BROADCOM®

Product Brief

Broadcom Ethernet NICs

PCIe NIC Ethernet Adapters Specification Sheet

Key Features

- PCIe Ethernet NIC
- Line-rate throughput from 1 Gb/s to 400 Gb/s
- 1-port, 2-port, and 4-port support
- DAC, copper, and fiber connectivity
- PCIe 3.0/4.0 and 5.0 host interface
- 50/100G PAM-4 and 10/25G NRZ SerDes
- TruFlow™-configurable packet processor for virtual switch acceleration
- Broadcom security technology provides Silicon Root of Trust, secure boot and SPDM attestation
- On-chip tunneling protocol processing for Geneve, VXLAN, and NVGRE
- Hardware-based low-latency RoCE v2
- SR-IOV up to 1K VFs
- GPUDirect acceleration

Overview

Broadcom® offers a complete PCIe NIC 3.0 Ethernet portfolio supporting the full range of speeds and feeds, from 1G to 400G in the standard half-height half-length form factor. This portfolio leverages Broadcom's comprehensive family of low-power Ethernet controller ASICs.

Broadcom's Ethernet network controller delivers best-in-class performance and hardware acceleration and offload capabilities that result in higher throughput, higher CPU efficiency, and lower workload latency for TCP/IP as well as RoCE traffic.

Broadcom PCIe Ethernet NIC adapters utilize market-leading 50/100G PAM-4, 10/25G NRZ, and PCIe 5.0/4.0 SerDes technology, ensuring seamless interoperability with Broadcom's market-leading Top-of-Rack switch and PCIe Express switch solutions which also use the same SerDes technology.

Broadcom Ethernet adapters support SPDM-compliant attestation. Attestation enables data center operators to securely verify the authenticity and conformity of the hardware and software deployed in their data centers.

Broadcom Ethernet adapters, including the PCIe NIC portfolio, are supported with a full suite of drivers for all major operating system distributions and versions. The latest firmware, drivers, and tools can be downloaded from www.broadcom.com.

Portfolio and Ordering Information

Part Number	Name	Port Speed	I/O	Host I/F	Multihost
BCM957508-P2100G	P2100G	2× 100GbE	QSFP56	PCIe 4.0 ×16	No
BCM957414A4140C	P150p	1× 50GbE	QSFP28	PCIe 3.0 ×8	No
BCM957504-P425G	P425G	4× 25GbE	SFP28	PCIe 4.0 ×16	No
BCM957414A4142CC	P225p	2× 25GbE/ 10GbE	SFP28	PCIe 3.0 ×8	No
BCM957412A4120AC	P210p	2× 10GbE	SFP+	PCIe 3.0 ×8	No
BCM957416A4160C	P210TP	2× 10GbE	RJ-45	PCIe 3.0 ×8	No
BCM957508-P1200G	P1200G	1× 200GbE	QSFP56	PCIe 4.0 ×16	No
BCM957608-P1400GDF00	P1400GD	1x400GbE	QSFP112 -DD	PCIe 5.0 x16	No
BCM957608-P2200GQF00	P2200G	2x200GbE or 1x400GbE	QSFP112	PCIe 5.0 x16	No

Product Features

- PCIe CEM compliant
- Single-port 400Gb/s
- 25 Gb/s to 400 Gb/s throughput
- 8x SerDes (25G, 50G or 100G)
- PCIe Gen 5.0 x16 host interface
- RoCEv2 with DCN and SARA
- TLS/QUIC inline encryption
- Transmit pacing
- TruFlow™ 400G flow offload
- Secure boot and Attestation
- Silicon root of trust
- Peer memory direct
- Standards-based system management
- Embedded PCIe analyzer

P1400GD

Single-Port 400 Gb/s QSFP112-DD Ethernet PCI Express 5.0 x16 Network Interface Card

The Broadcom BCM957608-P1400GD is a single-port 400 Gb/s PCI Express 5.0 x16 Network Interface Card that supports QSFP112-DD optical modules and copper direct-attach cables.

