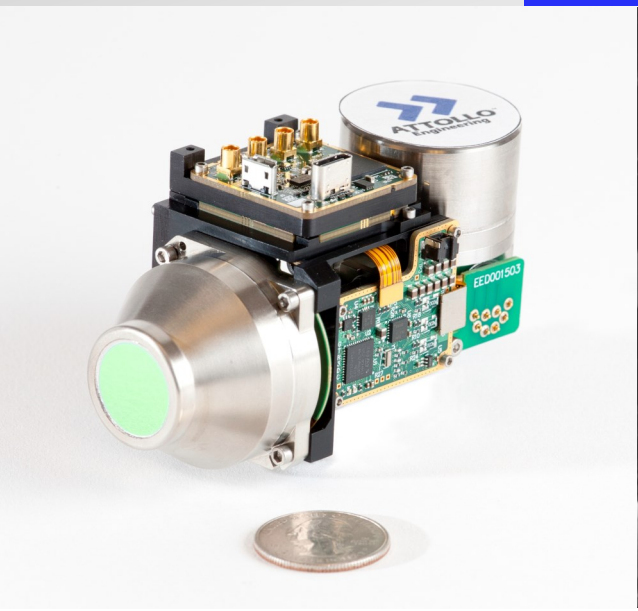
Griffin™ HD8 MWIR Camera Core

High-Definition HOT MWIR Camera Core for Low System SWaP-C



The Griffin™ HD8 camera core is a high-definition format (1280x720), cryocooled camera core featuring Attollo Engineering's High Operating Temperature Strained Layer Superlattice (HOT T2SL) detector material. The Griffin™ HD8 captures snapshot MWIR imagery, and the 8 µm pixel enables more pixels on target with a short focal length optic, reducing overall system size. The high-efficiency rotary cooler is well-suited for handheld and man-portable applications where power consumption is key. The Griffin™ HD8 sensor is also capable of supporting broadband imaging along with day and night laser see-spot capabilities. With a volume of 223 cm^3 and weight of less than 250 grams, this rotary cooled camera is ideal for SWaP-constrained applications including SUAS, handheld and soldier-carried systems.

Highlights

- Technology: High Operating Temperature SLS Detector
- Small pitch: 1280x720, 8 µm
- Small: 9.7 cm x 5.0 cm x 5.0 cm and less than 250 grams
- Fast cooldown time: 4.5 minutes to operating temp
- Low power consumption: < 10 W cooldown and < 6 W with room temperature ambient
- High Sensitivity Imaging
- Export Friendly: has US Commerce classification as EAR 6A00.b.4.a

Applications

- Thermal imaging
- Soldier borne and handheld systems
- Security / surveillance
- Small gimbals and SUAS
- Laser See-Spot
- Precision agriculture
- Gas leak detection
- Microscopy
- Medical – tissue analysis

The Griffin™ HD8 is designed and manufactured in Attollo's 34,000 ft^2 facility in Camarillo, California. Attollo Engineering specializes in sensors that combine infrared and laser imaging as well as standard and custom IDCA designs for your applications. Attollo is AS9100 certified.

SYSTEM FEATURES

Top Level

Sensor Type	HOT MWIR T2SL
Sensor Size	1280 x 720, 8 µm
Spectral Band	3.0–5.2 µm Standard (shorter wavelengths available)
NEDT	<35mK (70% well fill at T_{bb}=23°C)
Frame Rate Options	Typical: 60 Hz
Time to Image	< 4.5 min

Mechanical

Size (L x W x H)	9.7 cm x 5.0 cm x 5.0 cm
f/#	f/3, f/2.7
Cold Aperture Height	19.4 mm (option: 25 mm)
Weight	<250 grams

FPA Characteristics

Shutter Mode	Snapshot
Well Capacity	3.3 x 10^6 electrons
Quantum Efficiency	> 70%
Readout Mode	Integrate while read
Integration Time	0.001-16 ms (at 60 Hz)
Max Frame Rate	60 Hz
Windowing Capable	Yes, max frame rate increases as a function of row reduction
External Sync	Sync In and Sync Out
Operability	≥ 99.5%

Video Interface

Parallel (16 bit)	Included
USB-C	With personality board
Camera Link	With personality board
MIPI	With personality board
Image Processing	NUC, AGC, averaging, histogram equalization, unsharp

Interfacing

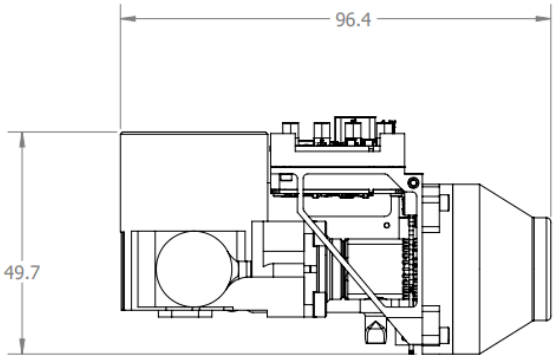
Parallel	50 pin HIROSE DF40-50
Input Voltage	Camera: 5V±10%; Cooler: 12V±10%
Power Dissipation	< 10 W cooldown, 6 W steady state
Communication	USB, UART, SPI or I2C
SDK and GUI Available	Yes

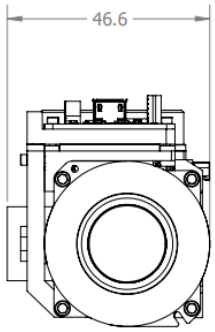
Cooler Reliability

Cooler MTTF	>10,000 hours

Environmental

Operating Temperature	-40°C to +71°C* *In accordance with thermal considerations described in the mechanical ICD
Storage Temperature	-50°C to +85°C
Max Altitude	40,000 feet
Humidity	5-95% relative humidity (non condensing)





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