



PHANTOM GAMING



# PHANTOM GAMING Z790 RIPTIDE WiFi



## PRODUCT BRIEF :

- Supports 13<sup>th</sup> Gen & 12<sup>th</sup> Gen and next gen Intel® Core™ Processors (LGA1700)
- 16+1+1 Power Phase, 90A SPS for VCore+GT, 8-Layer PCB
- Supports DDR5 7800+ (OC)
- 1 PCIe 5.0 x16, 1 PCIe 4.0 x16, 1 PCIe 3.0 x1
- Graphics Output Options: HDMI, DisplayPort, eDP
- Realtek ALC1220 7.1 CH HD Audio Codec, Nahimic Audio
- 1 Blazing M.2 (PCIe Gen5 x4), 4 Hyper M.2 (PCIe Gen4 x4), 8 SATA3
- 1 USB 3.2 Gen2x2 Type-C (Front), 2 USB 3.2 Gen2 Type-A (Rear), 1 USB 3.2 Gen1 Type-C (Rear), 6 USB 3.2 Gen1 Type-A (4 Rear, 2 Front), 6 USB 2.0 (2 Rear, 4 Front)
- Killer 2.5G LAN
- 802.11be WiFi 7 + Bluetooth
- Supports ASRock Lightning Gaming Ports, Toolless Multi-Layer M.2 Heatsink



### Wi-Fi 7 802.11be

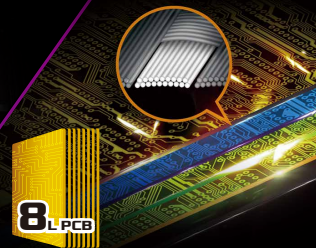
Latest Wi-Fi 7 technology delivers extreme wireless internet speeds and low latency.

\* The availability will depend on the different regulation status of each country and region.



### Toolless Multi-Layer M.2 Heatsink

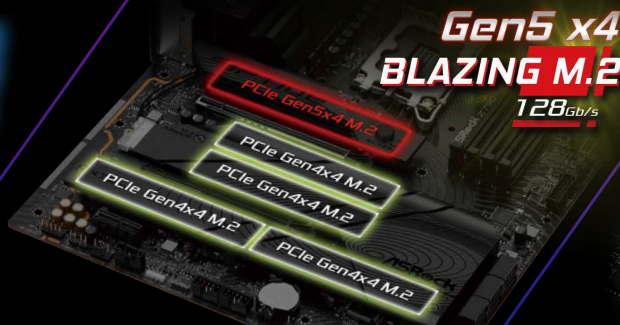
Including a quick-release mechanism heatsink for effortless and toolless M.2 SSD installation.



### Server-Grade Low-Loss 8-Layer PCB

The server-grade PCB improves signal integrity, giving a reliable and long-lasting system without any compromise.

Up to DDR5  
**7800**  
MHZ



### Premium 5\*M.2 Sockets

Supports up to 5\*NVMe M.2 SSDs and one of which is able to accommodate the latest PCI Express 5.0 standard.



### Enhanced Performance and Durability

VCore with SPS design delivers smoother and neater power to the CPU, while 20K black capacitors ensure a lifespan of at least 20,000 hours for longer component durability.

