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MBP 2014.04
HF3

MBP 2014_04 Hotfix Release Notes

KEYSIGHT TECHNOLOGIES

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MBP 2014.04 700.HF3 September 10, 2015
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MBP 2014.04 HF3 Release Notes

Version

700.HF3

Platform Support

Windows and Linux

Enhancements

- BSIMCMG model support enhancement
  - IMV calculator: Support NFIN in parameter scale.
  - Export Virtual Data: Support NFIN and TFIN as instance.
  - Binning: Support binning capability of BSIMCMG.
- BSIMIMG model support enhancement
  - Support BSIMIMG 102.6.1.
  - Update demo data.
  - Update default model.
  - Update DC extraction flow.
- Model and Internal Engine
  - Support UTSOI version 2.1.
  - Support MOSVAR 1.3.0.
  - Support R3 model equation viewer.
  - Support to assign CV frequency in Extraction -> Options -> Spice Options.
  - Support noise extraction flow for BSIM3.
- GUI enhancement
  - Add default Delta/Radio math transform.
  - Keep the preset blank page when reload project.
  - Add a confirm window for Ctrl+E.
  - Add Shift+M shortcut for adding new model.

- Utilities – Corner model
    - Support subckt model.
    - Support other model types besides MOSFET.
- Report
    - Support ‘Sort by device’ to add page break for each device in Export ->Export Graph -> Advanced.

Issues Fixed

- Engine
    - Fixed BSIMCMG 106.1 and 107 noise simulation issue.
    - Fixed BSIMSOI4 equation viewer bug for noise simulation.
    - Fixed BSIM4.5 equation viewer bug for Bulk equation.
    - Fixed Spectre diode simulation bug.
- Model and Data loader
    - Fixed VerilogA model project reload issue.
    - Fixed incorrect database query issue.
    - Fixed icdblink issue occupying CPU resource when closing the program.
- GUI
    - Pin: Fixed pin runs away issue when adding devices.
    - Bin&Point selector: Fixed bin issue displaying incorrect position.
    - Double simulation: Double simulation set to confirmed when opening error monitor.
- Script
    - CMD.setPlotLayout is not displayed on the popup list.

MBP 2014.04 HF2 Release Notes

Version

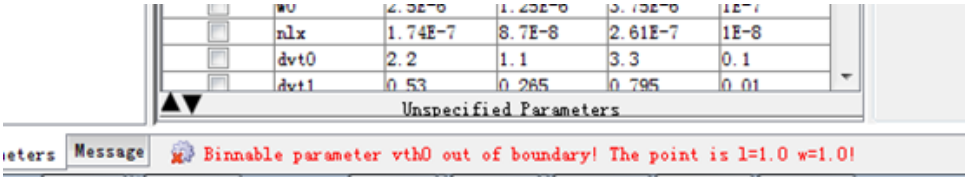
700.HF2

Platform Support

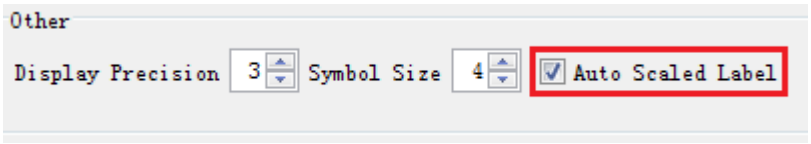
Windows and Linux

Enhancements

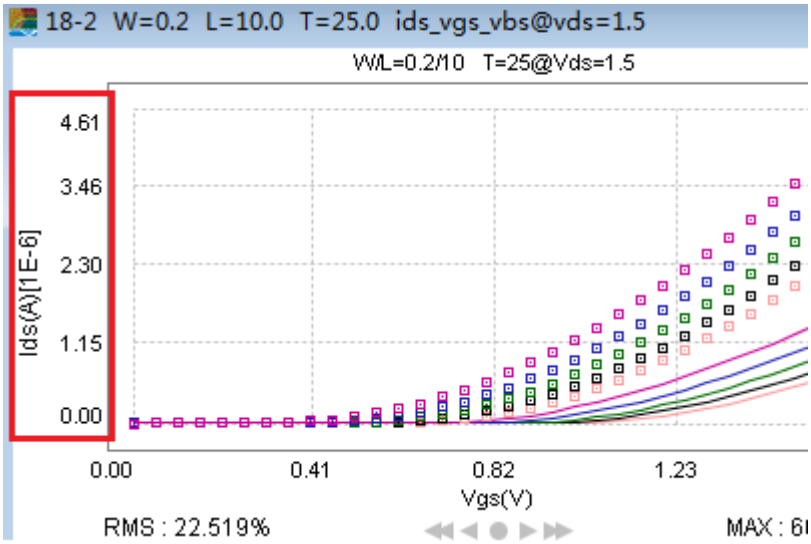
- Support BSIMCMG 108.0 by internal engine.
- Support PSP 102.5, PSP 103.3 by internal engine.
- Show parameter boundary check message in the bottom of MBP window.



