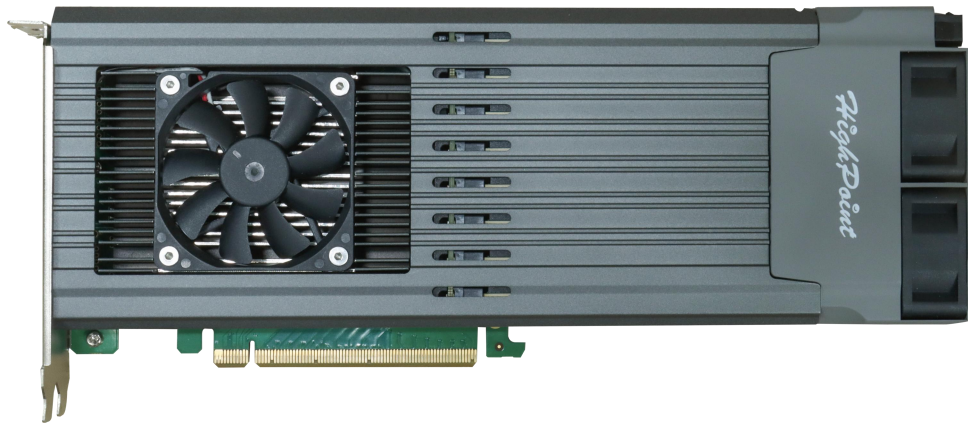




RocketAIC 7749M2W NVMe AIC SSD

User Guide



V1.00 - August 13, 2024

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1. Overview

The RocketAIC 7749M2W is the latest member of our PCIe Gen4 NVMe AIC SSD product family.

The RocketAIC 7749M2W represents the next generation of compact RAID solutions and was designed for Industrial & Edge Server applications that demand a compact, easily integrated, ultra-high-density RAID storage solution with blistering PCIe Gen4 x16 performance and enterprise-class reliability and endurance.

RocketAIC 7749M2W series NVMe AIC SSDs were designed for off-the-shelf Content Creation Workstation and AI servers manufactured by leading system vendors including Dell, HP and Supermicro, and are capable of accommodating a wide-range of high-performance applications, including AI driven workflows, virtual memory solutions, post-production platforms, and high-speed data ingestion and media capture systems. Each AIC SSD is equipped with the Broadcom's state-of-the-art PCIe Gen4 switch to maximize the density, performance and reliability of NVMe storage media. The robust casing protects the SSDs and sensitive controller hardware from high-stress working environments, and incorporates a purpose-built cooling system designed to maximize the performance potential of PCIe Gen4 NVMe media.

1.1. Key Features

- Dedicated PCIe 4.0 x16 host interface
- Support data transfer rate 32GB/s
- Robust, Dual-Width NVMe Cooling Solution
- Support the following Operating Systems:
 - Windows 11,10/ Server 2022,2019,2016/ Microsoft Hyper-V
 - RHEL/Debian/Ubuntu/Fedora/Rocky Linux (Linux kernel 3.10 and later)

2. RA7749M2W Hardware Description

2.1. RA7749M2W Layout

The layout of the RA7749M2W front view.

