

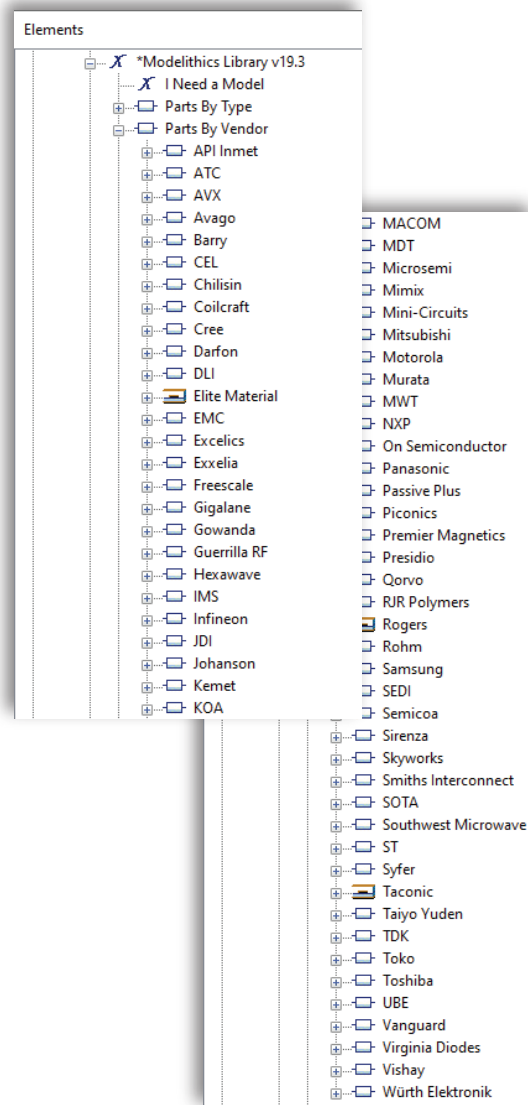
Overview

The Modelithics COMPLETE Library for Cadence AWR Design Environment brings incredible flexibility and accuracy to electronic designs. Modelithics models are scalable, allowing design details, such as substrate and pad characteristics, to be specified and simulated. The Modelithics COMPLETE Library includes thousands of popular passive and active devices with modeling accuracy to deliver first-pass design success.

Library Features

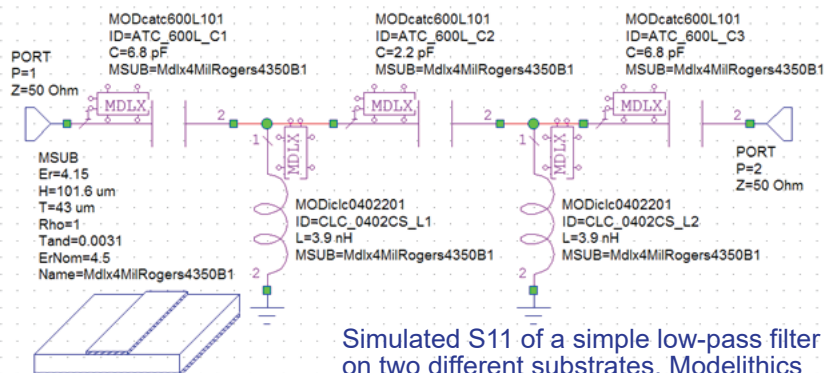
The Modelithics COMPLETE Library for Cadence AWR Design Environment offers an extensive selection of models, representing thousands of components. The installed models are fully integrated with Cadence AWR Design Environment electronic design automation (EDA) software. Modelithics COMPLETE also features a substrate library containing measurement-based substrate parameters for many of the most commonly used substrates.

- **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.

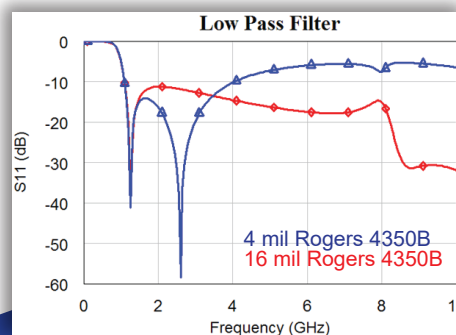


Modelithics COMPLETE at a Glance

- **CLR Library** — Capacitor, inductor & resistor Microwave Global Models™
- **NLD Library** — Non-linear diode models
- **NLT Library** — Non-linear transistor models
- **SLC Library** — System level component models (filters, amplifiers, etc)
- **Substrate Library** — Measurement-based MSUB substrate definitions



Simulated S11 of a simple low-pass filter on two different substrates. Modelithics models account for substrate parasitics.



