



# RedHawk-SC Electrothermal™

## CPM Stitching Application Notes

Version 2021 R2.0

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## Introduction

Currently, in RHSC, Due to capacity issue, a 3DIC CPM model can not been generated. User only can generate CPM model for each die. And huge bump connection is also a problem for user to use multiple CPM for system simulation.

RH-SC ET provide a function to stitching multiple CPM models to one spice model, then system user can use this spice model for system level simulation directly.

This application note describes the CPM Stitching usage.

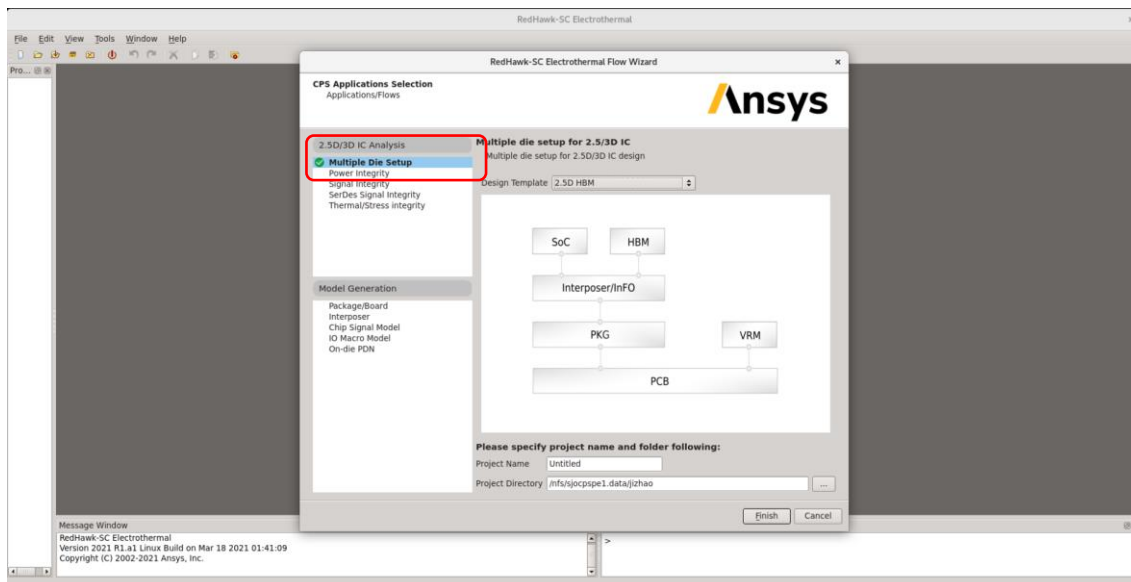
## GUI Overview

### Open RedHawk-SC Electrothermal 3DIC setup Flow

To start the function, we need to use RH-SC ET 3DIC setup Flow by command:

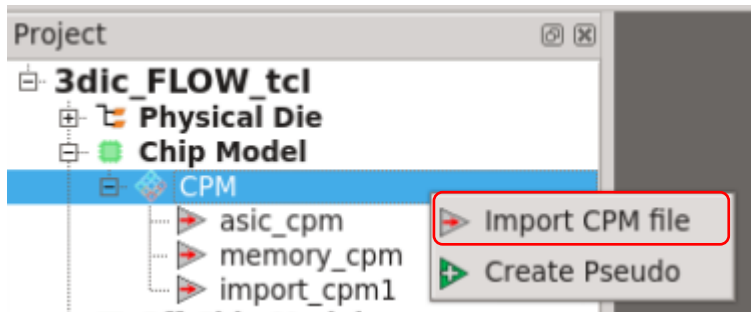
```
>> redhawk_sc_et -3dic
```

Then select the “Multiple Die Setup” flow.



