

CYPRESS PRODUCT SELECTOR GUIDE

WEST BRIDGE PERIPHERAL CONTROLLERS

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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 6x6mm VFBGA package and an 81 ball 3.9 x 3.9 mm 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 ¹	SRAM, ADMux, NAND, SPI ²	2x SLC NAND, SD, SDIO MMC, MMC+, CE-ATA
CYWB0225AB* (Turbo-MTP)	19.2, 24, 26, 48 MHz ¹	SRAM, ADMux, NAND, SPI ²	2x SLC NAND, SD, SDIO MMC, MMC+, CE-ATA
CYWB0226AB* (USB Switch)	19.2, 24, 26, 48 MHz ¹	SRAM, ADMux, NAND, SPI ²	2x SLC NAND, SD, SDIO MMC, MMC+, CE-ATA
CYWB0227AB* (Switch + Turbo MTP)	19.2, 24, 26, 48 MHz ¹	SRAM, ADMux, NAND, SPI ²	2x SLC NAND, SD, SDIO MMC, MMC+, CE-ATA
CYWB0228AB* (FlexBoot)	19.2, 24, 26, 48 MHz ¹	SRAM, ADMux, NAND, SPI ²	2x SLC NAND, SD, SDIO MMC, MMC+, CE-ATA
CYWB0229AB* (FlexBoot + Turbo-MTP)	19.2, 24, 26, 48 MHz ¹	SRAM, ADMux, NAND, SPI ²	2x SLC NAND, SD, SDIO MMC, MMC+, CE-ATA
CYWB0230AB* (FlexBoot + USB Switch)	19.2, 24, 26, 48 MHz ¹	SRAM, ADMux, NAND, SPI ²	2x SLC NAND, SD, SDIO MMC, MMC+, CE-ATA
CYWB0231AB* (FlexBoot + USB Switch + Turbo-MTP)	19.2, 24, 26, 48 MHz ¹	SRAM, ADMux, NAND, SPI ²	2x SLC NAND, SD, SDIO MMC, MMC+, CE-ATA
CYWB0220ABSX2-FDXI	26 MHz	SRAM, ADMUX	1x SD, MMC

¹ 19.2 and 26MHz in FDXI package only.

² SPI and NAND in FDXI package only.

* - S = SLC NAND, M = SLC NAND

INTERCONNECTS

Cypress offers a variety of interconnect solutions providing high performance and low power connectivity between multiple processors in different applications. This MoBL family is optimized for consumer and handheld devices and consists of:

MoBL Dual-Port and MoBL ADM Dual-Port

Small, low power and flexible; perfect for handset applications.

ConsuMoBL™ Dual Port

High performance, low power, small package, optimized price; the 4Ps for the consumer market.

AutoMoBL™ Dual Port Interconnect

High-performance, low-power dual-port, qualified for the automotive market.

Part Number	Status	Bus Width	Speed	Density	Depth	Features	Package	Pins/Ball	Operating Range	Type	Vcc (V)
CG5982AF	Active	x8	55 ns	16K	2K	Busy, Interrupt, Master	PLCC	52	-40C to +85C	Asynchronous	5V

ConsuMoBL Dual-Port Interconnects

Part Number	Status	Bus Width	Speed	Density	Depth	Features	Package	Pins/Ball	Operating Range	Type	Vcc (V)
CYDC064B08	Active	x8	55 ns	64K	8K	Busy, Interrupt, Input/Output registers, Master/Slave Pin, Semaphore	TQFP	100	-40C to +85C	Asynchronous	1.8V/2.5V/3V
CYDC064B16	Active	x16	55 ns	64K	4K	Busy, Interrupt, Input/Output registers, Master/Slave Pin, Semaphore	TQFP	100	-40C to +85C	Asynchronous	1.8V/2.5V/3V
CYDC128B08	Active	x8	55 ns	128K	16K	Busy, Interrupt, Input/Output registers, Master/Slave Pin, Semaphore	TQFP	100	-40C to +85C	Asynchronous	1.8V/2.5V/3V
CYDC128B16	Active	x16	55 ns	128K	8K	Busy, Interrupt, Input/Output registers, Master/Slave Pin, Semaphore	TQFP	100	-40C to +85C	Asynchronous	1.8V/2.5V/3V
CYDC256B16	Active	x16	55 ns	256K	16K	Busy, Interrupt, Input/Output registers, Master/Slave Pin, Semaphore	TQFP	100	-40C to +85C	Asynchronous	1.8V/2.5V/3V

