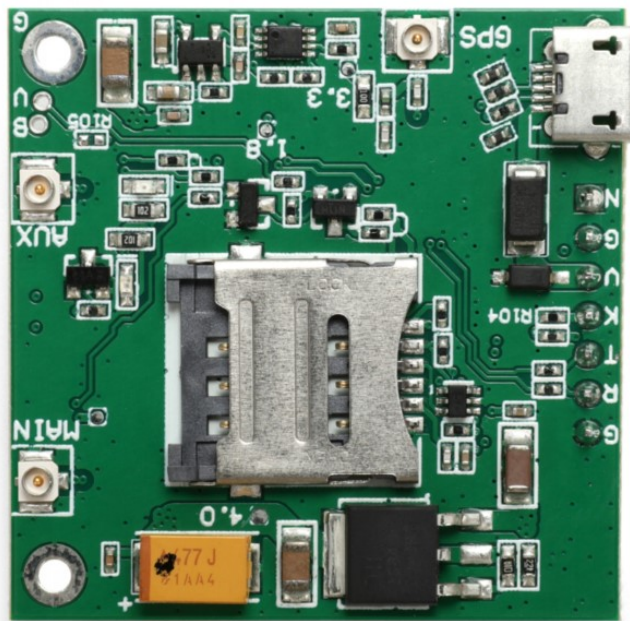




Breakout SIM8230 User Manual



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AND Wireless : <http://www.and-global.com>
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1. Preparation:

Board	BK-SIM8230
Serial tool	sscom32E.exe

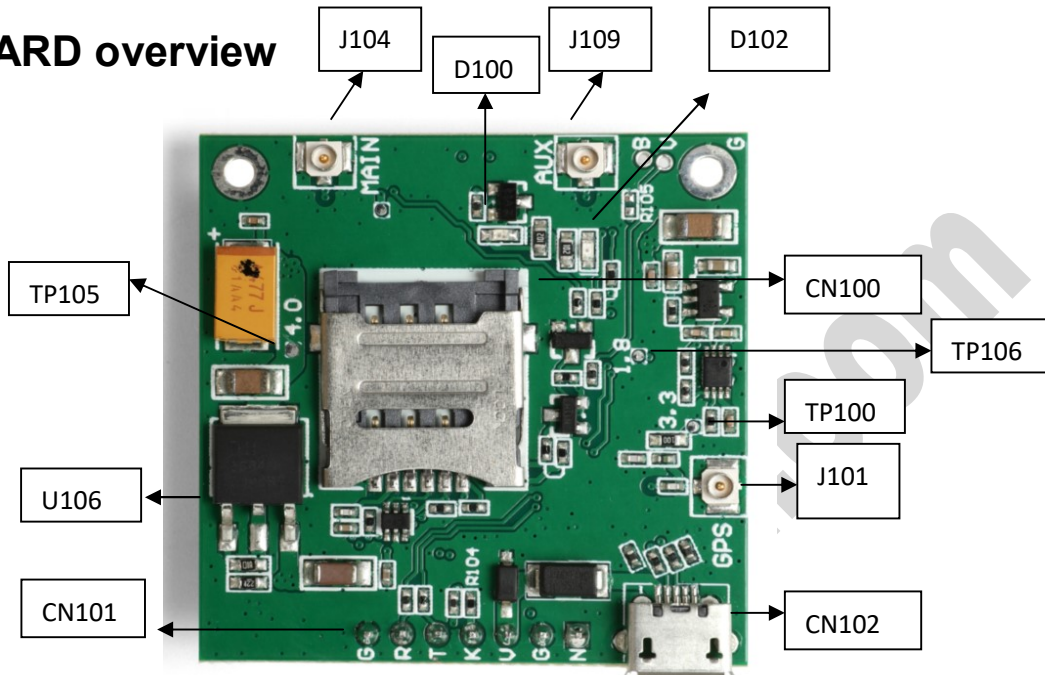
2. Overview

2.1 Module feature

- SIM8230 is a Multi-Band 5G NR/LTE-FDD/LTE-TDD module which supports R17 5G SA and Release15 LTE standalone only.
- Supports multiple built-in network protocols, supports drivers for main operation systems (USB driver for Windows, Linux and Android etc.) and software function.
- Control Via AT Command, Rich interfaces including UART,USB2.0
- Operation temperature:-40°C to +85 °C

