

ZephIR™ 2.5e

INFRARED CAMERA



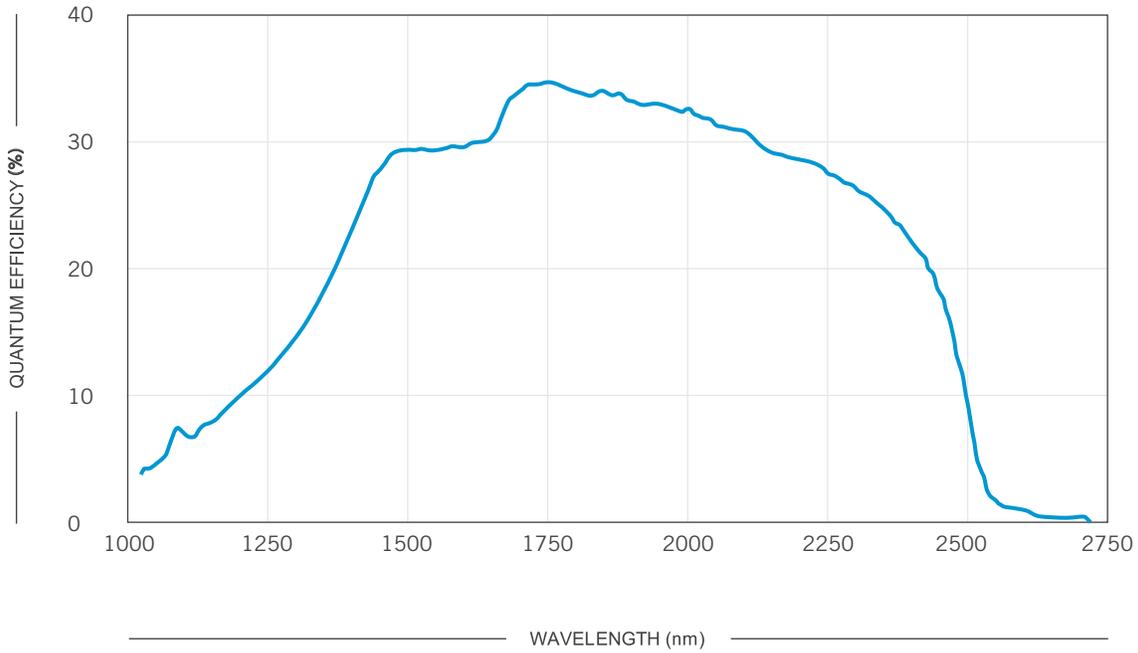
Introducing the groundbreaking ZephIR 2.5e, the first camera to feature a T2SL sensor up to 2500 nm. With its state-of-the-art thermo-electric cooling, the ZephIR 2.5e delivers unparalleled operability and ultra-low noise performance. Engineered for speed and equipped with versatile connectivity options, it's the ideal solution for both industrial precision and scientific exploration. Step into the future of infrared imaging and redefine what is possible with the ZephIR 2.5e.

TECHNICAL SPECIFICATIONS			
Sensor	T2SL FPA		
Sensor Format	640 x 512		
Pixel size	15 µm		
Spectral range	1100 - 2500 nm		
Peak Quantum Efficiency	> 30%		
Typical operability	> 99%		
Cooling Temperature @ 20°C ambient	-80 °C		
Cooling method	TEC + forced air		
Typical Dark Current	30 Mē/px/s		
Typical Gain setting (ē/ADU)	High	Med	Low
Typical readout noise (ē)	2.3	7.4	90
Typical full well capacity (kē)	45	75	300
Readout modes	28	110	1400
Frame Rate	CDS ITR, CDS IWR, IMRO IWR		
ROI Frame Rate	240		
Integration time range	Up to 4000		
Digitization	from 1 µs to full well capacity		
Image Format	14 bits		
Software	16 bits HDF5, FITS and TIFF		
Computer interface	PhySpec™ control and analysis software, SDK (C++, Python)		
External control	USB 3.0 and CameraLink™		
Ambient temperature range	Trigger IN/OUT		
Power Supply	10 °C to 35 °C		
Dimensions	12V DC		
Weight	169 mm x 130 mm x 97.25 mm		
Certification	2.9 kg		
	CE 		

MAIN ADVANTAGES OF TEC + AIR SYSTEM

- » Compact
- » No maintenance
- » Highly reliable
- » Low dark current
- » Long lifetime
- » Low readout noise





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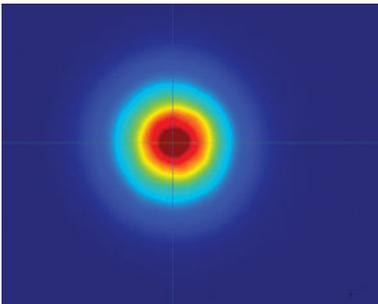
Quantum efficiency presented at -80 °C

APPLICATIONS



SWIR Imaging in Degraded Environment

The images highlight the advantages of SWIR imaging using our ZephIR 2.5e camera. In the visible spectrum (left), dense smoke obscures the view, making it difficult to see through. However, the SWIR image (right) reveals details hidden in the smoke in the visible spectrum. This capability is crucial for applications such as surveillance, search and rescue, and industrial monitoring, where visibility is often hindered by environmental factors like smoke or fog. The ZephIR 2.5e provides enhanced visibility in challenging conditions, offering critical insights in degraded environments.



2-D Intensity Profiling with ZephIR 2.5e

The ZephIR 2.5e SWIR T2SL camera delivers precise 2-D intensity profiling of collimated supercontinuum sources. Detailed spatial energy distributions are captured, with horizontal and vertical axis profiles providing critical insights into beam uniformity and alignment. Accurate beam profiling, whether for lasers or supercontinuum sources, is essential for maintaining optimal system performance.

