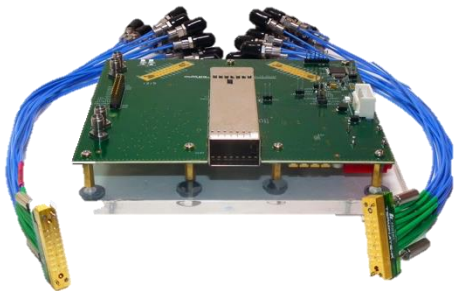


Datasheet

**ML4062-TR**  
**ML4064-TR**



**Low-cost, consumable MCBs for manufacturing testing**

QSFP-DD and OSFP transceiver testing

400GAUI-8 Tx and Rx electrical interface testing

400GBASE-DR4/FR4/LR4 optical testing

100G Lambda optical testing

Low speed I2C CMIS verification

Thermal testing

SIGNAL INTEGRITY MEASUREMENT SOLUTION

# ML4062-TR

# ML4064-TR

## Low-cost, consumable QSFP-DD and OSFP MCBs

### Summary

ML4062-TR (QSFP-DD) and ML4064-TR (OSFP) are fully featured, low-cost module compliance boards (MCB), designed to be used in manufacturing. They are used in combination with a replaceable multi-channel cable (Arden 16 channel 16x2 cable). This design was chosen to enable a lower cost, consumable MCB for testing in significant volumes.

### Typical Applications

- Transceiver manufacturing test
- Optical transmitter test
- Sensitivity testing of optical receivers
- Electrical interface testing
- Common Management Interface Specification testing
- Thermal testing of transceivers

### Key Features

The ML4062/4-TR is designed to provide an efficient and easy method of programming and testing 400G QSFP-DD/OSFP transceivers and active optical cables. It includes a complete user-friendly GUI supporting all features defined by QSFP-DD/OSFP MSA and simplifying configuration processes to enable intuitive memory map programming and testing. It is designed to simulate an ideal environment for QSFP-DD/OSFP transceivers module testing, characterization and manufacturing.

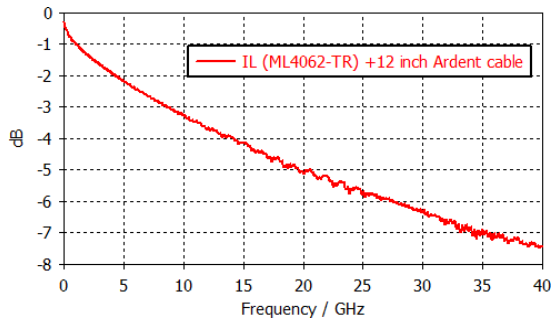
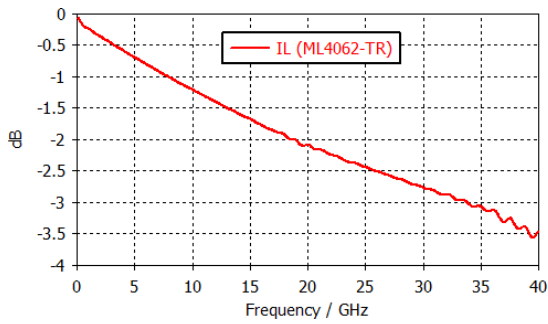
Features include:

- I2C master driven from either on-board microcontroller or external pin headers
- Current sensor
- Voltage sensor
- Two temperature sensors
- Matched differential trace length across all channels
- High performance signal integrity traces from TR40 connectors to QSFP-DD/OSFP host connector
- On-board LEDs display MSA output alarm states
- On-board jumpers for MSA input control signals
- User friendly GUI for I2C R/W commands and loading custom MSA memory maps
- Four corner testing capability
- USB interface
- QSFP-DD/OSFP analyzer interface for ML4066-ANA I2C CMIS testing
- No components near QSFP-DD/OSFP cage makes thermal testing easy to achieve

## Insertion Loss

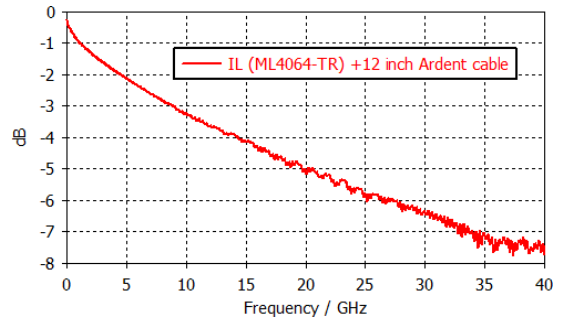
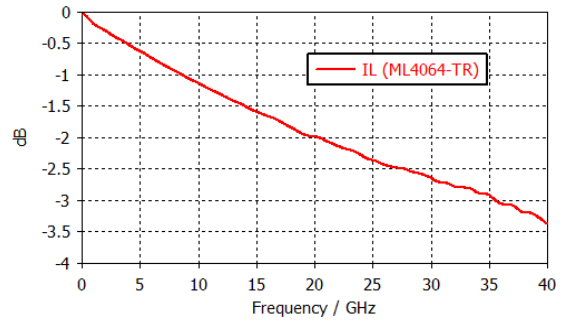
### ML4062-TR

All TX and RX channels on the board have the same trace length: 2449 mils. Below are the insertion loss graphs for ML4062-TR with and without 12 inch ardent cables.



