EVIDEN

BullSequana EX & AI Series

Information on Ecodesign Requirements

86 A1 62FT 01 - March 2025

Trademarks and Acknowledgements

Hardware

March 2025

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Table of Contents

Preface

This guide addresses European Union (EU) Ecodesign requirements for servers and storage products. All data and ratings within this addendum are in reference only to the BullSequana EX and AI product(s) in the manual.

The below information conforms to requirements laid down in Annex II of the Commission Regulation 2019/424 with amending regulations (EU) 2021/341.

See The Bull support web site for the most up-to-date product information, documentation, firmware updates, software fixes and service offers: http://support.bull.com

Intended Readers

This guide is intended for all personnel and trade representatives.

Chapter 1. Compliance to ecodesign requirements

This section lists all the information required by Annex II of the Commission Regulation 2019/424.

1.1 PSU efficiency and power factor (EU 1.1)

1.1.1 BullSequana EXR & BullSequana AI100R

PSU Model: **Murata** D1U54T-W-1200-12- HB4TAC

Watts: **1200W**

	PSU Efficiency				Power Factor
% of rated load	**10%**	**20%**	**50%**	**100%**	**50%**
Single Output (AC-DC)	**90**	**94**	**96**	**91**	**0.95**

1.1.2 BullSequana EXD & BullSequana AI100D

PSU Model: **Gospower** G1358-1300WNAA

Watts: **1300W**

	PSU Efficiency				Power Factor
% of rated load	**10%**	**20%**	**50%**	**100%**	**50%**
Single Output (AC-DC)	**90**	**94**	**96**	**91**	**0.98**

1.2 Material efficiency (EU 1.2)

1.2.1 Disassembly (EU 1.2.1)

See Chapter 2. System disassembly instructions

1.2.2 Secure data deletion (EU 1.2.2)

There are three methods by which a user can securely delete data from this system depending on the server disk configuration. The user performing secure data deletion should be an IT professional.

1.2.2.1 Command lines for disk management through a Broadcom PCIe controller

Drive secureerase commands

```
storcli /cx[/ex]/sx secureerase [force]
```

This command deletes data on the drive and the security configuration, data is no longer accessible. This command is used for SED drives only.

This command erases the drive's security configuration and securely erases data on a drive. You can use the force option as a confirmation to erase the data on the drive and the security information.

Options	Value Range	Description
erase	simple: Single pass, single pattern write normal: Three pass, three pattern write thorough: Nine pass, repeats the normal write three times crypto: Performs cryptographic erase for SSD drives	Secures erase type
PatternA	8-bit value	Erases pattern A to overwrite the data
PatternB	8-bit value	Erases pattern B to overwrite the data

```
storcli /cx[/ex]/sx show erase
```

This command displays the status of erase operation (on non-SED drives).

```
storcli /cx[/ex]/sx start erase [simple|normal|crypto|thorough] [patternA=<value1>]
[patternB=<value2>]
```

Note The erase option is supported only on UG drives and is not supported on JBOD drives.

This command securely erases non-SED drives. The drive is written with erase patterns to make sure that data is securely erased. You can use the following options with the start erase command.

```
storcli /cx[/ex]/sx stop erase
```

Drive sanitize commands

The following command lets you erase the data that resides on a physical drive. You can use the following sanitize-type arguments with the start sanitize command.

```
storcli /cx[/ex]/sx start sanitize [cryptoerase| overwrite| blockErase ] [ause]
```

```
cryptoerase- This argument corrupts the encryption keys that may have been
present on the drive.
overwrite- This argument overwrites all zeros to the data that may be
present on the existing drives.
blockerase- This argument allows the drive to clear or erase the existing
data drive.
ause- If, for some reason, the sanitize operation fails, the system tries to
bring the drive out of the failure mode irrespective of whether the Allow
Unrestricted Sanitize Exit (AUSE) argument is specified or not. However, if
this argument is specified, and if the system succeeds in bringing the drive
out of the failure mode, the drive is then returned as an Unconfigured Good
drive. If you do not specify the ause argument, and if the sanitize
operation fails, the system places the drive in an Unconfigured Bad state.
```

The following command displays the progress of the sanitize operation in percentage.

```
storcli /cx[/ex]/sx show sanitize
```

1.2.2.2 Disk manufacturer tool

The third method is through the secure data deletion tool provided by the original manufacturer of the hard drive.

Each manufacturer should have the tool available on their website.

If needed, read the hard drive label for the name of the manufacturer and model information.

1.2.3 Firmware availability (EU 1.2.3)

The latest version of the firmware is available: https://support.bull.com

1.3 Idle state power (EU 2.1)

1.3.1 BullSequana EXR & BullSequana AI100R

Configurations	Measured Idle State Power (W)	Calculated Idle Power Allowance (W)
High-End (Linux)	226.4	485.16
High-End (Windows)	192.2	
Low-End (Linux)	132.4	153.52
Low-End (Windows)	83.9	

1.3.2 BullSequana EXD & BullSequana AI100D

Configurations	Measured Idle State Power (W)	Calculated Idle Power Allowance (W)
High-End (Linux)	184.0	485.16
High-End (Windows)	115.2	
Low-End (Linux)	109.7	153.52
Low-End (Windows)	84.7	

1.4 Active state efficiency (EU 2.2)

1.4.1 BullSequana EXR & BullSequana AI100R

Configurations	Measured active state efficiency	Minimum active state efficiency
High-End (Linux)	23.25	9.00
High-End (Windows)	33.88	
Low-End (Linux)	28.48	
Low-End (Windows)	30.91	

1.4.2 BullSequana EXD & BullSequana AI100D

Configurations	Measured active state efficiency	Minimum active state efficiency
High-End (Linux)	30.60	9.00
High-End (Windows)	38.02	
Low-End (Linux)	29.78	
Low-End (Windows)	30.19	

1.5 Product type (EU 3.1(a))

Product type	Product name
BSEXR1, BSEXR2	BullSequana EXR M2, BullSequana EXR SATA & BullSequana AI100R
BSEXD1	BullSequana EXD & BullSequana AI100D

1.6 Trademark and manufacturer address (EU 3.1(b))

See the title page and preface of the system manual for the trademark and manufacturer's address.

1.7 Product model numbers (EU 3.1(c))

- BullSequana EXR M2
- Bullsequana AI100R
- BullSequana EXR SATA
- BullSequana EXD
- BullSequana AI100D

1.8 Year of manufacture (EU 3.1(d))

See the serial number on the physical system to determine the year of manufacture.

1.9 Power Supply Unit (PSU) efficiency (EU 3.1(e-g))

See Section 1.1 PSU efficiency and power factor (EU 1.1)

1.10 Idle state power (EU 3.1(h-j))

See Section 1.3 Idle state power (EU 2.1)

1.11 Operating condition class (EU 3.1(k))

The operating condition class is **A2**.

	Dry bulb temp °C		Humidity range, non-condensing			
Operating condition class	Allowable range	Recom-mended range	Allowable range	Recommended range	Max dew point (°C)	Maximum rate of change (°C/hr)
A1	15- 32	18-27	– 12 °C Dew Point (DP) and 8 % relative humidity (RH) to 17 °C DP and 80 % RH	– 9 °C DP to 15 °C DP and 60 % RH	17	5/20
A2	10-35	18-27	– 12 °C DP and 8 % RH to 21 °C DP and 80 % RH	Same as A1	21	5/20
A3	5-40	18-27	– 12 °C DP and 8 % RH to 24 °C DP and 85 % RH	Same as A1	24	5/20
A4	5-45	18-27	– 12 °C DP and 8 % RH to 24 °C DP and 90 % RH	Same as A1	24	5/20

1.12 Idle state power (EU 3.1(l))

1.12.1 BullSequana EXR & BullSequana AI100R

The idle state power at the higher boundary temperature of the operating conditions class is for 96**W** for low End & 241.9**W** for High-End under **Windows**.

The idle state power at the higher boundary temperature of the operating conditions class is for 149**W** for low End & 276.1**W** for High-End under **Linux**.

1.12.2 BullSequana EXD & BullSequana AI100R

The idle state power at the higher boundary temperature of the operating conditions class is 115.8**W** for Low-End & 164.9**W** for High End under **Windows**.

The idle state power at the higher boundary temperature of the operating conditions class is 140.7**W** for Low-End & 233.7**W** for High End under **Linux**.

1.13 Active state efficiency (EU 3.1(m))

See Section 1.4 Active state efficiency (EU 2.2)

1.14 Secure data deletion (EU 3.1(n))

See Section 1.2.2 Secure data deletion

1.15 Blade server combination (EU 3.1(o))

N/A

1.16 Product family SKU (EU 3.1(p))

This section lists all current SKUs within this product family.

