Optical Spectrum Analyzer

• Wavelength range: 600 to 1700nm
• High wavelength accuracy: ±0.01nm
• High wavelength resolution: 0.02nm
• Wide dynamic range: 78dB typ.
• Wide level range: +20 to -90dBm
• Fast measurement: 0.2 sec. (100nm span)
• Applicable to single-mode and multimode fibers

World-class Optical Performance

QUALITY  ■  INNOVATION  ■  FORESIGHT

For more information go to tmi.yokogawa.com

Bulletin AQ6370C-01EN
There are two models available, Standard and High performance. The High performance model provides even higher wavelength accuracy and dynamic range.

**High wavelength resolution:** 0.02nm

**High wavelength accuracy:** ±0.01nm
- High performance model: ±0.01nm (C band)
- Standard model: ±0.02nm (C+L band)

**Ultra-High dynamic range:** 78dB typ.

With the reduced stray-light in the monochromator, AQ6370C achieves ultra-high dynamic range of typ. 78dB.

**Wide level range:** ±20dBm to -90dBm

The AQ6370C can measure high power sources such as optical amplifiers and pump lasers for Raman amplifiers, and very weak optical signals as well. Measurement sensitivity can be chosen from seven categories according to test applications and measurement speed requirements.

**Improved level sensitivity:** -85dBm (1000 to 1300nm)

**Smoothing function**
Reduce noise on the measured spectrum.

**APC level correction**
The APC level correction function corrects the level offset caused by an insertion loss of angled PC connector.

**Fast measurement:** 0.2 sec. (100nm span)

With an advanced monochromator, faster electrical circuits, and noise reduction techniques, the AQ6370C can measure a 100nm wavelength span in 0.2 sec. even when measuring a steep spectrum from DFB-LD or DWDM signals, or when measuring a low power signal from a broadband light source.

**Wide Span Sweep yet High Resolution**
The 50,001 data sampling points expands measurement range in a single sweep while keeping a high wavelength resolution. This makes your measurement easier and more efficient than conventional systems.
**Easy Operation**

**Trace zooming**
- Change display conditions, such as center wavelength and span, by clicking and dragging the mouse.
- Enlarge your area of interest instantly and move it at will.

**Mouse & Keyboard operation**
- Front panel operation proven intuitive and easy to use by our many of users.
- Even easier with a mouse.
- The keyboard helps enter labels and file names.

**Easy Data Handling**

**USB storage**
USB interfaces support large-capacity removable memory and hard disk drives.

**512MB Internal memory**
- NEW
  - for over 20,000 traces.

**All-at-Once trace filing**
- NEW
  - All seven traces can be saved in one file at once.

**Various Analysis Functions**

**7 individual traces**
- Simultaneous multi-trace display
- Calculation between traces (subtraction between traces)
- Max/Min hold

**13 spectral analysis functions**
for popular applications, such as:
- Spectral width analysis
- WDM (OSNR) analysis
- WDM-NF (EDFA) analysis
- DFB-LD analysis
- Various filter analysis
With the macro programming, multiple analyses can be combined and executed automatically.

**Building Automated Test System**

**Macro Programming**
- Build a simple auto-measurement system without an external controller.
- Easy to create test program by recording the user’s actual key strokes and parameter selections.

**Fast remote Interfaces**
- GP-IB, RS-232, and Ethernet (10/100Base-T) interfaces
- Improve the testing throughput of test systems by the fast measurement, command processing, and data transfer speed.
- SCPI compatible commands and AQ6317 Emulation Mode
- LabVIEW® Driver available

**Easy to Keep Accurate**

**Ambient condition change, vibration and shock to an optical precision product, like an optical spectrum analyzer, will affect the optical components, and eventually degrade optical performance. Using standard functions, the AQ6370C can maintain its high optical performance within a couple of minutes so that you can quickly start a measurement.**

**Built-in wavelength reference source**
- The AQ6370C comes equipped with a wavelength reference source for the wavelength calibration and optical alignment.

**Wavelength calibration function**
- Automatically calibrates with the built-in wavelength reference or an external light source, to ensure the wavelength accuracy.

