Modelithics®

World's Best RF & Microwave Simulation Models

Modelithics® IMS MVP Library

for High Accuracy Electronic Simulation

Modelithics®
Vendor Partner

ims

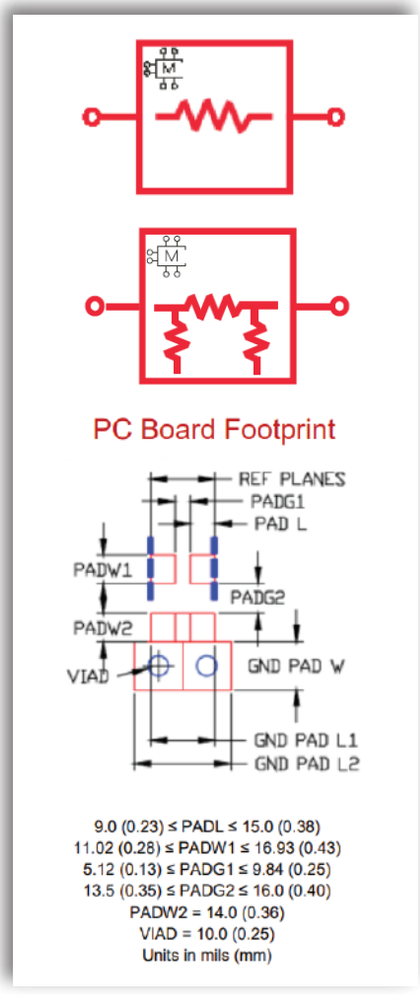
OVERVIEW

The Modelithics International Manufacturing Services, Inc. MVP Library is a collection of highly accurate measurement-based models that can be simulated in popular Electronic Design Automation (EDA) software tools. These models offer broadband parasitic prediction from DC to at least 40-50 GHz and offer scalable design parameters such as componentvalue, pad dimensions, and substrate conditions. These state-of-the-art models install seamlessly into the EDA software, placing high accuracy models at your fingertips, which allow for first pass design success!

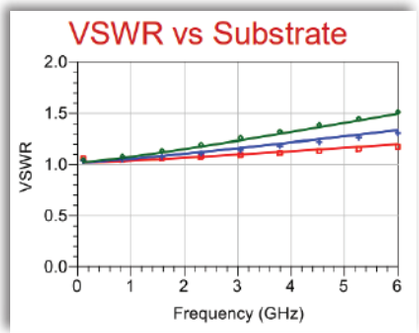
LIBRARY FEATURES

The Modelithics® IMS 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 component value, 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 the EDA software to provide best case parameter selection rapid achievement of design goals. Model parameters can also be set up for statistical analysis.
- **AVAILABLE FOR POPULAR EDA TOOLS** — Keysight Technologies' Advanced Design System (ADS), NI AWR Design Environment/Microwave Office™, Keysight Technologies' Genesys, ANSYS® HFSS™, Sonnet® Suites™, and Cadence® Virtuoso® Spectre RF®.
- **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.

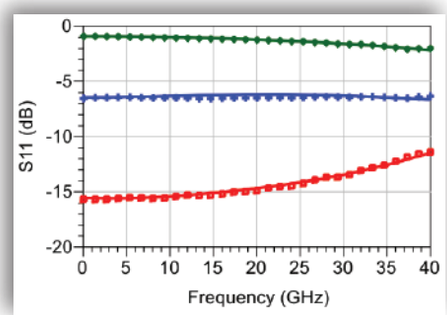


ATT-IMS-0402-001: Modelithics Model for *IMS A-0402WA-C Attenuator Series*



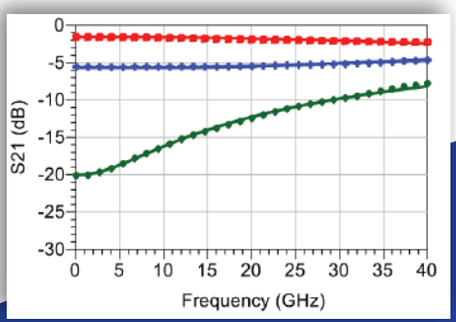
Legend: □ 6.6 mil Rogers 4350B, + 20 mil Rogers 4003C, ◊ 60 mil Rogers 4003C, Lines - Model, Symbols - Measured data. VSWR for a 10dB attenuator mounted on various substrates from 0.05 to 6 GHz.

