

# H610I-EM-A

Mini-ITX, LGA1700 socket for the 12<sup>th</sup>/13<sup>th</sup> Gen CPU, H610 chipset, 2\*SO-DIMM.  
1\*PCIe x16, 1\*DP, 2\*HDMI, 1\*LVDS, 2\*M.2 slot, 2\*SATA connectors

Back I/O



## Features

- Two SO-DIMM up to 32GB DDR4 2666/2400/2133 MHz.
- Supports 3 displays (2 displays simultaneous ): 1 x DP, 2 x HDMI, 1 x LVDS
- 7-year longevity supply
- Wide temperature Range: 0~60°C

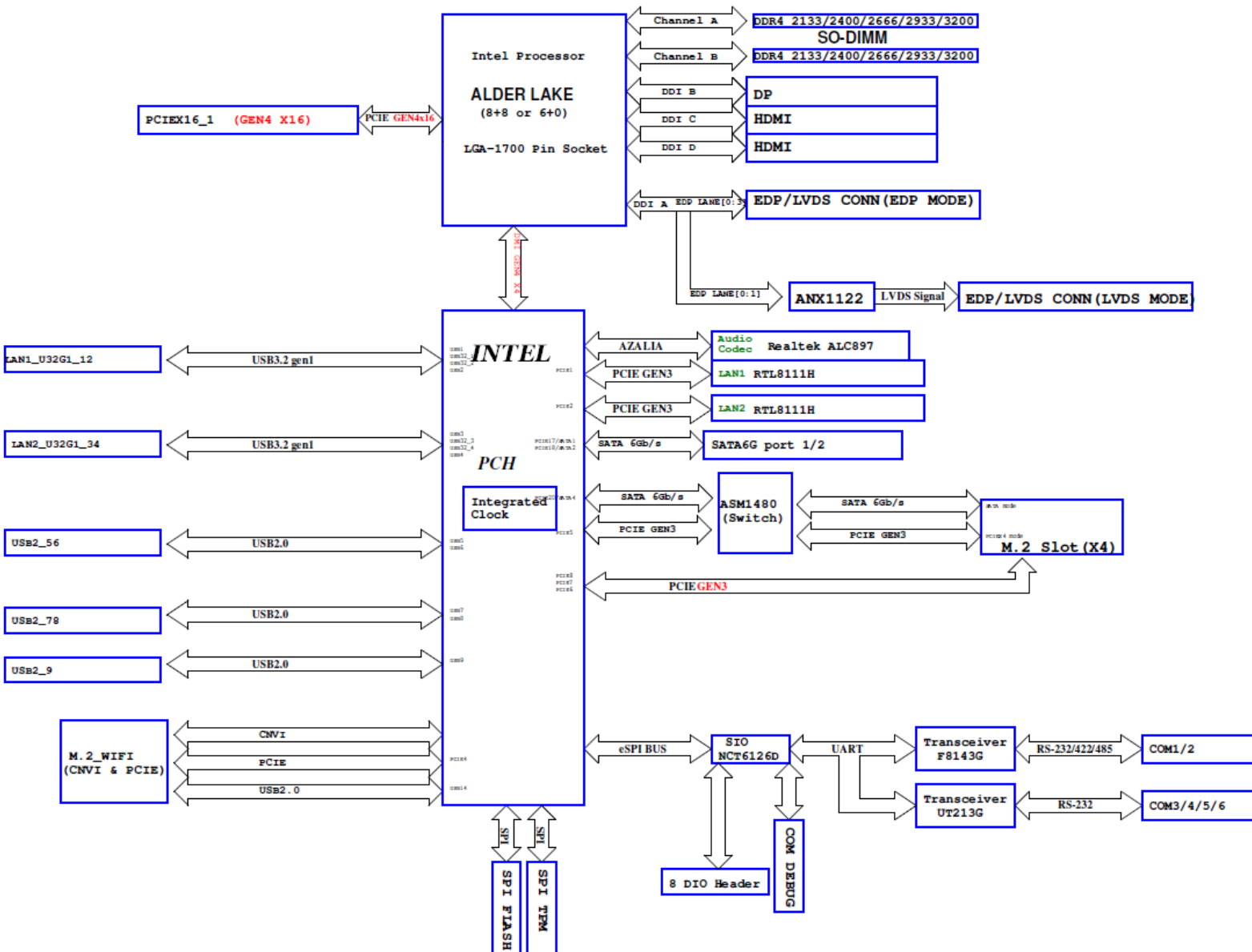
## Specifications

<b>Processor System</b>	CPU	LGA1700 for Intel® 12 <sup>th</sup> Gen. Core™ i9/ i7/ i5/ i3/ Pentium®/ Celeron® Processors Max. 65W TDP
	Chipset	Intel® H610 Chipset
<b>Memory</b>	Technology	DDR4
	Max.	2 x 32GB (Total 64GB)
	Socket	2 x SO-DIMM
<b>Display</b>	DP	1
	HDMI	2
	LVDS	1
	eDP	1 (BOM option)
	Multiple displays	Max. 3 displays
<b>Expansion Slot</b>	PCIe	1 x PCIe 4.0 x16 Slot
	M.2	1 x M.2 E key, Type 2230 for WIFI/BT device (PCIe & CNVi) 1 x M.2 M key, Type 2242/2260/2280 (PCIe x4/SATA mode , support NVME)
<b>Ethernet</b>	Speed	10/100/1000 Mbps
	Controller	2 x RTL8111H
	Connector	2 x RJ-45
<b>Audio</b>	Codec	Realtek ALC897
<b>Storage</b>	SATA port	2 port x SATA Gen 3.0, Up to 6Gb/s
<b>Rear I/O</b>	Display Port	1
	HDMI	2
	USB 3.2 Gen1	4
	Ethernet	2 x RJ45
	Serial Port	2 (RS232/422/485)
	Audio jack	2 (Line-Out, mic-in)
<b>Internal Connector</b>	COM Header	4 x COM Header (RS232)
	USB2.0	2 x Header Support Additional 4 x USB 2.0 Ports 1 x Vertical Connector
	CPU Fan/ Chassis Fan	1 x Header (PWM Mode) / 1 x Header (PWM Mode)
	LVDS/ eDP selection	1 x Header
