

# A0020A Laser Linewidth Measurement System

Keysight Technologies and SYCATUS

Laser linewidth measurement down to 40 kHz  
Wide wavelength range of both C and L band  
Interferometer and optical receiver in one box  
Essential measurement for lasers for digital  
coherent systems

SYCATUS provides A0020A laser linewidth measurement system. A0020A achieves minimum linewidth measurement down to 40 kHz. A0020A operates in wide wavelength range of both C and L band.

Laser linewidth characteristics is the most critical item for laser diodes used in digital coherent transmission systems because of the narrow linewidth requirements for multilevel optical transmission.

Highly integrated optical source like ITLA also needs linewidth measurement to investigate the effect of the noise caused by electronics for laser conditioning.

A0020A enables the accurate characterization of laser diodes, which improves the performance and the quality of laser diodes. A0020A also reduces the measurement time and accelerate the development and the manufacturing of products.

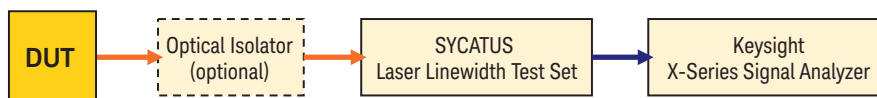


Fig. 1 A0020A System Configuration

## SYCATUS A0020A Laser Linewidth Measurement System

SYCATUS A0020A laser linewidth measurement system consists of SYCATUS laser linewidth test set and Keysight X-series signal analyzer.

The laser linewidth test set contains a delayed self-heterodyne interferometer followed by a high-gain linear optical receiver. The interferometer includes a polarization controller to adjust the interference condition.

By the combination of Keysight X-series signal analyzer, linewidth measured at 3 dB, 10 dB and 20 dB bandwidth can be obtained easily and immediately.



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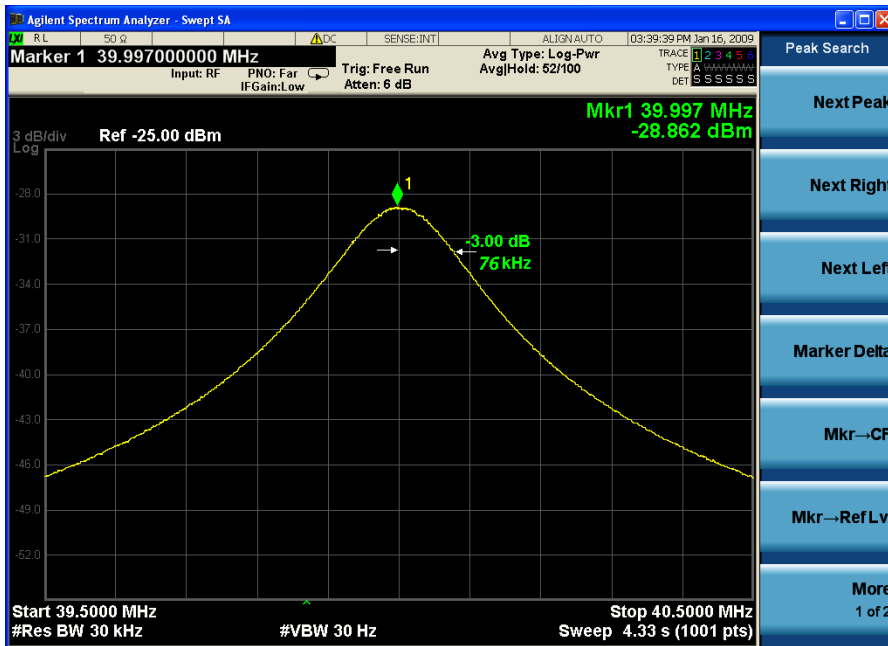


Fig. 2 Linewidth Measurement Example

## Table 1 Linewidth Measurement System Specifications

Items	Specification
Optical Wavelength Range	1520 nm to 1620 nm
Minimum Linewidth Frequency	40 kHz
Input Optical Power Range	-20 dBm to +7 dBm
Delay Fiber Length of Interferometer	5 km
Frequency Shift of Interferometer	100 MHz

## Ordering Information

### Keysight Technologies

X-Series Signal Analyzer	N9000A/B CXA
	N9010A/B EXA
	N9020A/B MXA
	N9030A/B PXA

### SYCATUS

Delayed Self-Heterodyne Interferometer	A0020A-DHI
Optical Receiver Built-In	A0020A-ORX
O-Band Addition, 1265-1365nm	A0020A-AOB
Delay Fiber Extension to 20 km	A0020A-D20

Other options are available; contact SYCATUS Sales for more details

## SYCATUS

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