APPLICATION OF CERTIFICATION For

TCL CORPORATION

LCD Monitor

Brand Name	Model Number		
TCL	ML17; ML17A; ML17B; ML17C; ML17F; ML17H; ML17S; ML17T; ML17W; ML17X; ML17SA; ML17SB; ML17SC; ML17SF; ML17SH; ML17SS; ML17ST; ML17SW; ML17SX		

FCC ID: X5EML17XX

Prepared for: TCL CORPORATION

Section 19, Zhongkai Development Zone for New and High-Level Tech Industries, Huizhou, Guangdong 516006,

P.R.China.

Prepared By: Audix Technology (Shenzhen) Co., Ltd.

No. 6, Ke Feng Rd., 52 Block, Shenzhen Science & Industrial Park, Nantou, Shenzhen, Guangdong, China

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Report Number : ACS-F10030

Date of Test : Jan.09~Feb.01, 2010

Date of Report : Feb.04, 2010

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TEST REPORT CERTIFICATION

Applicant : TCL CORPORATION

Manufacturer : TCL CORPORATION

EUT Description: LCD Monitor FCC ID: X5EML17XX

(A) Model No.

Brand Name	Model Number
TCL	ML17; ML17A; ML17B; ML17C; ML17F; ML17H; ML17S; ML17T; ML17W; ML17X; ML17SA; ML17SB; ML17SC; ML17SF; ML17SH; ML17SS; ML17ST; ML17SW; ML17SX

(B) Serial No. : N/A

(C) Power Supply : AC 100V~ 240V; 50/60Hz

(D) Test Voltage : DC 12V Adapter Input AC 120V/60Hz

Measurement Standard Used:

FCC Rules and Regulations Part 15 Subpart B Class B 2008, ANSI C63.4-2003 ICES-003 Issue 4 February 2004.

The device described above is tested by Audix Technology (Shenzhen) Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B Class B limits for radiated and conducted emissions. The test results are contained in this test report and Audix Technology (Shenzhen) Co., Ltd. is assumed full responsibility for the accuracy and completeness of tests. Also, this report shows that EUT is technically compliant with FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

Date of Test:	Jan.09 Feb.01, 2010
Prepared by:	Edie Huang
	Edie Huang / Assistant
Reviewer:	Richzhy Zhong / Assistant Manager
	AUDIX ®信華科技(深圳)有限公司 Audix Technology (Shenzhen) Co., Ltd. EMC 部門報告專用章
	Stamp only for EMC Dept. Report Signature:

Approved & Authorized Signer:

Ken Lu / Manager

1. SUMMARY OF STANDARDS AND RESULTS

1.1.Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION						
Description of Test Item	Standard	Limits	Results			
Power Line Conducted Emission Test	FCC Part 15: 2008 ANSI C63.4: 2003	Class B	PASS			
Radiated Emission Test	FCC Part 15: 2008 ANSI C63.4: 2003	Class B	PASS			

2. GENERAL INFORMATION

2.1.Description of Device (EUT)

Description : LCD Monitor

Model Number:

Brand Name	Model Number			
TCL	ML17; ML17A; ML17B; ML17C; ML17F; ML17H; ML17S; ML17T; ML17W; ML17X; ML17SA; ML17SB; ML17SC; ML17SF; ML17SH; ML17SS; ML17ST; ML17SW; ML17SX			

Test model: ML17

The model name is different only.

FREQUENCIES USED AND GENERATED WITHIN DEVICE				
X300 45-OSC14M-3Y2				
RESOLUTION 1280X1024				
LVDS CLOCK	54MHz			
DC-DC	U805->385KHz U806->385KHz			
DDR	200MHz			
INVERTER BD 60KHz				

FCC ID : X5EML17XX

Applicant : TCL CORPORATION

Section 19, Zhongkai Development Zone for New and High-Level

Tech Industries, Huizhou, Guangdong 516006, P.R.China.

Manufacturer : TCL CORPORATION

Section 19, Zhongkai Development Zone for New and High-Level

Tech Industries, Huizhou, Guangdong 516006, P.R.China.

Adapter : Manufacturer: JEWEL

M/N: JS 12040 A

Cable: Unshielded, Undetachable, 1.25 (with two cores)

Date of Test : Jan.09~Feb.01, 2010

Date of Receipt: Jan.08, 2010

Sample Type : Prototype production

2.2.Tested Supporting System Details

2.2.1.PC

EMC CODE : Test PC P

M/N : Studio 540

S/N : 124XK2X

Manufacturer : DELL

Power cord : Unshielded, Detachabled, 1.8m

FCC ID : By DoC BSMI ID : R33002

Display Card : HD3450(VGA+DVI+HDMI)

2.2.2. USB Keyboard

EMC CODE : ACS-EMC-K01R

M/N : SK-8115

S/N : CN-ODJ313-71616-711-0J73

Manufacturer : DELL

Data Cable : Shielded, Undetachabled, 2.0m

FCC ID : By DoC BSMI ID : T3A002

2.2.3. PRINTER

EMC CODE : ACS-EMC-PT04

M/N : C9079A

Manufacturer : HP

USB Cable : Shielded, Detachabled, 1.8m

Power Cord : Unshielded, Detachabled, 1.8m

FCC ID : By DoC BSMI ID : R33001

Power Adaptor : Manufacturer: HP

M/N: 0957-2119 BSMI ID: R33030

DC Cable: Unshielded, Detachabled, 1.5m

2.2.4. USB MOUSE

EMC CODE : ACS-EMC-M01R

M/N : M056UO S/N : 512022645

Manufacturer : Dell

Data Cable : Shielded, Undetachabled, 1.8m

FCC ID : By DoC BSMI ID : R41108

2.2.5. HDD

EMC CODE : ACS-EMC-HDD03

M/N: F12-UF

S/N : A0100215-5390031

Manufacturer : Terasys

Data Cable : Shielded, Detachabled, 1.8m

FCC ID : By DoC BSMI ID : 4912A022

2.2.6. DVD Player

EMC CODE : ACS-EMC-DVD02

M/NS/NTAXZT5ManufacturerPIONEER

Data Cable : N/A

Power cord : Unshielded, Detachabled, 1.5m

2.2.7. Cables

S-Video Cable
AV Cable
Unshielded, Detachabled, 1.4m
(Dummy Load 75 Ω &10k Ω)

VGA Cable : Shielded, Detachabled, 1.4m

With two cores

2.3.Test Facility

Site Description

Name of Firm : Audix Technology (Shenzhen) Co., Ltd.

