RocketStor 8631C (RS8631C)

Gen5 External Enclosure User Guide

V1.02 - June 29, 2026

Table of Contents

1. Overview

The RS8631C is the latest member of our PCIe Gen5 External Enclosure Device product family.

Designed specifically for GPUs, this PCIe 5.0 Enclosure stands out as the ultimate solution for high-performance computing and data center applications. Leveraging the latest PCIe 5.0 interface standard, it dramatically enhances data transfer speeds, offering unparalleled high-speed connectivity for premium graphics processors. With optimized cooling design and expandability, it ensures system stability even under prolonged high-load operations.

1.1. Key Features

- Dedicated PCIe 5.0 x16 host interface
- Provide one internal PCIe x16 slot
- Provide one CDFP Gen5 Version Host Port Type
- Support data transfer rate 64GB/s
- Support one GPU
- Support all GPU Dimension (Up to 370mm * 170mm * 88mm)
- Complies with CooprLink Copmliant standard
- Software Secure Boot
- Hardware Secure Boot
- Real-Time Power Measurement
- Asteralabs PCIe 5.0 Retimer Technology
- Support LED Management
- Support Fan Control
- Support Alarming
- All the Operating Systems that support the PCIe standard

1.1.1. Hardware Secure Boot

The secure boot feature permits only authenticated firmware to execute. The switch boots the root of the trusted firmware from the internal boot ROM(IBR)and uses that firmware to authenticate the external firmware stored in the SPI flash and prevent the execution of unauthenticated code.

2. RS8631C Hardware Description

2.1. RS8631C Layout

The layout of the RS8631C is presented in three parts.

2.1.1. Front View

The following figure shows the key components of the Enclosure front panel.

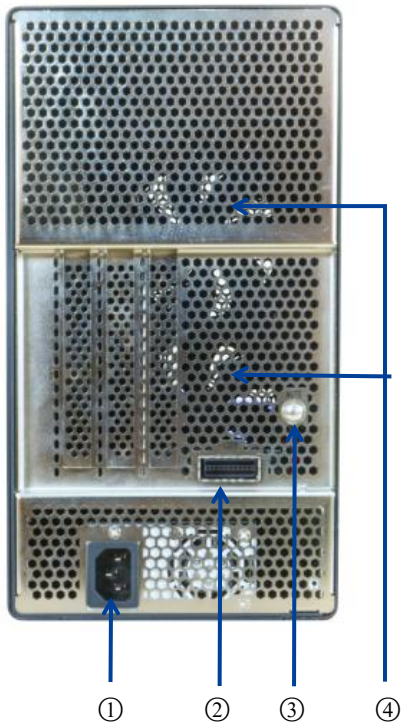
The following table describes the key components of the Enclosure front panel.

Table 1: Key components of the Enclosure front panel

Number	Type	Description
①	Power Switch	ON/OFF Switch. The power switch of the Enclosure can be controlled by pressing the power switch. Note: In the “On” state, the switch illuminates with a blue light; in the “Off” state, it remains unlit.

2.1.2. Rear View

The following figure shows the key components of the Enclosure rear panel.



The following table describes the key components of the Enclosure rear panel.

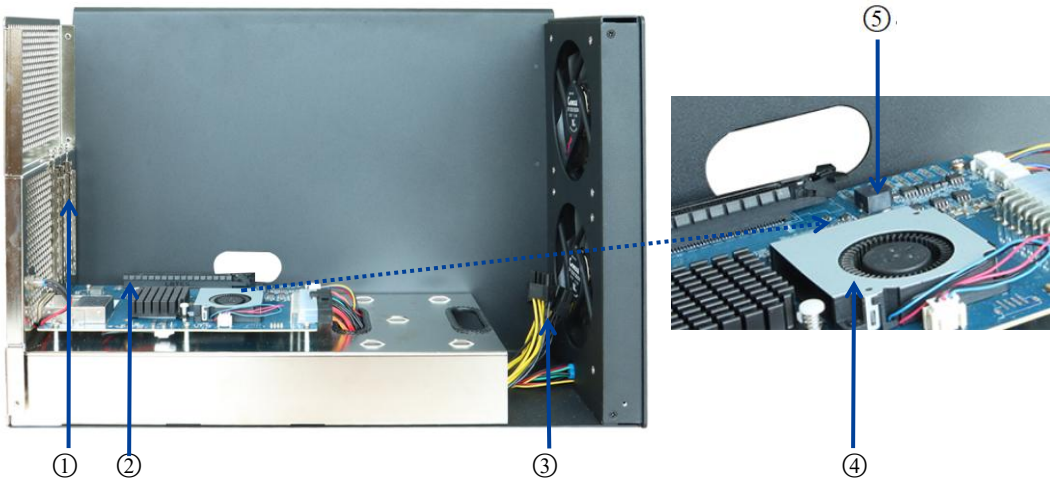
Table 2: Key components of the Enclosure rear panel

