

# Release Notes - ADS 2009 Update 1 Hotfix (351.515)

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*Release 04 October 2010*

## **Name**

hotfix\_20100817\_ads2009u1

## **Version**

351.515

## **Platform Support**

Windows and Linux only.

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## Description

This hotfix addresses various issues of ADS 2009 Update 1 in the areas including Simulation, Momentum, Desktop LVS, Licensing, DDS and Design environment.

## Simulation issues addressed

- EDA00221800 - Sa=0 is supported in BSIM models.
- EDA00225430 - HB analysis convergence issue with BSIMSOI models is addressed.
- EDA00221231 - Correct DC simulation results will be generated while using X-parameter models obtained from an NVNA.
- EDA00222280 - Error with HSPICE .SETSOA option is removed.
- EDA00222282 - HSPICE syntax: Single backslashes in strings are handled properly.
- EDA00221756 - Simulation gets completed successfully even if the design consists of a shorted voltage source of 0 volts.
- EDA00221883 - Gain problem with FFE implementation in channel simulator adaptive equalization in addressed.
- EDA00220267 - BSIMSOI 4.3 model is supported.
- EDA00219998 - Swept Ptolemy simulation using Fast Cosim will generate behavioral model only once.
- EDA00221153 - ADS results with BSIMSOI models are corrected.
- EDA00221587 - Nominal value of optimization enabled variable changed, even when variable marked as "noopt".
- EDA00221176 - Performance issues with Ptolemy circuit cosimulation are addressed.
- EDA00223220 - Memory leak issue when processing custom functions on schematic is addressed.
- EDA00220182 - RFDE support for IC 6.1.4 is added.
- EDA00204760 - In the envelope simulation involving MLIN components, calculation of DC leak currents is corrected.
- EDA00220533 - Simulations involving user compiled models (UCM) will run properly even in the presence of 3rd party software.
- EDA00220095 - "Negative pclm" errors in transient simulations involving HSPICE files from TSMC kit are corrected.
- EDA00220224 - Optimization Cockpit allows load of pre-defined tune variables into tune window.
- EDA00219468 - X-parameter generation issue with Spectre Netlist is addressed.
- EDA00219186 - Removes the premature channel characterization in channel simulator.
- EDA00219224 - "Nbv" parameter of diode model is handled correctly in HSPICE compatibility mode.
- EDA00219254 - IBIS components: A new parameter "InterpMode" has been added to all IBIS components in order to facilitate user's control of the interpolation technique applied to the IBIS tabular data. The UI has not been modified for the hotfix and, therefore, the following use model is applicable.

1. Select the Display tab of the IBIS component dialog.
2. Select the "Other" parameter to be displayed in the schematic. Click OK.
3. On the schematic window, edit the parameter value field by specifying the new parameter "InterpMode" followed by the equality sign and the desired value for the parameter.
4. The available options include "linear", "cubic" and "spline", specified as a quoted string.

For example, the "Other" parameter may look like: Other=InterpMode="linear".

- EDA00199985 - "hcomp" parameter in diode model is recognized.
- EDA00208040 - Issue related to the disappearance of ADS Dynamic Link and RFDE menus is addressed.
- EDA00207937 - HSPICE Compatibility Wizard is enhanced to import encrypted netlists.
- EDA00219332 - Crash due to Encrypted HSPICE with all DC sources is removed.
- EDA00205206 - Assertion error while running encrypted hspice simulation is removed.
- EDA00207588 - W-element models import speed using HSPICE Compatibility Component Wizard is improved.
- EDA00219873 - Following components from "Sources-Time Domain" palette are supported for Encrypted HSPICE simulation: V\_DC, I\_DC, VtStep, ItStep, VtPulse, ItPulse, VtPWL, ItPWL, VtExp, ItExp, VtSine, ItSine, VtSFFM, ItSFFM, VtBitSeq, Vt\_LFSR\_DT

Following components are unsupported: VtUserDef, ItUserDef, VtDataset, ItDataset, VtPulseDT, VtImpulseDT, VtRetrig, VtOneShot ClockWjitter VtPRBS.

