

S6362D Optical Spectrum Analyzer

Datasheet



Saluki Technology Inc.

The document applies to the optical spectrum analyzer of the following models:

- S6362D optical spectrum analyzer (600nm - 1700nm)

Standard pack and accessories:

| No. | Item |
|-----|------------------------|
| 1 | Main machine |
| 2 | Power cord |
| 3 | Certificate of quality |

Options of the optical spectrum analyzer in addition to standard accessories:

| Model No. | Description | Function |
|------------|---------------------------------|--|
| S6362D-S02 | High Accuracy Analysis Software | Optimized wavelength measurement accuracy and dynamic range: Wavelength accuracy: $\pm 10\text{pm}$ (1520nm to 1580nm) Dynamic range: better than 75dB (Typ: 76dB) |
| S6362D-H02 | Build-in Source | Type: SLED Power: $\geq 1\text{mW}$ Center Wavelength: 1310nm/1490nm/1550nm (Selectable) |
| S6362D-H03 | Build-in Source | Type: SLED + C2H2 absorption tank for higher calibration Power: $\geq 1\text{mW}$ Center Wavelength: 1550nm |

Preface

Thank you for choosing S6362D optical spectrum analyzer produced by Saluki Technology Inc.

We devote ourselves to meeting your demands, providing you high-quality measuring instrument and the best after-sales service. We persist with “superior quality and considerate service”, and are committed to offering satisfactory products and service for our clients.

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Saluki Technology

Document Authorization

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Product Quality Assurance

The warranty period of the product is three years from the date of delivery. The instrument manufacturer will repair or replace damaged parts according to the actual situation within the warranty period.

Product Quality Certificate

The product meets the indicator requirements of the document at the time of delivery. Calibration and measurement are completed by the measuring organization with qualifications specified by the state, and relevant data are provided for reference.

Quality/Settings Management

Research, development, manufacturing and testing of the product comply with the requirements of the quality and environmental management system.

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Content

| | |
|----------------------------------|---|
| 1. Overview..... | 5 |
| 2. Main Characteristics..... | 5 |
| 3. Typical Applications..... | 9 |
| 4. Technical Specifications..... | 9 |

1. Overview

Saluki S6362D is a high-resolution, large-dynamic, high-speed, high-performance optical spectrum analyzer. It is perfect for testing 600 nm to 1700 nm optical systems, such as DWDM and optical amplifiers; It can also be used for optical active and passive device testing, such as LED, FP-LD, DFB-LD, optical transceivers and optical fibers and fiber gratings and other optical devices.

2. Main Characteristics

Key Features

- 20 pm minimum spectrum resolution
- 600nm to 1700nm spectrum scanning range
- 76dB large dynamic range
- -90dBm sensing sensitivity
- Support spatial light input
- Built-in light source output configuration
- Powerful spectrum data analysis function for multiple applications
- 12.1-inch touch screen

20 pm Minimum Spectrum Resolution

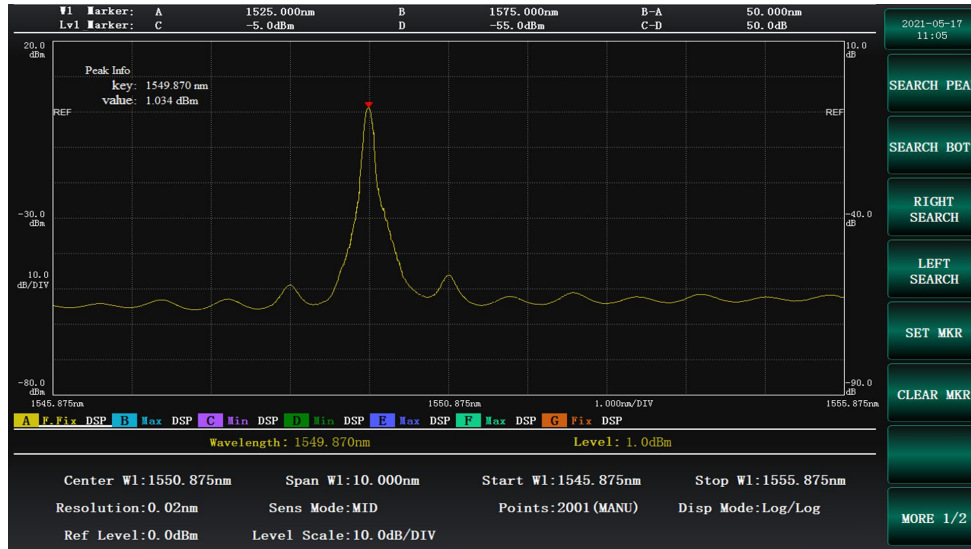
S6362D optical spectrum analyzer supports different resolution settings with flexible switching methods. The minimum spectrum resolution is better than 20pm.



