



PLX RDK Manufacturing Test Specification

Revision 3.0

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1. About This Manual

This document describes the operation of the PLX Manufacturing Test. PLX created this test to verify the functionality of the PLX reference design boards. We are making this test program available to our customers as a utility to test their proprietary designs which use the PLX devices. This test is designed to work with PLX IOP 480 and PCI 9054 based boards.

2. Manufacturing Test Architecture

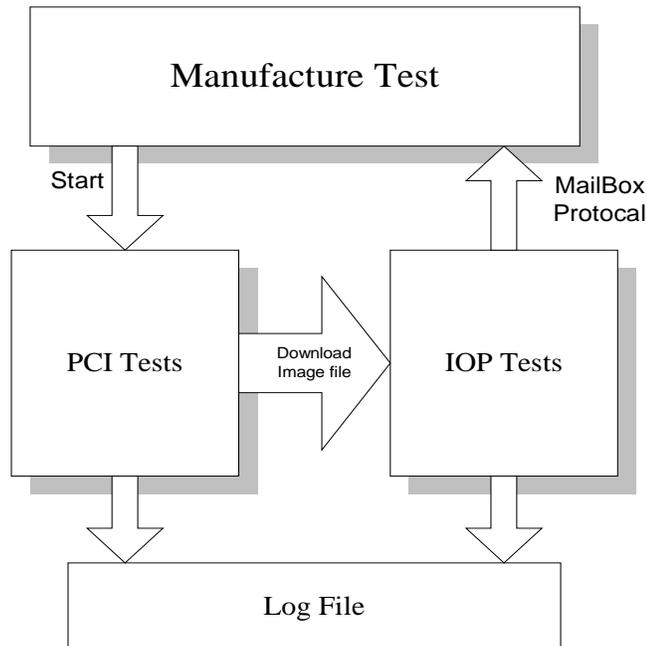


Figure 2-1. The Manufacturing Test Architecture

2.1 Manufacturing Test Application Model

Manufacturing Test is executed in the following sequence:

1. Find PLX SDK 3.0 supported devices
2. Prompt the user to do board reset test
3. Read enabled tests from user interface
4. Execute enabled PCI tests
5. Download IOP tests to ram
6. Execute IOP tests by sending test command to IOP through mailbox

7. Log every test (PCI and IOP) to *.log file during test
8. Repeat from step 2 if loop counter is set
9. Reset IOP

3. Software Architecture

This section explains the runtime functionality of the Manufacturing Test.

3.1 Graphic User Interface

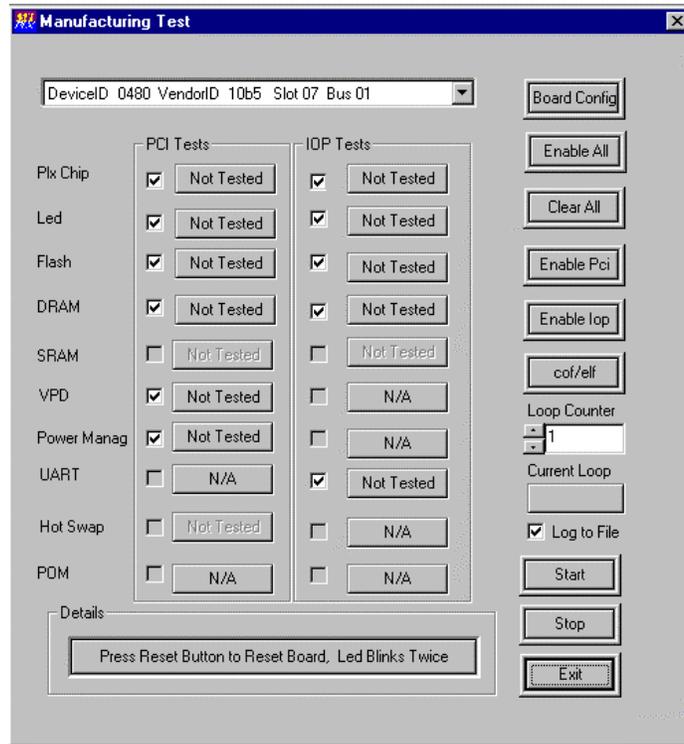


Figure 3-1. The Manufacture Test GUI

The manufacture test GUI lets user select the board and tests, sets loop counter, and enables or disables log to file option. Device under test area shows supported board. The ‘Details’ area displays the test status during execution.

3.2 PCI and IOP communication Protocol

The communication between PCI and IOP is implemented by message sending and receiving through mailbox 4 and mailbox 5.

The following protocol is for executing an IOP test.

1. Host application initializes Mailbox 4 and Mailbox 5
2. Host writes Mailbox 4 with test command and then waits for IOP response
3. When IOP receives the command, it executes the test and then sends TEST_COMPLETE and test status (pass or fail) message to the host.
4. Host then reads the message and logs the test result if log to file is enabled.
5. If host does not receive IOP’s TEST_COMPLETE message within predetermined timeout period, it logs “Failed to receive TEST_COMPLETE Message”, and then sends next IOP test command.

Refer to PLX PCI SDK3.0 for Download IOP test to Ram protocol.

4. Test Provisions

Testing of the Manufacturing Test can be done by using Microsoft Windows NT 4.0, and IOP480 RDK, CPCI9054-860RDK, PCI9054-860RDK boards.

5. Requirements

The Manufacturing Test has the following requirements:

- Utilize PLX PCI SDK 3.0 API
- IOP test image file

6. References

[1] PLX PCI SDK 3.0 Programmer's Reference Manual

[2] PLX Hardware Reference Manual (specific to the PLX RDK)

6.1 Support

Please provide feedback and report any problems with the manufacturing test by sending email to software @plxtech.com