



ELECTROMAGNETIC EMISSION COMPLIANCE REPORT FOR FCC CERTIFICATION

Test report file number : E036R-105

Applicant : KTV Global Corporation

Address : 149, Gongdan1-Dong, Gumi-City, KyongSangBuk-Do, Korea

Manufacturer : KTV Global Corporation

Address : 149, Gongdan1-Dong, Gumi-City, KyongSangBuk-Do, Korea

Type of Equipment : 7" TFT LCD Color TV Receiver

FCC ID. : BRFLT07AA

Model Name : LSM-07

Multiple Model Name : LT07AA

Serial number : N/A

Total page of Report : 15 pages (including this page)

Date of Incoming : April 27, 2003

Date of issuing : June 30, 2003

SUMMARY

The equipment complies with the regulation of *FCC CRF 47 PART 15, SUBPART C, SECTION 15.239*.

This test report contains only the results of a single test of the sample supplied for the examination. It is not a general valid assessment of the features of the respective products of the mass-production.

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ONETECH Corp.

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**1. VERIFICATION OF COMPLIANCE**

- APPLICANT : KTV Global Corporation
- ADDRESS : 149, Gongdan1-Dong, Gumi-City, KyongSangBuk-Do, Korea
- CONTACT PERSON : Mr. Eui-Yeun, Kim / Team Leader
- TELEPHONE NO : +82-54-467-3550
- FCC ID : BRFLT07AA
- MODEL NO/NAME : LSM-07
- SERIAL NUMBER : N/A
- DATE : June 30, 2003

DEVICE TYPE	Low Power Communication Device Transmitter
E.U.T. DESCRIPTION	7" TFT LCD Color TV Receiver
THIS REPORT CONCERNS	ORIGINAL GRANT
MEASUREMENT PROCEDURES	Charter 13 of ANSI C63.4/1992
TYPE OF EQUIPMENT TESTED	PRE-PRODUCTION
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	CERTIFICATION
EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)	FCC PART 15 SECTION 15.239
MODIFICATIONS ON THE EQUIPMENT TO ACHIEVE COMPLIANCE	No
FINAL TEST WAS CONDUCTED ON	3 METER OPEN AREA TEST SITE

- This device has shown compliance with the conducted emissions limits in 15.107 adopted under FCC 02-107 (ET Docket 98-80). The device may be marketed after July 11, 2005 affected by the 15.37(j) transition provisions.
- The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.



2. GENERAL INFORMATION

2.1 Product Description

The KTV Global Corporation, Model LSM-07 (referred to as the EUT in this report) is 7" TFT LCD Color TV Receiver that can transmit from 88.3 MHz to 95.0 MHz for audio signal of FM radio receiver. Product specification described herein was obtained from product data sheet or user's manual.

CHASSIS TYPE	Plastic
LIST OF EACH OSC. OR CRY. FREQ.(FREQ. $\geq$ 1MHz)	3.58MHz, 7.6MHz, 8.0MHz
POWER REQUIREMENT	DC 12V from a Car Battery
TX FREQUENCY RANGE	88.3 MHz ~ 95.0 MHz in 100 kHz Steps
NUMBER OF LAYERS	2 Layers
EXTERNAL CONNECTOR	External ANT., AV 1, 2, 3 RCA Jack, External Speaker, Power Input

2.2 Model Differences

- The difference(s) compared to the EUT is as follows:

	Model	Model Differences
Basic Model	LSM-07	
Multiple Model	LT07AA	Only type designation.

2.3 Related Submittal(s) / Grant(s)

- Original submittal only

2.4 Test System Details

The model numbers for all the equipments which were used in the tested system is:

Model	Manufacturer	FCC ID	Description	Connected to
LSM-07	KTV Global Corporation	BRFLT07AA	7" TFT LCD Color TV Receiver(EUT)	-
-	-	N/A	BATTERY	EUT
GHV-S9990	GoldStar	DOC	VCR	EUT
-	-	-	External Antenna & Cables	EUT



2.5 Test Methodology

Radiated testing was performed according to the procedures in chapter 13 of ANSI C63.4/1992. Radiated testing was performed at a distance of 3 meters from EUT to the antenna.

