an Acer Group Company

Altos BrainSphere™

R380 F7

User Manual

v1.0

Safety and Warnings

CAUTION:

Before installing and starting up a device, please observe the safety instructions listed in the following sections. This will help you to avoid making serious errors that could impair your health, damage the device and endanger the data base.

CAUTION:

To reduce the risk of electric shock, this equipment must be installed by trained service personnel in a restricted-access location.

CAUTION:

Use certified Optical Fiber Transceiver ClassI(1) Laser Product. Or

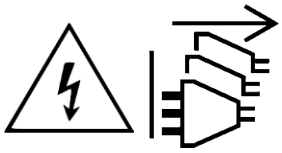
Laser Class 1 optical transceiver shall be used only.

When laser products (such as CD-ROMs, DVD drives, fiber optic devices, or transmitters) are installed, note the following:

- Do not remove the covers. Removing the covers of the laser product could result in exposure to hazardous laser radiation.
- There are no serviceable parts inside the device.
- Use of controls or adjustments or performance of procedures other than those specified herein might result in hazardous radiation exposure.

CAUTION:

Connect all power cords to a properly wired and grounded electrical outlet. The power control button on the device and the power switch on the power supply do not turn off the electrical current supplied to the device. The device also might have more than one power cord. To remove all electrical current from the device, ensure that all power cords are disconnected from the power source.



CAUTION:

- Replacement of a battery with an incorrect type that can defeat a safeguard;
- Disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, that can result in an explosion;
- leaving a battery in an extremely high temperature surrounding environment that can result in an explosion or the leakage of flammable liquid or gas; and
- A battery subjected to extremely low air pressure that may result in an explosion or the leakage of flammable liquid or gas.

CAUTION:

The following label indicates a hot surface nearby.

CAUTION:

Hazardous energy is present when the server is connected to the power source. Always replace the blade cover before installing the server.

CAUTION:

Hazardous moving parts are nearby.

CAUTION:

- Slide/rail mounted equipment is not to be used as a shelf or work space.
- Do not add weight to slide/rail mounted equipment.
- Stability hazard, the rack may tip over causing serious personal injury.
- Before extending the rack to the installation position, read the installation instructions.
- Do not leave the slide-rail mounted equipment in the installation position.

Installation Safety Information

Preparing for startup

The devices comply with the relevant safety regulations for information technology equipment.

The requirements, which need to be fulfilled at the site of installation, are described in the user documentation for this device. Please contact the service center if there is any doubt as to the safety of installing the device at the intended site.

Transporting, unpacking, installing

Condensation may form when the device is brought into the operations room from a colder environment. Wait until the device has warmed up to the room temperature and is totally dry before starting it. The acclimation time depends on the device and its design.

Connecting data cables

CAUTION:

No data transmission lines may be connected or disconnected during a storm (danger of being struck by lightning).

When wiring the devices, the cables need to be connected or removed in the order described in the user document for the device. When connecting or disconnecting any of

the leads, always hold them by the plug. Never pull on the cables themselves. Doing so could cause a cable to become detached from the plug.

Connecting the system to the power mains

Please check devices with adjustable rated voltage to determine whether the preset rated voltage of the device conforms to the local mains voltage. An incorrect setting leads to damage to or destruction of the device.

Before operating, check whether all the cables and wires are in perfect, undamaged condition. Ensure in particular that the cables have not been bent, have not been laid too tightly round corners, and that there are no objects located on top of them. Also make sure that all connectors have a tight fit. Defective screening or wiring may damage your health (electric shock) and can damage other devices.

Devices with power plugs are equipped with a safety-tested AC power line of the country of use and may only be connected to an approved shock-proof socket. This may otherwise result in an electric shock.

The product will be installed in ITE Room through skilled/service person and only applicable connect to 240 Vdc/ac outlet from certified Power distribution Unit (PDU)

Suitable for installation in Information Technology Rooms in accordance with Article 645 of the National Electrical Code and NFPA 75.

Safety during operation

Avoiding short circuits

Make sure that no objects (e.g. jewelry, paper clips, etc.) or liquids get inside the device. This can lead to electric shocks or short-circuits.

Ventilation slots

Please make sure that the air vents are not blocked or collect dust as this may lead to the risk of overheating while the device is in operation. This could lead to operating faults.

Proper operation

Proper operation and compliance with the EMC (electromagnetic compatibility) limit values is only guaranteed when the housing cover is mounted correctly and the doors are closed (cooling, fire protection, screening against electrical, magnetic, and electromagnetic fields).

Switch off in the event of malfunction and during servicing

Devices are not disconnected from the mains by simply switching them off.

In the event of a malfunction or servicing, the devices need to be disconnected from the mains immediately.

Please proceed as follows:

- Switch off the devices,
- Pull out the mains plug (also refer to the device's user documentation),
- Inform Service.
- Devices that are connected to one or more uninterruptible power supplies (UPS's) will continue to operate even if the plug to the UPS ('s) is pulled. You therefore need to shut down the UPS ('s) in accordance with the accompanying user documentation.

Maintenance Safety

Expanding, repairing

When expanding the device, use only parts that have been approved for the device. Failure to observe this rule can lead to violation of the electromagnetic compatibility (EMC) or safety standards and cause device malfunctions.

The device only be repaired by authorized, qualified personnel. Improper repairs may expose the user to considerable danger (electric shock, fire).

Unauthorized opening of the device or individual parts of the device can also expose the user to considerable danger. Unauthorized opening of the devices or parts thereof results in voiding of the warranty and exclusion of liability.

Handling batteries

The life of the batteries/accumulators in the devices is approx. three to five years. In order to ensure the functional reliability, they must be exchanged at the end of this time. The batteries may only be changed by authorized personnel. The local regulations for disposal of special waste must be observed when disposing of the batteries.

Batteries can cause danger, e.g. fire, if handled incorrectly. Therefore avoid opening, puncturing or pressing together batteries. Never throw batteries on a fire.

Special safety note for rack cabinets

Do not use device units mounted on pull-out rails as a surface on which to put things or as a work surface, and strictly avoid leaning on or against them.

Setting up a rack

At least two people must always be used to set up a rack because of its weight and their size.

This is the only way to avoid accidents and damage to the equipment.

To install the server in the rack cabinet, please observe the instructions in the relevant system installation manual.

Overload protection

Make sure if connecting a number of devices to the same circuit that you do not overload the current distribution. Please observe the nominal values indicated on the product ident plates.

Stabilizing the racks

Even when the rack has been secured against tipping over, only one slide-in module may be removed on its rails at any one time. There is no guarantee that the rack will remain stable if several modules are pulled out simultaneously.

Second person for work on racks

Two or more people are required to insert or remove rack trays as these are large and heavy.

This is particularly true regarding servers, peripheral devices and UPS's. This information can be found in the device's user documentation.

Regional EMC Compliance Information

FCC Verification Notice (USA only)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Class A

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

CE Declaration of Conformity (EUROPE only)

This product has been tested in accordance to, and complies with the European Low Voltage Directive (2014/35/EU), European EMC Directive (2014/30/EU), Restriction of the Use of certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive 2011/65/EU and Ecodesign requirements for energy-related products (ErP) Directive 2009/125/EC.

The product has been marked with the CE Mark to illustrate its compliance.

Warning

This equipment is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.

Packaging - Restricted Substances

No CFCs (chlorofluorocarbons), HCFCs (hydrofluorocarbons) or other ozone depleting substances are used in the packaging material. Chromium, lead, mercury, cadmium are not intentionally added to packaging materials and are not present in a cumulative concentration greater than 100 ppm. No halogenated plastics or polymers are used for packaging material. Printed user documentation is bleached in a chlorine-free process.

PSU efficiency and power factor

Power Supply Model Number	Rating (Watt)	Minimum PSU efficiency				Minimum power factor
		10%	20%	50%	100%	50%
SC.24M18.001	2400	94.33	95.79	96.33	94.18	1.00

BSMI (台灣)

警告使用者：此為甲類資訊技術設備，於居住環境中使用時，可能會造成射頻擾動，在此種情況下，使用者會被要求採取某些適當的對策。

警告：為避免電磁干擾，本產品不應安裝或使用於住宅環境。

安全和警告

警告：

在安裝和啟動設備前，請遵守以下章節列出的安全須知。這將幫助您避免可能損害您的健康，損壞設備並危及資料庫的嚴重錯誤。

警告：

為減少觸電風險，必須由專業人員進入受限訪問位置安裝本設備。

警告：

使用經過認證的光纖收發器 ClassI(1) 雷射產品。或者

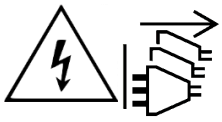
只能使用 Class 1 雷射光收發器。

安裝鐳射產品（如 CD-ROM、DVD 驅動器、光纖設備或發送設備）時，請注意以下事項：

- 不要拆除產品的外殼。拆除產品外殼可能導致遭受激光輻射的危害。
- 本設備內部沒有可維修的部件。
- 未按照本冊中指定的步驟進行控制、調整或操作時，可能會導致危險的輻射暴露。

警告：

請將設備電源線插入妥善接地的電源插座。如果必須使用延長線，請使用帶有正確接地插頭的 3 芯纜線。設備上的電源控制按鈕和電源上的電源開關，並不能完全切斷提供給設備的電流。本設備還可能有多根電源線。要使設備徹底斷電，請確保斷開所有電源線與電源的連接。



警告：

- 置換可能影響安全防護的錯誤型式的電池;
- 電池丟入火焰或烤箱中,或將電池作可能導致爆炸的機械擠壓或切割;
- 電池置於可能導致爆炸或可燃性液體或氣體洩漏的高溫環境中;且
- 電池承受可能導致爆炸或可燃性液體或氣體洩漏的極度低氣壓。

警告：

下方標籤表示附近有熱表面。

警告：

伺服器連接到電源時存在危險能量, 請勿在蓋板卸下的狀態下操作您的設備

警告：

附近存在危險的移動部件。

警告：

- 裝有滑軌的設備不能用作架子或工作空間。
- 不要增加裝有滑軌的設備的重量。
- 穩定性風險，機架可能會翻倒，造成嚴重的人身傷害。
- 將機架延伸至安裝位置前，請先閱讀安裝說明。
- 請勿將滑軌安裝設備留在安裝位置。

安裝的安全注意事項

準備啟動

這些設備符合資訊技術設備的相關安全規定。

在本設備的使用者文檔中描述了現場安裝需要滿足的要求。如有任何疑問，請與服務中心聯繫，以確保在指定地點安裝設備的安全性。

運輸、開箱、安裝

當設備從較冷的環境進入操作室時，可能會形成凝結。等到設備溫度上升到室溫，且完全乾燥後再啟動。適應時間取決於設備及其設計。

連接資料電纜

警告：

請勿在雷暴天氣期間連接或斷開任何資料電纜的連接（被雷擊的危險）。

當連接設備時，需要按照使用者文檔中描述的順序連接或拆除電纜。當連接或切斷任何導線時，每次都要用插頭把它們連接起來。不要把電纜拉到電纜上面。這樣做可能會導致電纜脫離插頭。

連接系統與電源

請檢查具有可調額定電壓的設備，以確定該設備的預置額定電壓是否符合當地的電源電壓要求。錯誤的設置會導致設備的損壞或破壞。

在操作前，檢查所有的電纜和電線是否完好無損。特別要確保電纜沒有彎曲，沒有過緊的彎角，以及沒有物體放置在它們上面。還要確保所有的連接器都是緊配合。有缺陷的篩檢或佈線可能會損傷您的健康（觸電），並可能損壞其他設備。

帶有電源插頭的設備配備了國家安全測試的交流電源線路，可能只連接到一個經認可的防震插座。否則這可能會導致觸電。

操作安全

避免短路

確保沒有物品（如珠寶、紙夾等）或液體進入設備內。這可能會導致電擊或短路。

通風槽

請確保空氣通風孔沒有被堵塞或集塵，因為這可能會導致設備在運行時出現過熱的危險，產生運行故障。

正確操作

只有正確安裝殼蓋和關閉所有的門（冷卻、防火，遮罩電、磁和電磁場），才能保證正確的操作和符合 EMC（電磁相容性）限值。

發生故障或維修時切斷電源

僅僅通過關閉設備不能斷開設備與電源的連接。

發生故障或維修時，需立即斷開設備與電源的連接。

請進行如下操作：

- 關閉設備，
- 拔掉電源插頭（也參考設備的使用者文檔），
- 報修。

- 即使插入 UPS（系統）的插頭被拔掉，連接到一個或多個不斷電供應系統（UPS 系統）的設備也會繼續運行。因此，您需要按照隨附的使用者文檔關閉 UPS（系統）。

維護安全

擴展、修復

在擴展設備時，只能使用經過批准的部件。如果不遵守此規則，可能會違反電磁相容性（EMC）或安全標準，並導致設備故障。

本設備只能由經過授權的、有資格的人員進行維修。不適當的修理可能導致用戶面臨極大的危險（觸電、火災）。

未經授權打開設備或設備的各個部件，也會導致用戶面臨極大的危險。未經授權打開設備或其各個部件，會造成擔保免責條款無效。

處理電池

設備中的電池/蓄電池的使用壽命大約為 3 到 5 年。為了保證功能可靠性，必須在其壽命結束時進行更換。電池只能由授權人員進行更換。處理電池時必須遵守關於特殊廢物處理的地方性法規。

電池會造成危險，例如處理不當會引起火災。因此，避免打開、刺穿或擠壓電池。不要把電池扔在火上。

機架櫃安全特別提示

不要把安裝在伸縮滑軌上的設備作為放置東西的表面或工作表面，並且要嚴格避免倚靠或背靠它們。

搭建機架

根據它的重量和尺寸，必須至少有兩個人來搭建機架。

這是避免事故和設備損壞的唯一方法。

要在機架櫃中安裝伺服器，請參照相關系統安裝手冊中的使用說明。

超載保護

確保將一些設備連接到相同的電路中，這樣不至使當前的分佈超載。請參照在產品凹版上所注明的標值。

穩定機架

即使當機架已被固定，但在任何時候，只有一個滑塊模組可以在它的滑軌上被移除。如果多個模組同時被抽出，則不能保證機架保持穩定。

第二個人在機架上工作

需要兩個或更多的人來插入或拆卸機架託盤，因為這些託盤又大又重。

這對於伺服器、週邊設備和 UPS 來說尤其如此。這些資訊可以在設備的使用者文檔中獲取。

區域 EMC 合規信息

FCC 認證通知（僅適用於 USA）

本設備符合 FCC 的第 15 條規定。操作遵循以下兩個條件：

(1) 本設備可能不會造成有害的干擾，和

(2) 本設備必須接受接收到的任何干擾，包括可能引起不希望有的操作的干擾。

A 類

經測試，本設備符合 FCC 規則第 15 條對 A 類數位設備的限制規定。這些限制旨在提供合理的保護，防止設備在商業環境中運行時產生有害干擾。

本設備可以產生、利用和發射無線射頻能量。如果不按照製造商的說明手冊中的要求安裝和使用本設備，有可能會對無線電通信產生有害干擾。在居民區運行此設備可能會造成有害干擾，在這種情況下，使用者需要自費消除干擾。

CE 符合性聲明（僅適用於歐洲）

本產品已根據歐洲低電壓指令(2014/35/EU)和歐洲電磁相容指令(2014/30/EU)、歐盟電子電機產品危害物質限用指令(2011/65/EU)和歐盟能源相關產品生態化設計指令(2009/125/EC)進行測試。

產品環境法規符合性

限制物質法規符合性

歐盟危害物質限用指令

本產品已根據歐盟危害物質限用指令(2011/65/EC) 限制物質要求，包括指令(2015/863/歐盟）將四種鄰苯二甲酸酯添加到 RoHS 指令的附件 II 物質限制清單中。RoHS 指令要求通過符合性聲明(DoC) 流程和 CE 標誌對 RoHS 限制進行自我聲明。

台灣 RoHS(僅適用於台灣地區)

設備名稱： 伺服器 Equipment name				型號（型式）：R380 F7 Type designation (Type)		
單元Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛 Lead (Pb)	汞 Mercury (Hg)	鎘 Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr^{+6})	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
外殼	—	○	○	○	○	○
機械部件	—	○	○	○	○	○
電路板组件	—	○	○	○	○	○
電線/連接器	—	○	○	○	○	○
電源設備	—	○	○	○	○	○
儲存裝置	—	○	○	○	○	○
備考 1.〝○〞係指該項限用物質之百分比含量未超出百分比含量基準值。						

Note 1：“○” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

備考 2.〝—〞係指該項限用物質為排除項目。

Note 2：The “–” indicates that the restricted substance corresponds to the exemption.

