

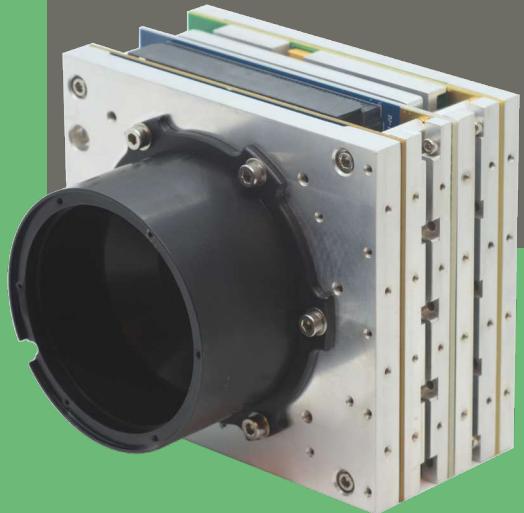


every photon counts

HIGH RESOLUTION WITH PHOTON COUNTING SENSITIVITY

CUSTOMIZABLE CAMERA PLATFORM FOR CUBESATS

nüSpace
CMOS BUILT FOR SPACE
BREAKING BARRIERS IN LOW LIGHT SPACE-BASED IMAGING



nüSpace CMOS

CHARACTERISTICS

Size (H W D)¹

SPECIFICATIONS

96.0 x 96.0 x 50.15 mm

Tailored to fit in 1U

Mass¹

<1 kg

Power²

<10 W

Thermal Vacuum Cycling (TVAC) tests

-35°C to 60°C and <10⁻⁴ Torr

NASA-STD-7000B

Random vibration testing

6.8 g RMS, 1 min/axis, 20-2000 Hz

NASA NASA-STD-7001B

Radiation tolerance

>25 kRad for >5 years in LEO

Contact us for GEO specifications

Control & image interface

Camera Link, Camera Link HS, Gigabit Ethernet

Imaging features

Binning

ROI

Photon Counting

More available on request

Environmental operation temperature

-35 °C to 60 °C

OUTSTANDING PERFORMANCES THANKS TO NÜVÜ'S PROPRIETARY TECHNOLOGIES

The nüSpace platform is a state-of-the-art imaging solution built to bring NüVü's signature electronics to nanosatellites, based on our design developed for NASA's flagship Roman Space Telescope.

With unmatched imaging sensitivity and flexibility with customizable detectors, integrated optics & interfaces, nüSpace camera platform supports your novel space mission goals.

Potential space applications :

- Low GSD Earth observation
- Large-swath imaging
- Space surveillance (SSA)
- Extrasolar planet imaging
- High resolution spectroscopy

nüSpace CMOS

With CMOS sensors, the nüSpace enables high dynamic range, high resolution & high sensitivity imaging in space, combined with high dynamic range and low pixel size.



Benefit from Nüvü's extensive expertise focused on sensor control electronics for sensitive imaging applications both space and ground-based.

The nüSpace is available with multiple CMOS sensors, contact us for more specifications.

TYPICAL QUANTUM EFFICIENCY

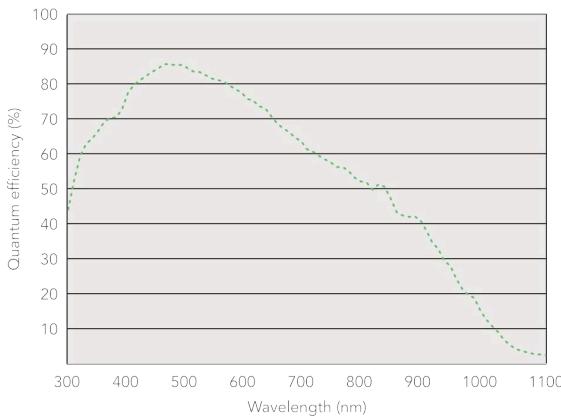


Figure 1
Typical spectral response as a function of wavelength, as specified by the detector manufacturer⁵

nüSpace using Fairchild Imaging's HWK4123 sensor

CHARACTERISTICS

Shutter type

SPECIFICATIONS

Rolling shutter

Global reset

Imaging area

4096 x 2300 pixels
4.6 x 4.6 μ m pixel area

Operating temperatures³

-35°C to 70°C

Frame rate

120 fps

RMS Readout Noise⁴

Down to 0.3 e⁻

Linearity⁴

>99%

Dynamic Range

87 dB

Spectral range

300 - 1000 nm

Data format

12 bits

With optics (customizable)

CHARACTERISTICS

Swath @ 500 km

SPECIFICATIONS

29.5 x 16.5 km 14.7 x 8.3 km

GSD @ 500 km

7.2 m 3.6 m

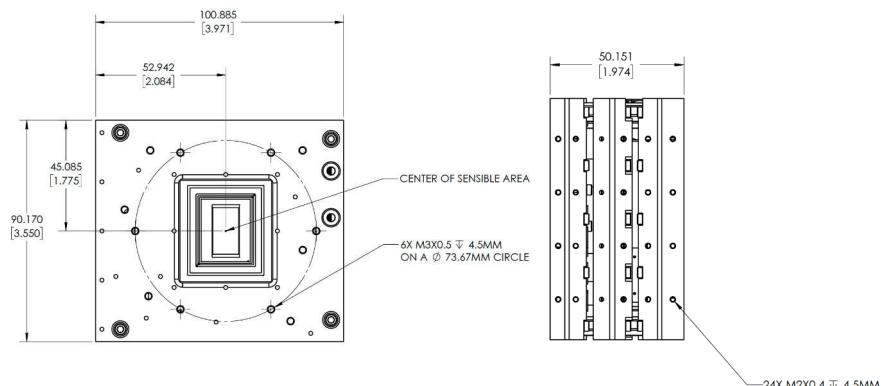
Focal length

320 mm 630 mm

Aperture

80.5 mm 180 mm

TECHNICAL DRAWINGS¹



1 With standard front & back plates. Mechanical interface plates can be removed and/or modified.

2 Mean power. Measured at 1 FPS.

3 As per the CMOS detector manufacturer's data sheet. Other configurations may exist.

4 Typical values measured at lower clock speeds. These numbers may vary depending on the CMOS detector.

5 Nüvü gives only the specifications of the CMOS detector's manufacturer (e.g. Quantum efficiency, aesthetic specifications, blemishes).

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CANADA

nüSpace and NüPixel are the intellectual properties of Nüvü Caméras. All other brands are properties of their respective owners. Incremental changes are made to the products and specifications are subject to modification without prior notice.

nüSpace Specification Sheet 3.0.5

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