



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
2. Up to 2TB 3DS ECC RDIMM, DDR4-2933MHz; Up to 2TB 3DS ECC LRDIMM, DDR4-2933MHz, in 8 DIMM slots
3. Intel® C622 chipset
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)
5. 2 10GbE LAN ports
6. 10 SATA3 (6Gbps) via C622
7. 8 SAS3 (12Gbps) via Broadcom® 3008; RAID 0, 1, 10
8. 2x Port NVMe PCI-E 3.0 x4 via OcuLink
9. 5 USB 3.0 (2 rear, 1 Type-A, 2 via header), 8 USB 2.0 (2 rear, 6 via headers)
10. M.2 NGFF connector
 - M.2 Interface: PCI-E 3.0 x4 and SATA
 - Form Factor: 2280
 - Key: M-Key
 - Double Height Connector

Links & Resources

[Tested Memory List](#)

[Tested HDD / SSD List](#)

[Tested M.2 List](#)

[Tested AOC List](#)

[Motherboard Manual](#)

[Quick Reference Guide](#)

[Update Your BIOS](#)

[BMC/IPMI Firmware](#)

[Download the Latest Drivers and Utilities](#)

[Download Driver CD](#)

[OS Compatibility](#)

[Optimization](#)

Specifications

Product SKUs

- MBD-X11SPH-nCTF
- X11SPH-nCTF

Physical Stats

- **Form Factor** ATX
- **Dimensions** 12" x 9.6" (30.48cm x 24.38cm)

Processor/Cache

- **CPU** 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

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

- **Memory Type** 2933/2666/2400/2133MHz ECC DDR4 RDIMM, LRDIMM

- **DIMM Sizes** RDIMM: 8GB, 16GB, 32GB, 64GB
- LRDIMM: 32GB, 64GB, 128GB
- 3DS LRDIMM: 64GB, 128GB, 256GB

- **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 (12Gbps) ports; RAID 0,1,10

- **IPMI** ASPEED AST2500

- **Network Controllers** Dual LAN with 10GBase-T with Intel® X722 + X557

- **Graphics** Aspeed AST2500 BMC

Input / Output

- **SATA** 10 SATA3 (6Gbps) port

- **LAN** 2 RJ45 10GBase-T ports

- **USB** 8 USB 2.0 ports (2 rear + 6 via headers)
- 5 USB 3.0 ports (2 rear + 2 via headers + 1 Type A)

- **Video Output** 1 VGA port

- **Serial Port / Header** 2 COM Ports (1 rear, 1 header)

- **TPM** TPM Header

Expansion Slots

- **PCI-E** 1 PCI-E 3.0 x16 (x16 or x8), 1 PCI-E 3.0 x8 (x0 or x8), 1 PCI-E 3.0 x8, 1 PCI-E 3.0 x4 (in x8 slot)

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

System BIOS

- **BIOS Type** AMI UEFI

- **BIOS Features** ACPI 6.0
- RTC (Real Time Clock) Wakeup
- SMBIOS 3.0 or later

Management

- **Software** Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog

- **Power Configurations** ACPI Power Management
- Power-on mode for AC power recovery

PC Health Monitoring

- **Voltage** +1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 8 -fan status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, VBAT

- **FAN** 8x 4-pin fan headers (up to 8 fans), Fan speed control, Overheat LED indication, PWM fan speed control, System level control

- **Temperature** CPU thermal trip support, PECI

- **LED** CPU / System Overheat LED, UID/Remote UID, Suspend static indicator LED

- **Other Features** ACPI power management, Control of power-on for recovery from AC power loss, RoHS, UID, WOL

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)

Parts List

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

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	AOM-TPM-9670H	1	SPI capable TPM 2.0 with Infineon 9670 controller with horizontal form factor
TPM security module	AOM-TPM-9670V	1	SPI capable TPM 2.0 with Infineon 9670 controller with vertical form factor
TPM security module	AOM-TPM-9671H	1	SPI capable TPM 1.2 with Infineon 9670 controller with horizontal form factor
TPM security module	AOM-TPM-9671V	1	SPI capable TPM 1.2 with Infineon 9670 controller with vertical form factor

Chassis (Optimized for X11SPH-nCTF)

Embedded Compact	1U	2U	3U	Mid/Mini-Tower	4U/Tower
		● 826BE1C-R802LPB 216BE1C4-R1K23LPB 823MTQC-R802LPB 825MBTQC-R802LPB LA26E1C4-R609LP 2U Heatsink:SNK-P0068APS4	<u>SC836BE1C-R1K23B</u>		● <u>SC847BE1C4-R1K23LPB</u> <u>SC846BE1C-R1K23B</u> 2U 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
<u>SSG-5029P-E1CTR12L</u>
<u>SSG-5049P-E1CTR36L</u>