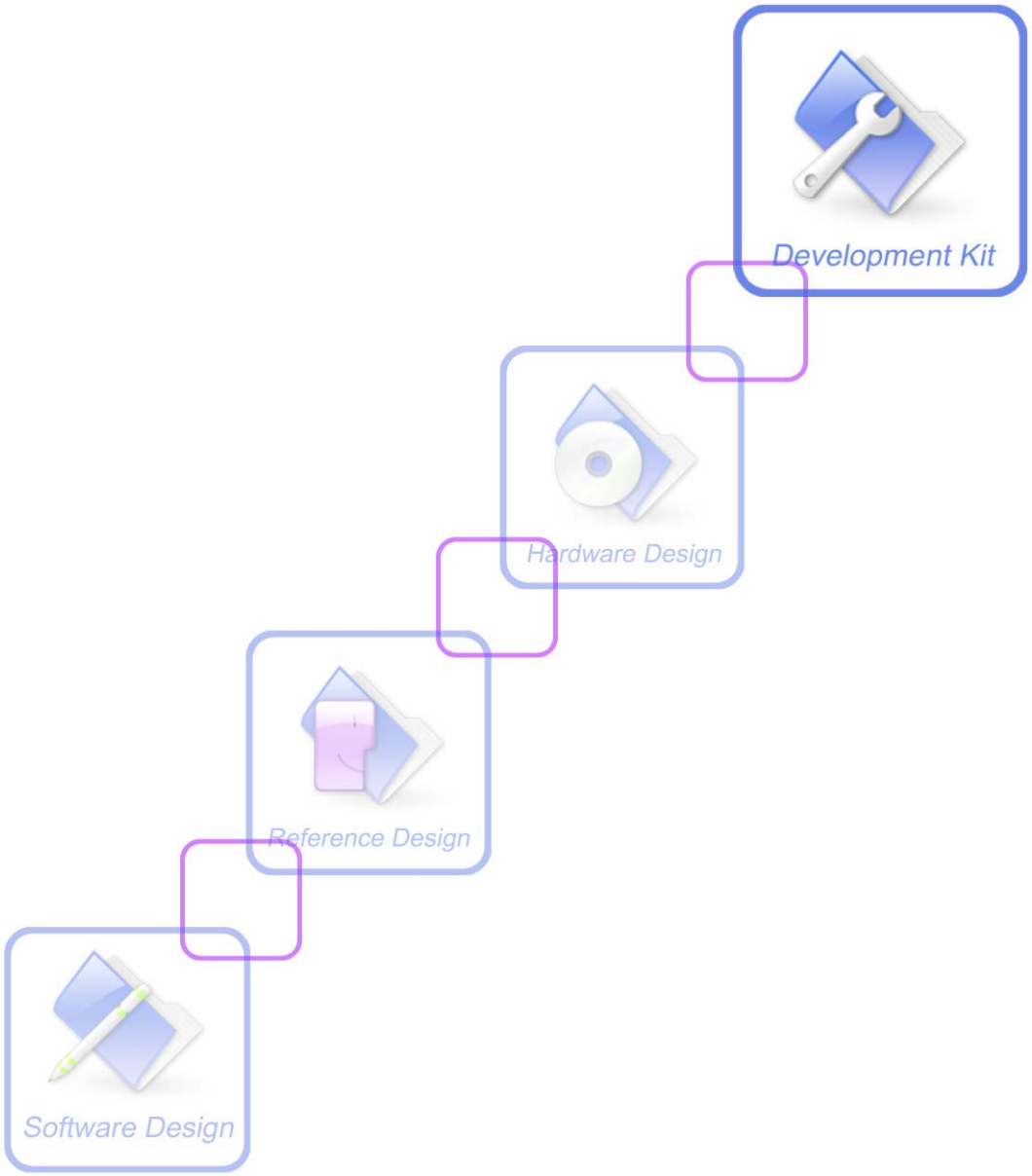
Development Kit Manual

SIM900B-EVB_UGD_V1.01



Document Title:	SIM900B EVB User Guide
Version:	1.01
Date:	2010-04-14
Status:	Release
Document Control ID:	SIM900B-EVB_UGD_V1.01

General Notes

Simcom offers this information as a service to its customers, to support application and engineering efforts that use the products designed by Simcom. The information provided is based upon requirements specifically provided to Simcom by the customers. Simcom has not undertaken any independent search for additional relevant information, including any information that may be in the customer's possession. Furthermore, system validation of this product designed by Simcom within a larger electronic system remains the responsibility of the customer or the customer's system integrator. All specifications supplied herein are subject to change.

Copyright

Contents

Figure Index

SCOPE

This document give the usage of SIM900B EVB, user can get useful info about the SIM900B EVB quickly through this document.

