

# ROG MAXIMUS XIII EXTREME\_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 <b>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*</b> Dual Channel Memory Architecture Supports Intel® Extreme Memory Profile (XMP) OptiMem III * 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 HDMI™ 2.0** 2 x Intel® Thunderbolt™ 4 ports (USB Type-C®) support DisplayPort 1.4 and Thunderbolt™ video outputs** * Graphics specifications may vary between CPU types. ** Only Intel® 11 <sup>th</sup> 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.
<b>Expansion Slots</b>	<b>Intel® 11<sup>th</sup> &amp; 10<sup>th</sup> Gen Processors</b> 2 x PCIe 4.0/3.0 x16 slot(s) - Intel® 11 <sup>th</sup> Core™ processors support PCIe 4.0 x16 or x8/x8 mode(s) - Intel® 10 <sup>th</sup> processors support PCIe 3.0 x16 or x8/x8 mode(s) <b>Intel® Z590 Chipset</b> 1 x PCIe 3.0 x4 slot* * PCIe4 slot shares bandwidth with SATA6G_12 and PCIe4 slot is default set at x2 mode.
<b>Multi-GPU Support</b>	NVIDIA 2-Way SLI® Technology* *Support varies with different graphics cards
<b>Storage</b>	<b>Total supports 5 x M.2 slots and 6 x SATA 6Gb/s ports</b> <b>Intel® 11<sup>th</sup> &amp; 10<sup>th</sup> Gen Processors</b> M.2_1 slot (Key M), type 2242/2260/2280 - Intel® 11 <sup>th</sup> Core™ processors support PCIe 4.0 x4 mode - Intel® 10 <sup>th</sup> processors support PCIe 3.0 x4 mode M.2_2 slot (Key M), type 2242/2260/2280 - Intel® 11 <sup>th</sup> Core™ processors support PCIe 4.0 x4 mode - Intel® 10 <sup>th</sup> processors support PCIe 3.0 x4 mode M.2_3 slot (Key M), type 2242/2260/2280 - Only Intel® 11 <sup>th</sup> Core™ processors support PCIe 4.0 x4 mode, this slot will be disabled for other CPUs <b>Intel® Z590 Chipset</b> DIMM.2_1 slot (Key M) via ROG DIMM.2, type 2242/2260/2280/22110 (supports PCIe 3.0 x4 & SATA modes) DIMM.2_2 slot (Key M) via ROG DIMM.2, type 2242/2260/2280/22110 (supports PCIe 3.0 x4 mode)* 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. * DIMM.2_2 shares bandwidth with SATA6G_34 and DIMM.2_2 is default set at x2 mode.
<b>Ethernet</b>	1 x Intel® I225-V 2.5Gb Ethernet 1 x Marvell® AQtion AQC113CS 10Gb Ethernet ASUS LANGuard
<b>Wireless &amp; Bluetooth</b>	Intel® Wi-Fi 6E 2x2 Wi-Fi 6E (802.11 a/b/g/n/ac/ax) Supports 2.4/5/6GHz frequency band* Bluetooth v5.2 hardware ready** * Wi-Fi 6E 6GHz regulatory may vary between countries, and function will be ready in Windows 10 build 21H1 or later. ** Bluetooth v5.2 function will be ready in Windows 10 build 21H1 or later.
<b>USB</b>	<b>Rear USB (Total 10 ports)</b> 2 x Thunderbolt™ 4 port(s) (2 x USB Type-C®) with up to 5V/3A, 15W charging support 8 x USB 3.2 Gen 2 port(s) (8 x Type-A) <b>Front USB (Total 10 ports)</b> 1 x USB 3.2 Gen 2x2 connector(s) (support(s) USB Type-C®) 1 x USB 3.2 Gen 2 Front Panel connector(s) (support(s) USB Type-C®) 2 x USB 3.2 Gen 1 header(s) support(s) additional 4 USB 3.2 Gen 1 ports 2 x USB 2.0 header(s) support(s) additional 4 USB 2.0 ports
<b>Audio</b>	ROG SupremeFX 7.1 Surround Sound High Definition Audio CODEC ALC4082 - Impedance sense for front and rear headphone outputs - Supports: Jack-detection, Multi-streaming, Front Panel Jack-retasking - High quality 120 dB SNR stereo playback output and 113 dB SNR recording input - Supports up to 32-Bit/384 kHz playback <b>Audio Features</b> - SupremeFX Shielding Technology - ESS® SABRE9018Q2C DAC/AMP - LED-illuminated audio jacks - Rear optical S/PDIF out port - Premium Japanese audio capacitors - Audio cover
<b>Back Panel I/O Ports</b>	2 x Thunderbolt™ 4 USB Type-C® port(s) 8 x USB 3.2 Gen 2 port(s) (8 x Type-A) 1 x HDMI™ port 1 x ASUS Wi-Fi Module 1 x Marvell® AQtion AQC113CS 10Gb Ethernet 1 x Intel® I225-V 2.5Gb Ethernet 5 x LED-illuminated audio jacks 1 x Optical S/PDIF out port 1 x BIOS FlashBack™ button 1 x Clear CMOS button

