

## Features

- Top Layer Soldered Socket
- Intel® Core™ Ultra Processors supports LGA 1851 CPU Up to 35W Max
- Intel® Q870/H810 chipsets
- Single DDR5 6400MHz SO-DIMM socket, support up to 48GB
- Triple Display: 1x DP, 1x HDMI, 1x 2CH LVDS or 1x eDP (Default LVDS)
- Expansion Slot: M.2 Key-E, M.2 Key-M
- Dual 2.5G Gigabit Ethernet
- 2 x RS-232/422/485, 2 x RS-232
- DC in +12V



HDMI



DP++



DDR5  
SO-DIMM



USB 3.2



RS232/422/485

## Specifications

### System Information

Processor	LGA 1851 Socket Supports Intel® Core™ Ultra Processors (Max. TDP at 35W)
Platform Controller Hub	Intel® Q870/H810 Chipset
System Memory	1 x 262pin SO-DIMM Up to 48GB Dual Channel DDR5 5600/6400MHz (6400Mhz for Ultra 7, Ultra 9 CPU)
I/O Chipset	EC ITE IT5782VG
Watchdog Timer	H/W Reset, 5~255 Seconds/5~255 Minutes
BIOS	AMI BIOS, 256Mbit SPI Flash ROM
H/W Status Monitor	CPU & system temperature monitoring Voltages monitoring
TPM	Onboard NuvoTon NPCT760AABYX

### Expansion

Expansion	1 x M.2 Key E 2230, support Wi-Fi module, support PCIe x2 Gen 4, USB 2.0 1 x M.2 Key M 2280, support PCI-e x4 Gen 4 NVMe or SATA device 1 x M.2 Key M 2242, support PCI-e x4 Gen 4 NVMe or SATA device (for Q870 only)
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### Storage

Storage	1 x M.2 Key M 2280, support PCI-e x4 Gen4 NVMe or SATA device 1 x M.2 Key M 2242, support PCI-e x4 Gen4 NVMe or SATA device (for Q870 only)
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### Display

Graphic Chipset	Intel® Xe LPG graphics architecture CPU integrated
Spec. & Resolution	1 x DP 2.0: Max: 7680 x 4320@60 Hz 1 x HDMI 2.0 : 4096 x 2304@60 Hz 1 x LVDS: 1920 x 1080 Dual channel 18/24-bits LVDS (Chrontel CH7513A-BF eDP to LVDS) or 1 x eDP: 1920 x 1080 @60Hz (2 Lanes), default LVDS
Multiple Display	Triple Display
LVDS	1 x LVDS: 1920 x 1080 Dual channel 18/24-bits LVDS (Chrontel CH7513A-BF eDP to LVDS)

### Audio

Audio Codec	Realtek ALC888S HD Audio Decoding Controller
Audio Interface	Line-in, Mic-in, Line-out

### Ethernet

LAN Chipset	1 x Intel® i226LM 2.5 Gigabit Controller 2 x Intel® i226V 2.5 Gigabit Controller (H810 only 1 x Intel® i226-V 2.5 Gigabit Controller)
Ethernet Interface	10/100/1000/2.5G Base-Tx GbE compatible
LAN Port	3 x RJ-45 (LAN3 for Q870 only)

### Power Requirement

Power Mode	AT/ATX (Default Setting: AT)
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### Software Support

OS	Windows 11, Linux
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### Certification

