GETTING STARTED

Thank you for buying the USB-XBee-Dongle. We hope you will find the USB-XBee-Dongle to be inexpensive, useful, and easy to use as possible.

Figure 1

If you are new to the USB-XBee-Dongle, we know you will be in a hurry to see it working. But first, you need to go online and download the product driver and software supported.

Download and install the USB driver on your PC.
http://www.ftdichip.com/Drivers/VCP.htm
Go to the link above, under VCP driver section selects the driver version which supported the FT232R device, and your PC operating system.
If you need more help on installation, you can follow the online installation guide,
http://www.ftdichip.com/Documents/InstallGuides.htm

Download and install the X-CTU software on your PC. This software allows us to upgrade/restore the RF module Firmware, or change the AT configurations if necessary.
 http://www.maxstream.net/support/xctu/setup_x-ctu.exe

Online XBee/Pro Product Manual,
 http://www.maxstream.net/products/xbee/manual_xb_oem-rf-modules_802.15.4.pdf

INSTALLATION

If you purchase the USB-XBee-Carrier, and RF XBee module separately, make sure to install the module correctly to avoid any damage that may cause to your PC, and the dongle when you insert it on the PC USB port . Figure 2 below shows the correct installation with pin to pin, and RF module angle matches the carrier board angle. Where figure 3 and 4 show both incorrectly installed.
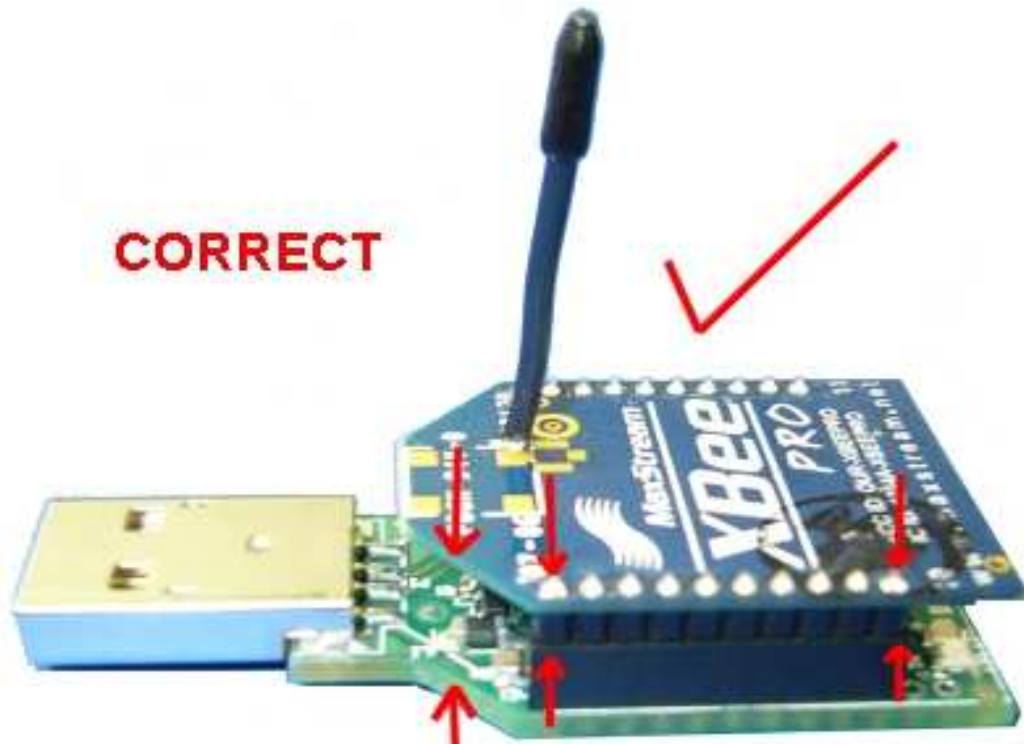
Figure 2

