



# X600D5-P1

User Manual

Version 1.0

Published January 2024



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](http://www.dtsc.ca.gov/hazardouswaste/perchlorate)”



## AUSTRALIA ONLY

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage caused by our goods. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

The terms HDMI™ and HDMI High-Definition Multimedia Interface, and the HDMI logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.



# Contents

|                                           |           |
|-------------------------------------------|-----------|
| <b>Chapter 1 Introduction</b>             | <b>1</b>  |
| 1.1 Package Contents                      | 1         |
| 1.2 Specifications                        | 2         |
| 1.3 Motherboard Layout                    | 5         |
| 1.4 Front Panel                           | 7         |
| 1.5 Rear Panel                            | 8         |
| <b>Chapter 2 Installation</b>             | <b>9</b>  |
| 2.1 Installing the CPU                    | 10        |
| 2.2 Installing the CPU Cooler             | 13        |
| 2.3 Installing Memory Modules (SO-DIMM)   | 14        |
| 2.4 Jumpers Setup                         | 16        |
| 2.5 Onboard Headers and Connectors        | 17        |
| 2.6 M.2 WiFi/BT Module Installation Guide | 19        |
| 2.7 M.2 SSD Module Installation Guide     | 21        |
| <b>Chapter 3 Auto Driver Installer</b>    | <b>23</b> |
| <b>Chapter 4 UEFI SETUP UTILITY</b>       | <b>24</b> |
| 4.1 Introduction                          | 24        |
| 4.1.1 UEFI Menu Bar                       | 24        |
| 4.1.2 Navigation Keys                     | 25        |
| 4.2 Main Screen                           | 26        |
| 4.3 OC Tweaker Screen                     | 27        |
| 4.4 Advanced Screen                       | 30        |

|        |                                         |    |
|--------|-----------------------------------------|----|
| 4.4.1  | CPU Configuration                       | 32 |
| 4.4.2  | Onboard Devices Configuration           | 33 |
| 4.4.3  | Storage Configuration                   | 34 |
| 4.4.4  | ACPI Configuration                      | 35 |
| 4.4.5  | Super IO Configuration                  | 37 |
| 4.6.6  | USB Configuration                       | 38 |
| 4.4.7  | Trusted Computing                       | 39 |
| 4.6.8  | AMD CBS                                 | 41 |
| 4.6.9  | AMD PBS                                 | 42 |
| 3.4.10 | AMD Overclocking                        | 43 |
| 4.5    | Tools                                   | 44 |
| 4.6    | Hardware Health Event Monitoring Screen | 45 |
| 4.7    | Security Screen                         | 47 |
| 4.8    | Boot Screen                             | 48 |
| 4.9    | Exit Screen                             | 50 |

# Chapter 1 Introduction

Thank you for purchasing X600D5-P1 motherboard. In this documentation, Chapter 1 and 2 contains the introduction of the motherboard and step-by-step installation guides. Chapter 3 contains the operation guide of the software and utilities. Chapter 4 contains the configuration guide of the BIOS setup.



*Because the motherboard specifications and the BIOS software might be updated, the content of this documentation will be subject to change without notice.*

## 1.1 Package Contents

- X600D5-P1 Motherboard
- 1 x Quick Installation Guide
- 1 x SATA Data with Power Cable (Optional)
- 2 x Screws for M.2 Sockets (Optional)
- 1 x Screw for WiFi Module (Optional)

# 1.2 Specifications

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Platform</b>       | <ul style="list-style-type: none"><li>• 6.7-in x 6.8-in, 17.0 cm x 17.2 cm</li><li>• Solid Capacitor design</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>CPU</b>            | <ul style="list-style-type: none"><li>• Supports AMD Socket AM5 Ryzen™ 8000 and 7000 Series Processors</li></ul> <p>Supports CPU up to 65W<br/>4+1+1 Power Phase design</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Chipset</b>        | <ul style="list-style-type: none"><li>• AMD X600</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Memory</b>         | <ul style="list-style-type: none"><li>• Dual Channel DDR5 Memory Technology</li><li>• 2 x DDR5 SO-DIMM Slots</li><li>• Supports DDR5 non-ECC, un-buffered memory up to 6400+(OC)*</li><li>• Max. capacity of system memory: 96GB</li></ul> <p>* Please refer to Memory Support List on ASRock's website for more information. (<a href="http://www.asrock.com/">http://www.asrock.com/</a>)</p>                                                                                                                                                                                                                                  |
| <b>Expansion Slot</b> | <ul style="list-style-type: none"><li>• 1 x M.2 Socket (Key E), supports type 2230 WiFi/BT module</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Graphics</b>       | <ul style="list-style-type: none"><li>• Integrated AMD RDNA™ graphics (Actual support may vary by CPU)</li><li>• Four graphics output options: 1x HDMI, 2 x DisplayPort 1.4, 1 x Type-C</li></ul> <p>* Supports up to 4 displays simultaneously</p> <ul style="list-style-type: none"><li>• 1 x HDMI 2.1 TMDS 8G Compatible, supports HDR, HDCP 2.3 and max. resolution up to 4K 120Hz</li><li>• 2 x DisplayPort 1.4 with DSC (compressed), supports HDCP 2.3 and max. resolution up to 4K 120Hz</li><li>• 1 x Type-C with USB4 for Ryzen™ 8000G Series Processors; with DP Alt mode for Ryzen™ 7000 Series Processors</li></ul> |
| <b>Audio</b>          | <ul style="list-style-type: none"><li>• Realtek ALC269 Audio Codec</li><li>• 1 x MIC IN</li><li>• 1 x Headset/Headphone</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

**LAN**

- 2.5 Gigabit LAN 10/100/1000/2500 Mb/s
- Dragon RTL8125BG
- Supports Dragon 2.5G LAN Software
  - Smart Auto Adjust Bandwidth Control
  - Visual User Friendly UI
  - Visual Network Usage Statistics
  - Optimized Default Setting for Game, Browser, and Streaming Modes
  - User Customized Priority Control

**Front  
Panel I/O**

- 1 x Power Button
- 1 x Headphone/Headset Jack
- 1 x USB 3.2 Gen1 Type-A Port
- 1 x USB 3.2 Gen1 Type-C Port
- 2 x USB 2.0 Ports
- 1 x Microphone Input Jack

**Rear Panel  
I/O**

- 1 x DC Jack (Compatible with the 19V power adapter)\*
- \* Please use 120W power adapter for 65W CPU and 90W power adapter for 35W CPU.
- 1 x HDMI Port
  - 2 x DisplayPort\*
- \* (1 x DP co-lay D-SUB)
- 4 x USB 3.2 Gen1 Type-A Ports
  - 1 x USB4 Type-C Port (40 Gb/s)\*
  - 1 x RJ-45 LAN Port
- \* USB4 for Ryzen™ 8000G Series Processors; USB 3.2 Gen2 (supports DP Alt mode) for Ryzen™ 7000 Series Processors

**Storage**

- CPU:
- 1 x Hyper M.2 Socket (M2\_1, Key M), supports type 2280 PCIe Gen4x4 (64 Gb/s) mode\*
  - 1 x Hyper M.2 Socket (M2\_2, Key M), supports type 2280 PCIe Gen4x4 (64 Gb/s) mode\*
- ASMedia ASM1061:
- 1x SATA3 6.0 Gb/s Connector

\* Supports NVMe SSD as boot disks

## RAID

- Supports RAID 0 and RAID 1 for M.2 NVMe storage devices

## Connector

- SPI TPM 2.0 IC (NUVOTON NPCT750) (Optional)
- 1 x COM Port Header
- 1 x Chassis Intrusion Header
- 1 x CPU Fan Connector (4-pin)

\* The CPU Fan Connector supports the CPU fan of maximum 1A (12W) fan power.