- EDA00219794 - Importing non-encrypted HSPICE subcircuit for use in Encrypted HSPICE simulation is supported.
- EDA00205851 and EDA00205890 - Infrastructure is added to support multi-colored Load Pull plots.

## Momentum issues addressed

- EDA00222410 - Momentum simulations will be successful even if different edge mesh options are set on different layers.
- EDA00222653 - Updated link to Allegro (ial) is included.
- EDA00221701 - Momentum problem with structure in box is addressed.
- EDA00222773 - In Momentum Microwave mode, simulation results will be proper even if the design consists of long and thin striplines.
- EDA00206724 - Advanced Model Composer issue related to the discrete list of parameters is addressed.
- EDA00222421 - Text is preserved while placing parameterized layout components.
- EDA00222446 - Momentum simulator re-runs in the case of multiple momentum layout component instances are prevented.
- EDA00220023 - If customer setup has a very large number of queues in LSF environment (>30), Momentum distributed simulation used to hang in some cases and this issue is addressed.
- EDA00222195 - Momentum Turbo simulations used to hang in some cases and that is addressed.
- EDA00220227 - Svensson/Djordjevic Substrate Loss Model is now Available With Momentum. For more information, please see the section [Details of Svensson/Djordjevic Substrate Loss Model in Momentum](#)

## Licensing issues addressed

- EDA00222030 - Flexnet version is upgraded to 11.6.1.
- EDA00206396 - Single ADS instance checks out single b\_core license only.
- EDA00207841 - Issues with extended license search are addressed.
- EDA00219568 - Starting up ADS won't slow down even when inactive license hosts are included in the registry.

## Instrument links issues addressed

- EDA00220522 - Crash upon hitting "Measure" button in Connection Manager client is addressed.

## IC Design Flow issues addressed

- EDA00221220 - Gerber import is corrected to properly deal with circular commands G02 and G03.
- EDA00220496 - DRC now supports physical layer ID's greater than 255 and upto 1023.
- EDA00220906 - RFIP Encoder now supports encoding of the hierarchial HSPIICE netlists.
- EDA00207736 - Nodal Mismatch can identify the component which are placed reversely or not in order.

Following issues related to ADS desktop LVS tool are addressed.

- EDA00207618 - Parameter mismatch show zero when errors do exist.
- EDA00207619 - Results confused if component IDs not in sync.
- EDA00220604 - Nodal mismatch errors are treated as parameter errors when any of the component parameters are modified.
- EDA00220598 - Nodal Mismatches reports error if components in the sync design are interchanged
- EDA00220230 - Information on parameter mismatches when errors are down inside the hierarchy.
- EDA00220597 - ADS desktop LVS: LVS tool corrects wrong component count report.

## PDE issues addressed

- EDA00206344 - Layout > show equivalent node" command from the schematic applied on net named "GND" will work correctly.
- EDA00221350 - Component highlight works correctly when using edit-in-place.
- EDA00222065 - Random/inconsistent issue related to the hanging of ADS 2009U1 main window/schematic after the completion of the simulation is resolved.
- EDA00220593 - ADS hang while using "moving reference" command after flattening hierarchial Blocks is removed.
- EDA00208012 - "Edit > Properties" dialog in the layout window appears quickly. Prior to this hotfix, this dialog used to come up slowly for big designs.
- EDA00219941 - If two or more layout windows are open, select/deselect highlighting works properly.
- EDA00219937 - If large number of library components are present, second time opening of the library browser comes up very quickly.
- EDA00207726 - GEMX errors while generating AMC (Advanced Model Composer) models are removed. Now, AMC models can be generated successfully.

## Data Display issues addressed

- EDA00221156 - Memory leak with Data display server(hpeesofdds) is addressed.
- EDA00219363 - Zoom-in/Zoom-out delay problem in data display when using manual scale is fixed.

## Miscellaneous issues addressed

- EDA00208048 - Without this hotfix, on Novell SUSE 9 based machines, after exiting ADS, processes like hpeesofde, hpeesofdds were still running. This caused license locking. After installing this hotfix,

this problem is removed i.e. all ADS related processes will close immediately after exiting ADS. So this hotfix helps in preventing license locking.

