



OPTICAL VECTOR ANALYZER™
(Model 5000)

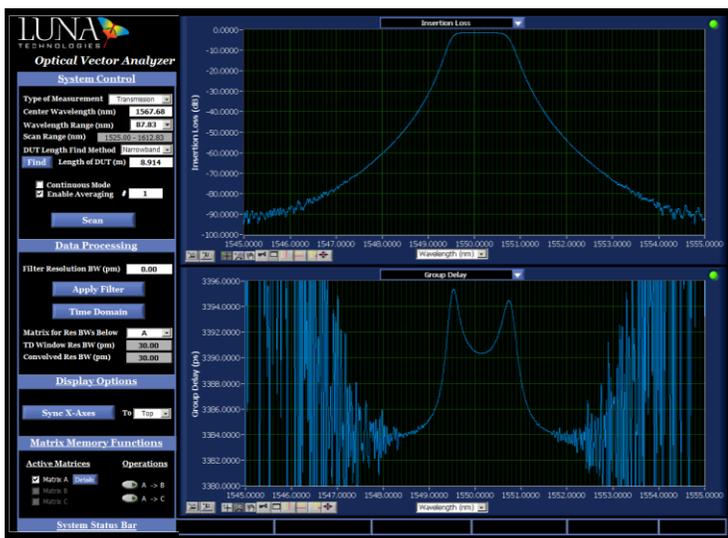
KEY FEATURES AND PRODUCT HIGHLIGHTS

- Single measurement, all-parameter analysis of devices up to 150 m in length
- Full C and L band characterization in under 3 seconds
- High resolution C and L band or O band capability
- Complete polarization response
- Real-time measurements
- User-friendly interface

The OVA 5000 is the fastest, most accurate and economical tool for loss, dispersion and polarization measurements of modern optical networking equipment. It is the ideal device for single-connection, all-parameter characterization of fiber components from couplers to specialty fiber and everything in between (Fiber Bragg Gratings, arrayed waveguide gratings, free-space filters, tunable devices, amplifiers, etc.), all with a single sweep of a tunable laser.

Luna's patented characterization technique allows direct measurement of a passive device's linear transfer function allowing the OVA instant access to:

- Insertion Loss (IL)
- Polarization Dependent Loss (PDL)
- Polarization Mode Dispersion (PMD) and Second Order PMD
- Chromatic Dispersion (CD)
- Group Delay (GD)
- Optical Time Domain Response
- Jones Matrix Elements
- Optical Phase Response



With the OVA 5000, development cost, production cost and time to market for DWDM components can be reduced by up to 60%.

OVA 5000

| PARAMETER | FAST MODE* | AVERAGING MODE* | UNITS |
|---|---|-----------------|-----------------|
| Wavelength Range: | | | |
| | 1265-1335 or 1525-1610 | | nm |
| Wavelength: | | | |
| Standard Resolution | 3.2 | 3.2 | pm |
| High Resolution | 1.6 | 1.6 | pm |
| Accuracy ¹ | ±1.5 | ±1.5 | pm |
| Repeatability | ±0.1 | ±0.1 | pm |
| Optical Phase Error: | | | |
| | ±0.05 | ±0.0075 | radians |
| Loss Characteristics: | | | |
| Dynamic range ² | 60 | 80 | dB |
| Ripple | ±0.05 | ±0.01 | dB |
| Resolution | ±0.05 | ±0.002 | dB |
| Insertion loss accuracy | ±0.1 | ±0.05 | dB |
| Return loss accuracy | ±0.2 | ±0.1 | dB |
| Chromatic Dispersion: | | | |
| Accuracy | ±10 | ±5 | ps/nm |
| Group Delay: | | | |
| Range ³ | 6 | 6 | ns |
| Accuracy | ±0.2 | ±0.05 | ps |
| Loss range ² | 45 | 60 | dB |
| PMD: | | | |
| Range ³ | 6 | 6 | ns |
| Accuracy – First Order | ±0.03 (100pm steps) ±0.15 (30pm steps) | ±0.08 | ps |
| Accuracy – Second Order | ±10 | ±2 | ps ² |
| Loss range ² | 40 | 50 | dB |
| PDL: | | | |
| Extinction ratio | 40 | 50 | dB |
| Accuracy | ±0.05 | ±0.03 | dB |
| Measurement Timing: | | | |
| Laser sweep rate | 70 | 70 | nm/s |
| All-parameter measurement rate ⁴ | 30 | 30 | ms/nm |
| Fully specified measurement time ⁵ | 12 | 55 | s |
| Real-time mode update rate ⁶ | 1 | NA | Hz |
| Maximum Device Length (including leads): | | | |
| Transmission | 150 | 150 | meters |
| Reflection | 75 | 75 | meters |
| Physical | | | |
| Weight (Processor not Included) | 16.24 35.8 | | kg lbs |
| Case Size (W X D X H) | 473 X 420 X 206 18.62 X 16.54 X 8.08 | | mm inches |

- 1 Accuracy maintained by an internal NIST-traceable HCN gas cell.
- 2 80, 60 and 50 dB dynamic ranges in 'Averaging Mode' for IL, GD and PMD are with the "High Dynamic Range Averaging" option installed and enabled.
- 3 Specifies the total device impulse-response duration that may be captured.
- 4 Rate calculated from combined laser sweep and analysis time per scan.
- 5 Measurement with full specification (see note 2) over Fast Mode: 40 nm range, and Averaging Mode: 2.5 nm range. Excludes calibration time.
- 6 For 2.5 nm scan range.

Fast Mode: no averaged calibration scans, 4 averaged measurement scans, 30 pm resolution bandwidth, 8 m device length (accuracies verified using NIST certified artifacts except for IL). High dynamic range option enabled.

Averaging Mode: 4 averaged calibration scans, 64 averaged measurement scans, 30 pm resolution bandwidth, 8 m device length (accuracies verified using NIST certified artifacts except for IL). High dynamic range option enabled.

*results are typical

CLASS 1 LASER PRODUCT