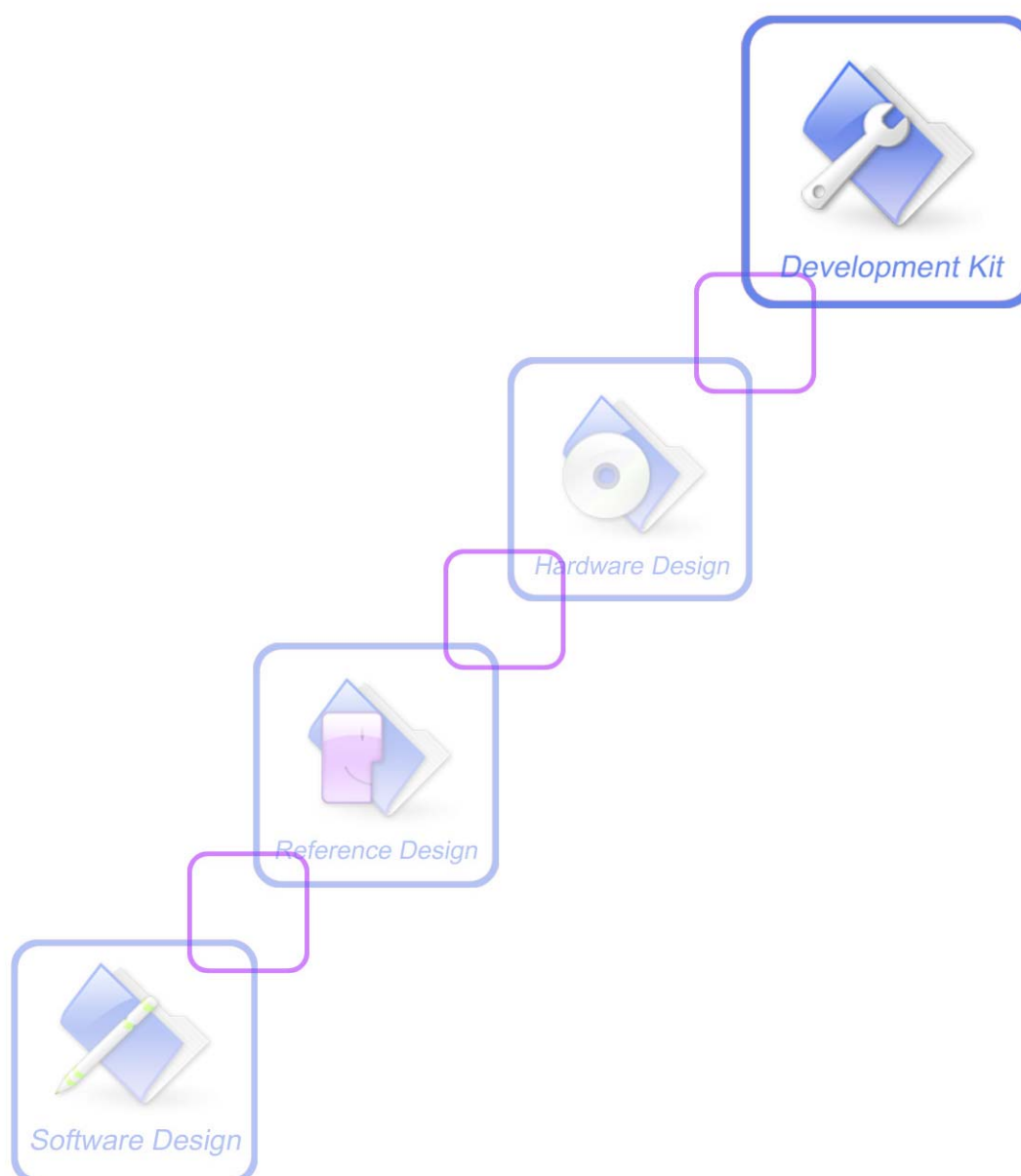


Development Kit Manual

SIM900-EVB_UGD_V1.02



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Contents

| | |
|--------------------------------------|----|
| Contents | 3 |
| Version History | 4 |
| 1. SIM900 EVB..... | 5 |
| 2. EVB accessory | 7 |
| 3. Accessory Interface | 8 |
| 3.1 Power Interface | 8 |
| 3.2 Audio Interface..... | 9 |
| 3.3 SIM card interface..... | 10 |
| 3.4 Antenna Interface | 11 |
| 3.5 RS232 Interface..... | 12 |
| 3.6 Operating Status LED | 13 |
| 4. Test Interface..... | 14 |
| 4.1 J103 | 14 |
| 4.2 J201 | 15 |
| 4.3 J104 | 16 |
| 5. EVB and accessory equipment..... | 18 |
| 6. Illustration: | 19 |
| 6.1 Running:..... | 19 |
| 6.2 Connecting Net and calling | 19 |
| 6.3 Downloading..... | 19 |
| 6.4 Turns off..... | 19 |

