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Agilent Technologies

MBP

Multiple Simulations in MBP

Application Note

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Multiple Simulations in MBP

Application Note

This application note describes how to compare two or more different models in Model Builder Program (MBP). **Note:** This document was originally released for MBP V2011.1.0 in July 2011.

Introduction

MBP provides an option to plot two or more models (including binning models) on screen at the same time. This feature is specifically designed for modeling engineers tuning or comparing different models.

This document introduces the steps and options to running a multiple simulation. For more information go to www.agilent.com/find/eesof or contact your local Agilent office. The complete list is available at: www.agilent.com/find/contactus.

Double Simulation

MBP features a double simulation function that can be used to compare two models—the models before and after tuning—by plotting their simulation results on screen at the same time (Figure 1).

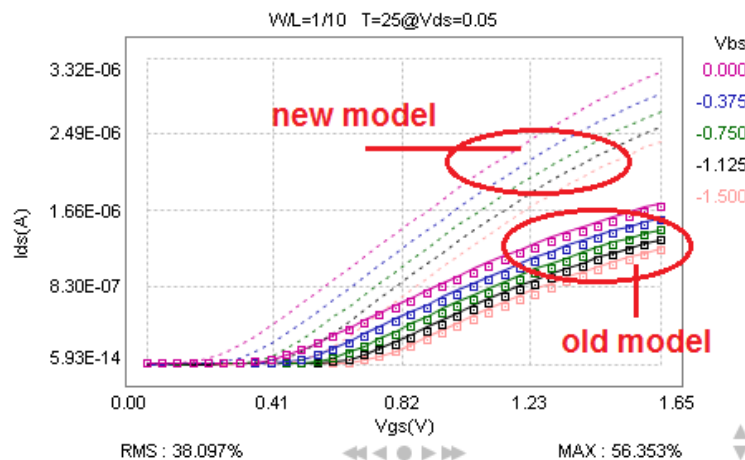


Figure 1. Double simulation result

This function is enabled by clicking *Simulation -> Double Sim* from the main menu or pressing the *Ctrl* and *R* buttons on the keyboard at the same time. After that, two new icons ("Cancel" and "Confirm") are added to the optimization pane, as shown in Figure 2. You can then easily compare the results of the two models.

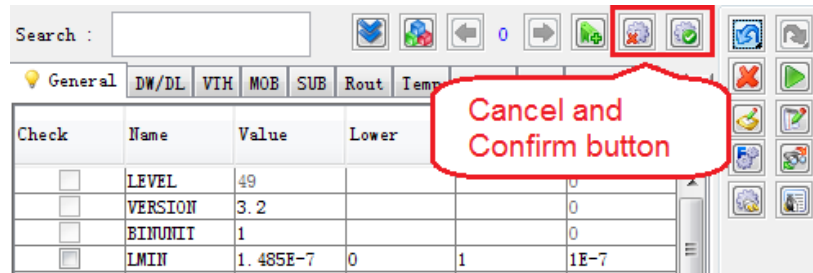


Figure 2. Cancel and confirm icons

The old (original) model is represented by the solid line and cannot be modified. When one tunes a parameter, the new (current) model, which is represented by the dotted lines, becomes active and changes with the parameter.

On clicking the "Confirm" icon, the new model is kept. MBP then updates the old model using the parameters of the new model, as shown in Figure 3a. On clicking the "Cancel" icon, MBP reverts back to the old model as the current model, as shown in Figure 3b.

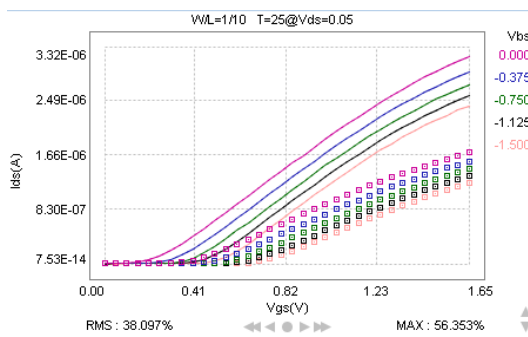


Figure 3a. Confirm to use the new model

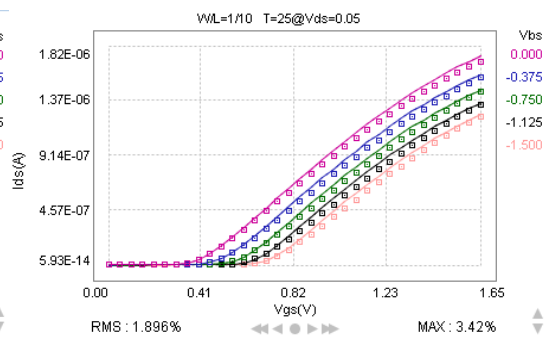


Figure 3b. Cancel to use the old model as the current

When the double simulation functionality is in use and you want to save the model, only the new model gets saved. In case you quit the double simulation after some adjustment, MBP deletes the old model (solid one) and uses the new one (dotted one) as the current model.

