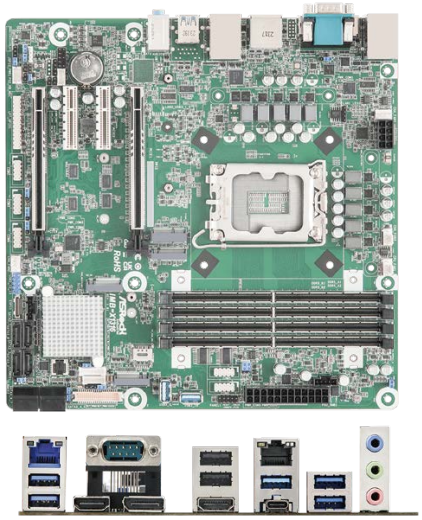
ASRock Industrial

IMB-X1316

Micro-ATX Motherboard



KEY FEATURES

- Intel® 14th/13th/12th Gen (Raptor Lake-S Refresh/Raptor Lake-S/Alder Lake-S) Core™ Processors with W680 chipset
- 4 x 288-pin ECC/non-ECC Long-DIMM DDR5 4400/5600 MHz, up to 192GB (48GB per DIMM)
- 1 x PCIex16 (Gen5), 1 x PCIex8 (Gen5), 2 x PCIex4 (Gen4), 1 x USB 3.2 Gen2x2, 7 x USB 3.2 Gen2, 2 x USB 2.0, 1 x M.2 Key E, 2 x M.2 Key M, 1 x M.2 Key B, 6 x COM, 8 x SATA3
- 1 x Intel 2.5 Gigabit LAN, 1 x Intel 1 Gigabit LAN
- Supports Quad display, 2 x HDMI 2.0b, 1 x DP 1.4a, 1 x LVDS
- TPM 2.0 onboard IC
- Supports Intel® vPro, VMD RAID 0/1/5/10
- ATX PWR (24+8 Pin)

SPECIFICATIONS

Form Factor

Dimensions	Micro-ATX (9.6-in x 9.6-in x 1.4-in, 24.4 cm x 24.4 cm x 3.6 cm)

Processor System

CPU	Intel® 14th/13th/12th Gen (Raptor Lake-S Refresh/ Raptor Lake-S/Alder Lake-S) Core™ Processors, up to 125W
Chipset	Intel® W680
Socket	LGA 1700
BIOS	AMI SPI 256 Mbit

Memory

Technology	Dual Channel ECC/non-ECC DDR5 4400/5600 MHz* *Actual memory frequency depends on the CPU types and DRAM modules, for more information refer to https://www.asrockind.com/en-gb/index.php?route=newsblog/faq&faq_id=90 technical FAQ *For DDR5 5600 support refer to memory support list
Capacity	192GB (48GB per DIMM)
Socket	4 x 288-pin Long-DIMM

Graphics

Controller	Intel® UHD Graphics
HDMI	2 x HDMI 2.0b Max resolution up to 4096 x 2160@60Hz
DisplayPort	DisplayPort 1.4a, DP++ Max resolution up to 4096x2160@60Hz
LVDS	Dual channel 24 bit up to 1920 x 1200@60Hz
MultiDisplay	Quad Display

Expansion Slot

PCIe	2 x PCIe Gen5 Slots (PCIE1/PCIE4:single at x16(PCIE1); dual at x8 (PCIE1) / x8 (PCIE4)) (PCIE1: Support riser card x8/x8) 2 x PCIex4 (Gen4)* *If using PCIEx8/x16 card on PCIE2 slot, M.2 Key M2(M2_M2) is limited to install.
M.2	1 x M.2 (Key E, 2230) with PCIe x1, USB 2.0 and CNVi for Wireless 1 x M.2 (Key B, 3042/3052) with PCIex1, USB 3.2 Gen1, USB 2.0 and SIM for 4G/5G
SIM Socket	1x SIM socket connected to M.2 key B

Audio

Interface	Realtek ALC897 HD, High Definition Audio. Line-In, Line-Out, Mic-In

Ethernet

Controller/ Speed	LAN1: Intel® I226LM with 10/100/1000/2500 Mbps, support vPro LAN2: Intel® I210AT with 10/100/1000 Mbps
Connector	2 x RJ-45

Rear I/O

HDMI	2 x HDMI 2.0b
DisplayPort	1 x DP++
Ethernet	1 x 2.5 Gigabit LAN 1 x 1 Gigabit LAN
USB	2 x USB 2.0 5 x USB 3.2 Gen2 1 x USB 3.2 Gen2x2 (Type C, 5V/3A)
Audio	3 (Line-In/Line-Out/Mic-In)
Serial Port	COM1 (RS-232/422/485)

Internal Connector

USB	2 x USB 3.2 Gen2 vertical Con
COM	COM2 (RS-232/422/485) COM3, COM4, COM5, COM6 (RS-232)
Parallel	1 (shared with GPIO)
GPIO	8 x GPI, 8 x GPO (shared with LPT header)
LVDS	1
Speaker Header	1
PS/2	1 x PS/2 header
Thunderbolt header	1 (only use with PCIE3)

