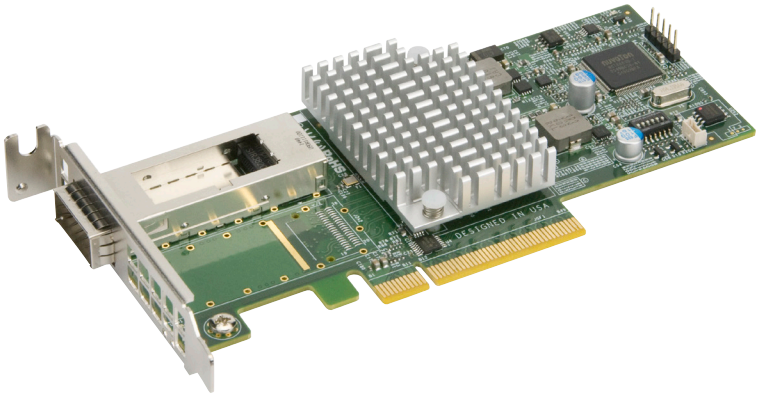
AOC-S40G-i1Q



AOC-S40G-i2Q

USER'S GUIDE

Revision 1.1a

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Preface

About This User's Guide

This user's guide is written for system integrators, IT technicians, and knowledgeable end users. It provides information for the installation and use of the AOC-S40G-i1Q/i2Q add-on card.

About This Add-On Card

The AOC-S40G-i1Q/i2Q 40-Gigabit Ethernet Adapter is the most flexible and scalable Ethernet adapter for today's demanding data center environments. Based on the Intel® 40GbE network controller XL710, the AOC-S40G-i1Q/i2Q meets the demanding needs of the next-generation data center by providing features for virtualization, flexibility for LAN and SAN networking, and proven reliable performance.

Conventions Used in the User's Guide

Special attention should be given to the following symbols for proper installation and to prevent damage done to the components or injury to yourself:

Warning! Indicates important information given to prevent equipment/property damage or personal injury.

Warning! Indicates high voltage may be encountered when performing a procedure.

Important: Important information given to ensure proper system installation or to relay safety precautions.

Note: Additional Information given to differentiate various models or provides information for correct system setup.

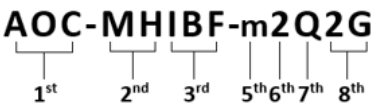
Conventions Used in the User's Guide

Pay special attention to the following symbols for proper system installation and for safety instructions to prevent damage to the system or injury to yourself:

Warning: Important information given to ensure proper system installation or to prevent damage to the components or injury to yourself.

Note: Additional information given for proper system setup.

Naming Convention for Standard Network Adaptors



Character	Representation	Options
1st	Product Family	AOC: Add On Card
2nd	Form Factor	S: Standard, P: Proprietary, C: MicroLP, M: Super IO Module (SIOM), MH: SIOM Hybrid
3rd	Product Type/Speed	G: GbE (1Gb/s), TG: 10GbE (10Gb/s), 25G: 25GbE (25Gb/s), 40G: 40GbE (40Gb/s), 50G: 50GbE (50Gb/s), 100G: 100GbE (100Gb/s), IBE: EDR IB (100Gb/s), IBF: FDR IB (56Gb/s), IBQ: QDR IB (40Gb/s), HFI: Host Fabric Interface
4th	Chipset Model (Optional)	N: Niantec (82599), P: Powerville (i350), S: Sageville (X550), F: Fortville (XL710/X710), L: Lewisburg (PCH)
5th	Chipset Manufacturer	i: Intel, m: Mellanox, b: Broadcom
6th	Number of Ports	1: 1 port, 2: 2 ports, 4: 4 ports
7th	Connector Type (Optional)	S: SFP+/SFP28, T: 10GBase-T, Q: QSFP+, C: QSFP28
8th	2nd Controller/Connector Type (Optional)	G: 1x GbE RJ45, 2G: GbE 2x RJ45, S: 1x 10G SFP+, T: 10GBase-T, 2T: 2x 10GBase-T

