

Apogean



Apogean Intel Xeon Scalable 3rd Gen 4U2S 10 GPU HPC Server w/12 LFF ID144U-S3-7129-T

Key Features

- 2S Intel Ice Lake SP CPU
- 32 DIMM slots w/ DDR4 3200 memory support
- 2 PLX 88096 PCIe 4.0 switch deployed
- 10 double wide PCIe 4.0 x16 + 3 PCIe 4.0 x16 slots
- 2 NVMe M.2 2280 slots
- 12 3.5" SATA w/ opt. 4 NVMe U.2 hot swap, tool less drive bays
- Hot swap redundant fans and PSU
- 1 PCIe 4.0 x16 OCP v3.0 LAN mezzanine slot

Apogean

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Specifications

System

Form Factor	4U Rackmount
Dimension (D x W x H)	32.68" x 17.26" x 6.9" (830 x 438.4 x 176mm)

Front Panel

Buttons	(1) UID / (1) PWR w/ LED / (1) RST
LED's	HDD / (1) ID / (1) System Event / (2) LAN activity
I/O Ports	(2) USB 3.0 ports / (1) COM Port / (1) VGA port

External Drive Bay

Q'ty / Type	(12) 3.5"/2.5" Hot-Swap HDD/SSDs w/ (4) NVMe
Front Drive Bay Interface	(12) SATA 6Gb/s with (4) NVMe ports
Front HDD Backplane Support	SAS 12Gb/s /SATA 6Gb/s /NVMe

System Cooling Configuration

FAN	(8) hot-swappable 8cm fans
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Power Supply

Type	CRPS
Input Range	AC 100-127V/14A / AC 200-240V/15.5A
Frequency	50/60 Hz
Output Watts	3,000 Watts (100-127Vac input) / 4,800 Watts (200-240Vac input)
Efficiency	80 plus Platinum
Redundancy	3+1

Processor

Q'ty / Socket Type	(2) LGA4189
Supported CPU Series	3rd Gen. Intel Xeon Scalable Processor
Thermal Design Power Wattage	Max up to 270W (TDP)
System Bus	Up to 11.2/10.4 GT/s with Intel Ultra Path Interconnect (UPI) support

Chipset

PCH	Intel C621A
Switch IC	(2) PLX PEX88096

CPU-GPU Link Topology

Dual-root	All GPU Connected to CPU's evenly
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Memory

Supported DIMM Qty	(16)+(16) DIMM slots
DIMM Type / Speed	DDR4 ECC RDIMM/RDIMM 3DS/LRDIMM/ LRDIMM 3DS 3200
Capacity	Up to 4,096GB RDIMM/ 8,192GB LRDIMM/ 8,192GB RDIMM 3DS/LRDIMM 3DS
Memory channel	8 Channels per CPU / 2 DIMM slots per Channel
Memory voltage	1.2V

Expansion Slots

Riser Card (PCIe Gen.4)	(2) riser card for (2) PCIe Gen.4 x16 slots (left)
Others	(1) PCIe Gen.4 x16 OCP 3.0 slot for mezz. w/ pull tab
Physical Dimension Abbreviation	FH/FL (Full-height / Full-length): 4.4" x 12.3" (111.2 x 312mm)

LAN

Q'ty / Port	(1) GbE dedicated for IPMI
PHY	Realtek RTL8211E

Storage SATA

Connector	(3) SFF-8643 for (12) front SATA drives
Controller	Intel C621A
Speed	6Gb/s
RAID	RAID 0/1/10/5 (Intel RSTe)

Storage NVMe

Connector (M.2)	(1) 2280 (by PCIe 3.0 x4) M.2 slot on MB / (1) 2280 (by PCIe 4.0 x1) M.2 slot on PCIe I/O board
Connector (U.2)	(2) SFF-8654 for (4) NVMe ports

Graphic

Connector type	D-Sub 15-pin
Resolution	Up to 1920x1200
Chipset	Aspeed AST2600

I/O Ports

USB	(2) USB3.0 ports (@ front) / (2) USB3.0 ports (@ rear) (from M7129F83A-RIO)
COM	(1) DB-9 COM port
VGA	(1) D-Sub 15-pin port
RJ-45	(1) GbE port dedicated for IPMI

TPM (Optional)

TPM Support	Please refer to our TPM supported list.
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System Monitoring

Chipset	Aspeed AST2600
Temperature	Monitors temperature for CPU & memory & system environment
Voltage	Monitors voltage for CPU, memory, chipset & power supply
LED	Over temperature warning indicator/ Fan & PSU fail LED indicator/ Over voltage warning indicator

Server Management

Onboard Chipset	Onboard Aspeed AST2600
AST2600 iKVM Feature	24-bit high quality video compression / Supports storage over IP and remote platform-flash / USB 2.0 virtual hub
AST2600 IPMI Feature	IPMI 2.0 compliant baseboard management controller (BMC) / 10/100/1000 Mb/s MAC interface

BIOS

Brand / ROM size	AMI / 32MB
Feature	Hardware Monitor / Boot from USB device/PXE via LAN/Storage / Console Redirection / User Configurable FAN PWM Duty Cycle / SMBIOS 3.0/PnP/Wake on LAN / ACPI 6.1 / ACPI sleeping states S4,S5

Operating Environment

Operating Temp.	10° C ~ 35° C (50° F ~ 95° F)
Non-operating Temp.	- 40° C ~ 70° C (-40° F ~ 158° F)
In/Non-operating Humidity	90%, non-condensing at 35° C