

GPTrack.ai GH200 Manual

Version 1.9 / August 2025

2025 GPT LLC

For the latest information and updates, please see <https://GPTrack.ai>

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Quickstart:

Username and password for the BMC:

Username: root

Password: 0penBmc (zero!!!)

Username and password for the preinstalled OS (optional):

Username: x

Password: xy

1.) Install OS

Ubuntu Server for ARM: <https://cdimage.ubuntu.com/releases/24.04/release/ubuntu-24.04.2-live-server-arm64+largemem.iso>

2.) Install Nvidia kernel

```
sudo DEBIAN_FRONTEND=noninteractive apt purge linux-image-$(uname -r) linux-headers-$(uname -r) linux-modules-$(uname -r) -y
```

```
sudo apt update
```

```
sudo apt install linux-nvidia-64k-hwe-24.04 -y
```

```
sudo reboot
```

3.) Install Drivers

```
curl -O https://us.download.nvidia.com/tesla/580.65.06/NVIDIA-Linux-aarch64-580.65.06.run
```

```
sudo apt install build-essential
```

```
sudo sh 580.65.06/NVIDIA-Linux-aarch64-580.65.06.run
```

System specifications:

Nvidia GH200 Grace Hopper Superchip

72-core Nvidia Grace CPU

Nvidia H200 Hopper Tensor Core GPU

480GB of LPDDR5X memory with EEC

144GB of HBM3e memory

624GB of total fast-access memory

NVlink-C2C: 900 GB/s of bandwidth

Programmable from 400W to 1000W TDP (CPU + GPU + memory)

2x High-efficiency 2000W PSU

2x PCIe gen4 M.2 slots on board
2x PCIe gen5 2.5" drive slots (NVMe)
3x FHFL PCIe Gen5 x16
1x USB 3.2 port
1x RJ45 IPMI port
1x Mini display port
1x Micro USB port
Halogen-free LSZH power cables
Stainless steel cage nuts
Air-cooled 6x60mm fans
Rail kit

TPM (optional, SPI mode)
ACPI compliance, S0, S5 support

System rating:
100-120Vac, 50/60Hz, 10A
200-240Vac, 50/60Hz, 10A

System management: IPMI v2.0 Compliant, on board "KVM over IP" support, Dedicated GbE management NIC port from PHY RTL8211FS to BMC
Operating environment:

Operating temperature: 0°C to 35°C (41°F to 95°F) at 1829M and up to 50°C at 0M. (No performance drop)

Non-operating temperature: -40°C to 70°C (-40°F to 158°F)

Operating relative humidity: 5% to 85%RH

Non-operating relative humidity: 50% to 93%RH

Package Contents

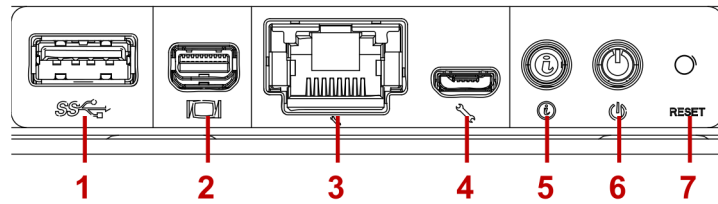
1x GH200 624GB rack server

2x Power cord

1x Rail kit

1x Stainless steel cage nuts

System Rear I/O

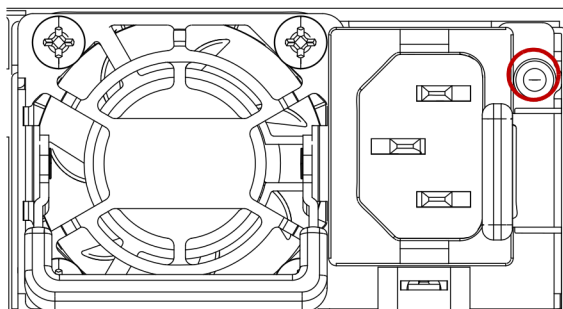


System Rear I/O

System Rear I/O Definition

No.	ICON	NAME	DESCRIPTION
1		USB 3.0 port	Connect to USB device Note: The USB device connected must be: No bigger than 17.7 mm (W) x 9.5 mm (H) to avoid interference with other ports.
2		Mini-DP connector	Maximum display resolution: 1920x1200 32bpp@60Hz (reduced blanking)
3		Dedicated NIC	Dedicated RJ45 connector
4		Micro USB port	Transmit in serial signal for debug or terminal concentrator
5		Location button/LED	Press to trigger on/off ID LED. Blue blinking - Identifier; Off - Normal.
6		Power button/LED	Press to power on the system. Press and hold for four seconds to power off the system. Blue blinking - System power off; On - System power on.
7		Reset button	Press to reset the system

Power Sub-System



PSU to Mainboard Module Description

Two power supply unit are supplied in the system. A secondary PSU is available for redundancy functionality.

Redundant AC Power Supply Units by Model

PSU	AC INPUT
(2) 2000W 73.5mm Platinum PSU	100-240VAC 50/60Hz, AC support

Power Supply Unit LED

PSU LED COLOR	DESCRIPTION
Green On	Output ON and OK
Green Blinking	AC present / Only VSB ON
Amber On	AC Lost; with a second PSU in parallel still with AC input power. PSU critical event causing a shutdown; failure, OCP, OVP, Fan Fail.
Amber Blinking @1Hz	PSU warning events where the PSU continues to operate; high temp, high power, high current, slow fan, UV.

BMC

How to connect to the BMC:

Connect a network cable to the dedicated IPMI port. Get the IP.

Open browser and enter IP: <https://192.168.178.x>

Standard username and password for BMC

username: root

password: 0penBmc (zero!!!)

Firmware Update

Download the firmware from <https://GPTrack.ai>

Select update firmware in BMC to update (use tar file, do not extract).

Operating system

Standard username and password for the preinstalled OS (optional):

username: x

password: xy

Install the OS yourself:

Example Ubuntu (standard):

Download the version you would like to have.

Ubuntu Server for ARM: <https://ubuntu.com/download/server/arm>

Install with USB stick or over network via BMC (slower).

With older versions (not recommended) you might need to select the HWE kernel. Using the newest Nvidia 64k kernel is highly recommended:

<https://packages.ubuntu.com/search?keywords=linux-nvidia-64k-hwe>

If you want to install a Nvidia kernel (highly recommened) do it like this:

```
sudo DEBIAN_FRONTEND=noninteractive apt purge linux-image-$(uname -r) linux-headers-$(uname -r) linux-modules-$(uname -r) -y
```

```
sudo apt update
```

```
sudo apt install linux-nvidia-64k-hwe-24.04
```

```
sudo reboot
```

Drivers

There are two main ways to install the Nvidia drivers

1.) Via Nvidia driver installer

Download Nvidia GH200 drivers: <https://www.nvidia.com/Download/index.aspx?lang=en-us>

Select product type "data center", product series "HGX-Series" and operating system "Linux aarch64"

Copy the download url (may change with version and over time)

example:

```
curl -O https://us.download.nvidia.com/tesla/xxx/NVIDIA-Linux-aarch64-xxx.run (xxx = version number)
```

```
sudo apt install build-essential
```

```
sudo sh NVIDIA-Linux-aarch64-xxx.run -m=kernel-open (xxx = version number)
```

2.) Via package installer (example Ubuntu)

Check the version if already installed:

```
cat /proc/driver/nvidia/version
```

List possible driver for install

For servers:

```
sudo ubuntu-drivers list --gpgpu
```

Automatic install (desktop):

```
sudo ubuntu-drivers install
```

Installing the drivers on servers

```
sudo ubuntu-drivers install --gpgpu
```

You will also want to install the following additional components:

```
sudo apt install nvidia-utils-xxx-server (xxx = version number)
```

Alternatively, manual driver installation (using APT)

```
sudo apt install nvidia-driver-xxx (xxx = version number)
```

Software

Nvidia CUDA

There are two ways to install Nvidia CUDA

1.) Nvidia installation guide:

<https://docs.nvidia.com/cuda/cuda-installation-guide-linux/contents.html>

Download from:

https://developer.nvidia.com/cuda-downloads?target_os=Linux&target_arch=arm64-sbsa

2.) Via package intaller (example Ubuntu)

```
sudo apt install nvidia-cuda-toolkit
```

```
sudo apt install nvidia-cuda-dev (optional)
```

Nvidia resources

Official Nvidia GH200 Manual: <https://docs.nvidia.com/grace/#grace-hopper>

Official Nvidia Grace Manual: <https://docs.nvidia.com/grace/#grace-cpu>

Official Nvidia Grace getting started: <https://docs.nvidia.com/grace/#getting-started-with-nvidia-grace>

Agenda

- Mother Board Key Connector Location
- Product Specification
- System LED Information
- System Assembly Instruction with Superchip SOP
- System Bring Up
- How to enter BIOS Menu
- ME System Overview
- System FW Upgrade User Guide
- System Software Information

Mother Board Key Connector Location:

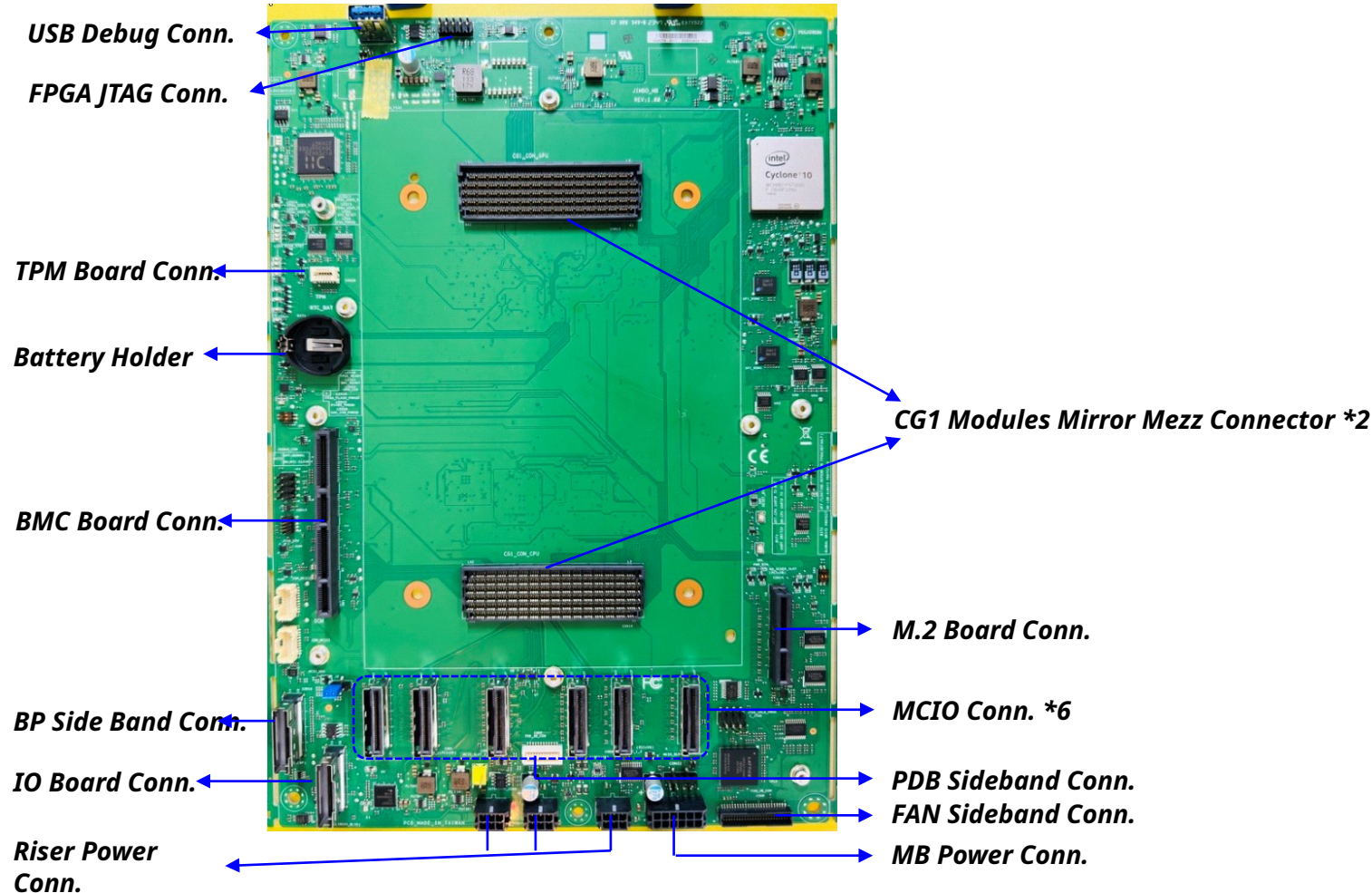
FW version for DVT Sample:

BIOS Version: 0.02.2436

BMC Version: 0.02.243801

FPGA Version: 0.96

CPLD Version: 0.2.2



Product Specification

Specifications	2U
Form Factor / Dimension	2U MGX chassis(W x H x D) : 438mm x 87mm x 900mm (w/ extended cage) MB dimension: Micro LEGO Board (210mm x 305.59mm x 2mm)
Superchip	Nvidia GH200 Grace Hopper Superchip, up to 1000W Up to 480GB of LPDDR5X memory with error-correction code (ECC)
System Memory	Including in Superchip
Storage	• Up to 2 x 2.5" PCIe Gen5 x4 U.2 NVMe SSD (Directly from MB) • 2 x M.2 PCIe Gen4 x4 NVMe 22110/2280 SSD (Onboard; for OS usage)
Expansion slots	• 1 x PCIe Gen5 x16 (FHFL, 1RU Type 1 Long, Front right-hand Top side) • 1 x PCIe Gen5 x16 (FHFL, 1RU Type 1 Long, Front right-hand Down side) both with ConnectX-7 200G or BlueField3 200G Card • 1 x PCIe Gen5 x16 (FHHL, 2RU Type 1 Short, Front middle side) with Broadcom HBA 9500-16i
IO board (2RU Type 1-short, Front middle side)	• 1 x USB3.2 Gen1x1 Type-A • 1 x Mini DP (Display Port from BMC) • 1 x RJ45 GLAN (MGMT) • 1 x USB2.0 Micro-B (For BMC Debug) • 1 x ID button/LED • 1 x PWR button/LED • 1 x Reset button
Security	TPM 2.0 (Infineon SLB9670VQ20)
Fan	6 x 6056mm fan
Power Supply	1+1 2000W Titanium CRPS PSU (Hot plug, Rear side), AC 90V~264V, support redundant under AC 220~240V

System LED Information

Motherboard – All LEDs are only for NPI Debug indicators.

LED	Signal	Color	Note	Functionality Description
LED10: FPGA READY	FPGA_READY_L	Green	STANDBY POWER READY LED	Debug only
LED11: BMC READY	BMC_READY	Green	STANDBY POWER READY LED	Debug only
LED12: HPM STBY ENABLE	HPM_STBY_EN	Green	STANDBY POWER READY LED	Debug only
LED18: PWR_FLASH PWR READY	PWR_FLASH	Green	STANDBY POWER READY LED	Debug only
LED4: PIV8_STBY PWR READY	PIV8_STBY	Green	STANDBY POWER READY LED	Debug only
LED5: CPU SYSTEM RESET	SYS_RST_CPU0_3V3_L	Green	Main PWR READY LED	Debug only
LED19: PIV05_USB PWR GOOD	PIV05_PG	Green	Main PWR READY LED	Debug only
LED20: PIV0_VDD PWR GOOD	PIV0_PG	Green	Main PWR READY LED	Debug only
LED14: FPGA_USER_LED_GREEN	FPGA_USER_LED_GREEN	Green		Debug only
LED15: FPGA_USER_LED_ORANGE	FPGA_USER_LED_ORANGE	Yellow		Debug only
LED16: FPGA_USER_LED_YELLOW	FPGA_USER_LED_YELLOW	Yellow Green		Debug only
LED17: FPGA_USER_LED_RED	FPGA_USER_LED_RED	Yellow Green		Debug only
LED1: PCIESW_CLKREQ0	PSW_CLKREQ0	Green	LED BEHAVIOR LINK DOWN...LED IS ALWAYS 0 GEN1 LINK UP...LED IS FLASH GEN2 LINK UP...LED IS ALWAYS 1	Debug only
LED2: PCIESW_CLKREQ1	PSW_CLKREQ1	Green		Debug only
LED3: PCIESW_CLKREQ2	PSW_CLKREQ2	Green		Debug only
LED21: CPLD_GATE_LED	CPLD_GATE_LED	Green		Debug only

System LED Information

M.2 Riser Board LEDs

LED	Signal	Color	Functionality Description
LED1:NVME Access LED	LED_M2_0_ACT_N	Green	Blinking = I/O Activity
LED2:NVME Access LED	LED_M2_1_ACT_N	Green	Blinking = I/O Activity

IO Board-System Front side LEDs

LED	Description	Color	Functionality Description
CON23: RJ45 -Left : Link -Right: Active	Link Status	Active LED Link/Activity	
	Link	Active	Steady Green
	Linked at 10 Mbps	Link	OFF
		Active	Blinking Green
	Linked at 100 Mbps	Link	Amber
		Active	Blinking Green
	Linked at 1 Gbps	Link	Green
		Active	Blinking Green
SW1: RESET BTN	RESET BTN LED	N/A	Reset BTN ON - system reboot
SW2: PWR BTN with LED	PWR BTN LED	Blue	Power BTN LED Blinking with 5Hz -During Post LED ON - Post complete Power BTN OFF - LED OFF (system power off)
SW3: ID BTN with LED	ID BTN LED	Blue	ID BTN OFF - LED OFF ID BTN ON - LED ON (identify the system)

System LED Information

MCIO BP LEDs[↗]

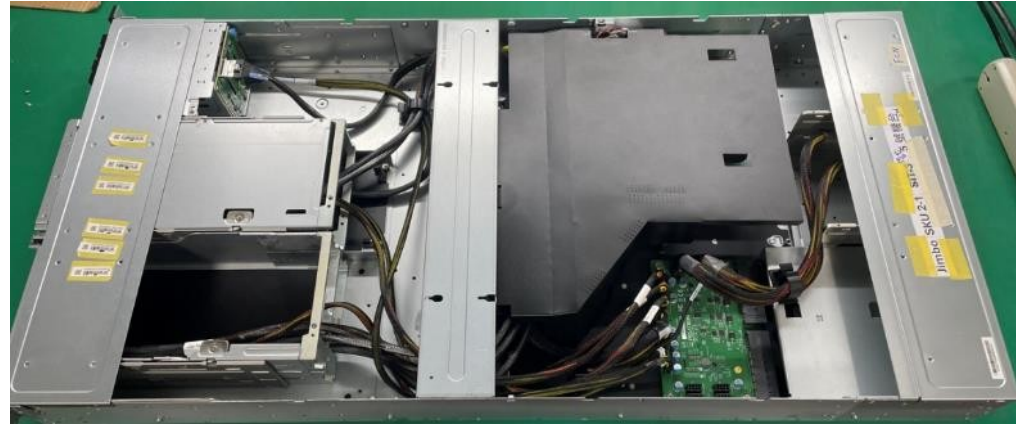
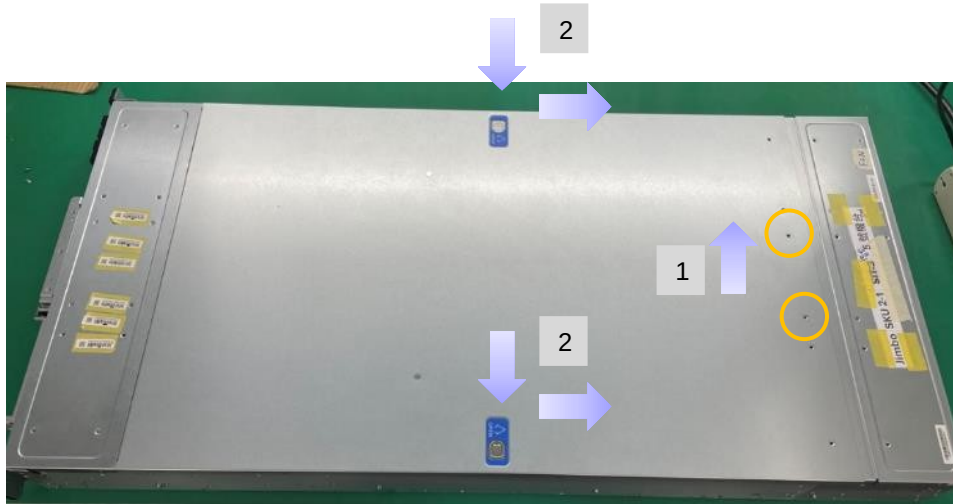
LED [↗]	Signal [↗]	Color [↗]	Functionality Test [↗]
GLED1:↓ HDD1 Access LED [↗]	HDD0_LED [↗]	Green [↗]	Solid on = Drive installed ↓ Blinking = I/O Activity [↗]
OLED1:↓ HDD1 Error LED [↗]	HDD0_LED [↗]	Orange [↗]	Solid on = It indicates a drive fault. Replace the drive. ↓ Blinking = The drive is recognized by the controller. [↗]
GLED2:↓ HDD2 Access LED [↗]	HDD1_LED [↗]	Green [↗]	Solid on = Drive installed ↓ Blinking = I/O Activity [↗]
OLED2:↓ HDD2 Error LED [↗]	HDD1_LED [↗]	Orange [↗]	Solid on = It indicates a drive fault. Replace the drive. ↓ Blinking = The drive is recognized by the controller. [↗]
GLED3:↓ HDD3 Access LED [↗]	HDD2_LED [↗]	Green [↗]	Solid on = Drive installed ↓ Blinking = I/O Activity [↗]
OLED3:↓ HDD3 Error LED [↗]	HDD2_LED [↗]	Orange [↗]	Solid on = It indicates a drive fault. Replace the drive. ↓ Blinking = The drive is recognized by the controller. [↗]
GLED4:↓ HDD3 Access LED [↗]	HDD3_LED [↗]	Green [↗]	Solid on = Drive installed ↓ Blinking = I/O Activity [↗]
OLED4:↓ HDD3 Error LED [↗]	HDD3_LED [↗]	Orange [↗]	Solid on = It indicates a drive fault. Replace the drive. ↓ Blinking = The drive is recognized by the controller. [↗]

SKU2: GLED3/OLED3/GLED4/OLED4 are disabled.[↗]

System Assembly Instruction with Superchip SOP

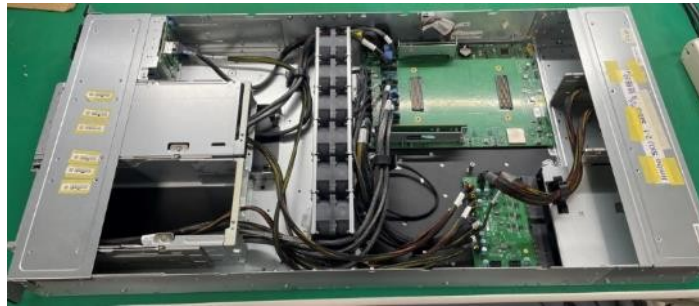
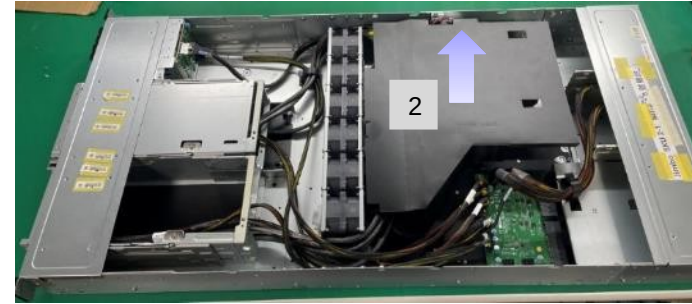
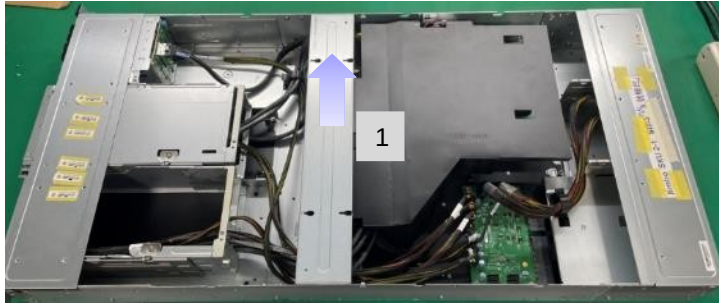
Superchip Assembly- Remove the top cover

1. Release the screws of top cover. (P.S. Keep the screws.)
2. Press the both latches and push the top cover backwards.



Superchip Assembly- Remove the fan cover & air duct

1. Remove the fan cover.
2. Remove the air duct.



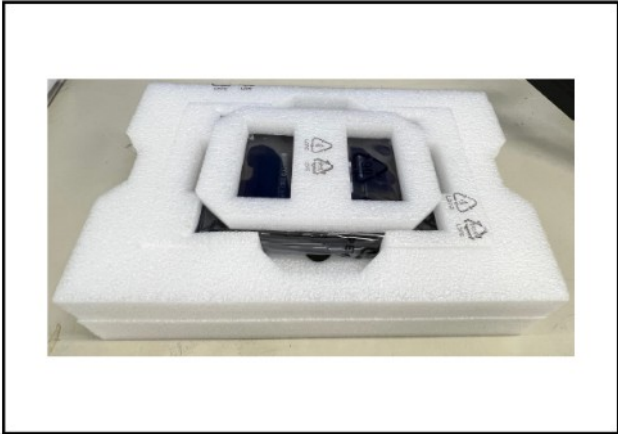
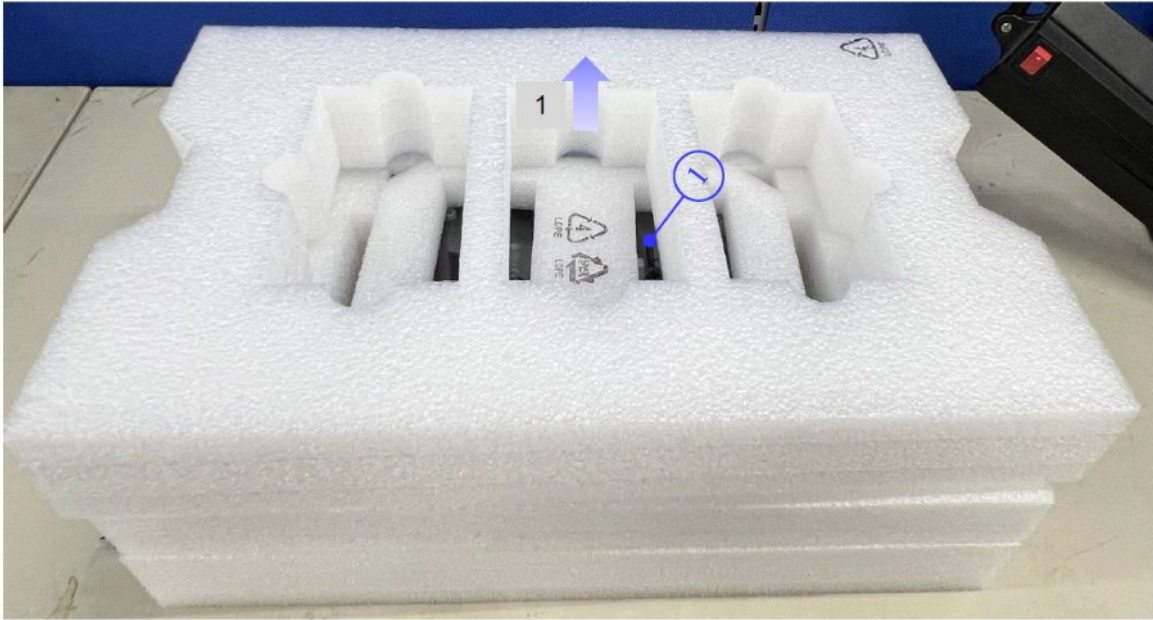
Superchip Assembly- Remove the top EPE packing

1. Remove the top EPE packing.

P.S. Keep the packing.

Some of the packaging does NOT include this part, please disregard this process.

Parts List			
Item	Description	Qty	Remark
1	Superchip	1	

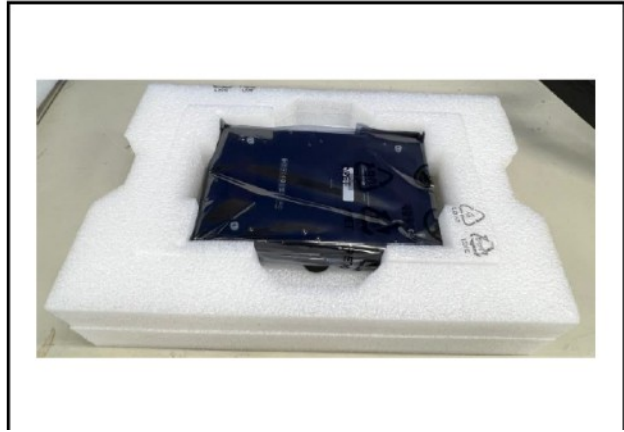


Superchip Assembly- Remove the small top EPE packing

1. Remove the small top EPE packing.

P.S. Keep the packing.

Parts List			
Item	Description	Qty	Remark
1	Superchip	1	

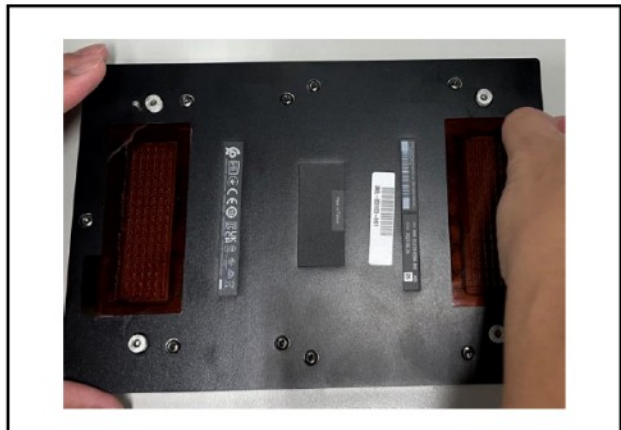


Superchip Assembly- Take out the Superchip

1. Take out the superchip from the anti-static bag.

P.S. Keep the anti-static bag.

Parts List			
Item	Description	Qty	Remark
1	Superchip	1	

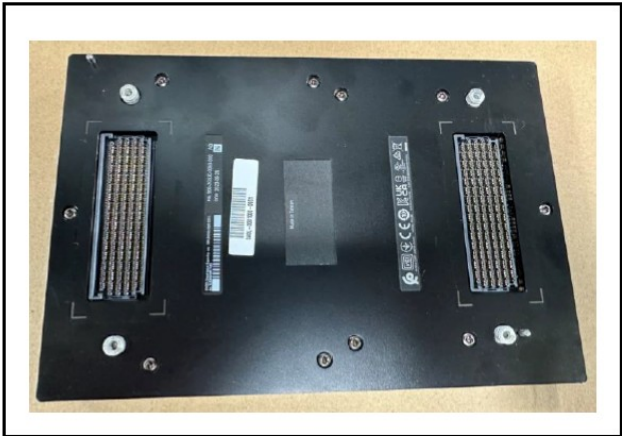
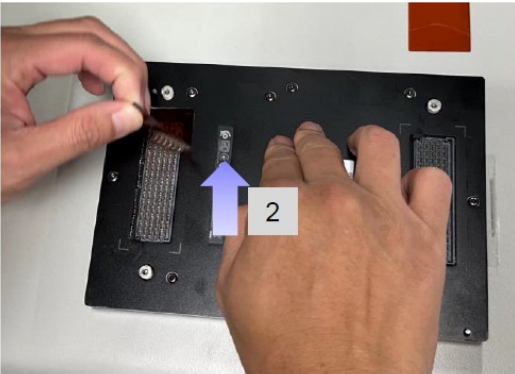
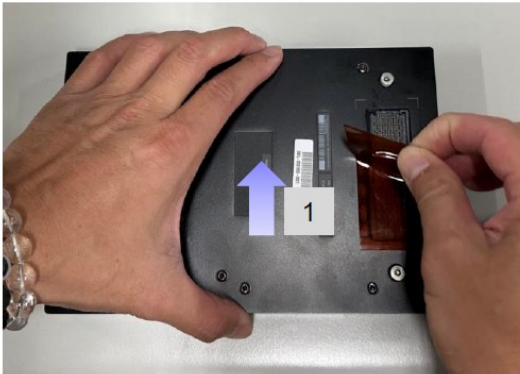
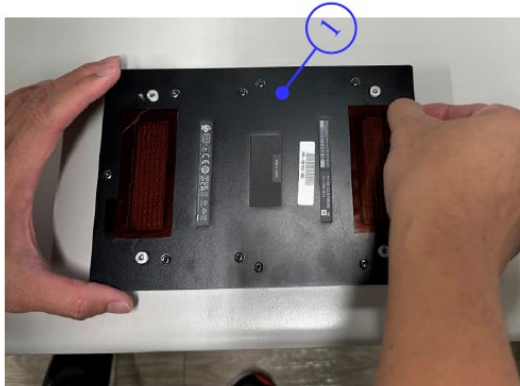


Superchip Assembly- Remove the Mylar

1&2. Remove the Mylar by the tab.

