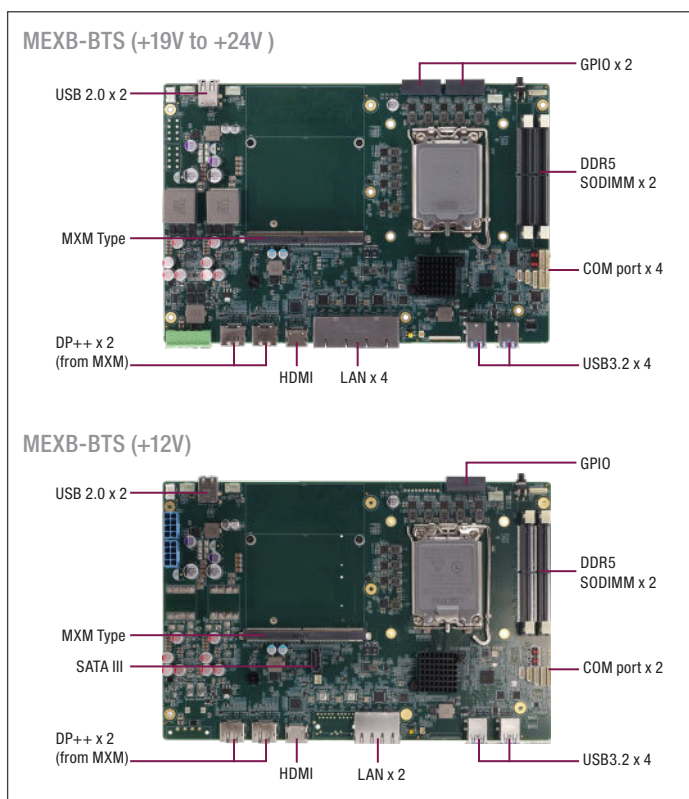


MEXB-BTS

MXM Board with 12th/13th/14th Generation Intel® Core™ & Series 2 Processors with MXM 3.1 Type A/B



Specifications

| System | |
|-------------------|--|
| Form Factor | MXM Board |
| CPU | 12th/13th/14th Generation Intel® Core™ & Intel® Core™ Processors (Series 2), up to 65W |
| Chipset | Intel® R680E Chipset, Intel® Q670E Chipset, Intel® H610E Chipset |
| Memory Type | Dual Channel DDR5 SODIMM x 2, up to 5200, 64GB (ECC support for R680E SKU only) Note: DDR speed is dependent on CPU SKU |
| BIOS | UEFI |
| Wake On LAN | Yes (Onboard LAN only) |
| Watchdog Timer | 255 Levels |
| Security | TPM 2.0 (Optional) |
| RTC Battery | Lithium Battery 3V/240mAh |
| Dimension | 10.6" x 7.1" (268mm x 180mm) |
| OS Support | Windows® 10 (Versions 22H2 and later), Windows 11, Ubuntu 24.04 Kernel 6.11 |
| Power | |
| Power Requirement | +19V ~ +24V or +12V |
| Power Supply Type | AT (default)/ATX |
| Connector | 4-pin Phoenix Connector |
| Power Consumption | Intel® Core™ 7 251E, DDR5 32GB x 2, 6.58A @24V, 157.92W (Typical) Intel® Core™ 7 251E, DDR5 32GB x 2, 12.16A @24V, 291.84 (Max) |
| Display | |
| Controller | CPU Graphic Controller Intel® UHD Graphics 770 (i5 SKU and above) Intel® UHD Graphics 730 (i3 SKU) |
| LVDS/eDP | — |
| Display Interface | HDMI 2.0 x 1, up to 3840 x 2160 @60Hz (from Main Board) DP++ + 1.4 x 2 (from MXM Module, Optional) |
| Multiple Display | 1 Display from Main Board Up to 2 Simultaneous Displays from MXM Module |
| Audio | |
| CODEC | Realtek ALC897 |
| Audio Interface | Line-In/Line-Out/Mic |
| Speaker | — |
| External I/O | |
| Ethernet | Intel® Q670E/R680E Chipset SKU: Intel® Ethernet Controller I226-V, 2.5GbE RJ-45 x 3 Intel® Ethernet Connection I219-LM, GbE RJ-45 x 1 Intel® H610E Chipset SKU: Intel® Ethernet Controller I226-V, 2.5GbE RJ-45 x 1 Intel® Ethernet Connection I219-LM, GbE RJ-45 x 1 |
| USB | Intel® Q670E/R680E Chipset SKU: USB 3.2 Gen 2 x 4 USB 2.0 x 2 Intel® H610E Chipset SKU: USB 3.2 Gen 2 x 2 USB 3.2 Gen 1 x 2 USB 2.0 x 2 |

