Breakout SIM7080 User Manual
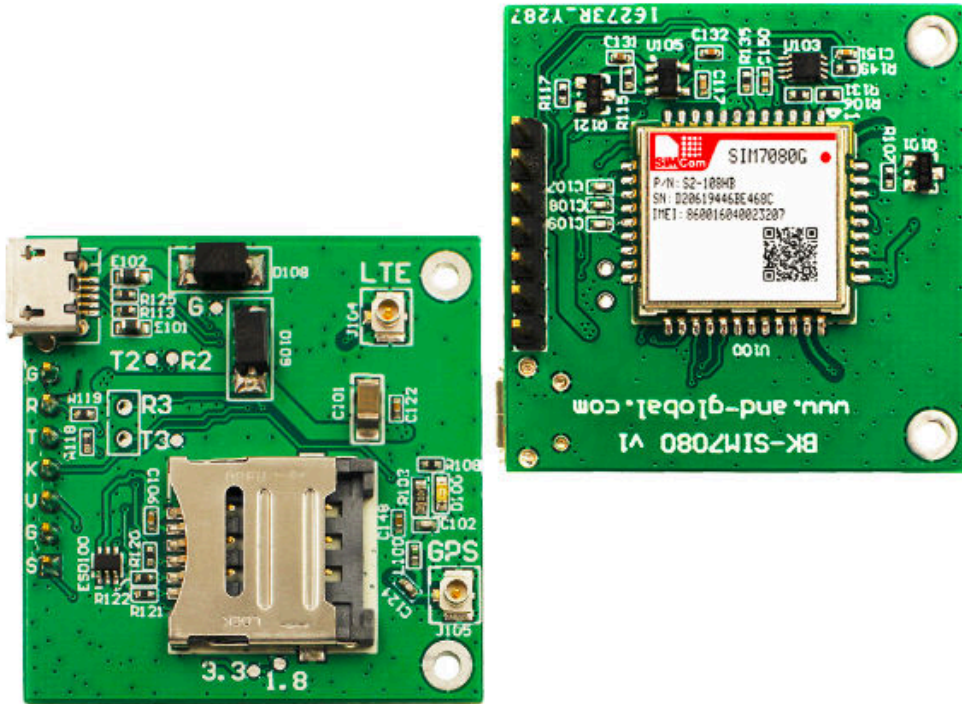
1. Preparation:

