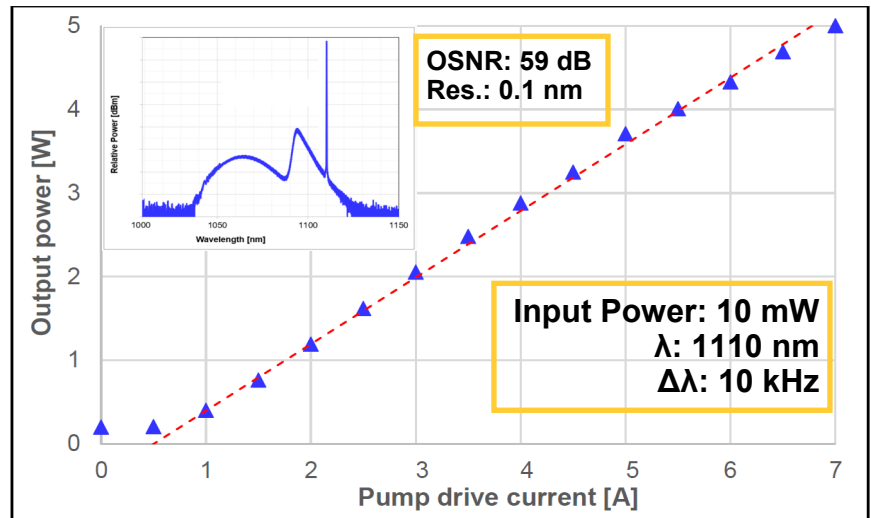


# MANTARAY 1110nm High Power Fiber Amplifier

## Key Features

- Output power 1 to 10 W
- $\lambda$  range: 1100 nm up to 1120 nm
- Single mode, single frequency
- Standard or PM fiber
- High polarization extinction ratio
- Control Modes: ACC and APC
- High beam quality:  $M^2 \approx 1.1$
- Compact & rugged design
- RS 232 or USB interface



Pout vs Pump current

## Description

CYBEL **MANTARAY-AMP-1110** is a 1-micron Ytterbium high power, single mode, single frequency fiber amplifier that delivers up to 10 W of output power with near diffraction limited output beam (i.e.  $M^2 \approx 1.1$ ).

This compact OEM unit comes either in a standard or polarization-maintaining fiber configuration, that provides stable and high performance over time.

The performance at longer wavelengths in the Ytterbium band is unmatched, making it great for quantum applications (e.g. 1107 nm) when integrated with ultra narrow linewidth seed sources among other applications.

## Applications

- Spectral beam combining
- Quantum Computing
- Nonlinear frequency conversion
- LIDAR and Sensing
- Test and Measurement



**MANTARAY OEM Size 200x150x43 mm<sup>3</sup>**

# MANTARAY-1110 Specifications

OPTICAL	Unit	Min	Max	Comments
Optical Bandwidth	nm	1100	1120	Single Mode Operation Wavelength
Input Signal Power	mW	1	10	Other input power acceptable
Output Signal Power	W	10		With Narrow Linewidth Seed Source
Output Power Tunability	%	5 - 100		At Pout =10 W
Polarization Ext. Ratio (PER)	dB	≥ 20		PM Version
Output Beam Quality (M <sup>2</sup> )	M <sup>2</sup>	1.1		
Signal to Noise Ratio (OSNR)	dB	≥ 45		OSA Res. = 1 nm
Output Power Variation (RMS)	%	≤ 3		After 20 Min. Warm-up
Output Fiber Length	m	> 0.7		Longer Fiber at Request
Input Fiber Length	m	> 0.7		Longer Fiber at Request
Output Isolation	dB	20		Optional, External to the OEM
Connectors		FC/APC		Other Connectors and Collimators Available
ELECTRICAL				
Voltage	V	18 to 30		
Warm up Time	min	20		
Power Consumption	W	< 150		25 °C, @Pout max=10 W
Control Interface		RS-232 & USB		
Mode of Operation		ACC		APC as Option
GENERAL				
Dimensions	mm	200x150x43		W/O heat sink - External Optical Isolator
Storage Temperature	°C	-10 to 65		
Operating Case Temp.	°C	10 to 50		
Humidity	%	5 to 95		Non condensing

## CUSTOMIZATION

The **MANTARAY** is an amplifier platform that can be customized to match Customers' specific requirements. Please contact Cybel.

**COMPLIANCE with Regulatory Requirements:** These OEM products are Class 4 lasers as designated by the Center for Device and Radiology Health (CDRH). As such they are intended only in integration into other equipment and do not comply with CDRH requirement. It is the customer responsibility for CDRH certification of the full system that incorporates this industrial laser.



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