ANC100QP Series

PCI-Express x8, 100 Gigabit Network Adapters

The Allied Telesis ANC100QP PCIe 4.0 Ethernet controller is designed to build highlyscalable, feature-rich networking solutions in servers for enterprise and cloud-scale networking and storage applications, including high-performance computing, telco, machine learning, storage disaggregation, and data analytics. It combines a highbandwidth Ethernet controller with a unique set of highly-optimized hardware acceleration engines to enhance network performance and improve server efficiency.

Hardware Acceleration

With its market-leading hardware acceleration technologies, the ANC100QP Series PCIe 4.0 Ethernet controller addresses these performance and service demands of megascale data center networks with high throughput and advanced flow processing. Features such as TruFlow™ increase VM density up to 50 percent, freeing more CPU cycles for additional virtual machines. On-chip tunneling protocol processing for Geneve, VXLAN, and NVGRE provides up to a 5X throughput increase while lowering CPU utilization up to 90 percent compared to software-only solutions. NetXtreme®-E Series solutions also support advanced networking technologies such as RoCE, SDN and NFV, to facilitate the management of data networks and to enable service provider solutions.

Optimized for virtualization

Using 100G cards in virtualized environments is critical to the application in order to provide the data connectivity needed for the workloads in virtual machines. Due to specific slot limitations, it is usually recommended that virtualized servers use 100 Gigabit or higher ports to satisfy the I/O demands.

Superior functionality

The ANC100QP features TruFlow™, RDMA over Converged Ethernet (RoCE), Data Center Bridging (DCB), Single Root I/O Virtualization (SR-IOV), Stateless Offloads, and Congestion Avoidance.

More bandwidth with PCIe

The PCI-Express (PCIe) design provides the maximum possible bandwidth and bus efficiency. Other benefits include capability and low power consumption.

Performance and reliability

Allied Telesis validates its Network Adapters over a variety of operating systems and platforms, ensuring compatibility. The ANC100QP takes full advantage of the PCI-Express bus architecture to maximize network throughput. Teaming enables Smart Load Balancing (SLB), which helps increase throughput and fault tolerance when multiple adapters are configured to share traffic and provide data reliability with failover.

NIC Partitioning

The ANC100QP provides an unprecedented level of governance across the entire network, enabling detailed tests, analysis, and diagnostics for each network adapter installed in the system. It includes utilities to help configure VLANs and set up teams for link aggregation, SLB, failover, and more.

The ANC100QP includes a comprehensive Microsoft Windows utility which performs detailed tests, diagnostics and analysis.

RoCE

The ANC100QP hardware supports RoCEv2 & RoCEv1 simultaneously. RoCE is a protocol that allows Remote Direct Memory Access (RDMA) traffic to be communicated over ethernet. With Broadcom's smart Congestion Control, RoCEv2 can be enabled without DCB.

Key Features

- 100G QSFP28 optical transceiver or copper direct-attach cable.
- Fully compliant with the SFF-8402 standard.
- 10/25/40/50/100 Gbps speeds
- x8 PCI Express v4.0 compliant.
- SR-IOV with up to 128 VFs (RoCE v1/v2)
- 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).
- SMBus 2.0.
- MCTP over SMBus.
- PCIe-based UART and KCS.
- Jumbo frames up to 9174 bytes.
- Advanced Congestion Avoidance.
- Multiqueue, NetQueue, and VMQ.
- IPv4 and IPv6 offloads.
- Stateless TCP offloads: IP/TCP/UDP checksum
- Large Send Offload (LSO).
- Large Receive Offload (LRO).
- TCP Segmentation Offload (TSO).
- Receive-side Scaling (RSS).
- Transmit-side Scaling (TSS).
- VLAN insertion/removal.
- Interrupt coalescing.
- Network boot-PXE, UEFI.
- iSCSI boot.
- MSI and MSI-X

Applications

Cloud and Web2.0 data center servers Machine Learning (ML) clusters
High-Performance Computing (HPC) clusters
Multi-node container platforms
NVMe storage disaggregation (NVMe-oF™)
Database servers

SPECIFICATIONS

Bus Type
PCIe x 8

Connectors
QSFP28, QSFP28 DAC, QSFP28 AOC

Network Type
10/25/40/50/100 Gbps speeds

Speed
10/25/50/100G

Management Features
WMI
ACPI 1.1
PXE 2.1 Boot ROM
SNMP
UEFI Network Boot

Ethernet Standards

IEEE 802.1p	Quality of Service
IEEE 802.1Q	VLANs
IEEE 802.2	LLC
IEEE 802.3ac	MAP
IEEE 802.3	10 Ethernet
IEEE 802.3x	Flow control auto-negotiation
IEEE 802.3ad	Link aggregation
IEEE 802.1Qaz	Enhance Transmission Selection (ETC)
IEEE 802.1Qbb	PFC
IEEE 801.1Qau	Quantized Congestion Notification (QCN)

Compatible with Drivers:
Windows 11
Windows Server 2022
Windows Server 2025
Linux
Red Hat Enterprise
Ubuntu
Debian

Status Indicators
LED for QSFP+ slots
  Upper (Link)
  Lower (Activity)

Power

Power consumption (max)	
ANC100QP	8.5W (empty)
	14.5W (Max)
Operating voltage	3.3V and 12V

Environmental Specifications

Operating temperature	0°C to 50°C (32°F to 122°F)
Storage humidity	5% to 90% (non-condensing)
Storage temperature	-25°C to 70°C (-13°F to 158°F)

Physical Characteristics

Dimensions (LxWxH)	17 cm x 7 cm x 1.8 cm (6.7 in x 2.8 in x 0.7 in)
Weight	85 g (3.0 oz)

Ships with low-profile bracket attached to interface card.
Standard bracket included in packaging.

Compliance
RoHS
UL
EN55032/EN55035 Class A
EN55024
FCC Class A
ICES Class A
VCCI Class A
TUV

ORDERING INFORMATION

AT-ANC100QP-900	PCIe 100 Gig SFP28 Network Interface Card, TAA[1]

[1] Trade Act Agreement compliant (TAA)

Accessories

100G Modules	
AT-QSFP28SR4	100G, SR4 (MPO), Multi-Mode, 100 m
AT-QSFPLR4	100G, LR4 (LC), Single-Mode, 10 km
AT-QSFPDD-1CU	1 Meter Direct Attach Cables
AT-QSFPDD-2.5CU	2.5 Meter Direct Attach Cables