COMPAL Server™

SR110-2
User Manual

COMPALSERVER™ User Manual V1.0

COMPALSERVER

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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:

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.

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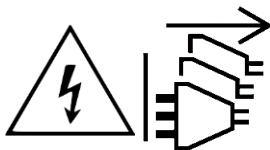
CAUTION:

Incorrectly installing a battery or using an incompatible battery may increase the risk of fire or explosion. Replace the battery only with the same or equivalent type.

Do not:

- Throw or immerse into water.
- Heat to more than 100°C (212°F).
- Repair or disassemble.
- Dispose of the battery as required by local ordinances or regulations.

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.

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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.

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.

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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.

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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 may 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.
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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.

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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.

INDUSTRY CANADA (Canada only)

CAN ICES-003(A) / NMB-003(A)

This Class B (or Class A, if so indicated on the registration label) digital apparatus meets the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la Classe B (ou Classe A, si ainsi indiqué sur l'étiquette d'enregistration) respecte toutes les exigences du Reglement sur le Materiel Brouilleur du Canada.

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.

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UK CA

Is here with confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Low-voltage Directive (Safety) Regulations 2016, Electromagnetic Compatibility Regulations 2016, The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 and The Ecodesign for Energy-Related Products and Energy Information (Amendment) (EU Exit) Regulations 2019.

中国 CCC (China only)

The following CCC EMC Warning is marked on the product: EMC Warning is required for Class A products.

此为 A 级产品，在生活环境中，该产品可能会造成无线电干扰，在这种情况下，可能需要用户对其干扰采取可行的措施

Environmental compliance

Restricted Material Compliance

EU RoHS

The devices are designed to comply with the applicable restricted substance requirements of the European Union's Restriction of the use of certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive (2011/65/EC) as amended, including Directive (2015/863/EU) which added four phthalates to the RoHS Directive's Annex II substance restriction list. The RoHS Directive requires self-declaration to RoHS restrictions through the **Declaration of Conformity (DoC)** process and CE marking.

EU REACH compliance

The European Union's Regulation on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) (2006/1907/EC) entered into force on June 1, 2007.

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Pursuant to Article 33, COMPAL communicates information regarding Substances of Very High Concern (SVHC) that are contained in articles in a concentration above 0.1% by weight to its customers and to consumers, upon request. To meet these compliance obligations, COMPAL actively monitors the European Chemical Agency's (ECHA) SVHC candidate list and adds SVHCs that have been added to the ECHA authorization list.

EU Batteries Directive - Restricted Substances

The devices are designed to comply with the applicable restricted substance requirements of the European Union's Batteries Directive (2006/66/EC) as amended, including Directive (2013/56/EU). All batteries or accumulators shall not contain more than 0.0005% (5 ppm) of mercury by weight and portable batteries or accumulators, including those incorporated into appliances, shall not contain more than 0.002% of cadmium by weight.

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.

California Proposition 65 (US CA only)

California's Proposition 65, the Safe Drinking Water and Toxic Enforcement Act of 1986, was enacted as a ballot initiative in November 1986. The Proposition was intended by its authors to protect California citizens and the State's drinking water sources from chemicals known to cause cancer, birth defects or other reproductive harm, and to inform citizens about exposures to such chemicals. The device has warning label on exterior packaging

EU WEEE

The device may not be disposed of with household rubbish. This appliance is labelled in accordance with European Directive 2012/19/EU concerning used electrical and electronic appliances (waste electrical and electronic equipment – WEEE).

The guideline determines the frame-work for the return and recycling of used appliances as applicable throughout the EU. To return your used device, please use the return and collection systems available to you.

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China RoHS (China only)

The device shipping directly into China which are manufactured on or after March 1st, 2007, are China RoHS compliant.

China RoHS Declaration Table

部件名称	有害物质					
	铅(Pb)	汞(Hg)	镉(Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
PCB 板	×	○	○	○	○	○
结构件	×	○	○	○	○	○
芯片及 其他主动零件	×	○	○	○	○	○
连接器	×	○	○	○	○	○
风扇、散热件	×	○	○	○	○	○
硬盘	×	○	○	○	○	○
助焊剂，散热膏，标签及 其他耗材	×	○	○	○	○	○
本表格依据 SJ/T 11364 的规定编制。						
○：表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下。						
×：表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求。						
注：表中标记"×"的部件，皆因全球技术发展水平限制而无法实现有害物质的替代。						

Energy saving compliance

ErP Lot9 Information Sheet

- Servers & Storage Products -

The EU Commission Regulation (EU) 2019/424 of 15 March 2019 laying down ecodesign requirements for servers and data storage products pursuant to Directive 2009/125/EC of

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the European Parliament and of the Council and amending Commission Regulation (EU) No 617/2013. (ErP Lot9)

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Information to be provided by manufacture (EU) 2019/424 – Annex II section 3.1 and 3.3

	Annex II section 3.1 Requirement	**Information**
(a)	product type	Server
(b)	manufacturer's name, registered trade name and registered trade address at which they can be contacted	Compal Electronics Inc. No. 581 & 581-1, Ruiguang Rd., Neihu District Taipei City 11492, Taiwan (R.O.C.)
(c)	product model name, model number and serial number	SR110-2
(d)	year of manufacture	2022
(e)	PSU efficiency at 10 % (if applicable), 20 %, 50 % and 100 % of rated output power	reference PSU efficiency and power factor table
(f)	power factor at 50 % of the rated load level	reference PSU efficiency and power factor table
(g)	PSU rated power output (Watts)	reference PSU efficiency and power factor table
(h)	idle state power (Watts)	<u>High-end</u> 2P：260.9 Watts；1P：143.4 Watts <u>Low-end</u> 2P：204.0 Watts；1P：114.6 Watts
(i)	list of all components for additional idle power allowances, if any (additional PSU, HDDs or SSDs, additional memory, additional buffered DDR channels, additional I/O devices)	<u>High-end</u> 2P：1 additional PSU, 2.5" HDDx2, additional 367.92Watt memory, additional 1G Port x5, 10G Portx2, buffered DDR x 8 1P：1 additional PSU, 2.5" HDDx2, additional 183.6Watt memory, additional 1G Port x5, 10G Portx2 <u>Low-end</u> 2P：1 additional PSU, 2.5" HDDx2, additional 91.44Watt memory, additional 1G Port x1 1P：1 additional PSU, 2.5" HDDx2, additional 45.36Watt memory, additional 1G Port x1
(j)	maximum power (Watts)	<u>High-end</u> 2P：851.8 Watts；1P：440.0 Watts <u>Low-end</u> 2P：440.8 Watts；1P：232.6 Watts
(k)	declared operating condition class	ASHRAE A2
(l)	idle state power (Watts) at the higher boundary temperature of the declared operating condition class	<u>High-end</u> 2P：289.3 Watts；1P：152.0 Watts <u>Low-end</u> 2P：220.4 Watts；1P：124.0 Watts
(m)	the active state efficiency and the performance in active state of the server	<u>High-end</u> 2P：Efficiency= 30.9, Performance= 18.7 1P：Efficiency= 30.6, Performance= 9.5 <u>Low-end</u> 2P：Efficiency= 23.7, Performance= 8.4 1P：Efficiency= 23.7, Performance= 4.3

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Annex II section 3.1 Requirement		Information
(n)	information on the secure data deletion functionality	Compal offer two ways to accomplish secure data deletion 1. Use Linux dd command to do the secure data deletion, please follow the steps below: Step 1: Plug in the drive (e.g. USB, other storage) to an available port. Step 2: Boot into Linux OS from the plug in device. Step 3: Run the following command as sudo in your Terminal application in order to check the available storage devices on your system and the file system they are using. Step 4: input test using "dd if=/dev/zero of=/dev/<destination partition> bs=xxxx". Step 5: Reboot the OS. 2. Erase Utilities provided by third-party vendors. Please contact the manufacturer of your storage device to obtain the deletion utility matching that device.
(o)	list recommended combinations with compatible chassis (for blade servers)	None
(p)	if a product model is part of a server product family, a list of all model configurations that are represented by the model shall be supplied	reference PRD
Annex II section 3.3 Requirement		**Information**
(a)	indicative weight range of the following critical raw materials: (a) Cobalt in the batteries; (b) Neodymium in the HDDs	(a) less than 5 g (b) between 5 g and 25 g
(b)	instructions on the disassembly operations	reference Chapter3 Installation / Removal

PSU efficiency and power factor

Power Supply Model Number	Rating (Watt)	Minimum PSU efficiency				Minimum power factor
		10%	20%	50%	100%	50%
R1CA2801A	800	82	90	94	91	0.95
FSP800-20FM	800	NA	90	94	91	0.95
R1CA2801D	800	NA	90	94	91	0.98

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Chapter 1
# Specifications

Form Factor	1U 19" Rack-mount Chassis dimension: 735mm (L) x 438mm (W) x 43mm (H)
Platform	3rd Generation Intel® Xeon® Scalable Processors family Intel Lewisburg PCH C621A
CPU	3rd Generation Intel® Xeon® Scalable Processors, Dual Socket LGA-4189 (Socket P+) supported Up to 185W
Memory	32 x DDR4 DIMM slots Support DDR4 RDIMM/LRDIMM ECC (3200 MT/s) Support 8GB/16GB/32GB/64GB/128GB DIMM
Front I/O and LED	1 x Power Button with LED 1 x UID Button with LED (BMC Reset) 2 x USB 3.0 (Type A)
Rear I/O	1 x UID (BMC Reset) Button with LED 1 x VGA port 2 x USB 3.0 (Type A) 1 x COM Port 1 x Dedicated Management RJ45 port 2 x 1G RJ45 LAN port 1 x OCP port (OCP 2.0, Type A)
Internal I/O	1 x TPM/TCM Port 1 x USB 3.0 (Type A) 2 x M.2 (PCIe Gen4 x4) 4 x Slimline x8 Connectors (U.2 Ports) 2 x Slimline x4 Connectors (U.2 Ports) 3 x MiniSAS HD x4 Connectors (SATA Ports) 2 x 7-Pin SATA (SATA Ports)
Storage	10 x SFF Hot-Swap SATA/SAS 2 x SFF Hot-Swap SATA/SAS + 8 x SATA/SAS/NVMe
Power Supply	2 x 800W/1200W Redundant, Platinum CRPS
Cooling	7 x 4056 fans
Operating Temperature	5°C to 35°C

