# Synopsys Test Solution Certified for the Most Stringent Level of Automotive Safety Measures Defined by the ISO 26262 Standard

Provides Highest Degree of Safety-Related Confidence and Accelerates Functional Safety Qualification

MOUNTAIN VIEW, Calif., Oct. 5, 2015 /PRNewswire/ --

**Highlights:**

- TetraMAX ATPG, DesignWare STAR Hierarchical System and STAR Memory System can be used with confidence to develop functionally safe automotive systems
- Tool and IP certification accelerates ISO 26262 functional safety qualification for automotive ICs up to the most stringent safety requirements for ASIL D
- Synopsys test solution offers all required components for safety-critical automotive ICs, including advanced manufacturing test and in-system self-test

Synopsys, Inc. (NASDAQ: SNPS), today announced that TetraMAX® ATPG, DesignWare® STAR Hierarchical System and DesignWare STAR Memory System®, key components of Synopsys' manufacturing test solution, are now certified for the ISO 26262 automotive functional safety standard. SGS-TÜV Saar GmbH, an independent accredited assessor, formally certified Synopsys' TetraMAX, STAR Hierarchical System and STAR Memory System following an in-depth Functional Safety Process Audit of the tool and IP development processes. Certification provides designers the highest level of confidence in the use of Synopsys' test solution for safety-critical automotive applications and accelerates functional safety qualification for automotive ICs, up to the stringent requirements for ASIL D.

Automakers are increasingly deploying complex electronic safety systems, or ADAS applications, to monitor and control in-vehicle safety-critical functions. Since failures in these systems may lead to unacceptable consequences, automakers work with their suppliers to increase IC quality and reliability, and to ensure the methods and tools used during design and maintenance processes are compliant with safety standards. The ISO 26262 standard outlines multiple requirements that must be taken into consideration while developing a functionally safe automotive IC, including qualification requirements for design tools and IP. SGS-TÜV Saar certified TetraMAX, DesignWare STAR Hierarchical System and STAR Memory System for ASIL D, the highest level of functional safety prescribed by the ISO 26262 standard.

"Functional safety is a crucial requirement for emerging in-vehicle automotive electronic systems, such as ADAS," said Wolfgang Ruf, head of Functional Safety Semiconductor at SGS-TÜV Saar GmbH. "Satisfying the qualification requirements of the ISO 26262 standard is an important contribution to increase designer confidence in tools and IP used for safety-critical automotive applications and enable them to meet their overall functional safety certification requirements. The certificates issued to Synopsys for TetraMAX, DesignWare STAR Hierarchical System and STAR Memory System are based on a successful functional safety audit of validation processes against the requirements of ISO 26262."

In addition, Synopsys' test solution addresses other key challenges faced by automotive IC designers. ICs for automotive systems must be tested for the highest quality levels, often requiring less than one defective part per million (DPPM). To achieve this goal, TetraMAX ATPG generates test programs that target a wide range of silicon defects using state-of-the-art fault models that incorporate timing and physical characteristics. The DesignWare STAR Hierarchical System ensures high coverage using hierarchical test for IP block integration and enables re-use of IP patterns. Automotive ICs and other safety-critical designs may be required to routinely perform in-system self-test. The DesignWare STAR Memory System includes capabilities to deploy built-in self-test and repair (BIST/R), advanced error correction circuitry (ECC) solutions to detect and correct single-bit and multi-bit upsets during in-system operation, power on self-test (POST) and fault injection for comprehensive debug for embedded memory IP. Additionally, Synopsys Logic BIST provides a synthesis-based solution for rapid in-system self-test of digital circuits.

"The time and cost of achieving functional safety is a growing challenge for automotive IC suppliers," said Bijan Kiani, vice president of marketing in Synopsys' Design Group. "Synopsys has a long and successful history of collaboration with designers in this global industry. ISO 26262 certification for our test solution further reinforces our commitment to industry standards and helps IC designers meet their automotive ICs' functional safety requirements related to manufacturing quality and in-system test."

**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 16th largest software company, Synopsys has a long

history of being a global leader in electronic design automation (EDA) and semiconductor IP, and is also a leader in software quality and security testing with its Coverity® solutions. Whether you're a system-on-chip (SoC) designer creating advanced semiconductors, or a software developer writing applications that require the highest quality and security, Synopsys has the solutions needed to deliver innovative, high-quality, secure products. Learn more at www.synopsys.com.

**Editorial Contacts:**
Sheryl Gulizia
Synopsys, Inc.
650-584-8635
sgulizia@synopsys.com

Lisa Gillette-Martin
MCA, Inc.
650-968-8900, ext. 115
lgmartin@mcapr.com

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