Synopsys Delivers Industry's First Processor IP Certified for Full ISO 26262 ASIL D Compliance

DesignWare ARC EM22FS Functional Safety Processor IP Meets ASIL D Random Plus ASIL D Systematic Compliance to Accelerate Automotive SoC-Level Certification

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Highlights:

- DesignWare ARC EM22FS Processor meets stringent random hardware fault detection and systematic functional safety development flow requirements to achieve ISO 26262 ASIL D compliance
- The ARC Processor's integrated hardware safety features such as dual-core lockstep, error-correcting code, and safety monitors, facilitate chip-level safety certification
- ASIL D compliant DesignWare ARC MetaWare Toolkit for Safety speeds development of ISO 26262 compliant software

Synopsys, Inc. (Nasdaq: SNPS) today announced that the DesignWare® ARC® EM22FS Functional Safety Processor has achieved certification for full ISO 26262 automotive safety integrity level (ASIL) D compliance, meeting both random hardware fault detection and systematic functional safety development flow requirements. The full compliance allows companies to accelerate development and assessment of their automotive safety-critical SoCs for random and systematic compliance per the ISO 26262 standard.

To meet stringent safety requirements, the ARC Functional Safety Processor offers integrated safety-critical hardware features including error-correcting code (ECC) for memories and interfaces, transient fault protection for internal registers, diagnostic error injection, and an integrated self-checking safety monitor.

"Synopsys' DesignWare ARC EM22FS Functional Safety Processor full compliance is based on SGS-TÜV Saar's comprehensive assessment of Synopsys' functional safety development flow in accordance with the ISO 26262 standard," said Wolfgang Ruf, head of Functional Safety for Semiconductors at SGS-TÜV Saar. "Certification of Synopsys' ARC EM22FS Processor for ASIL D random and systematic compliance confirms that the IP meets the stringent safety-critical requirements of the automotive industry, giving designer's confidence that they can reliably integrate the IP and achieve compliance for their SoC designs."

The ASIL D compliant ARC EM22FS is a dual-core lockstep processor IP based on the ultra-compact ARC EM Processor family. The IP includes comprehensive safety documents such as failure modes, effects and diagnostic analysis (FMEDA), Safety Manual, Safety Case Report, ISO 26262 Functional Safety Assessment Report, and other safety-related documents to accelerate the functional safety analysis and certification of automotive SoCs. The ARC Functional Safety Processor IP is developed based on the ISO 9001 certified Quality Management System (QMS) for Synopsys DesignWare IP supporting additional automotive quality requirements. The ASIL D compliant DesignWare ARC MetaWare Development Toolkit for Safety, helps software developers accelerate the development of ISO 26262 compliant code. The ARC Functional Safety Processors combined with Synopsys' essential interface and foundation IP solutions in Synopsys' automotive ADAS reference design, helps jump-start development of SoC designs for safety-critical applications.

"Preventing random hardware faults or systematic failures in automobiles starts at the SoC level, which means that the IP that is integrated into these chips must adhere to the ISO 26262 functional safety standard," said John Koeter, senior vice president of marketing and strategy for IP at Synopsys. "Being first to achieve full ISO 26262 ASIL D compliance for the DesignWare EM22FS Processor underscores Synopsys' commitment to helping designers achieve the highest levels of quality, safety, security, and reliability for their automotive SoCs while lowering design risk."

Availability

The DesignWare ARC EM22FS Functional Safety Processor and ARC MetaWare Toolkit for Safety are available now.

About DesignWare IP

Synopsys is a leading provider of high-quality, silicon-proven IP solutions for SoC designs. The broad DesignWare IP portfolio includes logic libraries, embedded memories, embedded test, analog IP, wired and wireless interface IP, security IP, embedded processors, and subsystems. To accelerate prototyping, software development and integration of IP into SoCs, Synopsys' IP Accelerated initiative offers IP prototyping kits, IP software development kits, and IP subsystems. Synopsys' extensive investment in IP quality, comprehensive technical support, and robust IP development methodology enable designers to reduce integration risk and accelerate time-to-market. For more information on DesignWare IP, visit

https://www.synopsys.com/designware.

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.

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