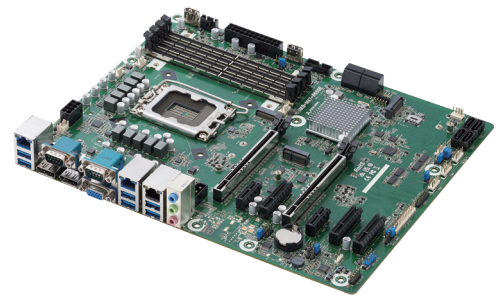


IMB-M47-R680E

14/13/12th Gen Intel® Core™ i9/i7/i5/i3 with Intel® R680E Chipset Industrial ATX Motherboard

Features

- Intel® 12/13/14th Core™ Processors with R680E chipset
- 4x 288-pin Long-DIMM DDR5 up to 4400MHz, maximum 128GB (32GB per DIMM)
- 1x PCIe x16 (Gen5), 1x PCIe x8 (Gen5), 2x PCIe x4 (Gen4), 1x PCIe x4 (Gen3), 2x PCIe x1 (Gen3)
- 6x USB 3.2 Gen2, 2x USB 3.1, 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, 2x 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	DP	VGA	LAN	COM	SATA	M.2	USB2.0	USB3.0
95-13016-1010	IMB-M47-R680E	R680E	ECC DDR5 4400 MHz	1 (or 2x PCIe x8)	3	2	2	1	3	6	8	3	4	8

Packing List

Description	QTY
IMB-M47-R680E	1
I/O bracket	1
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
92-56101-0010	Windows 11 IoT Ent 2022 High End PKEA
92-56101-2010	Windows 11 IoT Ent 2022 Value PKEA
92-56101-4010	Windows 11 IoT Ent 2022 Entry PKEA

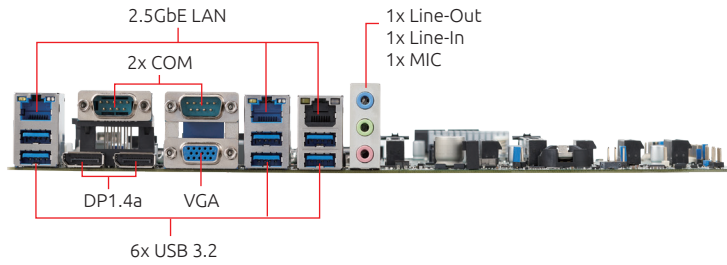
Optional Accessories

PN	Description
32-20976-0000-A0	CPU cooler for 65W CPU
32-21041-0000-A0	CPU cooler for 125W CPU
30-25010-3010	2-port USB 2.0 port cable
30-25046-0100	2-port USB 3.0 port cable
30-25019-2000	1-port LPT port cable
30-25116-0000-A0	2-port COM port cable

