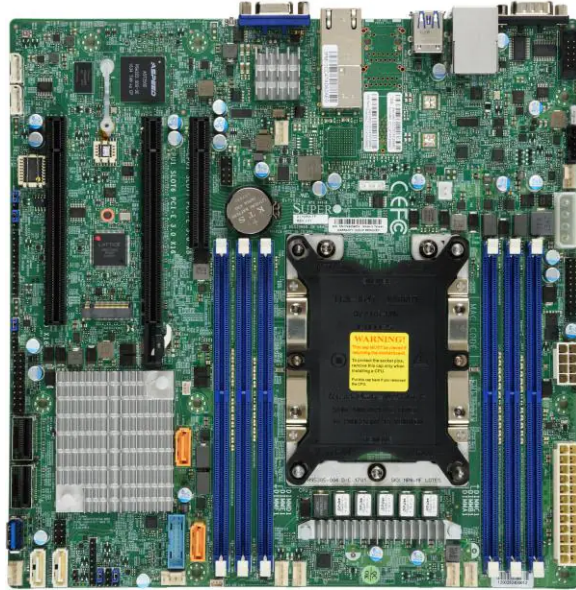


# X11SPM-TF

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## Embedded Ready 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 165W TDP
2. Intel® C622 chipset
3. Up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz; Up to 1.5TB 3DS ECC LRDIMM, DDR4-2933MHz, in 6 DIMM slots; Up to 1TB Intel Optane DC Persistent Memory in memory mode (Cascade Lake Only)
4. Expansion slots: 2 PCI-E 3.0 x16, 1 PCI-E 3.0 x8 (in x8)
5. M.2 NGFF connector  
**M.2 Interface:** PCI-E 3.0 x4  
Form Factor: 2242, 2280  
Key: M-Key
6. 2 10GbE LAN ports
7. 12 SATA3 (6Gbps) via C622
8. Supports 12V DC power input
9. 5 USB 3.0 (2 rear, 1 Type-A, 2 via header), 6 USB 2.0 (2 rear, 4 via headers)
10. I/O: 1 VGA, 2 COM, TPM header

## Specifications

### Expansion Slots

<b>PCI-E</b>	<ul style="list-style-type: none"> <li>2 PCI-E 3.0 x16,</li> <li>1 PCI-E 3.0 x8</li> </ul>
<b>M.2</b>	<ul style="list-style-type: none"> <li>M.2 Interface: PCI-E 3.0 x4</li> <li>Form Factor: 2280, 2242</li> <li>Key: M-Key</li> </ul>

### System BIOS

<b>BIOS Type</b>	<ul style="list-style-type: none"> <li>AMI UEFI</li> </ul>
<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>

### 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>
<b>Power Configurations</b>	<ul style="list-style-type: none"> <li>Power-on mode for AC power recovery, ACPI Power Management</li> </ul>

### 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>
<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>
<b>Temperature</b>	<ul style="list-style-type: none"> <li>CPU thermal trip support</li> <li>PECI</li> </ul>
<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>
<b>Other Features</b>	<ul style="list-style-type: none"> <li>WOL, UID, RoHS, M.2 NGFF connector, CPU thermal trip support for processor protection, Control of power-on for recovery from AC power loss, ACPI power management</li> </ul>

### Operating Environment

<b>Operating Temperature Range</b>	<ul style="list-style-type: none"> <li>0°C - 60°C (32°F - 140°F)</li> </ul>
<b>Non-Operating Temperature Range</b>	<ul style="list-style-type: none"> <li>-20°C - 60°C (-4°F - 140°F)</li> </ul>

