

# How to configure XBee modules and use Waspnote board to realize communications (Suitable for Windows8.1)

Zhengyu Sun

Hardware: Waspnote v1.1 , XBee modules, connection board

Software: XCTU, Waspnote IDE v1.1(option:arduino IDE), Coolterm

## 1.Preparation of the software:

Download from Internet:

The screenshot shows the XCTU website. The title is 'XCTU Next Generation Configuration Platform for XBee/RF Solutions'. Below the title, it says 'SHARE:' followed by a list of features: 'XCTU is a free, multi-platform application compatible with Windows, MacOS and Linux', 'Graphical Network View for simple wireless network configuration and architecture', 'API Frame Builder is a simple development tool for quickly building XBee API frames', and 'Firmware Release Notes Viewer allows users to explore and read firmware release notes'. At the bottom, there is a blue button labeled 'DOWNLOAD XCTU' which is circled in red.

The screenshot shows the Waspnote IDE v1.1 website. The title is 'Development - v1.1'. There is a 'Warning' box stating that resources are for Waspnote v1.1 and that v1.2 or Waspnote Plug & Sense! should be used. Below the warning, there is an 'API' section with three sub-sections: 'Environment', 'Networking', and 'Programming'. In the 'Environment' section, there is a link to 'Download Waspnote IDE v0.2' which is circled in red. Below this link, there are links for 'Linux 32 bits | 64 bits', 'Windows', and 'Mac OS'. The 'Networking' section has links to various guides like '802.15.4 Networking Guide', 'ZigBee Networking Guide', etc. The 'Programming' section has links to 'Quick Start Guide', 'Accelerometer Programming Guide', etc.

## Download the Arduino IDE

The screenshot shows the Arduino IDE download page. The title is 'ARDUINO 1.8.2'. Below the title, it says 'The open-source Arduino Software (IDE) makes it easy to write code and upload it to the board. It runs on Windows, Mac OS X, and Linux. The environment is written in Java and based on Processing and other open-source software. This software can be used with any Arduino board. Refer to the Getting Started page for installation instructions.' On the right side, there is a 'Windows Installer' section with a 'Windows ZIP file for non admin install' link. Below this, there is a 'Windows app' button which is circled in red. Below the 'Windows app' button, there is a 'Mac OS X 10.7 Lion or newer' link. At the bottom, there are two sections: 'ARDUINO SOFTWARE HOURLY BUILDS' and 'ARDUINO 1.0.6 / 1.5.x / 1.6.x PREVIOUS RELEASES'.

**CoolTerm v1.1.2 Build 85**

软件等级: ★★★★★ 软件大小: 1.85 MB  
 软件语言: 英文 整理时间: 2016-04-17  
 授权方式: 免费版 访问次数: 1865  
 软件性质: 国外软件 相关链接:  
 软件分类: 编程软件/调试编译  
 运行环境: WinXp, Win2003, WinVista, Win 7  
 关键字: CoolTerm, CoolTerm软件, 调试编译软件, 串口终端

**高速下载器**  
 800KB 极速安全下载, 共1810次下载

**立即下载**  
 1.85 MB 极速安全下载, 共1810次下载

**无插件**  
 CRISKY.COM

**本地高速下载**  
 非凡下载专用

**人气软件推荐**

LuaStudio v9.5.8	12-17
Wireshark(Ethereal)抓包工具 v2.2.3	12-15
TortoiseSVN v1.9.5.27581	12-01
ViewWizard(句柄查看精灵) v3.5.1	11-18
JD-GUI v1.4.0	03-03
LocaleSwitch v1.0	08-18
IDA PRO(静态后编译软件) v6.5.14.124	03-26

**高速下载地址**

**电信下载**

**高速下载**

Install on computer:

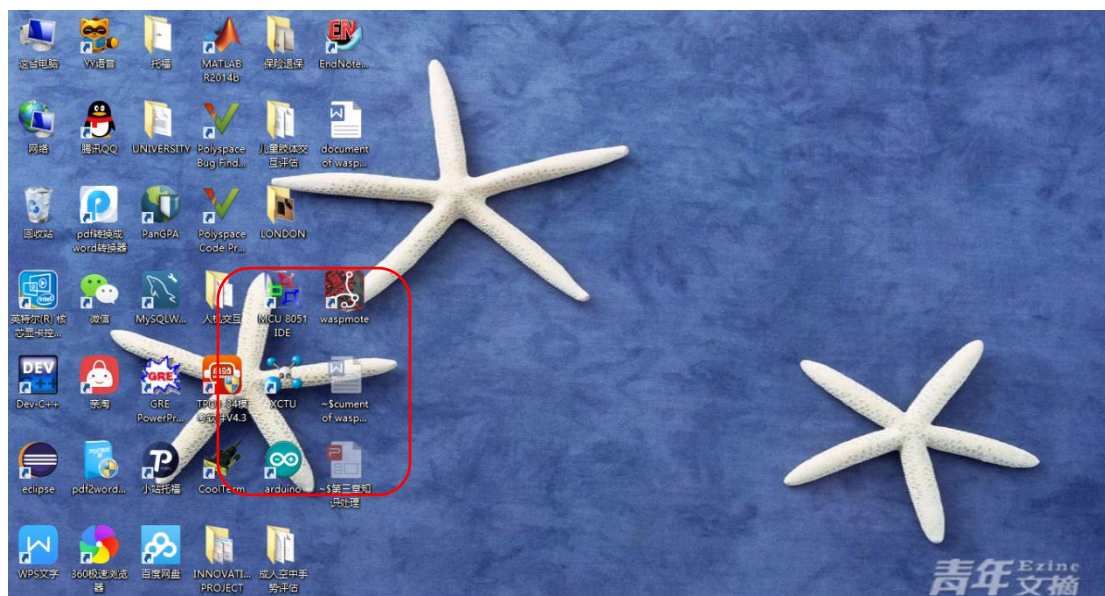
名称	修改日期	类型	大小
32bitProxy	2016/4/1 15:17	应用程序	317 KB
64bitProxy	2016/4/1 15:17	应用程序	317 KB
360wangpan_setup	2015/12/25 23:00	应用程序	17,567 KB
40003026_J (1).exe.dl	2017/3/12 20:06	DL 文件	145,052 KB
40003026_J (1).exe.dl.cfg	2017/3/12 20:06	CFG 文件	1 KB
40003026_J	2017/3/10 20:19	应用程序	145,050 KB
adcfg.json	2017/1/23 18:38	JSON 文件	1 KB
arduino-1.8.1-windows	2017/3/10 21:36	360压缩 ZIP 文件	162,046 KB
arduino-1.8.1-windows.zip.crdownload	2017/3/10 21:35	CRDOWNLOAD ...	4,128 KB
AVManagerUnified.dll	2016/4/1 15:17	应用程序扩展	977 KB
CDM v2.12.24 WHQL Certified	2017/3/11 20:53	360压缩 ZIP 文件	1,335 KB
CoolTerm	2009/7/17 11:03	应用程序	5,477 KB

