



Modelithics EXEMPLAR Library

For Simulations in Keysight Advanced Design System (ADS)

ex · em · plar (n.) Something that serves as a typical example or excellent model.

Overview

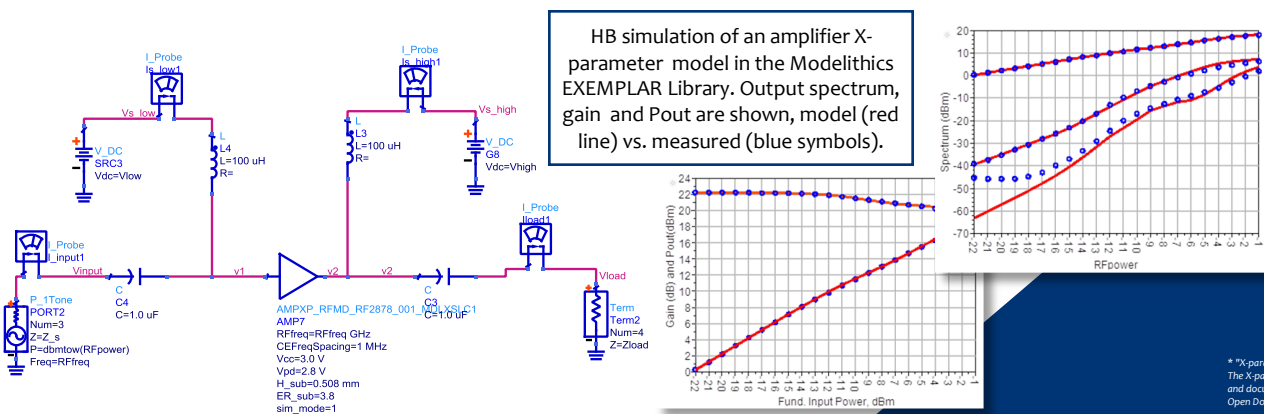
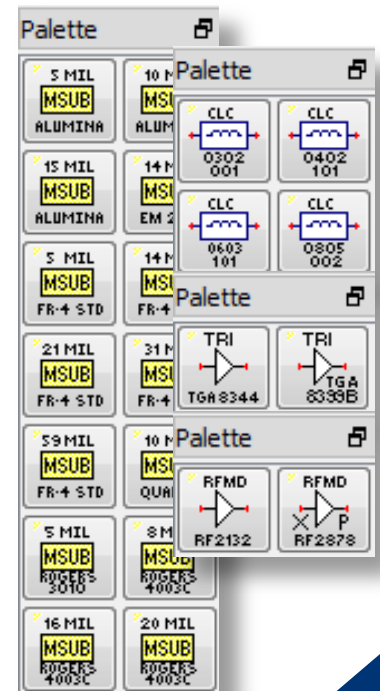
The Modelithics EXEMPLAR Library is a collection of high-accuracy and feature-rich simulation models that are compatible with Keysight ADS electronic design automation (EDA) software. The Modelithics EXEMPLAR library contains many more models than the free SELECT+ Library, but much fewer models than the full product, Modelithics COMPLETE Library. The Modelithics EXEMPLAR Library is a representative subset of all models available in the Modelithics COMPLETE library, containing passive CLR component and filter models, non-linear transistor and diode models, X-Parameters* models, the Modelithics SUBSTRATE Library, and more. It is designed to include all models needed to run the many example tutorial projects available on the Modelithics website and as part of the standard installation of Modelithics COMPLETE Library. EXEMPLAR serves as the Modelithics University Program library version, effective for educational wireless electronic design projects. See www.Modelithics.com for details.

Model and Library Features

- Modelithics models offer scalability by substrate, part value, pad size, temperature, and other characteristics.
- The models are engineered to simulate typical device response including related parasitics.
- The Modelithics EXEMPLAR Library includes many example design projects, and all of the Modelithics models needed to run those projects.
- Modelithics SELECT+ and SUBSTRATE libraries are included in Modelithics EXEMPLAR for convenient access.

