

Features

- Intel® Core™ Ultra Processors (Series 2), LGA 1851 Socket, up to 125W
- DDR5 6400MT/s, Dual-Channel CU/U-DIMM x 4, up to 256GB
- M.2 M-Key x 2, M.2 E-Key x 1, M.2 B-Key x 1
- USB 3.2 x 9, USB 2.0 x 7
- 2.5GbE LAN x 3
- SATA 6Gb/s x 4 with RAID 0, 1, 5, 10
- HDMI 2.1 TMDS x 2, DP1.4a x 1, VGA x 1
- PCIe Gen 5 [x16] x 2, PCIe Gen 4 [x4] x 2, PCIe Gen 4 [x1] x 3
- ATX Power



Rear Panel I/O Ports

USB	USB 3.2 Gen 2 x 6
Display I/O	DP1.4a x 1, HDMI 2.1 TMDS x 2, VGA x 1
Audio I/O	Mic-in x 1, Line-out x 1, Line-in x 1
LAN I/O	RJ-45 LAN x 3
Serial Port	DB-9 for RS-232/422/485 x 1
PS/2 Port	—
Others	—

Internal I/O Connectors

Storage	M.2 2242/2260/2280/22110 M-Key x 1 (PCIe Gen 5 [x4]), NVMe supported M.2 2280 M-Key x 1 (PCIe Gen 4 [x4]), NVMe supported SATA 6Gb/s x 4, RAID 0, 1, 5, 10 support
USB	USB 3.2 (Gen 1x1) x 2 via Box Header x 1 USB 2.0 x 6 via Pin Header x 3 USB 3.2 (Gen 1x1) x 1 (Type-A, Vertical) USB 2.0 x 1 (Type-A, Vertical)
Display I/O	—
Audio I/O	Speaker header x 1, Front panel x 1
Serial Port	RS-232 x 5
PS/2 Port	PS/2 x 1
Parallel Port	—
DIO	8-bit Header x 1
FAN	CPU Fan Header (Smart Fan) x 1, 3-pin Connector for System Fan x 2 (PWM Mode)
Power	24+8-pin ATX Header
Others	Chassis Intrusion x 1, AT/ATX Mode Select Jumper x 1, Clear CMOS Jumper x 1, Buzzer Onboard x 1, Nano SIM Card Slot x 1
OS	
OS Support	Windows® 11 (64-bit), Linux

Specifications

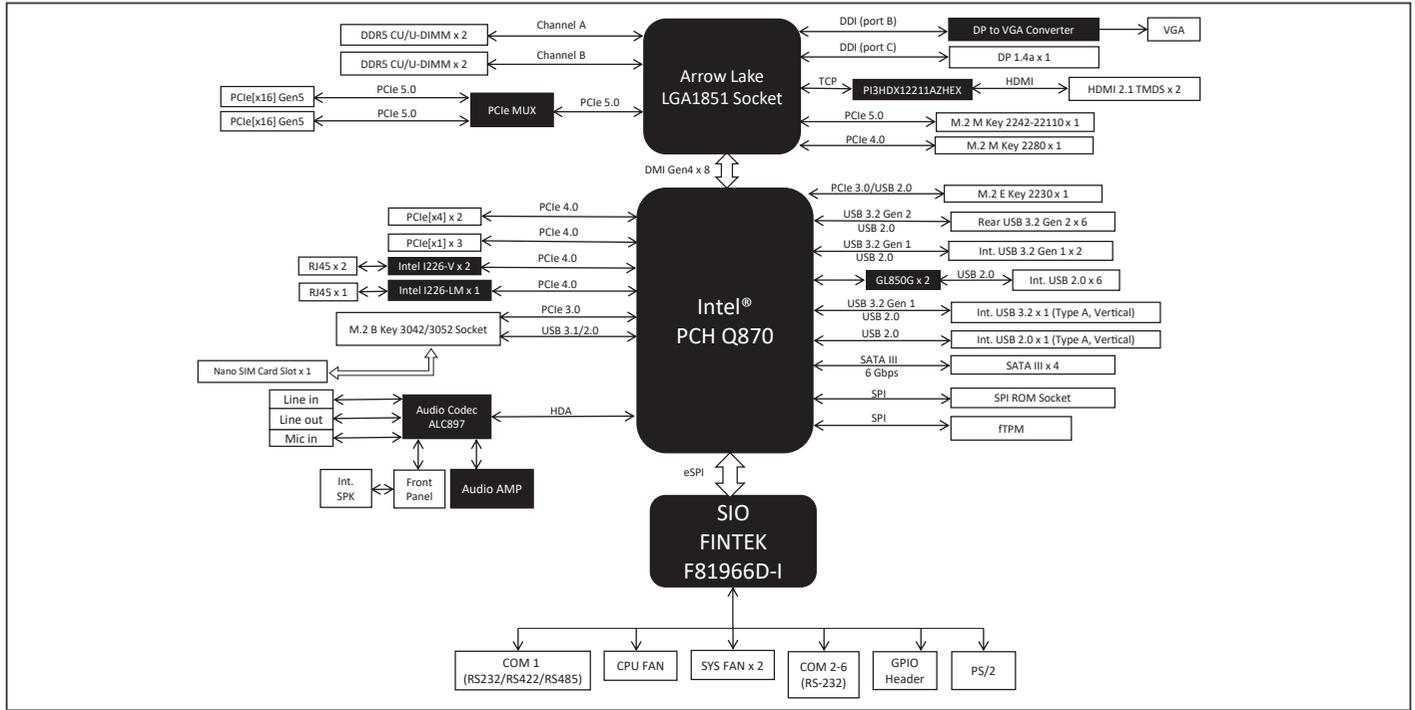
System	
Processor	Intel® Core™ Ultra Processors (Series 2), LGA1851 Socket, up to 125W
Chipset	Intel® Q870 Chipset
Memory	DDR5 6400MT/s x 4, Dual Channel CU/U-DIMM, up to 256GB
I/O Chipset	Fintek F81966D-I
Ethernet	Intel® Ethernet Controller I226-LM, 2.5GbE x 1 Intel® Ethernet Controller I226-V, 2.5GbE x 2
Audio	Realtek® ALC897 Audio Codec
TPM	Intel® PTT (fTPM)
Expansion Slots	PCIe Gen 5 [x16] x 2 (PCIe Gen 5 [x16] x 1 or PCIe Gen 5 [x8] x 2) PCIe Gen 4 [x4] x 2 PCIe Gen 4 [x1] x 3 M.2 2230 E-Key x 1 (USB 2.0/PCIe Gen 3 [x1]), CNVio supported M.2 3042/3052 B-Key x 1 (PCIe Gen 3 [x1]/USB 3.1/USB 2.0), 4G/5G supported
BIOS	UEFI
H/W Monitor	—
WatchDog Timer	255 Levels
Smart Fan Control	CPU Fan/System Fan
Wake On LAN/ PXE	Yes (WOL)
Power State	S3, S5
Graphics	
Graphics Chipset	Intel® Graphics
Graphics Multi Display	Supports 4 Displays
VGA	VGA x1 (Max Resolution: 1920 x 1080 @60Hz)
DVI	—
HDMI	HDMI 2.1 TMDS x 2 (Max Resolution: 3840 x 2160@60Hz)
Display Port	DP 1.4a x 1 (Max Resolution: 4096 x 2160@60Hz)
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium Battery
Power Requirement	ATX Power Supply, Internal 24+8-pin ATX Header
Operating Temperature	-4°F ~ 140°F (-20°C ~ 60°C) (Operational humidity: 10~90% Relative Humidity, Non-condensing)
Storage Temperature	-4°F ~ 185°F (-20°C ~ 85°C)
Certificate	CE & FCC Class A, LVD
Form Factor	12" x 9.6" (305mm x 244mm)
Weight	1.54 lb (0.7 Kg)
MTBF (Hours)	TBD

