AOC-SLG3-2E4R

User's Guide

Revision 1.0

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-SLG3-2E4R expansion card.

About this Expansion Card

The Supermicro NMVe AOC-SLG3-2E4R features two internal NVMe connectors (SFF 8643) for high-performance storage connectivity. This HBA card is built on the latest PCIe NVMe redriver technology. The AOC-SLG3-2E4R is streamlined to meet the growing demand for increased data throughput and scalability requirements across the enterprise-class server platforms. It is a low power and cost-effective near-line storage solution that delivers maximum performance and reliability.

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-SLG3-2E4R 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 alternation, misuse, abuse or improper maintenance of products.

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Table of Contents

Chapter 1

Overview

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

Low power, dual port PCI-E Gen-3 NVMe controller

Four internal lanes per MiniSAS HD port, 3.2GB/s per port

Supports two physical NVMe devices

Ambient operating temperature from 10°C - 55°C

Supports X10DRW-i, X10DRW-iT, X10DRH-CT, X10DRL-CT and X10DRH motherboards.

OS Support

Windows, Linux, VMware

Power Consumption

2 Watts

Physical Dimensions

Card PCB dimensions: 3.79" x 2.71" (L x H)

Notes

Chapter 2

Hardware Components

2-1   Expansion Card Layout and Components

Figure 2-1. AOC-SLG3-2E4R

The AOC-SLG3-2E4R is a low-profile expansion card with an aggregate 6.4 GB/s dual-port NVMe internal Host Bus Adapter. The following pages describe the components and settings for the AOC-SLG3-2E4R.

2-2   Major Components

The following are the major components that make up the AOC-SLG3-2E4R expansion card:
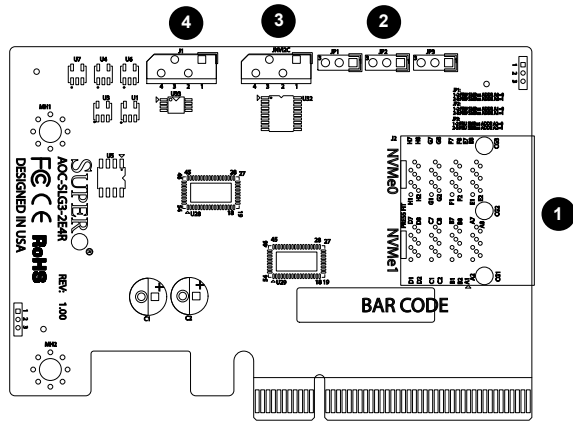
Figure 2-2. AOC-SLG3-2E4R Layout

AOC-SLG3-2E4R	
Component	**Description**
1	NVMe Connectors NVMe 0 and NVMe1
2	Jumpers JP1, JP2 and JP3
3	SMBus I²C Connector JNVI2C
4	Connector J1, not populated on the card

2-3   Connectors and LEDs

NVMe Connectors

There are two NVMe connectors on the expansion card. Together these connectors provide a transfer rate speed of up to 6.4 GB/s.
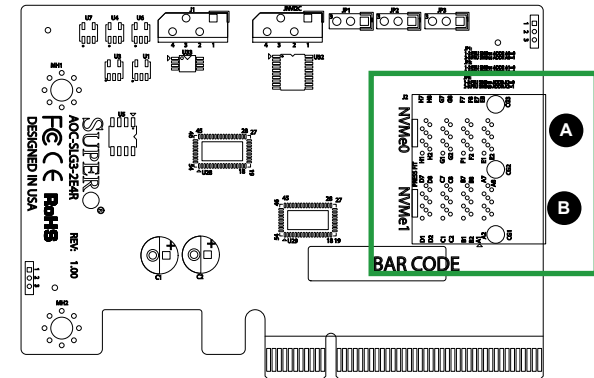
Figure 2-3. NVMe Connectors

AOC-SLG3-2E4R	
Component	**Description**
A	NVMe connector, designated NVMe 0
B	NVMe connector, designated NVMe 1

2-4   Front Jumper Location and Settings
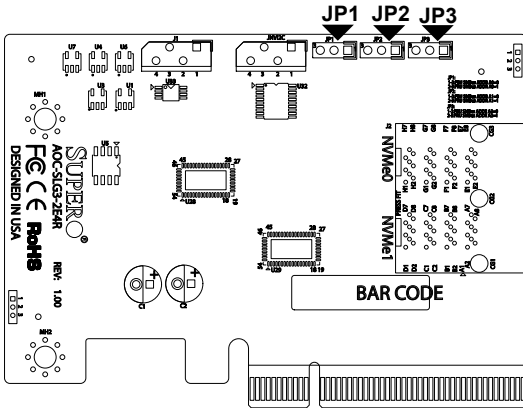
Figure 2-4. Front Jumpers

Explanation of Jumpers

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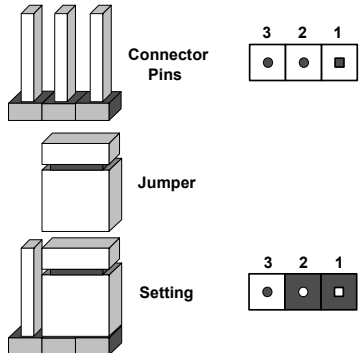
Note: Unless explicitly instructed otherwise by the manufacturer, do not move the jumpers from their default locations of pins 1-2. Doing so will likely cause the card to become disabled.

