

TEST REPORT

FCC RULES Part 15 Subpart C

Report File No. : STROR-05-046
Date of Issue : Nov. 17, 2005
Kind of Product : FM Transmitter
Model Name : ET-E10
FCC ID : TPKFMTETE10
Manufacturer : URITECH CO., LTD.
Serial No. : _____
Test Result : Complied

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VERIFICATION OF COMPLIANCE

Applicant : ULIM TECHNO Co., Ltd.
Kind of Product : FM Transmitter
Brand Name : -
Model Name : ET-E10
Model Difference : -
Report File No. : STROR-05-046
Date of test : Nov. 01, 2005 ~ Nov. 17, 2005
Receiver EUT : -

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
Part 15 Subpart C §15.209& §15.239	Complied

The above equipment was tested by SGS Testing Korea Co., Ltd. for compliance with the requirements set forth in the FCC RULES Part 15 Subpart §15.209& §15.239. The results of testing in this report apply to the product system that was tested only. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Tested By:



Date

Nov 17, 2005

Feel Jeong

Approved By



Date

Nov 17, 2005

Albert Lim

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1. 1. GENERAL DESCRIPTION OF EUT

The ULIM TECHNO Co., Ltd.'s Model ET-E10 is a FM transmitter. This device let you listen to any portable music device over any FM tuner and speaker setup, without clumsy or constricting cable hookup. It is the perfect way to simply and efficiently listen to MP3s, CDs, mini-discs, and other formats in the comfort of your car.

2. GENERAL INFORMATION OF EUT

Transmitter

Power Supply	*DC 12V or *DC 24V
Operating Frequency	88.3~88.9 MHz
Modulation Type	FM
Operating Temperature	-10? ~+50?
Frequency Generation	PLL
Communication method	One-way
Channel Number	3 CH
Antenna Type	Wire Ant

***DC 12V or DC 24 V is powered from an automobile system.**

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3. Test Procedure

The test procedures are performed following the test stands ANSI C.63.4-2003, if applicable.

3.1 Conducted Emission

Testing was performed according ANSI C.63.4-2003 in a shielded room with peripherals placed on a table, 0.8m high over a metal floor.

It was located more than required distance away from the shield room wall.

3.2 Radiated Emission

Testing was performed according ANSI C.63.4-2003 at open field test site. The EUT was placed in a 0.8m high table along with the peripherals.

The turn table was separated from the antenna distance 3 meters. Cables were placed in a position to produce maximum emissions as determined by experimentation and operation mode was selected for maximum. The frequencies and amplitudes of maximum emission were measured at vary azimuths, antenna heights and antenna polarities. Reported are maximized emission levels.

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4. Test Condition

4.1 Test Configuration

The device was configured for testing in a typical fashion (as a customer would normally use it). During the tests, the EUT and the supported equipments were installed to meet FCC requirement and operated in a manner, which tends to maximize its emission level in a typical application.

Conducted Emission Test

It's not applicable, because the EUT is supplied from a DC battery.

Radiated Emission Test

Preliminary radiated emission tests were conducted using the procedure in ANSI C63.4-2003 clause 8.3.1.1. to determine the worst operating condition. Final radiated emission tests were measured at 3 meter open field test site. To complete the test configuration required by the FCC, the EUT was tested in all three orthogonal planes.

4.2 EUT Operation

EUT was tested according to the following operation modes provided by the specifications given by the manufacturer, and reported the worst emissions.

4.3 Peripherals / Support Equipment Used

Following peripheral devices and interface cables were connected during the measurement.

Type of Peripheral Equipment Used:

Description	Model Name	Serial NO	Manufacturer
MP3 Player	DAH-1400	-	Hyun Won Inc.
DC Power Supply	DAE GIL	-	DGD-300

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5. Field Strength FCC Part 15, Subpart C, Section 15.239

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

Humidity Level : 48%

Temperature: 25?

Radiated Emissions			Ant	Correction Factors		Total	FCC Limit	
Frequency (MHz)	Reading (dBuV/m)	Detect Mode	Pol.	Ant. (dB/m)	Cable (dB)	Actual (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
88.3	29.3	Peak	H	8.24	0.94	38.48	48	9.52
88.7	28.3	Peak	H	8.32	0.94	37.55	48	10.45
88.9	28.6	Peak	H	8.35	0.94	37.89	48	10.11

Test Equipment Used

EQUIPMENT	MANUFACTURER	MODEL	CAL DUE.
Spectrum Analyzer	H/P	8593E	Sep.2006
Test Receiver	Rohde & Schwarz	ESVS 10	Dec.2005
Biconical Antenna	Schwarzbeck	VHA9103	Mar.2006
DC Power Supply	DAE GIL	DGD-300	Jan.2006
Anechoic Chamber	Seo Young EMC	-	-

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6. Spurious Emission FCC Part 15, Subpart C, Section 15.209

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

Humidity Level : 48%

Temperature: 25?