Networking Adapter List

Model	Type	Form Factor	Controller	Connection	Dimension (w/o Brackets) (L x H)	Power (W)
AOC-MGP-i2	GbE	SIOM	Intel® i350 AM2	2 RJ45 (1Gb/port)	3.622" (92mm) x 3.428" (87.08mm)	3.7
AOC-MGP-i4	GbE	SIOM	Intel® i350 AM4	4 RJ45 (1Gb/port)	3.622" (92mm) x 3.428" (87.08mm)	4.4
AOC-MTGN-i2S	10GbE	SIOM	Intel® 82599ES	2 SFP+ (10Gb/port)	3.622" (92mm) x 3.428" (87.08mm)	7.2
AOC-MTG-i4S	10GbE	SIOM	Intel® XL710-BM1	4 SFP+ (10Gb/port)	3.622" (92mm) x 3.428" (87.08mm)	7
AOC-MTG-b2T	10GbE	SIOM	Broadcom® BCM57416	2 RJ45 (10GBase-T)	3.622" (92mm) x 3.428" (87.08mm)	11
AOC-MTG-i2T	10GbE	SIOM	Intel® X550-AT2	2 RJ45 (10GBase-T)	3.622" (92mm) x 3.428" (87.08mm)	13
AOC-MTG-i4T	10GbE	SIOM	2x Intel® X550-AT2	4 RJ45 (10GBase-T)	3.622" (92mm) x 3.428" (87.08mm)	26
AOC-MHIBF-m1Q2G	FDR IB GbE	SIOM	Mellanox® ConnectX-3 Pro Intel® i350	1 QSFP (56Gb/port) 2 RJ45 (1Gb/port)	3.622" (92mm) x 3.428" (87.08mm)	9
AOC-MHIBF-m2Q2G	FDR IB GbE	SIOM	Mellanox® ConnectX-3 Pro Intel® i350	2 QSFP (56Gb/port) 2 RJ45 (1Gb/port)	3.622" (92mm) x 3.428" (87.08mm)	11
AOC-MHIBE-m1CG	EDR IB GbE	SIOM	Mellanox® ConnectX-4 VPI Intel® i210	1 QSFP28 (100Gb/port) 1 RJ45 (1Gb/port)	3.622" (92mm) x 3.428" (87.08mm)	19
AOC-MH25G-b2S2G	25GbE	SIOM	Broadcom® BCM57414 Intel® i350	2 SFP28 (25Gb/port) 2 RJ45 (1Gb/port)	3.622" (92mm) x 3.428" (87.08mm)	9
AOC-MH25G-m2S2T	25GbE	SIOM	Mellanox® ConnectX-4 Lx EN Intel® X550-AT2	2 SFP28 (25Gb/port) 2 RJ45 (10GBase-T)	3.622" (92mm) x 3.428" (87.08mm)	25
AOC-M25G-m4S	25GbE	SIOM	Mellanox® ConnectX-4 Lx EN	4 SFP28 (25Gb/port)	3.622" (92mm) x 3.428" (87.08mm)	20
AOC-M25G-i2S	25GbE	SIOM	Intel® XXV710	2 SFP28 (25Gb/port)	3.622" (92mm) x 3.428" (87.08mm)	11.8
AOC-MHFI-i1C	Omni-Path	SIOM	Intel® OP HFI ASIC (Wolf River WFR-B)	1 QSFP28 (100Gb/port)	3.622" (92mm) x 3.428" (87.08mm)	15

Model	Type	Form Factor	Interface	Controller	Connection	Dimension (w/o Brackets) (L x H)	Power (W)
AOC-SGP-i2	GbE	Standard LP	PCI-E x4	Intel® i350 AM2	2 RJ45 (1Gb/port)	3.9" (99mm) x 2.73" (69mm)	3.5
AOC-SGP-i4	GbE	Standard LP	PCI-E x4	Intel® i350 AM4	4 RJ45 (1Gb/port)	3.9" (99mm) x 2.73" (69mm)	5
AOC-STG-i2T	10GbE	Standard LP	PCI-E x8	Intel® X540-AT2	2 RJ45 (10GBase-T)	5.9" (150mm) x 2.73" (69mm)	13
AOC-STGS-i1T	10GbE	Standard LP	PCI-E x4	Intel® X550-AT	1 RJ45 (10GBase-T)	5.9" (150mm) x 2.73" (69mm)	9
AOC-STGS-i2T	10GbE	Standard LP	PCI-E x4	Intel® X550-AT2	2 RJ45 (10GBase-T)	5.9" (150mm) x 2.73" (69mm)	11
AOC-STG-b2T	10GbE	Standard LP	PCI-E x8	Broadcom® BCM57416	2 RJ45 (10GBase-T)	5.6" (142mm) x 2.73"(69mm)	13.1
AOC-STG-i4T	10GbE	Standard LP	PCI-E x8	Intel® XL710-BM1	4 RJ45 (10GBase-T)	5.9" (149mm) x 2.73"(69mm)	15.5
AOC-STGN-i1S	10GbE	Standard LP	PCI-E x8	Intel® 82599EN	1 SFP+ (10Gb/port)	4.0" (102mm) x 2.73" (69mm)	10
AOC-STGN-i2S	10GbE	Standard LP	PCI-E x8	Intel® 82599ES	2 SFP+ (10Gb/port)	4.0" (102mm) x 2.73" (69mm)	11.2
AOC-STGF-i2S	10GbE	Standard LP	PCI-E x8	Intel® X710-BM2	2 SFP+ (10Gb/port)	5.19" (132mm) x 2.73" (69mm)	5.6
AOC-STG-b4S	10GbE	Standard LP	PCI-E x8	Broadcom® BCM57840S	4 SFP+ (10Gb/port)	5.4" (137mm) x 2.73" (69mm)	14
AOC-STG-i4S	10GbE	Standard LP	PCI-E x8	Intel® XL710-BM1	4 SFP+ (10Gb/port)	5.9" (150mm) x 2.73" (69mm)	8
AOC-S25G-m2S	25GbE	Standard LP	PCI-E x8	Mellanox® CX-4 LX	2 SFP28 (25Gb/port)	5.6" (142mm) x 2.713" (69mm)	8.7
AOC-S25G-b2S	25GbE	Standard LP	PCI-E x8	Broadcom® BCM57414	2 SFP28 (25Gb/port)	5.6" (142mm) x 2.713" (69mm)	5.2
AOC-S25G-i2S	25GbE	Standard LP	PCI-E x8	Intel® XXV710	2 SFP28 (25Gb/port)	6.1" (155mm) x 2.713" (69mm)	7.2
AOC-S40G-i1Q	40GbE	Standard LP	PCI-E x8	Intel® XL710-BM1	1 QSFP+ (40Gb/port)	5.9" (150mm) x 2.73" (69mm)	6.5
AOC-S40G-i2Q	40GbE	Standard LP	PCI-E x8	Intel® XL710-BM2	2 QSFP+ (40Gb/port)	5.9" (150mm) x 2.73" (69mm)	7
AOC-S100G-m2C	100GbE	Standard LP	PCI-E x16	Mellanox® CX-4 EN	2 QSFP28 (100Gb/port)	6.6" (168mm) x 2.73" (69mm)	16.3
AOC-S100G-b1C	100GbE	Standard LP	PCI-E x16	Broadcom® BCM57454	2 QSFP28 (100Gb/port)	6.6" (168mm) x 2.73" (69mm)	17.8
AOC-CGP-i2	GbE	MicroLP	PCI-E x4	Intel® i350 AM2	2 RJ45 (1Gb/port)	4.45" (113mm) x 1.54" (39mm)	4
AOC-CTG-i1S	10GbE	MicroLP	PCI-E x8	Intel® 82599EN	1 SFP+ (10Gb/port)	4.85" (123mm) x 1.54" (39mm)	10
AOC-CTG-i2S	10GbE	MicroLP	PCI-E x8	Intel® 82599ES	2 SFP+ (10Gb/port)	4.85" (123mm) x 1.54" (39mm)	11
AOC-CTG-i2T	10GbE	MicroLP	PCI-E x8	Intel® X540-AT2	2 RJ45 (10GBase-T)	4.8" (123mm) x 2.75" (77mm)	13
AOC-CTGS-i2T	10GbE	MicroLP	PCI-E x4	Intel® X550-AT2	2 RJ45 (10GBase-T)	4.45" (113mm) x 1.54" (39mm)	12
AOC-C25G-m1S	25GbE	MicroLP	PCI-E x8	Mellanox® CX-4 Lx EN	1 SFP28 (28Gb/port)	4.45" (113mm) x 1.54" (39mm)	8.5

