

Version 1.0

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This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

CALIFORNIA, USA ONLY

The Lithium battery adopted on this motherboard contains Perchlorate, a toxic substance controlled in Perchlorate Best Management Practices (BMP) regulations passed by the California Legislature. When you discard the Lithium battery in California, USA, please follow the related regulations in advance.

“Perchlorate Material-special handling may apply, see www.dtsc.ca.gov/hazardouswaste/perchlorate”

ASRock Website: <http://www.asrock.com>

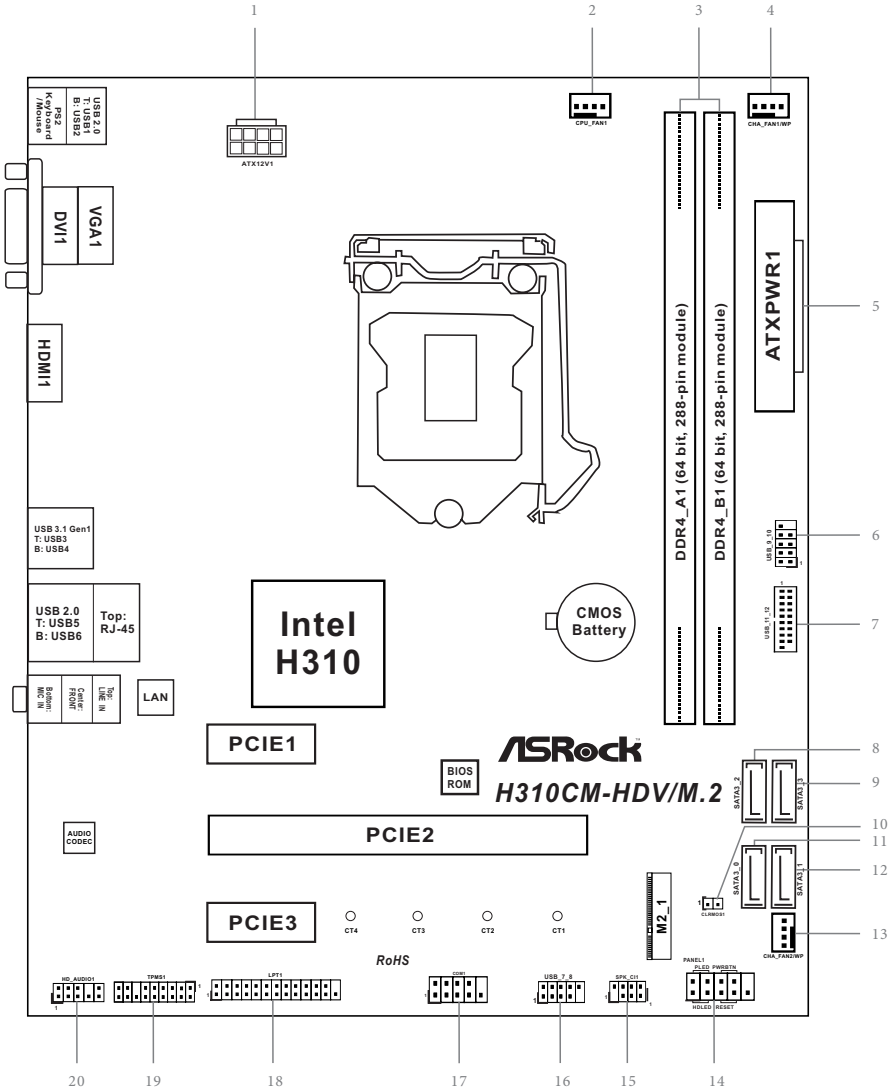
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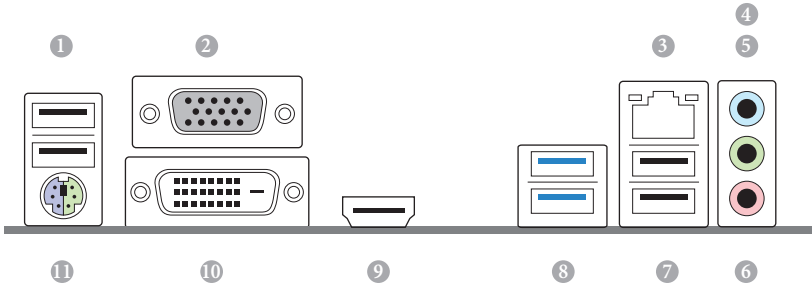
Motherboard Layout



English

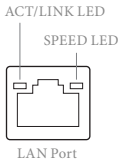
No.	Description
1	ATX 12V Power Connector (ATX12V1)
2	CPU Fan Connector (CPU_FAN1)
3	2 x 288-pin DDR4 DIMM Slots (DDR4_A1, DDR4_B1)
4	Chassis/Water Pump Fan Connector (CHA_FAN1/WP)
5	ATX Power Connector (ATXPWR1)
6	USB 2.0 Header (USB_9_10)
7	USB 3.1 Gen1 Header (USB_11_12)
8	SATA3 Connector (SATA3_2)
9	SATA3 Connector (SATA3_3)
10	Clear CMOS Jumper (CLRMOS1)
11	SATA3 Connector (SATA3_0)
12	SATA3 Connector (SATA3_1)
13	Chassis/Water Pump Fan Connector (CHA_FAN2/WP)
14	System Panel Header (PANEL1)
15	Chassis Intrusion and Speaker Header (SPK_C11)
16	USB 2.0 Header (USB_7_8)
17	COM Port Header (COM1)
18	Print Port Header (LPT1)
19	TPM Header (TPMS1)
20	Front Panel Audio Header (HD_AUDIO1)

I/O Panel



No.	Description	No.	Description
1	USB 2.0 Ports (USB12)	7	USB 2.0 Ports (USB5_6)
2	D-Sub Port	8	USB 3.1 Gen1 Ports (USB_3_4)
3	LAN RJ-45 Port*	9	HDMI Port
4	Line In (Light Blue)**	10	DVI-D Port
5	Front Speaker (Lime)**	11	PS/2 Keyboard/Mouse Port
6	Microphone (Pink)**		

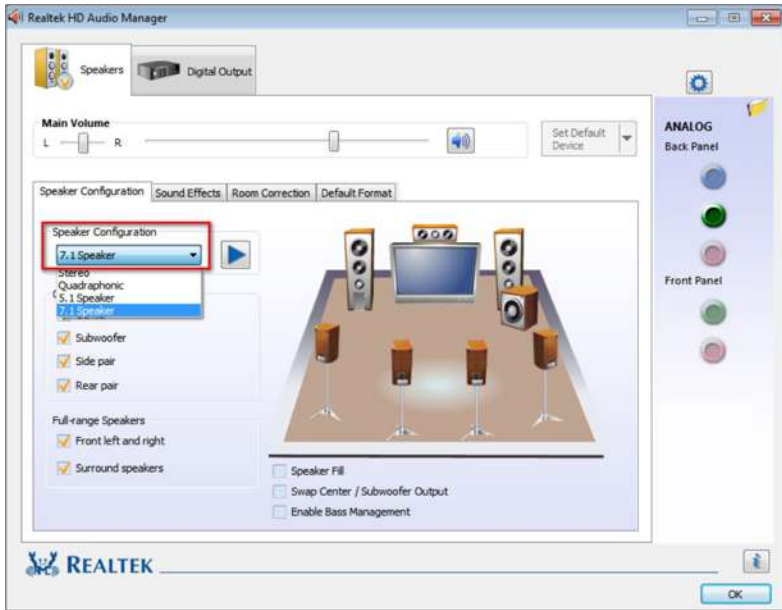
* There are two LEDs on each LAN port. Please refer to the table below for the LAN port LED indications.



Activity / Link LED		Speed LED	
Status	Description	Status	Description
Off	No Link	Off	10Mbps connection
Blinking	Data Activity	Orange	100Mbps connection
On	Link	Green	1Gbps connection

** To configure 7.1 CH HD Audio, it is required to use an HD front panel audio module and enable the multi-channel audio feature through the audio driver.

Please set Speaker Configuration to “7.1 Speaker” in the Realtek HD Audio Manager.



Function of the Audio Ports in 7.1-channel Configuration:

Port	Function
Light Blue (Rear panel)	Rear Speaker Out
Lime (Rear panel)	Front Speaker Out
Pink (Rear panel)	Central /Subwoofer Speaker Out
Lime (Front panel)	Side Speaker Out

Chapter 1 Introduction

Thank you for purchasing ASRock H310CM-HDV/M.2 motherboard, a reliable motherboard produced under ASRock's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRock's commitment to quality and endurance.



Because the motherboard specifications and the BIOS software might be updated, the content of this documentation will be subject to change without notice. In case any modifications of this documentation occur, the updated version will be available on ASRock's website without further notice. If you require technical support related to this motherboard, please visit our website for specific information about the model you are using. You may find the latest VGA cards and CPU support list on ASRock's website as well. ASRock website <http://www.asrock.com>.

1.1 Package Contents

- ASRock H310CM-HDV/M.2 Motherboard (Micro ATX Form Factor)
- ASRock H310CM-HDV/M.2 Quick Installation Guide
- ASRock H310CM-HDV/M.2 Support CD
- 1 x I/O Panel Shield
- 2 x Serial ATA (SATA) Data Cables (Optional)
- 1 x Screw for M.2 Socket (Optional)

1.2 Specifications

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

- CPU**
- Supports 8th Generation Intel® Core™ Processors (Socket 1151)
 - 4 Power Phase design
 - Supports Intel® Turbo Boost 2.0 Technology

- Chipset**
- Intel® H310

- Memory**
- Dual Channel DDR4 Memory Technology
 - 2 x DDR4 DIMM Slots
 - Supports DDR4 2666/2400/2133 non-ECC, un-buffered memory
 - Max. capacity of system memory: 32GB
 - Supports Intel® Extreme Memory Profile (XMP) 2.0
 - 15µ Gold Contact in DIMM Slots

- Expansion Slot**
- 1 x PCI Express 3.0 x16 Slot (PCIe1: x16 mode)*
 - * Supports NVMe SSD as boot disks
 - 2 x PCI Express 2.0 x1 Slots

- Graphics**
- Intel® UHD Graphics Built-in Visuals and the VGA outputs can be supported only with processors which are GPU integrated.
 - Supports Intel® UHD Graphics Built-in Visuals : Intel® Quick Sync Video with AVC, MVC (S3D) and MPEG-2 Full HW Encode1, Intel® InTru™ 3D, Intel® Clear Video HD Technology, Intel® Insider™, Intel® UHD Graphics
 - DirectX 12
 - HWAEncode/Decode: AVC/H.264, HEVC/H.265 8-bit, HEVC/H.265 10-bit, VP8, VP9 8-bit, VP9 10-bit (Decode only), MPEG2, MJPEG, VC-1 (Decode only)

- Three graphics output options: D-Sub, DVI-D and HDMI
- * Supports up to 2 displays simultaneously
- Supports HDMI 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 Port (Compliant HDMI monitor is required)
- Supports HDCP with DVI-D and HDMI Ports
- Supports 4K Ultra HD (UHD) playback with HDMI Port

Audio

- 7.1 CH HD Audio (Realtek ALC887 Audio Codec)
- * To configure 7.1 CH HD Audio, it is required to use an HD front panel audio module and enable the multi-channel audio feature through the audio driver.
- Supports Surge Protection
- ELNA Audio Caps

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 PS/2 Mouse/Keyboard Port
- 1 x D-Sub Port
- 1 x DVI-D Port
- 1 x HDMI Port
- 4 x USB 2.0 Ports (Supports ESD Protection)
- 2 x USB 3.1 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 NCQ, AHCI and Hot Plug*

* If M2_1 is occupied by a SATA-type M.2 device, SATA3_3 will be disabled.

- 1 x M.2 Socket (M2_1), supports M Key type 2230/2242/2260/2280 M.2 SATA3 6.0 Gb/s module and M.2 PCI Express module up to Gen2 x4 (20 Gb/s)**

** Supports NVMe SSD as boot disks

** Supports ASRock U.2 Kit

Connector

- 1 x Print Port Header
- 1 x COM Port Header
- 1 x 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.

- 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.

* 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 4 USB 2.0 ports) (Supports ESD Protection)
- 1 x USB 3.1 Gen1 Header (Supports 2 USB 3.1 Gen1 ports) (Supports ESD Protection)

* USB_11_12 is shared with USB_9_10.

BIOS

Feature

- AMI UEFI Legal BIOS with multilingual GUI support
- ACPI 6.0 Compliant wake up events
- SMBIOS 2.7 Support
- CPU, GT_CPU, DRAM, PCH 1.05V Voltage Multi-adjustment

Hardware Monitor

- Temperature Sensing: CPU, Chassis/Water Pump Fans
- Fan Tachometer: CPU, Chassis/Water Pump Fans

- Quiet Fan (Auto adjust chassis fan speed by CPU temperature): CPU, Chassis/Water Pump Fans
- Fan Multi-Speed Control: CPU, Chassis/Water Pump Fans
- CASE OPEN detection
- Voltage monitoring: +12V, +5V, +3.3V, CPU Vcore, DRAM, PCH 1.0V

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.

