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TECHNOLOGY GROUP

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Expert team | Trust guarantee | 100% satisfaction

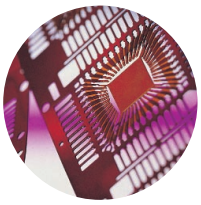
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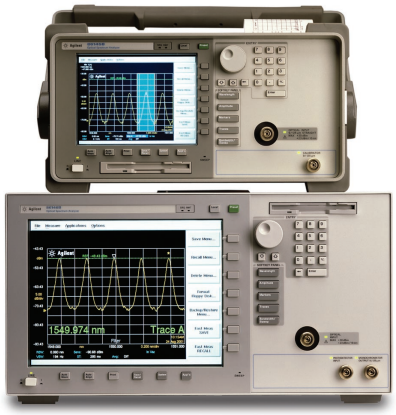
Find the *Keysight / Agilent 86142B* at our website: ***Click HERE***



Optical Component Test

Agilent 8614xB Optical Spectrum Analyzers Family





- Benchtop and portable solutions enabling device and service innovation
- Testing at the speed of light with built-in applications

Agilent Technologies

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Testing at the speed of light

Family

The Agilent Family of Optical Spectrum Analyzers

More insight than you ever thought possible...

Agilent Technologies offers a wide variety of optical spectrum analyzers (OSA) to meet your test needs whether it's in R&D, manufacturing, installation, or maintenance and commissioning. Providing both benchtop and portable models at different price and performance points so you can choose the most cost effective solution to meet your test needs.

Benchtop's - The OSA family of benchtops provides fast, accurate, and comprehensive measurement capabilities for spectral analysis. Standard Commands for Programmable Instruments (SCPI) over LAN and the display-off features allows you to make fast measurements while reducing production test time. Remote file saving and printing, and full featured SCPI remote commands make it easy to integrate Agilent's OSA's into your production line.

Portable's - Rugged, reliable and easy to use with performance you would not expect from a portable OSA. The user-friendly interface and intelligent measurement design take the uncertainty out of making complicated spectral measurements. Measurements you can trust each and every time.

Benchtop Overview



86146B High performance OSA with filter mode monochromator output



86142B High performance OSA



86140B Standard performance OSA

Portable Overview



86145B High performance OSA



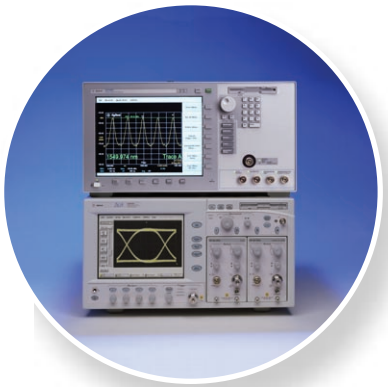
86143B Standard performance OSA

You can choose the most cost effective solution to meet your test needs.

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Filter Mode

Introducing the brightest member of the family...

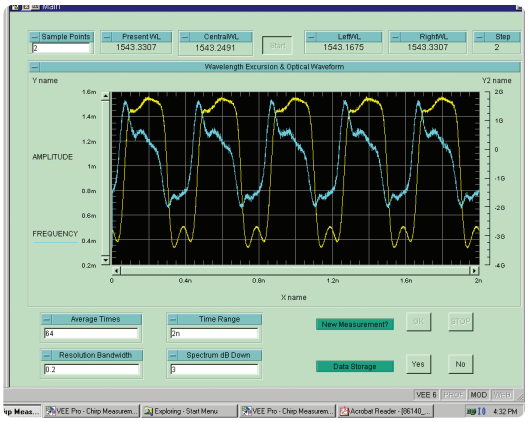


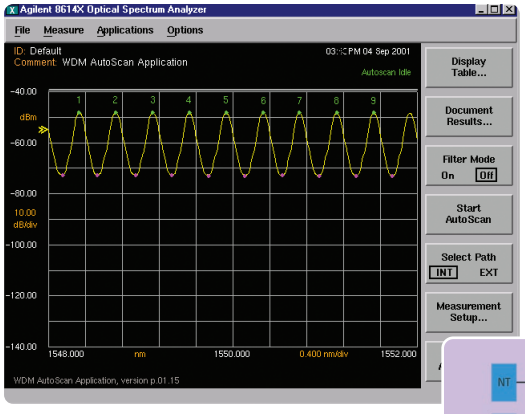
The 86146B benchtop OSA enables new test methods you may never have thought possible. One of the applications of the filter mode is to allow a single tightly spaced DWDM signal to be isolated. You can then quantitatively analyze in the time domain without losing any of the traditional OSA functionality you've come to expect from Agilent. It is now possible to switch between parametric measurements in the physical domain to functional measurements in the time domain.