- 1 x Chassis Fan Connector (4-pin) (Smart Fan Speed Control)
- 1 x Mono-Out Header

## BIOS

### Feature

- AMI UEFI Legal BIOS with GUI support

## Hardware Monitor

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

## OS

- Microsoft® Windows® 10 64-bit

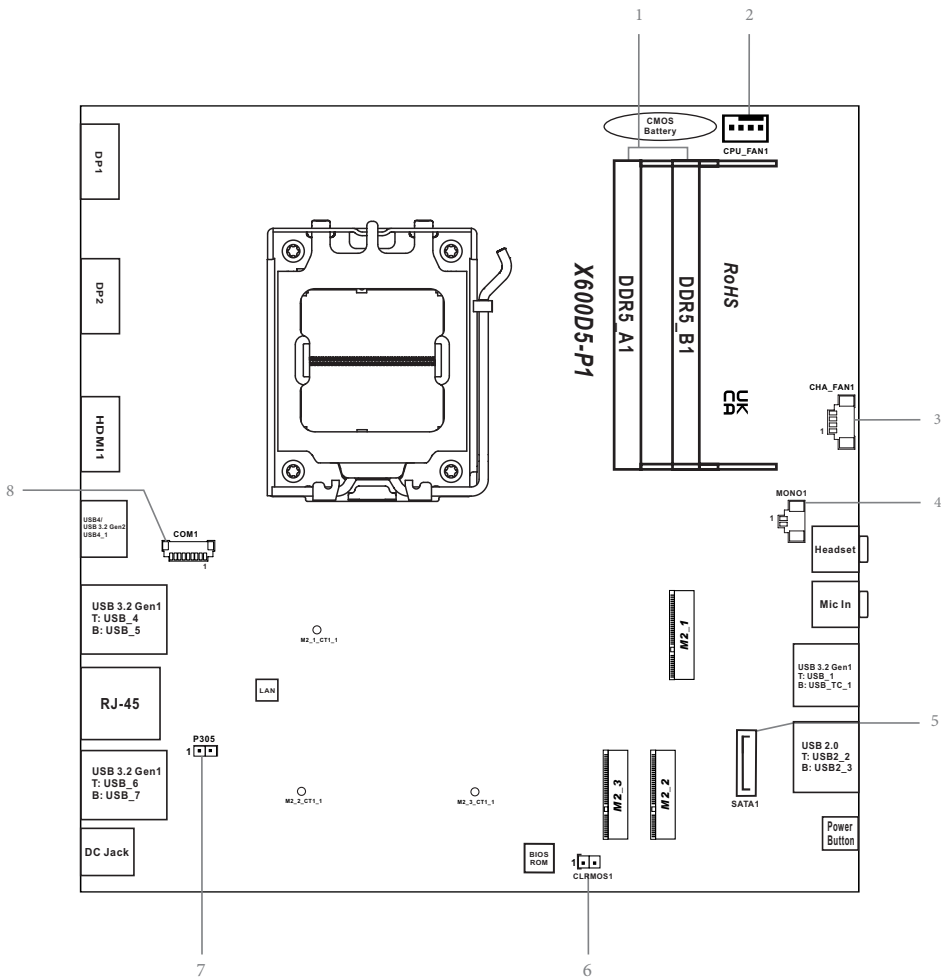
## Certifications

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



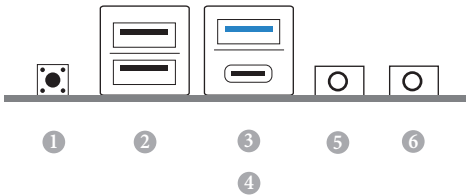
Please realize that there is a certain risk involved with overclocking, including adjusting the setting in the BIOS, applying Untied Overclocking Technology, or using third-party overclocking tools. Overclocking may affect your system's stability, or even cause damage to the components and devices of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

1.3 Motherboard Layout



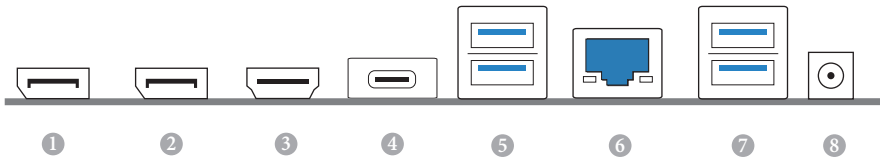
| No. | Description                                       |
|-----|---------------------------------------------------|
| 1   | 2 x 260-pin DDR5 SO-DIMM Slots (DDR5_A1, DDR5_B1) |
| 2   | CPU Fan Connector (CPU_FAN1)                      |
| 3   | Chassis Fan Connector (CHA_FAN1)                  |
| 4   | 2.5W Mono Out Speaker Header (MONO1)              |
| 5   | SATA3 Connector (SATA1)                           |
| 6   | Clear CMOS Jumper (CLRMOS1)                       |
| 7   | Chassis Intrusion Header (P305)                   |
| 8   | COM Port Header (COM1)                            |

1.4 Front Panel



| No. | Description                      | No. | Description                         |
|-----|----------------------------------|-----|-------------------------------------|
| 1   | Power Button (SW1)               | 4   | USB 3.2 Gen1 Type-C Port (USB_TC_1) |
| 2   | USB 2.0 Ports (USB2_2_3)         | 5   | Microphone Input                    |
| 3   | USB 3.2 Gen1 Type-A Port (USB_1) | 6   | Headphone/Headset Jack              |

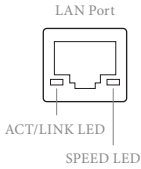
## 1.5 Rear Panel



| No. | Description                       | No. | Description                         |
|-----|-----------------------------------|-----|-------------------------------------|
| 1   | Display Port (DP1)                | 5   | USB 3.2 Gen1 Type-A Ports (USB_4_5) |
| 2   | Display Port (DP2)*(co-lay D-SUB) | 6   | 2.5G LAN RJ-45 Port**               |
| 3   | HDMI Port                         | 7   | USB 3.2 Gen1 Type-A Ports (USB_6_7) |
| 4   | USB4 Type-C Port*<br>(USB4_1)     | 8   | DC Jack***                          |

\* USB4 for Ryzen™ 8000G Series Processors; USB 3.2 Gen2 (supports DP Alt mode) for Ryzen™ 7000 Series Processors

\*\* 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/1Gbps connection |
| On                  | Link          | Green     | 2.5Gbps connection       |

\*\*\* Please use a 19V power adapter for the DC jack. This jack accepts dual barrel plugs with an inner diameter of 2.5 mm and an outer diameter of 5.5 mm, where the inner contact is +19 (±10%) DC and the shell is (centre positive).

