GMKtec EVO-X2

User Manual: GMKtec EVO-X2 AI Mini PC

Model: EVO-X2 | Brand: GMKtec

1. Introduction

This user manual provides comprehensive instructions for setting up, operating, maintaining, and troubleshooting your GMKtec EVO-X2 AI Mini PC. The EVO-X2 is a high-performance mini computer designed for demanding tasks, including AI computing, gaming, video editing, and multitasking, powered by the AMD Ryzen AI Max+ 395 processor.

2. What's in the Box

Please verify that all items are present in your package:

- GMKtec Nucbox EVO AMD Ryzen AI Max+ 395 Mini PC Computer
- Power Supply & Cable
- HDMI Cable
- User Manual

3. Product Overview

The GMKtec EVO-X2 is a compact yet powerful mini PC. Below are key components and features:

Figure 3.1: Front and rear view of the GMKtec EVO-X2 Mini PC, showcasing its compact design and extensive port selection including USB, HDMI, DisplayPort, and Ethernet.

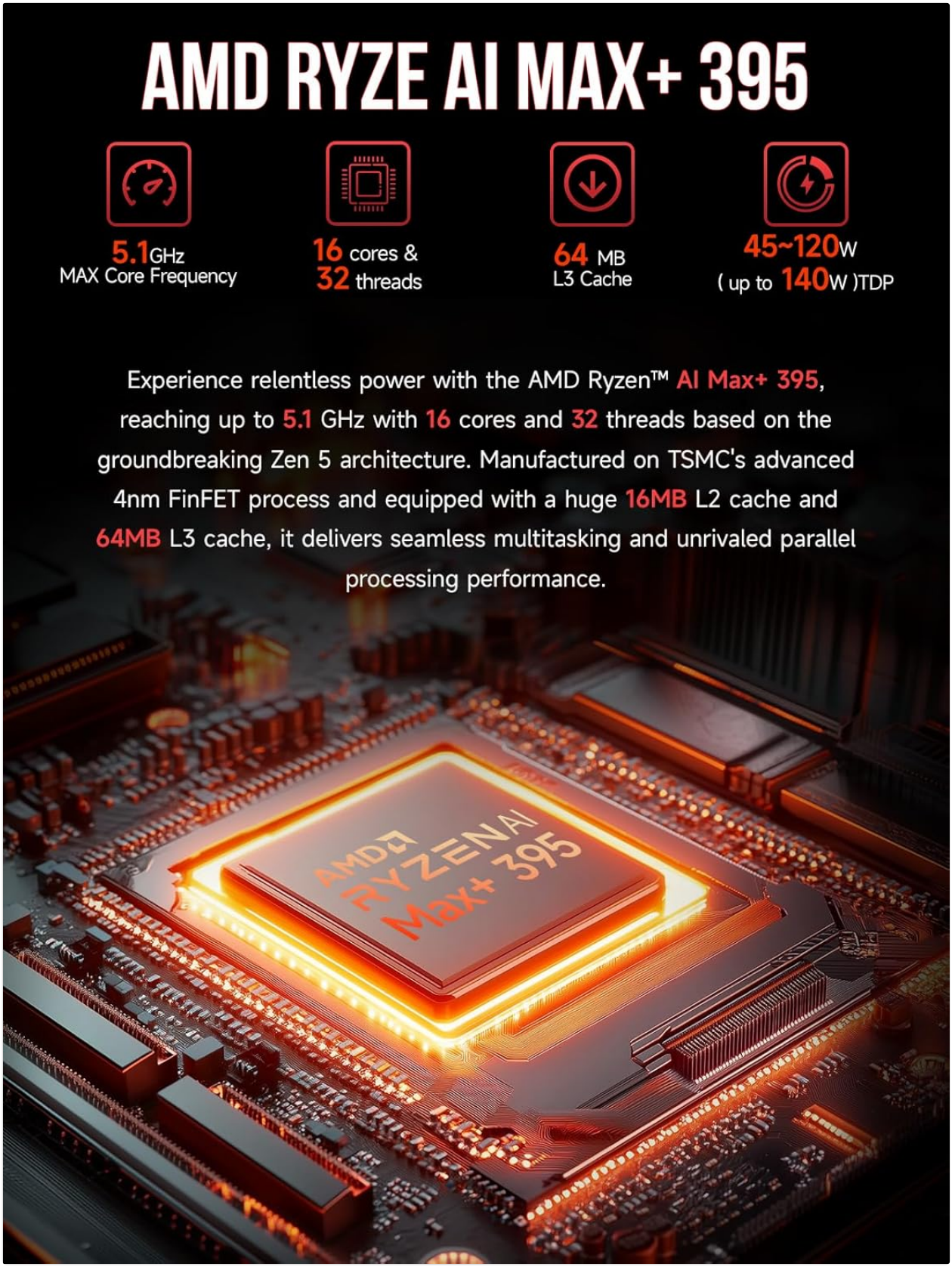


Figure 3.2: The AMD Ryzen AI Max+ 395 processor, featuring 16 cores, 32 threads, and a max core frequency of 5.1 GHz, designed for high-performance computing and AI workloads.

