

# 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 6, 7, 8 (64bit)

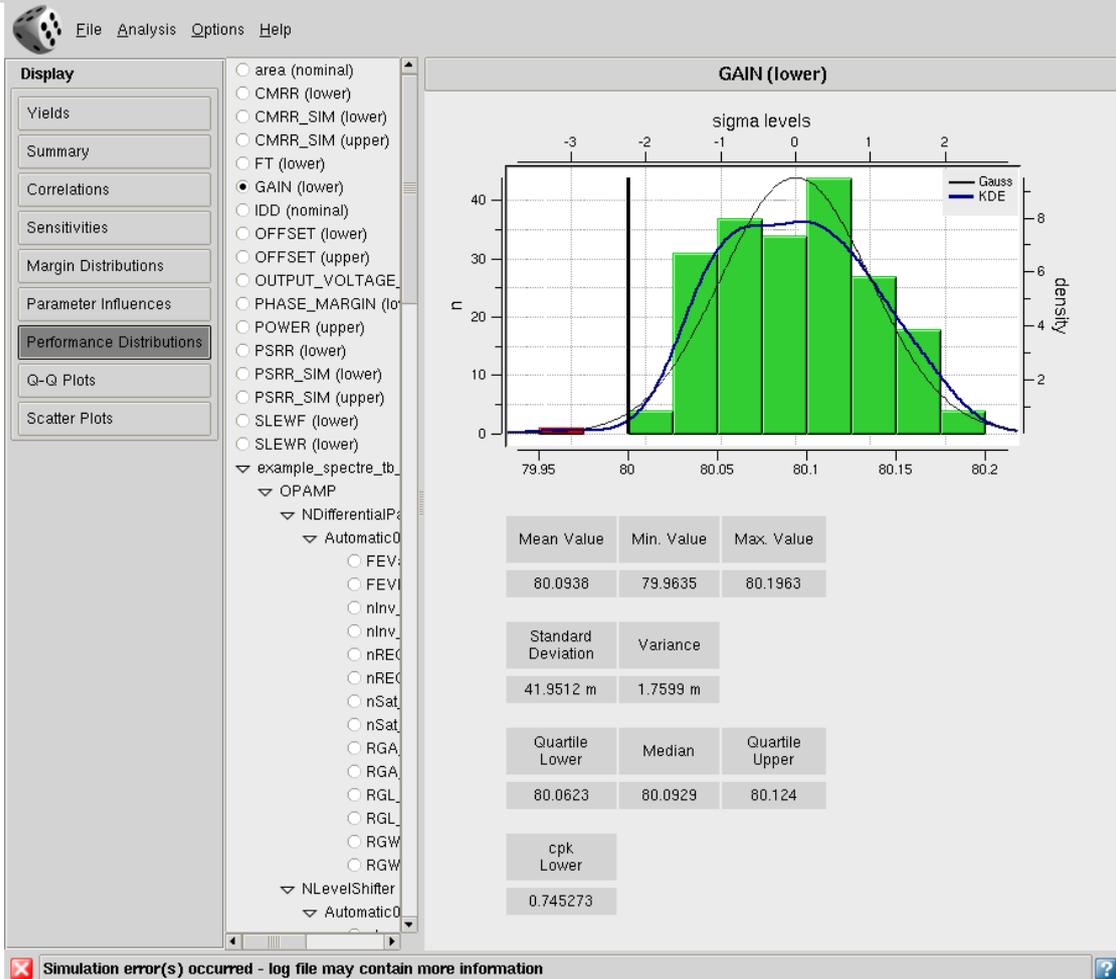
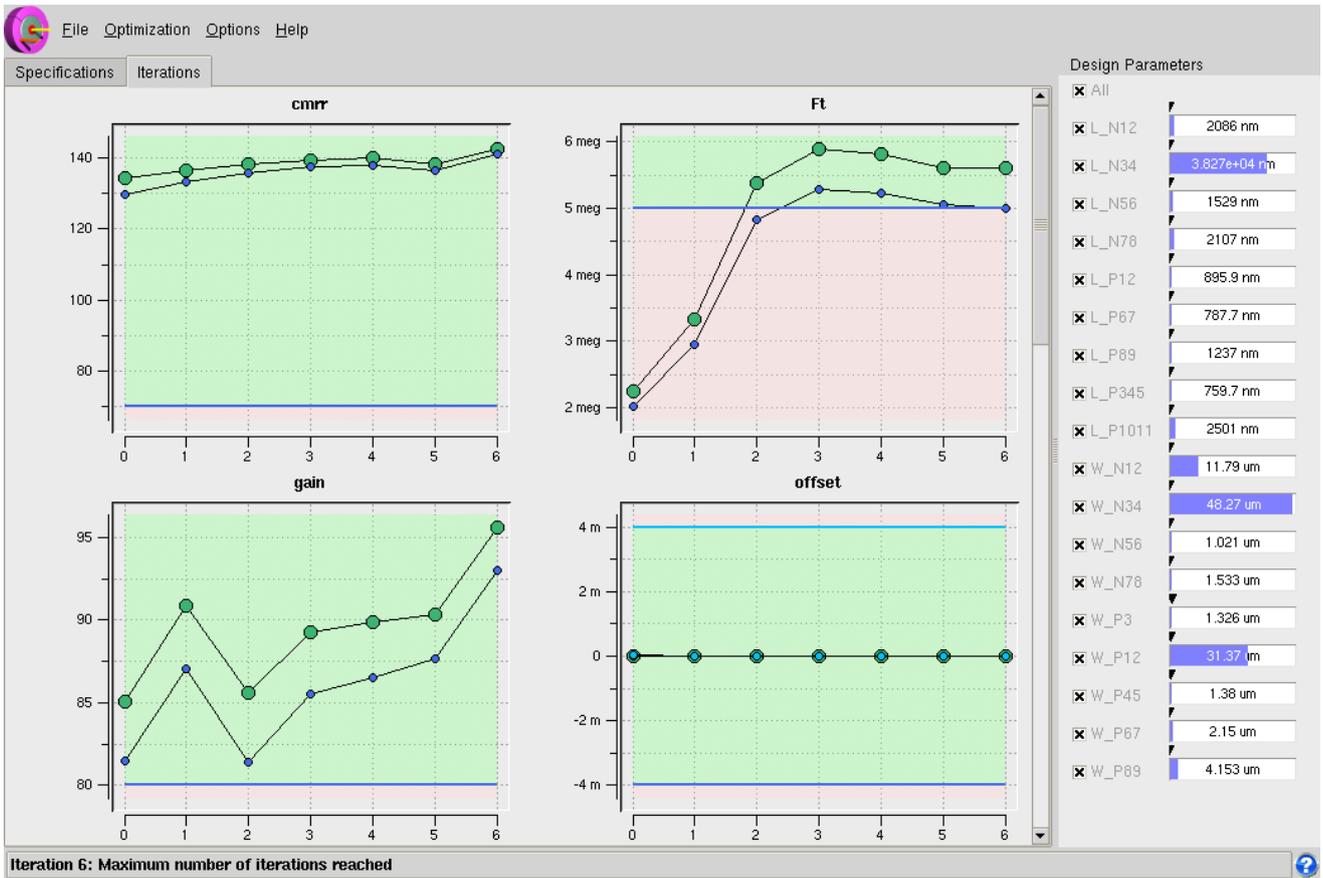
**D. 특성 및 기능**

