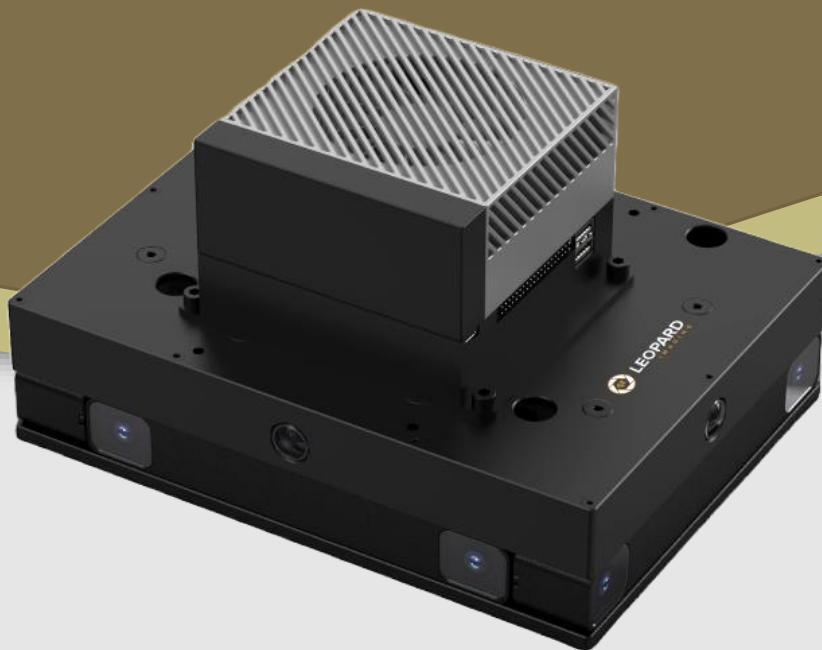




LEOPARD
IMAGING

LI-NOVA-KIT-HAWK-OWL-T



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INTRODUCTION

The LI-NOVA-KIT-HAWK-OWL-T includes NVIDIA Jetson AGX Orin SOM, AGX Orin carrier board, De-Serializer adapter board with Maxim GMSL2 MAX96712, 3 x HAWK and 3 x OWL cameras. The HAWK and OWL cameras are equipped with ON Semiconductor CMOS 2.3MP digital image sensor AR0234CS. These cameras output 1920 x 1200 RAW data.

TECHNICAL FEATURES

- NVIDIA Jetson AGX Orin SOM: included
- GPU: NVIDIA Ampere architecture with 2048 NVIDIA CUDA® cores and 64 tensor cores
- CPU: 12-core Arm Cortex-A78AE v8.2 64-bit CPU 3MB L2 + 6MB L3
- Accelerator
 - 2 x NVDLA v2.0 DL Accelerator
 - 1 x PVA v2.0 Vision Accelerator
- Memory: 64GB 256-bit LPDDR5 204.8GB/s
- Storage
 - 64GB internal eMMC 5.1
 - 1 x M.2 PCIe interface with 2TB SSD drive
 - 1 x Micro SD card interface
- Multi-Stream HD Video and JPEG
 - Video Encode: 2x 4K60 | 4x 4K30 | 8x 1080p60 | 16x 1080p30 (H.265)
 - Video Decode: 1x 8K30 | 3x 4K60 | 7x 4K30 | 11x 1080p60 | 22x 1080p30 (H.265)
- Camera
 - 3 x HAWK cameras
 - 3 x OWL cameras
- Sensor: ON Semiconductor CMOS image sensor AR0234CS
- Active pixels: 1920 (H) x 1200 (V)
- Color camera
- Power Consumption: TBD
- Power supply: 12 VDC
- Weight: TBD
- Allows customization
- Part#:

Leopard Imaging Part#	LI-NOVA-KIT-HAWK-OWL-T
NVIDIA Part#	Nova Orin Development Kit

APPLICATIONS

- Robots

INTERFACES

- 2 x 4T1 Fakra connectors for camera connection (supports up to eight cameras)
- 1 x DisplayPort (DP) connector
- 2 x USB 3.0 Type-C interfaces
- 1 x USB 2.0 Micro-B interface
- 1 x Micro SD card interface
- 2 x Power sockets
- 2 x USB3.0 Type-A interfaces (stacked)
- 1 x RJ45 Gigabit Ethernet interface with up to 10 GbE
- 1 x 40-pin header (GPIOs, I2C, I2S, SPI, UART)
- REC, RST and PWR buttons included

HAWK LENS SPECIFICATIONS

Focal Length	2.8 mm
Aperture, F/#	2.0
Field of View (FOV)	147.5° diagonal
	121.5° horizontal
	73.5° vertical
Optical Distortion	< -65.3%
Relative Illumination	> 30.0%
IR Filter	650 nm IR cut filter
Glass Cover	No
Lens Mount	Active Alignment (AA)

OWL LENS SPECIFICATIONS

Focal Length	1.34 ± 5%
Aperture, F/#	2.0 ± 5%
Field of View (FOV)	202° ± 3° horizontal
	127.2° ± 2° vertical
IR Filter	650 nm ± 10 nm IR cut filter
Lens Mount	M12 x 0.5

OWL Camera (LI-AR0234CS-GMSL2-OWL)



CAMERA SPECIFICATIONS

Sensor	ON Semiconductor CMOS Image Sensor AR0234CS
Optical Format	1/2.6"
Resolution	1920 (H) x 1200 (V)
Pixel Size	3.0 x 3.0 μm
Output Format	10-bit RAW data
Frame Rate	120 fps @ full resolution
Shutter	Global shutter
Serializer	Maxim MAX9295A/B
Color / Mono	Color sensor
FAKRA Connector	FAKRA Z TYPE
Certification	FCC, CE
Power Supply Range	9 ~ 19 VDC
Power Consumption	70 mA @ 12 VDC
Weight	~ 37 g
Part#	LI-AR0234CS-GMSL2-OWL

IMAGING ORIENTATION



HAWK Camera (LI-AR0234CS-STEREO-GMSL2-30)



CAMERA SPECIFICATIONS

Sensor	ON Semiconductor 2.3MP CMOS Image Sensor AR0234CS
Optical Format	1/2.6"
QTY of Sensor	2
Resolution	1920 (H) x 1200 (V) (active pixels)
Pixel Size	3.0 x 3.0 μm
Baseline	150 mm
Depth Range	1.0 ~ 8.0 m NOTE: For high Z-accuracy, the depth range can be 0.5 m to 8.0 m. However, the depth range can be up to 20 m with reduced Z-accuracy.
Output Format	10-bit RAW data
Frame Rate	60 fps @ 1920 x 1200
Shutter	Global shutter
Serializer	Maxim GMSL2
Color / Mono	Color sensor
FAKRA Connector	FAKRA Z TYPE
Certification	FCC, CE
Weight	~ 204 g
Power Supply Range	9 ~ 19 VDC
Part#	LI-AR0234CS-STEREO-GMSL2-30

IMAGING DIRECTION



- REVISION HISTORY

Revision	Description	Release Date
0.1	Initial Draft.	17 Apr 2024

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