The WDM application can sequentially or selectively drop WDM channels that require additional analysis.

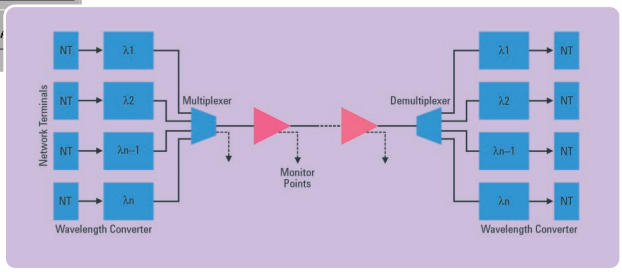
The 86146B provides the flexibility to drop a single DWDM channel as tight as 12.5 GHz spacing with fast-tuning speed, low-insertion loss, and highly repeatable wavelength accuracy. We've also designed our built-in WDM application to work with the single-mode monochromator output path to simplify the task of pre-selecting a desired WDM channel for analysis.

Another application of the filter mode is to measure time resolved chirp (TRC) and to compute dispersion penalty (DPC). Using the SMF feature of monochrom-ator out as a preselector with a DCA, chirp measurements can be made on lasers.





The 86146B benchtop OSA enables new test methods you may never have thought possible.



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Accelerate Test with Built-in Applications

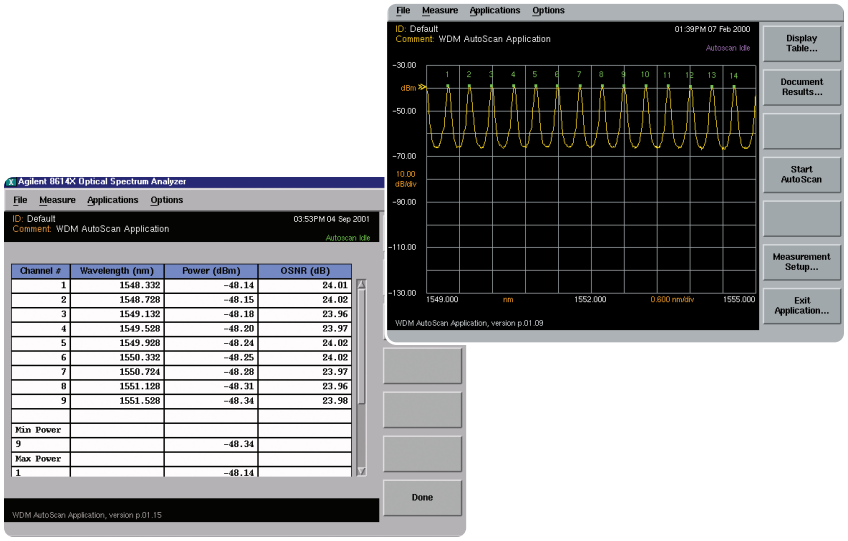
Built-in applications take the uncertainty out of measurements for WDM systems, lasers, amplifiers, and passive components. These applications allow for fast, accurate, easy to use, and repeatable measure-ments of critical parameters. All of these applications can be added through a simple firmware upgrade.

