Ansys

Ansys + CompoundTek

"Ansys CML Compiler enabled us to generate accurate, compact models for all elements in our PDK, along with the option to add statistical data. This has enabled our customers to shorten their learning and design cycle, thus improving their time to market."

K.S. Ang
COO **/** CompoundTek

As an innovative leader in silicon photonics, CompoundTek set out to deliver 3-sigma statistical support to provide customers with best-in-class process design kit (PDK) models that are representative of CompoundTek's proprietary manufacturing process.

Company Description

CompoundTek is a global leader in enhanced foundry services for silicon photonics that offers its revolutionary semiconductor applications that are 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 ranges from proprietary fabrication process expertise to product design support with strategic partners, on-wafer silicon photonics testing, and other extended services for end-product manufacturing.

Challenges

To deliver statistical support with minimal time to market, CompoundTek looked for innovative ways to improve its processes for the development and maintenance of PDKs.

Engineering Solution

- CompoundTek decided to go with Ansys Lumerical's CML Compiler, embracing a solution for increased automation for building and maintaining compact model libraries (CMLs).

- With the addition of statistical support in CML Compiler, it was the perfect tool to help improve productivity. The statistical models enable CompoundTek customers' designs to have a better fit of the simulation results with the actual performance, resulting in a more accurate prediction of chip performance and yield.

- CML Compiler enabled the integration of CMLs with third-party electronic design automation (EDA) tools, allowing customers to link their Lumerical INTERCONNECT schematic to the layout and perform electro-optical co-simulation.

- The built-in capability of encrypting the CML was another feature that was important to CompoundTek.
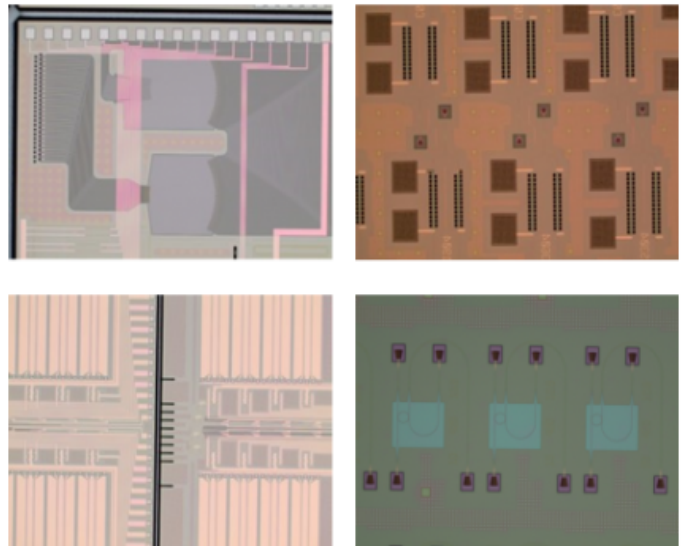
Benefits

- The data requirements of CML Compiler make it easier to identify what measurements are needed for statistical enablement of models.

- Switching from a nominal to statistical model is easily accomplished by adding the required statistical data measured from CompoundTek's actual silicon wafer.

- Built-in quality assurance verifies statistical and nominal behavior of generated compact models.

- Ansys Lumerical's technical support makes the process/troubleshooting easier.

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