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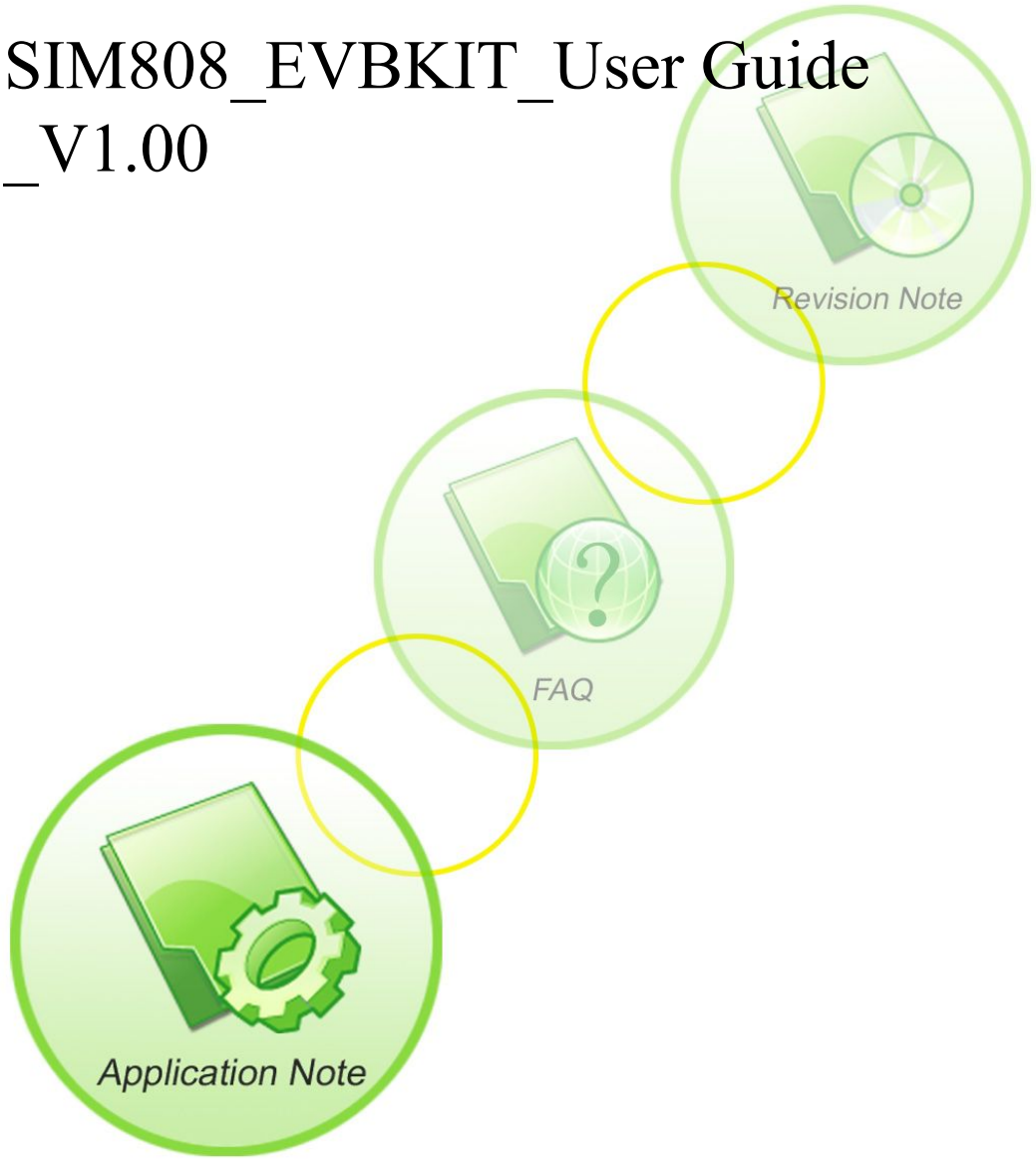
SIM808_EVBKIT_User Guide _V1.00



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Contents

Figure Index

Version History:

Data	Version	Description of change	Author
2015-07-27	1.00		Xiuyu.zhang

SCOPE

This document presents the usage of EVBKIT. This document can apply to SIM8008-EVBKIT.

1 EVBKIT Accessory

Figure 1: EVBKIT accessory

A: USB-to-RS232 cable
B: 5V DC adapter
C: GPS antenna
D: GSM antenna
E: Mini gender changer
F: SIM900 EVBKIT
G: SIM808-TE
H: Earphone (2.5mm)
I: USB data cable
J: RF Cable RFC-SMA

