

TEST REPORT

Dates of Tests: March 21, 2007
Test Report S/N: LR500190803B
Test Site : LTA CO., LTD.

CERTIFICATION OF COMPLIANCE

FCC ID.

U9S-FX853C

APPLICANT

i-Sirius Co., Ltd

FCC Classification	:	Licensed Transmitter (PCB)
Manufacturing Description	:	Dual band Wireless Local Loop Phone
Manufacturer	:	Jurong Hi-Tech (Suzhou) Co. Ltd
Model name	:	FX-853C
Test Device Serial No.:	:	Identical prototype
Rule Part(s)	:	§24(E), §22(H), §2
TX Frequency Range	:	824.2 ~ 848.8 MHz (GSM850)/1850.2 ~ 1909.8 MHz (PCS1900)
RX Frequency Range	:	869.2 ~ 893.8 MHz (GSM850)/1930.2 ~ 1989.8 MHz (PCS1900)
RF Output Power	:	GSM850 -- 31.13 dBm ERP PCS1900 -- 30 dBm EIRP
Data of issue	:	March 21, 2008

This test report is issued under the authority of:

The test was supervised by:



Dong -Min JUNG, Technical Manager



Kyung-Taek LEE, Test Engineer

This test result only responds to the tested sample. It is not allowed to copy this report even partly without the allowance of the test laboratory. This report must not be used by the applicant to claim product endorsement by any agency.



NVLAP LAB Code.: 200723-0

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1. General information's

1-1 Test Performed

Company name : LTA Co., Ltd.
Address : 243, Jubug-ri, Yangji-Myeon, Youngin-Si, Kyunggi-Do, Korea. 449-822
Web site : <http://www.ltalab.com>
E-mail : chahn@ltalab.com
Telephone : +82-31-323-6008
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Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the “General requirements for the competents of calibration and testing laboratory”.

1-2 Accredited agencies

LTA Co., Ltd. is approved to perform EMC testing by the following agencies:

Agency	Country	Accreditation No.	Validity	Reference
NVLAP	U.S.A	200723-0	2008-09-30	ECT accredited Lab.
RRL	KOREA	KR0049	2009-06-20	EMC accredited Lab.
FCC	U.S.A	610755	2008-03-28	FCC filing
VCCI	JAPAN	R2133, C2307	2008-06-22	VCCI registration
IC	CANADA	IC5799	2008-04-23	IC filing

2. Information's about test item

2-1 Client

Company name : i-Sirius Co.,Ltd
 Address : 3th FL,Sam Young B/D, 106-2, Banpo-Dong, Seocho-Gu, Seoul, 137-040, Korea
 Tel / Fax : +82-2-3480-0970/ +82-2-596-6570

2-2 Manufacturer

Company name : Jurong Hi-Tech (Suzhou) Co. Ltd
 Address : 275,Xinglong Street Suzhou Industrial Park, Suzhou 215024,China

2-3 Equipment Under Test (EUT)

Trade name : Dual band Wireless Local Loop Phone
 Model name : FX-853C
 Brand name : MOTOROLA
 Date of receipt : December 16, 2007
 EUT condition : Pre-production, not damaged
 RF output power : GSM850 (33dBm: Level 5) / PCS1900 (30dBm: Level 0)
 Modulation : GMSK, 8PSK
 Temperature range : -20℃ ~ +60℃
 Power Source : 3.6Vdc Ni-MH Battery, 500mAh

2-4 Tested frequency

	GSM 850		PCS 1900	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
LOW	128	824.2	512	1850.2
MID	190	836.6	661	1880.0
HIGH	251	848.8	810	1909.8

2.5 Test conditions

Temperature	: +15~35 ℃	Humidity	: 30~65 %RH
Pressure	: 860~1030 mbar	Operating mode	: Air link mode
GSM850	A communication link is established between the mobile station and the test simulator. The transmitter is operated at its maximum rated output power: 33 dBm (power class 4 = power control level 5)		
PCS1900	A communication link is established between the mobile station and the test simulator. The transmitter is operated at its maximum rated out put power: 30 dBm (power class 1 = power control level 0)		

3. Test Report

3.1 Summary of tests

Parameter	Test Condition	Status (note 1)
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I. FCC Part Section(s)

GSM 850/1900 Terminal equipment (**FX-850C**) is certified by FCC(FCC ID: U9SFX850C).