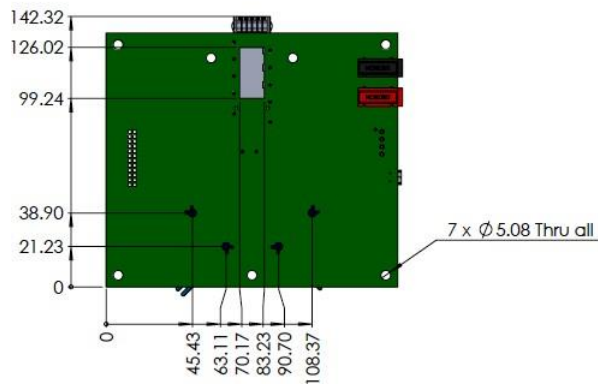
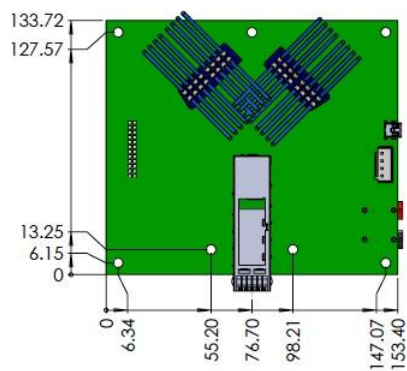
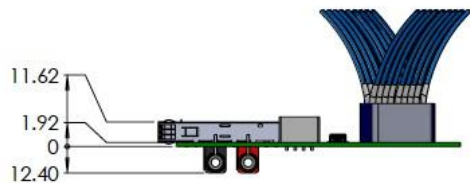
### ML4064-TR

All TX and RX channels on the board have the same trace length: 2436 mils. Below are the insertion loss graphs for ML4064-TR with and without 12 inch ardent cables.

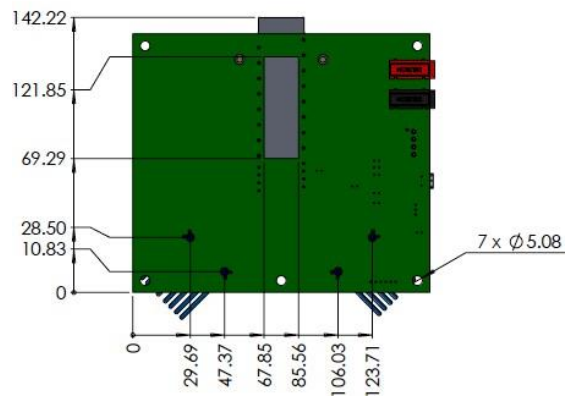
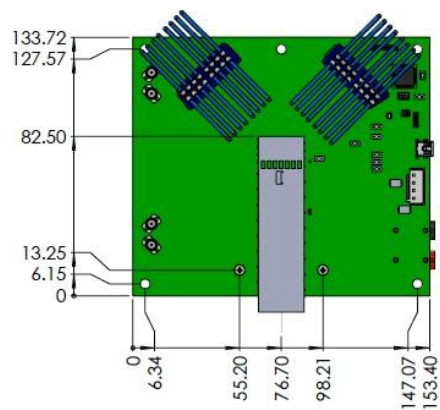
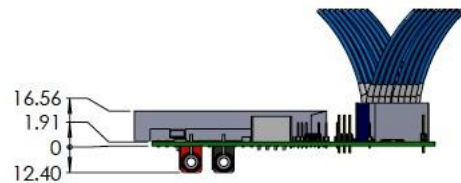


Mechanical Dimensions

ML4062-TR



ML4064-TR



SIGNAL INTEGRITY MEASUREMENT SOLUTION

## Ordering Information

OPTION	DESCRIPTION
<b>ML4062-TR</b>	QSFP-DD MCB
<b>ML4064-TR</b>	OSFP MCB
<b>ML4066-ANA-QDD</b>	QSFP-DD Analyzer module that plugs on the ML4062-TR, with USB interface and windows GUI
<b>ML4066-ANA-OSFP</b>	OSFP Analyzer module that plugs on the ML4064-TR, with USB interface and windows GUI
<b>TR40-SM-16X2-2.54-12KM<sup>1</sup></b>	40 GHz Straight Mount 16 Channel TR with 12" K Male Cables

*Note 1: Order directly from Ardent Concepts. Two required per MCB.*