

The most rugged high-performance embedded parallel optics.



40G Optical Tester  
4 channel transmit +4 channel receive

## Optical Tester 40G

### Features

- Designed to operate up to 10.3125 Gbps per channel.
- 4× TX and 4× RX high-speed channels each accessible via a differential pair of SMA connectors.
- AC coupled high-speed signals.
- Single power supply, standard wall-plug interface.
- Also available, 10G Optical Tester:  
1× TX and 1× RX high-speed signal each accessible via a differential pair of SMA connectors.

### Product summary

The Optical Tester is the perfect vehicle for testing and experiencing the *LightABLE™* SR4 transceiver modules. The Optical Tester consists of a printed circuit evaluation board with a pluggable SR4 transceiver module. The *LightABLE* SR4 optical transceivers offer four asynchronous channels operating at up to 10.3125 Gbps per channel. These modules are designed for very short reach applications (1 m to 100 m) with support on 50/125 micron multimode fiber (OM3).

This product needs to be associated with all the necessary hardware, test and measurement equipment and software in order to perform the characterization of an optical link.

### Applications

- Assess electrical and optical signal quality from the *LightABLE* SR4.
- Perform bit error rate and eye diagram test on the *LightABLE* SR4 and optical interconnect.
- 4 channel EO/OE lab-grade generator.
- Test various communication protocols such as Ethernet, PCIe, and Infiniband over the *LightABLE*.

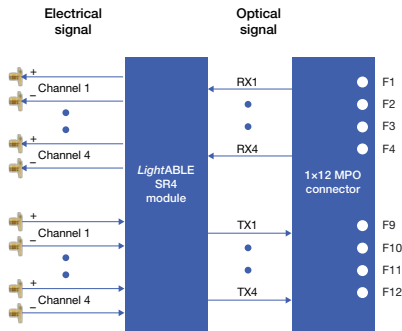
## Recommended test equipment

A wide variety of electrical and optical measurements can be performed with the Optical Tester based on the transceiver module. As a general guideline, we recommend the following test equipment:

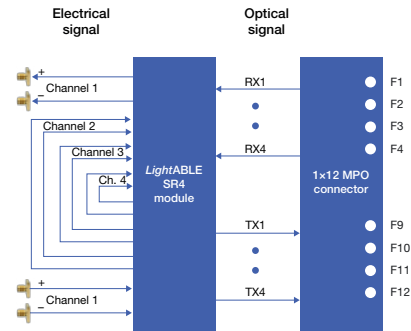
- SMA cables with a bandwidth in excess of 40 GHz are preferred.
- A pulse generator and a signal analyzer to perform both signal patterns (eye diagram) and bit error rate measurements (BERT).
- All measurements on the electrical outputs of the receiver board should use an oscilloscope with a minimum bandwidth of 18 GHz.
- Calibrated optical attenuator and power meter for optical tests at 850 nm.

## Optical Tester diagrams and dimensions

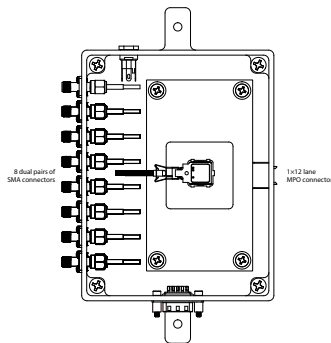
The Optical Tester is available in two configurations: 40G (4+4 lane) and 10G (1+1 lane). Dual pairs of SMA connectors on the periphery of the Optical Tester give access to TX and RX RF signal for each channel. Optical access is provided via standard MPO connector with a 1 × 12 MT ferrule.



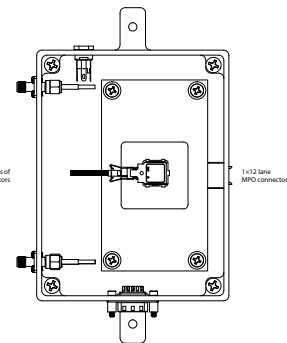
The 40G Optical Tester allows RF electrical access to four TX channels and four RX channels of the SR4 transceiver.



The 10G Optical Tester allows RF electrical access to one TX and one RX channel. The remaining 3 channels of TX and 3 channels of RX of the SR4 transceiver are configured as electrical loops.



40G Optical Tester technical drawing



10G Optical Tester technical drawing

The Optical Tester measures approximately (DxWxH) 13 x 20 x 5.5 cm.

## Optical Tester ordering information

| Part Number     | Description  |
|-----------------|--|
| LHD040018312102 | 1 × 40G Optical Tester   |
| LHD040018312101 | 1 × 10G Optical Tester   |
| 684-00001       | 1 × Power supply 110 VAC to 9 V DC                                   |
| 500-00003       | 1 × MPO (1 × 12 MT) to 12 × FC fan out multimode optical fiber (OM3) |
| 600-00012       | 1 × FC to FC adaptor   |

THE *Light* on Board® Company

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