Different Spectrum Resolution

Peak Resolution

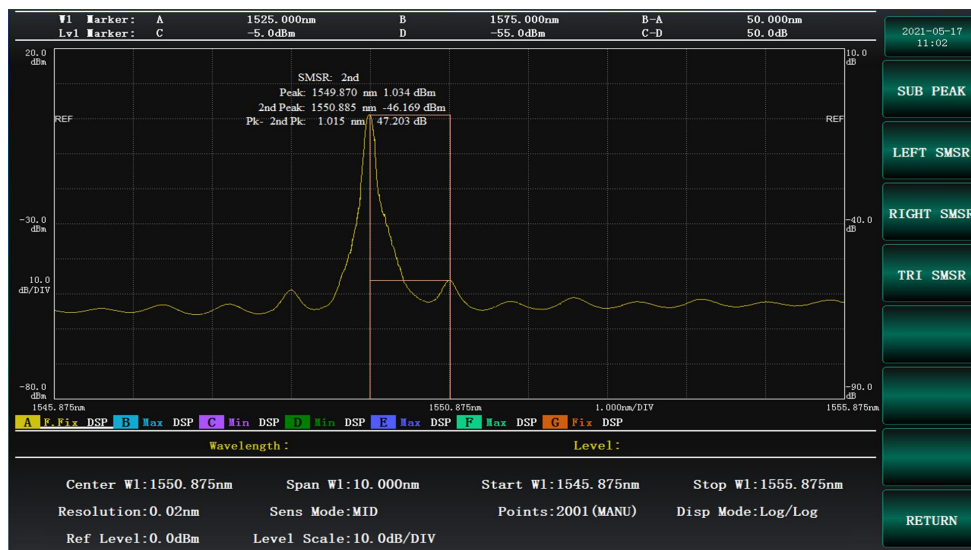
S6362D optical spectrum analyzer adopts the spectral adaptive peak retrieval algorithm. The peak retrieval accuracy is high. The adaptability and robustness are strong, and the calculation speed is very fast.



Spectrum Peak Searching

Single Longitudinal Mode Laser Spectrum Analysis

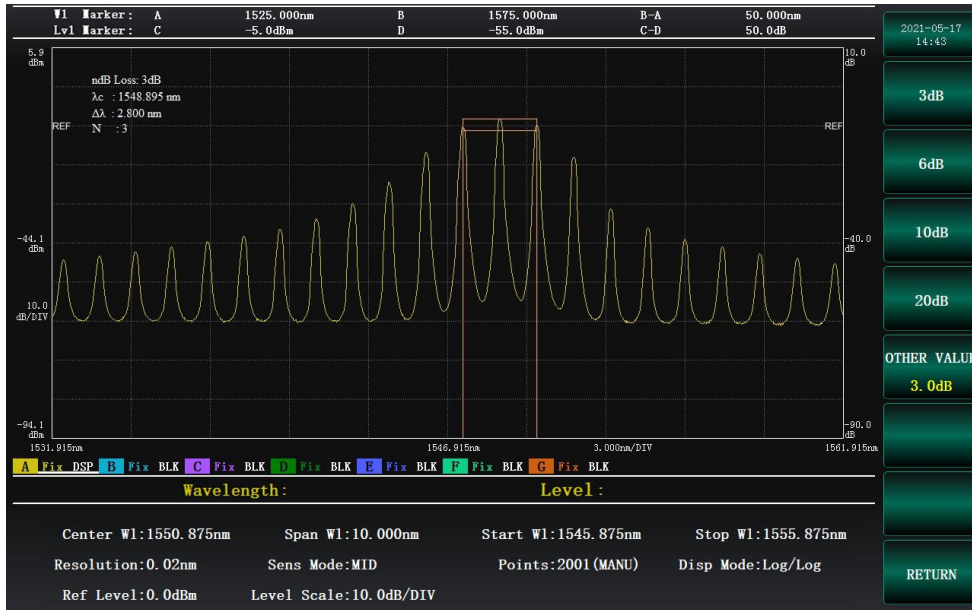
S6362D spectrum analyzer has multi-scenario spectrum analysis functions. For single longitudinal mode laser light sources such as DFB-LD, the instrument provides two analysis methods of threshold analysis and side mode suppression ratio analysis. These methods can effectively and accurately evaluate the center wavelength, spectrum bandwidth and side mode suppression ratio of the single longitudinal mode light source to be measured.



