

Intel® Ethernet Network Adapter E835-XXVDA4



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ETHERNET

At-a-glance

- 4 port, 25/10GbE
- Remote Direct Memory Access (RDMA) RoCEv2 and iWARP
- PCIe 4.0 x16 (physical) and 4.0 x8 (electrical)
- Dynamic Device Personalization (DDP)
- Data Plane Development Kit (DPDK) enabled
- IEEE 1588 Precision Time Protocol v2
- Precision Time Measurement (PTM) v1.0a
- Commercial National Security Algorithm (CNSA) 1.0 compliant
- Modern security with signed firmware, secure boot, and hardware root of trust (RoT)

Overview

This 25GbE 800 Series, E835 network adapter offers leading performance, security, manageability, and interoperability without the technical complexity and high cost of proprietary technologies. With four ports of 25GbE in a single slot, port density and scalability are also maximized.

Intel Ethernet E835-XXVDA4 supports solutions across Cloud, Enterprise, and Communications with concurrent support of iWARP and RoCEv2 RDMA, modern security features, and key timing protocols. The low-power design reduces energy consumption across the system lowering costs and environmental impact.

Deployment is made easier through shared drivers for all 800 Series Network Adapter families (E835, E830 and E810), ensuring software consistency across generations of products.

Optimized for Intel® Xeon® processors

Data centers and workloads need computing capacity and powerful ways to move data securely. Intel® architecture offers both. Deployment-ready, reliable, and affordable, Intel Ethernet E835 Network Adapters are the perfect choice for amplifying server performance with Intel® Xeon® 6 processors.

Why Intel® Ethernet

Intel Ethernet Network Adapters offer best-in-class compatibility, performance assurance, and world-class customer support. Key features and technologies deliver outstanding performance and support for data center workloads.

Compatibility and interoperability

- Extensive conformance testing to IEEE and Ethernet Technology Consortium standards
- Comprehensive operating system and hypervisor support
- Broad network interoperability testing for best-in-class compatibility

Performance assurance

- Validated on all x86 architectures and optimized for Intel® architecture
- Security protocols and management to ensure data integrity
- Scales with processor cores and technologies

Worldwide product support

- Industry-leading warranty
- World-class customer pre- and post-product support
- Adherence to regulatory and environmental requirements

25GbE Intel® Ethernet E835 Network Adapters offer these key features:

RDMA

All 800 Series E835 network adapters support RoCEv2 and iWARP protocols, and for added flexibility, these protocols can run concurrently.

Programmable Pipeline / Dynamic Device Personalization (DDP)

DDP improves packet processing performance by using the E835 controller's programmable pipeline, instead of the CPU, to classify frames. DDP increases throughput, lowers latency, and reduces host CPU overhead in both network functions virtualization (NFV) workloads and cloud-native architectures.

Data Plane Development Kit (DPDK)

800 Series network adapters are DPDK enabled to deliver faster NFV, advanced packet forwarding, and efficient packet processing, resulting in effective use of CPU cycles and reduced overhead.

Open vSwitch (OVS) Acceleration

The E835 is optimized for Intel® Xeon® processors to minimize packet parsing overhead and flow table search. DPDK integration with OVS increases performance by eliminating extra layers in the architecture and native OVS stack.

Precision Time Synchronization and Measurement

Intel® Ethernet E835 Network Adapters enable service providers to build open, disaggregated vRAN solutions with off-the-shelf components to meet unique customer needs, including system size and budget.

- Compliant with IEEE 1588 Precision Time Protocol (PTP) v2.
- Includes Precision Time Measurement (PTM) v1.0a, a protocol used to synchronize a CPU with other devices in a server platform, such as E835 network adapters. Applications benefitting from PTM sub-microsecond timing accuracy include financial services, network monitoring, and distributed database systems.

Manageability

Broad system manageability capabilities using the latest DTMF (Distributed Management Task Force) protocols.

- MCTP over SMBus 2.0 and PCIe VDM (Vendor Defined Messages)
- NC-SI 1.2 protocol compliance. Transport options include NC-SI over MCTP
- PLDM over MCTP with an extended list of message types, including PLDM command types T2, T4, T5, T6.

Modern Standards-based Security

Intel offers modern standards-based cryptographic security anchored by a hardware Root of Trust (RoT).

- Signed SPDm and device attestation in compliance with Security Protocol and Data Model (SPDM) 1.1.2.
- Silicon Root of Trust (RoT) compliant with NIST SP 800-193 platform firmware resiliency guidelines.
- Meets FIPS 140-3 level 1 requirements.
- Secure Boot isolates sensitive parameters and keys used for boot and operation.
- Secure Firmware Update verifies digital signatures of new firmware binaries.
- Recovery Mode Failsafe mode is activated upon detection of abnormal device operation

Adapter Features

Data Rate Supported	25/10GbE
Bus Type/Bus Width	PCIe 4.0 x16 (physical), 4.0 x8 (electrical)
Form Factor	Standard PCIe; ships with both low-profile and full-height brackets
Controller	Intel Ethernet Controller E835
Hardware Certifications	BSMI, CE, CMIM, FCC, ICES, KCC, RCM, UKCA, cURus, and VCCI
Compliance	RoHS and BSMI RoHS compliant. Product is compliant with Taiwan Bureau of Standards, Metrology and Inspection (BSMI) and EU RoHS Directive 2011/65/EU (Directive 2011/65/EU) and its amendments.

Technical Specifications

Storage Humidity	Maximum: 90% non-condensing relative humidity at 35 °C
Storage Temperature	-40 °C to 70 °C (-40 °F to 158 °F)
Operating Temperature	0 °C to 65 °C (32 °F to 149 °F)
LED Indicators	ACTIVITY (blinking) NO ACTIVITY (off) LINK SPEED (green = 25GbE; amber = less than 25GbE; off = no link)

Ethernet Media Supported

25GbE SFP28

25GBASE-CR (802.3by 25G twinax), 25GBASE-CR1 (Consortium 25G twinax), 25GBASE-SR, 25GBASE-LR, 25G-AUI C2M, CA-25G-N (DA Breakout), CA-25G-S (DA Breakout), CA-25G-L (DA Breakout)

10GbE SFP+

10Gb SFI-DAC (SFP+ twinax); 10Gb SFI Limiting (SFP+ optics/AOC)

Supported Operating Systems

For a complete list of supported network operating systems for Intel® Ethernet 800 Series Network Adapters visit: [intel.com/support/EthernetOS](https://www.intel.com/support/EthernetOS)

Power Consumption

DACs	Typical Power
25GbE Max	TBA
Idle (no traffic)	TBA
Optics	
25GbE Max	TBA
Idle (no traffic)	TBA
*Optics Max measured with 2.5 W load modules	

Product Order Code

4 Port	E835XXVDA4
	E835XXVDA4M (five pack)

Warranty

Intel limited lifetime hardware warranty, 90-day money-back guarantee (US and Canada) and worldwide support. Visit: [Intel® Terms and Conditions of Warranty, Support and Services](#)

Customer Support

For customer support options in North America visit: [intel.com/content/www/us/en/support/contact-support.html](https://www.intel.com/content/www/us/en/support/contact-support.html)

Product Information

For information about Intel® Ethernet Products and technologies visit: [intel.com/ethernet](https://www.intel.com/ethernet)

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