2um Single Frequency Single Mode Thulium Doped Fiber Amplifier (TDFA) 1900-2050nm

Product Description

Idealphotonics Thulium-doped Benchtop Single-frequency Single-mode Fiber Amplifier is a power amplifier specially designed for ultra-narrow linewidth, single-frequency signal light (such as fiber lasers based on DFB and DBR principles). This amplifier can amplify low-power optical signals in the kHz range to an output power of up to 50W, and can well maintain the

spectral characteristics of the input signal light. Our amplifier uses a high-power, high-performance multi-mode pump source and double-clad fiber amplification technology, and the output power is continuously adjustable. The benchtop fiber amplifier is a complete Turn-Key system with internal microprocessor control. The front panel is equipped with a laser start switch and a power status LCD display, as well as an output power adjustment knob. Benchtop single-mode fiber amplifier (TDFA) can be widely used in scientific research, coherent synthesis, coherent detection sensor systems, etc.

Product features

High output power、 Low noise figure、 Turn-Key system、 ACC/ALC mode operation

Part Number

MP-TDFA-2000-1W-SM

Application area

Optical communication、 Test and measurement、 Scientific applications

Core parameters

Wavelength	Output Power	Connector
1900-2050nm	1W	FC/APC

General Parameters

Parameter

PN#	MP-TDFA-2000-1W-SM
	2um fiber amplifier (TDFA)
Application	Pre-amplified optical amplifier
Signal wavelength range	1900-2050nm
Maximum output power*1	>+30dBm />1W
Gain*2	>20dB
Noise factor*2	<6dB
Amplification control	ACC / ALC
Monitoring items	Input power, output power, LD current, LD temperature, ambient temperature
Safety functions	Remote shutdown interlock
Remote control interface	RS232C/IEEE488.2(GP-IB)

Input/output optical fiber	PMF(Nufern PM1950)
Optical fiber connector	FC/APC
Minimum extinction ratio	20dB
Input signal line width	Down to 0.1KHZ
Operating temperature	0 ~ 40 °C
Storage temperature	-10 ~ 60 °C
Dimensions*3 (mm)	88 x 430 x 450
Weight	5 Kg
Power consumption	<30W
Power supply	AC 100 ~ 240V (50/60Hz)

Notes:

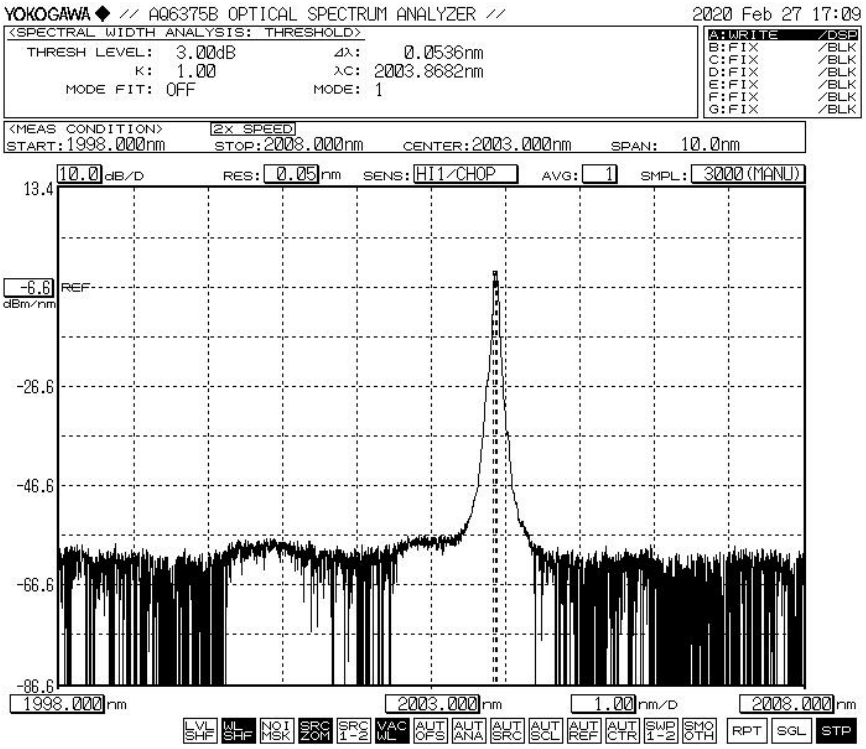
*** 1 Input power 1-10dBm@1950**

*** 2 Under the premise of ensuring beam quality M2＜1.05, single mode, TEM00 mode**

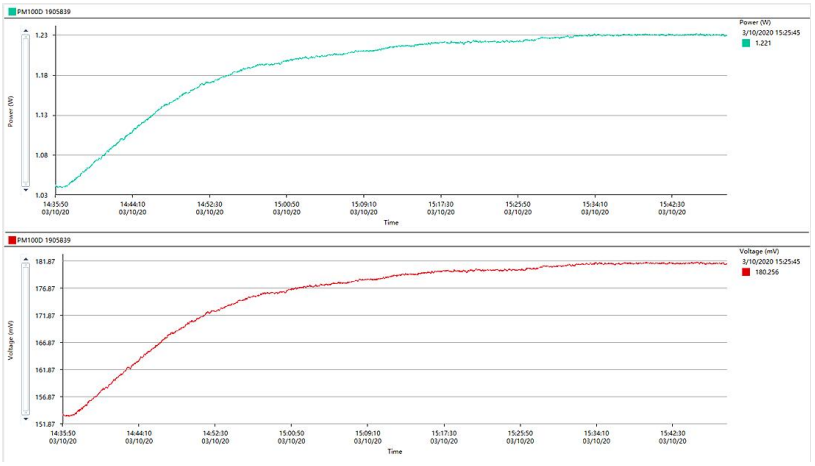
*** 3 Excluding protruding parts**

*** MP-TDFA-2000-1W-SM is designed for 1950～2050nm, total power 0dBm input signal to achieve the best gain stability.**

Spectrum



Power stability curve and modulation linearity test curve



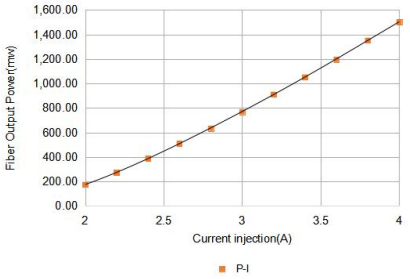
The following was filled out by AOL Labs staff:			
Test date	2021.11.9	Test engineer	Dai Jiahao
Test product	2um continuous fiber amplifier TDFA (XZ2010T264)	Reviewer	Wang Xiuxiang
Purpose of the experiment	Power stability test, spectrum diagram		
Experimental instruments	Power meter, spectrometer		

—: 2000 nm

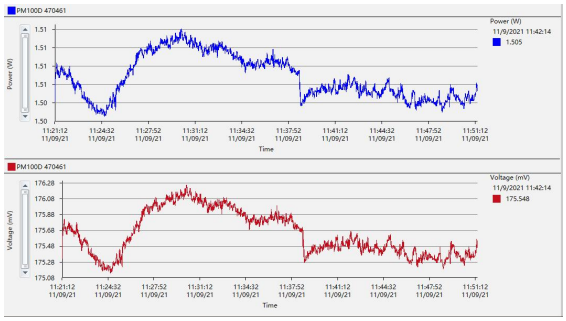
1. Enlarge the noise test chart

In the above figure, Trace A (yellow) is the seed light spectrum, and Trace B (purple) is the spectrum after amplification (after passing through a 2um attenuator), and the same below. The amplified noise measured at 2000nm is 11.343dB.

2. Curve of power



3. Power stability

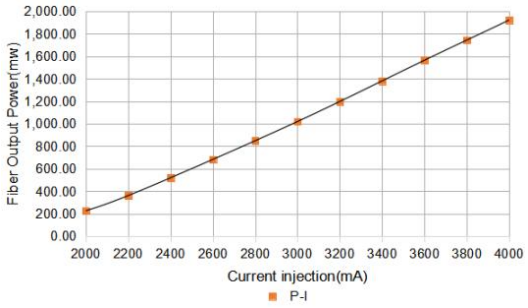


1950 nm

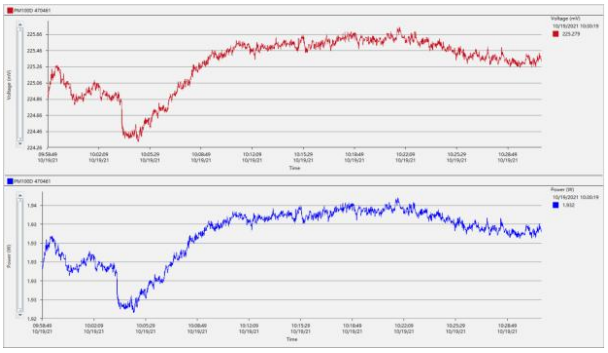
1. Amplify the noise test chart

The amplified noise measured at 1950nm is 13.705dB.

2. Curve of power



3. Power stability

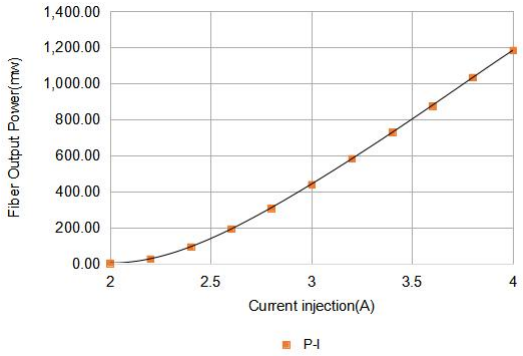


二：1910 nm

1. Amplify the noise test chart

The amplified noise measured at 1910nm is 13.262dB.

2. Curve of power



3. Power stability