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Chapter 2
Overview

2.1   Front Panel

2.2 System Front View

2.2.1 SFF Model
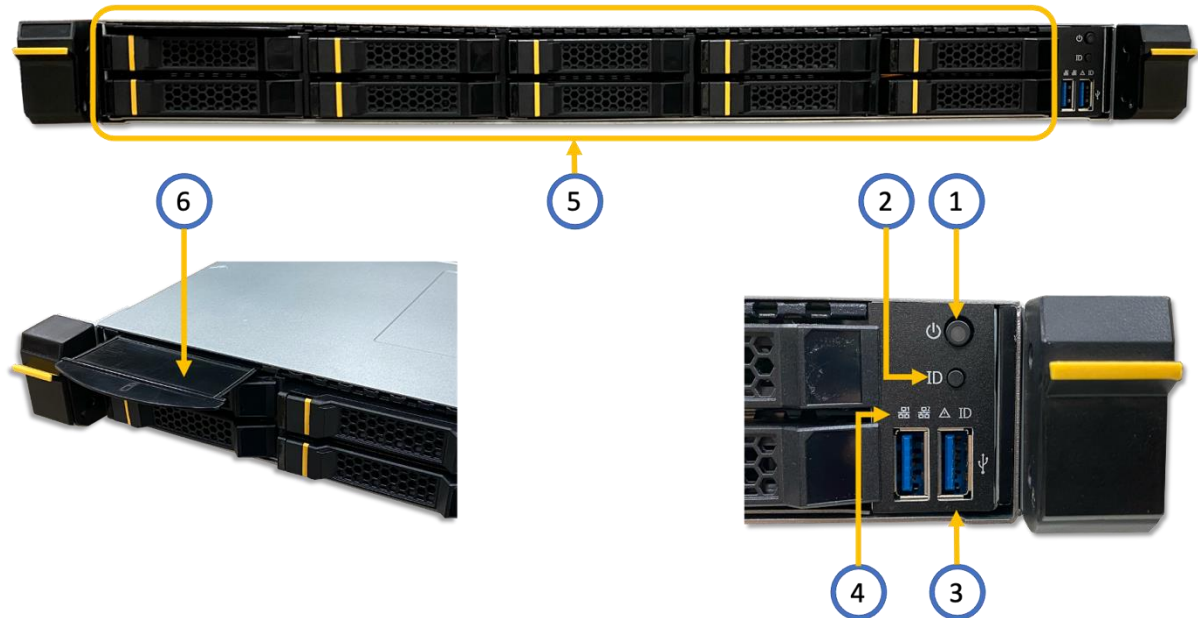
Number	Component
1	Power Button/LED
2	UID Button
3	USB 3.0
4	System LED (ID/Status/Mgmt)
5	10 x HDD (0~9)
6	Service tag

2.3 System Rear View

2.3.1 I/O SKU
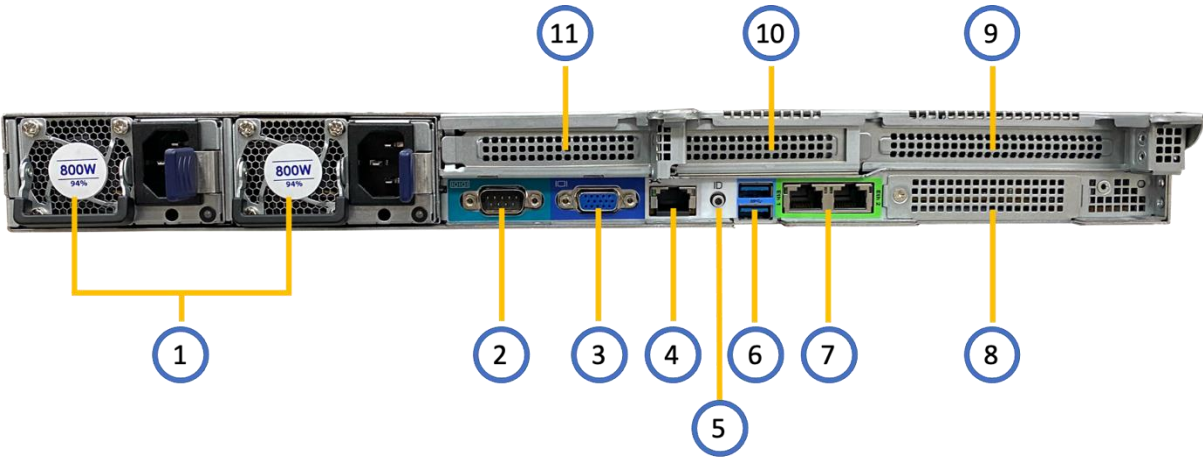
Number	Component
1	Power Supply x 2
2	COM Port
3	VGA Port
4	RJ45 Management Port
5	UID LED
6	USB 3.0 x 2
7	1GbE RJ45 x 2
8	OCP 2.0 Slot
9	Slot 1 (FHHL, PCIe Gen4 x16)
10	Slot 2 (HHHL, PCIe Gen4 x 16)
11	Slot 3 (HHHL, PCIe Gen4 x 8)

2.4 System Support Configuration

2.4.1 SFF(2.5") Configuration
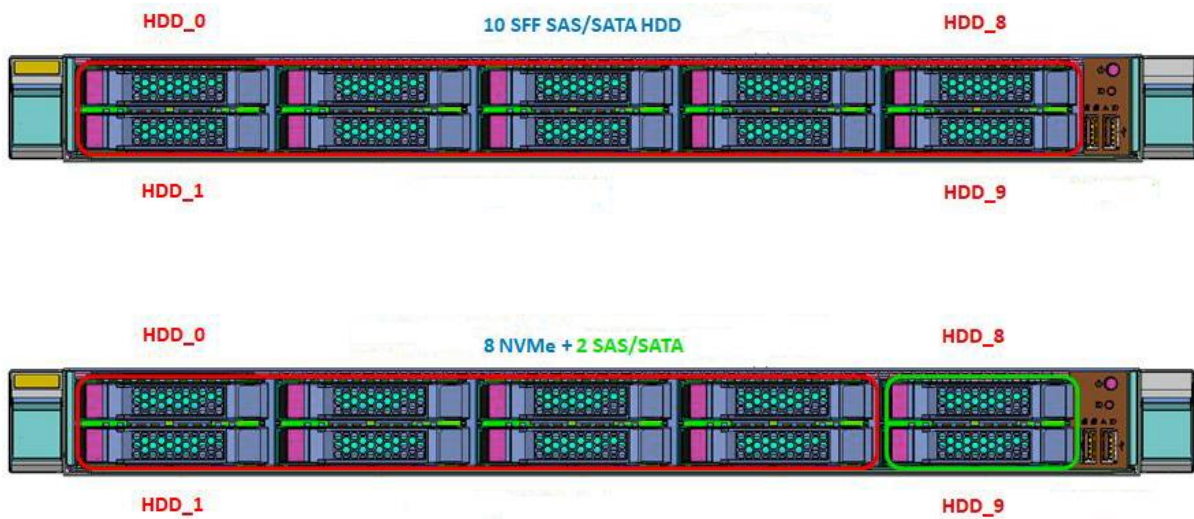
2.5 Power Supply (PSU) View
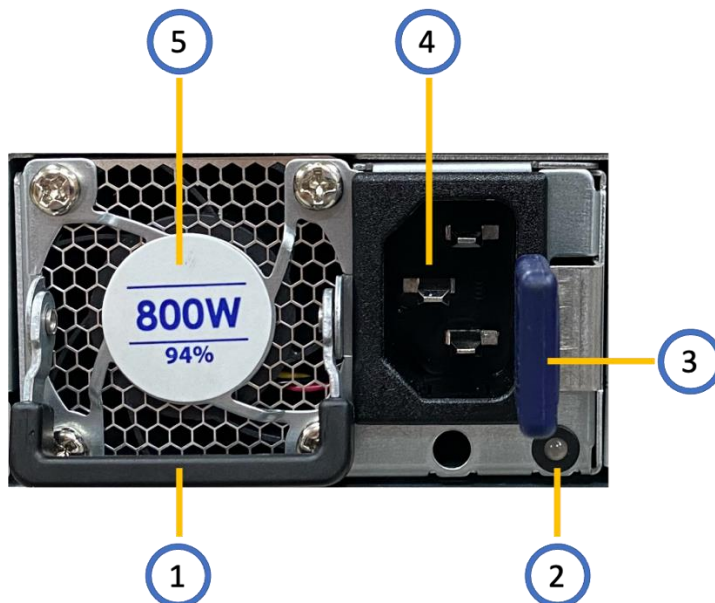
| Number	Component
1	**PSU Handle** - Pull to remove the PSU
2	**PSU LED Indicator** - Indicates the status of the power supply
3	**Release Latch** - Press to release the PSU from the system
4	**Power Connector** - Connects to a power source
5	**PSU Fan –** Cool fan of the PSU unit

Chapter 3 Installation / Removal

3.1 System Components

3.1.1 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.
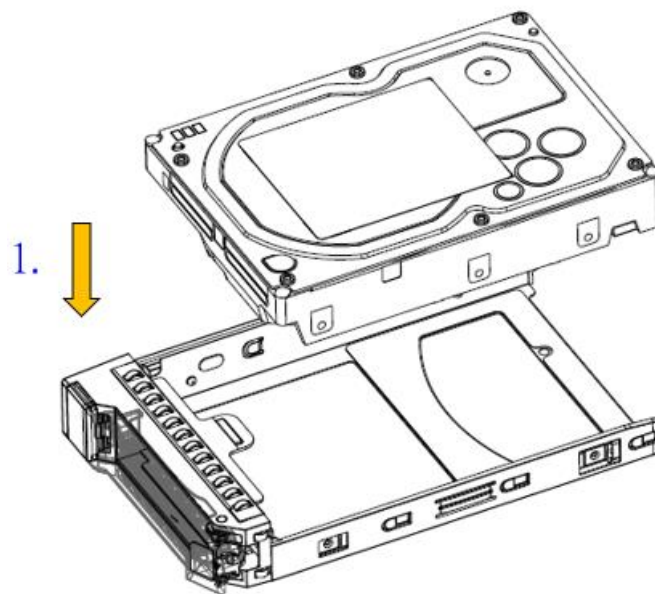
2. Press down on the hard drive to secure the hard drive to the carrier.

