ASUS ROG-STRIX-GTX1650S-A4G-GAMING

ASUS ROG Strix GeForce GTX 1650 Super Graphics Card User Manual

Model: ROG-STRIX-GTX1650S-A4G-GAMING

1. Introduction

This manual provides detailed instructions for the installation, operation, maintenance, and troubleshooting of your ASUS ROG Strix GeForce GTX 1650 Super Advanced 4GB Edition GDDR6 Gaming Graphics Card. This high-performance graphics card is designed to deliver an enhanced gaming experience and reliable visual processing for your computer system.
Please read this manual thoroughly before installing and using the product to ensure proper functionality and to prevent damage.

2. Overview of Features

The ASUS ROG Strix GeForce GTX 1650 Super graphics card incorporates several advanced features for optimal performance and durability:

- **NVIDIA Turing Architecture:** Powered by NVIDIA Turing with 1280 CUDA Cores for efficient graphics processing.
- **4GB GDDR6 Memory:** Overclocked-selected 4GB GDDR6 memory for high-speed data access.
- **DirectCU II Cooling:** Features DirectCU II with patented Wing-Blade Fans and FanConnect II for superior thermal management and increased airflow.
- **Super Alloy Power II:** Premium alloy chokes, solid polymer capacitors, and high-current power stages ensure robust power delivery.
- **Protective Backplate:** A rigid backplate prevents PCB flex and trace damage, enhancing structural integrity.
- **Auto-Extreme Technology:** An automated manufacturing process that enhances reliability and consistency.
- **Aura Sync RGB Lighting:** Customizable RGB lighting that can synchronize effects across compatible ASUS products.
- **Multiple Display Outputs:** Supports up to 4 monitors with 2x DisplayPort 1.4 and 2x HDMI 2.0b ports.
- **GPU Tweak II:** Software for performance monitoring, streaming, and system optimization.