Please use a 90W adapter for the 35W CPU and a 120W adapter for the 65W CPU.

This motherboard is available with support for either 4-pin ATX 19V power or DC-in power supplies. Please do not use two kinds of power supplies at the same time! Doing so may damage the motherboard components and devices. When you use the DC-in power adapter, please use the onboard SATA power connector to get the power for HDDs.

## Chapter 2 Installation

This is a Proprietary 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. Failure to do so may cause physical injuries to you 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.

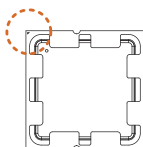
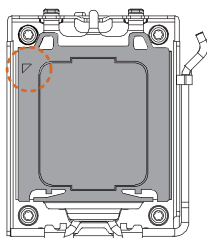
## 2.1 Installing the CPU



1. Before you insert the 1718-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.

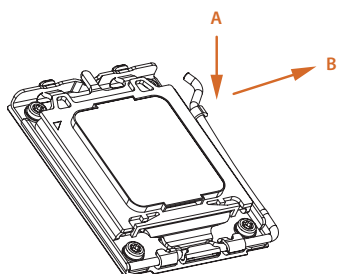


Tutorial Video

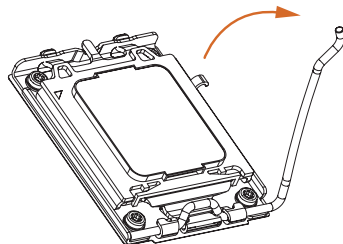


Turn your CPU to the correct orientation before opening the CPU socket cover.

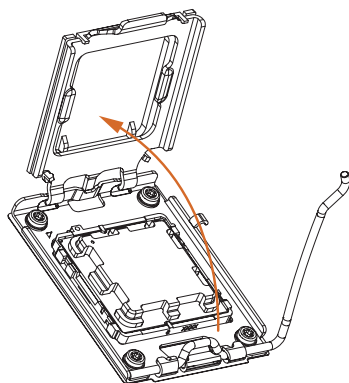
1



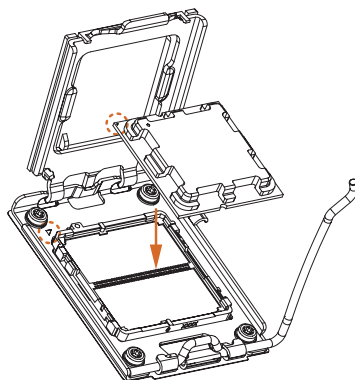
2



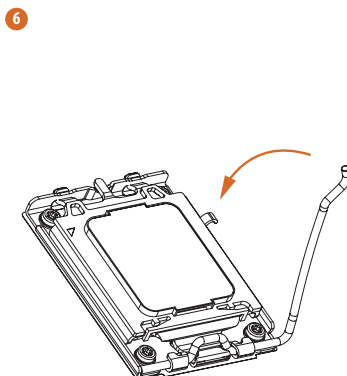
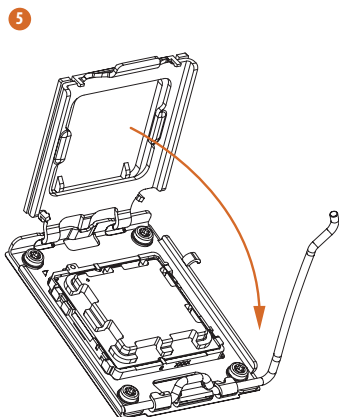
3



4

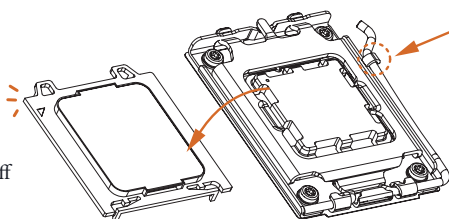


Carefully place the CPU in as flat as possible. Do not drop it.



Make sure the CPU is aligned with the socket before locking it into place.

7



Make sure the black cover plate is always in place until it pops off when closing the socket lever.



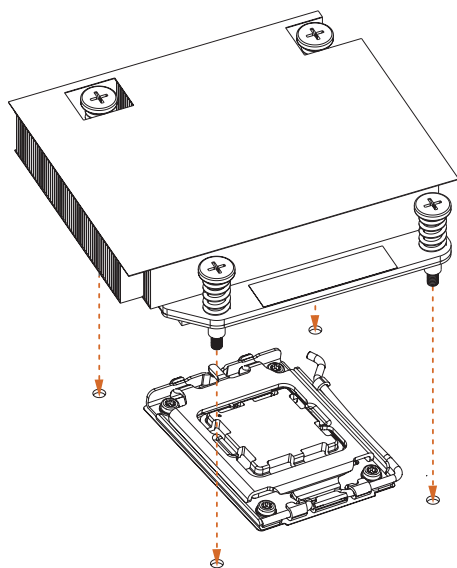
Please save the cover if the processor is removed. The cover must be placed if you wish to return the motherboard for after service.

## 2.2 Installing the CPU Cooler

After you install the CPU into this motherboard, it is necessary to install a larger heatsink and cooling fan to dissipate heat. You also need to spray thermal grease between the CPU and the heatsink to improve heat dissipation. Make sure that the CPU and the heatsink are securely fastened and in good contact with each other.



*Please turn off the power or remove the power cord before changing a CPU or heatsink.*



## 2.3 Installing Memory Modules (SO-DIMM)

This motherboard provides two 260-pin DDR5 (Double Data Rate 5) SO-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) DDR5 SO-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, DDR3 or DDR4 memory module into a DDR5 slot; otherwise, this motherboard and SO-DIMM may be damaged.
4. The SO-DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the SO-DIMM if you force the SO-DIMM into the slot at incorrect orientation.

### Recommended Memory Configuration

#### 1 DIMM



#### 2 DIMMs



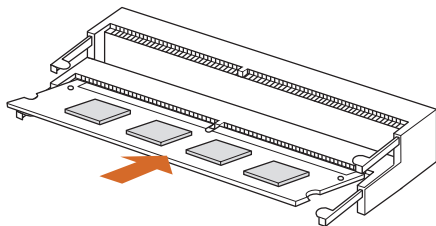
The first boot may take some time.

