

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 802.1Qaz)
- 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

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)