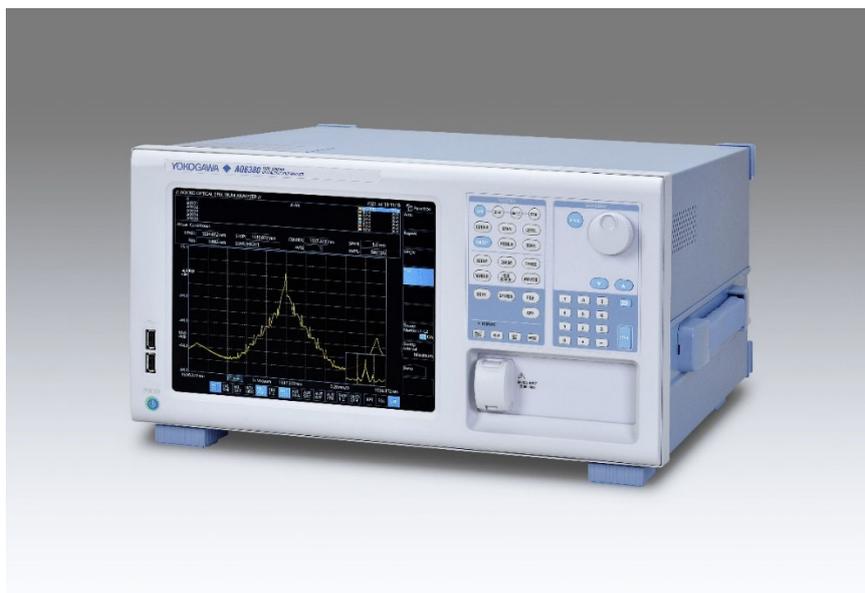


Tokyo, Japan - August 30, 2021

## Yokogawa Test & Measurement Releases AQ6380 Optical Spectrum Analyzer Industry-leading performance in dispersive spectroscopy achieves 5 pm wavelength resolution

Yokogawa Test & Measurement Corporation announces that it has developed the **AQ6380 optical spectrum analyzer** and will release it on August 31. The new model is designed for researchers and developers who undertake optical spectrum measurements with high wavelength resolution and a wide dynamic range in optical communication wavelength bands between 1200 nanometer (nm) and 1650 nm. The AQ6380 benchtop analyzer uses dispersion spectroscopy\*<sup>1</sup> and is the first instrument of its type in the industry\*<sup>2</sup> to achieve a wavelength resolution of 5 picometers (pm).

An optical spectrum analyzer is a measuring instrument that analyzes the optical wavelength components of optical devices such as semiconductor lasers and fiber lasers in order to evaluate wavelength characteristics. The AQ6380 will contribute to the research and development of devices and systems to meet the growing demand for high-capacity, high-speed optical communication networks.



AQ6380 Optical Spectrum Analyzer

### Development Background

Wavelength division multiplexing (WDM) technology is now widely used throughout high-capacity, high-speed optical communications networks, from backbones to access points, to meet the growing demand for such networks that is being driven by the expansion of communication services such as IoT, cloud computing, and 5G. In order to evaluate the characteristics and quality of the optical devices and optical components used in these networks, high-performance measuring instruments are essential. In particular, next-generation optical transceivers

and dense wavelength division multiplexing (DWDM) technology require even higher resolution and wider dynamic range.

The newly developed AQ6380 is a highly reliable optical spectrum analyzer that offers the performance to efficiently and effectively measure devices and systems used in the most demanding photonics applications. The product is based on the dispersion spectroscopy optical design technology and extensive experience in the optical measurement industry that Yokogawa Test & Measurement has cultivated since it entered the optical spectrum analyzer market in 1980.

## **Features**

### **1. Dispersion spectroscopy supporting a wide variety of applications**

Dispersion spectroscopy can cover a wide range of wavelengths and has features that can be applied to measurements of laser light and broadband light, and as such the AQ6380 can be used to evaluate the performance of laser light sources, broadband light sources, optical passive components, and other optical components and devices used in a wide variety of applications.

### **2. Industry-leading wavelength resolution and accuracy**

At 5 pm, the measurement resolution of the AQ6380 is four times that of the AQ6370D model, while its  $\pm 5$  pm wavelength accuracy is twice that of the preceding model. In addition, an automatic wavelength self-calibration function maintains a high level of wavelength accuracy. The AQ6380 can clearly observe the emission spectra of 10 GHz semiconductor lasers, which were previously difficult to observe. Both of these figures represent the best performance in the industry for a dispersion spectroscopy optical spectrum analyzer<sup>\*2</sup>.

### **3. High noise suppression ratio**

The AQ6380 has outstanding performance in suppressing noise caused by input light and achieves a noise suppression ratio of 80 dB. It offers rapid, high-dynamic-range laser side-mode measurement and other such measurements of optical spectra with level differences. This puts the AQ6380 in the top performance class in the industry for dispersion spectroscopy optical spectrum analyzers<sup>\*2</sup>.

### **4. Rapid measurement**

A new "RAPID" sensitivity mode that is specialized for continuous wave light measurement measures light spectra up to 20 times faster than the AQ6370D model under typical measurement conditions.

### **5. Improved operability and ease of use**

A large touchscreen with multi-touch support further improves intuitive operability. This enables users to perform actions such as changing measurement settings, performing measurements and analysis, and changing the optical

spectrum view as if using a tablet. Furthermore, a test application that navigates the user through a series of operations from setting measurement conditions to outputting analysis results specific to the measurement subject is also available. This enables users to use the AQ6380 without having to be concerned with a wide range of settings.

#### **6. Capable of measuring original optical spectrum**

The AQ6380 is equipped with a function that suppresses the absorption of light of a specific wavelength by removing the minute amount of water vapor from the air inside the monochromator. This enables measurement of the original optical spectrum of the light being measured.

#### **Major Target Markets**

Optical spectrum measurement in research and development of lasers for optical communication, optical transceivers, and optical communication devices

#### **Major Target Users**

Universities, research institutes, device manufacturers, and equipment manufacturers in the optical communication field

\*1 A technique whereby light is dispersed by passing it through a diffraction grating and then directed through a narrow opening to extract a specific range of wavelengths

\*2 According to research by Yokogawa Test & Measurement in August 2021

#### **About Yokogawa**

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Founded in Tokyo in 1915, Yokogawa continues to work toward a sustainable society through its 17,500 employees in a global network of 119 companies spanning 61 countries.

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