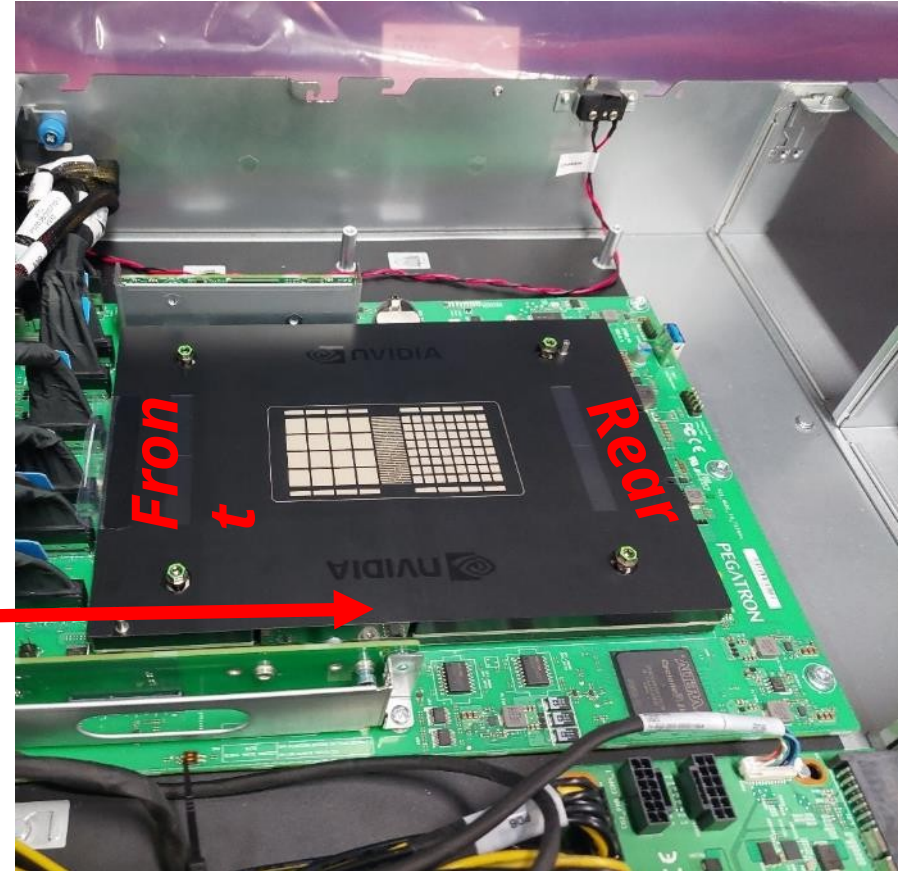
P.S. Keep the both Mylar

Parts List			
Item	Description	Qty	Remark
1	Superchip	1	



Superchip Assembly

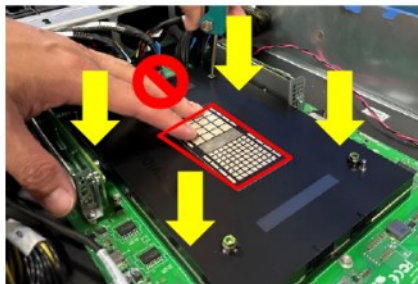
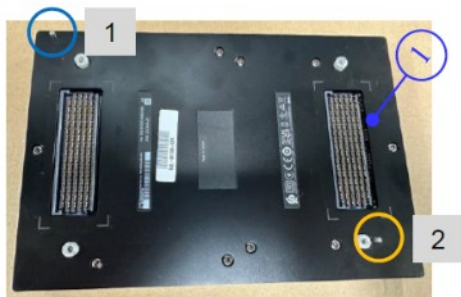
Please check your direction of Superchip module putting onto your system.



Superchip Assembly- Assemble on the MB

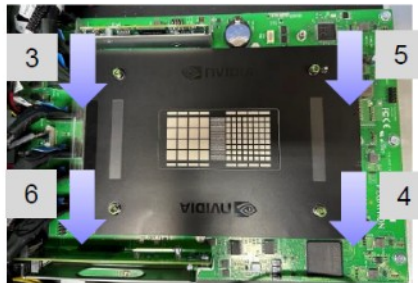
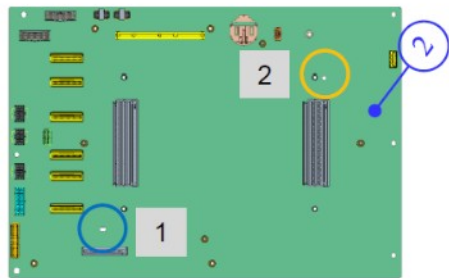
1. Use the guide pin "1" of superchip to align with the fixing holes "1" of MB .
2. Use the guide pin "2" of superchip to align with the fixing holes "2" of MB .
- 3.~6. Use the T15 screw driver to tighten the screw of superchip.

Parts List			
Item	Description	Qty	Remark
1	Superchip	1	First time: 1.15 +/- 0.1Kgf-cm Second time: 6 +/- 0.2 Kgf-cm
2	MB	1	



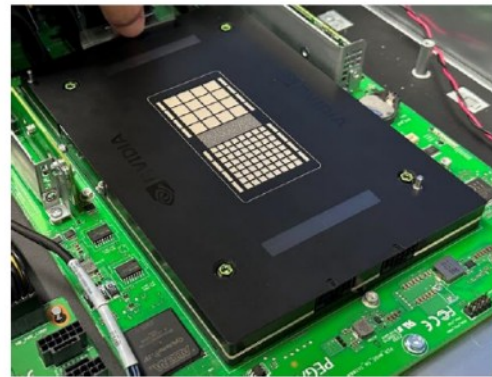
Grasp the corner of the GH200 as yellow arrows.
Install the GH200 module straight down with both hands.

Caution: Do Not press chip area in red.



Lock the super chip in place in two separate steps.

First time:
3→4→5→6 1.15 +/- 0.1Kgf-cm
Second time:
3→4→5→6 6 +/- 0.2Kgf-cm

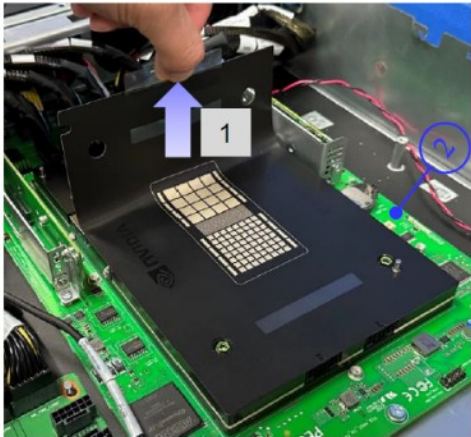
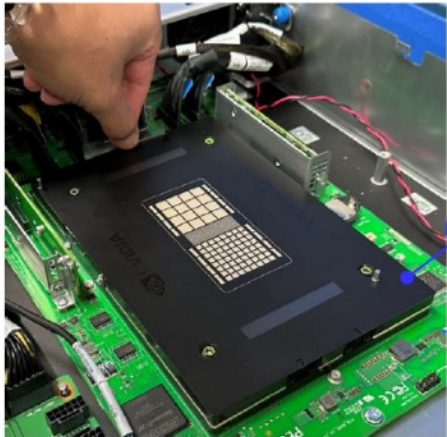


Superchip Assembly- Remove the Mylar

1. Remove the Mylar by the tab.

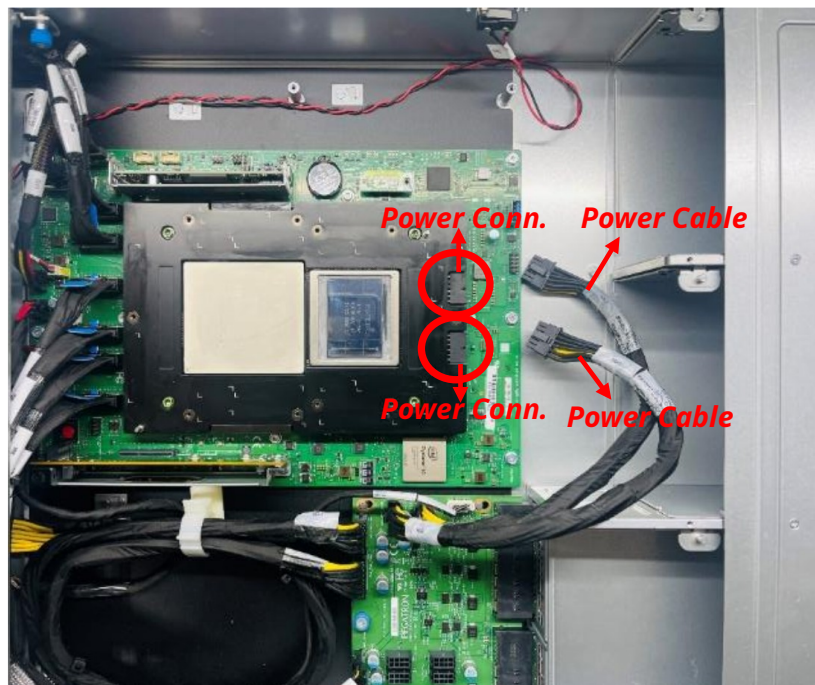
P.S. Keep the Mylar

Parts List			
Item	Description	Qty	Remark
1	Superchip	1	
2	MB	1	



System Assembly- Connect Two PWR Cables to Superchip module

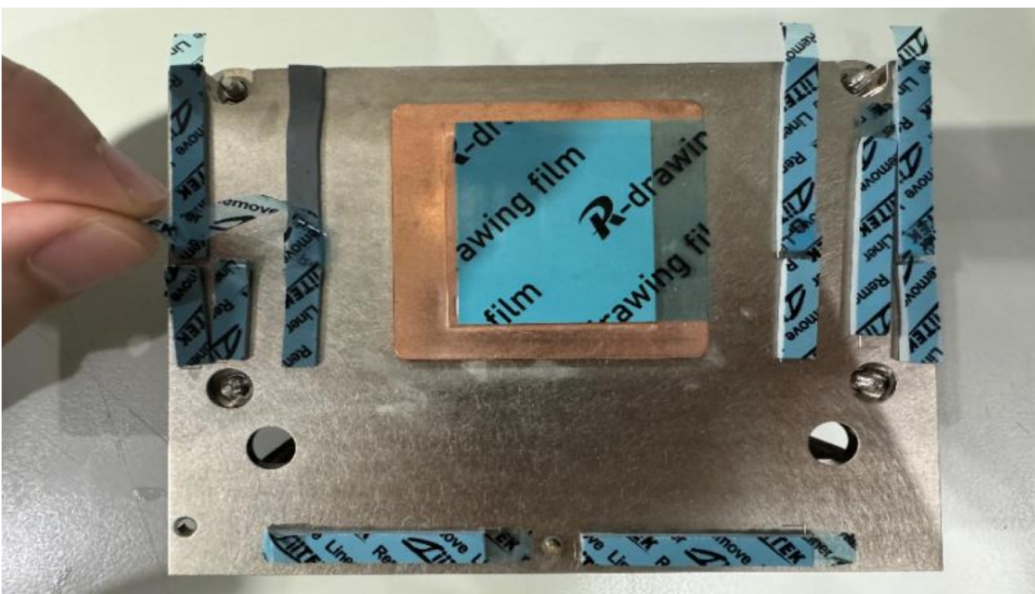
1. After Superchip module was installed properly in the system, Please connect two Power cables into rear power connector of Superchip module.



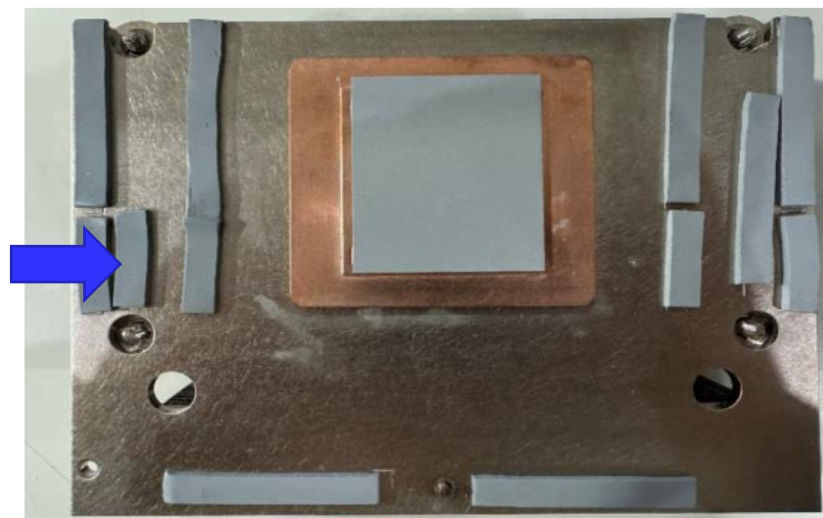
NOTICE

- **REMOVE TIM & THERMAL PAD PLASTIC SHEET!!!**

Please remember to remove plastic sheet before you install the CPU heatsink.
Thank you!



Remove plastic sheet

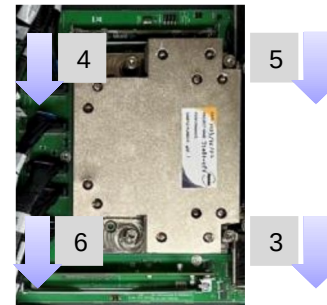
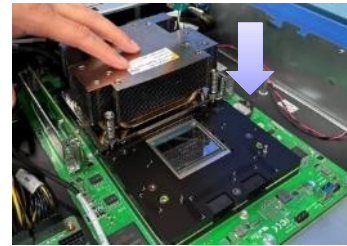
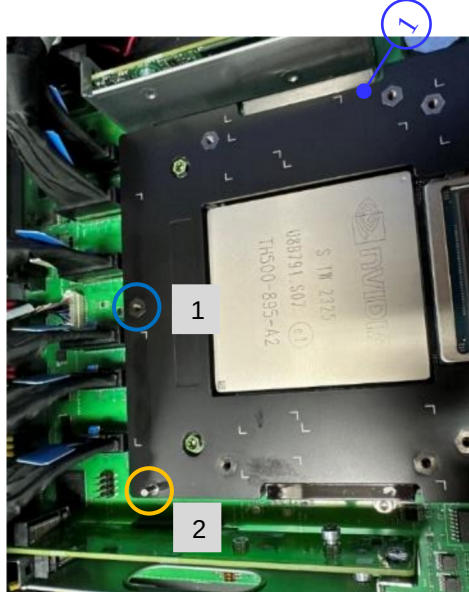
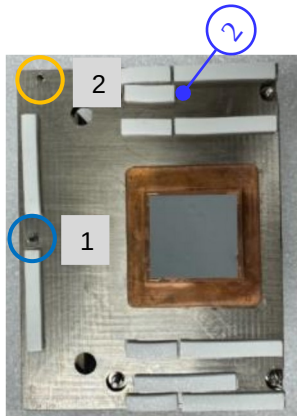


Ready for install

Superchip Assembly- Assemble the CPU heat sink

1. Use the guide pin "1" of CPU HS to align with the fixing holes "1" of superchip .
2. Use the guide pin "2" of superchip to align with the fixing holes "2" of CPU HS .
- 3.~6. Use the T15 screwdriver to tighten the screws of CPU HS.

Parts List			
Item	Description	Qty	Remark
1	Superchip	1	
2	CPU Heat Sink	1	6 +/- 0.2 Kgf-cm



3→4→5→6 6 +/- 0.2Kgf-cm

Caution:

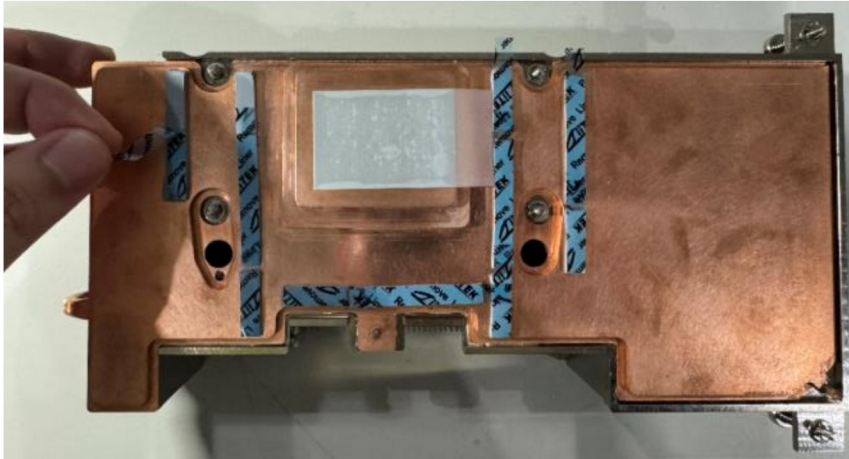
Please follow the order to tighten all screws just one or two teeth at the first time, and then tighten all screws completely at the second time.



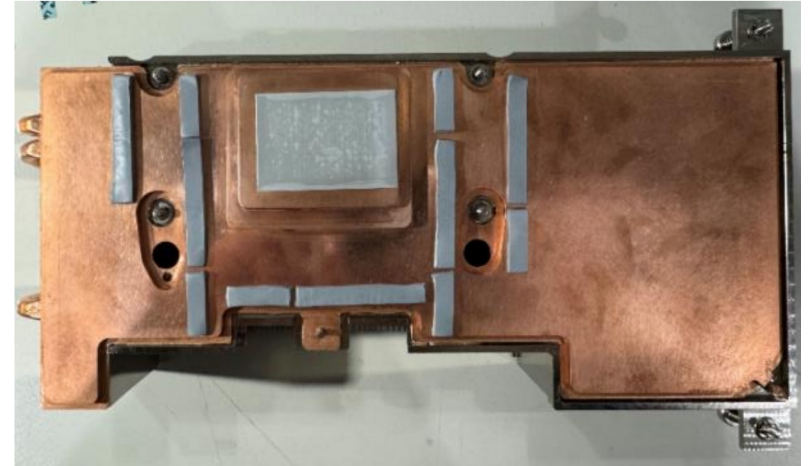
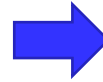
NOTICE

- **REMOVE TIM & THERMAL PAD PLASTIC SHEET!!!**

Please remember to remove plastic sheet before you install the GPU heatsink.
Thank you!



Remove plastic sheet



Ready for install

Superchip Assembly- Assemble the GPU heat sink

1. Use the guide pin "1" of GPU HS to align with the fixing holes "1" of superchip .
2. Use the guide pin "2" of superchip to align with the fixing holes "2" of GPU HS .
- 3.~8. Use the T15 screwdriver to tighten the screws of GPU HS.

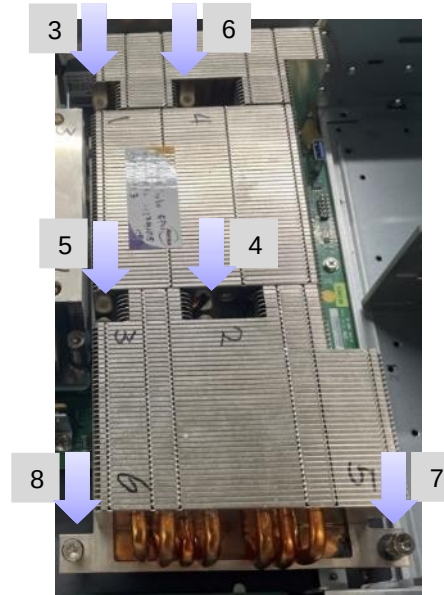
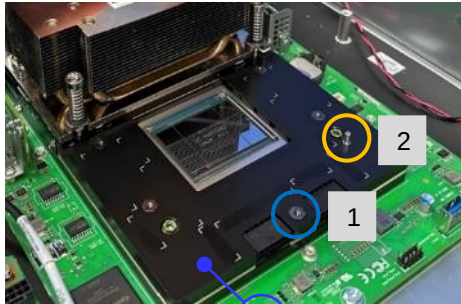
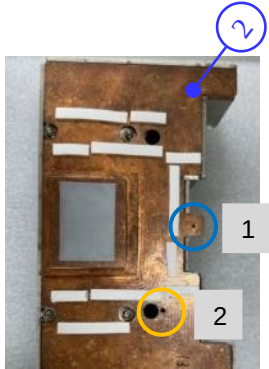
Parts List			
Item	Description	Qty	Remark
1	Superchip	1	
2	GPU Heat Sink	1	3 ~ 6: 6 +/- 0.2 Kgf-cm 7 & 8: 4 +/- 0.2 Kgf-cm

3→4→5→6 6 +/- 0.2Kgf-cm

7→8 4 +/- 0.2Kgf-cm

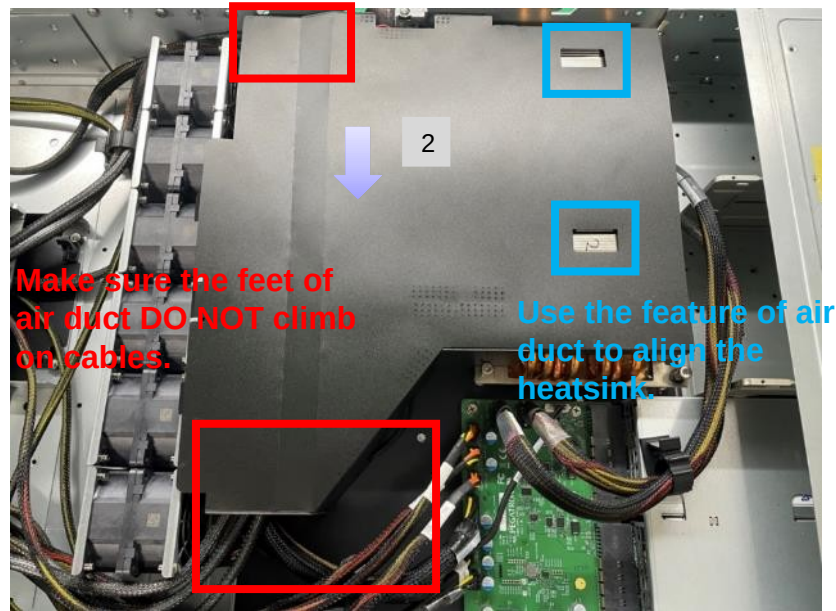
Caution:

Please follow the order to tighten all screws just one or two teeth at the first time, and then tighten all screws completely at the second time.



Superchip Assembly- Install the power cable & air duct

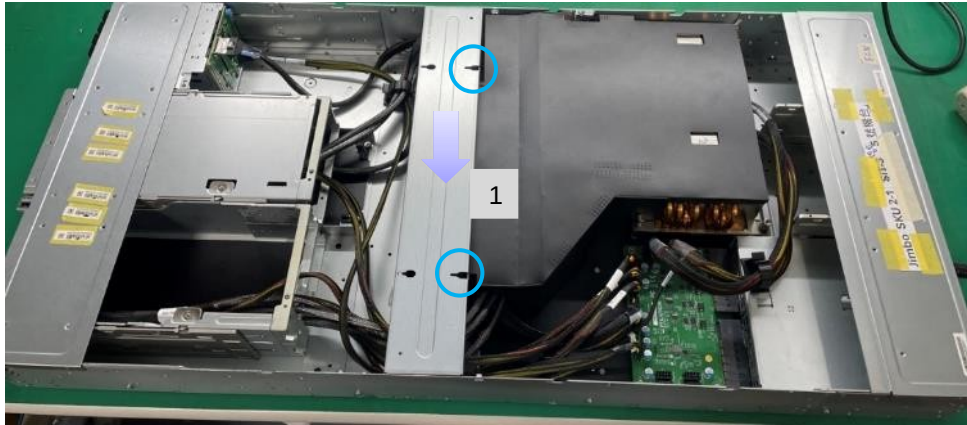
1. Install the air duct.



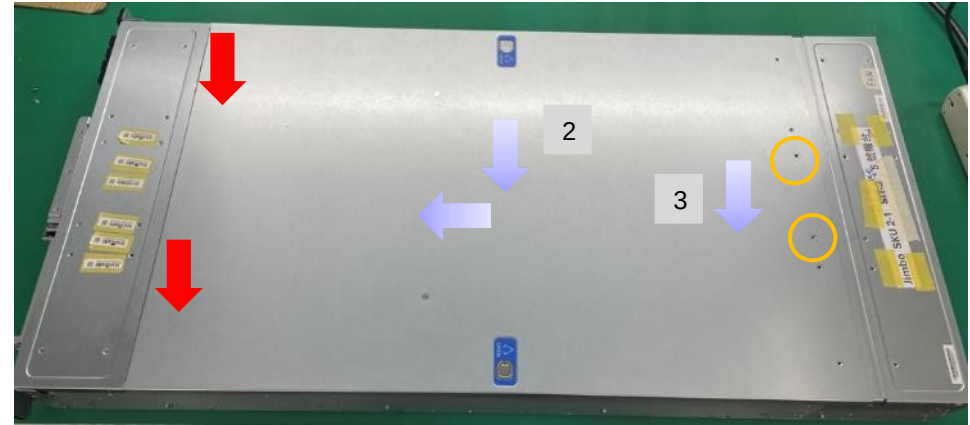
Superchip Assembly- Install the fan cover & top cover

1. Install the fan cover.
2. Put the top cover on the chassis and push forward to install it.
3. Tighten the original screws.

Make sure the larger hole is towards the back.

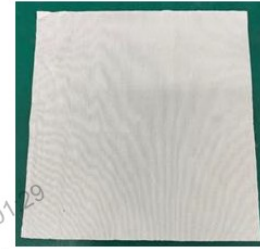
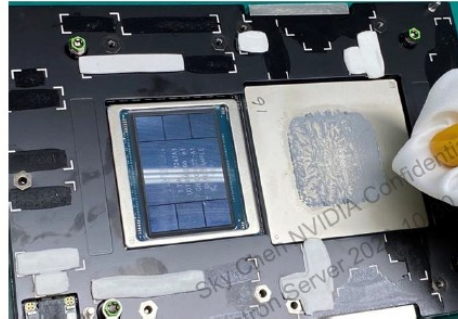
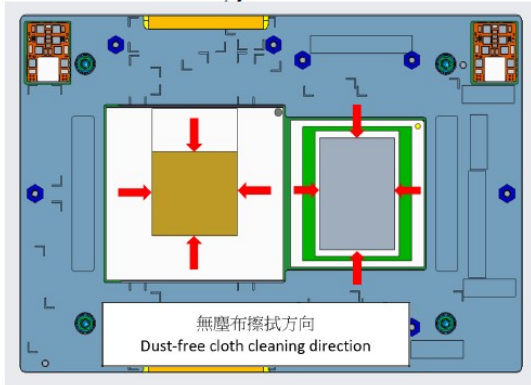


Can press here if it's not easy to insert the top cover into the chassis.



GH200 Module Removal Steps – TIM Cleaning

- After the GH200 module is removed from the baseboard, please perform TIM cleaning.
- To avoid pollution around GPU and CPU, please use dust-free cloth with Methyl alcohol, Isopropyl alcohol for cleaning, then follow red arrows on the picture below to clean off thermal grease.



Dust-free cloth



Methyl alcohol



Isopropyl alcohol

After thermal pastes on the surface of the module are removed, please follow the sequence below to clean up the surface of the module:

1. Use the dust-free cloth with Methyl alcohol to clean up the oil which mostly scatters on the surface.
2. Use the dust-free cloth with Isopropyl alcohol to clean up the oil which is deeply stained on the surface of the stiffener surface (Can use finger pulp to clean up the oil).
3. Finally, use the dust-free cloth with Methyl alcohol to clean up the melted thermal paste on the surface.

Attention: Do not use dry cloth, cotton swab and sharp tools, so that it could prevent damage on the surface of the stiffener.



System Bring Up

System Power On Checklist

System Power On Check List	
item	Description
1	Check Superchip module was installed well in the system.
2	Check air duck and CPU/GPU heatsink was insatlled well in the system.
3	Check Two PWR Cables connected to Superchip module.
3	Check all Cables were installed well in the system.
4	Check AC cord has been plugged in your system.

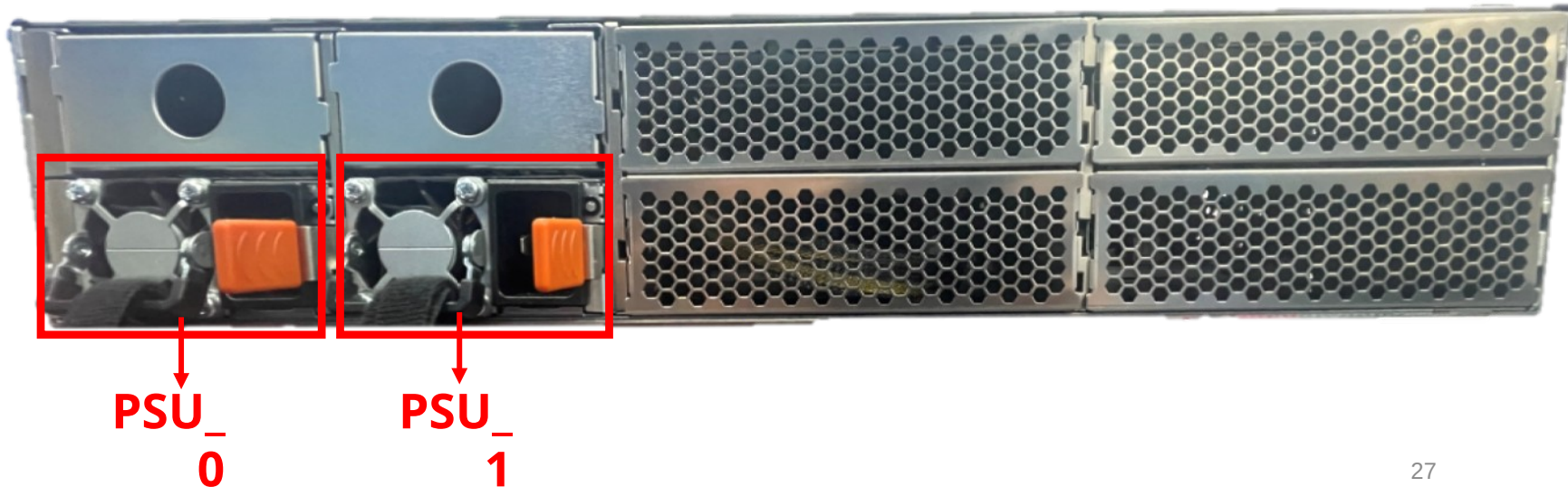
Power Supply Installation

1. *AC input 220V~240V support 1+1 redundant backup.*
2. *If inserting one PSU only, please must AC input 220V~240V to avoid system shutdown.*

Please plug in AC power cord for system power on.

