

# ALD-70

12th Gen Intel® Alder Lake-S Processor with H610 chipset based Mini ITX Motherboard



## Features

- CPU: 12th Generation Intel® Core™ i3/i5/i7/i9 CPU + H610 Chipset
- Memory: Dual channel SO-DIMM DDR4 Up to 64GB
- Display: Integrated Graphics, display via DP+HDMI+eDP
- Ethernet Controllers: 1xIntel i219+2xIntel i226
- Storage: SATA3.0, M.2 for SSD
- Expansion: PCIe 16X, M.2 for WiFi
- Power: ATX input



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## Introduction

The Maxtang mini ITX ALD-70 embedded motherboard is based on an LGA1700 socket; select from the 12th Gen Intel® Alder Lake-S series desktop processor with an H610 chipset. Provides a complete PC platform with powerful performance; supports trio displays via HDMI+DP+eDP(the eDP can be expanded to LVDs/DP/HDMI) in addition to dual-channel SO-DIMM DDR4 memory. The board has one Intel i219 and two i226 Ethernet controllers up to 2.5GbE for high-speed communication. A rich I/O interface includes 6xCOM, GPIO, PS/2, and plenty of USB ports for other usages.

The ALD-70 is an ideal solution for various applications. It retains the robust design like all other Maxtang products with cost advantages. Our goal is to provide the customer excellent user experience with a reliable product for more flexibility and productivity.



