



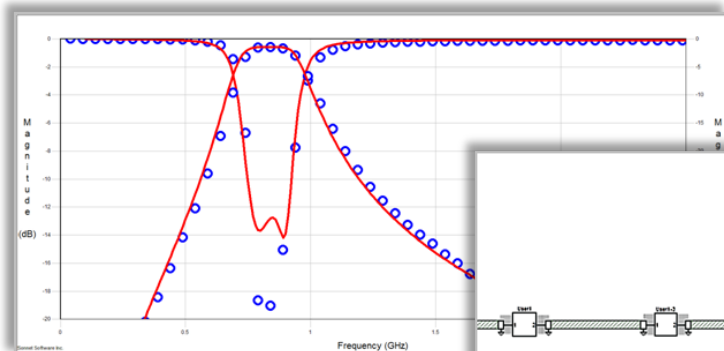
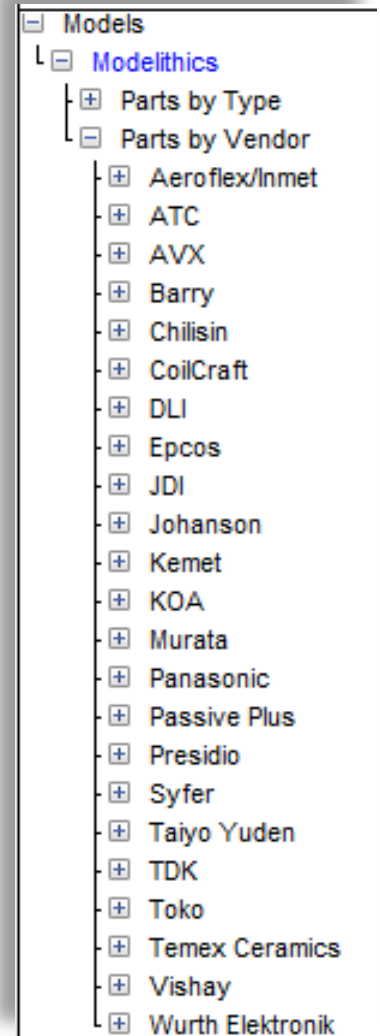
Overview

The Modelithics® CLR Library for Sonnet® Suites™ brings advanced design capability and increased accuracy to lumped element high frequency electronic design within Sonnet Suites. Modelithics Microwave Global Models™ are advanced measurement-based equivalent circuit models for capacitors, inductors and resistors that feature substrate scalability, and accurate simulation of parasitic effects based on the substrate properties. The ability to achieve first-pass design success is significantly increased when Modelithics models are used in combination with Sonnet electromagnetic circuit simulation software.

Library Features

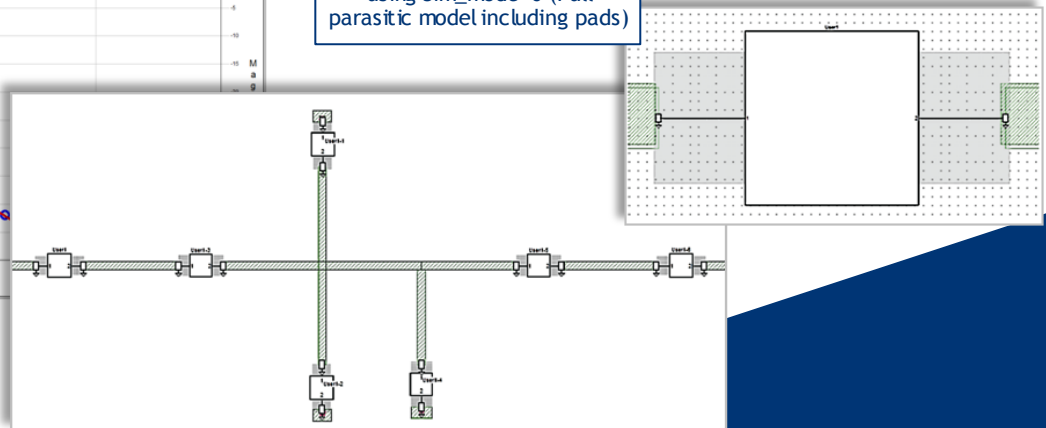
The Modelithics CLR Library for Sonnet Suites is a collection of high accuracy simulation models for capacitors, inductors and resistors, representing thousands of commercially-available components from many popular vendors. The installed library makes these models available in Sonnet as new “User Model” circuit element components. Valuable features of Modelithics models include:

- **Measurement-based**—Each model is developed using multiple specialized measurements under device-specific test conditions.
- **Scalable**—Part-value, substrate and pad-size scalability are incorporated into most CLR models. Substrate and pad dimensions increasingly affect circuit response at higher frequencies, so specification of these parameters is essential.
- **Advanced Pad Treatment Options**—Special simulation modes are available to specify how pads are incorporated into the simulation.
- **Well-Documented**—Each model contains a model datasheet that lists recommended model validity parameters, measurement and test fixture details, and model-to-measurement data comparisons.



Band pass filter layout and Model-to-measurement comparison through 2.5GHz

Symbol of Modelithics model using Sim_mode=0 (Full parasitic model including pads)

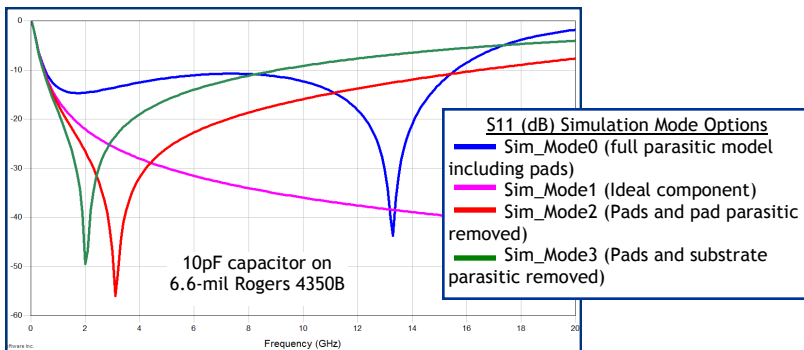


Example List of Components in the Modelithics® CLR Library for Sonnet Suites

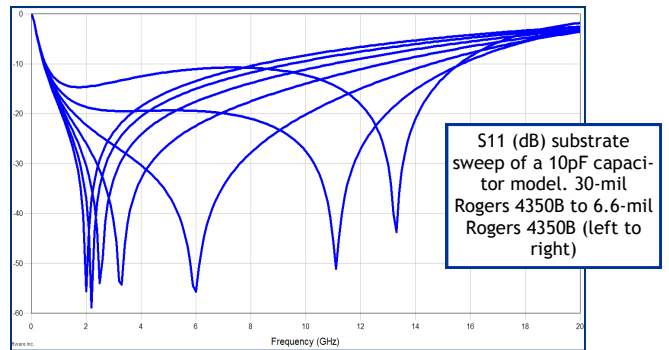
CLR				
API-Inmet (Aeroflex) Resistors NPC-, ANC-, PPC- (high power)	Epcos Capacitors B3792, B3793	Panasonic Inductors ELJRG, ELJRF, ELJRE	Samsung Capacitors CLO3C, CLO2C	Temex Ceramics Capacitors CLX, CLE
ATC Inductors MOL	Darfon Capacitors C0402NPO, C0603NPO	Panasonic Resistor ERJ2G	Knowles/Syfer Capacitor 0603 High-Q	Toko Capacitors LLV0603, LL1005, LL1608, LL2012
ATC Capacitors 400Z, 400L, 400S, 600L, 600S, 600F, 100A, 100B, 200B, 520L, 530L, 545L, 550L, 550S, 550U, 550Z, 700B, 800A, 800B, 800R	Coilcraft Inductors 0201DS, 0302CS, 0402CS, 0603CS, 0402HP, 0603HP, 0603LS, 0604HQ, 0805CS, 0805HT, 0805HQ, 0806SQ, 08075Q, 0906, 09085Q, 1008CS, 1606, 1008HQ, 1008HS, 1008CT, 11115Q, 1206CS, 15155Q, 22225Q, 29295Q, MAXI, MIDI, MINI, 4310LC,	Murata Inductors LQP02T, LQP03T, LQW15, LQP15, LQW18, LQP18, LQG18, LQW04A, LQG15	Passive Plus Capacitors 0201N, 0402N, 0603N, 0805N, 1111N, 0505C, 1111C, 01005BB, 0201BB	Vishay Capacitor VJ0402, VJ0603, HPC0402