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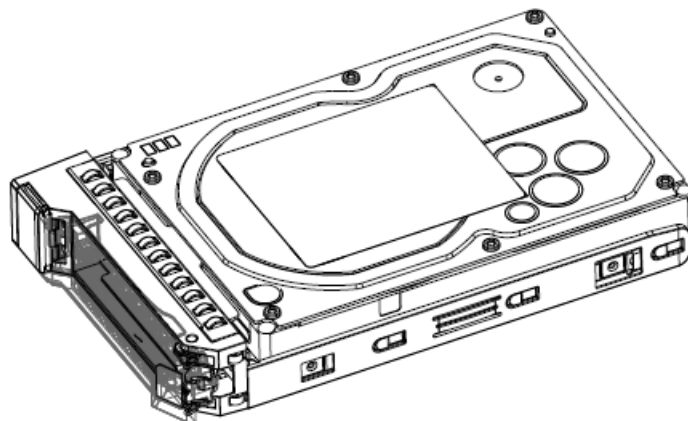
3.1.2   SFF Hard Drive Carrier Removal

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.
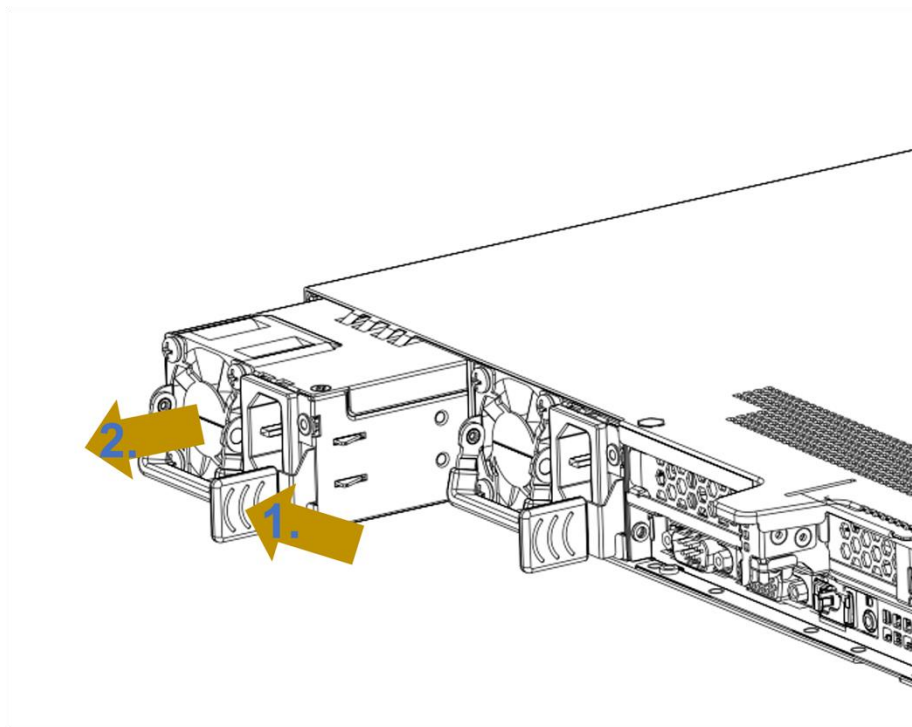
3. Pull out the HDD tray.
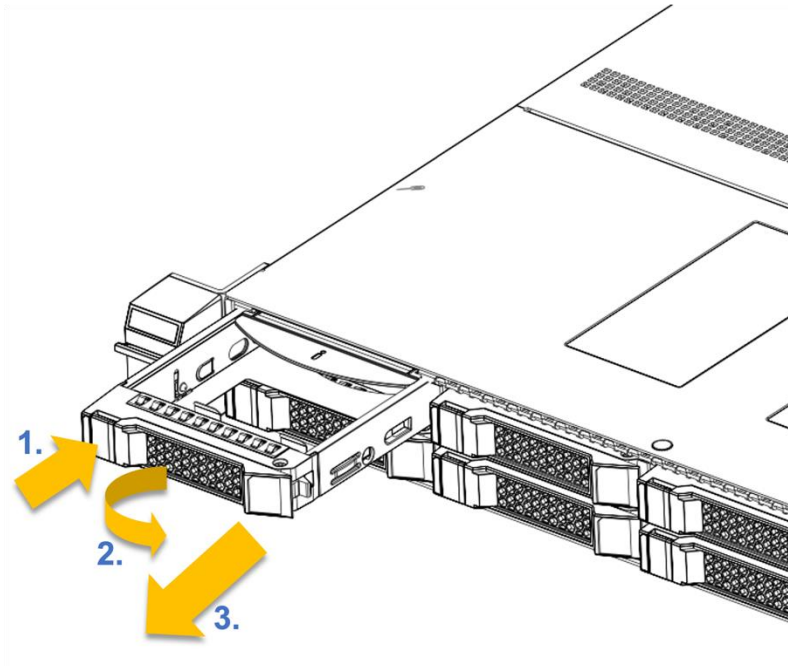
3.1.3   PSU Removal
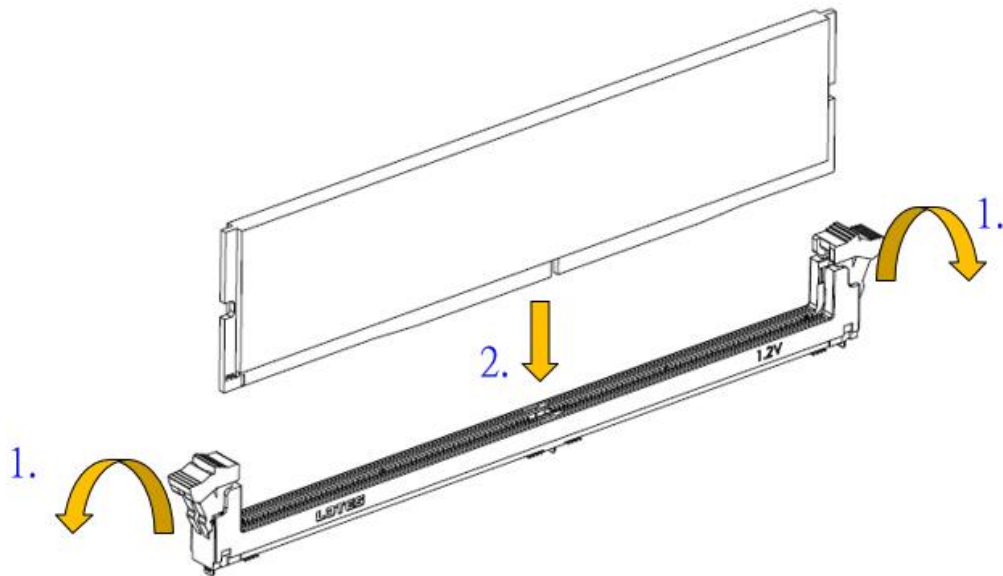
1. Press the PSU release latch.

2. Pull out the PSU.

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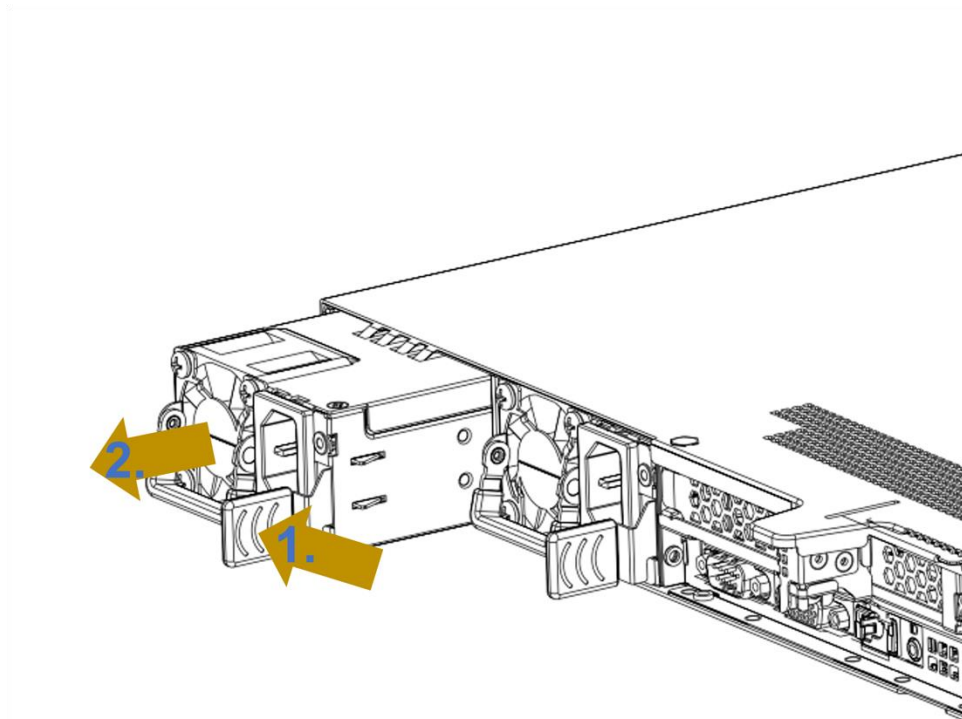
3.1.4   PSU Installation

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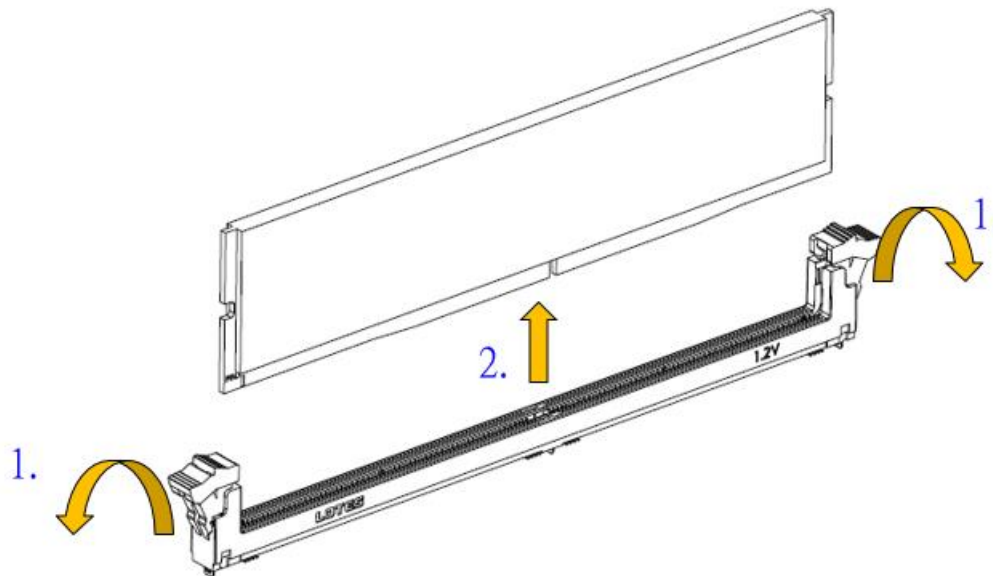

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3.1.5 Memory Installation

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.

3.1.6   Memory Removal

1. Push the retention clips outwards to release the memory DIMM.

2. Lift and remove the memory DIMM.

IMPORTANT: When you install/remove memory DIMMs, please follow the sequence shown in the table (Appendix B & C) to maintain performance.

3.1.7   CPU Installation

1.   Place the processor carrier on top of the processor that is in the package tray aligning pin 1 marks on the processor carrier to pin 1 of the processor.

Note: Make sure that the keying feature tabs of the processor carrier are aligned to the slots in the processor properly. If not check that the correct processor carrier is being used.

