

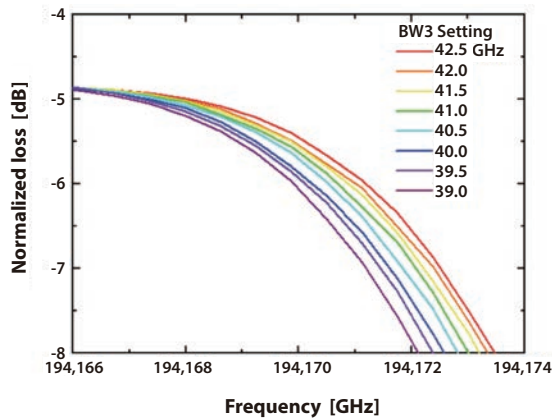
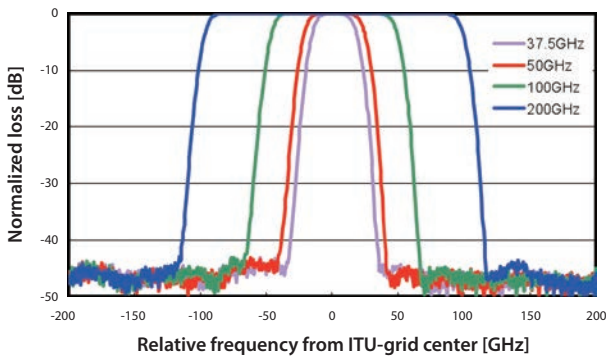
NEW

# LCOS Programmable Processor WSS-2000

The WSS-2000 is a LCOS based Programmable Optical Filter. Santec's proprietary LCOS (Liquid Crystal on Silicon) technology inside the WSS-2000 offers the ultimate in flexibility, enabling the user to program a limitless range of optical filtering, attenuation and switching schemes. 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.



## Measurement Data



Bandwidth and frequency tuning

## Features

- ▶ Programmable arbitrary spectral generation and spectral shaping
- ▶ Fine frequency and bandwidth control using LCOS. Setting resolution 0.78GHz (typ.)
- ▶ Excellent optical filtering with steeper edge 400dB/nm (typ.)
- ▶ Switching function optionally 1, 2, or 4 outputs

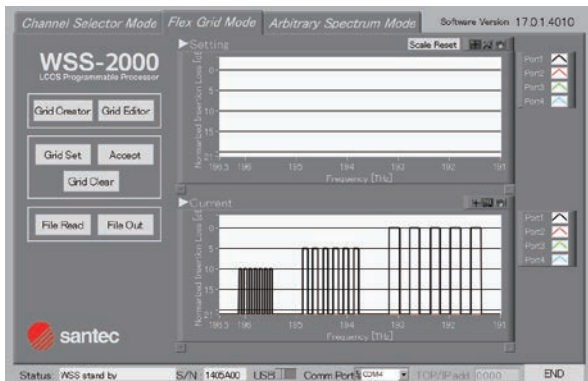
## Applications

- ▶ Optical amplifier testing and evaluation with optical equalizer for high-speed optical signal
- ▶ 100Gb/s, 400Gb/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

## Specifications

Category	Parameter	Unit	Min.	typ.	Max.	Notes
Filter	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	0.1			
	Attenuation setting accuracy 1	dB	-0.2		0.2	Attenuation 1.0-2.0dB
	Attenuation setting accuracy 2	dB	-0.5		0.5	Attenuation 2.1-5.0dB
Attenuation setting accuracy 3	dB	-1		1	Attenuation 5.1-15.0dB	
Switching	Filter edge slope	dB/nm	400			
	Number of input ports		1			
	Number of output ports		1, 2 or 4			
Loss	Setting time	msec	500			Depending on setting spectrum
	Insertion loss	dB	5.5		6.5	Bandwidth@-3dB > 25GHz
	Insertion loss uniformity	dB	1.1		2.5	
	Polarization dependent loss (PDL)	dB			0.8	Attenuation 0-10.0dB
	Return loss	dB	30	35		
	Extinction ratio	dB	35	40		
Optical power	Maximum total input power	dBm			27	
	Maximum per-channel optical power	dBm			13	
Environmental	Operating temperature	degC	15	35		
Electrical	Power supply	V	Input AC 100-240V 50-60Hz			
	Power consumption	VA			9	
	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

**WSS-2000 - A - B - C - D - E**

- Connector Polish : SP : SPC / AP : APC(Angled PC)
- Connector Type : F : FC / S : SC
- Fiber Type : S : SMF
- Wavelength Range : 1 : C-band / 2 : Other
- Port number : 1 : 1port / 2 : 2ports / 4 : 4ports

[www.santec.com/en/](http://www.santec.com/en/)

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