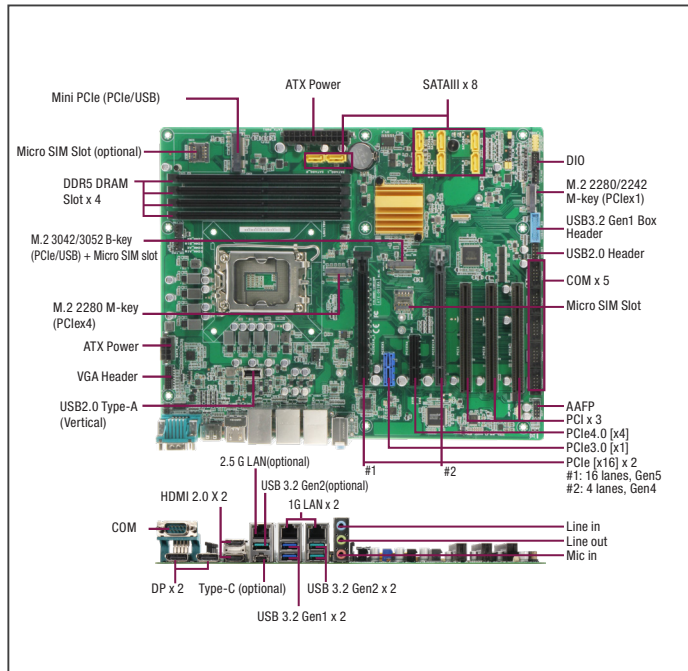


# ATX-Q670A

ATX with Intel® 12th Generation Core™ LGA1700 Socket Processor, Max.125W TDPs, DDR5 DRAM, Multiple Display Ports



## Specifications

System	
Processor	Intel® Alder Lake-S, LGA 1700 socket, Processor Max. 125W TDPs
Chipset	Intel® Q670 Express Chipset
Memory	DIMM x4, DDR5 (4000MHz x 4, Up to 128GB) Non-ECC, Un-buffered Memory, Dual-Channel Memory Architecture
I/O Chipset	NCT6126D
Ethernet	Intel® PHY i219LM Giga LAN x 1 (supports Intel® AMT 12.0) Intel® i210AT Giga LAN x 1 Intel® i225LM Giga LAN x 1 (Optional) RJ45 x 2 (Option: RJ45 x 3, LAN3 with USB3.2 Gen2 x 1)
Audio	Realtek ALC897 6-Channel High Definition Audio CODEC
TPM	TPM 2.0 onboard
Expansion Slots	PCIe (x16) Slot (16 lanes, Gen5) x 1 PCIe (x1) Slot (open Slot) (1 lane, Gen3) x 1 PCIe (x4) Slot (open Slot) (4 lanes, Gen4) x 1 PCIe (x16) Slot (4 lanes, Gen4) x 1 PCI Slot x 3 M.2 3042/3052 B Key (PCIe 3.0 x1 / USB3.2 Gen1) x 1 Mini PCIe Slot (PCIe 3.0 / USB2.0) x 1 Micro SIM card Slot x 1 (default with B-key; Option: with Mini PCIe Slot)
BIOS	256Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 step by software program
Smart Fan Control	CPU Fan/ Chassis Fan x 3
Wake On LAN/ PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® Graphics Media Accelerator
Graphics Multi Display	HDMI+HDMI+DP+DP, HDMI+HDMI+DP+VGA, HDMI+VGA+DP+DP
VGA	Up to 1920 x 1200 @60Hz (via IT6516B)
DVI	—
HDMI	Up to 4096 x 2160 @ 60 / 30 Hz, with digital audio (HDMI2.0)
Display Port	Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz, with Digital Audio
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	24-pin ATX connector x 1, 8-pin ATX 12V Power connector x 1
Operating Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operating Humidity	0%~90%RH, non-condensing

## Features

- 12th Gen. Intel® Core™ LGA1700 Processor
- DDR5 DRAM Support, 4000MHz, Max. 128GB
- Four Independent Display: HDMI2.0 x2, DP x2, VGA Header x1
- Dual Intel® Gigabit Ethernet (Option: additional LAN3 i225LM x1)
- M.2 Slot(M key) x2, M.2 Slot(B key) x1 + Micro SIM Slot x1, Mini PCIe x1
- USB 3.2 Gen2 x2, USB 3.2 Gen1 x4, USB 2.0 x3 (Option: USB Type-C x1; USB 3.2 Gen2 x3)
- SATA ports x8
- USB Power switchable feature, convenient way to reset USB device remotely
- Bootable feature in rear USB Port, enhance the security level
- TPM 2.0 on board