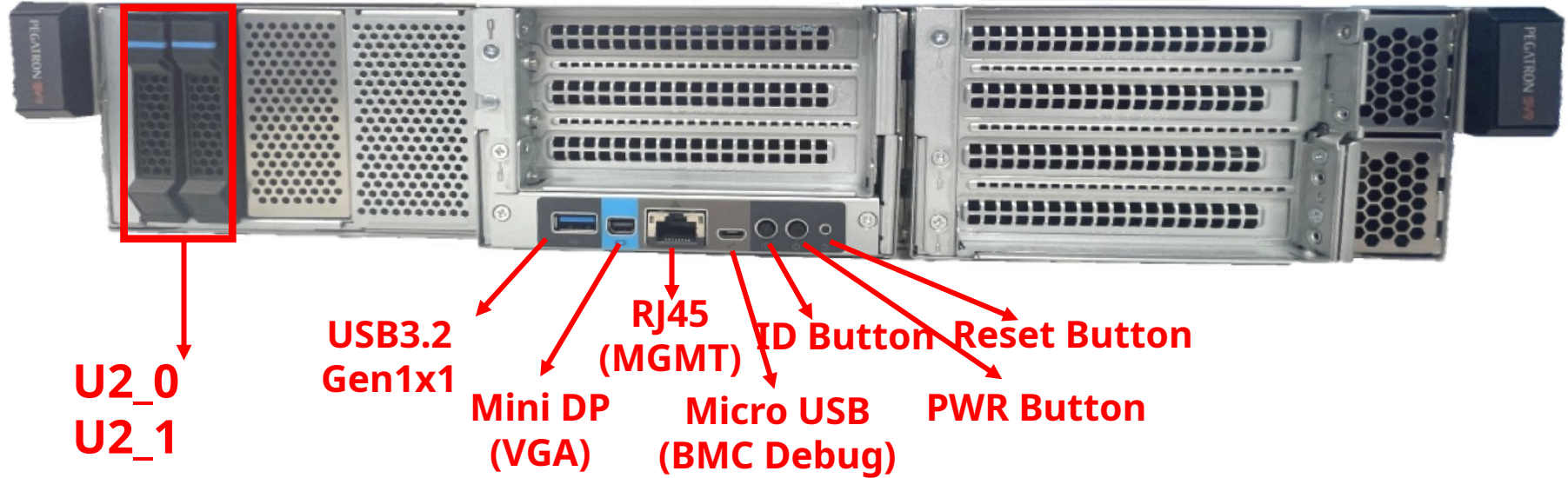


AC Input 90V~264V

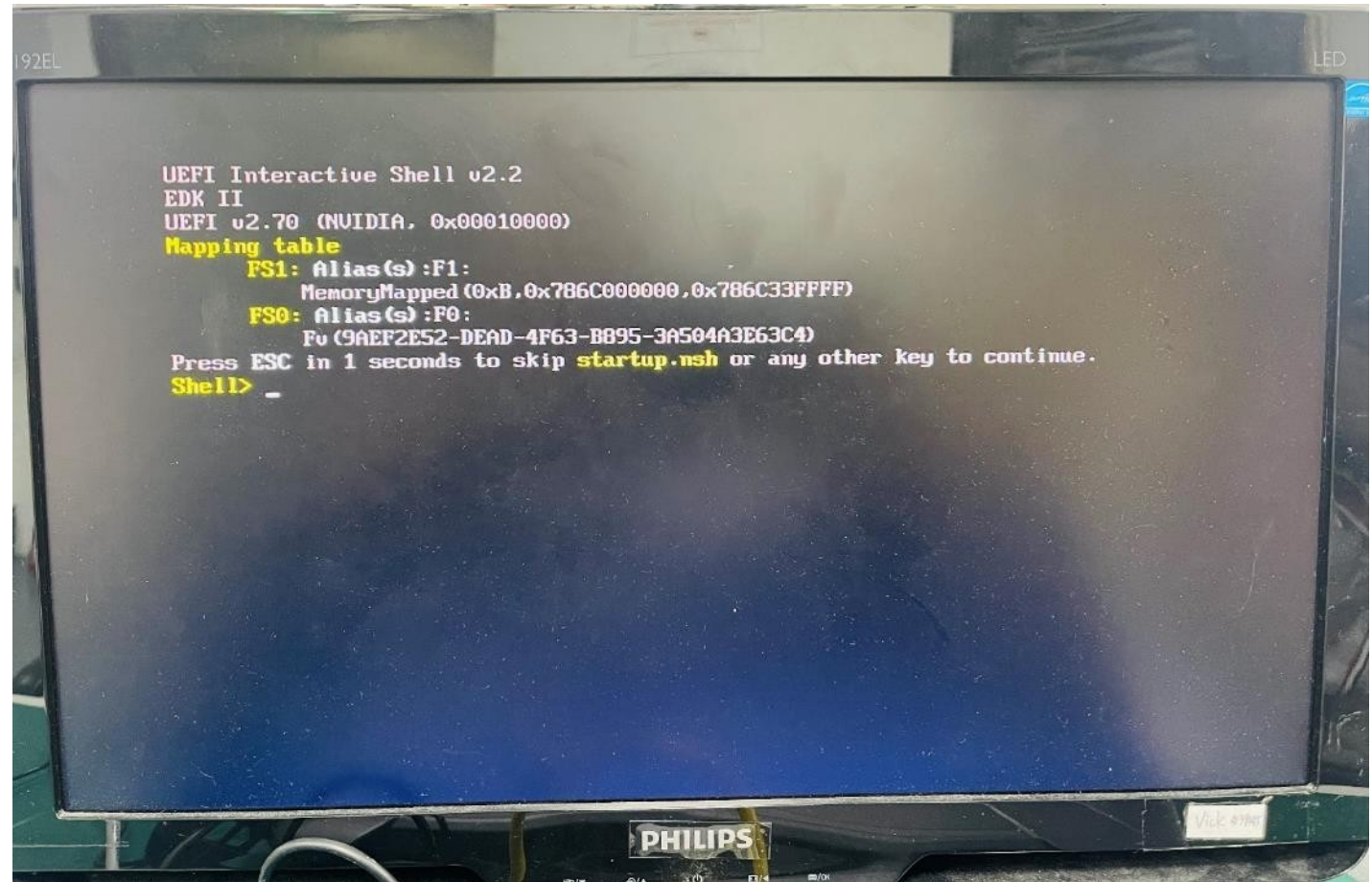


System Power on

Press PWR Button for System power on



System Bring up Successfully



How to enter BIOS Menu

How to Enter BIOS menu



Press "ESC" when
nVIDIA logo appear on
the display monitor.

BIOS menu – Main page

Grace A02

00010102

3.42 GHz

491136 MB RAM

WARNING: Test key detected.

Select Language

<English>

This selection will
take you to the
Device Manager

- ▶ **Device Manager**
- ▶ Boot Manager
- ▶ Boot Maintenance Manager

Continue

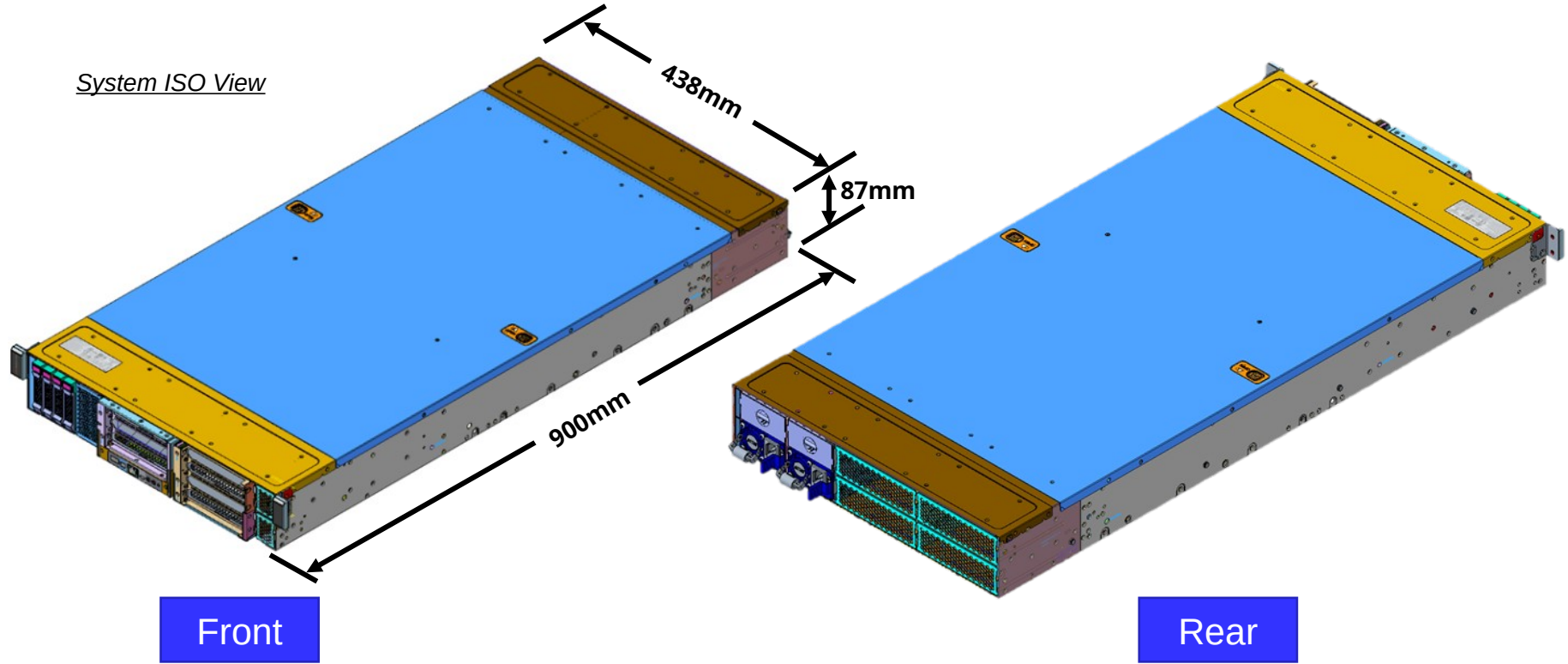
Reset

ME System Overview

ME Outline

- System Overall View
 - System Iso View
 - System Top View
 - System Front View
 - System Rear View
 - Bay Configuration Diagram - CRPS SKU
- Assembly
 - PCB
 - Module
 - System
- Board Placement
 - MB
 - Small Board
- Cable Routing SOP
- Rail Kit Assembly SOP

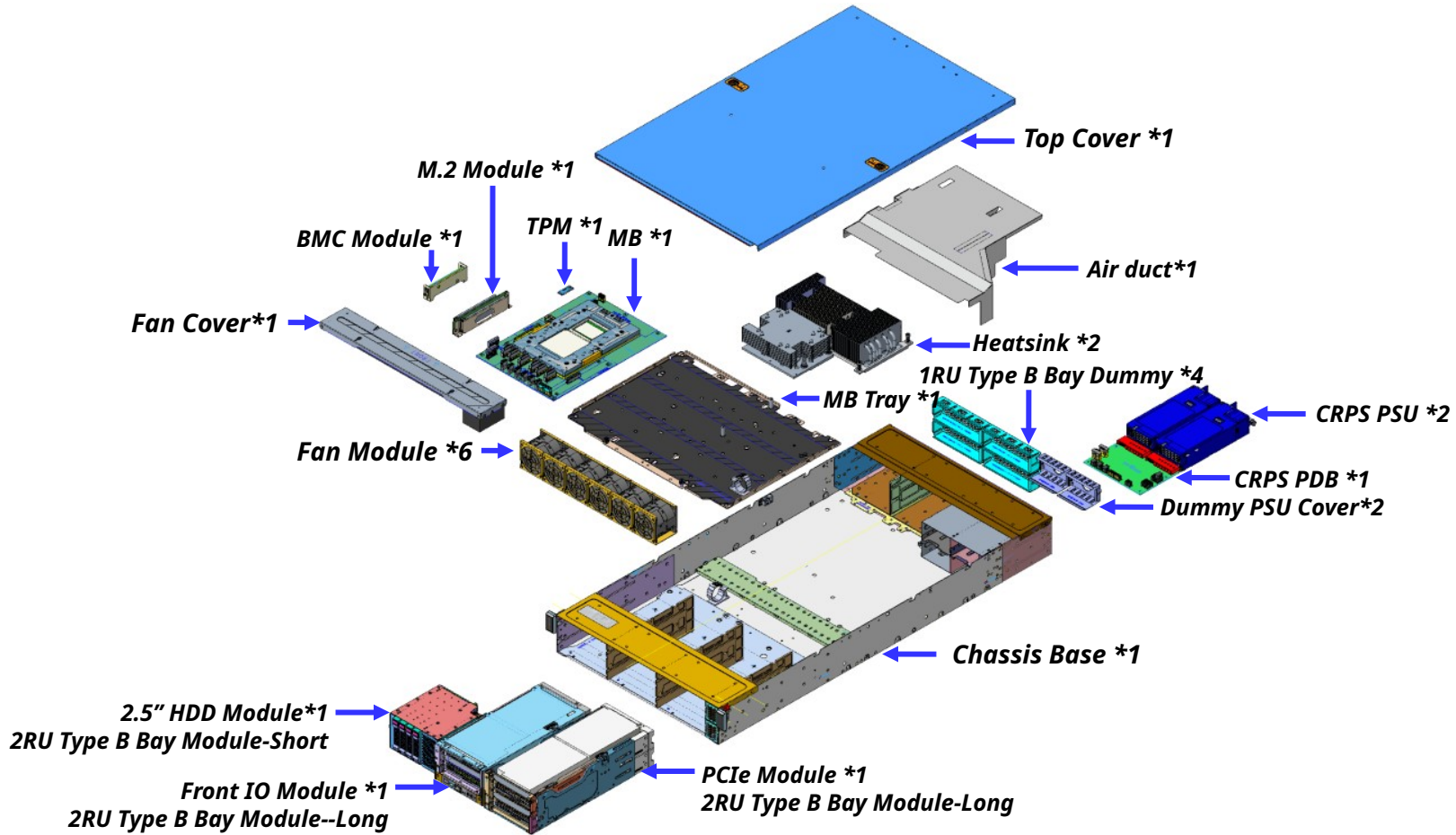
System Overall View



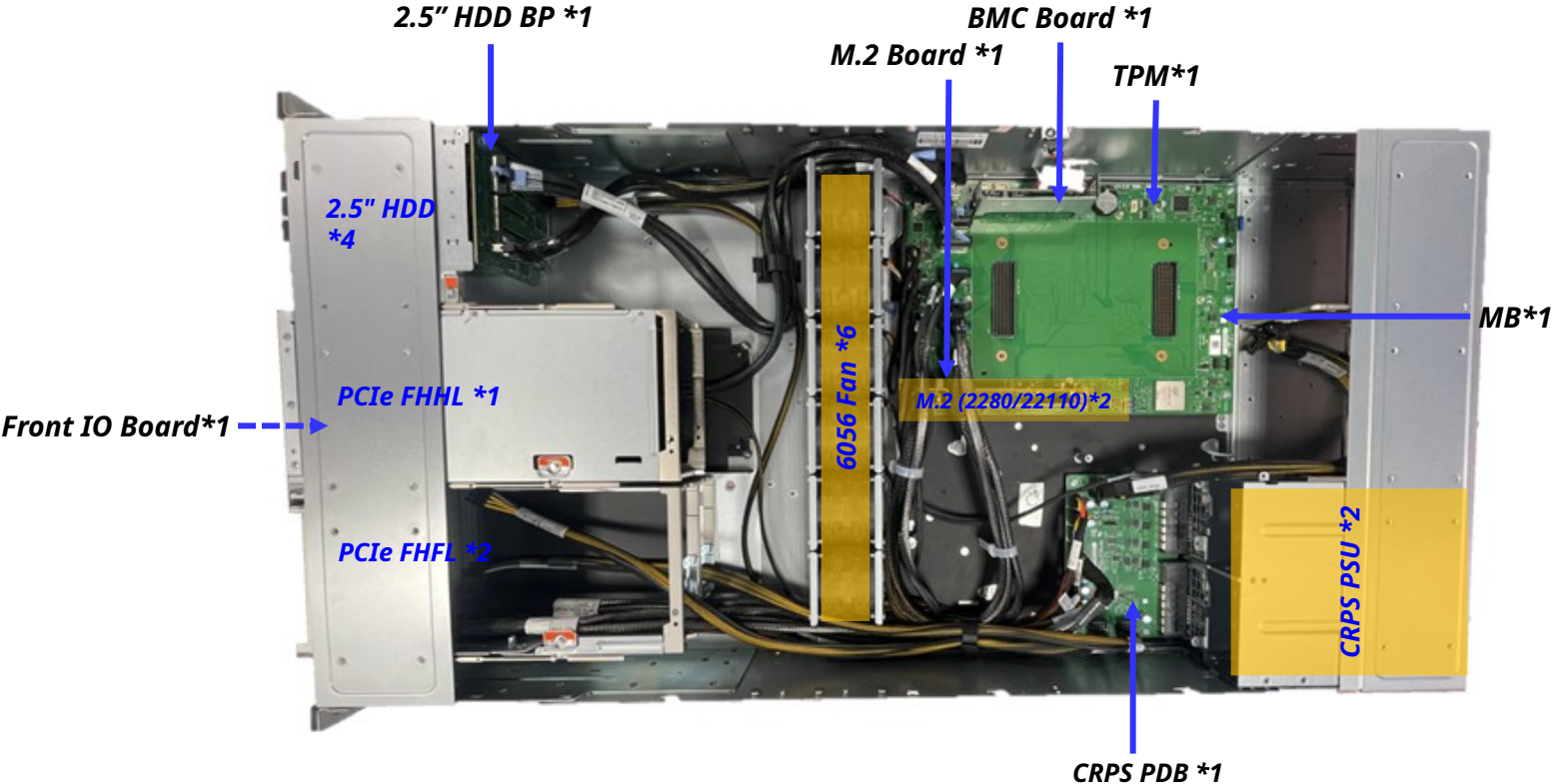
Chassis type : 2U1N

Chassis Dimension: 900mm (L) * 438mm (W) * 87mm (H)

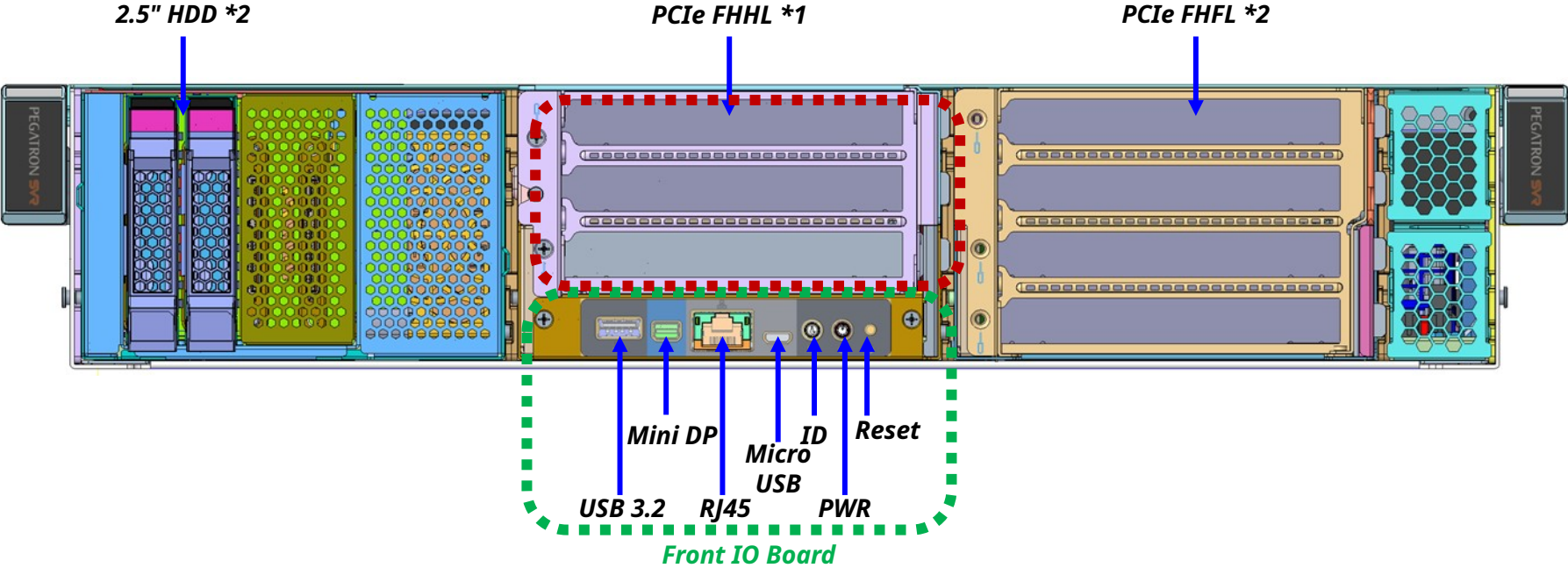
System Overall View



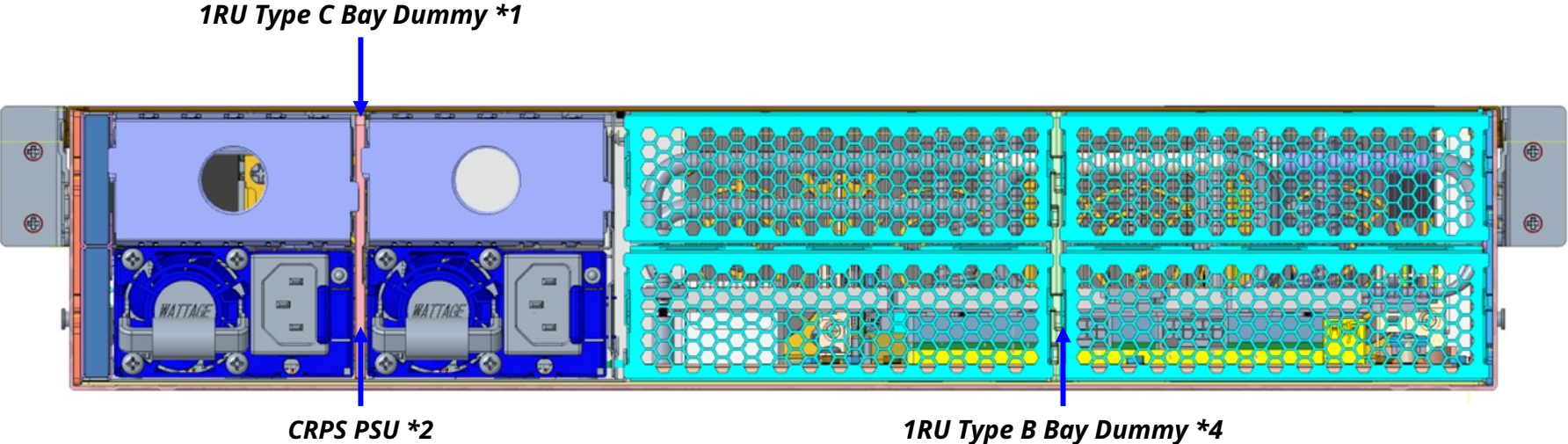
System Top View



System Front View



System Rear View

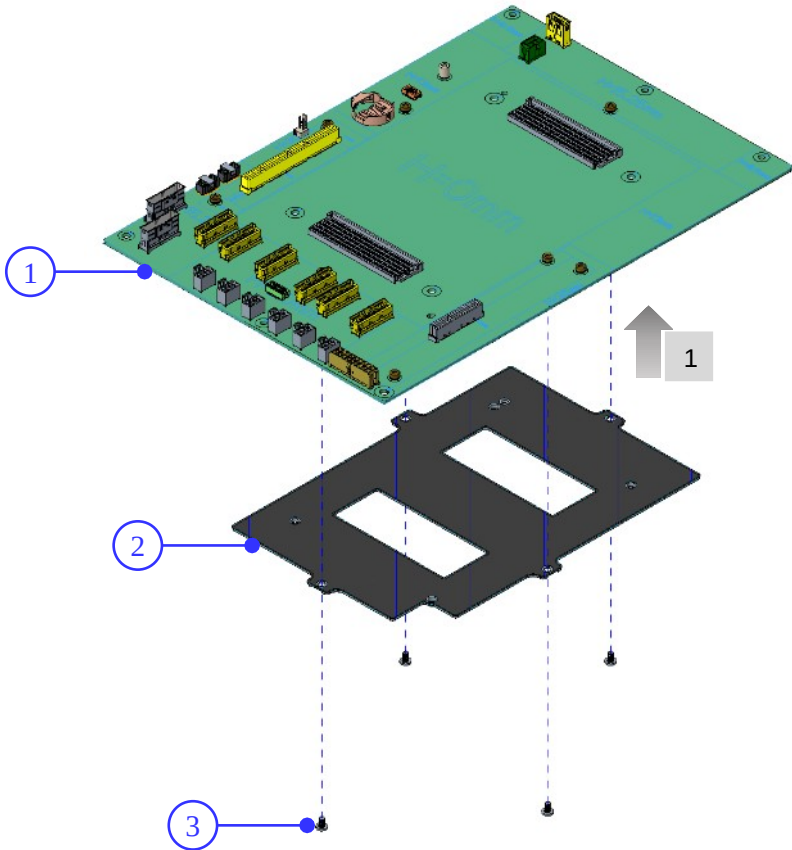


ME Outline

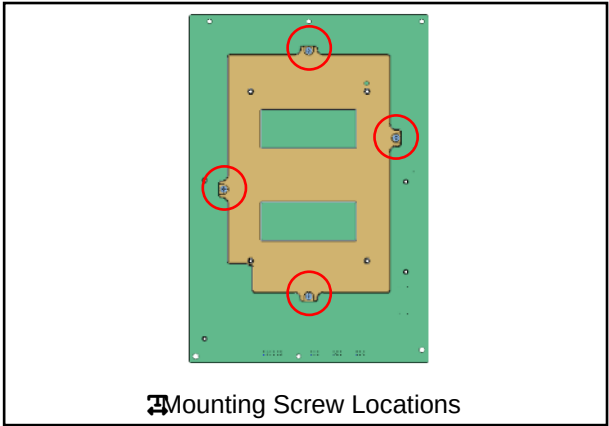
- System Overall View
 - System Iso View
 - System Top View
 - System Front View
 - System Rear View
 - Bay Configuration Diagram - CRPS SKU
- Assembly
 - PCB
 - Module
 - System
- Board Placement
 - MB
 - Small Board
- Cable Routing SOP
- Rail Kit Assembly SOP

PCB Assembly-MB

1. Install CG1 backing plate with 4x CG1 backing plate screws

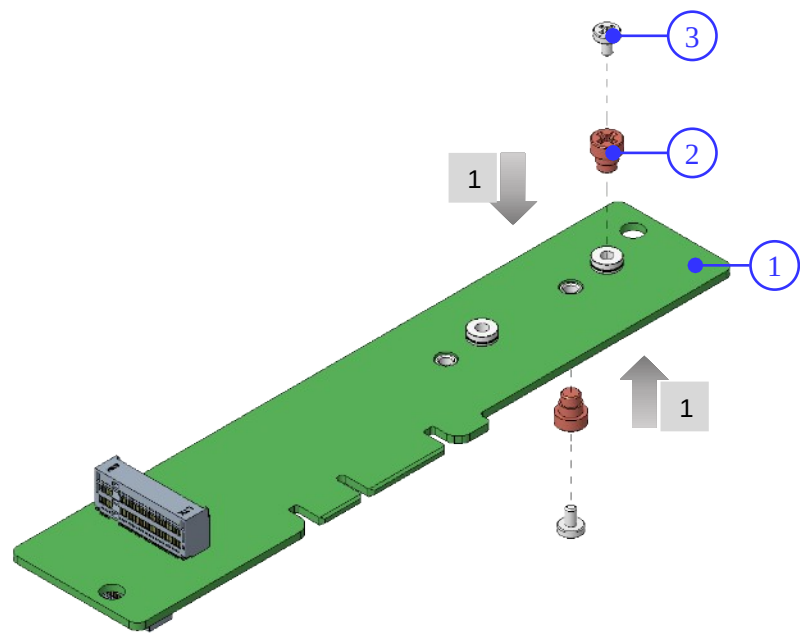


MB Assembly			
Item	Description	Qty	Remark
1	MB	1	
2	CG1 Backing Plate	1	
3	CG1 Backing Plate Screw	4	6 +/- 0.5 Kgf-cm

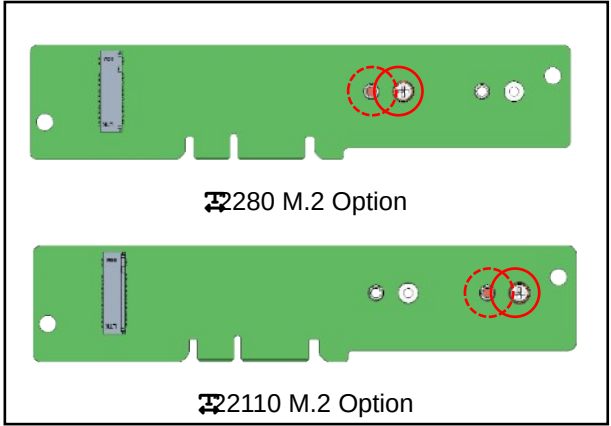


PCB Assembly-M.2 Card

1. Install 2x M.2 standoffs and 2x M2 screws on M.2 Board.



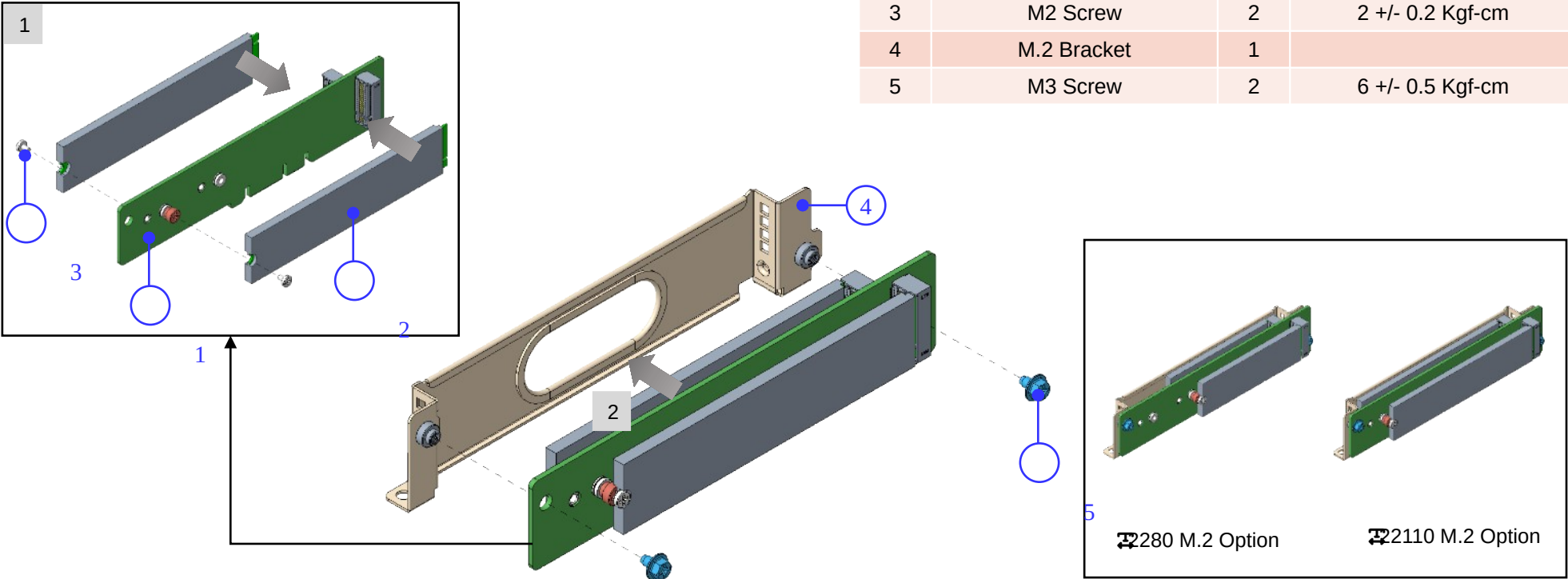
M.2 Board Assembly			
Item	Description	Qty	Remark
1	M.2 Board	1	
2	M.2 Standoff	2	6±0.5 kgf-cm
3	M2 Screw	2	2±0.2 kgf-cm



Module Assembly-M.2 Module Assembly

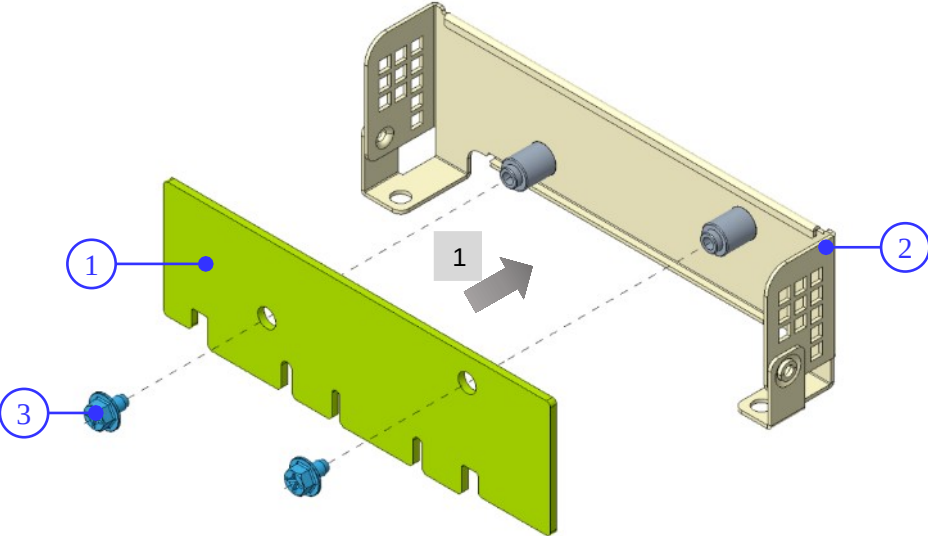
- 1. Install 2x M.2 on M.2 board assembly with 2x M.2 screws.
- 2. Install M.2 board on M.2 bracket with 2x M3 screws.

