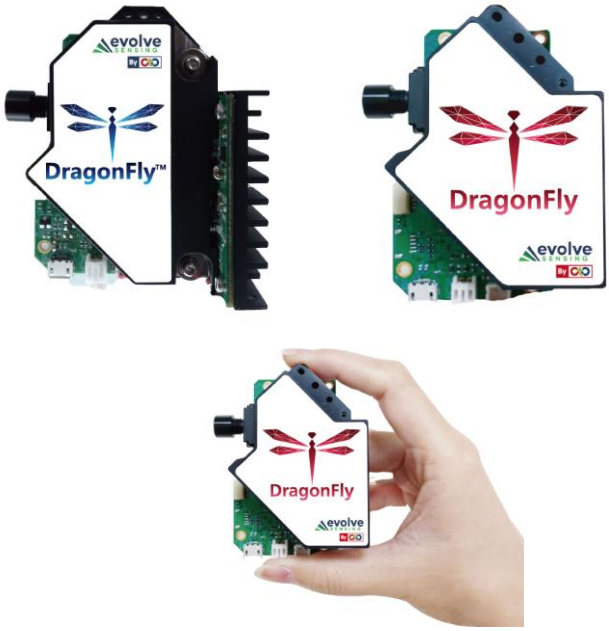
DragonFly™ NIR Spectrometer

A compact, high-performance DLP-based NIR spectrometer for laboratory, industrial, and OEM integration

The DragonFly™ spectrometer delivers high-performance near-infrared spectral analysis using DLP-based technology with a programmable digital micro-mirror device (DMD) and InGaAs photodiode in a compact optical platform. Its flexible scanning architecture enhances signal acquisition efficiency and optical stability while enabling fast, configurable measurements. Designed for reliable NIR performance, the DragonFly™ supports laboratory, industrial, and OEM applications.



APPLICATIONS

- NIR spectroscopy, reflectance analysis, optical metrology
- Material identification – grain, fabric, polymers
- Pharmaceutical, food and chemical analysis
- Process monitoring, rapid absorbance measurement
- Environmental and agricultural sensing
- OEM integration and embedded NIR systems

KEY PERFORMANCE

Wavelength Range: 900-2280 nm

Optical Resolution: 10-13 nm (model dependent)

Signal-to-Noise Ratio: up to 7000

Integration Time: minimum 0.635 ms

Stray Light: <0.2 %

Thermal Stability: <0.08 nm / °C

Interface: Micro USB, UART

DragonFly™ Specifications

	DF1514	DF1914	DF1924	DF1934
Wavelength Range	900 nm – 1700 nm		1250 nm – 2050 nm	1340 nm – 2280 nm
Sensor Type	InGaAs PIN photodiode (Ø1 mm)			
Resolution	10		11	13
SNR	7000			
Slit Width	25 um			
Stray Light	<0.2%			
Thermal Stability	<0.08 nm / °C			
Dark Noise (avg)	15			
A/D Converter	24 - bits			
Exposure Time	Minimum 0.635 ms			
Operating Temperature	0°C to +40°C			
Grating	Multiple grating options (model dependent)			
Dimensions / Weight	71.5 (L) × 57 (W) × 25 (H) mm 77 g	76.7 (L) × 59.9 (W) × 40 (H) mm 120 g		