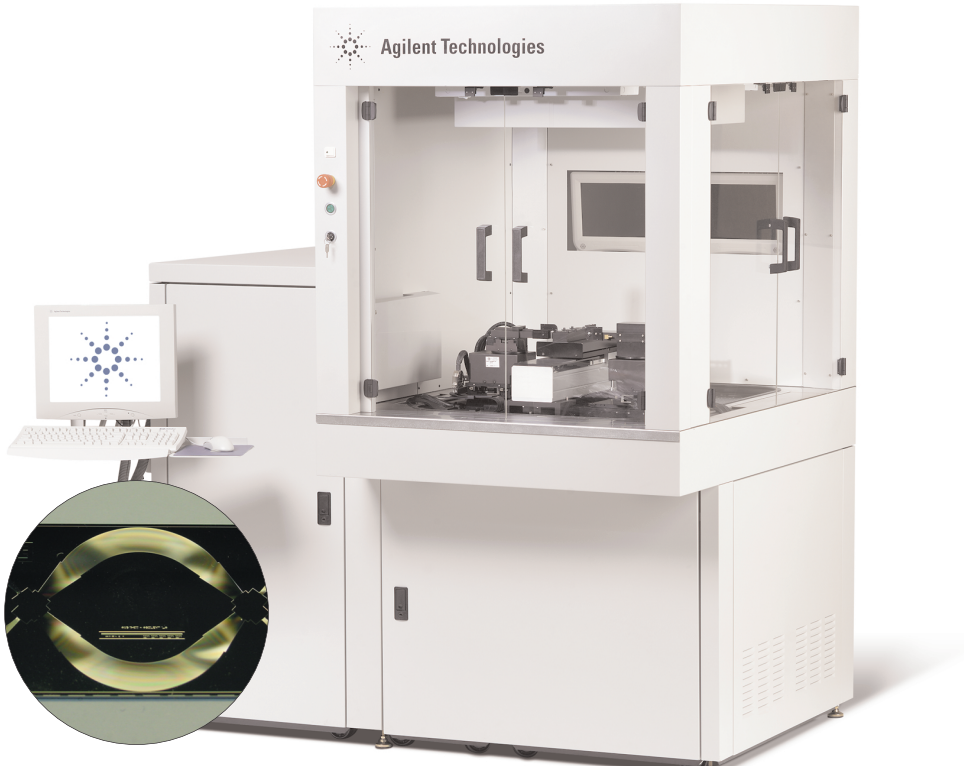
Agilent Optical Chip Test System

OCT-4150



Agilent's most essential solution for testing non-pigtailed devices.

The OCT-4150 is a test system designed for optical component manufacturers who are testing planar lightwave circuits (PLC) or photonic integrated circuits.

A fully integrated solution

The OCT-4150 provides a fully automated turn-key solution for testing non-pigtailed devices and can be tailored to meet application specific needs.

- Increase throughput with high-speed parallel alignment and measurements.

- Improve yield by finding defects sooner with our high speed, high precision equipment.

- Increase your profitability by ensuring only good devices are pigtailed and packaged.

Automated Measurement

Have confidence that you are eliminating bad devices prior to packaging by fully verifying your devices before the pigtailing process begins. Agilent's reputation for expertise in measurement science differentiates our capabilities from other automated alignment vendors.

The OCT-4150 system uses Agilent's industry leading optical measurement instrumentation. Our standard configuration measures Insertion Loss (IL) and Polarization Dependent Loss (PDL), as well as many spectral parameters.

Automated Alignment

Agilent's patent-pending fully automated alignment technology enables repeatable non-contact parallel alignment.

The OCT-4150 motion control platform utilizes Aerotech Inc's industry-leading FiberMax™ XRT system. The FiberMax™ XRT combines compact size, high resolution and long travel to produce an unbeatable combination of performance.

The elegance of Agilent's approach reduces the complexity of the system while protecting your investment for future expansion into fiber attach and electrical probing.

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Typical Characteristics

Simultaneous Channels	98
Wavelength Range	1495-1640nm (81640B)
Wavelength Resolution	.1 pm, 12.5 MHz @ 1550nm
Absolute Wavelength Uncertainty	1 pm @ 5nm/s sweep speed 2.5 pm @ 40 nm/s sweep speed
Relative Wavelegth Uncertainty	.5 pm @ nm/s sweep speed 1.5 pm @ 40 nm/s sweep speed
DUT Optical Output Power (TLS Low SSE)	>-7 dBm (1520nm - 1610nm)
Power Sensor Noise Level	-80 dBm
Average Loss Measurements	
Dynamic Range	>55 dB (one sweep 81636) >60 dB (two sweeps 81636) >70 dB (three sweeps 81636)
Loss Measurement Accuracy (0 to<5 dB)	+/-0.05 dB
Loss Measurement Repeatability	0.022 dB
Loss Measurement Resolution	0.001 dB
PDL Measurements	
PDL Accuracy (0 to <5 dB)	+/-0.05 dB
PDL Measurement Repeatability	<0.02 dB
PDL Measurement Resolution	0.001 dB
Positioning Characteristics	
Travel Specifications	50mm x 100mm x 4mm x 20° x 20° (X-Z-Y-T-R)
Resolution	10nm XZ; 2nm Y; .05 arc-sec Roll
Accuracy	±2µm standard; ±.3µm calibrated
Repeatability	±100nm
Velocity	250mm/s XZ; 50mm/s Y; 270°/s Roll
Alignment Characteristics	
Alignment Time	140 seconds [1]
XY Optimization Time	6 seconds [2]
Alignment IL Repeatability	<0.05 dB [3]
Environmental Conditions	
Operating Temperature	20 to 30°C held constant within ±1°C
Storage Temperature	-40 to 70°C
Humidity	<80% RH

1 Total alignment time for a dual interface 1XN device, starting from a teach-point optimizing to a programmable Z gap repeatability of ±0.75µm
2 Total alignment time from a random 30µm offset at a given Z gap distance
3 Using patent pending z-cone fine alignment technique with 10 point interpolation

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China
(tel) 800 810 0189
(fax) 800 820 2816

Europe
(tel) (31 20) 547 2323
(fax) (31 20) 547 2390

Japan
(tel) 426 56 7832
(fax) 426 56 7840

Korea
(tel) (82 2) 2004 5004
(fax) (82 2) 2004 5115

Latin America
(tel) (305) 269 7500
(fax) (305) 269 7599

Taiwan
(tel) 0800 047 866
(fax) 0800 286 331

Other Asia Pacific Countries
(tel) (65) 6375 8100
(fax) (65) 6836 0252
Email: tm_asia@agilent.com

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Printed in USA, August 1, 2002
PN5988-4219EN

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