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

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
- 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

For the most current product information, visit: www.supermicro.com
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

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<th>SKUs</th>
<th>Part Number</th>
<th>Description</th>
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<td>Swappable bracket for 2U+ chassis</td>
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<td>BKT-0113L</td>
<td>Internal bracket</td>
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### Similar Supermicro Products

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<td>RJ45</td>
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