

APPLICATION BRIEF

2020

MULTI-DUT PANEL SUB-ASSEMBLY TEST SYSTEM

Brief Description:

Emerging Technologies, LLC. was called upon to design and build an automated sub-assembly functional test system for DUT's in panelized form.

Emerging Technologies, LLC. worked from the customer provided specification and sample product. Challenges included fixturing of the DUT panel for top probing to allow for operator view of LEDs on the DUT during testing and the ability to run a mirror image DUT panel using the same control and measurement hardware and test application.

To keep cost to a minimum, the system used manually actuated clamping of the DUT, a single multiplexed DMM with communication output, and common I/O for the two variations of DUT. Additionally, the Emerging Technologies Standard Fixture was used as the base fixture platform.

The project cycle consisted of system design, system manufacturing, development of the custom test application, and final verification of operation.

Customer Benefit:

The customer is able to functionally test full 35 DUT panels prior to separation as a sub-assembly, using the Emerging Technologies, LLC. designed test system. Additionally, the results of testing each product is stored to the system.



ET Responsibilities:

- Functional Specification Generation
- ✓ Design / Engineering
- ✓ Fabrication
- ✓ Programming – Software
- ✓ Programming – Firmware
- ✓ Circuit & PCB Design
- ✓ On-Site Commissioning
- ✓ Post Commissioning Support
- Other

Technologies:

- Embedded Computers
- Microcontrollers
- ✓ Visual Software
- ✓ Control Software
- ✓ Data Acquisition
- ✓ Computer Based Control
- ✓ Communications – RS232 w/DMM, Enet w/IO
- ✓ System Integration
- ✓ Other – CAD –fixture layout

Special Features:

- ✓ Tests 35 DUT Panel.
- ✓ Tests Mirror Image Panel Using Common I/O and Test Application.
- ✓ Per Panel & per DUT Pass / Fail Indication on User Interface.
- ✓ External DMM for Ease of Calibration.
- ✓ Results Storage.