

## ROG STRIX Z590-F GAMING WIFI One Page Spec

Note: The specifications are subject to change without notice.

<b>CPU</b>	<p>Intel® Socket LGA1200 for 11th Gen Intel® Core™ processors &amp; 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 <a href="http://www.asus.com">www.asus.com</a> for CPU support list.</p> <p>** Intel® Turbo Boost Max Technology 3.0 support depends on the CPU types.</p>
<b>Chipset</b>	Intel® Z590 Chipset
<b>Memory</b>	<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 II</p> <p>* 10<sup>th</sup> 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>* 11<sup>th</sup> Gen Intel® Core™ processors support 3200/2933/2800/2666/2400/2133 natively.</p> <p>* Refer to <a href="http://www.asus.com">www.asus.com</a> for the Memory QVL (Qualified Vendors Lists).</p>
<b>Graphics</b>	<p>1 x DisplayPort 1.4**</p> <p>1 x HDMI™ 2.0***</p> <p>* Graphics specifications may vary between CPU types.</p> <p>** For Intel® 11th Core™ i5/ i7/ i9 processors, support DisplayPort 1.4 with max. resolution of 5120 x 2880 @60Hz, others would only support DisplayPort 1.4 with max. resolution of 4096 x 2304 @60Hz. Please refer to <a href="http://www.intel.com">www.intel.com</a> for any update.</p> <p>Please refer to <a href="http://www.intel.com">www.intel.com</a> for any update.</p> <p>*** For Intel® 11th Core™ i5/ i7/ i9 processors, support HDMI™ 2.0 with max. resolution of 4K@60Hz, others would only support HDMI™ 1.4 with max. resolution of 4K@30Hz. Please refer to <a href="http://www.intel.com">www.intel.com</a> for any update.</p> <p>**** VGA resolution support depends on processors' or graphic cards' resolution.</p>
<b>Expansion Slots</b>	<p><b>Intel® 11<sup>th</sup> &amp; 10<sup>th</sup> Gen Processors</b></p> <p>2 x PCIe 4.0/3.0 x16 slot(s)*</p> <p>- Intel® 11<sup>th</sup> support PCIe 4.0 x16 or x8/x4 mode(s)</p> <p>- Intel® 10<sup>th</sup> processors support PCIe 3.0 x16 or x8/x4 mode(s)</p> <p><b>Intel® Z590 Chipset</b></p> <p>1 x PCIe 3.0 x16 slot (supports x4 mode)*</p> <p>* Support PCIe bandwidth bifurcation for RAID on CPU function.</p>
<b>Storage</b>	<p><b>Total supports 4 x M.2 slots and 6 x SATA 6Gb/s ports</b></p> <p><b>Intel® 11<sup>th</sup> &amp; 10<sup>th</sup> Gen Processors*</b></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® 11<sup>th</sup> processors support PCIe 4.0 x4 mode</p> <p>- Intel® 10<sup>th</sup> processors support PCIe 3.0 x4 mode</p> <p><b>Intel® Z590 Chipset</b></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 &amp; 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>
<b>Ethernet</b>	<p>1 x Intel® I225-V 2.5Gb Ethernet</p> <p>ASUS LANGuard</p>
<b>Wireless &amp; Bluetooth</b>	<p>Intel® Wi-Fi 6E</p> <p>2x2 Wi-Fi 6E (802.11 a/b/g/n/ac/ax/az)</p> <p>Supports 2.4/5/6GHz Tri-Band*</p> <p>Bluetooth v5.2 HW 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 5.2 function will be ready in Windows 10 build 21H1 or later.</p>
<b>USB</b>	<p><b>Rear USB (Total 10 ports)</b></p> <p>1 x USB 3.2 Gen 2x2 port (1 x USB Type-C®)</p> <p>3 x USB 3.2 Gen 2 ports (2 x Type-A + 1 x USB Type-C®)</p> <p>4 x USB 3.2 Gen 1 ports (4 x Type-A)</p> <p>2 x USB 2.0 ports (2 x Type-A)</p> <p><b>Front USB (Total 7 ports)</b></p> <p>1 x USB 3.2 Gen 2 connector (supports USB Type-C®)</p> <p>1 x USB 3.2 Gen 1 header supports additional 2 USB 3.2 Gen 1 ports</p> <p>2 x USB 2.0 headers support additional 4 USB 2.0 ports</p>
<b>Audio</b>	<p>ROG SupremeFX 7.1 Surround Sound High Definition Audio CODEC ALC4080</p> <ul style="list-style-type: none"> <li>- Impedance sense for front and rear headphone outputs</li> <li>- Supports: Jack-detection, Multi-streaming, Front Panel Jack-retasking</li> <li>- High quality 120 dB SNR stereo playback output and 113 dB SNR recording input</li> <li>- Supports up to 32-Bit/384 kHz playback</li> </ul> <p><b>Audio Features</b></p> <ul style="list-style-type: none"> <li>- SupremeFX Shielding Technology</li> <li>- ALC4080 + Savitech SV3H712 AMP</li> <li>- Gold-plated audio jacks</li> <li>- Rear optical S/PDIF out port</li> <li>- Premium Japanese audio capacitors</li> <li>- Audio cover</li> </ul>
<b>Back Panel I/O Ports</b>	<p>1 x USB 3.2 Gen 2x2 port (1 x USB Type-C®)</p> <p>3 x USB 3.2 Gen 2 ports (2 x Type-A, 1 x USB Type-C®)</p> <p>4 x USB 3.2 Gen 1 ports (4 x Type-A)</p> <p>2 x USB 2.0 ports (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>1 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>
<b>Fan and Cooling related</b>	<p>1 x 4-pin CPU Fan header</p> <p>1 x 4-pin CPU OPT Fan header</p> <p>1 x 4-pin AIO Pump header</p> <p>3 x 4-pin Chassis Fan headers</p> <p>1 x VRM heatsink Fan header</p>