M.2 Module Assembly			
Item	Description	Qty	Remark
1	M.2 Board Assembly	1	
2	M.2	2	Support 2280 and 22110
3	M2 Screw	2	2 +/- 0.2 Kgf-cm
4	M.2 Bracket	1	
5	M3 Screw	2	6 +/- 0.5 Kgf-cm

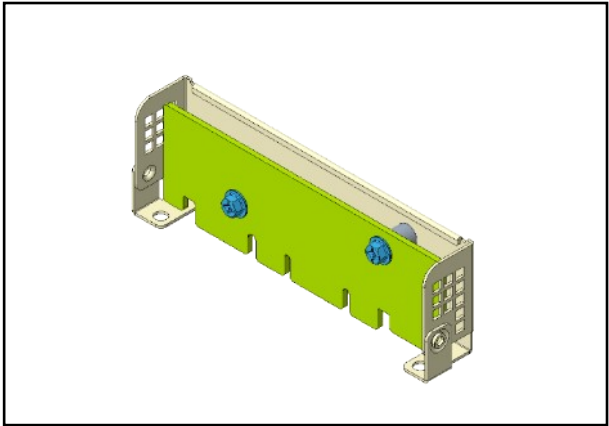


Module Assembly- BMC Module Assembly

1. Install BMC board on BMC bracket with 2x M3 screws.



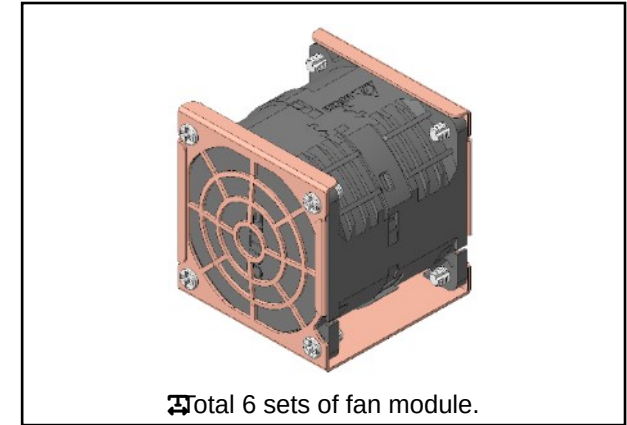
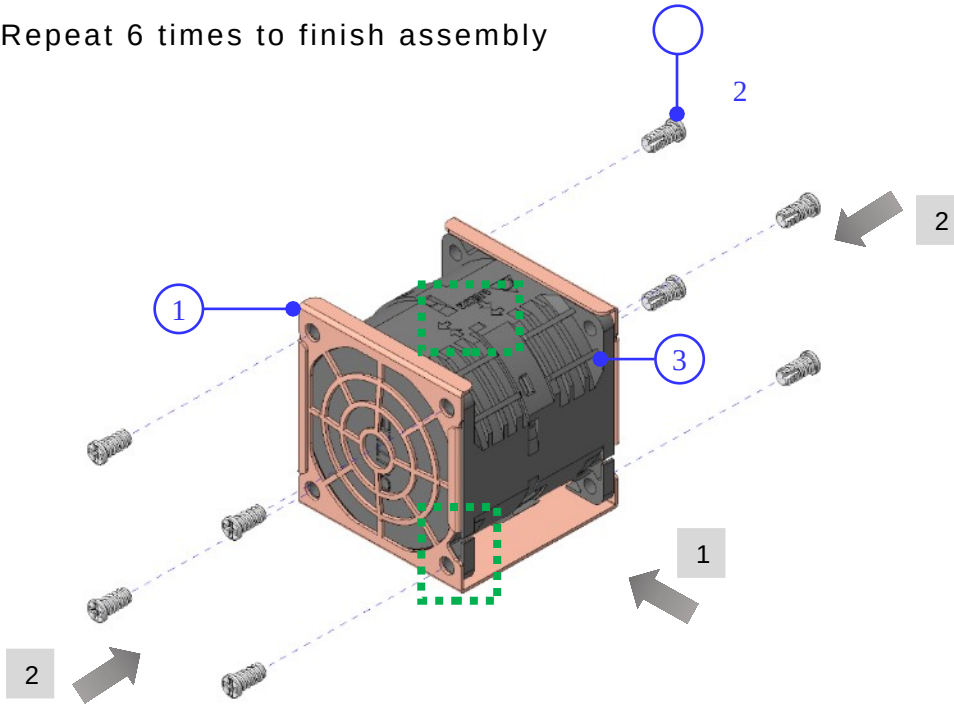
BMC Module Assembly			
Item	Description	Qty	Remark
1	BMC Board	1	
2	BMC Bracket	1	
3	M3 Screw	2	6 +/- 0.5 Kgf-cm



Module Assembly- Fan Module Assembly

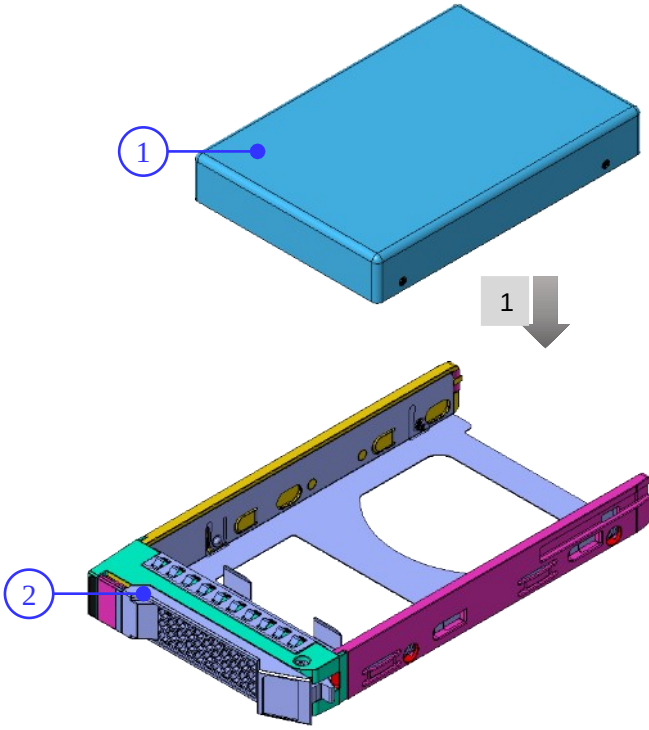
1. Install 1x fan **(take care the fan direction and cable outlet with fan holder)**
2. Tighten the 8PCS tapping screws
3. Repeat 6 times to finish assembly

Fan Module Assembly			
Item	Description	Qty	Remark
1	Fan Holder	1	Total 6 pcs
2	M5 tapping Screw	8	Total 48 pcs 31 +/- 0.5 Kgf-cm
3	6056 Fan	1	Total 6 pcs

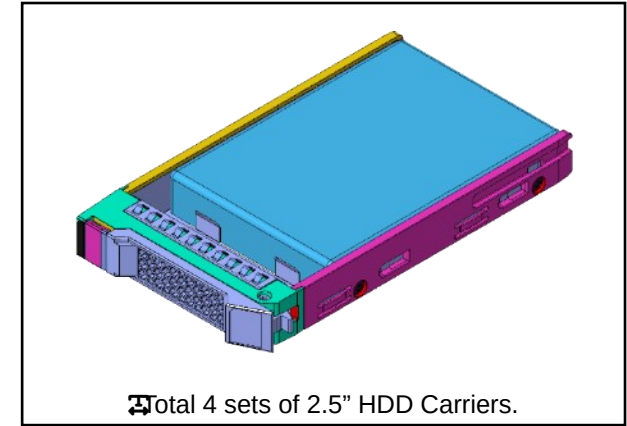


Module Assembly- 2.5" HDD Module Assembly-1

1. Install 1x 2.5" HDD on 1x 2.5" HDD tray
2. Repeat 4 times to finish assembly

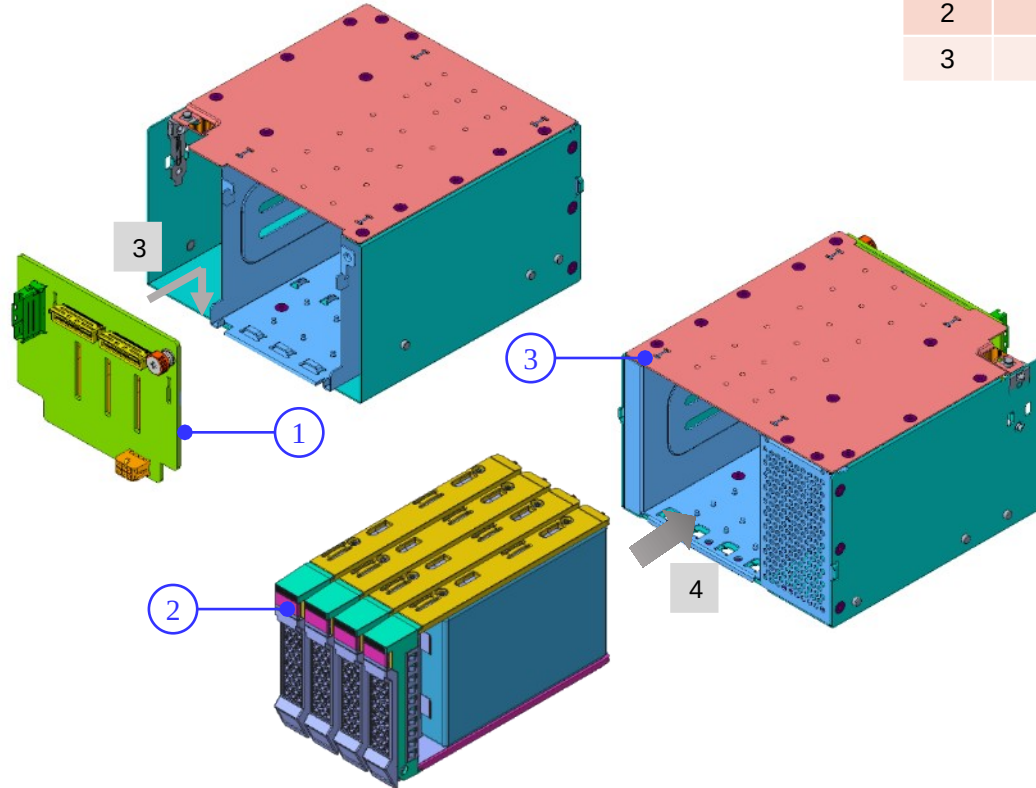


2.5" HDD Carrier Assembly			
Item	Description	Qty	Remark
1	2.5" HDD	1	Total 4 pcs
2	2.5" HDD Tray	1	Total 4 pcs



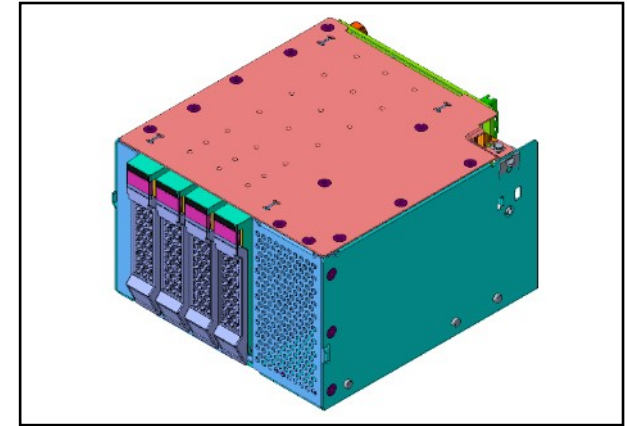
Module Assembly- 2.5" HDD Module Assembly-2

3. Install 2.5" HDD BP on 2.5" HDD Cage with 1x thumbscrew.
4. Install 4x 2.5 HDD Carrier.



2.5" HDD Module Assembly

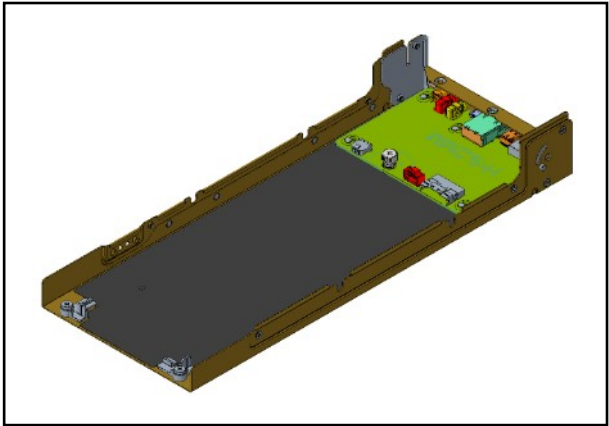
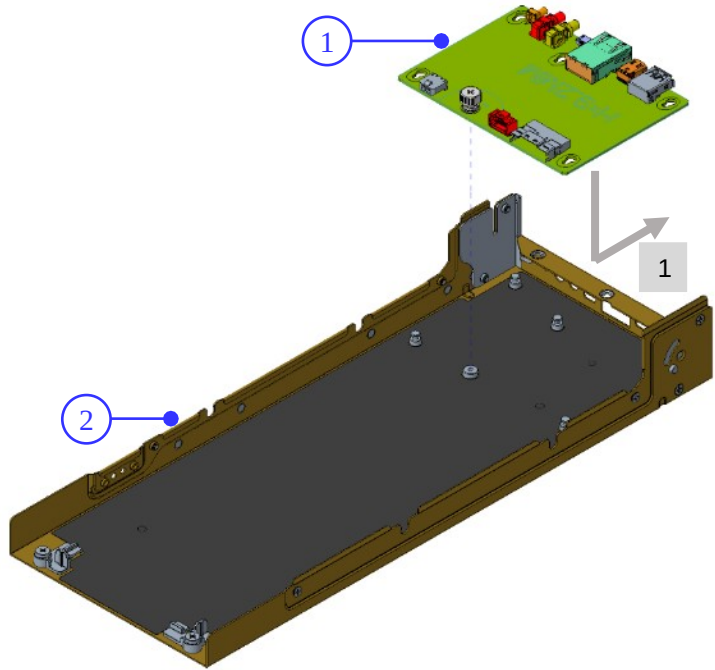
Item	Description	Qty	Remark
1	2.5" HDD BP	1	6 +/- 0.5 Kgf-cm
2	2.5" HDD Carrier	4	
3	2.5" HDD Cage	1	



Module Assembly- IO Module Assembly-1

- 1. Install IO Board on IO cage base and fix by 1x thumbscrew.

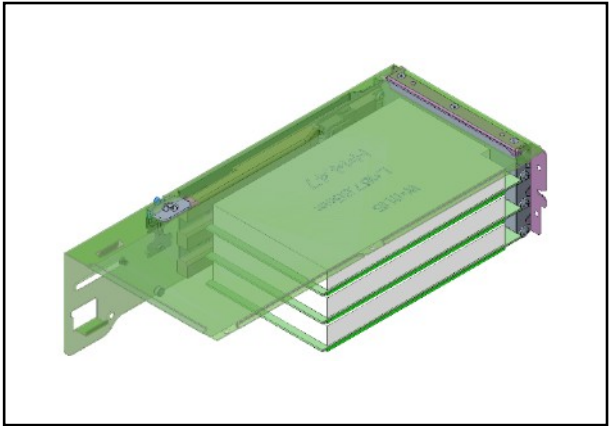
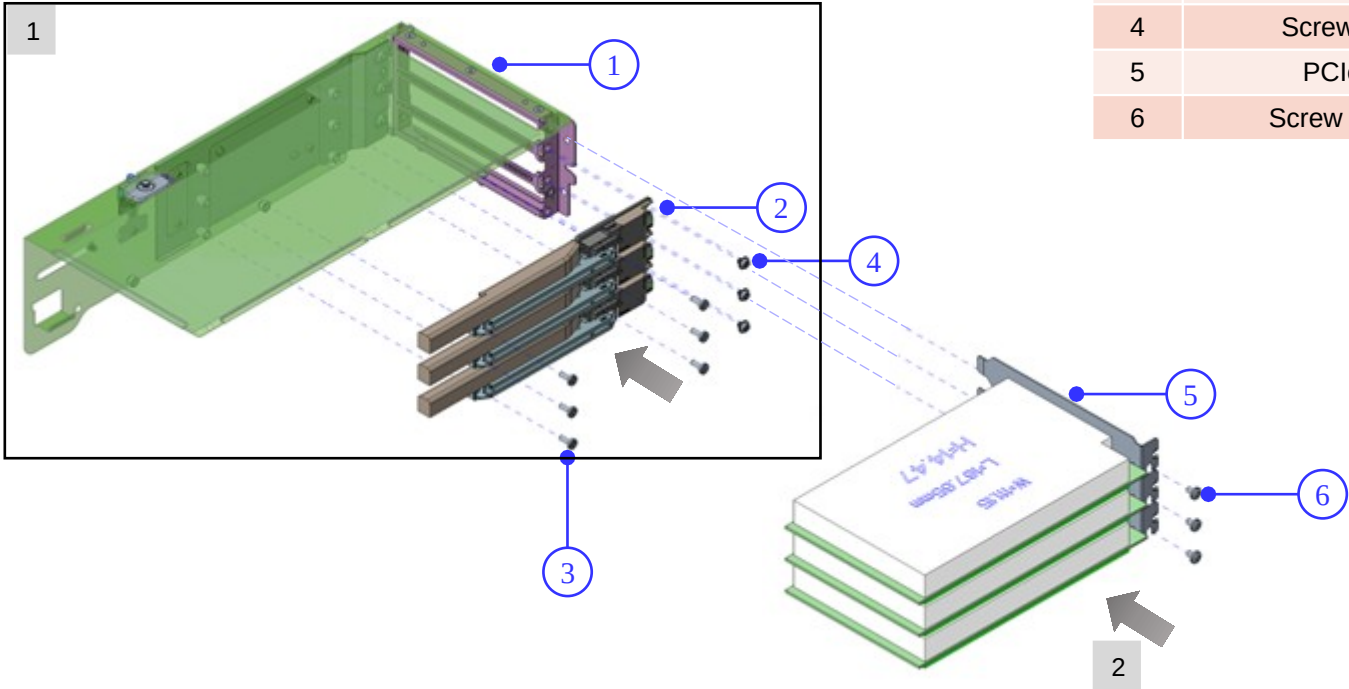
IO Cage-PCB Assembly			
Item	Description	Qty	Remark
1	IO Board	1	6 +/- 0.5 Kgf-cm
2	IO Cage Base	1	



Module Assembly- IO Module Assembly-2

- 1. Install 3x PCIe card cable with IO cage top assembly by 6 x screw M3x8L and 3 x screw M3x3L.
- 2. Install 3x PCIe card with 3 x screw #6-32 5L.

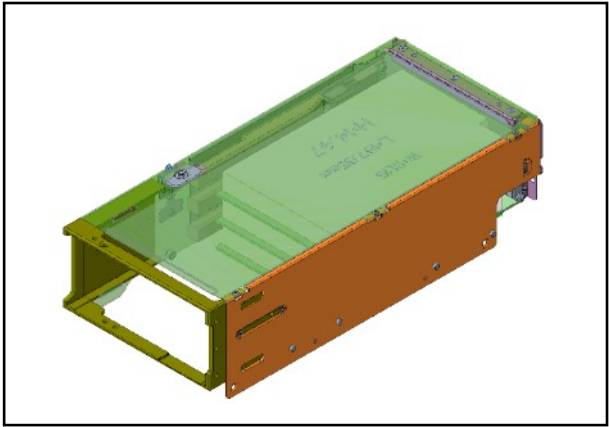
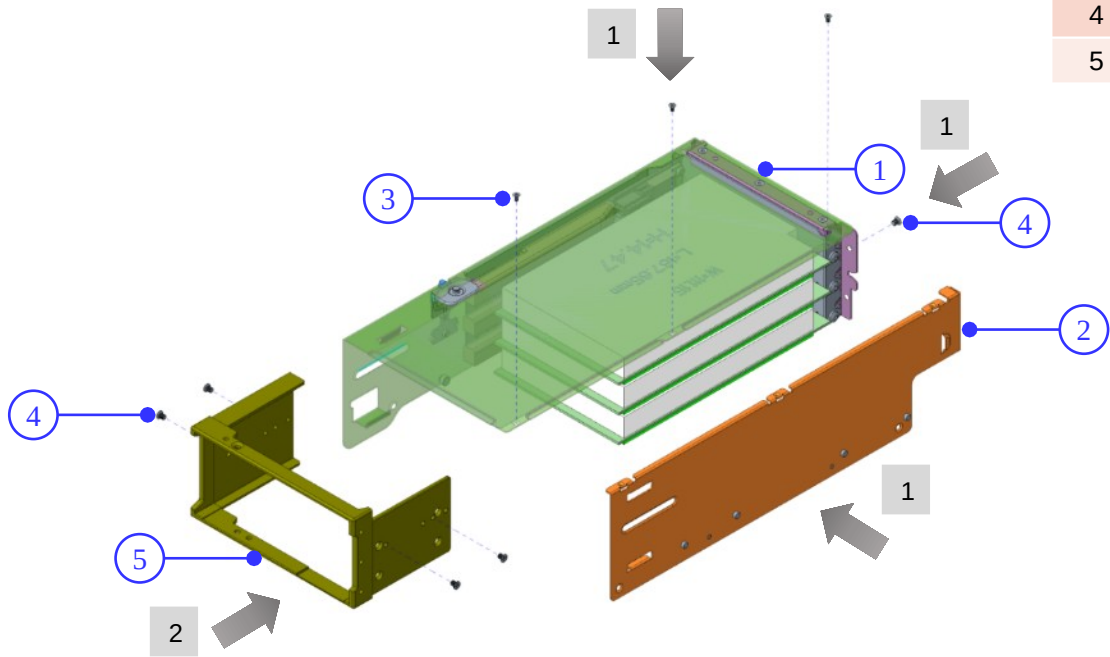
IO Cage- PCIe Card Assembly			
Item	Description	Qty	Remark
1	IO Cage Top	1	
2	Riser card cable	3	
3	Screw M3x8L	6	6 +/- 0.5 Kgf-cm
4	Screw M3x3L	3	6 +/- 0.5 Kgf-cm
5	PCIe card	3	
6	Screw #6-32 5L	3	9 +/- 0.5 Kgf-cm



Module Assembly- IO Module Assembly-3

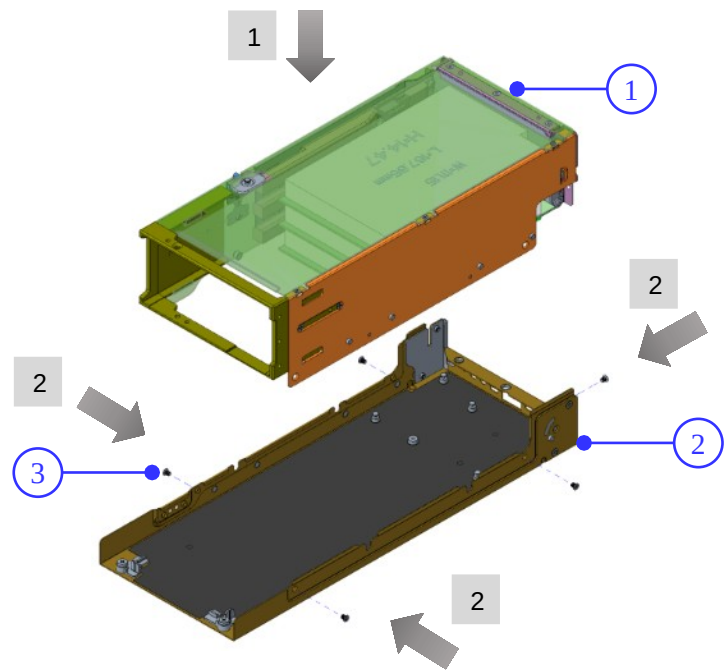
- 1. Assemble the BKT side with IO Cage Top by 3x M2 screw and 1x M3 screw.
- 2. Assemble the GPU extender with IO cage by 4x M3 screw.

IO Cage- BKT & Extender Assembly			
Item	Description	Qty	Remark
1	IO Cage Top	1	
2	BKT Side	1	
3	Screw M2x4L (Flat)	3	2 +/- 0.2 Kgf-cm
4	Screw M3x4L (Flat)	5	6 +/- 0.5 Kgf-cm
5	GPU Extender	1	

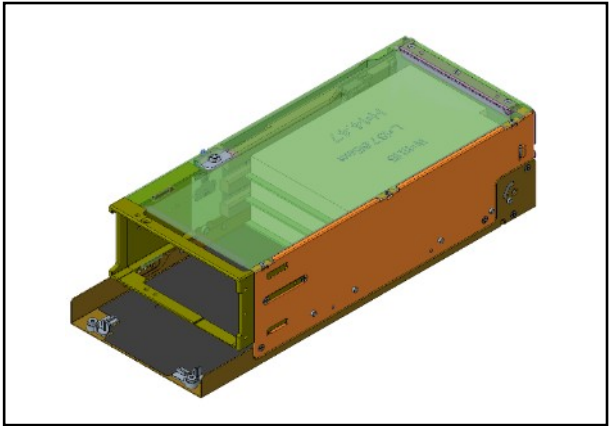


Module Assembly- IO Module Assembly-4

- 1. Assemble the IO cage Top with IO cage base
- 2. Using 5x M3 screw to fix IO cage Top and Base.

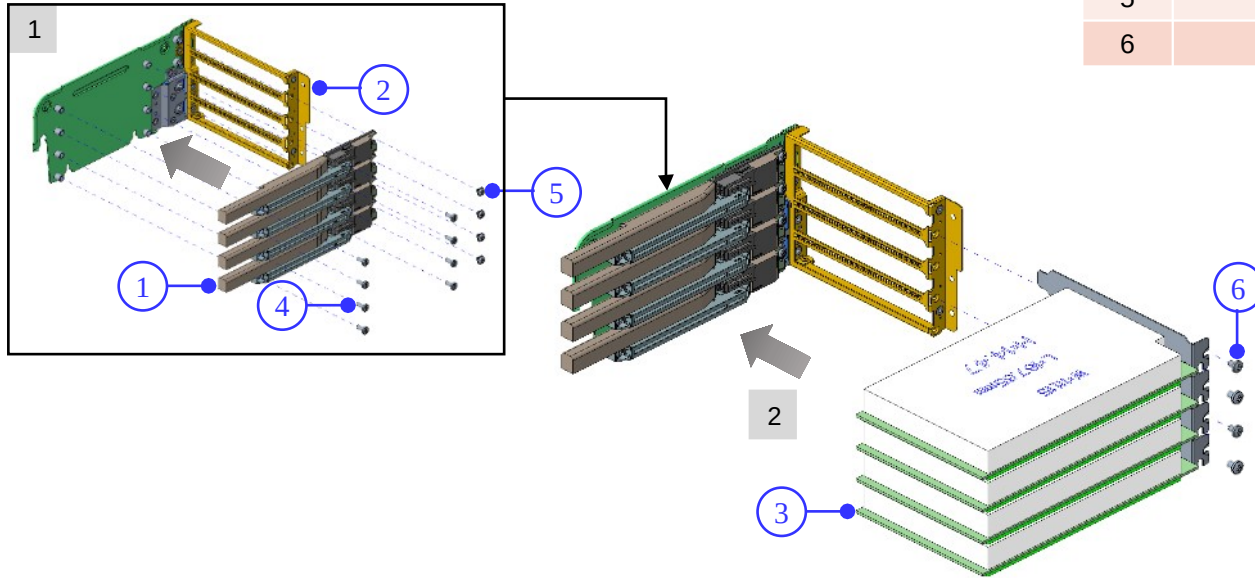


IO Module Assembly			
Item	Description	Qty	Remark
1	IO Cage Top	1	
2	IO cage Base	1	
3	Screw M3x4L (Flat)	5	6 +/- 0.5 Kgf-cm

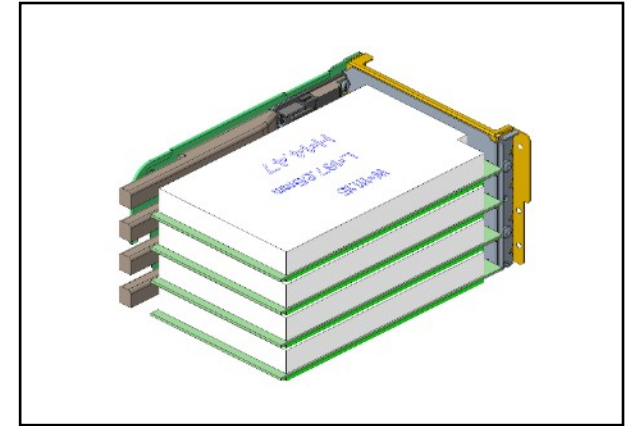


Module Assembly- GPU Module Assembly-1

1. Install 4x riser card cable on GPU bracket with 8x screw M3x8L (B Head) and 4x screw M3x3L.
2. Install 4x PCIe card by 4x #6-32 5L screw.