1.16.1 BullSequana EXR & BullSequana AI100R

Product SKU	SKU designation
BASBEXRES-M	BullSequana EXR 1U M2 wo PSU
BASBEXRES-S	BullSequana EXR 1U SATA wo PSU
BASBAIRES-M	BullSequana AI100R 1U M2 wo PSU

1.16.2 BullSequana EXD & BullSequana AI100D

Product SKU	SKU designation
BASBEXDES-M	BullSequana EXD 2U M2 w 1x1300w PSU
BASBAIDES-M	BullSequana AI100D 2U M2 w 1x1300w PSU

1.17 Cobalt (battery) and neodymium (HDD) (EU 3.3(a))

There is no use of cobalt in batteries in this product.

1.18 Disassembly operations (EU 3.3(b))

See Chapter 2. System disassembly instructions

Chapter 2. System disassembly instructions

Important All the illustrations in this chapter are for demonstration purpose only. Components displayed may not match exactly with the components in your system.

DANGER D001
Always power off the system and unplug the power cord(s) first before disassembling the system.

2.1 Power Supply Unit (PSU)

2.1.1 Type and number of fastening technique(s)

One latch.

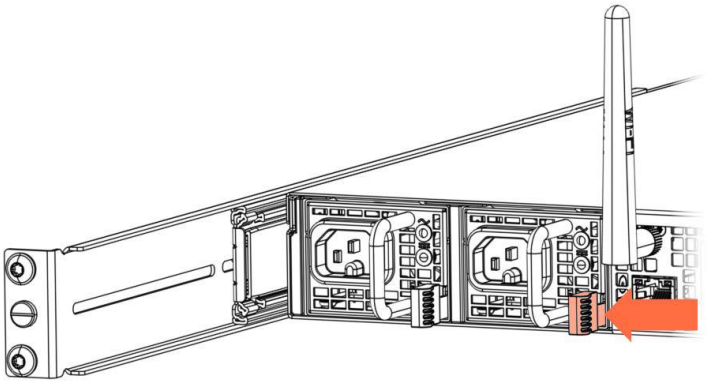
2.1.2 Required tools

None.

2.1.3 Procedure

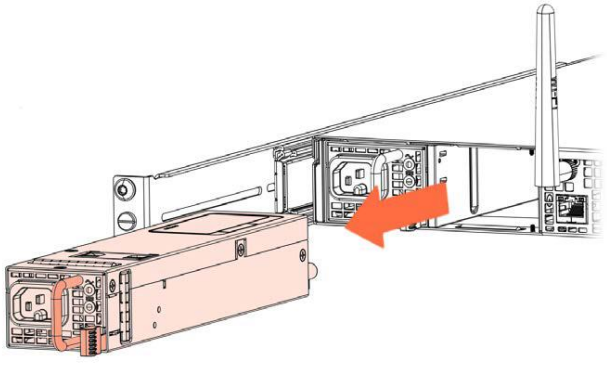
1. Push and hold the latch to the left.

Side view



2. Take hold of the handle and pull to remove the PSU.

Side view



2.2 External antenna

2.2.1 Type and number of fastening technique(s)

Screwed antenna.

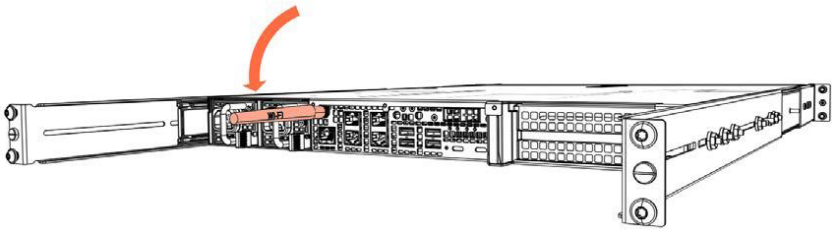
2.2.2 Required tools

None.

2.2.3 Procedure

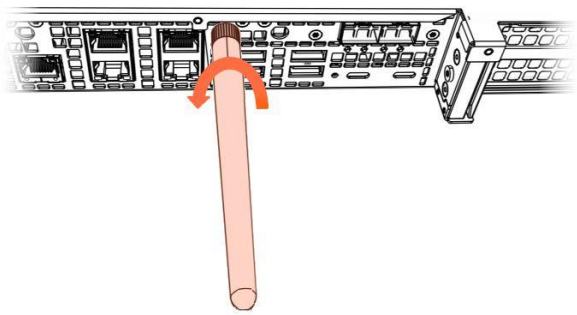
1. Rotate the external antennas to the horizontal position.

Side view



2. Unscrew and remove the external antenna.

Side view



3. Remove the internal cable:
   a. Remove the nut and the washer from the connector.

Top view

b. Remove the connector from inside the server.

Top views

c. Disconnect the antenna cable from the corresponding card.

2.3 Chassis cover

2.3.1 Type and number of fastening technique(s)

- One latch
- One captive screw

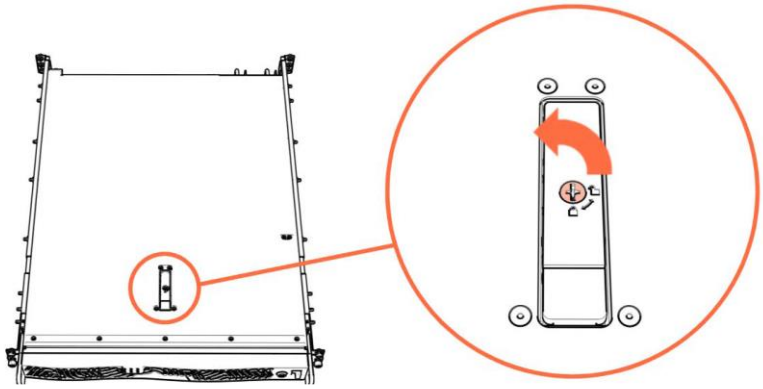
2.3.2 Required tools

Cross-headed screwdriver.

2.3.3 Procedure

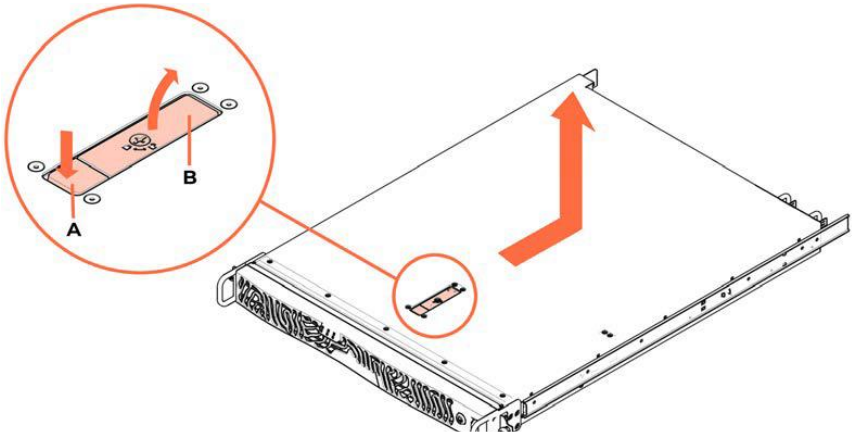
1. Loosen the captive screw to unlock the cover latch.

Top view



2. Push the button (A) to release the latch. The upper part (B) rises up.
3. Slide the cover back slightly and lift it up.

Top view



2.4 Air duct – EXD & AI100D

2.4.1 Type and number of fastening technique(s).

Four screws.

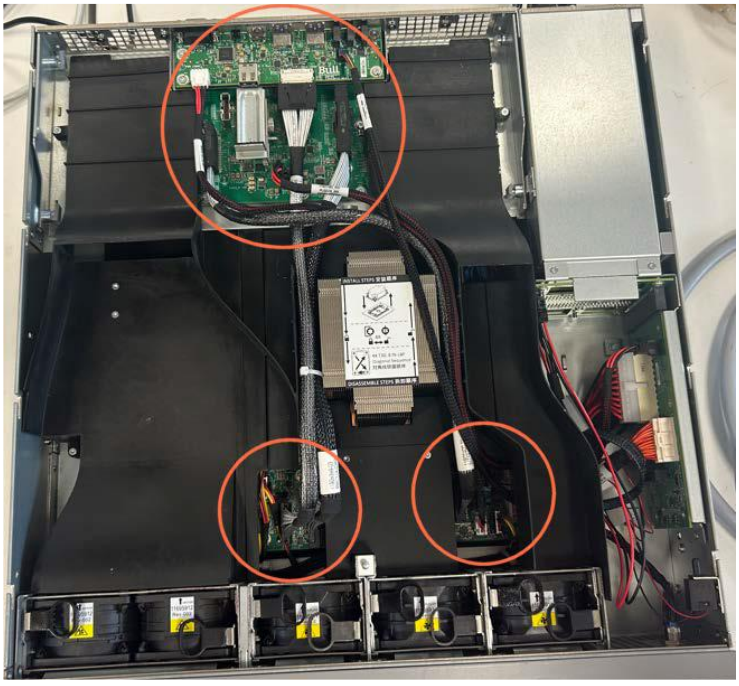
2.4.2 Required tools

T8 Torx screwdriver.

