Synopsys Expands DesignWare MIPI IP Portfolio with DSI and CSI-2 Device Controllers

Complete MIPI Display and Camera Interface IP Solutions Deliver High Bandwidth and Low Power for Mobile, Automotive and IoT SoCs

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Highlights:

- DesignWare MIPI DSI Device Controller implements low-power and high-speed modes for video and command displays
- MIPI CSI-2 Device Controller enables merging of multiple video streams at high bit rates
- Compliant with the latest MIPI specifications, IP solutions are further enhanced to meet the requirements of automotive-grade applications
- IP solutions' integrated test and debug capabilities shorten design cycle and lower production test cost
- IP complements Synopsys' MIPI CSI-2 and MIPI DSI host controllers, MIPI I3C and MIPI D-PHY IP for complete camera and display interface IP solutions

Synopsys, Inc. (Nasdaq:SNPS), today announced the immediate availability of its new DesignWare® MIPI® CSI-2℠ Device Controller IP and DesignWare MIPI DSI℠ Device Controller IP for mobile, automotive and Internet of Things (IoT) system-on-chips (SoCs). The IP solutions are compliant with the MIPI CSI-2 v1.2 and MIPI DSI v1.2 specifications and enhanced to meet the key functional safety requirements of automotive-grade applications. The integrated debug and test capability accelerates design time and lowers test cost. The DSI device controller receives commands in low-power and high-speed modes, addressing requirements of both video and command displays. The flexible image interface in the MIPI CSI-2 device controller allows transmission of pixels between the IP and SoC at high bit rates for an optimized implementation. Synopsys' complete MIPI camera and display interface IP solutions consisting of controllers, PHY, verification IP and IP Prototyping Kits, enable designers to quickly implement the required functionality and accelerate time-to-market.

"As a leading provider of ASIC services, Global Unichip Corporation develops solutions that enable our customers to deliver innovative products with unique functionality," said Jim Lai, president of Global UniChip Corporation. "For our latest high-end camera design, we needed a camera interface solution that was interoperable with numerous application processors, configurable to eight lanes, and supported MIPI D-PHY. With Synopsys' DesignWare MIPI CSI-2 Device Controller IP, we delivered a design that enabled our customer to successfully deliver an ultra-high-definition, computational camera."

"Synopsys is continuously driving the development and adoption of MIPI interfaces in the ecosystem as a Board Member," said Joel Huloux, chairman of the board of MIPI Alliance. "The company provides the design community with a MIPI IP solution that designers can confidently integrate in their SoCs."

Synopsys' silicon-proven DesignWare MIPI CSI-2 and DSI Device Controllers provide advanced features that enable designers to implement the required camera and display functionality in mobile, automotive, IoT applications and beyond. The device controllers, interoperable with DesignWare MIPI D-PHY v1.2 operating at 2.5 Gbps/lane, deliver high total bandwidth with a reduced number of lanes and power-per-bit of data. The DesignWare MIPI CSI-2 Device Controller supports up to eight lanes of operation and the DesignWare MIPI DSI Device Controller supports up to four lanes for high resolution systems.

"MIPI interfaces are widely used in applications such as mobile, automotive, IoT and beyond to address increasing requirements for high-bandwidth, low-power camera and display functionality," said John Koeter, vice president of marketing for IP and prototyping at Synopsys. "By providing complete, silicon-proven MIPI CSI-2 and MIPI DSI IP solutions, compliant to the latest specifications, Synopsys enables designers to meet the specific frame rate, color depth, resolution, power and area requirements of their design, while lowering integration risk."

Availability and Additional Resources

Synopsys' complete MIPI camera and display interface IP solutions including the new DesignWare MIPI CSI-2 Device Controller IP and DesignWare MIPI DSI Device Controller IP are available now. Synopsys' suite of verification IP for MIPI protocols is also available now.

See a presentation on Synopsys' complete MIPI camera and display interface IP solutions at Linley Mobile and Wearables Conference, July 27, 2016.

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

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