ASRock

B860M-X WiFi R2.0

intel CORE ULTRA — Supports Intel® Core™ Ultra processors (Series 2)
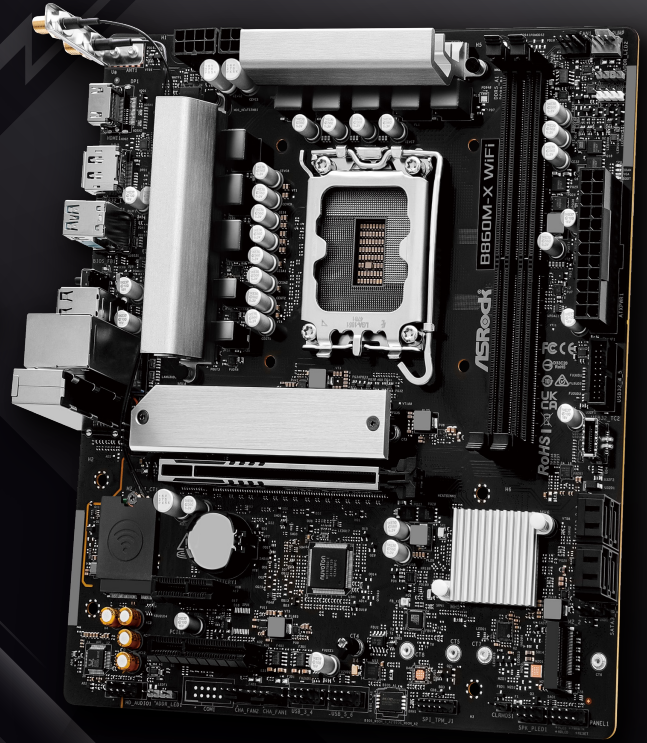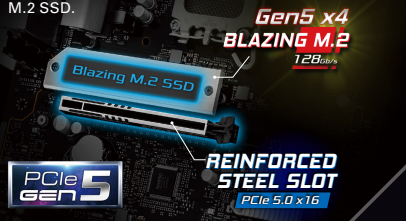intel CHIPSET B860
WiFi 6E
PCIe GEN5

PRODUCT BRIEF :

· Supports Intel® Core™ Ultra Processors (Series 2) (LGA1851)
· 7+1+1+1+1 Power Phase
· 2 x DDR5 DIMMs
  Supports Dual Channel, up to 9066+ (OC)
· 1 PCIe 5.0 x16, 1 PCIe 4.0 x4, 1 PCIe 4.0 x1
· Graphics Output Options: 1 HDMI, 1 DisplayPort
· Realtek ALC897 7.1 CH HD Audio Codec

· 4 SATA3
  1 Blazing M.2 (PCIe Gen5 x4)
  1 Hyper M.2 (PCIe Gen4 x4)
· 1 USB 3.2 Gen2x2 Type-C (Rear)
  1 USB 3.2 Gen1 Type-C (Front)
  5 USB 3.2 Gen1 (3 Rear, 2 Front)
  6 USB 2.0 (2 Rear, 4 Front)

· Realtek 2.5G LAN
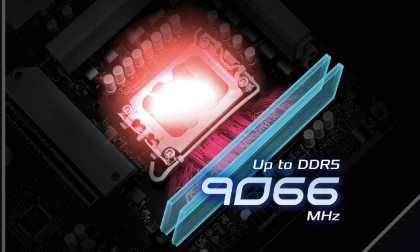· 802.11axe Wi-Fi 6E + Bluetooth
· Supports BIOS Flashback

I/O OVERVIEW

PCIe 5.0 Support

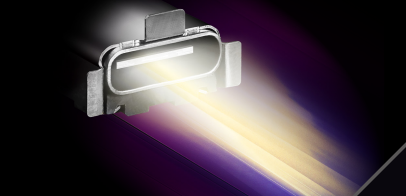Supports PCIe 5.0 standard for both graphics card and M.2 SSD.

Gen5 x4
BLAZING M.2
128Gb/s
Blazing M.2 SSD

PCIe GEN5

REINFORCED STEEL SLOT
PCIe 5.0 x16

Up to DDR5-9066 MHz

Up to DDR5
9066 MHz

USB 3.2 Gen2x2 Type-C

The USB 3.2 Gen2x2 Type-C delivers up to 20 Gbps data transfer rate.

