

MunEDA 사 Wicked (WCD)

A. 목적 : Circuit Sizing & Circuit Analysis

B. 구분 : Optimize device geometries (W, L, fins, fingers, R, C, ...) and types (low/high Vt) for all PVT corners and Analyse the circuit with fast & accurate high-sigma statistical method.

C. Supported Platform and O/S System

- RHEL 7, 8 (64bit) ~ 최신 버전 / RHEL 6, 7 (64 bit) ~ 직전 버전

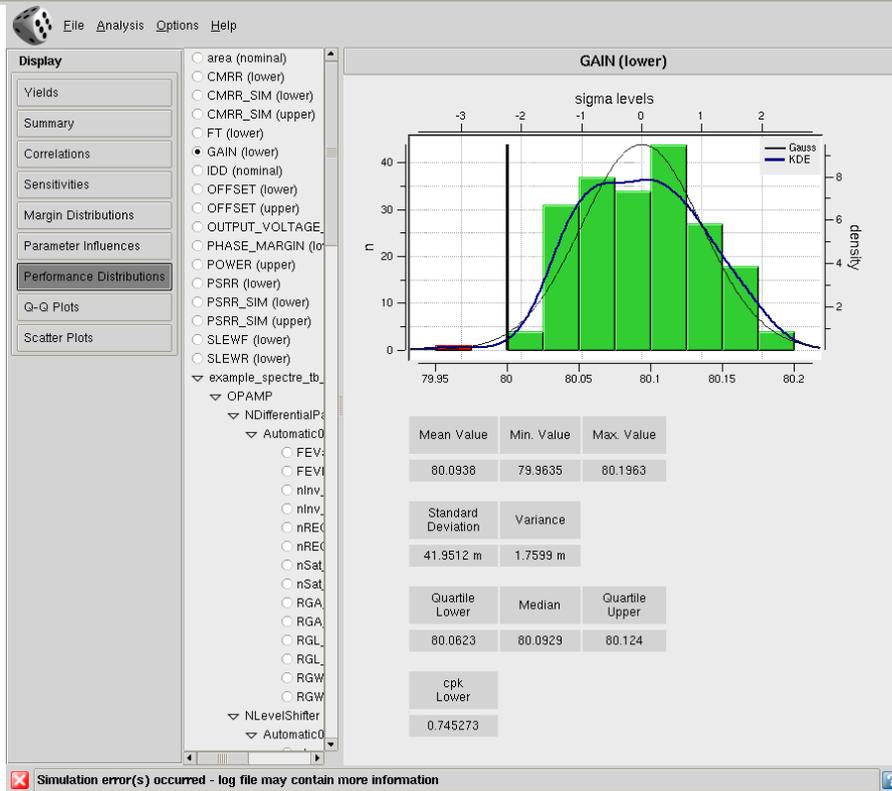
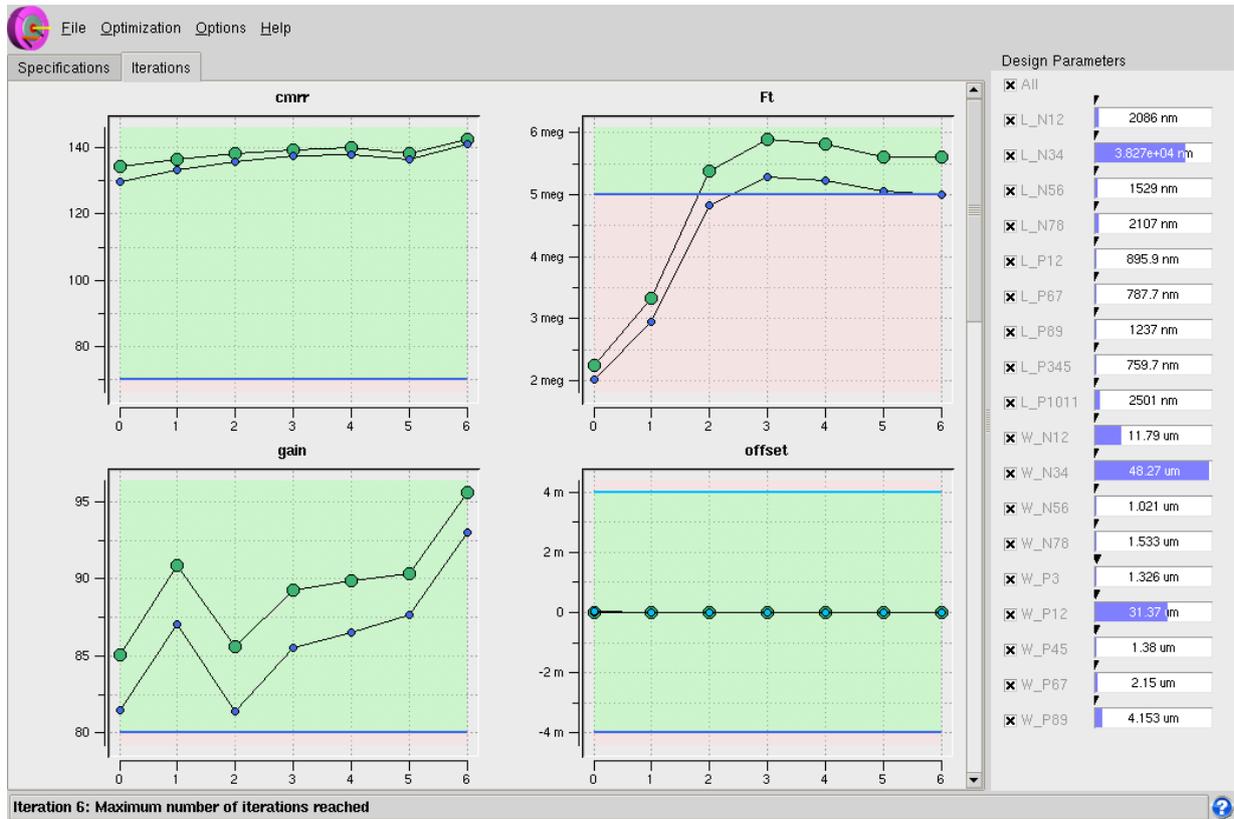
D. 특성 및 기능