2.4.3 Procedure

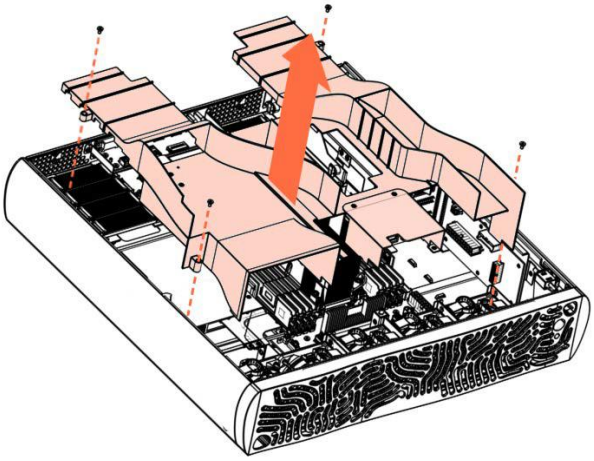
1. Disconnect the cables between the M.2 NVMe disk tray and the motherboard.

Top view



2. Remove the screws to unlock the air duct.
3. Lift the air duct up.

Top view



2.5 Memory module

2.5.1 Type and number of fastening technique(s)

Two latches.

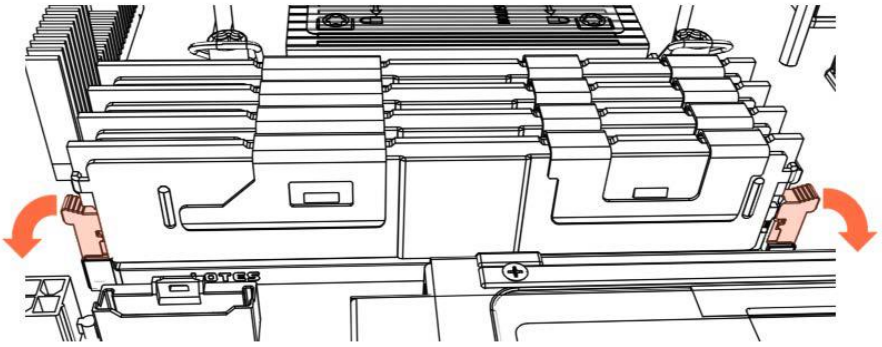
2.5.2 Required tools

None.

2.5.3 Procedure

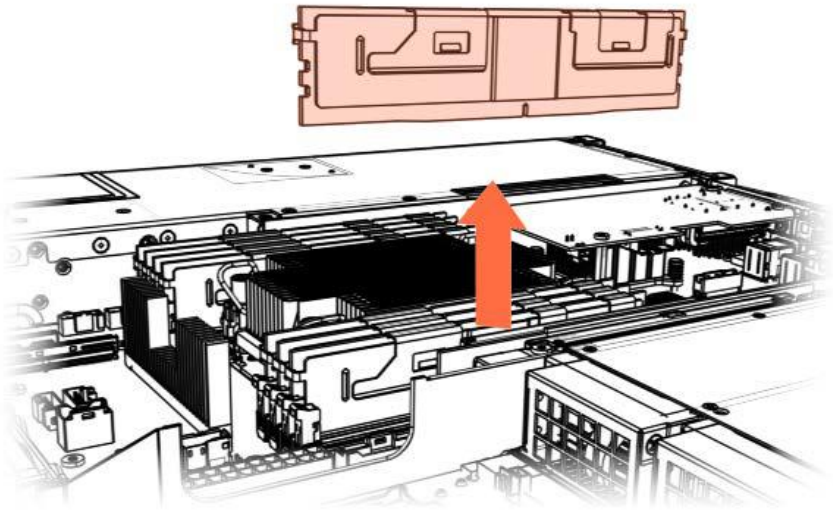
1. Press the retention latches down to release the memory module.

Front view



2. Remove the memory module.

Side view



2.6 Riser card

2.6.1 Type and number of fastening technique(s)

Two screws.

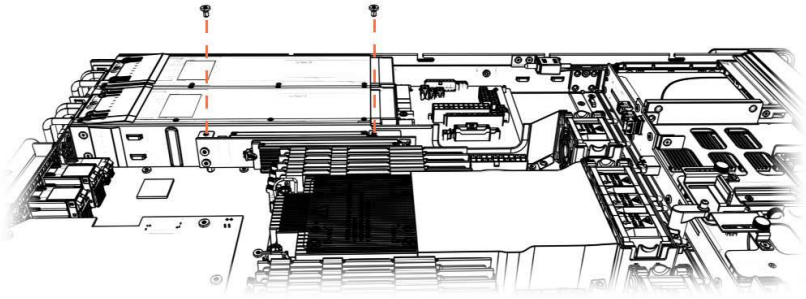
2.6.2 Required tools

Cross-headed screwdriver.

2.6.3 Procedure

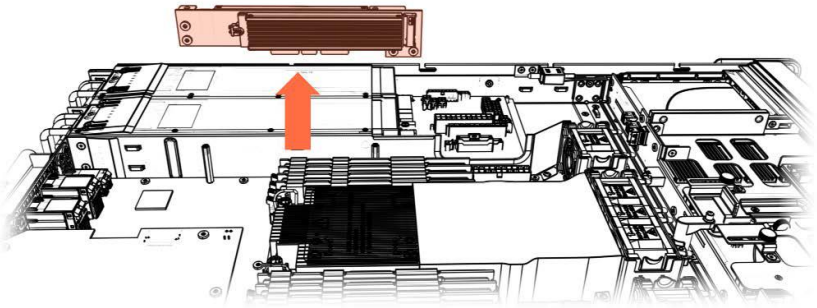
1. Remove the screws.

Side view



2. Pull up the riser card and unplug carefully the antenna cable connector from the M.2 riser board (if required).

Side view



2.7 M.2 I/O device on riser card

2.7.1 Type and number of fastening technique(s)

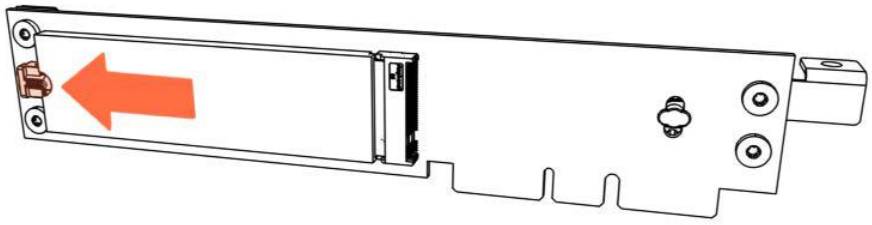
One latch.

2.7.2 Required tools

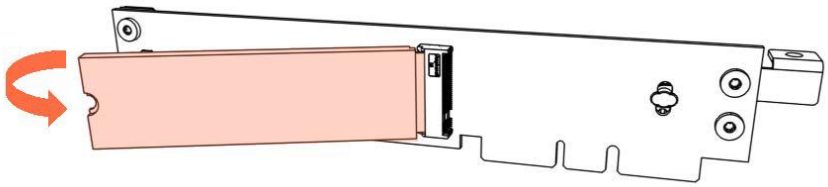
None.

2.7.3 Procedure

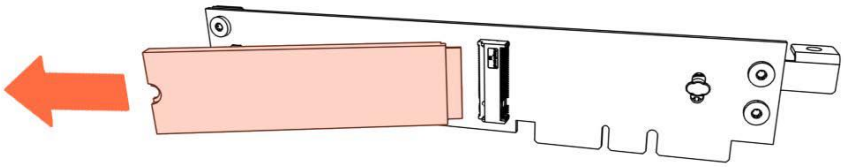
1. Unlock the latch.



