Modelithics®

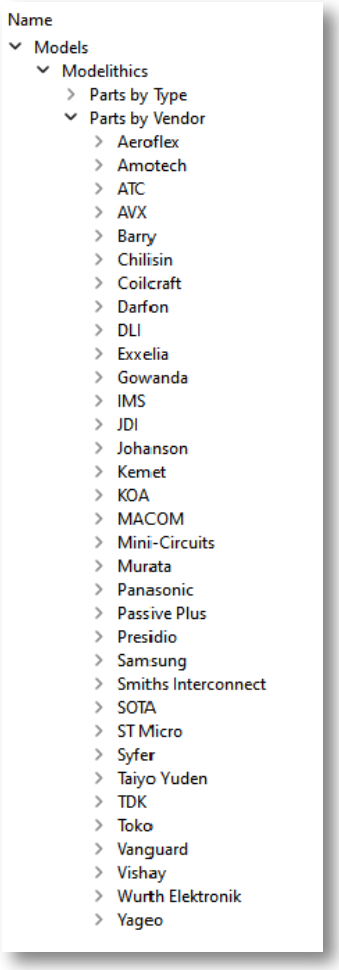
World's Best RF & Microwave Simulation Models

Modelithics COMPLETE Library

for Sonnet® Suites™

Overview

The **Modelithics COMPLETE Library** for Sonnet Suites brings incredible flexibility and accuracy to electronic designs. Modelithics models are highly scalable, taking into account important design considerations, such as substrate and pad characteristics. The Modelithics COMPLETE Library includes thousands of models representing thousands of popular passive devices to assist with achieving first-pass design success.



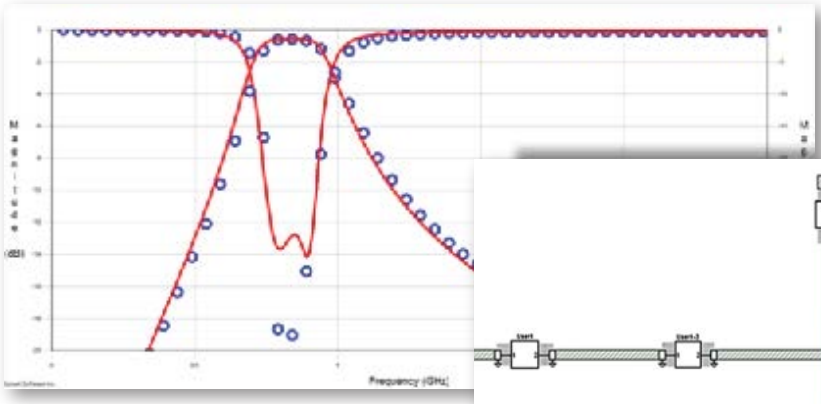
Library Features

The Modelithics Library for Sonnet Suites offers an extensive selection of models, representing thousands of components. The installed models are fully integrated with Sonnet electronic design automation (EDA) software.

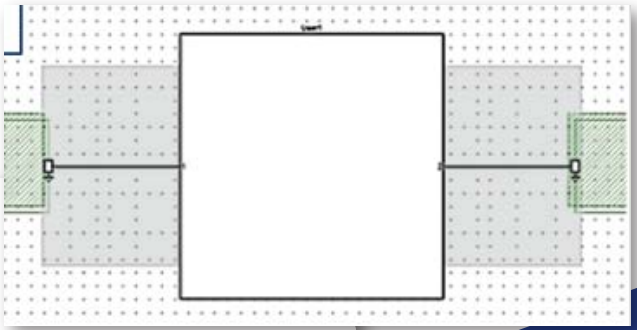
- **Measurement-based** — Each model is developed using specialized measurements under device-specific test conditions.
- **Scalability** — The models offer scalable/selectable parameters for design and device properties such as part-value, substrate, bias, pad-size, temperature, orientation and more.
- **Model Documentation** — Each model includes a datasheet that lists recommended model validity ranges, test fixture details, and model-to-measurement data comparisons.
- **Statistical Analyses** — The tolerance parameter is compatible with EDA optimization, yield and sensitivity analysis tools to tune and perfect designs, evaluate yield, and make efficient part selection.

