SIM808UNO kits user manual

1. Preparation:

Board	SIM808UNO
Serial tool	Arduino.exe

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: 6-12V (Please note to use external 9V/1A power adapter to meet the GSM

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Retail Store : http://www.aliexpress.com/store/605000
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current requirement.)

➢ Ultra small dimension: 68.6*53.3mm (Same with Arduino UNO board)

➢ Low power consumption

➢ Operation temperature:-40℃ to +85 ℃

➢ GPS Receiver type

   22tracking/66 acquisition-channel GPS L1 C/A code

➢ Sensitivity

   Tracking: -165 dBm

   Cold starts: -147 dBm

➢ Time-To-First-Fix

   Cold start: 30s (typ)

   Warm start: 28s (typ)
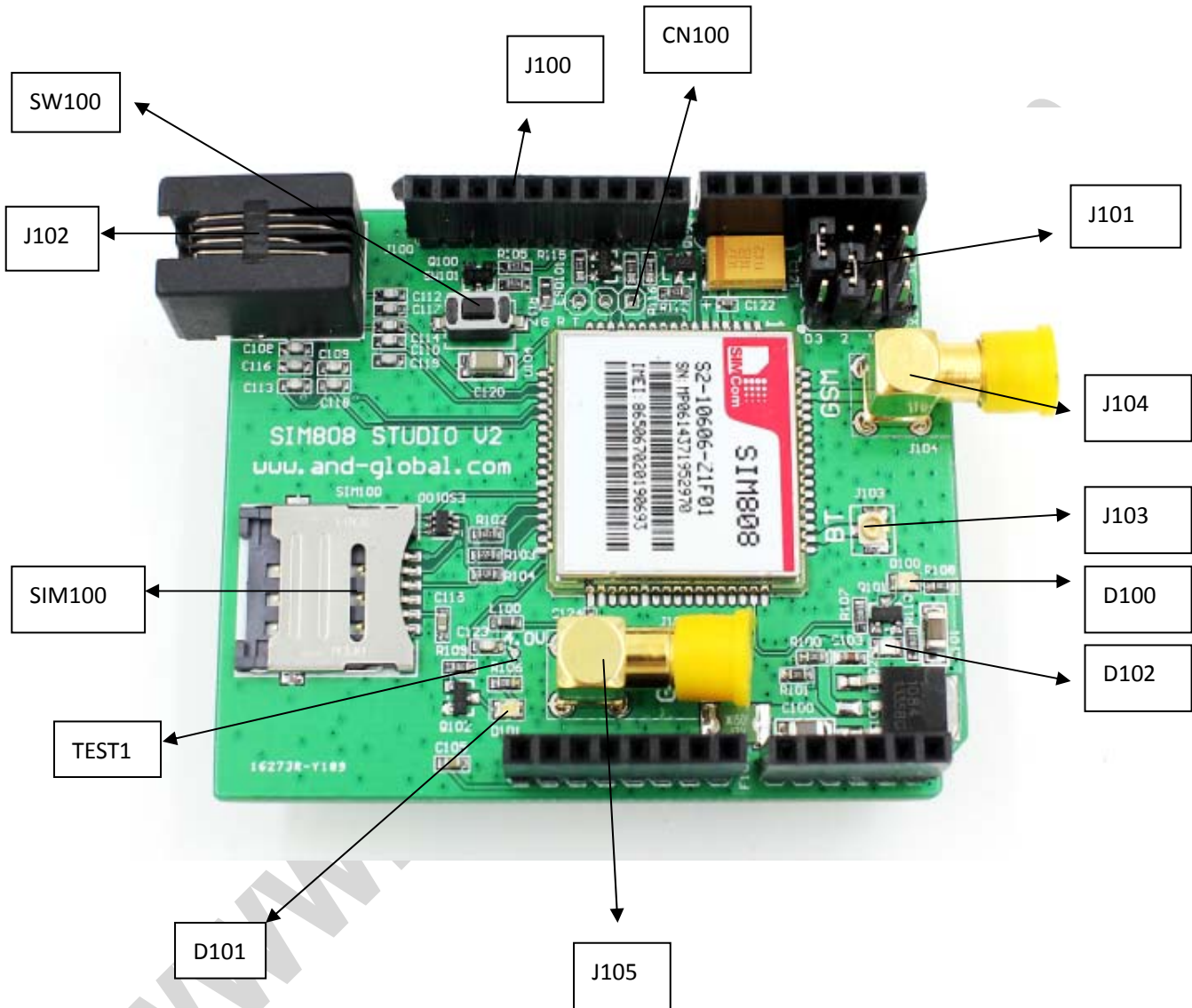
   Hot start: 1s (typ)

