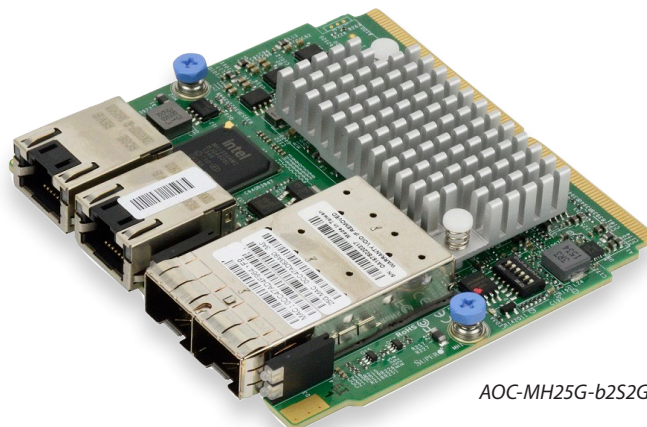


Advanced 25GbE Ethernet Controller in Supermicro Super I/O Module

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, RoCE 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**
- **RDMA over Converged Ethernet (RoCE) (25GbE Controller only)**
- **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
- **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)
- **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
 - 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