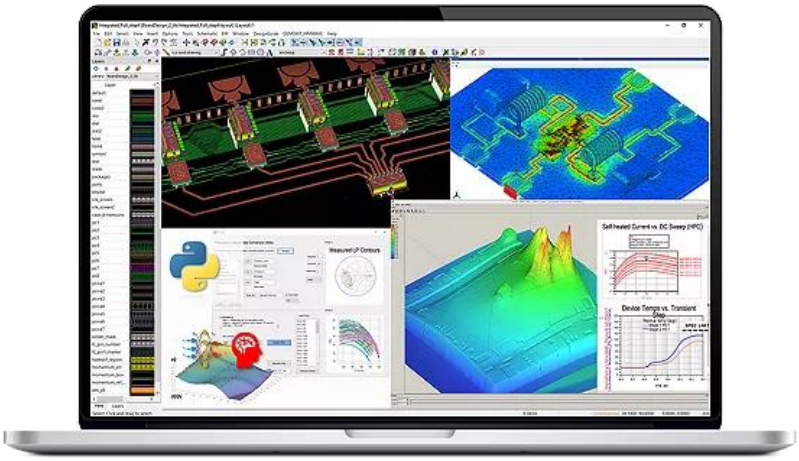
Keysight EDA Advanced Design System (ADS) Configuration

More value, simple to choose, easy to configure

Keysight EDA ADS Bundled Software



Try before you buy!

Download Keysight ADS software and use it free for 30 days. Visit: www.keysight.com/find/ads-evaluation

ADS Software Bundles provide circuit and component designers with a choice of value-packed, pre-configured combinations of software modules built for specific design workflows. These combinations start with the powerful core ADS functionality for 3D physical layout and verification, data display, optimization, Python scripting automation and statistical analysis.

Additional simulation capabilities such as nonlinear circuit, electromagnetic (EM), electrothermal (ETH) and system are judiciously selected to create preconfigured EDA software bundles for RF/MW/mmW, High Speed Digital (HSD), Power electronics (PE) and Quantum electronics design.

ADS bundles are comprised of the W3600B ADS Core + EM Design (EMPro) Core environment and add separate ADS Simulation Elements, each of which provide specific design and simulation capabilities.

Simulation elements are themselves comprised of one or more separate modules, which add additional modeling and verification functions. These modules and elements, when purchased separately, are less cost efficient as the preconfigured ADS bundles.

Learn more about Keysight ADS Simulation Elements

KEYSIGHT

Configure Your New Software

This step-by-step process will help you configure your new Keysight ADS software when making your initial order.

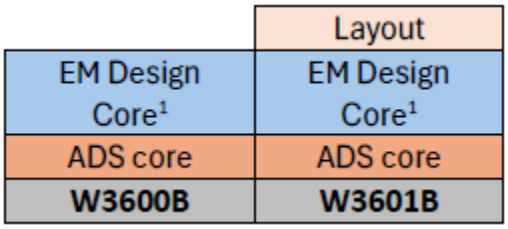
Step 1: Choose your software product

Key building blocks

ADS bundles are comprised of one or more of these key building blocks	
ADS Core	ADS platform, schematic capture, data display, optimization, Python scripting automation & more.
EM Design Core	3D solid modeling environment. Does not include EM simulators.
Layout	3D physical design, routing, verification (LVS, DRC, LVL, ERC) & industry standards file import/export environment.
RF Ckt Sim	Linear, harmonic balance, circuit envelope, and transient/ convolution circuit simulators.
Momentum	3D Planar EM Simulator based on Method of Moments.
FEM	Full 3D EM Simulator based on Finite Element Method.
RFPro	FEM and Momentum 3DEM simulators integrated in a powerful UI for automating EM-Circuit cosimulation.
Sys-Ckt Ver	System dataflow simulators for verifying circuits against system specs.
Comp VTBs	Complete set of system verification test benches (VTB) libraries for circuit-in-system verification.
Electrothermal Sim	Electro-Thermal Simulator for optimal circuit simulation accuracy by accounting for electrothermal heating.
HSD Ckt Sim	Channel simulation, Controlled Impedance Line Designer (CILD), via designer for HSD applications.
Mem Designer	Memory designer and DDR bus simulator.
Chiplet PHY Designer	Chiplet Physical Layer designer.
PCIe System Designer	PCIe system compliance designer.
PIPro	Power Integrity analysis of power distribution network (PDN), including DC IR drop, AC impedance & power plane resonance.
SIPro	Signal Integrity analysis of complex high-speed PCBs.
PEPro	EM-circuit co-simulation platform for switched mode power supply (SMPS) designs.
PE Ckt Sim	Combines transient convolution simulator with the power electronics (PE) library.
QuantumPro	3DEM & EM-circuit co-simulation platform for qubit structure designs.
Quantum Ckt Sim	Nonlinear circuit simulators with quantum models library.