2.6 Test Facility

The open area test site and conducted measurement facilities are located on at 426-1 Daessangryung-Ri, Chowol-Myun, Kwangju-Kun, Kyunggi-Do 464-080 Korea. Description details of test facilities were submitted to the Commission on January 18, 2002. (Registration Number: 92819)



3. SYSTEM TEST CONFIGURATION

3.1 Justification

This device was configured for testing in a typical way as a normal customer is supposed to be used. During the test, the following components were installed inside of the EUT.

DEVICE TYPE	MANUFACTURER	MODEL/PART NUMBER	FCC ID
MAIN B'D	KTV Global Corporation	PLAM06	N/A
LCD PANEL	TORISAN	TM070WA-22L06B	N/A
INVERTER	KTV Global Corporation	PLAM06-D	N/A
TRANSMITTER B'D	KTV Global Corporation	PLAM06-A	N/A
SWITCH B'D	KTV Global Corporation	PLAM06-C	N/A
TV TUNER	SAMSUNG	TCPN9082DA27C	N/A

3.2 EUT exercise Software

The LCD TV Receiver with transmitter continuously transmitted RF signal for the purpose of the measurements during the test.

3.2 Cable Description

Product Name	Power Cord Shielded (Y/N)	I/O cable Shielded (Y/N)	Length (M)
7" TFT LCD Color TV Receiver(EUT)	N	-	1.8(P)
VTR	N	N	1.5(P), 1.2(D)
External Cables	N/A	N	1.5(D)
External Antenna	N/A	N	1.5(D)
Battery	N/A	N (DC Out)	1.8(D)

* The marked "(D)" means the Data Cable and "(P)" means the Power Cable.

3.4 Noise Suppression Parts on Cable

Product Name	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
7" TFT LCD Color TV Receiver(EUT)	N	N/A	Y	BOTH END
VTR	N	N/A	Y	BOTH END
External Cables	N	N/A	N	N/A
External Antenna	N	N/A	N	N/A
Battery	N	N/A	N	N/A



3.5 Equipment Modifications

To achieve compliance to FCC part 15 rules, the following change(s) was made by ONETECH Corp. during compliance testing:

“There was no Modified items during EMI test”

3.6 Configuration of Test System

Line Conducted Test: It needs not to test this requirement, because the EUT supplies from a car battery.

Radiated Emission Test: Preliminary radiated emissions test were conducted using the procedure in ANSI C63.4/1992 8.3.1.1 and 13.1.4.1 to determine the worse operating conditions. Final radiated emission tests were conducted at 3 meter open area test site.

Occupied Bandwidth Measurement:

This measurement is performed with the antenna located close enough to give a full-scale deflection of the modulated carrier on the spectrum analyzer. The image is taken at 100kHz/division frequency span, 10kHz resolution bandwidth and 10dB/division logarithmic display from an 8568B spectrum analyzer.

3.7 Antenna Requirement

For intentional device, according to section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

Antenna Construction:

FM transmitter antenna of the EUT is fixed inside the EUT, no consideration of replacement by the user.



4. PRELIMINARY TEST

4.1 AC Power line Conducted Emission Test

During Preliminary Test, the following operating mode was investigated

Operation Mode	The Worse operating condition (Please check one only)
N/A	N/A
It is not need to test this requirement, because the power of the EUT is supplied from a Car battery.	

4.2 Radiated Emission Test

During Preliminary Test, the following operating mode was investigated

Operation Mode	The Worse operating condition (Please check one only)
Transmit RF Signal continuously	X

**5. FINAL RESULT OF MEASUREMENT**

Preliminary test was done in normal operation mode. And the final measurement was selected for the maximized emission level

5.1 Radiated Emission Test (Within the permitted 200kHz band)

The following table shows the highest levels of radiated emission on both polarizations of horizontal and vertical.

