HINALEA VSWIR LUXILAB™

HYPERSPECTRAL IMAGING SYSTEM
500 – 1700 nm



FRONT-STARING, FULL-FRAME IMAGING

No trade-off between spectral and spatial resolution

PORTABLE "LAB IN A BOX"

Fully-portable, self-contained, complete and field-ready inspection system

INTEGRATED SOFTWARE PLATFORM AND SDK

Includes powerful tools for data analysis and integration

Hinalea

INTELLIGENT HYPERSPECTRAL IMAGING

HINALEA VSWIR LUXILAB™

SPECIFICATIONS

The HINALEA VSWIR LUXILAB "Lab in a Box" system represents the next generation of intelligent imaging solutions, leveraging advanced hyperspectral imaging and deep machine learning to deliver the accuracy of lab-based inspection techniques, with results delivered anywhere in real time. The VSWIR LUXILAB offers a fast, accurate, cost-efficient, and easy-to-use point of detection solution. Its tunable Fabry-Perot Interferometer captures complete two-dimensional images at each wavelength, producing high-quality hyperspectral data cubes without mechanical scanning.

SPECTRAL PERFORMANCE

Standard lens	9 cm at sample stage
Sensor spatial resolution	1280 x 1024 (1.34 MP)
Spectral range	500 –1700 nm
Spectral bands	300
Spectral resolution	15 nm FWHM
Dynamic range	8 or 16-bit
Illumination	Integrated halogen

SENSOR INFORMATION

Sensor type	Extended InGaAs

MECHANICAL

Dimensions (L×W×H)	288 mm x 143 mm x 218 mm
Weight (Mass)	8.69 lbs. / 3.94 kg

ELECTRICAL

Input voltages	Controller: 12VDC, 30W Sensor: 10.8-30VDC
Data interfaces	Controller: USB 2.0 USB Micro B Sensor: Gigabit Ethernet/IEEE 802.3 1000BASE-T

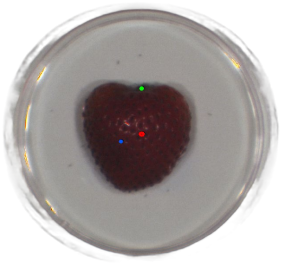
ENVIRONMENTAL

Operating temperature	15 °C to 30 °C
Humidity	65%, non-condensing

Subject to change

KEY BENEFITS

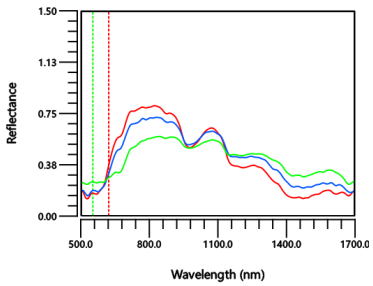
- **High-Quality Hyperspectral Data:** Full-frame image acquisition delivers highly uniform, spatially registered hyperspectral data cubes for quantitative analysis.
- **"Lab in a Box" form factor:** The lightweight, portable, self-contained and all-in-one design simplifies laboratory and field deployments.
- **Open Data Workflow:** Export hyperspectral data cubes in industry-standard formats for seamless analysis in ENVI, MATLAB, Python, Hinalea software, and other 3rd party platforms.



Composite RGB Image



HSI Classified Image



Selected ROI Spectra