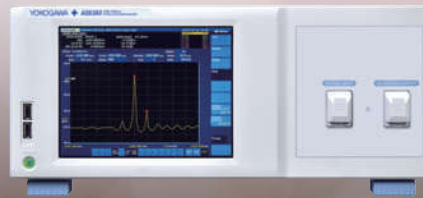


Test&Measurement

YOKOGAWA 

  
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# The world's most trusted OSAs

Optical Spectrum Analyzer  
Selection Guide

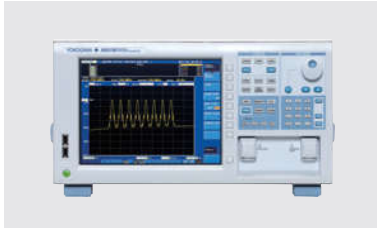
Precision Making

Bulletin OSA-01EN

# Selection guide

The AQ6370 series are high-speed and high-performance Optical Spectrum Analyzers based on the diffraction grating technology.

They satisfy measurement needs of a wide range of R&D and industrial manufacturing applications with a product lineup of five models covering the broad wavelength range from visible light to mid-infrared (350 to 5500 nm).



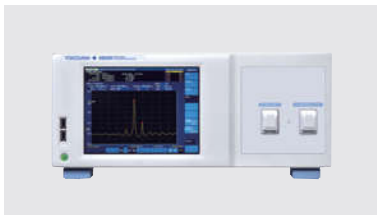
## AQ6370D Dedicated for telecom applications

### Optical communications

- Wavelength range: 600 to 1700 nm
- Wavelength accuracy:  $\pm 0.01$  nm (high-performance model)
- Wavelength resolution setting: 0.02 to 2 nm
- Level range: +20 to -90 dBm
- Close-in dynamic range: 78 dB typ. (peak  $\pm 1.0$  nm, high-performance model)

### <Applications>

- Emission spectrum evaluation of optical transceivers and LD modules
- OSNR measurement of WDM transmission signals
- Optical amplifier (EDFA) measurement



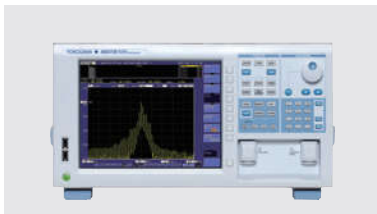
## AQ6360 Our fastest OSA optimized for optical device manufacturing

### Optical communications

- Wavelength range: 1200 to 1650 nm
- Wavelength accuracy:  $\pm 0.02$  nm
- Wavelength resolution setting: 0.1 to 2 nm
- Level range: +20 to -80 dBm
- Close-in dynamic range: 55 dB (peak  $\pm 0.4$  nm)

### <Applications>

- LD chip and TOSA measurement
- Optical transceiver and Optical amplifier test



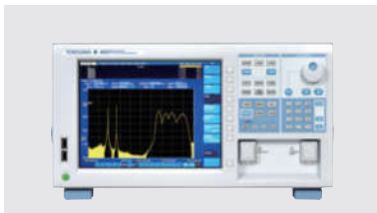
## AQ6373B Optimized for visible light measurements

### VIS

- Wavelength range: 350 to 1200 nm
- Wavelength accuracy:  $\pm 0.05$  nm
- Wavelength resolution setting: 0.01 to 10 nm
- Level range: +20 to -80 dBm
- Close-in dynamic range: 60 dB (peak  $\pm 0.5$  nm)

### <Applications>

- Characterization of light sources used in biomedical and consumer products
- Color analysis of visible LED



