

**PRIME Z590-A\_One Page Spec**

Note: The specifications are subject to change without notice.

<b>CPU</b>	Intel® Socket LGA1200 for 11 <sup>th</sup> Gen Intel® Core™ processors & 10 <sup>th</sup> 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 <a href="http://www.asus.com">www.asus.com</a> for CPU support list. ** Intel® Turbo Boost Max Technology 3.0 support depends on the CPU types.
<b>Chipset</b>	Intel® Z590 Chipset
<b>Memory</b>	4 x DIMM, Max. 128GB, DDR4 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 II * 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. * 11 <sup>th</sup> Gen Intel® Core™ processors support 3200/2933/2800/2666/2400/2133 natively. * Refer to <a href="http://www.asus.com">www.asus.com</a> for the Memory QVL (Qualified Vendors Lists), and memory frequency support depends on the CPU types.
<b>Graphics</b>	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 <a href="http://www.intel.com">www.intel.com</a> for any updates *** Only Intel® 11th Core™ 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. **** VGA resolution support depends on processors' or graphic cards' resolution.
<b>Expansion Slots</b>	<b>Intel® 11<sup>th</sup> &amp; 10<sup>th</sup> Gen Processors</b> 3 x PCIe 4.0/3.0 x16 slots* - Intel® 11 <sup>th</sup> Core™ processors support PCIe 4.0 x16 - Intel® 10 <sup>th</sup> processors support PCIe 3.0 x16 <b>Intel® Z590 Chipset</b> 1 x PCIe 3.0 x4 slot * Supports PCIe bandwidth bifurcation for RAID on CPU function.
<b>Storage</b>	<b>Total supports 3 x M.2 slots and 6 x SATA 6Gb/s ports</b> <b>Intel® 11<sup>th</sup> Gen Processors</b> 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 <b>Intel® Z590 Chipset</b> M.2_2 slot (Key M), type 2242/2260/2280/22110 (supports PCIe 3.0 x4 & SATA modes)*** M.2_3 slot (Key M), type 2242/2260/22110 (supports PCIe 3.0 x4 & SATA modes)**** 6 x SATA 6Gb/s ports * RAID function for PCIe mode SSD 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. *** M.2_2 shares bandwidth with SATA6G_2. When M.2_2 runs SATA mode, SATA6G_2 will be disabled. **** M.2_3 shares bandwidth with SATA6G_6. When M.2_3 runs SATA mode, SATA6G_6 will be disabled.
<b>Ethernet</b>	1 x Intel® I225-V 2.5Gb Ethernet
<b>USB</b>	<b>Rear USB (Total 9 ports)</b> 1 x USB 3.2 Gen 2x2 port (1 x USB Type-C®) 4 x USB 3.2 Gen 2 ports (3 x Type-A, 1 x Type-C®) 4 x USB 2.0 ports (4 x Type-A) <b>Front USB (Total 7 ports)</b> 1 x USB 3.2 Gen 1 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
<b>Audio</b>	Realtek S1220A 7.1 Surround Sound High Definition Audio CODEC* - Impedance sense for front and rear headphone outputs - Internal audio Amplifier to enhance the highest quality sound for headphone and speakers - Supports: Jack-detection, Multi-streaming, Front Panel Jack-retasking - High quality 120 dB SNR stereo playback output and 113 dB SNR recording input (Line-in) - Supports up to 32-Bit/192 kHz playback* <b>Audio Features:</b> - Power pre-regulator reduces power input noise to ensure consistent performance - Rear optical S/PDIF out port - Premium Japanese audio capacitors - Audio Shielding - Dedicated audio PCB layers - Audio cover - Unique de-pop circuit * Due to limitations in HDA bandwidth, 32-Bit/192kHz is not supported for 8-Channel audio.
<b>Back Panel I/O Ports</b>	1 x USB 3.2 Gen 2x2 port (1 x USB Type-C®) 4 x USB 3.2 Gen 2 ports (3 x Type-A, 1 x Type-C®) 4 x USB 2.0 ports (4 x Type-A) 1 x DisplayPort 1 x HDMI™ port 1 x Intel® I225-V 2.5Gb Ethernet port 5 x Audio jacks 1 x Optical S/PDIF out port
<b>Internal I/O Connectors</b>	<b>Fan and Cooling related</b> 1 x 4-pin CPU Fan header 1 x 4-pin CPU OPT Fan header 1 x 4-pin AIO Pump header 3 x 4-pin Chassis Fan headers 1 x 4-pin VRM_HS Fan header 1 x W_PUMP+ header <b>Power related</b> 1 x 24-pin Main Power connector 1 x 8-pin +12V Power connector 1 x 4-pin +12V Power connector <b>Storage related</b> 3 x M.2 slots (Key M) 6 x SATA 6Gb/s ports <b>USB</b> 1 x USB 3.2 Gen 1 connector (supports USB Type-C®) 1 x USB 3.2 Gen 1 headers supports additional 2 USB 3.2 Gen 1 ports 2 x USB 2.0 headers support additional 4 USB 2.0 ports