Board	BK-SIM7080
Serial tool	sscom32E.exe

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2. Overview

2.1 Module feature

- Multi-Band LTE module which supports LTE CAT-M1(eMTC) and NB-IoT
- Control Via   AT Command, Rich interfaces including UART,USB.
- Module Supply voltage range:2.7v~4.8v.
- Operation temperature:-40℃ to +85 ℃
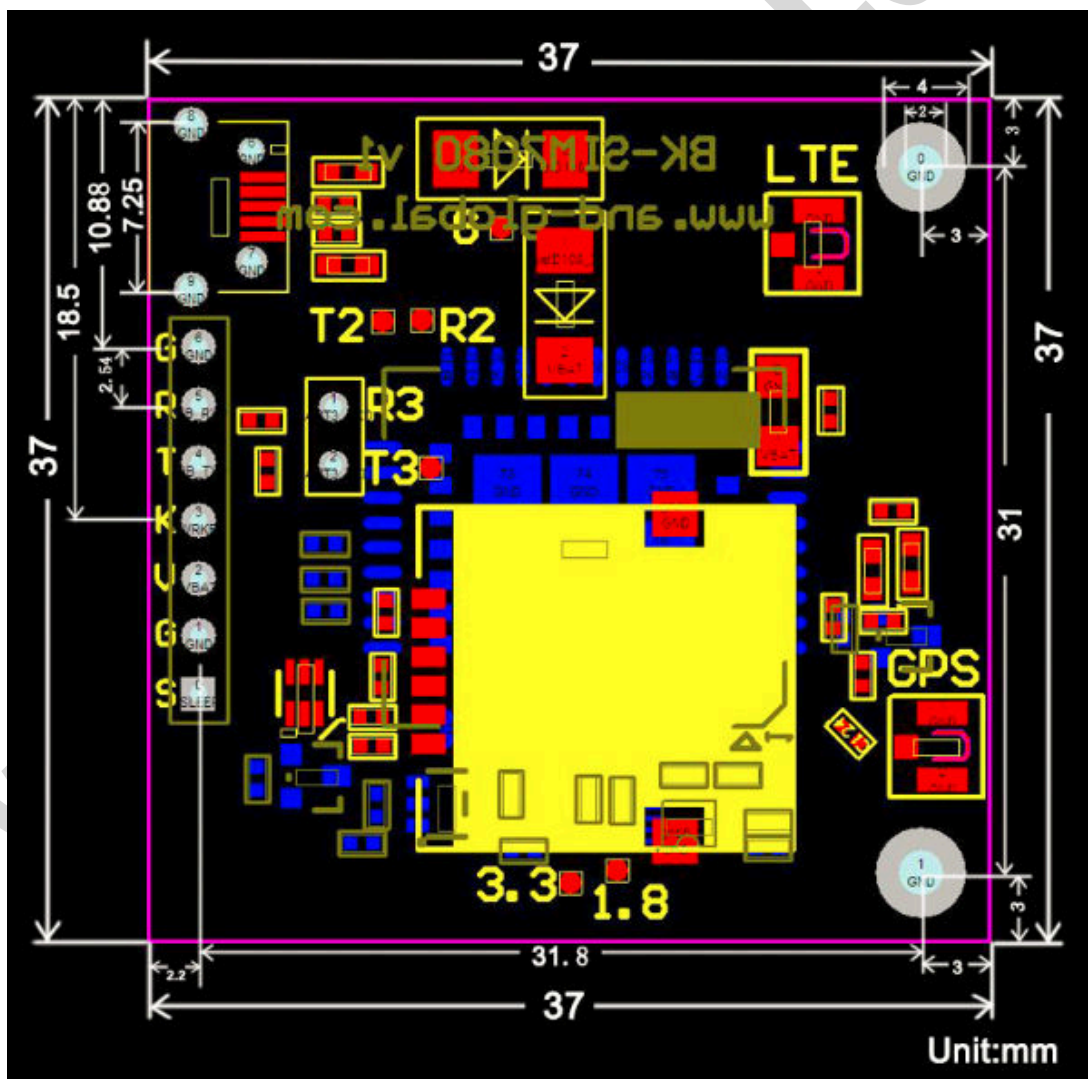- GNSS(GPS,GLONASS and BeiDou, Galileo)

2.2 BOARD overview
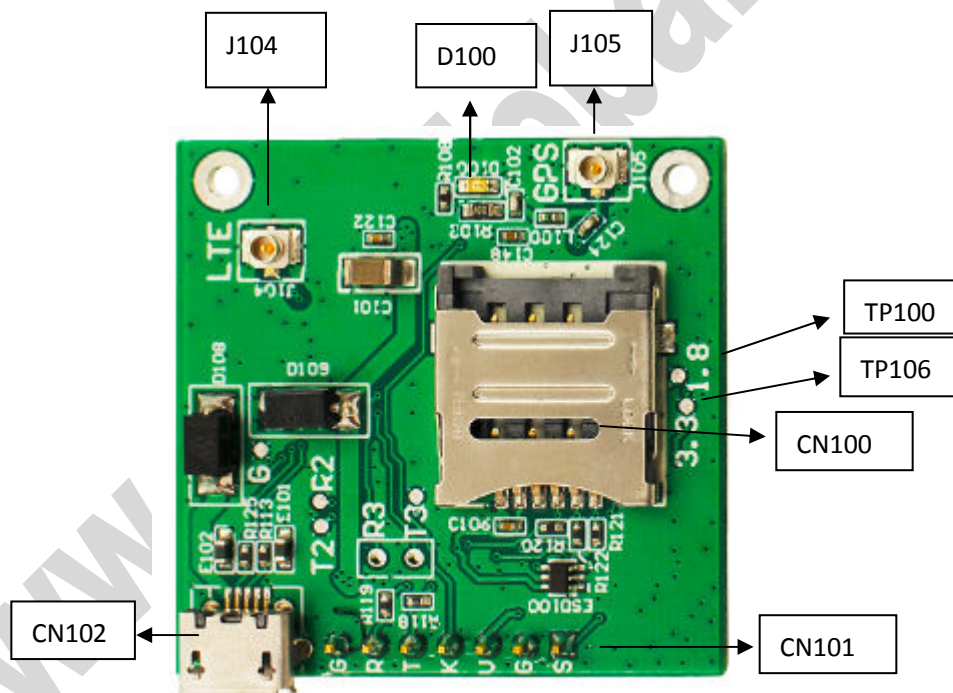
CN100	Micro SIM card socket
CN101	7pin 2.54mm header interface
CN102	USB interface

