

# Agilent 8703B Lightwave Component Analyzer

A unique, general-purpose instrument for testing electro-optical communication system components

Designed specifically for the high volume demands of manufacturing test, the 8703B retains the Agilent passion for measurement accuracy.

## A Flexible Platform

With specified accuracy and defined repeatability, the 8703B is a general-purpose instrument

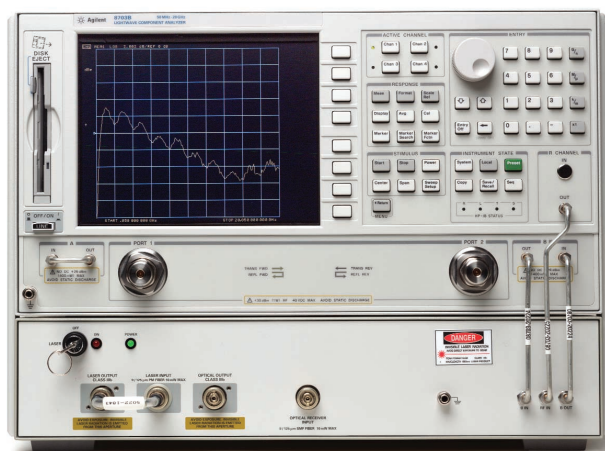
that can measure a wide range of parameters. A unique instrument offering a powerful combination of calibrated 20 GHz capability, the 8703B is a flexible platform of measurement assurance for optical, electro-optical and electrical components.

The 8703B is designed for measuring diverse optical and electro-optical components, assemblies and devices such as lasers and LEDs, photodiodes, fiber cables, connectors and transmitter/receiver pairs. Measurements can also be made on electrical microwave components including amplifiers, cables, connectors, attenuators, and waveguides.

Device responsivity performance, including such parameters as modulation bandwidth, can be



3 dB bandwidth measurements can be easily automated on the 8703B.



tested on optical sources and receivers. For measuring modulators, direct access to the internal laser is provided, eliminating the insertion loss of the internal modulator. For sources and receivers, electrical reflection performance can also be tested. For optical devices, the 8703B offers optical transfer function tests, including insertion loss and group delay. Optical reflection performance can be tested on all types of components and devices using the external Agilent 11890A optical coupler. Microwave devices can also be tested for electrical transmission and reflection function tests.

## Robust Programmability

Reflecting the inherent need for test automation in the production environment, the 8703B incorporates robust GPIB programmability into the system firmware. Test limits such as a 3 dB bandwidth key are included. There are also five markers and limit lines for ripple and bandwidth, all of which are programmable through the GPIB port. There are 1601 trace data points, ensuring accuracy in the measurements.



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The firmware is backward compatible with the 8703A, allowing for ease of integration into production lines that already utilize that instrument. Because of the inevitable advances in measurement technology, the 8703B was designed to provide for firmware upgrades, which can be loaded through the built-in floppy disk drive. This will extend the support life of the instrument and result in an improved return on investment for manufacturing. The life of the instrument is also improved because it is based on the latest 8720ES network analyzer from Agilent. With its recent generation microprocessor, the 8703B exhibits high rates of data processing, resulting in fast overall measurement speed.

For testing measurement scenarios, measurement sequencing can be saved in memory.

The 8703B uses error correction to remove the inherent systematic errors from the true measured data of the device.

#### **Other Possibilities**

Access to the 1550 nm internal laser is provided, making modulator tests possible. An external laser input port is also supplied, expanding the usable source wavelengths.

If a larger viewing area is required, an external display capability is included.

With the optional N1011A verification kit on-site system performance verification is possible.

#### **Key Specifications**

- Specified flat relative frequency response range
- Wide optical and electrical dynamic range
- Specified flat amplitude repeatability over temperature and frequency
- Wide modulation frequency range of 50 MHz to 20 GHz

**For more assistance with your test & measurement needs or to find your local Agilent office go to**

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