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Khadas Khadas Mind Portable Workstation

Khadas Mind 2 Mini PC - Intel Core Ultra 5 125H User Manual

Model: Khadas Mind Portable Workstation
Brand: Khadas

1. Introduction

The Khadas Mind 2 Mini PC is a compact and powerful computing device designed for various tasks, from daily productivity to creative projects. This manual provides essential information for setting up, operating, and maintaining your device.

Figure 1: Khadas Mind 2 Mini PC, showcasing its compact design and available ports.

The device features a sleek, ultra-portable design, weighing just 435 grams and measuring only 2 cm thick. Its CNC unibody design and anodized aluminum casing provide both durability and a comfortable grip. The Khadas Mind 2 is equipped with an Intel Core Ultra 5 125H processor, 16GB of LPDDR5 memory, and a 512GB PCIe 4.0 SSD, ensuring efficient performance for diverse applications.

Figure 2: The Khadas Mind 2 Mini PC demonstrating its ultra-portable and lightweight design, easily fitting into a small bag.

Video 1: An overview of the Khadas Mind Portable Workstation, highlighting its features and modularity.

2. What's in the Box

Please ensure all items are present in the packaging:

- Mind 2 Mini PC
- Power Adapter
- USB-C Cable
- Instruction Manual

3. Setup Guide

3.1 Initial Setup

1. **Connect Power:** Connect the provided power adapter to the Khadas Mind 2 Mini PC and plug it into a power outlet.
2. **Connect to Display:** Use an HDMI 2.1 cable to connect the Mini PC to your monitor or TV. The device also supports Thunderbolt 4/USB4 for display output.
3. **Connect Peripherals:** Connect your keyboard and mouse to the available USB-A 3.2 Gen2 ports.
4. **Power On:** Press the power button located on the device to turn it on.

Figure 3: Rear view of the Khadas Mind 2 Mini PC, illustrating the available ports for connectivity.

3.2 First-Time Operating System Configuration

Upon first boot, the Windows 11 Home operating system will guide you through the initial setup process, including language selection, network connection, and user account creation. Follow the on-screen instructions to complete the setup.

Video 2: A guide on how to set up graphics for the first time, relevant for initial OS configuration.

4. Operating Instructions

4.1 Performance Overview

The Khadas Mind 2 is powered by the Intel Core Ultra 5 125H processor, featuring a three-in-one architecture (CPU, GPU, and NPU) for balanced performance. It includes 14 cores and 18 threads, with a max turbo frequency of up to 4.5GHz. The integrated Arc graphics provide enhanced visual performance, and the AI Boost NPU offers 34 TOPS of combined computing power for AI-driven tasks.