Figure Index

| | |
|--|----|
| FIGURE 1: EVB TOP VIEW | 5 |
| FIGURE 2: EVB BOTTOM VIEW..... | 6 |
| FIGURE 3: EVB ACCESSORY..... | 7 |
| FIGURE 4: POWER INTERFACE | 8 |
| FIGURE 5: AUDIO INTERFACE | 9 |
| FIGURE 6: SIM CARD INTERFACE..... | 10 |
| FIGURE 7: ANTENNA INTERFACE | 11 |
| FIGURE 8: SERIAL PORTS..... | 12 |
| FIGURE 9: STATUSLED | 13 |
| FIGURE 10: TEST INTERFACE OVERVIEW | 14 |
| FIGURE 11: J103 INTERFACE..... | 14 |
| FIGURE 12: J201 INTERFACE | 15 |
| FIGURE 13: J104 INTERFACE | 16 |
| FIGURE 14: EVB AND ACCESSORY EQUIPMENT | 18 |

Version History

| Data | Version | Description of change | Author |
|------------|---------|---|--------|
| 2009-12-08 | 1.01 | Origin | Lee |
| 2010-7-1 | 1.02 | §6.1 Increase notice: You should equip the four sets of screws before you start to test the module to achieve a better character. | Jerry |
| | | | |

SCOPE

This document gives the usage of SIM900 EVB and SIM900A EVB, user can get useful info about the SIM900 EVB and SIM900A EVB quickly through this document.

This document takes SIM900 EVB as an example.

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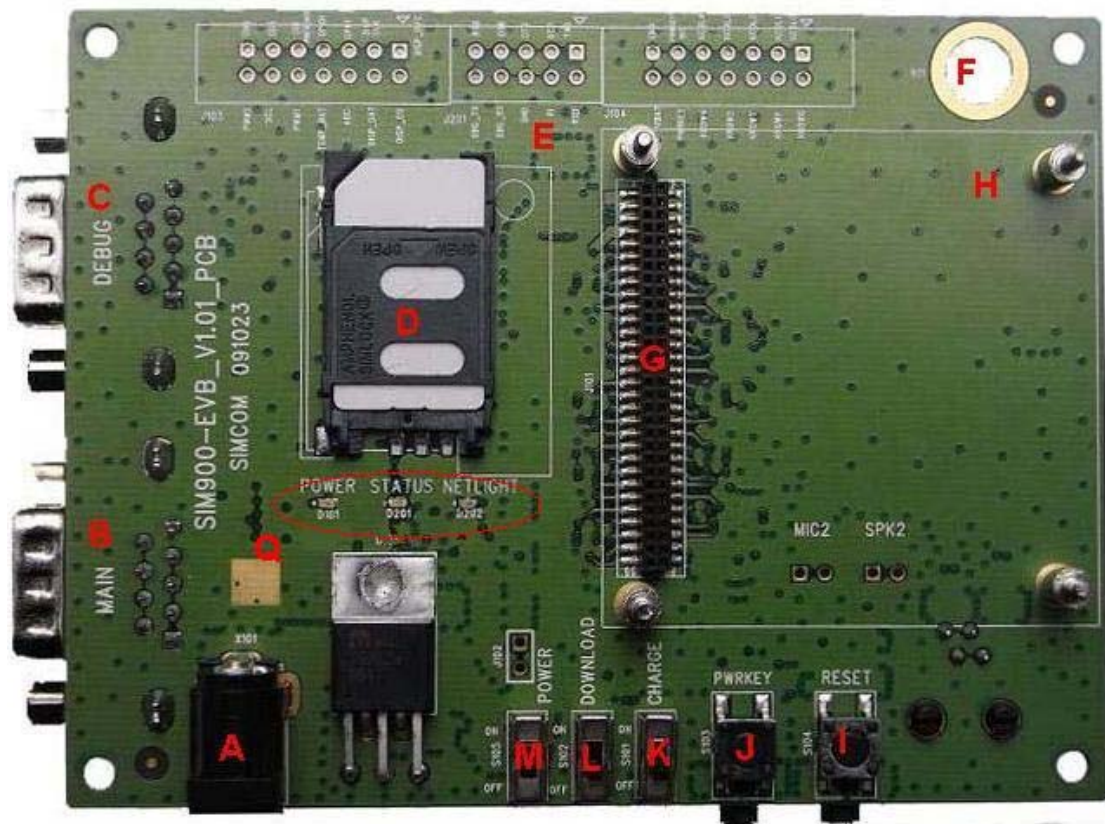




