

Optical Component Analyzer AQ8460 Series

Fast and Accurate Characterization
of Optical Components for DWDM Systems



GP-IB

Fast and Accurate Characterization of for DWDM Systems

The AQ8460 Optical Component Analyzer is a new approach to characterize optical components used in DWDM networks.

The AQ8460 can simultaneously measure and analyze the spectral attenuation of multiple ports on components, such as multiplexers, demultiplexers, add/drop multiplexers, fiber bragg gratings, filters, and isolators.

The AQ8460 utilizes a high-performance tunable laser source (accuracy: ± 0.01 nm or less, SMSR: 70dB or more) and multiple optical power meters (AQ8461-23).

While the tunable laser source is sweeping, synchronously and simultaneously all optical power meters sample power at every wavelength on all component outputs. This approach is faster than the traditional method that measures each output individually using an optical spectrum analyzer (OSA) when output ports increase.

Polarization depending loss (PDL) and optical return loss (ORL) measurement are also available.

The AQ8460 is an ideal system for production, quality control, research and development.

Features

● C-band and L-band models

C-band: AQ8460 (1500 to 1580 nm)

L-band: AQ8460L (1520 to 1620 nm)

● Wavelength accuracy: ± 0.01 nm

C-band: ± 0.010 nm

L-band: ± 0.015 nm

● Wavelength resolution: 0.001 nm min.

● Dynamic range: 60 dB or more

For both peak and notch measurements

● Fast measurement: < 20 sec. ¹⁾

● Simultaneous measurement: Up to 240 sensors

The AQ8460 can control six AQ8461 Expansion Frames (Five AQ8461-23 8-sensor module ea.)

● Built-in wavelength reference

High wavelength accuracy can be simply maintained

● No external controller required ²⁾

Spectral data acquisition and analysis are completed without an external controller

● Excellent analysis feature

Single- and multi-sensor analysis

Single: for a trace with multiple peaks or notches (e.g. add/drop multiplexer)

Multi: consecutive analysis for multiple traces with single peak or notch (e.g. MUX/DEMUX)

Analysis parameters

Insertion loss, peak/center wavelength, spectral width, notch wavelength, notch width, crosstalk, flatness, ORL ²⁾ PDL ³⁾

● Built-in 1 x 4 splitter

Up to four components can be tested simultaneously



Notes

1) Measurement time depends on total data sampling number and sensitivity.

