

Overview

The **Modelithics COMPLETE Library** for Keysight ADS 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 models that represent **27,000** popular passive and active devices with modeling accuracy to deliver first-pass design success.

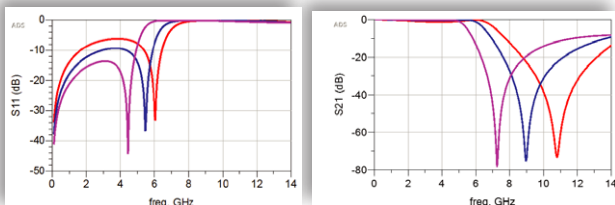
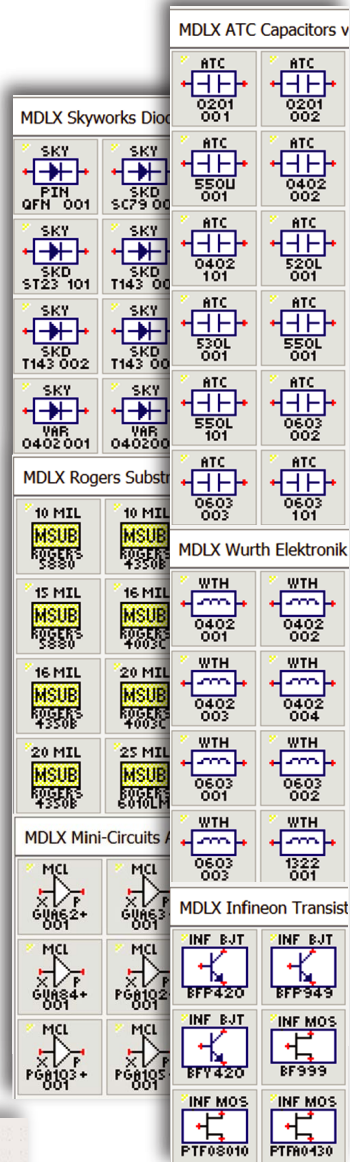
Library Features

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

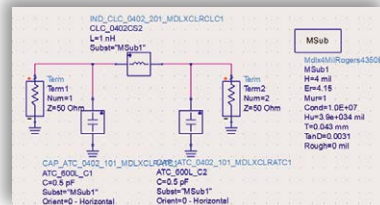
- **Measurement-Based** — Each model is developed using specialized measurements under device-specific test conditions.
- **Scalability** — Part-value, substrate, pad-size and temperature scalability are incorporated into many models.
- **Model Documentation** — Each model contains a model datasheet that lists recommended model validity parameters, measurement and test fixture details, and model-to-measurement data comparisons.
- **X-Parameter* Models** — An alternative to compact non-linear equivalent circuit models for transistors that can speed up non-linear simulations and facilitate model portability between simulation platforms. They provide accurate non-linear model representations of complex integrated circuits for which equivalent circuit modeling is not practical.

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.

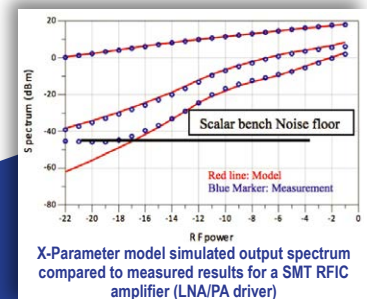
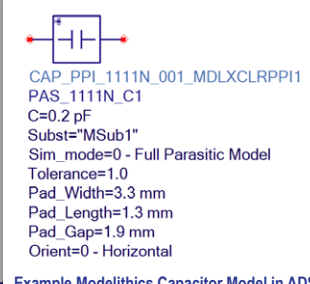


Red = 4 mil substrate
Blue = 16 mil substrate
Pink = 60 mil substrate
Simulated S-parameters of a simple low-pass filter on three different substrates. Modelithics models account for substrate parasitics.



- Scalable Modelithics models accurately predict parasitic effects, providing excellent modeled-to-measured results.
- **Microwave Global Models™** can be tuned and optimized to quickly reach design goals in simulation.
- Evaluate tolerance effects with statistical analysis tools.
- Modelithics models are precision measurement-based equivalent circuit models, and will exhibit physical behavior, even beyond the measurement frequency.

