



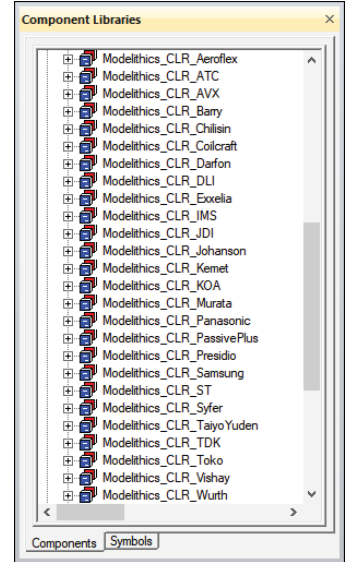
Overview

The **Modelithics COMPLETE+3D Library** for Ansys HFSS brings incredible flexibility and accuracy to the high frequency electronic design process. The integration of Modelithics' high accuracy scalable parasitic models into the HFSS design environment makes EM co-simulation a seamless process. The advanced-feature models, along with electromagnetic layout analysis, results in very accurate model-to-measurement agreement and fewer design iterations. Full-wave 3D EM models are now included in the library. The 3D models take the design analysis a step further and capture electromagnetic interactions between components and surrounding elements. All models are measurement validated and designed to accelerate the design process.

Library Features

The **Modelithics COMPLETE+3D Library** is a comprehensive collection of models, representing thousands of components from many popular vendors, and offering powerful advanced features:

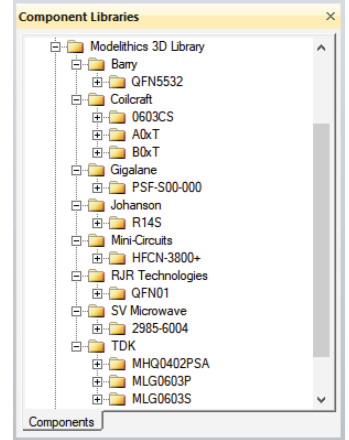
Modelithics Microwave Global Models™	Modelithics 3D Geometry Models
<ul style="list-style-type: none"> • Substrate scaling • Part value scaling • Pad dimension scaling • Statistical analysis • Seamless EM co-simulation 	<ul style="list-style-type: none"> • Substrate independent • Full-wave 3D EM simulation • Predict coupling effects • Design necessary shielding



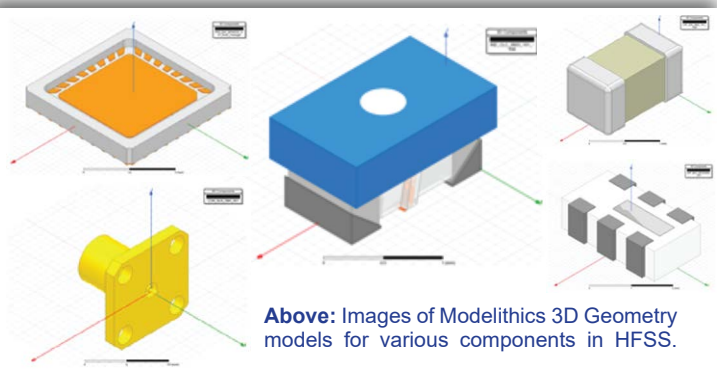
Modelithics Microwave Global Models in Ansys circuit design component library window

All Modelithics Models

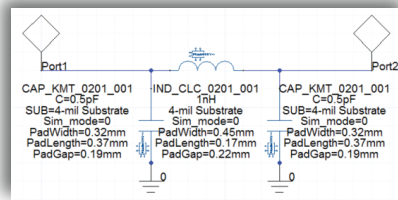
- **Measurement-based** — Each model is developed using specialized measurements under device-specific test conditions.
- **Model Documentation** — Each model contains a model datasheet that lists recommended model validity parameters, measurement and test fixture details, and model-to-measurement data comparisons.



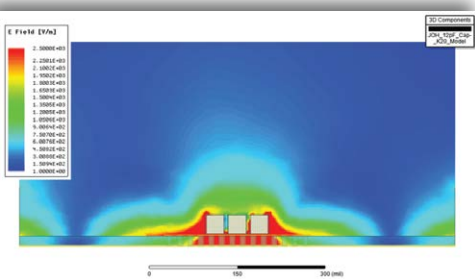
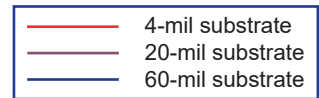
Modelithics 3D Geometry Models in Ansys HFSS component library window



