

# CYPRESS PRODUCT SELECTOR GUIDE USB SOLUTIONS

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AUTOMOTIVE • CAPSENSE™ CAPACITIVE TOUCH SENSING • CLOCKS AND BUFFERS • LIGHTING AND POWER CONTROL • MEMORIES • OPTICAL AND IMAGE SENSING • PHYSICAL LAYER DEVICE • PSoC® PROGRAMMABLE SYSTEM-ON-CHIP • TRUETOUCH™ TOUCH SCREEN SOLUTIONS • USB SOLUTIONS • WEST BRIDGE® PERIPHERAL CONTROLLERS • WIRELESS/RF



# USB SOLUTIONS

## USB HI-SPEED PERIPHERALS

### General-Purpose Solutions

- EZ-USB FX2LP™—Low power programmable MCU for bus- and battery-powered peripherals, pin-for-pin compatible with EZ-USB FX2

**Key Applications:** PC peripherals, consumer electronics

### External Mass Storage Solutions

- EZ-USB AT2LP™—programmable USB to PATA bridge for external HDD, optical drives and multi-role storage applications
- EZ-USB NX2LP-Flex™—programmable USB NAND flash controller for multi-role NAND flash drives

**Key Applications:** External Hard Disk Drives (HDD), USB NAND flash drives, and biometric security

### EZ-USB FX2LP

Part Number	Status	Development Kit	Memory Size	# of Total Pins	# of I/O	Interface Options	Package	USB Application
CY7C68013A	Active	CY3684	16 KB	56	24	8/16-bit Databus, DMA, GPIO, I <sup>2</sup> C, UART	VFBGA	USB High Speed Peripherals
CY7C68014A	Active	CY3684	16 KB	100	40	8/16-bit Databus, DMA, GPIO, I <sup>2</sup> C, UART	TQFP	USB High Speed Low power Peripherals
CY7C68014A	Active	CY3684	16 KB	128	40	8/16-bit Databus, DMA, GPIO, I <sup>2</sup> C, UART	TQFP	USB High Speed Low power Peripherals
CY7C68014A	NRND	CY3684	16 KB	56	24	8/16-bit Databus, DMA, GPIO, I <sup>2</sup> C, UART	VFBGA	USB High Speed Low power Peripherals
CY7C68014A	Active	CY3684	16 KB	56	24	8/16-bit Databus, DMA, GPIO, I <sup>2</sup> C, UART	QFN	USB High Speed Low power Peripherals
CY7C68014A	Active	CY3684	16 KB	56	24	8/16-bit Databus, DMA, GPIO, I <sup>2</sup> C, UART	SSOP	USB High Speed Low power Peripherals
CY7C68015A	Active	CY3684	16 KB	56	26	8/16-bit Databus, DMA, GPIO, I <sup>2</sup> C, UART	QFN	USB High Speed Peripherals w/ High IO
CY7C68016A	Active	CY3684	16 KB	56	26	8/16-bit Databus, DMA, GPIO, I <sup>2</sup> C, UART	QFN	USB High Speed Low power Peripherals w/ High IO

All EZ-USB FX2LP products have 7 endpoints, based on the enhanced 8051 core, allow bulk, interrupt and isochronous transfers and use the Keil S/W tools that are available from Cypress.

### EZ-USB AT2LP

Part Number <sup>1</sup>	Status	Development Kit	Memory Size	# of Total Pins	# of I/O	Interface Options	Package	USB Application
CY7C68300C <sup>2</sup>	Active	CY4615B	NA	56	None	ATA, ATAPI or CompactFlash	QFN	USB High Speed Mass Storage
CY7C68301C	Active	CY4615B	NA	56	None	ATA, ATAPI or CompactFlash	QFN	USB High Speed Mass Storage
CY7C68320C <sup>2,3</sup>	Active	CY4615B	NA	100	6 GPIO	ATA, ATAPI or CompactFlash	TQFP	USB High Speed Mass Storage
CY7C68321C <sup>3</sup>	Active	CY4615B	NA	100	6 GPIO	ATA, ATAPI or CompactFlash	TQFP	USB High Speed Mass Storage

<sup>1</sup>All EZ-USB AT2LP products have 4 endpoints and support bulk only transfers.

