

LattePanda Sigma

LattePanda Sigma Single Board Computer Server User Manual

1. INTRODUCTION

The LattePanda Sigma is a powerful and versatile single board computer (SBC) designed for a wide range of applications, from desktop computing and gaming to robotics and machine learning projects. It features an Intel Core i5-1340P processor, 16GB LPDDR5-6400 RAM, and a 500GB SSD, offering robust performance for demanding tasks.

What's in the Box

- LattePanda Sigma Single Board Server x1
- Power Adapter
- WiFi 6E Module
- Antennas
- User Manual (Printed)



Figure 1: Contents of the LattePanda Sigma package.

Product Overview Video

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Video 1: An overview of the LattePanda Sigma's features and capabilities, demonstrating its performance and various applications.

2. SETUP GUIDE

Follow these steps to set up your LattePanda Sigma for initial use.

2.1 Connecting Peripherals

1. **Connect Display:** Use an HDMI cable to connect your monitor to the HDMI 2.1 port on the LattePanda Sigma.
2. **Connect Keyboard and Mouse:** Plug your USB keyboard and mouse into the available USB ports.
3. **Connect Network:** For wired internet, connect an Ethernet cable to one of the 2.5Gb Ethernet ports. For wireless, ensure the WiFi 6E module and antennas are installed (refer to the installation section if not pre-installed).
4. **Connect Power:** Plug the provided power adapter into the DC Power Jack on the LattePanda Sigma, then connect it to a power outlet.



Figure 2: Rear view of the LattePanda Sigma showing various connectivity ports.

2.2 Initial Boot and OS Installation

Upon connecting power, the LattePanda Sigma should automatically power on. If not, press the Power Button. The device supports Windows 10, Windows 11, and Ubuntu operating systems. You may need to install your preferred OS from a bootable USB drive or network source.



Figure 3: Top view of the LattePanda Sigma, highlighting its compact design.

3. OPERATING INSTRUCTIONS

The LattePanda Sigma is designed for high-performance computing across various applications.

3.1 Key Features and Performance

- **Processor:** Intel Core i5-1340P (12 Cores, 16 Threads, up to 4.60 GHz) for ultimate performance.
- **Graphics:** Integrated Intel Iris Xe Graphics for high-level graphics capabilities and multiple display outputs.
- **Memory:** 16GB Dual-Channel LPDDR5-6400 RAM for lightning-fast multitasking.
- **Storage:** 500GB SSD for quick boot times and application loading.
- **Connectivity:** Dual Thunderbolt 4 ports (40Gbps bidirectional bandwidth), Dual 2.5Gb Ethernet, multiple USB ports, and WiFi 6E.
- **Expandability:** M.2 E Key (for Wi-Fi modules), M.2 M Key (for NVMe SSDs), and M.2 B Key (for SATA SSDs or 4G/5G modules).