Certificate	CE & FCC Class A
Form Factor	ATX Form Factor, 12" x 9.6" (305mm x 244mm)
Weight	1.76 lb (0.8 Kg)
MTBF (Hours)	—

### Rear Panel I/O Ports

USB	USB 3.2 Gen2 (10Gbps) x 2 (Option: x3units if with LAN3 i225LM) USB 3.2 Gen1 (5Gbps) x 2, Type C (5Gbps, 5V, 1.5A) x 1 (Optional) (All ports are bootable, can be deactivated per BIOS function; USB Power switchable feature)
Display I/O	HDMI2.0 x 2, DP1.4 x 2
Audio I/O	3 x Audio Jack: Line-in, Mic-in, Line-out
LAN I/O	LAN (RJ-45) port x 2 (Option: RJ45 x 3)
Serial Port	DB-9 COM (supports RS-232/422/485, 5V/12V/RI) x 1
PS/2 Port	—
Others	—

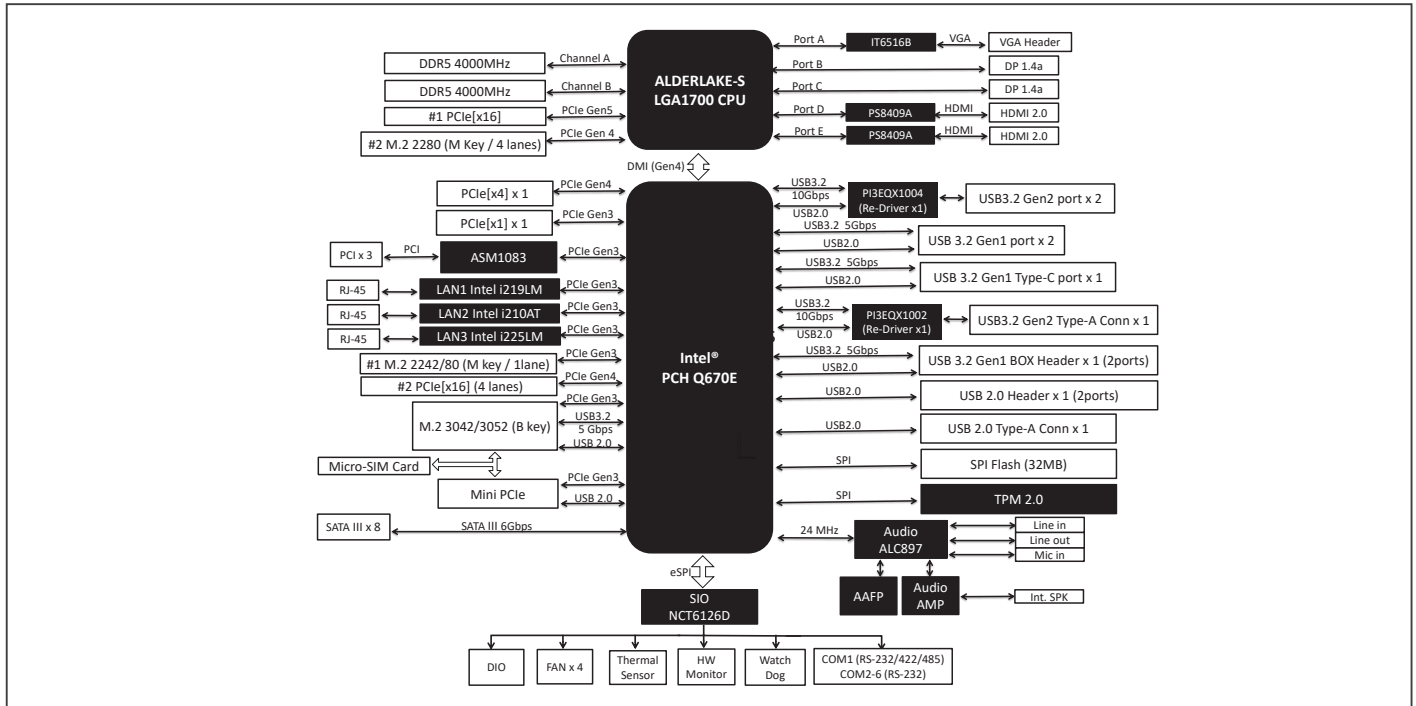
### Internal I/O Connectors

Storage	SATA III ports x 8, support RAID 0/1/5/10 M.2 2280 M key (PCIe 4 lanes, Gen4.0) x 1 M.2 2242/80 M key (PCIe 1 lane, Gen3.0) x 1
USB	USB 3.0 Box Header x 1 (2x5PIN, p=2.54mm) support 2 USB3.2 Gen1 ports (USB Power switchable feature) USB 2.0 Header x 1 (2x5PIN, p=2.54mm) support 2 USB2.0 ports (USB Power switchable feature) USB 2.0 Vertical type A connector x 1
Display I/O	VGA Header x 1
Audio I/O	Speaker header(Line-out), AAFP x 1
Serial Port	RS-232 headers x 5
PS/2 Port	—
Parallel Port	—
DIO	8-bit Digital I/O interface (In/Out programmable) x 1
FAN	4-pin CPU Fan connector(PWM mode) x 1 4-pin Chassis Fan connector(PWM mode) x 3
