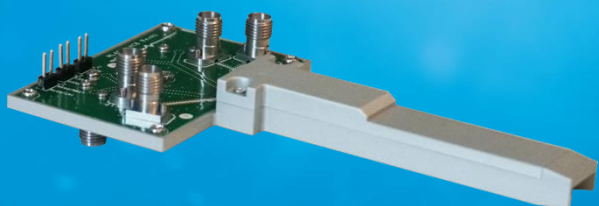
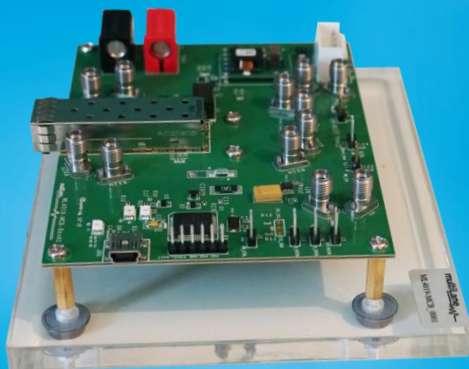


Innovation for the next generation



# DSFP

Compliance Boards | 112/56 Gbps  
(2x28 GBd) Interconnects

ML4019-MCB: 2x28 GBaud Module Compliance Board | ML4019-HCB: 2x28 GBaud Host Compliance Board | V0.1 Preliminary revision |

## Summary

In addition to support of all the key interconnect MSAs such as QSFP-DD, OSFP, QSFP28, etc., MultiLane is now adding support of the DSFP MSA.

The DSFP (Dual Small Form-Factor Pluggable) MSA is doubling the data rate and port density of SFP transceivers to address the growing port density and scalability requirements of Wireless and 5G Mobile Infrastructure. DSFP has two electrical lanes, each operating up to 26 Gbps using NRZ and 56 Gbps using PAM4, supporting aggregate data rates of up to 56 Gbps and 112 Gbps, respectively.

MultiLane offers both module compliance boards (MCB) as well as host compliance boards (HCB) to be able to test transceiver modules, interconnects and host ports.

## DSFP Module Compliance Board

### ML4019-MCB

#### Summary

DSFP (Dual Small Form Factor) MSA Module Compliance Board **ML4019-MCB**, is designed to provide an efficient and easy method of programming and testing 2x28 GBd DSFP transceivers.

The **ML4019-MCB** comes complete with Windows based software and user manual to enable intuitive memory map programming and testing, controlled via mini-B USB. The DSFP Module Compliance Board (ML4019-MCB) uses 2.92 mm K connectors. It is designed to simulate an ideal environment for DSFP transceivers module and cable testing, characterization and manufacturing tests. Its properties make the MCB as electrically transparent as possible, allowing for a more accurate assessment of the module 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
- DUT Voltage Sense
- Superior Signal Integrity
- Low Insertion Loss
- Temperature Monitor
- Four corner test capability
- Supports 2x28 GBd interfaces
- I2C master driven from 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 channels come with matching trace length 1314 mils

- On-board LEDs showing MSA output Alarm states and pin headers for low speed signals

#### Software Capabilities

- DSFP Module Status/Control
- MSA Compliant
- Module EEPROM loading/reading

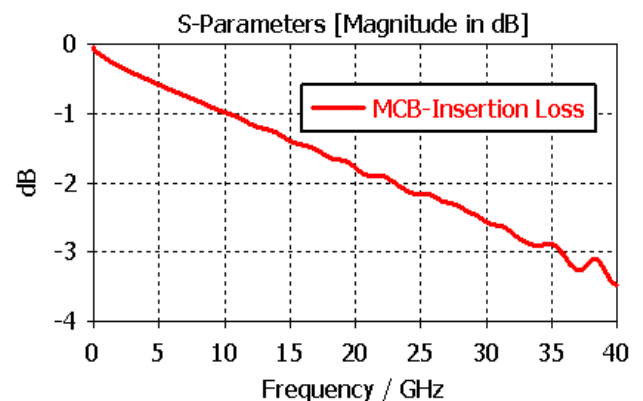
#### Applications

- 2x28 GBd Electrical module testing and characterization
- High-speed data interface for testing DSFP modules



ML4019-MCB

Compliant with CEI 28G-VSR and CEI-56G-VSR MCB characteristics



ML4019-MCB Insertion Loss Graph

## DSFP Host Compliance Board

### ML4019-HCB

#### Summary

DSFP (Dual Small Form Factor) Host Compliance Board **ML4019-HCB**, is designed to provide an efficient and easy method to test and characterize line cards with 2x28 GBd DSFP ports.

The **ML4019-HCB** simply plugs into a DSFP slot and provides access to RX and TX ports through high performance signal integrity breakout path. It comes with 2.92 mm K connectors.

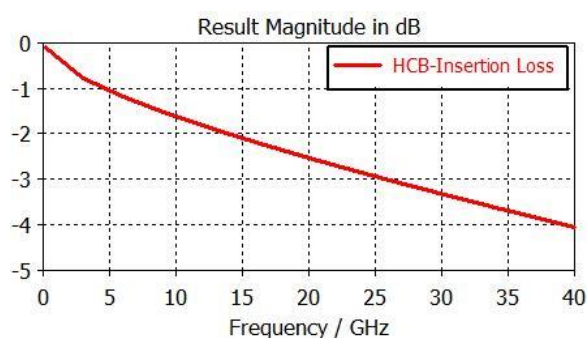
#### Key Features

- High performance signal integrity traces
- DSFP MSA form factor
- Low insertion loss
- Production friendly form factor
- Supports 2x28 GBd TX & RX lanes
- High speed signals accessible through 2.92mm K connectors
- Matched differential trace length
- TX and RX channels trace length:
  - RX1p/n trace length 3045 mils
  - TX1p/n trace length 3005 mils
  - RX2p/n trace length 3293 mils
  - TX2p/n trace length 3291 mils

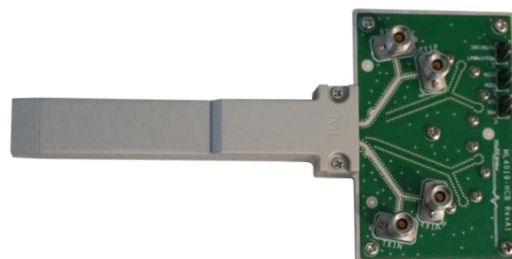
#### Applications

- System characterization
- Signal integrity analysis
- DSFP line card and port characterization

#### Compliant with CEI-28G-VSR and CEI-56G-VSR HCB characteristics



ML4019-HCB Insertion Loss Graph



ML4019-HCB