DFB-LD suppression ratio analysis

Multi-longitudinal Mode Laser Spectroscopy

For multi-longitudinal mode laser sources such as FP-LD, the S6362D optical spectrum analyzer provides three analysis methods: ndB loss analysis, envelope analysis and root mean square analysis. These methods can comprehensively evaluate the center wavelength and bandwidth of the multi-longitudinal mode light source to be measured.



Center wavelength and bandwidth test based on ndB Loss Method



Center wavelength and bandwidth test based on envelope analysis

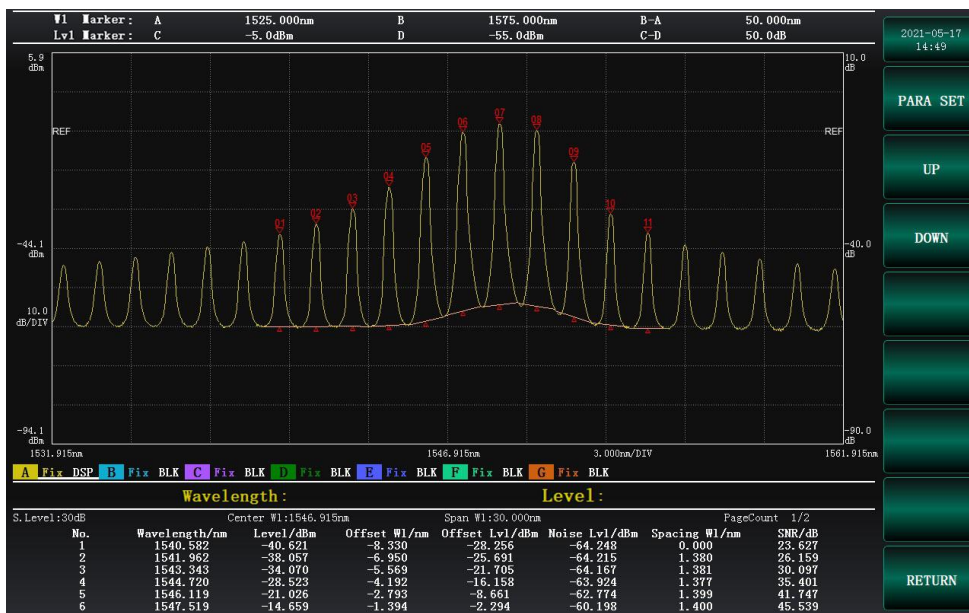


Center wavelength and bandwidth test based on root mean square analysis

Various Optoelectronic Device Application Analysis Functions

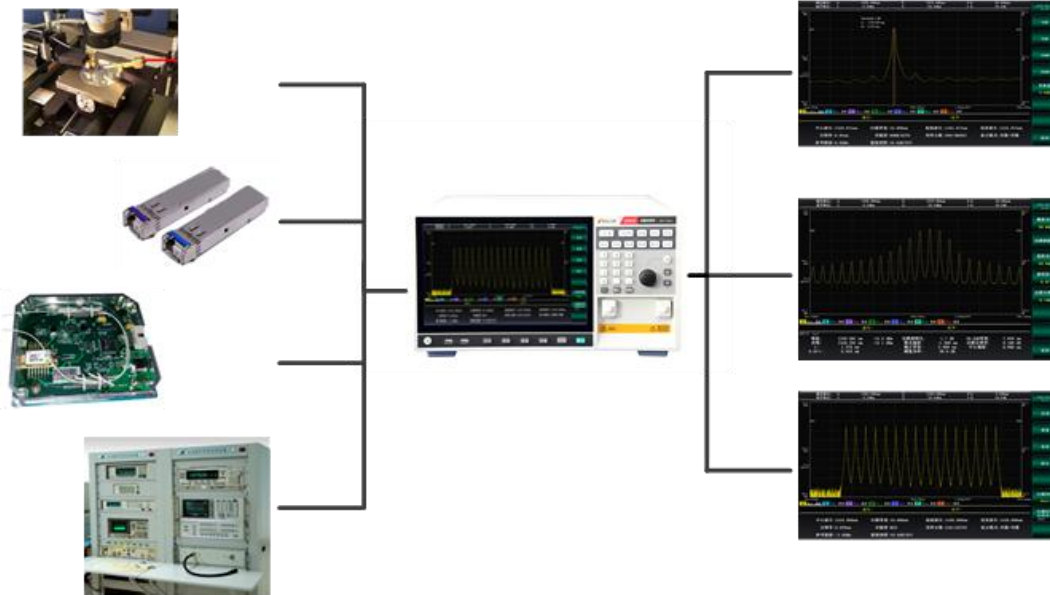
The S6362D spectrum analyzer can perform one-key test and analysis of various types of lasers such as LED, FP-LD, DFB-LD, and LD modules. It can realize batch processing for all test items.

