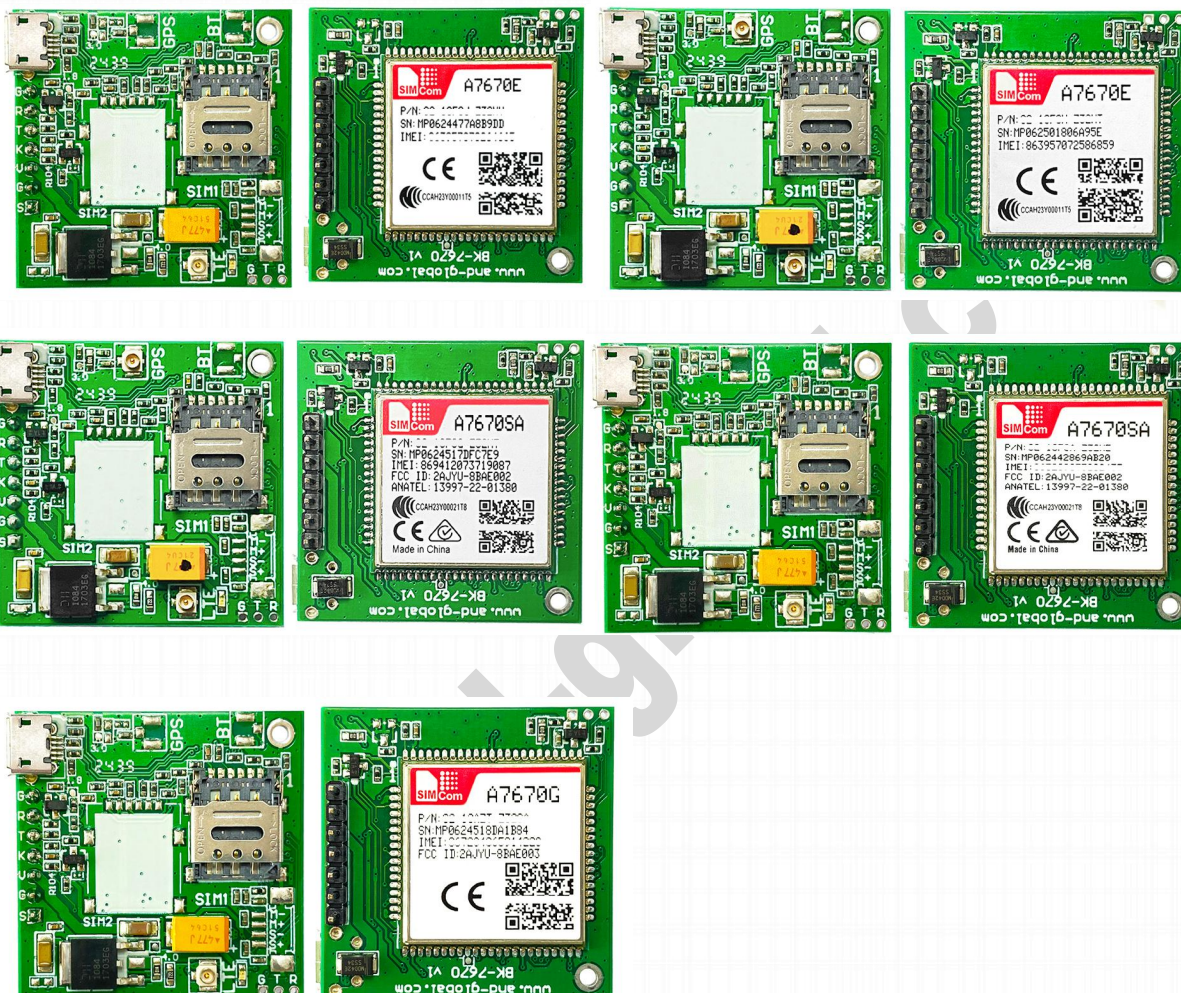




AND Technologies Co., Ltd

Breakout A7670 User Manual



This user manual is applicable to below part number: BK-A7670E-LASA

BK-A7670E-MASA BK-A7670SA-LASA BK-A7670SA-MASA BK-A7670G

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

OEM PCBA : <http://www.buypcba.com>

Retail Store : <http://www.aliexpress.com/store/605000>

Golden supplier on Alibaba : <http://and-global.en.alibaba.com>