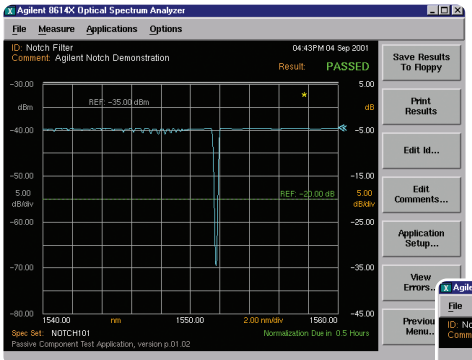
WDM Application

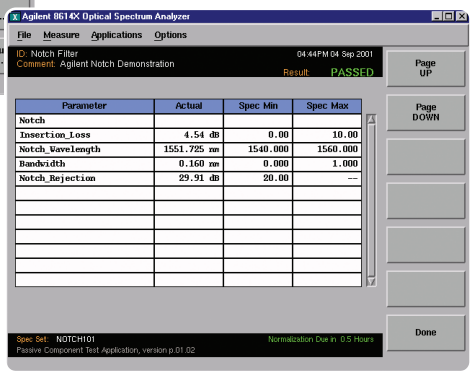
The WDM application helps speed up the test process for DWDM subsystems, so increasing channel counts does not mean test time increases. The application can easily measure DWDM sub-system components, such as transmission sub-systems, optical add/drop multiplexers, and multiplexers/de-multiplexers.

This application provides accurate measurements for critical parameters such as optical signal-to-noise ratio (OSNR), channel wavelength, channel power, and span tilt. The application also provides both a graphical display of your WDM signal as well as tabular data. Each channel is automatically numbered so that test data can be easily correlated to each channel.

OSNR measurements of modulated signals made with the 8614xB series are highly accurate due to the patented dual sweep method. The first sweep is taken at a user-specified wide resolution bandwidth filter to ensure accurate signal amplitude measurements. The second sweep is taken with a user-specified narrow resolution bandwidth filter to ensure accurate noise power spectral density measurements. With the fast sweep speed of the Agilent OSA, the result is a quick and accurate OSNR measurement.







Passive Component Test Application

The passive component test application simplifies the test procedure for passive components, such as filters, couplers, and isolators.

A user defined test plan allows you to customize and stream line the process to measure and display important device parameters such as insertion and return loss, bandwidth, and filter shape.

These applications allow for fast, accurate, easy to use, upgradeable, and repeatable measurements.

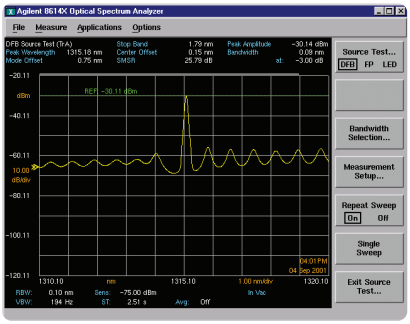
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Source Test Application

The 8614xB series offers automated optical source and laser characterization.

Distributed feedback (DFB), Fabry-Perot (FP) lasers and LED sources are key components for enabling transmission of information in fiber optic systems. To ensure proper operation of sources key parameters need to be measured.

The source test application provides easy-to-setup and easy-to-use measurements. This application is designed to provide accurate results for the following critical parameters; side mode suppression ratio, center wavelength, mode spacing, channel power.



A single button press starts the application and provides on-screen instructions to step you through the measurement procedure.

Amplifier Test Application

The amplifier test applications in the 8614xB OSAs simplify the process of characterizing gain and noise figure of optical amplifiers such as EDFA's, SOA's and Raman amplifiers which facilitates in reducing test time. There are two amplifier test methodologies available for Agilent OSAs.

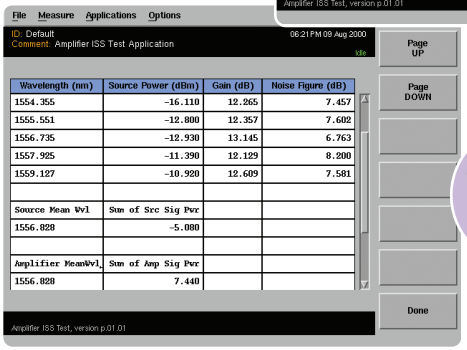


All 8614xB OSAs offer the Interpolated Source Subtraction (ISS) method for measuring amplifiers. A single button press starts the application and provides on-screen instructions to step you through the measurement procedure. This application utilizes the ISS method to quickly measure gain and noise figure at a single wavelength or at many simultaneous wavelengths. The ISS method interpolates the calibrated noise power measurements at either side of the signal to determine the noise power component hidden beneath the signal.

