



**AND Technologies Co., Ltd**

## Breakout A7670 User Manual



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

**BPK-A7670E-MASA BKP-A7670SA-LASA BKP-A7670SA-MASA BKP-A7670G-LLSE**

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

Email : [info@and-global.com](mailto:info@and-global.com)

Tel : +86-755-28099797



## 1. Preparation:

|             |              |
|-------------|--------------|
| Board       | BKP-A7670    |
| Serial tool | sscom32E.exe |

## 2. Overview

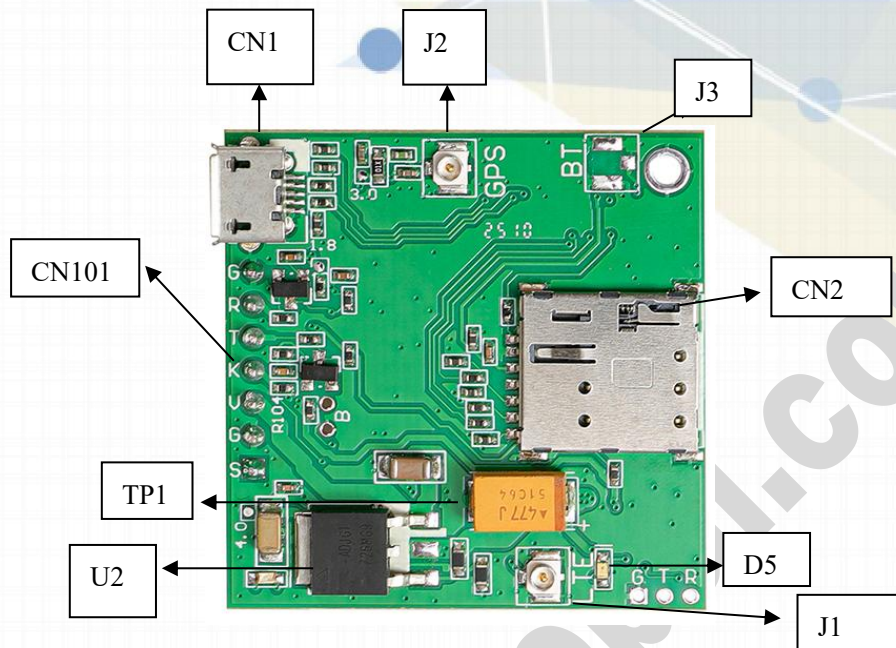
### 2.1 Module feature

- 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 2<sup>nd</sup> 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/B3/B5/B7/B8/B20/B28#    | B1/B2/B3/B4/B5/B7/B8/B28/B66 | B1/B3/B5/B8                         |
|                 | 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                       |

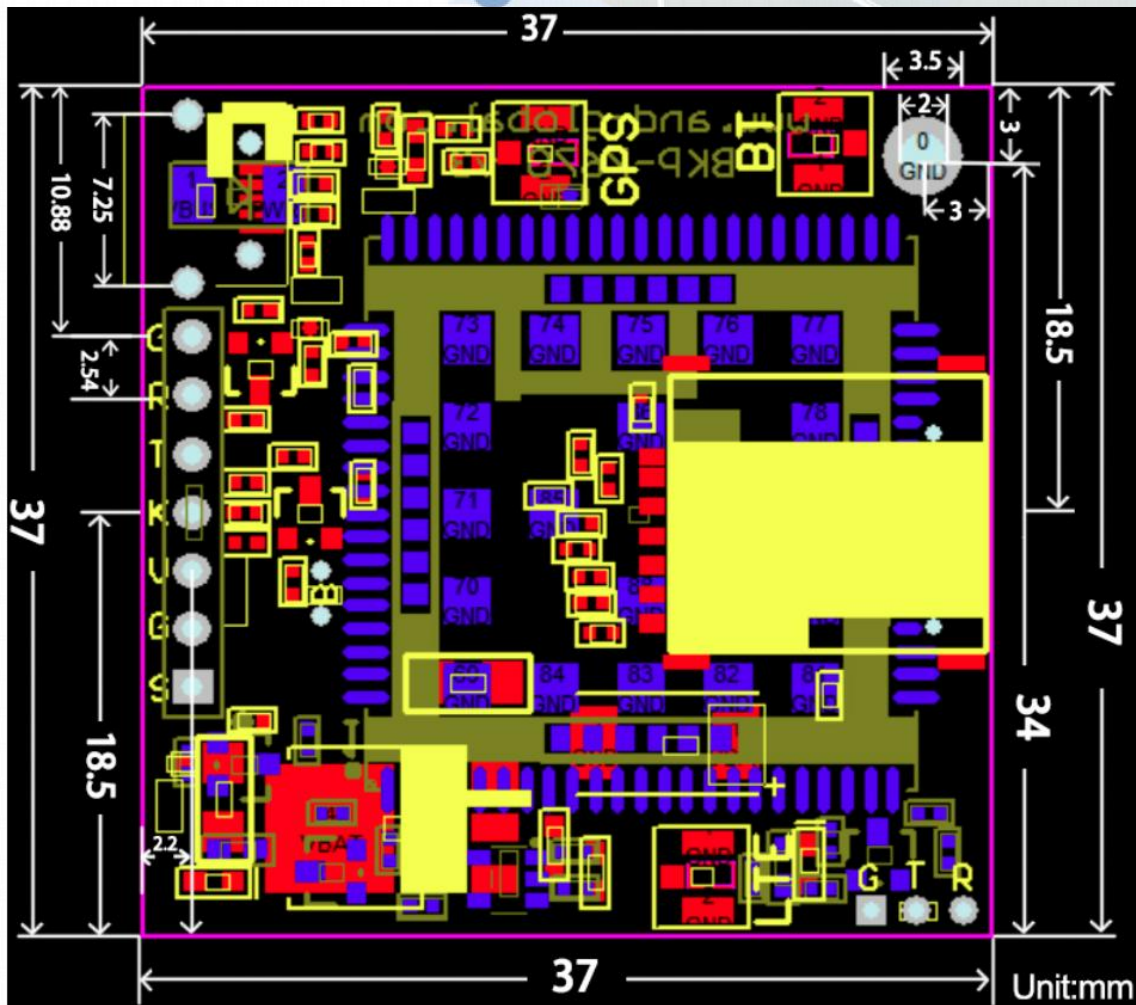
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|       |                              |
|-------|------------------------------|
| CN2   | Push-push Nano SIM card      |
| CN101 | 7pin 2.54mm header interface |
| CN1   | USB interface                |
| D5    | NET LIGHT indicator(Green)   |
|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

