

## 1.2 Specifications

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

- CPU**
- Supports 10<sup>th</sup> Gen Intel® Core™ Processors (Socket 1200)
  - Digi Power design
  - 7 Power Phase design
  - Supports Intel® Turbo Boost Max 3.0 Technology

- Chipset**
- Intel® H470

- Memory**
- Dual Channel DDR4 Memory Technology
  - 2 x DDR4 DIMM Slots
  - Supports DDR4 2933/2800/2666/2400/2133 non-ECC, unbuffered memory
- \* Please refer to Memory Support List on ASRock's website for more information. (<http://www.asrock.com/>)
- \* Core™ (i9/i7) support DDR4 up to 2933; Core™ (i5/i3), Pentium® and Celeron® support DDR4 up to 2666.
- Supports ECC UDIMM memory modules (operate in non-ECC mode)
  - Max. capacity of system memory: 64GB
  - Supports Intel® Extreme Memory Profile (XMP) 2.0
  - 15μ Gold Contact in DIMM Slots

- Expansion Slot**
- 1 x PCI Express 3.0 x16 Slot
- \* Supports NVMe SSD as boot disks
- 2 x PCI Express 3.0 x1 Slots
  - 1 x M.2 Socket (Key E), supports type 2230 WiFi/BT module

- Graphics**
- Intel® UHD Graphics Built-in Visuals and the VGA outputs can be supported only with processors which are GPU integrated.
  - Hardware Accelerated Codecs: AVC/H.264, HEVC/H.265 8bit, HEVC/H.265 10bit, VP8, VP9 8bit, VP9 10bit, MPEG 2, MJPEG, VC-1
- \* VP9 10bit and VC-1 are for decode only.
- \* VP8 and VP9 encode are not supported by Windows OS.

- Graphics, Media & Compute: Microsoft DirectX 12, OpenGL 4.5, Intel® Built In Visuals, Intel® Quick Sync Video, Hybrid / Switchable Graphics, OpenCL 2.1
- Display & Content Security: Rec. 2020 (Wide Color Gamut), Microsoft PlayReady 3.0, Intel® SGX Content Protection, UHD/HDR Blu-ray Disc
- Three graphics output options: D-Sub, DVI-D and HDMI
- Supports Triple Monitor
- Supports HDMI 1.4 with max. resolution up to 4K x 2K (4096x2160) @ 30Hz
- Supports DVI-D with max. resolution up to 1920x1200 @ 60Hz
- Supports D-Sub with max. resolution up to 1920x1200 @ 60Hz
- Supports Auto Lip Sync, Deep Color (12bpc), xvYCC and HBR (High Bit Rate Audio) with HDMI 1.4 Port (Compliant HDMI monitor is required)
- Supports HDCP 2.3 with DVI-D and HDMI 1.4 Ports
- Supports 4K Ultra HD (UHD) playback with HDMI 1.4 Port

#### **Audio**

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

#### **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 PXE

#### **Rear Panel I/O**

- 1 x Antenna Bracket
- 1 x PS/2 Mouse/Keyboard Port
- 1 x D-Sub Port
- 1 x DVI-D Port
- 1 x HDMI Port
- 2 x USB 2.0 Ports (Supports ESD Protection)
- 4 x USB 3.2 Gen1 Ports (Supports ESD Protection)
- 1 x RJ-45 LAN Port with LED (ACT/LINK LED and SPEED LED)
- HD Audio Jacks: Line in / Front Speaker / Microphone

## Storage

- 4 x SATA3 6.0 Gb/s Connectors, support RAID (RAID 0, RAID 1, RAID 5, RAID 10, Intel Rapid Storage Technology 17), NCQ, AHCI and Hot Plug
  - 1 x Ultra M.2 Socket (M2\_1), supports M Key type 2260/2280 M.2 SATA3 6.0 Gb/s module and M.2 PCI Express module up to Gen3 x4 (32 Gb/s)\*
- \* Supports Intel® Optane™ Technology  
\* Supports NVMe SSD as boot disks  
\* Supports ASRock U.2 Kit

## Connector

- 1 x Print Port Header
  - 1 x COM Port Header
  - 1 x SPI TPM Header
  - 1 x Chassis Intrusion and Speaker Header
  - 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.
- 2 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, CHA\_FAN1/WP and CHA\_FAN2/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
  - 1 x Front Panel Audio Connector
  - 2 x USB 2.0 Headers (Support 3 USB 2.0 ports) (Supports ESD Protection)
  - 2 x USB 3.2 Gen1 Headers (Support 4 USB 3.2 Gen1 ports) (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, GT, DRAM, VPPM, PCH 1.05V, VCCST, VCCSA 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: +12V, +5V, +3.3V, CPU Vcore, DRAM, VPPM, PCH, VCCSA, VCCST

**OS**

- Microsoft® Windows® 10 64-bit

**Certifications**

- 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.*