

# FCC TEST REPORT

**REPORT NO.:** F910126A01

**MODEL NO.:** 9512-A\*\*

**PRODUCT NAME:** T541

**RECEIVED:** Jan. 26, 2002

**TESTED:** Feb. 1, 2002

**APPLICANT:** Top Victory Electronics (Taiwan) Co., Ltd.

**ADDRESS:** 18F, No. 738, Chung Cheng Road, Chung Ho,  
Taipei Hsien, Taiwan 235

**ISSUED BY:** Advance Data Technology Corporation

**LAB LOCATION:** 47 14<sup>th</sup> Lin, Chiapau Tsun, Linko, Taipei,  
Taiwan, R.O.C.

This test report consists of 24 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by CNLA, NVLAP or any government agencies. The test results in the report only apply to the tested sample.



0528  
ILAC MRA



Lab Code: 200102-0



## Table of Contents

1	CERTIFICATION.....	3
2	SUMMARY OF TEST RESULTS .....	4
3	GENERAL INFORMATION .....	5
3.1	GENERAL DESCRIPTION OF EUT .....	5
3.2	DESCRIPTION OF TEST MODES .....	5
3.3	DESCRIPTION OF SUPPORT UNITS.....	7
4	EMISSION TEST .....	8
4.1	CONDUCTED EMISSION MEASUREMENT.....	8
4.1.1	LIMITS OF CONDUCTED EMISSION MEASUREMENT.....	8
4.1.2	TEST INSTRUMENTS.....	8
4.1.3	TEST PROCEDURE .....	9
4.1.4	DEVIATION FROM TEST STANDARD .....	9
4.1.5	TEST SETUP.....	9
4.1.6	EUT OPERATING CONDITIONS .....	10
4.1.7	TEST RESULTS (A) .....	11
4.1.8	TEST RESULTS (B) .....	13
4.1.9	TEST RESULTS (C).....	15
4.2	RADIATED EMISSION MEASUREMENT .....	17
4.2.1	LIMITS OF RADIATED EMISSION MEASUREMENT .....	17
4.2.2	TEST INSTRUMENTS.....	18
4.2.3	TEST PROCEDURE .....	18
4.2.4	DEVIATION FROM TEST STANDARD .....	19
4.2.5	TEST SETUP.....	19
4.2.6	EUT OPERATING CONDITIONS .....	19
4.2.7	TEST RESULTS.....	20
5	PHOTOGRAPHS OF THE TEST CONFIGURATION.....	22
6	APPENDIX - INFORMATION ON THE TESTING LABORATORIES.....	24



## 1 CERTIFICATION

**PRODUCT:** 15" LCD MONITOR  
**BRAND NAME:** IBM  
**MODEL NO.:** 9512-A\*\*  
**PRODUCT NAME:** T541  
**TEST ITEM:** ENGINEERING SAMPLE  
**APPLICANT:** TOP VICTORY ELECTRONICS (TAIWAN) CO., LTD.  
**STANDARDS:** FCC Part 15, Subpart B, Class B  
CISPR 22: 1997, Class B  
ANSI C63.4-1992

We, **Advance Data Technology Corporation**, hereby certify that one sample (Model: 9512-A\*\*) of the designation has been tested in our facility on Feb. 1, 2002. The test record, data evaluation and Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions herein specified.

TESTED BY: David Liu, DATE: Feb. 5. 2002  
( David Liu )

CHECKED BY: Eric Chang, DATE: Feb. 5. 2002.  
( Eric Chang )

APPROVED BY: Mike Su, DATE: Feb. 5. 2002.  
( Mike Su, Manager )

## 2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

Standard	Test Type	Result	Remarks
FCC Part 15, Subpart B, Class B	Conducted Test	PASS	Meets Class B Limit Minimum passing margin is -15.29 dB at 0.201 MHz
CISPR 22: 1997, Class B	Radiated Test	PASS	Meets Class B Limit Minimum passing margin is -2.1 dB at 86.46 MHz

**NOTE:** For conducted emission test, the test limit used is according to FCC Part 15.107. In this part, conducted emission test for telecom port is not mentioned and therefore this item is not tested.



### 3 GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

<b>PRODUCT</b>	15" LCD MONITOR
<b>MODEL NO.</b>	9512-A**
<b>PRODUCT NAME</b>	T541
<b>POWER SUPPLY</b>	Switching Power adapters Power Cord: Non-shielded AC, 3 pin (1.8m) Non-shielded DC (1.8m) with a ferrite core
<b>DATA CABLE</b>	VGA Shielded (1.8m) with a ferrite core

**NOTE:** This report is a FCC Class II Permissive Change report of the original one received grant on July 5, 1999. The main changes are the change of model name, brand name, outer appearance and construction.

The EUT is a 15" LCD MONITOR with resolution up to 1024x768.

The "\*" in the model: 9512-A\*\* could be defined as A~Z, 0~9 according to different color of outer appearance.

Brand	Model	Difference
IBM	9512-A**	(9512-AW1) Analog Pearl White
		(9512-AB1) Analog Stealth Black

For the final test, model: 9512-AB1 was selected as the representative model for the test and its data is recorded in this report.

