Synopsys and Alango Technologies Deliver Voice Communication Package for DesignWare ARC Audio Processors

Integrated Audio Processing Solution Includes Proven Voice Enhancement Technologies that Speed Time-to-Market for Developers of Mobile and Stationary Communication SoCs

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Highlights:

- Alango's Voice Communication Package (VCP) offers advanced digital signal processing technologies for voice communication applications such as microphone arrays, acoustic echo cancellation, speech enhancement and noise reduction
- Integrated solution consists of VCP ported to DesignWare ARC single- and dual-core audio processors to provide a pre-verified audio solution that shortens time to market and reduces design risk
- Combination of VCP's minimal memory requirements and ARC's power- and area-efficiency creates an ideal solution for a broad range of embedded applications such as mobile phones, hands-free car kits, Bluetooth headsets, industrial intercoms and other types of voice terminals

Synopsys, Inc. (Nasdaq: SNPS), a global leader providing software, IP and services used to accelerate innovation in chips and electronic systems, and Alango Technologies, a leading developer and licensor of front-end voice enhancement technologies, today announced the availability of Alango's Voice Communication Package (VCP) for Synopsys' DesignWare® ARC® AS211SFX and AS221BD Audio Processors. Alango's VCP, a universal software package of digital signal processing (DSP) technologies for voice applications, enables high quality, full duplex, noise free communication in noisy environments such as auto passenger compartments and industrial settings. By integrating advanced signal processing software for voice applications with single- and dual-core ARC audio processors, Synopsys and Alango are providing designers of embedded systems with a pre-verified hardware and software solution that enhances voice communications while reducing design risk and time-to-market.

"High-quality voice processing is a requirement in the fast-growing communications markets, particularly in advanced mobile phones, tablets, laptops and VoIP voice terminals often used in very noisy environments," said Dr. Alexander Goldin, CEO of Alango Technologies. "Our Voice Communication Package improves the quality and clarity of voice transmissions on ARC audio processors. Our mutual customers are already taking advantage of the configurability and scalability of the integrated Alango-Synopsys solution."

Offering the combination of VCP and DesignWare ARC Audio Processors provides designers with a pre-verified audio solution with low power consumption, small silicon area and a rich feature set. VCP offers noise suppression, multiband frequency equalizers, dynamic range compressors, noise gates and automatic gain control, all of which can be enabled and disabled within the software depending on the design's functionality and available DSP resources. ARC Audio Processors utilize the 16-/32-bit DesignWare ARCompact Instruction Set Architecture that provides RISC and full DSP capabilities in a unified architecture. The processors' extendable instruction set enables designers to create highly differentiated designs.

"More than one billion chips ship annually with embedded DesignWare ARC Processors, and the Alango VCP adds welcome capabilities to the growing ARC ecosystem," said John Koeter, vice president of marketing for IP and systems at Synopsys. "Alango is a valued member of the ARC Access Program, and our combined audio processing solution demonstrates how close collaboration can address the latest challenges in demanding applications such as voice processing. By working with Alango, we make it easier for system-on-a-chip designers to integrate proven, high-quality audio functionality into their ARC-based SoCs, allowing them to focus on their core competencies."

Availability

Alango Technologies' Voice Communications Package for Synopsys DesignWare ARC Audio Processors is available now from Alango Technologies.

About Alango Technologies

Alango Technologies Ltd. is a leading developer and licensor of front-end DSP technologies for voice communication and mobile audio. Alango's worldwide customers include companies of different scale covering a wide product range. Alango technologies can be found in in-car infotainment systems, after market hands-free car kits, navigation systems, mobile phones, Bluetooth headsets, audio conferencing systems, intercoms,

assistive listening devices, security and military applications. Further information on Alango can be found at www.alango.com.

About DesignWare IP

Synopsys is a leading provider of high-quality, silicon-proven IP solutions for SoC designs. The broad DesignWare IP portfolio includes complete interface IP solutions consisting of controllers, PHY and verification IP for widely used protocols, analog IP, embedded memories, logic libraries, processor cores and subsystems. To support software development and hardware/software integration of the IP, Synopsys offers drivers, transaction-level models, and prototypes for many of its IP products. Synopsys' HAPS® FPGA-Based Prototyping Solution enables validation of the IP and the SoC in the system context. Synopsys' Virtualizer™ virtual prototyping tool set allows developers to start the development of software for the IP or the entire SoC significantly earlier compared to traditional methods. With a robust IP development methodology, extensive investment in quality, IP prototyping, software development and comprehensive technical support, Synopsys enables designers to accelerate time-to-market and reduce integration risk. For more information on DesignWare IP, visit http://www.synopsys.com/designware.

About Synopsys

Synopsys, Inc. (Nasdaq:SNPS) accelerates innovation in the global electronics market. As a leader in electronic design automation (EDA) and semiconductor IP, Synopsys delivers software, IP and services to help engineers address their design, verification, system and manufacturing challenges. Since 1986, engineers around the world have been using Synopsys technology to design and create billions of chips and systems. Learn more at www.synopsys.com.

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