Ansys Achieves Certification of its Multiphysics Solutions for TSMC's 3nm Process Technology

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TSMC grows partnership with Ansys to provide advanced power integrity and electromigration signoff tools for next-generation applications

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Key Highlights

- Ansys® RedHawk-SC ™ is certified for TSMC's advanced 3nm process technology
- Ansys' comprehensive power, thermal, and reliability analysis enables mutual customers to meet key requirements for innovations in artificial intelligence/machine learning (AI/ML), 5G, high-performance computing (HPC), networking and autonomous vehicle applications

Ansys (NASDAQ: ANSS) achieved certification of its state-of-the-art multiphysics signoff solution for TSMC's most advanced 3nm process technology. This enables mutual customers to satisfy key power, thermal and reliability requirements for the world's largest AI/ML, 5G, HPC, networking and autonomous vehicle chips.

Achieving power integrity and electromigration (EM) reliability for 3nm process technology remains a challenging signoff milestone. Traditional discrete EM and voltage-drop methodologies are no longer sufficient for signoff of the 3nm process, which integrates billions of transistors and delivers tremendous power and performance on a single die. 3nm requires a comprehensive power integrity, thermal integrity, and reliability analysis platform that Ansys delivers with Ansys RedHawk-SC and Ansys® Totem ™.

The certification of RedHawk-SC for TSMC N3 process encompasses power network extraction, power integrity and reliability, signal EM, thermal reliability analysis for self-heat, thermal-aware EM and statistical EM budgeting. Redhawk-SC will analyze huge 3nm network designs by leveraging the elastic compute, big-data analytics and high capacity of its underlying Ansys® SeaScape ™ infrastructure. Totem is similarly certified for transistor-level custom designs.

"We're pleased with the result of our latest collaboration with Ansys in providing multiphysics design solutions on TSMC's most advanced 3nm process technology to help our mutual customers address the design complexity and technical challenges," said Suk Lee, Senior Director of the Design Infrastructure Management Division at TSMC. "This joint effort combining Ansys' cutting-edge solution and TSMC's advanced process helps our customers unleash their silicon innovations for next-generation 3nm chipsets that will power many applications."

"The latest certification continues Ansys' close collaboration with TSMC to pioneer solutions for our joint customers," said John Lee, vice president and general manager, Ansys. "Ansys' broad range of multiphysics simulation and analysis technologies — from chip-level to system-level — makes us ideally placed to enable larger designs with lower power requirements for AI/ML, 5G, HPC, networking and image processing applications."

About Ansys

If you've ever seen a rocket launch, flown on an airplane, driven a car, used a computer, touched a mobile device, crossed a bridge or put on wearable technology, chances are you've used a product where Ansys software played a critical role in its creation. Ansys is the global leader in engineering simulation. Through our strategy of Pervasive Engineering Simulation, we help the world's most innovative companies deliver radically better products to their customers. By offering the best and broadest portfolio of engineering simulation software, we help them solve the most complex design challenges and create products limited only by imagination. Founded in 1970, Ansys is headquartered south of Pittsburgh, Pennsylvania, U.S.A. Visit www.ansys.com for more information.

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