

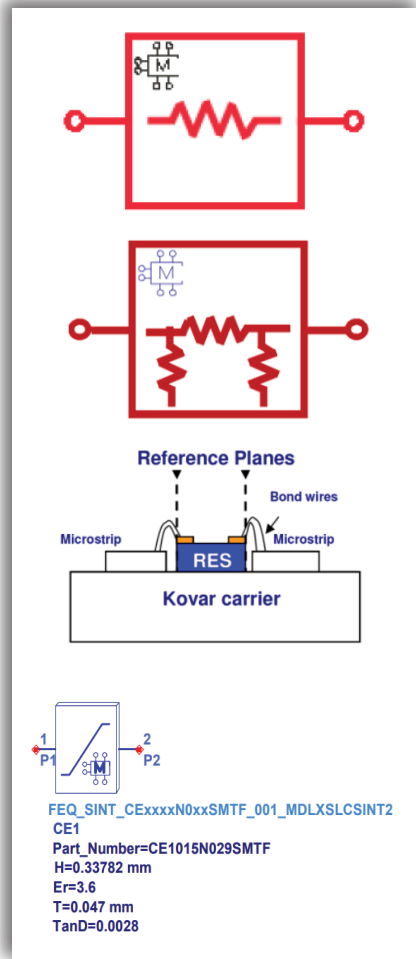
### OVERVIEW

The **Modelithics Smiths Interconnect MVP Library** is a collection of highly accurate measurement-based simulation models that are compatible with popular Electronic Design Automation (EDA) software tools. These models offer accurate broadband prediction including parasitic effects and feature scalable design parameters such as component value, pad dimensions, and substrate properties. These state-of-the-art models install seamlessly into the EDA software, placing high accuracy models at your fingertips and allowing for first pass design success!

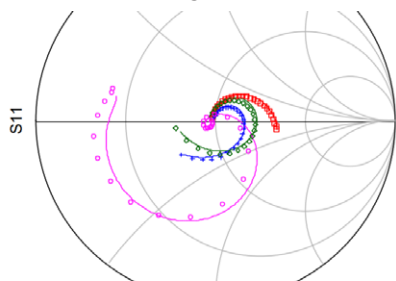
### LIBRARY FEATURES

The Modelithics Smiths Interconnect MVP Library offers a collection of **Microwave Global Models™** that provide many advantages over ideal and S-parameter file-based models. Valuable features of the models include:

- **MEASUREMENT-BASED** — Each global model is developed using highly accurate measurements across multiple conditions including different substrates and pad dimensions. By developing models using measurements, designers can have confidence that their simulations will represent real-world conditions.
- **SCALABLE** — The models can be scaled for part value (when applicable), pad dimensions, and substrate properties, allowing designers to simulate based on their specific conditions.
- **OPTIMIZATION AND STATISTICAL ANALYSIS** — Model parameters can be tuned and optimized in certain EDA software tools to provide best case parameter selection and rapid achievement of design goals. Model parameters can also be set up for statistical analysis.
- **AVAILABLE FOR POPULAR EDA TOOLS** — Keysight Technologies' PathWave Advanced Design System (ADS), Cadence® AWR Design Environment®, Keysight Technologies' PathWave RF Synthesis (Genesys), Keysight Technologies' PathWave System Design (SystemVue), Ansys® HFSS™, Sonnet® Suites™, and Cadence Spectre RF® Option.
- **COMPLETE DOCUMENTATION** — Each model contains a comprehensive model datasheet that lists recommended model validity parameters, measurement and test fixture details, and model-to-measurement data comparisons.