Figure 2: EVB BOTTOM view

- A: Source adapter interface
- B: MAIN serial port for downloading, AT command transmitting, data exchanging
- C: DEBUG serial port
- D: SIM card interface
- E: Test point interface
- F: Antenna fix hole
- G: SIM900-TE with SIM900 module interface
- H: Module fix hole
- I: Reset key (reset the module)
- J: Power key (module ON/OFF control)
- K: Charge switch (charge ON/OFF control)
- L: Download switch (download control)
- M: Power switch (power ON/OFF control)
- N: Headphones interface
- O: Headset interface
- P: Line in interface
- Q: Status light

2. EVB accessory



Figure 3: EVB accessory

- A: antenna
- B: antenna transmit line
- C: 5V DC source adapter
- D: serial port line

3. Accessory Interface

3.1 Power Interface

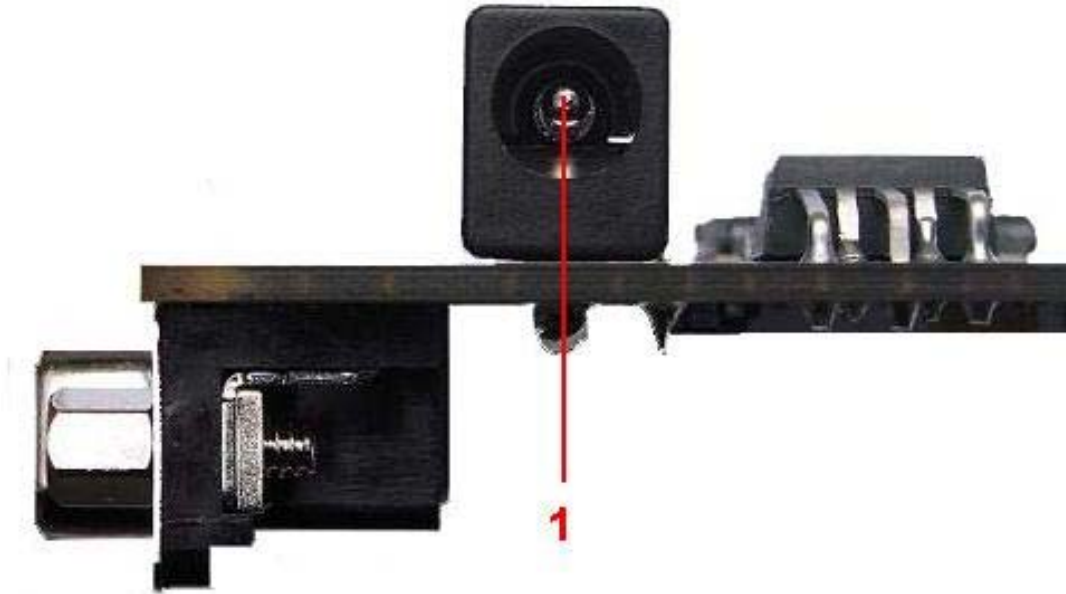


Figure 4: Power Interface

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

3.2 Audio Interface

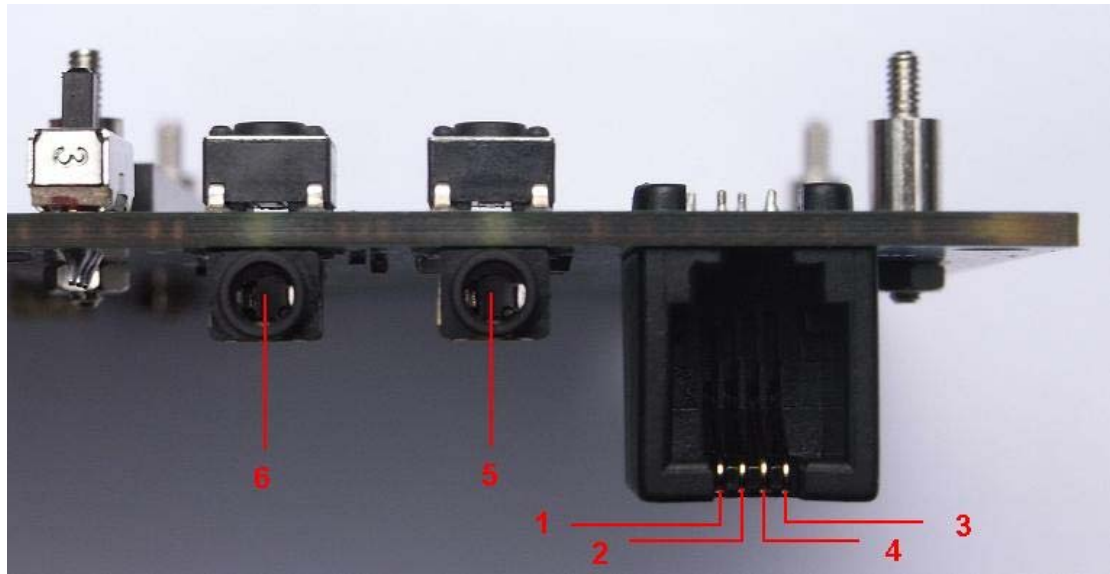


Figure 5: Audio Interface

Headset interface:

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

Earphone interface:

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

Line in interface:

| Pin | Signal | Input/Output | Description |
|-----|-------------|--------------|----------------|
| 6 | Line in R/L | I/O | Line in signal |