* "X-parameters" is a trademark of Keysight Technologies, Inc. The X-parameters format and underlying equations are open and documented. For more information, refer to X-parameters Open Documentation, Trademark Usage & Partnerships.



List of Components in the Modelithics COMPLETE Library for Keysight ADS

Modelithics Vendor Partners (MVPs)

| | | | | | |
|--|--|--|---|---|--|
| Aeroflex / Metelics DIODES MSSP25250-70, MMP7065-11, MLP7100, -7110, -7120, -7101, MSD710 Amotech CAPACITORS A605, A60F, A60Z, A60L, A80B, ABCUC0650x103, ABCUC0650x473, ABCUC0650x104, ABCUC16501x103, ABCUC16501x104, ABCUA50502x104 Analog Devices AMPLIFIER ADL8142 API-Inmet RESISTORS NPC-, ANC-, PPC- (high power) ATTENUATORS PCAW/PCAW/TCAF Avago AMPLIFIER MGA8576 NPB/JT PACKAGES AT-41511, AT-41533, AT-64023 Barry Industries ATTENUATORS AK0405CB, AT0904CB RESISTORS RK0603, RE0805, RY0805, RE1005, RY1005, REC1206, RYC1206, RZC1206 PACKAGE QFN5532-050x, QFN3312-0520, QFN3312-0521, QFN3312-0522, QFN4420-0520, QFN4420-0521, QFN4420-0522, QFN6636-0520, QFN6636-0522, QFN7744-0520, QFN7744-0521, QFN7744-0522, QFN8848-0520, QFN8848-0522 CEL LOW NOISE FET CE3512K2, CE3514M4, CE3520K3 HMT CE3512K2 Central Semiconductor DIODES CMXD6001 General Purpose Chilisin INDUCTORS CLH1608, CLH2012, CL2012 FERRITE BEADS SBY1005, PBY1608, GBY1608 Coilcraft INDUCTORS 0201DS, 0201HL, 0302CS, 0402CS, 0402HP, 0402AF, 0402DC, 0402DF, 0403HD, 0603CS, 0603CT, 0603HL, 0603HP, 0603LS, 0604HO, 0805CS, 0805HT, 0805HO, 0805HP, 0805LS, 0906, 1008CS, 1010VS, 1212VS, 1606, 1008HQ, 1008HS, 1008CT, 1206CS, 1812CS, MAX1, MID1, MINI, 0806/0807/0908SQ, GA309X, 1111/1515/2222/2929SQ, 4310LC, BCL Conical, BCR Conical Cree PACKAGED PHEMT CGH35030F Darfon CAPACITORS C0402 (01005), C0603 (0201) Excellics MESFET EFA060BS5 PHEMT EPA1200A, EPA240BV Exxelia CAPACITORS CLX CLE, SHF2510xx Freescall MOSFET MRF1517, MRF1518, MRF281, MRF9030 | Freescall (Cont'd) AMPLIFIER MWE60C9100NR1 Gigalane INTERCONNECTS PSF-500-000 Gowanda INDUCTORS C060FL, C060SMC, C100FL, C100SM, C100SMC, C225FL, CC0603 Guerrilla RF AMPLIFIERS GRF2070DS, GRF2071DS, GRF2072DS, GRF2073DS, GRF209, GRF2100, GRF2106, GRF2501DSR, GRF4002, GRF4014 Hexawave MESFET HWC27NC IMS RESISTORS RC4-0302PW, RC3-0402PW, NDX-1020EZW ATTENUATORS A-0402WA-C, A-0603-C, IAS-0805WA, IAS-1206WA, IMS2652, IMS2533, A-0805, IMS1141 SPLITTERS IPS2640-C, IPS2668-C, IPT0402WA-C-U, IPT0603WA-C, IPT0805WA-C Infinion DIODES BAR64-03V, BAR88-02V, BAS3010S-02LRH, BAS40, BAS40-04, BAS40-05, BAS40-06, BAS52-02V, BAS70, BAS70-04, BAS70-05, BB535, BB639, BB833, BBY51-02V, BBY52-02L, BAT62-02V