Number	Type	Description	
①	AC Power IN	Used to connect the AC power cord.	
②	CDFP Connector	Upstream Port for the Enclosure. Used to connect the host interface card via CDFP cable.	
③	Mute Button	Used to mute the beeper of the Enclosure.	
④	Fan	Two Built-in Low-Decibel fans. Used to dissipate heat from GPU that are prone to heat generation.	
		Smart Fan Control	**Lower Speed:** The Retimer chip temperature is < 65°C.
			Linear Speed: The Retimer chip temperature is between 65°C and 75°C.
			Full Speed: The Retimer chip temperature is > 75°C.
		Note: The fan speed choice depends on the higher temperature.	
		Manual Fan Control	**0**: Ultra Low Speed (Around 480RPM)
			1: Low Speed (Around 960 RPM)

			2: Medium Speed (Around 1140 RPM)
			3: High Speed (Around 1380 RPM)
			4: Full Speed (Around 1560 RPM)
		Note: Only compatible host interface card can enable Manual Fan Control.	

2.1.3. Internal View

The following figure shows the key components of the Enclosure internal panel.



The following table describes the key components of the Enclosure rear panel.

Table 3: Key components of the Enclosure rear panel

Number	Type	Description	
①	PCIe slot cover	Used to protect PCIe slots from dust and other physical damage.	
②	PCIe slot	Used to connect the GPU (Graphics Processing Unit).	
③	2x4 connectors	Three 2x4pin power connectors. Powering the GPU.	
④	Retimer Fan	Built-in Low-Decibel fans. Used to dissipate heat from the Retimer chip.	
		Smart Fan Control	**Lower Speed:** The Retimer chip temperature is < 65°C.
			Linear Speed: The Retimer chip temperature is between 65°C and 75°C.
			Full Speed: The Retimer chip temperature is > 75°C.
		Note: The fan speed choice depends on the higher temperature.	
		Manual Fan Control	**0**: Ultra Low Speed (Around 0 RPM)
			1: Low Speed (Around 3180 RPM)
			2: Medium Speed (Around 4440 RPM)
			3: High Speed (Around 5520 RPM,)
			4: Full Speed (Around 5580 RPM)
		Note: Only compatible host interface card can enable Manual Fan Control.	
⑤	Beeper	The beeper will appear in the following 3 beeping statuses: Notes:	

		1 means alarming, and 0 means not alarming. This setting takes effect temporarily, not permanently.	
		1-0-1-0-1-0	The Fan Speed is < 100 RPM. Note: This trigger mechanism only affects the two Fans on the rear panel and does not include the Retimer Fan.
		1-0-0-1-0-0	The Retimer chip temperature is > 100°C.
		1-1-1-1-1-1	Both "**1-0-1-0-1-0**" and "**1-0-0-1-0-0**" above occur simultaneously.

2.2. Enclosure Bus Interface

The RS8631C has one PCIe slot. Other features include the following:

- Dedicated PCIe 5.0 x16 port
- Support one GPU
- Data transfer at 64GB/s

2.3. Basic Specifications

The following table describes the basic specifications of the RS8631C.