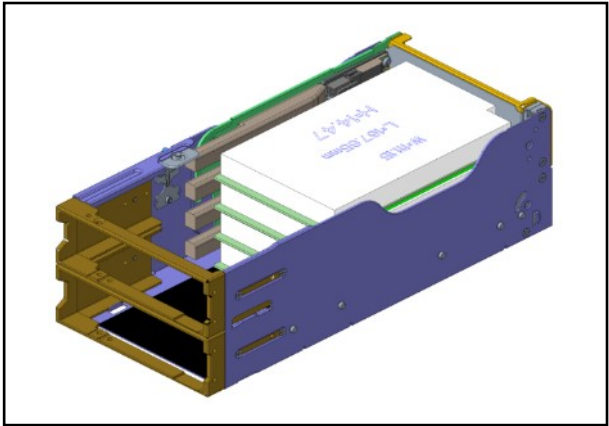
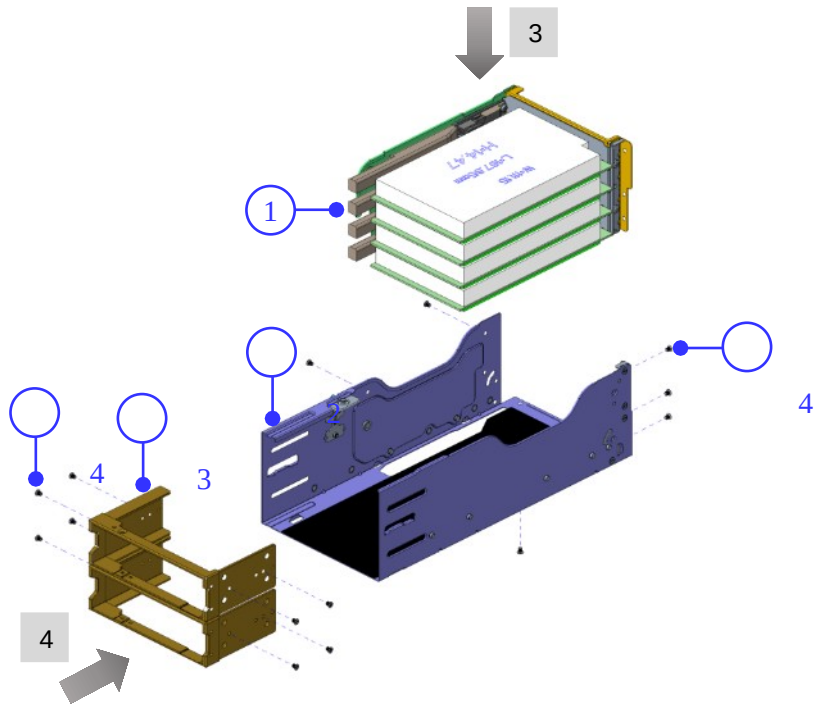
GPU Module-PCIe Card Assembly			
Item	Description	Qty	Remark
1	Riser Card cable	4	
2	GPU Bracket	1	13S1-58B0301
3	PCIe Card	4	
4	M3x8L Screw (B Head)	8	6 +/- 0.5 Kgf-cm
5	M3x3L Screw	4	6 +/- 0.5 Kgf-cm
6	#6-32 5L Screw	4	9 +/- 0.5 Kgf-cm



Module Assembly- GPU Module Assembly-2

- 3. Install GPU Bracket Assembly on GPU Cage with 6x M3x4L screws(flat).
- 4. Fix GPU extension bracket by 8x M3x4L screws(flat).

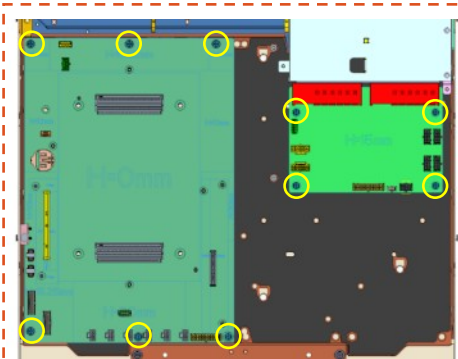
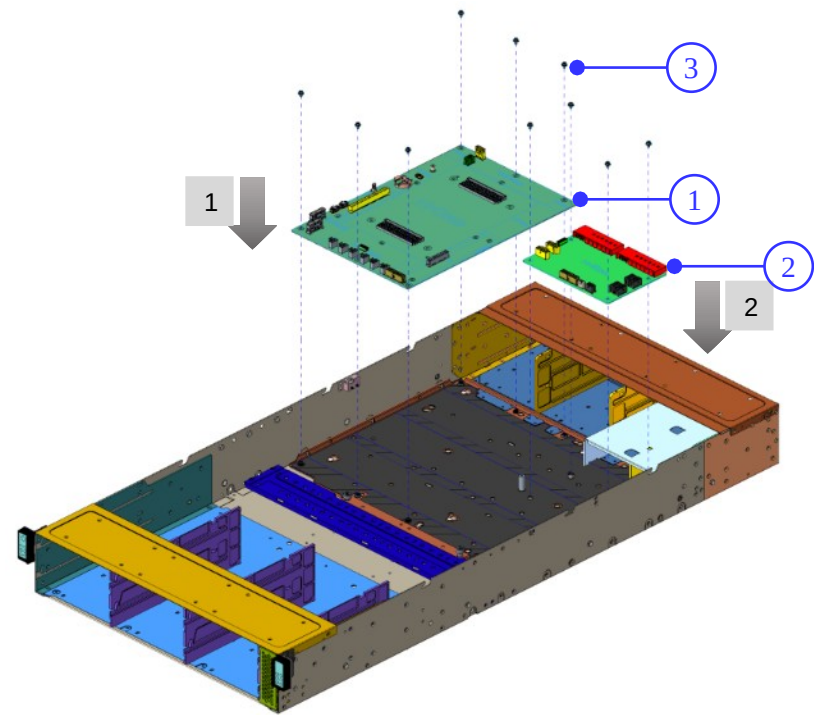
GPU Module Assembly			
Item	Description	Qty	Remark
1	GPU Bracket Assembly	1	
2	GPU Cage	1	
3	GPU Extension Bracket	2	
4	M3x4L Screw (Flat)	14	6 +/- 0.5 Kgf-cm



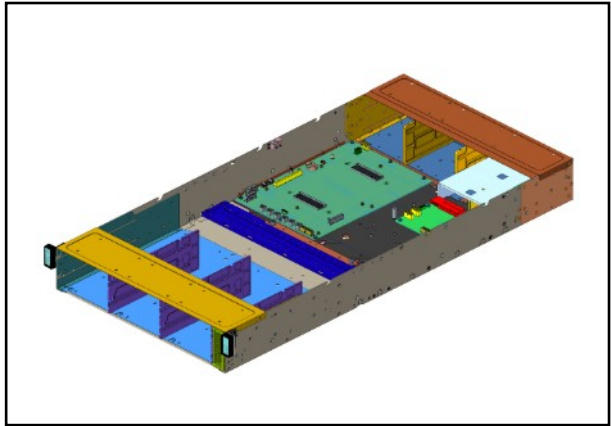
System Assembly- PCBA Assembly

- 1. Install 1x MB assembly with 6x M3x4.5L screws.
- 2. Install CRPS PDB with 4x M3x4.5L screws.

PCBA Assembly			
Item	Description	Qty	Remark
1	MB Assembly	1	
2	CRPS PDB	1	
3	M3x4.5L Screw	10	6 +/- 0.5 Kgf-cm



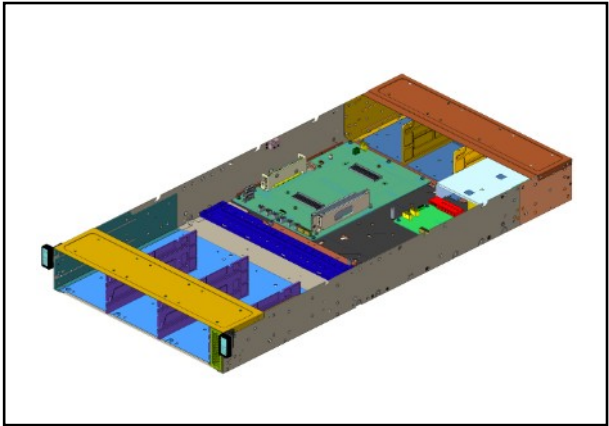
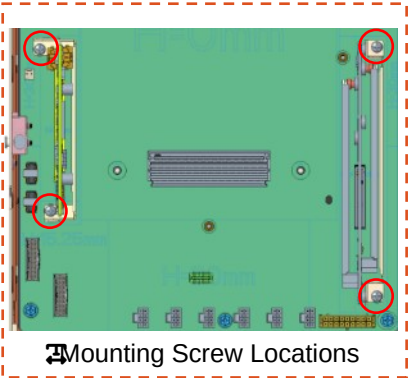
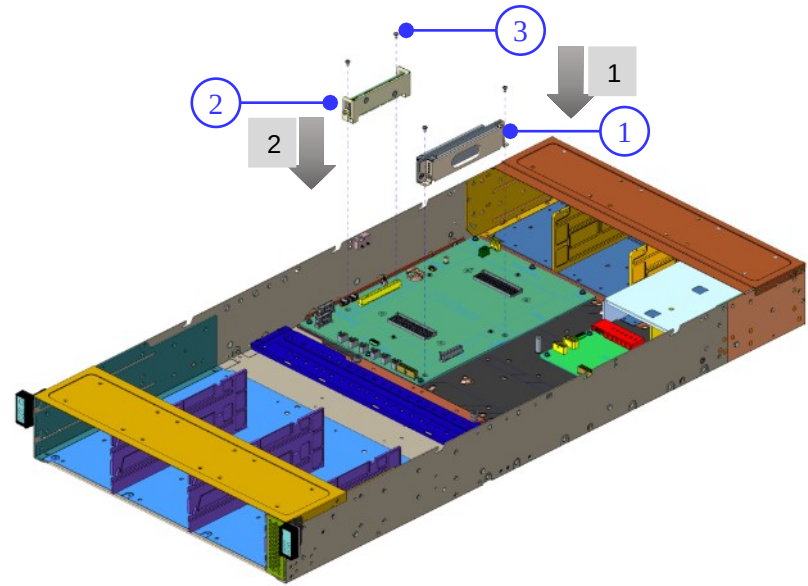
Mounting Screw Locations



System Assembly- M.2 Module/ BMC Module Assembly

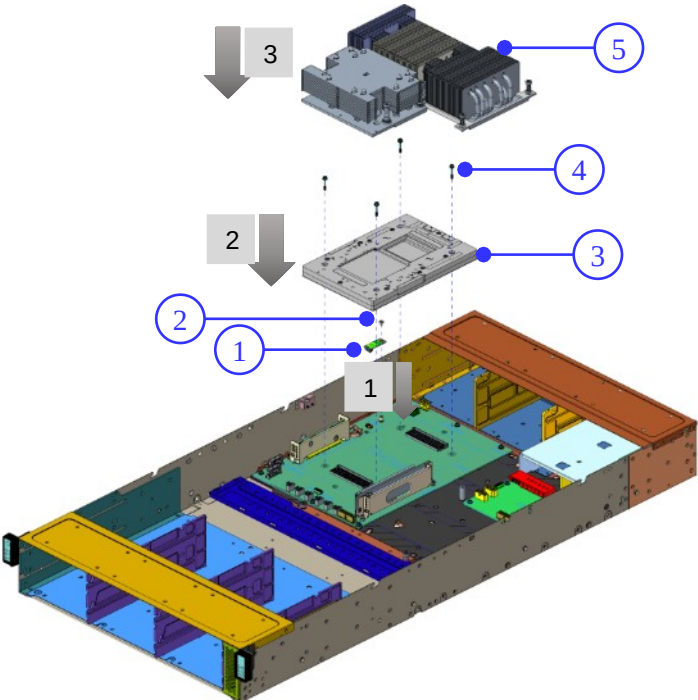
- 1. Install M.2 Module with 2x M3x5L screws (B Head).
- 2. Install BMC Module with 2x M3x5L screws (B Head).

M.2 Module/ BMC Module Assembly			
Item	Description	Qty	Remark
1	M.2 Module	1	
2	BMC Module	1	
3	M3 Screw (B Head)	4	6 +/- 0.5 Kgf-cm

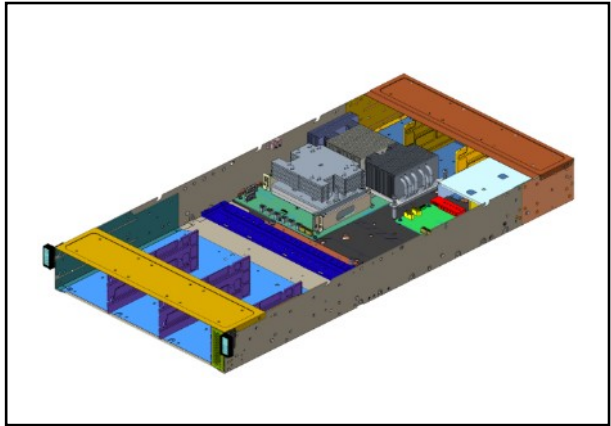
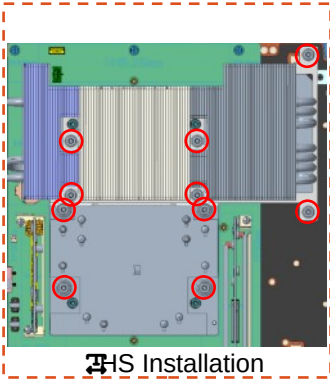
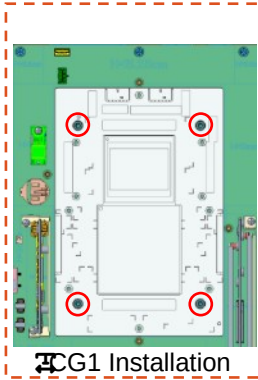


System Assembly- TPM/ CG1/ HS Assembly

- 1. Install TPM with 1x M3x5L screws (B Head).
- 2. Install CG1 with 4x CG1 screws.
- 3. Install CPU/GPU HS.



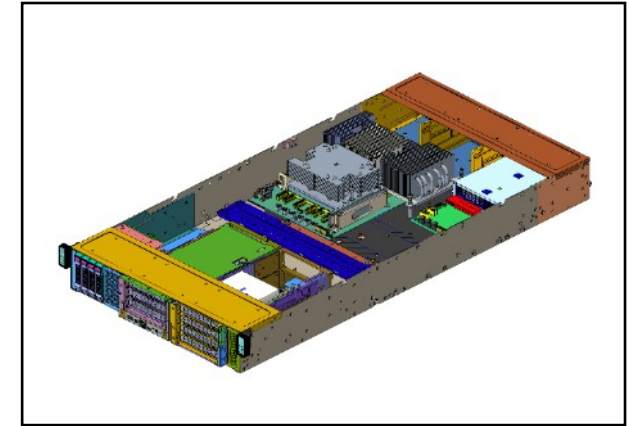
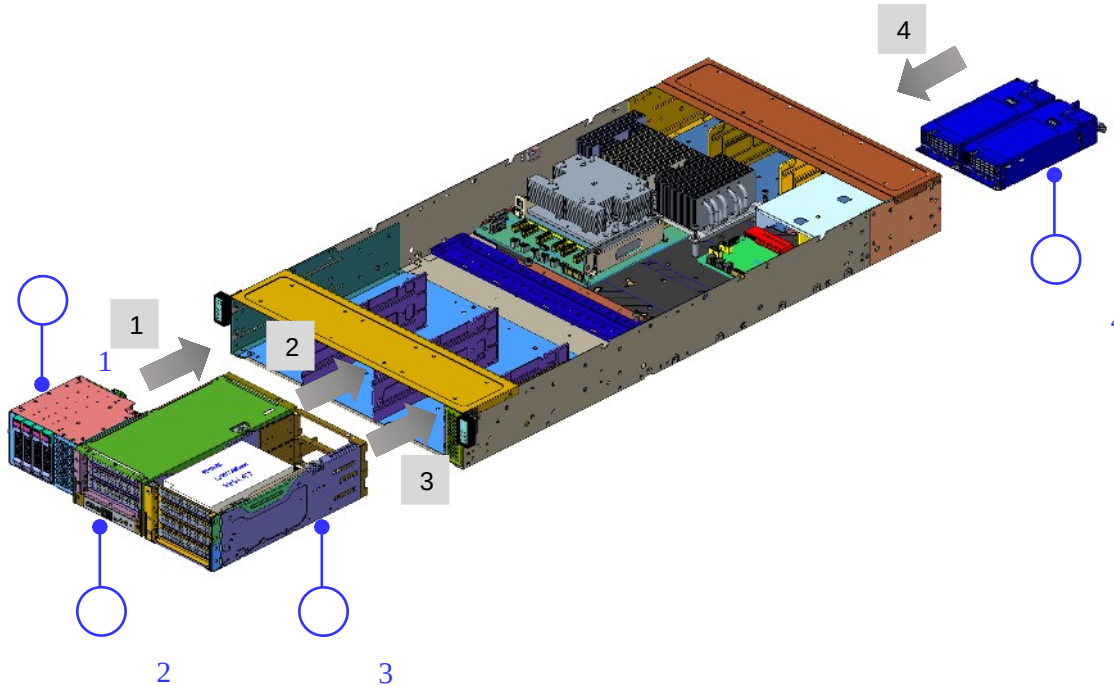
TPM/ CG1/ HS Assembly			
Item	Description	Qty	Remark
1	TPM	1	
2	M3 Screw	1	6 +/- 0.5 Kgf-cm
3	CG1	1	
4	CG1 Screw	4	6 +/- 0.5 Kgf-cm
5	CPU/GPU HS	2	6 +/- 0.5 Kgf-cm



System Assembly- 2.5" HDD/ IO /GPU Modules and PSU

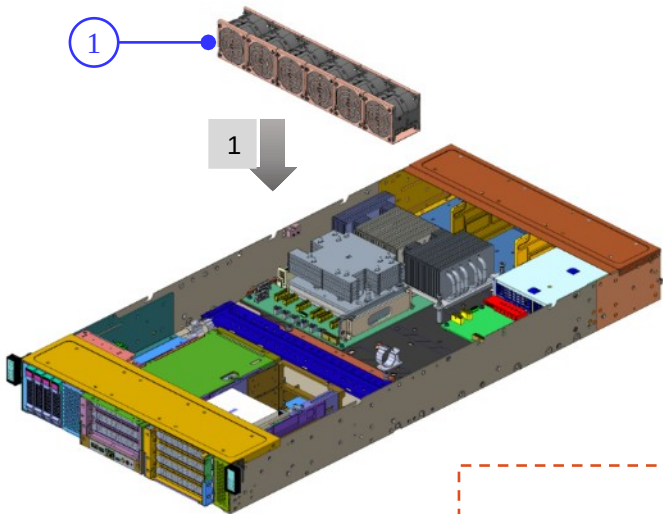
1. Install 1x 2.5" HDD module.
2. Install 1x IO module.
3. Install 1x GPU module.
4. Install 2x PSU.

Modules and PSU Assembly			
Item	Description	Qty	Remark
1	2.5" HDD Module	1	
2	IO Module	1	
3	GPU Module	1	
4	PSU	2	

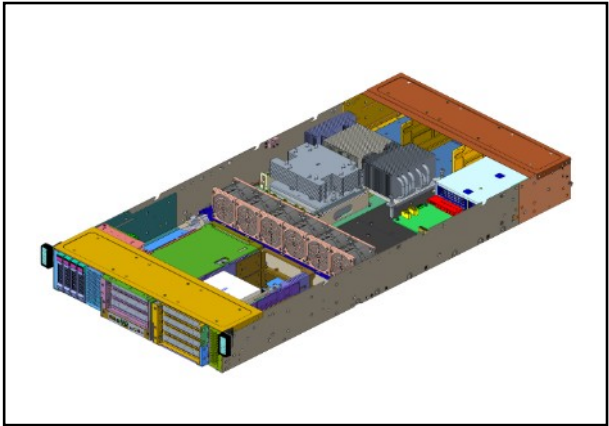
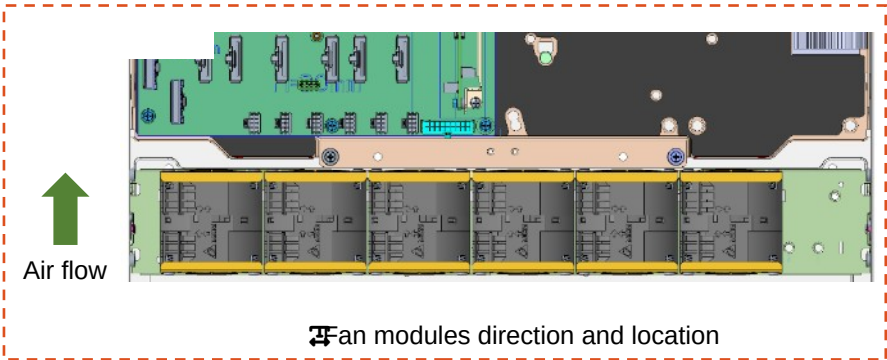


System Assembly- Fan Module Assembly

1. Install 6x fan module

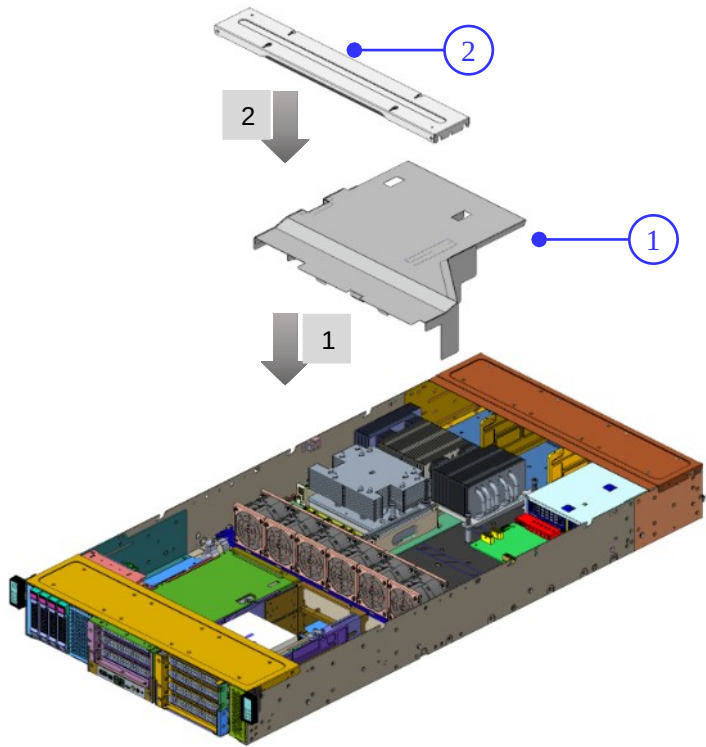


Fan Module Assembly			
Item	Description	Qty	Remark
1	Fan Module	6	

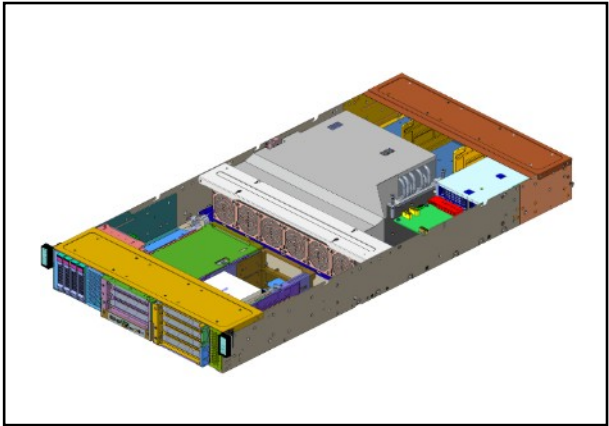


System Assembly- Air Duct /Fan Cover Assembly

- 1. Install 1x air duct.
- 2. Install 1x fan cover.

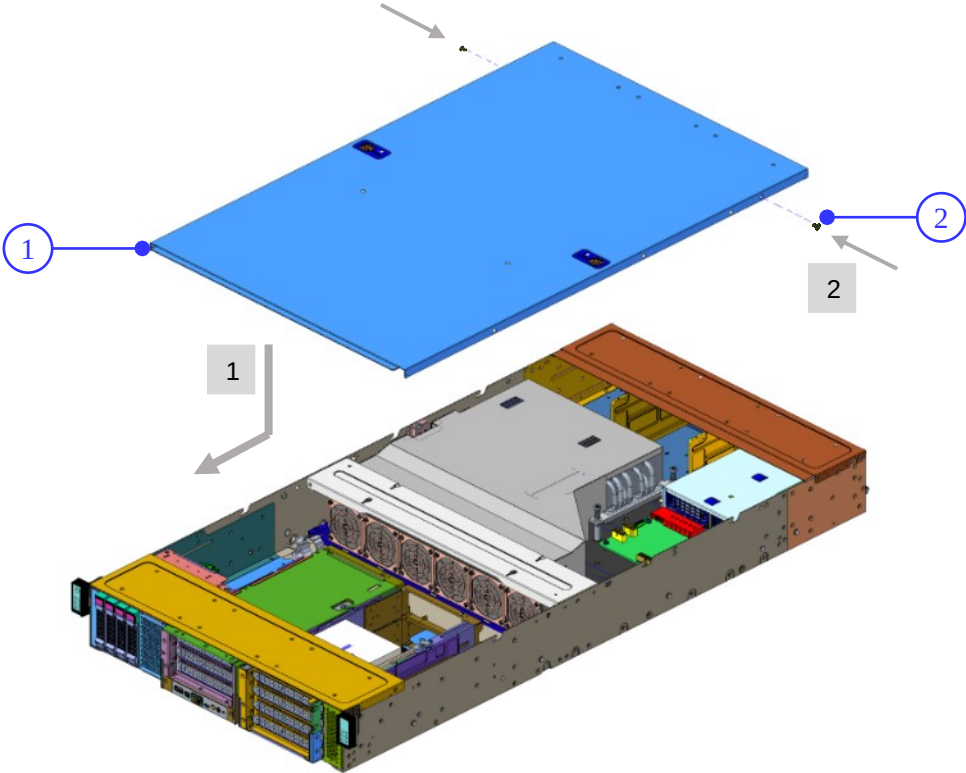


Air Duct Assembly			
Item	Description	Qty	Remark
1	Air Duct	1	
2	Fan Cover	1	

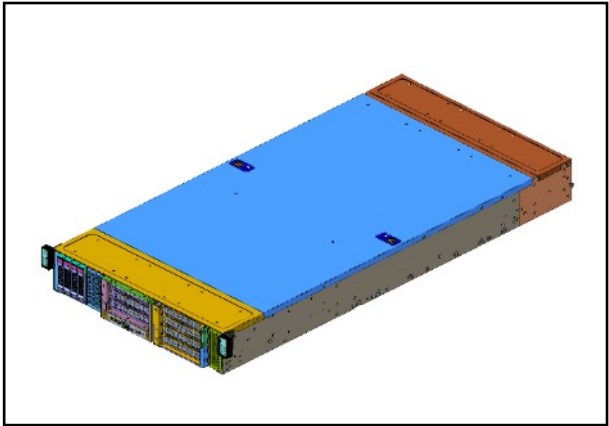


System Assembly- Top Cover Assembly

- 1. Install 1x front top cover
- 2. Fix by 2x M3 Screw (Flat)



Top Cover Assembly			
Item	Description	Qty	Remark
1	Top Cover	1	
2	M3 Screw (Flat)	2	6 +/- 0.5 Kgf-cm

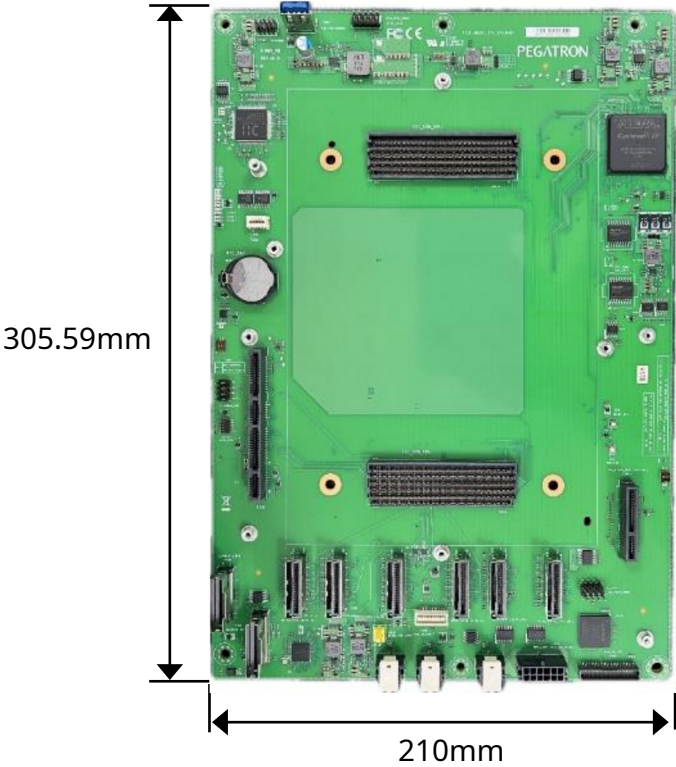


ME Outline

- System Overall View
 - System Iso View
 - System Top View
 - System Front View
 - System Rear View
 - Bay Configuration Diagram - CRPS SKU
- Assembly
 - PCB
 - Module
 - System
- **Board Placement**
 - MB
 - **Small Board**
- Cable Routing SOP
- Rail Kit Assembly SOP

Mother Board

Dimension: 305.59mm (L) 210mm (W)* 2mm (T)*



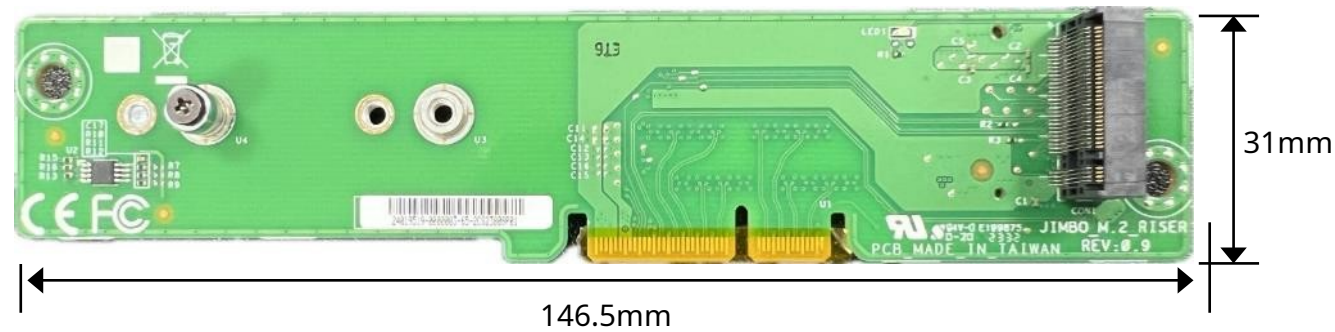
BMC Board

Dimension: 96.49mm (L)* 31mm (W)* 1.57mm (T)