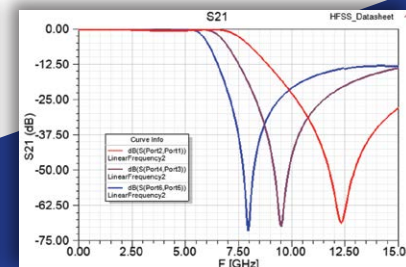
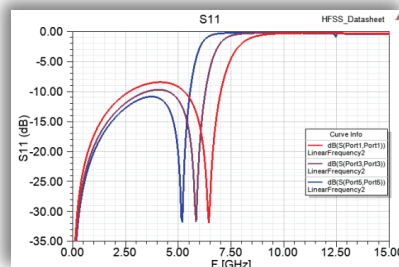
Above: Images of Modelithics 3D Geometry models for various components in HFSS.



Above: Simulated S-parameters of a simple low-pass filter on three different substrates to 15 GHz. Modelithics models scale by substrate properties accurately capturing parasitic effects.



Left: Magnitude E-field simulation of 3 capacitors in shunt configuration in close proximity.



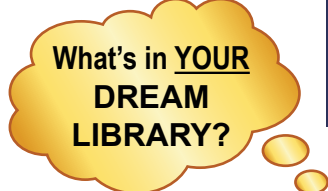
AVX
CAPACITORS 0101YA, 02013A, 0201YC, 0201YD, 0603xU, 0603xA(COG), 0603xC(X7R), 0805A, 12101U, 1201U, 1206xC, Accu-P (01005), Accu-P (0201), Accu-P (0402), Accu-P (0603), AQ12, DLA09024, DLA09025, MP01, MP02, MP03, SQCA(NP0), SQCA(X7R), SQCA(P90), ML03, SQCB(NP0), SQCB(P90), SQCB(X7R), SQCF, SQCS(NP0), UQCA(NP0), UQCB, UQCF, UQCL(NP0), UQCR(NP0), UQCS(NP0), CU01, 0402xU, 0806xU
(ATC) 100A, 100B, 200A, 200B, 400L, 400S, 400Z, 520L, 530L, 600F, 600L, 600S, 700A, 700B, 800A, 800B, 800R
INDUCTORS Accu-L(L0201), Accu-L(L0402), Accu-L(L0603), Accu-L(L0805), HL02, HLC02, HLQ02, DLA11017, DLA11018, DLA11019
(ATC) MOL
RESISTORS RP81020T0050, RP42010R0050GTTR, RP42010R0100GTTR, RP43737, RP52010R0050, RP52010R0100, RP53725R0050, RP3725R0100, RP92010T0050, RP93725T0050, RP93737T0050
(ATC) 504L, CS12010T0050GBK, CS12010T0100GBK, CS13737T, CT11020T0050, CW12010T0050GBK, CW12010T0100GBK, CW13725T0050GBK, CW13725T0100GBK, CZ12010T0050GBK, CZ13725T0050GBK, CZ13737T0050GBK
API Inmet
RESISTORS ANC50-100W, ANC50-50W, NPC20-4-S, NPC50-100W, NPC50-50W, PPC100-200AW
Barry Industries
RESISTORS RE0805CT, RE1005CT, REC1206CT, RK0603ZZ, RY0805CT, RY1005CT, RYC1206CT, RZC1206CT (1-port) & (2-port)

Chilisin
INDUCTORS CL2012, CLH1608, CLH2012
Coilcraft
INDUCTORS 0201DS, 0302CS, 0402CS, 0402DC, 0402HP, 0402HQ, 0603CS, 0603HP, 0603LS, 0604HQ, 0805, 0805CS, 0805HP, 0805HQ, 0805HT, 0805LS, 0806SQ, 0807SQ, 0906, 0908SQ, 1008CS, 1008CT, 1008HQ, 1008HS, 1010VS, 1111SQ, 1206CS, 1212VS, 132-xxSM, 1508, 1515SQ, 1606, 1812CS, 1812SMs, 2222SQ, 2508, 2929SQ, 4310LC, Axxt, BCL, BCR, Bxt, GA309X
Darfon
CAPACITORS C0402NP0, C0603NP0
Exxelia
CAPACITORS CLE, CLX, SHF251xxx
IMS
RESISTORS RC4-0302PW, RC3-0402PW, NDX-1020EZW
JDI
CAPACITORS R14, R15
Johanson
CAPACITORS R05L, R07S, R14S, R15G, R15S, S42E
INDUCTORS L-05Cxxx, L-07Cxxx, L-07Wxxx, L-14C, L-14W
KEMET
CAPACITORS C0402(C0G, X5R, X7R), C0603, C0805(BX), C0805(C0G, X5R, X7R), CBR02, CBR04, CBR05, CBR06, CBR08
KOA
RESISTORS RK73B1J(RK73H), RK73B2A, RK73B2B, RK73x1E(RK73H), RK73x1H(RK73B), RK73x2E, RK73x3A, WK73S3A
CAPACITORS HFC1005