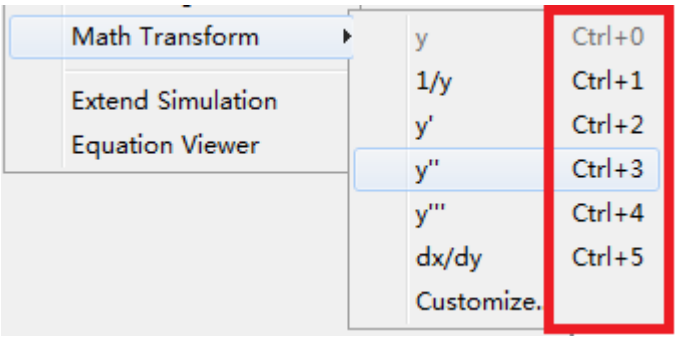
- Auto Scaled Label option in “Tool->GUI Options->Plot Details”.



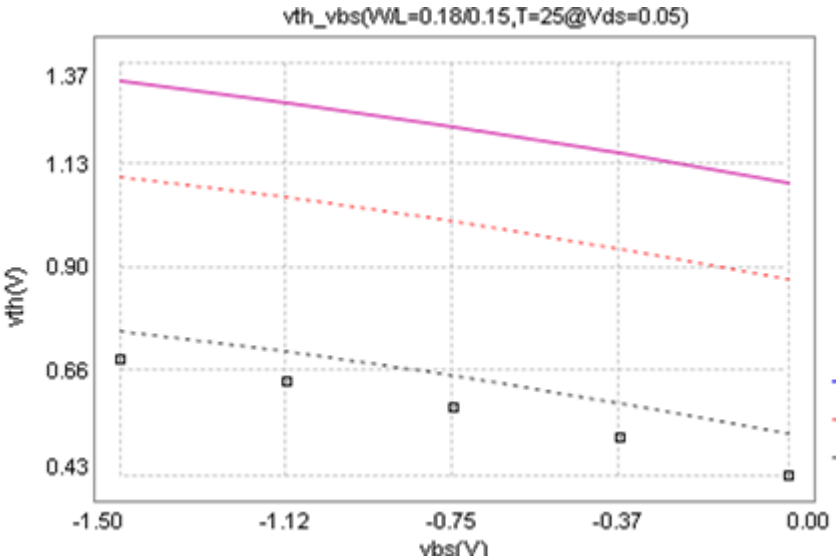
This option will change the label appearance:



- Short cut key for math transform.



- New Short cut key Ctrl+x for X-Log/Linear and Ctrl+y for Y-Log/Linear.
- Popup a warning dialog when “Remove Current Screen” and “Remove All Screens”.
- Support “Map the Data Range” option for IMV pages from right click menu “Data Range Settings”.
- For model comparison, if the graph doesn’t contains P axis, it will show different color for different models.



- Save P axis selection in MBP reviewer.

Issues Fixed

- Fix simulation results difference between Hspice and internal engine in BSIMSOI 4.4 when rdsw<0.
- Fix a generic defect for BSIM6, BSIMCMG and BSIMIMG.
- Fix PSP gate current problem.
- Fix issue of equation viewer shows wrong result sometimes, such as *E66, *E-301.
- Add instance parameter dtemp to BSIMCMG 105.02 and 105.03 model.
- Fix PSP 103 simulation issue on parameter qmc.
- Fix parameter lam1 does not work for JFET.
- Script editor can’t be opened on some version of Linux.
- Pin flies away sometimes.

- Spectre to hspice conversion doesn't support '==' for macro model.
- Defect of bin point selection.

