

OVERVIEW

This document is designed as a quick start guide for the Laird Technologies OEM ZB2430 family System Developer Kit (SDK). This guide will take you through the basics of reading the radio's configuration and performing a data throughput test between the Coordinator and a Router. For more detailed information on these steps refer to the SDK User Manual or the radio User Manual.

INSTALL SOFTWARE

Insert the Laird Technologies CD which came with the SDK into a Windows XP PC.

Install the OEM Configuration Utility under Design Kits and Software and follow the on-screen instructions.

CONNECT THE RADIOS TO THE PC

Connect the Coordinator to the PC with the provided USB cable. Make sure the power switch on the SDK board is on and allow Windows to automatically install the appropriate drivers. If using a module with a U.FL connector, connect the antenna.

Connect the AC power adapter to the Router eval board and power on the board with the power switch. Place the J9 Jumper to Loopback Mode. If using a module with a U.FL connector, connect the antenna. Place the Router board at least 5 feet from the Coordinator board.

At this point, the application should be installed on the associated PCs, the SDK board(s) should be properly connected to the PC(s), and the jumpers and power switch should be properly positioned.

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QUICK START GUIDE

RADIO CONFIGURATION

1. Launch the Laird OEM software application by navigating to and selecting the product as follows:
Start>All Programs>Laird Tech Wireless>Laird OEM.exe.
2. Click on the PC Settings tab at the top of the application window.
3. Locate the Product drop-down menu and select the ZB2430.
4. Locate and click on the Find Ports button.
5. A dialog box will appear with notification of the number of ports found. Click the OK button.
6. Locate the Port field and select the AeroComm Wireless USB port.
7. Change the Baud Rate to 38400.

PC SETTINGS TAB

The screenshot shows the 'ZB2430 Configuration/Test Utility' application window with the 'PC Settings' tab selected. The window has a blue title bar and a standard Windows interface. The main area is divided into several sections:

- Port1 Settings:** Includes radio buttons for 'USB / COM Port' (selected) and 'TCP / IP Port'. There are buttons for 'Add Ports', 'Find Ports', 'Open Port', and 'Close Port'. The 'Port Status' is 'Open'. The 'Port' is set to 'COM7: AeroComm Wireless USB (C)'. The 'Baud Rate' is '38400'. 'Parity' is 'None (recommended)'. 'Handshaking' is 'Hardware (recommended)'. 'Data Bits' is '8' and 'Stop Bits' is '1'.
- Options:** A list of checkboxes: 'Save Settings on Exit' (checked), 'Read/Write with AT Commands' (checked), 'Use Auto Baud/Port' (checked), 'Auto Archive EEPROM Settings' (checked), and 'Monitor UDP for new devices' (unchecked).
- Product:** A dropdown menu showing 'ZB2430'.
- Port2 Settings:** Includes an 'Enabled' checkbox (unchecked). It has radio buttons for 'USB / COM Port' (selected) and 'TCP / IP Port'. Buttons for 'Add Ports', 'Find Ports', 'Open Port', and 'Close Port' are present. The 'Port Status' is 'Unavailable'. The 'Port' is empty. The 'Baud Rate' is '57600'. 'Parity' is 'None (recommended)'. 'Handshaking' is 'Hardware (recommended)'. 'Data Bits' is '8' and 'Stop Bits' is '1'.
- Radio Update:** Includes buttons for 'Load', 'Read Flash', and 'Erase all pages'. There is a 'Filename:' label and an empty text field.
- About:** A button at the bottom right.

At the bottom of the window, there is a status bar with the following text: 'Port1: Open [COM7] [38,400] [8-N-1] | RTS Port1: High | CTS Port1: Low | Port2: Unavailable | RTS Port2: High | CTS Port2: High | Communications idle'.

