P/N: 15G065237000AK V1.0

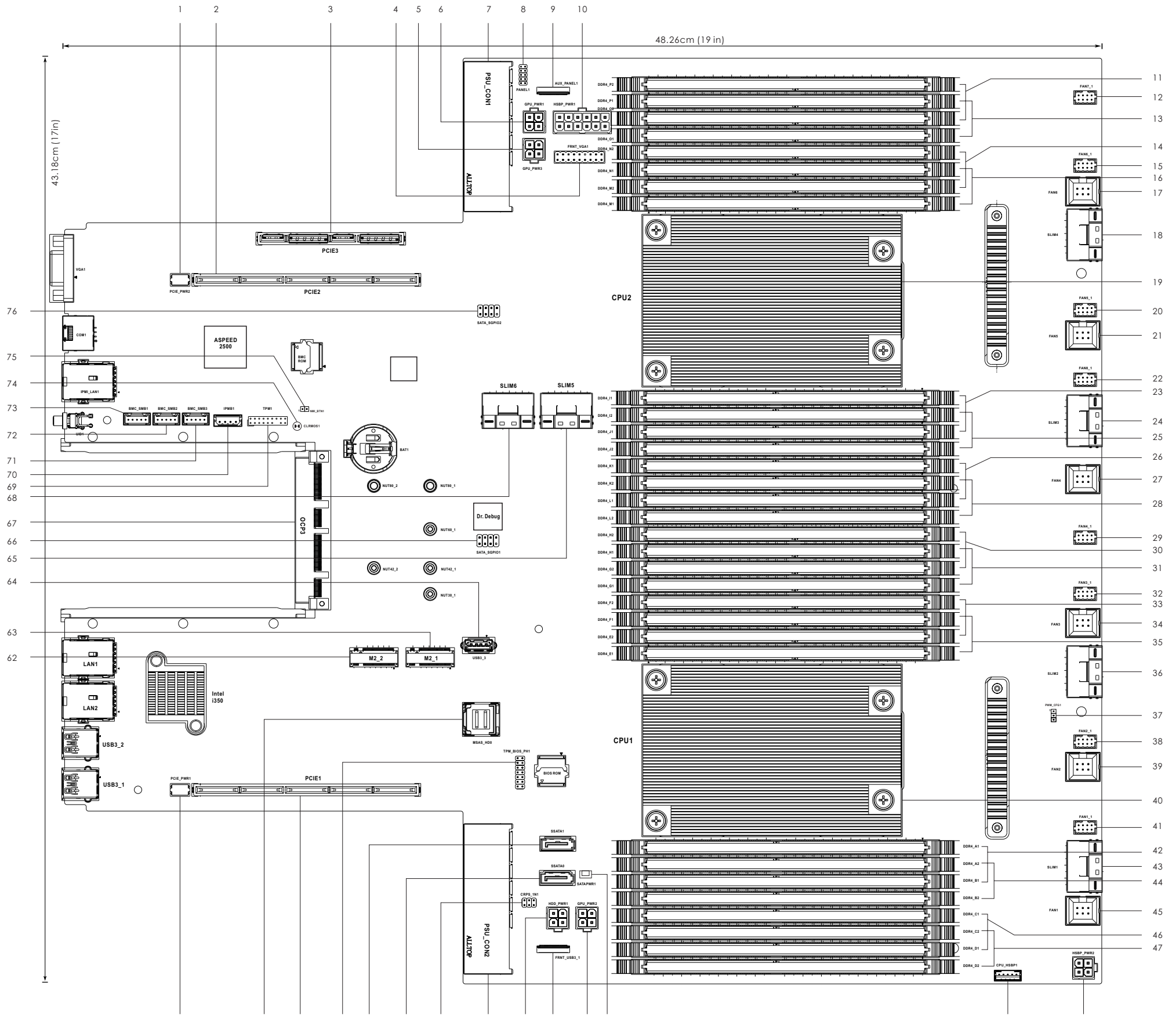
*Quick Installation Guide*

# *ROME2D32TM3*

The server board User's Manual is available for download from the ASRock Rack's official website at http://www.asrockrack.com.

