The products sold by Supermicro are not intended for and will not be used in life support systems, medical equipment, nuclear facilities or systems, aircraft, aircraft devices, aircraft/emergency communication devices or other critical systems whose failure to perform be reasonably expected to result in significant injury or loss of life or catastrophic property damage. Accordingly, Supermicro disclaims any and all liability, and should buyer use or sell such products for use in such ultra-hazardous applications, it does so entirely at its own risk. Furthermore, buyer agrees to fully indemnify, defend and hold Supermicro harmless for and against any and all claims, demands, actions, litigation, and proceedings of any kind arising out of or related to such ultra-hazardous use or sale.

Super Micro Computer, Inc. (“Supermicro”) reserves the right to make changes to the product described in this manual at any time and without notice. This product, including software and documentation, is the property of Supermicro and/or its licensors, and is supplied only under a license. Any use or reproduction of this product is not allowed, except as expressly permitted by the terms of said license.

IN NO EVENT WILL SUPER MICRO COMPUTER, INC. BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, SPECULATIVE OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OR INABILITY TO USE THIS PRODUCT OR DOCUMENTATION, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN PARTICULAR, SUPER MICRO COMPUTER, INC. SHALL NOT HAVE LIABILITY FOR ANY HARDWARE, SOFTWARE, OR DATA STORED OR USED WITH THE PRODUCT, INCLUDING THE COSTS OF REPAIRING, REPLACING, INTEGRATING, INSTALLING OR RECOVERING SUCH HARDWARE, SOFTWARE, OR DATA.

Any disputes arising between manufacturer and customer shall be governed by the laws of Santa Clara County in the State of California, USA. The State of California, County of Santa Clara shall be the exclusive venue for the resolution of any such disputes. Supermicro’s total liability for all claims will not exceed the price paid for the hardware product.

FCC Statement: This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in industrial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer’s instruction manual, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

California Best Management Practices Regulations for Perchlorate Materials: This Perchlorate warning applies only to products containing CR (Manganese Dioxide) Lithium coin cells. “Perchlorate Material-special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate”.

WARNING: This product can expose you to chemicals including lead, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

The products sold by Supermicro are not intended for and will not be used in life support systems, medical equipment, nuclear facilities or systems, aircraft, aircraft devices, aircraft/emergency communication devices or other critical systems whose failure to perform be reasonably expected to result in significant injury or loss of life or catastrophic property damage. Accordingly, Supermicro disclaims any and all liability, and should buyer use or sell such products for use in such ultra-hazardous applications, it does so entirely at its own risk. Furthermore, buyer agrees to fully indemnify, defend and hold Supermicro harmless for and against any and all claims, demands, actions, litigation, and proceedings of any kind arising out of or related to such ultra-hazardous use or sale.

Manual Revision 1.0c

Release Date: June 05, 2020

Unless you request and receive written permission from Super Micro Computer, Inc., you may not copy any part of this document. Information in this document is subject to change without notice. Other products and companies referred to herein are trademarks or registered trademarks of their respective companies or mark holders.

Copyright © 2020 by Super Micro Computer, Inc.
All rights reserved.
Printed in the United States of America
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-SLG3-4E4T expansion card.

About this Expansion Card

The Supermicro NMVe AOC-SLG3-4E4T features four internal NVMe OCuLink connectors for high-performance storage connectivity. This HBA card is built on the latest PCI-E NVMe retimer technology. Streamlined for the growing demand for increased data throughput and scalability requirements across the enterprise-class server platforms, this is a cost-effective storage solution that delivers maximum performance and reliability. Perfect for "near-line cache storage solutions" which allow data to be staged before moving down to its intended backend storage.

