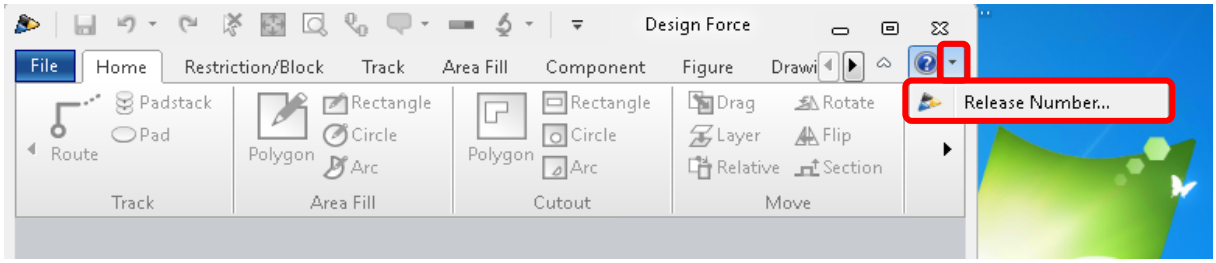
1. Confirmation of the Product Version

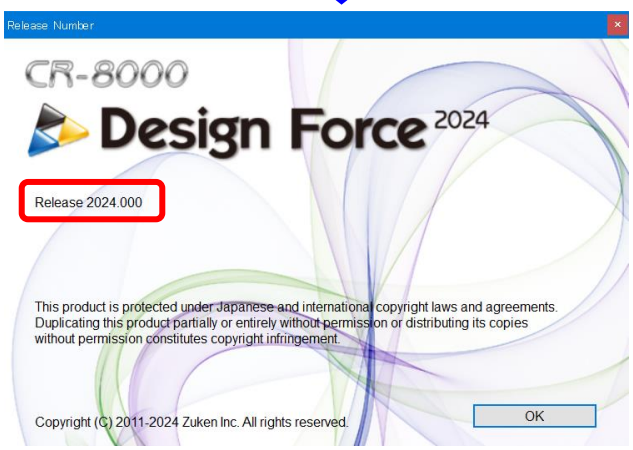
This simulation library contains simulation data of TAIYO YUDEN's Multilayer Ceramic Capacitors and Ferrite Bead Inductors for Design Force SI/PI and Lightning. You can use each data in this simulation library (refer to chapter 2) in the following products.

Simulation model
· CR-8000 Design Force 2024
· CR-8000 Lightning 2024
Footprint data
· CR-8000 Design Force 2024
· CR-8000 Board Designer 2024
Symbol data
· CR-8000 Design Gateway 2024 or later

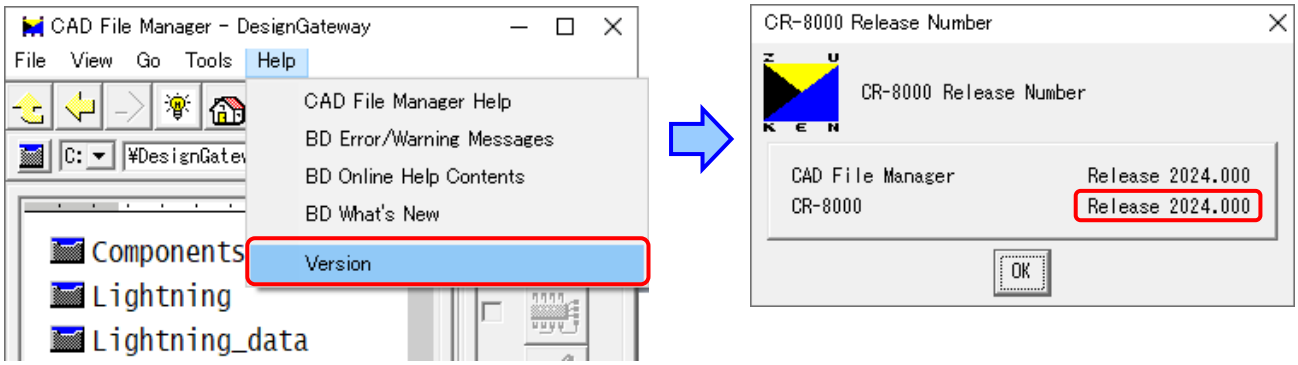
Please check your product version beforehand.
In case of using the old version,
Please contact Zuken local office for Zuken EDA products.

[Design Force SI/PI]　How to confirm the product version



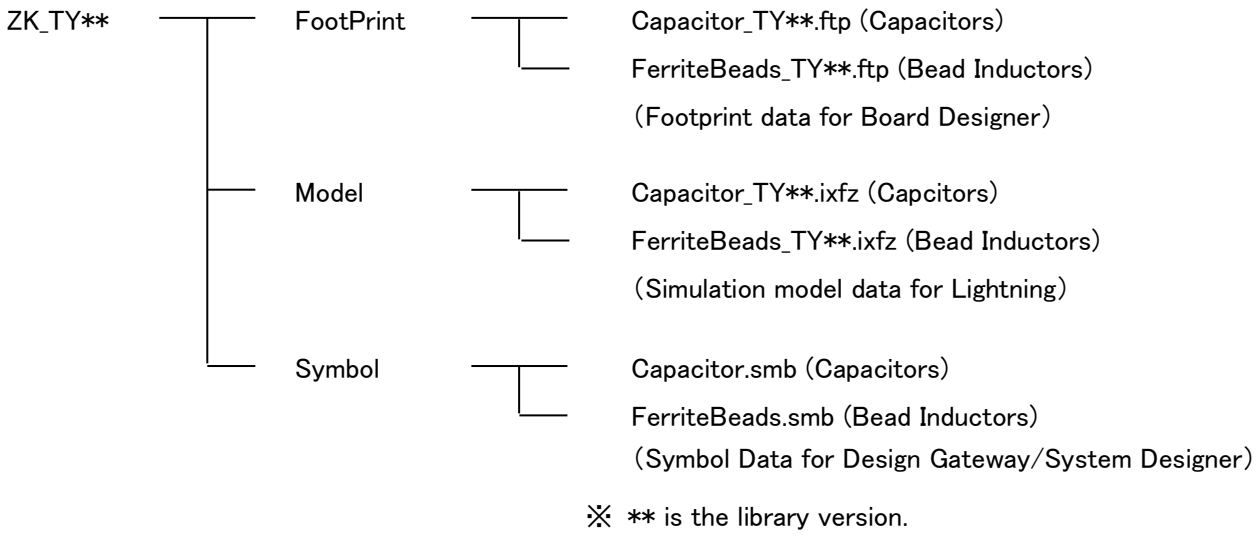


[System Designer and Board Designer]　How to confirm the product version



2. Download and confirm the contents

Download the file named **ZK_TY**.zip** (** is the library version) from
TAIYO YUDEN's Web site and unzip it on your desktop.
Please make sure the structure of the extracted folder is as follows.