No. 6, Ke Feng Rd., 52 Block, Shenzhen

Science & Industrial Park, Nantou, Shenzhen, Guangdong, China

3m Anechoic Chamber : Mar. 31, 2009 File on Federal

Communication Commission Registration Number: 90454

3m & 10m Anechoic Chamber : Dec.30, 2009 File on Federal

Communication Commission Registration Number: 794232

EMC Lab. : Accredited by DATech, German

Registration Number: DAT-P-091/99-01

Feb. 02, 2009

Accredited by NVLAP, USA NVLAP Code: 200372-0

Apr. 01, 2009

2.4. Measurement Uncertainty (95% confidence levels, k=2)

Test Item	Uncertainty		
Uncertainty for Conduction emission test in No. 1 Conduction	2.40dB		
Uncertainty for Radiation Emission test	3.82 dB (Polarize: V)		
in 3m chamber	4.32 dB (Polarize: H)		
Uncertainty for Radiation Emission test	4.04 dB (Distance: 10m Polarize: V)		
in 10m chamber	4.02 dB (Distance: 10m Polarize: H)		
Uncertainty for Radiation Emission test in	3.56 dB (Distance: 3m Polarize: V)		
10m chamber (1GHz-18GHz)	3.84 dB (Distance: 3m Polarize: H)		
Harantainta fan CNCNID in 10m Chamban	4.5 dB (Distance: 3m Polarize: V)		
Uncertainty for SVSWR in 10m Chamber	4.4 dB (Distance: 3m Polarize: H)		
Uncertainty for test site temperature and	0.6℃		
humidity	3%		

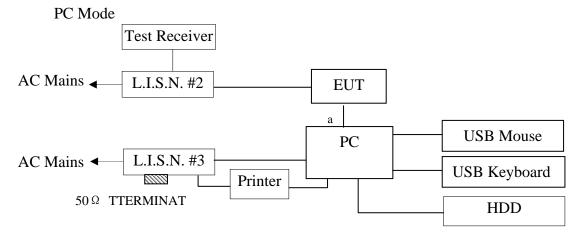
3. POWER LINE CONDUCTED EMISSION TEST

3.1.Test Equipment

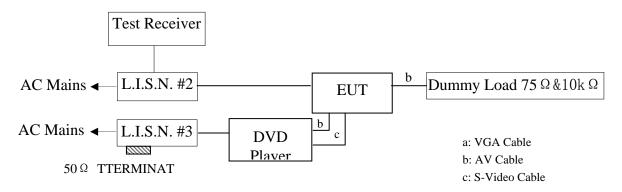
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESHS20	836600/006	May.08, 09	1 Year
2.	L.I.S.N.#2	Kyoritsu	KNW-407	8-1636-1	May.08, 09	1 Year
3.	L.I.S.N.#3	Kyoritsu	KNW-242C	8-1920-1	May.08, 09	1 Year
4.	Terminator	Hubersuhner	50Ω	No. 1	May.08, 09	1 Year
5.	RF Cable	Fujikura	3D-2W	LISN Cable 1#	May.08, 09	1Year
6.	Coaxial Switch	Anritsu	MP59B	M55367	May.08, 09	1 Year
7.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100341	May.08, 09	1 Year

3.2.Block Diagram of Test Setup

3.2.1. Block diagram of connection between the EUT and simulators



AV Mode / S-Video Mode



3.3. Power Line Conducted Emission Test Limits

	Maximum RF Line Voltage			
Frequency	Quasi-Peak Level	Average Level		
	$dB(\mu V)$	$dB(\mu V)$		
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*		
500kHz ~ 5MHz	56	46		
5MHz ~ 30MHz	60	50		

Notes: 1. * Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

3.4. Configuration of EUT on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

3.4.1.LCD Monitor (EUT)

Model Number : ML17 Serial Number : N/A

3.4.2. Support Equipment: As Tested Supporting System Detail, in Section 2.2.

3.5. Operating Condition of EUT

- 3.5.1. Setup the EUT and simulator as shown as Section 3.2.
- 3.5.2. Turn on the power of all equipment.
- 3.5.3.Let the EUT work in test mode (Running "H" Pattern 640*480 60Hz/ Running "H" Pattern 800*600 75Hz / Running "H" Pattern 1280*1024 75Hz/ AV In/ S-Video In), Adjust the brightness & contrast to maximum and measure it.

3.6.Test Procedure

The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power 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 EUT (Please refer to the block diagram of the test setup and photographs). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N.#3). Both sides of power 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 ANSI C63.4-2003 on conducted Emission test.

The bandwidth of test receiver (R&S TEST RECEIVER ESHS20) is set at 10kHz.

The frequency range from 150kHz to 30MHz is checked. The test result are reported on Section 3.7.

3.7. Conducted Disturbance at Mains Terminals Test Results

PASS. (All emissions not reported below are too low against the prescribed limits.)

The EUT with the following test modes were tested and selected (mode 3~5) to read Q.P values and Average values, all the test results are listed in next pages.

EUT: LCD Monitor Model No. : ML17

Test Date: Jan.15, 2010 Temperature: 23°C Humidity: 54%

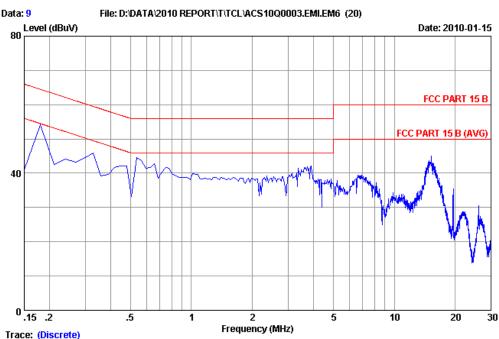
The details of test modes are as follows:

NO.	Test Mode	Resolution &	Reference Test Data No.		
		Frequency	VA	VB	
1.		640*480 60Hz	#9	#10	
2.	Running "H" Pattern	800*600 75Hz	#8	#7	
3.		1280*1024 75Hz	#5	#6	
4.	AV In		#2	#1	
5. ※	S-Video In		#4	#3	

(* Worst test mode)



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Site no :Audix No.1 Conduction :9 Data no

:** 2009 KNW407 VA Dis./Ant.

:FCC PART 15 B Limit

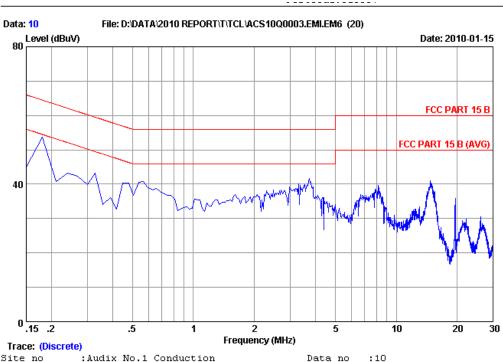
Env./Ins. :Temp:23'C Humi:54% Engineer :Loe Li

EUT :LCD Monitor M/N:ML17

Power Rating :DC 12V Adapter Input AC 120V/60Hz

Test Mode :Running 'H" Pattern

640*480@60Hz



:Audix No.1 Conduction Site no

Dis./Ant. :** 2009 KNW407 VB

:FCC PART 15 B Limit

:Temp:23'C Humi:54% Env./Ins. Engineer :Loe Li

:LCD Monitor M/N:ML17 EUT

Power Rating :DC 12V Adapter Input AC 120V/60Hz

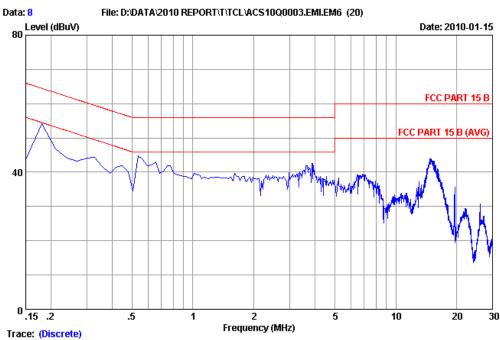
Test Mode :Running 'H" Pattern

640*480@60Hz



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Site no : Audix No.1 Conduction Data no :8

