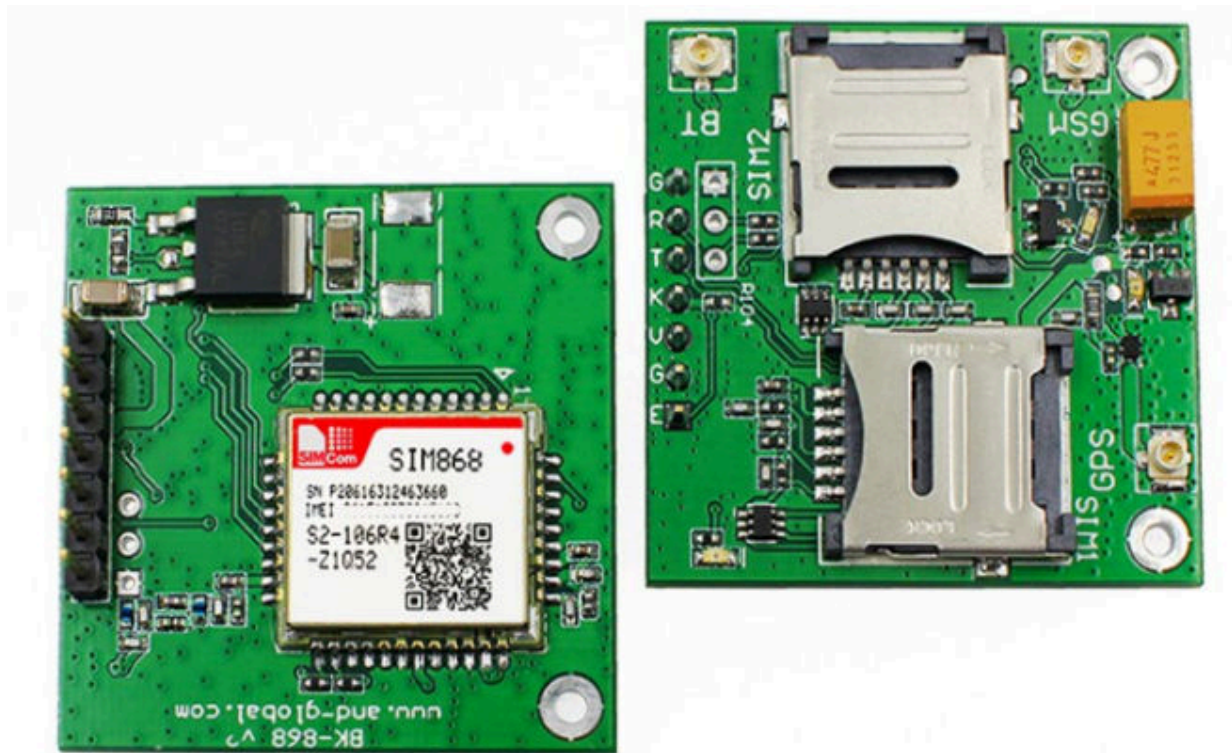


Breakout SIM868 User Manual



1. Preparation:

Board	BK-SIM868
Serial tool	SSCOM32.EXE

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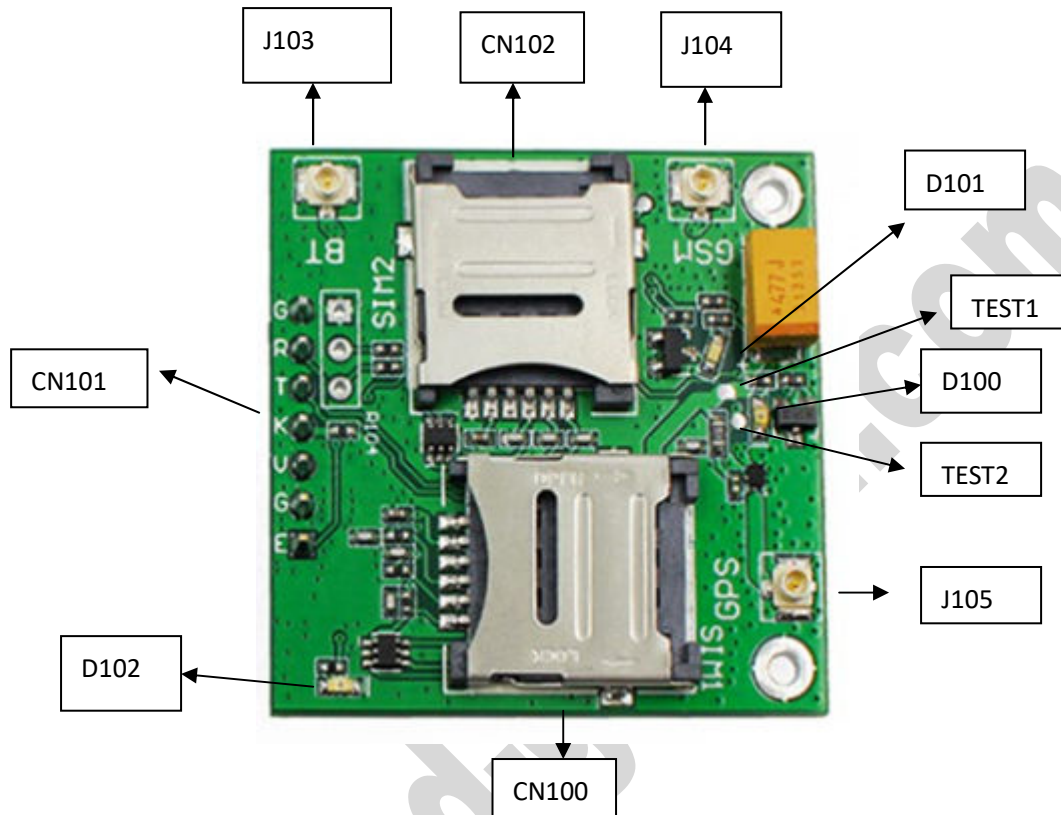
2. Overview

2.1 Module feature

- Quad-Band GSM 850/900/1800/1900MHz
- GPRS multi-slot class 12/10
- GPRS mobile station class B
- Compliant to GSM phase 2/2+
 - Class 4 (2 W @ 850/900 MHz)
 - Class 1 (1 W @ 1800/1900MHz)
- Control via AT commands (3GPP TS 27.007,27.005 and SIM Com enhanced AT Commands)
- Supply voltage range:3.4v~4.4v
- Low power consumption
- Operation temperature:-40℃ to +85 ℃
- GPS Receiver type
- 22tracking/66 acquisition-channel GPS L1 C/A code
- Sensitivity
 - Tracking: -166 dBm
 - Cold starts: -148 dBm
- Time-To-First-Fix
 - Cold start: 29s (typ)
 - Warm start: 22s (typ)
 - Hot start: <1s (typ)
- Accuracy
 - Horizontal Position: <2.5m CEP
- Bluetooth function(No firmware supporting so far)
- Dual SIM(No firmware supporting so far)

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2.2 PCBA overview



CN100	Micro SIM card socket 1
CN102	Micro SIM card socket 2
CN101	7pin 2.54mm header interface
D102	Power indicator(RED)
D100	GSM NET LIGHT indicator(Green)
D101	GPS 1PPS LED indicator(Blue)
U100	The power conversion chip
J104	GSM ANT