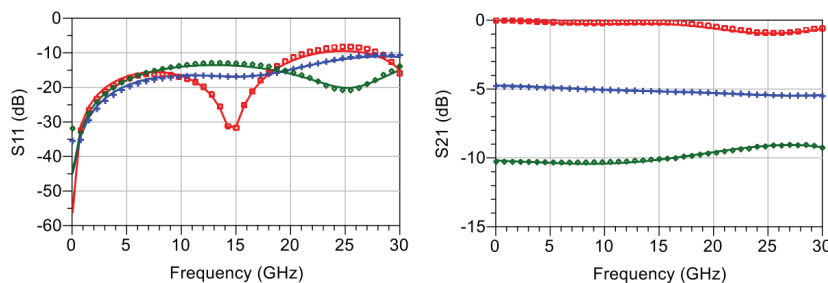


**Frequency Sweep - RES-SINT-CTxxxxD-050-001**  
Modelithics Model for CTxxxxD Series Resistors



**Legend:** □ CT0402D, + CT0505D, ◇ CT0603D, ○ CT1310D,  
Lines – Models, Symbols – Measured data. Measured data stops at highest valid frequency. S<sub>11</sub> for each available resistor size mounted on a Kovar Carrier from 1 to 30 GHz.

**Model vs. Measured Series 2-port S-parameter Data - ATT-SINT-TT9-001**  
Modelithics Model for TT9 SMT Attenuator Series  
3 Attenuator Values on 6.6 mil Rogers 4350B (H/Er = 1.7 mil)



S<sub>11</sub>(Left), S<sub>21</sub>(Right)  
**Legend:** □ 0 dB, + 5 dB, ◇ 10 dB,  
Solid lines - Model data, Symbols - Measured data

# List of Components in the Modelithics® Smiths Interconnect MVP Library

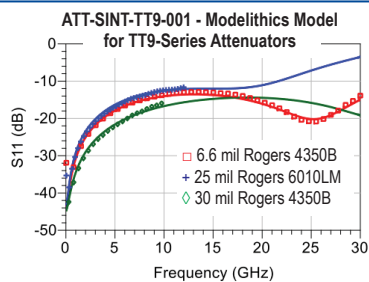
Attenuators			SMT Chip Equalizers			Diamond Resistors and Terminations	
TT900.0SMT	TT908.0SMT	TSX05.00	CE 1 015 P 029 SMTF	CE 2 007 P 028 SMTF	CE 3 008 P 035 SMTF	CR0402D	CT0402D
TT901.0SMT	TT909.0SMT	TSX06.00	CE 1 015 P 035 SMTF	CE 2 010 P 035 SMTF	CE 3 010 P 040 SMTF	CR0505D	CT0505D
TT902.0SMT	TT910.0SMT	TSX07.00	CE 1 020 P 040 SMTF	CE 2 010 P 040 SMTF	CE 3 010 P 045 SMTF	CR0603D	CT0603D
TT903.0SMT	TSX00.00	TSX08.00	CE 1 025 P 045 SMTF	CE 2 015 P 045 SMTF	CE 3 015 P 055 SMTF	CR1010D	CT1310D
TT904.0SMT	TSX01.00	TSX09.00	CE 1 030 P 055 SMTF	CE 2 020 P 055 SMTF	CE 3 015 P 065 SMTF	<b>High Freq Terminations</b>	
TT905.0SMT	TSX02.00	TSX10.00	CE 1 035 P 070 SMTF	CE 2 020 P 065 SMTF	CE 3 015 P 070 SMTF	CT0404ALN1WB1	
TT906.0SMT	TSX03.00	TSX15.00	CE 1 040 P 075 SMTF	CE 2 025 P 070 SMTF	CE 3020 P 090 SMTF	CT0404ALN2WB1	
TT907.0SMT	TSX04.00	TSX20.00	CE 1 050 P 095 SMTF	CE 3 005 P 027 SMTF		CTH0603ALN1SMTF	
CA0505D XX.5							

Visit the Modelithics website to view additional Pre-Release models.