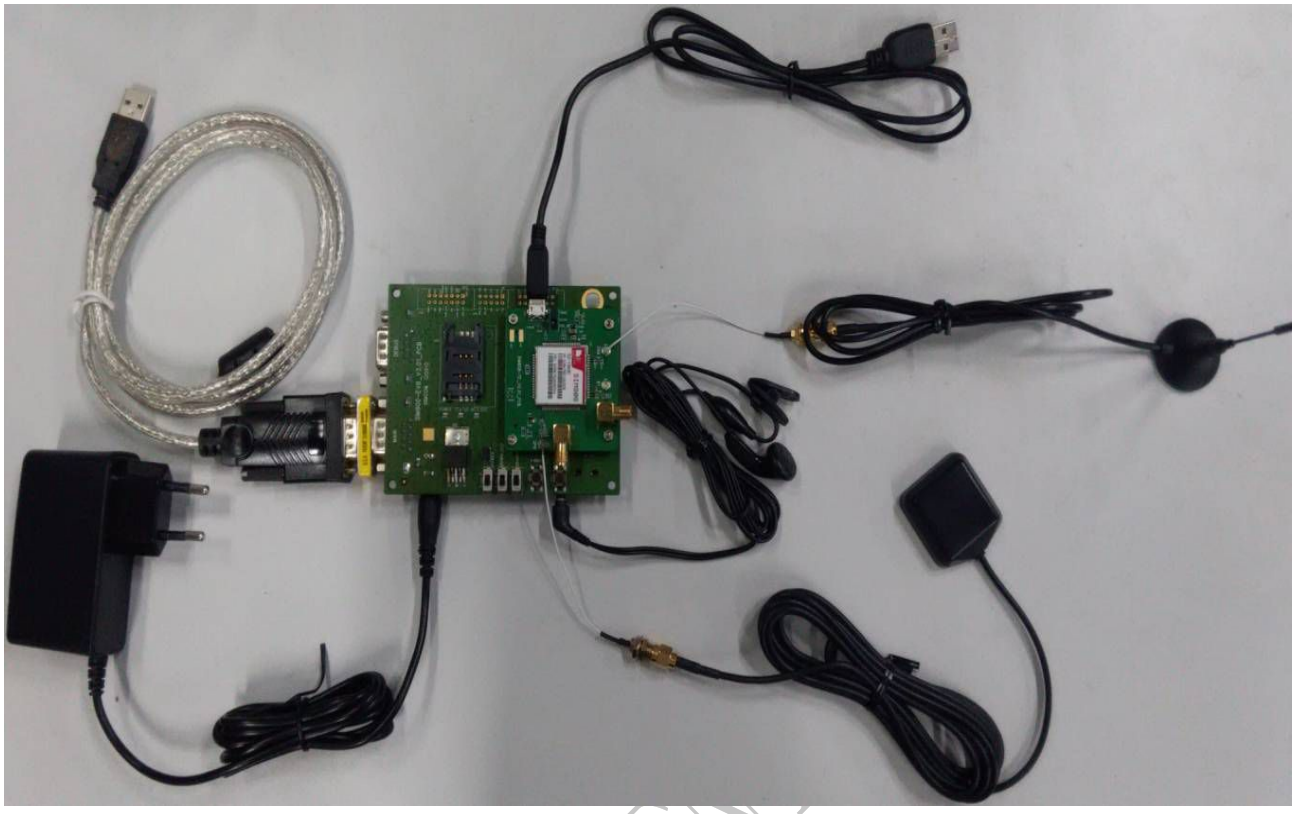


Figure 2: EVBKIT and accessory

2 TE Introduce

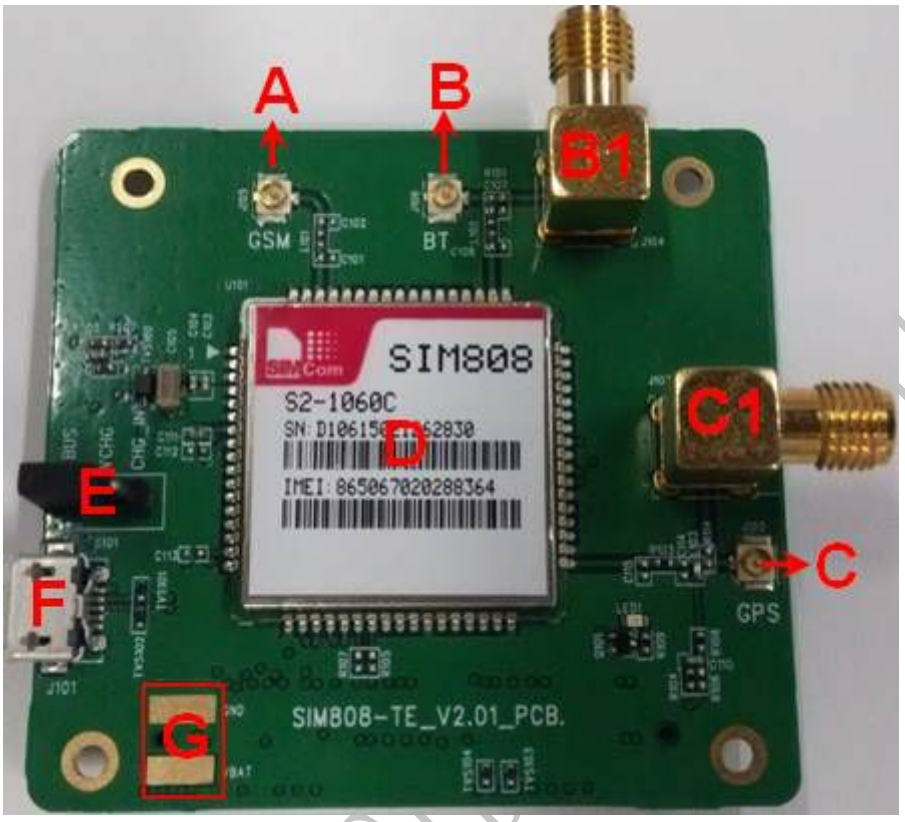


Figure 3: TE top view

A: Test connector of GSM antenna

B: Test connector of Bluetooth antenna （default）

B1: SMA connector of Bluetooth antenna

C: Test connector of GPS antenna （default）

C1: SMA connector of GPS antenna

D: SIM808 module

E: Two jumpers

F: Micro-USB interface (for firmware upgrading and debugging)

G: Test point of VBAT and GND

Figure 4: TE bottom view

H: SD card interface

I: Te-Module interface

Note:

1. ***When use the charging function, connect the jumper to the left if charged by the USB; Connect to the right if use the DC adapter.***
2. ***Do not push in the SD card if the function is not used, as the pushing will change some signals to the SD card interface. For more details, please refer to the HD spec.***