Knowles
CAPACITORS (Syfer) H-Range, High-Q Ultra-Low ESR
CAPACITORS (DLI) C04BL121x, C04UL, C06BI, C06UL, C06CF, C08BL, C08BL102X, C11UL, Milli-cap, Opti-cap
Murata
CAPACITORS GJM022, GJM03, GJM15, GQM1555C, GQM187, GQM188, GQM219, GQM22M, GRM022, GRM033, GRM0335, GRM1555C1H, GRM155R71E, GRM155R71H, GRM1885C1H, GRM188R71H, GRM188R72A, GRM2165C2A, GRM219, GRM32ER71J
INDUCTORS LQP02HQ, LQP02T, LQP02TQ, LQP03T, LQW04A, LQG15HS, LQP15M, LQW15A, LQG18, LQP18M, LQW18A, LQP03HQ
SILICON CAPACITOR UBSC 935 152 492 510
Panasonic
INDUCTORS ELJRE, ELJRF, ELJRG
RESISTOR ERJ2GE0R00X
Passive Plus
CAPACITORS 01005BB104, 0201BB104, 0201N, 0402N, 0505C, 0603N, 0708N, 0805N, 1111C, 1111N
RESISTORS R35-1209BB, R35-2010BB
Presidio
CAPACITORS 0402UP, 0603UP, MVP0505, BB0201X7R103M, BB0402X7R104M2, BB0502X7R104M
Samsung
CAPACITORS CL02CxxxxxA, CL02CxxxxxG, CL03C
ST Micro
CAPACITOR pTIC
Taiyo Yuden
CAPACITORS EMK042, EMK063, JMK063, LMK042, JMK042, TMK063, TVS042, UMK105

Taiyo Yuden (Cont'd)
INDUCTORS HK0603, HK1005, HK1608, HK2125, HKQ0603S, HKQ0603U, HKQ0603W
TDK
INDUCTORS MHQ0402PSA, MHQ1005P, MLF2012, MLG0402Q, MLG0603P, MLG0603S, MLG1005S, MLG1608B, MLK1005S, NLV25T
CAPACITORS C0402C0G, C0603C0G, C1005CH, C1005X5R, C3225, CGA1A2C0G, CGA1A2X7R, CGB1T3X5R0J104M
Toko
INDUCTORS LL1005-FHL, LL1608-FSL, LL2012-FHL, LLV0603-F
Vishay
RESISTORS CH02016, CH0402, CH0603, CRCW1206, D10, D11, FC0402, MCT0603, MMA0204
CAPACITORS HPC0402A, VJ0402D, VJ0603D
Würth Elektronik
CAPACITORS WCAP-CSRF 0201 & 0402, WCAP-CSMH 0603 (NP0/X7R) & 0805 (NP0/X7R, 0.8mm & 1.25mm)
INDUCTORS WE-CAIR, WE-MK, WE-KI, WE-KI HC, WE-TCI, WE-AC HC 1010 / 1212

New models are added continuously. Visit our website for an updated complete list, and see our available Pre-Release models. www.Modelithics.com



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Modelithics 3D Geometry Models
Barry Industries
PACKAGES QFN5532-050x, QFN4424-0522
Coilcraft
INDUCTORS 0603CS, AxxT, BxxT
Gigalane
CONNECTORS PSf-S00-000
Johanson
CAPACITORS R14S
Mini-Circuits
FILTERS HFCN-740+, HFCN-880+, HFCN-2700+, HFCN-3800+, HFCN-5500+, LFCG-320+, LFCG-400+, LFCG-530+, LFCG-1000+, LFCG-1575+, LFCG-1700, LFCG-2250+, LFCG-2850+, LFCN-80+, LFCN-120+, LFCN-320+, LFCN-400+, LFCN-490+, LFCN-530+, LFCN-1000+, LFCN-1200+, LFCN-1200D+, LFCN-1575+, LFCN-1700+, LFCN-1800+, LFCN-1800D+, LFCN-2250+, LFCN-2850+, LFCN-3000+, LFCN-3800+, LFCN-4400+
Passive Plus
RESISTORS R35-1209BB, R35-2010BB
Piconics
INDUCTORS CCxxTxxK240G5-C
SV Microwave
CONNECTORS 2985-6004
TDK
INDUCTORS MHQ0402PSA, MLG0402Q, MLG0603S, MLG0603P, MHQ1005P

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