FIBRE AMPLIFICATION

Single-frequency amplifier systems with visible conversion

Seeded amplification and frequency conversion for narrowband visible experiments.

Applications to discuss: Narrowband spectroscopy; Atomic-physics light sources.

Selection points
461-765 nm selected output bands / 10-50 mW listed input range / External seed requirements to confirm

Configuration options

Output band	Listed output power
461 nm	0.5 W
488-560 nm	≤4 W
550-765 nm	≤4 W

Each row is a separate configuration. Limits from different rows must not be combined.

Technical details

Parameter	Specification or condition
Input power range	10-50 mW; input wavelength and required seed quality to confirm
Polarization extinction ratio	20 dB
Beam propagation factor	M^2 <1.1

Integration and delivery

Item	Configuration detail
System format	Amplifier with optional or required frequency conversion, according to output wavelength
Seed	External single-frequency seed; included supply to confirm
Delivery	Fibre or collimated output, configuration dependent

Conditions and configuration notes

• These are seeded amplifier systems, not standalone laser sources. Confirm whether the external seed is supplied separately.

• Visible output can require a frequency-conversion stage. Specify the seed wavelength, target output wavelength and all included stages.

• Power figures apply to the selected configuration; they are not available across every wavelength in a band.

• Availability of short-wavelength configurations, including 461 nm and 488 nm, must be confirmed.

• No numerical final-output linewidth or gain is assigned without an agreed seed and operating point.