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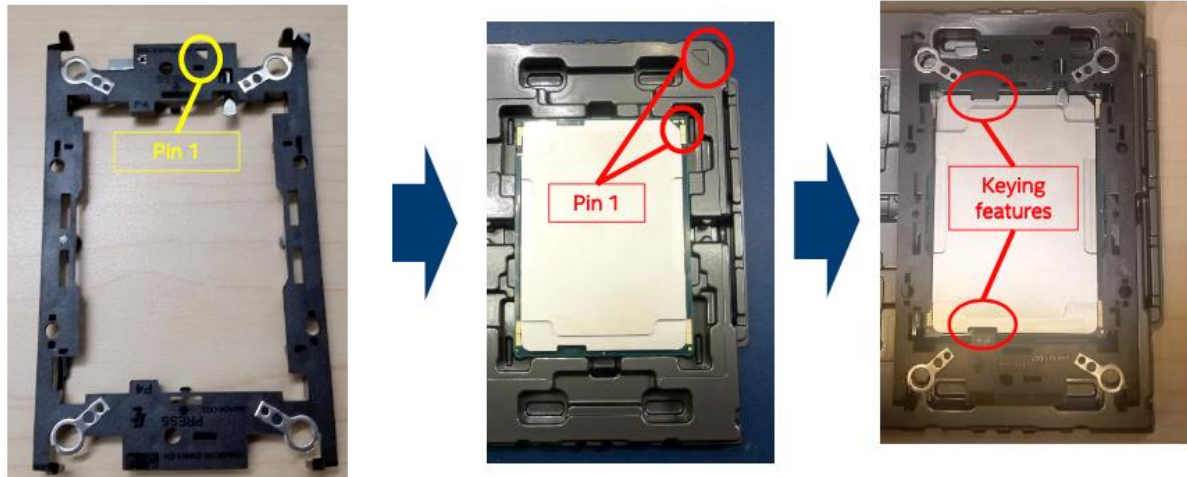
2. Using two fingers, while aligning the package with Processor carrier, press down on the Processor carrier at the opposite end of the TIM break lever until a snap sound is heard.
3. Using two fingers press down on the Processor carrier at the end of the TIM break lever until a snap sound is heard.
4. Check the two side snap latches on the carrier and verify that they have latched to the package. If not then press down on top of the side snap latches until they snap into place.

5. Verify that the processor is securely latched to the processor carrier. The processor carrier should be flat and level to the processor top. If the processor carrier is not latched properly, press the processor carrier down as outlined
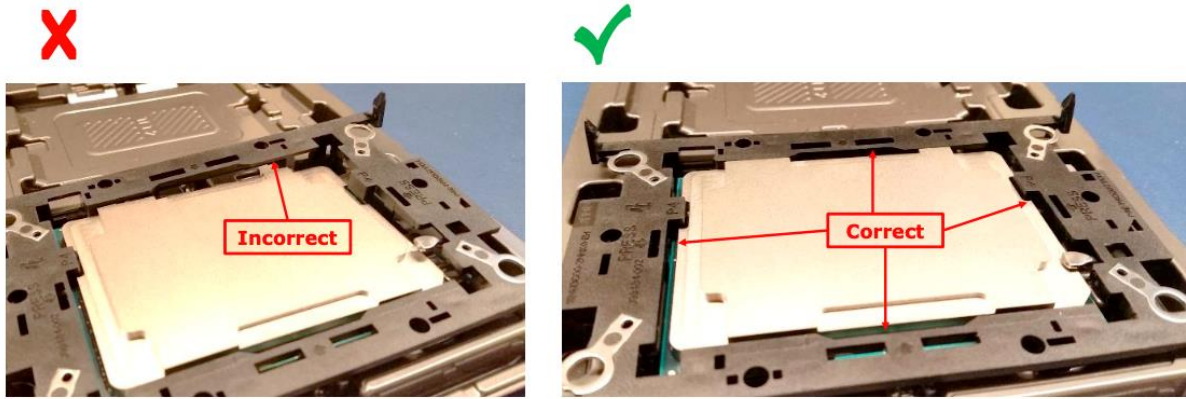
6. If there is TIM (Thermal Interface Material) protective film on the base of heatsink, remove it.
7. Turn the heatsink over and set the Anti-Tilt wires to the locked position (outward position).
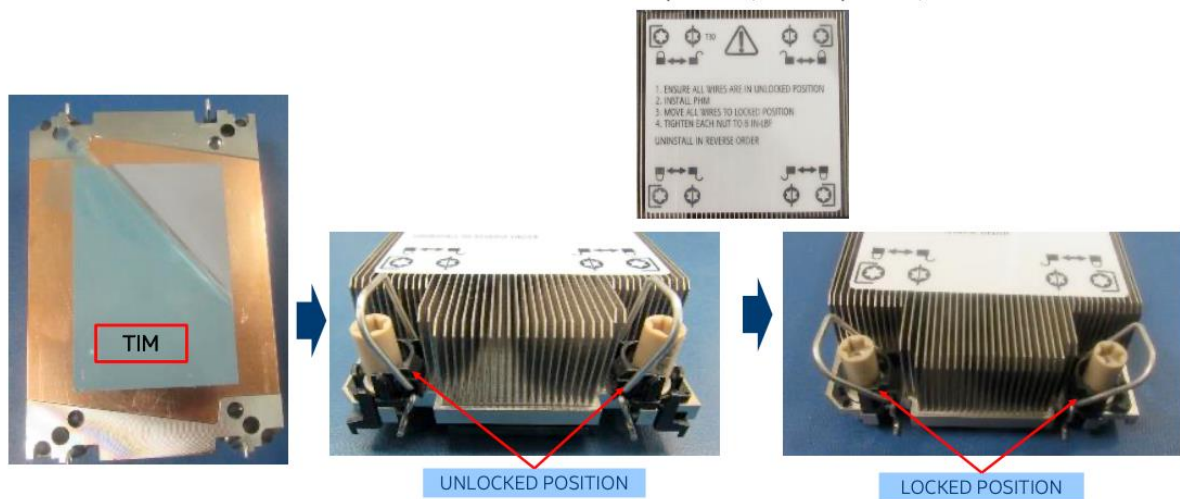
8. Align Pin 1 indicator of Processor carrier and the corner cut out of Heatsink. If there are two corners cut out, either orientation is fine.
9. Place the heatsink ensure latching features on Processor carrier and heatsink are aligned during assembly.

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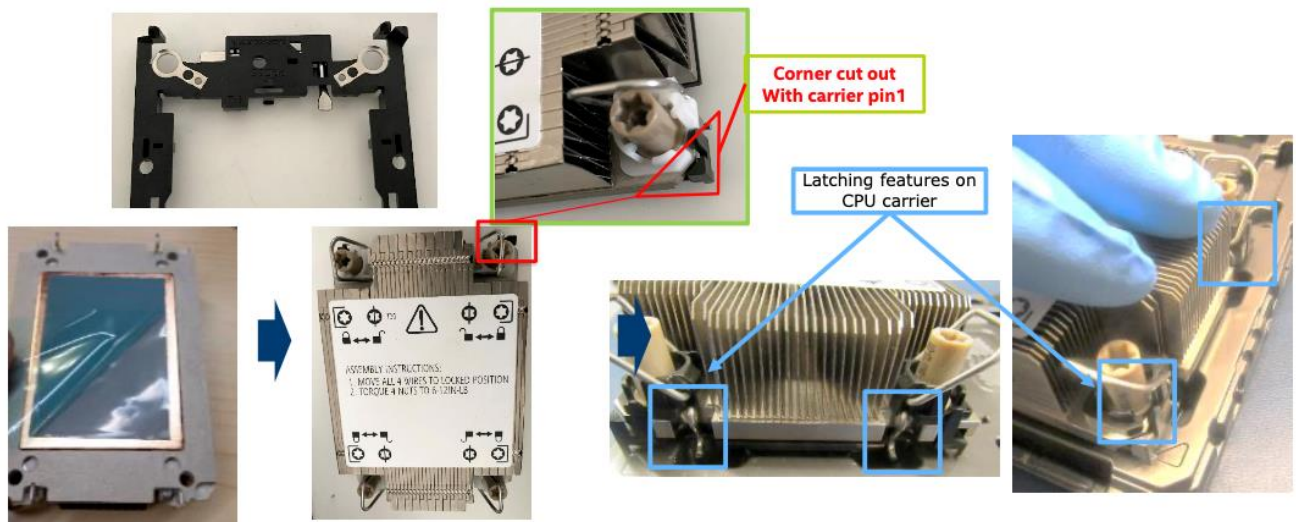
10. Press heatsink down firmly to engage carrier latching features to the heatsink at four corners.
11. If carrier latching features do not latch the heatsink properly, engage each latching features by pressing the heatsink at the unlatched corner. You may hear a clicking sound when latched.
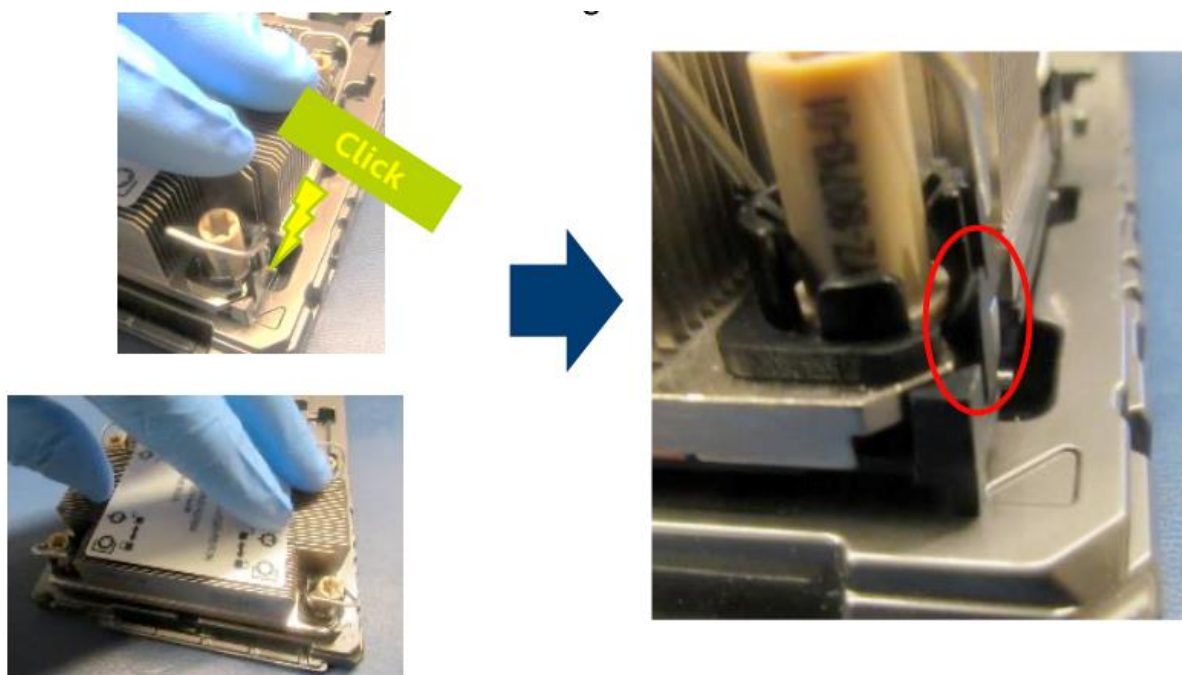
12. Verify that the carrier is properly latched to the heatsink at all four corners. If not, attach the carrier assembly to the heatsink