P1400GD Information	
Attribute	**Details**
Ordering Part No.	BCM957608-P1400GDF00
Product Description	Single port 400 Gb/s QSFP112-DD Ethernet PCIe 5.0 x16 Network Interface Card
Port Configuration	1x400/200/100/50/25Gb/s
Form Factor	PCIe Low Profile, Half Length
Warranty	3 years

P1400GD



Product Features

- PCIe CEM compliant
- Dual-port 200Gb/s or Single-port 400Gb/s
- 25 Gb/s to 400 Gb/s throughput
- 8x SerDes (25G, 50G or 100G)
- PCIe Gen 5.0 x16 host interface
- RoCEv2 with DCN and SARA
- TLS/QUIC inline encryption
- Transmit pacing
- TruFlow™ 400G flow offload
- Secure boot and Attestation
- Silicon root of trust
- Peer memory direct
- Standards-based system management
- Embedded PCIe analyzer

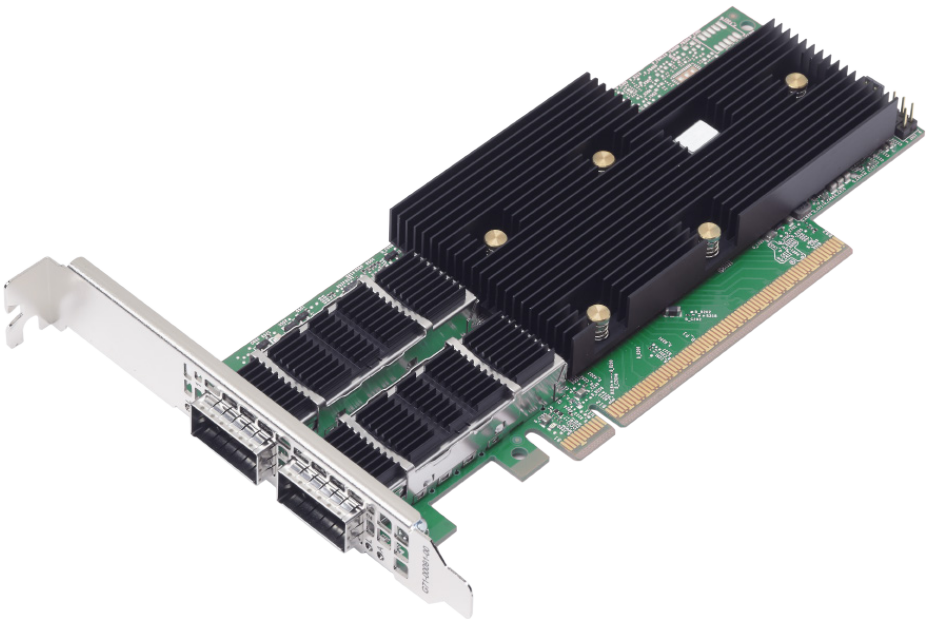
P2200G

Dual-port 200 Gb/s QSFP112 Ethernet PCI Express 5.0 x16 Network Interface Card

The Broadcom BCM957608-P2200G is a dual-port 200 Gb/s PCI Express 5.0 x16 Network Interface Card that supports QSFP112 optical modules and copper direct-attach cables.

P2200G Information	
Attribute	**Details**
Ordering Part No.	BCM957608-P2200GQF00
Product Description	Dual port 200 Gb/s or Single 400 Gb/s QSFP112 Ethernet PCIe 5.0 x16 Network Interface Card
Port Configuration	2x200/100/50/25Gb/s or 1x400/200/100/50/25Gb/s
Form Factor	PCIe Low Profile, Half Length
Warranty	3 years

P2200G



Product Features

- QSFP56/QSFP28/QSFP+ optical transceiver or copper direct-attach cable
- x16 PCI Express 4.0 compliant
- SR-IOV with up to 1k virtual functions (VFs)
- TruFlow™ flow processing engine
- Virtual Network Termination: VXLAN, NVGRE, Geneve, GRE encap/decap
- vSwitch Acceleration
- Tunnel-aware stateless offloads
- DCB support: PFC, ETS, QCN, DCBx
- RDMA over Converged Ethernet (RoCE)
- Advanced congestion avoidance
- Multiqueue, NetQueue, and VMQ
- IPv4 and IPv6 offloads
- Large send offload (LSO)
- Large receive offload (LRO)
- TCP segmentation offload (TSO)

