SuperServer 5019GP-TT

1U Single Processor (Intel) 2 GPU System

Integrated Board

X11SPG-TF

Views: | **Angled View** | **Top View** |
| **Front View** | **Rear View** |

▶ **Drivers & Utilities** ▶ **BIOS** ▶ **IPMI** ▶ **Tested Memory** ▶ **Drive Options** ▶ **Tested M.2 List** ▶ **Manuals** ▶ **OS Certification Matrix** ▶ **Compatible GPU List**

Note: Image above may show a varied configuration of optional parts. Please refer to parts list for standard parts included.

Key Applications

- Edge Computing
- Micro Data Center
- AI/ML, Deep Learning Training and Inference
- Virtualization
- Cloud Computing

Key Features

1. Supports up to 2 Active/Passive Cooling NVIDIA® GPUs in 1U

2. Single Socket P (LGA 3647) supports 2nd Gen Intel® Xeon® Scalable processor (Cascade Lake/Skylake)‡

3. 6 DIMMs; up to 1.5TB 3DS ECC DDR4-2933MHz† RDIMM/LRDIMM, Supports Intel® Optane™ DCPMM††

4. 2 PCI-E 3.0 x16 slots (support double-width GPU), 1 PCI-E 3.0 x16 low-profile slot (center left)

5. 3 Hot-swap 3.5" SAS/SATA drive bays, 1 slim DVD-ROM drive bay

6. 2x 10GBase-T LAN ports via Intel X550

7. 2 M.2 form factor 2280, supports both M.2 NVMe and SATA SSD

8. 8 Heavy duty 4cm counter-rotating 4cm fans with air shroud & optimal fan speed control

9. 1400W High-efficiency Power Supply **Platinum Level (94%+)**

Specifications

Product SKUs

SYS-5019GP-TT	▪ SuperServer 5019GP-TT

Motherboard

Super X11SPG-TF

Processor

CPU	▪ Single Socket P (LGA 3647) ▪ 2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors‡ ▪ Support CPU TDP 70-205W
Cores	▪ Up to 28 Cores
Note	‡ BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake-R)

GPU

Supported GPUs	▪ 2 Double-Width/Single-Width PCI-E 3.0 x16 Card (Full Height Full Length) ▪ NVIDIA V100, M10, T4, Quadro RTX ▪ Supports both active and passive cooled GPUs ▪ Compatible GPU list
CPU-GPU Interconnect	▪ PCI-E Gen 3 x16 Switch CPU-GPU Interconnect

System Memory

Memory Capacity	▪ 6 DIMM slots ▪ Up to 1.5TB 3DS ECC DDR4-2933MHz† RDIMM/LRDIMM ▪ Supports Intel® Optane™ DCPMM††
Memory Type	▪ 2933†/2666/2400/2133MHz ECC DDR4 RDIMM/LRDIMM
Note	† 2933MHz in two DIMMs per channel can be achieved by using memory purchased from Supermicro †† Cascade Lake only. Contact your Supermicro sales rep for more info.

On-Board Devices

Chipset	▪ Intel® C621 chipset
SATA	▪ SATA3 (6Gbps) with RAID 0, 1, 5, 10
Network Connectivity	▪ Intel® X550 Dual Port 10GBase-T ▪ Virtual Machine Device Queues reduce I/O overhead ▪ Supports 10GBASE-T, 100BASE-TX, and 1000BASE-T, RJ45 output
IPMI	▪ Support for Intelligent Platform Management Interface v.2.0 ▪ IPMI 2.0 with virtual media over LAN and KVM-over-LAN support
Graphics	▪ ASPEED AST2500

Input / Output

SATA	▪ 6 SATA3 (6Gbps) ports

Chassis

Form Factor	▪ 1U Rackmount
Model	▪ CSE-818GTS-1K43BP2

Dimensions

Height	▪ 1.7" (43mm)
Width	▪ 17.2" (437mm)
Depth	▪ 28.2" (716mm)
Weight	▪ Net Weight: 28 lbs (12.70 kg) ▪ Gross Weight: 36 lbs (16.33 kg)
Available Color	▪ Black

