OptimATE

Rev - 1.03

Decimates analog circuit test costs with fast Digital ATE Tests

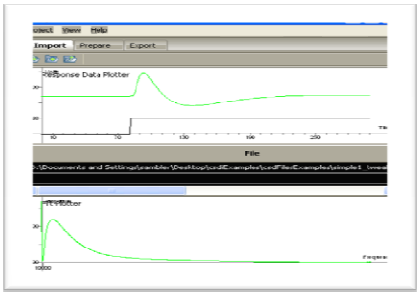
OptimATE is an EDA software tool to generate test vectors for analog semiconductor circuits. It uses a fault-based approach to find digital test vectors to be run on ***Digital*** ATE but which comprehensively tests ***Analog*** circuits.
Benefits over conventional analog test approaches include:

- **Substantial cost savings by 2 orders of magnitude faster test execution**
- **Increased throughput by parallel testing and faster tests**
- **Improved final test yield giving reduced wastage**
- **Requires *only digital automatic test equipment* (ATE) for *analog* sections of mixed signal devices**
- **Increases reliability by increased fault coverage supported by improved test coverage metrics**
- **Integrates with existing design and test tool flows**
- **Direct, intuitive methodology, based solidly on existing practices**

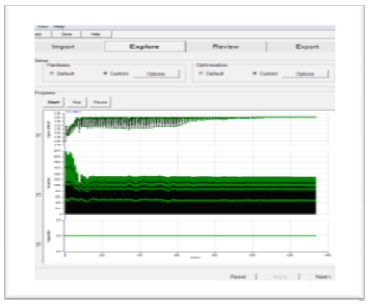
Device	Test time saving (mS)	Test cost saving per device	Total annual savings available
Switch capacitor conditioning amplifier	500	0.75c	**$5.7m p.a**
Microcontroller Oscillator	800	1.2-6c	**$0.6m p.a**
Voltage Regulator	500	0.75-1.5c	**$1m p.a.**

Typical savings including final test yield improvements

Unlike many analog test point solutions, OptimATE offers a generic solution for a wide variety of analogue circuits. These range from **amplifiers** and **filters**, (including **switched capacitor** architectures), to **AGCs**, **voltage references**, **regulators** and even **demodulators and RF front ends**.
Note. Please see LinBIST for ADCS and DACs or BIST using OptimATE.



Simulate responses of corners using test specification and circuit specification limits …



… optimize your digital test vectors …

… and simply export the small digital test vector and associated check-masks to your digital tester. Alternatively now use LinBIST to create minimal overhead Built in Self Tests.