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
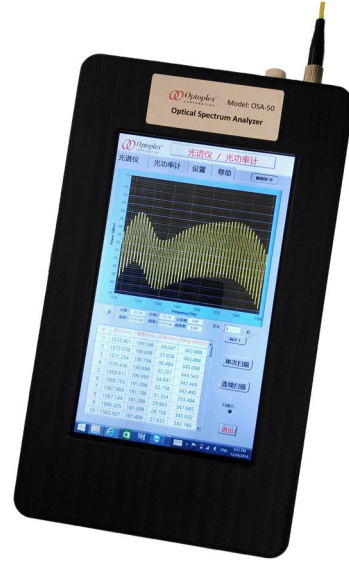- Rugged design for field application

Figure 1, Portable smart OSA based on Windows, with built-in Bluetooth, WiFi, and 4G

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

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.
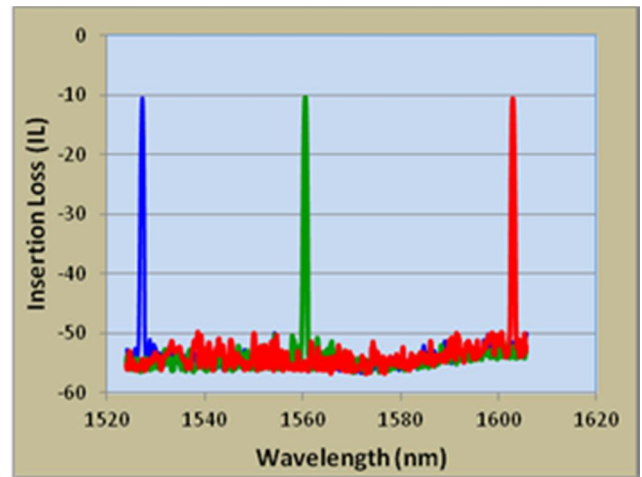

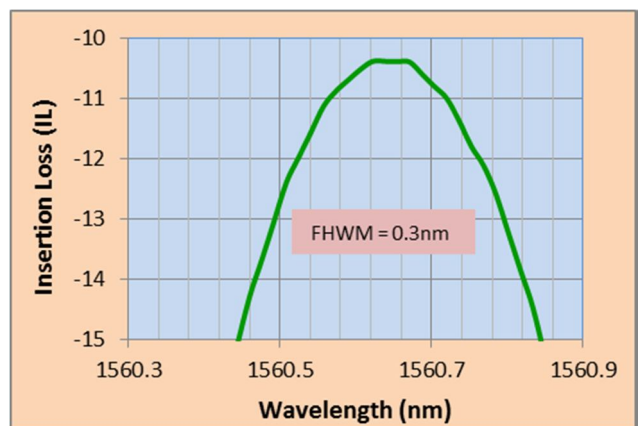*Figure 2, Typical spectra of a C+L band OSA*

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 [1]

Parameter	Unit	C-Band	C+L Band	O-Band	Full-Band
Model	/	OSA-50	OSA-100L	OSA-100S	OSA-500
Spectral Measurement					
Wavelength Range	nm	1525 – 1570	1525 - 1610	1260 – 1360	1250 – 1650
Resolution Bandwidth (FWHM)	nm	0.20	0.35	0.4	4.0
Wavelength Accuracy	nm	0.05	0.08	0.1	1.0
Wavelength Repeatability	pm	± 10	± 15	± 20	± 100
Wavelength Readout Resolution	pm	1	1	1	5
Wavelength Linearity	nm	± 0.01	± 0.01	± 0.01	± 0.01
Power Measurement					
Dynamic Range	dB	+20 ~ -55	+20 ~ -55	+23 ~ -55	+20 ~ -55
Power Accuracy	dB	± 0.5	± 0.5	± 0.5	± 1.0
Power Repeatability[2]	dB	± 0.1	± 0.1	± 0.1	± 0.1
Power Readout Resolution	dB	± 0.05	± 0.05	± 0.05	± 0.05
Power Linearity	dB	± 0.1	± 0.1	± 0.1	± 0.1
General Specifications					
Scanning Time	s	0.5	1	1	2
Power Consumption	W	1.5, typical			
Electronics Interface		Mini USB			

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 $10^oC \sim +50^oC$
Storage $-40^oC \sim +80^oC$

Dimension and Weight

Dimension   95 x 60 x 195mm
Weight   520 g

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Ordering Information

Operating Wavelength Range	Model Number
C-Band	OSA-50C
L-Band	OSA-50L
C+L Band	OSA-100L
O-Band	OSA-100S
Full-Band	OSA-500

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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