2. Rotate the card out by about 20 degrees.



3. Remove the card.



2.8 M.2 disk on riser card

2.8.1 Type and number of fastening technique(s)

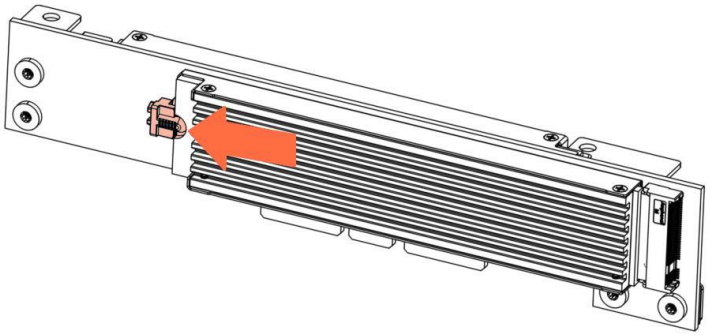
- One latch
- 4 screws

2.8.2 Required tools

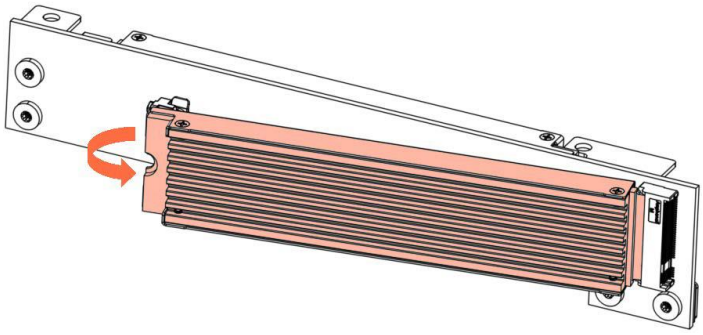
PH0 cross-headed screwdriver.

2.8.3 Procedure

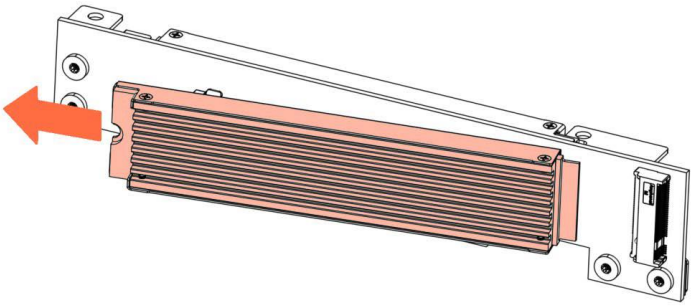
1. Unlock the latch.



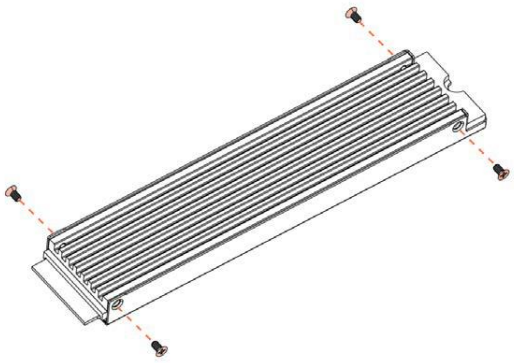
2. Rotate the card out by about 20 degrees.



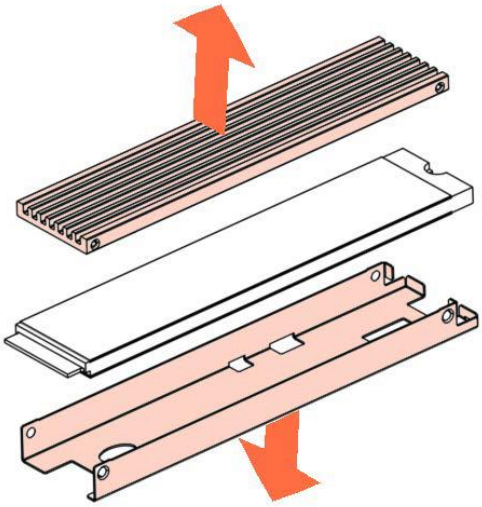
3. Remove the card.



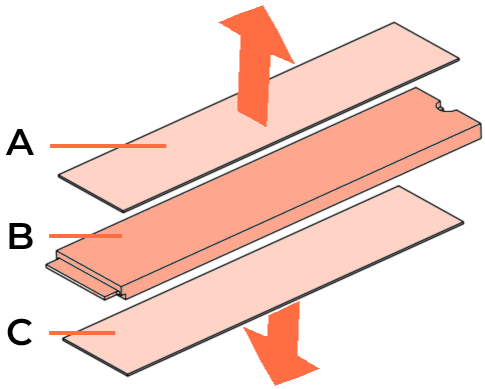
4. Disassemble the card:
   a. Remove the screws.



   d. Remove the heat sink cover and the heat sink base.



   e. Remove the thermal pads (A, C) from the M.2 NVMe disk (B).



2.9 Internal mezzanine card

2.9.1 Type and number of fastening technique(s).

Four screws.

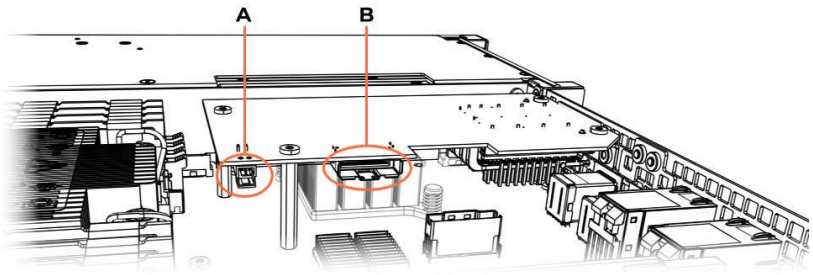
2.9.2 Required tools

Cross-headed screwdriver.

2.9.3 Procedure

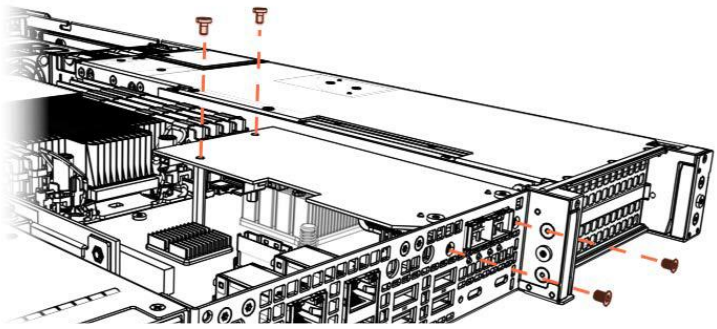
1. Disconnect the power cable from the connector (A).
2. Disconnect the power cable from the connector (B).

Side view



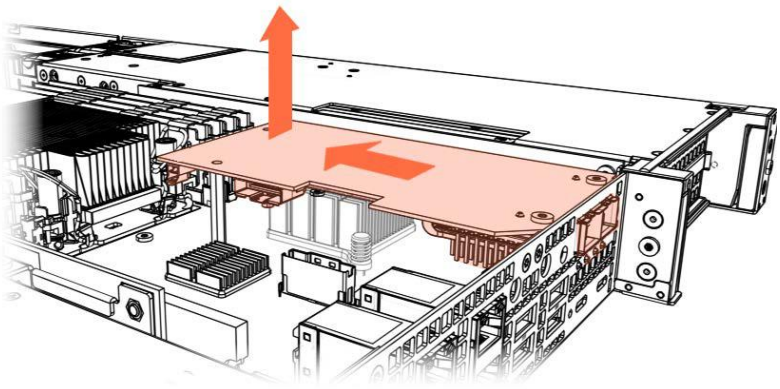
3. Remove the screws.

Side view



4. Slide the mezzanine backwards to remove the rear connectors from the chassis.
5. Lift the mezzanine up.

Side view



2.10 SATA storage device EXR & AI100R

2.10.1 Type and number of fastening technique(s).

- One latch
- Four screws

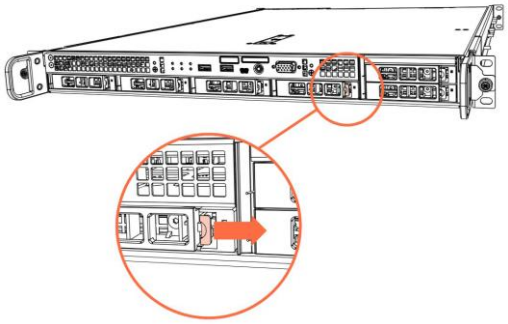
2.10.2 Required tools

T10 Torx screwdriver.

2.10.3 Procedure

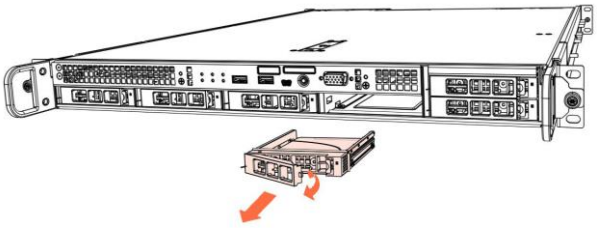
1. Push the latch to the right to unlock the disk.

