Breakthrough Functionality in Fiber Optic Testing

LUNA TECHNOLOGIES
A Division of Luna Innovations Incorporated

OPTICAL VECTOR ANALYZER
(Model OVA™ CTe/STe)

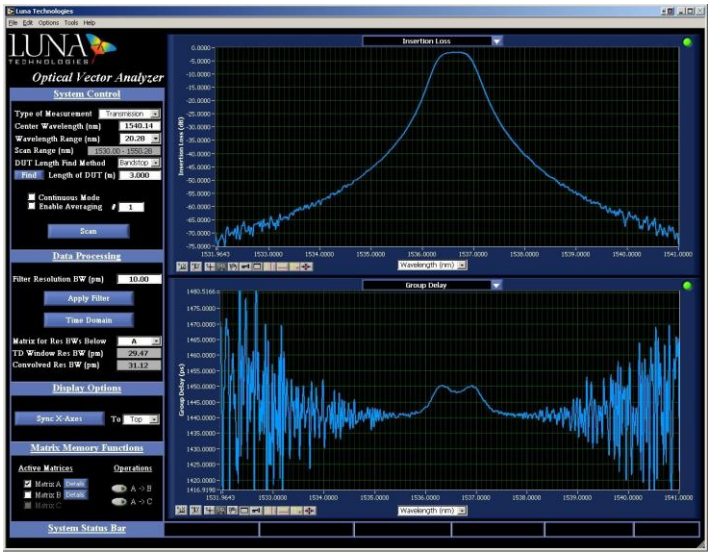
The OVA™ is the fastest, most accurate and economical tool for loss, dispersion and polarization measurements of modern optical networking equipment. It is the ideal tool for single connection, all-parameter characterization of fiber components from couplers to specialty fiber and everything in between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

KEY FEATURES AND PRODUCT HIGHLIGHTS

- All-parameter analysis
- Total system integration
- High resolution C and L band capability
- Real-time measurements
- Integrated and user-friendly interface
- Time domain viewing
- Complete polarization response

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™, development cost, production cost and time to market for DWDM components can be reduced by up to 60%.

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OVA™

PARAMETER	FAST MODE*		AVERAGING MODE		UNITS
Option	CTe	STe	CTe	STe	
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		90		dB
Ripple	±0.05		±0.01		dB
Resolution	±0.05		±0.002		dB
Insertion Loss Accuracy[3]	±0.1		±0.05		dB
Return Loss Accuracy[3]	±0.2		±0.1		dB
Chromatic dispersion:					
Accuracy[3]	±15		±4	±5	ps/nm
Group delay:					
Range[4]	3 or 6		3 or 6		ns
Accuracy[3]	±0.2	±0.5	±0.05	±0.1	ps
Loss range[2]	40		60		dB
PMD:					
Range[4]	3 or 6		3 or 6		ns
Accuracy[3] – First Order	±0.03 (100pm steps) ±0.15 (30pm steps)		±0.06CTe ±0.08Ste		ps
Accuracy[3] – Second Order	±10		±2		ps[2]
Loss range[2]	35		50		dB
PDL:					
Extinction ratio	40		50		dB
Accuracy[3]	±0.05		±0.03		dB
Measurement Timing:					
Laser sweep rate	70	35	70	35	nm/s
All-parameter measurement rate[5]	55	100	55	100	ms/nm
Fully specified measurement time[6]	12	20	12	20	s
Real-time mode update rate[7]	4	3	NA	NA	Hz
Maximum device length (including leads):					
	30	70	30	70	meters

1 Accuracy maintained by an internal NIST-traceable HCN gas cell.
2 90, 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 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.
4 Specifies the total device impulse-response duration that may be captured.
5 Rate calculated from combined laser sweep and analysis time per scan.
6 Measurement with full specification (see note 2) over Fast Mode: 40 nm range, and Averaging Mode: 2.5 nm range. Excludes calibration time.
7 For 2 nm scan range.
*results are typical

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