Contacting Supermicro

Headquarters

Address:	Super Micro Computer, Inc. 980 Rock Ave. San Jose, CA 95131 U.S.A.
Tel:	+1 (408) 503-8000
Fax:	+1 (408) 503-8008
Email:	marketing@supermicro.com (General Information) support@supermicro.com (Technical Support)
Website:	www.supermicro.com

Europe

Address:	Super Micro Computer B.V. Het Sterrenbeeld 28, 5215 ML 's-Hertogenbosch, The Netherlands
Tel:	+31 (0) 73-6400390
Fax:	+31 (0) 73-6416525
Email:	sales@supermicro.nl (General Information) support@supermicro.nl (Technical Support) rma@supermicro.nl (Customer Support)
Website:	www.supermicro.nl

Asia-Pacific

Address:	Super Micro Computer, Inc. 3F, No. 150, Jian 1st Rd. Zhonghe Dist., New Taipei City 235 Taiwan (R.O.C)
Tel:	+886-(2) 8226-3990
Fax:	+886-(2) 8226-3992
Email:	support@supermicro.com.tw
Website:	www.supermicro.com.tw

Table of Contents

Chapter 1

Overview

1.1 Introduction

Congratulations on purchasing your add-on card from an acknowledged leader in the industry. Supermicro products are designed with the utmost attention to detail to provide you with the highest standards in quality and performance. For product support and updates, please refer to our website at http://www.supermicro.com/products/nfo/networking.cfm#adapter.

1.2 Product Highlights

The product highlights of this add-on card include the following:

- Low-Profile Standard Short-Length form factor
- One QSFP+ port (i1Q model) or two QSFP+ ports (i2Q model)
- PCI Express 3.0 (8GT/s)
- Network Virtualization Offloads
- Ethernet Flow Director
- Data Plane Developer Kit for Efficient Packet Processing
- Small packet performance
- Intelligent offloads
- Supports both Direct Attach Copper and Fiber Cables
- Asset Management
- RoHS compliant 6/6 

1.3 Specifications

General

- Intel® XL710 40GbE controller
- Half-length low-profile standard form factor
- One QSFP+ port (i1Q model) or two QSFP+ ports (i2Q model)
- PCI-E 3.0 x8 (8 GT/s)
- Load balancing on multiple CPUs
- 40Gb/s per port
- Intel® PROSet Utility for Windows® Device Manager

I/O Features

- Intel® Flow Director
- MSI-X support
- Tx/Rx IP, SCTP, TCP, and UDP checksum offloading capabilities (IPv4, IPv6)
- Multiple queues: 1,536 Tx and Rx queues per port

Virtualization Features

- Next-generation VMDq with up to 256 VMDq VMs supported
- SR-IOV with up to 128 virtual ports
- Virtual Machine Load Balancing (VMLB)
- Advanced Packet Filtering
- VLAN support for up to 4096 VLAN tags
- VXLAN and NVGRE support

Storage Interface Features

- Preboot eXecution Environment (PXE) support
- iSCSI remote boot
- iSCSI Acceleration
- Simple Network Management Protocol (SNMP) and remote Network Monitoring (RMON) static counters

Manageability Features

- Asset Management support on Supermicro® X10 generation platforms
- Controller asset tags such as part number, revision, serial number, and MAC address
- Controller thermal sensor

Advanced Software Features

- Teaming support
- IEEE 802.3ad (link aggregation control protocol)
- IEEE 802.1Q VLANs
- IEEE 802.3 2005 flow control support
- IEEE 802.1p
- TCP segmentation/large send offload
- Interrupt moderation

OS Support

- Windows® Server 2012 R2, 2012, 2008 R2 X86-64
- VMWare ESXi 5.1 and ESXi 5.5 X86-64
- Linux RedHat EL 6.5 and 7.0 IA-32, X86-64, and IA-64
- Linux SuSe SLES 11 SP3 and 12 IA-32, X86-64, and IA-64
- FreeBSD 9 and 10 IA-32, X86-64, and IA-64

Cable Support

- QSFP+ direct attach twinax copper cables up to 7m
- Fiber-optic cables (with required optional transceivers)

Note: For LR transceiver support, please consult Supermicro.