安全和警告

警告：

在安装和启动设备前，请遵守以下章节列出的安全须知。这将帮助您避免可能损害您的健康，损坏设备并危及数据库的严重错误。

警告：

为减少触电风险，必须由专业人员进入受限访问位置安装本设备。

警告：

使用经过认证的光纤收发器 ClassI(1) 雷射产品。或者

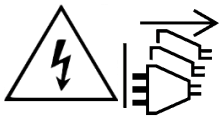
只能使用 Class 1 雷射光收发器。

安装激光产品（如 CD-ROM、DVD 驱动器、光纤设备或发送设备）时，请注意以下事项：

- 不要拆除产品的外壳。拆除产品外壳可能导致遭受激光辐射的危害。
- 本设备内部没有可维修的部件。
- 未按照本册中指定的步骤进行控制、调整或操作时，可能会导致危险的辐射暴露。

警告：

将设备电源线缆连接到正确的接地电源插座中。如果必须使用延长线缆，请使用具有正确接地插头的三线线缆。设备上的电源控制按钮和电源上的电源开关，并不能完全切断提供给设备的电流。本设备还可能有多根电源线。要使设备彻底断电，请确保断开所有电源线与电源的连接。



警告：

- 置换可能影响安全防护的错误型式的电池;
- 电池丢入火焰或烤箱中,或将电池作可能导致爆炸的机械挤压或切割;
- 电池置于可能导致爆炸或可燃性液体或气体泄漏的高温环境中;且
- 电池承受可能导致爆炸或可燃性液体或气体泄漏的极度低气压。

警告：

下方标签表示附近有热表面。

警告：

当服务器与电源连接时，潜在危险能量. 请勿在任何盖板被卸下的情况下操作设备。

警告：

附近存在危险的移动部件。

警告：

- 装有滑轨的设备不能用作架子或工作空间。
- 不要增加装有滑轨的设备的重量。

- 稳定性风险，机架可能会翻倒，造成严重的人身伤害。
- 将机架延伸至安装位置前，请先阅读安装说明。
- 请勿将滑轨安装设备留在安装位置。

安装的安全注意事项

准备启动

这些设备符合信息技术设备的相关安全规定。

在本设备的用户文档中描述了现场安装需要满足的要求。如有任何疑问，请与服务中心联系，以确保在指定地点安装设备的安全性。

运输、开箱、安装

当设备从较冷的环境进入操作室时，可能会形成凝结。等到设备温度上升到室温，且完全干燥后再启动。适应时间取决于设备及其设计。

连接数据电缆

警告：

请勿在雷暴天气期间连接或断开任何数据电缆的连接（被雷击的危险）。

当连接设备时，需要按照用户文档中描述的顺序连接或拆除电缆。当连接或切断任何导线时，每次都要用插头把它们连接起来。不要把电缆拉到电缆上面。这样做可能会导致电缆脱离插头。

连接系统与电源

请检查具有可调额定电压的设备，以确定该设备的预置额定电压是否符合当地的电源电压要求。错误的设置会导致设备的损坏或破坏。

在操作前，检查所有的电缆和电线是否完好无损。特别要确保电缆没有弯曲，没有过紧的弯角，以及没有物体放置在它们上面。还要确保所有的连接器都是紧配合。有缺陷的筛检或布线可能会损伤您的健康（触电），并可能损坏其他设备。

带有电源插头的设备配备了国家安全测试的交流电源线路，可能只连接到一个经认可的防震插座。否则这可能会导致触电。

操作安全

避免短路

确保没有物品（如珠宝、纸夹等）或液体进入设备内。这可能会导致电击或短路。

通风槽

请确保空气通风孔没有被堵塞或集尘，因为这可能会导致设备在运行时出现过热的危险，产生运行故障。

正确操作

只有正确安装壳盖和关闭所有的门（冷却、防火，屏蔽电、磁和电磁场），才能保证正确的操作和符合 EMC（电磁兼容性）限值。

发生故障或维修时切断电源

仅仅通过关闭设备不能断开设备与电源的连接。

发生故障或维修时，需立即断开设备与电源的连接。

请进行如下操作：

- 关闭设备，
- 拔掉电源插头（也参考设备的用户文档），
- 报修。
- 即使插入 UPS（系统）的插头被拔掉，连接到一个或多个不间断电源（UPS 系统）的设备也会继续运行。因此，您需要按照随附的用户文档关闭 UPS（系统）。

维护安全

扩展、修复

在扩展设备时，只能使用经过批准的部件。如果不遵守此规则，可能会违反电磁兼容性（EMC）或安全标准，并导致设备故障。

本设备只能由经过授权的、有资格的人员进行维修。不适当的修理可能导致用户面临极大的危险（触电、火灾）。

未经授权打开设备或设备的各个部件，也会导致用户面临极大的危险。未经授权打开设备或其各个部件，会造成担保免责条款无效。

处理电池

设备中的电池/蓄电池的使用寿命大约为 3 到 5 年。为了保证功能可靠性，必须在其寿命结束时进行更换。电池只能由授权人员进行更换。处理电池时必须遵守关于特殊废物处理的地方性法规。

电池会造成危险，例如处理不当会引起火灾。因此，避免打开、刺穿或挤压电池。不要把电池扔在火上。

机架柜安全特别提示

不要把安装在伸缩滑轨上的设备作为放置东西的表面或工作表面，并且要严格避免倚靠或背靠它们。

搭建机架

根据它的重量和尺寸，必须至少有两个人来搭建机架。

这是避免事故和设备损坏的唯一方法。

要在机架柜中安装服务器，请参照相关系统安装手册中的使用说明。

过载保护

确保将一些设备连接到相同的电路中，这样不至使当前的分布过载。请参照在产品凹版上所注明的标值。

稳定机架

即使当机架已被固定，但在任何时候，只有一个滑块模块可以在它的滑轨上被移除。如果多个模块同时被抽出，则不能保证机架保持稳定。

第二个人在机架上工作

需要两个或更多的人来插入或拆卸机架托盘，因为这些托盘又大又重。

这对于服务器、外围设备和 UPS 来说尤其如此。这些信息可以在设备的用户文档中获取。

区域 EMC 合规信息

FCC 认证通知（仅适用于 USA）

本设备符合 FCC 的第 15 条规定。操作遵循以下两个条件：

(1) 本设备可能不会造成有害的干扰，和

(2) 本设备必须接受接收到的任何干扰，包括可能引起不希望有的操作的干扰。

经测试，本设备符合 FCC 规则第 15 条对 A 类数字设备的限制规定。这些限制旨在提供合理的保护，防止设备在商业环境中运行时产生有害干扰。

本设备可以产生、利用和发射无线射频能量。如果不按照制造商的说明手册中的要求安装和使用本设备，有可能会对无线电通信产生有害干扰。在居民区运行此设备可能会造成有害干扰，在这种情况下，用户需要自费消除干扰。

CE 符合性声明（仅适用于欧洲）

本产品已根据欧洲低电压指令(2014/35/EU)和欧洲电磁相容指令(2014/30/EU)、欧盟电子电机产品危害物质限用指令(2011/65/EU)和欧盟能源相关产品生态化设计指令(2009/125/EC)进行测试。

本产品已被标记为 CE 标志，以说明其遵从性。

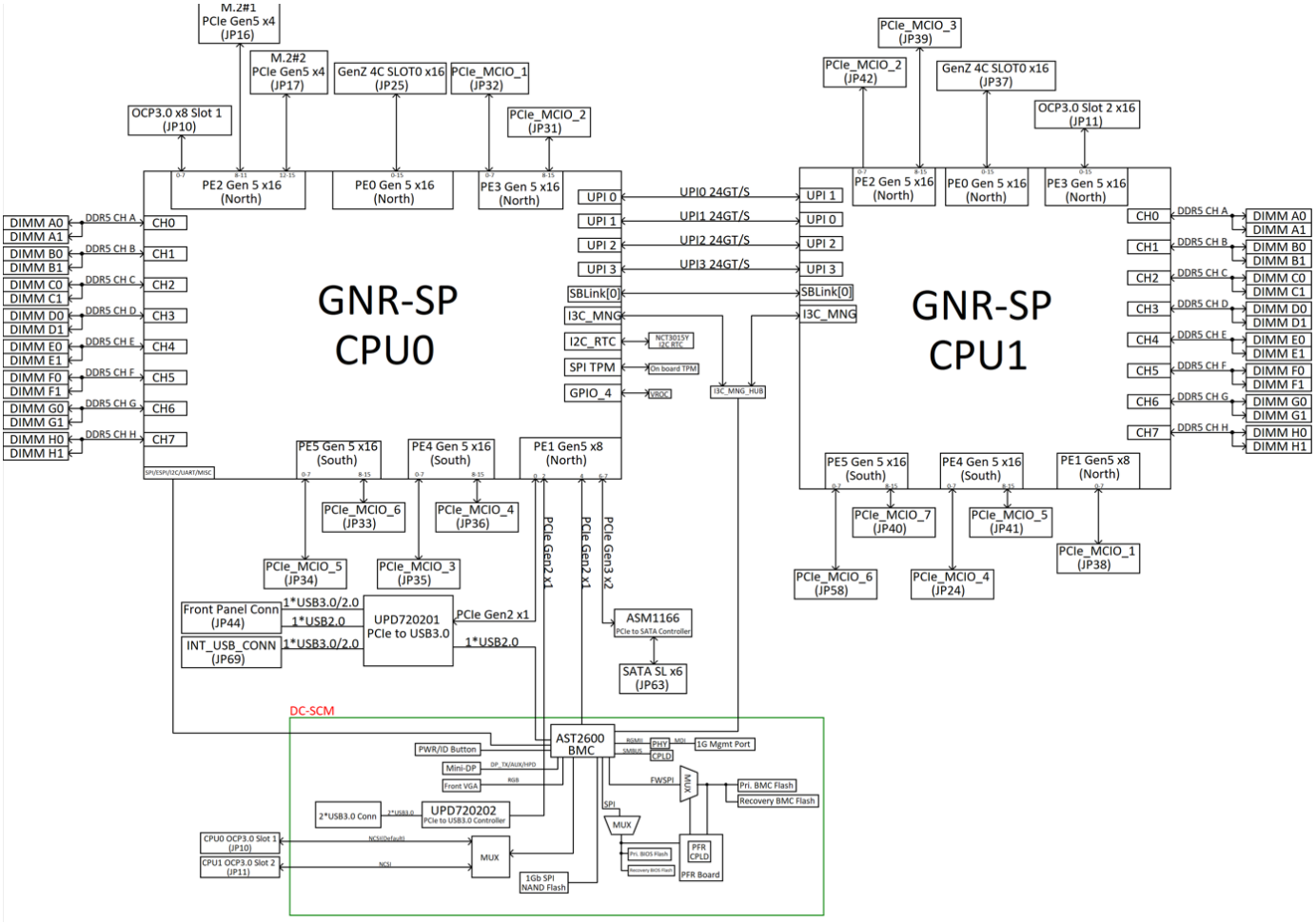
英国产品符合性声明（仅适用于英格兰、威尔士及苏格兰）

Chapter 1 System Specification

1.1 Specification

Form Factor	2U 19” Rack-mount Chassis dimension: 438mm (W) x 770mm (D) x 87mm (H)
CPU	Intel® Xeon® 6 Processors up to 350W (Condition) - Intel® Xeon® 6700E-Series Processors - Intel® Xeon® 6700P-Series Processors - Intel® Xeon® 6500P-Series Processors
Memory	DIMM Type: DDR5 RDIMM DIMM Count: 32 DIMM Slots (8 channels) Up to 6400 MTs 1DPC / 5200 MTs 2DPC (See 5.2.3 for detail)
Front I/O and LED	1 x USB 3.2 Gen 1+ 1 x USB 2.0 1 x VGA Port 1 x UID Button 1 x Power Button 1 x Reset (BMC Reset) Button
Rear I/O	1 x Mini Display ports 1 x UID Button 1 x Power Button 2 x USB 3.2 Gen1 ports 1 x 1GbE Management port
Internal I/O	Support 1 x VROC Support 1 x USB 3.2 Gen1 Connector (Type A) Support 2 x M.2 Connector (PCIe Gen5 x4)
Storage	**Front：** - LFF 12 x SATA/SAS/ NVMe U.2 (Front) + SFF 2 x SATA (Rear). **Internal :** 2 * M.2 (SATA/PCIe Gen5 x4 2280)
PCIe Slots	**2 slots riser SKU:** - 2 x FHFL(DW) PCIe Gen5 x16 - 2 x FHHL PCIe Gen5 x16 - 1 x HHHL PCIe Gen5 x8 - 1 x OCP3 Gen5 x8 (CPU0) in Rear - 1 x OCP3 Gen5 x16 (CPU1) in Rear
Power Supply	2400W 1+1 Redundant, Titanium
Security	Support on board TPM 2.0 1. PFR Module on DC-SCM
Cooling	6x 6056 (N+1) Redundant
Operating Temperature	5°C to 35°C

1.2 Block Diagram



Chapter 2 Server System Overview

2.1 Chassis Dimension

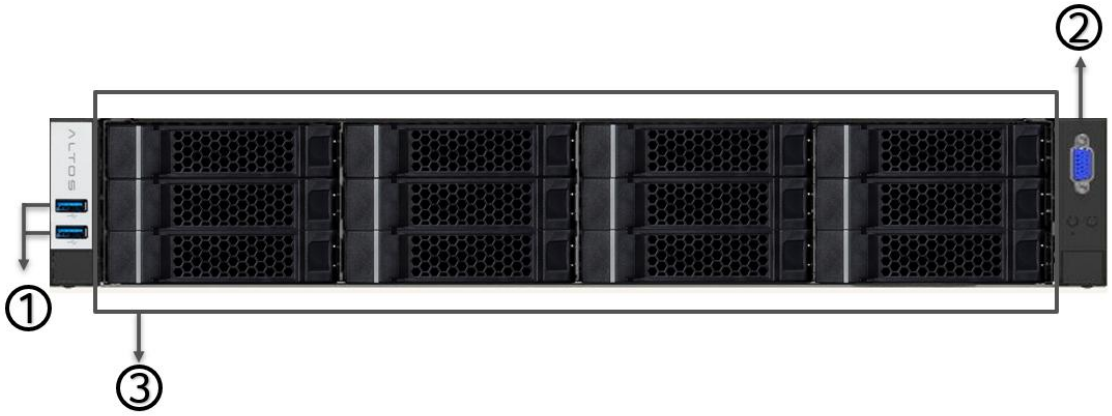
770mm (D) x 438mm (W) x 87mm (H)

2.2 Front Panel

LED Definition		
		HDD Activity LED(Amber)
	Blinking	- Activity
	Off	- Idle / Non-Activity
		Status LED(Red)
	On	- Critical / Failure
	Blinking	- Non-Critical / Warning
	Off	- Normal
1		**Mgmt Port LED(Green)**
	Blinking	- Linked / Active
	Off	- Non-Linked
2		**LAN 2 Port LED**
		- No Function
		Power Button/LED(Blue)
	On	- System On
	Off	- System Off
ID		**UID Button/LED(Blue)**
	On	- Activated
	Blinking	- BMC Reset(Press & hold 4s)
	Off	- Deactivated
	Reset	**System reboot**

2.3 System Front View

2.3.1 LFF Model

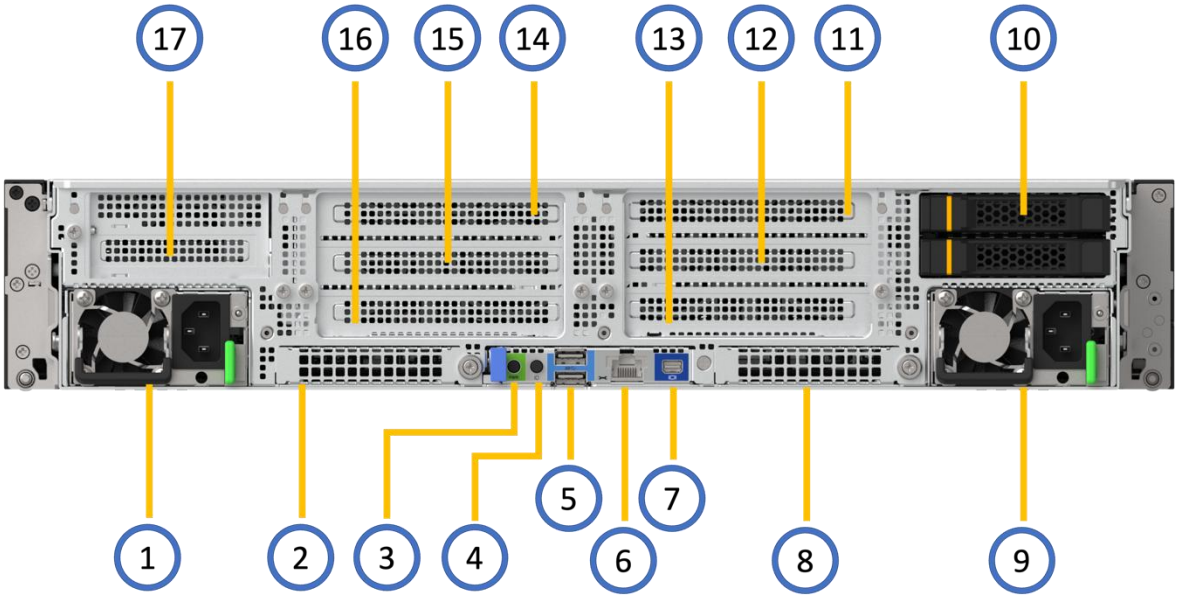


Number	Component

1	USB 3.2 Gen1 and USB 2.0 Ports
2	VGA Port
3	12 x HDD (HDD_0 ~ HDD_11)

2.4 System Rear View

2.4.1 I/O SKU



Number	Component
1	Power Supply(PSU1)
2	OCP 3.0 PCIex8 Gen5 (CPU1)
3	Power Button
4	UID Button
5	USB3.2 Gen1 Port
6	BMC Port

7	Mini Display Port
8	OCP 3.0 PCIex16 Gen5 (CPU0)
9	Power Supply(PSU2)
10	2.5” HDD x 2 (SAS3/SATA or SAS4/SATA/U.2)
11/12	Slot 1 (FHFL PCe x16 Gen5, CPU0)
13	Slot 3 (FHHL PCe x8 Gen5, CPU0)
14/15	Slot 4 (FHFL PCe x16 Gen5, CPU1)
16	Slot 6 (FHHL PCe x8 Gen5, CPU1)
17	Slot 7 (HHHL PCIex8 Gen5, CPU1)

Chapter 3 LED Definition

3.1.1 Hard Drive LEDs

The following LEDs are located on the front panel and on each individual hard drive:

Icon	LED Name	LED Definition
	Hard Drive Activity LED (**Green**)	• **Green**: Present • **Blinking Green**: Locate, activity • **Off**: Not present
	Hard Drive Health LED (**Amber**)	• **Orange**: Fail • **Blinking Orange**: Locate, rebuild • **Off**: N/A

3.1.2 HDBP LEDs for Serial GPIO IBPI

Green LED (Activity)	Amber LED (Status)	SPGIO-SDATAOUT bit
Off	**X**	Drive not present
On	**X**	Drive present, no activity
Blinking (4Hz)	**X**	Drive present, activity
Blinking (4Hz)	**Blinking (4Hz)**	Locate (identify)
X	**On**	Fail
X	**Blinking (1Hz)**	Rebuild

**HDBP LED behavior is compliant with the SFF-8489 Specification for Serial GPIO IBPI.*

**X in the table stands for disregard.*

3.1.3 Hard Drive LED Definition for AHCI Mode

Green LED (Activity)	Amber LED (Status)	Definition
Blinking	**Off**	Data access

**System is in POST flow.*

**AHCI Mode and Non-RAID under OS environment.*

3.1.4 LOM and BMC Management port LEDs

- BMC management NIC

Name	Color	Condition	Description
LAN/ACT(Left)	Green	ON	Link
	Green	BLINK	LAN Access
	-	OFF	Disconnect
LAN/Speed(Right)	Green	ON	1Gbps connection
	Amber	ON	100M/10M connection
	-	OFF	Disconnect

3.1.5 PSU LEDs

The LEDs located on each PSU are bi-colored (Red & Green or Amber & Green depending on the brands of the PSU) and indicate the status of the power supply in the following fashion:

3.1.5.1 LED Definition

Green LED	Amber LED	LED/Button Definition
On	**Off**	Output on and ok
Blinking (1Hz)	**Off**	AC present / Only +12VSB on (PS off)
Off	**On**	AC cord unplugged / AC power lost but a second power supply in parallel still having AC input power, or Power supply critical event causing a shutdown, such as: • PSU OCP (Over Current Protection) failure • OVP failure • Fan failure
Off	**Blinking (1Hz)**	Power supply warning event where power supply continues to operate, such as: • High temperature • High power • High current • Slow fan
Blinking (2Hz)	**Off**	Power supply firmware update

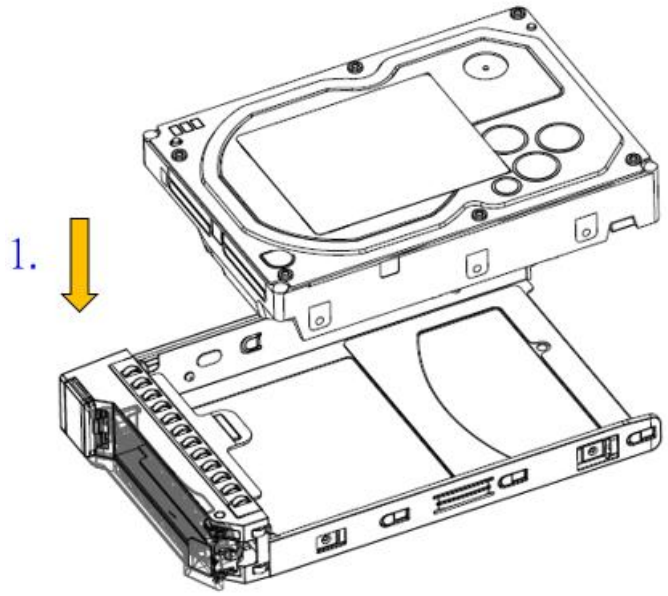
Chapter 4 Installation & Removal

The following sections feature instructions on how to disassemble components that are included in the R380 F7 system. Reverse the disassembly steps to reassemble each respective component.