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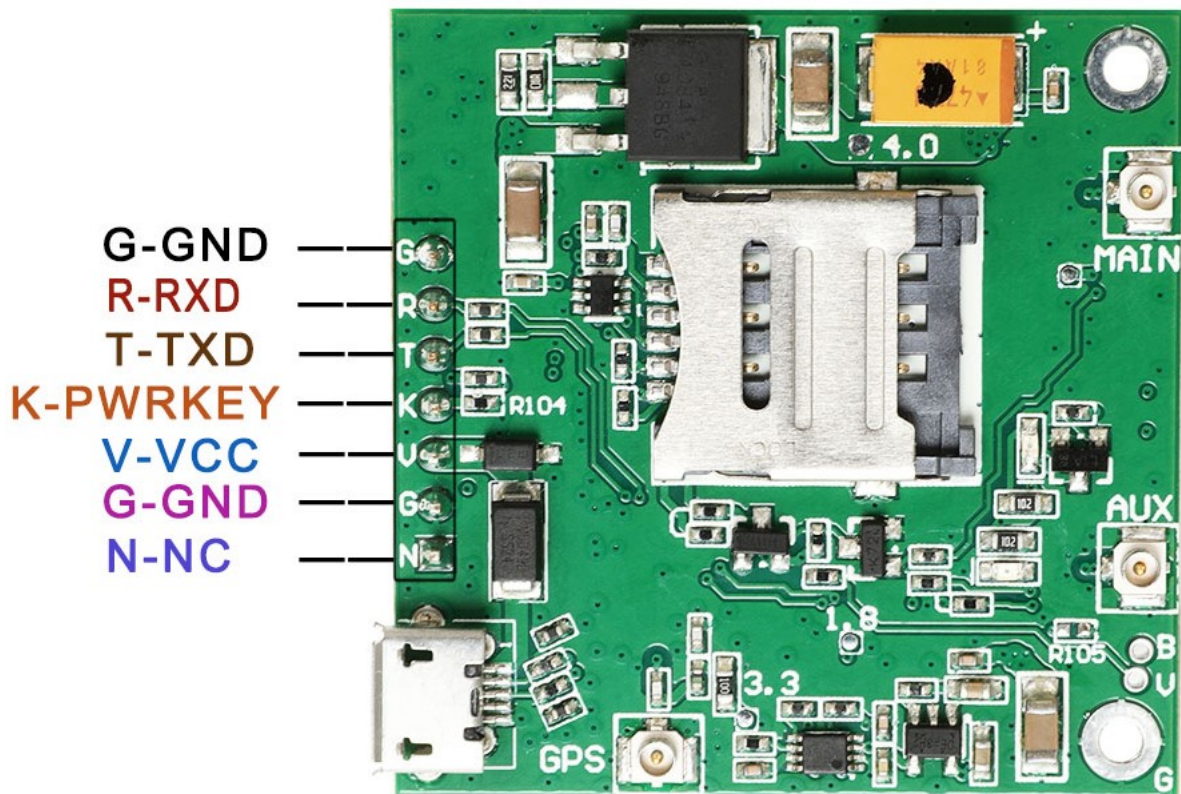
2.2 BOARD overview



CN100	Micro SIM card socket
CN101	7pin 2.54mm header interface
CN102	Micro USB interface
D102	Power indicator(RED)
D100	NET LIGHT indicator(Green)
U106	The power conversion chip
J109	Auxiliary antenna
J101	GNSS antenna(optional)
J104	LTE antenna
TP105	4.0V
TP100	3.3V
TP106	1.8V

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Note: VCC range is from 5.0V to 10V, 5.0V is recommended.