Dis./Ant. :** 2009 KNW407 VA Limit :FCC PART 15 B

Env./Ins. :Temp:23'C Humi:54% Engineer :Loe_Li

EUT :LCD Monitor M/N:ML17

Power Rating :DC 12V Adapter Input AC 120V/60Hz

Test Mode :Running 'H" Pattern 800*600@75Hz

File: D:/DATA/2010 REPORT\T\TCL\ACS10Q0003.EMI.EM6 (20) Data: 7 80 Level (dBuV) Date: 2010-01-15 FCC PART 15 B FCC PART 15 B (AVG) 40 0 .15 .2 .5 2 5 10 20 30 Frequency (MHz) Trace: (Discrete)

Site no :Audix No.1 Conduction Data no :7

Dis./Ant. :** 2009 KNW407 VB Limit :FCC PART 15 B

Env./Ins. :Temp:23'C Humi:54% Engineer :Loe_Li

EUT :LCD Monitor M/N:ML17

Power Rating :DC 12V Adapter Input AC 120V/60Hz

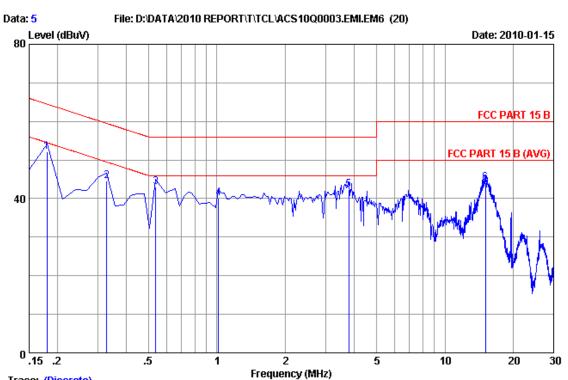
Test Mode :Running 'H" Pattern

800*600@75Hz



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Engineer :Loe_Li



Trace: (Discrete)

Site no :Audix No.1 Conduction Data no :5

:** 2009 KNW407 VA Dis./Ant.

:FCC PART 15 B Limit

Env./Ins. :Temp:23'C Humi:54%

:LCD Monitor M/N:ML17 EUT

Power Rating :DC 12V Adapter Input AC 120V/60Hz

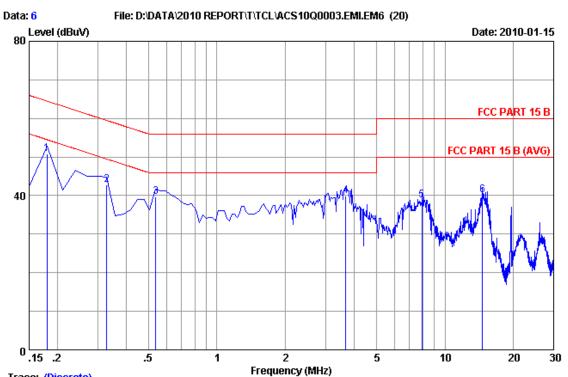
Test Mode :Running 'H" Pattern 1280*1024@75Hz

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.17985	0.43	9.88	41.75	52.06	64.49	12.43	QP
2	0.32910	0.37	9.89	34.24	44.50	59.47	14.97	QP
3	0.53805	0.34	9.89	32.87	43.10	56.00	12.90	QP
4	1.016	0.33	9.89	29.97	40.19	56.00	15.81	QP
5	3.792	0.37	9.91	31.95	42.23	56.00	13.77	QP
6	15.075	0.48	9.97	33.64	44.09	60.00	15.91	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.



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Trace: (Discrete)

Site no :Audix No.1 Conduction Data no :6

:** 2009 KNW407 VB Dis./Ant.

:FCC PART 15 B Limit

Env./Ins. :Temp:23'C Humi:54%

Engineer :Loe_Li

:LCD Monitor M/N:ML17 EUT

Power Rating :DC 12V Adapter Input AC 120V/60Hz

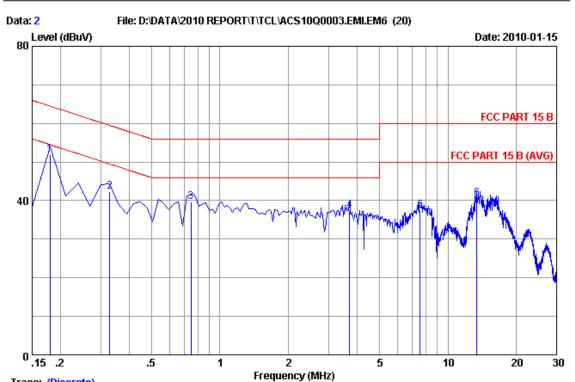
Test Mode :Running 'H" Pattern 1280*1024@75Hz

		LISN	Cable		Emission	L		
No	Freq	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dB)	
1	0.17985	0.45	9.88	40.47	50.80	64.49	13.69	QP
2	0.32910	0.38	9.89	32.58	42.85	59.47	16.62	QP
3	0.53805	0.35	9.89	29.53	39.77	56.00	16.23	QP
4	3.672	0.37	9.91	29.65	39.93	56.00	16.07	QP
5	7.941	0.42	9.93	28.42	38.77	60.00	21.23	QP
6	14.597	0.48	9.97	29.76	40.21	60.00	19.79	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.



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Trace: (Discrete)

Site no :Audix No.1 Conduction Data no

:** 2009 KNW407 VA Dis./Ant.

Limit :FCC PART 15 B

Env./Ins. :Temp:23'C Humi:54%

Engineer :Loe_Li

:LCD Monitor M/N:ML17 EUT

Power Rating :DC 12V Adapter Input AC 120V/60Hz

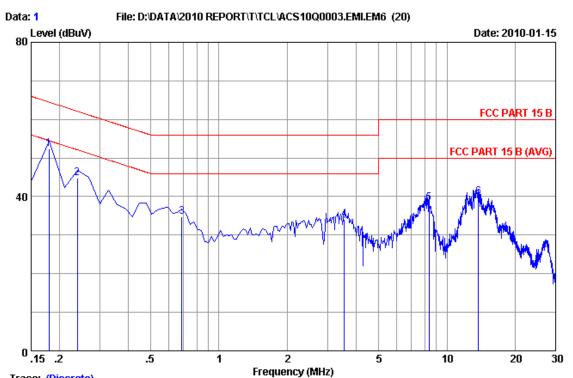
Test Mode :AV IN

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.17985	0.43	9.88	41.55	51.86	64.49	12.63	QP
2	0.32910	0.37	9.89	32.08	42.34	59.47	17.13	QP
3	0.74700	0.36	9.89	29.50	39.75	56.00	16.25	QP
4	3.702	0.37	9.91	27.08	37.36	56.00	18.64	QP
5	7.553	0.40	9.93	27.19	37.52	60.00	22.48	QP
6	13.403	0.47	9.96	30.19	40.62	60.00	19.38	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.



