3G_Shield User Guide

3G_Shield Introduction

3G_Shield is a Serial WCDMA/GPRS/GSM wireless module，compatible with all of Freduino and standard Arduino boards，Only connecting 3G_shield with these boards，enables you to easily control 3G_shield via AT commands，dialing a phone，sending a message……Besides,3G_shield supports Support camera photo and SD card storage，It has been extensively used in a variety of fields，helping Arduino hobbyists promptly to acquire WCDMA/GPRS/GSM mobile phone research，suitable for wireless development projects，also applying to remote control development。

Hardware and Software Preparation

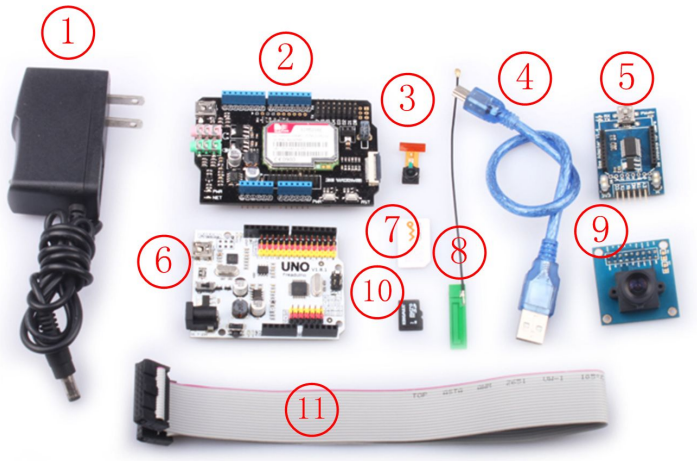
HardWare

1、Power Adapter
2、3G_Shield
3、OV7670 Webcam
4、USB cable
5、Bee Adapter
6、Freaduino UNO
7、SIM Card
8、Antenna
9、Camera Module
10、TF Card
11、18pin cable

SoftWare

Serial Tool sscom32

Arduino IDE 1.0.X



Step 1、Hardware Install and Hardware Operation

1、 Install the SIM card and TF Card into your GPRS Shield.

2、 Take an Freduino board and install the 3G_Shield over it.

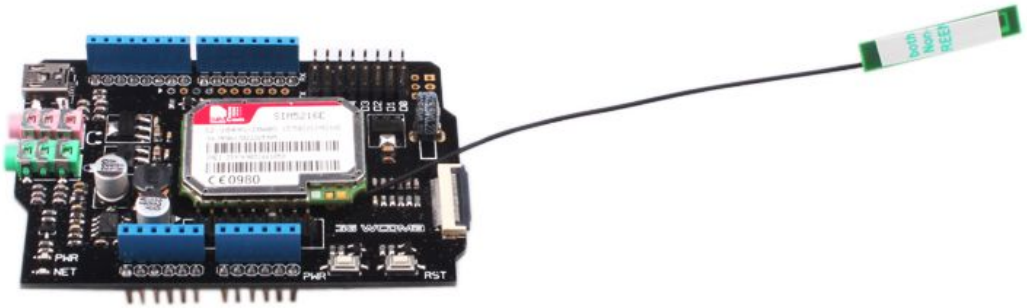
3、 Connect the antenna to the 3G_Shield.

4、 Connect the Arduino to your computer using a USB cable.

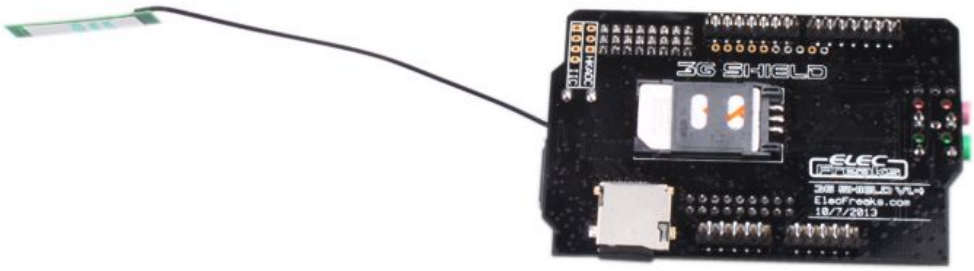
5、 Plug the power adapter to Arduino.