<sup>2</sup>The CY7C68300/20 are ideal for bus and self-powered applications while the CY7C68301/21 are ideal for battery powered applications. None of these products require software.

<sup>3</sup>The CY7C68320/21 have extra GPIOs for HID interfaces or button controls, LED notification etc.

### EZ-USB NX2LP-Flex

Part Number <sup>1</sup>	Status	Development Kit	Memory Size	# of Total Pins	# of I/O	Package	USB Application
CY7C680331 <sup>1</sup>	Active	CY3686	15KB	56	12 GPIO	QFN	USB High Speed Programmable NAND Controller for bus powered apps
CY7C68034 <sup>2</sup>	Active	CY3686	15KB	56	12 GPIO	QFN	USB High Speed Programmable NAND Controller for battery powered apps

<sup>1</sup>All EZ-USB NX2LP products have 5 endpoints support bulk, interrupt and isochronous transfers. They have 12 GPIOs.

<sup>2</sup>Ideal for non-battery powered applications — refer to the datasheet for more details

<sup>3</sup>Ideal for battery powered designs — refer to the datasheet for more details

## USB HUBS

The Cypress hub controller portfolio includes both single and multi transaction translator controllers ranging from two ports to four ports. The Low Power (LP) family provides industry-leading products perfect for bus-powered applications.

Complete turnkey reference designs are available for all hub controller products, enabling quick time-to-market solutions.

### USB Full-Speed Hubs

Part Number	Status	Development Kit	Hub Ports	USB Application	# of Total Pins	# of I/O	Core	Data Transfers	Interface Options	Memory Architecture	Memory Size	Package	Programmer	Software Tools
CY7C65113C	Active	CY3654, CY3654-P03	4	USB Full-Speed Hub Solutions	28	11	M8 (8-bit RISC)	Bulk, Interrupt, Isochronous	GPIO, I <sup>2</sup> C, Programmable Drive	EPROM	8 KB	SOIC	CY3649-XXXV	C-Compiler (CY366x)
CY7C66013C	Active	CY3654, CY3654-P03	4	USB Integrated Hub + Peripheral	48	29	M8 (8-bit RISC)	Bulk, Interrupt, Isochronous	GPIO, I <sup>2</sup> C, Programmable Drive	EPROM	8 KB	SSOP	CY3649-XXXV	C-Compiler (CY366x)
CY7C66113C	Active	CY3654, CY3654-P03	4	USB Integrated Hub + Peripheral	56	39	M8 (8-bit RISC)	Bulk, Interrupt, Isochronous	DAC Port, GPIO, HAPI, I <sup>2</sup> C, Programmable Drive	EPROM	8 KB	QFN	CY3649-XXXV	C-Compiler (CY366x)

### USB Hi-Speed Hubs

Part Number	Status	Development Kit	Hub Ports	USB Application	# of Total Pins	Data Transfers	TT	Package
CY7C65620/21	Active	CY4605	2	EZ-USB HX2LP—High Speed Hub	56	Bulk, Interrupt, Isochronous	1	QFN
CY7C65630/31	Active	CY4606	4	EZ-USB HX2LP—High Speed Hub	56	Bulk, Interrupt, Isochronous	1	QFN
CY7C65640A	Active	CY4602	4	USB TetraHub—High Speed Hub	56	Bulk, Interrupt, Isochronous	4	QFN

## USB HID SOLUTIONS

### USB Low-Speed Peripherals

Cypress's low-speed USB controllers feature the industry's smallest 8-bit RISC core that contains RAM, EPROM/flash, USB logic and a USB transceiver. This family has three generations of products:

- M8™ series—The world's first integrated low-speed USB microcontroller.
- enCoRe—Enhanced component reduction technology reduces system cost through external component integration.
- enCoRe II—The second generation of enhanced component reduction technology adding flash memory and more integration.

