



LCOS-based Programmable Optical Filter

WSS-2000

New

Product Overview

The WSS-2000 is an LCOS-based Programmable Optical Filter. Santec's proprietary LCOS (Liquid Crystal on Silicon) technology inside the WSS-2000 offers the ultimate flexibility, enabling the user to program a limitless range of optical filtering, attenuation, and switching schemes. In addition, the phase control function is also available. The WSS-2000 is an enabling technology for investigating next-generation optical networks by utilizing the filter as an optical equalizer of high-speed signals, as an adaptive channel filter for advanced optical transmission systems (DWDM, OFDM), as a WSS emulator or as a flexible test and measurement system.



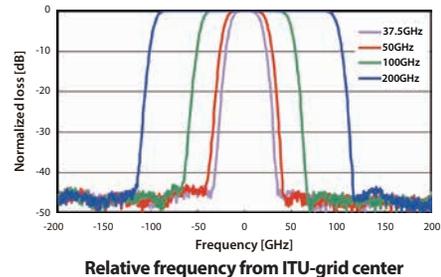
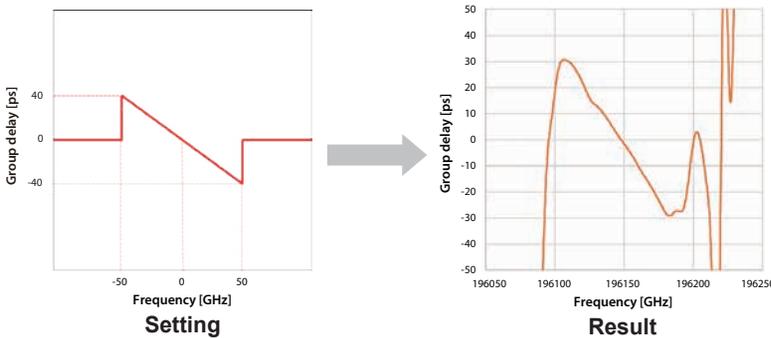
Features

- Programmable arbitrary spectral generation and spectral shaping
- Fine frequency and bandwidth control using LCOS. Setting resolution 0.78 GHz (typ.)
- Excellent optical filtering with steeper edge 400 dB/nm (typ.)
- Optical switching configuration (1x1, 1x2, 1x4)
- Optical phase control function (Option)

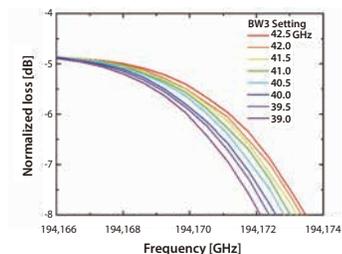
Applications

- Optical amplifier testing and evaluation with optical equalizer for high-speed optical signal
- 100 Gb/s, 400 Gb/s high speed transmission test
- Adjustable and adaptive DWDM, OFDM channel filtering
- Flexible test and measurement
- Next generation bundle wavelength OXC
- Pulse shaping
- Optical comb generation
- Wavelength Selective Switch (WSS) emulator

Measurement Data



Relative frequency from ITU-grid center



Bandwidth and frequency tuning

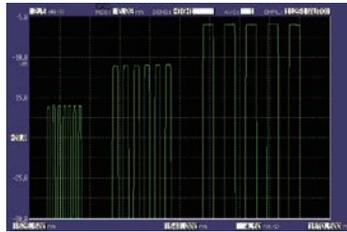
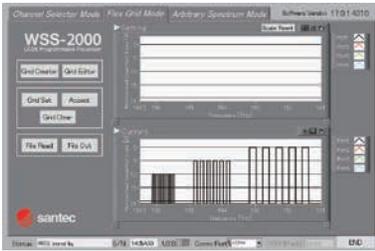
The following items can be set as parameters for the phase control function

- Phase Setting
- Group delay Setting
- Chromatic dispersion Setting

Specifications

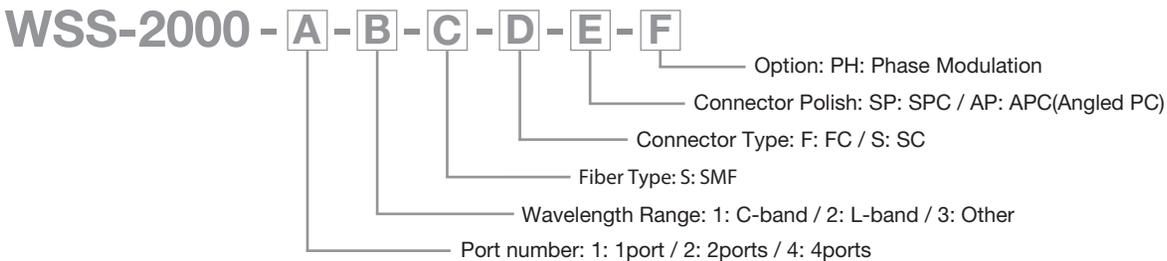
Category	Parameter	Unit	Min	Typ	Max	Notes
Filter Control	Operating frequency range	THz	191.250		196.150	
	Operating wavelength range	nm	1528.383		1567.543	
	Frequency setting accuracy	GHz	-2.5		2.5	
	Frequency setting resolution	GHz	0.78			
	Operating bandwidth range	GHz	10		4900	
		nm	0.08		39	
	Bandwidth setting accuracy	GHz	-5		5	
	Bandwidth setting resolution	GHz	1.56			
	Attenuation control range	dB	0		20	
	Attenuation setting resolution	dB	0.01			
	Attenuation setting accuracy 1	dB	-0.2		0.2	Attenuation 1.0-2.0 dB
	Attenuation setting accuracy 2	dB	-0.5		0.5	Attenuation 2.1-5.0 dB
	Attenuation setting accuracy 3	dB	-1		1	Attenuation 5.1-15.0 dB
Filter edge slope	dB/nm		400			
Group Delay Control Range	ps	-25		25	Option	
Switching	Number of input ports		1			
	Number of output ports		1, 2 or 4			
	Setting time	msec		500		Depending on setting spectrum
Loss and Dispersion	Insertion loss	dB		5.5	6.5	Bandwidth@-3 dB > 25 GHz
	Insertion loss uniformity	dB		1.1	2.5	
	Polarization dependent loss (PDL)	dB			0.8	Attenuation 0-10.0 dB
	Return loss	dB	30	35		
	Extinction ratio	dB	35	40		
	Differential Group Delay (DGD)	ps		0.2	0.5	
Optical power	Maximum total input power	dBm			27	
	Maximum per-channel optical power	dBm			13	
Environmental	Operating temperature	°C	15		35	
Electrical	Power supply	V	Input AC 100-240 V 50-60 Hz			
	Power consumption	VA			15	
	Communication interface		Ethernet			
Mechanical	Dimensions (W) x (D) x (H)	mm	210 x 350 x 88			
	Weight	kg	4			

GUI of Control Software



Optical Spectrum Analyzer

Ordering code



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