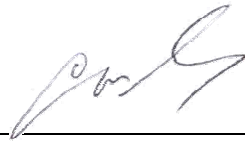
Humidity Level : 50 % Temperature : 19 °C
 Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.239
 Type of Test : Low Power Communication Device Transmitter
 Result : PASSED BY – 3.51 dB at 95.00 MHz

EUT : 7" TFT LCD Color TV Receiver Date: April 28, 2003
 Operating Condition : Transmit the RF signal.
 Distance : 3 Meter

Radiated Emission			Ant	Correction Factors		Total	Limit (dBuV/m)	Margin (dB)
Freq. (MHz)	Amp. (dBuV)	Detect Mode	Pol.	Ant. (dBuV/m)	Cable (dB)	Amp. (dBuV/m)		
88.30	30.50	Peak	V	10.10	0.38	40.98	48.00	-7.02
88.30	26.70	Average	V	10.10	0.38	37.18	48.00	-10.82
95.00	32.60	Peak	H	11.58	0.31	44.49	48.00	-3.51
95.00	28.90	Average	H	11.58	0.31	40.79	48.00	-7.21

Radiated Emission Tabulated Data

Remark: Measurements were performed 1 near top and 1 near bottom location in the frequency range of operation according to the section 15.31 (m).


Tested by: In-Sub, Youn/ Test Engineer



5.2 Radiated Emission Test (Outside of the specified 200kHz band)

The following table shows the highest levels of radiated emission on both polarizations of horizontal and vertical.

Humidity Level : 50 % Temperature : 19 °C
 Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.209
 Type of Test : Low Power Communication Device Transmitter
 Result : PASSED BY -5.85dB at 177.97MHz

EUT : 7" TFT LCD Color TV Receiver Date: April 28, 2003
 Operating Condition : Transmit the RF signal.
 Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)
 Distance : 3 Meter

Radiated Emission		Ant	Correction Factors		Total	FCC	
Freq. (MHz)	Amp. (dBuV)	Pol.	Ant. (dBuV/m)	Cable (dB)	Amp. (dBuV/m)	Limit (dBuV/m)	Margin (dB)
176.60	29.50	H	8.97	0.63	39.10	43.52	-4.42
264.90	28.70	H	12.34	0.70	41.74	46.02	-4.28
353.20	24.80	H	14.78	0.67	40.25	46.02	-5.77
529.80	10.20	V	17.91	0.82	28.93	46.02	-17.09

-. Above test values are the harmonics of the 88.30MHz

Radiated Emission		Ant	Correction Factors		Total	FCC	
Freq. (MHz)	Amp. (dBuV)	Pol.	Ant. (dBuV/m)	Cable (dB)	Amp. (dBuV/m)	Limit (dBuV/m)	Margin (dB)
190.00	29.10	H	10.21	0.53	39.84	43.52	-3.68
285.00	27.90	H	12.99	0.64	41.53	46.02	-4.49
380.00	21.50	H	15.11	0.69	37.30	46.02	-8.72
570.00	8.60	V	18.67	0.93	28.24	46.02	-17.78

-. Above test values are the harmonics of the 95.00 MHz



Date: April 28, 2003

Radiated Emission		Ant	Correction Factors		Total	FCC	
Freq. (MHz)	Amp. (dBuV)	Pol.	Ant. (dBuV/m)	Cable (dB)	Amp. (dBuV/m)	Limit (dBuV/m)	Margin (dB)
40.00	12.30	V	12.33	0.47	25.10	40.00	-14.90
51.90	15.10	V	11.91	0.24	27.25	40.00	-12.75
116.40	13.40	H	9.87	0.56	23.83	43.52	-19.69
120.50	17.30	H	9.16	0.46	26.92	43.52	-16.60
132.30	18.80	H	7.73	0.27	26.80	43.52	-16.72
142.30	22.70	H	7.33	0.31	30.34	43.52	-13.18
152.30	17.70	H	7.61	0.47	25.78	43.52	-17.74
161.50	24.50	H	8.09	0.39	32.98	43.52	-10.54
172.30	18.30	H	8.63	0.54	27.47	43.52	-16.05
232.80	14.90	H	11.74	0.64	27.28	46.02	-18.74
243.00	16.30	H	12.11	0.58	28.99	46.02	-17.03
312.30	12.10	H	13.56	0.68	26.34	46.02	-19.68
333.90	11.40	H	14.28	0.54	26.22	46.02	-19.80

-. Above test values are the other emissions.