This document is subject to change without notice at any time.

1. SIM900B EVB

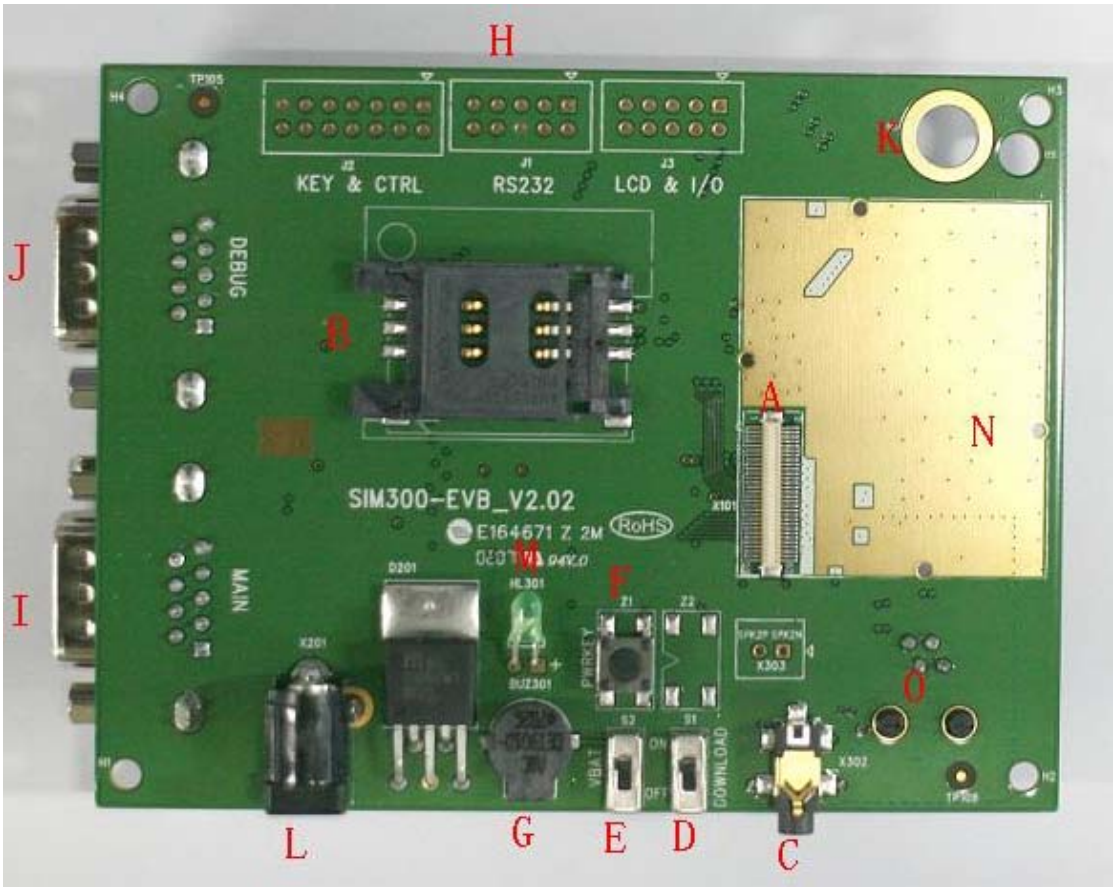


Figure 1： EVB TOP view

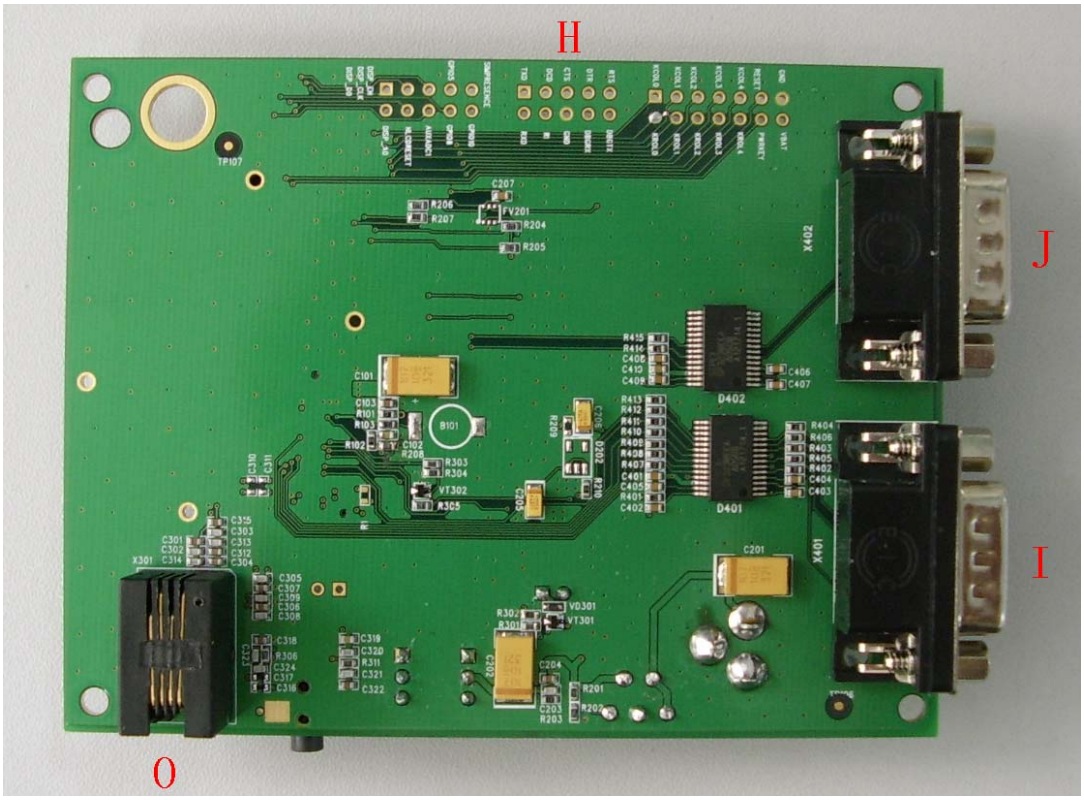


Figure 2： EVB BOTTOM view

A: SIM900B module interface
B: SIM card interface
C: headset interface
D: Download switch, turn on or off download function
E: VBAT switch, switch the voltage source from the adaptor or external battery
F: PWRKEY key, turn on or turn off SIM900B
G: buzzer
H: expand port, such as keypad port, main and debug serial port, display port
I: MAIN serial port for downloading, AT command transmiting, data exchanging