Chapter 2 Installation

This is a Micro ATX form factor motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it.

Pre-installation Precautions

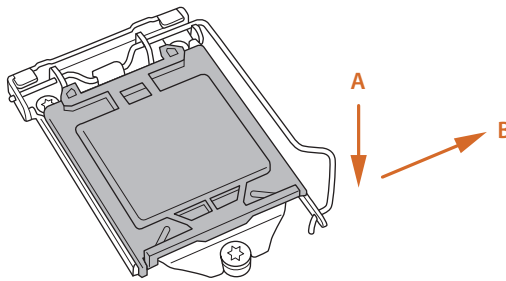
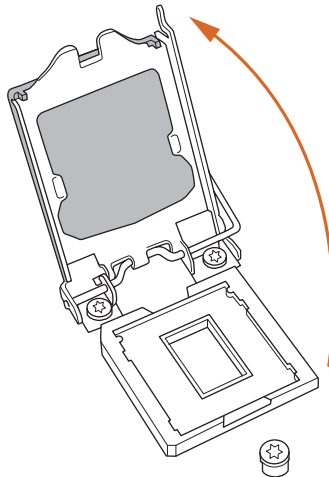
Take note of the following precautions before you install motherboard components or change any motherboard settings.

- Make sure to unplug the power cord before installing or removing the motherboard components. Failure to do so may cause physical injuries and damages to motherboard components.
- In order to avoid damage from static electricity to the motherboard's components, NEVER place your motherboard directly on a carpet. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle the components.
- Hold components by the edges and do not touch the ICs.
- Whenever you uninstall any components, place them on a grounded anti-static pad or in the bag that comes with the components.
- When placing screws to secure the motherboard to the chassis, please do not over-tighten the screws! Doing so may damage the motherboard.

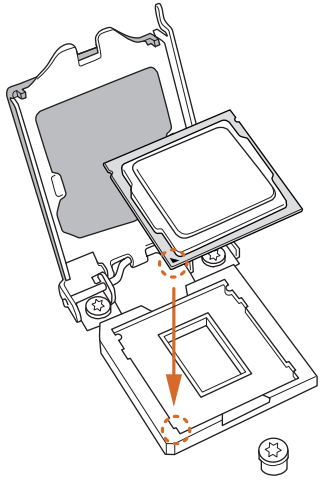
2.1 Installing the CPU



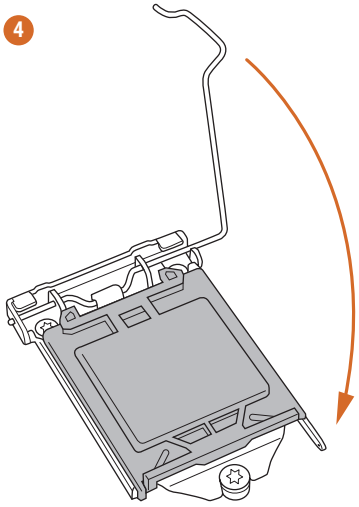
1. Before you insert the 1151-Pin CPU into the socket, please check if the **PnP cap** is on the socket, if the CPU surface is unclean, or if there are any **bent pins** in the socket. Do not force to insert the CPU into the socket if above situation is found. Otherwise, the CPU will be seriously damaged.
2. Unplug all power cables before installing the CPU.

1**2**

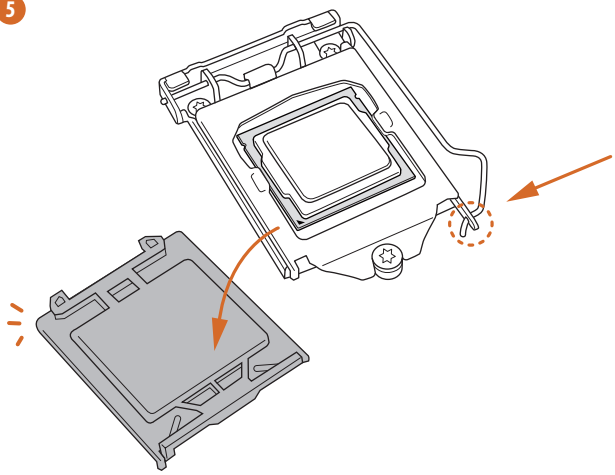
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4

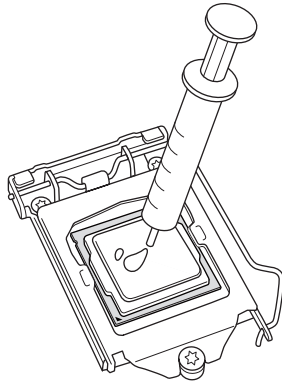


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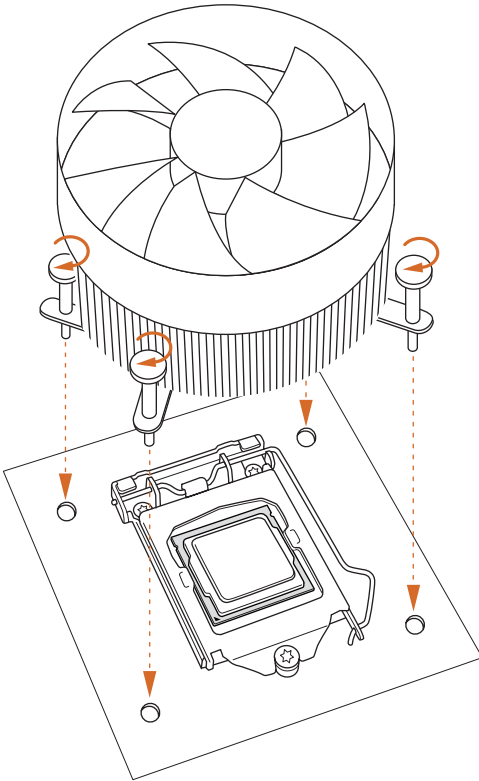


Please save and replace the cover if the processor is removed. The cover must be placed if you wish to return the motherboard for after service.

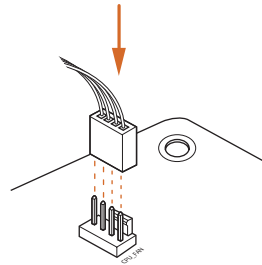
2.2 Installing the CPU Fan and Heatsink



1



2



2.3 Installing Memory Modules (DIMM)

This motherboard provides two 288-pin DDR4 (Double Data Rate 4) DIMM slots, and supports Dual Channel Memory Technology.

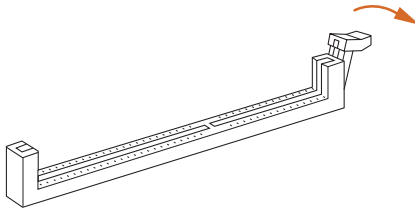


1. For dual channel configuration, you always need to install identical (the same brand, speed, size and chip-type) DDR4 DIMM pairs.
2. It is unable to activate Dual Channel Memory Technology with only one memory module installed.
3. It is not allowed to install a DDR, DDR2 or DDR3 memory module into a DDR4 slot; otherwise, this motherboard and DIMM may be damaged.

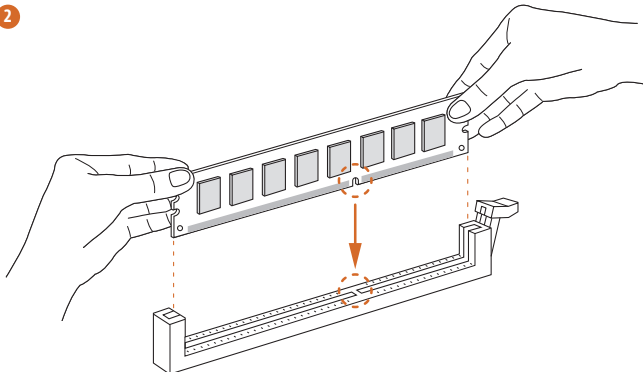


The DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation.

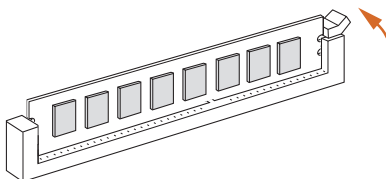
1



2



3



2.4 Expansion Slots (PCI Express Slots)

There are 3 PCI Express slots on the motherboard.



Before installing an expansion card, please make sure that the power supply is switched off or the power cord is unplugged. Please read the documentation of the expansion card and make necessary hardware settings for the card before you start the installation.

PCIe slots:

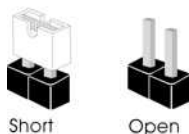
PCIE1 (PCIe 2.0 x1 slot) is used for PCI Express x1 lane width cards.

PCIE2 (PCIe 3.0 x16 slot) is used for PCI Express x16 lane width graphics cards.

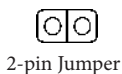
PCIE3 (PCIe 2.0 x1 slot) is used for PCI Express x1 lane width cards.

2.5 Jumpers Setup

The illustration shows how jumpers are setup. When the jumper cap is placed on the pins, the jumper is “Short”. If no jumper cap is placed on the pins, the jumper is “Open”.



Clear CMOS Jumper
(CLRCMOS1)
(see p.1, No. 10)



Short: Clear CMOS
Open: Default

CLRCMOS1 allows you to clear the data in CMOS. The data in CMOS includes system setup information such as system password, date, time, and system setup parameters. To clear and reset the system parameters to default setup, please turn off the computer and unplug the power cord, then use a jumper cap to short the pins on CLRCMOS1 for 3 seconds. Please remember to remove the jumper cap after clearing the CMOS. If you need to clear the CMOS when you just finish updating the BIOS, you must boot up the system first, and then shut it down before you do the clear-CMOS action.



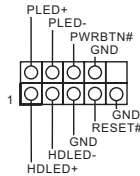
If you clear the CMOS, the case open may be detected. Please adjust the BIOS option “Clear Status” to clear the record of previous chassis intrusion status.

2.6 Onboard Headers and Connectors



Onboard headers and connectors are **NOT** jumpers. Do **NOT** place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage to the motherboard.

System Panel Header
(9-pin PANEL1)
(see p.1, No. 14)



Connect the power button, reset button and system status indicator on the chassis to this header according to the pin assignments below. Note the positive and negative pins before connecting the cables.



PWRBTN (Power Button):

Connect to the power button on the chassis front panel. You may configure the way to turn off your system using the power button.

RESET (Reset Button):

Connect to the reset button on the chassis front panel. Press the reset button to restart the computer if the computer freezes and fails to perform a normal restart.

PLED (System Power LED):

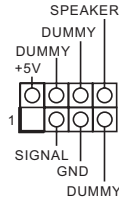
Connect to the power status indicator on the chassis front panel. The LED is on when the system is operating. The LED keeps blinking when the system is in S1/S3 sleep state. The LED is off when the system is in S4 sleep state or powered off (S5).

HDLED (Hard Drive Activity LED):

Connect to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.

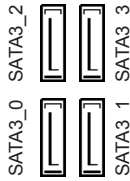
The front panel design may differ by chassis. A front panel module mainly consists of power button, reset button, power LED, hard drive activity LED, speaker and etc. When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assignments are matched correctly.

Chassis Intrusion and
Speaker Header
(7-pin SPK_CI1)
(see p.1, No. 15)



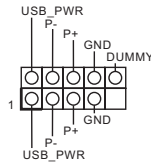
Please connect the
chassis intrusion and the
chassis speaker to this
header.

Serial ATA3 Connectors
(SATA3_0:
see p.1, No. 11)
(SATA3_1:
see p.1, No. 12)
(SATA3_2:
see p.1, No. 8)
(SATA3_3:
see p.1, No. 9)



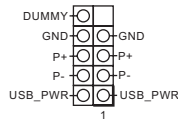
These four SATA3
connectors support SATA
data cables for internal
storage devices with up to
6.0 Gb/s data transfer rate.
* If M2_1 is occupied by
a SATA-type M.2 device,
SATA3_3 will be disabled.

USB 2.0 Headers
(9-pin USB_7_8)
(see p.1, No. 16)

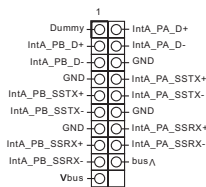


There are two USB
2.0 headers on this
motherboard. Each USB
2.0 header can support
two ports.

