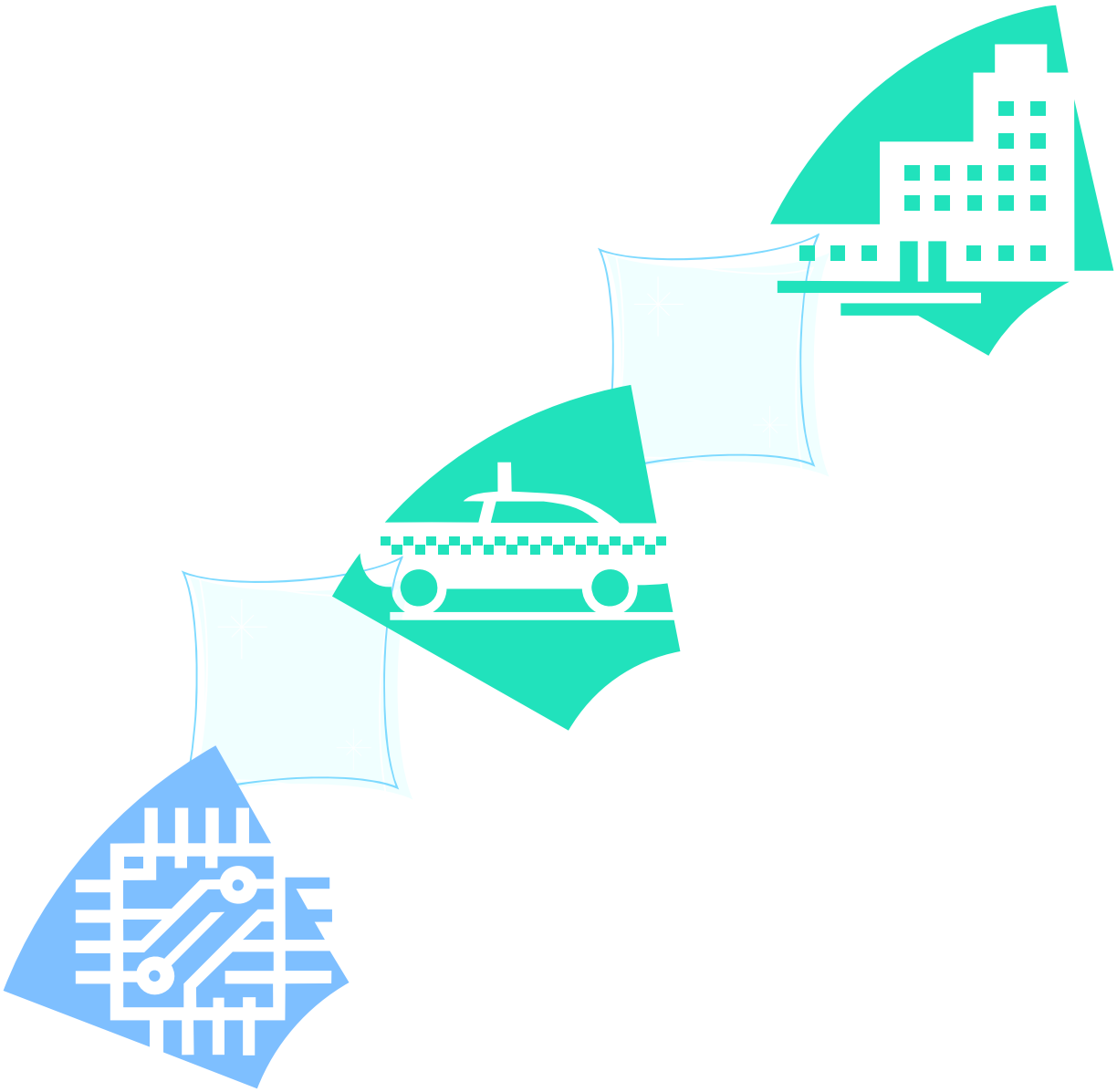
SIM548Z USER GUIDE



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General Notes

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Contents

1. SIM548Z EVB Schematic

The SIM548Z also uses the SIM508Z-EVB, Please check the document of SIM508Z-EVB_schematic.pdf for detail.

