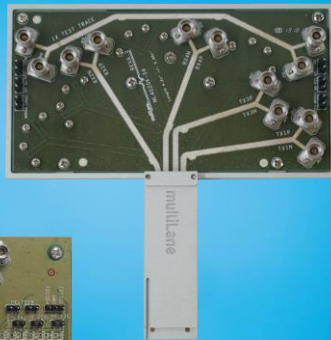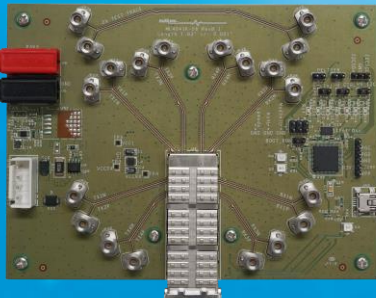# multiLane

Innovation for the next generation

QSFP56

QSFP56 Compliance Boards
ML4041-K-56 | ML4020-K-56

200G Interconnects | Superior Integrity and Performance

Summary

The MultiLane QSFP56 Datasheet provides the necessary development tools and reference modules required for the development of QSFP56 based products. This datasheet is essential for development, testing and characterization of QSFP56 based products. It can also be used for testing 200G CDRs, 200G Gearbox devices, 200G QSFP ports on routers and line-cards, electro-optical modules, and QSFP56 active optical cables.

ML4041-K-56 MCB

4 x 56 GB Module Compliance Board

Introduction

QSFP56 Host (Quad Small Form Factor) MSA Compliant Master Host board ML4041-K-56, is designed to provide an efficient and easy method of programming and testing 4x56G QSFP56 transceivers.

The ML4041-K-56 comes complete with Window's based software and user manual to enable intuitive memory map programming and testing, controlled via mini B USB.

The QSFP56 (ML4041-K-56) Module Compliance Board uses 40 GHz V-Grooved 2.92 mm K connectors. It is designed to simulate an ideal environment for QSFP56 transceivers module and cable testing, characterization and manufacturing tests. Its properties make the host board as electrically transparent as possible, allowing for a more accurate assessment of the module's performance.

Key Features

- Matched differential trace length
- DUT voltage supply control (3.15V, 3.3V, 3.45V, or other user specified voltage levels)
- DUT Current Sense
- Superior Signal Integrity Performance Rogers 3003 based PCBs
- Low Insertion Loss
- Temperature Monitor
- Four corner test capability
- Supports 4x56 G interfaces
- I2C master driven from both on board micro controller or external pin headers
- USB interface
- User friendly GUI for I2C R/W commands and loading custom MSA Memory Maps
- All 4 channels comes with matching trace length 1779 mils
- On-board LEDs showing MSA output Alarm states

Software Capabilities

- QSFP56 Module Status/Control
- MSA Compliant

Target Applications

- 4x56 G Electrical module testing and characterization
- High-speed data interface between an ASIC (SerDes) and the QSFP56 module
- Multimode and single mode fiber applications
- Optical Fiber Testing

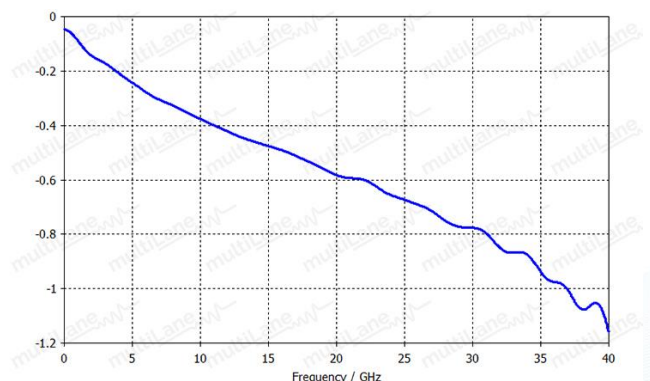*Compliant with CEI-56G-VSR MCB characteristics*

Figure 1: ML4041-K-56

Figure 2: ML4041-K-56 Insertion Loss Graph

ML4020-K-56 HCB

4 x 56 GB Host Compliance Board

Introduction

QSFP56 (Quad Small Form Factor 56) Host Compliance Board ML4020-K-56, is designed to provide an efficient and easy method to test and characterize line cards with 4x56G QSFP56 ports.

