# APPLICATION FOR CERTIFICATION On Behalf of

**Evervictory Electronic Company Limited** 

**Roof Mount LCD Monitor** 

Model Number: TR-7150C, MM1504

Prepared for: Evervictory Electronic Company Limited

Chu Chi management district, Humen town, Dongguan city,

Guangdong province, China

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

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Report Number : ACS-F07311
Date of Test : Jul.09, 2007
Date of Report : Jul.18, 2007

# **TABLE OF CONTENTS**

Des	escription	Page
Tes	st Report Declaration	
1.	SUMMARY OF STANDARDS AND RESULTS	1-1
	1.1. Description of Standards and Results	1-1
2.	GENERAL INFORMATION	2-1
	2.1. Description of Device (EUT)	
	2.2. Test Facility	
	2.3. Test Uncertainty	2-2
3.	POWER LINE CONDUCTED EMISSION TEST	3-1
4.	RADIATED EMISSION TEST	4-1
	4.1. Test Equipment	4-1
	4.2. Block Diagram of Test Setup	
	4.3. Radiated Emission Limit 30~1000MHz	4-2
	4.4. EUT Configuration on Test	
	4.5. Operating Condition of EUT	4-2
	4.6. Test Procedure	
	4.7. Radiated Emission Test Results	4-3
5.	BANDWIDTH TEST	5-1
	5.1. Test Equipment	5-1
	5.2. Test Information	
	5.3. Test Results	5-1
6.	DEVIATION TO TEST SPECIFICATIONS	6-1
7.	PHOTOGRAPHS OF TEST	

# TEST REPORT CERTIFICATION

Evervictory Electronic Company Limited

Manufacturer Evervictory Electronic Company Limited **EUT Description** Roof Mount LCD Monitor (A) MODEL NO. : TR-7150C, MM1504 (B) SERIAL NO. : N/A (C) POWER SUPPLY: DC 12V Test Procedure Used: FCC Rules and Regulations Part 15 Subpart C 2006 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 C 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 part without written approval of Audix Technology (Shenzhen) Co., Ltd. Date of Test: Jul.09, 2007 YoYo Wong Prepared by: YoYo Wang / Assistant Reviewer: Iceman Hu / Senior Engineer

AUDIX

8 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:

en \u 1/190

Approved & Authorized Signer:

Applicant

Ken Lu / Deputy 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									
<b>Description of Test Item</b>	Standard	Limits	Results						
Conducted Emission Test	FCC Part 15: 15.207 ANSI C63.4: 2003	Part C Limit	N/A						
Radiated Emission Test	FCC Part 15: 15.239 ANSI C63.4: 2003	Part C Limit	PASS						
Bandwidth Test	FCC Part 15: 15.239	Part C Limit	PASS						
N/A is an abbreviation for Not Applicable.									

### 2. GENERAL INFORMATION

2.1.Description of Device (EUT)

Description : Roof Mount LCD Monitor

Model Number : TR-7150C, MM1504

The models name are different only.

MM1504 is for the customer model number.

Working : 88.1MHz to 89.9MHz manually adjusted with 0.2MHz

Frequency separation by press up/down buttons.

Applicant : Evervictory Electronic Company Limited

Chu Chi management district, Humen town, Dongguan city,

Guangdong province, China

Manufacturer : Evervictory Electronic Company Limited

Chu Chi management district, Humen town, Dongguan city,

Guangdong province, China

Date of Test : Jul.09, 2007

Note: We selected 88.1MHz, 89.1MHz and 89.9MHz for all test.

### 2.2.Test Facility

Site Description

3m Anechoic Chamber : Jun. 13, 2006 File on Federal

Communication Commission Registration Number: 90454

3m & 10m Anechoic Chamber : Jan.31, 2007 File on Federal Communication

Commission

Registration Number: 794232

EMC Lab. : Accredited by DATech, German

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

Feb. 02, 2006

Accredited by NVLAP, USA NVLAP Code: 200372-0

Apr. 01, 2006

### 2.3.Test Uncertainty

No.	Item	Uncertainty	Remark
1.	Uncertainty for Radiated Emission Test	3.14dB	3m Chamber
2.	Uncertainty for Bandwidth Emission Test	$0.42 \times 10^{-6} dB$	

### 3. POWER LINE CONDUCTED EMISSION TEST

According to Paragraph (f) of FCC Part 15C , Tests to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines.

