seeed studio 2002w

Seeed Studio reCamera 2002w Open Source AI Camera User Manual

Model: 2002w

1. INTRODUCTION

The Seeed Studio reCamera 2002w is a compact, modular AI camera designed for developers. It integrates a RISC-V System-on-Chip (SoC) running Linux, offering 1 TOPS @INT8 performance and a 5-megapixel camera. This device is engineered to facilitate rapid deployment of AI vision applications into various systems, supporting built-in YOLOv11, custom AI models, and Node-RED workflows.

2. PACKAGE CONTENTS

Verify that all items listed below are present in your reCamera 2002w package:

- reCamera 2002w Unit
- USB-C Cable (for power and data)
- Ethernet Cable with RJ45 and JST connectors (for network and additional power options)
- User Manual

Image 1: Contents of the reCamera 2002w package. Shown are the reCamera unit, a USB-C cable, an Ethernet cable with an additional connector, and the printed user manual, alongside the product packaging.

3. Product Features

- **Integrated AI Models:** Includes built-in YOLOv11 with a commercial license, and supports Roboflow & SenseCraft AI.
- **Simplified Deployment:** Enables quick YOLO model deployment using a single command.
- **Compact and Expandable:** Features a pocket-sized design with Power over Ethernet (PoE) and CAN-bus support for expansion. Includes magnetic and 1/4" thread mounting options.
- **Optimized Performance:** Designed with optimized heat dissipation for stable operation.
- **Flexible Development:** Supports both code-based and no-code workflows, including Node-RED for custom automation and C++ SDK with OpenCV C++ APIs for advanced users.
- **Modular Design:** Allows for combination and mixing of sensor, base, and core boards for diverse configurations.

4. Setup Guide

4.1 Powering the reCamera

1. Connect the provided USB-C cable to the USB-C port on the reCamera.
2. Connect the other end of the USB-C cable to a compatible 5V power adapter (not included) or a computer's USB port.
3. **Note:** While the reCamera features an RJ45 port, it does not support Power over Ethernet (PoE) for primary

power. USB-C power is required for operation. The RJ45 port is for network connectivity.

4.2 Network Connection

The reCamera 2002w supports both Wi-Fi and Ethernet connectivity.

4.2.1 Wi-Fi Connection

Upon initial boot, the reCamera may create a Wi-Fi hotspot or attempt to connect to a pre-configured network. Refer to the official Seeed Studio documentation for specific instructions on configuring Wi-Fi settings, typically involving a web interface or command-line tools.

4.2.2 Ethernet Connection

1. Connect the provided Ethernet cable (RJ45 end) to the RJ45 port on the reCamera.
2. Connect the other end of the Ethernet cable to your network router or switch.
3. Ensure the reCamera is also powered via USB-C.

4.3 Initial Access

Once powered and connected to the network, you can typically access the reCamera via SSH or a web interface. Consult the official Seeed Studio reCamera documentation for default IP addresses, usernames, and passwords.

5. OPERATING INSTRUCTIONS

5.1 Basic Operation

The reCamera runs a Linux-based operating system, allowing for flexible control and application deployment. Interaction is primarily through command-line interface (SSH) or a web-based management portal.

5.2 AI Model Deployment

The reCamera supports various methods for deploying AI models:

- **Built-in YOLOv11:** Utilize the pre-installed YOLOv11 model for object detection tasks. Activation and configuration details are available in the developer documentation.
- **Custom Models:** Convert standard ONNX models into the compatible CVIMODEL format. This process may involve several steps and specialized tools. Refer to Seeed Studio's developer resources for detailed conversion guides.
- **One-Line Deployment:** For compatible YOLO models, a simplified one-line command can be used for quick deployment.

5.3 Node-RED Integration

For users preferring a visual programming approach, the reCamera supports Node-RED. This allows for the creation of custom workflows by dragging and dropping nodes to connect hardware devices, APIs, and online services.

5.4 Advanced Development

For experienced developers, the reCamera offers:

- **C++ SDK:** A Software Development Kit for C++ allows for direct programming and integration.
- **OpenCV C++ APIs:** Leverage the power of OpenCV for advanced computer vision tasks within your C++ applications.

6. MAINTENANCE

6.1 Cleaning

To clean the reCamera, gently wipe the exterior with a soft, dry cloth. Avoid using liquid cleaners or abrasive materials, as these can damage the device. Ensure the camera lens is free of dust and smudges for optimal image quality.

6.2 Firmware Updates

Periodically check the official Seeed Studio website for firmware updates. Keeping your reCamera's firmware up-to-date ensures optimal performance, security, and access to new features. Follow the provided instructions carefully when performing updates.

7. TROUBLESHOOTING

- **Device Not Powering On:** Ensure the USB-C cable is securely connected to both the reCamera and a functional 5V power source. Try a different USB-C cable or power adapter.
- **No Network Connection:**

  - **Ethernet:** Verify the Ethernet cable is properly connected and your network is active. Remember that the RJ45 port does not provide PoE; separate USB-C power is required.
  - **Wi-Fi:** Check Wi-Fi configuration settings. If the device is not connecting, try reconfiguring the Wi-Fi credentials or restarting the reCamera.