For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

#### 3.2 DESCRIPTION OF TEST MODES

The EUT was tested with the following power adapters:

Power adapter	1	2	3
Brand	Samsung	SINO-AMERICAN	ACBEL
Model	AD-4214N	SA165A-1540-3	API9698
Input rating	100-240V, 1.0-0.5A, 50/60Hz	100-240V, 1.0-0.5A, 50/60Hz	100-240V, 1.0-0.5A, 50/60Hz
Output rating	14V, 3.0A	14V, 3.0A	14V, 3.0A



For conducted test the EUT was tested with each power adapters, for radiated test the EUT was tested with power adapter ( Brand: Samsung, model: AD4214N).

The EUT was pre-tested under the following resolution & horizontal synchronization speed modes:

- ◆ 1024x768 mode (75Hz/60kHz),
- ◆ 800x600 mode (75Hz/46.9kHz),
- ◆ 640x480 mode (60Hz/31.5kHz)

The worst emission levels were found when the EUT was tested under **1024x768 mode (75Hz/60kHz)** resolution. Therefore, only the test data of EUT tested under this mode is recorded in this report.



### 3.3 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 were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Personal Computer	COMPAQ	EXM/P733/15C/9/64V TAI	7045FR4Z0022	FCC DoC Approved
2	PRINTER	HP	2225C+	2930S52725	DSI6XU2225
3	MODEM	ACEEX	1414	980020522	IFAXDM1414
4	KEYBOARD	BTC	5121W	A00800773	E5XKB5121WTH0110
5	PS2/MOUSE	LOGITECH	M-S61	HCA12014420	JNZ211403
6	VGA CARD	ELSA	ERAZOR III LT	0105017188	FCC DoC Approved

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	1.2m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core.
3	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.
4	1.6 m foil shielded wire, terminated with PS/2 connector via metallic frame, w/o core.
5	1.8 m Non shielded wire, terminated with PS/2 connector via drain wire, w/o core.
6	NA

**NOTE:** All power cords of the above support units are non-shielded (1.8m).



## 4 EMISSION TEST

### 4.1 CONDUCTED EMISSION MEASUREMENT

#### 4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

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

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

(3) All emanations 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.

#### 4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESHS 30	838765/002	July. 21, 2002
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	835239/001	May 20, 2002
ROHDE & SCHWARZ 4-wire ISN	ENY41	935154/007	May 13, 2002
ROHDE & SCHWARZ 2-wire ISN	ENY22	833823/026	May 9, 2002
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	835239/002	May 20, 2002
Software	Cond-V2L	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C09.01	June 10, 2002
JYEBAO Terminator (For ROHDE & SCHWARZ LISN)	BNC 3950-0000	E1-01-379	June 13, 2002
Shielded Room	Site 9	ADT-C09	NA
VCCI Site Registration No.	Site 9	C-1312	NA

**NOTE:** 1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS 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. “\*”: These equipment are used for conducted telecom port test only (if tested).



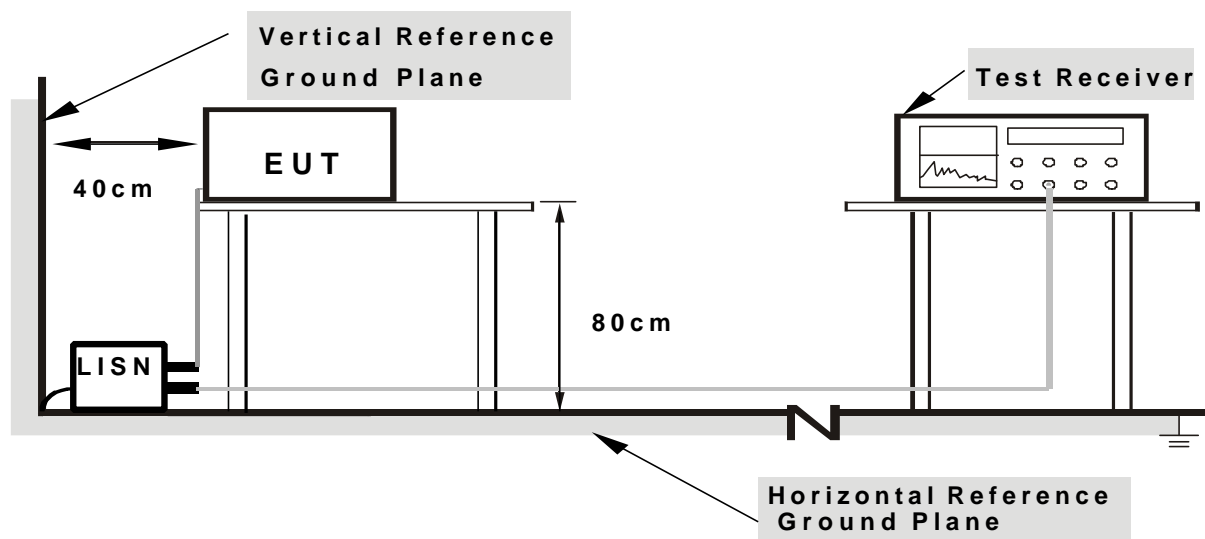
### 4.1.3 TEST PROCEDURE

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels over 10dB under the prescribed limits could not be reported.