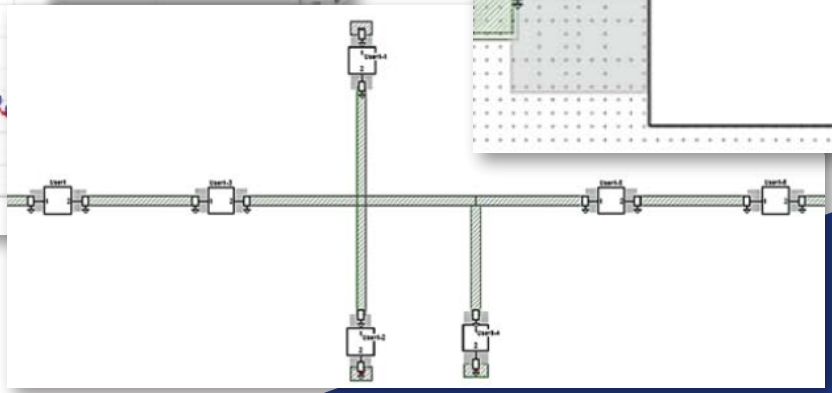
Sub-Libraries of the Modelithics COMPLETE Library

- **Modelithics CLR Library** — Contains all passive components from the Modelithics COMPLETE Library. It includes simulation models for various component body-sizes and part values for capacitor, inductor, and resistor families (RLC) from many popular vendors.
- **mmWave & 5G Library** — A collection of models focused on supporting the next generation of cellular communication standards. All models in the mmWave & 5G Library are validated to a minimum of 30 GHz, with some validated up to 125 GHz!
- **System Components Library** — Models for discrete die, surface mount and packaged devices.
- **Small Parts Sub-Library** — A sub-library of the Modelithics CLR Library of components with body sizes smaller than 0502, including 0402, 0201 and 01005.
- **Single-Vendor Sub-Library** — Includes all models for one selected vendor. Choose from the over 70 vendors within the Modelithics COMPLETE Library.



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





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

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List of Components in the Modelithics COMPLETE Library for Sonnet Suites

Modelithics Vendor Partners (MVPs)

Amotech

CAPACITORS
A60S, A60Z, A60L, A60F, A80B, ABCUC06S0xx103, ABCUC06S0xx473, ABCUC06S0xx104, ABCUC16S01x103, ABCUC16S01x104, ABCUA50S02x104

API-Inmet

RESISTORS
ANC50-100W, ANC50-50W, NPC20-40S, NPC50-100W, NPC50-50W, PPC100-200AW

ATTENUATORS
PCAAF, PCAF, TCAF, PCA, PCAA

Barry Industries

RESISTORS
RE0805CT, RE1005CT, REC1206CT, RK0603ZZ, RY0805CT, RY1005CT, RYC1206CT, RZC1206CT (1-port), RZC1206CT (2-port)

ATTENUATORS
AK0405CD, AT0904CB

Chilisin

INDUCTORS
CL2012, CLH1608, CLH2012

Coilcraft

INDUCTORS
0201DS,0201HL, 0302CS, 0402CS, 0402HP, 0403HQ, 0603CS, 0603CT, 0603HL, 0603HP, 0603LS, 0604HQ, 0805CS, 0805HQ, 0805HT, 0806SQ, 0807SQ, 0906, 0908SQ, 1008CT, 1008HQ, 1008HS, 1111SQ, 1206CS, 132-xxSM, 1508, 1515SQ, 1606, 1812CS, 1812SMS, 2222SQ, 2508, 2929SQ, 4310LC, AxxT, BCL, BCR, BxxT, GA309X