Known Issues

MBP/MQA Fails

When MBP/MQA fails, the following error message is displayed:

```
Exception in thread "main" java.lang.UnsatisfiedLinkError: /home/zz/Agilent
/MBP_2014_04_HF2/libSpiceEngine.so: /home/zz/Agilent/MBP_2014_04_HF2/libstdc++.so.6:
version `GLIBCXX_3.4.9' not found
```

Solution:

1. Download libstdc++.so.6.0.13 (RHEL5 and RHEL6 need libstdc++.so.6.0.13, RHEL4 need libstdc++.so.6.0.10) from web.
2. Save it at */usr/lib* folder.

   NOTE Only users logged in as Administrator can save.

3. Link libstdc++.so.6.0.13 to libstdc++.so.6, as depicted below. By default, it is linked to libstdc++.so.6.0.8.

```
[zz@condor lib]$ pwd
/usr/lib
[zz@condor lib]$ ll libstdc++.so.6*
lrwxrwxrwx 1 root root     19 Mar 18 16:38 libstdc++.so.6 -> libstdc++.so.6.0.13
-rwxr-xr-x 1 root root 950392 Mar 18 16:32 libstdc++.so.6.0.10
-rwxr-xr-x 1 root root 975012 Mar 18 16:40 libstdc++.so.6.0.13
-rwxr-xr-x 1 root root 936908 Sep 18  2014 libstdc++.so.6.0.8
[zz@condor lib]$
```

Sample libstdc++.so.6.0.13 file

```
[zz@condor so]$ ls
libstdc++6_4.4.5-8_amd64.deb  libstdc++6_4.4.5-8_i386.deb
[zz@condor so]$ ar -x libstdc++6_4.4.5-8_amd64.deb
[zz@condor so]$ ls
control.tar.gz  debian-binary                 libstdc++6_4.4.5-8_i386.deb
data.tar.gz     libstdc++6_4.4.5-8_amd64.deb
[zz@condor so]$ tar -xvf data.tar.gz
./
./usr/
./usr/share/
./usr/share/doc/
./usr/lib/
./usr/lib/libstdc++.so.6.0.13
./usr/share/doc/libstdc++6
./usr/lib/libstdc++.so.6
[zz@condor so]$ cd ./usr/lib/
[zz@condor lib]$ ls
libstdc++.so.6  libstdc++.so.6.0.13
[zz@condor lib]$
```

The sample file (above) highlights the unzip command in red that you can use to extract the contents. If the extracted file is not compatible with your system, please download it from web.

RHEL 6-64 Bit Machine Issues

When running MBP/MQA on RHEL 6-64 bit machine, you might encounter either of the following issues:

NOTE The messages displayed in the below issues are of MQA and would vary for MBP.

1. Cannot found " libstdc++.so.6".

```
[regress@eagle autotest]$ ldd ~/Agilent/MQA_2014_04_HF2/bin/libacclib.so
        linux-gate.so.1 =>  (0x00b0c000)
        libstdc++.so.6 => not found
        libdl.so.2 => /lib/libdl.so.2 (0x00ea3000)
        libpthread.so.0 => /lib/libpthread.so.0 (0x008e5000)
        libm.so.6 => /lib/libm.so.6 (0x00413000)
        libgcc_s.so.1 => /lib/libgcc_s.so.1 (0x00c08000)
        libc.so.6 => /lib/libc.so.6 (0x00140000)
        /lib/ld-linux.so.2 (0x004e5000)
```

Solution:

Set the value of LD_LIBRARY_PATH to *~/$MQAHOME/bin*, as depicted below:

```
LD_LIBRARY_PATH=/usr/lib:$MQAHOME/bin
export LD_LIBRARY_PATH
```

By default, libstdc++.so.6 is installed at */usr/lib64* location. And MQA being a 32-bit application cannot use 64-bit libraries.

2. Missing ksh.

Error Message:

```
[regress@eagle ~]$ mqa
/home/regress/.mqa_set/recentpath.ini does not exist!
sh: /home/regress/Agilent/MQA_2014_04_HF2/bin/aglmwizard: /bin/ksh: bad interpre
ter: No such file or directory
```

Solution:

Create a link between ksh and bash, using `ln –n bash ksh` command, as depicted below:

```
[root@eagle bin]# pwd
/bin
[root@eagle bin]# ln -s bash ksh
```

3. Missing libraries - “libz.so.1” “libXext.so.6” “libXtst.so.6” “libfreetype.so.6” , “libGL.so.1”, “libXrender.so.1”, “libfontconfig.so.1” “libSM.so.6”.

