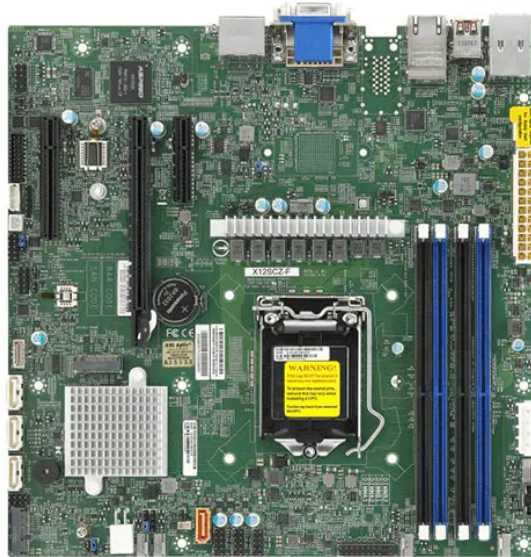


# X12SCZ-QF

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**High Performance  
Embedded  
vPro AMT  
IPMI**

## Key Features

- 11th/10th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Core™ i3/Pentium®/Celeron® Processor
- Single Socket LGA-1200 (Socket H5) supported, CPU TDP support Up to 125W TDP
- Intel® Q470E
- Up to 128GB Unbuffered non-ECC UDIMM, DDR4-2933MHz, in 4 DIMM slots
- 1 PCIe 3.0 x16,
- 1 PCIe 3.0 x4 (in x8 slot),
- 1 PCIe 3.0 x4
- 1 M.2 M-Key SATA/PCIe 3.0 x4, 2280/22110
- 1 M.2 E-Key CNVi/PCIe 3.0 x1, 2230
- Single LAN with Intel® PHY I219LM LAN controller
- Single LAN with Intel® Ethernet Controller I210-AT
- Intel® Q470E controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- 1 VGA D-Sub Connector port, 2 DP++(Dual-Mode DisplayPort) ports, 1 DVI - D port

## Specifications

**Product SKUs****MBD-X12SCZ-QF****Physical Stats****Form Factor**

Micro-ATX

**Dimension**

9.6" x 9.6" (24.38cm x 24.38cm)

**Processor****CPU**

11th/10th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Core™ i3/Pentium®/Celeron® Processor

Single Socket LGA-1200 (Socket H5) supported, CPU TDP supports Up to 125W TDP

A graphic integrated CPU is required to have onboard video from the DVI and DP ports

**Core**

Up to 10 cores

**Note**

\*\* Motherboard supports this maximum TDP. Please verify your system can thermally support.

\*\*The X12SCZ does not support the Intel 10th/11th generation processor 2M cache SKUs. These processors will not boot with the latest BIOS version.

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

4 DIMM slots

Up to 128GB Unbuffered non-ECC UDIMM, DDR4-2933MHz

**Memory Type**

2933/2666/2400/2133 MT/s

**DIMM Sizes**

4GB, 8GB, 16GB, 32GB

**Memory Voltage**

1.2V

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

Intel® Q470E

**SATA**

Intel® Q470E controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10

**IPMI**

ASPEED AST2500 BMC

**Audio**

ALC 888S HD Audio

**Graphics**

1 Intel® HD Graphics port(s)

1 ASPEED AST2500 BMC port(s)

**Network Controllers**

Single LAN with Intel® PHY I219LM LAN controller

Single LAN with Intel® Ethernet Controller I210-AT

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

4 SATA3 (6Gbps) port(s)

**LAN**

2 RJ45 Gigabit Ethernet LAN ports

**USB**

6 USB 3.2 Gen2 port(s) (4 rear type A; 2 via header)

6 USB 2.0 port(s) (6 via header)

**Video Output**

1 DVI - D port(s), 1 VGA D-Sub Connector port(s), 2 DP++(Dual-Mode DisplayPort) port(s)

**Serial Port**

1 COM Port(s) (1 header)

**DOM**1 SATA DOM (Disk on Module) power connector support**Expansion Slots****PCIe**

1 PCIe 3.0 x4,

1 PCIe 3.0 x16,

1 PCIe 3.0 x4 (in x8 slot)

**M.2**

M.2 Interface: 1 SATA/PCIe 3.0 x4; 1 CNVi/PCIe 3.0 x1

Form Factor: 2280/22110, 2230

Key: M-Key, E-Key

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

AMI UEFI

**BIOS Features**

ACPI 6.1

SMBIOS 3.1

PCI FW 3.0

UEFI 2.6

RTC (Real Time Clock) Wakeup

**Management****Software**[Redfish API](#), [SuperDoctor® 5](#), [Super Diagnostics Offline](#), [KVM with dedicated LAN](#), [IPMI 2.0](#)**System Management Software**

IPMI (Intelligent Platform Management Interface) v1.5 / 2.0 with KVM support

**Power Configurations**

ACPI Power Management, ATX Power connector, +12V DC Power Input

**Security****Hardware**

Trusted Platform Module (TPM) 2.0

**Features**

Cryptographically Signed Firmware

Secure Boot

Secure Firmware Updates

System Lockdown

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

VBAT, Memory, CPU, Chassis intrusion header, 5 -fan status, 1.2V (VDIMM), 1.05 (PCH), +5V standby, +5V, +3.3V, +12V

**LED**

UID/Remote UID

Power LED

BMC/IPMI Heartbeat LED

**Temperature**

Thermal Control for 5 Fan Connectors

**FAN**

5x 4-pin fan headers (up to 5 fans)

Fan speed control

Dual Cooling Zone

5 fans with tachometer status monitoring

**Other Features**

UID, RoHS, M.2 NGFF connector, Dual Cooling Zones, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12v DC power connector, 12V DC or ATX Power Source

**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)

**TPM**

1 TPM TPM 2.0 onboard

**Non Operating Relative Humidity Range**

5% - 95% (non-condensing)

## Parts List

### Standard Parts (Bulk Package)

**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-260-00093-0N • <a href="#">eStore</a>
Qty	1
Description	Standard I/O Shield for X12SCZ with EMI Gasket

### Standard Parts (Retail Package)

**I/O Cables**

Part Number	CBL-0044L • <a href="#">eStore</a>
Qty	4
Description	57.5CM SATA FLAT S-S PBF

**I/O Shield**

Part Number	MCP-260-00093-0N • <a href="#">eStore</a>
Qty	1
Description	Standard I/O Shield for X12SCZ with EMI Gasket

**QRG**

Part Number	MNL-2257-QRG
Qty	1
Description	Motherboard Quick Reference Guide

### Optional Parts

**1U I/O Shield**

Part Number	MCP-260-00094-0N
Qty	--
Description	1U I/O Shield for X12SCZ with EMI Gasket in CSE-512/813

**4U CPU Heat Sink for Socket H(optional, not included)**

Part Number	SNK-P0051AP4.
Qty	--
Description	4U Active CPU Heat Sink

**Serial Port Cable**

Part Number	CBL-CDAT-0604 • <a href="#">eStore</a>	CBL-CUSB-0984 • <a href="#">eStore</a>
Qty	--	--
Description	Dual Serial Port cable with bracket 40cm	Dual Serial Port Breakout Cable 20cm

**USB3.1 Cable**

Part Number	CBL-CUSB-0835 • <a href="#">eStore</a>
Qty	--
Description	Dual USB3.1 Type A Cable with Bracket