

# WAVEANALYZER 400A

## Optical Spectrum Analyzer

The WaveAnalyzer 400A is a compact Optical Spectrum Analyzer for testing optical signals in the C- and in the C+L band of optical communications. The instrument has been designed for Research & Development purposes as well as for Production Applications.

- The WA 400A uses coherent detection technology and can display the x- and the y-Polarization separately.
- The instrument is very compact with only half a rack width and a height of 1U.
- The detachable sub-panel on the front allows easy cleaning of the internal connector.

The WA 400A can be connected through an Ethernet port to Local Area Networks and allows signal monitoring and data gathering or simply remotely controlling either via the internal webserver which can be accessed by any browser or through the integrated RESTful Application Programming Interface (API). The WA 400A supports both acquiring the IP address through DHCP and setting a fixed address.



## FEATURES

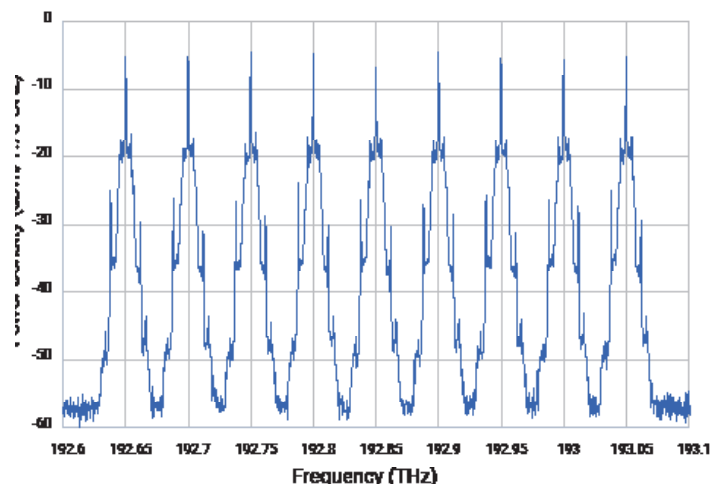
- Product versions available for
  - C-band
  - C+L band
- Resolution bandwidth: <500 MHz
- Fast: 2 scans / second
- Dual Polarization detection
- Ethernet Interface
- Internal WebServer
- Compact, no moving parts

## APPLICATIONS

- Optical system test
- DWDM testing
- Channel power and OSNR testing
- Production floor: High throughput
- component test

The WA 400A integrates with Coherent’s well-known WaveAnalyzer PC software. This package offers a variety of analysis functions including Optical Signal to Noise Ratio (OSNR) measurement, Side Mode Suppression Ratio (SMSR) measurement, Multi-Channel (WDM-) Analysis, Peak detection, etc.

The WA 400A offers a resolution bandwidth down to below 500 MHz (Full Width Half Maximum). This allows display of fine spectral details like modulation sidebands as well as measurement of the noise floor between densely spaced channels – as shown in the measurement trace below. The coherent detection technology of the instrument provides separate measurements of the x- and the y-polarization – supporting analysis of dual polarization transmission schemes.



50 GHz spaced 10G DWDM channels modulated with a PRBS of 231-1 bits. The high resolution capability of the WA 400A allows accurate measurement of the noise floor between the channels.

**Specifications (preliminary)** Specifications are guaranteed except where stated as typical (typ).

		WA 400A / C-band		WA 400A / C+L band	
Spectral	Frequency Range	191.1 to 196.2 THz (1527.8 to 1568.8 nm)		186.2 to 196.2 THz (1527.8 to 1610.05 nm)	
	Spectral Sampling Resolution	312.5 MHz			
	Resolution Bandwidth (FWHM)	<500 MHz			
	Absolute Frequency Accuracy (1)	+/- 1 GHz			
	Frequency Repeatability (sweep to sweep)	200 MHz			
	Measurement Update Rate Full scan	2 updates / s			
Power	Max Total Power	27 dBm			
	Max Power Density	+11.5 dBm / 1.75 GHz		+14.5 dBm / 1.75 GHz	
	Noise floor	-57.5 dBm / 1.75 GHz		-54.5 dBm / 1.75 GHz	
	Relative Power Accuracy	+/-0.5 dB (2)			
Mechanical, Electrical and Environment	Operating Temperature	15°C to 35°C			
	Operating Humidity	10% to 85%			
	Communications Interface	Ethernet			
	Power Consumption	100 V - 240 V; <20 VA			
	Connector Type	FC/APC			
	Size (width x depth x height)	221 mm x 221 mm x 44 mm (height with feet: 51 mm)			
	Weight	1.5 kg			

Notes:

- (1) Valid within recommended recalibration period
- (2) Guaranteed when using an ASE source and setting Resolution Bandwidth to 1.75 GHz

Part Number	Description
WA-00400A-C-S-1-AA-00	WaveAnalyzer 400A Optical Spectrum Analyzer, benchtop, C-band, FC/APC Connector
WA-00400A-X-S-1-AA-00	WaveAnalyzer 400A Optical Spectrum Analyzer, benchtop, C+L band, FC/APC Connector