Part Number	Status	# Endpoints	# of I/O	Core	Development Kit	Memory Architecture	Memory Size	# of Total Pins	Data Transfers	Interface Options	Package	Programmer	Programming Adapter Base	Software Tools
<b>USB M8 Series</b>														
CY7C630/1xx	Active	2	16	M8A (8-bit RISC)	CY3650	EPROM	4 KB	24	Interrupt	DAC Port, GPIO, Programmable Drive	QSOP	CY3649-XXXV	130-5304-06 (available from Emulation Technologies)	C-Compiler (CY366x)
CY7C63413C	Active	3	32	M8B (8-bit RISC)	CY3654, CY3654-P02	EPROM	8 KB	48	Interrupt	GPIO, Programmable Drive	SSOP	CY3649-XXXV	CY3083-SS56	C-Compiler (CY366x)
CY7C63513C	Active	3	40	M8B (8-bit RISC)	CY3654, CY3654-P02	EPROM	8 KB	48	Interrupt	DAC Port, GPIO, Programmable Drive	SSOP	CY3649-XXXV	CY3083-SS56	C-Compiler (CY366x)
CY7C63613C	Active	3	16	M8B (8-bit RISC)	CY3654, CY3654-P02	EPROM	8 KB	24	Interrupt	GPIO, Programmable Drive	SOIC	CY3649-XXXV	CY3083-SC28	C-Compiler (CY366x)
<b>enCoRe</b>														
CY7C637xx	Active	3	10	M8B (8-bit RISC)	CY3654, CY3654-P05	EPROM	8 KB	18	Interrupt	GPIO, Programmable Drive	SOIC	CY3649-XXXV	Low-speed USB Peripheral Controllers	C-Compiler (CY366x)
CY7C637xx	Active	3	10	M8B (8-bit RISC)	CY3654, CY3654-P05	EPROM	8 KB	18	Interrupt	GPIO, Programmable Drive	SOIC	CY3649-XXXV	Low-speed USB Peripheral Controllers	C-Compiler (CY366x)
CY7C637xx	Active	3	16	M8B (8-bit RISC)	CY3654, CY3654-P05	EPROM	8 KB	24	Interrupt	GPIO, Programmable Drive	SOIC	CY3649-XXXV	Low-speed USB Peripheral Controllers	C-Compiler (CY366x)
CY7C637xx	Active	3	16+1	M8B (8-bit RISC)	CY3654, CY3654-P05	EPROM	8 KB	24	Interrupt	GPIO, Programmable Drive	SOIC	CY3649-XXXV	Low-speed USB Peripheral Controllers	C-Compiler (CY366x)
<b>enCoRe II</b>														
CY7C633xx	Active	3	13	M8C (8-bit RISC)	CY3655	Flash	3 KB	16	Interrupt	USB, PS/2, SPI, CLKIN/OUT, GPIO	PDIP	CY3217	NA	PSoC Designer
CY7C638xx	Active	3	19	M8C (8-bit RISC)	CY3655	Flash	8 KB	24	Interrupt	USB, PS/2, SPI, CLKIN/OUT, GPIO, Vreg	SOIC	CY3217	NA	PSoC Designer

## USB FULL-SPEED PERIPHERALS

Our full-speed product line features low-cost Serial Interface Engines (SIEs), plus those that include a robust 8-bit RISC processor, or the popular 8051.

- M8™ series 8-bit RISC controller for mid-performance, full-speed peripherals such as audio or smart card readers
- enCoRe™ III—enCoRe USB meets PSoC functionality in a low-power, low-cost, highly flexible full-speed microcontroller
- enCoRe™ V—With a flash size of up to 32K, this is a highly integrated, cost effective full-speed USB microcontroller solution ideal for applications that requires a full-speed USB interface for outstanding performance such as a wired gaming mouse or high-end dongles
- EZ-USB FX1™—Faster, extended technology for ultra-high performance