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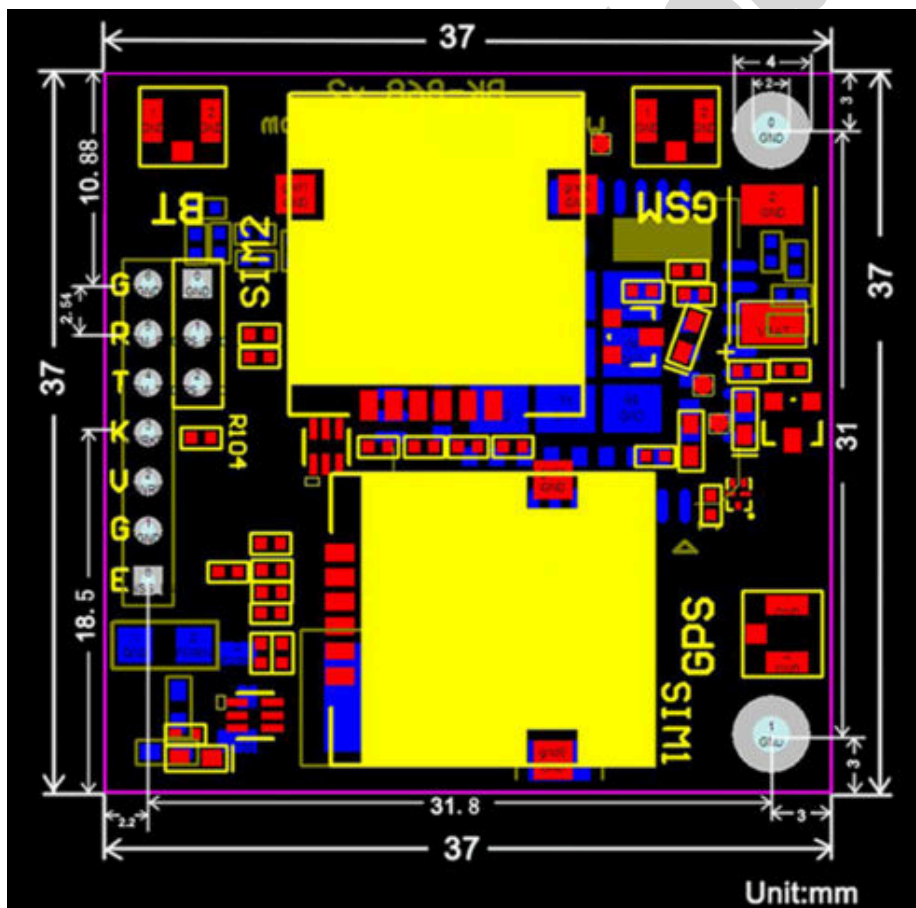
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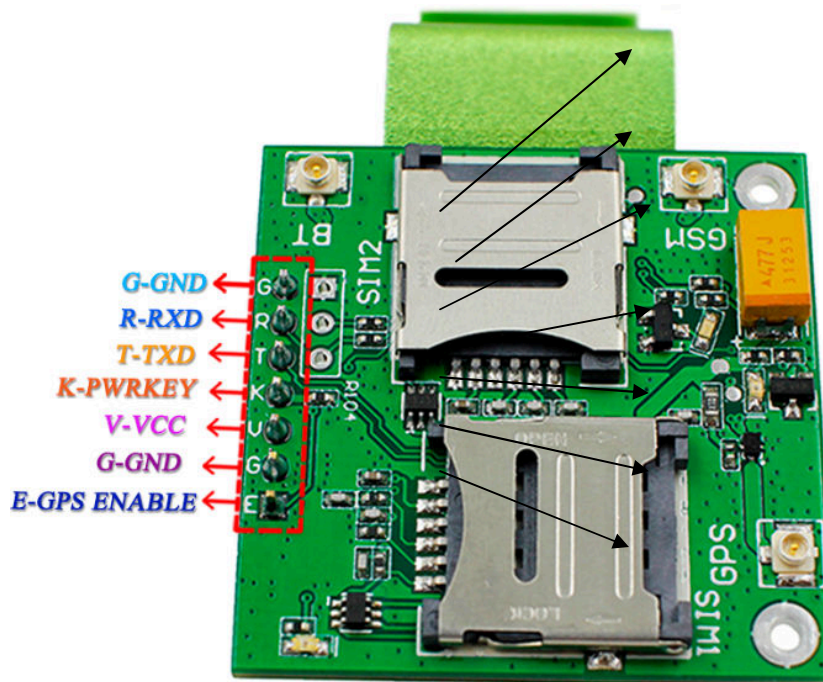
J105	GPS ANT
J103	Bluetooth ANT
Reference voltage test point	UNIT (V)
TEST1	3.8V
TEST2	2.8V

2.3 PCBA dimension: 37*37mm.



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3. Pin definition



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
GPS ENABLE	0	E	Disable GPS function if pull-down.	Pull-up on board by default.
GND	1,6	G	GND	
VCC	2	V	The power supply	5V-10V
PWRKEY	3	K	Power down	Shorted with GND via R104 by default
TXD	4	T	Transmit Data	TTL Series data Output
RXD	5	R	Receives Data	TTL Series data Input

