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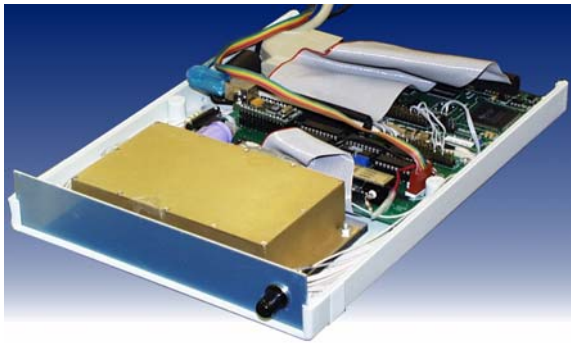


Information and
Telecommunication
Technology Center



Photonics Technology Laboratory (PTL)

The KU High-resolution Optical Signal Analyzer (KU-OSA)



KU has developed a patented method of incorporating a Fabry Perot filter with a dispersive grating that provides high-resolution spectrum analysis over a wide optical bandwidth for significantly less cost and achieving higher resolution than current technologies can provide. The KU Optical Signal Analyzer (KU-OSA) was developed to address the size and

fidelity requirements of optical network management in addition to the bandwidth and resolution requirements of laboratory benchtop instrumentation. The fidelity of the KU-OSA is such that, in addition to providing information of optical power at each channel, signal wavelengths and optical signal-to-noise-ratios (SNR) can also resolve signal data rate, modulation format information, and detailed structure of the signal optical spectrum.

Originally developed to address the optical network management needs of a wavelength division multiplexed (WDM) optical network, the KU-OSA has a very small footprint and can easily be incorporated into a handheld device or integrated into the transport layer of a link performance monitoring (LPM) network. Additionally, the resolution and accuracy demonstrated by the first prototypes of the KU-OSA rival those of benchtop laboratory OSAs, making it well suited as a low-cost, high-fidelity benchtop alternative.

A preproduction prototype of the KU-OSA has demonstrated a resolution of 10pm over a bandwidth of 35nm. Theoretically, using this technology, a spectral resolution of 5pm can be achieved over a bandwidth of 65nm, which covers the entire C-band and L-band of optical communication networks.

For more information about the KU-OSA, please contact Keith Braman, Associate Director for Applied Technology, at 785-864-9767, or by email at kbraman@ittc.ku.edu.

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