

CLEVER

Release Notes

01/23/12

RELEASE NOTES

VERSION 3.8.52

ALTERATIONS AND ENHANCEMENTS

- Improve speed and memory usage in charge-based capacitance field solver

VERSION 3.8.51

NEW FEATURES

- Functions to display scalar potential and vector electric fields with arbitrary DC bias

ALTERATIONS AND ENHANCEMENTS

- Improve geometrical angled etching function

VERSION 3.8.50

ALTERATIONS AND ENHANCEMENTS

- Enhance creation of airgaps with discrete voids between metal lines to leave metal lines untouched
- Improve command line definition for airgap creation to make data points easier to distinguish and edit

VERSION 3.8.49

NEW FEATURES

- Add air-gap (voids) formation simulation capability with arbitrary polygonal shapes between interconnect lines

ALTERATIONS AND ENHANCEMENTS

- Improvements in defining electrodes with GDSII file and deltacd depending on whether or not the label is on the domain boundaries

VERSION 3.8.47

ALTERATIONS AND ENHANCEMENTS

- Improvement in defining 2D electrodes with cutline operations

VERSION 3.8.46

NEW FEATURES

- Add fast and accurate modes for touch panel capacitance extraction

ALTERATIONS AND ENHANCEMENTS

- Increase speed of touch panel capacitance extraction with improved memory usage
- More accurate representation of angled etching on non-planar structures
- Increase accuracy of conformal deposition on angled side walls

VERSION 3.8.45

ALTERATIONS AND ENHANCEMENTS

- Improve handling of vertical electrodes at the layout level
- Increase speed of resistance extraction and improve memory usage

VERSION 3.8.44

NEW FEATURES

- Add function to limit the CPU time a program can take to prevent infinite runs
- Provide an option to output the total capacitance for each conductor by setting the environment variable "OUTPUTTOTALCAP"

ALTERATIONS AND ENHANCEMENTS

- Increase speed of capacitance extraction speed and improve memory usage
- Enhance handling of vertical electrodes when moving from gds file to structure file

VERSION 3.8.43

ALTERATIONS AND ENHANCEMENTS

- Improve quality of generated symmetric grids

VERSION 3.8.42

ALTERATIONS AND ENHANCEMENTS

- Improve new function fixDummyCharge
- Ensure that when the simulation window is bigger than the original layout, all electrodes are defined appropriately

VERSION 3.8.41

NEW FEATURES

- Add a function to set fixed charges for some floating conductors and view the potential distribution on the entire simulation domain

ALTERATIONS AND ENHANCEMENTS

- Correct handling of reverse empty mask

VERSION 3.8.40

ALTERATIONS AND ENHANCEMENTS

- Improve handling of floating conductors
- Improve etch command when a mask does not exist

VERSION 3.8.39

NEW FEATURES

- Add material "Air" in material database; air can be deposited to the structure while gas can not
- Add string expression for deltacd, misalignment, etc. so that user can use strings or numbers

ALTERATIONS AND ENHANCEMENTS

- Improve use of HIPEX in netlist extraction
- Implement function to add defect layers to existing gds file
- Improve HIPEX integration

VERSION 3.8.38

NEW FEATURES

- Add the convenience of running a specific version of HIPEX while performing netlist extraction in CLEVER
- Add function to add electrodes to angled side walls

ALTERATIONS AND ENHANCEMENTS

- Improve mask command while the mask is actually empty
- Increase speed of capacitance extraction
- Enhance geometric conformal deposition and geometric angled etching
- Improve 1-2D capacitance and resistance extraction

- Improve 2D resistance extraction
- Improve triangular grid construction
- Improve mask command while the mask is actually empty and use reverse of the mask
- Improve moving the electrodes to the appropriate positions to increase accuracy of resistance extraction

VERSION 3.8.36

NEW FEATURES

- Add multiprocessing for long wire resistance extraction
- Interface with HIPEX-Net for netlist extraction

ALTERATIONS AND ENHANCEMENTS

- Interface RC matrix solver with the dynamic solver library
- Improve geometrical conformal deposition and geometrical etching of multilayer materials with angled side walls
- Improve the undercut function

VERSION 3.8.35

NEW FEATURES

- Add new defect layer to a given gds file
- Add multilayer angled etching function

ALTERATIONS AND ENHANCEMENTS

- Improve convergence of resistance extraction algorithm
- Change orientation for angled etching
- Improve undercut function

VERSION 3.8.31

ALTERATIONS AND ENHANCEMENTS

- Improve geometric conformal deposition
- Enhance etching with angled side walls

VERSION 3.8.30

ALTERATIONS AND ENHANCEMENTS

- Improve the function in saving the log file when performing capacitance extraction more than once with capsolver=1
- Improve CAPaccuracy for capsolver=1

VERSION 3.8.29

ALTERATIONS AND ENHANCEMENTS

- Enhance physical etching and deposits
- Improve geometrical conformal deposition