ELECTROMAGNETIC EMISSION COMPLIANCE REPORT FOR FCC CLASS B CERTIFICATION

Test Report No.	**: E05DR-018**
Applicant	**: KTV GLOBAL CORPORATION**
Address	**: 149, Gongdan 1-Dong, Gumi-City, Kyungbuk, 730-031, Korea**
Manufacturer	**: KTV GLOBAL CORPORATION**
Address	**: 149, Gongdan 1-Dong, Gumi-City, Kyungbuk, 730-031, Korea**
Type of Equipment	**: 8.5" LCD TV (FM Transmitter)**
FCC ID	**: BRFLTD85AA**
Model Name	**: LTD85AA**
Multiple Model Name	**: LSMD-85**
Serial number	**: N/A**
Total page of Report	**: 14 pages (including this page)**
Date of Incoming	**: August 22, 2005**
Date of Issuing	**: December 08, 2005**

SUMMARY

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

This test report contains only the result 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

Prepared by:
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ONETECH Corp.

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1. VERIFICATION OF COMPLIANCE

APPLICANT	: KTV GLOBAL CORPORATION
ADDRESS	: 149, Gongdan 1-Dong, Gumi-City, Kyungbuk, 730-031, Korea
CONTACT PERSON	: Mr. Eui-Yeun, Kim / Team Leader
TELEPHONE NO	: +82-54-467-3550
FCC ID	: BRFLTD85AA
MODEL NO/NAME	: LTD85AA
SERIAL NUMBER	: N/A
DATE	: December 08, 2005

EQUIPMENT CLASS	DXX - Low Power Communication Device Transmitter
E.U.T. DESCRIPTION	8.5" LCD TV (FM Transmitter)
THIS REPORT CONCERNS	ORIGINAL GRANT
MEASUREMENT PROCEDURES	Chapter 13 of ANSI C63.4: 2003
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	Yes
FINAL TEST WAS CONDUCTED ON	3 METER OPEN AREA TEST SITE

-. 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.

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2. GENERAL INFORMATION

2.1 Product Description

The KTV GLOBAL CORPORATION, Model LTD85AA (referred to as the EUT in this report) is an 8.5" LCD TV that is used in the car. 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.>=1MHz)	7.6 MHz, 4.43 MHz, 3.58 MHz and 24 MHz on the Main Board
NUMBER OF LAYERS	2 Layers: Control Board, 4 Layers: Main Board
TX FREQUENCY RANGE	88.3 ~ 90.3 MHz
ELECTRICAL RATING	DC 12V from a car battery

2.2 Model Differences

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

	Model	Model Differences
Basic Model	LTD85AA	-
Multiple Model	LSMD-85	Only type designation because of buyer's request.

2.3 Related Submittal(s) / Grant(s)

Original submittal only

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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
LTD85AA	KTV GLOBAL CORPORATION.	BRFLTD85AA	8.5" LCD TV (EUT)	-
LCM19AA	KTV GLOBAL CORPORATION	DoC	Monitor	EUT
DVD2000	Taeyoung Telstar	N/A	DVD Player	EUT
-	-	N/A	Battery	EUT
LT416	LEADER	N/A	Pattern Generator	EUT

2.5 Test Methodology

The radiated testing was performed according to the procedures in ANSI C63.4: 2003 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 307-51 Daessangryung-Ri, Chowol-Eup, Kwangju-City, Kyunggi-Do, 464-080, Korea. Description details of test facilities were submitted to the Commission on April 04, 2003. (Registration Number: 340658)

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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 Board	LTD85AA 300	KTV GLOBAL CORPORATION	N/A
Sub Board 1	PLAZ12-1	KTV GLOBAL CORPORATION	N/A
Sub Board 2	PLAZ12-2	KTV GLOBAL CORPORATION	N/A
A/V Board	PLAM1	N/A	N/A
DVD	DVD-C01WA1	N/A	N/A
FM Transmitter	LTD85AA-M-3	KTV GLOBAL CORPORATION	N/A

3.2 EUT exercise Software

The Model, LTD85AA is included a FM transmitter designed to operate on function in the 88.3 ~ 90.3 MHz.
The EUT was received broadcast signal including 1 kHz audio signal from pattern generator and then the EUT was transmitted with maximum audio level. The frequency, 90.3 MHz was measured as the highest output power. Data from this channel was determined to be worst case.