Front view

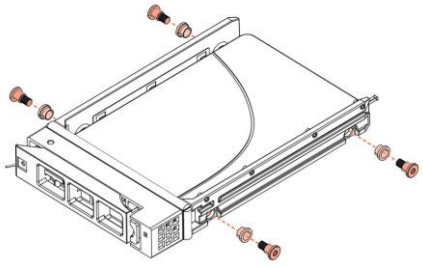


2. Take hold of the handle and pull to remove the disk.

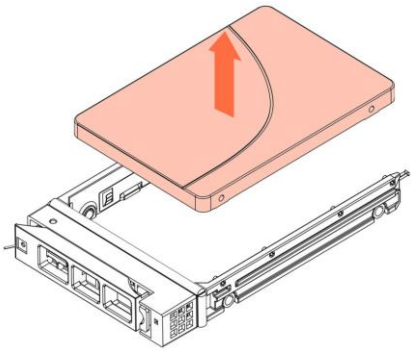
Front view



3. Remove the disk from its cage:
   a. Remove the screws and the rubber grommets.



b. Lift the disk up.



2.11 M.2 storage device EXR & AI100R

2.11.1 Type and number of fastening technique(s)

- One latch
- 4 screws

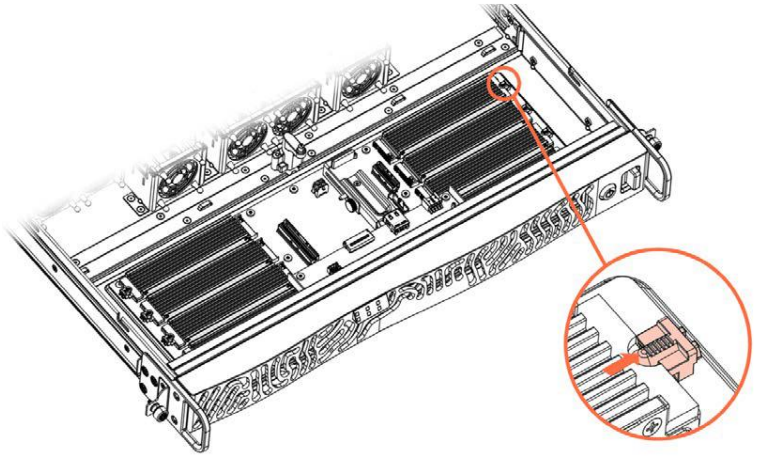
2.11.2 Required tools

PH0 cross-headed screwdriver.

2.11.3 Procedure

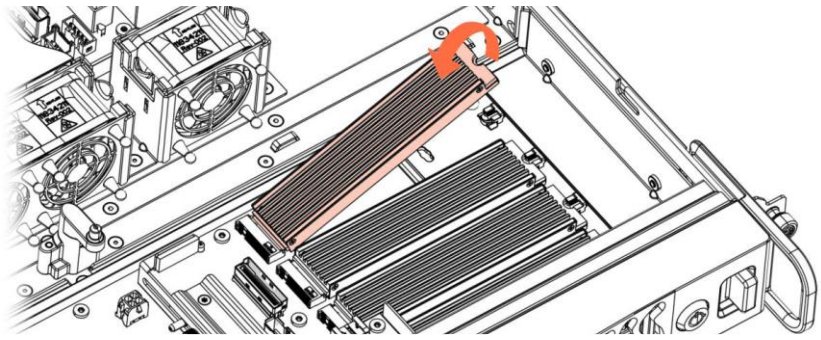
1. Push the latch to unlock the disk assembly.

Top view



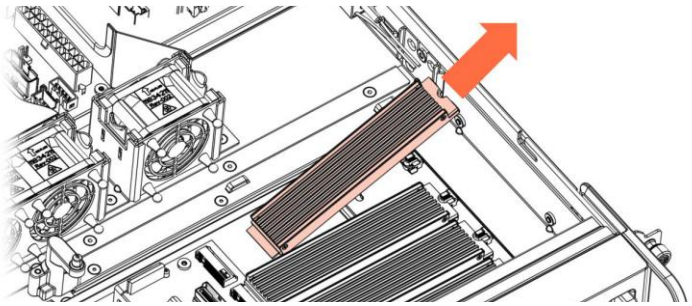
2. Raise the disk assembly up to about 20 degrees above the horizontal.

Top view

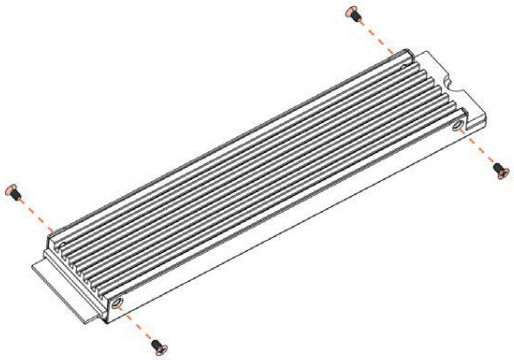


3. Remove the disk assembly.

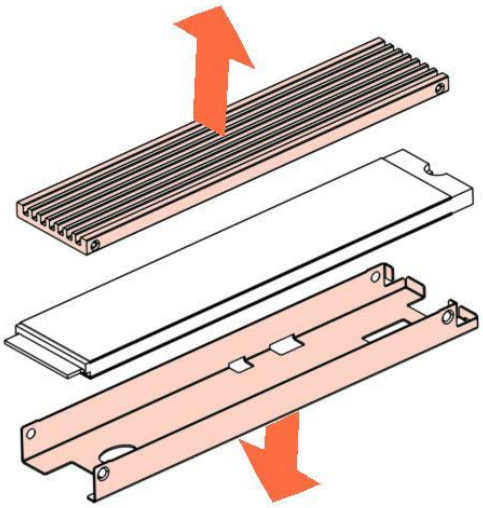
Top view



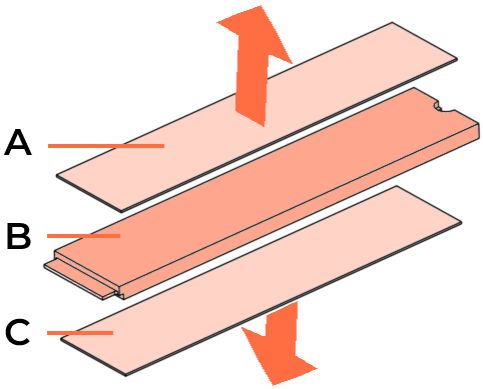
4. Disassemble the disk:
   a. Remove the screws.



   b. Remove the heat sink cover and the heat sink base.



c. Remove the thermal pads (A, C) from the M.2 NVMe card (B).



2.12 PCIe card

2.12.1 Type and number of fastening technique(s)

- Nine screws per Full Height Full Length (FHFL) card
- Seven screws per Half Height Full Length (HHFL) card

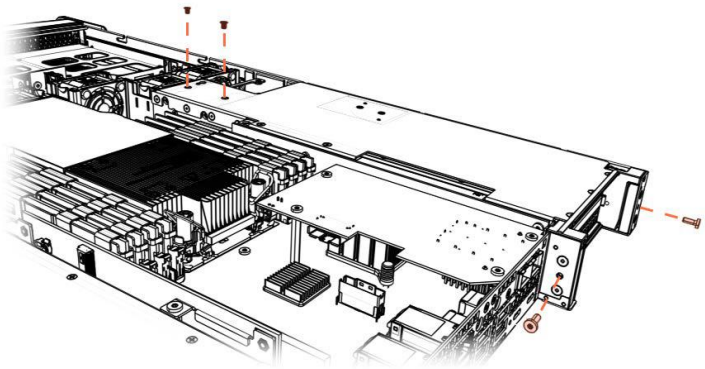
2.12.2 Required tools

- Cross-headed screwdriver
- T10 Torx screwdriver

2.12.3 Procedure

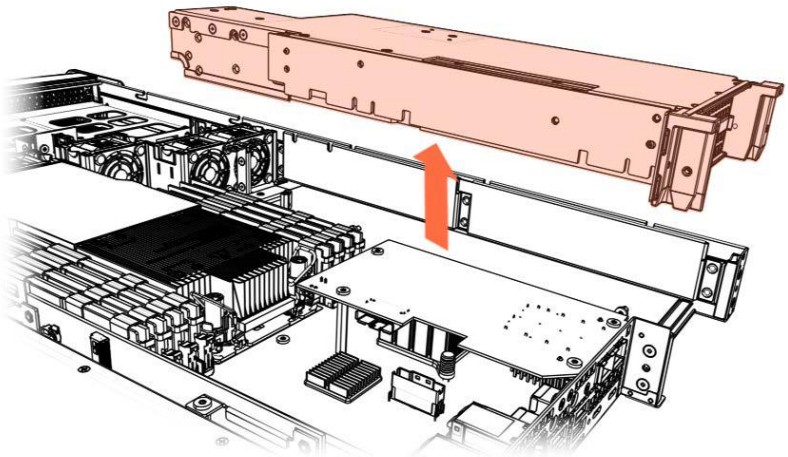
1. Remove the screws.

