



WIO

Key Features

Intel® Xeon® E-2300 Processor, 10th Generation Intel® Pentium® Processor, Single Socket LGA-1200 (Socket H5) supported, CPU TDP supports Up to 95W TDP

Intel® C256

Up to 128GB Unbuffered ECC UDIMM, DDR4-3200MHz

1 PCI-E 4.0 x16 Left Riser Slot
1 PCI-E 3.0 x4 (in x8, Right Riser slot)

M.2 Interface: 1 PCI-E 4.0 x4 and 1 PCI-E 3.0 x4
M.2 Form Factor: 2280/22110
M.2 Key: M-Key Double Height Connector

Dual LAN with Intel® X550 10GBase-T Ethernet Controller

Intel® C256 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10

1 VGA port

4 USB 3.2 Gen1 ports (2 rear + 2 via headers)
1 USB 3.2 Gen2 port (1 Type A)
6 USB 2.0 ports (2 rear + 4 via headers)

Product SKUs

- MBD-X12STW-TF
- X12STW-TF

Physical Stats

- **Form Factor** Proprietary WIO
- **Dimension** 8" x 13" (20.32cm x 33.02cm)

Processor

- **CPU** 10th Generation Intel® Pentium® Processor, Intel® Xeon® E-2300 Processor
- Single Socket LGA-1200 (Socket H5) supported, CPU TDP supports Up to 95W TDP
- **Core** Up to 8 cores, 16 threads

System Memory

- **Memory Capacity** 4 DIMM slots
- Up to 128GB ECC UDIMM, DDR4-3200MHz
- **Memory Type** 3200/2933/2666MHz SDRAM
- **DIMM Sizes** 4GB, 8GB, 16GB, 32GB
- **Memory Voltage** 1.2V
- **Error Detection** Corrects single-bit errors

On-Board Devices

- **Chipset** Intel® C256
- **SATA** Intel® C256 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **IPMI** ASPEED AST2600 BMC
- **Graphics** ASPEED AST2600 BMC
- **Network Controllers** Dual LAN with Intel® X550 10GBase-T Ethernet Controller

Input / Output

- **SATA** 8 SATA3 (6Gbps) port(s)
- **LAN** 2 RJ45 10 Gigabit Ethernet LAN ports
- **USB** 6 USB 2.0 port(s) (4 via header; 2 rear)
- 4 USB 3.2 Gen1 port(s) (2 via header; 2 rear)
- 1 USB 3.2 Gen2 port(s) (1 type A)
- **Video Output** 1 VGA port(s)
- **Serial Port** 2 COM Port(s) (1 header; 1 rear)
- **DOM** 2 SATA DOM (Disk on Module) power connector support
- **TPM** 1 TPM Header

Expansion Slots

- **PCI-E** 1 PCI-E 4.0 x16 Left Riser Slot, 1 PCI-E 3.0 x4 (in x8 slot)
- **M.2** M.2 Interface: 1 PCI-E 4.0 x4; 1 PCI-E 3.0 x4
- Form Factor: 2280/22110
- Key: M-Key
- Double Height Connector

System BIOS

- **BIOS Type** 256MB UEFI
- **BIOS Features** ACPI 6.0
- SMBIOS 3.3
- Plug and Play (PnP)
- RTC (Real Time Clock) Wakeup
- UEFI 2.7
- USB Keyboard support
- PCI 3.0

Management

- **Software** SuperDoctor® 5, NMI, SUM, SPM, Intel® Node Manager, SSM, IPMI2.0, Watchdog
- **System Management Software** IPMI (Intelligent Platform Management Interface) v1.5 / 2.0 with KVM support
- **Power Configurations** ACPI Power Management

PC Health Monitoring

- **Voltage** VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6 -fan status, +5V standby, +5V, +3.3V, +12V, Memory Voltages
- **LED** UID/Remote UID
- CPU / System Overheat LED
- **Temperature** Monitoring for CPU and chassis environment
- CPU thermal trip support
- Thermal Monitor 2 (TM2) support
- PECI
- **FAN** 6x 4-pin fan headers (up to 6 fans)
- Thermal control tachometer fan connectors
- Fan speed control
- 6 fans with tachometer status monitoring
- Overheat LED indication
- **Other Features** WOL, UID, Node Manager Support, M.2 NGFF connector, CPU thermal trip support for processor protection, Control of power-on for recovery from AC power loss, Chassis intrusion header, Chassis intrusion detection, ACPI power management

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)