➢ Accuracy

   Horizontal Position: <2.5m CEP

Introduction

This shield is designed by AND Technologies, with a Quad-band GSM/GPRS engine, it also supports Global Navigation Satellite System. All arduino board interfaces is fan out, easy for you to add your own application board.

The combination of GSM/GPRS/GPS solution allows controlling system, vehicles and people to be tracked anytime and anywhere with signal coverage.

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2.2 PCBA overview

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SW101	ON/OFF button
J102	Audio Interfaces
SIM100	SIM Card Application
D102	Power indicator(RED)
D100	GSM NET LIGHT indicator(Green)
D101	GPS 1PPS LED INDICATOR（Blue）
J100	Arduino UNO connection
J101	Software UART
CN100	Over design for GSM/GPS port
J104	GSM ANT
J105	GPS ANT
J103	BT(Please contact with us whether this version can support BT function)
Reference voltage test point	UNIT（V）
TEST1	4.0V

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2.3 PCBA dimension: 68.58*53.34mm.
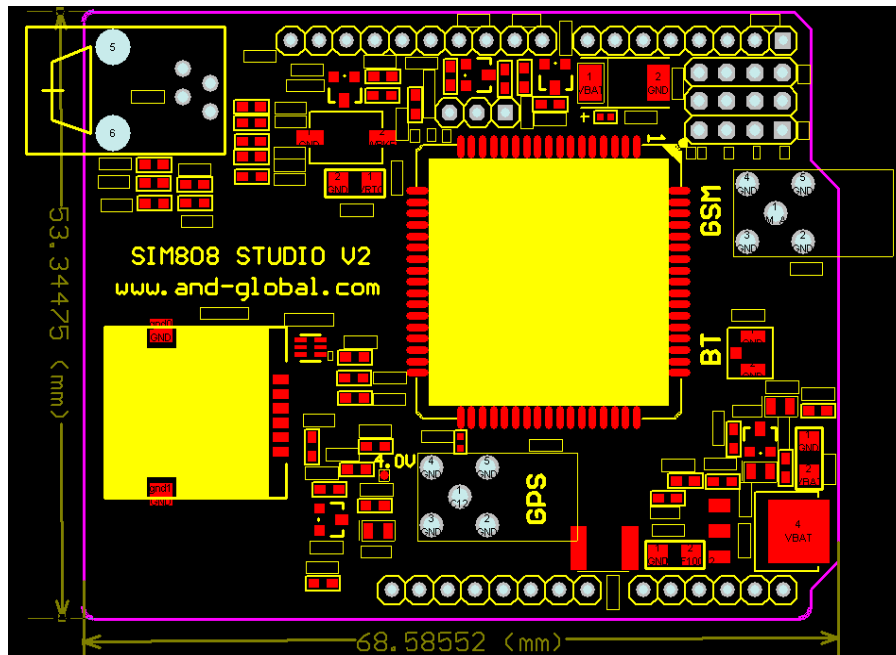
3. How to use TXD and RXD (Default baud rate is 9600bps)
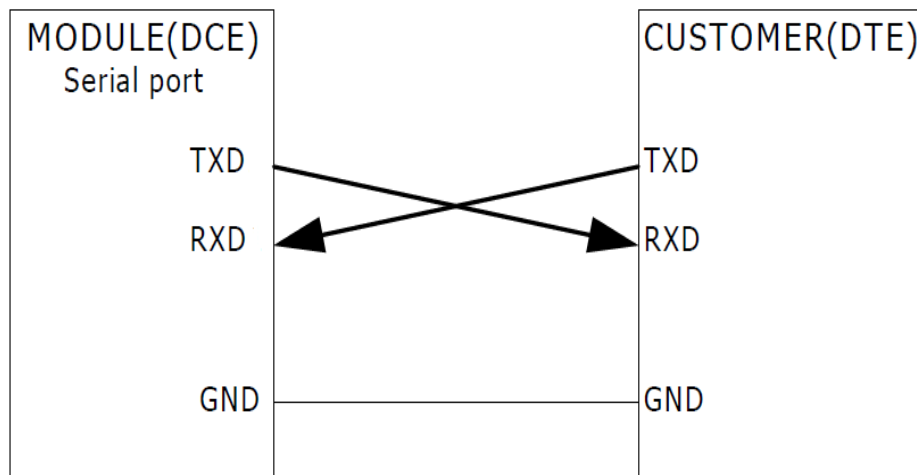
4. How to test the SIM808UNO by AT command