(9-pin USB_9_10)
(see p.1, No. 6)

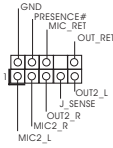


USB 3.1 Gen1 Header
(19-pin USB_11_12)
(see p.1, No. 7)



There is one header on
this motherboard. This
USB 3.1 Gen1 header can
support two ports.
* USB_11_12 is shared
with USB_9_10.

Front Panel Audio Header
 (9-pin HD_AUDIO1)
 (see p.1, No. 20)

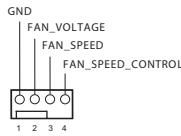


This header is for connecting audio devices to the front audio panel.



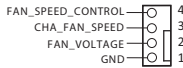
1. High Definition Audio supports Jack Sensing, but the panel wire on the chassis must support HDA to function correctly. Please follow the instructions in our manual and chassis manual to install your system.
2. If you use an AC'97 audio panel, please install it to the front panel audio header by the steps below:
 - A. Connect Mic_IN (MIC) to MIC2_L.
 - B. Connect Audio_R (RIN) to OUT2_R and Audio_L (LIN) to OUT2_L.
 - C. Connect Ground (GND) to Ground (GND).
 - D. MIC_RET and OUT_RET are for the HD audio panel only. You don't need to connect them for the AC'97 audio panel.
 - E. To activate the front mic, go to the "FrontMic" Tab in the Realtek Control panel and adjust "Recording Volume".

Chassis/Water Pump Fan Connectors
 (4-pin CHA_FAN1/WP)
 (see p.1, No. 4)

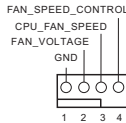


This motherboard provides two 4-Pin water cooling chassis fan connectors. If you plan to connect a 3-Pin chassis water cooler fan, please connect it to Pin 1-3.

(4-pin CHA_FAN2/WP)
 (see p.1, No. 13)

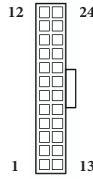


CPU Fan Connector
 (4-pin CPU_FAN1)
 (see p.1, No. 2)



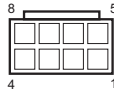
This motherboard provides a 4-Pin CPU fan (Quiet Fan) connector. If you plan to connect a 3-Pin CPU fan, please connect it to Pin 1-3.

ATX Power Connector
(24-pin ATXPWR1)
(see p.1, No. 5)



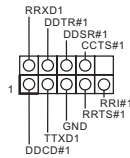
This motherboard provides a 24-pin ATX power connector. To use a 20-pin ATX power supply, please plug it along Pin 1 and Pin 13.

ATX 12V Power Connector
(8-pin ATX12V1)
(see p.1, No. 1)



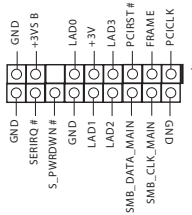
This motherboard provides an 8-pin ATX 12V power connector. To use a 4-pin ATX power supply, please plug it along Pin 1 and Pin 5.

Serial Port Header
(9-pin COM1)
(see p.1, No. 17)



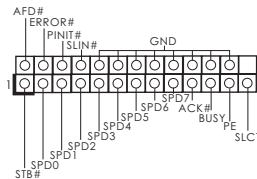
This COM1 header supports a serial port module.

TPM Header
(17-pin TPMS1)
(see p.1, No. 19)



This connector supports Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.

Print Port Header
(25-pin LPT1)
(see p.1, No. 18)



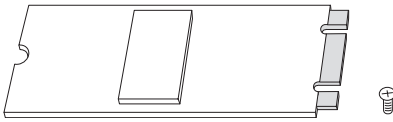
This is an interface for print port cable that allows convenient connection of printer devices.

2.7 M.2_SSD (NGFF) Module Installation Guide

The M.2, also known as the Next Generation Form Factor (NGFF), is a small size and versatile card edge connector that aims to replace mPCIe and mSATA. The M.2 Socket (M2_1) supports SATA3 6.0 Gb/s module and M.2 PCI Express module up to Gen2 x4 (20 Gb/s).

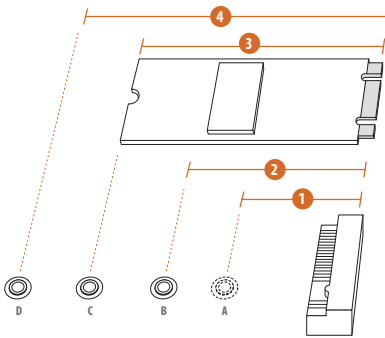
* If M2_1 is occupied by a SATA-type M.2 device, SATA3_3 will be disabled.

Installing the M.2_SSD (NGFF) Module



Step 1

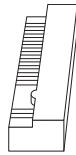
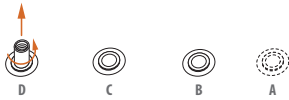
Prepare a M.2_SSD (NGFF) module and the screw.



Step 2

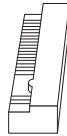
Depending on the PCB type and length of your M.2_SSD (NGFF) module, find the corresponding nut location to be used.

No.	1	2	3	4
Nut Location	A	B	C	D
PCB Length	3cm	4.2cm	6cm	8cm
Module Type	Type2230	Type 2242	Type2260	Type 2280



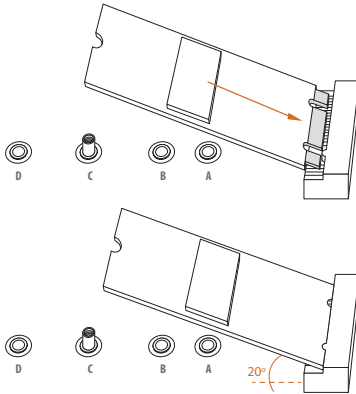
Step 3

Move the standoff based on the module type and length. The standoff is placed at the nut location D by default. Skip Step 3 and 4 and go straight to Step 5 if you are going to use the default nut. Otherwise, release the standoff by hand.



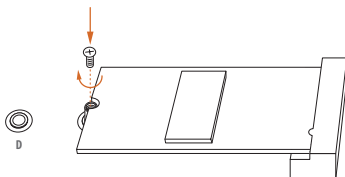
Step 4

Peel off the yellow protective film on the nut to be used. Hand tighten the standoff into the desired nut location on the motherboard.



Step 5

Gently insert the M.2 (NGFF) SSD module into the M.2 slot. Please be aware that the M.2 (NGFF) SSD module only fits in one orientation.



Step 6

Tighten the screw with a screwdriver to secure the module into place. Please do not overtighten the screw as this might damage the module.

Technische Daten

- Plattform**
- Micro-ATX-Formfaktor
 - Feststoffkondensator-Design

- Prozessor**
- Unterstützt Intel® Core™-Prozessoren (Sockel 1151) der 8^{ten} Generation
 - 4-Leistungsphasendesign
 - Unterstützt Intel® Turbo Boost 2.0-Technologie

- Chipsatz**
- Intel® H310

- Speicher**
- Dualkanal-DDR4-Speichertechnologie
 - 2 x DDR4-DIMM-Steckplätze
 - Unterstützt ungepufferten DDR4-2666/2400/2133-Non-ECC-Speicher
 - Systemspeicher, max. Kapazität: 32 GB
 - Unterstützt Intel® Extreme Memory Profile (XMP) 2.0
 - 15-µ-Goldkontakt in DIMM-Steckplätze

- Erweiterungssteckplatz**
- 1 x PCI-Express 3.0-x16-Steckplatz (PCIe1:x16-Modus)*
 - * Unterstützt NVMe-SSD als Bootplatte
 - 2 x PCI-Express-2.0-x1-Steckplatz

- Grafikkarte**
- Integrierte Intel® UHD Graphics-Visualisierung und VGA-Ausgänge können nur mit Prozessoren unterstützt werden, die GPU-integriert sind.
 - Unterstützt integrierte Intel® UHD Graphics-Visualisierung: Intel® Quick Sync Video mit AVC, MVC (S3D) und MPEG-2 Full HW Encode1, Intel® InTru™ 3D, Intel® Clear Video HD Technology, Intel® Insider™, Intel® UHD Graphics
 - DirectX 12
 - HWA encodieren/decodieren: AVC/H.264, HEVC/H.265 8 bit, HEVC/H.265 10 bit, VP8, VP9 8 bit, VP9 10 bit (nur Dekodierung), MPEG2, MJPEG, VC-1 (nur Dekodierung)
 - Drei Grafikkarten-Ausgangsoptionen: D-Sub, DVI-D und HDMI
- * Unterstützt bis zu 2 Displays gleichzeitig

- Unterstützt HDMI mit maximaler Auflösung von 4K x 2K (4096 x 2160) bei 30Hz
- Unterstützt DVI-D mit maximaler Auflösung von 1920 x 1200 bei 60 Hz
- Unterstützt D-Sub mit maximaler Auflösung von 1920 x 1200 bei 60 Hz
- Unterstützt Auto-Lippensynchronizität, hohe Farbtiefe (12 bpc), xvYCC und HBR (Audio mit hoher Bitrate) mit HDMI-Port (konformer HDMI-Monitor erforderlich)
- Unterstützt HDCP mit DVI-D- und HDMI-Ports
- Unterstützt 4K-Ultra-HD- (UHD) Wiedergabe mit HDMI-Port

Audio

- 7.1-Kanal-HD-Audio (Realtek ALC887-Audiocodec)
- * Zur Konfiguration von 7.1-Kanal-HD-Audio müssen Sie ein HD-Frontblenden-Audiomodul nutzen und den Mehrkanalton über den Audiotreiber aktivieren.
- Unterstützt Überspannungsschutz
- ELNA-Audiokondensatoren

LAN

- Gigabit LAN 10/100/1000 Mb/s
- Giga PHY Intel® I219V
- Unterstützt Wake-On-LAN
- Unterstützt Schutz gegen Blitzschlag/elektrostatische Entladung
- Unterstützt energieeffizientes Ethernet 802.3az
- Unterstützt PXE

Rückblende, E/A

- 1 x PS/2-Maus-/Tastaturanschluss
- 1 x D-Sub-Port
- 1 x DVI-D-Port
- 1 x HDMI-Port
- 4 x USB-2.0-Ports (unterstützt Schutz gegen elektrostatische Entladung)
- 2 x USB-3.1-Gen1-Ports (unterstützt Schutz gegen elektrostatische Entladung)
- 1 x RJ-45-LAN-Port mit LED (Aktivität/Verbindung-LED und Geschwindigkeit-LED)
- HD-Audioanschlüsse: Line-in / Vorderer Lautsprecher / Mikrofon

Speicher

- 4 x SATA-III-6,0-Gb/s-Anschlüsse, unterstützt NCQ, AHCI und Hot-Plugging*
- * Wenn M2_1 durch ein SATA-Typ-M.2-Gerät belegt ist, wird SATA3_3 deaktiviert.
- 1 x M.2-Sockel (M2_1), unterstützt M-Key-2230-/2242-/2260-/2280-M.2-SATA-III-6,0-Gb/s-Modul und M.2-PCI-Express-Modul bis Gen2 x 4 (20 Gb/s)**
- ** Unterstützt NVMe-SSD als Bootplatte
- ** Unterstützt ASRock U.2-Kit

Anschluss

- 1 x Druckerport-Anschlussleiste
- 1 x COM-Anschluss-Stiftleiste
- 1 x TPM-Stiftleiste
- 1 x Gehäuseeingriff- und Lautsprecher-Stiftleiste
- 1 x CPU-Lüfteranschluss (4-polig)
- * Der CPU-Lüfteranschluss unterstützt einen CPU-Lüfter mit einer maximalen Lüfterleistung von 1 A (12 W).
- 2 x Anschlüsse für Gehäuse-/Wasserpumpenlüfter (4-polig) (intelligente Lüftergeschwindigkeitssteuerung)
- * Der Gehäuse-/Wasserpumpenlüfter unterstützt einen Wasserkühlerlüfter mit einer maximalen Lüfterleistung von 2A (24 W).
- * CHA_FAN1/WP und CHA_FAN2/WP können automatisch erkennen, ob ein 3- oder 4-poliger Lüfter verwendet wird.
- 1 x 24-poliger ATX-Netzanschluss
- 1 x 8-poliger 12-V-Netzanschluss
- 1 x Audioanschluss an Frontblende
- 2 x USB 2.0-Stiftleisten (unterstützt 4 USB 2.0-Ports) (unterstützt Schutz gegen elektrostatische Entladung)
- 1 x USB 3.1 Gen1-Stiftleiste (unterstützt zwei USB 3.1 Gen1-Ports) (unterstützt Schutz gegen elektrostatische Entladung)
- * USB_11_12 mit USB_9_10 geteilt.

