

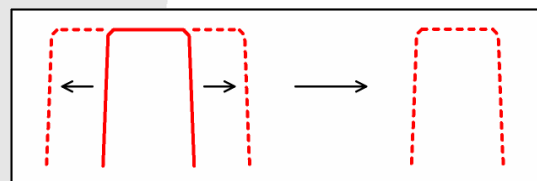
# XTM-50 – Highly Selective Tunable Filter with adjustable bandwidth

**YENISTA** proposes a flat-top tunable filter with adjustable bandwidth. Wavelength tuning ranges over 1450 nm to 1650 nm whereas the bandwidth can be adjusted from 50 pm (6.25 GHz) to 800 pm (100 GHz) with respect to the center wavelength. Wavelength tuning and bandwidth adjusting is done with precision micrometers.

Optical filtering of the XTM-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, spectral analysis, ...

So, the filter is an ideal tool for laboratories that are looking for a low-cost solution without any compromise on optical specifications.



*Bandwidth & Wavelength tuning*

## Filter Shape: Highest Selectivity

### ▪ Adjustable Bandwidth:

**down to 50 pm & up to 800 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 50pm (6.25 GHz).

XTM-50 is the highest 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.

### ▪ High rejection ratio: 60dB typical.

### ▪ Steep edges: roll-off 500 nm/dB.

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

### ▪ Flat-top design: 0.2 dB flatness.

Flatness of the filter curves are inspected & guaranteed.

## Additional Key Parameters

### ▪ 200 nm Wavelength Range to adapt to any set-up.

XTM-50 operates from 1450 to 1650 nm in one single instrument.

### ▪ Low insertion loss: 4dB typical.

### ▪ Small Polarization Dependent Loss < ±0.2 dB.

### ▪ Bi-directional usage.

### ▪ Connector cleaning.

Easy access to optical connectors for cleaning. The connectors are located in a small drawer that can be opened for the cleaning operation, see below.



All information and specifications are subject to change without notice

**Yenista**  
**OPTICS**

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## XTM-50 Filter Specifications

<b>Optical Specifications</b>	Wavelength range	1450-1650 nm
	Wavelength Resolution *1	20 pm
	Insertion loss *2	<5 dB (4 dB typ.)
	Polarization dependent loss *3	±0.2 dB
<b>Optical bandwidth Specifications (FWHM)</b>	Minimum	50 pm (6.25 GHz)
	Maximum	800 pm (100 GHz)
	Resolution *1	1 pm
<b>Optical Bandwidth Shape</b>	Flatness *4	0.2 dB
	Out-band suppression (Crosstalk) *4	40 dB (60 dB typ.)
	Slope edges between -3 and -40 B	500 dB/nm (typ.)
<b>Interface</b>	Optical connector	FC/APC or FC/PC on SMF28 fiber Easy access to connectors for cleaning.
	Manual actuators for Wavelength Tuning and Bandwidth Adjustment	High resolution micrometer
<b>General Specifications</b>	Dimensions (W x H x D)	230 x 173 x 136 mm <sup>3</sup>
	Weight	2.2 kg

\*1: typical, related to user sensibility.

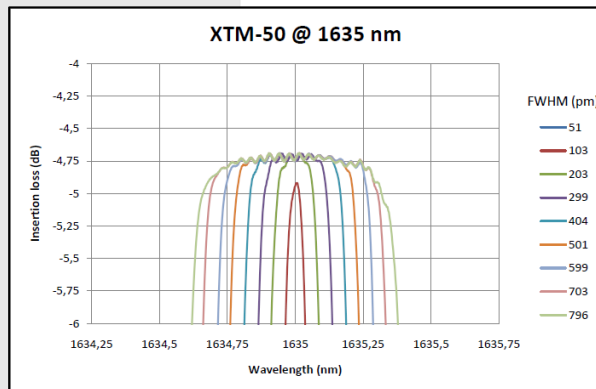
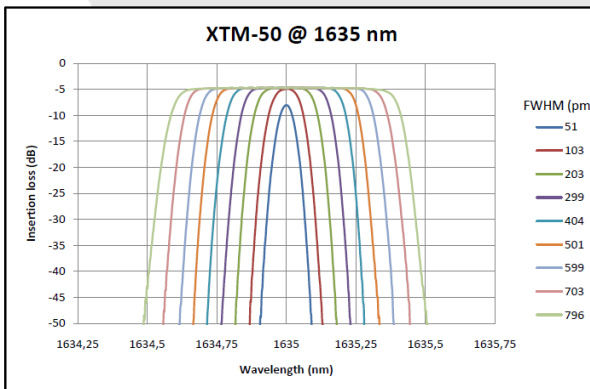
\*2: From 1500 to 1600 nm .

\*3: At 1500, 1550 and 1600 nm.

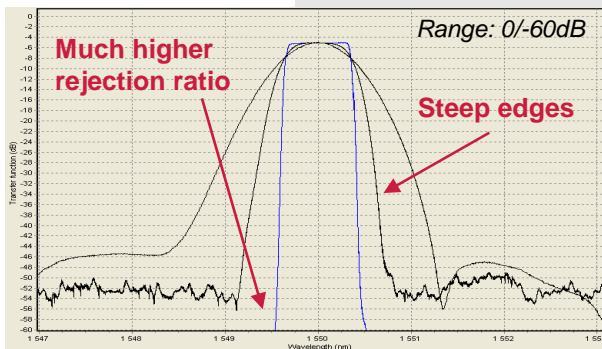
\*4: On a centered bandwidth BW = FWHM-150 pm, and for 150 pm<FWHM<650pm.

\*5: Measured 60 pm away from the -3 dB points.

## Measured Filter Curves



## Comparison of XTM-50 (blue curve) with Gaussian and standard flat-top filter with FWHM = 700pm



## Contact Information

We are happy to discuss your tunable filter requirements, please contact YENISTA OPTICS at [sales@yenista.com](mailto:sales@yenista.com)

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