



Photon HRC Camera Core

Miniature, Light Weight 640 MWIR
Cooled Camera Core

At less than 1 pound, and with its low power claim, Photon HRC is the perfect high-performance, miniature camera for small space platforms.

Photon HRC is one of the smallest high-resolution (640x512) MWIR cooled camera cores in the world. Based on our 15-micron pitch, high performance, low power, Indium Antimonide (InSb) focal plane array, the Photon HRC camera core consists of a detector/dewar/cooler assembly (DDCA), and the camera electronics.

Photon HRC Camera Core Features

Photon HRC's electronics includes two cards: the power/video board and the cooler controller board. The camera outputs NTSC video, 8-bit corrected video and 14-bit digital data. Communication is over a serial (RS-232 or RS-422) interface. An optional ethernet module supports IP video data capture and communication. Photon HRC's steady-state power consumption is less than 8 Watts

- High performance thermal imaging for long ranges
- Photon HRC fits into tight spaces for high performance imaging in a small package
- < 1 pound 640 MWIR camera
- Low power (less than 8 Watts) 640 MWIR camera
- Low price point
- Out-of-the-box operable OEM core that interfaces with:
 - Photon 640 accessories
 - A version of Photon 640 SDK and GUI
- Interface with COTS IR optics

Description	Features
Spectral Band	3.4 – 5.1 μm
Detector Material	InSb
Array Format	640 x 512
Detector Size	15 μm
Readouts	ISCC403
Well Capacity	7 million electrons
Detector Cooling	Closed Cycle Stirling-Rotary
Cooldown Time	5 minutes at 22°C and under 10 minutes at 71°C
Camera Cooling	Free air convection
Optical Interface	Custom
f/number	f/4 (Standard)
A/D	10.5 MHz, 14 bit
Noise Equivalent Temperature Difference (NE Δ T)	< 25 mK (<20 mK typical)
Maximum Pixel Rate	10.5 MHz
Maximum Frame Rate – Full Frame	30 Hz – 640 x 512
Video – Analog	NTSC
Video – Digital	8-, or 14-bit Serial LVDS
Integration Time Range	Variable
Electronic Zoom	2x, 4x
Power Consumption	< 8 Watts steady state
Weight	< 1 lb
Operating Temperature	-40°C to +65°C



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