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Trace: (Discrete)

Site no :Audix No.1 Conduction Data no :1

:** 2009 KNW407 VB Dis./Ant.

Limit :FCC PART 15 B

Env./Ins. :Temp:23'C Humi:54%

Engineer :Loe_Li

:LCD Monitor M/N:ML17 EUT

Power Rating :DC 12V Adapter Input AC 120V/60Hz

Test Mode :AV IN

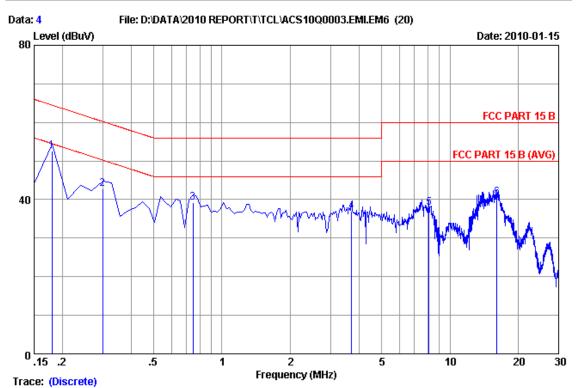
Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
0.17985	0.45	9.88	42.11	52.44	64.49	12.05	QP
0.23955	0.43	9.88	34.45	44.76	62.11	17.35	QP
0.68730	0.35	9.89	24.56	34.80	56.00	21.20	QP
3.553	0.37	9.91	23.73	34.01	56.00	21.99	QP
8.359	0.43	9.93	27.98	38.34	60.00	21.66	QP
13.732	0.47	9.97	29.36	39.80	60.00	20.20	QP
ı	(MHz) 0.17985 0.23955 0.68730 3.553 8.359	Freq Factor (MHz) (dB) 0.17985 0.45 0.23955 0.43 0.68730 0.35 3.553 0.37 8.359 0.43	Freq Factor Loss (MHz) (dB) (dB) 0.17985 0.45 9.88 0.23955 0.43 9.88 0.68730 0.35 9.89 3.553 0.37 9.91 8.359 0.43 9.93	Freq Factor Loss Reading (MHz) (dB) (dB) (dBuV) 0.17985 0.45 9.88 42.11 0.23955 0.43 9.88 34.45 0.68730 0.35 9.89 24.56 3.553 0.37 9.91 23.73 8.359 0.43 9.93 27.98	Freq Factor Loss Reading Level (MHz) (dB) (dB) (dBuV) (dBuV) 0.17985 0.45 9.88 42.11 52.44 0.23955 0.43 9.88 34.45 44.76 0.68730 0.35 9.89 24.56 34.80 3.553 0.37 9.91 23.73 34.01 8.359 0.43 9.93 27.98 38.34	Freq Factor Loss Reading Level Limits (MHz) (dB) (dB) (dBuV) (dBuV) (dBuV) 0.17985 0.45 9.88 42.11 52.44 64.49 0.23955 0.43 9.88 34.45 44.76 62.11 0.68730 0.35 9.89 24.56 34.80 56.00 3.553 0.37 9.91 23.73 34.01 56.00 8.359 0.43 9.93 27.98 38.34 60.00	Freq Factor Loss Reading Level Limits Margin (MHz) (dB) (dB) (dBuV) (dBuV) (dBuV) (dBuV) (dB) 0.17985 0.45 9.88 42.11 52.44 64.49 12.05 0.23955 0.43 9.88 34.45 44.76 62.11 17.35 0.68730 0.35 9.89 24.56 34.80 56.00 21.20 3.553 0.37 9.91 23.73 34.01 56.00 21.99 8.359 0.43 9.93 27.98 38.34 60.00 21.66

Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.



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Engineer :Loe_Li



Site no : Audix No.1 Conduction Data no :4

Dis./Ant. :** 2009 KNW407 VA

Limit :FCC PART 15 B

Env./Ins. :Temp:23'C Humi:54%

EUT :LCD Monitor M/N:ML17

Power Rating :DC 12V Adapter Input AC 120V/60Hz

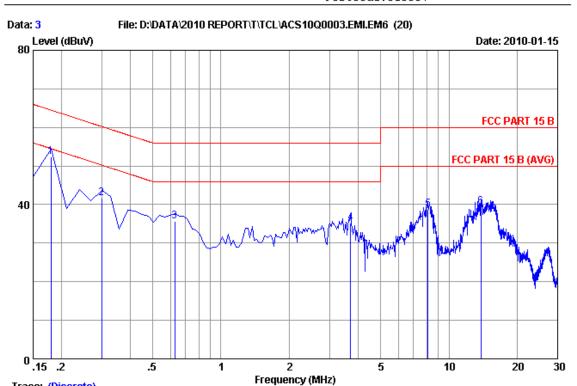
Test Mode :S-VIDEO IN

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.17985	0.43	9.88	42.17	52.48	64.49	12.01	QP
2	0.29925	0.39	9.88	32.42	42.69	60.26	17.57	QP
3	0.74700	0.36	9.89	29.00	39.25	56.00	16.75	QP
4	3.702	0.37	9.91	26.68	36.96	56.00	19.04	QP
5	8.090	0.40	9.93	27.46	37.79	60.00	22.21	QP
6	16.060	0.50	9.98	30.13	40.61	60.00	19.39	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.



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Trace: (Discrete)

Site no : Audix No.1 Conduction Data no

:** 2009 KNW407 VB Dis./Ant.

Limit :FCC PART 15 B

Engineer :Loe_Li Env./Ins. :Temp:23'C Humi:54%

:LCD Monitor M/N:ML17 EUT

Power Rating :DC 12V Adapter Input AC 120V/60Hz

Test Mode :S-VIDEO IN

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.17985	0.45	9.88	42.01	52.34	64.49	12.15	QP
2	0.29925	0.41	9.88	31.38	41.67	60.26	18.59	QP
3	0.62760	0.35	9.89	25.51	35.75	56.00	20.25	QP
4	3.702	0.37	9.91	25.01	35.29	56.00	20.71	QP
5	8.090	0.42	9.93	28.37	38.72	60.00	21.28	QP
6	13.821	0.48	9.97	28.94	39.39	60.00	20.61	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.

4. RADIATED EMISSION TEST

4.1.Test Equipment

4.1.1.For frequency range 30MHz~1000MHz (At Anechoic 10m Chamber)

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	10m Chamber	AUDIX	N/A	N/A	Dec.05,09	1 Year
2	EMC Analyzer	Agilent	E7405A	MY42000131	May.08, 09	1 Year
3	EMC Analyzer	Agilent	E7405A	MY45116588	Oct.20,09	1 Year
4	Test Receiver	Rohde & Schwarz	ESCI	100842	Oct 20, 09	1 Year
5	Amplifier	Agilent	8447D	2944A10684	May.08, 09	1Year
6	Amplifier	Agilent	8447D	2944A11140	May.08, 09	1 Year
7	Bilog Antenna	Schaffner	CBL6112D	25238	Feb.12, 09	1 Year
8	Bilog Antenna	Schaffner	CBL6112D	25237	Feb.12, 09	1 Year
9	RF Cable	MIYAZAKI	8D-FB	10m Chamber No.1	May.08, 09	1 Year
10	RF Cable	MIYAZAKI	8D-FB	10m Chamber No.2	May.08, 09	1 Year
11	Coaxial Switch	Anritsu	MP59B	6200766906	May.08, 09	1 Year
12	Coaxial Switch	Anritsu	MP59B	6200766907	May.08, 09	1 Year
13	Coaxial Switch	Anritsu	MP59B	6200313662	May.08, 09	1 Year