Betriebssystem

- Microsoft® Windows® 10, 64 Bit

Spécifications

- Plateforme**
- Facteur de forme Micro ATX
 - Conception à condensateurs solides

- Processeur**
- Prend en charge les processeurs 8^{ème} génération Intel® Core™ (socket 1151)
 - Alimentation à 4 phases
 - Prend en charge la technologie Intel® Turbo Boost 2.0

- Chipset**
- Intel® H310

- Mémoire**
- Technologie mémoire double canal DDR4
 - 2 x fentes DIMM DDR4
 - Prend en charge les mémoires sans tampon non ECC DDR4 2666/2400/2133
 - Capacité max. de la mémoire système : 32GB
 - Prend en charge Intel® Extreme Memory Profile (XMP) 2.0
 - Contacts dorés 15µ sur fentes DIMM

- Fente d'expansion**
- 1 x fente PCI Express 3.0 x 16 (PCIE1 :mode x16)*
 - * Prend en charge les SSD NVMe comme disques de démarrage
 - 2 x fentes PCI Express 2.0 x1

- Graphiques**
- La technologie Intel® UHD Graphics Built-in Visuals et les sorties VGA sont uniquement prises en charge par les processeurs intégrant un contrôleur graphique.
 - Prend en charge la technologie Intel® UHD Graphics Built-in Visuals : Intel® Quick Sync Video avec AVC, MVC (S3D) et MPEG-2 Full HW Encode1, Intel® InTru™ 3D, Intel® Clear Video HD Technology, Intel® Insider™, Intel® UHD Graphics
 - DirectX 12
 - Codage/Décodage HWA : AVC/H.264, HEVC/H.265 8 bits, HEVC/H.265 10 bits, VP8, VP9 8 bits, VP9 10 bits (Encodage uniquement), MPEG2, MJPEG, VC-1 (Encodage uniquement)
 - Trois options de sortie graphique : D-Sub, DVI-D et HDMI
 - * Prend en charge jusqu'à 2 écrans simultanément

- Prend en charge la technologie HDMI avec résolution maximale de 4K x 2K (4096x2160) @ 30Hz
- Prend en charge le mode DVI-D avec une résolution maximale de 1920x1200 @ 60Hz
- Prend en charge le mode D-Sub avec une résolution maximale de 1920x1200 @ 60Hz
- Prend en charge les technologies Auto Lip Sync, Deep Color (12bpc), xvYCC et HBR (High Bit Rate Audio) avec port HDMI (un écran compatible HDMI est requis)
- Prend en charge HDCP via ports DVI-D et HDMI
- Prend en charge la lecture 4K Ultra HD (UHD) avec le port HDMI

Audio

- Audio 7.1 CH HD (Codec audio Realtek ALC887)
- *Pour configurer l'audio 7.1 CH HD, il est nécessaire d'utiliser un module audio HD pour panneau frontal et d'activer la fonction audio multicanal via le pilote audio.
- Prend en charge la protection contre les surtensions
- Capuchons ELNA Audio

Réseau

- Gigabit LAN 10/100/1000 Mo/s
- Giga PHY Intel® I219V
- Prend en charge la fonction Wake-On-LAN
- Prend en charge la protection contre la foudre/les décharges électrostatiques
- Prend en charge la fonction d'économie d'énergie Ethernet 802.3az
- Prend en charge PXE

Connectique du panneau arrière

- 1 x port souris/clavier PS/2
- 1 x port D-Sub
- 1 x port DVI-D
- 1 x port HDMI
- 4 x ports USB 2.0 (Protection contre les décharges électrostatiques)
- 2 x ports USB 3.1 Gen1 (Protection contre les décharges électrostatiques)
- 1 x port RJ-45 LAN avec LED (LED ACT/LIEN et LED VITESSE)
- Connecteurs jack audio HD : Entrée ligne / haut-parleur avant / microphone

Stockage

- 4 x connecteurs SATA3 6,0 Go/s, compatibles avec les fonctions NCQ, AHCI et « Hot Plug »*

* Si M2_1 est occupé par un périphérique M.2 type SATA, SATA3_3 est désactivé.

- 1 x socket M.2 (M2_1), prend en charge les modules M.2 SATA3 6,0 Gb/s type 2230/2242/2260/2280 et M.2 PCI Express touche M jusqu'à Gen2 x4 (20 Gb/s)**

** Prend en charge les SSD NVMe comme disques de démarrage

** Prend en charge le kit ASRock U.2

Connecteur

- 1 x embase pour port d'impression

- 1 x embase pour port COM

- 1 x embase TPM

- 1 x prise DEL d'alimentation et emplacement sur châssis

- 1 x connecteur pour ventilateur de CPU (4 broches)

* Le connecteur pour ventilateur de CPU prend en charge un ventilateur de CPU d'une puissance maximale de 1 A (12 W).

- 2 x connecteurs pour ventilateur de châssis /pompe à eau (4 broches) (contrôle de vitesse de ventilateur intelligent)

* Le ventilateur de châssis /pompe à eau prend en charge un ventilateur de refroidisseur d'eau d'une puissance maximale de 2A (24 W).

* CHA_FAN1/WP et CHA_FAN2/WP peuvent détecter automatiquement si un ventilateur 3 broches ou 4 broches est utilisé.

- 1 x connecteur d'alimentation ATX 24 broches

- 1 x connecteur d'alimentation 12 V 8 broches

- 1 x connecteur audio panneau frontal

- 2 x embases USB 2.0 (4 ports USB 2.0 pris en charge) (Protection contre les décharges électrostatiques)

- 1 x embase USB 3.1 Gen1 (2 ports USB 3.1 Gen1 pris en charge) (Protection contre les décharges électrostatiques)

* USB_11_12 partagé avec USB_9_10.

Système d'exploitation

- Microsoft® Windows® 10 64 bits

Specifiche

- Piattaforma**
- Fattore di forma Micro ATX
 - Design condensatore solido

- CPU**
- Supporta processori 8th Generation Intel® Core™ (Socket 1151)
 - Potenza a 4 fasi
 - Supporta la tecnologia Intel® Turbo Boost 2.0

- Chipset**
- Intel® H310

- Memoria**
- Tecnologia memoria DDR4 Dual Channel
 - 2 x alloggi DIMM DDR4
 - Supporto di memoria DDR4 2666/2400/2133 non-ECC, unbuffered
 - Capacità max. della memoria di sistema: 32 GB
 - Supporto di XMP (Extreme Memory Profile) Intel® 2.0
 - Contatti d'oro 15µ negli alloggi DIMM

- Alloggio d'espansione**
- 1 x alloggiamento PCI Express 3.0 x16 (PCIe1:modalità x16)*
 - * Supporto di SSD NVMe come disco d'avvio
 - 2 x alloggiamenti PCI Express 2.0 x1

- Grafica**
- La videografica integrata della scheda video UHD Intel® e le uscite VGA possono essere supportate soltanto con processori con GPU integrata.
 - Supporta la videografica integrata della scheda video UHD Intel®: Intel® Quick Sync Video con AVC, MVC (S3D) e MPEG-2 Full HW Encode1, Intel® InTru™ 3D, Intel® Clear Video HD Technology, Intel® Insider™, Intel® UHD Graphics
 - DirectX 12
 - Codifica/decodifica HWA: AVC/H.264, HEVC/H.265 8-bit, HEVC/H.265 10-bit, VP8, VP9 8-bit, VP9 10-bit (solo decodifica), MPEG2, MJPEG, VC-1 (solo decodifica)
 - Tre opzioni di output grafico: D-Sub, DVI-D e HDMI
 - * Supporta fino a 2 display simultaneamente

- Supporta HDMI con risoluzione massima fino a 4K x 2K (4096 x 2160) a 30Hz
- Supporta DVI-D con una risoluzione max. fino a 1920 x 1200 a 60 Hz
- Supporta D-Sub con una risoluzione max. fino a 1920 x 1200 a 60 Hz
- Supporto delle funzioni Auto Lip Sync, Deep Color (12bpc), xvYCC e HBR (High Bit Rate Audio) con porta HDMI (è necessario un monitor compatibile HDMI)
- Supporto di HDCP con le porte DVI-D e HDMI
- Supporto riproduzione 4K Ultra HD (UHD) sulla porta HDMI

Audio

- Audio HD 7.1 CH (codec audio Realtek ALC887)
- * Per configurare l'audio HD 7.1 canali, è necessario utilizzare un modulo pannello frontale audio HD ed attivare la funzione audio multicanale tramite il driver audio.
- Supporta protezione da sovratensione
- Cappucci audio ELNA

LAN

- LAN Gigabit 10/100/1000 Mb/s
- Giga PHY Intel® I219V
- Supporto WOL (Wake-On-LAN)
- Supporta protezione da fulmini/scariche elettrostatiche
- Supporto Energy Efficient Ethernet 802.3az
- Supporto PXE

I/O pannello posteriore

- 1 x porta mouse/tastiera PS/2
- 1 x porta D-Sub
- 1 x porta DVI-D
- 1 x porta HDMI
- 4 x porte USB 2.0 (supporto protezione da scariche elettrostatiche)
- 2 x porte USB 3.1 Gen1 (supporto protezione da scariche elettrostatiche)
- 1 x porta LAN RJ-45 con LED (ACT/LINK LED e SPEED LED)
- Connettori audio HD: Ingresso linea / altoparlante frontale / microfono

Archiviazione

- 4 x connettori SATA3 6,0 Gb/s supportano NCQ, AHCI e Hot Plug*
- * Se M2_1 è occupato da un dispositivo M.2 di tipo SATA, SATA3_3 sarà disabilitato.
- 1 x Socket M.2 (M2_1), supporta il modulo M.2 SATA3 6,0 Gb/s di tipo M Key 2230/2242/2260/2280 ed il modulo M.2 PCI Express fino a Gen2 x4 (20 Gb/s)**
- ** Supporto di SSD NVMe come disco d'avvio
- ** Supporta kit ASRock U.2

Connettore

- 1 x connettore porta stampa
- 1 x connettore porta COM
- 1 x connettore TPM
- 1 x collegamento altoparlante e intrusione telaio
- 1 x connettore ventola CPU (4-pin)
- * Il connettore ventola CPU supporta ventole CPU con potenza massima di 1 A (12 W).
- 2 x connettori ventola telaio/ventola pompa dell'acqua (4 pin) (Controllo intelligente della velocità della ventola)
- * La ventola Chassis/ventola pompa dell'acqua supporta ventole di sistemi di raffreddamento ad acqua di potenza massima di 2A (24W).
- * CHA_FAN1/WP e CHA_FAN2/WP sono in grado di rilevare se è in uso una ventola a 3 pin o 4 a pin.
- 1 x connettore alimentazione ATX 24 pin
- 1 x connettore alimentazione 12 V 8-pin
- 1 x connettore audio pannello frontale
- 2 x connettori USB 2.0 (supporto di 4 porte USB 2.0) (supporta protezione da scariche elettrostatiche)
- 1 x connettore USB 3.1 Gen1 (supporto di 2 porte USB 3.1 Gen1) (supporto protezione da scariche elettrostatiche)
- * USB_11_12 condivisa con USB_9_10.

SO

- Microsoft® Windows® 10 64 bit

Especificaciones

- Plataforma**
- Factor de forma Micro ATX
 - Diseño de condensador sólido

- CPU**
- Compatible con la 8ª generación de procesadores Intel® Core™ (Socket 1151)
 - Diseño de 4 fases de alimentación
 - Admite la tecnología Intel® Turbo Boost 2.0

- Conjunto de chips**
- Intel® H310

- Memoria**
- Tecnología de memoria DDR4 de doble canal
 - 2 x ranuras DIMM DDR4
 - Admite memoria DDR4 2666/2400/2133 no ECC, sin búfer
 - Capacidad máxima de memoria del sistema: 32 GB
 - Admite Perfil de memoria extremo de Intel® (XMP) 2.0
 - Contacto 15µ Gold en ranuras DIMM

- Ranura de expansión**
- 1 x ranura PCI Express 3.0 x16 (PCIe1:modo x16)*
 - * Admite unidad de estado sólido de NVMe como disco de arranque
 - 2 x Ranuras PCI Express 2.0 x1

- Gráficos**
- Intel® UHD Graphics Built-in Visuals y las salidas de VGA son compatibles únicamente con procesadores con GPU integrado.
 - Admite Intel® UHD Graphics Built-in Visuals: Intel® Quick Sync Video con AVC, MVC (S3D) y MPEG-2 Full HW Encode1, Intel® InTru™ 3D, Intel® Clear Video HD Technology, Intel® Insider™, Intel® UHD Graphics
 - DirectX 12
 - Codificación y decodificación HWA: AVC/H.264, HEVC/H.265 8 bits, HEVC/H.265 10 bits, VP8, VP9 8 bits, VP9 10 bits (solo decodificar), MPEG2, MJPEG, VC-1 (solo decodificar)
 - Tres opciones de salida de gráficos: D-Sub, DVI-D y HDMI
 - * Admite hasta 2 pantallas simultáneamente