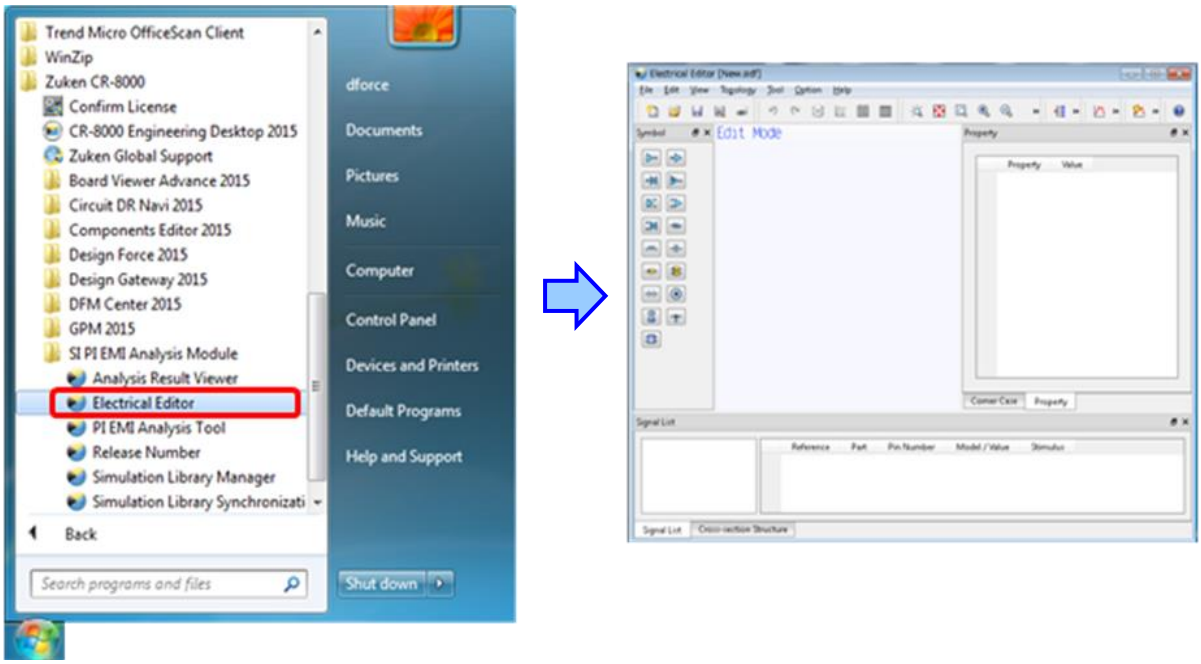


※ ** is the library version.

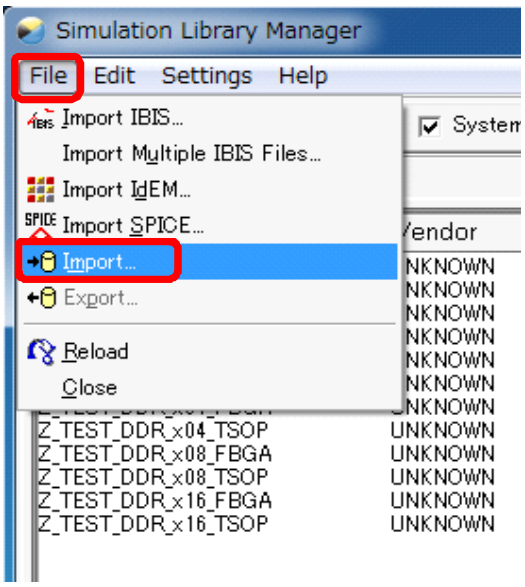
3. Import the simulation model (Design Force SI/PI)

(Skip to Chapter 5 if you use Lightning.)

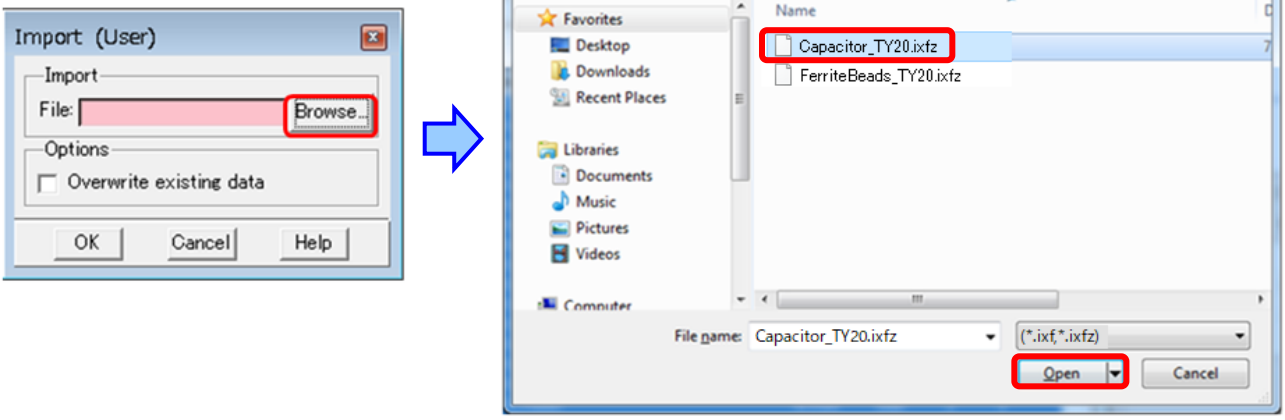
1. Run the **Simulation Library Manager** from **[All Program] - [Zuken CR-8000] - [SI PI EMI Analysis Module] - [Simulation Library manager]** in the Windows start menu.



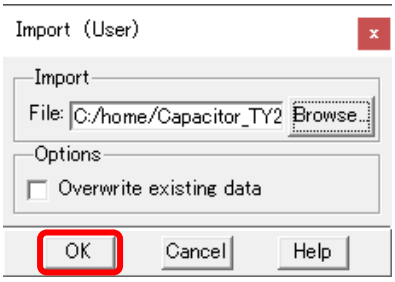
2. Select **[File] - [Import]** from menu bar.



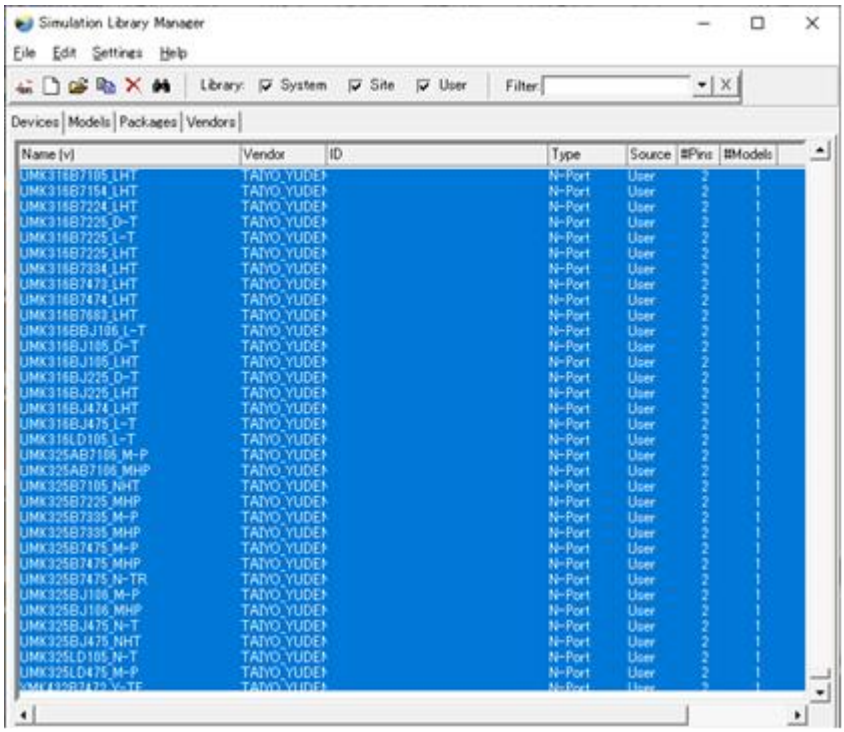
3. Select **[Browse]** and open the [**Capcitor_TY**.ixfz]** or [**FerriteBeads_TY**.ixfz]** file.



