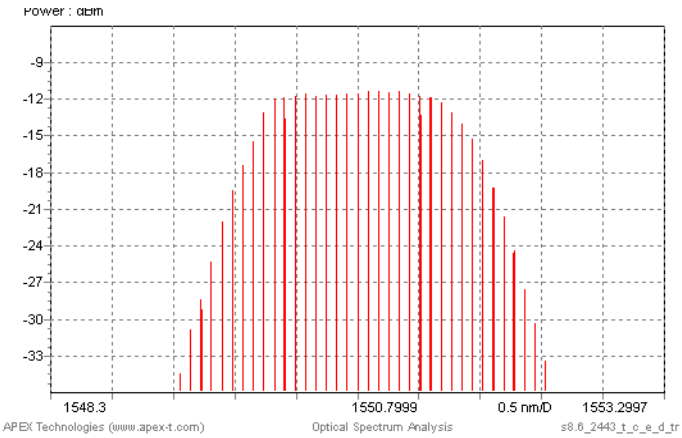
Pilot Photonics Optical Wavelength Comb Source

Pilot Photonics' Optical Wavelength Comb Source is based on our patented technology and offers best-in-class performance including low linewidth and high free spectral range and turn-key operation.



Optical comb generated using PP-OWCS – 16 lines separated by 10.7 GHz with a spectral flatness of 1dB

	OWCS
Free spectral range*	6 – 18 GHz
Number of comb lines	8 – 25
Spectral Flatness	2 dB
Linewidth	300 kHz
Average output power	>0 dBm
Carrier to Noise Ratio	> 30 dB
Dimensions	367 x 300 x 135 mm

* Preferred FSR selected on ordering

Features

- Stable and robust wavelength comb
- Turn-key operation
- Low linewidth (~300kHz)
- Maintains strong phase relationship between comb lines
- Flexible, cost efficient solution
- FSR tunability
- Customised designs available

Applications

- Terabit superchannel transmitters
- Source for next generation access networks
- Generation of millimetre-wave and Terahertz Signals
- Optical signal processing (eg optical clock recovery)
- Precision optical measurements
- Spectroscopy
- Ultra-wideband (UWB) over fiber HD-video distribution

Pilot Photonics Optical Wavelength Comb Source

	Min	Typ	Max	
Centre Wavelength		1550		nm
Free Spectral Range*	6	10	18	GHz
Spectral Flatness			2	dB
Total Spectral Bandwidth	144		170	GHz
FSR Tunability	±2			GHz
Linewidth		300kHz		kHz
Carrier to Noise Ratio	35			dB
Composite Output Power	0			dBm
Comb Line Power Stability (9hr)**			0.5	dB
Comb Line Wavelength stability (9hr)**			3.8	pm
RF Input Power		0		dBm
Physical Specifications				
Dimensions		260 x 250 x 90		mm
Power Consumption			74	W
AC Voltage		110/220		V
Operating Temperature	15	20	25	deg C
RF Input Connector		SMA		
Optical Output		FC/APC (PM fiber)		
Absolute Maximum Ratings				
RF Input Power			10	dBm
Comb Output Examples				

Specified Free Spectral Range	6.25	10.7	15	24	GHz
Number of Lines	27	12	8	4	
Spectral Flatness	1	1	1	3	dB

* Total Bandwidth is nominally fixed, therefore number of comb lines increases as FSR decreases (see Comb Output Examples section)

**Measurements taken every 60s for 9 hours with Yokogawa AQ6370B (Res: 1GHz, Sens: High1, 1dB/div, 0.2nm/div, 501 smpl points)

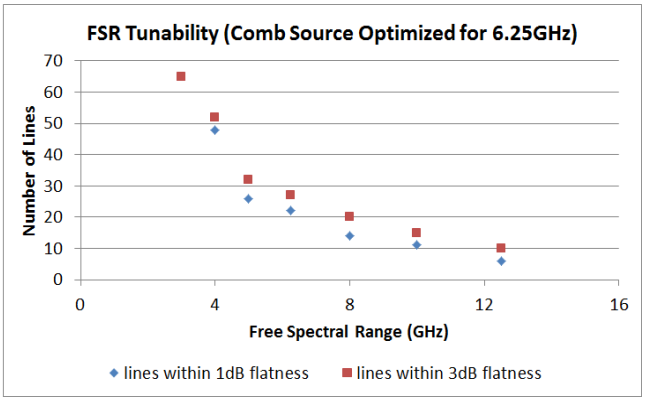


Fig. 1 - FSR tunability with comb optimized for 6.25GHz

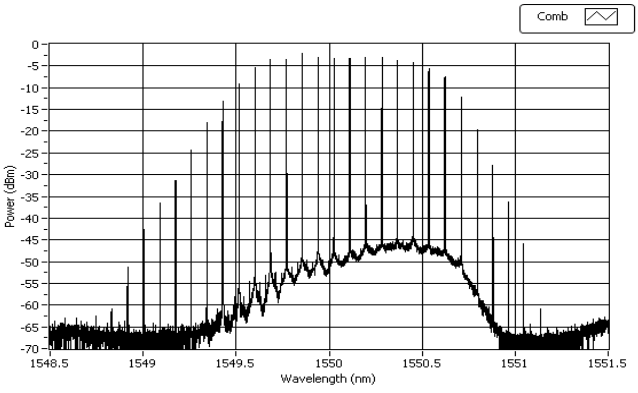


Fig. 2 - Comb output spectrum with FSR 10.7GHz