

MBP 2008.2.0 Enhancement and Improvement

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OVERVIEW

- Engine and lib parser improved to support 45nm model library
- Latest PSP and HISIM_HV version update
- New powerful and flexible Measurement module
- Task tree improved to be more efficient and robust
- Other handy new features

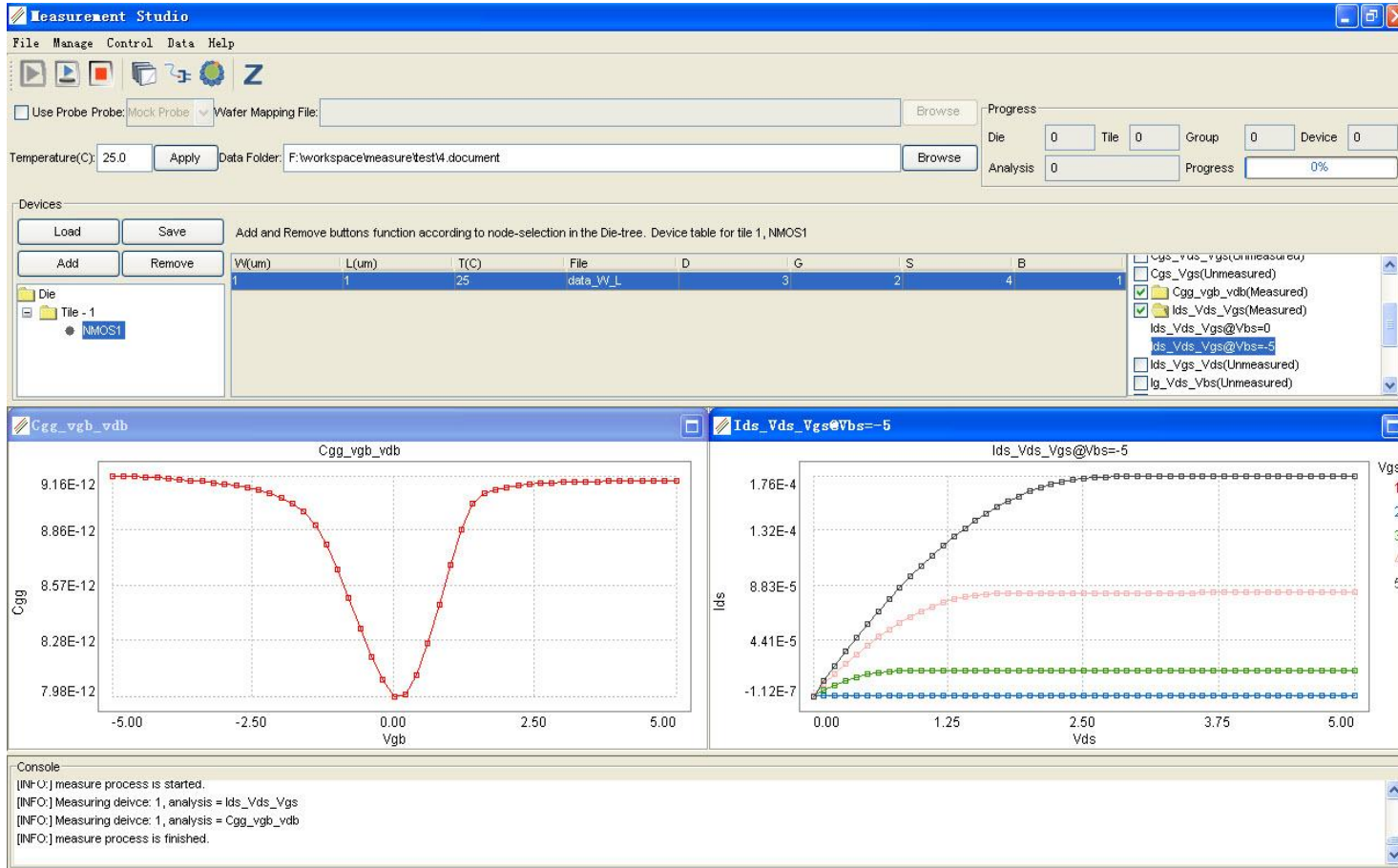
What's new in MBP2008.2.0

- Great improvement on internal engine
 - Parse and tweak 45nm technology model library directly in MBP2008.2.0
 - Improve subckt model simulation capability
 - Support more HSPICE functions and elements
 - Latest model version support
 - PSP 102.3
 - HISIM_HV 1.0.2
 - Task tree speed improved

