RAM Photonics

TeraTone™

Low-Noise Frequency Comb

Patented Technology Inside

TeraTone™ is the first optical frequency comb providing more than 100 low-noise 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

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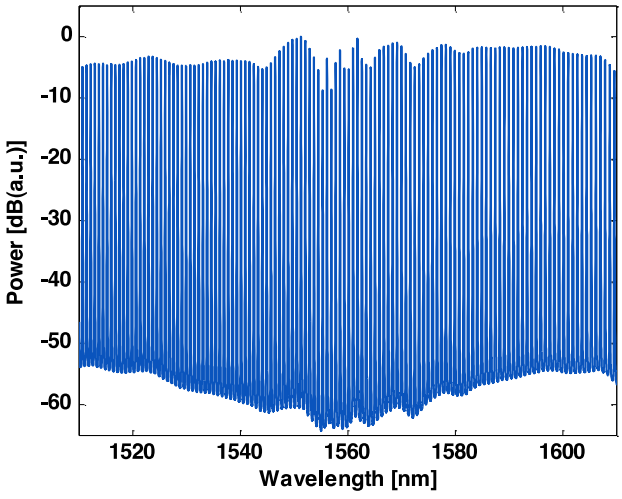
SPECIFICATIONS

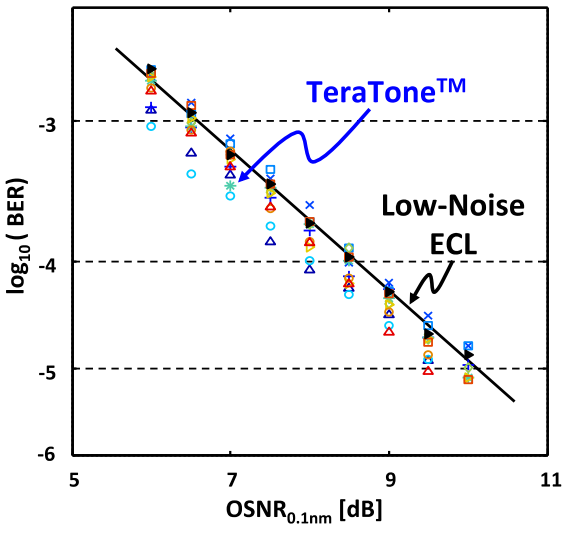
	Min.	Typ.	Max.	Unit
Wavelength		1530 – 1605 (ITU Grid)		nm
Tone frequency spacing(1)		25, 37.5, 50, 100, 200, 400		GHz
Number of Tones		100(2)		
Output Power(1)		10		dBm/tone
Spectral Power Uniformity(1)		8		dB
Linewidth(3)		5	15	kHz
Frequency Drift(4)		10	30	MHz
Optical Signal-to-Noise Ratio(5)	45	55		$dB_{0.1nm}$
Relative Intensity Noise(6)		-145	-135	dBc/Hz
Power Consumption			200	W

Specifications may change without notice. Customer should refer to the formal Quotation and related sales documents for final specifications (1): Customizable parameters; 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): Measured in 1-hour period (5): Specified for 100 GHz tone frequency spacing. Selection of other frequency spacing may change OSNR. (6): Measurement frequency range: 10 MHz – 5 GHz.

Typical Output Spectrum



Signal Quality Comparison



TeraTone™ Constellations