4.1.2.For frequency range 30MHz~1000MHz (At Anechoic 3m Chamber)

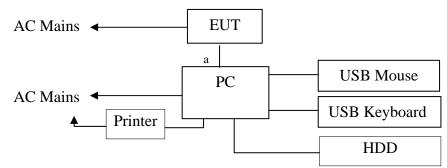
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	3#Chamber	AUDIX	N/A	N/A	Dec.05,09	1 Year
2	EMI Spectrum	Agilent	E4407B	MY41440292	May.08, 09	1 Year
3	Test Receiver	Rohde & Schwarz	ESVS10	834468/011	May.08, 09	1 Year
4	Amplifier	HP	8447D	2648A04738	May.08, 09	1 Year
5	Bilog Antenna	Schaffner	CBL6111C	2598	Dec.14, 09	1 Year
6	RF Cable	MIYAZAKI	8D-FB	3# Chamber No.1	May.08, 09	1 Year
7	Coaxial Switch	Anritsu	MP59B	M73989	May.08, 09	1 Year

4.1.3.For frequency range 1GHz~2GHz (At Anechoic Chamber)

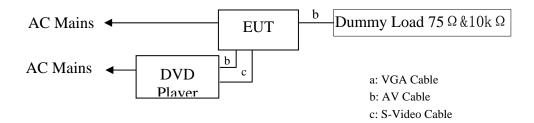
Item	Equipment	Manufacturer	Model No.	Serial No.		Cal. Interval
1	Spectrum Analyzer	Agilent	E7405A	MY45116588	Oct.20, 09	1 Year
2	Horn Antenna	EMCO	3115	9607-4877	Nov.25, 09	1.5 Year
3	Amplifier	Agilent	8449B	3008A00863	May.08, 09	1 Year
4	RF Cable	Hubersuhner	SUCOFLEX102	28620/2	Nov.28, 09	1 Year
5	RF Cable	Hubersuhner	SUCOFLEX102	29091/2	Nov.28, 09	1 Year

4.2.Block Diagram of Test Setup

4.2.1. Block diagram of connection between the EUT and simulators PC Mode



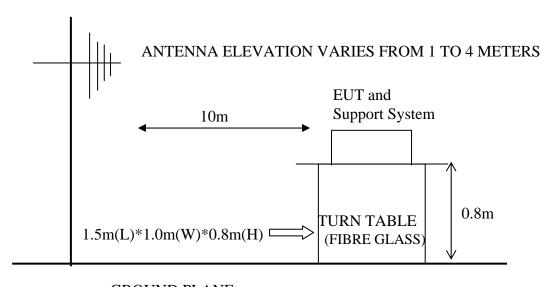
AV Mode / S-Video Mode



(EUT: LCD Monitor)

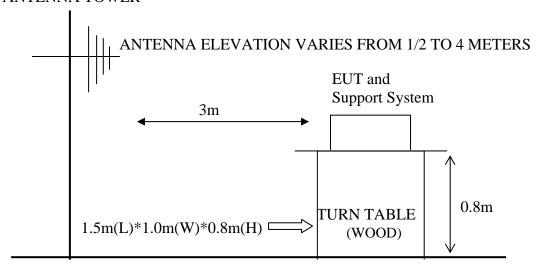
4.2.2. In Anechoic (10m) Chamber Test Setup Diagram for 30MHz~1000MHz

ANTENNA TOWER



GROUND PLANE

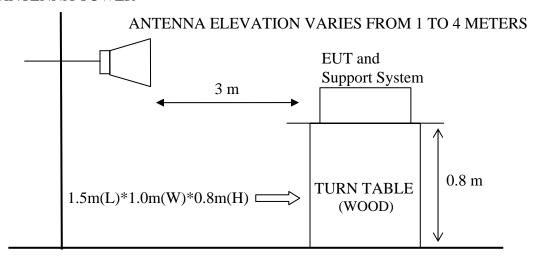
4.2.3.In Anechoic (3m) Chamber Test Setup Diagram for 30-1000MHz ANTENNA TOWER



GROUND PLANE

4.2.4.In Anechoic (10m) Chamber Test Setup Diagram for 1-2GHz

ANTENNA TOWER



GROUND PLANE

4.3. Radiated Emission Limit

Frequency	Distance	Field Strengths Limits
MHz	(Meters)	dB(μV)/m
30 ~ 88	3	40.0
88 ~ 216	3	43.5
216 ~ 960	3	46.0
960 ~ 1000	3	54.0
30 ~ 230	10	30
230 ~ 1000	10	37
Above ~ 1000	3	74.0 dB(μV)/m (Peak)
		54.0 dB(μV)/m (Average)

Remark : (1) Emission level $dB\mu V = 20 \log Emission$ level $\mu V/m$

- (2) The smaller limit shall apply at the cross point between two frequency bands
- (3) The emissions above 1GHz should comply with average limit and peak limit.

4.4.EUT Configuration on Test

The following equipment are installed on Radiated Emission Test to meet the commission requirements and operating regulations in a manner that tends to maximize its emission characteristics in normal application.

4.4.1.LCD Monitor (EUT)

Model Number : ML17 Serial Number : N/A

4.5. Operating Condition of EUT

- 4.5.1. Setup the EUT as shown in Section 4.2.
- 4.5.2. Turn on the power of all equipment.
- 4.5.3. Let the EUT work in test mode (Running "H" Pattern 640*480 60Hz/ Running "H" Pattern 800*600 75Hz / Running "H" Pattern 1280*1024 75Hz/ AV In/ S-Video In), Adjust the brightness & contrast to maximum and measure it.

4.6.Test Procedure

The EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber. An antenna was located 3m & 10m from the EUT on an adjustable mast. A pre-scan was first performed in order to find prominent radiated emissions. For final emissions measurements at each frequency of interest, the EUT were rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4-2003 on Radiated Emission test.

The bandwidth setting on the test receiver (R&S TEST RECEIVER ESCI & ESVS10) is 120 kHz.

The resolution bandwidth of the Agilent Spectrum Analyzer E7405A was set at 1MHz. (For above 1GHz)

The frequency range from 30MHz to 1000MHz was pre-scanned with a peak detector and all final readings of measurement from Test Receiver are Quasi-Peak values.

The frequency range from 1GHz to 2GHz was checked with peak and average detector, measurement distance is 3m in 10m chamber.

Finally, selected operating situations at Anechoic Chamber measurement, all the test results are listed in section 4.7.

4.7. Radiated Disturbance Test Results

PASS. (All emissions not reported below are too low against the prescribed limits.)

For frequency range 30MHz~1000MHz

The EUT with the following test modes were tested and selected (mode 3~5) to read Q.P values, all the test results are listed in next pages.