Visit: [www.Modelithics.com/MVP/SmithsInterconnect](http://www.Modelithics.com/MVP/SmithsInterconnect)

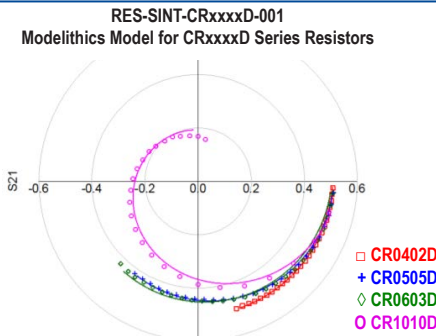
## Advanced Model Features for More Accurate High Frequency Design

### Substrate Scaling



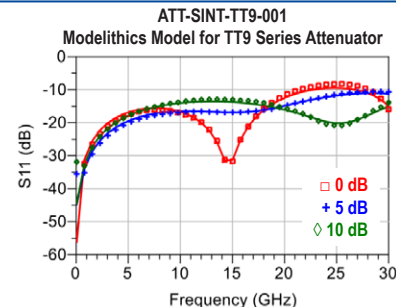
Variations in substrate properties have a significant effect on the response of surface mount components in high frequency designs. Modelithics models are substrate scalable and validated over a continuous range of substrate properties based on board thickness and dielectric constant.

### Part Number Selectable



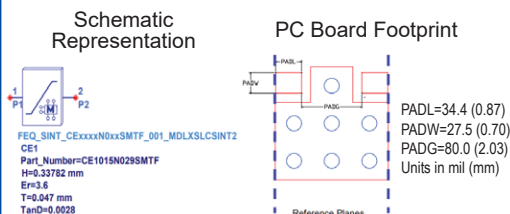
Modelithics Microwave Global Models™ have all values within a part series within one model. This allows for tuning and optimization by part value and eliminates the need to manually substitute individual models during a design sequence.

### Part Value Scalable



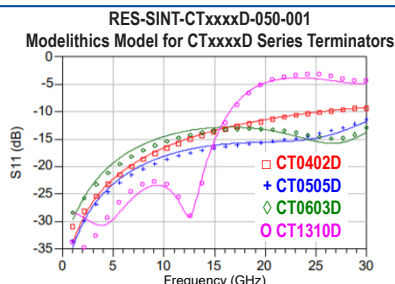
Modelithics' ATT-SINT-TT9-001 model has all values within a part series within one model. This allows for tuning and optimization by part value and eliminates the need to manually substitute individual models during a design sequence.

### Surface Mount Frequency Equalizer Model



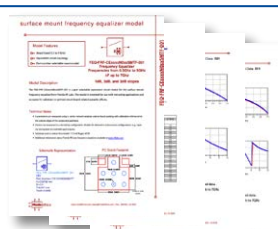
The FEQ-SINT-CExxxxP0xxSMTF-001 is a part selectable equivalent circuit model for the surface mount frequency equalizer from Smiths Interconnect. The model is intended for use with microstrip applications and accounts for substrate (or printed circuit board) related parasitic effects.

### Broadband Validation



Modelithics world class models are developed by performing accurate lab measurements with techniques that have been refined over 20 years. Models are validated against broadband measurements made possible by Modelithics wide array of test capabilities.

### Datasheets



Each Modelithics model has a data-sheet that provides detailed information about the model, such as the validation frequencies, reference planes, part value / pad scalability / substrate scalability ranges, model performance, and details about other features and model parameters.

What's in YOUR DREAM LIBRARY?

Help us build **YOUR** dream library! Pre-Release models are added based on customer demand. Share your desired models with [sales@modelithics.com](mailto:sales@modelithics.com)!

Visit the Smiths Interconnect MVP Page on the Modelithics website to:

- Explore the current list of available Smiths Interconnect component models
- View model datasheets
- Browse literature collection for application notes, presentations, etc.
- Request a FREE\* 90 day trial of the Modelithics Smiths Interconnect model library:

[www.Modelithics.com/MVP/SmithsInterconnect](http://www.Modelithics.com/MVP/SmithsInterconnect)

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