Please be patient and refer to the following table for booting time.

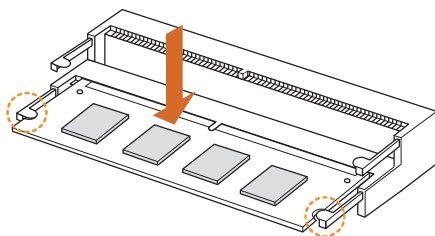
\*It may vary by different setups.

| Memory   | 1st boot after clear CMOS |
|----------|---------------------------|
| 2 x 16GB | 90 sec                    |
| 2 x 32GB | 150 sec                   |

1. Carefully insert the SO-DIMM memory modules into the slot at a 30-degree angle.

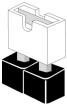


2. Push down until the modules snap into place.



## 2.4 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”.



Short



Open

Clear CMOS Jumper  
(CLRCMOS1)  
(see p.5, No. 6)



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.*

## 2.5 Onboard Headers and Connectors



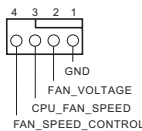
Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage to the motherboard.

Serial ATA3 Connector  
(SATA1:  
see p.5, No. 5)



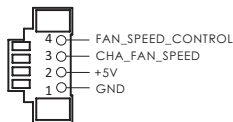
This SATA3 connector supports SATA data cables for internal storage devices with up to 6.0 Gb/s data transfer rate.

CPU Fan Connectors  
(4-pin CPU\_FAN1)  
(see p.5, No. 2)



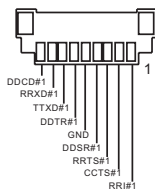
This motherboard provides a 4-Pin CPU fan (Quiet Fan) connector. If you plan to connect a 3-Pin CPU fan, please connect it to Pin 1-3.

Chassis Fan Connectors  
(4-pin CHA\_FAN1)  
(see p.5, No. 3)



Please connect fan cables to the fan connectors and match the black wire to the ground pin.

Serial Port Header  
(9-pin COM1)  
(see p.5, No.8)



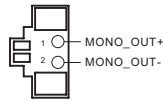
This COM1 header supports a serial port module.

Chassis Intrusion Header  
(2-pin P305)  
(see p.5, No. 7)



This motherboard supports CASE OPEN detection feature that detects if the chassis cove has been removed. This feature requires a chassis with chassis intrusion detection design.

2.5W Audio Amp Output  
Header  
(2-pin MONO1)  
(see p.5, No. 4)

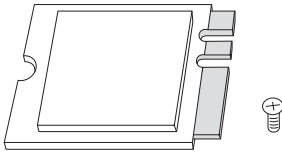


Please connect the chassis speaker to this header.

## 2.6 M.2 WiFi/BT Module Installation Guide

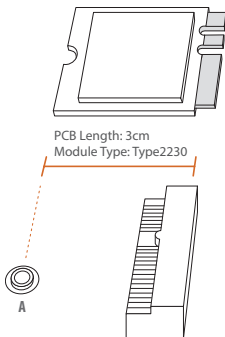
The M.2 is a small size and versatile card edge connector that aims to replace mPCIe and mSATA. The M.2 Socket (Key E) supports type 2230 WiFi/BT module.

### Installing the WiFi/BT module



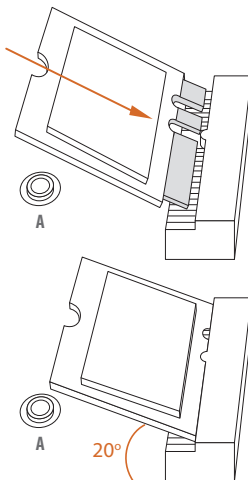
#### Step 1

Prepare a type 2230 WiFi/BT module and the screw.



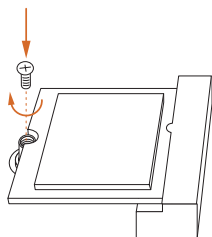
#### Step 2

Find the nut location to be used.



#### Step 3

Gently insert the WiFi/BT module into the M.2 slot. Please be aware that the module only fits in one orientation.



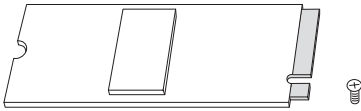
#### **Step 4**

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

## 2.7 M.2 SSD Module Installation Guide

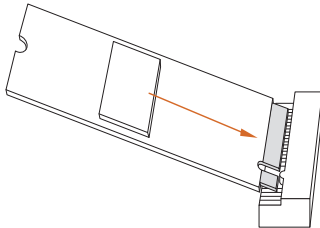
The M.2 is a small size and versatile card edge connector that aims to replace mPCIe and mSATA. The Hyper M.2 Sockets (M2\_1 and M2\_2, Key M) support type 2280 PCIe Gen4x4 (64 Gb/s) mode.

### Installing the M.2 SSD Module



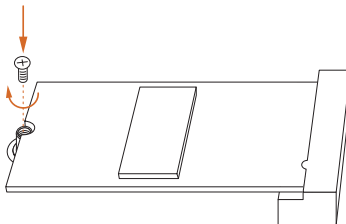
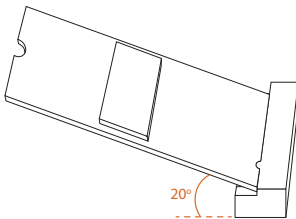
#### Step 1

Prepare a M.2 SSD Module and the screw.



#### Step 2

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



#### Step 3

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

## M.2 SSD Module Support List

| Vendor   | Interface | P/N                                            |
|----------|-----------|------------------------------------------------|
| ADATA    | PCIe      | ADATA ASX7000NPC-512GT-C (XPG SX7000) (NVMe)   |
| ADATA    | PCIe      | ADATA ASX8000NPC-512GM-C (XPG ASX8000) (NVMe)  |
| Apacer   | PCIe      | Apacer Z280 AP240GZ280-240G (NVMe)             |
| Intel    | PCIe      | Intel Optane Memory 32GB (MEMPEK1W032GA)(NVMe) |
| Intel    | PCIe      | Intel Optane Memory 16GB (MEMPEK1W016GA)(NVMe) |
| INTEL    | PCIe      | INTEL 600P-SSDPEKKW256G7-256GB (NVMe)          |
| INTEL    | PCIe      | INTEL 600P-SSDPEKKW128G7-128GB (NVMe)          |
| INTEL    | PCIe      | INTEL 6000P-SSDPEKKF256G7-256GB (NVMe)         |
| INTEL    | PCIe      | INTEL 6000P-SSDPEKKF512G7-512GB (NVMe)         |
| Kingston | PCIe      | Kingston SHPM2280P2/240G                       |
| PATRIOT  | PCIe      | PATRIOT Hellfire M2 (240G) (NVMe)              |
| PLEXTOR  | PCIe      | PLEXTOR PX-256M8PeG (NVMe)                     |
| PLEXTOR  | PCIe      | PLEXTOR PX-256M8SeGN (NVMe)                    |
| Samsung  | PCIe      | Samsung XP941-512G (MZHPU512HCGL)              |
| Samsung  | PCIe      | Samsung 950Pro-512G (NVMe)                     |
| Samsung  | PCIe      | Samsung 950Pro-256G (NVMe)                     |
| Samsung  | PCIe      | Samsung MZ-VLW1280 (PM961) (NVMe)              |
| Samsung  | PCIe      | Samsung MZ-VPW1280 (SM961) (NVMe)              |
| TOSHIBA  | PCIe      | TOSHIBA XG3-128G (NVMe)                        |
| TOSHIBA  | PCIe      | TOSHIBA OCZ RD400-256G (NVMe)                  |
| WD       | PCIe      | WD WDS512G1X0C-00ENX0 (NVMe)                   |
| WD       | PCIe      | WD WDS256G1X0C-00ENX0 (NVMe)                   |