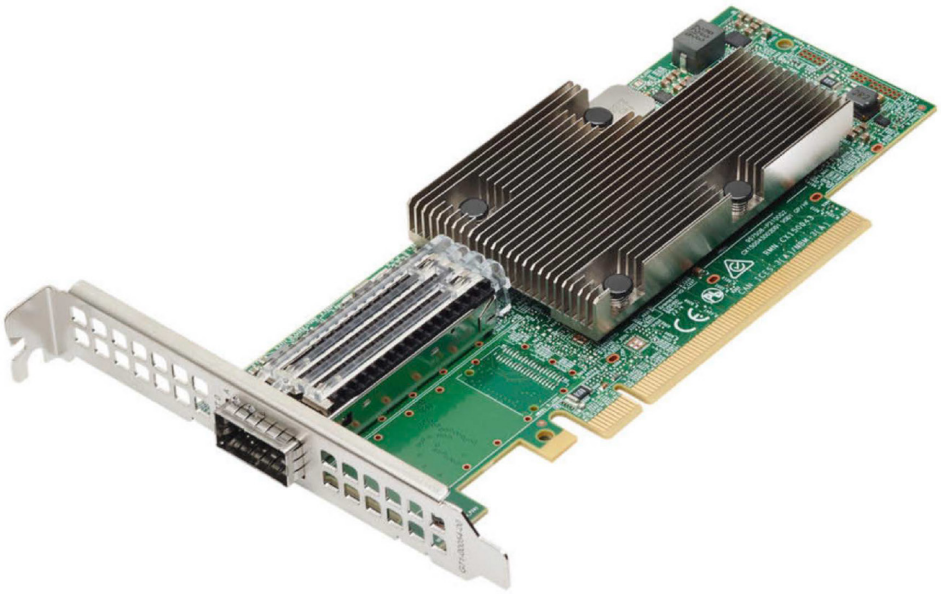
P1200G

Single-Port 200 Gb/s QSFP56 Ethernet PCI Express 4.0 x16 Network Interface Card

The Broadcom BCM957508-P1200G is a single-port 200 Gb/s PCI Express 4.0 x16 Network Interface Card that supports QSFP56/QSFP28/QSFP+ optical modules and copper direct-attach cables.

P1200G Information	
Attribute	**Details**
Ordering Part No.	BCM957508-P1200G
Product Description	Single-Port 200 Gb/s QSFP56 Ethernet PCI Express 4.0 x16 Network Interface Card
Port Configuration	1x200 Gb/s
Power	16.0W Typical with Passive DAC at 55°C ambient temperature
Weight	145 grams
Form Factor	PCIe Low Profile, Half Length
Warranty	3 years

P1200G



Product Features

- QSFP56/QSFP28 optical transceiver or copper direct-attach cable
- x16 PCI Express 4.0 compliant
- SR-IOV with up to 1k virtual functions (VFs)
- TruFlow™ flow processing engine
- Virtual Network Termination: VXLAN, NVGRE, Geneve, GRE encap/decap
- vSwitch Acceleration
- Tunnel-aware stateless offloads
- DCB support: PFC, ETS, QCN, DCBx
- RDMA over Converged Ethernet (RoCE)
- Advanced congestion avoidance
- Multiqueue, NetQueue, and VMQ
- IPv4 and IPv6 offloads
- Large send offload (LSO)
- Large receive offload (LRO)
- TCP segmentation offload (TSO)

P2100G

Dual-Port 100 Gb/s QSFP56 Ethernet PCI Express 4.0 x16 Network Interface Card

The Broadcom BCM957508-P2100G is a dual-port 100 Gb/s PCI Express 4.0 x16 Network Interface Card that supports QSFP56/QSFP28 optical modules and copper direct-attach cables. The card uses the Broadcom BCM57508 200GbE MAC controller with an integrated dual-channel 100GbE SFI transceiver.

P2100G Information

Attribute	Details
Ordering Part No.	BCM957508-P2100G
Product Description	Dual-Port 100 Gb/s QSFP56 Ethernet PCI Express 4.0 ×16 Network Interface Card
Port Configuration	2× 100GbE, 2× 50GbE, 2× 25GbE, 2× 10GbE
Power	16.0W Typical with Passive DAC at 55°C ambient temperature
Weight	167 grams
Form Factor	PCIe Low Profile, Half Length
Warranty	3 years

