

Support

First, check the Cypress web site for updates. There is a section for Development Kits that contains general kit items, but there are also sections for Application Notes, Software Downloads, and other types of content. You can access these types of content by starting under the Product Family of WirelessUSB.

Next is the Cypress Knowledge Base. This is an online system that has a collection of frequently asked questions and answers. Look for it under www.cypress.com/support and search for your topic.

If you don't find what you need in the Knowledge Base, then you can submit a question online through our Case Management System www.cypress.com/support. Enter your question and our Applications Engineering team will get back to you with a response. They usually follow up within 24 hours, although some cases may take longer depending upon the nature of the question.

In addition, you can reach Applications Engineering by phone. Dial (800)-541-4736 or (408)-943-2600 and enter 8 for support.

Also, please keep your Cypress Sales Representative and Field Applications Engineer informed. Your local FAE may be able to provide on-site assistance to help you resolve your problem. If nothing else, they can serve as liaison to the internal factory resources to manage requests for assistance.

For technical assistance with the Avago ADNS-3040 sensor, visit <http://www.avagotech.com/support/>



CY4636 Reference Design Kit Quick Start

CY4636 Rev B

Introduction

Welcome to the CY4636 WirelessUSB LP Keyboard/Mouse/Bridge Reference Design Kit (RDK). This kit includes everything you need to make a wireless keyboard and mouse. Cypress's new 2.4 GHz WirelessUSB LP radio system on a chip products have many powerful features that allow the creation of never before seen radio applications. Avago's ADNS-3040 Ultra Low-Power Mouse Sensor is particularly optimized for wireless mouse applications.

This document provides an overview of the kit and a roadmap to guide you to the pieces of information that will help you the most.

The CY4636 Reference Design Kit uses enCoRe II LV controllers for the RDK Keyboard (CY7C60123-PVXC) and enCoRe III LV controllers for the RDK mouse (CY7C60323-PVXC). The RDK bridge uses the enCoRe II Low Speed USB Peripheral Controller (CY7C63803-SXC). Contact your local sales representative for more information on these Cypress Semiconductor controllers. For more information on Avago's ADNS-3040 Ultra Low-Power Mouse Sensor, contact your local Avago sales representative.

Review of Kit Components

The following items are included in the kit:

- Printed Documents
 - CY4636 RDK Welcome Letter
 - CY4636 RDK Product Brief
 - CY4636 RDK Quick Start (this document)
 - CY4636 Software License Agreement
 - CY4636 RDK Release Notes
 - CY4636 RDK Errata

- WirelessUSB LP RDK Keyboard

The RDK keyboard is a 101-keypad keyboard with the addition of multimedia keys and power keys.



- WirelessUSB LP RDK Bridge

The RDK bridge supports both the RDK keyboard and RDK mouse.



- WirelessUSB LP RDK Mouse

The RDK mouse is a three button optical mouse with scroll wheel.



- Batteries

Four AA batteries are included in this kit. Two batteries are for the RDK keyboard and two batteries are for the RDK mouse. The bridge is a USB bus-powered device and does not require batteries.

- WirelessUSB LP Keyboard/Mouse RDK CD-ROM

The CD contains the documentation, example code, hardware design files and PSoC Designer – everything you need to design your wireless keyboard and mouse.

Connecting the Bridge, Keyboard, and Mouse

Install batteries into the keyboard and mouse. On the mouse, note that both batteries are aligned in the same direction with the negative end inserted first. Also on the mouse, ensure that the power switch is in the ON position.

Carefully plug the bridge into your PC. Your PC automatically recognizes the device and installs drivers for USB HID devices (keyboard and mouse). The red LED on the bridge illuminates during the enumeration process and then extinguishes after the enumeration process is complete. If the **Bind** button is inadvertently pushed while you are plugging the bridge into the USB port, the red LED blinks. You must remove the bridge from the computer and re-insert it into the USB port making sure that the **Bind** button is not pushed.

