Xilinx Development Tools

The Vivado® Design Suite delivers a SoC-strength, IP-centric and system-centric, next generation development environment that has been built from the ground up to address the productivity bottlenecks in system-level integration and implementation. The Vivado Design suite is **a Generation Ahead** in overall productivity, ease-of-use, and system level integration capabilities.

Vivado is recommended for all Trenz Electronics products that are based on Xilinx 7 or UltraScale+ series. Trenz Electronics supplies Vivado Board Part Files for all products supported by Vivado.

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Additional Trenz Electronic Description

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Xilinx Software - Product Update Release Notes and Known Issues

Version	Vivado	SDK/Vitis	PetaLinux
2019.2**	Xilinx AR#72162	Xilinx AR#72773	Xilinx AR#72950
2018.3**	Xilinx AR#70860 Xilinx AR#70862	Xilinx AR#69697 Xilinx AR#66374	Xilinx AR#71653
2018.2**	Xilinx AR#70860 Xilinx AR#70862	Xilinx AR#69697 Xilinx AR#66303	Xilinx AR#71201
2017.4**	Xilinx AR#68923 Xilinx AR#68925	Xilinx AR#69697	Xilinx AR#70277
2017.3*,**	Xilinx AR#68923 Xilinx AR#68925	Xilinx AR#70101 Xilinx AR#69697	Xilinx AR#69952
2017.2*	Xilinx AR#68923 Xilinx AR#68925	Xilinx AR#69699 Xilinx AR#69697	Xilinx AR#69372
2017.1*	Xilinx AR#68923 Xilinx AR#68925	Xilinx AR#69698 Xilinx AR#69697	Xilinx AR#69074

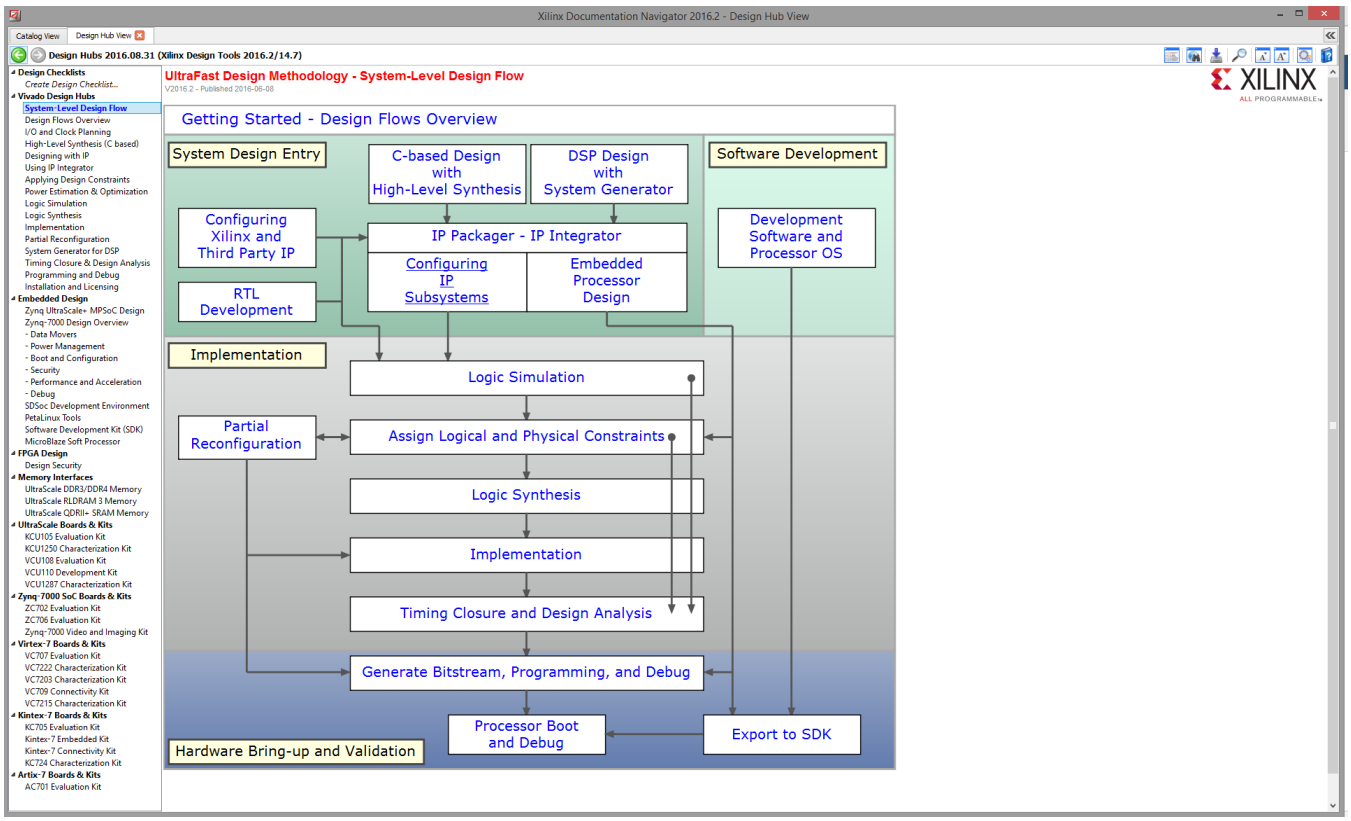
2016.4	Xilinx AR#66830		Xilinx AR#68370
2016.2	Xilinx AR#66830	Xilinx AR#66230	Xilinx AR#67409

Note: * AR# 69908: 2017.1...3 - Vivado does not launch with Windows 10 Fall Creators Update
** AR#70146: QSPI flash programming now requires that you specify an FSBL, AR#70548: Zynq-7000 - QSPI programming in QSPI-boot mode - Trenz Electronic will provide special FSBL on 2017.4 an newer reference design.

