

Laker Flat Panel Display

Overview

The Laker™ Flat Panel Display (FPD) solution is the leading technology in flat panel display design and layout. With built-in functions custom-tailored for flat panel layout, Laker FPD enables FPD designers to create, edit and verify the flat panel design from reticle plan and circuit design to panel layout in a single high-performance environment.

Major Benefits

- ▶ Reduce total design cycle time by reticle and panel co-design
- ▶ Reticle cost optimization based on automatic mask and shot planning
- ▶ Schematic-driven flow with reference FPD device PDK
- ▶ Correct-by-construction panel layout creation
- ▶ High quality of results from specialized FPD routing automation
- ▶ Tight integration with signoff physical verification

Major Features

Reticle and Panel Co-Design

- ▶ Comprehensive flow covers pre-layout mask and shot planning along with panel outline, post-layout exposure simulation, analysis and job file generation.
- ▶ The panel outline size is estimated and verified along with rapid panel prototype by AA-IC-FPC place-and-route automation

Schematic-Driven Flow

The schematic-driven layout (SDL) flow in Laker FPD helps create an optimized layout that is DRC/LVS-correct in less time — without sacrificing layout area. Both netlist and schematic views are included with the Laker layout editor for an intuitive SDL working environment, which includes:

- ▶ Schematic view and design browser
- ▶ Advanced layout editor, including rule-driven layout, flight-line guidance and short detection
- ▶ Realize, place, route, and edit a physical layout that is DRC- and LVS-correct

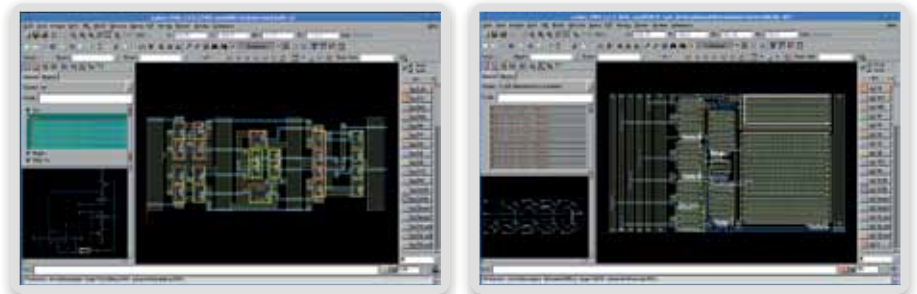


Figure 1: Laker FPD schematic-driven flow with reference device PDK

Unique Routing Automation

- ▶ Advanced Equal Resistance Route (AERR), Gateway Model Realizer (GMR) and Ladder Route make fan-in and fan-out connections quickly and accurately following user-defined patterns and parameters
- ▶ In-route integration of metal slit, cut corner enables one-pass routing with predictable resistance control

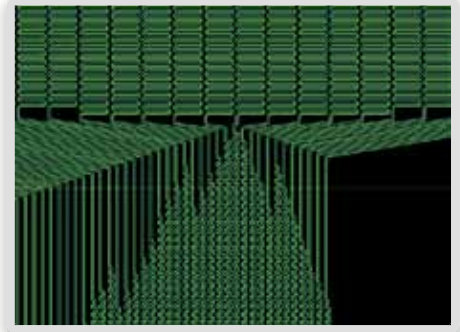
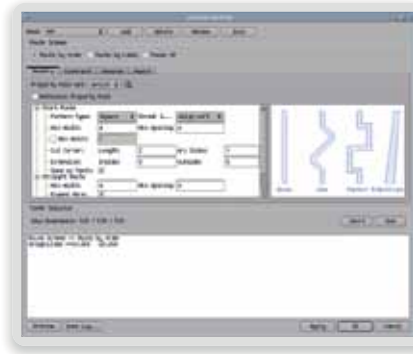


Figure 2: Advanced Equal Resistance Route with width adjustment and cut corner

Parasitic Extraction

- ▶ Resistance measurement reports routing path resistance of automated and manual routes for immediate feedback of resistance values

Physical Verification

- ▶ Built-in rule-driven DRC, LVL and ERC features support interactive editing
- ▶ Tight integration with signoff physical verification tools such as IC Validator to browse and fix design rule and LVS violations

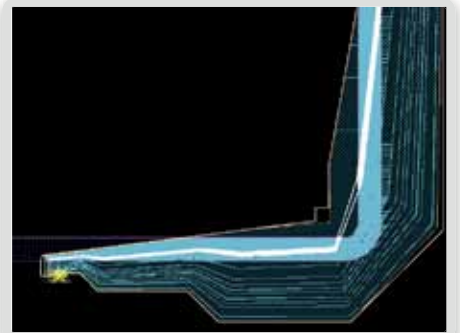
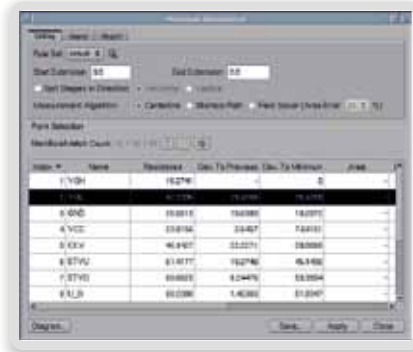


Figure 3: Resistance report of Gateway Model Realizer with metal slit

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