Power Consumption

- Typical power consumption: 4.9W
- Maximum power consumption: 7W

Operation Conditions

- Operating temperature: 0°C to 55°C (32°F to 131°F)
- Storage temperature: -40° to 70°C (-40°F to 158°F)
- Storage humidity: 90% non-condensing relative humidity at 35°C

Physical Dimensions

- Card PCB dimensions: 14.99cm (5.90in) x 6.90cm (2.72in) (LxH)
- Height of end of brackets: standard – 12cm (4.725in), low-profile - 7.94cm (3.13in)

Compliance/Environmental

- RoHS Compliant 6/6, Pb Free

1.4 SMC Platform Support

The following platforms are supported by the AOC-S40G-i1Q/i2Q add-on card:

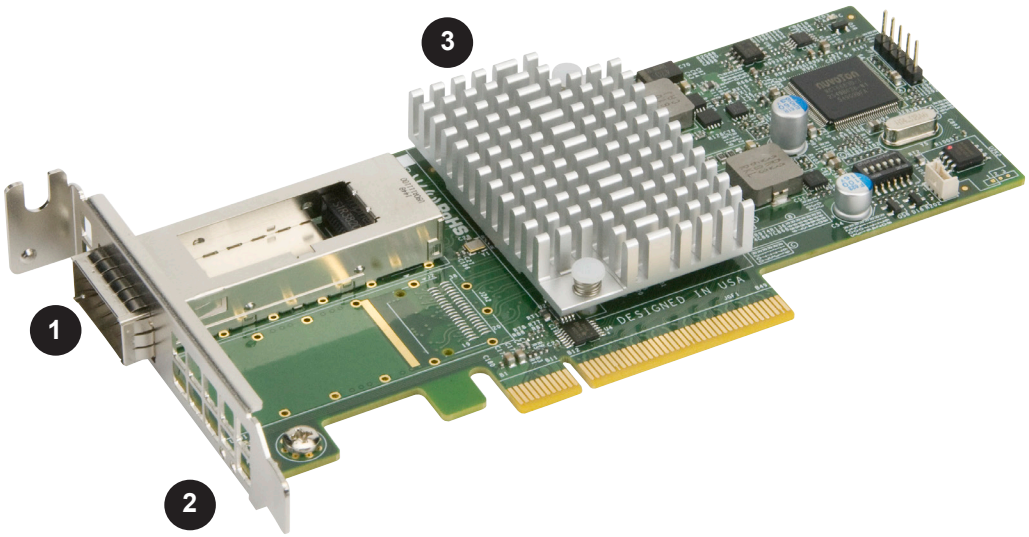
- Supermicro® motherboards with PCI-E x8 slot
- Supermicro® server systems with low-profile or full-height PCI-E x8 expansion slot

Note: This product is intended to be used with Supermicro® server systems. For the most current product information, visit: www.supermicro.com.