### 4.1.4 DEVIATION FROM TEST STANDARD

No deviation

### 4.1.5 TEST SETUP



**Note: 1. Support units were connected to second LISN.**

**2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes**

For the actual test configuration, please refer to the related Item – Photographs of the Test Configuration.



#### **4.1.6 EUT OPERATING CONDITIONS**

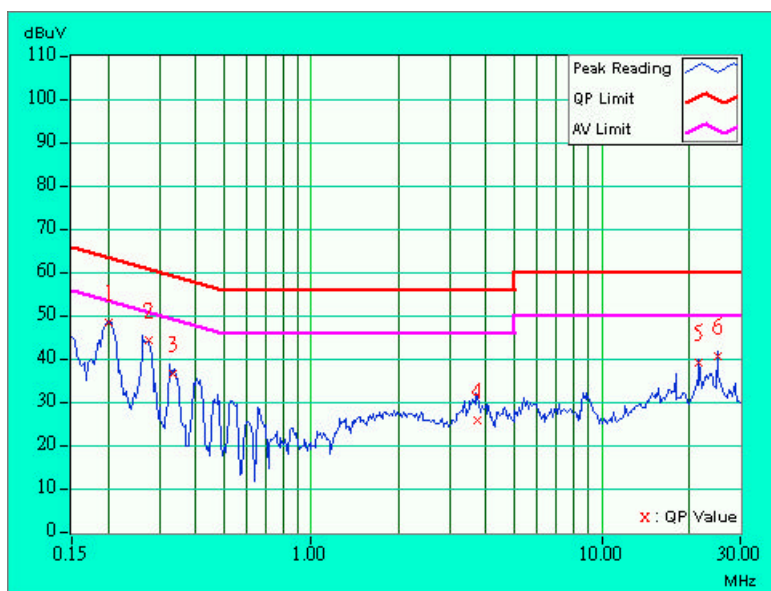
- a. Turned on the power of all equipment.
- b. PC ran a test program to enable all functions.
- c. PC read and wrote messages from FDD and HDD.
- d. PC sent "H" messages to monitor (EUT) and monitor displayed "H" patterns on screen.
- e. PC sent "H" messages to modem.
- f. PC sent "H" messages to printer, and the printer printed them on paper.
- g. PC sent audio messages to speakers.
- h. Steps c-h were repeated.

### 4.1.7 TEST RESULTS (A)

<b>EUT</b>	15" LCD MONITOR	<b>MODEL NO.</b>	9512-AB1
<b>MODE</b>	W/ Power adapter 1	<b>6dB BANDWIDTH</b>	10 kHz
<b>INPUT POWER</b>	120Vac, 60 Hz	<b>PHASE</b>	Line (L)
<b>ENVIRONMENTAL CONDITIONS</b>	18 deg. C, 75 % RH, 1005 hPa	<b>TESTED BY:</b> David Liu	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.200	0.10	47.45	-	47.55	-	63.62	53.62	-16.07	-
2	0.275	0.10	43.33	-	43.43	-	60.98	50.98	-17.55	-
3	0.336	0.10	35.57	-	35.67	-	59.31	49.31	-23.64	-
4	3.715	0.29	25.02	-	25.31	-	56.00	46.00	-30.69	-
5	21.610	0.93	38.31	-	39.24	-	60.00	50.00	-20.76	-
6	25.242	1.00	39.60	-	40.60	-	60.00	50.00	-19.40	-

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value = Emission level - Limit value
  5. Correction factor = Insertion loss + Cable loss
  6. Emission Level = Correction Factor + Reading Value.

