



# OPTILAB

## OFC 2021

# TABLE OF CONTENTS

- 1. OUR STORY**  
Listen up, it's our mission to tell!
- 2. PRODUCT LINEUP**  
You will be surprised by what we have to offer
- 3. AND MORE**  
Last but not least!



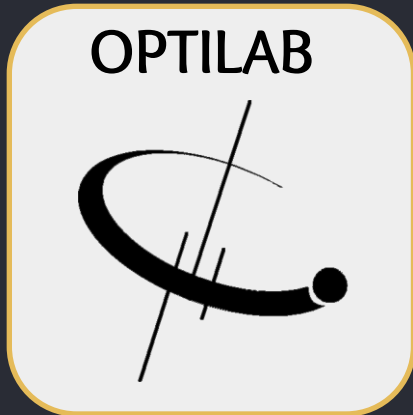
# OUR COMPANY

Optilab is dedicated to becoming one of the leading suppliers of the optoelectronics and photonics industry.

We provide and cover from passive component to complete solutions for many sectors of industry including

- Quantum Photonics
- Space Applications
- Laser Sources
- Optical Instruments
- Sensor
- Telecom
- And More

Let us know of your application, and we will fulfill your needs!



# LOCATION

Optilab is located in Arizona, USA where it can be handy and fast to deliver the products to the customers.

Phoenix, AZ





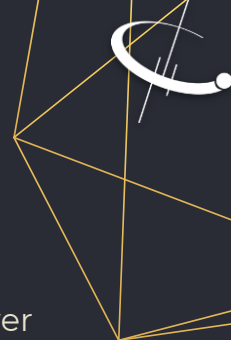
2



# Product Lineup

You will be surprised by what  
we have to offer

# Proudly Presenting



## QUANTUM PHOTONICS

- 500 MHz 630 ~ 1064 nm Intensity Modulators
- Spontaneous Parametric Down Conversion Quantum Photon Pair Source

## SPACE QUALIFIED

- 12 Gb/s QPSK Modulator for Space
- 23 GHz Linear Balanced Photoreceiver for Space
- 30 GHz Linear Photoreceiver for Space

## LASER SOURCES

- 630 ~ 1064 nm PM Laser Diode
- 1310 nm High Power PM DFB Laser Diode
- 1550 nm High Power PM DFB Laser Diode
- 1550 nm High Speed Swept Wavelength Laser Module
- 1310/1550 nm High Power Laser Sources Station

## INSTRUMENTS

- Laser Linewidth Analyzer for 1310/1550 nm
- 200 GHz Detector Test Station
- Modulator Test Station
- Phase Modulator Analyzer
- 1310/1550 nm High Power Laser Source Station

# QUANTUM PHOTONICS

# IMP-630/785/850/1064-0.5-PM

500 MHz 630 ~ 1064 nm Intensity Modulators



## FEATURES

Low insertion loss, low  $V_{pi}$ .

High input power handling capability.

Excellent stability in a biased circuit.

630/785/850/1064 nm operating wavelengths.

Analog Modulation

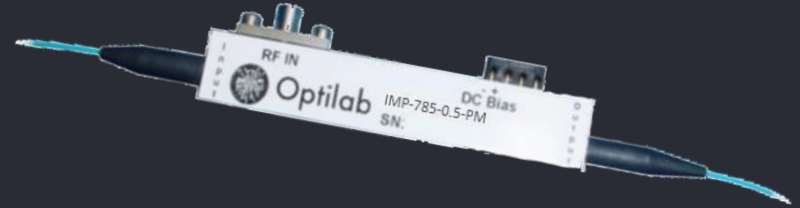
Pulse Generation

Quantum Photonics

Active Mode Locking Laser

## APPLICATIONS

Optilab's IMP-785/850-0.5-PM are Intensity Modulators designed for analog modulation of up to 500 MHz for satellite links, antenna remoting, and RF over Fiber. Featuring an Annealed Proton Exchange (APE) waveguide, this modulator provides low insertion loss, low  $V_{pi}$ , and high-power handling capability.