**Applications**

AQ6370C’s overall high performance can cover not only manufacturing of optical devices and optical transmission systems but also research and development, and a variety of other applications.
- **Optical active devices**
  - (Laser diode/Fiber laser/Optical amplifier/Optical transceiver)
- **Optical passive devices**
  - (Filter/ FBG/AWG/WSS/ROADM/Optical fiber)
- **Optical transmission equipment** (DWDM, CWDM)
- **Development support of Applied photonics equipment**

**OSNR measurement on DWDM system**
AQ6370C’s wide close-in dynamic range allows accurate OSNR measurement of DWDM transmission systems. The built-in WDM analysis function analyzes the measured waveform and shows peak wavelength, peak level and OSNR of WDM signals up to 1024 channels simultaneously.

**Optical amplifier (EDFA) measurement**
- The ASE interpolation method is used to measure gain, NF, and key parameters for optical fiber amplifier evaluation. With WDM-NF analysis function, up to 1024 channels of multiplexed signals can simultaneously be tested. An ASE level for NF measurements is calculated by using a curve-fit function for each WDM channel.
**Major Specifications**

<table>
<thead>
<tr>
<th>Items</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength range</td>
<td>400 to 1700 nm</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>+18 to +28 °C</td>
</tr>
<tr>
<td>Power requirement</td>
<td>100 to 240 VAC, 50/60 Hz, approx. 150 VA</td>
</tr>
<tr>
<td>Minimum sampling resolution</td>
<td>0.01 nm</td>
</tr>
<tr>
<td>Number of sampling</td>
<td>101 to 50001, AUTO</td>
</tr>
<tr>
<td>Display resolution</td>
<td>0.1 nm</td>
</tr>
<tr>
<td>Resolution correction</td>
<td>OFF</td>
</tr>
<tr>
<td>Built-in calibration light source</td>
<td>Wavelength reference source (For optical alignment and wavelength calibration)</td>
</tr>
</tbody>
</table>

**Model and suffix code**

<table>
<thead>
<tr>
<th>Model</th>
<th>Suffix code</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>AQ6370C</td>
<td>-10</td>
<td>Standard</td>
</tr>
<tr>
<td>AQ6370C</td>
<td>20</td>
<td>High performance</td>
</tr>
</tbody>
</table>

**Power cord**

- D: UL/CSA Standard
- F: VDE Standard
- R: AS Standard
- Q: BS Standard
- H: GB Standard

**Factory installed options**

- IF: AQ9447(FC) Connector adapter
- IS: AQ9447(SC) Connector adapter
- IF: AQ9441(FC) Universal adapter
- IS: AQ9441(SC) Universal adapter
- IB: Built-in thermal printer

**Accessories (optional)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Suffix code</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>735371</td>
<td></td>
<td>AQ6370 Viewer (Including AQ6370, AQ6370B, AQ6370C, AQ6375, and AQ6373 Viewers)</td>
</tr>
<tr>
<td>810804002</td>
<td></td>
<td>AQ9447 Connector Adapter</td>
</tr>
<tr>
<td>813917321</td>
<td></td>
<td>AQ9441 Universal Adapter</td>
</tr>
<tr>
<td>751535-E5</td>
<td></td>
<td>19 inch Rack mount kit</td>
</tr>
<tr>
<td>89988AE</td>
<td></td>
<td>Printer roll paper (10 m roll, 10 rolls/1 unit)</td>
</tr>
</tbody>
</table>

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1. Horizontal scale: Wavelength display mode.
2. With 5.125 µm single mode fiber with a PC type connector, after 1 hour of warm-up, after optical alignment with built-in reference light source.
3. Vertical scale: Absolute power display mode, Resolution setting ±0.05 nm, Resolution correction: OFF.
4. Suitable for peak wavelength ±2 nm.
5. Vertical scale: Absolute power display mode, Resolution setting ±0.05 nm, Resolution correction: OFF.
6. Temperatures condition changes to +1.0 °C at 0.05 nm resolution setting.
7. High dynamic mode: OFF, Pulse light measurement mode: OFF, TILS sweep: ON, Resolution correction: OFF.
8. Resolution setting: ±0.05 nm, Resolution correction: OFF.
9. When using YOKOGAWA’s master single mode fiber with an angled PC connector. Type: 15dB with PC connector.
10. Some AQ6317 series commands may not be compatible due to changes in specifications or functions.
11. Liquid crystal display may include few defective pixels (within 0.002% with respect to the total number of pixels including RGB). There may be few pixels on the liquid crystal display that do not emit all the time or remains ON all the time. These are not malfunctioning.

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* *Typical* or *Typ.1* in this document means “Typical value,” which is for reference, not guaranteed specification.