Figure 3 shows the RF module is installed backward.
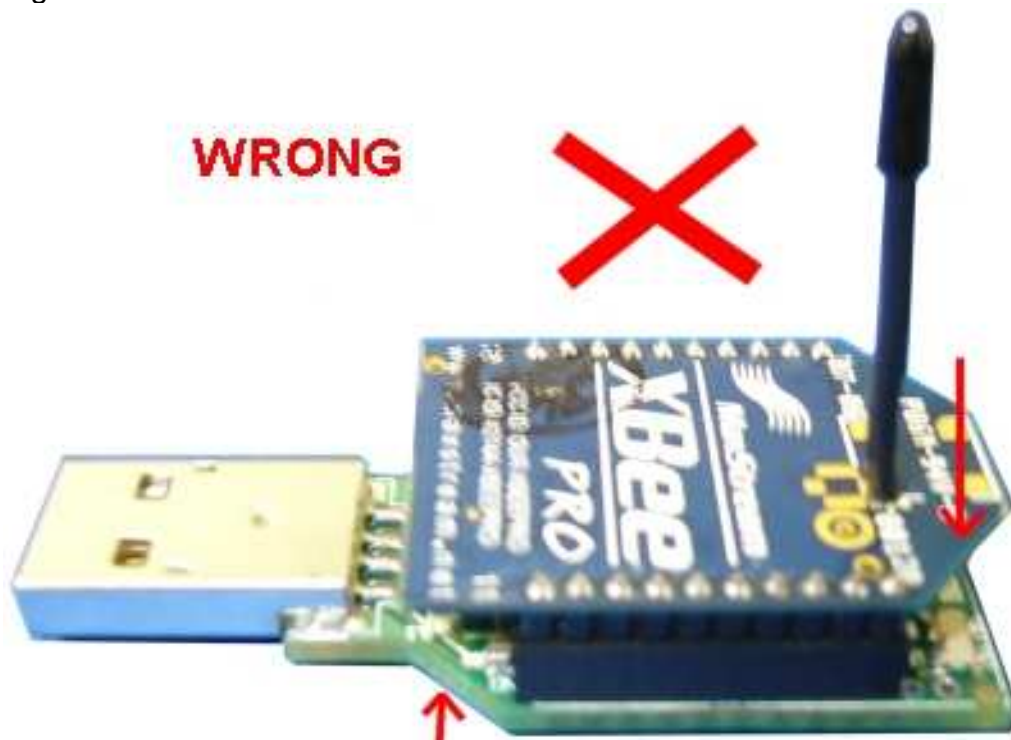

Figure 3

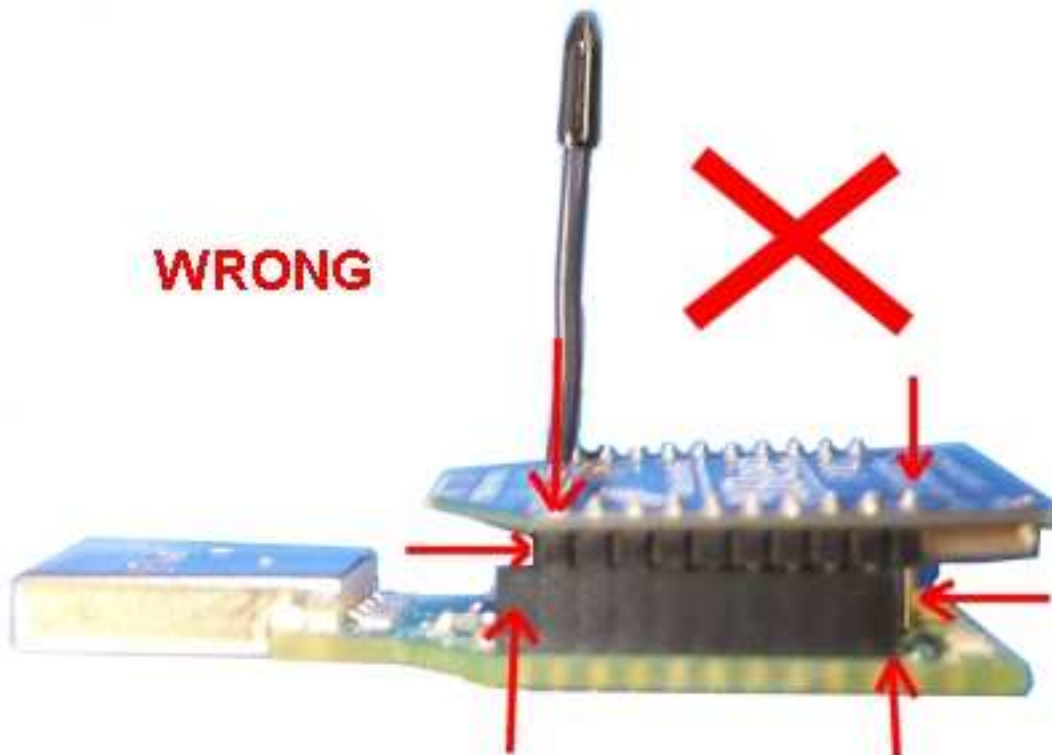Figure 4 shows the pins and socket are misaligned.