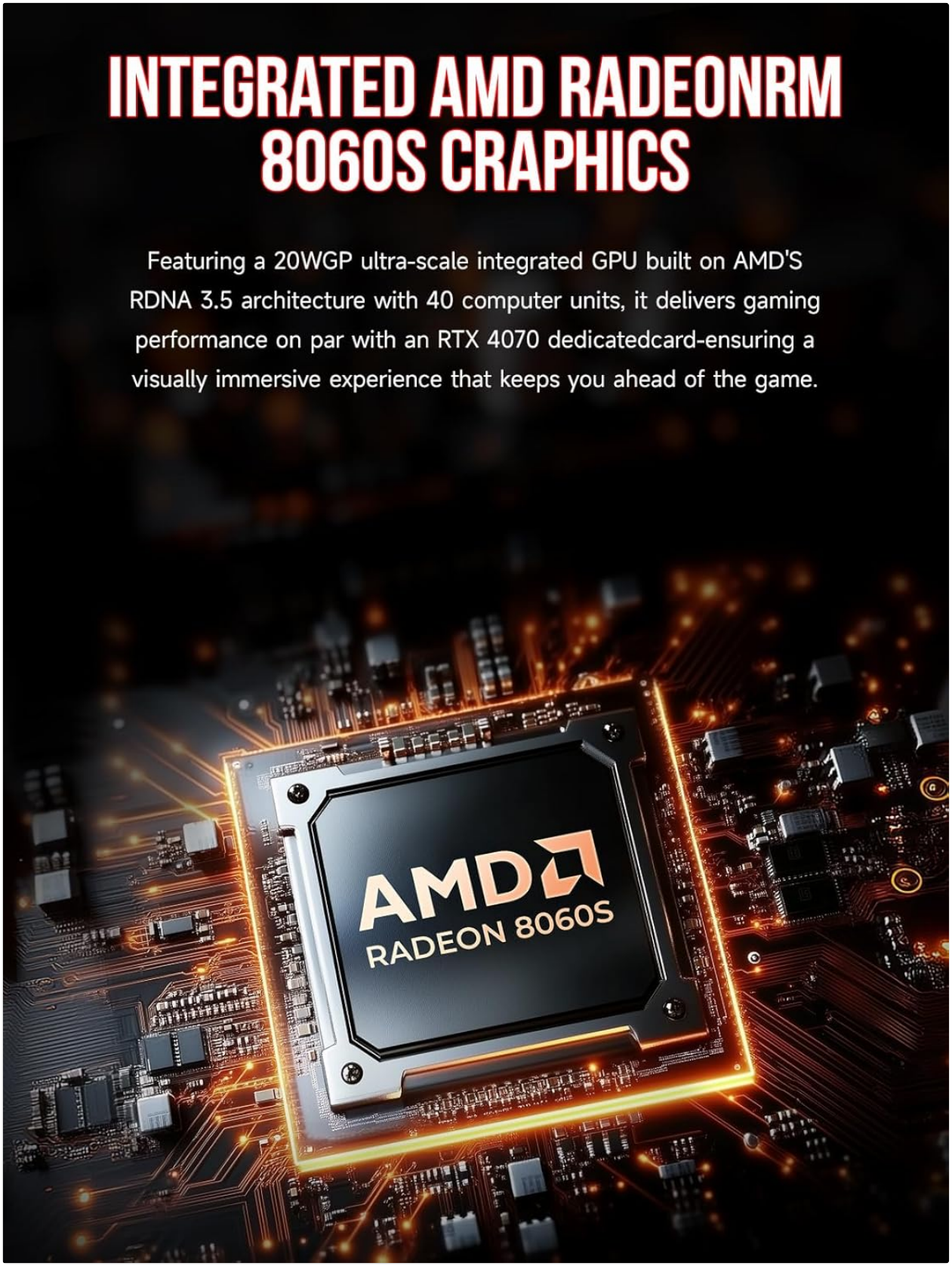


Figure 3.3: The integrated AMD Radeon 8060S Graphics chip, built on RDNA 3.5 architecture with 40 compute units, providing robust graphics performance for gaming and visual tasks.

