# TECH NOTE

# Repeatability of Wavelength and Power Measurements Using the OMM-6810B Optical Power and Wavelength Meter

## OVERVIEW

This technical note presents the experimental results showing the repeatability of power and wavelength measurements using the OMM-6810B Optical Power and Wavelength Meter coupled to an OMH-6722B Silicon Power / Wavehead.

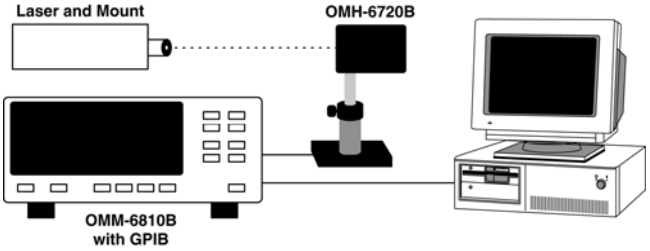



*FIGURE 1: Measurement Setup*

## MEASUREMENT SET UP

The measurement setup is shown in Figure 1. A 780 nm laser diode was mounted to an ILX Lightwave LDM-4412 Laser Diode Mount and controlled with a LDC-3722 Laser Diode Controller. This served as the highly stable light source.

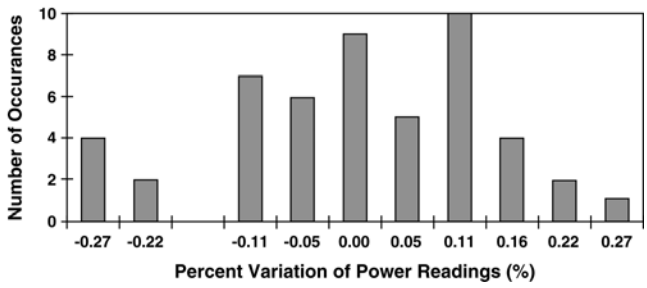
An OMM-6810B Optical Power and Wavelength Meter was coupled to an OMH-6722B Silicon Power / Wavehead to measure power and wavelength. The OMH-6722B head was aligned by hand and the power and wavelength reading was recorded using a computer with a GPIB interface.

The OMH-6722B was aligned with the laser beam 50 times. A power and wavelength reading was taken after each alignment. The results of the experiment are illustrated in Graphs 1 and 2.

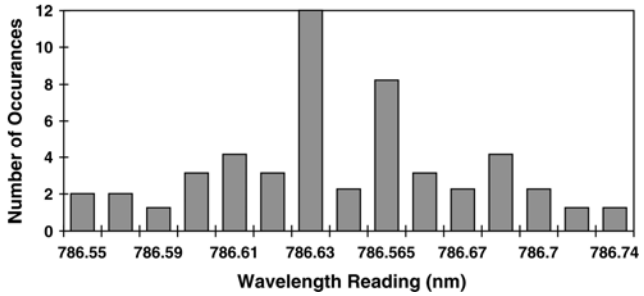
## RESULTS

As shown in Graph 1, the maximum deviation in power measurements was ±0.27% from the median. Graph 2 illustrates that the maximum deviation in wavelength measurements was ±0.1 nm from the median.

These results indicate that a measurement system based on an integrating sphere is very forgiving to misalignment.




*GRAPH 1*




*GRAPH 2*

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