

Synopsys Successfully Tapes Out Broad IP Portfolio for TSMC 10-nm FinFET Process

DesignWare IP Portfolio for TSMC 10-nm Process Includes USB, HSIC, PCI Express, DDR, MIPI and Embedded Memories

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Highlights:

- Synopsys' successful tape-out of IP for TSMC 10-nm process includes USB 3.1, USB 3.0, USB 2.0, HSIC, PCI Express 3.0, PCI Express 2.0 and MIPI D-PHY
- Tape-out of DesignWare IP enables designers to reduce the risk of integrating IP into next-generation SoCs targeting the TSMC 10-nm process
- Additional IP in development for TSMC 10-nm process includes embedded memories, DDR4, LPDDR4 and MIPI M-PHY

Synopsys, Inc. (Nasdaq: SNPS) today announced the successful tape-out of a broad portfolio of DesignWare® Interface and Foundation IP on TSMC's 10-nanometer (nm) FinFET process, reducing risk for designers who want to take advantage of the power, area and performance improvements offered by the process. Achieving this tape-out milestone enables designers to accelerate the development of SoCs that incorporate [USB 3.1](#), [USB 3.0](#), [USB 2.0](#), [HSIC](#), [PCI Express 3.0](#), [PCI Express 2.0](#) and [MIPI D-PHY](#) interface IP. In addition, Synopsys is developing embedded memories, DDR4, LPDDR4 and MIPI M-PHY IP, which will further extend its 10-nm IP portfolio. TSMC's 10-nm process provides 2.2 times the logic density, a 15 percent performance improvement, and 35 percent power reduction compared to their 16-nm FinFET Plus process node. Taking advantage of the process, Synopsys has re-architected its IP at 10 nm for lower power, higher performance and smaller area compared to the previous generation. As an example, the high-speed SerDes-based PHYs consume less than 5mW/Gb/lane.

"As the leading provider of physical IP, Synopsys has collaborated with TSMC on the development of IP for the 10-nanometer process, enabling designers to achieve the design goals of their next-generation SoCs," said John Koeter, vice president of marketing for IP and prototyping at Synopsys. "By offering a broad portfolio of IP at the TSMC 10-nanometer node, Synopsys is reducing the risks associated with moving to this new process technology."

"Synopsys' track record of providing high-quality IP through many generations of TSMC processes, including 10 nanometers, offers designers a low-risk path to integrating high-performance IP into their SoCs," said Suk Lee, TSMC senior director, design infrastructure marketing division. "Our close collaboration with Synopsys on the development of IP for the TSMC 10-nanometer process enables our mutual customers to reduce their power and area, increase performance and accelerate their time to volume production."

Availability

Front-end kits for DesignWare IP on the TSMC 10 nm process are available now.

About DesignWare IP

Synopsys is a leading provider of high-quality, silicon-proven IP solutions for SoC designs. The broad DesignWare IP portfolio includes logic libraries, embedded memories, embedded test, analog IP, wired and

wireless interface IP, security IP, embedded processors and subsystems. To accelerate prototyping, software development and integration of IP into SoCs, Synopsys' IP Accelerated initiative offers IP prototyping kits, IP software development kits and IP subsystems. Synopsys' extensive investment in IP quality, comprehensive technical support and robust IP development methodology enables designers to reduce integration risk and accelerate time-to-market. For more information on DesignWare IP, visit <http://www.synopsys.com/designware>.

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 the world's 16th largest software company, Synopsys has a long history of being a global leader in electronic design automation (EDA) and semiconductor IP, and is also growing its leadership in software quality and security solutions. Whether you're a system-on-chip (SoC) designer creating advanced semiconductors, or a software developer writing applications that require the highest quality and security, Synopsys has the solutions needed to deliver innovative, high-quality, secure products. Learn more at www.synopsys.com.

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