Table 4: Basic Specifications of RS8631C

Model	**RS8631C**
Enclosure Dimensions	445mm * 286mm * 155mm (with feet pads)
Enclosure Weight	5.49kg
Power Consumption	● **Idle mode**: 4.66W ● **I/Os mode**: 29.30W Notes: The I/Os mode power consumption is measured with the GV-N507TAORUS M-16GD and R7638D External Adapter. Actual power consumption may differ based on system hardware and configuration.
Operating Voltage	100V ~ 240V AC In
Power Supply	● **Option 1:** 850W ● **Option 2:** 600W The RS8631C can be compatible with a 600W or 850W power supply. The specific selection should be determined based on the power consumption of the GPU. For example, a 600W PSU is recommended for TUF-RTX4080S-O16G-GAMING GPU, a 850W PSU is recommended for GIGABYTE GV-N 5090 GAMING OC-32GD GPU.
Work Temperature	+5°C ~ + 55°C
Storage Temperature	-20°C ~ +80°C
MTBF (Mean Time Before Failure)	920,585 Hours

3. Cable Accessory

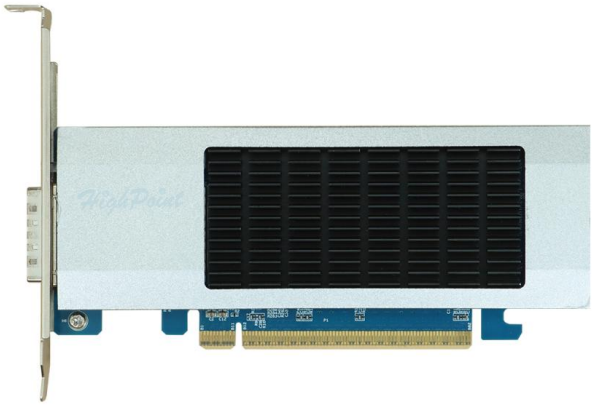
The RS8631C provides a cable that enables the host interface card to have a configuration of GPUs via CDFP connectors.

The following sections describe the cable pinout and connection diagrams for the supported accessory.

3.1. R7638D PCIe External Adapter

1x CDFP Connector and 2x MCIO Connectors PCIe 5.0 x16 External Adapter.

Dimensions: 6.50 In (L) × 0.77 In (W) × 2.72 In (H)

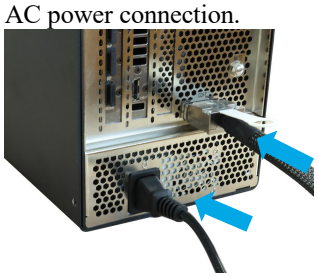


3.1.1. Connection

The following steps show the connection of a Enclosure to the R7638D using the CDFP-CDFP-1M Gen4 cable.

1. Connect the CDFP cable to the R7638D's CDFP port.

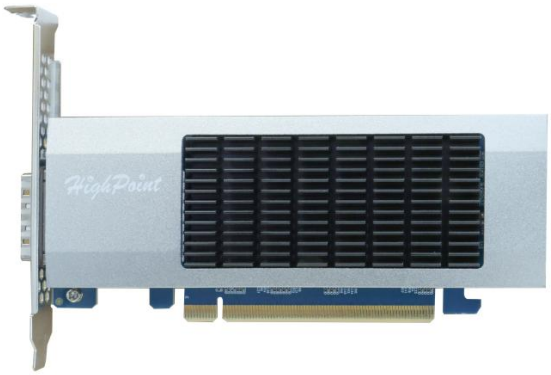
2. Connect the CDFP cable to the Enclosure's CDFP port and the UL power cord to the Enclosure for AC power connection.



3.2. R7634D PCIe External Adapter

1x CDFP Connector PCIe 5.0 x16 External Adapter.

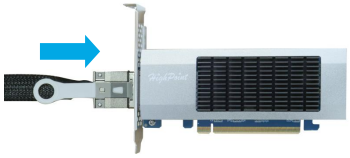
Dimensions: 6.50 In (L) × 0.77 In (W) × 2.72 In (H)



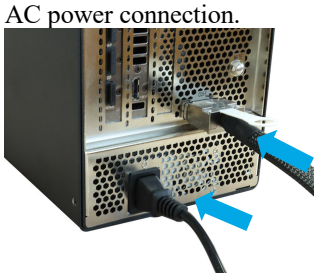
3.2.1. Connection

The following steps show the connection of a Enclosure to the R7634D using the CDFP-CDFP-1M Gen4 cable.

