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Synopsys and Inuitive

Inuitive Achieves First-Pass Silicon Success for NU3000 Multi-Core Signal Processor With DesignWare USB 3.0, DDR, MIPI, and Foundation IP

> *"Integrating market-proven DesignWare USB 3.0, DDR, MIPI and Foundation IP was the right choice for us because first-silicon success was the only option."* — *Dor Zepeniuk, Vice President of R&D, Inuitive*

Business

Inuitive is focused on providing cutting-edge processing engines for depth sensing and processing. Inuitive's flagship product, NU3000, was developed to support 3D image processing and computer vision processing.

Challenges

- Develop and deploy a complex multi-core 3D sensing engine for mobile devices
- Acquire proven IP to reduce risk on standard interfaces and accelerate time-to-market
- Meet stringent power, performance and area objectives

Synopsys DesignWare IP Solution

- USB 3.0 femtoPHY and Device Controller
- DDR multiPHY and uMCTL2 Controller
- MIPI® D-PHY and CSI-2 Controller
- Duet package of embedded memories and logic libraries
- DesignWare® Library IP

Benefits

- Achieved first-pass silicon success under extreme time and market pressure
- Reduced design risk with broad portfolio of silicon-proven DesignWare® IP
- Met requirements for low power, small area, and high performance while ensuring interoperability with multiple image sensors
- Received responsive technical support from a local team

Overview

Inuitive's NU3000 is a multi-core signal processor chip for 3D image processing and computer vision (CV) processing. It can operate as a stand-alone device (Smart 3D sensor HUB) or be embedded into existing solutions as a co-processor for image processing and CV. As a co-processor, the NU3000 offloads the main processor to reduce system response time, save power and increase performance. With the rapid growth of immersive image processing experience, Inuitive needed to bring the NU3000 to market quickly while meeting their power, performance and area objectives. In addition, they needed IP that would help ensure interoperability with multiple third-party image sensors.

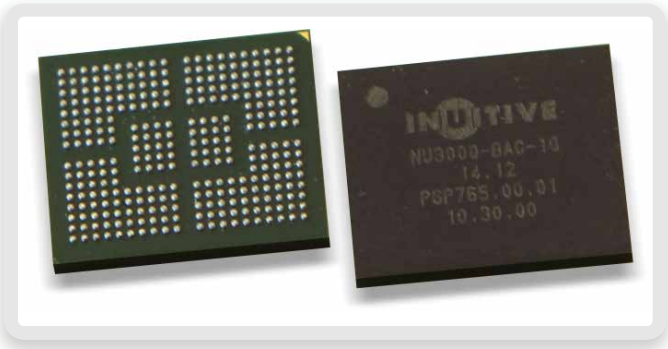
> *"The maturity and quality of the certified DesignWare USB 3.0 controller and femtoPHY is impressive, especially considering the complexity of the protocol and the IP solution's small area and low power consumption."*
>
> *— Dor Zepeniuk, Vice President of R&D, Inuitive*

High-Quality DesignWare IP

Inuitive had a small engineering team focused on the areas that differentiated their NU3000 processor, and selected Synopsys DesignWare USB 3.0, DDR, and MIPI IP after evaluating multiple vendors on the breadth, quality, and proven interoperability of their IP portfolios. "We wanted the safest path for standard, commonly used IP, and to take the risks only on our own proprietary technology where we need to innovate and outperform our competitors. First silicon success was our only option," said Dor Zepeniuk, Vice President of R&D, Inuitive. "We selected Synopsys because of their substantial track record in providing high-quality IP and technical support, and we were confident that Synopsys could help us deliver."

Expert and Responsive Technical Support

Inuitive found the IP easy to integrate and the product documentation to be accurate and complete. When needed, Inuitive took advantage of Synopsys' responsive, worldwide technical support. "We found Synopsys' support teams to be professional, responsive, and friendly," said Zepeniuk. "The excellent documentation and application notes, as well as first-rate technical support, helped smooth the entire integration process. We have already selected Synopsys for our next-generation architecture and have every confidence that Synopsys will continue to meet our design and support requirements."



Inuitive NU3000 Multi-Core Processor

> *"Using both the PHYs and controllers from Synopsys for the USB 3.0, DDR, and MIPI interfaces enabled us to achieve our power, performance, and area objectives while accelerating our development time."*
>
> *— Dor Zepeniuk, Vice President of R&D, Inuitive*

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Synopsys, Inc. • 690 East Middlefield Road • Mountain View, CA 94043 • www.synopsys.com

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