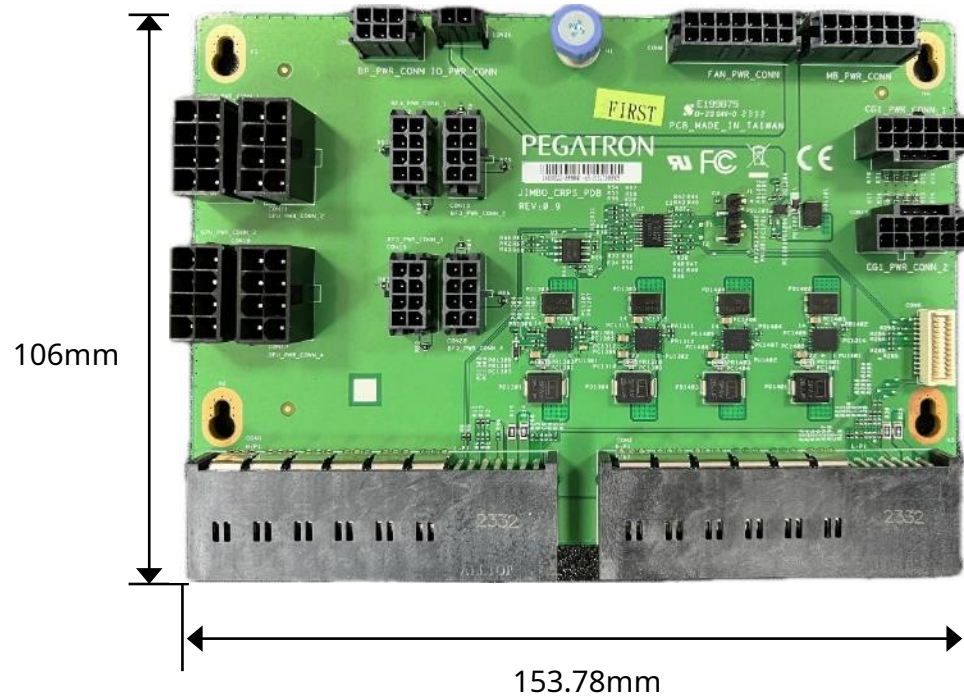
M.2 Board

Dimension: 146.5mm (L) 31mm (W)* 1.6mm (T)*



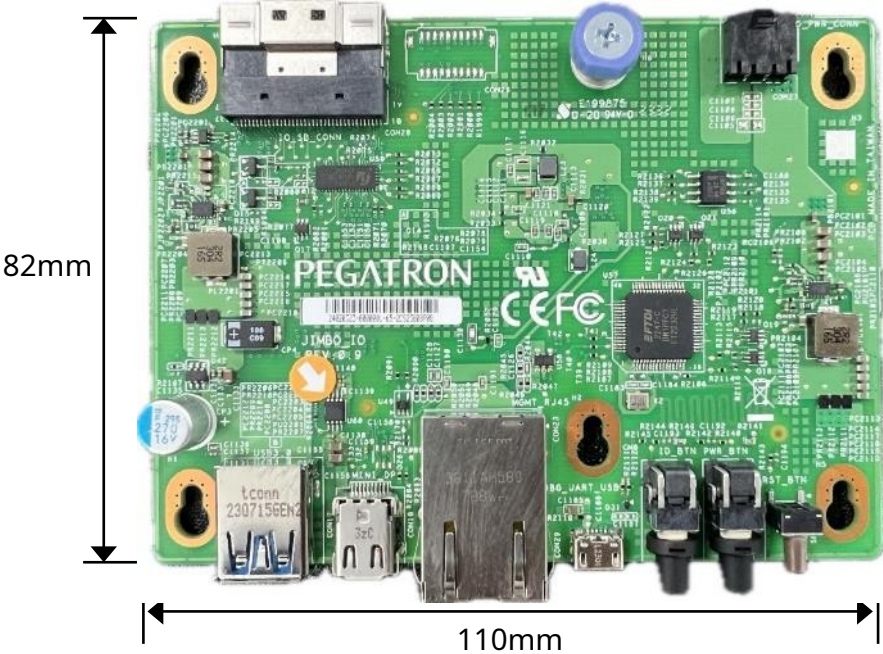
CRPS PDB

Dimension: 106mm (L)* 153.78mm (W)* 2mm (T)



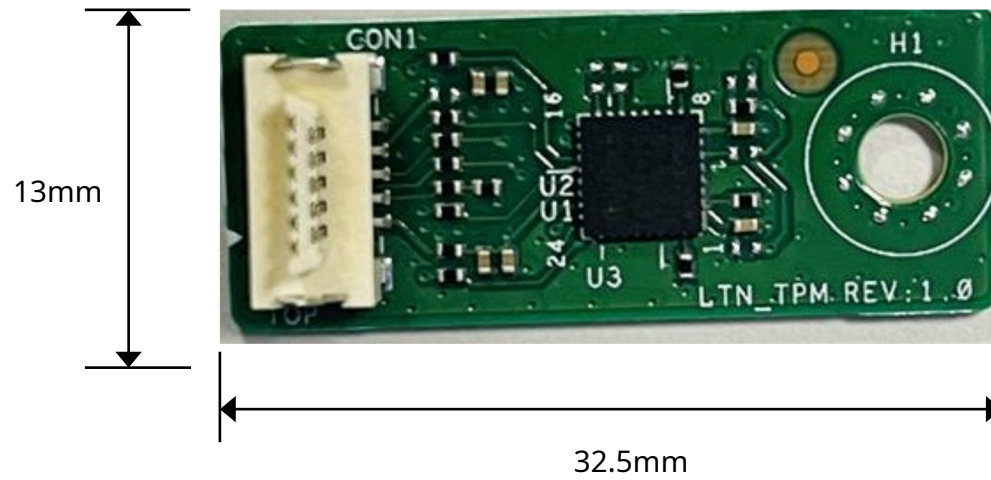
IO Board

*Dimension: **110mm (L)* 82mm (W)* 1.6mm (T)***



TPM Board

Dimension: **32.5mm** (L)* **13mm** (W)* **1mm** (T)



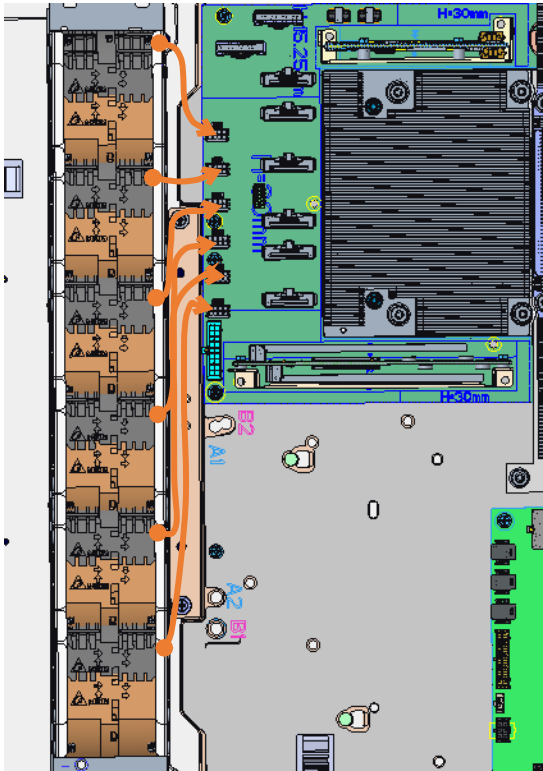
ME Outline

- System Overall View
 - System Iso View
 - System Top View
 - System Front View
 - System Rear View
 - Bay Configuration Diagram - CRPS SKU
- Assembly
 - PCB
 - Module
 - System
- Board Placement
 - MB
 - Small Board
- Cable Routing SOP
- Rail Kit Assembly SOP

SKU1 Cable Assembly-1 (Fan)

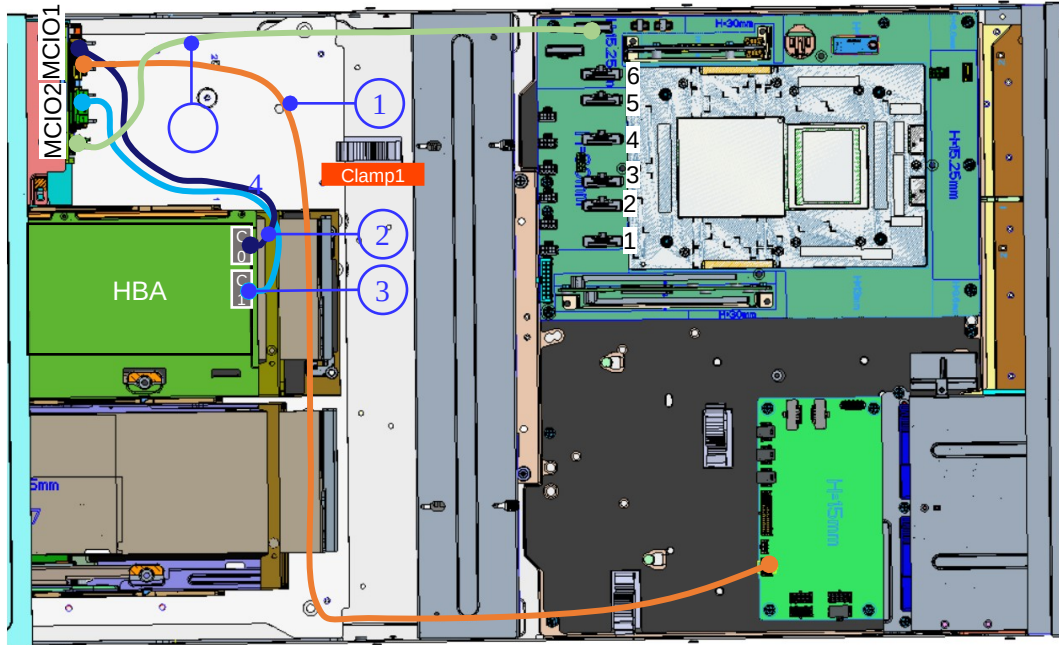
1. According routing  assemble fan power cable.

Order	Cable Name	Qty
1	Fan Power Cable	6

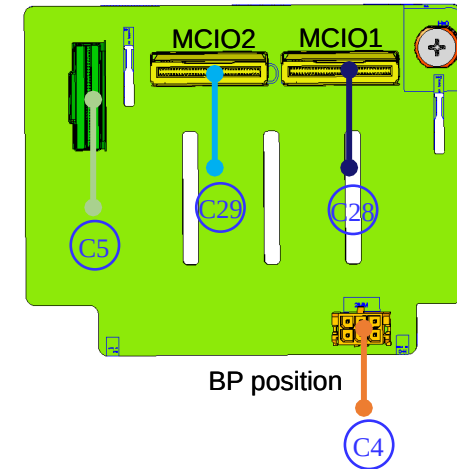


SKU1 Cable Assembly-2 (BP)

1. According routing ●—● assemble C4 BP power cable.
2. According routing ●—● assemble C28 HBA sideband cable, BP MCIO1 need to connect HBA C0 (label black text on purple background).
3. According routing ●—● assemble C29 HBA sideband cable, BP MCIO2 need to connect HBA C1 (label black text on white background).
4. According routing ●—● assemble C5 BP Sideband Cable (label black text on blue background).

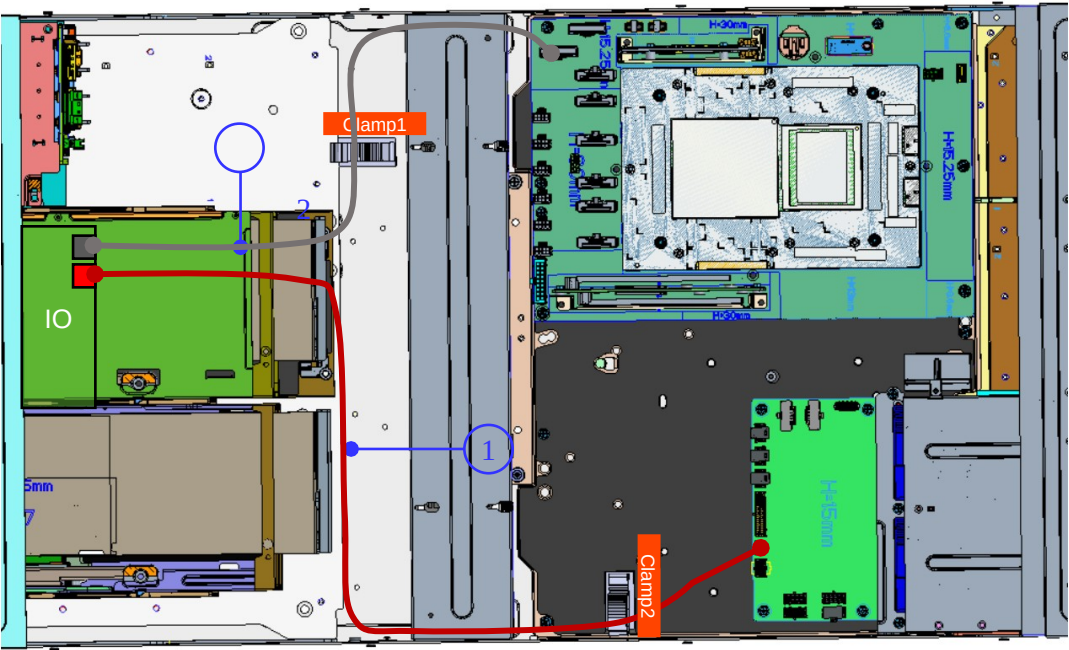


Order	Item	Cable Name	Qty
1	C4	PDB to BP Power Cable(6 pin)	1
2	C28	HBA to BP signal cable-1	1
3	C29	HBA to BP signal cable-2	1
4	C5	MB to BP Sideband Cable	1

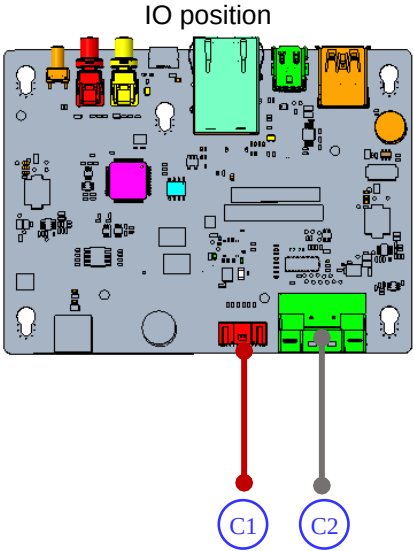


SKU1 Cable Assembly-3 (IO)

- 1. According routing ●—● assemble IO power cable.
- 2. According routing ●—● assemble IO SlimSAS cable(label black text on yellow background).



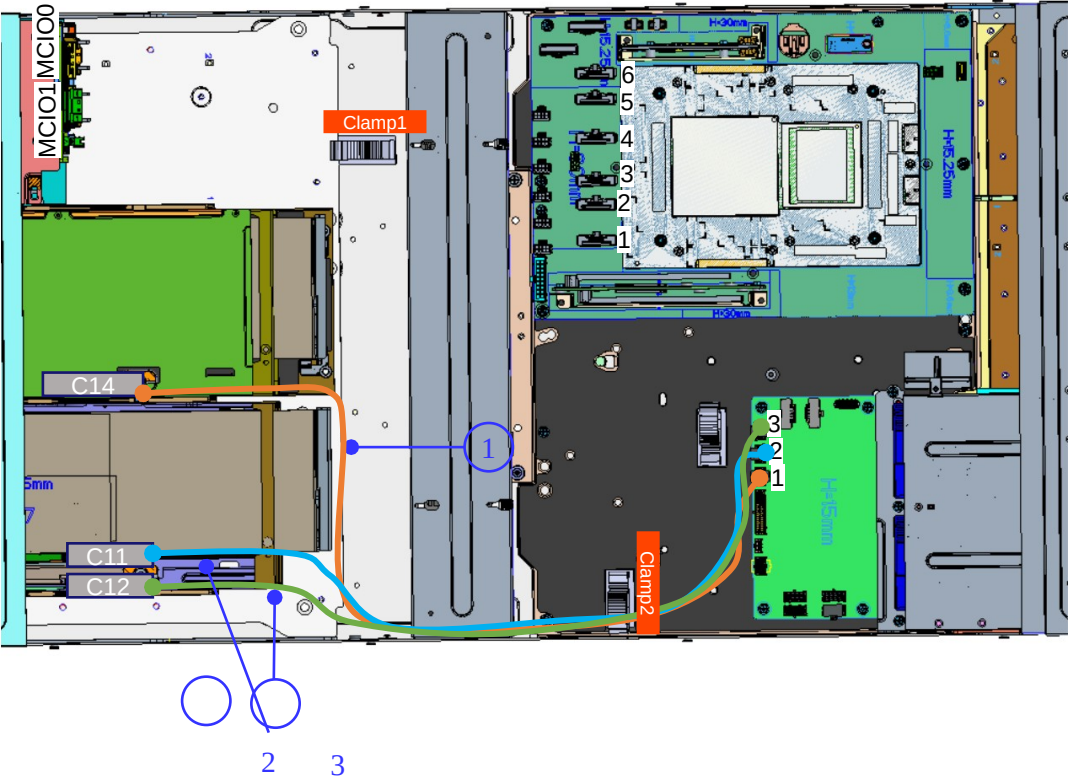
	Item	Cable Name	Qty
C1	1414-0EMX000	PDB to IO Power Cable(2 pin)	1
C2	1414-0END000	MB to IO SlimSAS Cable	1



SKU1 Cable Assembly-4 (Riser power)

- 1. According routing  assemble C14 MB to BF3 Riser Power Cable connect to slot1.
- 2. According routing  assemble C11 MB to Upper Riser Power Cable connect to slot2.
- 3. According routing  assemble C12 MB to Lower Riser Power connect to slot3.

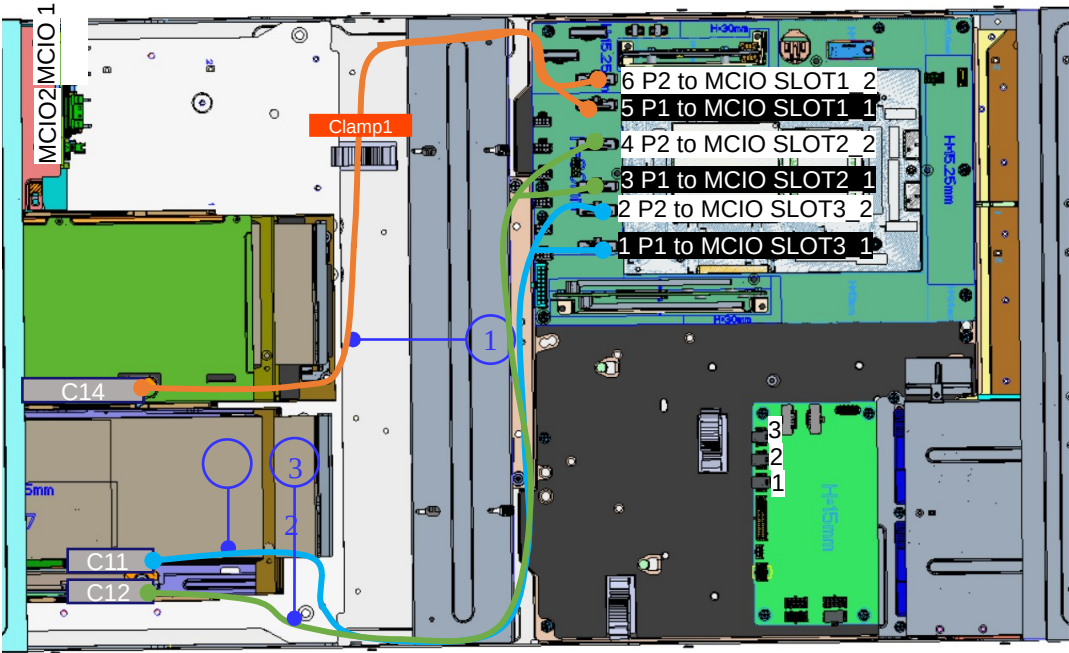
Note: C11-1,C12-1 and C14-1 all need to be buckled clamp2.



	Item	Cable Name	Qty
1	C14-1	MB to BF3 Riser Power Cable(6 pin)	1
3	C11-1	MB to Upper Riser Power Cable(6 pin)	
2	C12-1	MB to Lower Riser Power Cable(6 pin)	1

SKU1 Cable Assembly-5 (Riser MCIO)

- 1. According routing  assemble C14 MB to BF3 Riser MCIO Cable, Riser **P1** (White text on black background)connect to **MCIO SLOT3_1**, Riser **P2**(Black text on white background) connect to MB **MCIO SLOT3_2**.
- 2. According routing  assemble C12 MB to Lower Riser MCIO Cable,Riser **P1**(White text on black background) connect to MB **MCIO|SLOT1_1**,Riser **P2**(Black text on white background) connect to MB **MCIO SLOT1_2**.
- 3. According routing  assemble C11 MB to Upper Riser MCIO Cable,Riser **P1**(White text on black background) connect to **MCIO SLOT2_1**,Riser **P2**(Black text on white background) connect to MB **MCIO SLOT2_2**.

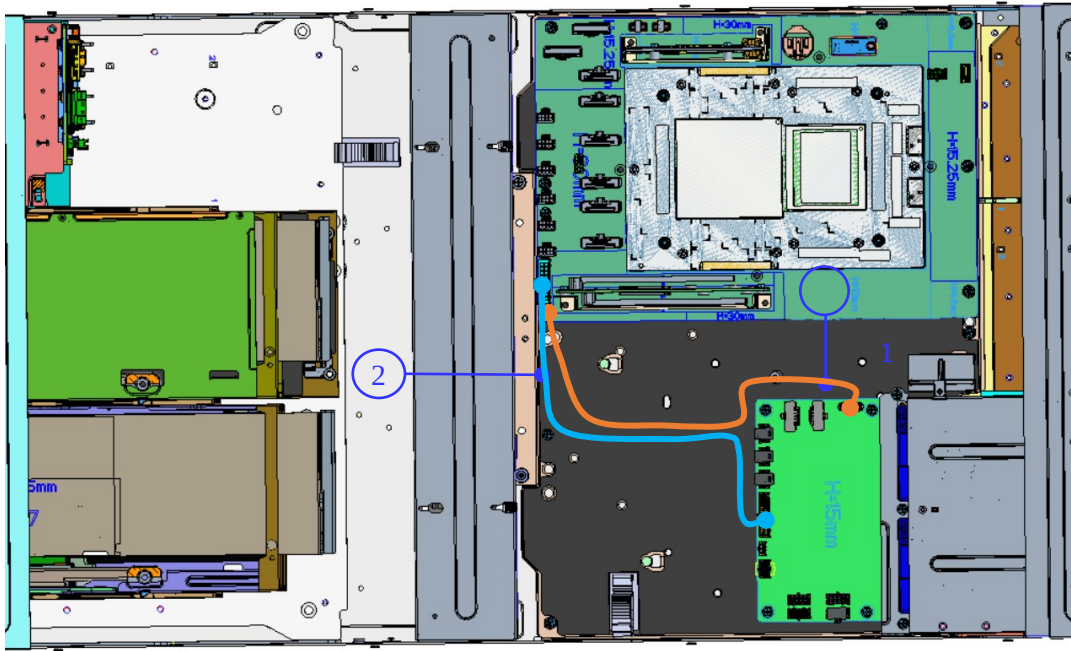


	Item	Cable Name	Qty
1	C14-2	MB to BF3 Riser MCIO Cable	1
2	C12-2	MB to Lower Riser MCIO Cable	1
3	C11-2	MB to Upper Riser MCIO Cable	1

(P1:Label white text on black background;P2: Label black text on white background)

SKU1 Cable Assembly-6 (MB signal & power)

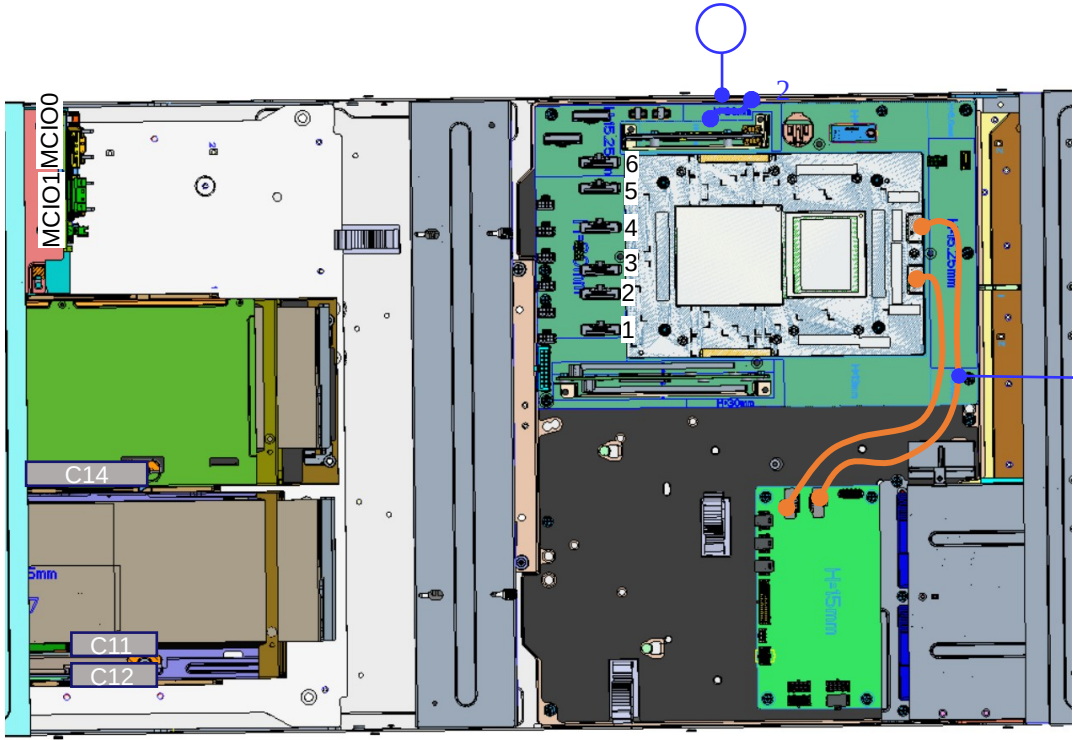
- 1. According routing  assemble C9 MB to PDB Sideband Cable.
- 2. According routing  assemble C8 PDB to MB Power Cable(18 pin).



	Item	Cable Name	Qty
1	1414-0EN4000	MB to PDB Sideband Cable	1
2	1414-0EN1000	PDB to MB Power Cable(18 pin)	1

SKU1 Cable Assembly-7 (CG1 power)

- 1. According routing  assemble C3 PDB to CG1 Power Cable(16 pin).
- 2. According routing  assemble Instrusion Cable.

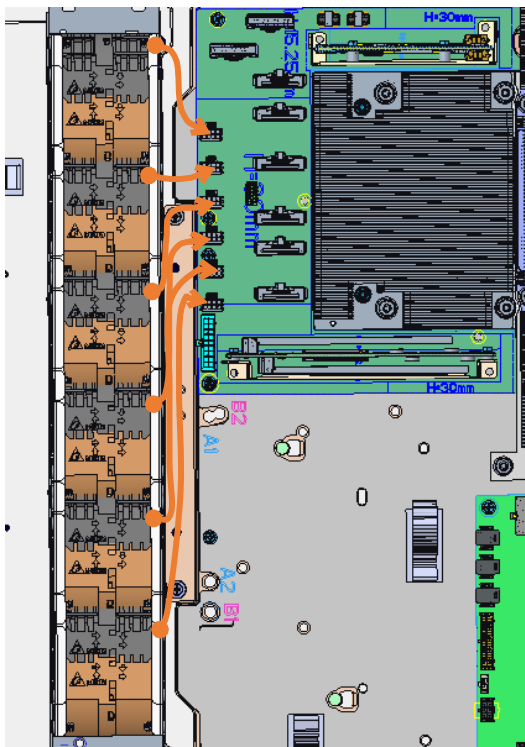


	Item	Cable Name	Qty
1	C3	PDB to CG1 Power Cable(16 pin)	2
2		Instrusion Cable	1

SKU2 Cable Assembly-1 (Fan)

1. According routing ●—● assemble fan power cable.

Note:Cable installation nearby.

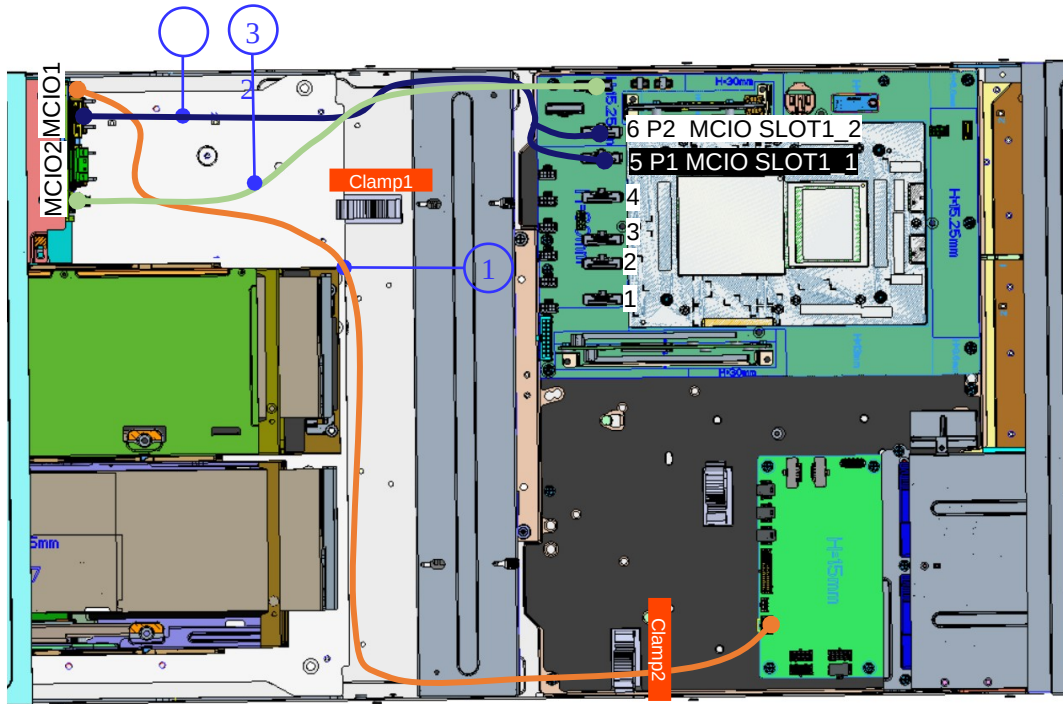


Order	Cable Name	Qty
1	Fan Power Cable	6

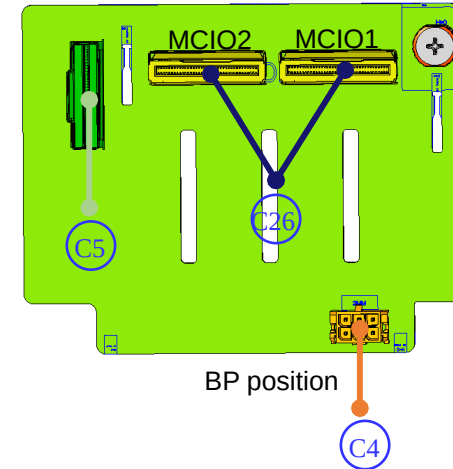
SKU2 Cable Assembly-2 (BP)

1. According routing  assemble C4 BP power cable.
2. According routing  assemble C26 BP MCIO cable, BP MCIO1 need to connect SLOT1_1(P1: label black text on purple background);BP MCIO1 need to connect SLOT1_2(P2: label black text on white background).
3. According routing  assemble C5 BP sideband cable. (label black text on blue background).

Note: C4 need to be buckled clamp2 & C26 need to be buckled clamp1.

