

PRODUCT
BRIEF

ScanWorks® FPGA- Controlled Test Development

Key Benefits:

- IP provides functional test and measurement solutions
- Utilizes an exiting on-board FPGA as an embedded tester
- Customizable IP and easy target FPGA selection using ETG
- FCT supports an array of FPGA's from Xilinx and Intel (Altera)

Key Features:

- Drag-and-drop operational interface to access, manage and coordinate multiple embedded instruments
- Automatically configures and constructs infrastructure on the FPGA for the board-tester-in-a-chip
- Temporarily deployed for hardware board bring-up before firmware development has been completed or the OS loaded
- Permanently deployed throughout the life cycle beginning with design, then manufacturing test and eventually in the field for remote diagnostics and troubleshooting.

Overview

ASSET's ScanWorks® FPGA-Controlled Test (FCT) product allows for the insertion of customizable IP into an FPGA to facilitate functional test, measurement, and control of on-board devices. The benefit of using customizable IP is that it utilizes an existing FPGA and creates an on-board tester. This on-board tester adds another nonintrusive test for more coverage in your ScanWorks test program. Examples of FCT usage are shown (Figure 1).

The FCT product includes the Embedded Tester Generator application, configuration and test actions, device testing IP library, and FPGA model library. This combination makes development easy and seamless.

| Potential Applications | Instrumentation |
|------------------------|------------------------|
| Sensors | Temperature |
| | Pressure |
| | ADC |
| | RTC |
| Control | Voltage |
| | DAC/ADC |
| | LCD |
| | Codes |
| IP Examples | Digital Potentiometers |
| | Fans |
| | Tempatrue Monitoring |
| | Frequency Measuring |

Figure 1: FCT Examples

Embeddd Tester Generator

Target FPGA, IP selection, customization, and synthesis are accomplished through the use of ASSET's Embedded Tester Generator (ETG) application. (Figure 2). Once downloaded and installed, ETG must be linked into your company's existing synthesis tool environment. Target FPGA and IP selection is accomplished by using a simple pick list. Once the target FPGA and IP have been selected, customization is accomplished by inputting the pin connections between the target FPGA and the target device. Once synthesis is complete, ETG produces an SVF file that is used for IP insertion into the target FPGA

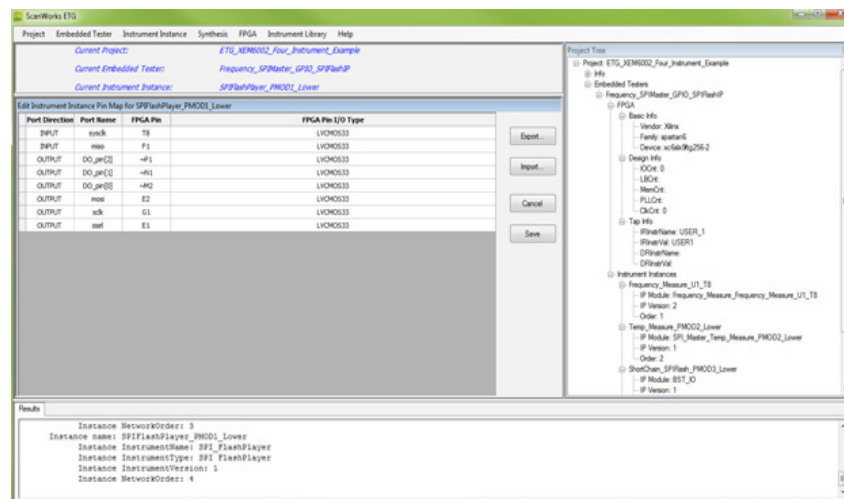


Figure 2: Embedded Tester Generator (ETG)

via a ScanWorks SVF action. ETG also produces a Procedural Description Language (PDL) file and Instrument Connectivity (ICL) file, which describes the IP to ScanWorks. Once

the IP is inserted into the FPGA, a test action can be created and run (Figure 3).

Available FCT IP Instruments

SPI Master – The SPI Flash IP is an easy to use and powerful instrument providing at-speed functional test capability of devices based on the Serial Peripheral Interface (SPI) Bus protocol in a board test FPGA environment. The SPI Master IP can operate its supported SPI functions on any device supporting those functions and from any of the FPGAs supported by ETG. More detailed information on the SPI Master IP is contained in the SPI Master IP Fact Sheet.

Frequency Measure – The Frequency Measure IP is an easy-to-use, yet powerful instrument providing verification of system clocks in a board test FPGA environment. More detailed information on the Frequency Measure IP is contained in the Frequency Measure IP Fact Sheet.

Custom IP Creation – Contact ASSET Sales for more information.

ScanWorks Platform for Embedded Instruments

ScanWorks Platform for Embedded Instruments is a seamless software environment to access, run and collect data from any instrument in your chips, circuit boards or systems. The ScanWorks Platform includes products for Boundary-Scan Test (BST), Processor-Controlled Test (PCT), FPGA-based Fast Programming (FFP), FPGA-Controlled Test (FCT) and IJTAG test.

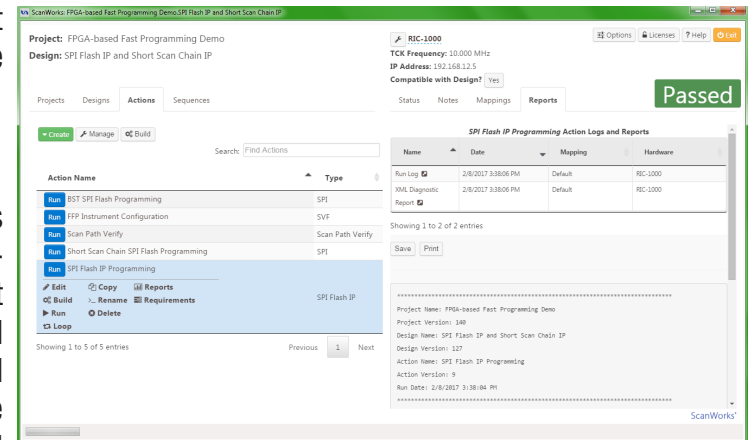


Figure 3. ScanWorks FPGA Configuration and FCT Test Action

ASSET Contacts:

Please contact your ScanWorks sales representative for more information.

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