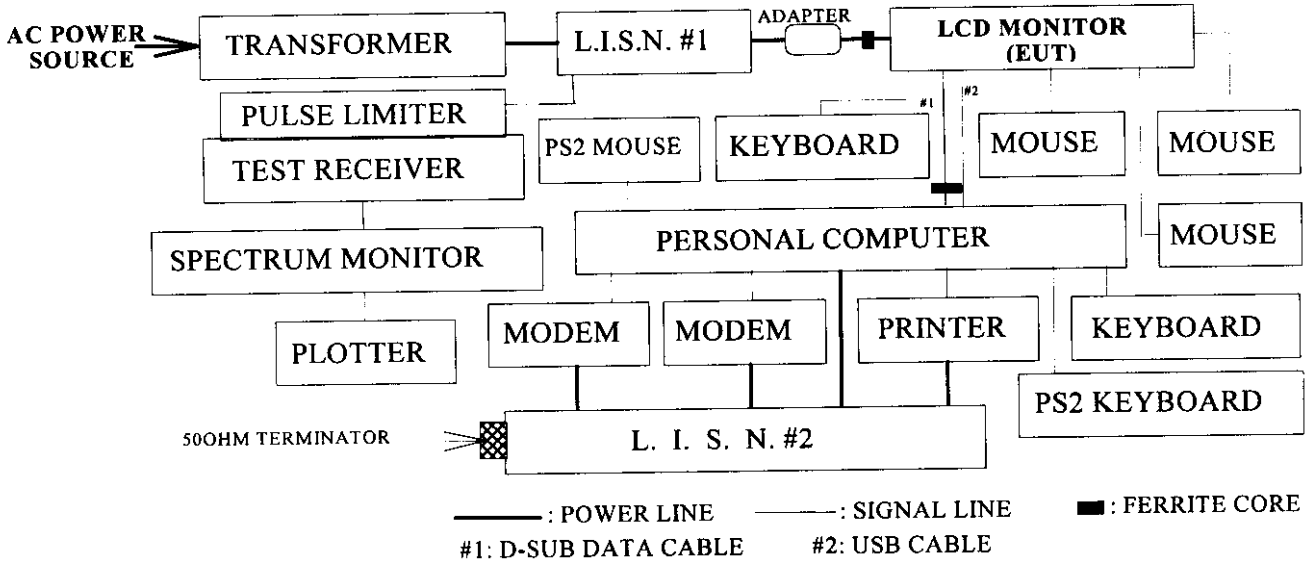
## 2.1. Test Equipment

The following test equipments were used during the power line conducted tests :

| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|---|---|---|---|---|---|---|
| 1. | Test Receiver | Rohde & Schwarz | ESH3 | 880647/035 | Jun. 19, 99' | 1 Year |
| 2. | L.I.S.N. # 1 | Kyoritsu | KNW-407 | 8-881-13 | Apr. 21, 99' | 1 Year |
| 3. | L.I.S.N. # 2 | Kyoritsu | KNW-407 | 8-855-9 | Apr. 21, 99' | 1 Year |

## 2.2. Block Diagram of Test Setup

** EUT' s Power Connected to L.I.S.N. Directly **




## 2.3. Powerline Conduction Emission Limit (CISPR 22, Class B)

| FREQUENCY | MAXIMUN RF LINE VOLTAGE | |
|---|---|---|
| | QUASI-PEAK LEVEL | AVERAGE LEVEL |
| 150KHz ~ 500KHz | 66 ~ 56 dB | 56 ~ 46 dB |
| 500KHz ~ 5MHz | 56 dB | 46 dB |
| 5MHz ~ 30MHz | 60 dB | 50dB |

## 2.4. EUT's Configuration during Compliance Measurement

The following equipments were installed on RF LINE VOLTAGE measurement to meet the Commission requirement and operating in a manner which tend to maximize its emission characteristics in a normal application.

### 2.4.1. LCD Monitor (EUT)

| | | |
|---|---|---|
| Model Number | : | VW9901 |
| Serial Number | : | N/A |
| FCC ID. | : | OMVVW9901 |
| Manufacturer | : | Source Technology Inc. |
| LCD Panel | : | LG, M/N LM151X2, S/N 15191P2561539 |
| Data Cable | : | Shielded, Detachable, 1.5m |
| (D-Sub, 15-Pin) | | Bonded a ferrite core |
| Power Adapter | : | M/N F1650 (K)<br>Input: 100-240V ~ 1.0A Max, 50-60Hz<br>Output: 12Vdc, 3.5A<br>Power Cable: Non-Shielded, Undetachable, 1.2m<br>Bonded a ferrite core |
| Power Cord | : | Non-Shielded, Detachable, 1.8m |

2.4.2. Supporting System : As in Section 1.2

## 2.5. Operating Condition of EUT

2.5.1. Setup the EUT and simulator as shown on 3.1.

2.5.2. Turned on the power of all equipments.

2.5.3. Personal Computer read data from disk.

2.5.4. Personal Computer running the self-test program "Hwin" by windows and sent "H" character to LCD Monitor (EUT) through VGA card, the screen displayed and filled with "H" pattern by EUT's resolution.

2.5.5. Personal Computer read data from floppy disk 、 Modem and then wrote the data into floppy disk 、 Modem.

2.5.6. Personal computer sent"H" character to printer, the printer ptinted "H' pattern.

2.5.7. The EUT's USB mouse was in stand by mode.

2.5.8. The other peripheral devices were driven and operated in turn during all testing.

## 2.6. Test Procedure

The EUT's power adapter was connected to the power mains through a line impedance stabilization network (L.I.S.N.# 1). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N. # 2). This provided a 50 ohm coupling impedance for the measuring equipment. (Please refer to the block diagram of the test setup and photographs.)
Both sides of A.C. line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to FCC ANSI C63.4-1992 on conducted measurement.

The bandwidth of the R&S Test Receiver ESH3 was set at 10KHz.

The frequency range from 150KHz to 30MHz was checked.

Three kinds of horizontal working frequency and display pattern were investigated during pre-scanning and report the worst mode (60KHz/1024*768, EUT power to L.I.S.N.) in the section 2.8., the others test data are attached within Appendix I.

The detail of test modes are as follows :
(1) 38KHz (640*480, 72Hz)
(2) 48KHz (800*600, 75Hz)
(3) 60KHz (1024*768, 75Hz)

## 2.7. Test Results

**PASSED.** Please refer to the following pages.

## 2.8. Line Conducted RF Voltage Measurement Results

The frequency range from 150KHz to 30 MHz was investigated.
All emissions not reported below are too low against the prescribed limits.

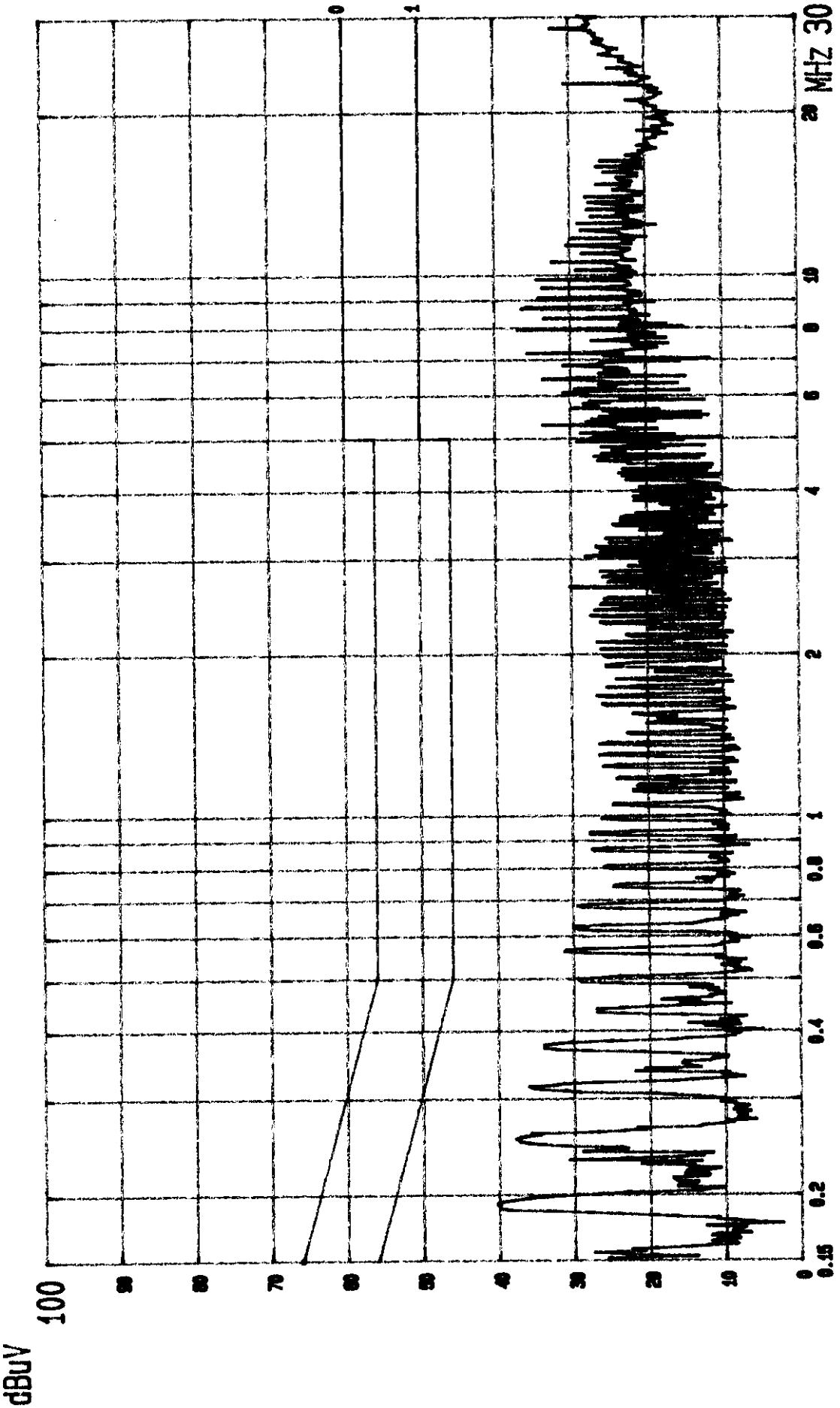
Date of Test : Jul. 11, 1999 Temperature : 27 ℃