3.3 SIM card interface

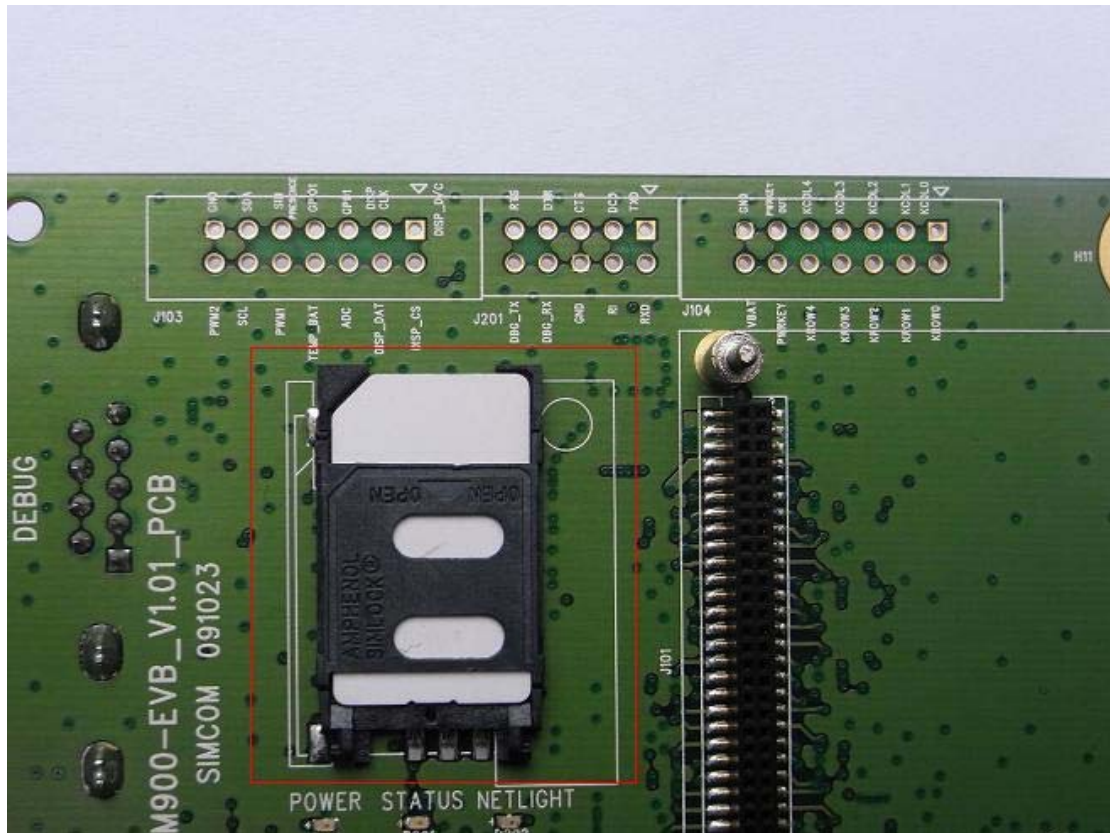


Figure 6: SIM card interface

3.4 Antenna Interface



Figure 7: Antenna Interface

3.5 RS232 Interface

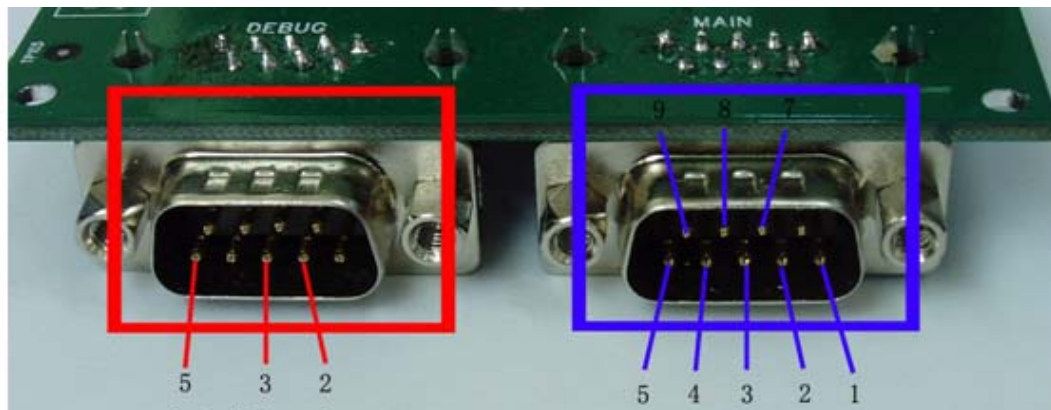


Figure 8: Serial Ports

Serial Port 1——MAIN Interface