### 4. RADIATED EMISSION TEST

# 4.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.
						Interval
1.	EMI Spectrum	HP	85422E	3625A00181	May 11, 07	1 Year
2.	Test Receiver	Rohde & Schwarz	ESVS20	830350/005	May 11, 07	1 Year
3.	Amplifier	HP	8447D	2944A07794	Mar.12, 07	1/2 Year
4.	Bilog Antenna	Schaffner	CBL6111C	2598	Feb.22, 07	1 Year
5.	RF Cable	MIYAZAKI	5D-2W	3# Chamber No.1	Jan. 18, 07	1/2 Year
6.	RF Cable	MIYAZAKI	5D-2W	3# Chamber No.2	Jan. 18, 07	1/2 Year
7.	RF Cable	FUJIKURAw	RG-55/U	3# Chamber No.3	Jan. 18, 07	1/2 Year
8.	RF Cable	FUJIKURA	RG-55/U	3# Chamber No.4	Jan. 18, 07	1/2 Year
9.	Coaxial Switch	Anritsu	MP59B	M73989	Jan. 18, 07	1/2 Year

# 4.2.Block Diagram of Test Setup

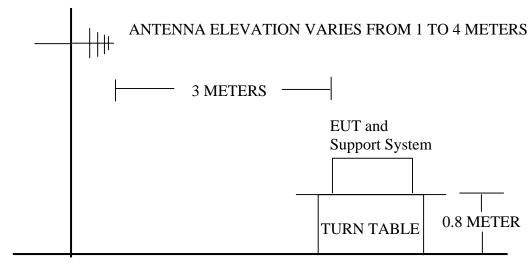
4.2.1.Block Diagram of connection between EUT and simulators

EUT

#### (EUT: Roof Mount LCD Monitor)

4.2.2. Anechoic Chamber Setup Diagram





**GROUND PLANE** 

#### 4.3. Radiated Emission Limit 30~1000MHz

FREQUENCY	DISTANCE	FIELD STRENGTHS LIMIT		
MHz	Meters	μV/m	$dB(\mu V)/m$	
30 ~ 88	3	100	40.0	
88 ~ 108	3		48.0 (Average) 68.0 (Peak)	
88 ~ 216	3	150	43.5	
216 ~ 960	3	200	46.0	
960 ~ 1000	3	500	54.0	

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) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

### 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 which tends to maximize its emission characteristics in normal application.

4.4.1.Roof Mount LCD Monitor (EUT)

Model Number : TR-7150C

Serial Number : N/A

Manufacturer : Evervictory Electronic Company Limited

### 4.5. Operating Condition of EUT

- 4.5.1. Setup the EUT as shown in Section 4.2..
- 4.5.2.Let the EUT work in test modes (FM TX Mode) and test it.

#### 4.6.Test Procedure

The EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on Test. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2003 on radiated emission Test.

This test was performed with EUT in X, Y, Z position (see test photo), and the worse case was found when EUT in X position and this position was also the normal use position

The bandwidth of the EMI test receiver (R&S ESVS20) is set at 120kHz for frequency range from 30MHz to 1000 MHz.

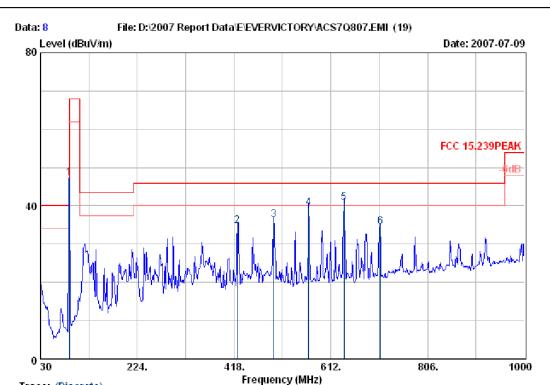
The frequency range from 30MHz to 1000MHz are checked.

The test modes (FM TX Mode) is tested in Anechoic Chamber and all the scanning waveforms are reported on Section 4.7.

#### 4.7. Radiated Emission Test Results

PASS.