ASROCK AUTO DRIVER INSTALLER
ADI

BIOS Flashback

Front USB 3.2 Gen1 Type-C

USB 3.2 Gen1 Type-C that delivers up to 5Gbps data transfer rate.

Polychrome RGB

The RGB LED header allows user to create unique PC style easily.

RGB LED Header
Addressable RGB LED Header

WiFi 6E (802.11axe)

Better and faster internet traffic with lower latency!

* The availability of Wi-Fi 6E (6GHz) may vary between different countries.

6E

6-LAYER
PCB

Realtek 2.5G LAN
2.5G

Detail Specification

Platform	- Micro ATX Form Factor: 9.6-in x 8.6-in, 24.4 cm x 21.8 cm

Unique Feature	Superb Productivity
	  - PCIe Gen5 (Graphics, M.2)
	  - Dual Channel DDR5
	Rock-Solid Durability
	  - 7+1+1+1+1 Power Phase
	Ultrafast Connectivity
	  - 2.5G LAN, 802.11axe Wi-Fi 6E Module
	EZ Update
	  - BIOS Flashback Button
	  - ASRock Auto Driver Installer
	EZ Troubleshooter
	  - ASRock Post Status Checker

CPU	- Supports Intel® Core™ Ultra Processors (Series 2) (LGA1851) - Supports Intel® Hybrid Technology - Supports Intel® Turbo Boost Max 3.0 Technology - Supports Intel® Thermal Velocity Boost (TVB) - Supports Intel® Adaptive Boost Technology (ABT) - Integrated NPU for dedicated AI acceleration
Chipset	- Intel® B860

Memory	- Dual Channel DDR5 Memory Technology
	- 2 x DDR5 DIMM Slots
	- Supports DDR5 non-ECC, un-buffered memory up to 9066+(OC)*
	  1DPC 1R Up to 9066+ MHz (OC), 6400 MHz Natively.
	  1DPC 2R Up to 6800+ MHz (OC), 6400 MHz Natively.
	- Supports Clocked Unbuffered DIMM (CUDIMM)
	- Max. capacity of system memory: 128GB
	- Supports Intel® Extreme Memory Profile (XMP) 3.0x
	* Please refer to Memory Support List on ASRock's website for more information.
	  (http://www.asrock.com/)

Expansion Slot	CPU: - 1 x PCIe 5.0 x16 Slot (PCIE1), supports x16 mode* Chipset: - 1 x PCIe 4.0 x1 Slot (PCIE2)* - 1 x PCIe 4.0 x4 Slot (PCIE3), supports x4 mode* - 1 x M.2 Socket (Key E), supports type 2230 WiFi/BT PCIe WiFi module and Intel® CNVio/CNVio2 (Integrated WiFi/BT) * Supports NVMe SSD as boot disks

Graphics	* Intel® UHD Graphics Built-in Visuals and the VGA outputs can be supported
	  only with processors which are GPU integrated.
	- Intel® Xᵉ LPG Graphics Architecture
	- 1 x HDMI 2.1 TMDS/FRL 8G Compatible, supports HDR, HDCP 2.3 and
	  max. resolution up to 4K 120Hz
	- 1 x DisplayPort 1.4 with DSC (compressed), supports HDCP 2.3 and
	  max. resolution up to 8K 60Hz / 5K 120Hz

Audio	- 7.1 CH HD Audio (Realtek ALC897 Audio Codec)

LAN	- 2.5 Gigabit LAN 10/100/1000/2500 Mb/s
	- Dragon RTL8125BG
	- Supports Dragon 2.5G LAN Software
	  - Smart Auto Adjust Bandwidth Control
	  - Visual User Friendly UI
	  - Visual Network Usage Statistics
	  - Optimized Default Setting for Game, Browser, and Streaming Modes
	  - User Customized Priority Control