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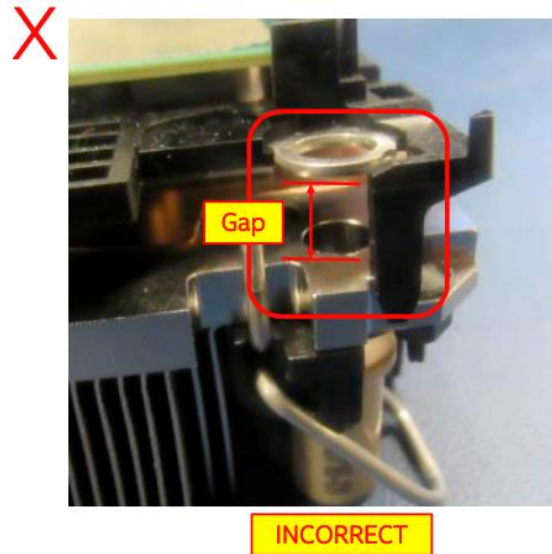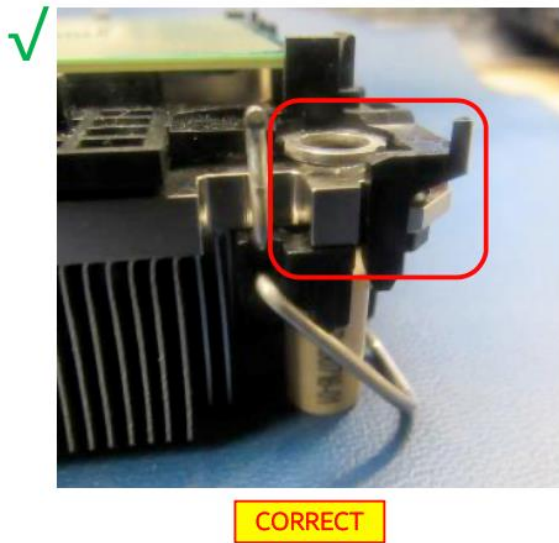
13. Ensure correct alignment by locating Pin 1 indicators on both processor and processor carrier and thermal solution.

14. Ensure all 4 carrier snaps are properly secured on the package

Look at all 4 carrier snaps to verify they are clipped onto package substrate

15. 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.
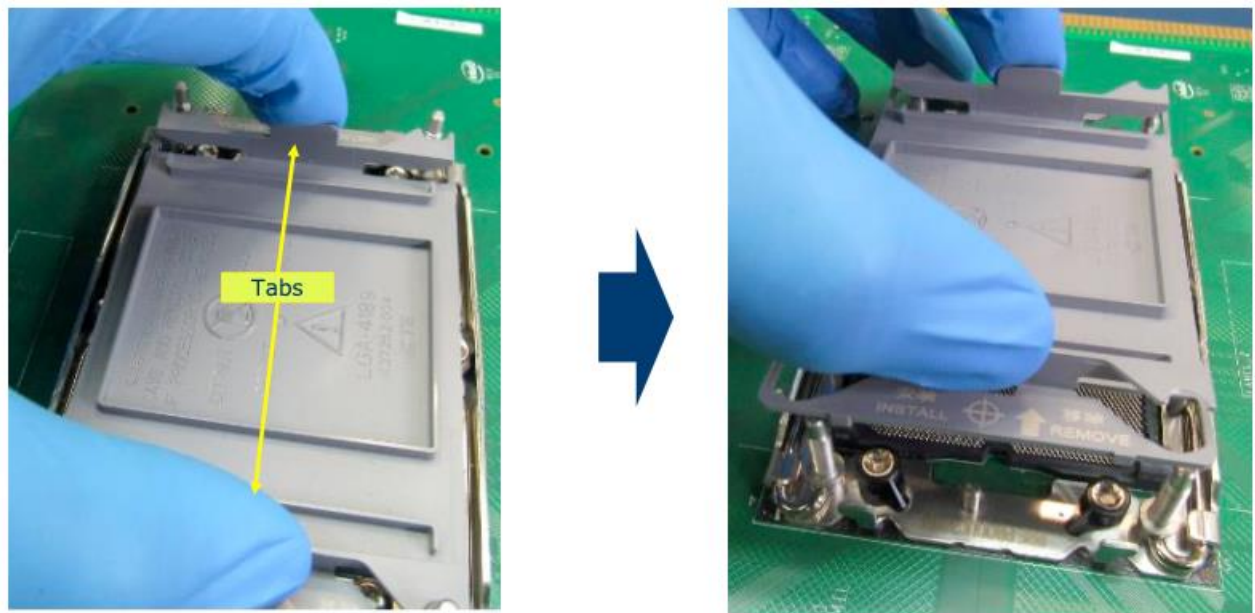

Correct

Fins or soldering of fins might be damaged when heatsink is squeezed in this direction.

IN-CORRECT

16. Hold finger grips on socket cover and squeeze in on the grip tabs.

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17. Then pull the cover up and off vertically to remove.

18. Ensure that all four Anti-Tilt wires are in the unlocked positions on the heatsink. (Inward position)

COMPALSERVER
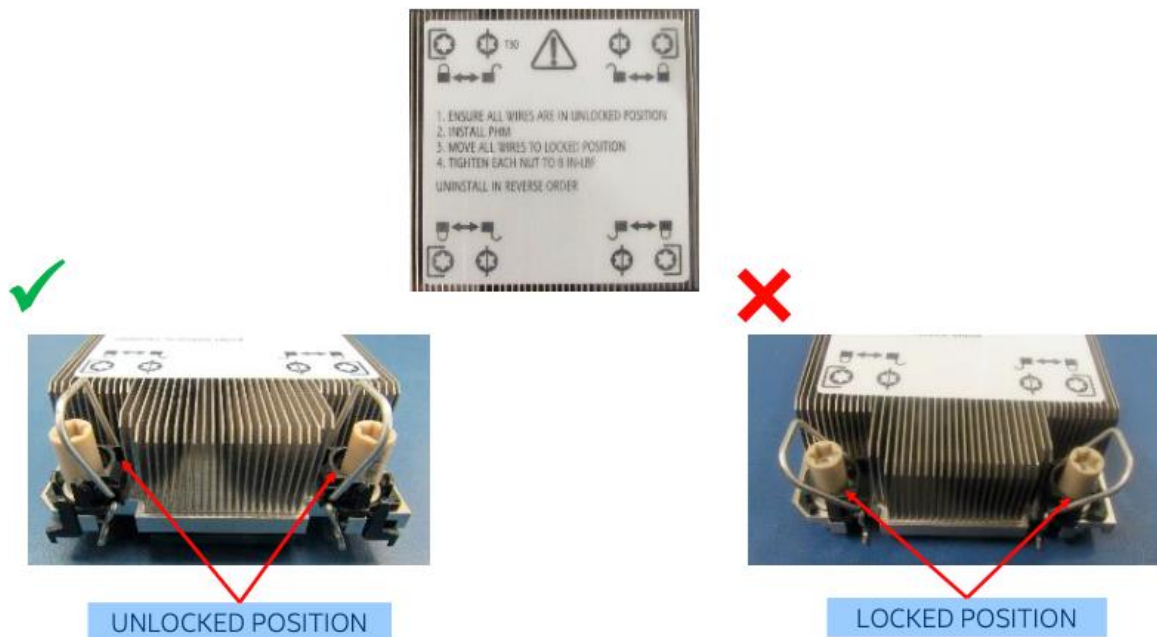
19. Align Pin 1 indicators on processor/carrier to bolster plate.
20. Holding PHM horizontal, carefully lower vertically to engage PHM to bolster plate's alignment pins.
21. Verify PHM is sitting horizontally over bolster plate assembly.
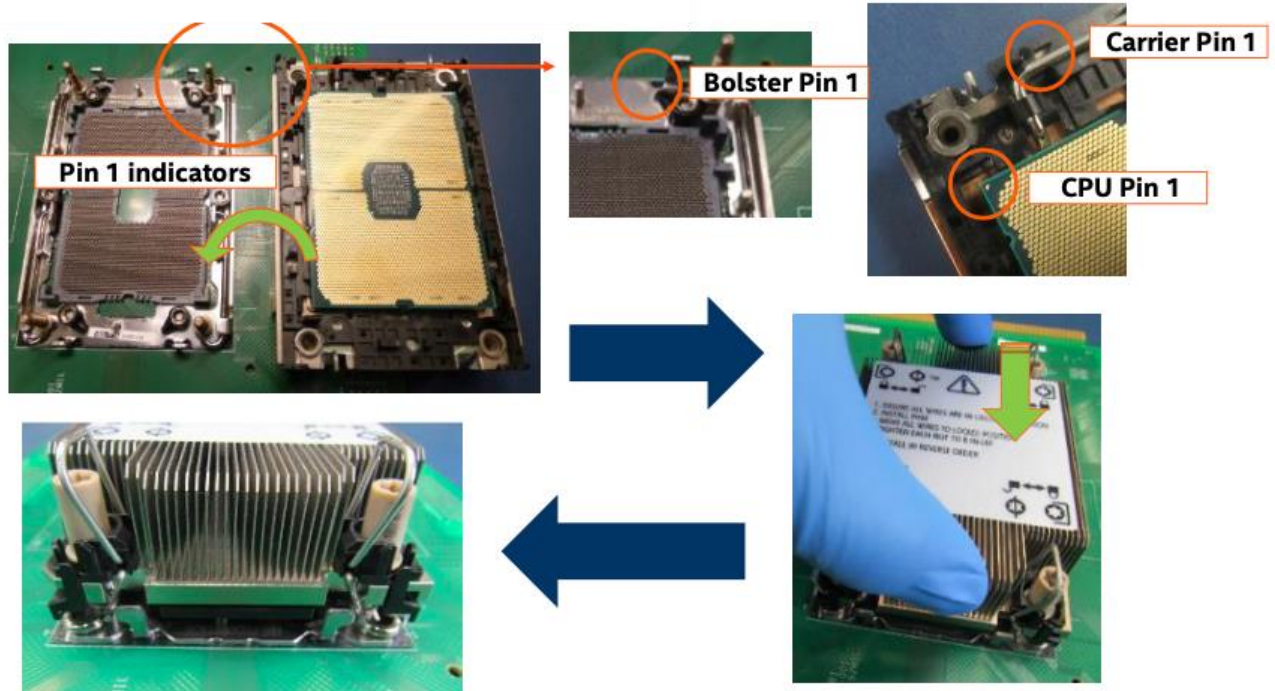
22. Align Pin 1 indicators on the processor carrier and thermal solution to the bolster plate.
23. Holding PHM horizontal, carefully lower vertically to engage PHM to bolster plate's alignment pins.
24. Verify PHM is sitting horizontally over bolster plate assembly.

