



# Nano-A352

Fanless Mini PC

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## Technical Support Documentation

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<b>Product:</b>	Nano-A352
<b>Platform:</b>	Rockchip RK3568/3588 CPU
<b>Classification:</b>	Mini PC

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*All product specifications are subject to change without notice.*

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# 1. Product Overview

The Nano-A352 is a compact fanless mini pc designed for versatile deployment in space-constrained environments. Its fanless design ensures silent, reliable operation suitable for offices, digital signage, and edge computing.

## 1.1 Key Features

- Fanless Aluminum Design
- Rockchip RK3568/3588 CPU
- 2 x Gigabit LAN Ports and WiFi
- Built-in Mini PCIe
- Supports various 4G modules
  - such as Yuge and Quectel (optional)
- 4 x USB, 2 x RS232 COM Ports (1 x RS485 optional)
- 6 KIO
- Support DC 9V-15V wide voltage input
- Built-in neural network NPU, up to 6Tops (RK3588)

## 1.2 Target Applications

The Nano-A352 is suitable for Industrial automation, medical, logistics & transportation, warehouse, e-education etc..

## 1.3 Package Contents

Verify the following items are included in the package:

Item	Qty	Description
Power Adapter	1	Optional 12V 3.3A
Power Cord	1	CN, US, UK, EU etc.
WiFi Antenna	1	2.4/5G
Certificate of conformity	1	Neutral
Warranty card	1	Neutral
Remote control	1	-
1 Optional accessories	1	-
(Android system available)	1	-

**NOTE:** If any item is missing or damaged, contact IWILL Technology support immediately at [support@iwilltech.co.uk](mailto:support@iwilltech.co.uk).

## 2. Hardware Specifications

Complete technical specifications for the Nano-A352.

SYSTEM	
Model	Nano-A352
Processor	Rockchip RK3568/3588 CPU
Memory	Max. 32 GB
Display Ports	<p>1 x LVDS (for internal screen connection, Max. 1080P) 1 x TF Card Max. 256G, SIM Card (available when 4G is installed ) Expansion 1 x Mini PCIe (4G/5G) OS Support Ubuntu, Android, Harmonyos 1 x Power Button 1 x DC-In Front I/O 1 x HDMI 1 x USB 3.0 1 x USB/OTG 2 x Gigabit LAN Ports Rear I/O 1 x Audio Interface (2-in-1) (3.5mm ) 2 x RS232 COM Ports Power DC 9-15V Application Industrial automation, medical, logistics &amp; transportation, warehouse, e-educationetc. ENVIRONMENT Operating Temperature -20■ ~ 70■, surface air flow Relative Humidity 5% ~ 95% (non-condensing) MECHANISM Dimension 185 x 121 x 44 mm Net Weight 0.82 kg Warranty 1-Year warranty Phone: +852 914 61951   Email: sales@iwillmena.com All product specifications are subject to change without notice. www.iwillmena.com Front View Rear View DIMENSION unit:mm ACCESSORY Part Name Quantity Specification Power Adapter 1 Optional 12V 3.3A Power Cord 1 CN, US, UK, EU etc. WiFi Antenna 1 2.4/5G Certificate of conformity 1 Neutral Warranty card 1 Neutral Remote control 1 Optional accessories (Android system available) Phone: +852 914 61951   Email: sales@iwillmena.com All product specifications are subject to change without notice. www.iwillmena.com ORDER INFORMATION Nano-A352 I/O Port Expandable Options Specification 2 x LAN Ports 1 x USB 3.2 (OTG) 2 x COM Ports 1 x DC-In Android 11 1 x Mini PCIe RK-3568 Dual LAN Ports 1 x HDMI Ubuntu 20.04 (Expandable 4G 1 x Audio Open Harmony V4.0 1 x 6 KIO 1 x TF Card Slot 1 x SIM Card Slot 2 x LAN Ports 2 x USB 3.2 (one of them is OTG) 2 x COM Ports 1 x DC-In 1 x Mini PCIe Android 12 RK-3588 Dual LAN Ports 1 x HDMI (Expandable 4G Ubuntu 20.04 1 x Audio 1 x 6 KIO 1 x TF Card Slot 1 x SIM Card Slot Note: Please contact us for more details. Phone: +852 914 61951   Email: sales@iwillmena.com All product specifications are subject to change without notice. www.iwillmena.com</p>
Expansion	1 x Mini PCIe (4G/5G)
OS Support	Ubuntu, Android, Harmonyos
I/O PORTS	
Ports	1 x HDMI 1 x USB 3.0 1 x USB/OTG 2 x Gigabit LAN Ports 1 x Audio Interface (2-in-1) (3.5mm ) 2 x RS232 COM Ports
POWER & OTHER	
Power Input	DC 9-15V
ENVIRONMENT	
Operating Temp.	-20■ ~ 70■, surface air flow
Humidity	5% ~ 95% (non-condensing)
MECHANICAL	
Dimensions	185 x 121 x 44 mm
Weight	0.82 kg

