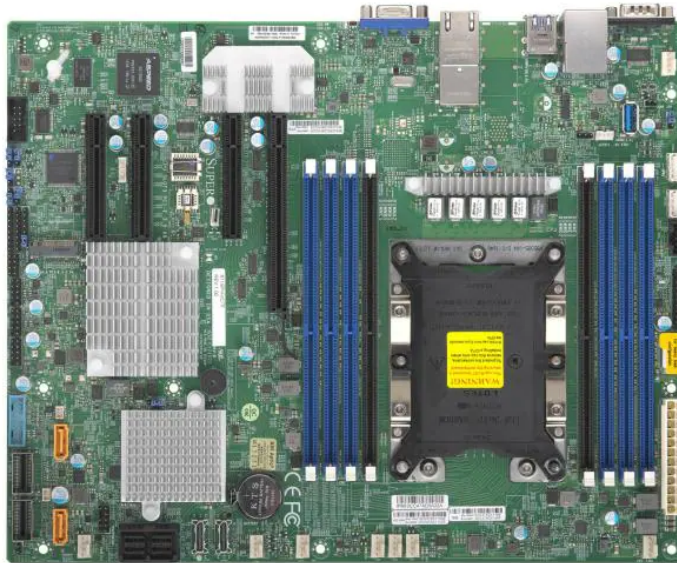


## X11SPH-nCTF

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**High Performance  
VROC support**

## Key Features

1. 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

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2. Intel® C622 chipset

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

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4. Expansion slots:
  - 1 PCI-E 3.0 x16 (x16 || x8),
  - 1 PCI-E 3.0 x8 (x0 || x8),
  - 1 PCI-E 3.0 x8,
  - 1 PCI-E 3.0 x4 (in x8)

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5. 2x Port NVMe PCI-E 3.0 x4 via OcuLink

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6. M.2 NGFF connector
  - M.2 Interface:** PCI-E 3.0 x4 and SATA
  - Form Factor: 2280
  - Key: M-Key
  - Double Height Connector

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7. 8 SAS3 (12Gbps) via Broadcom® 3008; RAID 0, 1, 10

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8. 2 10GbE LAN ports

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9. 10 SATA3 (6Gbps) via C622

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10. 5 USB 3.0 (2 rear, 1 Type-A, 2 via header), 8 USB 2.0 (2 rear, 6 via headers)

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# Specifications

## Product SKUs

<b>MBD-X11SPH-nCTF</b>	<ul style="list-style-type: none"> <li>X11SPH-nCTF</li> </ul>
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## Physical Stats

<b>Form Factor</b>	<ul style="list-style-type: none"> <li>ATX</li> </ul>
<b>Dimension</b>	<ul style="list-style-type: none"> <li>12" x 9.6" (30.48cm x 24.38cm)</li> </ul>

## Processor

<b>CPU</b>	<ul style="list-style-type: none"> <li>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors</li> <li>Single Socket LGA-3647 (Socket P) supported, CPU TDP supports Up to 205W TDP</li> </ul>
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<b>Core</b>	<ul style="list-style-type: none"> <li>Up to 28 cores</li> </ul>
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<b>Note</b>	<ul style="list-style-type: none"> <li>BIOS version 3.0a or above is required to support 2nd Generation Intel Xeon Scalable Processors-SP</li> <li>BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake-R)</li> </ul>
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## System Memory

<b>Memory Capacity</b>	<ul style="list-style-type: none"> <li>8 DIMM slots</li> <li>Up to 2TB 3DS ECC LRDIMM, DDR4-2933MHz; Up to 2TB 3DS ECC RDIMM, DDR4-2933MHz</li> </ul>
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<b>Memory Type</b>	<ul style="list-style-type: none"> <li>2933/2666/2400/2133MHz ECC DDR4 LRDIMM (3DS), RDIMM (3DS)</li> </ul>
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<b>DIMM Sizes</b>	<ul style="list-style-type: none"> <li>LRDIMM: 32GB, 64GB, 128GB</li> <li>RDIMM: 8GB, 16GB, 32GB, 64GB</li> </ul>
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<b>Memory Voltage</b>	<ul style="list-style-type: none"> <li>1.2V</li> </ul>
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<b>Error Detection</b>	<ul style="list-style-type: none"> <li>Corrects single-bit errors</li> </ul>
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## On-Board Devices

<b>Chipset</b>	<ul style="list-style-type: none"> <li>Intel® C622</li> </ul>
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<b>SATA</b>	<ul style="list-style-type: none"> <li>Intel® C622 controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10</li> <li>Broadcom® 3008 SW controller for 8 SAS3 (12 Gbps) ports; RAID 0,1,10</li> </ul>
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<b>IPMI</b>	<ul style="list-style-type: none"> <li>ASPEED AST2500</li> </ul>
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<b>Graphics</b>	<ul style="list-style-type: none"> <li>ASPEED AST2500 BMC</li> </ul>
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<b>Network Controllers</b>	<ul style="list-style-type: none"> <li>Dual LAN with 10GBase-T with Intel® X722 + X557</li> </ul>
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## Input / Output

<b>SATA</b>	<ul style="list-style-type: none"> <li>10 SATA3 (6Gbps) port(s)</li> </ul>
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## Expansion Slots

<b>PCI-E</b>	<ul style="list-style-type: none"> <li>1 PCI-E 3.0 x16 (x16 or x8 ),</li> <li>1 PCI-E 3.0 x8 (x0 or x8 ),</li> <li>1 PCI-E 3.0 x8,</li> <li>1 PCI-E 3.0 x4 (in x8 slot)</li> </ul>
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<b>M.2</b>	<ul style="list-style-type: none"> <li>M.2 Interface: PCI-E 3.0 x4; SATA</li> <li>Form Factor: 2280</li> <li>Key: M-Key</li> </ul>
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## System BIOS

