

# Microsemi and Synopsys Extend 20-Year OEM Relationship and Collaborate on New PolarFire FPGAs to Deliver Customized Synthesis Support

Seamless Integration of Synopsys' Synplify Pro and Identify RTL Debugger With Microsemi's Libero SoC Design Suite for FPGA Customers

**ALISO VIEJO, Calif. —May 4, 2017—**Microsemi Corporation (Nasdaq: MSCC), a leading provider of semiconductor solutions differentiated by power, security, reliability and performance, and Synopsys (Nasdaq: SNPS), a global leader in electronic design automation (EDA) software, today announced a multi-year extension of their OEM agreement to bring customized field programmable gate array (FPGA) synthesis tools to Microsemi's FPGA customers. The companies recently collaborated on Microsemi's new cost-optimized, low power **PolarFire™** mid-range FPGAs, **announced** in February, and Synopsys also supported Microsemi during the devices' early access program.

Synopsys' **Synplify Pro® synthesis software** and **Identify® RTL Debugger** are integrated into Microsemi's **Libero SoC Design Suite**, a comprehensive suite of design tools used with the company's FPGA products, including its PolarFire FPGAs. Synopsys' solutions enable faster design time with area optimization for cost and power, accelerating FPGA development. These capabilities further enable the unique features of Microsemi's PolarFire FPGAs, such as the industry's lowest power at mid-range densities with 12.7 Gbps Serializer/Deserializer (SerDes) transceivers, as well as best-in-class **security** and **reliability**.

"Extending our longstanding relationship with the Synopsys team enables us to continue leveraging the company's extensive expertise in synthesis technology while allowing Microsemi's engineering resources to focus on supporting the advanced features and capabilities unique to our FPGA devices," said Jim Davis, vice president of software engineering at Microsemi. "Synopsys' Synplify Pro synthesis software is specifically designed for FPGAs and is well-known as the de facto industry standard for producing high performance, cost-effective designs for these devices."

Synopsys' Synplify Pro software is an industry standard tool for producing high performance and high level optimizations with fast runtimes synthesizing the RTL code for large designs on Microsemi's FPGAs and system-on-chip (SoC) FPGAs. In addition, Synopsys offers Synplify Premier with multi-vendor support and advanced features, including support for Microsemi FPGAs.

Microsemi's Libero SoC Design Suite offers high productivity with its comprehensive, easy to learn and easy to adopt development tools for designing with the company's FPGAs including the new cost-optimized PolarFire FPGAs. The suite includes a complete design flow using Synopsys Synplify Pro synthesis software together with Microsemi's significantly enhanced constraints management, differentiated FPGA debugging suite, SmartDebug and secure production programming solution (SPPS).

"We were pleased to support Microsemi throughout the early access program for PolarFire FPGAs and are proud to be a part of its mid-range FPGA launch," said Andrew Dauman, vice president of engineering in Verification Group at Synopsys. "The successful release of these unique devices, including early adoption amongst Microsemi's customer base, is yet another example of our productive technology collaborations and we look forward to continuing this important relationship for all of Microsemi's FPGA technology."

Key benefits of Synopsys' Synplify Pro synthesis software and Identify RTL debugger for Microsemi FPGA customers include:

- Run time acceleration with multi-processing support
- Faster incremental turn-around times with compile point integration
- Best quality of results (QoR) for area and performance
- Broad language support for Verilog, SystemVerilog, VHDL and mixed language design
- Customizable tool command language (TCL) scripting environment for custom flows and reports
- Inference of wide multiplexers, sequential shift, large static random access memory (LSRAM),  $\mu$ SRAM, and math blocks

## About PolarFire FPGAs

Microsemi's new cost-optimized PolarFire FPGAs deliver the industry's **lowest power** at mid-range densities with exceptional security and reliability. The product family features 12.7 Gbps Serializer/Deserializer (SerDes) transceivers at up to 50 percent lower power than competing FPGAs. Densities span from 100K to 500K logic elements (LEs) and are ideal for a wide range of applications within wireline **access** networks and **cellular**

infrastructure, defense and commercial aviation markets, as well as industry 4.0 which includes the industrial automation and Internet of Things (IoT) markets.

PolarFire FPGAs' transceivers can support multiple serial protocols, making the products ideal for communications applications with 10Gbps Ethernet, CPRI, JESD204B, Interlaken and PCIe. In addition, the ability to implement serial gigabit Ethernet (SGMII) on general purpose input/output (GPIO) enables numerous 1Gbps Ethernet links to be supported. PolarFire FPGAs also contain the most hardened security intellectual property (IP) to protect customer designs, data and supply chain. The non-volatile PolarFire product family consumes 10 times less static power than competitive devices and features an even lower standby power referred to as Flash\*Freeze. For more information, visit [www.microsemi.com/polarfire](http://www.microsemi.com/polarfire).

### **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 security and quality solutions. Whether you're a system-on-chip (SoC) designer creating advanced semiconductors, or a software developer writing applications that require the highest security and quality, Synopsys has the solutions needed to deliver innovative, high-quality, secure products. Learn more at [www.synopsys.com](http://www.synopsys.com).

### **About Microsemi**

Microsemi Corporation (Nasdaq: MSCC) offers a comprehensive portfolio of semiconductor and system solutions for aerospace & defense, communications, data center and industrial markets. Products include high-performance and radiation-hardened analog mixed-signal integrated circuits, FPGAs, SoCs and ASICs; power management products; timing and synchronization devices and precise time solutions, setting the world's standard for time; voice processing devices; RF solutions; discrete components; enterprise storage and communication solutions, security technologies and scalable anti-tamper products; Ethernet solutions; Power-over-Ethernet ICs and midspans; as well as custom design capabilities and services. Microsemi is headquartered in Aliso Viejo, California and has approximately 4,800 employees globally. Learn more at [www.microsemi.com](http://www.microsemi.com).

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"Safe Harbor" Statement under the Private Securities Litigation Reform Act of 1995: Any statements set forth in this news release that are not entirely historical and factual in nature, including statements related to the company and Synopsys (Nasdaq: SNPS), a "silicon to software" provider for innovative companies developing the electronic products and software applications, announcing the extension of the two teams' 20-year relationship to bring customized field programmable gate arrays (FPGA) synthesis tools to Microsemi's FPGA customers, and its potential effects on future business, are forward-looking statements. These forward-looking statements are based on our current expectations and are inherently subject to risks and uncertainties that could cause actual results to differ materially from those expressed in the forward-looking statements. The potential risks and uncertainties include, but are not limited to, such factors as rapidly changing technology and product obsolescence, potential cost increases, variations in customer order preferences, weakness or competitive pricing environment of the marketplace, uncertain demand for and acceptance of the company's products, adverse circumstances in any of our end markets, results of in-process or planned development or marketing and promotional campaigns, difficulties foreseeing future demand, potential non-realization of expected orders or non-realization of backlog, product returns, product liability, and other potential unexpected business and economic conditions or adverse changes in current or expected industry conditions, difficulties and costs of protecting patents and other proprietary rights, inventory obsolescence and difficulties regarding customer qualification of products. In addition to these factors and any other factors mentioned elsewhere in this news release, the reader should refer as well to the factors, uncertainties or risks identified in the company's most recent Form 10-K and all subsequent Form 10-Q reports filed by Microsemi with the SEC. Additional risk factors may be identified from time to time in Microsemi's future filings. The forward-looking statements included in this release speak only as of the date hereof, and Microsemi does not undertake any obligation to update these forward-looking statements to reflect subsequent events or circumstances.

Source: Microsemi Corporation

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