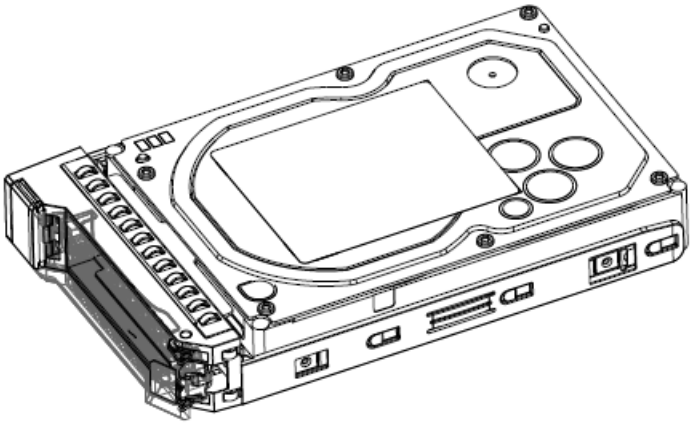
4.1 System Components

4.1.1 Hard Drive Installation (for SFF & LFF)

1. Slide the hard drive into the hard drive carrier ensuring the positioning studs fit into the holes at the side of the hard drive.

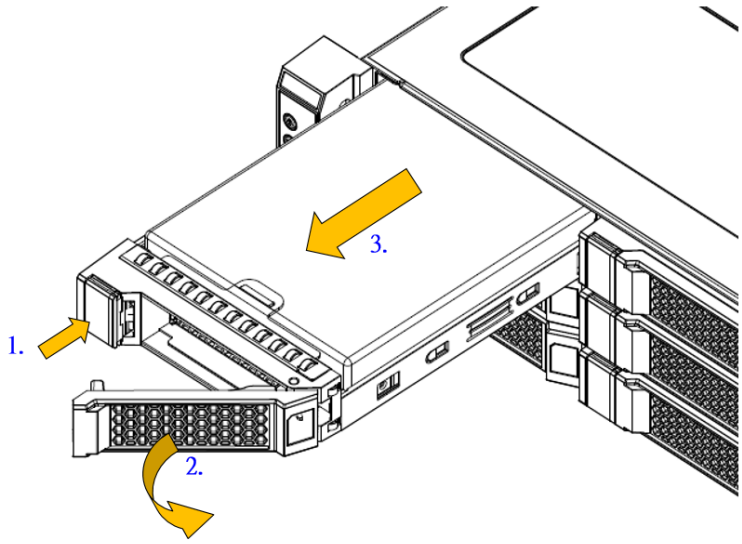


2. Press down on the hard drive to secure the hard drive to the carrier.



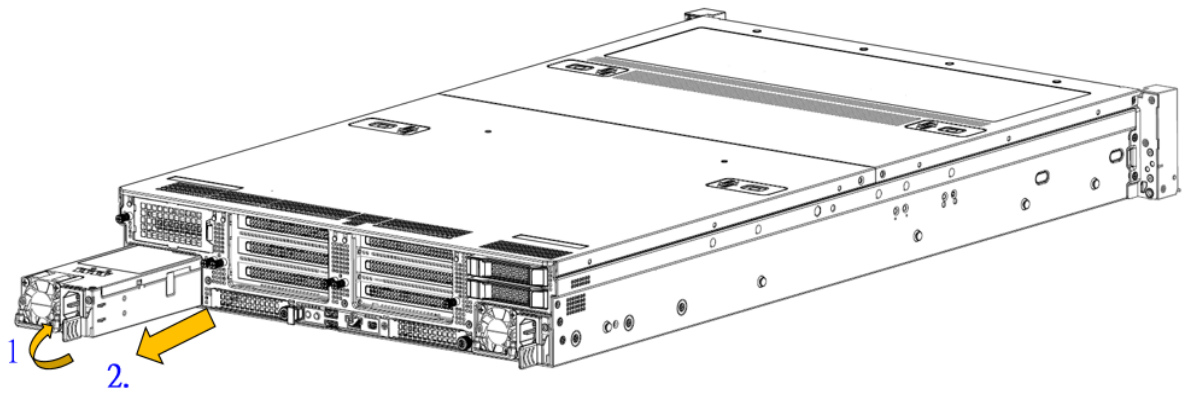
4.1.2 LFF Hard Drive Carrier Removal

1. Press the carrier release handle button then pull down the carrier release handle.
2. Pull the carrier release handle to remove the hard drive carrier.
3. Pull out the HDD tray.



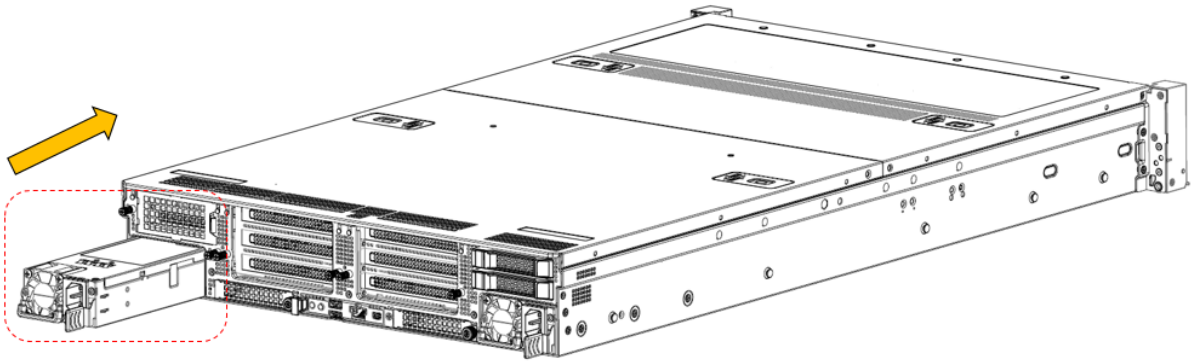
4.1.3 PSU Removal

1. Press the PSU release latch.
2. Pull out the PSU.

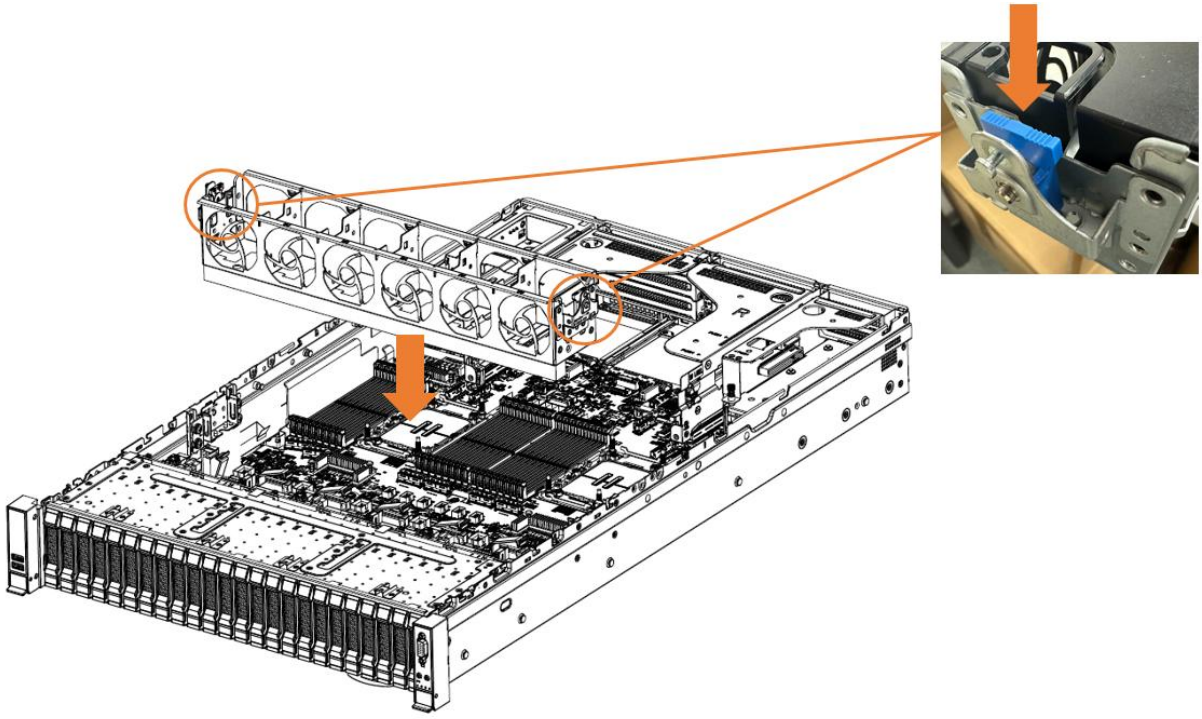


4.1.4 PSU Installation

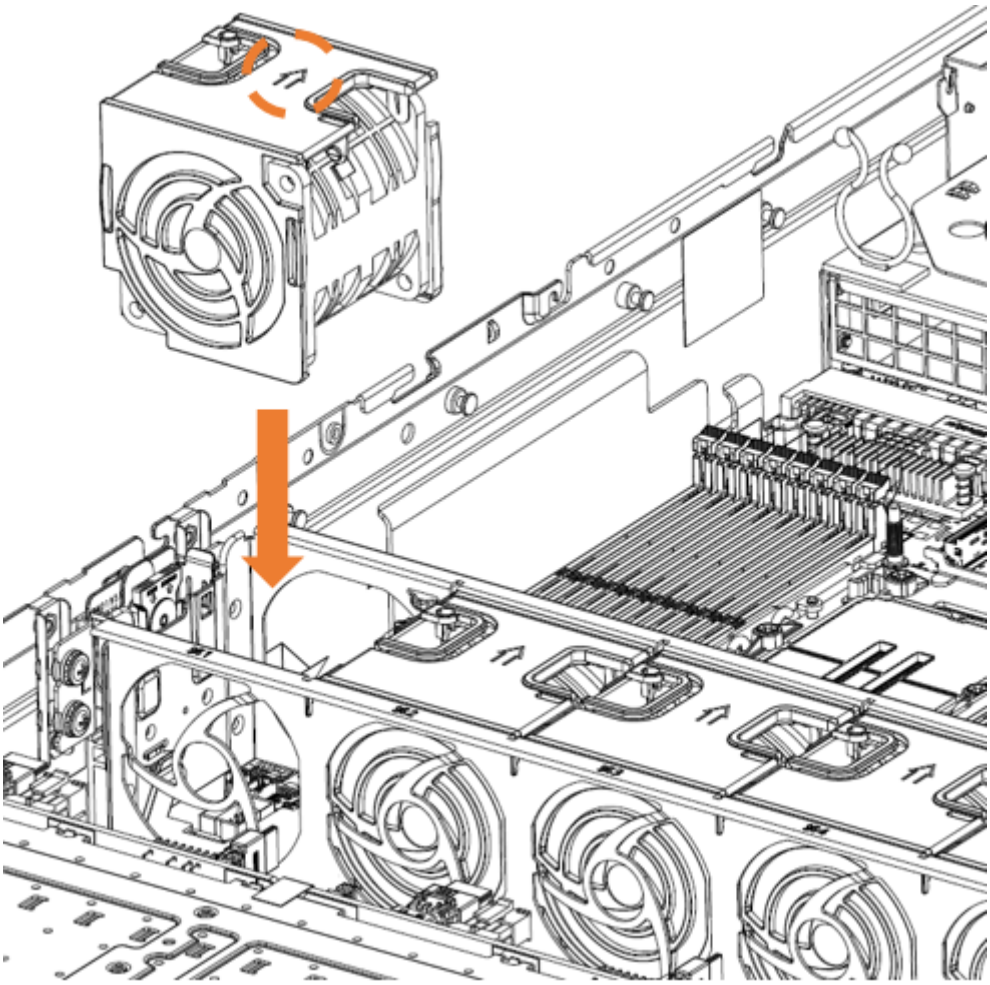
1. Push the PSU to end of the slot and make sure the latch is locked.



4.1.5 Fan Cage Installation

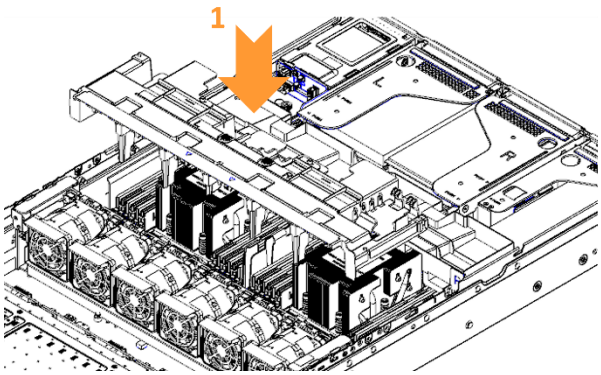


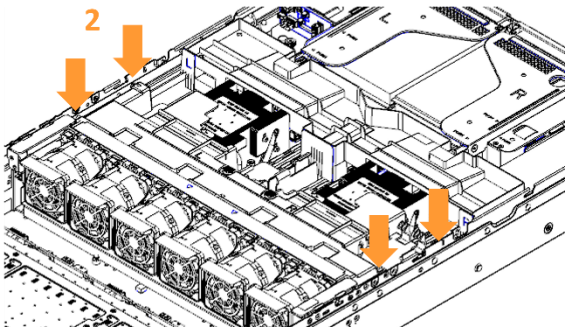
4.1.6 Fan Modules Installation



4.1.7 Main Air Duct Installation

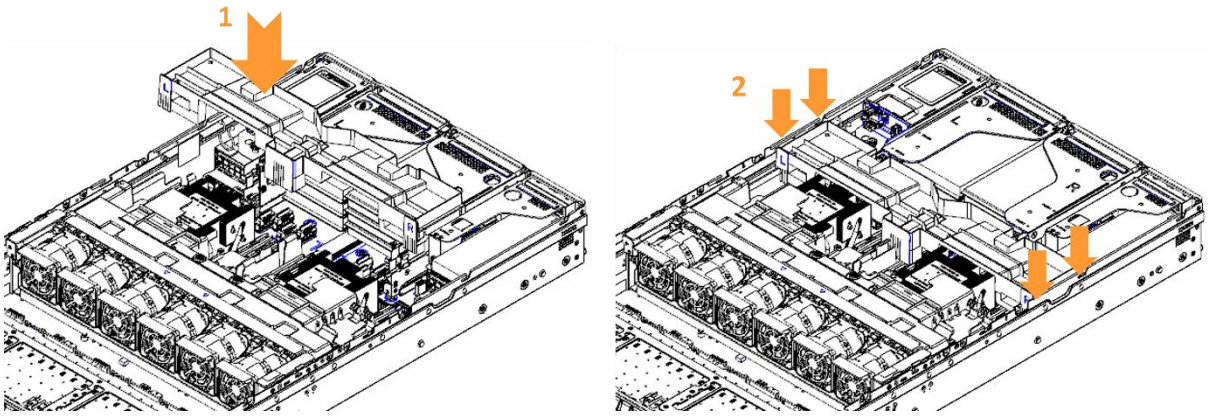
1. Follow arrow direction to install main air duct.
2. Ensure the main air duct has put in the latch pin of chassis.





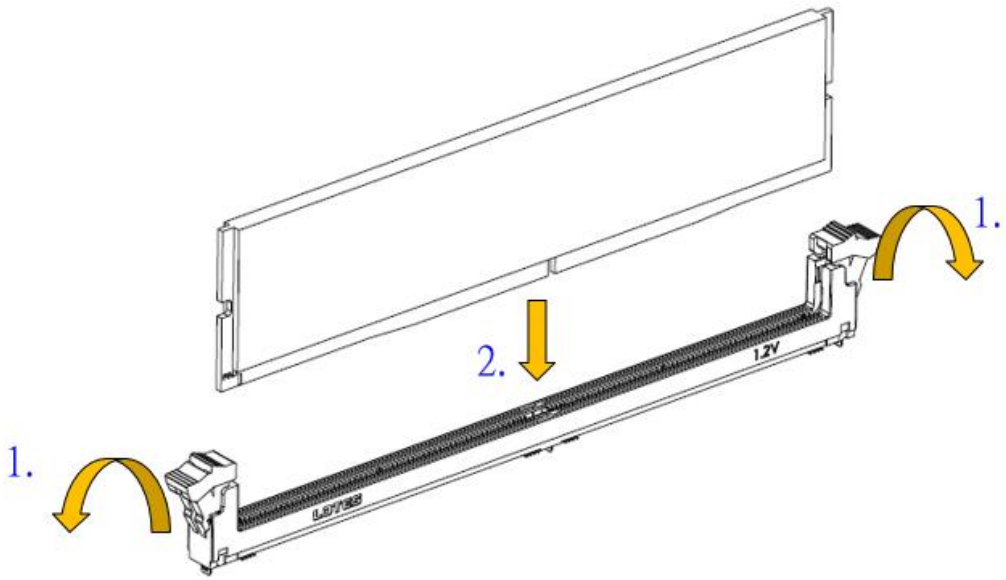
4.1.8 PCIe Air Duct Installation

1. Follow arrow direction to install PCIe air duct.
2. Ensure the main air duct has put the latch pin of chassis.



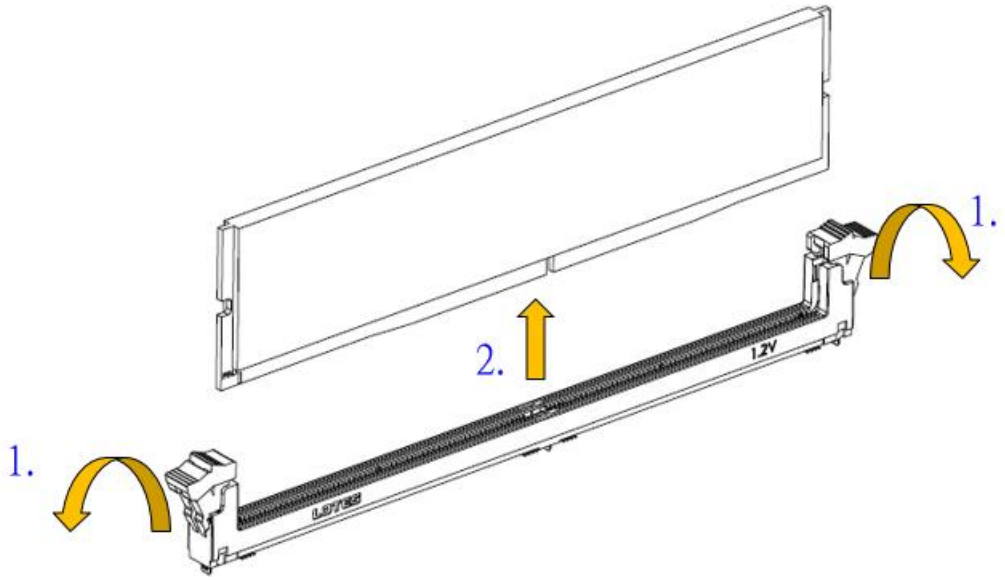
4.1.9 Memory Installation

1. Push the retention clips inwards to lock the memory DIMM.
2. Insert memory DIMM to slot, ensure module notch is aligned with slot key.