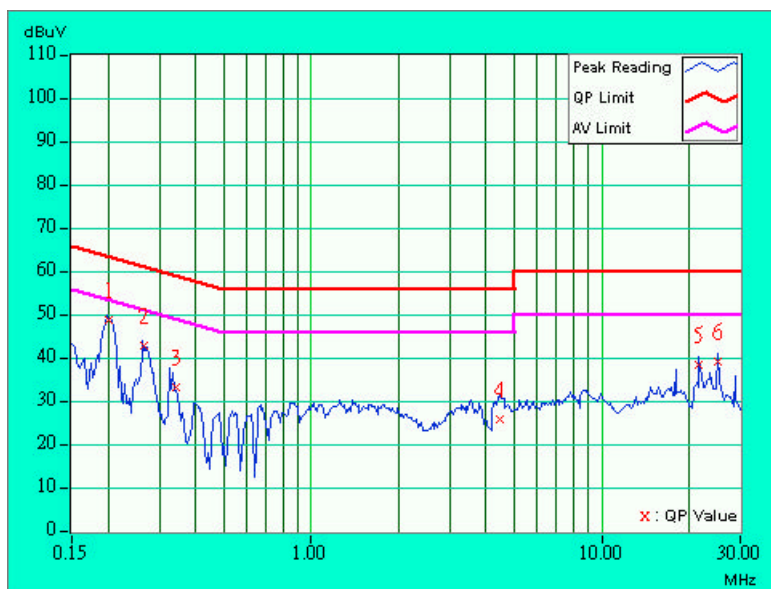




<b>EUT</b>	15" LCD MONITOR	<b>MODEL NO.</b>	9512-AB1
<b>MODE</b>	W/ Power adapter 1	<b>6dB BANDWIDTH</b>	10 kHz
<b>INPUT POWER</b>	120Vac, 60 Hz	<b>PHASE</b>	Neutral (N)
<b>ENVIRONMENTAL CONDITIONS</b>	18 deg. C, 75 % RH, 1005 hPa	<b>TESTED BY:</b> David Liu	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.10	48.19	-	48.29	-	63.58	53.58	-15.29	-
2	0.266	0.10	42.01	-	42.11	-	61.25	51.25	-19.14	-
3	0.345	0.10	32.54	-	32.64	-	59.09	49.09	-26.45	-
4	4.459	0.32	25.13	-	25.45	-	56.00	46.00	-30.55	-
5	21.611	0.73	37.81	-	38.54	-	60.00	50.00	-21.46	-
6	25.184	0.81	38.52	-	39.33	-	60.00	50.00	-20.67	-

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value = Emission level - Limit value
  5. Correction factor = Insertion loss + Cable loss
  6. Emission Level = Correction Factor + Reading Value.

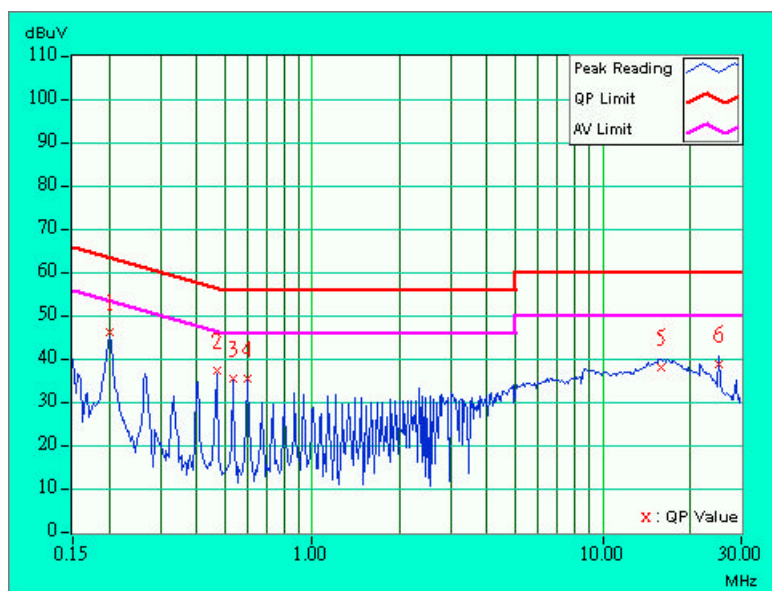


#### 4.1.8 TEST RESULTS (B)

<b>EUT</b>	15" LCD MONITOR	<b>MODEL NO.</b>	9512-AB1
<b>MODE</b>	W/ Power adapter 2	<b>6dB BANDWIDTH</b>	10 kHz
<b>INPUT POWER</b>	120Vac, 60 Hz	<b>PHASE</b>	Line (L)
<b>ENVIRONMENTAL CONDITIONS</b>	18 deg. C, 75 % RH, 1005 hPa	<b>TESTED BY:</b> David Liu	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.10	45.24	-	45.34	-	63.57	53.57	-18.23	-
2	0.468	0.11	36.53	-	36.64	-	56.55	46.55	-19.91	-
3	0.534	0.12	34.61	-	34.73	-	56.00	46.00	-21.27	-
4	0.600	0.13	34.62	-	34.75	-	56.00	46.00	-21.25	-
5	15.880	0.90	36.98	-	37.88	-	60.00	50.00	-22.12	-
6	25.241	1.00	38.06	-	39.06	-	60.00	50.00	-20.94	-

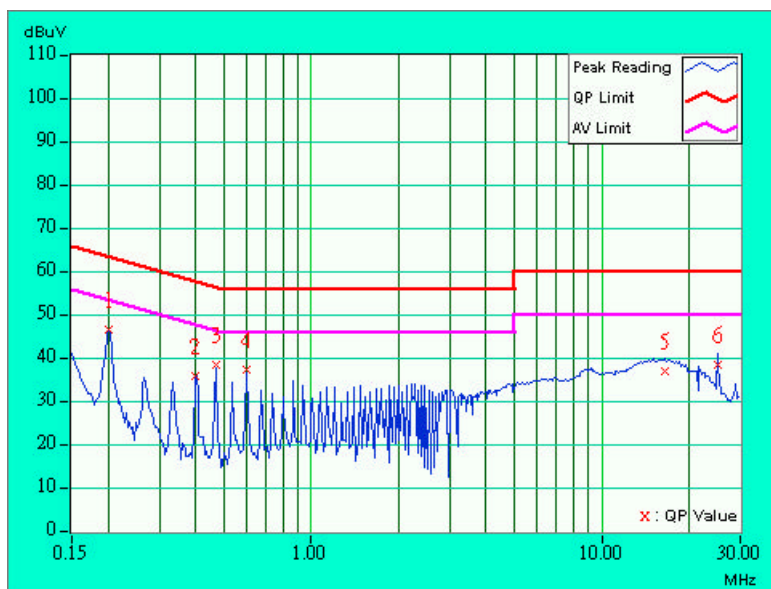
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value = Emission level - Limit value
  5. Correction factor = Insertion loss + Cable loss
  6. Emission Level = Correction Factor + Reading Value.



