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Aurora **FPGA Development Kit (FDK)** »

For use with Impulse CoDeveloper and Altera® Quartus® II

Benefits
Build custom FPGA configurations for the Zebra RadientPro family of vision processor boards based on Altera Stratix® V devices
Code custom FPGA design components in C with the Impulse CoDeveloper software-to-FPGA tool
Accelerate the creation of custom FPGA configurations using the Aurora library of ready-made FPGA design components
Quickly assemble FPGA configurations using Altera's Qsys system integration tool
Simplify the creation of custom FPGA configurations with Aurora tools for key steps in the design process

Harness the full power and flexibility of FPGAs for image processing

The Aurora FPGA Developement Kit (FDK) provides a component library and tools to enable the development of custom FPGA configurations for the Zebra RadientPro family of vision processor boards based on Altera Stratix V devices. The Aurora FDK is used in combination with Impulse CoDeveloper and Altera Quartus II to create FPGA configurations that offload and even accelerate image processing functions from the vision processor board's host system.

Focus on custom image processing functions

The Aurora FDK provides the underlying framework to simplify the development of custom image processing functions for the FPGA device found on the Zebra RadientPro. Developers with a software background can use Impulse CoDeveloper to write custom image processing functions as FPGA design components using the C language. With the Aurora FDK, developers focus on creating the custom FPGA design components vital to their application rather than the peripheral logic.

Quick assembly of FPGA design components

Custom and ready-made Aurora FPGA design components are graphically combined within the Altera Qsys system integration tool to easily create custom FPGA configurations. A resulting FPGA configuration consists of design components efficiently connected through the Altera Qsys interconnect. Overall integration is further simplified by the Aurora Constraints Generator tool, which effortlessly handles the details of arranging the FPGA configuration to work with the Zebra vision processor board.

Impulse CoDeveloper

The Impulse CoDeveloper tool is designed for software application developers and FPGA designers seeking a fast path to FPGA hardware. The Impulse C™ compiler is a high-level synthesis tool based on standard ANSI C that lets developers compile C-language algorithms directly into optimized logic ready for use with FPGA devices found on Zebra RadientPro. The Impulse tools enable highly iterative, software-oriented design methods for quick development of FPGA hardware modules from C code.

FDK tool set

Altera Quartus II with Qsys

The Altera Quartus II design software is used to put together and compile FPGA configurations. It includes the Qsys graphical interface for integrating design components into an FPGA configuration.
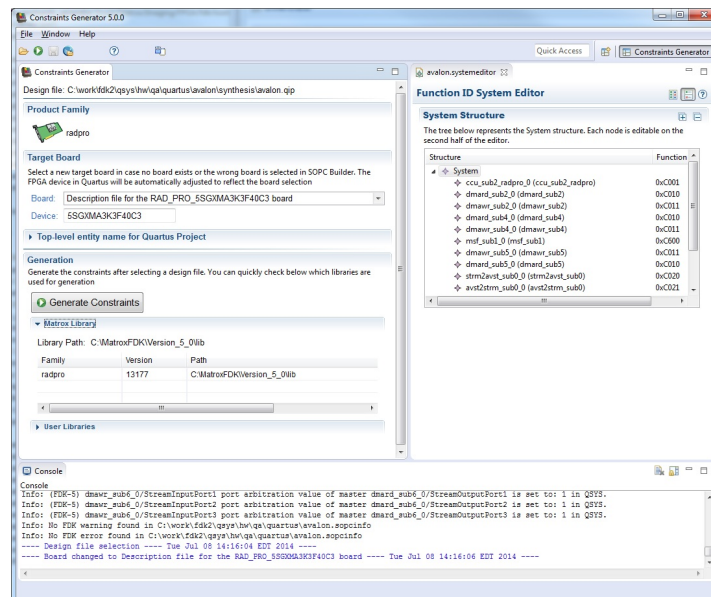

Altera Qsys
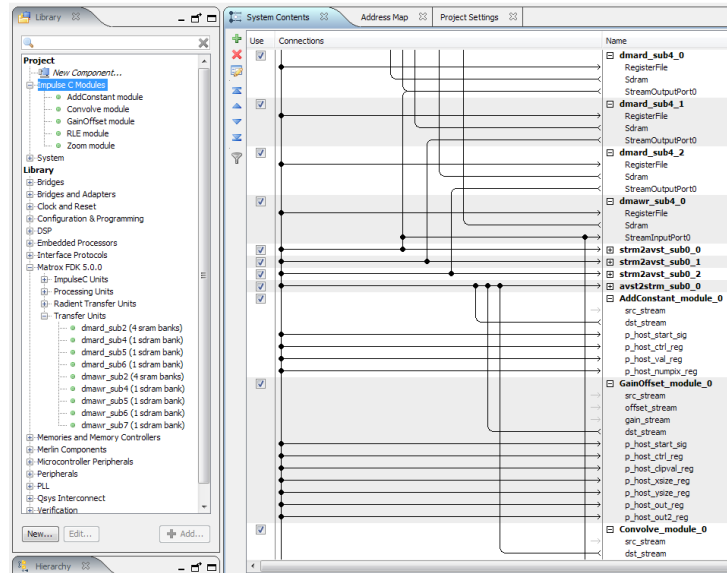
Aurora Constraints Generator

Aurora Constraints Generator is an interactive utility that automates the creation of glue logic, pin-outs and timing constraints necessary to generate FPGA configurations specifically for the Zebra RadientPro family of vision processors.

Aurora Constraints Generator

Ordering Information

Specifications

Supported environment

- 64-bit Microsoft® Windows® 7 / 8 / 8.1

Additional requirements (sold separately)

- Aurora Imaging Library, formerly Matrox Imaging Library (MIL), or Aurora Imaging Library-Lite
- Zebra RadientPro vision processor board
- Impulse CoDeveloper version 3.70e.14 (or higher)[1]
- Altera Quartus II version14 (or higher)[1]
- Microsoft Visual Studio® 2010
  (for optional hosting of Impulse C compiler)

Hardware

Part number & Description

MTXFDK4ICAQ2 Aurora FPGA Development Kit (FDK) for Zebra RadientPro family. (Requires Impulse CoDeveloper and Altera Quartus II software.)