In addition to semiconductor laser light source spectral measurement applications, the instrument also integrates optical fiber polarization mode dispersion measurement applications, wavelength division multiplexing applications, fiber amplifier applications, wavelength division multiplexing filter applications, wavelength division multiplexing fiber amplifier applications and other spectrum application functions. The figure below is a typical WDM application analysis.



3. Typical Applications

Spectrum parameter test and analysis for optical ICs, FP-LD, DFB-LD, optical transceiver modules, optoelectronic systems and so on.



4. Technical Specifications

| Items | Specifications |
|--------------------------------------|--|
| Spectral Range | 600 - 1700 nm |
| Scan Span | 0.2 nm to 1100 nm (full span), 0 nm |
| Wavelength Accuracy | ±0.02 nm (1520nm to 1620nm) ±0.04 nm (1450nm to 1520nm) ±0.10 nm (full span) |
| Wavelength Linearity | ±0.01nm (1520 - 1580 nm) |
| Wavelength Repeatability | ±0.005nm (2 minutes) |
| Wavelength Resolution Setting | 0.02, 0.05, 0.1, 0.2, 0.5, 1, 2 nm |
| Minimum Sampling Resolution | 0.001 nm |
| Sampling Points | 101 to 50001, AUTO |
| Power Sensitivity Settings | NORMAL, MID, HIGH1, HIGH2 and HIGH3 |
| Power Sensitivity | -90 dBm (1300 to 1620nm) -85 dBm (1000 to 1300nm) -60 dBm (600 to 1000nm) (Sensitivity: HIGH3) |
| Maximum Input Power | +20 dBm (per channe, full wavelength band) |
| Maximum Safe Input Power | +25 dBm (Total input power) |
| Power Accuracy | ±0.4 dB (1310/1550nm, input power: -20dBm, sensitivity: MID) |

| | |
|-------------------------------------|--|
| Power Linearity | ± 0.05 dB (input power: -50dBm to +10dBm) |
| Power Flatness | ± 0.1 dB (1520nm to 1580nm) ± 0.2 dB (1450nm to 1520nm, 1580nm to 1620nm) |
| Polarization Dependence | ± 0.05 dB (1550nm), ± 0.08 dB (1310nm) |
| Dynamic Range | Resolution: 0.02 nm 60dB (peak ± 0.2 nm), 46dB (peak ± 0.1 nm) |
| | Resolution: 0.05 nm 73dB (peak ± 1.0 nm), 63dB (peak ± 0.4 nm), 52dB (peak ± 0.2 nm) |
| | Resolution: 0.1 nm 60dB (peak ± 0.4 nm), 46dB (peak ± 0.2 nm) |
| Stray Light Suppression Rate | 76dB |
| Optical Return Loss | 35dB (using APC connectors) |
| Applicable Fiber Type | SM (9.5/125um), GI (50/125um, 62.5 um, 125um), Large core diameter fiber (maximum 200um) |
| Optical Output Options | Standard C-band DFB calibration light source DFB/FP light source (standard 1550nm, other wavelengths are optional) SLED light source (band range optional), SLED+C2H2 light source Other light source type accessories can be customized |
| Displaying | 12.1 inch touch screen |
| Storage | 128GB |
| Instrument Interface | USB/Ethernet/GPIB/RS232C/VGA |
| Working Conditions | Working Temperature: 0°C to 40°C; Humidity: $\leq 80\%$ Performance guarantee temperature: 18°C to 28°C |
| Dimensions | Width \times Height \times Depth = 426mm \times 221mm \times 450mm |
| Weight | 19kg |
| Power Supply | 100~240VAC, 50/60Hz |
| Maximum Power Consumption | 100W |

Remarks: Wavelength calibration and optical axis alignment can be performed with an external light source.

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