After the bridge is enumerated and the red LED is off, press the **Bind** button on the bridge and the **Bind** button on the keyboard to complete the 'binding' process. While in the bind mode, the red LED blinks until the **Bind** button is pushed on the keyboard. The bridge LED stops blinking to indicate the keyboard is now ready for normal operation.

Repeat the above process for the mouse. Press the **Bind** button on the bridge then press the mouse **Bind** button.

Both the keyboard and mouse must be bound to the bridge. Any activity on either device causes the green LED to illuminate momentarily. The bind process may be repeated at any time if one of the devices failed to bind.

WirelessUSB LP Keyboard/Mouse RDK CD-ROM

The CD-ROM contains electronic versions of the documents, the hardware design files for the PCBs (Gerbers, BOMs, schematics and Orcad files), battery level and signal strength application, and the source code and binary files for the bridge, keyboard and mouse.

Directory Structure

The following list describes the higher-level directory structures and does not completely explore the lower level directories or attempts to describe the location of every file.

-- Docs	'Docs' contains the kit documentation in PDF form.
-- Hardware	'Hardware' contains the design files used in development of the boards in the kit. There are subdirectories for each board. Within those directories you will find .pdf schematics, Bill of Materials, Orcad source files, and Gerber databases.
-- Bridge	
-- Keyboard	
-- Mouse	
-- Firmware	'Firmware' contains the firmware related files.
-- Source Code	'Source Code' contains the source files for each of the RDK boards. The 'Keyboard', 'Mouse' and 'Bridge' directories include the application source files and the necessary PSoC Designer directories/files.
-- Keyboard	
-- Bridge	
-- Mouse	
-- Binaries	'Binaries' contains a binary image of the firmware for each RDK board.
-- Standard	'Standard' contains the binary image without encryption and 'Encrypt' contains the binary image with encryption. 'EMC_Test' contains the binary image for the EMC test.
-- Encrypt	
-- EMC_Test	
-- Software	'Source Code' and 'Binaries' contains the battery level and signal strength application source files and executable(s).
-- Source Code	
-- Binaries	
-- PSoC Tools	'PSoC tools' contains the PSoC tools for building the firmware and programming the parts..

Documentation Index

A brief description of the documents follows:

CY4636 Reference Design Kit Quick Start

Description: Introduction to the development kit contents (this document).

Cypress Software License Agreement

Description: This document provides the standard Cypress license for use of materials supplied in the development kit.

CY4636 Reference Design Kit Release Notes

Description: This Release Notes document focuses explicitly on the development kit materials. It covers any last minute information that relates to deviations from functionality explained in the documentation.

CY4636 Reference Design Kit Errata

Description: This document covers any known RDK errata.

CY4636 RDK User's Guide

Description: This is a detailed reference that describes the RDK.

LP Radio Driver Documentation.doc

Description: This is a detailed reference that describes the LP Radio Driver.

CY7C63803 enCoRe II Low Speed USB Data sheet

Description: This is the data sheet for the CY7C63310/CY7C638xx/CY7C639xx enCoRe™ II Low-Speed USB Peripheral Controller.

CY7C60123 enCoRe II LV Data sheet

Description: This is the data sheet for the CY7C601xx/CY7C602xx enCoRe™ II LV Microcontroller devices.

CY7C60323 enCoRe III LV Data sheet

Description: This is the data sheet for the CY7C603xx enCoRe™ II LV Microcontroller devices.

CYRF6936 WirelessUSB LP Data sheet

Description: Data sheet for the WirelessUSB LP Radio. Please check our web site for any updates. Go to www.cypress.com and look under 'WirelessUSB'.

Avago ADNS-3040 Ultra Low-Power Mouse Sensor Data sheet

Description: This is the data sheet for the Avago ADNS-3040 Ultra Low-Power Mouse Sensor.

Development Tools

The enCoRe™ III LV, enCoRe™ II LV and enCoRe™ II development tools are provided in this kit. Check the Cypress website www.cypress.com for availability of update. The mouse, keyboard and bridge firmware was built using the following application configuration: PSoC Designer 4.3, PSoC Designer Service Pack 1, and PSoC Programmer 2.20.0.11. Make sure you have this version or a newer one.