4.1.10 Memory Removal

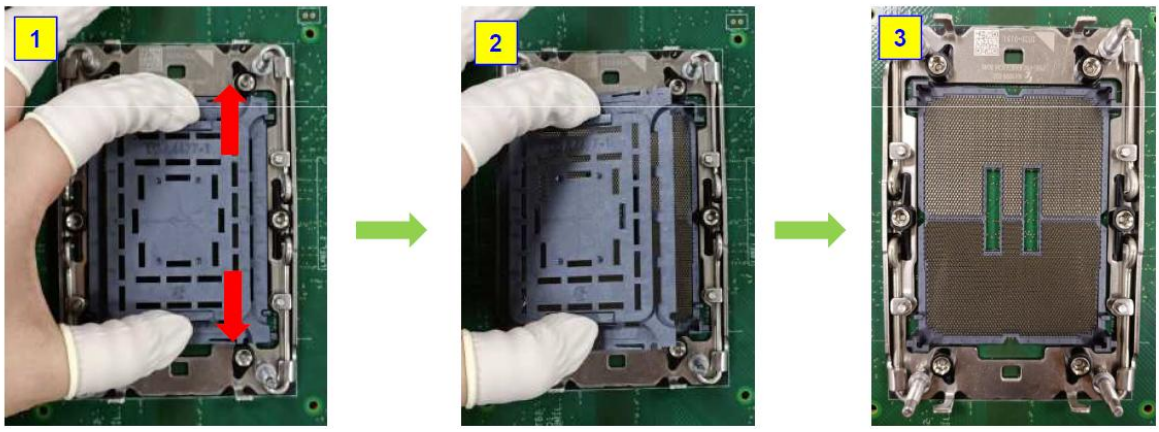
1. Push the retention clips outwards to release the memory DIMM.
2. Lift and remove the memory DIMM.



4.1.11 CPU Installation

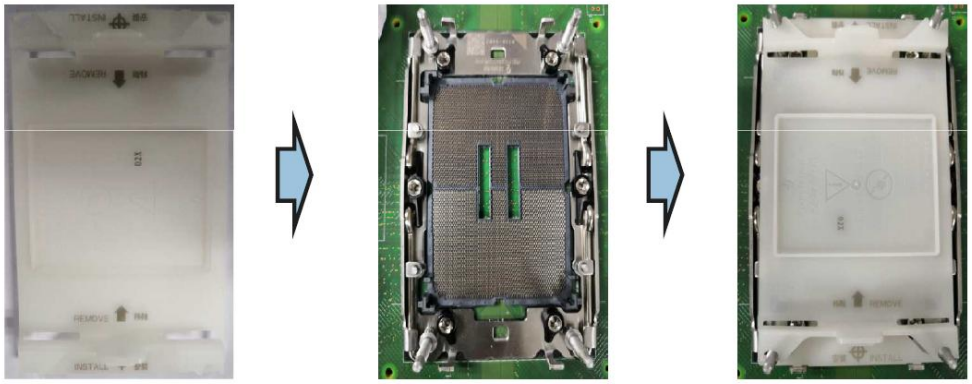
System Assembly (Manual Cap Removal)

1. Use thumb & forefinger to hold the two sides of the remove mark as shown in figure 1.
2. Remove the cap outward as shown in figure 2~3.



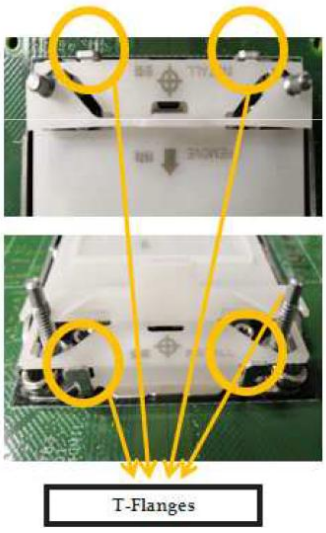
System Assembly (Dust Cover Assembly)

1.Once PnP covers are removed from the socket, carefully engage the dust cover vertically to the bolster plate assembly posts over the socket.



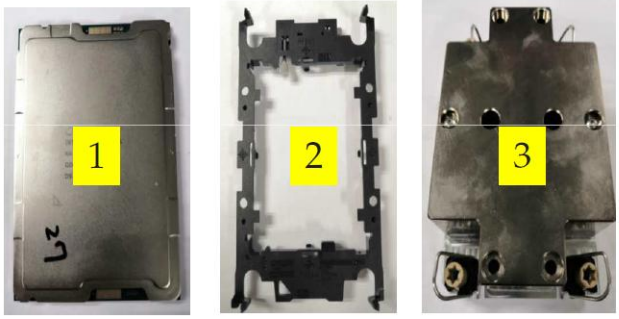
IMPORTANT NOTE OF CAUTION:
Once PnP covers have been removed from the socket, they should NOT be reinstalled on the socket; contact damage risk is too high!

2. Make sure both studs of bolster plate assembly at each end go through corner holes of dust cover.
3. Gently press down on dust cover alignment features around the bolster studs to latch with the bolster plate assembly t-flanges, avoid damage to socket contacts. You might hear a clicking sound when latched.



System Assembly (PHM Assembly)

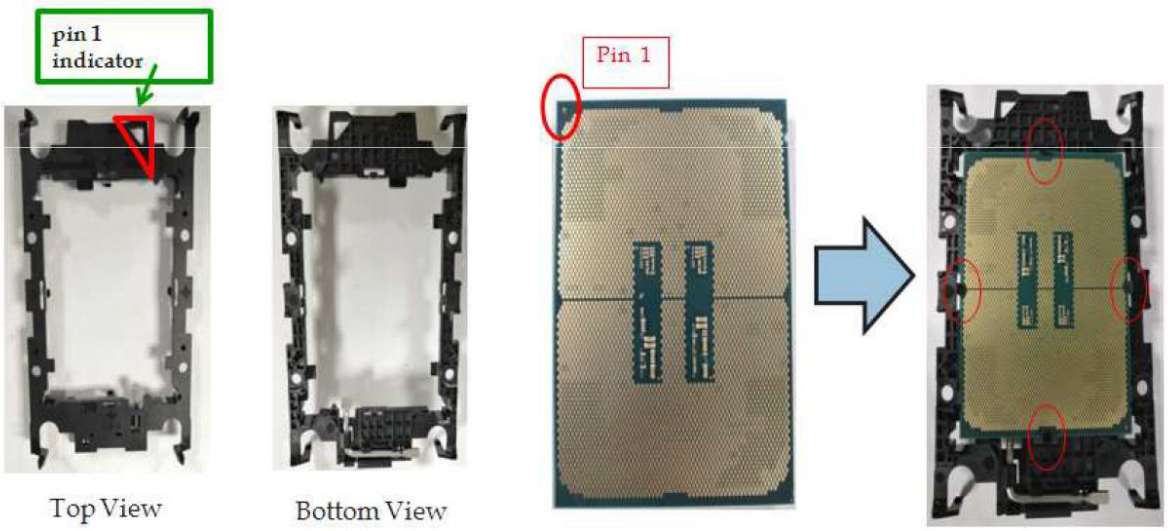
1. Materials



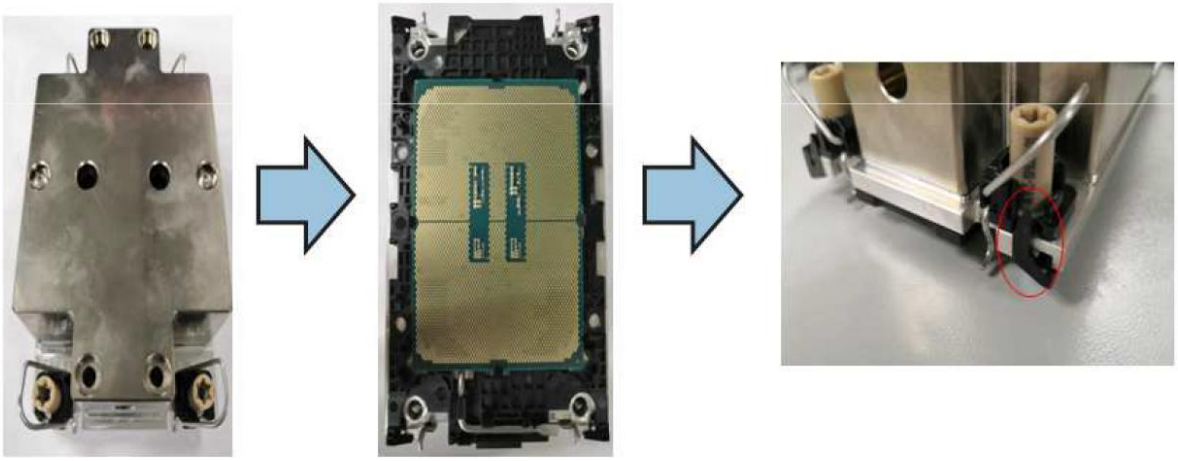
	Materials	Quantity
1	Processor	1
2	Processor carrier	1
3	Heatsink	1

2. Caution & Processor Handling

3. Place the Processor carrier on top of the Processor that is aligning Pin 1 marks on the Processor carrier to pin 1 of the Processor.
   Note: Make sure that the snap features that go over the Processor are aligned to the slots.

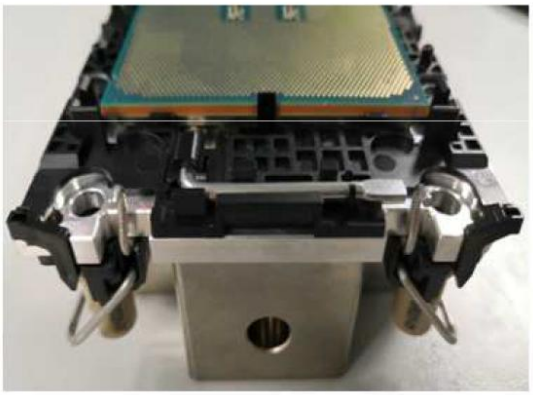


4. Press heatsink down firmly to engage carrier latching features to the heatsink at four corners.
5. If carrier latching features do not latch the heatsink properly, engage each latching features by pressing the heatsink at the unlatched corner. You might hear a clicking sound when latched.



System Assembly (PHM Assembly Inspection)

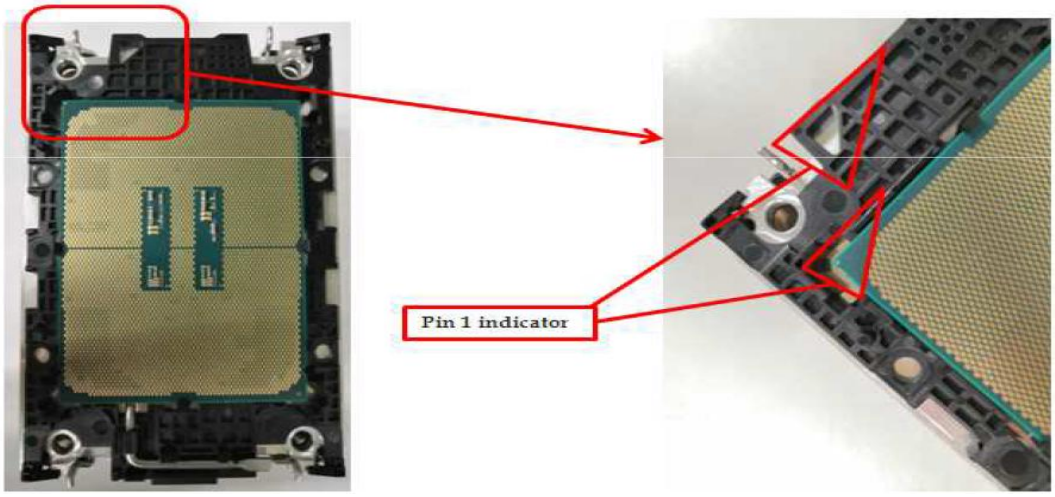
1. Verify that the carrier is properly latched to the heatsink at the all four corners. If not, assemble the carrier to the heatsink firmly.
2. Check if the processor is assembled with processor carrier properly. If not, reassemble the processor into processor carrier.



Good

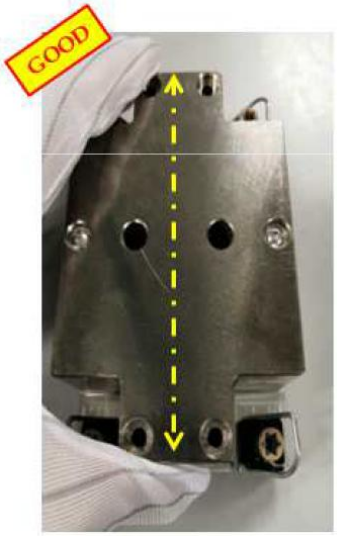
Bad

3. Ensure correct alignment by locating Pin 1 indicators on both processor and processor carrier.



System Assembly (PHM Assembly Handling)

When handling heatsink, always grip it along the axis of the fins of the heatsink to avoid fin damage. Fins or soldering of fins might be damaged by handling heatsink holding along the long sides of heatsink.



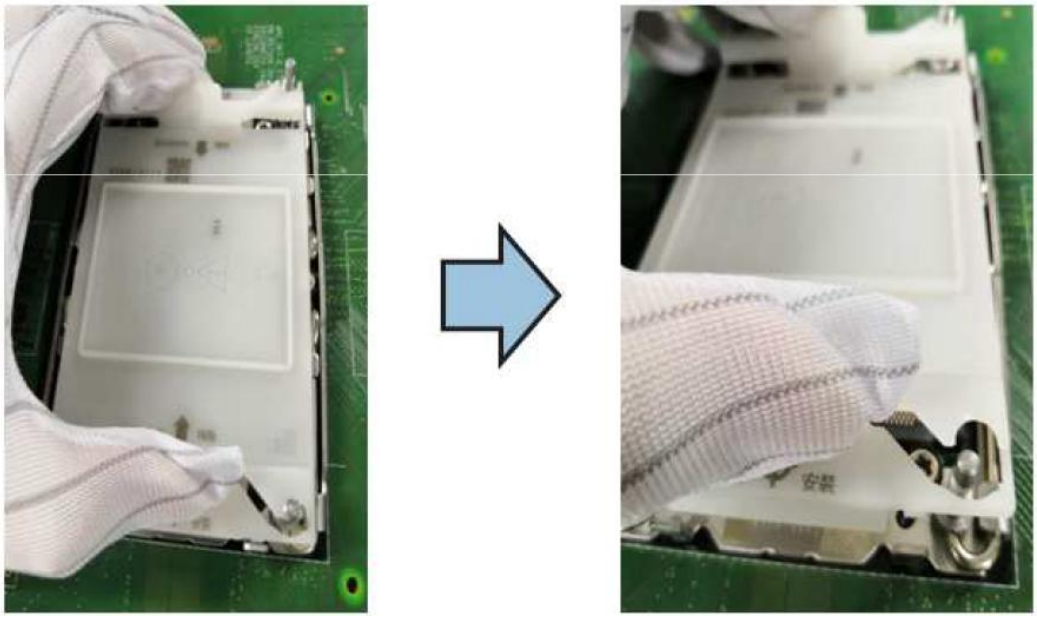
System Assembly (PHM Assembly TO Motherboard)

1. Materials

	Materials	Quantity
1	PCB with LGA4677 sockets with assembled retention mechanism assembly and dust cover	1
2	PHM assembly	1

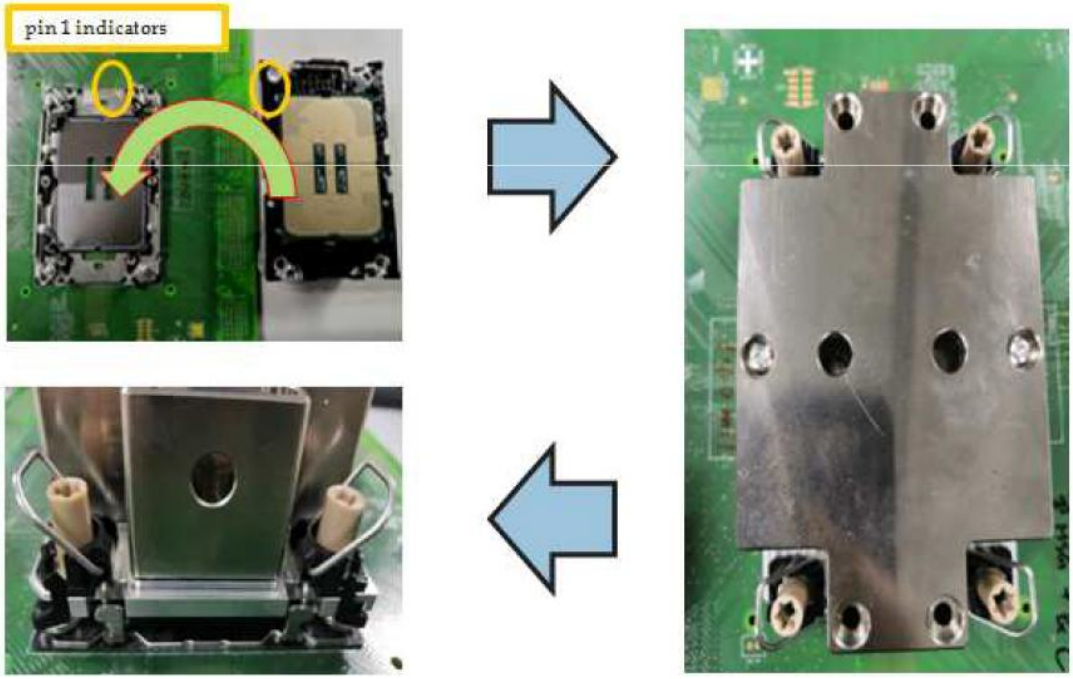
System Assembly (Assembly(Dust Cover Removel)

1. Hold finger grips on dust cover then pull the cover off vertically to remove.



System Assembly (Assemble PHM TO Motherboard)

1. Align Pin 1 indicators on processor/carrier and bolster plate assembly.
2. Holding PHM horizontal, carefully lower vertically to engage PHM to bolster plate's alignment pins.
3. Verify PHM is sitting horizontally over bolster plate assembly before torqueing nuts.

