



Samsung Foundry Certifies ANSYS Multiphysics Simulation Solutions For Multi-Die Integration Advanced Packaging Technology

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PITTSBURGH, Oct. 17, 2019 /PRNewswire/ -- [Samsung Foundry](#) certified [ANSYS](#) (NASDAQ: ANSS) multiphysics simulation solutions for its latest multi-die integration™ (MDI) advanced two and a half dimensional/three-dimensional integrated circuit (2.5D/3D-IC) packaging technology. The certification empowers mutual customers to achieve higher performance and lower power within a smaller form factor when designing 2.5/3D-ICs for artificial intelligence (AI), 5G, automotive, networking and high-performance computing (HPC) applications.

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System-in-Package designs — enabled by Samsung MDI — are highly complex with multiple dies integrated on an interposer in a 2.5D/3D packaging configuration. MDI flow combines analysis, implementation and physical verification in a single canvas and uniquely features early-stage system-level pathfinding and complex multiphysics signoff capabilities. These designs are widely used in AI, 5G, automotive, high-speed networking and HPC applications to achieve extreme system bandwidth, low latency and high performance. ANSYS multiphysics simulation solutions for MDI signoff offer a complete 2.5D/3D-IC methodology for power, signal and thermal integrity and reliability analysis across the broad frequency spectrum of chip, package and board and system design to improve engineering efficiency, achieve simulation accuracy and accelerate time-to-results.

Samsung Foundry certifies [ANSYS® Icepak®](#) and [ANSYS® RedHawk™](#) family of solutions for power, signal and thermal integrity and reliability analyses. The certification allows for detailed modeling of silicon interposer, through silicon vias, microbumps, high-bandwidth memory, high-speed interfaces and different dies, which is critical for accurately simulating power, signal and thermal integrity effects.

"Samsung Foundry and ANSYS' advanced packaging reference flows for MDI empower our mutual customers to achieve improved power, performance and area requirements, as well as cost and turn-around time reduction through accurate analysis of complex interconnections across the chip, package and board," said Jung Yun Choi, vice president, foundry design technology team at Samsung Electronics. "ANSYS provides comprehensive chip-package-system co-analysis workflows for addressing complex multiphysics challenges of extraction, power and signal electromigration, thermal-induced stress, signal integrity and reliability in 2.5D/3D-IC packaging technologies."

"2.5D/3D-ICs for AI, networking, 5G, automotive and HPC applications are extremely complex and require comprehensive multiphysics analysis to maximize performance," said Vic Kulkarni, vice president, strategy, semiconductor business unit at ANSYS. "Leveraging ANSYS multiphysics solutions for Samsung MDI enables mutual customers to achieve silicon to system success and accelerate time to market, while reducing costs through smaller form factors."

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