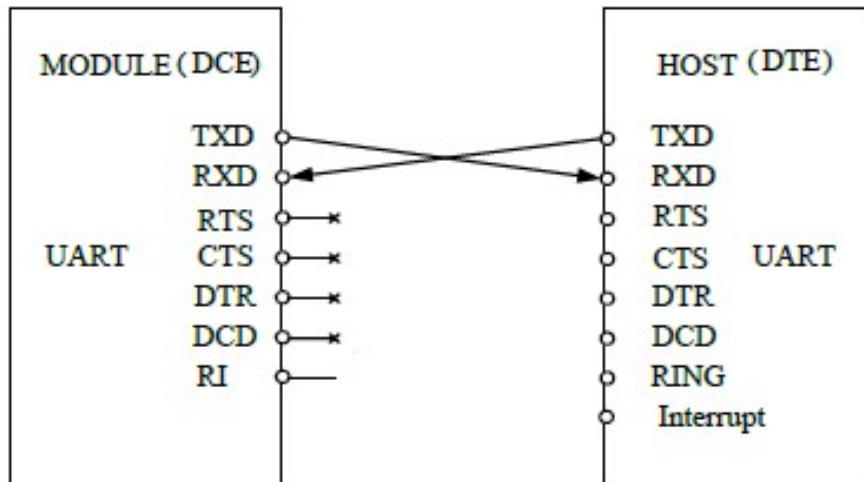
TXD /RXD are 3.3V TTL level which can be directly connected with 3.3V MCU.

3.1 Pin definition of 6pin connector

Pin name	Pin number	Mark on PCB	Description	Comment
NC	0	N	Not connected	
GND	1,6	G	GND	
VCC	2	V	The power supply	5V-10V
PWRKEY	3	K	Power on/off the module	CBL_PWR_N was Shorted with GND via R105 and PWRKEY was no-connection to make module automatic Power on
TXD	4	T	Output, Transmit Data	TTL Series data Output,3.3V logic level
RXD	5	R	Input, Receive Data	TTL Series data Input,3.3V logic level

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3.2 How to use TXD and RXD (Default baud rate is 115200bps)



4. How to test the BK-SIM8230 by AT command via UART

4.1 Installing MAIN antenna , GPS antenna, and sim card for BK-SIM8230 Board.

4.2 Feed power supply to VCC pin, RED LED indicator will be lighted. (Note: VCC range is from 5.0V to 10V. 5.0V is recommended.)

4.3 GREEN LED indicator, Blinking shows registration successful.

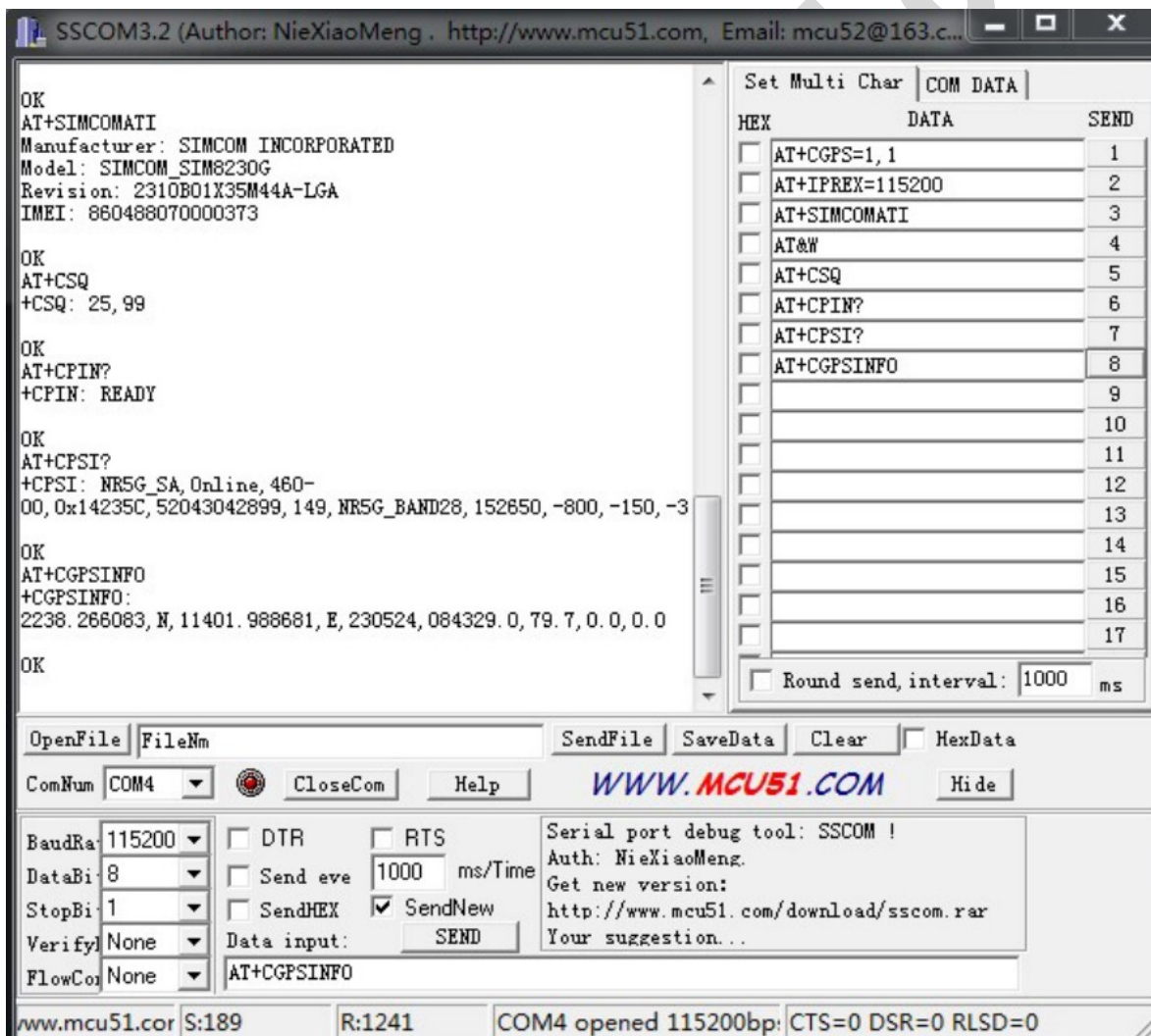
Pin Name	Status	Description
	100ms ON, 100ms OFF	Data transmit; 5G registered network
	200ms ON,200ms OFF	4G registered on the network
NET_STATUS	Always High	Search the network; Establish/maintain voice call connections (including 5G and VOLTE)
	LED normally off	Shutdown, sleep mode, minimum power consumption mode

