

CC2430ZDK ZigBee Development Kit Pro

The CC2430ZDK Pro is the most powerful tool in the market today for developing complete ZigBee™ applications in the minimum timeframe. The kit includes all required hardware and software to evaluate, demonstrate, prototype and develop various ZigBee™ applications.

The CC2430ZDK provides you with Figure 8 Wireless' ZigBee™ Software Development Suite including the industry-leading Z-Stack™, a seat in the 2-day Z-Training and six months email support.

The CC2430ZDK is a very flexible kit that can be used to develop everything from simple light switches to advanced nodes with many peripherals. A set of ZigBee™ sample applications is included with the kit to allow users to test performance right out of the box.



CC2430ZDK contents

Hardware

2 x SmartRF04EB Evaluation Boards
2 x CC2430EM Evaluation Modules
2 x 2.4GHz Antennas
5 x CC2430DB Demonstration Boards
7 x USB cables
10 x AA batteries
1 x 10-wire flat cable for using SmartRF04EB as emulator for external target

Chipcon Software

Z-Stack™ Industry leading ZigBee™ compliant protocol stack
Z-Stack Configurator™
Z-Stack Profile Builder™
Z-Trace™ debug tool
SmartRF® Studio configuration, test and programming tool
Chipcon Packet Sniffer

3rd party Software

IAR EW8051 C-compiler with C-SPY debugger CD ROM
(60 days evaluation license)
Daintree Networks Sensor Network Analyzer CD ROM
(Basic Edition plus 30 days evaluation license to enhanced editions)

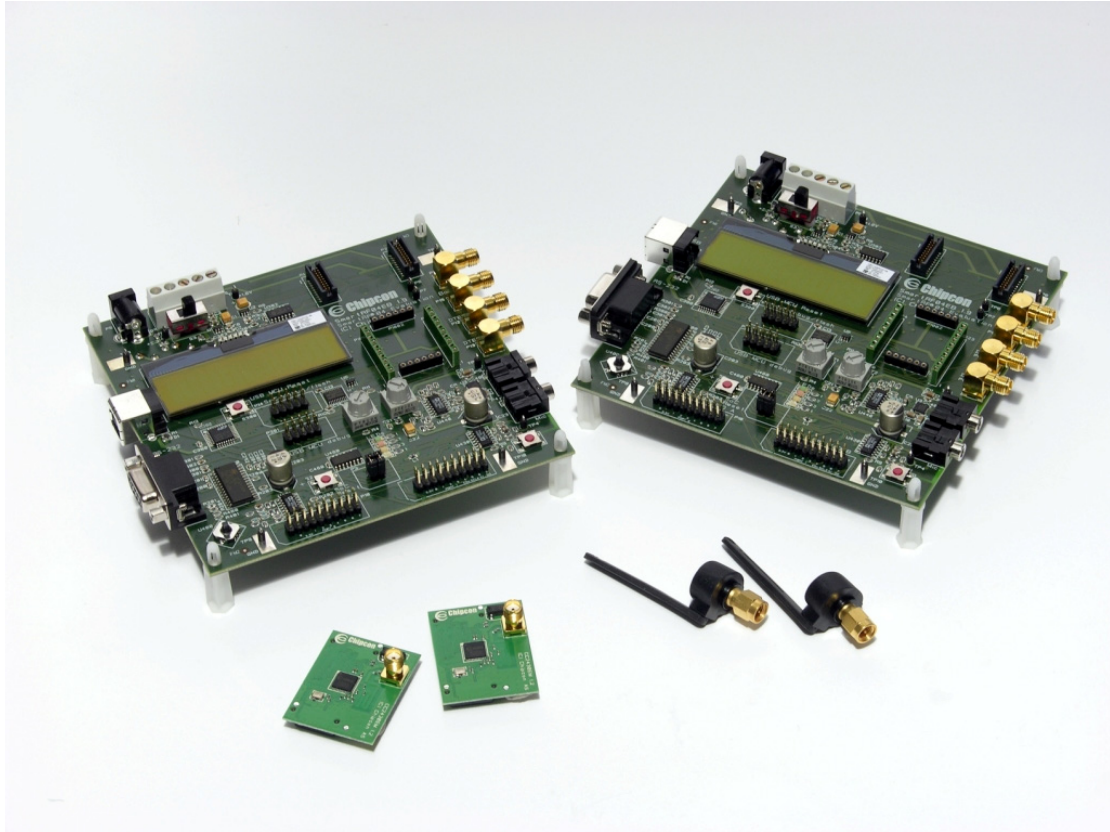
Training

2-day Z-Training

Support

6 months email support

Two SmartRF04EB Evaluation Boards combined with CC2430EM Evaluation Modules and 2.4GHz antennas



A SmartRF04EB and a CC2430EM platform can easily be set up to communicate with another platform of the same kind. These platforms can be used for testing and development of both hardware and software.

