



# FireLink

## USB 82C862/82C863

### FireLink USB 82C862

In a compact 100-pin package, OPTi introduces the FireLink USB 82C862 four-port solution. The 82C862 chip is the ideal way to add USB to a system or enhance its existing USB capability. Its dual transfer engines give a total of 24Mbps of power, double the bandwidth of a single-controller chip. Each pair of USB ports has its own independent 12Mbps USB engine.

### FireLink USB 82C863

Using the same high-performance dual-engine core and same packaging as the 82C862 solution, OPTi offers the FireLink USB 82C863 two-port solution. Each USB port has its own independent 12Mbps USB engine.

#### More Efficient OHCI Design

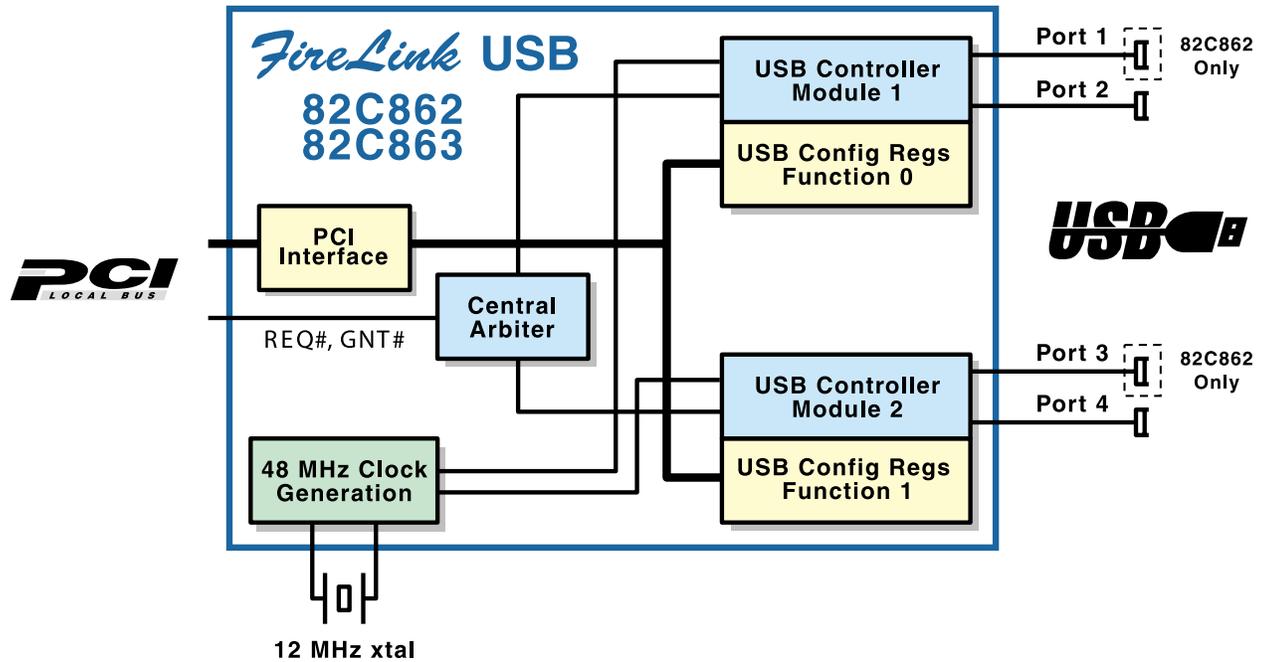
FireLink conforms to the Open Host Controller Interface (OHCI) specification. But not all OHCI-compliant hosts are alike. Only OPTi provides a super-efficient list processing engine and full hardware scheduling, resulting in 5-15% higher performance than competing products.

#### Advanced Hardware Scheduling

Only OPTi offers advanced hardware scheduling, which automatically maximizes utilization of leftover space in each 1KB USB frame after isochronous devices have completed their transfers. The scheduler determines how many different endpoints have data to transmit or receive and sends out as much as possible for each one, utilizing the maximum USB bandwidth possible.

- Dedicated support under Windows 98 SE/Me/CE and Windows 2000 CDs
- "No questions asked" installation - Windows instantly installs OPTi USB controllers without prompts
- Supported under Apple Mac OS
- Drivers provided for Linux embedded applications
- Implements all performance features of the Open Host Controller Interface specification
- Dual USB controllers, each with independent 12Mbps bandwidth
- Each USB port has independent power control and fault detect lines
- USB rev 1.1 compliant
- PCI rev 2.2 compliant
- 3.3V low-power core operation with independent PCI power management capability for each controller
- 5V-tolerant I/O
- PCI INT# lines for each controller are independent or can be shared
- Five pins offer General Purpose I/O (GPIO) option for use in controlling or communicating with other devices
- PCI power management specification is properly supported under Windows
- Tiny 100-pin LQFP package





Specifications	82C862/82C863
Configuration	Dual OPTi USB Host Controller modules. Occupy PCI bus as a single device with two functions, Function 0 and Function 1. Function 1 can be fully disabled via a strap option.
Identification	Each of the two functions independently identifies itself as OPTi 82C861 rev. 2 silicon, maintaining driver compatibility with the original OPTi 82C861 rev. 1 single-controller silicon.
PCI power management	Supports the D3 <sub>hot</sub> state and PME# pin. PME can be generated from D3 <sub>hot</sub> when resume signalling is detected on USB.
Maximum current draw @3.3V	< 45mA (two controllers running) < 30mA (one controller running) << 1mA (in D3 <sub>hot</sub> state with clocks shut down)
48MHz clock generation	Option to generate the 48MHz USB clock using either an external 48MHz can oscillator or an inexpensive 12MHz crystal. An internal PLL develops an internal 48MHz clock when the crystal is used.
Package compatibility	LQFP pinout is similar to the industry-standard 82C861 LQFP pinout; OPTi provides a "universal" layout footprint to allow switching between 82C861 and 82C863.
Interference compliance	OPTi offers Turnkey Manufacturing board designs that conform to both FCC and CE standards.

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