Base bundles

A powerful ADS bundle on its own, the W3600B base bundle is the foundation for all other ADS bundles. Choosing the W3601B base bundle adds layout design capability.

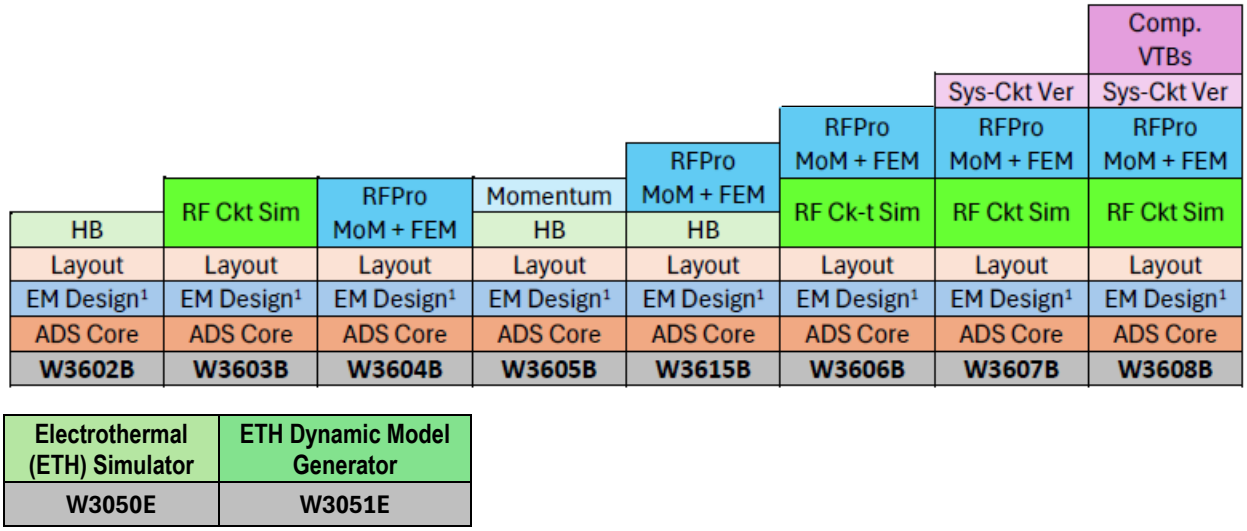


1. EM Design Core is a 3D modeling environment, which enables drawing, manipulating, and importing/exporting 3D designs for subsequent EM simulation. It does not contain any EM simulators.

Model	Name	Base bundle application
W3600B	ADS Core + EM Design Core	Powerful EDA platform with schematic capture, data display, simulation, optimization, statistical analysis, and Python scripting for workflow automation. EM Design core enables 3D modeling of structures for EM simulation and data exchange with external mechanical design tools.
W3601B	ADS Core + EM Design Core1 + Layout	Adds comprehensive 3D physical design environment to ADS Core for 3D heterogenous integration (3DHI) in high-frequency component development, including artwork import/export for ODB++, DXF, Gerber/drill, IGES and GDS-II formats. Also includes Advanced Layout verification (DRC, LVS, LVL, ERC) & 3rd party DRC/LVS support, RFIC design utilities & more.

RF & microwave bundles

Built for RF & microwave design including Circuit, EM, MMIC, RFIC, 3D heterogenous integrated (3DHI) module, and RF board design applications. The Electrothermal (ETH) elements can be added to bundles with RF Ckt Sim to achieve optimal circuit simulation accuracy by including localized device self-heating effects.



Electrothermal (ETH) Simulator	ETH Dynamic Model Generator
W3050E	W3051E

1. EM Design Core provides 3D geometrical modeling but does not include EM simulators.

Figure 1. ADS RF/MW Design Bundles & Add on Electrothermal Simulator elements.

