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› ASUS Prime X670-P WiFi Motherboard User Manual

ASUS PRIME X670-P WIFI

ASUS Prime X670-P WiFi Motherboard User Manual

Model: PRIME X670-P WIFI

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your ASUS Prime X670-P WiFi motherboard. Please read this manual thoroughly before installing or using the product to ensure correct setup and optimal performance.



2. PACKAGE CONTENTS

Verify that all components are present in the package before proceeding with installation. If any items are missing or damaged, contact your retailer.

- ASUS Prime X670-P WiFi Motherboard
- Wi-Fi Antenna
- SATA Cables
- M.2 Screw Package
- M.2 Rubber Package
- Rear I/O Panel Shield
- User Guide



Image: An overview of the items typically found inside the product box, including the motherboard, Wi-Fi antenna, SATA cables, M.2 accessories, I/O shield, and user guide.

3. SETUP AND INSTALLATION

Follow these steps for proper installation of the motherboard and its components.

3.1 Safety Precautions

- Always disconnect the power supply from the wall outlet before touching any components.
- Wear an anti-static wrist strap or frequently touch a grounded metal object to discharge static electricity.
- Handle components by their edges to avoid touching sensitive circuitry.

3.2 Motherboard Layout and Components

Enhanced Power Delivery and Cooling

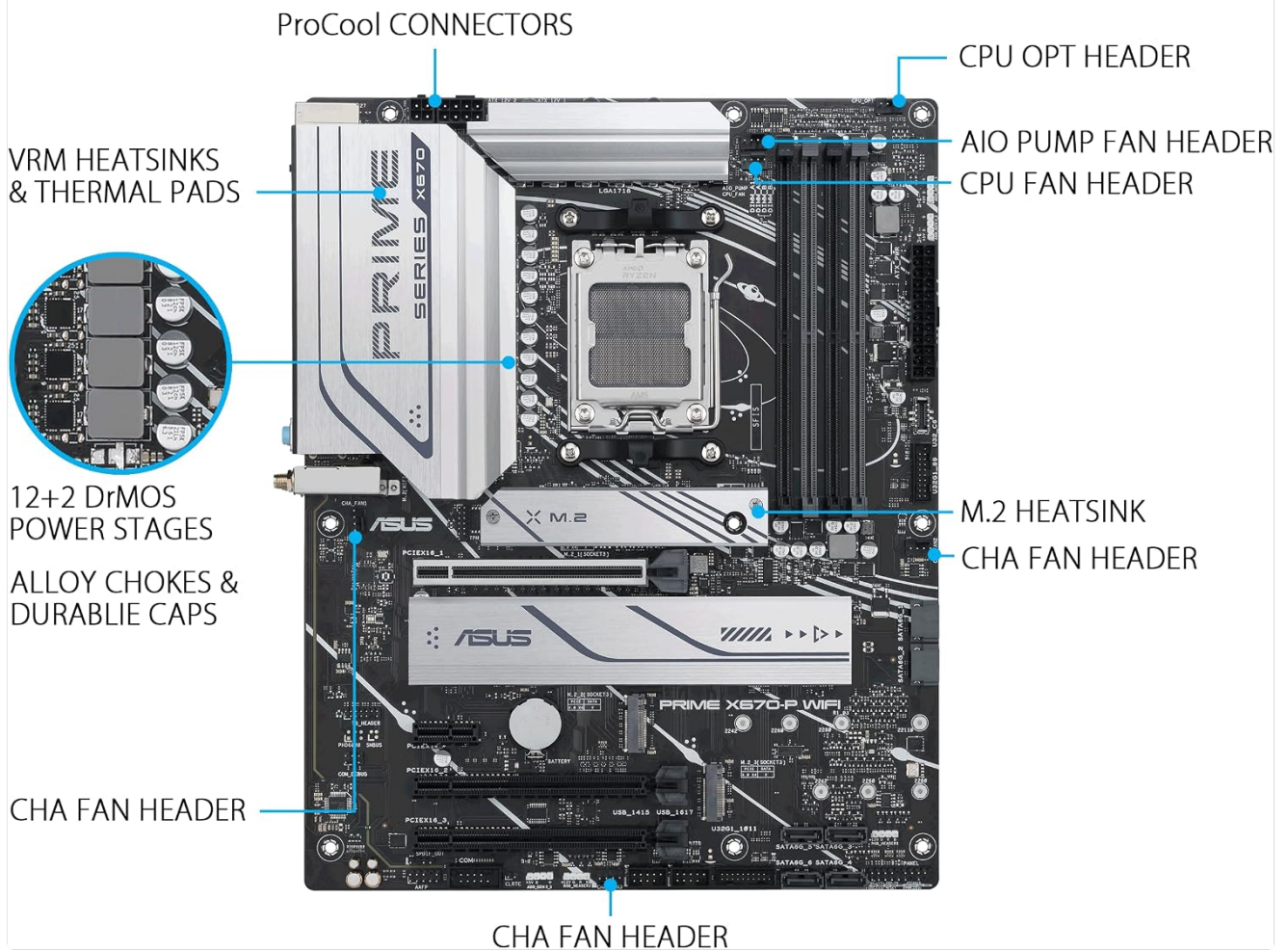


Image: A detailed view of the motherboard highlighting key areas such as VRM heatsinks, ProCool connectors, alloy chokes, durable capacitors, and various fan headers (CPU OPT, AIO PUMP, CPU FAN, CHA FAN).