Example Projects in Modelithics EXEMPLAR

- Part Value Tuning
- Part Value Optimization
- Substrate Scaling
- Statistical Analysis
- Varying Bias Simulations
- Power Sweep
- Varying Temperature Simulations
- Harmonic Balance
- Noise Parameters
- 1/f Noise
- 2-Tone Intermodulation
- Load Pull Simulations
- Amplifier Model Simulations
- Filter Model Simulations
- Resonator Simulations
- Transformer



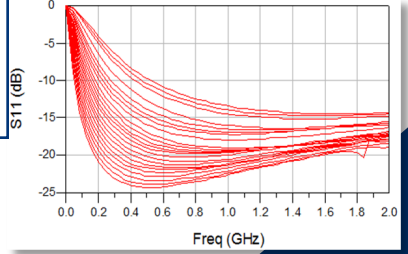
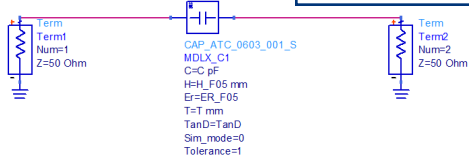
* X-parameters is a trademark of Keysight Technologies, Inc. The X-parameters format and underlying equations are open and documented. For more information, refer to X-parameters Open Documentation, Trademark Usage & Partnerships.

Comparison List of Components in Modelithics COMPLETE and Modelithics EXEMPLAR Library