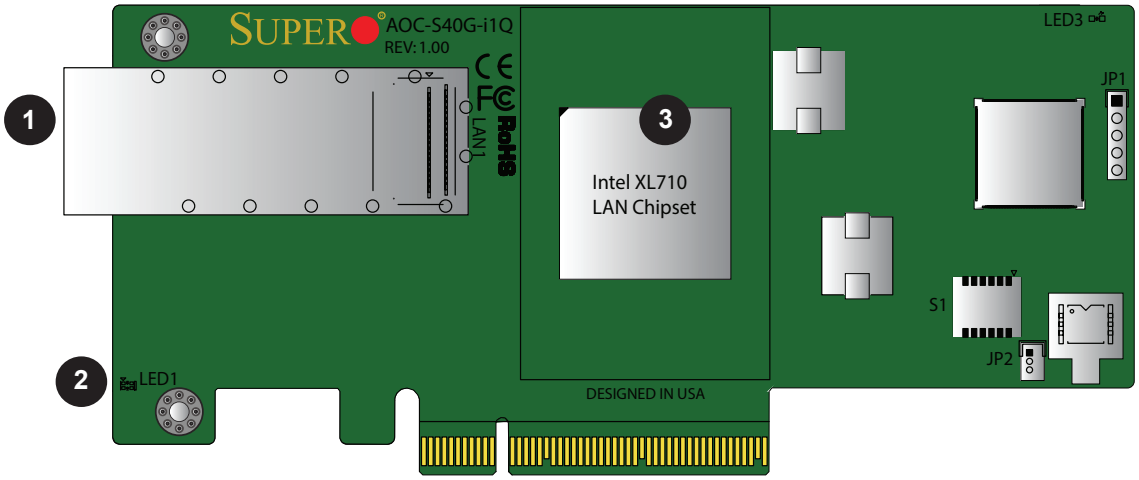
Chapter 2

Hardware Components

2.1 Add-On Card Images and Layouts

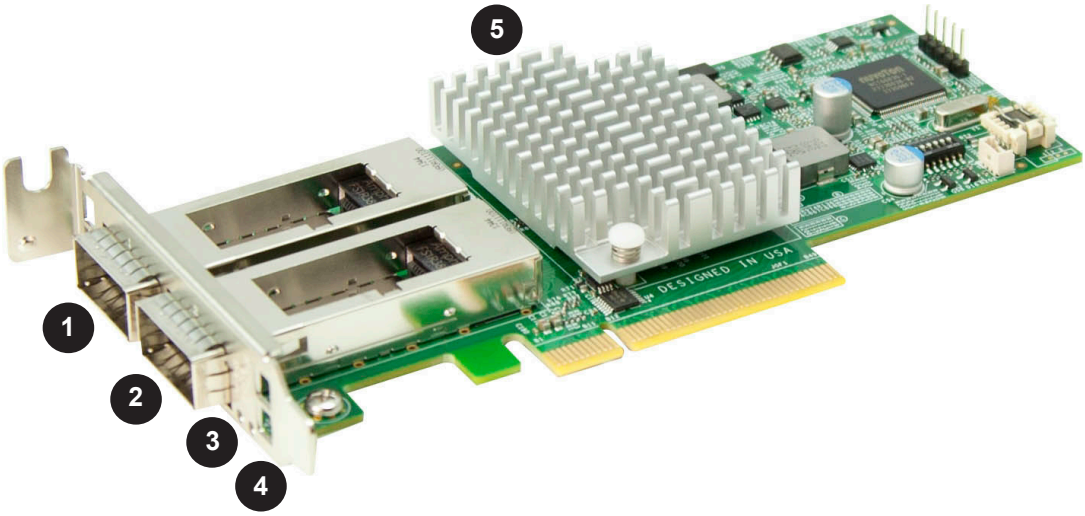


The AOC-S40G-i1Q Image

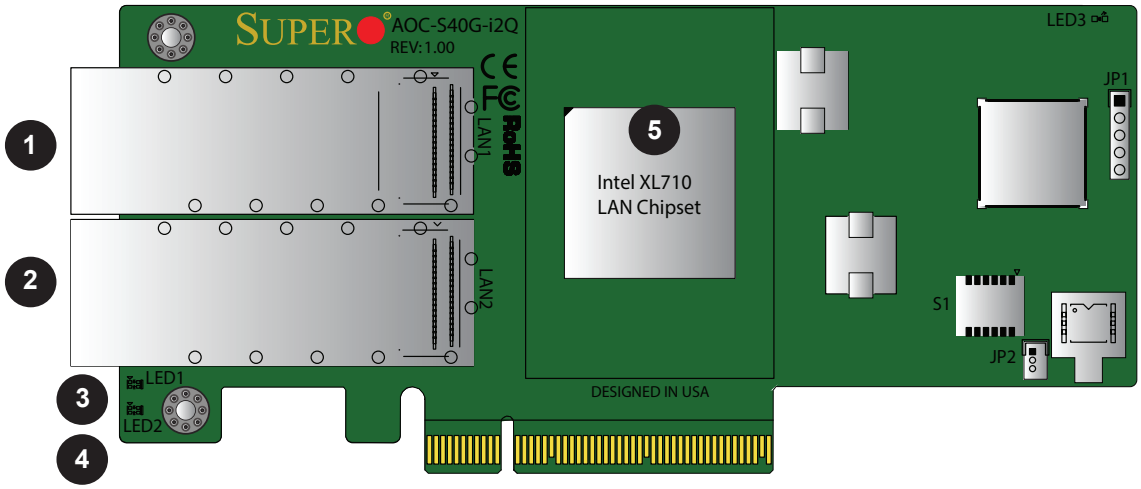


The AOC-S40G-i1Q Layout

Note: All graphics shown in this manual were based upon the latest PCB revision available at the time of publication of the manual. The motherboard you received may or may not look exactly the same as the graphics shown in this manual.



The AOC-S40G-i2Q Image



The AOC-S40G-i2Q Layout

2.2 Major Components

The following major components are installed on the AOC-S40G-i1Q/i2Q:

1. QSFP+ Port 1
2. QSFP+ Port 2 (on i2Q model only)
3. LAN LED1
4. LAN LED2 (on i2Q model only)
5. Intel XL710 Controller

2.3 Connectors: LAN Port and LED Indicators

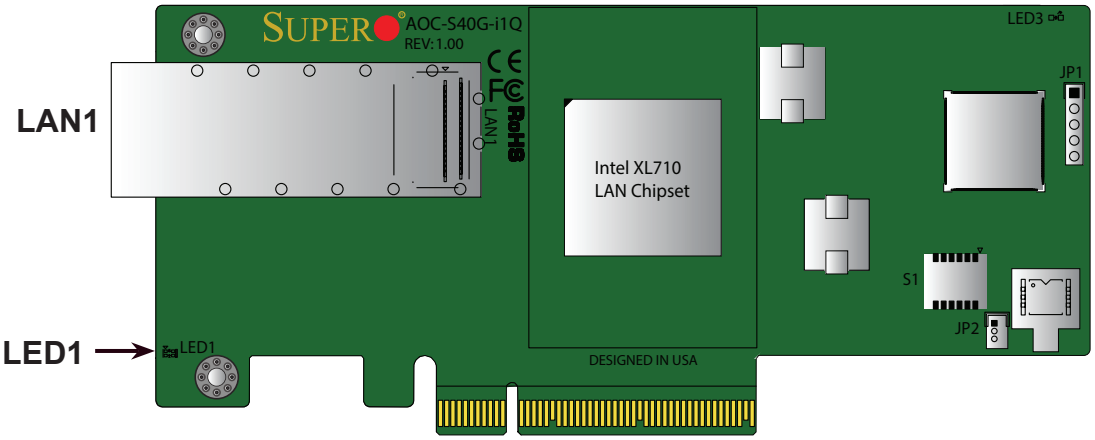
1. LAN Ports

One network LAN port (QSFP+) is located on the add-on card. An additional LAN port is located on the i2Q model. These LAN ports support connection speeds of 40Gbps and 10Gbps. Plug the Direct Attached Copper (DAC) cable into the QSFP+ port for network connections.

