

## LPR2430 Series Developer's Kits Quick Start Guide



### Items Supplied in a Kit:

- Four LPR2430, LPR2430A, LPR2430ER, or LPR2430ERA radios, two of which are installed on developer boards, labeled Base and Remote
- Two patch antennas, and two dipole antennas with MMCX to SMA-R adaptor cables, LPR2430 and LPR2430ER only (antennas are built into the LPR2430A and LPR2430ERA radios)
- Two 9 V wall-plug power suppliers, 120/240 VAC, plus two 9 V batteries
- Two RJ-11 cables with DB-9F adaptors, LPR2430 and LPR2430ER kits
- Two Cat 5 Ethernet cables with RJ-45/DB-9F adaptors, LPR2430A and LPR2430ERA kits
- Two A/B USB cables
- One LPR2430DK/LPR2430ADK/LPR2430ERDK/LPR2430ERADK documentation and software CD

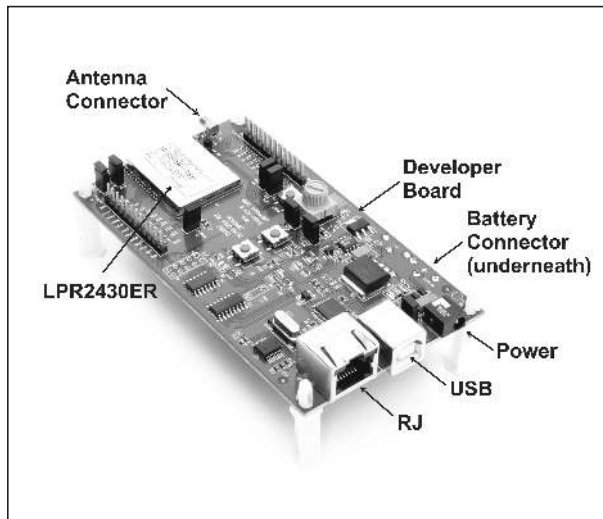


Figure 1

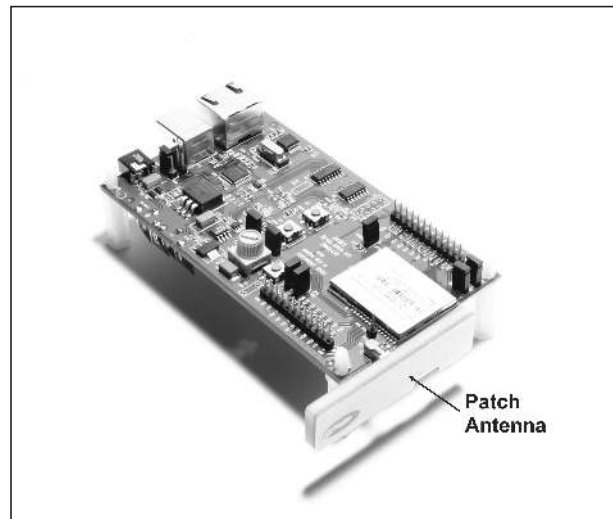


Figure 2

## Additional Items Needed:

- One PC with Microsoft Windows XP or Vista Operating System

## Developer Kit Setup and Testing:

1. Observe ESD precautions when handling the LPR2430 series developer boards. The developer boards can be powered with either the 9 V wall-plug power supplies or the 9 V batteries. If using the wall-plug power supplies, install an AC plug on each supply and connect the power supplies to the developer boards. See Figure 1 for the location of the power connector. Do not plug in the power supplies at this time. If using the batteries, do not install them yet.
2. For the LPR2430 and LPR2430ER kits, referring to Figures 1 and 2, install a patch antenna on each developer board antenna connector. The antenna “snaps” onto the connector with moderate pressure. Antennas are built into the radio modules for the LPR2430A and LPR2430ERA kits.
3. As shown in Figure 1, there are two serial connectors on the developer boards. The RJ-45 or RJ-11 connector provides an RS232 interface. The USB connector provides an optional interface. Labels on the bottom of the boards indicate which board is the Base and which is the Remote.
- 4a. If the PC has a serial port, use one of the Cat 5 cables with an RJ-45/DB-9F adaptor or one of the RJ-11 cables to make a connection to the Base. Then power up the Base by plugging in the power supply or installing the battery. If using a USB connection, follow step 4b instead of 4a.
- 4b. The USB interface is based on an FT232RL serial-to-USB converter IC manufactured by FTDI. The FT232RL driver files are located in the *i386* and *AMD64* folders on the kit CD, and the latest version of the drivers can be downloaded from the FTDI website, [www.ftdichip.com](http://www.ftdichip.com). The drivers create a virtual COM port on the PC. Power up the Base by plugging in its power supply or installing a battery.