2. SIM548Z EVB overview

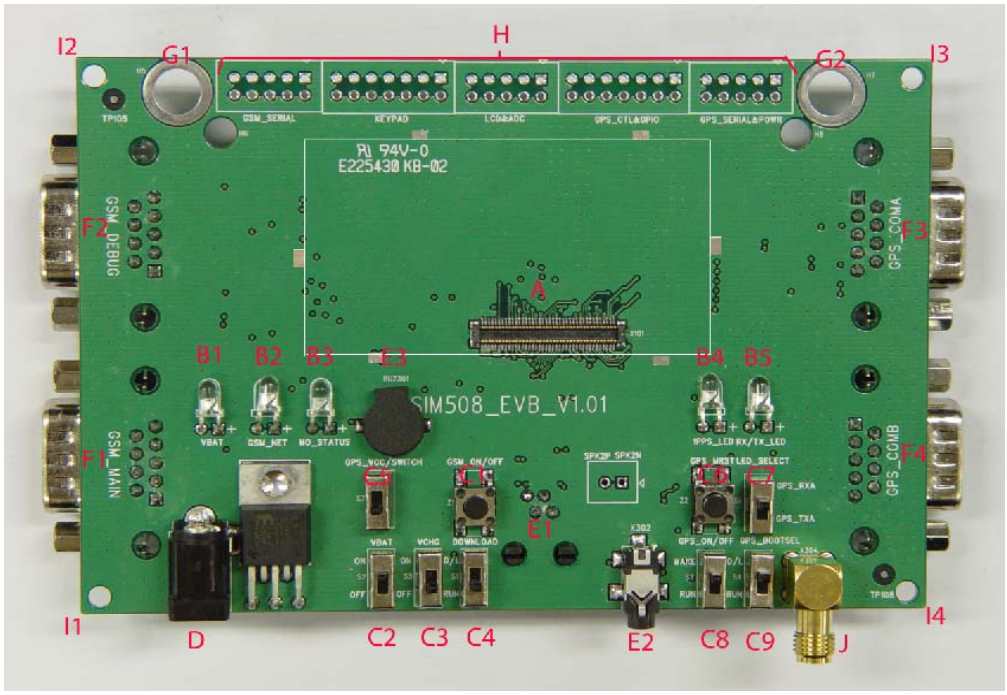

Figure 1: TOP view

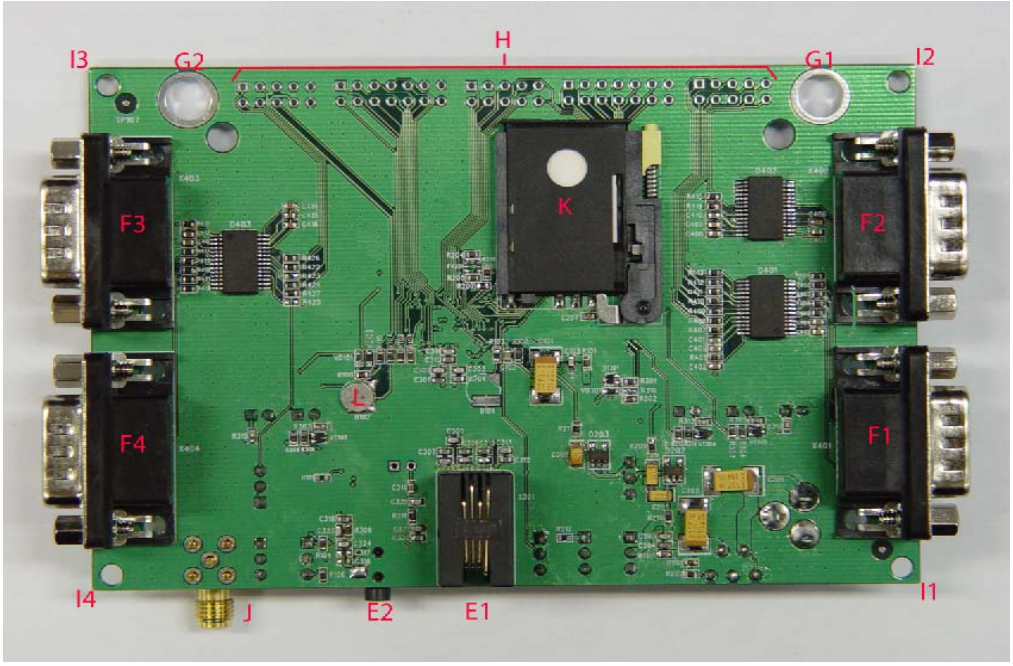

Figure 2: BOTTOM view

A: 80pin connector, SIM548Z module interface

B1-B5: LED indicator

B1: VBAT ON/OFF

B2: GSM net status

B3: The GSM part of the module ON/OFF status

B4: 1PPS output for GPS part

B5: GPS TX/RX status

C1-C9: Key control for various functions

C1: GSM part power-up / power down control (button Z1)

C2: VBAT ON/OFF control (shifter S2)

C3: VCHG ON/OFF control (shifter S5)

C4: GSM part program download control (shifter S1)

C5: GPS part power ON/OFF control (shifter S7)

C6: GPS part reset control (button Z2)

C7: GPS part RX/TX LED status selective shifter (shifter S6)

C8: GPS part wake up control (shifter S3)

C9: GPS part program download control (shifter S4)