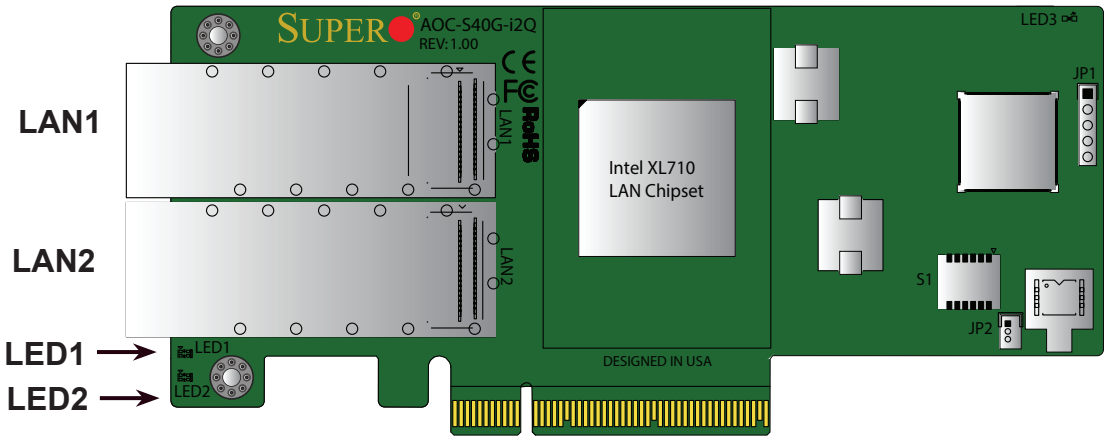
Note: To make sure that LAN port functions properly, be sure to use the following cable specified by the manufacturer:

- Direct-attached twin-axial copper cable, or
- Short Range or Long Range fiber optic cable used in conjunction with optional optical transceiver.

The AOC-S40G-i1Q Layout



The AOC-S40G-i2Q Layout



2. LED Indicators

Each LAN port has a corresponding LED to indicate speed and data activity. LED1 is for LAN port 1 and LED2 is for LAN port 2 (on i2Q models only). For the location of the LEDs, see the card layout above. For LED color and definition, refer to the table below.

LED	Color	Definition
LNK	Green	40Gb Link Speed
ACT	Blinking Green	Activity at 40G speed

Chapter 3

Installation

3.1 Static-Sensitive Devices

Electrostatic Discharge (ESD) can damage electronic components. To avoid damaging your add-on card, it is important to handle it very carefully. The following measures are generally sufficient to protect your equipment from ESD.

Precautions

- Use a grounded wrist strap designed to prevent static discharge.
- Touch a grounded metal object before removing the add-on card from the antistatic bag.
- Handle the add-on card by its edges only; do not touch its components, or peripheral chips.
- Put the add-on card back into the antistatic bags when not in use.
- For grounding purposes, make sure that your system chassis provides excellent conductivity between the power supply, the case, the mounting fasteners and the add-on card.

Unpacking

The add-on card is shipped in antistatic packaging to avoid static damage. When unpacking your component or system, make sure that you are static protected.

Note: To avoid damaging your components and to ensure proper installation, be sure to always connect the power cord last, and always remove it before adding, removing or changing any hardware components.

3.2 Before Installation

To install the add-on card properly, be sure to follow the instructions below.

1. Power down the system.
2. Remove the power cord from the wall socket.
3. Use industry-standard anti-static equipment (such as gloves or wrist strap) and follow the precautions listed on page 17 to avoid damage caused by ESD.
4. Familiarize yourself with the server, motherboard, and/or chassis documentation.
5. Confirm that your operating system includes the latest updates and hotfixes.

3.3 Installing the Add-On Card

Follow the steps below to install the add-on card into your system.

1. Remove the server cover and, if necessary, set aside any screws for later use.
2. Remove the add-on card slot cover. If the case requires a screw, place the screw aside for later use.
3. Position the add-on card in the slot directly over the connector, and gently push down on both sides of the card until it slides into the PCI connector.
4. Secure the add-on card to the chassis. If required, use the screw that you previously removed.
5. Attach any necessary external cables to the add-on card.
6. Replace the chassis cover.
7. Plug in the power cord and power up the system.

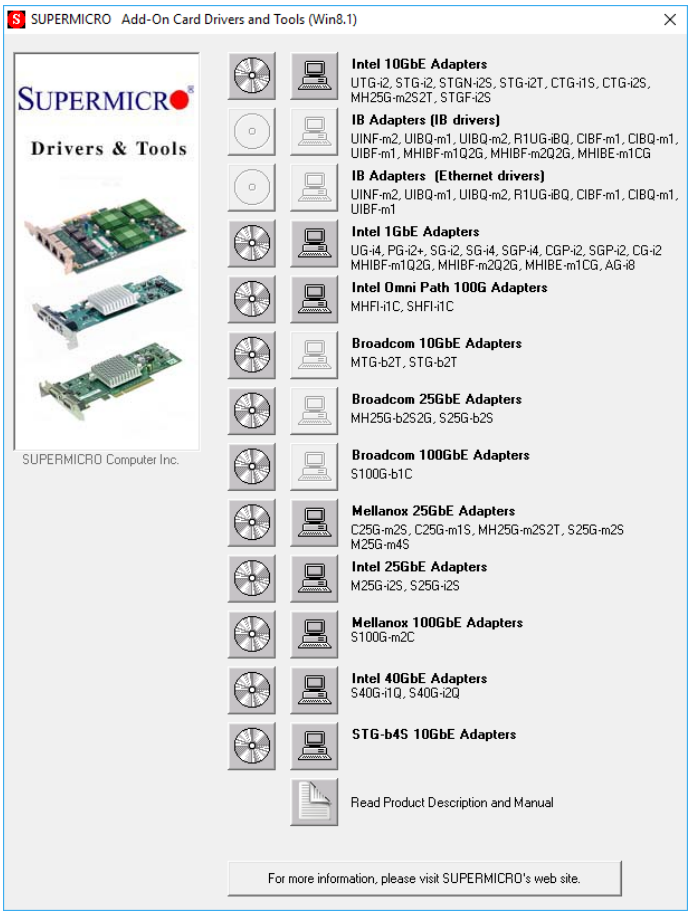
3.4 Installing Drivers

Follow the steps below to install the drivers needed for your Windows® OS support. The controller comes with a driver on the CD-ROM CDR-NIC.