Features

- 12th/13th/14th Generation Intel® Core™ & Series 2 Processors, up to 65W
- DDR5 SODIMM 5200 x 2, up to 64GB
- HDMI 2.0 x 1 (Main Board), DP++ + 1.4 x 2 (via MXM Module)
- 2.5GbE x 3, 1GbE x 1
- USB 3.2 Gen 2 x 4, USB 2.0 x 2
- M.2 2280 M-Key x 2, M.2 3052 B-Key x 1, Mini Card x 1
- Supports MXM 3.1 Type A/B Module, up to TGP 120W
- COM x 4, GPIO 16-bit
- Support +19V to +24V in or only 12V in



| Serial Port | — |
|-----------------------------|--|
| Video | HDMI 2.0 x 1, up to 3840 x 2160 @60Hz (from Main Board) DP++ + 1.4 x 2, up to 3840 x 2160 (from MXM Module, optional) |
| Internal I/O | |
| USB | — |
| Serial Port | Intel® Q670E/R680E Chipset SKU: COM1/COM2 (RS-232/422/485) COM3/COM4 (RS-232) Intel® H610E Chipset SKU: COM1/COM2 (RS-232/422/485) Note: RI as default, 5V/12V selected by BOM change |
| Video | — |
| SATA | SATA 6Gb/s x 1 (Optional) |
| Audio | Audio Header x 1 |
| DIO/GPIO | Intel® Q670E/R680E Chipset SKU: GPIO -16-bit Intel® H610E Chipset SKU: GPIO 8-bit |
| SMBus/I2C | SMBus (Default) / I2C |
| Touch | — |
| Fan | 4-Pin Smart Fan (CPU) x 1, MXM Module Fan x 1, System Fan x 1 |
| SIM | Nano SIM x 1 |
| Front Panel | Power Button, Power LED |
| Others | — |
| Expansion | |
| Mini PCI-E/mSATA | — |
| M.2 | Intel® Q670E/R680E Chipset SKU: M.2 2280 M-Key x 2 (PCIe 4.0 [x4] x 1 + PCIe 3.0 [x4] x 1) M.2 3052 B-Key x 1 (PCIe 3.0 [x2] + USB 3.2 + USB 2.0) Full-size Mini Card x 1 (PCIe 3.0 [x1] + USB 2.0) Intel® H610E Chipset SKU: M.2 2280 M-Key x 1 Full Size Mini Card x 1 |
| Others | MXM 3.1 Type A / Type B Module slot, TGP up to 120W |
| Environment & Certification | |
| Operating Temperature | 32°F ~ 122°F (0°C ~ 50°C) with 0.5m/sec airflow |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing |
| MTBF (Hours) | 768,724 |
| EMC | CE/FCC Class A |