这台电脑 > 本地磁盘 (G:) > waspmote-ide-v.02-windows >

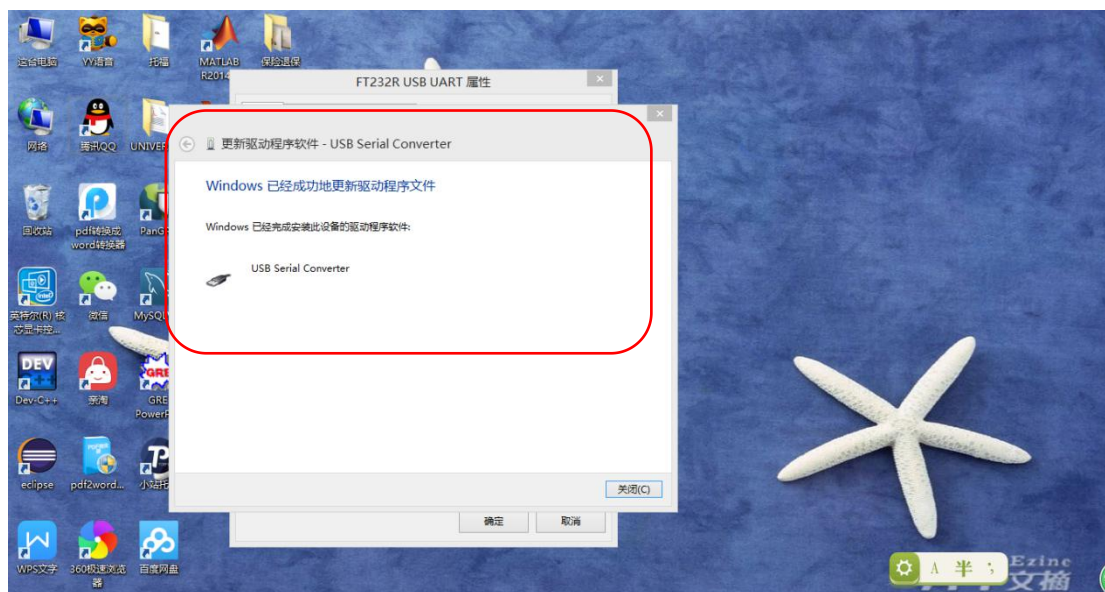
名称	修改日期	类型	大小
drivers	2012/2/7 20:41	文件夹	
examples	2012/6/29 16:30	文件夹	
hardware	2017/3/11 21:47	文件夹	
java	2017/3/11 21:47	文件夹	
lib	2017/3/11 21:47	文件夹	
reference	2012/2/7 18:51	文件夹	
tools	2017/3/11 21:47	文件夹	
cygiconv-2.dll	2012/2/7 18:44	应用程序扩展	947 KB
cygwin1.dll	2012/2/7 18:44	应用程序扩展	1,829 KB
libusb0.dll	2012/2/7 18:44	应用程序扩展	43 KB
readme	2012/2/7 18:45	文本文档	18 KB
rxTxSerial.dll	2012/2/7 18:44	应用程序扩展	76 KB
waspmote	2009/11/19 15:26	应用程序	943 KB

这台电脑 > 本地磁盘 (G:) > arduino-1.8.1 >

名称	修改日期	类型	大小
drivers	2017/3/10 21:40	文件夹	
examples	2017/3/10 21:40	文件夹	
hardware	2017/3/10 21:40	文件夹	
java	2017/3/10 21:41	文件夹	
lib	2017/3/10 21:41	文件夹	
libraries	2017/3/10 21:40	文件夹	
reference	2017/3/10 21:40	文件夹	
tools	2017/3/10 21:41	文件夹	
tools-builder	2017/3/10 21:40	文件夹	
arduino	2017/1/9 12:35	应用程序	395 KB
arduino.l4j	2017/1/9 12:35	配置设置	1 KB
arduino	2017/3/10 21:43	快捷方式	1 KB
arduino_debug	2017/1/9 12:35	应用程序	392 KB
arduino_debug.l4j	2017/1/9 12:35	配置设置	1 KB
arduino-builder	2017/1/9 12:32	应用程序	3,192 KB
libusb0.dll	2017/1/9 12:32	应用程序扩展	43 KB
msvcpr100.dll	2017/1/9 12:32	应用程序扩展	412 KB
msvcpr100.dll	2017/1/9 12:32	应用程序扩展	753 KB
revisions	2017/1/9 12:32	文本文档	81 KB
wrapper-manifest	2017/1/9 12:35	XML 文件	1 KB



And check whether Windows has installed the serial driver successfully:(the driver should be included in the waspmote ide)