The ML4020-K-56 simply plugs into a QSFP56 slot and provides access to RX and TX ports through high performance signal integrity breakout path.
It comes with 40 GHz V-Grooved 2.92 mm K connectors.

Figure 3: ML4020-K-56

Key Features

- High Performance signal integrity traces
- QSFP56 MSA Form Factor
- Low Insertion Loss Rogers 3003 based material
- Production friendly form factor
- Supports 4x56G TX & RX Lanes
- High speed signals accessible through 40 GHz V-Grooved 2.92 mm K Connector rows
- All TX and RX channels comes with matching trace length
- Trace length 4203 mils

Figure 4: ML4020-K-56 Insertion Loss Graph

Target Applications

- System Characterization
- Signal Integrity analysis
- QSFP56 Line Card and Port Characterization

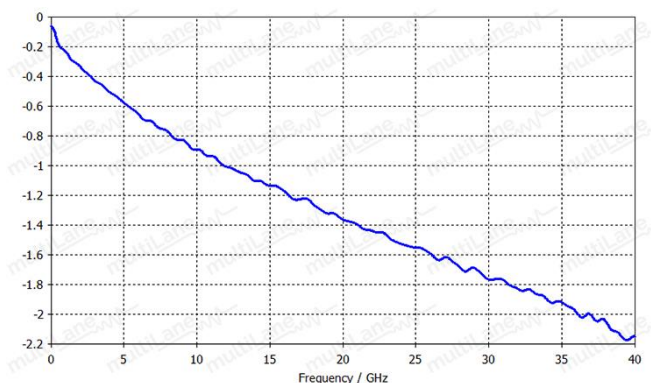*Compliant with CEI-56G-VSR MCB characteristics*
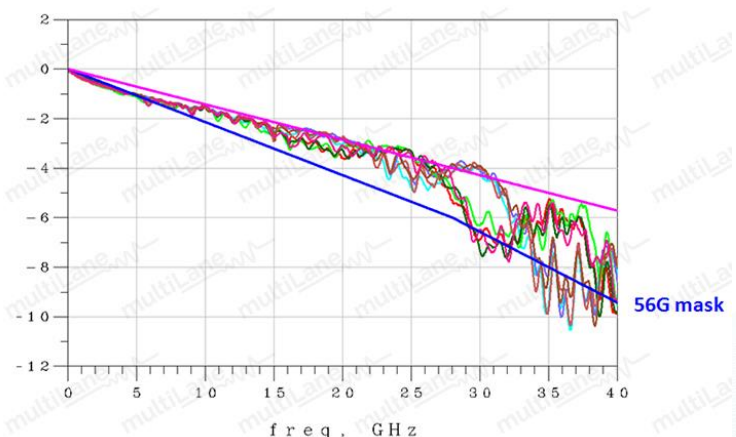
Figure 5: Mated pair Measured Insertion Loss Graph

Ordering Information

Option	Description
ML4041-K-56	200G Module Compliance Board
ML4020-K-56	200G Host Compliance Board

Recommended Accessories

Instruments	Recommended *Phase matched cable pairs*	Alternative *Phase matched cable sets*	Comments
ML4041-K-56	8x MLCBPM-2.92-30	2x MLCBPM-2.92-30-8	2.92 mm connector 2x8 channel 30 cm
ML4041-K-56	8x MLCBPM-2.92-60	2x MLCBPM-2.92-60-8	2.92 mm connector 2x8 channel 60 cm

Please contact us at sales@multilaneinc.com.