Email : info@and-global.com

Tel : +86-755-28099797



1. Preparation:

Board	BK-A7670
Serial tool	sscom32E.exe

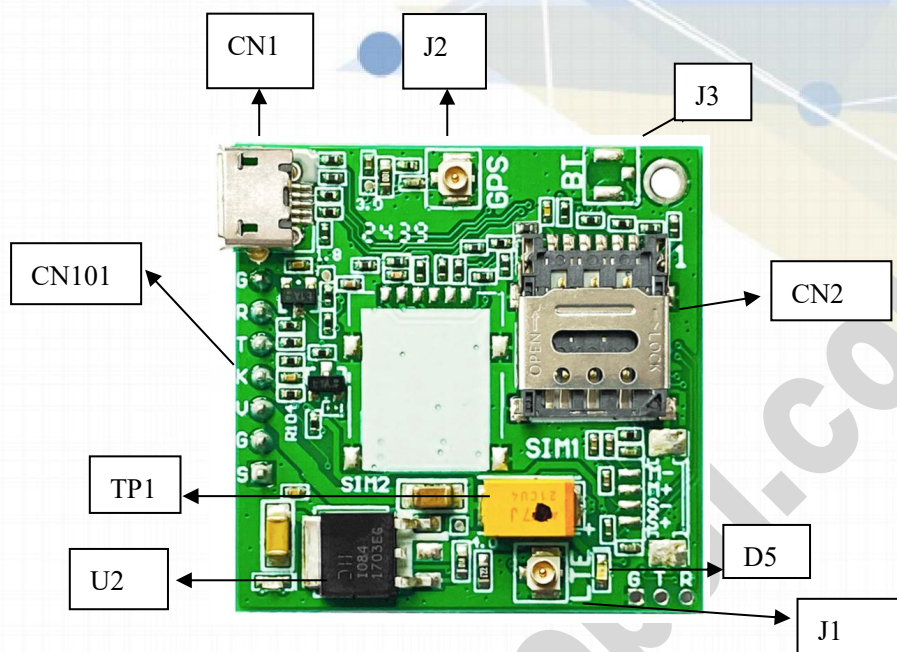
2. Overview

2.1 Module feature

- Based on ASR1603 platform, 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, Bluetooth optional
- WIFI scan optional
- USB driver for Windows, Linux and Android
- The 2nd sim card slot optional
- **Custom-design board supported, pls drop an email to david@and-global.com**

