ARRIS

ARRIS gains improved testability and board access using boundary-scan development tools from JTAG Technologies

ARRIS is a market leader in providing products that allow operators to deliver a full range of integrated voice, video and data services to their subscribers. The Cable Modem Termination System (CMTS) product lines from ARRIS represent a major growth area in the high-speed data equipment segment. To address emerging customer needs, ARRIS works closely with standards bodies and major broadband operators to create new products and extensions to technologies for new applications.

Boundary-scan Use Objectives

ARRIS has long understood the value of implementing a solid boundary-scan methodology for their CMTS product lines. Employing techniques to solve access problems and deliver precise testing are deemed essential for the growing complexity of their printed circuit boards. ARRIS also knows that complete and accurate tests at the prototype stage, translate to downstream cost savings.

Design-for-test and a smooth transition path from design to manufacturing are considerations in deploying a boundary-scan methodology. Where possible, ARRIS selects chips with embedded JTAG capability which provides access for the most complex of PCBs. To take them beyond basic boundary-scan concepts, ARRIS has long used the JTAG Technologies Classic tools to help automate the test development process and deliver reliable and accurate results.

“We are always seeking more efficient ways to implement boundary-scan testing for our C4® CMTS product,” said Tom Nolan, test engineer at ARRIS. “For us, it is essential that our dense PCB assemblies be verified correctly at the prototype stage so that we manufacture defect-free working boards that the design team can use with confidence. The tests can then be threaded forward to the factory for test and debug access during a production run.”
ARRIS Expands Use of Tools from JTAG Technologies to Meet Growing Test Needs

ARRIS turned to JTAG Technologies as a supplier of the test development solutions they required to deploy a reliable boundary-scan methodology. Product quality and a wide range of new productivity capabilities combined with the deep knowledge of their support staff were key considerations that eased the ARRIS decision to move to JTAG ProVision.

At ARRIS, test development completed in the prototype stage serves as preparation for production testing; providing a clean path to reuse the test programs and their results. They thoroughly test and debug the boundary-scan chain prior to release to manufacturing.

The JTAG ProVision development software offers ARRIS a more efficient way to create test programs for the boundary-scan devices on their board. The complete and easy-to-read reports identify issues that need to be addressed, which accelerates the debug process.

ARRIS also extended its boundary-scan implementation strategy to fault diagnosis in manufacturing. With the design optimized for maximum coverage, using the same test programs to verify PCB assemblies in production leads to more reliable and accurate results.

Results

ARRIS was an early pioneer in cable telephony and now their high-performance C4 CMTS product is used by cable operators and multiple system operators to provide advanced voice, data, and multimedia services over a converged IP network to residential and business subscribers. To meet the growing complexities of their test challenges, ARRIS transitioned to JTAG ProVision development tools to enhance their boundary-scan methodology with productivity improvements that could be applied to their products from prototype to factory test.

Boundary-scan tools and expertise from JTAG Technologies consistently provide ARRIS with the confidence they seek to save time, decrease costs, and streamline the deployment of reliable tests and methodology.

ABOUT JTAG TECHNOLOGIES

JTAG Technologies provides innovative boundary-scan solutions that help world leaders in electronics design and manufacturing implement and deploy cost-saving test strategies and in-system programming applications. The company’s software and hardware products, development services, and years of boundary-scan expertise, offer customers technology advances in test generation, fault coverage analysis, flash and PLD programming via boundary-scan, and visualized boundary-scan analysis. JTAG Technologies serves the communications, medical electronics, aerospace, avionics, defense, industrial electronics, automotive, and consumer industries with boundary-scan solutions that improve product quality, lower test cost, and boost manufacturing yield.

For more information visit: www.jtag.com

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