<b>EUT</b>	15" LCD MONITOR	<b>MODEL NO.</b>	9512-AB1
<b>MODE</b>	W/ Power adapter 2	<b>6dB BANDWIDTH</b>	10 kHz
<b>INPUT POWER</b>	120Vac, 60 Hz	<b>PHASE</b>	Neutral (N)
<b>ENVIRONMENTAL CONDITIONS</b>	18 deg. C, 75 % RH, 1005 hPa	<b>TESTED BY:</b> David Liu	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.10	46.00	-	46.10	-	63.57	53.57	-17.47	-
2	0.402	0.10	35.16	-	35.26	-	57.82	47.82	-22.56	-
3	0.468	0.11	37.53	-	37.64	-	56.55	46.55	-18.91	-
4	0.600	0.13	36.51	-	36.64	-	56.00	46.00	-19.36	-
5	16.486	0.70	36.15	-	36.85	-	60.00	50.00	-23.15	-
6	25.182	0.81	37.82	-	38.63	-	60.00	50.00	-21.37	-

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value = Emission level - Limit value
  5. Correction factor = Insertion loss + Cable loss
  6. Emission Level = Correction Factor + Reading Value.

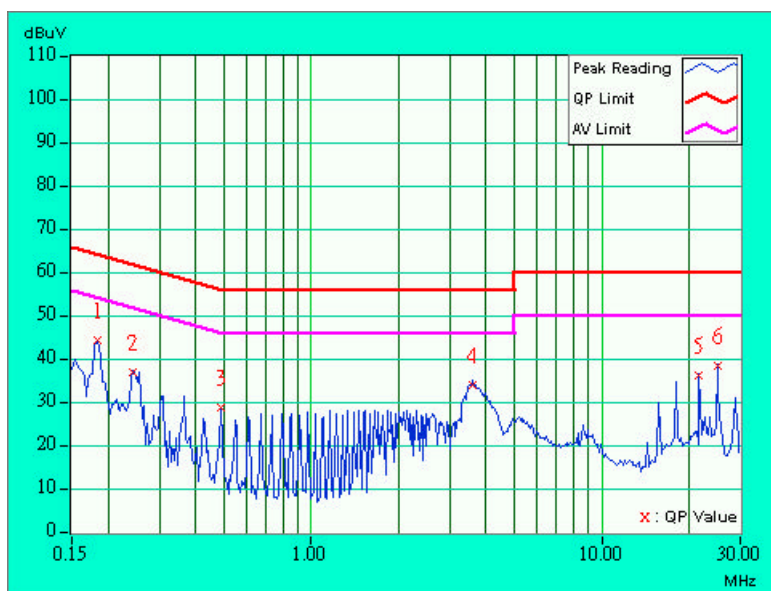


#### 4.1.9 TEST RESULTS (C)

<b>EUT</b>	15" LCD MONITOR	<b>MODEL NO.</b>	9512-AB1
<b>MODE</b>	W/ Power adapter 3	<b>6dB BANDWIDTH</b>	10 kHz
<b>INPUT POWER</b>	120Vac, 60 Hz	<b>PHASE</b>	Line (L)
<b>ENVIRONMENTAL CONDITIONS</b>	18 deg. C, 75 % RH, 1005 hPa	<b>TESTED BY:</b> David Liu	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.183	0.10	43.62	-	43.72	-	64.35	54.35	-20.63	-
2	0.243	0.10	36.00	-	36.10	-	62.00	52.00	-25.90	-
3	0.488	0.11	28.05	-	28.16	-	56.21	46.21	-28.04	-
4	3.597	0.28	33.20	-	33.48	-	56.00	46.00	-22.52	-
5	21.610	0.93	35.20	-	36.13	-	60.00	50.00	-23.87	-
6	25.182	1.00	37.44	-	38.44	-	60.00	50.00	-21.56	-

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value = Emission level - Limit value
  5. Correction factor = Insertion loss + Cable loss
  6. Emission Level = Correction Factor + Reading Value.

