VL Mixed Signal Programming

Flexible, Cost Optimized Test Solutions

Automotive

Mobility

IoT/IoV & Optoelectronics

Computing & Network

Industrial & Medical

Consumer

Course Description

The *Virtual Learning Mixed Signal Programming* training course introduces students to a variety of DC and DSP instruments that can be programmed using the Unison software. After completing this class, students will be able to develop and debug DC test for ICs using the Diamond or PAx Series test systems and Unison software. Students must complete the VL Unison Fundamentals training course before attending the class.

Course Outline
- DC Instrument Programming
- DSP Instrument Programming

Course Structure
- Two days - including classroom and practical exercises

Prerequisites
- Completion of the VL Unison Fundamentals course prior to attending this course
- Three months of test program experience

Recommended Skills
- C or C++ programming experience
- Familiarity with Unix and Linux operating systems
- A basic understanding of coherent sampling theory
- English - written and spoken

Who Should Attend?
- Test program development and support engineers
- Test system application engineers and technicians

Required Infrastructure
- A computer with internet connection
- Microsoft Teams
- Unison Simulator installed with U1909 or above revision

- **Next-gen test system for wide range of applications**
- **Scalable high-throughput architecture**
- **Flexible configurations and innovative solutions**
- **Small form factor**
- **Air cooled architecture and instruments**
- **Compact low power technology**

VL Mixed Signal Programming

Daily Schedule

Each topic discussed will have an associated laboratory exercise to aid in reinforcement of understanding the training material.

Day 1

Review and understand the general specifications of some DC instruments installed in the test system.

- HDVI
- OVI
- PMVIx
- VIS16

Day 2

Review and understand the general specifications of some DSP instruments installed in the test system.

- MultiWave
- SWG
- DIG-HSB

Topics Covered

This course covers the Unison user interface, including both the graphical tools and Unison Test Language instructions. Hardware discussed in the course includes:

- HDVI
- OVI
- PMVIx
- MultiWave
- DCTMx
- SWG
- DIG-HSB

Course Modules

1. DC Programming Instructions

This unit introduces the student to the API syntax used to program any DC instrument. After completing this unit, the student will be able to:

- Force a voltage or current on a DC pin
- Measure a voltage or current on a DC pin
- Source sinusoidal waveforms (where applicable)
- Conduct synchronized (triggered) measurements
- Store measured values in the instrument's memory
- Read alarms
- Analyze examples of various DC tests

2. DSP Programming Instructions

This unit introduces the student to the API syntax used to program any DSP instrument. After completing this unit, the student will be able to:

- Source a sinusoial waveform on a DSP pin
- Measure an analog signal on a DSP pin
- Conduct synchronized (triggered) measurements
- Store data in the instrument's memory
- Readback measured values into tester variables
- Analyze examples of various DC tests

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