EUT: LCD Monitor Model No. : ML17

Test Date: Jan.26~31, 2010 Temperature: 24°C Humidity: 56%

The details of test modes are as follows:

NO.	Test Mode	Resolution &	Reference Test Data No.		
NO.	rest Mode	Frequency	Horizontal	Vertical	
1.		640*480 60Hz	#12	#11	
2.	Running "H" Pattern	Running "H" Pattern 800*600 75Hz		#9	
3. ※		1280*1024 75Hz	#8	#7	
4.	AV In		#2	#1	
5.	S-Video In	-	#4	#3	

(* Worst test mode)

For frequency range 1GHz~2GHz

The EUT with below test mode 1 was measured within Anechoic Chamber and the test results listed in next pages.

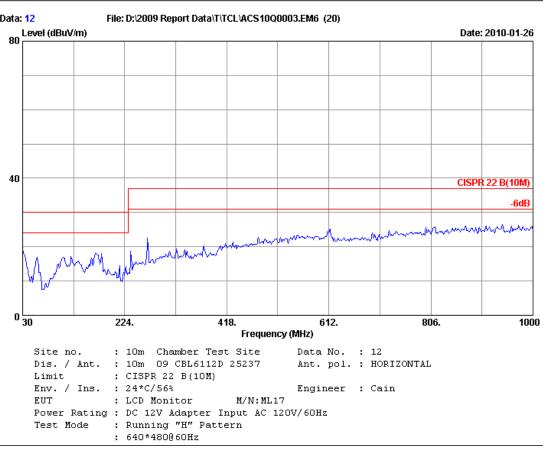
All the PK emissions were comply with average limit, so the average level were deemed to comply with average limit

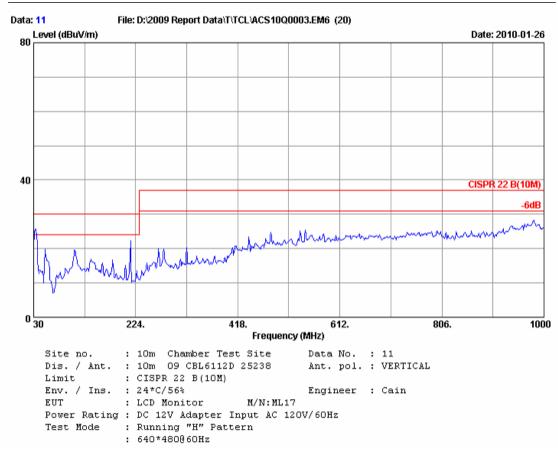
Test Date: Jan. 09, 2010 Temperature: 24°C Humidity: 56%

No.	Test Mede	Reference Test Data No.			
	Test Mode	Horizontal	Vertical		
1.	Running "H" Pattern 1280*1024 75Hz	#17, #18	#19, #20		



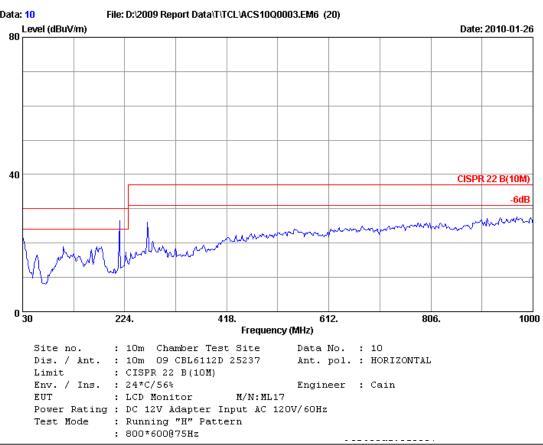
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File: D:\2009 Report Data\T\TCL\ACS10Q0003.EM6 (20) Data: 9 80 Level (dBuV/m) Date: 2010-01-26 40 0 30 224. 806. 1000 418. 612. Frequency (MHz)

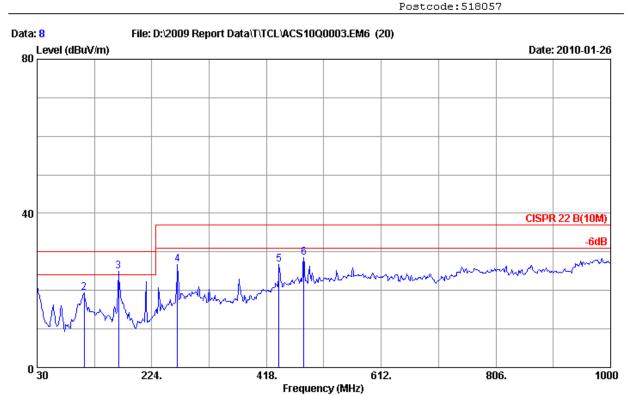
Data No. : 9 Ant. pol. : VERTICAL : 10m Chamber Test Site Site no. Dis. / Ant. : 10m 09 CBL6112D 25238 : CISPR 22 B(10M) Limit Env. / Ins. : 24*C/56% Engineer : Cain EUT : LCD Monitor M/N:ML17 Power Rating : DC 12V Adapter Input AC 120V/60Hz : Running "H" Pattern Test Mode

: 800*600@75Hz



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Site no. : 10m Chamber Test Site Data No. : 8

Dis. / Ant. : 10m 09 CBL6112D 25237 Ant. pol. : HORIZONTAL

: CISPR 22 B(10M) Limit

Env. / Ins. : 24*C/56% Engineer : Cain

M/N:ML17 EUT : LCD Monitor Power Rating: DC 12V Adapter Input AC 120V/60Hz

Test Mode : Running "H" Pattern : 1280*1024@75Hz

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level dBuV/m)	Limits (dBuV/m)	Magin (dB)	Remark
1 2	30.000 109.540	19.00 11.20	0.54 1.14	1.32 7.01	20.86 19.35	30.00 30.00	9.14 10.65	QP QP
3	167.740	9.54	1.44	14.06	25.04	30.00	4.96	QP
4	267.650	12.46	1.96	12.30	26.72	37.00	10.28	QP
5	439.340	16.20	2.77	7.76	26.73	37.00	10.27	QP
6	481.050	17.11	2.91	8.52	28.54	37.00	8.46	QP

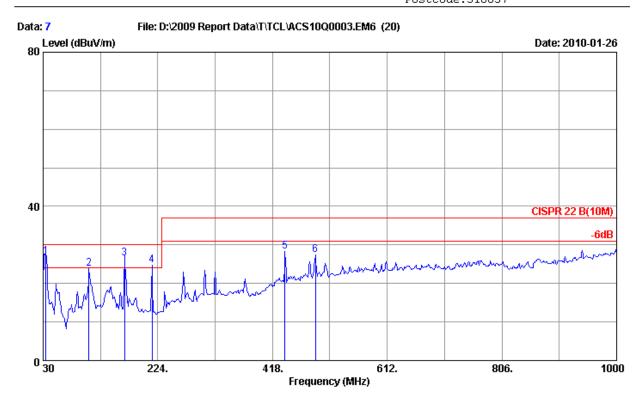
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

- 2. The emission levels that are 20dB below the official limit are not reported.
- 3. The worst emission was detected at 167.740MHz with corrected signal level of 25.04dB μ V/m (Limit is 30.00dB μ V/m) when the antenna was at horizontal polarization and at 2.0m high and the turn table was at 55°.
- 4.0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.



