



Sporton International Inc.



GSM TEST PARTIAL REPORT

Test of:

FIC (First International Computer, Inc.) — OPENMOKO GTA02

To

ETSI EN 301 511 V9.0.2 (2003-03)

Test Report Serial No: EG832514

Test Report Issue Date: 01 April 2008

Test Report Version: Rev. 01

Declaration by Test Laboratory

The GSM 900/1800 testing performed and shown in this report by Sporton International Inc. was conducted as per the requirements of the EN 301 511.

This report is issued in Adobe Acrobat portable document format (PDF). It is only a valid copy of the report if it is being viewed in PDF format with the following security options not allowed: Changing the document, Selecting text and graphics, Adding or changing notes and form fields. Furthermore, the date of creation must match the issue date stated above.

The results in this report apply only to the sample(s) tested.

Supervised by

Manager Jones Tsai

GSM TEST PARTIAL REPORT

S.No: EG832514

Page i

Issue Date: 01 April 2008

Rev. 01

Test of: FIC (First International Computer, Inc.) - OPENMOKO GTA02

To: ETSI EN 301 511 V9.0.2 (2003-03)

This page has been left intentionally blank.

Test of: FIC (First International Computer, Inc.) - OPENMOKO GTA02

To: ETSI EN 301 511 V9.0.2 (2003-03)

Table of Contents

1 . Details of Test	1
1.1 Applicant	1
1.2 Manufacturer	1
1.3 Location of Test	1
1.3.1 Sporton International Inc.	1
1.4 Test Environment	2
2 . Details of Equipment under Test	3
2.1 Final Equipment Build Status	3
2.1.1 Product Build Status	3
2.1.2 Key Features Supported	4
2.2 Identification of Samples Tested	5
2.2.1 Sample A.01.01	5
2.3 Generation of Conformance Test Plan	6
2.3.1 Partial Certification	6
2.4 Support Equipment	6
3 . Reference Documents	7
4 . Test Results	8
4.1 Result Summary	8
4.2 Tests Performed	8
4.2.1 Test Results	9
4.2.2 Test Method	10
4.3 Key to Result Codes	11
4.4 Key to Tested Bands Code	11
5 . Test Equipment	12
5.1 Rohde & Schwarz CMU 200	12
5.2 Additional Equipment for the Radiated Spurious Emission	12
6 . Persons performing Accredited Testing	13
Annex A – Photographs	14

Test of: FIC (First International Computer, Inc.) - OPENMOKO GTA02

To: ETSI EN 301 511 V9.0.2 (2003-03)

1. Details of Test

1.1 Applicant

Company Name:	FIC (First International Computer, Inc.)
Address:	1-9F., No. 300, Yang Guang, HeiHu, Taipei, Taiwan, 114
Contact Name:	Tim Lee Manager
Telephone Number:	886-2-87518751ext. 8510
FAX Number:	886-2-8751-8739
Email Address:	tim_lee@fic.com.tw

1.2 Manufacturer

Company Name:	First International Computer (Suzhou) Inc.
Address:	No. 200, Central Suhong Road, SuZhou Industrial Park, China

1.3 Location of Test

1.3.1 Sporton International Inc.

Address:	No. 52, Hwa Ya 1 st Rd. Hwa Ya Technology Kwei-Shan Hsiang Taoyuan Hsien Taiwan R.O.C.
Contact Name:	Mr. Joe Yang Operations Director

Test of: FIC (First International Computer, Inc.) - OPENMOKO GTA02

To: ETSI EN 301 511 V9.0.2 (2003-03)

1.4 Test Environment

Testing Start Date:	21 December 2007
Testing End Date:	01 April 2008

Environmental Data:	Temperature (°C)	Humidity (%)
Maximum Ambient	21	51
Minimum Ambient	24	55

Normal Supply Voltage (V d.c.):	Real Battery
--	--------------

Test of: FIC (First International Computer, Inc.) - OPENMOKO GTA02

To: ETSI EN 301 511 V9.0.2 (2003-03)

2. Details of Equipment under Test

2.1 Final Equipment Build Status

The following is the build status for which compliance has been demonstrated by test and declaration.

During the evaluation of this device any software and or hardware changes that have been made have been assessed by. Where required, regression testing has been conducted to prove continued device compliance. Where the build status has been different at other outsourcing labs utilised during the evaluation process these differences have also been included in this assessment

2.1.1 Product Build Status

Applicant Name	FIC (First International Computer, Inc.)
Trade Name	FIC
Type Name or Number	GTA02
Marketing Name	OPENMOKO GTA02
HW Version	A5
SW Version	Moko5

Test of: FIC (First International Computer, Inc.) - OPENMOKO GTA02**To: ETSI EN 301 511 V9.0.2 (2003-03)**

2.1.2 Key Features Supported

The following table defines the key features supported in the device.

