

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

Supermicro® Advanced I/O Modules (AIOM) is the latest form factor designed to provide a wide range of networking options as well as other I/O technologies. The AOC-A25G-b2S(M/B/G) is one of the most feature rich and low power consumption 25GbE controllers in the market. Based on the Broadcom® BCM57414 with features such as VXLAN, NVGRE, RoCE, and NIC Partitioning, it provides unparalleled density, performance, and functionality. The Supermicro® AOC-A25G-b2S(M/B/G) is the most versatile 25GbE controller in the market and an excellent choice to enhance network connectivity in Data Centers and Enterprise environments.

Key Features:

- **Advanced I/O Module (AIOM) Form Factor**
- **Broadcom® BCM57414 25GbE controller**
- **Support for 25GbE and 10GbE Speed**
- **Dual SFP28 connectors**
- **RDMA over Converged Ethernet (RoCE)**
- **VXLAN, NVGRE and Geneve**
- **NIC Partitioning (NPAR)**
- **Broadcom® TruFlow™ flow processing engine**
- **Asset Management Features with thermal sensor**
- **NC-SI for Remote Management**
- **RoHS compliant 6/6**

AOC-A25G-b2SM

AOC-A25G-b2S

AOC-A25G-b2SG

AOC-A25G-b2SB

Specifications

- **General:**
 - Advanced I/O Module (AIOM) Form Factor
 - Broadcom® BCM57414 25GbE controller
 - 2 SFP28 ports
- **Networking Features:**
 - Jumbo frames (up to 9.6 KB)
 - IEEE 802.3x flow control
 - IEEE 1588 and Time Sync
 - IEEE 802.3ad Link Aggregation
 - Virtual LANs- 802.1q VLAN tagging
 - Configurable Flow Acceleration
 - PXE, UEFI, and iSCSI remote boot
- **Stateless Offload Features:**
 - TCP, UDP and IP checksum offloads
 - IPv4 and IPv6 offloads
 - Large Send Offload
 - Receive Segment Coalescing
 - TCP Segmentation Offload
 - Large Receive Offload
 - Receive Side Scaling (RSS)
 - Transmit Side Scaling (TSS)
 - Accelerate Received Flow Steering (RFS)
- **NIC Partitioning (NPAR):**
 - 16 Physical Functions
 - QoS per partition
 - Partitioning control via sideband communication
 - Up to 64 MAC/VLAN filter per partition
 - Per partition statistics support
 - Stateless offloads configuration per partition
 - VEB/VEPA support
- **Virtualization Features:**
 - NetQueue, VMQueue, and Multiqueue
 - SR-IOV with up to 128 Virtual Functions (VFs)
 - VXLAN, NVGRE, and Geneve
 - Edge Virtual Bridging (EVB)
- **RDMA over Converged Ethernet (RoCE):**
 - RoCEv1 and RoCEv2
 - Data Center Bridging with RoCE
- **Flow Processing:**
 - Exact/Wildcard Match Flow Lookup
 - VLAN insertion/deletion
 - NAT/NAPT/Mirroring
- **Data Center Bridging:**
 - Priority-based flow control (PFC; IEEE 802.1Qbb)
 - Enhanced transmission selection (ETS; IEEE 802.1Qau)
 - Quantized Congestion Notification (QCN; IEEE 802.1Qau)
 - Data Center Bridging Capability eXchange (DCBX; IEEE 802.1Qaz)
 - 8 traffic classes per port; fully DCB compliant per 802.1Qbb
- **Power Savings:**
 - ACPI compliant power management
 - PCI Express Active State Power Management (ASPM)
 - Ultra-low-power mode
 - Pass-through Energy Efficient Ethernet (IEEE 802.3az-2010)
- **Power Consumption:**
 - Maximum: 7.7W
- **Operating Conditions:**
 - Storage temperature: -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: 76mm x 115mm (W x D)

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

Available SKUs

Product Part Number	Bracket Included	Description
AOC-A25G-b2S	BKT-0165L	2-port 25 Gigabit Ethernet Adapter with a 1U height bracket (for Embedded Edge system only)
AOC-A25G-b2SM	BKT-0166L	2-port 25 Gigabit Ethernet Adapter with a 0.5U height pull-tab bracket (for all other AIOM systems)
AOC-A25G-b2SB	BKT-0180L	2-port 25 Gigabit Ethernet Adapter with a 0.5U height internal lock bracket (for Blade system only)
AOC-A25G-b2SG	BKT-0209L	2-port 25 Gigabit Ethernet Adapter with a 0.5U height Narrow bracket (for Grand Twin front IO system only)