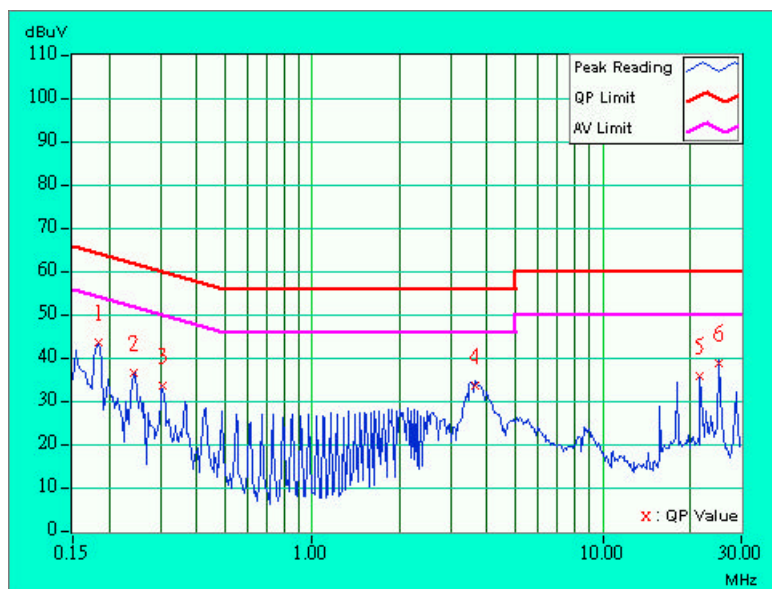




<b>EUT</b>	15" LCD MONITOR	<b>MODEL NO.</b>	9512-AB1
<b>MODE</b>	W/ Power adapter 3	<b>6dB BANDWIDTH</b>	10 kHz
<b>INPUT POWER</b>	120Vac, 60 Hz	<b>PHASE</b>	Neutral (N)
<b>ENVIRONMENTAL CONDITIONS</b>	18 deg. C, 75 % RH, 1005 hPa	<b>TESTED BY:</b> David Liu	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.183	0.10	42.85	-	42.95	-	64.35	54.35	-21.40	-
2	0.244	0.10	35.70	-	35.80	-	61.97	51.97	-26.17	-
3	0.305	0.10	33.04	-	33.14	-	60.12	50.12	-26.98	-
4	3.655	0.30	32.81	-	33.11	-	56.00	46.00	-22.89	-
5	21.611	0.73	35.12	-	35.85	-	60.00	50.00	-24.15	-
6	25.242	0.81	37.92	-	38.73	-	60.00	50.00	-21.27	-

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value = Emission level - Limit value
  5. Correction factor = Insertion loss + Cable loss
  6. Emission Level = Correction Factor + Reading Value.







## 4.2 RADIATED EMISSION MEASUREMENT

### 4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT FOR FREQUENCY BELOW 1000 MHz

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 (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80.0	60.0	74.0	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.



## 4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
HP Spectrum Analyzer	8590L	3544A00941	Dec.10, 2002
HP Pre-Amplifier	8447D	2944A08312	Feb. 28, 2002
* HP Preamplifier	8449B	3008A01201	Dec. 06, 2002
* HP Preamplifier	8449B	3008A01292	Aug. 21, 2002
* R&S Receiver	ESI7	100033	May 30, 2002
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 23, 2002
* ROHDE & SCHWARZ TEST RECEIVER	ESMI	839013/007 839379/002	Jan. 24, 2003
* CHASE BILOG Antenna	CBL6111A	1500	Aug. 30, 2002
* SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	July 6, 2002
* EMCO Horn Antenna	3115	9312-4192	April 15, 2002
* EMCO Turn Table	1060-04	1196	NA
* EMCO Tower	1051	1264	NA
* Software	AS61D4	NA	NA
* ANRITSU RF Switches	MP59B	M06089	Aug. 30, 2002
* TIMES RF cable	LMR-600	CABLE-ST1-01	Aug. 30, 2002
Open Field Test Site	Site 1	ADT-R01	June 15, 2002
VCCI Site Registration No.	Site 1	R-236	NA

**NOTE:** 1.The measurement uncertainty is less than +/- 3.0dB, which is calculated as per the NAMAS 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. "\*" = These equipment are used for the final measurement.

4. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.

## 4.2.3 TEST PROCEDURE

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10-meter open field site. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make

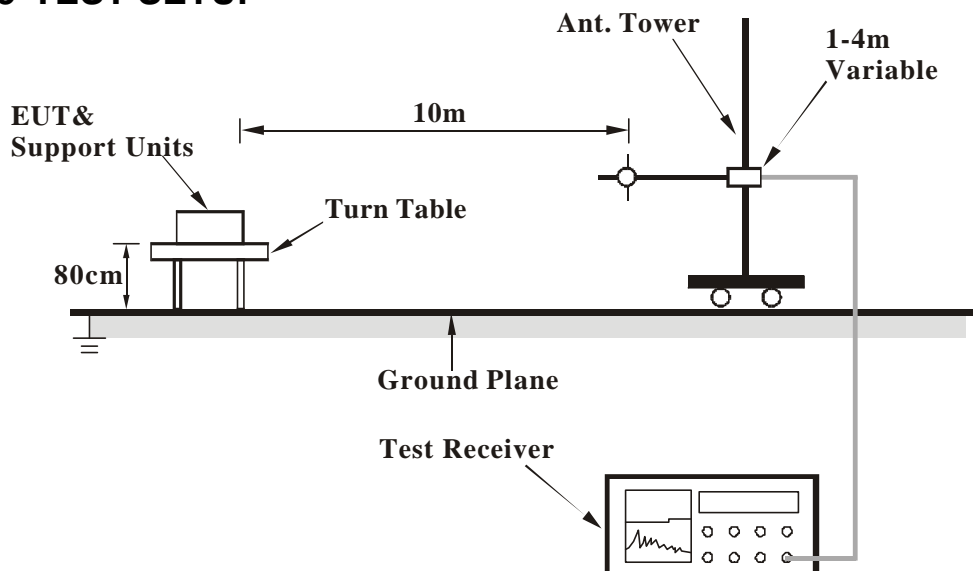
the measurement.

- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using the quasi- peak method or average method as specified and then reported In Data sheet peak mode and QP mode.
- g. For measurement of frequency above 1000 MHz, the EUT was set 3 meters away from the interference antenna and the detect function was set to Peak or Average.

#### 4.2.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.2.5 TEST SETUP



For the actual test configuration, please refer to the related Item – Photographs of the Test Configuration.

#### 4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

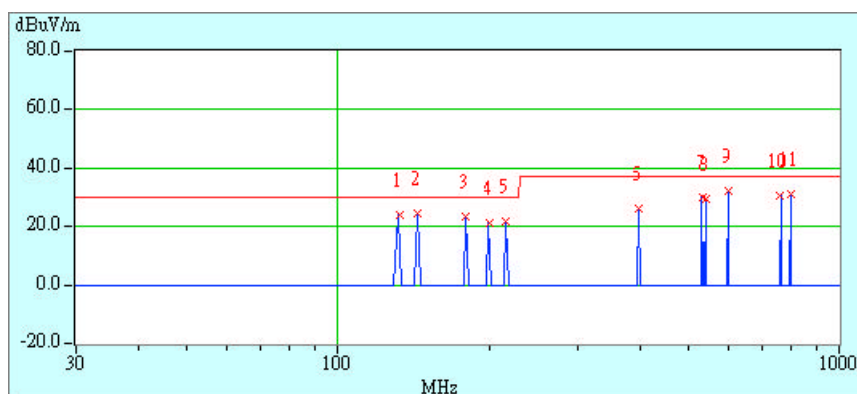
## 4.2.7 TEST RESULTS

<b>EUT</b>	15" LCD MONITOR	<b>MODEL NO.</b>	9512-AB1
<b>MODE</b>	W/ Power adapter 1	<b>FREQUENCY RANGE</b>	30-2000 MHz
<b>INPUT POWER</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION &amp; BANDWIDTH</b>	Quasi-Peak, 120kHz
<b>ENVIRONMENTAL CONDITIONS</b>	18 deg. C, 80 % RH, 1005 hPa	<b>TESTED BY:</b> David Liu	

### ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 10 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-Amp. Gain (dB)	Correction Factor (dB/m)
1	132.59	23.8 QP	30.00	-6.20	4.00H	231	10.93	11.20	1.66	0.00	-12.87
2	144.07	24.6 QP	30.00	-5.40	4.00H	11	11.96	10.93	1.71	0.00	-12.65
3	180.11	23.5 QP	30.00	-6.50	4.00H	165	13.17	8.56	1.72	0.00	-10.30
4	200.01	21.5 QP	30.00	-8.50	4.00H	112	10.80	8.75	1.94	0.00	-10.69
5	216.13	21.6 QP	30.00	-8.40	3.81H	354	9.94	9.69	2.02	0.00	-11.72
6	399.65	26.2 QP	37.00	-10.80	2.19H	340	8.17	15.13	2.90	0.00	-18.03
7	532.97	29.9 QP	37.00	-7.10	1.78H	289	7.35	19.24	3.35	0.00	-22.59
8	541.69	29.7 QP	37.00	-7.30	1.58H	151	6.55	19.78	3.35	0.00	-23.13
9	600.01	32.3 QP	37.00	-4.70	1.56H	125	8.50	19.95	3.81	0.00	-23.76
10	763.97	30.8 QP	37.00	-6.20	1.33H	186	3.57	22.64	4.58	0.00	-27.22
11	800.02	31.3 QP	37.00	-5.70	1.00H	112	4.15	22.52	4.63	0.00	-27.15

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) – Correction Factor(dB)
  2. Correction Factor(dB/m) = Pre-Amplifier Gain (dB) - Antenna Factor (dB/m) - Cable Factor (dB)
  3. Pre-Amplifier Gain (dB) = 0, when the test receiver is used to read the value and because it did not use the Pre-Amplifier.
  4. The other emission levels were very low against the limit.
  5. Margin value = Emission level – Limit value.