D100	NET LIGHT indicator(Green)
J104	LTE ANT
J105	GPS ANT
TP109	3.3V
TP100	1.8V

2.3 PCBA dimension: 37*37mm.

3. Pin definition
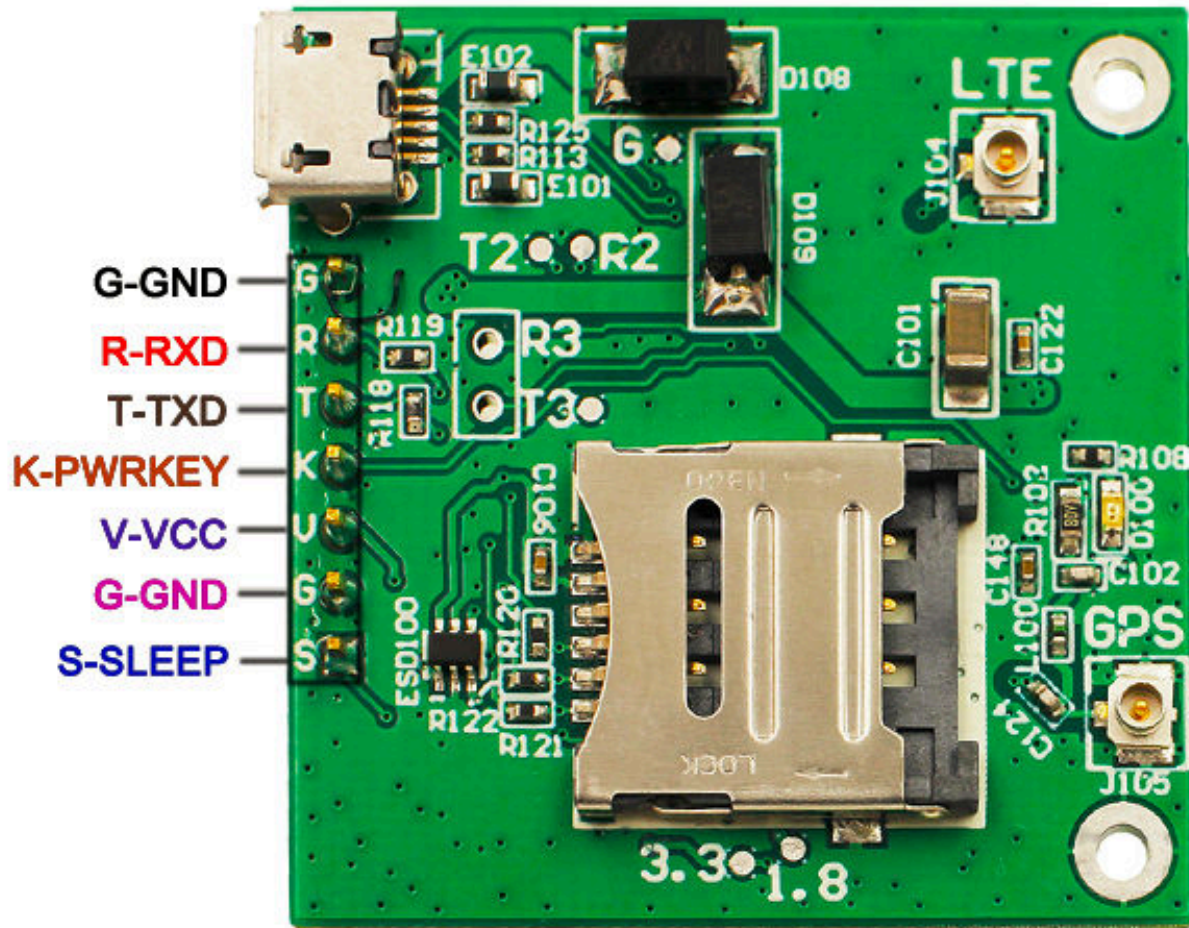
Note: VCC range is from 2.7V to 4.8V. Over 3V is recommended.

TXD /RXD are 3.3V TTL level which can be directly connected with 3.3V MCU.

