TDK Component Library for Cadence® Allegro® /OrCAD® PCB SI

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TDK Corporation
Electronic Components Business Company
Products & Application Collaboration Dept.

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Caution

< Applicable condition >

The data in this library is obtained under the condition of 25ºC, no DC bias, and small signal operation. Proper result might not be obtained if your condition is different from the above one.

< Terms and conditions regarding TDK Simulation Models >

(1) This simulation model is being provided solely for informational purposes. Please refer to the specifications of the products in terms of detailed characteristics of such products.

(2) In no event shall TDK Corporation of any of its subsidiaries be liable for any loss or damage arising, directly or indirectly, from any information contained in this simulation model, including, but not limited to loss or damages arising from any inaccuracies, omissions or errors in connection with such information.

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(6) The use of this simulation model shall be deemed to have consented to the terms and conditions hereof.

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About this library (1)

< Feature of this library >

The actual property of components can be taken into your circuit simulation because equivalent circuit model that considers inner structure of a part and material property is used.

< Contents in this document >

This document is described assuming the following environment.

OS: Windows 7

Allegro PCB SI 16.6

On different OS or Allegro versions, screen display and/or operation procedure may not correspond to the contents of this document. Please acknowledge it beforehand.

< Inquiries about Cadence® Allegro® /OrCAD®PCB SI >

Cadence Design Systems, Inc. :
https://www.cadence.com/en_US/home/company/contact-us.html

About this library (2)

< Files included in this library >

This library consists from the following files;

- tdk_chip_beads.dml: equivalent circuit model data for chip beads
- tdk_common_mode_filters.dml: equivalent circuit model data for common mode filters
- tdk_3_terminal_filters.dml: equivalent circuit model data for 3-terminal filters
- tdk_3_terminal_feed_through_multilayer_ceramic_capacitors.dml: equivalent circuit model data for 3-terminal feedthrough MLCCs
- tdk_pulse_transformers.dml: equivalent circuit model data for pulse transformers

< Caution >

Please make sure that the models for common mode filters(tdk_common_mode_filters.dml) and pulse transformers(tdk_pulse_transformers.dml) are used with SPB16.6 S029 or later.

How to install the library

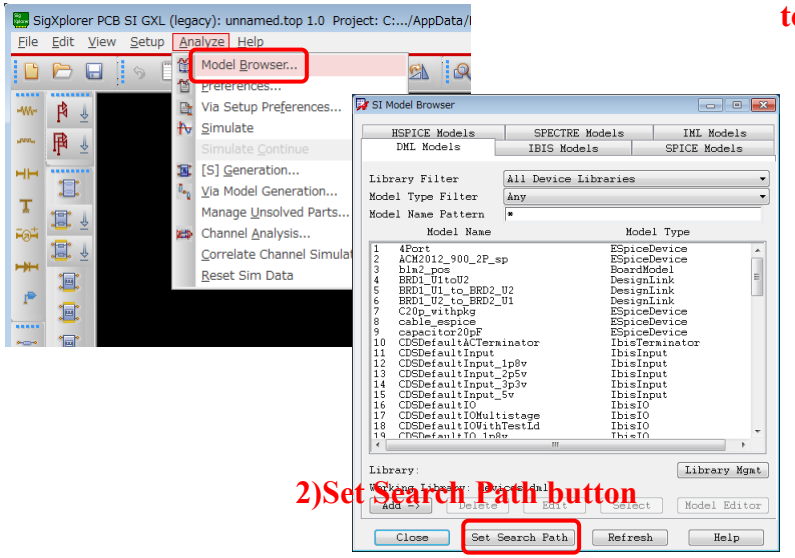
< Unzip the install file >

1)Unzip the zip-formatted install file (e.g. tdk_library_for_allegrosi_v201507.zip) and save it at an arbitrary directory.

< Registration of the library folder >

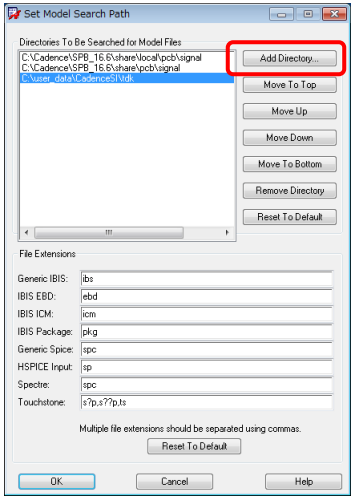
1)In SigXplorer, select Model Browser… form Analyze menu, then SI Model Browser window opens.
2)Click the Set Search Path, then Set Model Search Path window opens.
3)Click the Add Directoy… and select the unzipped library folder.
4)After the registration, available model name will be shown in SI Model Browser window.

1)Analyze>Model Browser...

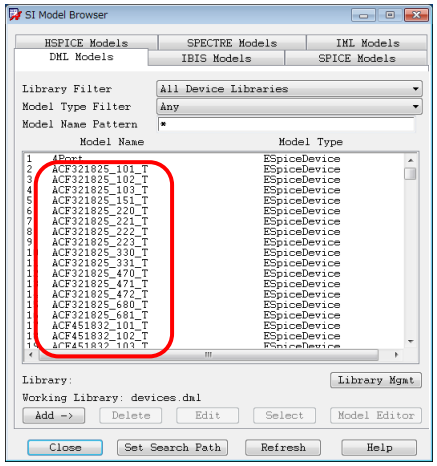


2)Set Search Path button

3) click Add Directory.... button to register the library folder



4)names of available model are shown



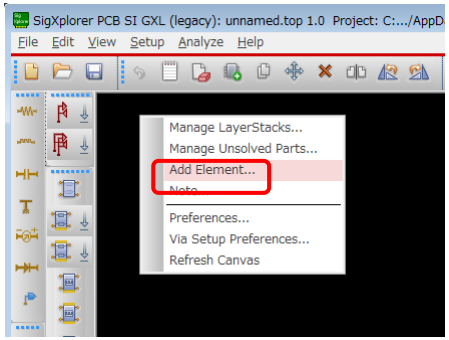
How to use the library (1)

< Placement of a model >

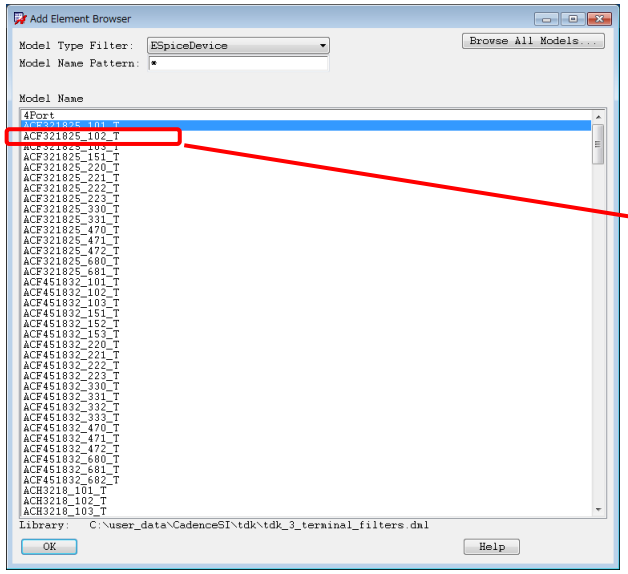
1)Right click on the schematic and select Add Element…, then Add Element Browser will open. Select the model to be placed and put it on the schematic.

2)Please refer to the next page regarding pin assignment of the model.

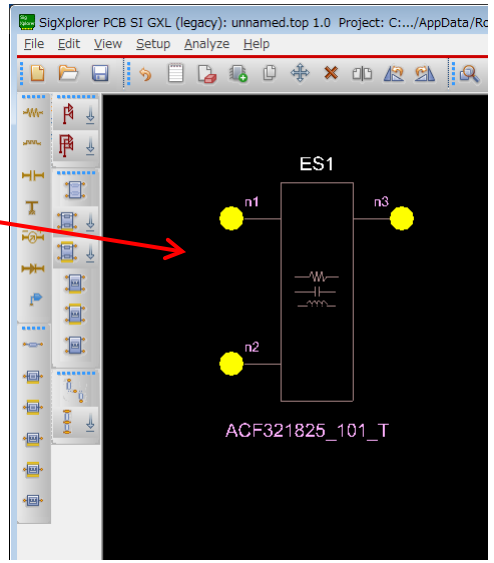
1)Right click>Add Element...



2) Select the model



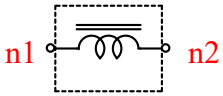
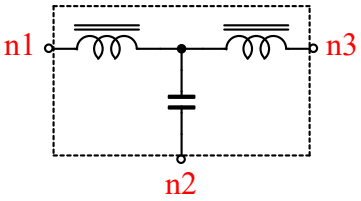
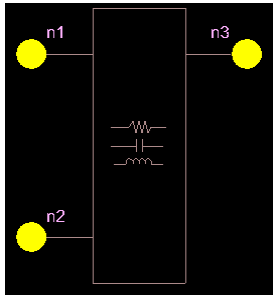
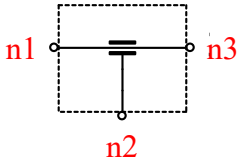
3) Place the model on the schematic



How to use the library (2)

< Pin Assignment >

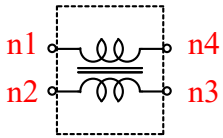
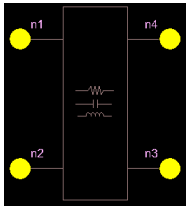
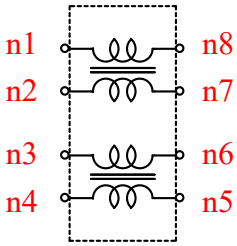
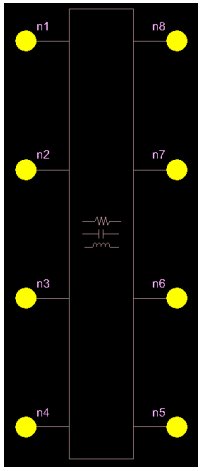
Pin assignments for each simulation model are listed below.

category	series	pin name	symbol
chip beads	MMZ MPZ HFxxACC		
3-terminal filters	ACH		
	YFF		
3-terminal feedthrough MLCCs	CKD		

How to use the library (3)

< Pin Assignment >

Pin assignments for each simulation model are listed below.

category	type	pin name	symbol
common mode filters	2-line type		
common mode filters(array type)	4-line type		

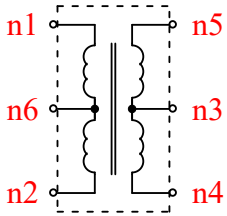
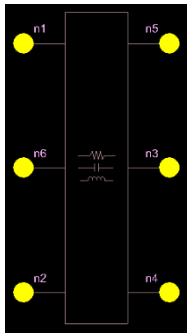
< Caution >

Please make sure that the models for common mode filters(tdk_common_mode_filters.dml) are used with SPB16.6 S029 or later.

How to use the library (4)

< Pin Assignment >

Pin assignments for each simulation model are listed below.

category	series	pin name	symbol
pulse transformers	ALT		

< Caution >

Please make sure that the models for pulse transformers(tdk_pulse_transformers.dml) are used with SPB16.6 S029 or later.

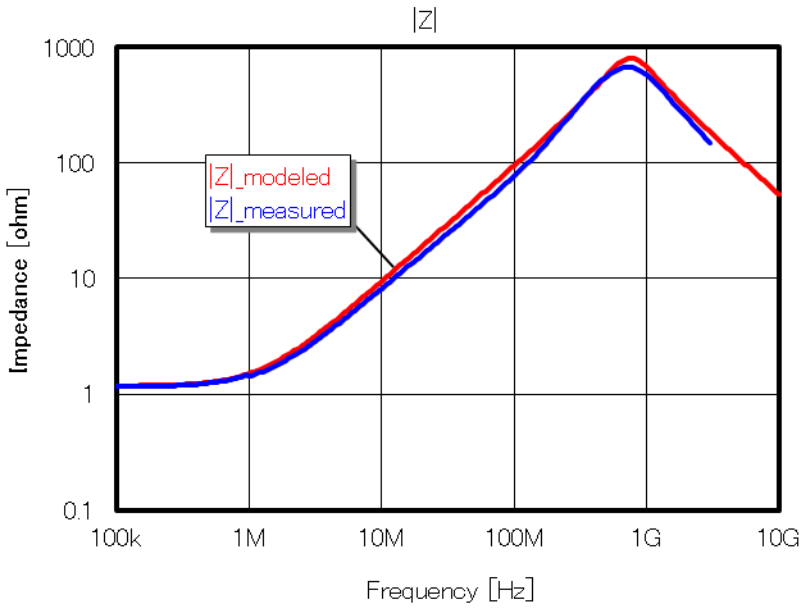
Comparison of model and measurement

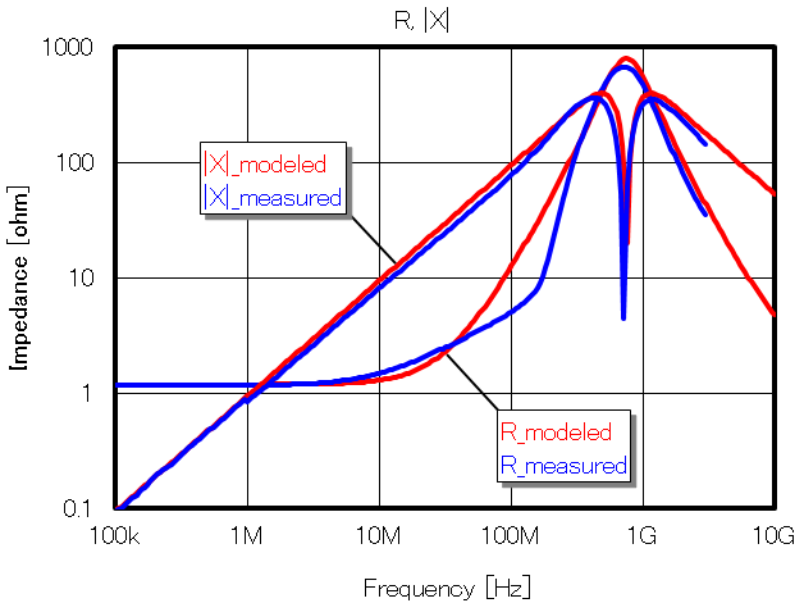
< Comparison between equivalent circuit models and measured data >

Comparison between the equivalent circuit models and measured data are shown in the following. Since the equivalent circuit models well match to measured results as shown in the following pages, simulation result that matches to actual property can be obtained.

Comparison of model and measurement (1)

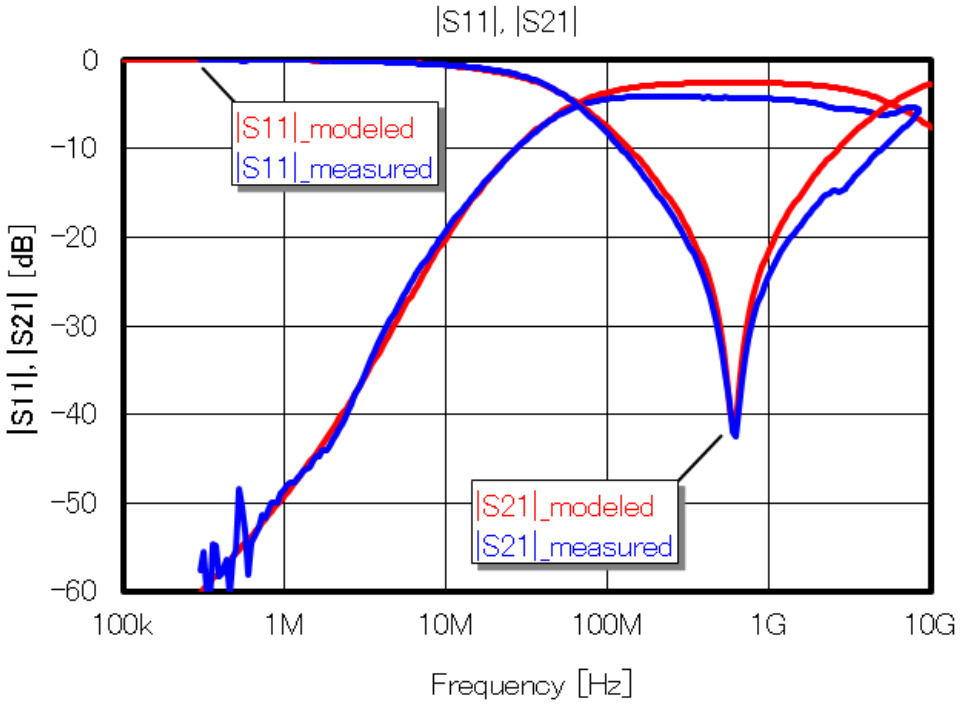
Chip Bead "MMZ0603D800CT000"





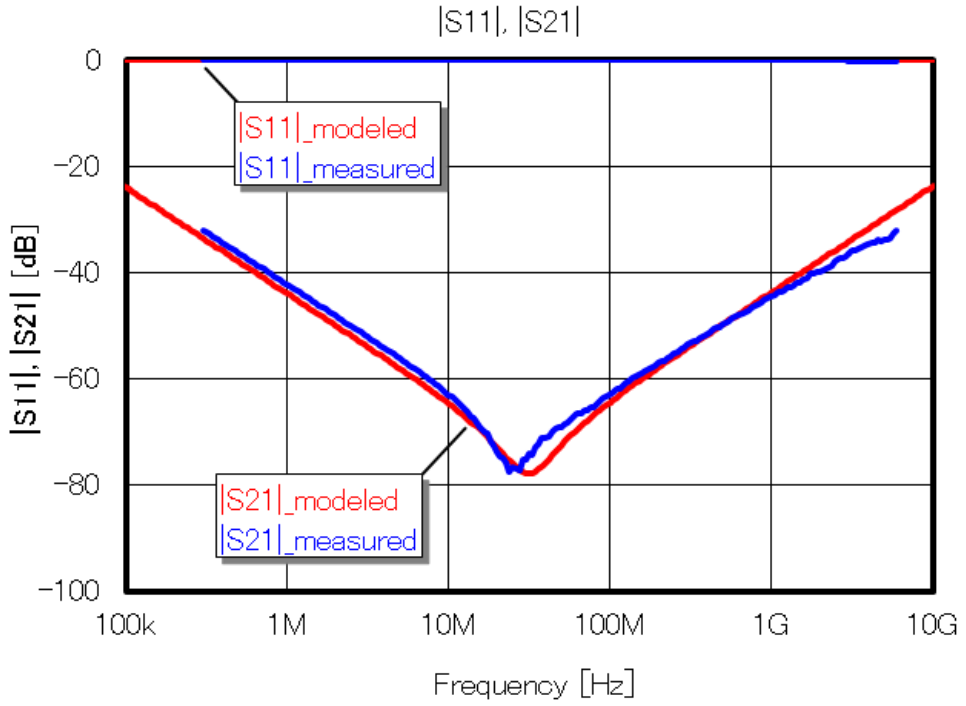
Comparison of model and measurement (2)

3-Terminal Filter “ACH32C-101-T001”



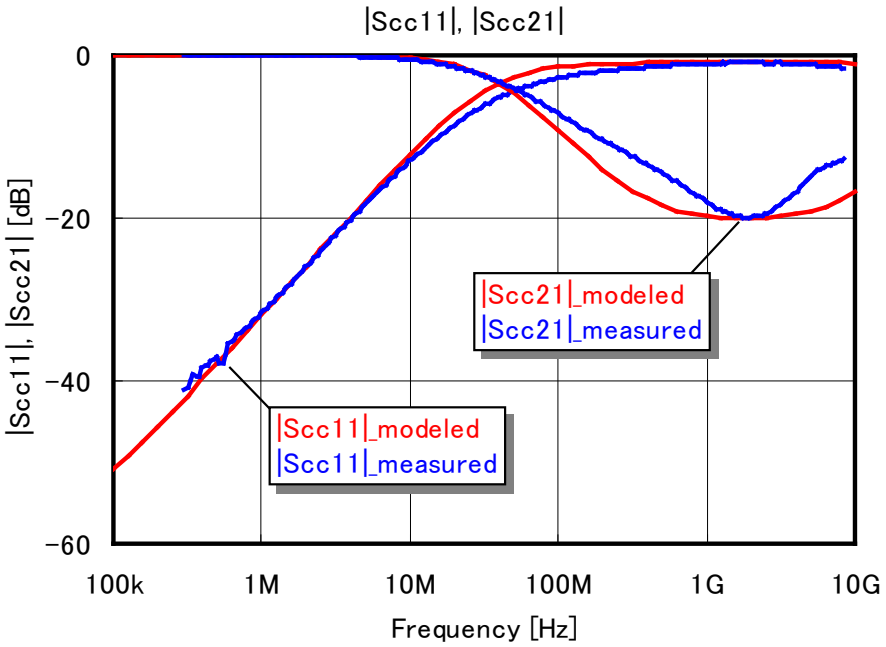
Comparison of model and measurement (3)

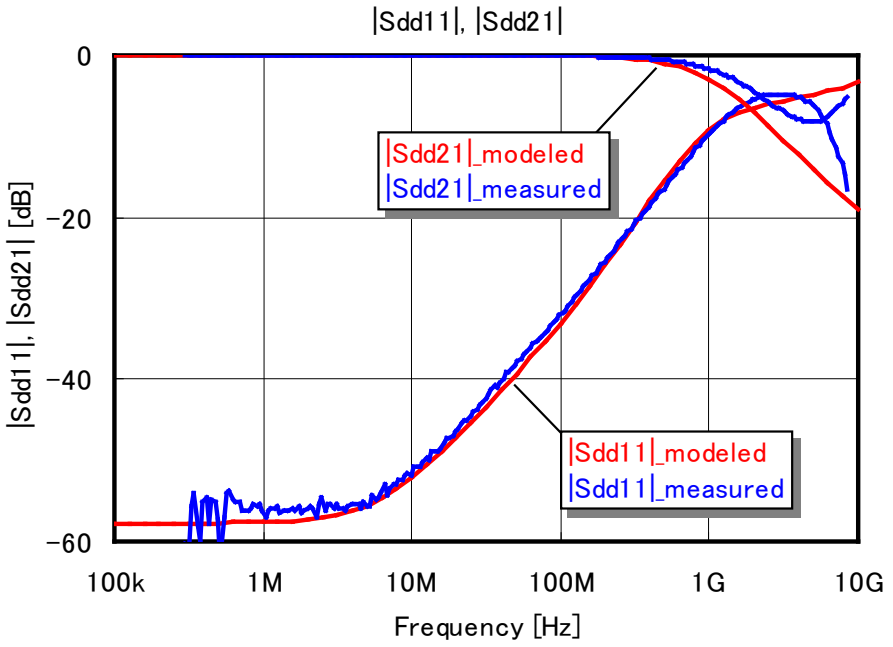
3-Terminal Feedthrough MLCC “CKD710JB0G105S030EA”



Comparison of model and measurement (4)

Common-Mode Filter "ACM2012-900-2P"



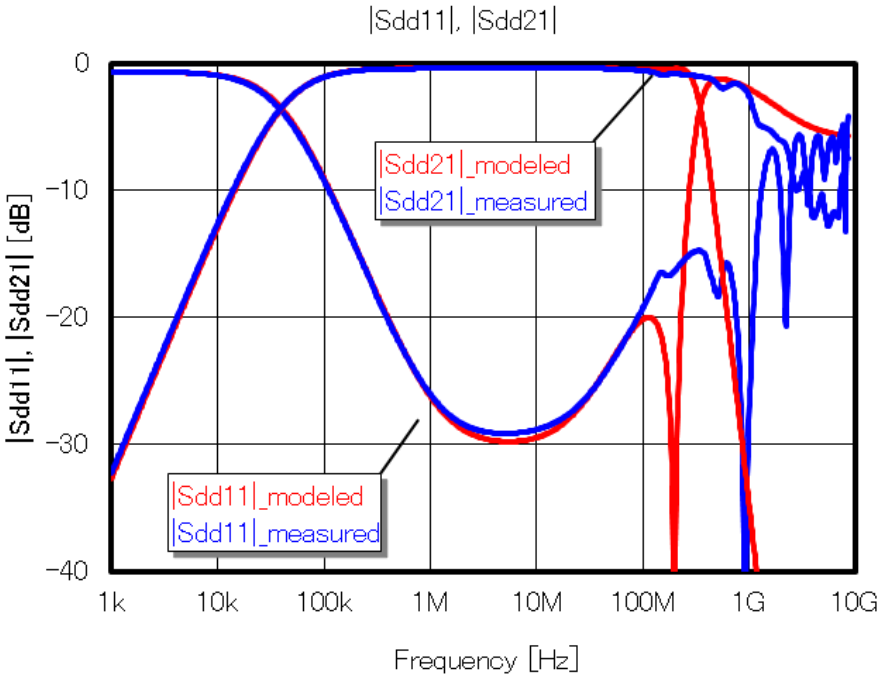


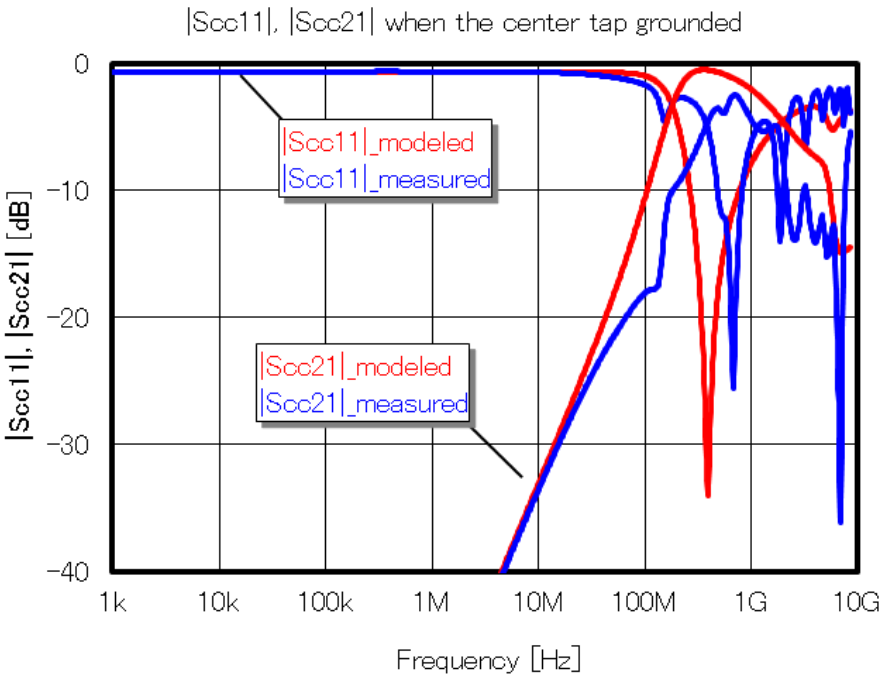
< Caution >

Please make sure that the models for common mode filters(tdk_common_mode_filters.dml) are used with SPB16.6 S029 or later.

Comparison of model and measurement (5)

Pulse Transformer "ALT3232M-151-T001"





< Caution >

Please make sure that the models for pulse transformers(tdk_pulse_transformers.dml) are used with SPB16.6 S029 or later.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