



AMD EPYC™ 9004 Processors

Advancing Data Center Performance and Efficiency

General Purpose Storage / All-flash NVMe / Multi-node / GPU Barebones
Server Motherboards

Server Platform Naming Rule

GENOA2D16NQM3-2Q

| Character | Representation | Options |
|---------------|---------------------------------|---|
| N | CPU Type | <ul style="list-style-type: none"> • GENOA = AMD EPYC™ 9004 series processors |
| N+1 | Number of CPU Supported | <ul style="list-style-type: none"> • 2 = Dual • NA = Single |
| Others | Number of DIMM Supported | <ul style="list-style-type: none"> • D8 = 8 DIMM • D12 = 12 DIMM • D16 = 16 DIMM • D24 = 24 DIMM |
| | Form Factor | <ul style="list-style-type: none"> • H = Half-width • UD = Deep Micro-ATX (10.4"x10.5") • T = T-shape |
| | Feature | <ul style="list-style-type: none"> • N = Non-shading side-by-side CPU • G = For GPU server • Q = OCP slot not in standard I/O area, multi-SlimSAS to the front • M3 = OCP NIC 3.0 slot • 2Q = Dual 25GbE SFP28 by Broadcom BCM57414 • 2T = Dual 10GbE RJ45 by Intel X710 • 2T/X550 = Dual 10GbE RJ45 by Intel X550 • 2T/BCM = Dual 10GbE RJ45 by Broadcom BCM57416 • 2L = Dual 1GbE RJ45 by Intel i210 • 2L+ = Dual 1GbE RJ45 by Intel i350 |

1U4L4E-GENOA/2T

| Character | Representation | Options |
|--|----------------------|--|
| 1st + 2nd | System Height | <ul style="list-style-type: none"> • 1U = 1U chassis • 2U = 2U chassis • 4U = 4U chassis |
| Others | Drive Bay | <ul style="list-style-type: none"> • L = 3.5" HDD Bay • S = 2.5" HDD/SSD Bay • E = U.2 Bay • E1S = E1.S Bay |
| | Feature | <ul style="list-style-type: none"> • G = Dual-slot cards supported • X = NVIDIA HGX platform intergrated • N = Number of nodes • F = Front I/O |

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| SERVER MOTHERBOARD | | |
|---|----------------------|------|
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1U4L4E-GENOA/2T



10Gbase-T



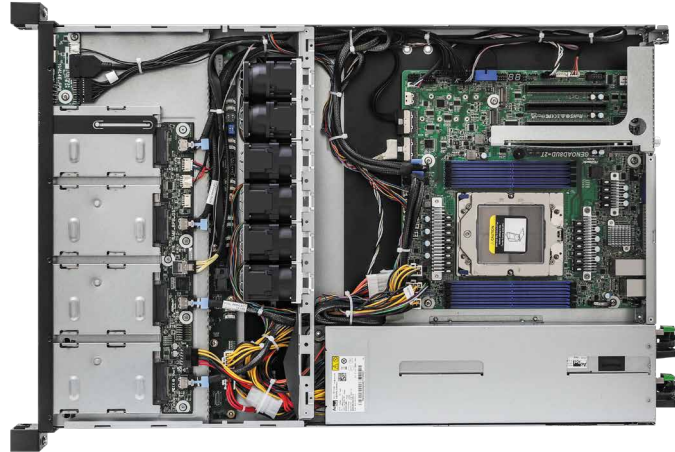
Storage



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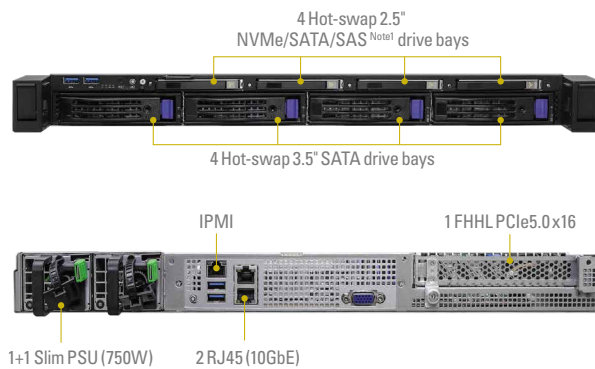


PCI-E 5.0



Application

- Hybrid-storage Server
- Cloud Computing
- Enterprise Server



1U4L4E-GENOA/2T

| | | |
|-------------------------------|-------------------|--|
| CPU | Socket | 1 Socket SP5 (LAG 6096) AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| DIMM | Slot | 8 DDR5 288-pin (1DPC) |
| System Physical Status | Form Factor | 1U Rackmount |
| | Chassis Dimension | 676.5 x 438 x 43.4 mm (26.6" x 17.2" x 1.7") |
| Front Panel | Buttons | Power button w/ LED, UID button w/ LED, System reset |
| | LEDs | HDD Activity, LAN 1/2, System Event |
| | I/O | 2 Type-A (USB3.2 Gen1) |
| Rear IO | RJ45 | 2 RJ45 (10GbE) by Intel® X550-AT2 |
| | USB | 1 dedicated IPMI |
| | Others | 2 Type-A (USB3.2 Gen1) |
| | | 1 DB15 (VGA), 1 UID button w/ LED |
| Expansion Slots | Rear | 1 FHHL PCIe5.0x16 via RB1UX16R_G5 (Up to 75W) |
| Drive Bay/ Storage | External | 4 hot-swap 2.5" NVMe/SATA/SAS ^{Note1} drive bays 4 hot-swap 3.5" SATA drive bays |
| | Internal | 2 M-key (PCIe5.0 x4); support 2280/2260/2242/2230 form factor |
| Power Supply | Module | 1+1, 80-PLUS Platinum, 750W Slim PSU |
| System Cooling | Fan | 6 PWM Easy-swap 40x56 mm fans |
| Management | | ASPEED BMC AST2600 |
| Security | | TPM by optional accessory |

Note1: SAS drive is only supported with additional RAID/HBA cards

1U4L-GENOA/2T



10Gbase-T



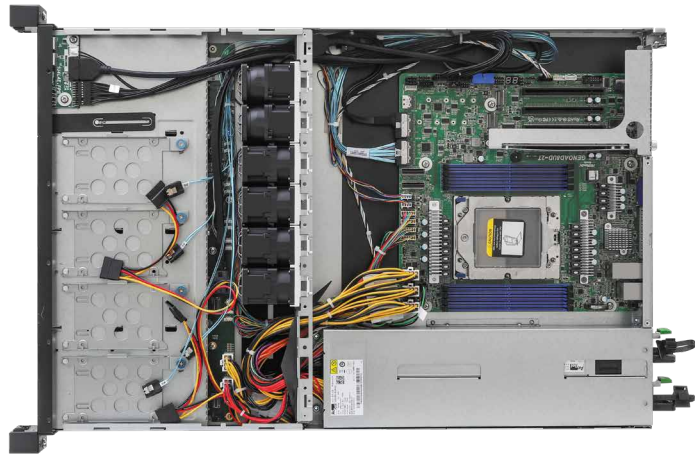
Storage



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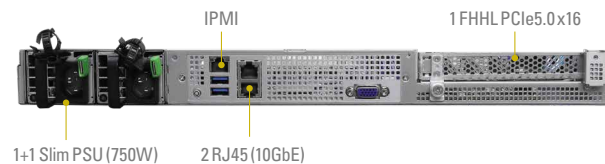
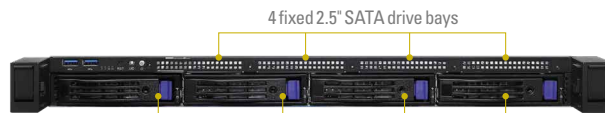


PCI-E 5.0



Application

- Enterprise Server
- General Purpose Server
- Web Hosting



1U4L-GENOA/2T

| | | |
|-------------------------------|-------------------|--|
| CPU | Socket | 1 Socket SP5 (LAG 6096) AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| | Slot | 8 DDR5 288-pin (1DPC) |
| System Physical Status | Form Factor | 1U Rackmount |
| | Chassis Dimension | 676.5 x 438 x 43.4 mm (26.6" x 17.2" x 1.7") |
| Front Panel | Buttons | Power button w/ LED, UID button w/ LED, System reset |
| | LEDs | HDD Activity, LAN 1/2, System Event |
| | I/O | 2 Type-A (USB3.2 Gen1) |
| Rear IO | RJ45 | 2 RJ45 (10GbE) by Intel® X550-AT2 1 dedicated IPMI |
| | USB | 2 Type-A (USB3.2 Gen1) |
| | Others | 1 DB15 (VGA), 1 UID button w/ LED |
| Expansion Slots | Rear | 1 FHHL PCIe5.0 x16 via RB1UX16R_G5 (Up to 75W) |
| Drive Bay/ Storage | External | 4 hot-swap 3.5" SATA drive bays |
| | Internal | 4 fixed 2.5" SATA drive bays |
| | | 2 M-key (PCIe5.0 x4); support 2280/2260/2242/2230 form factor |
| Power Supply | Module | 1+1, 80-PLUS Platinum, 750W Slim PSU |
| System Cooling | Fan | 6 PWM Easy-swap 40x56 mm fans |
| Management | | ASPEED BMC AST2600 |
| Security | | TPM by optional accessory |

1U8S4E-GENOA/2T



10Gbase-T



Storage



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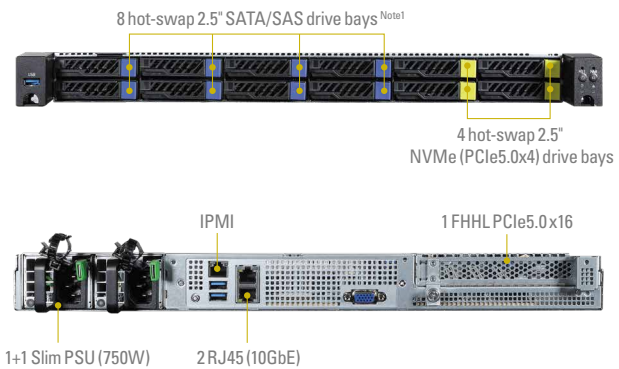


PCI-E 5.0



Application

- Hybrid-storage Server
- Enterprise Server



1U8S4E-GENOA/2T

| | | |
|-------------------------------|-------------------|--|
| CPU | Socket | 1 Socket SP5 (LAG 6096) AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| DIMM | Slot | 8 DDR5 288-pin (1DPC) |
| System Physical Status | Form Factor | 1U Rackmount |
| | Chassis Dimension | 676.5 x 438 x 43.4 mm (26.6" x 17.2" x 1.7") |
| Front Panel | Buttons | Power button w/ LED, ID button w/ LED, System reset, NMI button |
| | LEDs | HDD Activity, LAN 1/2, System Event |
| | I/O | 1 Type-A (USB3.2 Gen1) |
| Rear IO | RJ45 | 2 RJ45 (10GbE) by Intel® X550-AT2 1 dedicated IPMI |
| | USB | 2 Type-A (USB3.2 Gen1) |
| | Others | 1 DB15 (VGA), 1 UID button w/ LED |
| Expansion Slots | Rear | 1 FHHL PCIe5.0x16 via RB1UX16R_G5 (Up to 75W) |
| Drive Bay/ Storage | External | 4 hot-swap 2.5" NVMe (PCIe5.0x4) drive bays 8 hot-swap 2.5" SATA/SAS drive bays ^{Note1} |
| | Internal | 2 M-key (PCIe5.0x4); support 2280/2260/2242/2230 form factor |
| Power Supply | Module | 1+1, 80-PLUS Platinum, 750W Slim PSU |
| System Cooling | Fan | 6 PWM Easy-swap 40x56 mm fans |
| Management | | ASPEED BMC AST2600 |
| Security | | TPM by optional accessory |

Note1: SAS drive is only supported with additional RAID/HBA cards

1U12E-GENOA/2L2T



10Gbase-T



Storage



OCP NIC 3.0



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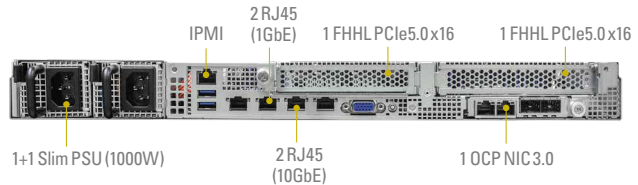
PCI-E 5.0

12 Hot-swap 2.5" NVMe (PCIe5.0 x4) /SATA/SAS ^{Note1} drive bays



Application

- Data Center Server
- All-flash Storage Server
- SMB and Database Processing & Storage



1U12E-GENOA/2L2T

| | | |
|-------------------------------|-------------------|--|
| CPU | Socket | 1 Socket SP5 (LAG 6096) AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| DIMM | Slot | 24 DDR5 288-pin (2DPC) |
| System Physical Status | Form Factor | 1U Rackmount |
| | Chassis Dimension | 676.5 x 438 x 43.4 mm (26.6" x 17.2" x 1.7") |
| Front Panel | Buttons | Power, Reset, UID |
| | LEDs | Power, UID, System Fail, LAN1/LAN2 |
| | I/O | 1 Type-A (USB3.2 Gen1) |
| Rear IO | RJ45 | 2 RJ45 (10GbE) by Broadcom BCM57416 2 RJ45 (1GbE) by Intel® i210 1 dedicated IPMI |
| | USB | 2 Type-A (USB3.2 Gen1) |
| | Others | 1 DB15 (VGA), 1 UID w/ LED |
| Expansion Slots | Rear | 2 FHHL PCIe5.0 x16 1 OCP NIC 3.0 (PCIe5.0 x16) |
| | Internal | 12 Hot-swap 2.5" NVMe (PCIe5.0 x4)/SATA/SAS ^{Note1} drive bays |
| Drive Bay/ Storage | External | 2 M-key (PCIe5.0 x4), supports 22110/2280/2260 form factor |
| Power Supply | Module | 1+1, 80-Plus Platinum, 1000W Slim PSU |
| System Cooling | Fan | 6 PWM Hot-swap 40x56 mm fans |
| Management | | ASPEED BMC AST2600 |
| Security | | TPM by optional accessory |

Note1: SAS drive is only supported with additional RAID/HBA cards

1U12L4E-GENOA/2Q



10Gbase-T



Storage



OCP NIC 3.0



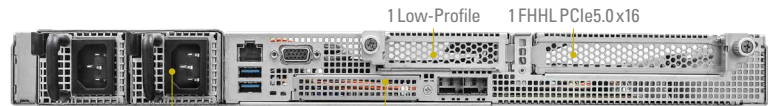
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PCI-E 5.0



4 Hot-swap 2.5" NVMe drive bays



1+1 Slim RPSU (1000W)

1 OCP NIC 3.0

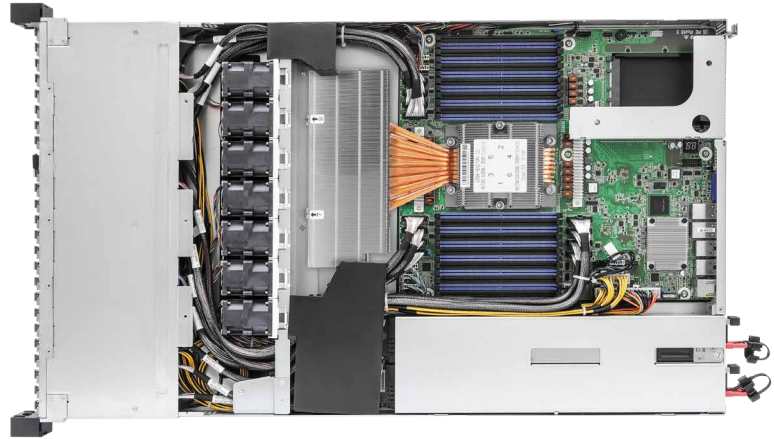
Application

- Cloud Datacenter Storage
- Software-defined Storage

1U12L4E-GENOA/2Q

| | | |
|-------------------------------|-------------------|--|
| CPU | Socket | 1 Socket SP5 (LGA 6096) AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| DIMM | Slot | 12 DDR5 288-pin (1DPC) |
| System Physical Status | Form Factor | 1U Rackmount |
| | Chassis Dimension | 955 x 438 x 43.5 mm (37.6" x 17.24" x 1.71") |
| Front Panel | Buttons | Power Switch, ID Switch, System reset |
| | LEDs | Power status, UID, HDD activity, System Fault |
| | I/O | NA |
| Rear IO | LAN | 2 SFP28 (25GbE) by Broadcom BCM57414 1 dedicated IPMI |
| | USB | 2 Type-A (USB3.2 Gen1) |
| | Others | 1 UID button |
| Expansion Slots | Rear | 1 FHHL PCIe5.0 x16 via RB1UX16_G5 (Up to 75W) |
| | | 1 Low-profile PCIe5.0 x16 via RB1UX16_G5 |
| | | 1 OCP NIC 3.0 (PCIe5.0 x16) |
| Drive Bay/Storage | External | 4 Hot-swap 2.5" NVMe (PCIe4.0 x4) drive bays |
| | Internal | 12 Hot-swap 3.5" SATA HDD drive bays 2 M-key (PCIe5.0 x4 or 4 SATA 6Gb/s), supports 22110/2280/2260 form factor |
| Power Supply | Module | 1+1, 80-PLUS Platinum, 1000W Slim RPSU |
| System Cooling | Fan | 6 PWM Hot-swap 40x56 mm fans |
| Management | | ASPEED BMC AST2600 |
| Security | | TPM by optional accessory |

1U24E1S-GENOA/2L2T



10Gbase-T



Storage



OCP NIC 3.0



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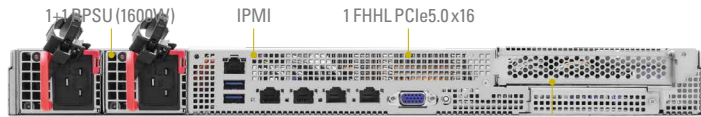
PCI-E 5.0

Application

- All-flash Storage Server
- Data Center Server
- SMB and Database Processing & Storage



24 hot-swap E1.S (PCIe5.0 x4) drive bays



1+1 RPSU (1600W)

IPMI

1 FHHL PCIe5.0 x16

1 OCP NIC 3.0

1U24E1S-GENOA/2L2T

| | | |
|-------------------------------|-------------------|--|
| CPU | Socket | 1 Socket SP5 (LGA 6096) AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| DIMM | Slot | 24 DIMM slots (2DPC) |
| System Physical Status | Form Factor | 1U Rackmount |
| | Chassis Dimension | 776.5 x 438 x 43.5mm (30.6" x 17.2" x 1.7") |
| Front Panel | Buttons | Power button w/ LED, ID button W/LED, System reset, NMI |
| | LEDs | HDD activity LED, LAN1/2, System fault |
| Rear IO | RJ45 | Broadcom BCM57416: 2 RJ45 (10GbE) Intel® i210: 2 RJ45 (1GbE) 1 dedicated IPMI |
| | USB | 2 Type-A (USB3.2 Gen1) |
| | Others | 1 DB15 (VGA), 1 UID button w/ LED |
| Expansion Slots | Rear | 1 FHHL PCIe5.0 x16 1 OCP NIC 3.0 (PCIe5.0 x16) |
| | External | 24 Hot-swap E1.S (PCIe5.0 x4) drive bay, supports 9.5mm/15mm width |
| Drive Bay/ Storage | External | 24 Hot-swap E1.S (PCIe5.0 x4) drive bay, supports 9.5mm/15mm width |
| Power Supply | Module | 1+1 ,80-PLUS Platinum, 1600W RPSU |
| SystemCooling | Fan | 7 PWM Easy-swap 40x56 mm fans |
| Management | | ASPEED BMC AST2600 |
| Security | | TPM by optional accessory |

4U36L6E-GENOA/2T

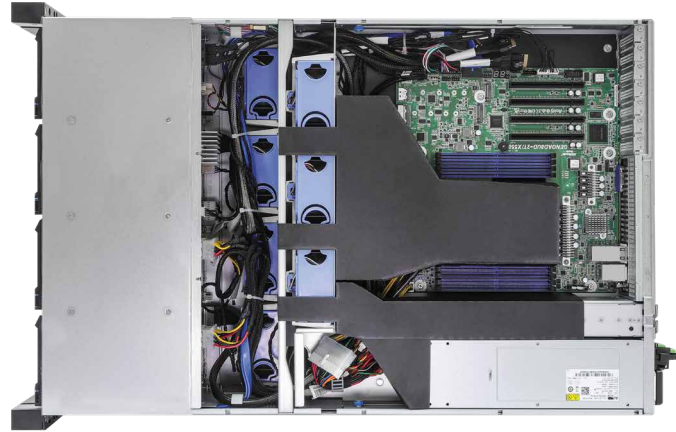


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PCI-E 5.0

10Gbase-T

Storage



Application

- Corporate Database
- Enterprise Server

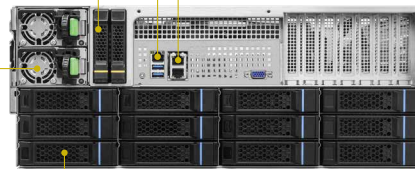
20 Hot-swap 3.5" SATA/SAS drive bays ^{Note1}



4 Hot-swap 3.5" SATA/SAS drive bays ^{Note1} or 4 hot-swap 2.5" NVMe (PCIe3.0 x4)

2 hot-swap 2.5" NVMe (PCIe3.0 x4) IPMI 2 RJ45 (10GbE)

1+1 PSU (1200W)



12 Hot-swap 3.5" SATA/SAS drive bays ^{Note1}

4U36L6E-GENOA/2T

| | | |
|---------------------------|-------------------|---|
| CPU | Socket | 1 Socket SP5 (LGA 6096) AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| DIMM | Slot | 8 DDR5 288-pin (1DPC) |
| System | Form Factor | 4U Rackmount |
| Physical Status | Chassis Dimension | 699 x 432 x 176 mm (27.52" x 17.01" x 6.93") |
| Front Panel | Buttons | Power button, System reset |
| | LEDs | Power Status, LAN1/LAN2 activity, System fail, HDD status |
| | I/O | 2 Type-A (USB3.2 Gen1) |
| Rear IO | RJ45 | 2 RJ45 (10GbE) by Intel® X550-AT2 1 dedicated IPMI |
| | USB | 2 Type-A (USB3.2 Gen1) |
| | Others | 1 DB15 (VGA), 1 UID button w/ LED |
| Expansion Slots | Rear | 4 HHHL PCIe5.0 x16 |
| Drive Bay/ Storage | External | Front: 20 Hot-swap 3.5" SATA/SAS drive bays ^{Note1} 4 Hot-swap 3.5" SATA/SAS drive bays ^{Note1} or 4 Hot-swap 2.5" NVMe (PCIe3.0 x4) drive bays |
| | | Rear: 12 Hot-swap 3.5" SATA/SAS drive bays ^{Note1} 2 Hot-swap 2.5" NVMe (PCIe3.0 x4) drive bays 2 M-key (PCIe5.0 x4); support 2280/2260/2242/2230 form factor |
| Power Supply | Internal | 1+1, 80-PLUS Platinum, 1200W PSU |
| Power Supply | Module | 1+1, 80-PLUS Platinum, 1200W PSU |
| System Cooling | Fan | 7 Hot-swap 80x38mm fans |
| Management | | ASPEED BMC AST2600 |
| Security | | TPM by optional accessory |

Note1: Additional RAID/HBA card required to support the 36 Hot-swap 3.5" SATA/SAS drive bays

4U60L8E-GENOA/2T



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PCI-E 5.0

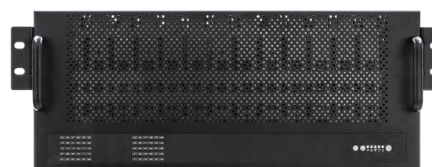
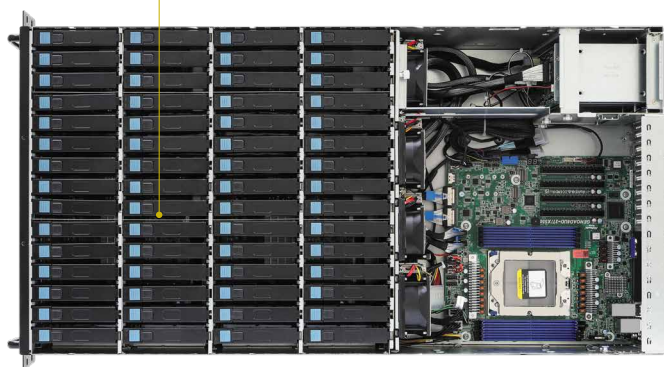


10Gbase-T



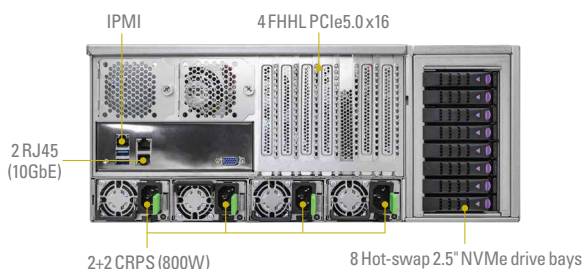
Storage

60 hot-swap 3.5" SATA/SAS drive bays ^{Note1}



Application

- Hyper-scale Cloud Datacenter Storage
- Software-defined Storage Applications
- Virtual Tape Library



4U60L8E-GENOA/2T

| | | |
|-----------------|-------------------|--|
| CPU | Socket | 1 Socket SP5 (LGA 6096) AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| DIMM | Slot | 8 DDR5 288-pin (1DPC) |
| System | Form Factor | 4U Rackmount |
| Physical Status | Chassis Dimension | 853 x 434 x 176mm (33.5" x 17.1" x 6.9") |
| Front Panel | Buttons | System power on/off, System Reset, ID |
| | LEDs | Power, HDD Activity, LAN Activity, System Fault, ID |
| Rear IO | RJ45 | 2 RJ45 (10GbE) by Intel® X550-AT2 |
| | USB | 1 dedicated IPMI |
| | Others | 2 Type-A (USB3.2 Gen1) 1 DB15 (VGA), 1 UID button w/ LED |
| Expansion Slots | Rear | 4 FHHL PCIe5.0 x16 |
| Drive Bay/ | External | 8 hot-swap 2.5" NVMe (PCIe5.0 x4) drive bays |
| Storage | Internal | 60 hot-swap 3.5" SATA/SAS drive bays ^{Note1} |
| | | 2 M-key (PCIe5.0 x4); support 2280/2260/2242/2230 form factor |
| Power Supply | Module | 2+2, 80-PLUS Platinum, 800W CRPS |
| System Cooling | Fan | 4 hot-swap 80x38mm fans |
| Management | | ASPEED BMC AST2600 |
| Security | | TPM by optional accessory |

Note1: Additional RAID/HBA card required to support the 60 x 3.5" SATA/SAS drive bays

2U12L8E-GENOA2

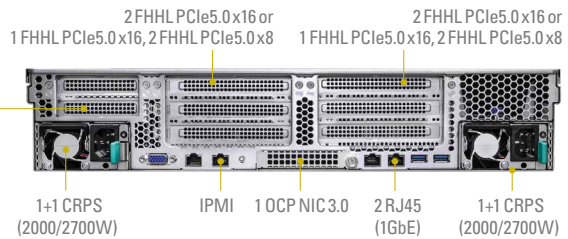
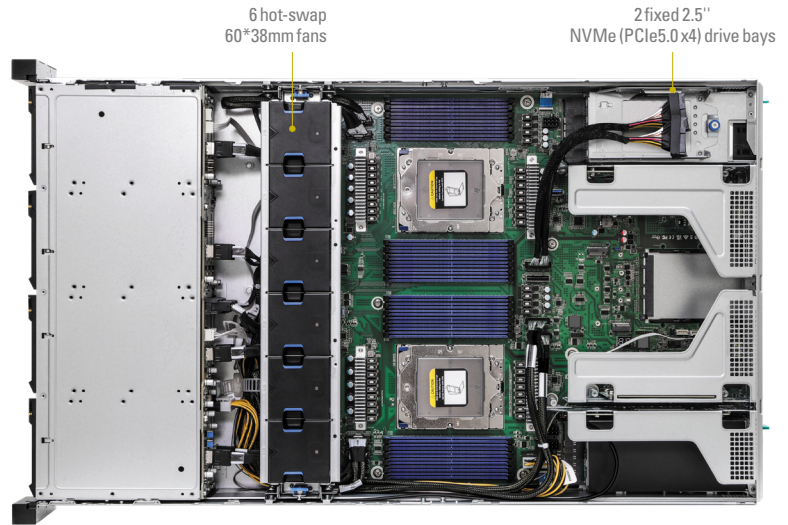
2U2G-GENOA2



4800 Storage



PCI-E 5.0 OCP NIC 3.0



Application

- Software-defined Storage
- Data Analytics

2U12L8E-GENOA2

2U2G-GENOA2

| | | |
|---------------------------|-------------------|---|
| CPU | Socket | 1+1 Socket SP5 (LAG 6096) AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| DIMM | Slot | 12+12 DDR5 288-pin (1DPC) |
| System | Form Factor | 2U Rackmount |
| Physical Status | Chassis Dimension | 770.0 X 438.0 X 86.4 mm (30.3" x 17.2" x 3.4") |
| Front Panel | Buttons | Power, UID, Reset |
| | LEDs | Power Status, LAN Activity, HDD Activity, System status |
| | I/O | 1 Type-A (USB3.2 Gen1), 1 Type-A (USB2.0) |
| Rear IO | RJ45 | 2 RJ45 (1GbE) by Intel® i350-AM2 1 dedicated IPMI |
| | USB | 2 Type-A (USB3.2 Gen1) |
| | Others | 1 DB15 (VGA), 1 RJ45 (COM), 1 UID w/ LED |
| Expansion Slots | Rear | 2 FHHL PCIe5.0x16 or 1 FHHL PCIe5.0x16, 2 FHHL PCIe5.0x8 [CPU0] 2 FHHL PCIe5.0x16 or 1 FHHL PCIe5.0x16, 2 FHHL PCIe5.0x8 [CPU1] 1 HHHL PCIe5.0x16 or 2 HHHL PCIe5.0x8 [CPU0] 1 OCP NIC 3.0 (PCIe5.0x16) [CPU1] |
| | | 1 FHFL PCIe5.0x16, 1 FHHL PCIe5.0x16 [CPU0] 1 FHFL PCIe5.0x16, 1 FHHL PCIe5.0x16 [CPU1] 1 HHHL PCIe5.0x16 or 2 HHHL PCIe5.0x8 [CPU0] 1 OCP NIC 3.0 (PCIe5.0x16) [CPU1] |
| Drive Bay/ Storage | External | 12 hot-swap 3.5"/2.5" drive bays supports 4 SATA HDD/SSD and 8 NVMe (PCIe4.0 x4)/SATA SSD ^{Note1} |
| | Internal | 2 fixed 2.5" NVMe (PCIe5.0x4) drive bays 1 M-key (PCIe3.0x4), supports 2280/2260/2242/2230 form factor [CPU0]; 1 M-key (PCIe3.0x4), supports 2280/2242 form factor [CPU1] |
| Power Supply | Module | 1+1, 80-PLUS Platinum, 2000W CRPS |
| | | 1+1, 80-PLUS Platinum, 2700W CRPS |
| System Cooling | Fan | 6 PWM hot-swap 60x38 mm fans |
| Management | | ASPEED BMC AST2600 |
| Security | | TPM by optional accessory |

Note1: SAS drive is only supported with additional RAID/HBA cards

2U24E-GENOA2



OCP NIC 3.0



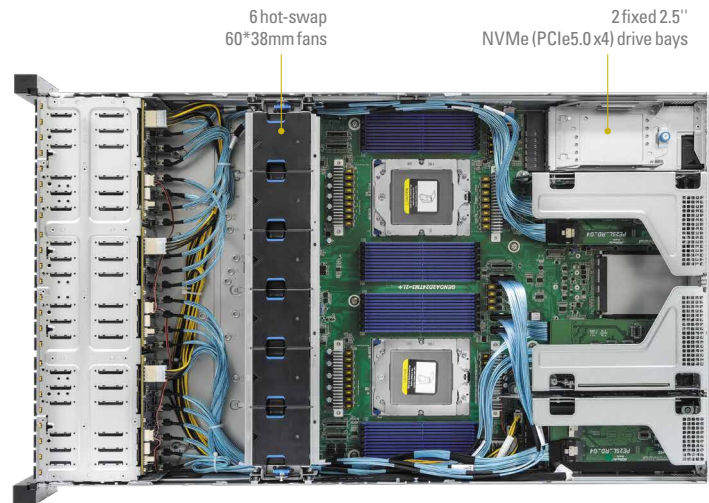
Storage



4800



PCI-E 5.0

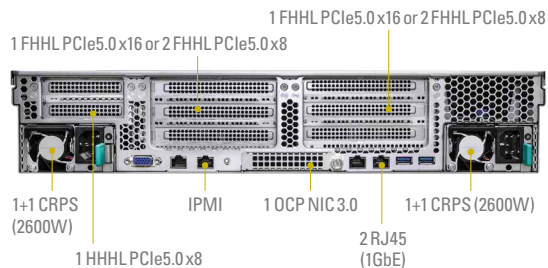


24 hot-swap 2.5" NVMe (PCIe5.0 x4) drive bays



Application

- All-flash Storage Server
- Data Processing
- Virtualization
- Cloud Computing
- High-end Enterprise Server
- Hyperconverged Storage



2U24E-GENOA2

| | | |
|---------------------------|-------------------|---|
| CPU | Socket | 1+1 Socket SP5 (LAG 6096) AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| DIMM | Slot | 12+12 DDR5 288-pin (1DPC) |
| System | Form Factor | 2U Rackmount |
| Physical Status | Chassis Dimension | 770.0 X 438.0 X 86.4 mm |
| Front Panel | Buttons | Power, UID, Reset |
| | LEDs | Power Status, LAN Activity, HDD Activity, System status |
| | I/O | 1 Type-A (USB3.2 Gen1), 1 Type-A (USB2.0) |
| Rear IO | RJ45 | 2 RJ45 (1GbE) by Intel® i350-AM2 1 dedicated IPMI |
| | USB | 2 Type-A (USB3.2 Gen1) |
| | Others | 1 DB15 (VGA), 1 RJ45 (COM), 1 UID w/ LED |
| Expansion Slots | Rear | 1 FHHL PCIe5.0 x16 or 2 FHHL PCIe5.0 x8 [CPU0], 1 FHHL PCIe5.0 x16 or 2 FHHL PCIe5.0 x8 [CPU1] 1 HHHL PCIe5.0 x8 [CPU0], 1 OCP NIC 3.0 (PCIe5.0 x16) [CPU1] |
| Drive Bay/ Storage | External | 24 hot-swap 2.5" NVMe (PCIe5.0 x4) drive bays |
| | Internal | 2 fixed 2.5" NVMe (PCIe5.0 x4) drive bays 1 M-key (PCIe3.0 x4), supports 2280/2260/2242/2230 form factor [CPU0]; 1 M-key (PCIe3.0 x4), supports 2280/2242 form factor [CPU1] |
| Power Supply | Module | 1+1, 80-PLUS Titanium, 2600W CRPS |
| System Cooling | Fan | 6 PWM hot-swap 60x38 mm fans |
| Management | | ASPEED BMC AST2600 |
| Security | | TPM by optional accessory |

1U12E-GENOA2



OCP NIC 3.0



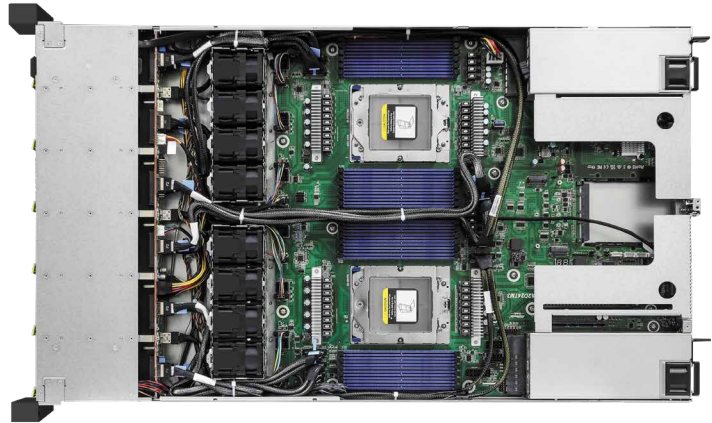
Storage



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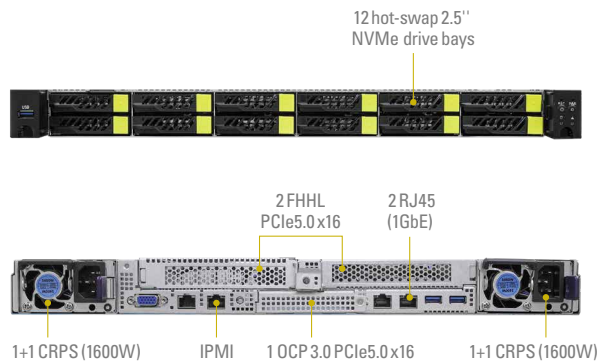


PCI-E 5.0



Application

- All-flash Storage Server
- Database Processing
- Virtualization
- E-commerce



1U12E-GENOA2

| | | |
|---------------------------|-------------------|--|
| CPU | Socket | 1+1 Socket SP5 (LAG 6096) AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| DIMM | Slot | 12+12 DDR5 288-pin (1DPC) |
| System | Form Factor | 1U Rackmount |
| Physical Status | Chassis Dimension | 760 x 438 x 43.5 mm (29.9" x 17.2" x 1.7") |
| Front Panel | Buttons | Power button w/ LED, ID button w/ LED, System reset, NMI |
| | LEDs | HDD Activity, LAN 1/2, System fault |
| | I/O | 1 Type-A (USB3.2 Gen1) |
| Rear IO | RJ45 | 2 RJ45 (1GbE) by Intel® i350 1 dedicated IPMI |
| | USB | 2 Type-A (USB3.2 Gen1) |
| | Others | 1 DB15 (VGA), 1 RJ45 (COM), 1 UID w/ LED |
| Expansion Slots | Rear | 2 FHHL PCIe5.0x16 [CPU0] [CPU1] 1 OCP3.0 PCIe5.0x16 [CPU0] |
| Drive Bay/ Storage | External | 12 Hot-swap 2.5" NVMe (PCIe5.0x4) drive bays |
| | Internal | 1 M-key (PCIe3.0x4), supports 2280/2260/2242/2230 form factor [CPU0]; 1 M-key (PCIe3.0x4), supports 2280/2242 form factor [CPU1] |
| Power Supply | Module | 1+1, 80-PLUS Platinum, 1600W CRPS |
| System Cooling | Fan | 8 Easy-swap 40x56 mm fans |
| Management | | ASPEED BMC AST2600 |
| Security | | TPM by optional accessory |

Note1: SAS drive is only supported with additional RAID/HBA cards

2U4N-F/GENOA-M3



2U High Density Storage



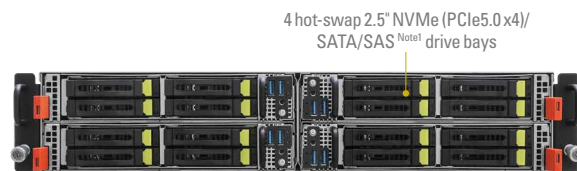
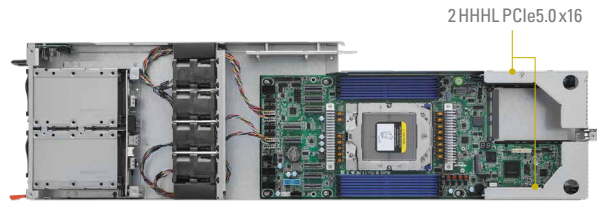
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OCP NIC 3.0



PCI-E 5.0



Application

- All-flash Storage Server
- Database Processing
- Virtualization
- E-commerce

2U4N-F/GENOA-M3

| | | |
|------------------------------|-------------------|--|
| CPU (per node) | Socket | 1 Socket SP5 (LGA 6096) AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| DIMM (per node) | Slot | 8 DDR5 288-pin (1DPC) |
| System | Form Factor | 2U Rackmount |
| Physical Status | Chassis Dimension | 750 X 438 X 86.6mm (29.5" x 17.2" x 3.4") |
| Front Panel (per node) | Buttons | Power, Reset |
| | LEDs | System fail, UID, Power |
| | I/O | 2 Type-A (USB3.2 Gen1) |
| Rear IO (per node) | RJ45 | 1 dedicated IPMI |
| | USB | 2 Type-A (USB3.2 Gen1) |
| | Others | 1 mini-DisplayPort (VGA), 1 UID button w/ LED |
| Expansion Slots (per node) | Rear | 2 HHHL PCIe5.0 x16 1 OCP NIC 3.0 (PCIe5.0 x16) |
| Drive Bay/Storage (per node) | External | 4 hot-swap 2.5" NVMe (PCIe5.0 x4)/SATA/SAS ^{Note1} drive bays or 8 hot-swap 9.5mm E1.S (PCIe5.0 x4) drive bays |
| | Internal | 1 M-key (PCIe5.0 x4 or SATA 6Gb/s), supports 22110/2280 form factor 1 M-key (PCIe4.0 x4 or SATA 6Gb/s), supports 22110/2280 form factor |
| Power Supply | Module | 1+1, 80-PLUS Platinum/Titanium, 2700W CRPS |
| System Cooling (per node) | Fan | 4 PWM hot-swap dual-rotor 40x56 mm fans |
| Management (per node) | | ASPEED BMC AST2600 |
| Security (per node) | | TPM by optional accessory |

Note1: SAS drive is only supported with additional RAID/HBA cards

1U1G-GENOA/M3



4800



PCI-E 5.0



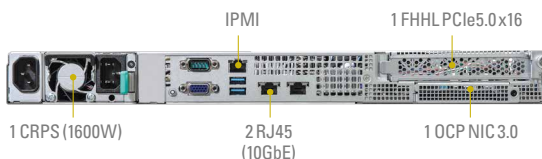
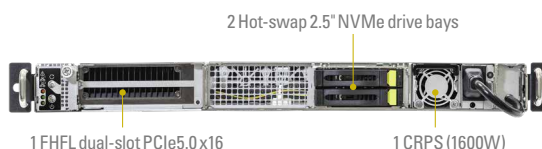
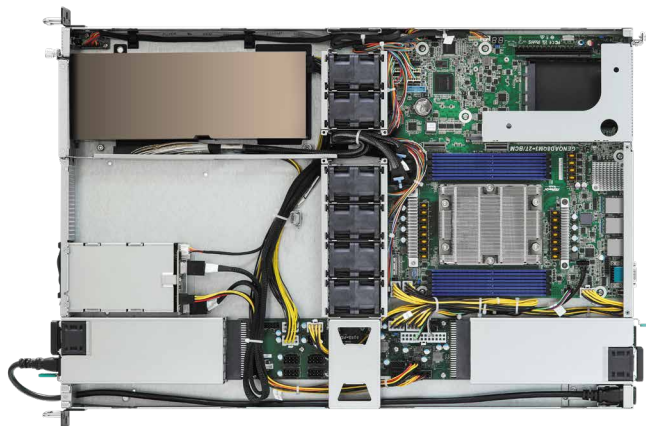
OCP NIC 3.0



GPGPU



10Gbase-T



Application

- Rendering
- Virtualization
- Visualization
- Deep Learning

1U1G-GENOA/M3

| | | |
|-------------------------------|-------------------|--|
| CPU | Socket | 1 Socket SP5 (LGA 6096) AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| DIMM | Slot | 8 DDR5 288-pin (1DPC) |
| System Physical Status | Form Factor | 1U Rackmount |
| | Chassis Dimension | 653.5 x 438.0 x 43.5 mm (25.73" x 17.24" x 1.71") |
| Front Panel | Buttons | Power button w/ LED, UID button w/ LED, System Reset |
| | LEDs | System Fault, LAN1/LAN2 Activity |
| Rear IO | I/O | 2 Type-A (USB3.2 Gen1) |
| | RJ45 | 2 RJ45 (10GbE) by Intel® Broadcom BCM57416 1 dedicated IPMI |
| | Others | 1 DB15 (VGA), 1 DB9 (COM) |
| Expansion Slots | Front | 1 FHFL dual-slot PCIe5.0 x16 |
| | Rear | 1 FHHL PCIe5.0 x16 via RB1UX16R_G5 1 OCP NIC 3.0 (PCIe5.0 x16) |
| Drive Bay/ Storage | External | 2 Hot-swap 2.5" NVMe (PCIe4.0 x4) drive bays |
| | Internal | 1 M-key (PCIe5.0 x4 or SATA 6Gb/s), supports 22110/2280 form factor 1 M-key (PCIe5.0 x4 or SATA 6Gb/s), supports 2280 form factor |
| Power Supply | Module | 1+1, 1600W CRPS |
| System Cooling | Fan | 6 PWM dual-rotor 40x56 mm fans |
| Management | | ASPEED BMC AST2600 |
| Security | | SPI TPM by optional accessory |

2U4G-GENOA/M3



4800



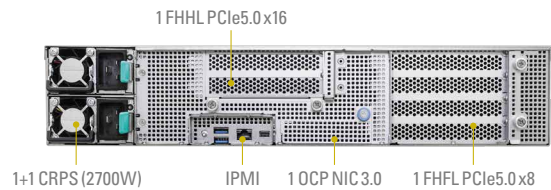
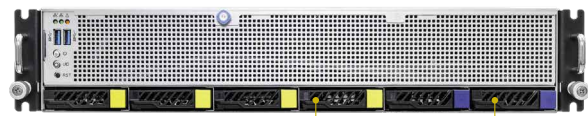
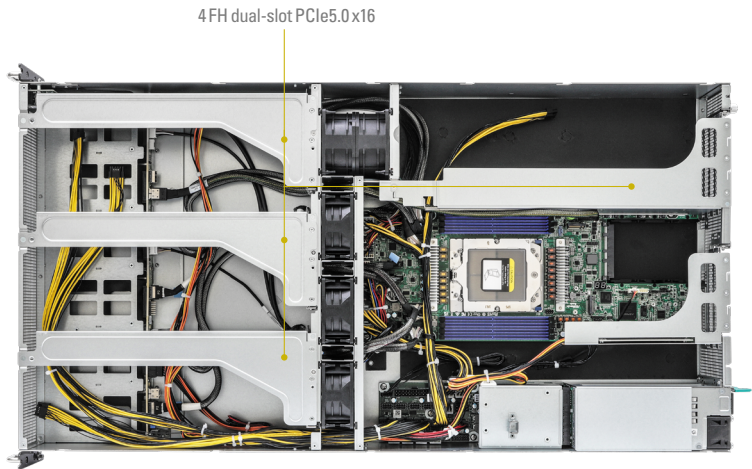
PCI-E 5.0



GPGPU



OCP NIC 3.0



Application

- Artificial Intelligence
- Machine Learning
- HPC
- Virtualization

2U4G-GENOA/M3

| | | | |
|-------------------------------|---------------------------|--|---|
| CPU | Socket | 1 Socket SP5 (LGA 6096) AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors | |
| | TDP | Up to 360W | |
| DIMM | Slot | 8 DDR5 288-pin (1DPC) | |
| System Physical Status | Form Factor | 2U Rackmount | |
| | Chassis Dimension | 850 x 438 x 87.5 mm (33.5" x 17.2" x 3.5") | |
| Front Panel | Buttons | Power, UID | |
| | LEDs | System fault, UID, Power LEDs | |
| | I/O | 2 Type-A (USB2.0) | |
| Rear IO | RJ45 | 1 dedicated IPMI | |
| | USB | 2 Type-A (USB3.2 Gen1) | |
| | Others | 1 mini-DisplayPort (VGA), 1 UID button w/ LED | |
| Expansion Slots | Front | 3 FH dual-slot PCIe5.0 x16 | |
| | Rear | 1 FH dual-slot PCIe5.0 x16 1 OCP NIC 3.0 PCIe5.0 x16 1 FHHL PCIe5.0 x16 1 FHFL PCIe5.0 x8 | |
| | Drive Bay/ Storage | External | 4 Hot-swap 2.5" NVMe (PCIe5.0 x4) drive bays 2 Hot-swap 2.5" SATA drive bays |
| | | Internal | 2 M-key (PCIe5.0 x4 or SATA 6Gb/s), supports 22110/2280 form factor |
| | Power Supply | Module | 1+1, 80-PLUS Platinum, 2700W CRPS |
| System Cooling | Fan | 1 PWM hot-swap 80x80 mm fans | |
| | | 3 PWM hot-swap 80x38 mm fans | |
| Management | | ASPEED BMC AST2600 | |
| Security | | TPM by optional accessory | |

4U4G-GENOAX

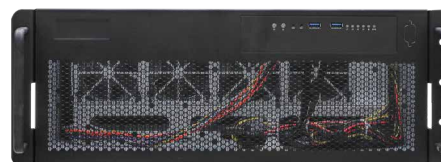
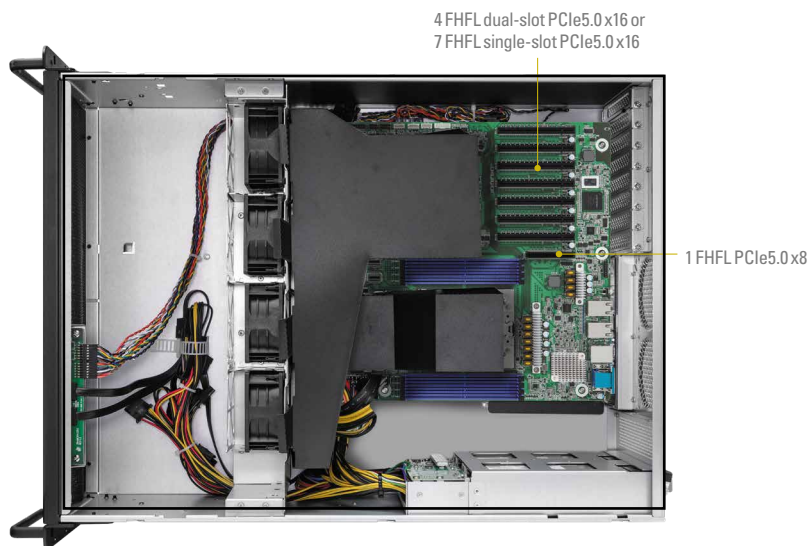


4800

PCI-E 5.0

GPGPU

10Gbase-T



Application

- Data Processing
- Deep Learning
- Mainstream Workstation

4U4G-GENOAX

| | | |
|-------------------------------|-------------------|--|
| CPU | Socket | 1 Socket SP5 (LGA 6096) AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| DIMM | Slot | 8 DDR5 288-pin (1DPC) |
| System Physical Status | Form Factor | 4U Rackmount |
| | Chassis Dimension | 596 x 430.4 x 174.8 mm (23.5" x 16.9" x 6.9") |
| Front Panel | Buttons | Power w/ LED, ID w/ LED, System Reset, NMI |
| | LEDs | LAN Activity, HDD Activity, System Event |
| | I/O | 2 Type-A (USB3.2 Gen1) |
| Rear IO | RJ45 | 2 RJ45 (10GbE) by Broadcom BCM57416 |
| | Others | 1 dedicated IPMI |
| | | 2 Type-A (USB3.2 Gen1), 1 UID button w/ LED, 1 DB15 (VGA), 1 DB9 (COM) |
| Expansion Slots | Rear | 4 FHFL dual-slot PCIe5.0 x16 or 7 FHFL single-slot PCIe5.0 x16 ^{Note1} 1 FHFL PCIe5.0 x8 |
| Drive Bay/ Storage | Internal | 1 M-key (PCIe5.0 x4 or 4 SATA 6Gb/s), supports 22110/2280 form factor 1 M-key (PCIe5.0 x4), supports 22110/2280 form factor |
| Power Supply | Module | 1+1, 80-PLUS Platinum, 2100W CRPS |
| System Cooling | Fan | 2 PWM fixed 80x56 mm fans 2 PWM fixed 80x38 mm fans |
| Management | | ASPEED BMC AST2600 |
| Security | | TPM by optional accessory |

4U8G-GENOA2

4U10G-GENOA2

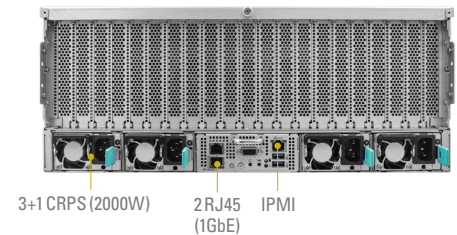
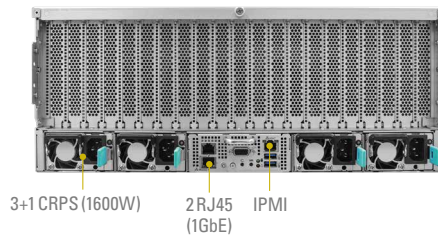
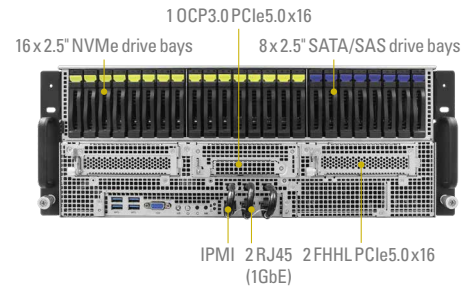
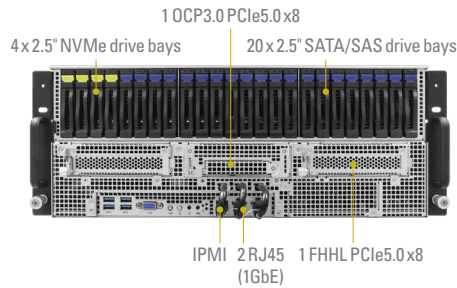
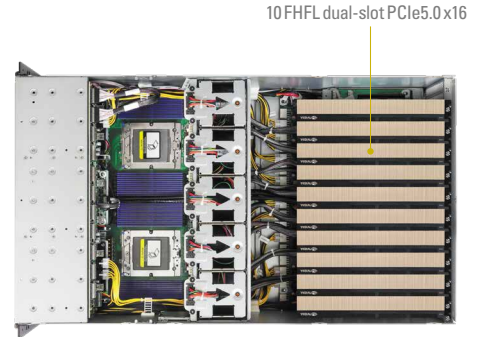
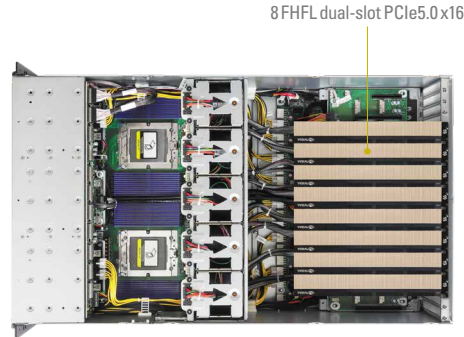


DDR5
4800
4800

PCI-E
5.0
PCI-E 5.0

GPGPU
GPGPU

OCP
NIC 3.0
OCP NIC 3.0



Application

- Deep Learning
- Big Data Analytics
- HPC
- Machine Learning

4U8G-GENOA2

4U10G-GENOA2

| | | | |
|-------------------|-------------------|--|---|
| CPU | Socket | 1+1 Socket SP5 (LGA 6096) AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors | |
| DIMM | Slot | 12+12 DDR5 288-pin (1DPC) | |
| System | Form Factor | 4U Rackmount | |
| Physical Status | Chassis Dimension | 786 x 438 x 176.5 mm (30.9" x 17.24" x 6.95") | |
| Front Panel | Buttons | Power button w/ LED, Reset button, NMI button, UID button | |
| | LEDs | System fault LED, HDD activity LED | |
| Front Panel | I/O | 2 RJ45 (1GbE) by Intel® i350, shares with Rear IO 4 Type-A (USB3.2 Gen1) 1 DB15 (VGA) | |
| | Rear IO | RJ45 | 2 RJ45 (1GbE) by Intel® i350, shares with Front Panel 1 dedicated IPMI, shares with Front Panel |
| Expansion Slots | Others | 2 Type-A (USB3.2 Gen1), UID button, 1 DB15 (VGA) | |
| | Front | 1 FHFL PCIe5.0 x8 1 OCP3.0 PCIe5.0 x8 | 2 FHFL PCIe5.0 x16 1 OCP NIC 3.0 PCIe5.0 x16 |
| Drive Bay/Storage | Rear | 8 FHFL dual-slot PCIe5.0 x16 | |
| | External | 4 Hot-swap 2.5" NVMe (PCIe5.0 x4) drive bays or 24 Hot-swap 2.5" SATA/SAS ^{Note1} drive bays | 16 Hot-swap 2.5" NVMe (PCIe5.0 x4) drive bays or 24 Hot-swap 2.5" SATA/SAS ^{Note1} drive bays |
| Power Supply | Internal | 1 M-key (PCIe3.0 x4 or SATA 6Gb/s), supports 22110/2280 form factor [CPU0] 1 M-key (PCIe3.0 x4 or SATA 6Gb/s), supports 22110/2280 form factor [CPU1] | |
| | Module | 3+1, 80-PLUS Platinum, 1600W CRPS | 3+1, 80-PLUS Platinum/Titanium, 2000W CRPS |
| System Cooling | Fan | 5 Middle Hot-swap 80x80 mm fans | |
| Management | | ASPEED BMC AST2600 | |
| Security | | TPM by optional accessory | |

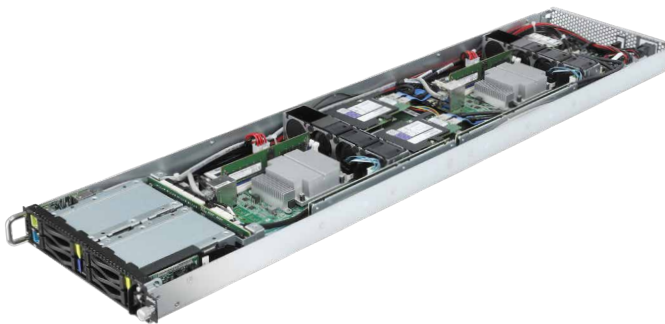
Note1: Additional RAID/HBA card required to support the 24 x 2.5" SATA/SAS drive bays

About ASRock Rack

ASRock Rack Inc., established in 2013, specialized in the field of Cloud Computing server hardware. Inheriting ASRock's design concepts, Creativity, Consideration and Cost-effectiveness, the company is dedicated bringing the Server Industry out of the box thinking with the passion to innovate. Leveraged by ASRock's growing momentum and distribution channels, this young and vibrant company targets at the booming market of cloud computing and commits to serve the market with user friendly, eco-friendly, Do-It-Yourself Server hardware, featuring flexible and reliable products.

Barebones Series

Leveraging the Versatile Portfolio, ASRock Rack Barebones Series provide the solutions for Cloud, AI, Deep Learning and 5G with high density and multi-node of computing, storage and networking with lower TCO and greater efficiency.

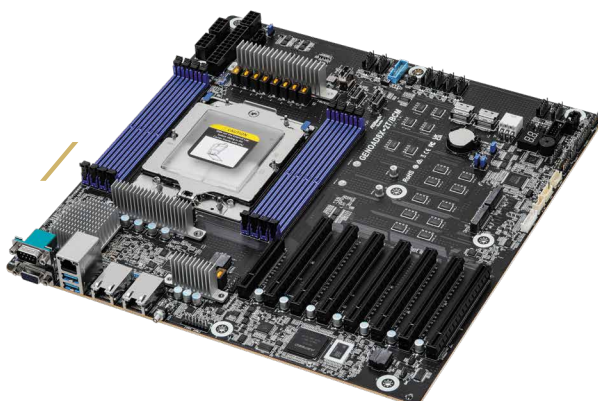
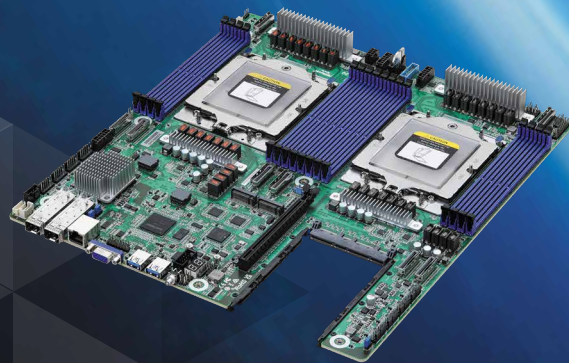


OPEN 19

The Open19 project is an industry specification that defines a cross-industry common server form factor; with the open standard technology and wide levels of adoption, the Open19 creates more flexible and economic for data center and edge solutions as well as the operators of all sizes.

Server Motherboards

With the best performance, product lifetime, and optimized resource utilization, ASRock Rack Server Motherboards are famous and popular among industry investment, especially for the flexibility and versatility.



Workstation Motherboards

Featuring reliable, quiet, and power-efficient, these workstations are best tools for the content creators.

GENOAD8UD-2T/X550



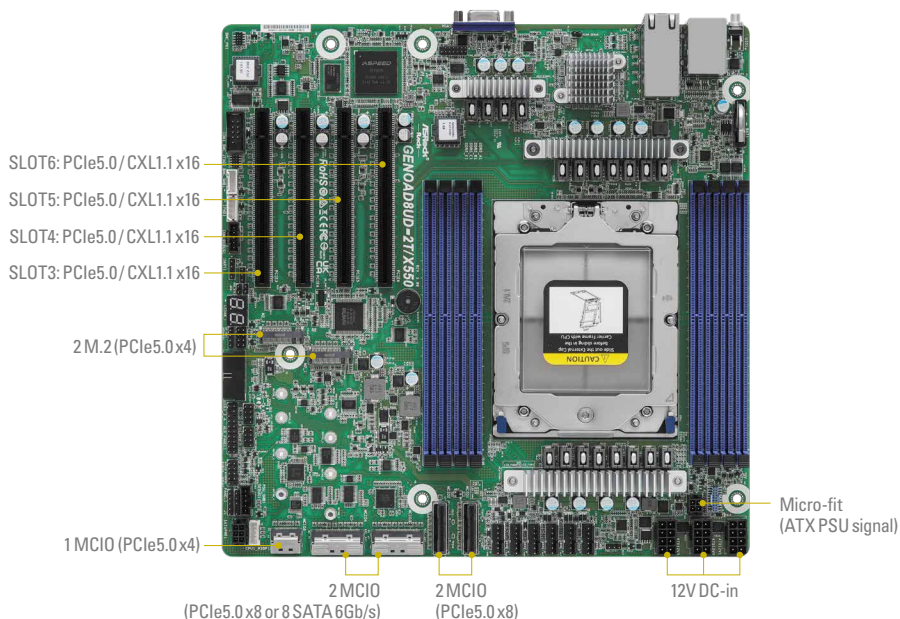
10Gbase-T



4800

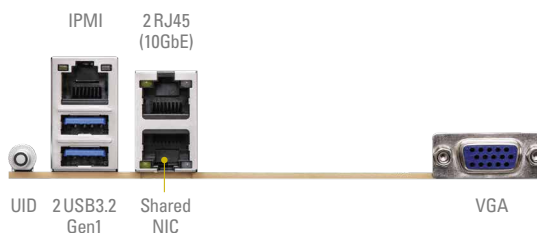


PCI-E5.0



Application

- Compact Storage Server
- Enterprise NAS
- Compact GPU Tower



GENOAD8UD-2T/X550

| | | |
|-------------------------|----------------|---|
| Power source | | Supports ATX PSU and 12V DC-in |
| Form Factor | | 10.4" x 10.5" |
| Processor System | CPU | 1 Socket SP5 (SM-LGA-6096); Supports AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| | FCH | System on chip |
| Memory | Capacity | 8 DDR5 288-pin DIMM Slots (1DPC); Supports RDIMM, RDIMM-3DS RDIMM: up to 64GB (2R), max. 4800MHz; 3DS RDIMM: up to 512GB (2S8RX4), max. 4800MHz |
| Expansion | PCIe slot | SLOT6: PCIe5.0 / CXL1.1 x16 SLOT5: PCIe5.0 / CXL1.1 x16 SLOT4: PCIe5.0 / CXL1.1 x16 SLOT3: PCIe5.0 / CXL1.1 x16 |
| | Others | 2 MCI0 (PCIe5.0 x8) 2 MCI0 (PCIe5.0 x8 or 8 SATA 6Gb/s) 1 MCI0 (PCIe5.0 x4) |
| Storage | M.2 | 2 M-key (PCIe5.0 x4), supports 2280/2260/2242/2230 form factor |
| | SATA port | 16 SATA 6 Gb/s: 2 MCI0 |
| Network | RJ45 | 2 RJ45 (10GbE) by Intel® X550 ^{Note1} |
| Management | BMC | ASPEED AST2600 |
| | Dedicated IPMI | 1 RJ45 via Realtek RTL8211F |
| I/O | USB | 4 USB3.2 Gen1 ports: 2 rear Type-A, 2 via 19-pin header |
| | COM port | 1 (9-pin) header |
| | Video | 1 DB15 (VGA) |
| Security | TPM | Supports 13-pin (SPI) TPM modules |

Note1: R1.00 for LAN chip Intel® X710, R5.00 for LAN chip Intel® X550

GENOAD8X-2T/BCM



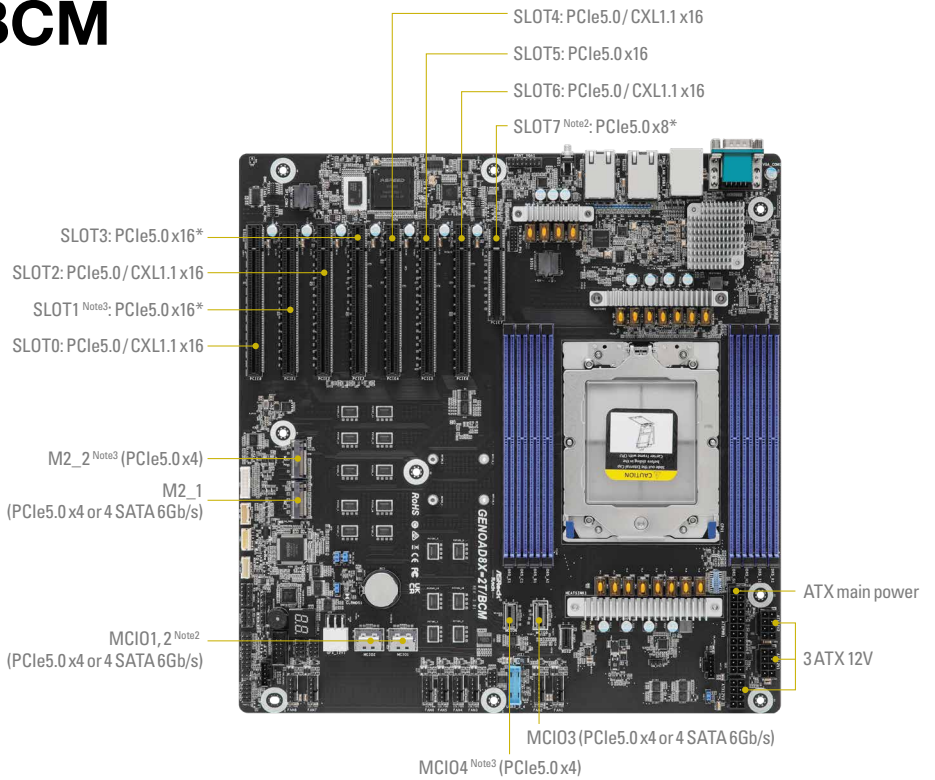
10Gbase-T



4800

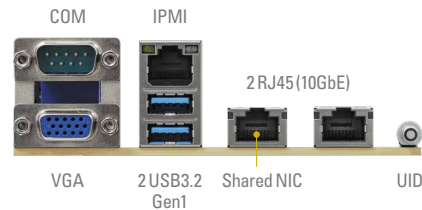


PCI-E5.0



Application

- Mainstream Server/Workstation
- Web Hosting



GENOAD8X-2T/BCM

| | | |
|-------------------------|----------------|---|
| Form Factor | | EEB (12.63" x 13") ^{Note1} |
| Processor System | CPU | 1 Socket SP5 (SM-LGA-6096); Supports AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| | FCH | System on chip |
| Memory | Capacity | 8 DDR5 288-pin DIMM Slots (1DPC); Supports RDIMM, RDIMM-3DS, max. 4800MHz |
| Expansion | PCIe slot | SLOT7 ^{Note2} : PCIe5.0 x8 SLOT6, 4, 2, 0: PCIe5.0/ CXL1.1 x16 SLOT5, 3: PCIe5.0 x16 SLOT1 ^{Note3} : PCIe5.0 x16 |
| | Others | MCI01, 2 ^{Note2} (PCIe5.0 x4 or 4 SATA 6Gb/s) MCI03 (PCIe5.0 x4 or 4 SATA 6Gb/s) MCI04 ^{Note3} (PCIe5.0 x4) |
| Storage | M.2 | M2_1 (PCIe5.0 x4 or SATA 6Gb/s), supports 22110/2280 form factor, M2_2 ^{Note3} (PCIe5.0 x4), supports 22110/2280 form factor |
| | SATA port | 13 SATA 6Gb/s: 3 MCI0, 1 M.2 |
| Network | RJ45 | 2 RJ45 (10GbE) by Broadcom BCM57416 |
| Management | BMC | ASPEED AST2600 |
| | Dedicated IPMI | 1 RJ45 via Realtek RTL8211F |
| I/O | USB | 4 USB3.2 Gen1 ports: 2 rear Type-A, 2 via 19-pin header |
| | COM port | 1 DB9 (COM), 1 (9-pin) header |
| | Video | 1 DB15 (VGA) |
| Security | TPM | Supports 13-pin (SPI) TPM modules |

Note1: Extend 10.1mm left and 6mm right

Note2: SLOT7 share lanes with MCI01 and MCI02. When SLOT7 occupied, MCI01 will not function and MCI02 can be enabled by jumper setting. When selecting MCI02, SLOT7 will switch to PCIe4.

Note3: SLOT1 shared lanes with MCI04 and M2_2. SLOT1 auto-switch to PCIe5.0 x8 when either MCI04 or M2_2 populated.

* Via re-drivers.

BERGAMOD8-2L2T



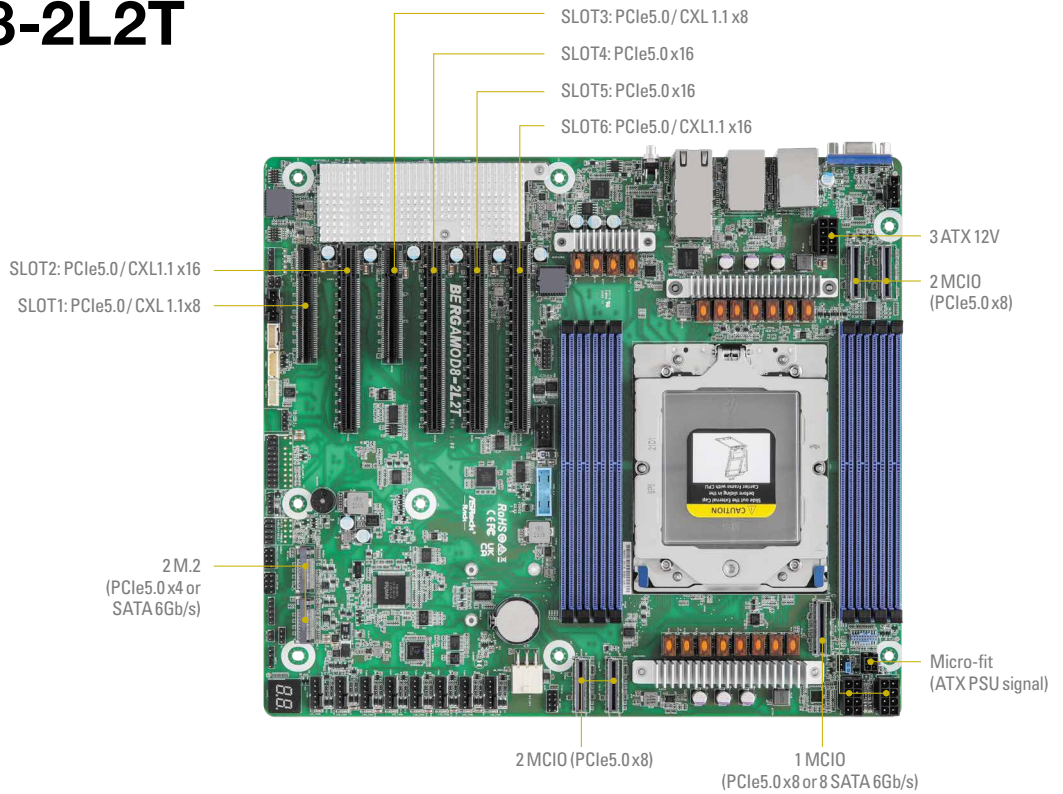
10Gbase-T



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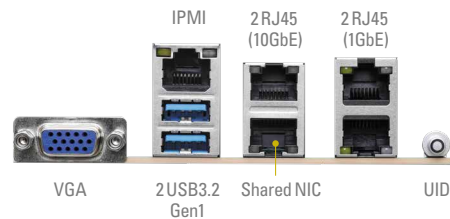


PCI-E 5.0



Application

- Mainstream Server/Workstation
- Web Hosting



BERGAMOD8-2L2T

| | | |
|-------------------------|----------------|--|
| Form Factor | | CEB (12" x 10.5") |
| Processor System | CPU | 1 Socket SP5 (SM-LGA-6096) Supports AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| | FCH | System on chip |
| Memory | Capacity | 8 DDR5 288-pin DIMM Slots (1DPC); Supports RDIMM, RDIMM-3DS, max. 4800MHz |
| Expansion | PCIe slot | SLOT6, 2: PCIe5.0/ CXL1.1 x16 SLOT5: PCIe5.0x16 SLOT4: PCIe5.0x16 SLOT3, 1: PCIe5.0/ CXL1.1 x8 |
| | Others | 1 MCIO (PCIe5.0 x8 or 8 SATA 6Gb/s) 4 MCIO (PCIe5.0 x8) |
| Storage | M.2 | 1 M-key (PCIe5.0 x4 or SATA 6Gb/s), supports 2280 form factor 1 M-key (PCIe5.0 x4 or SATA 6Gb/s), supports 22110/2280 form factor |
| | SATA port | 10 SATA 6Gb/s: 1 MCIO, 2 M.2 |
| Network | RJ45 | 2 RJ45 (10GbE) by Intel X710-AT2 2 RJ45 (1GbE) by Intel i210 |
| Management | BMC | ASPEED AST2600 |
| | Dedicated IPMI | 1 RJ45 via Realtek RTL8211F |
| I/O | USB | 4 USB3.2 Gen1 ports: 2 rear Type-A, 2 via 19-pin header |
| | COM port | 1 (9-pin) header |
| | Video | 1 DB15 (VGA) |
| Security | TPM | Supports 13-pin (SPI) TPM modules |

GENOAD8QM3-2T/BCM



Storage



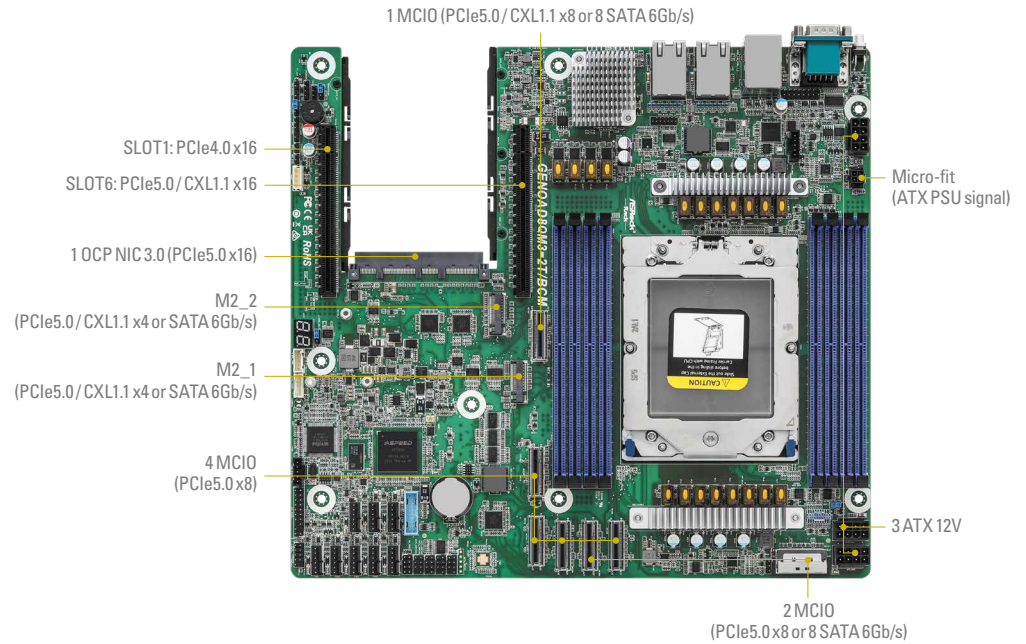
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PCI-E 5.0

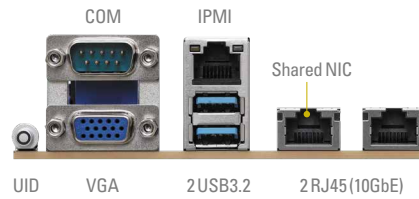


OCP NIC 3.0



Application

- NVMe Storage Server
- Web Hosting
- General Purpose Server



GENOAD8QM3-2T/BCM

| | | |
|-------------------------|----------------|---|
| Form Factor | | CEB (12" x 11") |
| Processor System | CPU | 1 Socket SP5 (SM-LGA-6096); Supports AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| | FCH | System on chip |
| Memory | Capacity | 8 DDR5 288-pin DIMM Slots (1DPC); Supports RDIMM, RDIMM-3DS RDIMM: up to 64GB (2R), max. 4800MHz; 3DS RDIMM: up to 512GB (2S8RX4), max. 4800MHz |
| Expansion | PCIe slot | SLOT6: PCIe5.0/ CXL1.1 x16 SLOT1: PCIe4.0x16 |
| | Others | 1 MCIO (PCIe5.0/ CXL1.1 x8 or 8 SATA 6Gb/s) 2 MCIO (PCIe5.0 x8 or 8 SATA 6Gb/s) 4 MCIO (PCIe5.0 x8) |
| Storage | M.2 | M2_1 (PCIe5.0/ CXL1.1 x4 or SATA 6Gb/s), supports 22110/2280 form factor M2_2 (PCIe5.0/ CXL1.1 x4 or SATA 6Gb/s), supports 2280 form factor |
| | SATA port | 26 SATA 6Gb/s: 3 MCIO, 2 M.2 |
| Network | RJ45 | 2 RJ45 (10GbE) by Broadcom BCM57416 |
| | OCP NIC | 1 OCP NIC 3.0 (PCIe5.0 x16) |
| Management | BMC | ASPEED AST2600 |
| | Dedicated IPMI | 1 RJ45 via Realtek RTL8211F |
| I/O | USB | 4 USB3.2 Gen1 ports: 2 rear Type-A, 2 via 19-pin header |
| | COM port | 1 DB9 (COM) |
| | Video | 1 DB15 (VGA), 1 (15-pin) header |
| Security | TPM | Supports 13-pin (SPI) TPM modules |

GENOAD8HM3



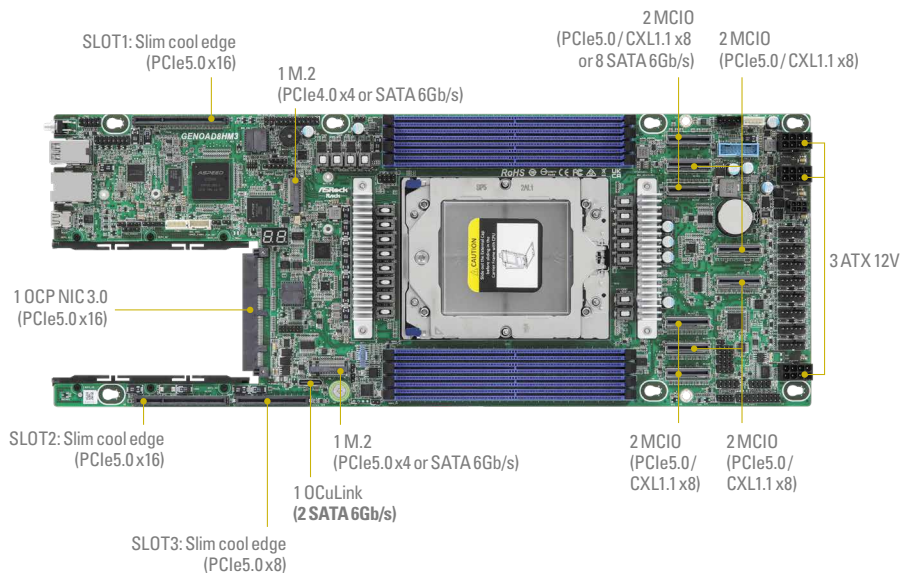
OCP NIC 3.0



PCI-E 5.0

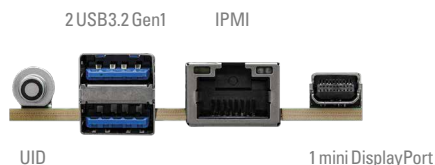


4800



Application

- Multi-node Server
- Edge Server



GENOAD8HM3

| | | |
|-------------------------|----------------|---|
| Form Factor | | Half-Width (6.6" x 17") |
| Processor System | CPU | 1 Socket SP5 (SM-LGA-6096); Supports AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| | FCH | System on chip |
| Memory | Capacity | 8 DDR5 288-pin DIMM Slots (1DPC); Supports RDIMM, RDIMM-3DS RDIMM: up to 64GB (2R), max. 4800MHz; 3DS RDIMM: up to 512GB (2S8RX4), max. 4800MHz |
| Expansion | PCIe slot | SLOT3: Slim cool edge (PCIe5.0x8) SLOT2: Slim cool edge (PCIe5.0x16) SLOT1: Slim cool edge (PCIe5.0x16) |
| | Others | 2 MCI0 (PCIe5.0/CXL1.1x8 or 8 SATA 6Gb/s) 6 MCI0 (PCIe5.0/CXL1.1x8) 1 OCuLink (2 SATA 6Gb/s) |
| Storage | M.2 | 1 M-key (PCIe5.0x4 or SATA 6Gb/s), supports 22110/2280 form factor 1 M-key (PCIe4.0x4 or SATA 6Gb/s), supports 22110/2280 form factor |
| | SATA port | 18 SATA 6Gb/s: 2 MCI0, 2 M.2 2 SATA 6Gb/s by ASM1061: 1 OCuLink |
| Network | OCP NIC | 1 OCP NIC 3.0 (PCIe5.0x16) |
| Management | BMC | ASPEED AST2600 |
| | Dedicated IPMI | 1 RJ45 via Realtek RTL8211F |
| I/O | USB | 4 USB3.2 Gen1 ports: 2 rear Type-A, 2 via 19-pin header |
| | COM port | 1 (9-pin) header |
| | Video | 1 mini DisplayPort (VGA), 1 (15-pin) header |
| Security | TPM | Supports 13-pin (SPI) TPM modules |

GENOAD12M3-2Q



4800



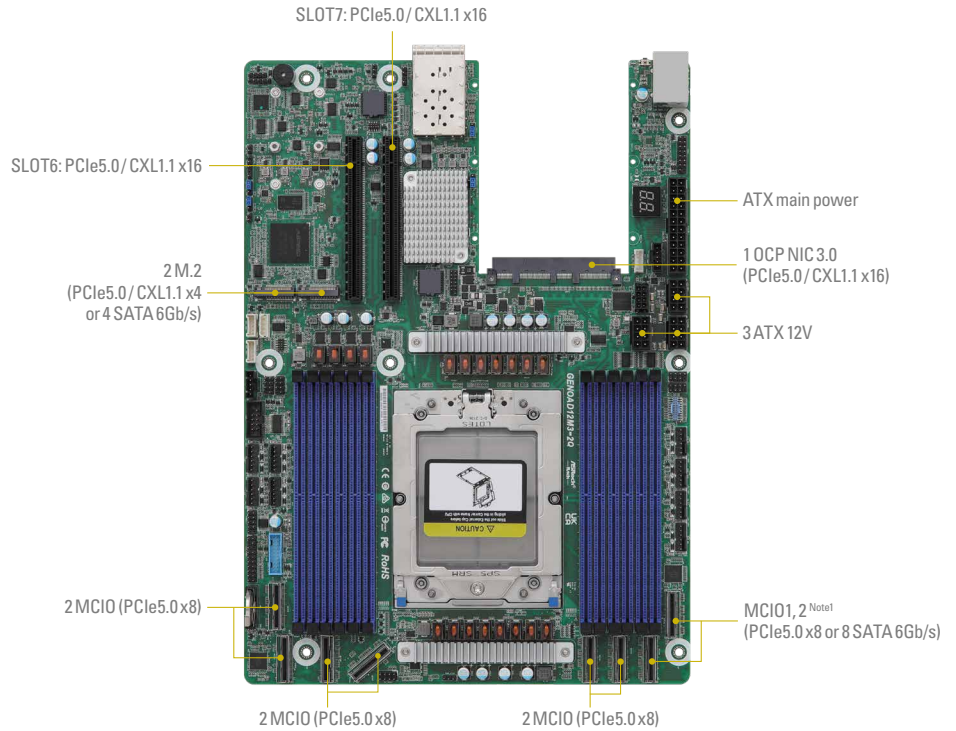
OCP NIC 3.0



SFP28



PCI-E 5.0



Application

- All-flash Storage Server
- Cloud Computing
- CSP

GENOAD12M3-2Q

| | | |
|------------------|----------------|--|
| Form Factor | | 9.6" x 13.39" |
| Processor System | CPU | 1 Socket SP5 (SM-LGA-6096) Supports AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| | FCH | System on chip |
| Memory | Capacity | 12 DDR5 288-pin DIMM Slots (1DPC); Supports RDIMM, RDIMM-3DS, max. 4800MHz |
| | PCIe slot | SLOT7: PCIe5.0/CXL1.1 x16 SLOT6: PCIe5.0/CXL1.1 x16 |
| Expansion | Others | 6 MCIO (PCIe5.0 x8) 2 MCIO (PCIe5.0 x8 or 8 SATA 6Gb/s) |
| | M.2 | 2 M-key (PCIe5.0/CXL1.1 x4 or 4 SATA 6Gb/s), supports 22110/2280/2260 form factor |
| Storage | SATA port | Up to 24 SATA 6Gb/s: 2 MCIO, 8 SATA via optional M2U2_HD_G4 M.2 device |
| | SFP28 | 2 SFP28 (25GbE) by Broadcom BCM57414 |
| Network | OCP NIC | 1 OCP NIC 3.0 (PCIe5.0/CXL1.1 x16) |
| | BMC | ASPEED AST2600 |
| Management | Dedicated IPMI | 1 RJ45 via Realtek RTL8211F |
| | USB | 4 USB3.2 Gen1 ports: 2 rear Type-A, 2 via 19-pin header |
| I/O | COM port | 1 (9-pin) header |
| | Video | 1 (15-pin) header |
| | TPM | Supports 13-pin (SPI) TPM modules |

GENOAD24QM3-2L2T/BCM



4800



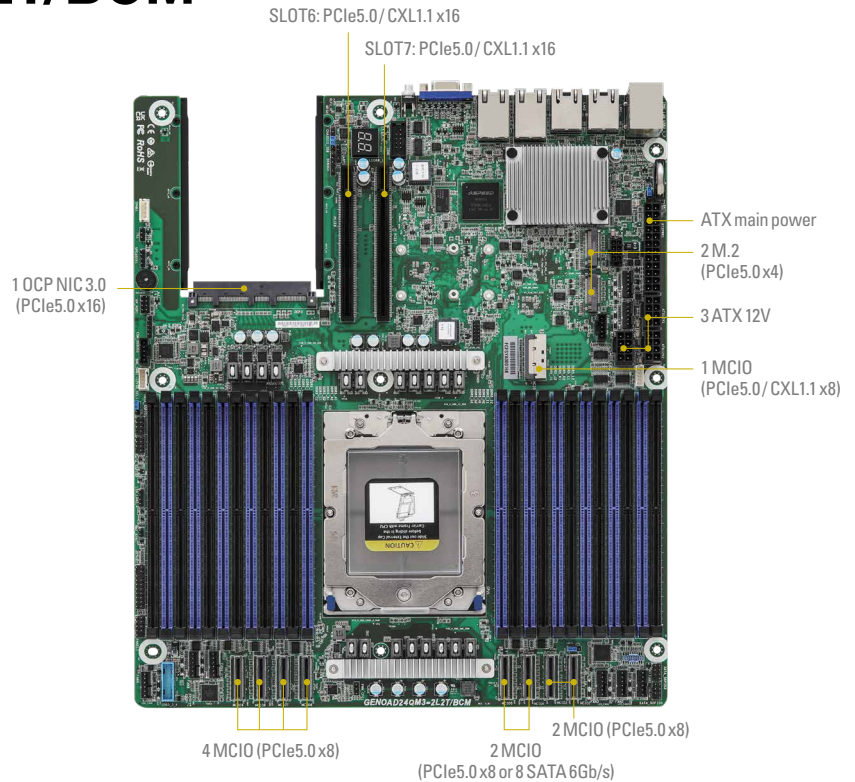
10Gbase-T



OCP NIC 3.0

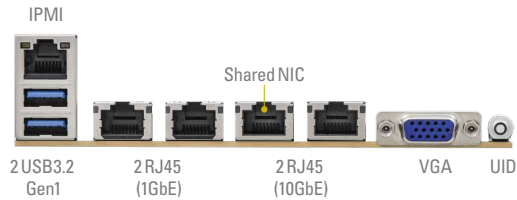


PCI-E 5.0



Application

- CSP
- All-flash Storage Server
- Cloud Computing



GENOAD24QM3-2L2T/BCM

| | | |
|-------------------------|----------------|--|
| Form Factor | | EEB (12" x 14") |
| Processor System | CPU | 1 Socket SP5 (SM-LGA-6096); Supports AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| | FCH | System on chip |
| Memory | Capacity | 24 DDR5 288-pin DIMM Slots (2DPC); Supports RDIMM, RDIMM-3DS RDIMM: up to 64GB (2R), max. 4800MHz; 3DS RDIMM: up to 512GB (2S8RX4), max. 4800MHz |
| Expansion | PCIe slot | SLOT7: PCIe5.0 / CXL1.1 x16 SLOT6: PCIe5.0 / CXL1.1 x16 |
| | Others | 1 MCIO (PCIe5.0 / CXL1.1 x8) 6 MCIO (PCIe5.0 x8) 2 MCIO (PCIe5.0 x8 or 8 SATA 6Gb/s) |
| Storage | M.2 | 2 M-key (PCIe5.0 x4 / CXL1.1 x4), supports 22110/2280/2260 form factor |
| | SATA port | 16 SATA 6 Gb/s: 2 MCIO |
| Network | RJ45 | 2 RJ45 (10GbE) by Broadcom BCM57416 ^{Note1} 2 RJ45 (1GbE) by Intel® i210 |
| | OCP NIC | 1 OCP NIC 3.0 (PCIe5.0 / CXL1.1 x16) |
| Management | BMC | ASPEED AST2600 |
| | Dedicated IPMI | 1 RJ45 via Realtek RTL8211F-CG |
| I/O | USB | 4 USB3.2 Gen1 ports: 2 rear Type-A, 1 via 19-pin header |
| | COM port | 1 (9-pin) header |
| | Video | 1 DB15 (VGA) |
| Security | TPM | Supports 13-pin (SPI) TPM modules |

Note1: R1.00 for LAN chip Intel® X710, R3.00 for LAN chip Broadcom BCM57416

GENOA2D16NQM3-2Q



4800



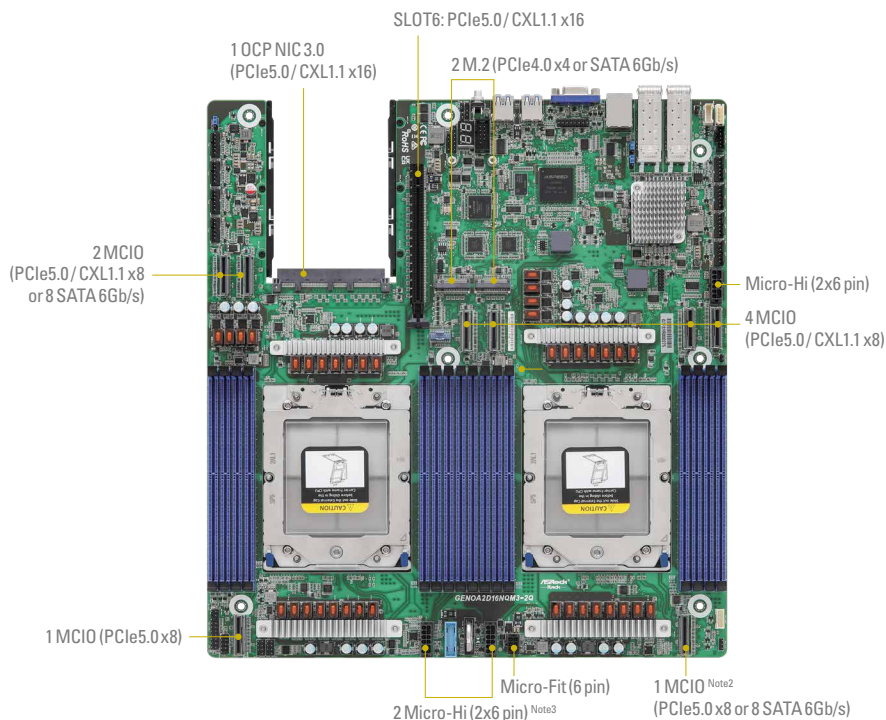
OCP NIC 3.0



SFP28



PCI-E 5.0



Application

- Software-defined application
- HCI



GENOA2D16NQM3-2Q

| | | |
|-------------------------|----------------|---|
| Form Factor | | EEB (12.82" X 14") ^{Note1} |
| Processor System | CPU | 1+1 Socket SP5 (SM-LGA-6096); Supports AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors |
| | FCH | System on chip |
| Memory | Capacity | 8+8 DDR5 288-pin DIMM Slots (1DPC); Supports RDIMM, RDIMM-3DS RDIMM: up to 64GB (2R), max. 4800MHz 3DS RDIMM: up to 512GB (2S8RX4), max. 4800MHz |
| Expansion | PCIe slot | SLOT6: PCIe5.0/CXL1.1 x16 [CPU1] |
| | Others | 4 MCIO (PCIe5.0/CXL1.1 x8) [CPU0] 1 MCIO (PCIe5.0 x8 or 8 SATA 6Gb/s) [CPU0] ^{Note2} 2 MCIO (PCIe5.0/CXL1.1 x8 or 8 SATA 6Gb/s) [CPU1] 1 MCIO (PCIe5.0 x8) [CPU1] |
| Storage | M.2 | 2 M-key (PCIe4.0 x4 or SATA 6Gb/s), supports 2280 form factor [CPU0] |
| | SATA port | Up to 18 SATA 6 Gb/s: 2 MCIO, 2 M.2 |
| Network | SFP28 | 2 SFP28 (25GbE) by Broadcom BCM57414 |
| | OCP NIC | 1 OCP NIC 3.0 (PCIe5.0/CXL1.1 x16) [CPU1] |
| Management | BMC | ASPEED AST2600 |
| | Dedicated IPMI | 1 RJ45 via Realtek RTL8211F |
| I/O | USB | 4 USB3.2 Gen1 ports: 2 rear Type-A, 2 via 19-pin header [CPU1] |
| | COM port | 1 (9-pin) header |
| | Video | 1 DB15 (VGA), 1 (15-pin) header |
| Security | TPM | Supports 13-pin (SPI) TPM modules |

Note1: Extend 10.1mm left and 10.7mm right

Note2: MCIO from CPU0 support PCIe only while installing 2 processors

GENOA2D24TM3-2L+



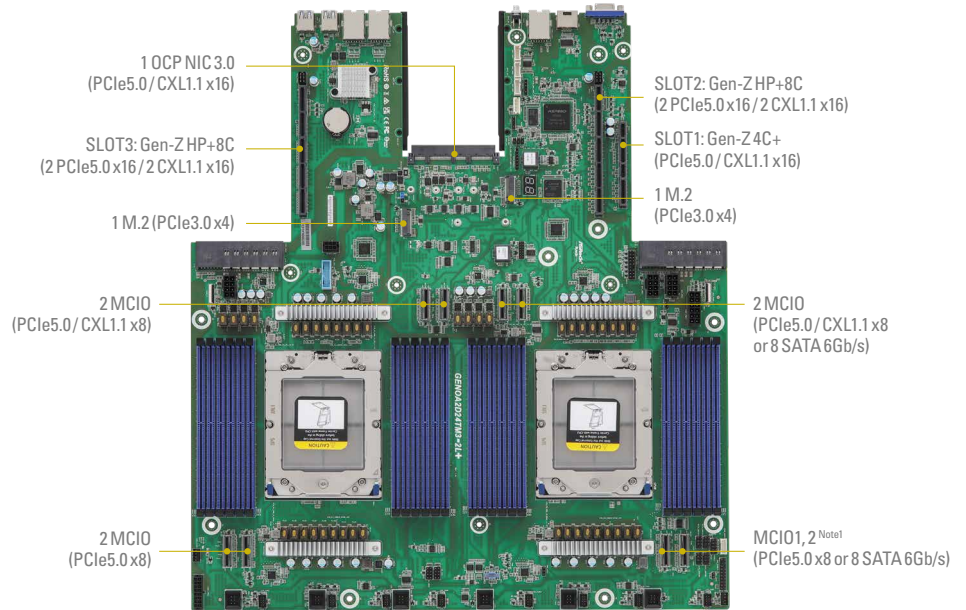
OCP NIC 3.0



PCI-E 5.0



4800



Application

- Software-defined application
- E-commerce
- HCI



GENOA2D24TM3-2L+

| | | |
|-------------------------|--------------------------|---|
| Form Factor | | Proprietary T-shape (17.0149" x 18.8607") |
| Processor System | CPU FCH | 1+1 Socket SP5 (SM-LGA-6096); Supports AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors System on chip |
| Memory | Capacity | 12+12 DDR5 288-pin DIMM Slots (1DPC); Supports RDIMM, RDIMM-3DS RDIMM: up to 64GB (2R), max. 4800MHz 3DS RDIMM: up to 512GB (2S8RX4), max. 4800MHz |
| Expansion | PCIe slot Others | SLOT3: Gen-Z HP+8C (2 PCIe5.0 x16 / 2 CXL1.1 x16) [CPU1] SLOT2: Gen-Z HP+8C (2 PCIe5.0 x16 / 2 CXL1.1 x16) [CPU0] SLOT1: Gen-Z 4C+ (PCIe5.0 / CXL1.1 x16) [CPU0] M.2IO1, 2 (PCIe5.0 x8 or 8 SATA 6Gb/s) [CPU0] ^{Note1} 2 M.2IO (PCIe5.0 / CXL1.1 x8 or 8 SATA 6Gb/s) [CPU0] 2 M.2IO (PCIe5.0 / CXL1.1 x8) [CPU1] 2 M.2IO (PCIe5.0 x8) [CPU1] |
| Storage | M.2 SATA port | 1 M-key (PCIe3.0 x4), supports 2280/2260/2242/2230 form factor [CPU0] 1 M-key (PCIe3.0 x4), supports 2280/2242 form factor [CPU1] Up to 32 SATA 6 Gb/s: 4 M.2IO |
| Network | RJ45 OCP NIC | 2 RJ45 (1GbE) by Intel® i350 1 OCP NIC 3.0 (PCIe5.0 / CXL1.1 x16) [CPU1] |
| Management | BMC Dedicated IPMI | ASPEED AST2600 1 RJ45 via Realtek RTL8211F |
| I/O | USB COM port Video | 4 USB3.2 Gen1 ports: 2 rear Type-A, 1 via 26-pin header, 1 via 19-pin header 1 RJ45 (COM) 1 DB15 (VGA) |
| Security | TPM | Supports 13-pin (SPI) TPM modules |

Note1: M.2IO1 and M.2IO2 support PCIe only while installing 2 processors

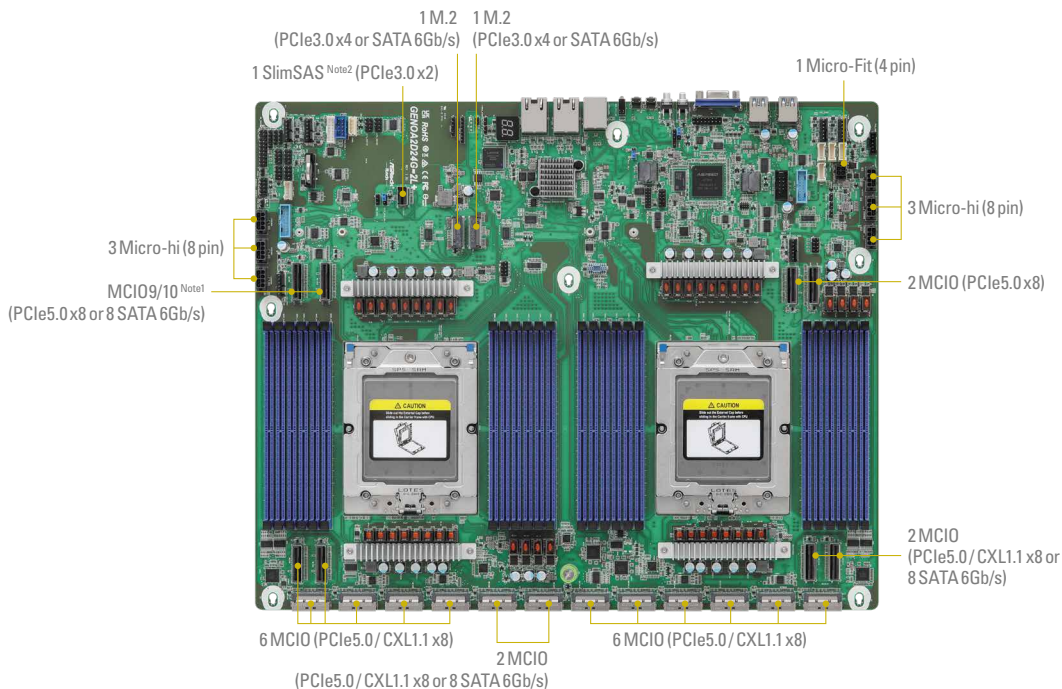
GENOA2D24G-2L+



4800

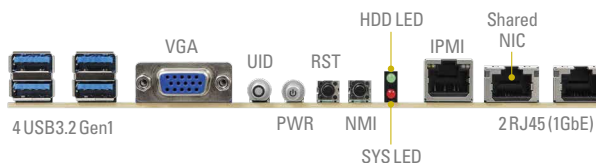


PCI-E 5.0



Application

- All-flash Storage Server
- GPGPU Computing
- High-end Network Appliance



GENOA2D24G-2L+

| | | |
|-------------------------|--------------------------|---|
| Form Factor | | Proprietary (16.93" x 13.78") |
| Processor System | CPU FCH | 1+1 Socket SP5 (SM-LGA-6096); Supports AMD EPYC™ 9004 (with AMD 3D V-Cache™ Technology) and 97x4 series processors System on chip |
| Memory | Capacity | 12+12 DDR5 288-pin DIMM Slots (1DPC); Supports RDIMM, LRDIMM, RDIMM-3DS RDIMM: up to 64GB (2R), max. 4800MHz 3DS RDIMM: up to 512GB (2S8RX4), max. 4800MHz |
| Expansion | Others | 6 MCIO (PCIe5.0/CXL1.1 x8) [CPU0] 2 MCIO (PCIe5.0/CXL1.1 x8 or 8 SATA 6Gb/s) [CPU0] 2 MCIO (PCIe5.0 x8 or 8 SATA 6Gb/s) [CPU0] ^{Note1} 6 MCIO (PCIe5.0/CXL1.1 x8) [CPU1] 2 MCIO (PCIe5.0/CXL1.1 x8 or 8 SATA 6Gb/s) [CPU1] 2 MCIO (PCIe5.0 x8) [CPU1] 1 SlimSAS (PCIe3.0 x2) [CPU0] ^{Note2} |
| Storage | M.2 SATA port | M2_1 (PCIe3.0 x4 or SATA 6Gb/s), supports 22110/2280 form factor [CPU0] M2_2 (PCIe3.0 x4 or SATA 6Gb/s), supports 22110/2280 form factor [CPU1] 32 SATA 6 Gb/s: 4 MCIO 2 SATA 6Gb/s by ASM1061: 2 M.2 |
| Network | RJ45 | 2 RJ45 (1GbE) by Intel® i350 |
| Management | BMC Dedicated IPMI | ASPEED AST2600 1 RJ45 via Realtek RTL8211F |
| I/O | USB COM port Video | 8 USB3.2 Gen1 ports: 4 rear Type-A, 4 via 19-pin headers 1 (9-pin) header 1 DB15 (VGA), 1 (15-pin) header |
| Security | TPM | Supports 13-pin (SPI) TPM modules |

Note1: MCIO9, 10 support PCIe only while installing 2 processors

Note2: SlimSAS (by jumper setting):

PCIe3.0 x2 when M2_1 supports only PCIe3.0 x2 or SATA 6Gb/s

No function when M2_1 supports PCIe3.0 x4 or SATA 6Gb/s



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