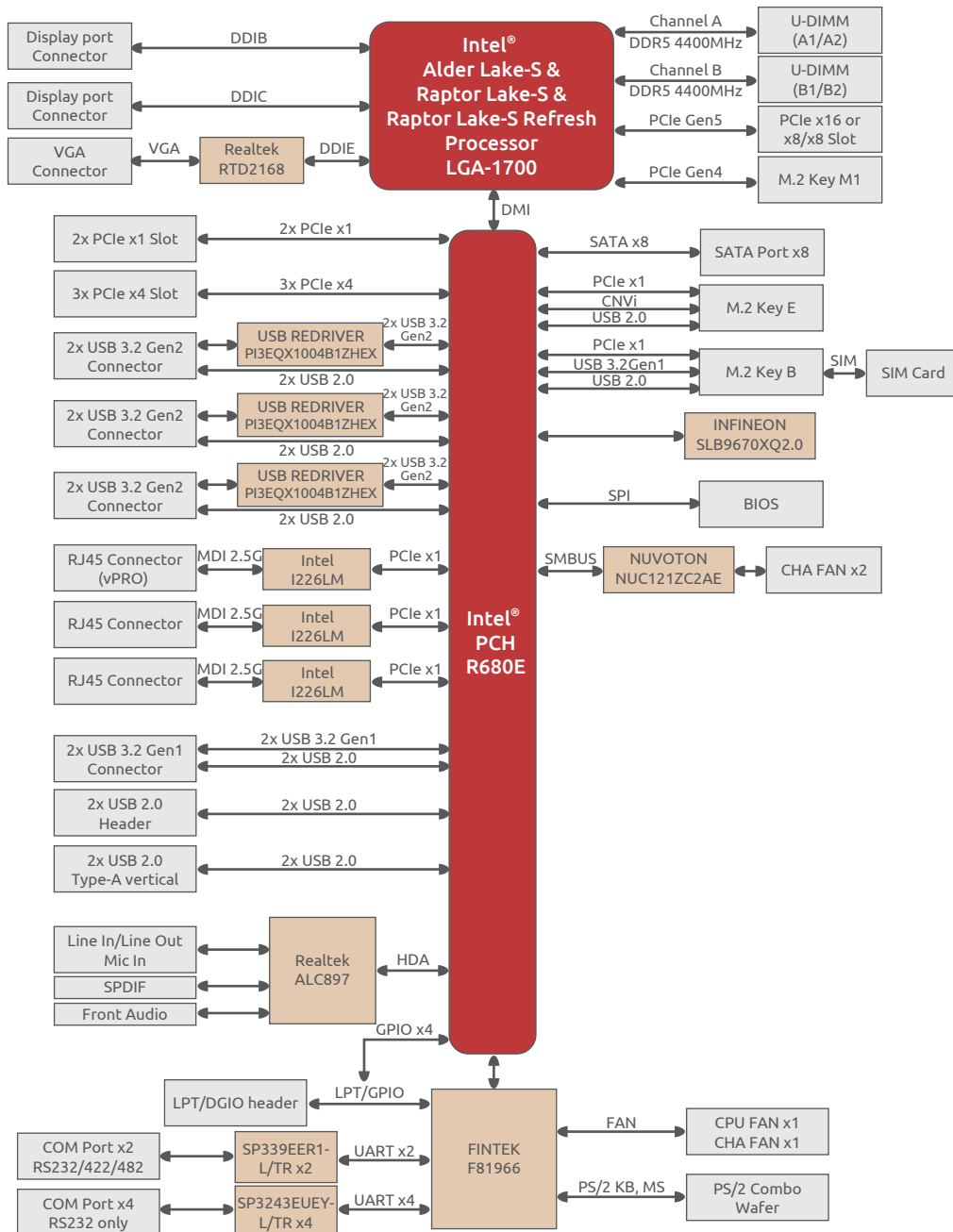
Specifications

Model	IMB-M47-R680E
Processor System	
CPU	14/13/12th Gen Intel® Core™ i9/i7/i5/i3 with Intel® R680E Processors, up to 125W
Chipset	R680E
Memory	4x DDR5 UDIMMs 4400MHz, up to 128 GB, ECC (dependent on SKU)
OS Support	Windows® 10/11 (64bit) Ubuntu LTS 20.04 (32/64bit)
Display	
VGA	1
HDMI	-
DisplayPort	2
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	6x USB 3.2 Gen 1x1 ports (5Gbps) (rear I/O) 2x USB 3.1 via header 2x USB 2.0 vertical type A ports for internal dongles 2x USB 2.0 via headers
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	8 x GPI, 8 x GPO (shared with LPT header)
TPM	Yes (TPM 2.0)
Expansion Slots	
PCIe	2x PCIe Gen5 Slots (1x PCIe x16/ 2x PCIe x8) 2x PCIe x4 Gen4 1x PCIe x4 Gen3 2x 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, USB2.0) 1x M.2 B-key, 3042/3052 (PCIe x1, USB3.2 Gen1, USB2.0) w/ SIM
Mechanical and Environmental	
Dimension	ATX (305 mm x 244 mm (W x L))
Operating Temperature	0°C to 60°C
Storage Temperature	-40°C to 85°C
Relative Humidity	60 °C @ 90% RH, non-condensing
Certification	
	-

