

inversion of Er-ions in the EYDF leading from a multimode core design. The amplifier provides an output power of more than 30.2 dBm with a natural gain flatness of ± 2.4 dB over the spectral bandwidth of interest. BER measurements in a 40 Gb/s WDM system reveal a negligible power penalty (<0.4 dB) due to the EYDFA. Multimode EYDFAs with large gain bandwidth and high output power can thus be used for signal amplification as needed in the areas of nonlinear signal processing and optical data transport.

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