2. Configure the XBee modules: (use XCTU)

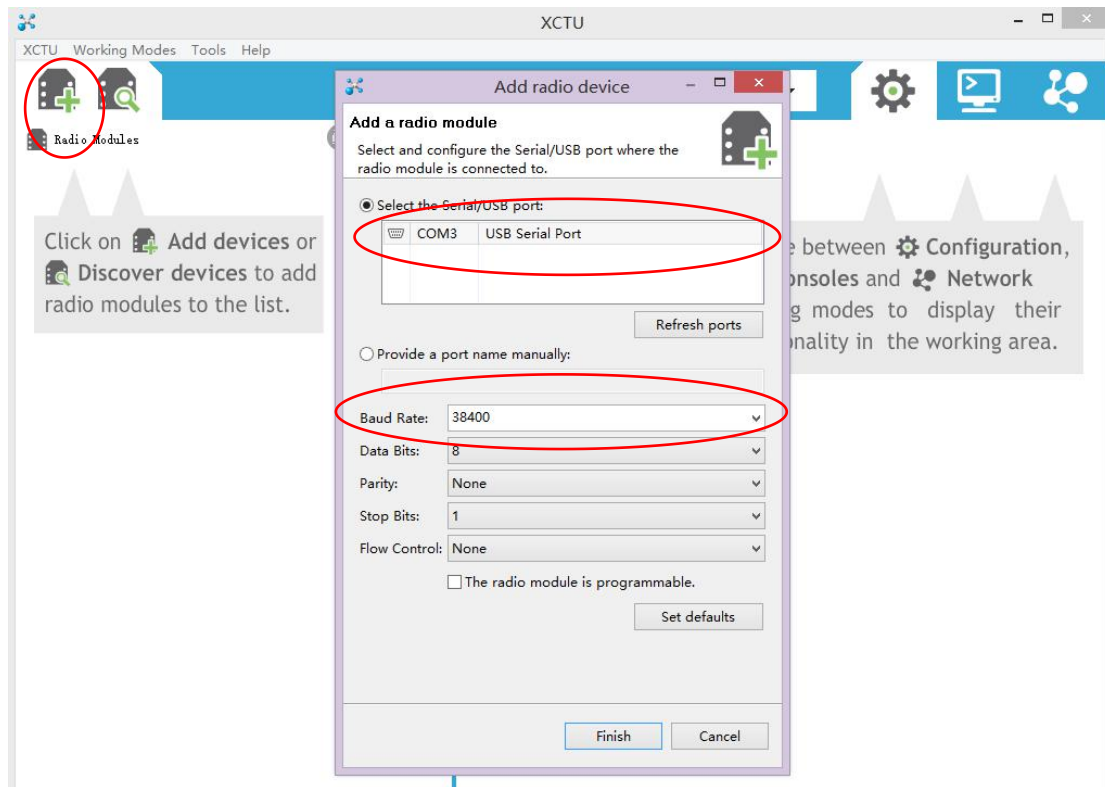
(1) connect the XBee module to computer and press the RST button on the connection board:



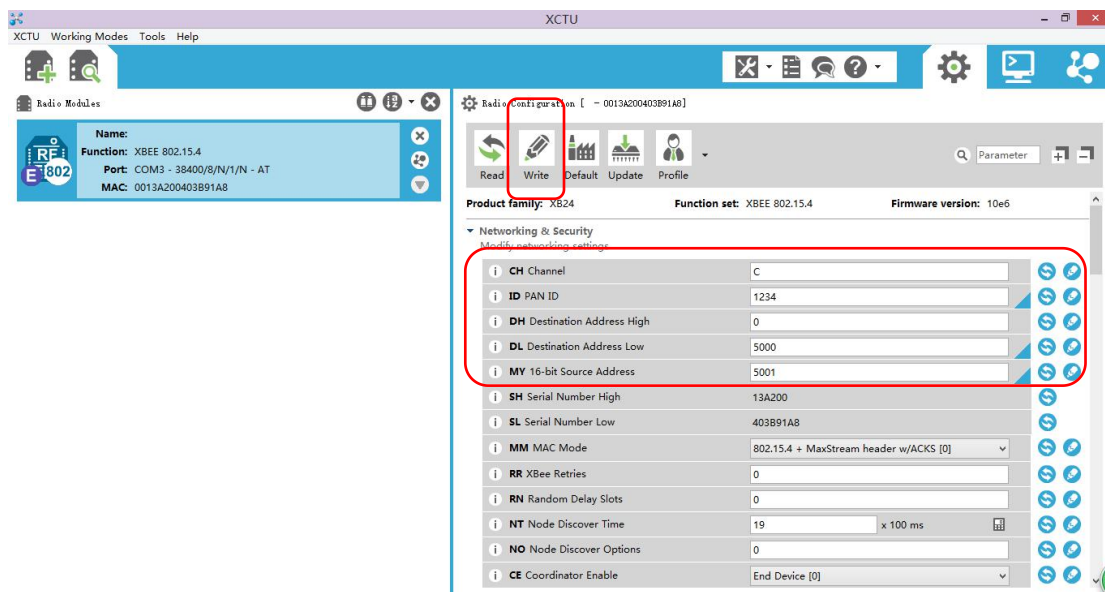


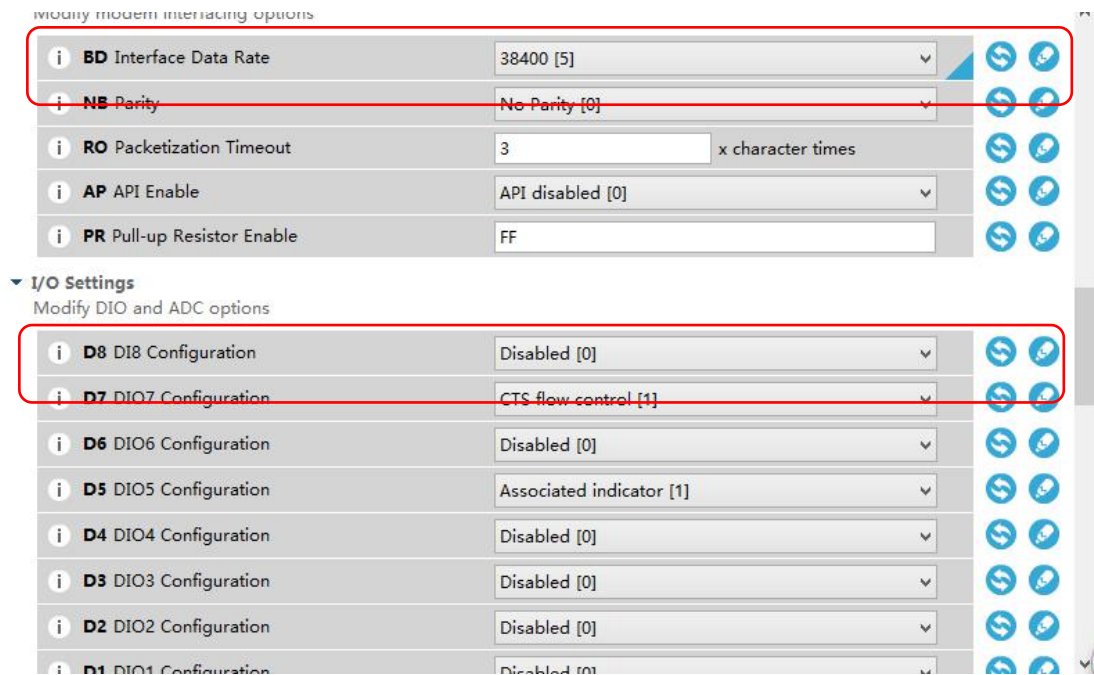
(2)Open XCTU:

Click 'Radio Modules' and choose the corresponding port, set the Baud Rate to be 38400.



Enter the configuration interface of