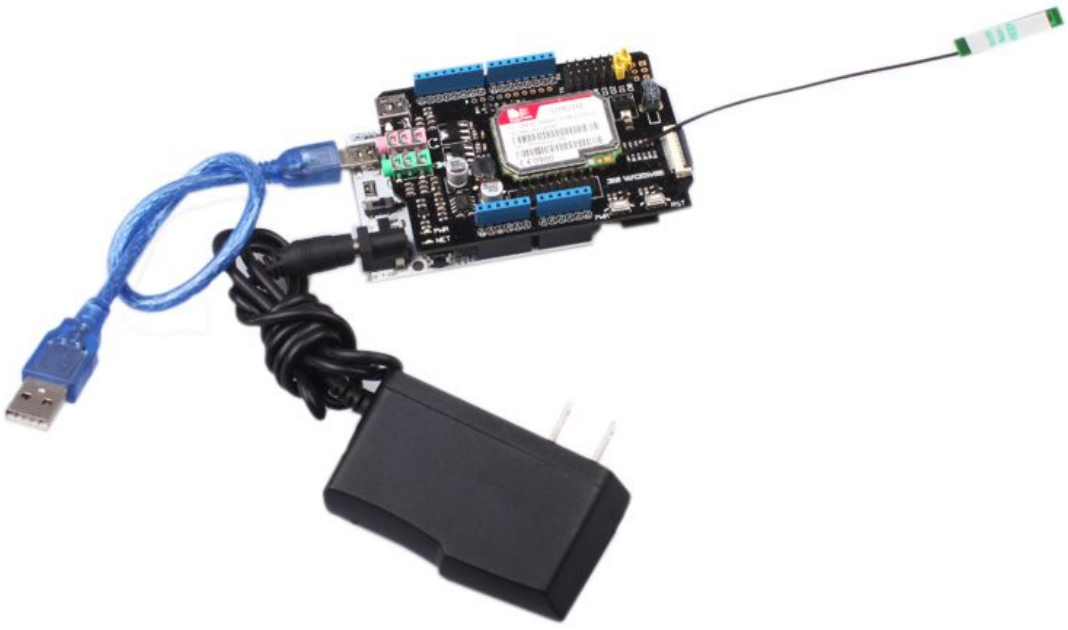
6、 Press and hold the power button a short while(Over 3 seconds) on the 3G_Shiled to turn it on.Wait half a minute for the 3G_Shield to connect to the network，if it Net LED always on,which means 3G_Shield can't connect to the Internet ， Please pull the SIM card and re-plug it,or try another card(SIM card used must be locked and no arrears). The following table shows the status lights：

LED Status	Module Status
Always on	Searching Network/Call Connect
200ms ON,200ms OFF	Data Transmit
800ms ON,800ms OFF	Registered network
Off	Power off/Sleep