Product Illustration



Block Diagram



CPU Support List

Family	Number	CPU Core	Frequency	Cache	Processor Base Power	Since BIOS
Raptor Lake-S Refresh	i9-14900	24 Core	5.8 GHz	36 MB	65 W	1.00.10
Raptor Lake-S Refresh	i9-14900T	24 Core	5.5 GHz	36 MB	35 W	1.00.10
Raptor Lake-S Refresh	i7-14700T	20 Core	5.2 GHz	33 MB	35 W	1.00.10
Raptor Lake-S Refresh	i7-14700	20 Core	5.4 GHz	33 MB	65 W	1.00.10
Raptor Lake-S Refresh	i5-14400	10 Core	4.7 GHz	20 MB	65 W	1.00.10
Raptor Lake-S Refresh	i5-14400T	10 Core	4.5 GHz	20 MB	35 W	1.00.10
Raptor Lake-S Refresh	i5-14500	14 Core	5.0 GHz	24 MB	65 W	1.00.10
Raptor Lake-S Refresh	i5-14500T	14 Core	4.8 GHz	24 MB	35 W	1.00.10
Raptor Lake-S Refresh	i3-14100T	4 Core	4.4 GHz	12 MB	35 W	1.00.10
Raptor Lake-S Refresh	i3-14100	4 Core	4.7 GHz	12 MB	65 W	1.00.10
Raptor Lake	i9-13900TE	24 Core	5.0 GHz	36 MB	35 W	1.00.10
Raptor Lake	i9-13900E	24 Core	5.2 GHz	36 MB	65 W	1.00.10
Raptor Lake	i7-13700E	16 Core	5.1 GHz	30 MB	65 W	1.00.10
Raptor Lake	i7-13700TE	16 Core	4.8 GHz	30 MB	35 W	1.00.10
Raptor Lake	i5-13500TE	14 Core	4.5 GHz	24 MB	35 W	1.00.10
Raptor Lake	i5-13500E	14 Core	4.6 GHz	24 MB	65 W	1.00.10
Raptor Lake	i3-13100E	4 Core	4.4 GHz	12 MB	65 W	1.00.10
Raptor Lake	i3-13100TE	4 Core	4.1 GHz	12 MB	35 W	1.00.10
Alder Lake	i9-12900E	16 Core	5.0 GHz	30 MB	65 W	1.00.10
Alder Lake	i9-12900TE	16 Core	4.8 GHz	30 MB	35 W	1.00.10
Alder Lake	i7-12700E	12 Core	4.8 GHz	25 MB	65 W	1.00.10
Alder Lake	i7-12700TE	12 Core	4.6 GHz	25 MB	35 W	1.00.10
Alder Lake	i5-12500E	6 Core	4.5 GHz	18 MB	65 W	1.00.10
Alder Lake	i5-12500TE	6 Core	4.3 GHz	18 MB	35 W	1.00.10
Alder Lake	i3-12100E	4 Core	4.2 GHz	12 MB	60 W	1.00.10
Alder Lake	i3-12100TE	4 Core	4.0 GHz	12 MB	35 W	1.00.10
Alder Lake	Gold G7400E	2 Core	3.6 GHz	6 MB	46 W	1.00.10
Alder Lake	Gold G7400TE	2 Core	3.0 GHz	6 MB	35 W	1.00.10
Alder Lake	G6900E	2 Core	3.0 GHz	4 MB	46 W	1.00.10
Alder Lake	G6900TE	2 Core	2.4 GHz	4 MB	35 W	1.00.10