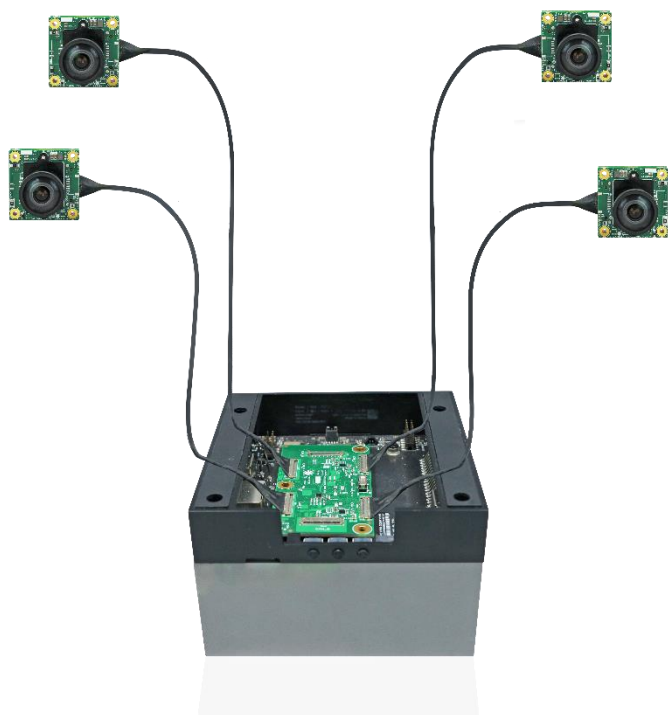


e-CAM56_CUOAGX

Release Notes



Version 1.5

e-con Systems

3/26/2024

Disclaimer

e-con Systems reserves the right to edit/modify this document without any prior intimation of whatsoever.

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Introduction

e-CAM56_CUOAGX is a 5 MP MIPI camera from e-con Systems, a company with over two decades of experience in designing, developing, and manufacturing OEM cameras. It contains up to four IMX568 camera modules in 4-lane mode which are connected to the Jetson AGX Orin™ development kit.

This MIPI camera has 1/1.8" IMX568 CMOS image sensor from SONY® and is provided with CS-mount lens holder. The S-mount is small form-factor lens mounts for board cameras.

This document explains the release package details of e-CAM56_CUOAGX.

This section explains the release details of e-CAM56_CUOAGX.

- Release Version: **R01_RC5**
- Release Date: **11-Mar-2024**
- Product: **e-CAM56_CUOAGX**

| Description | JETSON AGX ORIN |
|---|-----------------------------------|
| Host machine version required for flashing software onto Jetson AGX Orin™ | Ubuntu 18.04 or 20.04 - (aarch64) |
| Sample rootfs Ubuntu operating system to run on Jetson AGX Orin™ | Ubuntu 20.04 (aarch64) |
| JetPack version | JetPack 5.1.2 |
| L4T version | L4T_R35.4.1 |
| Kernel version | 5.10.120-g7e79a2552 |
| MCU_FW version | 1_2_IMX5_6_1_1_0_7a3b199 |
| eCAM_argus_camera version | 0.99.3.3:4614913(multi-process) |
| eCAM_Argus_MultiCamera version | 0.99.3.3: f88e784 (multi-process) |

Change log:

- Added e-CAM_Argus_MultiCamera support.
- Added Trigger and Trigger Frequency controls in eCAM_argus_camera
- Removed 2-lane support.
- Updated the package to load MCU firmware directly from rootfs
 - Release Version: **R01_RC4**
 - Release Date: **16-NOV-2023**
 - Product: **e-CAM56_CUOAGX**

| Description | JETSON AGX ORIN |
|---|-----------------------------------|
| Host machine version required for flashing software onto Jetson AGX Orin™ | Ubuntu 18.04 or 20.04 - (aarch64) |

| | |
|--|--------------------------|
| Sample rootfs Ubuntu operating system to run on Jetson AGX Orin™ | Ubuntu 20.04 (aarch64) |
| JetPack version | JetPack 5.1.2 |
| L4T version | L4T_R35.4.1 |
| Kernel version | 5.10.120-g7e79a2552 |
| MCU_FW version | 1_2_IMX5_6_1_1_0_186a661 |
| eCAM_argus_camera version | 0.99.3.3 |

Change log:

- Added support for stream using internal trigger using PWM chip with 30Hz and 60Hz options.
- Supported the below resolutions along with 2432 x 2048.
 - 1920 x 1080
 - 1280 x 720
 - 640 x 480

- Release Version: **R01_RC3**
- Release Date: **31-OCT-2023**
- Product: **e-CAM56_CUOAGX**

| Description | JETSON AGX ORIN |
|---|-----------------------------------|
| Host machine version required for flashing software onto Jetson AGX Orin™ | Ubuntu 18.04 or 20.04 - (aarch64) |
| Sample rootfs Ubuntu operating system to run on Jetson AGX Orin™ | Ubuntu 20.04 (aarch64) |
| JetPack version | JetPack 5.1.2 |
| L4T version | L4T_R35.4.1 |
| Kernel version | 5.10.120-g1afcee0ce |
| MCU_FW version | 1_2_IMX5_6_1_1_0_0632631 |
| eCAM_argus_camera version | 0.99.3.3 |

Change log:

Removed the Stream ON Pending check for trigger enable.