Trace: (Discrete)

Data no. : 8 Ant. pol. : HORIZONTAL

: Jamy

	Freq.				Emission Level (dBuV/m)	Limits		Remark
1 2 3 4 5 6	88.10 424.79 497.54 567.38 638.19 710.94	8.76 17.20 18.10 19.30 20.26 20.54	1.85 2.04 2.20 2.39	37.51 15.66 16.09 17.95 18.13 11.61	47.29 34.71 36.23 39.45 40.78 34.50	68.00 46.00 46.00 46.00 46.00 46.00	20.71 11.29 9.77 6.55 5.22 11.50	Peak QP QP QP QP QP





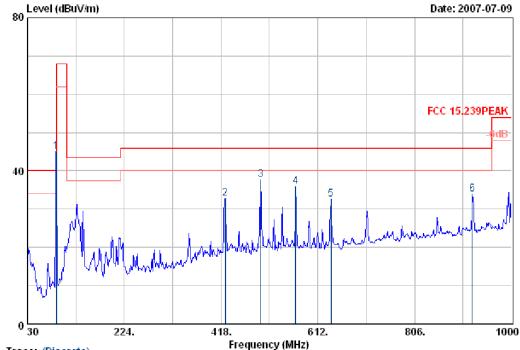
Trace: (Discrete)

Data no. : 9 Ant. pol. : HORIZONTAL

		Factor	Loss		Emissior Level (dBuV/m)	Limits		Remark
1	88.10	8.76	1.02	26.99	36.77	48.00	11.23	Average



#### File: D:\2007 Report Data\E\EVERVICTORY\AC\$7Q807.EMI (19) Level (dBuV/m) 80



Trace: (Discrete)

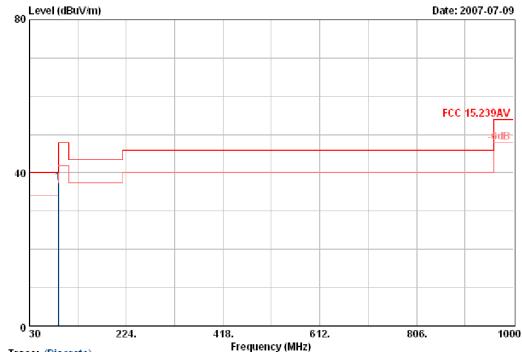
Data no. : 10 Ant. pol. : VERTICAL

: Jamy

	Freq.			Reading	Emission Level (dBuV/m)	Limits		Remark
1 2 3 4 5 6	426.73 497.54 567.38	18.10	1.81 2.04 2.20	35.31 13.79 17.42 14.47 9.95 7.60	45.09 32.72 37.56 35.97 32.60 33.79	68.00 46.00 46.00 46.00 46.00 46.00	22.91 13.28 8.44 10.03 13.40 12.21	Peak QP QP QP QP QP



File: D:\2007 Report Data\E\EVERVICTORY\AC\$7Q807.EMI (19)



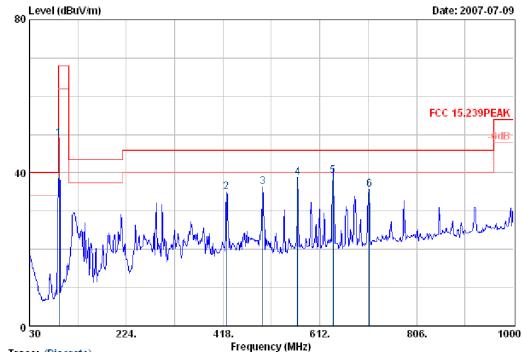
Trace: (Discrete)

Data no. : 11 Ant. pol. : VERTICAL

			Loss	Reading	Emissior Level (dBuV/m)	Limits		Remark
1	88.10	8.76	1.02	27.69	37.47	48.00	10.53	Average



Data: 14 File: D:\2007 Report Data\E\EVERVICTORY\AC\$7Q807.EMI (19)



Trace: (Discrete)

