

ASRock®

B850M-X WiFi



AMD
SOCKET
AM5

B850

AMD
RYZEN

AMD

AMD RYZEN™ 9000 DESKTOP READY

WiFi 6E

PRODUCT BRIEF :

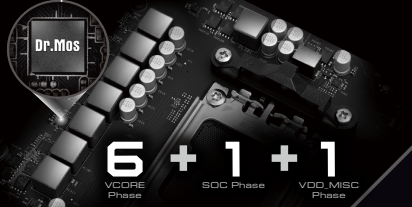
- Supports AMD Socket AM5 Ryzen™ 9000, 8000 and 7000 Series Processors
- 6+1+1 Phase Power Design, Dr.MOS for VCore
- 2 x DDR5 DIMMs
- Supports Dual Channel, up to 8200+ (OC)
- 2 PCIe 4.0 x16, 1 PCIe 4.0 x1
- Graphics Output Options: 1 HDMI, 1 DisplayPort
- Realtek ALC897 7.1 CH HD Audio Codec, Nahimic Audio
- 1 Blazing M.2 (PCIe Gen5x4)
- 1 Hyper M.2 (PCIe Gen4x4)
- 4 SATA3
- 2 USB 3.2 Gen1 Type-C (1 Rear, 1 Front)
- 5 USB 3.2 Gen1 (3 Rear, 2 Front)
- 6 USB 2.0 (2 Rear, 4 Front)
- Realtek 2.5G LAN
- 802.11ax WiFi 6E +Bluetooth
- Supports BIOS Flashback



I/O OVERVIEW

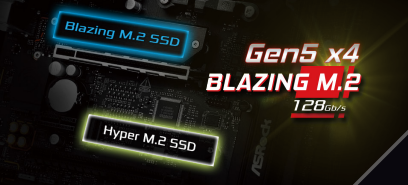
6+1+1 Power Phase Design

Vcore with Dr.MOS design, delivering smoother and neater power to the CPU.



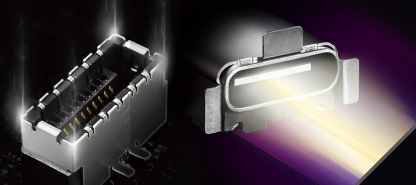
BLAZING M.2 (PCIe GEN5 x4)

Supports up to 2*NVMe M.2 SSDs and one of which is able to accommodate the latest PCI Express 5.0 standard.



USB 3.2 TYPE-C (FRONT + REAR)

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



ASROCK
AUTO DRIVER
INSTALLER



Dragon 2.5Gbps LAN

Enjoy faster connectivity for gaming, file transfers and backups.



Polychrome RGB

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



WiFi 6E (802.11ax)

Better and faster internet traffic with lower latency!

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



Nahimic Audio



USB 3.2 Gen1
Type-C



Detail Specification

Platform	- Micro ATX Form Factor: 9.6-in x 8.9-in, 24.4 cm x 22.6 cm	Rear Panel I/O	- 2 x Antenna Ports - 1 x HDMI Port - 1 x DisplayPort 1.4 - 1 x USB 3.2 Gen1 Type-C Port - 3 x USB 3.2 Gen1 Type-A 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
Unique Feature	Superb Productivity - PCIe Gen5 (M.2) - Dual Channel DDR5 Rock-Solid Durability - 6+1+1 Power Phase, Dr.MOS for VCore 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	Storage	CPU: - 1 x Blazing M.2 Socket (M2_1, Key M), supports type 2280 PCIe Gen5x4 (128 Gb/s) mode* - 1 x Hyper M.2 Socket (M2_2, Key M), supports type 2260/2280 PCIe Gen4x4 (64 Gb/s) mode* Chipset: - 4 x SATA3 6.0 Gb/s Connectors * Supports NVMe SSD as boot disks * M2_1 is the first priority for M.2 installation. * M2_1 will run at Gen5x4 with 9000 and 7000 series processors and Gen4x4 with 8000 (Phoenix 1 and Phoenix 2) series processors. * M2_2 will run at Gen4x4 with 9000 and 7000 series processors, Gen4x4 with 8000 (Phoenix 1) series processors and Gen4x2 with 8000 (Phoenix 2) series processors.
CPU	- Supports AMD Socket AM5 Ryzen™ 9000, 8000 and 7000 Series Processors* * The availability of expansion slots may vary by CPU. Please refer to PCIe/M.2 Bandwidth Table for details. (http://www.asrock.com/)	RAID	- Supports RAID 0, RAID 1 and RAID 10 for SATA storage devices - Supports RAID 0, RAID 1 and RAID 10 for M.2 NVMe storage devices* * Requires additional M.2 NVMe expansion cards to support RAID 10
Chipset	- AMD B850	Connector	- 1 x Thermistor Cable Header - 1 x SPI TPM Header - 1 x Power LED and Speaker Header - 1 x RGB LED Header* - 3 x Addressable LED Headers** - 2 x CPU Fan Connectors (4-pin) (Smart Fan Speed Control)*** - 3 x Chassis/Water Pump 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 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_FAN1~3 and AIO_PUMP support the fan power up to 3A (36W). *** CPU_FAN2, CHA_FAN1~3 and AIO_PUMP can auto detect if 3-pin or 4-pin fan is in use.
Memory	- Dual Channel DDR5 Memory Technology - 2 x DDR5 DIMM Slots - Supports DDR5 ECC/non-ECC, un-buffered memory up to 8200+(OC)* - Max. capacity of system memory: 128GB - Supports Extreme Memory Profile (XMP) and EXTended Profiles for Overclocking (EXPO) memory modules * Please refer to Memory Support List on ASRock's website for more information. (http://www.asrock.com/)	BIOS Feature	- 256Mb AMI UEFI Legal BIOS with GUI support
Expansion Slot	CPU: - 1 x PCIe 4.0 x16 Slot (PCIe1), supports x16 mode* Chipset: - 1 x PCIe 4.0 x1 Slot (PCIe2)* - 1 x PCIe 4.0 x16 Slot (PCIe3), supports x4 mode* - 1 x M.2 Socket (Key E), supports type 2230 WiFi/BT PCIe WiFi module * PCIe1 will run at Gen4x16 with 9000 and 7000 series processors, Gen4x8 with 8000 (Phoenix 1) series processors and Gen4x4 with 8000 (Phoenix 2) series processors. * Supports NVMe SSD as boot disks	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 Auto Driver Installer - ASRock Instant Flash
Graphics	Integrated AMD RDNA™ graphics (Actual support may vary by CPU) - 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 4K 120Hz	OS	- Microsoft® Windows® 10 64-bit / 11 64-bit
Audio	- 7.1 CH HD Audio (Realtek ALC897 Audio Codec) - Nahimic Audio	Certifications	- FCC, CE - ErP/EuP ready (ErP/EuP ready power supply is required)
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	Accessories	- 1 x I/O Shield - 2 x SATA Data Cables - 2 x ASRock WiFi 2.4/5/6 GHz Antennas
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 * Wi-Fi 6E (6GHz band) will be supported by Microsoft® Windows® 11. The availability 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 5.2 - Supports MU-MIMO		
USB	CPU: - 3 x USB 3.2 Gen1 Type-A (Rear) - 1 x USB 2.0 (Rear (USB_2)) Chipset: - 2 x USB 3.2 Gen1 Type-C (1 Rear, 1 Front) - 2 x USB 3.2 Gen1 Type-A (Front) - 5 x USB 2.0 (1 Rear (USB_1), 4 Front) * All USB ports support ESD Protection		