Error Message:

```
[regress@eagle ~]$ qa -v
*(R) MQA
*(R) Keysight Technologies Inc.
aglacclk.exe: error while loading shared libraries: libz.so.1: cannot open share
d object file: No such file or directory
#Err:Failed to check out license
#Errmsg=
#Err:Failed to apply license for MQA!
[regress@eagle ~]$ mqa
Exception in thread "main" java.lang.UnsatisfiedLinkError: /home/regress/Agilent
/MQA_2014_04_HF2/jdk1.6.0_33/jre/lib/i386/xawt/libmawt.so: libXext.so.6: cannot
open shared object file: No such file or directory
        at java.lang.ClassLoader$NativeLibrary.load(Native Method)
        at java.lang.ClassLoader.loadLibrary0(ClassLoader.java:1807)

[regress@eagle ~]$ mqa
/home/regress/.mqa_set/recentpath.ini does not exist!
aglmwizard_exe: error while loading shared libraries: libfreetype.so.6: cannot o
pen shared object file: No such file or directory
[regress@eagle ~]$ mqa
/home/regress/.mqa_set/recentpath.ini does not exist!
aglmwizard_exe: error while loading shared libraries: libGL.so.1: cannot open sh
ared object file: No such file or directory
[regress@eagle ~]$ mqa
/home/regress/.mqa_set/recentpath.ini does not exist!
aglmwizard_exe: error while loading shared libraries: libXrender.so.1: cannot op
en shared object file: No such file or directory
[regress@eagle ~]$ mqa
/home/regress/.mqa_set/recentpath.ini does not exist!
aglmwizard_exe: error while loading shared libraries: libfontconfig.so.1: cannot
 open shared object file: No such file or directory
[regress@eagle ~]$ mqa
/home/regress/.mqa_set/recentpath.ini does not exist!
aglmwizard_exe: error while loading shared libraries: libSM.so.6: cannot open sh
ared object file: No such file or directory
```

Solution:

a. Locate the package containing `libz.so.1`, using `yum whatprovides libz.so.1` command. The command execution, displays the following depicted results.

```
[regress@eagle Desktop]$ yum whatprovides libz.so.1
Loaded plugins: fastestmirror, refresh-packagekit
Determining fastest mirrors
base                                                     | 3.7 kB     00:00
extras                                                   | 3.4 kB     00:00
update                                                   | 3.4 kB     00:00
http://centos.ustc.edu.cn/centos/6/updates/x86_64/repodata/31c4944c6f4e64395d2a0
e12cd6de23cae7da4612aeebd9cfab12241a2e338ea-primary.sqlite.bz2: [Errno 14] PYCUR
L ERROR 22 - "The requested URL returned error: 404 Not Found"
Trying other mirror.
zlib-1.2.3-29.el6.i686 : The zlib compression and decompression library
Repo        : base
Matched from:
Other       : libz.so.1
```

a. Install 32bit zlib, using `yum install zlib-1.2.3-29.el6.i686` or `yum install –y zlib-1.2.3-29.el6.i686` commands as Administrator.

```
[root@eagle ~]# yum install zlib-1.2.3-29.el6.i686
Loaded plugins: fastestmirror, refresh-packagekit
Setting up Install Process
Loading mirror speeds from cached hostfile
Resolving Dependencies
--> Running transaction check
```