Multiple Models Comparison

In addition to performing double simulation, MBP also allows you to compare multiple models. The model manager interface is located at the bottom-left corner of the main graphical user interface (GUI), as shown in Figure 4. There are five icons at the top of this model manager. From left to right, they are: "Add Model," "Remove Model," "Compare," "Save Version," and "Hide." A model list is located under these icons. All models added to MBP can be found here. Model cards can be loaded into the model manager. In case you want to load a model library, it can be done by choosing *Utilities* -> *Lib Parser* from the main menu.

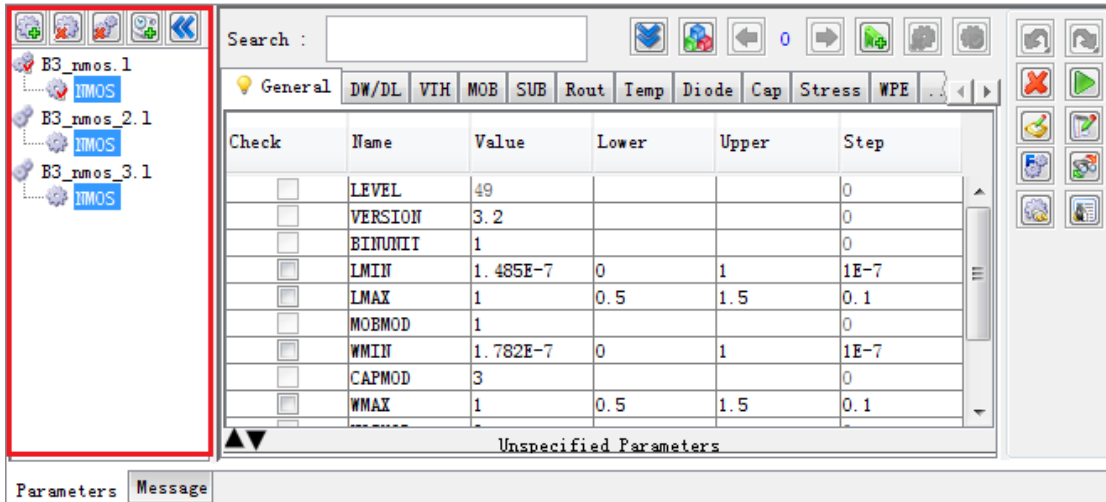








Figure 4. Model manager interface

The "Hide" icon , as the name indicates, is used to minimize the model manager interface. The "Add Model"  and "Remove Model"  icons are for loading/removing models into/from the model manager. The "Compare" icon  is used to compare models in the model manager.

You can select multiple models (at least two) by clicking the models while pressing the *Ctrl* button on the keyboard. Next, click the "Compare" icon. The results can be viewed on the plot panel as shown in Figure 5. Note that during the comparison the "Compare" icon  becomes the "Drop Compare" icon .

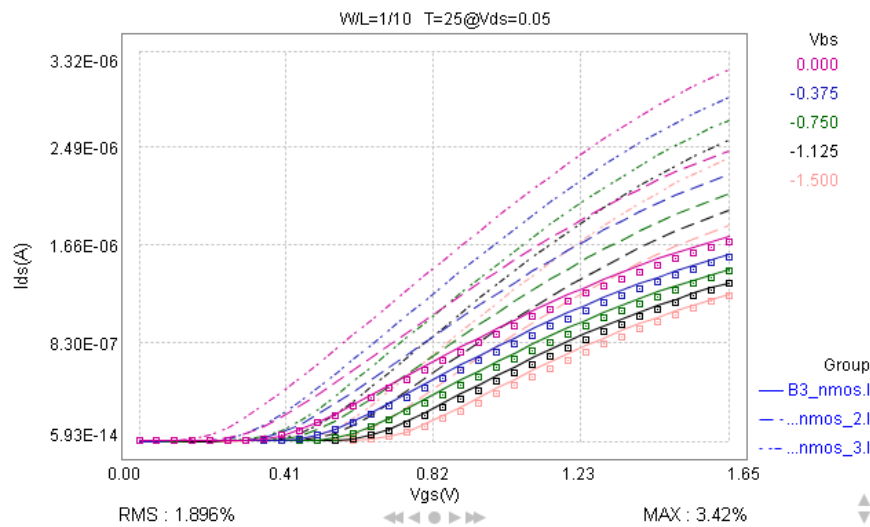


Figure 5. Multiple models comparison

From Figure 5, you can then observe the simulation results of three different models. The legend showing line symbols and the corresponding model names can be found at the bottom right corner of the screen.