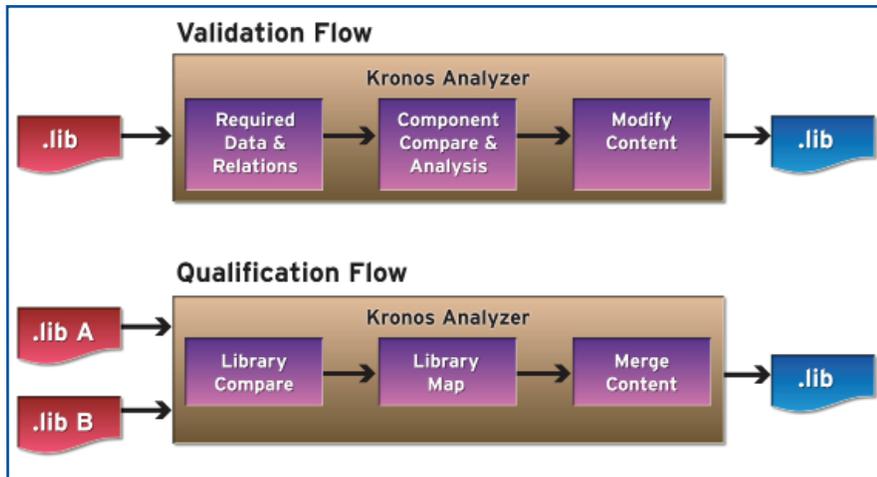


# Kronos Analyzer

## Cell Library Analysis & Validation



*Kronos Analyzer can compare two libraries to assess differences in performance, power, and area. Advanced mapping capabilities support comparisons over a wide variety of libraries.*

Kronos Analyzer is a library analysis and verification tool for ensuring high quality libraries. Kronos Analyzer is critical technology, whether users are qualifying libraries from an external supplier or developing their own library models. Kronos Analyzer enables design engineers and library qualification teams to compare and validate complex ASIC cell libraries for design-critical characteristics such as performance, area, and power.

Before a design begins, a library qualification team must decide on the foundry, library vendor, technology, feature size, and library version. There are both macro issues—such as process availability, yield, and corporate relationships—and critical performance issues to consider. Kronos Analyzer lets library qualification teams make well informed decisions by providing quantitative data as well as a graphical representation of the differences between libraries.

Kronos Analyzer’s unique matching technology enables the library qualification team to quickly evaluate libraries across a wide range of operating conditions without the long delays of running hundreds of full chip design flows.

### Validate and Evaluate Cell Libraries

With frequently over 1 million data points per library, manual comparisons or evaluations are not feasible. Models for 45 nm and below have become increasingly complex including state dependence, noise, power, and inconsistent indexes. Leading design teams understand that early validation of complex building blocks saves them from costly delays and results in higher performance, more efficient designs with better correlation to silicon.

### KEY FEATURES

- Qualify and validate libraries and processes with custom and built-in analysis flows
- Flexible user interface for ease-of-use and analysis tasks
- Versatile comparison capabilities
- Rule-based checker with easy to read and interpret report and graph generation
- Compare two libraries to verify correctness or evaluate performance
- Quickly perform what-if analysis and optimize new components
- Automatically find cell maps between libraries based on cell behavior
- Query, report, and graph results between any number of libraries
- Pinpoint changes in new library release updates for complete library validation and analysis
- Complete support for:
  - Liberty format, Verilog, and VITAL/VHDL
  - Standard cells, I/O, and custom components
  - Timing, power, and noise models
  - All attributes of NLD, ECMS, and CCS data

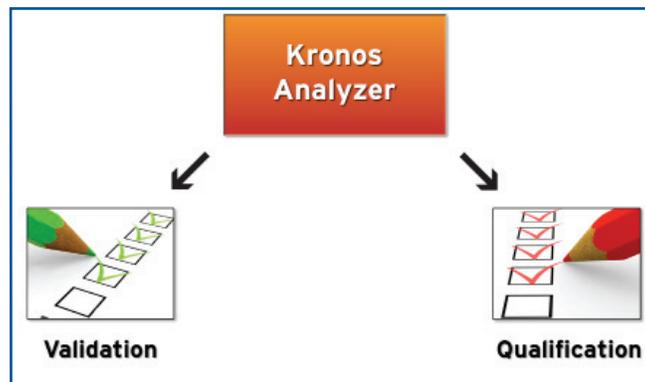
Design engineers use Kronos Analyzer to learn how process changes affect their libraries and how library changes influence their designs. For example, being able to evaluate the effects of a process change on setup and hold times for an existing design allows engineers to quickly determine what additional signoff checks are required.

Designers also evaluate libraries across operating conditions and special signoff corners to determine how components track across process-voltage-temperature (PVT). This information is essential in improving the risk/reward tradeoff for setting margins and operating conditions. Library developers tune existing components and compare new cells against existing ones to learn if changes have the expected effect. Kronos Analyzer also provides quality assurance, checking to see that new library releases do not have any unexpected characteristics.

Design engineers often choose to remove or add components to the library to improve performance, area, or power. Kronos Analyzer identifies poor performers and provides a component generation capability that allows designers to perform what-if analysis for new component candidates.

Commercial library vendors may issue frequent library updates, both optional and mandatory. Kronos Analyzer enables design teams to compare a new library release with its previous one, so that the new release can be qualified or rejected quickly.

Kronos Analyzer can be used in automatic, non-graphical command-line mode or through an advanced, interactive GUI. Kronos Analyzer has an optional query/report system that reports and/or graphs any data in any number of libraries.



*Kronos Analyzer is a library validation and optimization flow with library comparison technology and a rule-based checker that generates easy to read and interpret reports and graphs.*

**Visit our website at [www.mentor.com/dsm](http://www.mentor.com/dsm) for more information.**

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