

# Altium Designer Feature Set Summary

		Soft Design*	Custom Board Front-End Design	Custom Board Implementation
DXP Platform	Software integration platform, consistent GUI provided for all supporting editors and viewers, Design Insight for design document preview, design release management, design compiler, file management, version control interface and scripting engine	✓	✓	✓
Schematic – Viewer	Open, view and print schematic documents and libraries	✓	✓	✓
PCB – Viewer	Open, view and print PCB documents, additionally view and navigate 3D PCBs	✓	✓	✓
CAM File – Viewer	Open CAM and mechanical files	✓	✓	✓
Schematic – Soft Design Editing	All schematic and schematic library editing capabilities (except in PCB Projects and Free Documents), netlist generation	✓	✓	✓
Simulation – VHDL	VHDL simulation engine, integrated debugger and waveform viewer, with third-party support for ModelSim and Active-HDL	✓	✓	✓
NanoBoard Support	Range of auto-configured, swappable target FPGA daughter boards (from all chip vendors) are supported plus plug-in peripheral boards for complete flexibility in system architecture, Power Monitor for FPGA designs	✓	✓	✓
FPGA Design	Custom FPGA Logic Development in C, OpenBus, Schematic, VHDL and Verilog design synthesis, Custom Wishbone Interface Component	✓	✓	✓
FPGA Processor Cores	Support for a range of 32-bit soft processors for use in FPGA design: TSK3000A, Xilinx MicroBlaze®, Altera Nios II®, Actel CoreMP7®. Also support for the PowerPC (PPC405A) discrete processor, immersed in the Xilinx Virtex II Pro®, as well as a number of legacy, 8-bit Microcontrollers (TSK51, TSK52, TSK80 and TSK165)	✓	✓	✓
Processor Core Embedded Tools	Full software development tool chain – C compiler/assembler/source-level debugger/profiler for each supported 32-bit processor, Plug-n-Play Software Platform Builder for easier hardware access	✓	✓	✓
Programmable FPGA-Based Instruments	Presynthesized FPGA-ready instruments including Custom Instrument, Terminal Emulator, Digital I/O, Crosspoint Switch, Logic Analyzer, Frequency Generator, Frequency Counter, Field Dashboard for remote access	✓	✓	✓
Soft Device JTAG Support	Live connection to soft devices such as virtual instruments and processors running inside an FPGA	✓	✓	✓
Hard Device JTAG Support	Interactive monitoring of pin status for any JTAG device	✓	✓	✓
IP Core Design Re-Use	Support for importing third-party FPGA IP cores, developing and reusing IP libraries	✓	✓	✓
Import/Export	Supports import and/or export of designs and library data created in OrCAD, Allegro, PADS, DxDesigner, Cadstar, P-CAD, CircuitMaker, Protel and more		✓	✓
Schematic – Editing	All schematic document and library editing capabilities, netlist generation		✓	✓

# Altium Designer Feature Set Summary

		Soft Design*	Custom Board Front-End Design	Custom Board Implementation
Library Management	Unified library management based on a single data store for all component models and linked data such as 3D models, data sheets and supplier links. Single point of contact for version control and external project management systems		✓	✓
Simulation – Mixed Signal	SPICE 3F5/XSPICE mixed-signal circuit simulation (with PSpice® compatibility)		✓	✓
Signal Integrity – Schematic Level	Pre-layout signal integrity analysis – includes full analysis engine, uses defaults for PCB parameters		✓	✓
PCB – Board Definition & Rules	Place/edit objects on mechanical layers, design rules for high-speed design, user-definable layer stack, design transfer from schematic, position components, real-time manufacturing rule checking		✓	✓
CAM File – Importer (Gerber, ODB++)	Import CAM and mechanical files		✓	✓
PCB – 3D PCB Design Environment	3D Visualization gives a realistic and rendered on-the-fly view of the board, includes MCAD-ECAD support with direct linking for STEP models and real-time clearance checking, view configurations for both 2D and 3D, orthographic projection, texture mapping of 2D and 3D PCB models			✓
PCB – Layout	Interactive routing (Push and Shove, Hugging and Auto-Complete modes), differential pairs, interactive/auto placement, pin/part swapping, obstacle avoidance during drag operations			✓
PCB – Interactive Routing	Import CAM and mechanical files, panelize, NC route definition, DRC, export CAM and mechanical files			✓
Topological Autorouting	Topological Autorouting with full layer, object and design rule support, autoroute PCB files			✓
Signal Integrity – Layout Level	Post-layout signal integrity analysis supports de-screening reflections and crosstalk, with support for PCB routing			✓
PCB – Manufacturing File Outputs	Multiple output publishing allows the consolidation of multiple outputs into a single media type for better data management. Publish to PDF, print or web with a controlled view of a project's history and dependencies; generate Gerber, NC Drill, ODB++ and STEP files			✓
CAM File – Editor (Gerber, ODB++)	Panelize, NC route definition, DRC, export CAM and mechanical files			✓

Altium Designer is available in license options that maximize your choices and make accessing Altium Designer flexible. Whether you are part of a large design team or a consulting engineer operating on your own, Altium Designer presents everything you need to innovate, be competitive and design new products in new ways.

*Custom Board Implementation* lets designers create a product from concept to manufacture, in a single design environment, embracing hardware, software and programmable hardware (FPGAs). If your design team has engineers capturing the design front end, choose *Custom Board Front-End Design*. The *Soft Design\** license ships with Altium's NanoBoard range of hardware development boards to give you a programmable design solution out of the box.

\*The *Soft Design* License is available only with the NanoBoard range. Altium's NanoBoards can also be used with *Custom Board Front-End Design* and *Custom Board Implementation* options, purchased separately if desired.