MBP 2014.04 HF1 Release Notes

Version

700.HF1

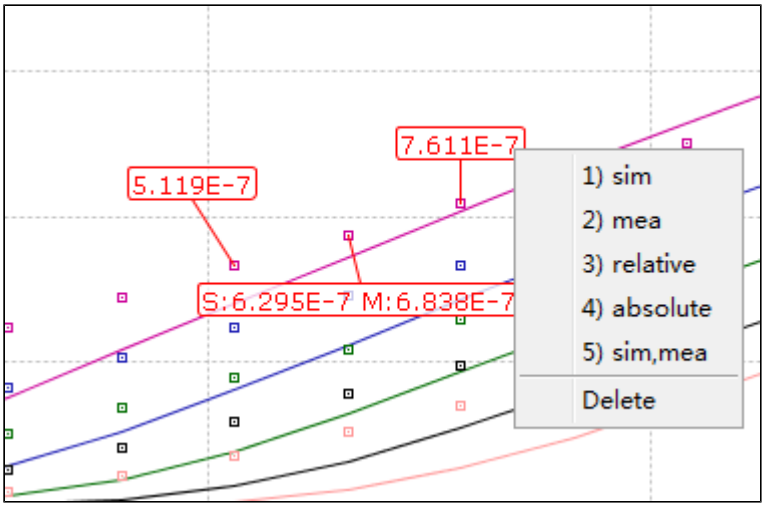
Platform Support

Windows and Linux

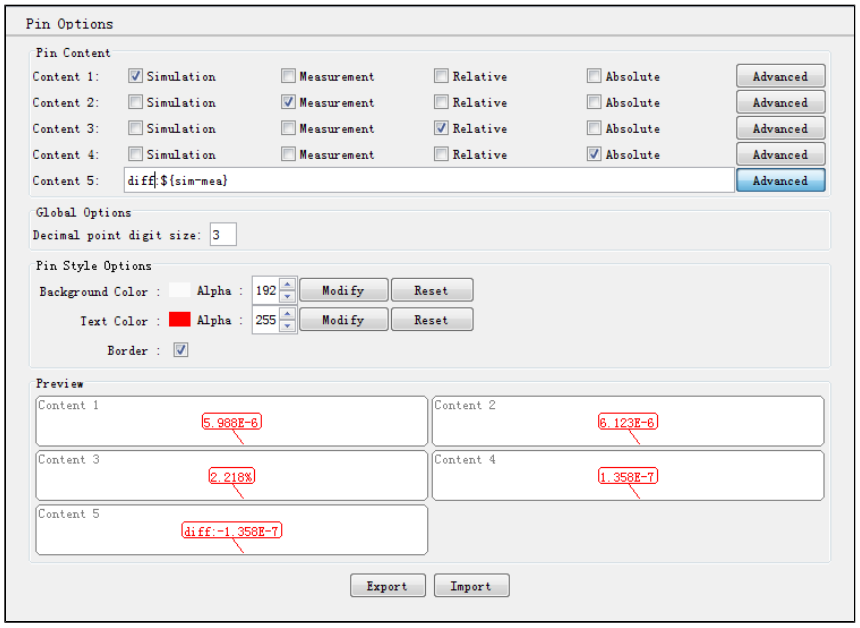
Enhancements

- Support HiSIM2.80 by internal engine.
- Support HisimHV 2.20 by internal engine.

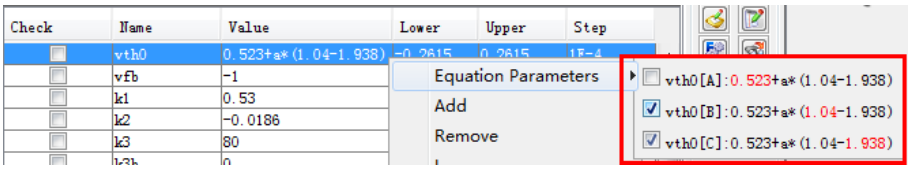
- Pin function enhancement
  - Save Pin information to project.
  - Support drag the pin on GUI and right-click to switch or delete pin information.



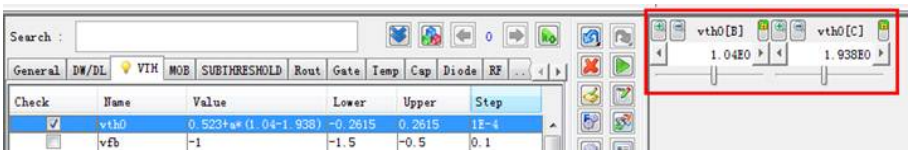
  - Support customized pin contents and simple math expression (**Tool > Preferences > Graph View Options > Pin options**)
    - User-defined pin display order and content.
    - Support advanced definition with simple math expression.
    - Pin display show style can show border or not.
    - Pin display style preview function.
    - Export and import pin configuration file.