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4.4 Open serial software **sscom32E** and choose right serial number, Baud rate as below, please keep "SendNew" selected:

BaudRa	115200	<input type="checkbox"/> DTR	<input type="checkbox"/> RTS
DataBi	8	<input type="checkbox"/> Send eve	1000 ms/Time
StopBi	1	<input type="checkbox"/> SendHEX	<input checked="" type="checkbox"/> SendNew
Verify	None	Data input:	SEND
FlowCo	None	AT+GSV	



SSCOM3.2 (Author: NieXiaoMeng . http://www.mcu51.com, Email: mcu52@163.c...)

```

OK
AT+SIMCOMATI
Manufacturer: SIMCOM INCORPORATED
Model: SIMCOM_SIM8230G
Revision: 2310B01X35M44A-LGA
IMEI: 860488070000373

OK
AT+CSQ
+CSQ: 25, 99

OK
AT+CPIN?
+CPIN: READY

OK
AT+CPSI?
+CPSI: NR5G_SA, Online, 460-
00, 0x14235C, 52043042899, 149, NR5G_BAND28, 152850, -800, -150, -3

OK
AT+CGPSINFO
+CGPSINFO:
2238. 266083, N, 11401. 988681, E, 230524, 084329. 0, 79. 7, 0. 0, 0. 0

OK
  
```

HEX	DATA	SEND
<input type="checkbox"/>	AT+CGPS=1, 1	1
<input type="checkbox"/>	AT+IPREX=115200	2
<input type="checkbox"/>	AT+SIMCOMATI	3
<input type="checkbox"/>	AT&W	4
<input type="checkbox"/>	AT+CSQ	5
<input type="checkbox"/>	AT+CPIN?	6
<input type="checkbox"/>	AT+CPSI?	7
<input type="checkbox"/>	AT+CGPSINFO	8
<input type="checkbox"/>		9
<input type="checkbox"/>		10
<input type="checkbox"/>		11
<input type="checkbox"/>		12
<input type="checkbox"/>		13
<input type="checkbox"/>		14
<input type="checkbox"/>		15
<input type="checkbox"/>		16
<input type="checkbox"/>		17

