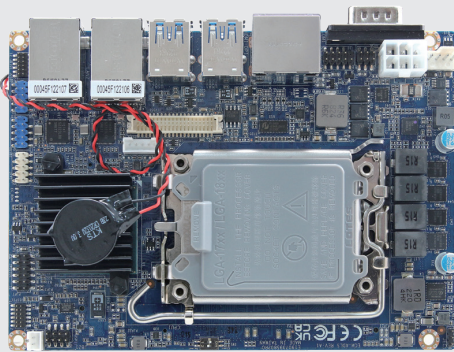


ECM-ADLS

Intel 12th Gen Core™ i9/i7/i5/i3/Pentium®/Celeron®
Processor, supports LGA 1700 CPU Up to 35W Max 3.5
Micro Module



Features

- Top Layer Soldered Socket
- Intel® 12th/13th Gen Core™ i9/i7/i5/i3/Pentium®/ Celeron® Processor, supports LGA 1700 CPU Up to 35W Max; 13th does not support i7, i9 CPU.
- Intel® Q670E/H610E Chipsets
- Single DDR5 4800MHz SO-DIMM Socket, Supports up to 32GB
- Triple Display: 1 x DP++, 1 x HDMI, 1 x 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
- DC in +12V Note: Only Use DC IN 12V for ECM-ADLS, Please Do Not Use Switching Power Supply.



HDMI



DP++



DDR5
SO-DIMM



USB 3.2



RS232/422/485

Specifications

System Information

Processor	Intel® LGA 1700 socket supports 12th/13th Gen Core™ i9/i7/i5/i3/Pentium®/Celeron® Processor Up to 35W Max *13th does not support i7 & i9 CPU
Platform Controller Hub	Intel® Q670E Chipset Intel® H610E Chipset
System Memory	1 x 262-pin DDR5 4800MHz SO-DIMM socket, support up to 32GB (Non ECC for Chipset Q670E & H610E)
I/O Chipset	EC ITE IT5782VG
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec and 1sec. or 1min./step
BIOS	AMI BIOS, 256Mbit SPI Flash ROM
H/W Status Monitor	CPU & system temperature monitoring Voltages monitoring
TPM	fTPM
Board	3.5"

Expansion

Expansion	1 x M.2 Type E 2230, supports Wi-Fi module, supports 2x PCIe x1 Gen 3, USB 2.0 1 x M.2 Type M 2280, supports PCIe x4 Gen3 NVMe or SATA device
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Storage

Storage	1 x M.2 (Type M 2280), support PCI-e x4 Gen 3 NVMe or SATA device
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Display

Graphic Chipset	Intel® 12th Generation CPU integrated
Spec. & Resolution	1 x DP 1.4b : 4096 x 2304@60 Hz, support DP++ 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 Note: JLVDS1 Support 1x LVDS or 1x eDP, share the same connector.
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	2 x Intel® I226LM 2.5 Gigabit Controller
Ethernet Interface	10/100/1000/2.5G Base-Tx GbE compatible
LAN Port	2 x RJ-45

Power Requirement

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

OS	Windows 10, Windows 11, Linux
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Certification

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

USB	4 x USB 3.2 Gen2 (Note: H610E USB 3.2 Support 2 x Gen2 & 2 x Gen1) 4 x USB 2.0
COM Port	2 x RS-232/422/485
DIO	1 x 8-bit GPIO
MIO	1 x eSPI

