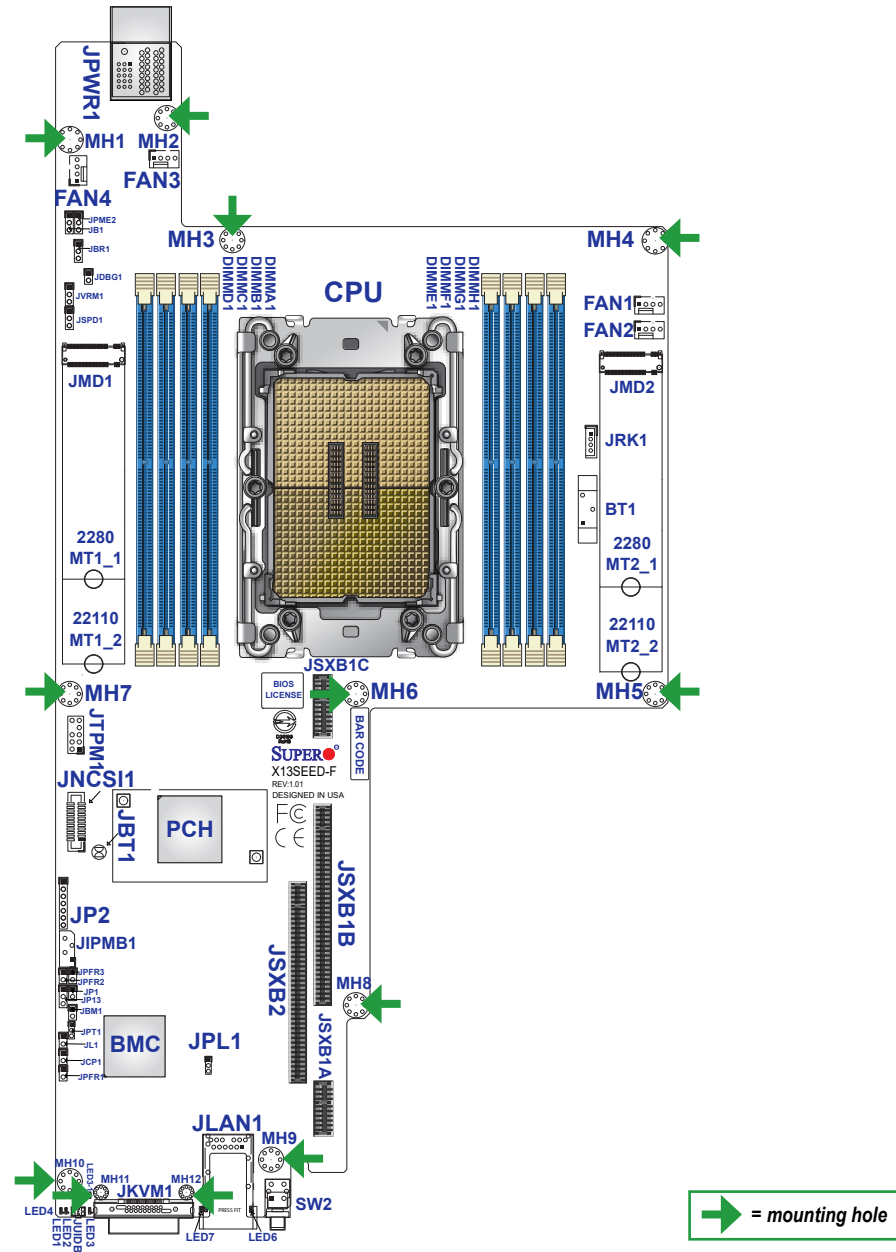




**Motherboard Layout and Features**



**Jumpers, LED Indicators and Connectors**

| Jumpers |                                |                    |
|---------|--------------------------------|--------------------|
| Jumper  | Description                    | Default            |
| JBT1    | CMOS Clear                     | Open (Normal)      |
| JBM1    | IPMI Shared LAN Enable/Disable | Pins 1-2 (Enabled) |
| JPL1    | LAN1 Enable/Disable            | Pins 1-2 (Enabled) |
| JPT1    | Onboard TPM 2.0 Enable/Disable | Pins 1-2 (Enabled) |

| LED Indicators |                                |  |
|----------------|--------------------------------|--|
| LED            | Description                    | Status   |
| LED1           | Onboard Power LED              | Solid Green: Power On                                  |
| LED2           | Power/Fan Fail LED             | Solid Red: Power/Fan Failed                            |
| LED3           | BMC Heartbeat LED              | Blinking Green: BMC Normal                             |
| LED4           | Unit Identifier LED            | Solid Blue: Unit Identified                            |
| LED6           | RJ45 Port Activity (X13SEED-F) | Yellow: Port Activity                                  |
| LED7           | RJ45 Link (X13SEED-F)          | Solid Green: 100 Mb/s<br>Solid Amber: 1 Gb/s           |
| LED8           | SFP LED (X13SEED-SF)           | Yellow (Top): 1 Gb/s Link<br>Yellow (Bottom): Activity |

| Connectors |  |
|------------|--|
| Connector  | Description  |
| BT1        | Onboard Battery  |
| FAN1-FAN4  | CPU/System Fan Headers (FAN1: CPU Fan)                     |
| JIPMB1     | 4-Pin External I <sup>2</sup> C Header for an IPMI Card    |
| JKVM1      | KVM Connector (supports USB0/1, COM1, VGA)                 |
| JLAN1      | RJ45 GbE (X13SEED-F)<br>1G SFP (X13SEED-SF)                |
| JMD1       | M.2 M-Key PCIe 5.0 Slot (2280/22110)                       |
| JMD2       | M.2 M-Key PCIe 5.0 Slot (2280/22110)                       |
| JNCSI1     | NC-SI Interface for IPMI Shared LAN Function               |
| JRK1       | Intel RAID Key Header                                      |
| JSXB1A/B/C | PCIe 5.0 x32 Right Riser Slot with FH/HL PCIe card support |
| JSXB2      | PCIe 5.0 x16 Left Riser Slot with LP PCIe card support     |
| JTPM1      | Trusted Platform Module (TPM)/Port 80                      |
| JPWR1      | Power Connector (for backplane power connector)            |
| SW2        | Power Button   |