Packing List

- MEXB-BTS

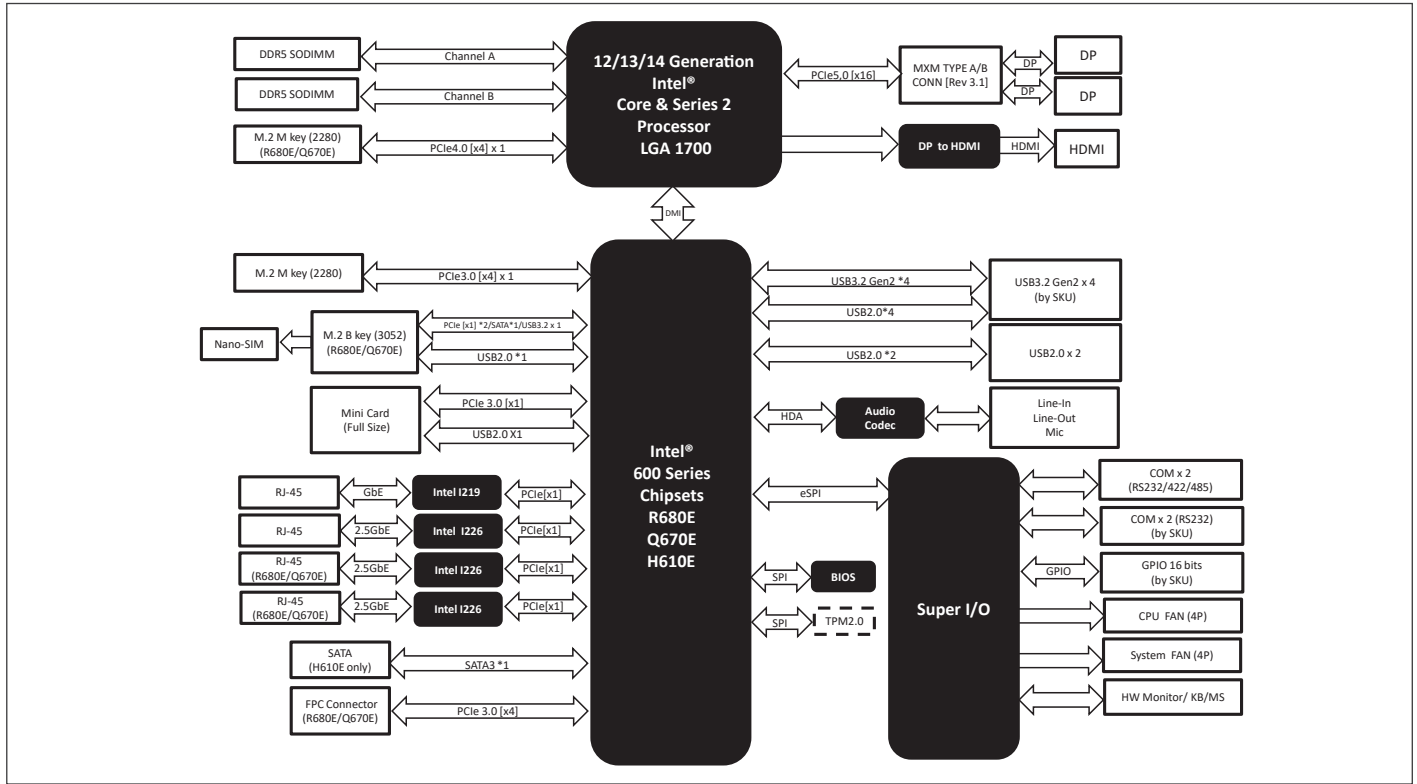
Optional Accessories

| Part Number | Description | Qty |
|-------------------|---|-----|
| 1702031802 | Power Cord (US Type) | 1 |
| 1702031803 | Power Cord (Europe Type) | 1 |
| 170203180E | Power Cord (Japan) | 1 |
| AP-PS1255X00133 | AC/DC Adapter, Input=90-264VAC&Output=24VDC, 400W, 16.66A, POWER-WIN, A10400-24 | 1 |
| PER-T699-A02-0001 | PER-T699, 2.5G Dual LAN card | 1 |
| 14CX000148 | Intel Core 5 Processor 211E | 1 |
| 14CX000143 | Intel Core 7 Processor 251E | 1 |
| MEX-BTS-FAN01 | 4 pin GPU cooler | 1 |
| EPIC-RPS9-FAN01 | 4 pin CPU cooler | 1 |
| TH6MBTS010 | CPU cooler back plate | 1 |
| 1701090140 | COM Port Cable Length 14cm | 1 |
| 170X001240 | Audio Cable Length 25cm | 1 |
| 1905MRPS00 | FPC cable PCIe [x2] | 1 |
| PER-R41P-A02-0001 | PCIe[x4] Adapter 8cm | 1 |
| 9686Y00350 | MXM Type B, NVIDIA RTX A4500, 16GB GDDR6, Aetina | 1 |
| 9686Y00466 | MXM Type B, NVIDIA RTX 3500 ADA, 12GB GDDR6, Aetina | 1 |
| 9686Y00467 | MXM Type B, NVIDIA RTX 5000 ADA, 16GB GDDR6, Aetina | 1 |

