



An In-Circuit Test Channel Partner Interview Series

Circuit Check, Inc.



Neil Adams

**Product Manager,
Circuit Check, Inc.
Maple Grove, MN**

Neil Adams, got involved in the test engineering industry in 1984 to help a friend get his business organized, after five years of “temporarily helping a friend” he moved to Charlotte, North Carolina to work with a business associate in opening a test fixture finishing company. A few years later he moved to Circuit Check.

During those 25 plus years he was a participant in the Strain Gage Test Summit which instigated the IPC/JEDEC 9704 standard on strain gage testing of printed circuit boards. Neil also co-authored “The Selection and Economics of wireless test fixtures” published in Evaluation Engineering, July 2006. Just last year he was awarded a patent for a bi-level test fixture design.

Our educational series continues, this addition is focusing in the Fixture arena with Circuit Check, Inc. Recently, the Americas Development Manager associated with our ICT products, Stacy Johnson sat down with Neil Adams. Neil is a Product Manager at Circuit Check, Inc.

Johnson: What changes has your company seen within the ICT fixture industry for the last 5 years or so?

Adams: With-in the ICT environment we have seen most of the lower complexity/consumer business shift out of North America and into lower cost regions mainly Asia. The business that has remained in North America is highly complex telecom, high end computing, military and some medical.

With that said, we are currently witnessing business moving to Mexico from Asia, as our customers did not realize the cost savings they originally expected along with the difficulties associated with long distance relationships.

Johnson: What do you think is driving that?

Adams: The recent shift of manufacturing from Asia to Mexico is driven by a shorter communications loop precipitated by fewer time zone

shifts, decreased transportation costs and time to the US market. From the board testing point of view, production ramp up, test support and analysis is performed in a timelier manner.

Johnson: What are you doing to respond?

Adams: Circuit Check has always had a strong presence in Mexico with our sales and support staff. Just recently we opened an ICT fixture production facility in the heart of Guadalajara’s enormous electronics sector to be more responsive to our customers needs for lower costs and faster response times.

Johnson: What technology changes with ICT do you see impacting the fixturing industry the most?

Adams: Dozens of BGAs and micro BGAs are becoming common place and 0201 and 01005 filling in the gaps; board densities and layer count have greatly reduced the accessibility



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of testable nets and have pushed the limits of board ATE. To meet these demands fixturing technology has had to dramatically increase over the last 5 years. The increased use of Boundary Scan testing has required the associated signals to be much more stable and cleaner, to that point Circuit Check continues to advance its wireless test fixture technology to meet the challenge for passive and powered ICT test. The reduced need of tester resources associated with Boundary Scan can be shifted to other areas to continue to achieve high test coverage. This often results in higher probe densities and finer pitch; it is standard practice to have 1000's of .039 mil probes hitting test targets < 0.020". This increase in probe densities has driven us to offer stress analysis services. We offer Finite Element Analysis (FEA) to all

of our customers as a precaution so damage to the customers UUT does not occur. With out FEA services, we can identify problem areas before ever building the fixture. Many of our customers also have us perform Strain Gauge testing directly on the UUT while it is being actuated in the fixture.

Johnson: What benefits does having a channel partnership with Agilent provide your customers?

Adams: We often bounce new ideas for testing components or sensitive nets off of Agilent technologists for their thoughts. More often than not we strategize on how to thoroughly test our fixtures prior to shipment, making sure Agilent's newest test strategies are implemented properly.

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