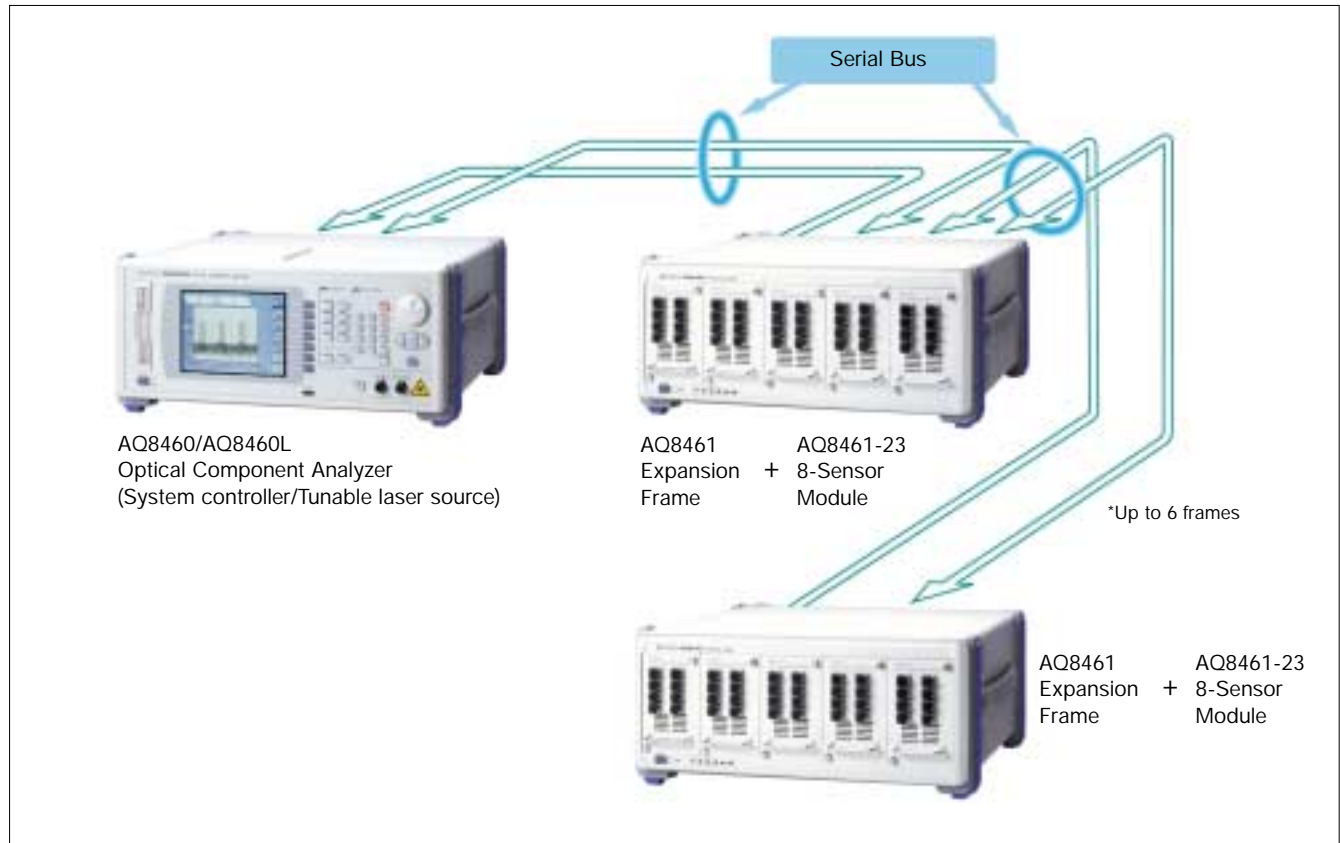
2) ORL measurement requires an AQ8461-71 RLM module.

3) PDL measurement requires an external controller and a polarization controller/scrambler