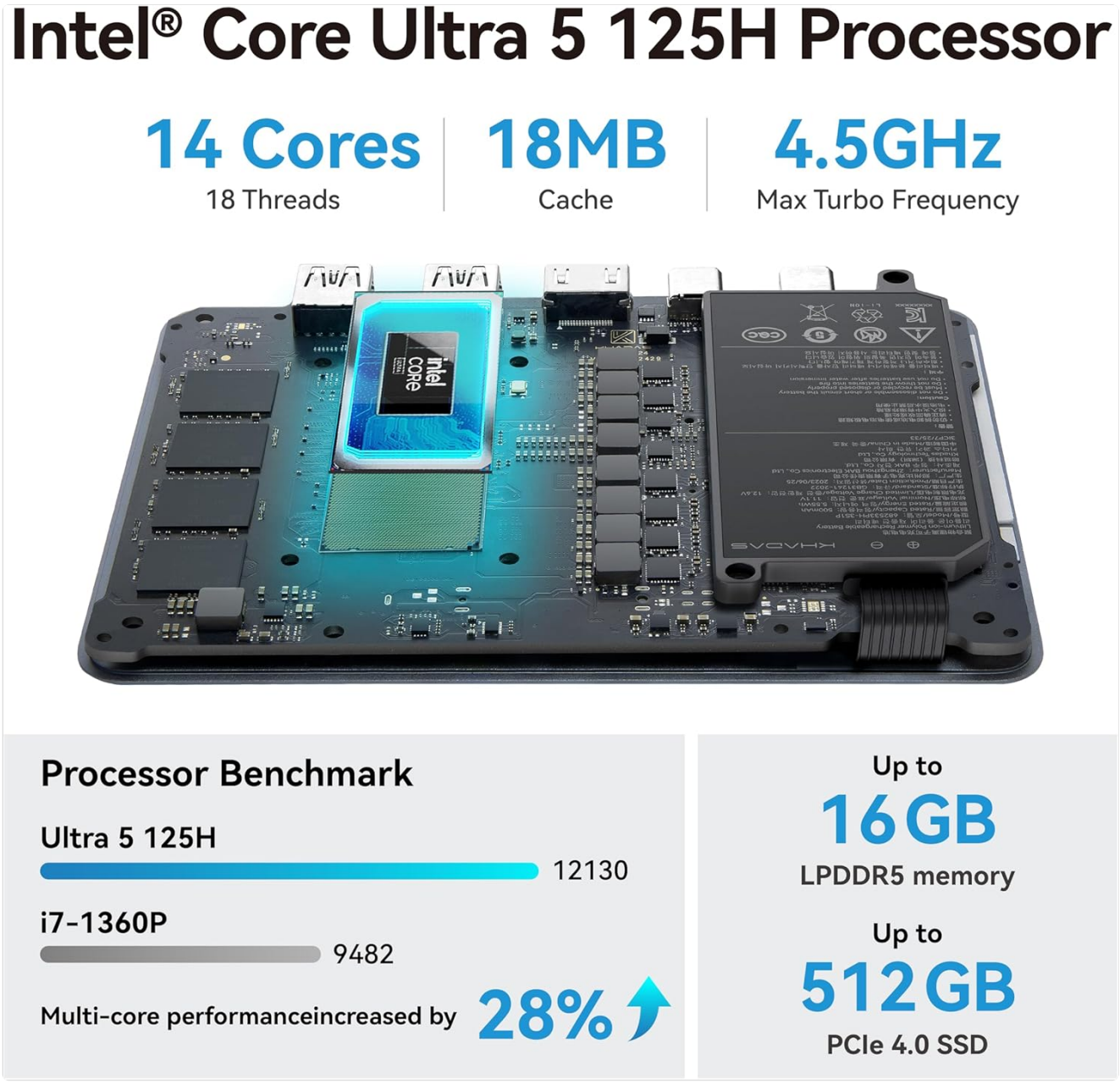


Figure 4: Detailed specifications and performance benchmarks for the Intel Core Ultra 5 125H processor.

