

# ASUS Z270-WS LGA1151 DDR4 DisplayPort HDMI 2.0 4-Way SLI CrossfireX M.2 U.2 Z270 ATX Motherboard with Dual Gigabit LAN and USB 3.1

- LGA1151 socket for 7th and 6th Gen Intel® Core™ i7/i5/i3 Desktop Processors with support for 64GB DDR4 3866
- 5-Way Optimization with Auto-Tuning and FanXpert 4 automatically tailors overclocking profiles to your unique build for maximum performance and dynamic system cooling
- Maximize your connectivity and speed with support for 64GB of DDR4 RAM, integrated dual M.2 / U.2 connectors, and rear USB 3.1 Type A / Type C ports
- 4-Way SLI / CrossfireX support with Patent-pending SafeSlots feature an injection molding process that integrates metal framing for a stronger, firmly anchored PCIe slot built for heavyweight GPUs
- Industry-leading 8-channel HD audio enhanced by ASUS exclusive Realtek S1220A driven by Japanese capacitors for warm, immersive sound

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<b>CPU</b>	<p>Intel® for 7<sup>th</sup>/6<sup>th</sup> Generation Core™ i7/Core™ i5/Core™ i3/Pentium® /Celeron® Processors                  Supports Intel® 14 nm CPU                  Supports Intel® Turbo Boost Technology 2.0                  * The Intel® Turbo Boost Technology 2.0 support depends on the CPU types.                  * Refer to <a href="http://www.asus.com">www.asus.com</a> for CPU support list</p>
<b>Chipset</b>	<p>Intel® Z270</p>
<b>Memory</b>	<p>4 x DIMM, Max. 64GB, DDR4 3866(O.C.)/3733(O.C.)/3600(O.C.)/3466(O.C.) /3400(O.C.)/3333(O.C.)/3300(O.C.)/3200(O.C.)/3000(O.C.)/2800(O.C.)/2666(O.C.) /2400(O.C.)/2133 MHz Non-ECC, Un-buffered Memory                  Dual Channel Memory Architecture                  Supports Intel® Extreme Memory Profile (XMP)                  * Hyper DIMM support is subject to the physical characteristics of individual CPUs.                  * Refer to <a href="http://www.asus.com">www.asus.com</a> for the Memory QVL (Qualified Vendors Lists).</p>
<b>Graphic</b>	<p>Integrated Graphics Processor- Intel® HD Graphics support                  Multi-VGA output support : HDMI/DisplayPort ports</p>

- Supports HDMI 2.0 with max. resolution 4096 x 2160 @ 60 / 24 Hz\*1
- Supports DisplayPort with max. resolution 4096 x 2304 @ 24 Hz / 4096 x 2304 @ 60 Hz
- Supports High Dynamic Range(HDR),Wide Color Gamut(Rec.2020),HDCP 2.2

Maximum shared memory of 1024 MB  
Supports Intel® InTru™ 3D, Quick Sync Video, Clear Video HD Technology, Insider™  
Supports up to 2 displays simultaneously  
DP 1.2 Multi-Stream Transport compliant, supports DP 1.2 monitor daisy chain up to 3 displays

**Multi-GPU Support** Supports NVIDIA® Quad-GPU SLI™ Technology \*7  
Supports NVIDIA® 4-Way SLI™ Technology \*7  
Supports AMD Quad-GPU CrossFireX™ Technology \*7  
Supports AMD 4-Way CrossFireX Technology \*7

**Expansion Slots** 4 x PCIe 3.0/2.0 x16 (single at x16, dual at x16/x16 mode, triple at x16/x8/x8 mode or quad x8/x8/x8/x8 mode)  
1 x PCIe x4 (max at x4 mode)

**Storage** 1 x M.2 x4 Socket 3, with M key, type 2242/2260/2280/22110 storage devices support (PCIe 3.0 x 4 mode)\*2  
1 x M.2 x4 Socket 3, with M Key, type 2242/2260/2280/22110 storage devices support (both SATA & PCIe mode)\*3  
2 x U.2 connector\*3  
6 x SATA 6Gb/s port(s)\*2  
Support Raid 0, 1, 5, 10  
Supports Intel® Smart Response Technology\*4  
Intel® Rapid Storage Technology 15 support  
Intel® Optane™ Memory Ready \*5

