

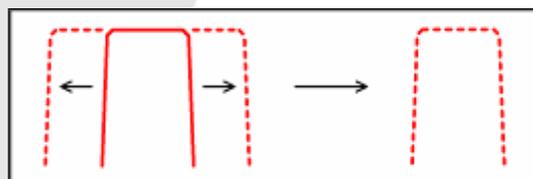
# XTA-50 Filters (standard, ultrafine, O-band) Automatic Wavelength and Bandwidth Selection

**YENISTA** presents its flat-top tunable filters with adjustable bandwidth for SCL and O bands. The XTA-50 for SCL band is available in a standard and an ultrafine version providing the highest selectivity on the market.

In the SCL standard version, wavelength tuning ranges over 1450 nm to 1650 nm whereas the bandwidth can be adjusted from 50 pm (6.25 GHz) to 950 pm (120 GHz) with respect to the center wavelength. The ultrafine version allows these values to reach 1480-1620 nm and 32 pm (4 GHz) to 650 pm (80 GHz). Wavelength tuning and bandwidth adjusting is done with highly accurate translation stage.

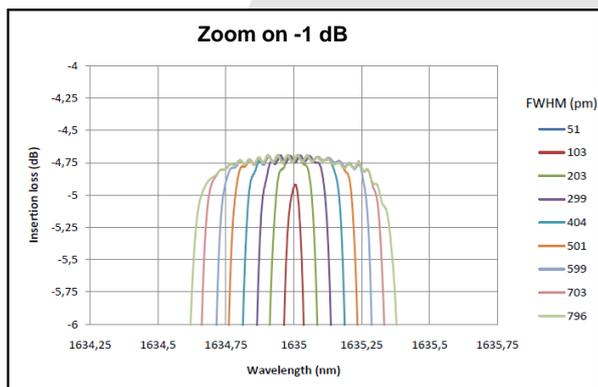
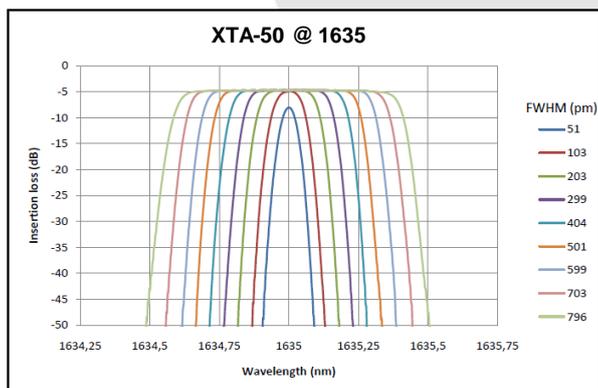
Optical filtering of the XTA-50 is based on proven diffraction grating technology. The extremely sharp edges ensure a clean cut between the signal and the adjacent channels or noise, while the flat-top square shape ensures data integrity. Signal propagation through the filter does not affect its integrity, because temporal effects such as chromatic dispersion and PMD are negligible.

Applications: channel selection for bit error rate testing, analysis of sub-band of complex modulation formats such as OFDM, spectral analysis, radio-over-fiber, etc. The XTA-50 filter is therefore an ideal tool for laboratories and manufacturers that are looking for state-of-the-art optical specifications.



*Bandwidth & Wavelength Tuning*

## SCL Measured Curves



## Filter Shape: Ultra Selectivity

Reach the best values with our wide range of filters!

- **Adjustable bandwidth: down to 32 pm & up to 950 pm**  
The continuous adjustment of the bandwidth with 1 pm resolution ensures a perfect match with any modulation format and bit rate.

- **Extremely narrow filter: down to 32 pm (4 GHz)**

XTA-50 is the most selective filter on the market. It is the perfect tool to study sub-band multiplexing in advanced development of next-generation optical networks, like OFDM.

- **Up to 200 nm wavelength range to adapt to any set-up**

The standard version of the XTA-50 operates from 1480 to 1620 nm in one single instrument.