D: Power source adapter interface

E1-E3: Audio interface

E1: Handset interface

E2: Headphone interface

E3: Buzzer

F1-F4: Serial ports

F1: Main serial port for downloading, AT command transmitting, data exchanging

F2: Debug serial port

F3: GPS part serial port A

F4: GPS part serial port B

G1-G2: Hole for antenna fixed

G1: Hole for GSM antenna fixed

G2: Hole for GPS antenna fixed

H: Expand port, such as keypad port, serial ports, display port

I1-I4: Hole for EVB board fixed

J: SMA connector for 1PPS output

K: SIM card connector

L: 3.3V Back-up battery for GPS part

3. EVB Accessory

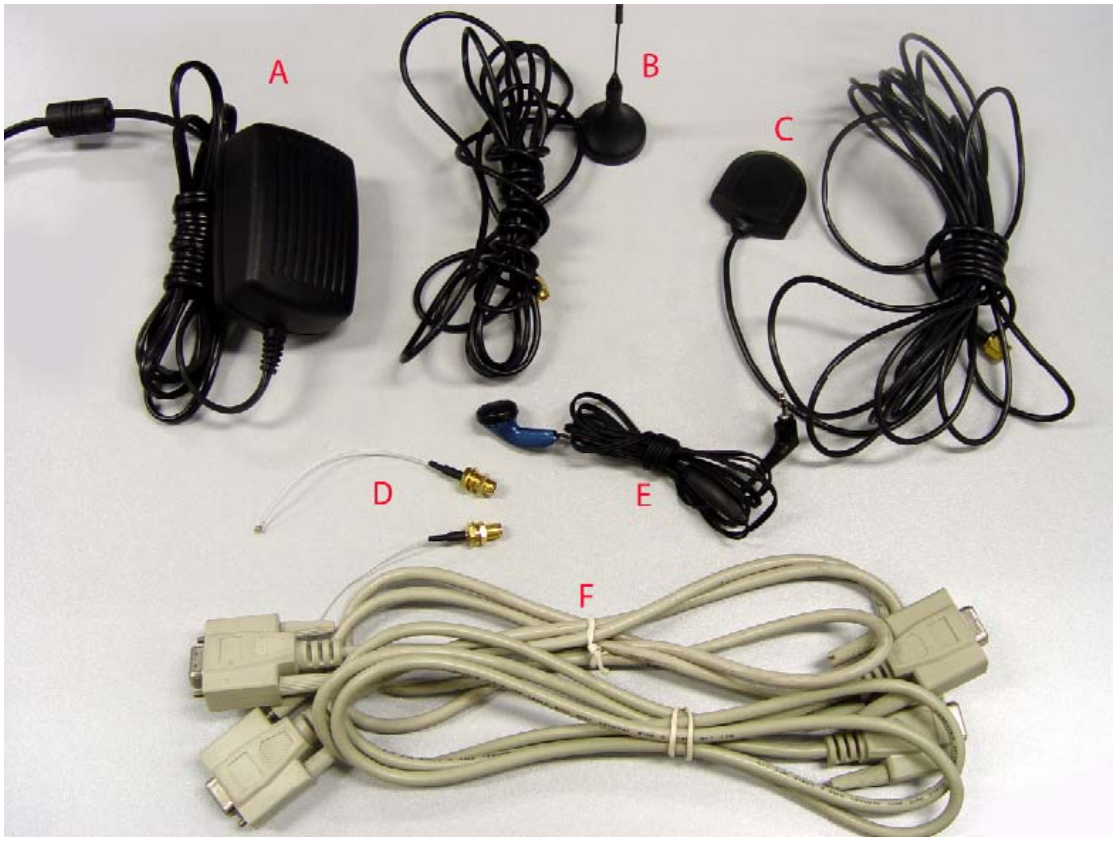

Figure 3: EVB accessory

A: antenna
A: 5V DC source adapter
B: GSM antenna
C: GPS antenna
D::RF cable
E: Earphone
F: serial port line

The part number of the GSM antenna is WT-C&G-28-90; please check the document of WT-C&G-28-90.pdf for detail parameters.

