

Innovation for the next generation



ML4039-LBT

Loopback Tester

25 & 100G | SFP28 & QSFP28 | Signal Integrity and CMIS test | Fully automated pass/fail

Summary

Loopbacks play an important role in the validation of next generation Data Center communication systems. They emulate the exact behavior of costlier optical transceivers and can be used to test the thermal and power loading characteristics of a system. In addition, they can be used to validate the signal integrity of host ports and test for CMIS compliance and interoperability.

System developers and hyperscalers use these Loopbacks in large volumes and as a result the testability requirement of Loopbacks has arisen. More specifically, the connector of a Loopback deteriorates after a few hundred insertions or more, and MultiLane developed a quick and easy tool to check the signal integrity of the Loopback. In addition, the CMIS can be configured and tested, all in the same tester with easy-to-use software interface.

ML4039-LBT

Loopback Tester

Introduction

The ML4039-LBT is a fully automated 25G and 100G Loopback tester that validates the signal integrity and checks the CMIS content of SFP28 and QSFP28 Loopbacks.

ML4039-LBT performs AC tests on all channels, such as: eye contour, bathtub and BER, and returns a simple pass/fail condition. The Loopback tester is developed for a system manufacturing and installation environment and comes in a ruggedized metal enclosure that houses the ML4039-BTP BERT, module compliance board, and cables.

In addition, the ML4039-LBT identifies the module serial number and date code, and configures the MSA content (CMIS).

Key Features

- Writes, reads and saves the MSA content
- Checks for Rx Lock
- Performs AC Tests on all channels (Eye contour, bathtub and BER)
- Generates a report and returns either Pass or Fail

Target Applications

- Performance validation of loopbacks
- Loopback CMIS validation and configuration
- System manufacturing and installation

