MPE Evaluation Report

Applicant Name: Shanghai Simcom Ltd.
Applicant Address: SIM Technology Building, No. 633 Jinzhong Road, Changning District, Shanghai, P.R.China(Postalcode 200335)

The following samples were submitted and identified on behalf of the client as:

Sample Description	GSM/GPRS Module
SGS Ref	SHEMO09120140803
Model Number	SIM900
FCC ID	UDV-0912142009007
Final Hardware Version Tested	V2.03
Final Software Version Tested	SIM900 R11.0
Date Initial Sample Received	01-06,2010
Testing Start Date	01-07,2010
Testing End Date	01-07,2010

According to:

FCC Rules 47 CFR §2.1091
FCC OET Bulletin 65 supplement C

Comments/ Conclusion:
The configuration tested complied to the certification requirements specified in this report.

Signed for on behalf of SGS

Ken Wang — Project Manager

Peter Xue — Technical Manager

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Change History

Version	Change Contents	Author	Date
V1.0	First edition	Ken Wang	01-15,2010
V1.1	Format update	Ken Wang	01-22,2010

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1. Report Overview

This report details the results of testing carried out on the samples listed in section 15, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.
This report may only be reproduced and distributed in full. If the product in this test report is used in any configuration other than that detailed in the test report, the manufacturer must ensure the new configuration complies with all relevant standards and certification requirements. Any mention of SGS Shanghai Wireless Telecommunications lab or testing done by SGS Shanghai Wireless Telecommunications lab made in connection with the distribution or use of the tested product must be approved in writing by SGS Shanghai Wireless Telecommunications lab.

2. Test Lab Declaration or Comments

None

3. Applicant Declaration or Comments

None

4. Measurement Uncertainty

Measurements and results are all in compliance with the standards listed in section 10 of this report. All measurements and results are recorded and maintained at the laboratory performing the tests and measurement uncertainties are taken into account when comparing measurements to pass/ fail criteria.

5. Testing Environment

Normal Temperature	+20 to +24 °C
Relative Humidity	35 to 60 %

6. Primary Test Laboratory

Name:	Wireless Telecommunications Laboratory SGS-CSTC Standards Technical Services(Shanghai) Co., Ltd
Address:	9F, 3rd Building, No.889, Yishan Rd, Xuhui District, Shanghai, China 200233
Telephone:	+86 (0) 21 6140 2666
Fax:	+86 (0) 21 5450 0149
Internet:	http://www.cn.sgs.com
Contact:	Mr. Peter Xue
Email:	peter.xue@sgs.com

7. Details of Applicant

Name:	Shanghai Simcom Ltd
Address:	SIM Technology Building, No.633 Jinzhong Road, Changning District, Shanghai, P.R.China(Postalcode 200335)
Telephone:	86-21-32523134
Fax	86-21-32523020
Contact:	Yongsheng Li
Email:	Yongsheng Li @sim.com

8. Details of Manufacturer

Name:	Shanghai Simcom Ltd
Address:	SIM Technology Building, No.633 Jinzhong Road, Changning District, Shanghai, P.R.China(Postalcode 200335)
Telephone:	86-21-32523134
Fax	86-21-32523020
Contact:	Yongsheng Li
Email:	Yongsheng Li @sim.com

9. Other testing Locations

Name:	Not Required
Address:	--
Telephone:	--
Contact:	--
Email:	--

10. Referenced Documents

The Equipment under Test (EUT) has been tested at SGS's (own or subcontracted) laboratories according to

FCC Rules 47 CFR §2.1091 & FCC OET Bulletin 65 supplement C

The following table summarizes the specific reference documents such as harmonized standards or test specifications which were used for testing as SGS's (own or subcontracted) laboratories.

Identity	Document Title	Version
FCC Rules 47 CFR§2.1091	Radiofrequency radiation exposure evaluation:mobile devices	-
FCC OET Bulletin 65 supplement C	Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields	2001

(B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $|E|^2$, $|H|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz *Plane-wave equivalent power density

RF Exposure Limits

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11. Primary Laboratory Accreditation Details

China National Accreditation Service for Conformity Assessment

LABORATORY ACCREDITATION CERTIFICATE

(No. CNAS L0599)

China National Accreditation Service for Conformity Assessment has accredited

SGS-CSTC Standards Technical Services（Shanghai) Co., Ltd.