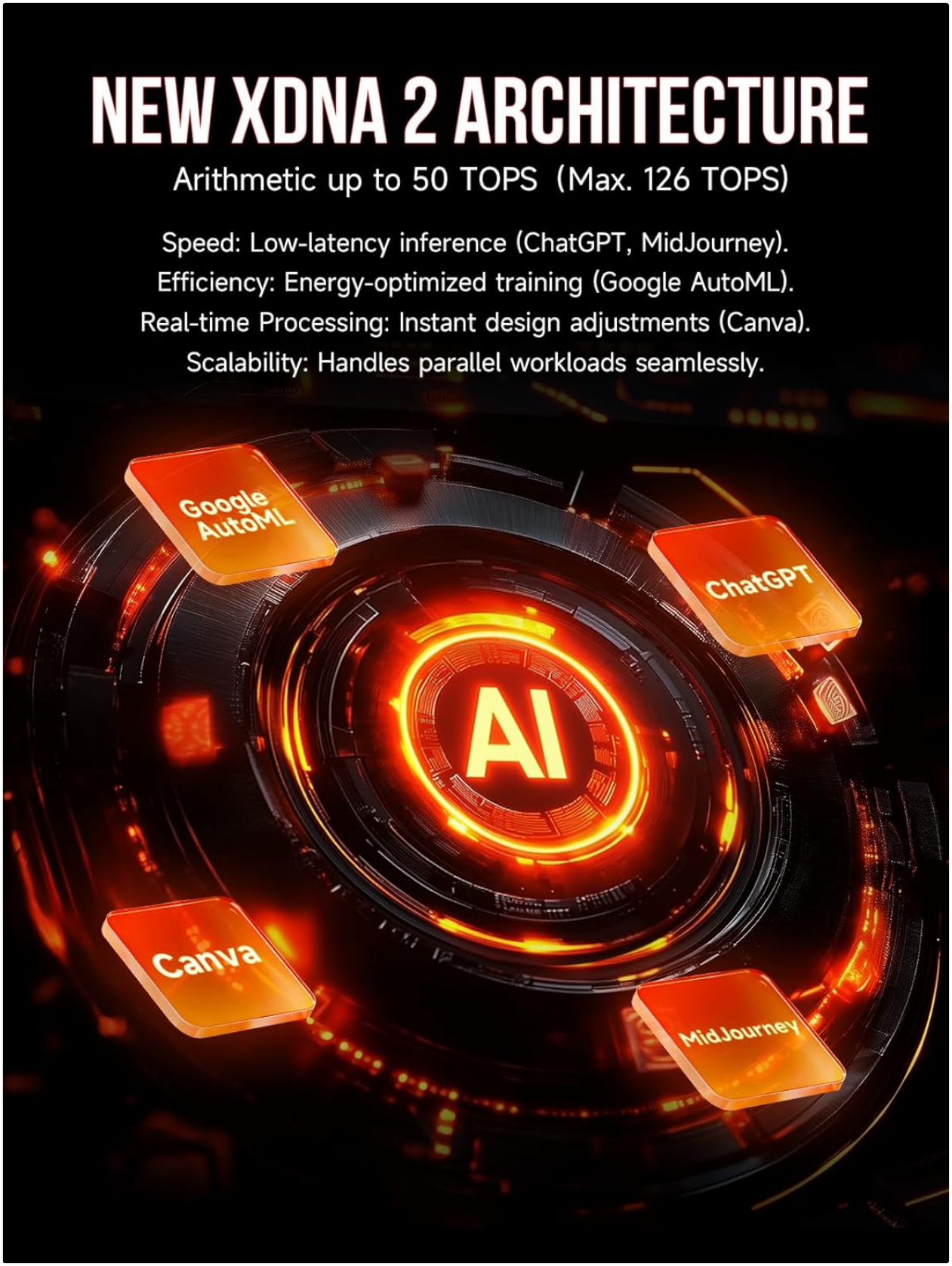


Figure 3.4: An illustration of the new XDNA 2 Architecture, highlighting its capabilities for low-latency inference, energy-optimized training, real-time processing, and scalability in AI applications.

Figure 3.5: Visual representation of the 2.5GbE High Speed Ethernet port, offering up to 2500 MB/s, and the USB4.0 port, providing faster and more stable data transfer capabilities.

Figure 3.6: A comparison chart demonstrating the significant speed improvements of WiFi 7 over previous generations, alongside the GMKtec Mini PC, emphasizing its support for 4K streaming and gaming with Bluetooth 5.4.

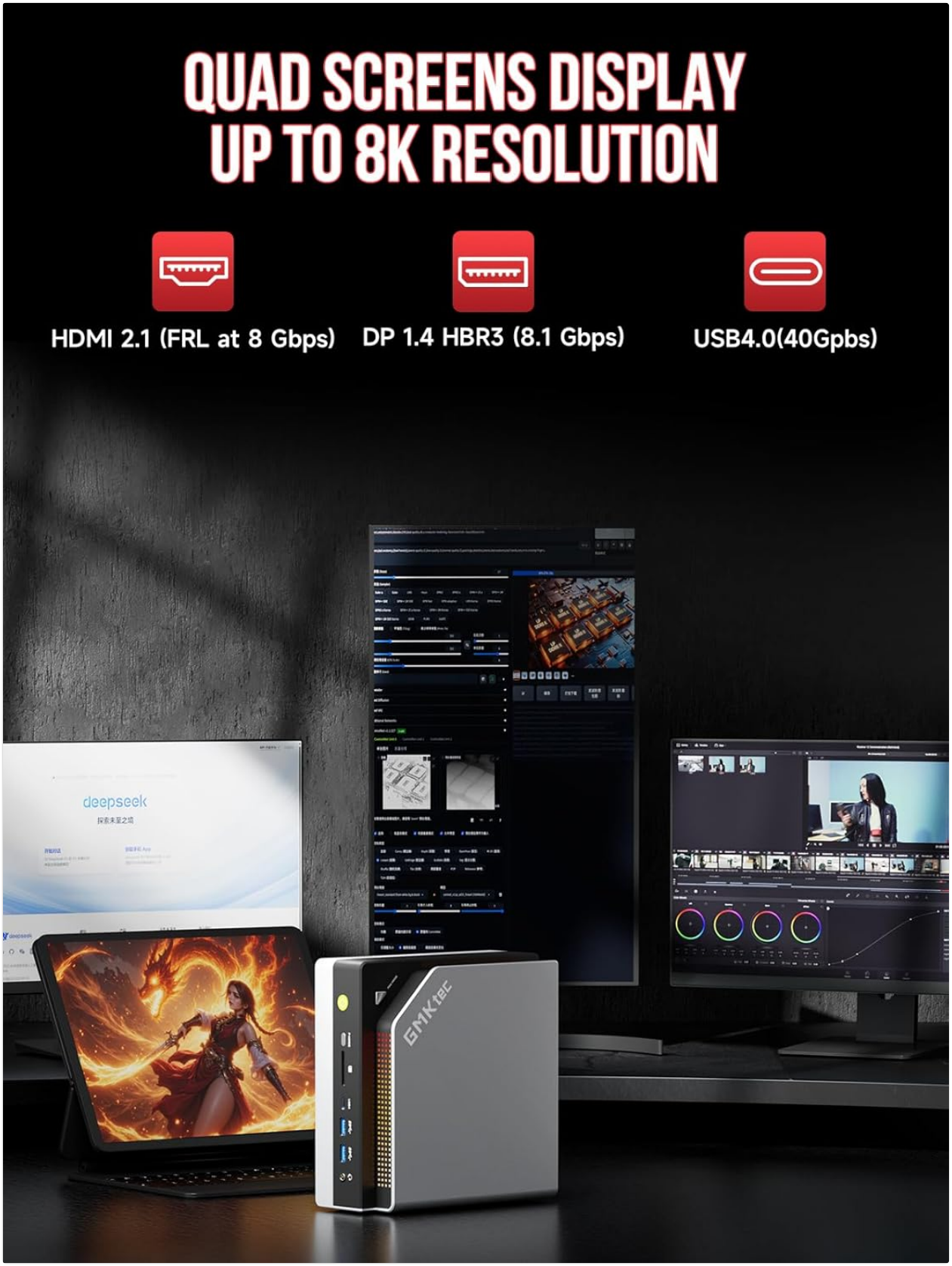


Figure 3.7: The GMKtec EVO-X2 supporting quad-screen display setups with up to 8K resolution, illustrating its capability for extensive multi-monitor configurations via HDMI 2.1, DisplayPort 1.4, and USB4.0.