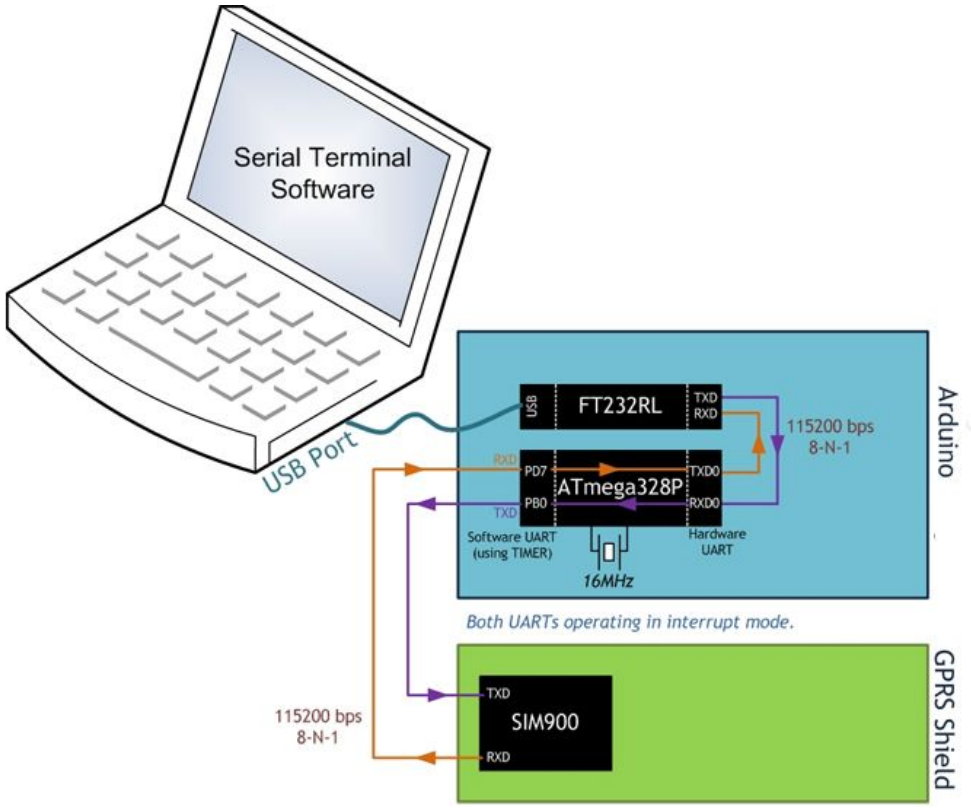

PWR
NET
PWR
RST

www.elecfreaks.com

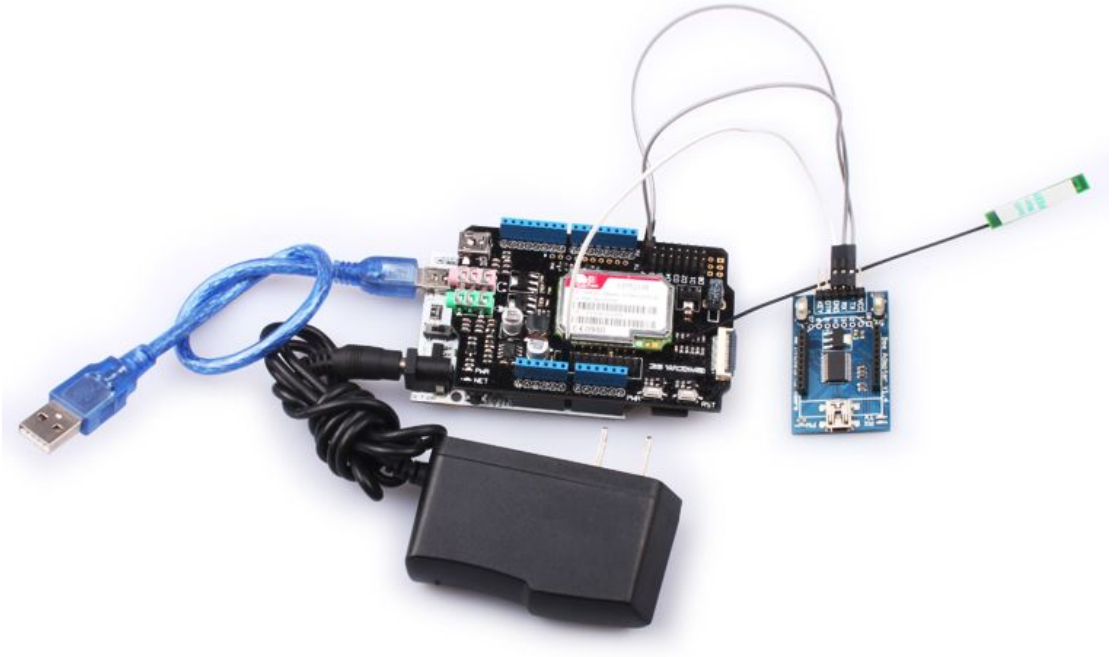




Step 2、 Communication Between 3G Shield and Bee Adapter



Block diagram for UART relay program running inside Arduino for patching a direct serial connection(115200bps 8-N-1)between 3G Shield and a computer via FT232RL and ATmega328P