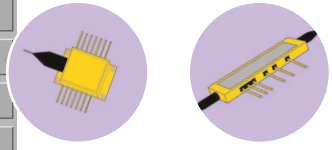
The 86146B OSA also has a built in Time Domain Extinction (TDE) method for measuring amplifiers. TDE can very accurately measure ASE power of amplifiers with slow relaxation states, such as Erbium Doped Fiber Amplifiers (EDFAs) and Erbium Doped Waveguide Amplifiers (EDWAs).

The results from both the TDE or ISS application are easily analyzed using either the graphical display of gain and noise figure vs.wavelength or via a convenient tabular display.





Wavelength (nm)	Source Power (dBm)	Gain (dB)	Noise Figure (dB)
1554.355	-16.110	12.265	7.457
1555.551	-12.800	12.357	7.602
1556.735	-12.930	13.145	6.763
1557.925	-11.390	12.129	8.200
1559.127	-10.920	12.609	7.581
Source Mean Wvl	Sum of Src Sig Pwr		
1556.828	-5.080		
Amplifier MeanWvl	Sum of Amp Sig Pwr		
1556.828	7.440		



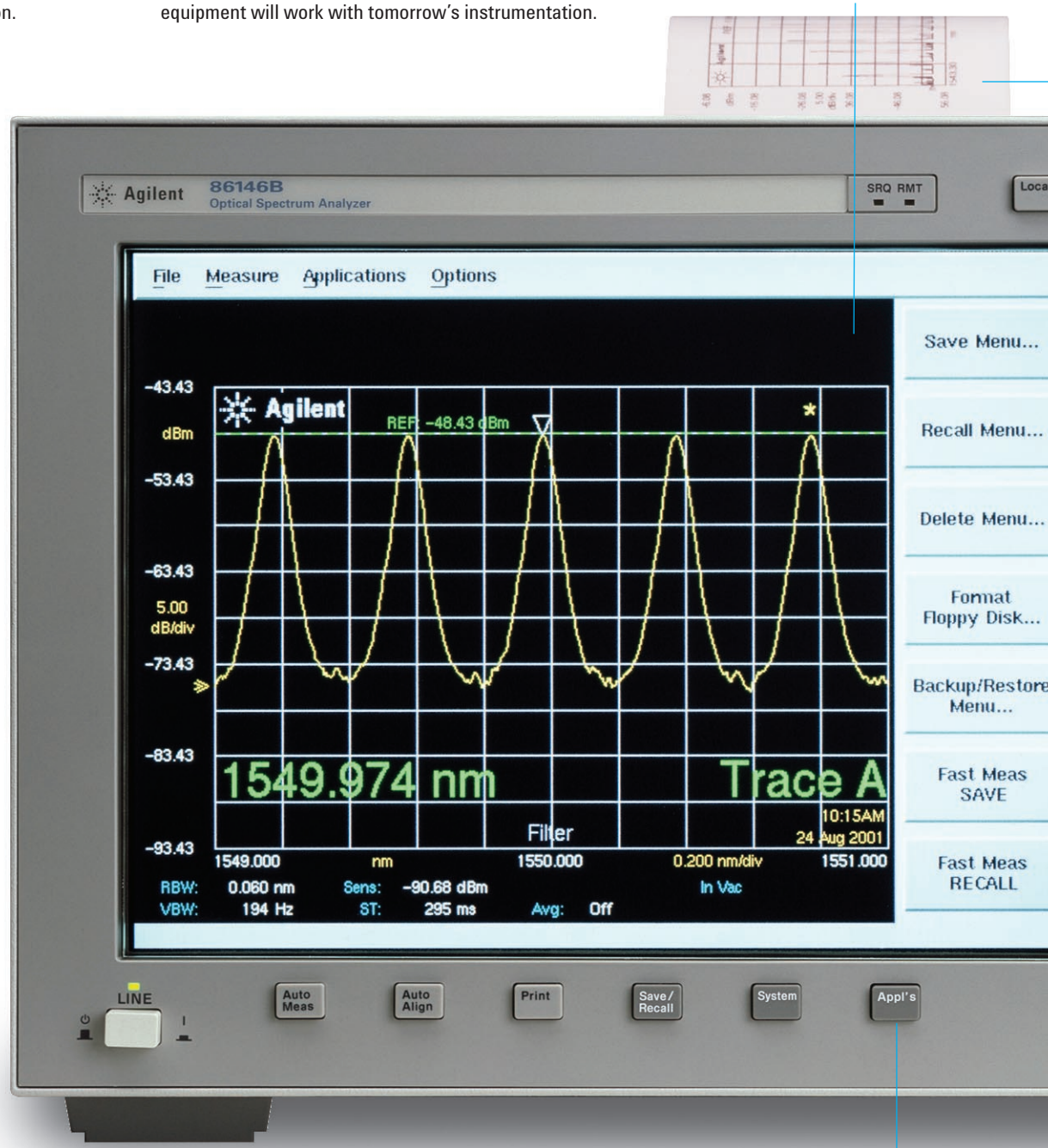
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Benchtop and Portable Solutions