NPB/JT BFP420, BFR949F, BFF420, BFF193C BJT BFF193C MOSFET PTF080101S, PTF043002E, BFF999 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(COG), C0402(X5R), C0402(X7R), C0603, C0805(BX), C0805(COG), C0805(NPO), C0805(XSR), C0805(X7R), CBR01, CBR02, CBR04, CBR04 Auto, CBR05, CBR06, CBR06 Auto, CBR08 KOA RESISTORS RK73H, RK73B1J(RK73H), RK73B2A, RK73B2B, RK73x1E(RK73H), RK73x1H(RK73B), RK73x1J, RK73x2E, RK73x3A, WK73S3A CAPACITOR HFC1005 Knowles CAPACITORS (Sylex) 0402 H-Range, HighQ UltraLowESR (Dielectric Labs) C04BL, C04UL, C06CF, C06UL, C06BL, C08BL, C11UL, Milicap, Opticap | Kyocera-AVX CAPACITORS CU01, 100A, 100B, 200A, 200B, 0603xU, 500Z, 520L, 530L, 550W103, 550Z104, 550Z224, 550W104, 560W104, 560Z104, 560Z224, 550Z, 600F, 600L, 600S, 700A, 700B, 800A, 800B, Accu-P (0201, 0402, 0603), 800R, ML03, DLA (0402, 0603), MP01, MP02, MP03, KGM02XCG, KGM03XCG, KGM02XR5, KGM03XR7, KGM15XCG, KGM15XR7, KGM21XCG, KGM31XR7, KGM31XR7, KGM05XCG, KGM21XCG, KGM32XCG INDUCTORS HL002, HL002, HL02, Accu-L (0201, 0402, 0603, 0805), DLA (0402, 0603, 0805) RESISTORS UBR0402, CW12010, CW13725, C212010, C213725, C213737, CS12010, CS13737, CT11020 COUPLERS CP0603, CP0402, DB0603, PC2025A2100, PC2025A2700 ATTENUATORS FA10975PXD0B SINGLE-LAYER CAPACITORS GH01 Maxi, GH04 Maxi, GH06 Maxi MACOM LIMITER 2690-1011 AMPLIFIER MAAL010704 SWITCH MASW5S0204 GaN HEMT NPT1012B, NPTB00004A DIODES MA4PH235-1072, MWP504-132, MAVR-00230-1141, MAVR-001330-1279, SMV20413, MLP7100, MLP7101, MLP7110, MLP7120, MMP7065-11, MSD710, MA4E1317 COUPLER MACP-011088 SPLITTER MAPD-011062 TRANSFORMER MABA-011125 Maxim AMPLIFIERS MAX2371, MAX2373 MIXER MAX2681 MDT DIODE MP6250-P2715 Microsemi DIODES UPP9401, GC1500879 NPB/JT SD1495-03 Mimix MESFET CF003-01 Mini-Circuits BAND-PASS FILTERS XBF Series AMPLIFIERS AVA-183+, PMA2-133LN+, PMA2-33LN+, PMA2-43LN+, PMA3-83LN+, PMA-545+, PMA-5451+, PMA-5452+, PMA-5453+, PMA-5454+, PMA-5455+, PMA-5456+, PS44-5043+, GVA-62+, GVA-63+, GVA-84+, PGA-102+, PGA-103+, PGA-105+, PHA-1+, PHA-22+, PSA4-5043+ ATTENUATORS RCAT, KAT, YAT, YAT-A PHEMT SAV-331+, SAV-541+, SAV-551+, SAV-581+, TAV2-14LN+, TAV2-501+ TRANSFORMERS NCS1-63+, NCS2-83+, NCS1-422+, NCS2-392+ COUPLER JR18D+ | Mini-Circuits (Cont'd) HIGH-PASS FILTERS XHF-Series, XHF2-Series, HFCN-2700+, HFCN-3800+, HFCN-5500+, HFCN-740+, HFCN880+ LOW-PASS FILTERS