

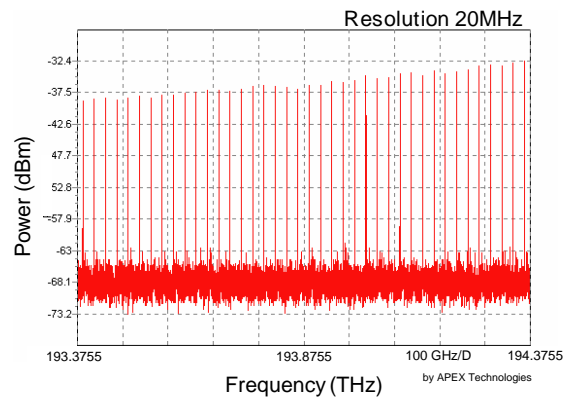
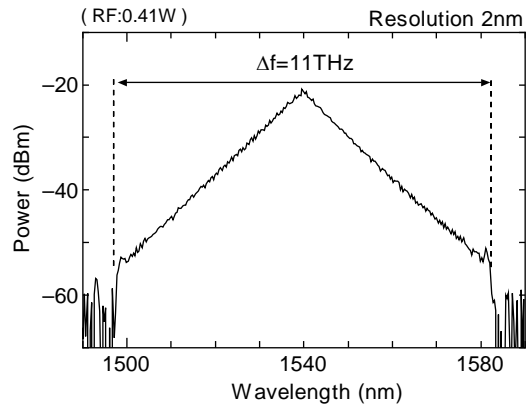
# Optical Comb Generator WTEC-01



WTEC-01 is a Fabry-Perot Electro-Optic (FP-EO) optical frequency comb generator with high frequency stability and low phase noise. The components are all passive so that the comb stability and comb interval are equal to input laser and modulation frequency (RF) respectively. Hermetic sealed waveguide FP-EO modulator/WR-250-03 is built-in for comb/pulse generator to realize high performances and high reliability. Temperature control unit is built-in WTEC-01.

This device is applicable to Optical metrology, Optical communications Phase lock THz wave synthesis and so on.

Comb Spectrum (example)



Note) Generated Comb specification varies with input conditions.

### Features

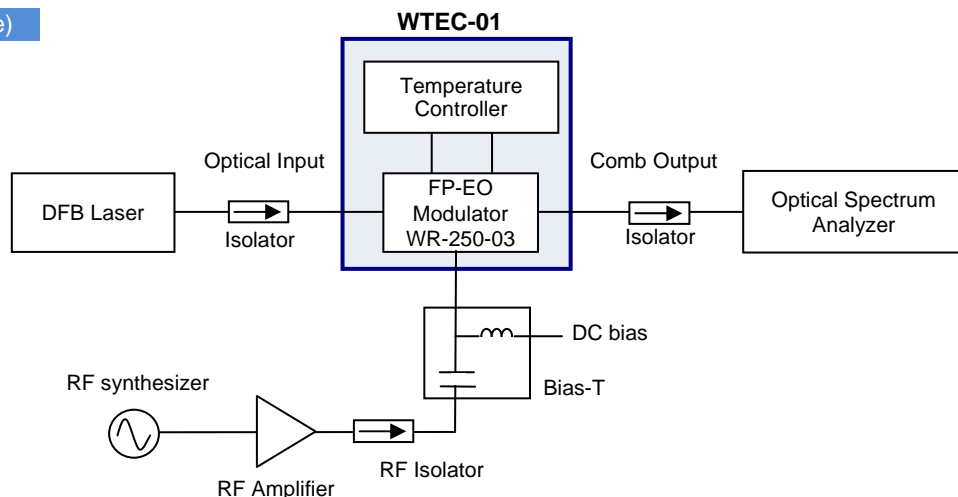
\*1 Figure of Merit =  $V\pi/\text{Finesse}$

- High finesse FP cavity
- Low  $V\pi$  \*1
- High stability and low phase noise
- Compact and easy operation

### Applications

- Optical Comb/Pulse Generator
- THz synthesis
- Optical Metrology
- WDM communications

### Configuration (example)



Note) This product is WTEC-01 in this configuration. The comb/pulse generation system is necessary.

## Optical Comb Generator WTEC-01

Items	Specifications	Items	Specifications
Optical Input		Modulation Characteristic	
Center wavelength <sup>*2</sup>	1530 ~ 1565 nm single mode, single frequency	Frequency stability	Same as reference
Optical input power	20 ~ 40 mW	Finesse	> 50
Optical fiber	PM (PANDA)	V $\pi$	< 10 V @ 25GHz
Polarization	Slow axis	Transmittance (F-P <sub>peak</sub> ) <sup>*4</sup>	> 14 % (no modulation) App. 0.3 % @ V=V $\pi$ (Typ.)
Optical connector	FC/SPC	Comb span <sup>*4</sup>	10 THz
RF Input		Comb flatness <sup>*4</sup>	-7 dB / THz
Modulation frequency (Comb interval)	25 GHz	Optical pulse width <sup>*4</sup>	< 1 ps
FSR	2.5 GHz	Power Supply	
RF input power <sup>*3</sup>	< 0.5 W	Power supply	AC 100 V
RF connector	K connector	Dimension and Weight	
Temperature Characteristic		Dimension	200W x 140L x 80D mm (Excluding protrusion)
Operational temperature range	20 ~ 50 degree C	Weight	<3.5 kg
Temperature stability	0.01 degree C	<p>*2 Input laser should be stable (frequency fluctuation &lt;&lt; FSR) and linewidth &lt;10MHz is recommended.</p> <p>*3 RF Amplifier is necessary to drive.</p> <p>*4 Specifications are typical data at V=V<math>\pi</math></p>	
Display	LCD		

Ver.1.20

Brochures might be changed without notice.

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