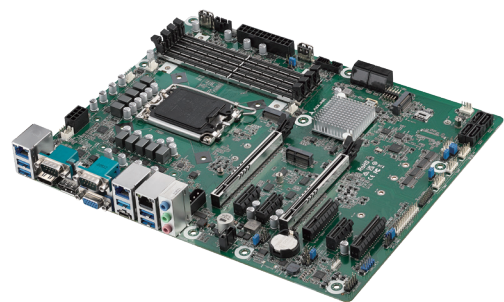


IMB-M47

Industrial ATX Motherboard supporting
 Intel® Core™ Series 2 Processors and 14/13/12th Gen Intel® Core™ Processors

Features

- Pro Series Industrial ATX Motherboard supporting Intel® Core™ Series 2 Processors and 14/13/12th Gen Intel® Core™ Processors Support Q670 Chipset
- 4x 288-pin Long-DIMM DDR5, up to 4400MHz, up to 128GB (32GB per DIMM)
- 1x PCIe x16 (Gen5), 1x PCIe x8 (Gen5), 2x PCIe x4 (Gen4), 3x PCIe x1 (Gen3), 1x USB 3.2 Gen2x2 Type C
- 5x USB 3.2 Gen2, 4x USB 2.0, 1x M.2 Key B, 1x M.2 Key E, 1x M.2 Key M, 6x COM, 8x SATA3
- 3x Intel® 2.5 Gigabit LAN
- Supports Triple display, 1x HDMI 2.0b, 1x DP1.4a, 1x VGA
- TPM 2.0 onboard IC
- Supports Intel® vPro, AMT, VMD RAID 0/1/5/10
- ATX PWR (8+24 Pin)



Ordering Information

PN	Model Name	Chipset	Memory	PCIe x16	PCIe x4	PCIe x1	HDMI	DP	VGA	LAN	COM	SATA	M.2	USB2.0	USB3.0	TPM2.0
95-13016-00	IMB-M47	Q670	DDR5 4400 MHz	1 (or 2x PCIe x8)	2	3	1	1	1	3	6	8	3	4	8	Support

Packing List

PN	Description	QTY
95-13016-0020	IMB-M47	1
N/A	IMB-M47 I/O shield	1
N/A	IMB-M47 M.2 screws kit	1

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
92-56102-0010	Windows 11 IoT Ent LTSC 2024 High End PKEA
92-56102-2010	Windows 11 IoT Ent LTSC 2024 Value PKEA
92-56102-4010	Windows 11 IoT Ent LTSC 2024 Entry PKEA

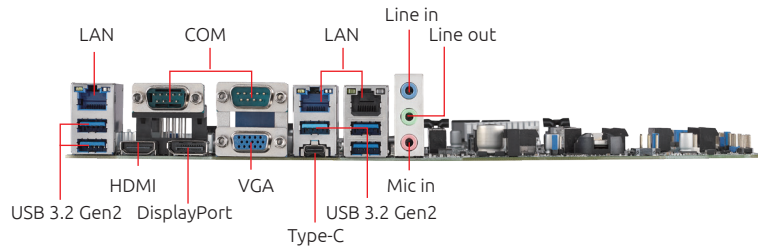
Optional Accessories

PN	Description
32-21041-0000-A0	CPU cooler for 125W CPU
32-20976-0000-A0	CPU cooler for 65W CPU
30-25010-3010	USB 2.0 Cable (2 ports)
30-25046-0100	USB 3.0 Cable (2 ports)
30-25019-2000	1-port LPT port cable
30-25116 0000-A0	COM Cable (2 ports)
30-25135-0000-A0	KB/MS Cable with Bracket

