

MQA Release note

For version 2008.3.0

2009.1.18



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What's New

➤ Lib Explorer

- Turnkey solution for full model library characterization.
- Verified by real 45nm technology models.
- Greatly reduce learning curve and improve efficiency.
- Easy model corner QA.

➤ Measurement QA

- Quick QA for measurement data.

➤ Accuracy Check

- Quick QA measurement data with model library.

➤ Support Smart Spice

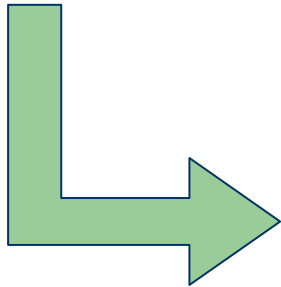
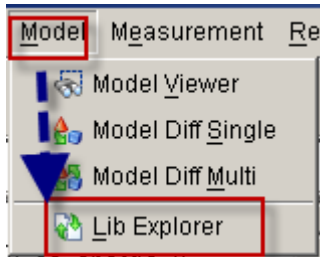
- Support simulator – smart spice

What's New II

- **Context Sensitive Help**
 - Online help . Quick search .
- **Support Hisim243, HisimHV, PSP**
 - Support HSPICE level68, level73,level69.
- **Load/Save ProjectList, TreeList, ReportPrjList**
 - Easily manage project tree. Project list.
- **Enhanced report generation (Open Office, Excel Image+ Chart)**

Lib Explorer

Please refer to MQA user manual chapter 4.15.



The screenshot shows the 'Lib Explorer' application window. The 'Corner View' tab is active, displaying a tree view of models under 'Hb3v3'. The 'nch' model is selected. The 'ModelInfo Setting' panel is open, showing various settings for the 'nch' model.

ModelInfo Setting

Copy Setting From... Map Setting To...

Corners

Corner	Alias	Refer	Setting	MonteCarlo
TT	TT	TT	<input checked="" type="checkbox"/>	<input type="checkbox"/> -1
SS	SS	SS	<input type="checkbox"/>	<input type="checkbox"/> -1
FF	FF	FF	<input type="checkbox"/>	<input type="checkbox"/> -1
SF	SF	SF	<input type="checkbox"/>	<input type="checkbox"/> -1
FS	FS	FS	<input type="checkbox"/>	<input type="checkbox"/> -1

Properties

Corner Name: TT
 Model Name: nch
 Model Alias: nch
 Device Type: NMOS
 Model Level: 49
 Node Number: 4

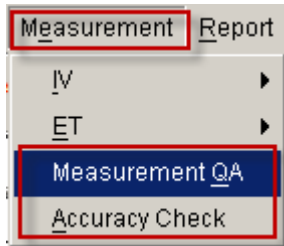
Constant

Name	Value	Unit	Description	Action
Vdd	3.3	V	work drain voltage in ...	Add
Vgg	3.3	V	work gate voltage in ...	Edit
Vbb	-3.3	V	work body voltage in ...	Remove
Tmin	-40.0	C	min temperature	Bin Map
Tnom	25.0	C	nominal temperature	
Tmax	125.0	C	max temperature	
G_lmin	0.35	um	min channel length in ...	
G_lmax	20.01	um	max channel length i...	
G_wmin	0.4	um	min channel width in ...	
G_wm...	200.1	um	max channel width in...	
DeltaV	0.0	um	L adjustment	Set Path
DeltaL	0.0	um	W adjustment	Save
Ic0n	1.0E-7	A	Intercept current for ...	Load
Vd_lin	0.1	V	min drain voltage in r...	

