

# Diamond<sub>x</sub> FPD Driver Testing

Test Solution for Ultra-High Definition Display Driver ICs



PD1x / PD2x



MP1x



HSI2x

## Course Description

The Flat Panel Display (FPD) Driver Testing training course introduces students to the standards, instruments, and programming techniques used to test display drivers. There will be an in-depth look into each of the instruments, their specifications, and how to best perform tests using the Unison APIs. This is achieved through a combination of lectures and lab exercises. After completing this class, students will be able to develop basic test programs for display devices using the Diamond<sub>x</sub> test systems and Unison software.

## Course Outline

- Flat-Panel Display Driver Testing Overview
- PD1x and PD2x Instruments
- Other Instruments
- Lab Exercises

## Course Structure

- Three days, including classroom and practical exercises

## Recommended Skills

- C or C++ programming experience
- Familiarity with Unix and Linux operating systems

## Prerequisites

- Completed the Unison Digital Applications Training Course
- General knowledge of semiconductor testing concepts
- Ability to read and interpret device specification sheets
- Completed the eLearning modules for the PD1x, PD2x, MP1x, and HSI2x instruments



Automotive



Consumer



Flat Panel Display



IoT/loV & Optoelectronics



Industrial & Medical



MCU



Mobility

- FPD Driver test capability on a low-cost configurable SoC Test Platform
- Composite instrumentation that maximizes flexibility of test system configurations

## Test Solution for:

- Ultra High Definition Display Driver ICs
- LVDS Port and DDR Memory Port Test
- SerDes/LVDS/MIPI Interfaces

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## Daily Schedule

There are demonstrations and lab exercises to aid in reinforcement of understanding the training material.

### Day 1

- PD1x/PD2x Overview and Programming
- Continuity and Leakage tests using the PD1x/PD2x

### Day 2

- Slew Rate Testing
- Grayscale Testing

### Day 3

- MP1x, PSM1, and HSI2x Overview
- XOR Implementation

## Course Modules

### 1 - Flat-Panel Display Driver Testing Overview

- Introduction to instruments such as
  - PD1x
  - PD2x
  - MP1x
  - HSI2x
- Testing methodologies

### 2 - PD1x and PD2x Instruments

- Programming PD1x and PD2x Hardware
- Continuity, Leakage, and Digitizing Tests

### 3 - Other Instruments

- Understanding MP1x, PSM1, HSI2x Hardware
- External XOR Application in FPD Driver Testing

### 4 - Appendices

- Appendix A - PHY Characteristics
- Appendix B – LVDS Signaling

## Related Courses

- Unison Digital Applications

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