FCC TEST REPORT

for

FM transmitter

Model No.	:	i707A
FCC ID	:	TZ9i707A
Operating Frequency	:	88.1-107.9MHz
Applicant	:	SEATUNE ELECTRONICS CO., LTD 27, Shuikou Avenue, ShuiKou Town, HuiZhou City, Guangdong, China
Regulation	:	***FCC Part 15.239 Subpart C***
Prepared by	:	Shenzhen AOV Testing Technology Co., Ltd. 2-6/F, No.5, Yuantou Lane, Tanglang, Taoyuan Street, Nanshan District, Shenzhen, Guangdong, China
Test Date	:	July 1-10, 2009
Date of Report	:	July 13, 2009

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Test Report Declaration

TEST REPORT DECLARATION

Applicant	:	SEATUNE ELECTRONICS CO., LTD
Manufacturer	:	SEATUNE ELECTRONICS CO., LTD
EUT Description	:	FM transmitter

Test Procedure Used:
FCC Part 15.239 Subpart C

The E. U. T. listed below has been completed RFI testing by Shenzhen AOV Testing Technology Co., Ltd at the test site of Bontek Compliance Testing Laboratory Ltd. And the Interference emissions can pass **FCC CLASS B** limitations.

The test configurations and the facility comply with the radiated and AC line conducted test site criteria in **ANSI C63.4-2003**.

Date of Test: July 1-10, 2009

Prepared by: Project Engineer

Reviewer : Project Manager

1. GENERAL INFORMATION

1.1 General Information

Applicant : SEATUNE ELECTRONICS CO., LTD
27, Shuikou Avenue, ShuiKou Town, HuiZhou City, Guangdong, China

Manufacturer : SEATUNE ELECTRONICS CO., LTD
27, Shuikou Avenue, ShuiKou Town, HuiZhou City, Guangdong, China

1.2 Test Facility

Test Firm : Bontek Compliance Testing Laboratory Ltd.
Certificated by FCC, Registration No.: 338263
Address : FL.1, Building H-3, Hua Qiao Cheng East Industrial Area
Qiaocheng East Road, Nanshan, Shenzhen, P.R.China
Tel : 86-755-86337020
Fax : 86-755-86337028

1.3 Test Instrument Used

No.	Equipment	Manufacturer	Model No.	S/N	Calculator date
1.	EMI Test Receiver	R&S	ESCI	100687	2009-2-22
2.	Amplifier	HP	8447D	1937A02492	2009-2-22
3.	TRILOG Broadband Test-Antenna	SCHWARZBECK	VULB9163	9163-324	2009-2-22
4.	Horn Antenna	SCHWARZBECK	BBHA9120A	B08000991-0001	2009-2-27
5.	High Field Biconical Antenna	ELECTRO-METRICS	EM-6913	166	2009-2-22
6.	Log Periodic Antenna	ELECTRO-METRICS	EM-6950	811	2009-2-22
7.	Remote Active Vertical Antenna	ELECTRO-METRICS	EM-6892	304	2009-2-22
8.	Teo Line Single Phase Module	SCHWARZBECK	NSLK8128	D-69250	2009-2-22
9.	Positioning Controller	C&C	CC-C-1F	MF7802113	2009-2-27
10.	Triple-Loop Antenna	EVERFINE	LLA-2	607004	2009-2-22
11.	10dB attenuator	SCHWARZBECK	MTAIMP-136	R65.90.0001#06	2009-2-22

2. RADIATION INTERFERENCE

2.1.Rules Part No.

15.239

2.2.Limits

The field strength of any emissions within the permitted 200 kHz band shall not exceed 250 microvolts/meter (48 dBuV/m) at 3 meters. The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in Section 15.35 for limiting peak emissions apply.

The field strength of any emissions radiated on any frequency outside of the specified 200 kHz band shall not exceed the general radiated emission limits in Section 15.209.

Frequency of (MHz)	Emission Field Strength (microvolts/meter)
30 - 88	100 (40)
88 - 216	150 (43.5)
216 - 960	200 (46.0)
Above 960	500 (54.0)

2.3.Test Procedure

ANSI STANDARD C63.4-2003 10.1.7 MEASUREMENT PROCEDURES:

The EUT is placed on a turned table that is 0.8 meter above the ground. The turned 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 that is mounted on the antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (log periodical antenna and horn antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on test.

