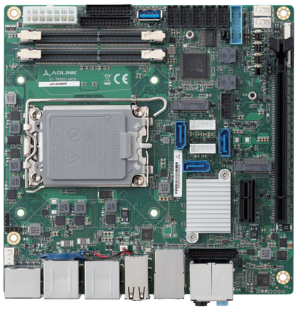
AmITX-AD-G

Mini-ITX Embedded Board with 12th/13th/14th Gen Intel® Core™ Desktop Processors





Features

- 12th/13th/14th Gen Intel® Core™ i7/i5/i3, Intel® Pentium® and Celeron® Desktop Processors with Intel® Q670E/ H610E Chipset
- Up to 32GB dual channel DDR4 at 3200MHz
- PCIe x16, PCIe x1, M.2
- 4 DisplayPort outputs on rear IO (Q670E)
- Supports Smart Embedded Management Agent (SEMA®) functions
- 2x USB 3.2 Gen 1 onboard header (H610E: 1x USB 2.0)
- 4x USB 3.2 Gen 1

Specifications

Processor & System	CPU	Embedded 12th Generation Intel® Core™ i7/i5/i3 and Pentium®/ Celeron® Processor, LGA1700 socket Intel® Core™ i7-12700 Processor, 12C, 2.1/4.9GHz, 25M, 65W/180W (Maximum Turbo Power) Intel® Core™ i7-12700E Processor, 12C, 2.1/4.8GHz, 25M, 65W Intel® Core™ i7-12700TE Processor, 12C, 1.4/4.6GHz, 25M, 35W Intel® Core™ i5-12500 Processor, 6C, 3.0/4.6GHz, 18M, 65W/117W (Maximum Turbo Power) Intel® Core™ i5-12500E Processor, 6C, 2.9/4.5GHz, 18M, 65W Intel® Core™ i5-12500TE Processor, 6C, 1.9/4.3GHz, 18M, 35W Intel® Core™ i5-12400 Processor, 6C, 2.5/4.4GHz, 18M, 65W/117W (Maximum Turbo Power) Intel® Core™ i3-12100E Processor, 4C, 3.2/4.2GHz, 12M, 60W Intel® Core™ i3-12100 Processor, 4C, 3.3/4.3GHz, 12M, 60W/89W (Maximum Turbo Power) Intel® Core™ i3-12100TE Processor, 4C, 2.1/4.0GHz, 12M, 35W Intel® Pentium® Gold G7400TE Processor, 2C, 3.0/3.0GHz, 6M, 35W Intel® Pentium® Gold G7400E Processor, 2C, 3.6/3.6GHz, 6M, 46W Intel® Celeron® Processor G6900E, 2C, 3.0/3.0GHz, 4M, 46W Intel® Celeron® Processor G6900TE, 2C, 2.4/2.4GHz, 4M, 35W