## AQ6374 Wide range model covering the spectrum from visible to communication wavelengths

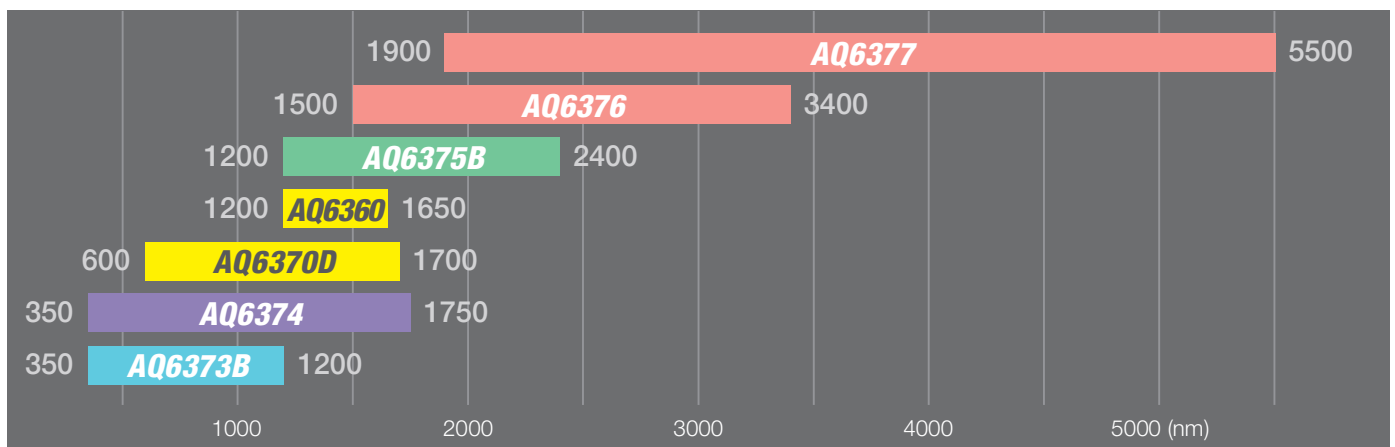
### VIS & optical communications

- Wavelength range: 350 to 1750 nm
- Wavelength accuracy:  $\pm 0.05$  nm
- Wavelength resolution setting: 0.05 to 10 nm
- Level range: +20 to -80 dBm
- Close-in dynamic range: 60 dB (peak  $\pm 1.0$  nm)

### <Applications>

- Wavelength loss characteristics of optical fibers
- Characterization of broadband light sources
- Characterization of lasers from visible light to optical communications wavelengths

## Wavelengths covered by each model





## **AQ6375B** Long wavelength model covering the exNIR region over 2 $\mu\text{m}$

### exNIR

- Wavelength range: 1200 to 2400 nm
- Wavelength accuracy:  $\pm 0.05$  nm
- Wavelength resolution setting: 0.05 to 2 nm
- Level range: +20 to -70 dBm
- Close-in dynamic range: 55 dB (peak  $\pm 0.8$  nm)

#### <Applications>

- Characterization of sources used in Laser Absorption Spectroscopy
- Characterization of broadband light sources such as Supercontinuum light sources
- Measurement of gas absorption spectra



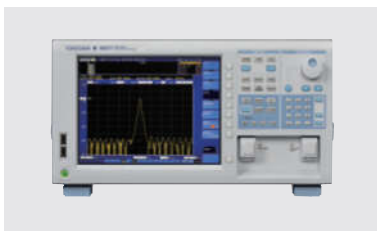
## **AQ6376** Long wavelength model covering the MWIR region over 3 $\mu\text{m}$

### MWIR

- Wavelength range: 1500 to 3400 nm
- Wavelength accuracy:  $\pm 0.5$  nm
- Wavelength resolution setting: 0.1 to 2 nm
- Level range: +13 to -65 dBm
- Close-in dynamic range: 55 dB (peak  $\pm 2.0$  nm)

#### <Applications>

- Characterization of sources used in Laser Absorption Spectroscopy
- Characterization of broadband light sources such as Supercontinuum light sources
- Measurement of gas absorption spectra



## **AQ6377** Long wavelength model covering the MWIR region over 5 $\mu\text{m}$

### MWIR

- Wavelength range: 1900 to 5500 nm
- Wavelength accuracy:  $\pm 0.5$  nm
- Wavelength resolution setting: 0.2 to 5 nm
- Level range: +13 to -60 dBm
- Close-in dynamic range: 50 dB (peak  $\pm 5.0$  nm)

#### <Applications>

- Characterization of sources used in Laser Absorption Spectroscopy
- Characterization of broadband light sources such as Supercontinuum light sources
- Measurement of gas absorption spectra

# Related products

## **AQ6150 Series Optical Wavelength Meters**

The AQ6150 and AQ6151 Optical Wavelength Meters are fast, accurate and cost-effective instruments for carrying out measurements in the telecommunications wavelength range from 900 to 1700 nm.



## **AQ2200 Series Multi-Application Test System (MATS)**

The AQ2200 MATS is the ideal system for measuring and evaluating a wide range of optical devices and optical transmission systems.

A variety of measurement modules are available, including: high-stability light sources, high-speed optical sensors, high-resolution variable optical attenuators, low insertion loss optical switches, and optical transceiver interfaces. These modules can be installed in any combination on a single platform, providing an ideal measurement system for a variety of applications.



