

CompoundTek collaborates with Siemens to launch PDK Version 2.0 with 3 σ model that improves Design for Manufacturability

Singapore, 29 Jan 2021 – CompoundTek Pte Ltd, a global foundry services provider in emerging Silicon Photonics (SiPh) solutions announces that it has partnered with Siemens Digital Industries Software to develop and release CompoundTek's Process Design Kit (PDK) version 2.0. With the vision of enabling best-in-class photonic circuit simulation for customers, the version 2.0 PDK Component Model Library supports 3 σ statistical models, based on CompoundTek's actual measured 8" wafer-level data of Si/SiN waveguides, passive and active photonics components on its SiPh 8" fabricated wafers.

Formerly Mentor Graphics, Siemens' Electronic Design Automation (EDA) solutions provide a broad array of design and verification solutions for photonic designers, including L-Edit Photonics and LightSuite™ Photonic Compiler, both of which work with CompoundTek's 2.0 PDK. These tools provide productivity improvements for photonics experts and IC designers through automation and custom layout. Siemens' Calibre® verification platform, which includes Calibre nmDRC with its proprietary equation based functionality, has extended its golden signoff status to include silicon photonic designs.

A total of 39 new components in both O and C wavelength band; SiN based Mux/DeMux, terminator, Polarization Rotator Beam Splitter, VOA, SiN based platform etc., are added in this latest PDK release. Nominal compact models have been added to the Component Model Library to enable circuit simulations with these new components. All models are calibrated against measurement data to ensure the highest level of accuracy.

The PDK version 2.0 also adds 3 σ statistical data to 30 active models, including photodetectors, ring modulators, and Mach-Zehnder modulators. It enables CompoundTek customers' designs to have a better fit of the simulation results with the actual performance, resulting in a more accurate prediction of the actual chip performance and yield. Customers now have access to the 3-sigma statistical model based on the actual wafer measurement data and can factor in the variation of the actual performance when designing their products. A better understanding of the design margin based on the 3 σ model can now be achieved without the costly and lengthy process of running a process corner check on the actual product, saving both time and money. Customers can now enhance their Design For Manufacturability (DFM), shortening their time to production, at a much lower cost.

Since its launch in 2017, Singapore-based CompoundTek has over 25 global commercial customers and over 25 research institutes and universities in various applications such as telecommunications, automotive radar, data communications, bio-sensing, artificial intelligence (AI), quantum computing and smart sensors etc.

For more information on the Enhanced PDK version 2 with 3 σ statistical model for DFM, please contact enquiries@compoundtek.com

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About CompoundTek Pte Ltd

Founded and supported by industry veterans and technologists, Singapore-based CompoundTek combines world-class commercial foundry with leading silicon photonics (SiPh) research institutes to provide cutting-edge SiPh technologies that enhance foundry services capabilities. As one of the elites offering SiPh solutions internationally, CompoundTek brings to the marketplace revolutionary semiconductor applications designed to meet critical requirements in high bandwidth and high data transfer solutions particularly in emerging connectivity driving Industry 4.0. The company's in-depth know-how includes end-to-end technologies - from proprietary fabrication process expertise to product design support with strategic partners and extended services for end-product manufacturing. CompoundTek's global customers span leading brands and FORTUNE 500 companies in high-growth industries including artificial intelligence, automotive, bio-medical diagnostics, data centre, lidar, smart sensor, telecommunication and quantum optical computing.

Note: A list of relevant Siemens trademarks can be found [here](#).

Visit <https://compoundtek.com/> for more information.

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