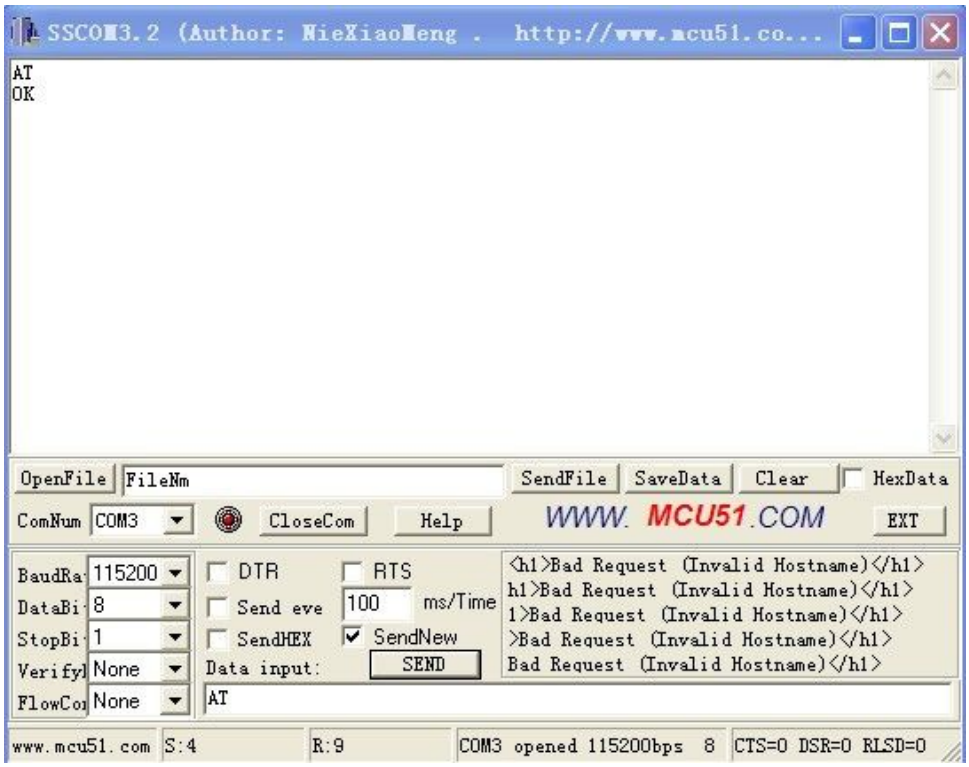


1、Connect the Arduino to your computer using a USB cable.

2、Connect the Bee Adapter to your UNO via DuPont line(TX-TX,RX-RX).

3、Connect the Bee Adapter to your computer using a USB cable.

4、Open sscom32 Serial Assisant according to the following chart settings.



5、Type and Send “AT” followed by carriage return(enter key)to the arduino board, the 3G shield should respond by sending back an “OK”, This would mean that you have been able to successfully control your 3G Shield with various AT commands.