For the latest updates of M.2 SSD module support list, please visit our website for details.

## Chapter 3 Auto Driver Installer

After you install the Windows OS and boot into the system, a notification will pop up to help you to install and update required drivers.



# Chapter 4 UEFI SETUP UTILITY

## 4.1 Introduction

This section explains how to use the UEFI SETUP UTILITY to configure your system. You may run the UEFI SETUP UTILITY by pressing <F2> or <Del> right after you power on the computer, otherwise, the Power-On-Self-Test (POST) will continue with its test routines. If you wish to enter the UEFI SETUP UTILITY after POST, restart the system by pressing <Ctl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis. You may also restart by turning the system off and then back on.



*Because the UEFI software is constantly being updated, the following UEFI setup screens and descriptions are for reference purpose only, and they may not exactly match what you see on your screen.*

### 4.1.1 UEFI Menu Bar

The top of the screen has a menu bar with the following selections:

|                    |                                                   |
|--------------------|---------------------------------------------------|
| <b>Main</b>        | For setting system time/date information          |
| <b>OC Tweaker</b>  | For overclocking configurations                   |
| <b>Advanced</b>    | For advanced system configurations                |
| <b>Tool</b>        | Useful tools                                      |
| <b>H/W Monitor</b> | Displays current hardware status                  |
| <b>Security</b>    | For security settings                             |
| <b>Boot</b>        | For configuring boot settings and boot priority   |
| <b>Exit</b>        | Exit the current screen or the UEFI Setup Utility |

## 4.1.2 Navigation Keys

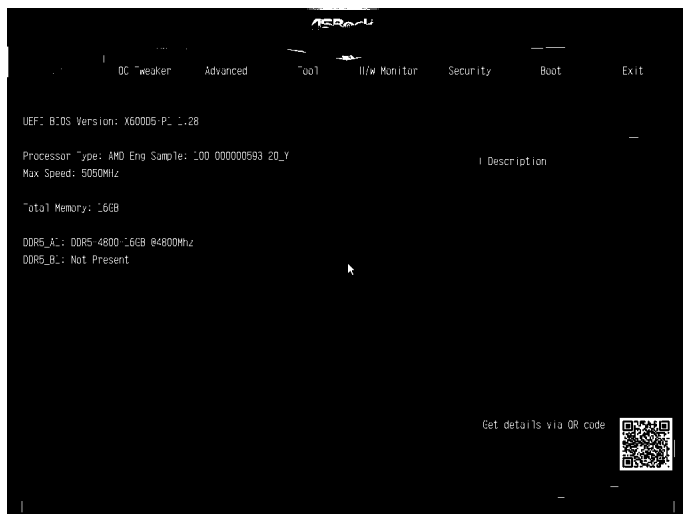
Use <←> key or <→> key to choose among the selections on the menu bar, and use <↑> key or <↓> key to move the cursor up or down to select items, then press <Enter> to get into the sub screen. You can also use the mouse to click your required item.

Please check the following table for the descriptions of each navigation key.

| Navigation Key(s) | Description                                        |
|-------------------|----------------------------------------------------|
| + / -             | To change option for the selected items            |
| <Tab>             | Switch to next function                            |
| <PGUP>            | Go to the previous page                            |
| <PGDN>            | Go to the next page                                |
| <HOME>            | Go to the top of the screen                        |
| <END>             | Go to the bottom of the screen                     |
| <F1>              | To display the General Help Screen                 |
| <F7>              | Discard changes and exit the SETUP UTILITY         |
| <F9>              | Load optimal default values for all the settings   |
| <F10>             | Save changes and exit the SETUP UTILITY            |
| <F12>             | Print screen                                       |
| <ESC>             | Jump to the Exit Screen or exit the current screen |

## 4.2 Main Screen

When you enter the UEFI SETUP UTILITY, the Main screen will appear and display the system overview.



### 4.3 OC Tweaker Screen

In the OC Tweaker screen, you can set up overclocking features.



*Because the UEFI software is constantly being updated, the following UEFI setup screens and descriptions are for reference purpose only, and they may not exactly match what you see on your screen.*

#### Performance Preset

Use the ASRock Performance Preset.

#### Platform Thermal Throttle Limit (TjMax)

Allows the user to decrease the maximum allowed processor temperature (celsius).

#### CPU Overclocking

Allows you to configure CPU overclocking settings.

[Auto] Select this item to apply the default BCLK Delay setting.

[Customize] Select this item to customize BCLK Delay setting.

#### GFX Overclocking

Allows you to configure GFX overclocking settings.

[Auto] Select this item to apply the default BCLK Delay setting.

[Customize] Select this item to customize BCLK Delay setting.

## DRAM Frequency

If [Auto] is selected, the motherboard will detect the memory module(s) inserted and assign the appropriate frequency automatically. Setting DRAM Frequency can adjust DRAM Timing.

## DRAM Profile Configuration

Load EXPO/XMP settings to overclock the DDR5 memory and perform beyond standard specifications.

## DRAM Timing Configuration

### VDDIO Voltage (VDDIO\_MEM\_S3)

DDR5 bus signaling (PHY) is derived from VDDIO\_MEM\_S3.

### DRAM VDD Voltage

Use this item to configure the VDD Voltage supported by PMIC at DRAM side.

### DRAM VDDQ Voltage

Use this item to configure the VDDQ Voltage supported by PMIC at DRAM side.

### DRAM VPP Voltage

Use this item to configure the VPP Voltage supported by PMIC at DRAM side.

## Infinity Fabric Frequency and Dividers

AMD Overclocking Setup Set Infinity Fabric frequency (FCLK). Auto: FCLK = MCLK. Manual: FCLK must be less than or equal to MCLK for best performance in most cases. Latency penalties are incurred if FCLK and MCLK are mismatched, but sufficiently high MCLK can negate or overcome this penalty.

### UCLK DIV1 MODE

Use this item to set UCLK DIV1 MODE.