P2100G



Product Features

- 50GbE or 40G QSFP28/QSFP+ optical transceiver or with copper direct-attach cable
- x8 PCI Express v3.0 compliant
- SR-IOV with up to 128 VFs
- Function Level Reset (FLR) support
- TruFlow™ flow processing engine
- Virtual Network Termination: VXLAN, NVGRE, Geneve, GRE encap/decap
- vSwitch acceleration
- Tunnel-aware stateless offloads
- DCB support: PFC, ETS, QCN, DCBx
- RDMA over Converged Ethernet (RoCE)
- Advanced Congestion Avoidance
- Multiqueue, NetQueue, and VMQ
- IPv4 and IPv6 offloads
- Large Send Offload (LSO)
- Large Receive Offload (LRO)
- TCP Segmentation Offload (TSO)
- Conforms to the PCI Express Card Electromechanical Specification Rev. 3.0

P150p

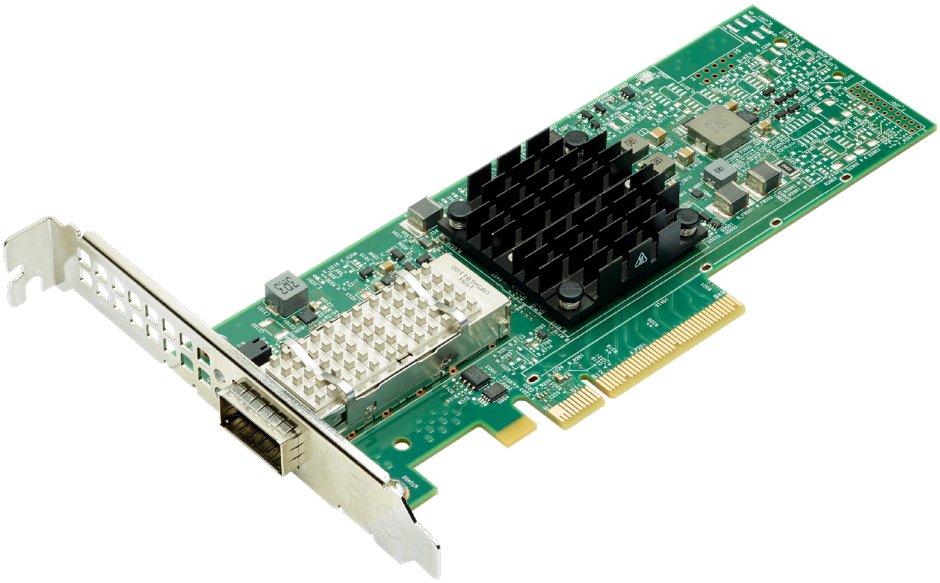
Single-Port 50 Gb/s or 40 Gb/s Ethernet PCI Express 3.0 x8 Network Interface Card

The Broadcom® BCM957414A4140C is a single-port 50 Gb/s or 40 Gb/s, PCI-Express 3.0 x8 Network Interface Card (NIC) that supports both QSFP28/QSFP+ optical modules and copper direct-attach cable. The card uses the Broadcom BCM57414 50GbE MAC controller with the integrated single-channel 50GbE SFI transceiver.

P150p Information

Attribute	Details
Ordering Part No.	BCM957414A4140C
Product Description	Single-Port 50 Gb/s or 40 Gb/s QSFP28/QSFP+ Ethernet PCI Express Network Interface Card; RoHS-compliant
Port Configuration	1× 50GbE, 1× 40GbE, 1× 25GbE, 1× 10GbE, 1× 1GbE
Power	10.9W Typical with Passive DAC at 55°C ambient temperature
Weight	78 grams
Form Factor	PCIe Low Profile, Half Length
Warranty	3 years

P150p



Product Features

- SFP28/SFP+ optical transceiver or copper direct-attach cable
- BroadSAFE® technology
- x16 PCI Express 4.0 compliant
- SR-IOV with up to 1k virtual functions (VFs)
- Function-Level Reset (FLR) support
- TruFlow™ flow processing engine
- Virtual Network Termination: VXLAN, NVGRE, Geneve, GRE encap/decap
- vSwitch Acceleration
- Tunnel-aware stateless offloads
- RDMA over Converged Ethernet (RoCE)
- Advanced congestion avoidance
- Multiqueue, NetQueue, and VMQ
- IPv4 and IPv6 offloads
- Large send offload (LSO)
- Large receive offload (LRO)
- TCP segmentation offload (TSO)