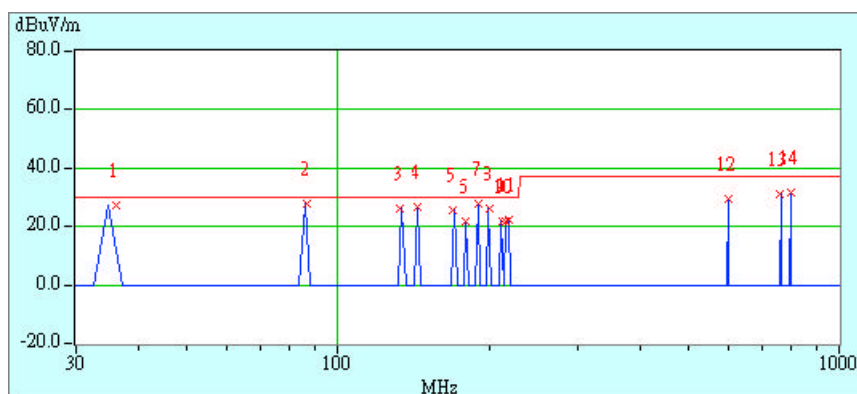


<b>EUT</b>	15" LCD MONITOR	<b>MODEL NO.</b>	9512-AB1
<b>MODE</b>	W/ Power adapter 1	<b>FREQUENCY RANGE</b>	30-2000 MHz
<b>INPUT POWER</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION &amp; BANDWIDTH</b>	Quasi-Peak, 120kHz
<b>ENVIRONMENTAL CONDITIONS</b>	18 deg. C, 80 % RH, 1005 hPa	<b>TESTED BY:</b> David Liu	

### ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 10 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-Amp. Gain (dB)	Correction Factor (dB/m)
1	36.01	27.0 QP	30.00	-3.00	1.00V	225	9.23	15.51	2.26	0.00	-17.77
2	86.46	27.9 QP	30.00	-2.10	1.00V	232	18.80	7.55	1.55	0.00	-9.11
3	133.22	26.1 QP	30.00	-3.90	1.00V	118	13.23	11.20	1.67	0.00	-12.87
4	144.06	26.8 QP	30.00	-3.20	1.00V	9	14.14	10.93	1.71	0.00	-12.65
5	169.53	25.4 QP	30.00	-4.60	1.00V	347	14.46	9.19	1.75	0.00	-10.95
6	180.33	21.8 QP	30.00	-8.20	1.00V	350	11.50	8.56	1.72	0.00	-10.30
7	190.69	27.9 QP	30.00	-2.10	1.00V	15	17.40	8.66	1.83	0.00	-10.50
8	200.01	25.9 QP	30.00	-4.10	1.00V	354	15.20	8.75	1.94	0.00	-10.69
9	212.32	21.8 QP	30.00	-8.20	1.00V	18	10.39	9.42	2.00	0.00	-11.42
10	216.52	21.9 QP	30.00	-8.10	1.00V	15	10.19	9.69	2.02	0.00	-11.72
11	219.53	22.1 QP	30.00	-7.90	1.00V	21	10.20	9.82	2.04	0.00	-11.87
12	600.01	29.6 QP	37.00	-7.40	2.83V	152	5.87	19.95	3.81	0.00	-23.77
13	763.97	30.9 QP	37.00	-6.10	2.30V	146	3.63	22.64	4.58	0.00	-27.23
14	800.02	31.8 QP	37.00	-5.20	2.28V	122	4.70	22.52	4.63	0.00	-27.16

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) – Correction Factor(dB)
  2. Correction Factor(dB/m) = Pre-Amplifier Gain (dB) - Antenna Factor (dB/m) - Cable Factor (dB)
  3. Pre-Amplifier Gain (dB) = 0, when the test receiver is used to read the value and because it did not use the Pre-Amplifier.
  4. The other emission levels were very low against the limit.
  5. Margin value = Emission level – Limit value.



## 5 PHOTOGRAPHS OF THE TEST CONFIGURATION

### CONDUCTED EMISSION TEST





## RADIATED EMISSION TEST





## 6 APPENDIX - INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025, Guide 25 or EN 45001:

<b>USA</b>	FCC, NVLAP, UL
<b>Germany</b>	TUV Rheinland
<b>Japan</b>	VCCI
<b>New Zealand</b>	MoC
<b>Norway</b>	NEMKO, DNV
<b>Canada</b>	INDUSTRY CANADA
<b>R.O.C.</b>	CNLA, BSMI

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: [www.adt.com.tw/index.5/phtml](http://www.adt.com.tw/index.5/phtml).  
If you have any comments, please feel free to contact us at the following:

**Lin Kou EMC Lab:**

Tel: 886-2-26052180

Fax: 886-2-26052943

**Hsin Chu EMC Lab:**

Tel: 886-35-935343

Fax: 886-35-935342

**Lin Kou Safety Lab:**

Tel: 886-2-26093195

Fax: 886-2-26093184

**Lin Kou RF & Telecom Lab.**

Tel: 886-3-3270910

Fax: 886-3-3270892

**Email:** [service@mail.adt.com.tw](mailto:service@mail.adt.com.tw)**Web Site:** [www.adt.com.tw](http://www.adt.com.tw)

The address and road map of all our labs can be found in our web site also.