# Specifications and features

Model	AQ6370D	AQ6360	AQ6373B	AQ6374	AQ6375B	AQ6376	AQ6377	
Band	Optical communication	Optical communication	VIS	VIS & optical communication	exNIR	MWIR	MWIR	
Wavelength range (nm)	Min.	600	1200	350	350	1200	1500	1900
	Max.	1700	1650	1200	1750	2400	3400	5500
Wavelength accuracy (nm)	±0.1 (Full range) ±0.04 (1450 to 1520 nm) ±0.01 (1520 to 1580 nm)* ±0.02 (1580 to 1620 nm)	±0.1 (Full range) ±0.02 (1520 to 1580 nm) ±0.04 (1580 to 1620 nm)	±0.2 (Full range) ±0.05 (633 nm)	±0.2 (Full range) ±0.05 (633 nm) ±0.05 (1523 nm)	±0.5 (Full range) ±0.05 (1520 to 1580 nm) ±0.1 (1580 to 1620 nm)	±0.5 (Full range)	±0.5 (Full range)	
Wavelength linearity (nm)	±0.01 to 0.02	±0.02	—	—	—	—	—	
Wavelength resolution setting (nm)	Min.	0.02	0.1	0.01	0.05	0.05	0.1	0.2
	Max.	2	2	10	10	2	2	5
Maximum number of sampling	50001	50001	50001	100001	50001	50001	50001	
Measurement level range (dBm)	Max.	+20	+20	+10 (400 to 550 nm) +20 (550 to 1100 nm)	-10 (400 to 550 nm) -20 (550 to 1700 nm)	+20	+13	+13 typ.
	Min.	-60 (600 to 1000 nm) -80 (1000 to 1300 nm) -90 (1300 to 1620 nm)	-80 (1300 to 1620 nm)	-60 (400 to 500 nm, typ.) -80 (500 to 1000 nm, typ.) -60 (1000 to 1100 nm, typ.)	-70 (400 to 900 nm) -80 (900 to 1600 nm)	-62 (1300 to 1500 nm) -67 (1500 to 1800 nm) -70 (1800 to 2200 nm) -67 (2200 to 2400 nm)	-65 (1500 to 2200 nm) -55 (2200 to 3200 nm)	-40 (1900 to 2200 nm, typ.) -50 (2200 to 2900 nm, typ.) -60 (2900 to 4500 nm, typ.)
Level accuracy (dB)	±0.4	±0.5	±1.0	±1.0	±1.0	±1.0	±2.0 typ.	
Level linearity (dB)	±0.05	±0.1	±0.2	±0.2	±0.05	±0.2	—	
Level flatness (dB)	±0.1 to ±0.2	±0.2	—	—	—	—	—	
Polarization dependence (dB)	±0.05 to ±0.08	±0.1	—	±0.15	±0.1	—	—	
Dynamic range (dB)	50 (±0.1 nm, RES: 0.02 nm, typ.)* 78 (±1.0 nm, RES: 0.05 nm, typ.)*	40 (±0.2 nm, RES: 0.1 nm) 55 (±0.4 nm, RES: 0.1 nm)	60 (±0.5 nm, RES: 0.02 nm)	60 (±1.0 nm, RES: 0.05 nm)	45 (±0.4 nm, RES: 0.05 nm) 55 (±0.8 nm, RES: 0.05 nm)	40 (±1.0 nm, RES: 0.1 nm) 55 (±2.0 nm, RES: 0.1 nm)	50 (±5.0 nm, RES: 0.2 nm, typ.)	
	SMF	Yes	Yes	Yes	Yes	Yes	Yes	
Applicable fiber	GI	Yes	Yes	Yes	Yes	Yes	—	
	Large core	Yes	—	Yes	Yes	—	Yes	
Purge feature	—	—	—	Yes	Yes	Yes	Yes	
Built-in cut filter for high order diffracted light	—	—	Yes	Yes	Yes	Yes	Yes	
Light source for wavelength calibration	Yes	Yes	—	Yes	Yes	Yes	Yes	

\*High performance model

\*For more information about the features and specifications of the each product, please refer to the brochure (AQ6370SR-20EN, AQ6360-01EN).

## Yokogawa's Approach to Preserving the Global Environment

- Yokogawa's electrical products are developed and produced in facilities that have received ISO14001 approval.
- In order to protect the global environment, Yokogawa's electrical products are designed in accordance with Yokogawa's Environmentally Friendly Product Design Guidelines and Product Design Assessment Criteria.



WAVETEL PARIS / RENNES / LARMOR-PLAGE  
sales@wavetel.fr - +33(0)2 99 14 69 65



<https://tmi.yokogawa.com/>

YMI-KS-MI-SE07

### YOKOGAWA TEST & MEASUREMENT CORPORATION

Global Sales Dept. / Phone: +81-422-52-6237 E-mail: tm@cs.jp.yokogawa.com  
Facsimile: +81-422-52-6462

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### YOKOGAWA CORPORATION OF AMERICA

#### YOKOGAWA EUROPE B.V.

#### YOKOGAWA TEST & MEASUREMENT (SHANGHAI) CO., LTD.

#### YOKOGAWA ELECTRIC KOREA CO., LTD.

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#### YOKOGAWA ELECTRIC CIS LTD.

#### YOKOGAWA AMERICA DO SUL LTDA.

#### YOKOGAWA MIDDLE EAST & AFRICA B.S.C(c)

Phone: +1-800-888-6400 E-mail: tmi@us.yokogawa.com

Phone: +31-88-4641429 E-mail: tmi@nl.yokogawa.com

Phone: +86-21-6239-6363 E-mail: tmi@cs.cn.yokogawa.com

Phone: +82-2-2628-3810 E-mail: TMI@kr.yokogawa.com

Phone: +65-6241-9933 E-mail: TMI@sg.yokogawa.com

Phone: +91-80-4158-6396 E-mail: tmi@in.yokogawa.com

Phone: +7-495-737-78-68 E-mail: info@ru.yokogawa.com

Phone: +55-11-3513-1300 E-mail: tm@br.yokogawa.com

Phone: +973-17-358100 E-mail: help.ymatmi@bh.yokogawa.com Facsimile: +973-17-336100

Facsimile: +86-21-6880-4987

Facsimile: +82-2-2628-3899

Facsimile: +65-6241-9919

Facsimile: +91-80-2852-1442

Facsimile: +7-495-737-78-69

Facsimile: +973-17-336100