Side view

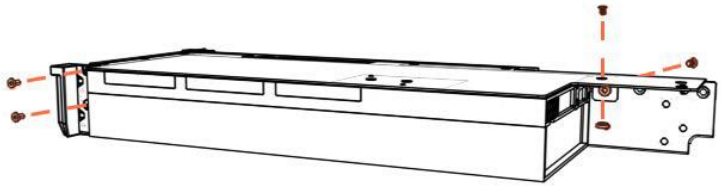


2. Remove the PCIe assembly.

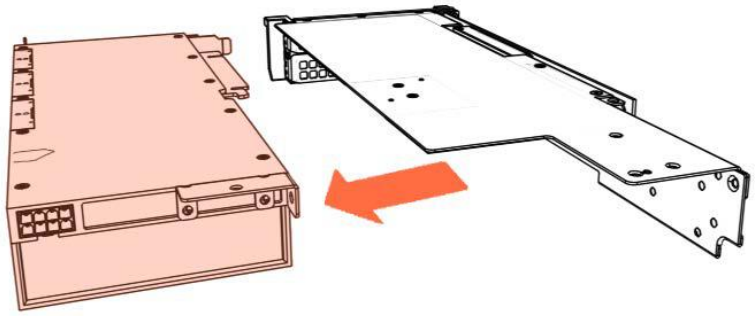
Side view



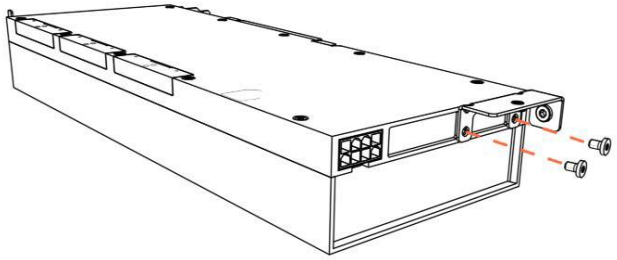
3. FHFL cards:
   a. If required, disconnect the cable from the card.
   c. Remove the screws and nuts.



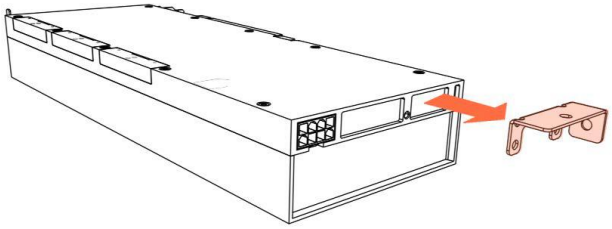
   d. Remove the PCIe card.



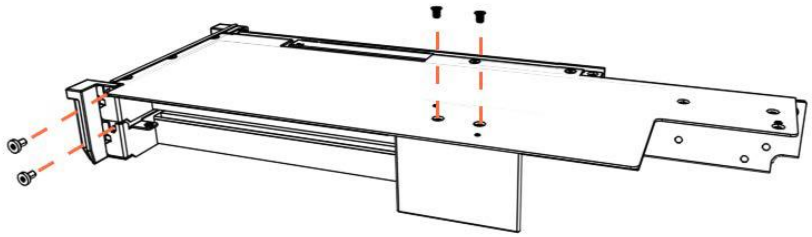
   e. Remove the bracket at the front of the card:
      i. Remove the screws.



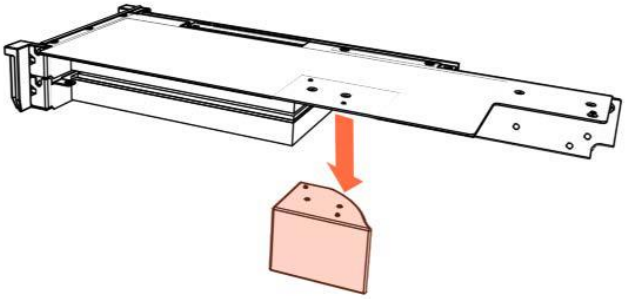
      ii. Remove the bracket.



4. HHFL cards:
   a. Remove the screws.



   b. Remove the support bracket.



   c. Remove the PCIe card.

2.13 Processor and heat sink

2.13.1 Type and number of fastening technique(s)

- Two screws
- Four captive screws

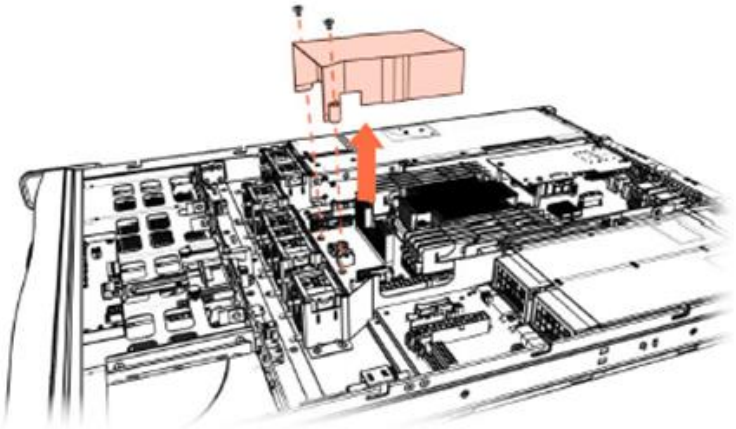
2.13.2 Required tools

- T30 Torx screwdriver
- T10 Torx screwdriver

2.13.3 Procedure

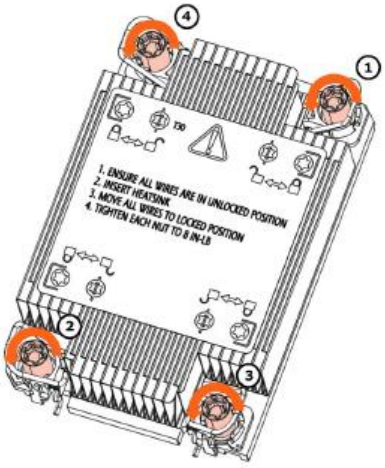
1. Remove the processor air duct:
   a. Loosen the screws.
   b. Remove the air duct.

Side view



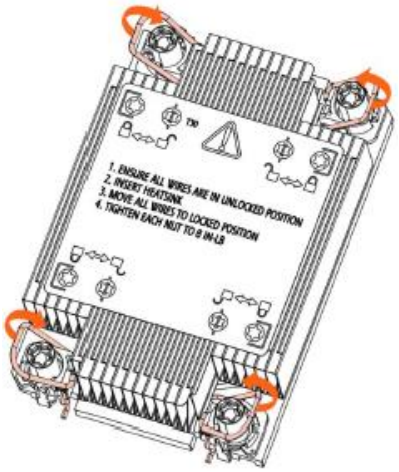
2. Remove the processor assembly:
   a. Partially loosen the screws of the heat sink in the order shown below.

Top view



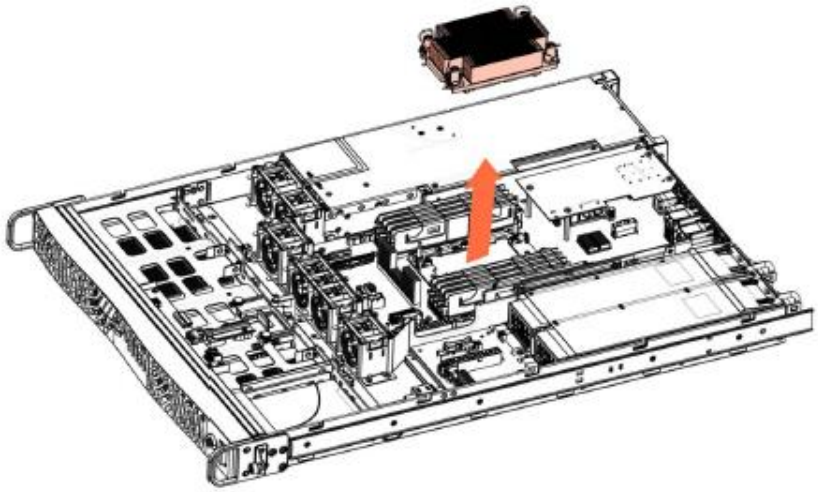
f. Completely loosen the screws in the same order.
g. Open the latches of the anti-tilt mechanism to unlock the heat sink.