Testing Center

1/4/6/7/8/9/10F., No.3 Building, Qilai Industry City,

No.889, Yishan Road, Shanghai, China

to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

The scope of accreditation is detailed in the attached schedule bearing the same accreditation number as above. The schedule forms an integral part of this certificate.

Date of Issue：2009-08-31

Date of Expiry：2011-07-29

Date of Initial Accreditation：2003-08-01

Signed on behalf of China National Accreditation Service for Conformity Assessment

China National Accreditation Service for Conformity Assessment(CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation systems for conformity assessment. CNAS is the signatory to International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC MRA), and the signatory to Asia Pacific Laboratory Accreditation Cooperation Mutual Recognition Arrangement (APLAC MRA).

12. SGS Shanghai Wireless Telecommunications lab, Personnel

SGS Wireless Shanghai Project Management Team and list of approved Testers for SGS Wireless Shanghai.

Surname	Forename	Initials
CAI	CAI	CAICAI
Xue	Peter	PETERXUE
Xu	Anya	ANYA
Ni	Lemon	LEMONNI
Tao	Kevin	KEVINTAO

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Wang	Lawrence	LAWRENCE
Zhang	Sean	SEANZH
Liu	Felix	FILEX
Ruan	Roger	ROGER
Tan	Terry	TERRY
Zhang	Zenger	ZENGER
Wang	Ken	KENWANG
Gao	Keilefen	KEILEFENGAO
Tang	Eva	EVATANG
Ho	James	JAMESHO
Tang	Kenny	KENNY
Hailiang	Cai	HAILIANG
Kuang	Connie	CONNIE
Chan	Hik Kwong	HKC
Nie	Neo	Neo

Version 2009-10-20

13. Test Equipment Information

Equipment	Model	S/N	Cal. date	Cal. due date
R&S Universal Radio Communication Tester	CMU200	103633	2009-11-26	2010-11-25

14. Detailed Results

14.1 Summary of Results

Frequency Band	Limit (mW/ cm²)	Result (mW/ cm²)	Verdict
GSM850	**0.55**	**0.13**	**Passed**
PCS1900	**1.0**	**0.07**	**Passed**

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14.2 Measurement of RF conducted Power

Mode		GPRS	
Slot (Uplink)		1	2
Duty factor		1/8	1/4
Band	Channel	Peak Power (dBm)	
850	128	33.1	33.1
	189	33.1	33.1
	251	33.1	33.1
1900	512	30.0	30.0
	661	30.3	30.1
	810	30.5	30.3

14.3 MPE Evaluation

$S = PG^* \text{ Duty factor} / 4\pi R^2$

P = Peak Power Input to antenna (milli watts)
G =Antenna Gain (numeric)
R = distance to the center of radiation of antenna (in meter) =20 cm

Note:

1) P (milli watts)=$10^{\frac{dBm}{10}}$

2) G (Antenna gain in numeric) = 10^ (Antenna gain in dBi /10)

3) Duty factor

Mode		Duty factor
GSM/GPRS/EGPRS	1 Slot uplink	1/8
	2 Slot uplink	1/4
	3Slot uplink	3/8
	4 Slot uplink	1/2

4) π=3.142

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The maximum power density for GSM850 is shown as below:

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Duty fator	The maximum sourced based time-averaged transmit power(mW)	Calculated RF Exposure (mW/cm²)	Limit (mW/ cm²)
1	1.26	33.1	2041.74	1/4	510.43	0.13	0.55

The maximum power density for PCS1900 is shown as below:

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Duty fator	The maximum sourced based time-averaged transmit power(mW)	Calculated RF Exposure (mW/cm²)	Limit (mW/ cm²)
1	1.26	30.3	1071.52	1/4	267.88	0.07	1

14.4 Measurement Uncertainty

Extended Uncertainty (k=2) 95%	0.5dB

15. Identification of Samples

Product Name	SIM900
Brand Name	SIMCOM
Marketing Name	SIM900
Final Hardware Version	V2.03
Final Software Version	SIM900 R11.0
Normal Voltage	4.0 V
Low Voltage	3.6 V
High Voltage	4.4 V
Battery Type	-

