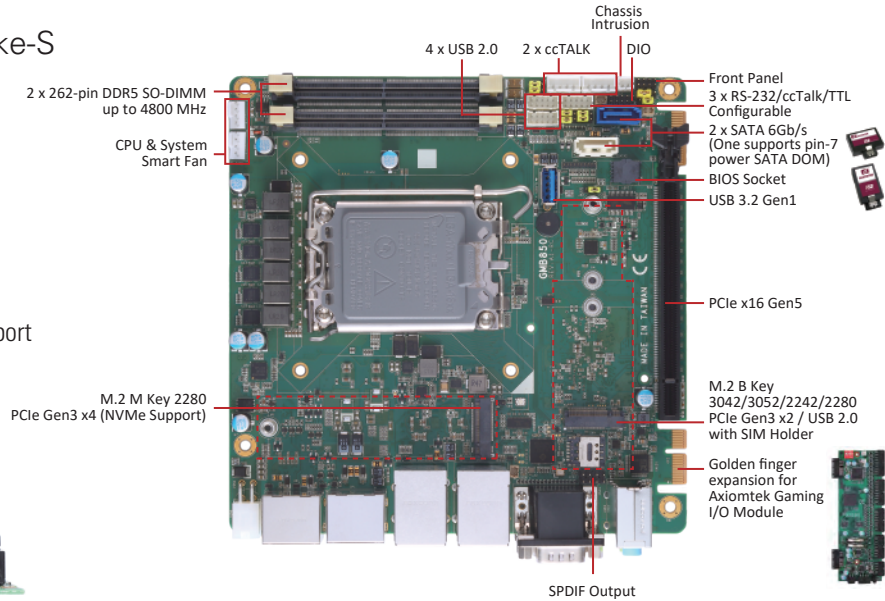
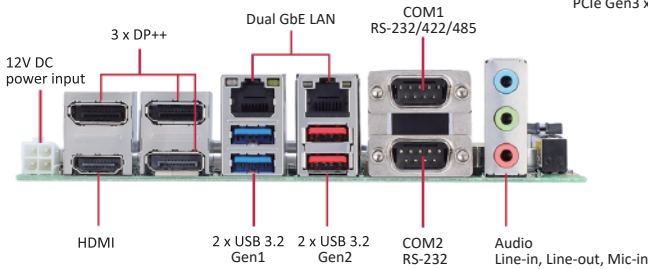


# GMB850

12th/13th Gen. Alder Lake-S/Raptor Lake-S  
Intel® Core™ Mini-ITX Board

## Features

- High performance Intel® platform with PCIe Gen5
- GLI verified TrustedBoot
- Up to quadruple independent displays
- NVMe M.2 M Key storage & M.2 B Key expansion support
- Lifetime long-term supply



## System

CPU	LGA1700 socket supports 12th/13th Gen. Alder Lake-S/Raptor Lake-S Intel® Core™ i9/i7/i5/i3/Pentium®/Celeron® Processor
Memory	2 x 262-pin DDR5 SO-DIMM up to 4800 MHz, System max. up to 64GB
Chipset	Intel® Q670(E) / H610(E) Chipset
BIOS	AMI -uEFI BIOS Optional security boot function
Watchdog timer	1 sec to 255 min
Expansion	1 x PCIe x16 Slot (Gen5) 1 x M.2 B key with SIM holder (3052/3042/2242/2280, PCIe x2 / USB 2.0) 2 x PCIe golden finger expansion for Axiomtek Gaming I/O Module
Power Input	DC +12V
Dimensions	170 mm x 170 mm
Operating Temperature	0 °C to 60 °C (32 °F to 140 °F)
Humidity	10 % to 90 %, non-condensing
Security	Anti-clone security - Intel® PTT (TPM 2.0) - RSA2048 and AES256 hybrid encryption

## I/O

USB	External: 2 x USB 3.2 Gen2x1 (10Gb/s) (USB Type A) 2 x USB 3.2 Gen1x1 (5Gb/s) (USB Type A) Internal: 1 x USB 3.2 Gen1x1 (5Gb/s) (Vertical USB Type A) 4 x USB 2.0 pin header
Serial Interface	External: 2 x Full RS-232 DB9 (COM1 supports RS-232/422/485) Internal: 3 x Simple RS-232 for internal pin header (Two support ccTalk/ One supports TTL)
Audio	External: HD Audio Line-in/ Line-out/ Mic-in phone jack (7.1 Ch.) Internal: 1 x Expansion pin header for Stereo 6W + 6W audio amplifier outputs 1 x SPDIF output pin header



Storage	2 x SATA 6Gb/s (One supports pin-7 power SATA DOM) (Q670 supports RAID 0/1) 1 x M.2 M Key (2280, PCIe x4) NVMe support
Ethernet	2 x GbE LAN port

## Display

Graphic	Intel® UHD Graphics 770 driven by X <sup>e</sup> Architecture New Intel® X <sup>e</sup> Graphics architecture with SRIOV, Genlock
Interface	1 x HDMI 2.0 (up to 4096 x 2160 @60Hz) 3 x DP++ (up to 4096 x 2160 @60Hz) H610 supports triple displays

## Software

OS	Windows® 11 Enterprise & IoT Enterprise, 64-bit Linux Kernel
Others	Optional SAS 6.02 COM port driver provided (via Gaming I/O module)

## Ordering Information

GMB850-Q670	12th/13th Generation Intel® Core™ Mini-ITX board with Q670 PCH, DP++, HDMI, 2 x GbE, 5 x COM, 9 x USB, 12V DC-in
GMB850-H610	12th/13th Generation Intel® Core™ Mini-ITX board with H610 PCH, DP++, HDMI, 2 x GbE, 5 x COM, 9 x USB, 12V DC-in

## Optional Accessories

59403208000E	SATA cable 180D to 180D with lock L:20cm-UL
594Q3002800E	USB2.0 cable HS2 x 5P P2.0/USB x 2 stack AF 20cm
594Q8302110E	COMPort cable, DB9 male, PHD5 x 2P, L=30cm

\* All specifications and photos are subject to change without notice.

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