

The Supermicro AOC-S100G-m2C provides exceptionally high performance at 100Gb/s Ethernet connectivity. Utilizing the Mellanox ConnectX®-4 EN chipset with features that such as VXLAN and NVGRE, this card offers network flexibility, high bandwidth with specific hardware offload for I/O virtualization, and efficiently optimizes bandwidth demand from virtualized infrastructure in the data center or cloud deployments. The AOC-S100G-m2C supports the RoCE specification with CPU offload, delivering low-latency and high-efficiency over Ethernet networks. Supermicro® Asset Management and thermal detection provide an extra layer of controller health management and peace of mind. The Supermicro AOC-S100G-m2C is the building block of choice for the next generation of high speed Ethernet data center networks.

## Key Features:

- Dual QSFP28 Connectors
- Low-Profile, Short Length Standard Form Factor
- PCI-E 3.0 x16
- Mellanox ConnectX®-4 EN Ethernet Controller
- Asset Management Features with thermal sensor
- Hardware offloads for VXLAN, NVGRE and GENEVE encapsulated traffic
- Low latency RDMA over Converged Ethernet (RoCE)
- SR-IOV compliant
- Jumbo Frames support up to 9.6KB
- PXE Support
- Erasure Coding Offload
- NC-SI for IPMI support
- RoHS compliant 6/6



## Specifications

### General:

- Mellanox ConnectX®-4 EN dual port 100Gbps controller
- Compact size low-profile standard form factor
- PCI-E 3.0 x16 interface
- Dual QSFP28 connectors
- Max power consumption: 16.3W

### Host Interface:

- PCI-E 3.0 x16
- Message Signal Interrupt (MSI-X)

### Networking Features:

- IEEE 802.2bj, 802.3bm 100 Gigabit Ethernet
- 25G Ethernet Consortium 25, 50 Gigabit Ethernet
- IEE 802.3ba 40 Gigabit Ethernet
- IEEE802.3ae 10 Gigabit Ethernet
- IEEE802.3az Energy Efficient Ethernet
- IEEE 802.3ap based auto-egotiation and KR startup
- IEEE 802.ad, 802.1AX Link Aggregation
- IEEE 802.1Q, 802.1p VLAN tags and priority
- IEEE802.1Qau (QCN) – Congestion Notification
- IEEE 802.1Qaz (ETS)
- IEEE 802.1Qbb (PFC)
- IEEE 802.1Qbg
- IEEE 1588v2
- Jumbo frame support (9.6KB)

### CPU Offload Features:

- RDMA over Converged Ethernet (RoCE)
- TCP/UDP/IP stateless offload
- LSO, LRO, checksum offload
- RSS, TSS, HDS, VLAN insertion/stripping. Receive flow steering
- Intelligent interrupt coalescence

### Storage Offloads:

- RAID offload – erasure coding (Reed-Solomon) offload

### Overlay Networks:

- Stateless offloads for overlay networks and tunneling protocols
- Hardware offload of encapsulation and decapsulation of NVGRE and VXLAN overlay networks

### Hardware-Based I/O Virtualization:

- Single Root IOV
- Multi-function per port
- Address translation and protection
- Multiple queues per virtual machine
- Enhanced QoS for vNICs
- VMware NetQueue support

### Hardware-Based I/O Virtualization:

- Single Root IOV
- Multi-function per port
- Address translation and protection
- Multiple queues per virtual machine
- Enhanced QoS for vNICs
- VMware NetQueue support

### Virtualization Features:

- SR-IOV: up to 256 Virtual Functions
- SR-IOV: up to 16 Physical Functions per port
- 1K ingress and egress QoS levels
- Guaranteed QoS for VMs

### Operating Systems/Distribution:

- RHEL/CentOS
- Windows
- FreeBSD
- VMware
- OpenFabrics Enterprise Distribution (OFED)
- OpenFabrics Windows Distribution (WinOF)

### Management Features:

- NC-SI for IPMI support
- Asset Management with Thermal Sensor

### Remote Boot:

- Remote boot over iSCSI
- PXE and UEFI

### 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: 16.76cm x 6.89cm (6.6in x 2.71in) (LxW)
- Height of end brackets: standard – 12cm (4.725in), low-profile – 8cm (3.15in)

### Weight:

- 116.12g (0.2560lb)

### Supported Platforms:

- Supermicro® motherboards with minimum PCI-E 3.0 x16 expansion slot
- Supermicro® server systems with low-profile or full-height PCI-E 3.0 x16 expansion slot
- NC-SI feature is only supported by Supermicro® motherboards with corresponding NC-SI connectors

## Similar Products

Product Part Number	Form Factor	Speed	PCI-E	Connector Type	Total Ports	Chipset
AOC-S40G-i1Q	Standard Low Profile	40GbE	PCI-E 3.0 x8	QSFP+	1	Intel® XL710
AOC-S40G-i2Q	Standard Low Profile	40GbE	PCI-E 3.0 x8	QSFP+	2	Intel® XL710
AOC-S25G-m2S	Standard Low Profile	25GbE	PCI-E 3.0 x8	SFP28	2	Mellanox ConnectX®-4 Lx EN

## Optional Parts List

	Part Number	Description
Ethernet	CLB-NTWK-0942-MQ28C05M	Ethernet, QSFP28, 100GbE, Passive, 0.5M
Ethernet	CLB-NTWK-0942-MQ28C10M	Ethernet, QSFP28, 100GbE, Passive, 1M
Ethernet	CLB-NTWK-0942-MQ28C15M	Ethernet, QSFP28, 100GbE, Passive, 1.5M
Ethernet	CLB-NTWK-0942-MQ28C20M	Ethernet, QSFP28, 100GbE, Passive, 2M
Ethernet	CLB-NTWK-0942-MQ28C25M	Ethernet, QSFP28, 100GbE, Passive, 2.5M
Ethernet	CLB-NTWK-0942-MQ28C30M	Ethernet, QSFP28, 100GbE, Passive, 3M
Ethernet	CLB-NTWK-0943-SQ28C10M	Ethernet, QSFP28, 100GbE, Passive, 1M
Ethernet	CLB-NTWK-0932-Q4S2M	Ethernet, 100GbE/QSFP28 to 4x 25GbE/SFP28, Passive, 2M
Ethernet	CBL-NTWK-0988-QS28C50M-1	Ethernet, 100GbE/QSFP28 to 4x 25GbE/SFP28, Passive, 5M
Ethernet	CBL-NTWK-0988-QS28C50M-2	Ethernet, 100GbE/QSFP28 to 4x 25GbE/SFP28, Passive, 5M
QSFP28 Transceiver Module	AOM-100GBE-SR4-FT	QSFP transceiver module for short range fiber cables (up to 100m), 100G, 850nm, MMF