



## 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  $\mu\text{m}$  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  $\text{cm}^3$  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  $\mu\text{m}$
- 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  $\text{ft}^2$  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 $\mu$ m
Spectral Band	3.0–5.2 $\mu$ m 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 <sup>6</sup> 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	$\geq$ 99.5%

### Video Interface

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

### Interfacing

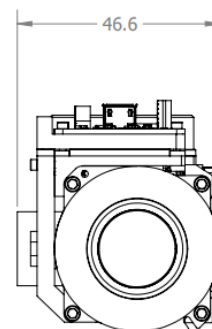
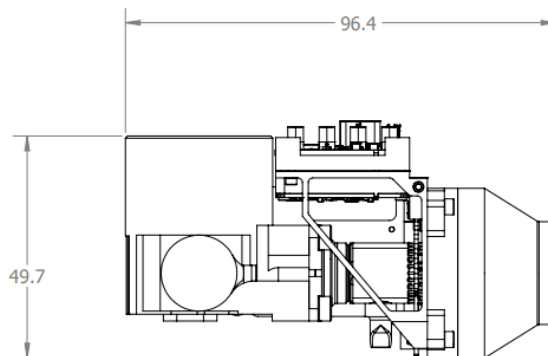
Parallel	50 pin HIROSE DF40-50
Input Voltage	Camera: 5V $\pm$ 10%; Cooler: 12V $\pm$ 10%
Power Dissipation	< 10 W cooldown, 6 W steady state
Communication	USB, UART, SPI or I2C
SDK and GUI Available	Yes

### Cooler Reliability

Cooler MTTF	>10,000 hours
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### Environmental

	-40°C to +71°C*
Operating Temperature	*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)



*See More*



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