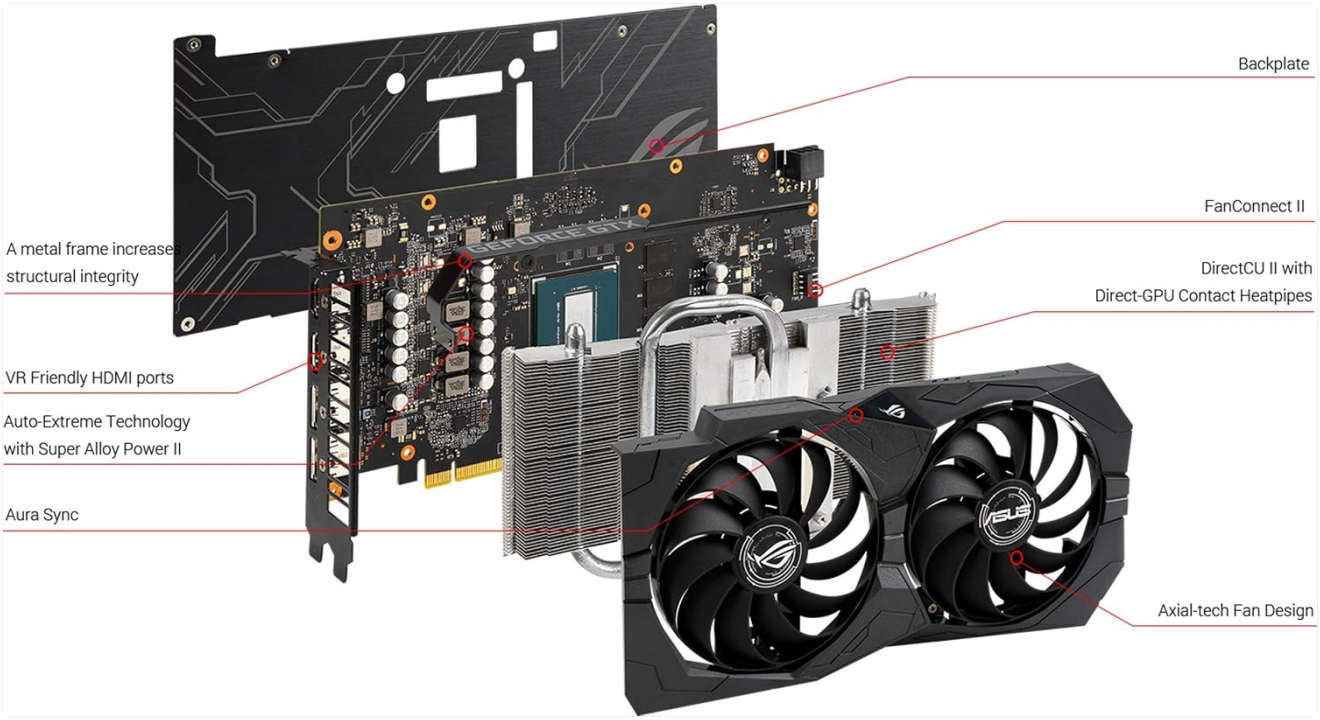

Figure 1: Exploded view illustrating key components such as the backplate, DirectCU II cooler, Axial-tech fans, and power delivery system.

3. Setup and Installation

3.1 System Requirements

Before installation, ensure your system meets the following minimum requirements:

- PCI Express-compliant motherboard with one dual-width x16 graphics slot.
- Minimum 350W power supply (check specific power requirements for your system configuration).
- Microsoft Windows 10, Windows 7 (64-bit), or Linux operating system.
- At least 2GB of system memory (4GB recommended).

3.2 Hardware Installation

Follow these steps to install the graphics card into your computer:

1. **Prepare Your System:** Power off your computer and unplug all power cables from the wall outlet. Open the computer case.
2. **Locate PCIe Slot:** Identify an available PCI Express x16 slot on your motherboard. This card requires a dual-slot space.
3. **Remove Slot Covers:** Remove the two metal slot covers from the back of your computer case corresponding to the chosen PCIe slot.
4. **Install Graphics Card:** Carefully align the graphics card with the PCIe slot and press it down firmly until it is securely seated. Ensure the retention clip on the motherboard clicks into place.
5. **Secure the Card:** Use screws to secure the graphics card to the computer case at the bracket.
6. **Connect Power (if applicable):** The GTX 1650 Super typically requires a 6-pin PCIe power connector. Connect the appropriate power cable from your power supply to the graphics card's power input.
7. **Close Case:** Close your computer case and reconnect all power cables and peripherals.
8. **Connect Display:** Connect your monitor(s) to the graphics card's display outputs (HDMI or DisplayPort).