4.1 Installing GSM antenna, GPS antenna, Power Adapter and SIM card for SIM808UNO. (Please note to install the connector as clockwise direction!)

4.2 Push down SW101 2-3 second, making D100 LED indicator blink(Blink quickly shows un-registration network，Blink slowly shows registration successful .(Note: Should confirm whether SIM card is inserted)

Status	SIM808 behavior
Off	SIM808 is not running
64ms On/800ms Off	SIM808 not registered the network
64ms On/3000ms Off	SIM808 registered the network
64ms On/300ms Off	PPP GPRS communication is established

4.3 Open serial software arduino.exe **basing on Arduino UNO and choose right serial number, Baud rate as Custom as below:**
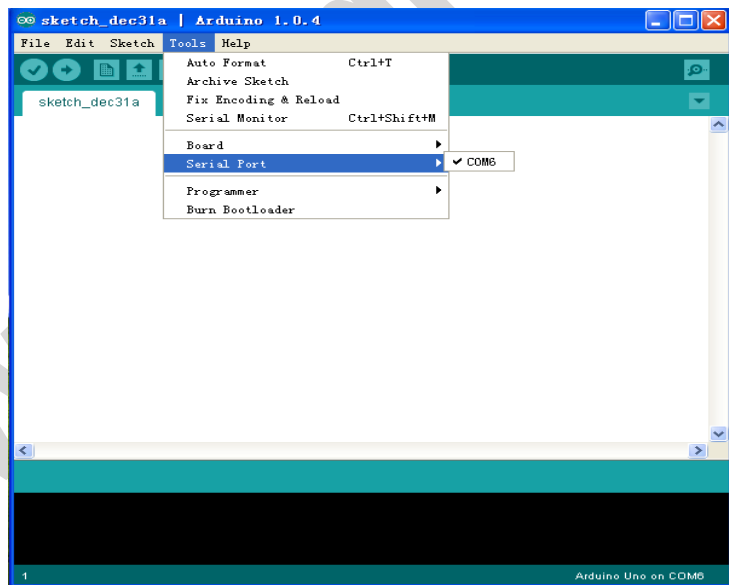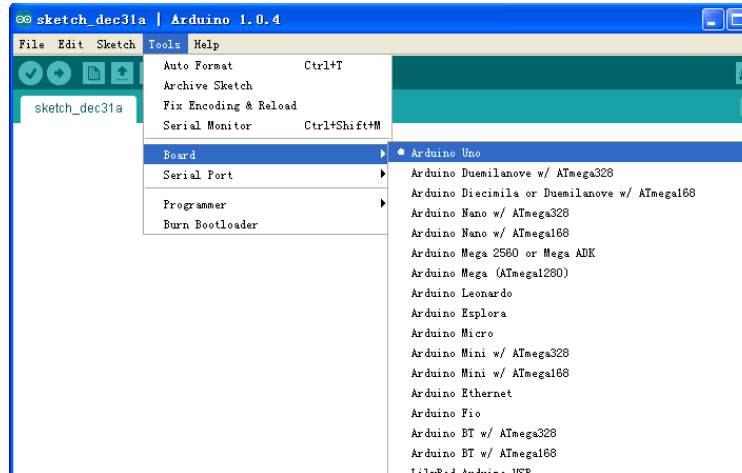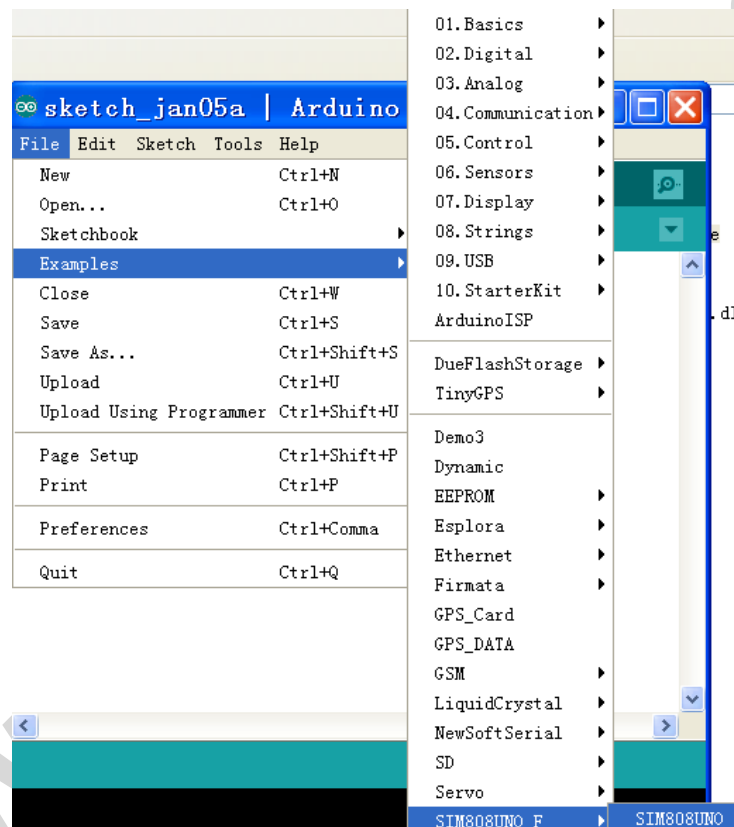
4.3.1. Unzip SIM808uno.rar file