- **AI Model Deployment Issues:** Ensure your custom models are correctly converted to the CVIMODEL format. Verify that all necessary dependencies and libraries are installed on the reCamera. Consult the Seeed Studio developer documentation for specific error codes and solutions.
- **Overheating:** While the reCamera has optimized heat dissipation, ensure it is operating in a well-ventilated environment. Avoid obstructing the heat sink fins.

For further assistance, refer to the Seeed Studio community forums or contact their technical support.

8. SPECIFICATIONS

Feature	Specification
Brand	seeed studio
Model Name	reCamera 2002w
Item Model Number	2002w
Effective Still Resolution	5 MP
Video Capture Resolution	1440p
Video Capture Format	MP4
Photo Sensor Technology	CMOS
Camcorder Type	Video Camera
Compatible Devices	Personal Computer, Smartphone

|	
Image Stabilization	No
Item Weight	7.8 ounces
Package Dimensions	5.2 x 3.39 x 1.65 inches

9. WARRANTY AND SUPPORT

The Seeed Studio reCamera 2002w comes with a standard manufacturer's warranty. For detailed warranty terms, technical support, and additional resources, please visit the official Seeed Studio website or contact their customer service directly.

Official Seeed Studio Store: Seeed Studio on Amazon

Related Documents - 2002w

	reCamera: Open-Source RISC-V AI Camera Platform Discover reCamera, an open-source, programmable AI camera powered by a RISC-V SoC. Featuring 1 TOPS AI performance, 5MP video encoding, modular hardware, and Node-RED integration for easy AI deployment. Ideal for developers building vision AI systems.
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	Seeed Studio reCamera Gimbal 2002 Series: Programmable AI Vision Gimbal for Makers Discover the Seeed Studio reCamera Gimbal 2002 Series, an open-source AI vision gimbal for makers. This user manual covers its RISC-V SoC, 1 TOPS AI performance, Node-RED integration, and assembly for rapid prototyping.
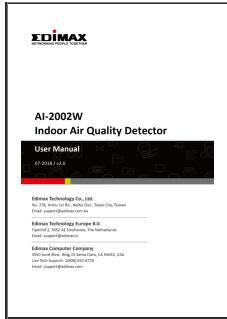
Edimax AI-2002W Indoor Air Quality Detector User Manual

Comprehensive user manual for the Edimax AI-2002W Indoor Air Quality Detector, covering installation, setup, app usage, features, and maintenance.

Documents - seeed studio – 2002w

[pdf] SAR Rating

SAR Exclusion report Seeed Technology Co Ltd RECAMERA2002W seeed studio reCamera 2002 Series Z4T Z4TRECAMERA2002W recamera2002w

Report No. : EED32Q81957305 Page 1 of 8 RF Exposure Evaluation Report Product : seeed studio reC ... ral Description of EUT Product Name: seeed studio reCamera 2002 Series Model No. EUT : reCamera **2002w** 64GB, reCamera **2002w** 8GB, reCamera Core **2002w** 64GB, reCamera Core **2002w** 8GB Test Model No.: ...

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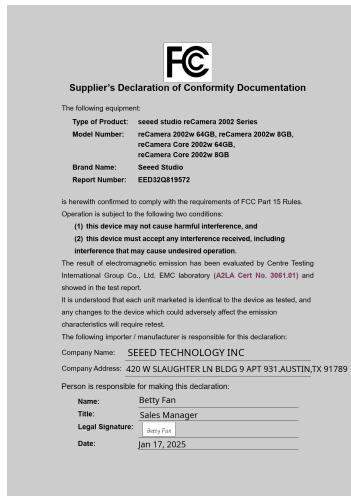
[pdf] Documentation Decleration of Conformity Test Report

SEEED TECHNOLOGY INC Seeed Studioseeed studio reCamera 2002 Series Model Type reference 2002w 64GB 8GB Core Trade 102991897 FCCfiles seeedstudio Certificate documents certificate 102991897 FCC |||

Supplier s Declaration of Conformity Documentation The following equipment: Type of Product: seeed studio reCamera 2002 Series Model Number: reCamera **2002w** 64GB, reCamera **2002w** 8GB, reCamera Core **2002w** 64GB, reCamera Core **2002w** 8GB Brand Name: Seeed Studio Report Number: EED32Q819572 is here...

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[pdf] Test Report

HD 271 S1 Sheek Luo BLE Test Report Seeed Technology Co Ltd RECAMERA2002W seeed studio reCamera 2002 Series Z4T Z4TRECAMERA2002W recamera2002w

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[pdf] Decleration of Conformity

Declaration on model difference Seeed Technology Co Ltd RECAMERA2002W seeed studio reCamera 2002 Series Z4T Z4TRECAMERA2002W recamera2002w

Seeed Technology Co., Ltd Model Confirmation Letter We, Seeed Technology Co., Ltd. Company name product: Model reCamera **2002w** 64GB reCamera **2002w** 8GB reCamera Core **2002w** 64GB reCamera Core **2002w** 8GB EMMC 64GB 8GB 64GB 8GB Difference description Normal The emmc sizes are different No lens board a...

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2002 Series
reCamera Gimbal
Programmable AI Vision Gimbal for Makers

seeed studio

User Manual

Version 1.0

[reCamera Gimbal User Manual - Seeed Studio](#)

Comprehensive user manual for the Seeed Studio reCamera Gimbal 2002 series, detailing specifications, part lists, assembly instructions, interface details, and warranty information for makers.

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