Figure 4

Serial Communication Setup

1. Once you have the USB driver, and X-CTU software installed on your PC.
2. Plug-in the USB-XBee-Dongle to any available USB port on the PC.
3. Run the X-CTU.exe program. If the USB driver is correctly installed it will show up as USB Serial Port (COMxx) on "PC Settings" tab under Com Port Setup/select window. See Figure 5 below.

Note: Figure 5 below shows two USB serial ports, in which I have two dongles plug-in. Com port numbers are automatically assigned by the operating system and it will be assigned differently from PC to PC.
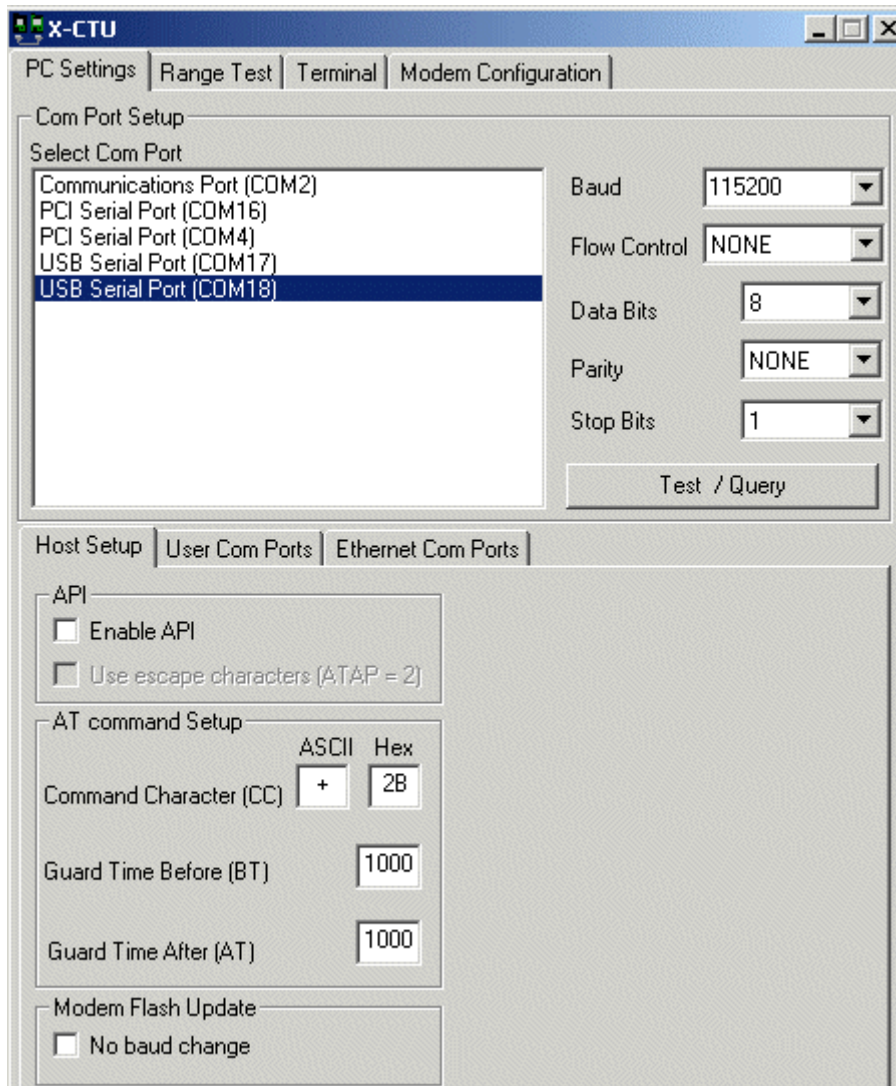

Figure 5

4. Select the correct USB Serial Comm port, and the baud rate that matches the baud rate of the RF module and leave the other settings at their defaults (None, 8, None, 1, +, 2B, 1000, 1000 from top to bottom).