Top view



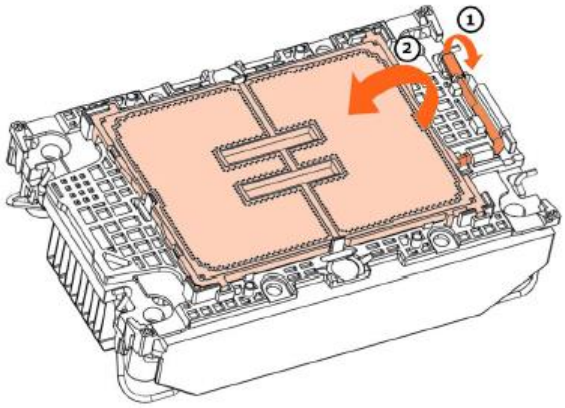
h. Remove the assembly.

Side view



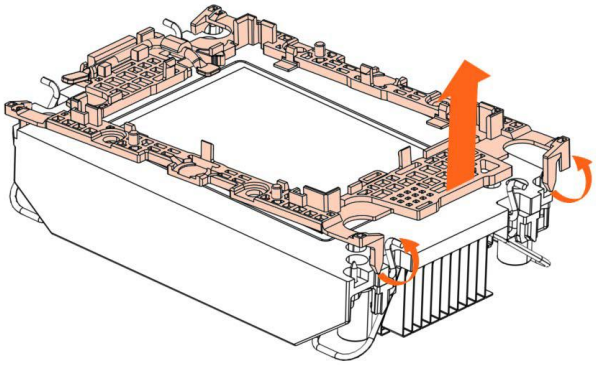
3. Remove the processor:
   a. Lift the handle of the plastic holder up.
   b. Remove the processor.

Bottom view



   c. Remove the plastic holder by pulling the corner strips up.

Bottom view



2.14 M.2 NVMe disk tray – EXD & AI100D

2.14.1 Type and number of fastening technique(s)

Four plungers.

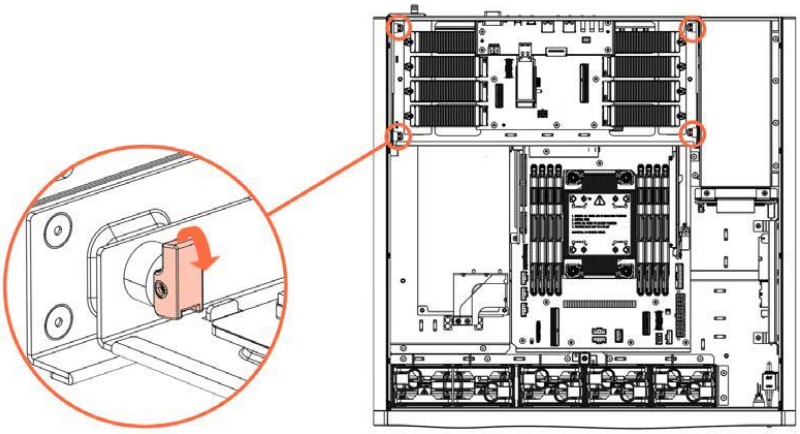
2.14.2 Required tools

None.

2.14.3 Procedure

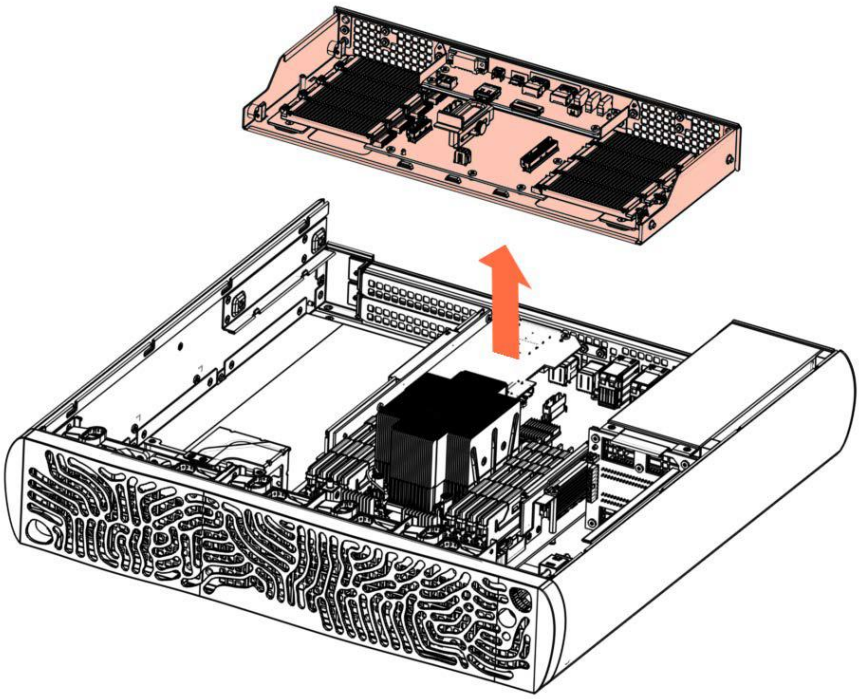
1. Rotate the plungers of the tray downwards.

Top view



2. Lift the tray up.

front view



2.15 Batteries

2.15.1 Type and number of fastening technique(s)

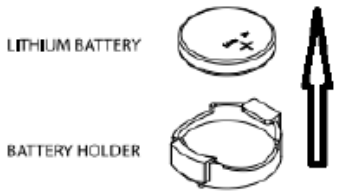
One latch.

2.15.2 Required tools

None.

2.15.3 Procedure

Push aside the small clamp that covers the edge of the battery. When the battery is released, lift it out of the holder.



2.16 Motherboard – EXR & AI100R

2.16.1 Type and number of fastening technique(s)

Thirteen screws.

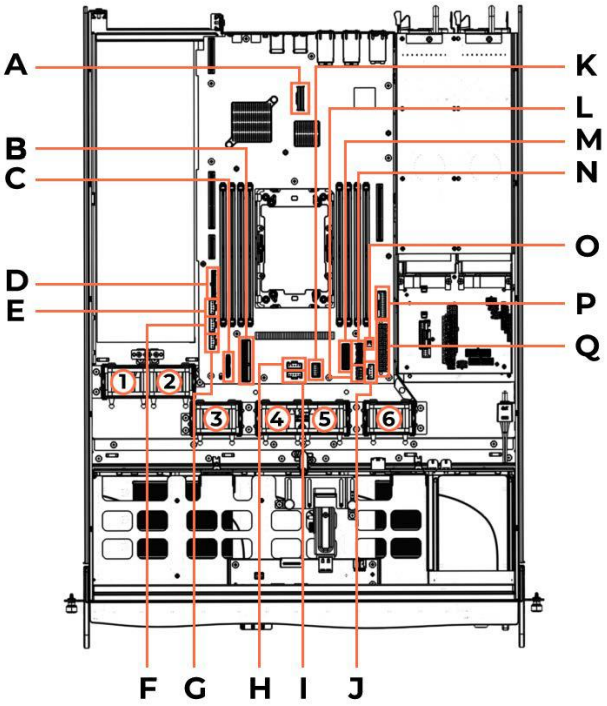
2.16.2 Tools required

T10 Torx screwdriver.