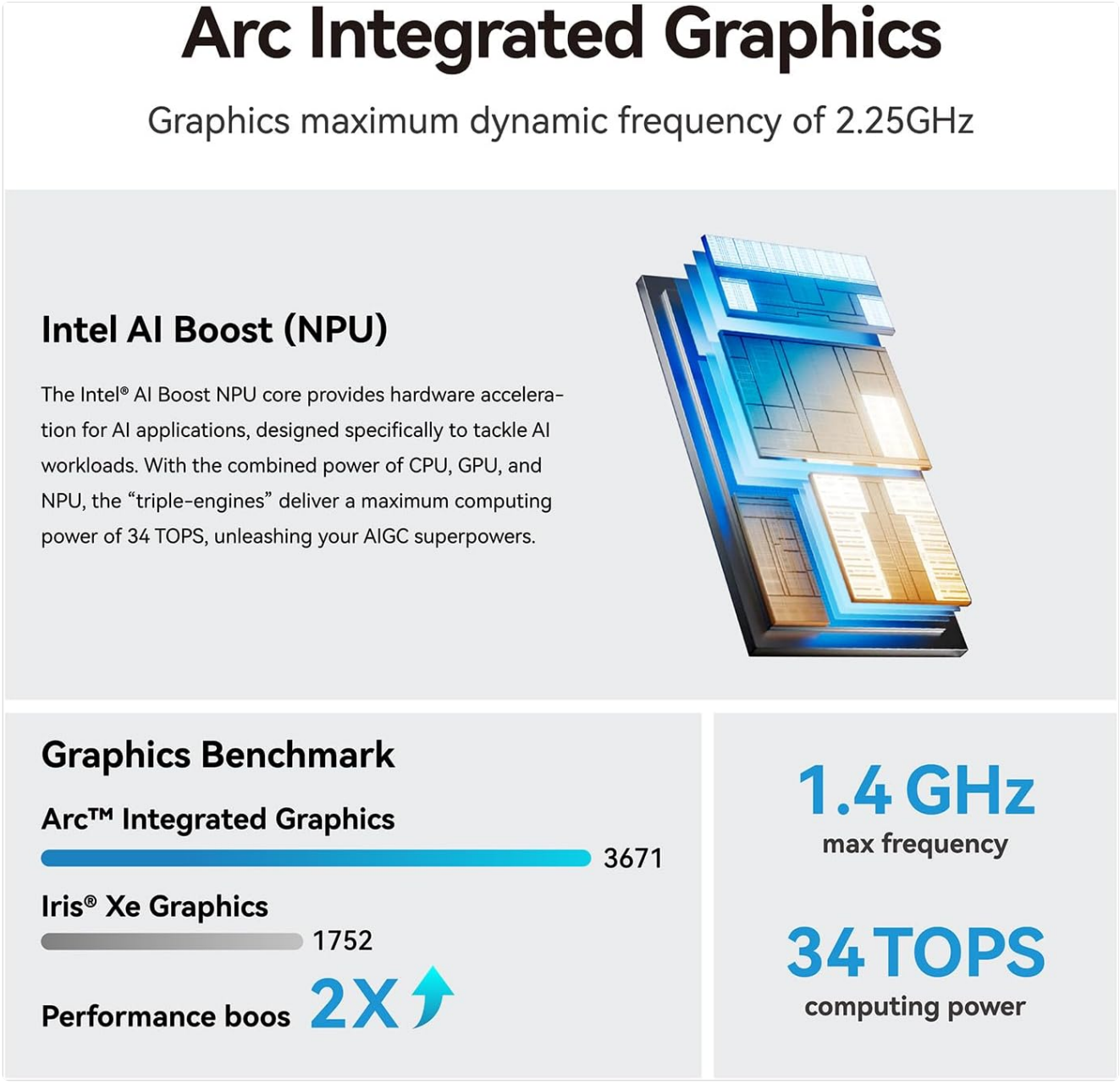


Figure 5: Overview of the Arc Integrated Graphics and AI Boost NPU, highlighting their performance metrics.

4.2 Connectivity and Expansion

The Mini PC offers versatile connectivity options:

- **Thunderbolt 4 & USB4:** For lightning-fast 40Gbps data transfers and display output.
- **HDMI 2.1 TMDS:** Supports 18Gbps output for high-resolution displays.
- **USB-A 3.2 Gen2:** Two ports offering 10Gbps data transfer.
- **Wireless:** Built-in Bluetooth 5.3 and Wi-Fi 6E for seamless wireless connections.

Figure 6: Thunderbolt 4 interface and its high-speed data transfer rates compared to other ports.

For storage expansion, the device includes an M.2 2230 SSD expansion slot with an ingenious magnetic cover design, allowing for easy addition of up to 2TB PCIe 4.0 SSD storage.