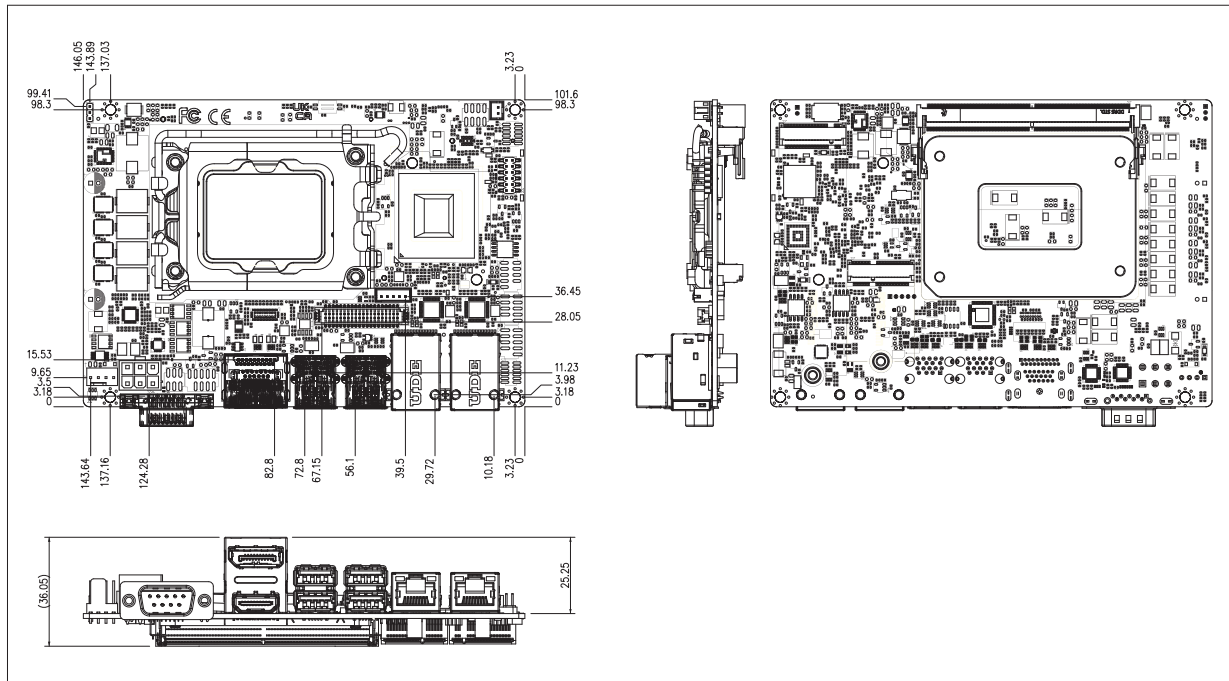
Mechanical & Environmental

Operating Temp.	0~60°C (32~140°F) with 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	0.44lbs (0.2kg)
Power Requirement	DC in +12V Note: Only use DC IN 12V for ECM-ADLS, please do not use Switching Power Supply.
Dimension (L x W)	5.7" x 4" (146mm x 101mm)

ECM-ADLS

Intel 12th Gen Core™ i9/i7/i5/i3/Pentium®/Celeron®
Processor, supports LGA 1700 CPU Up to 35W Max 3.5
Micro Module

Mechanical Drawing



Ordering Information

P/N	Processor	Chipset	LAN	USB	COM	PCIe Slot	Power Input	Temp.
ECM-ADLS-Q67-A1R	Intel® LGA 1700 socket supports 12th/13th Gen Core™ i9/i7/i5/i3/ Pentium®/Celeron® Processor Up to 35W Max *13th does not support i7 & i9 CPU	Intel® Q670E	2	8	2	0	+12V DC	0°C ~ 60°C (32°F ~ 140°F)
ECM-ADLS-H61-A1R	Intel® LGA 1700 socket supports 12th/13th Gen Core™ i9/i7/i5/i3/ Pentium®/Celeron® Processor Up to 35W Max *13th does not support i7 & i9 CPU	Intel® H610E	2	8	2	0	+12V DC	0°C ~ 60°C (32°F ~ 140°F)