Certification Information	CE, FCC, RoHS Compliant
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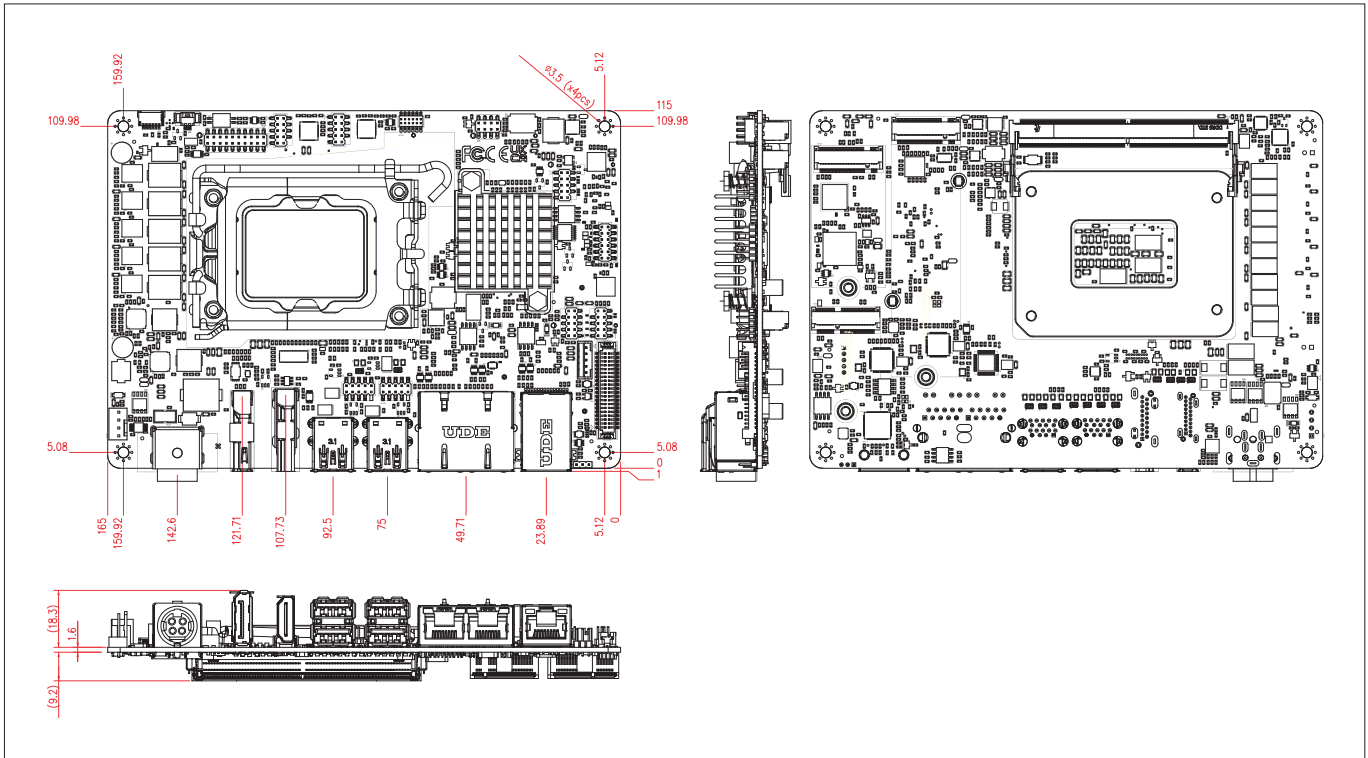
### I/O

USB	4 x USB 3.2 Gen 2 at I/O for Q870 (2 x USB 3.2 Gen 2, 2 x USB 3.2 Gen 1 at I/O for H810) 4 x USB 2.0 ports by pin header
COM Port	2 x RS-232/RS422/485, 2 x RS-232
GPIO	1 x 16-bit GPIO

### Mechanical & Environmental

Operating Temp.	0°C ~ 60°C (32°F ~ 140°F), ambient 0.5m/s air flow
Storage Temp.	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	40°C @ 95% Relative Humidity, Non-condensing
Weight	0.70lbs (0.3kg)
Power Requirement	DC in +12V
Dimension (L x W)	(6.5" x 4.5") 165 x 115 mm

