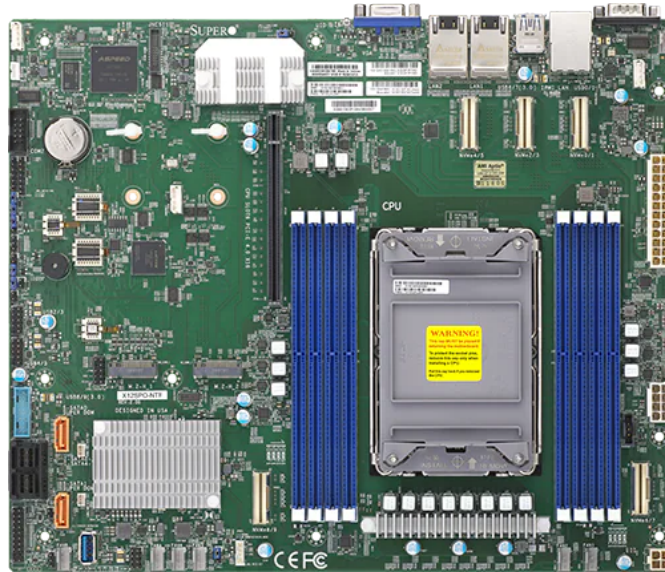


# X12SPO-NTF

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## 1U Optimized

### Key Features

3rd Gen Intel® Xeon® Scalable processors, Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports Up to 270W TDP

Intel® C621A

Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; Up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz

Up to 2TB Intel® Optane™ Persistent Memory, in 8 DIMM slots

1 PCIe 4.0 x16,

5 PCIe 4.0 NVMe x8 Internal Port(s)

**M.2 Interface:** 2 SATA/PCIe 3.0 x4

**M.2 Form Factor:** 2280/22110

**M.2 Key:** M-Key

Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10

Dual LAN with Intel® X550 10GBase-T Ethernet Controller

Supports 10x NVMe drives via SlimSAS connectors

### Optimized Servers

[SSG-110P-NTR10](#)

### Specifications

**Product SKUs****MBD-X12SPO-NTF****Physical Stats****Form Factor**

ATX

**Dimension**

12" x 10" (30.48cm x 25.4cm)

**Processor****CPU**

3rd Gen Intel® Xeon® Scalable processors

Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports Up to 270W TDP

**Core**

Up to 40 cores

**System Memory****Memory Capacity**

8 DIMM slots

Up to 2TB Intel® Optane™ Persistent Memory 200 Series

Up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz; Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz

**Memory Type**

3200/2933/2666 MT/s ECC , DDR4 LRDIMM (3DS), RDIMM (3DS)

**DIMM Sizes**

8GB, 16GB, 32GB, 64GB, 128GB, 256GB

**Memory Voltage**

1.2V

**Error Detection**

Corrects single-bit errors

**On-Board Devices****Chipset**

Intel® C621A

**SATA**

Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10

**IPMI**

ASPEED AST2600 BMC

**Graphics**

1 ASPEED AST2600 BMC port(s)

**Network Controllers**

Dual LAN with Intel® X550 10GBase-T Ethernet Controller

**Input / Output****SATA**

10 SATA3 (6Gbps) port(s)

**LAN**

2 RJ45 10 Gigabit Ethernet LAN ports

**USB**

6 USB 2.0 port(s) (4 via header; 2 rear)

5 USB 3.2 Gen1 port(s) (2 via header; 2 rear; 1 type A)

**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**TPM**

1 TPM Header

**Expansion Slots****PCIe**

1 PCIe 4.0 x16

**M.2**

M.2 Interface: 2 SATA/PCIe 3.0 x4

Form Factor: 2280/22110

Key: M-Key

**System BIOS****BIOS Type**

AMI UEFI

**BIOS Features**

ACPI 6.2

SMBIOS 3.0 or later

UEFI 2.7

**Management****Software**[Redfish API](#), [Supermicro Server Manager \(SSM\)](#),[Supermicro Power Manager \(SPM\)](#), [Supermicro Update](#)[Manager \(SUM\)](#), [SuperDoctor® 5](#), [Super Diagnostics Offline](#)[, KVM with dedicated LAN](#), [IPMI 2.0](#)**Power Configurations**

Power-on mode for AC power recovery, ACPI Power Management, CPU thermal trip support for processor protection

**Security****Hardware**

Trusted Platform Module (TPM) 2.0

**PC Health Monitoring****Voltage**

VBAT, System temperature, Monitors CPU voltages, HT, Chassis intrusion header, 3.3V standby, +5V standby, +5V, +3.3V, +12V, +1.8V, 7-fan status

**LED**

UID/Remote UID

Suspend static indicator LED

CPU / System Overheat LED

**Temperature**

CPU thermal trip support

PECI

**FAN**

7x 4-pin fan headers (up to 7 fans)

System level control

PWM fan speed control

Fan speed control

Overheat LED indication

**Other Features**

WOL, UID, RoHS, Chassis intrusion header, Chassis intrusion detection, ATX Power connector, ACPI power management, RoT

**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**

10% - 85% (non-condensing)

**Non Operating Relative Humidity Range**

10% - 95% (non-condensing)

## Parts List

### Standard Parts (Bulk Package)

**CPU carrier**

Part Number	SKT-1205L-P4IC-FXC
Qty	1
Description	CPU carrier for 3rd Gen Intel Xeon Scalable Processors

**I/O Cables**

Part Number	CBL-0044L • <a href="#">eStore</a>
Qty	2
Description	57.5CM SATA FLAT S-S PBF

**I/O Shield**

Part Number	MCP-260-00042-0N • <a href="#">eStore</a>
Qty	1
Description	STD I/O Shield for X12SPO-NTF with EMI Gasket

**Standard Parts (Retail Package)****CPU carrier**

Part Number	SKT-1205L-P4IC-FXC
Qty	1
Description	CPU carrier for 3rd Gen Intel Xeon Scalable Processors

**I/O Cables**

Part Number	CBL-0044L • <a href="#">eStore</a>
Qty	2
Description	57.5 cm SATA FLAT S-S PBF

**I/O Shield**

Part Number	MCP-260-00042-0N • <a href="#">eStore</a>
Qty	1
Description	STD I/O Shield for X12SPO-NTF with EMI Gasket

**QRG**

Part Number	MNL-2226-QRG
Qty	1
Description	Motherboard Quick Reference Guide

**Optional Parts****Power extension cable**

Part Number	CBL-0042L
Qty	1
Description	24 pin power connector extension cable

**TPM security module**

Part Number	AOM-TPM-9671H	AOM-TPM-9670H
Qty	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