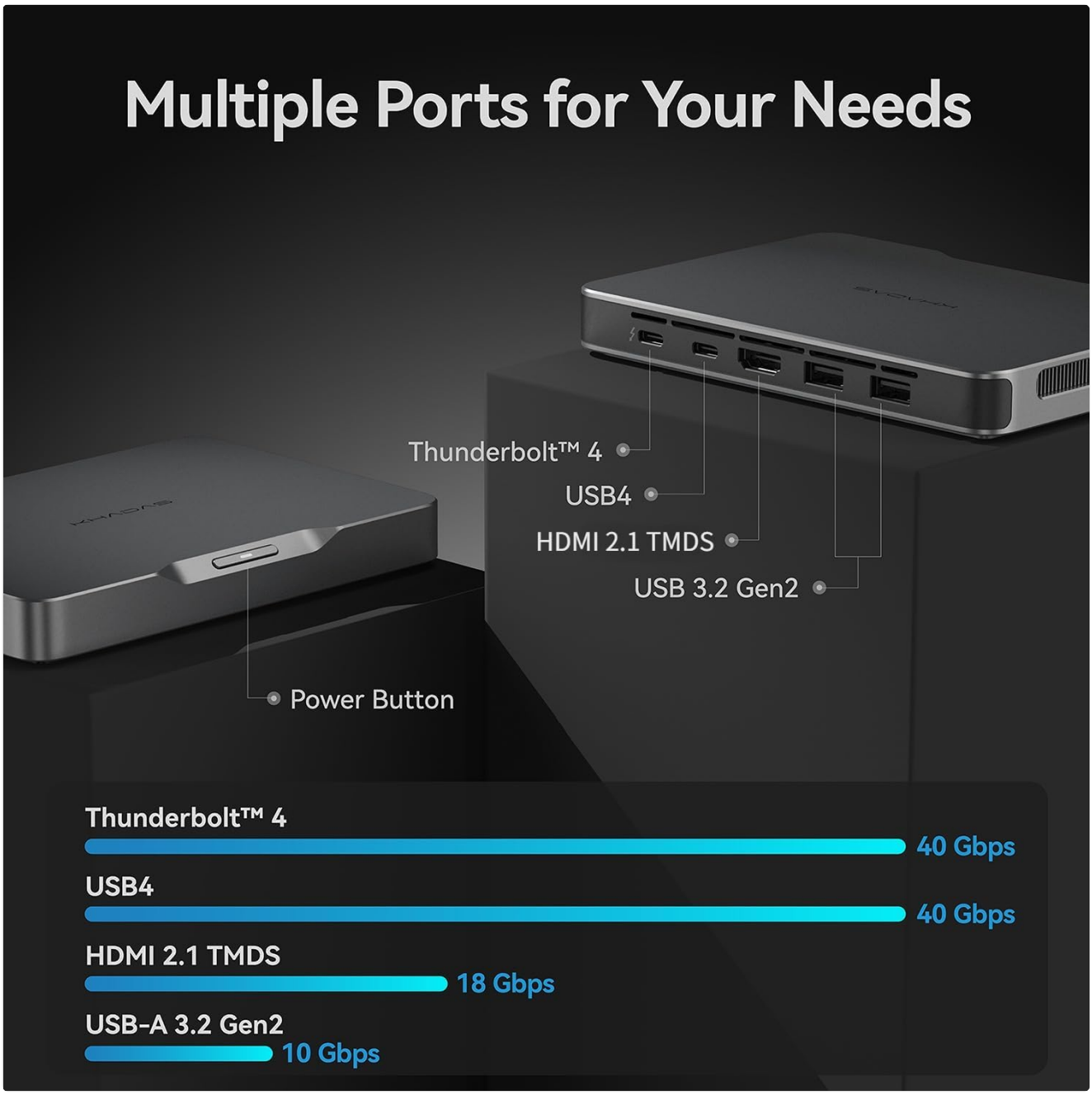


Figure 7: The M.2 2230 SSD expansion slot, designed for easy storage upgrades.

4.3 Built-in Battery

The Khadas Mind 2 features a built-in 5.55Wh battery, providing up to 25 hours of standby time. This allows the device to enter sleep mode instantly upon power disconnection, preserving your work without data loss. It can wake up in just 2 seconds, enabling quick resumption of tasks.