1. Connect the CDFP cable to the R7634D's CDFP port.



2. Connect the CDFP cable to the Enclosure's CDFP port and the UL power cord to the Enclosure for AC power connection.



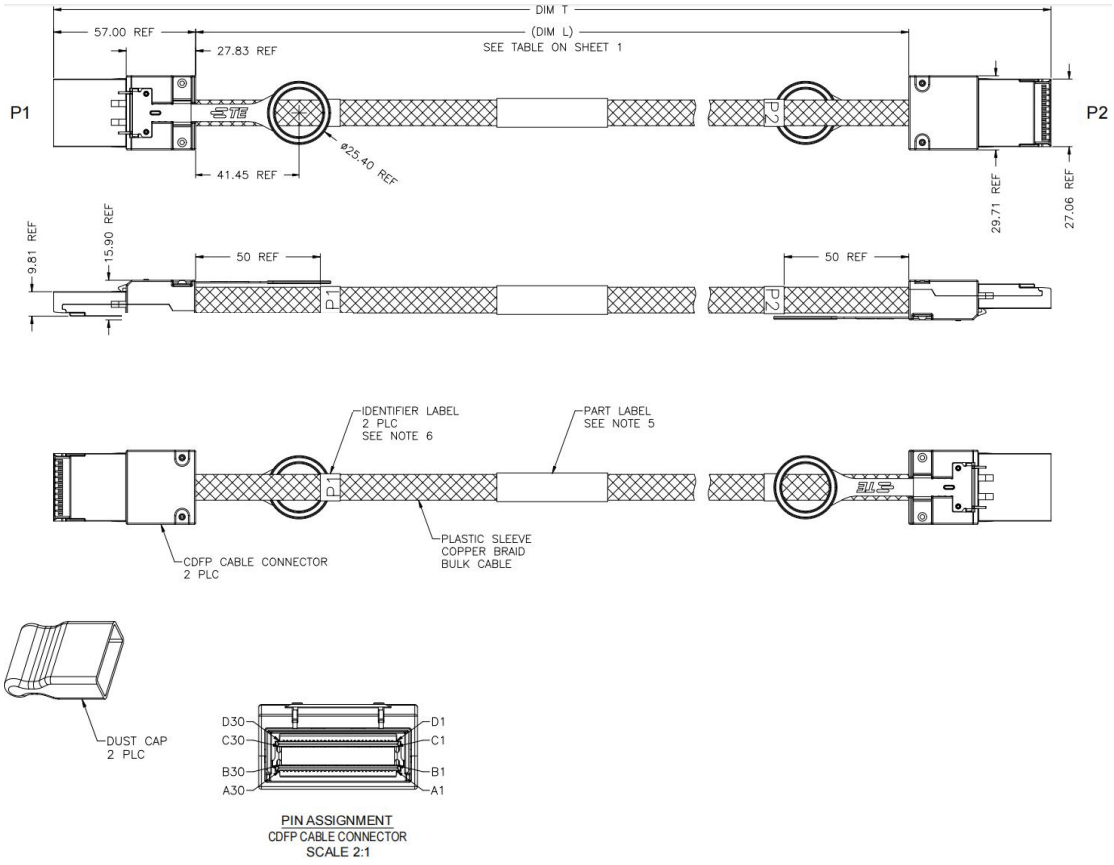
3.3. CDFP-CDFP-1M Gen5 (CooprLink) Cable

