

CYPRESS

enCoRe™ V FULL-SPEED USB MICROCONTROLLERS

(CY7C6431x, CY7C6434x, CY7C6435x)



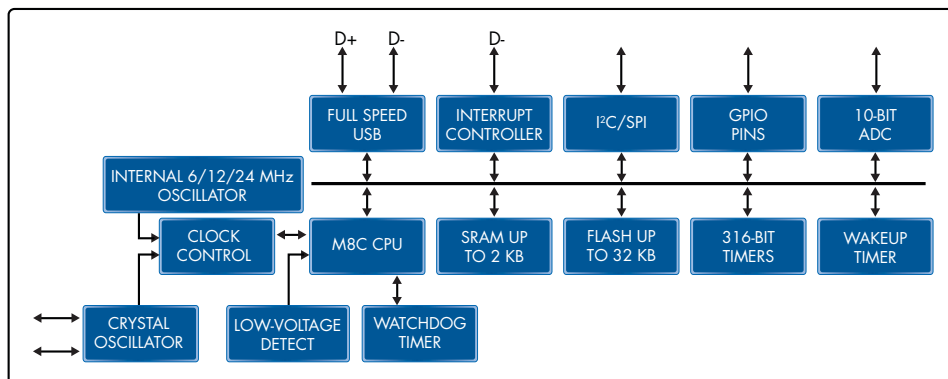
PRODUCT OVERVIEW

FULL-SPEED USB IN A FLASH

Introducing enCoRe V, Cypress's next generation of Full-Speed USB peripheral microcontrollers (MCUs) from the market leader in USB. The enCoRe V MCUs provide a highly integrated, cost-effective solution for applications that require a Full-Speed USB interface for outstanding performance.

In addition to Cypress's patented crystal-less oscillator and integrated pull-up resistors, the enCoRe V family also features a 10-bit ADC, eight USB endpoints, three 16-bit timers and up to 32 Kb of flash memory to enable more resource-intensive applications. These features, along with Cypress's best-in-class quality, tools and design support, make enCoRe V devices the ideal choice for Full-Speed USB peripheral applications.

enCoRe V block diagram



Cypress provides a complete line of products for developing any HID application.

TITLE	FEATURES
enCoRe™ II	A flash-based low-speed USB MCU with up to 8K of flash memory targeted for simple PC peripheral applications
enCoRe™ III	A flexible flash-based full-speed USB MCU with programmable peripheral blocks: PWM, SPI, UART, and ADC
enCoRe™ V	A flash-based full-speed USB MCU with up to 32K of flash memory that enables features for an enhanced user experience

ADVANTAGES

DESIGN FLEXIBILITY

- Up to 32 Kb of flash memory with EEPROM emulation
- Up to 2 Kb of SRAM
- In-System Serial Programmability (ISSP)
- Bootloader

REDUCED BOM COST

- enhanced Component Reduction (enCoRe)
- Integrated crystal-less oscillator
- Integrated pull-up resistor on D+

POWERFUL CPU PERFORMANCE

- Enhanced third-generation M8C microcontroller core
- Up to 24 MHz CPU speed for V_{DD} between 3.0 to 5.5V
- Low-power (<2.15 mA operating at 24 MHz, <1.5 µA sleep)
- Internal wake-up and watchdog timers
- Brown-out detection and low-voltage reset
- **NEW!** Industrial temperature option: -40 to +85C

SMALL FORM-FACTOR PACKAGES

- Three choices of 11, 25 and 36 general purpose I/Os
- 16-pin, 32-pin and 48-pin QFN packages
- Small form factor enables innovative industrial designs

APPLICATIONS

• Wireless dongles • Laser mice • Gaming keyboards • Gaming • Point-of-sale devices

BOOTLOADER

Supports a fully functional device reprogramming ability with built-in error detection and USB standard communication interface.

EIGHT USB ENDPOINTS

Device can support multiple communication pipes of different functions – ideal for feature-rich wireless PC peripheral applications where a wireless dongle can communicate with multiple wireless devices, such as a wireless mouse keyboard, a remote controller, and a presenter tool.

UP TO 32 KB FLASH

More room to store application features – more unique productivity or differentiation features for business or leisure entertainment applications.

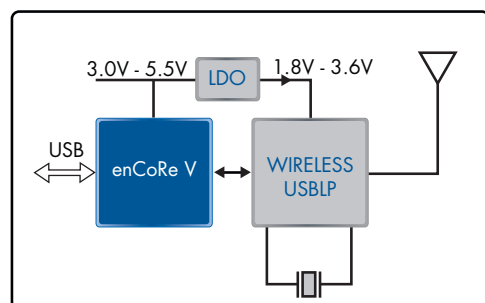
UNIFIED DEVELOPMENT ENVIRONMENT

PSoC Designer™ tool offers a GUI-based integrated development environment with device editor, application editor, compiler, assembler, debugger, and device library supporting the full range of microcontrollers offered by Cypress.

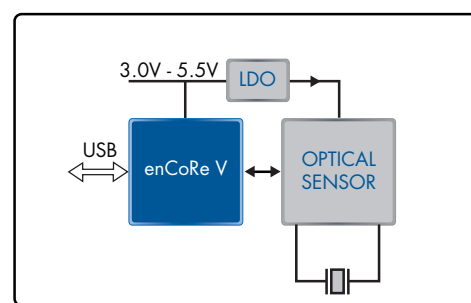
A COMPLETE SUITE OF DEVELOPMENT TOOLS

Cypress provides a complete line of value-added kits to simplify design and reduce time-to-market for enCoRe V applications:

- CY3660 enCoRe V and enCoRe V LV Development Kit (DVK) – This DVK includes out-of-box examples to help customers get started with enCoRe V and enCoRe V LV products development. The kit also includes Cypress's WirelessUSB™ development modules that demonstrate the performance of Cypress's 2.4 GHz radio.
- CY4660 enCoRe V Reference Design Kit (RDK) – A complete production-ready solution for wireless laser gaming mouse using Cypress's OvationONS™ laser navigation sensor and enCoRe V.
- PSoC Designer™ and PSoC Programmer – This powerful easy-to-use (drag and drop) Integrated Development Environment (IDE) comes with pre-configured, pre-characterized embedded peripheral function called user modules and extensive user assistance in the form of help dialog boxes, pull-down menus and other GUI aids. PSoC Programmer is a GUI-based application used to program enCoRe V MCUs with Cypress's development tool hardware.



Typical block diagram of a wireless bridge using enCoRe V and WirelessUSB LP devices



Typical block diagram of a wired mouse using an enCoRe V controller

PART NUMBER	TYPICAL APPLICATION	FLASH	SRAM	PACKAGE	GPIO
CY7C64315-16LKXC	Full-Speed USB dongle	16K	1K	16 QFN	11
CY7C64316-16LKXC/I	Full-Speed USB dongle	32K	2K	16 QFN	11
CY7C64343-32LQXC/I	Full-Speed USB mouse	8K	1K	32 QFN	25
CY7C64345-32LQXC/I	Full-Speed USB mouse	16K	1K	32 QFN	25
CY7C64355-48LTXC	Full-Speed USB keyboard	16K	1K	48 QFN	36
CY7C64356-48LTXC/I	High-end Full-Speed USB keyboard	32K	2K	48 QFN	36

GET STARTED NOW.

Go to www.cypress.com for more information on enCoRe V products. To purchase enCoRe V parts or kits visit us at www.cypress.com/go/shop

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