

IOT HARDWARE/4G(LTE) SOLUTION AND PCB MANUFACTURE



1

Production Description Breakout A7670 User Manual



1. Preparation:

Board	BK-A7670
Serial tool	sscom32E.exe
Package list	1Pcs

2

2. Overview

2.1 Module feature

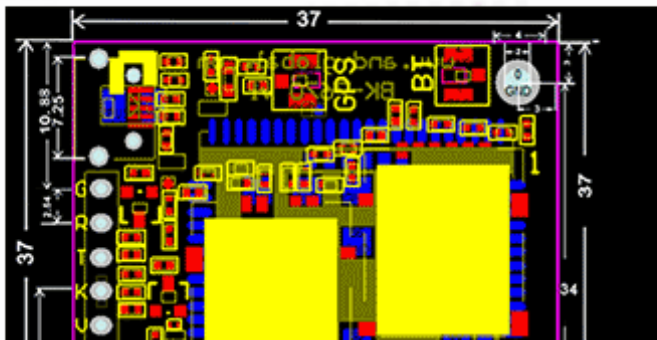
> The A7670 series is the LTE Cat 1 module which supports wireless communication modes of LTE-TDD/LTE-FDD/GSM/GPRS/EDGE. It supports maximum 10Mbps downlink rate and 5Mbps uplink rate.

> Control Via AT Command, Rich interfaces including UART,USB2.0

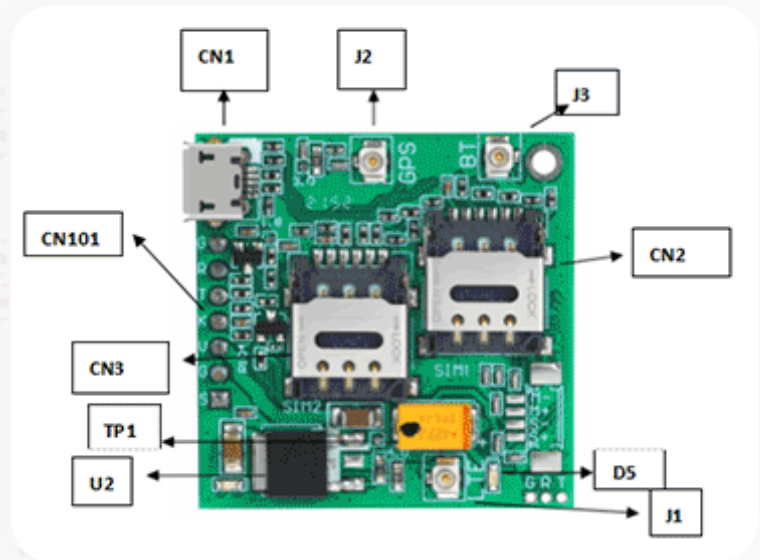
> Operation temperature:-40°C to +85 °C

> GNSS optional.

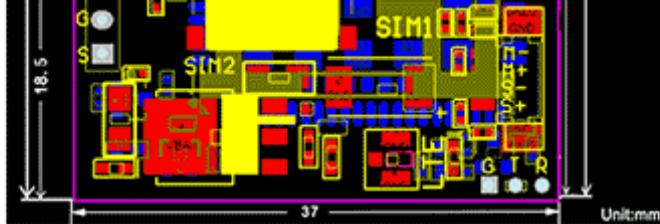
2.3 PCBA dimension: 37*37mm.



2.2 BOARD overview



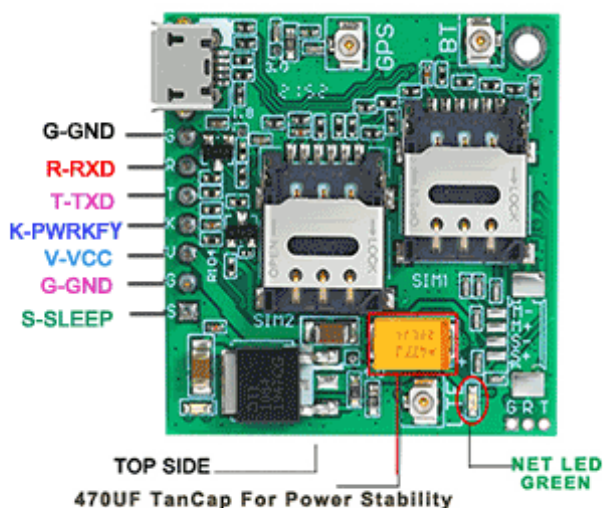
CN2	Nano SIM card socket 1
CN3	Nano SIM card socket 2(Optional)
CN101	7pin 2.54mm header interface
CN1	USB interface
D5	NET LIGHT indicator(Green)
U2	The power conversion chip
J1	LTE ANT