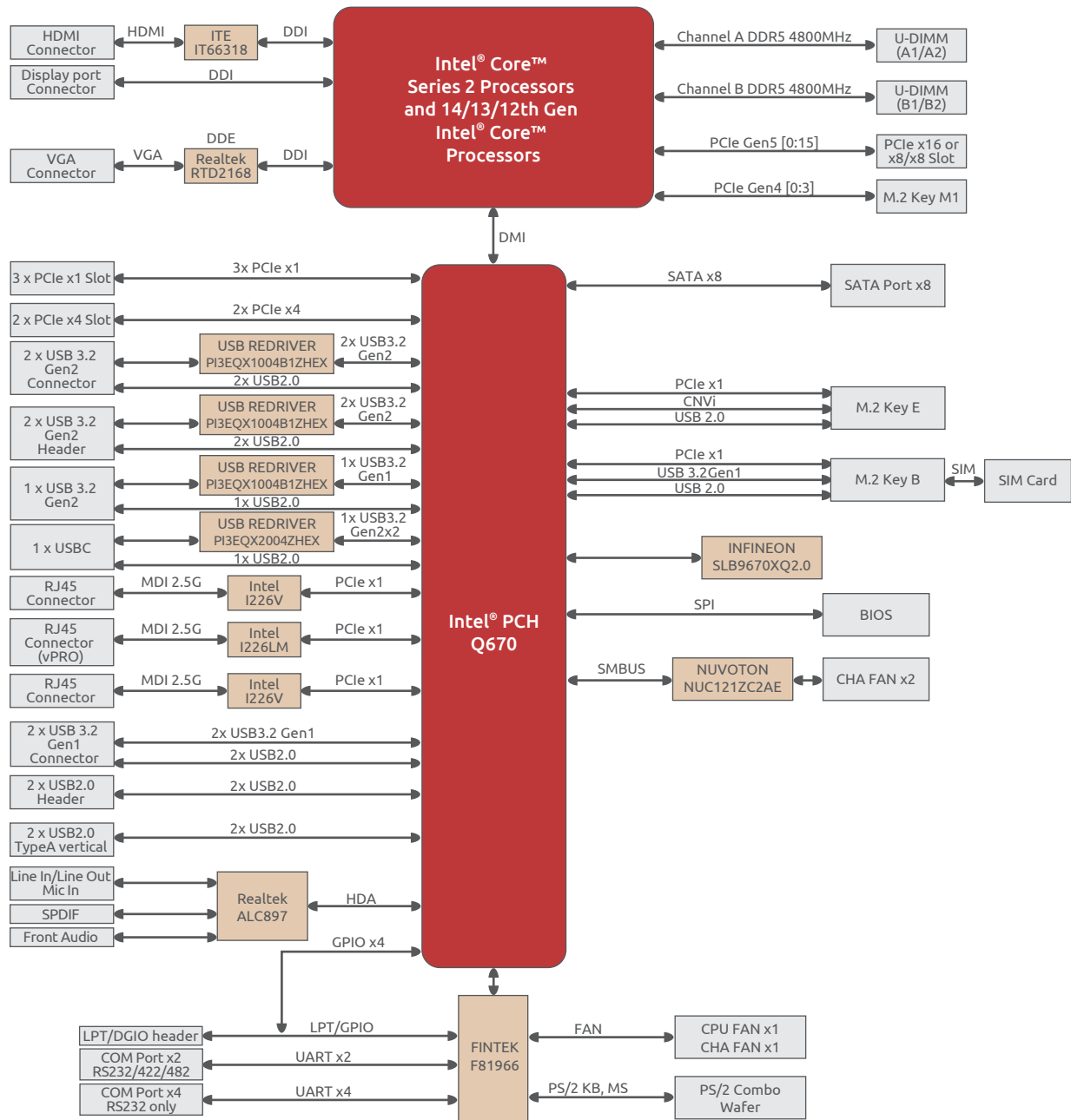
Specifications

Model	IMB-M47
Processor System	
CPU	Intel® Core™ Series 2 Processors and 14/13/12th Gen Intel® Core™ Processors, up to 125W
Chipset	Q670
Memory	4x DDR5 UDIMMs 4400MHz, up to 128GB, non-ECC
OS Support	Windows® 10/11 (64bit) Ubuntu LTS 20.04 (32/64bit)
Display	
VGA	1
HDMI	1
DisplayPort	1
No. of Displays	3
Ethernet	
Gbe Port	3
Controller/ Frequency	3x Intel® I226-LM, 2.5Gps
Storage	
SATA	8x SATA 6Gb/s ports
RAID	Intel® software RAID 0/1/5/10
I/O Interfaces	
USB	5x USB 3.2 Gen2 (rear I/O) 1x USB 3.2 Gen2x2 (Type C, rear I/O) 2x USB 3.1 via header 2x USB 2.0 via header 2x vertical USB 2.0 type A ports for internal dongles
COM	2x RS-232/422/485 (rear I/O) 4x RS-232 (pin header)
PS/2	1 (internal)
Audio	Realtek ALC897
LPT	1 (pin header)
GPIO	8x GPI, 8x GPO (shared with LPT header)
TPM	Yes (TPM 2.0)
Expansion Slots	
PCIe	1x PCIe x16/2x PCIe x8 Gen5 2x PCIe x4 Gen4 3x PCIe x1 Gen3
PCI	-
M.2	1x M.2 M-key, 2280 (support PCIe Gen4 x 4) 1x M.2 E-key, 2230 (PCIe x1, USB 2.0) 1x M.2 B-key, 3042/3052 (PCIe x1, USB 3.2 Gen1, USB 2.0) w/SIM
Mechanical and Environmental	
Dimension	ATX (305 mm x 244 mm (W x L))
Operating Temperature	0°C to 50°C
Storage Temperature	-40°C to 85°C
Relative Humidity	40 °C @ 90% RH, (non-condensing)
Certification	
	CE & FCC Class B
Manageability SEMA	
	-

Product Illustration



Block Diagram



CPU Support List

Family	Number	CPU Core	Frequency(GHz)	Cache(MB)	Power	Since BIOS
Bartlett Lake-S	273PQE	12	3.4 GHz	36MB	125	1.05.10
Bartlett Lake-S	273PE	12	2.3GHz	36MB	65	1.05.10
Bartlett Lake-S	273PTE	12	1.4GHz	36MB	45	1.05.10
Bartlett Lake-S	253PQE	10	3.5 GHz	33MB	125	1.05.10
Bartlett Lake-S	253PE	10	2.5GHz	33MB	65	1.05.10
Bartlett Lake-S	253PTE	10	1.8GHz	33MB	45	1.05.10
Bartlett Lake-S	223PQE	8	4.0GHz	24MB	125	1.05.10
Bartlett Lake-S	223PE	8	2.9GHz	24MB	65	1.05.10
Bartlett Lake-S	223PTE	8	2.3GHz	24MB	45	1.05.10
Bartlett Lake-S	213PE	8	2.7GHz	24MB	65	1.05.10
Bartlett Lake-S	213PTE	8	2.1GHz	24MB	45	1.05.10