**LAN** Intel® I210-AT, 1 x Gigabit LAN Controller(s)  
Intel® I219-LM , 1 x Gigabit LAN  
Gigabit Intel® LAN Connection- 802.3az Energy Efficient Ethernet (EEE) appliance  
ASUS Turbo LAN Utility

**Audio** Realtek® ALC S1220A 8-Channel High Definition Audio CODEC featuring Crystal Sound 3

- Impedance sense for front and rear headphone outputs
- Supports : Jack-detection, Multi-streaming

120 dB SNR stereo playback output and 113 dB SNR recording input (Line-in)

**Audio Feature :**

- DTS Connect
- DTS Headphone:X
- Optical S/PDIF out port(s) at back panel
- Audio Shielding: Ensures precision analog/digital separation and greatly reduced multi-lateral interference
- Unique de-pop circuit: Reduces start-up popping noise to audio outputs
- EMI protection cover to prevent electrical noise to affect the amplifier quality
- Power pre-regulator: Reduces power input noise to ensure consistent performance

Separate layer for left and right track, ensuring both sound deliver equal quality  
Premium Japan-made audio capacitors provides warm, natural, and immersive sound with exceptional clarity and fidelity

**USB Ports** **Intel® Z270 Chipset :**  
6 x USB 3.1 Gen 1 port(s) (4 at back panel, , 2 at mid-board)  
**Intel® Z270 Chipset :**

6 x USB 2.0/1.1 port(s) (4 at back panel, , 2 at mid-board)

**ASMedia® USB 3.1 controller :**

2 x USB 3.1 Gen 2 port(s) (2 at back panel, , Type-A + USB Type-C™)

**ASMedia® USB 3.1 controller :**

1 x USB 3.1 front panel connector port(s)

## Special Features

### **OC Design - ASUS PRO Clock Technology**

- Full BCLK range for extreme overclocking performance

### **5-Way Optimization by Dual Intelligent Processors 5**

- Whole system optimization with a single click! 5-Way Optimization tuning key perfectly consolidates TPU, EPU, DIGI+ Power Control, Fan Xpert 4, and Turbo App together, providing better CPU performance, efficient power saving, precise digital power control, whole system cooling and even tailor your own app usages.

### **Gamer's Guardian:**

- SafeSlot

### **ASUS TPU :**

- Auto Tuning

- GPU Boost

### **ASUS EPU :**

- EPU

### **ASUS Digital Power Design :**

- Industry leading Digital 8 + 4 + 2 Phase Power Design

### **ASUS Exclusive Features :**

- USB BIOS Flashback

- MemOK!

- AI Suite 3

- Ai Charger

- ASUS UEFI BIOS EZ Mode featuring friendly graphics user interface

- Turbo LAN

- Crystal Sound 3

- EZ XMP ASUS Exclusive Features

### **ASUS Quiet Thermal Solution :**

- Stylish Fanless Design Heat-pipe solution

- ASUS Fan Xpert 4

### **ASUS EZ DIY :**

- ASUS CrashFree BIOS

- ASUS EZ Flash 3

- ASUS USB BIOS Flashback

### **CPU Installation Tool**

- Three-step simplicity and safety

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

- ASUS Q-Shield

- ASUS Q-Code

- ASUS Q-LED (CPU, DRAM, VGA, HDD LED)

- ASUS Q-Slot

- ASUS Q-DIMM

- ASUS Q-Connector

### **Performance Optimization :**

- Fan Xpert 4 featuring Fan Auto Tuning function and multiple thermistors selection for optimized system cooling control

### **Turbo App**

### **Key Express**

**M.2 and U.2 Onboard (The Latest Transfer Technology with up to 32Gb/s Data-transfer Speeds for M.2 and U.2)**

## Back I/O Ports

1 x DisplayPort

1 x HDMI

2 x LAN (RJ45) port(s)

