

# AI Camera Dev Kit

## NVIDIA® Jetson Nano™ based AI Vision Developer Kit

### Introduction

Designed to make Proof of Concept (PoC) easier, the ADLINK AI Camera Dev Kit integrates the NVIDIA® Jetson Nano™ SOC, an 8MP color MIPI camera module and validated software drivers to save effort on integration and solve compatibility issues. Users can immediately start development with the kit right out of the box. Built with the popular V4L2 video interface, users can easily leverage the included sample code or resources from NVIDIA's technical forum to enhance the kit, allowing them to conveniently create a PoC with little effort.

For AI beginners or in-house system integrators, the pre-installed EVA software provides two AI applications with sample code for image capture, AI inference and logical control to develop a PoC or application quickly and easily. The EVA is a GUI-based development tool that provides a low-code environment with software tools for labeling and training, and two open source selected models so users can build a PoC without AI expertise.

DI/O, COM, and LAN ports make the ADLINK Vision Dev kit ideal for building an AI vision proof of concept quickly and easily.



### Features

- Integrates Jetson Nano module, 8MP image sensor with lens and vertical I/O for quick development start up.
- Two AI applications and sample code preinstalled to get you started right away.
- Complete EVA software for labeling, training and inference means no AI expertise needed to build a PoC.
- USB Type-C port for video, power, and USB simplifies connectivity
- 4x DI, 4x DO, 1x LAN and 1x COM

### Optional Accessories

- ① USB Type-C hub/adaptor/30cm USB Type-C cable (92-99090-1010)
- ② 1.8m USB Type-C cable with screw lock (30-01284-0030-A0)
- ③ I/O cable with DB-15 connector (30-21621-0000-A0)
- ④ 3m DB-15 to DB-37 I/O extension cable (30-01332-0010-A0)
- ⑤ DIN-37D-01 IO extension board (91-14025-1020)
- ⑥ AI camera kit tripod bracket (91-95340-000E)
- ⑦ AI camera kit acrylic plate (91-95341-000E)

### Software Support

- Ubuntu 18.04
- Jetpack 4.6.1
- OpenCV 4.1.1

Note: Supported software versions will be updated as released by NVIDIA.

### Ordering information

- **AI Camera Dev Kit (91-14209-110E)** ✕ Power supply not included
  - NVIDIA Jetson Nano, 8MP color MIPI camera module, rolling shutter, 30fps
- **AI Camera Dev Kit & USB Type-C power supply (90-20075-000E)**
  - NVIDIA Jetson Nano, 8MP color MIPI camera module, rolling shutter, 30fps
  - USB Type-C Hub/power adapter/30cm USB Type-C cable



Purchase optional accessories for your custom use case:

- To extend monitor, keyboard/mouse and power supply capabilities
- To connect to digital I/O devices

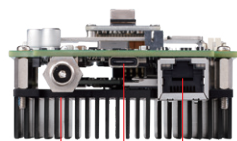


- ① AI Camera Dev Kit & USB Type-C power supply (90-20075-000E)



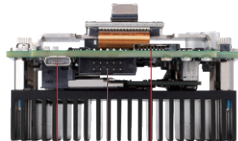
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Front View



DC 12~24V For kit LAN  
USB Type-C  
(power for kit, HDMI and USB)

Back View



OTG Micro SD  
System Flash

Top View



4x DI and 4x DO;  
1x UART

Note: The kit can be powered either by DC input or USB Type-C adaptor

## Specifications

| Model Name                    | AI Camera Dev Kit                                                           |
|-------------------------------|-----------------------------------------------------------------------------|
| <b>Image Sensor</b>           |                                                                             |
| Resolution (HxV)              | 3280 x 2464                                                                 |
| Resolution                    | 8M                                                                          |
| Frame Rate (fps)              | 3280 x 2464 @ 15fps / 1920 x 1080 @ 30fps                                   |
| Color/Mono                    | Color                                                                       |
| Shutter                       | Rolling                                                                     |
| Sensor Size                   | 1/3.2"                                                                      |
| Pixel Size(μm)                | 1.4 x 1.4                                                                   |
| Sensor Vendor                 | Sony                                                                        |
| Sensor Model                  | IMX179                                                                      |
| Image Capture                 | V4L2 & Gstreamer                                                            |
| FOV                           | 72.9°                                                                       |
| <b>System</b>                 |                                                                             |
| Computing Platform            | NVIDIA Jetson NANO                                                          |
| CPU                           | Quad-core ARM Cortex-A57 MPCore processor                                   |
| Supported OS                  | Ubuntu 18.04                                                                |
| GPU                           | NVIDIA Maxwell architecture with 128 NVIDIA CUDA® cores                     |
| Storage                       | 16 GB eMMC                                                                  |
| Memory                        | 4 GB 64-bit LPDDR4                                                          |
| <b>Connectors</b>             |                                                                             |
| Ethernet                      | 10/100/1000 Mb                                                              |
| USB Type-C                    | Video output (DisplayPort), 1920 x 1080 @ 30fps                             |
|                               | 1x USB3 and 1x USB2                                                         |
|                               | Power supply for the camera (when connect to the Type-C charger or adaptor) |
| D-sub                         | 4x DI and 4x DO                                                             |
| Micro USB                     | 1x UART (TXD, RXD, GND)                                                     |
| Wafer Connector               | USB OTG (for system flash)                                                  |
|                               | For system flash                                                            |
| <b>Mechanical &amp; Power</b> |                                                                             |
| Dimensions                    | 130.0(L) x 72(W) x 43.8(T) mm                                               |
| Power Input                   | DC Jack (12-24V DC) or USB Type-C (15V DC)                                  |
| Power Consumption             | <40W                                                                        |
| <b>Environmental</b>          |                                                                             |
| Operating Temperature         | 0°C to 30°C                                                                 |
| Storage Temperature           | -20°C to 70°C                                                               |

Note: the DC power source can be either from the DC jack or from the USB Type-C connector