

# NIRONE® SENSOR S EVALUATION KITS

The **NIRONE Sensor S Evaluation Kits** provide a good starting point for technology evaluation and application studies. We designed the world's most smartest and smallest spectral sensor to make material sensing easier. The NIRONE Sensor S offers excellent performance fully comparable with the best laboratory instruments in a small package and at only a fraction of the cost.



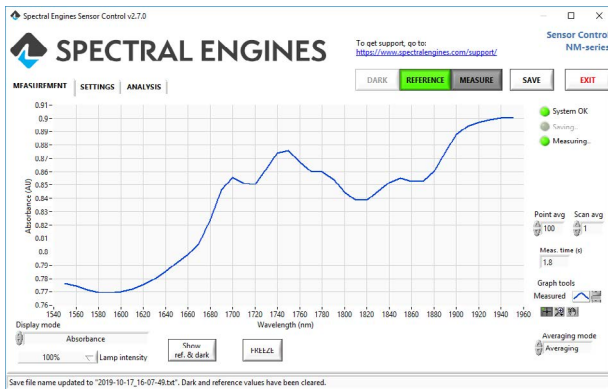
START YOUR SMART SPECTRAL SENSING REVOLUTION

## Key Benefits

- Test product performance
- Evaluate the functionalities of the sensor
- High-tech spectrometer features integrated into a small package
- Modular design makes it easy to integrate
- Significantly more cost-effective than its larger and more expensive alternatives
- The durability and robustness makes it ideal to be used in challenging environments

The **NIRONE Sensor S Evaluation Kits** (S1.4-EVK, S1.7-EVK, S2.0-EVK, S2.2-EVK, S2.5-EVK) integrate all these high-tech features into a compact module. A single electrical connector and changeable front optics makes it easily adaptable to any design.

The Evaluation Kit includes a USB communication board, micro reflection optics, SMA-connector and the sensor can be controlled via a PC by using our user-friendly SensorControl software.



The NIRONE Sensor S has a single point detector instead of a linear array, which makes it an affordable solution for all applications. The use of a single detector and Fabry-Perot Interferometer technology allow the use of a larger detector area than in linear arrays where the light is restricted by a slit. This makes the sensor's S/N ratio significantly better. The InGaAs area can be reached cost-efficiently by using a single detector. This provides better sensitivity and specificity in material sensing applications.

## Advanced Technology

The NIRONE Sensor S uses the patented Micro Electro Mechanical System (MEMS) Fabry-Perot Interferometer, which is a fully programmable optical filter. The sensor can be driven across the whole wavelength range or it can operate only at selected wavelengths.

## Example Applications

NIRONE Sensor S Evaluation Kits enable you to create new applications for material analysis.

- Pharmaceuticals composition analysis (anti-counterfeiting)
- Textile and plastics identification
- Narcotics and explosives detection
- Moisture analysis
- Process analytics
- Grain, feed and dairy analysis



## The Evaluation Kits Include:

- NIRONE Sensor S specified wavelength range
- Two optics: Micro reflection optics and SMA-connector
- White reference target
- USB Board and cable

## Technical Specifications

SPECIFICATIONS	VALUE
Evaluation kit wavelength range and resolution (typical, FWHM)	S1.4-EVK: 1.10 – 1.35 $\mu\text{m}$ / 12 – 16 nm * S1.7-EVK: 1.35 – 1.65 $\mu\text{m}$ / 13 – 17 nm * S2.0-EVK: 1.55 – 1.95 $\mu\text{m}$ / 15 – 21 nm * S2.2-EVK: 1.75 – 2.15 $\mu\text{m}$ / 16 – 22 nm * S2.5-EVK: 2.00 – 2.45 $\mu\text{m}$ / 18 – 28 nm *
SNR (typical)	From 15'000 (S1.4) to 1'500 (S2.5) **
Optical interface	Micro reflection optics SMA-connector
Electrical interface	Supply voltage 5V UART (3.3V) I <sup>2</sup> C (3.3V) Digital trig in/out (3.3V)
Mechanical interface	Mountable on PCB. Two M2 screws and PCB connector. PCB area of 25 x 25 mm <sup>2</sup> needed
Size (W x H)	28 x 25 mm
Weight	31 g

\* With an SMA-adaptor and a fiber with 400  $\mu\text{m}$  core and 0.22 NA

\*\* With external illumination and signal level of 75% of the maximum range