Note: If you purchased the XBee module from New Micros, the preset baud rate is 115200. Otherwise, 9600 is the default setting from the manufacture, MaxStream Inc.

5. Press the Test/Query button. You will see one of the pop-up message below. Figure 6 shows the serial communication is established between the PC, and the XBee Dongle serial. If the communication is failed, you will see the pop-up message as shown on figure 7. Check the baud rate again. If you don't remember the baud rate you changed other than 9600 or 115200. Click on Modem Configuration tab, and press Read parameter. It will auto detect and show all the Modem Parameters including the current setting baud rate of the XBee module. (If the software is unable to find configuration file then manually select correct modem type from the drop down menu and press Read parameter).
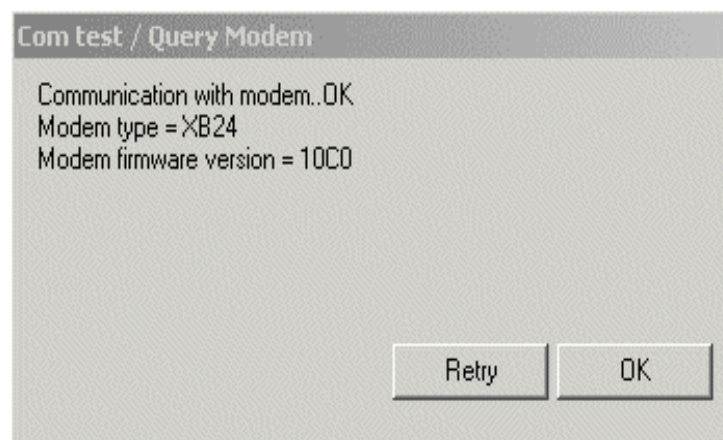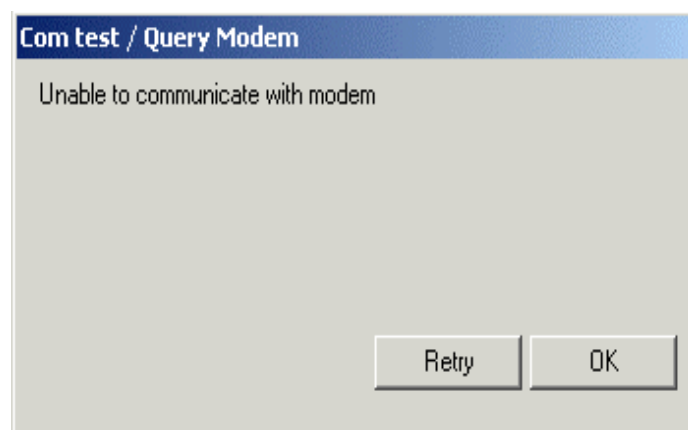

Figure 6

Figure 7

RF Communication

To test the RF links, you must have two RF modules for testing the radio communication over the air. For simplicity, I used two USB-XBee-dongles and ran the Range test feature provided in the X-CTU program to demonstrate the RF communication.