Serial Port 2——DEGUG 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 | DEBUG_TX | O | Transmit data |
| 3 | DEBUG_RX | I | Receive data |
| 5 | GND | | GND |

3.6 Operating Status LED

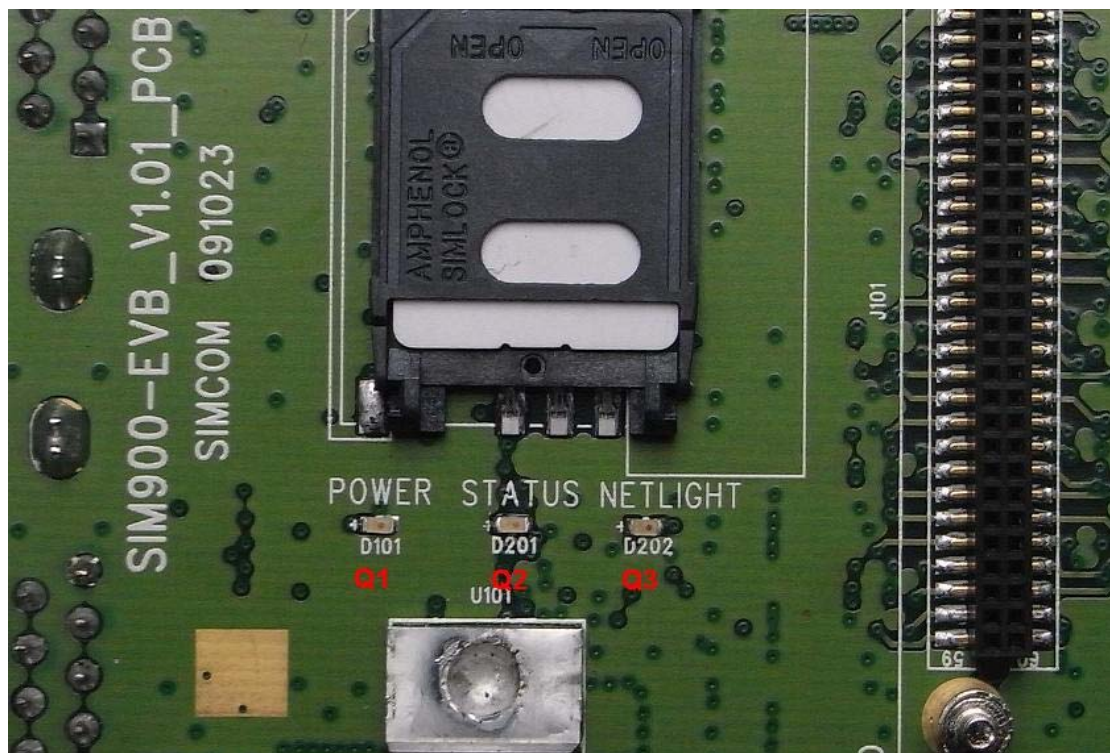


Figure 9: StatusLED

Working state of status LED as list:

| Name | Description | STATUS |
|------|---------------------------|---|
| Q1 | VBAT ON/OFF indicator | Bright: VBAT ON; Extinct: VBAT OFF |
| Q2 | GSM part status indicator | Bright: Module runs normally Extinct: System is powered down or module runs unconventionally |
| Q3 | GSM_NET status indicator | Blinking at a certain frequency according various GSM net status |

4. Test Interface

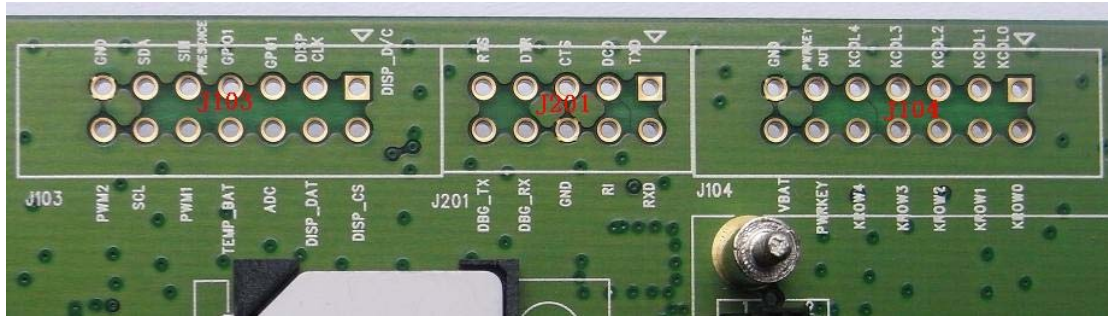


Figure 10: Test interface overview

4.1 J103

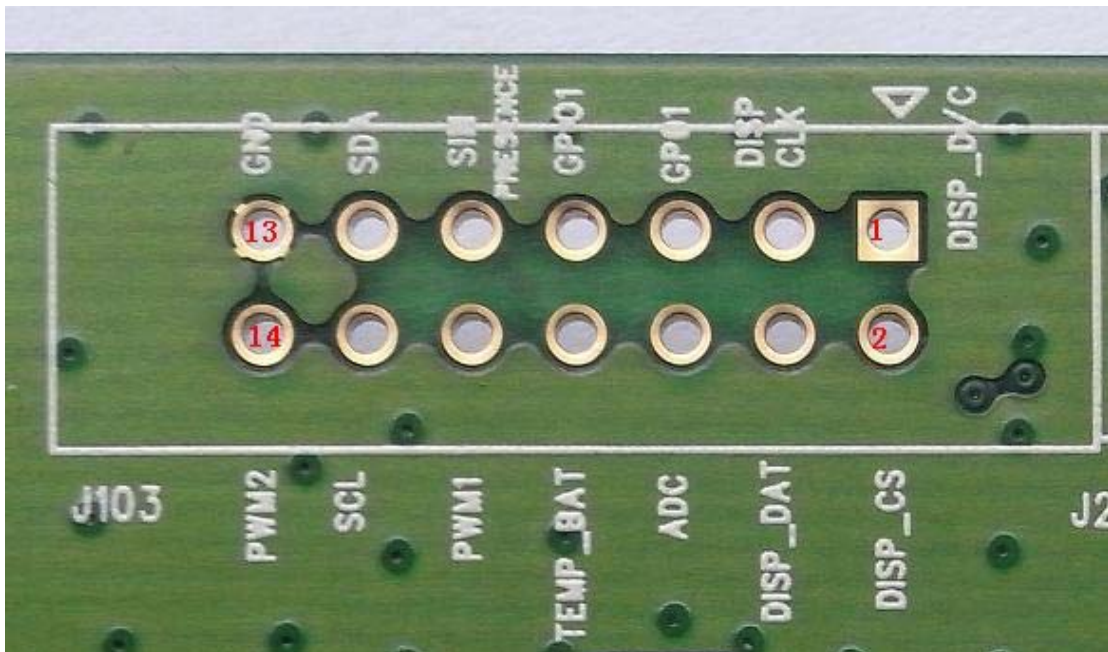


Figure 11: J103 Interface

J103 Interface Pin List:

| Pin | Signal | I/O | Description |
|-----|----------|-----|--------------------------------|
| 1 | DISP_D/C | O | Display data or address select |
| 2 | DISP_CS | O | Display select output |
| 3 | DISP_CLK | O | Display clock output |
| 4 | DISP_DAT | I/O | Display data line |
| 5 | GPO1 | O | GPO |
| 6 | ADC | I | ADC IN |
| 7 | GPIO1 | I/O | GPIO |