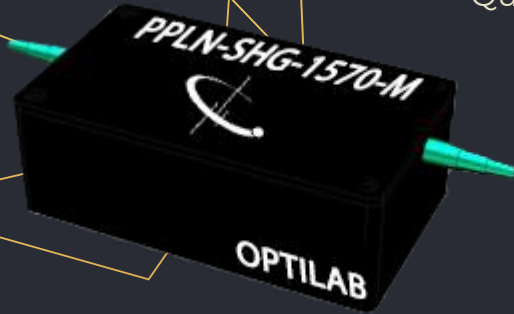






# PPLN-SHG-1570-M

Spontaneous Parametric Down Conversion  
Quantum Photon Pair Source



Optilab's PPLN-SHG-1570-M is a second harmonic generator based on Periodically Poled Lithium Niobate (PPLN) design for operation at 1570 nm wavelength region. This device is fabricated with waveguide structure that allows high power density to enhance second harmonic conversion efficiency.

## FEATURES

1570 to 1580 nm band signal

Low Insertion Loss < 4dB

High Conversion Efficiency

Built-in TEC

Heralded Single Photon Source

ERP Photon Source

Second Harmonic Generation (SHG)

Quantum Key Distribution (QKD)

## APPLICATIONS

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# SPACE QUALIFIED

# QPSK-1550-12-SQ

Space Qualified 12 Gb/s QPSK Modulator



## FEATURES

Space Qualified

$\geq 10$  GHz Bandwidth

12 Gb/s Data Rate.

Dual MZI parallel with two RG inputs.

Extinction Ratio > 23 dB.

Free Space Communication

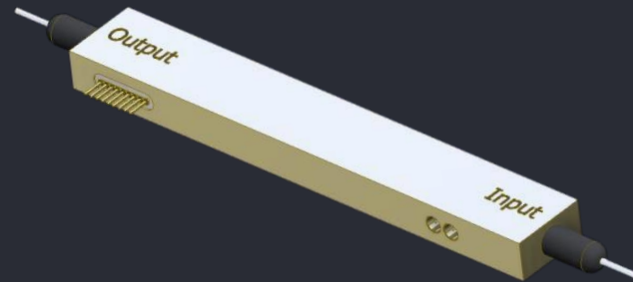
SSB Suppressed Carrier Modulation

Coherent Transmission / Sensing

QAM / OFDM

QPSK / DQPSK Transmission

## APPLICATIONS

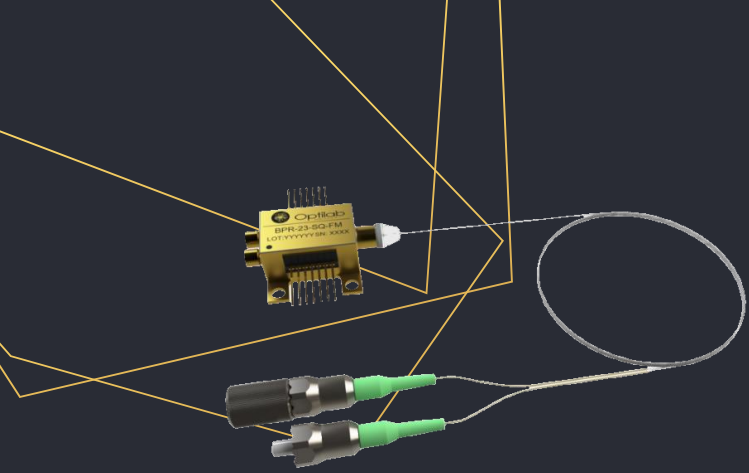


Optilab's QPSK-1550-12-SQ, Quadrature Phase Shift Keying (QPSK) modulator, is a dual parallel structure of two Mach-Zehnder modulators embedded in a Mach-Zehnder super-structure. Each internal modulator is designed to support 12 Gb/s signals.



# BPR-23-SQ

Space Qualified 23 GHz Linear Balanced Photoreceiver



Optilab's BPR-23-SQ is a linear balanced photoreceiver with a configurable bandwidth up to 23 GHz. It is carefully designed, manufactured, and tested to meet space application requirements and comes with space grade MINI-AVIM connectors.