- 여러 Performance Spec을 통합적으로 고려하는 Optimization & Analysis 기능 제공
- Worst-Case를 중점적으로 분석하여 보다 빠른 Screening 수행 지원
- TSMC Partner社로서 다양한 Circuit (AMS/RF, I/O, custom cell, memory)에 대한 적용 경험 보유
- Cadence Virtuoso Interface 내에서의 실행을 지원하여 사용 편의성 확보

The screenshot displays the Wicked software interface. On the left, there is a 'Design History' tree with 'Worst-Case Operation & Corner' selected. Below it is a 'Tools' menu. The main area shows a table with columns: Performance or Constraint, Bound Type, Progress, Specification, Nominal Value, Worst-Case Value, Diff., Diff. / Nominal, Worst-Case To Spec Margin, Rel. Margin, Goad, Ibias, and Vdd. The table lists various parameters like gain0, gbw, phase, slewF, slewR, psrr, power, and several sat and cmvgs parameters. The 'Worst-Case Value' column highlights several values in red, indicating violations. At the bottom, a 'Simulation Environment' log window shows system information and the message '*** Finished Wicked session. ***'.

Performance or Constraint	Bound Type	Progress	Specification	Nominal Value	Worst-Case Value	Diff.	Diff. / Nominal	Worst-Case To Spec Margin	Rel. Margin	Goad	Ibias	Vdd
gain0	Lower	finished	> 80 dB	96.57 dB	93.74 dB	-2.823 dB	-2.92%	13.74 dB	30 pF	10.5 uA	4.5 V	
gbw	Lower	finished	> 1.3 meg 1/s	2.407 meg 1/s	2.175 meg 1/s	-231.9 k 1/s	-9.6%	874.7 k 1/s	30 pF	9.5 uA	4.5 V	
phase	Lower	finished	> 60 °	61.49 °	54.4 °	-7.088 °	-12%	-5.6 °	30 pF	9.5 uA	5.264 V	
slewF	Lower	finished	> 3 V/μs	3.225 V/μs	3.035 V/μs	-190.2 m V/μs	-5.9%	35.3 m V/μs	23.48 pF	9.5 uA	4.5 V	
slewR	Lower	finished	> 3 V/μs	3.011 V/μs	2.128 V/μs	-883.5 m V/μs	-29%	-872.2 m V/μs	30 pF	9.5 uA	4.5 V	
psrr	Lower	finished	> 80 dB	97.56 dB	96.71 dB	-850.7 m dB	-0.87%	16.71 dB	30 pF	10.5 uA	4.5 V	
power	Upper	finished	< 1.3 mW	0.5229 mW	0.6082 mW	+0.08531 mW	16%	0.6918 mW	20 pF	10.5 uA	5.5 V	
sat1M3	Lower	finished	> 0	663 m	663 m	0	0%	663 m	20 pF	10 uA	5 V	
sat2M3	Lower	finished	> 0	806.4 m	800.7 m	-5.707 m	-0.71%	800.7 m	30 pF	9.5 uA	4.5 V	
sat3M3	Lower	finished	> 0	143.4 m	137.7 m	-5.707 m	-3.98%	137.7 m	30 pF	9.5 uA	4.5 V	
sat1M4	Lower	finished	> 0	663 m	663 m	0	0%	663 m	20 pF	10 uA	5 V	
sat2M4	Lower	finished	> 0	806.4 m	800.7 m	-5.707 m	-0.71%	800.7 m	30 pF	9.5 uA	4.5 V	
sat3M4	Lower	finished	> 0	143.4 m	137.7 m	-5.707 m	-3.98%	137.7 m	30 pF	9.5 uA	4.5 V	
cmvgsM3	Lower	finished	> 0	143.4 m	137.7 m	-5.707 m	-3.98%	137.7 m	30 pF	9.5 uA	4.5 V	
cmvgsM4	Lower	finished	> 0	143.4 m	137.7 m	-5.707 m	-3.98%	137.7 m	30 pF	9.5 uA	4.5 V	
cmdvdsM3M4	Lower	finished	> 0	1.5	1.5	0	0%	1.5	20 pF	10 uA	5 V	
sat1M8	Lower	finished	> 0	867.9 m	867.9 m	-38 n	0%	867.9 m	20 pF	10.5 uA	5 V	
sat2M8	Lower	finished	> 0	1.95	1.919	-30.68 m	-1.57%	1.919	20 pF	9.5 uA	5 V	
sat3M8	Lower	finished	> 0	1.082	1.051	-30.68 m	-2.84%	1.051	20 pF	9.5 uA	5 V	
sat1M5	Lower	finished	> 0	1.565 m	-221.6 m	-223.2 m	< -100%	-221.6 m	20 pF	10.5 uA	4.5 V	
sat2M5	Lower	finished	> 0	1.087	894.1 m	-193.1 m	-18%	894.1 m	20 pF	10.5 uA	4.5 V	

다양한 Spec 값을 동시에 고려하는 Operation Flow



GUI 기반의 결과 분석 도구 제공



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