

Monarch™

Multi-Spectral PCB Camera Module



Description

The Monarch II PCB camera module was specifically developed to cater to the needs of OEMs, machine builders, and machine vision integrators. Offering an exceptional combination of affordability, compact size, and versatility, it sets a new benchmark for price/performance.

Built upon the Unispectral® Monarch II camera, the compact Monarch II PCB utilizes a ColorIR® tunable filter that enables imaging in 10 near-infrared (NIR) bands spanning from 680nm to 940nm. The spectral range, number of bands, sensitivity, and other characteristics can all be adjusted to meet customers' needs and accommodate diverse applications.

Key Features

- Cost-effective
- Small size
- High resolution
- Versatile specification
- Plug & Play Connection
- Standard USB interface
- APK for data collection
- SDK/API

Applications

- Food quality
- Agriculture
- Biomedical
- Recycling
- Pharmaceuticals
- Art analysis
- Forensics

Specifications

Sensor Characteristics

Sensor type	Global shutter, B/W, CMOS (1/5")
Preview mode	60fps
Cube acquisition (10 bands)	750ms (@1ms exposure)
Resolution (H x V)	1280 x 1024
Exposure time	1 - 500ms
Gain	x1 - x10
F-Number	4.7 mm
Effective focal length	4.98 mm
H-FOV (H, V, D)	31.5°, 25.5°, 39.8°

Spectral Characteristics

10 CWL bands (±10nm)	713,736,759,782,805,828,851,874, 897, 920nm
CWL FWHM (±15nm)	30nm
AOI dependency (average)	-1.1 nm/degree

System Specifications

Operating temperature	15-35°C (non-condensing) Thermal shift of (-)1.1nm / °C
Storage Temperature	10°C - 50°C (non-condensing)
Input voltage	5V DC
Power consumption	<1.6W (peak)
Dimensions	60 x 40 x 14.5
Weight	30gr
Interface	USB-C
Saved Data format	10bit ENVI, 8bit PNG

Software - Data collection

Monarch Application	Windows 10 & 11 (64bit)
Windows API	C / Python
Linux API	C / Python