## FEATURES

Space Qualified

Dual GPPO for differential RF output

14 pin mini-DIL package

Linear TIA with integrate VGA

Hermetically sealed

48 Gbit/s DQPSK systems

Low-noise analog heterodyne detection

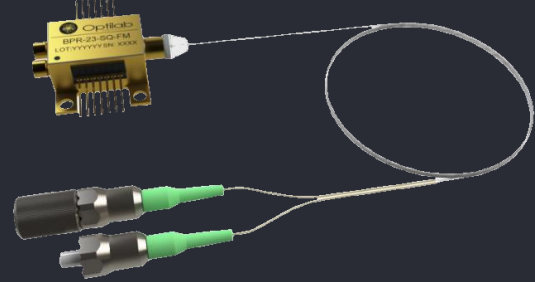
$\leq 23$  GHz RFoF Link Systems

## APPLICATIONS



# PR-30-SQ

Space Qualified 30 GHz Linear Photoreceiver



## FEATURES

Space Qualified

High Conversion Gain up to 2000 V/W

Adjustable 3 dB Bandwidth up to 35 GHz

14 pin mini-DIL package

Linear TIA with integrate VGA

Hermetically sealed

30 GHz Analog RFoF Link

PAM-4

Linear Receiver up to 30 GHz

Transponder and Line Card Designs

## APPLICATIONS

Optilab's PR-30-SQ is a linear photo receiver designed for analog applications. This compact photo receiver contains a surface coupled coplanar waveguide PIN photodiode and a linear transimpedance amplifier within a hermetically sealed 14-pin butterfly package. With an integrated variable gain amplifier (VGA).

# LASER SOURCES

# LD-785-40-PM-CM & LD-850-70-PM-CM

630 ~ 850 nm Polarization Maintaining Laser Diode



Optilab's LD-785-40-PM-CM & LD-850-70-PM-CM is a 785 nm & 850 nm pigtailed laser module, with an 8-pin package. This high-efficiency and high stability product is featured in a TEC cooler and internal photodiode. The 785 has a 40 mW output power with the 850 version having a 70 mW output power. Both devices have 5  $\mu$ m PM fiber and can be used in medical laser treatment and biotechnology.

## FEATURES

785 & 850 nm wavelengths.

5  $\mu$ m PM fiber.

Internal photodiode.

40 & 70 mW output power available.

8-Pin package.

Quantum Photonics

Biotechnology

Medical laser treatment

Optical Pumping

## APPLICATIONS



# DFB-1064-PM-100-CW

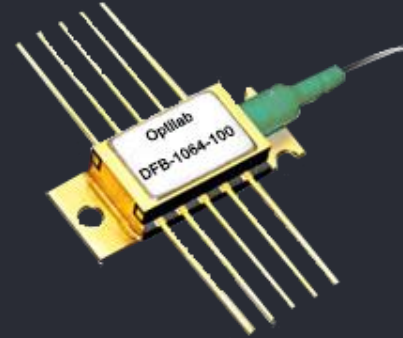
1064 nm High Power Polarization Maintaining  
DFB Laser Diode

## FEATURES

- Up to 100 mW output power.
- 1064 +/- 2 nm Center Wavelength
- Built-in Isolator
- Built-in TEC for Wavelength Tuning
- Polarization maintained Fiber Output.

## APPLICATIONS

- LiDAR
- Free Space Communication
- Optical Spectroscopy
- Fiber Laser System



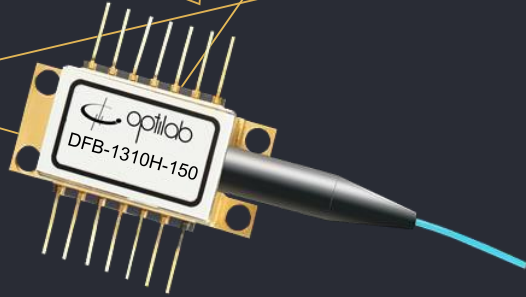
Optilab DFB-1064-PM-100-CW is a Distributed Feedback (DFB) Laser with 100 mW output power designed for Continuous Wave (CW) operation. It is mostly utilized in combination with an external optical modulator, such as a Mach-Zehnder Interferometer (MZI) modulator.