## Details of Svensson/Djordjevic Substrate Loss Model in Momentum

Substrate loss is traditionally modeled by the frequency independent imaginary part of the permittivity, often specified via the loss tangent (TanD) parameter. This frequency independent permittivity is one of the sources of non-causal time domain responses. It has been demonstrated that the real part and the imaginary part of the complex permittivity must satisfy certain constraints to preserve causality. The Svensson/Djordjevic substrate loss model fulfills this causality requirement.

This hotfix embeds a new Momentum simulation engine that supports the Svensson/Djordjevic substrate loss model. Momentum configuration file variables are needed to activate the new model. Selecting the new model from the graphical user interface will be available with the next ADS release.

Following Momentum configuration variables control the model:

Configuration Variable Name	Default Value	Description
LTD_USE_DJORDJEVIC	0	1 = Svensson/Djordjevic model, 0 = frequency independent model.
LTD_USE_DJORDJEVIC_VALUEFREQ	1GHz	This is the frequency, in Hz, at which the permittivity value (complex or TanD) is specified.

These are global settings that will be used for all dielectrics with a loss specified by a non-zero imaginary part of the permittivity (or loss tangent). Optionally, one can influence the model's low and high roll-off frequencies.

Configuration Variable Name	Default Value	Description
LTD_USE_DJORDJEVIC_LOWFREQ	1kHz	Low roll-off frequency, in Hz.
LTD_USE_DJORDJEVIC_HIGHFREQ	1THz	High roll-off frequency, in Hz.

Add the above variables to a Momentum configuration file (momentum.cfg) in either one of the following locations:

- <ads\_project\_directory>/momentum.cfg
- \$HOME/hpeesof/config/momentum.cfg
- \$HPEESOF\_DIR/custom/config/momentum.cfg

## Known Issues and Workarounds

### ISSUE:

When more than one license server is listed in the license path and the license content on those servers differs from server to server, you can run into a problem where only the first server is used from the list. This issue does not occur when using a single license server, license servers with identical content simply split across servers, or when using a license files.

The server from which the first ADS license gets checked out will serve all the subsequent license checkout requests made in the same ADS run session, therefore a user would get a license denial if that server does not contain a license that's only made available in the other license server(s).

#### Example 1:

If the following list of servers have been set and the license server content differs between the servers; i.e., *server1* has license f1, f2, f3 while *server2* has license f4, f5, f6 and *server3* has f7, f8, f9:

```
AGILEESOFD_LICENSE_FILE=@server1;@server2;@server3
```

If the license for f1 is required to start the application then only *server1* will actually be used and only its licenses will be available, while the licenses on *server2* and *server3* will be ignored.

#### Example 2:

If the following list of servers have been set and the license server content differs between the servers; i.e., *server1* has license f1, f3, f4 while *server2* has license f2, f3, f4 and *server3* has f3, f4, f5:

```
AGILEESOFD_LICENSE_FILE=@server1;@server2;@server3
```

If the license for f1 is required to start the application then only *server1* will actually be used and only its licenses will be available, while the licenses on *server2* and *server3* will be ignored.

In all of these cases, use the workaround below to resolve this issue.

### WORKAROUND:

A workaround for this problem is to set the following environment variable:

```
ALTERNATE_LICPATH_CONTROL = off
```

The setting of this environment variable can be done in any of the following locations:

1. System environment (takes precedence over all other settings)
2. \$HOME/hpeesof/config/hpeesof.cfg
3. \$HPEESOF\_DIR/config/hpeesof.cfg

Setting this environment variable will restore the ability to use all license servers specified in your license path and not just the first one if the license server content differs across the servers. The setting of this environment variable is safe will not negatively affect any other licensing behavior.

**SUMMARY:**

<b>License Server Configuration:</b>	<b>Action Needed:</b>
Single license server	None
Multiple servers - same license content on all servers	None
Multiple servers - different license content on servers	set <b>ALTERNATE_LICPATH_CONTROL=off</b>