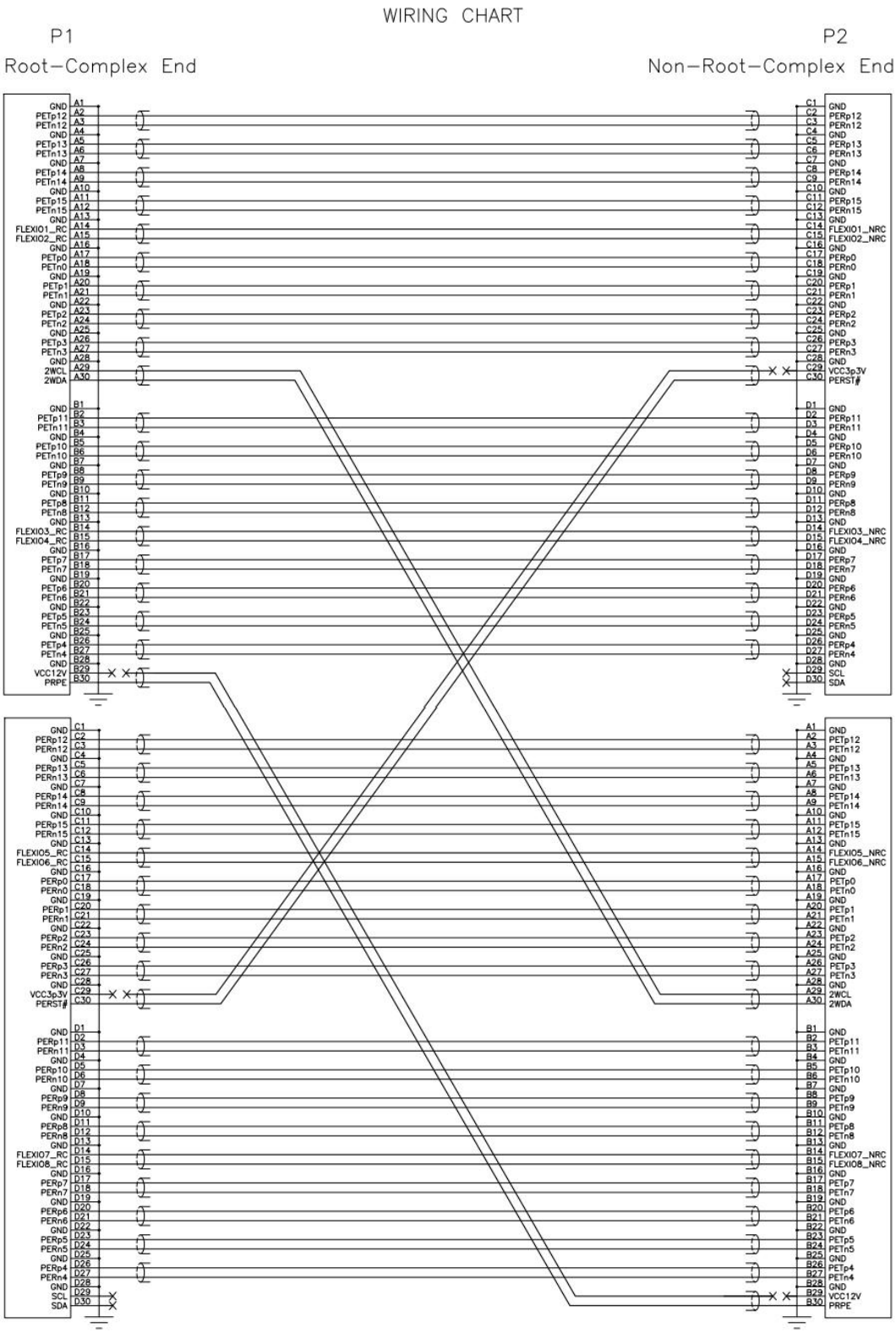
CDFP Host to CDFP Device cable. Length 1M.

3.3.1. Cable Diagram

3.3.2. Cable Drawings and Pinouts

The following figure shows the pinout for the HighPoint CDFP-CDFP-1M Gen5 (CooprLink) cable, one x8 CDFP to one x8 CDFP connection.

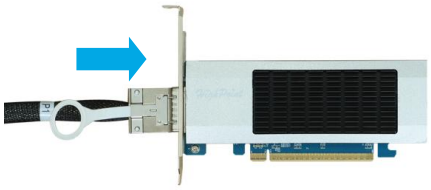



WIRING CHART
P1
Root−Complex End
P2
Non−Root−Complex End

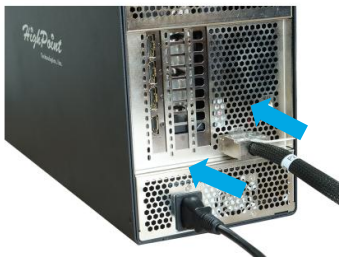
3.3.3. Cable Connection

The following steps show the connection of a Enclosure to the R7638D using the CDFP-CDFP-1M Gen5 (Cooprlink) cable.