Remote File Save
Save test data directly to a file share on a network drive to simplify test automation.

SCPI Over LAN
The OSA can now be controlled over LAN or GPIB using SCPI. This industry standard programming structure insures that the test plans you write for today's automated test equipment will work with tomorrow's instrumentation.

Large color Display
A large 26.4 cm (10.4 in) color LCD display with exceptional brightness and clarity for ergonomic viewing.



Graphical User Interface
Control the OSA from the front panel or with an external keyboard and mouse. You can even remotely control the OSA from a PC or work-station on the LAN.

Traces
Six independent traces with extensive trace math capability make it easy to see complex measurement data in a single graphical display.

Applications
Internal applications help streamline production test and increase utilization. New applications can be installed through an upgrade procedure in minutes providing you with a path for the next generation of devices.

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The Big Picture

Internal Printer
Graphics and tabular data can be captured in an instant with the internal printer.

Remote Printing
Send a screen capture or data table to any printer on the LAN.

Display Off
With the "DISPLAY OFF" feature, the instrument is focused on making fast measurements.





The Internal EELED broadband light source is ideal for passive component test and reduces the number of instruments required to perform passive component measurements.

Internal Wavelength Calibrator
The internal gas cell calibrator allows you to achieve ±10 pm wavelength accuracy between 1480 to 1565 nm. An external wavelength meter can extend this 10 pm accuracy across the entire OSA measurement range.

Filter Mode (86146B)
Easily select and isolate a single tightly spaced DWDM channel and drop it out. Connect the filter mode OSA to a digital communications analyzer or bit error ratio tester for analysis in the electrical domain.

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Research and Development

R&D

Speed your time to market...

Research and development continues to push the limit of technology, whether it's by increasing spectral density of WDM systems or taming the elusive soliton.

Agilent OSA's can help you with these leading test needs.

The high performance OSA models have excellent measurement specifications to help you with the more traditional tasks of product development including the highest wavelength accuracy (±10 pm), low polarization loss (0.05 dB), low insertion loss (<10 dB), and high dynamic range (–70 dB at 0.5 nm).

Any of the four independent markers can be arbitrarily set on any of the six available traces, so any absolute or relative value can be measured. Furthermore, each marker can measure bandwidth and calibrated optical signal-to-noise ratio quickly. The noise markers provide calibrated noise power normalized to a standard 0.1 nm noise equivalent bandwidth automatically for any resolution bandwidth setting. Thus, eliminating steps and reducing your time to market.

The graphical user interface can be operated directly or by using an external keyboard and mouse.





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Manufacturing

Boost your time to revenue...



Agilent's wide range of OSA's have exceptional measurement speed and reliability, leaving you the choice to select the most cost effective solution for your test needs. Agilent's two year calibration cycles and excellent support services means that you can keep downtime and cost-of-ownership to a bare minimum. The 8614xB automatically maximizes sweep speed while maintaining the required dynamic range. This variable sensitivity allows you to get the fastest sweep time possible increasing throughput, while high accuracy allows you to minimize guard bands and increase product yields.

The 8614xB's are designed for LAN connectivity so that you can save production data, screen shots, and even remotely control or monitor the OSA from any PC connected to the LAN. Integration of the OSA onto your manufacturing floor has never been easier.



The variable sensitivity range allows you to get the fastest sweep speed possible

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Not a Performance Lightweight

Life in the field can be tough so your test equipment needs to be tougher. The portable OSA's are a smaller ruggedized version with the same high performance design used in the benchtop OSA.