Feature	Supported	Release/Comments
GSM	Y	GSM900 / GSM1800
UMTS	N	N/A
GPRS	Y	Release 99
GPRS Multi-slot (Uplink)	Y	GPRS Multi-Slot Class 10
EGPRS	N	N/A
EGPRS Multi-slot (Uplink)	N	N/A

Test of: FIC (First International Computer, Inc.) - OPENMOKO GTA02

To: ETSI EN 301 511 V9.0.2 (2003-03)

2.2 Identification of Samples Tested

The following summary may be used to identify the samples referenced in the test summary and any declared hardware or software modifications. Where modifications have been made, conformance has been demonstrated by regression testing declared by the manufacturer.

2.2.1 Sample A.01.01

Sporton Sample Reference Number	A.01.01
Manufacturer Name	FIC (First International Computer, Inc.)
Trade Name	FIC
Type Name or Number	GTA02
Marketing Name	OPENMOKO GTA02
Modifications from standard	None
Date of Receipt at Sporton	18 December 2007

Description of Sporton Reference sample number

E.g. A.01.01

A – Sample Identification	01 – Hardware Revision	01 – Software Revision
----------------------------------	-------------------------------	-------------------------------

Test of: FIC (First International Computer, Inc.) - OPENMOKO GTA02**To: ETSI EN 301 511 V9.0.2 (2003-03)**

2.3 Generation of Conformance Test Plan

The following route has been chosen by the manufacturer to demonstrate compliance to EN 301 511 V9.0.2 (2003-03)

2.3.1 Partial Certification

The customer has specified test cases from R&TTE Directive applicable to the EUT, which have been performed according to the specification.

2.4 Support Equipment

The following support equipment was used to exercise the EUT during testing:

Description	Real Battery 1
Manufacturer Name	FIC
Model Name or Number	GTC-01 / GTA-01
Serial Number	None stated

Description	Real Battery 2
Manufacturer Name	FIC
Model Name or Number	GTC-02
Serial Number	None stated

Test of: FIC (First International Computer, Inc.) - OPENMOKO GTA02**To: ETSI EN 301 511 V9.0.2 (2003-03)**

3. Reference Documents

Testing was performed according to the following reference documents and standards.

Document	Version	Applicable	Title
GT.01	V4.7.0	Y	GSM 900 & 1800 GSM TAAB Permanent Reference Document GT.01
3GPP TS 51.010-1	V7.8.0	Y	3rd Generation Partnership Project; Technical Specification Group GSM/EDGE Radio Access Network; Digital cellular telecommunications system (Phase 2+); Mobile Station (MS) conformance specification; Part 1: Conformance specification
NAPRD.03	V3.13.0	N	Overview of PCS Type certification review board (PTCRB) Mobile Equipment Type Certification and IMEI control
GCF-CC	V3.28.0	Y	GSM Certification Forum - Certification Criteria
ETSI EN 301 511	V9.0.2	Y	Global System for Mobile Communications (GSM); Harmonised standard for mobile stations in the GSM 900 and DCS 1800 bands covering essential requirements under article 3.2 of the R&TTE directive (1999/5/EC)
3GPP TS 51.010-4	V4.6.0	N	3rd Generation Partnership Project; Technical Specification Group GSM/EDGE Radio Access Network; Digital cellular telecommunications system (Phase 2+); Mobile Station (MS) conformance specification; Part 4: SIM Application Toolkit Conformance specification

Test of: FIC (First International Computer, Inc.) - OPENMOKO GTA02**To: ETSI EN 301 511 V9.0.2 (2003-03)**

4. Test Results

4.1 Result Summary

The following table summarises the test results obtained. A definition of the result categories may be found at the end of the result tables.

TOTAL RELEVANT TEST CASES PERFORMED	4
--	---

	GSM900	GSM1800	GSM1900	GSM850	Multi-band
PASS	2	2	0	0	0
FAIL	0	0	0	0	0
INCONCLUSIVE	0	0	0	0	0
DECLARE	0	0	0	0	0
Total	2	2	0	0	0

4.2 Tests Performed

The following tables reflect the requirements of the relevant specification and show the tests performed. Result files verifying these verdicts are available for inspection at Sporton International Inc.

Where Subcontracting has been performed these results are not covered by the accreditation of Sporton International Inc.

The radiated spurious emission was tested by real battery, so there is no test requirement for high voltage and low voltage conditions.