1. Open two separate X-CTU.exe programs side by side. On the "PC Settings" tab of the software, select the correct USB Serial Comm port, and the baud rate for each dongle and leave the other settings at their defaults (None, 8, None, 1, +, 2B, 1000, 1000 from top to bottom).
2. Go through the serial communication setup as previously described to make sure the serial communication is established for each dongle.
3. Click on the Range Test Tab, and press on START button on both windows to start the RF communication between the two dongles. A successful RF communication test is shown on figure 8 below.
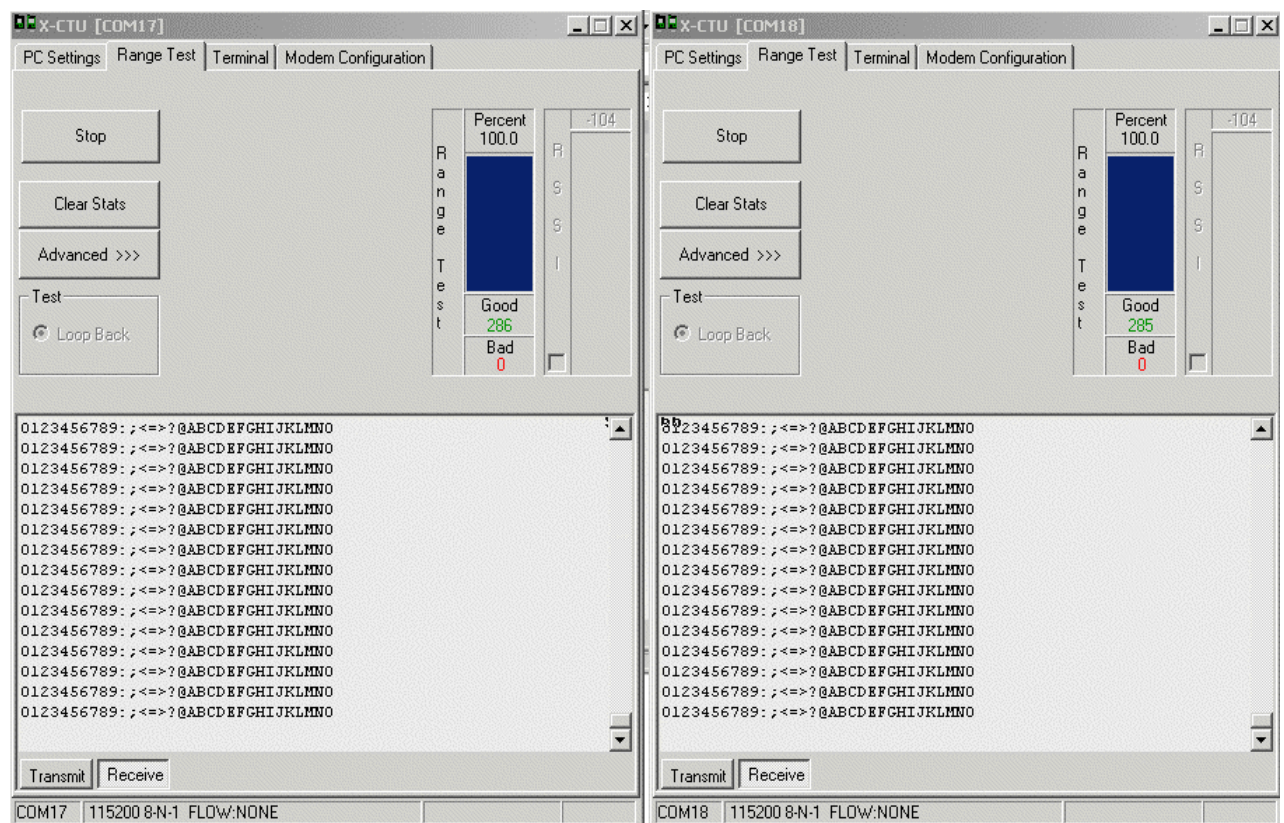

Figure 8

Figure 9 below shows the RF communication is failed on each dongle. Go to the Modem Configuration and make sure they both have the same Channel, and ID address as they should be when it ships from the manufacture.
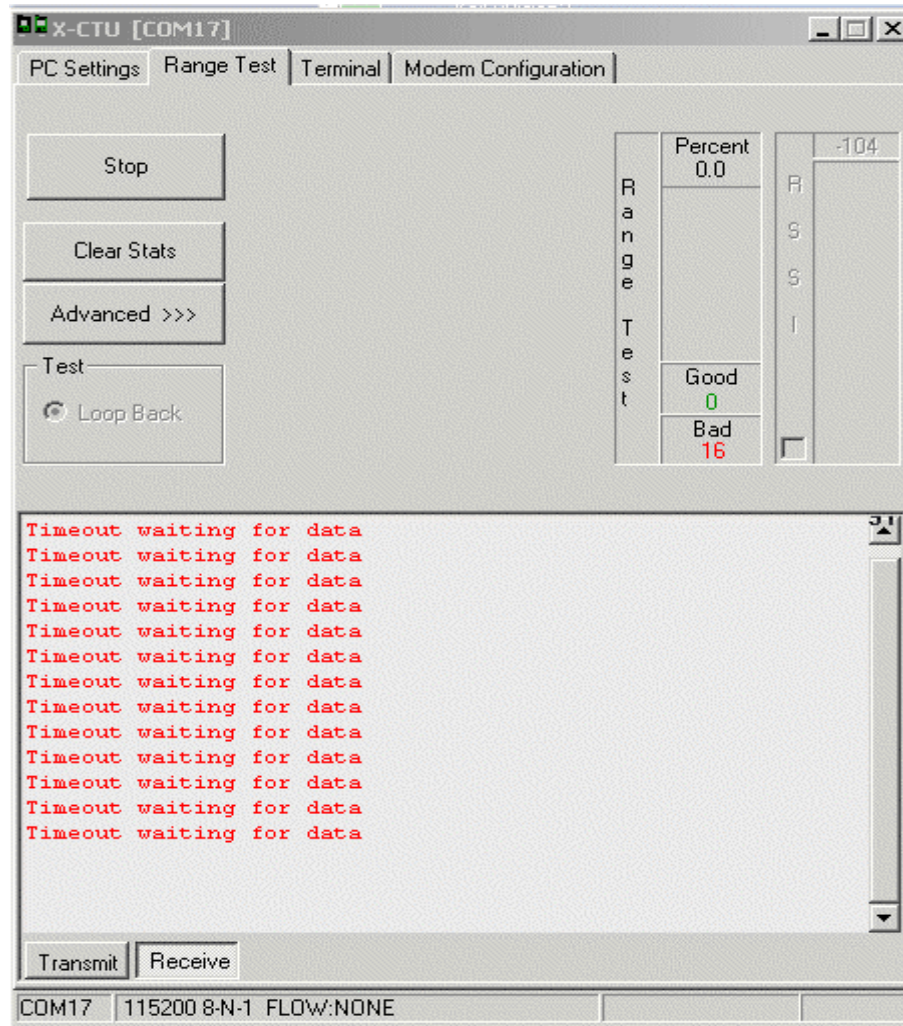