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

4. How to test the BK-SIM868 by AT command

4.1 Installing GSM antenna, GPS antenna and SIM1 card for BK-SIM868 Board, Feed power supply to PWRIN pin, RED LED indicator will be lighted. (Note: PWRIN range is from 5.0V to 10V. 5.0V is recommended)

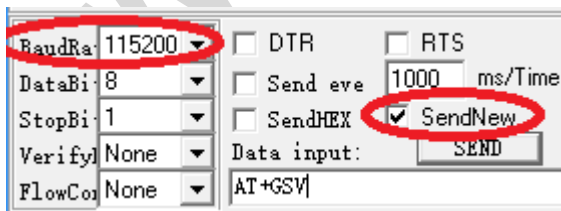
4.2 GREEN LED indicator, Blink quickly shows un-registration network, Blink slowly shows registration successful.

(Note: Should confirm whether SIM card is inserted)

Status	SIM868 behavior
Off	Powered off
64ms On/ 800ms Off	Not registered the network
64ms On/ 3000ms Off	Registered to the network
64ms On/ 300ms Off	GPRS communication is established



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



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```
AT+GSV
SIMCOM_Ltd
SIMCOM_SIM868
Revision:1418B02SIM868M32

OK
AT+CSQ
+CSQ: 26,0

OK
AT+IPR=115200
OK
AT&W
OK
ATD10086;
OK
ATH
OK
AT+CGNSPWR=1
OK
AT+CGNSINF
+CGNSINF: 1,1,20161205091600.000,22.637750,114.033375,99.900,0.00,0.0,1,,1.4,1.6,0.8,,11,12,,,47,,
OK
```

5. AT command sample:

AT

OK

AT+CSQ

+CSQ: 26,0

OK

5.1 How to make a call

ATD10086;

OK

ATH

OK

-----*****-----
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5.2 How to make a TCP/IP connection

AT +CREG?

+CREG: 0, 1

OK

AT+ CGREG?

+CGREG: 0, 1

OK

AT+ CGATT?

+CGATT: 1

OK

AT+GSV

SIM COM _Ltd

SIMCOM_SIM868

Revision: 1418B02SIM868M32

OK

AT+IPR=115200

OK

AT+CSTT="CMNET"

OK

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AT+CIICR

OK

AT+CIFSR

10.132.214.222

AT+CDNSGIP="www.sim.com"

OK

+CDNSGIP: 1,"www.sim.com","58.32.231.146"

AT+CDNSGIP="a b c d e f"

OK

+CDNSGIP: 0, 11

AT+CIPSTART="TCP","WWW.SIM.COM", 80

OK

CONNECT OK

AT+CIPSEND

> TER THIS IS GAOJIAZE!

SEND OK // sending Data is OK

HTTP/1.1 400 Bad Request

Content-Type: text/html

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Date: Mon, 11 Oct 2010 02:33:29 GMT

Connection: close

Content-Length: 20

<h1>Bad Request</h1>

CLOSED

AT+CIPSTART="TCP","WWW.SIM.COM", 80

OK

CONNECT OK

AT+CIPSEND

> DNS TEST

SEND OK

5.3 How to get GPS information

AT+CGNSPWR=1

OK

AT+CGNSINF

+CGNSINF:1,1,20161205091600.000,22.637698,114.033162,99.900,0.00,0.0,1,,1.4,1.6,0.8,,11,12,,,47,,

OK

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command	Illustration	Value
AT+GSV	Inquire module vendor information	
AT+IPR	Setting GSM baud rate	115200
AT+CSQ	inquire Signal quality	
ATD	Make a call	ATD10086;
ATA	Pick up a call	ATA
ATH	Hang up	ATH
AT+CREG?	Inquire GSM registered	
AT+CGREG?	Inquire GPRS registered	
AT+CGATT?	Check if the MS is connected to the GPRS network	
AT+CSTT	Set wireless access point	CMNET
AT+CIICR	Launch GPRS connection	
AT+CIFSR	Get the IP address	
AT+CDNSGIP	Query the IP address of given domain name	www.sim.com/ a b c d e f
AT+CIPSTART	Start up connection	TCP,WWW.SIM.COM,80
AT+CIPSEND	Send data through connection	
AT+CGNSPWR	Open GPS	1
AT+CGPSINF	Get current GPS location info	

6.Package list:

Name	Qty	Unit
BK-SIM868	1	Pcs

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