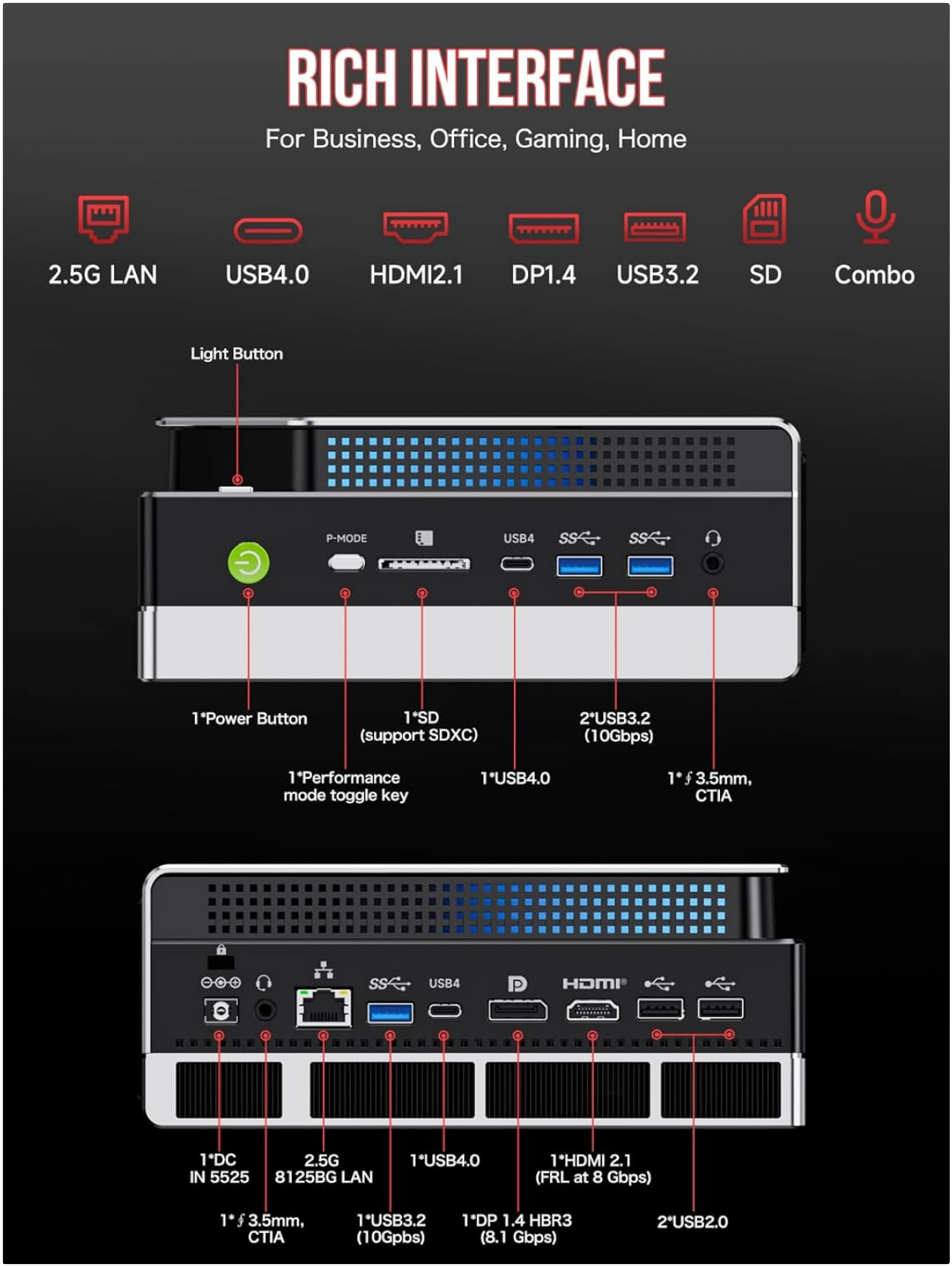


Figure 3.8: A detailed diagram showcasing the rich interface of the GMKtec EVO-X2, including the placement and type of all front and rear ports such as USB, HDMI, DisplayPort, LAN, and audio jacks.

4. Setup Guide

4.1 Initial Connection

1. **Connect Power:** Plug the power supply cable into the DC IN port on the mini PC and then into a power outlet.
2. **Connect Display:** Use the provided HDMI cable or a DisplayPort/USB4 cable to connect your monitor(s) to the corresponding ports on the mini PC. The EVO-X2 supports up to four displays simultaneously.
3. **Connect Peripherals:** Plug in your keyboard, mouse, and any other USB devices into the available USB ports.
4. **Network Connection (Optional):** For a wired connection, connect an Ethernet cable from your router to the 2.5GbE LAN port. For wireless, ensure your Wi-Fi network is available.

4.2 Powering On

Press the power button located on the front of the mini PC. The system will boot up, and you should see the operating system load on your connected display.

