# Synopsys Collaborates with Keysight Technologies to Deliver Integrated Custom Design Flow for 5G Designs

Synopsys Custom Compiler and Keysight RFPro Solution Deployed at CoreHW Enabling Highest Productivity, Fastest Design Closure and Analysis

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**Highlights:**

- Collaboration with Keysight Technologies accelerates RF SoC design
- CoreHW deployed Keysight Technologies RFPro and Synopsys Custom Compiler to meet complex design requirements for 5G system and subsystem designs
- Synopsys custom design flow enables accurate and repeatable results for efficient design and verification

Synopsys, Inc. (Nasdaq: SNPS) today announced a collaboration with Keysight Technologies to seamlessly integrate Keysight's RFPro solution with Synopsys's Custom Compiler™ solution, enabling mutual customers to create 5G system-on-chip (SoC) designs. This integration adds electromagnetic (EM) analysis to the full-custom design flow based on the Synopsys Custom Design Platform and has been deployed at CoreHW, a fabless semiconductor company developing state-of-the-art RF ICs, accelerating the design, extraction, simulation and delivery of radio frequency (RF) chips.

The collaboration between Keysight and Synopsys includes developing and validating a tightly integrated solution that enables customers to use RFPro and Custom Compiler in a unified RF design flow. The custom design flow enables a more productive design and verification solution that delivers significantly faster layout and design closure, providing designers an accelerated path to meet their speed, bandwidth and data throughput requirements and time-to-market targets.

"The complexity of design requirements for advanced integrated circuits for wireless data transmission such as transceivers and RF front-end components continues to grow," said Tomi-Pekka Takalo, CEO at CoreHW. "The full-custom flow we are deploying, based on the Synopsys Custom Design Platform integrated with Keysight RFPro, provides our designers with an accelerated predictive process for creating high-quality full-custom RF, analog and mixed-signal ICs."

Like 5G cellular communications, next-generation wireless systems target a range of new capabilities including higher bandwidth, more connected devices, lower latency and better coverage. To address these requirements, designers need to measure RF performance, spectrum, wavelength and bandwidth. The collaboration between Synopsys and Keysight will help customers achieve power and performance optimizations and deliver 5G designs more efficiently.

"As the leader in RF/microwave circuit design tools, Keysight continues to push the envelope on simulation performance and ease-of-use. By collaborating on an integrated flow with Synopsys' Custom Design Platform, we can provide our customers accurate, repeatable results at higher frequencies and wider bandwidths," said Tom Lillig, general manager of PathWave Software Solutions at Keysight Technologies. "This is critical for 5G, 6G, and beyond. We're excited about this collaboration with Synopsys and foresee additional opportunities to work together to further streamline our customers' workflows."

RFPro is the industry's first EM environment dedicated for RF and microwave circuit design. RFPro is seamlessly integrated with Keysight PathWave Advanced Design System and now also with Synopsys Custom Compiler. RFPro makes performing EM (Momentum, FEM) analysis as easy as running circuit simulations, dramatically simplifying EM-circuit co-simulation of RFIC, MMIC and RF module designs for 5G, IoT and defense-aerospace applications. The custom design flow enables EM analysis with Keysight's RFPro within the Synopsys Custom Design Platform by utilizing the OpenAccess database and industry-standard interoperable PDKs provided by the foundries.

"Synopsys continues to support the IP and analog design community with robust custom design solutions that integrate signoff technologies and simulation workflows, enabling key differentiating advantages for 5G designs," said Aveek Sarkar, vice president of engineering at Synopsys. "Thanks to our deep collaboration with Keysight Technologies, our customers can now take advantage of the advanced features within the Custom Design Platform, while using Keysight RFPro for simulating electromagnetic IC and packaging effects for 5G applications to improve productivity and achieve silicon success."

For more information about Custom Compiler, view a video highlighting the integrated solution, design flow and enablement optimized for 5G applications.

**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 an S&P 500 company, Synopsys has a long history of being a global leader in electronic design automation (EDA) and semiconductor IP and offers the industry's broadest portfolio of application security testing tools and services. Whether you're a system-on-chip (SoC) designer creating advanced semiconductors, or a software developer writing more secure, high-quality code, Synopsys has the solutions needed to deliver innovative products. Learn more at www.synopsys.com.

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