S11



RES-IMS-0302-001; Modelithics Model for *IMS RC4-0302PW resistor series*. Model vs. Measured Series 2-port S-parameter data. 6.6 mil Rogers 4350B (H/Er = 1.7 mil)
S11 (above), S21 (right).

S21



Excellence in Modeling Since 2001

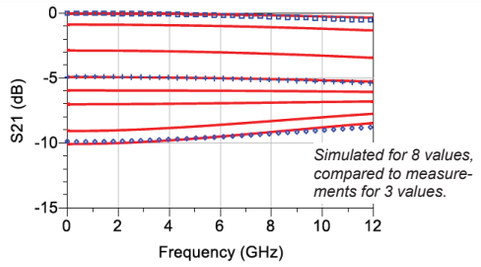
List of Components in the Modelithics® IMS MVP Library

Attenuators	Resistors
A-0402WA-C	NDX-1020EZW
A-0603-C	RC3-0402PW
IMS2533	RC4-0302PW
IMS2652	
VDR3725SG	

Visit our website for an updated complete list. (www.Modelithics.com/MVP/IMS)

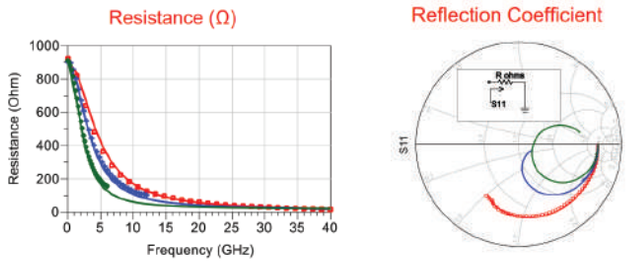
Advanced Model Features for More Accurate High Frequency Design

Part Value Scaling



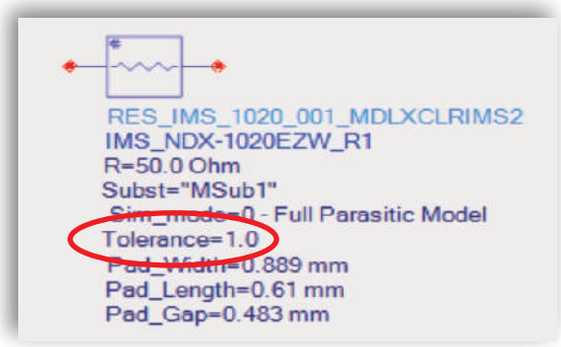
Modelithics Microwave Global Models™ for IMS components have all values within a part series within one model. This allows for tuning and optimization by component value and eliminates the need to manually substitute individual models during a design sequence.

Substrate Scaling



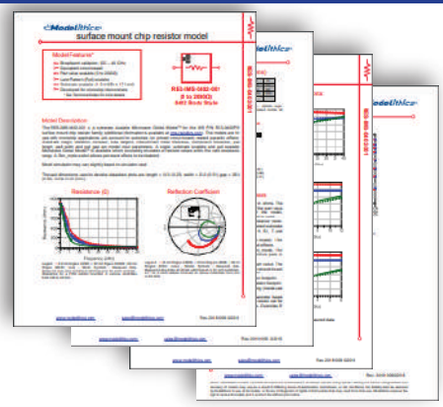
Variations in substrate properties have a significant effect on the response of surface mount components in high frequency designs. Modelithics models are substrate scalable, validated over a continuous range of substrate properties, based on board thickness and dielectric constant.

Statistical Analysis



The IMS component models have a “Tolerance” parameter which enables compatibility with statistical analysis tools in some EDA software. Powerful analyses, such as yield prediction and tolerance analysis, can be done to help optimize design performance and reduce production cost.

Datasheets



Each Modelithics model has a datasheet 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.

Visit the IMS MVP Page on the Modelithics website to:

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

www.Modelithics.com/MVP/IMS *with approval

Excellence in Modeling Since 2001