Darfon

CAPACITORS
C0402NP0, C0603NP0

Exxelia

CAPACITORS
CLE, CLX

Gowanda

INDUCTORS
CC0603, C050FL, C050SMC, C100FL, C100SM, C100SMC, C225FL

IMS

RESISTORS
NDX-1020EZW, RC3-0402PW, RC4-0302PW

ATTENUATORS
A-0402WA-C, IMS2652, A-0603-C, IMS2533, A-0805, IMS1141, VDR 3725SG

JDI

CAPACITORS
R14, R15

Johanson

CAPACITORS
R05L, R07S, R14S, R15S, R15G, S42E

INDUCTORS
L-05Cxxx, L-07Wxxx, L-07Cxxx, L-14C, L-14W

KEMET

CAPACITORS
C0402(C0G), C0402(X5R), C0402(X7R), C0603, C0805(BX), C0805(C0G), C0805(NP0), C0805(X5R), C0805(X7R), CBR02, CBR04, CBR04 Auto, CBR05, CBR06, CBR06 Auto, CBR08

Knowles

CAPACITORS
(Syfer)
HighQUltraLowESR
(Dielectric Labs)
C06BL, C06UL, C08BL, C11UL, Milli-cap, Opti-cap

KOA

RESISTORS
RK73H, RK73B1J(RK73H), RK73B2A, RK3B2B, RK73x1E(RK73H), RK73x1H(RK73B), RK73x1J, RK73x2E, RK73x3A, WK73S3A

CAPACITOR
HFC1005

Kyocera-AVX

INDUCTORS
Accu-L (0201, 0402, 0603, 0805), DLA11017, DLA11018, DLA11019, HL02, HLC02, HLQ02
(ATC)
MOL

ATTENUATORS
RP10975AxxDB
(ATC)
FA10975PxxDB

Kyocera-AVX (Cont'd)

CAPACITORS
0101YA, 02013A, 0201YC, 0201YD, 0402xU, 550W103, 560W104, 550Z103, 550Z104, 550Z224, 560Z104, 560Z224, 550U, 00603xA (C0G), 0603xC (X7R), 0603xU, 08051A, 08051C, 0805xU, 12101U, 1206xC, Accu-P (01005, 0201, 0402, 0603), AQ12, CU01, DLA09024, DLA09025, ML03, MP01, MP02, MP03, SQCA (NP0), SQCA (P90), SQCA (X7R), SQCB (NP0), SQCB (P90), SQCB (X7R), SQCF, SQCS (NP0), U0603, UQCA (NP0), UQCB, UQCF, UQCL (NP0), UQCR (NP0), UQCS (NP0)
(ATC)
100A, 100B, 12101U, 200A, 200B, 400L, 400S, 400Z, 504L, 520L, 530L, 600F, 600L, 600S, 700A, 700B, 800A, 800B, 800R

RESISTORS
UBR0402, RP42010R0050GTTR, RP42010R0100GTTR, RP43737, RP52010R0050GTTR, RP52010R0100GTTR, RP53725R0050GTTR, RP53725R0100GTTR, RP81020T0050, RP92010T0050GTTR, RP93725T0050GTTR, RP93737T0050GTTR
(ATC)
CS12010T0050GBK, CS12010T0100GBK, CS13737T, CT11020T0050, CW12010T0050GBK, CW12010T0100GBK, CW13725T0050GBK, CW13725T0100GBK, CZ12010T0050GBK, CZ13725T0050GBK, CZ13737T0050GBK

MACOM

COUPLER
MACP-011088

SPLITTER
MAPD-011062

TRANSFORMERS
MABA-011125

Mini-Circuits

ATTENUATORS
KAT, RCAT, YAT, YATA

COUPLERS
JRB-D+

SPLITTERS
EP2C+, EP2K1+, EP2KA-DB+, EP2K+, EP2W1+, EP2W+, EPQ133+

TRANSFORMERS
NCS1-422+, NCS1-63+ NCS2-392+, NCS2-83+

Murata

CAPACITORS
GJM022, GJM03, GJM15, GQM15555C, GQM187, GQM188, GQM219, GQM22M, GRM022, GRM022 (X5R, X7R), GRM0335, GRM15555C1H, GRM155R71E, GRM155R71H, GRM1885C1H, GRM188R71H, GRM188R72A, GRM2165C2A, GRM219, GRM32ER71J, GRP033, UBSC-935-151-424-610, UBSC-935-151-723-510