ASRock Rack
www.asrockrack.com

## 1 Motherboard Layout




| No. | Description |
|---|---|
| 1 | PCIE Power Connector (PCIE_PWR2) |
| 2 | PCIE 4.0 x32 Slot (PCIE2) |
| 3 | PCIE 4.0 x16 Slot (PCIE3) |
| 4 | Front VGA Header (FRONT_VGA1) |
| 5 | GPU Power Connector (GPU_PWR3) |
| 6 | GPU Power Connector (GPU_PWR1) |
| 7 | Power Supply Unit Connector (PSU_CON1) |
| 8 | System Panel Header (PANEL1) |
| 9 | Auxiliary Panel Header (AUX_PANEL1) |
| 10 | HDD Backplane Power Connector (HSBP_PWR1) |
| 11 | 2 x 288-pin DDR4 DIMM Slots (DDR4_O2, DDR4_P2) |
| 12 | System Fan Connector (FAN7_1) *(for 1U system)* |
| 13 | 2 x 288-pin DDR4 DIMM Slots (DDR4_O1, DDR4_P1) |
| 14 | 2 x 288-pin DDR4 DIMM Slots (DDR4_M2, DDR4_N2) |
| 15 | System Fan Connector (FAN6_1) *(for 1U system)* |
| 16 | 2 x 288-pin DDR4 DIMM Slots (DDR4_M1, DDR4_N1) |
| 17 | System Fan Connector (FAN6) *(for 2U system)* |
| 18 | Slimline x8 Connector (SLIM4) |
| 19 | AMD Socket SP3 (LGA 4094 ) (CPU2) |

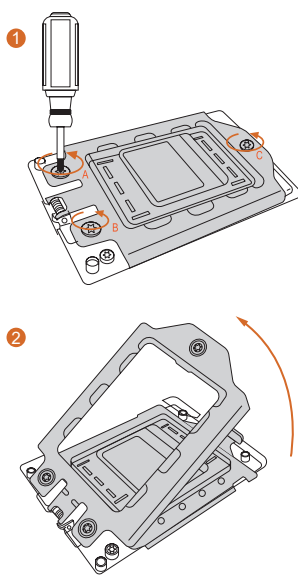
| No. | Description |
|---|---|
| 20 | System Fan Connector (FAN5_1) *(for 1U system)* |
| 21 | System Fan Connector (FAN5) *(for 2U system)* |
| 22 | System Fan Connector (FAN8_1) *(for 1U system)* |
| 23 | 2 x 288-pin DDR4 DIMM Slots (DDR4_I1, DDR4_J1) |
| 24 | Slimline x8 Connector (SLIM3) |
| 25 | 2 x 288-pin DDR4 DIMM Slots (DDR4_I2, DDR4_J2) |
| 26 | 2 x 288-pin DDR4 DIMM Slots (DDR4_K1, DDR4_L1) |
| 27 | System Fan Connector (FAN4) *(for 2U system)* |
| 28 | 2 x 288-pin DDR4 DIMM Slots (DDR4_K2, DDR4_L2) |
| 29 | System Fan Connector (FAN4_1) *(for 1U system)* |
| 30 | 2 x 288-pin DDR4 DIMM Slots (DDR4_G2, DDR4_H2) |
| 31 | 2 x 288-pin DDR4 DIMM Slots (DDR4_G1, DDR4_H1) |
| 32 | System Fan Connector (FAN3_1) *(for 1U system)* |
| 33 | 2 x 288-pin DDR4 DIMM Slots (DDR4_E2, DDR4_F2) |
| 34 | System Fan Connector (FAN3) *(for 2U system)* |
| 35 | 2 x 288-pin DDR4 DIMM Slots (DDR4_E2, DDR4_F2) |
| 36 | Slimline x8 Connector (SLIM2) |