3 EVBKIT Introduce

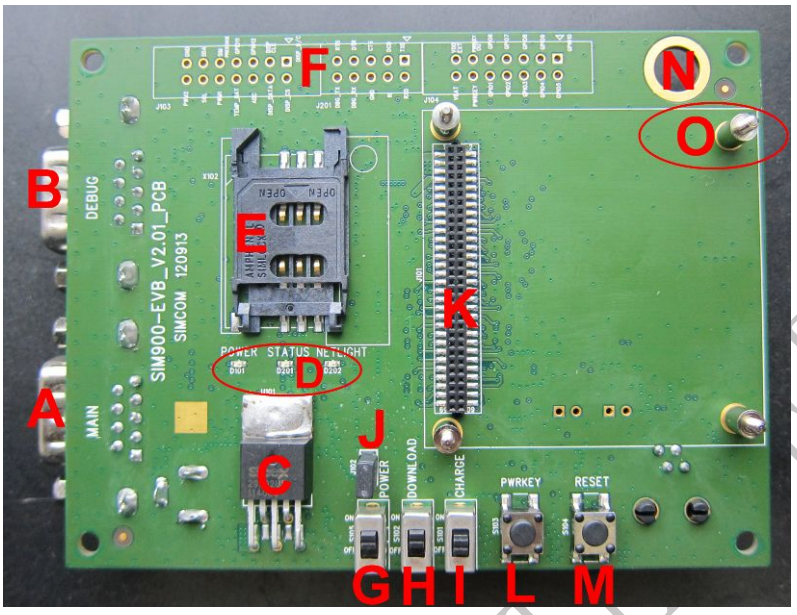


Figure 5: EVBKIT Top view

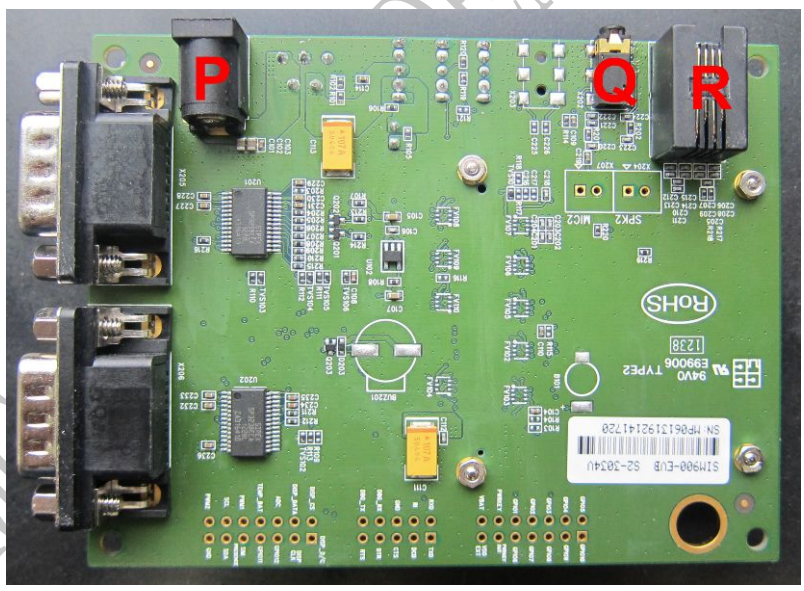


Figure 6: EVBKIT Bottom view

A: MAIN serial port
B: DEBUG serial port (not supported)
C: LDO
D: LED indicator
E: SIM card holder
F: Test point
G: Power switch

H: Download switch
I: Charge switch
J: VBAT jumper
K: Module-TE interface
L: Power key
M: Reset key
N: GND PAD
O: Module fix hole
P: DC jack
Q: 2.5mm earphone jack
R: Headphones jack

3.1 Power Interface

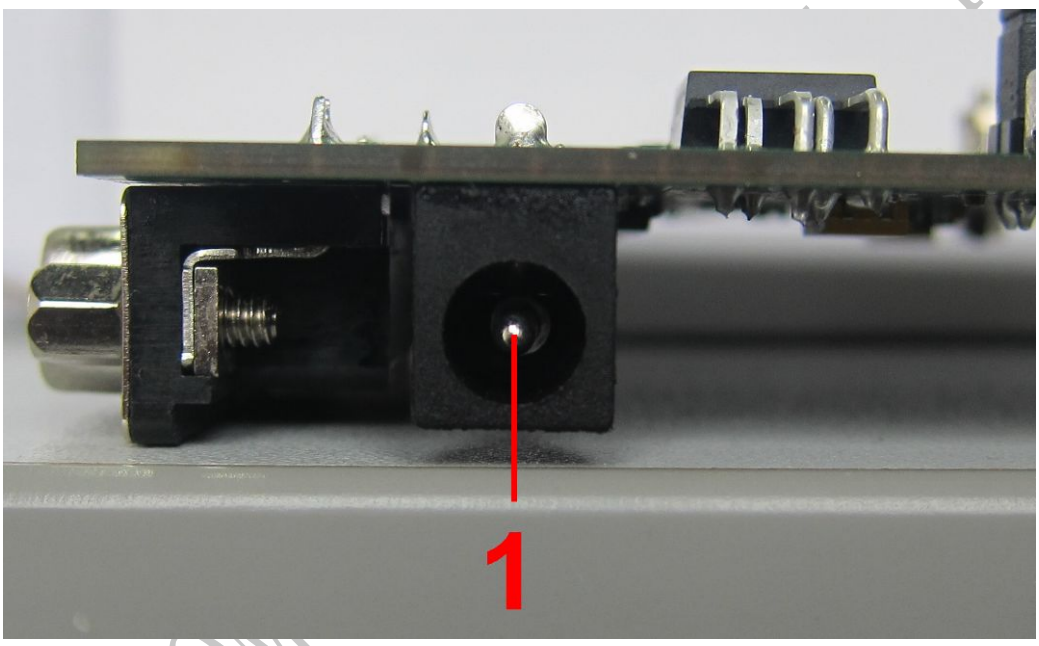


Figure 7: Power interface

Pin	Signal	I/O	Description
1	Adapter input	I	5V/2.0A DC source input

3.2 Audio Interface

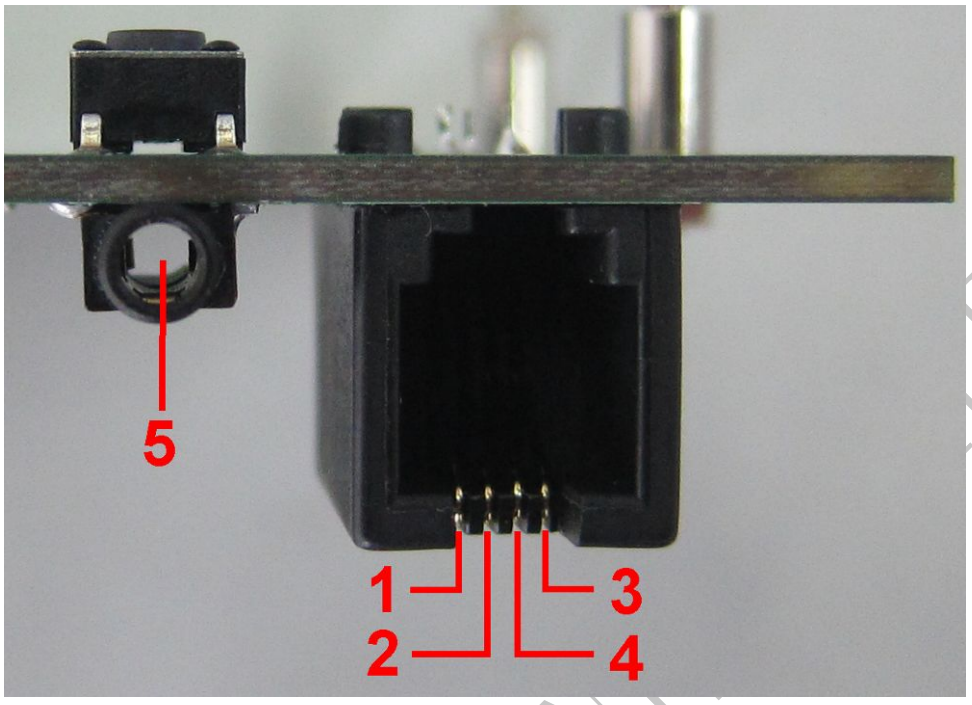


Figure 8: Audio interface

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	MIC1P&SPK1P	I/O	Audio input/output