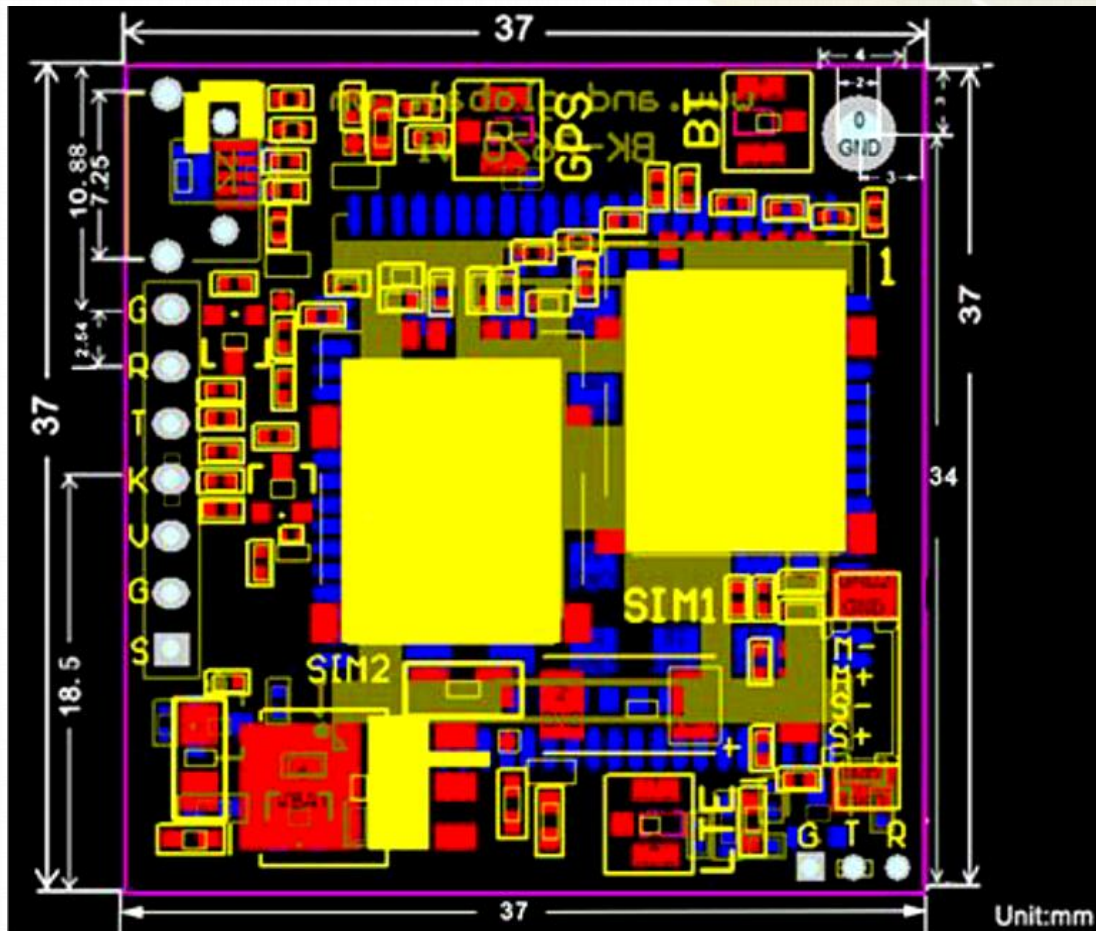
Product	A7670E	A7670SA	A7670C	A7670G
Form Factor	LCC+LGA	LCC+LGA	LCC+LGA	LCC+LGA
Dimensions(mm)	24.0*24.0*2.4	24.0*24.0*2.4	24.0*24.0*2.4	24.0*24.0*2.4
Frequency Bands	LTE-FDD	B1/B2/B3/B4/B5/B7/B8/B28#	B1/B2/B3/B4/B5/B7/B8/B28/B66	B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28/B66
	LTE-TDD	NA	NA	B34/B38/B39/B40/B41
	GSM	GSM/GPRS/EDGE 900/1800 MHz	GSM/GPRS/EDGE 900/1800 MHz	GSM/GPRS/EDGE 850/900/1800/1900 MHz
Temperature	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C

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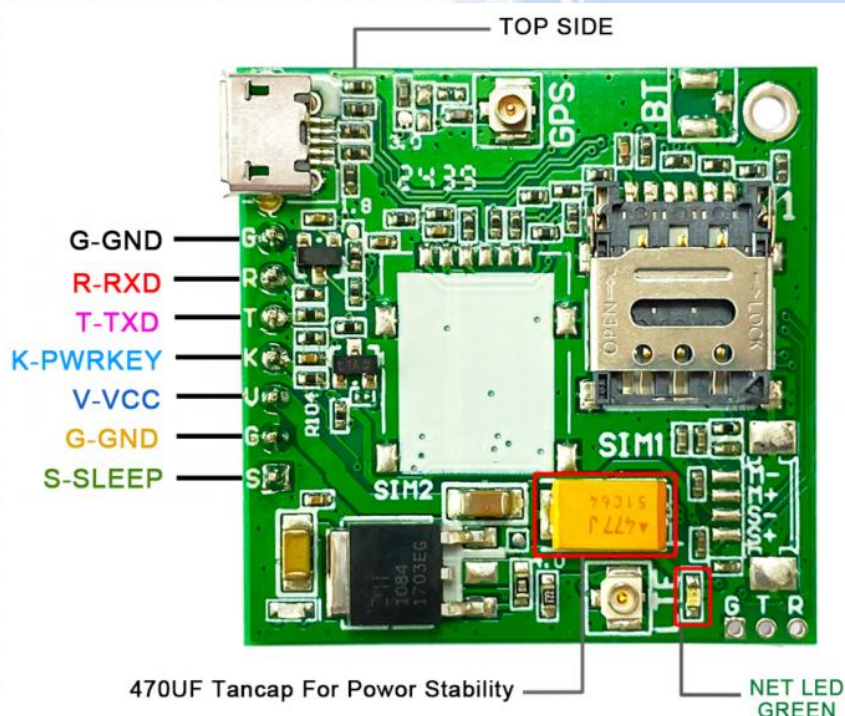
CN2	Nano SIM card socket 1
CN101	7pin 2.54mm header interface
CN1	USB interface
D5	NET LIGHT indicator(Green)
U2	The power conversion chip
J1	LTE ANT
J2	GPS ANT(Optional)
J3	BT ANT(Optional)
TP1	4.0V

