

# LNHP-PMFA-NMA Series

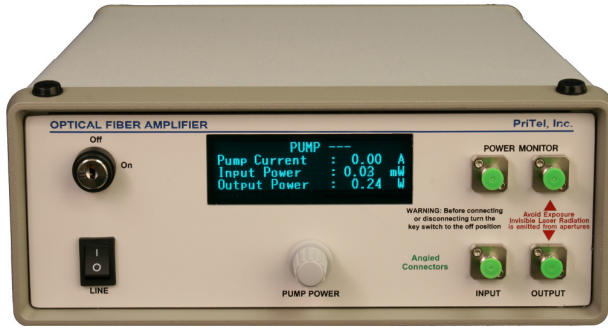
## LOW NOISE, HIGH POWER-POLARIZATION MAINTAINING OPTICAL FIBER AMPLIFIERS

PriTel's LNHP-PMFA-NMA Series of Low-Noise High Power, Polarization Maintaining Optical Fiber Amplifiers are designed for R&D applications in 1550 nm telecommunications, fiber lasers, and optical switching. The input signal is first amplified in a low-noise preamplifier and then boosted in a power amplifier. The Noise Figure is determined by the preamplifier. There is no mid-stage access to the optical output from the preamplifier in the LNHPFA-NMA Series.

Available options are: Input/Output power monitors, and communications interfaces (USB or RS-232 or Ethernet).



*LNHP-PMFA-xx model without power monitor option*



*LNHP-PMFA-xx model with power monitor option*

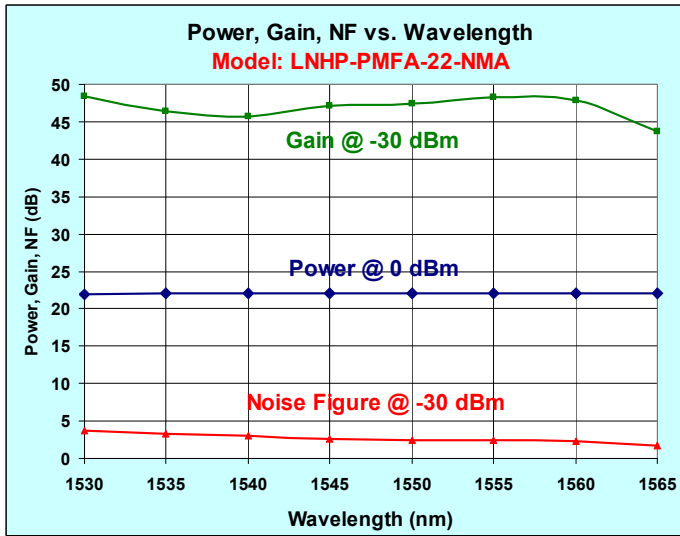
### Specifications

	<b><u>LNHP-PMFA-23-NMA</u></b>	<b><u>LNHP-PMFA-30-NMA</u></b>	<b><u>LNHP-PMFA-33-NMA</u></b>
Saturated output power	23 dBm	30 dBm	33 dBm
Small Signal gain	25 TO 45 dB (adjustable)	25 TO 50 dB (adjustable)	25 TO 50 dB (adjustable)
Optical noise figure	< 2.5 dB @ -30 dBm	< 4 dB @ -30 dBm	< 4.5 dB @ 0 dBm
Input power range	-30 to +10 dBm	-30 to +20 dBm	-30 to +20 dBm
Wavelength range	1528-1565 nm	1535-1565 nm	1535-1565 nm
Spectral gain flatness (single channel input)	0.5 dB typical	1.0 dB typical	1.0 dB typical
Minimum distortion-free pulse width (standard)	1.0 ps	1.5 ps	1.5 ps
Dimensions	10 cm x 26 cm x 36 cm	10 cm x 26 cm x 36 cm	10 cm x 26 cm x 36 cm
<b>Optical</b>			
Gain medium	Er doped core pumped silica fibers for models	Er/Yb, double-clad silica fiber for models PMFA-24 to PMFA-33	
Pump source	Diode laser (910-980 nm)		
Connectors	FC/APC (other connectors available upon request)		
<b>Environmental</b>			
Operating temperature	+15 to 30°C		
Storage temperature	-20 to 50°C		
<b>Electrical/ Mechanical</b>			
Operating Voltage	85-264 VAC at 47-63		
Power consumption	< 50 W		

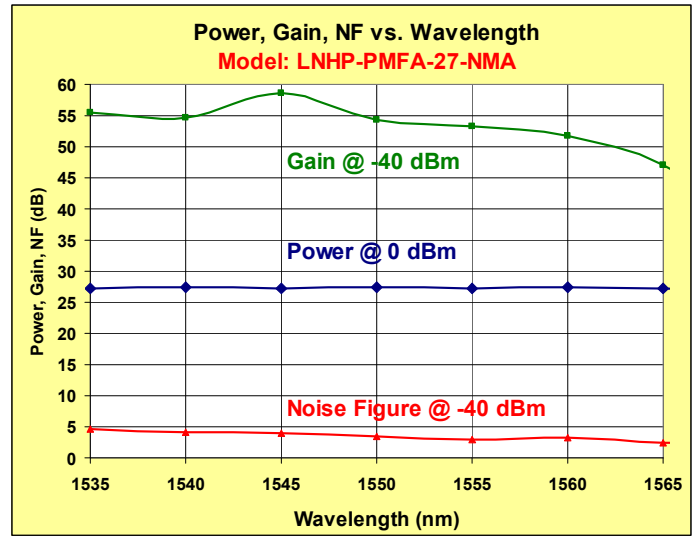
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# Typical Performance of Low Noise PM Optical Fiber Amplifiers

