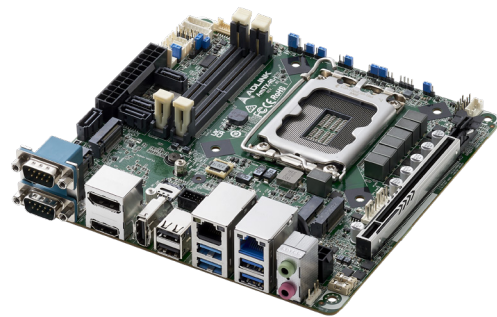


AmITX-RL-I

Industrial Mini-ITX Motherboard for 14/13/12th Gen Intel® Core™ i9/i7/i5/i3 Processors

Features

- 14/13/12th Gen Intel® Core™ i9/i7/i5/i3 processors and Q670 chipset, up to 65W
- Dual-channel DDR5 4800 MHz memory up to 64 GB
- Quad. independent display: HDMI 2.0b, HDMI 1.4b, DP 1.4a, and LVDS/eDP
- Dual GbE ports: 1x 1GbE, 1x 2.5GbE
- Expansion slots: 1x PCIe x16, 4x USB 3.2 Gen2, 2x USB 3.2 Gen1, 4x USB 2.0, 1x M.2 B-key, 1x M.2 E-key, 2x M.2 M-key
- Support ATX (24+4 pin) or 12V DC-in power input



Ordering Information

PN	Model Name	Chipset	Memory	PCIe x16	DP	HDMI	LVDS/eDP	LAN	COM	SATA	M.2	USB2.0	USB3.2 (Gen1)	USB3.2 (Gen2)	RAID	AMT
95-16008-0000	AmITX-RL-I	Q670	Non-ECC DDR5 4800 MHz	1	1	2	1	2	4	4	4	4	2	4	Yes	Yes

Packing List

PN	Description	QTY
95-16008-0000	AmITX-RL-I	1
N/A	M.2 screw kit	1
N/A	I/O shield	1

Optional Accessories

PN	Description
32-20976-0000-A0	CPU cooler for 65W CPU
30-21625-0000-B0	USB 2.0 Cable (2 ports)
30-21597-1000-A0	USB 3.0 Cable (2 ports)
30-10057-7000	SATA Cable
30-22156-0000-A0	SATA Power Cable
30-22155-0000-A0	COM Port Cable (1 port)

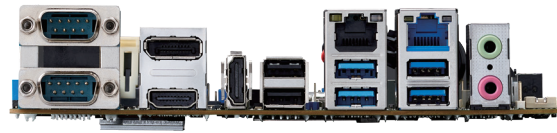
Embedded OS

PN	Description
92-56094-0010	Windows 10 IoT Ent LTSC 2021 High End PKEA
92-56094-2010	Windows 10 IoT Ent LTSC 2021 Value PKEA
92-56094-4010	Windows 10 IoT Ent LTSC 2021 Entry PKEA
92-56101-0010	Windows 11 IoT Ent LTSC 2024 High End PKEA
92-56101-2010	Windows 11 IoT Ent LTSC 2024 Value PKEA
92-56101-4010	Windows 11 IoT Ent LTSC 2024 Entry PKEA

