

# Nationz Technologies Achieves First-Pass Silicon Success With CustomSim Mixed-Signal and VCS Functional Verification Solutions on Multi-GHz RF Transceiver

10X Speed-up Saves More Than Two Months in Verification Time

MOUNTAIN VIEW, Calif., March 23 [PRNewswire-FirstCall](#)/ -- Synopsys, Inc. (Nasdaq: SNPS), a world leader in software and IP for semiconductor design, verification and manufacturing, today announced that Nationz Technologies, Inc. has successfully achieved first-pass silicon success of a 2.5-gigahertz (GHz), 126-channel RF transceiver system-on-chip (SoC) design by using Synopsys' CustomSim™ mixed-signal and VCS® functional verification solutions, part of Synopsys' Discovery™ Verification Platform. These Synopsys tools delivered accurate and high-performance transient analysis of the power-up operation to within five percent of the actual silicon with 10x speed-up over Nationz' previous tools for full-chip functional simulation. Having these capabilities shortened Nationz' design cycle by more than two months and enabled first-pass silicon success.

"The combination of CustomSim and VCS allowed us to shorten our design cycle while delivering silicon-accurate results," said Meiyun Li, chief technology officer of Nationz Technologies, Inc. "The CustomSim mixed-signal solution delivered better silicon correlation, performance and ease-of-use over other competitive tools, which was critical in enabling us to achieve first silicon success on a recent RF SoC design."

To adequately verify complex mixed-signal designs, a solution must have the performance and accuracy needed to efficiently simulate digitally-controlled analog functions such as RF transceivers, phase-locked-loops (PLLs) and Sigma Delta Converters. CustomSim addresses these challenges with best-in-class NanoSim®, HSIM® and XA simulation technologies featuring added multicore processing capabilities for high-capacity, high-performance circuit simulation. For full-chip verification, the CustomSim solution is tightly coupled to the VCS functional verification solution through direct kernel integration. The combined solution provides a unified analog/mixed-signal (AMS) verification environment that simplifies usability through a common set of inputs, outputs and device models.

"The combined CustomSim and VCS mixed-signal solution has been widely deployed at major IC companies to verify complex mixed-signal SoC designs," said Farhad Hayat, senior director of analog/mixed-signal marketing at Synopsys. "As analog content of SoCs continues to rise, more companies like Nationz Technologies are adopting Synopsys' solutions to address their toughest mixed-signal verification tasks."

## About Synopsys

Synopsys, Inc. (Nasdaq: SNPS) is a world leader in electronic design automation (EDA), supplying the global electronics market with the software, intellectual property (IP) and services used in semiconductor design, verification and manufacturing. Synopsys' comprehensive, integrated portfolio of implementation, verification, IP, manufacturing and field-programmable gate array (FPGA) solutions helps address the key challenges designers and manufacturers face today, such as power and yield management, software-to-silicon verification and time-to-results. These technology-leading solutions help give Synopsys customers a competitive edge in bringing the best products to market quickly while reducing costs and schedule risk. Synopsys is headquartered in Mountain View, California, and has more than 65 offices located throughout North America, Europe, Japan, Asia and India. Visit Synopsys online at <https://www.synopsys.com>.

Synopsys, CustomSim, Discovery, HSIM, NanoSim and VCS are registered trademarks or trademarks of Synopsys, Inc. Any other trademarks or registered trademarks mentioned in this release are the intellectual property of their respective owners.

### Editorial Contacts:

Sheryl Gulizia  
Synopsys, Inc.  
650-584-8635  
[sgulizia@synopsys.com](mailto:sgulizia@synopsys.com)

Stephen Brennan  
MCA, Inc.  
650-968-8900  
[sbrennan@mcapr.com](mailto:sbrennan@mcapr.com)

SOURCE Synopsys, Inc.

---