SIM800C MODEM

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1. Introduction

This document describes about SIM800C Modem and its features. The document can help customer to quickly understand SIM800C Modem Communication, electrical and mechanical details. With the help of this document and other SIM800C application notes, customer guide, customers can use SIM800C Modem for various applications.

2. Features of Simcom800C Modem

2.1 SIM800C

SIM800C is a SMT package with 42 pads, and provides all hardware interfaces between the module and Customer's boards.

- One 3 lines serial port and one full modem serial port;
- One USB, the USB interface can debug, download software;
- One audio channel which include a microphone input and a speaker output;
- Programmable general purpose input and output;
- One SIM card interface;

SIM800C is designed with power saving technique so that the current consumption is as low as 0.6mA in sleep mode.

2.2 Power supply

Voltage input: 5V

Generally powered using Micro USB port. 2 pin relimate connector (J1) is included as an option. A reset switch is also included to turn ON and OFF the modem. 2 LEDs are included to notify the status of power and network.

2.3 Ports

- 5 pin relimate connector (J7) for RS232 communication.
- 14 pin expansion port for other applications (auxiliary UART, Speaker connections, MIC connections, TTL UART(voltage level up to 2.8V).

2.4 Antenna

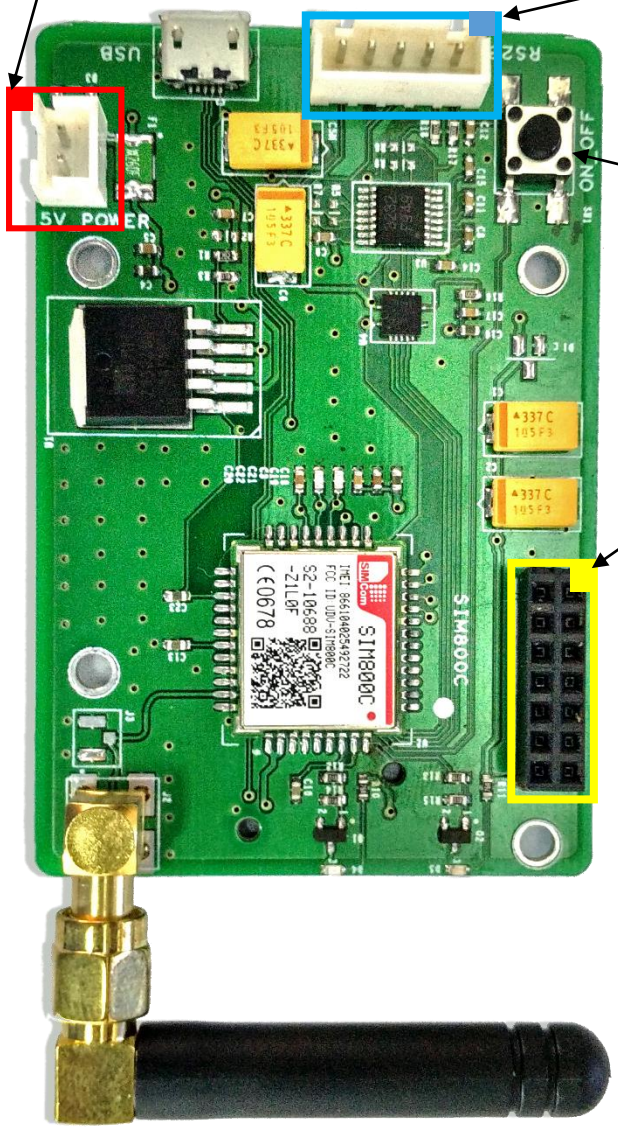
Antenna connector with SMA and UFL options.

2.5 Dimensions

50mm x 75 mm

3. Product details

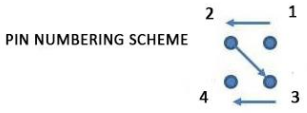
PIN NO	NAME
1	VCC_5VD
2	GND



PIN NO	NAME
1	UART RTS
2	UART CTS
3	UART RXD
4	UART TXD
5	GND

RESET SWITCH

PIN NO	NAME(V=2.8V)
1	AUDIO +VE
2	AUDIO –VE
3	MIC +VE
4	MIC –VE
5	AUXILIARY UART TXD
6	AUXILIARY UART RXD
7	TTL_UART_RI
8	TTL_UART_DTR
9	TTL_UART_DCD
10	NC
11	NC
12	GND
13	GND
14	GND



4. Hardware description

4.1 SIMCOM SIM800C Module

This document is not including any details of
SIMCOM 800C module. Customer can get more information from SIMCOM web site for more information or can datasheet from the below link.

http://www.mt-system.ru/sites/default/files/documents/SIM800C_hardware_design_v1.02.pdf

4.2 GPRS ANTENNA

Antenna connector allows transmission of radio frequency (RF) signals between the modem and an external customer-supplied antenna. Modem provides option one of the two antenna connector options. One is uFL and other one is 50ΩFME male coaxial jack.

4.2 POWER SECTION

Generally the power jack supported is Micro USB connector (10118193-0001LF) . An optional 2 pin relimate connector is also added. It is recommended to use only of the connectors at same time. Maximum supply voltage to be applied is 5V. A reset switch is present to turn off and turn on the SIM800C module.

4.3 LED INDICATIONS

There are two LEDs in the SIMCOM SIM800C Modem. LED1 (at D5) is power status and LED2 (at D4) is GPRS status LED.

4.4 RS232 Relimate connector(J7)

This 5 pin relimate connector has main UART of the GSM/GPRS module in RS232 level.