Personalize Your Build

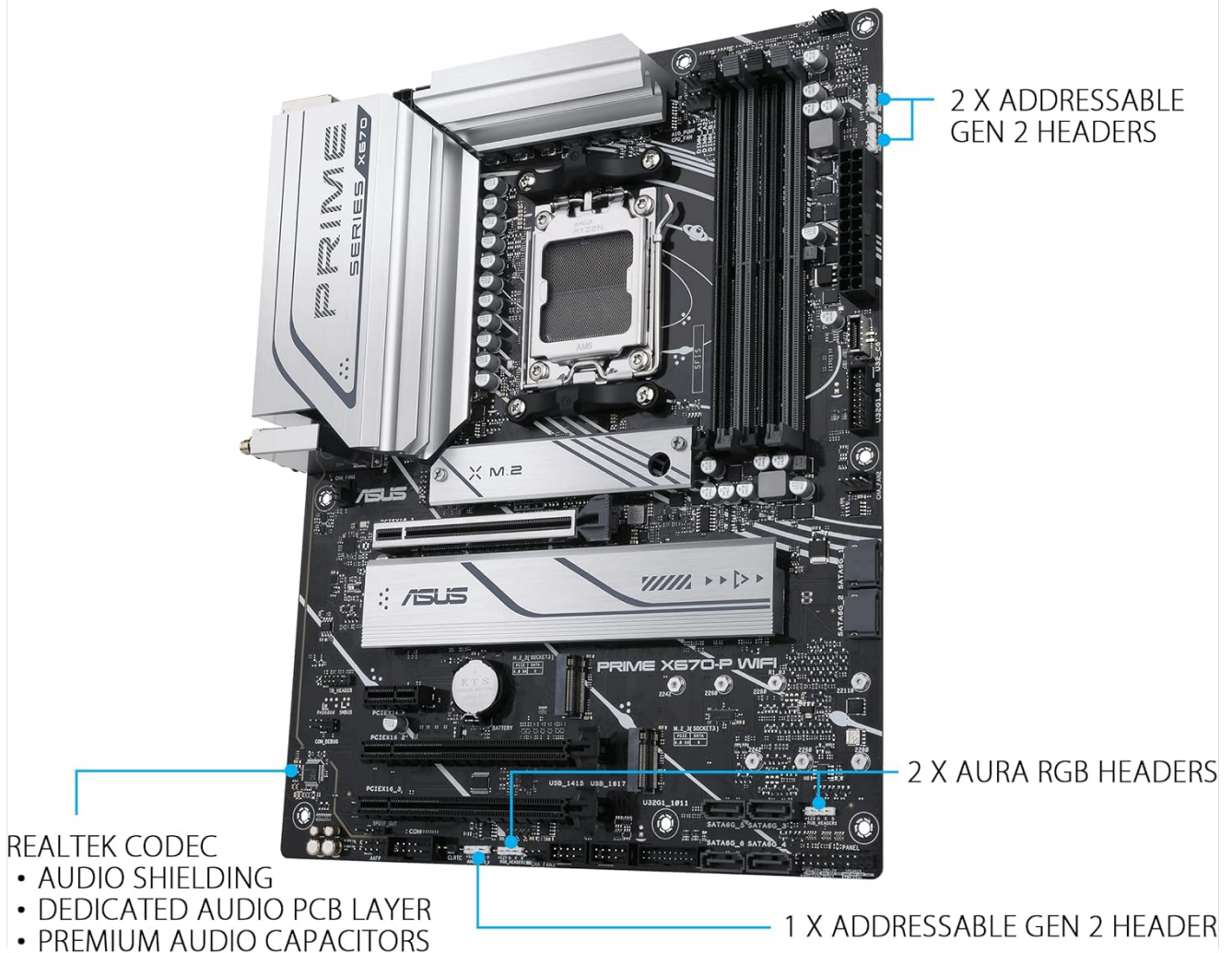


Image: The motherboard with labels indicating the 4 DIMM slots for DDR5 memory, three M.2 slots (PCIe 5.0 x4 and PCIe 4.0 x4), PCIe 4.0 x16 SafeSlot Core+, and various USB 3.2 Gen 1 connectors.

3.3 Component Installation

- 1. CPU Installation:** Open the CPU socket lever. Carefully align the CPU with the socket, ensuring the triangular markers match. Gently place the CPU into the socket without forcing it. Close the lever to secure the CPU.
- 2. CPU Cooler Installation:** Install the CPU cooler according to its manufacturer's instructions. Connect the CPU fan cable to the 'CPU_FAN' header on the motherboard.
- 3. Memory (RAM) Installation:** Open the clips on both ends of the DIMM slots. Align the memory module with the slot, ensuring the notch on the module matches the key in the slot. Press down firmly on both ends until the clips snap into place. For dual-channel operation, refer to the motherboard manual for recommended slot configurations.
- 4. M.2 SSD Installation:** Locate the M.2 slots. Remove the M.2 heatsink if present. Insert the M.2 SSD into the slot at an angle, then gently push it down. Secure it with the provided M.2 screw and/or rubber package. Reattach the heatsink if applicable.
- 5. Graphics Card (PCIe) Installation:** Open the retention clip on the PCIe x16 slot. Align your graphics card with the slot and press down firmly until it is fully seated and the retention clip locks. Secure the card to your chassis with screws.

3.4 Connecting Peripherals and Power

1. **Power Supply Connections:** Connect the 24-pin ATX power connector and the 8-pin (or 4+4-pin) CPU power connector from your power supply to the corresponding headers on the motherboard.
2. **Front Panel Connectors:** Connect the power button, reset button, HDD LED, and power LED cables from your chassis to the front panel header (F_PANEL) on the motherboard. Refer to the motherboard manual for the exact pinout.
3. **USB and Audio Connectors:** Connect any front panel USB 2.0, USB 3.2 Gen 1, or USB 3.2 Gen 2x2 Type-C headers, as well as the front panel audio header (AAFP).
4. **SATA Devices:** Connect SATA data cables from your storage drives (HDDs/SSDs) to the SATA ports on the motherboard. Connect power cables from your power supply to these drives.
5. **Wi-Fi Antenna:** Screw the included Wi-Fi antenna onto the designated connectors on the rear I/O panel.