Wireless LAN	- 802.11axe Wi-Fi 6E Module
	- Supports IEEE 802.11a/b/g/n/ac/ax/axe
	- Supports Dual-Band 2x2 with extended 6GHz band* support
	* The Wi-Fi 6E module is supported by Microsoft® Windows® 11 only. The
	  availability of the 6GHz band will depend on the different regulation status of
	  each country and region.
	  It will be activated (for supported countries) through Windows® Update and
	  software updates once available.
	* A 6GHz compatible router is required for 6E functionality.
	- 2 antennas to support 2 (Transmit) x 2 (Receive) diversity technology
	- Supports Bluetooth 5.3
	- Supports MU-MIMO

USB	CPU: - 1 x USB 3.2 Gen2x2 Type-C (Rear) Chipset: - 1 x USB 3.2 Gen1 Type-C (Front) - 5 x USB 3.2 Gen1 Type-A (3 Rear, 2 Front) - 6 x USB 2.0 (2 Rear, 4 Front) * All USB ports support ESD Protection
Rear Panel I/O	- 2 x Antenna Ports - 1 x HDMI Port - 1 x DisplayPort 1.4 - 1 x USB 3.2 Gen2x2 Type-C Port (20 Gb/s) - 3 x USB 3.2 Gen1 Ports - 2 x USB 2.0 Ports - 1 x RJ-45 LAN Port - 1 x BIOS Flashback Button - HD Audio Jacks: Line in / Front Speaker / Microphone

Storage	CPU:
	- 1 x Blazing M.2 Socket (M2_1, Key M), supports type 2260/2280 PCIe Gen5x4 (128 Gb/s)
	  mode*
	Chipset:
	- 1 x Hyper M.2 Socket (M2_2, Key M), supports type 2230/2242/2260/2280 PCIe Gen4x4
	  (64 Gb/s) mode*
	- 4 x SATA3 6.0 Gb/s Connectors
	
	* Supports Intel® Volume Management Device (VMD)
	* Supports NVMe SSD as boot disks

RAID	- Supports RAID 0, RAID 1, RAID 5 and RAID 10 for SATA storage devices
Connector	- 1 x SPI TPM Header - 1 x Power LED and Speaker Header - 1 x RGB LED Header* - 2 x Addressable LED Headers** - 2 x CPU Fan Connector (4-pin) (Smart Fan Speed Control)*** - 2 x Chassis Fan Connectors (4-pin) (Smart Fan Speed Control)*** - 1 x AIO Pump Fan Connector (4-pin) (Smart Fan Speed Control)*** - 1 x 24 pin ATX Power Connector - 1 x 8 pin 12V Power Connector (Hi-Density Power Connector) - 1 x 4 pin 12V Power Connector (Hi-Density Power Connector) - 1 x Front Panel Audio Connector - 2 x USB 2.0 Headers (Support 4 USB 2.0 ports) - 1 x USB 3.2 Gen1 Header (Supports 2 USB 3.2 Gen1 ports) - 1 x Front Panel Type C USB 3.2 Gen1 Header * Supports in total up to 12V/3A, 36W LED Strip ** Support in total up to 5V/3A, 15W LED Strip *** CPU_FAN1 supports the fan power up to 1A (12W). *** CPU_FAN2, CHA_FAN1~2 and AIO_PUMP support the fan power up to 3A (36W). *** CPU_FAN2, CHA_FAN1~2 and AIO_PUMP can auto detect if 3-pin or 4-pin fan is in use.
BIOS Feature	- 256Mb AMI UEFI Legal BIOS with GUI support
Software and UEFI	Software - ASRock Motherboard Utility (A-Tuning) - ASRock Dragon 2.5G LAN Software - ASRock Polychrome SYNC * These utilities can be downloaded from ASRock Live Update & APP Shop. UEFI - ASRock EZ Mode - ASRock Full HD UEFI - ASRock My Favorites in UEFI - ASRock Auto Driver Installer - ASRock Instant Flash
OS	- Microsoft® Windows® 11 64-bit
Certifications	- FCC, CE - ErP/EuP ready (ErP/EuP ready power supply is required)
Accessories	- 1 x I/O Shield - 2 x SATA Data Cables - 2 x ASRock WiFi 2.4/5/6 GHz Antennas - 1 x Screw for M.2 Socket - 1 x Standoff for M.2 Socket