### SoC/Uncore OC Voltage(VDD\_SOC)

Allows you to specify the SoC/Uncore voltage (VDD\_SOC) to support memory and Infinity Fabric overclocking. VDD\_SOC also determines the GPU voltage on processors with integrated graphics.

### VDD Misc Voltage

Allows you to configure the PCIe, DP Phy, PLL, ClkGen, and Pmux Supply.

### VDDG CCD Voltage

VDDG CCD represents voltage for the data portion of the Infinity Fabric. It is derived from the CPU SoC/Uncore Voltage (VDD\_SOC). VDDG can approach but not exceed VDD\_SOC.

### VDDG IOD Voltage

VDDG IOD represents voltage for the data portion of the Infinity Fabric. It is derived from the CPU SoC/Uncore Voltage (VDD\_SOC). VDDG can approach but not exceed VDD\_SOC.

### VDDP Voltage

VDDP is a voltage for the DDR bus signaling (PHY), and it is derived from your DRAM Voltage (VDDIO\_Mem). As a result, VDDP voltage can approach but not exceed your DRAM Voltage.

### Overclock mode (Bus Speed)

Use this item to set overclock mode.

### External Voltage Settings

Press [Enter] to configure the voltage options.

### Save User Default

Type a profile name and press enter to save your settings as user default.

### Load User Default

Load previously saved user defaults.

### Save User UEFI Setup Profile to Disk

Save current UEFI settings as an user default profile to disk.

### Load User UEFI Setup Profile to Disk

Load previously saved user defaults from the disk.

## 4.4 Advanced Screen

In this section, you may set the configurations for the following items: CPU Configuration, Onboard Devices Configuration, Storage Configuration, ACPI Configuration, Super IO Configuration, USB Configuration, Trusted Computing, AMD CBS, AMD PBS and AMD Overclocking.



*Setting wrong values in this section may cause the system to malfunction.*

### UEFI Configuration

#### Mouse Relative Movement Delta

Allows you to set Mouse Relative Movement Delta. Relative Mouse is a method of translating mouse movements as a delta from the last mouse position rather than a move to an absolute position on the screen.

#### Active Page on Entry

Allows you to select the default page when entering the UEFI setup utility.

Configuration options: [Main] [OC Tweaker] [Advanced] [Tool] [H/W Monitor] [Security] [Boot] [Exit]

## Full HD UEFI

When [Auto] is selected, the resolution will be set to 1920 x 1080 if the monitor supports Full HD resolution. If the monitor does not support Full HD resolution, then the resolution will be set to 1024 x 768. When [Disable] is selected, the resolution will be set to 1024 x 768 directly.

## 4.4.1 CPU Configuration



### PSS Support

Use this to enable or disable the generation of ACPI\_PPC, \_PSS, and \_PCT objects.

### NX Mode

Use this to enable or disable NX mode.

### SMT Mode

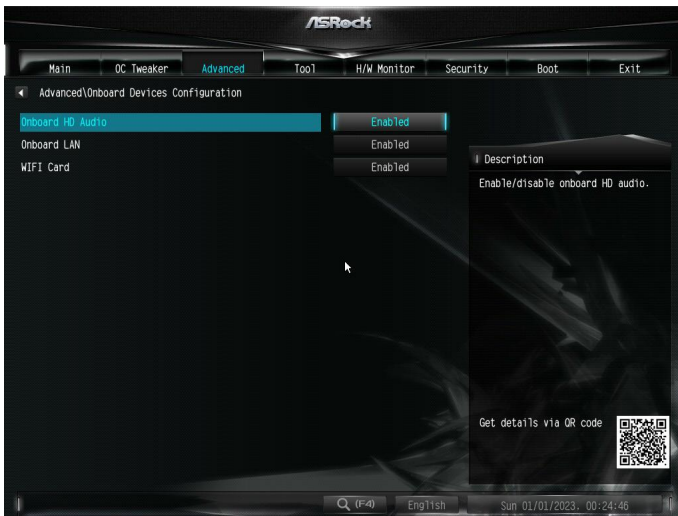
This item can be used to disable symmetric multithreading. To re-enable SMT, a power cycle is needed after selecting [Auto].

Warning: S3 is not supported on systems where SMT is disabled.

### AVX512

Enable/Disable the AVX512 Instructions.

## 4.4.2 Onboard Devices Configuration



### Onboard HD Audio

Enable/disable onboard HD audio.

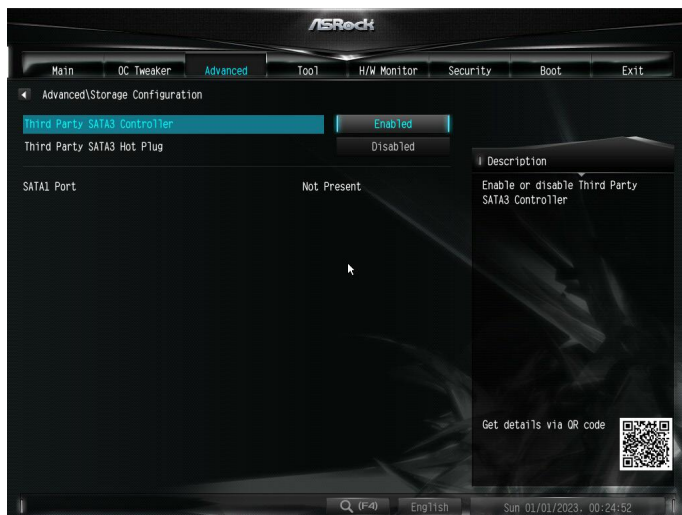
### Onboard LAN

Enable or disable the onboard network interface controller

### WIFI Card

Enable/disable the WIFI Card.

## 4.4.3 Storage Configuration



### Third Party SATA 3 Controller

Enable or disable the third party SATA3 controller.

### Third Party SATA3 Hot Plug

Enable or disable the third party SATA3 controller.

### 4.4.4 ACPI Configuration



#### Suspend to RAM

It is recommended to select auto for ACPI S3 power saving.

Configuration options: [Disabled] [Auto]

#### Restore on AC/Power Loss

Allows you to select the power state after a power failure.

[Power Off] Select this item and the power will remain off when the power recovers.

[Power On] Select this item and the system will start to boot up when the power recovers.

Configuration options: [Power On] [Power Off]

#### Deep Sleep

Allows you to configure deep sleep mode for power saving when the computer is shut down. We recommend disabling Deep Sleep for better system compatibility and stability.

Configuration options: [Disabled] [Enabled in S5] [Enabled in S4 & S5]

## USB Power delivery in Soft Off state (S5)

If this option is enabled, the USB port will provide power to your devices even when the system is in Power State S5.

## PCIE Devices Power On

[Enabled] Select this item to allow the system to be waked up by a PCIE device and enable wake on LAN.

