VL RF Programming

Flexible, Cost Optimized Test Solutions


Automotive


Mobility


IoT/IoV & Optoelectronics


Computing & Network


Industrial & Medical


Consumer

Course Description

The *Virtual Learning RF Programming* training course introduces the use of high frequency hardware used in DMD_x and PAx test system for testing RF devices such as switches and tuners. As such, this course covers multiple instruments including the DragonRF and RD8 sub-systems, baseband waveform generators and digitizers.

Course Outline

- DMD_x and PAx Test System Overview
- RF Sub-System Overview
- DragonRF and RD8 Programming
- Baseband DSP Instruments (SWG)
- Digitizers (IG-HB and WDSP)

Course Structure

- Three 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
- 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

- **Next-gen test system for wide range of applications**
- **Scalable high-throughput architecture**
- **Flexible configurations and innovative solutions**

VL RF Programming

Daily Schedule

Each topic discussed will have an associated lab 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.

- System hardware overview
- RF hardware overview
- RF Programming instructions

Day 2

Review and understand the API syntax that is necessary for programming the RF sub-system.

- RF Programming instructions

Day 3

Evaluate common RF test examples and analyze the test results using the debugging tools.

- RF Programming examples

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:

- DragonRF
- RD8
- SWG
- WDSP
- DigHB

Course Modules

1. RF Sub-System Overview

This unit provides the student with a thorough description of the components of the RF sub-system which includes the DragonRF and RD8. The unit provides detailed information describing the layout of the DragonRF and RD8 instruments.

- DragonRF Hardware components
- RD8 hardware components
- RF functional diagams
- Graphical Debug Tools

2. Create a Test Program

This unit introduces the programming instructions for the DragonRF and RD8. These include:

- RF Initialization
- RF Source Syntax
- RF Measure Syntax
- Triggering
- Quiet Mode
- RF Sequencing

3. Mod/Demod Library

This unit introduces a higher level of programming instructions for the DragonRF and RD8 instruments. This is convenient and applicable to program the RF instrument to source and measure singular and complex waveform signals. These include:

- Souring a CW Signal
- Sourcing a Modulated Signal
- Measuring a CW Signal
- Measuring a Modulated Signal

These programming instructions are reduced when compared to the native RF syntax to perform the same test.

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