

ALi Corporation Accelerates Tapeout of Set-Top Box Chip Using Synopsys IC Compiler

IC Compiler Exceeds Target Performance While Lowering Project Cost

MOUNTAIN VIEW, Calif., May 25 [PRNewswire-FirstCall](#)/ -- Synopsys, Inc. (NASDAQ: SNPS), a world leader in semiconductor design software, today announced that ALi Corporation, a leading supplier of integrated circuits for digital audio/video applications, has taped out their latest set-top box chip using Synopsys' IC Compiler next-generation place-and-route solution. Approaching multi-million gates in size, this complex design needed to incorporate a high level of integration at the smallest possible die size, as well as high frequency with acceptable power dissipation. IC Compiler's advanced optimizations, in particular congestion avoidance during placement, enabled ALi to exceed its performance targets while achieving a superb die utilization rate. These optimizations, coupled with IC Compiler's tight correlation with sign-off, were also instrumental in providing significantly faster design closure compared to ALi's previous solution.

"This was a critical project for us, and we deployed IC Compiler only after a careful evaluation that showed improved frequency for equivalent device area, as well as faster turnaround time," said May Wang, ALi spokeswoman. "We are pleased with the results we achieved using IC Compiler and are expanding the deployment of IC Compiler to other projects. We look forward to continuing collaboration with Synopsys, enabling advances in design technology."

ALi offers a multi-tiered portfolio of set-top box applications. With demanding audio/video processing requirements, the set-top box product family represents the most challenging integrated circuit (IC) designs at ALi. The latest design, implemented in advanced technology, has more than 150 pieces of hard intellectual property (IP) and features clock frequencies up to 400 megahertz (MHz). IC Compiler's automated macro placement was critical to achieving an optimized floorplan, resulting in high silicon utilization and small die size. IC Compiler's Extended Physical Synthesis (XPS) technology, which extends physical synthesis to full place-and-route, provided the optimization necessary to achieve the 400-MHz speed.

"More companies serving the demanding consumer market are turning to IC Compiler to meet or exceed their IC performance objectives while minimizing die size," said Antun Domic, senior vice president and general manager of Synopsys' Implementation Group. "IC Compiler enables customers to quickly achieve optimal place-and-route results. By streamlining the design cycle, these customers can meet their market windows while lowering overall design cost."

About IC Compiler

IC Compiler is Synopsys' next-generation place-and-route system. It provides superior results and faster time-to-results by extending physical synthesis to full place-and-route, and by enabling signoff-driven design closure. Current-generation solutions have a limited horizon because placement, clock tree, and routing are separate, disjointed operations. IC Compiler's Extended Physical Synthesis (XPS) technology breaks down the walls between these steps by extending physical synthesis to full place-and-route. IC Compiler has a unified, TCL-based architecture that implements innovations and harnesses some of the best Synopsys core technologies. It is a complete place-and-route system with everything necessary to implement next-generation designs, including physical synthesis, placement, routing, timing, signal integrity (SI) optimization, power reduction, design-for-test (DFT), and yield optimization.

About Synopsys

Synopsys, Inc. (NASDAQ: SNPS) is a world leader in electronic design automation (EDA) software for semiconductor design. The company delivers technology-leading semiconductor design and verification platforms and IC manufacturing software products to the global electronics market, enabling the development and production of complex systems-on-chips (SoCs). Synopsys also provides intellectual property and design services to simplify the design process and accelerate time-to-market for its customers. Synopsys is headquartered in Mountain View, California, and has more than 60 offices located throughout North America, Europe, Japan and Asia. Visit Synopsys online at <https://www.synopsys.com/>.

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