- **Front View**

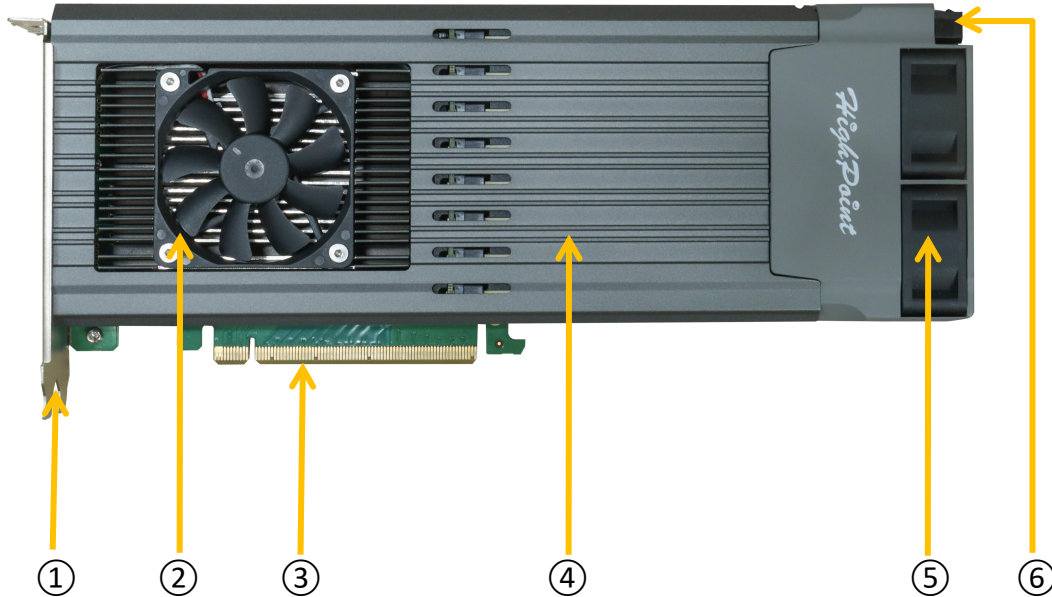


Table 1: Key component of the RA7749M2W

Number	Type	Description
①	Bracket	Double Width Full Height Ventilate Bracket. The RA7749M2W is secured to the chassis by the Full-height bracket.
②	Embedded Cooling Fan	The fan is used to dissipate heat from institutions prone to heat generation.
③	PCIe Host Interface	The interface between the storage adapter and the host system. With the PCIe interface, this connector provides power to the board.
④	Heatsink	Full-length anodized aluminum heatsink ensures the RA7749M2W maintains a stable operating temperature under high load conditions.
⑤	Low-Noise Cooling Fan	The fan is used to dissipate heat from the SSDs in the institution.
⑥	External Power Port	The system power supply unit powers the RA7749M2W through this port connected to the external 6-pin PCIe power cable.

2.2. PCIe Host Interface

The RA7749M2W's PCIe 4.0 host interface provides maximum transmission.

Other PCIe host interface features include the following:

- 16-lane PCIe host interface
- Support of x16 link width
- 16-lane aggregate bandwidth of up to 32GB/s

2.3. Storage Interface

The RA7749M2W storage interface features include the following:

- Dedicated PCIe 4.0 x4 per port
- Data transfer at 8GB/s

2.4. Basic Specifications

The following table describes the basic specifications of the RA7749M2W.

Table 2: Basic Specifications of RA7749M2W

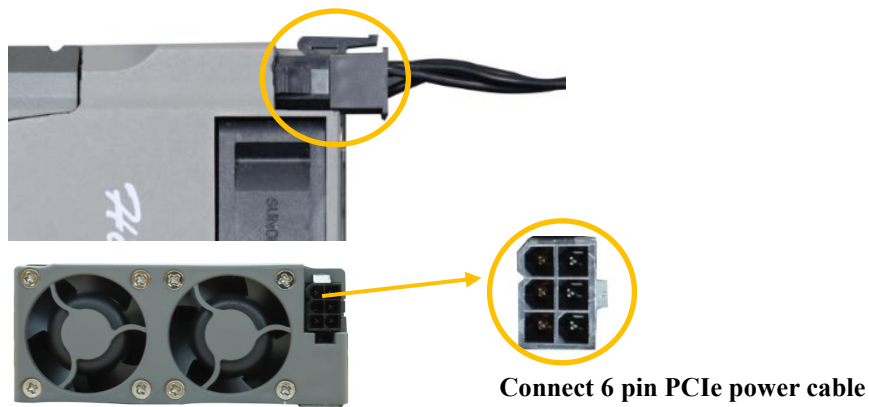
Model		RA7749M2W
Form Factor		Full-Height, Dual-Width
Dimension	Length	11.18"
	Width	1.53"
	Height	4.92"
Power consumption		154.88W
Power supply		PCIe 3.3V rails and the 12V rails
Work temperature		+5°C ~ +55°C
Storage temperature		-20°C ~ +80°C
MTBF (Mean Time Before Failure)		1.5 million hours

3. RA7749M2W Installation Instructions

Please follow the steps below to install the RocketAIC 7749M2W into a motherboard with a compatible PCIe slot.

1. Disconnect all power and powered devices from your system. Open the motherboard chassis cover.
2. Insert the RocketAIC 7749M2W into an available PCIe slot.
3. Once the RocketAIC 7749M2W is fully seated affix the included screw to the bracket.
4. Reassemble the chassis cover and reconnect the system to the power supply.
5. When finished, turn on the power to the system.

Note: In case of insufficient power supply to the motherboard PCIe slot, connect the 6-pin PCIe power cable to the external power connector on the right side of the RocketAIC 7749M2W before turning on the power to the system.



4. Revision History

Version 1.00, August 13, 2024

Initial version.