Ultrafast Connectivity

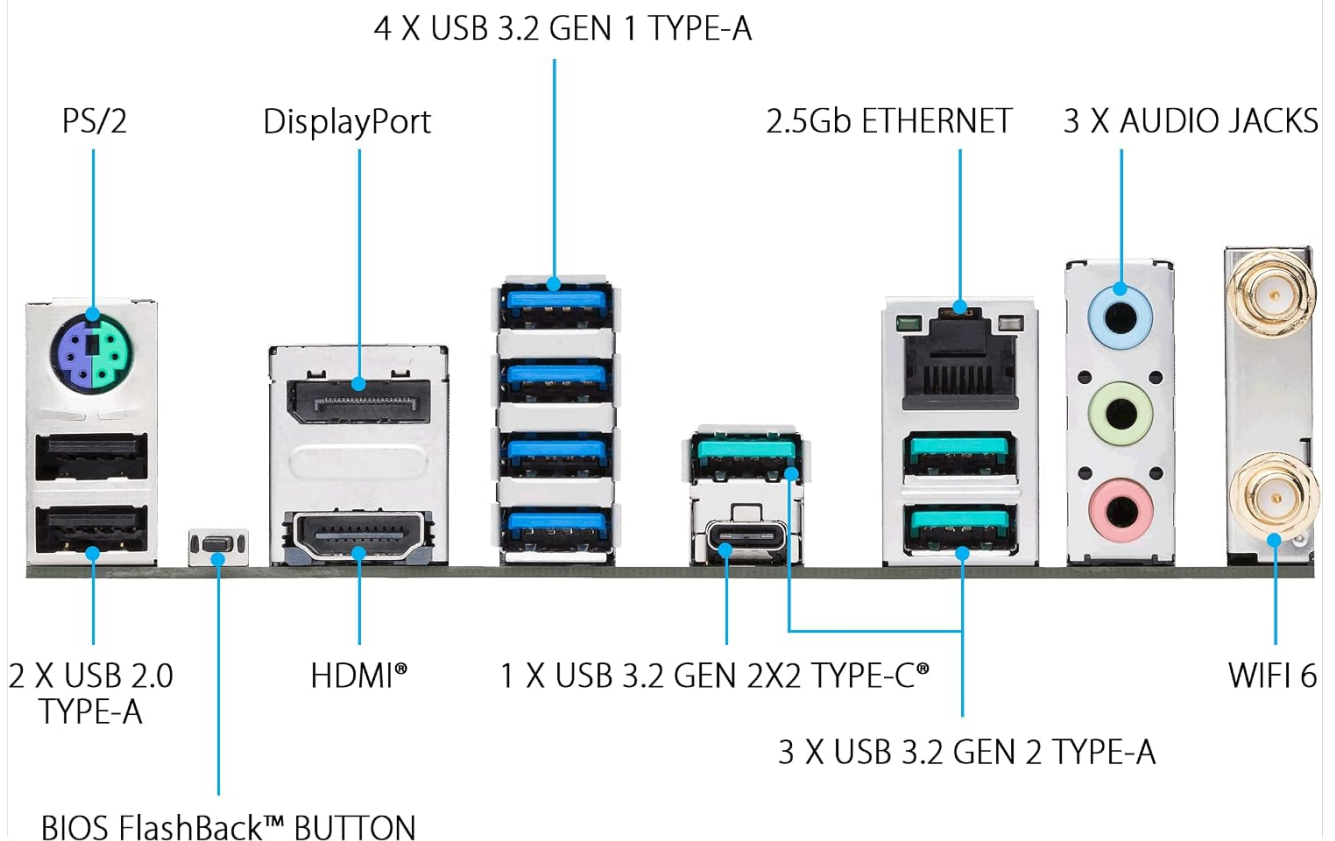


Image: A close-up of the motherboard's rear input/output panel, showing ports such as PS/2, USB 2.0 Type-A, DisplayPort, HDMI, USB 3.2 Gen 1 Type-A, USB 3.2 Gen 2x2 Type-C, USB 3.2 Gen 2 Type-A, 2.5Gb Ethernet, audio jacks, and Wi-Fi 6 antenna connectors. The BIOS FlashBack button is also visible.

4. OPERATING INSTRUCTIONS

4.1 Initial Boot and BIOS/UEFI Setup

1. After assembling your PC, connect a monitor, keyboard, and mouse.
2. Power on your system. During the boot process, repeatedly press the **DEL** key or **F2** key to enter the BIOS/UEFI setup utility.
3. In the BIOS, you can configure boot order, system time, enable/disable integrated peripherals, and adjust performance settings. Save changes and exit to boot into your operating system installer.