J: DEBUG serial port
K: hole for fixing the antenna
L: source adapter interface
M: light
N: hole for fixing the SIM900B
O: headphones interface

2. EVB accessory

Figure 3： EVB accessory

A: 5V DC source adapter
B: headset
C: antenna
D: antenna transmit cable
E: serial port cable

3. Accessory Interface

3.1 Power Interface

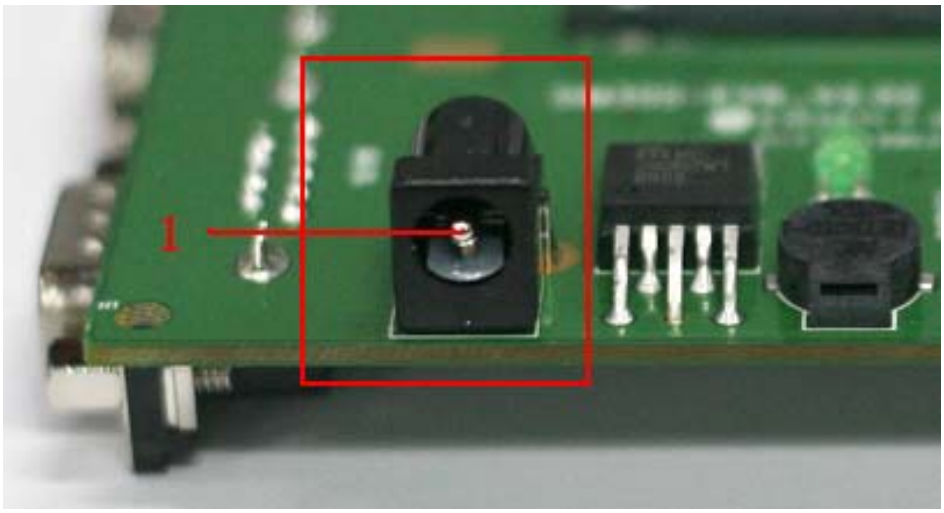


Figure 4: Power Interface

Pin	Signal	I/O	Description
1	Adapter input	I	5V/2.5A DC source input

3.2 Audio Interface

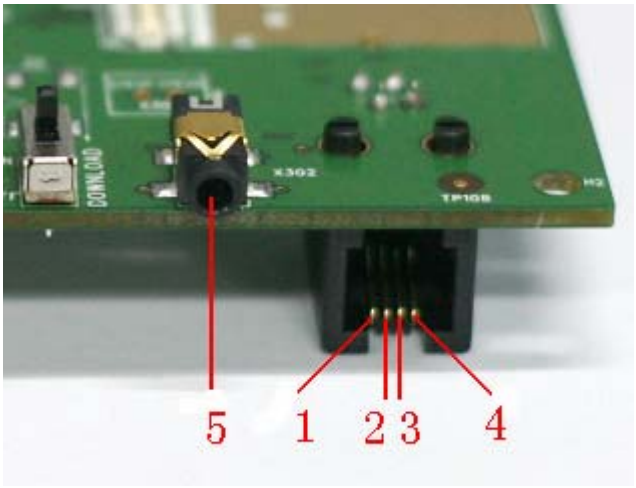


Figure 5： Audio Interface

Headset interface:

Pin	Signal	I/O	Description
1	MIC1P	I	Positive microphone input
2	SPK1P	O	Positive speak output
3	SPK1N	O	Negative speak output
4	MIC1N	I	Negative microphone input

Earphone interface:

Pin	Signal	Input/Output	Description
5	MIC2P&SPK2P	I/O	Auxiliary positive input and output

3.3 SIM card interface

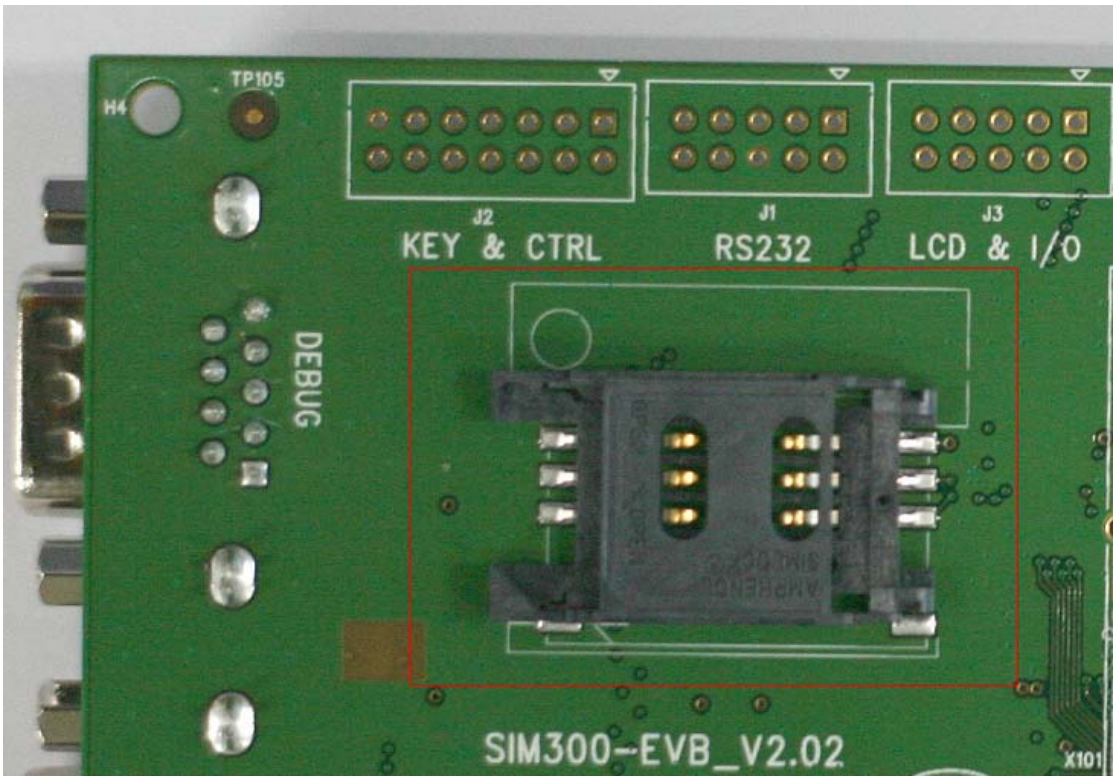