Test of: FIC (First International Computer, Inc.) - OPENMOKO GTA02
 To: ETSI EN 301 511 V9.0.2 (2003-03)

4.2.1 Test Results

Test Case	Parameter	Tested Bands	GSM900				GSM1800				GSM1900				GSM850				Multi-band			
			Cat	Result	Sample	Notes	Cat	Result	Sample	Notes	Cat	Result	Sample	Notes	Cat	Result	Sample	Notes	Cat	Result	Sample	Notes
12.2.1	Normal	All	A	Pass	A.01.01	—	A	Pass	A.01.01	—	—	NA	—	—	—	NA	—	—	—	NA	—	—
12.2.2	Normal	All	A	Pass	A.01.01	—	A	Pass	A.01.01	—	—	NA	—	—	—	NA	—	—	—	NA	—	—

Test of: FIC (First International Computer, Inc.) - OPENMOKO GTA02

To: ETSI EN 301 511 V9.0.2 (2003-03)

4.2.2 Test Method

- a. The equipment under test (EUT) is performed in the fully anechoic chamber on a turntable of 1.5m height and is coupled to the R&S CMU200 system simulator which is located outside the chamber.
- b. Establish communication with the EUT in link mode(dedicated mode) with system simulator and allocate a middle channel with following settings:
 - Maximum output power.
 - DTX function off.In idle mode, the EUT is synchronized to the BCCH, and is in continuous receiving mode by setting system simulator's paging reorganization.
- c. The precalibration method is performed ahead of testing so as to correct the readings from the spectrum analyzer using a peak detector and a various of RBW/VBW settings for each frequencies (Referred to 3GPP TS 51.010-1 table 12.8 for link mode and 12.10 for idle mode).
- d. The turntable is rotated 360 degrees and the receive antenna is repeated for both horizontal and vertical polarizations.
- e. All spurious emissions radiated by the EUT are detected by the receive antenna and receiver is between the range of 30 MHz to 4 GHz.

Test of: FIC (First International Computer, Inc.) - OPENMOKO GTA02

To: ETSI EN 301 511 V9.0.2 (2003-03)

4.3 Key to Result Codes

The following codes are used in the table of results:

Code	Meaning
PASS	Test result shows that the requirements of the relevant specification have been met.
FAIL	Test result shows that the requirements of the relevant specification have not been met.

4.4 Key to Tested Bands Code

The following codes are used in the table of results:

Code	Meaning
M1	Test case is required to be completed in one of the supported frequency bands.
All	Test case is required to be completed in all supported frequency bands.
MB	Test case is required to be completed in the relevant Multi-band environment.

Test of: FIC (First International Computer, Inc.) - OPENMOKO GTA02

To: ETSI EN 301 511 V9.0.2 (2003-03)

5. Test Equipment

Conformance testing was performed using test equipment calibrated in accordance with TAF accreditation requirements. Calibration, configuration records and equipment details used for conformance testing are available for inspection at Sporton International Inc., if required.

5.1 Rohde & Schwarz CMU 200

Serial Number	103937	
Hardware Version	CMU200	
Software Version	System Software Firmware	Version 4.31

5.2 Additional Equipment for the Radiated Spurious Emission

Instrument	Manufacturer	Model No.	Characteristic
Amplifier	MITEQ	AFS44-00102650-42-10P-44	1G~26.5G
Amplifier	Mini Circuit	ZKL-2	30~2000MHz
Bilog Antenna	Schaffner	CBL6112B	30MHz ~ 2GHz
Double Ridge Horn Antenna	Com-power	AH118	1GHz ~18GHz
Active Double Ridge Horn Antenna	Com-power	AHA -118	1GHz ~18GHz
Spectrum Analyzer	Agilent	E4408B	9KHz~26.5GHz
High Pass Filter	Microwave Circuits	H07G18G3	7G-18G
High Pass Filter	Microwave Circuits	H3G018G0	3G-18G
High Pass Filter	Microwave Circuits	H1G013G1	1G-13G
High Pass Filter	WI	WHKX20118G-12SS	2G-13G
Low Pass Filter	WI	WLKS 1200-8SS	DC -1.2G
Notch Filter	WI	WRCD1747.5	1747.5MHz Notch
Notch Filter	WI	WRCT902.5	902.5MHz Notch
Notch Filter	WI	WRCD1700.0/2000.0	1700~2000MHz Tunable Notch
Notch Filter	WI	WRCT 800.0/960.0	800~960MHz Tunable Notch

Test of: FIC (First International Computer, Inc.) - OPENMOKO GTA02

To: ETSI EN 301 511 V9.0.2 (2003-03)

6. Persons performing Accredited Testing

Andy Yeh

Tony Hsu

Leo Wen

James Huang

Test of: FIC (First International Computer, Inc.) - OPENMOKO GTA02
To: ETSI EN 301 511 V9.0.2 (2003-03)

Annex A – Photographs



Test of: FIC (First International Computer, Inc.) - OPENMOKO GTA02

To: ETSI EN 301 511 V9.0.2 (2003-03)

This page has been left intentionally blank.