The resolution bandwidth was 100 kHz and the video bandwidth was 300 kHz.

The spectrum was scanned from 30 MHz to 10th harmonic of the fundamental.

2.4.Test Result

PASS

Low Channel: 88.1MHz

Field Strength of Fundamental:

Horizontal:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	(AV)Margin (dBuV/m)
88.100	35.7	32.9	48.0	15.10

Vertical:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	(AV)Margin (dBuV/m)
88.100	33.5	31.0	48.0	17.00

Field Strength of Spurious Emission:

Horizontal:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	(PK)Margin (dBuV/m)
125.29	21.13	---	43.5	22.20
363.05	24.96	---	46.0	21.10
373.08	33.23	---	46.0	12.77
440.08	35.84	---	46.0	10.16
586.93	35.34	---	46.0	10.66

Vertical:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	(PK)Margin (dBuV/m)
125.60	21.74	---	43.5	21.76
259.89	28.08	---	46.0	17.92
373.89	35.16	---	46.0	10.84
456.70	33.89	---	46.0	12.11
581.80	34.42	---	46.0	11.58

Middle Channel: 98.0MHz

Field Strength of Fundamental:

Horizontal:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	(AV)Margin (dBuV/m)
98.000	34.9	32.8	48.0	15.20

Vertical:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	(AV)Margin (dBuV/m)
98.000	33.3	30.3	48.0	17.70

Field Strength of Spurious Emission:

Horizontal:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	(PK)Margin (dBuV/m)
189.65	27.83	---	43.5	15.67
285.35	29.32	---	46.0	16.68
367.93	30.90	---	46.0	15.10
575.29	33.58	---	46.0	12.42
571.29	34.98	---	46.0	11.02

Vertical:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	(PK)Margin (dBuV/m)
285.42	25.18	---	46.0	20.82
365.32	29.15	---	46.0	16.85
513.66	30.89	---	46.0	15.11
521.34	32.36	---	46.0	13.64
626.79	32.82	---	46.0	13.18

High Channel: 107.9MHz

Field Strength of Fundamental:

Horizontal:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	(AV)Margin (dBuV/m)
107.900	32.1	31.5	48.0	16.50

Vertical:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	(AV)Margin (dBuV/m)
107.900	30.6	33.5	48.0	14.50

Field Strength of Spurious Emission:

Horizontal:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	(PK)Margin (dBuV/m)
199.02	21.06	---	43.5	22.44
278.86	23.59	---	46.0	22.41
350.31	25.66	---	46.0	20.34
433.24	30.88	---	46.0	15.12
515.85	32.36	---	46.0	13.64

Vertical:

Frequency (MHz)	PK (dBuV/m)	Read Level (dBuV/m)	Limit (dBuV/m)	(PK)Margin (dBuV/m)
200.45	20.39	---	43.5	16.89
312.27	22.67	---	46.0	23.33
433.65	26.03	---	46.0	19.97
533.56	30.98	---	46.0	15.02
659.53	33.87	---	46.0	12.13

3. BANDWIDTH

3.1.Test Standard

15.239

3.2.Limits

Emissions from the intentional radiator shall be confined within a band 200 kHz wide centered on the operating frequency. The 200 kHz band shall lie wholly within the frequency range of 88-108 MHz.