P425G

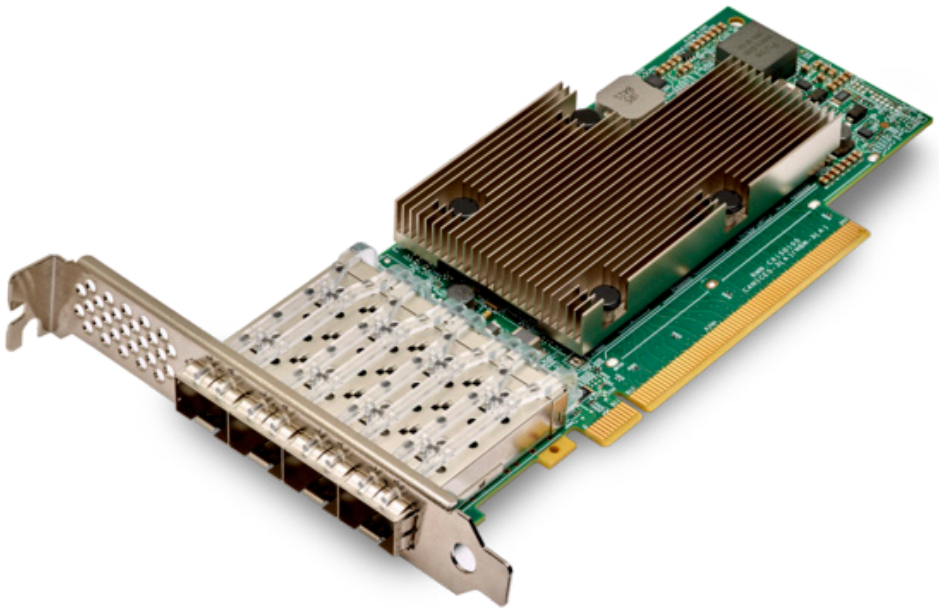
Quad-Port 25 Gb/s SFP28 Ethernet PCI Express 4.0 x16 Network Interface Card

The Broadcom BCM957504-P425G is a quad-port 25 Gb/s PCI Express 4.0 x16 network interface card that supports SFP28/SFP+ optical modules and copper direct-attach cables. The card uses the Broadcom BCM57504 100GbE MAC controller with an integrated quad-channel 25GbE SFI transceiver.

P425G Information

Attribute	Details
Ordering Part No.	BCM957504-P425G
Product Description	Quad-Port 25 Gb/s SFP28 Ethernet PCI Express 4.0 ×16 Network Interface Card, Halogen-Free
Port Configuration	4× 25GbE, 4× 10GbE
Power	15.2W Typical with Passive DAC at 55°C ambient temperature
Weight	160 grams
Form Factor	PCIe Low Profile, Half Length
Warranty	3 years

P425G



Product Features

- 25GbE or 10GbE SFP28/SFP+ optical transceiver or with copper direct-attach cable
- x8 PCI Express v3.0 compliant
- SR-IOV with up to 128 VFs
- Function Level Reset (FLR) support
- TruFlow™ flow processing engine
- Virtual Network Termination: VXLAN, NVGRE, Geneve, GRE encap/decap
- vSwitch acceleration
- Tunnel-aware stateless offloads
- RDMA over converged Ethernet (RoCE)
- Advanced Congestion Avoidance
- Multiqueue, NetQueue, and VMQ
- IPv4 and IPv6 offloads
- Large Send Offload (LSO)
- Large Receive Offload (LRO)
- TCP Segmentation Offload (TSO)
- Conforms to the PCI Express Card Electromechanical Specification Rev. 3.0

