

PRODUCT  
BRIEF

# ScanWorks® Processor-based Fast Programming for TI Power Management UCD3138

## Key Benefits:

- IP provides fast erase, programming, and verification at or near device specs.
- Utilizes an existing on-board micro-controller as an embedded programming engine
- Supports image object formats from TI's development tool chain
- Provides in-target in-system programming, eliminating costly pre-programmed inventory

## Key Features:

- Example projects on TI UCD3138128A for development and production
- Flash Programming test development interface
- ScanWorks test action compliant
- No firmware or OS to load prior to programming sequence

## Overview

ASSET's ScanWorks® Processor-based Fast Programming (PFP) product supports the Texas Instruments UCD3138 digital power supply controller. The UCD3138 offers superior levels of integration and performance in a single-chip solution.

The ASSET ScanWorks Processor-based Fast Programming provides near device programming speeds via ASSET IP accomplished by using the embedded ARM processor within the UCD3138 Digital Power Supply Controller. This is but one of many ScanWorks tools that are designed to maximize production efficiency and simplify the test development life-cycle.

PFP uses a target agent to configure the interface between the embedded controller and the flash component. The agents are installed in On-Chip Memory (OCM) and are task specific: program, erase, verify, and checksum. These elegant and space efficient in-target agent tasks ensure maximum programming speeds and accurate device control, and flash programming control with only minimal parameters supplied by the end user.

Some of the ScanWorks Processor-based Fast Programming benchmarks for the UCD3138128A device are shown in Table 1.

Table 1. ScanWorks Processor-based Fast Programming Benchmarks

UCD3138128A Benchmarks				
Task	TCK	File Size	Sector	Time
Erase	4MHz	N/A	PF0,1 DF	0.24 Sec
Blank Check	4MHz	N/A	PF0,1 DF	0.24 Sec
Program + Verify	4MHz	48K Bytes	PF0,1 DF	17.60 Sec
Checksum Cal + Programming	4MHz	48K Bytes	PF0,1 DF	0.30 Sec
Erase + Program + verify	4MHz	48K Bytes	PF0,1 DF	18.95 Sec
Erase + Program + Verify + Checksum	4MHz	48K Bytes	PF0,1 DF	19.25 Sec

The PFP product includes the task specific target agents, scripting application, configuration and test actions, and programming project. This combination makes development and deployment easy and seamless.

## PRODUCT BRIEF

PFP provides two user interfaces to match the user task requirements: one interface for test development and one for production usage. ScanWorks is the base platform for both of these.

### Processor-based Fast Programming Development Tool

Programming setup is made easier by a dedicated scripting language interface that allows for script customization as needed by the design. An example project is provided for the UCD3138128A. Developing the programming sequence is as simple as loading the example project and making the desired changes as shown in Figure 1.