Storage

M.2	1 x M.2 (Key M, 2242/2280/25110) with PCIex4 Gen4 for SSD 1 x M.2 (Key M, 2242/2280) with PCIex4 Gen3 for SSD
SATA	8 x SATA3
RAID	Intel® VMD RAID 0/1/5/10 **supported by identical interface (PCIE or SATA) PCIE interface: M.2 Key B + M.2 Key M1/2 or 2*M.2 Key M SATA interface: SATA port

Security

TPM	TPM 2.0 onboard IC

Watchdog Timer

Output	From Super I/O to drag RESETCON#
Interval	256 Segments, 0, 1, 2, ...255sec

Power Requirements

Input PWR	ATX PWR (24+8-pin)
Power On	AT/ATX Supported - AT : Directly PWR on as power input ready - ATX : Press button to PWR on after power input ready

Environment

Operating Temp	-20°C ~ 70°C
Storage Temp	-40° C ~ 85° C
Operating Humidity	5% ~ 90%
Storage Humidity	5% ~ 90%

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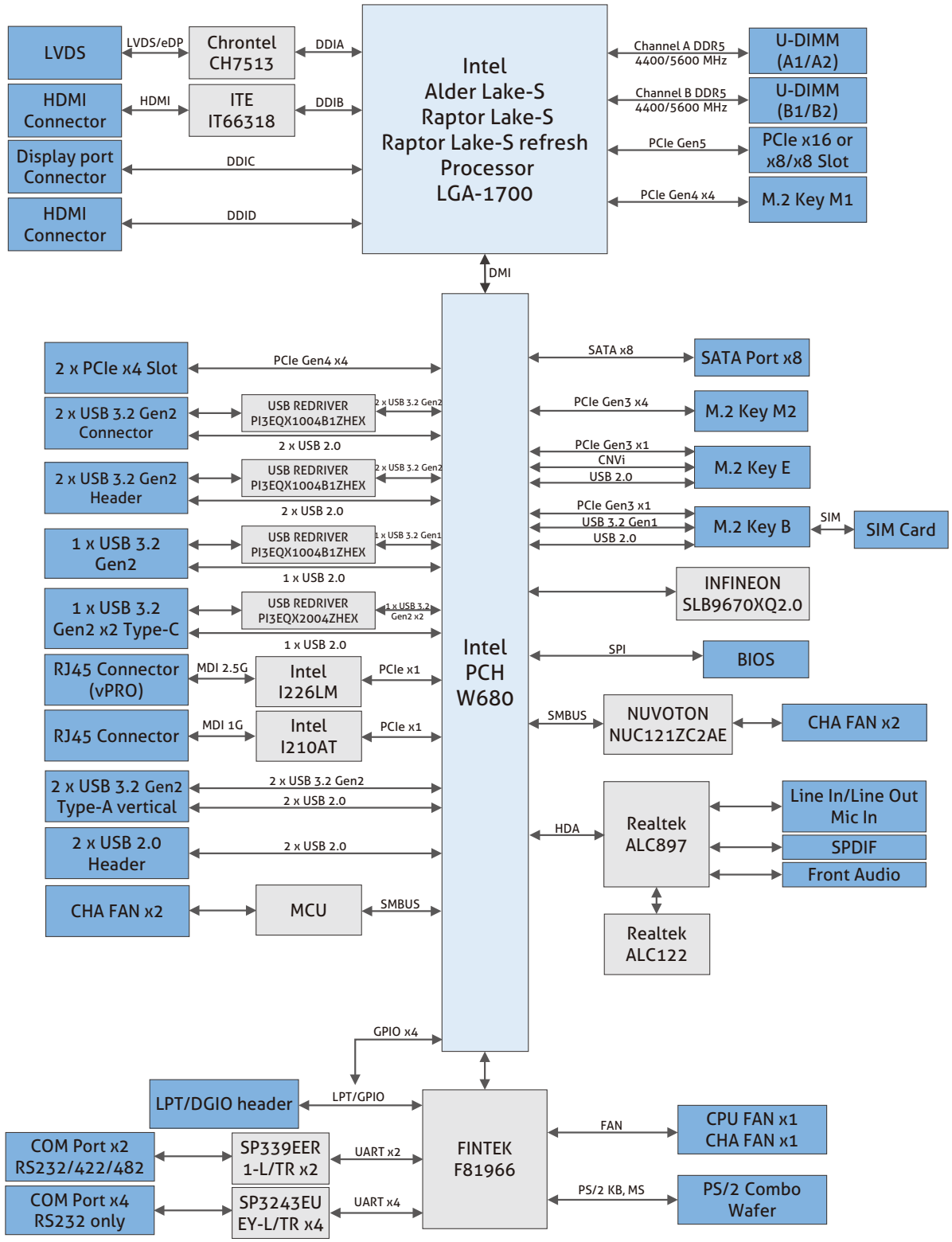
BLOCK DIAGRAM



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US

sales@assured-systems.com

Sales: +1 347 719 4508
Support: +1 347 719 4508

1309 Coffeen Ave
Ste 1200
Sheridan
WY 82801
USA

EMEA

sales@assured-systems.com

Sales: +44 (0)1785 879 050
Support: +44 (0)1785 879 050

Unit A5 Douglas Park
Stone Business Park
Stone
ST15 0YJ
United Kingdom

VAT Number: 120 9546 28
Business Registration Number: 07699660