<b>BIOS Type</b>	<ul style="list-style-type: none"> <li>AMI UEFI</li> </ul>
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<b>BIOS Features</b>	<ul style="list-style-type: none"> <li>ACPI 6.0</li> <li>RTC (Real Time Clock) Wakeup</li> <li>SMBIOS 3.0 or later</li> </ul>
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## Management

<b>Software</b>	<ul style="list-style-type: none"> <li>SuperDoctor® 5, NMI, <u>SUM</u>, KVM with dedicated LAN, <u>SPM</u>, Intel® Node Manager, <u>IPMI2.0</u>, Watchdog</li> </ul>
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<b>Power Configurations</b>	<ul style="list-style-type: none"> <li>Power-on mode for AC power recovery, ACPI Power Management</li> </ul>
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## PC Health Monitoring

<b>Voltage</b>	<ul style="list-style-type: none"> <li>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</li> </ul>
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<b>LED</b>	<ul style="list-style-type: none"> <li>UID/Remote UID</li> <li>Suspend static indicator LED</li> <li>CPU / System Overheat LED</li> </ul>
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<b>Temperature</b>	<ul style="list-style-type: none"> <li>CPU thermal trip support</li> <li>PECI</li> </ul>
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<b>FAN</b>	<ul style="list-style-type: none"> <li>8x 4-pin fan headers (up to 8 fans)</li> <li>System level control</li> <li>PWM fan speed control</li> <li>Fan speed control</li> <li>Overheat LED indication</li> </ul>
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<b>Other Features</b>	<ul style="list-style-type: none"> <li>WOL</li> <li>UID</li> <li>RoHS</li> <li>Control of power-on for recovery from AC power loss</li> <li>ACPI power management</li> </ul>
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## Operating Environment

<b>Operating Temperature Range</b>	<ul style="list-style-type: none"> <li>0°C - 50°C (32°F - 122°F)</li> </ul>
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<b>Non-Operating Temperature Range</b>	<ul style="list-style-type: none"> <li>-40°C - 70°C (-40°F - 158°F)</li> </ul>
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<b>SAS</b>	▪ 8 SAS port(s)
<b>LAN</b>	▪ 2 RJ45 10GBase-T ports
<b>USB</b>	▪ 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)
<b>Video Output</b>	▪ 1 VGA port(s)
<b>Serial Port</b>	▪ 2 COM Port(s) (1 header; 1 rear)
<b>DOM</b>	▪ 2 SATA <b>DOM</b> (Disk on Module) power connector support
<b>TPM</b>	▪ 1 TPM Header

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<b>Operating Relative Humidity Range</b>	▪ 8% - 90% (non-condensing)
<b>Non Operating Relative Humidity Range</b>	▪ 5% - 95% (non-condensing)

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## Parts List

Parts List (Bulk Package)			
Name	Part Number	Qty	Description
Motherboard	MBD-X11SPH-nCTF	1	X11SPH-nCTF Motherboard
I/O Cables	CBL-0044L • <a href="#">eStore</a>	2	57.5 cm SATA FLAT S-S PBF
I/O Shield	MCP-260-00109-0N • <a href="#">eStore</a>	1	STD I/O Shield for X11SPH-nCTF with EMI Gasket

Parts List (Retail Package)			
Name	Part Number	Qty	Description
Motherboard	MBD-X11SPH-nCTF	1	X11SPH-nCTF Motherboard
I/O Cables	CBL-0044L • <a href="#">eStore</a>	2	57.5 cm SATA FLAT S-S PBF
I/O Shield	MCP-260-00109-0N • <a href="#">eStore</a>	1	STD I/O Shield for X11SPH-nCTF with EMI Gasket
QRG	MNL-1949-QRG	1	Motherboard Quick Reference Guide

Optional Parts List			
Name	Part Number	Qty	Description
1U I/O Shield	MCP-260-00114-0N	1	1U I/O Shield for X11SPH-nCTF with EMI Gasket
TPM security module	<a href="#">AOM-TPM-9671H</a>	1	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
	<a href="#">AOM-TPM-9670H</a>	1	
	<a href="#">AOM-TPM-9671V</a>	1	
	<a href="#">AOM-TPM-9670V</a>	1	

### Chassis (Optimized for X11SPH-nCTF)

Embedded Compact	1U	2U	3U	Mid/Mini-Tower	4U/Tower
		<a href="#">SCLA26E1C4-R609LP</a> <a href="#">SC825MBTQC-R802LPB</a> <a href="#">SC823MTQC-R802LPB</a> <a href="#">SC216BE1C4-R1K23LPB</a> <span style="color: red;">●</span> SC826BE1C-R802LPB Heatsink:SNK-P0068APS4	<a href="#">SC836BE1C-R1K23B</a>		<span style="color: red;">●</span> <a href="#">SC847BE1C4-R1K23LPB</a> <a href="#">SC846BE1C-R1K23B</a> Heatsink:SNK-P0068APS4

● = Most optimized Chassis for SuperServer Configuration  
 Blue color = Compatible  
 Green color = Global SKU & Compatible  
 Red dot & green color = Optimized + Global SKU

### Server (Optimized for X11SPH-nCTF)

Server Name
<a href="#">SSG-5029P-E1CTR12L</a>
<a href="#">SSG-5049P-E1CTR36L</a>