- Admite la tecnología HDMI con una resolución máxima de 4K x 2K (4096x2160) a 30Hz
- Compatible con DVI-D con máxima resolución hasta 1920x1200 a 60Hz
- Admite D-Sub con una resolución máxima de 1920x1200 a 60 Hz
- Admite Sincronización automática entre audio y vídeo, color profundo (12 bpc), xvYCC y HBR (audio de alta tasa de bits) con puerto HDMI (se necesita un monitor compatible con HDMI)
- Compatible con función HDCP con puertos DVI-D y HDMI
- Admite reproducción 4K Ultra HD (UHD) con puerto HDMI

Audio

- 7.1 Audio CH HD (Códec de audio Realtek ALC887)
- *Para configurar 7.1 Audio CH HD, deberá utilizar un módulo del panel frontal de audio HD y habilitar la característica de audio multicanal a través del controlador de audio.
- Admite protección contra sobretensiones
 - Tapas de audio ELNA

LAN

- Gigabit LAN 10/100/1000 Mb/s
- Giga PHY Intel® I219V
- Admite la función Reactivación de LAN
- Admite protección contra rayos y descargas electrostáticas (ESD)
- Admite Ethernet 802.3az de eficiencia energética
- Admite PXE

E/S en panel posterior

- 1 x puerto de ratón/teclado PS/2
- 1 x puerto D-Sub
- 1 x puerto DVI-D
- 1 x puerto HDMI
- 4 x Puertos USB 2.0 (admite protección contra descargas electrostáticas)
- 2 x Puertos USB 3.1 Gen1 (admite protección contra descargas electrostáticas)
- 1 x Puerto LAN RJ-45 con LED (LED DE ACTIVIDAD/ENLACE y LED DE VELOCIDAD)
- Conector de audio HD: Entrada de línea / Altavoz frontal / Micrófono

Almacenamiento

- 4 x conectores SATA3 de 6,0 Gb/s, compatibles con las funciones NCQ, AHCI y Conexión en caliente*
- * Si M2_1 se ocupa con un dispositivo M.2 de tipo SATA, SATA3_3 se deshabilitará.
- 1 x Zócalo M.2 (M2_1) que admite el módulo SATA3 6,0 Gb/s M.2 de tipo 2230/2242/2260/2280 y clave M y el módulo PCI Express M.2 hasta Gen2 x4 (20 Gb/s)**
- ** Admite unidad de estado sólido de NVMe como disco de arranque
- ** Admite el kit U.2 de ASRock

Conector

- 1 x Base de conexiones de puerto de impresión
- 1 x Base de conexiones de puerto COM
- 1 x Conector TPM
- 1 x cabezal de intrusión de chasis y de altavoces
- 1 x Conector para ventilador de la CPU (4 contactos)
- * El conector para ventilador de la CPU admite ventilador de la CPU con una potencia de ventilador de 1 A (12 W) máxima.
- 2 x Conectores (4 contactos) para el ventilador de la bomba de agua/chasis (control de velocidad de ventilador inteligente)
- * El ventilador de la bomba de agua/Chasis admite ventilador del disipador por agua con una potencia de ventilador máxima de 2A (24 W).
- * CHA_FAN1/WP y CHA_FAN2/WP se pueden detectar automáticamente si se usa el ventilador de 3 o 4 contactos.
- 1 x conector de alimentación ATX de 24 contactos
- 1 x conector de alimentación de 12V de 8 contactos
- 1 x Conector de audio en el panel frontal
- 2 x Bases de conexiones USB 2.0 (admite 4 puertos USB 2.0) (Admite protección contra descargas electrostáticas)
- 1 x base de conexiones USB 3.1 Gen1 (admite 2 puertos USB 3.1 Gen1) (Admite protección contra descargas electrostáticas)
- * El puerto USB_11_12 se comparte con USB_9_10.

SO

- Microsoft® Windows® 10 64 bits

Спецификация

Платформа	<ul style="list-style-type: none"> • Форм-фактор Micro ATX • Схема на основе твердотельных конденсаторов
ЦП	<ul style="list-style-type: none"> • Поддержка процессоров 8^{го} поколения Intel® Core™ (Socket 1151) • Система питания 4 • Поддерживается технология Intel® Turbo Boost 2.0
Чипсет	<ul style="list-style-type: none"> • Intel® H310
Память	<ul style="list-style-type: none"> • Двухканальная память DDR4 • 2 гнезда DDR4 DIMM • Поддерживаются модули небуферизованной памяти DDR4 2666/2400/2133 без ECC. • Максимальный объем ОЗУ: 32 ГБ • Поддерживается Intel® Extreme Memory Profile (XMP) 2.0 • Позолоченные (15 мкм) контакты слотов DIMM
Слот расширения	<ul style="list-style-type: none"> • 1 Слот PCI Express 3.0 x16 (PCIЕ:режим x16)* <p>* Поддерживаются в качестве загрузочных SSD-диски типа NVMe.</p> <ul style="list-style-type: none"> • 2 слота PCI Express 2.0 x1
Графическая подсистема	<ul style="list-style-type: none"> • Встроенный видеоадаптер Intel® UHD Graphics и выходы VGA поддерживаются только при использовании ЦП со встроенными графическими процессорами. • Поддерживаемые встроенные технологии визуализации Intel® UHD Graphics: Intel® Quick Sync Video с полностью аппаратным кодированием¹ в форматах AVC, MVC (S3D) и MPEG-2, Intel® InTru™ 3D, технология Intel® Clear Video HD, Intel® Insider™, Intel® UHD Graphics • DirectX 12 • Программно-аппаратное кодирование-декодирование: AVC/H.264, HEVC/H.265 8 бит, HEVC/H.265 10 бит, VP8, VP9 8 бит, VP9 10 бит (только декодирование), MPEG2, MJPEG, VC-1 (только декодирование) • Три видеовыхода: D-Sub, DVI-D и HDMI <p>* Поддерживается вывод одновременно на 2 монитора</p>

- Поддержка HDMI с максимальным разрешением до 4К x 2К (4096x2160) при частоте обновления 30 Гц
- На выходе DVI-D поддерживается максимальное разрешение до 1920x1200 при частоте обновления 60 Гц
- Поддерживается D-Sub с максимальным разрешением до 1920x1200 при 60 Гц
- Поддерживаются Auto Lip Sync, Deep Color (12 бит/цвет), xvYCC и HBR (High Bit Rate Audio) через порт HDMI (требуется соответствующий HDMI-монитор)
- Поддержка функции защиты HDCP через порты DVI-D и HDMI
- Поддержка вывода видео с разрешением 4K Ultra HD (UHD) на порт HDMI

Звук

- 7.1-канальный звук высокой четкости (аудиокодек Realtek ALC887)

*Для настройки 7.1-канального звук высокой четкости HD Audio используйте переднюю аудиопанель HD и активируйте функцию многоканального звука в аудиодрайвере.

- Защита от перепадов напряжения в электрической сети
- Конденсаторы для аудиосистем ELNA

LAN

- Gigabit Ethernet 10/100/1000 Мбит/с
- Giga PHY Intel® I219V
- Поддерживается пробуждение по ЛВС
- Молниезащита и защита от электростатических разрядов
- Поддерживается Energy Efficient Ethernet 802.3az
- Поддерживается PXE

Порты ввода-вывода на задней панели

- 1 порт PS/2 для мыши/клавиатуры
- 1 порт D-Sub
- 1 порт DVI-D
- 1 порт HDMI
- 4 портов USB 2.0 (с защитой от электростатических разрядов)
- 2 портов USB 3.1 Gen1 (с защитой от электростатических разрядов)
- 1 порт ЛВС RJ-45 с индикаторами («Активность/Соединение» и «Скорость»)
- Разъемы HD Audio: Линейный вход / передние динамики / микрофон

Запоминающие устройства

- 4 порта SATA3 6,0 Гбит/с, поддерживаются NCQ, AHCI и «горячая» замена*

* Если слот M2_1 занят устройством M.2 типа SATA, интерфейс SATA3_3 будет отключен.

- 1 слот M.2 (M2_1), поддерживает модуль M.2 SATA3 с ключом M типа 2230/2242/2260/2280 со скоростью обмена данными 6,0 Гбит/с и модуль M.2 PCI Express до версии Gen2 x4 (20 Гбит/с)**

** Поддерживаются в качестве загрузочных SSD-диски типа NVMe

** Поддерживается комплект ASRock U.2.

Разъемы

- 1 колодка порта принтера
- 1 колодка COM-порта
- 1 колодка TPM
- 1 колодка с разъемами датчика вскрытия корпуса и динамика
- 1 разъем для вентилятора охлаждения ЦП, 4-контактный

* Разъем процессорного вентилятора поддерживает вентилятор с потребляемым током не более 1 А (12 Вт).

- 2 разъемы для корпусного вентилятора или водяной помпы (4-контактный) (смарт-регулятор скорости вентилятора)

* Разъем для процессорного корпусного вентилятора или водяной помпы поддерживает вентилятор с потребляемым током не более 2 А (24 Вт)

* Для разъемов CHA_FAN1/WP и CHA_FAN2/WP автоматически определяется тип подключенного вентилятора: 3- или 4-контактный.

- 1 разъем питания ATX, 24-контактный
- 1 разъем питания 12 В, 8-контактный
- 1 аудиоразъем на передней панели
- 2 колодки USB 2.0 (4 порта USB 2.0 с защитой от электростатических разрядов)
- 1 колодка USB 3.1 Gen1 (2 порта USB 3.1 Gen1) (с защитой от электростатических разрядов)

* USB_11_12 используется совместно с USB_9_10.

Операционные системы

- Microsoft® Windows® 10 (64-разрядная)

Especificações

- Plataforma**
- Micro ATX Form Factor
 - Design de condensador sólido

- CPU**
- Suporta 8^a Geração de Processadores Intel® Core™ (Soquete 1151)
 - Design com 4 fases de alimentação
 - Suporta a tecnologia Intel® Turbo Boost 2.0

- Chipset**
- Intel® H310

- Memória**
- Tecnologia de memória DDR4 de dois canais
 - 2 x Slots DIMM DDR4
 - Suporta memória DDR4 2666/2400/2133, não ECC, sem memória intermédia
 - Capacidade máxima da memória do sistema: 32GB
 - Suporta Extreme Memory Profile (XMP) 2.0 da Intel®
 - Contato em Ouro 15µ nos slots DIMM

- Slot de expansão**
- 1 x Slot PCI Express 3.0 x16 (PCIe1:modo x16)*
- * Suporta NVMe SSD nos discos de inicialização
- 2 x Slots PCI Express 2.0 x1

- Gráficos**
- Os gráficos incorporados Intel® UHD e as saídas VGA só podem ser suportados com processadores com GPU integrada.
 - Suporta gráficos incorporados Intel® UHD: Intel® Quick Sync Video com AVC, MVC (S3D) e MPEG-2 Full HW Encode1, Intel® InTru™ 3D, Tecnologia Intel® Clear Video HD, Intel® Insider™, Gráficos Intel® UHD
 - DirectX 12
 - HWAEncode/Decode: AVC/H.264, HEVC/H.265 8-bit, HEVC/H.265 10-bit, VP8, VP9 8-bit, VP9 10-bit (Decodificar apenas), MPEG2, MJPEG, VC-1 (Decodificar apenas)
 - Três opções de saída de gráficos: D-Sub, DVI-D e HDMI
- * Suporta até 2 monitores simultaneamente

- Suporta HDMI com resolução máx. até 4K x 2K (4096x2160) @ 30Hz
- Suporta DVI-D com resolução máxima de até 1920x1200 @ 60Hz
- Suporta D-Sub com resolução máxima de até 1920x1200 @ 60Hz
- Suporta Auto sincronização labial, Deep Color (12bpc), xvYCC e HBR (High Bit Rate Audio) com porta HDMI (É necessário um monitor compatível com HDMI)
- Suporta HDCP com Portas DVI-D e HDMI
- Suporta reprodução HD Ultra (UHD) 4K com Porta HDMI

Áudio

- Áudio 7.1 CH HD com proteção de conteúdo (Codec de áudio Realtek ALC887)

*Para configurar Áudio 7.1 CH HD, é necessário usar um módulo de áudio de painel frontal HD e habilitar o recurso de áudio multi-canal pelo driver de áudio.