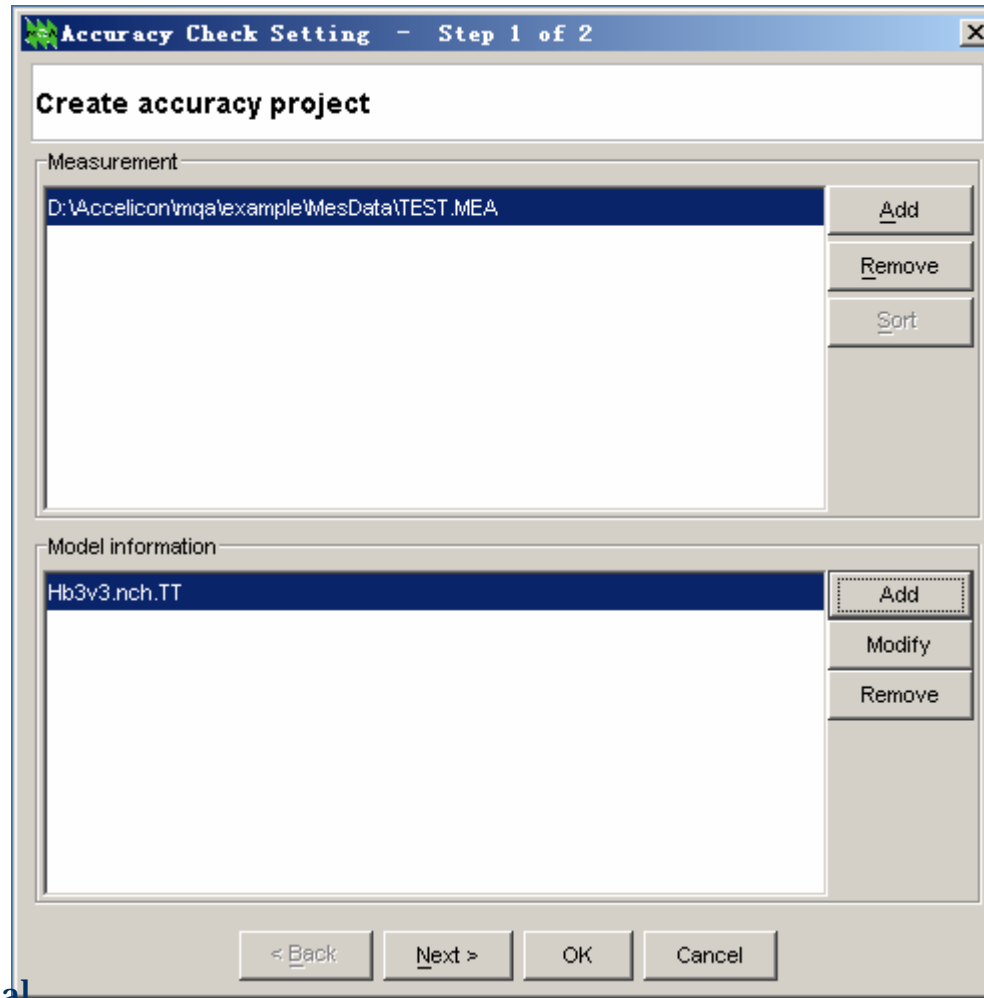
► Simulation Option

Measurement QA (Accuracy check)

Please refer to MQA user manual chapter 4.16 and 4.17

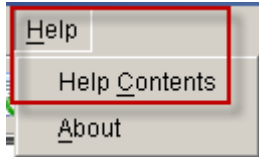


Quick , and
Simple
Measurement
based QA.



Context Sensitive Help

Please refer to MQA user manual chapter 2.8



Online Help:
Options ...
Report....
How to ...

A screenshot of the MQA software interface. The left pane shows a tree view with 'Default' selected under 'Absolute RMS'. The main window displays the title 'Default' and the text 'Default absolute RMS algorithm in MQA:'. Below this is the error function equation:
$$Err(i) = |D\ spice(i) - D\ meas(i)|$$
 and the RMS formula:
$$RMS = \sqrt{\frac{\sum_{i=1}^n Err(i)^2}{n}}$$
 At the bottom, a 'NOTE:' section contains two points: 1. $|D\ meas(i)| < Resolution$: ignore this point 2. $|D\ meas(i)| < cutoff$: use cutoff instead of $D\ meas(i)$

Improvements

- CheckCross, add Xstart/Xstop/Ystart/Ystop properties
 - Please refer to MQA user manual chapter 2.8
- Improve Licensing function, smooth V10 and V11 QA/FlexIm
 - no need care of license version.
- Wrapper to startup MQA (Linux, Sun workstation)
 - start MQA by path.
 - No need set MQAHOME again.
 - No need “mqa.cshrc”& “mqa.profile”.

Improvements II

- “DisableBoundaryCheck = 1” disable model boundary (Width,Length) check when create QA project.

- Add the following lines into “mqa.ini” file.

- ```
[general]
```

- ```
DisableBoundaryCheck = 1
```

- **Montecarlo rule improvement.**

- To active montecalo rule, please add the following line into rule file.

- ```
[common]
```

- ```
montecarlo=yes
```

Bug Fix

- Fix a bug of “long model name” in graph.
- Fix unit mapping problem.
- Fix load model library problem.

Know issues

- MQA only support Open Office Version 2.4 or up.