Packing List

- ATX-Q870A Motherboard
- COM Cable
- SATA Cable
- IO Shield
- Jumper

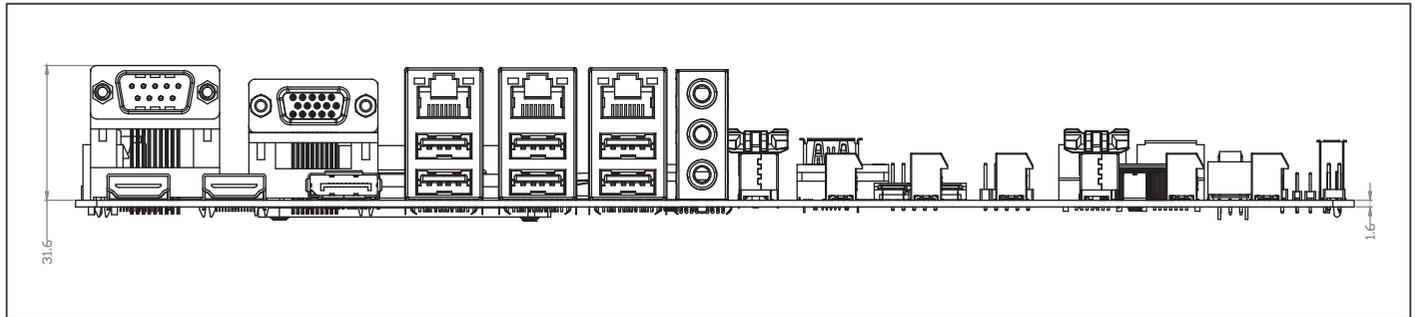


Block Diagram



Dimension

Unit: mm



Ordering Information

Part number	CPU	RAM	Fan/ Fanless	Display	LVDS/ eDP	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
ATX-Q870A-A10	Socket	U-DIMM x 4	Fan	HDMI 2.1 TMDS x 2 DP1.4a x 1 VGA x 1	—	SATA 6Gb/s x 4	2.5GbE x 2	USB 3.2 x 9 USB 2.0 x 7	5	1	PCIe Gen 5 [x16] x 2 PCIe Gen 4 [x4] x 2 PCIe Gen 4 [x1] x 3 M.2 E Key x 1 M.2 B Key x 1	ATX	Intel® PTT (TPM)	-4°F ~ 140°F (-20°C ~ 60°C)