Figure 9

Instructions for upgrading the radio modem firmware:

1. Download and install USB driver, and X-CTU software on your PC.
2. Plug-in the USB-XBee-Dongle to any available USB port on the PC.
3. Run X-CTU.exe program.
4. On the "PC Settings" tab of the software: select the correct USB Serial Comm port, select the baud rate that matches the baud rate of the module and leave the other settings at their defaults (None, 8, None, 1, +, 2B, 1000, 1000 from top to bottom).
5. Select the "Modem configuration" tab and press the "Read parameters" button to automatically detect the modem type. (If the software is unable to find configuration file then manually select correct modem type).
6. Download the new firmware version if necessary.
7. Select desired firmware version from the "Version" pull-down menu.
8. Press the "Write parameters" button to load new firmware.
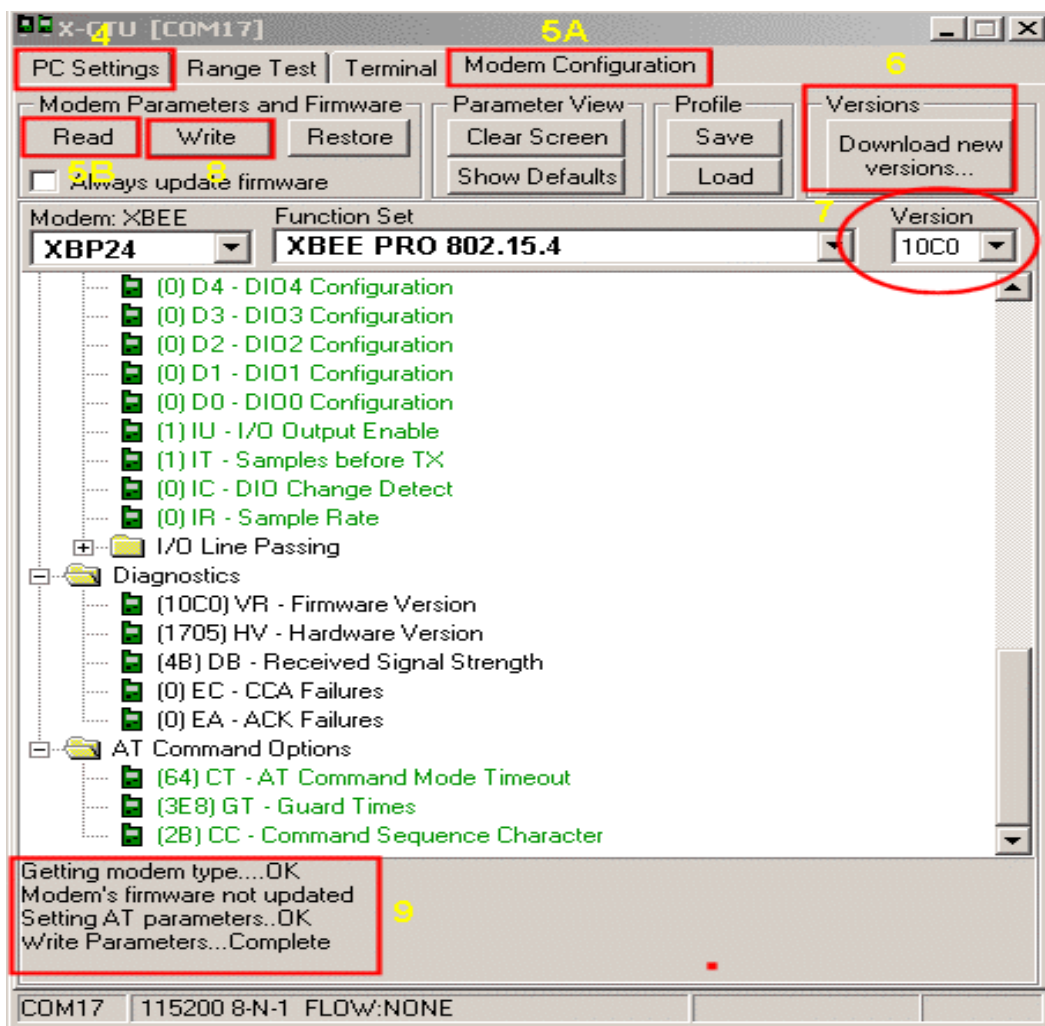9. Firmware update is now complete. See Figure 10 below.