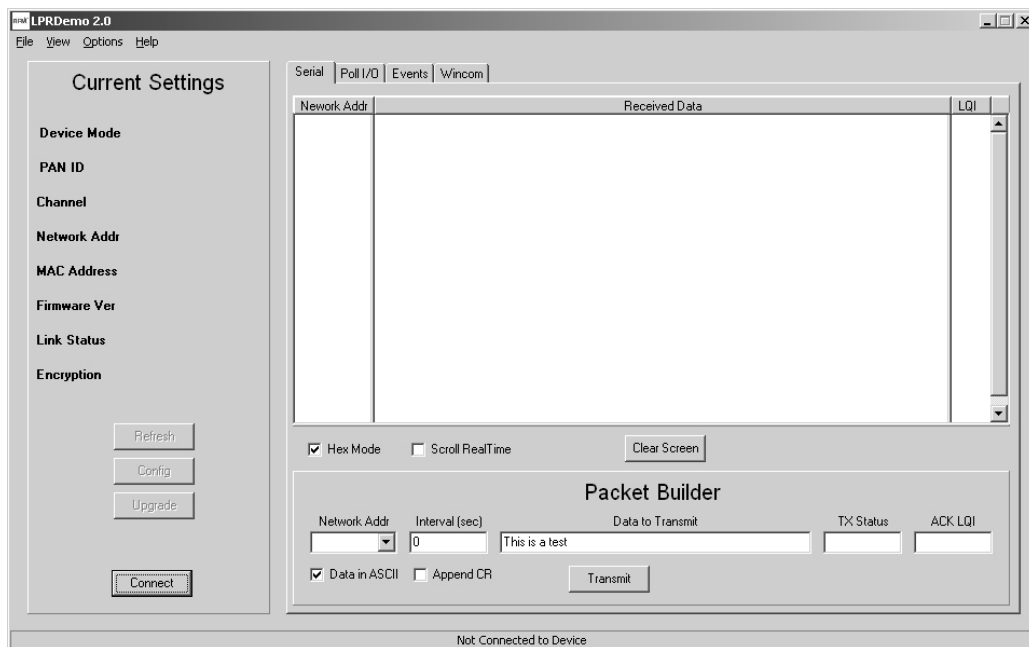


Figure 3

Then connect the Base to the PC with one of the USB A/B cables. The PC will find the new USB hardware and open a driver installation window. Enter the letter of the PC drive holding the kit CD and click *Continue*. The installation dialog will run *twice* to complete the driver installations.

5. Copy LPRDemo2 from the *Programs* folder on the kit CD to a convenient folder on the PC. This program runs using ordinary Window's resources and does not require any framework installations, registry entries, etc., to run. Start LPRDemo2. The start-up window is shown in Figure 3 above.

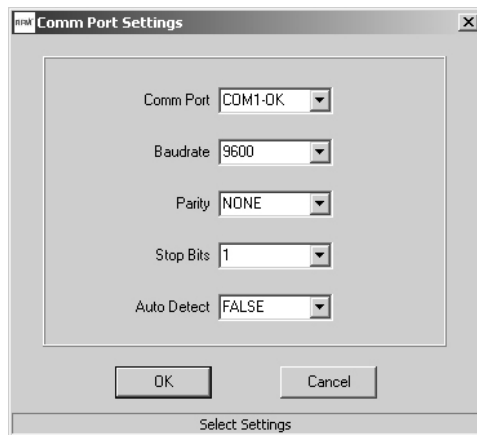


Figure 4

6. Click on the *Connect* button in the lower left of the main LPRDemo2 window to open the *Comm Port Settings* dialog window, as shown in Figure 4. Set the *Baudrate* to 9600 b/s. Set the *Comm Port* to match the serial port connected to the Base, either the RS232 serial port or the USB virtual serial port. Then click *OK* to activate the serial connection.