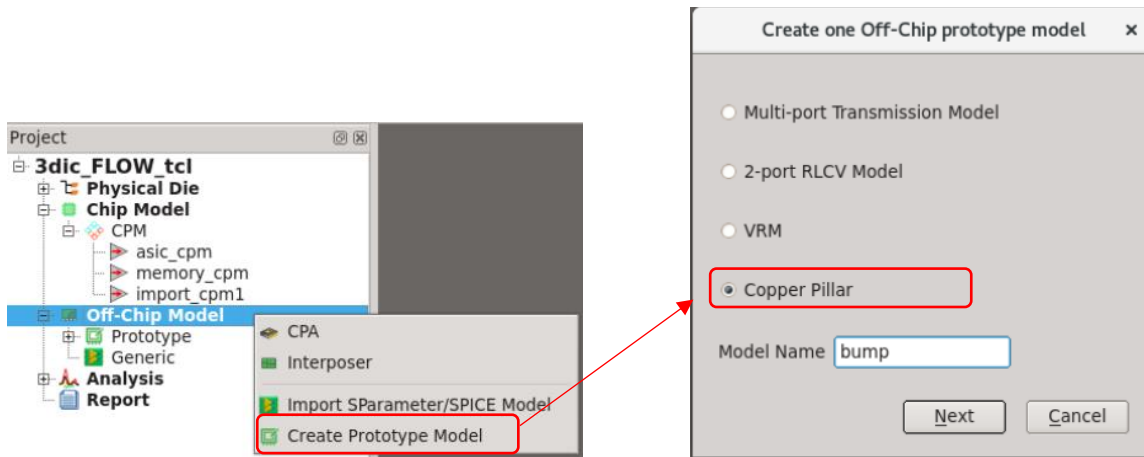
## Import CPM

Right Click 'Chip Model -> CPM' to import multiple CPM models.

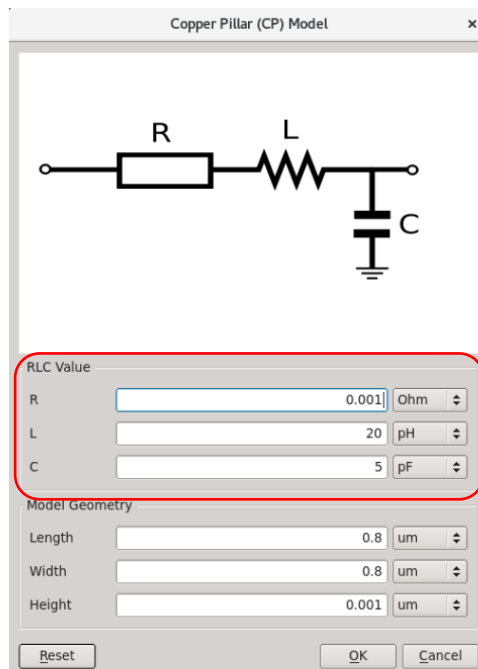


## Create Copper Pillar Model

Right Click 'Off-Chip Model->Create Prototype Model' and select "Copper Pillar".

