Samsung Foundry Deploys Industry-Leading Synopsys TestMAX XLBIST Dynamic In-System Test Solution for Automotive Safety

Part of a Broader Collaboration for Functional Safety and Manufacturing Test to Achieve ASIL-D Level Design Safety

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Highlights:

- Synopsys TestMAX XLBIST solution delivers higher fault coverage and shorter test time by overcoming silicon issues that impede traditional self-test solutions
- Synopsys TestMAX XLBIST is newest member of Synopsys TestMAX family of products utilized for implementation of test from RTL-to-GDSII

Synopsys, Inc. (Nasdaq: SNPS) today announced that Samsung Foundry successfully deployed the Synopsys TestMAX™ XLBIST solution on an automotive integrated circuit (IC) to provide dynamic in-system testing for critical failures in order to meet stringent automotive functional safety (FuSa) requirements. The accelerating evolution of vehicle technologies means that more automotive chips are required to satisfy higher automotive safety integrity levels (ASILs) for autonomous driving and advanced driver-assistance systems (ADAS). According to IC Insights research, increased demand for automotive ICs is forecast to drive growth rates that exceed all other end-user applications in the next few years. Synopsys' automotive design solutions enable designers to achieve their target ASILs by providing the industry's most comprehensive feature set to implement FuSa mechanisms.

Using the Synopsys TestMAX XLBIST solution, Samsung was able to efficiently implement dynamic in-system test, which periodically executes during key phases of vehicle operation, including power-on, drive mode, and power-off. As the industry's first self-test solution that tolerates indeterminate digital states while rapidly achieving high fault coverage, Synopsys TestMAX XLBIST enables design teams to minimize implementation turnaround time. The XLBIST solution, along with other Synopsys TestMAX products, represents a crucial part of Samsung's automotive reference flow for RTL-to-GDSII design.

"Samsung Foundry's goal is to provide creative solutions to customers' implementation needs for highly demanding automotive design," said S. Balajee, corporate vice president, Samsung Semiconductor India Research (SSIR). "As part of our collaboration with Synopsys to create Samsung's world-class automotive reference flow, the Synopsys TestMAX XLBIST solution plays a key role toward achieving our customers' functional safety goals for test coverage and test time while minimizing design impact."

The Synopsys TestMAX XLBIST solution provides an exceptionally high level of in-system test fault coverage while easily meeting the maximum allowable test time. The XLBIST solution avoids issues such as iterative design modifications, significant silicon area increases, and prolonged schedules that are common to previous in-system test technologies. The combination of Synopsys TestMAX XLBIST along with Synopsys TestMAX Access enables low-latency power-on self-test (POST) via an embedded controller, as well as configurable in-system test driven from a CPU interface. The XLBIST solution leverages the portfolio of other Synopsys TestMAX products that provides RTL-based testability analysis to catch test problems early, physically-aware test points to increase fault coverage, and power-aware pattern generation to meet system-level power goals. The Synopsys TestMAX family of products supports a comprehensive RTL-to-GDSII design- for-test (DFT) implementation flow fully integrated into the Synopsys Fusion platform and delivers the industry's most comprehensive set of test and DFT capabilities.

"The Synopsys TestMAX XLBIST solution is one of several test innovations we are delivering to customers to address their quality and reliability needs for automotive and other mission-critical designs," said Amit Sanghani, vice president of Test Automation in Synopsys' Design Group. "Working closely with leading-edge companies like Samsung accelerates our ability to deliver industry-leading solutions that meet our customers' goals for quality of results, time to market, and safety."

Please visit www.synopsys.com/test for more details on any of the Synopsys TestMAX family of products.

About Synopsys

Synopsys, Inc. (Nasdaq: SNPS) is the Silicon to Software™ partner for innovative companies developing the electronic products and software applications we rely on every day. As the world's 15th largest software company, Synopsys has a long history of being a global leader in electronic design automation (EDA) and semiconductor IP and is also growing its leadership in software security and quality solutions. Whether you're a system-on-chip (SoC) designer creating advanced semiconductors, or a software developer writing applications that require the highest security and quality, Synopsys has the solutions needed to

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