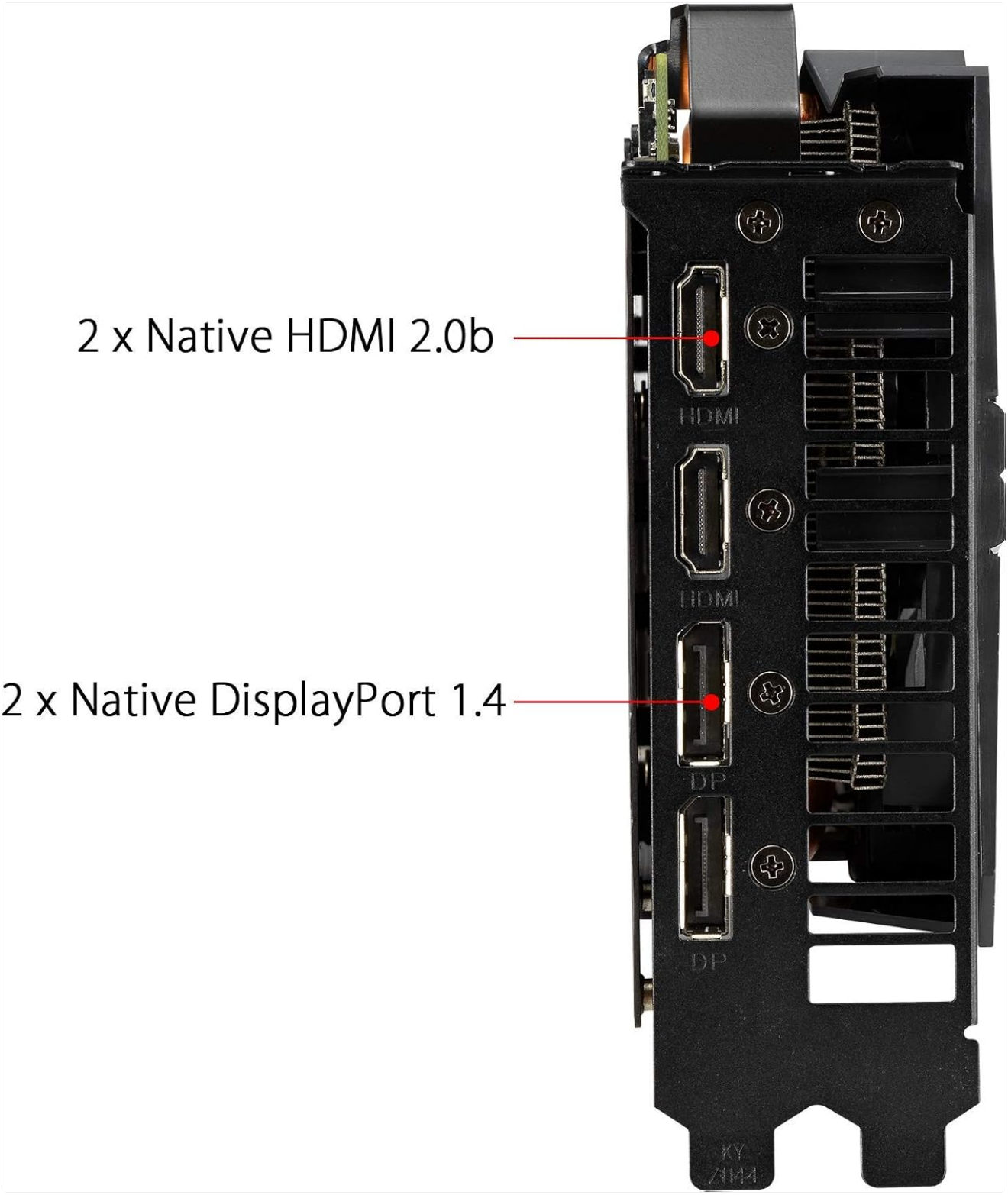

Figure 2: Display output ports on the graphics card, including two HDMI 2.0b and two DisplayPort 1.4 connectors.

4. Operating Instructions

4.1 Driver Installation

After hardware installation, you must install the latest graphics drivers for optimal performance and stability:

1. Power on your computer.
2. Visit the official ASUS support website (www.asus.com/support) or NVIDIA's driver download page (www.nvidia.com/drivers).
3. Search for your graphics card model (GTX 1650 Super) and download the latest recommended drivers for your

operating system.

4. Run the downloaded installer and follow the on-screen prompts. A system restart may be required.

4.2 Display Configuration

Your graphics card supports up to four displays. You can configure display settings through your operating system's display settings or the NVIDIA Control Panel after driver installation.

- **Single Monitor:** Connect your primary monitor to any available HDMI or DisplayPort.
- **Multiple Monitors:** Connect additional monitors to the remaining ports. Use the display settings in your OS to extend or duplicate your desktop.

4.3 ASUS GPU Tweak II

GPU Tweak II is a utility that allows you to monitor and fine-tune your graphics card's performance. Download it from the ASUS support website.