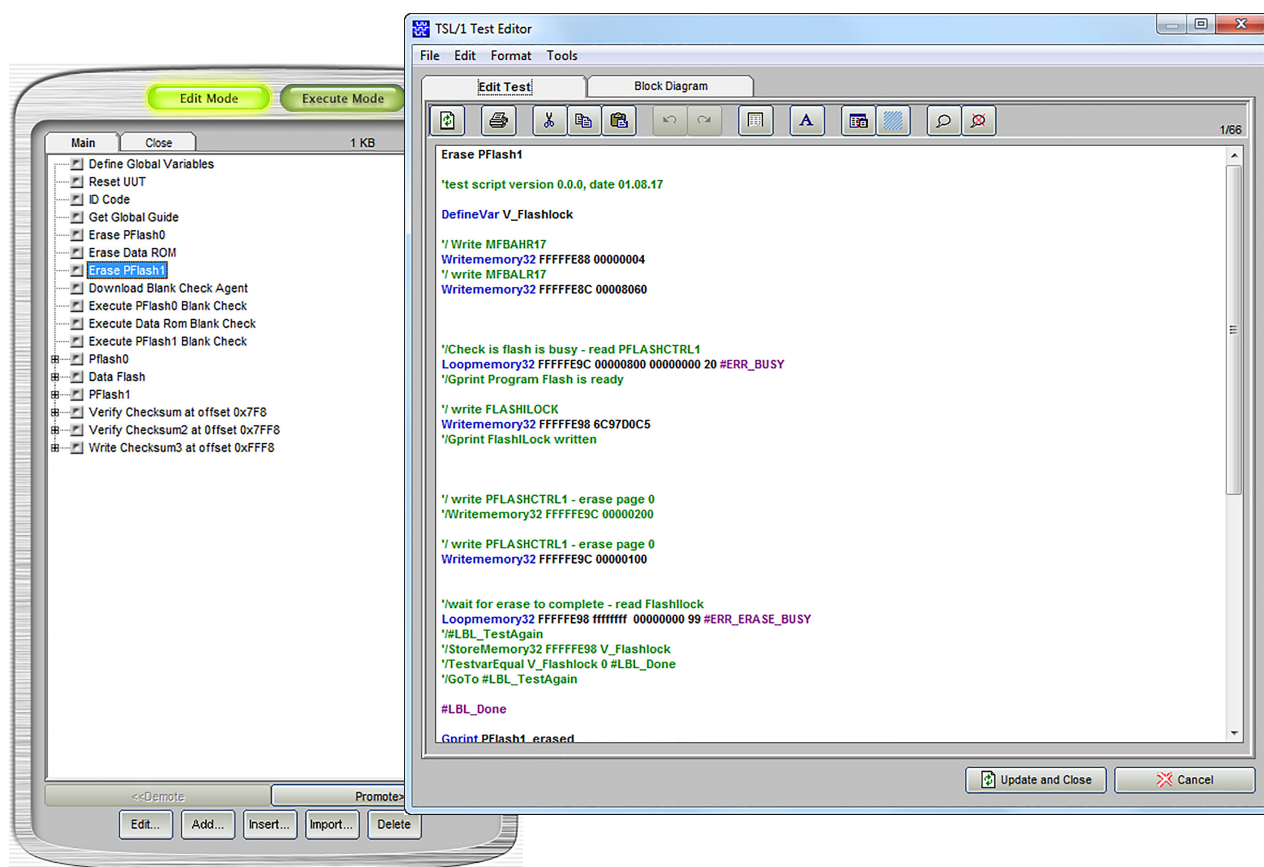


Figure 1. Processor-based Fast Programming Development Tool

This interface can also be used to test steps within the programming sequence. Once the designer is satisfied with the development the next step is creating a production action plan with ScanWorks.

## Processor-based Fast Programming ScanWorks Action

To add the programming task to your ScanWorks project is simply a matter of adding a CPU action to the project. New to ScanWorks? No problem, as the ScanWorks example folder has a TI UCD3138128A project. Running the action within ScanWorks is straightforward as seen in Figure 2.

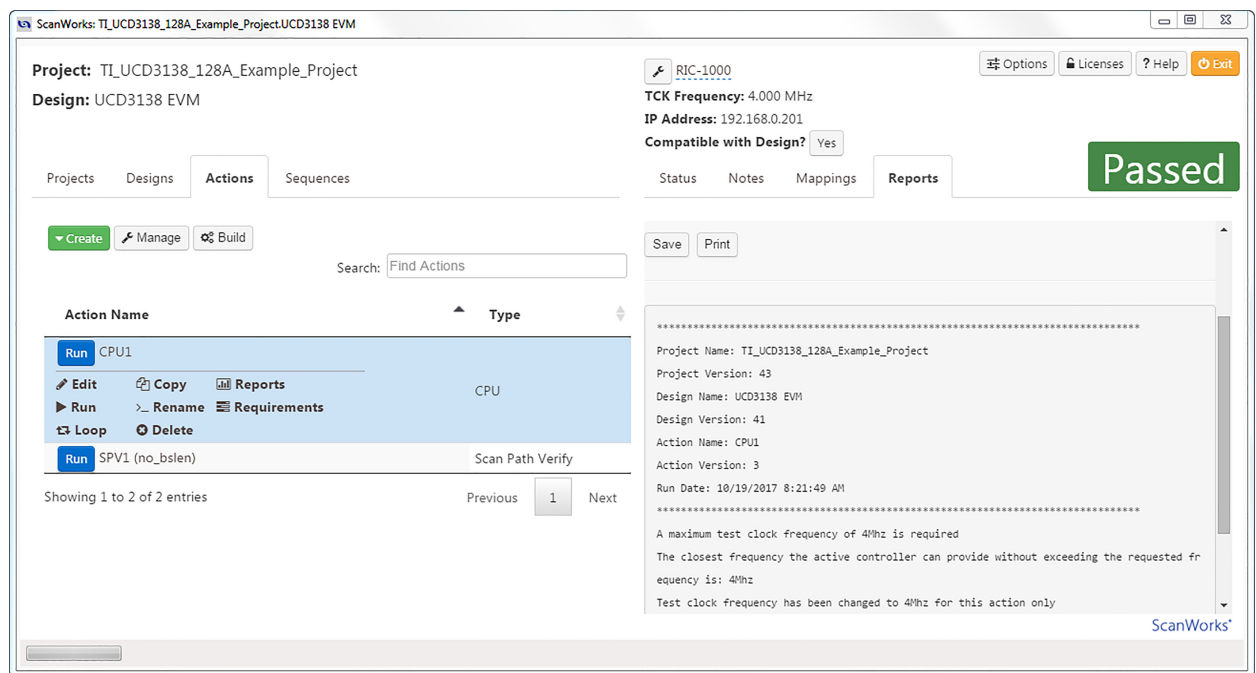


Figure 2. ScanWorks CPU Action for Programming UCD3138

## 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.

### ASSET Contacts:

Please contact your ScanWorks sales representative for more information.

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