Tested by: In-Sub, Youn/ Test Engineer



5.3 Bandwidth of the operating frequency

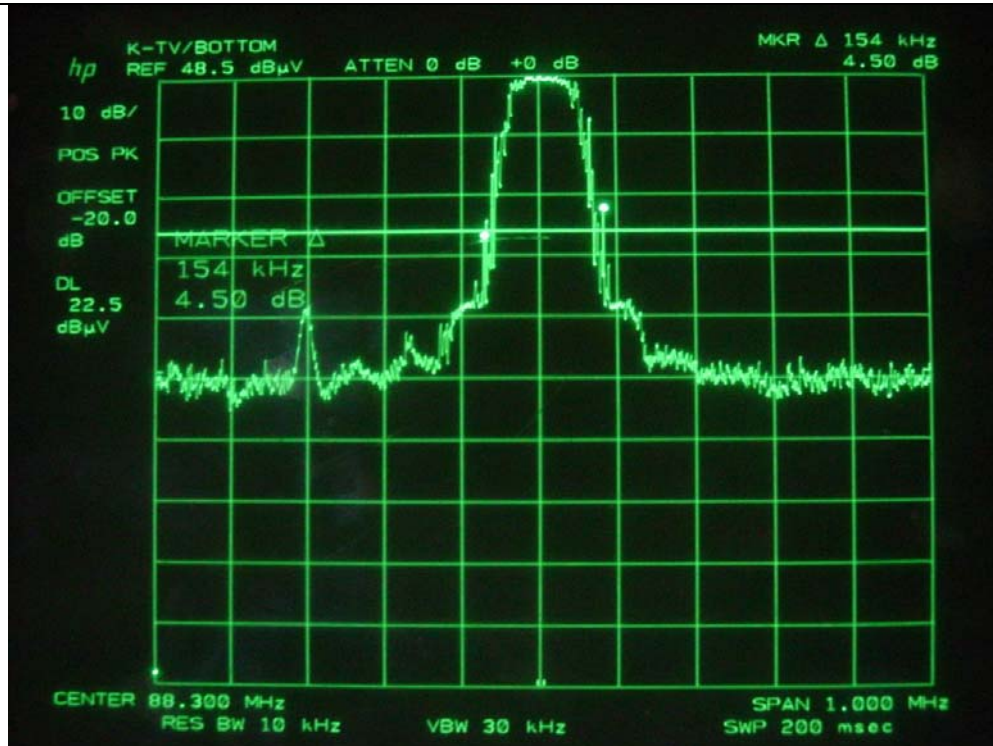
Humidity Level : 53 % Temperature : 20 °C
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.239
Result : PASSED

EUT : 7" TFT LCD Color TV Receiver Date: April 28, 2003
Operating Condition : Transmit the RF signal.
Minimum Resolution
Bandwidth : 10 kHz

