

ASUS IoT R680EA-IM-A

Industrial ATX motherboard with Intel® R680E chipset and Intel® Core™ 14th/13th/12th Gen. CPU



Features

- Supports Intel® processors of the 14th/13th/12th Gen.
- 4x DDR5 4400 MHz U-DIMM, up to 128GB
- Intel® R680E chipset
- 2x PCIe x16 slots for dual graphics cards
- Supports up to 4x displays (VGA/HDMI/DP)

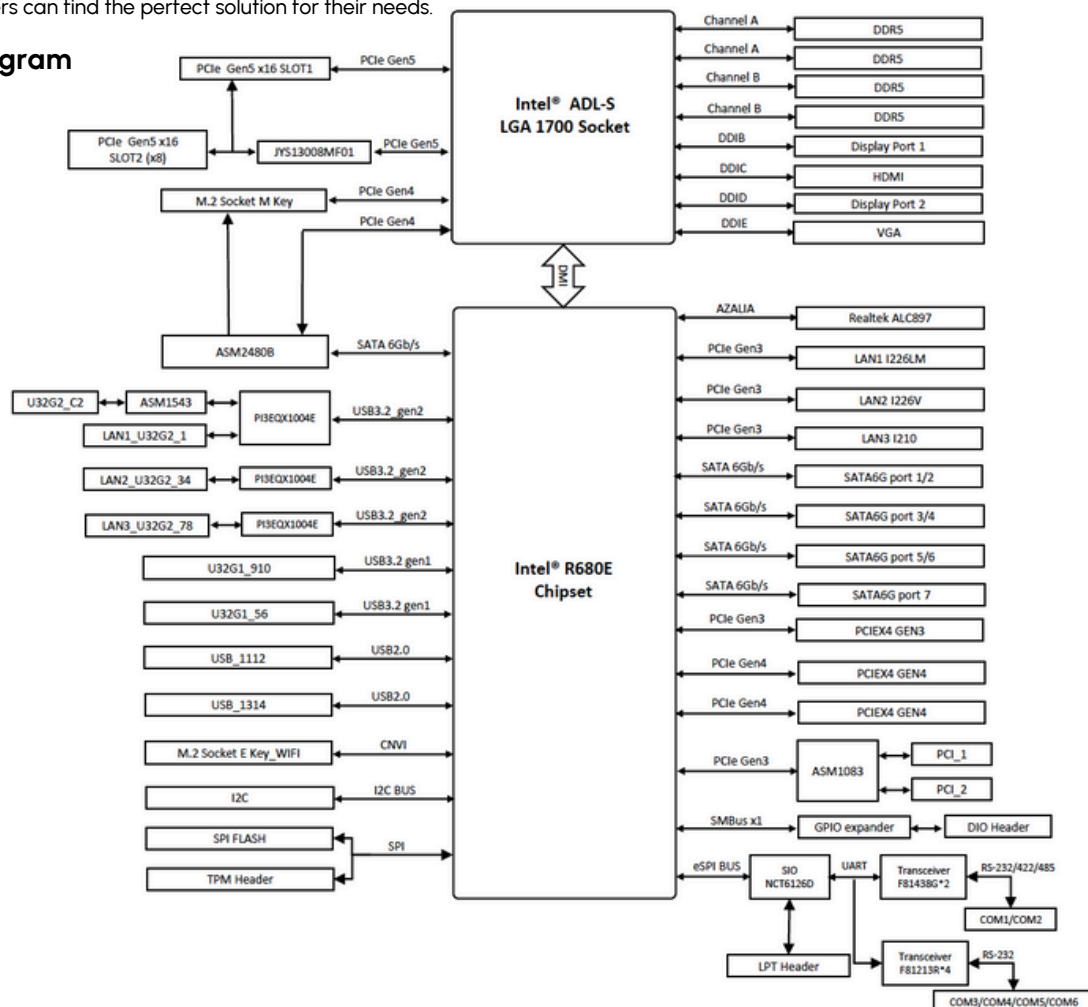
ASUS IoT R680EA-IM-A: Industrial ATX motherboard with extensive connectivity options

The ASUS IoT R680EA-IM-A is an ATX industrial motherboard characterized by its rich I/O capabilities and advanced connectivity options. It offers multiple display outputs, legacy options for industrial applications, COM ports and three Intel LAN ports. This variety of connectivity options makes it an excellent choice for a wide range of embedded applications. With one PCIe slot, one PCI slot, one M.2 E-key and one M.2 M-key, the ASUS R680EA-IM-A offers a wealth of expansion options. This versatility makes it possible to adapt the motherboard to specific requirements and use it in a variety of embedded applications.