Figure 10

Note: Sometimes when you try to upgrade, or restore the firmware, or change the AT parameters. It might pop up the message " Press and release reset Switch…" as shown on the figure 11 below. Since there is no physical reset switch installs on the dongle, this avoids mechanical damaging on your PC/Laptop USB port. To overcome the reset switch, you can simply click on the PC Settings tab, and change the baud rate back to its original setting 9600 if the modem is restored, or change it to 115,200 or your new desire baud rate. Press the TEST/Query button to confirm the correct serial baud rate, and then go back to Modem Configuration and press on Read button to confirm the new firmware version, or AT parameter settings. Otherwise, change the settings and press the Write button to update your new settings.
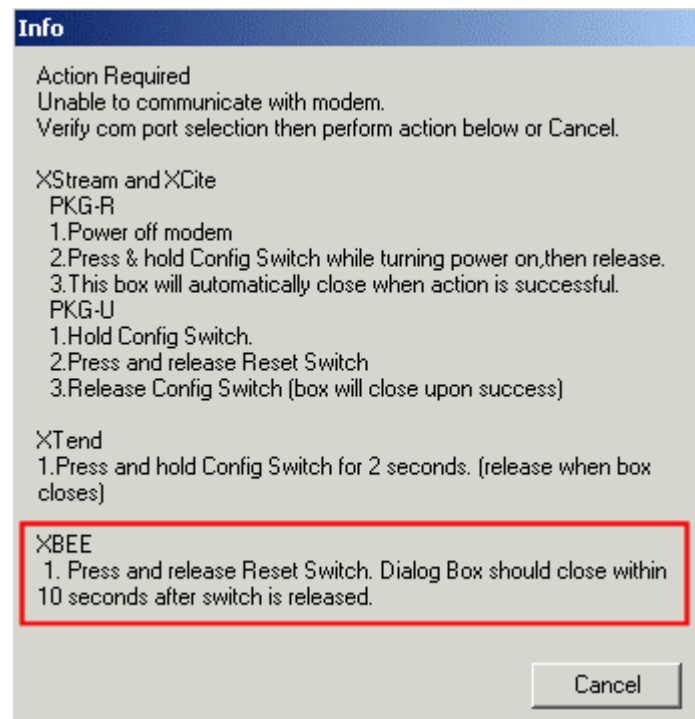

Figure 11

FEATURES

- USB-XBee Carrier
- XBee-PRO(TM) RF module is included
- Indoor/Urban Range: up to 300'(100m)
- Outdoor line-of-sight range: up to 1 mile (1.6km)
- Transmit power: 100 mw
- Operating Frequency: 2.4 Ghz
- RF Data Rate: 250Kbps
- Serial Communication Baud rate: up to 115,200
- Intergrated whip antenna
- XBee Firmware upgrade is supported
- Onboard RSSI leds, and serial communication leds
- PC/Laptop serial USB interface
- Power directly supports thru USB port