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Specifications

Processor & System	CPU	Embedded 13th Generation Intel® Core™ i7/i5/i3 and Pentium®/ Celeron® Processor, LGA1700 socket Intel® Core™ i7-13700 Processor, 16C, 2.1/5.2GHz, 30M, 65W/219W (Maximum Turbo Power) Intel® Core™ i7-13700E Processor, 16C, 1.9/5.1GHz, 30M, 65W Intel® Core™ i7-13700TE Processor, 16C, 1.1/4.8GHz, 30M, 35W Intel® Core™ i5-13500 Processor, 14C, 2.5/4.8GHz, 24M, 65W/154W (Maximum Turbo Power) Intel® Core™ i5-13500E Processor, 14C, 2.4/4.6GHz, 24M, 65W Intel® Core™ i5-13500TE Processor, 14C, 1.3/4.5GHz, 24M, 35W Intel® Core™ i5-13400 Processor, 10C, 2.5/4.6GHz, 24M, 65W/148W (Maximum Turbo Power) Intel® Core™ i3-13100E Processor, 4C, 3.3/4.4GHz, 12M, 60W Intel® Core™ i3-13100 Processor, 4C, 3.4/4.5GHz, 12M, 60W/110W (Maximum Turbo Power) Intel® Core™ i3-13100TE Processor, 4C, 2.4/4.1GHz, 12M, 35W Embedded 14th Generation Intel® Core™ i7/i5/i3 and Pentium®/ Celeron® Processor, LGA1700 socket Intel® Core™ i7-14700 Processor, 20C, 2.1/5.4GHz, 33M, 65W/219W (Maximum Turbo Power) Intel® Core™ i7-14700T Processor, 20C, 1.3/5.2GHz, 33M, 35W/106W (Maximum Turbo Power) Intel® Core™ i5-14500T Processor, 14C, 1.7/4.8GHz, 24M, 35W/92W (Maximum Turbo Power) Intel® Core™ i3-14100 Processor, 4C, 3.5/4.7GHz, 12M, 60W/110W (Maximum Turbo Power) Intel® Core™ i3-14100T Processor, 4C, 2.7/4.4GHz, 12M, 35W/69W (Maximum Turbo Power)
	Chipset	Intel® Q670E/H610E Chipset
	BIOS	EFI in 16MB SPI BIOS Optional SPI BIOS socket onboard and SPI header for external BIOS, dual BIOS support TPM module soldered onboard Precision RTC (optional)
	Debug Header	40-pin multipurpose flat cable connector. Use in combination with DB-40 debug module providing BIOS POST code LEDs, BMC access, SPI BIOS, flashing, power testpoints, debug LEDs
	Memory	Dual channel non-ECC 3200 MHz DDR4 memory up to 32GB in dual vertical SODIMM sockets
	Board Management Controller	Supports: voltage monitoring, system and CPU temperature monitoring, smart fan control,logistics and forensic information, general purpose I2C, watchdog timer
I/O Interfaces	Expansion Slots	1x PCIe x16 Gen4 slot 1x PCIe x1 Gen3 slot 2x M.2 (M key, Support 2242 and NVMe boot) M.2 #1 (Q670E: PCIe 3.0 ×4; H610E: PCIe 3.0 x4 and w/ SATA interface)) M.2 #2 (Q670E: PCIe 3.0 ×4; H610E: PCIe 3.0 x1 and w/o SATA interface) 1x SPI header for external BIOS

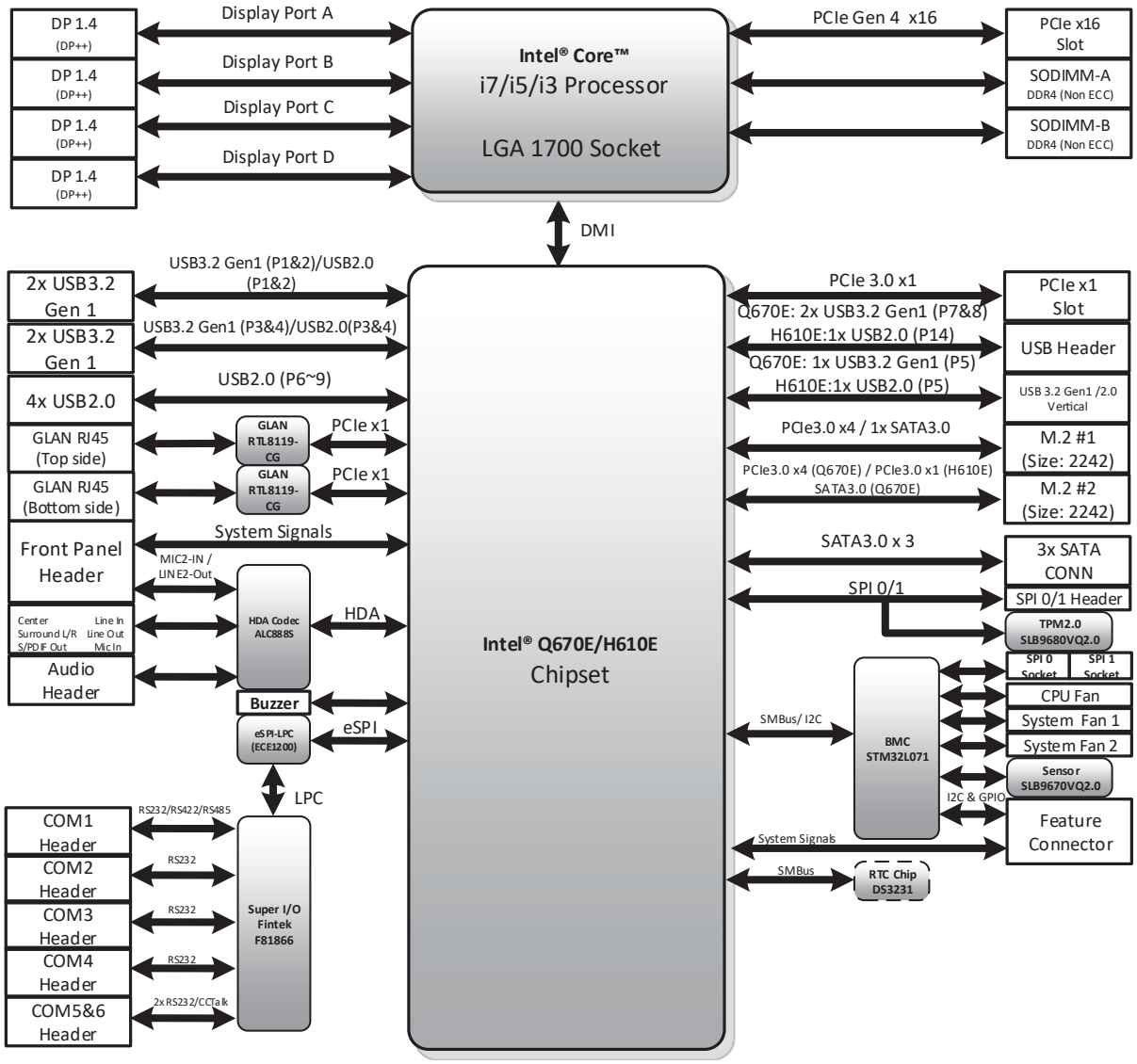
Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Specifications