| No. | Description |
|---|---|
| 37 | PWM Configuration Header (PWM_CFG1) |
| 38 | System Fan Connector (FAN2_1) *(for 1U system)* |
| 39 | System Fan Connector (FAN2) *(for 2U system)* |
| 40 | AMD Socket SP3 (LGA 4094 ) (CPU1) |
| 41 | System Fan Connector FAN1_1) *(for 1U system)* |
| 42 | 2 x 288-pin DR4 DIMM lots (DDR4_A1, DDR4_B1) |
| 43 | Slimline x8 Connector (SLIM1) |
| 44 | 2 x 288-pin DDR4 DIMM Slots (DDR4_A2, DDR4_B2) |
| 45 | System Fan Connector (FAN1) *(for 2U system)* |
| 46 | 2 x 288-pin DDR4 DIMM Slots (DDR4_C1, DDR4_D1) |
| 47 | 2 x 288-pin DDR4 DIMM Slots (DDR4_C2, DDR4_D2) |
| 48 | HDD Backplane Power Connector (HSBP_PWR2) |
| 49 | Backplane PCI Express Hot-Plug Connector (CPU1_HSBP1) |
| 50 | SATA DOM Power Connector (SATAPWR1) |
| 51 | GPU Power Connector (GPU_PWR2) |
| 52 | Front USB 3.2 Gen1 Header (FRNT_USB3_1) |
| 53 | HDD Power Connector (HDD_PWR1) |
| 54 | Power Supply Unit Connector (PSU_CON2) |
| 55 | PDB Power Connector (CRPS_IN1) |

| No. | Description |
|---|---|
| 56 | SATA DOM Connector (SSATA0) |
| 57 | SATA Connector (SSATA1) |
| 58 | TPM-SPI Header (TPM_BIOS_PH1) |
| 59 | PCIE 4.0 x32 Slot (PCIE1) |
| 60 | MiniSAS HD Connector (MSAS_HD0) |
| 61 | PCIE Power Connector (PCIE_PWR1) |
| 62 | M.2 Socket (M2_2) (Type 2242/2280) |
| 63 | M.2 Socket (M2_1) (Type 2230/2242/2260/2280) |
| 64 | Vertical Type A USB 3.2 Gen1 Connector (USB3_3) |
| 65 | Slimline x8 Connector (SLIM5) |
| 66 | SATA SGPIO Connector (SATA_SGPIO1) |
| 67 | OCP 3.0 Gen4 x16 Mezzanine Card Slot (OCP3) |
| 68 | Slimline x8 Connector (SLIM6) |
| 69 | TPM Header (TPM1) |
| 70 | Intelligent Platform Management Bus Header (IPMB1) |
| 71 | BMC SMBus Header (BMC_SMB3) |
| 72 | BMC SMBus Header (BMC_SMB2) |
| 73 | BMC SMBus Header (BMC_SMB1) |
| 74 | Clear CMOS Pad (CLRMOS1) |
| 75 | Non Maskable Interrupt Button (NMI_BTN1) |
| 76 | SATA SGPIO Connector (SATA_SGPIO2) |

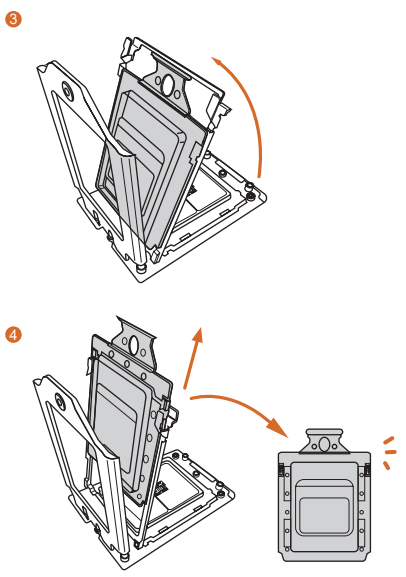
## 2 Install the Processor and Heatsink

Locate the three torx screws on the CPU socket and unscrew them according to the order A→B→C. Open the first retention cover.

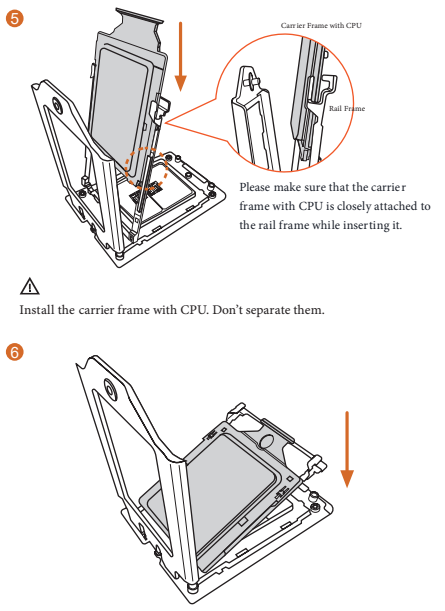


*We recommend using the CPU Installation tool to avoid CPU pin-bent problem.*

Open the second bracket. Take out the internal plastic cover.

