

Getting Started Guide

XBee®/XBee-PRO® OEM Development Kits

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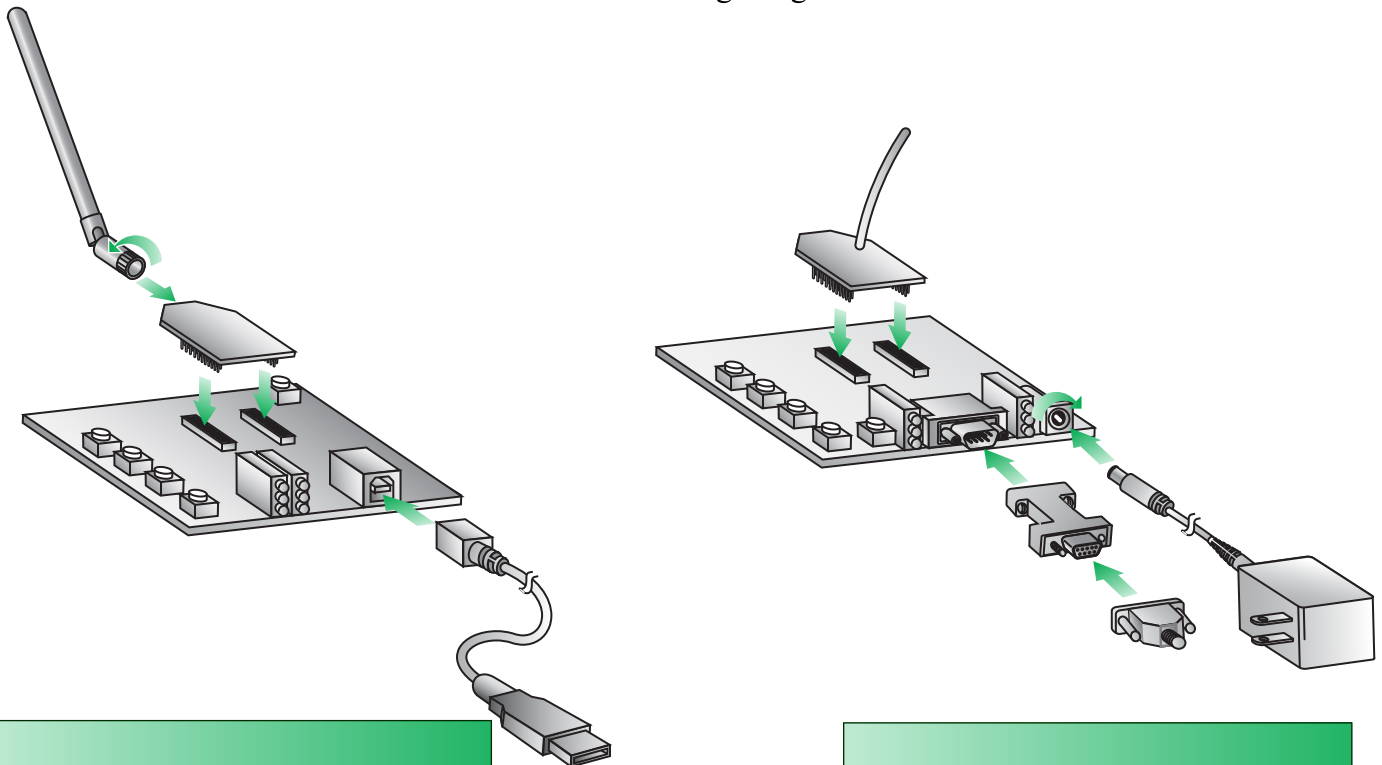
Create long range wireless links in minutes!

Introduction

This Getting Started Guide provides step-by-step instruction on how to set up wireless links and test the modules' ability to transport data over varying ranges and conditions. This guide illustrates how to set up and run a range test; then how to explore advanced module configurations.

CONNECT THE HARDWARE

Connect the hardware as shown in the following images:



XBee USB Interface Board
XBee-PRO embedded module
Antenna-RPSMA, 2.4 GHZ
USB cable

XBee RS-232 Interface Board
Null modem adapter (M)
Serial loopback plug
Power supply
XBee-PRO embedded module
RS-232 serial cable

Set up Range Test

INSTALL X-CTU SOFTWARE

X-CTU is a stand-alone tool for configuring XBee modules. It is included on the Hardware and Software Setup CD and will be used to run the range test.

