



**Xeon D SoC  
Broadwell-DE  
Dual 10GbE  
Embedded  
Key Features**

1. [Intel® Pentium® processor D1508, Single socket FCBGA 1667; 2-Core, 4 Threads, 25W](#)
2. [Up to 128GB ECC RDIMM DDR4 1866MHz or 64GB ECC/non-ECC UDIMM in 4 sockets](#)
3. [2 PCI-E 3.0 x8, Mini PCI-E \(mSATA support\), M.2 PCI-E 3.0 x4 \(SATA support\), M Key 2242/2280/22110](#)
4. [2 10G SFP+ and 6 GbE LAN](#)
5. [4 SATA3 \(6Gbps\) ports via SoC](#)
6. [2 USB 3.0 ports \(rear\), 5 USB 2.0 ports \(4 via headers, 1 Type A\)](#)
7. [2 SuperDOM, 1 COM, TPM 2.0 header, GPIO and SMBus headers](#)
8. [12V DC Input and ATX Power Source](#)

## 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 Drivers CD](#)
- [OS Compatibility](#)
- [Optimization](#)

# Specifications

## Product SKUs

- MBD-X10SDV-2C-TP8F
- X10SDV-2C-TP8F

## Physical Stats

- **Form Factor** Flex ATX
- **Dimensions** 9.0" x 7.25" (22.86cm x 18.42cm)

## Processor/Cache

- **CPU** Intel® Pentium® Processor D1508.  
Single Socket FCBGA 1667 supported, CPU TDP support 25W
- **Cores / Cache** 2 cores, 4 threads / 3MB cache

## System Memory

- **Memory Capacity** Up to 128GB Registered ECC RDIMM, DDR4-2133MHz  
Up to 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2133MHz, in 4 DIMM slots
- **Memory Type** 1866/1600MHz ECC DDR4 ECC RDIMM and ECC/Non-ECC UDIMM
- **DIMM Sizes** 4GB, 8GB, 16GB, 32GB
- **Memory Voltage** 1.2V
- **Error Detection** Corrects single-bit errors  
Detects double-bit errors (using ECC memory)

## On-Board Devices

- **Chipset** System on Chip
- **SATA** SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10  
RSTe
- **IPMI** Support for Intelligent Platform Management Interface v.2.0  
IPMI 2.0 with virtual media over LAN and KVM-over-LAN support
- **Network Controllers** Dual LAN with 10G SFP+ from D-1500 SoC  
Quad LAN with 1GbE with Intel® I350-AM4  
Dual LAN with 1GbE with Intel® I210  
Single LAN with 1 Realtek RTL8211E PHY (dedicated IPMI)
- **Graphics** Aspeed AST2400 BMC

## Input / Output

- **SATA** 4 SATA3 (6Gbps) port
- **LAN** 1 RJ45 Dedicated IPMI LAN port  
6 1GbE LAN ports  
2 10G SFP+ LAN ports
- **USB** 5 USB 2.0 ports (4 headers, 1 Type A)  
2 USB 3.0 ports (2 rear)
- **Video Output** 1 VGA port
- **Serial Port / Header** 1 COM Port (1 header)
- **TPM** TPM Header

## Expansion Slots

- **PCI-E** 2 PCI-E 3.0 x8  
Mini-PCI-E with mSATA support
- **M.2** 1 M.2 M-Key SATA/PCI-E 3.0 x4, 2242/2280/22110

## System BIOS

- **BIOS Type** 128Mb SPI Flash with AMI BIOS
- **BIOS Features** PCI 3.0  
ACPI 5.0  
USB Keyboard support  
Hardware BIOS Virus protection  
SMBIOS 2.8  
UEFI 2.4  
RTC (Real Time Clock) Wakeup

## Management

- **Software** Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog
- **Power Configurations** ACPI Power Management  
ATX Power connector  
+12V DC Power Input  
Control of power-on for recovery from AC power loss  
CPU thermal trip support for processor protection  
M.2 NGFF connector, Node Manager Support, SDDC, System level control, UID, WOL

## PC Health Monitoring

- **Voltage** +1.8V, +12V, +3.3V, +5V, 1.2V (VDIMM), 6 -fan status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature, VBAT
- **FAN** 6x 4-pin fan headers (up to 6 fans), Dual Cooling Zone, Fan speed control, Low noise fan speed control, Overheat LED indication, Pulse Width Modulated (PWM) fan connectors, PWM fan speed control, Quad Cooling Zone, Status monitoring for on/off control, Status monitoring for speed control, System level control, Thermal control tachometer fan connectors
- **Temperature** Monitoring for CPU and chassis environment, CPU thermal trip support, Thermal Monitor 2 (TM2) support, PECI
- **LED** CPU / System Overheat LED, UID/Remote UID
- **Other Features** 12V DC or ATX Power Source, 8-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL

## Operating Environment

- **Operating Temperature Range** 0°C ~ 60°C (32°F ~ 140°F)
- **Non-Operating Temperature Range** -40°C - 85°C (-40°F - 185°F)
- **Operating Relative Humidity Range** 10% ~ 85% (non-condensing)
- **Non-Operating Relative Humidity Range** 10% ~ 95% (non-condensing)

# Parts List

Parts List (Bulk Package)			
Name	Part Number	Qty	Description
Motherboard	MBD-X10SDV-2C-TP8F	1	X10SDV-2C-TP8F Motherboard
I/O Shield	MCP-260-000980N	1	X10SDV-TP8F standard 2U I/O Shield
I/O Cables	CBL-0044L	2	57.5CM SATA FLAT S-S PBF
Motherboard	MBD-X10SDV-2C-TP8F	1	X10SDV-2C-TP8F Motherboard

Optional Parts List			
Name	Part Number	Qty	Description
1U I/O Shield	MCP-260-00099-0N	1	1U I/O Shield for X10SDV-TP8F in SC813/SC514 chassis
1U I/O Shield	MCP-260-00100-0B	1	1U I/O Shield for X10SDV-TP8F in SC510/SC505/SC504 chassis

## Chassis (Optimized for X10SDV-2C-TP8F)

Embedded Compact	1U	2U	3U	Mid/Mini-Tower	4U/Tower
	<ul style="list-style-type: none"> <li>● <a href="#">SC504-203B</a></li> <li>● <a href="#">SC514-505</a></li> <li>● <a href="#">SCE300</a></li> <li>● <a href="#">SC505-203B</a></li> <li>● <a href="#">SC515-R407</a></li> <li><a href="#">SC813MTQ-350CB</a></li> <li><a href="#">SC813MTQ-350CB</a></li> </ul>				

● = Most optimized Chassis for SuperServer Configuration

Blue color = Compatible

Green color = Global SKU & Compatible

Red dot & green color = Optimized + Global SKU