Table of Addresses Based on Jumper Settings					
MSN	**JP3 A2**	**JP2 A1**	**JP1 A0**	**LSB**	**Hex Address**
1010	0	0	0	0	A 0
1010	0	0	1	0	A 2
1010	0	1	0	0	A 4
1010	0	1	1	0	A 6
1010	1	0	0	0	A 8
1010	1	0	1	0	A A
1010	1	1	0	0	A C
1010	1	1	1	0	A E

Chapter 3

Installation

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.

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-SLG3-2E4R. Refer to the chart below to determine the method of installation for your expansion card.

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-SLG3-2E4R 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. Determine the correct method of installation for your motherboard:

| AOC-SLG3-2E4R Installation Methods ||
MB	Installation Method
X10DRW-i	Install a bracket onto the AOC-SLG3-2E4R expansion card. Install the riser card into the slot on the motherboard. Install the AOC-SLG3-2E4R onto the riser card. Secure the bracket to the chassis with a screw.
X10DRW-iT	Install a bracket onto the AOC-SLG3-2E4R expansion card. Install the riser card into the slot on the motherboard. Install the AOC-SLG3-2E4R onto the riser card. Secure the bracket to the chassis with a screw.
X10DRH-CT	Install a bracket onto the AOC-SLG3-2E4R expansion card. Install the expansion card into slot 6 on the motherboard. Secure the bracket to the chassis with a screw.
X10DRL-CT	Install a bracket onto the AOC-SLG3-2E4R expansion card. Install the expansion card into slot 6 on the motherboard. Secure the bracket to the chassis with a screw.
X10DRH	Install a bracket onto the AOC-SLG3-2E4R expansion card. Install the expansion card into slot 1 or slot 7 on the motherboard. Secure the bracket to the chassis with a screw.

Expansion Card NVMe Connector (Source) — **Backplane Connector (Target)**

SFF-8643 — SFF-8643

SFF-8643 — OCuLink

Oculink — SFF-8643
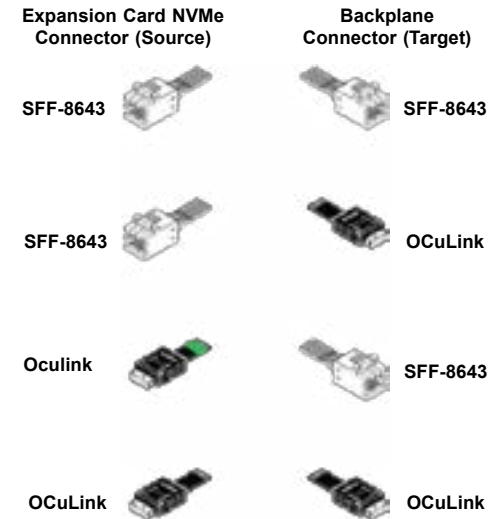
OCuLink — OCuLink

Figure 3-1. Cable Types

4. Using the chart above, verify that the cable provided is appropriate for the expansion card connectors and the backplane connectors. Note that the MiniSAS HD to OCuLink cables and 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.

Figure 3-2. Connecting the Cables

5. Connect the cables to the expansion card. The cable latch will click into the locked position when connected properly.
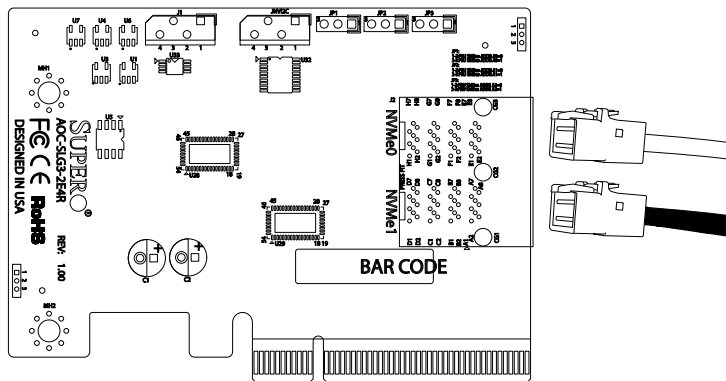
6. Replace the system cover, plug in the power cord and power up the system.

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.

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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   Installing the Drivers in Windows

Refer to the instructions that came with your expansion card and follow the manufacturer's recommended steps for installing the NVMe driver. Download the latest drivers from the Supermicro project board at ftp://ftp.supermicro.com/driver/NVMe/.

3-6   Uninstalling the Drivers

To Uninstall the Drivers in Windows:

Follow the instructions provided by the manufacturer.

To Unistall the Drviers in Linux:

Run the following command to uninstall the NMVe drivers:
./RemoveService.sh

Notes

(Disclaimer Continued)

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