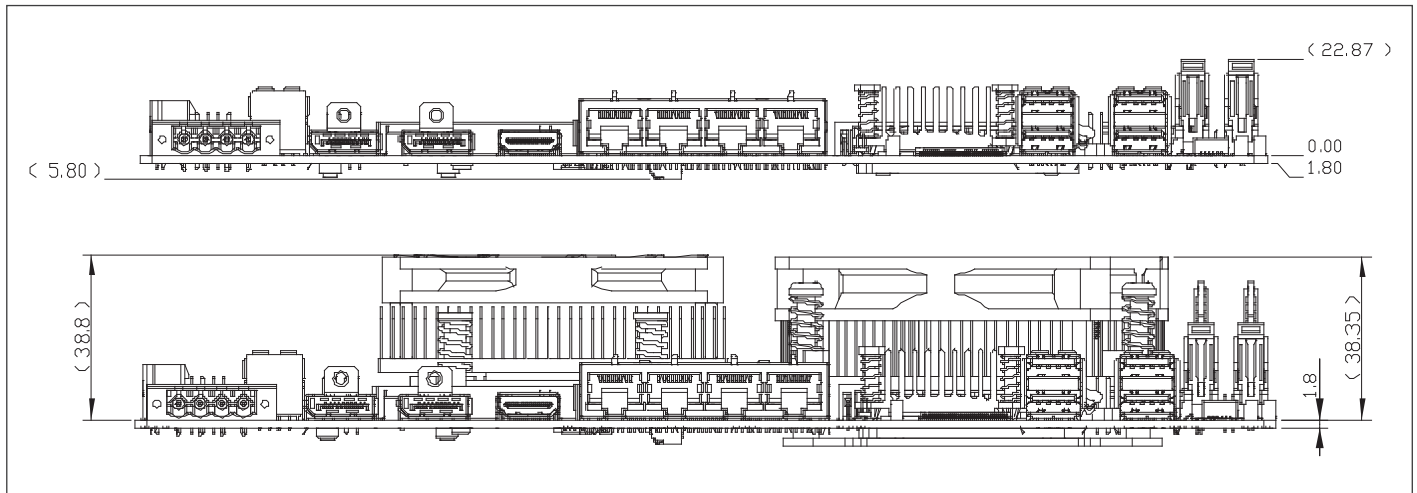
Note: All specifications are subject to change without notice.



Block Diagram



Dimension Unit: mm



Ordering Information

| Part Number | CPU | Memory | Display | Storage | LAN | USB | COM Port | Expansion | TPM | Power | Operating Temperature | Others |
|-------------------|------------------------------|-----------------|---|---------|---------------------|----------------------------------|-----------------------------------|--|---------|-------|-----------------------|--|
| MEXB-BTS-A10-0001 | LGA 1700 up to 65W Q670E PCH | DDR5 SODIMM x 2 | HDMI x 1 (onboard) DP x 2 (From MXM) | — | 2.5GbE x 3, GbE x 1 | USB 3.2 Gen2 x 4, USB 2.0 x 2 | RS-232/422/485 x 2, RS-232 x 2 | M.2 2280 M-Key x 2 M.2 3052 B-Key x 1 Full Size Mini Card x 1 MXM 3.1 Connector (PCIe4.0[x16] x 1) | TPM 2.0 | +12V | 0°C ~ 50°C | Nano SIM x 1 GPIO 16 bit Audio x 1 SATA x 1 |
| MEXB-BTS-A10-0002 | LGA 1700 up to 65W H610E PCH | DDR5 SODIMM x 2 | HDMI x 1 (onboard) DP x 2 (From MXM) | — | 2.5GbE x 1, GbE x 1 | USB 3.2 Gen2 x 2, USB 2.0 x 2 | RS-232/422/485 x 2 | M.2 2280 M-Key x 1 Full Size Mini Card x 1 MXM 3.1 Connector (PCIe4.0[x16] x 1) | — | +12V | 0°C ~ 50°C | GPIO 8 bit Audio x 1 |