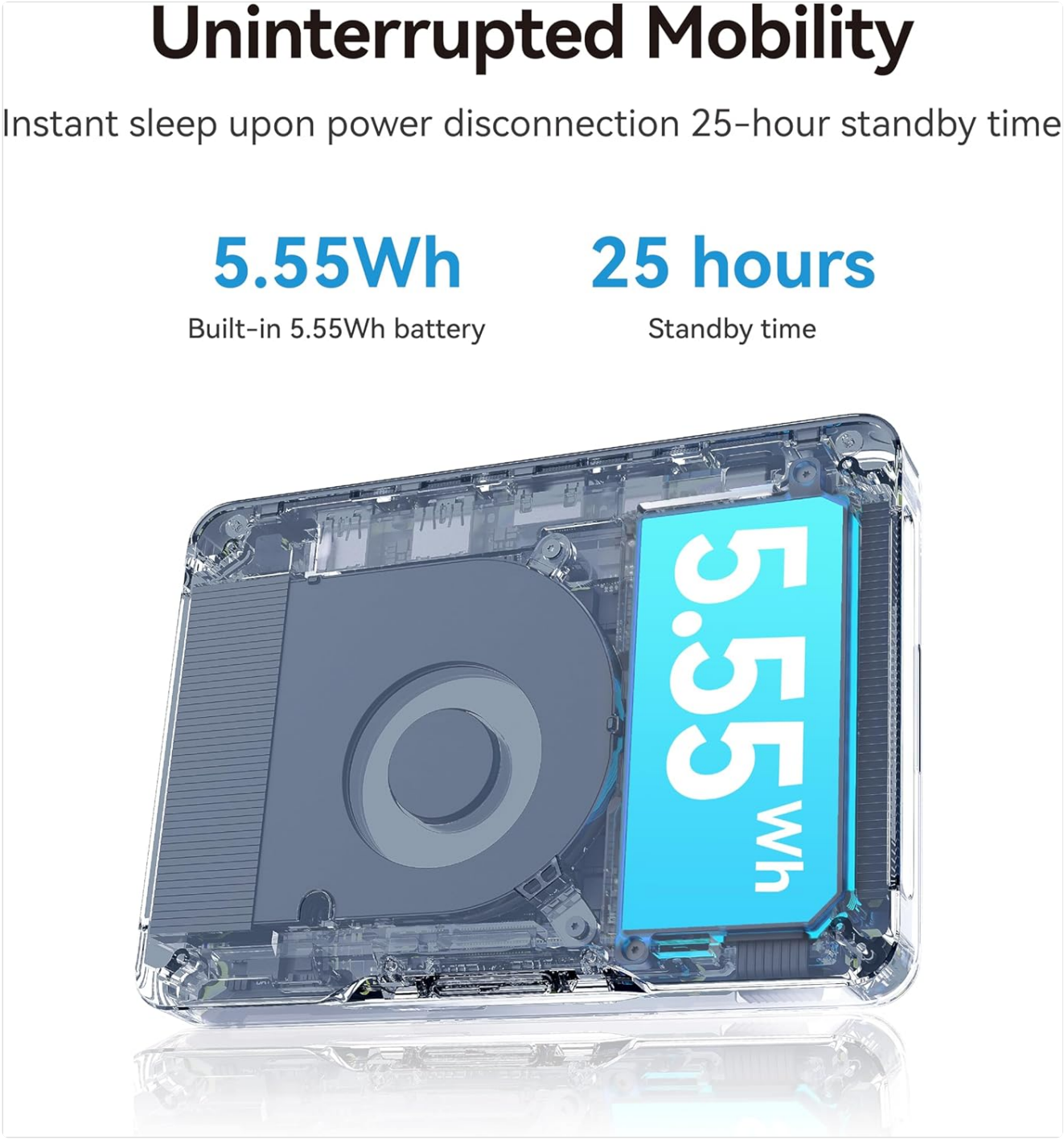


Figure 8: Illustration of the built-in 5.55Wh battery, enabling uninterrupted mobility and standby time.

5. Specifications

Feature	Detail
Processor	Intel Core Ultra 5 125H (14 Cores, 18 Threads, up to 4.5GHz)
RAM	16 GB LPDDR5 (6400.0 MHz)

Storage	512 GB PCIe 4.0 SSD
Graphics	Intel Arc Integrated Graphics (up to 2.2GHz, 8 GB VRAM)
Operating System	Windows 11 Home
Wireless Connectivity	Bluetooth 5.3, Wi-Fi 6E
I/O Ports	Thunderbolt 4, USB4, HDMI 2.1 TMDS, 2x USB-A 3.2 Gen2
Battery	5.55Wh (up to 25 hours standby)
Dimensions (LxWxH)	5.75 x 4.13 x 0.79 inches
Weight	15.2 ounces (approx. 435 grams)

6. Maintenance

6.1 Software Updates

Regularly check for and install operating system updates (Windows Update) and driver updates to ensure optimal performance and security. Visit the official Khadas website for the latest drivers and firmware for your Mind 2 Mini PC.

6.2 Cleaning

To maintain optimal performance and prevent overheating, periodically clean the device. Use a soft, dry cloth to wipe down the exterior. For vents, use compressed air to gently remove dust buildup. Ensure the device is powered off and unplugged before cleaning.