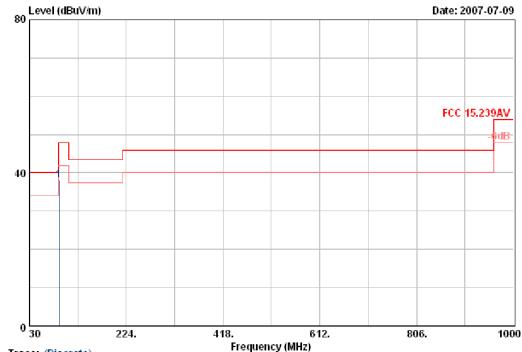
Data no. : 14 Ant. pol. : HORIZONTAL

: Jamy

	Freq.			Reading	Emission Level (dBuV/m)	Limits		Remark
1 2 3 4 5 6	424.79 497.54 567.38 638.19	8.88 17.20 18.10 19.30 20.26 20.54	1.85 2.04 2.20 2.39	39.06 15.89 16.08 17.24 16.46 12.67	48.96 34.94 36.22 38.74 39.11 35.56	68.00 46.00 46.00 46.00 46.00 46.00	19.04 11.06 9.78 7.26 6.89 10.44	Peak QP QP QP QP QP



File: D:\2007 Report Data\E\EVERVICTORY\AC\$7Q807.EMI (19)



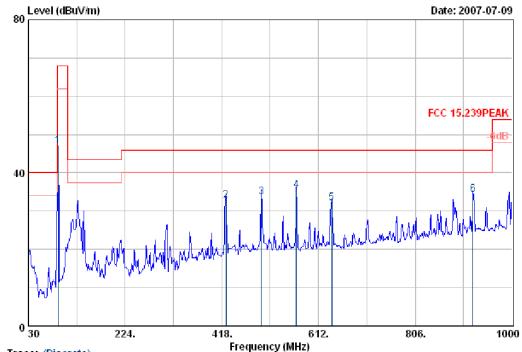
Trace: (Discrete)

Data no. : 15 Ant. pol. : HORIZONTAL

			Loss	Reading	Emissior Level (dBuV/m)	Limits		Remark
1	89.10	8.88	1.02	28.24	38.14	48.00	9.86	Average



Data: 12 File: D:\2007 Report Data\E\EVERVICTORY\AC\$7Q807.EMI (19)



Trace: (Discrete)

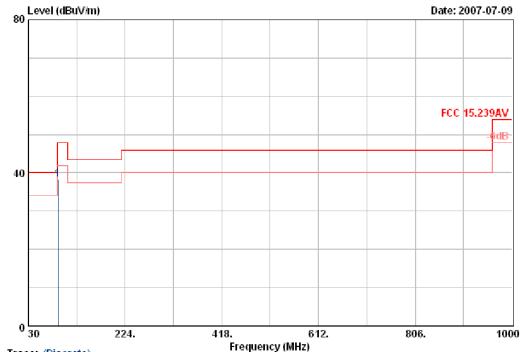
: 12 : VERTICAL Ant. pol.

: Jamy

	Freq. (MHz)	Factor			Emission Level (dBuV/m)	Limits		Remark
1 2 3 4 5	426.73 497.54 567.38	18.10 19.30	1.81 2.04 2.20	13.61 13.92	47.02 32.80 33.75 35.42	46.00 46.00	20.98 13.20 12.25 10.58	Peak QP QP QP
6	638.19 921.43	20.26 23.24	2.39 2.95	9.48 8.05	32.13 34.24	46.00 46.00	13.87 11.76	QP Q <b>P</b>



File: D:\2007 Report Data\E\EVERVICTORY\ACS7Q807.EMI (19)



Trace: (Discrete)

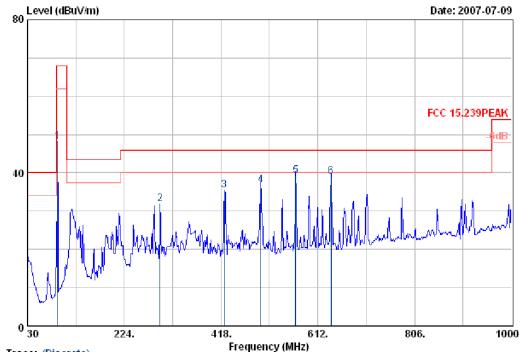
Data no. : 13 Ant. pol. : VERTICAL

: Jamy

		Ant.	Cable		Emission	ì		
					Level			Remark
	(MHz)	(dB/m)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	89.10	8.88	1.02	28.47	38.37	48.00	9.63	Average







Trace: (Discrete)