4. EVB Interface

4.1 Power interface

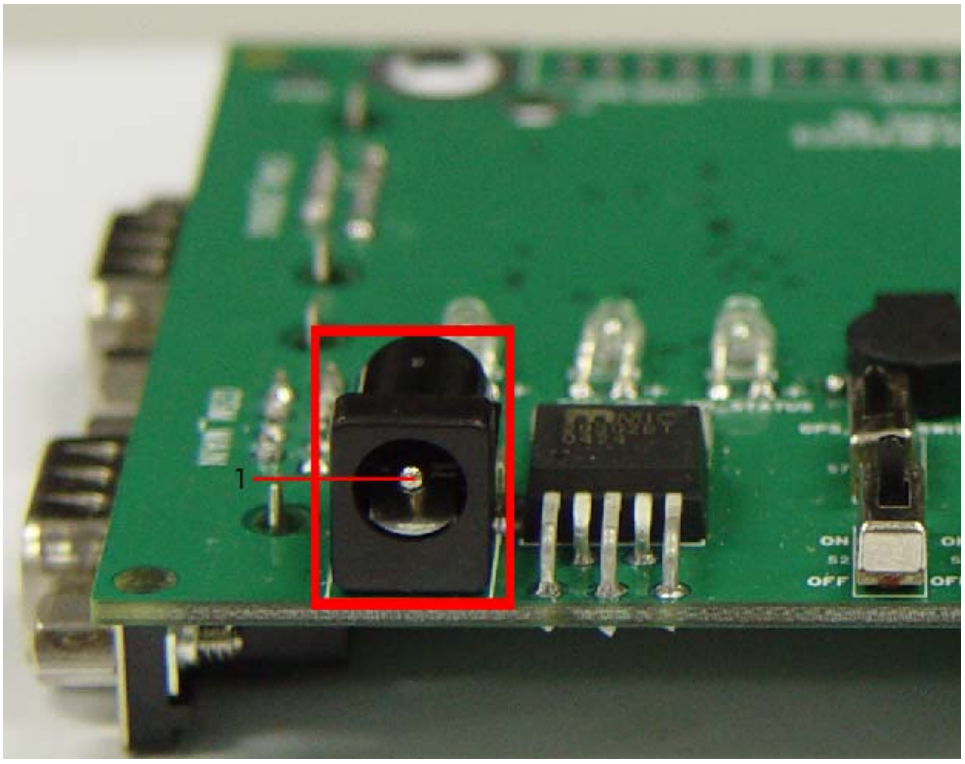

Figure 4: Power interface

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

4.2 SIM card interface

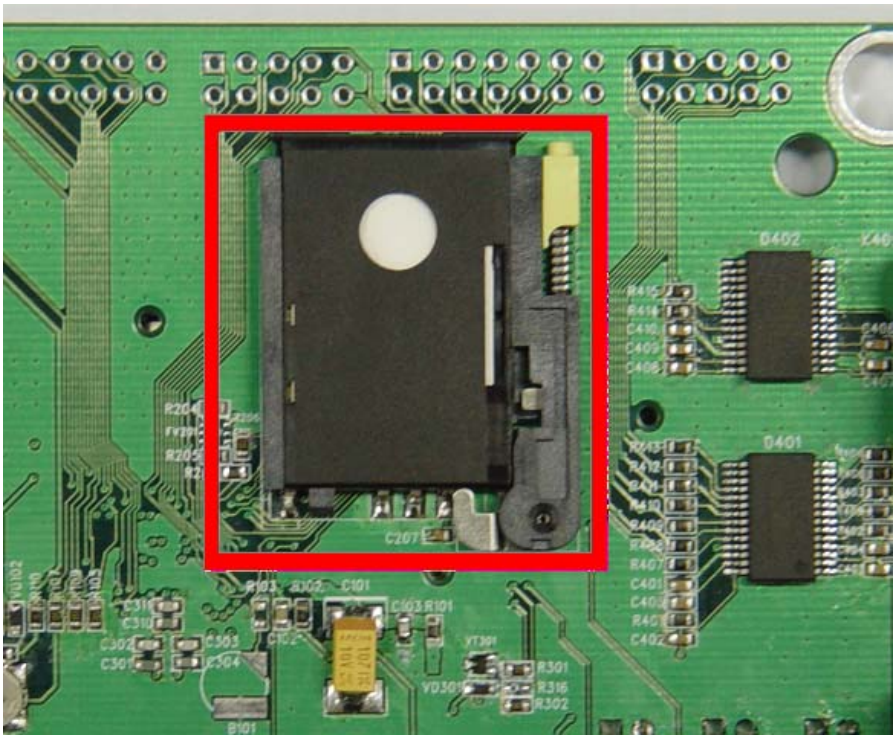

Figure 5: SIM card interface

Please push the yellow button to open the holeder, the inset the SIM card.