I/O Interfaces	Serial ATA	3x SATA 6 Gbps ports (Jumper select NA/3.3V/5V for SATA1 and SATA2 to deliver power by SATA pin7; Default is NA) 2x SATA power connector
	USB	4x USB 3.2 Gen 1 and 4x USB 2.0 on rear I/O 2x USB 3.2 Gen 1 onboard header (H610E : 1x USB 2.0) 1x USB 3.2 Gen 1 on vertical connector with keep out area for dongle (H610E: USB 2.0)
	Serial Ports (9 bit protocol support)	1x RS-232/422/485 on internal header 3x RS-232 on internal headers 1x RS232/CCTALK x2 on internal header
	Digital IO	8x GPIO via onboard feature connector
Audio	Audio Codec	Realtek® ALC888S
	Interfaces	7.1 channel audio via 5 jacks and S/PDIF output on rear I/O 7.1 channel audio signals and S/PDIF output on internal header
Display	Graphics Core	Intel® 12th/13th/14th generation graphics core architecture (Intel® Xe Architecture) with up to 32 execution units supporting DirectX 12, OGL4.6, and up to four independent, simultaneous displays
	DisplayPort	Up to 4x DisplayPort v1.2 with max resolution of 4096x2304@60Hz 4x DisplayPort(Q670E), 3x DisplayPort (H610E)
Ethernet	Controller	2x Realtek RTL8119-CG Ethernet controller
	Interface	PCI Express x1 Bus 10/100/1000 connection
Power	Standard Input	ATX: 12V ±5% / 5Vsb ±5%
	AT	12V ±5%
	Peripheral Output	Onboard headers for fan and SATA power ATX Power Connector (14-pin)
Mechanical and Environmental	Dimension (mm)	170 mm x 170 mm (L x W)
Operating Temperature	Standard	0˚C to +60˚C
	Storage Temperature	-20˚C to +80˚C
	Certification	CE, FCC Class A
	Relative Humidity	40° C @ 95% RH Non-condensing

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Functional Diagram



Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Ordering Information

AmITX-AD-G-Q670E	Mini-ITX Embedded Board with 12th/13th/14th generation Intel® Core™ i7/i5/i3 Desktop Processor with Q670E Chipset
AmITX-AD-G-H610E	Mini-ITX Embedded Board with 12th/13th/14th generation Intel® Core™ i7/i5/i3 Desktop Processor with H610E Chipset

Optional Accessories

30-20876-1000	COM Port Cable, 1 Port, 25cm
30-20873-0000	USB 3.2 Gen 1 Cable, 2 ports, 20cm (for AmITX-AD-G-Q670E)
30-20874-1000	USB 2.0 Cable, 2 ports, 20cm (for AmTIX-AD-G-H610E)

Packing List

30-20872-0000	ATX/AT Power Cable
30-20875-0000	SATA Dual Power Cable
30-10057-0600	SATA Cable
34-25329-0000-A0	Rear I/O Shield

All products and company names listed are trademarks or trade names of their respective companies. Updated Jun. 24, 2024. ©2024 ADLINK Technology, Inc. All Rights Reserved. All pricing and specifications are subject to change without further notice.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000