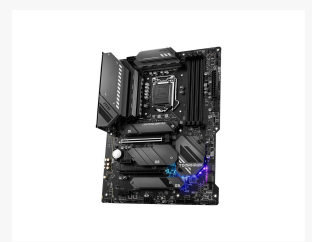
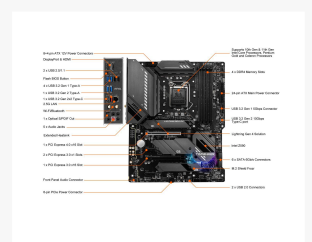


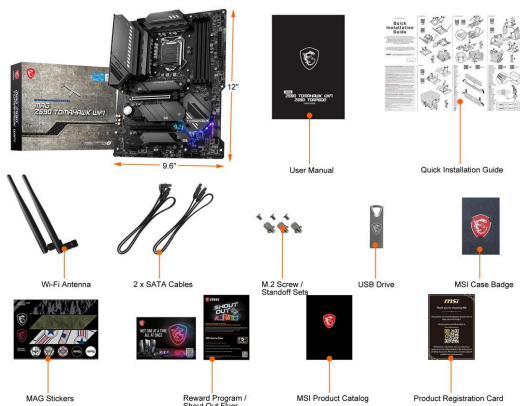


# MSI MAG Z590 TOMAHAWK WIFI LGA 1200 Intel Z590 SATA 6Gb/s ATX Intel Motherboard

**\$269.99**

Product Images

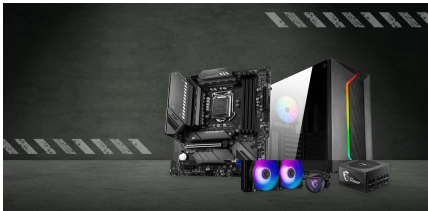




## Short Description

With more cores processors, thermal and power design is more important to make sure the temperature keeps lower. MSI extended PWM heatsink and enhanced circuit design ensures even high-end Intel CPU to run in full speed with MSI motherboards.

## Description



### MAG 2590 TOMAHAWK WiFi PREMIUM THERMAL SOLUTION

- Extended Heatpipes**  
Heatpipes extend 100mm to the rear of the board.
- 4+1 Double Power**  
4+1 Double Power provides 100% power to the CPU and VRM, ensuring 100% power to the CPU and VRM.
- Pump Fan Support**  
Pump Fan Support provides a dedicated 4-pin header for the pump.
- Thermally-Optimized VRM**  
Thermally-Optimized VRM provides a dedicated 4-pin header for the VRM.

### PREMIUM HARDWARE DESIGN

MSI's team of engineers, with 40+ years of experience in high-performance motherboards, has designed and engineered every component to ensure the highest quality, performance, and reliability for every user in every scenario.



- COOLING**  
EXTENDED HEATPIPES, 4+1 SPEED FAN, FAN FAN CONTROL, FAN X COOLING, SYSTEM COOLING
- POWER SOLUTION**  
4+1 DOUBLE POWER
- DIY-FRIENDLY**  
EZ DIMM, EZ DEBUG LED
- PROTECTION**  
DIGITAL POWER CONTROL, LANGEN PROTECT

### THERMAL SOLUTION FOR MORE CORES AND HIGHER PERFORMANCE

With more cores, processors, RAM and power design is more important to make sure the temperature stays lower. MSI extended VRM headers and enhanced circuit design improves high-end heat dissipation for every user in every scenario.



### ENHANCED PERFORMANCE

High performance with high-end components and advanced features is the most challenging to make whether you're a gamer, professional, or AI enthusiast.



- LIGHTNING GEN 4**  
SATA EXPRESS, SATA 6Gbps
- MEMORY**  
EZ DIMM, EZ DEBUG LED
- BIOS & SOFTWARE**  
BIOS FLASHBACK, BIOS XMP

**LIGHTNING GEN 4 M.2**

Using 1TB Gen 4 read processor, MSI 2590 motherboard's storage speed is up to 10,000 MB/s, which is 64% faster than the market with up to 6,000 MB/s transfer speed.

MSI 2590	10,000 MB/s	64%
Market	6,000 MB/s	

### CONNECTIVITY

MSI motherboard can help with a variety of scenarios in gaming, content creation, professional audio, advanced LAN networking capabilities, USB and DisplayPort and gaming experience in an immersive way.



- NETWORKING**  
2.5Gbps LAN, LANGEN PROTECT
- AUDIO**  
DIGITAL AUDIO, LANGEN PROTECT
- USB**  
EZ USB, LANGEN PROTECT
- MYSTIC LIGHT**  
RGB SYNC, LANGEN PROTECT

### HIGH-BANDWIDTH AND LOW-LATENCY NETWORK

2.5Gbps LAN provides noticeable data transfer speed over the speed of Gigabit LAN. This is a great choice for demanding users.

2.5G LAN is 2.5X faster than Gigabit LAN.

### MAG 2590 TOMAHAWK WiFi

MSI's team of engineers, with 40+ years of experience in high-performance motherboards, has designed and engineered every component to ensure the highest quality, performance, and reliability for every user in every scenario.