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Bolster Pin 1

Carrier Pin 1

Pin 1

ASSEMBLY INSTRUCTIONS:
1. MOVE ALL 4 WIRES TO LOCKED POSITION
2. TORQUE 4 NUTS TO 6-12IN-LB

Disclaimer: Pin 1 indicator on the label is optional
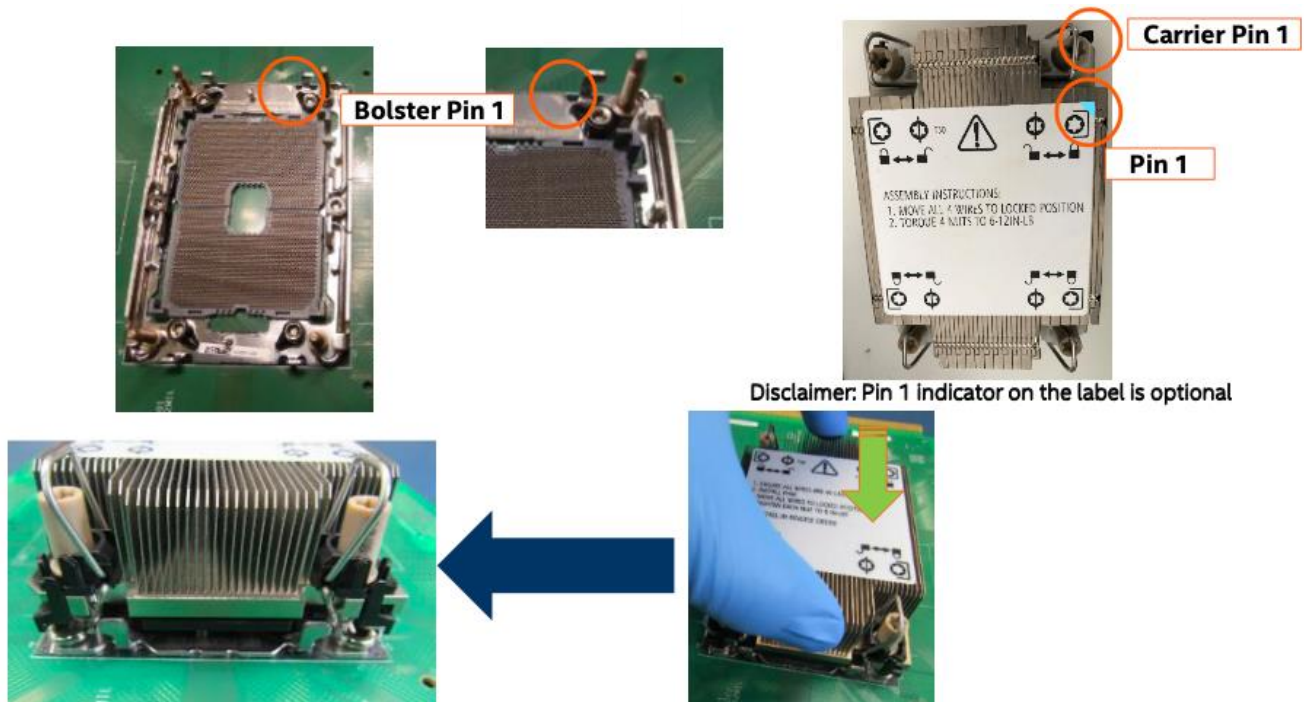
25. Set all four Anti-Tilt wires into the locked position. (Outward position)
26. Verify that all four Anti-Tilt wires are in the locked position before tightening screws. If anti-tilt wires are not in

    locked positioned the anti tilt feature will not function properly and damage may occur

❌ Unlocked

✔ Locked

.

COMPALSERVER
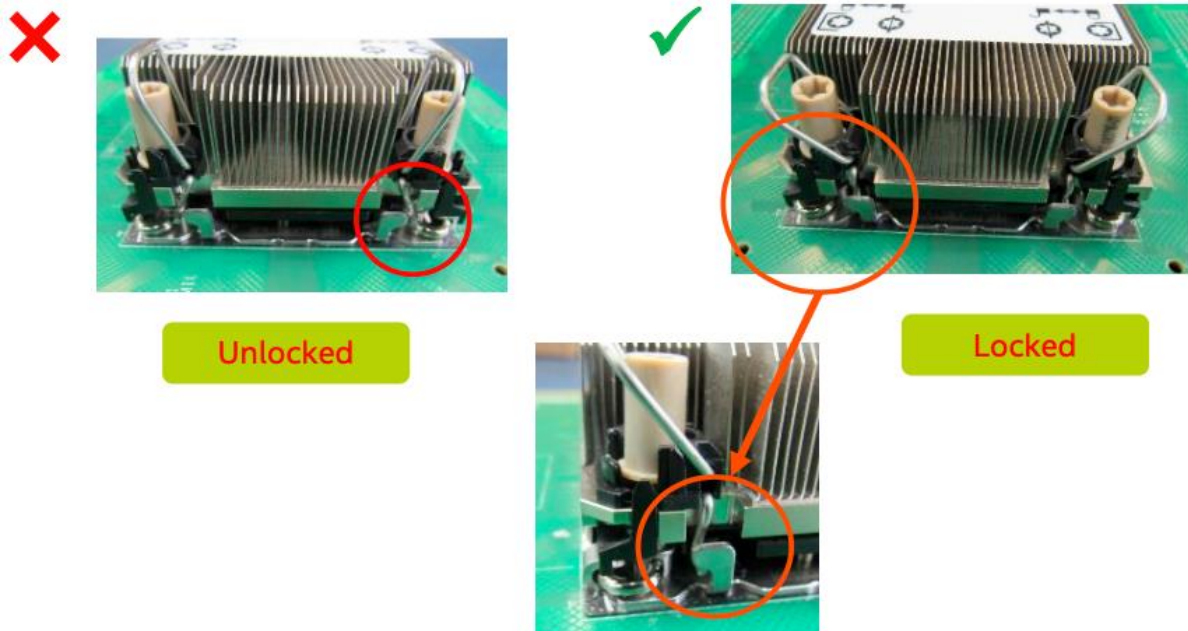
27. Tighten all screws on heat sink using a torque driver with a T30 bit to 8 in-lbf. There is no specific sequence needed for tightening. General bolt tightening order such as diagonal sequence can be used.

Tools
- T-30 Torx* bit
- Torque driver set to **0.904 N.m.** (or **8 in-lbf**) ± 10%
- Heat sink can be installed/uninstalled at least 30 cycles @ 8 in-lbf
- For additional details on Torque values refer to the TMSDG document

T-30 Torx* Bit

8 IN-LB

IMPORTANT:
Tighten the nuts in any order.
Use 0.904 N.m. (8 in-lbf) torque. (8 in-lbf) ± 10% torque.
Disassemble in any order.

3.1.8   CPU Remove

1. Fully unscrew all four heatsink nuts on the PHM. Verify that all four anti-tilt wires are in the locked position. If there is an interference between the driver bit and anti-tilt wire this is an indicator that the anti-tilt wire is not in the correct position.

NOTE: Ensure all Heatsink nuts are fully unscrewed before removing the heatsink.

2. Position the Anti-Tilt wires into the unlocked position. (inward position)

Unlocked Position

Locked Position

3. Lift the PHM vertically off of the Bolster Plate Assembly.

NOTE: Make sure the anti-tilt wires are in the unlocked position and that all the heatsink nuts are loose before removing the PHM

Unlocked Position

4. Carefully engage the socket cover vertically onto the bolster plate assembly posts over the socket.
5. Press down on the socket cover tabs or targets to seat the cover onto the socket.

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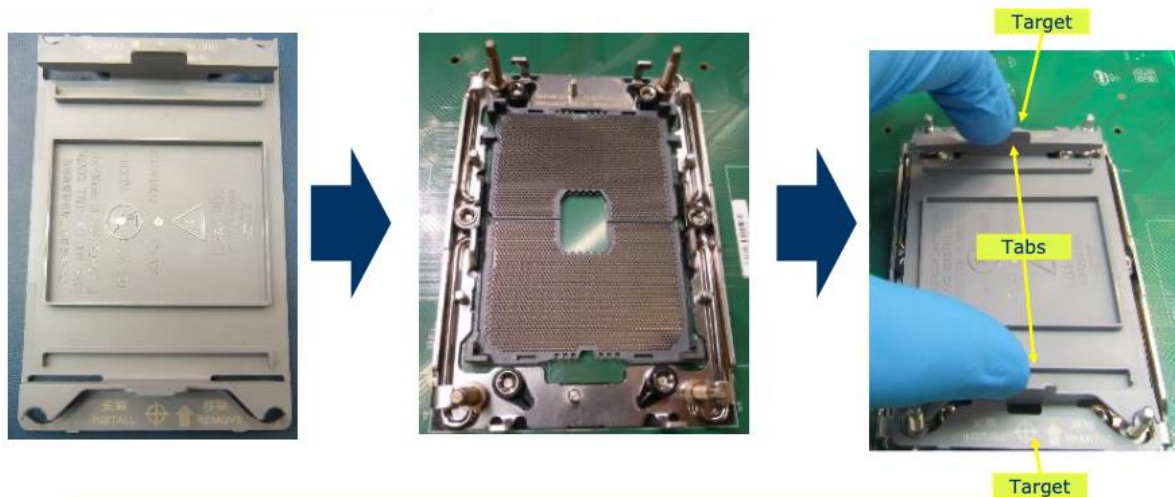
IMPORTANT NOTE OF CAUTION:
Once PnP covers have been removed from the socket, they should *NOT* be reinstalled on the socket; contact damage risk is too high!

6. Make sure both studs of bolster plate assembly at each end go through corner holes of socket cover.
    NOTE: When properly seated the end tabs on the cover will be engaged with at least two threads on the corner posts of the Bolster Plate.
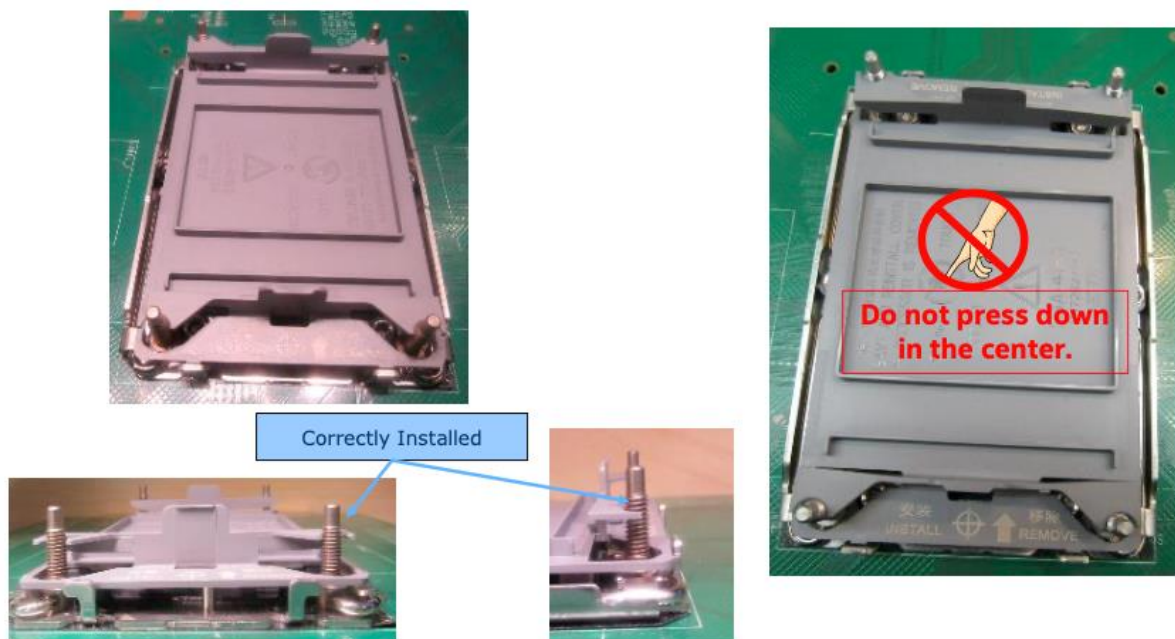
Correctly Installed

Do not press down in the center.