Measurements you take during system verification test or production final test using the benchtop OSA's correlate with measurements taken on-site in the field with Agilent portables. And if there's a tough problem in the field requiring remote monitoring, the OSA's are web-enabled, allowing engineers to connect from a computer anywhere.

Its full-featured remote interface means that it's just as easy to use and control remotely as it is on your lab bench.

The bright display and extensive trace capabilities means that you can see a large amount of information in less than optimum conditions.





The OSA's are web-enabled, allowing engineers to connect to it from a computer anywhere anytime.

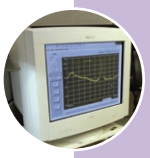


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Agilent Technologies OSA family - a whole product solution



The performance of Agilent's OSA family is only a small part of what you get from Agilent Technologies. Agilent strives to provide complete solutions that go beyond our customer's expectations. Only Agilent offers the depth and breadth of enhancements, software, services, connectivity, accessibility and support to help our customers reach their measurement objectives.



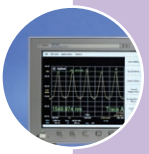
PC connectivity
- VXI plug and play drivers
- LAN, Serial, Parallel, VGA, GPIB, Mouse, Keyboard, and external trigger ports
- Web enabled



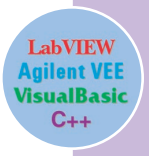
Pre-sales service
- Rentals, leasing, and finance
- Application engineering services
- Application and product notes



Post-sales support
- Standard one year global warranty
- Two year calibration cycle
- Worldwide call center and service center support network



Product and peripheral interfaces
- Remote front panel
- Remote print and file save
- Web enabled



Instrument drivers
- SCPI (Standard Commands for Programmable Instruments)
- Instrument drivers available



Training and access to information
- English, Japanese, and Chinese manuals available in hardcopy or via the web
- Application notes



Firmware upgrade available through
- Web: www.agilent.com/comms/OSA
- CD ROM
- LAN

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Agilent Lightwave and Photonic Measurement Solutions

	Passive Component Test													Optical Amplifier Test			Bit Error Ratio Test		
	Mux/DeMux/V-Mux	TFF Test	FBG Filter Test	Connector Test	Switch Test	TFF Align-/Adjustment	Fiber to AWG Alignment/ AWG Chip Test	Coupler/Splitter/Combiner	Isolator/Circulator	Variable Optical Attenuator	Gain Flattening Filter	Dispersion Compensators	Interleaver	EDFA	Raman Amplifiers	SOA	Rx/Tx	Line Card	System Test
Tunable Laser 81600B Options 132/140/142/150/160/200	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●			
Compact Tunable Laser 81980A/81940A/81989A/81949A					●			●	●	●	●	●	●	●	●	●	●	●	●
Distributed Feedback (DFB) Laser 81662A, 81663A														●	●	●			●
Fabry-Perot Laser				●	●	●	●	●	●										
Power Meter 8163xB	●	●	●	●	●	●	●			●	●	●	●	●	●		●	●	●
Optical Heads 8162xB						●		●	●	●	●	●	●				●	●	●
Return Loss Modules 81610A, 81611A, 81612A 81613A			●	●	●	●	●	●	●	●	●	●	●	●					
Attenuator 81570A/71A/73A/75A/76A/77A														●	●	●	●	●	●
Polarization Controller 8169A	●	●	●		●		●	●	●	●	●	●	●	●		●			
Polarization Controller 11896A						●			●	●	●	●	●	●	●				
Digital Communications Analyzer (DCA)																	●	●	●
Bit Error Ratio Tester (BERT)																	●	●	●
SONET/SDH Tester																		●	●
Optical Spectrum Analyzer (OSA)	●	●	●					●			●		●	●	●	●	●	●	●
Multi-Wavelength Meters																	●	●	●
Mainframes 8163B				●		●		●	●	●						●		●	●
8164B	●	●	●		●		●	●	●	●	●			●	●	●	●	●	●
8166B	●				●		●							●	●		●	●	●
All-Parameter Test	●	●	●						●	●	●	●	●						
Photonic Foundation Library	●	●	●		●	●	●	●	●	●	●		●						

For related literature please visit **www.agilent.com/cm/rdmfg/oct/literature/octselection.pdf**
By internet, phone, or fax, get assistance with all your test & measurement needs
For further information, please visit www.agilent.com/comms/lightwave

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Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

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