**Memory and CPU Support**

The X13SEED-F/-SF motherboard supports up to 2 TB of ECC DDR5 RDIMM/3DSRDIMM with speeds of up to 5600 MT/s.

**DIMM Memory Installation**

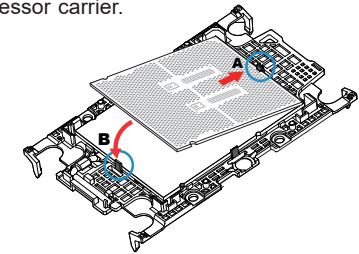
Insert the desired number of DIMMs into memory slots based on the recommended memory population sequence below. For the system to function properly, use memory modules of the same type and speed.

| Number of DIMMs | Memory Population Sequence  |
|-----------------|---|
| 1               | DIMMA1<br>DIMME1  |
| 2               | DIMMA1 / DIMMG1<br>DIMME1 / DIMMC1  |
| 4               | DIMMA1 / DIMMC1 / DIMME1 / DIMMG1   |
| 6               | DIMMA1 / DIMMC1 / DIMMD1 / DIMME1 / DIMMF1 / DIMMG1<br>DIMMB1 / DIMMC1 / DIMMD1 / DIMME1 / DIMMF1 / DIMMH1<br>DIMMA1 / DIMMB1 / DIMMD1 / DIMMF1 / DIMMG1 / DIMMH1 |
| 8               | DIMMA1 / DIMMB1 / DIMMC1 / DIMMD1 / DIMME1 / DIMMF1 / DIMMG1 / DIMMH1   |

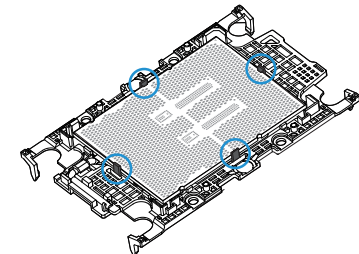
**CPU Installation**

The X13SEED-F/-SF motherboard supports a 4th and 5th Generation Intel<sup>®</sup> Xeon<sup>®</sup> Scalable Processor with up to 350 W TDP in an LGA4677 socket.

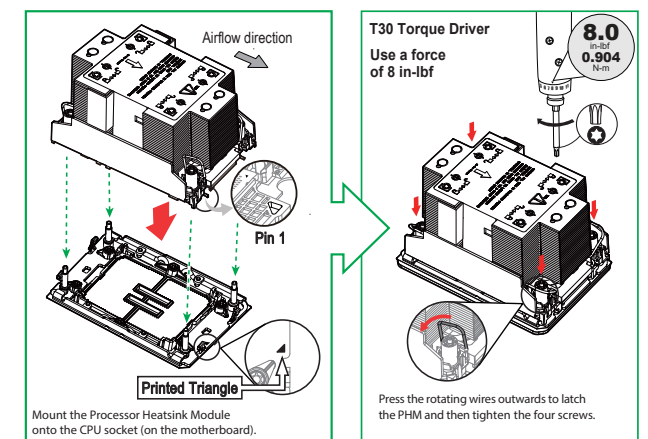
- 1 Assemble the processor carrier assembly by inserting the CPU into the processor carrier.



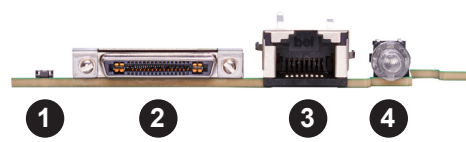
- 2 To form the processor heatsink module (PHM), mount the processor carrier assembly onto the heatsink and snap into place.



- 3 After assembling the PHM, mount it onto the CPU socket of the motherboard. With a T30 bit torque driver set to a force of 8.0 in-lbf (0.904 N-m), gradually tighten the four screws.

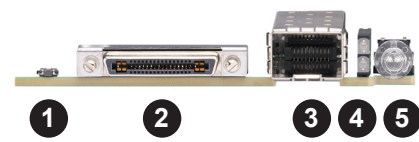


**Rear Panel I/O Connectors (X13SEED-F)**



| #  | Description | #  | Description  |
|----|-------------|----|--------------|
| 1. | UID Switch  | 4. | Power Button |
| 2. | KVM Port    |    |              |
| 3. | LAN1 (RJ45) |    |              |

**Rear Panel I/O Connectors (X13SEED-SF)**



| #  | Description | #  | Description  |
|----|-------------|----|--------------|
| 1. | UID Switch  | 4. | LED8         |
| 2. | KVM Port    | 5. | Power Button |
| 3. | LAN1 (SFP)  |    |              |

**Note:** Graphics shown in this quick reference guide are for illustration only. Your components may or may not look exactly the same as drawings shown in this guide.

**Note:** Refer to Chapter 1 of the User Manual for detailed information on jumpers, connectors, and LED indicators.

**Note:** Refer to Chapter 2 of the User Manual for detailed information on memory support and CPU/motherboard installation instructions.