In Circuit Emulator

For development the CC2430 includes an on-chip real time In Circuit Emulator (ICE). SmartRF04EB is used to control the emulator via the USB interface. The SmartRF04EB can be used as emulator for external systems by simply plugging it into a 3-pin emulator interface to be connected to custom applications

User interface

The SmartRF04EB includes an LCD panel, pushbuttons, joystick and 4 LEDs to give a simple and intuitive user interface. A potentiometer is included for analog measurements, and an audio filter and amplifier enabling transmission and reception of audio signals.

Antenna

The CC2430EMs each host an SMA connector allowing the user to easily test RF range with various SMA based antenna types.

Radio Evaluation

The SMA connector on the CC2430EM can be connected to any 50Ω test instrument, e.g. signal generators and spectrum analyzers, for easy evaluation of key RF parameters such as output power and sensitivity.

Packet Sniffer

When connected with USB cable to a PC the SmartRF04EB and CC2430EM hardware accompanied by the Chipcon Packet Sniffer can be used to monitor RF traffic on the air.

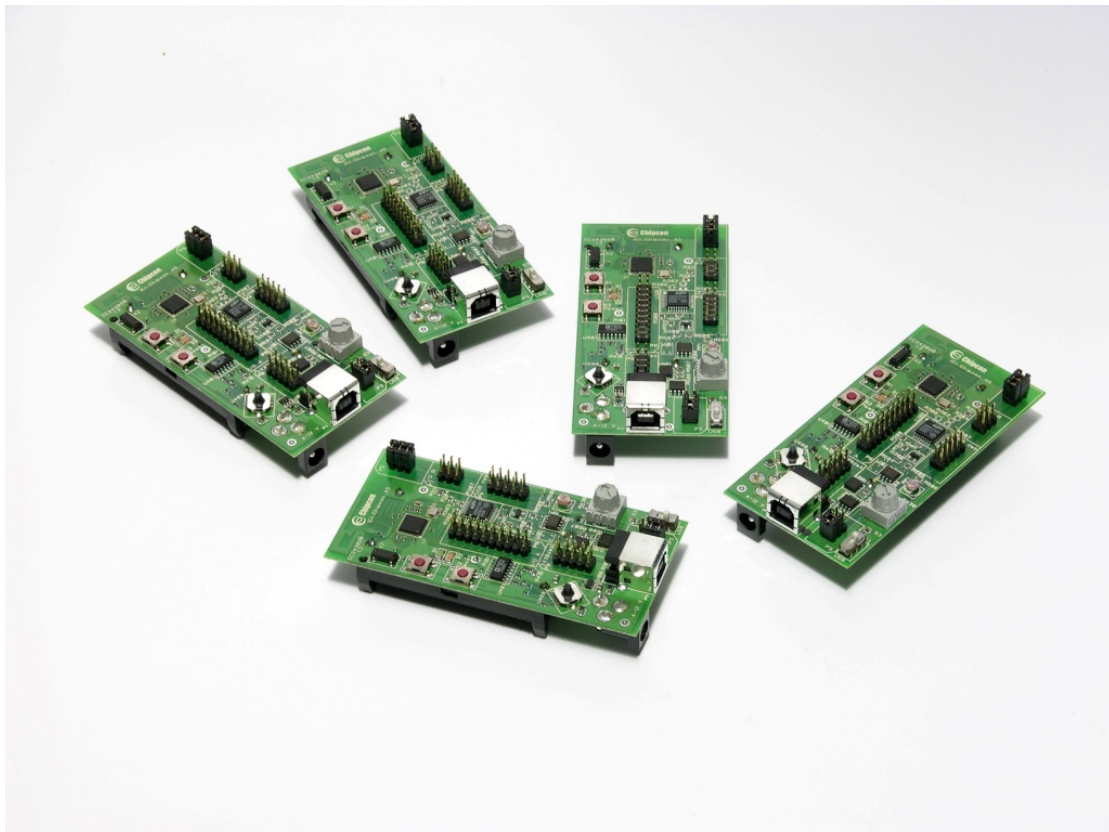
Programming interface

SmartRF04EB can be used as programming tools for external systems by plugging the 3-pin emulator interface to custom applications.