[Disabled] Select this item to disallow the system to be waked up by a PCIE device and disable wake on LAN.

## RTC Alarm Power On

[Enabled]

Select this item to allow the system to be waked up by the real time clock alarm.

[Disabled]

Select this item to disallow the system to be waked up by the real time clock alarm.

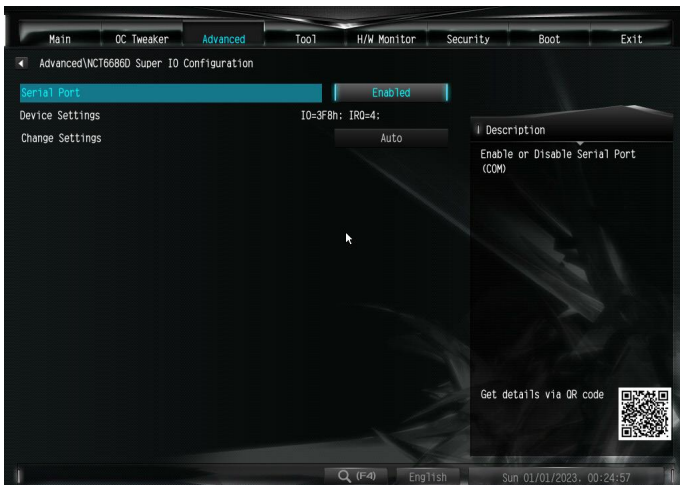
[By OS]

Select this item to let it be handled by your operating system.

## Ring-In Power On

Allow the system to be waked up by onboard COM port modem Ring-In signals.

## 4.4.5 Super IO Configuration



### Serial Port

Enable or disable the Serial port.

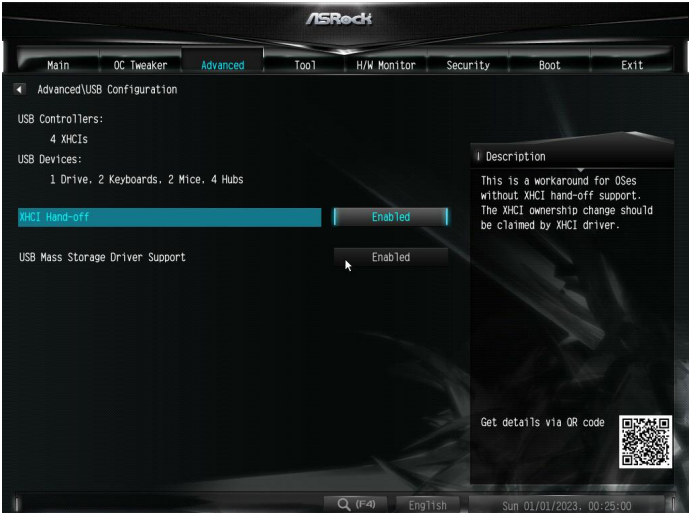
### Device Settings

Select the device mode according to your connected device.

### Change Settings

Select the address of the Parallel port.

# 4.6.6 USB Configuration



## XHCI Hand-off

This is a workaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.

### 4.4.7 Trusted Computing



NOTE: Options vary depending on the version of your connected TPM module.

#### Security Device Support

Use this item to enable or disable BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available.

#### SHA-1 PCR Bank

Use this item to enable or disable SHA-1 PCR Bank.

#### SHA256 PCR Bank

Use this item to enable or disable SHA256 PCR Bank.

#### Pending Operation

Schedule an Operation for the Security Device.

NOTE: Your computer will reboot during restart in order to change State of the Device.

#### Platform Hierarchy

Use this item to enable or disable Platform Hierarchy.

#### Storage Hierarchy

Use this item to enable or disable Storage Hierarchy.

#### Endorsement Hierarchy

Use this item to enable or disable Endorsement Hierarchy.

## TPM2.0 UEFI Spec Version

Use this item to select the TCG2 spec. version supported.

The optional settings: [TCG\_1\_2]; [TCG\_2].

[TCG\_1\_2]: compatible mode for Win8/Win10.

[TCG\_2]: for TCG2 newer spec. compatible mode for Win10

## Physical Presence Spec version

Select this item to tell OS to support PPI spec version 1.2 or 1.3. Please note that some HCK tests might not support version 1.3.

## Device Select

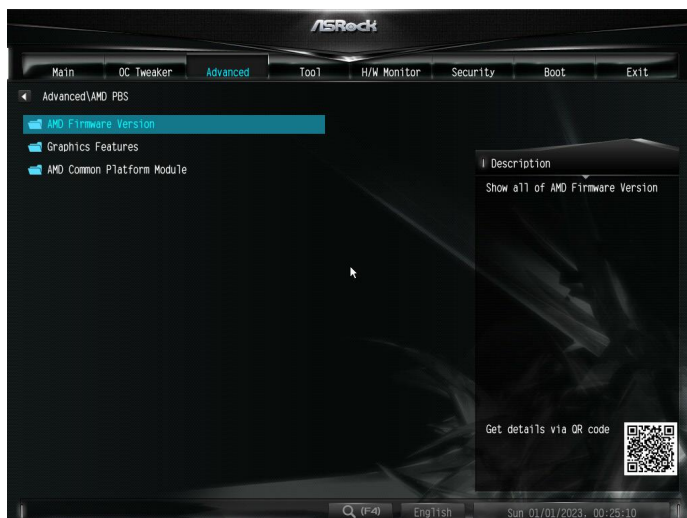
Use this item to select the TPM device to be supported. TPM 1.2 will restrict support to TPM 1.2 devices. TPM 2.0 will restrict support to TPM 2.0 devices. Auto will support both with the default set to TPM 2.0 devices. If TPM 2.0 devices are not found, TPM 1.2 devices will be enumerated.

### 4.6.8 AMD CBS



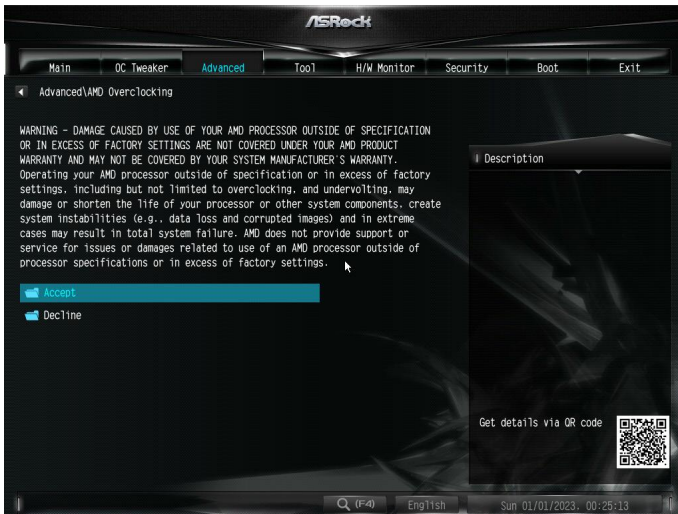
The AMD CBS menu accesses AMD specific features.