5. Operating Instructions

5.1 Performance Modes

The EVO-X2 features three performance modes, allowing you to optimize power consumption and performance based on your needs. These modes can be switched seamlessly using the dedicated power button:

- **Quiet Mode (54W):** Ideal for light tasks, web browsing, and silent operation.
- **Balanced Mode (85W):** Suitable for everyday productivity and moderate workloads.
- **Performance Mode (140W):** Maximizes CPU and GPU performance for demanding applications, gaming, and AI workloads.

An on-screen symbol will confirm the mode change.

5.2 Display Configuration

The EVO-X2 supports quad-screen output with resolutions up to 8K. Connect your displays using a combination of HDMI 2.1, DisplayPort 1.4, and the dual USB4 ports. Configure your display settings (resolution, orientation, extended/duplicated desktop) within your operating system's display settings.

5.3 AI NPU Utilization

Leverage the integrated AMD Ryzen AI Max+ 395 NPU (Neural Processing Unit) for AI workloads. Applications like LM Studio, which utilize llama.cpp, can run locally on the EVO-X2, enabling efficient execution of large language models (LLMs) without requiring extensive technical knowledge.

6. Connectivity

6.1 Wired Network

The 2.5GbE LAN port provides high-speed wired network connectivity, suitable for applications requiring stable and fast data transfer, such as file servers or network-intensive tasks.

6.2 Wireless Connectivity

The EVO-X2 is equipped with Wi-Fi 7 (802.11be) for ultra-fast wireless internet access, offering theoretical throughputs up to 46Gbps. Bluetooth 5.4 ensures stable and efficient connections with wireless peripherals like keyboards, mice, and audio devices.

6.3 USB Ports

The mini PC features a variety of USB ports for connecting peripherals and external storage:

- **USB4 (40Gbps):** Two ports supporting PD3.0/DP1.4/DATA for high-speed data transfer and display output.
- **USB 3.0:** Three ports for general-purpose high-speed connections.
- **USB 2.0:** Two ports for basic peripheral connections.

6.4 SD 4.0 Card Reader

The integrated SD/TF 4.0 Card Reader supports UHS-II cards, providing steady and efficient data transmission for faster photo and video transfers.

7. Storage and Memory

7.1 LPDDR5X Memory

The EVO-X2 comes with 128GB of on-board LPDDR5X memory, offering blazing speeds up to 8000MT/s. This advanced memory provides significant performance improvements over DDR5 SODIMMs, especially in video conferencing, photo editing, and productivity applications.

7.2 PCIe 4.0 SSD

Equipped with a 2TB PCIe 4.0 M.2 2280 SSD, the mini PC offers fast storage performance. It features dual slots, allowing for expansion up to 4TB per slot.

8. Cooling System

The EVO-X2 incorporates a robust cooling system to maintain optimal temperatures under heavy loads:

- **Triple Cooling Fans:** Dual turbo CPU fans and a dedicated DDR5/SSD cooling fan ensure efficient heat dissipation.
- **Advanced Heatpipes:** Three heatpipes and 360° airflow design contribute to effective cooling.
- **RGB Lighting:** 13 dazzling RGB lighting modes allow for personalization of the device's aesthetic.

The system is designed to operate quietly, with noise levels as low as 35dB in Quiet Mode.

9. Specifications

Feature	Specification
Brand	GMKtec
Series	EVO-X2
Item Model Number	EVO-X2
Operating System	Windows 11 Pro
Processor	AMD Ryzen AI Max+ 395 (5.1 GHz)
Number of Processors	16 Cores
RAM	128 GB LPDDR5X 8000MT/S
Memory Speed	8000 MHz
Hard Drive	2 TB PCIe 4.0 M.2 2280 SSD (Dual Slots, Max. 4TB Each)
Graphics Coprocessor	AMD Radeon 8060S Graphics 40Cores RDNA3.5
Graphics Card RAM Size	128 GB (shared)
Wireless Type	Wi-Fi 7 (802.11be), Bluetooth 5.4
Ethernet	2.5GbE LAN
USB Ports	2x USB4, 3x USB 3.0, 2x USB 2.0
Video Output	HDMI 2.1 (8K@60Hz), DisplayPort 1.4 (4K@60Hz), Dual USB4 (PD3.0/DP1.4/DATA)
Card Reader	SD/TF 4.0 (UHS-II)
Item Weight	7.24 pounds
Color	Silver

10. Maintenance

To ensure the longevity and optimal performance of your GMKtec EVO-X2 Mini PC, follow these maintenance guidelines:

- **Cleaning:** Regularly clean the exterior of the mini PC with a soft, dry cloth. Use compressed air to clear dust from ventilation grilles and ports to prevent overheating. Ensure the device is powered off and unplugged before cleaning.
- **Ventilation:** Ensure the mini PC is placed in a well-ventilated area, away from direct sunlight or heat sources. Do not block the air vents.
- **Software Updates:** Keep your operating system, drivers, and applications updated to ensure stability,

security, and performance.

- **Data Backup:** Regularly back up important data to an external drive or cloud storage to prevent data loss.

11. Troubleshooting

If you encounter issues with your GMKtec EVO-X2, refer to the following common problems and solutions:

11.1 No Power

- **Check Power Connection:** Ensure the power adapter is securely plugged into the mini PC and the wall outlet.
- **Test Outlet:** Try plugging another device into the same outlet to confirm it is working.
- **Power Button:** Ensure the power button is fully pressed.

11.2 No Display Output

- **Check Cable Connections:** Verify that the HDMI, DisplayPort, or USB4 cables are securely connected to both the mini PC and the monitor.
- **Monitor Input:** Ensure your monitor is set to the correct input source (e.g., HDMI 1, DisplayPort).
- **Test with Another Monitor/Cable:** If possible, try connecting the mini PC to a different monitor or using a different cable to rule out faulty hardware.