- **High accuracy and repeatability**

The translation stages used in XTA-50 to tune wavelength and FWHM ensures a perfect accuracy and repeatability over time. This avoids additionally control of settings and makes it perfect for manufacturing environment and most demanding laboratory applications.

- **High rejection ratio: up to 60 dB typical**

- **Steep edges: up to 800 dB/nm roll-off**

The signal part is perfectly extracted minimizing ASE noise. BERT measurements have never been so good!

- **Flat-top design: 0.2 dB flatness, and square shape**

Flatness of the filter curves are inspected & guaranteed.

## Additional Key Parameters

- **Low insertion loss**

- **Small polarization dependent loss <  $\pm 0.2$  dB**

- **Bi-directional usage**

All information and specifications are subject to change without notice

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**OPTICS**

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## XTA-50 Filter Specifications\*1

	XTA-50 Standard	XTA-50 Ultrafine	XTA-50 O-Band
<b>OPTICAL SPECIFICATIONS</b>			
Wavelength range	1450 – 1650 nm	1480 – 1620 nm	1260 – 1360 nm
Wavelength resolution	1 pm		
Wavelength accuracy	±30 pm		
Wavelength tuning speed	1 s		
FWHM minimum	50 pm (6.25 GHz)	32 pm (4 GHz)	50 pm (8 GHz)
FWHM maximum	950 pm (120 GHz)	650 pm (80 GHz)	900 pm (160 GHz)
FWHM resolution	1 pm		
FWHM tuning speed	1 s		
Slope edges between -3 and -40 dB	500 dB/nm (typ.) *2	800 dB/nm (typ.)	500 dB/nm (typ.) *2
Insertion loss	5 dB max. (4.5 dB typ.) *3,6	5 dB max. (4 dB typ.) *4,6	< 5 dB (4.5 dB typ.) *5,6
Flatness	0.2 dB *7	0.2 dB *8	0.2 dB *7
Polarization dependent loss	±0.2 dB *3	±0.2 dB *4	±0.2 dB *5
Out-band suppression (crosstalk) *9	40 dB (60 dB typ.)	40 dB (50 dB typ.)	40 dB (60 dB typ.)
Fiber type	SMF or PMF		
Optical connector	Easy access to connectors for cleaning. FC/APC or FC/PC on SMF fiber		
<b>INTERFACE SPECIFICATIONS</b>			
Display	7 inch, color TFT-LCD, touch screen		
Remote interfaces	Standard: USB, Ethernet RJ-45, RS232 Optionnal: GPIB (via RS232 port and optional adaptor)		
Other interfaces	USB, VGA		
<b>GENERAL SPECIFICATIONS</b>			
Operating temperature range	+15° to +35°C +60° to +85°F		
Maximum input power	+25 dBm total input power +15 dBm per single channel		
Power supply	100 to 240 V (50 to 60 Hz)		
Dimensions (W x H x D)	405 x 160 x 290 mm <sup>3</sup>		
Weight	7 kg		

\*1: At 21°±3°C

\*2: For FWHM < 800 pm

\*3: From 1500 to 1600 nm and FWHM > 100 pm

\*4: From 1500 to 1600 nm and FWHM > 60 pm

\*5: From 1280 to 1340 nm and FWHM > 100 pm

\*6: At lowest FWHM, the insertion loss is 7dB typ.

\*7: On a centered bandwidth BW = FWHM-150 pm, and for 150 pm < FWHM < 650 pm

\*8: On a centered bandwidth BW = FWHM-100 pm, and for 100 pm < FWHM < 500 pm

\*9: Measured 1 nm away from the -3 dB points

## Advanced Features

### Intuitive Software

The XTA offers a user-friendly touchscreen for access to four menus covering most customer applications.



### Easy access to optical connectors

The easy access to the optical connectors ensure low-loss over time



## Complete Portfolio of Tunable Filters

Yenista also features a complete portfolio of filters including: the XFA filter with its fixed bandwidth, the manual XTM-50 filters (standard, ultrafine and o-band versions) and the WSM-160 filters (bandpass or notch type). Contact us for more information.

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