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Site no. : 10m Chamber Test Site Data No. : 7

Limit : CISPR 22 B(10M)

Env. / Ins. : 24*C/56% Engineer : Cain

EUT : LCD Monitor M/N:ML17
Power Rating : DC 12V Adapter Input AC 120V/60Hz

Test Mode : Running "H" Pattern : 1280*1024@75Hz

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level dBuV/m)	Limits (dBuV/m)	Magin (dB)	Remark
1 2	34.850 107.600	16.50 10.80	0.84 1.53	9.64 11.52	26.98 23.85	30.00 30.00	3.02 6.15	QP QP
3	167.740	9.54	1.97	15.00	26.51	30.00	3.49	QP
4	214.300	8.60	2.29	13.81	24.70	30.00	5.30	QP
5	439.340	16.20	3.53	8.59	28.32	37.00	8.68	QP
6	490.750	17.20	3.79	6.36	27.35	37.00	9.65	QP

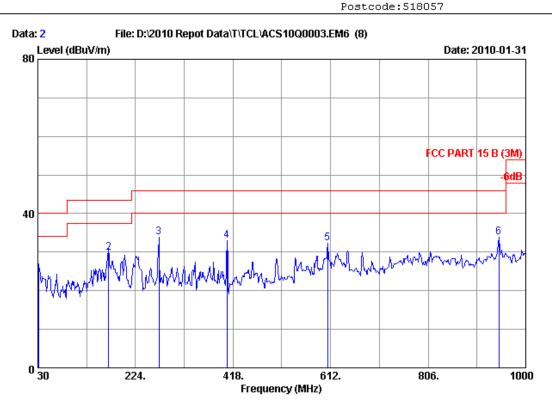
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

- 2. The emission levels that are 20dB below the official limit are not reported.
- 3. The worst emission was detected at 340.850MHz with corrected signal level of 26.98dB μ V/m (Limit is 30.00dB μ V/m) when the antenna was at vertical polarization and at 2.0m high and the turn table was at 310°.
- 4.0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.



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Site no. : 3m chamber Data no. : 2

Dis. / Ant. : 3m 2009 CBL6111C Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B (3M)

Env. / Ins. : 24*C/56% Engineer : Victory

EUT : LCD Monitor M/N:ML17 Power Rating : DC 12V Adapter AC 120V/60Hz

Test Mode : AV IN

No	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits	Margin (dB)	Remark	
1	30.970	19.44	0.53	6.06	26.03	40.00	13.97	QP	
2	170.650	10.10	1.18	18.59	29.87	43.50	13.63	QP	
3	270.560	13.28	1.68	18.91	33.87	46.00	12.13	QP	
4	406.360	16.46	1.95	14.53	32.94	46.00	13.06	QP	
5	606.180	19.78	2.51	10.01	32.30	46.00	13.70	QP	
6	946.650	24.01	3.34	6.51	33.86	46.00	12.14	QP	

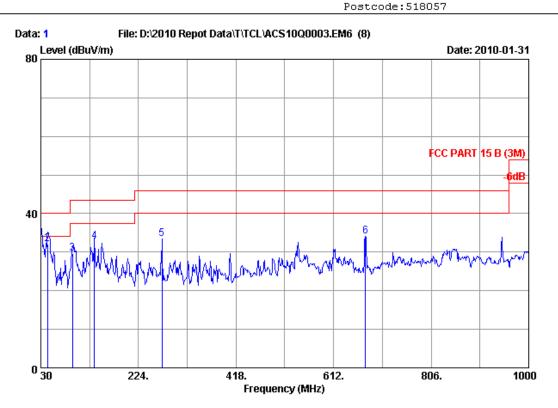
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 3m chamber Data no. : 1

Dis. / Ant. : 3m 2009 CBL6111C Ant. pol. : VERTICAL

Limit : FCC PART 15 B (3M)

Env. / Ins. : 24*C/56% Engineer : Victory

EUT : LCD Monitor M/N:ML17 Power Rating : DC 12V Adapter AC 120V/60Hz

T--- W--- . All IN

Test Mode : AV IN

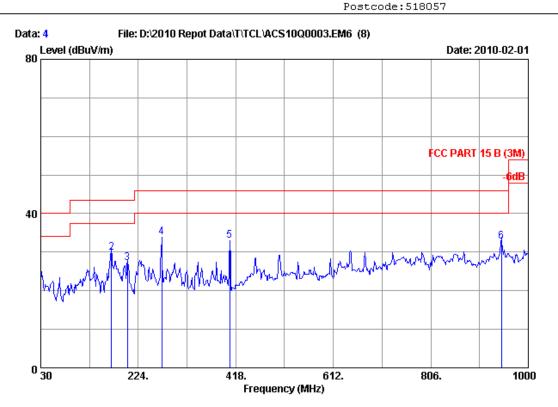
No.	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits	Margin (dB)	Remark	
1	30.000	20.00	0.52	13.17	33.69	40.00	6.31	QP	
2	43.580	12.34	0.61	19.17	32.12	40.00	7.88	QP	
3	93.050	9.46	0.87	19.33	29.66	43.50	13.84	QP	
4	136.700	12.06	1.04	19.55	32.65	43.50	10.85	QP	
5	270.560	13.28	1.68	18.50	33.46	46.00	12.54	QP	
6	675.050	20.75	2.72	10.54	34.01	46.00	11.99	QP	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 3m chamber Data no. : 4

Dis. / Ant. : 3m 2009 CBL6111C Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B (3M)

Env. / Ins. : 24*C/56% Engineer : Victory

EUT : LCD Monitor M/N:ML17
Power Rating : DC 12V Adapter AC 120V/60Hz

Test Mode : S-VIDEO IN

No.	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark	
1	30.400	20.00	0.52	2.76	23.28	40.00	16.72	QP	
2	170.650	10.10	1.18	18.59	29.87	43.50	13.63	QP	
3	202.660	10.06	1.33	15.78	27.17	43.50	16.33	QP	
4	270.560	13.28	1.68	18.91	33.87	46.00	12.13	QP	
5	406.360	16.46	1.95	14.53	32.94	46.00	13.06	QP	
6	946.650	24.01	3.34	5.51	32.86	46.00	13.14	QP	

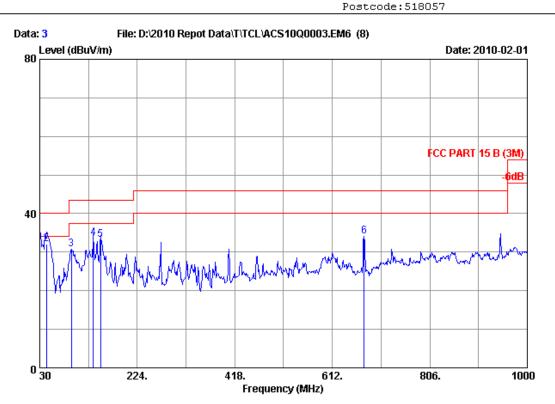
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

The emission levels that are 20dB below the official limit are not reported.