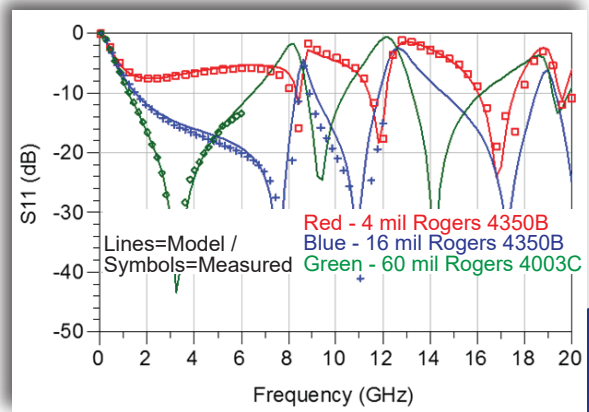
List of Components in the Modelithics COMPLETE Library for Cadence AWR Design Environment

CLR	NLD	NLT	SLC
API-Inmet (Resistors) NPC-, ANC-, PPC- (high power)	AVX (Inductors) HLQ02, HLC02, HL02, Accu-L (0201, 0402, 0603, 0805), DLA (0402, 0603, 0805) ATC (Inductors) MOL	Aeroflex/Metelics MSSP25250-70, MMP7065-11, MLP7100, -7110, -7120, -7101, MSD710 Infineon BARxx PIN, BASxx Schottky, BBxx Varactors MACOM MA4PH235-1072, MA4P504-132, MAVRxx, SMV20413 Microsemi UPP9401 Pin Diode	API-Inmet (Attenuators) PCAx, PCAAx, TCAF Avago (Amplifier) MGA86576 AVX (Couplers) CP0603, CP0402, DB0603, PC2025A2100, PC2025A2700 Couplers AVX (Diplexers) DP03, DP05, DP06 Diplexers AVX (Attenuator) RP10975AxxDB ATC (Attenuator) FA10975PxxDB
AVX (Capacitors) COG (NPO), X7R, X5R, CU01, 0402xU, 0603xU, 0805xU, Accu-P (01005, 0201, 0402, 0603), AQ12, UQCA, UQCB, UQCF, UQCL, UQCR, UQCS, SQCA, SQCB, SQCF, SQCS, ML03, DLA (0402, 0603) ATC (Capacitors) 600L, 600S, 600F, 100A, 100B, 200A, 200B, 520L, 530L, 700A, 700B, 800A, 800B, 800R, 400Z, 400L, 400S	AVX (Resistors) RP-series (high power) ATC (Resistors) Style CS, CT, CW, CZ (high power), 504L Barry Industries (Resistors) RK0603, RE0805, RY0805, RE1005, RY1005, REC1206, RYC1206, RZC1206	MDT MP6250-P2715 Freescal MRF281, MRF9030, MFR1517, MRF1518 Hexawave HWC27NC Infineon BFP420, BF999, BFR949F, BFY420, PTF080101S, PTF043002E MACOM NPT1012, NPTB00004	Barry Industries (Attenuator) AK0405CB, AT0904CB Barry Industries (Package) QFN5532-050x Gigalane (Connector) PSF-500-000
Coilcraft Inductors 0201D5, 0302C5, 0402C5, 0603C5, 0402HP, 0402AF, 0402DF, 0403HQ, 0603HP, 0603LS, 0604HQ, 0805CS, 0805HT, 0805HQ, 0805HP, 0906, 1008CS, 1010V5, 1212V5, 1606, 1008HQ, 1008HS, 1008CT, 1206CS, 1812CS, MAXI, MIDI, MINI, 0806/0807/0908SQ, GA309X, 1111/1515/2222/2929SQ, 4310LC, BCL Conical, BCR Conical	Chilisin (Inductors) CLH1608, CLH2012, CL2012 Chilisin (Ferrite Beads) SBY1005, PBY1608, GBY1608 Darfon (Capacitors) C0402 (01005), C0603 (0201)	On Semiconductor MMBD301LT1, MBD330DWT1 Rohm RB715F Skyworks SMPxx PIN, SMSxx Schottky, SMVxx Varactors	IMS (Attenuators) A-0402WA-C, A-0603-C, IMS2652, IMS2533, VDR3725SG, IA-0805WA, IA3-1206WA
Exxelia (Capacitors) CLX, CLE, SHF251xxx	IMS (Resistors) RC4-0302PW, RC3-0402PW, NDX-1020EZW	Toshiba 15Vxxx, JDV25xx Varactor Diodes	Microsemi SD1495-03
Johanson Technology (Capacitors) R05L, R07S, R14S, R15S, R15G, S42E	Johanson Technology (Inductors) L-05C, L-07W, L-07C, L-14C	Virginia Diodes W Band Single Anode and ZBD	MIMIX CF003_01
KEMET (Capacitors) C0402, C0603, C0805, CBRO2, CBRO4, CBRO5, CBRO6, CBRO8	Knowles - Syfer (Capacitors) 0402 H-Range, 0603 High-Q Knowles - DU (Capacitors) C04BL121X, C04UL, C06CF, C06UL, C06BL, C08BL, C08BL102X, C11UL, Millicap, Opticap	SPAR (Data Models) Gowanda (Inductors) C050FL, C050SMC, C100FL, C100SM, C100SMC, C225FL, CC0603 Guerrilla RF (Amplifiers) GRF2070, GRF2071, GRF2072, GRF2073, GRF2501, GRF2093, GRF2100, GRF2106, GRF4002, GRF4014	MACOM (Pin Limiter) 2690-1011 Mini-Circuits (High Pass Filters) HFCN (5) Mini-Circuits (Low Pass Filters) LFCN (15) Mini-Circuits (Amplifiers) GVA-62+, GVA-63+, GVA-84+, PGA-102+, PGA-103+, PGA-105+, PHA-1+, PSA4-5043+