## 3. I/O Interfaces & Connectivity

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### 3.1 Front I/O

Connector	Description
1	1 × HDMI
1	1 × USB 3.0
1	1 × USB/OTG
2	2 × Gigabit LAN Ports

### 3.2 Rear I/O

Connector	Description
1	1 × Audio Interface (2-in-1) (3.5mm )
2	2 × RS232 COM Ports

**WARNING:** Always power off the unit and disconnect all power sources before connecting or disconnecting any internal components.

## 4. Mechanical Dimensions

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All dimensions are in millimeters (mm).

Parameter	Value
Overall Dimensions	185 x 121 x 44 mm
Weight	0.82 kg

**NOTE:** For detailed technical drawings with mounting hole positions, contact IWILL Technology at [support@iwilltech.co.uk](mailto:support@iwilltech.co.uk).

## 5. Bootloader & Firmware Configuration

The Nano-A352 is based on the Rockchip RK3568/3588 CPU ARM platform and uses a vendor-supplied bootloader (typically U-Boot or Rockchip Miniloader). Unlike x86 systems, ARM platforms do not have a traditional BIOS/UEFI setup screen.

### 5.1 Boot Process

The ARM bootloader initialises the hardware (DDR memory, storage controllers, display), then hands control to the operating system kernel stored on eMMC or SD/TF card. The boot sequence is:

1. Power on — Rockchip BootROM executes from internal mask ROM.
2. First-stage loader (SPL / Miniloader) initialises DRAM.
3. U-Boot (or proprietary loader) loads the kernel and device tree.
4. Linux / Android kernel boots and mounts the root filesystem.

### 5.2 Firmware Update

Firmware updates on ARM platforms are performed by flashing a new system image. Common methods include:

- **Rockchip USB Download Mode:** Connect USB-C/OTG to a PC. Hold the RECOVERY button while powering on. Use **RKDevTool** (Windows) or **rkdeveloptool** (Linux) to flash the firmware image to eMMC.
- **SD/TF Card Update:** Write the update image to a TF card using **balenaEtcher** or **dd**. Insert the card and power on — the bootloader will detect and flash the image automatically (if supported by the firmware).
- **OTA Update (Android):** For Android-based deployments, over-the-air updates can be configured through the Android recovery system.

### 5.3 Serial Console Access

For low-level debugging, connect a USB-to-TTL serial adapter to the debug UART header (if exposed on the board). Default serial settings: **1500000 baud, 8N1** (Rockchip default) or **115200 baud, 8N1**. Use a terminal emulator such as PuTTY, minicom, or screen.

**WARNING:** Flashing incorrect firmware can brick the device. Always verify the firmware image matches your exact hardware revision before flashing.

**NOTE:** Contact IWILL Technology support for the latest firmware images and flashing instructions specific to your hardware revision.

## 6. Operating System Installation

### 6.1 Supported Operating Systems

OS	Notes
Android	Pre-installed or flashable via Rockchip tools. Recommended for kiosk and HMI applications.
Ubuntu	ARM64 (aarch64) build. Server or Desktop edition for Linux-based deployments.
HarmonyOS	Huawei OpenHarmony for IoT and industrial applications.

### 6.2 Flashing via Rockchip USB Tool

The Nano-A352 ARM platform stores its OS on internal eMMC storage. To install or replace the operating system:

1. Download the correct firmware image from {BRAND\_NAME} for your hardware revision.
2. Install **RKDevTool** (Windows) or **rkdeveloptool** (Linux) on your PC.
3. Connect the device to your PC via the USB OTG port using a USB cable.
4. Enter Rockchip download mode: hold the **RECOVERY** button while powering on, or use the **adb reboot loader** command if Android is running.
5. In RKDevTool, load the firmware image and click **Upgrade** to flash.
6. Wait for the flashing process to complete (typically 2–5 minutes). The device will reboot automatically.

### 6.3 Installation via SD/TF Card

Some firmware images support SD card booting or SD-to-eMMC flashing:

1. Write the image to a TF/microSD card using **balenaEtcher**, **Win32DiskImager**, or **dd**.
2. Insert the TF card into the device's TF card slot.
3. Power on the device. If the image supports auto-flash, it will copy itself to eMMC and reboot.
4. For live-boot images, the device will boot directly from the TF card.