### USB M8 Series

Part Number	Status	# of I/O	Core	Data Transfers	Development Kit	I/O Options	Memory Architecture	Memory Size	# Endpoints	# of total Pins	Package	Programmer	Programming Adapter Base	Programming Matrix Adapter	Software Tools	Temp Range
CY7C64013C	Active	19	M8 (8-bit RISC)	Bulk, Interrupt, Isochronous	CY3654 & CY3654-P03	GPIO HAPI I <sup>2</sup> C Programmable Drive	EPROM	8 KB	3	28	PDIP	CY3649-XXXV	CY3083-SC28	CY3083-02	C-Compiler (CY366x)	
CY7C64013C	Active	19	M8 (8-bit RISC)	Bulk, Interrupt, Isochronous	CY3654 & CY3654-P03	GPIO HAPI I <sup>2</sup> C Programmable Drive	EPROM	8 KB	3	28	PDIP	CY3649-XXXV	CY3083-SC28	CY3083-02	C-Compiler (CY366x)	

### enCoRe III

Part Number	Status	# of I/O	Core	Data Transfers	Development Kit	I/O Options	Memory Architecture	Memory Size	# Endpoints	# of total pins	Package	Software Tools	Temp Range
CY7C64215	Active	22	M8C (8-bit RISC)	Bulk, Interrupt, Isochronous	CY3664	GPIO I <sup>2</sup> C UART PWM ADC	Flash	16 KB	5	28	SSOP	PSoC Designer	
CY7C64215	Active	50	M8C (8-bit RISC)	Bulk, Interrupt, Isochronous	CY3664	GPIO I <sup>2</sup> C UART PWM ADC	Flash	16 KB	5	56	QFN	PSoC Designer	

### enCoRe V

Part Number	Status	# of I/O	Core	Data Transfers	Development Kit	I/O Options	Memory Architecture	Memory Size	# Endpoints	# of total pins	Hub Ports	Package	Software Tools	Temp Range
CY7C64343	Active	25	M8C (8-bit RISC)	Bulk, Interrupt, Isochronous	CY3660	GPIO I <sup>2</sup> C SPI ADC	Flash	8KB	9	32	NA	QFN	PSoC Designer	
CY7C64315	Active	11	M8C (8-bit RISC)	Bulk, Interrupt, Isochronous	CY3660	GPIO I <sup>2</sup> C SPI ADC	Flash	16 KB	9	16	NA	QFN	PSoC Designer	
CY7C64345	Active	25	M8C (8-bit RISC)	Bulk, Interrupt, Isochronous	CY3660	GPIO I <sup>2</sup> C SPI ADC	Flash	16KB	9	32	NA	QFN	PSoC Designer	
CY7C64355	Active	36	M8C (8-bit RISC)	Bulk, Interrupt, Isochronous	CY3660	GPIO I <sup>2</sup> C SPI ADC	Flash	16KB	9	48	NA	QFN	PSoC Designer	
CY7C64316	Active	11	M8C (8-bit RISC)	Bulk, Interrupt, Isochronous	CY3660	GPIO I <sup>2</sup> C SPI ADC	Flash	32KB	9	16	NA	QFN	PSoC Designer	
CY7C64356	Active	36	M8C (8-bit RISC)	Bulk, Interrupt, Isochronous	CY3660	GPIO I <sup>2</sup> C SPI ADC	Flash	32KB	9	48	NA	QFN	PSoC Designer	

### EZ-USB FX1

Part Number	Status	Core	Data Transfers	Development Kit	Memory Architecture	Memory Size	# Endpoints	# of Total Pins	Package	Software Tools	Temp Range
CY7C64713	Active	Enhanced 8051	Bulk, Interrupt, Isochronous	CY3674	RAM	16 KB	4	100	TQFP	Keil S/W Tools (available from Keil)	

## WirelessUSB™

Designed for short-range desktop wireless connectivity in PC peripheral applications, the WirelessUSB system acts as a USB HID-class device.

Cypress also offers P<sub>RoC</sub>™—a flash-based programmable radio system-on-chip. The P<sub>RoC</sub> is the world's first low-cost, flash-programmable microcontroller with an integrated 2.4 GHz radio transceiver. The microcontroller core is the M8C 8-bit engine that supports a rich instruction set. It contains 256 bytes of data SRAM and 8 kilobytes code flash memory.