4.3.2. Copy SIM808UNO file to

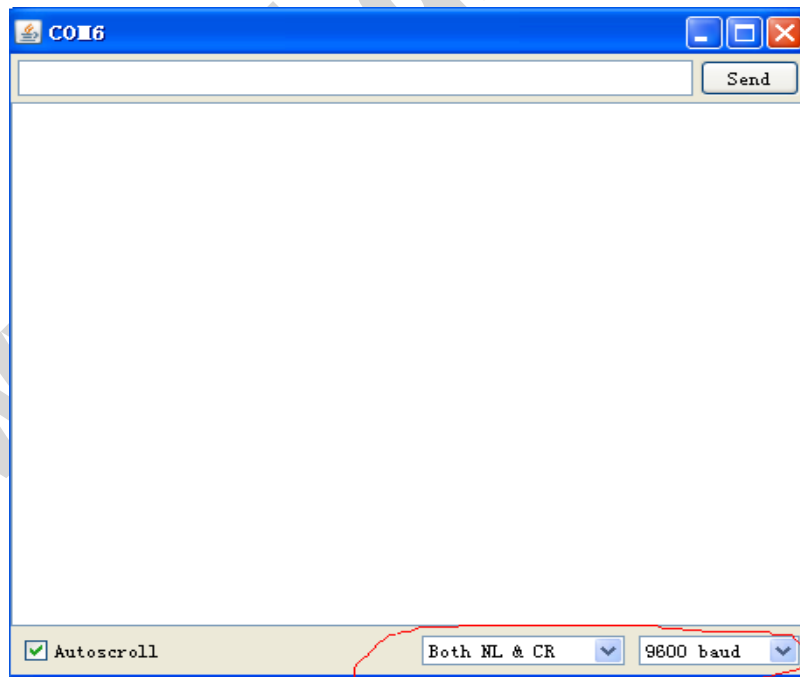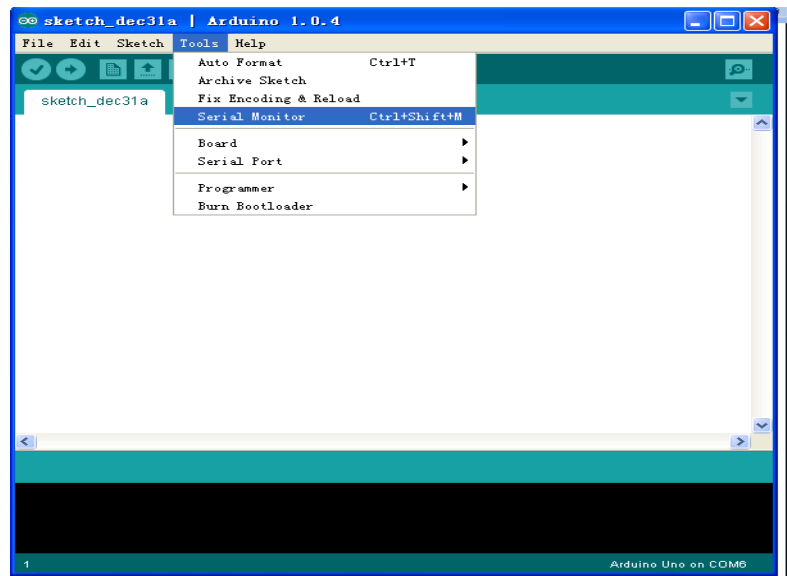### arduino-1.0.4-windows\arduino-1.0.4\libraries\

4.3.3. Open arduino.1.0.4 open SIM808UNO project as below
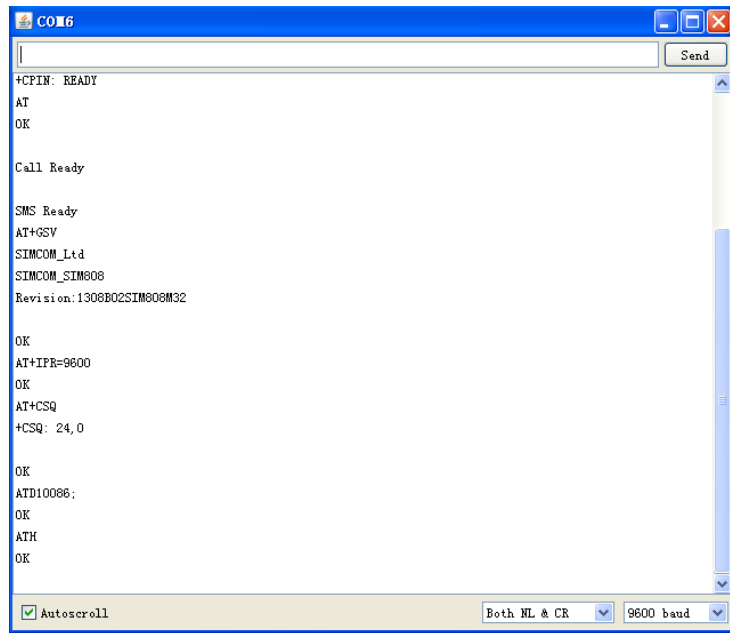

4.3.4.Verify the project and upload the code.

4.3.5 Open the serial monitor, input AT, and click the Send button. Please

note the setting.