Power	—
Others	Chassis Intrusion x1, AT/ATX mode select jumper x1, Front panel header x 1 Clear CMOS jumper x 1, Buzzer onboard x 1, 3-pin ME lock header x 1
OS	
OS Support	Windows® 10 64-bit, Windows® 11 64-bit

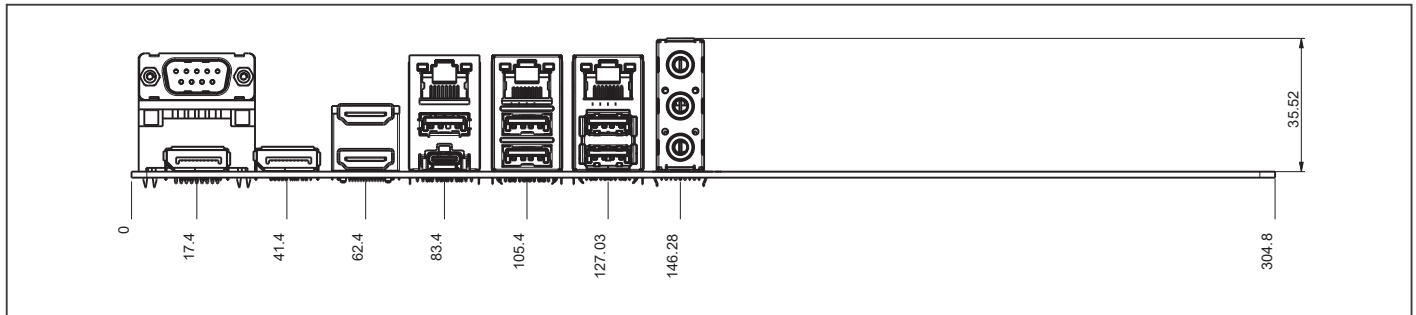
## Packing List

- 14001-0063010  
SATA 6G Cable (7P, 180; 90, 500mm 2 in1)
- 14019-00060700  
VGA Cable (320mm, 2X8P, w/bracket)
- I/O Shield
- ATX-Q670A

## Block Diagram



## Dimension Unit: mm



## Ordering Information

Part Number	CPU	RAM	Fan/ Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
ATX-Q670A-A10-2L	LGA1700 Socket	DDR5 4000MHz	Fan	HDMIx2, DPx2, VGA header x1	SATA3 x 8, M.2 2280 M-Key x1, M.2 2242/80 M-key x1	—	Intel@GbE x 2	USB 3.2 Gen2 x2, USB 3.2 Gen1 x2, USB 3.0 Header x1, USB 2.0 Header x1, USB2.0 (Vertical) type A x1	5	1	PCle [x16] Slot x1, PCle [x1] Slot x1, PCle [x4] Slot x1, PCle [x16] Slot (4 lanes) x1, PCI Slot x3, M.2 3042/3052 B Key (PCle/USB) x1+Micro SIM card Slot x1, Mini PCIe Slot (PCle/USB) x1	ATX	TPM2.0 onboard	32°F ~ 140°F (0°C ~ 60°C)

## Optional Accessories

Part Number	Description
1709100330	USB 2.0 cable (9P, 330MM, p=2.54mm, w/bracket)
170910020K	USB 2.0 cable (9P, 200MM, p=2.54mm, w/o bracket)
1700190450	USB3.2 Gen 1 Cable (19P, 450mm, w/bracket)