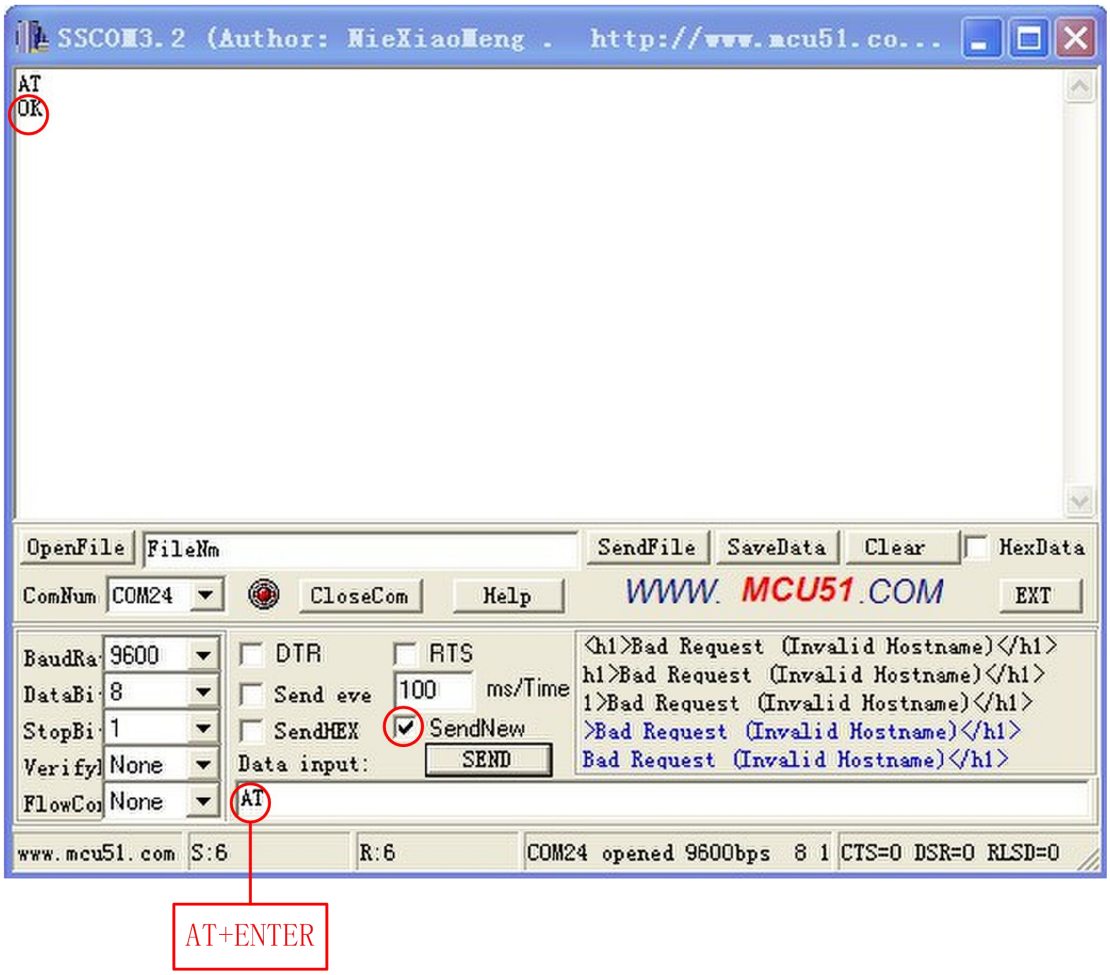
Please note the circled places and choose Baud Rate as 115200 8-1-N-0, in addition select the corresponding COM

Notice:If you do not Bee Adapter, you can use other usb to serial replay, if you use standard UNO board you can unplug mega328P chip and use jumper accord to the following chart setting

Step 3、Software Operation

1、 Copy and paster our identifying code “Demo1.txt” from http://www.elecfreaks.com/wiki/index.php?title=3G_shield , and then compile it until the software displays “done comiling”,which means this operation successded.(you must modify baud rate is 9600)

2、 Upload the identifying code until the software displays”done uploading”which means uploading succeeded.



3、Type and Send “AT” followed by carriage return(enter key)to the arduino board, the 3G shield should respond by sending back an “OK”, This would mean that you have been able to successfully control your 3G Shield with various AT commands.

Please note the circled places and choose Baud Rate as 9600 8-1-N-0, in addition select the corresponding COM

4、Send a message. Through your serial terminal software, send AT+CMGF=1 and press the Enter key. The GPRS Shield will respond with an OK. Send AT+CMGS="+86158×× ×× ×× " and press the Enter key (include the quotes)and The GPRS Shield will send a >signaling you to start typing the message. Start typing your message and when you are done, press Ctrl + Z keys on yourkeyboard. The modem will accept the message and respond with an OK. A fewmoments later, the message should be received on the handset whose number you had specified。

5、Call a phone . Through your serial terminal software, input” ATD158XX; and the GPRS Shield will respond with an OK. Congratulations on your success of dialing a phone.

