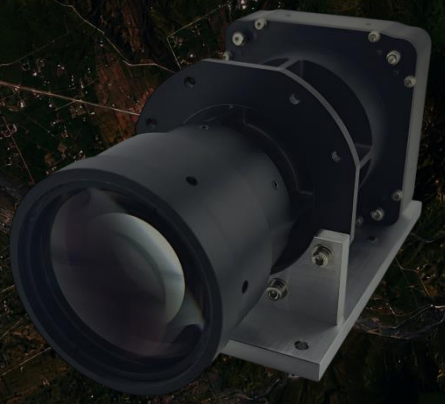
CAVU AEROSPACE UK



RavenEye5

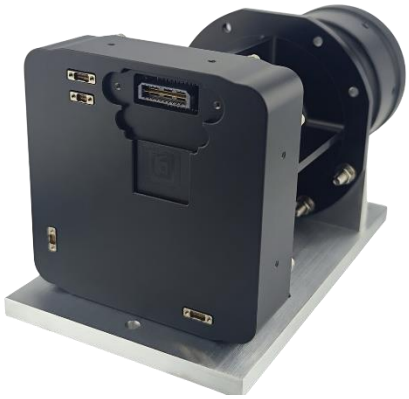
s.LDU345 CubeSat Camera | 5 MP | 2,448 * 2,048 | Streaming | 2U | 1.1 kg

Intelligent Imaging Solutions with PolarFire FPGA, and NVIDIA Jetson Xavier

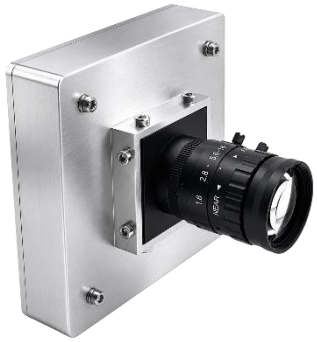
The flight proven, reliable optical payload, for capturing high-resolution images for earth observation or space surveillance applications.

Integration of PolarFire FPGA with NVIDIA Jetson Xavier Nx via up to 4-lane MIPI CSI-2, enables high-bandwidth image streaming with Graphical User Interface.

Variations: 2U, 3U, 12U, 5MP, 16MP, 51MP



Flight Model



Engineering Model

KEY FEATURES

- Aperture Size 60mm
- EFL: 400mm
- Pixels: 2,448 X 2,048
- Pixel size: 3.4 µm
- GSD @500km orbit: 4.25 m/pixel
- Swath: 10.4 km

- Flight Model Weight: 1.1 kg
- Dimensions: 200mm X 96mm X 96mm
- Power: 12V
- Connectors: Samtec & Nano-D

- Data Interface: LVDS + RS422 + Ethernet
- Data Transmission Interface: UART RS485 @6.25
- Image format: RAW + JPEG
- Adjustable parameters in GUI: Integration Time, Frame Rate, Gain, Black Level
- Hardware-accelerated imaging on Microchip PolarFire SoC FPGA, delivering low-power, deterministic, high-throughput performance
- RAW 12-bit Bayer pipeline with zero compression, preserving full dynamic range and low-noise image quality
- Real-time, lossless centre cropping in hardware, maintaining native resolution without scaling artifacts
- Integration with NVIDIA Jetson via up to 4-lane MIPI CSI-2, enabling high-bandwidth image streaming
- Dual CLI/GUI control interfaces for flexible operation and system integration
- Radiation-tolerant design with SEU immunity, requiring no scrubbing or recovery, ensuring continuous operation in space.

- EMC, Vibration, TVAC at qualification level.
- EMC/EMI Military grade components
- Radiation: 30 krad, 60 MeV

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