- Release Version: **R01_RC2**
- Release Date: **20-OCT-2023**
- Product: **e-CAM56_CUOAGX**

| Description | JETSON AGX ORIN |
|---|-----------------------------------|
| Host machine version required for flashing software onto Jetson AGX Orin™ | Ubuntu 18.04 or 20.04 - (aarch64) |
| Sample rootfs Ubuntu operating system to run on Jetson AGX Orin™ | Ubuntu 20.04 (aarch64) |
| JetPack version | JetPack 5.1.2 |
| L4T version | L4T_R35.4.1 |
| Kernel version | 5.10.120-g1afcee0ce |
| MCU_FW version | 1_2_IMX5_6_1_1_0_e20d4dd |
| eCAM_argus_camera version | 0.99.3.3 |

Change log:

Updated with L4T35.4.1 and JP5.1.2 and 2-lane configuration with 12-bit and 10-bit resolution.

Release Details

- Release Version: **R01_RC1**
- Release Date: **05-SEP-2023**
- Product: **e-CAM56_CUOAGX**

| Description | JETSON AGX ORIN |
|---|-----------------------------------|
| Host machine version required for flashing software onto Jetson AGX Orin™ | Ubuntu 18.04 or 20.04 - (aarch64) |
| Sample rootfs Ubuntu operating system to run on Jetson AGX Orin™ | Ubuntu 20.04 (aarch64) |
| JetPack version | JetPack 5.1.1 |
| L4T version | L4T_R35.3.1 |
| Kernel version | 5.10.104-gb8f2bb2d0 |
| MCU_FW version | 1_2_IMX5_2_1_1_0_785c948 |
| eCAM_argus_camera version | 0.98.3 |

Download Release Package

In this section, you can get the FTP credentials for downloading Release Package.

For e-CAM56_CUOAGX,

FTP Link: [Files - e-con File Sharing \(e-consystems.com\)](https://e-consystems.com)

Password: nFjLRYDPRx

Troubleshooting

In this section, you can view the list of commonly occurring issues and their troubleshooting steps.

v4l2-compliance test fails in buffer ioctl.

VIDIOC_REQBUFS ioctl fail in v4l2-compliance test. This fail is because of Nvidia's V4L2 framework implementation. Please write to techsupport@e-consystems.com to get immediate support on other issues.

Streams stops randomly when running multiple cameras for longer days.

This is a known issue.

To recover the stream, run the following command and re-launch the application.

```
$ sudo service nvargus-daemon restart
```

Bluish stream or blue temperature observed in stream inconsistently.

This is a known issue.

This will be fixed in future release after re-tuning the camera.

Streams stuck observed with 480p resolution with eCAM_argus_camera application as it supports high frame rates.

This is a known limitation in eCAM_argus_camera application.

To recover the stream, run the following command and re-launch the application.

```
$ sudo service nvargus-daemon restart
```

Alternatively, stream is verified with v4l2 framework and GStreamer application.

Continuous image capture and resolution switch is failed for longer time (greater than 3 hours)

This is a known issue.

This will be fixed in future release.

1. Does e-con Systems have any plan to support longer length ipex cable?

e-con Systems provide a very flexible 30 cm IPEX cable along with this kit. For customization, please write to camerasolutions@e-consystems.com with your requirement.

What's Next?

After understanding the Release Notes, you can refer to the following documents to understand more about e-CAM56_CUOAGX.

- *e-CAM56_CUOAGX Getting Started Manual*
- *e-CAM56_CUOAGX Release Package Manifest*
- *e-CAM56_CUOAGX e-CAM_Argus_Camera App User Manual*

Contact Us

If you need any support on e-CAM56_CUOAGX product, please contact us using the Live Chat option available on our website - <https://www.e-consystems.com/>

Creating a Ticket

If you need to create a ticket for any type of issue, please visit the ticketing page on our website - <https://www.e-consystems.com/create-ticket.asp>

RMA

To know about our Return Material Authorization (RMA) policy, please visit the RMA Policy page on our website - <https://www.e-consystems.com/RMA-Policy.asp>

General Product Warranty Terms

To know about our General Product Warranty Terms, please visit the General Warranty Terms page on our website - <https://www.e-consystems.com/warranty.asp>

Revision History

| Rev | Date | Description | Author |
|-----|-------------|--|-----------------|
| 1.0 | 22-Aug-2023 | Initial Draft | Camera Dev Team |
| 1.1 | 19-Oct-2023 | Updated to L4T35.4.1 with 2-lane configuration to support six cameras | Camera Dev Team |
| 1.2 | 31-Oct-2023 | Updated firmware version and resolution to 5MP | Camera Dev Team |
| 1.3 | 16-Nov-2023 | Added support for stream using internal trigger and given support for 1080p, 720p and 480p resolutions | Camera Dev Team |
| 1.4 | 11-Mar-2024 | Removed 2-lane support and added eCAM_Argus_MultiCamera support | Camera Dev Team |
| 1.5 | 26-Mar-2024 | Updated the product image in home page and the troubleshooting section | Camera Dev Team |