The basic model is FX-850C(FCC ID: U9SFX850C). This model(FCC ID:U9S-FX853C) is variant model.

About Conducted test data, Refer to the GSM test report of FCC ID:U9SFX850C.

II. Additional items

ERP & EIRP	Radiated	C
Field Strength of Harmonics	Radiated	C
Band-Edges	Conducted	C

Note 1: C=Complies NC=Not Complies NT=Not Tested NA=Not Applicable

Note 2: The data in this test report are traceable to the national or international standards.

The sample was tested according to the following specification:

ANSI C-63.4-2003

3.2 Technical Characteristics Test

3.2.1 Output Power

Measurement Procedure:

- **Effective Radiated Power Output Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:**

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For GSM signals, an average detector is used, with RBW=VBW=3MHz, SPAN=10MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the dipole is measured. The ERP is recorded.

Effective Radiated Power Output (GSM850)

Measurement Data:

GSM850

Channel	Frequency (MHz)	TEST CONDITIONS Power Step: 5				
		Ref. level (dBm)	Pol. (H/V)	ERP (dBm)	ERP (W)	Battery
128	824.2	-8.34	V	31.13	1.297	Standard
190	836.6	-8.47	V	31.08	1.282	Standard
251	848.8	-9.69	V	30.47	1.114	Standard

Note 1: Radiated measurements at 3 meters by Substitution Method.

Equivalent Isotropic Radiated Power (PCS1900)

Measurement Data:

PCS1900

Channel	Frequency (MHz)	TEST CONDITIONS Power Step: 0				
		Ref. level (dBm)	Pol. (H/V)	EIRP (dBm)	EIRP (W)	Battery
512	1850.2	-16.11	V	25.36	0.344	Standard
661	1880	-14.24	V	27.21	0.526	Standard
810	1909.8	-13.62	V	27.73	0.593	Standard

Note 2: Radiated measurements at 3 meters by Substitution Method.

3.2.2 Field Strength of spurious Radiation

Measurement Procedure:

Effective Radiated Power Output Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

Radiation and harmonic emissions are measured outdoors at our 3-meter test range. The equipment under test is placed on a wooden turntable 3-meters from the receive antenna.

The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer. The Spectrum was investigated from 30MHz to the 10th Harmonic of the fundamental. A peak detector is used. With RBW=VBW=1MHz. The value that we could measure was only reported. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer reading. This level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

OPERATING FREQUENCY : 824.2 MHz

CHANNEL : 128(Low)

MEASURED OUTPUT POWER : 31.13 dBm = 1.297 W

MODULATION : GSM(Internal)

DISTANCE : 3 meters

LIMIT : $43 + 10 \log_{10} (W) =$ 44.13 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
-	-	-	-	-	-
No emissions were detected are a level greater than 20dB below limit.					
-	-	-	-	-	-

Note1: Radiated measurements at 3 meters by Substitution Method.

--- Blank ---

3.2.2 Field Strength of spurious Radiation

--- Continue

OPERATING FREQUENCY : 836.6 MHz
 CHANNEL : 190(Mid)
 MEASURED OUTPUT POWER : 31.13 dBm = 1.297 W
 MODULATION : GSM(Internal)
 DISTANCE : 3 meters
 LIMIT : $43 + 10 \log_{10} (W)$ = 44.13 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
-	-	-	-	-	-
No emissions were detected are a level greater than 20dB below limit.					
-	-	-	-	-	-

Note1: Radiated measurements at 3 meters by Substitution Method.