- Suporta Proteção de Sobretenção
- Fones de Áudio ELNA

LAN

- LAN Gigabit a 10/100/1000 Mb/s
- Giga PHY Intel® I219V
- Suporta Wake-On-LAN
- Oferece Suporte à Proteção de Relâmpago/ESD
- Suporta Energy Efficient Ethernet 802.3az
- Suporta PXE

E/S do painel posterior

- 1 x Porta PS/2 para mouse/teclado
- 1 x Porta D-Sub
- 1 x Porta DVI-D
- 1 x Porta HDMI
- 4 x Portas USB 2.0 (Suporta Proteção ESD)
- 2 x Portas USB 3.1 Gen1 (Suporta Proteção ESD)
- 1 x Porta LAN RJ-45 com LED (LED ACT/LINK e LED DE VELOCIDADE)
- Fichas de áudio HD: Entrada de Linha / Autofalante Frontal / Microfone

Armazenamento

- 4 x Conectores SATA3 6,0 Gb/s, suporte NCQ, AHCI, Conector a Quente*
- * Se M2_1 é ocupado por um dispositivo tipo M2 SATA, SATA3_3 será desativado.
- 1 x Soquete M.2 (M2_1), suporta Chave M tipo 2230/2242/2260/2280 módulo M.2 SATA3 6,0 Gb/s e módulo M.2 PCI Express até Gen2 x4 (20 Gb/s)**
- ** Suporta NVMe SSD como discos de inicialização
- ** Suporta Kit ASRock U.2

Conector

- 1 x Suporte Porta Impressão
- 1 x Suporte porta COM
- 1 x Plataforma TPM
- 1 x Intrusão do Chassi e Cabeçote de Autofalante
- 1 x Conector da ventoinha da CPU (4 pinos)
- * O Conector do Ventilador de CPU suporta o ventilador de CPU de alimentação máxima 1A do ventilador (12W).
- 2 x Conectores de Ventilador de Chassi/Ventilador da Bomba de Água (4 pinos) (Controle de Velocidade de Ventoinha Inteligente)
- * O Ventilador de Chassi/Ventilador da Bomba de Água suporta o ventilador de refrigerador a água de 2A máximo (24W) potência do ventilador.
- * CHA_FAN1/WP e CHA_FAN2/WP podem detectar automaticamente se ventoinha de 3 pinos ou 4 pinos está em uso.
- 1 x Conector alimentação ATX 24 pinos
- 1 x Conector de energia 8-pinos 12V
- 1 x Conector de áudio do painel frontal
- 2 x Plataformas USB 2.0 (Suporta 4 portas USB 2.0) (Suporta Proteção ESD)
- 1 x Plataforma USB 3.1 Gen1 (Suporta 2 portas USB 3.1 Gen1) (Suporta Proteção ESD)
- * USB_11_12 é compartilhado com USB_9_10.

SO

- Microsoft® Windows® 10 64-bit

Specyfikacje

- Platforma**
- Współczynnik kształtu Micro ATX
 - Konstrukcja kondensatorami stałymi

- CPU**
- Obsługa 8^{-ej} generacji procesorów Intel® Core™ (Socket 1151)
 - Sekcja zasilania 4 Power Phase Design
 - Obsługa technologii Intel® Turbo Boost 2.0

- Chipset**
- Intel® H310

- Pamięć**
- Technologia pamięci Dual Channel DDR4
 - 2 x gniazda DDR4 DIMM
 - Obsługa pamięci DDR4 2666/2400/2133 non-ECC, pamięć niebuforowana
 - Maks. wielkość pamięci systemowej: 32GB
 - Obsługa Intel® Extreme Memory Profile (XMP) 2.0
 - 15μ pozłacane styki w gniazdach DIMM

- Gniazdo rozszerzenia**
- 1 x gniazdo PCI Express 3.0 x 16 (tryb PCIe1.x16)*
 - * Obsługa SSD NVMe, jako dysków rozruchowych
 - 2 x gniazda PCI Express 2.0 x1

- Grafika**
- Wbudowana grafika Intel® UHD i wyjścia VGA są obsługiwane wyłącznie z procesorami, które mają zintegrowane GPU.
 - Obsługa wbudowanej grafiki Intel® UHD: Intel® Quick Sync Video z AVC, MVC (S3D) i MPEG-2 Full HW Encode1, Intel® InTru™ 3D, Intel® Clear Video HD Technology, Intel® Insider™, grafika Intel® UHD
 - DirectX 12
 - Kodowanie/dekodowanie HWA: AVC/H.264, HEVC/H.265 8-bit, HEVC/H.265 10-bit, VP8, VP9 8-bit, VP9 10-bit (tylko dekodowanie), MPEG2, MJPEG, VC-1 (tylko dekodowanie)

- Opcje trzech wyjść graficznych: D-Sub, DVI-D i HDMI
- * Obsługa do 2 monitorów jednocześnie
- Obsługa HDMI z maks. rozdzielczością do 4K x 2K (4096x2160) przy 30Hz
- Obsługa DVI-D z maks. rozdzielczością do 1920x1200 przy 60Hz
- Obsługa D-Sub z maks. rozdzielczością do 1920x1200 przy 60Hz
- Obsługa Auto Lip Sync, Deep Color (12bpc), xvYCC i HBR (High Bit Rate Audio) z portami HDMI (Wymagany monitor zgodny z HDMI)
- Obsługa HDCP z portami DVI-D i HDMI
- Obsługa odtwarzania 4K Ultra HD (UHD) z portem HDMI

Audio

- Dźwięk HD 7.1 CH (kodek audio Realtek ALC887)
- * Aby skonfigurować dźwięk 7.1 CH HD wymagane jest użycie modułu panelu czołowego HD i włączenie funkcji dźwięku wielokanałowego za pośrednictwem sterownika audio.
- Obsługa zabezpieczenia przed przepięciami
- Nasadki audio ELNA

LAN

- Gigabit LAN 10/100/1000 Mb/s
- Giga PHY Intel® I219V
- Obsługa Wake-On-LAN
- Obsługa zabezpieczenia przed wyładowaniami atmosferycznymi/ESD
- Obsługa Energy Efficient Ethernet 802.3az
- Obsługa PXE

Tylny panel Wejścia/ Wyjścia

- 1 x port myszy/klawiatury PS/2
- 1 x port D-Sub
- 1 x port DVI-D
- 1 x port HDMI
- 4 x porty USB 2.0 (Obsługa zabezpieczenia ESD)
- 2 x porty USB 3.1 Gen1 (Obsługa zabezpieczenia ESD)
- 1 x porty LAN RJ-45 z LED (LED ACT/LINK i LED SPEED)
- Gniazda audio HD: Wejście liniowe / Głośnik przedni / Mikrofon

Przechowywanie

- 4 x złącza SATA3 6,0 Gb/s, obsługa NCQ, AHCI i Hot Plug*
- * Jeśli gniazdo M2_1 jest zajęte przez urządzenie M.2 typu SATA, zostanie wyłączone SATA3_3.
- 1 x gniazdo Ultra M.2 (M2_1), obsługa Key M typu 2230/2242/2260/2280 modułu M.2 SATA3 6,0 Gb/s i modułu M.2 PCI Express do Gen2 x4 (20 Gb/s)**
- ** Obsługa SSD NVMe, jako dysków rozruchowych
- ** Obsługa ASRock U.2 Kit

Złącze

- 1 x złącze główkowe portu drukarki
- 1 x złącze główkowe portu COM
- 1 x złącze główkowe TPM
- 1 x złącze główkowe naruszenia obudowy i głośnika
- 1 x złącze wentylatora CPU (4-pinowe)
- * Złącze wentylatora CPU obsługuje wentylator CPU maksymalnym prądem zasilania wentylatora 1A (12W).
- 2 x złącza wentylatora obudowy/pompy wodnej (4-pinowe) (Inteligentne sterowanie prędkością obrotową wentylatora)
- * Złącze wentylatora obudowy/pompy wodnej obsługuje wentylator układu chłodzenia maksymalnym prądem zasilania wentylatora 2A (24W).
- * CHA_FAN1/WP i CHA_FAN2/WP może automatycznie wykrywać, jeśli używany jest wentylator 3-pinowy lub 4-pinowy.
- 1 x 24 pinowe złącze zasilania ATX
- 1 x 8 pinowe złącze zasilania 12 V
- 1 x złącze audio na panelu przednim
- 2 x złącza główkowe USB 2.0 (Obsługa 4 portów USB 2.0) (Obsługa zabezpieczenia ESD)
- 1 x porty główkowe USB 3.1 Gen1 (obsługa 2 portów USB 3.1 Gen1) (obsługa zabezpieczenia ESD)
- * USB_11_12 jest współdzielone z USB_9_10.

System operacyjny

- Microsoft® Windows® 10 64-bitowy

규격

- 플랫폼**
- Micro ATX 폼 팩터
 - 솔리드 콘덴서 구조

- CPU**
- 8 세대 Intel® Core™ 프로세서 지원 (소켓 1151)
 - 4 개 전원 위상 구조
 - Intel® Turbo Boost 2.0 기술 지원

- 칩세트**
- Intel® H310

- 메모리**
- 듀얼 채널 DDR4 메모리 기술
 - DDR4 DIMM 슬롯 2 개
 - DDR4 2666/2400/2133 비 ECC, 비버퍼링 메모리 지원
 - 시스템 메모리 최대 용량 : 32GB
 - Intel® Extreme Memory Profile (XMP) 2.0 지원
 - DIMM 슬롯에 15 μ Gold Contact 장착

- 확장 슬롯**
- PCI Express 3.0 x16 슬롯 1 개 (PCIe1:x16 모드)*
 - * NVMe SSD 를 부팅 디스크로 사용 가능하도록 지원
 - PCI Express 2.0 x1 슬롯 2 개

- 그래픽**
- Intel® UHD 그래픽스 빌트 - 인 비주얼과 VGA 출력은 GPU 통합 프로세서로만 지원할 수 있습니다.
 - Intel® UHD 그래픽스 빌트 - 인 비주얼 지원 : AVC, MVC (S3D) 및 MPEG-2 풀 HW Encode1 지원 Intel® Quick Sync Video, Intel® InTru™ 3D, Intel® 클리어 비디오 HD 기술, Intel® Insider™, Intel® UHD 그래픽스
 - DirectX 12
 - HWA 인코드 / 디코드 : AVC/H.264, HEVC/H.265 8- 비트, HEVC/H.265 10- 비트, VP8, VP9 8- 비트, VP9 10- 비트 (디코딩 전용), MPEG2, MJPEG, VC-1 (디코딩 전용)
 - 그래픽 출력 옵션 세 개 : D-Sub, DVI-D 및 HDMI
 - * 최대 2 개의 디스플레이를 동시에 지원

- HDMI 지원 (최대 해상도 4K x 2K (4096x2160) @ 30Hz)
- DVI-D 지원 (최대 해상도 1920x1200 @ 60Hz)
- D-Sub 지원 (최대 해상도 1920x1200 @ 60Hz)
- Auto Lip Sync, Deep Color (12bpc), xvYCC 및 HBR (High Bit Rate Audio)(HDMI 포트 포함) 지원 (HDMI 호환 모니터 필요)
- DVI-D 및 HDMI 포트를 이용한 HDCP 지원
- HDMI 포트를 이용한 4K Ultra HD(UHD) 재생 지원

오디오

- 7.1 CH HD 오디오 (Realtek ALC887 오디오 코덱)
- * 7.1 CH HD 오디오를 구성하려면 HD 전면 패널 오디오 모듈을 사용하고 다채널 오디오 기능을 오디오 드라이버로 활성화해야 합니다.
- 서비 보호 지원
- ELNA 오디오 캡

LAN

- Gigabit LAN 10/100/1000 Mb/s
- Giga PHY Intel® I219V
- Wake-On-LAN 지원
- 번개 /ESD 보호 지원
- 절전형 이더넷 802.3az 지원
- PXE 지원

후면 패널 I/O

- PS/2 마우스 / 키보드 포트 1 개
- D-Sub 포트 1 개
- DVI-D 포트 1 개
- HDMI 포트 1 개
- USB 4 포트 2 개 (ESD 보호 지원)
- USB 3.1 Gen1 포트 2 개 (ESD 보호 지원)
- LED 장착 RJ-45 LAN 포트 1 개 (ACT/LINK LED 및 SPEED LED)
- HD 오디오 잭 : 라인 입력 / 전면 스피커 / 마이크

저장 장치

- SATA3 6.0 Gb/s 커넥터 4 개, NCQ, AHCI 및 “ 핫 플러그 ” 지원 *
- * SATA- 타입 M.2 장치에서 M2_1 을 사용 중이면, SATA3_3 이 비활성화됩니다.
- M.2 소켓 (M2_1) 1 개, M 키 타입 2230/2242/2260/2280 M.2 SATA3 6.0 Gb/s 모듈 및 Gen2 M.2 PCI Express 모듈을 4 개 (20 Gb/s) 까지 지원 **
- ** NVMe SSD 를 부팅 디스크로 사용 가능하도록 지원
- ** ASRock U.2 키트 지원

커넥터

- 인쇄 포트 헤더 1 개
- COM 포트 헤더 1 개
- TPM 헤더 1 개
- 새시 침입 및 스피커 헤더 1 개
- CPU 팬 커넥터 (4 핀) 1 개
- * CPU 팬 커넥터는 팬 전력이 최대 1A(12W) 인 CPU 팬을 지원 합니다.
- 새시 / 워터 펌프 팬 커넥터 (4 핀) 2 개 (스마트 팬 속도 제어)
- * 새시 / 워터 펌프 팬은 팬 전력이 최대 2A(24W) 인 수냉식 쿨러 팬을 지원 합니다.
- * 3 핀 또는 4 핀 팬이 사용 중인 경우, CHA_FAN1/WP 과 CHA_FAN2/WP 가 자동으로 감지할 수 있습니다.
- 24 핀 ATX 전원 커넥터 1 개
- 8 핀 12V 전원 커넥터 1 개
- 전면 패널 오디오 커넥터 1 개
- USB 2.0 헤더 2 개 (USB 2.0 포트 4 개 지원) (ESD 보호 지원)
- USB 3.1 Gen1 헤더 1 개 (USB 3.1 Gen1 포트 2 개 지원) (ESD 보호 지원)
- * USB_11_12 은 USB_9_10 과 공유합니다.