## Features

---

Supports 10th Gen Intel Core, 11th Gen Intel Core, Pentium Gold and Celeron processors for LGA 1200 socket

Supports DDR4 Memory, up to 5333(OC) MHz

Premium Thermal Solution: Extended Heatsink Design and M.2 Shield Frozr are built for high performance system and non-stop works

2.5G LAN and Intel Wi-Fi 6E Solution: Upgraded network solution for professional and multimedia use. Delivers a secure, stable and fast network connection

Lightning M.2: Running at PCIe Gen4 x4 maximizes performance for NVMe based SSDs

Lightning USB 20G: Powered by USB 3.2 Gen2x2 controller, offering never before seen USB speeds up to 20Gb/s with USB Type-C

AUDIO BOOST 5: Reward your ears with studio grade sound quality for the most immersive gaming experience

Multi-GPU: With Steel armor PCIe slots. Supports 2-Way AMD Crossfire

## Specifications

---

**Brand** MSI

**Model** MAG Z590 TOMAHAWK WIFI

Supported CPU

**CPU Socket Type** LGA 1200

**CPU Type** Supports 11th / 10th Gen Intel Core processors  
Supports Intel Pentium Gold / Celeron processors

Chipsets

**Chipset** Intel Z590

Onboard Video

**Onboard Video Chipset** Supported only by CPU with integrated graphic

Memory

**Number of Memory Slots** 4×288pin

DDR4 1R 3200 / 2933 / 2666 / 2133 for 11th Gen Intel CPU (by JEDEC & POR)  
DDR4 1R 2933 / 2666 / 2133 for 10th Gen Intel CPU (by JEDEC & POR)

**Memory Standard** Max overclocking frequency:  
1DPC 1R Max speed up to 5333  
1DPC 2R Max speed up to 4700+  
2DPC 1R Max speed up to 4400+  
2DPC 2R Max speed up to 4000+

**Maximum Memory Supported** 128GB

**Channel Supported** Dual Channel

#### Expansion Slots

**PCI Express 4.0 x16** 1 x PCI Express 4.0 x16  
\* Actual support may vary by CPU.

**PCI Express 3.0 x16** 1 x PCI Express 3.0 x16

**PCI Express x1** 2 x PCIe 3.0 x1

#### Storage Devices

**SATA 6Gb/s** 6 x SATA 6Gb/s

3 x M.2 slots (Key M)

M2\_1 slot (From CPU):  
Available only on 11th Gen Intel CPU  
Supports up to PCIe 4.0 x4  
Supports 2242/2260/2280/22110 storage devices

**M.2** M2\_2\* & M2\_3\*\* slot (From Z590 chipset):  
Supports up to PCIe 3.0 x4  
Supports SATA up to 6Gb/s  
Supports 2242/2260/2280 storage devices

\* SATA2 will be unavailable when installing M.2 SATA SSD in the M2\_2 slot.  
\*\* SATA5 & SATA6 will be unavailable when installing M.2 SSD in the M2\_3 slot.

**Intel Optane Ready** Intel Optane Memory Ready\*  
\* Before using Intel Optane memory modules, please ensure that you have updated the drivers and BIOS to the latest version from MSI website.

**SATA RAID** 0/1/5/10

#### Onboard Audio

**Audio Chipset** Realtek ALC4080

**Audio Channels** 7.1 Channels

## Onboard LAN

<b>LAN Chipset</b>	Intel I225-V
<b>Max LAN Speed</b>	10/100/1000/2500Mbps
<b>Wireless LAN</b>	Intel Wi-Fi 6E AX210 Supports 802.11a/b/g/n/ac/ax
<b>Bluetooth</b>	Bluetooth 5.2

## Rear Panel Ports

<b>Back I/O Ports</b>	1 x DisplayPort 1 x HDMI 1 x LAN (RJ45) 1 x Optical S/PDIF Out 1 x USB 3.2 Gen 2 Type-A 1 x USB 3.2 Gen 2x2 Type-C 2 x USB 2.0/1.1 4 x USB 3.2 Gen 1 Type-A 5 x Audio Jacks Wi-Fi / Bluetooth Antenna
-----------------------	--

## Internal I/O Connectors

<b>Onboard USB</b>	1 x USB 3.2 Gen 2 10Gbps Type-C port 1 x USB 3.2 Gen 1 5Gbps connector (supports additional 2 USB 3.2 Gen 1 5Gbps ports) 2 x USB 2.0 Type-A connectors (supports additional 4 USB 2.0 ports)
<b>Other Connectors</b>	1 x 6-pin PCIE power connector 1 x 4-pin CPU fan connector 1 x 4-pin water-pump fan connector 6 x 4-pin system fan connectors 1 x Front panel audio connector 2 x System panel connectors 1 x Chassis Intrusion connector 1 x TPM module connector 1 x Clear CMOS jumper 1 x TBT connector (supports RTD3) 1 x Tuning Controller connector

## Physical Spec

<b>Form Factor</b>	ATX
<b>Dimensions (W x L)</b>	12.0" x 9.6"
<b>Power Pin</b>	1 x 24-pin ATX main power connector 1 x 8-pin ATX 12V power connector 1 x 4-pin ATX 12V power connector

## Additional Information

---

Brand	MSI
SKU	MSI-Z590-TOMAHAWK-WIFI
Weight	10.0000
Color	Black
Vendor SKU/EAN	824142241004