4.2 Driver Installation

After installing your operating system, install the necessary drivers for the motherboard components. These can typically be found on the ASUS support website for your specific motherboard model. Essential drivers include chipset, LAN, Wi-Fi, audio, and any integrated graphics drivers.

4.3 Software Utilities

ASUS provides various software utilities to enhance your system's functionality and performance. These may include tools for system monitoring, fan control, and RGB lighting customization. Refer to the ASUS website for available software downloads.

Build For Every Productivity

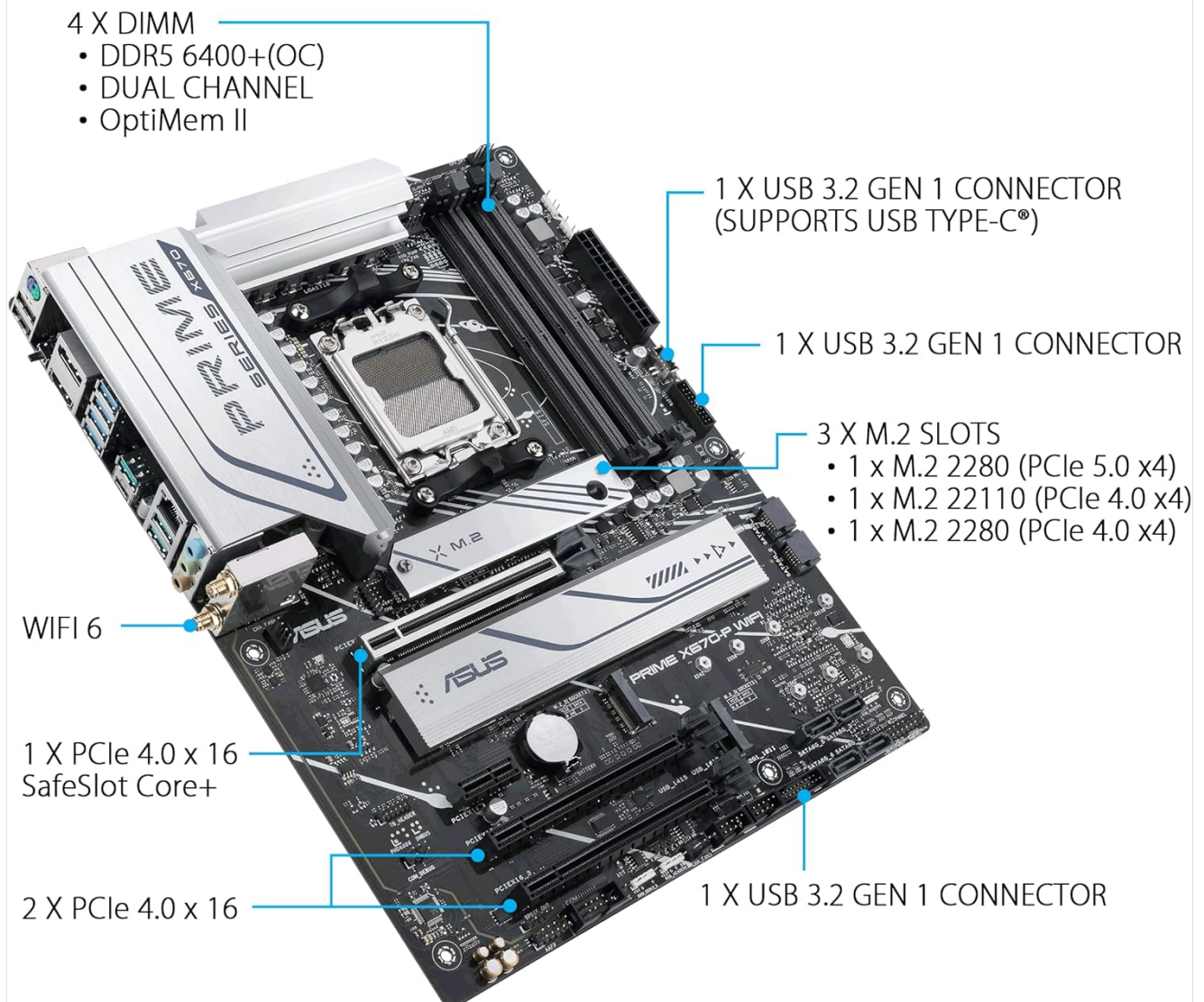


Image: The motherboard illustrating the location of addressable Gen 2 headers and Aura RGB headers for lighting customization, along with the Realtek audio codec, dedicated audio PCB layer, and premium audio capacitors.

5. MAINTENANCE

Regular maintenance helps ensure the longevity and stable operation of your motherboard.

- **BIOS Updates:** Periodically check the ASUS support website for BIOS updates. BIOS updates can improve stability, compatibility, and performance. Follow the instructions provided by ASUS carefully when updating the BIOS. The motherboard supports BIOS FlashBack for updating without a CPU or RAM installed.
- **Driver Updates:** Keep all system drivers updated to the latest versions available from the ASUS website or component manufacturers.
- **Physical Cleaning:** Regularly clean dust from the motherboard and other components using compressed air. Ensure the system is powered off and unplugged before cleaning. Pay attention to heatsinks and fan blades to maintain optimal cooling.
- **Thermal Management:** Ensure proper airflow within your PC case. Monitor CPU and chipset temperatures using system monitoring software to prevent overheating.

6. TROUBLESHOOTING

This section addresses common issues you might encounter.

- **No Power/No Boot:**
 - Check all power connections (24-pin ATX, 8-pin CPU, GPU).
 - Ensure the power supply is switched on.
 - Verify front panel power button connection.
- **No Display:**