## 4.6.9 AMD PBS



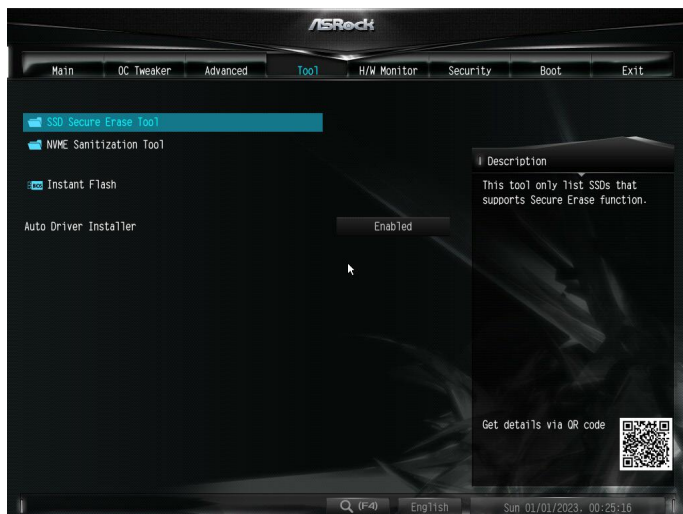
The AMD PBS menu accesses AMD specific features.

### 3.4.10 AMD Overclocking



The AMD Overclocking menu accesses options for configuring CPU frequency and voltage.

## 4.5 Tools



### SSD Secure Erase Tool

Use this tool to securely erase SSD. This tool only lists the SSDs that support the Secure Erase function.

### NVME Sanitization Tool

After you Sanitize SSD, all user data will be permanently destroyed on the SSD and cannot be recovered.

### Instant Flash

Save UEFI files in your USB storage device and run Instant Flash to update your UEFI.

### Auto Driver Installer

If Auto Driver Installer is enabled, a notification will pop up to help users to install and update required drivers after booting into the system.

## 4.6 Hardware Health Event Monitoring Screen

This section allows you to monitor the status of the hardware on your system, including the parameters of the CPU temperature, motherboard temperature, fan speed and voltage.



### CPU Fan 1 Setting

Select a fan mode for CPU Fan 1, or choose Customize to set 5 CPU temperatures and assign a respective fan speed for each temperature.

### Chassis Fan 1 Setting

Select a fan mode for Chassis Fan 1, or choose Customize to set 5 CPU temperatures and assign a respective fan speed for each temperature.

### Chassis Fan 1 Temp Source

Select a fan temperature source for Chassis Fan 1.

### Fan-Tastic

Allows you to select a fan mode for Fan, or choose [Customize] to set 5 CPU temperatures and assign a respective fan speed for each temperature.

### FanTuning

When selected, the BIOS will proceed to detect the lowest fan speeds for fans connected to the motherboard. This process will take a few minutes to complete.

---

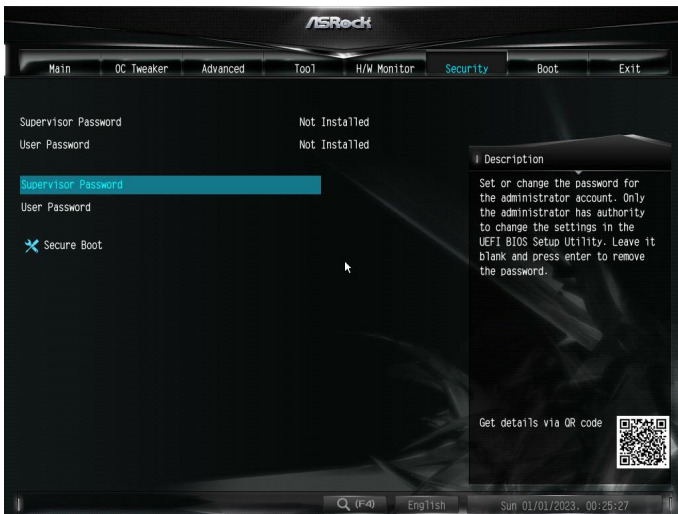
Note: Please note CAM settings applied within the OS will overwrite settings made within the BIOS.

## Case Open Feature

Enable or disable Case Open Feature to detect whether the chassis cover has been removed.

## 4.7 Security Screen

In this section you may set or change the supervisor/user password for the system. You may also clear the user password.



### Supervisor Password

Set or change the password for the administrator account. Only the administrator has authority to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.

### User Password

Set or change the password for the user account. Users are unable to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.

### Secure Boot

Enable to support Secure Boot.

## 4.8 Boot Screen

This section displays the available devices on your system for you to configure the boot settings and the boot priority.



### CSM

Enable to launch the Compatibility Support Module. Please do not disable unless you're running a WHCK test.

### Launch PXE OpROM Policy

Select UEFI only to run those that support UEFI option ROM only. Select Legacy only to run those that support legacy option ROM only. Select Do not launch to not execute both legacy and UEFI option ROM.

### Launch Storage OpROM Policy

Select UEFI only to run those that support UEFI option ROM only. Select Legacy only to run those that support legacy option ROM only. Select Do not launch to not execute both legacy and UEFI option ROM.

### Setup Prompt Timeout

Configure the number of seconds to wait for the setup hot key.

### Bootup Num-Lock

Select whether Num Lock should be turned on or off when the system boots up.

## Full Screen Logo

Enable to display the boot logo or disable to show normal POST messages.

## Fast Boot

Fast Boot minimizes your computer's boot time. In fast mode you may not boot from an USB storage device.

## 4.9 Exit Screen



### Save Changes and Exit

When you select this option the following message, “Save configuration changes and exit setup?” will pop out. Select [OK] to save changes and exit the UEFI SETUP UTILITY.

### Discard Changes and Exit

When you select this option the following message, “Discard changes and exit setup?” will pop out. Select [OK] to exit the UEFI SETUP UTILITY without saving any changes.

### Discard Changes

When you select this option the following message, “Discard changes?” will pop out. Select [OK] to discard all changes.

### Load UEFI Defaults

Load UEFI default values for all options. The F9 key can be used for this operation.

### Launch EFI Shell from filesystem device

Copy shellx64.efi to the root directory to launch EFI Shell.

# DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2.1077(a)



**Product Name : Motherboard**

**Model Number : X600D5-P1**

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.

# EU Declaration of Conformity

For the following equipment:

**Motherboard**

(Product Name)

**X600D5-P1**

(Model Designation / Trade Name)

**EMC Directive – 2014/30/EU**

EN 55032: 2015 / A11: 2020, EN 55035: 2017 / A11: 2020  
EN IEC 61000-3-2: 2019, EN 61000-3-3: 2013

**RoHS Directive - 2011/65/EU**

2015/863/EU, EN IEC 63000:2018



(EU conformity marking)