### 6.4 NPU & GPU Drivers

The RK3588 includes a built-in **6 TOPS Neural Processing Unit (NPU)** and a **Mali-G610 GPU**. NPU drivers and the RKNN toolkit are included in the vendor-supplied firmware. For custom AI inference workloads, install the **RKNN-Toolkit2** SDK from Rockchip's GitHub repository.

**NOTE:** ARM firmware images are hardware-specific. Always verify the image matches your exact model and revision. Contact IWILL Technology for the correct firmware.

## 7. Expansion Module Installation

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### 7.1 Available Expansion Slots

- 1 x Mini PCIe (4G/5G)

### 7.2 Installation Procedure

1. Power off and disconnect all power sources.
2. Remove the chassis access panel screws.
3. Locate the target expansion slot on the motherboard.
4. Insert the module at a 30° angle and press down until it clicks into the retaining clip.
5. If applicable, connect antenna pigtail cables to the module's U.FL connectors.
6. Replace the access panel and secure with screws.

**WARNING:** Always use ESD protection (grounding strap) when handling internal expansion modules. Static discharge can permanently damage components.

### 7.3 Storage Installation

## 8. Mounting Guide

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### 8.1 VESA / Desktop Mounting

The Nano-A352 supports VESA mounting (check rear panel for mounting hole pattern). Use M3 or M4 screws as appropriate — do not exceed the maximum thread depth.

**WARNING:** Ensure adequate ventilation around the unit. Do not block the heatsink fins or ventilation openings.

## 9. Maintenance & Troubleshooting

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### 9.1 Routine Maintenance

- **Heatsink Cleaning:** Periodically blow out dust from the heatsink fins using compressed air.
- **Connector Inspection:** Check connectors for damage or corrosion, especially in harsh environments.
- **Firmware Updates:** Check with IWILL Technology for BIOS updates that may improve stability.

### 9.2 Troubleshooting Guide

Symptom	Possible Cause	Solution
No power / no LED	Power adapter disconnected or faulty	Verify DC input voltage. Try a different adapter.
No display output	Display cable loose or BIOS setting	Reseat display cable. Check BIOS display settings.
System freezes	Memory or storage issue	Reseat RAM. Test with known-good SSD. Enable watchdog.
Overheating	Blocked heatsink or high ambient temp	Clean heatsink. Ensure adequate airflow.
Boot loop	Corrupted BIOS or OS	Reset BIOS to defaults (F9). Reinstall OS.

## 10. Warranty & Support

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### 10.1 Warranty Coverage

The Nano-A352 is covered by a standard manufacturer warranty. The warranty covers defects in materials and workmanship under normal use conditions. It does not cover damage from misuse, unauthorized modifications, or exposure beyond rated specifications.

### 10.2 Technical Support

**IWILL Technology** provides worldwide technical support through regional offices:

Region	Website	Email
United Kingdom	<a href="http://www.iwilltech.co.uk">www.iwilltech.co.uk</a>	<a href="mailto:support@iwilltech.co.uk">support@iwilltech.co.uk</a>
MENA Region	<a href="http://www.iwillmena.com">www.iwillmena.com</a>	<a href="mailto:support@iwillmena.com">support@iwillmena.com</a>
Portugal & Spain	<a href="http://www.iwill.pt">www.iwill.pt</a>	<a href="mailto:apoyo@iwill.pt">apoyo@iwill.pt</a>
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### 10.3 RMA Process

To initiate a return for repair or replacement, contact IWILL Technology support at the regional office nearest to your location with your product serial number and a description of the issue.

# Appendix A — Order Information & Accessories

## A.1 Order Configurations

Configuration	Description
Nano-A352 I/O Port Expandable Options Sp	Nano-A352 I/O Port Expandable Options Specification   2 x LAN Ports   1 x USB 3.2 (OTG)   2 x COM Ports   1 x DC-In Android 11   1 x Mini PCIe   RK-3568 Dual LAN Ports 1 x HDMI Ubuntu 20.04   (Expandable 4G   1 x Audio Open Harmony V4.0   1 x 6 KIO   1 x TF Card Slot   1 x SIM Card Slot   2 x LAN Ports   2 x USB 3.2   (one of them is OTG)   2 x COM Ports   1 x DC-In 1 x Mini PCIe Android 12   RK-3588 Dual LAN Ports   1 x HDMI (Expandable 4G Ubuntu 20.04   1 x Audio   1 x 6 KIO   1 x TF Card Slot   1 x SIM Card Slot   Note: Please contact us for more details.

## A.2 Included Accessories

Item	Qty	Specification
Power Adapter	1	Optional 12V 3.3A
Power Cord	1	CN, US, UK, EU etc.
WiFi Antenna	1	2.4/5G
Certificate of conformity	1	Neutral
Warranty card	1	Neutral
Remote control	1	-
1 Optional accessories	1	-
(Android system available)	1	-

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