	<p><b>Miscellaneous</b></p> <ul style="list-style-type: none"> <li>3 x AURA Addressable Gen 2 headers</li> <li>1 x AURA RGB headers</li> <li>1 x Clear CMOS header</li> <li>1 x COM Port header</li> <li>1 x Front Panel Audio header (AAFP)</li> <li>1 x CPU Over Voltage jumper</li> <li>1 x Power button</li> <li>1 x SPI TPM header (14-1pin)</li> <li>1 x 20-3 pin System Panel header with Chassis intrude function</li> <li>1 x Thermal Sensor header</li> <li>1 x Thunderbolt™ header</li> </ul>
<b>Special Features</b>	<p><b>ASUS 5X PROTECTION III</b></p> <ul style="list-style-type: none"> <li>- ASUS DIGI+ VRM (- Digital power design with Dr. MOS)</li> <li>- ASUS Enhanced DRAM Overcurrent Protection</li> <li>- ASUS ESD Guards</li> <li>- ASUS LANGuard</li> <li>- ASUS Overvoltage Protection</li> <li>- ASUS Stainless-Steel Back I/O</li> </ul> <p><b>ASUS Q-Design :</b></p> <ul style="list-style-type: none"> <li>- M.2 Q-Latch</li> <li>- ASUS Q-Connector</li> <li>- ASUS Q-DIMM</li> <li>- ASUS Q-LED (CPU [red], DRAM [yellow], VGA [white], Boot Device [yellow-green])</li> <li>- ASUS Q-Slot</li> </ul> <p><b>ASUS Thermal Solution:</b></p> <ul style="list-style-type: none"> <li>- Aluminum M.2 Heatsink</li> <li>- Flexible M.2 heatsink</li> </ul> <p><b>ASUS EZ DIY:</b></p> <ul style="list-style-type: none"> <li>- Procool</li> <li>- Pre-mounted I/O shield</li> <li>- ASUS SafeSlot</li> </ul>
<b>Software Features</b>	<p><b>ASUS Exclusive Software:</b></p> <p>Armoury Crate:</p> <ul style="list-style-type: none"> <li>- Aura Creator</li> <li>- Aura Sync</li> <li>- Two-Way AI Noise Cancelation</li> </ul> <p>AI Suite 3</p> <ul style="list-style-type: none"> <li>- 5-way Optimization with AI Overclocking</li> <li>TPU</li> <li>EPU</li> <li>Digi+ VRM</li> <li>Fan Xpert 4</li> <li>Turbo app</li> <li>- EZ update</li> </ul> <p>AI Charger</p> <p>ASUS CPU-Z</p> <p>ASUS Turbo LAN</p> <p>MyAsus</p> <p>DTS:X® Ultra</p> <p><b>UEFI BIOS:</b></p> <ul style="list-style-type: none"> <li>AI Overclocking Guide</li> </ul> <p><b>ASUS EZ DIY :</b></p> <ul style="list-style-type: none"> <li>- ASUS CrashFree BIOS 3</li> <li>- ASUS EZ Flash 3</li> <li>- ASUS UEFI BIOS EZ Mode</li> <li>- EZ Tuning Wizard</li> </ul> <p>FlexKey</p>
<b>BIOS</b>	256 Mb Flash ROM, UEFI AMI BIOS
<b>Manageability</b>	WOL by PME, PXE
<b>Accessories</b>	<p><b>Cables</b></p> <ul style="list-style-type: none"> <li>3 x SATA 6Gb/s cables</li> </ul> <p><b>Miscellaneous</b></p> <ul style="list-style-type: none"> <li>2 x M.2 Rubber Packages</li> <li>1 x Q-connector</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 )

Dimension	
<b>Product (mm)_ L*W*H</b>	12 inch x 9.6 inch ( 30.5 cm x 24.4 cm )
<b>Color Box (mm)_ L*W*H</b>	B Type - 33.8 x 27.3 x 6.8 cm
Weight	
<b>Motherboard only</b>	1.132 KG
<b>Full package (1 Color Box)</b>	1.901 KG