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3.2.2 Field Strength of spurious Radiation

--- Continue

OPERATING FREQUENCY : 848.8 MHz
 CHANNEL : 251(High)
 MEASURED OUTPUT POWER : 31.13 dBm = 1.297 W
 MODULATION : GSM(Internal)
 DISTANCE : 3 meters
 LIMIT : $43 + 10 \log_{10} (W)$ = 44.13 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
-	-	-	-	-	-
No emissions were detected are a level greater than 20dB below limit.					
-	-	-	-	-	-

Note1: Radiated measurements at 3 meters by Substitution Method.

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3.2.2 Field Strength of spurious Radiation**--- Continue**

OPERATING FREQUENCY : 1850.2 MHz
 CHANNEL : 512(Low)
 MEASURED OUTPUT POWER : 27.73 dBm = 0.593 W
 MODULATION : GSM(Internal)
 DISTANCE : 3 meters
 LIMIT : $43 + 10 \log_{10} (W)$ = 40.73 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	
-	-	-	-	-	-
No emissions were detected are a level greater than 20dB below limit.					
-	-	-	-	-	-

Note1: Radiated measurements at 3 meters by Substitution Method.

--- Blank ---

3.2.2 Field Strength of spurious Radiation

--- Continue

OPERATING FREQUENCY : 1880.0 MHz
 CHANNEL : 661(Mid)
 MEASURED OUTPUT POWER : 27.73 dBm = 0.593 W
 MODULATION : GSM(Internal)
 DISTANCE : 3 meters
 LIMIT : $43 + 10 \log_{10} (W)$ = 40.73 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
-	-	-	-	-	-
No emissions were detected are a level greater than 20dB below limit.					
-	-	-	-	-	-

Note1: Radiated measurements at 3 meters by Substitution Method.

--- Blank ---

3.2.2 Field Strength of spurious Radiation

--- Continue

OPERATING FREQUENCY : 1909.8 MHz
 CHANNEL : 810(High)
 MEASURED OUTPUT POWER : 27.73 dBm = 0.593 W
 MODULATION : GSM(Internal)
 DISTANCE : 3 meters
 LIMIT : $43 + 10 \log_{10} (W)$ = 40.73 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
-	-	-	-	-	-
No emissions were detected are a level greater than 20dB below limit.					
-	-	-	-	-	-

Note1: Radiated measurements at 3 meters by Substitution Method.

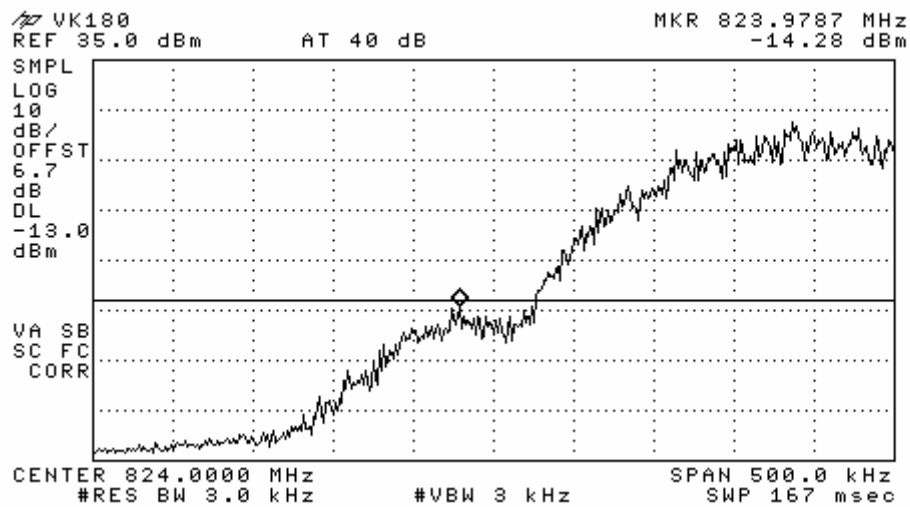
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APPENDIX 1