An Important Note to the User

All images and layouts shown in this user's guide are based upon the latest PCB revision available at the time of publishing. The card you have received may or may not look exactly the same as the graphics shown in this user's guide.
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 AOC-SLG3-4E4T card 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 a 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 alteration, misuse, abuse, or improper maintenance of products.
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

**Preface**

About this User's Guide ................................................................. iii
About this Expansion Card............................................................... iii
An Important Note to the User........................................................ iii
Returning Merchandise for Service................................................ iv
Contacting Supermicro................................................................. v

**Chapter 1 Overview**

1-1 Overview .................................................................................. 1-1
1-2 Technical Specifications .......................................................... 1-1
   General ...................................................................................... 1-1
   OS Support ............................................................................. 1-1
   Physical Dimensions ............................................................... 1-1

**Chapter 2 Hardware Components**

2-1 Expansion Card Layout and Components ............................... 2-1
2-2 Major Components ................................................................... 2-2
2-3 Connectors and LEDs .............................................................. 2-3
   NVMe Connectors .................................................................. 2-3
2-4 Front Jumper Location and Settings ......................................... 2-4
   Explanation of Jumpers ......................................................... 2-4

**Chapter 3 Installation**

3-1 Static-Sensitive Devices ............................................................ 3-1
   Precautions ............................................................................ 3-1
   Unpacking ............................................................................ 3-1
3-2 Before Installation ................................................................. 3-2
3-3 Installing the Expansion Card ................................................... 3-2
3-4 Static-Sensitive Devices ............................................................ 3-4
   Precautions ............................................................................ 3-4
   Unpacking ............................................................................ 3-4
3-5 Additional Settings ................................................................. 3-5
1-1 Overview

Congratulations on purchasing your expansion 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 visit our website at http://www.supermicro.com/

1-2 Technical Specifications

General
- Quad port PCI-E x16 Gen-3 NVMe controller
- Four internal lanes per OCuLink port
- Supports four physical NVMe devices
- Pure HBA
- Ambient operating temperature from 10°C - 55°C

OS Support
Windows, Linux, VMware

Physical Dimensions
Card PCB dimensions: 6.6" x 2.71 " (L x H)
Chapter 2

Hardware Components

2-1  Expansion Card Layout and Components

Figure 2-1. AOC-SLG3-4E4T

The AOC-SLG3-4E4T is a low-profile expansion card with an aggregate four-port NVMe internal Host Bus Adapter. The following pages describe the components and settings for the AOC-SLG3-4E4T.
2-2 Major Components

The following are the major components that make up the AOC-SLG3-4E4T expansion card:

![Figure 2-2. AOC-SLG3-4E4T Layout](image)

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NVMe Connector NVMe0</td>
</tr>
<tr>
<td>2</td>
<td>NVMe Connector NVMe1</td>
</tr>
<tr>
<td>3</td>
<td>NVMe Connector NVMe2</td>
</tr>
<tr>
<td>4</td>
<td>NVMe Connector NVMe3</td>
</tr>
<tr>
<td>6</td>
<td>VPP I²C Connector for JNVI2C</td>
</tr>
</tbody>
</table>
2-3 Connectors and LEDs

NVMe Connectors

There are four NVMe connectors on the expansion card.

Figure 2-3. NVMe Connectors

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>NVMe connector, designated NVMe 0</td>
</tr>
<tr>
<td>B</td>
<td>NVMe connector, designated NVMe 1</td>
</tr>
<tr>
<td>C</td>
<td>NVMe connector, designated NVMe 2</td>
</tr>
<tr>
<td>D</td>
<td>NVMe connector, designated NVMe 3</td>
</tr>
</tbody>
</table>
**2-4 Front Jumper Location and Settings**

To modify the operation of the add-on card, jumpers can be used to choose between optional settings. Jumpers create shorts between two pins to change the function of the connector. Pin 1 is identified with a square solder pad on the printed circuit board. Note: On two pin jumpers, "Closed" means the jumper is on and "Open" means the jumper is off the pins.

Note: Unless explicitly instructed otherwise by the manufacturer, do not move the jumpers from their default locations of pins 1-2. Doing so will likely cause the card to become disabled.

These jumpers are used to configure the SMBus address at which the card is discovered by the BIOS. By default, it is set to “A0” and can be configured to another value to avoid an address conflict with other devices on the SMBus. It should never be changed unless explicitly instructed by Supermicro.

<table>
<thead>
<tr>
<th>SMB Address 1-2=0, 2-3=1</th>
<th>PCIe x16 Mode Select 1-2=1, 2-3=0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>JP4</strong></td>
<td><strong>JP3</strong></td>
</tr>
<tr>
<td>A2</td>
<td>A1</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

**Explanation of Jumpers**

Figure 2-4. Front Jumpers

Note: Unless explicitly instructed otherwise by the manufacturer, do not move the jumpers from their default locations of pins 1-2. Doing so will likely cause the card to become disabled.