Murata (Capacitors) GRM02, GJM02, GJM03, GRM03, GRM15, GJM15, GRM18, GRM21, GRM32, GQM18, ERB21, GQM21, GQM22, GQM1555C	KOA (Capacitor) HFC1005	Motorola MRF1513, MRF1570 MwT MwT-1, MwT-7 MESFET's	Murata (Resonators) DRR/DRMxxx
Murata (Inductors) LQP02HQ, LQP02T, LQP02TQ, LQP03T, LQP03HQ, LQW15, LQP15, LQW18, LQP18, LQG18, LQW04A, LQG15	KOA (Resistors) RK73x1H, RK73x1E, RK73x1J, RK73B2A, RK73B2B, RK73x2E, RK73x3A, WK73S3A	NXP BFS505, BFS520, BFS540, PBR941, BF861B, BF862, BLF542, BLF548, BFQ540	Premier Magnetics PM-DB2791S, PM-DB2795S
Panasonic (Inductors) ELURG, ELURF, ELJRE	Murata (Ferrite Beads) BLM15, BLM18, BLM21P, BLM31P, BLM41P	On Semiconductor MMBT3904LT1, MMBFU310LT1	Qorvo (Amplifiers) AH101, TGA8xx
Panasonic (Resistor) ERJ2GE0R00X	Passive Plus (Capacitors) 0201N, 0402N, 0603N, 0708N, 0805N, 1111N, 0201BB, 01005BB, 0505C, 1111C	Qorvo FPD750	RUR Technologies (Package) QFN01
Piconics (Inductors) CCxx	ST Micro (Capacitor) PTIC	Rohm UMT1NR, EMT1, EMX1	Smiths Interconnect (Equalizer) CE-xxxx-N-xxx-SMTF
Presidio (Capacitors) 0402UP, 0505UP, 0603UP, B80201, B80402, B80502	Taiyo Yuden (Inductors) HK0603, HK1005, HK1608, HK2125 TDK (Capacitors) C0402, C0603, C1005, C3225 Toko (Inductors) LLV0603, LL1005, LL1608, LL2012 Vishay (Resistors) D10, D11, MCT0603, CRCW1206, MMA0204 Vishay (Capacitors) VJ0402, VJ0603, HPC0402	Mini-Circuits (Transformers) NCS2-83+, NCS1-422+, NCS2-392+ Mini-Circuits (Splitters) EP2C+, EP2K1+, EP2K+, EP2W1+, EP2W+, EPQ-133+ Mini-Circuits (Filters) XBF Series, XHF Series, XLF Series Murata (Capacitors) UBSC Silicon SOTA (Resistors) S0202, S0303, S0505, S0603 Vanguard Electronics (Inductors) 26,000 / 26,200 / 27,000 / 30,000 / 33,000 / 34,000 / 50,000 Vanguard Electronics (Transformers) K-, M-, R-, S-series	Smiths Interconnect (Attenuator) TT9 Southwest Microwave (Interconnects) 1092-01A-5, 1093-04A-5 Toko (Transformer) 617DB-1007 UBE (Resonators) K020-03, AO-K016-08 Vanguard (Transformer) 100205
Taiyo Yuden (Capacitors) EMK042, LMK042, JMK042, TMK063, JMK063, EMK063, UMK105, TVS042	Würth Elektronik (Ferrite Beads) 74279223560, WE-CBA 0402 (Wide Band/ High Current) / 0603 (High Speed/ High Band/High Current) / 0805 (High Speed/High Current) / 1206 (Wide Band/ High Current) / 1806 (High Current)	Würth Elektronik (Capacitors) WCAP-CSRF 0201 & 0402, WCAP-CSMH 0603 (NPO/X7R) & 0805 (NPO/X7R, 0.8mm & 1.25mm) Würth Elektronik (Inductors) WE-CAIR, WE-CAIR 5910, WE-MK, WE-KI, WE-KI HC, WE-TCI, WE-AC HC 1010 / 1212	

- 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.

**** 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)**

Contact Modelithics at Sales@Modelithics.com or visit www.Modelithics.com to request a **FREE** trial.



Model vs. measured S11 of a 3.3pF 0805 capacitor on three different substrates.