BAND-EDGES TEST DATA

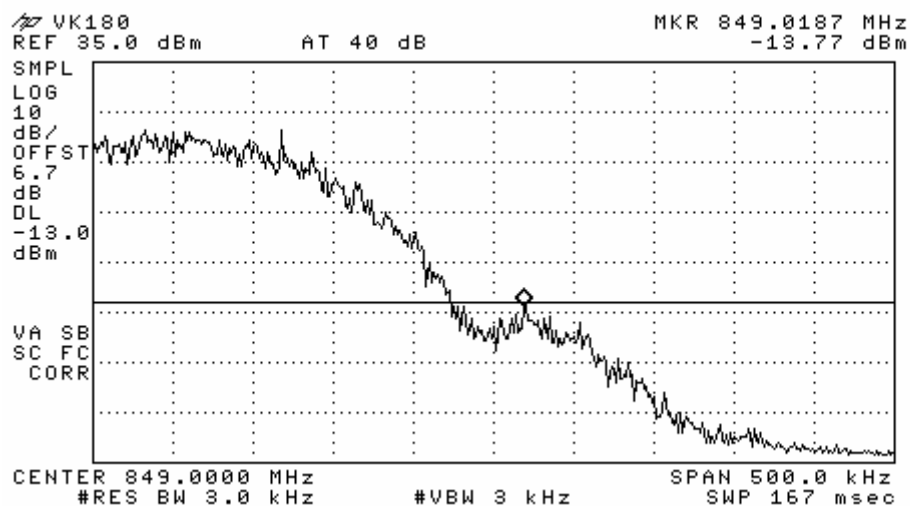
GSM850

Band Edge Ch. 128



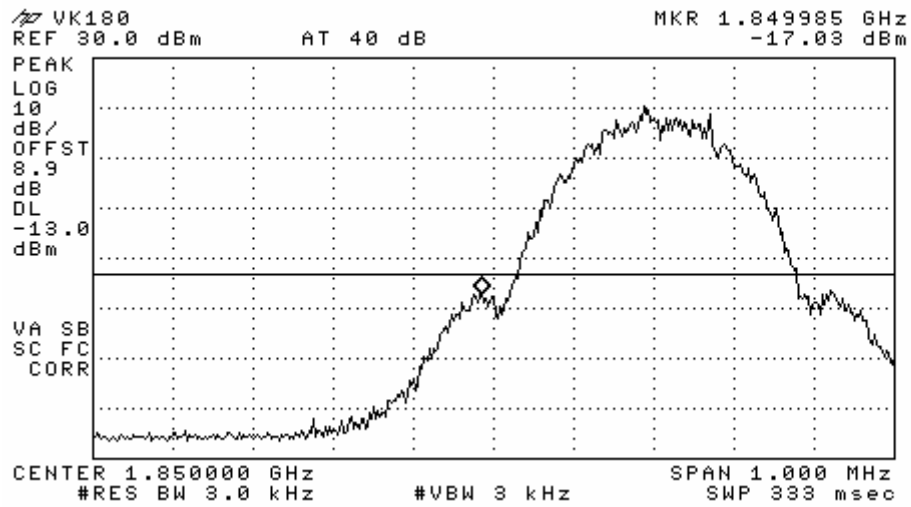
GSM850

Band Edge Ch. 251



PCS1900

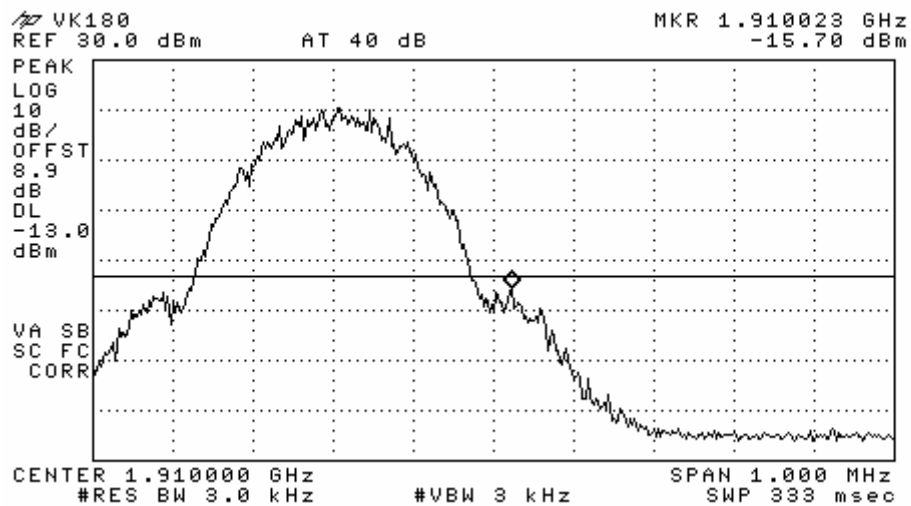
Band Edge Ch. 512



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PCS1900

Band Edge Ch. 810



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APPENDIX 2

TEST EQUIPMENT USED FOR TESTS

	Description	Model No.	Serial No.	Manufacturer	Next Cal. Date
1	Spectrum Analyzer	8594E	3649A03649	HP	Apr-08
2	Signal Generator	8648C	3623A02597	HP	Apr-08
3	Attenuator (3dB)	8491A	37822	HP	Oct-08
4	Attenuator (10dB)	8491A	63196	HP	Oct-08
5	EMI Test Receiver	ESVD	843748/001	R&S	Aug-08
6	LISN	KNW-407	8-1430-1	Kyoritsu	Oct-08
7	Two-Line V-Network	ESH3-Z5	893045/017	R&S	Oct-08
8	RF Amplifier	8447D	2949A02670	HP	Jan-08
9	RF Amplifier	8447D	2439A09058	HP	Oct-08
10	RF Amplifier	8449B	3008A02126	HP	Apr-09
11	Test Receiver	ESHS10	828404009	R&S	Aug-08
12	TRILOG Antenna	VULB 9160	9160-3212	SCHWARZBECK	Jul-08
13	Log.-Per. Antenna	VULP 9118	9118 A 401	SCHWARZBECK	Apr-09
