

## 1.2 Specifications

- Platform**
- ATX Form Factor
  - Solid Capacitor design

- CPU**
- Supports 12<sup>th</sup> Gen Intel® Core™ Processors (LGA1700)
  - Digi Power design
  - 8 Power Phase design
  - Supports Intel® Hybrid Technology
  - Supports Intel® Turbo Boost Max 3.0 Technology

- Chipset**
- Intel® B660

- Memory**
- Dual Channel DDR4 Memory Technology
  - 4 x DDR4 DIMM Slots
  - Supports DDR4 non-ECC, un-buffered memory up to 4800+(OC)\*
  - \* Supports DDR4 3200 natively.
  - \* Please refer to Memory Support List on ASRock's website for more information. (<http://www.asrock.com/>)
  - Supports ECC UDIMM memory modules (operate in non-ECC mode)
  - Max. capacity of system memory: 128GB
  - Supports Intel® Extreme Memory Profile (XMP) 2.0

- Expansion Slot**
- 2 x PCIe x16 Slots (PCIe1/PCIe3: single at Gen4x16 (PCIe1); dual at Gen4x16 (PCIe1) / Gen3x4 (PCIe3))\*

\* Supports NVMe SSD as boot disks

- 2 x PCIe Gen3x1 Slots
- Supports AMD CrossFire™
- 1 x M.2 Socket (Key E), supports type 2230 WiFi/BT PCIe WiFi module and Intel® CNVi (Integrated WiFi/BT)

- Graphics**
- Intel® UHD Graphics Built-in Visuals and the VGA outputs can be supported only with processors which are GPU integrated.
  - Intel® X<sup>c</sup> Graphics Architecture (Gen 12)
  - Dual graphics output: support HDMI and DisplayPort 1.4 ports by independent display controllers

- Supports HDMI 2.1 TMDS Compatible with max. resolution up to 4K x 2K (4096x2160) @ 60Hz
- Supports DisplayPort 1.4 with DSC (compressed) max. resolution up to 8K (7680x4320) @ 60Hz / 5K (5120x3200) @ 120Hz
- Supports HDCP 2.3 with HDMI 2.1 TMDS Compatible and DisplayPort 1.4 Ports

#### Audio

- 7.1 CH HD Audio (Realtek ALC897 Audio Codec)
- Supports Surge Protection
- Nahimic Audio

#### LAN

- Gigabit LAN 10/100/1000 Mb/s
- Giga PHY Intel® I219V
- Supports Wake-On-LAN
- Supports Lightning/ESD Protection
- Supports Energy Efficient Ethernet 802.3az
- Supports UEFI PXE

#### Rear Panel I/O

- 2 x Antenna Mounting Points
- 1 x PS/2 Mouse/Keyboard Port
- 1 x HDMI Port
- 1 x DisplayPort 1.4
- 4 x USB 3.2 Gen1 Ports (ASMedia ASM1074 hub) (Supports ESD Protection)
- 2 x USB 2.0 Ports (Supports ESD Protection)
- 1 x RJ-45 LAN Port with LED (ACT/LINK LED and SPEED LED)
- 1 x BIOS Flashback Button
- HD Audio Jacks: Line in / Front Speaker / Microphone

#### Storage

- 4 x SATA3 6.0 Gb/s Connectors\*

\* If M2\_2 is occupied by a SATA-type M.2 device, SATA3\_0 will be disabled.

- 1 x Hyper M.2 Socket (M2\_1, Key M), supports type 2260/2280 PCIe Gen4x4 (64 Gb/s) mode\*\*
- 1 x M.2 Socket (M2\_2, Key M), supports type 2260/2280 SATA3 6.0 Gb/s & PCIe Gen3x2 (16 Gb/s) modes\*\*
- 1 x Hyper M.2 Socket (M2\_3, Key M), supports type 2260/2280/22110 PCIe Gen4x4 (64 Gb/s) mode\*\*

- \*\* Supports Intel® Optane™ Technology (M2\_3 only)
- \*\* Supports Intel® Volume Management Device (VMD)
- \*\* Supports NVMe SSD as boot disks
- \*\* Supports ASRock U.2 Kit

## RAID

- Supports RAID 0, RAID 1, RAID 5 and RAID 10 for SATA storage devices

## Connector

- 1 x COM Port Header
- 1 x SPI TPM Header
- 1 x Chassis Intrusion and Speaker Header
- 1 x RGB LED Header
- \* Supports in total up to 12V/3A, 36W LED Strip
  - 3 x Addressable LED Headers
- \* Support in total up to 5V/3A, 15W LED Strip
  - 1 x CPU Fan Connector (4-pin)
- \* The CPU Fan Connector supports the CPU fan of maximum 1A (12W) fan power.
  - 1 x CPU/Water Pump Fan Connector (4-pin) (Smart Fan Speed Control)
- \* The CPU/Water Pump Fan supports the water cooler fan of maximum 2A (24W) fan power.
  - 5 x Chassis/Water Pump Fan Connectors (4-pin) (Smart Fan Speed Control)
- \* The Chassis/Water Pump Fan supports the water cooler fan of maximum 2A (24W) fan power.
- \* CPU\_FAN2/WP and CHA\_FAN1~5/WP can auto detect if 3-pin or 4-pin fan is in use.
  - 1 x 24 pin ATX Power Connector
  - 1 x 8 pin 12V Power Connector (Hi-Density Power Connector)
  - 1 x Front Panel Audio Connector
  - 1 x Thunderbolt AIC Connector (5-pin) (Supports ASRock Thunderbolt 4 AIC Card)
  - 1 x USB 2.0 Header (Supports 2 USB 2.0 ports) (Supports ESD Protection)
  - 2 x USB 3.2 Gen1 Headers (Support 4 USB 3.2 Gen1 ports) (Supports ESD Protection)
  - 1 x Front Panel Type C USB 3.2 Gen1 Header (Supports ESD Protection)

**BIOS  
Feature**

- AMI UEFI Legal BIOS with multilingual GUI support
- ACPI 6.0 Compliant wake up events
- SMBIOS 2.7 Support
- CPU Core/Cache, CPU GT, DRAM, VDD\_IMC, VCCIN AUX, +1.05V PROC, +1.8V PROC, +0.82V PCH, +1.05V PCH Voltage Multi-adjustment

**Hardware  
Monitor**

- Fan Tachometer: CPU, CPU/Water Pump, Chassis/Water Pump Fans
- Quiet Fan (Auto adjust chassis fan speed by CPU temperature): CPU, CPU/Water Pump, Chassis/Water Pump Fans
- Fan Multi-Speed Control: CPU, CPU/Water Pump, Chassis/Water Pump Fans
- CASE OPEN detection
- Voltage monitoring: CPU Vcore, DRAM, VCCIN AUX, +1.05V PROC, +1.05V PCH, +0.82V PCH, +1.8VSB, +12V, +5V, +3.3V

**OS**

- Microsoft® Windows® 10 64-bit / 11 64-bit

**Certifica-  
tions**

- FCC, CE
- ErP/EuP ready (ErP/EuP ready power supply is required)

\* For detailed product information, please visit our website: <http://www.asrock.com>



Please realize that there is a certain risk involved with overclocking, including adjusting the setting in the BIOS, applying Untied Overclocking Technology, or using third-party overclocking tools. Overclocking may affect your system's stability, or even cause damage to the components and devices of your system. It should be done at your own risk and expense. We are not responsible for possible damage caused by overclocking.