

ROG STRIX Z590-E GAMING WIFI

CPU

Intel® Socket LGA1200 for 11th Gen Intel® Core

™ Processors & 10th Gen Intel® Core™

, Pentium® Gold and Celeron® Processors

Supports Intel® 14 nm CPU

Supports Intel® Turbo Boost Technology 2.0 and Intel® Turbo Boost Max Technology 3.0**

* Refer to www.asus.com for CPU support list.

** Intel® Turbo Boost Max Technology 3.0 support depends on the CPU types.

Chipset

Intel® Z590 Chipset

Memory

Memory Channels:4DDR4 (Dual channel)

Max Memory Size: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*

Dual Channel Memory Architecture

Supports Intel® Extreme Memory Profile (XMP)

OptiMem III

* 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.

* 11th Gen Intel® Core™ processors support 3200/2933/2800/2666/2400/2133 natively.

* Refer to www.asus.com for the Memory QVL (Qualified Vendors Lists).

Graphics

1 x DisplayPort 1.4**

1 x HDMI™ 2.0***

* Graphics specifications may vary between CPU types.

** 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

*** 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.

Expansion Slots

Intel® 11th & 10th Gen Processors

2 x PCIe 4.0/3.0 x16 slot(s)*

- Intel® 11th processors support PCIe 4.0 x16 or x8/x8 or x8/x4 mode(s)

- Intel® 10th processors support PCIe 3.0 x16 or x8/x8 or x8/x4 mode(s)

Intel® Z590 Chipset

1 x PCIe 3.0 x16 slot (supports x4 mode)**

* Support PCIe bandwidth bifurcation for RAID on CPU function.

** PCIe16_3 shares bandwidth with SATA_56. When PCIe16_3 is populated SATA_56 will be disabled. When PCIe16_3 run at default x2 mode, SATA_56 is enabled.

Multi-GPU Support

Supports NVIDIA 2-Way SLI® Technology

Storage

Intel® 11th & 10th Gen Processors*

M.2_1 slot (Key M), type 2242/2260/2280/22110

- Only Intel® 11th Core™ processors support PCIe 4.0 x4 mode, this slot will be disabled for other CPUs

M.2_2 slot (Key M), type 2242/2260/2280/22110

- Intel® 11th processors support PCIe 4.0 x4 mode
- Intel® 10th processors support PCIe 3.0 x4 mode

Intel® Z590 Chipset

M.2_3 slot (Key M), type 2242/2260/2280/22110 (supports PCIe 3.0 x4 mode)

M.2_4 slot (Key M), type 2242/2260/2280 (supports PCIe 3.0 x4 & SATA modes)*

6 x SATA 6Gb/s ports

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.

To enable Intel® Optane™ Memory (Hybrid Storage device), it must be installed in PCH-attached slots with Intel® Rapid Storage Technology.

*When M.2_4 is operating in SATA device, SATA6G_2 will be disabled.

Ethernet

2 x Intel® I225-V 2.5Gb Ethernet

Wireless & Bluetooth

2x2 Tri-Band Intel Wi-Fi a/b/g/n/ac/ax/az + BT5.2

USB

Rear USB: Total 10 ports

1 x USB 3.2 Gen 2x2 port(s) (1 x USB Type-C®)

3 x USB 3.2 Gen 2 port (2 x Type-A, 1 x USB Type-C®)

4 x USB 3.2 Gen 1 port (4 x Type-A)

2 x USB 2.0 port(s) (2 x Type-A)

Front USB: Total 7 ports

1 x USB 3.2 Gen 2x2 connector(s) (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

Audio

ALC4080

Audio Features

- SupremeFX Shielding Technology
- ALC4080 + Savitech SV3H712 AMP
- Gold-plated audio jacks
- Rear optical S/PDIF out port
- Premium Japanese audio capacitors
- Audio cover

Back Panel I/O Ports

- 1 x USB 3.2 Gen 2x2 port (1 x USB Type-C®)
- 3 x USB 3.2 Gen 2 port(s) (2 x Type-A, 1 x USB Type-C®)
- 4 x USB 3.2 Gen 1 port(s) (4 x Type-A)
- 2 x USB 2.0 port(s) (2 x Type-A)
- 1 x HDMI™ port
- 1 x DisplayPort
- 1 x Intel® Wi-Fi 6E
- 2 x Intel® I225-V 2.5Gb Ethernet
- 5 x Gold-plated audio jacks
- 1 x Optical S/PDIF out port
- 1 x BIOS FlashBack™ button
- 1 x Clear CMOS button

Internal I/O Connectors

- 1 x Thunderbolt 4 (onboard)

Fan and Cooling related

- 1 x 4-pin CPU Fan header(s)
- 1 x 4-pin CPU OPT Fan header(s)
- 1 x 4-pin AIO Pump header(s)

3 x 4-pin Chassis Fan header(s)

1 x VRM heatsink Fan header

1 x W_PUMP+ header

Power related

1 x 24-pin Main Power connector

1 x 8-pin +12V Power connector

1 x 4-pin +12V Power connector

Storage related

4 x M.2 slots (Key M)

6 x SATA 6Gb/s ports

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

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

Special Features

Y

Software Features

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

ASUS Exclusive Software

Armoury Crate

- AIDA64 Extreme (60 days free trial)
- AURA Creator
- AURA Sync
- Two-Way AI Noise Cancelation

AI Suite 3

- 5-Way Optimization with AI Overclocking

TPU

EPU

DIGI+ VRM

Fan Xpert 4

Turbo app

- EZ update

DAEMON Tools

MyAsus

WinRAR

UEFI BIOS

AI Overclocking Guide

ASUS EZ DIY

- ASUS CrashFree BIOS 3
- ASUS EZ Flash 3
- ASUS UEFI BIOS EZ Mode

FlexKey

MemTest86

BIOS

256 Mb Flash ROM, UEFI AMI BIOS

Manageability

WOL by PME, PXE

Accessories

Cables

4 x SATA 6Gb/s cables

Additional Cooling Kit

1 x Assistant fan (40mm)

1 x Screw package for cooling kit

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

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

30.5cm x 24.4cm