SIM900 EVB User Guide

| | | | |
|----|-------------|-------|------------------|
| 8 | TEMP_BAT | I | ADC input |
| 9 | SIMPRESENCE | I | SIM detect input |
| 10 | PWM1 | O | PWM output |
| 11 | SDA | I/O | I2C BUS DATA |
| 12 | SCL | O | I2C BUS CLOCK |
| 13 | GND | POWER | GND |
| 14 | PWM2 | O | PWM output |

4.2 J201

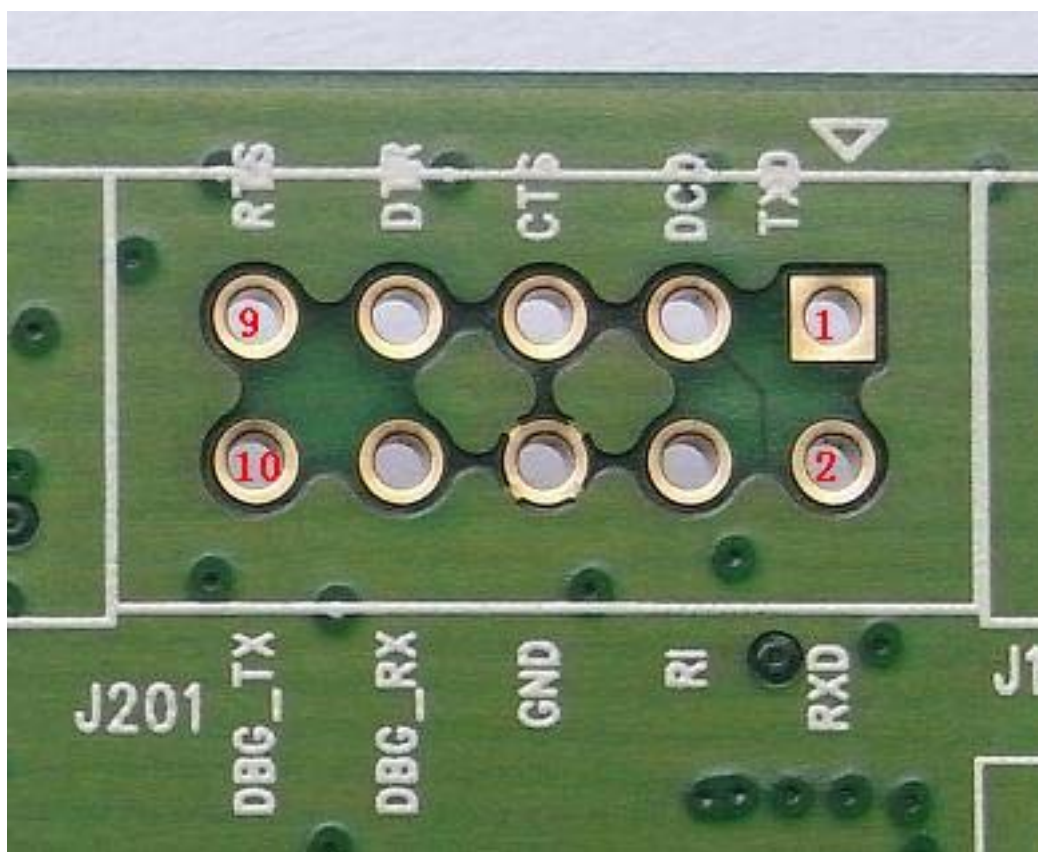


Figure 12: J201 Interface

J201 Interface Pin List:

| Pin | Signal | I/O | Description |
|-----|--------|-----|------------------------|
| 1 | TXD | O | Transmit data |
| 2 | RXD | I | Receive data |
| 3 | DCD | O | Data carrier detection |

SIM900 EVB User Guide

| | | | |
|----|----------|---|---------------------|
| 4 | RI | O | Ring Indicator |
| 5 | CTS | O | Clear to Send |
| 6 | GND | | GND |
| 7 | DTR | I | Data Terminal Ready |
| 8 | DEBUG_RX | I | Receive data |
| 9 | RTS | I | Request to Send |
| 10 | DEBUG_TX | O | Transmit data |