## Er doped, Core Pumped Fibers

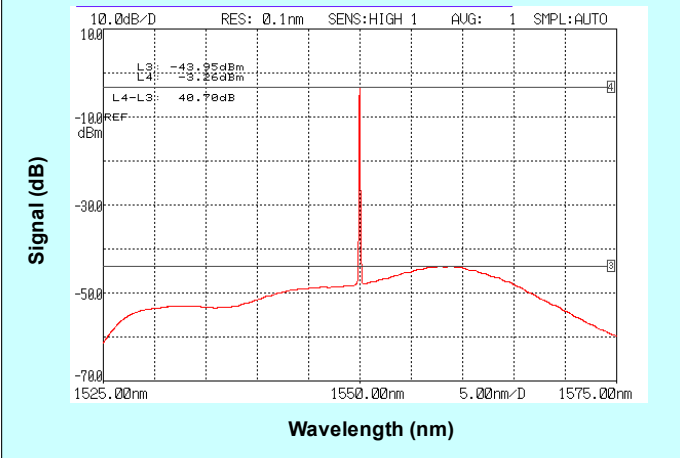


## Er/Yb, Cladding Pumped Fibers



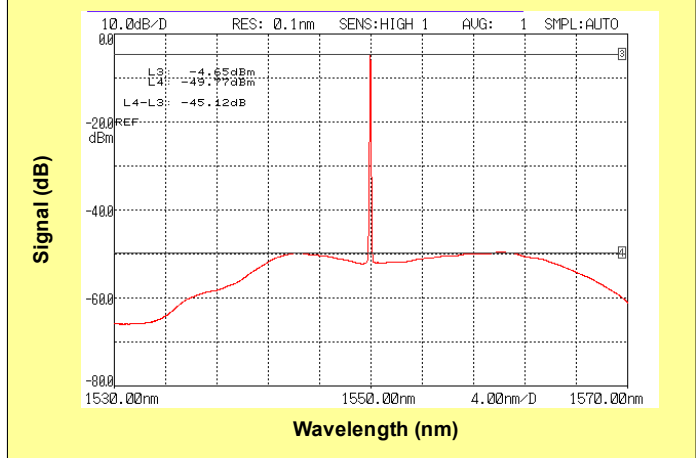
### Output Optical Spectrum @ -10 dBm Input

Model: LNHP-PMFA-22-NMA



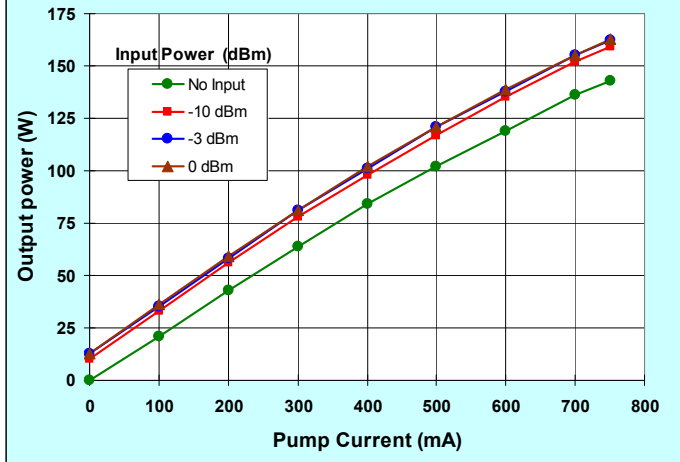
### Output Optical Spectrum @ -10 dBm Input

Model: LNHP-PMFA-27-NMA



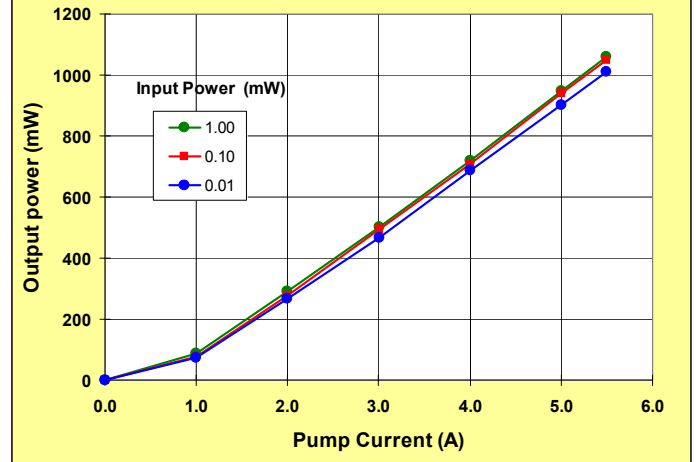
### Pump Current vs Output Power

Model: LNHP-PMFA-22-NMA



### Pump Current vs Output Power

Model: LNHP-PMFA-30-NMA



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