Round send, interval: 1000 ms

OpenFile FileNm SendFile SaveData Clear HexData

ComNum COM4 CloseCom Help WWW.MCU51.COM Hide

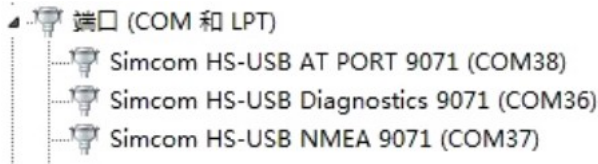
BaudRa	115200	<input type="checkbox"/> DTR	<input type="checkbox"/> RTS	Serial port debug tool: SSCOM ! Auth: NieXiaoMeng. Get new version: http://www.mcu51.com/download/sscom.rar Your suggestion...
DataBi	8	<input type="checkbox"/> Send eve	1000 ms/Time	
StopBi	1	<input type="checkbox"/> SendHEX	<input checked="" type="checkbox"/> SendNew	
Verify	None	Data input:	SEND	
FlowCo	None	AT+CGPSINFO		

www.mcu51.cor S:189 R:1241 COM4 opened 115200bp: CTS=0 DSR=0 RLS=0

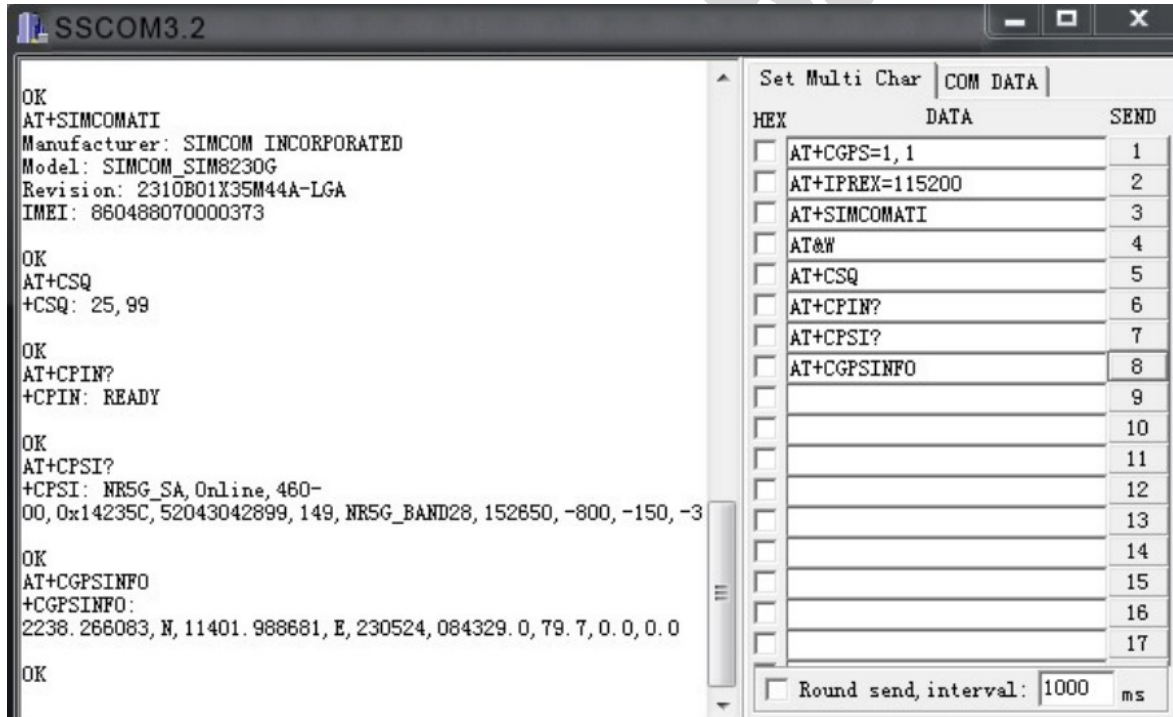
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5. How to test the BK-SIM8230 by AT command via USB

5.1 Remove all connection on CN101 7pin connector, Power up the SIM8230 Breakout board only via USB, Install “SIMCOM_5G_Windows_DriverInstall_V1.06.zip” driver following the computer indication. The computer will show as belows, it means that the driver is installed correctly.



5.2 Select AT Port 9071, 115200bps and SendNew, you can repeat all command in Item4.4.



6.Package list:

Name	Qty	Unit
BK-SIM8230	1	Pcs

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