Synopsys' Silicon-Proven DesignWare HDMI IP Receives HDMI 2.0 Certification

Complete HDMI IP Solution with HDCP 2.2 Certification Meets Highest Security Standards for Ultra-High Definition Multimedia SoCs

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Highlights:

- Certified DesignWare HDMI 2.0 TX and RX Controller and PHY IP enable 4K resolution at 60 Hz frame rate
- Certified high-bandwidth digital content protection (HDCP) 2.2 solution ensures protection of ultra-high definition content over the HDMI 2.0 interface
- Support for all HDMI 2.0 specification features including YCbCr 4:2:0 color space, TMDS scrambling to reduce EMI and CEC 2.0 for advanced remote control units
- DesignWare IP Prototyping Kit for HDMI 2.0 accelerates prototyping, software development and integration of IP into SoCs

Synopsys, Inc. (Nasdaq: SNPS), a global leader providing software, IP and services used to accelerate innovation in chips and electronic systems, today announced that its DesignWare® HDMI 2.0 Transmitter (TX) and Receiver (RX) Controller and PHY IP have been certified by an HDMI authorized testing center. Synopsys' HDMI 2.0 IP with Elliptic Technologies' HDCP embedded security module also achieved HDCP 2.2 certification, enabling the highest content protection over the HDMI 2.0 interface for ultra-high definition multimedia system-on-chips (SoCs).

"Synopsys DesignWare IP consistently delivers superior performance, power and area compared to alternative solutions," said Cottice Lee, chip design director of Rockchip. "Selecting HDMI IP that has been silicon-proven and is compliant to the HDMI standards gave us confidence that the IP would work as expected and allowed us to focus our engineering resources on our proprietary SoC multicore architecture and achieve time-to-market goals for our customer's next-generation mobile devices."

"Our partnership with Synopsys is a strong testimonial of the highly advanced and robust security technology we bring to the market," said Vijay Dube, president and CEO of Elliptic Technologies. "The certification of Elliptic Technologies' HDCP 2.2 Embedded Security Module with Synopsys' HDMI 2.0 IP reinforces the companies' abilities to meet stringent compliancy standards and protect ultra-high definition content on any device."

Synopsys' DesignWare HDMI IP and verification IP support the latest HDMI 2.0 features, including 18 Gbps aggregate bandwidth to enable 4K resolution with 24-bit color at 60 Hz frame rate. Support for YCbCr 4:2:0 format enables ultra-high definition content with reduced bandwidth, the 21x9 frame format enables a wide aspect ratio for a true cinema experience and scrambling of transition-minimized differential signaling (TMDS) data reduces electromagnetic interferences (EMI). In addition, the DesignWare HDMI IP supports the consumer electronic control (CEC) 2.0 specification for uniform remote control features.

In addition to the silicon-proven IP solution, Synopsys offers a DesignWare IP Prototyping Kit for HDMI 2.0. The IP Prototyping Kit provides the essential hardware and software elements needed to reduce IP prototyping and integration effort and enables designers to start implementing the IP in a SoC in minutes. The kit includes a Synopsys HAPS®-DX FPGA-based prototyping system with pre-configured IP and SoC integration logic, a PHY daughter board, simulation testbench, reference drivers and application examples. The kit also includes the DesignWare ARC® processor-based 32-bit software development platform running Linux.

"Designers developing next-generation multimedia SoCs require advanced capabilities such as ultra-high definition 4K resolution, high frame rates and increased bandwidth," said John Koeter, vice president of marketing for IP and prototyping at Synopsys. "By providing a complete, certified HDMI 2.0 IP with the HDCP 2.2 embedded security module, Synopsys enables designers to quickly incorporate the necessary functionality into their SoCs with less risk."

Availability

The certified DesignWare HDMI 2.0 IP with the HDCP 2.2 embedded security module is available now in 40-nm to 16-nm FinFET process technologies across multiple foundries. The DesignWare IP Prototyping Kit for HDMI 2.0 is also 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, complete interface IP solutions consisting of

controller, PHY and next-generation verification 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 enables 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) accelerates innovation in the global electronics market. As a leader in electronic design automation (EDA) and semiconductor IP, Synopsys delivers software, IP and services to help engineers address their design, verification, system and manufacturing challenges. Since 1986, engineers around the world have been using Synopsys technology to design and create billions of chips and systems. Learn more at https://www.synopsys.com.

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