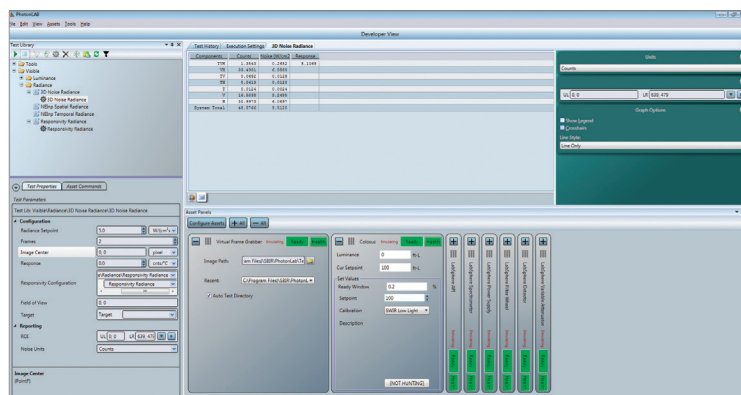


Advanced Software for Industry Standard Performance Testing

Expand your HELIOS® System capability to analyze your images using industry standard test algorithms



PhotonLAB is an advanced software tool that automates the setup, execution, data collection and results analysis for industry standard performance testing of UV, Visible, NIR and SWIR systems. PhotonLAB is based on the Labsphere API (LSAPI) and hardware infrastructure. The software controls the system assets and the user may take data at designated settings. Once the data is collected, the system then uses a “virtual” frame grabber to run tests on the images and return results.

PhotonLAB Functions

- Easy to use GUI for the calibrated control of HELIOS systems
- Automated test and calibration capability for imaging sensors operating in the 0.35 to 2.5 micron region
- Creation of test configurations and test sequences
- Creation of test reports
- Store and apply calibration tables

Software Features

- Easy to Use GUI: The test engineer can quickly configure and run any of the tests included with PhotonLAB. Data collection and analysis is automated and test results can be printed, saved or exported from a database for further analysis. There are two user modes:
 - Operator Mode: Run pre-set scripts and create defined reports
 - Developer Mode: Configure existing tests and reports
- Hardware Control: Works with your existing HELIOS system hardware and HELIOSense Software
- Virtual Frame Grabber: Load many image formats (jpg, bmp, png, etc.) to run tests and produce reports on your camera/sensor data
- PC Compatible: GUI runs on HELIOS System embedded Cube computers or on any Windows 7, 8 or 10 compatible PC
- Remote Interface: TCP server for test automation, external hardware control or reporting functions

Perform Standard Industry Test Procedures

PhotonLAB Standard Test Sets

Device Test Type	Compliance	Output Reports/Values
Linearity and Sensitivity	EMVA 1288 (6)	Dynamic Range, SNR, Saturation and Other Values
Dark Current	EMVA 1288 (7)	Dark Current, Doubling Temperature
Spatial NU	EMVA 1288 (8)	DSNU, PRNU, NUC or Flat-Fielding
3D Noise	NVESD	3D Noise Table
Responsivity	Common Practice	Responsivity Value
Spatial NEInp	Common Practice	NEInp Value
Temporal NEInp	Common Practice	Temporal NEInp Value
Gain Offset Bad Pixel (GOBP)	Common Practice	Bad Pixel List

Other Capabilities - *Requires Supporting Hardware and System Changes*

Device Test Type	Compliance	Requirements
Spectral Response	EMVA 1288 (9)	Requires Monochromator and Optics
Veiling Glare	ISO 9358 (and Others)	Requires Sphere Changes and Light Target
MTF	ISO12233	Requires Targets MTF, LSF, ESF, Expanded, Multiple Edges
MRC	AF1951	Requires Targets
Boresight	Common Practice	Requires Targets and Collimator
Distortion	Common Practice	Requires Targets
FOV	NVESD	Expanded Capability, Uses 4 Bar Targets
FOV	NVESD	Requires Target and Stages