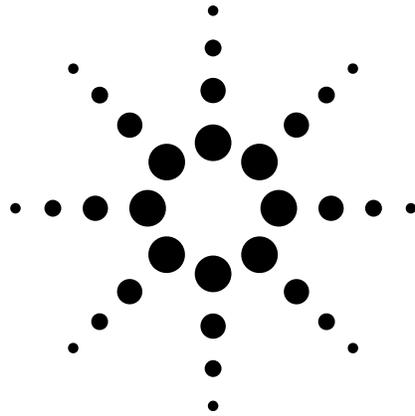


## Agilent 3070 In-Circuit Test

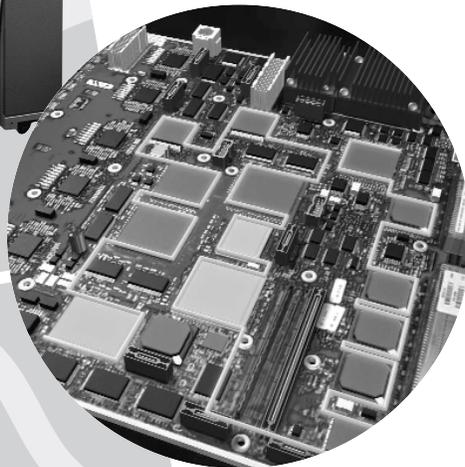
*Flexible Test:  
Your World,  
You Shape It*



## Agilent Automated Silicon Nails

Extending the Boundaries of Boundary-Scan

The IEEE 1149.1 Boundary-Scan standard goes a long way toward addressing limited-access printed circuit boards. Automated Silicon Nails takes the popular standard even further by using Boundary-Scan chains to automatically test non-Boundary-Scan devices.



## Solve Access Problems Automatically

Electrical access is the all-consuming issue for anyone who deals with crowded, complex printed circuit boards. With Automated Silicon Nails from Agilent Technologies, physical access becomes less of a barrier at in-circuit test (ICT). This software extends the capabilities of Boundary-Scan by automatically testing non-Boundary-Scan devices through single or multiple chained Boundary-Scan devices. Test generation is accurate and automatic—if you're already using Boundary-Scan, you can extend fault coverage with Automated Silicon Nails at a very low engineering cost of about a minute per device. Powerful debug tools further reduce the time and cost of test development, so you get tests up fast and cover hard-to-reach devices with minimum fuss.

## Better Tests Faster

Automated Silicon Nails software automatically extends Boundary-Scan tests to cover adjacent non-Boundary-Scan parts such as RAM and buffers. No access to the ICs is required. The tests are tuned to the board topology and include actionable diagnostic information, so they're accurate and highly usable. And it all happens automatically. Now you can easily test non-Boundary-Scan devices with an Agilent 3070 and save hours, days, even weeks of engineering time in the process.

### Reduced Manual Development—

Eliminate the need to manually create device-specific tests (U1, U15, etc.) and device-specific test libraries, along with the associated engineering time and cost of that error-prone process.

### Automatic Program Generation—

Generate complete, accurate Interconnect Test Language (ITL) files in minutes, not hours, using board topology, board access information, Boundary-Scan Description Language (BSDL) parts specifications, and the device library for the target silicon nails device.

### Powerful Diagnostics—

Get automatic "drive-through" generation and analysis on resistors, jumpers, fuses, switches, potentiometers and even inductors.

### Automatic Serialization & Diagnostics—

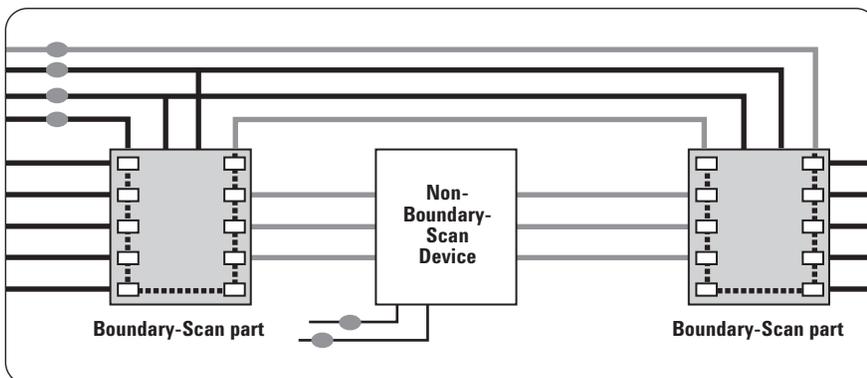
Automatically generate diagnostic files, as well as final tests that are serialized for the Boundary-Scan application. This happens whenever ITL files are compiled.