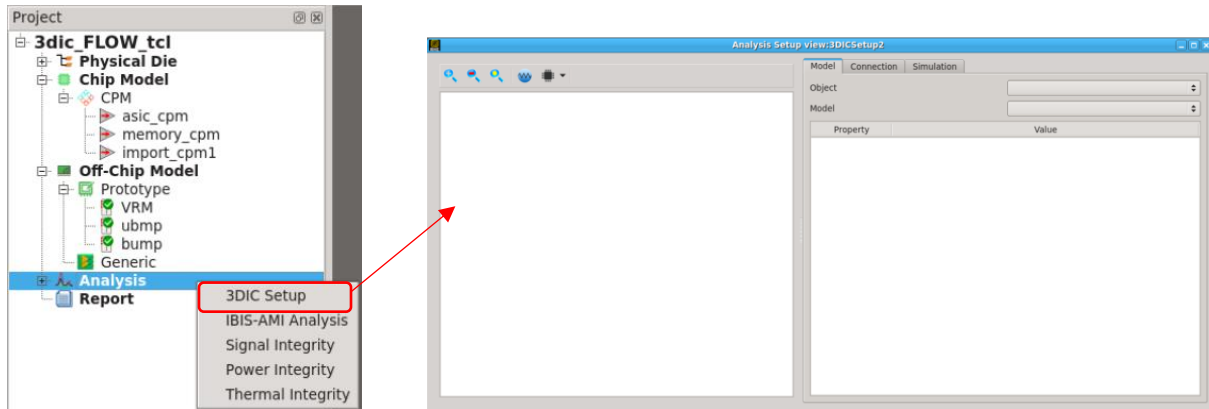


Then user can specify the RLC Value. Model Geometry is not used in this flow, so user doesn't need to specify.



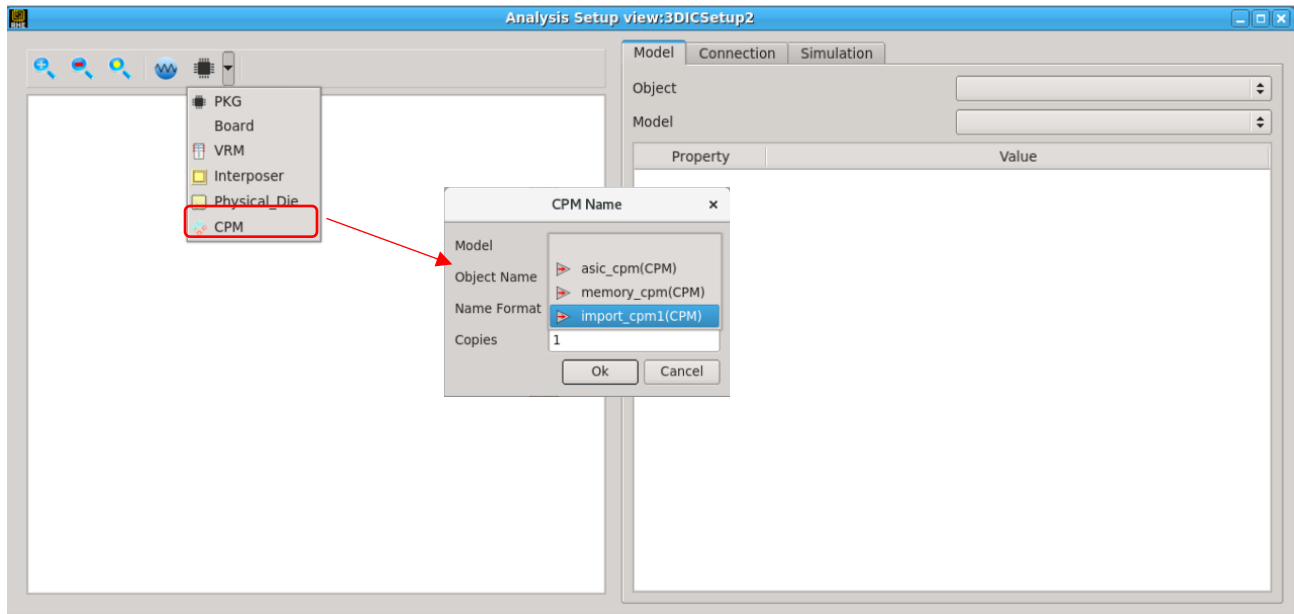
## Model Setup

Right Click 'Analysis -> 3DIC Setup' to do model setup.