INDUCTORS
LQG15HS, LQG18, LQP02HQ, LQP02T, LQP02TQ, LQP03TN, LQP15M, LQP18M, LQW04A, LQW15AN_00, LQW18AN_00

FERRITE BEADS
BLM18HG102SN1

Panasonic

INDUCTORS
ELJRE, ELJRF, ELJRG

RESISTOR
ERJ2GE0R00X

Passive Plus

CAPACITORS
01005BB104, 0201BB104, 0201N-ultra-low-ESR, 0402N-ultra-low-ESR, 0505C, 0603N-ultra-low-ESR, 0708N, 0805N-ultra-low-ESR, 1111C, 1111N-ultra-low-ESR

RESISTORS
R35-1209BB, R35-2010BB

Presidio

CAPACITORS
0402UP, 0505UP, 0603UP, BB0201X7R103M, BB0402X7R104M2, BB0502X75104M

Samsung

CAPACITORS
CL02CxxxxxxA, CL02CxxxxxxG, CL03C

RESISTORS
RC0402

Smiths Interconnect

RESISTORS
CT0404ALN1WB1, CT0404ALN2WB1, CT0603ALN1SMTF

ATTENUATORS
CA0505D, TS06xxF, TSX, TT9

ST Micro

CAPACITOR
PTIC

State of the Art

RESISTORS
S0202AF, S0303AF, S0505AF, S0505CF, S0505DF, S0505EF, S0603CF

Taiyo Yuden

CAPACITORS
EMK042, EMK063, JMK063, LMK042_and_JMK042, TMK063, TVS042, UMK105

INDUCTORS
HK0603, HKQ0603S, HKQ0603U, HKQ0603W, HK1005, HK1608, HK2125

TDK

CAPACITORS
C0402C0G, C0603C0G, C1005CH , C1005X5R, C3225, CGA1A2C0G, CGA1A2X7R, CGB1T3X5R0J104M

INDUCTORS
MHQ0402PSA, MHQ1005P, MLF2012, MLG0402Q, MLG0603P, MLG0603S, MLG1005S, MLG1608B, MLK1005S, NLV25T

Toko

INDUCTORS
LL1005-FHL, LL1608-FSL, LL2012-FHL, LLV0603-F

Vanguard

INDUCTORS
50000 Series, 26000 Series, 26200 Series, 27000 Series, 30000 Series, 33000 Series, 34000 Series

Vishay

CAPACITORS
HPC0402, VJ0402D, VJ0603D

RESISTORS
D10, D11, CRCW01005, FCHP0402, FCHP0402xxxBGT, FCHP0402xxxBTT, MCS0402

Würth Elektronik

INDUCTORS
WE-ACHC, WE-CAIR, WE-KI, WE-KIHC, WE-MK, WE-TCI

CAPACITORS
8853920040xx, 885392005xxx, WCAP-CSMH 0603 (NPO), WCAP-CSMH 0603 (X7R), WCAP-CSMH 0805 (NPO), WCAP-CSMH 0805 (X7R)

Yageo

CAPACITORS
CQ0201, CQ0402, AQ0402, CQ0603, AQ0603, CQ0805

RESISTORS
RC0100

- Highly accurate and versatile Modelithics models reduce design time and costs, increasing productivity.
- Modelithics models are measurement-based equivalent circuit models, and will exhibit physical behavior, even beyond the measurement frequency.
- Concept to product faster and easier.

What's in YOUR DREAM LIBRARY?

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