1. Run the CDR-NIC. (If you do not have a CD-ROM product, download drivers from the Supermicro Support Website and then transfer them to your system.)

2. When the SUPERMICRO window appears, click on the computer icon next to the product model.

Note: The graphic below is from the AOC-S40G-i2Q card. If you are using an i1Q card, your window may have some slight differences.



Note: If the *FOUND NEW HARDWARE WIZARD* screen displays on your system, click CANCEL.

3. Click on INSTALL DRIVERS AND SOFTWARE.

4. Follow the prompts to complete the installation.

3.5 Installing the Drivers in Linux

Follow the steps below to install the driver to a Linux system.

Build a Binary RPM Package

1. Run 'rpmbuild -tb <filename.tar.gz>'
2. Replace <filename.tar.gz> with the specific filename of the driver.

Note: For the build to work properly, the current running kernel MUST match the version and configuration of the installed kernel sources. If you have just recompiled the kernel, reboot the system at this time.

3.6 Building the Driver Manually

Follow the instructions below to build the driver manually.

1. Move the base driver tar file to the directory of your choice. For example:

```
/home/username/i40e
```

or

```
/usr/local/src/i40e
```

2. Untar/unzip archive, where <x.x.x> is the version number for the driver tar file:

```
tar zxf i40e-x.x.x.tar.gz
```

3. Change to the driver src directory, where <x.x.x> is the version number for the driver tar:

```
cd i40e-x.x.x/src/
```

4. Compile the driver module:

```
make install
```

The binary will be installed as:

/lib/modules/[KERNEL_VERSION]/updates/drivers/net/ethernet/intel/i40e/i40e.[k]o

The install locations listed above are the default locations. They might not be correct for certain Linux distributions. For more information, see the ldistrib.txt file included in the driver tar.

Note: IXGBE_NO_LRO is a compile time flag. The user can enable it at compile time to remove support for LRO from the driver. The flag is used by adding CFLAGS_EXTRA=-”DIXGBE_NO_LRO” to the make file when it’s being compiled.

make CFLAGS_EXTRA=”-DIXGBE_NO_LRO” install

5. Load the module:

   For kernel 2.6.x, use the modprobe command:

   ```
   modprobe i40e <parameter>=<value>
   ```

   For 2.6 kernels, the *insmod* command can be used if the full path to the driver module is specified. For example:

   ```
   insmod /lib/modules/<KERNEL VERSION>/kernel/drivers/net/i40e/
   i40e.ko
   ```

   In addition, when using 2.6-based kernels, make sure that older ixgbe drivers are removed from the kernel before loading the new module. To do this, use:

   ```
   rmmod i40e; modprobe i40e
   ```

6. Assign an IP address to the interface by entering the following, where x is the interface number:

   ```
   ifconfig ethx <IP_address> netmask <netmask>
   ```

7. Verify that the interface works. Enter the following, where <IP_address> is the IP address for another machine on the same subnet as the interface that is being tested:

   ```
   ping <IP_address>
   ```

3-7 EPCT (Intel® Ethernet Port Configuration Tool)

Please download the latest version of Intel® Ethernet Port Configuration Tool (All Supported OSs) from the Intel® Download Center site.

Note: EPCT split feature is only supported in the card that has four MAC addresses. You may refer to your MAC address label on the card to determine the number of MAC addresses or contact Supermicro Support for information.

```
Available Port Options:
=======================================
 Active  Port
 Option  Option (Gbps)
======== ==============================
         4x10G
    X    2x40G
```

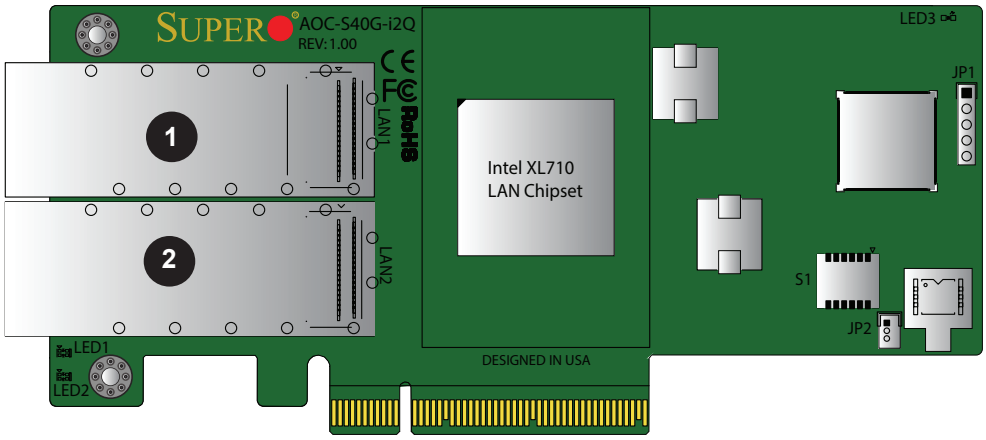
Available Port Options Example

AOC-S40G-i1Q: 4x10G, 1x40G

AOC-S40G-i2Q: 4x10G, 2x40G

Note 1: Please verify your port option setting with the EPCT tool, and also note that Port Naming conventions may differ.