### Enhanced Debug—

Use powerful built-in debug tools to tune tests fast. Explanations of test vectors are included in the ITL file, making it easier for test developers to know where the ITL information originated.

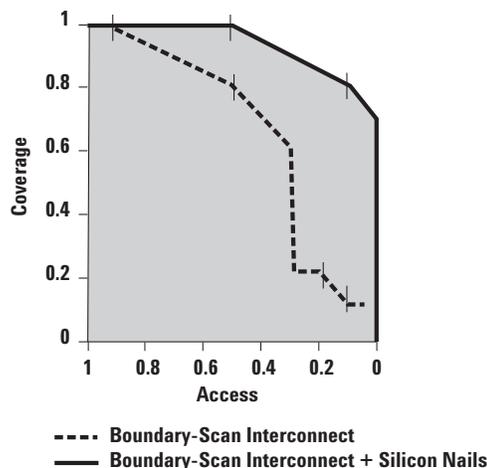
### Automatic Reporting—

Use detailed testability reports to quickly review test data and results.



The bus transceiver in the center is being tested by the "silicon nails" of the two adjacent Boundary-Scan components on the data bus lines, and by ICT digital driver resources on the control signals. Any combination of silicon nails and physical nails is possible; this example illustrates a good compromise between access and test vector length.

## Digital ICT + Boundary-Scan Nodes Coverage vs. Access



Typical Boundary-Scan boards might have ~20% scan of the digital parts, and few of the board nodes will be exclusively connected to scan parts. As a result, as node access is reduced, coverage on some components is lost. By extending test coverage to adjacent parts (such as RAM and bus transceivers) with Silicon Nails tests, high coverage can be maintained with low levels of physical access.

## Bottom-Line ICT

Automated Silicon Nails extends the effectiveness of ICT in a shrinking world. It allows you to keep the traditional benefits of ICT, but enhance it with new technology for limited-access boards. It's key technology for a world where geometries, product life cycles and budgets continue to shrink, with no end in sight. The benefits go directly to the bottom line.

- Increase coverage on limited-access boards, so you continue getting the benefits of ICT, and continue using your existing test systems, staff, and methods.
- Control processes as node count sky-rockets, further extending the life of your ICT system, fixtures and programs.
- Meet time-to-market goals and customer quality requirements by extending coverage quickly, automatically.
- Reduce repair costs by improving diagnostics; decrease engineering costs by reducing development time in programming.

## The "Intelligent" Approach

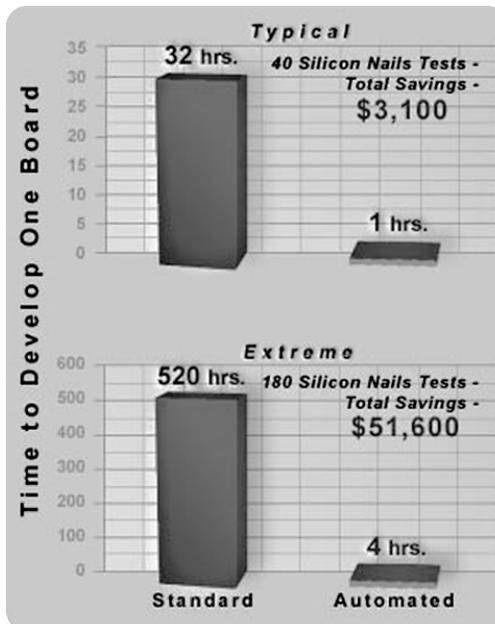
Automated Silicon Nails is a key component of Agilent Intelligent Test, an integrated end-to-end strategy that gives you more freedom of choice in test. Agilent Intelligent Test includes test systems and software solutions for ICT, automated X-ray inspection (AXI), automated optical inspection (AOI) and functional test. It includes software that combines multiple technologies—such as ICT and AXI—in a single integrated test step. It also includes information management solutions that allow you to share test results and manage communications, not just among test cells but throughout your organization. Agilent Intelligent Test is the key to optimizing your manufacturing effort in these times of relentless innovation and brisk competition, so you can improve product quality, profitability and time to market.