7. Troubleshooting

7.1 No Power

- Ensure the power adapter is securely connected to the device and the power outlet.
- Verify the power outlet is functional by plugging in another device.

7.2 No Display Output

- Check that the HDMI or USB-C display cable is securely connected to both the Mini PC and the monitor.
- Ensure the monitor is powered on and set to the correct input source.
- Try a different display cable or monitor to rule out hardware issues.

7.3 Connectivity Issues

- For Wi-Fi, ensure the router is working and the device is within range. Reconnect to the Wi-Fi network.
- For Bluetooth, ensure the peripheral is in pairing mode and within range.
- For USB devices, try connecting to a different USB port or restarting the Mini PC.

8. Warranty and Support

The Khadas Mind 2 Mini PC typically comes with a 3-year protection plan. For detailed warranty terms and conditions, please refer to the warranty card included in your product packaging or visit the official Khadas support website.

For technical support, troubleshooting assistance, or service inquiries, please contact Khadas customer support through their official website or designated channels.

Related Documents - Khadas Mind Portable Workstation

How to Update BIOS from USB Drive

The instructions below guide you through the manual upgrade of your BIOS, which requires certain computer skills. Alternatively, for a simpler solution, visit the Khadas official website (khadas.com/mind/support) to download the most recent version of the Mind App, and then use the app to update the BIOS and EC firmware with several clicks.

Step 1:

1. Download the BIOS file (mind-bios-vx.zip) and then decompress the file.

Step 2:

1. Prepare a USB drive with at least 8GB of space and format it to FAT32.
Note: Right-click on the USB drive and select "Properties" to view the format information if you're unsure.

Step 3:

1. Paste the EFI file to the root directory of the USB drive.
2. Paste the BIOS files and tool files to the root directory of the USB drive.

Step 4:

1. Restart your computer and press F7.
2. Select the USB drive in the boot menu and press Enter key to boot the system from USB drive.

Step 5:

1. After entering the shell menu, input the command "fs3:" and press the Enter key.
Note: Depending on your system configuration, you may need to try different commands to locate your USB drive. You can start with "fs0:", then try "fs1:", "fs2:", and so on until you find the command that accesses your USB drive.

Step 6:

1. Input the command "dir" and press the Enter key. The BIOS file and the execution tool will be displayed on the screen.

Step 7:

1. Input the command "flcrash" and press the Enter key. This will initiate the BIOS update process.
Note: The update process will take approximately 5 minutes. Do not turn off the computer during the update.

Step 8:

1. Once the update is completed, a "Process Completed" message will be displayed on the screen.

Step 9:

1. After completing the update, power off the computer.
2. The BIOS update is now successfully completed. You can turn on your computer again.

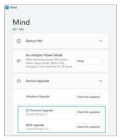
[How to Manually Update BIOS from USB Drive for Khadas Mind]

A comprehensive guide detailing the manual process of updating the BIOS on a Khadas Mind device using a USB drive. Follow these steps to prepare your USB, boot into the UEFI shell, and execute the BIOS update safely.

	[Khadas Mind Dock User Guide and Specifications] Official user guide for the Khadas Mind Dock, detailing its features, connection methods, ports, and hazardous substances information. Enhance your Mind workstation experience.
	[Khadas Tone2 Quickstart Guide: Hi-Fi Mini Desktop DAC] Get started with the Khadas Tone2 Hi-Fi Mini Desktop DAC. This guide covers interface, driver installation, firmware upgrades, usage modes, troubleshooting, and specifications.
	[How to Update EC Firmware from USB Drive | Khadas Mind] A comprehensive guide detailing the manual process of updating the EC firmware on a Khadas Mind device using a USB drive. Learn how to prepare the USB drive, boot into the UEFI shell, and execute the firmware update for optimal device performance.

How to Update EC from USB Drive

The instructions below guide you through the manual upgrade of your EC firmware, which requires certain computer skills. Alternatively, for a simpler solution, visit the Khadas official website (khadas.com/mind/support) to download the most recent version of the Mind App, and then use the app to update the BIOS and EC firmware with several clicks.



