

ROG STRIX Z590-E GAMING WIFI One Page Spec

Note: The specifications are subject to change without notice.

CPU	<p>Intel® Socket LGA1200 for 11th Gen Intel® Core™ processors & 10th Gen Intel® Core™, Pentium® Gold and Celeron® Processors</p> <p>Supports Intel® 14 nm CPU</p> <p>Supports Intel® Turbo Boost Technology 2.0 and Intel® Turbo Boost Max Technology 3.0**</p> <p>* Refer to www.asus.com for CPU support list.</p> <p>** Intel® Turbo Boost Max Technology 3.0 support depends on the CPU types.</p>
Chipset	Intel® Z590 Chipset
Memory	<p>4 x DIMM, Max. 128GB, DDR4 5333(OC)/5133(OC)/5000(OC)/4800(OC)/4700(OC)/4600(OC)/4500(OC)/4400(OC)/4266(OC)/4133(OC)/4000(OC)/3866(OC)/3733(OC)/3600(OC)/3466(OC)/3400(OC)/3333(OC)/3200/3000/2933/2800/2666/2400/2133 MHz Non-ECC, Un-buffered Memory*</p> <p>Dual Channel Memory Architecture</p> <p>Supports Intel® Extreme Memory Profile (XMP)</p> <p>OptiMem III</p> <p>* 10th Gen Intel® Core™ i7/i9 processors support 2933/2800/2666/2400/2133 natively, others will run at the maximum transfer rate of DDR4 2666MHz.</p> <p>* 11th Gen Intel® Core™ processors support 3200/2933/2800/2666/2400/2133 natively.</p> <p>* Refer to www.asus.com for the Memory QVL (Qualified Vendors Lists).</p>
Graphics	<p>1 x DisplayPort 1.4**</p> <p>1 x HDMI™ 2.0***</p> <p>* Graphics specifications may vary between CPU types.</p> <p>** Only Intel® 11th Core™ processors support DisplayPort 1.4 with max. resolution of 5120 x 2880 @60Hz, others will only support DisplayPort 1.4 with max. resolution of 4096 x 2304 @60Hz. Please refer to www.intel.com for any updates</p> <p>*** Only Intel® 11th Core™ processors support HDMI™ 2.0 with max. resolution of 4K@60Hz, others will only support HDMI™ 1.4 with max. resolution of 4K@30Hz. Please refer to www.intel.com for any updates.</p>
Expansion Slots	<p>Intel® 11th & 10th Gen Processors</p> <p>2 x PCIe 4.0/3.0 x16 slot(s)*</p> <p>- Intel® 11th processors support PCIe 4.0 x16 or x8/x8 or x8/x4 mode(s)</p> <p>- Intel® 10th processors support PCIe 3.0 x16 or x8/x8 or x8/x4 mode(s)</p> <p>Intel® Z590 Chipset</p> <p>1 x PCIe 3.0 x16 slot (supports x4 mode)**</p> <p>* Support PCIe bandwidth bifurcation for RAID on CPU function.</p> <p>** PCIe16_3 shares bandwidth with SATA_56. When PCIe16_3 is populated SATA_56 will be disabled.</p> <p>When PCIe16_3 run at default x2 mode, SATA_56 is enabled.</p>
Multi-GPU Support	Supports NVIDIA 2-Way SLI® Technology