<b>Product SKUs</b>		<b>Operating Relative Humidity Range</b>	<ul style="list-style-type: none"> <li>10% - 85% (non-condensing)</li> </ul>
<b>MBD-X11SPM-TF</b>	<ul style="list-style-type: none"> <li>X11SPM-TF</li> </ul>	<b>Non Operating Relative Humidity Range</b>	<ul style="list-style-type: none"> <li>10% - 95% (non-condensing)</li> </ul>
<b>Physical Stats</b>			
<b>Form Factor</b>	<ul style="list-style-type: none"> <li>microATX</li> </ul>		
<b>Dimension</b>	<ul style="list-style-type: none"> <li>9.6" x 9.6" (24.38cm x 24.38cm)</li> </ul>		
<b>Processor</b>			
<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 165W TDP</li> </ul>		
<b>Core</b>	<ul style="list-style-type: none"> <li>Up to 28 cores</li> </ul>		
<b>System Memory</b>			
<b>Memory Capacity</b>	<ul style="list-style-type: none"> <li>6 DIMM slots</li> <li>Up to 1.5TB 3DS ECC LRDIMM, DDR4-2933MHz; Up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz</li> </ul>		
<b>Memory Type</b>	<ul style="list-style-type: none"> <li>2933/2666/2400/2133MHz ECC DDR4 LRDIMM (3DS), RDIMM (3DS)</li> </ul>		
<b>DIMM Sizes</b>	<ul style="list-style-type: none"> <li>LRDIMM: 32GB, 64GB, 128GB</li> <li>RDIMM: 8GB, 16GB, 32GB, 64GB</li> </ul>		
<b>Memory Voltage</b>	<ul style="list-style-type: none"> <li>1.2V</li> </ul>		
<b>Error Detection</b>	<ul style="list-style-type: none"> <li>Corrects single-bit errors</li> </ul>		
<b>On-Board Devices</b>			
<b>Chipset</b>	<ul style="list-style-type: none"> <li>Intel® C622</li> </ul>		
<b>SATA</b>	<ul style="list-style-type: none"> <li>Intel® C622 controller for 12 SATA3 (6 Gbps) ports; RAID 0,1,5,10</li> </ul>		
<b>IPMI</b>	<ul style="list-style-type: none"> <li>ASPEED AST2500</li> </ul>		
<b>Graphics</b>	<ul style="list-style-type: none"> <li>ASPEED AST2500 BMC</li> </ul>		
<b>Network Controllers</b>	<ul style="list-style-type: none"> <li>Dual LAN with 10GBase-T with Intel® X722 + X557</li> </ul>		
<b>Input / Output</b>			
<b>SATA</b>	<ul style="list-style-type: none"> <li>12 SATA3 (6Gbps) port(s)</li> </ul>		
<b>LAN</b>	<ul style="list-style-type: none"> <li>2 RJ45 10GBase-T ports</li> </ul>		
<b>USB</b>	<ul style="list-style-type: none"> <li>3 USB 3 port(s) (1 Type A; 2 via header)</li> <li>6 USB 2.0 port(s) (4 via header; 2 rear)</li> <li>2 USB 3.0 port(s) (2 rear)</li> </ul>		
<b>Video Output</b>	<ul style="list-style-type: none"> <li>1 VGA port(s)</li> </ul>		
<b>Serial Port</b>	<ul style="list-style-type: none"> <li>2 COM Port(s) (1 header; 1 rear)</li> </ul>		
<b>DOM</b>	<ul style="list-style-type: none"> <li>2 SATA <b>DOM</b> (Disk on Module) power connector support</li> </ul>		
<b>TPM</b>	<ul style="list-style-type: none"> <li>1 TPM Header</li> </ul>		



## Parts List

Parts List (Bulk Package)			
Name	Part Number	Qty	Description
Motherboard	MBD-X11SPM-TF	1	X11SPM-TF 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 X11SPM-TF with EMI Gasket

Parts List (Retail Package)			
Name	Part Number	Qty	Description
Motherboard	MBD-X11SPM-TF	1	X11SPM-TF Motherboard
I/O Cables	CBL-0044L • <a href="#">eStore</a>	4	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 X11SPM-TF with EMI Gasket
QRG	MNL-1939-QRG	1	Motherboard Quick Reference Guide

Optional Parts List			
Name	Part Number	Qty	Description
1U I/O Shield	MCP-260-00114-0N	--	1U I/O Shield for X11SPM-TF with EMI Gasket
TPM security module	<a href="#">AOM-TPM-9671V</a>	--	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-9670V</a>	--	

### Chassis (Optimized for X11SPM-TF)

Embedded Compact	1U	2U	3U	Mid/Mini-Tower	4U/Tower
	<a href="#">SC113MFAC2-605CB</a> <span style="color: red;">●</span> <a href="#">SC813MFTQC-R407CB</a> <a href="#">SC515-R407</a> <a href="#">SC514-R407C</a> <a href="#">SC512F-350B1</a> <span style="color: red;">●</span> <a href="#">SC813MFTQC-350CB2</a> <a href="#">SC515-350</a> <a href="#">SC113MFAC2-R606CB</a> <a href="#">SC113MFAC2-341CB</a>	<a href="#">SC213LT-600LPB</a> <a href="#">SC823TQ-653LPB</a> <a href="#">SC825TQC-R740LPB</a> <a href="#">SC825MBTQC-R802LPB</a> <a href="#">SC823MTQC-R802LPB</a> <a href="#">SC213A-R740LPB</a> Heatsink:SNK-P0068APS4	<a href="#">SC833T-653B</a> Heatsink:SNK-P0068APS4		<a href="#">SC842TQC-668B</a>

● = Most optimized Chassis for SuperServer Configuration

Blue color = Compatible

Green color = Global SKU & Compatible

Red dot & green color = Optimized + Global SKU