P225p

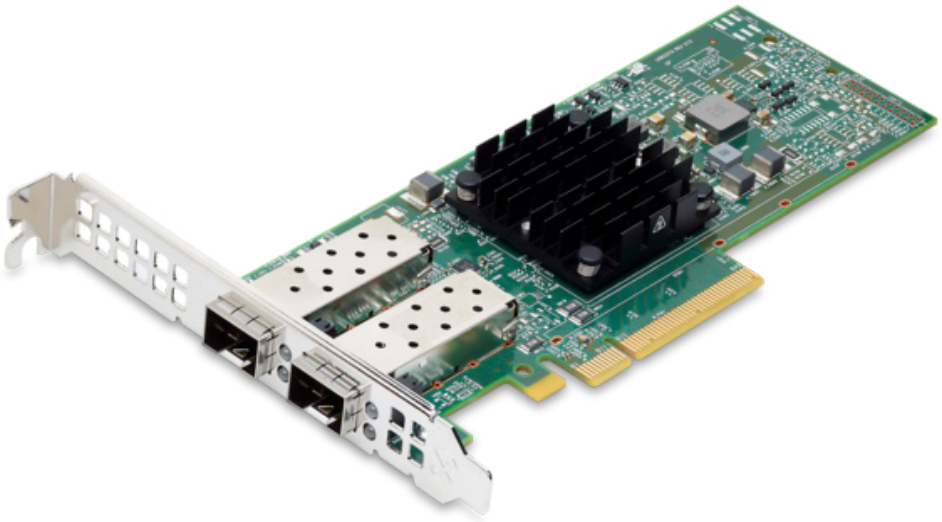
Dual-Port 25 Gb/s or 10 Gb/s Ethernet PCI Express 3.0 x8 Network Interface Card

The Broadcom® BCM957414A4142CC is a dual-port 25 Gb/s or 10 Gb/s, PCI-Express 3.0 x8 Network Interface Card that supports both SFP28/SFP+ optical modules and copper-direct attach cable. The card uses the Broadcom BCM57414 25GbE MAC controller with the integrated dual-channel 25GbE SFI transceiver.

P225p Information

Attribute	Details
Ordering Part No.	BCM957414A4142CC
Product Description	Dual-Port 25 Gb/s or 10 Gb/s SPF28 Ethernet PCI Express Network Interface Card; RoHS-compliant
Port Configuration	2× 25GbE, 2× 10GbE, 2× 1GbE
Power	10.9W Typical with Passive DAC at 55°C ambient temperature
Weight	75 grams
Dimensions (in.)	PCIe NIC Form Factor
Warranty	3 years

P225p



Product Features

- 10G SFP+ optical transceiver or with copper direct-attach cable
- x8 PCI Express v3.0 compliant
- SR-IOV with up to 128 VFs
- TruFlow™ flow processing engine
- Virtual Network Termination: VXLAN, NVGRE, GRE encap/decap
- vSwitch acceleration
- Tunnel-aware stateless offloads
- RDMA over converged Ethernet (RoCE)
- Advanced Congestion Avoidance
- Multiqueue, NetQueue, and VMQ
- IPv4 and IPv6 offloads
- Large Send Offload (LSO)
- Large Receive Offload (LRO)
- TCP Segmentation Offload (TSO)
- Conforms to the PCI Express Card Electromechanical Specification Rev. 3.0

P210p

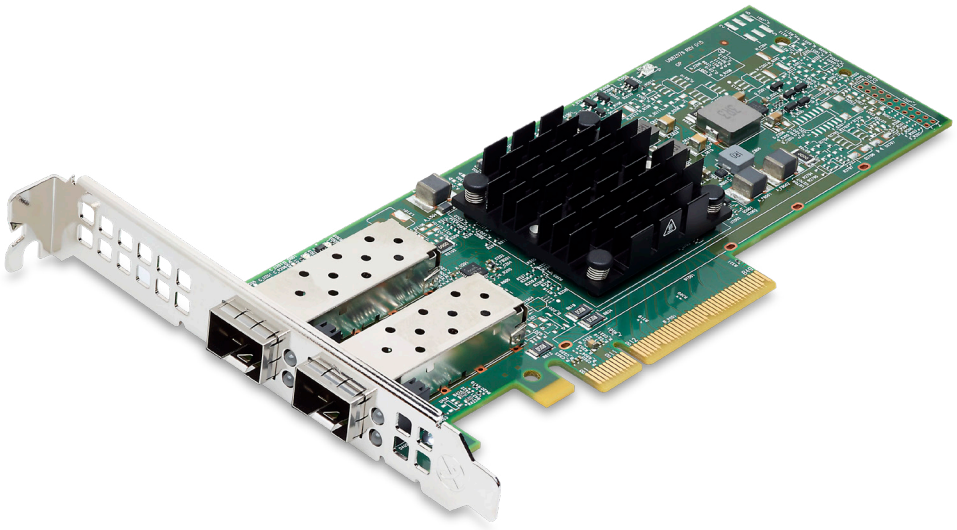
Dual-Port 10 Gb/s Ethernet PCI Express 3.0 x8 Network Interface Card

The Broadcom® BCM957412A4120AC is a dual-port 10 Gb/s, PCI-Express 3.0 x8 Network Interface Card that supports both SFP+ optical modules and copper direct-attach cable. The card uses the Broadcom BCM57412 10GbE MAC controller with the integrated dual-channel 10GbE SFI transceiver.