Bartlett Lake-S	251E	24	2.1 GHz	36MB	65	1.04.10
Bartlett Lake-S	251TE	24	1.4 GHz	36MB	45	1.04.10
Bartlett Lake-S	221E	14	2.7 GHz	24MB	65	1.04.10
Bartlett Lake-S	221TE	14	1.8 GHz	24MB	45	1.04.10
Bartlett Lake-S	211E	10	2.7 GHz	20MB	65	1.04.10
Bartlett Lake-S	211TE	10	1.7 GHz	20MB	45	1.04.10
Bartlett Lake-S	201E	4	3.6 GHz	12MB	60	1.04.10
Bartlett Lake-S	201TE	4	2.9 GHz	12MB	45	1.04.10
Raptor Lake-S Refresh	i9-14900K	24	3.2GHz	36MB	125	1.00.10
Raptor Lake-S Refresh	i9-14900	24	2.0GHz	36MB	65	1.00.10
Raptor Lake-S Refresh	i9-14900T	24	1.1GHz	36MB	35	1.00.10
Raptor Lake-S Refresh	i7-14700K	20	3.4GHz	33MB	125	1.00.10
Raptor Lake-S Refresh	i7-14700	20	2.1GHz	33MB	65	1.00.10
Raptor Lake-S Refresh	i7-14700T	20	1.3GHz	33MB	35	1.00.10
Raptor Lake-S Refresh	i5-14600K	14	3.5GHz	24MB	125	1.00.10
Raptor Lake-S Refresh	i5-14500	14	2.6GHz	24MB	65	1.00.10
Raptor Lake-S Refresh	i5-14500T	14	1.7GHz	24MB	35	1.00.10
Raptor Lake-S Refresh	i5-14400	10	2.5GHz	20MB	65	1.00.10
Raptor Lake-S Refresh	i3-14100	4	3.5GHz	12MB	60	1.00.10
Raptor Lake-S Refresh	i3-14100T	4	2.7GHz	12MB	35	1.00.10
Raptor Lake-S Refresh	300	2	3.9GHz	6MB	46	1.00.10
Raptor Lake-S Refresh	300T	2	3.4GHz	6MB	35	1.00.10
Raptor Lake-S	i9-13900K	24	3.0GHz	36MB	125	1.00.10
Raptor Lake-S	i9-13900E	24	1.8GHz	36MB	65	1.00.10
Raptor Lake-S	i9-13900	24	2.0GHz	36MB	65	1.00.10
Raptor Lake-S	i9-13900TE	24	1.0GHz	36MB	35	1.00.10
Raptor Lake-S	i7-13700K	16	2.5GHz	30MB	125	1.00.10
Raptor Lake-S	i7-13700E	16	1.9GHz	30MB	65	1.00.10
Raptor Lake-S	i7-13700	16	2.1GHz	30MB	65	1.00.10
Raptor Lake-S	i7-13700TE	16	1.1GHz	30MB	35	1.00.10
Raptor Lake-S	i5-13500E	14	2.4GHz	24MB	65	1.00.10
Raptor Lake-S	i5-13500	14	2.5GHz	24MB	65	1.00.10
Raptor Lake-S	i5-13500TE	14	1.3GHz	24MB	35	1.00.10
Raptor Lake-S	i5-13400E	10	2.4GHz	20MB	65	1.00.10
Raptor Lake-S	i5-13400	10	2.5GHz	20MB	65	1.00.10
Raptor Lake-S	i3-13100E	4	3.3GHz	12MB	60	1.00.10
Raptor Lake-S	i3-13100	4	3.4GHz	12MB	60	1.00.10
Raptor Lake-S	i3-13100TE	4	2.4GHz	12MB	35	1.00.10