7. Ensure that all four Anti-Tilt wires are in the locked positions on the heatsink. (Outward position)

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UNLOCKED POSITION   LOCKED POSITION
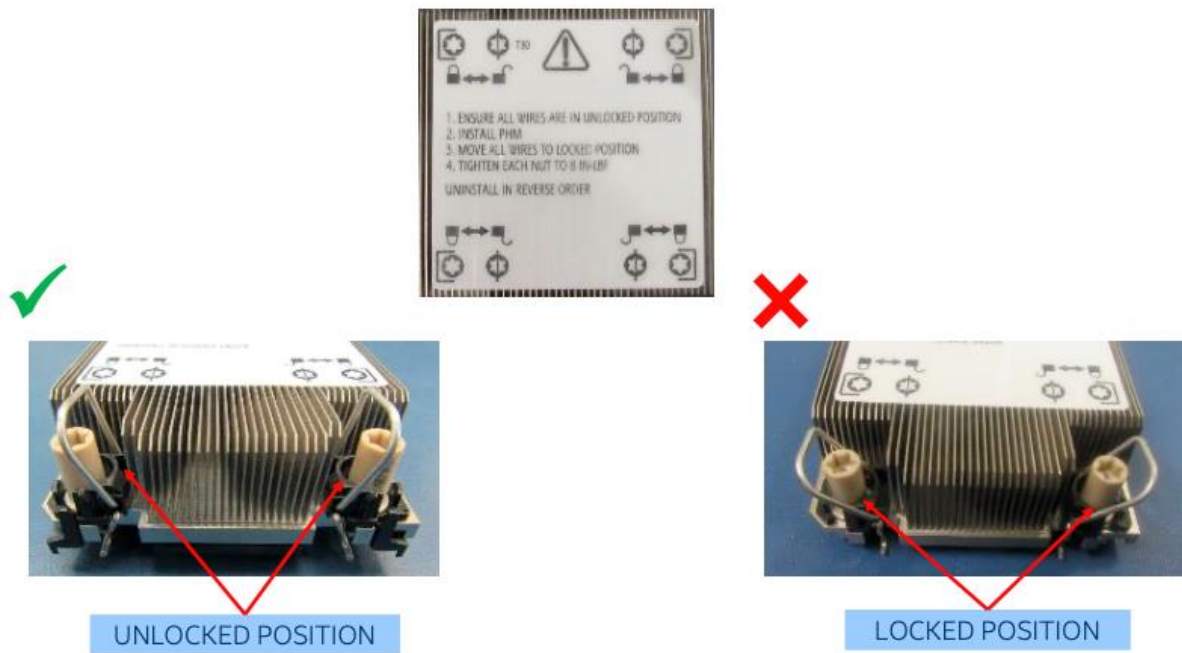
8. Place the PHM onto a flat surface.
9. Place thumb and finger on the side of the carrier in the middle and lift up on the TIM break lever to release the Processor Package from the TIM and carrier.

Ensure to hold the carrier to the heatsink as the TIM break lever is rotated

Ensure to hold the carrier to the heatsink as the TIM break lever is rotated

TIM Break Lever
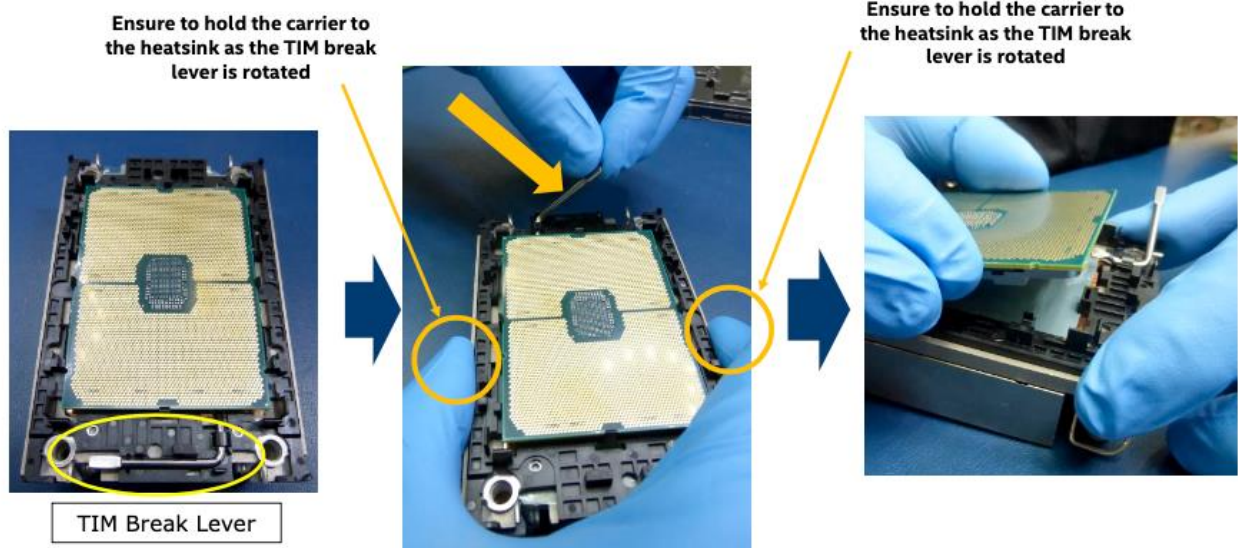
10. Grasp the Processor Package on the sides.
11. Carefully lift the Processor Package up and out of the carrier.
12. Place the Processor Package into the Processor tray. Make sure Pin 1 marks are aligned.
13. Return the TIM breaker arm back to original position.

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14. Put PHM on the flat table.
15. Locate TIM2 breaker and insert the flathead tip of screw driver into TIM2 breaker. TIM2 breaker is located at the opposite side of Pin 1 indicator.
16. Gently hold PHM down with one hand and rotate the screw driver using other hand to break TIM2.
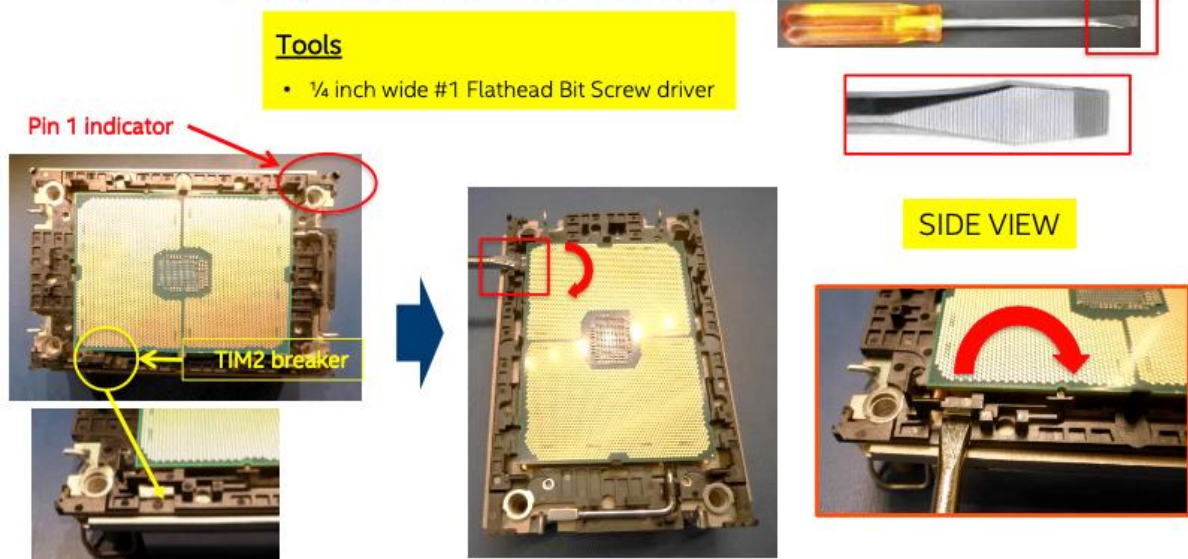
17. Ensure that all four Anti-Tilt wires are in the locked positions on the heatsink. (Outward position)
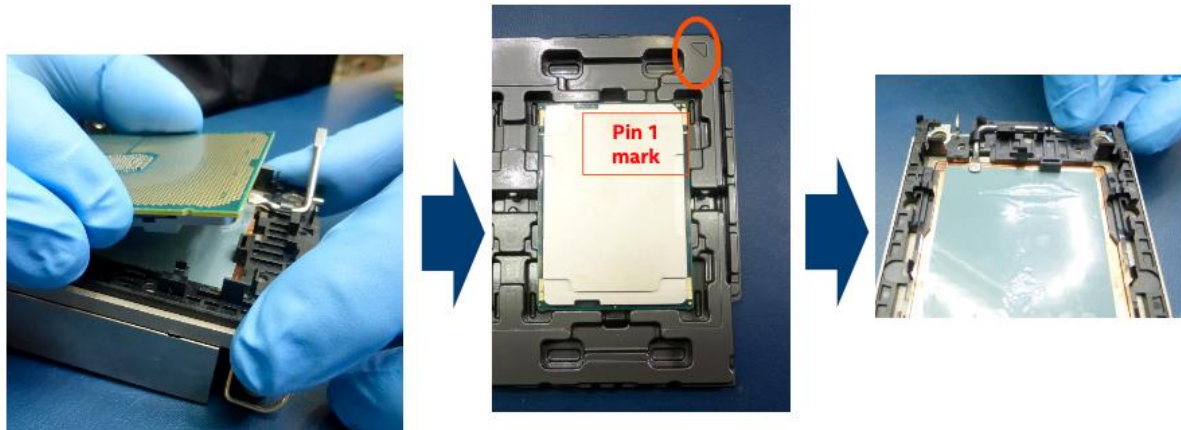18. Place the heatsink onto a hard surface with the carrier facing up.
19. Starting in the caddy corner from pin one place the thumb and index finger onto the corner of the carrier release

tabs to the heatsink and with the index finger slightly pull out on the tip of the carrier release tab and lift the

carrier up slightly to release the latch from the heatsink.

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20. Repeat in the opposite corners of the carrier.
21. Once all three corners are released from the heatsink lift carrier up and push it away from the pin 1 corner of the

heatsink and remove the carrier.

