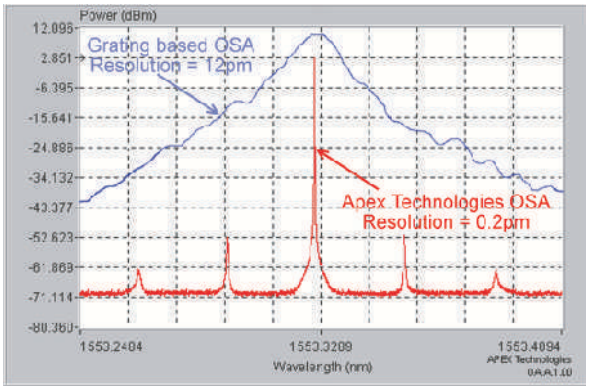
OGA1040 Optical Spectrum Analyzer Module

Ultra high resolution optical spectrum analyzer module for AP1040A mainframe



General

The OGA1040 Optical Spectrum Analyzer is a module for the AP1040A main frame. Based on an interferometric method this spectrum analyzer offers a wavelength resolution 50 times higher than the best grating based OSA at a very high dynamic range.

Including an absolute and relative wavelength calibrator, this module has a wavelength accuracy of +/3pm.

With the OPI1040 polarization option, the OSA becomes polarization independent

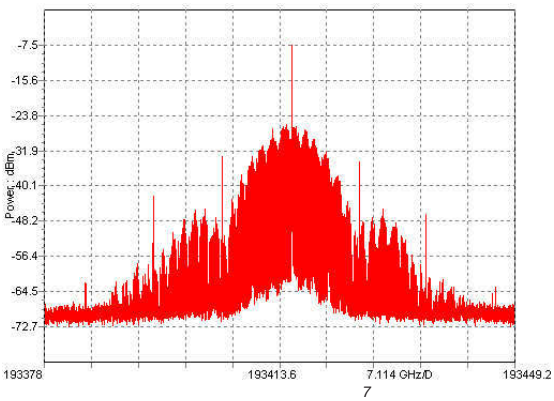
With this breakthrough in spectrum analysis, it is now possible to measure Ultra-DenseWDM spectrums and tunable laser sources and transmitters behaviour.

Features

- Ultra high resolution (<0.25pm)
- High dynamic range
- Short measurement time
- Polarization independent
- High absolute wavelength accuracy : +/-3pm

Applications

- Modulated spectrum analysis
  Now you can, with this new technology, observe and measure side-bands of modulated signals at 155Mb/s, 622Mb/s, 2.5Gb/s, 10Gb/s and higher bit rates.
- Ultra-DenseWDM channel measurements
  To increase system capacity, DWDM systems become denser. With the OGA1040, you can now measure accurately Ultra-DenseWDM channels behaviour to reduce crosstalk and filtering problems.
- Tunable lasers and transmitters characterization
  Most new transmission systems are using tunable lasers for a better flexibility. But tunable lasers have cavity modes close to their main peak. With this Apex Technologies OSA, you can measure these cavity modes.
- Wavelength monitoring
  The +/-3pm absolute accuracy and fast measurement capabilities makes the OGA1040 the ideal product for accurate channel monitoring.



10Gb/s PRBS signal (2 -1)
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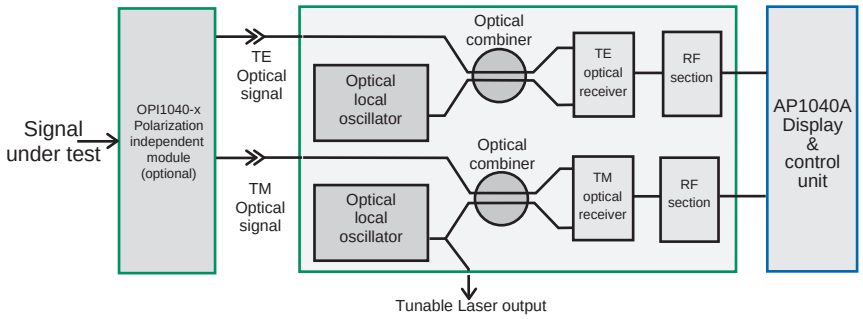
Specifications

Wavelength measurement range		1520nm to 1630nm
Wavelength absolute accuracy		+/-3pm (After calibration)
Wavelength resolution (at 3dB)		20MHz (0.16pm) and 100MHz (0.8pm)
Span range		0.025nm to 110nm
Measurement level range		-70dBm to +20dBm
Level accuracy		+/-0.4dB
Level repeatability (Typ.)		+/-0.2dB
Dynamic range	Without local oscillator sidebands	60dB @ +/-1.7pm and 70dB @ +/-15pm
	With local oscillator sidebands	44dB @ +/-50pm and 65dB @ +/-200pm
Polarization dependency	OGA1040 alone	Polarization dependent (Fix polarization state necessary for a good power measurement)
	OGA1040 with OPI1040	Polarization independent
Sweep time (1)		10s for 110nm span
Software functionalities		Automatic measurement, Auto span, Zoom to Scale transfer function, Auto Calibration function, Display points up to 20000pts, Full screen display, Peak search function, Analysis functions.
Display capabilities	X Scale	Wavelength or Frequency
	Y Scale	Power in Linear or Logarithmic
Optical input	OGA1040 alone	2 FC/PC for PM fiber
	OGA1040 with OPI1040	FC/PC connector for single mode fiber
Tunable laser optical output		-7dBm
Internal absolute wavelength calibrator		Yes

(1) For 100MHz resolution

Principle

The OGA1040 module offers a resolution better than 0.25pm by mixing the signal under test with the signal of an integrated high-quality tunable laser (optical local oscillator).



OPI option

The OGA1040 module is polarization dependent and requires a fixed polarization state for accurate optical power measurements. The OPI1040 is a 1x2 optional module and separates the TE and TM polarization axes of the signal under test. After this, the two signals are connected to the two optical input ports of the OGA1040 with PM patchcords. With this setup the spectrum analysis measurement becomes polarization independent. The OPI1040 enables the possibility to display the optical spectrum of the TE polarization axis and the TM polarization axis individually as well as the combined optical spectrum (TE+TM).

Ordering information

OGA1040 : Dual input spectrum analyzer module

OPI1040 : Single input/dual output polarization independent optional module

Configuration examples :

For polarization dependent dual input and independent channel optical spectrum measurements:
AP1040A + **OGA1040**

For polarization independent single input optical spectrum measurements :
AP1040A + **OPI1040** + **OGA1040**

Specifications are subject to change without notice.

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