11.3 System Instability or Crashing

- **Check Cooling:** Ensure the mini PC has adequate ventilation and that the cooling fans are not obstructed. Excessive heat can lead to instability.
- **Performance Mode:** If experiencing instability during demanding tasks, try switching to a lower performance mode (e.g., Balanced or Quiet) to reduce heat generation.
- **Driver Updates:** Ensure all drivers, especially graphics and chipset drivers, are up to date.
- **Software Conflicts:** Identify any recently installed software that might be causing conflicts. Consider performing a system restore if the issue began after a specific installation.

11.4 Excessive Fan Noise

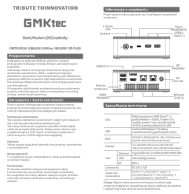
- **Dust Accumulation:** Clean the fan vents to remove any dust buildup that might be impeding airflow.
- **Performance Mode:** Switch to Quiet or Balanced mode if high performance is not required, as this will reduce fan speed and noise.
- **System Load:** High CPU/GPU usage will naturally increase fan speed. Close unnecessary applications to reduce system load.

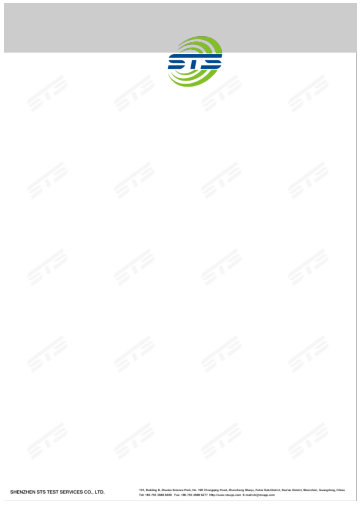
If these steps do not resolve your issue, please contact GMKtec customer support.

12. Warranty and Support

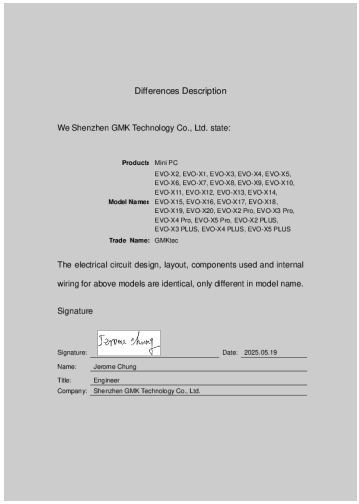
GMKtec offers a **1-year limited warranty** for each mini PC, effective from the date of purchase. This warranty covers all defects due to design and workmanship.
For technical assistance, troubleshooting beyond this manual, or warranty claims, please contact GMKtec's professional after-sales team. Refer to the contact information provided on the GMKtec official website or your purchase documentation for support channels.

Related Documents - EVO-X2

	GMKtec NUCBOX EVO-X2 User Manual and Technical Specifications Comprehensive user manual for the GMKtec NUCBOX EVO-X2 Mini PC, detailing its features, technical specifications, connection steps, safety precautions, and FCC compliance.
	GMKtec NUCBOX EVO-X2 User Manual: Specifications, Setup, and Support Comprehensive user manual for the GMKtec NUCBOX EVO-X2 Mini PC, detailing technical specifications, connection steps, BIOS settings, safety precautions, and warranty information.
	GMKtec NUCBOX M5 PLUS User Manual and Safety Guide Comprehensive user manual for the GMKtec NUCBOX M5 PLUS mini PC, detailing setup, specifications, safety precautions, and warranty information. Learn how to connect your device, access BIOS, and ensure safe operation.
	GMKtec NUCBOX K1/K2 Mini PC User Manual - Setup, Specifications, and Support Comprehensive user manual for the GMKtec NUCBOX K1 and K2 Mini PCs, detailing setup procedures, technical specifications for both models, connectivity options, warranty information, and customer support contacts.
	GMKtec NUCBOX M5 PLUS User Manual User manual for the GMKtec NUCBOX M5 PLUS mini PC, detailing its features, specifications, connection steps, and basic settings. Includes safety precautions and warranty information.
	Návod k obsluze GMKtec NUCBOX G3: Specifikace a Bezpečnostní Pokyny Kompletní uživatelský manuál pro GMKtec NUCBOX G3 mini PC. Obsahuje informace o specifikacích, připojení, bezpečnosti, údržbě a záruce produktu.



[GMKtec EVO-X2 Mini PC MPE RF Exposure Report - FCC 47CFR §2.1091]
MPE (Maximum Permissible Exposure) RF exposure report for the GMKtec EVO-X2 Mini PC, detailing compliance with FCC 47CFR §2.1091 and relevant guidelines. Includes test results, limits, and product specifications.
lang:en score:28 filesize: 817.73 K page_count: 10 document date: 2025-05-22