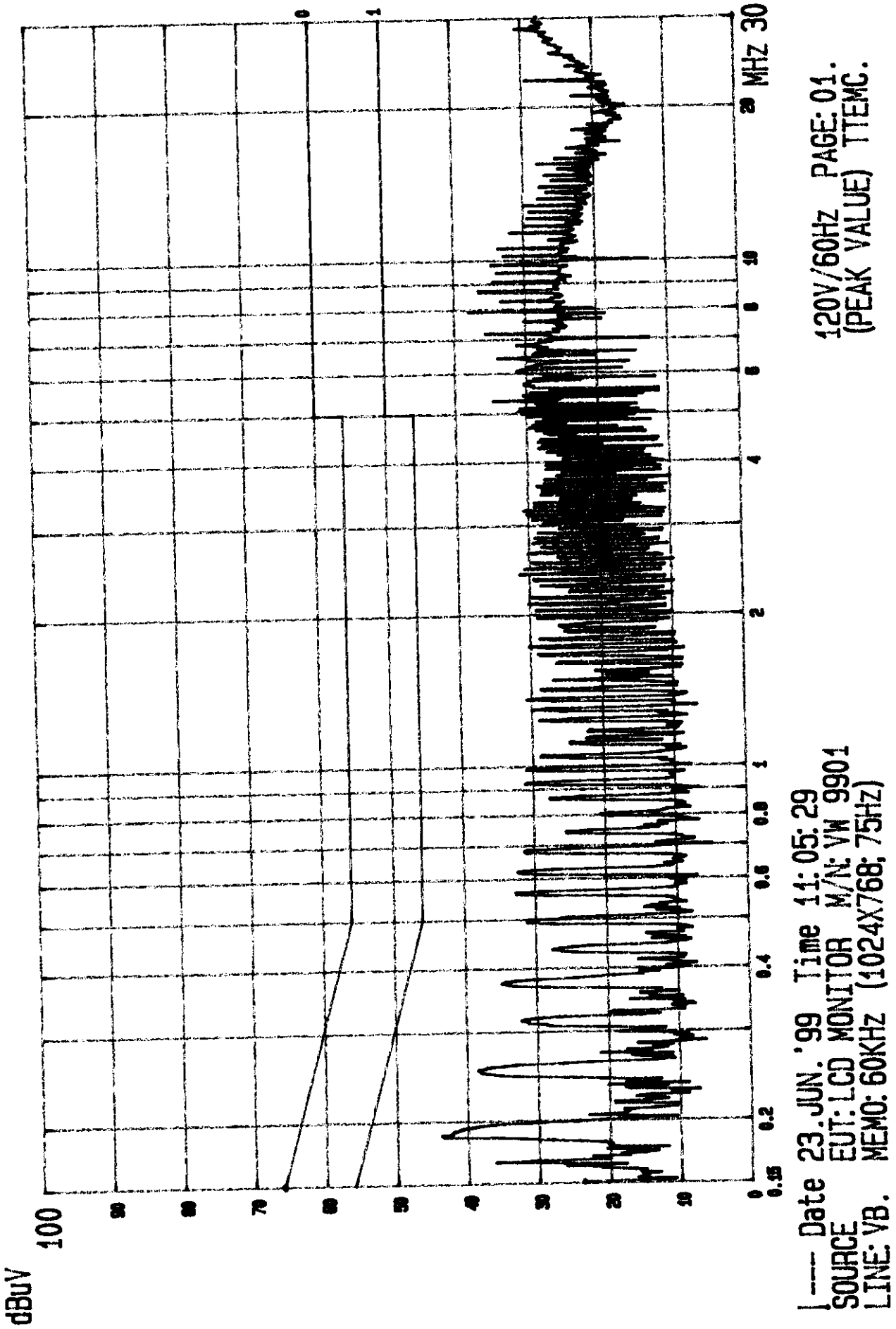
EUT : LCD Monitor, M/N VW9901 Humidity : 46 %

Test Mode : 60KHz, 1024*768/75Hz

| Frequency | Factor | Reading (dBμV) | | | | Measurement (dBμV) | | | | Limits (dBμV) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Phase A Neutral | | Phase B Line | | Phase A Neutral | | Phase B Line | | | |
| MHz | dB | Q.P. | Average | Q.P. | Average | Q.P. | Average | Q.P. | Average | Q.P. | Average |
| 0.1860 | 0.4 | 44.8 | 40.7 | 42.1 | 40.1 | 45.2 | 41.1 | 42.5 | 40.5 | 64.1 | 54.1 |
| 0.2472 | 0.4 | 39.6 | 37.6 | 37.7 | 36.6 | 40 | 38 | 38.1 | 37 | 61.8 | 51.8 |
| 0.5515 | 0.5 | 31.3 | 31.5 | 32.7 | 32.3 | 31.8 | 32 | 33.2 | 32.8 | 56.0 | 46.0 |
| 2.3921 | 0.5 | * | * | 29.7 | 28.9 | * | * | 30.2 | 29.4 | 56.0 | 46.0 |
| 2.3928 | 0.5 | 26.5 | 26.6 | * | * | 27 | 27.1 | * | * | 56.0 | 46.0 |
| 5.2706 | 0.8 | 33.1 | 21.9 | * | * | 33.9 | 22.7 | * | * | 60.0 | 50.0 |
| 5.2727 | 0.8 | * | * | 34.2 | 30.7 | * | * | 35 | 31.5 | 60.0 | 50.0 |
| 7.9079 | 0.8 | 36.5 | 35.6 | 37.4 | 35.8 | 37.3 | 36.4 | 38.2 | 36.6 | 60.0 | 50.0 |

Remark : 1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss
3. "*" means the emission level undetectable.


dBuV
100
90
80
70
60
50
40
30
20
10
0
0.15
0.2
0.4
0.6
0.8
1
2
4
6
8
10
20 MHz 30
0
1
120V/60Hz PAGE: 02.
(PEAK VALUE) TTEMC.
Date 23.JUN. '99 Time 11:11:03
SOURCE EUT: LCD MONITOR M/N: VW 9901
LINE: VA. MEMO: 60KHz (1024X768; 75Hz)


dBuV
100
30 MHz
120V/60Hz PAGE: 01.
(PEAK VALUE) TTEMC.
Date 23.JUN.'99 Time 11:05:29
SOURCE EUT: LCD MONITOR M/N: VW 9901
LINE: VB. MEMO: 60KHz (1024X768; 75Hz)

# 3. RADIATED EMISSION TEST

## 3.1. Test Equipment

The following test equipments are used during the radiated emission tests :

### 3.1.1. For Anechoic Chamber

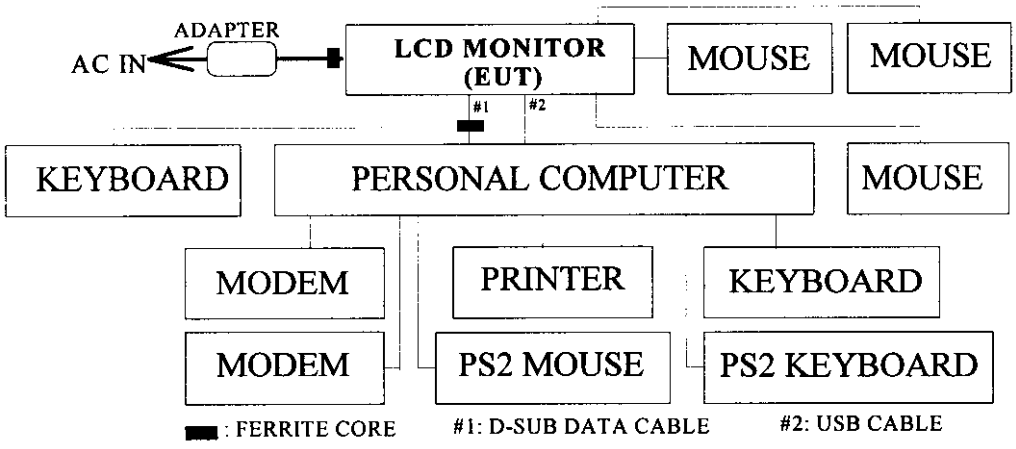
| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|---|---|---|---|---|---|---|
| 1. | Spectrum Analyzer | HP | 8593A | 3212A01727 | Jul. 25, 98' | 1 Year |
| 2. | Pre-Amplifier | HP | 8447D | 2944A06305 | Dec.09, 98' | 1 Year |
| 3. | Broadband Antenna | Schwarzbeck | BBA9106 | A3L | Dec.09, 98' | 1 Year |
| 4. | Broadband Antenna | Schwarzbeck | UHALP9107 | A3H | Dec.09, 98' | 1 Year |

### 3.1.2. For No. 1 Open Site

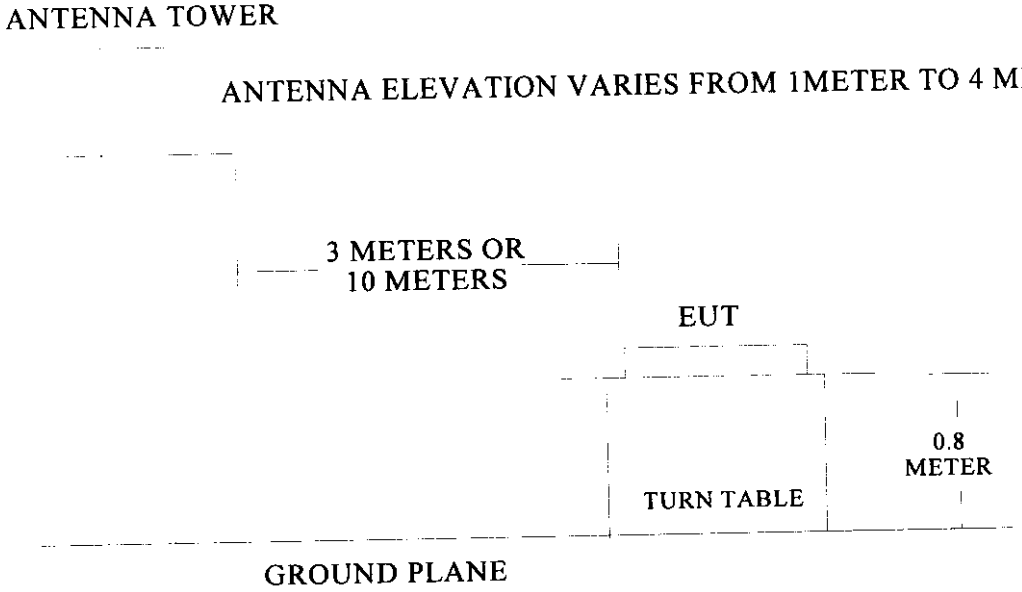
| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|---|---|---|---|---|---|---|
| 1. | Test Receiver | Rohde & Schwarz | ESVP | 893202/001 | May 13, 99' | 1 Year |
| 2. | Broadband Antenna | Schwarzbeck | BBA9106 | A1L | Feb. 02, 99' | 1 Year |
| 3. | Broadband Antenna | Chase | UPA6109 | 1039 | Feb. 02, 99' | 1 Year |

## 3.2. Block Diagram of Test Setup

### 3.2.1. Block Diagram of connection between EUT and simulators



3.2.2. Anechoic Chamber (3M) & Open Field Test Site (10M) Setup Diagram




## 3.3. Radiation Limit (CISPR 22, Class B)

All emanations from a class B computing devices or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

| FREQUENCY (MHz) | DISTANCE (Meters) | FIELD STRENGTHS LIMITS (dBuV/m) |
|---|---|---|
| 30 ~ 230 | 10 (3) | 30 (40) |
| 230 ~ 1000 | 10 (3) | 37 (47) |

Note : (1) The tighter limit applies at the edge between two frequency bands.
(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
(3) Inside the ( ) is 3 meters limits.