QUICK START GUIDE

RADIO CONFIGURATION

8. Click on the Configure tab.
9. Click on the Read Radio button; this will display the modules internal configuration.
You can use this screen to make changes and write those changes to the module.
10. A dialog box will appear and will display one of two messages:
 - a. If "Read Successful" is displayed, click on OK and continue to step 12.
 - b. If "Unable to enter command mode. Would you like to try using Auto Baud?" is displayed, follow these steps:
 - 1) Move the J9 jumper to the Force 9600 Baud position.
 - 2) Reset the radio module with the Reset button on the SDK
 - 3) In the OEM software go to the PC Settings Tab and change the baud rate to 9600
 - 4) Change back to the Configure Tab
 - 5) Click on the Read Radio button again.
 - 6) The Interface Baud field will now display the Baud setting of the module.
 - 7) Move the J9 jumper back to the Normal Operation position.
 - 8) Click on the PC Settings tab.
 - 9) Locate the Baud Rate field and set it to match the Baud setting of the module.
 - 10) Click on the Configure tab.
 - 11) Go back to step 10.

CONFIGURE TAB

ZB2430 Configuration/Test Utility

Configure | Range Test | Terminal/Chat | Command | PC Settings

Radio Interface

Interface Timeout: 9 Hex

RF Packet Size: 00 54 Hex

CTS On: 01 90 Hex

CTS Off: 01 80 Hex

MAC Retries: 3 Hex

NWK Retries: 2 Hex

APS Retries: 3 Hex

Broadcast Attempts: 4 Hex

Stop Bit Delay: 0 Hex

Radio RF

RF Channel Number: B Hex

RF Channel Mask: 07 FF F8 00 Hex

PAN ID: 00 01 Hex

Transmit Power: Full Power

RSSI Threshold: E0 Hex

End Device Poll Rate: 03 E8 Hex

End Device Wake Time: 00 64 Hex

Awake Poll Rate: 00 32 Hex

Parent Hold Message: 42 Hex

Radio Features

☒ Auto Channel

☒ Auto Destination

☐ Full Duplex

☐ Transmit API

☐ Receive API

☐ Send Data Complete

☐ RTS Enable

☐ Modem Mode

☐ 485 DERE

☒ Modify Wake Upon RX

☒ Reload Sleep

☒ NV Restore

☐ End-to-End Ack

Info Center

Copyright [28]:

Address: 0x00

Version: All

Radio Other

Interface Baud: 2400 Calc Baud

Dest Addr: 00 01 Hex

Type: Coordinator

MAC Address: 00 00 00 50 67 48 93 41

Firmware Version: V 1.8-0

D.O.B.: 2/25/2008

Full Part Number: ZB2430-003A-TTL-01

GUI View | EEPROM Editor View

Port 1 | Port 2

Show Default | Compare EE | Load File | Save to File | Print | Write Radio | Read Radio

Port1: Unavailable | RTS Port1: High | CTS Port1: High | Port2: Unavailable | RTS Port2: High | CTS Port2: High

Communications idle

QUICK START GUIDE

RANGE TEST

11. Click on the Range Test tab.
12. Select the desired Port 1 Loopback in the Test Selection field.
13. Click on the Create Data button in the Transmit Packet Selection field. Enter the desired data.
14. Make sure that Continuous is selected in the Test Type field.
15. Set the TX Delay to 1000 and the RX Timeout to 2000 in the Timing field.
16. Click on the Run button or press F10 on the keyboard.
17. Range test, and radio setup is now complete.

RANGE TEST TAB

ZB2430 Configuration/Test Utility

Configure | **Range Test** | Terminal/Chat | Command | PC Settings

Test Selection

☐ Port 1 -> Port 2 ☐ Port 1 Send Only
☐ Port 2 -> Port 1 ☐ Port 1 Receive Only
☐ Port 1 <-> Port 2 ☒ Port 1 Loopback

Transmit Packet Selection

☒ Create Data | 64
☐ Load File | Filename:

Test Type:

☒ Continuous
☐ Timed
☐ Number of Runs: 100
☐ Single Step
☐ Break on Error

Receive Packet Display:

☒ ASCII ☐ Hex
☐ Only Display Errors
☐ Packet Time Stamp

Timing:

10 Tx Delay
 1000 Rx Timeout

Test Results

Runs: 0
 Errors: 0
 Percentage Good: 100%
 Approx. 0 bps
 Time Remaining: 0

Port 1: ☒ View TX Packets ☐ View RX Packets
 0123456789ABCDEF GHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz01

Port 2: 0123456789ABCDEF GHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz01

Save to File Clear Stop Run (F10)

Port1: Unavailable RTS Port1: High CTS Port1: High Port2: Unavailable RTS Port2: High CTS Port2: High
 Communications idle

LWS-QSG-ZB2430 0309

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