Model number	ADS RF/MW bundle application
W3602B	Freq-domain non-linear designs
W3603B	Freq/time domain non-linear designs with digitally modulated signals
W3604B	Freq-domain linear designs with RFPro (FEM & Momentum) 3DEM simulation
W3605B	Freq-domain non-linear designs with Momentum EM simulation
W3615B	Freq-domain non-linear designs with RFPro (FEM & Momentum) 3DEM simulation
W3606B	Freq/time domain non-linear designs with digitally modulated signals and RFPro (FEM & Momentum) 3DEM simulation
W3607B	Freq/time domain non-linear designs with digitally modulated signals, RFPro (FEM & Momentum) 3DEM simulation and system level verification
W3608B	Freq/time domain non-linear designs with digitally modulated signals, RFPro (FEM & Momentum) 3DEM simulation, system level verification and system verification test benches (VTB) libraries of industry standards.
W3050E W3051E	Adds Electrothermal simulation to nonlinear circuit simulation for optimal accuracy by accounting for localized device self-heating during operation.

High-speed digital bundles

Built for high-speed digital PCB designs including SerDes link, power integrity (PI), signal integrity (SI), DDR memory, PCIe, chiplet physical layer (PHY), with pre-layout electromagnetic (EM) extraction,

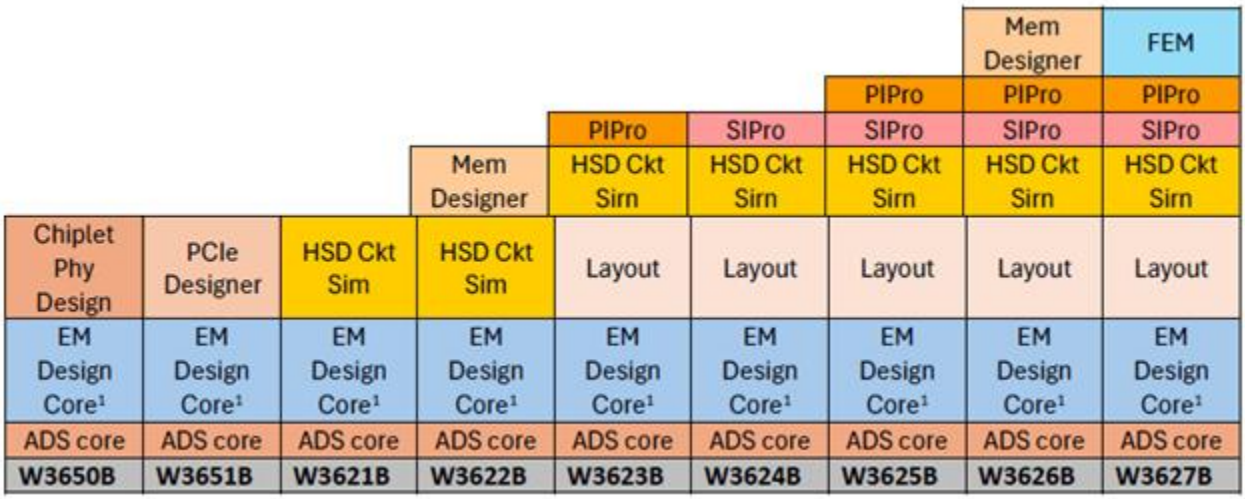


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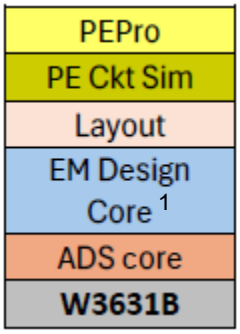
Figure 2. ADS High-Speed Digital bundles.

Model number	ADS High Speed Digital (HSD) bundle application
W3650B	Chiplet PHY Designer
W3651B	PCIe System Designer
W3621B	SerDes Simulation
W3622B	SerDes & Memory Design Simulation
W3623B	Power Integrity (PI) simulation for HSD
W3624B	Post-layout EM verification for SerDes
W3625B	Post-layout EM verification for SerDes & PI
W3626B	Post-layout EM verification for SerDes, Memory Design & PI
W3627B	Highest accuracy EM simulation for Post-layout EM verification for SerDes & PI

Power Electronics (PE) bundle

Built for designing switched mode power supply (SMPS) with high switching speeds to reduce size and cost whilst increasing volumetric power density. Applications include power converter design for power generation and transmission, aerospace-defense, automotive, data center, consumer electronics, and IoT applications.