- **Monitoring:** View real-time information on GPU clock speed, memory clock, temperature, and fan speed.
- **Overclocking:** Adjust clock speeds and voltage for increased performance (use with caution).
- **Fan Control:** Customize fan curves for optimal cooling and noise levels.
- **Gaming Profiles:** Create and switch between different performance profiles for various applications.

4.4 ASUS Aura Sync

The graphics card features integrated RGB lighting compatible with ASUS Aura Sync. Download the Aura Sync software from the ASUS website to customize lighting effects and synchronize them with other Aura Sync-enabled components in your system.

5. Maintenance

Proper maintenance ensures the longevity and optimal performance of your graphics card.

- **Dust Removal:** Periodically clean dust from the fans and heatsink using compressed air. Ensure the computer is powered off and unplugged before cleaning. Avoid touching the fan blades directly.
- **Driver Updates:** Regularly check the ASUS or NVIDIA website for the latest graphics drivers. Keeping drivers updated can improve performance, stability, and introduce new features.
- **Temperature Monitoring:** Use GPU Tweak II or similar software to monitor GPU temperatures during heavy loads. Ensure temperatures remain within safe operating limits to prevent thermal throttling and extend component life.

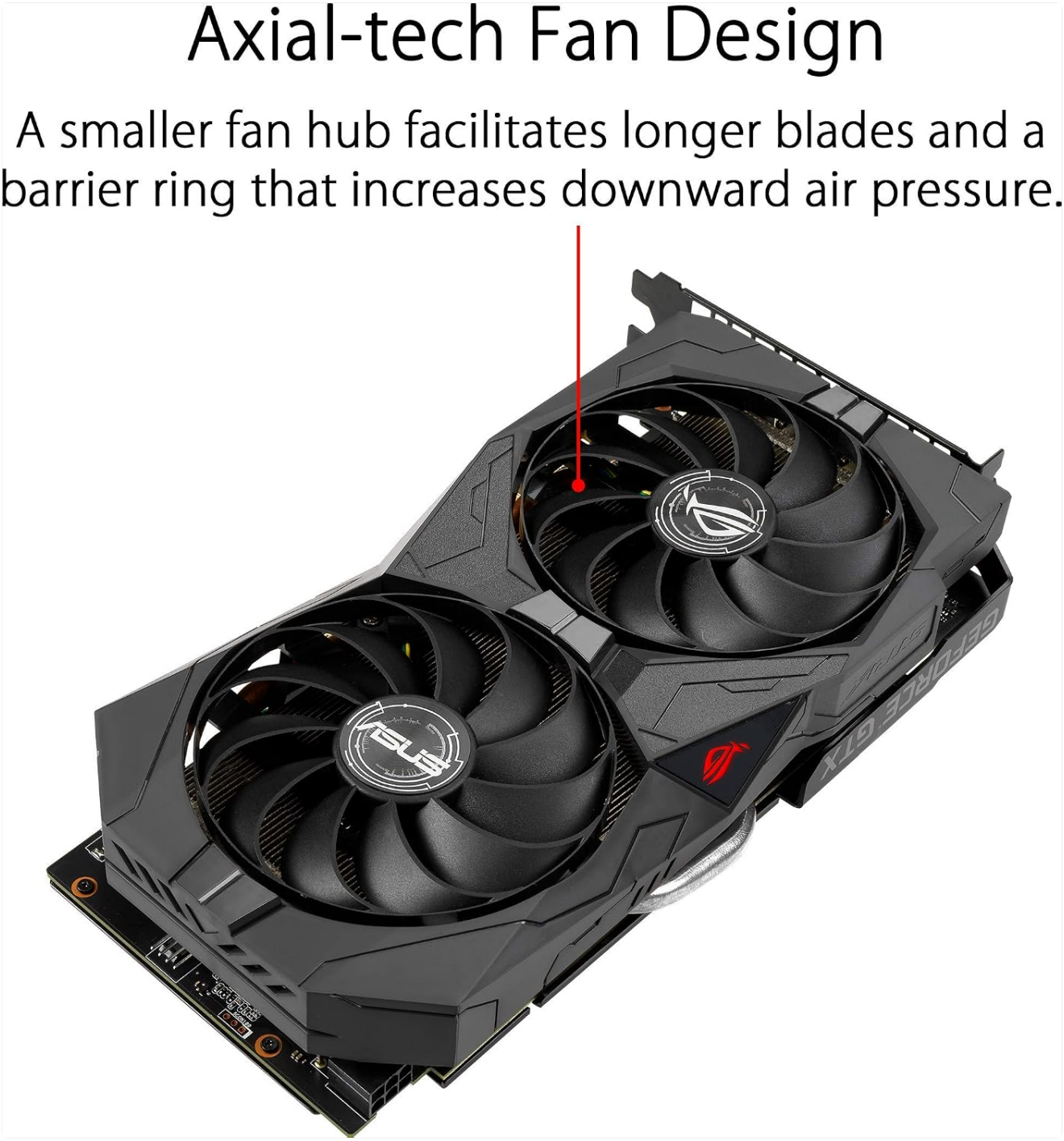

Figure 3: The Axial-tech fan design, featuring a smaller fan hub for longer blades and a barrier ring to increase downward air pressure, which aids in efficient cooling.

6. Troubleshooting

If you encounter issues with your graphics card, refer to the following common troubleshooting steps:

- **No Display Output:**
  - Ensure the monitor cable is securely connected to both the graphics card and the monitor.