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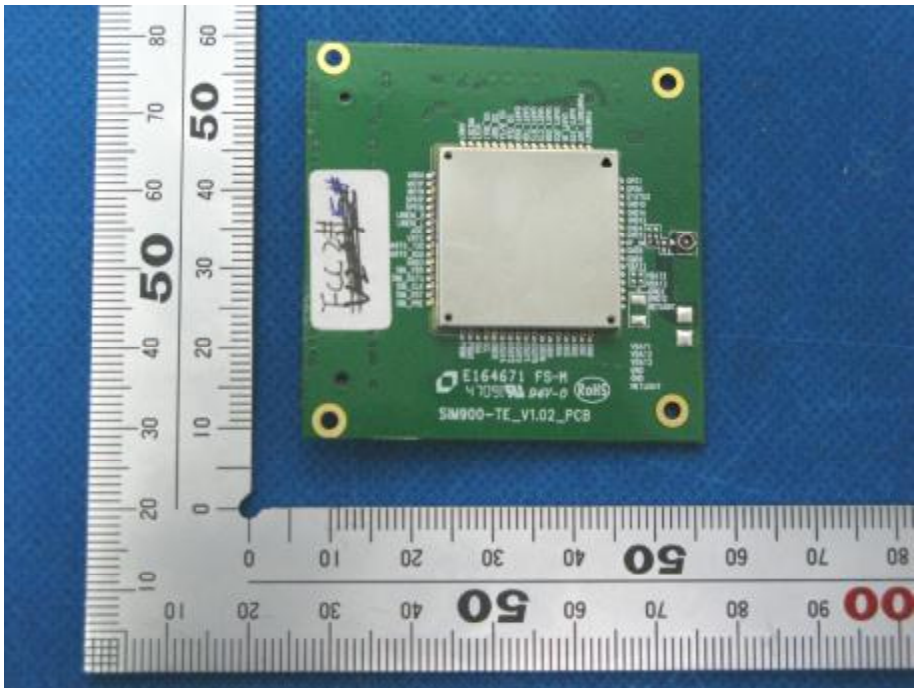
Antenna Type	external Antenna	
Antenna gain	GSM850	1 dBi
	PCS1900	1 dBi
GSM Frequency Bands	GSM850	Tx: 824~849 MHz
		Rx: 869~894 MHz
	PCS1900	Tx: 1850~1910 MHz
		Rx: 1930~1990 MHz
Modulation Mode	GMSK	
GSM / GPRS Power Class	GSM850	4
	PCS1900	1
GPRS MultiSlot Class	10	
Reference Number	SHEMO09120140803	
IMEI	012207000002169	
Date of receipt	01-06,2010	
Date of Testing Start	01-07,2010	
Date of Testing End	01-07,2010	