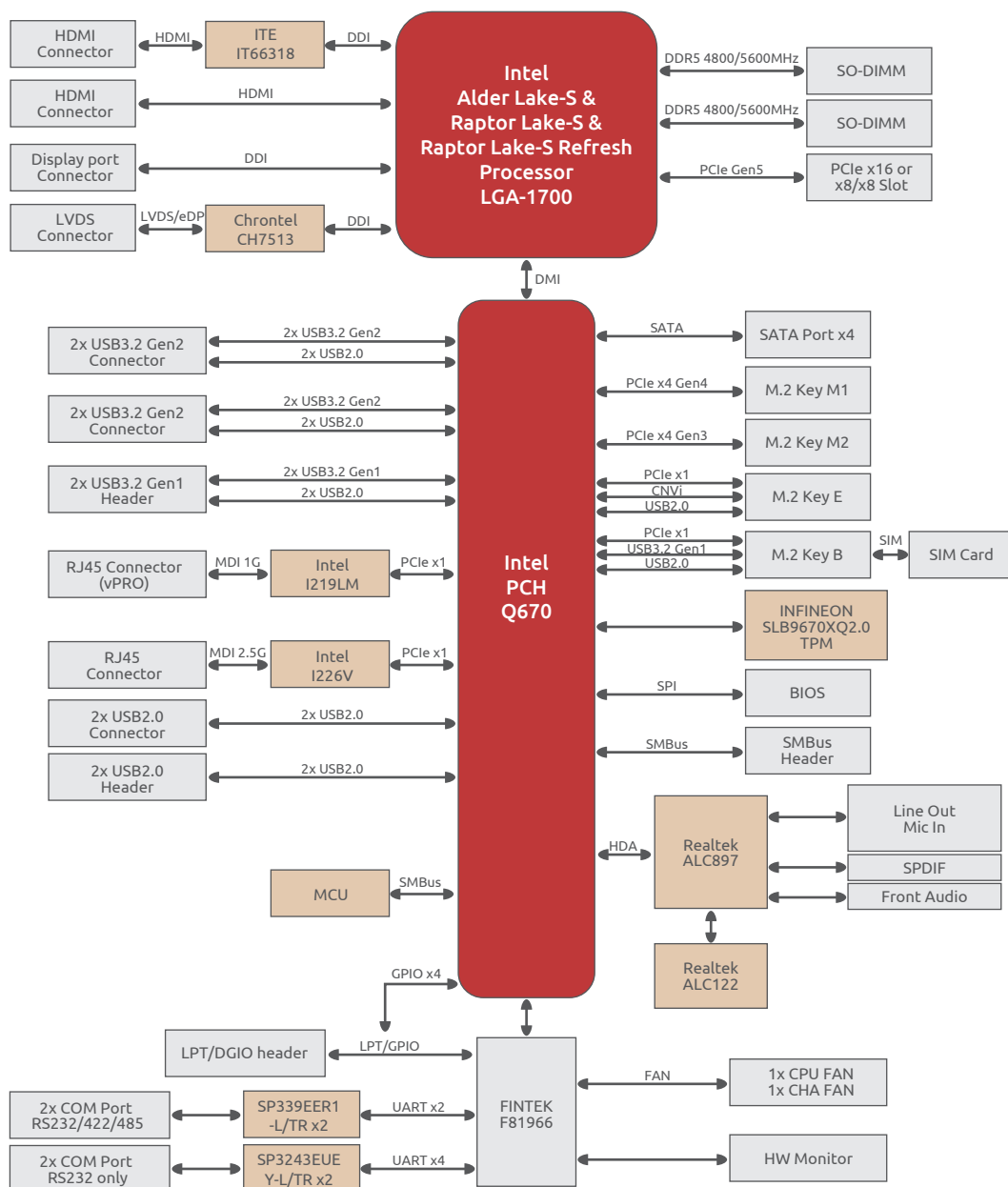
Specifications

Model	AmlITX-RL-I
Processor System	
CPU	12/13/14th Gen Intel® Core™ i9/i7/i5/i3 Processor, up to 65W
Socket	LGA 1700
Chipset	Q670
Memory	2x DDR5 SO-DIMMs 4800/5600MHz, up to 64GB, non-ECC
OS Support	Windows® 10/11 64-bit Ubuntu 22.04.4 LTS 64-bit
Display	
VGA	-
HDMI	1x HDMI 2.0b 1x HDMI 1.4b
DisplayPort	1x DP 1.4a
LVDS/eDP	1
DVI	-
No. of Displays	4
Ethernet	
Gbe Port	2
Controller/Frequency	1x 2.5 GbE (via i226V) 1x GbE (via i219LM)
Storage	
SATA	4
RAID	Intel SW RAID 0/1/5/10
mSATA	-
I/O Interfaces	
USB	4x USB 3.2 Gen2, 2x USB 2.0 (rear I/O) 2x USB 3.2 Gen1, 2x USB 2.0 (via headers)
COM	2x RS-232/422/485 (rear I/O) 2x RS-232 (via headers)
PS/2	-
Audio	Realtek® ALC897; 1x Mic-in, 1x Line-out
GPIO	8-bit
TPM	TPM 2.0 onboard IC
Expansion Slots	
PCIe	1x PCIe5.0 x16 (configured as 2x PCIe5.0 x8)
Mini-PCIe	-
M.2	1x M.2 2242/2280 M Key (PCIe4.0 x4) 1x M.2 2242 M Key (PCIe3.0 x4) 1x M.2 2230 E Key (PCIe x1, USB 2.0, CNVi) 1x M.2 3042/3052 B Key (PCIe x1, USB 3.0, USB 2.0) 1x SIM socket (connected to M.2 B Key)
Mechanical and Environmental	
Dimension	170 x 170mm (W x L)
Operating Temperature	-20°C to 70°C
Storage Temperature	-40°C to 85°C
Relative Humidity	60°C @ 95% RH, non-condensing
Power Supply	ATX PWR (24+4pin) or +12V DC-In
Certification	
	CE & FCC Class B

