BOX
Optronics Tech

Test Report

Product Name: Erbium-Doped Fiber Amplifier

P/N: EDFA-LA-C-15-SM-M

S/N: 25053006

Parameter	Unit	Min.	Test Value	Max.	Notes
Operation wavelength	nm	1530	1550	1565	
Operation Input power	dBm	-25		-3	CW
Optical Output Power	dBm		15.3	15	@-10dBm input
Output Power Stability	-		P-P:±0.47%		@-10dBm input,0.2A 60min
Small Signal Gain	dB		36.6		@ -25dBm,0.2A
Noise Figure	dB		3.7	5	
Polarization Dependent Gain	dB			0.3	
Polarization Mode Dispersion	dB			0.5	
In/Output Isolator	dB	35			
Operating Temperature Range	℃	-5		+45	
Operating Humidity Range	%			70	
Fiber Connector	-	FC/APC			
Input / Output Fiber Type	-	SMF-28e , Φ0.9mm×1m			
Power Supply	-	DC 5V			U.S.A Standard
Electrical Power Consumption		Max 1.5W			
Dimension	mm	90(W)×70(D)×15(H)			Module
Remote Control Port	-	ZH1.5-3PIN to RS232-DB9			
Software Version	-	Amplifier Controller-V20240219			
Control Mode	-	ACC: Automatic Pump Current			Current Tuning Range:0-200mA

		APC: Automatic Power Control	Power Tuning Range: 1-15dBm
		AGC: Automatic Gainr Control	Gain Tuning Range: 10~25dB

*Note: 1.If the input signal is a pulsed laser with a repetitiom frequency<300kHz,do not use the APC mode,only the ACC mode.
2. The AGC mode only takes effect within the power range defined by the APC mode.

Note：ISO 11554-2017

8 Evaluation

8.1 General

The standard deviation, s, from n readings m_i is calculated according to

$$s=\sqrt{\frac{\sum_{i=1}^{n}(m_i-\bar{m})^2}{n-1}} \quad (3)$$

Where the mean value is

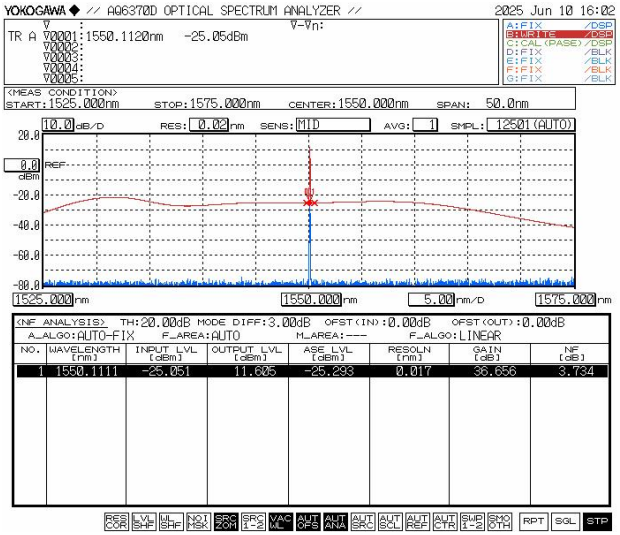
$$\bar{m}=\frac{\sum_{i=1}^{n}m_i}{n} \quad (4)$$

8.3 Power stability of cw lasers

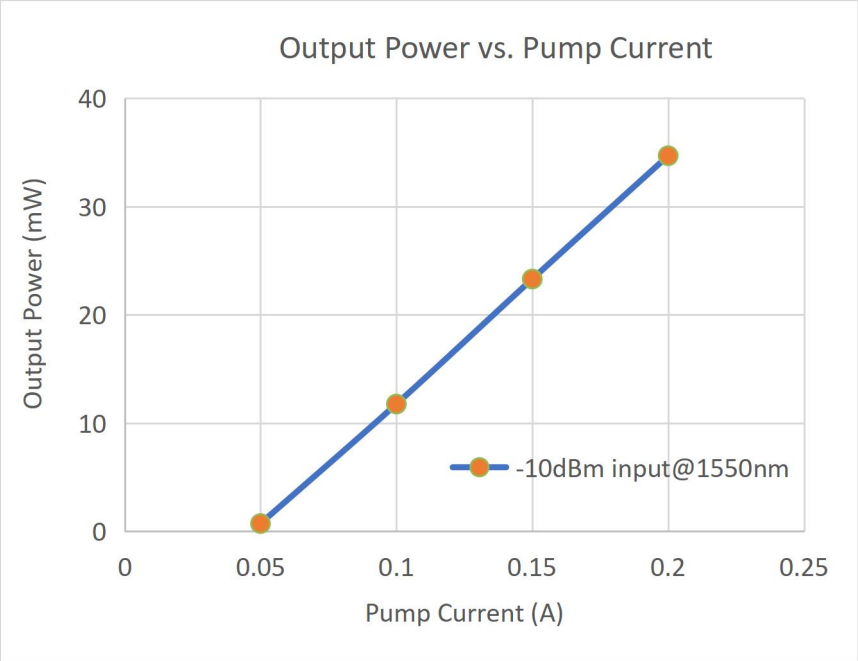
Calculate the mean value of the power, $\bar{P}$, and the respective standard deviation, s, for the appropriate stability time domain (short-term, medium-short-term, medium-term and long-term) according to the specifications given in 7.3.

Power stability is given as the relative power fluctuation, ΔP, in the corresponding stability time domain calculated from Formula (9):

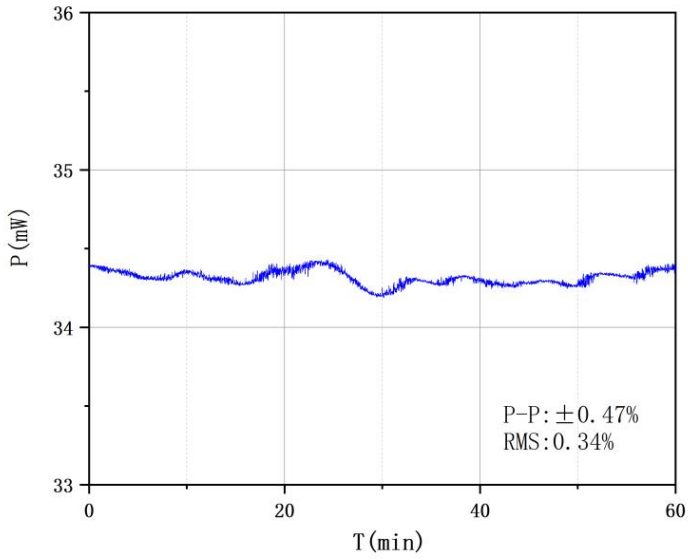
$$\Delta P=\frac{2s}{\bar{P}} \quad (9)$$



Optical Spectrum of Amplified 1550.12nm signal
(-25dBm input power@0.2A current)



Output Power vs. Pump Current Curve



Power stability test @0.2A, -10dBm input, ACC mode

Passed By: 01 Date: 2025-06-10