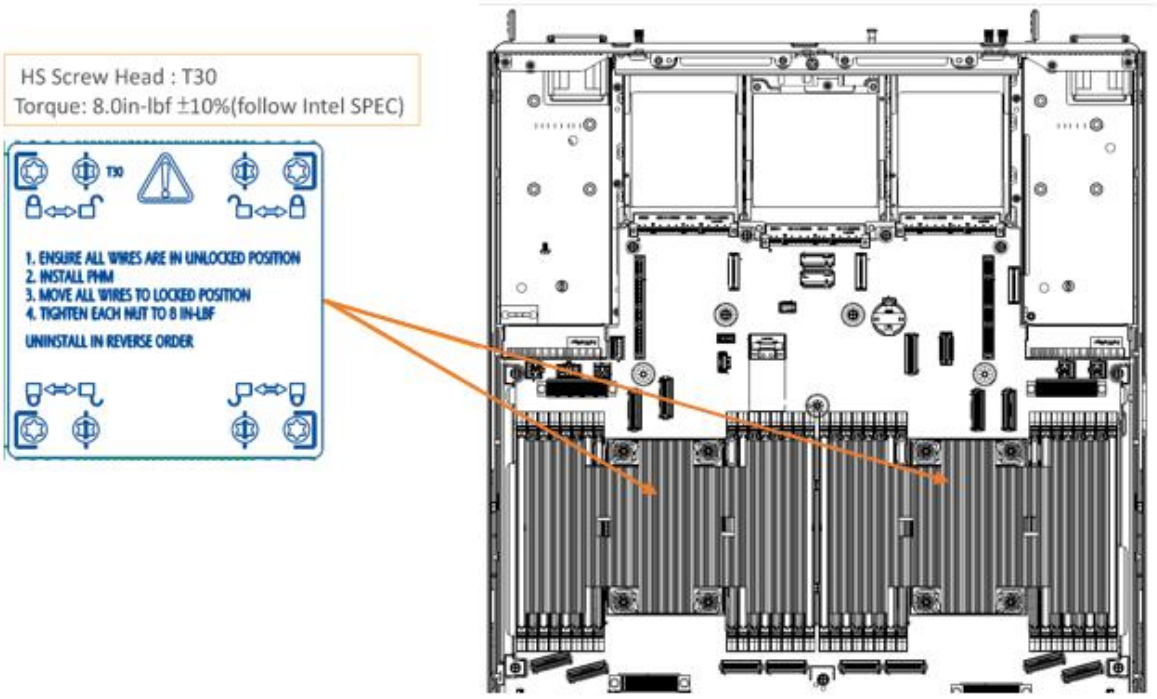


4. Tighten all screws on heat sink using a torque driver with a T30 bit to 8 in-lbf(9.21kgf.cm) torque (torque setting never to exceed 10 in-lbf or 1.13 N.m/11.5kgf.cm). There is no specific sequence needed for tightening. General bolt tightening order such as diagonal sequence can be used.
   Tool:T-30 Torxbit

IMPORTANT:
Tighten the nuts in any order.
Use 0.904 N.m. (8in-lbf) torque. Disassemble in any order.

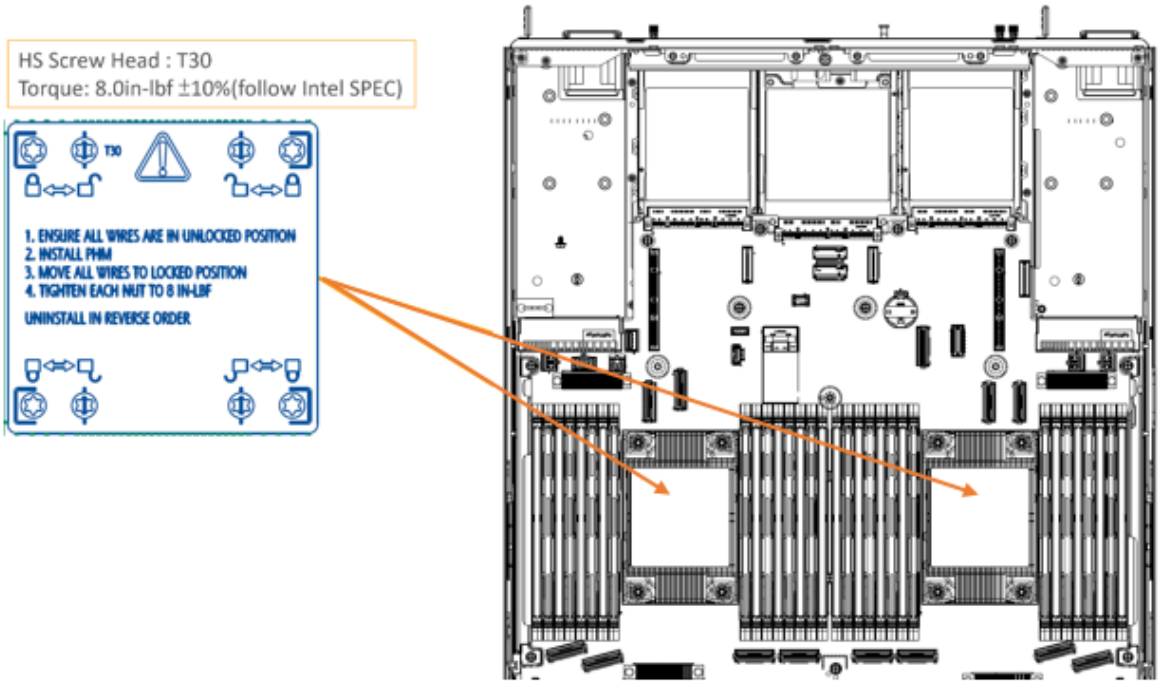
4.1.12 CPU Heatsink assembly (EVAC type)

1. Follow instruction to fasten screws.



4.1.13 CPU Heatsink assembly (Normal type)

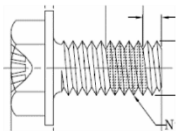
1. Follow instruction to fasten screws.

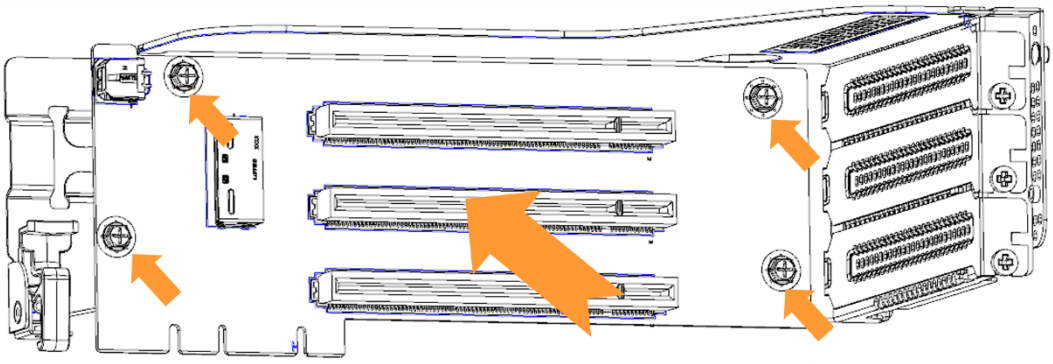


4.1.14 LP Riser Card Modules Installation

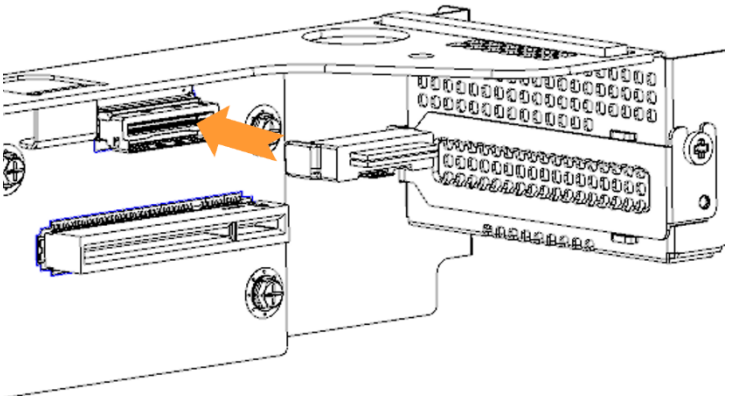
1. Tight the screws show as arrows.

CPN : MA000013VGQ
Torque: 5kgf±0.5kgf
With PH #2

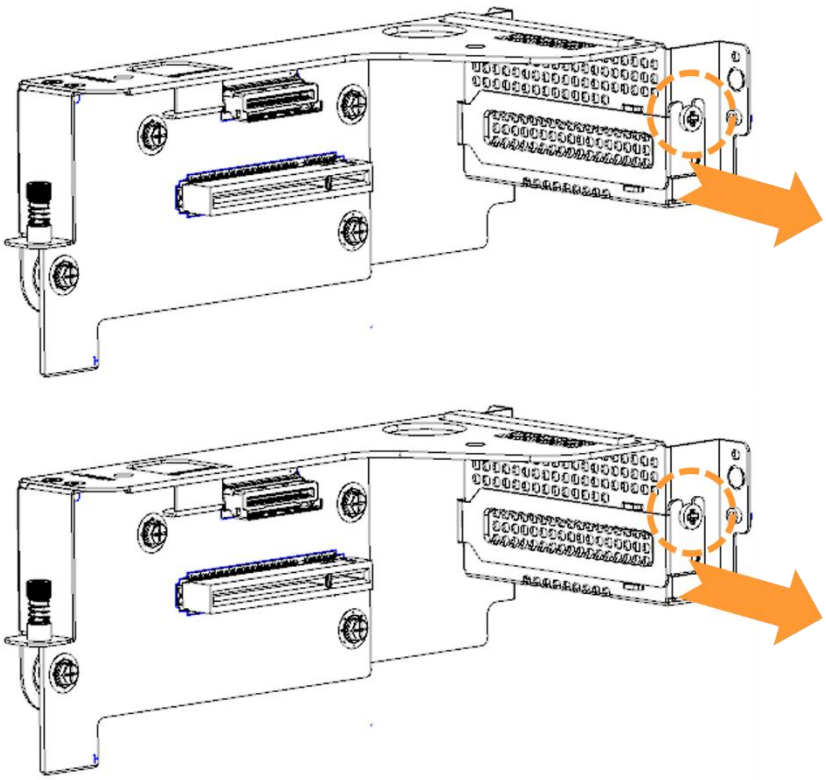




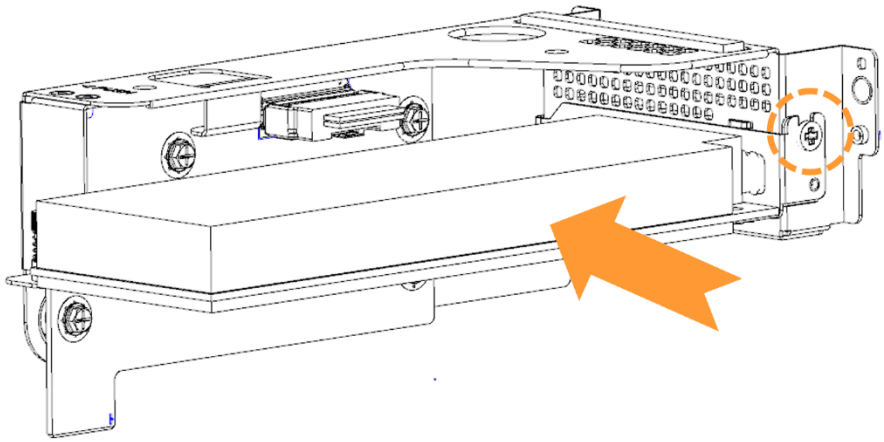
2. Install MCIO cable.



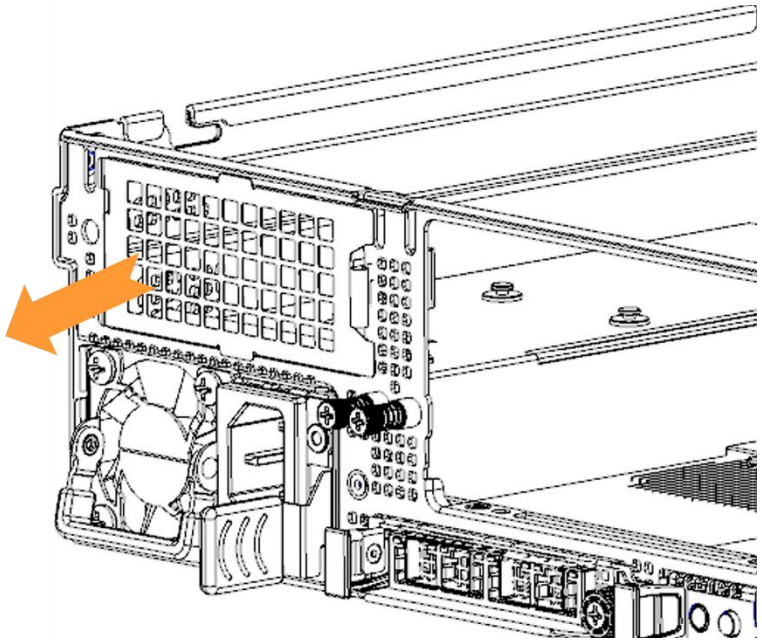
2. Remove the screw and riser bracket.



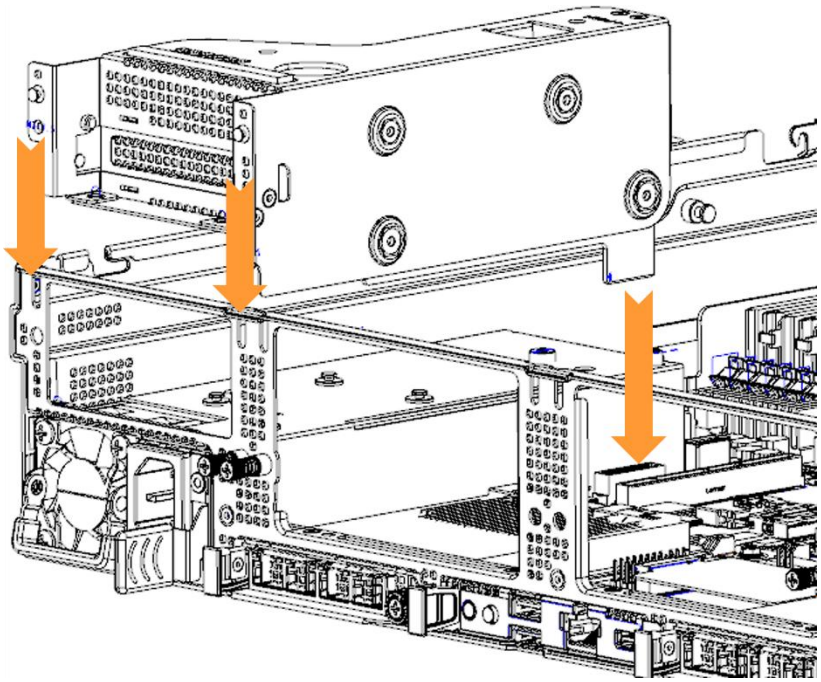
3. Install PCIe adapter card and tight the screw at the orange circle.



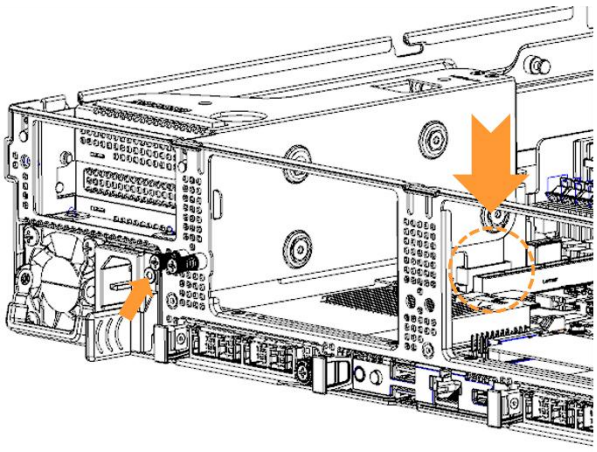
4. Remove LP riser bracket.

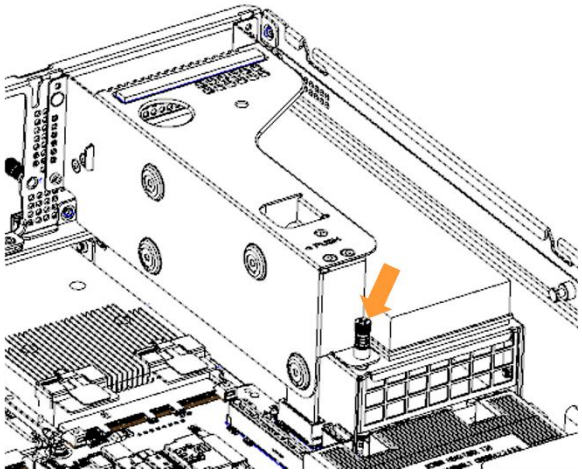


5. Install LP riser cage in chassis.



6. Tight up 3 screws show as arrows.

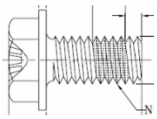


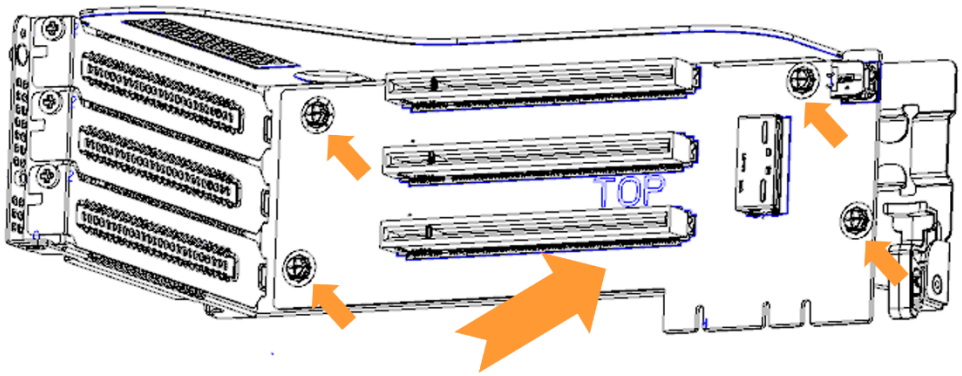


4.1.15 Full-High R Riser Card Modules Installation

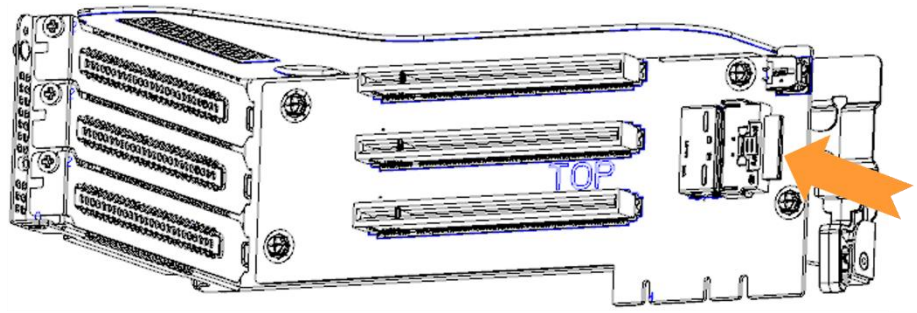
1. Tight the screws at the orange circles.