Product Illustration



Block Diagram



CPU Support List

Family	Number	CPU Core	Frequency	Cache	Processor Base Power	Since BIOS
Alder Lake-S	i9-12900TE	16	1.1GHz	30MB	65W	1.00.10
Alder Lake-S	i9-12900E	16	2.3GHz	30MB	65W	1.00.10
Alder Lake-S	i7-12700TE	12	1.4GHz	25MB	35W	1.00.10
Alder Lake-S	i7-12700E	12	2.1GHz	25MB	65W	1.00.10
Alder Lake-S	i5-12500TE	6	1.9GHz	18MB	35W	1.00.10
Alder Lake-S	i5-12500E	6	2.9GHz	18MB	65W	1.00.10
Alder Lake-S	i3-12100TE	4	2.1GHz	12MB	35W	1.00.10
Alder Lake-S	i3-12100E	4	3.2GHz	12MB	60W	1.00.10
Alder Lake-S	G7400TE	2	3.0GHz	6MB	35W	1.00.10
Alder Lake-S	G7400E	2	3.6GHz	6MB	46W	1.00.10
Alder Lake-S	G6900TE	2	2.4GHz	4MB	35W	1.00.10
Alder Lake-S	G6900E	2	3.0GHz	4MB	46W	1.00.10
Raptor Lake-S	i9-13900TE	24	1.0GHz	36MB	35W	1.00.10
Raptor Lake-S	i9-13900E	24	1.8GHz	36MB	65W	1.00.10
Raptor Lake-S	i7-13700TE	16	1.1GHz	30MB	35W	1.00.10
Raptor Lake-S	i7-13700E	16	1.9GHz	30MB	65W	1.00.10
Raptor Lake-S	i5-13500TE	14	1.3GHz	24MB	35W	1.00.10
Raptor Lake-S	i5-13500E	14	2.4GHz	24MB	65W	1.00.10
Raptor Lake-S	i5-13400E	10	2.4GHz	20MB	65W	1.00.10
Raptor Lake-S	i3-13100TE	4	2.4GHz	12MB	35W	1.00.10
Raptor Lake-S	i3-13100E	4	3.3GHz	12MB	65W	1.00.10
Raptor Lake-S Refresh	i9-14900T	24	1.1GHz	36MB	35W	1.00.10
Raptor Lake-S Refresh	i9-14900	24	2.0GHz	36MB	65W	1.00.10
Raptor Lake-S Refresh	i7-14700T	20	1.3GHz	33MB	35W	1.00.10
Raptor Lake-S Refresh	i7-14700	20	2.1GHz	33MB	65W	1.00.10
Raptor Lake-S Refresh	i5-14500T	14	1.7GHz	24MB	35W	1.00.10
Raptor Lake-S Refresh	i5-14500	14	2.6GHz	24MB	65W	1.00.10
Raptor Lake-S Refresh	i5-14400T	10	1.5GHz	20MB	35W	1.00.10
Raptor Lake-S Refresh	i5-14400	10	2.5GHz	20MB	65W	1.00.10
Raptor Lake-S Refresh	i3-14100T	4	2.7Ghz	12MB	35W	1.00.10
Raptor Lake-S Refresh	i3-14100	4	3.5GHz	12MB	60W	1.00.10
Raptor Lake-S Refresh	300T	2	3.4GHz	6MB	35W	1.00.10
Raptor Lake-S Refresh	300	2	3.9GHz	6MB	46W	1.00.10