P/N: 15G065419000AR V1.0

Quick Installation Guide

GNRD16QM3-NL

ASRock Rack
www.asrockrack.com

GNRD16QM3-NL

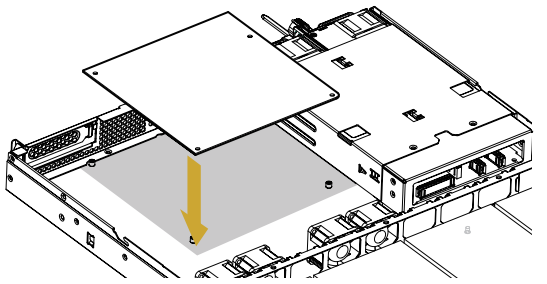
The server board User's Manual is available for download from the ASRock Rack's official website at http://www.asrockrack.com.

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

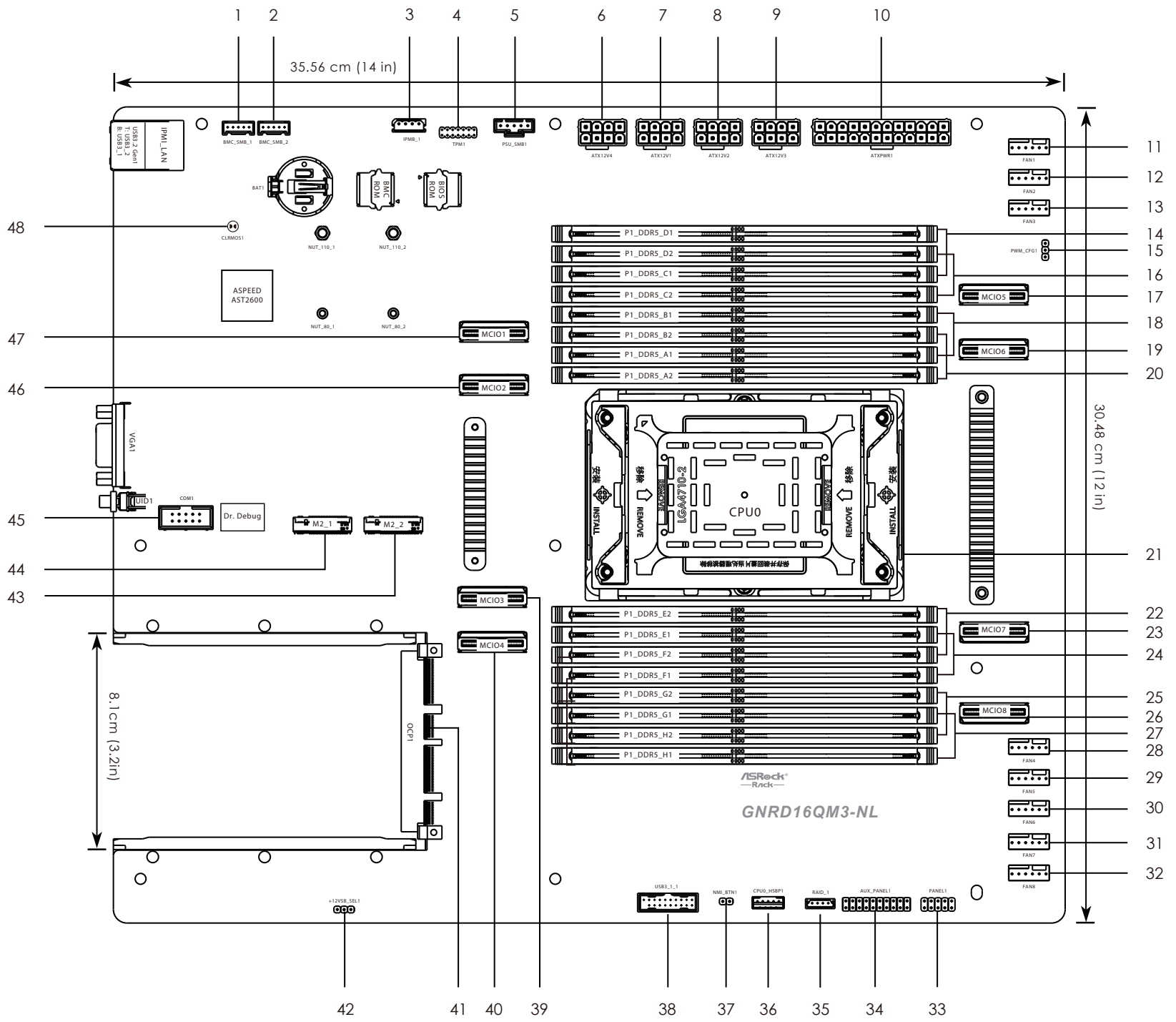
1. Unplug the power cord from the wall socket before touching any components.
2. To avoid damaging the server board's components due to static electricity, NEVER place the server board directly on the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before 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

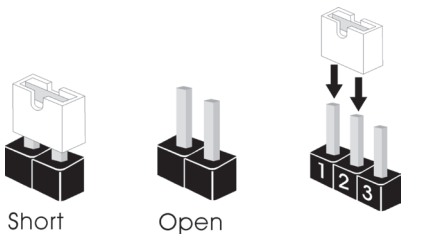


No.	Description
1	BMC SMBus Header (BMC_SMB_1)
2	BMC SMBus Header (BMC_SMB_2)
3	Intelligent Platform Management Bus Header (IPMB_1)
4	SPI TPM Header (TPM1)
5	PSU SMBus Header (PSU_SMB1)
6	ATX 12V Power Connector (ATX12V4)
7	ATX 12V Power Connector (ATX12V1)
8	ATX 12V Power Connector (ATX12V2)
9	ATX 12V Power Connector (ATX12V3)
10	ATX Power Connector (ATXPWR1)
11	System Fan Header (FAN1)
12	System Fan Header (FAN2)
13	System Fan Header (FAN3)
14	2 x 288-pin DDR5 DIMM Slots (P1_DDR5_C1, P1_DDR5_D1)
15	PWM Configuration Header (PWM_CFG1)
16	2 x 288-pin DDR5 DIMM Slots (P1_DDR5_C2, P1_DDR5_D2)

No.	Description
17	Mini Cool Edge IO Connector (MCIO5)
18	2 x 288-pin DDR5 DIMM Slots (P1_DDR5_A1, P1_DDR5_B1)
19	Mini Cool Edge IO Connector (MCIO6)
20	2 x 288-pin DDR5 DIMM Slots (P1_DDR5_A2, P1_DDR5_B2)
21	Socket E2 (LGA4710) (CPU0)
22	2 x 288-pin DDR5 DIMM Slots (P1_DDR5_E2, P1_DDR5_F2)
23	Mini Cool Edge IO Connector (MCIO7)
24	2 x 288-pin DDR5 DIMM Slots (P1_DDR5_E1, P1_DDR5_F1)
25	2 x 288-pin DDR5 DIMM Slots (P1_DDR5_G2, P1_DDR5_H2)
26	Mini Cool Edge IO Connector (MCIO8)
27	2 x 288-pin DDR5 DIMM Slots (P1_DDR5_G1, P1_DDR5_H1)
28	System Fan Header (FAN4)
29	System Fan Header (FAN5)
30	System Fan Header (FAN6)

No.	Description
31	System Fan Header (FAN7)
32	System Fan Header (FAN8)
33	System Panel Header (PANEL1)
34	Auxiliary Panel Header (AUX_PANEL1)
35	Virtual RAID On CPU Header (RAID_1)
36	Backplane PCI Express Hot-Plug Connector (CPU0_HSBP1)
37	Non Maskable Interrupt Button (NMI_BTN1)
38	USB 3.2 Gen1 Header (USB3_1_1)
39	Mini Cool Edge IO Connector (MCIO3)
40	Mini Cool Edge IO Connector (MCIO4)
41	OCP NIC3.0 Slot (OCP1)
42	OCP +12VSB Power Jumper (+12VSB_SEL1)
43	M.2 Socket (M2_2) (Type 2280/22110)
44	M.2 Socket (M2_1) (Type 2280/22110)
45	COM Port Header (COM1)
46	Mini Cool Edge IO Connector (MCIO2)
47	Mini Cool Edge IO Connector (MCIO1)
48	Clear CMOS Pad (CLRMOS1)

3 Jumper Settings



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.

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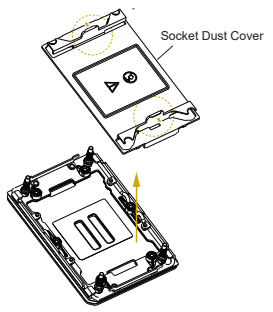
4 Install the Processor and Heatsink

Remove the CPU socket cover and open the socket lever.

1



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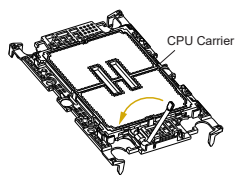
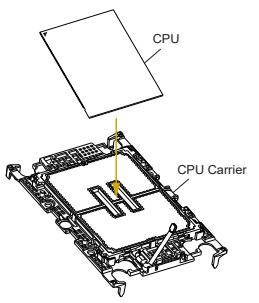


We recommend using the CPU Installation tool to avoid CPU pin-bent problem.

Install the processor on the carrier and make sure the arrow is located in the correct direction. Close the socket lever.

3



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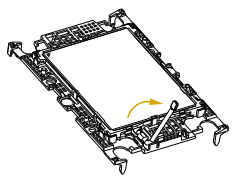
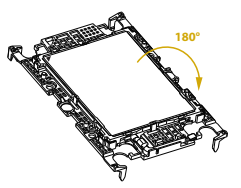


Carefully flip the carrier assembly. Apply a thermal paste.

5



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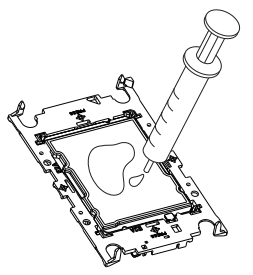
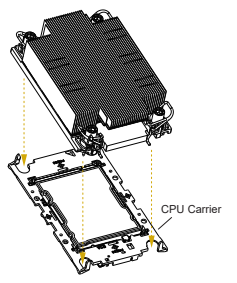


Install the heatsink to the CPU carrier. Then install the heatsink and CPU carrier to the socket.

7



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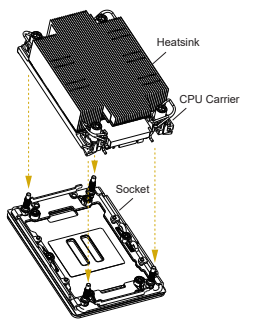
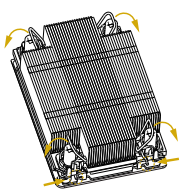
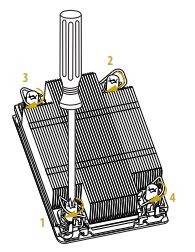


Tighten the corner fasteners. Secure the heastink to the motherboard with a screwdriver.

9



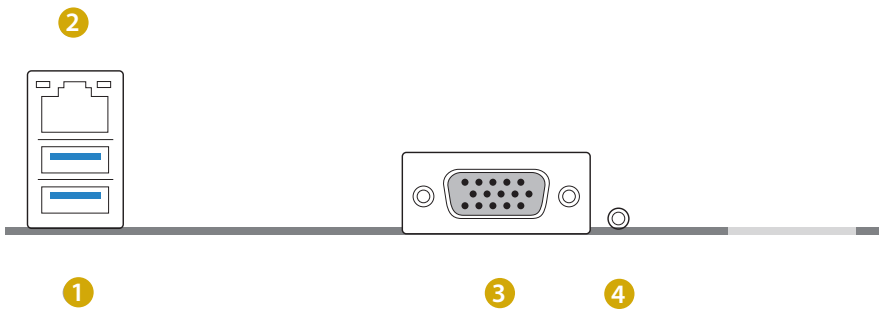
10



Set the torque wrench to 6-12 in-lb.
One fourth a turn each time.

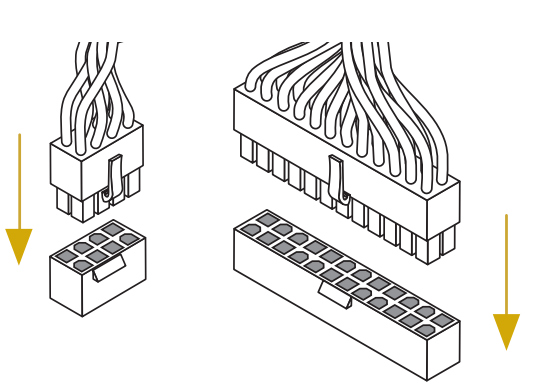
Tighten the screws in a sequential order 1 > 2 > 3 > 4.
Loosen the screws in a reverse order.

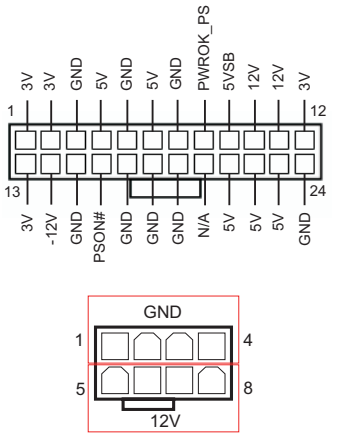
5 I/O Panel



No.	Description	No.	Description
1	USB 3.2 Gen1 Ports (USB3_1_2)	3	VGA Port (VGA1)
2	IPMI LAN Header (IPMI_LAN)	4	UID Switch (UID1)

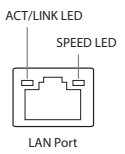
6 Install the Power Cables





7 LAN Port LED Indications

IPMI LAN Port

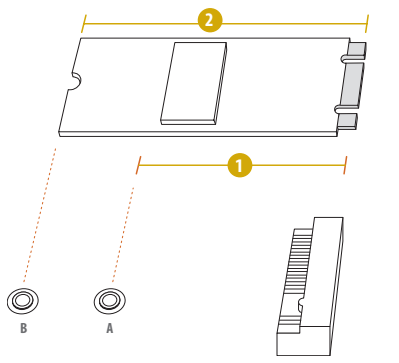


Activity / Link LED		Speed LED	
Status	Description	Status	Description
Off	No link	Off	10Mbps connection or no link
Blinking Yellow	Data activity	Orange	100Mbps connection
On	Link	Green	1Gbps connection

8 Install M.2 SSD Module

1 Find the corresponding nut location to be used.

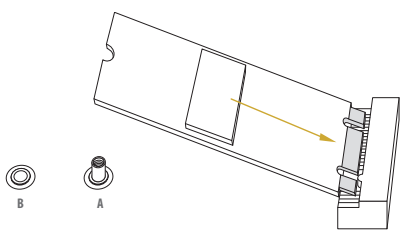
No.	1	2
Nut Location	A (NUT_80_1/2)	B (NUT_110_1/2)
PCB Length	8cm	11cm
Module Type	Type 2280	Type 22110



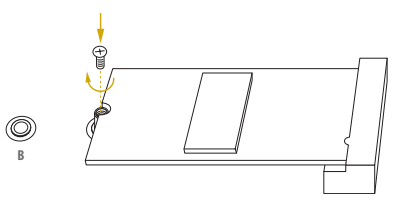
2 Move the standoff based on the module type and length.

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

4 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.



9 Install the PCIE Card

1 Remove the bracket facing the slot that intending 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.

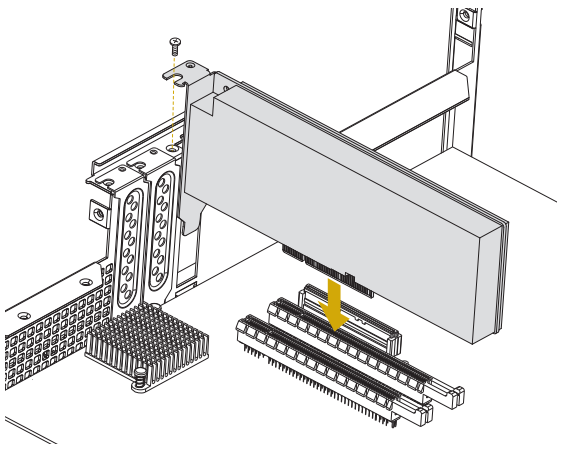
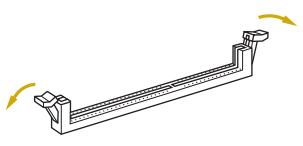


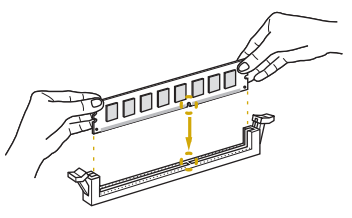
**Image shown is for illustrative purpose only and may differ depending on model.*

10 Install the Memory

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



2 Insert the memory module.



3 Lock the clips.