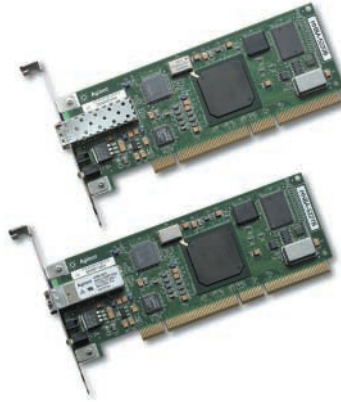


Agilent HHBA-5220, HHBA-5221 2 Gb/s, 64-bit, 66 MHz Fibre Channel Adapters for High Performance Applications

Product Overview



Product Description

Agilent's HHBA-5220 and HHBA-5221 are 2 Gb/s, 64-bit, 66 MHz PCI to Fibre Channel Adapters for enterprise Storage Area Network (SAN) applications. The Fibre Channel Adapters provide auto-speed negotiation for seamless integration in one and two Gigabit environments. The versatility of the new HBAs is based on Agilent's market-leading Tachyon Fibre Channel (FC) controllers, offering unmatched performance and flexibility.

Broad Product Offering

Agilent's 2 Gb/s adapters support both fiber-optic and copper cable connections. For high-end applications where performance and reliability are critical, the HHBA-5221 comes with a Small Form Factor (SFF) embedded LC optical transceiver for use with multimode optical cable. For applications requiring either an

optical or copper interface, the HHBA-5220 includes a cage (receptacle) for a Small Form Factor Pluggable (SFP) LC optical or an HSSDC-2 copper transceiver.

Scalable Performance Matches Demanding SAN Requirements

The 2 Gb/s Fibre Channel Adapters are powered by Agilent Tachyon controllers, based on a Finite State Machine (FSM) architecture. The FSM allows performance to scale seamlessly with increased server CPU power. By contrast, processor-based adapters are limited by the maximum performance of the processor itself.

Widest Range of Software Support

Agilent offers a Tachyon Software Developer's Kit (TSDK) for Windows NT® 4.0, Linux environments and VXWorks.

Features

- 64-bit, 66 MHz universal PCI interface (2.2 compliant)
- Fibre channel data transfer rates:
 - Up to 200 MB/s (half duplex)
 - Up to 400 MB/s (full duplex)
- Auto speed negotiation 1 or 2 Gb/s
- LED link speed indicator
- Loop and fabric boot BIOS, EFI support
- FC class 2 and 3
- FC tape class 3
- Supports fibre channel arbitrated loop (FC-AL) including public loop and fabric (F- and FL-port login)
- Copper and optical media interfaces
 - HHBA-5220: Small Form Factor Pluggable (SFP) cage
 - HHBA-5221: Small Form Factor (SFF) LC optical transceiver

Applications

- Storage Area Networks (SANs)
- Clustering
- Back-up
- Near on-line storage
- Video editing and CAD
- Data Mining
- Data warehousing
- OLTP
- RAID and JBOD



Specifications

Fibre Channel Operation

Fibre Channel Data Rate	2 Gb/sec: 200 MB/sec (half duplex), 400 MB/sec (full duplex)
Auto-Speed Negotiation	1 or 2 Gb/s
BIOS Support	INT13, Legacy BIOS for IA-64, Extensible Firmware Interface (EFI)
Topology	Arbitrated Loop – Public and Private, Fabric support (F- and FL-login)
FC Service Class	Class 2 (ACK_0, ACK_1) and Class 3
Upper Layer Protocol	SCSI FCP – On-chip automation of complete SCSI I/O
Loop Initialization	Completely hardware-based for high availability
Link Diagnostics	Link Status indicators, internal/external loopback
Link Speed	2 Gb status indicator
Compliance	FC-PH, FC-AL, FC-PLDA, FCP-SCSI

PCI

Compliance	PCI Local Bus Specifications Rev. 2.2
Rate & Width	66/33 MHz, 64/32-bit PCI
Burst Transfer Rate	528 Mbytes/sec, guaranteed for length of frame, inbound & outbound at 64-bit, 66 MHz
Dual Address Cycle Support	Yes (64-bit PCI addressing)
Hot Plug Support	Yes
Additional PCI Features	Zero wait state multiple cache line bursting capable up to full frame size, 32-byte cache line

Tachyon XL2 Architectural Features

Complete Hardware-based Design	Less than one interrupt per I/O Numerous independent functional blocks concurrently processing inbound data, outbound data, control and commands in hardware Automation of complete I/O on-chip in hardware results in lowest latency & I/O overhead and highest levels of parallelism
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Physical and Environmental

PCB Size	Low Profile PCI Card, MD2 form factor (length 6.6" x height 2.536")
PCB Power	7W max at 5V ± 5%
Supply Voltage	3.3V ± 5%, 5V ± 5%
Operating Temperature Range	0° to 55° Centigrade (no airflow)
Storage Temperature Range	-40° to 70° Centigrade
Relative Humidity	up to 90% (non-condensing)

Software Support

Tachyon Software Developer's Kit (TSDK)	Windows NT 4.0 Linux Environments VXWorks
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Certifications

FCC Class B	US/FDA/CDRH Laser AEL Class 1 (2 CFR)
CE	TÜV Rheinland Laser AEL Class 1 (EN60825-1+A11)
VCC ITE Class	Yes
C-TICK (AZ/NZS 3548)	Yes

Product Offering	Description
Standard Products	
HHBA-5220x	Single Adapter card with SFP transceiver cage
HHBA-5220xP	Bulk packaging includes Adapter card with SFP transceiver cage
HHBA-5220xP1	Bulk packaging includes Adapter card with SFP optical transceiver
HHBA-5221x	Single Adapter card with SFF transceiver
HHBA-5221xP	Bulk packaging Adapter card with SFF transceiver
Low Profile Products	
HHBA-5218x	Single Adapter card with SFP transceiver cage
HHBA-5218xP	Bulk packaging includes Adapter card with SFP transceiver cage
HHBA-5218xP1	Bulk packaging includes Adapter card with SFP optical transceiver
HHBA-5219x	Single Adapter card with SFF transceiver
HHBA-5219xP	Bulk packaging Adapter card with SFF transceiver

www.agilent.com/semiconductors

For product information and a complete list of distributors, please go to our web site.

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