Figure 6： SIM card interface

3.4 Antenna Interface

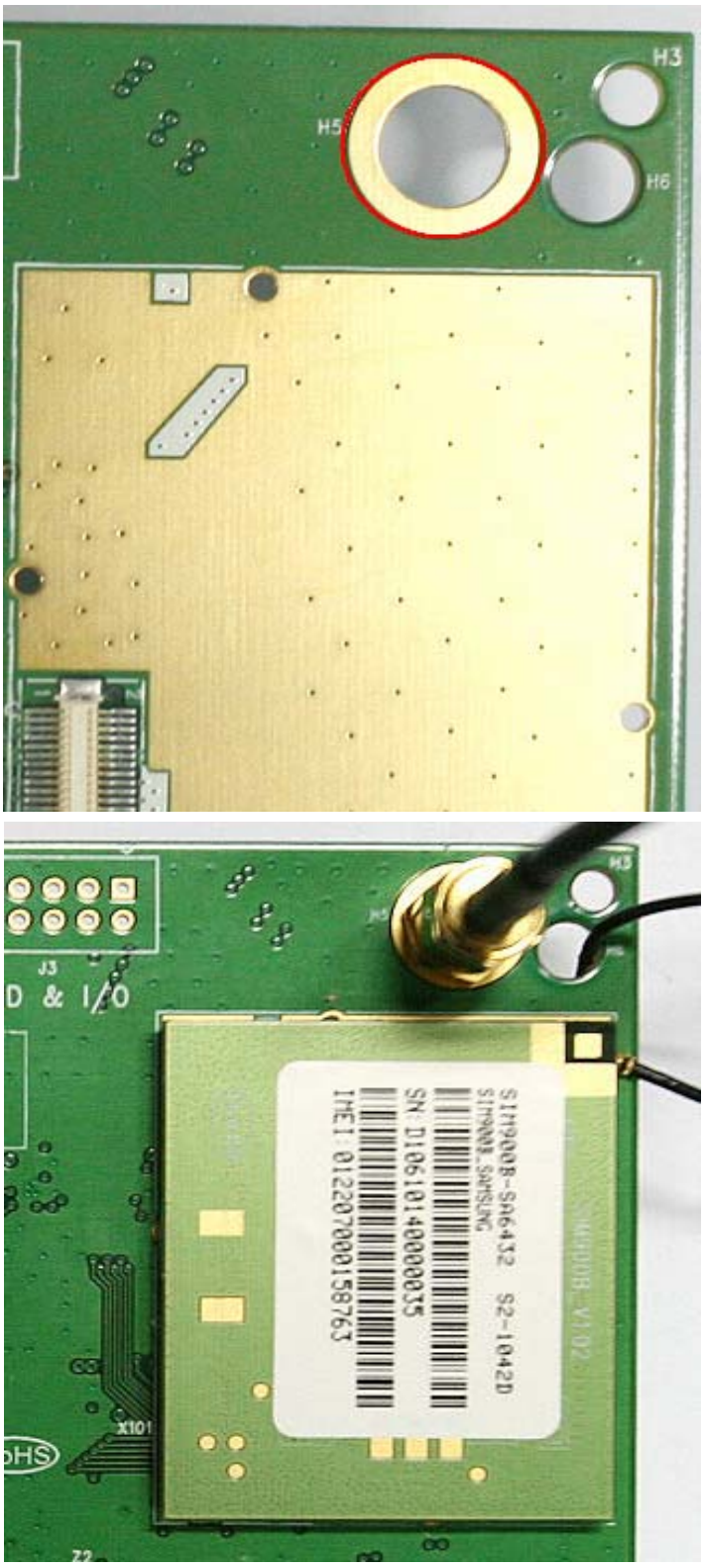


Figure 7： Antenna Interface

3.5 RS232 Interface

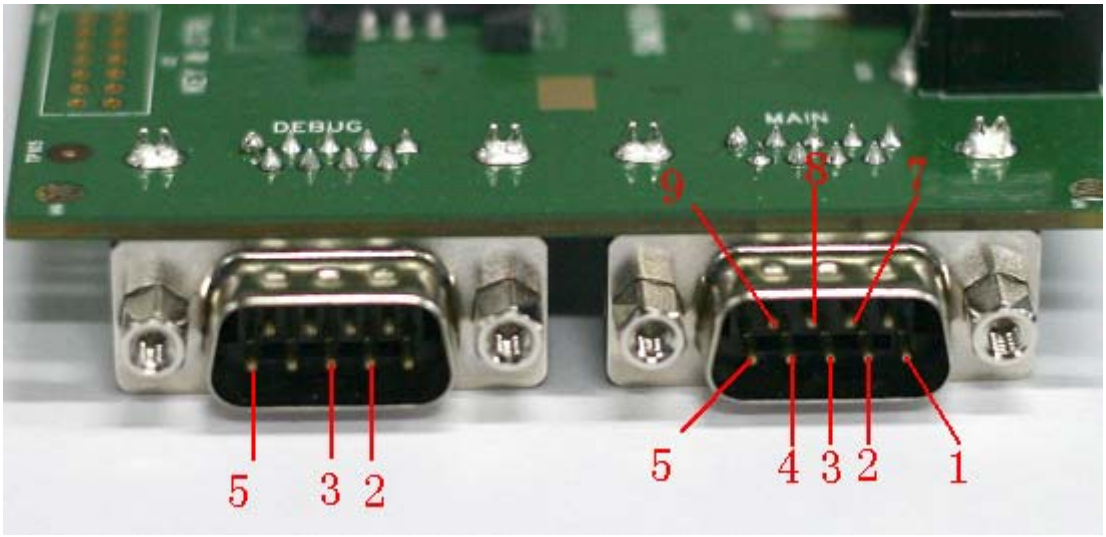


Figure 8： Serial Port and Debug Port

Serial Port——MAIN Interface
Debug Port——DEBUG Interface

Main Interface:

Pin	Signal	I/O	Description
1	DCD	O	Data carrier detection
2	TXD	O	Transmit data
3	RXD	I	Receive data
4	DTR	I	Data Terminal Ready
5	GND		GND
7	RTS	I	Request to Send
8	CTS	O	Clear to Send
9	RI	O	Ring Indicator

Debug Interface:

Pin	Signal	I/O	Description
2	DBG_TXD	O	Transmit data
3	DBG_RXD	I	Receive data
5	GND		GND

3.6 Operating Status LED

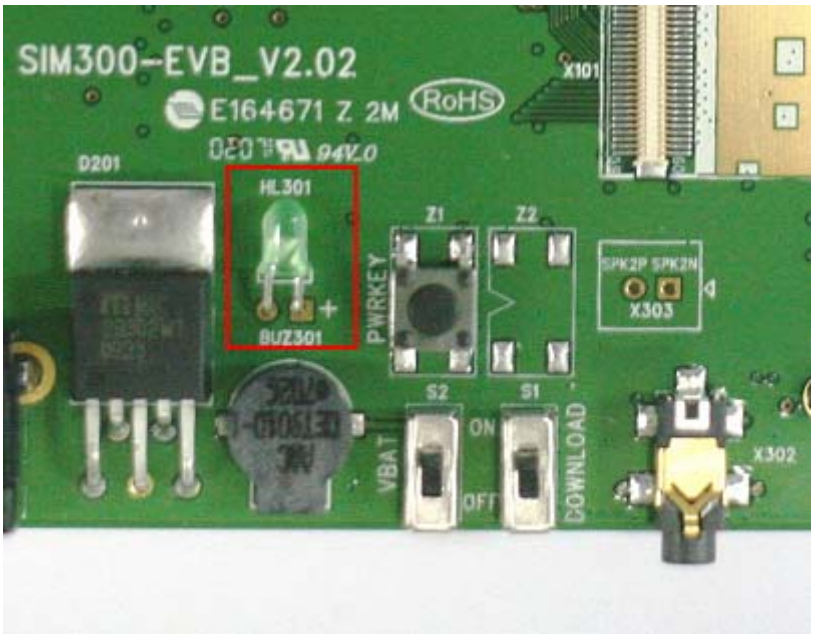


Figure 9： StatusLED

Working state of status LED as list:

State	Module function
Off	Module is not running
64ms On/ 800ms Off	Module does not find the network
64ms On/ 3000ms Off	Module find the network
64ms On/ 300ms Off	GPRS communication