  - Verify that the graphics card is fully seated in the PCIe slot and secured.
  - Check if the PCIe power connector (if applicable) is properly connected to the graphics card.
  - Test with a different monitor or cable if possible.
  - Ensure your monitor is set to the correct input source.
- **Driver Installation Issues:**

- Download the latest drivers directly from the ASUS or NVIDIA website.
- Uninstall any previous graphics drivers using a utility like Display Driver Uninstaller (DDU) in Safe Mode, then perform a clean installation of the new drivers.

- **Poor Performance or Crashes:**
  - Monitor GPU temperatures using GPU Tweak II. Overheating can lead to performance throttling or crashes. Ensure adequate case airflow.
  - Verify that your power supply unit (PSU) meets the minimum wattage requirements and is providing stable power.
  - Close unnecessary background applications that may consume system resources.
  - Ensure your operating system is up to date.
- **Fan Noise:**
  - Some fan noise is normal under heavy load. If the noise is excessive, check for dust accumulation on the fans and heatsink.
  - Adjust fan curves using GPU Tweak II to find a balance between cooling performance and noise levels.

7. Specifications

Graphics Engine	NVIDIA GeForce GTX 1650 SUPER
CUDA Cores	1280
Video Memory	4GB GDDR6
Memory Interface	128-bit
Output Ports	2x Native HDMI 2.0b, 2x Native DisplayPort 1.4
HDCP Support	Yes (2.2)
Multi-Display Support	Up to 4 displays
Recommended PSU	350W or higher
Power Connectors	1 x 6-pin (typical for 1650 Super, verify with actual product)
Cooling Solution	DirectCU II with Axial-tech Fan Design
Dimensions	*Refer to product packaging or ASUS website for exact dimensions.*
Features	Super Alloy Power II, Auto-Extreme Technology, Aura Sync RGB, GPU Tweak II