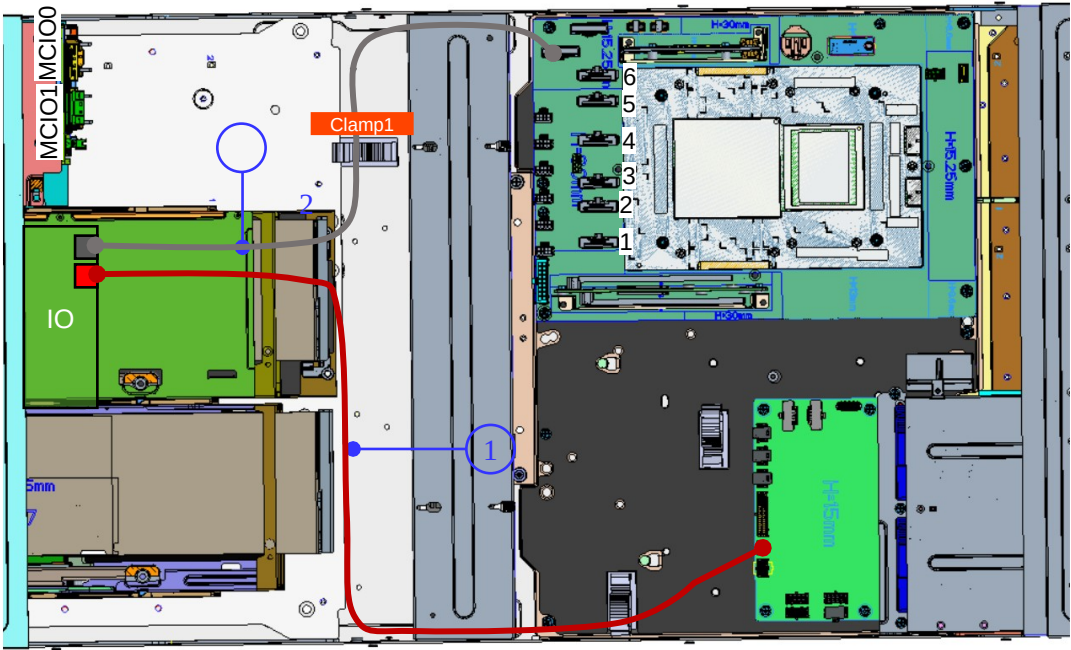


Order	Item	Cable Name	Qty
1	C4	PDB to BP Power Cable(6 pin)	1
2	C26	MB to BP MCIO Cable	1
3	C5	MB to BP Sideband Cable	1

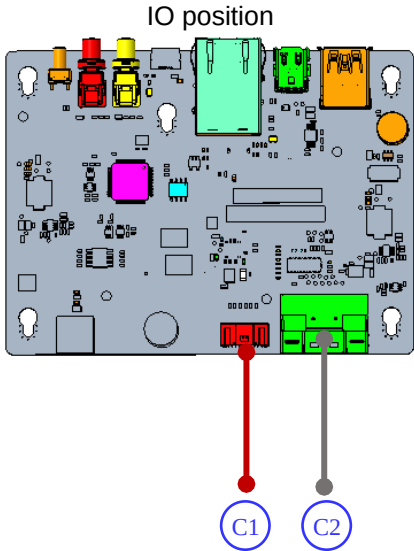


SKU2 Cable Assembly-3 (IO)

- 1. According routing ●—● assemble C1 IO power cable.
- 2. According routing ●—● assemble C2 IO SlimSAS cable(label black text on yellow background).



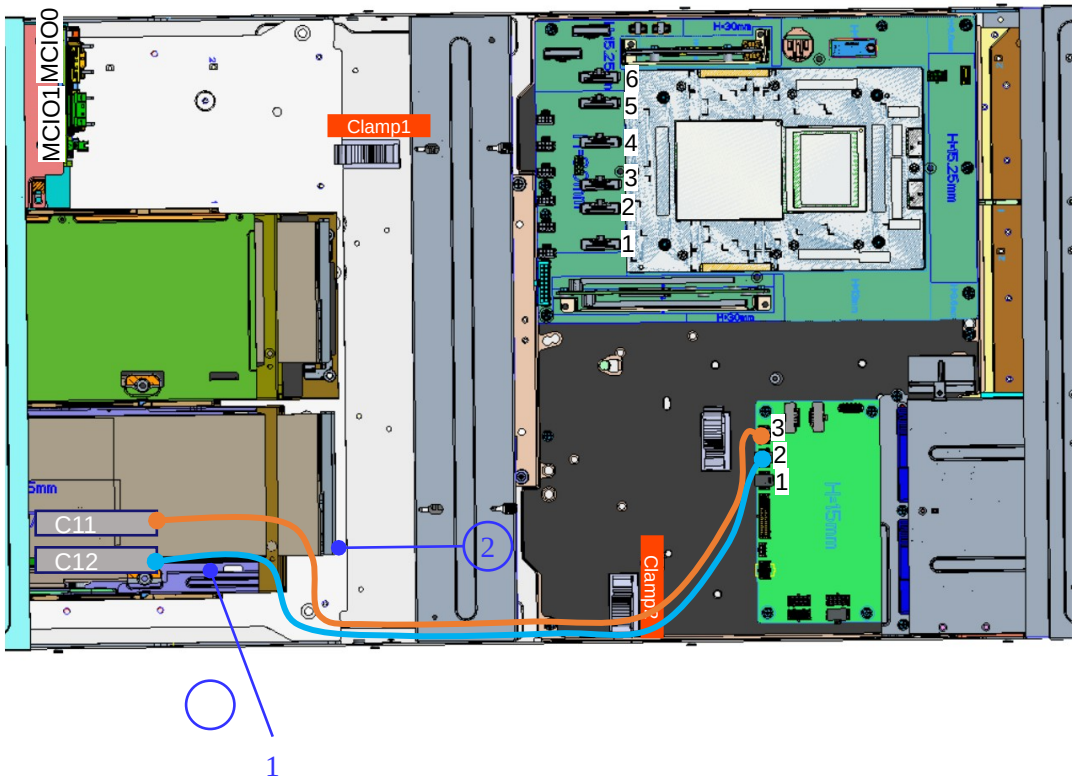
	Item	Cable Name	Qty
1	C1	PDB to IO Power Cable(2 pin)	1
2	C2	MB to IO SlimSAS Cable	1



SKU2 Cable Assembly-4 (Riser power)

- 1. According routing  assemble C12 MB to Lower Riser Power Cable connect to slot2.
- 2. According routing  assemble C11 MB to Upper Riser Power Cable connect to slot1.

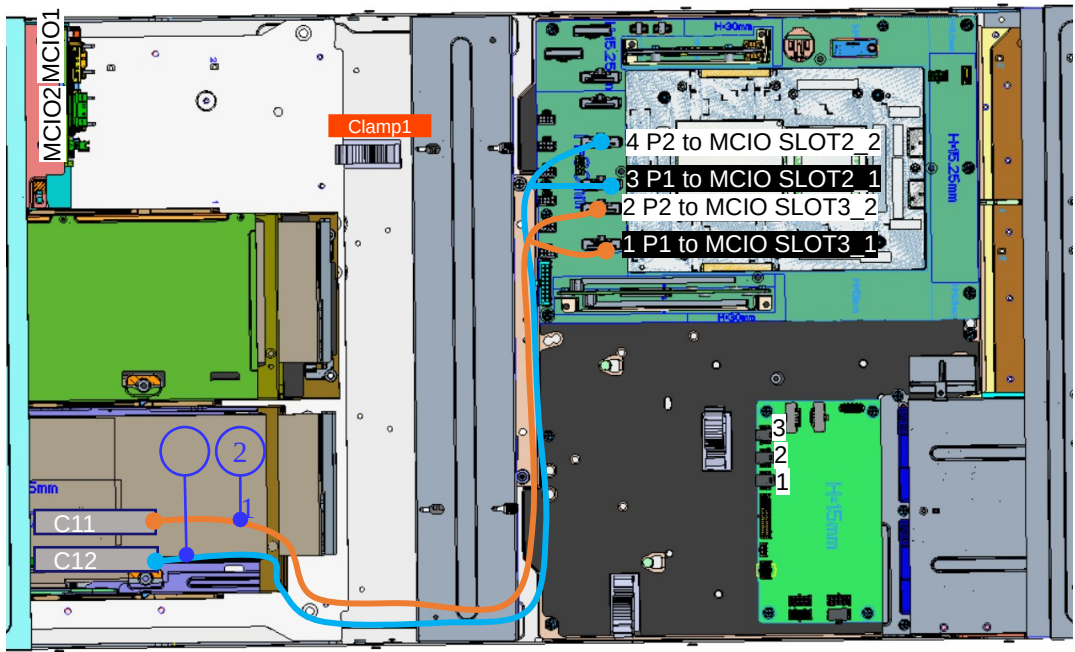
Note: C11-1and C12-1 all need to be buckled clamp2.



	Item	Cable Name	Qty
1	C12-1	MB to Lower Riser Power Cable(6 pin)	1
2	C11-1	MB to Upper Riser Power Cable(6 pin)	1

SKU2 Cable Assembly-5 (Riser MCIO)

- 1. According routing  assemble C12 MB to Lower Riser MCIO Cable, **Riser P1**connect to **MCIO SLOT2_1**(White text on **black background**), **Riser P2** connect to **MCIO SLOT2_2** (Black text on white background).
- 2. According routing  assemble C11 MB to Upper Riser MCIO Cable, **Riser P1**connect to **MCIO SLOT3_1**(White text on **black background**), **Riser P2** connect to **MCIO SLOT3_2** (Black text on white background).



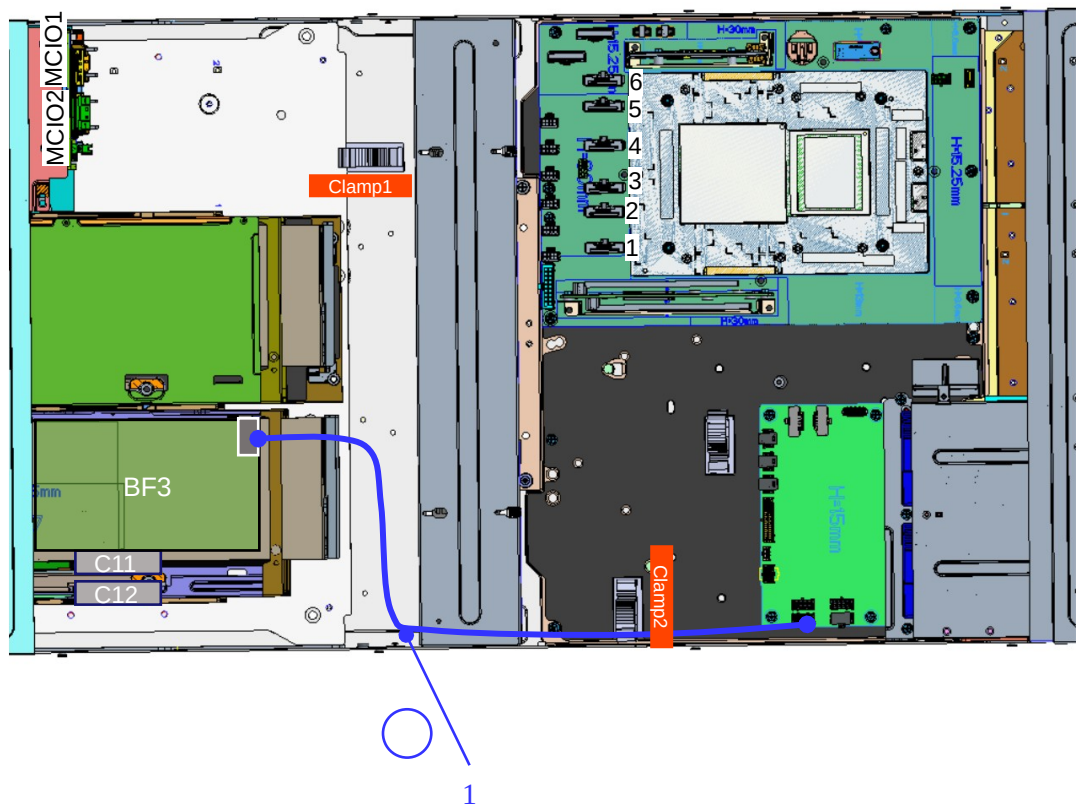
	Item	Cable Name	Qty
1	C12-2	MB to Lower Riser MCIO Cable	1
2	C11-2	MB to Upper Riser MCIO Cable	1

(P1:Label white text on black background;P2: Label black text on white background)

SKU2 Cable Assembly-6 (For BF3 power)

1. According routing  assemble C13 PDB to BF3 Riser card Power Cable(8 pin)for lower/upper layer .

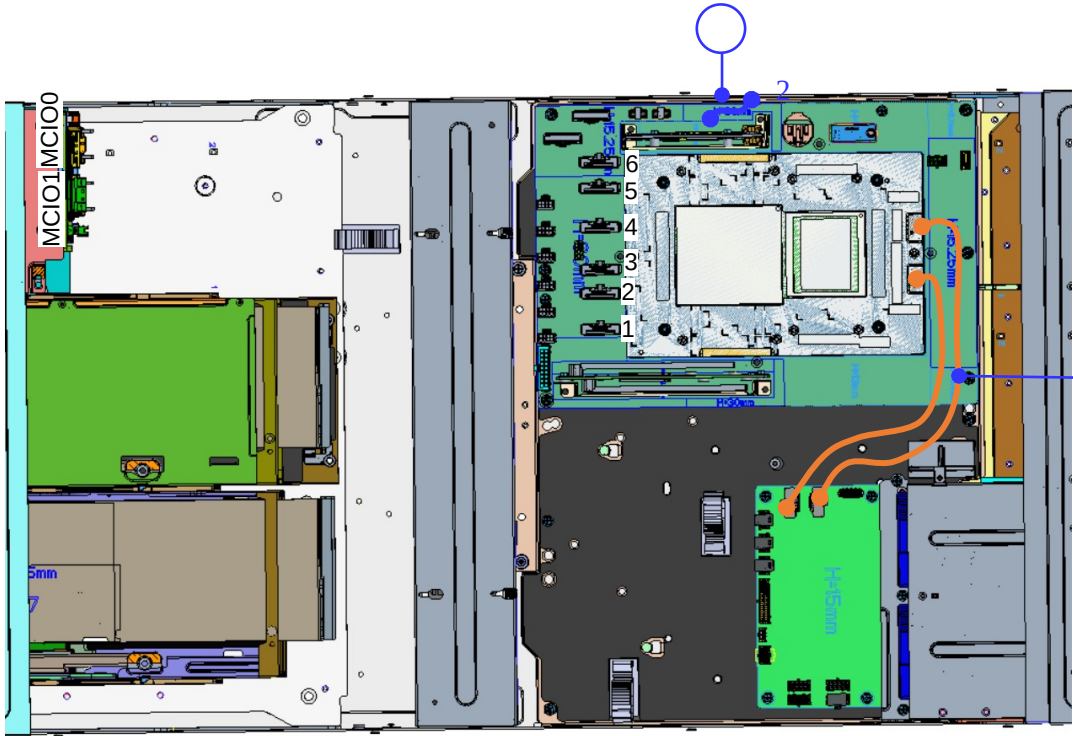
Note: C13 need to be buckled clamp2.



	Item	Cable Name	Qty
1	C13	PDB to BF3 Riser card Power Cable(8 pin)	1or2

SKU2 Cable Assembly-8 (CG1 power)

- 1. According routing  assemble C3 PDB to CG1 Power Cable(16 pin).
- 2. According routing  assemble Instrusion Cable.



	Item	Cable Name	Qty
1	C3	PDB to CG1 Power Cable(16 pin)	2
2		Instrusion Cable	1

JIMBO

Rail Kit Assembly SOP

MGX 2U Rail Kit Content

2PCS of Rail/Hardware Kit



Demonstration of universal tool-less Bracket for Square, round and threaded hole racks

9.5 Square Hole



Φ7.1 Round Hole



Thread Hole (M5, 10-32)

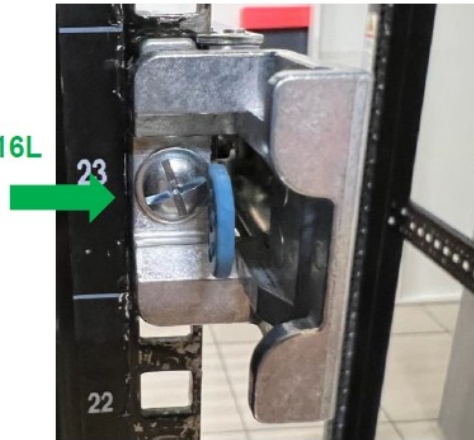


Screw pack

(A) M4x4L			4PCS	GJAN6801DI-4Z0S
(B) M3X4L			2PCS	GJAN6101DQ-4Z02
(C) M5x10L			2PCS	GJ3A0012DK-4Z0S
(D) WASHER			2PCS	GG3A0009DF-ZZ0S
(E) #10-32X16L			2PCS	GJN761DQ-4Z0S

Front Bracket

(E) #10-32X16L



Rear Bracket

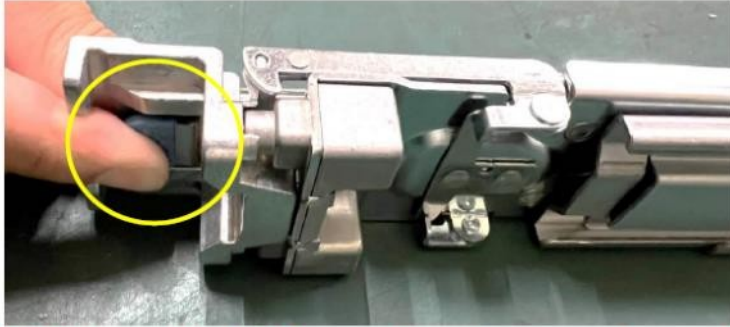
(C) M5X10L
(D) WASHER



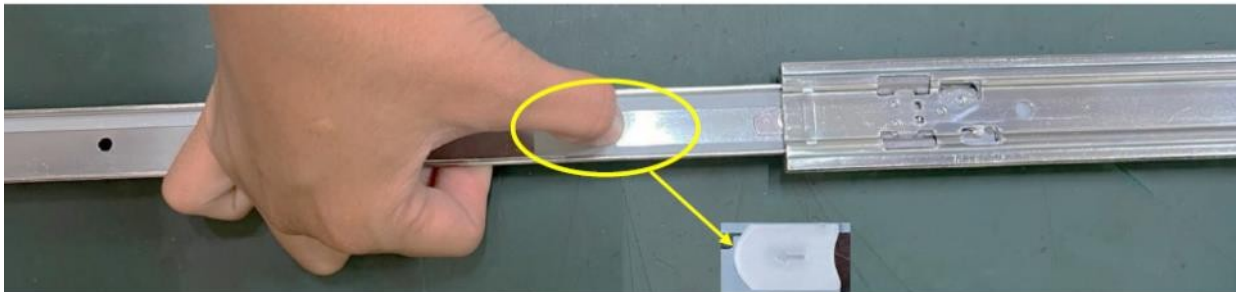
Prepare Rail Kit For Installation

Step1: Remove the inner rail to assemble to side of chassis

Press the blue tab and pull out inner rail



Pull the white tab forward and remove inner rail from middle rail



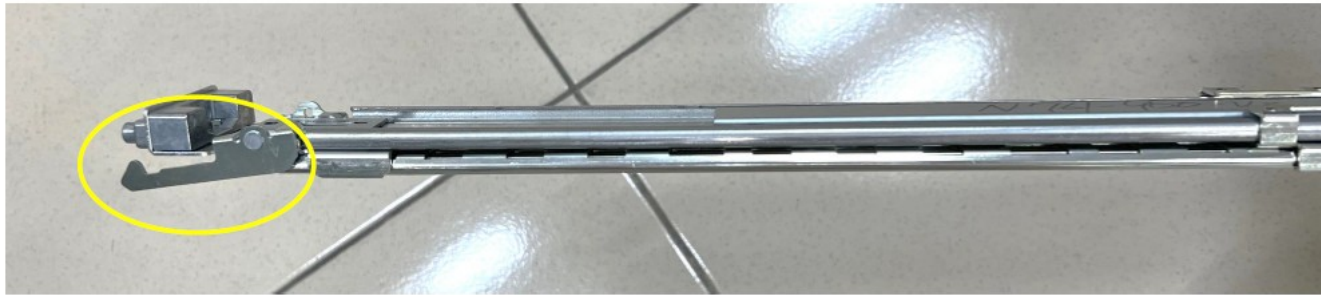
Step2: Retrace middle rail and ready for installation onto rack post

Rotate the tab to retract middle rail back



Step3: Slide the rear bracket open

Slide the rear bracket to the end until the hook lift up



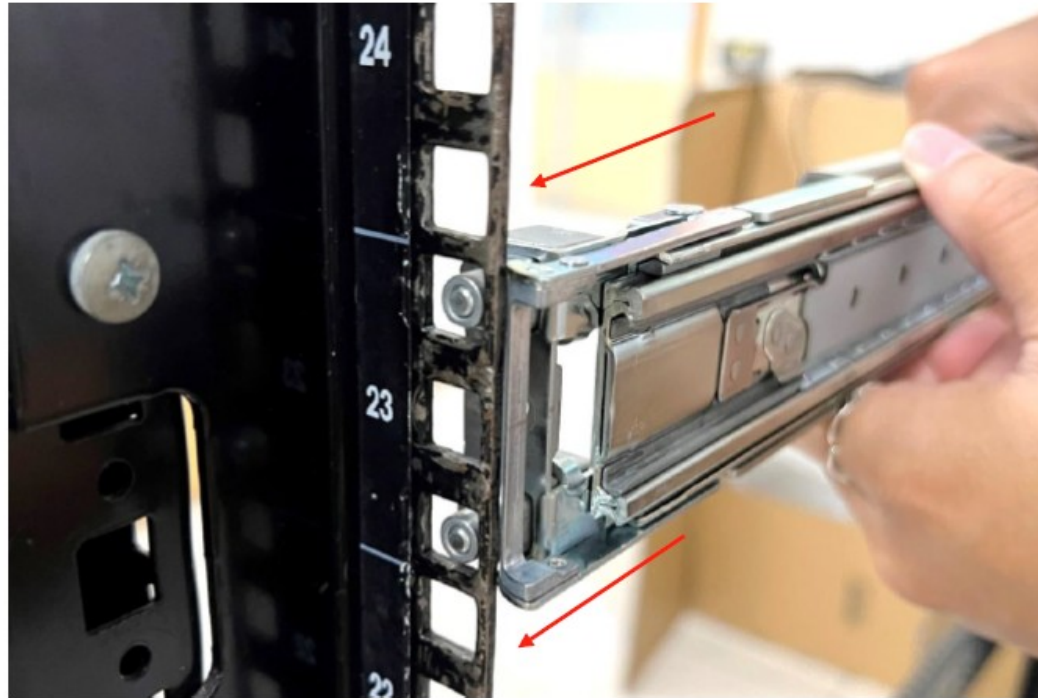
Step4: Fix the rear bracket to the rack post

Align the rear bracket to the rear rack post first



Step5: Fix the front bracket to the rack post

And pull forward the front bracket to the front rack post



**Insert The Chassis to Complete
The Installation**

Step1: Pull the middle rail fully extended in lock position

Ensure the ball retainer is located at the front of middle rail



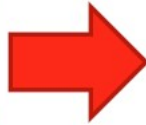
Step2: Insert chassis to middle rail



**Remove Chassis And Rail Kit
off The Rack**

Step1: Remove the chassis and rail kit off the rack

Press the blue tab and pull out inner rail (with chassis)



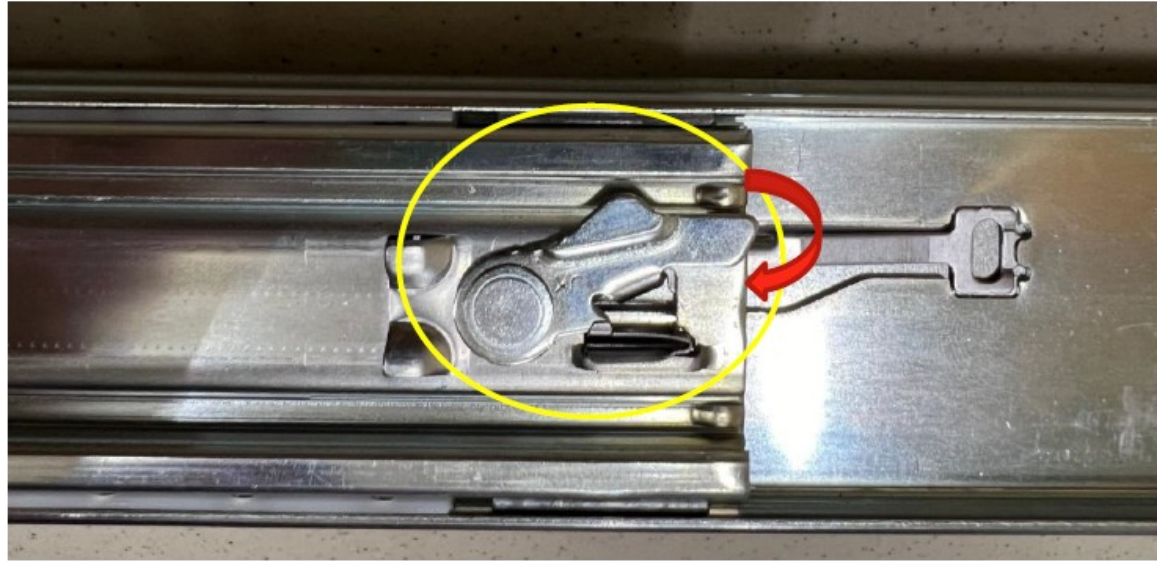
Pull the white tab forward and take out inner rail(with chassis) from middle rail



***CAUTION:** Remove chassis require two operators and lifter.

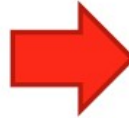
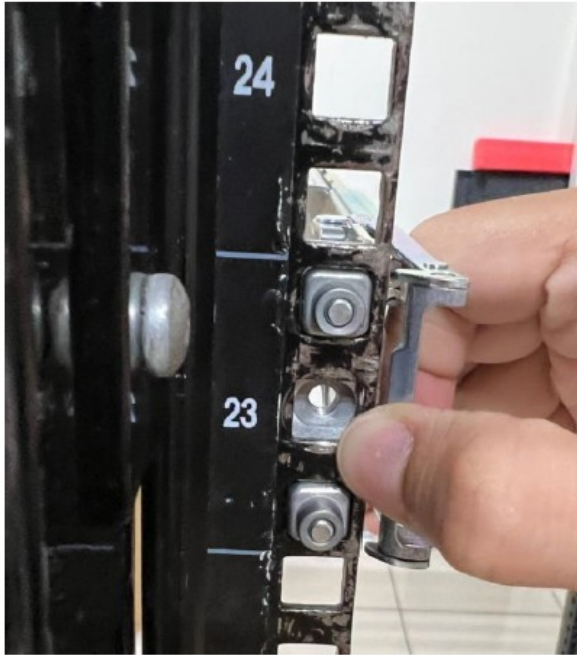
Step2: Retract middle rail and ready to remove off rack post

Rotate the tab to retract middle rail back

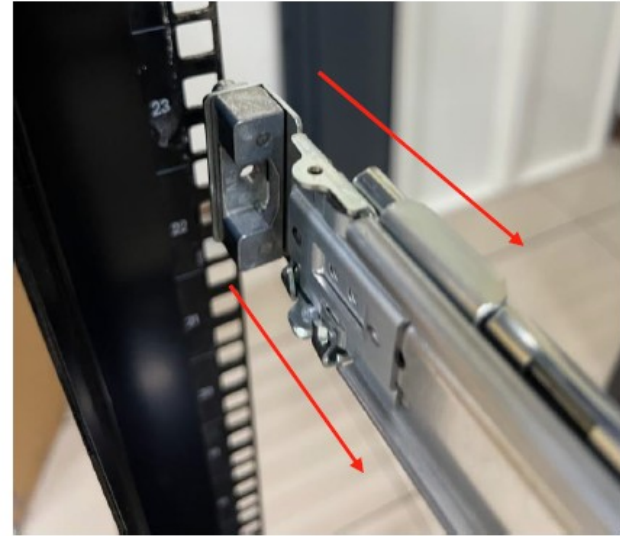


Step3: Remove the rail kit off rack

Lift up the hook latch and slide backward to detach from the rack post



Slide rear bracket forward to detach from rack post



System FW Upgrade User Guide

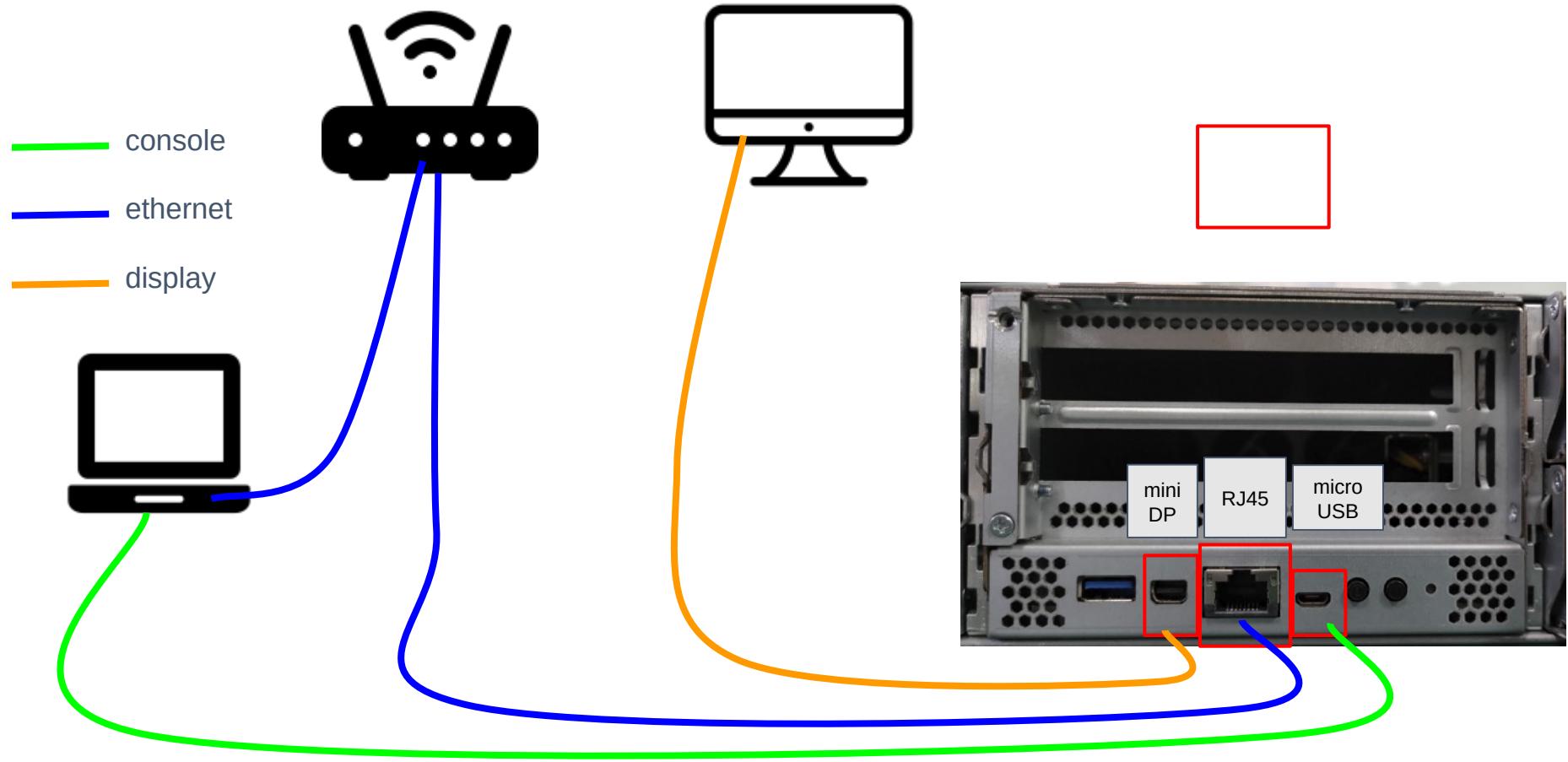
FW Upgrade User Guide

- Environment Setup
- BMC Firmware Update User Guide
- BIOS Firmware Update User Guide

Environment Setup (1/7)