4.3 RS232 interface

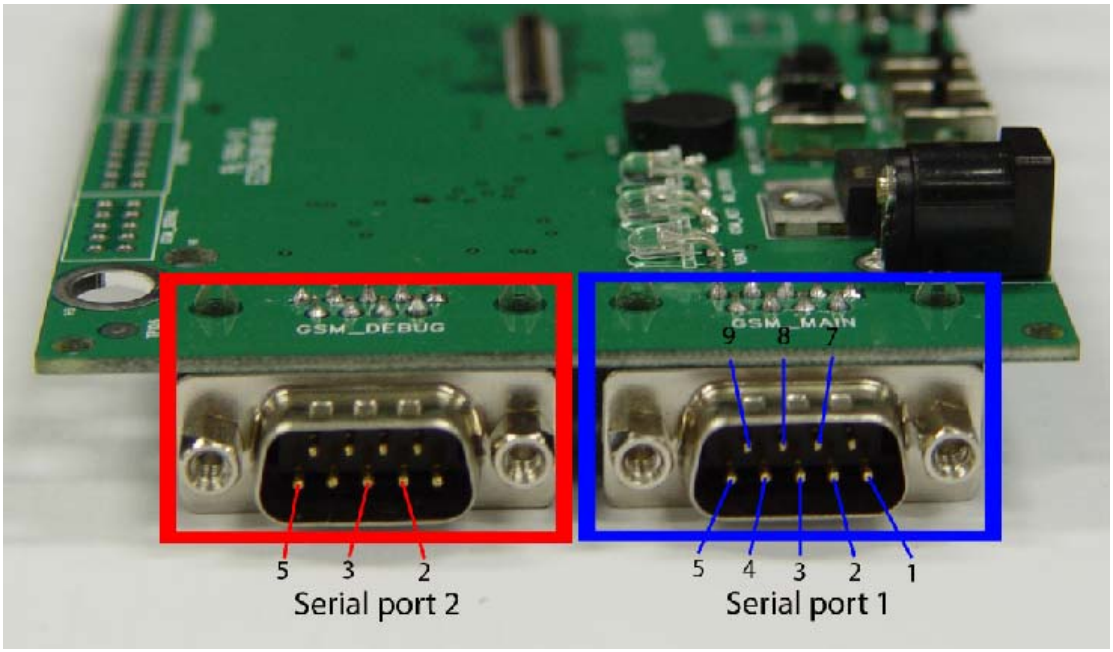

Figure 6: Serial ports

Serial Port 1

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

Serial Port 2

Pin	Signal	I/O	Description
2	DEBUG_TX	O	Transmit data
3	DEBUG_RX	I	Receive data
5	GND		GND

