

X13SAZ-F **New**



**Embedded
High Performance
PCIe 5.0 x16 slot
4 Independent Displays
IPMI**

Key Features

13th/12th Generation Intel® Core™ i9/i7/i5/i3/Pentium/Celeron Processor, Single Socket LGA-1700 supported,
CPU TDP supports Up to 125W TDP

Intel® R680E

Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR5-4400MHz, in 4 DIMM slots

1 PCIe 5.0 x16 slot,

2 PCIe 4.0 x4 slots,

1 PCIe 4.0 x4 OCulink port

M.2 Interface: 1 PCIe 4.0 x4

M.2 Form Factor: 2280/22110

M.2 Key: M-Key

Dual 2.5 Gigabit LAN with Intel® Ethernet i225LM LAN controller [AMT/vPro]

Intel® R680E Controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10

4 Independent Displays (1 VGA port, 2 DP++ ports, 1 HDMI 2.0b port, 1 DVI - D port)

Supports 12V DC power input

Onboard TPM2.0

Optimized Servers

[SYS-111AD-HN2](#)

Specifications

Product SKUs

MBD-X13SAZ-F

Physical Stats

Form Factor

Micro-ATX

Dimension

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

Processor

CPU

13th/ 12th Generation Intel Core i9/Core i7/Core i5/Core i3/Pentium/Celeron Processor

Single Socket LGA-1700 supported

Core

Up to 24 cores

System Memory

Memory Capacity

4 DIMM slots

Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR5-4400MHz

*Supports up to 128GB of DDR5 UDIMM with speeds of up to 4400MT/s with one DIMM, or 4000MT/s with two DIMM single rank, or 3600MT/s with two DIMM dual rank in four memory slots

Memory Type

4400/4000/3600 MT/s

DIMM Sizes

4GB, 8GB, 16GB, 32GB

Memory Voltage

1.1V

Error Detection

Corrects single-bit errors

Detects double-bit errors (using ECC memory)

On-Board Devices

Chipset

Intel R680E

SATA

Intel R680E controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10

Audio

ALC 888S HD Audio

Network Controllers

Dual LAN with Intel® Ethernet i225LM

Input / Output

SATA

4 SATA3 (6Gbps) port(s)

USB

4 USB 2.0 port(s) (4 via header)

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

2 USB 3.2 Gen1 port(s) (2 via header)

Video Output

1 VGA port(s), 1 DVI - D port(s), 1 HDMI 2.0b port(s), 2 DP (DisplayPort) port(s)

Serial Port

4 COM Port(s) (2 header RS232/422/485; 2 header RS232)

TPM

TPM TPM 2.0 onboard

Expansion Slots

PCIe

1 PCIe 5.0 x16,

2 PCIe 4.0 x4 (in x8 slot)

M.2

M.2 Interface: 1 PCIe 4.0 x4

Form Factor: 2280/22110

Key: M-Key

System BIOS

BIOS Type

AMI UEFI

BIOS Features

ACPI 6.1

SMBIOS 3.0 or later

PCI FW 3.0

UEFI 2.7

RTC (Real Time Clock) Wakeup

Management

Software

[Redfish API](#), [SuperDoctor® 5](#), [Super Diagnostics](#)

[Offline](#), [KVM with dedicated LAN](#), [IPMI 2.0](#)

System Management Software

Wake-on-LAN, Watchdog, KVM with dedicated LAN

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 temperature, CPU temperature, Chipset Voltage, 1.05 (PCH), +5V standby, +5V, +3.3V, +12V, +1.8V, +1.5V, +1.35V, BMC/IPMI Heartbeat LED, Dual Cooling Zone, UID, 6 fans with tachometer status monitoring

LED

Power LED

Temperature

Monitoring for CPU and chassis environment

CPU thermal trip support

Other Features

RoHS, M.2 NGFF connector, Chassis intrusion detection, ATX Power connector, ACPI power management, 12V DC or ATX Power Source

FAN

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

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

5% - 95% (non-condensing)

Parts List

Standard Parts (Bulk Package)

I/O Cables

Part Number CBL-0044L • [eStore](#)

Qty 2

Description 57.5CM SATA FLAT S-S
PBF

I/O Shield

Part Number MCP-260-00177-0N

Qty 1

Description Standard I/O Shield for
X13SAZ with EMI Gasket

Standard Parts (Retail Package)

I/O Cables

Part Number CBL-0044L • [eStore](#)

Qty 4

Description 57.5CM SATA FLAT S-S
PBF

I/O Shield

Part Number MCP-260-00177-0N

Qty 1

Description Standard I/O Shield for
X13SAZ with EMI Gasket

QRG

Part Number MNL-2477-QRG

Qty 1

Description Motherboard Quick
Reference Guide

Optional Parts

1U I/O Shield

Part Number MCP-260-00178-0N

Qty -

Description 1U I/O Shield For
SC515/813/815

1U LHS Riser Card for CSE-510

Part Number RSC-S-6G5

Qty -

Description 1U LHS Standard Riser
card with one PCIe 5.0
X16 slot.,H

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

Part Number SNK-P0086AP4 • [eStore](#)

Qty -

Description CPU Active Heatsink for
4U chassis

COM Port Cable

Part Number CBL-CDAT-0604 • [eStore](#)

Qty -

Description CPU Passive Heatsink
for 1U chassis

USB Cable

Part Number CBL-CUSB-0835 • [eStore](#)

Qty -

Description Dual 55cm USB 3.2 Type
A cable