6、make photo, Throght your serial terminalsoftware,

input” AT+FSLOCA=1” and the 3G_shield will respond with an ok

then input AT+CCAMS and the 3G_shield will respond with an ok

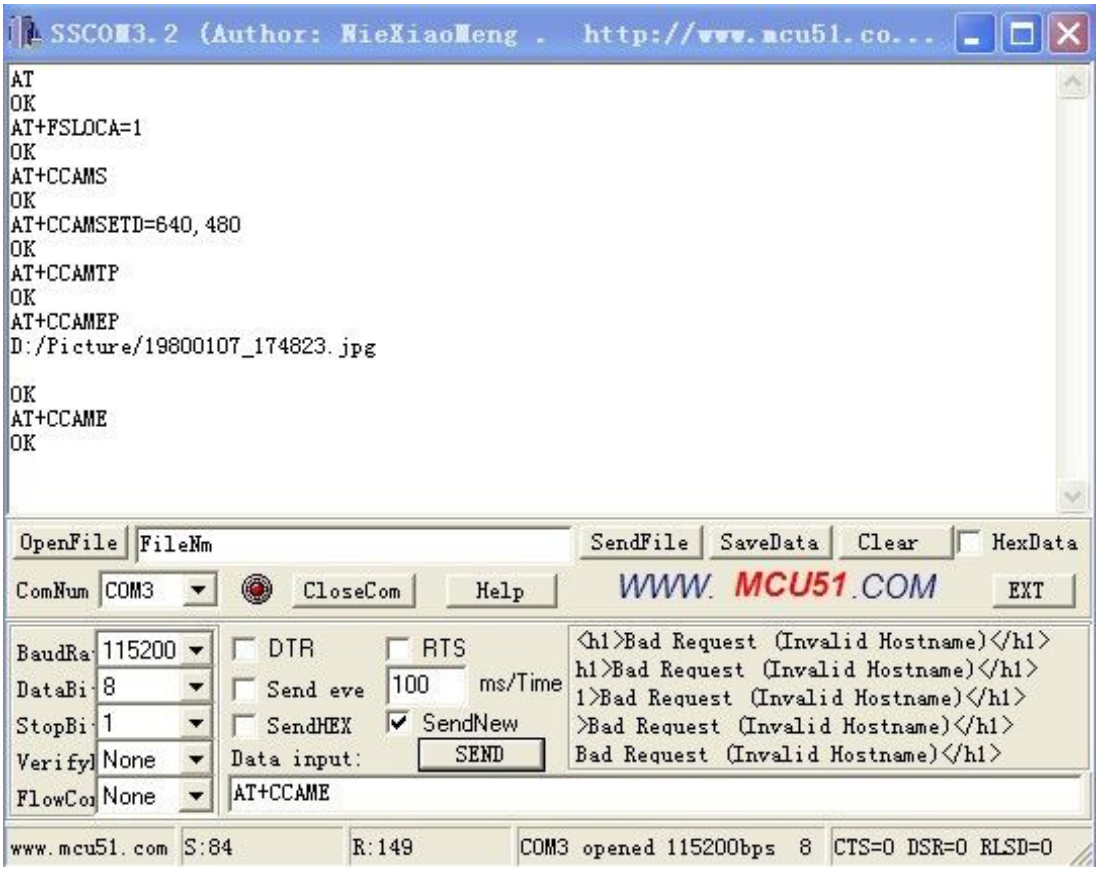
then input AT+CCAMSET=640, 480 and the 3G_shield will respond with an ok.

Then input AT+CCAMTP and the 3G_shild will respond with an ok

Then input AT+CCAMEP and the 3G_shild will respond with an ok.

If you input following AT command, You are done take pictures.

Note:Because of the 3G_shield support two different webcam interface, User can choose any of the following figure a camera test.


SSCOM3.2 (Author: NieXiaoMeng . http://www.mcu51.co...
AT
OK
AT+FSLOCA=1
OK
AT+CCAMS
OK
AT+CCAMSETD=640,480
OK
AT+CCAMTP
OK
AT+CCAMEP
D:/Picture/19800107_174823.jpg
OK
AT+CCAME
OK
OpenFile
FileNm
SendFile
SaveData
Clear
HexData
ComNum
COM3
CloseCom
Help
WWW. MCU51.COM
EXT
BaudRa
115200
DataBi
8
StopBi
1
Verifyl
None
FlowCo
None
DTR
RTS
Send eve
100
ms/Time
SendHEX
SendNew
Data input:
SEND
AT+CCAME
<h1>Bad Request (Invalid Hostname)</h1>
h1>Bad Request (Invalid Hostname)</h1>
1>Bad Request (Invalid Hostname)</h1>
>Bad Request (Invalid Hostname)</h1>
Bad Request (Invalid Hostname)</h1>
www.mcu51.com
S:84
R:149
COM3 opened 115200bps 8
CTS=0 DSR=0 RLSD=0