Entire Table = Modelithics COMPLETE Red Underline = Modelithics EXEMPLAR

NLT	SLC	CLR		NLD
Avago AT-41511, <u>AT-41533</u> , <u>AT-64023</u> , AT-32032, ATF35143, ATF-501P8, <u>ATF-511P8</u> , <u>ATF-54143</u> , ATF-33143, ATF-551M4	Aeroflex/Inmet PCAx/PCAAx Attenuators	ATC Capacitors <u>600L</u> , <u>600S</u> , <u>600F</u> , 100A, 100B, 200B, 520L, 530L, 545L, 550L, 700B, 800A, 800B, 800R	Taiyo Yuden EMK042, LMK042, JMK042, TMK063, JMK063, EMK063, UMK105, HK0603, HK1005, HK1608, HK2125	Aeroflex/Metelics <u>MSSP25250-70</u> , MMP7065-11, MLP7100, <u>-7110</u> , -7120, -7101, MSD710
	Alpha AAA101-80 Attenuator	Aeroflex/Inmet Resistors NPC-, ANC-, PPC- (high power)	Panasonic ELJRG, ELJRF, ELJRE, ERJ2G	
NEC NE41607, NE68519, NE68533, NE851M13, NE85608, <u>NE85633</u> , NESG303xx HBT's, NE3210S01, <u>NE350184C</u> , NE38018, NE722S01, <u>NE552R679</u> , NE55xx LDMOSFET's	Mini-Circuits HFCN2700, HFCN High-Pass Filters (5), LFCN Low-Pass Filters (15), GVA-62+, GVA-63+, PHA-1+ Amplifiers, PSA4-5043+	Coilcraft Inductors 0201DS, <u>0302CS</u> , <u>0402CS</u> , <u>0603CS</u> , 0402HP, 0603HP, 0604HQ, <u>0805CS</u> , 0805HT, 0805HQ, 0906, 1008CS, 1606, 1008HQ, 1008HS, 1008CT, 1206CS, MAXI, MIDI, MINI, 0806/0807/0908SQ, 0603LS, 1111/1515/2222/2929SQ, 4310LC, GA309X	Murata GRM02, GJM02, GJM03, GRM03, <u>GRM15</u> , GJM15, <u>GRM18</u> , <u>GRM21</u> , <u>GQM18</u> , GRM21, ERB21, GQM21, GQM22, BLM18, LQP02T, LQP03T, LQW15, LQP15, LQW18, LQP18, LQG18, LQW04A, LQG15, BLM21P, BLM31P, BLM41P	Avago <u>HSMP-3823</u> , HSMP-3895, HSMS-8202, <u>HSMS-2829</u>
Excellics EPA1200A, EPA240BV, <u>EFA060BSS</u>	AVX <u>CP0603 Coupler</u>	Kemet Capacitors C0402, C0603, C0805, CBR02, CBR04, CBR06, CBR08	Chilisin CLH1608, CLH2012, CL2012 inductors, SBY1005 ferrite bead	MDT MP6250-P2715
Freescall MRF281, MRF9030	Barry Industries AK0405CB, AT0904CB Attenuators	AVX Inductors L0402, HLQ02, HLC02, HL02, Accu-L	Piconics CCxx broadband conical inductors	Infineon BARxx Pin Diodes, BASxx Schottky Diodes, <u>BBY51</u> , BBxx Varactor Diodes
Fujitsu/Eudyna <u>FLL120MK</u> , FLL800IQ, EGN010MK, EGN030MK, FSX017X, FSX017X	Epcos B7840 Bandpass Filter	Barry Industries RK0603, RE0805, RY0805, RE1005, RY1005, REC1206, RYC1206, RZC1206	Presidio BB0502, MVP0505	MA-COM MA4PH235-1072, MAVRxx
Hexawave HWC27NC	Freescall <u>MWE61C9100NR1 Amplifier</u>	ATC Resistors Style CS, CW, CZ (high power)	Samsung CL03, CL02	Microsemi <u>UPP9401 Pin Diode</u>
Microsemi SD1495-03	MA-COM <u>MASWSS0204 Switch</u>	Darfon 0201 capacitor	SOTA S0202, S0303, S0505, S0603	On Semiconductor <u>MMBD301LT1</u> , MBD330DWT1
Infinion <u>BFP420</u> , BF999, <u>BFR949F</u> , PTF080101S, PTF043002E	Maxim <u>MAX2371/2373 Amplifiers</u> , <u>MAX2681 Mixer</u>	Dielectric Laboratories C06UL, C06BL, C08BL, C11UL, Millicap, Opticap	KOA HFC1005 capacitor, RK73x1H, RK73x1E, <u>RK73x1J</u> , <u>RK73B2A</u> , RK73B2B resistors	Skyworks SMPxx Pin Diode, SMSxx Schottky, <u>SMV1147</u> , SMVxx Varactor Diodes
MIMIX CF003_01	Avago <u>MGA-635P8</u> , <u>MGA-86576 Amplifier</u>	Epcos Capacitors B3792, <u>B3793</u>	Temex Ceramics CLX, CLE	Toshiba 1SVxx Varactor Diodes, JDV25xx Varactor Diodes
Motorola MRF1513, <u>MRF1570</u>	NEC <u>UPC8179TK Amplifier</u>	AVX Capacitors COG (NPO), X7R, X5R, ACCU-P, CDR12, Multilayer-AQ, GX, UQCA, UQCB, UQCF, UQCL, UQCR, UQCS, SQCA, SQCB, SQCF, SQCS	TDK C0603, C1005, MLG0402, MLG0603, MLK1005, MLG1005, MLG1608, NLV25T, MLF2012	Rohm <u>RB715F</u>
NXP BFS505, BFS520, <u>BFS540</u> , PBR941, <u>BF1211</u> , <u>BF1212</u> , BF861B, BF862, BLF542, <u>BLF548</u> , BFQ540	Murata SFELA10M7GAA0_B0 Band-Pass Filter, <u>DRR030KE1R2</u> , <u>DRM020KER93</u> , DRR/DRMxxx Resonators, LMTP33AA148 Triplexer	Gowanda Conical Inductors 0201N, 0402N, 0603N, 0805N, 1111N, 0201BB	Toko LLV0603, LL1005, <u>LL1608</u> , <u>LL2012</u>	Virginia Diodes W Band Single Anode and ZBD
MwT MwT-1, MwT-7 MESFET's	RFMD <u>RF2132</u> , <u>RF2878 Amplifiers</u>	EMC/RF Labs Resistors CR and CT series	Vishay HPC0402, D10, D11	** 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)
Cree CGH35030F	RJR QFN01 Package	Tamawira T24012145	Syfer 0603 High-Q	
Nitronix NPT1012, <u>NPTB00004</u>	Sawtek <u>856331 Duplexer</u>	Passive Plus Capacitors 0201N, 0402N, 0603N, 0805N, 1111N, 0201BB		
Mitsubishi MGF4953A, MGF4953B, RD01MUS1, RD07MUS2B, RD07MVS1, RD12MVS1	Toko ELFxx Band-Pass Filters, 617DB-1007 Transformer	Johanson Capacitors and Inductors <u>R05L</u> , R07S, R14S, R15S, S42E, L-05C, L-07W, L-07C		
On Semiconductor MMBT3904LT1, MMBFU310LT1	Skyworks AS193-73, AS204-80 Switches			
Rohm UMT1NR, EMT1, EMX1	Toyocom <u>HFF-101B</u> , HFxx Band-Pass Filters			
Semicoa 2C2857	Triquint <u>TGA8xx Amplifiers</u> , AH101 Amplifier			
Sirena SLD-1083CZ, SLD-2083-CZ	UBE K020-03, AO-K016-08 Resonators			
Toshiba 2SK3078A, 2SK3476, RFM04U6P	Vanguard <u>100205 Transformer</u>			
Triquint TGA2602-SM, TGF2023-01/-05/-0N, <u>TGF2960-SD</u> , TGF2961-SD				

Discrete part value sweep using an ATC capacitor Modelithics model from 10pF to 100pF



EXEMPLAR: ~60 models representing ~1450 parts

COMPLETE: >500 models representing >10,000 parts

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