Storage	<p>Total supports 4 x M.2 slots and 6 x SATA 6Gb/s ports</p> <p>Intel® 11th & 10th Gen Processors*</p> <p>M.2_1 slot (Key M), type 2242/2260/2280/22110</p> <p>- Only Intel® 11th Core™ processors support PCIe 4.0 x4 mode, this slot will be disabled for other CPUs</p> <p>M.2_2 slot (Key M), type 2242/2260/2280/22110</p> <p>- Intel® 11th processors support PCIe 4.0 x4 mode</p> <p>- Intel® 10th processors support PCIe 3.0 x4 mode</p> <p>Intel® Z590 Chipset</p> <p>M.2_3 slot (Key M), type 2242/2260/2280/22110 (supports PCIe 3.0 x4 mode)</p> <p>M.2_4 slot (Key M), type 2242/2260/2280 (supports PCIe 3.0 x4 & SATA modes)*</p> <p>6 x SATA 6Gb/s ports</p> <p>Raid function in Intel® Rapid Storage Technology is available with either 1. Intel® SSDs installed in both CPU-attached and PCH-attached slots, or 2. any other 3rd party SSDs installed in PCH-attached slots.</p> <p>To enable Intel® Optane™ Memory (Hybrid Storage device), it must be installed in PCH-attached slots with Intel® Rapid Storage Technology.</p> <p>*When M.2_4 is operating in SATA device, SATA6G_2 will be disabled.</p>
Ethernet	<p>2 x Intel® I225-V 2.5Gb Ethernet</p> <p>ASUS LANGuard</p>
Wireless & Bluetooth	<p>Intel® Wi-Fi 6E</p> <p>2x2 Wi-Fi 6E (802.11 a/b/g/n/ac/ax)</p> <p>Supports 2.4/5/6GHz frequency band*</p> <p>Bluetooth v5.2 hardware ready**</p> <p>* WiFi 6E 6GHz regulatory may vary between countries, and function will be ready in Windows 10 build 21H1 or later.</p> <p>** Bluetooth v5.2 function will be ready in Windows 10 build 21H1 or later.</p>
USB	<p>Rear USB (Total 10 ports)</p> <p>1 x USB 3.2 Gen 2x2 port(s) (1 x USB Type-C®)</p> <p>3 x USB 3.2 Gen 2 port (2 x Type-A, 1 x USB Type-C®)</p> <p>4 x USB 3.2 Gen 1 port (4 x Type-A)</p> <p>2 x USB 2.0 port(s) (2 x Type-A)</p> <p>Front USB (Total 7 ports)</p> <p>1 x USB 3.2 Gen 2x2 connector(s) (support(s) USB Type-C®)</p> <p>1 x USB 3.2 Gen 1 header(s) support(s) additional 2 USB 3.2 Gen 1 ports</p> <p>2 x USB 2.0 header(s) support(s) additional 4 USB 2.0 ports</p>
Audio	<p>ROG SupremeFX 7.1 Surround Sound High Definition Audio CODEC ALC4080</p> <p>- Impedance sense for front and rear headphone outputs</p> <p>- Supports: Jack-detection, Multi-streaming, Front Panel Jack-retasking</p> <p>- High quality 120 dB SNR stereo playback output and 113 dB SNR recording input</p> <p>- Supports up to 32-Bit/384 kHz playback</p> <p>Audio Features</p> <p>- SupremeFX Shielding Technology</p> <p>- ALC4080 + Savitech SV3H712 AMP</p> <p>- Gold-plated audio jacks</p> <p>- Rear optical S/PDIF out port</p> <p>- Premium Japanese audio capacitors</p> <p>- Audio cover</p>
Back Panel I/O Ports	<p>1 x USB 3.2 Gen 2x2 port (1 x USB Type-C®)</p> <p>3 x USB 3.2 Gen 2 port(s) (2 x Type-A, 1 x USB Type-C®)</p> <p>4 x USB 3.2 Gen 1 port(s) (4 x Type-A)</p> <p>2 x USB 2.0 port(s) (2 x Type-A)</p> <p>1 x HDMI™ port</p> <p>1 x DisplayPort</p> <p>1 x Intel® Wi-Fi 6E</p> <p>2 x Intel® I225-V 2.5Gb Ethernet</p> <p>5 x Gold-plated audio jacks</p> <p>1 x Optical S/PDIF out port</p> <p>1 x BIOS FlashBack™ button</p> <p>1 x Clear CMOS button</p>
	<p>Fan and Cooling related</p> <p>1 x 4-pin CPU Fan header(s)</p> <p>1 x 4-pin CPU OPT Fan header(s)</p> <p>1 x 4-pin AIO Pump header(s)</p>