**Key Applications:** Wireless mouse, wireless USB bridge, wireless keyboard, wireless presenters, gaming

### WirelessUSB/P<sub>RoC</sub> LP Benefits

- World's most robust 2.4 GHz solution operates reliably in busy 2.4 GHz environments
- Ultra low power optimization for battery-powered devices
- Low cost implementation and BOM integration
- Easy-to-use reference design and tools for quick time to market

## WirelessUSB LP

Part Number	Status	Voltage	Throughput	Modulation	Applications	Development Kit	Reference Design Kit	Temp Range	Package
CYRF6936	Active	1.8 to 3.6V	1 Mbps	GFSK and DSSS	PC HID	CY3630	CY4672	0C to +70C	40 QFN

## P<sub>RoC</sub> LP

Part Number	Status	Voltage	Throughput	Modulation	Applications	Reference Design Kit	# I/O	Core	Max Speed	Core Memory Architecture	Code Memory Size	RAM Size	USB	Temp Range	Package
CYRF69103	Active	1.8 to 3.6V	1 Mbps	GFSK and DSSS	Wireless Mouse	CY4672	18	M8C	12 MHz	Flash	8KB	256B	N/A	0C to +70C	40 QFN
CYRF69213	Active	4.0 to 5.5V	1 Mbps	GFSK and DSSS	Wireless USB Bridge	CY4672	16	M8C	12 MHz	Flash	8KB	256B	Low-Speed	0C to +70C	40 QFN

## PSoC PROGRAMMABLE SYSTEM-ON-CHIP WITH USB

The CY8C24x94 series integrates a USB 2.0 Serial Interface Engine (SIE) with the PSoC programmable system on chip functionality, enabling shorter design cycles, reduced component and bill-of-material costs, saves board space, and reduces power consumption. This series also supports Cypress's CapSense™ technology, offering an efficient solution to replace mechanical buttons and controls with elegant, touch-sensitive controls.

**Key Applications:** Environmental sensing, fan/motor control, communications interfaces, power control, magnetic card read/write, mechanical buttons or other inputs, LCD display control, LED control, and more.

## PSoC Programmable System-on-Chip

Part Number <sup>1</sup>	Voltage (VDD)	GPIO	Digital I/O	Analog Input	Analog Output	Analog Blocks <sup>2</sup>	Digital Blocks <sup>3</sup>	Flash (Bytes)	RAM (Bytes)	CapSense Enabled	Comm. I/F	Package
CY8C24794-24LFXI	3.0V to 5.25V	50	50	48	2	6	4	16K	1K	Y	I <sup>2</sup> C, SPI, UART, USB	56 QFN
CY8C24894-24LFXI	3.0V to 5.25V	49	49	47	2	6	4	16K	1K	Y	I <sup>2</sup> C, SPI, UART, USB	56 QFN
CY8C24994-24BVXI	3.0V to 5.25V	56	56	48	2	6	4	16K	1K	Y	I <sup>2</sup> C, SPI, UART, USB	100 VFBGA
CY8C24994-24LFXI	3.0V to 5.25V	56	56	48	2	6	4	16K	1K	Y	I <sup>2</sup> C, SPI, UART, USB	68 QFN

1. All devices are available in Industrial temperature range (-40°C to +85°C) unless noted otherwise.

2. Analog blocks can implement the following peripherals: ADCs (Delta Sigma and SARs), DACs (6, 8, 9-bit), filters (2 pole low pass, 2 pole band pass, modulators, peak detectors), CapSense touchsensing, amplifiers (programmable gain, instrumentation, inverting, comparators, hysteresis, zero crossing)

3. Digital can implement the following peripherals: Timers/Counters (8, 16, 24 bit), pulse width modulators (8, 16, 24 bit, 8, 16 bit dead band generators, pseudo-random source (PRS), cyclic redundancy check (CRC), communications interfaces (I<sup>2</sup>C, SPI, UART, full-speed USB 2.0)

## WEST BRIDGE® PERIPHERAL CONTROLLERS

### Bridges

The West Bridge® family provides optimal performance and connectivity in the embedded world, enabling direct connection between peripherals, creating ultra-fast transfers while offloading the main processor from data-intensive operations.

