



TSMC Certifies ANSYS Power Integrity, Electromigration And Thermal Reliability Solutions For TSMC 16nm FinFET+ Technology

September 29, 2014

PITTSBURGH, Sept. 29, 2014 /PRNewswire/ -- ANSYS (NASDAQ: ANSS) announced today that its RedHawk™ and Totem™ products are certified for TSMC 16-nanometer (nm) FinFET+ (N16FF+), a second-generation FinFET technology delivering power, performance and area advantages over the previous generation. TSMC has certified these solutions for static and dynamic voltage drop analysis, electromigration (EM) verification and thermal reliability with V0.9 of Design Rule Manual (DRM) and SPICE model, and V1.0 certification is on track to be concluded by November 2014. In addition, TSMC and ANSYS have been collaborating to enable power integrity and reliability for TSMC 10-nanometer (N10) process technology. With N10 specific tool enhancement implemented, customers can now use ANSYS tools to start their designs in TSMC N10 technology.

FinFET technology is a three-dimensional transistor architecture that results in higher-performing and lower power chips used in mobile, computing and networking applications. Designs implemented using these devices have complex metal geometry and higher drive currents compared to planar FET, making power integrity and electromigration key design requirements. Innovative algorithms within RedHawk and Totem significantly reduce the memory footprint and runtime performance to meet the increased computational requirements caused by growing design complexity. These products deliver accurate full-chip power analysis and expanded EM rules support for system-on-chip (SoC) and mixed-signal design sign-off.

"Certification of RedHawk and Totem in 16nm FinFET+ of ANSYS tools enables chip designers to efficiently deliver more robust and reliable SoC for the next generation of electronic products," said Suk Lee, TSMC senior director, design infrastructure marketing division.

In addition, FinFET architecture has higher local self-heating caused by lower thermal conductivity of the substrate and difficulty in heat dissipation due to narrow fins, which in turn can impact the EM reliability of the design. RedHawk supports TSMC's measurement-based self-heat model with micron-level resolution, enabling thermal convergence.

"The ANSYS IC power solutions address power, noise and reliability challenges for TSMC's most advanced process nodes and design technologies," said Norman Chang, vice president and senior product strategist at ANSYS. "The certification of RedHawk and Totem for 16nm FinFET+ technology demonstrates how our products are delivering the accuracy required for IR, EM and thermal sign-off for our mutual customers."

About ANSYS, Inc.

ANSYS brings clarity and insight to customers' most complex design challenges through fast, accurate and reliable engineering simulation. Our technology enables organizations — no matter their industry — to predict with confidence that their products will thrive in the real world. Customers trust our software to help ensure product integrity and drive business success through innovation. Founded in 1970, ANSYS employs nearly 2,700 professionals, many of them expert in engineering fields such as finite element analysis, computational fluid dynamics, electronics and electromagnetics, and design optimization. Headquartered south of Pittsburgh, U.S.A., ANSYS has more than 75 strategic sales locations throughout the world with a network of channel partners in 40+ countries. Visit www.ansys.com for more information.

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