

|                                |
|--------------------------------|
|                                |
| Note: The specifications are s |
| CPU                            |
| Chipset                        |
| Memory                         |
| Graphics                       |
| Expansion Slots                |
| Storage                        |
| Ethernet                       |
| USB                            |
| Audio                          |

**Back Panel I/O Ports**

**Internal I/O Connectors**

## Special Features

**Software Features**

|                         |
|-------------------------|
| <b>BIOS</b>             |
| <b>Manageability</b>    |
| <b>Accessories</b>      |
| <b>Operating System</b> |
| <b>Form Factor</b>      |

|                              |
|------------------------------|
|                              |
| <b>Product (mm)_ L*W*H</b>   |
| <b>Color Box (mm)_ L*W*H</b> |
|                              |
| <b>Motherboard only</b>      |
| <b>Full package</b>          |

## Pro WS W790E-SAGE SE

subject to change without notice.

Intel® Socket LGA4677 for Xeon® W-3400 and W-2400 Series Processors\*

Supports Intel® Turbo Boost Max Technology 3.0

\* Refer to [www.asus.com](http://www.asus.com) for CPU support list.

Intel® W790 Chipset

8 x DIMM, Max. 2048GB, DDR5

8-Channel Memory Architecture

Supports Intel® Extreme Memory Profile (XMP)

\* Supported memory types, data rate (speed), and number of DRAM modules vary depending on the CPU and memory configuration, for more information please refer to CPU/Memory Support list under the Support tab of

1 x VGA port from AST2600

### Intel® Xeon® W-3400 Series Processors\*

7 x PCIe 5.0 slot(s) (Seven at x16/x16/x16/x16/x16/x8/x16)\*\*

### Intel® Xeon® W-2400 Series Processors\*

4 x PCIe 5.0 slot(s) (Four at x16/x16/x16/x16)\*\*

\* Please check the PCIe bifurcation table on the support site (<https://www.asus.com/support/FAQ/1037507/>).

\*\* Please refer to the block diagrams in the Appendix for more details.

- To ensure compatibility of the device installed, please refer to <https://www.asus.com/support/> for the list of

### Total supports 3 x M.2 slots, 2 x SlimSAS slots and 8 x SATA 6Gb/s ports\*

#### Intel® Xeon® W-3400 Series Processors

M.2\_1 slot (Key M), type 2242/2260/2280/22110 (supports PCIe 5.0 x4 mode)\*\*\*

M.2\_2 slot (Key M), type 2242/2260/2280/22110 (supports PCIe 5.0 x4 mode)\*\*\*

#### Intel® W790 Chipset\*\*

M.2\_3 slot (Key M), type 2242/2260/2280/22110 (supports PCIe 4.0 x4 mode)

SlimSAS\_1 port supports PCIe 4.0 x4 mode NVMe device

SlimSAS\_2 port supports PCIe 4.0 x4 mode NVMe device

8 x SATA 6Gb/s ports

\* Supports Intel® Virtual RAID on CPU (Intel® VROC) and Intel Volume Management Device (Intel® VMD)

\*\* Intel® VROC Technology supports PCIe RAID 0/1/5/10, SATA RAID 0/1/5/10. VROC\_HW\_Key is purchased

\*\*\* M.2\_1 and M.2\_2 slots will be disabled once an Intel® Xeon® W-2400 Series Processor is installed.

1 x Intel® dual 10Gb Ethernet

1 x Realtek 1Gb Ethernet

ASUS LANGuard

### Rear USB (Total 8 ports)

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

5 x USB 3.2 Gen 2 port(s) (4 x Type-A + 1 x USB Type-C®)

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

### Front USB (Total 7 ports)

1 x USB 3.2 Gen 2 connector (supports USB Type-C®)

1 x USB 3.2 Gen 1 header(s) support(s) 2 additional USB 3.2 Gen 1 ports

2 x USB 2.0 header(s) support(s) 4 additional USB 2.0 ports

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\*

### Audio Features

- Power pre-regulator reduces power input noise to ensure consistent performance

- Rear optical S/PDIF out port

- Premium audio capacitors
- Dedicated audio PCB layers
- Unique de-pop circuit

\* Due to limitations in HDA bandwidth, 32-Bit/192 kHz is not supported for 7.1 Surround Sound audio.

1 x USB 3.2 Gen 2x2 port(s) (1 x USB Type-C)  
 5 x USB 3.2 Gen 2 port(s) (4 x Type-A + 1 x USB Type-C®)  
 2 x USB 2.0 port(s) (2 x Type-A)  
 1 x VGA port  
 2 x Intel® dual 10Gb Ethernet ports  
 1 x Realtek 1Gb Ethernet port  
 5 x Audio jacks  
 1 x Optical S/PDIF out port  
 1 x BIOS FlashBack™ button  
 1 x Clear CMOS button

#### **Fan and Cooling related**

1 x 4-pin CPU Fan header(s)  
 1 x 4-pin CPU OPT Fan header(s)  
 5 x 4-pin Chassis Fan header(s)  
 1 x W\_PUMP+ header(s)

#### **Power related**

2 x 24-pin Main Power connector  
 4 x 8-pin +12V Power connector  
 1 x 8-pin PCIe Power connector  
 1 x 6-pin PCIe Power connector