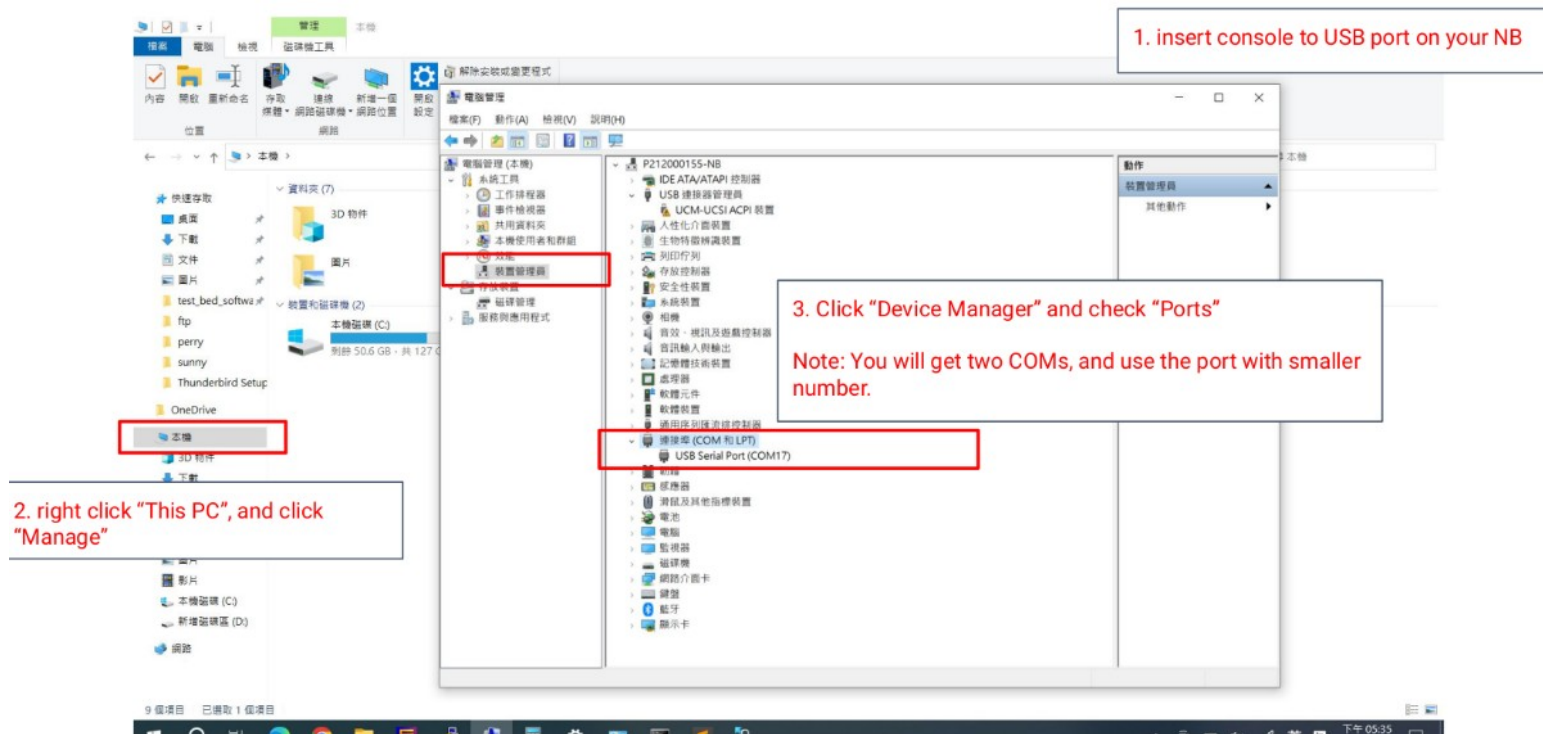
- prerequisite
 1. BMC and BIOS firmware files
 2. Setup network communication between BMC and your laptop
 - As default, BMC acquires IP address with DHCP protocol; prepare two ethernet cables, and one router(with DHCP server)
 3. You can check BMC IP address through one of the following methods
 - a. Console: use ifconfig to check BMC IP address, prepare the following software tool:
 - i. Windows version: “putty”, available here:
<https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html>)
 - ii. Linux version: “minicom”
 - b. Display Monitor: When the host boots up, the BMC IP address will appear on the display monitor; prepare the following devices:
 - i. display port cable and monitor

Environment Setup (2/7)



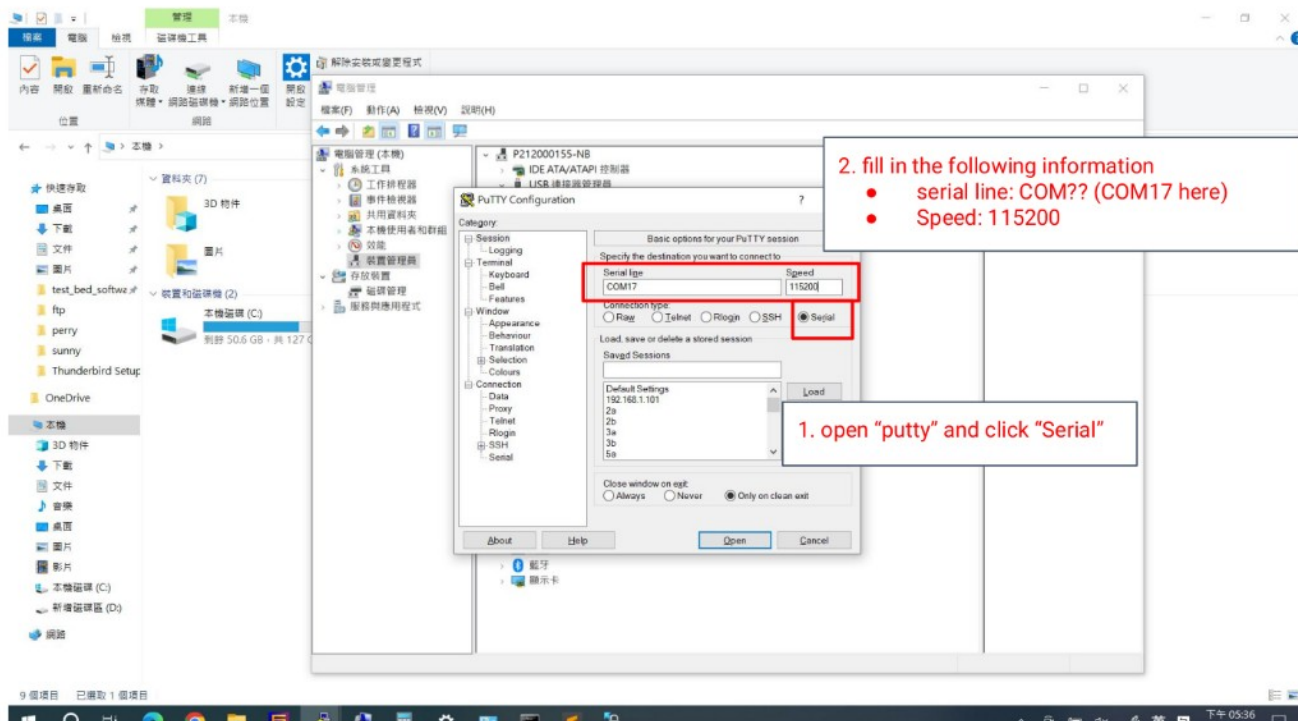
Environment Setup (3/7)

- Setup console:
 - Windows version: 1. verify COM port



Environment Setup (4/7)

- Setup console:
 - 2. use putty to connect COM port



Environment Setup (5/7)

- Setup console:
 - Linux version: 1. check console port (there will be 2 ports, and use the smaller one)

```
tester@testerpc:~$ ls /dev/ttyUSB*
```

- 2. use minicom to connect console

```
tester@testerpc:~$ sudo minicom -D /dev/ttyUSB0
```

- **Note: If you are using a Windows laptop to perform firmware updates, please ignore this page and log in to BMC directly.**

Environment Setup (6/7)

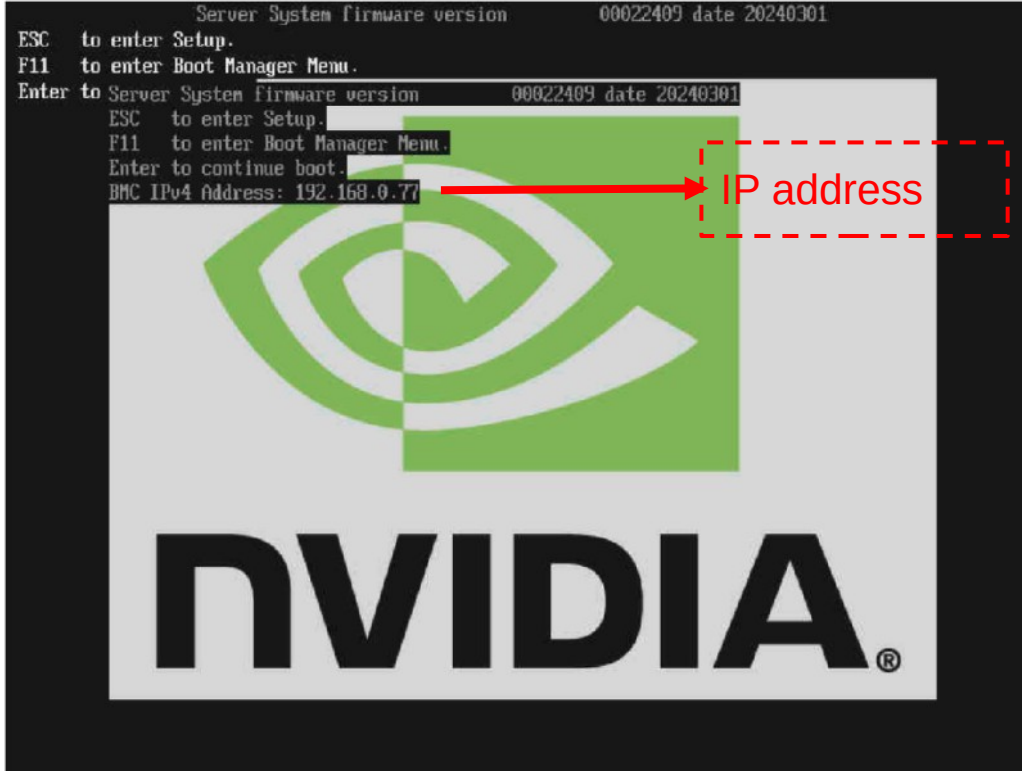
- login to BMC with username/password : [root/OpenBmc](#) (Please note that “0” is zero)
- use ifconfig to check BMC IP address

```
jimbo login: root
Password:
Last login: Mon Mar 11 02:45:00 UTC 2024 on ttyS4
root@jimbo:~# ifconfig eth0
eth0      Link encap:Ethernet  HWaddr 5E:91:56:3D:42:73
          inet addr:192.168.0.77  Bcast:192.168.0.255  Mask:255.255.255.0
          inet6 addr: fe80::5c91:56ff:fe3d:4273/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:812 errors:0 dropped:0 overruns:0 frame:0
          TX packets:80 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:121478 (118.6 KiB)  TX bytes:7477 (7.3 KiB)
          Interrupt:33

root@jimbo:~# █
```

Environment Setup (7/7)

- Use Display monitor to check IP



- Now you can access BMC webpage: [https://\[IP address\]](https://[IP address])

FW Upgrade User Guide

- Environment Setup
- BMC Firmware Update User Guide
- BIOS Firmware Update User Guide

BMC firmware update (1/6)

- login Jimbo's web-UI


NVIDIA

Language

English ▾

Username

root

Password

••••• 

Log in

Username: root

Password: OpenBmc

- **Please note that the password “0” is zero**

BMC firmware update (2/6)

Login>Operations>Firmware>Add file>Start update

NVIDIA Health Power Refresh root

Firmware

BMC and server

Running image

Version
jimbo-bmc_0.01.240801

BMC firmware version

Update firmware

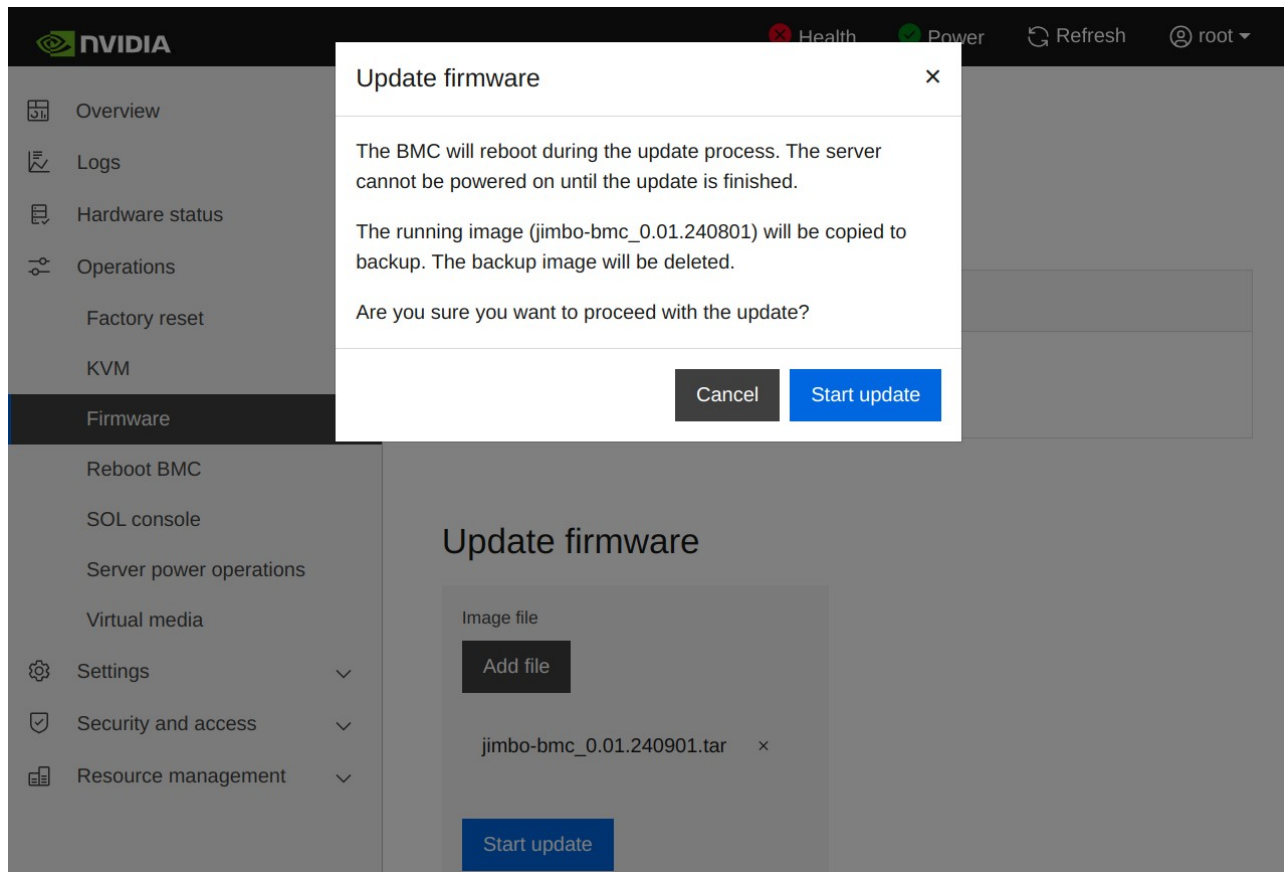
Image file

Add file
jimbo-bmc_0.01.240901.tar

Start update

1. Click "Add file"
2. selected .tar file
3. Click "Start update"

BMC firmware update (3/6)



- press “Start update” for confirmation.
- **Note: Please do not cut off the power during the update process.**

BMC firmware update (4/6)

The screenshot displays the NVIDIA iDRAC web interface. The top navigation bar includes the NVIDIA logo, status indicators for Health (red X), Power (green checkmark), Refresh (circular arrow), and a user profile for 'root'. The left sidebar contains a menu with options: Overview, Logs, Hardware status, Operations, Factory reset, KVM, Firmware (highlighted), Reboot BMC, SOL console, Server power operations, Virtual media, Settings, Security and access, and Resource management. The main content area is titled 'Firmware' and 'BMC and server'. It features a 'Running image' section showing the current version 'jimbo-bmc_0.01.240801'. Below this is the 'Update firmware' section, which includes an 'Image file' area with an 'Add file' button and a list of uploaded files, including 'jimbo-bmc_0.01.240901.tar'. A 'Start update' button is visible at the bottom of the update section. A blue notification box in the upper right of the main area states 'Update started' and advises waiting for a notification before making changes, with a timestamp of 03:14:25 UTC.

- Wait until firmware updated verify notification.
- The entire update process takes about 6 minutes

BMC firmware update (5/6)

The screenshot displays the NVIDIA iDRAC web interface. The top navigation bar includes the NVIDIA logo, a 'Health' status indicator (red X), a 'Power' status indicator (green checkmark), a 'Refresh' button, and a user profile 'root'. The left sidebar contains a menu with options: Overview, Logs, Hardware status, Operations, Factory reset, KVM, Firmware (highlighted), Reboot BMC, SOL console, Server power operations, Virtual media, Settings, Security and access, and Resource management. The main content area is titled 'Firmware' and 'BMC and server'. It features a 'Running image' section showing the current version 'jimbo-bmc_0.01.240801'. Below this is the 'Update firmware' section, which includes an 'Image file' upload area with an 'Add file' button. A file named 'jimbo-bmc_0.01.240901.tar' is shown with a close button. A 'Start update' button is at the bottom of the update section. Two informational pop-up boxes are overlaid on the right side: 'Verify update' (Refresh the application to verify firmware updated successfully) and 'Update started' (Wait for the firmware update notification before making any changes. 03:14:25 UTC).

- press “Refresh” to reload webpage after updated successfully

BMC firmware update (6/6)

The screenshot displays the NVIDIA iDRAC web interface. The top navigation bar includes the NVIDIA logo, status indicators for Health (red X) and Power (green checkmark), a Refresh button, and a user profile for 'root'. The left sidebar contains a menu with options: Overview, Logs, Hardware status, Operations, Factory reset, KVM, Firmware (highlighted), Reboot BMC, SOL console, Server power operations, Virtual media, Settings, Security and access, and Resource management. The main content area is titled 'Firmware' and 'BMC and server'. Under 'Running image', the 'Version' is listed as 'jimbo-bmc_0.01.240901'. An arrow points from this version string to a dashed box labeled 'BMC firmware version'. Below this, the 'Update firmware' section contains an 'Image file' upload area with an 'Add file' button and a 'Start update' button.

- Check firmware version after updated

FW Upgrade User Guide

- Environment Setup
- BMC Firmware Update User Guide
- BIOS Firmware Update User Guide

BIOS firmware update (1/9)

- Check BIOS firmware version before update:

```
ipmitool -C 17 -I lanplus -H [BMC IP ADDR] -U [BMC Username] -P [BMC Password] mc  
getsysinfo system_fw_version
```

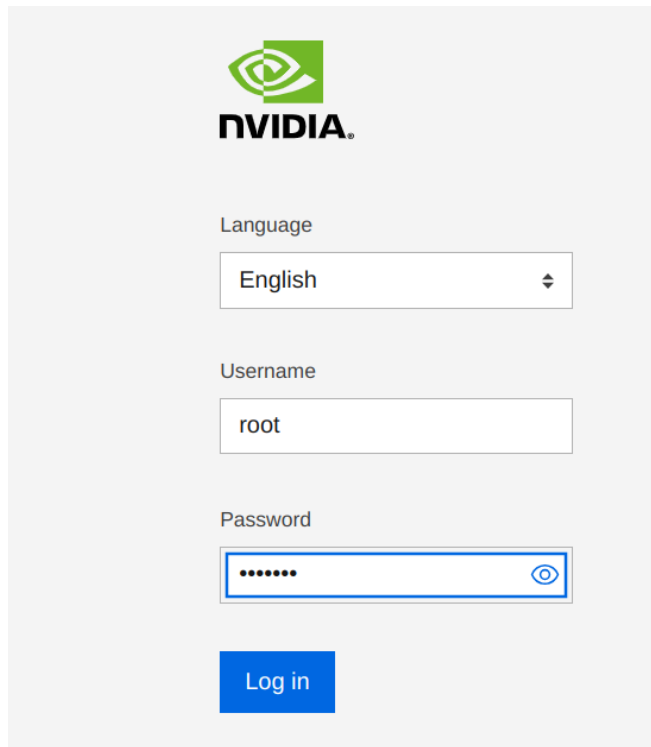
example:

```
tester@testerpc:/$ ipmitool -C 17 -I lanplus -H 192.168.0.77 -U root -P 0penBmc mc getsysinfo system_fw_version  
00012405
```

- **Note: BIOS firmware cannot be downgraded**

BIOS firmware update (2/9)

- login Jimbo's web-UI



The screenshot shows the NVIDIA Jimbo web-UI login interface. At the top is the NVIDIA logo. Below it is a language selection dropdown menu currently set to 'English'. Underneath is a username input field containing the text 'root'. Below the username field is a password input field with masked characters (dots) and a toggle icon for visibility. At the bottom of the form is a blue 'Log in' button.

Username: `root`

Password: `OpenBmc`

- **Please note that the password “0” is zero**

BIOS firmware update (3/9)

NVIDIA Health Power Refresh root

Firmware

BMC and server

Running image

Version
jimbo-bmc_0.01.240801

Update firmware

Image file

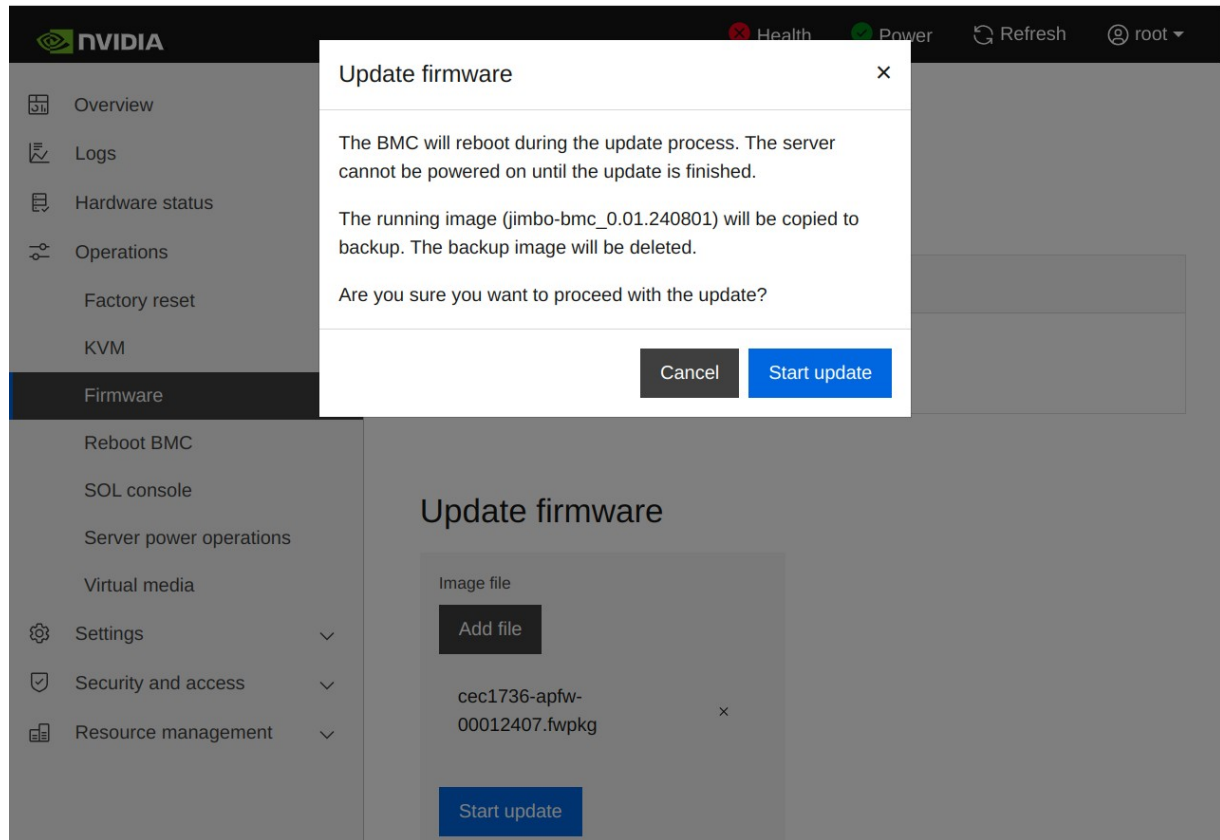
Add file

cec1736-apfw-00012407.fwpkg

Start update

1. Click "Add file"
2. selected .fwpkg file
3. Click "Start update"

BIOS firmware update (4/9)



- Press “Start update” for confirmation

Note1: Please do not cut off the power during the update process.

Note2: The pop-up message will be updated for future release.

BIOS firmware update (5/9)

The screenshot displays the NVIDIA iDRAC web interface. The top navigation bar includes the NVIDIA logo, status indicators for Health (red X) and Power (green checkmark), a Refresh button, and a user profile for 'root'. The left sidebar contains a menu with options: Overview, Logs, Hardware status, Operations, Factory reset, KVM, Firmware (highlighted), Reboot BMC, SOL console, Server power operations, Virtual media, Settings, Security and access, and Resource management. The main content area is titled 'Firmware' and 'BMC and server'. It features a 'Running image' section showing the current version 'jimbo-bmc_0.01.240801'. Below this is the 'Update firmware' section, which includes an 'Image file' area with an 'Add file' button and a file named 'cec1736-apfw-00012407.fwpkg'. A 'Start update' button is located at the bottom of the update section. A blue notification box in the top right corner of the main area states: 'Update started. Wait for the firmware update notification before making any changes. 05:39:42 UTC'.

- Wait until firmware updated verify notification.
- The entire update process takes about 6 minutes.

BIOS firmware update (6/9)

The screenshot displays the NVIDIA iDRAC web interface. The top navigation bar includes the NVIDIA logo, a 'Health' status indicator (red X), a 'Power' status indicator (green checkmark), a 'Refresh' button, and a user profile 'root'. The left sidebar contains a menu with options: Overview, Logs, Hardware status, Operations, Factory reset, KVM, **Firmware** (selected), Reboot BMC, SOL console, Server power operations, Virtual media, Settings, Security and access, and Resource management. The main content area is titled 'Firmware' and 'BMC and server'. It features a 'Running image' section showing the version 'jimbo-bmc_0.01.240801'. Below this is the 'Update firmware' section, which includes an 'Image file' upload area with an 'Add file' button and a list of files: 'cec1736-apfw-00012407.fwpkg'. A 'Start update' button is located at the bottom of the update section. Two notification popups are overlaid on the right side of the interface. The top popup, titled 'Verify update', states 'Refresh the application to verify firmware updated successfully' and includes a 'Refresh' link. The bottom popup, titled 'Update started', states 'Wait for the firmware update notification before making any changes.' and shows the time '05:39:42 UTC'.

- after receive firmware updated successfully notification, restart Host.

BIOS firmware update (7/9)

Power>Operations>Server power operations>Reboot

Health Power Refresh root

Overview

Logs

Hardware status

Operations

Factory reset

KVM

Firmware

Reboot BMC

SOL console

Server power operations

Virtual media

Settings

Security and access

Resource management

Server power operations

Current status

Server status
On

Last power operation
2024-03-06 05:48:25 UTC

Boot settings

Boot settings override

None

☐ Enable one time boot

TPM required policy
Enable to ensure the system only boots when the TPM is functional.

☐ Enabled

Save

Operations

Reboot server

☒ Orderly – operating system shuts down, then server reboots

☐ Immediate – Server reboots without operating system shutting down; may cause data corruption

Reboot

Shutdown server

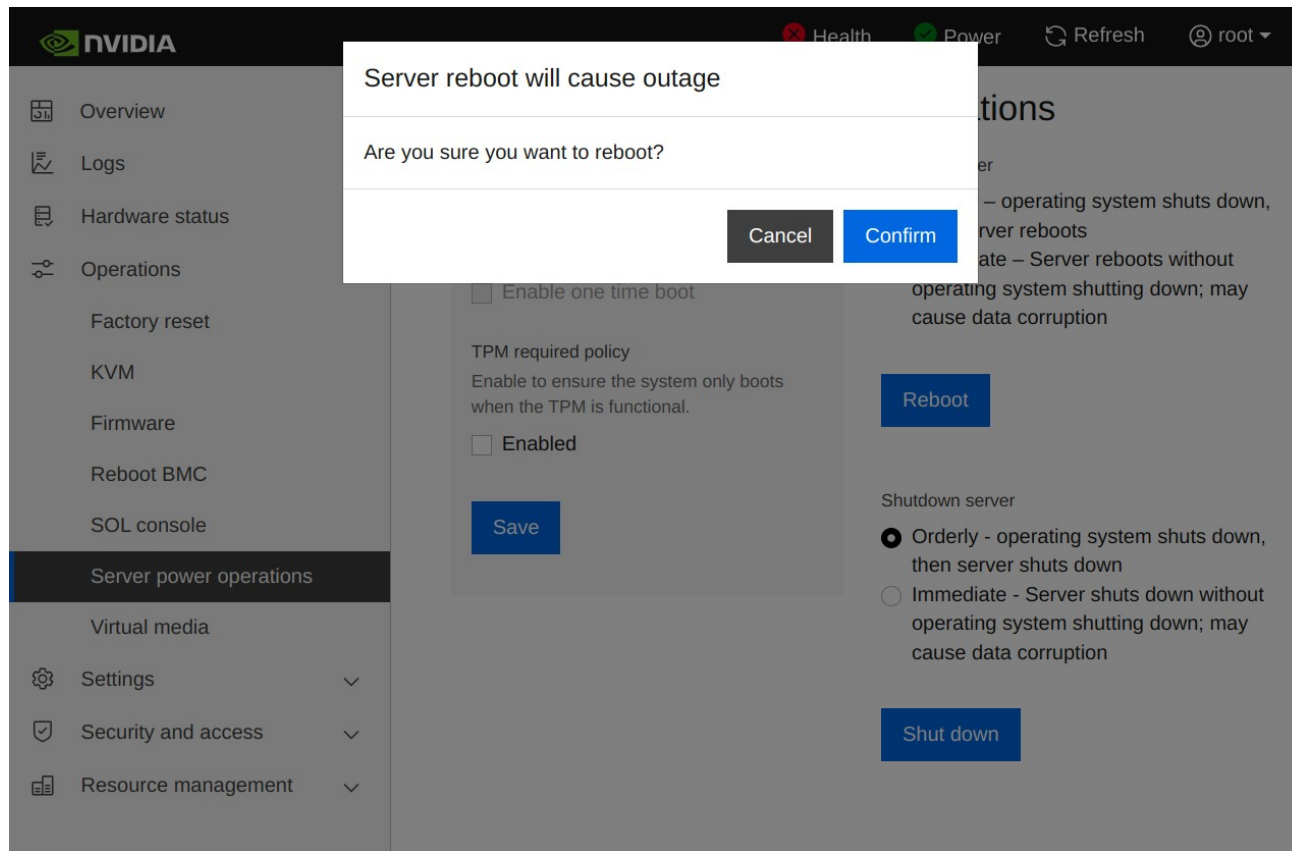
☒ Orderly - operating system shuts down, then server shuts down

☐ Immediate - Server shuts down without operating system shutting down; may cause data corruption

Shut down

Click “Reboot”

BIOS firmware update (8/9)



- Press Confirm and wait for Host restart complete (about 1 minute).

BIOS firmware update (9/9)

- check BIOS firmware version after Host restarted:

```
tester@testerpc:/$ ipmitool -C 17 -I lanplus -H 192.168.0.77 -U root -P 0penBmc mc getsysinfo system_fw_version  
00012407
```

System Software Information

Installing the Nvidia Grace Software with Ubuntu 22.04

- Please find below link – <https://docs.nvidia.com/grace-ubuntu-install-guide.pdf> for Nvidia Grace Software installation guide.
- The VGA Driver and GH200 Hopper Driver need to be installed after OS installed.
 - VGA Driver - [ASPEED - Drivers Download \(aspeedtech.com\)](https://www.aspeedtech.com/drivers/)
 - GH200 Hopper Driver - [CUDA Installation Guide for Linux \(nvidia.com\)](https://nvidia.com/en-us/gpu/drivers/cuda-installation-guide/linux/)

On-board Driver				
Item	Name	OS	File Name	Driver Version
1	VGA(BMC_ATS2600)	Ubuntu22.04	Linux_DRM_1.14.2_2.tar.gz	1.14.2
2	GH200 Hopper	Ubuntu22.04		R535.129.03