## Be Agile, Call Agilent

With Agilent, the resources you need—whether technical or financial—are always within easy reach: Agilent Worldwide Professional Services can bring an Agilent engineer to your site, anywhere in the world, to help with programming, debug, installation and more. Technical support is available 24x7x365, and is provided by trained engineers who know your system and understand test. Financing options include leases, rentals, trade-ins and pay-per-use systems. These are some of the advantages of working with the worldwide market leader in in-circuit test. Agilent helps you be more agile in manufacturing, not just with limited-access solutions like Automated Silicon Nails, but with a range of other advanced test solutions. When you're ready to know more, we're ready to hear from you.

## Extend Boundary-Scan Automatically

Automated Silicon Nails software extends Boundary-Scan test automatically, allowing greater coverage on limited-access boards while saving hours, days or weeks of development time. It was created specifically for a world where shrinking geometries meet tight budgets and even tighter schedules. A variety of pricing options are available. Call (866) ATE-TEST or visit [www.agilent.com/see/pressinfo](http://www.agilent.com/see/pressinfo) to learn more about Agilent in-circuit test, Boundary-Scan, and Agilent Automated Silicon Nails.



Automated Silicon Nails software accelerates and simplifies the way tests are written for non-Boundary-Scan devices, saving up to two hours per device compared to manual test development.

[www.agilent.com/go/manufacturing](http://www.agilent.com/go/manufacturing)

For more information about Agilent Technologies products and solutions in electronics manufacturing, visit our website: <http://www.agilent.com/go/manufacturing>. To learn about other Agilent test and measurement products, applications and services, or for a current sales office listing, visit our website: <http://www.agilent.com/find/tmdir>. You can also contact one of the following centers and ask for a test and measurement sales representative.

**United States**

Agilent Technologies  
Test and Measurement Call Center  
P.O. Box 4026  
Englewood, CO 80155-4026  
Tel: 1 800 447 8378

**Canada**

Agilent Technologies Canada Inc.  
5150 Spectrum Way  
Mississauga, Ontario L4W 5G1  
Tel: 1 800 447 8378  
Fax: 1 905 282 6300

**Europe**

Agilent Technologies  
European Marketing Organisation  
P.O. Box 999  
1180 AZ Amstelveen  
The Netherlands  
Tel: +31 20 547 2200  
Fax: +31 20 547 2290

**Japan**

Agilent Technologies Japan Ltd.  
Measurement Assistance Center  
9-1, Takakura-Cho, Hachioji-Shi,  
Tokyo 192-8510, Japan  
Toll free: 0120 802 363  
Tel: (81) 426 56 7498  
Fax: (81) 426 60 7532

**Latin America**

Agilent Technologies  
Latin American Region Headquarters  
5200 Blue Lagoon Drive, Suite #950  
Miami, Florida 33126 U.S.A.  
Tel: 011 52 3 134 5841  
Fax: (305) 267 4286

**Australia/New Zealand**

Agilent Technologies Australia Pty Ltd  
347 Burwood Highway  
Forest Hill, Victoria 3131  
Tel: (65) 215 8370  
Fax: (65) 271 1365

**Asia Pacific**

Agilent Technologies Singapore (Sales) Pte. Ltd.  
438 Alexandra Road, #08-00 Alexandra Point  
Singapore 119958  
Toll-free: 1 800 375 8100  
Tel: (65) 215 8370  
Fax: (65) 271 1365

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*The Agilent 3070 In-Circuit Test (ICT) System is flexible test on a global scale. Its four key attributes—agile test technology, worldwide business services, constant innovation and global presence—make the 3070 a perfect fit for electronics manufacturing. No other platform provides the flexibility required to thrive and survive in a chaotic world.*



**Agilent Technologies**