Step 1:

1. Download the EC file (mind-ec-xx.zip) and then decompress the file

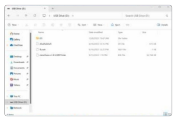
Step 2:

1. Prepare a USB drive with at least 8GB of space and format it to FAT32.

Note: Right-click on the USB drive and select "Properties" to view the format information if you're unsure.

Step 3:

1. Paste the EFI file to the root directory of the USB drive.
2. Paste the EC files and tool files to the root directory of the USB drive.



Step 4:

1. Restart your computer and press F7.
2. Select the USB drive in the boot menu and press Enter key to boot the system from USB drive.

Step 5:

1. After entering the shell menu, input the command "fs3:" and press the Enter key.

Note: Depending on your system configuration, you may need to try different commands to locate your USB drive. You can start with "fs0:", then try "fs1:", "fs2:", and so on until you find the command that accesses your USB drive.

Step 6:

1. Input the command "dir" and press the Enter key. The EC files and the execution tool will be displayed on the screen.

适用平台范围： Windows 10、Windows 11

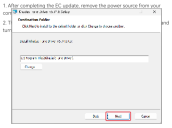
Step 7:

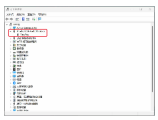
注意事项

安装步骤

Step 8:

Step 9:





[Khadas ASIO - Tone]

Khadas ASIO Windows 10 Windows 11 Khadas Tone Tone1, Tone2 Pro, Tone2, Tea, Tea Pro

Khadas XMOS DFU Upgrade Guide

Version: V1.2

Supported Devices: Tone1, Tone2, Tone2 Pro, Tea Pro

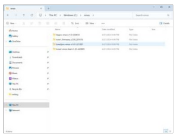
Supported Platforms: Windows 10/11, macOS

Notes

- On Windows, the ASIO driver must be installed before running the DFU upgrade tool.
- On macOS, no ASIO driver is required; you can run the DFU upgrade tool directly.
- Keep the device powered on during the upgrade. Power loss may cause data corruption.
- Firmware is device specific. Please download the correct firmware for your Khadas device to avoid malfunction.

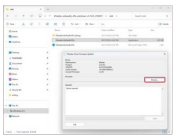
Windows DFU Upgrade Steps

1. Before upgrading, make sure the ASIO driver is installed:
   - Open Device Manager. If Khadas USB Audio Devices appears, the driver is installed correctly. If not, download and install the driver from the Khadas website: https://dl.khadas.com/products/tea-pro/drivers/
2. Download the DFU upgrade tool (for Tone1 / Tone2 / Tone2 Pro / Tea Pro): https://dl.khadas.com/products/tea-pro/tools/
3. Download the XMOS firmware for your device:
   - Tone1: https://dl.khadas.com/products/tone1/firmware/
   - Tone2: https://dl.khadas.com/products/tone2/firmware/
   - Tone2 Pro: https://dl.khadas.com/products/tone2-pro/firmware/
   - Tea Pro: https://dl.khadas.com/products/tea-pro/firmware/
4. Extract the DFU tool and the corresponding firmware into the same folder.

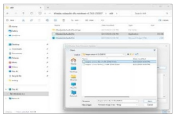


Note: The example above is for illustration only. Always select the firmware that matches your device model, otherwise it may cause malfunction.

5. Connect the device to your PC with a USB cable:
   - Tone1: use a USB-C to A cable
   - Tone2 / Tone2 Pro / Tea Pro: use a USB-C cable (PC side can be USB-C or USB-A)
6. Double-click **KhadasUsbAudioDfu**.exe and click **Browse**.



7. Select the XMOS firmware file for your device (example below shows Tea Pro).



8. Click **Start** to begin the upgrade.

9. When the upgrade is complete, click **Exit**, then power off and restart the device.

macOS DFU Upgrade Steps

Follow the same steps as Windows, starting from Step 2 to Step 9. No ASIO driver installation is required.

[Khadas XMOS DFU Upgrade Guide]

Step-by-step guide to upgrading the XMOS firmware on Khadas Tone1, Tone2, Tone2 Pro, and Tea Pro devices using Windows and macOS. Includes download links and important notes for a successful firmware update.