Model 4455
1120-2100nm Extended SWIR (XSWIR)

SUMMARY: The Model 4455 XSWIR camera is the next generation system in Hinalea's series of award-winning intelligent hyperspectral imaging solutions. The Model 4455 covers an extended shortwave-infrared (XSWIR) spectral range from 1120 to 2100 nm. It combines high spectral and spatial performance in a system that is both affordable and portable. The Model 4455 utilizes a front-staring approach to hyperspectral imaging that does not require mechanical scanning.

HIGHLIGHTS

- High spatial and spectral resolution
- Real-time imaging and classification
- XSWIR (1120 - 2100 nm)
- 225 spectral bands
- ~15 nm (FWHM)
- Sensor spatial resolution 636 x 508 pixels

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Hinalea's Model 4455 Extended SWIR (XSWIR) hyperspectral imaging sensor is designed to cover the 1120 - 2100nm spectral range in a small-form-factor, highly portable, lightweight packaging.

Based on front-staring Fabry Perot technology, the Model 4455 includes hardware and software required to support a broad range of hyperspectral imaging applications. Key specifications include 225 spectral bands at a spectral resolution of 15 nm (FWHM).

The Model 4455 captures a complete high-spatial-resolution image data-cube across the Extended SWIR spectral range in seconds, but can also be programmed to scan a subset of bands. The ability to dynamically control the sensor based on the application and object to be imaged optimizes data-capture and data-processing efficiency .

Thanks to its design, the Hinalea Model 4455 offers high spectral and spatial resolution without the image uniformity challenges of line-scanning and patterned filter snapshot multi-spectral imagers present. In addition, Hinalea has developed this new sensor to be small, lightweight, and affordable for straightforward deployment in a lab setting, in a production environment, or in the field.

Powerful Software

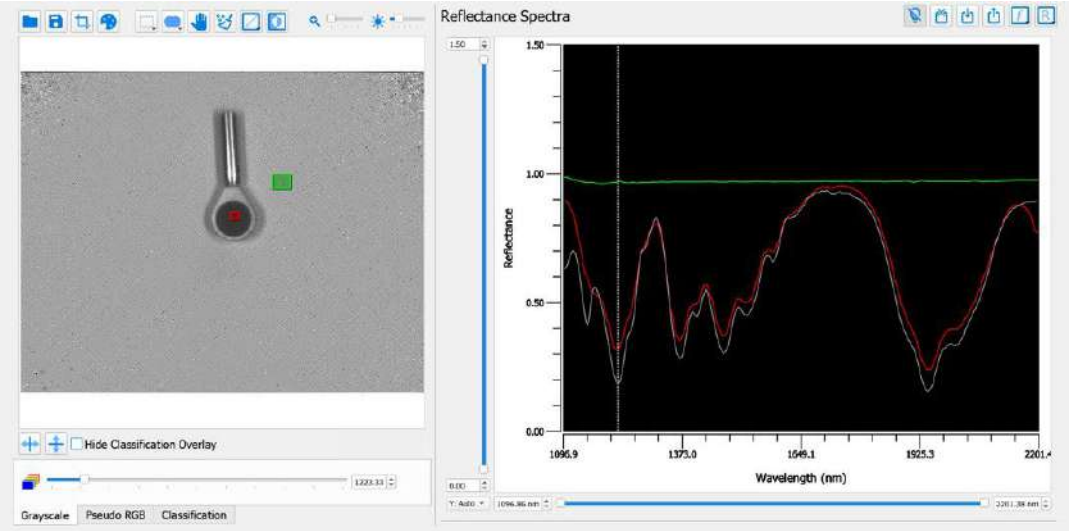
The Model 4455 Extended SWIR system includes proprietary application software featuring fast and easy hyper-cube capture and intuitive image classification/segmentation as part of a suite of powerful spectral image exploration tools.

TECHNICAL SPECIFICATIONS (PRELIMINARY)

MECHANICAL	
Dimensions (LxWxH)	80mm x 80mm x 264mm
Weight (Mass)	~2.72kg (~6lb.)
ELECTRICAL	
Input voltage	110 VAC/60 Hz or 220 VAC/50 Hz
Data interfaces	USB-C/USB 3.0, Gigabit Ethernet/IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE)
ENVIRONMENTAL	
Operating temperature	15° to 30° C
Humidity	65% non-condensing

SCAN PERFORMANCE	
Standard lens	100 mm FL, 30 degree FOV
Sensor spatial resolution	636 x 508 pixels
Spectral range	Designed for ~1120 nm to 2100 nm
Spectral bands	225
Spectral resolution	~ 15 nm
Dynamic range	User selectable; 8- or 16-bit
Illumination	Optional

Screen shot of captured wavelength standard data-cube spectra.



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Contact us!

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