

Emulex LPe11002 Datasheet



Emulex LPe11002 4Gb PCIe 2.0 Dual-port Fibre Channel Host Bus Adapter

LPe11002

The Emulex LPe11002 host bus adapter (HBA) is a dual-channel, 4.25 gigabit per second (Gb/s), Fibre Channel (FC) Peripheral Component Interconnect Express (PCIe) HBA. The core technology of this

HBA is Emulex's eighth generation FC controller. The controller incorporates a multifunction native PCIe core that is compliant to the PCIe Base Specification 1.0a and PCI Express CEM Specification 1.0a. The

HBA supports packet transfers up to 2048 bytes on the PCIe link with support for x1 or x4 lane negotiation. The supported physical PCIe connector is x4 or higher (x8 or x16). The two independent,

fully featured FC ports are compliant to various American National Standards Institute (ANSI) FC standards. The product is targeted at FC storage networking environments that require the highest

degrees of robustness, performance and ease of management.

Streamlined installation and management, unrivaled scalability, and industry-leading virtualization support make the single-channel Emulex LightPulse LPe11000 and dual-channel LPe11002 ideal solutions for enterprise and mixed-OS SAN environments. With powerful management tools and broad platform support, they deliver maximum performance in the broadest range of applications and environments.

Features

- Multifunction PCIe device with two fully independent FC ports
- Auto-negotiation between 1-Gb, 2-Gb or 4-Gb link attachments
- High performance FC HBA with the PCIe to FC controller with two internal processors
- Full support for all FC topologies including point-to-point, arbitrated loop and fabric
- Full support for FC service class 2 and 3
- Maximum FC throughput achieved via full duplex hardware support
- End-to-end data path-parity and cyclical redundancy check (CRC) protection, including internal data path random-access memory (RAM)
- Architectural support for multiple upper layer protocols
- State-of-the-art circuitry:
 - All PCIe and FC functionality contained within a single, custom, high-density, fully integrated FC controller
 - Internal ARM 1136J-S processors with instruction and data cache for each port
 - Internal serializer deserializer (SerDes) 1-Gb/2-Gb/4-Gb cores for FC and 2.5-Gb cores for PCIe
- Complies with the PCIe base and CEM 1.0a specifications:
 - x1 or x4 lane link interface (auto-negotiated with system) at 2.5-Gb/s
 - Supports VC0 (1 Virtual Channel) and TC0 (1 Traffic Class)
 - Configuration /IO/ Memory read/write, completion and message
 - Supports 64-bit addressing
 - ECRC for all transmitted PCIe data packets
 - Link CRC on all PCIe packets and message information
 - Supports large payload size- 2048 bytes for read/write
 - Supports large read request size- 4096 bytes
- Internal high-speed static RAM (SRAM)
- Error correcting code (ECC) protection of local memory, including single-bit correction and double-bit protection
- The LPe11002 HBA provides two embedded short wave optical (LC) connections with link diagnostics capability.
- Host interface via Emulex standard drivers or through custom drivers written to the Emulex Service Level Interface (SLI-2) that is compatible with the many existing Emulex drivers for products such as LP8000, LP9002L, LP9802, LP10000 HBAs
- Comprehensive array of operating system (OS) drivers:
 - Emulex standard and OEM derivatives of device drivers for Windows 2000 Server, Windows Server 2003, Novell NetWare, Sun Solaris, Linux and HP-UX
 - OEM-specific drivers for AIX and some other operating systems
 - Some drivers support both SCSI and IP protocols

- Support for remote and fabric boot functionality
- On-board context management by the firmware (per port):
 - Up to 510 FC port logins
 - Up to 1023 concurrent exchanges
 - I/O multiplexing down to the FC frame level
- Data buffers capable of supporting 16 buffer-to-buffer (BB) credits for short-wave applications
- Link management and recovery handled by the firmware
- On-board diagnostic capability accessible via optional connection
- Parts and construction compliant to the European Union Directive of Restriction of Hazardous Substances (RoHS)

For more specifications of this LPe11002, please visit below Broadcom website:

<https://docs.broadcom.com/doc/12356350>

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