What's new in MBP2008.2.0

- Device Characteristic Program (DCP)
 - Powerful new measurement module with more flexibility
 - Open structure provides user defined instrument driver, device type and analysis
 - Support meters, switch matrix and probe station to measure whole wafer or specific devices
 - Automatically save user inputs and internal debugging support

Device Characteristic Program (DCP)

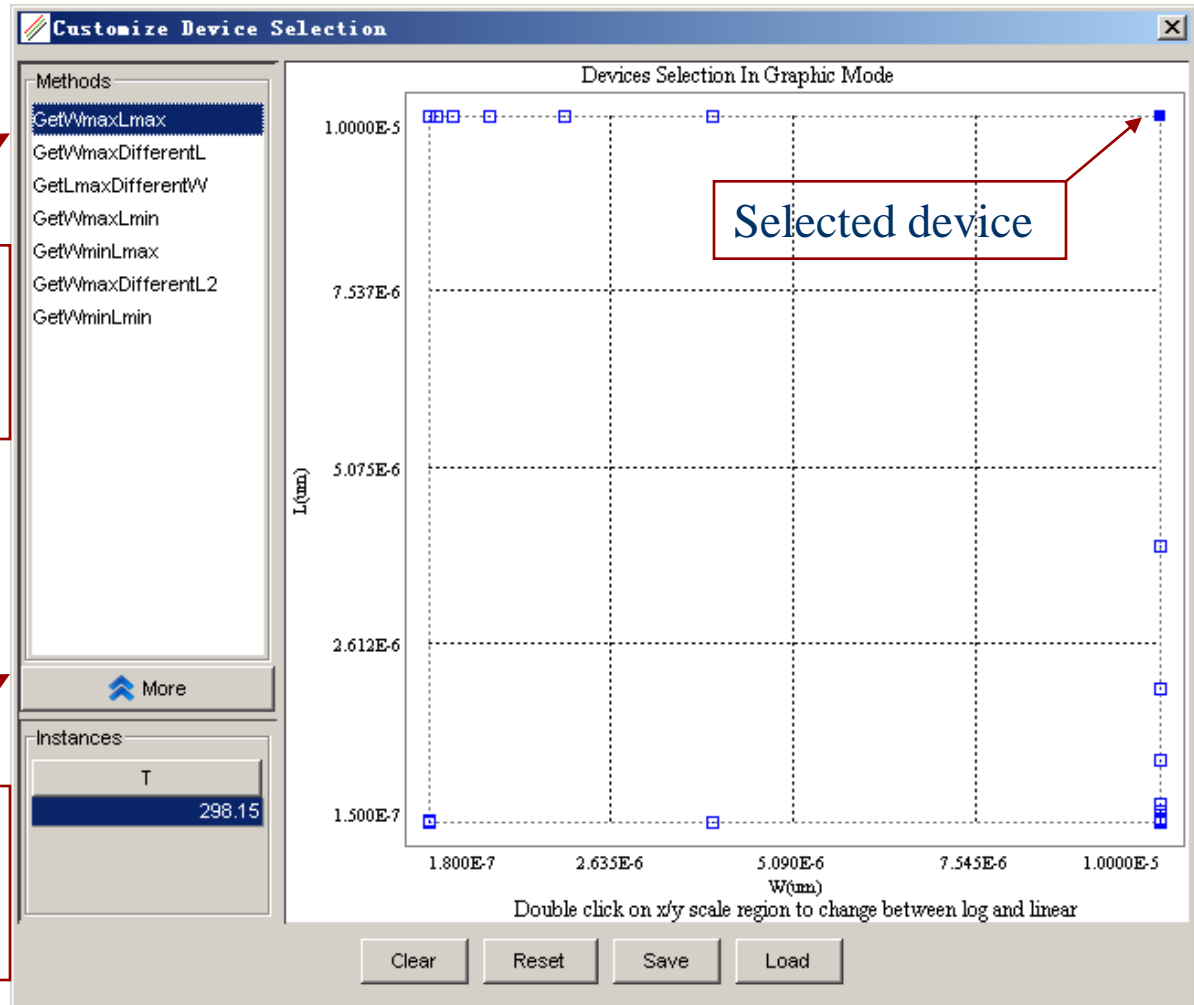


DCP main GUI

What's new in MBP2008.2.0

- Task tree device selection
 - A device selection window will pop up when start a task tree, user could check or re-define the device selection by MBP default such as WmaxLmax, WmaxLarray, etc for the auto extraction flow
 - To make the auto extraction flow more suitable for user's own data set
 - Allow user to save the definition to a setting file and load for other projects

