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## Wavelength Meter Module

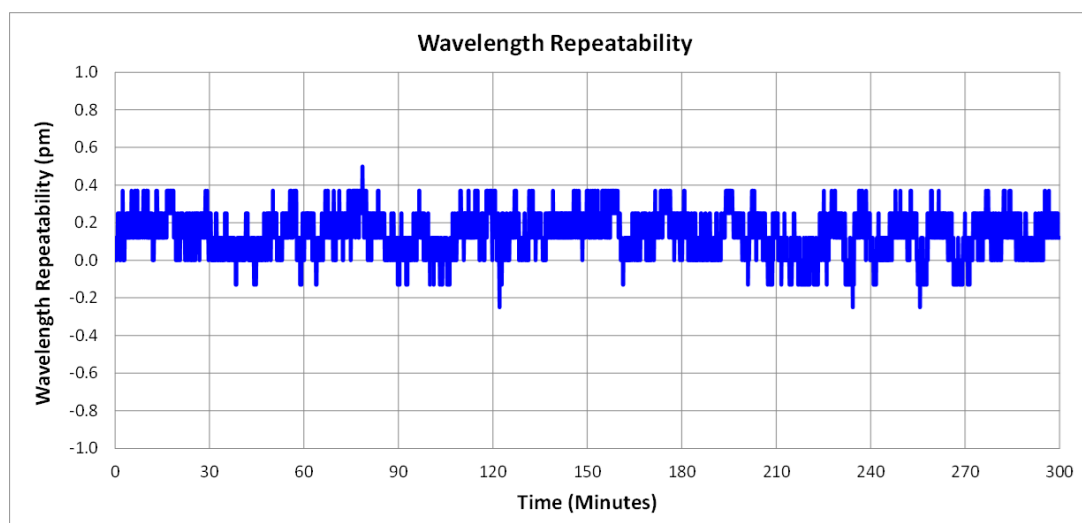
GouMax's high-speed wavelength meter (WLM) is designed for applications to test and measurement equipment. The wavelength meter product is designed and produced using GouMax's proprietary micro-optics and interferometer technology. It accurately measures single laser line wavelength with high speed. With the use of wavelength tracking mode of this wavelength meter, the mode hopping of semiconductor lasers can be monitored.



Wavelength meter is also called Wavemeter, which uses beam interference to precisely measure wavelength of laser beams. Wavemeter is not a new kind of instrument. Commercially, there are two variants of scanning wavemeters and static devices with no moving parts.

The scanning wavemeter is based on Michelson interferometer, in which one arm can change its length, leading to Fourier transform spectroscopy. In such a kind of wavemeter, light travels in free space. Water absorption in E-band wavelength range will prevent the wavemeter from determining correct wavelength. Further, to drive the motion of one interference arm, the mechanical wear-out will degrade the precision of repeated wavelength measurements.

The static wavemeter with no moving parts is based on static Fizeau interferometer, which consists of two plane reflecting surfaces with a slight deviation from exact parallelity. With the laser illumination, the fringe pattern of the interferometer, whose period depends on the wavelength, is sampled by a photodiode



## Wavelength Meter Modules

### Key Features

- High speed
- High wavelength accuracy and repeatability
- No moving parts
- Integration flexibility
- No water absorption in E-band

### Key Applications

- Wavelength measurements
- DWDM systems
- Research laboratories
- Instrumentation

### Product Specifications and Key Parameters

Parameter		Unit	Specification
Wavelength Range		nm	1250 ~ 1650
Input Power Range	Measurement Range	dBm	-10 to +10
	Safe Level	dBm	+15
Laser Maximum Linewidth		GHz	< 10
Wavelength Reading Accuracy	1250~1450 nm	pm	±5
	1450~1600 nm	pm	±3
	1600~1650 nm	pm	±5
Wavelength Reading Repeatability		pm	< 0.5
Wavelength Reading Resolution		pm	0.5
Power Reading Accuracy		dB	±0.3
Power Reading Repeatability		pm	±0.1
Measurement Time	WL Measuring Mode <sup>1)</sup>	ms	200
	WL Tracking Mode <sup>2)</sup>	ms	10
Warm-Up Time		Min.	5
Return Loss		dB	< 30
Electrical Interface		-	USB/RS232/UART

#### Notes:

- 1) In full wavelength range from 1250 to 1650 nm
- 2) Within ± 200 pm.