2.16.3 Procedure

1. Disconnect the cables from the motherboard.

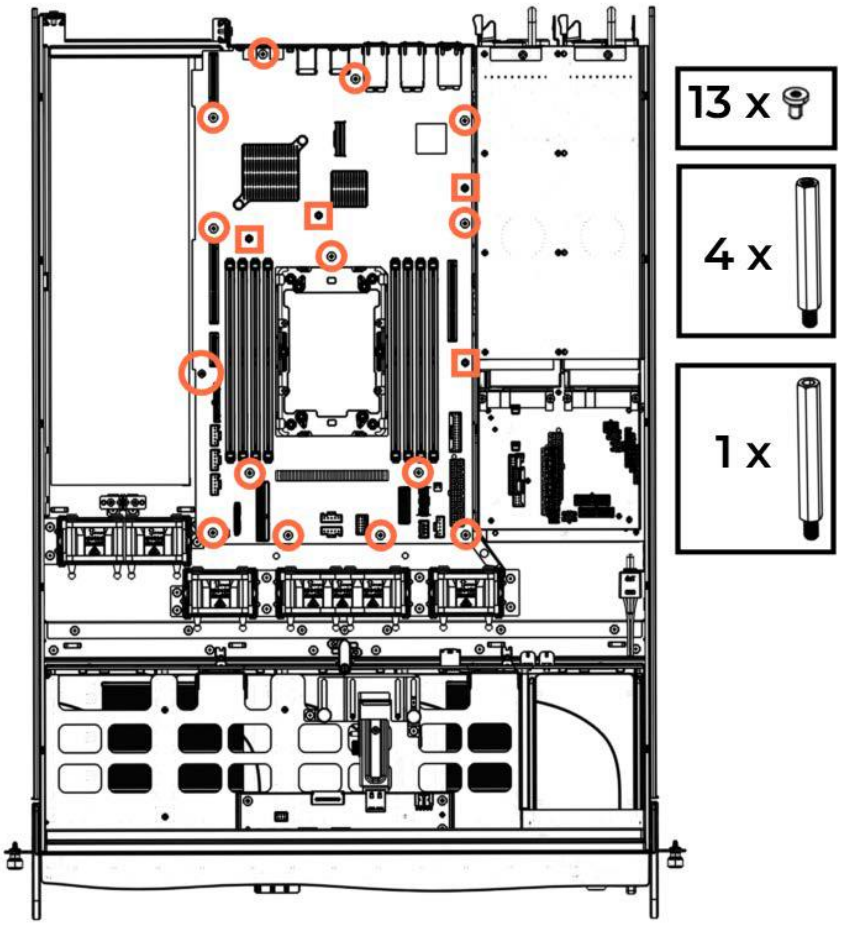
Top view



Mark	Description	Mark	Description
A	SATA signal cable	**I**	Fan 5 power cable
B	NBB 124 signal cable	**J**	Fan 6 power cable
C	Front panel power cable	**K**	SBB management cable
D	GPU power cable	**L**	Front panel power cable
E	Fan 1 power cable	**M**	NBB 74 signal cable
F	Fan 2 power cable	**N**	10G Mezzanine signal cable or NBB 50 signal cable
G	Fan 3 power cable	**O**	Intrusion switch cable
H	Fan 4 power cable	**P**	Power signal cable
		Q	Power cable

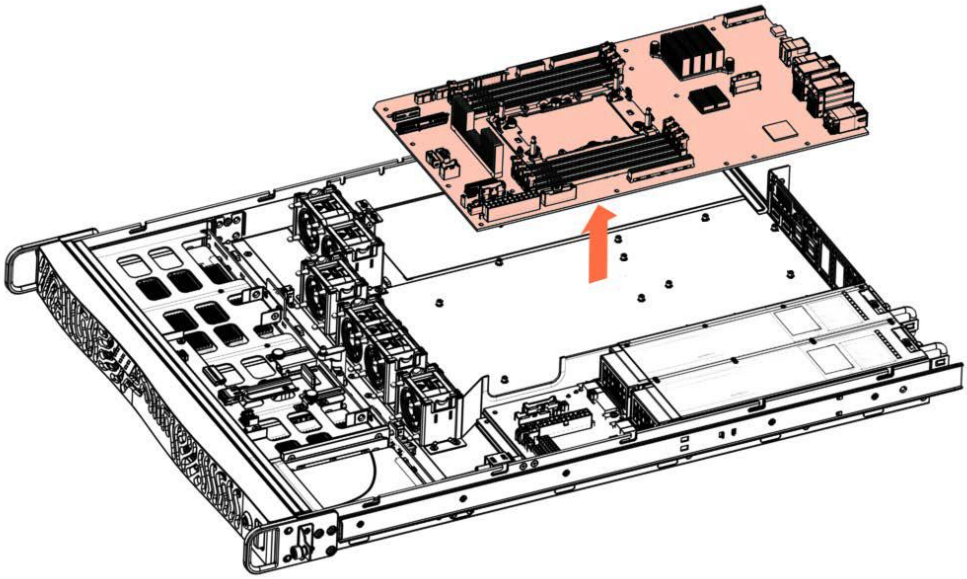
2. Remove the thirteen screws.

Top view



3. Lift the motherboard up.

Side view



2.17 Motherboard – EXD & AI100D.

2.17.1 Type and number of fastening technique(s).

Thirteen screws.

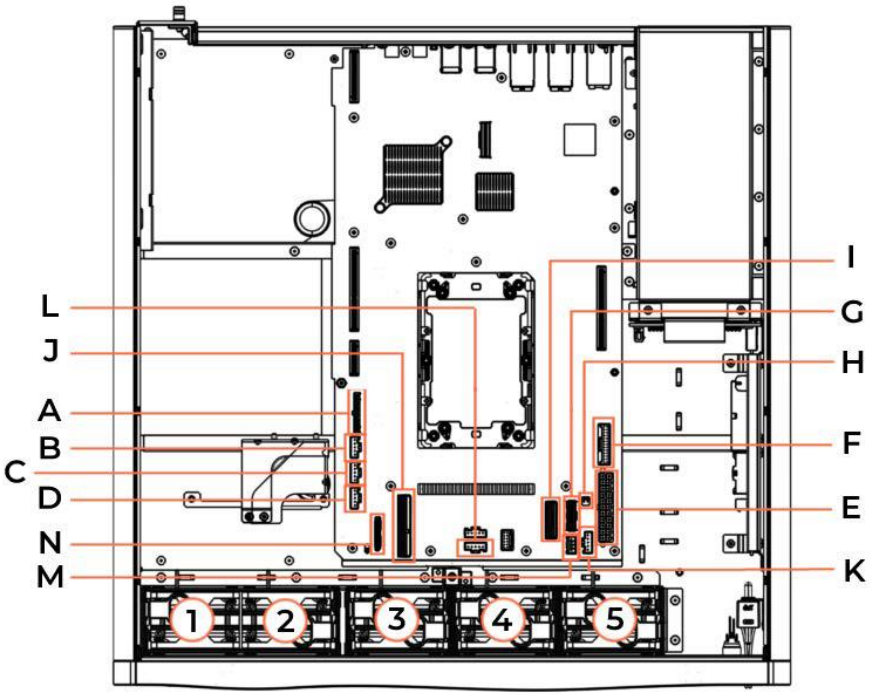
2.17.2 Tools required

T10 Torx screwdriver.

2.17.3 Procedure

1. Disconnect the cables from the motherboard.

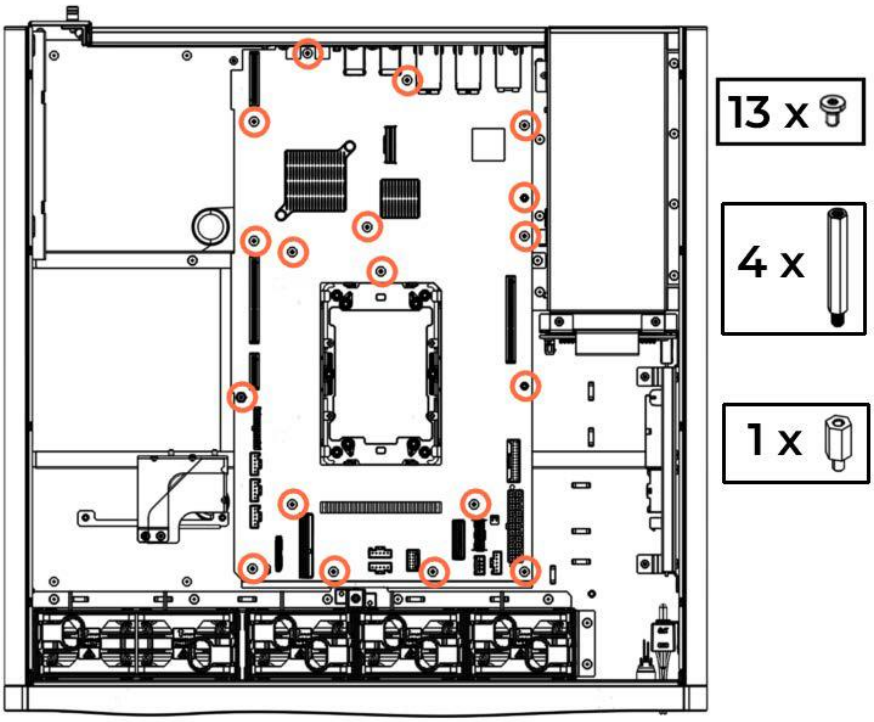
Top view



Mark	Description	Mark	Description
A	GPU power cable	**I**	NBB 74 Signal Cable
B	Fan 1 power cable	**J**	NBB 124 Signal Cable
C	Fan 2 power cable	**K**	Fan 4 power cable
D	Fan 3 power cable	**L**	Fan 5 power cable
E	Power cable	**M**	Front Panel Power Cable
F	Power signal cable	**N**	Front Panel Signal Cable
G	10G Mezzanine signal cable		
H	Intrusion switch cable		

2. Remove the thirteen screws.

Top view



3. Lift the motherboard up.

Side view

2.