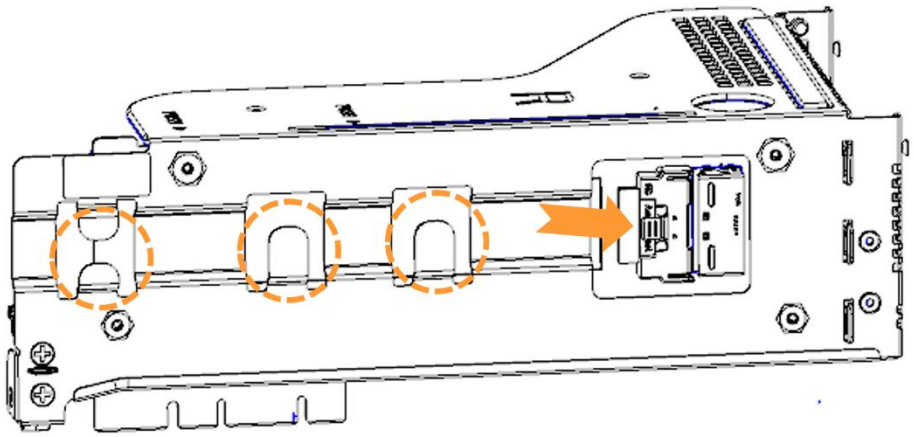
CPN : MA000013VGQ
Torque: 5kgf±0.5kgf
With PH #2



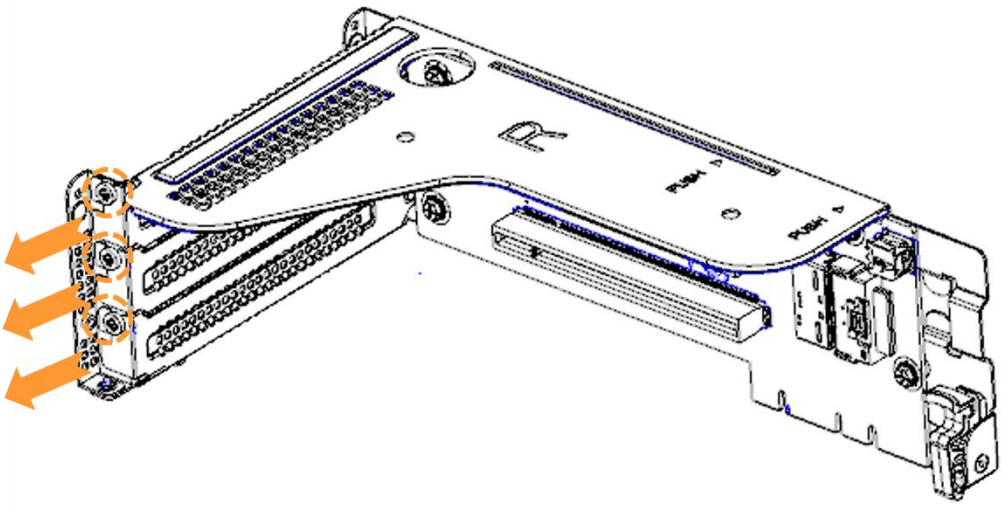


2. Install 2 MCIO cables on rear and front side of riser card.

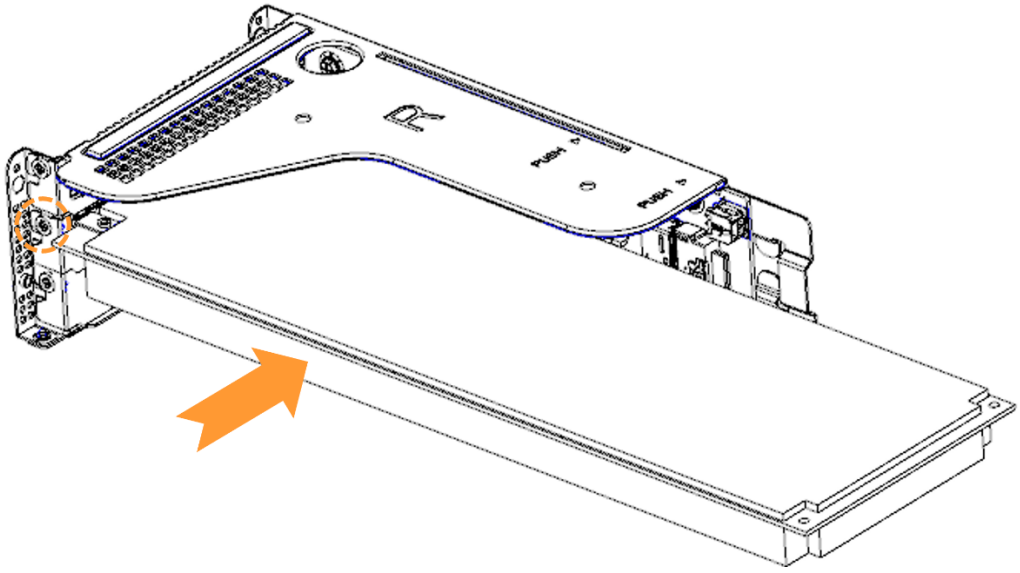




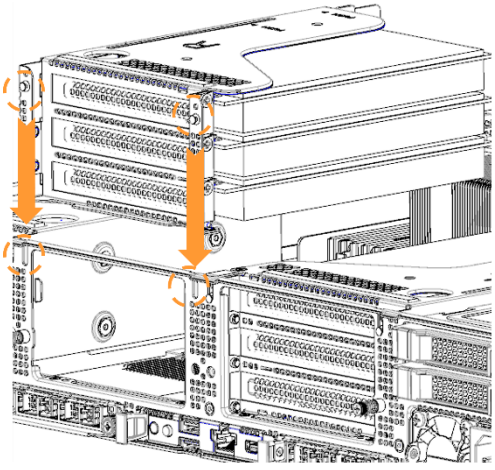
3. Remove the screws and riser bracket.

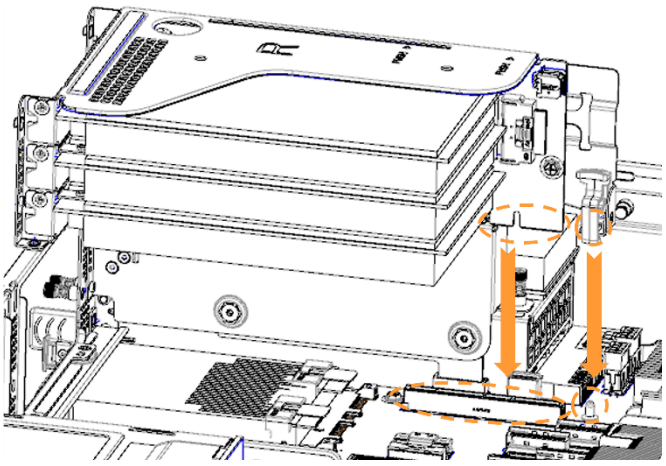


4. Install PCIe adapter card and tight the screw at the orange circle.

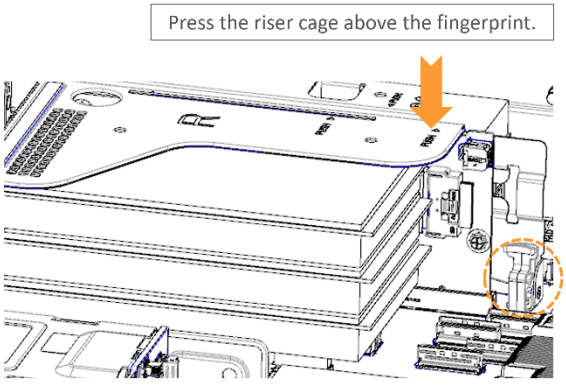


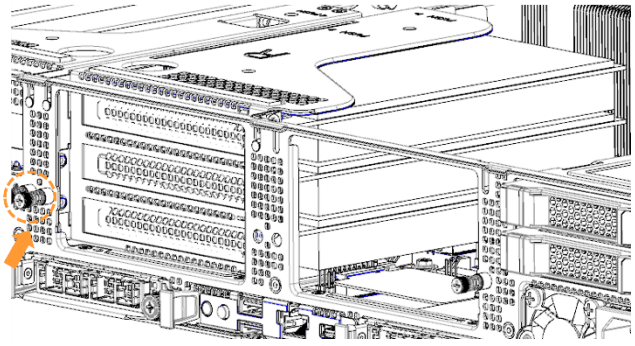
5. Install FH-R riser module in chassis (put the T-pin into the hook in chassis).





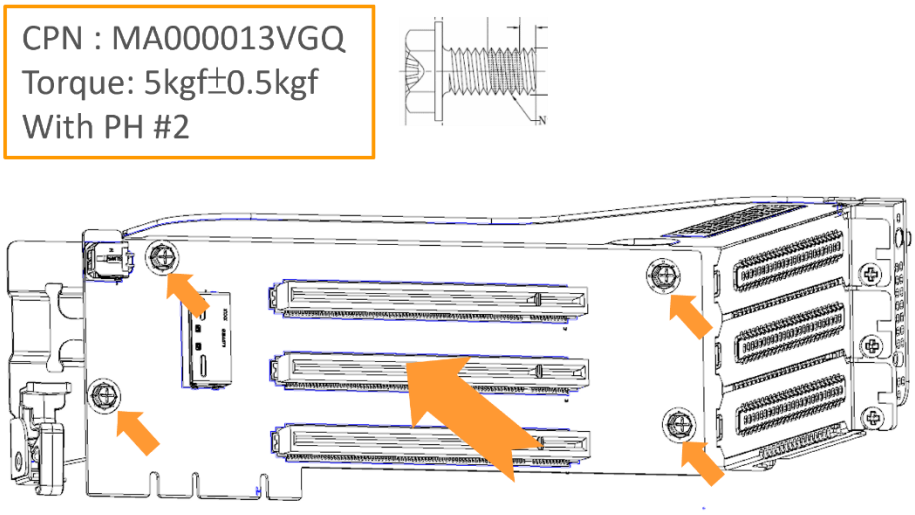
6. Ensure the riser latch lock into the riser pin and then fasten thumb screw.



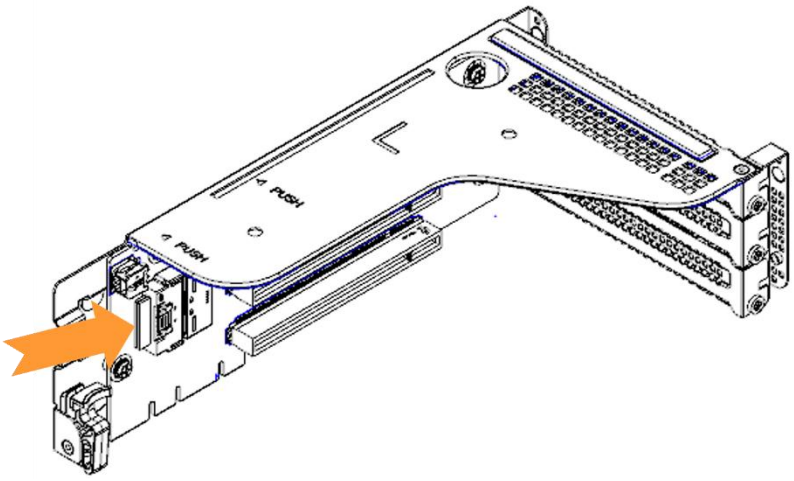


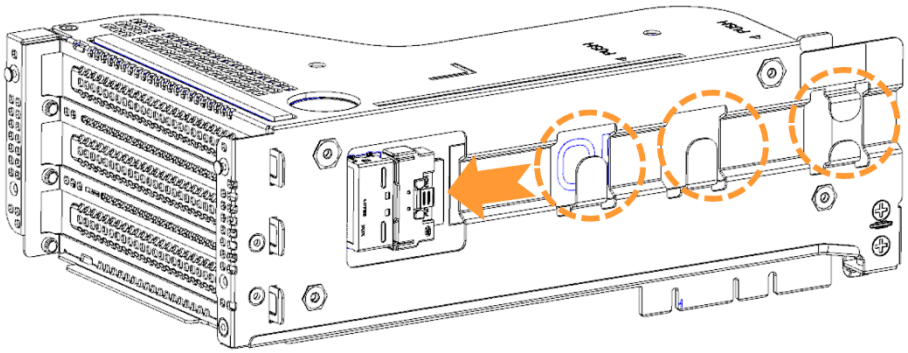
4.1.16 Full-High L Riser Card Modules Installation

1. Tight the screws at the orange circles.

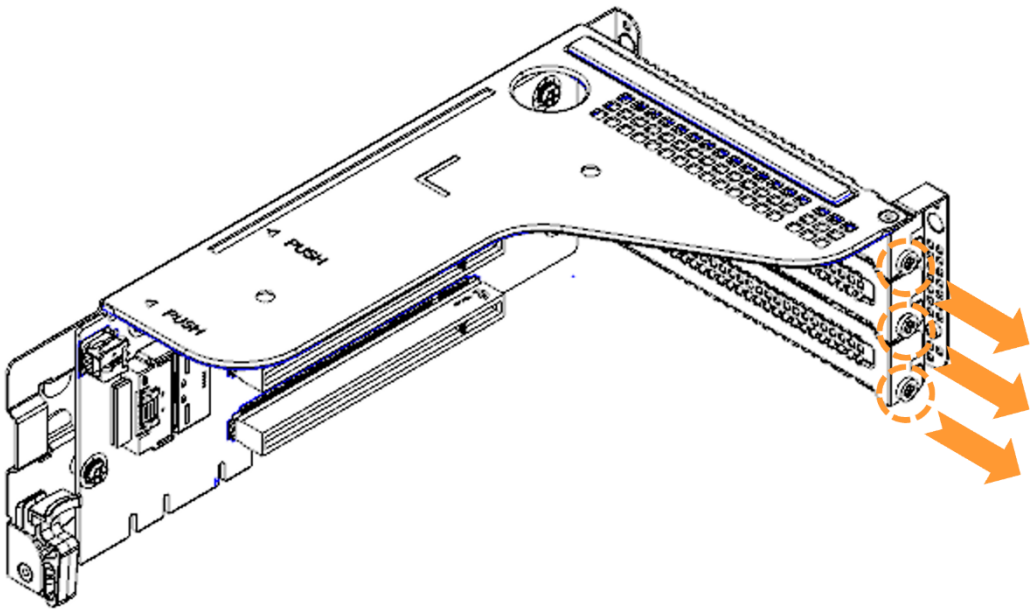


2. Install 2 MCIO cables on rear and front side of riser card.

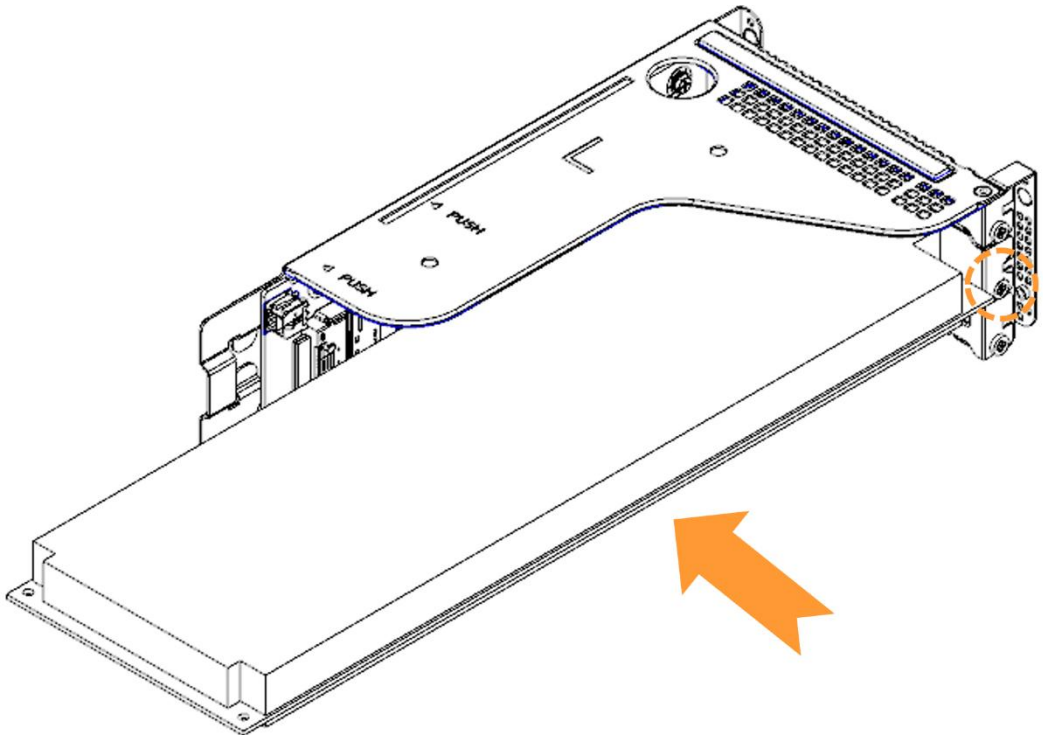




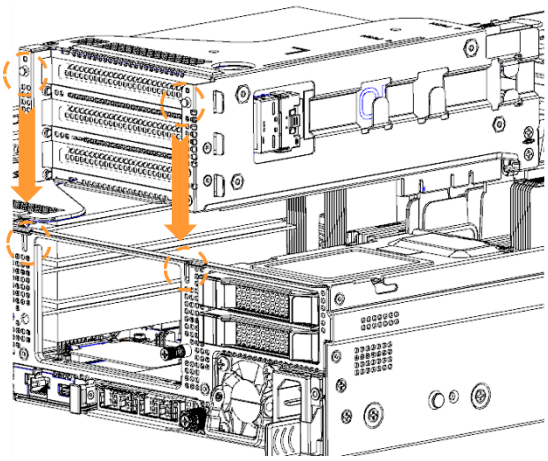
3. Remove the screws and riser bracket.

