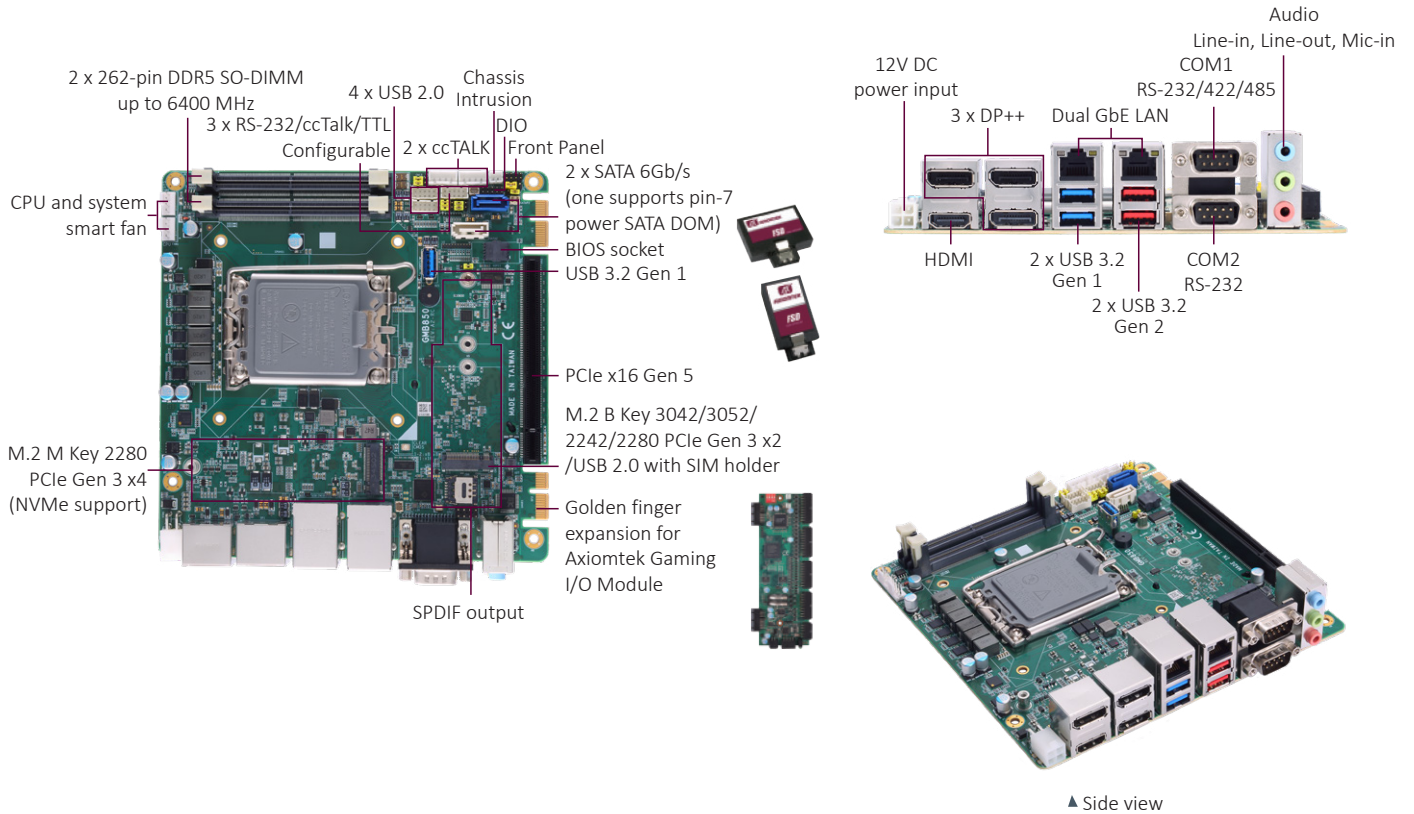


GMB850

12th/13th/14th Gen Alder Lake-S/Raptor Lake-S Intel® Core™ Mini-ITX Board



Features

- High performance Intel® platform with PCIe Gen 5
- GLI verified TrustedBoot
- Up to quadruple independent displays
- NVMe M.2 M Key storage and M.2 B Key expansion support
- Lifetime long-term supply

Specifications

CPU	LGA1700 socket supports 12th/13th/14th Gen Alder Lake-S/Raptor Lake-S Intel® Core™ i9/i7/i5/i3/Pentium®/Celeron® processor
System Memory	2 x 262-pin DDR5 SO-DIMM up to 6400MHz, system max. up to 64GB
Chipset	Intel® Q670(E)/H610(E)
BIOS	AMI-uEFI BIOS Optional security boot function
Storage	2 x SATA 6Gb/s, one supports 7-pin power SATA DOM (Q670 supports RAID 0/1) 1 x M.2 M Key (2280, PCIe x4) NVMe support
Watchdog Timer	1 sec. to 255 min.
Expansion Interface	1 x PCIe x16 slot (Gen 5) 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

Specifications

Power Input	DC +12V
Dimensions	170 x 170 mm
Operating Temperature	0°C to 60°C (32°F to 140°F)
Relative Humidity	10 % to 90 %, non-condensing
Security	Anti-clone security - Intel® PTT (TPM 2.0) - RSA2048 and AES256 hybrid encryption

Display

Graphics	Intel® UHD Graphics 770 driven by Xe Architecture New Intel® Xe Graphics architecture with SRIOV, Genlock
Display 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

I/O

USB	External	2 x USB 3.2 Gen 2 x1 (10Gb/s) (USB Type-A) 2 x USB 3.2 Gen 1 x1 (5Gb/s) (USB Type-A)
	Internal	1 x USB 3.2 Gen 1 x1 (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	

Display

Graphics	Anti-clone security -Intel® PTT (TPM 2.0) -RSA2048 and AES256 hybrid encryption
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 Support	Windows® 11 Enterprise, IoT Enterprise, and 64-bit Linux Kernel
Others	Optional SAS 6.02 COM port driver provided (via Gaming I/O module)

Ordering Information

GMB850-Q670 (PN:E38V850100)	12th/13th/14th Gen Intel® Core™ Mini-ITX board with Q670 PCH, DP++, HDMI, 2 x GbE, 5 x COM, 9 x USB, 12V DC-in
GMB850-H610 (PN:E38V850101)	12th/13th/14th Gen Intel® Core™ Mini-ITX board with H610 PCH, DP++, HDMI, 2 x GbE, 5 x COM, 9 x USB, 12V DC-in

Optional Accessories

713000001500	LGA1700 cooler kit, 1U chassis compatible, 65W
713000001600	LGA1700 cooler kit, 1U chassis compatible, 35W
594Q3002810E	USB 3.0 cable 90D 9P AM/9P AF 20 cm
594Q3102110E	COM port cable, 3 x DSUB-9P/HS2 x 5P, L=30 cm
59403208000E	SATA cable 180D to 180D with lock L: 20 cm-UL
594Q3002800E	USB2.0 cable HS2 x 5P P2.0/2 x USB stack AF 20 cm