

ASRock®

B850M-X R2.0



B850

PRODUCT BRIEF :

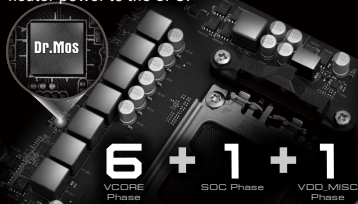
- Supports AMD Socket AM5 Ryzen™ 9000, 8000 and 7000 Series Processors
- 6+1+1 Phase Power Design, Dr.MOS for VCore
- 2 x DDR5 DIMMs
Supports Dual Channel, up to 8200+ (OC)
- 1 PCIe 5.0 x16, 1 PCIe 4.0 x16, 1 PCIe 4.0 x1, 1 M.2 Key E for WiFi
- Graphics Output Options: 1 HDMI, 1 DisplayPort
- Realtek 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
- 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.



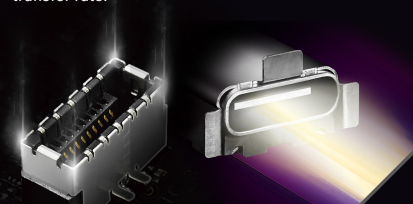
PCIe 5.0 Support

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



USB 3.2 TYPE-C (FRONT + REAR)

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



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.



M.2 (KEY E) For WiFi

Users may upgrade wireless module by M.2 (Key E) slot.



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 Mounting Points - 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	<p>Superb Productivity</p> <ul style="list-style-type: none"> - PCIe Gen5 (Graphics, M.2) - Dual Channel DDR5 <p>Rock-Solid Durability</p> <ul style="list-style-type: none"> - 6+1+1 Power Phase, Dr.MOS for VCore <p>Ultrafast Connectivity</p> <ul style="list-style-type: none"> - 2.5G LAN <p>EZ Update</p> <ul style="list-style-type: none"> - BIOS Flashback Button - ASRock Auto Driver Installer <p>EZ Troubleshooter</p> <ul style="list-style-type: none"> - ASRock Post Status Checker 	Storage	<p>CPU:</p> <ul style="list-style-type: none"> - 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* <p>Chipset:</p> <ul style="list-style-type: none"> - 4 x SATA3 6.0 Gb/s Connectors <p>* 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.</p>
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	<p>CPU:</p> <ul style="list-style-type: none"> - 1 x PCIe 5.0 x16 Slot (PCIe1), supports x16 mode* <p>Chipset:</p> <ul style="list-style-type: none"> - 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 <p>* PCIe1 will run at Gen5x16 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</p>	Software and UEFI	<p>Software</p> <ul style="list-style-type: none"> - ASRock Motherboard Utility (A-Tuning) - ASRock Dragon 2.5G LAN Software - ASRock Polychrome SYNC <p>* These utilities can be downloaded from ASRock Live Update & APP Shop.</p> <p>UEFI</p> <ul style="list-style-type: none"> - ASRock EZ Mode - ASRock Full HD UEFI - ASRock Auto Driver Installer - ASRock Instant Flash
Graphics	<p>Integrated AMD RDNA™ graphics (Actual support may vary by CPU)</p> <ul style="list-style-type: none"> - 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 <ul style="list-style-type: none"> - 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 - 1 x Screw for M.2 Socket
USB	<p>CPU:</p> <ul style="list-style-type: none"> - 3 x USB 3.2 Gen1 Type-A (Rear) - 1 x USB 2.0 (Rear (USB_2)) <p>Chipset:</p> <ul style="list-style-type: none"> - 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) <p>* All USB ports support ESD Protection</p>		