<b>Internal I/O Connectors</b>	<p><b>Fan and Cooling related</b>  1 x 4-pin CPU Fan header(s)  1 x 4-pin CPU OPT Fan header(s)  2 x 4-pin Chassis Fan header(s)  2 x 4-pin Radiator Fan header(s)  2 x W_PUMP+ header(s)  1 x WB_SENSOR header(s)  1 x 2-pin Water In header  1 x 2-pin Water Out header  1 x 3-pin Water Flow header</p> <p><b>Power related</b>  1 x 24-pin Main Power connector  2 x 8-pin +12V Power connector  1 x 6-pin PCIe Graphics Card connector</p> <p><b>Storage related</b>  3 x M.2 slots (Key M)  1 x DIMM.2 slot supports 2 x M.2 slots (Key M)  6 x SATA 6Gb/s ports</p> <p><b>USB</b>  1 x USB 3.2 Gen 2x2 connector (support(s) USB Type-C®)  1 x USB 3.2 Gen Gen 2 connector (support(s) USB Type-C®)  2 x USB 3.2 Gen 1 header(s) support(s) additional 4 USB 3.2 Gen 1 ports  2 x USB 2.0 header(s) support(s) additional 4 USB 2.0 ports</p> <p><b>Miscellaneous</b>  3 x AURA Addressable Gen 2 header(s)  1 x AURA RGB header(s)  1 x BIOS Switch button  1 x FlexKey button  1 x Front Panel Audio header (AAFP)  1 x LN2 Mode jumper  8 x ProbelT Measurement Points  1 x ReTry button  2 x RSVD switch  1 x RSVD header  1 x Safe Boot button  1 x Slow Mode switch  1 x Speaker header  1 x Start button  1 x V_LATCH switch  1 x 10-1 pin System Panel header  1 x Thermal Sensor header</p>
<b>Special Features</b>	<p><b>Extreme OC Kit</b>  - FlexKey button  - LN2 Mode  - ProbelT  - ReTry button  - Safe boot button  - Start button  - Slow Mode</p> <p><b>Extreme Engine Digi+</b>  - 10K Black Metallic Capacitors  - MicroFine Alloy Choke</p> <p><b>ASUS Q-Design</b>  - Q-Code  - Q-Connector  - Q-DIMM  - Q-LED (CPU [red], DRAM [yellow], VGA [white], Boot Device [yellow green])  - Q-Slot</p> <p><b>ASUS Thermal Solution</b>  - M.2 heatsink backplate  - M.2 heatsink  - VRM heatsink design</p> <p><b>ASUS EZ DIY</b>  - BIOS FlashBack™ button  - Clear CMOS button  - ProCool II  - Pre-mounted I/O shield  - SafeSlot</p> <p><b>AURA Sync</b>  - ROG AURA sync backplate  - AURA RGB header(s)  - Addressable Gen 2 RGB header(s)</p> <p><b>Dual BIOS</b></p> <p><b>OLED 2"</b></p> <p><b>ASUS HYDRANODE</b>  - 2 x Chassis fan support* (CHA_FAN1P,CHA_FAN2P)  - 2 x USB2.0 port support* (USB_EP1,USB_EP2)</p> <p>* Visit ASUS Website for the latest compatibility list.</p>

<b>Software Features</b>	<p><b>ROG Exclusive Software</b></p> <ul style="list-style-type: none"> <li>- Mem Tweakit</li> <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>- BullGuard Internet Security (1-year full version)</li> </ul> <p><b>ASUS Exclusive Software</b></p> <p>Armoury Crate</p> <ul style="list-style-type: none"> <li>- AIDA64 Extreme (1 year full version)</li> <li>- AURA Creator</li> <li>- AURA Sync</li> <li>- Two-Way AI Noise Cancellation</li> <li>- OLED Display</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</p> <p>Digi+ Power Control Fan Xpert 4 Turbo app</p> <ul style="list-style-type: none"> <li>- EZ update</li> </ul> <p>AI Charger DAEMON Tools MyAsus WinRAR</p> <p><b>UEFI BIOS</b></p> <p>MemTest86 AI Overclocking Guide ASUS EZ DIY</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> </ul>
<b>BIOS</b>	2 x 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>1 x 1-to-3 ARGB splitter cable</li> <li>2 x 1-to-4 fan splitter cable</li> <li>1 x RGB extension cable</li> <li>3 x ROG weave SATA 6G cables</li> <li>1 x 3-in-1 Thermistor cables pack</li> </ul> <p><b>ROG Fan Controller</b></p> <ul style="list-style-type: none"> <li>1 x ROG Fan Controller</li> <li>1 x Fan EXT PWR cable</li> <li>1 x ARGB input cable</li> <li>1 x USB input cable</li> <li>1 x ROG Fan Controller 3M Mounting tape</li> <li>1 x Fan Controller manual</li> </ul> <p><b>ROG DIMM.2 with Heatsink</b></p> <ul style="list-style-type: none"> <li>1 x ROG DIMM.2 with heatsink</li> <li>1 x M.2 pad for ROG DIMM.2</li> <li>2 x M.2 screw package for ROG DIMM.2</li> </ul> <p><b>Miscellaneous</b></p> <ul style="list-style-type: none"> <li>1 x ASUS Wi-Fi moving antennas</li> <li>1 x Q-connector</li> <li>1 x ROG CLAVIS DAC</li> <li>1 x ROG key chain</li> <li>1 x ROG logo plate stickers</li> <li>1 x ROG screwdriver</li> <li>1 x ROG stickers</li> <li>1 x ROG thank you card</li> <li>1 x ROG Graphics card holder</li> </ul> <p><b>Installation Media</b></p> <ul style="list-style-type: none"> <li>1 x USB drive with utilities and drivers</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>	EATX Form Factor 12 inch x 10.9 inch ( 30.5 cm x 27.7 cm )