To install X-CTU:

1. Insert the Hardware and Software Setup CD in the PC's CD/DVD drive.
2. On the Home page, click Modules, Sensors & Adaptors Documentation/Software.
3. Click XBee Module.
4. Click Install X-CTU.
5. When installation completes, start X-CTU by selecting:

■ Start > Programs > Digi-Maxstream > X-CTU.

The X-CTU Software interface is opened.

INSTALL USB DRIVERS (Hardware USB Bus & Virtual COM port Drivers)

The USB interface board is a "plug-and-play" device that should be detected by the PC automatically. To interface between the modem and a PC, two drivers must be installed: a USB driver, and a virtual COM port driver that makes the USB port look and perform like a physical COM port. After the modem is detected, a wizard for installing the USB driver is launched. The USB driver is included on the Hardware and Software Setup CD.

Use the following steps to install the two USB drivers:

1. Connect the XBee-PRO to a PC using a USB cable. The Found New Hardware Wizard dialog box is displayed.
2. Verify that the Hardware and Software Setup CD is inserted into the drive.
3. Select Install from a specific list or location (Advanced); then click Next.
4. Select Search for the best driver in these locations and search removable media (CD-ROM). Click Next. A Hardware Installation Windows Logo Testing alert box is displayed.
5. Click Continue Anyway.
6. Click Finish.
7. Another prompt You will be prompted to install another driver, the virtual COM port driver. Repeat steps 3 through 6 to install this driver.

Perform Range Test

Objective: To determine the range capabilities of the XBee-PRO Modules.