ASUS: World market leader and guarantor of quality

As the world's leading brand for motherboards, ASUS offers industrial motherboards with durable, industrial-grade components. These components ensure reliable 24/7 operation even in harsh environments and are suitable for use in various vertical markets. With over 30 years of experience in design and innovation, ASUS enables faster time-to-market through customization and motherboard modulation. Best-in-class after-sales service, flexible material supply, quick response to forecast changes and long-term technical support ensure that customers can find the perfect solution for their needs.

Block diagram



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Specifications	ASUS IoT R680EA-IM-A
SYSTEM	
CPU	LGA1700 for Intel® Core™ 14th/13th/12th Gen. i9/ i7/ i5/ i3/ Pentium® / Celeron® processors, max. 125W TDP
Chipset	Intel® R680E
RAM	Up to 128GB DDR5 4400MT/s (2DPC -1DIMM 1R&2R)(ECC support*), 4000MT/s (2DPC – 2DIMM 1R), 3600MT/s (2DPC – 2DIMM 2R), (four U-DIMM slots) *ECC is only available when using ECC memory.
TPM	1x SPI TPM header
Watchdog	Yes
Storage	7x SATA Gen 3.0, up to 6Gb/s, supports RAID 0,1,5,10
Expansion	1x PCIe 5.0 x16 slot (1 x16 mode/ 2 x8 mode) 1x PCIe 4.0 x4 slot (x4 mode, open slot) 1x PCIe 5.0 x16 slot (x8 mode) 1x PCIe 3.0 x4 slot (x4 mode, open slot) 1x PCIe 4.0 x4 slot (x4 mode, open slot) 2x PCI slots 1x M.2 M key, type 2242/2260/2280 (PCIe x4 /SATA mode) supports NVMe 1x M.2 E-Key, type 2230 for Wi-Fi/BT devices (supports Intel®CNVi only) *When the CNVi Wi-Fi card is installed in the M.2 E-Key slot, the USB port 14 is disabled.
Operating System	Windows® 10 (64bit) Windows® IoT Enterprise Ubuntu RedHat Enterprise Fedora Workstation OpenSUSE
ASUS IoT Suite	HW Monitor Power Scheduling Fan control Watch Dog Timer GPIO I2C (API only) Buzzer (API only) Linux example code
User Interface	API GUI
INTERFACE	
Ethernet	3x RJ-45 (10/100/1000/2500 Mbps): 1x Intel® i210AT 1x Intel® i226V 1x Intel® i226LM (Intel vPro supported)
USB	5x USB 3.2 Gen 2 (Type A) port 1x USB 3.2 Gen 2 (Type C) port
COM	1x COM: RS-232/ 422/ 485 port
Video	x HDMI port, supports 2.1, up to 4096 X 2160 @ 30Hz 2x DisplayPort port, supports DP++ 1.4, up to 3840 x 2160 @ 60Hz 1x VGA port Multiple displays: Max. 4 displays, VGA+Dual DP+HDMI
Audio	3x Audio-Jack (Line-Out, Line-In, Mic in) Audio codec RealtekALC897
Internal Connectors	COM header: 5x COM header (1x RS-232/ 422/ 485, 4x RS-232) USB 3.0 Gen1: 2x header additionally support 4x USB 3.2 Gen1 ports USB 2.0: 2x header additionally support 4x USB 2.0 ports CPU fan/chassis fan: 1x header (PWM mode) / 3x header (PWM mode) Front panel audio (AAFP): 1x header System control: 1x header Chassis intrusion: 1x header Speaker header: 1x header I2C header : 1x header Clear CMOS: 1x header COM Debug: 1x header LPT header: 1x header Buzzer: 1 PS/2: 1x header SPDIF: 1x header GPIO: 1x header (8-bit) DIS ME jumper: 1x header Jumper for AT/ATX selection: 1x header Power connection: 1x 24-pin ATX power supply, 1x 8-pin ATX 12V power supply

ASUS IoT R680EA-IM-A

Industrial ATX motherboard with Intel® R680E chipset and Intel® Core™ 14th/13th/12th Gen. CPU

Specifications	ASUS IoT R680EA-IM-A
ENVIRONMENTAL	
Power Supply	AT mode/ ATX mode
Operating Temperature	0° ~ 60°C
Storage Temperature	-40° ~ 85°C
Humidity	40°C @ 10%~95%
Dimensions	ATX, 305 x 244 mm
Certifications	CE, FCC, BSMI, VCCI, RCM, CE-LVD