# DFB-1310H-PM-150

1310 nm High Power Polarization Maintaining  
DFB Laser Diode



Optilab's DFB-1310H-PM-150 is a single frequency laser coupled with Polarization Maintaining fiber. Built with Distributed Feedback Grating (DFB) as cavity reflector, it provides pure, single longitudinal mode, hopping free and extremely stable wavelength source.

## FEATURES

Up to 150 mW output power.

Built-in TEC, Thermistor & Monitor PD.

Side Mode Suppression Ratio 50 dB.

Zero Chromatic Dispersion.

Polarization maintained Fiber Output.

Light Source for Interferometer.

PM Pulse Laser Source.

External Modulation Optical Link.

Stabilized Single Frequency Source.

## APPLICATIONS

# DFB-1550C-PM-60

1550 nm High Power Polarization Maintaining  
DFB Laser Diode



## FEATURES

Laser linewidth, 250 KHz typ.

Up to 60 mW output power.

Low RIN noise, -145 dB/Hz max.

Wavelengths Range to select: 1549 ~ 1553 nm.

General laboratory and research use.

Dense Wavelength Division Multiplex (DWDM).

Hybrid Fiber-Coaxial (HFC).

CW Laser source.

RF over Fiber (RFoF).

## APPLICATIONS

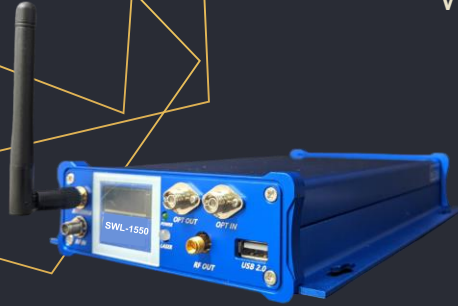


Optilab's DFB-1550C-PM-60 is a single frequency laser coupled with Polarization Maintaining fiber. Built with Distributed Feedback Grating (DFB) as cavity reflector, it provides pure, single longitudinal mode, hopping free and extremely stable wavelength source. This laser diode is fabricated with Multiple Quantum Well (MQW) for excellent reliability and stability (also comes in wavelengths from 1549 ~ 1553 nm with output powers of 40, 50, 60 mW).



# SWL-1550-MC

1550 nm High Speed (100 kHz) Swept Wavelength Laser Module



Optilab's SWL-1550-MC is a laser source module unit provides fast continuous wavelength sweeping, driven by an electrical ramp voltage input, and contains a fast tunable laser source with control electronics (available in rackmount housing and in 1540, 1558, and 1566 nm wavelengths).

## FEATURES

Wide sweeping range up to 10 nm.

RS-232 interface for status monitoring.

High Speed : 100 kHz.

Built-in Amplifier (Optional)

FBG sensing

Fiber optic component qualification

OCT application

Variable wavelength laser source

## APPLICATIONS

# INSTRUMENTS



# LLA-1310/1550-R

Laser Linewidth Analyzer for 1310/1550 nm



Optilab's LLA-1310/1550-R is a laser linewidth analyzer based on the delayed self-heterodyne interferometric technique. It consists of a high-performance LiNbO<sub>3</sub> phase modulator as the frequency shifter in the delayed self-heterodyne interferometer.

## FEATURES

- Narrow Linewidth Laser Test.
- Phase Modulator for Frequency Shifting.
- High-Gain Photoreceiver & RF Amplifier.
- Integrated RF Spectrum Analyzer (SA).

- Laser linewidth Measurement.
- Coherent Communications.
- Test & Measurement.

## APPLICATIONS



# DTS-200-R

## 200 GHz Detector Test Station

### FEATURES

Large Signal Tuning Ranges up to 200 GHz.

User-Friendly USB Interface.

High CNR: 55 dB.

13 dBm PM Output.

Spectroscopic Detection.

Topographical Imaging.

Frequency or Phase Modulator Detection.

FSK

### APPLICATIONS



Optilab's DTS-200-R series is a set of fully integrated optical heterodyne signal sources packaged in a 1u rack mount configuration. Based on Tunable Wavelength Laser (TWL) systems, the DTS-200-R series produce optical heterodyne signals up to 200 GHz.



# MTS-16

16 Channels Modulator Test Station



Optilab's MTS is a Modulator Test Station that is specifically designed to test temperature & burn-in test.