#### **Storage related**

3 x M.2 slots (Key M)  
 2 x SlimSAS connector(s)  
 8 x SATA 6Gb/s ports  
 1 x VROC Key connector

#### **USB**

1 x USB 3.2 Gen 2 connector (support(s) USB Type-C®)  
 1 x USB 3.2 Gen 1 header(s) support(s) 2 additional USB 3.2 Gen 1 ports  
 2 x USB 2.0 header(s) support(s) 4 additional USB 2.0 ports

#### **Miscellaneous**

1 x COM Port header  
 1 x FlexKey button  
 1 x Front Panel Audio header (AAFP)  
 1 x LN2 Mode jumper  
 1 x M.2 slot (Key E)  
 1 x ReTry button  
 1 x Safe Boot button  
 1 x SPI TPM header (14-1pin)  
 1 x Start button  
 1 x 20-3 pin System Panel header with Chassis intrude function  
 1 x Thermal Sensor header

#### **BMC Related**

1 x BMC switch  
 1 x VGA switch  
 1 x BMC LAN fixed IP switch  
 1 x IPMI switch  
 2 x Q\_PSU switch  
 2 x PSU SMBus header

- 1 x Front panel location LED header
- 1 x Location button header
- 1 x VPP\_I2C header
- 1 x Micro SD card socket
- 1 x BMC\_T\_SENSOR header
- 1 x BMC LED
- 1 x Location LED
- 1 x Message LED header

#### **Extreme OC Kit**

- FlexKey button
- LN2 Mode
- ReTry button
- Safe boot button
- Start button

#### **Extreme Engine Digi+**

- 10K Black Metallic Capacitors
- MicroFine Alloy Choke

#### **ASUS 5X PROTECTION III**

- DIGI+ VRM (- Digital power design with DrMOS)
- ESD Guards
- LANGuard
- Overvoltage Protection
- Safeslot
- Stainless-Steel Back I/O

#### **ASUS Q-Design**

- M.2 Q-Latch
- Q-Code
- Q-Connector
- Q-DIMM
- Q-LED (CPU [red], DRAM [yellow], VGA [white], Boot Device [yellow green])
- Q-Slot

#### **ASUS Thermal Solution**

- M.2 heatsink backplate
- M.2 heatsink
- Steel backplate
- VRM heatsink design

#### **ASUS EZ DIY**

- BIOS FlashBack™ button
- BIOS FlashBack™ LED
- Caterr1 LED
- Box Headers
- Clear CMOS button
- ProCool II
- Pre-mounted I/O shield
- SafeSlot
- SafeDIMM

#### **Bespoke Motherboard Design & Business Focused Features**

- 24/7 Reliability
- Overcurrent Protection

#### **ASUS Exclusive Software**

Armoury Crate

|                                                                                       |
|---------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>- Fan Xpert 4</li> </ul>                       |
| AI Suite 3                                                                            |
| <ul style="list-style-type: none"> <li>- TPU</li> </ul>                               |
| <ul style="list-style-type: none"> <li>- DIGI+ VRM</li> </ul>                         |
| <ul style="list-style-type: none"> <li>- Turbo app</li> </ul>                         |
| <ul style="list-style-type: none"> <li>- PC Cleaner</li> </ul>                        |
| ASUS CPU-Z                                                                            |
| IT Management software supported                                                      |
| <ul style="list-style-type: none"> <li>- ASUS Control Center Express(ACCE)</li> </ul> |
| Norton 360 Deluxe (60 Days Free Trial)                                                |
| WinRAR                                                                                |
| <b>UEFI BIOS</b>                                                                      |
| ASUS EZ DIY                                                                           |
| <ul style="list-style-type: none"> <li>- ASUS CrashFree BIOS 3</li> </ul>             |
| <ul style="list-style-type: none"> <li>- ASUSTeK. EzFlash Utility</li> </ul>          |
| FlexKey                                                                               |
| 512 Mb Flash ROM, UEFI AMI BIOS                                                       |
| WOL by PME, PXE (UEFI mode)                                                           |
| <b>Cables</b>                                                                         |
| 4 x SATA 6Gb/s cables                                                                 |
| 1 x Thermistor cable pack                                                             |
| <b>Miscellaneous</b>                                                                  |
| 1 x VRM Fan holder                                                                    |
| 1 x Q-connector                                                                       |
| 1 x M.2 Rubber Package(s)                                                             |
| 1 x M.2 backplate Rubber Package(s)                                                   |
| 1 x Screw package for M.2 Key E                                                       |
| 1 x CPU guard for LGA 4677 E1A                                                        |
| 1 x CPU guard for LGA 4677 E1B                                                        |
| <b>Documentation</b>                                                                  |
| 1 x ACC Express Activation Key Card                                                   |
| 1 x User guide                                                                        |
| Windows® 11, Windows® 10 64-bit                                                       |
| EEB Form Factor                                                                       |
| 12 inch x 13 inch (30.5 cm x 33 cm)                                                   |

| Dimension        |
|------------------|
| 305mm*330mm*50mm |
| 379mm*362mm*81mm |
| Weight           |
| 2.8 Kg           |
| 2.989 Kg         |