3.3 SIM Card Interface

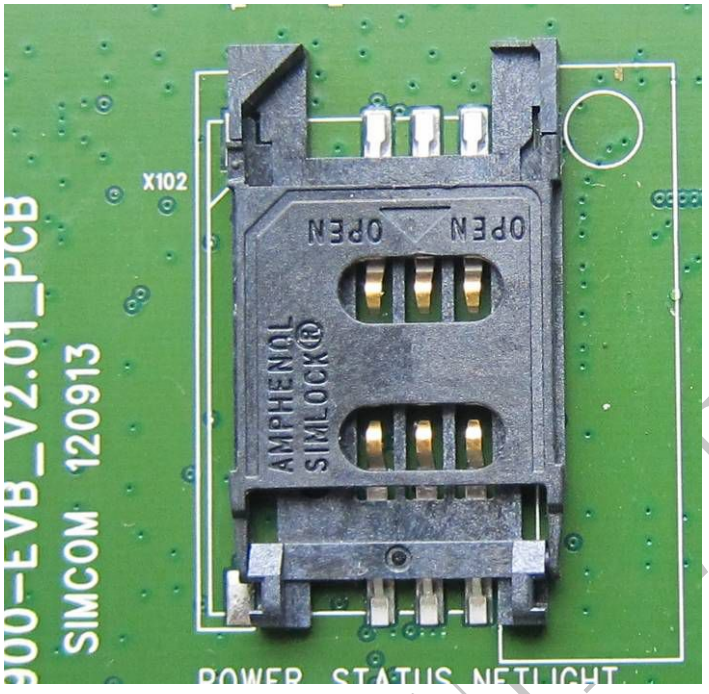


Figure 9: SIM card interface

3.4 Serial Port Interface

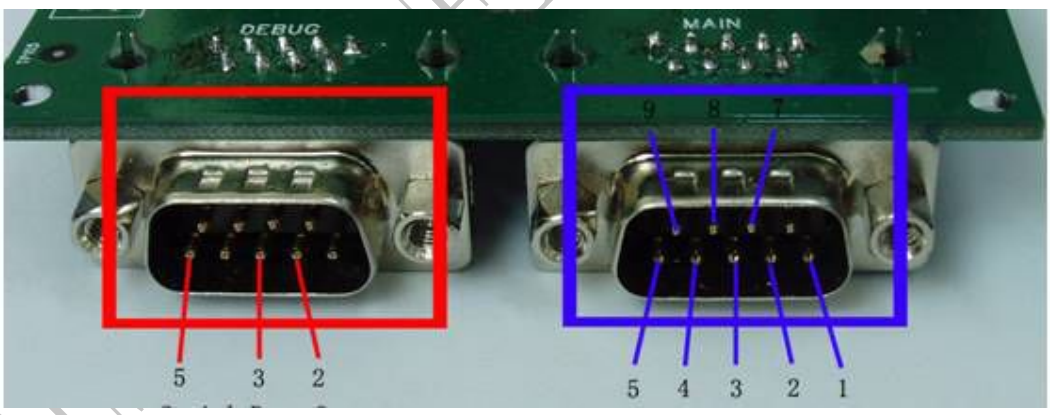


Figure 10: Serial port Interface

Serial Port 1——MAIN Interface
Serial Port 2——DEBUG Interface (not supported)

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

3.5 LED Indicator

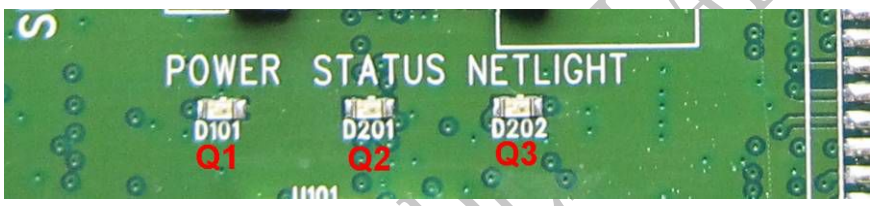


Figure 11: LED Indicator

Working state of LED as list:

Name	Description	STATUS
Q1	Power ON/OFF indicator	Bright: EVBKIT Power ON; Extinct: EVBKIT Power OFF
Q2	Module status indicator	Bright: Module runs normally Extinct: System is powered down
Q3	GSM_NET status indicator	Blinking at a certain frequency according various GSM net status

3.6 Test Interface

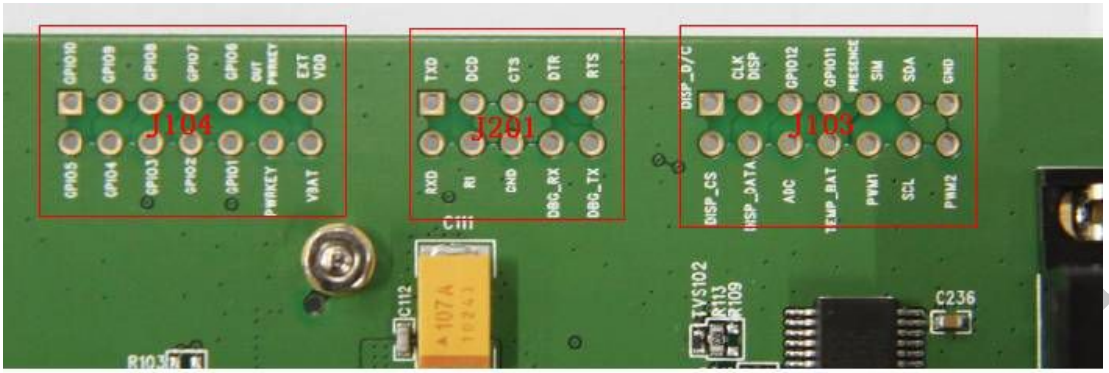


Figure 12: Test interface overview

3.6.1. J103

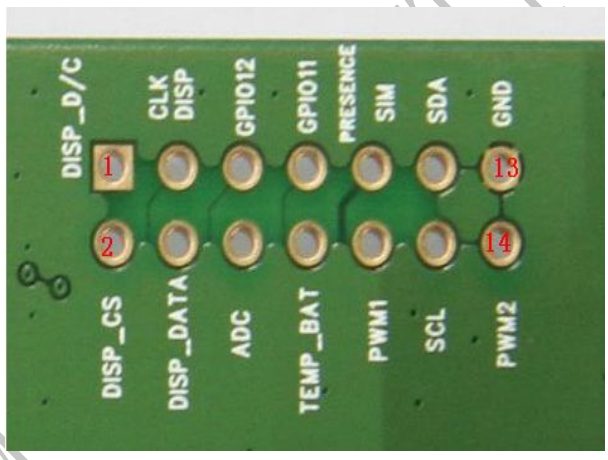


Figure 13: J103 interface

J103 Interface Pin list:

Pin	Signal	I/O(default)	Description
1	GPIO 19	I/O	GPIO
2	PCM_SYNC	O	PCM Synchronized Signal
3	GPIO 17	I/O	GPIO
4	PCM_IN	I	PCM Input Signal
5	PCM_CLK	O	PCM Clock
6	ADC1	I	ADC input
7	RF_SYNC	O	Transmit Synchronization Signal
8	NC	/	/
9	SIMPRSENCE	I	SIM card detect input
10	PWM1	O	PWM Output 1

11	SCL	I/O	I2C BUS CLOCK
12	PWM2	O	PWM Output 2
13	SDA	I/O	I2C BUS DATA
14	GND	/	GND

Note: if customers use SIM808-TE, test point actual function please refers to the table"J103 Interface Pin List"

3.6.2. J201

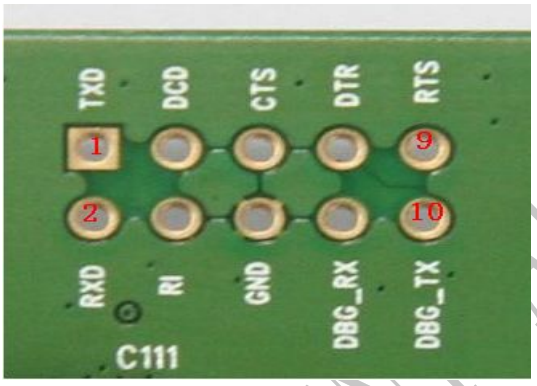


Figure 14: J201 Interface

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
4	RI	O	Ring Indicator
5	CTS	O	Clear to Send
6	GND	/	GND
7	DTR	I	Data Terminal Ready
8	NC	/	/
9	RTS	I	Request to Send
10	NC	/	/

3.6.3. J104

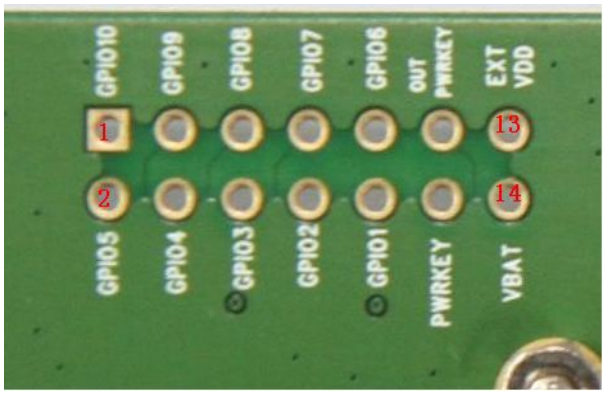


Figure 15: J104 Interface

J104 Interface Pin List:

Pin	Signal	I/O	Description
1	GPIO/KBC0	I/O	GPIO, keypad column
2	GPIO/KBR0	I/O	GPIO, keypad row
3	GPIO/KBC1	I/O	GPIO, keypad column
4	GPIO/KBR1	I/O	GPIO, keypad row
5	GPIO/KBC2	I/O	GPIO, keypad column
6	GPIO/KBR2	I/O	GPIO, keypad row
7	GPIO/KBC3	I/O	GPIO, keypad column
8	GPIO/KBR3	I/O	GPIO, keypad row
9	NC	/	/
10	NC	/	/
11	PWRKEY	I	POWER KEY
12	VBAT	POWER	POWER
13	PCM_OUT	O	PCM Output Signal
14	VDD_EXT	POWER	VEXT

4 Illustration:

4.1 Turn on Module:

(1) Keep S101, S102 and S105 at '**OFF'** state, connect the Module-TE to the 60pins connector on SIM900 EVBKIT, plug in 5V DC adapter, switch S105 to '**ON'** state;.
(2) Press the S103 (PWRKEY) for more than 1 second and then release, the module will power on.

The LED D101 will be on if the DC adapter is connected and the LED D201 will be on when the module has been powered on. And after a while, the LED D202 will flash at a certain frequency. Through the state of LED (D202), you can judge registering status of the module. For detailed description, please refer to the module HD spec.

Note: You should equip four sets of screws for better grounding to achieve a better performance.

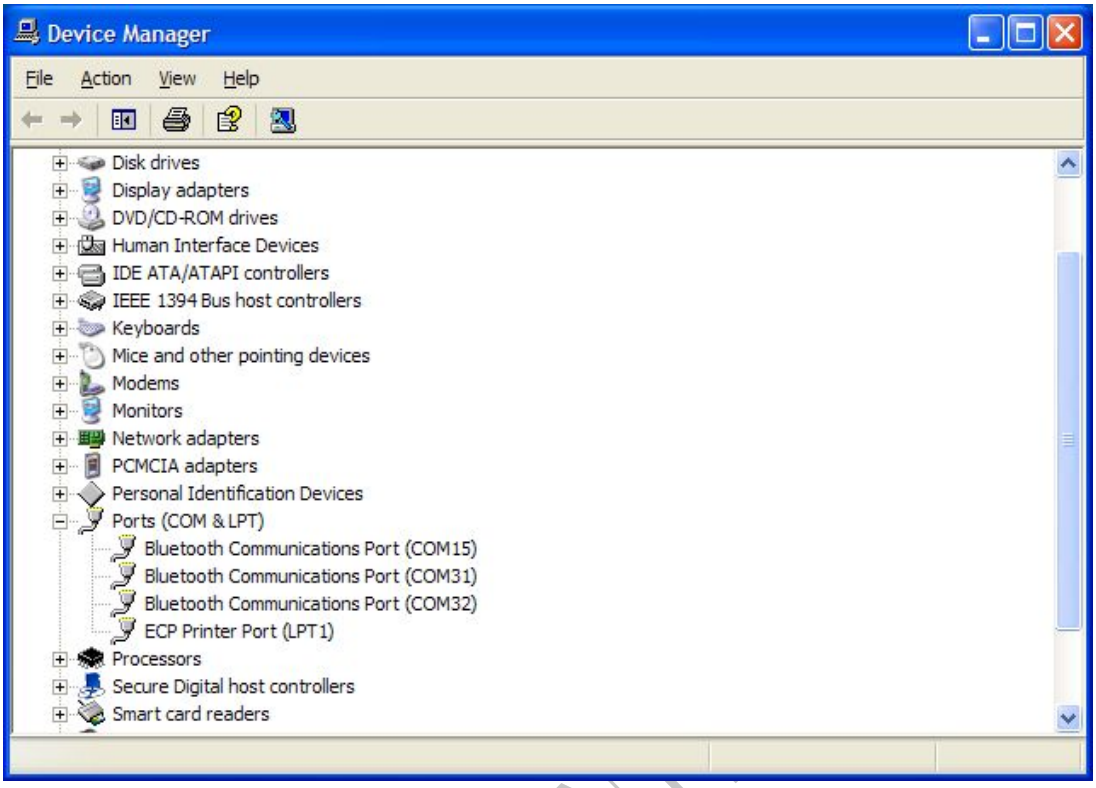
4.2 Turn off Module

Press the S103 (PWRKEY) for about 2 seconds, the module will be turned off.
After the module is turned off, the LED D201 and D202 will be off.

