



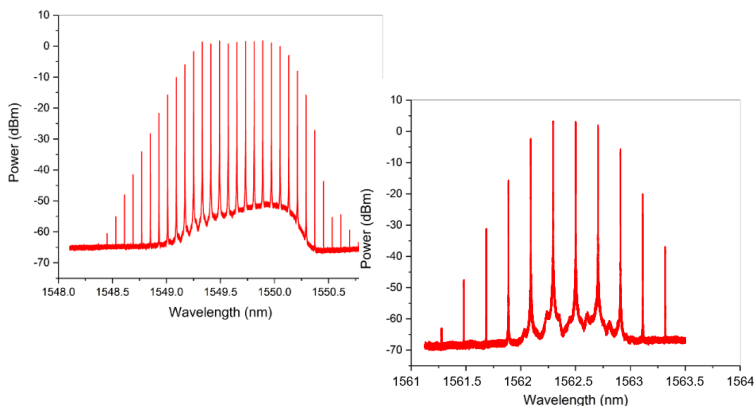
Lyra OCS 1100

Wavelength tunable comb source

The Lyra OCS 1100 is a flexible optical frequency comb source based on our patented gain switching technology that offers a flat comb of coherent wavelengths with low optical linewidth, tunable central wavelength and tunable wavelength spacing (free spectral range).



Optical Spectrum, 1550 nm, 10 GHz FSR



Optical Spectrum, 1562 nm, 25 GHz FSR

Features

- Stable and robust optical frequency comb
- Low optical linewidth (80 kHz)
- Tunable centre wavelength
- Tunable free spectral range with high accuracy
- Strong phase correlation between comb lines
- Polarisation maintaining fibre coupled output
- Simple, key-switch operation

Applications

- Terabit superchannel transmitters
- Flexgrid wavelength division multiplexing
- Generation of millimetre-wave and THz signals
- Generation of 5G signals
- Ultra-wideband (UWB) over fibre HD-video distribution
- Optical signal processing (e.g. optical clock recovery)
- Precision optical measurements
- Spectroscopy
- Sensor interrogation

Typical Specifications

Wavelength	1550 – 1565 nm
Free Spectral Range	Option 1: 5 – 14 GHz Option 2: 20 – 26 GHz
Number of Comb Lines	8 – 25
Spectral Flatness	5 dB
Comb Bandwidth	250 GHz @ -40dB
Linewidth	80 kHz
Carrier to Noise Ratio	40 dB
Average Power	5 mW

Optical Specifications	Min.	Typ.	Max.	Unit	Notes
Centre Wavelength Tuning Range	1550	1560	1565	nm	
Free Spectral Range/ Wavelength Spacing	5	10	14	GHz	A free spectral range from 20-26 GHz can be offered upon request, with a limited central wavelength tuning range 1550-1565 nm.
Total Spectral Bandwidth	180	200	250	GHz	Measured at 40 dB down from envelope peak.
Number of Comb Lines	6 4	10 ^{a)} 5 ^{b)}	12 6		a) Within a 3 dB spectral flatness for free spectral ranges of 5-15 GHz. b) Within a 6 dB spectral flatness for free spectral ranges of 20-26 GHz.
Average Output Power	0	5	10	dBm	
Optical Linewidth	60	70	80	kHz	
Carrier to Noise Ratio	30	40	50	dB	
Relative Intensity Noise	-140	-130	-120	dBc/Hz	Uniform over frequency span.
RF Beat Tone Linewidth		100		Hz	Driven by laboratory synthesizer.
Comb Line Power Stability		1.5		dB	Measurements taken every 30 s during 24 h with OSA (Resolution: 2.5 pm).
Comb Line Wavelength Stability		2.5		pm	Measurements taken every 30 s during 24 h with OSA (Resolution: 2.5 pm).
Physical Specifications					
Dimensions		367 x 300 x 134.5		mm ³	
Power Consumption			80	W	
AC Voltage		90-264		V	
DC Supply Voltage		+/- 12 V			AC-DC power supply is provided.
DC Supply Ripple/Noise		0.5	1	% Pk-Pk	
Operating Temperature	15	25	40	°C	
RF Input Connector		SMA ^{a)} 2.92 mm (K) ^{b)}			a) Female. For free spectral ranges of 5-15 GHz. b) Female. For free spectral ranges of 20-26 GHz.
Optical Output		FC/APC PM			
Other Specifications					
Cold Start Settling Time (System Warm-up)		30		min	System warm-up time to reach optimum performance.
Switching Time			1	sec	