

EMX interface Application Note

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1 Introduction

EMX is an electromagnetic simulator that is intended mostly for IC-style layouts. It reads an input GDSII file and computes Y-parameters. The simplest possible way of invoking EMX is with the “emx” batch command.

The Cadence Virtuoso interface is provided along with EMX for users who want the convenience of Virtuoso as the GUI for EMX. In agreement with *Integrand Software*, EMXInterface GUI remains distributed by *Integrand Software* themselves.

An example of emxconfig.il file is however provided in DesignKits:

- `$DKITROOT/DATA/EMX/emxskill/emxconfig.il`

The emxconfig.il file is inspired from the provided inside emxinterface GUI installation (<EMX_interfacePath>/emxskill/).

2 Automatic EMXInterface loading

This DesignKit automatically loads EMXInterface if the following setups are respected:

- **EMX_interfacePath** environment variable must be defined to the location where EMX interface is installed:

e.g.: `setenv EMX_interfacePath /sw/integrandsoftware/emxinterface/2015_03_03/cadence6/emxinterface/`

- **EMX_Models** library must be added in cds.lib file:

e.g.: `DEFINE EMX_Models ${EMX_interfacePath}/EMX_models`

- **ModelGen** from Integrand Software is a model generator that reads Y-parameters and outputs netlists in formats accepted by various circuit simulators.

If there is a conflict in the automatic modelgen path detection, you can set it thanks to the environment variable \$emxModelgenPath.

e.g.: `setenv emxModelgenPath /sw/integrandsoftware/modelgen/2.13/linux64/`

- Final requirement is that emx product should be declared before DesignKit in .ucdprod

EMX Interface will automatically be loaded if all these pre-requisites are respected. The DesignKit itself will take care of reading emx and modelGen paths, define layerMap and process paths and loading emxconfig.il.



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