# OSA: Characterization of Connectorized Optical Filters

Applicable model*: AQ6380/AQ6370 series/AQ6360

Along with the increase in communication traffic, the signal channel spacing of wavelength division multiplexing (WDM) is becoming narrower, and the importance of high-performance optical filters such as high crosstalk characteristics is increasing. The transmission characteristic of the optical filter is obtained as the difference between the input optical spectrum and the output optical spectrum of the optical filter using a broadband light source in case of LOG scale.

The target models are equipped with multiple optical filter analysis functions as standard equipment, and can automatically analyze characteristics such as crosstalk. The analysis functions support single peak filters to multi-peak filters. In addition to peak, it can also perform bottom (notch) analysis. WDM filter analysis automatically detects channels and performs filter analysis on each channel. It is also possible to change the automatic detection conditions and perform the analysis under the specified conditions.
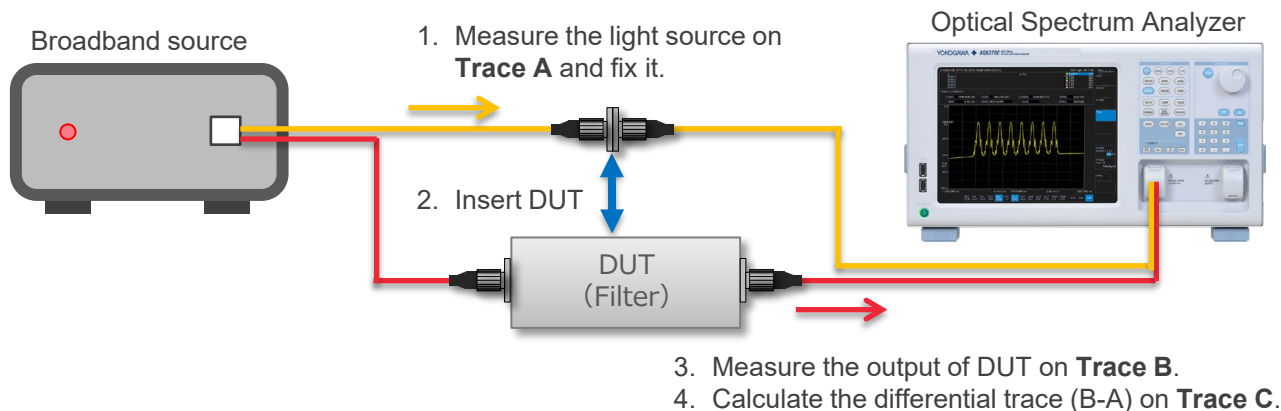
Optical filter analysis functions and analysis items

■ **Filter analysis function (Single-peak filter analysis)**
- Peak/Bottom level
- Peak/Bottom wavelength
- Center wavelength
- Spectral width/Notch width
- Ripple width
- Cross talk

■ **WDM filter analysis function (Multi-peak filter analysis)**

It perform the analysis for each channel.
- Peak wavelength and level
- X dB width/Notch width and center wavelength
- X dB Stop band
- X dB Pass band/Elimination band
- Ripple width
- Cross talk

* All versions unless otherwise specified
AQ6373 family do not have the WDM filter analysis function.
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Broadband source

1. Measure the light source on **Trace A** and fix it.

Optical Spectrum Analyzer

2. Insert DUT

DUT
(Filter)

3. Measure the output of DUT on **Trace B**.
4. Calculate the differential trace (B-A) on **Trace C**.

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