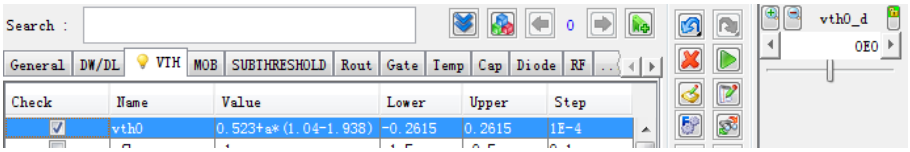
- Parameter equation editor
  - Right-click on the parameter to tune – Equation Parameters – Enable the tweak items of equation:



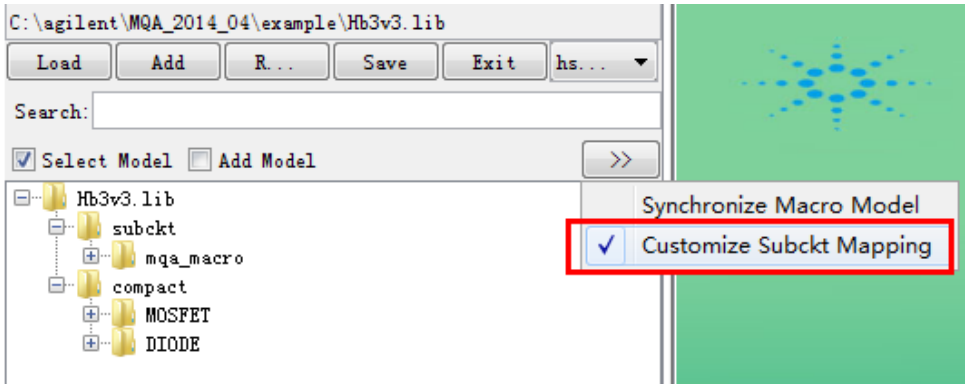
When select the parameter, all the enabled items will be shown and able to tune.



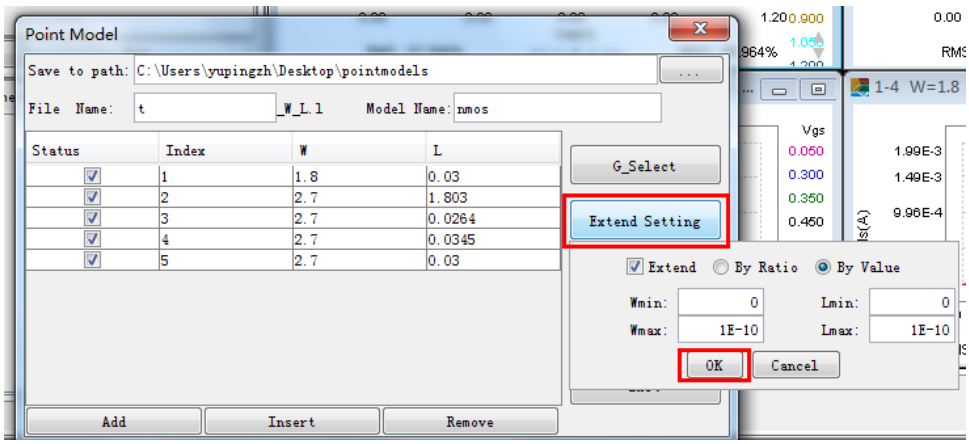
  - If the equation parameters are not enabled, the selection of parameter still displays the delta value, as before:



- Add Apply button on Layout Customization window.
- MBP reads 2 pmos mdm data files but show different curve trend for Isub.
- New Lib Parser option: if Customize Subckt Mapping is disabled, the subckt mapping window won't pop up on model selection. (It is enabled, by default).



- New Point Model Utility option: Support extends point Wmin/Wmax/Lmin/Lmax by ratio or value.



- New option in “Statistical Graph Config”: If user enables “Split Separately”, the measurement display won’t be changed, when the simulation changed. Note that it will cause the bin widths differently between simulation and measurement. (It is disabled, by default).
- Support right-click and save data table to CSV.
- Support WAT and DP show in same page.

Issues Fixed

- Fixed load data can’t exceed 100 files issue. Data file limitation is 30M and warning message will pop up when trying to load large data.
- Fixed "Template Format (using the original model card's format)" saving issue on subckt model.
- Fixed simulation results are different for internal hspice and spectre engine for Zener diode model.
- Fixed Lib Parser load model library with last number of parameters speed issue.