Prototype board

All I/O signals are available on header connectors on the SmartRF04EB to allow easy access for connecting external target boards or oscilloscope probes and logic analyzers.

Five CC2430DB Development Boards



The CC2430DB can be used out-of-the-box to form self-configuring ZigBee™ networks. It is perfectly suited for ultra-low power and sensor applications. Because it includes a USB interface the CC2430DB can connect directly to a PC and to run the packet sniffer or the In Circuit Emulator. The USB interface

can also be used for configuring the board and programming of the IEEE address.

Equipped with two AA batteries, the CC2430DB can easily be used for range testing and current consumption measurements. With the extremely low power modes of the CC2430 the CC2430DB consumes less than 1uA in power down modes with a 32 KHz real time clock active when powered from batteries.

Sensor interface module

The CC2430DB includes a variety of sensors allowing easy development of sensor applications:

- Light sensor
- 2-way accelerometer
- Temperature sensor
- Battery monitor
- Potentiometer
- Pushbutton and joystick

Low power operation

The CC2430DB can be powered from two AA batteries, over the USB interface or from the 9V DC connectors. It is designed for low power operation to give long battery life.

Antenna

The inverted-F PCB antenna included on the CC2430DB gives the best combination of low cost and long range.

In Circuit Emulator

For development the CC2430 includes an on-chip real time In Circuit Emulator (ICE). The CC2430DB is used to control the emulator via the USB interface.

Packet sniffer

The CC2430DB can be used as packet sniffer to monitor RF traffic on the air.

Programming interface

The CC2430DB includes a programming interface for the on-board 2430 device using the USB interface.

Prototype board

All I/O signals are available on header connectors on the CC2430DB to allow easy access for connecting external target boards or oscilloscope probes and logic analyzers.

Chipcon Software

SmartRF® Studio

Chipcon's SmartRF® Studio is used for configuring the CC2430 devices used in the CC2430ZDK Pro. It can be used for reading and writing all hardware registers, testing transmission of packets, and programming the flash memory and IEEE address.

Chipcon Packet sniffer

A packet sniffer with basic functionality is included with the kit.

Z-Stack™ ZigBee™ Protocol Stack

The Z-Stack ZigBee™ Protocol Stack builds on top of the IEEE 802.15.4 standard and contains the following components:

- ZigBee™ Network Layer
- ZigBee™ Application Framework
- ZigBee™ Security Tool Box
- ZigBee™ Profiles

Z-Stack Profile Builder™

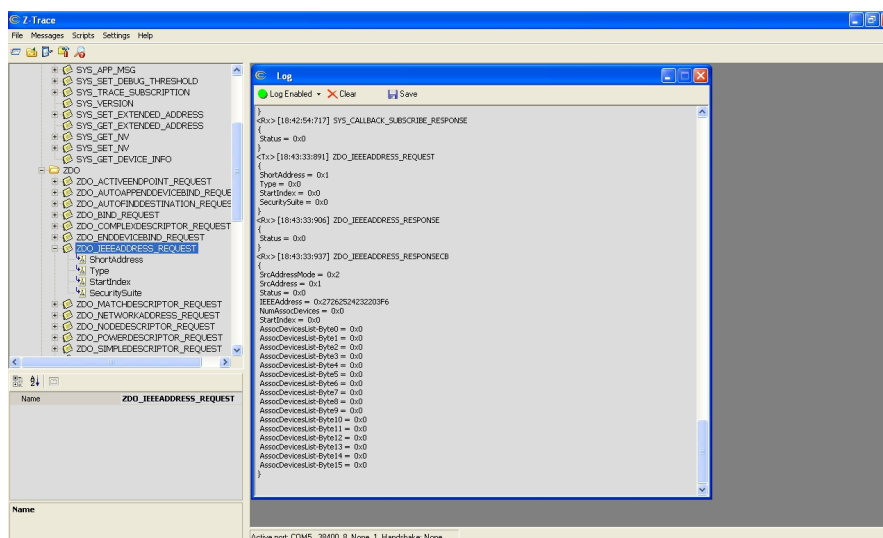
Z-Stack Profile Builder™ is a Windows application that automates the generation of ZigBee™ application code from user-defined profiles.