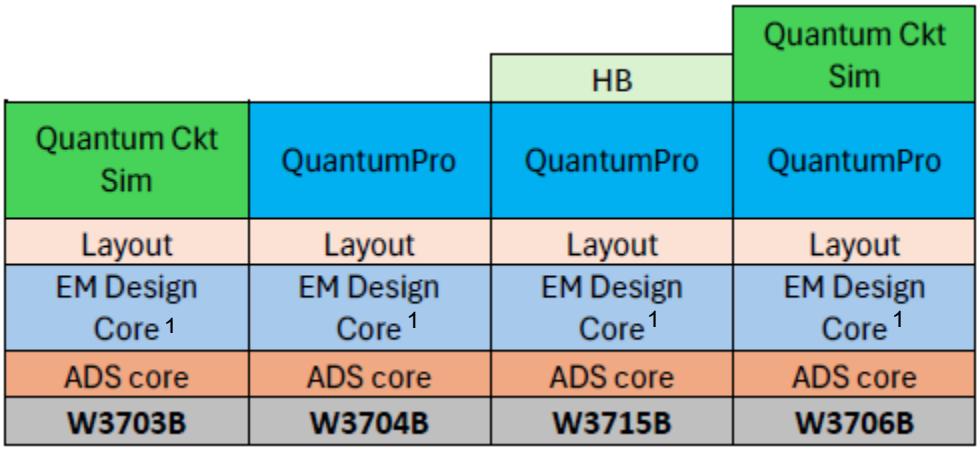
1. EM Design Core provides 3D geometrical modelling but does not contain EM simulators.

Figure 3. ADS Power Electronics (PE) bundle.

Model number	ADS Power Electronics (PE) bundle application
W3631B	EM-circuit co-simulation platform for designing switched mode power supply (SMPS).

Quantum Bundles

Quantum bundles provide an integrated environment for superconducting qubit design with dedicated quantum circuit and 3DEM simulators, complemented with accurate quantum models and layouts. By bringing all the necessary quantum design and simulation capabilities together in these bundles, the development workflow for optimized quantum chips is fully enabled.



1. EM Design Core provides 3D geometrical modelling but does not contain EM simulators.

Figure 4. ADS Quantum bundles.

Model number	ADS Quantum bundle application
W3703B	Qubit circuit design with nonlinear circuit simulators and quantum models library.
W3704B	Quantum EM simulation of qubit layout for designing optimal quantum chip structures
W3706B	Quantum layout EM simulation with steady state nonlinear EM-circuit co-simulation for quantum chip design.
W3715B	Quantum layout EM simulation with steady-state, envelope, and transient nonlinear EM-circuit co-simulation for the broadest coverage of superconducting quantum chip designs.

Step 2: Select desired license term

Table 1. License terms

License term	Description
Subscription	Subscription licenses can be used through the term of the license (6, 12, 24, or 36 months).
Perpetual	The purchase of EDA perpetual licenses is no longer available. For more information, refer to https://www.keysight.com/find/eda-perpetual-license-letter

Step 3: Select desired license type

Table 2. License types

License term	Description
Node-locked	License can be used on one specified instrument/computer
USB portable	License can be used on one instrument/computer at a time but can be transferred to another using a certified USB dongle (available for additional purchase, Keysight part number E8900-D10).
Floating	Networked instruments/computers can access a license from a server one at a time. Multiple licenses may be purchased for concurrent usage. Four types of floating license are available: N – Single site: 1-mile radius from the server. Q – Telecommuter: A time-zone in Americas; a country in Europe/Asia. R – Single region[2]: Americas; Europe; Asia. W – Worldwide (export restriction identified in end user license agreement (EULA))

2. Americas (North, Central, and South America, Canada); Europe (European Continent, Middle Eastern Europe, Africa, India); Asia (North and South Asia Pacific Countries, China, Taiwan, Japan).

Step 4: Choose your support subscription and duration

Table 3. KeysightCare software support subscription

Subscription	Description
KeysightCare support subscription	Perpetual licenses are sold with a 12 (default), 24, 36, or 60-month software support subscription. Support subscriptions can be renewed for a fee after that.
	Subscription licenses already include a software support subscription through the term of the license.

Floating License Server Requirements

The ADS floating license requires loading a vendor daemon on a license server. This server may be the same PC running the ADS software. Full installation instructions and support are provided for compatible server operating systems: Windows 7 Professional, Enterprise, Ultimate (64-bit); Microsoft Windows 8 Professional or Enterprise; Microsoft Windows 10 Professional or Enterprise (64-bit); or Linux (ADS version above 2020).

Visit www.keysight.com/find/license-server

Resources

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