- 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 various analysis steps like 'Simulation (#1)', 'Nominal Optimization/Global (#16)', and 'Worst-Case Operation & Corner'. Below that is a 'Tools' panel with icons for Simulation, Sensitivity Analysis, Screening, etc. 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, Coad, Ibias, and Vdd. The table lists various parameters such as gain0, gbw, phase, slewF, slewR, psrr, power, and several 'sat' and 'cmvgs' parameters. Some values are highlighted in red, indicating they are out of specification. At the bottom, a 'Simulation Environment' log window shows details like 'Logfile reloaded by: Wicked 8.0-devel', 'Date: 12/10/2020', and 'Time: 18:23:31'. The status bar at the bottom right shows 'Requests: 0 / Simulators: 0 | Total: 12741 / Failed: 1'.

Performance or Constraint	Bound Type	Progress	Specification	Nominal Value	Worst-Case Value	Diff.	Diff. / Nominal	Worst-Case To Spec Margin	Rel. Margin	Coad	Ibias	Vdd
gain0	Lower	finished	> 80 dB	96.57 dB	93.74 dB	-2.823 dB	-2.92%	13.74 dB	Green	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	Green	30 pF	9.5 uA	4.5 V
phase	Lower	finished	> 60 °	61.49 °	54.4 °	-7.088 °	-12%	-5.6 °	Green	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	Green	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	Green	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	Green	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	Green	20 pF	10.5 uA	5.5 V
sat1M3	Lower	finished	> 0	663 m	663 m	0	0%	663 m	Green	20 pF	10 uA	5 V
sat2M3	Lower	finished	> 0	806.4 m	800.7 m	-5.707 m	-0.71%	800.7 m	Green	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	Green	30 pF	9.5 uA	4.5 V
sat1M4	Lower	finished	> 0	663 m	663 m	0	0%	663 m	Green	20 pF	10 uA	5 V
sat2M4	Lower	finished	> 0	806.4 m	800.7 m	-5.707 m	-0.71%	800.7 m	Green	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	Green	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	Green	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	Green	30 pF	9.5 uA	4.5 V
cmdvdsM3M4	Lower	finished	> 0	1.5	1.5	0	0%	1.5	Green	20 pF	10 uA	5 V
sat1M8	Lower	finished	> 0	867.9 m	867.9 m	-38 n	0%	867.9 m	Green	20 pF	10.5 uA	5 V
sat2M8	Lower	finished	> 0	1.95	1.919	-30.68 m	-1.57%	1.919	Green	20 pF	9.5 uA	5 V
sat3M8	Lower	finished	> 0	1.082	1.051	-30.68 m	-2.84%	1.051	Green	20 pF	9.5 uA	5 V
sat1M5	Lower	finished	> 0	1.565 m	-221.6 m	-223.2 m	< -100%	-221.6 m	Red	20 pF	10.5 uA	4.5 V
sat2M5	Lower	finished	> 0	1.087	894.1 m	-193.1 m	-18%	894.1 m	Green	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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