Z-Stack Configurator™

Z-Stack Configurator™ is a Windows application, which allows automated customization of ZigBee™ enabled applications.

Z-Trace™ Debug Tool

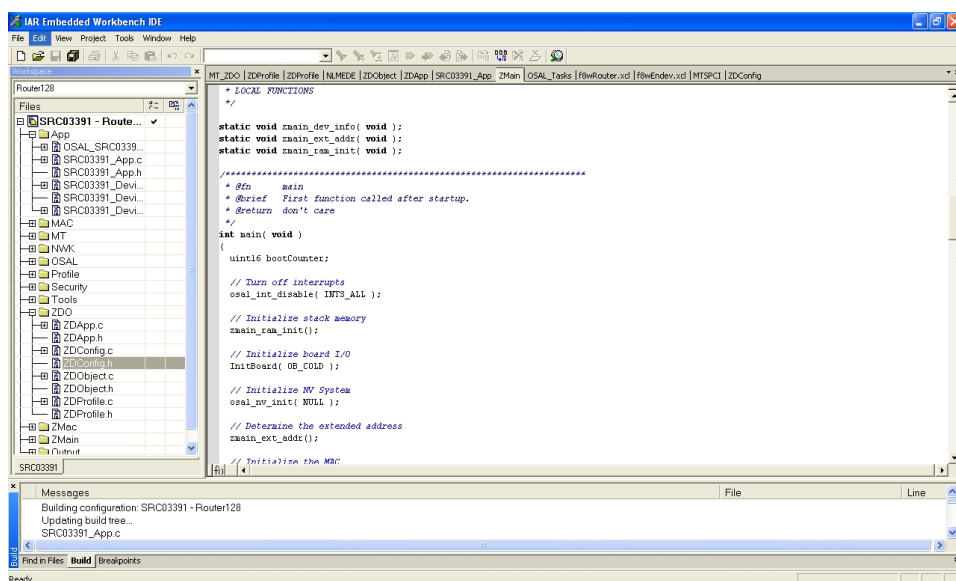
Z-Trace™ provides debug information output through the serial port of the target.



3rd Party Software

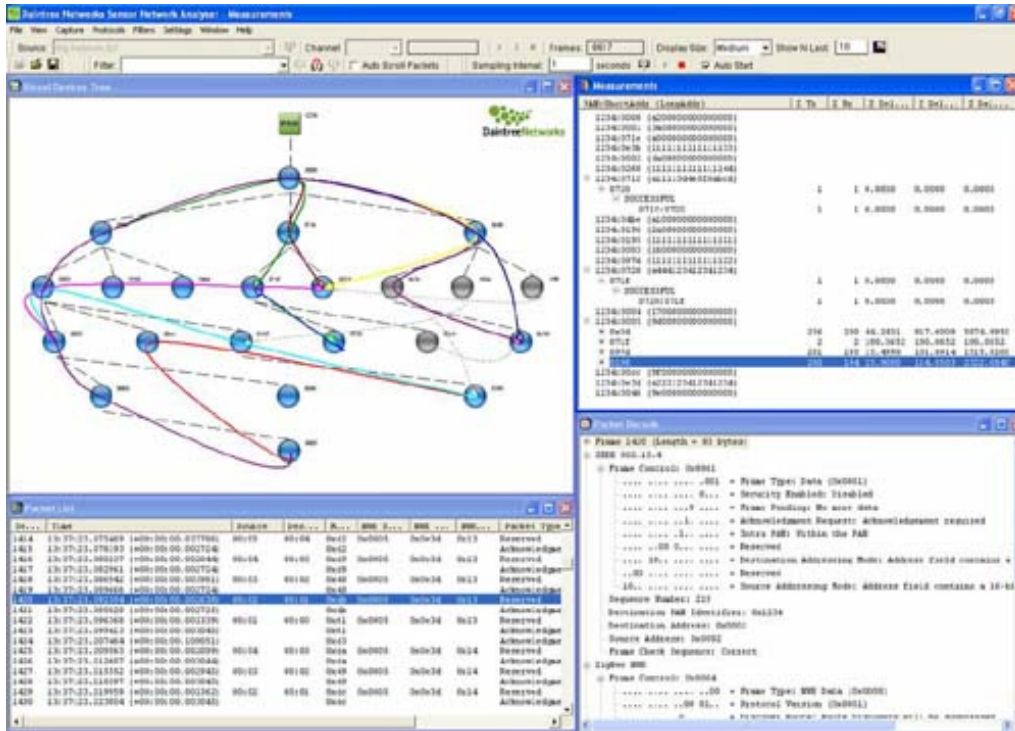
IAR EW8051 C-compiler with C-SPY debugger (30+30 days evaluation license)

