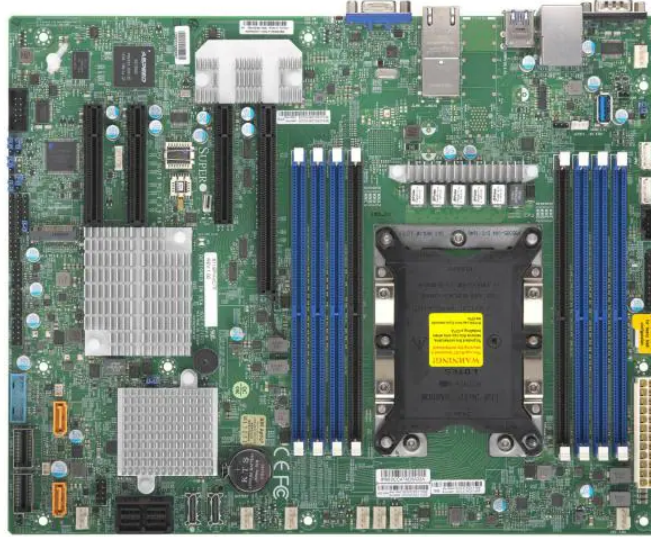# X11SPH-nCTF

High Performance
VROC support

Key Features

2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors, , Single Socket LGA-3647 (Socket P) supported, CPU TDP support Up to 205W TDP

Intel® C622 chipset

Up to 2TB 3DS ECC RDIMM, DDR4-2933MHz; Up to 2TB 3DS ECC LRDIMM, DDR4-2933MHz, in 8 DIMM slots

Expansion slots:

1 PCIe 3.0 x16 (x16 ‖ x8),

1 PCIe 3.0 x8 (x0 ‖ x8),

1 PCIe 3.0 x8,

1 PCIe 3.0 x4 (in x8)

2x Port NVMe PCIe 3.0 x4 via OCuLink

M.2 NGFF connector

M.2 Interface: PCIe 3.0 x4 and SATA

Form Factor: 2280

Key: M-Key

Double Height Connector

8 SAS3 (12Gbps) via Broadcom® 3008; RAID 0, 1, 10

2 10GbE LAN ports

10 SATA3 (6Gbps) via C622

5 USB 3.0 (2 rear, 1 Type-A, 2 via header), 8 USB 2.0 (2 rear, 6 via headers)

Optimized Servers

SSG-5029P-E1CTR12L

SSG-5049P-E1CTR36L

Specifications

Product SKUs
MBD-X11SPH-nCTF

Physical Stats
Form Factor
ATX
Dimension
12" x 9.6" (30.48cm x 24.38cm)

Processor
CPU
2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors
Single Socket LGA-3647 (Socket P) supported, CPU TDP supports Up to 205W TDP
Core
Up to 28 cores
Note
BIOS version 3.0a or above is required to support 2nd Generation Intel Xeon Scalable Processors-SP
BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake-R)

System Memory
Memory Capacity
8 DIMM slots
Up to 2TB 3DS ECC LRDIMM, DDR4-2933MHz; Up to 2TB 3DS ECC RDIMM, DDR4-2933MHz
Memory Type
2933/2666/2400/2133 MT/s ECC DDR4 LRDIMM (3DS), RDIMM (3DS)
DIMM Sizes
LRDIMM: 32GB, 64GB, 128GB
RDIMM: 8GB, 16GB, 32GB, 64GB
Memory Voltage
1.2V
Error Detection
Corrects single-bit errors

On-Board Devices
Chipset
Intel® C622
SATA
Intel® C622 controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10
Broadcom® 3008 SW controller for 8 SAS3 (12 Gbps) ports; RAID 0,1,10
IPMI
ASPEED AST2500
Graphics
0 ASPEED AST2500 BMC port(s)
Network Controllers
Dual LAN with 10GBase-T with Intel® X722 + X557

Input / Output
SATA
10 SATA3 (6Gbps) port(s)
SAS
8 SAS port(s)
LAN
2 RJ45 10GBase-T ports
USB
3 USB 3 port(s) (1 Type A; 2 via header)
8 USB 2.0 port(s) (2 rear; 6 via header)
2 USB 3.0 port(s) (2 rear)
Video Output
1 VGA port(s)
Serial Port
2 COM Port(s) (1 header; 1 rear)
DOM
2 SATA DOM (Disk on Module) power connector support

Expansion Slots
PCIe
1 PCIe 3.0 x16 (x16 or x8),
1 PCIe 3.0 x8 (x0 or x8),
1 PCIe 3.0 x8,
1 PCIe 3.0 x4 (in x8 slot)
M.2
M.2 Interface: PCIe 3.0 x4; SATA
Form Factor: 2280
Key: M-Key

System BIOS
BIOS Type
AMI UEFI
BIOS Features
ACPI 6.0
RTC (Real Time Clock) Wakeup
SMBIOS 3.0 or later

Management
Software
SuperDoctor® 5, NMI, SUM, KVM with dedicated LAN, SPM, Intel® Node Manager, IPMI2.0, Watchdog
Power Configurations
Power-on mode for AC power recovery, ACPI Power Management

PC Health Monitoring
Voltage
VBAT, Supports system management utility, Monitors CPU voltages, Chassis intrusion header, 3.3V standby, +5V standby, +5V, +3.3V, +12V, +1.8V, 8 -fan status
LED
UID/Remote UID
Suspend static indicator LED
CPU / System Overheat LED
Temperature
CPU thermal trip support
PECI
FAN
8x 4-pin fan headers (up to 8 fans)
System level control
PWM fan speed control
Fan speed control
Overheat LED indication
Other Features
WOL
UID
RoHS
Control of power-on for recovery from AC power loss
ACPI power management

Operating Environment
Operating Temperature Range
0°C - 50°C (32°F - 122°F)
Non-Operating Temperature Range
-40°C - 70°C (-40°F - 158°F)
Operating Relative Humidity Range
8% - 90% (non-condensing)
Non Operating Relative Humidity Range
5% - 95% (non-condensing)

TPM

1 TPM Header

Parts List

Standard Parts (Bulk Package)

I/O Cables

Part Number	CBL-0044L • *eStore*
Qty	2
Description	57.5 cm SATA FLAT S-S PBF

I/O Shield

Part Number	MCP-260-00109-0N • *eStore*
Qty	1
Description	STD I/O Shield for X11SPH-nCTF with EMI Gasket

Standard Parts (Retail Package)

I/O Cables

Part Number	CBL-0044L • *eStore*
Qty	2
Description	57.5 cm SATA FLAT S-S PBF

I/O Shield

Part Number	MCP-260-00109-0N • *eStore*
Qty	1
Description	STD I/O Shield for X11SPH-nCTF with EMI Gasket

QRG

Part Number	MNL-1949-QRG
Qty	1
Description	Motherboard Quick Reference Guide

Optional Parts

1U I/O Shield

Part Number	MCP-260-00114-0N
Qty	1
Description	1U I/O Shield for X11SPH-nCTF with EMI Gasket

TPM security module

Part Number	AOM-TPM-9671H	AOM-TPM-9670H	AOM-TPM-9671V	AOM-TPM-9670V
Qty	1	1	1	1
Description	SPI capable TPM 1.2 with Infineon 9670 controller with horizontal form factor	SPI capable TPM 2.0 with Infineon 9670 controller with horizontal form factor	SPI capable TPM 1.2 with Infineon 9670 controller with vertical form factor	SPI capable TPM 2.0 with Infineon 9670 controller with vertical form factor