Customize Device Selection



Device selection for specific methods in task tree

Advanced selection for more method used in task tree

What's new in MBP2008.2.0

- New PSP task tree provides Local to Global approach for PSP model auto extraction flow
- IMV pages capability improved
 - New target definition, expression support for restrictions
 - For example, $vds=vdd/2$, $vds<vgs$, etc
 - New plot type, two p axis support
 - For example, $p=vds$, vgs
- Other handy features

Extend simulation

- Support extend simulation on both X and P axis

Extend Simulation

Extend Setting : **-Vds (V)**
Start: 1.5 Stop: 1.8 Step: 0.03

Apply To : ids_yds_vgs (W=10 L=10 T=25 Vps=1 Ves=0) Add Clear

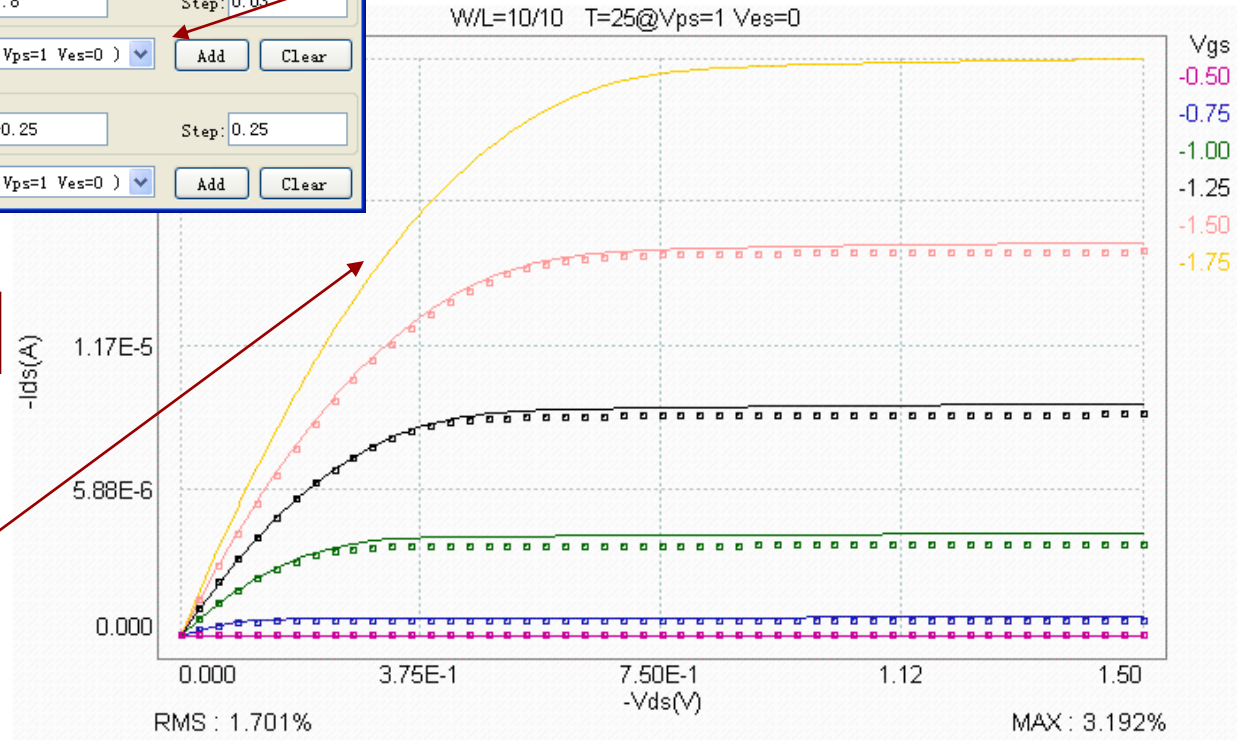
Extend Setting : **vgs**
Start: -0.25 Stop: -0.25 Step: 0.25