## Mechanical Drawing



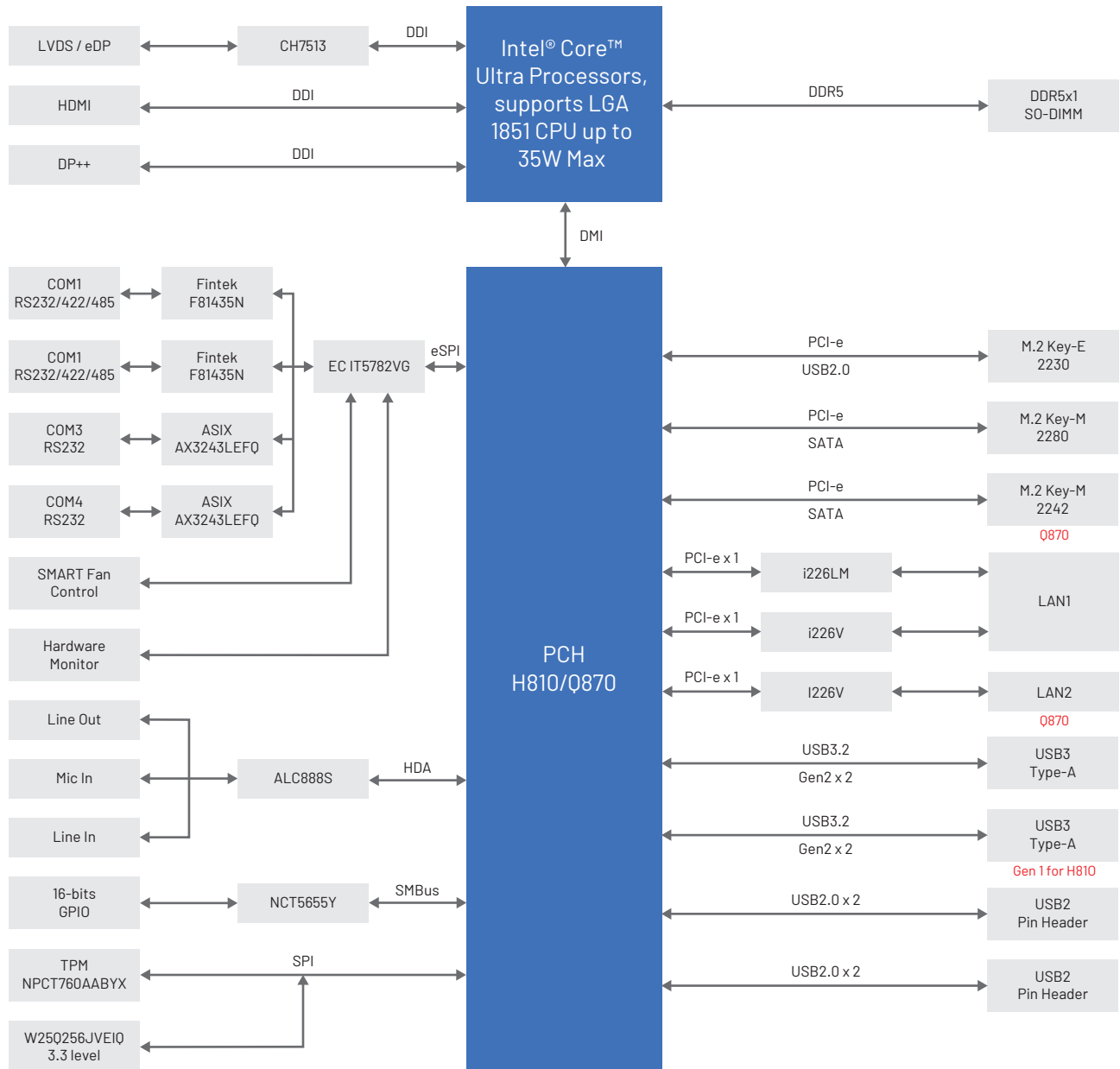
## Ordering Information

P/N	Processor	Chipset	LAN	USB	COM	PCIe Slot	Power Input	Temp.	Note
EPI-ARLS-Q87-A1R	NA	Intel® Q870	3	8	4	0	+12V DC	0°C ~ 60°C (32°F ~ 140°F)	NA
EPI-ARLS-H81-A1R	NA	Intel® H810	2	8	4	0	+12V DC	0°C ~ 60°C (32°F ~ 140°F)	NA

## Packing List

Item	Quantity
Flat cable 9P (M)-PHD 10P/2.0mm	1
CPU Cooler	1
M.2 Screws	3
Graphene sheet	1

## Block Diagram



## I/O Overview