OS

- Microsoft® Windows® 10 64- 비트

仕様

プラットフォーム

- ・ マイクロ ATX フォームファクター
- ・ 固体コンデンサ設計

CPU

- ・ 第 8 世代 Intel® Core™ プロセッサに対応(ソケット 1151)
- ・ 4 電源フェーズ設計
- ・ Intel® ターボブースト 2.0 テクノロジーをサポート

チップセット

- ・ Intel® H310

メモリ

- ・ デュアルチャンネル DDR4 メモリ機能
- ・ 2 x DDR4 DIMM スロット
- ・ DDR4 2666/2400/2133 ノン ECC、アンバッファードメモリに対応
- ・ システムメモリの最大容量: 32GB
- ・ Intel® エクストリームメモリプロファイル(XMP)2.0 に対応
- ・ DIMM スロットに 15 μ ゴールドコンタクトを採用

拡張スロット

- ・ 1 x PCI Express 3.0 x16 スロット (PCIe1 : x16 モード)*
- * 起動ディスクとして NVMe SSD に対応
- ・ 2 x PCI Express 2.0 x1 スロット

グラフィックス

- ・ Intel® UHD グラフィックス内蔵ビジュアルおよび VGA 出力は、GPU に統合されたプロセッサのみでサポートされます。
- ・ Intel® UHD グラフィックス内蔵ビジュアルをサポート: AVC、MVC (S3D) および MPEG-2 Full HW Encode1 が装備された Intel® クイック・シンク・ビデオ、Intel® InTru™ 3D、Intel® クリア・ビデオ HD テクノロジー、Intel® Insider™、Intel® UHD グラフィックス
- ・ DirectX 12
- ・ HWA エンコード / デコード : AVC/H.264、HEVC/H.265 8-ビット、HEVC/H.265 10-ビット、VP8、VP9 8-ビット、VP9 10-ビット (デコードのみ)、MPEG2、MJPEG、VC-1 (デコードのみ)
- ・ 3 つのグラフィックス出力オプション : D-Sub、DVI-D、HDMI
- * 最大 2 台のディスプレイを同時に対応します

- HDMI に対応、最大解像度 4K x 2K (4096x2160) @ 30Hz
- DVI-D に対応、最大解像度 1920x1200 @60Hz
- D-Sub に対応、最大解像度 1920x1200 @60Hz
- HDMI ポートでオートリップシンク、ディープカラー (12bpc)、xvYCC、および、HBR (高ビットレートオーディオ) に対応 (HDMI 対応モニターが必要です)
- DVI-D ポートと HDMI ポートで HDCP に対応
- HDMI ポートで 4K Ultra HD (UHD) 再生に対応

オーディオ

- 7.1 CH HD オーディオ (Realtek ALC887 Audio Codec)
- *7.1 CH HD オーディオを設定するためには、HD フロントパネルのオーディオモジュールを使用し、オーディオドライバを通してマルチチャンネルオーディオ機能を有効にする必要があります。
- サージ保護に対応
 - ELNA 製オーディオコンデンサ

LAN

- ギガビット LAN 10/100/1000 Mb/s
- ギガ PHY Intel® I219V
- Wake-On-LAN (ウェイク オン ラン) に対応
- 雷 / 静電気放電 (ESD) 保護に対応
- エネルギー効率のよいイーサネット 802.3az をサポート
- PXE をサポート

リアパネル I/O

- 1 x PS/2 マウス / キーボードポート
- 1 x D-Sub ポート
- 1 x DVI-D ポート
- 1 x HDMI ポート
- 4 x USB 2.0 ポート (静電気放電 (ESD) 保護に対応)
- 2 x USB 3.1 Gen1 ポート (静電気放電 (ESD) 保護に対応)
- LED 付き 1 x RJ-45 LAN ポート (ACT/LINK LED と SPEED LED)
- HD オーディオジャック: ラインイン / フロントスピーカー / マイク

ストレージ

- 4 x SATA3 6.0 Gb/s コネクタ、NCQ、AHCI、および、ホットプラグ機能に対応 *
- * SATA タイプ M.2 デバイスで M2_1 を使用している場合は、SATA3_3 は無効になります。
- 1 x M.2 ソケット (M2_1)、M Key タイプ 2230/2242/2260/2280 M.2 SATA3 6.0 Gb/s モジュールと最大 Gen2 x4 (20 Gb/s) までの M.2 PCI Express モジュールに対応 **
- ** 起動ディスクとして NVMe SSD に対応
- ** ASRock U.2 キットに対応

コネクタ

- 1 x プリントポートヘッダー
- 1 x COM ポートヘッダー
- 1 x TPM ヘッダー
- 1 x シャーシインテリジェーションとスピーカーヘッダー
- 1 x CPU ファンコネクタ(4 ピン)
- * CPU ファンコネクタは最大 1A (12W) の電力の CPU ファンに対応します。
- 2 x シャーシ / ウォーターポンプファンコネクタ(4 ピン)(スマートファン速度制御)
- * シャーシ / ウォーターポンプファンは最大 2A (24W) の出力のウォータークーラーに対応します。
- * CPU_FAN1/WP および CHA_FAN2/WP は 3 ピンまたは 4 ピンファンが使用されているかどうかを自動検出できます。
- 1 x 24 ピン ATX 電源コネクタ
- 1 x 8 ピン 12V 電源コネクタ
- 1 x 前面パネルオーディオコネクタ
- 2 x USB 2.0 ヘッダー(4つの USB 2.0 ポートに対応)(静電気放電(ESD)保護に対応)
- 1 x USB 3.1 Gen1 ヘッダー(2つの USB 3.1 Gen1 ポートに対応)(静電気放電(ESD)保護に対応)
- * USB_11_12 は USB_9_10 と共有します。

OS

- Microsoft® Windows® 10 64-bit

规格

平台

- Micro ATX 规格尺寸
- 稳固的电容器设计

CPU

- 支持第 8 代 Intel® Core™ 处理器（插座 1151）
- 4 电源相设计
- 支持 Intel® Turbo Boost 2.0 技术

芯片集

- Intel® H310

内存

- 双通道 DDR4 内存技术
- 2 x DDR4 DIMM 槽
- 支持 DDR4 2666/2400/2133 非 ECC，非缓冲内存
- 支持系统内存最大容量：32GB
- 支持 Intel® Extreme Memory Profile (XMP) 2.0
- DIMM 插槽中 15 μ 金触点

扩充槽

- 1 x PCI Express 3.0 x16 插槽（PCIe1：x16 模式）*
- * 支持 NVMe SSD 用作启动盘
- 2 x PCI Express 2.0 x1 槽

图形

- 只有 GPU 集成的处理器才支持 Intel® UHD Graphics 内置视效和 VGA 输出。
- 支持 Intel® UHD Graphics 内置视效：Intel® 快速同步视频，采用 AVC、MVC (S3D) 和 MPEG-2 Full HW Encode1、Intel® InTru™ 3D、Intel® Clear Video HD 技术、Intel® Insider™、Intel® UHD Graphics
- DirectX 12
- HWA 编码 / 解码：AVC/H.264、HEVC/H.265 8-bit、HEVC/H.265 10-bit、VP8、VP9 8-bit、VP9 10-bit (仅解码)、MPEG2、MJPEG、VC-1 (仅解码)
- 3 个图形输出选项：D-Sub、DVI-D 和 HDMI
- * 同时最多支持两个 2 显示器

- 支持 HDMI，30Hz 时最大分辨率可达 4K x 2K (4096x2160)
- 支持 DVI-D，60Hz 时最大分辨率达 1920x1200
- 支持 D-Sub，60Hz 时最大分辨率达 1920x1200
- 通过 HDMI 端口（需要兼容的 HDMI 显示器）支持 Auto Lip Sync、Deep Color (12bpc), xvYCC 和 HBR（高位速率音频）
- 通过 DVI-D 和 HDMI 端口支持 HDCP
- 通过 HDMI 端口支持 4K 超高清 (UHD) 播放

音频

- 7.1 CH 高清音频 (Realtek ALC887 音频编解码器)
- * 要配置 7.1 CH 高清音频，需要使用高清前面板模块和通过音频驱动程序启用多通道音频功能。
 - 支持电涌保护
 - ELNA 音频电容

LAN

- Gigabit LAN 10/100/1000 Mb/s
- Giga PHY Intel® I219V
- 支持 Wake-On-LAN（网上唤醒）
- 支持雷电 /ESD 保护
- 支持高效以太网 802.3az
- 支持 PXE

后面板 I/O

- 1 x PS/2 鼠标 / 键盘端口
- 1 x D-Sub 端口
- 1 x DVI-D 端口
- 1 x HDMI 端口
- 4 x USB 2.0 端口 (支持 ESD 保护)
- 2 x USB 3.1 Gen1 端口 (支持 ESD 保护)
- 1 x RJ-45 LAN 端口，带 LED (ACT/LINK LED 和 SPEED LED)
- 高清音频插孔：线路输入 / 前扬声器 / 麦克风

存储

- 4 x SATA3 6.0 Gb/s 接口，支持 NCQ、AHCI 和热插拔 *
- * 如果 M2_1 被 SATA 型 M.2 设备占用，SATA3_3 将被禁用。
- 1 x M.2 接口 (M2_1)，支持 2230/2242/2260/2280 M.2 SATA3 6.0 Gb/s M Key 类型模块和 M.2 PCI Express 模块（最高 Gen2 x4 (20 Gb/s)）**
- ** 支持 NVMe SSD 用作启动盘
- ** 支持华擎 U.2 套件

接口

- 1 x 打印端口接脚
- 1 x COM 端口接头
- 1 x TPM 接脚
- 1 x 机箱侵入和扬声器接脚
- 1 x CPU 风扇接口 (4 针)
- * CPU 风扇接口支持最高 1A (12W) 功率的 CPU 风扇。
- 2 x 机箱 / 水泵风扇接口 (4 针) (智能风扇速度控制)
- * 机箱 / 水泵风扇支持最高 2A (24W) 功率的水冷风扇。
- * CHA_FAN1/WP 和 CHA_FAN2/WP 可以自动检测 3 针脚或 4 针脚风扇是否在使用。
- 1 x 24 针 ATX 电源接口
- 1 x 8 针 12V 电源接口
- 1 x 前面板音频接口
- 2 x USB 2.0 接脚 (支持 4 个 USB 2.0 端口，支持 ESD 保护)
- 1 x USB 3.1 Gen1 接脚 (支持 2 个 USB 3.1 Gen1 端口，支持 ESD 保护)
- * USB_11_12 与 USB_9_10 共用。

操作系统

- Microsoft® Windows® 10 64-bit

电子信息产品污染控制标示

依据中国发布的「电子信息产品污染控制管理办法」及 SJ/T 11364-2006 「电子信息产品污染控制标示要求」，电子信息产品应进行标示，藉以向消费者揭露产品中含有的有毒有害物质或元素不致发生外泄或突变从而对环境造成污染或对人身、财产造成严重损害的期限。依上述规定，您可于本产品之印刷电路板上看见图一之标示。图一中之数字为产品之环保使用期限。由此可知此主板之环保使用期限为 10 年。



图一

有毒有害物质或元素的名称及含量说明

若您欲了解此产品的有毒有害物质或元素的名称及含量说明，请参照以下表格及说明。

部件名称	有害物质或元素					
	铅 (Pb)	镉 (Cd)	汞 (Hg)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷电路板及电子组件	X	O	O	O	O	O
外部信号连接头及线材	X	O	O	O	O	O

O: 表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T 11363-2006 标准规定的限量要求以下。

X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11363-2006 标准规定的限量要求，然该部件仍符合欧盟指令 2002/95/EC 的规范。