P210p Information

Attribute	Details
Ordering Part No.	BCM957412A4120AC
Product Description	Dual-Port 10 Gb/s SFP+ Ethernet PCI Express Network Interface Card; Halogen-Free
Port Configuration	2× 10GbE, 2× 1GbE
Power	8.1W Typical with Passive DAC at 55°C ambient temperature
Weight	75 grams
Dimensions (in.)	PCIe NIC Form Factor
Warranty	3 years

P210p



Product Features

- Dual-port 10-Gigabit Ethernet
- x8 PCI Express v3.0 compliant
- SR-IOV with up to 128 VFs
- TruFlow™ flow processing engine
- Virtual Network Termination: VXLAN, NVGRE, Geneve, GRE encap/decap
- vSwitch acceleration
- Tunnel-aware stateless offloads
- RDMA over Converged Ethernet (RoCE)
- Advanced Congestion Avoidance
- Multiqueue, NetQueue, and VMQ
- IPv4 and IPv6 offloads
- Large Send Offload (LSO)
- Large Receive Offload (LRO)
- TCP Segmentation Offload (TSO)
- Conforms to the PCI Express Card Electromechanical Specification Rev. 3.0

P210TP

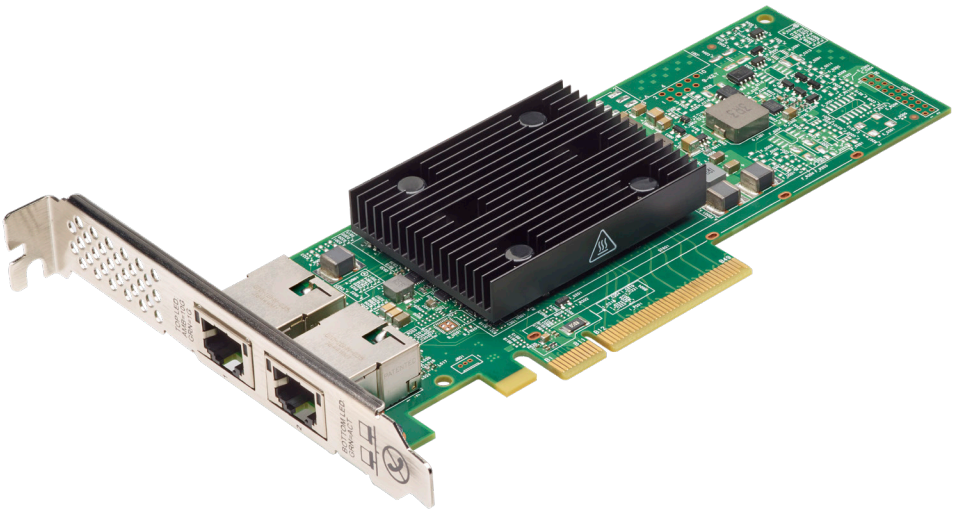
Dual-Port 10GBASE-T Ethernet PCI Express 3.0 x8 Network Interface Card

The Broadcom® BCM957416A4160C is a dual-port 10GBASE-T, PCI-Express 3.0 x8 Network Interface Card that supports a dual-port 10GBASE-T media interface that is fully compliant with the IEEE 802.3an standard. The card uses the Broadcom BCM57416 Ethernet controller with the integrated dual-channel 10GBASE-T transceiver.

P210TP Information

Attribute	Details
Ordering Part No.	BCM957416A4160C
Product Description	Dual-Port 10GBASE-T Ethernet PCI Express Network Interface Card; RoHS compliant
Port Configuration	2× 10GBASE-T, 2× 1GBASE-T
Power	15.5W Typical with 10GBASE-T Network Cable at 55°C ambient temperature
Weight	75 grams
Dimensions (in.)	PCIe NIC Form Factor
Warranty	3 years

P210TP



For more product information: broadcom.com

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