3.3 Cable Description

	Power Cord Shielded (Y/N)	I/O cable Shielded (Y/N)	Length (M)
8.5" LCD TV	N	Y	1.5(P), 1.5(D)
Monitor	N	N	1.5(P), 1.5(D)
DVD Player	N	N	1.5(P), 1.5(D)
BATTERY	N/A	N	1.5(D)
EXTERNAL ANTENNA	N/A	N	1.5(D)
PATTERN GENERATOR	N	N	1.5(P), 1.5(D)

* The marked “(P)” means the Power Cable and “(D)’ means Signal Cable.

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3.4 Noise Suppression Parts on Cable

	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
8.5" LCD TV	Y	EUT END	-	-
Monitor	N	N/A	Y	BOTH END
DVD Player	N	N/A	Y	BOTH END
BATTERY	N	N/A	N	N/A
EXTERNAL ANTENNA	N	N/A	N	N/A
PATTERN GENERATOR	N	N/A	Y	BOTH END

3.5 Equipment Modifications

-. The ground was connected between the main PCB and sub-PCB.
-. The EMI tape was added between the DVD case and ground.
-. The ferrite core was added to the AV cable.
-. The ferrite care was added to the internal cable(data line).
-. The ferrite care was added to the DC input line.
-. The ground of A/V board was disconnected, and the capacitor was added to the data line and connected to the ground.
-. The capacitor was added to the main board and connected to the PCB ground.

3.6 Configuration of Test System

Line Conducted Test: It does not need to test this requirement, because of the power of the EUT is supplied from a DC battery.

Radiated Emission Test: Preliminary radiated emission test was conducted using the procedure in ANSI C63.4: 2003 8.3.1.1 and 13.1.4.1 to determine the worse operating conditions. Final radiated emission test was conducted at 3 meters 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.

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:

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

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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)
It does not need to test this requirement, because of the power of the EUT is supplied from a DC 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 the RF Signal continuously	X

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5. FINAL RESULT OF MEASURMENT

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 200 kHz band)

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

Humidity Level : 41 % Temperature: 17 °C
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.239 (b)
Type of Test : Low Power Communication Device Transmitter
Result : PASSED BY –8.02 dB at 88.30 MHz

EUT : 8.5" LCD TV Date: December 07, 2005
Operating Condition : Transmit the RF signal.
Distance : 3 Meter

Radiated Emission			Ant	Correction Factors		Total	Limit	Margin
Freq. (MHz)	Amp. (dBuV)	Detect Mode	Pol.	Ant. (dBuV/m)	Cable (dB)	Amp. (dBuV/m)	(dBuV/m)	(dB)
88.30	30.30	Peak	V	7.95	1.73	39.98	48.00	-8.02
88.30	29.90	Peak	H	7.95	1.73	39.58	48.00	-8.42
90.30	28.94	Peak	V	8.25	1.71	38.90	48.00	-9.10
90.30	28.64	Peak	H	8.25	1.71	38.60	48.00	-9.40

Radiated Emission Tabulated Data

Remark: Per 15.31(m), because the EUT's frequency range is between 1 MHz to 10 MHz, two channels(near top and near bottom) were tested.

Tested by: Do-Sub, Choi / Project Engineer

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

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

Humidity Level : 41 % Temperature: 17 °C
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.209 (c)
Type of Test : Low Power Communication Device Transmitter
Result : PASSED BY –4.46 dB at 950.33 MHz

EUT : 8.5" LCD TV Date: December 07, 2005
Operating Condition : Transmit the RF signal.
Frequency range : 30MHz – 1000MHz
Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)
Distance : 3 Meter
Remark : Other emissions

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)
57.87	26.00	V	8.10	1.40	35.50	40.00	-4.50
128.04	22.20	V	13.68	2.16	38.04	43.52	-5.48
202.64	16.10	V	15.95	2.82	34.87	43.52	-8.65
510.50	13.50	V	17.47	5.46	36.43	46.02	-9.59
850.50	8.40	V	22.56	7.10	38.06	46.02	-7.96
950.33	7.50	V	22.56	8.20	38.26	46.02	-7.76

Tested by: Do-Sub, Choi / Project Engineer

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5.3 Bandwidth of the operating frequency

Humidity Level	: 44 %	Temperature: 21 °C
Limits apply to	: FCC CFR 47, PART 15, SUBPART C, SECTION 15.239 (a)	
Result	: PASSED	

EUT	: 8.5" LCD TV	Date: December
07, 2005		
Operating Condition	: Transmit the RF signal.	
Minimum Resolution		
Bandwidth	: 10 kHz	
Remark	: Refer to test data in next page.	

Tested by: Do-Sub, Choi / Project Engineer

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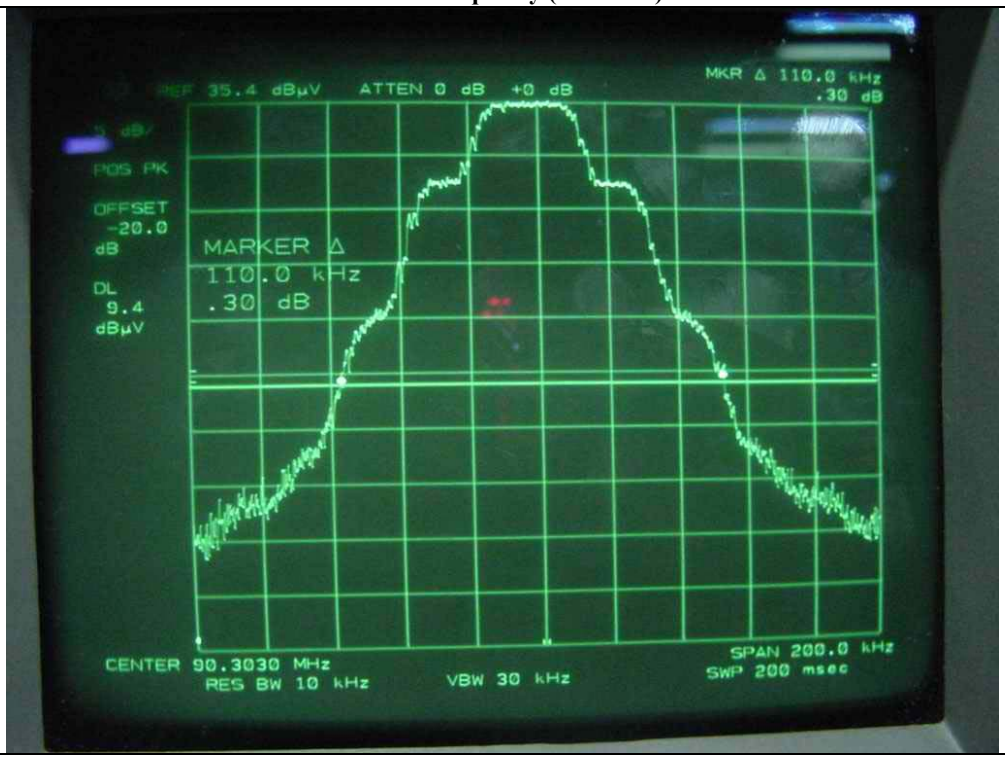
Bottom Frequency (88.3MHz)



Top Frequency(90.3 MHz)

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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)

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7. LIST OF TEST EQUIPMENT

No.	EQUIPMENTS	MFR.	MODEL	SER. NO.	LAST CAL	DUE CAL	USE
1.	Test receiver	R/S	ESVS10	827864/005	DEC/04	12MONTH	■
2.	Test receiver	R/S	ESHS 10	834467/007	MAY/05	12MONTH	
3.	Spectrum analyzer	HP	8566B	3407A08547	JUL/05	12MONTH	
4.	Spectrum analyzer	HP	85680B	3001A04955	APR/05	12MONTH	■
5.	RF preselector	HP	85685A	3107A01264	APR/05	12MONTH	■
6.	Quasi-Peak Adapter	HP	8574B	2811A01432	APR/05	12MONTH	■
7.	TRILOG Broadband Antenna	Schwarzbeck	VULB9163	VULB9163 166	APR/05	12MONTH	
8.	Biconical antenna	EMCO	3110	9003-1121	FEB/05	12MONTH	
		Schwarzbeck	VHA9103	91031852	JAN/05		■
9.	Log Periodic antenna	EMCO	3146	9001-2614	FEB/05	12MONTH	
		Schwarzbeck	9108-A(494)	62281001	FEB/05		■
10.	LISN	EMCO	3825/2	9109-1867	JUL/05	12MONTH	
				9109-1869	JUL/05		
		Schwarzbeck	NSLK 8126	8126-404	AUG/05		
11.	Position Controller	HD GmbH	HD100	N/A	N/A	N/A	■
12.	Turn Table	HD GmbH	DS420S	N/A	N/A	N/A	■
13.	Antenna Master	HD GmbH	MA240	N/A	N/A	N/A	■

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