4.4 Antenna interface

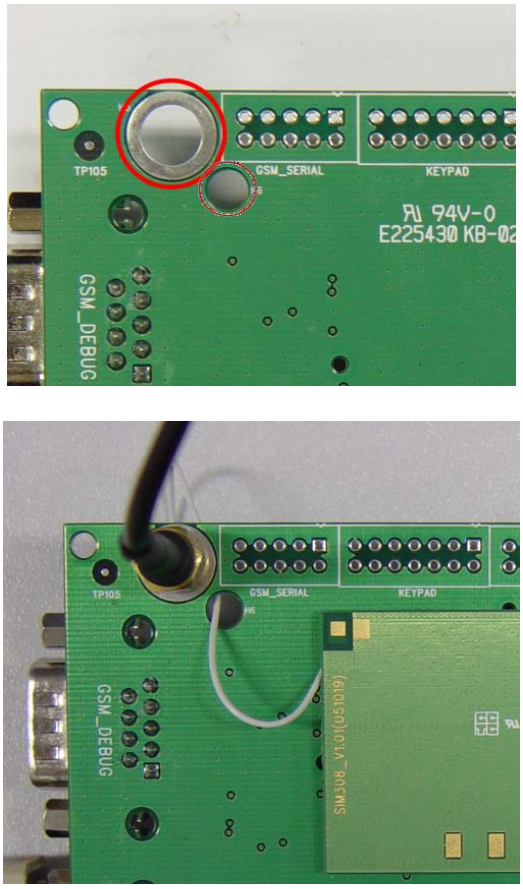

Figure 5: Antenna interface

4.5 Audio interface

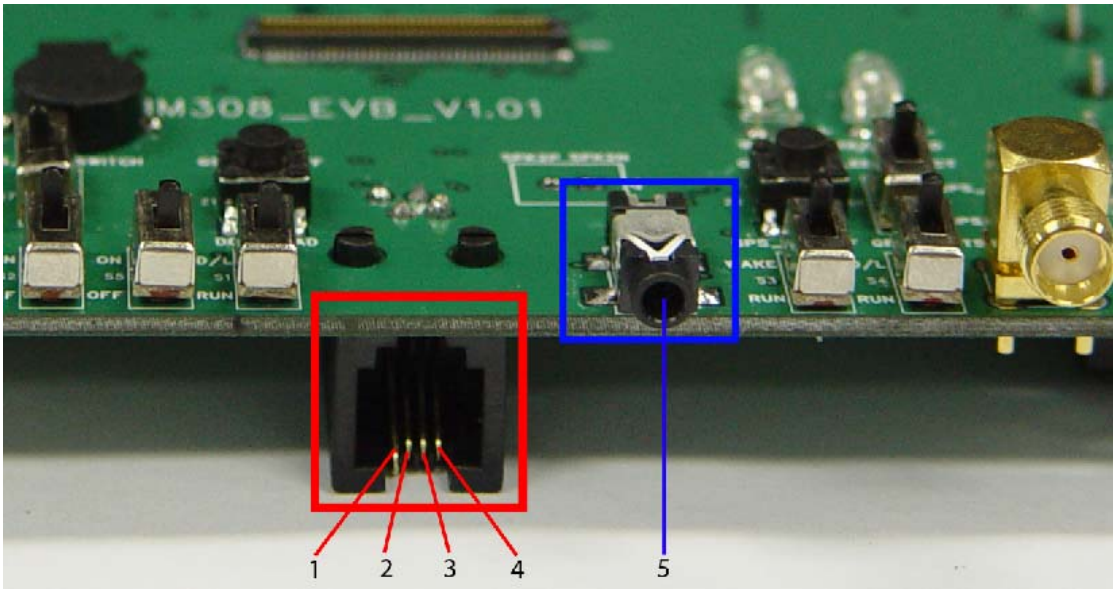

Figure 8: Audio interface

Headset interface:

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

Headphone interface:

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

5. EVB and accessory equipment

At normal circumstance, the EVB and its accessory are equipped as the below figure:

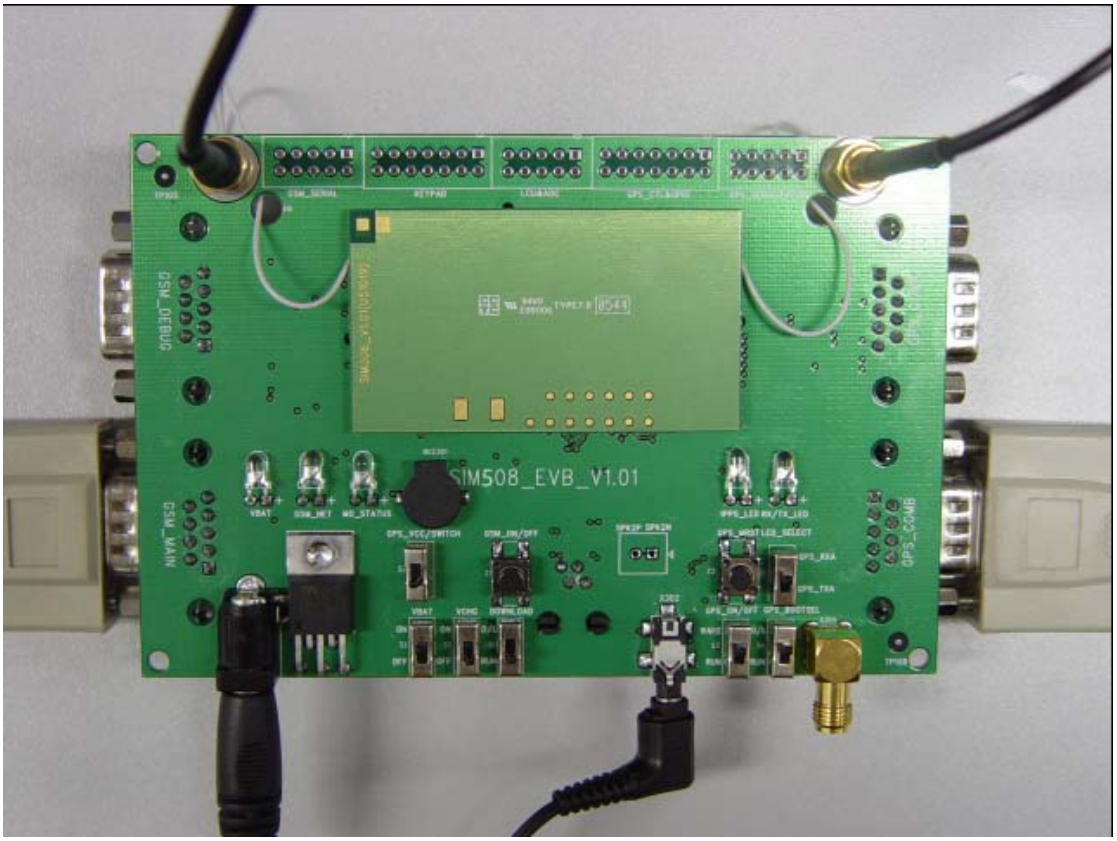

Figure 9: EVB and accessory equipment

6. Operation

Firstly，please equip the module and accessories as the figure 9.

6.1 Power on and running

(1) Connect the SIM548Z module to the 80pins connector on the EVB, insert the 5V DC source adapter, switch S1 to the RUN state and S2 to the ON state, and the LED of B1 will light;
(2) Press the GSM_ON/OFF button Z1 for about 2 seconds, then the module is power on successful;

You will see the LED of B2 on the EVB glittering at a certain frequency corresponding to various states, and you can judge the EVB and SIM548Z are running correctly. No function and test can be executed when the necessary accessories are not connected.

6.2 Connecting the Net and calling

(1) Connect the serial port line to the serial port 1, open the HyperTerminal (AT command windows) on your personal computer, the location of the HyperTerminal in windows2000 is START →accessory→ communication →HyperTerminal. Set the correct baud rate and COM number firstly. The default baud rate of SIM548Z is 115200bps, and the COM number is based on which port your serial port line inserts in, you should select such as COM1，COM3 or COMx etc;
(2) Connect the antenna to the SIM548Z module using an antenna transmit line, insert SIM card into the SIM card holder, and insert headphone or handset into its interface; (acts as the figure 9)
(3) Power on the module referring the description in 6.1, then type the AT command (such as ATI、AT+CSQ、ATD112 in the AT command document) in the HyperTerminal. If you get the correct response, it indicates the Hyper Terminal is successfully connected and the module is working correctly.