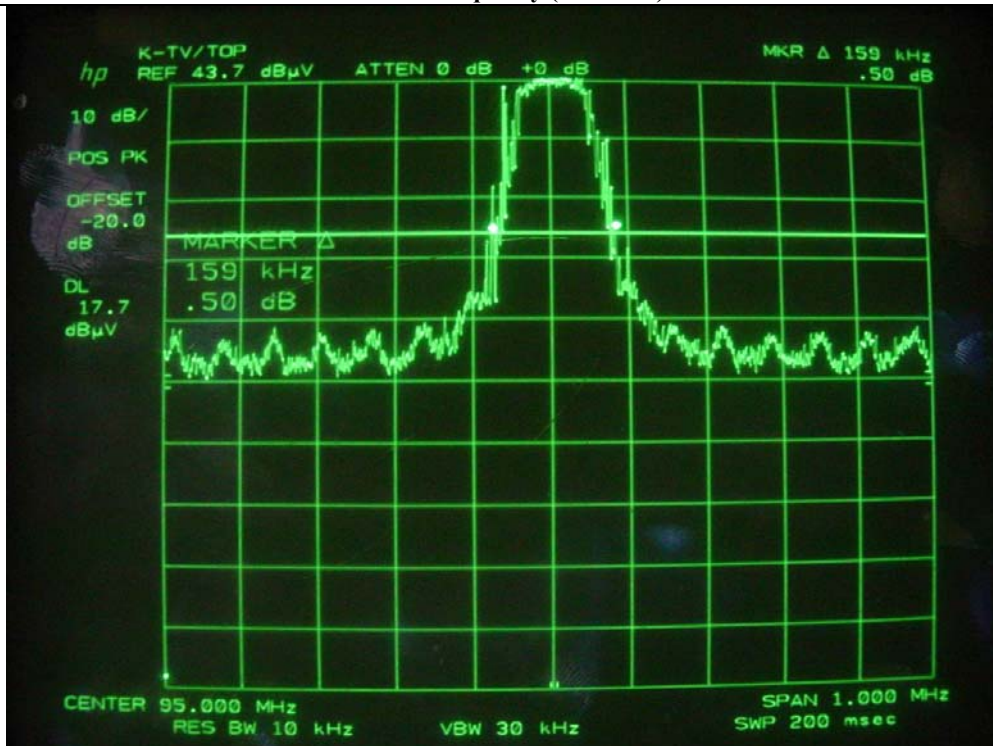
Remark: Measurements were performed 1 near top and 1 near bottom location in the frequency range of operation according to the section 15.31 (m).

Refer to test data in next page.

Tested by: In-Sub, Youn/ Test Engineer



Bottom Frequency (88.3MHz)



Top Frequency (95.0MHz)



6. FIELD STRENGTH CALCULATION

Meter readings are compared to the specification limit correcting for antenna and cable losses

+ Meter reading (dBuV)

+ Cable Loss (dB)

+ Antenna Factor (Loss) (dB/meter)

= Corrected Reading (dBuV/meter)

- Specification Limit (dBuV/meter)

= dB Relative to Spec (+/- dB)

**7. LIST OF TEST EQUIPMENT**

No.	EQUIPMENTS	MFR.	MODEL	SER. NO.	LAST CAL	DUE CAL	USE
1.	Test receiver	R/S	ESVS 10	827864/005	APR/02	12MONTH	■
2.	Test receiver	R/S	ESHS 10	834467/007	NOV/02	12MONTH	
3.	Spectrum analyzer	HP	8566B	3407A08547	AUG/02	12MONTH	
4.	Spectrum analyzer	HP	8568B	3109A05456	APR/02	12MONTH	■
5.	RF preselector	HP	85685A	3107A01264	APR/02	12MONTH	■
6.	Quasi-Peak Adapter	HP	85650A	3107A01542	APR/02	12MONTH	■
7.	TRILOG Broadband Antenna	Schwarzbeck	VULB9163	VULB9163 166	FEB/03	12MONTH	■
8.	Biconical antenna	EMCO	3104C	9109-4441 9109-4443 9109-4444	APR/02	12MONTH	
9.	Log Periodic antenna	EMCO	3146	9109-3213 9109-3214 9109-3217	APR/02	12MONTH	
10.	LISN	EMCO	3825/2	9109-1867 9109-1869	AUG/02	12MONTH	
11.	Position Controller	EMCO	1090	9107-1038	N/A	N/A	■
12.	Turn Table	EMCO	1080-1.21	9109-1576	N/A	N/A	■
13.	Antenna Master	EMCO	1070-1	9109-1624	N/A	N/A	■