4. Test Interface

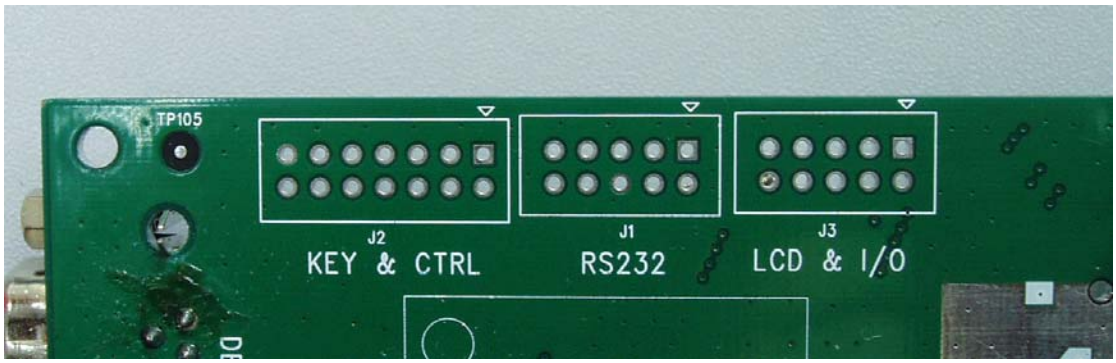


Figure 10： Test interface overview

4.1 Serial Interface

J1---RS232 Interface

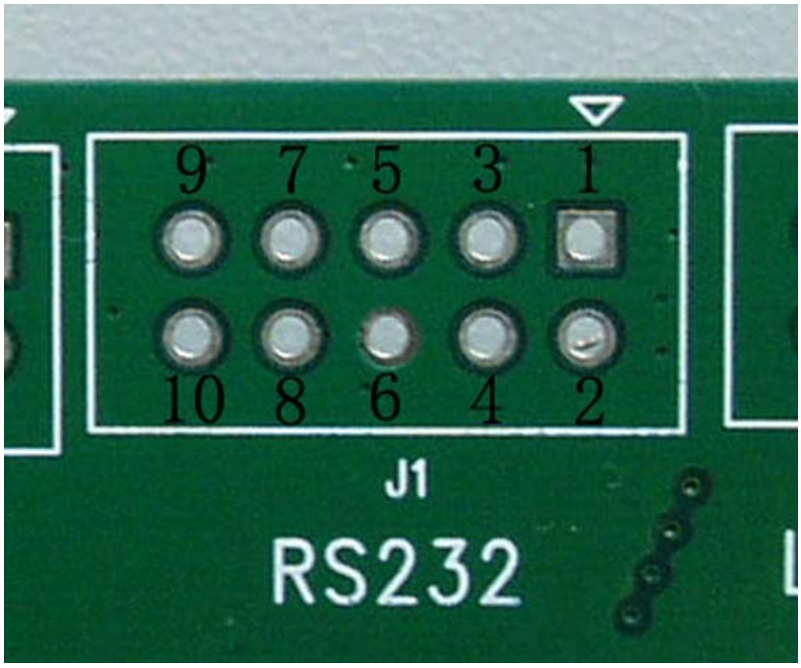


Figure 11： J1 Interface

RS232 Interface Pin List:

Pin	Signal	I/O	Description
1	TXD	O	Transmit data
2	RXD	I	Receive data
3	DCD	O	Data carrier detection
4	RI	O	Ring Indicator
5	CTS	O	Clear to Send
6	GND		GND
7	DTR	I	Data Terminal Ready
8	DBG_RXD	I	Receive data
9	RTS	I	Request to Send
10	DBG_TXD	O	Transmit data

4.2 J2---KEY & CTRL

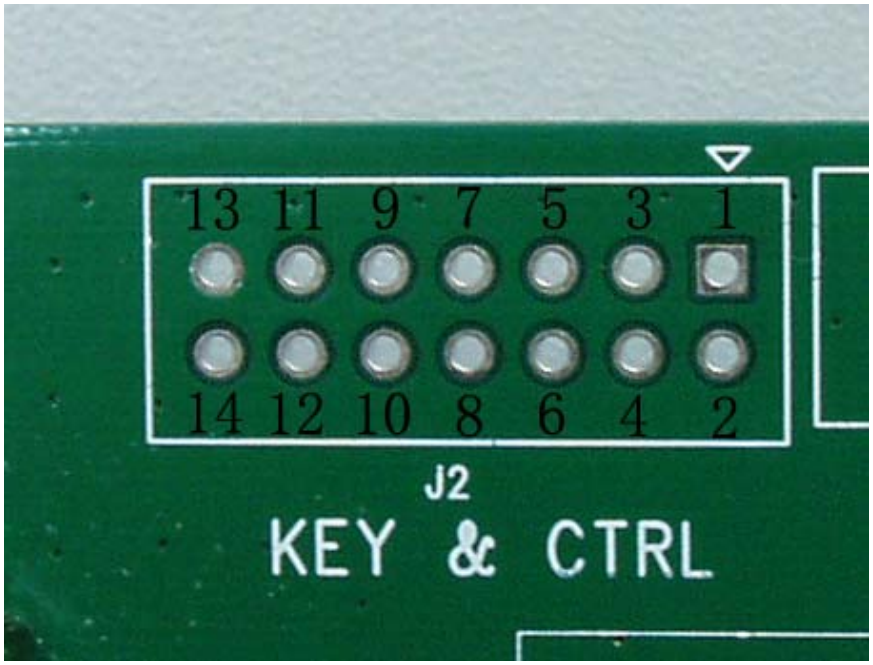


Figure 12： J2 Interface

KEY & CTRL Pin List

Pin	Signal	I/O	Description
1	KBC0	O	Keypad array interface
2	KBR0	I	
3	KBC1	O	
4	KBR1	I	
5	KBC2	O	
6	KBR2	I	
7	KBC3	O	
8	KBR3	I	
9	KBC4	O	
10	KBR4	I	
11	NC		
12	PWRKEY	I	power on key
13	GND		GND
14	VBAT	I	VBAT

