Key Features

- Industry 1st handheld OSA with smart display for FOTE
- Bluetooth, WiFi, & 4G equipped
- Touch screen with smart (Android) display – easy for user-specific App-on
- Wide selections of performance and wavelength coverage to satisfy different applications
  - C-, C+L, O-, and Full-Band
  - Standard or High Spectral Resolution
- Rugged design for field application

Applications

- Optical spectral characterization of high speed DWDM and CWDM optical transmission networks
- Performance verification in metro- and access networks
- FTTx network installation, maintenance and trouble-shooting
- Fiber deployment and field testing
- Laser and light source characterization
- Optical spectral characterization for transceivers
- Test and measurement in R&D Labs
- Optical spectral analyzing in NIR optical spectroscopic instrumentation

Key Benefits

- Built with smart (Android-based) display that is detachable from the OSA base-unit to provide the flexibility for ease of use in various application environment
- The optical engine (OSA base unit) communicates with the smart display via Bluetooth
- It can be pre-programmed to perform smart monitoring and measurements
- The smart display is equipped with WiFi and 4G, enabling cloud-based data and service management
- Users can easily make and use Apps to satisfy their special applications
General Description

Optoplex’s handheld optical spectrum analyzer (OSA) is the first “smart” – inspired by Android smart-device – handheld OSA in the industry. The OSA is equipped with an Android tablet for data processing, analysis, display and communications.

The Android tablet is a detachable unit which is click-mounted on the base (optical engine). The Android tablet communicates with the optical engine via Bluetooth when it de-attached from the handheld base. This feature provides the users a great flexibility when working on field or in an environment where the point of the network to be monitored/serviced has limited access.

Optoplex’s OSA is based on tunable-filter technology that offers high performance, fast scanning speed and compact in size. A wide selection of the OSAs is available with different performance specifications and wavelength coverage to meet your demanding applications.

In addition to the standard OSAs, as shown in Table-1, a high spectral resolution design will be released soon. The high resolution OSA provides a spectral resolution as small as 15pm in C-band or C+L band. High spectral resolution designs for other wavelength coverage, such as O-Band, Full-Band, please contact Optoplex for details.

Key end-users of the handheld OSA in FOTE market include telecommunication companies and carriers, enterprises, cable television service providers, government and defense, fiber optic component and cable manufacturers, and independent research laboratories.

Figure 2, Typical spectra of a C+L band OSA

Figure 3, The FWHM of a C+L band OSA is about 0.3nm

A full-band version with wavelength coverage from 1250 ~ 1650nm is available with FWHM of 4nm.
# Performance Specifications of Optoplex Handheld OSA

## Table 1. Optical Performance Specification

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unit</th>
<th>C-Band</th>
<th>C+L Band</th>
<th>O-Band</th>
<th>Full-Band</th>
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<tbody>
<tr>
<td><strong>Model</strong></td>
<td>/</td>
<td>OSA-50</td>
<td>OSA-100L</td>
<td>OSA-100S</td>
<td>OSA-500</td>
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<tr>
<td><strong>Spectral Measurement</strong></td>
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<tr>
<td>Wavelength Range</td>
<td>nm</td>
<td>1525 - 1570</td>
<td>1525 - 1610</td>
<td>1260 - 1360</td>
<td>1250 - 1650</td>
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<tr>
<td>Resolution Bandwidth (FWHM)</td>
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<td>0.35</td>
<td>0.4</td>
<td>4.0</td>
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<tr>
<td>Wavelength Accuracy</td>
<td>nm</td>
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<td>0.08</td>
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<td>Wavelength Repeatability</td>
<td>pm</td>
<td>± 10</td>
<td>± 15</td>
<td>± 20</td>
<td>± 100</td>
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<tr>
<td>Wavelength Readout Resolution</td>
<td>pm</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>5</td>
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<tr>
<td>Wavelength Linearity</td>
<td>nm</td>
<td>± 0.01</td>
<td>± 0.01</td>
<td>± 0.01</td>
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<tr>
<td><strong>Power Measurement</strong></td>
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<tr>
<td>Power Accuracy</td>
<td>dB</td>
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<td>± 1.0</td>
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<tr>
<td>Power Repeatability⁄</td>
<td>dB</td>
<td>± 0.1</td>
<td>± 0.1</td>
<td>± 0.1</td>
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<tr>
<td>Power Readout Resolution</td>
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<td>± 0.05</td>
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<tr>
<td>Power Linearity</td>
<td>dB</td>
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<td>± 0.1</td>
<td>± 0.1</td>
<td>± 0.1</td>
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<td><strong>General Specifications</strong></td>
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<tr>
<td>Scanning Time</td>
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<td>1</td>
<td>2</td>
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<tr>
<td>Power Consumption</td>
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<td>1.5, typical</td>
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<td>Electronics Interface</td>
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<td>Mini USB</td>
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</table>

**Notes:**

1) The above table shows the optical performance specification of the standard design. Optoplex does have a high spectral resolution design of the handheld OSA with a spectral resolution down to 15pm. Contact Optoplex for details.

2) 15 minutes short term
General Specifications

Display
Android-based smart display

Optical Interface
Optical connector interchangeable from BN2150/00.xx range

Power Supply
4 AA dry batteries, 1.5V; or NiMH rechargeable cells, AA, 1.2V
AC line operation via separate AC adaptor

Electromagnetic Compatibility
IEC61326 CE Conformance

Calibration
Suggested calibration interval 1 years

Temperature Range
Operation 10°C ~ +50°C
Storage -40°C ~ +80°C

Dimension and Weight
Dimension 95 x 60 x 195mm
Weight 520 g

Ordering Information

<table>
<thead>
<tr>
<th>Operating Wavelength Range</th>
<th>Model Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-Band</td>
<td>OSA-50C</td>
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<tr>
<td>L-Band</td>
<td>OSA-50L</td>
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<tr>
<td>C+L Band</td>
<td>OSA-100L</td>
</tr>
<tr>
<td>O-Band</td>
<td>OSA-100S</td>
</tr>
<tr>
<td>Full-Band</td>
<td>OSA-500</td>
</tr>
</tbody>
</table>

A high-spectral resolution version for each above wavelength coverage is available. The spectral resolution can be down to 15 pm.

Contact Optoplex for details.

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