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MAP Tunable Filter™

(mTBF-A1)

The Multiple Application Platform (MAP) Tunable Filter (mTBF-A1) is optimized for the industry-leading Viavi Solutions MAP-200 platform. Based on the previous-generation MAP, the MAP-200 is the first photonic layer lab and manufacturing platform that is LAN Extensions for Instrumentation (LXI)-compliant by conforming to the rquired physical attributes. Ethernet connectivity, and interchangeable virtual instrument (IVI) drivers. The MAP-200 platform is optimized for density and maximum configurability to meet specific application requirements in the smallest possible foot print.

The MAP Tunable Filter is a tunable bandpass filter that offers continuous wavelength tuning from 1520 to 1630 nm. It is used for applications requiring low insertion loss (IL), high rejection, narrow bandwidth and wavelength tuning resolution of 0.005 nm. The standard model has a maximum input power of 300 mW and the high power option provides a maximum input power of 1000 mW.

Two options are available:

- The peak search option, used to find the absolute maximum transmission power within the filter's wavelength tuning range or a local maximum transmission power within a user-defined wavelength range
- 10% tap option for power monitoring

MAP Tunable Filter is ideal for applications where the user needs to suppress amplified spontaneous emissions (ASE) or isolate specific wavelengths. These applications include amplifier characterization, bit error rate (BER) testing and optical signal-to-noise ratio (OSNR) measurement.

Key Benefits

- –3 dB bandwidth available at 0.11, 0.25, 0.55 nm
- Low polarization dependent loss (PDL) (<0.3 dB)
- Wide wavelength range (1520 to 1630 nm)
- Can be automated when used with MAP-200 LXI-compliant interfaces and IVI drivers

Applications

- Spontaneous emission suppression
- Amplifier characterization (Up to 1 W of input power)
- BER testing
- Tunable laser-based testing

Applications

- The MAP Tunable Filter, when installed in a MAP chassis, complies to CE, CSA/UL/IEC61010-1, plus LXI Class C requirements.

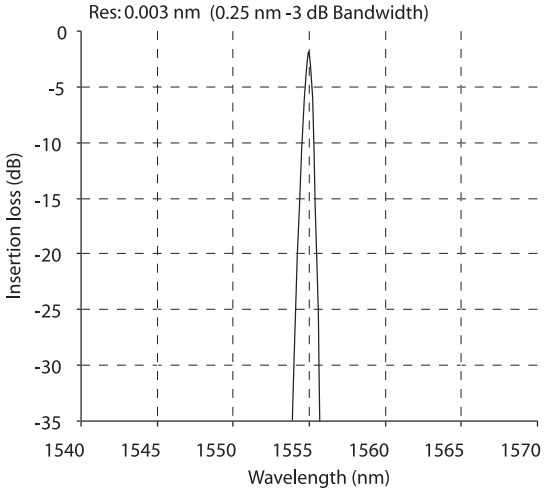


Figure 1. Model "G" filter shape shows the low IL and sharpness of the filter.

The filter makes use of a diffraction grating to separate the input light along several discrete paths. A stepper-motor rotates the grating to transmit the desired wavelength along the output fiber.



Figure 2. mTBF GUI - detailed view

Technical Specifications

Parameter	Model C	Model G	Model K
Wavelength range	1520 to 1630 nm	1520 to 1630 nm	1520 to 1630 nm
Optical shape	Gaussian	Gaussian	Gaussian
–3 dB bandwidth[1]	0.11 nm ±15%	0.25 nm ±15%	0.55 nm ±15%
3/20 dB ratio[1]	0.40 ±0.05	0.31 ±0.05	0.31 ±0.05
Insertion loss (IL)[2] 1520 to 1610 nm 1610 to 1630 nm Input power[3]	 <6.0 dB <8.0 dB 300 mW or 1 W	 <5.8 dB <8.0 dB 300 mW or 1 W	 <5.8 dB <8.0 dB 300 mW
Return loss (RL)[4]	>45 dB		
Wavelength resolution	0.005 nm		
Polarization dependent loss (PDL)[5], 1520 to 1630 nm	<0.3 dB		
Tuning speed	>5 nm/s		
Peak to average background noise	>45 dB		
Accuracy	±0.2 nm		
Peak search accuracy	<0.2 dB from output peak power		
Polarization mode dispersion (PMD)	<0.3 ps		
Group delay variation within a –3 dB bandwidth	<5 ps		
Recommended calibration period	1 year		
Operating temperature	10 to 35°C		
Storage temperature	–10 to 60°C		
Dimensions (W x H x D)	8.1 x 13.26 x 37.03 cm (3.19 x 5.22 x 14.58 in)		
Weight	2.3 kg (5.07 lb)		

1. Measured at 1550 nm
2. Add 1.2 dB for tap or peak search option
3. At 23°C ±5°C
4. At selected wavelength
5. Input power is within the range of –20 dBm to +20 dBm. Excludes PDL effect

Ordering Information

Description	Part Number
Base Options (Required, select one)	
Tunable Filter, C Model, 0.11 nm –3 dB Bandwidth, Standard Power (300 mW)	MTBF-A1CS0
Tunable Filter, G Model, 0.25 nm –3 dB Bandwidth, Standard Power (300 mW)	MTBF-A1GS0
Tunable Filter, K Model, 0.55 nm –3 dB Bandwidth, Standard Power (300 mW)	MTBF-A1KS0
Tunable Filter, C Model, 0.11 nm –3 dB Bandwidth, High Power (1 W)	MTBF-A1CH0
Tunable Filter, G Model, 0.25 nm –3 dB Bandwidth, High Power (1 W)	MTBF-A1GH0
Tunable Filter, K Model, 0.55 nm –3 dB Bandwidth, High Power (1 W)	MTBF-A1KH0
Built-in Options (Optional, select one)	
10% Output Tap option	M10SPLITTER
Power Monitor option	MPOWMON
Connector Options (Required, select one)	
FC/PC connector type	MFP
FC/APC connector type (M100 only)	MFA
SC/PC connector type	MSC
SC/APC connector type (M100 only)	MSU

For more information on this or other products and their availability, please contact Viavi at 1-844-GO-VIAVI (+1 844 468 4284) or visit viavisolutions.com/contacts.

Contact Us **+1 844 GO VIAVI**
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