## Detail Specification

<b>Platform</b>	- ATX Form Factor: 12.0-in x 9.6-in, 30.5 cm x 24.4 cm - 8 Layer PCB	<b>Rear Panel I/O</b>	- 2 x Antenna Mounting Points - 1 x HDMI Port - 1 x DisplayPort 1.4 - 2 x USB 3.2 Gen2 Type-A Ports (10 Gb/s) - 1 x USB 3.2 Gen1 Type-C Port - 4 x USB 3.2 Gen1 Type-A Ports (USB32_56 are Lightning Gaming Ports.) - 2 x USB 2.0 Ports - 1 x RJ-45 LAN Port - HD Audio Jacks: Line in / Front Speaker / Microphone
<b>Unique Feature</b>	Superb Productivity - PCIe Gen5 (Graphics, M.2) - Dual Channel DDR5 Rock-Solid Durability - Server-Grade Low-Loss PCB - 16+1+1 Power Phase, 90A SPS for VCore+GT with Enlarged Heatsink Armor - Flexible Integrated I/O Shield - 20K Long-lasting Black Caps (high quality and conductive polymer capacitors) Ultrafast Connectivity - Killer 2.5G LAN, 802.11be Wi-Fi 7 Module - ASRock Lightning Gaming Ports EZ Update - ASRock Auto Driver Installer EZ Troubleshooter - ASRock Post Status Checker	<b>Storage</b>	CPU: - 1 x Blazing M.2 Socket (M2_GEN5, Key M), supports type 2280 PCIe Gen5x4 (128 Gb/s) mode* - 1 x Hyper M.2 Socket (M2_1, Key M), supports type 2260/2280 PCIe Gen4x4 (64 Gb/s) mode* Chipset: - 1 x Hyper M.2 Socket (M2_2, Key M), supports type 2260/2280 PCIe Gen4x4 (64 Gb/s) mode* - 1 x Hyper M.2 Socket (M2_3, Key M), supports type 2260/2280 PCIe Gen4x4 (64 Gb/s) mode* - 1 x Hyper M.2 Socket (M2_4, Key M), supports type 2260/2280 PCIe Gen4x4 (64 Gb/s) mode* - 8 x SATA3 6.0 Gb/s Connectors  * Supports Intel® Volume Management Device (VMD) * Supports NVMe SSD as boot disks * If M2_GEN5 is occupied, PCIE1 will downgrade to x8 mode.
<b>CPU</b>	- Supports 13 <sup>th</sup> Gen & 12 <sup>th</sup> Gen Intel® Core™ Processors (LGA1700) - Supports Intel® Hybrid Technology - Supports Intel® Turbo Boost Max 3.0 Technology - Supports Intel® Thermal Velocity Boost (TVB) - Supports Intel® Adaptive Boost Technology (ABT)	<b>RAID</b>	- Supports RAID 0, RAID 1, RAID 5 and RAID 10 for SATA storage devices - Supports RAID 0, RAID 1 and RAID 5 and RAID 10 for M.2 NVMe storage devices
<b>Chipset</b>	- Intel® Z790	<b>Connector</b>	- 1 x eDP Signal 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** - 1 x CPU Fan Connector (4-pin)*** - 1 x CPU/Water Pump Fan Connector (4-pin) (Smart Fan Speed Control)**** - 1 x Chassis Fan Connector (4-pin)***** - 4 x Chassis/Water Pump Fan Connectors (4-pin) (Smart Fan Speed Control)***** - 1 x 24 pin ATX Power Connector - 2 x 8 pin 12V Power Connectors (Hi-Density Power Connector) - 1 x Front Panel Audio Connector - 1 x Thunderbolt AIC Connector (5-pin) (Supports ASRock Thunderbolt 4 AIC Card) - 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 Gen2x2 Header (20 Gb/s) * 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/WP supports the fan power up to 2A (24W). ***** CHA_FAN5 supports the fan power up to 1A (12W). ***** CHA_FAN1~4/WP support the fan power up to 2A (24W). ***** CPU_FAN2/WP and CHA_FAN1~4/WP can auto detect if 3-pin or 4-pin fan is in use.
<b>Memory</b>	- Dual Channel DDR5 Memory Technology - 4 x DDR5 DIMM Slots - Supports DDR5 non-ECC, un-buffered memory up to 7800+(OC)* 1DPC 1R Up to 7800+ MHz (OC), 4800 MHz Natively. 1DPC 2R Up to 6800+ MHz (OC), 4400 MHz Natively. 2DPC 1R Up to 6000+ MHz (OC), 4000 MHz Natively. 2DPC 2R Up to 5600+ MHz (OC), 3600 MHz Natively. - Max. capacity of system memory: 192GB - Supports Intel® Extreme Memory Profile (XMP) 3.0 * Please refer to Memory Support List on ASRock's website for more information. ( <a href="http://www.asrock.com/">http://www.asrock.com/</a> )	<b>BIOS Feature</b>	- 128Mb AMI UEFI Legal BIOS with GUI support
<b>Expansion Slot</b>	CPU: - 1 x PCIe 5.0 x16 Slot (PCIe1), supports x16 mode* Chipset: - 1 x PCIe 4.0 x16 Slot (PCIe2), supports x4 mode* - 1 x PCIe 3.0 x1 Slot (PCIe3)* - 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 * If M2_GEN5 is occupied, PCIE1 will downgrade to x8 mode. - Supports AMD CrossFire™	<b>Software and UEFI</b>	Software - ASRock Motherboard Utility (Phantom Gaming Tuning) - Killer Control Center - 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 - ASRock Easy RAID Installer
<b>Graphics</b>	* Intel® UHD Graphics Built-in Visuals and the VGA outputs can be supported only with processors which are GPU integrated. - Intel® X <sup>e</sup> Graphics Architecture (Gen 12) - 1 x eDP 1.4, supports max. resolution up to Full HD 60Hz - 1 x HDMI 2.1 TMDS Compatible, supports HDCP 2.3 and max. resolution up to 4K 60Hz - 1 x DisplayPort 1.4 with DSC (compressed), supports HDCP 2.3 and max. resolution up to 8K 60Hz / 5K 120Hz	<b>OS</b>	- Microsoft® Windows® 10 64-bit / 11 64-bit
<b>Audio</b>	- 7.1 CH HD Audio with Content Protection (Realtek ALC1220 Audio Codec) - Impedance Sensing on Rear Out port - Individual PCB Layers for R/L Audio Channel - Nahimic Audio	<b>Certifications</b>	- FCC, CE - ErP/EuP ready (ErP/EuP ready power supply is required)
<b>LAN</b>	- 2.5 Gigabit LAN 10/100/1000/2500 Mb/s - Killer® E3100G - Supports Killer LAN Software	<b>Accessories</b>	- 1 x User Manual - 2 x SATA Data Cables - 1 x ASRock WiFi 2.4/5/6 GHz Antenna - 1 x ARGB Splitter Cable - 1 x Thermistor Cable
<b>Wireless LAN</b>	- 802.11be 2x2 Wi-Fi 7 Module - Supports IEEE 802.11a/b/g/n/ac/ax/be - Supports 2.4GHz/5GHz/6GHz* frequency band - Supports 320MHz channel bandwidth with 6GHz* frequency band * Wi-Fi 7 (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 7 functionality. - 1 antenna to support 2 (Transmit) x 2 (Receive) diversity technology - Supports Bluetooth 5.4 - Supports MU-MIMO		
<b>USB</b>	- 1 x USB 3.2 Gen2x2 Type-C (Front) - 2 x USB 3.2 Gen2 Type-A (Rear) - 1 x USB 3.2 Gen1 Type-C (Rear) - 6 x USB 3.2 Gen1 Type-A (4 Rear, 2 Front) - 6 x USB 2.0 (2 Rear, 4 Front) * All USB ports support ESD Protection		