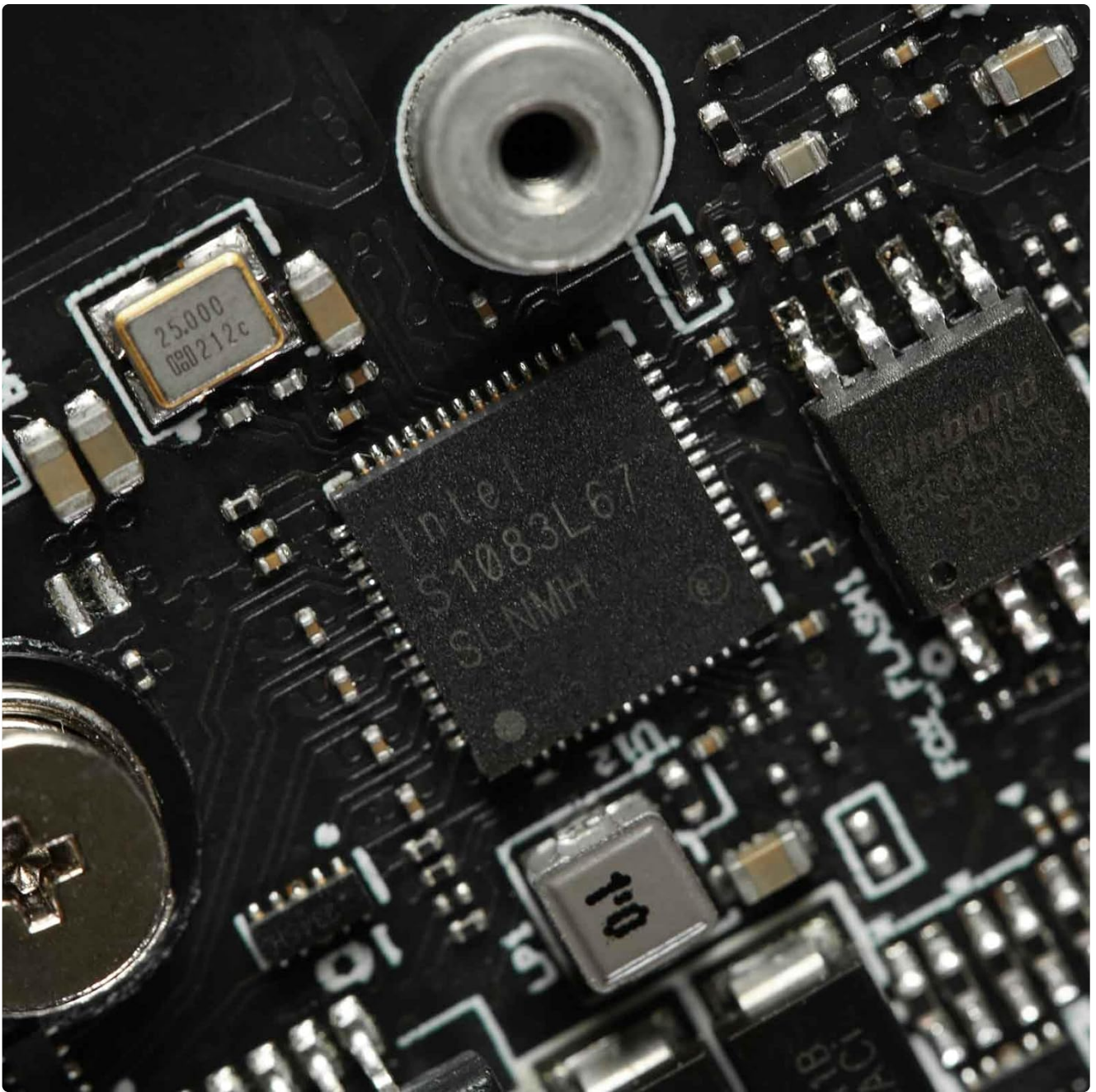


Figure 4: Detail of the Intel Core i5-1340P processor.



Figure 5: The underside of the board with M.2 slots for SSD and WiFi.

3.2 Application Scenarios

The LattePanda Sigma's robust specifications enable diverse uses:

- **Game Server:** Host your own game servers for smooth multiplayer experiences.
- **AI Inference:** Utilize the Intel Iris Xe Graphics with OpenVINO for accelerated AI inference tasks.
- **Web Server:** Run web applications and content management systems like WordPress containers.
- **Home Automation:** Deploy home assistant systems to manage smart devices and monitor environmental data.
- **Distributed Computing:** Construct clusters for big data analytics and complex computational tasks.

4. MAINTENANCE

To ensure the longevity and optimal performance of your LattePanda Sigma, consider the following maintenance

tips:

- **Keep Clean:** Regularly clean the device to prevent dust accumulation, especially around the fan and heatsink, which can impede airflow and lead to overheating. Use compressed air for best results.
- **Ensure Ventilation:** Operate the LattePanda Sigma in a well-ventilated area. Avoid placing it in enclosed spaces or on soft surfaces that could block the fan or vents.
- **Software Updates:** Keep your operating system and drivers updated to benefit from performance improvements, security patches, and bug fixes.
- **Power Management:** Use the provided power adapter. Avoid frequent abrupt power cuts; always shut down the system properly.



Figure 6: Side view highlighting the cooling solution.

5. TROUBLESHOOTING

If you encounter issues with your LattePanda Sigma, try the following common troubleshooting steps:

- **No Power:** Ensure the power adapter is securely connected to both the device and a working power outlet.

Test the outlet with another device.

- **No Display:** Check that the HDMI or display cable is firmly connected to both the LattePanda Sigma and the monitor. Try a different cable or monitor if possible. Ensure the monitor is set to the correct input source.
- **Peripherals Not Working:** Try connecting USB devices to different USB ports. Ensure drivers are installed for specialized peripherals.
- **Operating System Issues:** If the OS is not booting or is unstable, consider reinstalling the operating system. Back up important data before proceeding.
- **Overheating:** Ensure the device has adequate ventilation and the fan is not obstructed. Reduce heavy workloads if the device consistently runs hot.

For persistent issues, refer to the official LattePanda support resources.

6. SPECIFICATIONS

Feature	Specification
Brand	LattePanda
Model Number	Sigma
CPU Model	Intel Core i5-1340P
CPU Speed	3.4 GHz (Base), 4.6 GHz (Max Turbo)
Processor Count	12 Cores
Graphics Coprocessor	Intel Iris Xe Graphics
RAM Memory Installed	16 GB LPDDR5-6400
Memory Storage Capacity	500 GB SSD
Operating System Support	Windows 10, Windows 11, Ubuntu
Video Output Interface	HDMI 2.1, eDP 1.4b
Total USB Ports	7 (including Thunderbolt 4)
Total Thunderbolt Ports	2
Ethernet	Dual 2.5Gb Ethernet
Wireless Compatibility	WiFi 6E (802.11ax)
Expansion Slots	M.2 E Key, M.2 M Key, M.2 B Key
Security Features	TPM 2.0
Cooling Method	Air
Color	Black

7. WARRANTY INFORMATION

You may return any new computer purchased from Amazon.com that is "dead on arrival," arrives in damaged condition, or is still in unopened boxes within 30 days of purchase. Amazon.com reserves the right to test "dead on arrival" returns and impose a customer fee equal to 15 percent of the product sales price if the customer misrepresents the condition of the product. Any returned computer that is damaged through customer misuse, is missing parts, or is in unsellable condition due to customer tampering will result in the customer being charged a higher restocking fee based on the condition of the product. Amazon.com will not accept returns of any desktop or notebook computer more than 30 days after you receive the shipment.

8. SUPPORT

For further assistance, technical support, or additional resources, please visit the official LattePanda website or contact DFRobot support.

- **LattePanda Official Website:** www.lattepanda.com
- **DFRobot Support:** Refer to the contact information provided on the DFRobot official website or your purchase documentation.