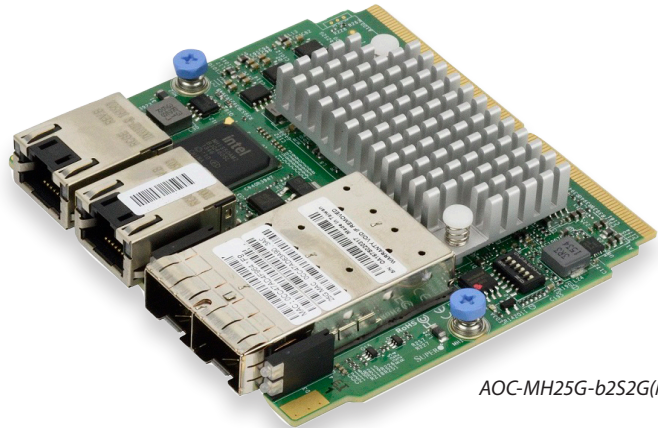


Advanced 25GbE Ethernet Controller in Supermicro Super I/O Module

The Supermicro® AOC-MH25G-b2S2G is one of the most feature rich and low power consumption 25GbE controllers in the market. With 2-ports of 25GbE SFP28 connectivity in small form factor SIOM and based on the Broadcom® BCM57414 with features such as VXLAN, NVGRE, also NIC Partitioning, it provides unparalleled density, performance, and functionality. It also supports additional 2-ports GbE RJ45, based on Intel® i350, providing NC-SI side-band for IPMI Remote Management. AOC-MH25G-b2S2G 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:

- **Super I/O Module (SIOM) Form Factor**
- **Broadcom® BCM57414 25GbE controller, Dual SFP28 connectors**
- **Intel® i350-AM2 GbE controller, Dual RJ45 Connectors**
- **Network Virtualization: VXLAN and NVGRE (25GbE Controller only)**
- **NIC Partitioning (NPAR) (25GbE Controller only)**
- **Broadcom TruFlow (25GbE Controller only)**
- **PCI-SIG SR-IOV**
- **IEEE 1588 Time Sync**
- **Jumbo Frames support**
- **NC-SI for IPMI Remote Management (GbE Controller only)**
- **Asset Management Features**
- **RoHS compliant 6/6**



Specifications

General:

- Super I/O Module (SIOM) Form Factor
- Broadcom® BCM57414 25GbE controller
- Dual SFP28 connectors with speed up to 25Gbps per port
- Intel® i350-AM2 GbE controller
- Dual RJ45 connectors with speed up to 1Gbps per port

Cables Support:

- 25GbE SFP28: Direct attach copper cables and Fiber-optic cables (with required optional transceivers)
- GbE RJ45: RJ-45 Category-5/5e up to 100m

Power Consumption:

- Maximum 9W

Operating Conditions:

- Operating temperature: 0°C to 55°C (32°F to 131°F)
- 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: 92mm (3.62in) x 87.1mm (3.43in) (W x D)

Supported Platforms:

- Supermicro® motherboards with Super I/O Module slot
- Supermicro® server systems with Super I/O Module slot (See SIOM Compatibility Matrix online)

http://www.supermicro.com/support/resources/AOC/AOC_Compatibility_SIOM.cfm

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

25GbE Specifications

Networking features:

- Jumbo frames
- 802.3x flow control
- Link Aggregation (802.3ad)
- Virtual LANs- 802.1q VLAN tagging
- Configurable Flow Acceleration
- IEEE 1588 and Time Sync
- vSAN/RDMA

Stateless Offload Features:

- TCP, UDP, IPv4, IPv6 checksum offload
- Large Send Offload
- Receive Segment Coalescing
- TCP Segmentation Offload
- Large Receive Offload
- Receive Side Scaling (RSS)
- Transmit Side Scaling (TSS)

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
- Support for 128 Virtual Functions
- VXLAN, NVGRE and Geneve
- Edge Virtual Bridging (EVB)

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
- Pass-through Energy Efficient Ethernet (IEEE 802.3az-2010)

GbE Specifications

- **Ethernet Features:**
 - IEEE 802.3 auto-negotiation for speed, duplex, and flow control
 - IEEE 802.3x and 802.3z compliant flow control support
 - Automatic cross-over detection function (MDI/MDI-X)
 - 1Gb/s Ethernet IEEE 802.3, 802.3u, 802.3ab PHY specifications Compliant
 - IEEE 1588 protocol and 802.1AS implementation
- **Power Management and Efficiency:**
 - Energy Efficient Ethernet (EEE)
 - DMA Coalescing reduces platform power consumption
 - Active State Power Management (ASPM) support
 - LAN disable function
 - MAC Power Management controls
 - Low Power Link Up – Link Speed Control
- **Virtualization Features:**
 - PC-SIG SR-IOV support
 - VM to VM Packet forwarding (Packet Loopback)
 - Flexible Port Partitioning
 - IEEE 802.1q VLAN support
 - IEEE 802.1q advanced packet filtering
 - Jumbo Frames support
- **Performance Features**
 - TCP/UDP, IPv4 and IPv6 checksum offloads to improve CPU usage
 - Low Latency Interrupts
 - Tx TCP segmentation offload (IPv4, IPv6) increases throughput and lowers processor usage
 - Receive Side Scaling (RSS) for Windows environment, Scalable I/O for intelligent interrupt generation
- **Management Features**
 - Preboot eXecution Environment (PXE) support
 - iSCSI Remote Boot Support
 - NC-SI for remote management

Available Supermicro SKUs

SKUs	Part Number	Description
AOC-MH25G-b2S2G	AOC-MH25G-b2S2G	2-port 25 Gigabit & 2-port Gigabit Ethernet Adapter
	BKT-0112L	Swappable bracket for 2U+ chassis
AOC-MH25G-b2S2GM	AOC-MH25G-b2S2GM	2-port 25 Gigabit & 2-port Gigabit Ethernet Adapter
	BKT-0113L	Internal bracket

Similar Supermicro Products

Product Part Number	Form Factor	Speed	Connector Type	Total Ports	Chipset
AOC-MGP-i2	SIOM	1GbE	RJ45	2	Intel® i350
AOC-MGP-i4	SIOM	1GbE	RJ45	4	Intel® i350
AOC-MTGN-i2S	SIOM	10GbE	SFP+	2	Intel® 82599
AOC-MTG-i4S	SIOM	10GbE	SFP+	4	Intel® XL710
AOC-MTG-i2T	SIOM	10GbE	RJ45	2	Intel® X550
AOC-MTG-i4T	SIOM	10GbE	RJ45	4	Intel® X550
AOC-MH25G-m2S2T	SIOM	25GbE 10GbE	SFP28 RJ45	2 2	Mellanox® ConnectX-4 Lx EN Intel® X550
AOC-MHIBF-m2Q2G	SIOM	InfiniBand FDR GbE	QSFP+ RJ45	2 2	Mellanox® ConnectX-3 Pro Intel® i350
AOC-MHIBF-m1Q2G	SIOM	InfiniBand FDR GbE	QSFP+ RJ45	1 2	Mellanox® ConnectX-3 Pro Intel® i350
AOC-MHFI-i1C	SIOM	Omni-Path	QSFP28	1	Intel® OPA HFI