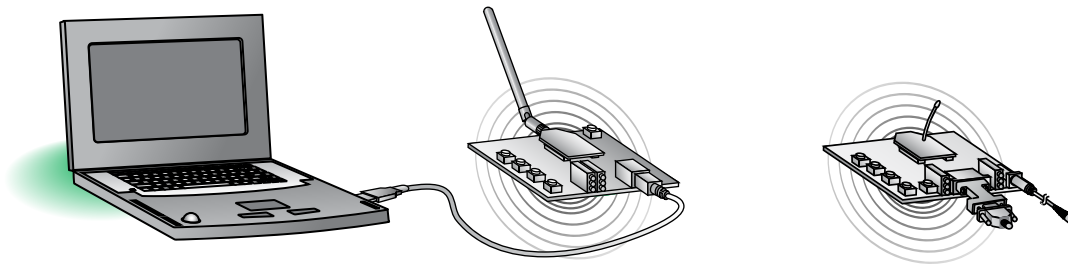


Figure 1. Range Test Setup

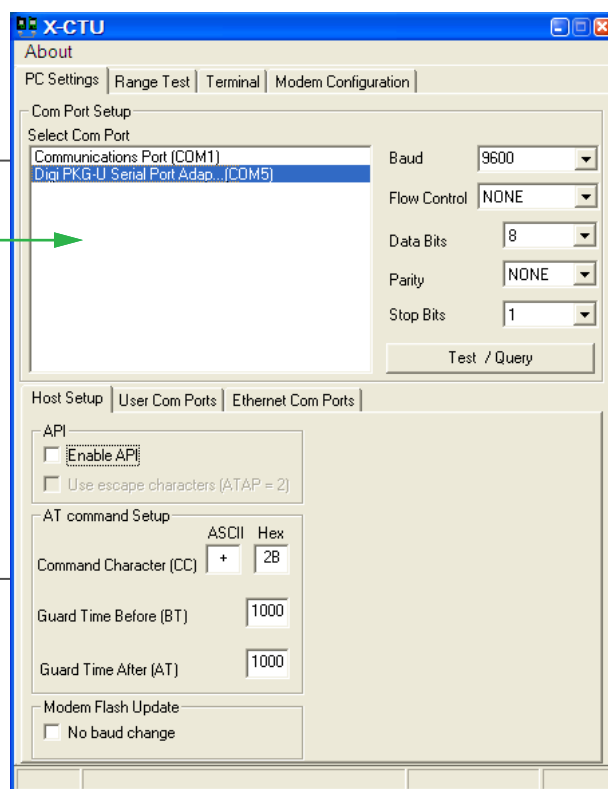
RUN RANGE TEST

1. Launch the X-CTU Software: (Start > Programs > Digi-MaxStream > X-CTU)
2. Under the “PC Settings” tab [Figure 2], select the PC serial COM port that will be used. Verify the baud and data settings of the COM port.
3. Select the “Range Test” tab [Figure 3].
4. (Optional) Check the "RSSI" checkbox to enable Received Signal Strength Indicator.
5. Click ‘Start’ to begin the range test.
6. Move the remote away from the base to find the maximum range of the wireless link.
7. Click ‘Stop’ to end the range test.

TIP: Range test works best if the user attaches the USB interface board to a mobile laptop and increases the distance between the base and the remote while monitoring the signal strength on the laptop monitor.

Figure 2. PC Settings Tab

② PC COM Port



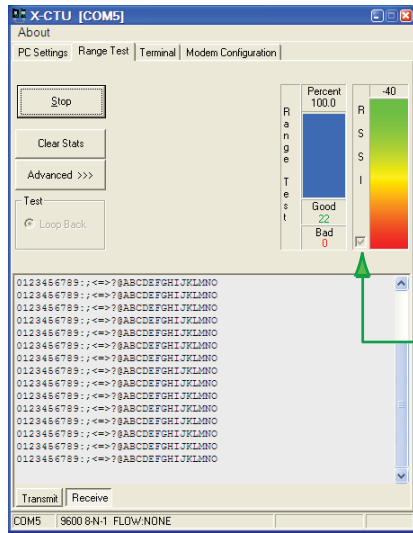


Figure 3. Range Test tab

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RSSI checkbox
"Received Signal Strength Indicator"

(Packet Information)

Exploring Advanced Configurations

RF MODULE CONFIGURATION

To configure RF module parameters:

On the X-CTU "Modem Configuration" tab: Click 'Read', select any of the module parameters you wish to change (e.g., Hopping Channel, Retries, Sleep Mode, etc.), then click 'Write' volatile

This is one of several configuration methods. Refer to the manual for more information.

NOTE: This will only change the parameters of the device connected to the PC. Remote radios will not be affected by these changes. If you wish to change parameters on the remote device, first connect it to the PC either by using the enclosed RS-232 interface board and serial cable or by removing the embedded modules and installing the remote module onto the USB interface board.

Click 'Restore' to restore the module back to factory defaults.

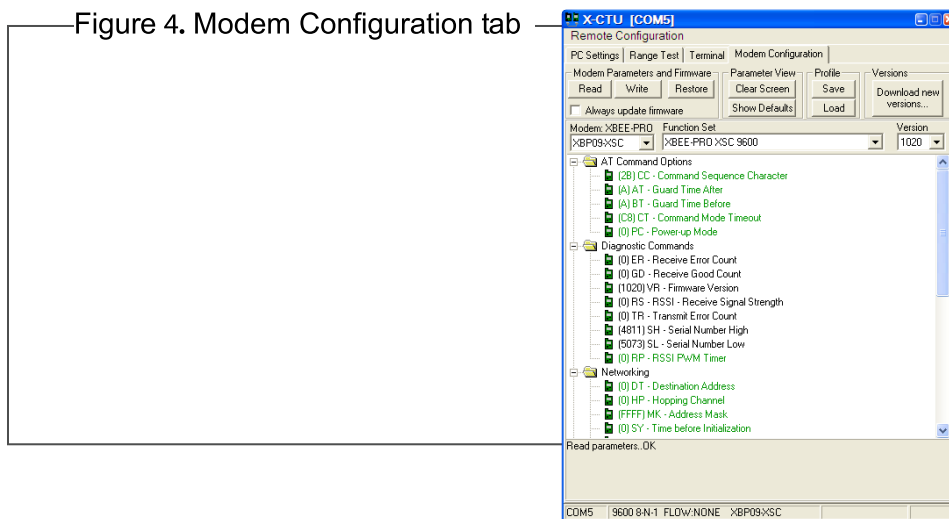


Figure 4. Modem Configuration tab

Contact Digi International

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