Low Frequency: 88.3 MHz

Radiated Emissions			Ant	Correction Factors		Total	FCC Limit	
Frequency (MHz)	Reading (dBuV/m)	Detect Mode	Pol.	Ant. (dB/m)	Cable (dB)	Actual (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
176.01	5.0	Q.P.	H	15.62	1.35	21.98	43.52	21.54
264.90	3.0	Q.P.	H	16.58	1.71	21.29	46.00	24.71
353.20	3.5	Q.P.	H	16.15	1.94	21.59	46.00	24.41
441.50	3.4	Q.P.	H	17.74	2.18	23.32	46.00	22.68

Middle Frequency: 88.7 MHz

Radiated Emissions			Ant	Correction Factors		Total	FCC Limit	
Frequency (MHz)	Reading (dBuV/m)	Detect Mode	Pol.	Ant. (dB/m)	Cable (dB)	Actual (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
177.41	4.2	Q.P.	H	15.64	1.36	21.20	43.52	22.30
266.11	3.0	Q.P.	H	16.56	1.71	21.27	46.00	24.73
354.80	3.2	Q.P.	H	16.17	1.94	21.31	46.00	24.69
443.50	3.4	Q.P.	H	17.79	2.19	23.38	46.00	22.62

High Frequency: 88.9 MHz

Radiated Emissions			Ant	Correction Factors		Total	FCC Limit	
Frequency (MHz)	Reading (dBuV/m)	Detect Mode	Pol.	Ant. (dB/m)	Cable (dB)	Actual (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
117.80	5.0	Q.P.	H	15.65	1.36	22.01	43.52	21.49
266.70	4.0	Q.P.	H	16.54	1.71	22.26	46.00	23.74
355.60	3.1	Q.P.	H	16.18	1.94	21.22	46.00	24.78
444.50	4.0	Q.P.	H	17.82	2.19	24.01	46.00	21.99

Remark: Other spurious frequencies were not found up to 2000 MHz

Notes : 1. H: Horizontal polarization, V: Vertical polarization
2. Emission Level =Reading +Antenna Factor + Cable Loss

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Test Equipment Used

EQUIPMENT	MANUFACTURER	MODEL	CAL DUE.
Spectrum Analyzer	H/P	8593E	Sep.2006
Test Receiver	Rohde & Schwarz	ESVS 10	Dec.2005
Log-periodic Antenna	Rohde & Schwarz	UHALP9107	May 2006
Horn Antenna	Schwarzbeck	BBHA9120D(0600)	Jul.2006
Biconical Antenna	Schwarzbeck	VHA9103	Mar.2006
Anechoic Chamber	Seo Young EMC	-	-