LFCG-1000+, LFCG-1575+, LFCG-1700+, LFCG-2250+, LFCG-2850+, LFCG-320+, LFCG-400+, LFCG-530+, LFCN-1000+, LFCN-120+, LFCN1200+, LFCN1200D+, LFCN-1575+, LFCN-1770+, LFCN-1800+, LFCN-1800D+, LFCN-2250+, LFCN-2850+, LFCN-3000+, LFCN-320+, LFCN-3800+, LFCN-400+, LFCN-4400+, LFCN-490+, LFCN-530+, LFCN-630+, LFCN-80+, XLF-Series SPLITTERS EP2C+, EP2K1+, EP2K+, EP2KADG+, EP2W1+, EP2W+, EPQ-13+ Mitsubishi HEMT MGF4953A, MGF4953B MOSFET RD01MUS1, RD01MUS2B, RD07MUS2B, RD07MUS2B, RD07MUS1, QPD12MUS1 Motorola MOSFET MRF1513, MRF1570 MWT MESFET MWT-1, MWT-7, MWT-1F, MWT-3F, MWT-7F, MWT-9F, MWT-11F Murata INDUCTORS LG015HS, LG018, LQP02HQ, LQP02T, LQP02TQ, LQP03HQ, LQP03TN, LQP15M, LQP18M, LQW04A, LQW15AN_00, LQW15AN-80, LQW18AN_00 BAND-PASS FILTER SFELA10M7GAA0_B0 RESONATORS DRR02011G45, DRR0201G350, DRR0204G100, DRR030KE1R2 CAPACITORS GJM022, GJM03, GQM1555C, GQM187, GQM188, GQM219, GQM22M, GRM022, GRM022 (X5R, X7R), GRM0335, GRM1555C1H, GRM155R71E, GRM155R71H, GRM188C1H, GRM188R72A, GRM2165C2A, GRM219, GRM22F71J, GRP033, UBSC_935_151_423_510, UBSC_935_151_424_610, UBSC_935_151_723_510, XBSC_939_118_492_510-xxS TRIPLEXER LMTF33AA148 FERRITE BEADS BLM15AG, BLM15EG, BLM18A, BLM18HG102SN1, BLM21P, BLM31P, BLM41P NXP MOSFET BF1211, BF1212, BLF542, BLF548 JFET BF861B, BF862 NPB/JT BFQ540, BFF505, BFF520, BFF540, PBR941 On Semiconductor DIODES MMBD301LT1, MBD330DWT1 JFET MMBFU310LT1 NPB/JT MMBT3904LT1 Panasonic INDUCTORS ELURJ, ELJRF, ELJRE, ERJ2G | 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 Piconics INDUCTORS CCxxxTxK240G5-C, CCxxxTxK240G5-004, MK Series Premier Magnetics TRANSFORMERS DB2791S, DB2795S Presidio CAPACITORS 0402UP, 0505UP, 0603UP, BB0201X7R103M, BB0402X7R104M2, BB0502X7S104M Qorvo AMPLIFIERS AH101, RF2878, RF5110G GaAs PHEMT TGF2040, TGF2060, QPD2018D, QPD2025D, QPD2040D, QPD2060D, QPD2080D, QPD2120D, QPD2160D RF360 BAND PASS FILTER B7840 RJR PACKAGE QFN01 Rohm DIODE RB715F PNPBJT EMT1 NPB/JT EMK1 Samsung CAPACITORS CL02CxxxxxxA, CL02CxxxxxxC, CL03C RESISTORS RC0402 Sawtek DUPLEXER 858331 SEDI GaN HEMT EGN010MK, EGN030MK MESFET FLL120MK, FLL800IQ, FSX017X Semicoa NPB/JT 2C2857 Silicon Supplies NPB/JT 2SCC3366 Skyworks SWITCHES AS193-73, AS204-80 DIODES SMP1324-087LF, SMS3927-023, SMS3940-029LF, SMS7621-005, SMS7621-015, SMS7621-079, SMS7630-005LF, SMS7630-006LF, SMS7630-061, SMS7630-079LF, SMV1147, SMV1253-079, SMV1763-040LF, SMV2201-040LF, SMV2202-040LF, SMV2203-040LF, SMV2204-040LF, SMV2205-040LF Smiths Interconnect EQUALIZER CE_XXXX_N_XXX_SMTF RESISTORS CT4044LN1WB1, CT4044LN2WB1, CT0603ALN1SMTF, CRxxxxD, CTxxxxD ATTENUATOR AT5xxF, AT7xxF, K2TVA, WTVA, TT9, TSX, TS06xxF | Southwest Microwave INTERCONNECTS 1092-01A-5, 1093-04A-5 SOTA RESISTORS S0202AF50R0FEB, S0303AF50R0FEB, S0505AF50R0FEB, S0505CF50R0FEB, S0505DF50R0FEW, S0505EF50R0FEW, S0603CF50R0FEB ST Micro CAPACITOR PTIC Susumu RESISTORS RFD0603 ATTENUATOR ATS2012-FD, ATS1005-FD Tagore Tech HMT TA9210-D Taiyo Yuden CAPACITORS EMK042, EMK063, JMK063, LMK042, and JMK042, TMK063, TVS042, UMK105 INDUCTORS HK0603, HK1005, HK1608, HK2125, HK0603S, HKQ0603U, HKQ0603W TDK CAPACITORS C0402COG, C0603COG, C1005CH, C1005XR, C3225, CGA1A2COG, CGA1A2X7R, CG1T3XSR0104M INDUCTORS MH0402PSA, MH01005P, MLG2012, MLG0402Q, MLG0603P, MLG0603S, MLG1005S, MLG1608B, MLK1005S, NLV25T Tecda VARACTOR CAPACITORS HBCR22AY20X10X5A02, HBCR22Y20X10X5A02 Toko TRANSFORMER 617DB-1007 BAND PASS FILTERS ELFC455E, ELFY455E, ELFY455G INDUCTORS LL1005-FHL, LL1608-FSL, LL2012-FHL, LLV0603-F Toshiba DIODES 1SV229, 1SV279, 1SV280, 1SV282, 1SV305, 1SV325, 1SV329, JDV2507FS, JDV2509FS, JDV2541FS Toshiba (Cont'd) MOSFET 2SK3078A, 2SK3476, RFM03U3CT, RFM04U6P Toyocom BAND PASS FILTERS HF737A, HFF-101A, HFF-101B Transcom pHEMT TC2381, TC2384 UBE RESONATORS AO-K016-08, K020-03 Vanguard TRANSFORMERS 100205, K Series, M Series, R Series, S Series INDUCTORS Series2600, Series2700, Series3000, Series3300, Series3400, Series5000 Virginia Diodes DIODES W Band Single Anode, W Band ZBD Vishay CAPACITORS HPC0402, VJ0402, VJ0402D, VJ0603D RESISTORS CH02016, CH0402, CH0603, CRCW1005, CRCW1206, D10, D11, FC0402, MCS0402, MCT0063, MMA0204, FCHP0402xxxBGT, FCH0402xxxBTT Würth Elektronik INDUCTORS WE-ACHC, WE-CAIR, WE-KI, WE-KHC, WE-KM, WE-TCL, WE-KI HC (0402), WE-KI HC (0603) FERRITE BEADS 74279223560, WE-CBA0402 (High Current), WE-CBA0402 (Wide Band), WE-CBA0603 (High Current), WE-CBA0603 (High Speed), WE-CBA0805 (High Current), WE-CBA0805 (High Speed), WE-CBA1206 (High Current), WE-CBA1206 (Wide Band), WE-CBA1806 (High Current) CAPACITORS WCAP-CSMH(NP0), WCAP-CSMH(X7R), WCAP-CSMH(X7R) 0.8mm, WCAP-CSMH(X7R) 1.25mm, WCAP-CSRF(NP0) Yageo RESISTORS RC0100, RC0201 CAPACITORS CQ0201, CQ0402, CQ0603, AQ0402, AQ0603, CQ0100, CQ0805 |
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More to come! New models are added continually. Be sure to check out the models on the Modelithics Pre-Release List: www.Modelithics.com/Model/PreRelease

Video: Modelithics COMPLETE Library Overview

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

Email sales@Modelithics.com or visit www.Modelithics.com to request a FREE trial!

What's in **YOUR** DREAM LIBRARY?