<p><b>Internal I/O Connectors</b></p>	<p>1 x W_PUMP+ header</p> <p><b>Power related</b></p> <p>1 x 24-pin Main Power connector  1 x 8-pin +12V Power connector  1 x 4-pin +12V Power connector</p> <p><b>Storage related</b></p> <p>4 x M.2 slots (Key M)  6 x SATA 6Gb/s ports</p> <p><b>USB</b></p> <p>1 x USB 3.2 Gen 2 connector (supports USB Type-C®)  1 x USB 3.2 Gen 1 header supports additional 2 USB 3.2 Gen 1 ports  2 x USB 2.0 headers support additional 4 USB 2.0 ports</p> <p><b>Miscellaneous</b></p> <p>3 x AURA Addressable Gen 2 headers  1 x AURA RGB header  1 x CPU Over Voltage jumper  1 x Front Panel Audio header (AAFP)  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>
<p><b>Special Features</b></p>	<p><b>Extreme Engine Digi+</b></p> <ul style="list-style-type: none"> <li>- 5K Black Metallic Capacitors</li> </ul> <p><b>ASUS Q-Design</b></p> <ul style="list-style-type: none"> <li>- M.2 Q-Latch</li> <li>- Q-DIMM</li> <li>- Q-LED (CPU [red], DRAM [yellow], VGA [white], Boot Device [yellow green])</li> <li>- Q-Slot</li> </ul> <p><b>ASUS Thermal Solution</b></p> <ul style="list-style-type: none"> <li>- M.2 heatsink backplate</li> <li>- M.2 heatsink</li> </ul> <p><b>ASUS EZ DIY</b></p> <ul style="list-style-type: none"> <li>- BIOS FlashBack™ button</li> <li>- BIOS FlashBack™ LED</li> <li>- Clear CMOS button</li> <li>- ProCool II</li> <li>- Pre-mounted I/O shield</li> <li>- SafeSlot</li> </ul> <p><b>AURA Sync</b></p> <ul style="list-style-type: none"> <li>- AURA RGB header</li> <li>- Addressable Gen 2 RGB headers</li> </ul> <p><b>ASUS HYDRANODE</b></p> <ul style="list-style-type: none"> <li>- 1 x Chassis fan support* (CHA_FAN1P)</li> </ul> <p>* Visit ASUS Website for the latest compatibility list.  TPM header</p>
<p><b>Software Features</b></p>	<p><b>ROG Exclusive Software</b></p> <ul style="list-style-type: none"> <li>- RAMCache III</li> <li>- ROG CPU-Z</li> <li>- GameFirst VI</li> <li>- Sonic Studio III + Sonic Studio Virtual Mixer</li> <li>- Sonic Radar III</li> <li>- DTS® Sound Unbound</li> <li>- Overwolf</li> <li>- Anti-virus software</li> <li>- AIDA64 Extreme (60 days free trial)</li> </ul> <p><b>ASUS Exclusive Software</b></p> <ul style="list-style-type: none"> <li>Armoury Crate</li> <li>- AURA Creator</li> <li>- AURA Sync</li> <li>- Two-Way AI Noise Cancellation</li> </ul> <p>AI Suite 3</p> <ul style="list-style-type: none"> <li>- 5-Way Optimization with AI Overclocking</li> </ul> <p>TPU  EPU  DIGI+ VRM  Fan Xpert 4  Turbo app  -EZ update</p> <p>DAEMON Tools  MyAsus  WinRAR</p> <p><b>UEFI BIOS</b></p> <ul style="list-style-type: none"> <li>AI Overclocking Guide</li> <li>ASUS EZ DIY</li> <li>- ASUS CrashFree BIOS 3</li> <li>- ASUS EZ Flash 3</li> <li>- ASUS UEFI BIOS EZ Mode</li> </ul> <p>FlexKey  MemTest86</p>
<p><b>BIOS</b></p>	<p>256 Mb Flash ROM, UEFI AMI BIOS</p>
<p><b>Manageability</b></p>	<p>WOL by PME, PXE</p>
<p><b>Accessories</b></p>	<p><b>Cables</b></p> <ul style="list-style-type: none"> <li>4 x SATA 6Gb/s cables</li> </ul> <p><b>Additional Cooling Kit</b></p> <ul style="list-style-type: none"> <li>1 x Fan holder</li> </ul> <p><b>Miscellaneous</b></p> <ul style="list-style-type: none"> <li>1 x ASUS 2x2 Dual-Band Wi-Fi moving antennas</li> <li>1 x M.2 Q-Latch package</li> <li>2 x M.2 Rubber Packages</li> <li>1 x ROG key chain</li> <li>1 x cable tie</li> <li>1 x ROG STRIX stickers</li> <li>1 x ROG STRIX thank you card</li> </ul> <p><b>Installation Media</b></p> <ul style="list-style-type: none"> <li>1 x Support DVD</li> </ul> <p><b>Documentation</b></p> <ul style="list-style-type: none"> <li>1 x User manual</li> </ul>

<b>Operating System</b>	Windows® 10 64-bit
<b>Form Factor</b>	ATX Form Factor 12 inch x 9.6 inch ( 30.5 cm x 24.4 cm )