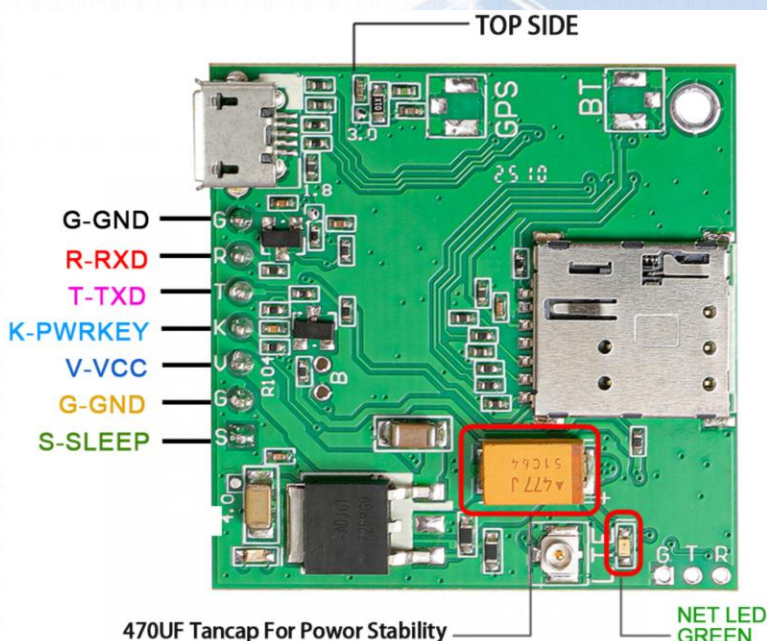
## 2.3 PCBA dimension: 37\*37mm.



## 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.**

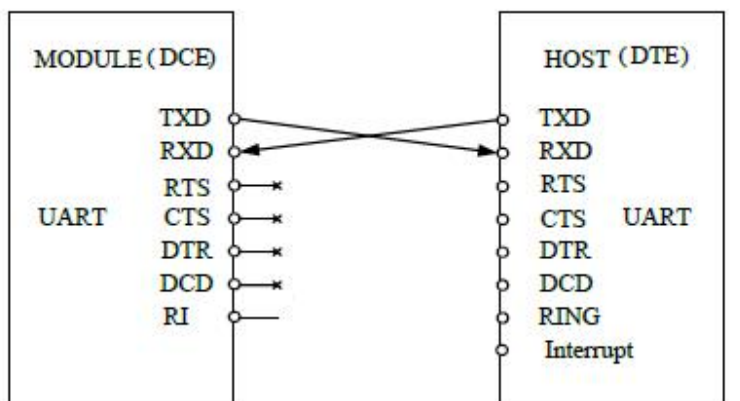
## 3.1 Pin definition of 6pin connector

| 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 BKP-A7670 by AT command via UART

4.1 Installing LTE antenna, GPS antenna and NanoSIM/Push-push Nano card for BKP-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:

Configuration window for sscom32E. The BaudRate is set to 115200. The SendNew checkbox is checked. Other settings include DataBits: 8, StopBits: 1, Verify: None, FlowControl: None, DTR: unchecked, RTS: unchecked, Send event: 1000 ms/Time, SendHEX: unchecked, Data input: SEND, and 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

Set Multi Char | COM DATA |

| HEX                      | DATA            | SEND |
|--------------------------|-----------------|------|
| <input type="checkbox"/> | AT+SIMCOMATI    | 1    |
| <input type="checkbox"/> | AT+IPREX=115200 | 2    |
| <input type="checkbox"/> | AT+CPIN?        | 3    |
| <input type="checkbox"/> |                 | 4    |
| <input type="checkbox"/> | AT+CSQ          | 5    |
| <input type="checkbox"/> | AT+CIMI         | 6    |
| <input type="checkbox"/> | AT+CPSI?        | 7    |
| <input type="checkbox"/> |                 | 8    |
| <input type="checkbox"/> | AT+CGNSSPWR=1   | 9    |
| <input type="checkbox"/> | AT+CGNSSINFO    | 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   |
| <input type="checkbox"/> |                 | 18   |
| <input type="checkbox"/> |                 | 19   |

☐ Round send, interval: 1000 ms

OpenFile | FileNm | SendFile | SaveData | Clear | ☐ HexData

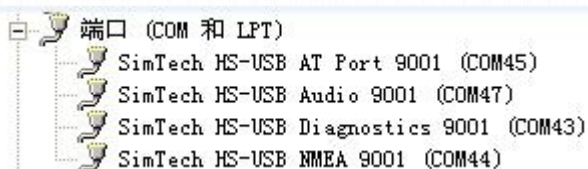
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## 5. How to test the BKP-A7670 by AT command via USB

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 |
|-----------|-----|------|
| BKP-A7670 | 1   | Pcs  |

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