备注: 此产品所标示之环保使用年限，系指在一般正常使用状况下。

規格

- 平台**
- Micro ATX 尺寸
 - 固態電容設計

- CPU**
- 支援第 8 代 Intel® Core™ 處理器 (Socket 1151)
 - 4 電源相位設計
 - 支援 Intel® Turbo Boost 2.0 技術

- 晶片組**
- Intel® H310

- 記憶體**
- 雙通道 DDR4 記憶體技術
 - 2 x DDR4 DIMM 插槽
 - 支援 DDR4 2666/2400/2133 非 ECC 無緩衝記憶體
 - 最大系統記憶體容量：32GB
 - 支援 Intel® Extreme Memory Profile (XMP) 2.0
 - 15 μ 特厚鍍金插槽

- 擴充插槽**
- 1 x PCI Express 3.0 x16 插槽 (PCIe1 : x16 模式)*
 - * 支援 NVMe SSD 作為開機磁碟
 - 2 x PCI Express 2.0 x1 插槽

- 顯示卡**
- 僅限整合 GPU 的處理器才可支援 Intel® UHD Graphics Built-in Visuals 及 VGA 輸出。
 - 支援 Intel® UHD Graphics Built-in Visuals : 轉換 AVC、MVC (S3D) 及 MPEG-2 Full HW Encode1 的 Intel® 高速影像同步轉檔技術、Intel® InTru™ 3D, Intel® Clear Video HD Technology、Intel® Insider™、Intel® UHD Graphics
 - DirectX 12
 - HWA 編碼 / 解碼：AVC/H.264, HEVC/H.265 8 位元、HEVC/H.265 10 位元、VP8, VP9 8 位元、VP9 10 位元 (僅解碼)、MPEG2、MJPEG、VC-1 (僅解碼)
 - 三個圖形輸出選項：D-Sub、DVI-D 及 HDMI
 - * 最高同時支援 2 台顯示器

- 支援最高可達 4K x 2K (4096x2160) @ 30Hz 解析度的 HDMI
- 支援最高可達 1920x1200 @ 60Hz 解析度的 DVI-D
- 支援最高可達 1920x1200 @ 60Hz 解析度的 D-Sub
- 支援使用 HDMI 連接埠（需相容於 HDMI 監視器）的 Auto Lip Sync、Deep Color (12bpc)、xvYCC 及 HBR（高位元率音訊）
- 支援含 DVI-D 及 HDMI 連接埠的 HDCP
- 支援使用 HDMI 連接埠進行 4K Ultra HD (UHD) 播放

音訊

- 7.1 CH HD 音訊 (Realtek ALC887 音訊轉碼器)
- * 若要設定 7.1 CH HD 音訊，必須使用 HD 前面板音訊模組，並透過音訊驅動程式啟用多聲道音訊功能。
 - 支援突波保護
 - ELNA 音響級電容

LAN

- Gigabit LAN 10/100/1000 Mb/s
- Giga PHY Intel® I219V
- 支援網路喚醒
- 支援雷擊／靜電保護
- 支援 Energy Efficient Ethernet 802.3az
- 支援 PXE

後面板 I/O

- 1 x PS/2 滑鼠／鍵盤連接埠
- 1 x D-Sub 連接埠
- 1 x DVI-D 連接埠
- 1 x HDMI 連接埠
- 4 x USB 2.0 連接埠（支援靜電保護）
- 2 x USB 3.1 Gen1 連接埠（支援靜電保護）
- 1 x RJ-45 LAN 連接埠，含 LED（ACT/LINK LED 及 SPEED LED）
- HD 音訊插孔：線路輸入／前置喇叭／麥克風

儲存裝置

- 4 x SATA3 6.0 Gb/s 接頭，支援 NCQ、AHCI 及「熱插拔」*
- * 若 M2_1 為 SATA 類型的 M.2 裝置佔用，將會停用 SATA3_3。
- 1 x M.2 插座 (M2_1)，支援 M Key 型 2230/2242/2260/2280 M.2 SATA3 6.0 Gb/s 模組與 M.2 PCI Express 模組（最高可達 Gen2 x4 (20 Gb/s)）**
- ** 支援 NVMe SSD 作為開機磁碟
- ** 支持華擎 U.2 套件

接頭

- 1 x 列印連接埠排針
- 1 x COM 連接埠排針
- 1 x TPM 排針
- 1 x 機殼防護及喇叭排針
- 1 x CPU 風扇接頭 (4-pin)
- * CPU 風扇接頭支援最高 1A (12W) 風扇功率的 CPU 風扇。
- 2 x 機殼/水冷幫浦風扇接頭 (4-pin) (智慧型風扇速度控制)
- * 機殼/水冷幫浦風扇接頭支援最高 2A (24W) 風扇功率的水冷風扇。
- * 如果 3-pin 或 4-pin 風扇使用中，可自動偵測 CHA_FAN1/WP 和 CHA_FAN2/WP。
- 1 x 24 pin ATX 電源接頭
- 1 x 8 pin 12V 電源接頭
- 1 x 前面板音訊接頭
- 2 x USB 2.0 排針 (支援 4 個 USB 2.0 連接埠) (支援靜電保護)
- 1 x USB 3.1 Gen1 排針 (支援 2 個 USB 3.1 Gen1 連接埠) (支援靜電保護)
- * USB_11_12 與 USB_9_10 共用插槽。

作業系統

- Microsoft® Windows® 10 64-bit

Spesifikasi

Platform

- Bentuk dan Ukuran Micro ATX
- Desain Kapasitor Solid

CPU

- Mendukung Prosesor Generasi ke-8 Intel® Core™ (Soket 1151)
- Desain 4 Fase Daya
- Mendukung Teknologi Intel® Turbo Boost 2.0

Chipset

- Intel® H310

Memori

- Teknologi Memori DDR4 Dua Saluran
- 2 x Slot DIMM DDR4
- Mendukung DDR4 2666/2400/2133 non-ECC, memori tanpa buffer
- Kapasitas maksimum memori sistem: 32GB
- Mendukung Intel® Extreme Memory Profile (XMP) 2.0
- 15µ Bidang Kontak Berwarna Emas di Slot DIMM

Slot Ekspansi

- 1 x Slot PCI Express 3.0 x16 (PCIe1:x16 mode)*
- * Mendukung SSD NVMe sebagai disk boot
- 2 x Slot PCI Express 2.0 x1

Grafis

- Intel® UHD Graphics Built-in Visuals dan output VGA hanya didukung dengan prosesor yang terintegrasi GPU.
- Mendukung Intel® UHD Graphics Built-in Visuals: Intel® Quick Sync Video dengan AVC, MVC (S3D) dan MPEG-2 Full HW Encode1, Intel® InTru™ 3D, Intel® Clear Video HD Technology, Intel® Insider™, Intel® UHD Graphics
- DirectX 12
- Encode/Decode HWA: AVC/H.264, HEVC/H.265 8-bit, HEVC/H.265 10-bit, VP8, VP9 8-bit, VP9 10-bit (hanya Decode), MPEG2, MJPEG, VC-1 (hanya Decode)
- Tiga pilihan output grafis: D-Sub, DVI-D, dan HDMI
- * Mendukung hingga 2 tampilan secara bersamaan

- Mendukung HDMI dengan resolusi maksimum hingga 4K x 2K (4096x2160) @ 30Hz
- Mendukung DVI-D dengan resolusi maksimum hingga 1920x1200 @ 60Hz
- Mendukung D-Sub dengan resolusi maksimum hingga 1920x1200 @ 60Hz
- Mendukung Auto Lip Sync, Kedalaman Warna (12bpc), xvYCC, dan HBR (Audio High Bit Rate) dengan Port HDMI (memerlukan monitor yang kompatibel dengan HDMI)
- Mendukung HDCP dengan port DVI-D dan HDMI
- Mendukung pemutaran Ultra HD 4K (UHD) dengan Port HDMI

Audio

- Audio HD 7.1 CH (Realtek ALC887 Audio Codec)
- * Untuk mengkonfigurasi Audio HD 7.1 CH, modul audio panel depan HD harus digunakan dan fitur audio multisaluran harus diaktifkan melalui driver audio.
- Mendukung Perlindungan dari Lonjakan Arus
- ELNA Audio Caps

LAN

- Gigabit LAN 10/100/1000 Mb/s
- Giga PHY Intel® I219V
- Mendukung Wake-On-LAN
- Mendukung Perlindungan dari Petir/ESD
- Mendukung Ethernet Hemat Energi 802.3az
- Mendukung PXE

I/O Panel Belakang

- 1 x Port Mouse/Keyboard PS/2
- 1 x Port D-Sub
- 1 x Port DVI-D
- 1 x Port HDMI
- 4 x Port USB 2.0 (Mendukung Perlindungan dari ESD)
- 2 x Port USB 3.1 Gen1 (Mendukung Perlindungan dari ESD)
- 1 x Port LAN RJ-45 dengan LED (LED ACT/LINK dan LED SPEED)
- Soket Audio HD: Saluran Masuk/Speaker Depan/Mikrofon

Penyimpanan

- 4 x Konektor SATA3 6,0 Gb/s, mendukung NCQ, AHCI, dan Hot Plug*
- * Jika M2_1 digunakan oleh perangkat SATA tipe M.2, maka SATA3_3 akan dinonaktifkan.
- 1 Soket M.2 (M2_1), yang mendukung jenis modul 2230/2242/2260/2280 M.2 SATA3 6,0 Gb/dtk dan modul M.2 PCI Express hingga Gen2 x4 (20 Gb/s)**
- ** Mendukung SSD NVMe sebagai disk boot
- ** Mendukung Kit ASRock U.2

Konektor

- 1 x Header Port Printer
- 1 x Header Port COM
- 1 x Header TPM
- 1 x Intrusi Chassis dan Header Speaker
- 1 x Konektor Kipas CPU (4-pin)
- * Konektor Kipas CPU mendukung kipas CPU dengan daya kipas maksimum 1A (12W).
- 2 x Konektor Sasis/Kipas Pompa Air (4-pin) (Kontrol Kecepatan Kipas Pintar)
- * Chassis/Kipas Pompa Air mendukung kipas berpendingin air dengan daya kipas maksimum 2A (24W).
- * CHA_FAN1/WP dan CHA_FAN2/WP dapat mendeteksi otomatis jika kipas 3-pin atau 4-pin sedang digunakan.
- 1 x Konektor Daya ATX 24 pin
- 1 x Konektor Daya 8 pin 12V
- 1 x Konektor Audio Panel Depan
- 2 x Header USB 2.0 (Mendukung 4 port USB 2.0) (Mendukung Perlindungan dari ESD)
- 1 x Header USB 3.1 Gen1 (Mendukung 2 port USB 3.1 Gen1) (Mendukung Perlindungan dari ESD)
- * USB_11_12 digunakan bersama USB_9_10.

OS

- Microsoft® Windows® 10 64-bit

Contact Information

If you need to contact ASRock or want to know more about ASRock, you're welcome to visit ASRock's website at <http://www.asrock.com>; or you may contact your dealer for further information. For technical questions, please submit a support request form at <https://event.asrock.com/tsd.asp>

ASRock Incorporation

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U.S.A.

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DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2.1077(a)



Responsible Party Name: ASRock Incorporation

Address: 13848 Magnolia Ave, Chino, CA91710

Phone/Fax No: +1-909-590-8308/+1-909-590-1026

hereby declares that the product

Product Name : Motherboard

Model Number : H310CM-HDV/M.2

Conforms to the following specifications:

FCC Part 15, Subpart B, Unintentional Radiators

Supplementary Information:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Representative Person's Name: James

Signature:

A handwritten signature in black ink, appearing to read 'James', written over a horizontal line.

Date : May 12, 2017

EU Declaration of Conformity



For the following equipment:

Motherboard

(Product Name)

H310CM-HDV/M.2 / ASRock

(Model Designation / Trade Name)

ASRock Incorporation

(Manufacturer Name)

2F., No.37, Sec. 2, Jhongyang S. Rd., Beitou District, Taipei City 112, Taiwan (R.O.C.)

(Manufacturer Address)

EMC —Directive 2014/30/EU (from April 20th, 2016)

EN 55022:2010/AC:2011 Class B

EN 55024:2010/A1:2015

EN 55032:2012+AC:2013 Class B

EN 61000-3-3:2013

EN 61000-3-2:2014

LVD —Directive 2014/35/EU (from April 20th, 2016)

EN 60950-1 : 2011+ A2: 2013

EN 60950-1 : 2006/A12: 2011

RoHS — Directive 2011/65/EU

CE marking

(EU conformity marking)



ASRock EUROPE B.V.

(Company Name)

Bijsterhuizen 1111 6546 AR Nijmegen The Netherlands

(Company Address)

Person responsible for making this declaration:

(Name, Surname)

A.V.P

(Position / Title)

July 20, 2018

(Date)

P/N: 15G062111000AK V1.0