1 x USB 3.1 Gen 2 (teal blue)Type-A

1 x USB 3.1 USB Type-C™

4 x USB 3.1 Gen 1

	<ul style="list-style-type: none"> <li>4 x USB 2.0</li> <li>1 x Optical S/PDIF out</li> <li>1 x USB BIOS Flashback Button(s)</li> <li>1 x 8-channel Audio I/O</li> </ul>
<b>Internal I/O Ports</b>	<ul style="list-style-type: none"> <li>1 x RGB Header(s)</li> <li>1 x USB 3.1 Gen 1 connector(s) support(s) additional 2 USB 3.1 Gen 1 port(s) (19-pin)</li> <li>1 x USB 2.0 connector(s) support(s) additional 2 USB 2.0 port(s)</li> <li>2 x M.2 Socket 3</li> <li>6 x SATA 6Gb/s connector(s)</li> <li>1 x CPU Fan connector(s)</li> <li>1 x CPU OPT Fan connector(s)</li> <li>3 x Chassis Fan connector(s) ()</li> <li>1 x AIO_PUMP connector</li> <li>1 x Thunderbolt header(s)</li> <li>2 x 8-pin EATX 12 V Power connector</li> <li>1 x 6-pin EATX 12 V_1 Power connector(s)</li> <li>1 x 24-pin EATX Power connector(s)</li> <li>1 x EZ XMP switch</li> <li>1 x Front panel audio connector(s) (AAFP)</li> <li>1 x System panel(s) (Q-Connector)</li> <li>1 x 5-pin EXT_FAN(Extension Fan) connector</li> <li>1 x MemOK! button(s)</li> <li>1 x Power-on button(s)</li> <li>1 x Clear CMOS button(s)</li> <li>1 x 14-1 pin TPM connector</li> <li>2 x U.2 connector</li> <li>1 x COM port header</li> <li>1 x USB 3.1 Gen 2 front panel connector</li> </ul>
<b>Accessories</b>	<ul style="list-style-type: none"> <li>User's manual</li> <li>ASUS Q-Shield</li> <li>1 x 2-Way SLI bridge(s)</li> <li>1 x COM port cable(s)</li> <li>6 x SATA 6Gb/s cable(s)</li> <li>2 x M.2 Screw Package</li> <li>1 x CPU installation tool</li> <li>1 x Supporting DVD</li> <li>1 x 3-Way SLI bridge(s)</li> <li>1 x 4-Way SLI bridge(s)</li> <li>1 x Q-Connector</li> <li>1 x 2-port USB 2.0 module(s)</li> <li>1 x Extension Cable for RGB strips (80 cm)</li> </ul>
<b>BIOS</b>	<p>128 Mb Flash ROM, UEFI AMI BIOS, PnP, WfM2.0, SM BIOS 3.0, ACPI 6.0, Multi-language BIOS, ASUS EZ Flash 3, CrashFree BIOS 3, F11 EZ Tuning Wizard, F6 Qfan Control, F3 My Favorites, Last Modified log, F12 PrintScreen, and ASUS DRAM SPD (Serial Presence Detect) memory information.</p>
<b>Manageability</b>	<p>WfM 2.0, DMI 3.0, WOL by PME, PXE</p>
<b>Operating System</b>	<ul style="list-style-type: none"> <li>Windows® 10</li> <li>Windows® 8.1 64-bit *6</li> <li>Windows® 7 64-bit *6</li> </ul>
<b>Form Factor</b>	<ul style="list-style-type: none"> <li>ATX Form Factor</li> <li>12 inch x 9.6 inch ( 30.5 cm x 24.4 cm )</li> </ul>

\*1 HDMI 2.0 60Hz resolution support requires necessary drivers update.

## Note

\*2 The M.2\_1 socket shares bandwidth with SATA6G\_56 ports. When using M.2 PCIe devices in X2 mode, SATA\_56 ports will not be disabled. When using M.2 PCIe devices in X4 mode, SATA\_56 ports will be disabled.

\*3 The M.2\_2 socket shares bandwidth with U.2\_2 connector and SATA6G\_1 port. When using M.2\_2 socket with PCIe bandwidth, SATA6G\_1 port will not be disabled and U.2\_2 connector will be disabled. When using M.2\_2 socket with SATA bandwidth, SATA6G\_1 port and U.2\_2 connector will be disabled. When using U.2\_2 connector, SATA6G\_1 port will not be disabled and M.2\_2 connector will be disabled.

\*4 These functions will work depending on the CPU installed.

\*5 Intel® Optane Technology is only supported when using 7th Generation Intel® processors. Before using Intel® Optane memory modules, ensure that you have updated your motherboard drivers and BIOS to the latest version from ASUS support website.

\*6 Windows® 8.1 64-bit and Windows® 7 64-bit are only supported when using 6th Generation Intel® Processors

\*7 Actual number of Multi-graphics supported differs per Vendors' Graphic cards. Please check with Vendor beforehand.