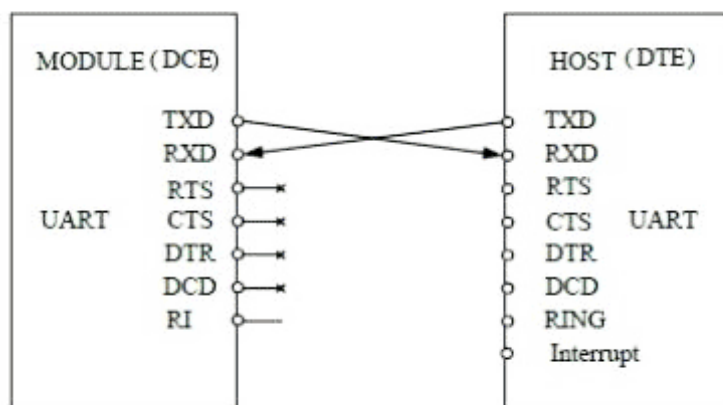
J1	LTE ANT
J2	GPS ANT(Optional)
J3	BT ANT(Optional)
TP1	4.0V

3

3. Pin definition



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



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 Q4
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

4

4. How to test the BK-A7670 by AT command via UART


4.1 Installing LTE antenna, GPS antenna and NanoSIM card for BK-A7670 Board.

4.2 Feed power supply to VCC pin. (Note: VCC range is from 5.0V to 10V. 5.0V is recommended.)

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

NETLIGHT pin status	Module status
Always On	Searching Network
200ms ON, 200ms OFF	Data Transmit
800ms ON, 800ms OFF	Registered network
OFF	Power off / Sleep



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

SSCOM3 2 (Author: NieXiaoMang http://www.mcu51.com, Email: ac@51mcu.com)

```

AT+SIMCOMATI
Manufacturer: INCORPORATED
Model: A7670SA-FASE
Revision: A011B03A7670MT_F
A7670MT_B03V02_211123
GCN:
IMEI: 869731050726124
MEID:
+GCAP: +CGSM, +PCCLASS, +DS
DeviceInfo:
OK
AT+CSQ
  
```

Set Multi Char | COM DATA

KEY	DATA	SEND
<input type="checkbox"/>	AT+SIMCOMATI	1
<input type="checkbox"/>	AT+CSQ	2
<input type="checkbox"/>	AT+CPIN?	3
<input type="checkbox"/>	AT+IPREX=115200	4
<input type="checkbox"/>		5
<input type="checkbox"/>	AT+BINDSIM?	6
<input type="checkbox"/>	AT+CIMI	7
<input type="checkbox"/>	AT+CGPSC	8

BaudRate: 115200 DTR RTS
DataBits: 8 Send eve 1000 ms/Time SendNew

<input type="checkbox"/>	AT+CPSI?	8
<input type="checkbox"/>	AT+BINDSIM=1	9
<input type="checkbox"/>	AT+CIMI	10
<input type="checkbox"/>	AT+CPSI?	11
<input type="checkbox"/>	AT+BINDSIM=0	12
<input type="checkbox"/>		13
<input type="checkbox"/>	AT+BLEADDR?	14
<input type="checkbox"/>	AT+BLEPOWER=1	15
<input type="checkbox"/>	AT+BLECREG	16
<input type="checkbox"/>	AT+BLESCAN=0, 1	17
<input type="checkbox"/>		18
<input type="checkbox"/>	AT+CGNSSPWR=1	19
<input type="checkbox"/>	AT+CGNSSINFO	20
<input type="checkbox"/>		21
<input type="checkbox"/>	AT+SIMCOMATI	22
<input type="checkbox"/>	AT+CGNSSSTST=1	23
<input type="checkbox"/>		24

5

5. How to test the BK-A7670 by AT command via USB

5.1 Remove all connection on CN101 7pin connector, Power up the A7670 Breakout board only via USB, Install SIMCom_USB_Drivers A7670.rar driver following the computer indication. The computer will show as belows, it means that the driver is installed correctly.



5.2 Select AT Port 9001, 115200bps and SendNew, you can repeat all command in Item4.4.