Front Panel

Buttons	▪ Power On/Off button ▪ System Reset button
LEDs	▪ Power LED ▪ Hard drive activity LED ▪ Network activity LEDs ▪ System Overheat LED / Fan fail LED

Expansion Slots

PCI-Express	▪ 2 PCI-E 3.0 x16 (FHFL) slots - supporting up to 2 GPUs ▪ 1 PCI-E 3.0 x16 slot (left riser)

Drive Bays / Storage

Hot-swap	▪ 3 Hot-swap 3.5" SAS/SATA drive bays
M.2	▪ Supports 2 M.2 form factor 2280 ▪ Supports both M.2 NVMe and SATA SSD
Peripheral Bay(s)	▪ 1 slim DVD-ROM drive bay or 1 USB + COM port tray

System Cooling

Fans	▪ 8 heavy duty counter-rotating 4cm fans with air shroud and optimal fan speed control

Power Supply

1400W High-efficiency AC power supply with Digital Switching Control & PMBus 1.2

AC Voltage	▪ 1200W: 100-140 V, 14.7-10.5A, 50-60 Hz ▪ 1400W: 180-240 V, 10.5-8.0A, 50-60 Hz
+5V standby	▪ 6 Amp
+12V	▪ 100 Amp/115 Vac ▪ 117 Amp/230 Vac
With Power Distributor	▪ +5V: 14 Amp

LAN	■ 2 RJ45 10GBase-T ports ■ 1 RJ45 Dedicated IPMI LAN port
USB	■ 2 USB 3.0 ports (rear) ■ 2 USB 2.0 ports (rear)
Video	■ 1 VGA port
Serial Port	■ 1 Fast UART 16550 header
DOM	■ 2 DOM (Disk on Module) power connectors

System BIOS

BIOS Type	■ AMI 32Mb SPI Flash ROM

Management

Software	■ Intel® Node Manager ■ IPMI 2.0 ■ KVM with dedicated LAN ■ NMI ■ SPM, SUM ■ SuperDoctor® 5 ■ Watch Dog
Power Configurations	■ ACPI / APM Power Management

PC Health Monitoring

CPU	■ Monitors for CPU Cores, Chipset Voltages, Memory. ■ 4+1 Phase-switching voltage regulator
FAN	■ Fans with tachometer monitoring ■ Status monitor for speed control ■ Pulse Width Modulated (PWM) fan connectors
Temperature	■ Monitoring for CPU and chassis environment ■ Thermal Control for fan connectors

Certification	80 PLUS PLATINUM　　**Platinum Certified**

Operating Environment

RoHS	■ RoHS Compliant

Environmental Spec.	■ Operating Temperature:
	  10°C ~ 35°C (50°F ~ 95°F)
	■ Non-operating Temperature:
	  -40°C to 60°C (-40°F to 140°F)
	■ Operating Relative Humidity:
	  8% to 90% (non-condensing)
	■ Non-operating Relative Humidity:
	  5% to 95% (non-condensing)

Parts List

Parts List - (Items Included)

	Part Number	Qty	Description
Motherboard / Chassis	MBD-X11SPG-TF	1	Super X11SPG-TF Motherboard
	CSE-818GTS-1K43BP2	1	1U SC818G Chassis
Backplane	BPN-SAS-818TQ	1	3-port 818 TQ (W/ AMI 9071) backplane, support up to 3x 3.5-inch SAS/SATA HDD
Cable 1	CBL-0484L	2	SATA,INT,ROUND,ST-ST,55CM,30AWG
Cable 2	CBL-0489L	1	SATA,INT,ROUND,ST-RA,70CM,30AWG
Cable 3	CBL-CDAT-0661	1	CBL,SGPIO,2X4F TO 2X4F,P2.54,ROUND CABLE,40CM,28AWG
Cable 4	CBL-PWEX-0663	1	PCIe 8 pin male(black) to CPU 8 pin female(white) power adapter, 5cm, 18AWG, 9A/pin, 0~80C, RoHS/REACH
Cable 5	CBL-PWEX-1028	1	Tesla family GPU,2x4F/CPU to 2x4F/CPU,P4.2, 30CM,16AWG, 10A/pin, -40~105C
Riser Card	RSC-R1U-E16R	1	RSC-R1U-E16R
Riser Card	RSC-R1UG-E16-UP	1	1U LHS Riser Card with one PCI-E x16 for UP GPU MBs
Riser Card	RSC-R1UG-E16R-UP	1	1U RHS Riser Card with 1 PCI-E x16 for UP GPU MB
Heatsink / Retention	SNK-P0067PS	1	1U Passive CPU Heat Sink for X11 Purley Platform Equipped with a Narrow Retention Mechanism
Power Supply	PWS-1K43F-1R	1	1400W redundant digital power supply