These jumpers are used to configure the SMBus address at which the card is discovered by the BIOS. By default, it is set to “A0” and can be configured to another value to avoid an address conflict with other devices on the SMBus. It should never be changed unless explicitly instructed by Supermicro.
3-1 Static-Sensitive Devices

Electrostatic Discharge (ESD) can damage electronic components. To avoid damaging your expansion 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 expansion card from the antistatic bag.
- Handle the expansion card by its edges only; do not touch its components or peripheral chips.
- Put the expansion 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 expansion card.

**Unpacking**

The expansion card is shipped in antistatic packaging to avoid static damage. When unpacking your component, make sure 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 expansion card properly, follow the steps below.

Prior to Installation

1. Power down the system and unplug the power cord.

2. Use industry-standard anti-static equipment (such as gloves or wrist strap) and follow the precautions on page 3-1 to avoid damage caused by ESD.

3-3  Installing the Expansion Card

Depending upon which motherboard is used and which slot in the motherboard is selected, a riser card may or may not be required to install the AOC-SLG3-4E4T.

1. Power down the system, remove the power cords from the rear of the power supply and remove the system cover.

2. Verify that your expansion card is equipped with the correct length of PCIe slot bracket for your system. AOC-SLG3-4E4T expansion cards include a low-profile PCIe bracket. However, if your system features full-length PCIe slots, replace the low-profile bracket with a full-length bracket.

3. Consult your motherboard manual for any special instructions regarding expansion card installation.

![Figure 3-1. Cable Types](image-url)
4. Using the chart on the previous page, verify that the cable provided is appropriate for the expansion card connectors and the backplane connectors. Note that the OCuLink to MiniSAS HD cables may physically look the same but are wired differently and may not work if the wrong cable is used. Verify that the appropriate cable was included. For example, if your expansion card has OCuLink connectors and is plugging into a MiniSAS HD backplane, a cable with a green marking at the OCuLink end must be used.

5. Connect the cables to the expansion card. The cable latch will click into the locked position when connected properly.

6. Connect the CBL-CDAT-0674 data cable to JNVI2C connector on the motherboard. If more than one AOC-SLG3-4E4T is used on the same CPU, then only the lowest-numbered slot expansion card needs to be connected to the motherboard’s JNVI2C.

7. For configuring the backplane connections, consult the jumper settings section of your backplane user guide.

8. If necessary, enable the SMBus on the motherboard by setting JI2C1 and JI2C2 (if present) jumpers to pins 1-2. Locations may vary depending on the motherboard. Consult the motherboard manual for more details.

9. Replace the system cover, plug in the power cord, and power up the system.
3-4 Static-Sensitive Devices

Electrostatic Discharge (ESD) can damage electronic components. To avoid damaging your expansion 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 expansion card from the antistatic bag.
- Handle the expansion card by its edges only; do not touch its components or peripheral chips.
- Put the expansion 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 expansion card.

Unpacking

The expansion card is shipped in antistatic packaging to avoid static damage. When unpacking your component, make sure 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.
3-5 Additional Settings

Depending on the system, motherboard, and BIOS version, the following BIOS settings may be necessary for the proper operation of NVMe drives:

- Having the CPU IOU settings set to the proper PCI-E bifurcation. This option may be found under BIOS Setup -> Advanced -> Chipset Configuration -> North Bridge -> IIO Configuration -> CPU Configuration -> IOU Setting.
(Disclaimer Continued)

The products sold by Supermicro are not intended for and will not be used in life support systems, medical equipment, nuclear facilities or systems, aircraft, aircraft devices, aircraft/emergency communication devices, or other critical systems whose failure to perform be reasonably expected to result in significant injury or loss of life or catastrophic property damage. Accordingly, Supermicro disclaims any and all liability, and should buyer use or sell such products for use in such ultra-hazardous applications, it does so entirely at its own risk. Furthermore, buyer agrees to fully indemnify, defend and hold Supermicro harmless for and against any and all claims, demands, actions, litigation, and proceedings of any kind arising out of or related to such ultra-hazardous use or sale.