CoreQEI v2.0 Release Notes

Introduction

This document accompanies the production release for CoreQEI. It describes features and enhancements and contains information about system requirements, supported families, implementations, and known limitations and workarounds. This is the first production release of CoreQEI.

Features

- Two phase signals (QEA and QEB) and one index signal (INDX).
- Direction of movement detection with a direction change interrupt.
- Programmable input noise filters on QEA, QEB, and INDX.
- 16-bit up/down position counter.
- Standard and high-precision position tracking modes.
- Two position update modes (x2 and x4).
- Velocity measurement with a programmable postscaler for high-speed velocity measurement.
- Position counter interrupt.
- Velocity control interrupt.

Interfaces

CoreQEI supports an AMBA3 APB slave interface.

Delivery Types

CoreQEI is licensed in two ways: Obfuscated and RTL.

Obfuscated

Complete RTL code is provided for the core, enabling the core to be instantiated with SmartDesign. Simulation, Synthesis, and Layout can be performed with Actel Libero® Integrated Design Environment (IDE). The RTL code for the core is obfuscated.

RTL

Complete RTL source code is provided for the core and testbenches.

Supported Families

- IGLOO®
- IGLOOe
- IGLOO PLUS
- ProASIC®3
- ProASIC3E
- ProASIC3L
- SmartFusion
- Fusion
- ProASIC PLUS®
- Axcelerator®
- RTAX-S
- RTAX-DSP

Supported Tool Flows

Use Libero IDE v8.6 or later with the v2.0 CoreQEI release.

Installation Instructions

For the RTL version of the core, the FlexLM license must be installed before the core can be exported.

Consult Libero IDE help for instructions on core installation and licensing.

Documentation

This release contains a copy of the CoreQEI Handbook, which describes the core functionality, gives step-by-step instructions on how to simulate, synthesize, and place-and-route this core, and provides implementation suggestions.

For updates and additional information about the software, devices, and hardware, please visit the Intellectual Property pages on the Actel website at www.actel.com.

Supported Test Environments

- VHDL user testbench
- Verilog user testbench

Discontinued Features and Devices

No features have been discontinued in the v2.0 CoreQEI release.

Known Limitations and Workarounds

No known issues have been found in the v2.0 CoreQEI release.

Release History

Table 1 provides the release history of CoreQEI.

Table 1 Release History

Version	Date	Changes
2.0	May 2010	Initial release

Resolved Issues in the v2.0 Release

There are no resolved issues in the v2.0 release. This is the first production release of CoreQEI.

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Actel Corporation *• 2061 Stierlin Court • Mountain View, CA 94043 • USA*
Phone 650.318.4200 • Fax 650.318.4600 • Customer Service: 650.318.1010 • Customer Applications Center: 800.262.1060

Actel Europe Ltd*. • River Court, Meadows Business Park • Station Approach, Blackwater • Camberley Surrey GU17 9AB • United Kingdom*
Phone +44 (0) 1276 609 300 • Fax +44 (0) 1276 607 540

Actel Japan *• EXOS Ebisu Building 4F • 1-24-14 Ebisu Shibuya-ku • Tokyo 150 • Japan*
Phone +81.03.3445.7671 • Fax +81.03.3445.7668 • http://jp.actel.com

Actel Hong Kong *• Room 2107, China Resources Building • 26 Harbour Road • Wanchai • Hong Kong*
Phone +852 2185 6460 • Fax +852 2185 6488 • www.actel.com.cn

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