Gridbee Achieves First-Pass Silicon Success with Synopsys' DesignWare ARC Processor

Silicon-Proven ARC EM Processor Enables Ultra-Low Power Wireless Module for Industrial IoT Applications

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Highlights:

- Gridbee achieved first-pass silicon success for their IoT communication solution with ARC EM core
- ARC EM processor selected for its extremely low power consumption to enable deep-sleep power savings mode
- Memory protection unit for ARC EM core enables secure communications by restricting access to secure code
- Comprehensive MetaWare Development tools generate highly efficient code, further reducing total SoC area and power

Synopsys, Inc. (Nasdaq:SNPS) and Gridbee Communications today announced that Gridbee has achieved first-pass silicon success for its integrated IoT secure wireless communications solutions using Synopsys' silicon-proven DesignWare® ARC® EM6 Processor. Gridbee chose Synopsys' ARC EM processor over competitive processor alternatives for its superior power- and performance-efficiency, ability to secure code with advanced memory protection capabilities and availability of a comprehensive suite of tools and open source software. ARC EM's extensive configurability enabled Gridbee to create an optimized implementation that delivers the essential signal processing required for machines to efficiently and securely communicate with each other within stringent power and silicon area budgets.

"To meet the profitability and reliability targets of the industrial IoT market, it is imperative that we develop secure, power-efficient and reliable plug-and-play wireless communication solutions that are easy for our customers to deploy," said Stephane Laurent, CBDO & co-founder at Gridbee Communications. "Synopsys' ARC EM processors are highly configurable and offer extremely low power consumption. ARC's hardware advantages, combined with the available security features and software development tools, enable us to deliver tailored solutions that address the evolving challenges of IoT communications."

Gridbee Communications develops plug-and-play wireless communication technologies for smart devices in industrial environments, including system-on-chip (SoC) components and related software. With a simple USB connected case, Gridbee's customers can easily implement machine intelligence through peer to peer communication and networked devices. The solution is based on medium and long range radio frequency technology (IEEE 802.15.4g SUN with both FSK and OFDM modulation) to enable communication with the machines' network and a mesh network infrastructure and use very little power when not communicating. Gridbee's solution includes all the hardware and software components necessary for securely connecting smart devices.

DesignWare ARC EM Processors are based on the scalable, 32-bit ARCv2 instruction set architecture (ISA) and are optimized for area and power efficiency. The ARC EM cores' small size make them ideal for applications where power consumption and size must be kept to a minimum without compromising performance. Synopsys' Enhanced Security Package for ARC EM processors enables designers to create a tamper-resistant, secure environment that protects their systems and software from evolving security threats such as IP theft and remote attacks. The ARC EM Family is supported by a robust ecosystem of development tools and software, including the MetaWare Development Toolkit and ARC EM Starter Kit. In addition, Synopsys' embARC Open Software Platform gives ARC EM software developers online access to a comprehensive suite of free and open-source software that eases the development of code for IoT and other embedded applications.

"The growth in connected machines is requiring wireless solutions that help guarantee reliable, high-speed, secure communications, while meeting demanding energy and cost budgets," said John Koeter, vice president of marketing for IP and prototyping at Synopsys. "Selecting Synopsys' ARC processors with the MetaWare toolkit and embARC Open Software Platform enabled Gridbee to meet the performance and power efficiency of their design targets while accelerating the deployment of their innovative M2M solutions to the market."

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 15th 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.

About Gridbee Communications

Gridbee Communications SAS is a French high tech company delivering Plug & Play Sub-GHz secured mesh wireless communication solution for Smart Grid, Smart Cities and Industrial IoT market. Gridbee's solution, based on IEEE 802.15.4g SUN standard, integrates Gridbee's SoC implementing both FSK and OFDM modulation, a small form factor module and a complete software stack. Learn more at www.gridbeecom.com

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