After the PWRKEY continues to pull down more than 12S, the system will automatically reset. Therefore, long-term grounding is not recommended for PWRKEY pin.

3.1 Pin definition of 6pin connector

| Pin name	Pin number	Mark on PCB	Description	Comment
SLEEP	0	S	control module into sleep mode	Connect with DTR via Q102
GND	1,6	G	GND	
VCC	2	V	The power supply	2.7V-4.8V
PWRKEY	3	K	System power on/off	Active low. Power on/Power off/Reset Function. After the PWRKEY continues to pull down more than 12S, the system will automatically reset. Therefore, long-term grounding is not recommended for PWRKEY pin.
TXD	4	T	Transmit Data	3.3V TTL Series data Output
RXD	5	R	Receives Data	3.3V TTL Series data Input

3.2 How to use TXD and RXD (Default baud rate is 115200bps)
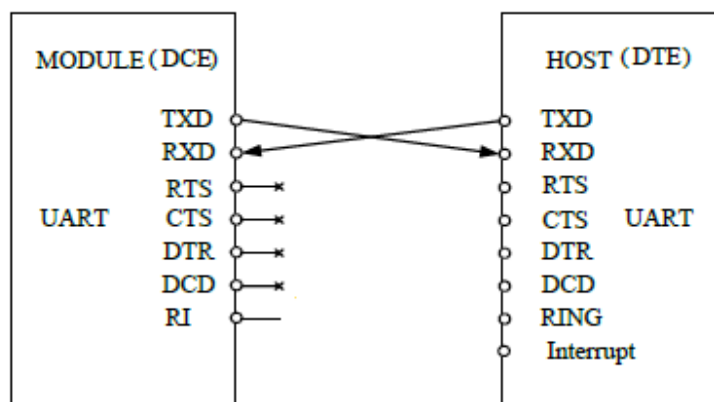
4. How to test the BK-SIM7080 by AT command via UART

4.1 Installing LTE antenna, GPS antenna and SIM card for BK-SIM7080

Board.(Note: Please use IoT card, not normal Mobile phone card.)

4.2 Feed power supply to VCC pin, and pull low PWRKEY pin for 1-2Second and release, The Green LED begin to blink.

4.3 GREEN LED indicator, Blink quickly shows un-registration network，Blink slowly shows registration successful. (Note: Should confirm whether correct SIM card is inserted)

NETLIGHT pin status	Module status
64ms ON, 800ms OFF	No registered network
64ms ON, 3000ms OFF	Registered network (PS domain registration success)
64ms ON, 300ms OFF	Data transmit (PPP dial-up state and use of data services such as internal TCP/FTP/HTTP)
OFF	Power off or PSM mode