4.3 J104

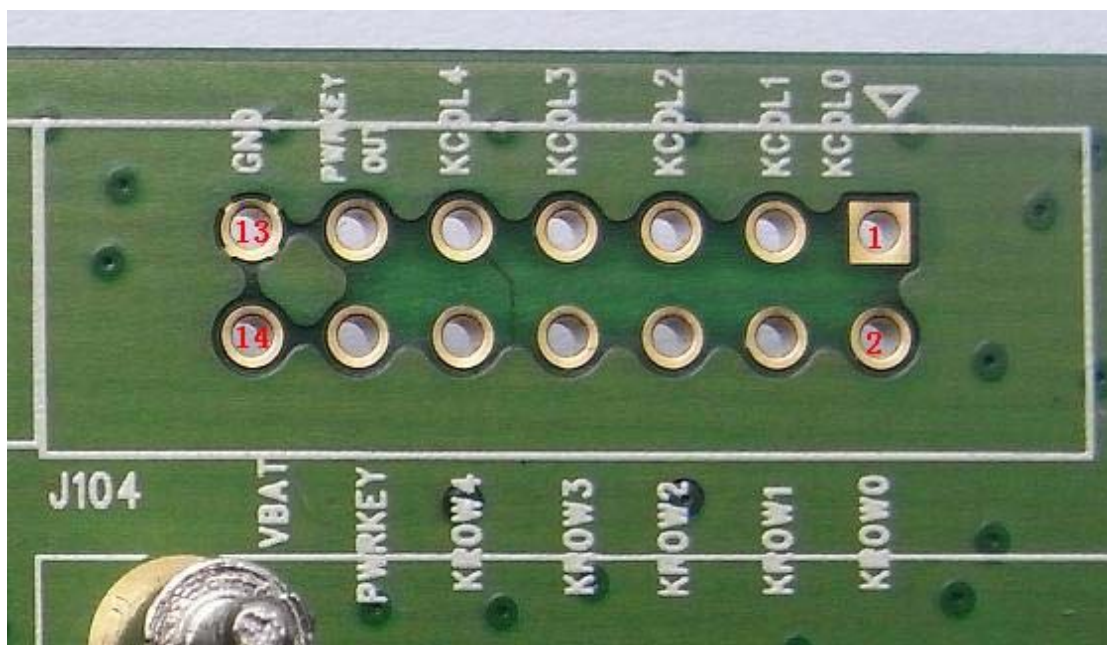


Figure 13: J104 Interface

J104 Interface Pin List:

| Pin | Signal | I/O | Description |
|-----|--------|-----|------------------------|
| 1 | KCOL0 | | Keypad array interface |
| 2 | KROW0 | I | |
| 3 | KCOL1 | | |
| 4 | KROW1 | | |
| 5 | KCOL2 | | |
| 6 | KROW2 | | |
| 7 | KCOL3 | | |
| 8 | KROW3 | | |

SIM900 EVB User Guide

| | | | |
|----|------------|-------|---------------|
| 9 | KCOL4 | | |
| 10 | KROW4 | | |
| 11 | PWRKEY_OUT | O | POWER KEY OUT |
| 12 | PWRKEY | I | POWER KEY IN |
| 13 | GND | POWER | GND |
| 14 | VBAT | POWER | POWER |

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 SIM900-TE with SIM900 module to the 60pins connector on SIM900 EVB, inserting 5V direct current source adapter, switching the S101,S102 switch on **off** state, S105 switch on **ON** state;
- (2) Press the PWRKEY for about 1 second, and then SIM900 module begins running.

You can see the light Q3 on the EVB flashing at a certain frequency. By the state, you can judge whether the EVB and SIM900 can run or not. No function and test can be executed when we have not connected necessary accessories.

Notice: You should equip the four sets of screws before you start to test the module to achieve a better character.

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 SIM900 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 SIM900-TE with SIM900 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 SIM900 module will execute its corresponding function.

6.3 Downloading

Connect the serial port line to the **MAIN** serial port, connect the direct current source adapter, run the download program and press the **START** key, then switch the S105 switch on **ON** state, S102 switch on **ON** state, then EVB provide the function of downloading.

6.4 Turns off

Turn off SIM900 module: press the PWRKEY for about 2 second, SIM900 module will be turned off.

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