The inaugural product in the West Bridge family is Antioch™ (CYWB012\*AB). The three port Antioch device is designed specifically for handsets, providing a direct path from PC to handset mass storage such as SD, MMC, HDD and NAND using Hi-Speed USB.

Building on the success of Antioch, the second product in the West Bridge family is Astoria™ (CYWB022\*). The Astoria device is a multimedia mass-storage controller that introduces Cypress's N-Xpress™ NAND controller technology. The N-Xpress technology provides fast interleaving, bad block management, static wear-leveling, and 4-bit ECC for up to 16 SLC NAND devices.

### Mobile Handheld Solutions

- West Bridge Antioch—ultra-low power peripheral controller for handsets, offered in 100 ball 6 x 6 mm VFBGA package and an 81 ball 3.8 x 3.8 mm WLCSP package
- West Bridge Astoria—multimedia mass-storage controller for embedded applications, offered in 100-ball 6 x 6 mm VFBGA package and an 81 ball 3.9 x 3.9mm WLCSP package

**Key Applications:** Handsets, portable media players, personal digital assistants, portable navigation devices, digital cameras, printers, and POS terminals

Part Number	Clock Input Frequency	Processor Interfaces Supported	Storage Supported
CYWB0124AB	19.2, 24, 26, 48 MHz	SRAM	1x SLC NAND and 1x SD, MMC, MMC+, CE-ATA
CYWB0125AB (Turbo-MTP Enabled)	19.2, 24, 26, 48 MHz	SRAM	1x SLC NAND and 1x SD, MMC, MMC+, CE-ATA
CYWB0120AB	19.2, 24, 26, 48 MHz	SRAM	1x SD, MMC, MMC+, CE-ATA
CYWB0224AB*	19.2, 24, 26, 48 MHz <sup>1</sup>	SRAM, ADMux, NAND, SPI <sup>2</sup>	2x SLC NAND, SD, SDIO MMC, MMC+, CE-ATA
CYWB0225AB* (Turbo-MTP)	19.2, 24, 26, 48 MHz <sup>1</sup>	SRAM, ADMux, NAND, SPI <sup>2</sup>	2x SLC NAND, SD, SDIO MMC, MMC+, CE-ATA
CYWB0226AB* (USB Switch)	19.2, 24, 26, 48 MHz <sup>1</sup>	SRAM, ADMux, NAND, SPI <sup>2</sup>	2x SLC NAND, SD, SDIO MMC, MMC+, CE-ATA
CYWB0227AB* (Switch + Turbo MTP)	19.2, 24, 26, 48 MHz <sup>1</sup>	SRAM, ADMux, NAND, SPI <sup>2</sup>	2x SLC NAND, SD, SDIO MMC, MMC+, CE-ATA
CYWB0228AB* (FlexBoot)	19.2, 24, 26, 48 MHz <sup>1</sup>	SRAM, ADMux, NAND, SPI <sup>2</sup>	2x SLC NAND, SD, SDIO MMC, MMC+, CE-ATA
CYWB0229AB* (FlexBoot + Turbo-MTP)	19.2, 24, 26, 48 MHz <sup>1</sup>	SRAM, ADMux, NAND, SPI <sup>2</sup>	2x SLC NAND, SD, SDIO MMC, MMC+, CE-ATA
CYWB0230AB* (FlexBoot + USB Swtich)	19.2, 24, 26, 48 MHz <sup>1</sup>	SRAM, ADMux, NAND, SPI <sup>2</sup>	2x SLC NAND, SD, SDIO MMC, MMC+, CE-ATA
CYWB0231AB* (FlexBoot + USB Switch + Turbo-MTP)	19.2, 24, 26, 48 MHz <sup>1</sup>	SRAM, ADMux, NAND, SPI <sup>2</sup>	2x SLC NAND, SD, SDIO MMC, MMC+, CE-ATA
CYWB0220ABSX2-FDXI	26 MHz	SRAM, ADMUX	1x SD, MMC

<sup>1</sup>19.2 and 26 MHz in FDXI package only.

<sup>2</sup>SPI and NAND in FDXI package only.

\* - S = SLC NAND

## MoBL-USB

The MoBL-USB™ family is designed with the mobile world in mind, taking Cypress's USB leadership and expertise to the handheld market.

