



# CONTINUOUS FREQUENCY COMB LASER

*Innovative device generating a comb for tuneable, stable and continuous frequencies*

## Technological benefits

### A flexible system

Selectable and tuneable lines

### Source laser properties are retained

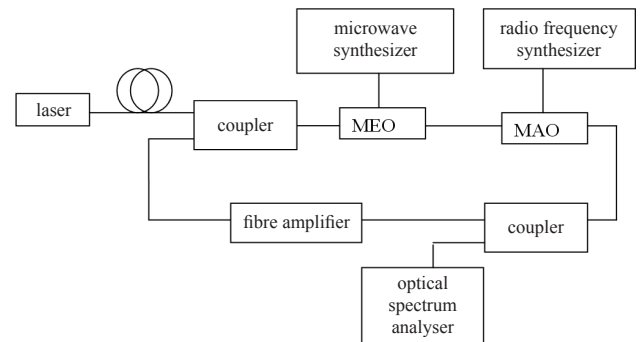
Shift at each pass to prevent interference:

- stability maintained
- laser line width unchanged

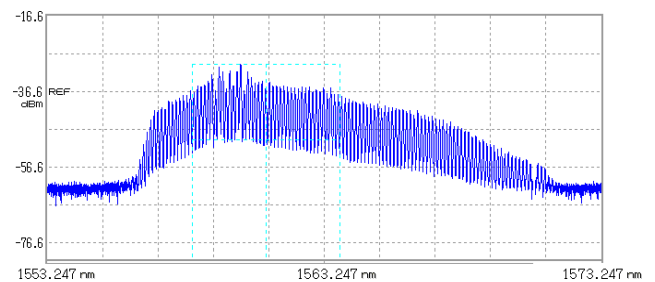
### An extended comb

Bandwidth obtained greater than 15 nm (40 nm expected)

### Continuous rating



Line generation device



Example of comb obtained

## Invention overview

Continuous frequency comb laser generated by multiple passes of the laser wave in an amplified fibre loop.

Use of two optical modulators enables the acquisition of regularly-spaced, tuneable and high-stability lines that benefit from the spectral quality of the source laser.

## Commercial benefits

### Low-cost technology

- Simple and easy-to-qualify system
- Made up of off-the-shelf components

### Fast measurements

## Potential applications

Characterisation of laser sources

Distance metrology

Spectroscopy

Atom cooling

TRL : 3

*Patented invention, available under license*