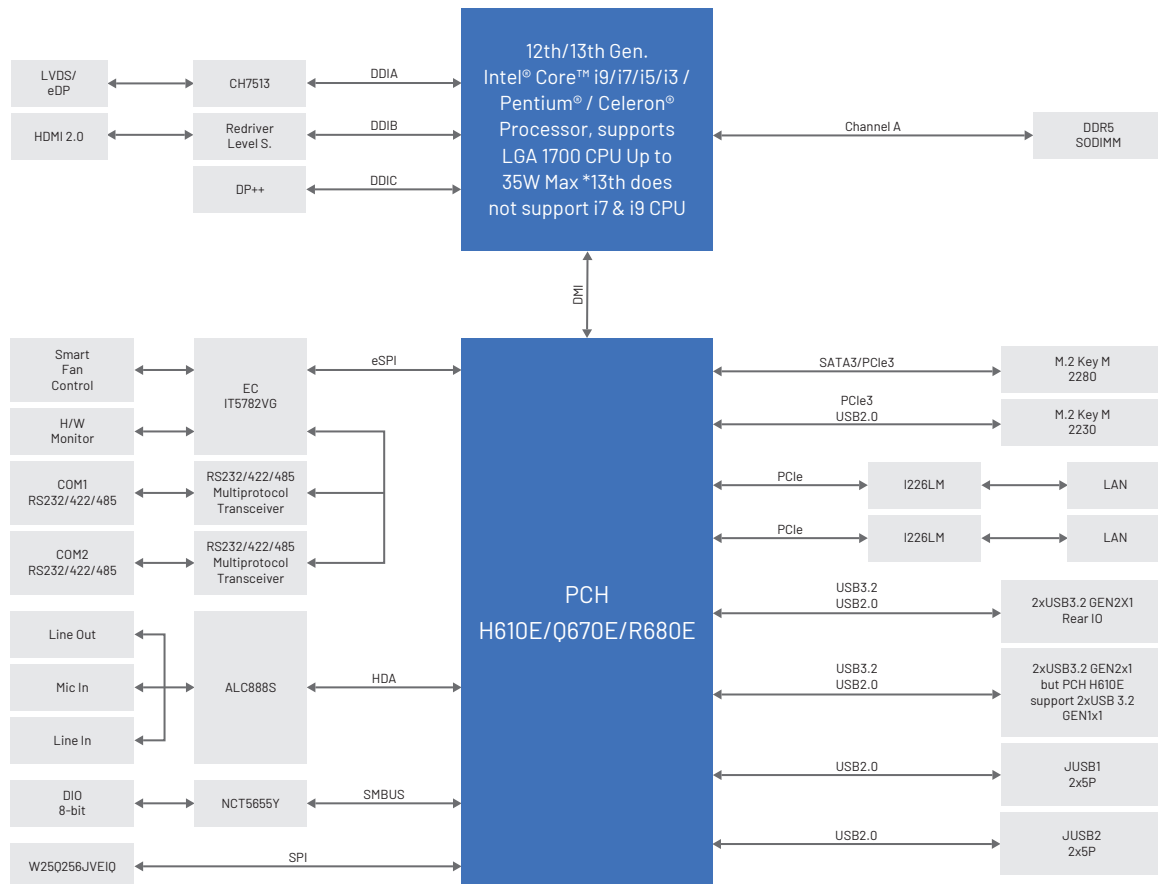
Packing List

Item	P/N	Quantity
Power Cable (6-pin)	-	1
Flat Cable 9P(M)-PHD (10P/2.0mm)	-	1
CPU Cooler	-	1

ECM-ADLS

Intel 12th Gen Core™ i9/i7/i5/i3/Pentium®/Celeron®
Processor, supports LGA 1700 CPU Up to 35W Max 3.5
Micro Module

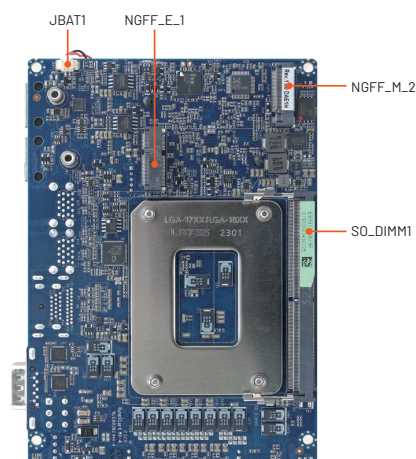
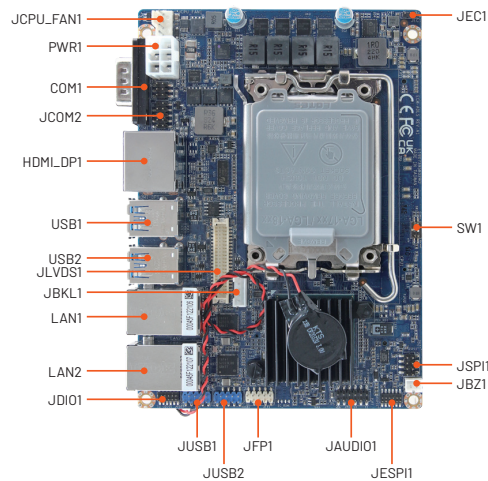
Block Diagram



ECM-ADLS

Intel 12th Gen Core™ i9/i7/i5/i3/Pentium®/Celeron®
Processor, supports LGA 1700 CPU Up to 35W Max 3.5
Micro Module

I/O Overview



Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

US

sales@assured-systems.com

Sales: +1 347 719 4508

Support: +1 347 719 4508

1309 Coffeen Ave
Ste 1200
Sheridan
WY 82801
USA

EMEA

sales@assured-systems.com

Sales: +44 (0)1785 879 050

Support: +44 (0)1785 879 050

Unit A5 Douglas Park
Stone Business Park
Stone
ST15 0YJ
United Kingdom

VAT Number: 120 9546 28

Business Registration Number: 07699660