Synopsys Unveils Industry's Broadest Portfolio of Automotive-Grade IP on TSMC's N5A Process Technology

Adopted by Multiple Leading Companies, Synopsys Interface and Foundation IP Enable High Reliability for ADAS SoCs

Highlights:

- New Synopsys IP for the TSMC N5A meets automotive Grade 2 temperature and AEC-Q100 requirements to enable high SoC reliability for long-term operation.
- ISO 26262 ASIL B- and D- compliant IP assessed for random hardware faults helps meet target ASILs.
- Synopsys Foundation, LPDDR5X/5/4X, PCIe 4.0/5.0, Ethernet, MIPI C-PHY/D-PHY and M-PHY, and USB IP adhere to TSMC N5A advanced auto-grade design rules.

SUNNYVALE, Calif., Sept. 26, 2023 /PRNewswire/ -- Today Synopsys, Inc. (Nasdaq: SNPS) announced the industry's broadest portfolio of automotive-grade Interface and Foundation IP for TSMC's N5A process. Together, Synopsys and TSMC are helping to power the next generation of software-defined vehicles by enabling long-term reliability and high-performance compute requirements of automotive system-on-chips (SoCs).

"TSMC has worked closely with our design ecosystem partners to provide the automotive semiconductor industry with cutting-edge solutions in IP, EDA, and manufacturing technologies," said Dan Kochpatcharin, head of the Design Infrastructure Management Division at TSMC. "Synopsys' portfolio of automotive-grade IP for TSMC's N5A process enables automotive chip innovators to accelerate the design of their safety-critical SoCs while taking advantage of N5A's significant performance, power efficiency, and logic density boost."

"New generations of automotive SoC designs will need to support massive amounts of safety-critical data processed at extreme speeds and with high reliability," said John Koeter, senior vice president of marketing and strategy for IP at Synopsys. "Synopsys' high-quality, automotive-grade Interface and Foundation IP on TSMC's N5A process enables automotive OEMs, Tier 1s, and semiconductor companies to minimize IP integration risk and help meet the required functional safety, performance, and reliability levels for their SoCs."

Synopsys IP on the TSMC N5A process is designed and tested to the AEC-Q100 reliability and automotive Grade 2 temperature standards for ambient -40°C to 105°C, helping to ensure reliability of advanced driver assistance systems (ADAS), highly automated driving (HAD) systems, and zonal SoCs. The Synopsys IP portfolio meets the ISO 26262 standard for random hardware faults, enabling automotive OEMs, Tier 1s, and semiconductor companies to accelerate the development and assessment of their safety-critical SoCs and reach their designs' functional safety Automotive Safety Integrity Level (ASIL) targets. Automotive-grade Synopsys IP, which has been integrated into more than 100 ADAS chips, is part of Synopsys' automotive SoC and software development offering that includes design, verification, electronics digital twin, and prototyping solutions to accelerate development of chips for software-defined vehicles.

Availability & Additional Resources

- Available today, Synopsys Automotive-Grade IP on the TSMC N5A process includes logic libraries, embedded memories, GPIOs, SLM PVT monitors, and PHYs for LPDDR5X/5/4X, PCIe 4.0/5.0, 10G USXGMII Ethernet, MIPI C-PHY/D-PHY and M-PHY, and USB.
- Web: Accelerate Your Automotive Innovation with Synopsys IP
- White Paper: Confirmation Measures in ISO 26262 Functional Safety Products

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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