



TeraTone™

Low-Noise Frequency Comb



Patented Technology Inside

TeraTone™ is the first optical frequency comb providing more than 100 carriers over continuous C+L band.

Carriers can be generated over any ITU channel grid, with kHz-level linewidth and 100-fold better frequency stability than standard telecommunication sources.

Key features:

- Turn-key operation
- Low power consumption
- Continuous C+L-band coverage
- High power spectral density
- Outstanding frequency stability
- Narrow linewidth (< 10 kHz)
- Low noise ($OSNR_{0.1nm} > 45$ dB)

Applications:

- Coherent transmitter / Local oscillator array
- High-accuracy ranging
- Photonic radio-frequency (RF) signal synthesis
- Optical component testing and characterization
- Optical frequency measurement



Specifications:

	Min.	Typ.	Max.	Unit	
Wavelength	1530 – 1605 (ITU Grid)			nm	
Tone frequency spacing ⁽¹⁾	50 – 400			GHz	
Number of Tones	100 ⁽²⁾				
Output Power ⁽¹⁾	10			dBm/tone	
Spectral Power Uniformity ⁽¹⁾	8			dB	
Linewidth ⁽³⁾	5			kHz	
Frequency Stability	10			MHz	
Optical Signal-to-Noise Ratio	45	50		dB _{0.1nm}	
Relative Intensity Noise ⁽⁴⁾	-145			-135	dBc/Hz
Power Consumption	200			W	

(1): Parameter may be customized; product customization may affect other performance parameters.

(2): Only tones within minimum power-per-tone envelope are included; tone count varies between 100 and 180 tones.

(3): Measured by self-heterodyne delayed interferometry. Path difference = 20 km (in SMF-28e).

(4): Measurement frequency range: 10 MHz – 5 GHz.

Typical Output Spectrum