[pdf]
Differences Description simple Shenzhen GMK Technology Co Ltd EVO X2 Mini PC 2AXUD 2AXUDEVOX2 evo x2
Differences Description We Shenzhen GMK Technology Co., Ltd. state: Product Mini PC **EVO-X2**, EVO-X1, EVO-X3, EVO-X4, EVO-X5, EVO-X6, EVO-X7, EVO-X8, EVO-X9, EVO-X10, EVO-X11, EVO-X12, EVO-X13, EVO-X14, Model Name EVO-X15, EVO-X16, EVO-X17, EVO-X18, EVO-X19, **EVO-X2**0, **EVO-X2** Pro, EVO-X3 Pro, EVO-X4 Pro...
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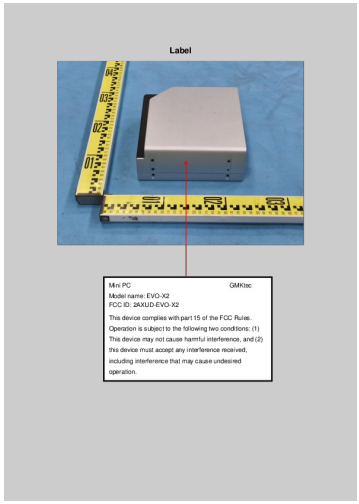
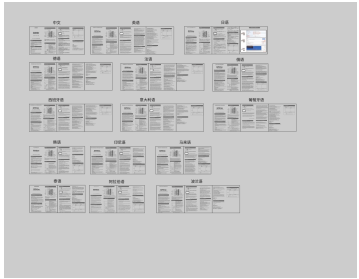
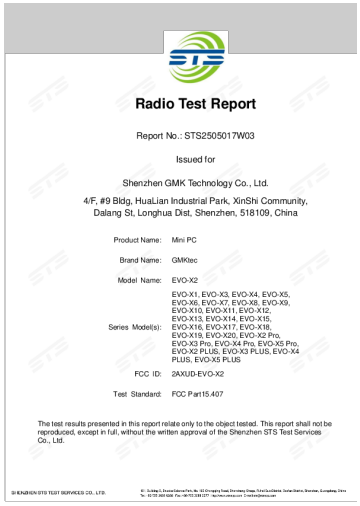


[GMKtec EVO-X2 Mini PC FCC Compliance Label]
FCC compliance information for the GMKtec EVO-X2 Mini PC, including FCC ID 2AXUD-EVO-X2 and operational conditions as per FCC Rules Part 15.
lang:de score:27 filesize: 137.17 K page_count: 1 document date: 2025-05-19



[GMKtec NUCBOX EVO-X2 User Manual: Specifications, Setup, and Support]
Comprehensive user manual for the GMKtec NUCBOX EVO-X2 Mini PC, detailing technical specifications, connection steps, BIOS settings, safety precautions, and warranty information.
lang:en score:27 filesize: 29.27 M page_count: 1 document date: 2025-05-29



Radio Test Report

Report No.: STS2505017W03

Issued for

Shenzhen GMK Technology Co., Ltd.

4/F, #9 Bldg, HuaLian Industrial Park, XinShi Community, Dalang St, Longhua Dist, Shenzhen, 518109, China

Product Name: Mini PC

Brand Name: GMKtec

Model Name: EVO-X2

Series Model(s): EVO-X1, EVO-X3, EVO-X4, EVO-X5, EVO-X6, EVO-X7, EVO-X8, EVO-X9, EVO-X10, EVO-X11, EVO-X12, EVO-X13, EVO-X14, EVO-X15, EVO-X16, EVO-X17, EVO-X18, EVO-X19, EVO-X20, EVO-X2 Pro, EVO-X3 Pro, EVO-X4 Pro, EVO-X5 Pro, EVO-X2 PLUS, EVO-X3 PLUS, EVO-X4 PLUS, EVO-X5 PLUS

FCC ID: 2AXUD-EVO-X2

Test Standard: FCC Part15.407

The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Shenzhen STS Test Services Co., Ltd.

SHENZHEN STS TEST SERVICES CO., LTD.

[pdf] Test Report

Measurement Report Kent RF 5GWIFI PART15 407 Shenzhen GMK Technology Co Ltd EVO X2 Mini PC 2AXUD 2AXUDEVOX2 evo x2

Radio Test Report Report No.: STS2505017W03 Issued for Shenzhen GMK Technology Co., Ltd. 4/F, #9 Bldg, HuaLian Industrial Park, XinShi Community, Dalang St, Longhua Dist, Shenzhen, 518109, China Product Name: Mini PC Brand Name: GMKtec Model Name: **EVO-X2** Series Model s : EVO-X1, EVO-X3, EVO-X4...

lang:en score:26 filesize: 2.86 M page_count: 40 document date: 2025-05-16

Radio Test Report

Report No.:STS2505017W01

Issued for

Shenzhen GMK Technology Co., Ltd.

4/F, #9 Bldg, HuaLian Industrial Park, XinShi Community, Dalang St, Longhua Dist, Shenzhen, 518109, China

Product Name: Mini PC

Brand Name: GMKtec

Model Name: EVO-X2

Series Model(s): EVO-X1, EVO-X3, EVO-X4, EVO-X5, EVO-X6, EVO-X7, EVO-X8, EVO-X9, EVO-X10, EVO-X11, EVO-X12, EVO-X13, EVO-X14, EVO-X15, EVO-X16, EVO-X17, EVO-X18, EVO-X19, EVO-X20, EVO-X2 Pro, EVO-X3 Pro, EVO-X4 Pro, EVO-X5 Pro, EVO-X2 PLUS, EVO-X3 PLUS, EVO-X4 PLUS, EVO-X5 PLUS

FCC ID: 2AXUD-EVO-X2

Test Standards: FCC Part15.247

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SHENZHEN STS TEST SERVICES CO., LTD.

[GMKtec EVO-X2 Mini PC Radio Test Report]

This report details the radio test results for the GMKtec EVO-X2 Mini PC, covering conducted and radiated emissions, bandwidth, power spectral density, and antenna requirements according to FCC Part 15.247 standards.

lang:en score:25 filesize: 4 M page_count: 57 document date: 2025-05-19

Radio Test Report

Report No.:STS2505017W02

Issued for

Shenzhen GMK Technology Co., Ltd.

