P/N: 15G065327000AK V1.0

Quick Installation Guide

GENOA2D16NQM3-2Q

ASRock Rack
www.asrockrack.com GENOA2D16NQM3-2Q

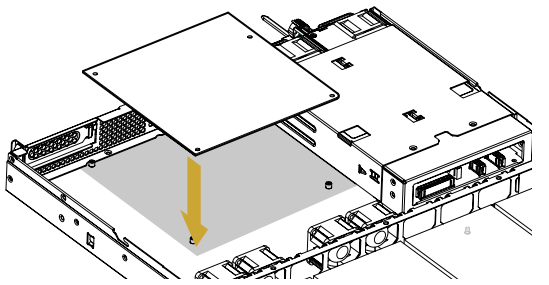
The server board User's Manual is available for download from the ASRock Rack's official website at http://www.asrockrack.com.

Take note of the following precautions before installing server board components or change any server board settings.

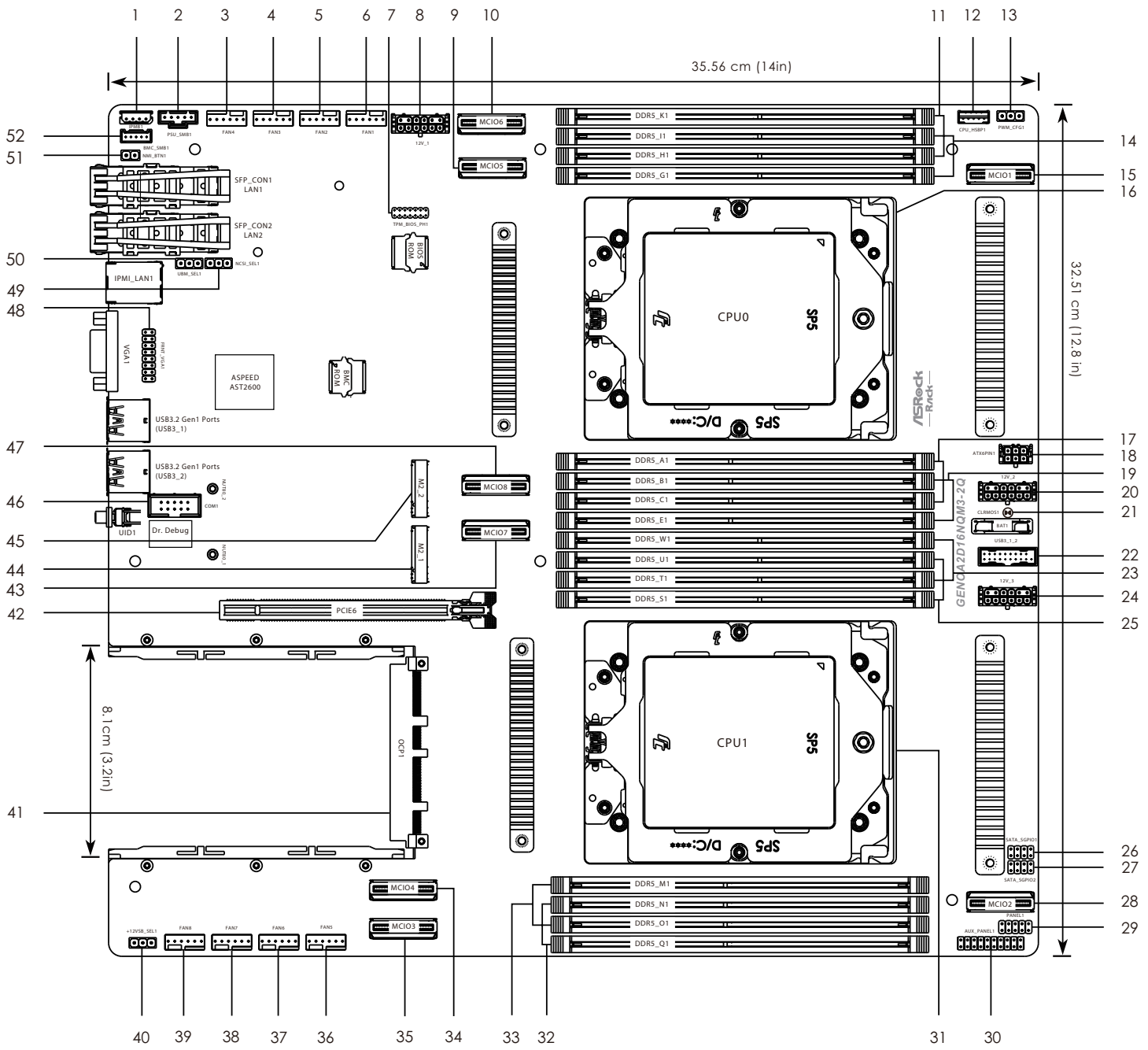
1. Unplug the power cord from the wall socket before touching any components.
2. To avoid damaging the server board's components due to static electricity, NEVER place the server board directly on the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before handling the components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever uninstall any component, place it on a grounded anti-static pad or in the bag that comes with the component.
5. When placing screws into the screw holes to secure the server board to the chassis, please do not over-tighten the screws! Doing so may damage the server board.

1 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

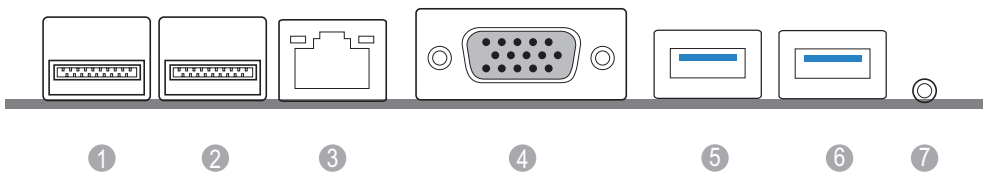


2 Motherboard Layout



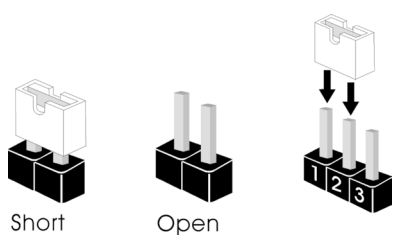
No.	Description
1	Intelligent Platform Management Bus Header (IPMB1)
2	PSU SMBus Header (PSU_SMB1)
3	System Fan Connector (FAN4)
4	System Fan Connector (FAN3)
5	System Fan Connector (FAN2)
6	System Fan Connector (FAN1)
7	SPI TPM Header (TPM_BIOS_PH1)
8	ATX 12V Power Connectors (12V_1)
9	Mini Cool Edge IO x8 Connector (MCIO5)
10	Mini Cool Edge IO x8 Connector (MCIO6)
11	2 x 288-pin DDR5 DIMM Slots (DDR5_H1, DDR5_K1)
12	Backplane PCI Express Hot-Plug Connector (CPU_HSBP1)
13	PWM Configuration Header (PWM_CFG1)
14	2 x 288-pin DDR5 DIMM Slots (DDR5_G1, DDR5_I1)
15	Mini Cool Edge IO x8 Connector (MCIO1)
16	AMD Socket SP5 (SM-LGA-6096) (CPU0)
17	2 x 288-pin DDR5 DIMM Slots (DDR5_A1, DDR5_C1)
18	Micro-Fit ATX 6Pin Power Connector (ATX6PIN1)
19	2 x 288-pin DDR5 DIMM Slots (DDR5_B1, DDR5_E1)
20	ATX 12V Power Connectors (12V_2)
21	Clear CMOS Pad (CLRMOS1)
22	USB 3.2 Gen1 Header (USB3_1_2)
23	2 x 288-pin DDR5 DIMM Slots (DDR5_T1, DDR5_W1)
24	ATX 12V Power Connectors (12V_3)
25	2 x 288-pin DDR5 DIMM Slots (DDR5_S1, DDR5_U1)
26	SATA SGPIO Connector (SATA_SGPIO1)
27	SATA SGPIO Connector (SATA_SGPIO2)
28	Mini Cool Edge IO x8 Connector (MCIO2)
29	System Panel Header (PANEL1)
30	Auxiliary Panel Header (AUX_PANEL1)
31	AMD Socket SP5 (SM-LGA-6096) (CPU1)
32	2 x 288-pin DDR5 DIMM Slots (DDR5_N1, DDR5_Q1)
33	2 x 288-pin DDR5 DIMM Slots (DDR5_M1, DDR5_O1)
34	Mini Cool Edge IO x8 Connector (MCIO4)
35	Mini Cool Edge IO x8 Connector (MCIO3)
36	System Fan Connector (FAN5)
37	System Fan Connector (FAN6)
38	System Fan Connector (FAN7)
39	System Fan Connector (FAN8)
40	OCP3 +12VSB Power Jumper (+12VSB_SEL1)
41	OCP NIC 3.0 Slot (PCIe5.0 x16) (OCP1)
42	PCI Express 5.0 x16 Slot (PCIE6)
43	Mini Cool Edge IO x8 Connector (MCIO7)
44	M.2 Socket (M2_1) (Type 2280)
45	M.2 Socket (M2_2) (Type 2280)
46	COM Port Header (COM1)
47	Mini Cool Edge IO x8 Connector (MCIO8)
48	Front VGA Header (FRNT_VGA1)
49	NCSI Mode Jumper (NCSI_SEL1)
50	UBM Mode Jumper (UBM_SEL1)
51	Non Maskable Interrupt Button (NMI_BTN1)
52	BMC SMBus Header (BMC_SMB1)

3 I/O Panel



No.	Description	No.	Description
1	25G SFP28 (Fiber) (SFP_CON1)	5	USB3.2 Gen1 Port (USB3_1)
2	25G SFP28 (Fiber) (SFP_CON2)	6	USB3.2 Gen1 Port (USB3_2)
3	IPMI LAN Header (IPMI_LAN1)	7	UID Switch (UID1)
4	VGA Port (VGA)		

4 Jumper Cap On/Off

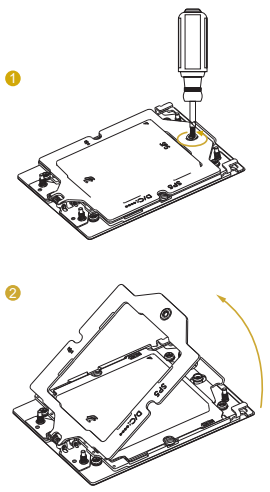


When the jumper cap is placed on the pins, the jumper is "Short". If no jumper cap is placed on the pins, the jumper is "Open".

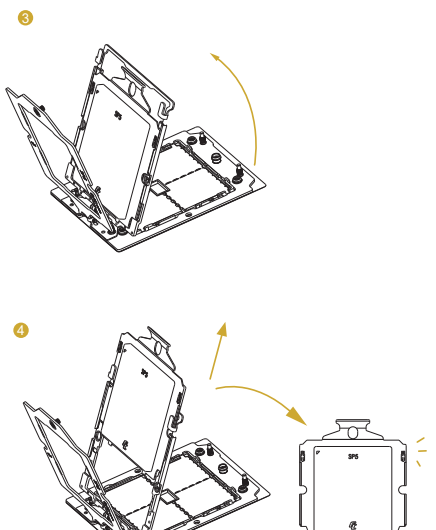
The illustration shows a 3-pin jumper whose pin1 and pin2 are "Short" when a jumper cap is placed on these 2 pins.

5 Install the Processor and Heatsink

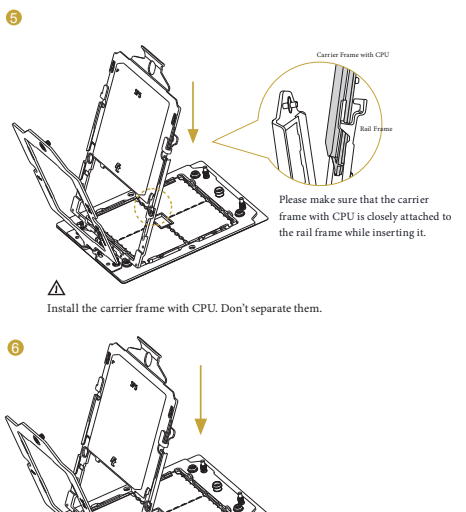
Locate the screw on the CPU socket and unscrew it. Open the first retention cover.



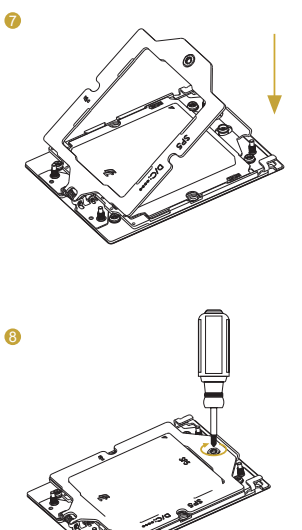
Open the second bracket. Take out the internal plastic cover.



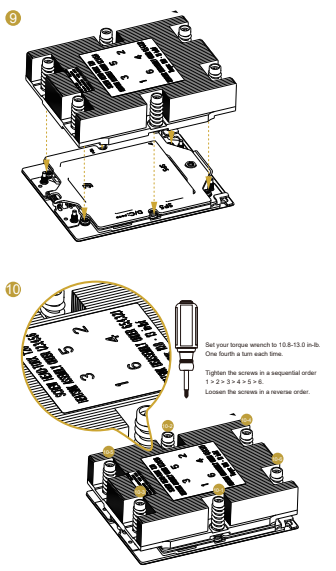
Install CPU along with the carrier frame, do not separate them. Please make sure the carrier frame with CPU is closely attached to the rail frame while inserting it.



Close the bracket that holds the CPU. Close the retention cover. Fasten the screw.



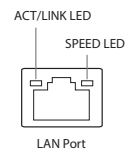
Install the Heatsink and tighten the screws in a sequential order 1->2->3->4->5->6.



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

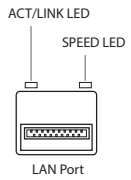
6 LAN Port LED Indications

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

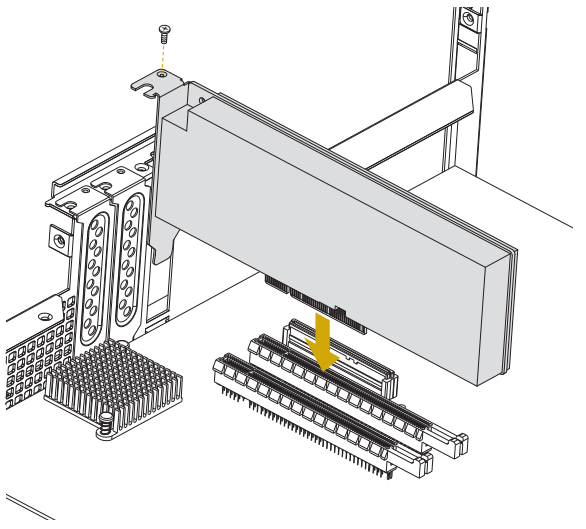
SFP LAN Port



Activity / Link LED		Speed LED	
Status	**Description**	**Status**	**Description**
Off	No Link	Off	1G/100Mbps connection or no link
Blinking Yellow (Orange)	Data Activity	Orange	10Gbps connection
On	Link	Green	25Gbps 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.

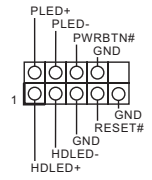


**Images shown are for illustrative purposes only and may differ depending on model.*

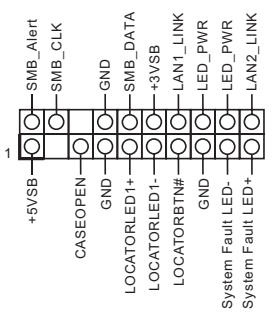
Slot	Generation	Mechanical	Electrical	Source
PCIE6	5.0	x16	x16	CPU1

10 Headers

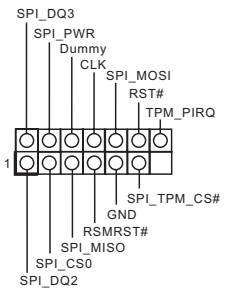
System Panel



Auxiliary Panel

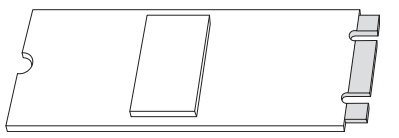


SPI TPM Header

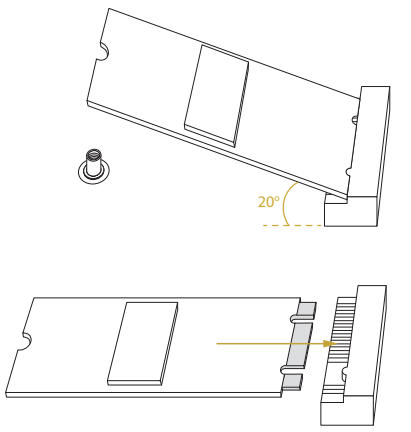


7 M.2 SSD Module Installation

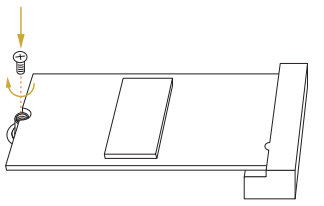
1. Prepare a M.2 SSD module and the screw.



2. Gently insert the M.2 SSD module into the M.2 slot. Please be aware that the M.2 SSD module only fits in one orientation.

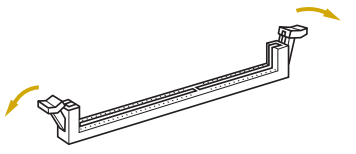


3. Tighten the screw with a screwdriver to secure the module into place. Please do not overtighten the screw.

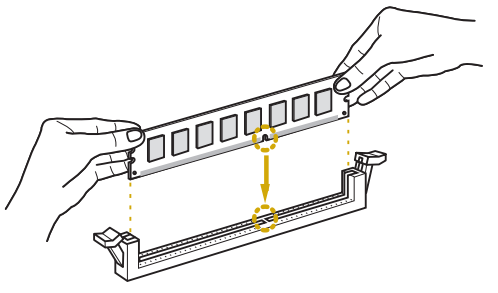


9 Install the Memory

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



2. Insert the memory module.



3. Lock the clips.