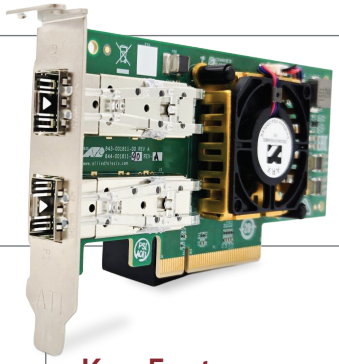
ANC25 Series

PCI-Express 10/25 Gigabit Network Adapter



The Allied Telesis ANC25SP PCIe 3.0 Ethernet controller is designed to build highly-scalable, 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 high-bandwidth 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 ANC25SP Series PCIe 3.0 Ethernet controller addresses these performance and service demands of mega-scale 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 multi-port cards in virtualized environments is critical to the application in order to provide redundancy and data connectivity for the workloads in virtual machines. Due to specific slot limitations, and the need for redundancy/data connectivity, it is usually recommended that virtualized servers use 10 Gigabit or higher ports to satisfy the I/O demands.

Superior functionality

The ANC25SP 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 ANC25SP 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 ANC25 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 ANC25 includes a comprehensive Microsoft Windows utility which performs detailed tests, diagnostics and analysis

Key Features

- 25G SFP28 optical transceiver or copper direct-attach cable.
- Fully compliant with the SFF-8402 standard.
- Accepts 10G SFP+ for legacy support
- 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).
- SMBus 2.0.
- MCTP over SMBus.
- PCIe-based UART and KCS.
- Jumbo frames up to 9 KB.
- Advanced Congestion Avoidance.
- Multiqueue, NetQueue, and VMQ.
- IPv4 and IPv6 offloads.
- TCP, UDP, and IP checksum offloads.
- 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
- SFP+
- RJ45

Network Type
- 10/25G

Speed
- 10/25G

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 802.3acMAP
IEEE 802.3 10 Ethernet
IEEE 802.3x Flow control auto-negotiation
IEEE 802.3adLink 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 10
- Windows Server 2022
- Windows Server 2025
- Linux

Status Indicators
- LED for SFP28 slots

LEFT LED (Activity)
OFF: No Link/Empty Slot
On: Activity/Link

Right LED (Link Speed)
Green = 25G
Yellow = 10G or less

Power
- Power consumption (max)
  - ANC25SP/2 8.5W (empty) - 14.5W (Max)
  - ANC25SP 6W (Empty) - 9W (Max)
- Operating voltage 3.3V and 12V

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

Physical Characteristics
- Dimensions (W x H)
  - ANC25SP/2 9.62 cm (3.8 in) x 6.89 cm (2.17 in)
  - ANC25SP 9.62 cm (3.8 in) x 6.89 cm (2.17 in)
- Weight: 78.0 g (2.8 oz)
  - ANC25SP/2 85.1 g (3.0 oz)
  - ANC25SP 76 g (2.68 oz)

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

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

ORDERING INFORMATION

AT-ANC25SP/2-900	PCIe 2 x 25 Gig SFP28 Network Interface Card, TAA[1]
AT-ANC25SP-900	PCIe 25 Gig SFP28 Network Interface Card, TAA[1]

Accessories

Compatible SFP Modules	
AT-SP25SR/I	100 m, 25G SFP, LC, MMF, 850 nm, industrial temperature, TAA[1]
AT-SP25LR/I	10 km, 25G SFP, LC, SMF, 1310 nm, industrial temperature, TAA[1]

[1] Trade Act Agreement compliant

10G Modules	
AT-SP10SR	10GSR 850 nm short-haul, 300 m with MMF
AT-SP10LRa/I	10GLR 1310 nm medium-haul, 10 km with SMF industrial temperature
AT-SP10ER40a/I	10GER 1310 nm long-haul, 40 km with SMF industrial temperature
AT-SP10ZR80/I	10GER 1550 nm long-haul, 80 km with SMF industrial temperature
AT-SP10TM	1G/2.5G/5G/10G, 100 m copper, TAA[5]