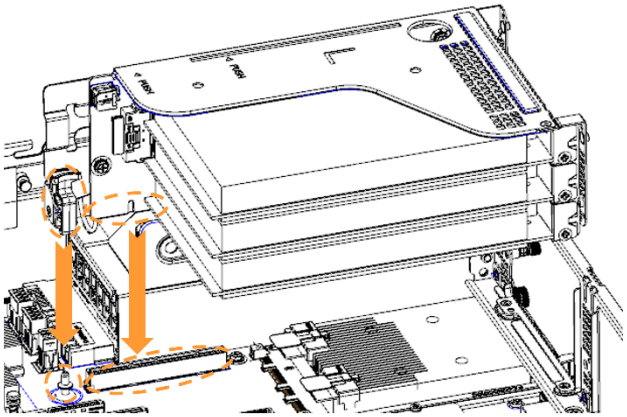


4. Install PCIe adapter card and tight the screw at the orange circle.

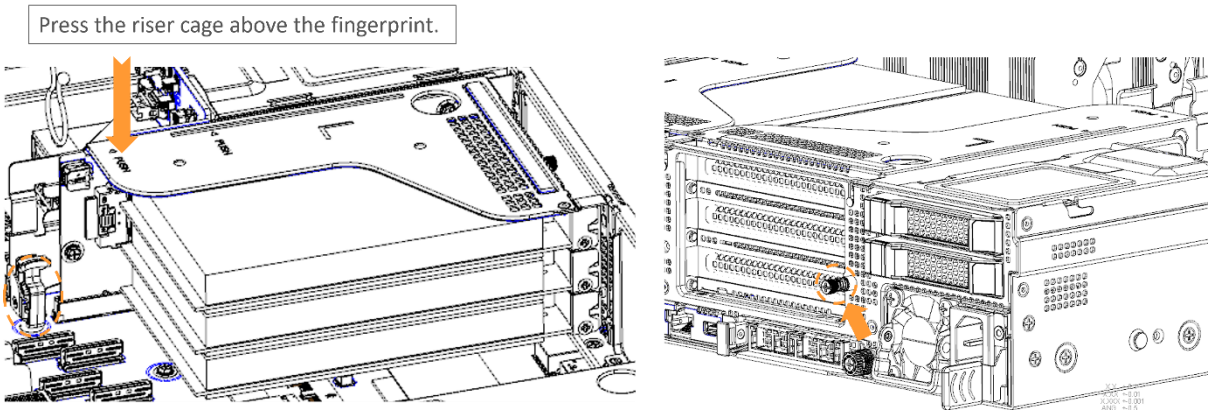


5. Install FH-R riser module in chassis (put the T-pin into hook in chassis).



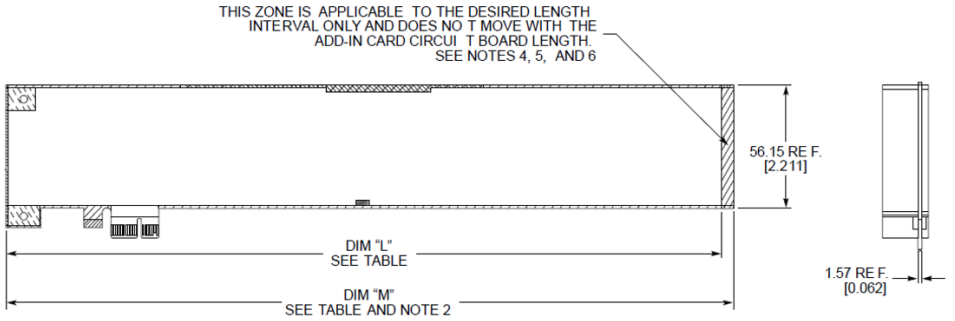


6. Ensure the riser latch lock into the riser pin and then fasten thumb screw.



4.1.17 GPGPU Installation

GPGPU Length SPEC



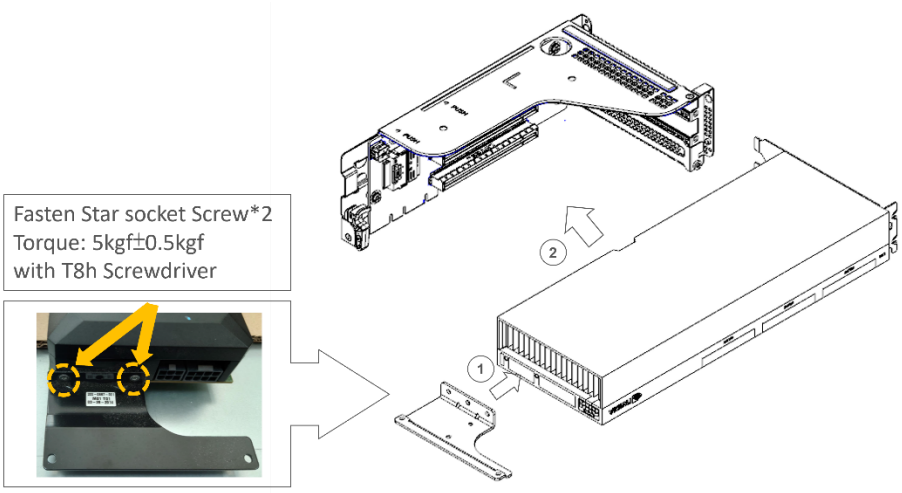
LENGTH INTE RVAL	DIM "L"	DIM "M"
HALF LENGTH	166.65 [6.561]	167.65 MAX [6.600]
THREE-QUA RTER LENGTH	248.92 [9.800]	254.00 MAX [10.00]
FULL LENGTH	306.92 [12.083]	312.00 MAX [12.283]

The spec for GPGPU length
CARD+EXTENDER=312mm

A-0908

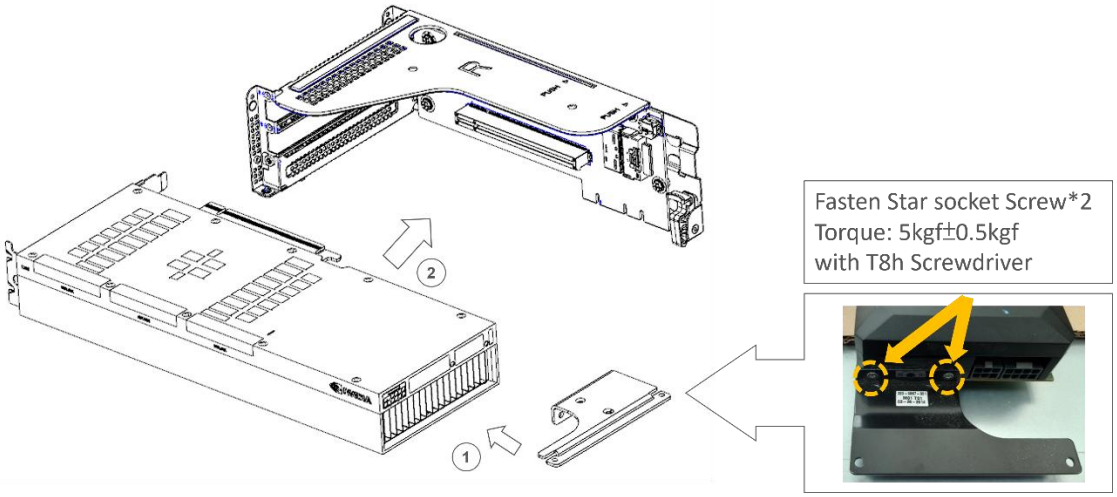
Step 1: Install GPGPU in Riser L

(1) Please confirm that GPGPU card comes with straight extender, screws and related accessories. And fasten Star socket Screws*2.
(2) Assemble GPGPU card with riser and riser board.
(3) Lock back the screw. (Torque: 5kgf±0.5kgf, with PH #2)



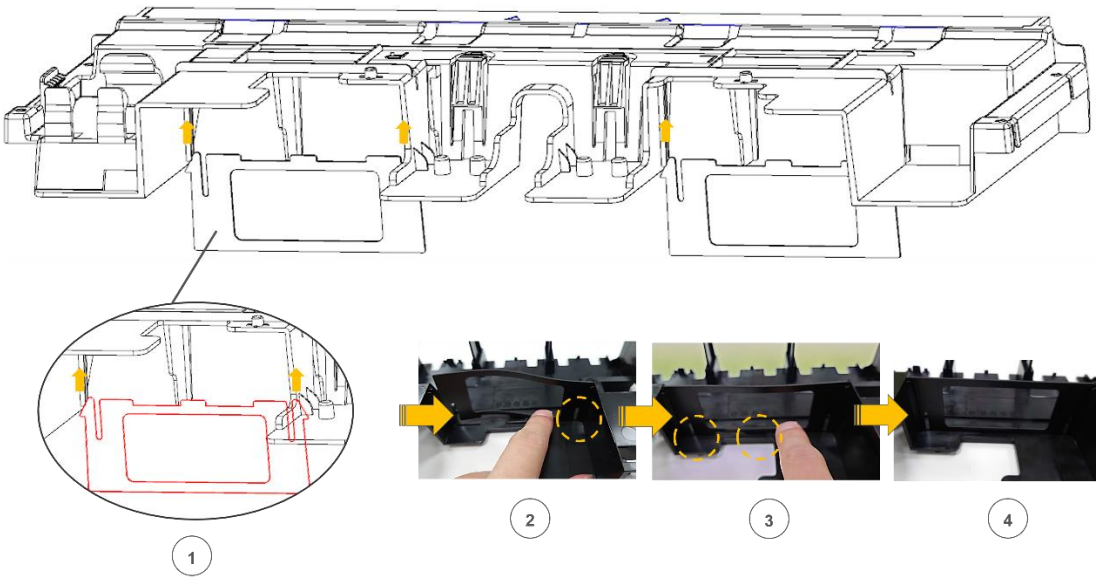
Step 2: Install GPGPU in Riser R

(1) Please confirm that GPGPU card comes with straight extender, screws and related accessories. And fasten Star socket Screws*2.
(2) Assemble GPGPU card with riser and riser board.
(3) Lock back the screw. (Torque: 5kgf±0.5kgf, with PH #2)



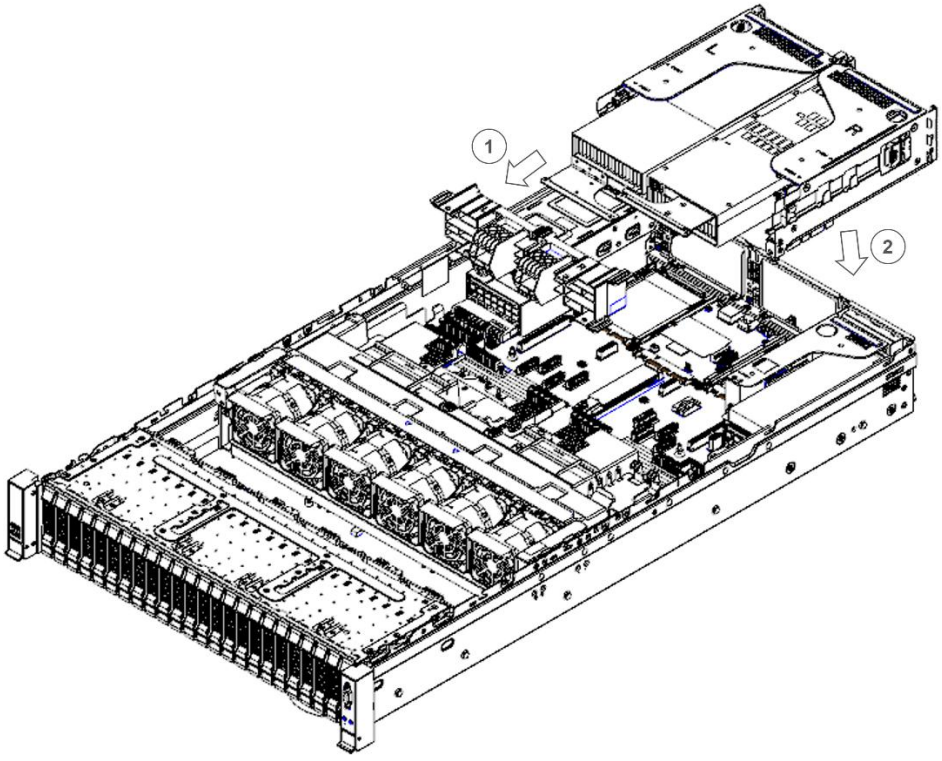
Step 3: Assemble Air Duct and Mylar

(1) Push mylar along with air-duct track.
(2) Press the mylar edge side and make sure the hook is pushed into the groove.
(3) Press the mylar middle and other edge side, and make sure all the hook was pushed into the groove.
(4) Complete.



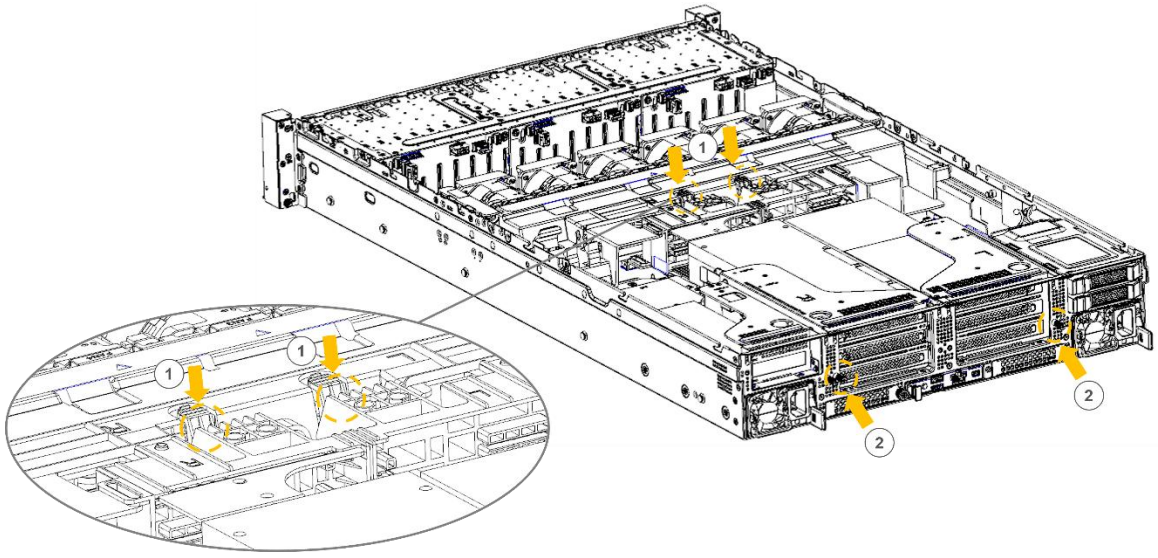
Step 4: Assemble GPGPU Riser Module with Retainer

(1) Assemble GPGPU riser module and retainer.
(2) Assemble GPGPU riser module + retainer and chassis.

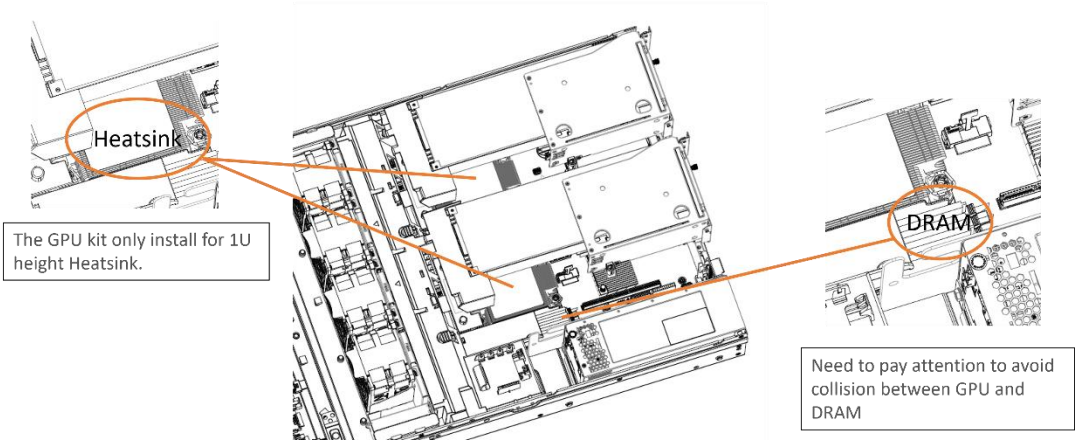


Step 5: Install GPGPU Riser Module in Chassis

(1) Confirm retainer and clip are combined.
(2) Fasten thumb screws. (Torque: 5kgf ±0.5kgf with PH #2)

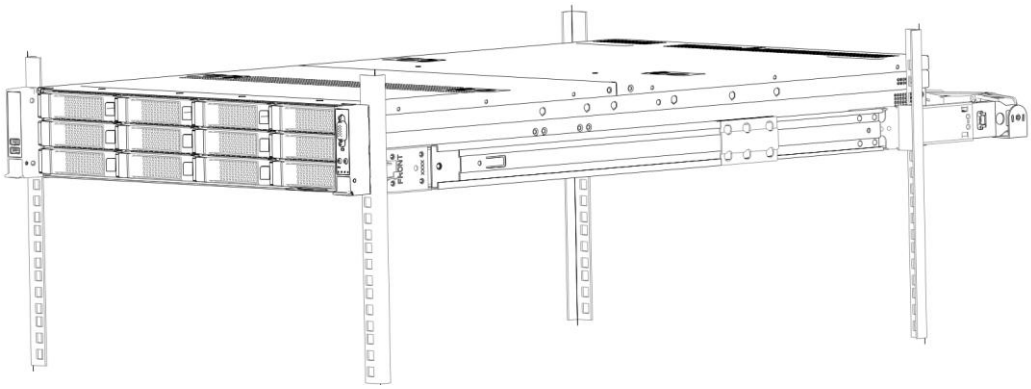


Precaution while installing NVIDIA GPGPU



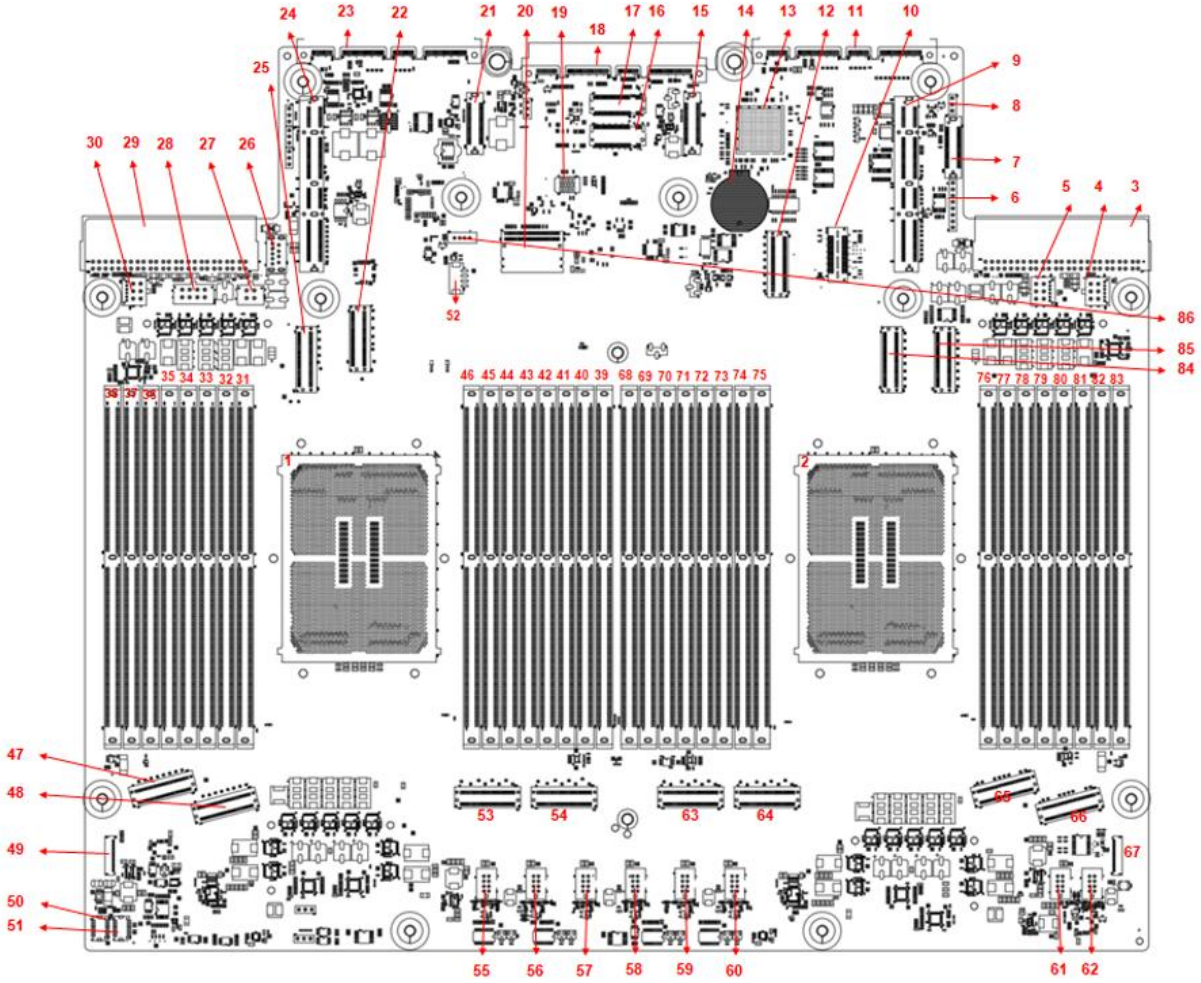
4.2 Adjustable mounting posts of racks

Altos R380 F7 server support the adjustable distance between front posts to rear posts is from 27 to 29 inches.