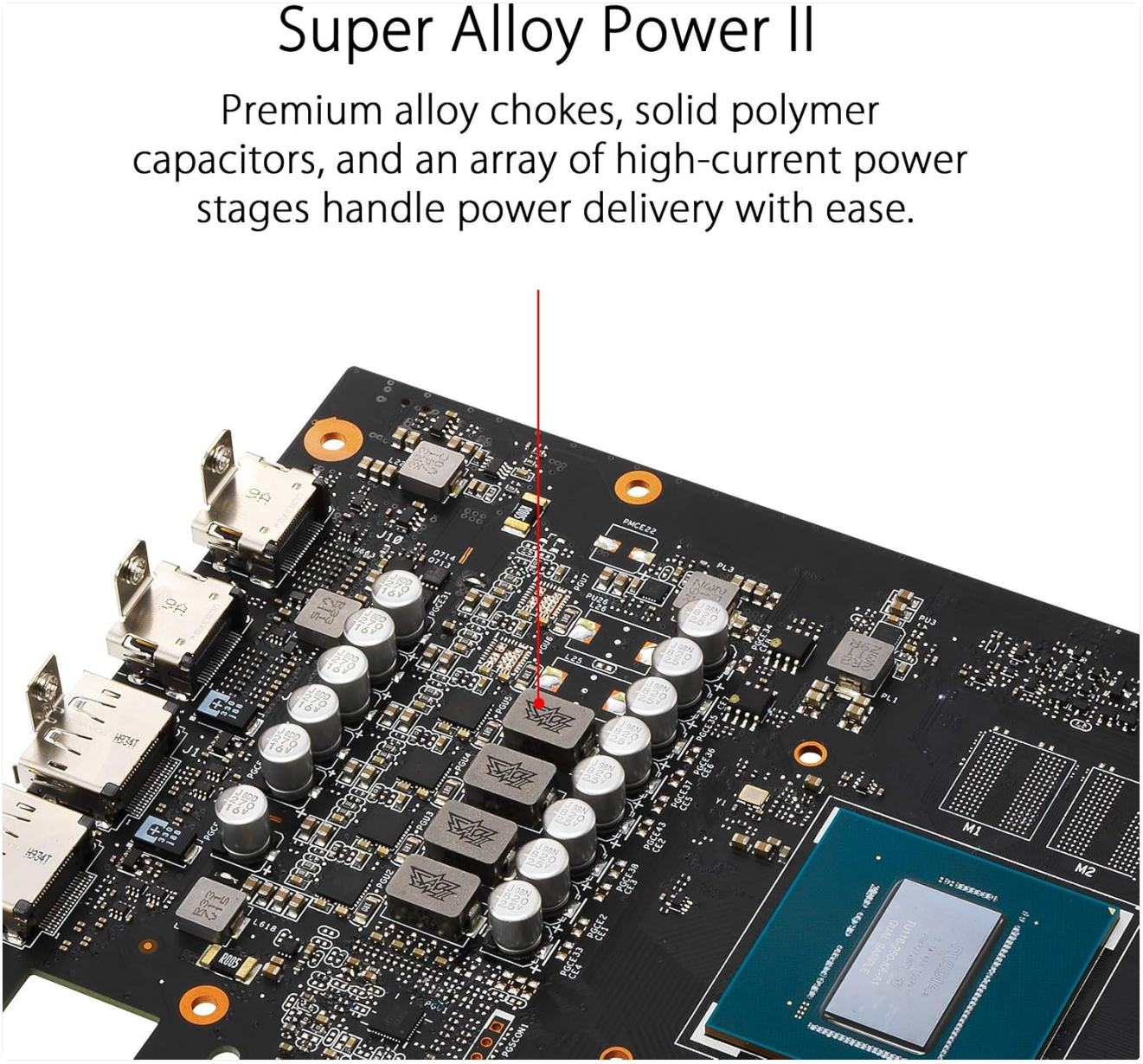

Figure 4: Illustration of the Super Alloy Power II components, including premium alloy chokes and solid polymer capacitors, designed for efficient and stable power delivery.

Figure 5: The protective backplate on the rear of the graphics card, designed to prevent PCB flex and protect against physical damage.

