Synopsys PrimeShield Selected by Samsung Electronics to Maximize Energy Efficiency and Performance for Next-Generation Process Node Designs

Best-in-Class, Machine-Learning-Driven Technology from Synopsys Fusion Design Platform Delivers Design Robustness for Mobile, 5G and Automotive SoCs

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Highlights for this Announcement:

- Synopsys and Samsung's System LSI Business collaborate and deploy key technology innovations to address design vulnerability to variation
- PrimeShield improves design resilience to voltage variation and enables power savings using voltage slack analysis
- Comprehensive design variation analysis minimizes timing pessimism and design over-margins, delivering improved performance

Synopsys, Inc. (Nasdaq: SNPS) today announced its PrimeShield™ design robustness solution has been deployed by Samsung's System LSI Business on its advanced process technologies for next-generation designs spanning mobile, 5G and automotive applications. PrimeShield, accelerated by machine learning (ML) technology, improves design immunity to variation and maximizes energy efficiency and design performance for customers targeting high-growth applications. Part of the Synopsys Fusion Design Platform™, PrimeShield provides comprehensive voltage slack, design variation and global skew analysis to tackle design vulnerability stemming from variations for power and performance-sensitive designs.

"Samsung evaluated various solutions, and PrimeShield's innovative technology successfully addresses these variation challenges and delivers the quality-of-results advantages. Our extensive collaboration with Synopsys allows us to leverage our combined technologies to improve advanced-node design robustness and achieve new levels of power and performance," said Ilryong Kim, vice president of System LSI Design Technology at Samsung Electronics

PrimeShield enables designers to maximize energy efficiency and design performance. Accelerated by ML technology, PrimeShield performs fast Monte Carlo path simulation on critical timing paths 100-10,000X faster correlated with PrimeSim™ HSPICE®. Its patented design variation analysis with statistical modeling enables handling of large-scale SoCs with billions of cells within minutes versus days or weeks required by full statistical simulations.

"Robustness has become an essential design quality metric, in addition to power, performance, and area, for our leading-edge customers, such as Samsung," said Jacob Avidan, senior vice president of engineering for the Digital Design Group at Synopsys. "PrimeShield continues its technology advancements with machine learning-driven robustness analysis and optimization to improve design immunity to variation. As part of the Fusion Design Platform, it effectively helps deliver superior power and performance along with cost-effective designs for our customers."

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 an S&P 500 company, Synopsys has a long history of being a global leader in electronic design automation (EDA) and semiconductor IP and offers the industry's broadest portfolio of application security testing tools and services. Whether you're a system-on-chip (SoC) designer creating advanced semiconductors, or a software developer writing more secure, high-quality code, Synopsys has the solutions needed to deliver innovative products. Learn more at www.synopsys.com.

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