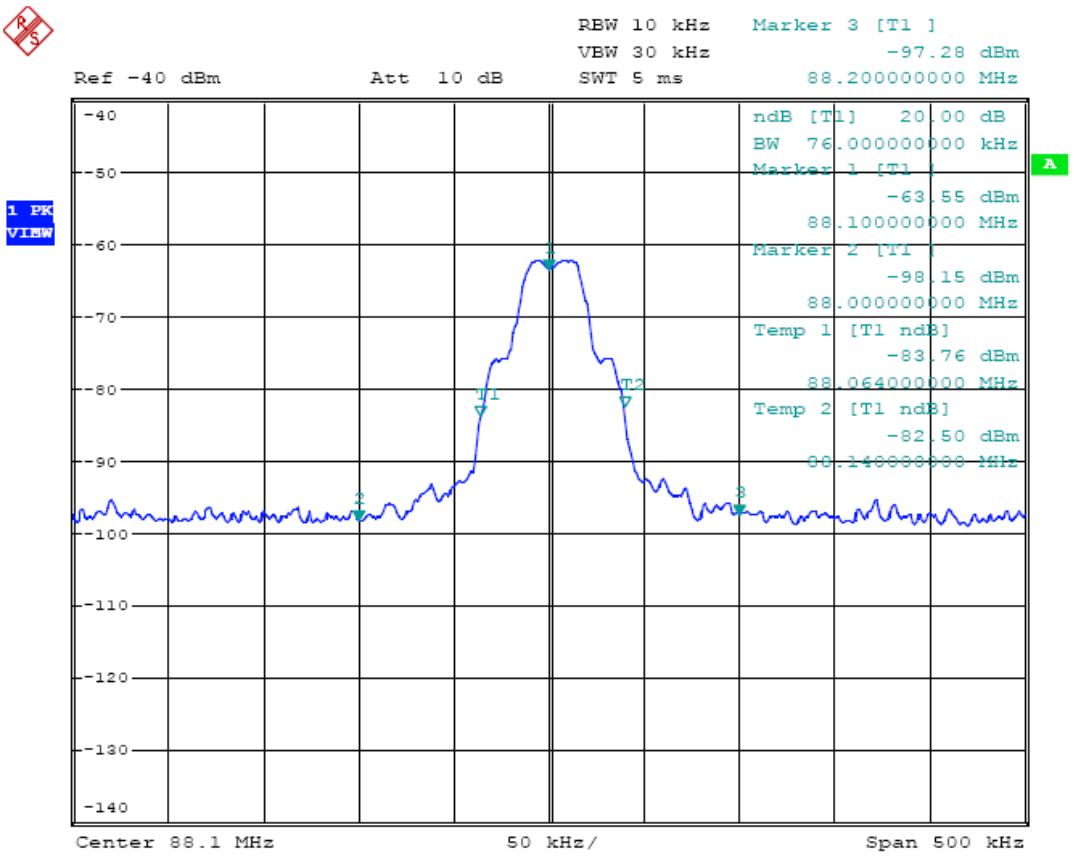
3.3.Test Procedure

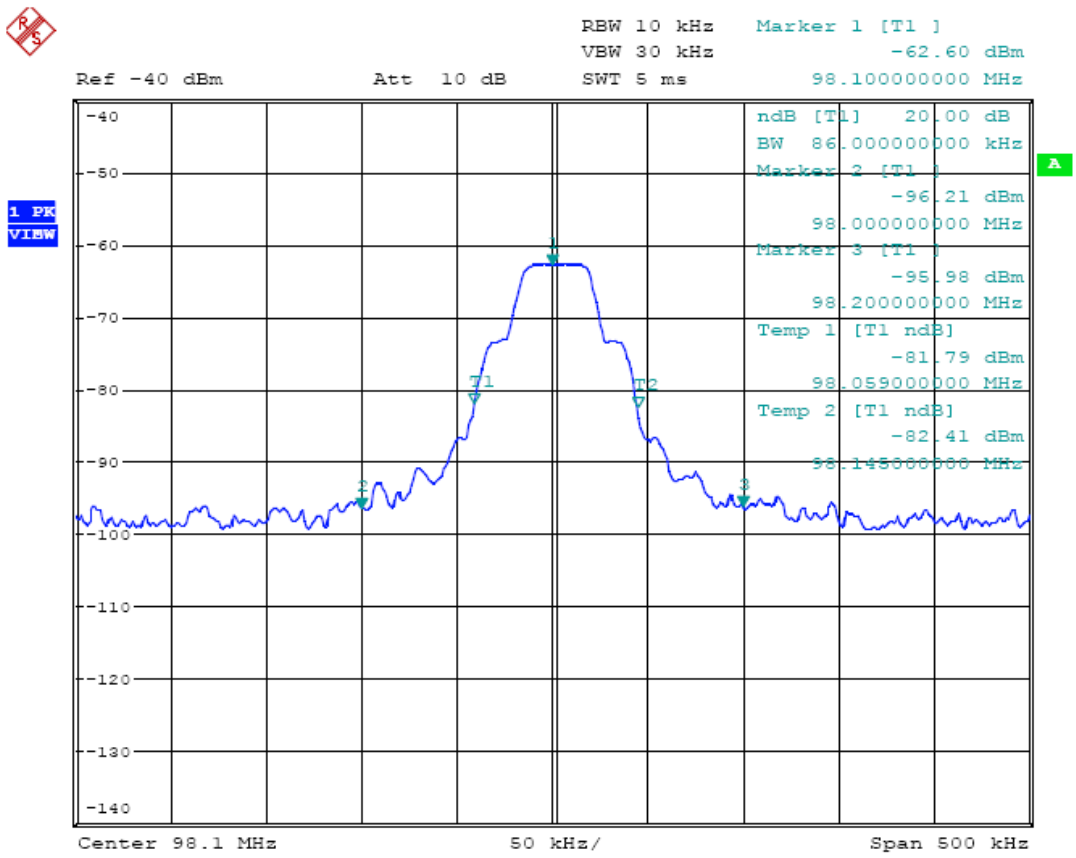
Record the respond of frequency waveform when the EUT was working by a spectrum analyzer or EMI Receiver.