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Site no. : 3m chamber Data no. : 3

Dis. / Ant. : 3m 2009 CBL6111C Ant. pol. : VERTICAL

Limit : FCC PART 15 B (3M)

Env. / Ins. : 24*C/56% Engineer : Victory

EUT : LCD Monitor M/N:ML17

Power Rating: DC 12V Adapter AC 120V/60Hz

Test Mode : S-VIDEO IN

No.	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)		Limits (dBuV/m)	Margin (dB)	Remark	
1	30.300	20.00	0.52	12.17	32.69	40.00	7.31	QP	
2	43.580	12.34	0.61	19.17	32.12	40.00	7.88	QP	
3	93.050	9.46	0.87	20.33	30.66	43.50	12.84	QP	
4	136.700	12.06	1.04	20.55	33.65	43.50	9.85	QP	
5	151.250	11.54	1.10	20.65	33.29	43.50	10.21	QP	
6	675.050	20.75	2.72	10.54	34.01	46.00	11.99	QP	

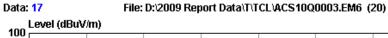
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

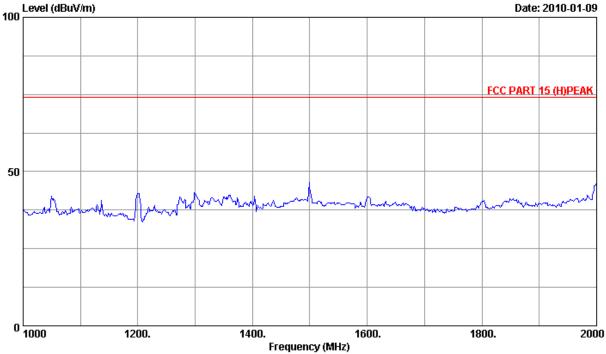
2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 10m Chamber Test Site Data No. : 17

Dis. / Ant. : 3m 2009 3115 ANT Ant. pol. : HORIZONTAL

: FCC PART 15 (H) PEAK Limit

Env. / Ins. : 24*C/56% Engineer : Cain

M/N:ML17 EUT : LCD Monitor

Power Rating : AC 120V/60Hz

Test Mode : Running ''H'' Pattern

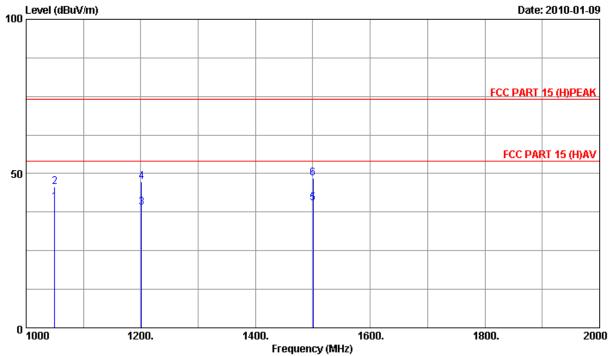
1280*1024@75Hz



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Site no. : 10m Chamber Test Site Data No. : 18

Dis. / Ant. : 3m 2009 3115 ANT Ant. pol. : HORIZONTAL

Limit : FCC PART 15 (H) PEAK

Env. / Ins. : 24*C/56% Engineer : Cain

EUT : LCD Monitor M/N:ML17

Power Rating : AC 120V/60Hz

Test Mode : Running ''H'' Pattern

1280*1024@75Hz

			Ant.	Cable	Amp		Emission			
		Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark
		(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
-										
	1	1049.500	25.38	3.80	34.94	46.50	40.74	54.00	13.26	Average
	2	1049.500	25.38	3.80	34.94	51.50	45.74	74.00	28.26	Peak
	3	1201.200	25.32	4.03	34.75	44.29	38.89	54.00	15.11	Average
	4	1201.200	25.32	4.03	34.75	52.67	47.27	74.00	26.73	Peak
	5	1500.300	25.20	4.47	34.38	45.16	40.45	54.00	13.55	Average
	6	1500.300	25.20	4.47	34.38	53.27	48.56	74.00	25.44	Peak

Remarks: 1. Emission Level=Antenna Factor+Cable Loss-Amp Factor+Reading.

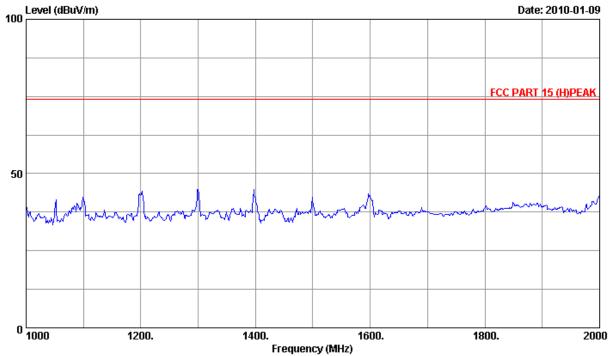
2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 10m Chamber Test Site Data No. : 19
Dis. / Ant. : 3m 2009 3115 ANT Ant. pol. : VERTICAL

Limit : FCC PART 15 (H) PEAK

Env. / Ins. : 24*C/56% Engineer : Cain

EUT : LCD Monitor M/N:ML17

Power Rating : AC 120V/60Hz

Test Mode : Running ''H'' Pattern

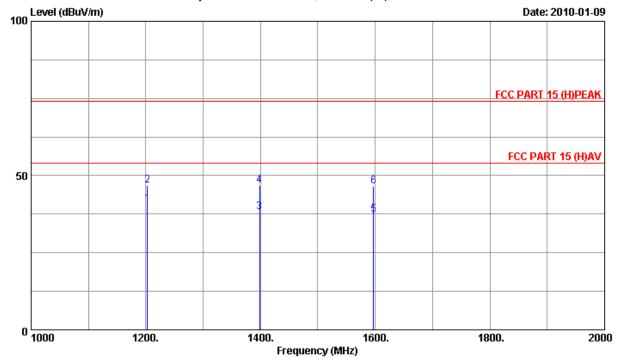
1280*1024@75Hz



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Site no. : 10m Chamber Test Site Data No. : 20 Dis. / Ant. : 3m 2009 3115 ANT Ant. pol. : VERTICAL

Limit : FCC PART 15 (H) PEAK

Env. / Ins. : 24*C/56% Engineer : Cain

EUT : LCD Monitor M/N:ML17

Power Rating : AC 120V/60Hz

Test Mode : Running ''H'' Pattern

1280*1024@75Hz

			Ant.	Cable	Amp		Emission			
		Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark
		(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
-										
	1	1203.100	25.32	4.03	34.75	45.99	40.59	54.00	13.41	Average
	2	1203.100	25.32	4.03	34.75	52.29	46.89	74.00	27.11	Peak
	3	1398.100	25.24	4.31	34.51	43.02	38.06	54.00	15.94	Average
	4	1398.100	25.24	4.31	34.51	51.82	46.86	74.00	27.14	Peak
	5	1597.200	25.42	4.63	34.29	41.55	37.31	54.00	16.69	Average
	6	1597.200	25.42	4.63	34.29	50.84	46.60	74.00	27.40	Peak

Remarks: 1. Emission Level=Antenna Factor+Cable Loss-Amp Factor+Reading.

2. The emission levels that are 20dB below the official limit are not reported.

5. DEVIATION TO TEST SPECIFICATIONS

[NONE]