



## PRESS RELEASE

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## Accent, ARM and Cadence collaborate to improve low-power design

### Companies validate low-power design techniques from architecture through implementation to enable 40% power reduction

**Milan (Italy), Cambridge (UK) and San Jose (USA) - 25 July 2005.** Accent, ARM [(LSE: ARM); (Nasdaq: ARMHY)] and Cadence Design Systems, Inc. (NYSE: CDN); (Nasdaq: CDN) announced today that Accent has successfully validated a low-power design flow using the Cadence Encounter digital IC design platform and ARM Artisan physical IP.

The design flow targets low-power IC design and was proven on a design comprising a large portion of a SoC for a wireline application. Using the ARM Artisan Metro low-power IP with multi-voltage and multi-threshold capabilities, the design was implemented with a multi-supply multi-voltage (MSMV) design flow utilizing three power domains. High voltage threshold (low leakage) optimization was performed on both the MSMV implementation and a baseline implementation with a single supply voltage to further reduce leakage power.

Compared to the baseline design flow, the low-power design flow reduced dynamic power by 34 percent. Additionally, the low voltage section of the design also showed 40 percent less leakage power than the baseline flow implementation. As a result, Accent was able to perfect a methodology that implements multi-voltage capabilities in new designs and to compute trade-offs in power consumption.

“The need to accommodate multiple power domains and multiple voltage levels makes low-power chip design much more complex than normal chip design,” said Claudio Fasce, vice president of Business Area Design and Supply Chain Management Services for Accent. “Using the Cadence Encounter platform and the ARM Metro IP supporting MSMV design, we were able to quickly validate our low-power design flow and significantly improve our overall low-power design methodology. Close collaboration with ARM and Cadence expands our design skills and enables us to deliver better performing devices and greater competitive advantage to our customers.”

The Encounter low-power flow provides complete support for multiple supply voltage designs. It consists of top-down multi-supply voltage synthesis using Encounter RTL Compiler global synthesis. This is followed by Encounter implementation for low-power and accurate SI- and IR-aware timing sign-off with CeltIC Nanometer Delay Calculator (NDC) and VoltageStorm static and dynamic power analysis.

“We continue to focus on our commitment to customer success,” said Wei-Jin Dai, platform vice president, digital IC implementation at Cadence. “This project proves the production readiness and quick turnaround

capabilities of the Encounter low-power design flow. Through our broad, deep collaboration with design chain leaders such as ARM and leading-edge design houses such as Accent, we are able to continue advancing low-power design into the mainstream.”

The ARM Artisan Metro low-power platform provides a comprehensive solution for dynamic and leakage power reduction, and makes high-density, yield-improved designs possible. The platform includes standard cells, memories, I/Os and multi-voltage kits. All components take advantage of new process, circuit design, voltage scaling, power-aware EDA tools and chip-level design techniques to enable designers to meet the growing need for power dissipation control.

“ARM is committed to extensive validation of our physical IP in design flows,” said Neal Carney, vice president of Marketing, Physical IP, ARM. “The team efforts of ARM, Accent and Cadence have substantiated power reduction capabilities and techniques that continue to build upon the results of the Silicon Design Chain low-power initiative that will greatly benefit our mutual customer base.”

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### **About Accent**

Accent Srl is a leading electronics design house that helps customers worldwide to realize their new product ideas and concepts as well as further innovate existing products through the development of dedicated ICs (integrated circuits) and complex, high performance SoCs (systems-on-chip). Accent works closely with IDMs, OEMs and fabless companies alike as well as increasingly with non-electronics companies that need access to electronics expertise as part of their product innovation processes. Accent can provide a turnkey design service from concept and architecture definition through to design implementation and prototyping as well as assist customers' own design teams with experienced design engineers at every stage of the development flow. Accent can also manage the whole electronics supply chain including access to the major foundries for small-to-medium volumes silicon with a COT (customer-owned tooling) approach through its Highway to Silicon programme. Accent operates through offices and representatives in Germany, Israel, Nordic, Italy, the UK and the USA. For more information about Accent, please visit [www.accent.it](http://www.accent.it), call +39 039 629011 or email [info@accent.it](mailto:info@accent.it)

### **About ARM**

ARM designs the technology that lies at the heart of advanced digital products, from wireless, networking and consumer entertainment solutions to imaging, automotive, security and storage devices. ARM's comprehensive product offering includes 16/32-bit RISC microprocessors, data engines, 3D processors, digital libraries, embedded memories, peripherals, software and development tools, as well as analog functions and high-speed connectivity products. Combined with the company's broad Partner community, they provide a total system solution that offers a fast, reliable path to market for leading electronics companies. More information on ARM is available at <http://www.arm.com>.

### **About Cadence**

Cadence enables global electronic-design innovation and plays an essential role in the creation of today's integrated circuits and electronics. Customers use Cadence software and hardware, methodologies, and services to design and verify advanced semiconductors, consumer electronics, networking and telecommunications equipment, and computer systems. Cadence reported 2004 revenues of approximately \$1.2 billion, and has approximately 4,700 employees. The company is headquartered in San Jose, Calif., with sales offices, design centres, and research facilities around the world to serve the global electronics industry. More information about the company, its products, and services is available at [www.cadence.com](http://www.cadence.com).

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Ref: ACS010  
Words: 513