14	Biconical Antenna	BBA 9106	VHA 9103-2315	SCHWARZBECK	Apr-09
15	Horn Antenna	3115	00055005	ETS LINDGREN	Mar-09
16	Dipole Antenna	VHA9103	2116	Schwarzbeck	Nov-08
17	Dipole Antenna	VHA9103	2117	Schwarzbeck	Nov-08
18	Dipole Antenna	UHA9105	2261	Schwarzbeck	Nov-08
19	Dipole Antenna	UHA9105	2262	Schwarzbeck	Nov-08
20	Spectrum Analyzer	8591E	3649A05888	HP	Oct-08
21	Spectrum Analyzer	8563E	3425A02505	HP	Apr-08
22	Hygro-Thermograph	THB-36	0041557-01	ISUZU	May-08
23	Splitter (SMA)	ZFSC-2-2500	SF617800326	Mini-Circuits	Jun-08
24	RF Switch	MP59B	6200414971	ANRITSU	Jun-08
25	RF Switch	MP59B	6200438565	ANRITSU	Jun-08
26	Power Divider	11636A	6243	HP	Oct-08
27	DC Power Supply	6622A	3448A03079	HP	Oct-08
28	Attenuator (30dB)	11636A	6243	HP	Oct-08
29	Frequency Counter	5342A	2826A12411	HP	Apr-08
30	Power Meter	EPM-441A	GB32481702	HP	Apr-08
31	Power Sensor	8481A	2702A64048	HP	Apr-08
32	Audio Analyzer	8903B	3729A18901	HP	Oct-08
33	Modulation Analyzer	8901B	3749A05878	HP	Oct-08
34	TEMP & HUMIDITY Chamber	YJ-500	L05022	JinYoung Tech	Oct-08
35	LOOP-ANTENNA	FMZB 1516	151602/94	SCHWARZBECK	Mar-09