4.3 Registering Network and Making a Call

(1) Connect the antenna to the Module-TE, insert SIM card and earphone.
(2) Connect the serial port cable to the MAIN serial port; Open the Hyper Terminal (AT command windows) on your computer.

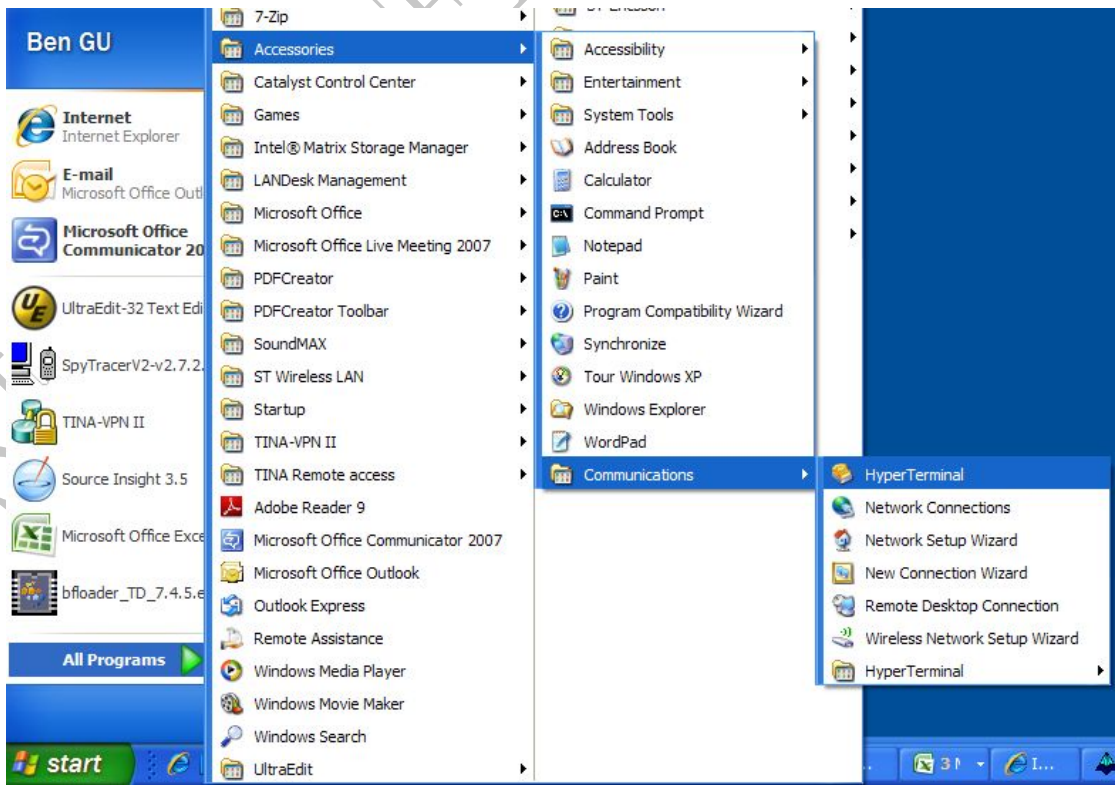
First, check the serial port number:
My computer (right click) →Manage → Device Manager → Ports (COM&LPT)

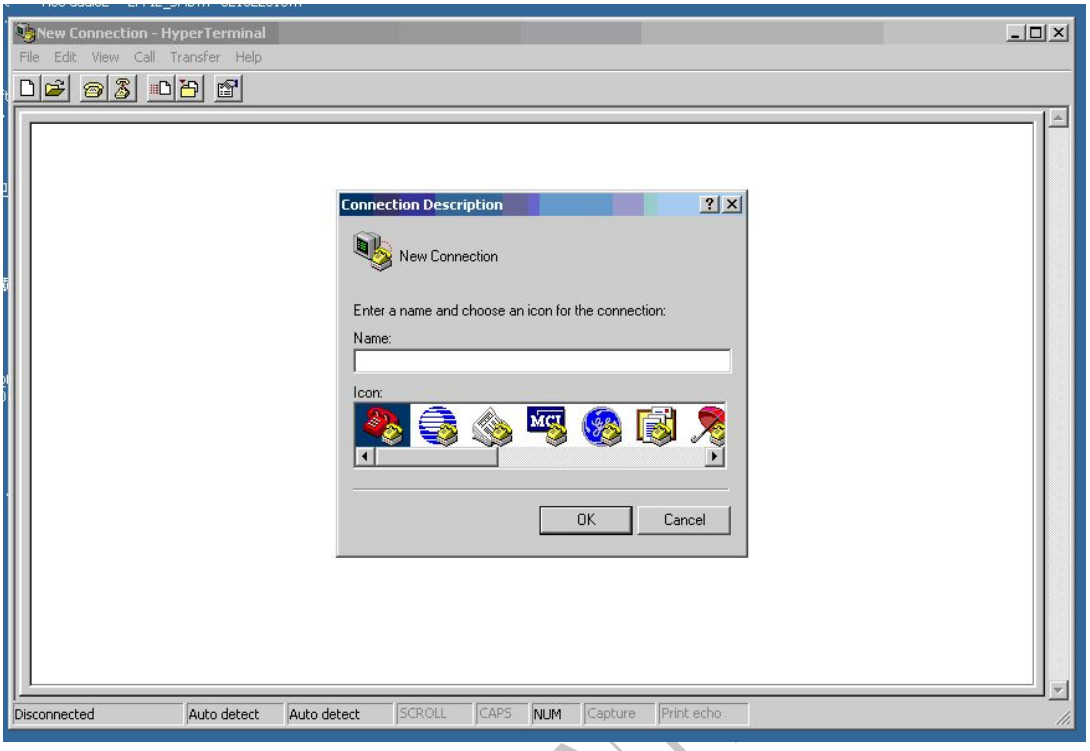


Second, use the Hyper Terminal to call the module as following:

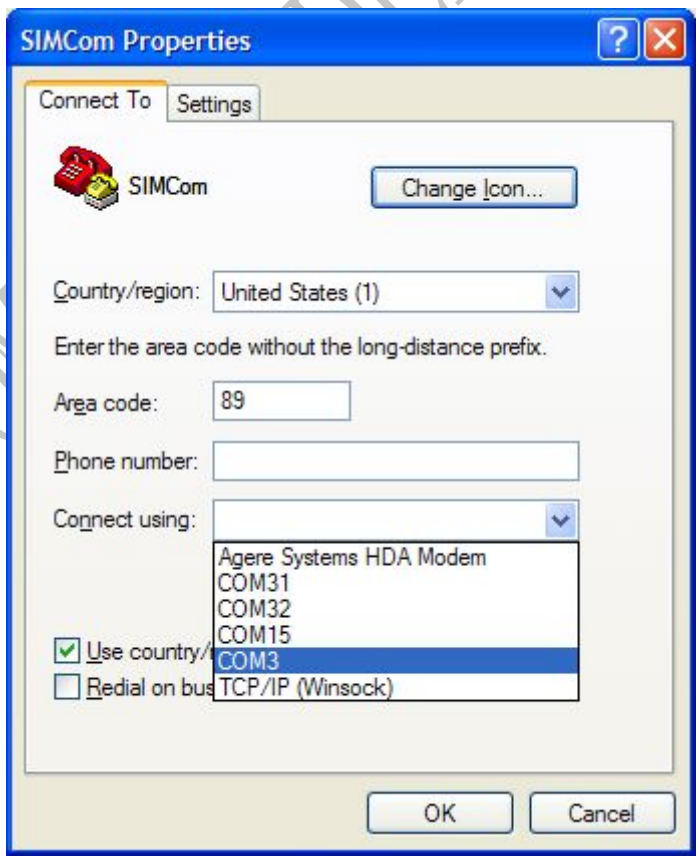
a) Open the HyperTerminal

START→ All Programs →Accessory →Communication → HyperTerminal.

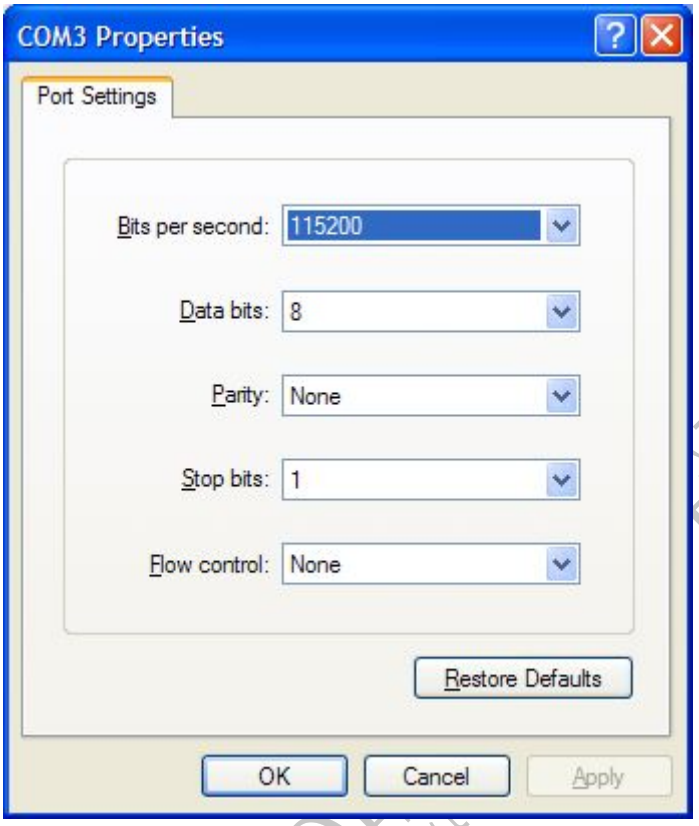




b) Configure the serial port number



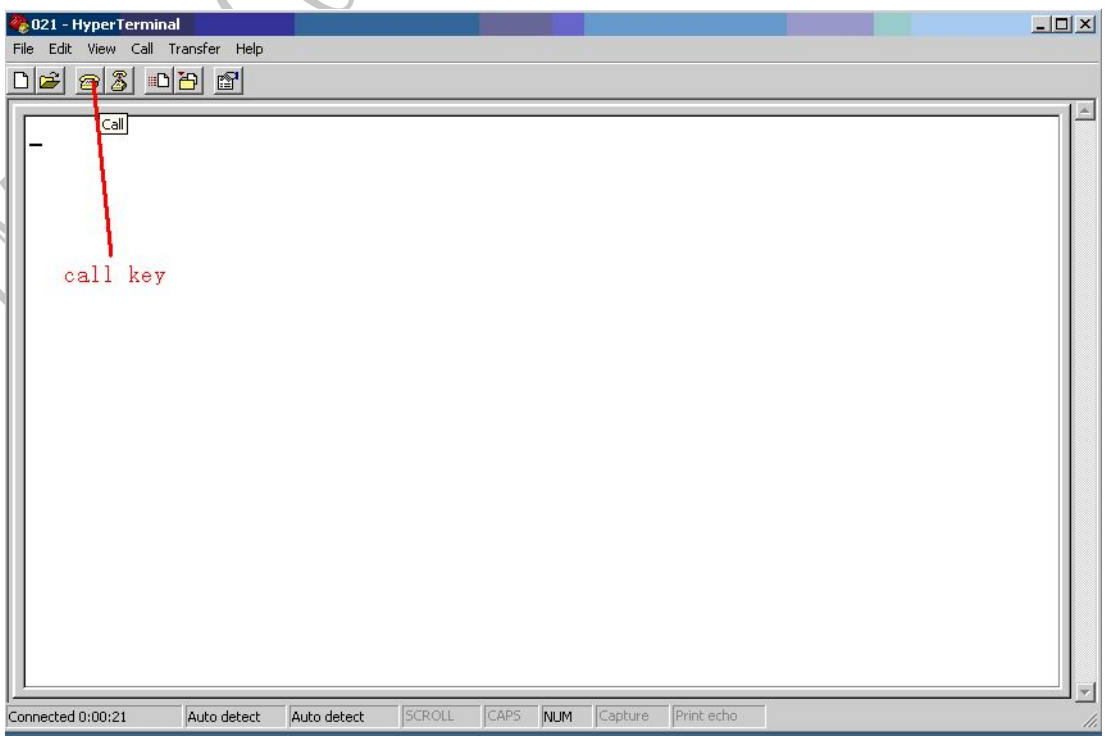
c) **Set the baud rate and flow control**



User can set the baud rate from 1200bps to 115200bps, and the flow control set to 'None'

(3) Act on the step of running which mentioned above, power on the module, typing the AT command in the HyperTerminal, and then the module will execute its corresponding function.

