



P325G2B414 25G Ethernet PCIe Server Adapter Broadcom® based **Dual Port Fiber SFP28 25 Gigabit Ethernet PCIe Server Adapter Broadcom® NetXtreme E-Series based**

Product Description

Silicom's P325G2B414 Dual Port Fiber SFP28 25G/10G Ethernet PCI Express x8 Gen 3.0 server adapter is based on the Broadcom® NetXtreme E-Series BCM57414 Ethernet controller technology.

Powered by Broadcom® NetXtreme E-Series technology, Silicom's P325G2B414 Dual Port 25G/10G server adapter delivers high throughput, low latency, and key features to ensure optimal performance for various workloads and virtualization.

The Silicom P325G2B414 Server Adapter, based on Broadcom® NetXtreme E-Series technology, takes advantage of cutting-edge architectural and physical design features, such as SR-IOV, Virtual Functions (VFs), RoCEv2, and vSwitch offload accelerator.

Key Features

- Dual-port pluggable media interface, 25G SFP28 /10G SFP+ optical transceiver or with copper direct-attach cable
- PCIe half-height, half-length adapters available with low-profile and full-height brackets (HHHL)
- Line-rate bidirectional throughput on all ports
- Single Root I/O Virtualization (SR-IOV) with up to 128 VFs with Function Level Reset (FLR) support
- TruFlow™ flow processing engine – programmable packet processing in hardware boosts application performance
- High performance and low latency across full range of frame sizes
- Support for Data Plane Developer Kit (DPDK) framework
- Virtual Network Termination – VXLAN, NVGRE, Geneve, GRE encapsulation and decapsulation
- Tunnel-aware stateless offloads for VXLAN, NVGRE, Geneve
- Low-latency for RDMA over converged Ethernet (RoCE) v1 and v2
- Comprehensive stateless offload support to minimize host CPU workload
- Silicon-based Root of Trust enables Secure Firmware for best-in-class security
- NIC partitioning (NPAR) EP support for up to 16 Physical Functions (PFs)
- Low-power consumption using Adaptive Voltage Scaling (AVS)
- Reliability and interoperability assured by Broadcom's market-proven Ethernet expertise

Host Interface

- Vendor ID = 0x14E4
- Device ID = 0x16D7
- x8 PCI Express v3.0 compliant host interface
- Conforms to the PCI Express Card Electromechanical Specification Rev. 3.0
- PCIe-based UART and KCS
- SMBus 2.0
- MCTP over SMBus
- Message Signal Interrupt MSI and MSI-X

Networking Features

- Fully compliant with the SFF-8402 standard
- Jumbo frames up to 9 KB
- vSwitch acceleration
- Advanced Congestion Avoidance
- Network boot – PXE, UEFI, iSCSI
- Data Center Bridging (DCB) support: PFC, ETS, QCN, DCBx
- IEEE 802.1q – VLAN insertion/removal
- IEEE 802.3x – Flow control
- IEEE 802.3ad – Link aggregation
- IEEE 1588 – Precision Time Protocol
- IEEE 802.1AS – Timing and Synchronization

Stateless Offload Features

- TCP, UDP, and IPv4 and IPv6 checksum offloads
- Large Send Offload (LSO)
- Large Receive Offload (LRO)
- TCP Segmentation Offload (TSO)
- Receive-side Scaling (RSS)
- Transmit-side Scaling (TSS)
- Interrupt coalescing

Virtualization

- Multiqueue, NetQueue, and VMQ

Host Interface:

- 16 lanes of PCI Express 5.0

Technical Specifications

SFP28 25Gigabit Ethernet Technical Specifications Adapters:	
SFP28 (Small Form Factor Pluggable) supports:	SFI interfaces supports 25GBase-R PCS and 25 Gigabit PMA in order to connect with SFP28 to 25GBase-SR / 25GBase-LR and SFP28 Direct Attach
25GBase-SR SFP28: IEEE Standard / Network topology:	Fiber 25Gigabit Ethernet, 25GBASE-SR (850nm LAN PHY).
25GBase-SR SFP28: Data Transfer Rate:	25.78125GBd
25GBase-LR SFP28: IEEE Standard / Network topology:	Fiber 25Gigabit Ethernet, 25GBASE-LR (1310nm LAN PHY)
25GBase-LR SFP28: Data Transfer Rate:	25.78125Gbps
25GBase-LR SFP28: Cables and Operating distance Up to:	Single-Mode: 10000m at 9um
25GSFP28Cu: IEEE Standard / Network topology:	Copper 25Gigabit Ethernet, 25GSFP28Cu (Direct Attach)
Operating Systems Support	
Operating system support:	Linux
P325G2B414 General Technical Specifications	
Interface Standard:	PCI-Express Base Specification Revision 3.0 (8 GTs)
Board Size:	Half Height Half Length add-in card 167.64mm X 64.389mm (6.6"X 2.535")

PCIe Card Type:	X8 Lane Gen3
PCIe Voltage:	12+V ± 8% +3.3V AUX ± 9%
PCIe Connector:	Gold Finger: X8 Lane
Controller:	Broadcom BCM57414B1KFSBG
Network Ports:	2x SFP28
Power Consumption:	Card's Maximum Power Consumption 12.9W.
Operating Temperature:	0°C – 55°C (32°F – 131°F)
Air Flow requirement:	200 LFM
Heatsink design:	Aluminum base&Fins heatsink with black anodize coating
Storage:	-40°C–65°C (-40°F–149°F)
Regulation:	CE, FCC Class A, ROHS requirements
LEDs	
LEDs:	Each Port has 2 LEDs to indicate traffic activity and link speed. Upper LED – Link: Green stay on – Physical link on at 25G Speed. Yellow stay on – Physical link on at 10G or 1G Speed. Off – No physical link. Lower LED – Activity: Green blinking – Traffic flowing activity. Off – No activity.
LEDs location:	SFP28: LEDs are located next to each SFP28 cage.
Connectors:	(2) SFP28 cage

Order Information

P/N	Description	Notes
P325G2B414-XR	Dual port Fiber SFP28 25 Gigabit Ethernet PCI Express Gen 3.0 Server Adapter	RoHS Compliant, Gen3 x 8, based on Broadcom BCM57414
P325G2B414-ZS	Dual port Fiber (SR) 25 Gigabit Ethernet PCI Express Gen 3.0 Server Adapter	RoHS Compliant, Gen3 x 8, based on Broadcom BCM57414
P325G2B414-ZL	Dual port Fiber (LR) 25 Gigabit Ethernet PCI Express Gen 3.0 Server Adapter	RoHS Compliant, Gen3 x 8, based on Broadcom BCM57414