H/W Monitor



Watchdog

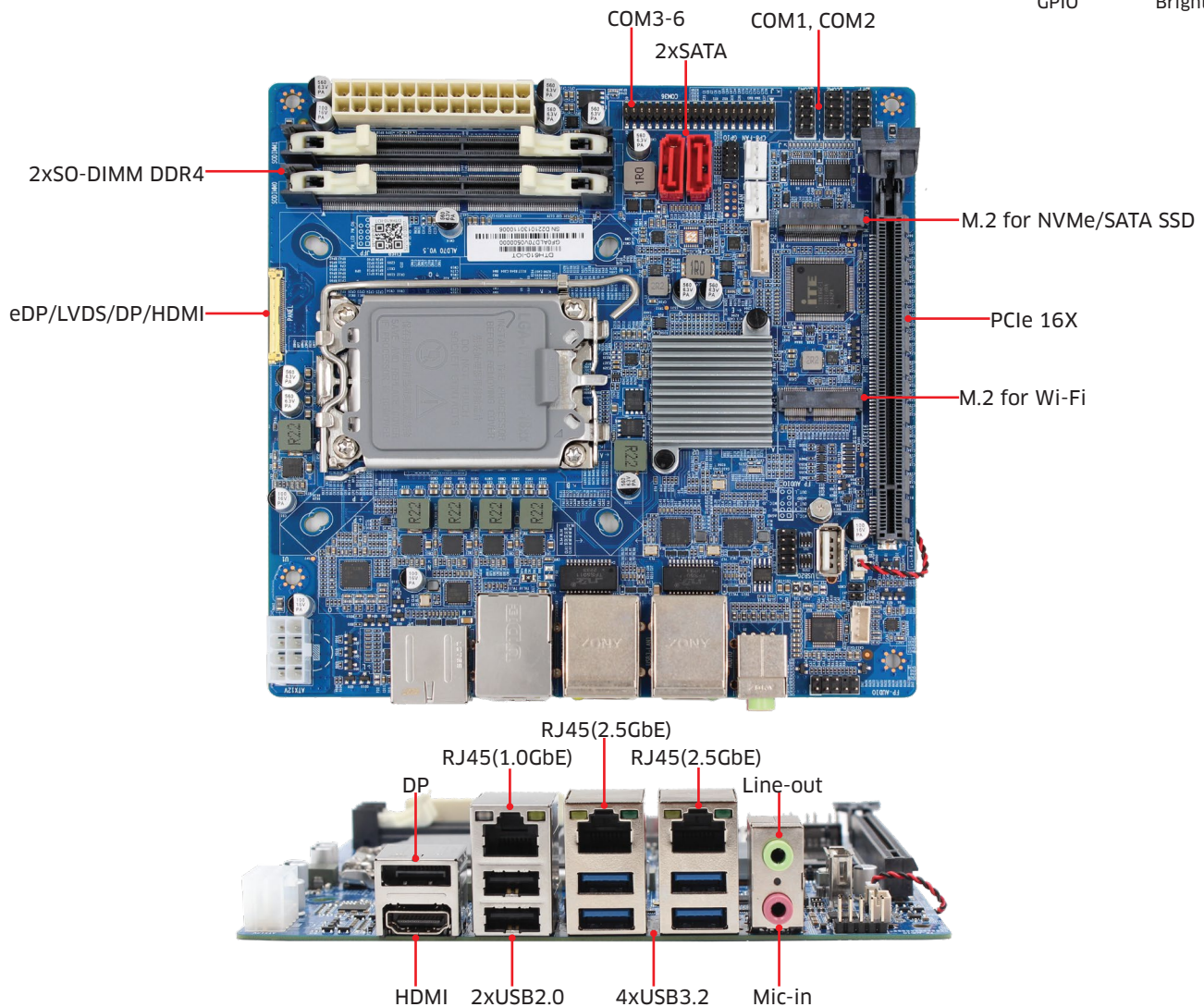


GPIO



Brightness

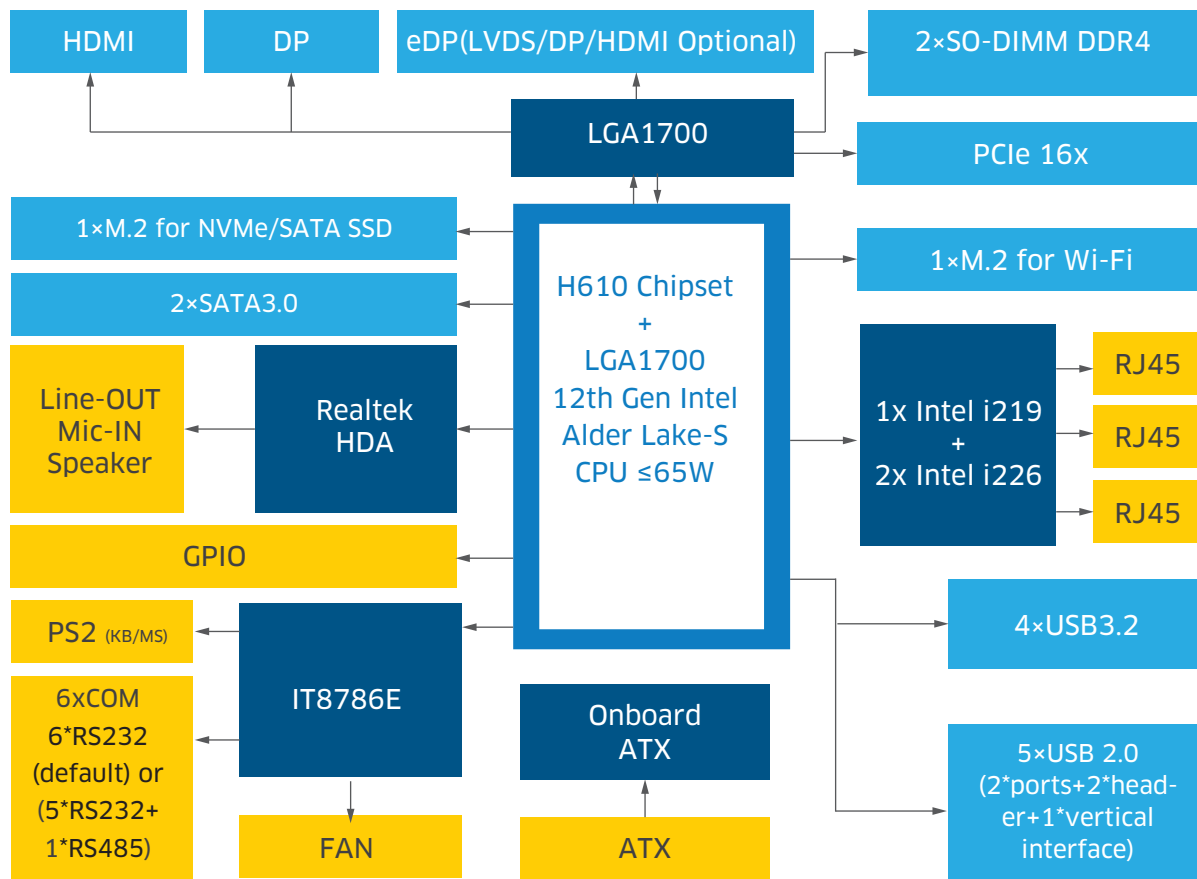
## I/O Interfaces



## Technical Specifications

Processor	CPU	i9-12900	i7-12700	i5-12400	i3-12300
	Total Core	16	12	6	4
	# of Performance-cores	8	8	6	4
	# of Efficient-cores	8	4	0	0
	P-Core Max Turbo Frequency	5.00GHz	4.80GHz	4.40GHz	4.40GHz
	P-Core Base Frequency	2.40GHz	2.10GHz	2.50GHz	3.50GHz
	Cache: Intel® Smart Cache	30MB	25MB	18MB	12MB
	Processor base Power	65W	65W	65W	60W
	Platform	Alder Lake-S Processor ≤65W			
	Socket	LGA1700 Socket			
	Chipset	Intel H610			
	BIOS	AMI UEFI BIOS			
	Memory	Type	Dual Channel SO-DIMM DDR4		
		Max. Capacity	64GB		
Display	GPU	Integrated Intel® UHD graphics			
	Display via	1xDP+1xHDMI+1x eDP(the eDP can be expanded to LVDs/DP/HDMI)			
Ethernet	Controller	1x Intel i219, Date Rate Per Port:1.0GbE			
		2x Intel i226, Date Rate Per Port:2.5GbE			
	Interface	3xRJ45			
Audio	Wake on LAN	Yes			
	Audio Codec	Realtek HD			
Hardware	Interface	Line-out, (line-in optional), Mic-in, supports audio header, amplifier header			