4/F, #9 Bldg, HuaLian Industrial Park, XinShi Community, Dalang St, Longhua Dist, Shenzhen, 518109, China

Product Name: Mini PC

Brand Name: GMKtec

Model Name: EVO-X2

Series Model(s): EVO-X1, EVO-X3, EVO-X4, EVO-X5, EVO-X6, EVO-X7, EVO-X8, EVO-X9, EVO-X10, EVO-X11, EVO-X12, EVO-X13, EVO-X14, EVO-X15, EVO-X16, EVO-X17, EVO-X18, EVO-X19, EVO-X20, EVO-X2 Pro, EVO-X3 Pro, EVO-X4 Pro, EVO-X5 Pro, EVO-X2 PLUS, EVO-X3 PLUS, EVO-X4 PLUS, EVO-X5 PLUS

FCC ID: 2AXUD-EVO-X2

Test Standards: FCC Part15.247

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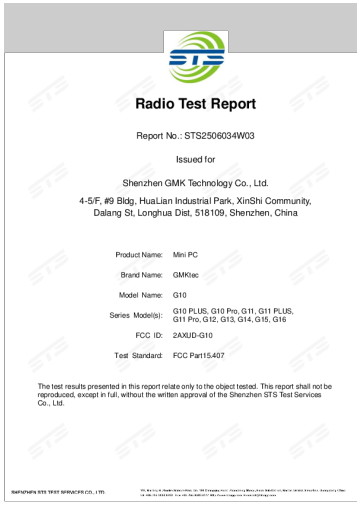
SHENZHEN STS TEST SERVICES CO., LTD.

[pdf] Test Report

Microsoft Word TR STS2505017W02 RF BT Part 15 247 docx admin Part15 Shenzhen GMK Technology Co Ltd EVO X2 Mini PC 2AXUD 2AXUDEVOX2 evo x2

Radio Test Report Report No.:STS2505017W02 Issued for Shenzhen GMK Technology Co., Ltd. 4/F, #9 Bldg, HuaLian Industrial Park, XinShi Community, Dalang St, Longhua Dist, Shenzhen, 518109, China Product Name: Mini PC Brand Name: GMKtec Model Name: Series Model s : FCC ID: **EVO-X2** EVO-X1, EVO-X3, ...

lang:en score:24 filesize: 3.33 M page_count: 95 document date: 2025-05-19



Radio Test Report

Report No.: STS2506034W03

Issued for

Shenzhen GMK Technology Co., Ltd.

4-5/F, #9 Bldg, HuaLian Industrial Park, XinShi Community, Dalang St, Longhua Dist, 518109, Shenzhen, China

Product Name: Mini PC

Brand Name: GMKtec

Model Name: G10

Series Model(s): G10 PLUS, G10 Pro, G11, G11 PLUS, G11 Pro, G12, G13, G14, G15, G16

FCC ID: 2AXUD-G10

Test Standard: FCC Part15.407

The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Shenzhen STS Test Services Co., Ltd.

SHENZHEN STS TEST SERVICES CO., LTD.

[GMKtec G10 Mini PC Radio Test Report]

This report details the radio test results for the GMKtec G10 Mini PC, covering conducted emissions, radiated emissions, bandwidth measurements, power spectral density, and antenna requirements according to FCC Part 15.407 standards.

lang:en score:14 filesize: 5.21 M page_count: 25 document date: 2025-06-17

SHENZHEN STS TEST SERVICES CO., LTD.

[GMKtec G10 Mini PC Radio Test Report]

Official radio test report for the GMKtec G10 Mini PC, detailing conducted and radiated emission tests, power spectral density, bandwidth, and antenna requirements according to FCC Part 15.247 standards.

lang:en score:14 filesize: 5.44 M page_count: 26 document date: 2025-06-17

Radio Test Report

Report No.:STS2506034W02

Issued for

Shenzhen GMK Technology Co., Ltd.

4-5/F, #9 Bldg, HuaLian Industrial Park, XinShi Community, Dalang St, Longhua Dist, 518109, Shenzhen, China

Product Name: Mini PC

Brand Name: GMKtec

Model Name: G10

Series Model(s): G10 PLUS, G10 Pro, G11, G11 PLUS, G11 Pro, G12, G13, G14, G15, G16

FCC ID: 2AXUD-G10

Test Standards: FCC Part15.247

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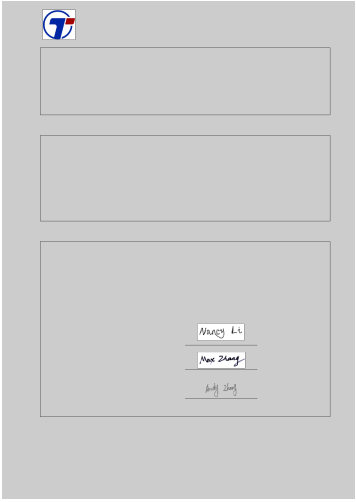
SHENZHEN STS TEST SERVICES CO., LTD.

[pdf] Test Report

RF BT Part 15 247 Shenzhen GMK Technology Co Ltd G10 Mini PC 2AXUD 2AXUDG10 g10

Radio Test Report Report No.:STS2506034W02 Issued for Shenzhen GMK Technology Co., Ltd. 4-5/F, #9 ... Cable GMKtec E-1 Computer monitor PHILIPS E-2 Adapter JHD-AD066C6-190342BA-A Model/Type No. **EVO-X2** FASTIPS N/A Note N/A N/A N/A Item Equipment C-1 Shielded Mfr/Brand NO Length 100cm No...

lang:en score:11 filesize: 4.83 M page_count: 96 document date: 2025-06-12



[NucBox Mini PC FCC Test Report - GMKtec Compliance]

Comprehensive FCC compliance test report for Shenzhen GMK Technology Co., Ltd's NucBox mini PCs, detailing results for models like M7, K8, G2, G3, and EVO series, tested by Shenzhen Tongzhou Testing Co.,Ltd. against FCC CFR Title 47 Part 15C and ANSI C63.10:2013 standards.

lang:en score:10 filesize: 1.13 M page_count: 32 document date: 2024-12-24