the XBee module, configure the parameters within the red rectangular and then click 'Write' to save the change:





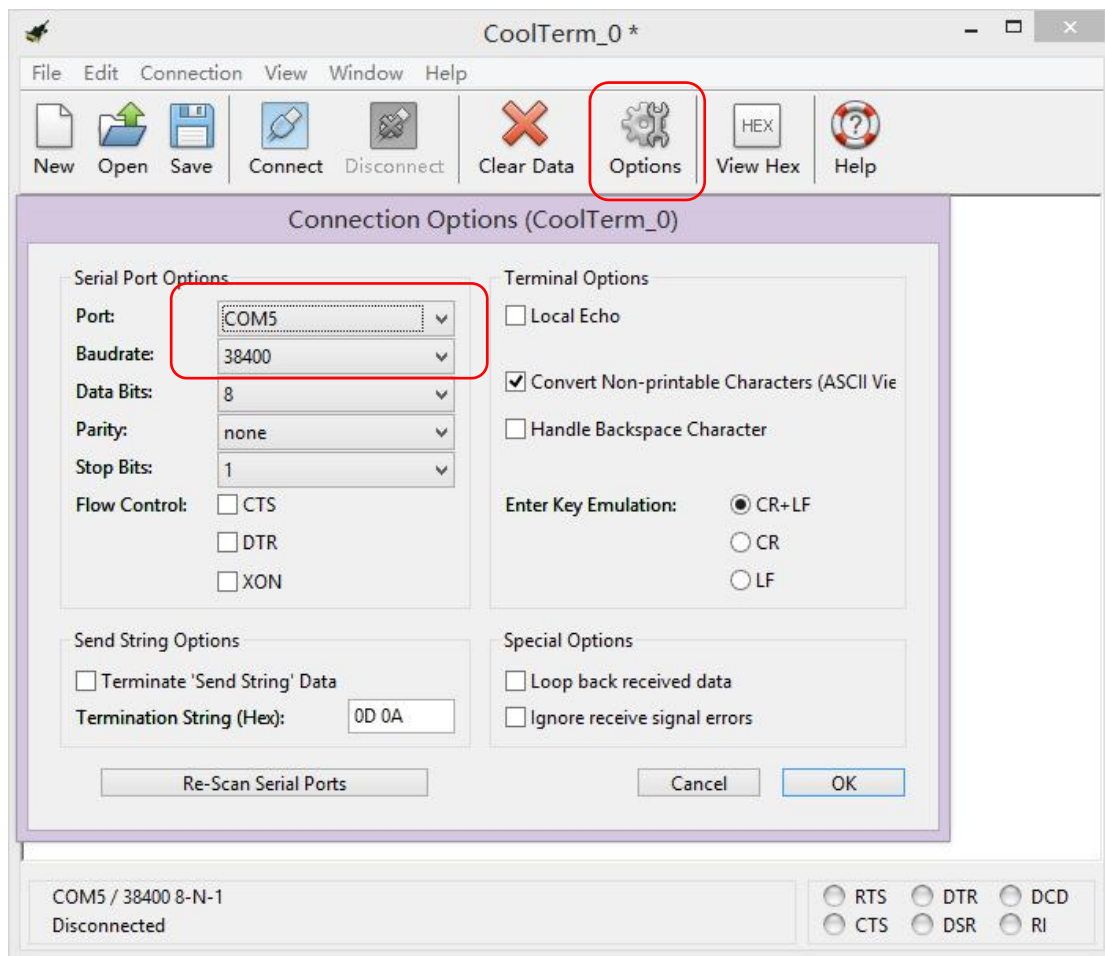
3. Connect the waspmote v1.1 board and communicate with the XBee:

Connect the waspmote board to the computer and toggle the switch as what is shown in the following red rectangular:

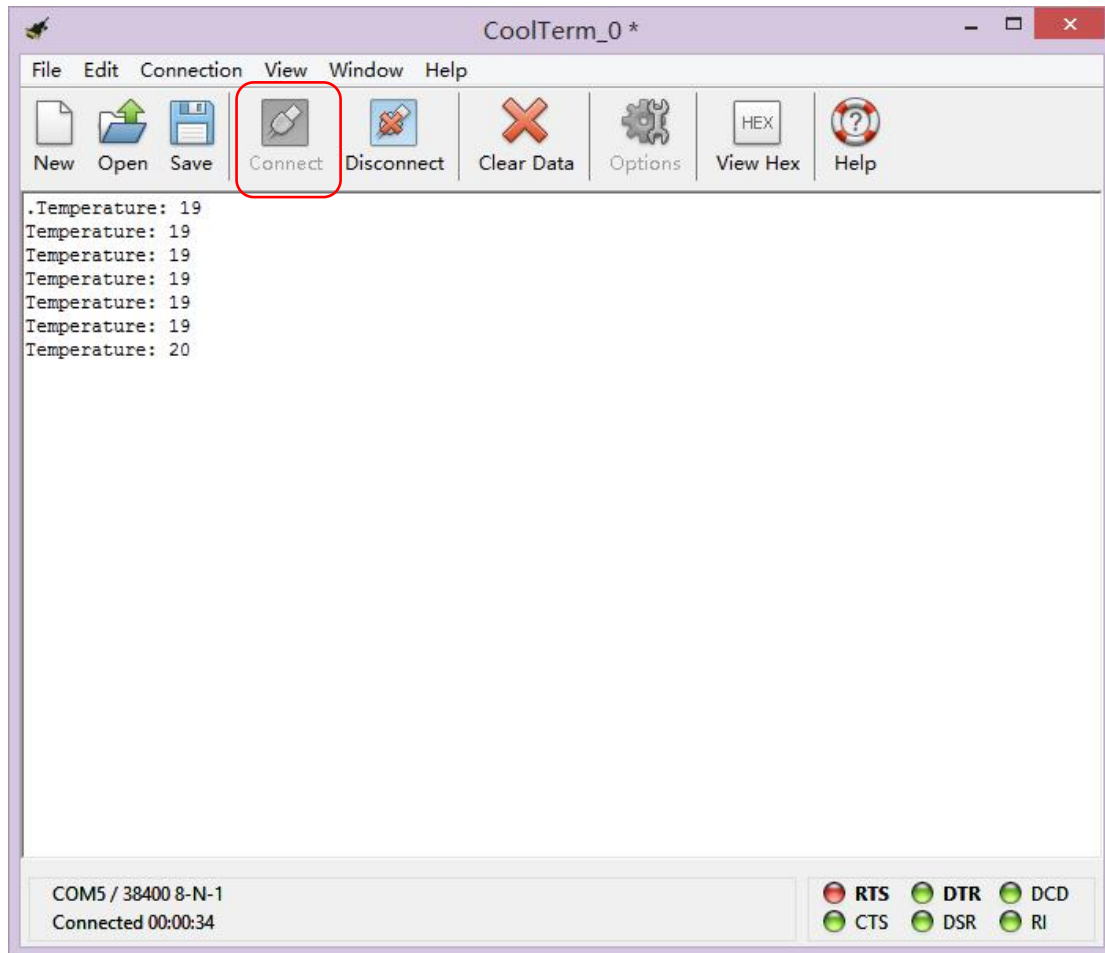


Open Coolterm,select the right port and set baudrate to be 38400:

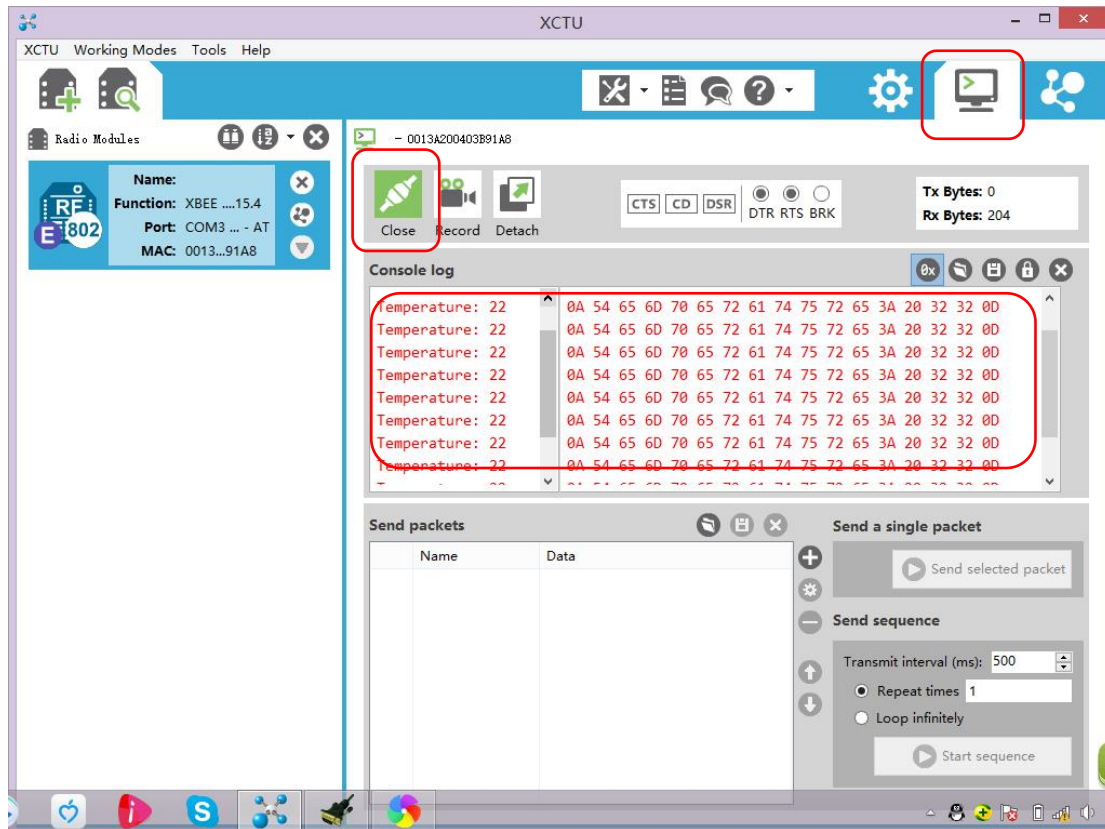




Connect it and we can see the results of sensing the temperature:



At the same time, select the computer end in the XCTU, select 'open' and the same result will be shown in the following area:



Thus, we can know that the program stored in the microcontroller can be used to make the two XBee module communicate with each other.