CY4623
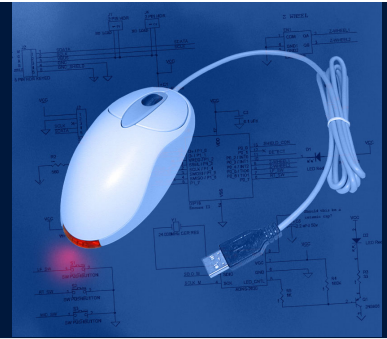# *enCoRe II*™
Optical Mouse

Cypress offers a complete design for a USB or PS2 mouse in a cost effective, space-saving solution. This reference design is a fully functional product that complies with all applicable USB, PS/2, and WHQL specifications.
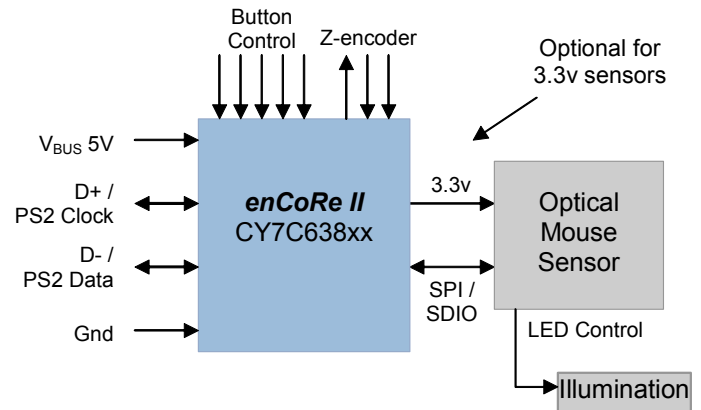
Our Optical Mouse Reference Design is based on the Cypress *enCoRe II* - *en*hanced *Co*mponent *Re*duction – device family. This revolutionary family integrates numerous common components, including our breakthrough crystal-less oscillator, 3.3V regulator with external supply, D- pull-up resistor, and flash memory. The result is an overall reduction in board components and a reduced system cost.

This design utilizes a single cable capable of being connected via a USB connector or PS/2 connector with an adapter. Firmware can be built to demonstrate USB or PS/2 operation, and the chip will support a complete combi USB-PS/2 implementation. The flash based microcontroller allows easy firmware modification, as well as storage of Vendor and Product IDs without an external EEPROM. The flash can be re-programmed directly through the USB cable, making it possible to update firmware in manufacturing or in the field without even opening the plastics!

- Agilent ADNS-2620 optical sensor
- USB or PS/2 support
  - May be customized for full combi support
- No external transistors or pull-ups
- 3 buttons with I/O for 6-10 more
- CY7C638xx device family
  - Capable of interface auto detection
  - Internal crystal-less oscillator
  - Proprietary 8-bit RISC processor, optimized for USB and PS/2
  - Up to 8KB of internal flash
- USB 2.0 specification compliant
- WHQL compliant

enCoRe II MOUSE SYSTEM DIAGRAM

Design Components

The CY4623 Optical Mouse Design, available as a complete kit or via download on the Cypress web site, is a complete resource for developers to utilize in the development of their own product with the Cypress *enCoRe II* chips.

The complete reference design includes:

- Evaluation 3-button combi optical mouse
- "MiniProg" programmer and USB receptacle adapter
- Firmware source and object code
- Firmware User's Guide
- Schematics in .pdf and Orcad
- Gerber database files
- Bill of Materials

Kit Part Numbers

Reference Design Kit	Development Tools
CY4623	CY3655-DK

3 August 2005
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