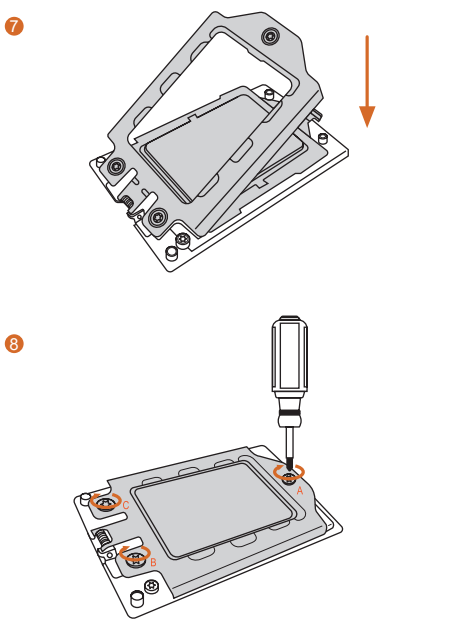


Install CPU along with the carrier frame, do not separate them. Please make sure the carrier frame with CPU is closely attached to the rail frame while inserting it.



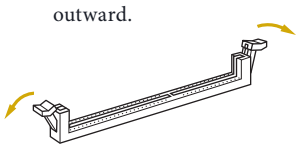

⚠ Install the carrier frame with CPU. Don't separate them.

Close the bracket that holds the CPU. Close the retention cover. Fasten the torx screw according to the order A→B→C.

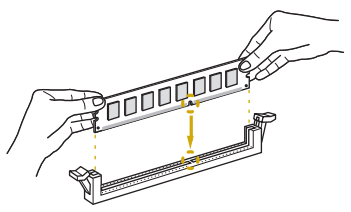


## 3 Install the Memory

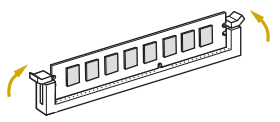
1. Unlock a DIMM slot by pressing the module clips outward.



2. Insert the memory module.



3. Lock the clips.



## 4 M.2 SSD Module Installation

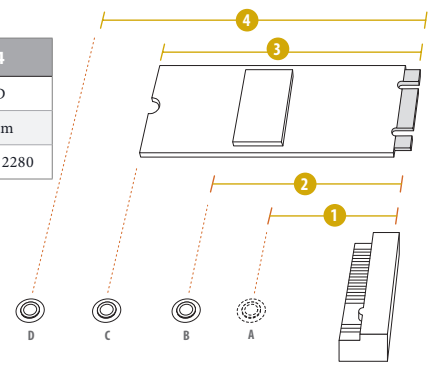
1. Find the corresponding nut location to be used.

M2_1:

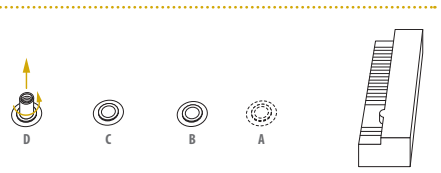
| No. | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Nut Location | A | B | C | D |
| PCB Length | 3cm | 4.2cm | 6cm | 8cm |
| Module Type | Type 2230 | Type 2242 | Type 2260 | Type 2280 |

M2_2:

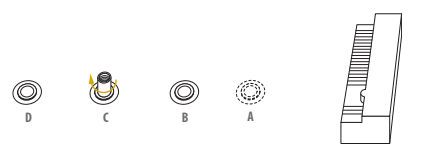
| No. | 1 | 2 |
|---|---|---|
| Nut Location | A | B |
| PCB Length | 4.2cm | 8cm |
| Module Type | Type 2242 | Type 2280 |



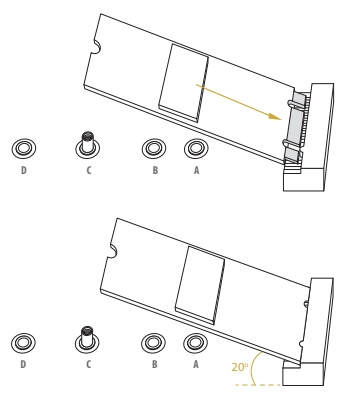
2. Move the standoff based on the module type and length.



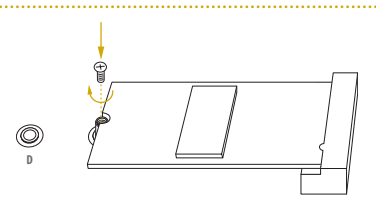
3. Peel off the yellow protective film on the nut. Hand tighten the standoff into the desired location.



4. Align and gently insert the M.2 module into the slot.

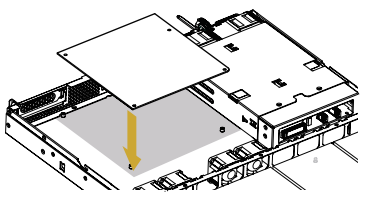


5. Tighten the screw with a screwdriver to secure the module into place. Please do not overtighten the screw.



## 5 Install the Server Board

1. Insert the server board into the chassis.
2. Affix the screws clockwise into the mounting holes in all of the corners of the server board.
   Do not over-tighten the screws

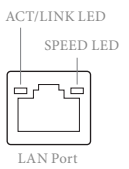


## 6 I/O Panel

| No. | Description | No. | Description |
|---|---|---|---|
| 1 | VGA Header (VGA1) | 5 | 1G LAN RJ-45 Port (LAN1) |
| 2 | Serial Port (RJ45) (COM1) | 6 | 1G LAN RJ-45 Port (LAN2) |
| 3 | IPMI LAN Header (IPMI_LAN1) | 7 | USB 3.2 Gen1 Port (USB3_2) |
| 4 | UID Switch (UID) | 8 | USB 3.2 Gen1 Port (USB3_1) |

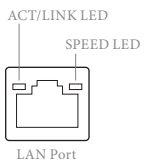
## 7 LAN Port LED Indications

**IPMI LAN Port**




| Activity / Link LED | | Speed LED | |
|---|---|---|---|
| Status | Description | Status | Description |
| Off | No Link | Off | 10Mbps connection or no link |
| Blinking Orange | Data Activity | Orange | 100Mbps connection |
| On | Link | Green | 1Gbps connection |

**1G LAN Port**

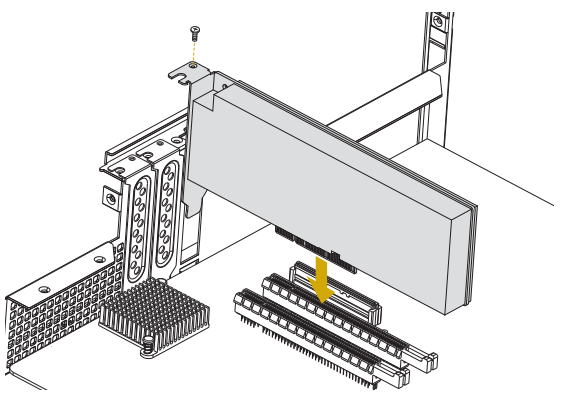



| Activity / Link LED | | Speed LED | |
|---|---|---|---|
| Status | Description | Status | Description |
| Off | No Link | Off | 10Mbps connection or no link |
| Blinking Orange | Data Activity | Orange | 100Mbps connection |
| On | Link | Green | 1Gbps connection |

## 8 Install the PCIE Card

1. Remove the bracket facing the slot that you intend to use. Keep the screw for later use.
2. Align the card connector with the slot and press firmly until the card is completely seated on the slot.
3. Fasten the card to the chassis with the screw.

**Images shown are for illustrative purposes only and may differ depending on model.*



| Slot | Generation | Mechanical | Electrical | Source |
|---|---|---|---|---|
| PCIE1 | 4.0 Gen Z 8C | x32 | x32 | CPU1 |
| PCIE2 | 4.0 Gen Z 8C | x32 | x32 | CPU2 |
| PCIE3 | 4.0 Gen Z 4C+ 8C | x16 | x16 | CPU2 |