Note 2: For AOC-S40G-i2Q, when EPCT is configured to 4x10G, Port 1 (LAN1) will be active with the configuration and Port 2 (LAN2) will be disabled.



Location of LAN1 and LAN2

Using Basic EPCT Tool Commands in UEFI Environment

Follow the steps below to install and use EPCT Tool Commands in a UEFI environment:

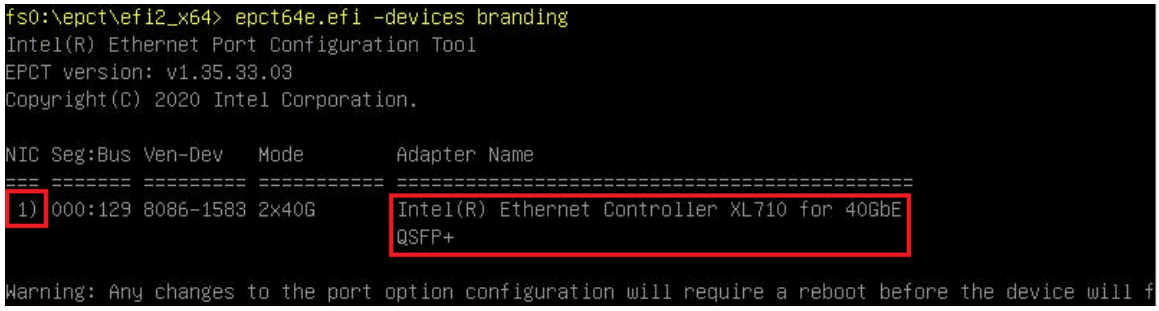
1. Download and unzip **EPCT.zip** to a removable drive.
2. Insert the removable drive into the system.
3. Select "UEFI: Built-in EFI Shell" from the boot menu.
4. In the UEFI shell, select the removable drive with the following command:

```
fs0:
```

Note: It is usually fs0, but can also be fs1,... etc.

5. Navigate to the EPCT\EFI2_x64 directory.
6. Find corresponding AOC-S40G-i1Q/i2Q (XL710) to NIC#. In this example, AOC-S40G-i1Q/i2Q NIC#=1. Run the following command to find AOC-S40G-i1Q/i2Q NIC#:

```
epct64e.efi -devices branding
```



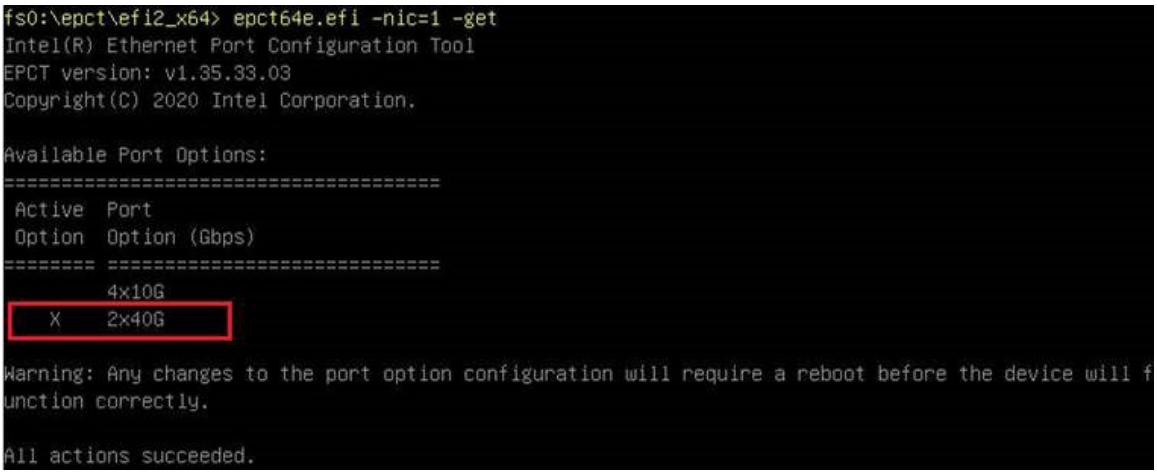
7. To check the currently available active and port options, use the NIC# and run the following command:

```
epct64e.efi -nic=1 -get
```

Under the Active Option listing, the "X" will indicate the option currently selected. In the example below, the current active option is 2x40G (2 ports, each at 40G).

Note 1: Be sure to connect the proper cables to the matching port configuration (ex. connect 2x40G = QSFP+).

Note 2: Please verify your port option setting with the EPCT tool, and also note that Port Naming conventions may differ.



8. In the example below, the current port option is 4x10G (1 port at 4x10G). This means that Port 1 will be 4x10G and Port 2 will be disabled. Based on that, please use the following command to split to other port options:

```
epct64e.efi -nic=1 -set=4x10G
```

Then reboot the system to apply changes.

Note: Be sure to connect the proper cables to the matching port configuration (ex. connect 4x10G = Breakout cable 40G QSFP+ to 4xSFP+).

3.8 Returning Merchandise for Service

A receipt or copy of your invoice marked with the date of purchase is required before any warranty service will be rendered. You can obtain service by calling your vendor for a Returned Merchandise Authorization (RMA) number. When returning the motherboard to the manufacturer, the RMA number should be prominently displayed on the outside of the shipping carton, and the shipping package is mailed prepaid or hand-carried. Shipping and handling charges will be applied for all orders that must be mailed when service is complete. For faster service, you can also request an RMA authorization online (http://www.supermicro.com/RmaForm/).

This warranty only covers normal consumer use and does not cover damages incurred in shipping or from failure due to the alternation, misuse, abuse, or improper maintenance of products.

During the warranty period, contact your distributor first for any product problems.

(Disclaimer Continued)

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