The Linley Group awarded Synopsys' ARC SEM family Best Processor IP of 2016, driven by the security package the chips offer.

Riscure collaborated with Synopsis to evaluate and help enhance the robustness of the embedded security solutions.

The Linley Group, publisher of Microprocessor Report, is a leading industry source for independent technology analysis of processor IP and semiconductors. Their 2016 Analysts' Choice Awards recognized the top semiconductor products in seven categories: server processors, embedded processors, networking chips, mobile processors, mobile chips, processor IP and best technology. To select each winner among a diverse group of nominees in each category, The Linley Group's team of technology analysts focuses on the merits of the most innovative products released during 2016, evaluating the combined advantages in power, performance, features and cost of each device for their target end application and market.

"After evaluating the latest processor IP in the market, we chose Synopsys' ARC SEM family for Best Processor IP of 2016 due to its complete and unique security package, including tamper-resistant pipeline, countermeasures against side-channel attacks and optional CryptoPack hardware extensions to accelerate cryptographic algorithms," said Mike Demler, senior analyst at The Linley Group. "The selection of ARC SEM CPUs for our Analysts' Choice Award recognizes Synopsys' achievement in addressing critical security issues in IoT processors and other embedded designs."

The ARC SEM110 and SEM120D processors offer advanced security features such as uniform instruction timing and power randomization to obfuscate secure operations and resist side-channel attacks. The SEM pipeline also employs in-line instruction and data encryption, address scrambling and data integrity checks to provide further protection from system attacks and IP theft. Support for Synopsys SecureShield™ technology enables designers to implement a Trusted Execution Environment (TEE) with multiple privilege levels on a single, ultra-low power core, reducing silicon area and energy consumption. This combination of ARC SEM hardware and software features enables creation of more secure system-on-chips (SoCs) for IoT and mobile.

"High-profile security breaches are increasingly in global headlines, underscoring the need to ensure the right precautions are being taken during SoC design and test," said Mats Nählinder, president of Riscure North America. "As a global security test lab and a market leader in side-channel test equipment, our business is to evaluate security solutions for their ability to protect against such malicious attacks targeting hardware and software. The DesignWare ARC SEM processors enable designers to add protection to their embedded devices against such attacks."