WAVESHAPER® 1000A *Sharp*

The WaveShaper 1000A Sharp is a new programmable optical filter with a very fine ('sharp') frequency resolution. The filter bandwidth can be as narrow as 5 GHz (Full Width at Half Maximum – FWHM). The unit includes singlemode fiber and operates on both polarizations.

The WaveShaper 1000A Sharp has been designed to target research applications requiring a high selectivity. Examples for such applications include:

Emulation of cascaded ROADMs

Optical networks for data center interconnects and long-haul telecommunications commonly incorporate multiple reconfigurable optical add-drop multiplexers (ROADMs), each contributing channel filtering effects. When cascaded, these filters can narrow the transmission spectrum and degrade signal quality. The WaveShaper 1000A Sharp enables network designers and system developers to accurately emulate and optimize these effects, supporting improved transmission performance in complex, meshed optical networks.

Microwave Photonics

The WaveShaper 1000A Sharp supports precise selection of spectral lines in an optical comb line spectrum. This is of importance for example in Gigahertz and Terahertz frequency generation.

FEATURES

- Arbitrary filter shapes in attenuation and phase
- Very sharp filter shapes: minimum bandwidth 5 GHz (FWHM)
- Monitor Output Port (10%)
- Integrated Webserver
- Detachable front panel supports easy connector cleaning

APPLICATIONS

- Network Emulation: Cascaded ROADMs
- Microwave Photonics
- Ultrashort Laser Pulse Shaping

COHERENT

Specifications (Preliminary)

Product		WaveShaper 1000A / Sharp
Product Code		WS-01000A-B-S-1-AA-00
Port Configuration		1x1
Operating Range	Center wavelength	1556 nm
	Total range	20 nm
Loss and Dispersion (1)	Insertion Loss	< 7.0 dB
	Insertion Loss Non-Uniformity	< 1.0 dB
	Polarization Dependent Loss (PDL)	< 1.0 dB
	Return Loss	> 25 dB
Filter Control (1)	Filter Shape	Arbitrary attenuation and phase
	Filter bandwidth (FWHM)	5 GHz to full range
	Filter Center Setting Resolution	0.1 GHz
	Filter Center Setting Accuracy	±5 GHz
	Group Delay Control Range	±60 ps
	Settling Time	<1000 ms
Attenuation Control	Attenuation Control Range	0 to 30 dB
	Attenuation Setting Resolution	0.1 dB
	Attenuation Setting Accuracy	±1 dB for 0.01 to 10 dB ±10% for 10.01 to 25 dB ±15% for 25.01 to 30 dB
Optical Power (2)	Max Total Input Optical Power	27 dBm
	Max Optical Power per 50 GHz channel	13 dBm
Mechanics	Fiber	SMF
	Connector	FC/APC

Notes:
(1) Measured over 0.5 dB passband on a 1 nm passband filter
(2) Optical signals with spectral components below 600 nm must be avoided.

sales@coherent.com
www.coherent.com