4.3 J3---LCD & I/O

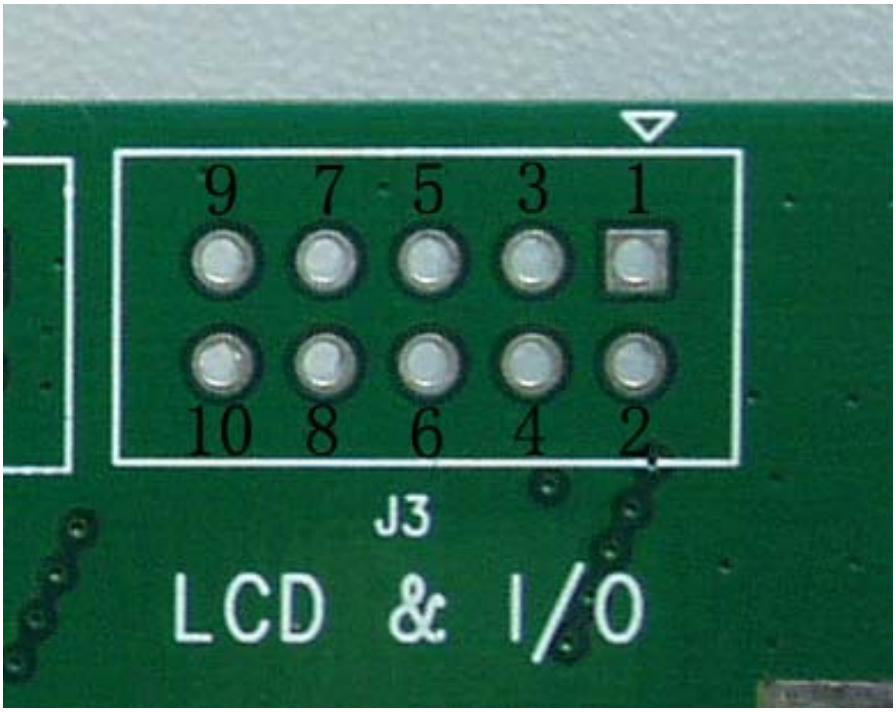


Figure 13: J3 Interface

LCD & I/O Interface Pin List:

Pin	Signal	I/O	Description
1	DISP_DATA	I/O	Display data line
2	DISP_D/C	O	Display data or address select
3	DISP_CLK	O	Display clock output
4	DISP_RST	O	Display reset outplay
5	DISP_CS	O	Display enable output
6	ADC0	I	Adc input
7	GPIO0	I/O	GPIO5 reserved for user
8	BUZZER	I/O	Buzzer reserved for user
9	SIM_PRESENCE	I	SIM Card Detection
10	NC		

5. EVB and accessory equipment

At normal circumstance, the EVB and its accessory are equipped as the Figure 14

Figure 14： EVB and accessory equipment

6. Illustration:

6.1 Running:

(1) Connect the SIM900B module to the 60pins connector on SIM900B EVB, inserting 5V direct current source adapter, switching the S1 switch on **off** state, S2 switch on **ON** state;
(2) Press the PWRKEY for about 1 second, and then SIM900B module begins running.

You can see the light on the EVB flashing at a certain frequency. By the state, you can judge whether the EVB and SIM900B can run or not. No function and test can be executed when we have not connected necessary accessories.

6.2 Connecting Net and calling

(1) connect the serial port line to the MAIN serial port, open the HyperTerminal(AT command windows) on your Personal computer, the location of the HyperTerminal in windows2000 is START→accessory→communication→HyperTerminal. Set correct Baud Rate and COM number. The Baud Rate of SIM900B is 115200, and the COM number based on which USB port your serial port line insert in, you should select such as COM3 or COM4 etc.
(2) Connect the antenna to the SIM900B module using an antenna transmit line, insert SIM card into the SIM card interface, insert headphones or headset into its interface.
(3) Act on the step of running which mentioned above, power on the system, typing the AT command in the HyperTerminal, and then the SIM900B module will execute its corresponding function.

6.3 Downloading

Connect the serial port line to the **debug** port, connect the direct current source adapter, run the download program and press the **START** key, then switch the S1 switch on **ON** state, S2 switch on **ON** state, then EVB provide the function of downloading.

6.4 Turns off

Turn off SIM900B module: press the PWRKEY for about 1 second, SIM900B module will be turned off.

Notes: the SIM900B EVB is almost the same with the SIM300 EVB.The difference between the two EVBs are as following:

1.Board to board connector:on SIM900B EVB,the connector is SUNCAGEY's BB530-06001-20R; on SIM300 EVB, the connector is ENTERY Company's 1008-G60N-01R or JXT's 210-106001-001

2. R411:on SIM900B EVB,R411 is 15k ohm; on SIM300 EVB,R411 is 0 ohm.

Contact us:

Shanghai SIMCom Wireless Solutions Ltd.
Add: SIM Technology Building，No.633，Jinzhong Road，Changning District，Shanghai P.R. China 200335
Tel: +86 21 3235 3300
Fax: +86 21 3235 3301
URL: www.sim.com/wm