3. Connect the CDFP cable to the R7638D's CDFP port.



4. Connect the CDFP cable to the Enclosure's CDFP port and the UL power cord to the Enclosure for AC power connection.

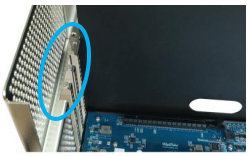


4. RS8631C Installation Instructions

1. Use a wired ESD wrist strap that is properly grounded.
2. Unpack and remove the RS8631C and check it for damage.
   If it appears damaged, please get in touch with HighPoint Technical Support.
3. Turn the thumbscrew counterclockwise and remove the four screws at the bottom of the left side and right side.

4. Gently Remove the RS8631C cover.

5. Remove the screw and PCIe slot cover.

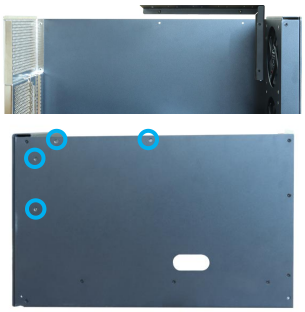


Note: Remove the screw and PCIe slot cover according to the width of the accessed GPU (Maximum support for one triple-width GPU).

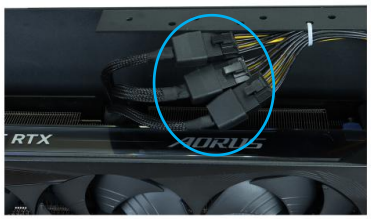
6. Remove the cable trunking by removing the four screws on the back of the Enclosure.

7. Hold the GPU by its edges, insert it connector-down into the slot, and secure the GPU bracket with screws.

8. Install the cable trunking by reattaching the four screws on the back of the Enclosure.

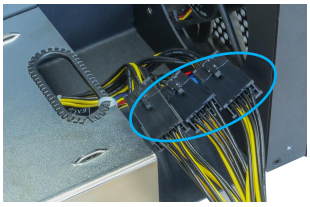


9. Connect the GPU power connector to the power connectors inside the Enclosure.



Notes:
If the GPU power cable is not long enough, refer to the following steps to connect the GPU using the 2x4 connectors to the 2x4 connector Cables.
The number of 2x4 connectors to 2x4 connectors cables needed depends on the 2x4 connectors on your GPU. Select the appropriate quantity based on your hardware specifications.

1) Connect the 2x4 connectors to the power connectors inside the Enclosure.

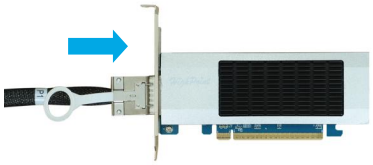


2) Place the 2x4 connectors to 2x4 connectors cables into the cable trunking and tie the cables with cable ties.

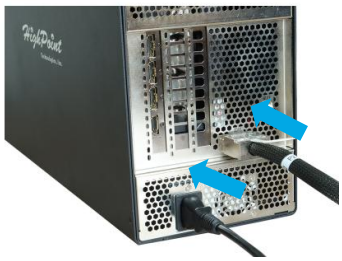
The recommended number of cable ties is between two and four, and the ties should be placed horizontally and vertically.

10. Close the RS8631C, and screw back screws and thumbscrew that were removed in step3.

11. Connect the CDFP cable to the Host Interface Card’s external port.



12. 12.Connect the CDFP cable to the Enclosure's CDFP port and the UL power cord for AC power.



13. Insert the Host Interface Card into the motherboard’s PCIe x16 slot.
14. Press the power button to turn on the power up the RS8631C, then power up the motherboard.
    Note: When powering off the system, the RS8631C must be powered off at the same time.

WARNING: If the GPU or other chassis-installed devices are not recognized, verify the correct power up sequence. Ensure the chassis is powered on before applying power to the motherboard.

5. Revision History

5.1. Version 1.00, August 26, 2025

Initial version.

5.2. Version 1.01, November 27, 2025

1. Update the conditions for triggering the Beeper.
2. Add R7634D PCIe External Adapter support.
3. Add optional power supply (600W/850W) description.

5.3. Version 1.02, June 29, 2026

Added WARNING regarding power-up sequence: If the GPU or other chassis-installed devices are not recognized, verify the correct power up sequence. Ensure the chassis is powered on before applying power to the motherboard.