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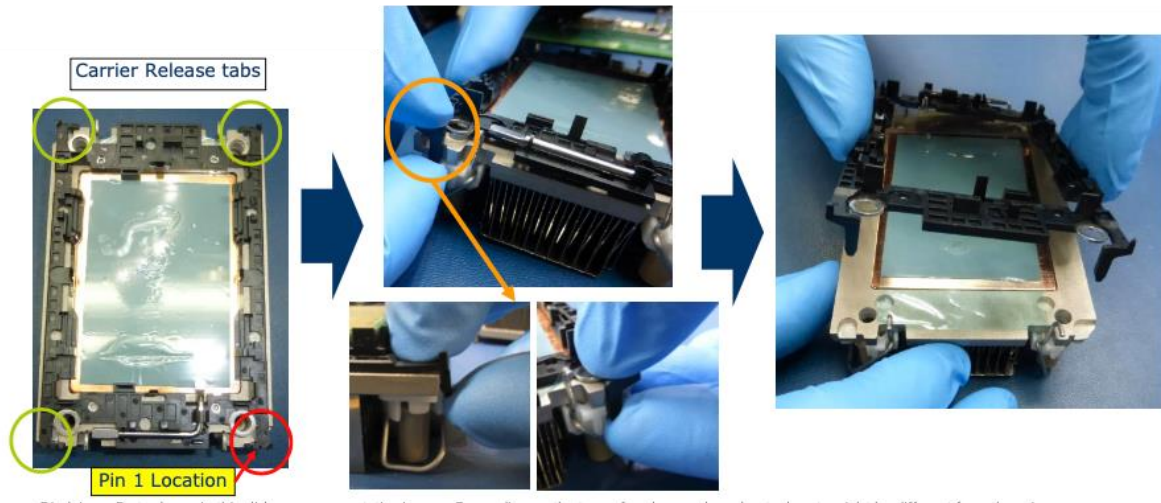
Chapter 4 MB I/O and Memory Population

4.1 MB I/O

4.1.1 MB Overview

4.2 Memory Population

4.2.1 DIMM Slot Location

4.2.2   Memory Population Rule

1 DIMM for CPU

F0	F1	E0	E1	H0	H1	G0	G1		C1	C0	D1	D0	A1	A0	B1	B0
								CPU						DDR4		

2 DIMM for CPU

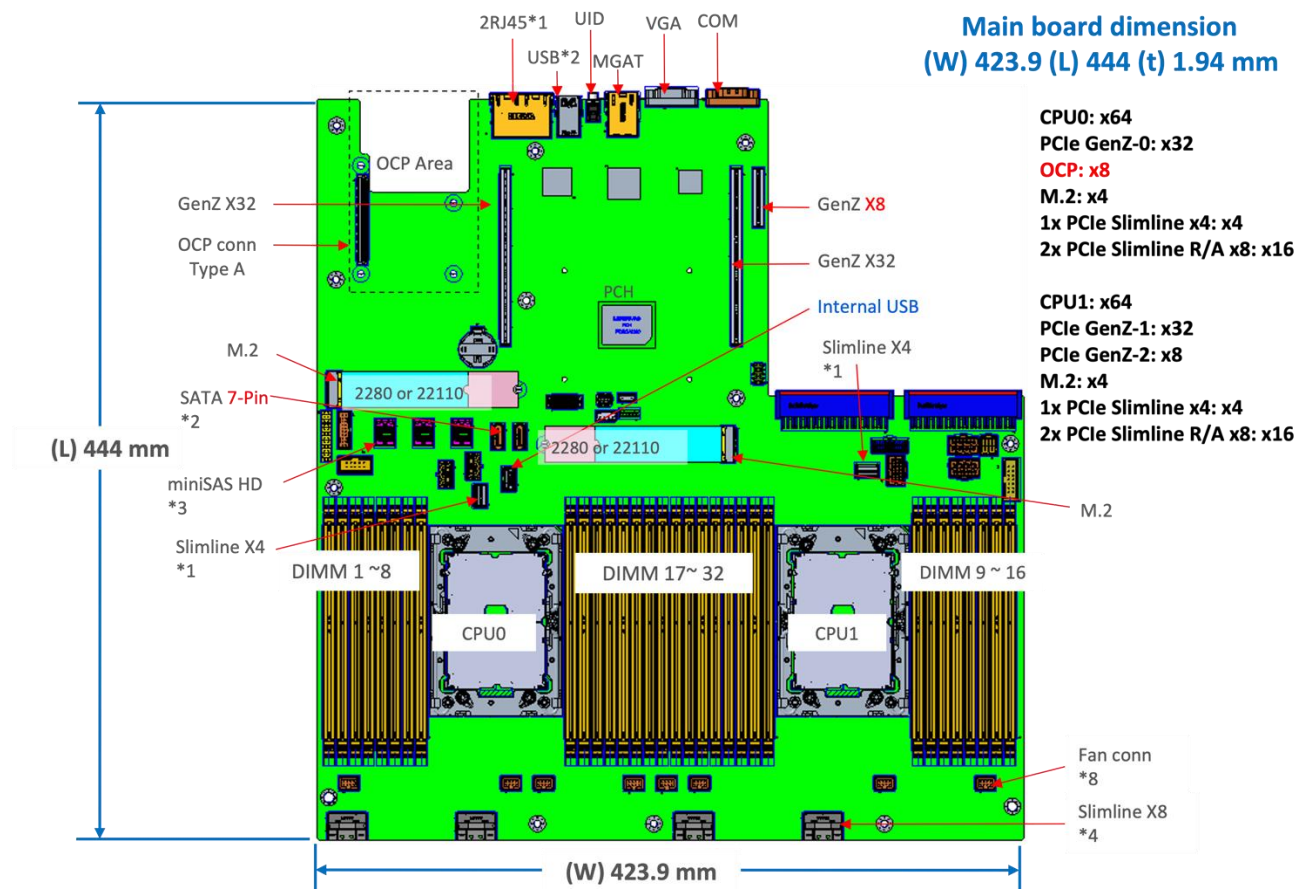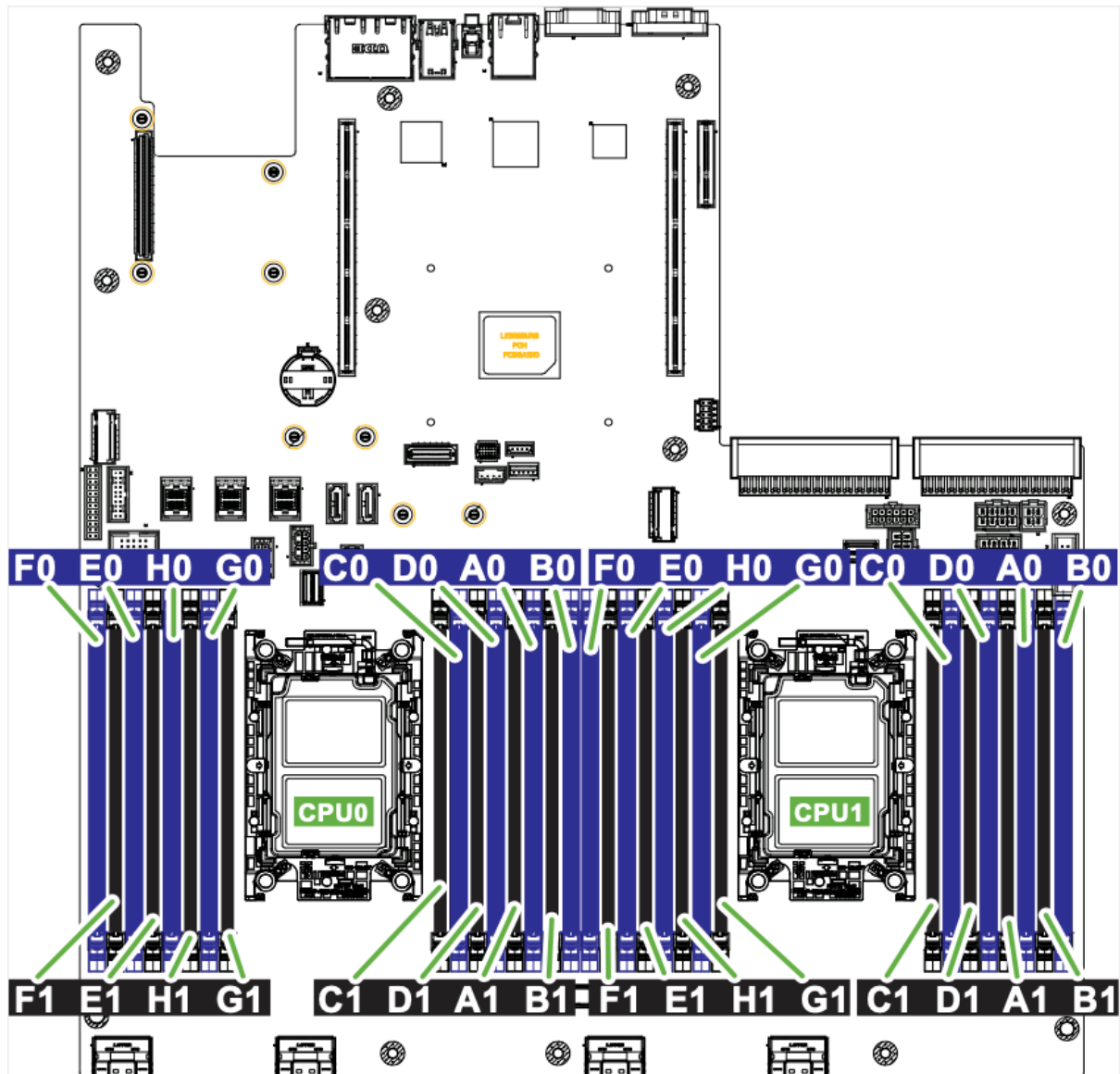| F0	F1	E0	E1	H0	H1	G0	G1		C1	C0	D1	D0	A1	A0	B1	B0
		DDR4						CPU						DDR4		

4 DIMM for CPU

F0	F1	E0	E1	H0	H1	G0	G1		C1	C0	D1	D0	A1	A0	B1	B0
		DDR4				DDR4		CPU		DDR4				DDR4		

6 DIMM for CPU

F0	F1	E0	E1	H0	H1	G0	G1		C1	C0	D1	D0	A1	A0	B1	B0
DDR4		DDR4				DDR4		CPU		DDR4				DDR4		DDR4

8 DIMM for CPU

F0	F1	E0	E1	H0	H1	G0	G1		C1	C0	D1	D0	A1	A0	B1	B0
DDR4		DDR4		DDR4		DDR4		CPU		DDR4		DDR4		DDR4		DDR4

12 DIMM for CPU

F0	F1	E0	E1	H0	H1	G0	G1		C1	C0	D1	D0	A1	A0	B1	B0
DDR4		DDR4	DDR4	DDR4		DDR4	DDR4	CPU	DDR4	DDR4		DDR4	DDR4	DDR4		DDR4

16 DIMM for CPU

F0	F1	E0	E1	H0	H1	G0	G1		C1	C0	D1	D0	A1	A0	B1	B0
DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	CPU	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4

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