2.3 PCBA dimension: 37*37mm.



3. Pin definition

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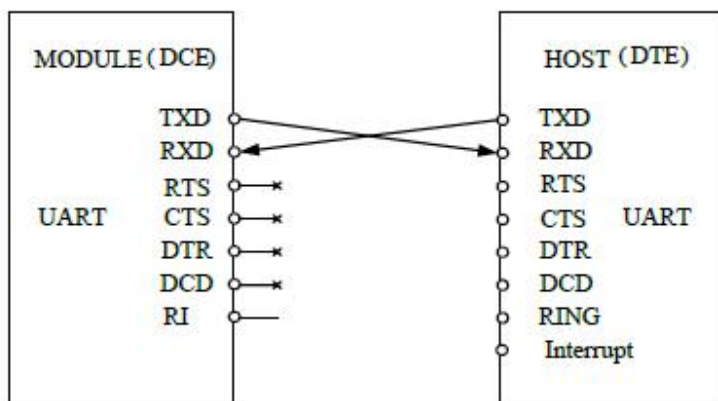
Note: VCC range is from 5.0V to 10V, 5.0V is recommended. Please ensure 2A current for the VCC pin. TXD /RXD are 3.3V TTL level which can be directly connected with 3.3V MCU.

3.1 Pin definition of 6pin connector

Pin name	Pin number	Mark on PCB	Description	Comment
SLEEP	0	S	Wake up module from 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 from A7670
RXD	5	R	Receives Data	TTL Series data Input to A7670

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



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

4.1 Installing LTE antenna, GPS antenna and NanoSIM/Push-push Nano 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.

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

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

BaudRate: 115200
DataBits: 8
StopBits: 1
Verify: None
FlowControl: None
DTR: ☐
RTS: ☐
Send even: ☐ 1000 ms/Time
Send HEX: ☐
SendNew: ☒
Data input: SEND
AT+GSV

SSCOM3.2 (Author: NieXiaoMeng . http://www.mcu51.com, Email: mcu52@163.com)2003.6....

AT+SIMCOMATI
Manufacturer: SIMCOM INCORPORATED
Model: A7670E-MASA
Revision: A131B02A7670M6C_M
A7670M6_B02V03_241108
IMEI: 863957072586859

OK
AT+IPREX=115200
OK
AT+CSQ
+CSQ: 27, 99

OK
AT+CIMI
460008893263823

OK
AT+CPSI?
+CPSI: LTE, Online, 460-00, 0x262C, 47128332, 239, EUTRAN-
BAND3, 1300, 5, 5, 7, 47, 52, -3

OK
AT+CGNSSINFO
+CGNSSINFO:
3, 12, , 05, 00, 22. 6378307, N, 114. 0331879, E, 140225, 101042. 00, 74. 7, 0. 000, 26
5. 67, 2. 57, 1. 56, 2. 04, 10

OK

HEX	DATA	SEND
☐	AT+SIMCOMATI	1
☐	AT+IPREX=115200	2
☐	AT+CPIN?	3
☐		4
☐	AT+CSQ	5
☐	AT+CIMI	6
☐	AT+CPSI?	7
☐		8
☐	AT+CGNSSPWR=1	9
☐	AT+CGNSSINFO	10
☐		11
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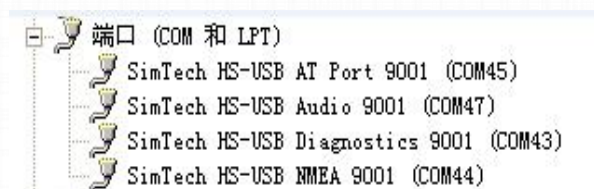
Round send, interval: 1000 ms

OpenFile | FileNm | SendFile | SaveData | Clear | HexData

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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.

6.Package list:

Name	Qty	Unit
BK-A7670	1	Pcs

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