### Mobile Handset Solutions

- MoBL-USB FX2LP18™—ultra low power programmable MCU; world class active and suspend currents; 1.8V-3.3V I/O; fully backward compatible with EZ-USB FX2LP; offered in 5 x 5 mm VFBGA.
- MoBL-USB TX2UL™—world's smallest Hi-Speed ULPI transceiver, with ultra-low sleep current.

**Key Applications:** Cell phones, smart phones, PDAs, MP3 players, portable media players, other handheld applications.

### MoBL-USB FX2LP18

Part Number	Status	# Endpoints	Core	Data Transfers	Development Kit	Memory Architecture	Memory Size	# of Total Pins	# of I/O	Hub Ports	I/O Options	Package	Software Tools	USB Application
CY7C68053	Active	7	Enhanced 8051	Bulk, interrupt, Isochronous	CY3687	RAM	16 KB	56	24	NA	8/16-bit Databus, DMA, GPIO, I <sup>2</sup> C, UART	VFBGA	Keil S/W Tools (available from Keil)	USB High Speed Controller for mobile apps

### MoBL-USB TX2UL

Part Number	Status	# Endpoints	Core	Data Transfers	Development Kit	Memory Architecture	Memory Size	# of Total Pins	# of I/O	Hub Ports	Interface Options	Package	Software Tools	USB Application
CY7C68003	Active	NA	NA	Bulk, Interrupt, Isochronous	NA	NA	NA	20	NA	NA	ULPI, 8bit uni or bi directional	WLCSP	Not Needed	USB High Speed ULPI

## USB EMBEDDED HOSTS

### USB Embedded Host Controllers for Intelligent Devices

These dual role devices switch to host mode when connected to a peripheral and to peripheral mode when connected to a PC. In addition, our embedded host/peripheral controllers support both full- and low-speed USB devices in either mode.

Cypress also offers Automotive Electronics Council (AEC) Q100 compliant embedded host/peripheral controllers ideal for automotive "infotainment" applications.

USB On-the-Go (OTG), a new supplement to the USB 2.0 specification, is for the portable market. Cypress has extended its position as industry leader in USB peripheral technology by taking a leading role in the OTG working group and in defining the specification.

### USB Embedded Host Controllers

Part Number	Status	Memory Architecture	Memory Size	Package	# Endpoints	# of I/O	Core	Development Kit	# of pins	Data Transfers	Hub Ports	I/O Options	Software Tools
<b>EZ-Host</b>													
CY7C67300	Active	ROM/RAM	16 KB	TQFP	8 in periph mode	32	CY16	CY3663	100	Bulk, Interrupt, Isochronous	4	GPIO/HPI/HSS/SPI/I <sup>2</sup> C/UART/IDE/PWM	GNUPro
<b>EZ-OTG</b>													
CY7C67200	Active	ROM/RAM	16 KB	FBGA	8 in periph mode	23	CY16	CY3663	48	Bulk, Interrupt, Isochronous	2	GPIO/HPI/HSS/SPI/I <sup>2</sup> C/UART	GNUPro
<b>SL811HS*</b>													
SL811HST	Active	SRAM	256 Bytes	PLCC	16 in host mode	8	None	CY3662	28	Bulk, Interrupt, Isochronous	1	None	None

\*Peripheral chip only (requires external processor)

# CONTACT US

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### USB CONTROLLERS

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## ABOUT CYPRESS

Cypress delivers high-performance, mixed-signal, programmable solutions that provide customers with rapid time-to-market and exceptional system value. Cypress offerings include the PSoC Programmable System-on-Chip, USB controllers, general-purpose programmable clocks, and memories. Cypress also offers wired and wireless connectivity solutions ranging from its CyFi Low-Power RF solution, to West Bridge and EZ-USB FX2LP controllers that enhance connectivity and performance in multimedia handsets. Cypress serves numerous markets, including consumer, computation, data communications, automotive and industrial. Cypress trades on the NYSE under the ticker symbol CY. Visit Cypress online at [www.cypress.com](http://www.cypress.com).