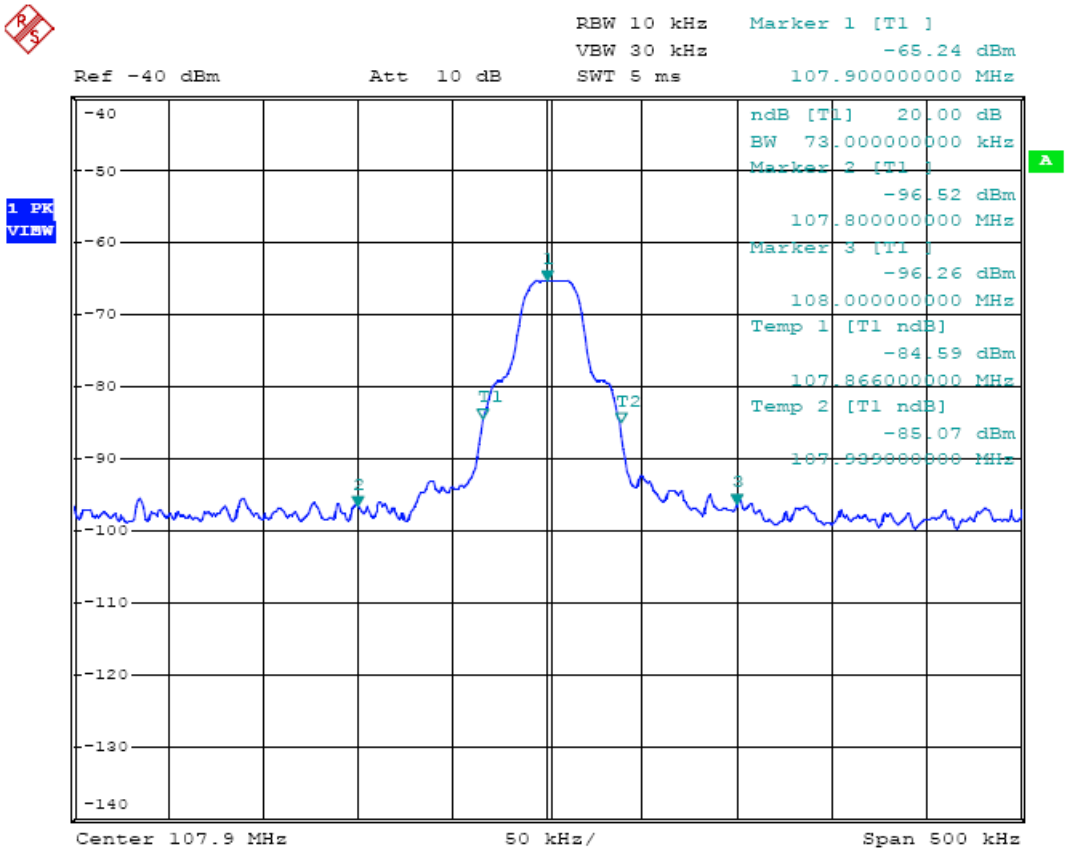
3.4.Test Result

PASS

Detailed information, Please refer to the following page.