The CC2430ZDK Pro is supported by the IAR EW8051 C-compiler, which is used with the MAC, the Z-stack™ and application examples. The C-SPY debugger is used as emulator interface. Both the C-compiler and the C-SPY debugger are included in the development kit as 30-day evaluation licenses. By registering the compiler with IAR, a 30-day extension of the license will be given.



Daintree Networks Sensor Network Analyzer (Basic Edition plus 30 days evaluation license to enhanced editions)

The CC2430ZDK Pro is supported by Daintree Networks' Sensor Network Analyzer (SNA), a powerful visual network and protocol analysis tool for 802.15.4™ and ZigBee™ development. The SmartRF04EB or CC2430DB boards included in the development kit can be used as a receiver (sniffer hardware) in conjunction with the SNA. By registering with Daintree Networks the Basic Edition of the analyzer may be used perpetually, along with a 30 day evaluation license for fully featured versions of enhanced analyzer editions.



Training

Included in the CC2430ZDK Pro is one seat in the 2-day Z-training. 25% discount is given on any additional ZigBee training ordered during the six months following the purchase of the CC2430ZDK. Training is an excellent way to become an expert with the application development environment and application development using the Z-Stack.

Support

6 month's e-mail support is included in the CC2430ZDK.

IMPORTANT NOTICE

Texas Instruments Incorporated and its subsidiaries (TI) reserve the right to make corrections, modifications, enhancements, improvements, and other changes to its products and services at any time and to discontinue any product or service without notice. Customers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. All products are sold subject to TI's terms and conditions of sale supplied at the time of order acknowledgment.

TI warrants performance of its hardware products to the specifications applicable at the time of sale in accordance with TI's standard warranty. Testing and other quality control techniques are used to the extent TI deems necessary to support this warranty. Except where mandated by government requirements, testing of all parameters of each product is not necessarily performed.

TI assumes no liability for applications assistance or customer product design. Customers are responsible for their products and applications using TI components. To minimize the risks associated with customer products and applications, customers should provide adequate design and operating safeguards.

TI does not warrant or represent that any license, either express or implied, is granted under any TI patent right, copyright, mask work right, or other TI intellectual property right relating to any combination, machine, or process in which TI products or services are used. Information published by TI regarding third-party products or services does not constitute a license from TI to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

Reproduction of information in TI data books or data sheets is permissible only if reproduction is without alteration and is accompanied by all associated warranties, conditions, limitations, and notices. Reproduction of this information with alteration is an unfair and deceptive business practice. TI is not responsible or liable for such altered documentation.

Resale of TI products or services with statements different from or beyond the parameters stated by TI for that product or service voids all express and any implied warranties for the associated TI product or service and is an unfair and deceptive business practice. TI is not responsible or liable for any such statements.

Following are URLs where you can obtain information on other Texas Instruments products and application solutions:

Products		Applications	
Amplifiers	amplifier.ti.com	Audio	www.ti.com/audio
Data Converters	dataconverter.ti.com	Automotive	www.ti.com/automotive
DSP	dsp.ti.com	Broadband	www.ti.com/broadband
Interface	interface.ti.com	Digital Control	www.ti.com/digitalcontrol
Logic	logic.ti.com	Military	www.ti.com/military
Power Mgmt	power.ti.com	Optical Networking	www.ti.com/opticalnetwork
Microcontrollers	microcontroller.ti.com	Security	www.ti.com/security
		Telephony	www.ti.com/telephony
		Video & Imaging	www.ti.com/video
		Wireless	www.ti.com/wireless

Mailing Address: Texas Instruments
Post Office Box 655303 Dallas, Texas 75265

Copyright © 2006, Texas Instruments Incorporated

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Texas Instruments:](#)

[CC2430ZDK](#)