Chapter 5 Motherboard Overview

5.1 Server Board Placement



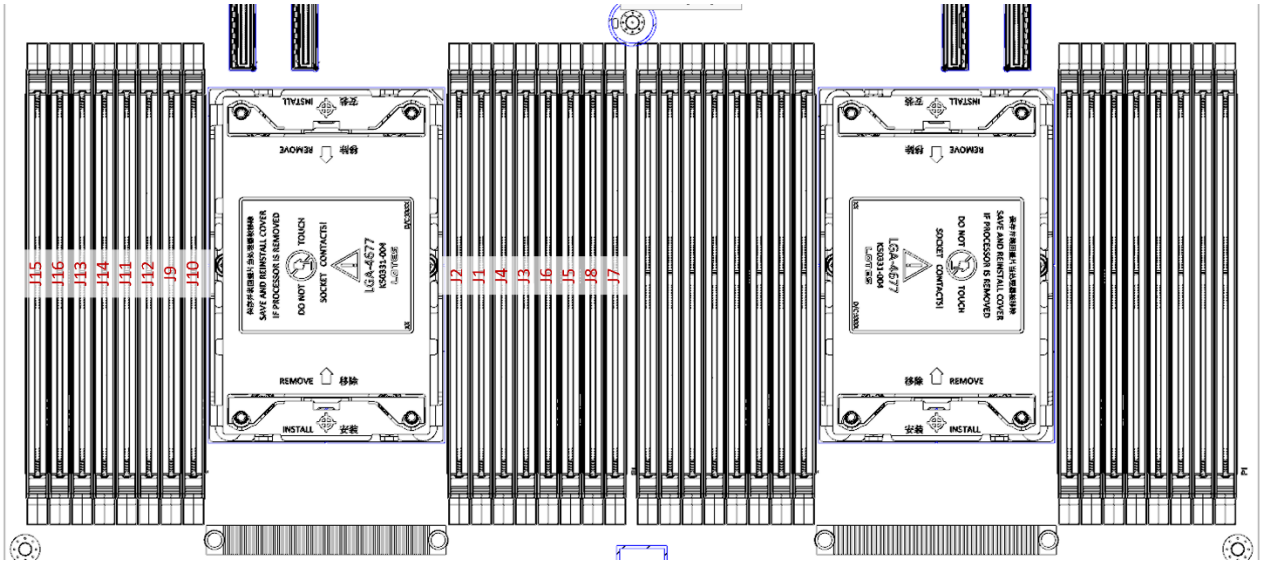
No	Reference	Function	Description
1	XRU1	CPU0 socket	
2	XRU2	CPU1 socket	
3	JP53	PSU connector	
4	JP54	Front BP Power connector	8 pins Micro-Hi power Connector
5	JP55	Front BP Power connector	8 pins Micro-Hi power Connector
6	JP87	CPLD Programming Header	
7	JP30	GenZ 1C connector	For PCIe Slot7(2U) power and sideband
8	JP110	Config Jumper	
9	JP37	GenZ 4C+ connector	PCIe x16 from CPU1
10	JP4	XDP Connector	
11	JP11	OCP3.0 connector	PCIe x16 from CPU1
12	JP38	MCIO x8 connector	PCIe x8 from CPU1
13	U109	CPLD	

14	JP_BAT1	RTC Battery socket	Use CR-2032
15	JP23	GenZ 1C connector	For PCIe Slot2(1U) power and sideband.
16	JP17	M.2_1 connector	PCIe Gen5 x4 from CPU0. Support 2280 only.
17	JP16	M.2_0 connector	PCIe Gen5 x4 from CPU0. Support 2280 only.
18	JP60	OCP3.0 connector	For DC-SCM
19	JP107	I3C Debug Connector	
20	JP63	Slimline x8 connector	6 x SATA Gen3 from PCIe to SATA Controller
21	JP22	GenZ 1C connector	For PCIe Slot1(1U) power and sideband.
22	JP32	MCIO x8 connector	PCIe x8 from CPU0
23	JP10	OCP3.0 connector	PCIe x8 from CPU0
24	JP25	GenZ 4C+ connector	PCIe x16 from CPU0
25	JP31	MCIO x8 connector	PCIe x8 from CPU0
26	JP69	Internal USB 3.0 connector	Type A
27	JP57	Rear BP Power connector	4 pins Micro-Hi power Connector
28	JP56	GPGPU Power connector	8 pins Micro Power Plus Connector
29	JP52	PSU connector	
30	JP68	Front BP Power connector	8 pins Micro-Hi power Connector
31	J10	CPU0 DDR5 DIMM E1	
32	J9	CPU0 DDR5 DIMM E0	
33	J12	CPU0 DDR5 DIMM F1	
34	J11	CPU0 DDR5 DIMM F0	
35	J14	CPU0 DDR5 DIMM G1	
36	J13	CPU0 DDR5 DIMM G0	
37	J16	CPU0 DDR5 DIMM H1	
38	J15	CPU0 DDR5 DIMM H0	
39	J7	CPU0 DDR5 DIMM D0	
40	J8	CPU0 DDR5 DIMM D1	
41	J5	CPU0 DDR5 DIMM C0	
42	J6	CPU0 DDR5 DIMM C1	
43	J3	CPU0 DDR5 DIMM B0	
44	J4	CPU0 DDR5 DIMM B1	
45	J1	CPU0 DDR5 DIMM A0	
46	J2	CPU0 DDR5 DIMM A1	
47	JP34	MCIO x8 connector	PCIe x8 from CPU0
48	JP33	MCIO x8 connector	PCIe x8 from CPU0
49	JP73	Front Panel connector.	1 x USB3.0 and 1 x USB2.0
50	JP46	Rear BP SMBus connector.	
51	JP47	Front BP SMBus connector.	
52	JP3	JP220	DLC connector
53	JP36	MCIO x8 connector	PCIe x8 from CPU0
54	JP35	MCIO x8 connector	PCIe x8 from CPU0

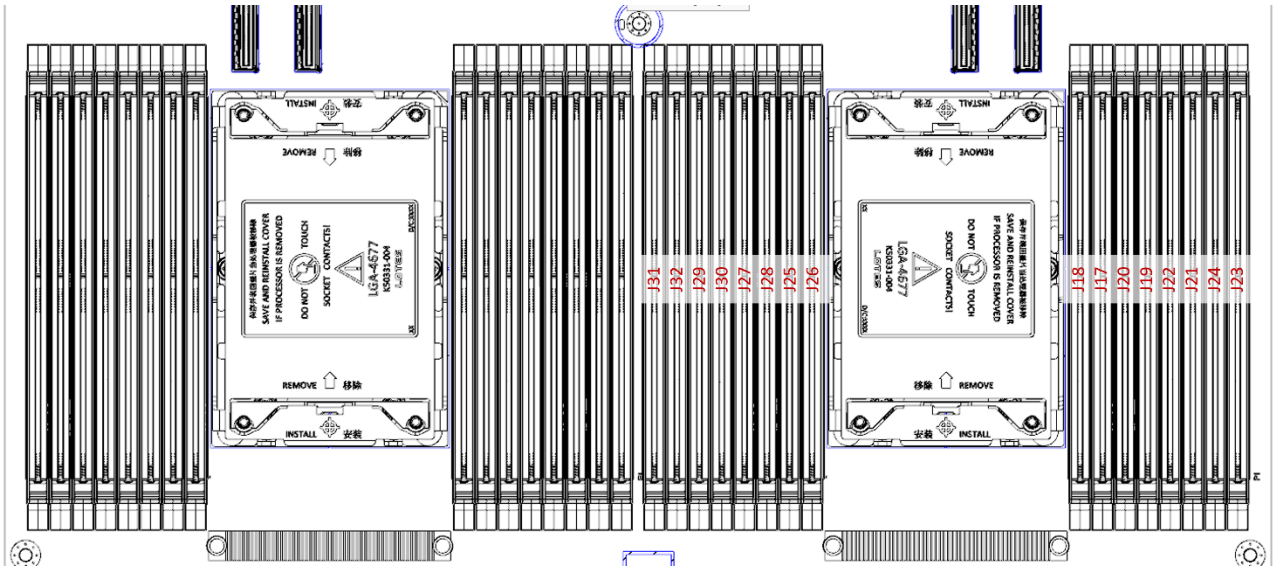
55	JP75	FAN connector	1U: Fan1 2U: Fan1
56	JP76	FAN connector	1U: Fan2 2U: Fan2
57	JP77	FAN connector	1U: Fan3 2U: Fan3
58	JP78	FAN connector	1U: Fan4 2U: Fan4
59	JP82	FAN connector	1U: Fan5 2U: Fan5
60	JP81	FAN connector	1U: Fan6 2U: Fan6
61	JP80	FAN connector	1U: Fan7 2U: N/A
62	JP79	FAN connector	1U: Fan8 2U: N/A
63	JP40	MCIO x8 connector	PCIe x8 from CPU1
64	JP58	MCIO x8 connector	PCIe x8 from CPU1
65	JP41	MCIO x8 connector	PCIe x8 from CPU1
66	JP24	MCIO x8 connector	PCIe x8 from CPU1
67	JP44	Front Panel connector	
68	J31	CPU1 DDR5 DIMM H0	
69	J32	CPU1 DDR5 DIMM H1	
70	J29	CPU1 DDR5 DIMM G0	
71	J30	CPU1 DDR5 DIMM G1	
72	J27	CPU1 DDR5 DIMM F0	
73	J28	CPU1 DDR5 DIMM F1	
74	J25	CPU1 DDR5 DIMM E0	
75	J26	CPU1 DDR5 DIMM E1	
76	J18	CPU1 DDR5 DIMM A1	
77	J17	CPU1 DDR5 DIMM A0	
78	J20	CPU1 DDR5 DIMM B1	
79	J19	CPU1 DDR5 DIMM B0	
80	J22	CPU1 DDR5 DIMM C1	
81	J21	CPU1 DDR5 DIMM C0	
82	J24	CPU1 DDR5 DIMM D1	
83	J23	CPU1 DDR5 DIMM D0	
84	JP42	MCIO x8 connector	PCIe x8 from CPU1
85	JP39	MCIO x8 connector	PCIe x8 from CPU1
86	JP114	VROC_KEY connector	

5.2 CPU Sockets and DIMM Slots

5.2.1 Dual CPU, CPU0



5.2.2 Dual CPU, CPU1 only



5.2.3 Support DIMM Type and speed

Intel® Xeon® 6 Processors DIMM Mixing Rules

• DIMMs must be all DDR5 RDIMM **or** all MRDIMMs.

• All DIMMs in a channel must have the same number of ranks (unless explicitly specified otherwise).

• x8 DIMMs and x4 DIMMs cannot be mixed in the same channel or same processor socket.

• Mixing of non-3DS and 3DS RDIMMs is not allowed in the same channel, across different channels, and across different sockets.

• 9x4 RDIMMs cannot be mixed with other DIMMs.

• All DDR5 DIMM must be in the same speed per processor socket.

• Rank mixing is not allowed on a channel except for 1 rank + 2 rank combination, when all 16 DIMM are populated for a processor socket.

• Density mixing is not allowed.

• Frequency mixing is not allowed.

• Mixing of DDR5 operating frequencies is not validated within a socket or across sockets by Intel. When DIMMs with different maximum frequencies are mixed in the same channel or across different channels across processor sockets, BIOS determines and sets the DIMM speed to the highest common frequency across all channels on the platform. For example, if a 6000 MT/s max frequency DIMM is installed in one channel and a 6400 MT/s max frequency DIMM in another, BIOS sets the platform speed to 6000 MT/s.

DIMM Mixing Rules SP						
Channel Mixing	DIMM 1	DIMM 1	DIMM 1	DIMM 1	DIMM 1	DIMM 1
DIMM 0	1Rx8	2Rx8	1Rx4	2Rx4	4Rx4 (3DS 2H)	8Rx4 (3DS 4H)
1Rx8	Not Allowed	Not Allowed	Not Allowed	Not Allowed	Not Allowed	Not Allowed
2Rx8	Mixed Vendors	Mixed Vendors	Not Allowed	Not Allowed	Not Allowed	Not Allowed
1Rx4	Not Allowed	Not Allowed	Not Allowed	Not Allowed	Not Allowed	Not Allowed
2Rx4	Not Allowed	Not Allowed	Not Allowed	Mixed Vendors	Not Allowed	Not Allowed
4Rx4 (3DS 2H)	Not Allowed	Not Allowed	Not Allowed	Not Allowed	Mixed Vendors	Not Allowed
8Rx4 (3DS 4H)	Not Allowed	Not Allowed	Not Allowed	Not Allowed	Not Allowed	Mixed Vendors

Intel® Xeon® 6 Processors 2SPC DIMM Population Rules

• A maximum of eight logical ranks (ranks seen by the host) per channel is allowed.

• All allowed DIMM population configurations for two slots per channel designs are shown in the following tables. SMT DIMM connectors are required.

Two Slots per Channel RDIMM Population Configurations within a Channel

Configuration Number	POR Speed	DIMM1	DIMM0
1	6400	Empty	Single-rank
2	6400	Empty	Dual-rank
3	5200	Single-rank	Single-rank
4	5200	Single-rank	Dual-rank
5	5200	Dual-rank	Dual-rank

Two Slots per Channel 3DS RDIMM Population Configurations within a Channel

Configuration Number	POR Speed	DIMM1	DIMM0
1	6400	Empty	3DS
2	5200	3DS	3DS

DDR5 DIMM Population Requirements

	iMC7		iMC6		iMC5		iMC4			iMC0		iMC1		iMC2		iMC3	
	Ch7		Ch6		Ch5		Ch4			Ch0		Ch1		Ch2		Ch3	
DDR5	Slot 0	Slot 1	Slot 0	Slot 1	Slot 0	Slot 1	Slot 0	Slot 1		Slot 1	Slot 0	Slot 1	Slot 0	Slot 1	Slot 0	Slot 1	Slot 0
1											DDR5						
4			DDR5				DDR5				DDR5				DDR5		
	DDR5				DDR5								DDR5				DDR5
8	DDR5		DDR5		DDR5		DDR5				DDR5		DDR5		DDR5		DDR5
			DDR5	DDR5			DDR5	DDR5		DDR5	DDR5			DDR5	DDR5		
	DDR5	DDR5			DDR5	DDR5						DDR5	DDR5			DDR5	DDR5
12	DDR5		DDR5	DDR5	DDR5		DDR5	DDR5		DDR5	DDR5		DDR5	DDR5	DDR5		DDR5
16	DDR5	DDR5	DDR5	DDR5	DDR5	DDR5	DDR5	DDR5		DDR5	DDR5	DDR5	DDR5	DDR5	DDR5	DDR5	DDR5

DIMM Configuration Table for P-core

- Intel® Xeon® 6700P-Series Processors

- Intel® Xeon® 6500P-Series Processors

Type	Ranks Per DIMM and Data Width	DIMM Capacity (GB)						Speed (MT/s); Voltage (V); Slots per Channel (SPC) & DIMMs per Channel (DPC)	
		DRAM Density						1DPC	2DPC
		16 Gb	16 Gb	24 Gb	24 Gb	32 Gb	32 Gb	1.1V	
		1DPC	2DPC	1DPC	2DPC	1DPC	2DPC		
RDIMM	1Rx8 (R/C D)	16 GB	x	24 GB	x	x	x	6400	5200
	1Rx4 (R/C C)	32 GB	x	48 GB	x	x	x	6400	5200
	2Rx8 (R/C E)	32 GB	32 GB	48 GB	x	x	x	6400	5200
	2Rx4 (R/C A)	64 GB	64 GB	96 GB	96 GB	128 GB	128 GB	6400	5200
RDIMM 3DS	8Rx4 (R/C A)	x	256 GB	x	x	x	x	6400	5200
MRDIMM	2Rx8	32 GB	x	x	x	x	x	8000	N/A
	2Rx4	64 GB	x	x	x	x	x	8000	N/A

DDR and MRDIMM Memory Configuration Support Table

Memory Channels	DIMM Type	Slots Per Channel	DIMMs per Channel	Slot 0 DIMM Ranks, Width	Slot 0 DIMM Capacity (GB)	Slot 1 DIMM Ranks, Width	Slot 1 DIMM Capacity (GB)	DIMM Organization	DRAM Density (Gb)
4	RDIMM	1 or 2	1	2Rx8	32	-	-	5x8	16
4	RDIMM	1 or 2	1	2Rx8	48	-	-	5x8	24
4	RDIMM	1 or 2	1	2Rx4	64	-	-	10x4	16
8	RDIMM	1 or 2	1	1Rx8	16	-	-	5x8	16
8	RDIMM	1 or 2	1	1Rx8	24	-	-	5x8	24
8	RDIMM	1 or 2	1	2Rx8	32	-	-	5x8	16
8	RDIMM	1 or 2	1	1Rx4	32	-	-	10x4	16
8	RDIMM	2	2	2Rx8	32	2Rx8	32	5x8	16
8	RDIMM	1 or 2	1.5	2Rx8	32	2Rx8	32	5x8	16
8	RDIMM	1 or 2	1	2Rx8	48	-	-	5x8	24
8	RDIMM	1 or 2	1	1Rx4	48	-	-	10x4	24
8	RDIMM	2	2	2Rx8	48	1Rx8	24	5x8	24
8	RDIMM	1 or 2	1	2Rx4	64	-	-	10x4	16
8	RDIMM	1 or 2	1	2Rx4	96	-	-	10x4	24
8	RDIMM	2	2	2Rx4	64	2Rx4	64	10x4	16
8	RDIMM	2	2	2Rx4	96	2Rx4	96	10x4	24
8	RDIMM	1 or 2	1	2Rx4	128	-	-	10x4	32
8	RDIMM	2	2	2Rx4	128	2Rx4	128	10x4	32
8	RDIMM	2	2	4H 3DS	256	4H 3DS	256	10x4	16
8	MRDIMM	1 or 2	1	2Rx8	32	-	-	5x8	16
8	MRDIMM	1 or 2	1	2Rx4	64	-	-	10x4	16

==Document END==