# AOC-AH25G-m2S2TM

Advanced 25Gb Ethernet controller in Supermicro Advanced I/O Module (AIOM)

The Supermicro AOC-AH25G-m2S2TM is one of the most feature rich 25GbE controllers in the market. Based on the Mellanox® ConnectX-4 Lx EN with features such as VXLAN and NVGRE; it provides flexible connectivity for different networking requirements. It is compatible with 10GbE networks and offers the most cost effective upgrades from 10GbE to 25GbE in Data Center and Cloud deployments. The AOC-AH25G-m2S2TM also supports an additional 2-ports of 10GbE RJ45 connectivity, based on the Intel® X550 controller, providing NC-SI for Remote Management. This versatile 25GbE controller is an excellent choice to enhance data center network connectivity when high speed throughput is required.

Key Features:

- Advance I/O Module (AIOM) Form Factor
- Mellanox® ConnectX-4 Lx EN 25GbE controller, dual SFP28 connectors
- Intel® X550-AT2 10GbE controller, Dual RJ45 Connectors
- Hardware offloads for NVGRE, VXLAN and GENEVE encapsulated traffic
- SR-IOV for virtualization
- Low latency RDMA over Converged Ethernet (RoCE) (25GbE Controller only)
- Jumbo Frames Support
- NC-SI for Remote Management (10GbE Controller only)
- BMC Thermal reading support
- RoHS Compliant 6/6

AOC-AH25G-m2S2TM
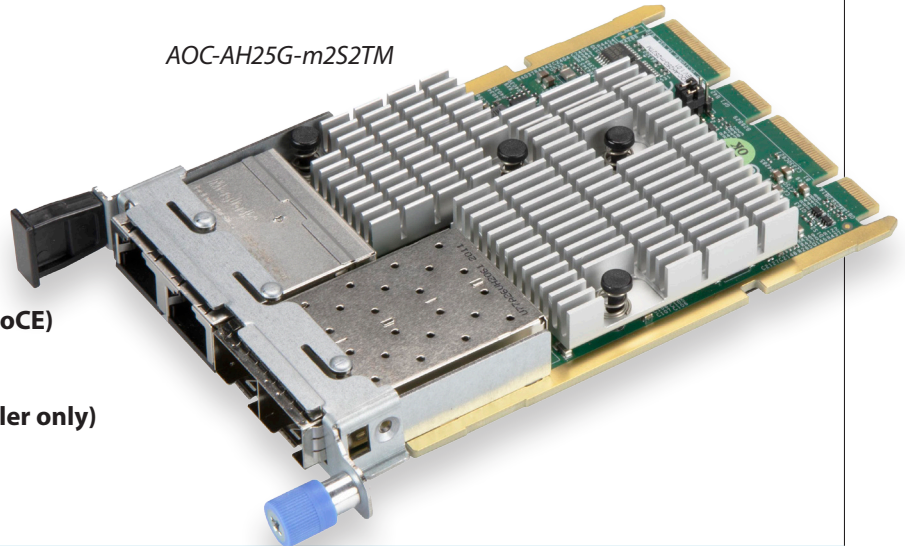
Specifications

- **General:**
  - Advanced I/O Module (AIOM) Form Factor
  - Mellanox® ConnectX-4 Lx EN 25GbE controller
    - o Dual SFP28 connectors with speed up to 25Gbps per port
  - Intel® X550-AT2 10GbE 10GBase-T controller
    - o Dual RJ45 connectors with speed up to 10Gbps per port

- **Cables Support**
  - 25GbE SFP28: Direct attach copper cables and Fiber-optic cables (with required optional transceivers)
  - 10GbE RJ45: RJ-45 Category-6 up to 55m; Category-6A up to 100m

- **Power Consumption**
  - Maximum: 25W

- **Operating Conditions**
  - Storage condition: -40°C to 70°C (-40°F to 158°F)
  - Storage humidity: 90% non-condensing relative humidity at 35°C

- **Physical Dimensions**
  - Card PCB dimensions: 115mm (4.528in) x 76mm (2.992in) (D x W)

Please note that this product is sold only as part of an integrated solution with Supermicro server systems.

AOC-AH25G-m2S2TM

25GbE SFP28 Specifications

- **Networking Features**
  - 25GbE / 10GbE / 1GbE
  - IEEE 802.3ad, 802.1AX Link Aggregation
  - IEEE 802.1Q, 802.1P VLAN tags and priority
  - IEEE 1588v2
  - Jumbo frames support (9.6KB)

- **Enhanced Features**
  - Hardware-based reliable transport
  - Collective operations offloads
  - Vector collective operations offloads
  - 64/66 encoding
  - Dynamically Connected transport (DCT)
  - Enhanced Atomic operations
  - Support for MSI/MSI-X mechanisms

- **Storage Offloads:**
  - RAID offload - erasure coding (Reed-Solomon) offload

- **Overlay Networks:**
  - Stateless offloads for overlay networks and tunneling protocols
  - Hardware offload of encapsulation of NVGRE and VXLAN overlay networks

- **Hardware-based I/O Virtualization:**
  - Single Root IOV
  - Multi-function per port
  - Multiple queues per virtual machine
  - VMware NetQueue support

- **Virtualization:**
  - SR-IOV: Up to 256 Virtual Functions
  - SR-IOV: Up to 16 Physical Functions per port

- **CPU Offloads:**
  - RDMA over Converged Ethernet (RoCE)
  - TCP/UDP/IP stateless offload
  - LSO, LRO, checksum offload
  - RSS (can be done on encapsulated packet), TSS, HDS, VLAN insertion/stripping, Receive flow steering
  - Intelligent interrupt coalescence

- **Management Features:**
  - Remote boot over iSCSI
  - PXE and UEFI
  -

- **OS Support:**
  - RHEL/CentOS
  - Windows
  - FreeBSD
  - VMware

10GbE RJ45 Specifications

- **I/O Features:**
  - MXI-X Support
  - Intel Flow Director
  - Low Latency
  - Multiple Queues – 64 Tx and Rx per Port
  - Tx/Rx IP, SCTP, TCP, and UDP Checksum Offloading (IPv4, IPv6) Capabilities
  - Tx TCP Segmentation Offload (IPv4, IPv6)

- **Network Features:**
  - Jumbo frames up to 15.5KB
  - IEEE 802.3az Energy Efficient Ethernet (EEE)

- **Virtualization Features:**
  - Multi-mode I/O Virtualization Operations
  - VXLAN Stateless Offloads
  - NVGRE Stateless Offloads
  - Virtual Machine Device Queues (VMDq)
  - 64 Transmit (Tx) and Receive (Rx) Queue Pairs Per Port
  - FPP – 64 VFs Per Port
  - Support for PCI-SIG SR-IOV Specification
  - IEEE 802.1Q VLAN Support

- **Management Features:**
  - Preboot eXecution Environment (PXE) support
  - iSCSI Remote Boot Support and FCoE
  - NC-SI for remote management

- **OS Support:**
  - Linux RHEL, Linux SLES
  - Windows
  - FreeBSD
  - VMware

Available SKUs

Product Part Number	Bracket Included	Description
AOC-AH25G-m2S2TM	BKT-0176L	2-port 25 Gigabit and 2-port 10 Gigabit Ethernet Adapter with a 0.5U height bracket.

For the most current product information, visit:

www.supermicro.com