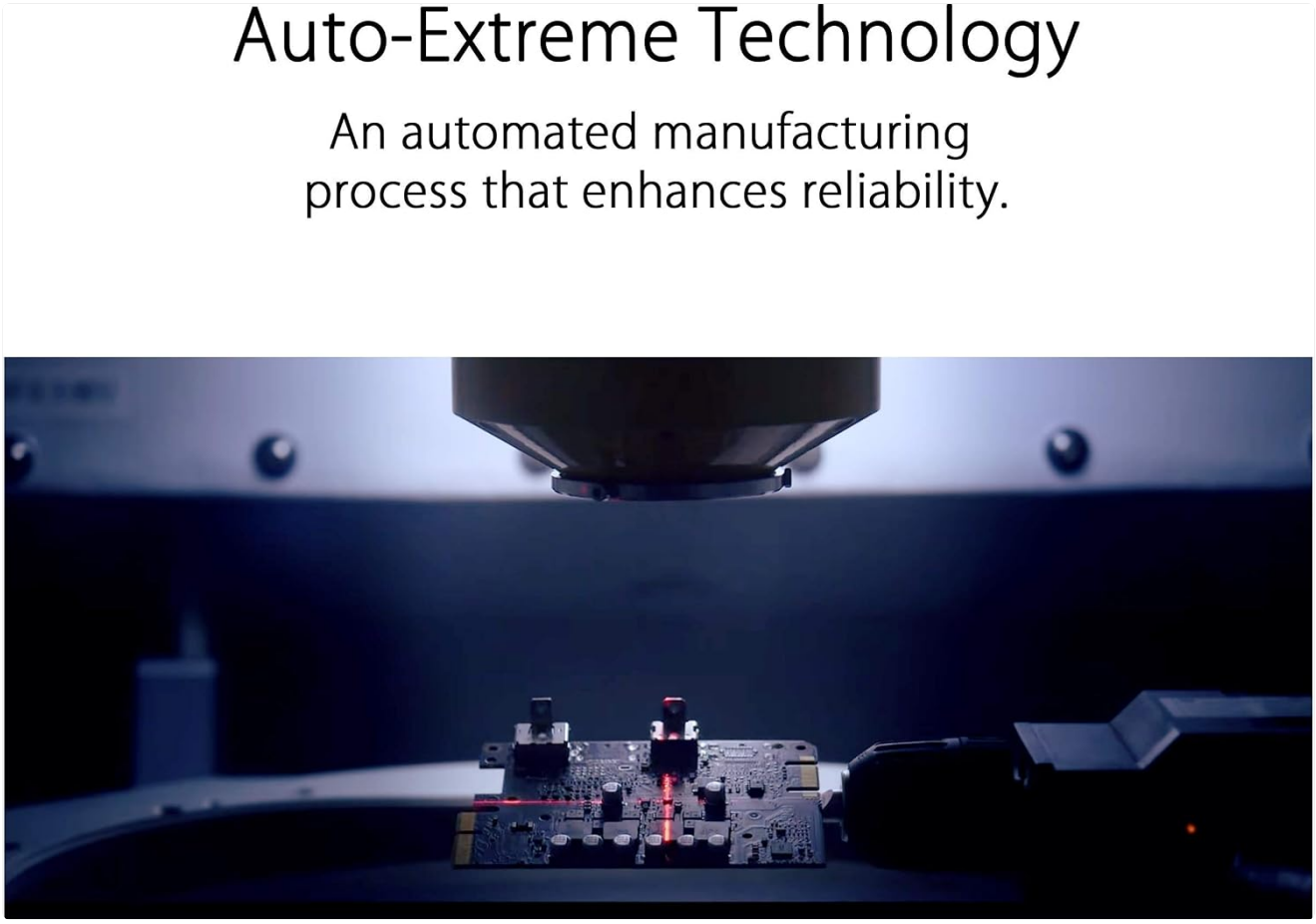

Figure 6: A visual representation of the automated manufacturing process, known as Auto-Extreme Technology, which enhances the reliability of the graphics card.

8. Warranty and Support

ASUS products are manufactured to the highest quality standards. For information regarding your product's warranty, please refer to the warranty card included with your product or visit the official ASUS website.
For technical support, driver downloads, FAQs, and further assistance, please visit the ASUS Support Center:

ASUS Support Website