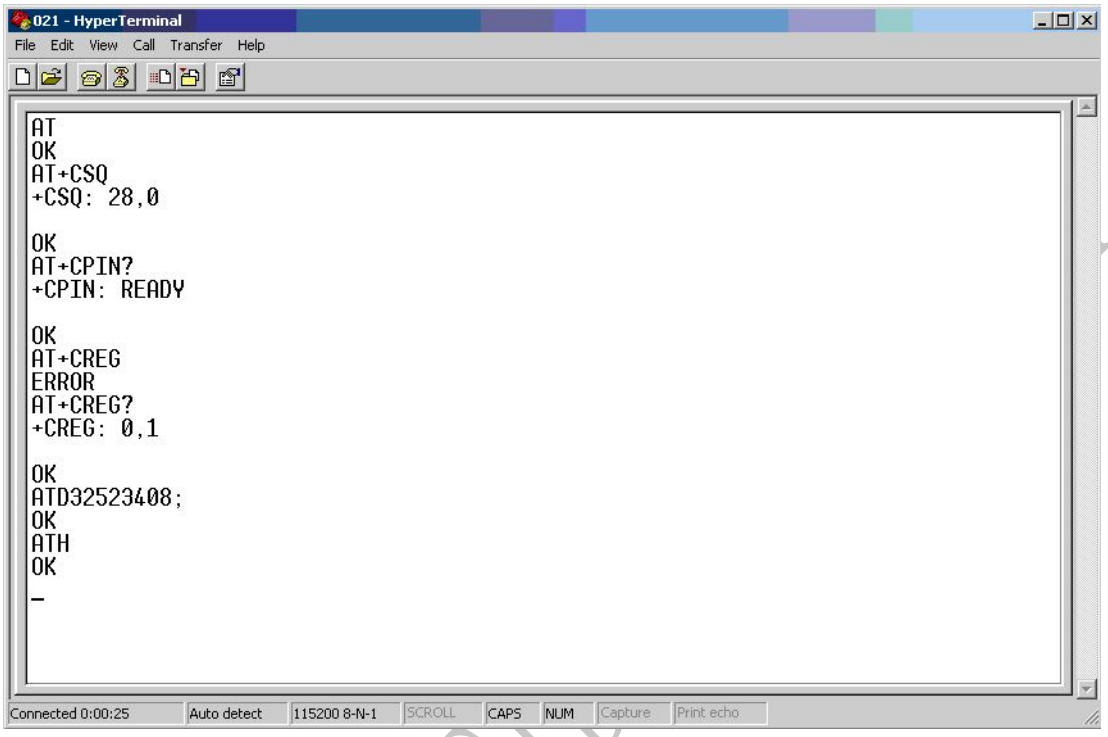
a) Connect the module

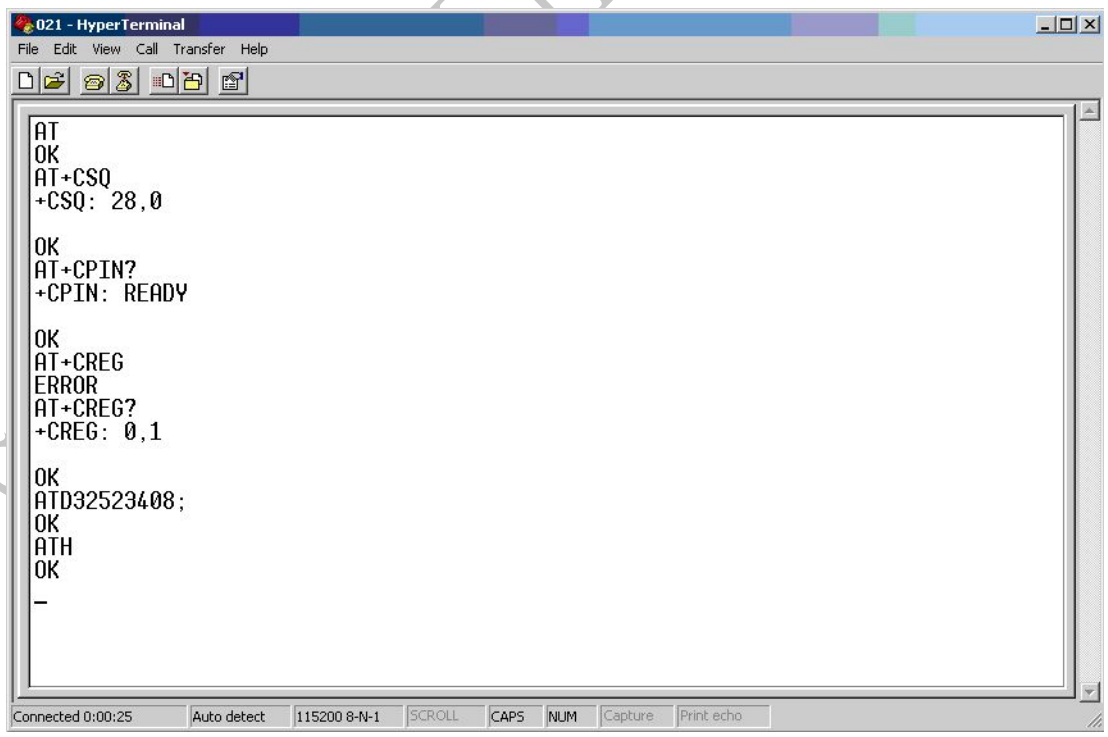


Click the '**call**' icon.

b) Typing the AT command. When module is powered on with autobauding enabled, user must firstly send 'AT' to synchronize the baud rate. The default setting of the module is autobauding.

c) Use AT command to make a call.





4.4 Software Upgrade

Customer could upgrade module's firmware through USB or UART interface.

1) Upgrade module's firmware through USB port

- Keep S101, S102 and S105 at 'OFF' state, connect the Module-TE to the 60pins connector on SIM900 EVBKIT;
- Select the jumper S101 which is on TE board to the left, which means connect the VCHG to VBUS.
- Open the upgrade tool, select the "USB download without battery" mode, and then click "Start All" button;
- At last, insert the USB, the upgrade tool will automatically enter the upgrade process;

Note : Must be properly installed MTK chip driver.

2) Upgrade module's firmware through UART port

- Keep S101, S102 and S105 at '**OFF**' state, connect the Module-TE to the 60pins connector on SIM900 EVBKIT;
- Plug in 5V DC adapter to EVBKIT;
- Connect EVBKIT MAIN UART port and the PC USB port through the USB-to-RS232 cable;
- Open the upgrade tool, click 'Start All' button after configuration options
- Switch S105 and S102 to 'On' state, the upgrade tool will automatically enter the upgrade process.

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