## 3.4. EUT's Configuration during Compliance Measurement

The configuration of EUT and its simulators were same as those used in conducted measurement. Please refer to 2.4.

## 3.5. Operating Condition of EUT

Same as conducted measurement which is listed in 2.5.

## 3.6. Test Procedure

The EUT and its simulators were placed on a turn table which was 0.8 meter above ground. The turn table rotate 360 degrees to determine the position of the maximum emission level. EUT was set 10 meters (or 3 meters at anechoic chamber) away from the receiving antenna which were mounted on a antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated biconical and log periodical antenna) and dipole antenna were used as receiving antenna. Both horizontal and vertical polarization of the antenna were set on measurement. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4-1992 on radiated measurement.

The bandwidth of the R&S Test Receiver ESVP was set at 120KHz.

The frequency range from 30MHz to 1000MHz was checked.

The following operating conditions were measured within Anechoic Chamber and all the scanning waveform were attached within Appendix II, which include :

(1) 38KHz (640*480, 72Hz)
(2) 48KHz (800*600, 75Hz)
(3) 60KHz (1024*768, 75Hz)

Finally, remeasured the worst mode (60KHz, 1024*768/75Hz) operating situation at No. 1 Open Field Test Site and all the test results were listed in section 3.8.

## 3.7. Test Results

**PASSED**. Please refer to the following pages.

## 3.8. Radiated Emission Measurement Results

The frequency spectrum from 30 MHz to 1000MHz was investigated. All the emissions not reported below were too low against the CISPR 22 CLASS B limit.

Date of Test : Jun. 22, 1999 Temperature : 25.7 ℃

EUT : LCD Monitor, M/N V9901 Humidity : 50 %

Test Mode : 60KHz, 1024*768, 75Hz

| Frequency MHz | Antenna Factor dB/m | Cable Loss dB | Meter Reading Horizontal dBuV | Emission Level Horizontal dBuV/m | Limits dBuV/m | Margin dB |
|---|---|---|---|---|---|---|
| 67.500 | 12.34 | 2.01 | 8.22 | 22.57 | 30.00 | 7.43 |
| 80.000 | 13.22 | 2.14 | 5.53 | 20.89 | 30.00 | 9.11 |
| 84.637 | 14.06 | 2.20 | 8.58 | 24.84 | 30.00 | 5.16 |
| 118.150 | 18.71 | 2.43 | 6.43 | 27.57 | 30.00 | 2.43 |
| ***123.765** | **19.18** | **2.53** | **6.00** | **27.71** | **30.00** | **2.29** |
| 135.016 | 20.18 | 2.71 | - 2.11 | 20.78 | 30.00 | 9.22 |
| 157.532 | 20.79 | 2.81 | - 1.96 | 21.64 | 30.00 | 8.36 |
| 196.915 | 21.71 | 3.36 | 1.52 | 26.59 | 30.00 | 3.41 |
| 219.422 | 22.72 | 3.64 | - 2.96 | 23.40 | 30.00 | 6.60 |
| 225.050 | 22.87 | 3.70 | - 1.65 | 24.92 | 30.00 | 5.08 |
| 236.290 | 22.93 | 3.68 | 3.58 | 30.19 | 37.00 | 6.81 |
| 393.830 | 15.22 | 4.61 | 10.74 | 30.57 | 37.00 | 6.43 |
| 551.353 | 19.17 | 5.72 | 4.56 | 29.45 | 37.00 | 7.55 |
| 800.013 | 21.47 | 6.96 | 0.66 | 29.09 | 37.00 | 7.91 |
| 866.412 | 22.83 | 7.23 | 0.58 | 30.64 | 37.00 | 6.36 |

Remark :
1. All readings are Quasi-Peak values.
2. The worst emission was detected at 123.765MHz with corrected signal level of 27.71dBuV/m (limit is 30dBuV/m) when the antenna was at horizontal polarization and was at 4m high and the turn table was at 265 ° .
3. 0 ° was the table front facing the antenna. Degree is calculated from 0 ° clockwise facing the antenna.

Date of Test : Jun. 22, 1999 Temperature : 25.7 ℃

EUT : LCD Monitor, M/N V9901 Humidity : 50 %

Test Mode : 60KHz, 1024*768, 75Hz

| Frequency MHz | Antenna Factor dB/m | Cable Loss dB | Meter Reading Vertical dBuV | Emission Level Vertical dBuV/m | Limits dBuV/m | Margin dB |
|---|---|---|---|---|---|---|
| 33.999 | 21.90 | 1.50 | 1.20 | 24.60 | 30.00 | 5.40 |
| 56.239 | 15.37 | 1.90 | 5.50 | 22.77 | 30.00 | 7.23 |
| 67.518 | 13.66 | 2.01 | 10.43 | 26.10 | 30.00 | 3.90 |
| 78.765 | 14.47 | 2.15 | 9.07 | 25.69 | 30.00 | 4.31 |
| 112.507 | 17.46 | 2.39 | 5.40 | 25.25 | 30.00 | 4.75 |
| 118.150 | 17.58 | 2.43 | 3.63 | 23.64 | 30.00 | 6.36 |
| 123.766 | 17.69 | 2.53 | 4.39 | 24.61 | 30.00 | 5.39 |
| ***196.910** | **21.65** | **3.36** | **1.39** | **26.40** | **30.00** | **3.60** |
| 229.265 | 22.53 | 3.63 | - 2.24 | 23.92 | 30.00 | 6.08 |
| 236.290 | 23.32 | 3.68 | 5.51 | 32.51 | 37.00 | 4.49 |
| 393.820 | 15.81 | 4.61 | 9.36 | 29.78 | 37.00 | 7.22 |
| 433.212 | 16.46 | 5.13 | 4.15 | 25.74 | 37.00 | 11.26 |
| 472.584 | 17.02 | 5.23 | 1.33 | 23.58 | 37.00 | 13.42 |
| 551.359 | 18.92 | 5.72 | 4.13 | 28.77 | 37.00 | 8.23 |
| 600.000 | 19.03 | 5.87 | - 0.79 | 24.11 | 37.00 | 12.89 |
| 708.875 | 19.60 | 6.49 | - 0.54 | 25.55 | 37.00 | 11.45 |
| 800.000 | 21.80 | 6.96 | 0.67 | 29.43 | 37.00 | 7.57 |
| 866.400 | 23.15 | 7.23 | 0.13 | 30.51 | 37.00 | 6.49 |

Remark :
1. All readings are Quasi-Peak values.
2. The worst emission was detected at 196.910MHz with corrected signal level of 26.40dBuV/m (limit is 30dBuV/m) when the antenna was at vertical polarization and was at 1m high and the turn table was at 320 ° .
3. 0 ° was the table front facing the antenna. Degree is calculated from 0 ° clockwise facing the antenna.

# 4. DEVIATION TO TEST SPECIFICATIONS

【 NONE 】

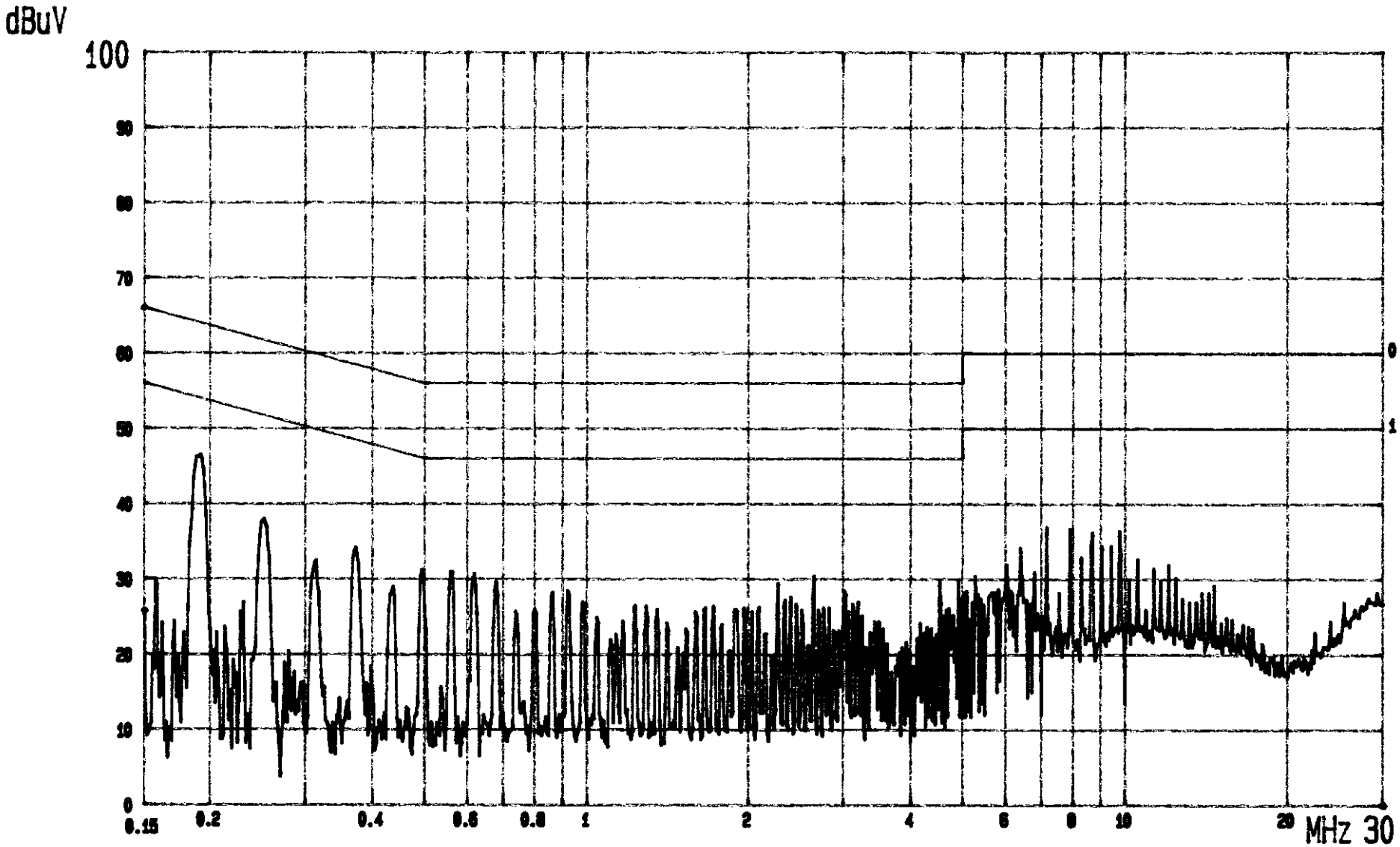
# 5. MODIFICATIONS TO EUT

1. Added 22pF capacitors on the CP1 ~ CP9.
2. Added ferrite beads on the RP1~RP9.
3. Added ferrite beads on the R6~R9.
4. Added a 22pF bypass capacitor on the Pin 117 of U2.
5. Added a ferrite bead on the Pin 117 of U2.
6. Added a 22pF bypass capacitor on the Pin 116 of U2.
7. Added 33pF bypass capacitors on the Pin 1, 10, 13 and Pin 14 of U7.
8. Added a 100000pF bypass capacitor on the Pin 2 of U7.
9. Changed resistor R28 into ferrite bead.
10. Added a 33Ω resistor on the Pin 51 of U9.
11. Used a shielding mesh on the CN1 cable and CN6 cable.
12. Used a shielding mesh and added a ferrite core on the CN4 cable.
13. Added a ferrite core with 2 turns on the JP3 cable.
14. Added a ferrite core with 2 turns on the CO1 cable.
15. Added 120pF bypass capacitors on the Pin 2, 3 and a 10000pF bypass capacitor on the Pin 1 of DP1, DP2, DP3 and DP4.
16. Added 120pF bypass capacitors on the Pin 2, 3 and a 10000pF bypass capacitor on the Pin 1 of VP1.
17. Added conductive tape between LCD's shielding plate and main board's shielding plate.
18. Added conductive tape on the shielding plate of main board (back side).

# APPENDIX I

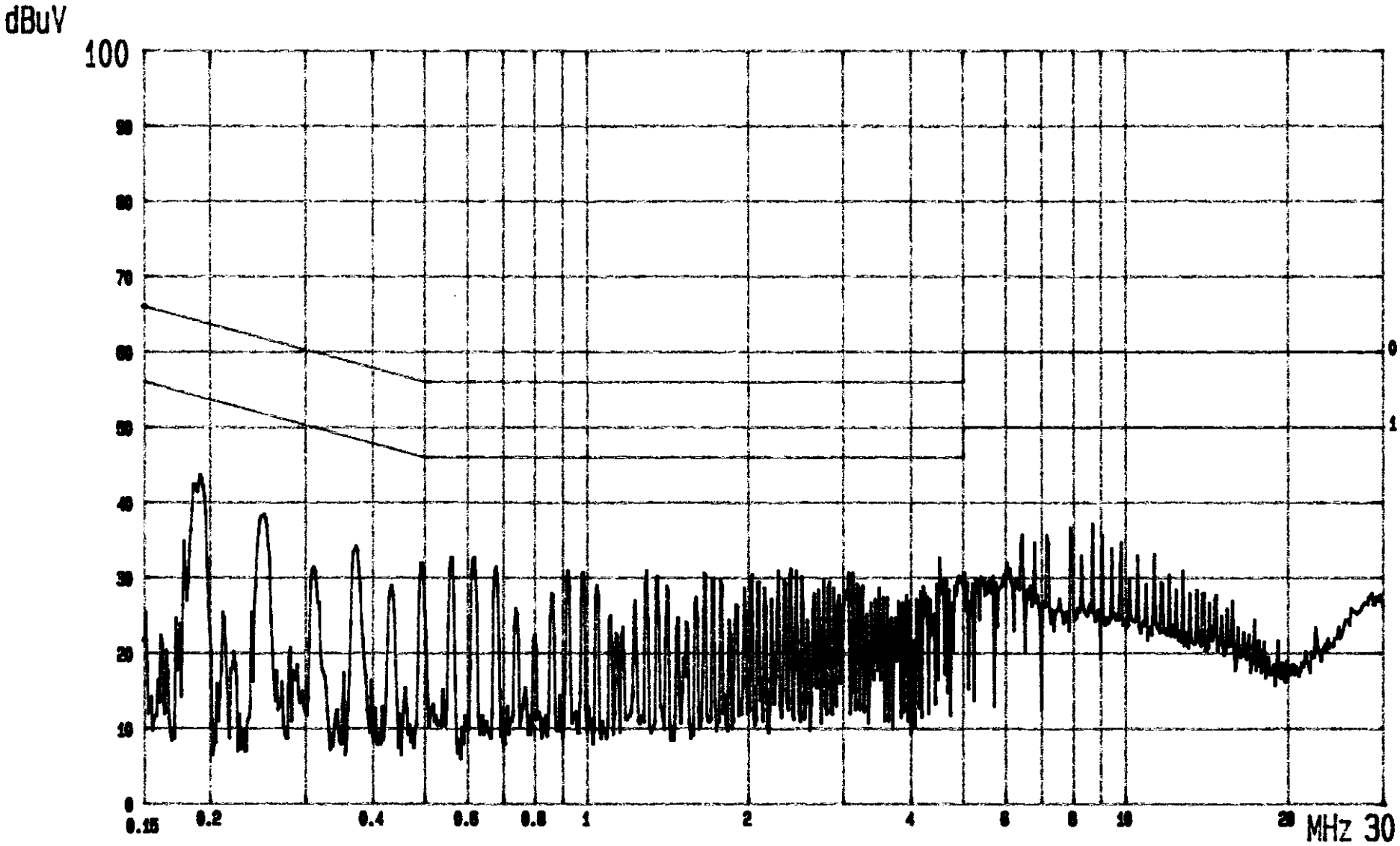
## Conducted Test Data

(Total Pages : 4)

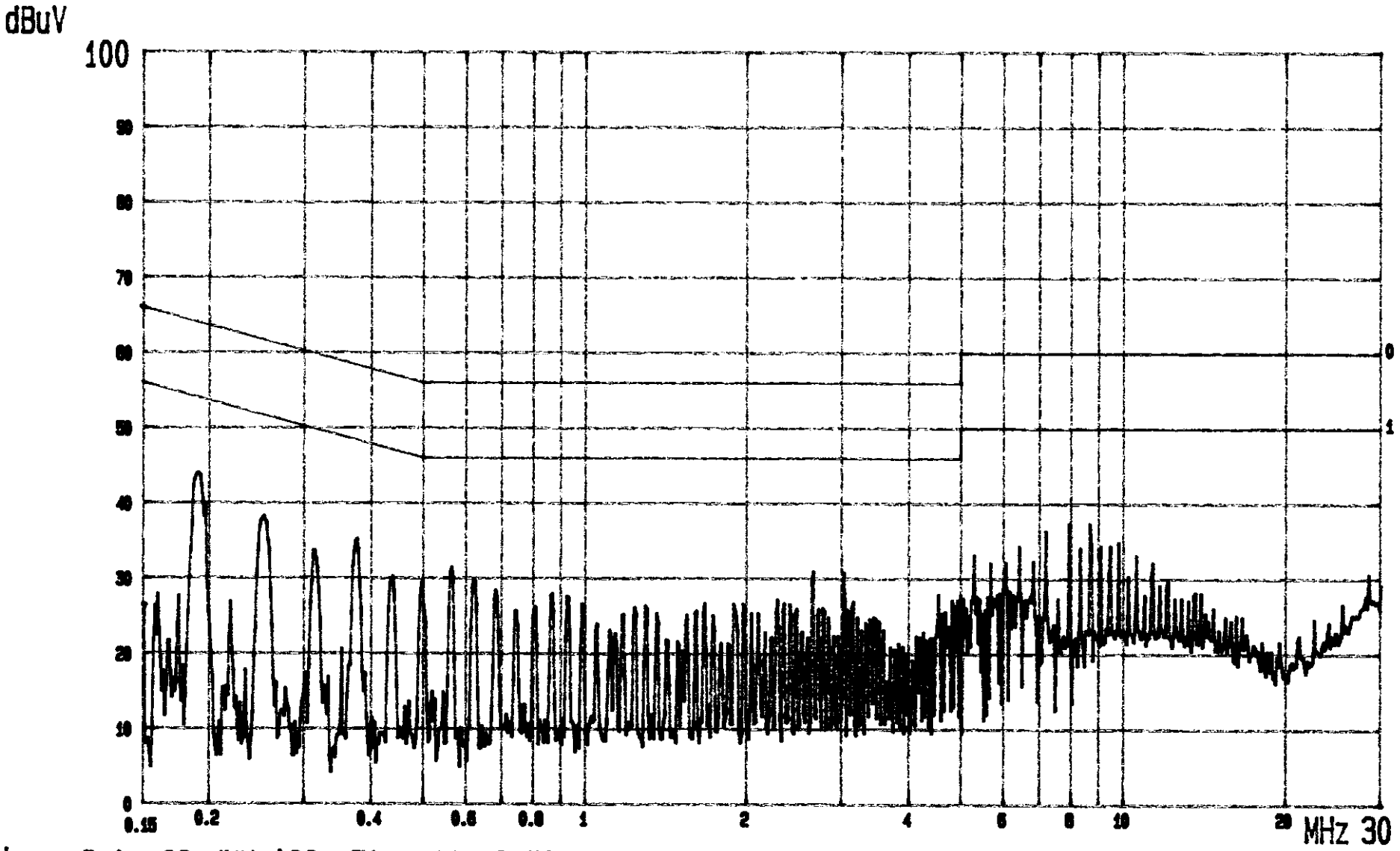



|--- Date 23.JUN.'99 Time 11:01:05
SOURCE EUT: LCD MONITOR M/N: VW 9901
LINE: VA. MEMO: 38KHz (640X480; 72Hz)

120V/60Hz PAGE: 02.
(PEAK VALUE) TTEMC.

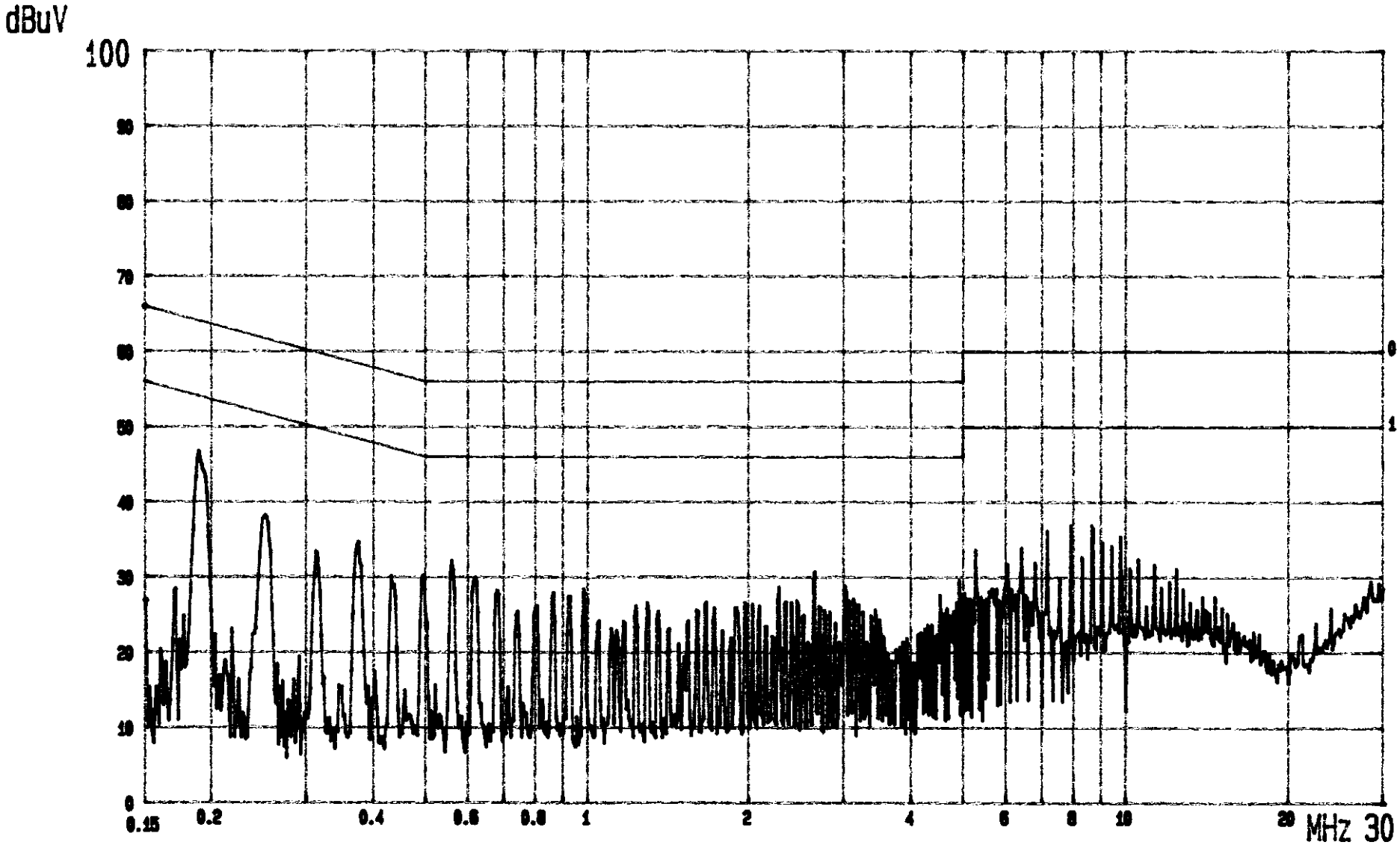



|--- Date 23.JUN.'99 Time 10:59:20
SOURCE EUT: LCD MONITOR M/N: VW 9901 120V/60Hz PAGE: 01.
LINE: VB. MEMO: 38KHz (640X480; 72Hz) (PEAK VALUE) TTEMC.




|--- Date 23.JUN.'99 Time 11:16:52
SOURCE EUT: LCD MONITOR M/N: VW 9901
LINE: VA. MEMO: 48KHz (800X600; 75Hz)

120V/60Hz PAGE: 01.
(PEAK VALUE) TTEMC.




| --- Date 23.JUN.'99 Time 11:03:11
SOURCE EUT: LCD MONITOR M/N: VW 9901
LINE: VB. MEMO: 48KHz (800X600; 75Hz)

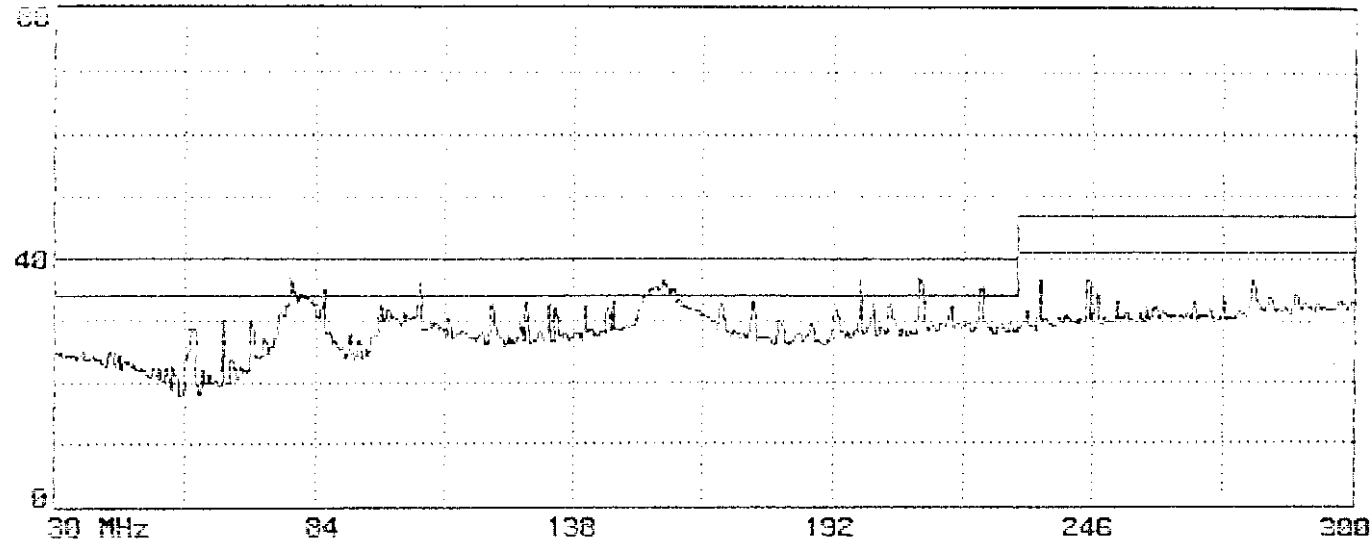
120V/60Hz PAGE: 02.
(PEAK VALUE) TTEMC.

# APPENDIX II

## Radiated Test Data at Anechoic Chamber

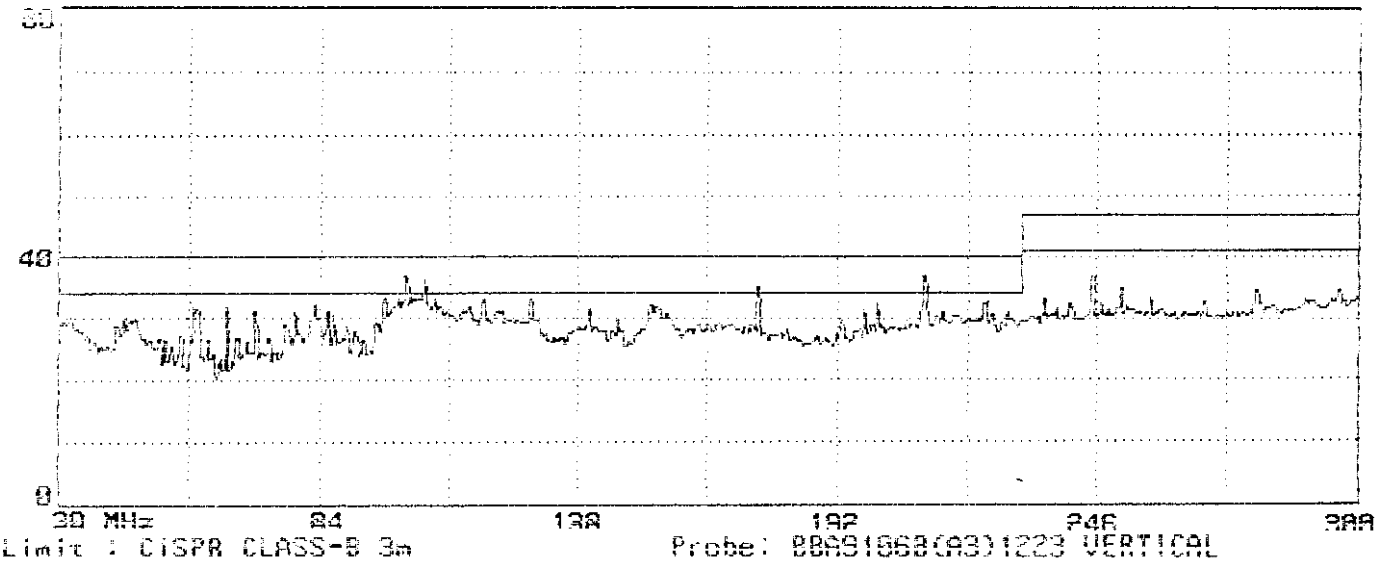
(Total Pages : 6)

Page#: 35 SP File#: SOURCE.EI Date: 06-19-1999 Time: 10:45:42
dBuV/m ANECHOIC CHAMBER TAIWAN TOKIN EMC ENG. CORP.



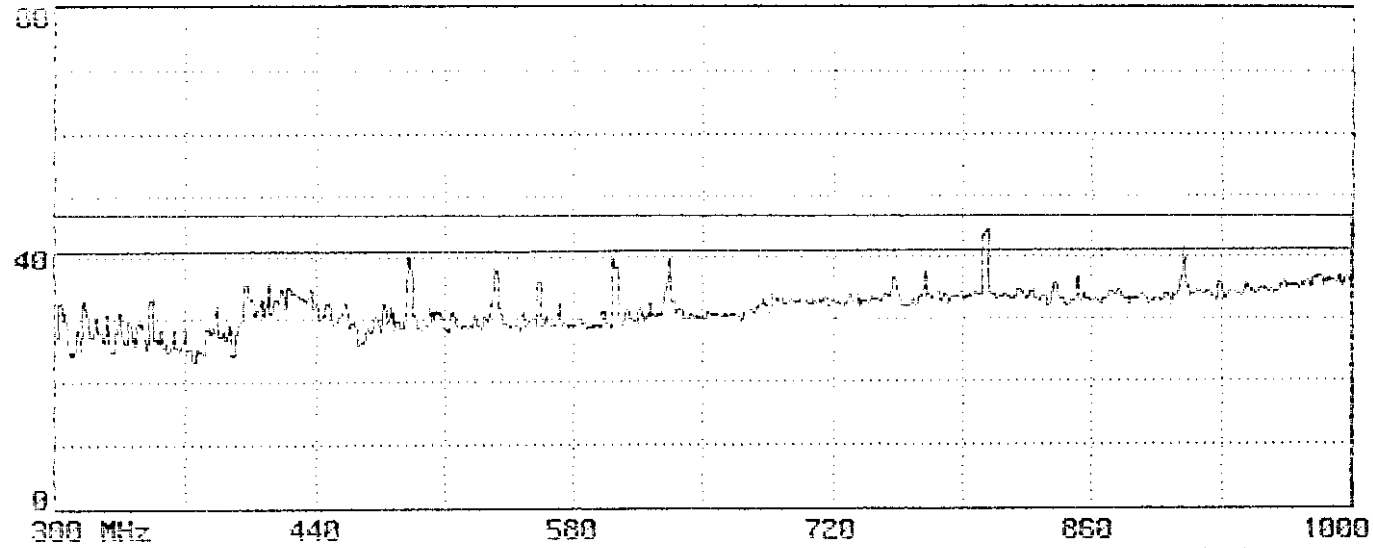

Limit : CISPR CLASS-B 3m Probe: 88A91068(A3)1223 HORIZONTAL
EUT : LCD MONITOR M/N:VW3901 Power: 120Vac;60Hz
Margin: 6d8 Standard: 0 Trace: 35, 0, 0, 0, 0
Memo : 38KHz(640*480:72Hz)

Page#: 36 SP File#: SOURCE.EI Date: 06-19-1999 Time: 10:45:59
dBuV/m ANECHOIC CHAMBER TAIWAN TOKIN EMC ENG. CORP.



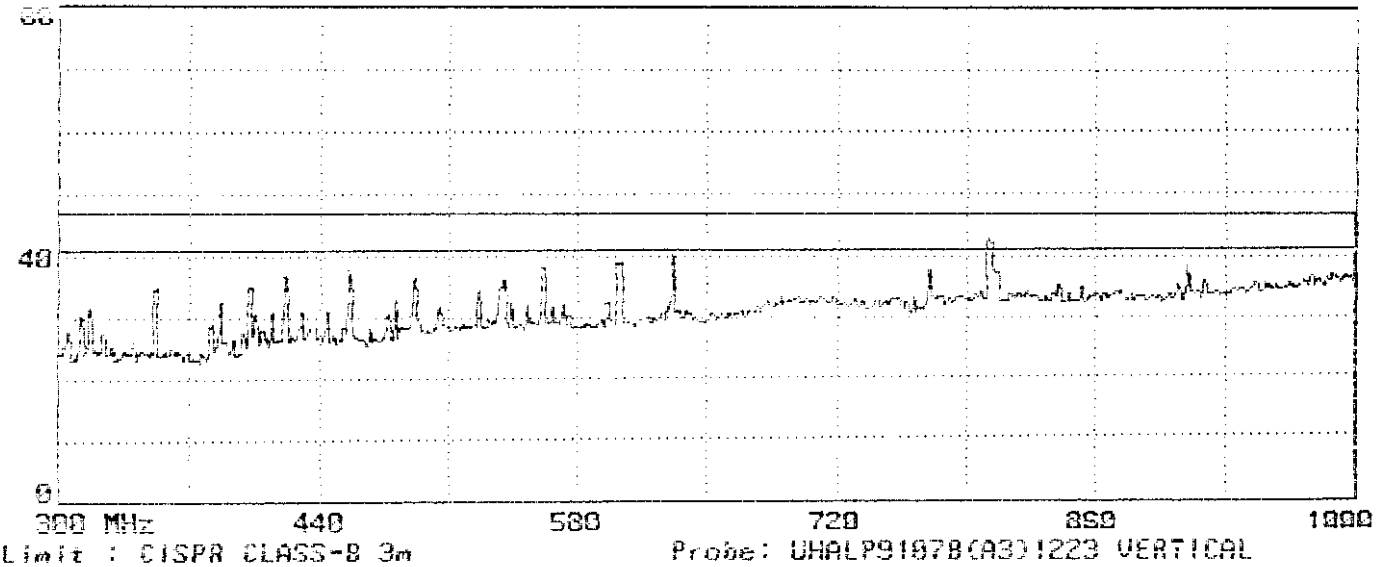

Limit : CISPR CLASS-B 3m Probe: 88A91068(A3)1223 VERTICAL
EUT : LCD MONITOR M/N:VW3901 Power: 120Vac;60Hz
Margin: 6d8 Standard: 0 Trace: 36, 0, 0, 0, 0
Memo : 38KHz(640*480:72Hz)

Page#: 37 SP File#: SOURCE.E1 Date: 06-19-1999 Time: 19:49:22
dBuV/m ANECHOIC CHAMBER TAIWAN TOKIN EMC ENG. CORP.



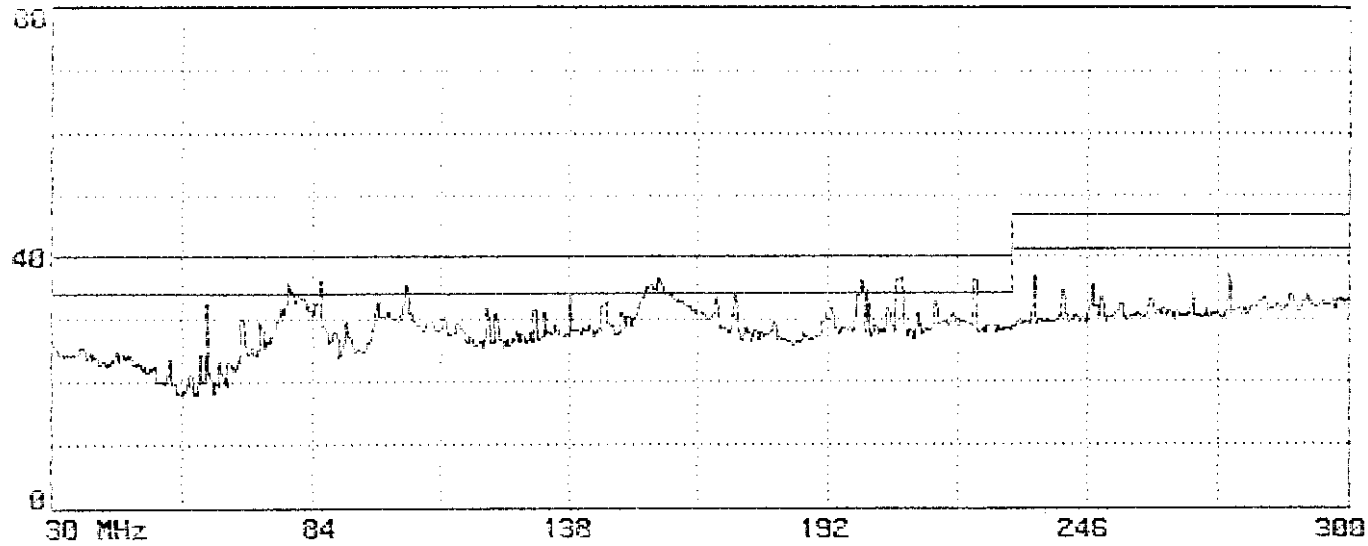

Limit : CISPR CLASS-B 3m Probe: UHALP9107B(A3)1223 HORIZONTAL
EUT : LCD MONITOR M/N:VW9901 Power: 120Vac;60Hz
Margin: 6dB Standard: 0 Trace: 37, 0, 0, 0, 0
Memo : 38KHz(640*480;72Hz)

Page#: 38 SP File#: SOURCE.E1 Date: 06-19-1999 Time: 19:50:25
dBuV/m ANECHOIC CHAMBER TAIWAN TOKIN EMC ENG. CORP.



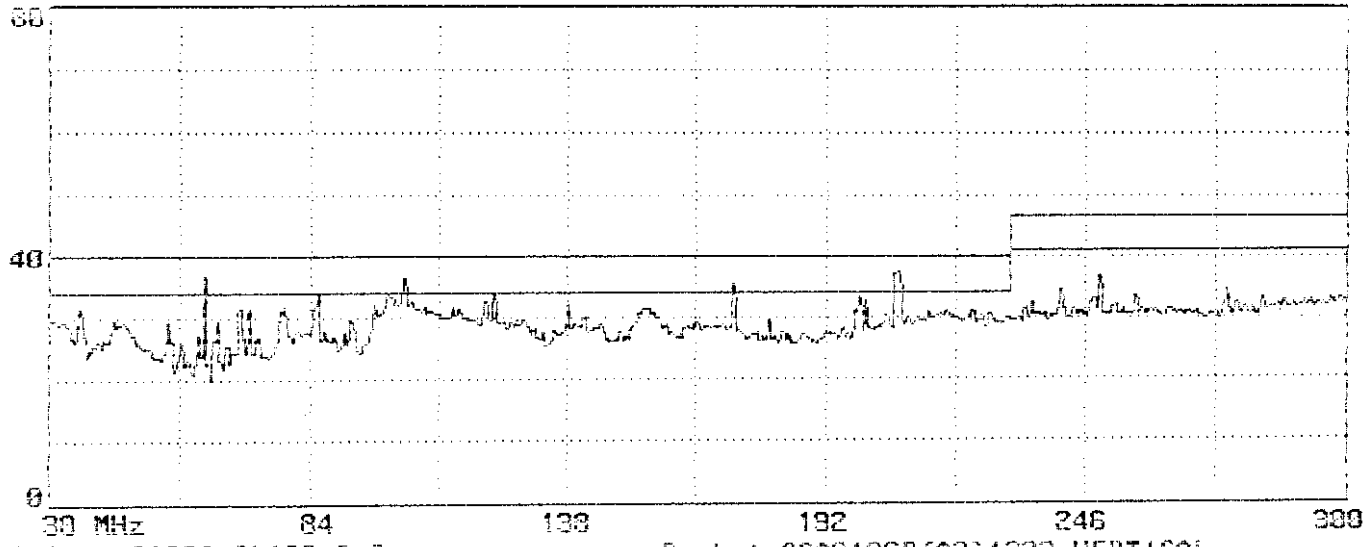

Limit : CISPR CLASS-B 3m Probe: UHALP9107B(A3)1223 VERTICAL
EUT : LCD MONITOR M/N:VW9901 Power: 120Vac;60Hz
Margin: 6dB Standard: 0 Trace: 38, 0, 0, 0, 0
Memo : 38KHz(640*480;72Hz)

Page#: 33 SP File#: SOURCE.E1 Date: 06-19-1999 Time: 10:42:01
dBuV/m ANECHOIC CHAMBER TAIWAN TOKIN EMC ENG. CORP.



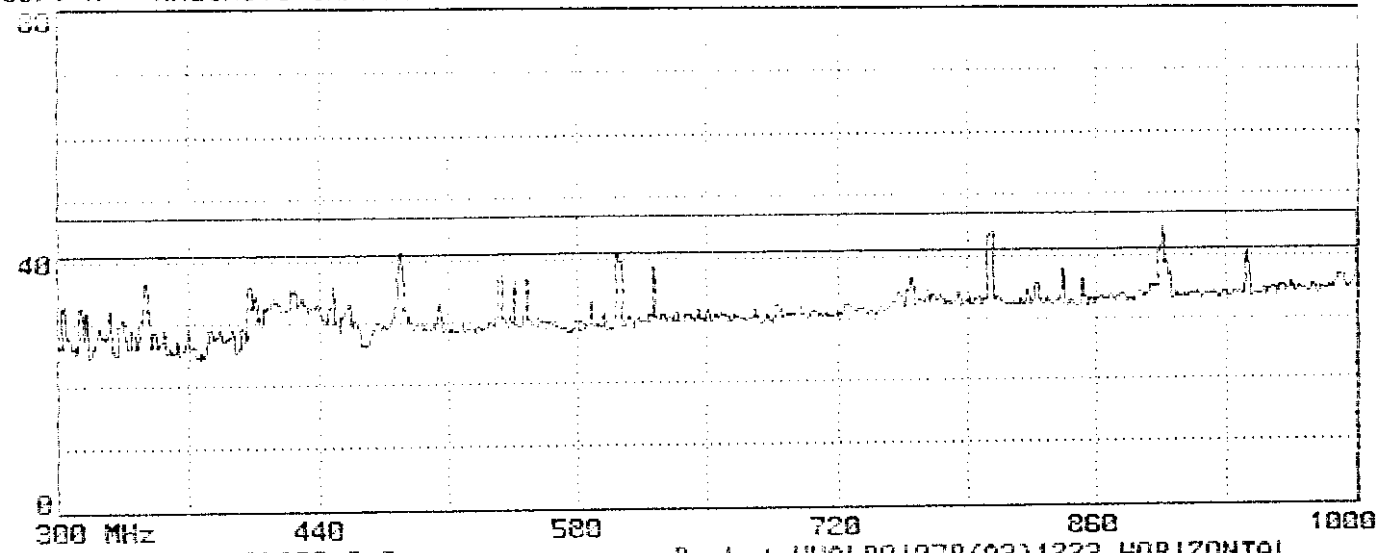

Limit : CISPR CLASS-B 3m Probe: 88A91068(A3)1223 HORIZONTAL
EUT : LCD MONITOR M/N:VW9901 Power: 120Vac;60Hz
Margin: 6dB Standard: B Trace: 33, 0, 0, 0, 0
Memo : 48KHz(800*600;75Hz)

Page#: 34 SP File#: SOURCE.E1 Date: 06-19-1999 Time: 10:43:05
dBuV/m ANECHOIC CHAMBER TAIWAN TOKIN EMC ENG. CORP.




Limit : CISPR CLASS-B 3m Probe: 88A91068(A3)1223 VERTICAL
EUT : LCD MONITOR M/N:VW9901 Power: 120Vac;60Hz
Margin: 6dB Standard: B Trace: 34, 0, 0, 0, 0
Memo : 48KHz(800*600;75Hz)

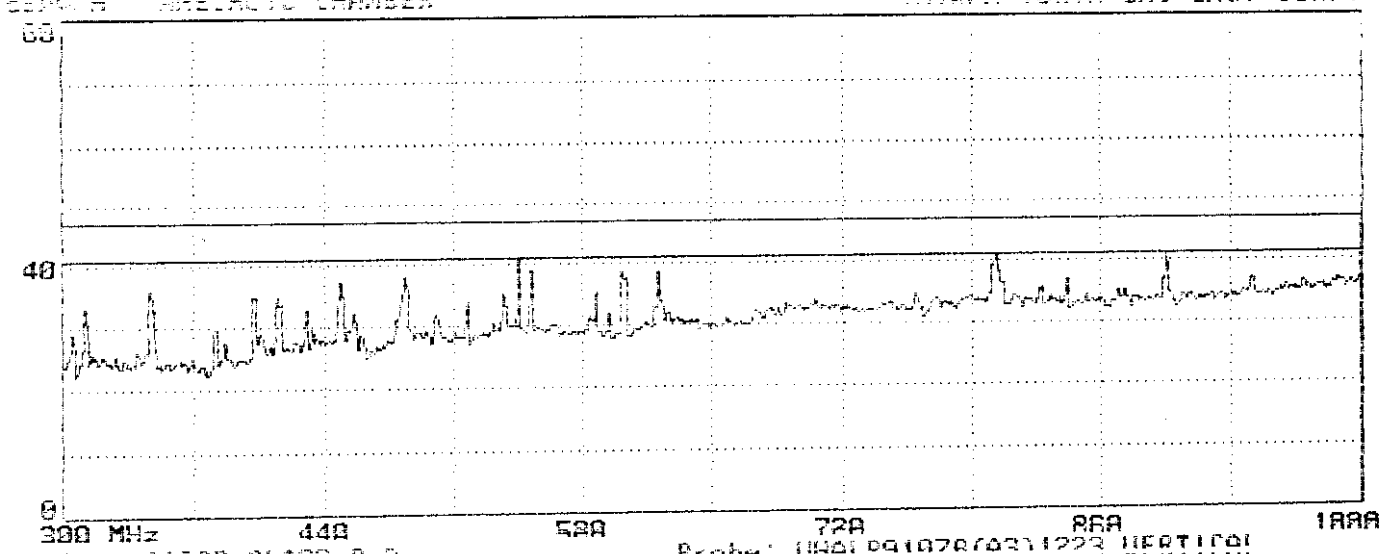
Page#: 31 SP File#: SOURCE.E1 Date: 06-19-1999 Time: 10:38:22




Limit : CISPR CLASS-B 3m
EUT : LCD MONITOR M/N:VW9901
Margin: 6d8 Standard: 0
Memo : 48KHz(800*600;75Hz)

Probe: UHALP9107B(A3)1223 HORIZONTAL
Power: 120Vac;60Hz
Trace: 31, 0, 0, 0, 0

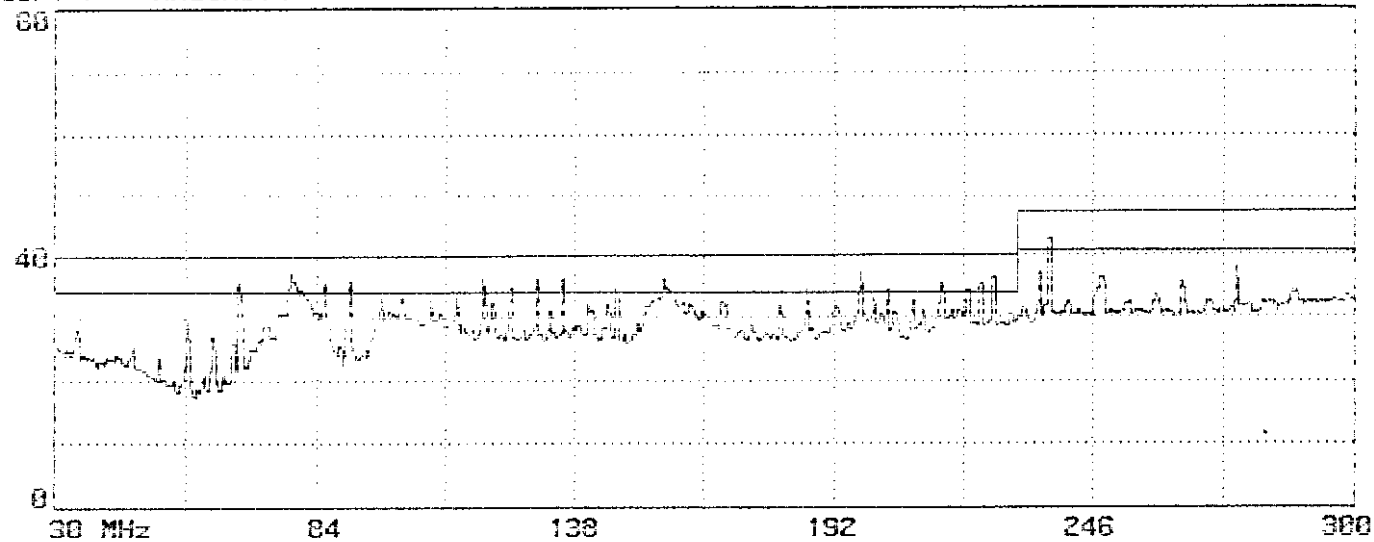
Page#: 32 SP File#: SOURCE.E1 Date: 06-19-1999 Time: 10:39:22




Limit : CISPR CLASS-B 3m
EUT : LCD MONITOR M/N:VW9901
Margin: 6d8 Standard: 0
Memo : 48KHz(800*600;75Hz)

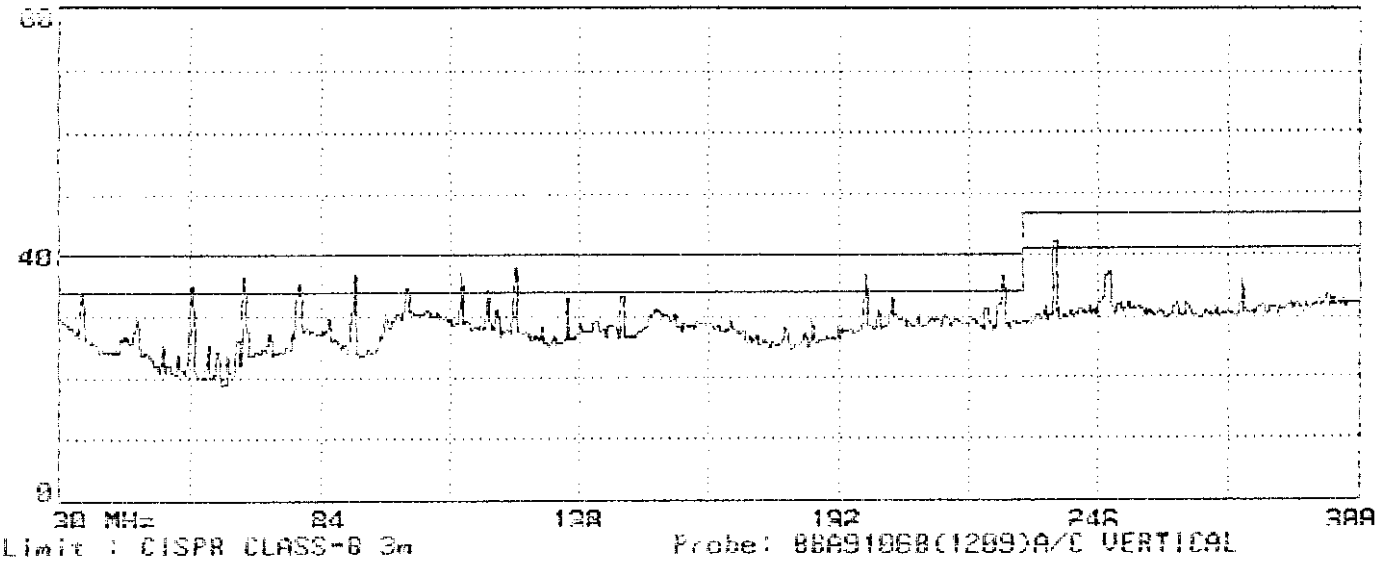
Probe: UHALP9107B(A3)1223 VERTICAL
Power: 120Vac;60Hz
Trace: 32, 0, 0, 0, 0

Page#: 27 SP File#: SOURCE.EI Date: 06-19-1999 Time: 10:28:15
dBuV/m ANECHOIC CHAMBER TAIWAN TOKIN EMC ENG. CORP.



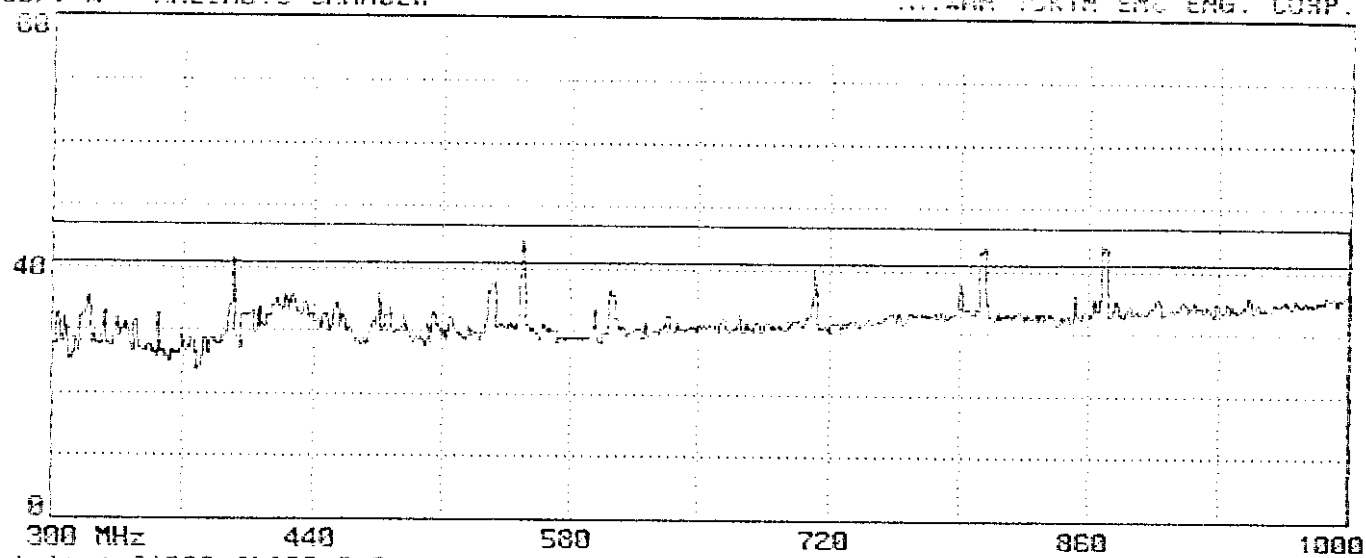

Limit : CISPR CLASS-B 3m Probe: BBA9106B(1209)A/C HORIZONTAL
EUT : LCD MONITOR M/N:VW9901 Power: 120Vac;60Hz
Margin: 6dB Standard: 0 Trace: 27, 0, 0, 0, 0
Memo : 60KHz(1024*768;75Hz)

Page#: 28 SP File#: SOURCE.EI Date: 06-19-1999 Time: 10:29:26
dBuV/m ANECHOIC CHAMBER TAIWAN TOKIN EMC ENG. CORP.



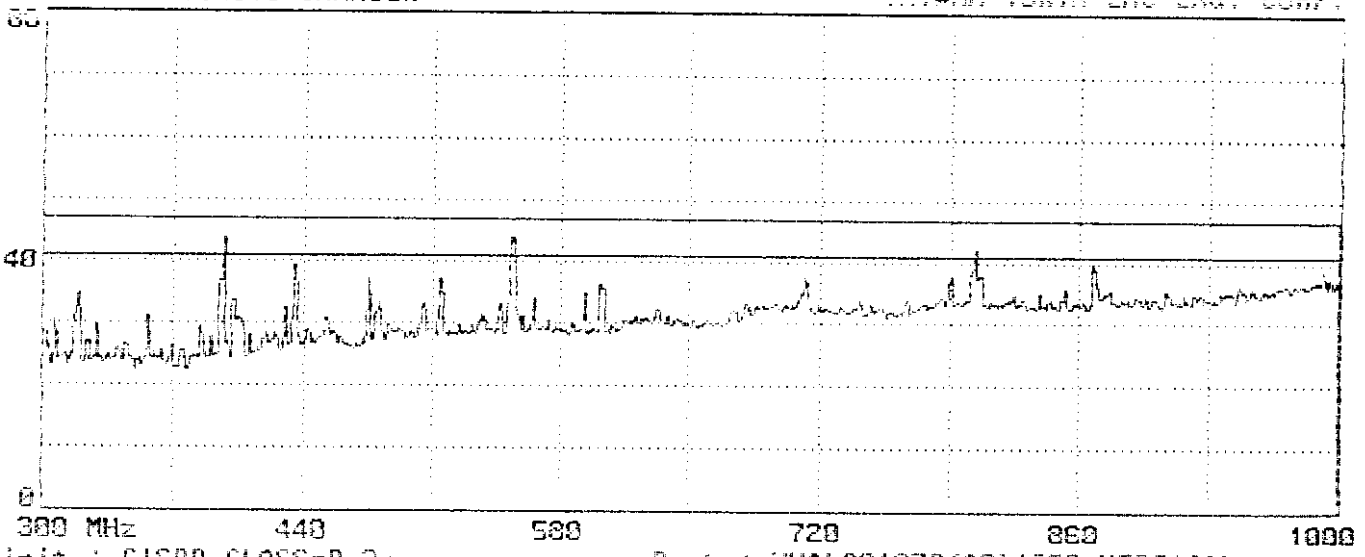

Limit : CISPR CLASS-B 3m Probe: BBA9106B(1209)A/C VERTICAL
EUT : LCD MONITOR M/N:VW9901 Power: 120Vac;60Hz
Margin: 6dB Standard: 0 Trace: 28, 0, 0, 0, 0
Memo : 60KHz(1024*768;75Hz)

Page#: 29 SP File#: SOURCE.E1 Date: 06-19-1999 Time: 10:31:50
dBuV/m ANECHOIC CHAMBER TAIWAN TOKIN EMC ENG. CORP.




Limit : CISPR CLASS-B 3m Probe: UHALP9107B(A3)1223 HORIZONTAL
EUT : LCD MONITOR M/N:VW9901 Power: 120Vac;60Hz
Margin: 6dB Standard: 0 Trace: 29, 0, 0, 0, 0
Memo : 60KHz(1024*768;75Hz)

Page#: 30 SP File#: SOURCE.E1 Date: 06-19-1999 Time: 10:32:39
dBuV/m ANECHOIC CHAMBER TAIWAN TOKIN EMC ENG. CORP.




Limit : CISPR CLASS-B 3m Probe: UHALP9107B(A3)1223 VERTICAL
EUT : LCD MONITOR M/N:VW9901 Power: 120Vac;60Hz
Margin: 6dB Standard: 0 Trace: 30, 0, 0, 0, 0
Memo : 60KHz(1024*768;75Hz)