Mentor and TowerJazz provide first commercial comprehensive suite of analog constraint checks for enhanced automotive reliability offering

Mentor, a Siemens business, and TowerJazz, the global specialty foundry leader, announced today, November 2, 2017, the availability of a new suite of analog design constraint checks such as device alignment, symmetry, orientation/parameter matching and more, leveraging the delicate analog layout requirements and automotive reliability check templates available for use with the Calibre® PERC™ platform. These checks are added to the already existing ESD (electrostatic discharge), CDM (charged-device model) and power management special checks that are available to mutual customers as part of the TowerJazz PDK offering.

Mentor and TowerJazz jointly developed these checks to enable their mutual customers to improve the reliability of their analog design elements, many of which are used in automotive integrated circuit (IC) designs. As the success of an analog design relies on correct layout constraints, having automated PERC constraint checks greatly increases the probability of the product meeting its targeted specifications.

The Calibre automotive reliability check templates were developed as an outcome of the German RESCAR 2.0 program, which is focused on increasing robustness of electronic circuits in automotive environments. Member companies Infineon Technologies AG and Robert Bosch GmbH of this program selected the Calibre PERC platform as the electronic design automation (EDA) reliability platform, with the Calibre PERC-based automotive reliability check templates for the verification of essential robustness constraints.

TowerJazz is the first commercial foundry to incorporate these RESCAR-developed reliability checks into their standard Calibre PERC design kit offering. These checks enable designers to address the enhanced level of reliability compliance that automotive

industry standards, such as the international functional safety standard ISO 26262, are now requiring from the entire automotive supply chain. Even though these reliability checks are targeted at analog design, they can be used to analyze and enhance the reliability of any IC design.

TowerJazz will provide customers with Calibre PERC rule decks that perform the new analog constraint checks, designed to address critical analog circuit verification requirements. The Calibre PERC tool makes it possible to automate these complex reliability checks by integrating knowledge of both the physical layout and the design netlist (which defines device types and connectivity). The new suite of analog design constraint checks will be presented at Mentor's User2User Europe Conference in Munich on November 27, 2017 by Ofer Tamir, senior director of Design Enablement, CAD and Support at TowerJazz.

"Collaborating with Mentor on a comprehensive suite of analog constraint checks ensures that our mutual customers using TowerJazz automotive processes can produce designs that achieve the highest level of dependability, quality, and robustness," said Ori Galzur, vice president of VLSI Design Center and Design Enablement, TowerJazz. "Adding these checks using the Calibre PERC platform reinforces our focus to support the needs of the growing automotive IC industry and address the enhanced level of required reliability compliance. TowerJazz is the leader in innovation and richness of PDKs across our specialty processes, giving our customers the extra edge in performance and time to market."

Adding these analog design constraint checks enables an additional capability for TowerJazz customers' design community for automotive applications. TowerJazz has recently released and discussed a major radar activity, LiDAR and multiple other automotive imaging initiatives, as well as a variety of discrete and integrated automotive power management for a variety of motor control and battery management applications.

"Our ongoing work with TowerJazz provides our mutual customers an industry-leading automotive IC reliability environment to satisfy the growing demand in this market," said Carey Robertson, director of circuit verification and reliability marketing, Mentor Calibre. "TowerJazz has once again demonstrated their commitment to being first in providing differentiated solutions for specialty processes."

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About RESCAR 2.0: The objective of RESCAR 2.0 is the development of a standard procedure which — for the first time — provides a convenient means to comprehend OEMs' robustness requirements, both prior to and throughout ECU component design, in a reliable and verifiable way. In order to account for the increasing sensitivity of new technologies to their operational environment, three especially robustness-critical issues are dealt with in depth: ageing effects and the influence of both temperature and voltage fluctuations. For more information, please visit https://www.edacentrum.de/rescar/en/content/about-project.

Mentor Graphics Corporation, a Siemens business, is a world leader in electronic hardware and software design solutions, providing products, consulting services, and award-winning support for the world's most successful electronic, semiconductor, and systems companies. Corporate headquarters are located at 8005 S.W. Boeckman Road, Wilsonville, Oregon 97070-7777. Web site: http://www.mentor.com.