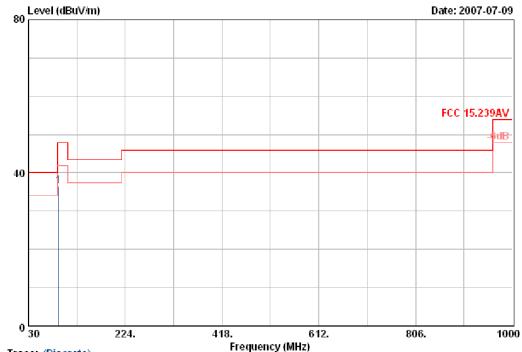
Data no. : 16 Ant. pol. : HORIZONTAL

: Jamy

	Freq.			Reading	Emission Level (dBuV/m)	Limits		Remark
1 2 3 4 5 6	89.90 295.78 424.79 497.54 567.38 638.19	9.00 13.72 17.20 18.10 19.30 20.26	1.55 1.85 2.04 2.20	38.18 16.67 16.36 16.62 17.74 16.24	48.21 31.94 35.41 36.76 39.24 38.89	68.00 46.00 46.00 46.00 46.00 46.00	19.79 14.06 10.59 9.24 6.76 7.11	Peak QP QP QP QP QP



File: D:\2007 Report Data\E\EVERVICTORY\AC\$7Q807.EMI (19)



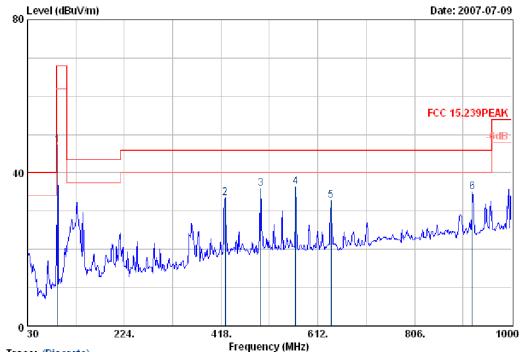
Trace: (Discrete)

Data no. : 17 Ant. pol. : HORIZONTAL

	Freq.	Factor		Reading	Emission Level (dBuV/m)	Limits		Remark
1	89.90	9.00	1.03	26.51	36.54	48.00	11.46	Average







: Jamy

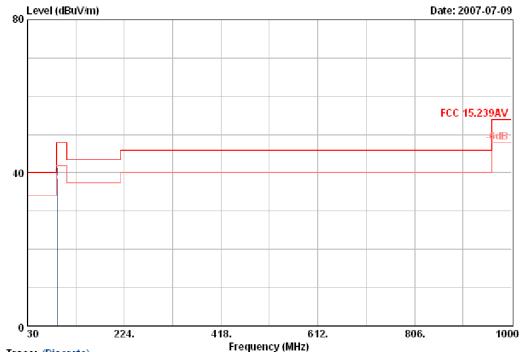
Trace: (Discrete)

Data no. : 18 Ant. pol. : VERTICAL

	Freq.	Factor		Reading	Emissior Level (dBuV/m)	Limits		Remark
1 2 3 4 5 6	426.73 497.54 567.38 638.19	18.10 19.30	1.81 2.04 2.20 2.39	37.15 14.42 15.72 14.82 10.01 8.72	47.18 33.35 35.86 36.32 32.66 34.91	68.00 46.00 46.00 46.00 46.00 46.00	20.82 12.65 10.14 9.68 13.34 11.09	Peak QP QP QP QP QP







Trace: (Discrete)

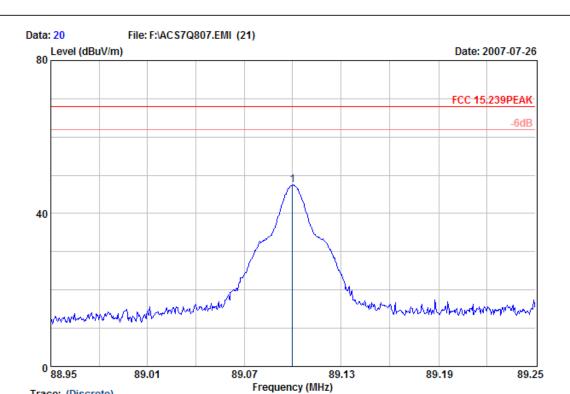
Data no. : 19 Ant. pol. : VERTICAL

		Freq.		Loss	Reading	Emission Level (dBuV/m)	Limits		Remark
_	1	89.90	9.00	1.03	28.55	38.58	48.00	9.42	Average