Pin No	PIN Name	Pin Type	Signal Type	Description
1	RTS	I	RS232	Request to Send
2	CTS	O	RS232	Clear to Send
3	RXD	I	RS232	Reception Data for UART
4	TXD	O	RS232	Transmit Data of RS232
5	GND	Gnd		Ground

4.5 Expansion connector Slots(J13)

Pin No	PIN Name	Pin Type	Signal Type	Description
1	AUDIO +VE	AO		Differential audio output
2	AUDIO -VE	AO		Differential audio output
3	MIC +VE	AI		Differential audio input
4	MIC -VE	AI		Differential audio input
5	AUXILIARY UART TXD	O		Auxiliary UART Transmit data
6	AUXILIARY UART RXD	I		Auxiliary UART Received data
7	TTL_UART_RI	O		Ring Indicator(2.8V)
8	TTL_UART_DTR	I		Data Terminal Ready(2.8V)
9	TTL_UART_DCD	O		Data carrier detect (2.8V)
10	NC	NA		NA
11	NC	NA		NA
12	GND	Gnd		Ground
13	GND	Gnd		Ground
14	GND	Gnd		Ground

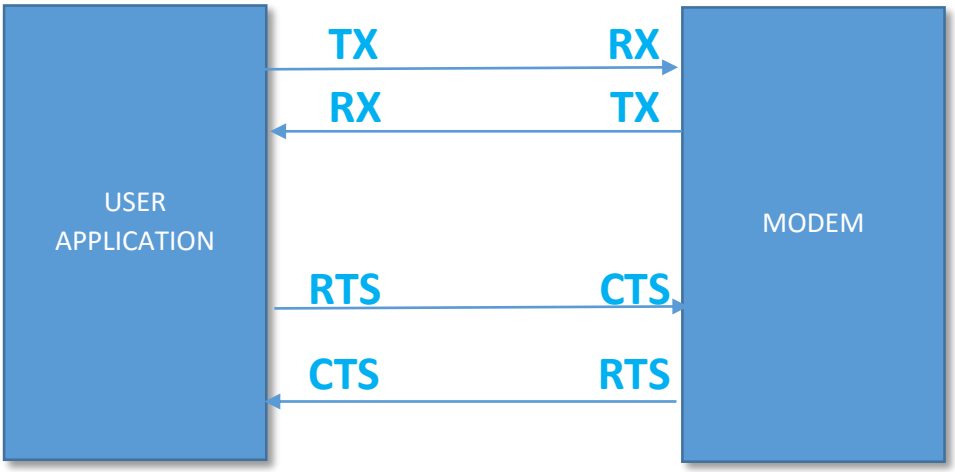
5. Electrical Specifications

Parameter	Min	Max
Input Power Supply -DC	0-5V	0-5V
Operating Temperature	0^0 C	$+70^0$ C
Relative humidity - Operational	10%	90%

6. Communication with modem

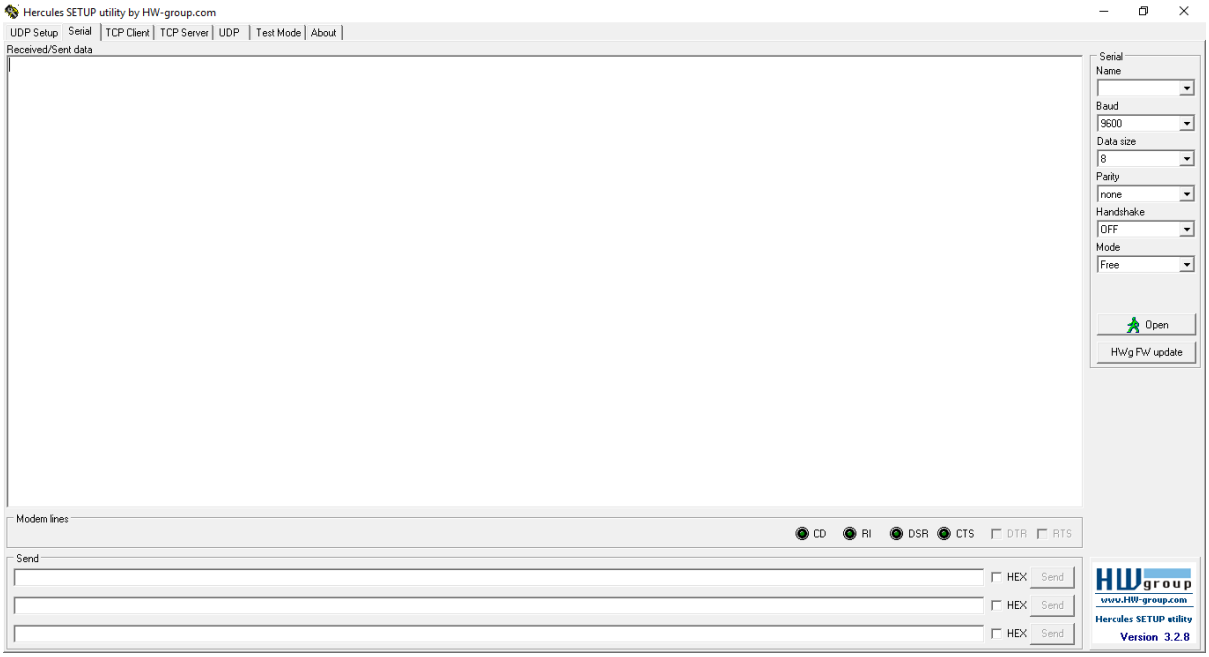
6.1 Serial Interface Mechanism

Customers can interface the modem through 5 pin relimate connector. Following are the serial interface format used in SIMCOM SIM800C modem in below figure:



6.2 Serial Interface Software

Customer can use any serial terminal program in PC to communicate with modem. We have used “Hercules” for our development and test. Below figure shows typical screen shot of Hercules



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