Xilinx Devices - Erratas and solutions

Device	Xilinx Link	Note
UltraScale+ Zynq	Xilinx AR#68750	Zynq UltraScale+ MPSoC - Errata Work-around Solutions
Zynq-7000	Xilinx AR#55539	Zynq-7000 SoC - Errata Work-around Solutions
7 Series	Xilinx AR#46370	Xilinx 7 Series FPGA Solution Center

Xilinx Software - Basic User Guides



It's recommended to use Xilinx Documentation Navigator (DocNav) to get access to all documentation of Xilinx with "Up to Date Catalog" of DocNav. Documents can be found easy by "DOC ID" via search function of the catalog view. Search documents on Web is also possible, but ensure to use the appropriate document version to your installed Xilinx software.

Xilinx Wiki

https://xilinx-wiki.atlassian.net/wiki/spaces/A/overview

Xilinx Software Programming and Debugging

Devices	Name	DOC ID	Description
All	Vivado Design Suite User Guide: Programming and Debugging	UG908	Documents Vivado® tools for programming and debugging a Xilinx® FPGA design. Programming the FPGA includes generating a bitstream file from the implemented design and downloading the file to the target device. Also describes how to debug a design including RTL simulation and in-system debugging. • Chapter 4: Programming the FPGA Device • Chapter 6 (5 on older versions of this document): Programming Configuration Memory Devices
Zynq, Artix, Kintex, Virtex	Vivado Design Suite Tutorial: Embedded Processor Hardware Design	UG940	Demonstrates building a Zynq®-7000 All Programmable SoC processor-based design and a Microblaze™ processor design in the Vivado® tools. Uses the Vivado IP integrator to build a design and then debug the design with the Xilinx® Software Development Kit (SDK) and the Vivado logic analyzer. • Zynq, Lab1: Step 8: Run the Software Application • MicroBlaze, Lab3: Step 10: Executing the Software Application on a KC705 Board
ZynqMP	Zynq UltraScale+ MPSoC: Embedded Design Tutorial	UG1209	Demonstrates building a Zynq UltraScale+ MPSoC processor-based embedded design using Vivado® Design Suite and the Xilinx® Software Development Kit. Provides a hands-on tutorial for effective embedded system design. • Chapter 4: Debugging with SDK • Chapter 5: Boot and Configuration

Excerpt of Xilinx User Guides

Category	Name	DOC ID	Description
Dev-Guide	UltraFast Design Methodology Guide for the Vivado Design Suite	UG949	Describes the recommended design methodology to achieve efficient utilization of Xilinx® FPGA device resources, and quicker design implementation and timing closure in Vivado® Design Suite. Provides the reasons behind the recommended method to support and enable informed design decisions.
Dev-Guide	UltraFast Embedded Design Methodology Guide	UG1046	Describes the recommended design methodology for embedded designs using the Vivado® Design Suite and Xilinx SDK. Provides the reasons behind the recommended method to support and enable informed design decisions.
Dev-Guide	Vivado Design Suite User Guide - Using the Vivado IDE	UG893	Describes the Vivado® Integrated Design Environment (IDE), providing an intuitive graphical user interface (GUI) to visualize and interact with an FPGA design. Describes how the Vivado IDE helps you configure tool options, analyze and refine timing, and floorplan a design to improve results.
Dev-Guide	Vivado Design Suite User Guide - Embedded Processor Hardware Design	UG898	Discusses using the Vivado IP Integrator and Xilinx Software Development Kit (SDK) to design and debug microprocessor-based systems and embedded software applications using the Zynq®-7000 All Programmable (AP) SoC, Zynq UltraScale+™ MPSoC, or the MicroBlaze™ processor.
Dev-Guide	Vitis Unified Software Platform Documentation - Embedded Software Development	UG1400	The Vitis™ integrated development environment (IDE) is part of the Vitis unified software platform. The Vitis IDE is designed to be used for the development of embedded software applications targeted towards Xilinx® embedded processors. The Vitis IDE works with hardware designs created with Vivado® Design Suite. The Vitis IDE is based on the Eclipse open source standard.
Dev-Guide ZYNQMP	Zynq UltraScale+MPSoC Software Developer Guide	UG1137	This document provides the software-centric information required for designing and developing system software and applications for the Xilinx® Zynq® UltraScale+™ MPSoC devices.

Dev-Guide ZYNQ	Zynq-7000 All Programmable SoC Software Developers Guide	UG821	This document summarizes the software-centric information required for designing with Xilinx ® Zynq ® -7000 All Programmable SoC devices
ZYNQ	Zynq Migration Guide - Zynq-7000 AP SoC to Zynq UltraScale+ MPSoC Devices	UG1213	Summarizes the migration process from the Xilinx® Zynq®-7000 device to the Zynq UtlraScale+™ MPSoC device.
ZYNQ	Zynq-7000 All Programmable SoC - Technical Reference Manual	UG585	Technical reference manual for the Zynq®-7000 All Programmable SoC.
ZYNQMP	Zynq UltraScale+ MPSoC TRM	UG1085	Describes the processing system in the Zynq® UltraScale+™ MPSoC including the Cortex®-A53 64-bit quad-core processor and Cortex-R5 dual-core realtime processor.

A selection of Xilinx Answer Records are available on Xilinx Answer Record