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Trace: (Discrete)

Site no. : 3# Chamber Radiation Data no. : 20

Dis. / Ant. : 3m 2598 Ant. pol. : HORIZONTAL

Limit : FCC 15.239PEAK

Env. / Ins. : 24\*C/56% ESVS20 Engineer : Jamy

EUT : Roof Mount LCD Monitor M/N:TR-7150C

Power Rating : DC 10.2V Test Mode : FM TX 89.1MHz

	Freq.	Ant. Factor	Cable Loss		Emission Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	89.10	8.88	1.02	37.49	47.39	68.00	20.61	Peak

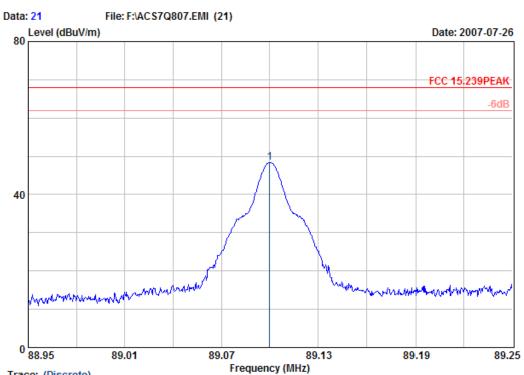
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

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



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Fax:+86-755-26632877 Postcode:518057



Trace: (Discrete)

Site no. : 3# Chamber Radiation Data no. : 21

Dis. / Ant. : 3m 2598 Ant. pol. : HORIZONTAL

: FCC 15.239PEAK Limit

Env. / Ins. : 24\*C/56% ESVS20 Engineer : Jamy

: Roof Mount LCD Monitor M/N:TR-7150C

Power Rating : DC 13.8V Test Mode : FM TX 89.1MHz

	-	Ant. Factor	Loss	Reading	Emission Level (dBuV/m)		_	Remark
	(FIIIZ)				(\abav/10)	(αΒαν/π)		
1	89.10	8.88	1.02	38.49	48.39	68.00	19.61	Peak

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

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

# 5. BANDWIDTH TEST

# 5.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4407B	MY41440292	May 11, 07	1 Year
2.	Amplifier	HP	8447D	2944A07794	May 11, 07	1/2 Year
3.	Bilog Antenna	Schaffner	CBL6111C	2598	Feb.22, 07	1 Year
4.	HF Cable	Hubersuhne	Sucoflex104	_	May 11, 07	1 Year

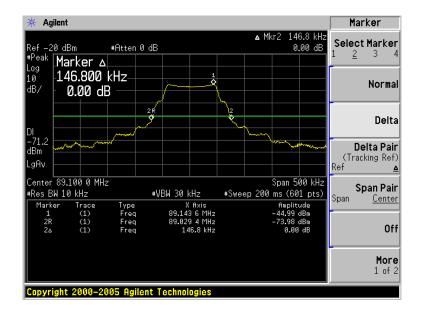
# 5.2.Test Information

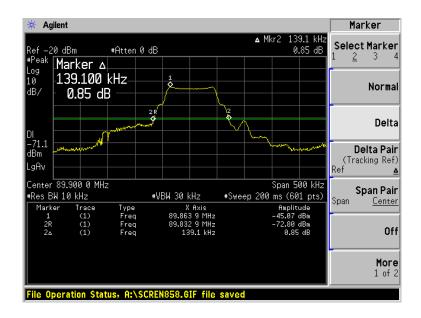
EUT:	Roof Mount LCD Monitor
M/N:	TR-7150C
Test Date:	Jul.09, 2007
Ambient Temperature:	24°C
Relative Humidity:	54%
Test standard:	FCC PART 15C: 15.239
Test mode:	Transmitting
Test signal:	maximum Jazz music TX by FM modulation
Test Frequency:	88.1MHz 89.1MHz 89.9MHz
Test By:	Jamy

# 5.3.Test Results

Test Frequency	Bandwidth (kHz)	Limit (kHz)	Conclusion
88.1MHz	147.6	200	PASS
89.1MHz	146.8	200	PASS
89.9MHz	139.1	200	PASS







# 6. DEVIATION TO TEST SPECIFICATIONS

[NONE]

# 7. PHOTOGRAPHS OF TEST