4.4 Open serial software and choose right serial number, Baud rate as below, please keep "SendNew" selected:
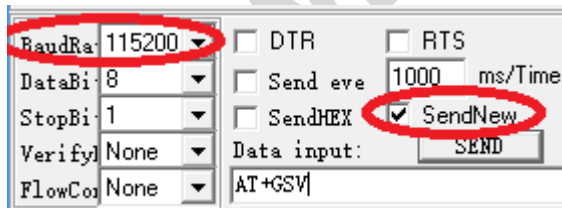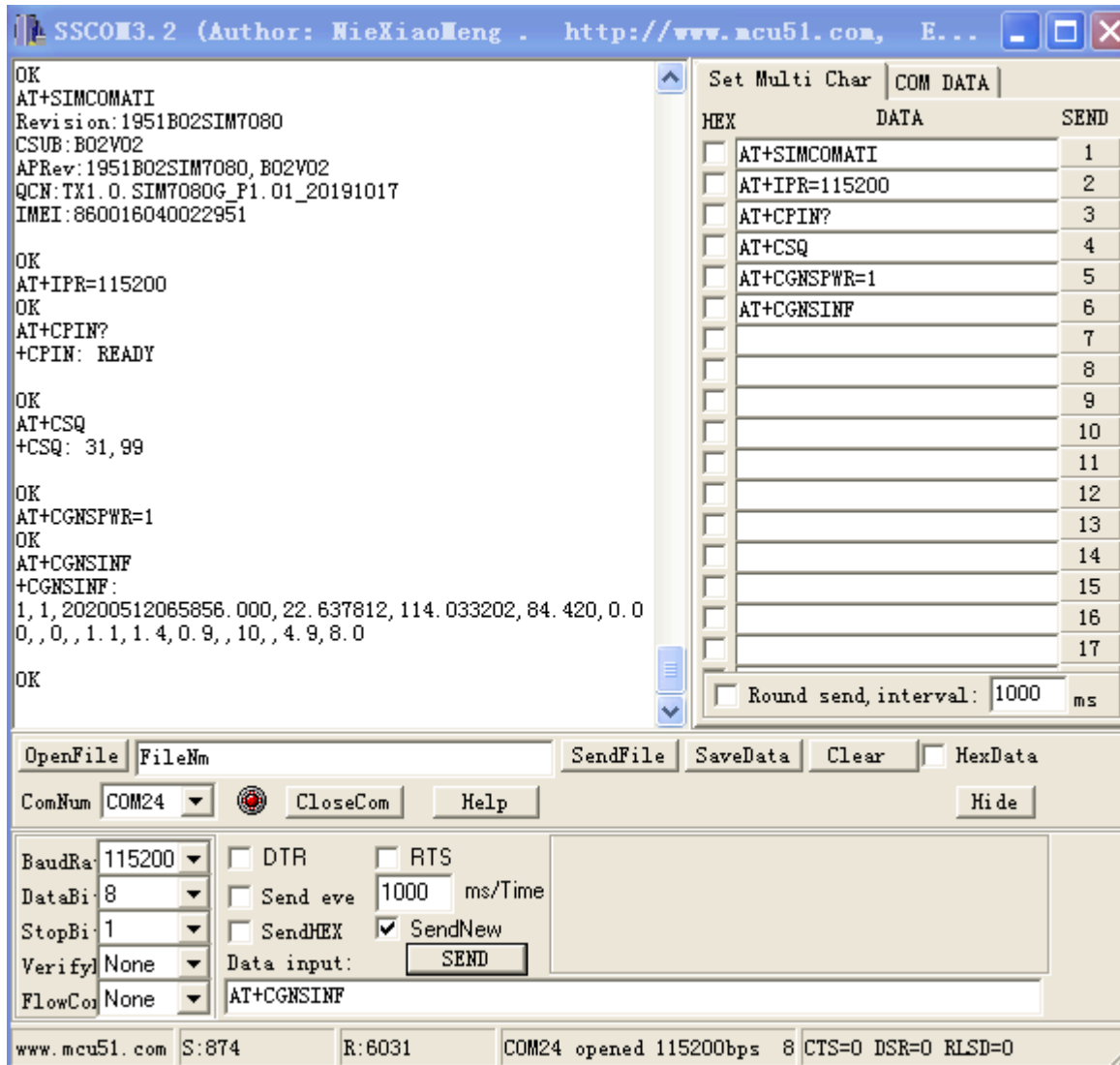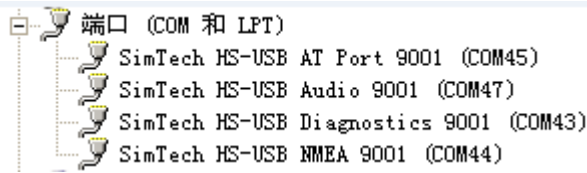
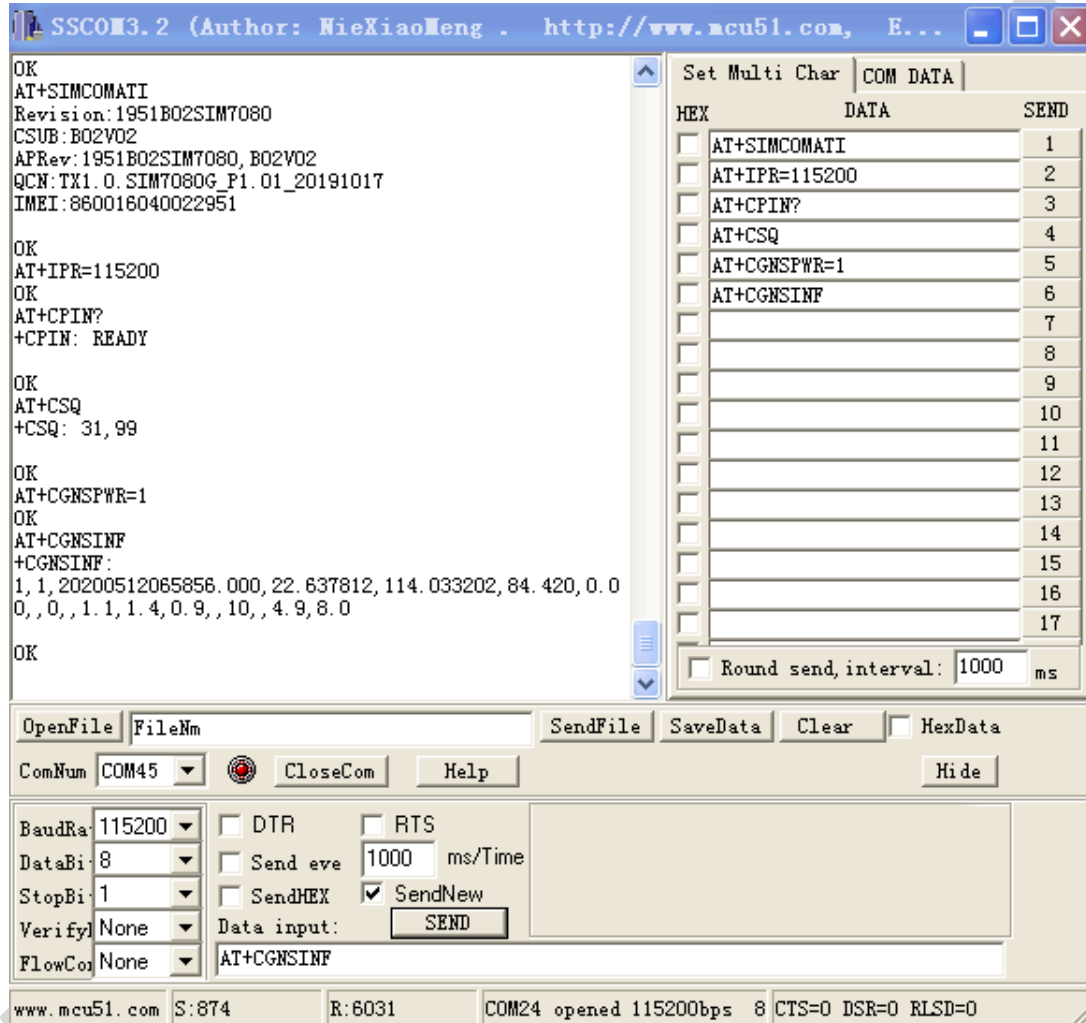# 5. How to test the BK-SIM7080 by AT command via USB

(NOTE: USB Power cannot be present with VCC POWER simultaneously)

5.1   Remove all connection on CN101 7pin connector, Power up the SIM7080 Breakout board only via USB, and pull PWRKEY pin low for 1-2Seconds to power on sim7080 module, Install SIM7070_SIM7080 WIN7_WIN10_USB_Driver_V1.00.rar driver following the computer indication. The computer will show as belows, it means that the driver is installed correctly.

```
端口 (COM 和 LPT)
    SimTech HS-USB AT Port 9001 (COM45)
    SimTech HS-USB Audio 9001 (COM47)
    SimTech HS-USB Diagnostics 9001 (COM43)
    SimTech HS-USB NMEA 9001 (COM44)
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5.2 Select AT Port 9001, 115200bps and SendNew, you can repeat all command in Item4.4.

6.Package list：

Name	Qty	Unit
BK-SIM7080	1	Pcs