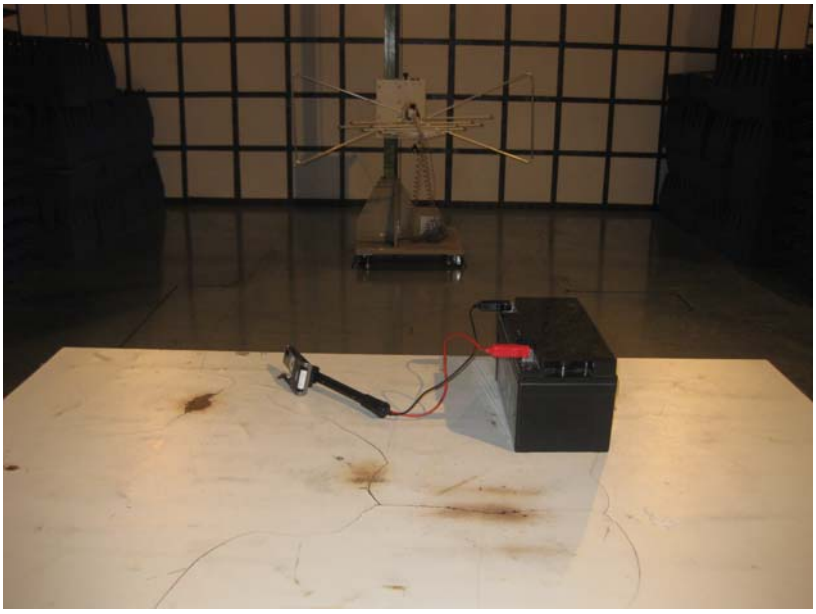

RBW 10 kHz
VBW 30 kHz
SWT 5 ms
Marker 3 [T1]
-97.28 dBm
88.200000000 MHz
Ref -40 dBm
Att 10 dB
ndB [T1] 20.00 dB
BW 76.000000000 kHz
Marker 1 [T1]
-63.55 dBm
88.100000000 MHz
Marker 2 [T1]
-98.15 dBm
88.000000000 MHz
Temp 1 [T1 ndB]
-83.76 dBm
88.064000000 MHz
Temp 2 [T1 ndB]
-82.50 dBm
88.140000000 MHz
1 PK
VIEW
A
-40
-50
-60
-70
-80
-90
-100
-110
-120
-130
-140
T1
T2
Center 88.1 MHz
50 kHz/
Span 500 kHz


RBW 10 kHz
VBW 30 kHz
SWT 5 ms
Marker 1 [T1]
-62.60 dBm
98.100000000 MHz
Ref -40 dBm
Att 10 dB
ndB [T1] 20.00 dB
BW 86.000000000 kHz
Marker 2 [T1]
-96.21 dBm
98.000000000 MHz
Marker 3 [T1]
-95.98 dBm
98.200000000 MHz
Temp 1 [T1 ndB]
-81.79 dBm
98.059000000 MHz
Temp 2 [T1 ndB]
-82.41 dBm
98.145000000 MHz
1 PK
VIEW
A
-40
-50
-60
-70
-80
-90
-100
-110
-120
-130
-140
T1
T2
Center 98.1 MHz
50 kHz/
Span 500 kHz


RBW 10 kHz
VBW 30 kHz
SWT 5 ms
Marker 1 [T1]
-65.24 dBm
107.900000000 MHz
Ref -40 dBm
Att 10 dB
ndB [T1] 20.00 dB
BW 73.000000000 kHz
Marker 2 [T1]
-96.52 dBm
107.800000000 MHz
Marker 3 [T1]
-96.26 dBm
108.000000000 MHz
Temp 1 [T1 ndB]
-84.59 dBm
107.866000000 MHz
Temp 2 [T1 ndB]
-85.07 dBm
107.933000000 MHz
1 PK
VIEW
A
T1
T2
-40
-50
-60
-70
-80
-90
-100
-110
-120
-130
-140
Center 107.9 MHz
50 kHz/
Span 500 kHz

4. PHOTOGRAPH OF TEST

Front View



Rear View