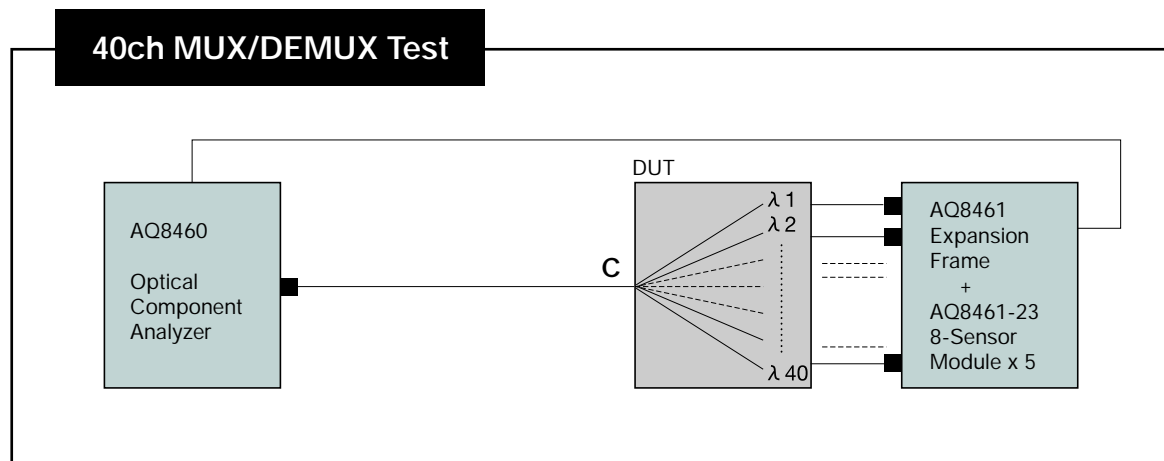
Optical Components



System configuration



MUX/DEMUX measurement system configuration



Specifications

Model	AQ8460	AQ8460L
Wavelength range	1500 to 1580 nm	1520 to 1620 nm
Absolute wavelength accuracy ^{1), 2)}	±0.01 nm	±0.015 nm
Wavelength resolution	0.001 nm	
Optical output power	-3 dBm or more	-6 dBm or more
Sensor noise level	-73 dBm or less	
Dynamic range ³⁾	60 dB or more	57 dB or more
Polarization depending loss	±0.01 dB (typical)	
Return loss on sensor	40 dB (43 dB typical) or more	
Measurement time	20 sec. or less (data point: 1000, sensor: 40, range hold) 35 sec. or less (data point: 1000, sensor: 40, range auto)	
Applicable fiber	Single-mode fiber (10/125 μm)	
Applicable connector	AQ8460/L: FC/Angled-PC, AQ8461-23: FC/SPC (standard)	
Display	6.5-inch color LCD	
Interfaces	GP-IB (IEEE488.1 compatible), keyboard (PS/2) , VGA, printer interface, AQ8461 control interface (serial, 2 ports)	
Power requirements	AC100 to 120, 200 to 240 V	
Environmental conditions	Operating temperature: 10 to 35°C	
	Storage temperature: -10 to +50°C	
	Humidity: 80% RH or less (no condensation)	
Dimensions and mass	AQ8460/L/AQ8461: approx. 425(W) x 177(H) x 450(D) mm ea.	
	AQ8460/L/AQ8461: approx. 20 kg ea.	

Notes

1) AQ8460: 1525 to 1565 nm, AQ8460L: 1560 to 1610 nm

2) 2σ confidence factor

3) AQ8460: at -3 dBm output, AQ8460L: at -6 dBm output

Ordering

Model	Description
AQ8460 Optical Component Analyzer	System controller/Tunable laser source (C-band)
AQ8460L Optical Component Analyzer	System controller/Tunable laser source (L-band)
AQ8461 Expansion Frame	Number of slots: 10
AQ8461-23 8-Sensor Module	2 slots size
AQ8461-91 Vent Cover	1 slot, cover for empty slot
AQ8461-93 Vent Cover	2 slots, cover for empty slots
PDL Measurement Software	Application software for external PC (Windows NT*)
AQ8461-71 ORL Module	1 slot size, for ORL function
Polarization Controller	For PDL function
Polarization Scrambler	For PDL function

*Windows NT is a registered trademark of Microsoft Corporation.

Specifications are subject to change without notice.

Ando Electric Co., Ltd.

3-484, Tsukagoshi, Saiwai-ku, Kawasaki, Kanagawa, 212-8519 Japan Phone: +81 (0)44 549 7300 Fax: +81 (0)44 549 7450

Ando Corporation

2021 N. Capitol Avenue, San Jose, CA 95132, U.S.A. Phone: +1 408 941 0100 Fax: +1 408 941 0103

EAST OFFICE: 7617 Standish Place, Rockville, MD 20855, U.S.A. Phone: +1 301 294 3365 Fax: +1 301 294 3359

Ando Europe B.V.

"Vijverdam", Dalsteindreef 57, 1112XC Diemen, The Netherlands Phone: +31(0)20 698 1441 Fax: +31(0)20 699 8938

NIEDERLASSUNG DEUTSCHLAND: Nymphenburger Straße 119 B, D-80636 München, Germany Phone: +49(0)89 143 8150 Fax: +49(0)89 143 81555

Ando Electric Singapore Pte. Ltd.

19 Kim Keat Road #05-03, Jumbo Industrial Building, Singapore 328804 Phone: +65 251 1391 Fax: +65 251 1987

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