Apply To : ids_yds_vgs (W=10 L=10 T=25 Vps=1 Ves=0) Add Clear

Apply to one page or all corresponding pages

Extend on Vds or Vgs

New simulation curve

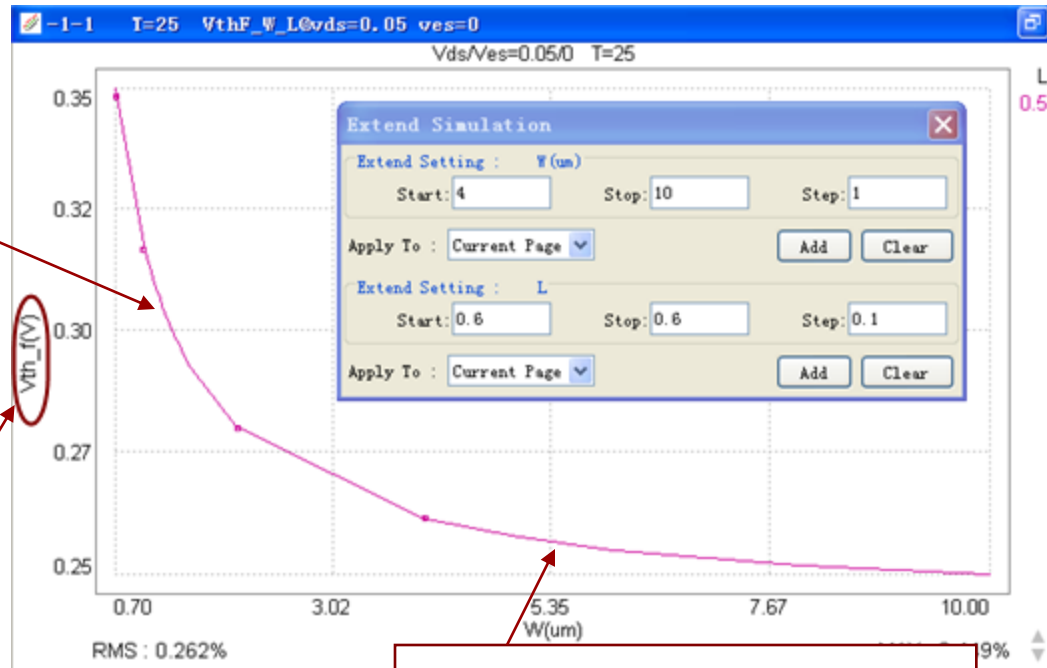


FB IMV & Extend simulation

- Add FB device to the default IMV pages with the postfix “f”
- Allow extend simulation in IMV pages