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5. AT command sample:

AT
OK
AT
OK
AT+CSQ
+CSQ: 31, 0
OK

5.1 How to make a call
ATD10086;
OK
ATH
OK

5.2 How to make a TCP/IP connection
AT + CREG?
+CREG: 0, 1
OK
AT+ CGREG?
+CGREG: 0, 1
OK
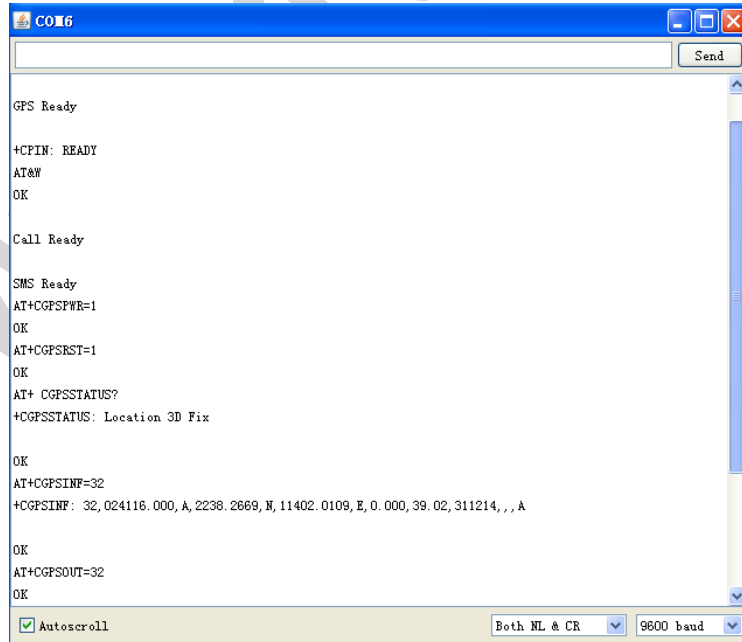
AT+ CGATT?
+CGATT: 1
OK
AT+GSV
SIM COM _Ltd
SIMCOM_SIM808
Revision: 1308B02SIM808M32

OK
AT+IPR=9600
OK
AT+CSTT="CMNET"
OK
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
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&W
OK
AT+CGPSPWR=1
OK
AT+CGPSRST=1
OK
AT+ CGPSSTATUS?
CGPSSTATUS: Location 3D Fix
OK
AT+CGPSINF=32
OK
AT+CGPSOUT=32
OK

command	Illustration	Value
AT+GSV	Inquire module vendor information	
AT+IPR	Setting GSM baud rate	9600
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	
AT+CIPSTART	Start up connection	TCP,WWW.SIM.COM,80
AT+CIPSEND	Send data through connection	
AT+CGPSPWR	Open GPS	1
AT+CGPSRST	Setting restart mode as automatically, Pulse activation GPS, must execute	1
AT+ CGPSSTATUS?	Get current GPS status	
AT+CGPSINF	Get current GPS location info	32
AT+CGPSOUT	GPS NMEA data output control	32

6.Package list：

Name	Qty	Unit
SIM808UNO Board	1	Pc
GSM antenna	1	Pc
GPS antenna	1	Pc
Power Adapter	1	Pc

Appendix Source code:

///Please use Arduino 1.0 or later, Arduino 1.0.4 is strong recommended.use this sketch instead:

//Arduino will patch a serial link between the computer and the GPRS Shield at 9600bps 8-N-1

//Computer is connected to Hardware UART and GPRS Shield is connected to the Software UART D2/D3

// SoftwareSerial.h is got form Arduino 1.0.4

```
#include <SoftwareSerial.h>

extern uint8_t SmallFont[];

#define rxPin 2
#define txPin 3

SoftwareSerial mySerial(rxPin, txPin);

void setup()
{
  mySerial.begin(9600);                // the GPRS baud rate
  Serial.begin(9600);                  // the GPRS baud rate
}


void loop()
```

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```
{
    if (mySerial.available())
      Serial.write(mySerial.read());    // Arduino send the computer command to SIM808

    if (Serial.available())
      mySerial.write(Serial.read());    //Arduino send the sim808 feedback to computer
}
```

The Method to generate the .hex code:

Open the arduino.exe

Open File->preferences to find preferences.txt file path.

Open preferences.txt, and amend build.path=D:\AND\Arduino\hex,save it.

Verify the project and upload the code.

You can find the .hex code under the D:\AND\Arduino\hex\ path.

Note：1：hex file can be saved to any path