## FEATURES

16 Channels Test

Temperature Test

Burn-in Test

Stability Test

Modulator Test Station

Research & Development

## APPLICATIONS



# PMA

Phase Modulator Analyzer



## FEATURES

Vpi Measurement

Insertion Loss Measurement

Phase Modulator Test Station

Research & Development

## APPLICATIONS

Optilab's PMA is a Phase Modulator Analyzer, which is designed to test & measure data of Phase Modulators, such as Vpi and Insertion Loss. It has built-in 7" display that enables user's easy access usability and controls for the test setup.





# DFB-4-B-1310H/1550H

## 1310/1550 nm High Power Laser Source Station



Optilab DFB-4-B is a Distributed Feedback (DFB) laser source in a benchtop unit designed for general laboratory applications. The DFB laser's operating temperature and drive current are precisely monitored by a micro-controller to ensure constant output power and emission wavelength stability. Using its intuitive front panel or an optional USB interface, the user can control the DFB output power level by adjusting the laser drive current and emission wavelength via TEC.

### FEATURES

Up to 8 Channels DFB Sources

Up to 150 mW (1310nm) or 80 mW (1550nm)

+/- 5pm Wavelength Stability

Polarization Maintaining Output

Laboratory Testing & Measurement

Fiber Sensors

Fiber Optics Components Testing

### APPLICATIONS



3



And More

Last but not least!

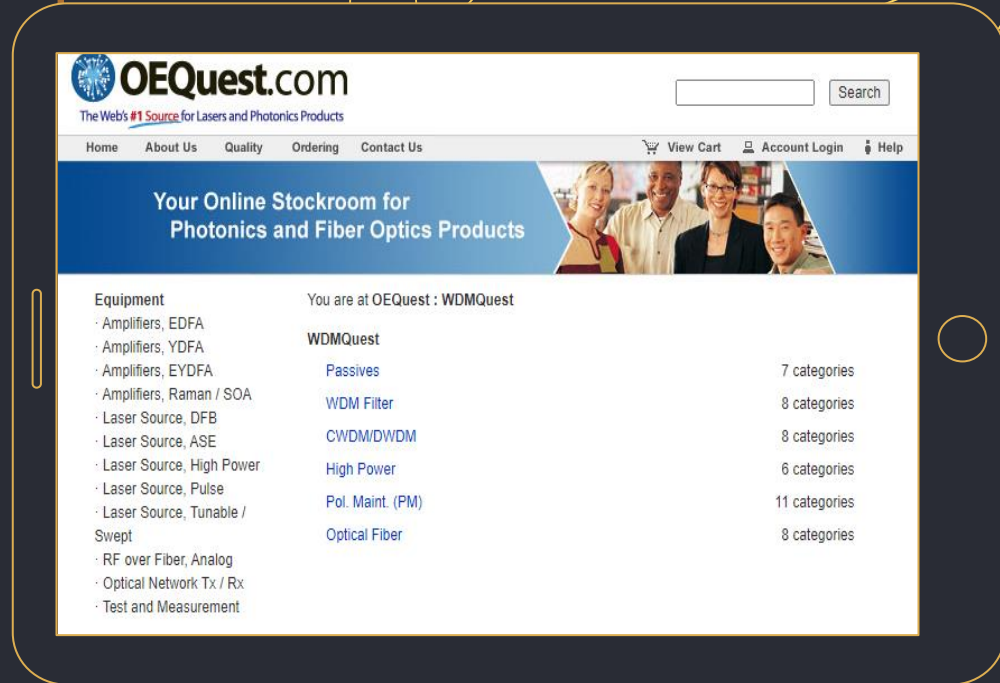
# OEQUEST

OEQuest now features over thousands of passive components, including Coupler, Isolator, Circulator, Splitter and MORE!

Check Optilab's **WDMQuest** category for more information

## Available Components

- Coupler
- Isolator
- Circulator
- VOA
- Switch
- Splitter
- Filter
- Combiner
- Fiber
- And MORE!



<https://oequest.com/cat/2067>

# THANKS!

DO YOU HAVE ANY QUESTION?

[sales@optilab.com](mailto:sales@optilab.com)

+1 602 343 1496

[www.optilab.com](http://www.optilab.com)

[www.oquest.com](http://www.oquest.com)