4. Click **[OK]**.

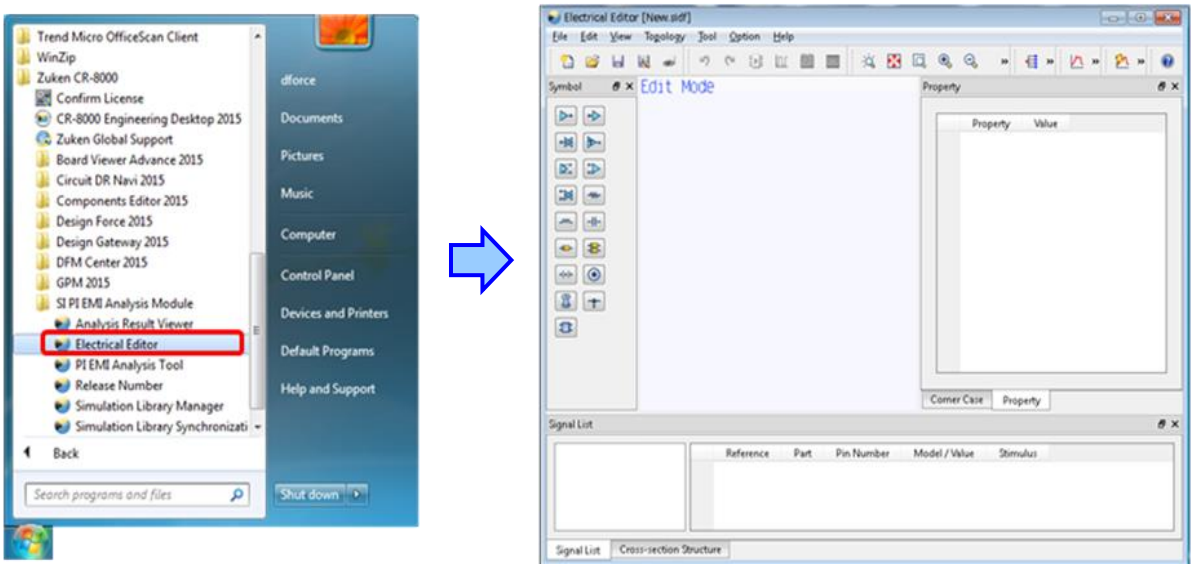


5. The simulation models are imported to **Simulation Library Manager**.

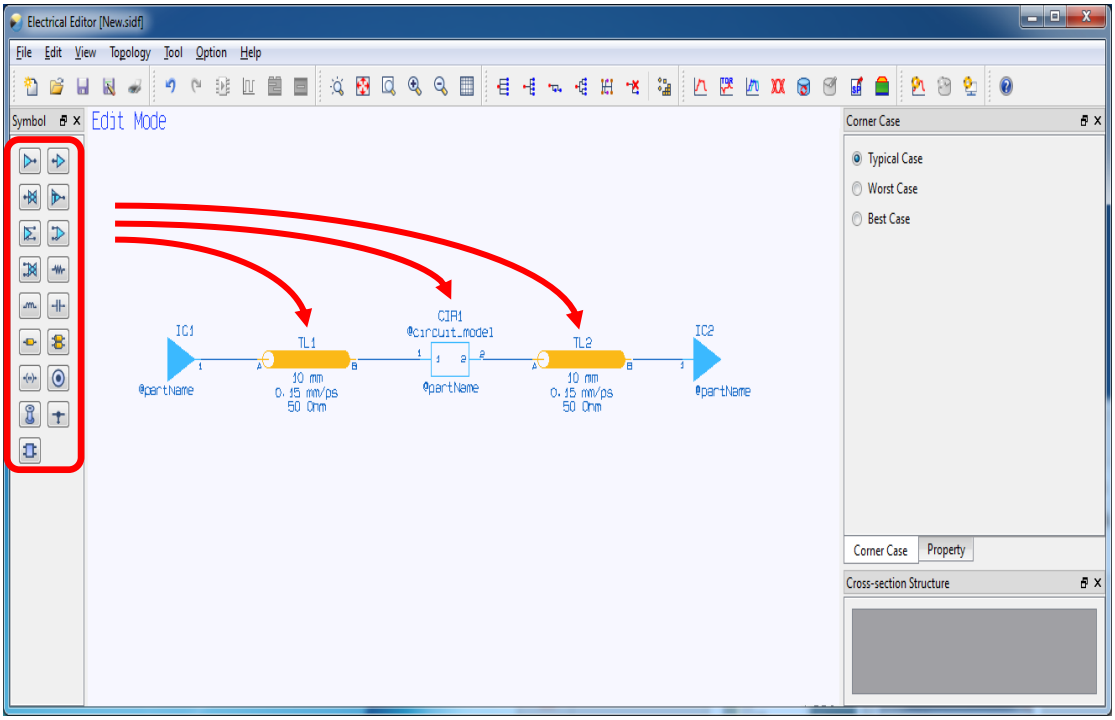


4. Example of using the simulation models (Design Force SI/PI)

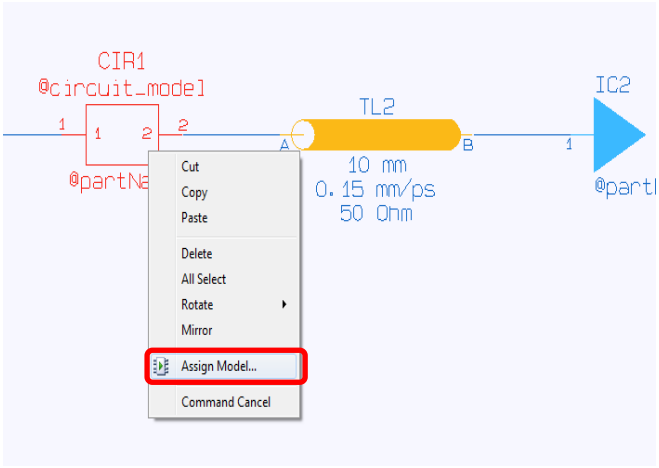
1. Run **Electrical Editor** from **[All Program] - [Zuken CR-8000] - [SI PI EMI Analysis Module] - [Electrical Editor]** in the Windows start menu.



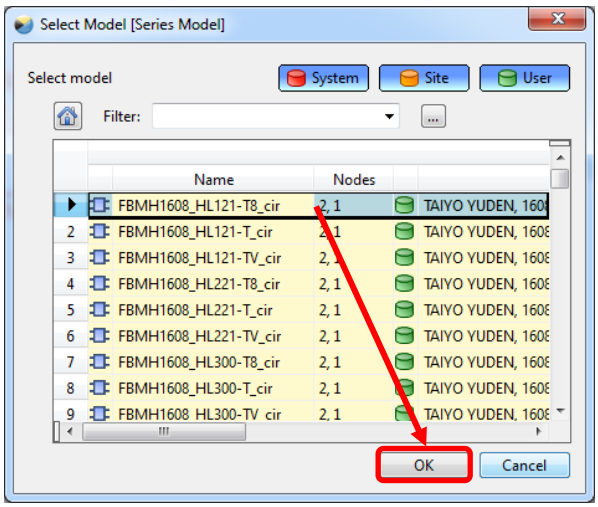
2. Place the drivers, receivers, transmission lines and N-Port symbol on the canvas. Complete the topology by connecting them.



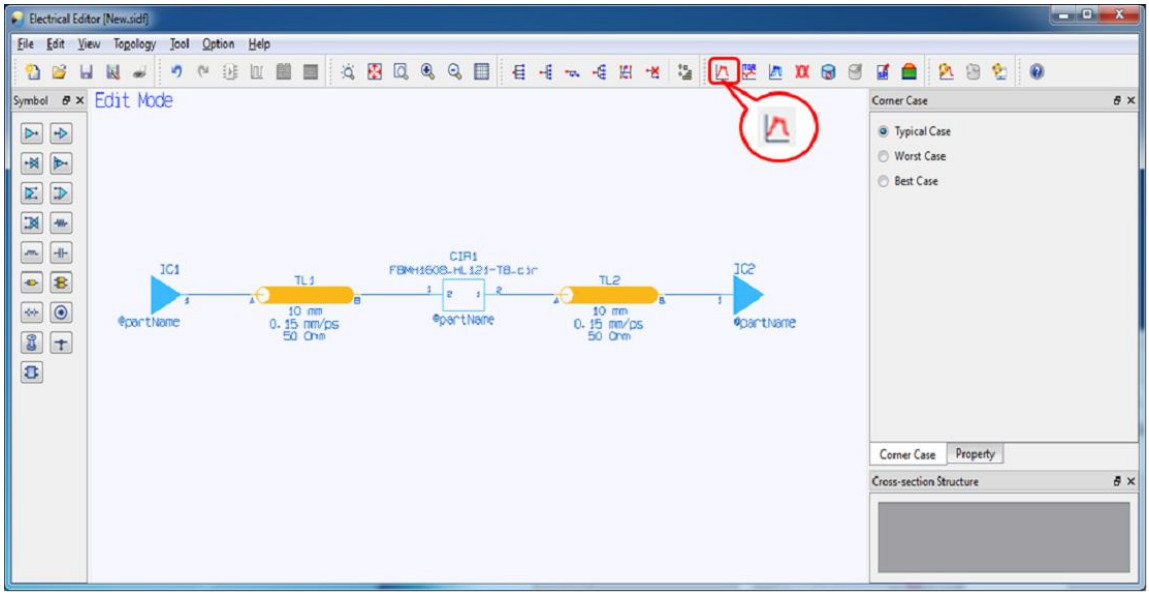
3. Right-Click the N-Port symbol and select **[Assign Model…]**.



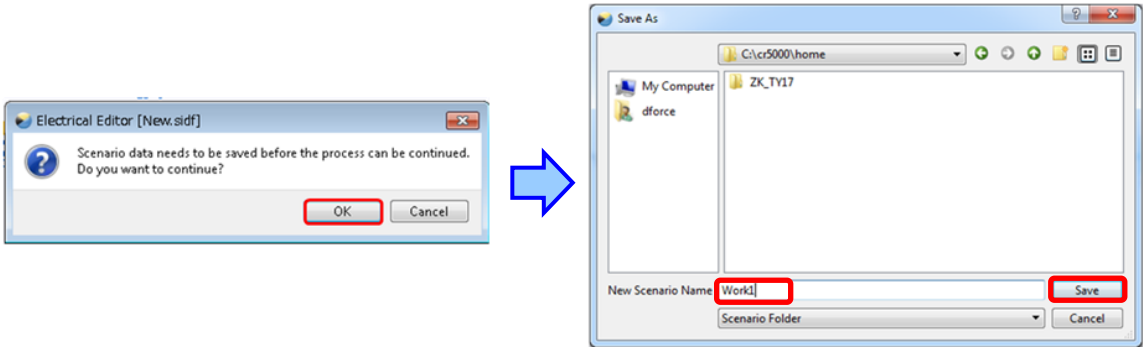
4. Select the simulation model you want to use from the dialog.



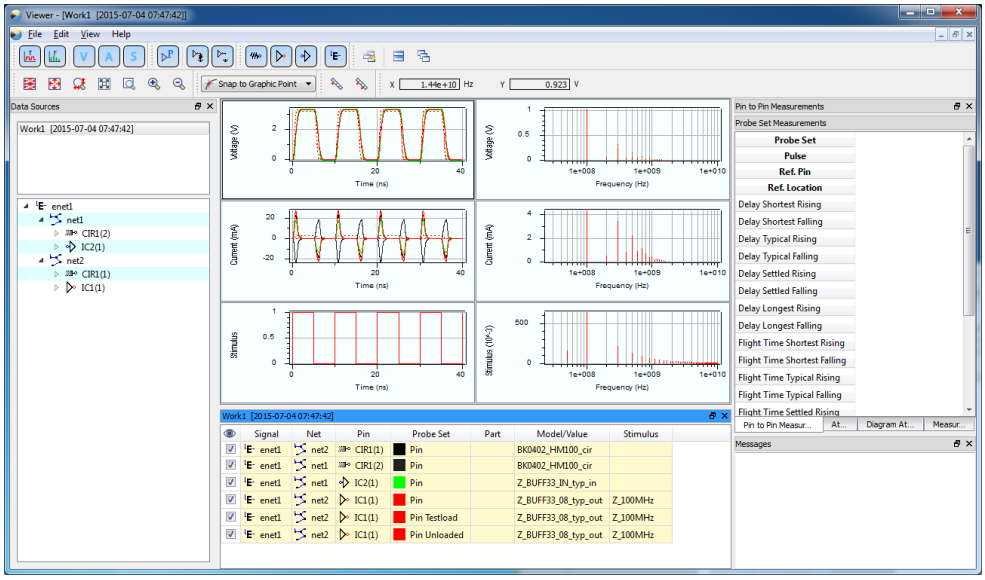
5. Click '**SI Analysis**' icon.



6. If you are requested to save the scenario, save the file to continue the simulation.



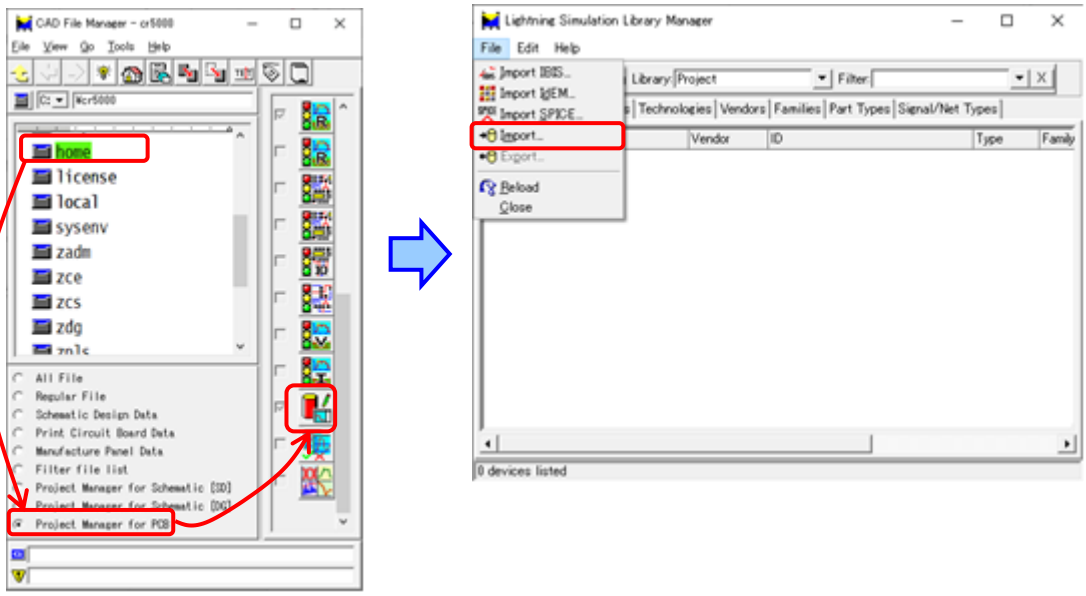
7. Simulation results appear on the window.



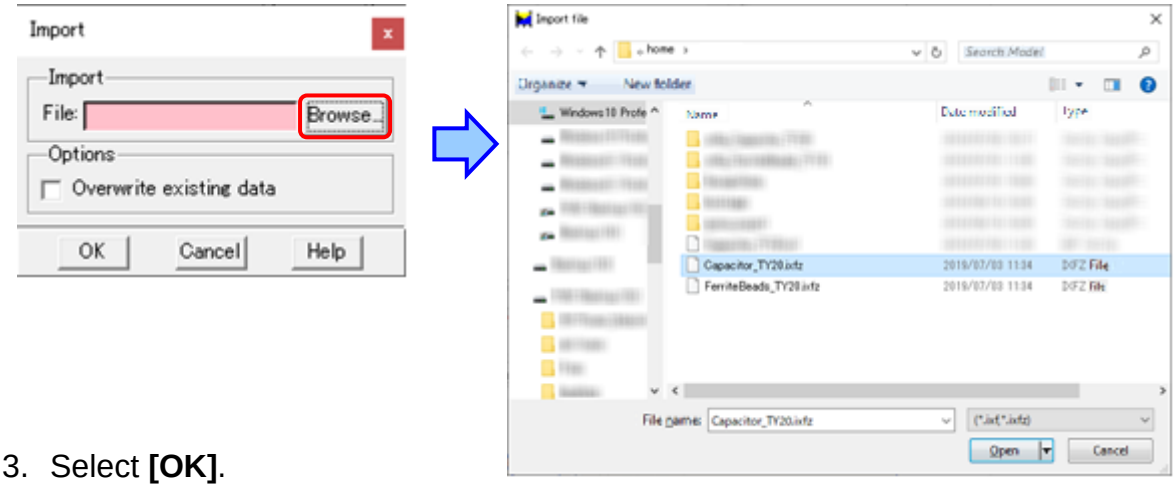
5. Import the simulation model (Lightning)

(Skip to Chapter 7 if you use Design Force SI/PI.)

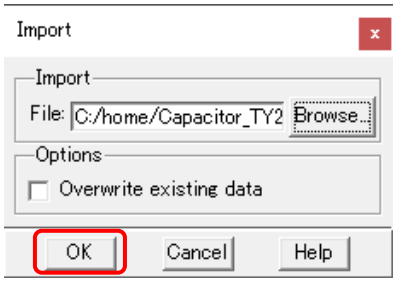
1. Start the **[Simulation Library Manager]** from **[CAD File Manager]**, and then select **[File] - [Import]** from menu bar.



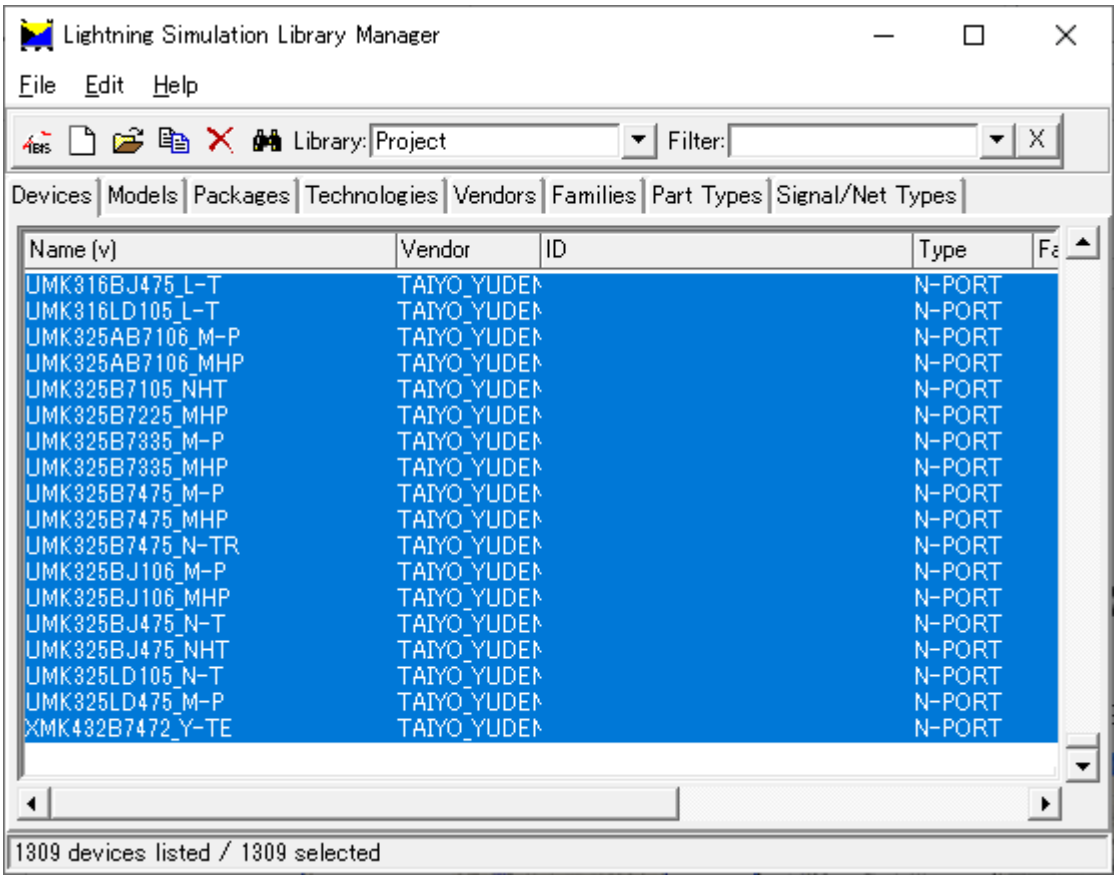
2. Select **[Browse]** and open **[Capacitor_TY**.ixfz]** or **[FerriteBeads_TY**.ixfz]** file.



3. Select **[OK]**.



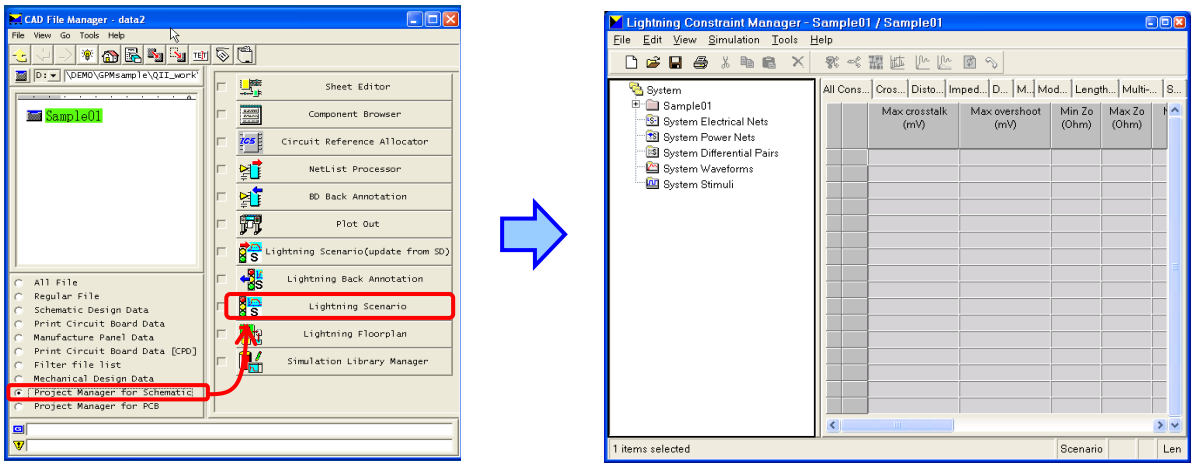
4. The simulation models are imported to **[Lightning Simulation Library Manager]**.



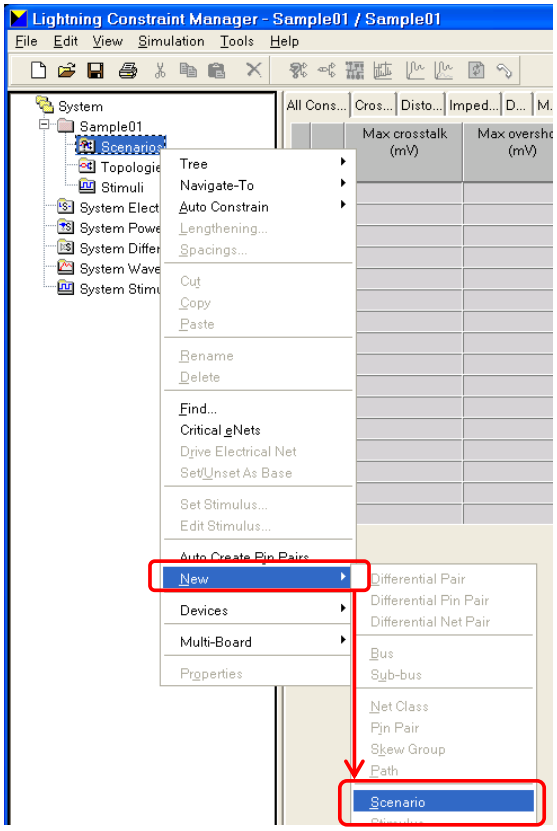
6. Example of using the simulation models (Lightning)

1. Start the **[Lightning Scenario]** from **[CAD File Manager]**.

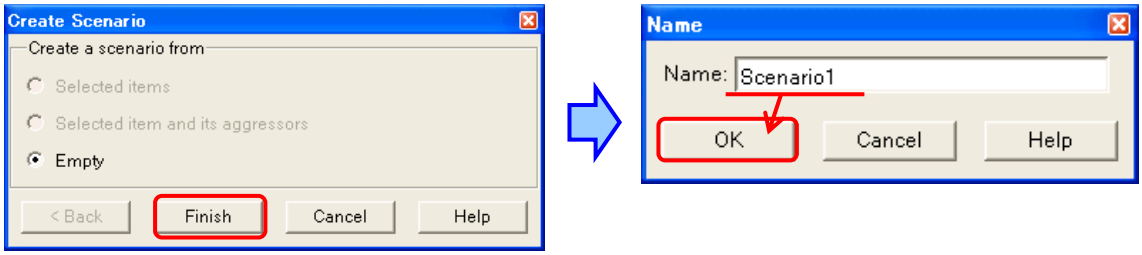
(It is same procedure if you use **[Lightning Realize]** or **[Lightning Verify]**.)



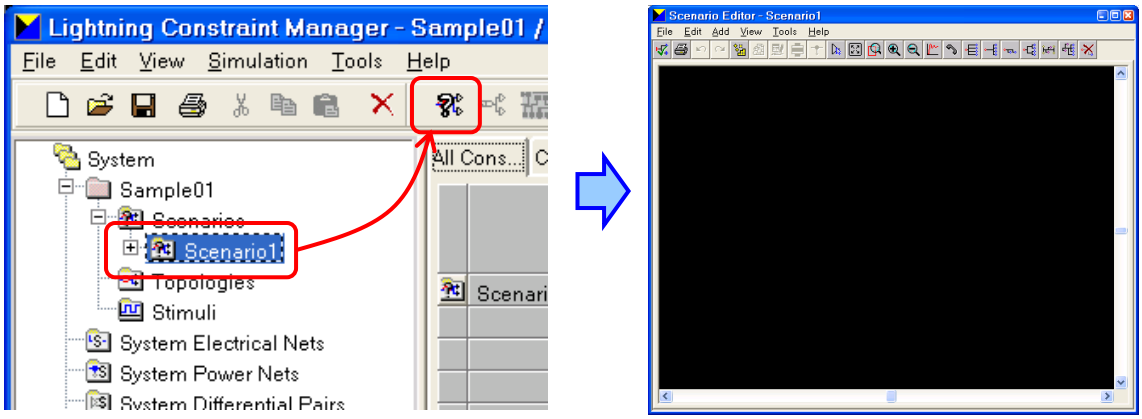
2. In the tree-view of the **[Constraint Manager]**, select **[‘Scenarios’]** and then select **[New] - [Scenario]** by clicking the right mouse button to create new scenario.



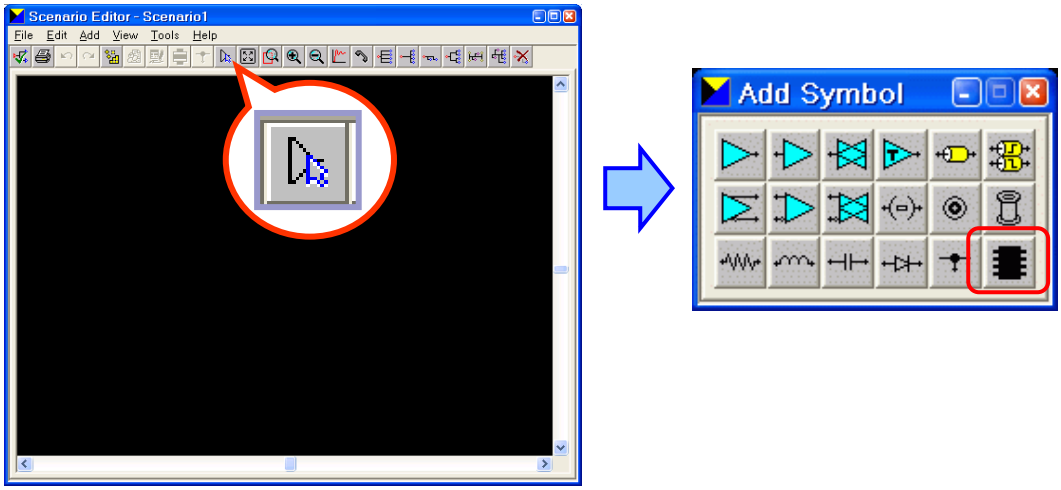
3. Select **[Finish]** and input scenario name into the following **Name** dialog, and then click **[OK]**.



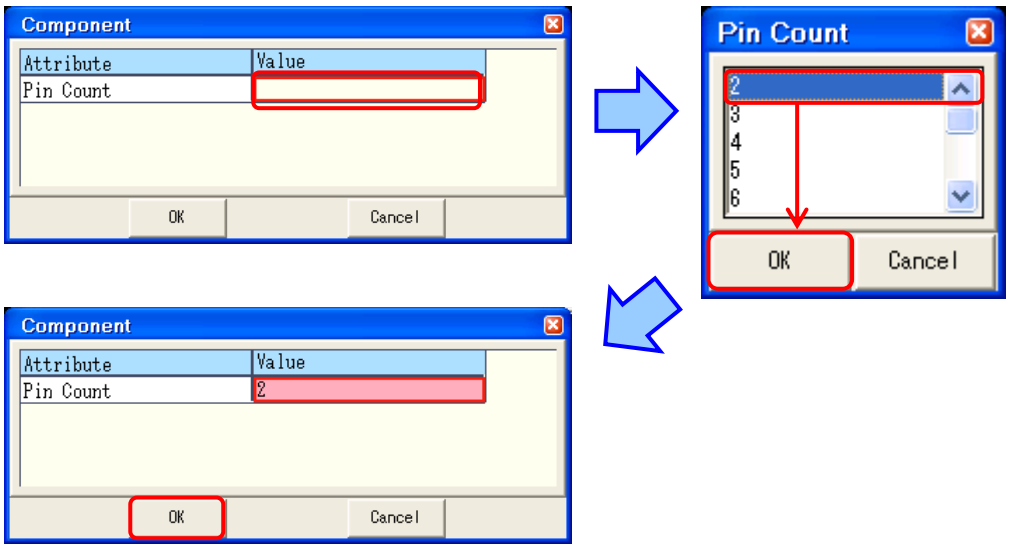
4. Select this new scenario from Tree-view of Constraint Manager and then click **[Scenario Editor]** icon on top menu to invoke '**Scenario Editor**'.



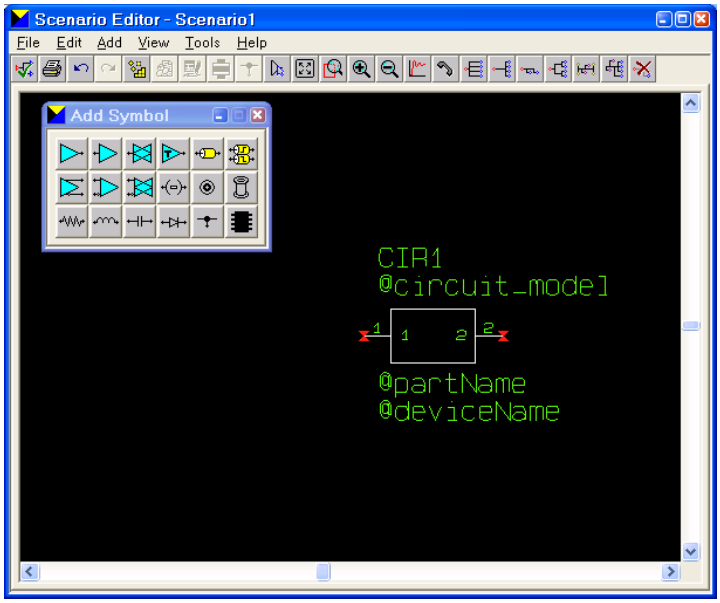
5. Select **Add Symbol** icon and then select **N-Port symbol** icon from following **Add Symbol** dialog.



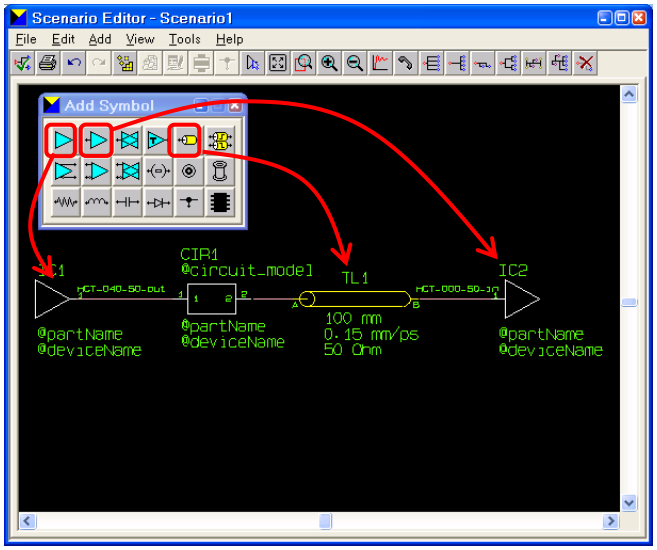
6. Click **‘Value’** column in **‘Component’** dialog and select appropriate number of pins. (Below is a case of 2 pins)



7. Place N-Port symbol on the canvas. (Put ‘**Esc**’ key to finish this command)

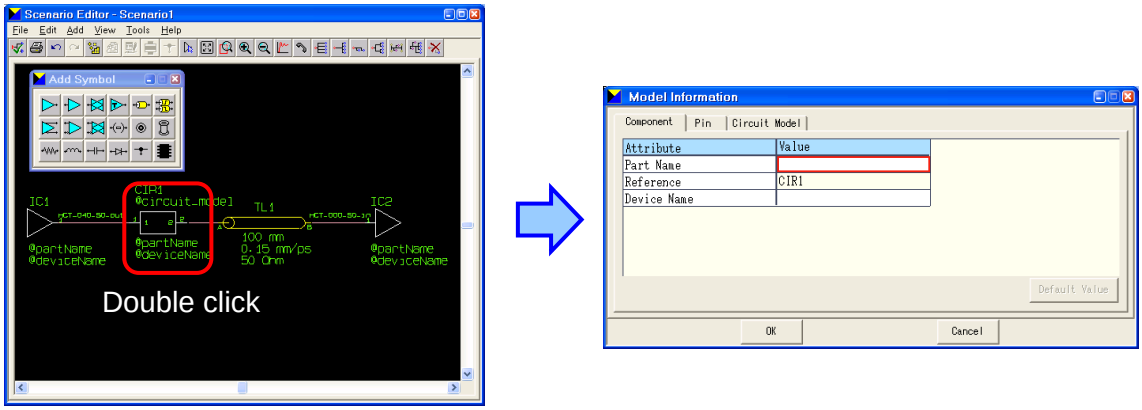


8. Complete the topology by placing and connecting the drivers, receivers and transmission lines in the same way.

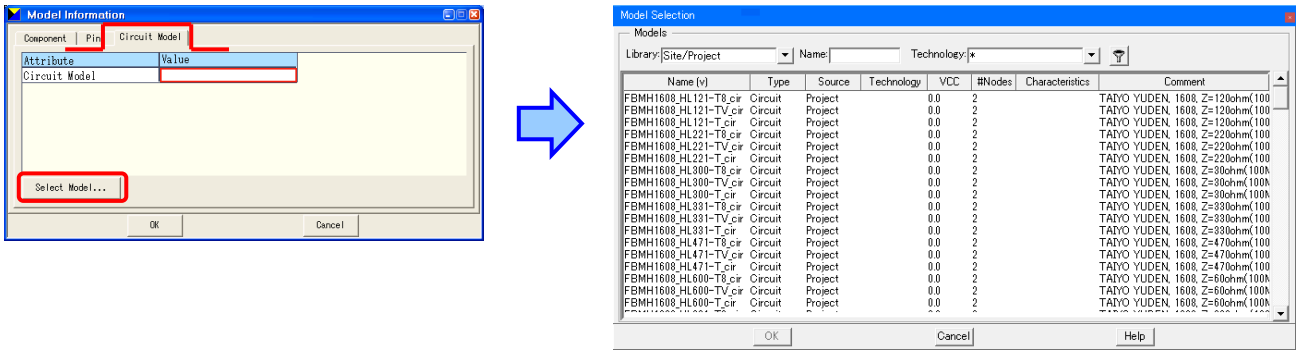


9. (Assign the simulation model to the placed N-Port symbol.)

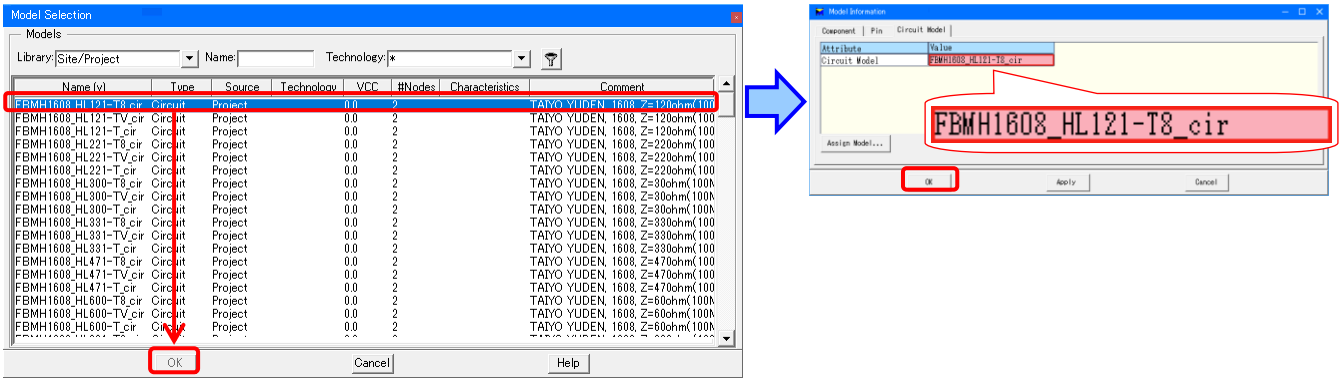
Double click the N-Port symbol and open **Model Information** dialog.



10. Select **[‘Circuit Model’]** tab and click **[Select Model...]** button to open ‘**Model Selection**’ dialog which shows a list of simulation models.

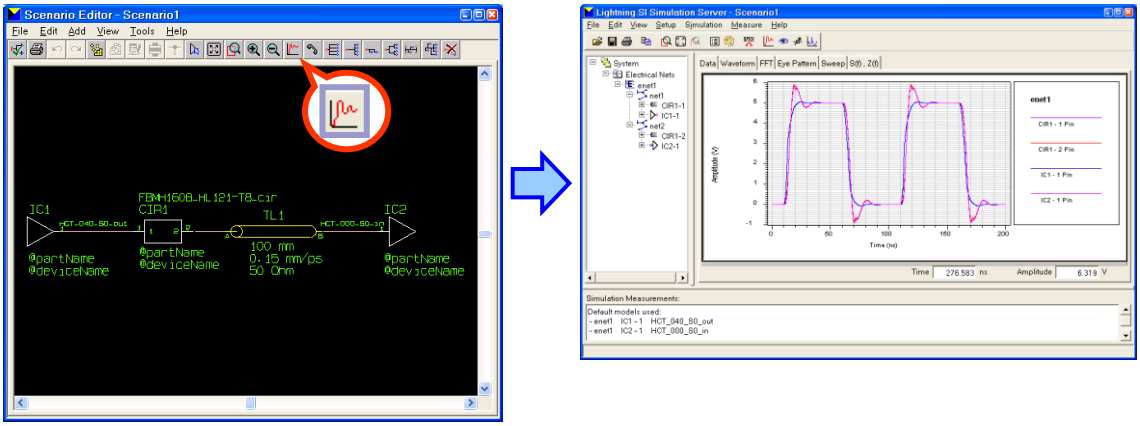


11. Select appropriate simulation model and click **[OK]**.



Now the simulation model is assigned to the symbol.

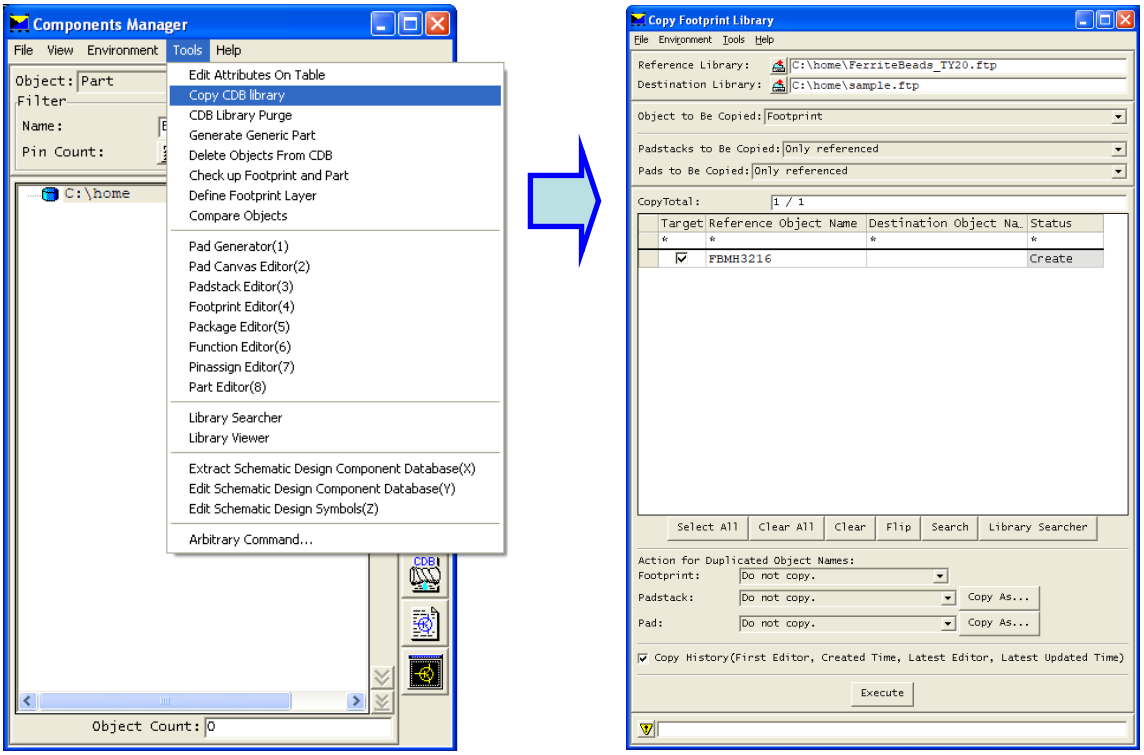
12. You can run the simulation by clicking **[‘Simulation’]** icon, and the result can be shown through the waveform viewing dialog.



7. Make use of footprint data to the board design

Footprint data **[Capacitor_TY**.ftp]** and **[FerriteBeads_TY**.ftp]** can be copied to the footprint library that you are currently using by “Copy CDB library”. (*)

* Please read the notes on the next page.



Notes on making use of footprint data

Items depending on the layer structure (padstack etc.) of this library are based on the sample data “BDsample” provided by Board Designer.
This board data exist in <the folder where Board Designer is installed>¥data¥Bdsample.

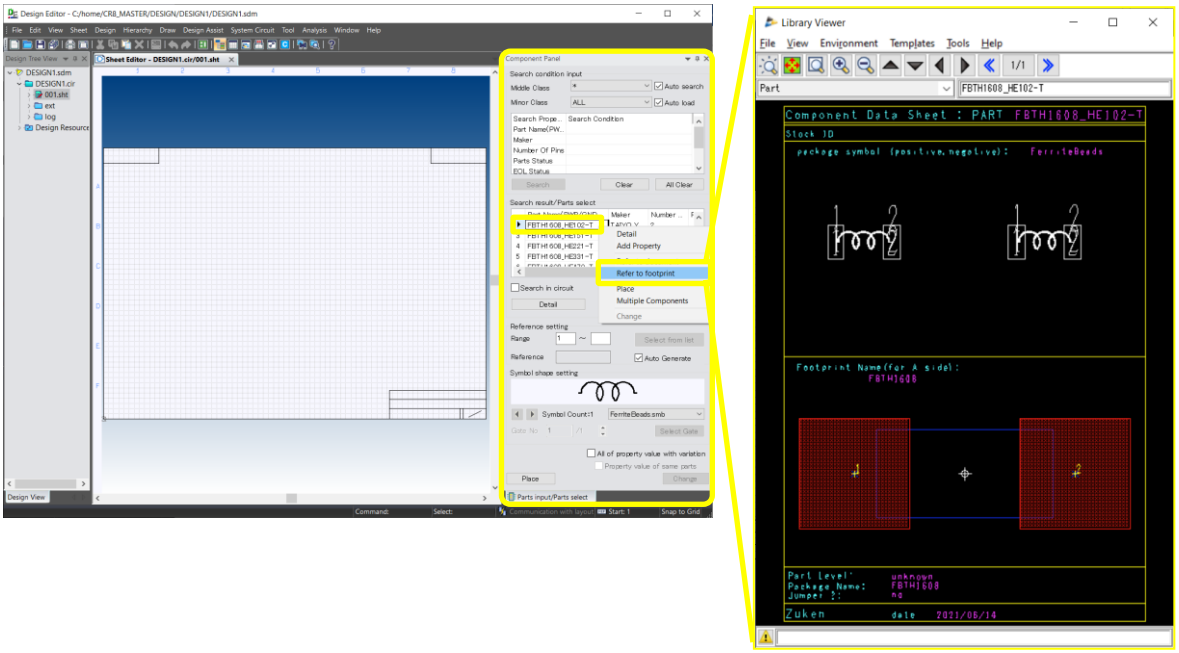
In case that your layer structure is different from that of “BDsample”, you need to edit the data depending on the layer structure. Please change the layer name to the one you are using at the footprint registration menu of Board Designer as follows.

No	Layer Name	Layer Type
*	*	*
1	COND_A	Conductor
2	SYMBOL_A	Symbol Mark Lay…
3	COMP_AREA_A	Component Area …
4	METAL_A	Metal Mask Layer
5	RESIST_S_A	Resist Layer
6	HOLE	Hole Layer

The layer structure of this library（Based on BDsample）

8. Make use of symbol data to the circuit diagram

You can use symbol data (Capacitor.smb, FerriteBeads.smb) on Design Gateway/System Designer by inserting them to the symbol library that you are using. If you are operating LCDB, you can also search components by concerning components data with symbols.



Example of components search in LCDB operation

Enquiries about Zuken EDA product operations

Please contact Zuken local office for Zuken EDA products. If you are not certain, please go to Zuken web site <http://www.zuken.com/> and refer **'Contact'**.