	Panel SW	1 x Header
	Front Panel Audio (AAFP)	1 x Header
	System Panel	1 x Header
	Chassis Intrusion	1 x Header
	Speaker connector	1 x Header
	Clear CMOS	1 x Header
	COM Debug	1 x Header
	GPIO	1 x Header (8 Bit)

# Specifications

<b>Watchdog Timer</b>	H/W	YES
<b>Security</b>	TPM	1 x SPI TPM header
<b>Power Type</b>	Power Type	ATX
<b>OS &amp; Software Support</b>	Microsoft Windows	Windows® 10 (64bit)/Windows® 10 IOT Enterprise
	Linux	Ubuntu, RedHat Enterprise, Fedora Workstation, OpenSUSE
	ASUS IoT Suite	<input checked="" type="checkbox"/> HW Monitor <input checked="" type="checkbox"/> Power Scheduling <input checked="" type="checkbox"/> Fan Control <input checked="" type="checkbox"/> Watch Dog Timer <input checked="" type="checkbox"/> GPIO
	User Interfaces	<input checked="" type="checkbox"/> API <input checked="" type="checkbox"/> GUI
<b>Environment</b>	Operating Temperature	0~60° C
	Non-Operating Temperature	-40~85° C
	Relative Humidity	Operational humidity: 40°C@10%~95%
<b>Mechanical</b>	Dimensions	Mini-ITX, 170 x 170 mm
<b>Certification</b>	EMC (CLASS B)	CE, FCC, BSMI, VCCI, RCM
	Safety	CE-LVD

# Block Diagram



## Order Information

Model name	Part number	Description
H610I-EM-A	90ME06X0*	LGA1700,H610,DP,HDMI,VGA,MB

\* The part number might vary for different regulations and package. Please consult the TPM in your region for exact 90PN.

## Packing List

Part number	Description	Quantity
13020*	IO shield	1
14013*	SATA 6G CABLE	1
13020*	M.2 screw pack	2

\* The part number might vary due to part number revision.