

Board Diff

The Board Diff Application is a feature of Hpe_JTAG which can be used on IC boards hosting IEEE 1149.1 JTAG compliant devices to test I/O pins.

Board Diff automatically

- find shorted I/O pins (on one device and between many devices)
- find stuck-at-zero I/O pins, stuck-at-one I/O pins and clock pins
- is an intuitive and highly user friendly GUI (see Fig. 1)
- offers protection from board damage by allowing the user to specify safe state for or omit altogether from testing pins that are connected to sensitive electronic modules on a board
- has a simulation mode for users evaluation before they got physical hardware
- **then perform comparative tests against a know good board.**

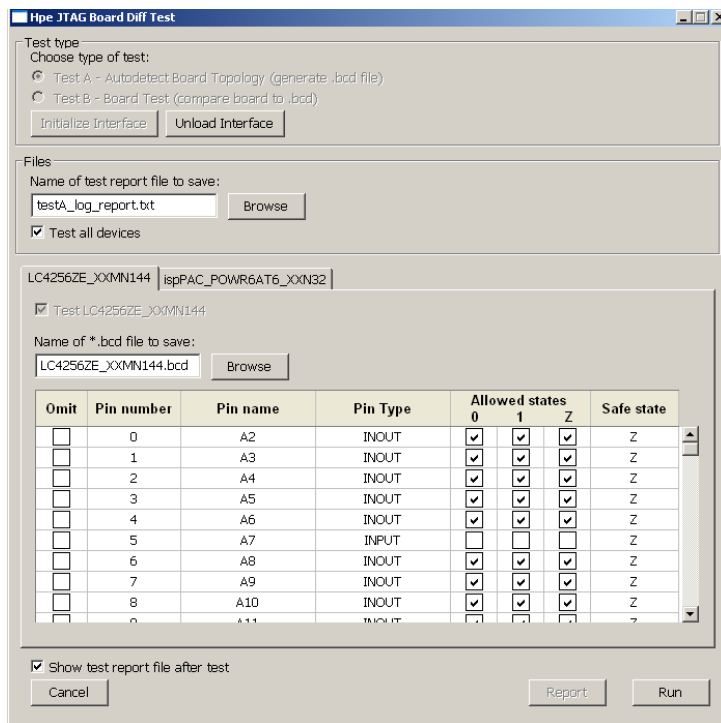


Fig. 1: The Board Diff GUI

Suppose you have a limited number of IC boards of the same type coming in from production or delivery and you want to test these to make sure that they were correctly built and are functioning correctly. With Board Diff, you have a quick and easy to use testing tool to accomplish this.

Firstly, one of the boards is connected to the PC using one of the programming cables supported by Hpe_JTAG. This board's topology is then retrieved and stored in a Board Connection Description (BCD) file by the Board Diff Application. A report file which contains all the shorts, stuck-at-one, stuck-at-zero and clock pins found by Board Diff on the tested board is also generated. This test is called Test A in Board Diff. Once the user is satisfied that the test report corresponds to what the board manufacturer or designer intended (as seen, for example, in the board schematic), then the remaining boards in the lot can now be tested in what is called Test B in the Board Diff GUI. The already tested board is now referred to as the reference board.

Test B retrieves the topology of each subsequently connected board and automatically compares this topology to the topology of the reference board stored in the BCD file. All differences between these two topologies are then reported in a test report file. Only differences are reported such that the user can quickly see which boards differ from the reference board.