AVX Capacitors C0G (NPO), X7R, X5R, ACCU-P, CDR12, DLA, ML03, Multilayer-AQ,	Knowles/Dielectric Labs Capacitors C06UL, C06BL, C08BL, C11UL, Millicap, Opticap	Murata Capacitors GRM02, GJM02, GJM03, GRM03, GRM15, GJM15, GRM18, GRM21,	Taiyo Yuden Capacitors EMK042, LMK042, JMK042, TVS042, TMK063, JMK063, EMK063, UMK105	Würth Elektronik Inductors WE_MK, WE-KI, WE-TCI
AVX Inductors HLQ02, HLC02, HL02, DLA, Accu-L	Knowles/Dielectric Labs Inductors C0402, C0603, C0805, CBR02, CBR04, CBR06, CBR08	Kemet Capacitors C0402, C0603, C0805, CBR02, CBR04, CBR06, CBR08	TDK Inductors MLG0402, MLG0603, MLK1005, MLG1005, MLG1608, NLV25T, MLF2012	Presidio Capacitors BB0502, MVP0505
ATC Resistors Style CS, CW, CZ, CT (high power)	Barry Ind. Resistors RK0603, RE0805, RY0805, RE1005, RY1005, REC1206, RYC1206, RZC1206	KOA Resistors RK73x1H, RK73x1E, RK73x1J, RK73B2A, RK73B2B, WK73S3A	TDK Capacitors C0402, C0603, C1005, C3225	** More to come! New models are added continually. Visit our website for an updated complete list, and see our available Pre-Release models (www.Modelithics.com)
AVX Resistors Style RP (High Power)	Johanson Capacitors R05L, R07S, R14S, R15S, S42E	KOA Capacitor HFC1005	Taiyo Yuden Inductors HK0603, HK1005, HK1608, HK2125	
Chilisin Inductors CLH1608, CLH2012, CL2012	Johanson Inductors L-05C, L-07W, L-07C			

Advanced Design Capability with Modelithics Models and Sonnet Suites

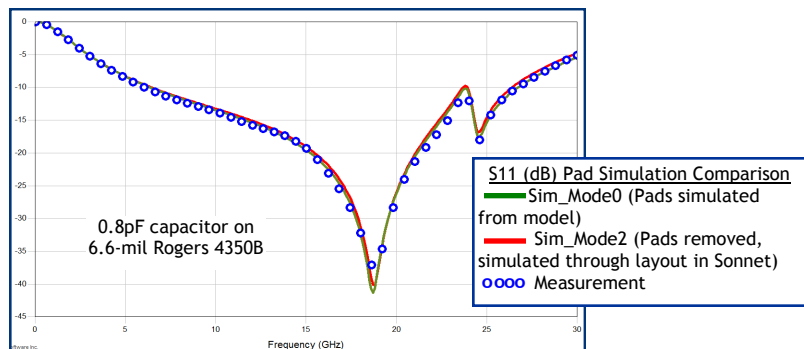
Simulation Mode Options



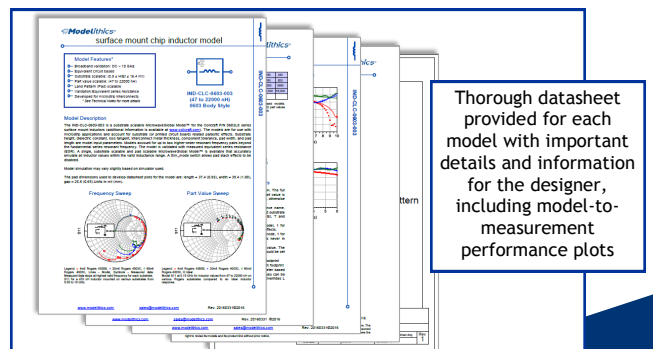
Substrate Scalability



PCB Pad Model Options



Model Documentation



Contact Modelithics at sales@modelithics.com or visit www.Modelithics.com to request a FREE trial.