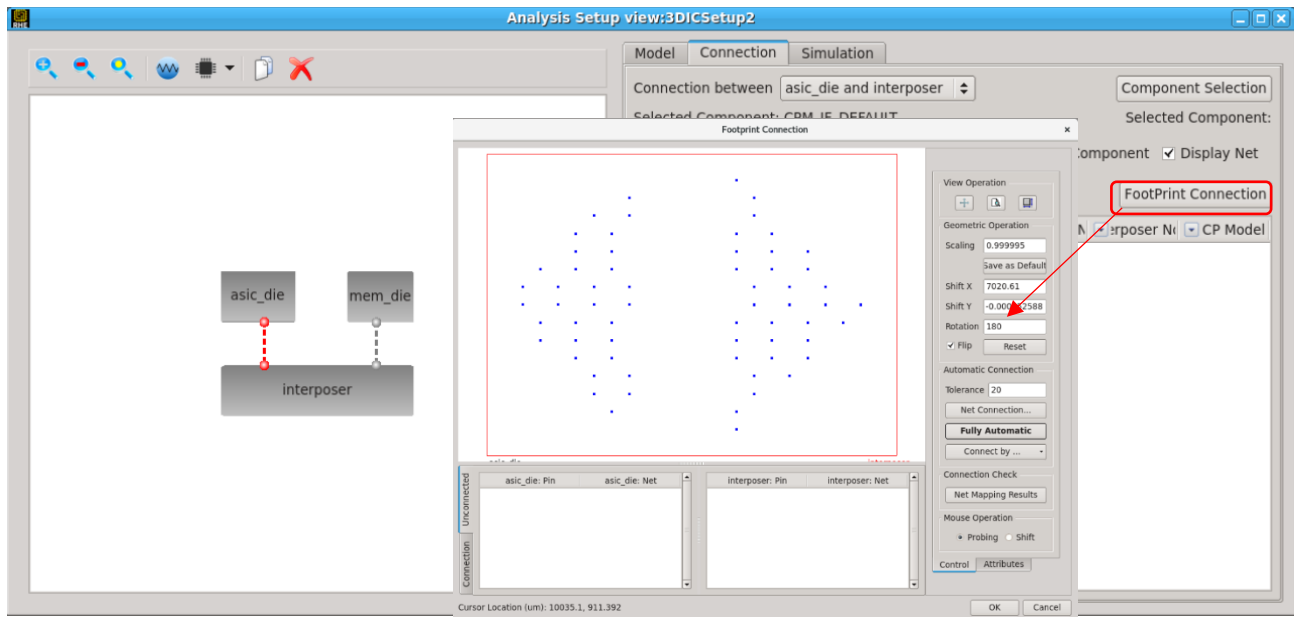


In model setup dialog,

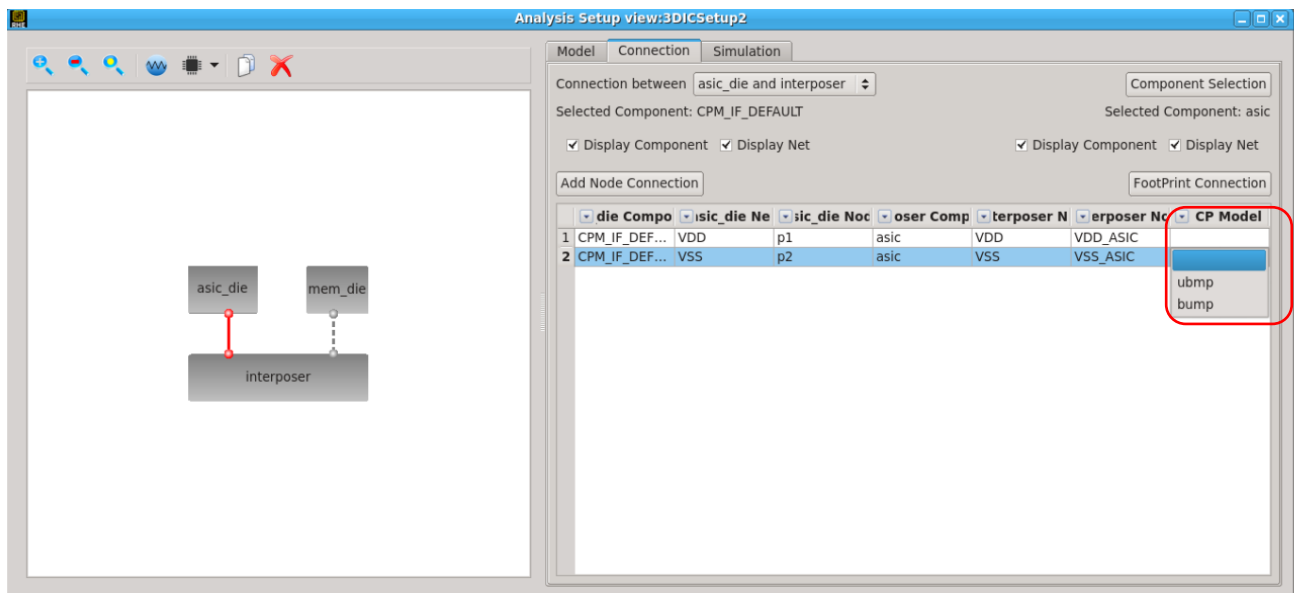
1. Add CPM type objects and assign cpm model to each object