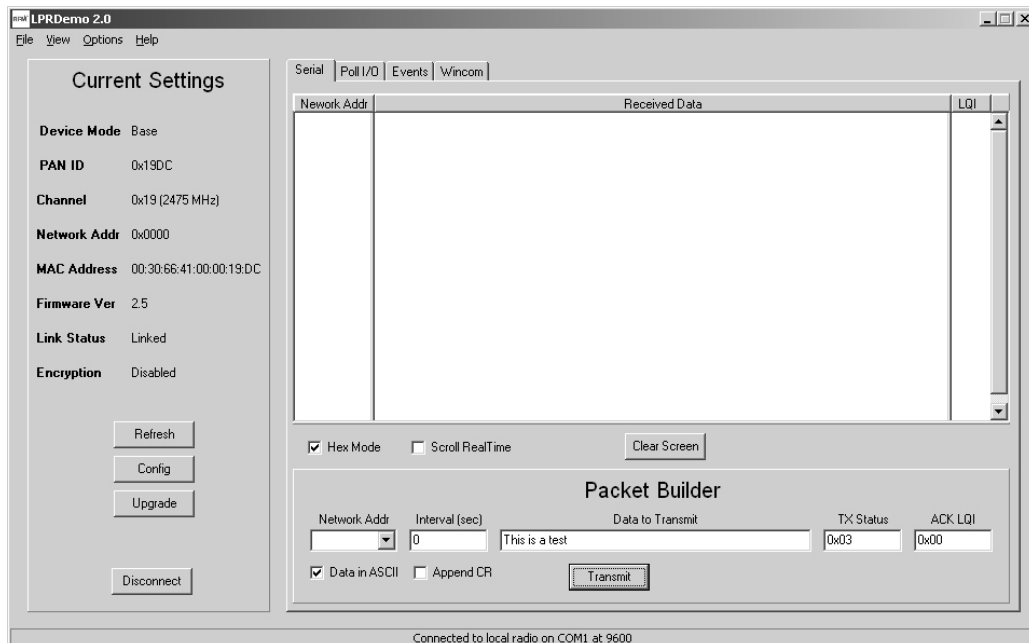


Figure 5

- At this point the program will collect and display data from the Base under *Current Settings* on the left side of the main window, as shown in Figure 5.

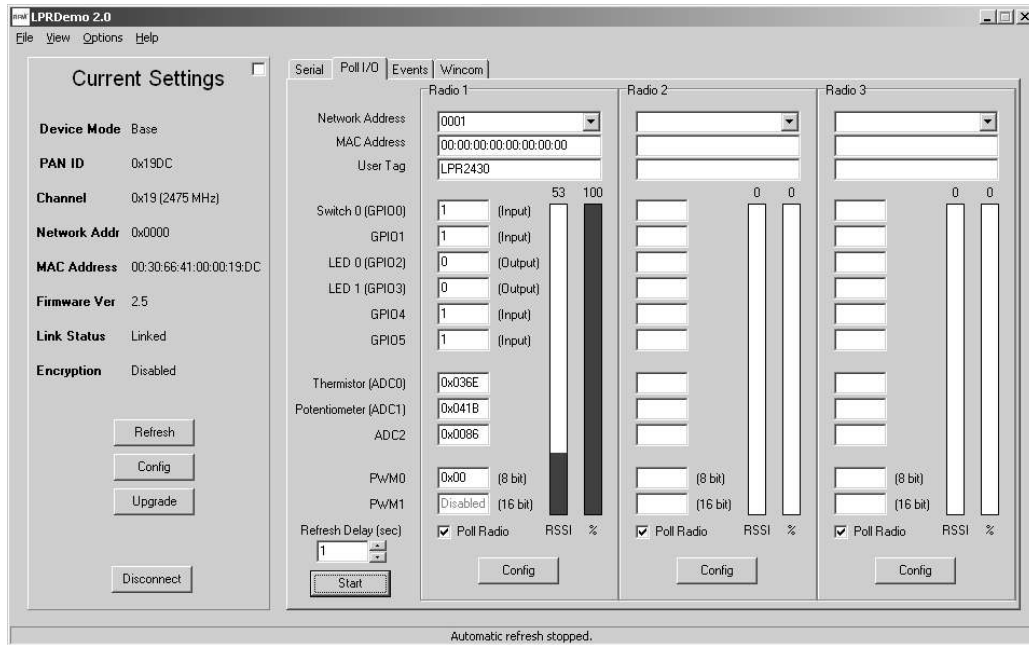


Figure 6

- Next power up the Remote by plugging in its power supply or installing a battery. Click on the *Poll I/O* tab. Figure 6 shows the Poll I/O screen. Select the Remote's network address, 0001, in the *Network Address* drop-down box for *Radio 1*. If the address is not present, wait a few seconds to give the remote time to register with the base.
- Click on the *Start* button. Data from the Remote will be displayed under *Radio 1*, including bar graphs of received signal strength (*RSSI*), and percent of successful requests-replies (%). Note that turning the pot on the Remote developer board will change the *Potentiometer (ADC1)* reading, and holding Switch 0 down will change the *Switch 0 (GPIO0)* state to 0. Setting *LED 0 (GPIO2)* to a 1 state will turn on LED 0. The developer kit is now ready for use.
- If any difficulty is encountered in setting up your LPR2430 series developer kit, contact RFM's module technical support group. The phone number is +1.678.684.2000. Phone support is available from 8:30 AM to 5:30 PM US Eastern Time Zone, Monday through Friday. The E-mail address for module technical support is tech\_sup@rfm.com.

Windows XP and Vista are registered trademarks of Microsoft Corporation.