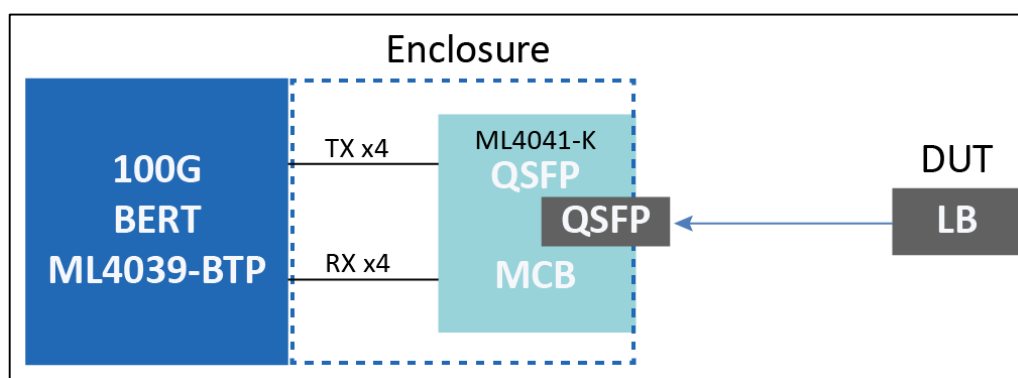


Figure 1: ML4039-LBT-QSFP schematic

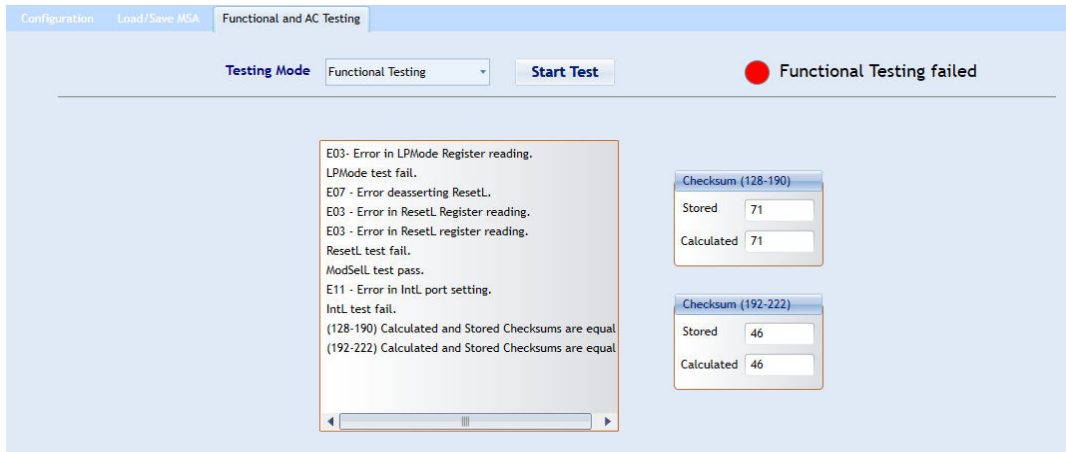


Figure 2: QSFP Functional and AC Testing failed



Figure 3: QSFP bathtub curves

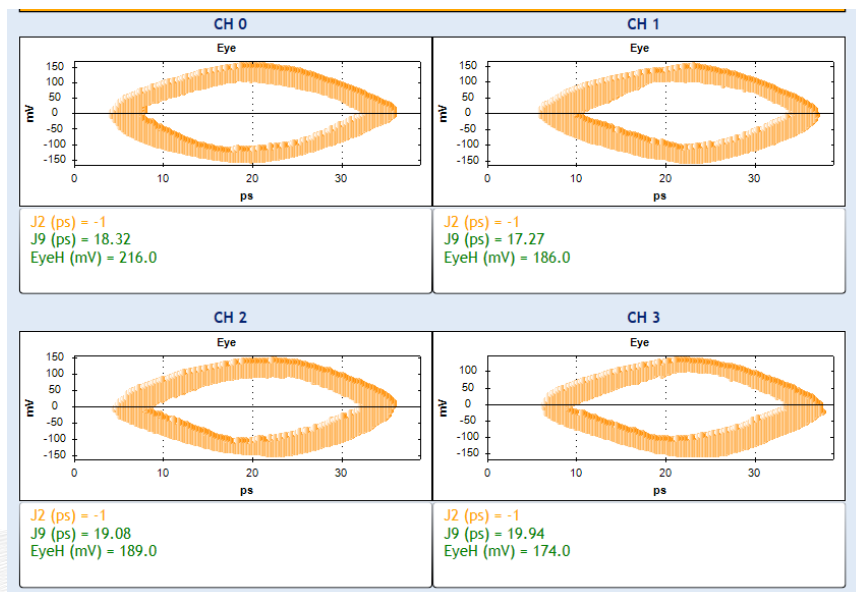


Figure 4: QSFP Eye Contours

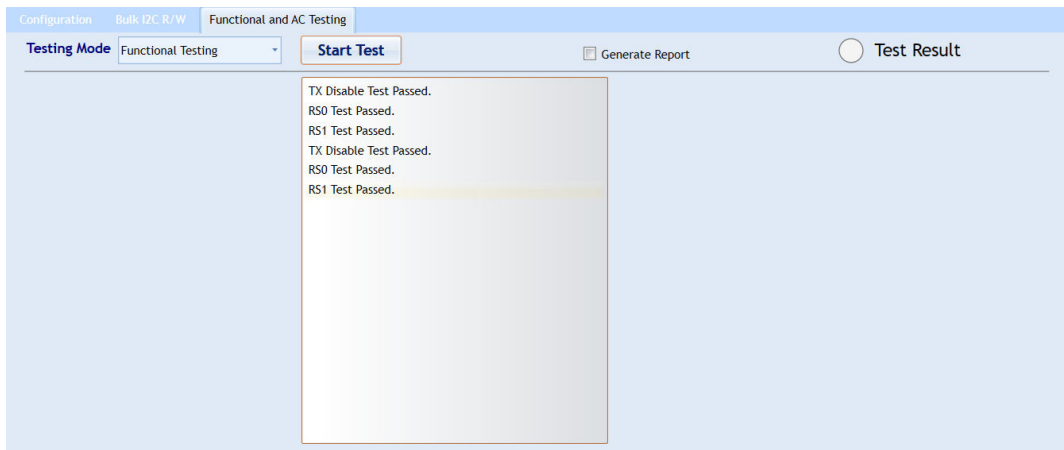


Figure 5: SFP Functional and AC Testing interface

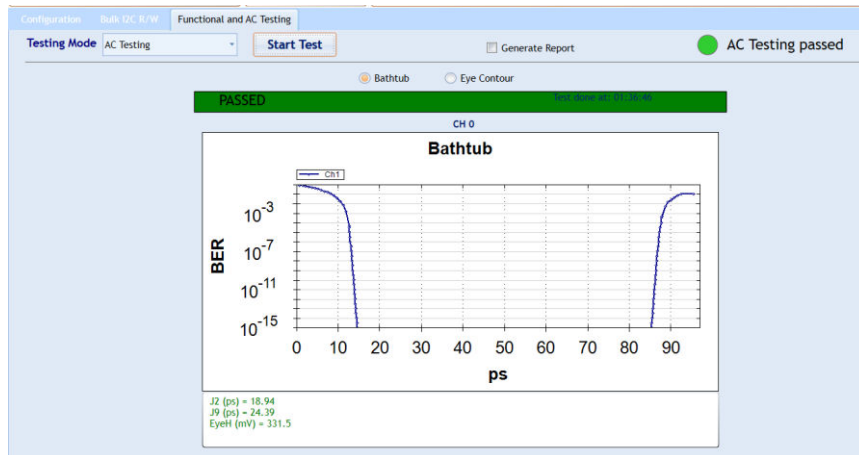


Figure 6: SFP bathtub curve

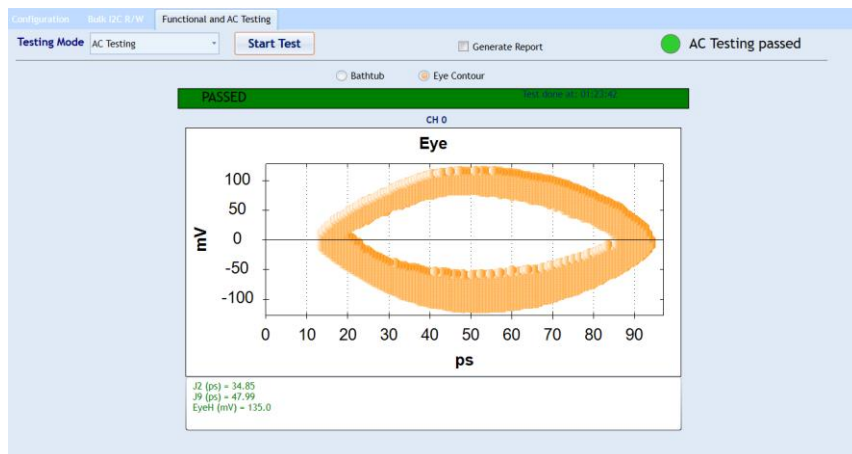


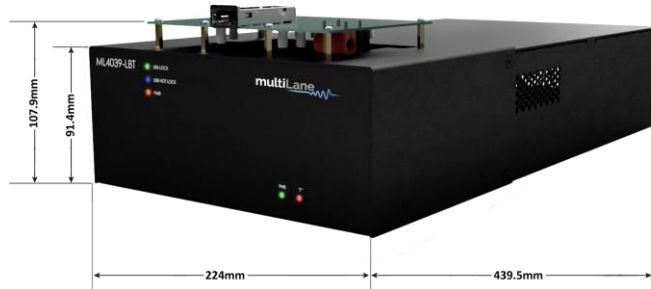
Figure 7: SFP Eye Contour

Electrical Specifications

Specifications as per ML4039-BTP datasheet. More information [here](#)

Mechanical Dimensions

The ML4039-LBT is a benchtop instrument with the following dimensions: 224 x 439.5 x 91.4 mm (W x L x H), plus an additional fixture on top as per graph on the right.



Ordering Information

Option	Description
ML4039-LBT-QSFP	100G QSFP Loopback tester
ML4039-LBT-SFP	25G SFP Loopback tester

Other standards available upon request. Please contact us at sales@multilaneinc.com

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