Internal I/O Connectors	<p>3 x 4-pin Chassis Fan header(s) 1 x VRM heatsink Fan header 1 x W_PUMP+ header</p> <p>Power related 1 x 24-pin Main Power connector 1 x 8-pin +12V Power connector 1 x 4-pin +12V Power connector</p> <p>Storage related 4 x M.2 slots (Key M) 6 x SATA 6Gb/s ports</p> <p>USB 1 x USB 3.2 Gen 2x2 connector (support(s) USB Type-C®) 1 x USB 3.2 Gen 1 header(s) support(s) additional 2 USB 3.2 Gen 1 ports 2 x USB 2.0 header(s) support(s) additional 4 USB 2.0 ports</p> <p>Miscellaneous 3 x AURA Addressable Gen 2 header(s) 1 x AURA RGB header(s) 1 x CPU Over Voltage jumper 1 x Front Panel Audio header (AAFP) 1 x Q Code 1 x SPI TPM header (14-1pin) 1 x 20-3 pin System Panel header with Chassis intrude function 1 x Thermal Sensor header 1 x Thunderbolt header</p>
Special Features	<p>Extreme Engine Digi+ - 5K Black Metallic Capacitors</p> <p>ASUS Q-Design - M.2 Q-Latch - Q-Code - Q-DIMM - Q-LED (CPU [red], DRAM [yellow], VGA [white], Boot Device [yellow green]) - Q-Slot</p> <p>ASUS Thermal Solution - M.2 heatsink backplate - M.2 heatsink - VRM heatsink design</p> <p>ASUS EZ DIY - BIOS FlashBack™ button - BIOS FlashBack™ LED - Clear CMOS button - ProCool II - Pre-mounted I/O shield - SafeSlot</p> <p>AURA Sync - AURA RGB header(s) - Addressable Gen 2 RGB header(s)</p> <p>ASUS HYDRANODE - 1 x Chassis fan support* (CHA_FAN1P) * Visit ASUS Website for the latest compatibility list.</p>
Software Features	<p>ROG Exclusive Software - RAMCache III - ROG CPU-Z - GameFirst VI - Sonic Studio III + Sonic Studio Virtual Mixer - Sonic Radar III - DTS® Sound Unbound - Overwolf - Anti-virus software</p> <p>ASUS Exclusive Software Armoury Crate - AIDA64 Extreme (60 days free trial) - AURA Creator - AURA Sync - Two-Way AI Noise Cancellation AI Suite 3 - 5-Way Optimization with AI Overclocking TPU EPU DIGI+ VRM Fan Xpert 4 Turbo app - EZ update DAEMON Tools MyAsus WinRAR</p> <p>UEFI BIOS AI Overclocking Guide ASUS EZ DIY - ASUS CrashFree BIOS 3 - ASUS EZ Flash 3 - ASUS UEFI BIOS EZ Mode FlexKey MemTest86</p>
BIOS	256 Mb Flash ROM, UEFI AMI BIOS
Manageability	WOL by PME, PXE
Accessories	<p>Cables 4 x SATA 6Gb/s cables</p> <p>Additional Cooling Kit 1 x Assistant fan (40mm) 1 x Screw package for cooling kit</p> <p>Miscellaneous 1 x ASUS 2x2 Dual-Band Wi-Fi moving antennas 1 x M.2 Q-Latch package 2 x M.2 Rubber Packages 1 x ROG key chain 1 x cable tie 1 x ROG Graphics card holder</p>

	1 x ROG STRIX stickers 1 x ROG STRIX thank you card Installation Media 1 x Support DVD Documentation 1 x User manual
Operating System	Windows® 10 64-bit
Form Factor	ATX Form Factor 12 inch x 9.6 inch (30.5 cm x 24.4 cm)