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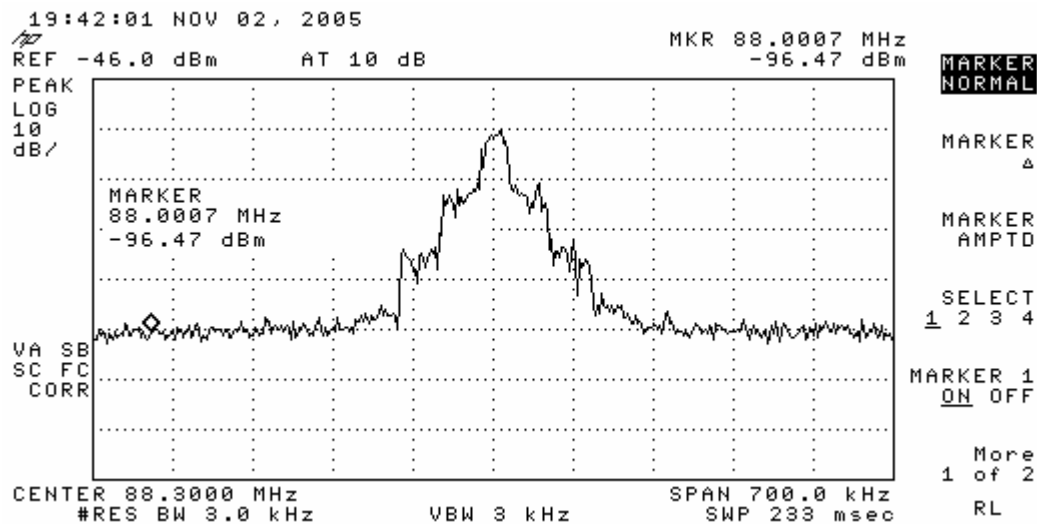
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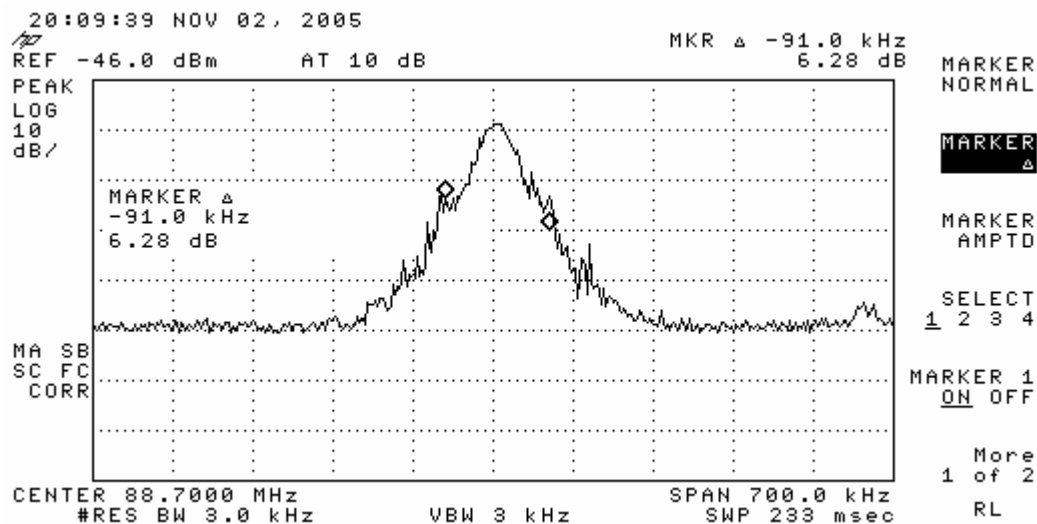
7. Emission Bandwidth FCC Part 15, Subpart C, Section 15.239

Emission from the intentional radiator is confined within a band 200 kHz wide centered on the operating frequency. The 200 kHz band lies wholly within the frequency range of 88-108 MHz.

Ch1=88.3 MHz



CH2=88.7 MHz



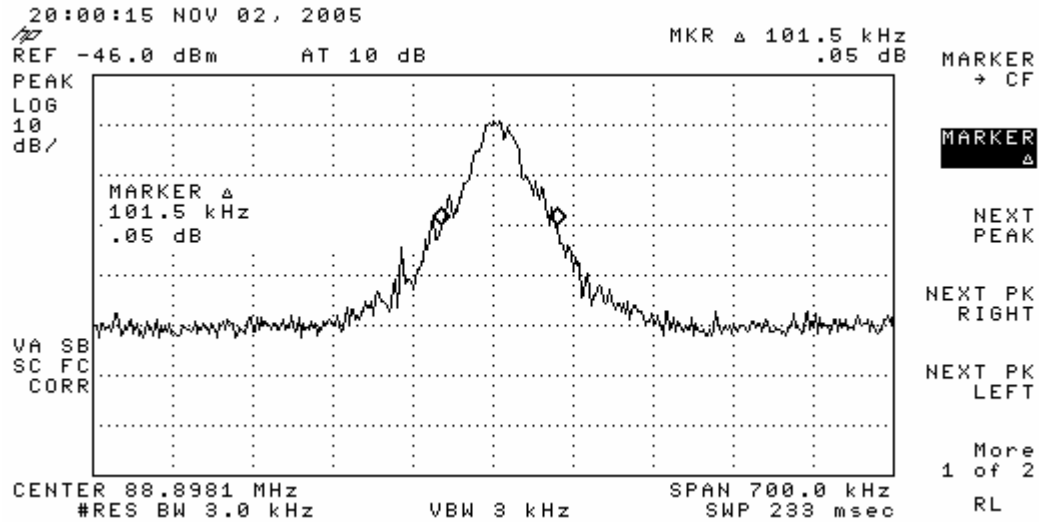
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CH3=88.9 MHz



Test Equipment Used

EQUIPMENT	MANUFACTURER	MODEL	CAL DUE.
Spectrum Analyzer	H/P	8593E	Sep.2006
Test Receiver	Rohde & Schwarz	ESVS 10	Dec.2005
Biconical Antenna	Schwarzbeck	VHA9103	Mar.2006
DC Power Supply	DAE GIL	DGD-300	Jan.2006
Amplifier	SONOMA INSTRUMENT	305	Jul.2006
Anechoic Chamber	Seo Young EMC	-	-