16. Photographs of EUT



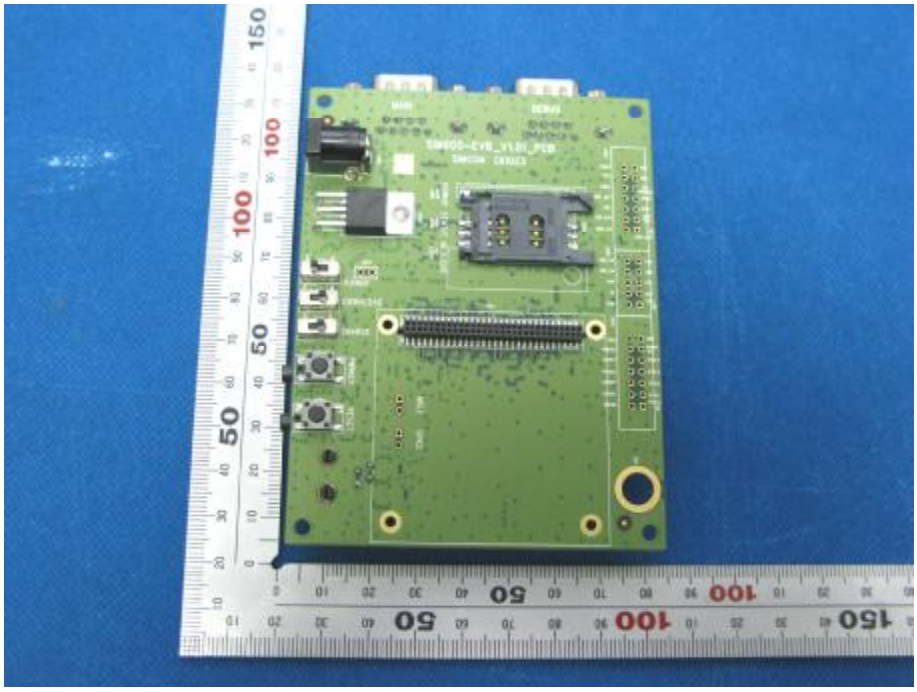


Fig.16-1 Front View

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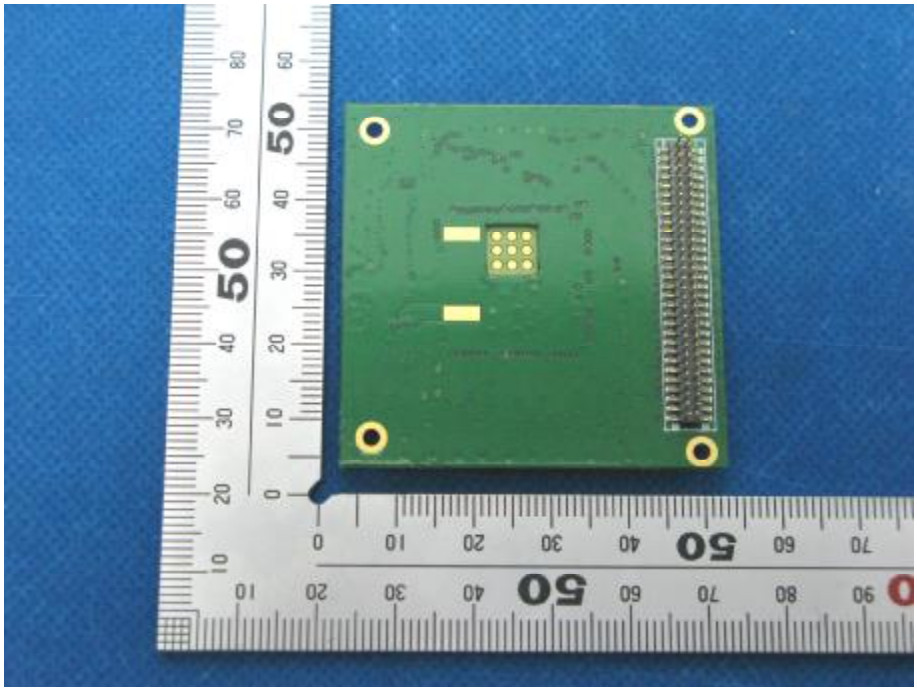

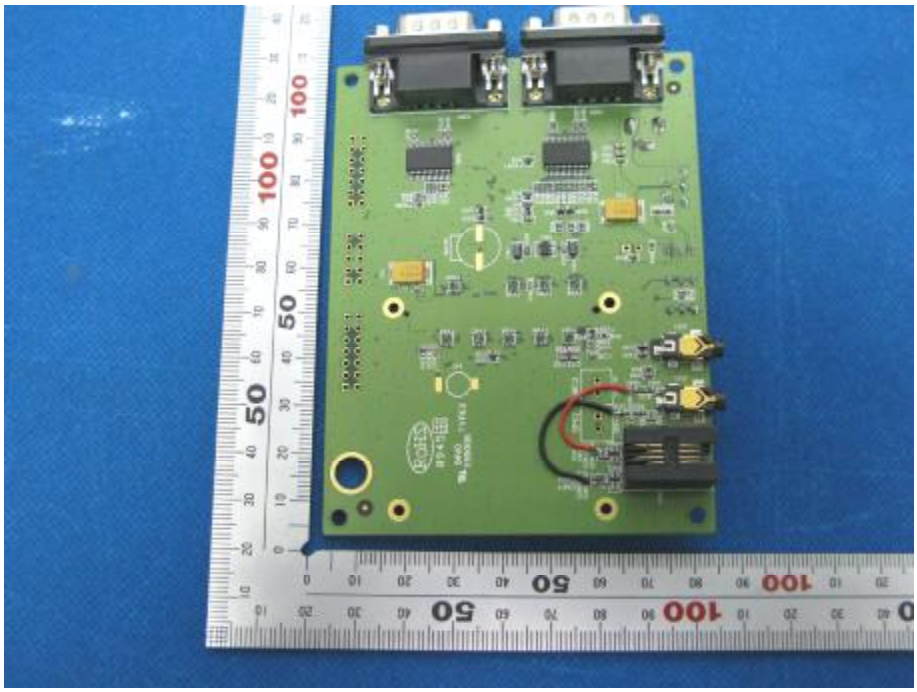

Fig.16-2 Back View

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Fig.16-3 Antenna

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