CPU Support List

Family	Number	CPU Core	Frequency(GHz)	Cache(MB)	Power	Since BIOS
Alder Lake-S	i9-12900K	16	2.4GHz	30MB	125	1.00.10
Alder Lake-S	i9-12900E	16	2.3GHz	30MB	65	1.00.10
Alder Lake-S	i9-12900	16	2.4GHz	30MB	65	1.00.10
Alder Lake-S	i9-12900TE	16	1.1GHz	30MB	35	1.00.10
Alder Lake-S	i7-12700K	12	2.7GHz	25MB	125	1.00.10
Alder Lake-S	i7-12700E	12	2.1GHz	25MB	65	1.00.10
Alder Lake-S	i7-12700	12	1.6GHz	25MB	65	1.00.10
Alder Lake-S	i7-12700TE	12	1.4GHz	25MB	35	1.00.10
Alder Lake-S	i5-12500E	6	2.9GHz	18MB	65	1.00.10
Alder Lake-S	i5-12500	6	3.0GHz	18MB	65	1.00.10
Alder Lake-S	i5-12500TE	6	1.9GHz	18MB	35	1.00.10
Alder Lake-S	i5-12400	6	2.5GHz	18MB	65	1.00.10
Alder Lake-S	i3-12100E	4	3.2GHz	12MB	60	1.00.10
Alder Lake-S	i3-12100	4	3.3GHz	12MB	60	1.00.10
Alder Lake-S	i3-12100TE	4	2.1GHz	12MB	35	1.00.10
Alder Lake-S	G7400E	2	3.6GHz	6MB	46	1.00.10
Alder Lake-S	G7400TE	2	3.0GHz	6MB	35	1.00.10
Alder Lake-S	G6900E	2	3.0GHz	4MB	46	1.00.10
Alder Lake-S	G6900TE	2	2.4GHz	4MB	35	1.00.10