		CPU system temperature, On-board voltage, Watchdog, Auto power on			
Storage	M.2	1x M.2 for 2280 NVMe/SATA SSD			
	SATA3.0	2			
Expansion	M.2	1x M.2 for Wi-Fi, support Intel® Integrated Connectivity (CNVi)			
	PCIe5.0	1*PCIe16X			
I/O Interface	LAN	3			
	COM	6xCOM: 6*RS232(default) or 5*RS232+1*RS485(COM2)			
	USB2.0	5 (2*ports+2*header+1*vertical interface)			
	USB3.2	4			
	Audio	1x Line-out, 1x Mic-in			
	GPIO	8 (one group)			
	PS/2	1			
	TPM	Optional			
	Dimension	Size	170mm x 170mm		
		Board Type	Mini ITX		
Power	Standard Port	24-pin ATX + 12V auxiliary ATX supply (2x4)			
	Peripheral Input	For Fan and SATA			
Temperature	Operating Temp.	-20°C to 60°C			
	Storage Temp.	-40°C to 80°C			
Operating System	Windows 10/11, Linux				

## Functional Block Diagram



## Order Information

Model Name	Description
DTH610-IOT	DT Intel H610 ALD70 170*170MM IOT 3LAN 6*RS232

\*For customized options, please consult regional sales. And please confirm the model name and description before purchasing. \*The model name and description might vary due to inventory changes.

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