About AT command and its response, please refer to the document of SIM508_ATC_V1.00.pdf.

6.3 Download and upgrade

Connect the serial port line to the serial port 1, connect the DC source adapter, run the download flash tool and press the START key, then switch S2 to the ON state and S1 to the D/L state, and then the download procedure or upgrade procedure is starting.

6.4 Turn off

Press the GSM_ON/OFF button Z1 for about 1 second, SIM548Z will be turned off.

6.5 Charge

Connect the SIM548Z module to the 80pin connector interface and the external battery to charging interface provided on the EVB. Insert the DC source adapter; switch S2 to the OFF state and S5 to the ON state, then the SIM548Z goes into the charging state.

6.6 GPRS start-up

（Please see the document of GPRS Startup_V1.00.pdf）

7 AT command

（the AT commands of SIM548Z are same as SIM508Z, also please see the document of SIM508_ATC_V1.00.pdf）

8 FCC statements

Please note:

SIM548Z complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) SIM548Z may not cause armful interference, and (2) SIM548Z must accept any interference received, including interference that may cause undesired operation. And changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

9 FCC RF exposure requirements

To allow compliance with the FCC RF exposure requirements, the SIM548Z's maximum output power is 33dBm in GSM850/GSM900 band and 30dBm in DCS1800/PCS1900 band，and the maximum antenna gain is 3dBi and the minimum cable loss is 0.5dB。The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter。