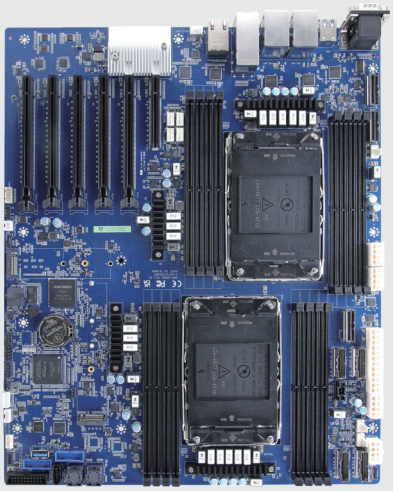
HPM-GNRDE

Dual Intel®Xeon® 6 Processor EATX Server Board
with IPMI2.0. Processor supports up to 350W TDP



Features

- Dual Intel LGA4710 Sockets support Intel® Xeon® 6 6500P/6700P/6700E series Processor (Max. TDP at 350W each)
- 16 x DDR5 6400 MHz RDIMM & 8000 MHz MRDIMM up to 4TB
- TPM 2.0 onboard
- IPMI 2.0 with AST 2600 BMC controller onboard
- 2 x Intel I210AT 1GbE controllers
- 1 x Intel E610-XAT2 10GbE controller supports 2 x 10GbE Ethernet ports
- 9 x SATA III (2 x MiniSAS HD 4i (for 4x SATA Only) & 1 x 7 pin SATA connector)
- 1 x RS232 port, 6 x USB 3.2 Gen2 ports at Edge I/O
- 1 x M.2 M-Key slots PCIe 5.0 x4 NVMe SSD,2242/2260/2280/22110 form factor
- 1 x M.2 M-Key slots PCIe 5.0 x4 NVMe SSD,2242/2260/2280 form factor



Intel®Xeon® 6 Processor | 16 x DDR5 RDIMM 6400MHz & MRDIMM 8000MHz | IPMI 2.0 Supported | 10GbE | PCIe Gen5 Multiple Expansion

Specifications

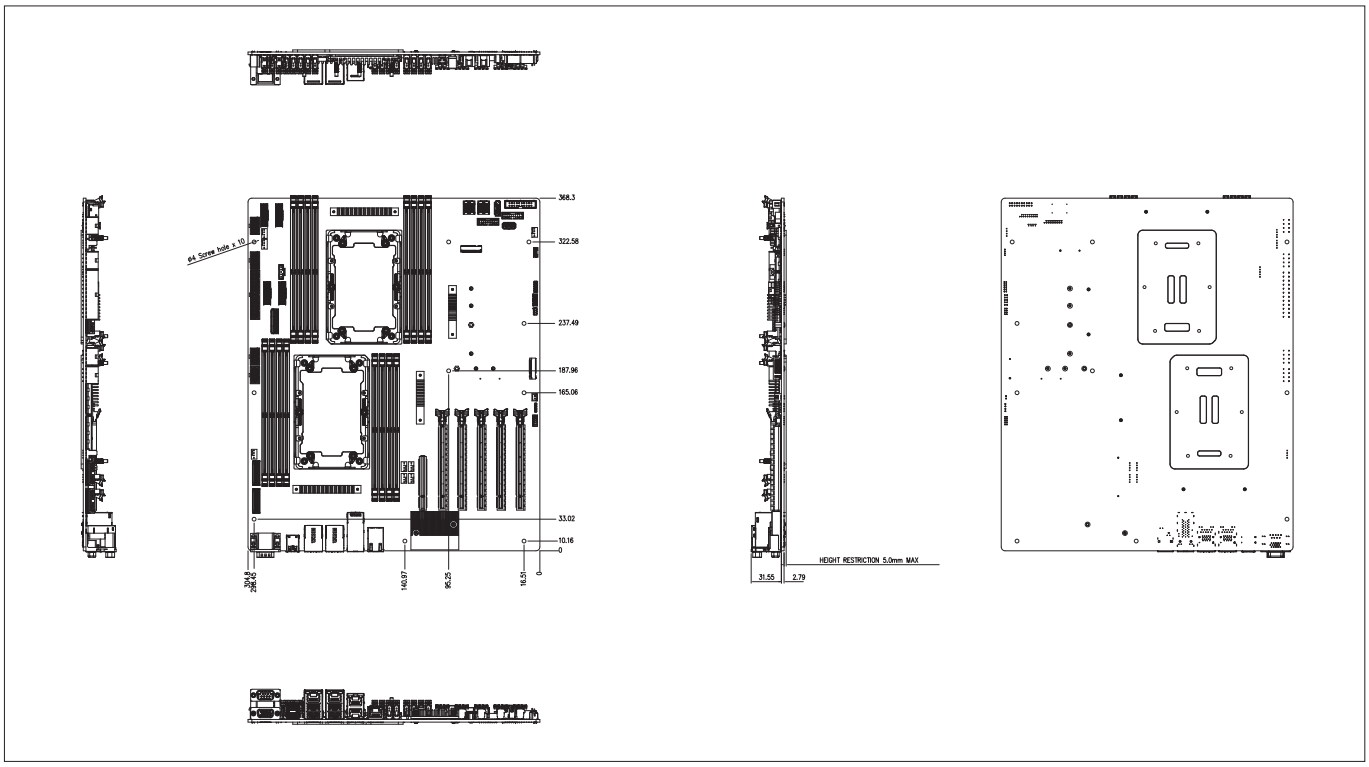
System Information	
Processor	Dual Intel LGA4710 Sockets support Intel® Xeon® 6 6500P/6700P/6700E series Processor (Max. TDP at 350W each)
System Memory	16 x DDR5 6400 MHz RDIMM & 8000 MHz MRDIMM Up to 4TB
Watchdog Timer	System reset event 0 ~ 6553 seconds
BIOS	AMI UEFI BIOS
H/W Status Monitor	CPU temperature Fan speed and voltage monitoring Fan speed control Case open detection
TPM	TPM 2.0 onboard
IPMI	IPMI 2.0 with AST 2600 BMC controller onboard
Rear I/O	
USB	6 x USB 3.2 Gen2 ports
COM Port	1 x RS232 port
RJ-45	5 x RJ45 MGMT port for dedicated IPMI access only LAN1 port for 1GbE shared with IPMI access LAN2 port for 1GbE LAN3 and 4 ports for 10GbE
VGA	1 x VGA port
Display	
Graphic Chipset	AST2600 BMC controller
Resolution	1 x VGA port VGA: 1920 x 1200 @ 60Hz 32bpp
Expansion	
Expansion	5 x PCIe Gen5 x16 slots & 1 x PCIe Gen5 x8 slot Slot 1, PCIe 5.0 x16 from 1st CPU Slot 2, PCIe 5.0 x16 from 2nd CPU Slot 3, PCIe 5.0 x16 from 2nd CPU Slot 4, PCIe 5.0 x16 from 2nd CPU Slot 5, PCIe 5.0 x16 from 2nd CPU Slot 6, PCIe 5.0 x8 from 1st CPU(Slot 7 is the slot closest to CPU)
Storage	
M.2	1 x M.2 M-Key slots to support 1 x PCIe 5.0 x4 NVMe SSD from 1st CPU 2242/2260/2280/22110 form factor 1 x M.2 M-Key slots to support 1 x PCIe 5.0 x4 NVMe SSD from 1st CPU 2242/2260/2280 form factor

I/O	
USB	4 x Internal USB 3.2 Gen1 ports 1 x Internal USB 3.2 Gen1 type A receptacle
SATA	9 x SATA III (2 x Mini-SAS HD 4i (for 4 xSATA only) & 1 x 7pin SATA connector)
Serial	1 x Internal RS232 port *(S/W disable, only supported Ubuntu 24.02 if enable function)
Other	4 x Slim SAS 8i (SFF-8654) connectors (from 1st CPU) 3 x MCIO x8 connectors (SFF-TA-1016) (from 2nd CPU)
CMOS Battery	1 x Horizontal Socket Type CMOS Battery Holder with CR2450
Ethernet	
LAN Chipset	2 x Intel I210AT 1GbE controllers 1 x Intel E610-XAT2 10GbE controller supports 2 x 10GbE Ethernet ports
LAN Port	5 x RJ45 MGMT port for dedicated IPMI access only LAN1 port for 1GbE shared with IPMI access LAN2 port for 1GbE LAN3 and 4 ports for 10GbE
Mechanical & Environmental	
Operating Temp.	0 ~ 50°C (32 ~ 122°F) to support up to 350W TDP CPU 0 ~ 50°C (32 ~ 122°F) to support up to 270W TDP CPU
Storage Temp.	-40 °C to 85 °C
Operating Humidity	40°C 95% non-condensing
Power Connector	1 x Std. 24 Pin ATX connector 4 x 8 Pin SSI 12V connectors
Dimension (L x W)	12" x 13.974" (304.8mm x354.94mm), PCB thickness is 2.8mm
Software Support	
OS	Windows 11 SAC and LTSC Windows Server 2025 Ubuntu Red Hat Enterprise Linux (RHEL)

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Mechanical Drawing



Ordering Information

Model Name	P/N	CPU	Chipset	Memory	PCIe Slot	10GbE/2.5GbE/1GbE	M.2	USB 3.2 Gen2/USB 3.2 Gen1/USB 2.0	TPM 2.0
HPM-GNRDE	HPM-GNRDEA-A1R	2	NA	16	6	2/0/2	2	8/3/0	1
HPM-GNRDE	HPM-GNRDEL-A1R	2	NA	16	6	0/0/2	2	8/3/0	1

Packing List

Item	P/N	Quantity
HPM-GNRDE motherboard	HPM-GNRDEA-A1R	1
HPM-GNRDEA I/O shield	E195BKHPNRDE00R	1
LGA4710 CPU carrier-E2B	E199TR00082R	2

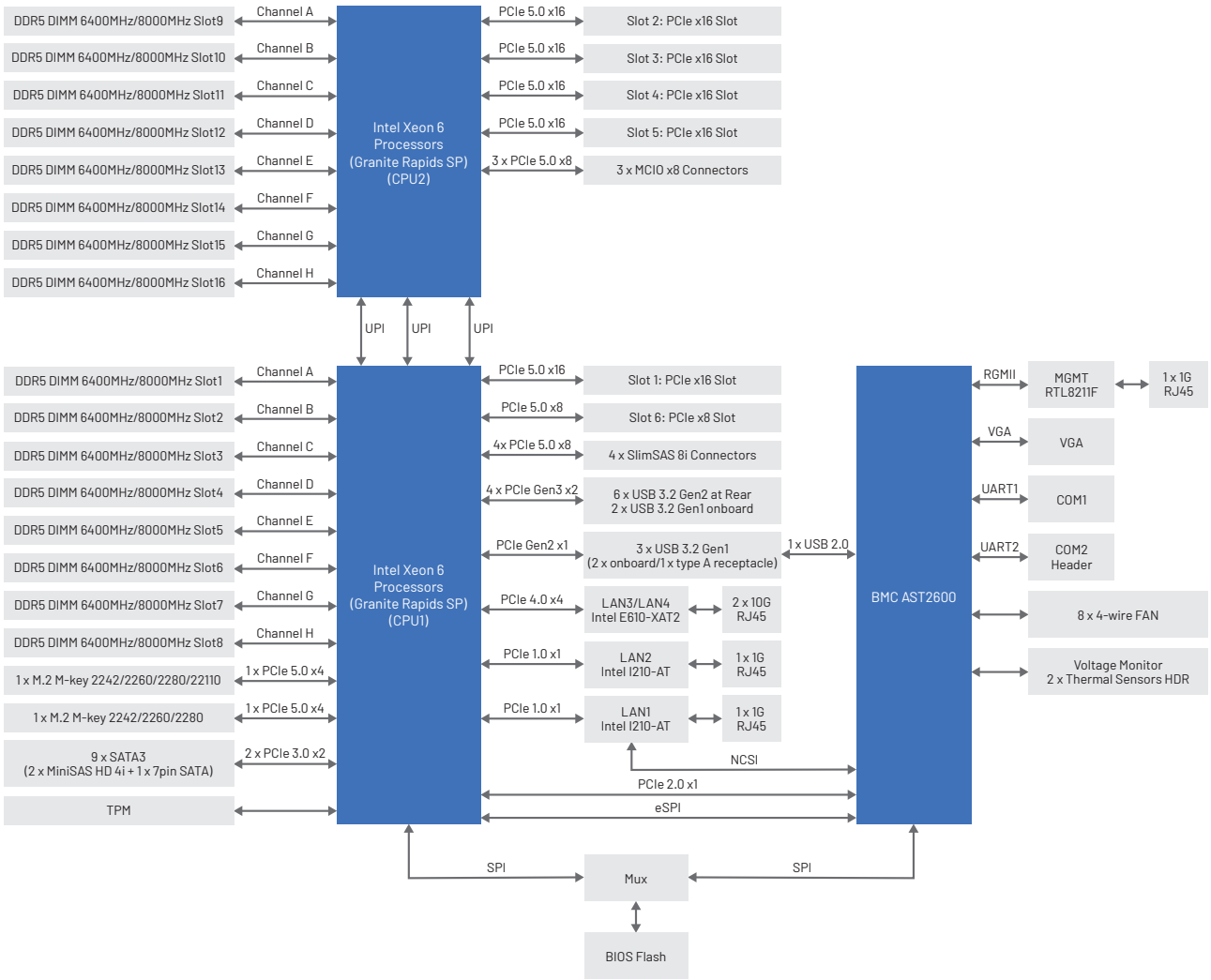
CPU Support List (HPC Only)

SKU	Launch Date	# of Cores	# of Threads	Processor Base Frequency	Max Turbo Frequency	TDP (W)
Intel® Xeon® 6740P	Q1,25	48	96	2.1 GHz	3.8 GHz	270
Intel® Xeon® 6781P *(Only single socket use)	Q1,25	80	160	2.0 GHz	3.8 GHz	350
Intel® Xeon® 6530P	Q1,25	32	64	2.3 GHz	4.1 GHz	225
Intel® Xeon® 6520P	Q1,25	24	48	2.4 GHz	4.0 GHz	210
Intel® Xeon® 6731P *(Only single socket use)	Q1,25	32	64	2.5 GHz	4.1 GHz	245
Intel® Xeon® 6521P *(Only single socket use)	Q1,25	24	48	2.6 GHz	4.1 GHz	225
Intel® Xeon® 6736P	Q1,25	36	72	2.0 GHz	4.1 GHz	205
Intel® Xeon® 6517P	Q1,25	16	32	3.2 GHz	4.2 GHz	190
Intel® Xeon® 6515P	Q1,25	16	32	2.3 GHz	3.8 GHz	150
Intel® Xeon® 6505P	Q1,25	12	24	2.2 GHz	4.1 GHz	150
Intel® Xeon® 6780E	Q2'24	144	144	2.2 GHz	3.0 GHz	330
Intel® Xeon® 6766E	Q2'24	144	144	1.9 GHz	2.7 GHz	250
Intel® Xeon® 6756E	Q2'24	128	128	1.8 GHz	2.6 GHz	225
Intel® Xeon® 6740E	Q2'24	96	96	2.4 GHz	3.2 GHz	250
Intel® Xeon® 6710E	Q2'24	64	64	2.4 GHz	3.2 GHz	205

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Block Diagram



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I/O Overview