Optional Parts List

	Part Number	Qty	Description
Other GPUs Cables	CBL-PWEX-1059	1	Quadro family GPU,2x4F/RA/CPU to two (2x3F+2x1F)/PCIe,P4.2, 36CM,17/20AWG,8A/pin(17AWG), 6A/pin(20AWG), -25~80C, RoHS
AOC-S3008L-L8i (SAS3)	CBL-SAST-0699	1	Mini SAS HD-4 SATA, 12G
AOC-S3108L-H8IR-16DD (SAS3)	CBL-SAST-0699	1	Mini SAS HD-4 SATA, 12G
AOC-S3108L-H8IR (SAS3)	CBL-SAST-0699	1	Mini SAS HD-4 SATA, 12G
Super Cap for LSI 3108	BKT-BBU-BRACKET-05	1	Mounting Bracket for LSI BBUs
	BTR-TFM8G-LSICVM02	1	LSI Super Cap
Network Cards	AOC-S100G-m2C	-	Standard low-profile 2-port QSFP28 100GbE PCI-E 3.0 x16, based on Mellanox ConnectX-4 EN chipset
	AOC-MCX516A-CCAT	-	Mellanox MCX516A-CCAT PCIe 2-port 100GbE QSFP28 Gen3x16 CX-5 EN. RoHS
	AOC-S40G-i2Q	-	Standard Low-Profile Dual-port 40GbE controller with 2x QSFP ports
	AOC-MCX512A-ACAT	-	Mellanox MCX512A-ACAT PCIe 2-port 25GbE SFP28 Gen3x8 CX-5 EN. RoHS
	AOC-MCX4121A-ACAT	-	Mellanox MCX4121A-ACAT 25GbE dual-port SFP28, PCIe3.0 x8, tall bracket Lx EN, HF, RoHS
	AOC-S25G-b2S	-	Standard Low-Profile Dual-port 25GbE controller with 2 SFP28 ports, based on Broadcom BCM57414
	AOC-S25G-m2S	-	Standard low-profile 2-port 25GbE with SFP+, based on Mellanox ConnectX-4 LX EN chipset
	AOC-STG-b4S	-	Standard Low-profile Quad-port 10GbE controller with 4x SFP+ ports
	AOC-STG-i4S	-	Standard Low-Profile Quad-port 10GbE controller with 4x SFP+ ports
	AOC-STGN-i2S	-	Standard Low-Profile Dual-port 10GbE controller with 2x SFP+ ports
	AOC-STGN-i1S	-	Standard Low-Profile Single-port 10GbE controller with 1x SFP+ port

	AOC-STG-i2T	-	Standard Low-Profile Dual-port 10GbE controller with 2x RJ45 (10GBase-T) ports
	AOC-SGP-i4	-	Standard Low-Profile Quad-port GbE controller with 4x RJ45 ports
	AOC-SGP-i2	-	Standard Low-Profile Dual-port GbE controller with 2x RJ45 ports
GPUs Air Shroud Kit	MCP-310-81806-0B	-	Nvidia Fermi GPU Air shroud for 818G/118G
Global Services & Support	OS4HR3/2/1	-	3/2/1-year onsite 24x7x4 service
	OSNBD3/2/1	-	3/2/1-year onsite NBD service
Software	SFT-OOB-LIC • eStore	1	OOB Management Package (per node license)
Software	SFT-DCMS-Single	1	DataCenter Management Package (per node license)