MoBL ADM Dual-Port Interconnects

Part Number	Status	Bus Width	Speed	Density	Depth	Features	Package	Pins/Ball	Operating Range	Type	Vcc (V)
CYDMX064A16	Active	x16	90 ns	64 Kb	4K	ADM Ports, Mailbox, Busy, Interrupt, I/O registers	FBGA	100	-40C to +85C	Asynchronous	1.8V-3.3V
DMX064A16		x16	65 ns	64 Kb	4K	ADM Ports, Mailbox, Busy, Interrupt, I/O registers	FBGA	100	-40C to +85C	Asynchronous	1.8V-3.3V
CYDMX128A16	Active	x16	65 ns	128 Kb	8K	ADM Ports, Mailbox, Busy, Interrupt, I/O registers	FBGA	100	-40C to +85C	Asynchronous	1.8V-3.3V
CYDMX128A16	Active	x16	90 ns	128 Kb	8K	ADM Ports, Mailbox, Busy, Interrupt, I/O registers	FBGA	100	-40C to +85C	Asynchronous	1.8V-3.3V
CYDMX256A16		x16	65 ns	256 Kb	16K	ADM Ports, Mailbox, Busy, Interrupt, I/O registers	FBGA	100	-40C to +85C	Asynchronous	1.8V-3.3V
CYDMX256A16		x16	65 ns	64 Kb	16K	ADM Ports, Mailbox, Busy, Interrupt, I/O registers	FBGA	100	-40C to +85C	Asynchronous	1.8V-3.3V

MoBL Dual-Port Interconnects

Part Number	Status	Bus Width	Speed	Density	Depth	Features	Package	Pins/Ball	Operating Range	Type	Vcc (V)
CYDM064B08	NRND	x8	40 ns	64K	8K	Mailbox, Input/Output Registers, Semaphores, Standby Current: 6uA (max)	FBGA	100	-40C to +85C	Asynchronous	1.8V/2.5V/3V
CYDM064B08	Active	x8	55 ns	64K	8K	Mailbox, Input/Output Registers, Semaphores, Standby Current: 6uA (max)	FBGA	100	-40C to +85C	Asynchronous	1.8V/2.5V/3V
CYDM064B16	NRND	x16	40 ns	64K	4K	Mailbox, Input/Output Registers, Semaphores, Standby Current: 6uA (max)	FBGA	100	-40C to +85C	Asynchronous	1.8V/2.5V/3V
CYDM064B16	Active	x16	55 ns	64K	4K	Mailbox, Input/Output Registers, Semaphores, Standby Current: 6uA (max)	FBGA	100	-40C to +85C	Asynchronous	1.8V/2.5V/3V
CYDM128B08	NRND	x8	40 ns	128K	16K	Mailbox, Input/Output Registers, Semaphores, Standby Current: 6uA (max)	FBGA	100	-40C to +85C	Asynchronous	1.8V/2.5V/3V
CYDM128B08	Active	x8	55 ns	128K	16K	Mailbox, Input/Output Registers, Semaphores, Standby Current: 6uA (max)	FBGA	100	-40C to +85C	Asynchronous	1.8V/2.5V/3V
CYDM128B16	NRND	x16	40 ns	128K	8K	Mailbox, Input/Output Registers, Semaphores, Standby Current: 6uA (max)	FBGA	100	-40C to +85C	Asynchronous	1.8V/2.5V/3V
CYDM128B16	Active	x16	55 ns	128K	8K	Mailbox, Input/Output Registers, Semaphores, Standby Current: 6uA (max)	FBGA	100	-40C to +85C	Asynchronous	1.8V/2.5V/3V
CYDM256B16	NRND	x16	40 ns	256K	16K	Mailbox, Input/Output Registers, Semaphores, Standby Current: 6uA (max)	FBGA	100	-40C to +85C	Asynchronous	1.8V/2.5V/3V
CYDM256B16	Active	x16	55 ns	256K	16K	Mailbox, Input/Output Registers, Semaphores, Standby Current: 6uA (max)	FBGA	100	-40C to +85C	Asynchronous	1.8V/2.5V/3V

NRND = Not Recommended for New Designs

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 to 3.3V I/O; fully backward compatible with EZ-USB FX2LP; offered in 5x5mm 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 ² 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	I/O Options	Package	Software Tools	USB Application
CY7C68003	Active	NA	NA	Bulk, Interrupt, Isochronous	NA	NA	NA	20	NA	NA	ULPI, 8-bit uni- or bi-directional	WLCSP	Not Needed	USB High Speed ULPI

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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.