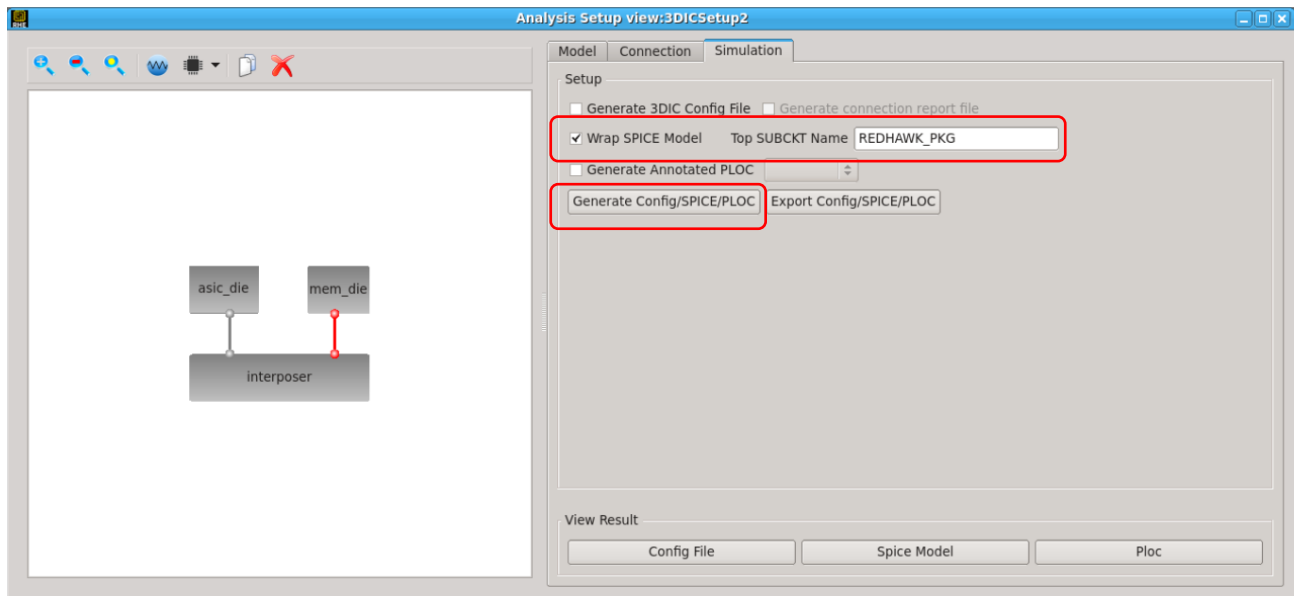
2. Do model connection by footprint



3. Select CP model if user want to include ubump RLC parasitic.



4. Generate the final spice model.



5. The spice model will be saved in  
<project>/analysis/<setup name>/output/wrapper.sp

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