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8. Summary of Results

The data collected shows that Model ET-E10 complies Part 15.209 and 15.239 of FCC Technical Rules. Emission from the intentional radiator is confined within a band 200 kHz wide centered on the operating frequency. The 200 kHz band lies wholly within the frequency range of 88-108 MHz. The field strength of any emission within the permitted 200 kHz band is not exceed 200 uV/m(48dBuV/m) at 3 meters The device was tested with DC 24V input power because field strength with DC 24V was more than field strength with DC 12V

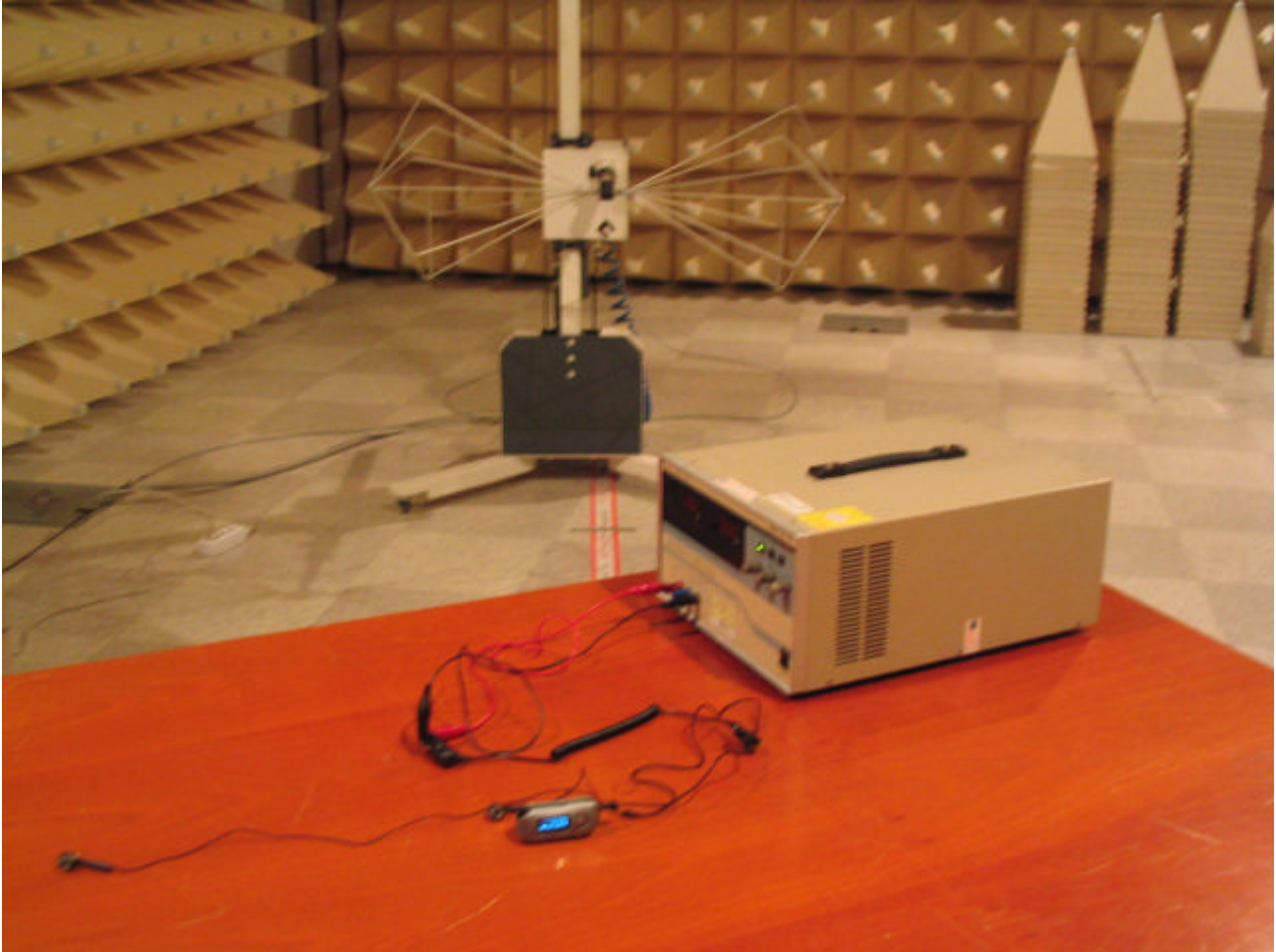
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9. Attachment A – Photo of test set up



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