Extend to more simulation points between two measure points

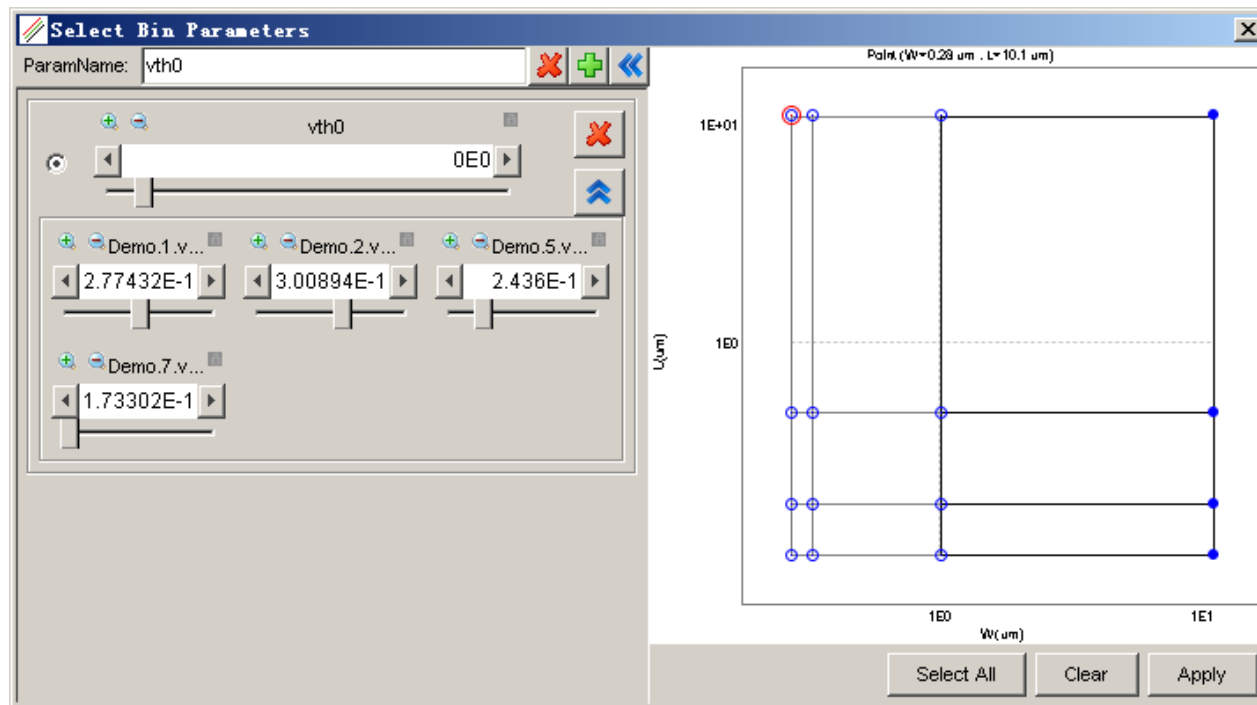
FB devices on IMV pages



Extend on W on IMV pages

Binning model tweaking

- New feature in Binning model tweaking allow user to tweak the same parameter for a set of point together
 - In point mode, right-click on one parameter and select “select bin param”



Error Table

- Improved Error Table
 - Update real time when parameter changes
 - Add Relative/Absolute Error selection
 - Make the legends more clear: with second variables

vgs	-ids(mes)@vps=0	-ids(sim)@vps=0	-ids(error)@vps=0
0	2.421684E-10	-2.225059E-10	-8.119%
-0.03	4.504198E-10	-4.21909E-10	-6.33%
-0.06	8.050503E-10	-7.666792E-10	-4.766%
-0.09	1.387512E-9	-1.340126E-9	-3.415%
-0.12	2.320122E-9	-2.268288E-9	-2.234%
-0.15	3.792294E-9	-3.747876E-9	-1.171%
-0.18	6.105878E-9	-6.094957E-9	-0.179%
-0.21	9.751776E-9	-9.828098E-9	0.783%
-0.24	1.553638E-8	-1.580791E-8	1.748%
-0.27	2.477985E-8	-2.546078E-8	2.748%
-0.3	3.959589E-8	-4.110316E-8	3.807%
-0.33	6.321502E-8	-6.632773E-8	4.924%
-0.36	1.002225E-7	-1.06299E-7	6.063%
-0.39	1.565013E-7	-1.676951E-7	7.152%

Others

- User could set the ratio for extending bin boundary when generate binning model
- User could customize the layout by *Tool* → *Layout* → *Customize*
 - Add the column and row number of plot to the setup window
- User could set the precision for model saving and simulation by the new button in the parameter window