 - Ensure the monitor is connected to the graphics card (or integrated graphics if applicable) and powered on.
 - Reseat the graphics card and RAM modules.
 - Try booting with only one RAM stick.
- **System Instability/Crashes:**
 - Check for overheating components (CPU, GPU).
 - Ensure all drivers are up to date.
 - Run memory diagnostic tools to check RAM integrity.
- **BIOS Reset:** If you encounter issues after changing BIOS settings, you can clear the CMOS. This typically involves either removing the CMOS battery for a few minutes or using a dedicated 'Clear CMOS' jumper/button on the motherboard. Refer to the full motherboard manual for specific instructions.

For persistent issues, consult the comprehensive troubleshooting guide on the ASUS support website or contact ASUS technical support.

7. SPECIFICATIONS

Key technical specifications for the ASUS Prime X670-P WiFi Motherboard:

Feature	Specification
Brand	ASUS
Model Name	PRIME X670-P WIFI
CPU Socket	LGA 1718 (AM5)
Compatible Processors	AMD Ryzen 7000 Series Desktop Processors (and future generations)
Chipset Type	AMD X670
RAM Memory Technology	DDR5
Memory Speed	Up to 6400 MHz (OC)
Wireless Type	802.11a/b/g/n/ac, 802.11ax (Wi-Fi 6)
Ethernet	Realtek 2.5Gb Ethernet
USB Ports	USB 3.2 Gen 2x2 Type-C, USB 3.2 Gen 2 Type-A, USB 3.2 Gen 1 Type-A, USB 2.0
M.2 Slots	Three (1x PCIe 5.0 x4, 2x PCIe 4.0 x4)
Product Dimensions	10.8 x 2.7 x 13.4 inches
Item Weight	4.02 pounds
Color	BLACK

8. WARRANTY AND SUPPORT

ASUS products are designed and manufactured to the highest quality standards. For detailed warranty information, including terms, conditions, and regional variations, please refer to the official ASUS website or the warranty card included with your product.

8.1 Technical Support

If you encounter issues that cannot be resolved using this manual or the troubleshooting steps, please visit the ASUS support website for your region. The website offers:

- FAQs and knowledge base articles
- Driver and BIOS downloads
- Contact information for technical support (phone, email, live chat)

When contacting support, please have your motherboard model name (PRIME X670-P WIFI) and serial number

ready.