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Agilent 86105C High Sensitivity, Broad Wavelength Plug-In Module

Test the widest range of telecom and datacom wavelengths and transmission rates in the industry with the 86105C multi-rate compliance filter module.

The 86105C Infiniium DCA-J plug-in module offers unprecedented wavelength and optical filter coverage for SONET/SDH and datacom/enterprise technologies up to 11.3 Gb/s.

With the increased need to address the bottleneck concerns within the enterprise and telecom networks, network equipment elements and their components need to be engineered with flexibility, performance and cost in mind. The 86105C now allows designers and manufacturers to test transmitter compliance and perform waveform characterization on multiple technologies and data rates with a single module.

Component/system design manufacturing

The 86105C gives designers and manufacturers the ability to accurately characterize the transmission performance of components and systems that cross the boundary between telecom (e.g. SONET/SDH) and datacom/enterprise (e.g. Ethernet) technologies. Such examples include 10 Gb/s 200/300 pin MSA transponders which may be designed to conform to different standards and different data rates. Also, new devices are being designed for emerging standards, such as Xenpak for 10 Gb Ethernet or small form factor (SFF and SFP) transceivers for the OC-48 market.

10 Gb SONET transmission has various specified rates depending on the technology being implemented and the network being designed. The OC-192 rate is 9.953 Gb/s. The rate goes up to 10.664 Gb/s with the addition of Forward Error Correction (FEC). In addition there is now OTN G.709, which adds additional network control and further increases the rate to 10.71 Gb/s. To meet this increased transmission speed, components must scale and be tested accordingly.

Future-proofing through unprecedented filter rate coverage

Data rate	Standard	86105C-100 Series*	Option 86105C-200	Option* 86105C-300
		Option		Option
155 Mb/s	OC-3	110		110
622 Mb/s	OC-12	120		120
1063 Mb/s	Fibre Channel	130		130
1250 Mb/s	GbE	140		140
2125 Mb/s	2x Fibre Channel	150		150
2488 Mb/s	OC-48	160		160
2500 Mb/s	2x GbE, infiniBand	160		160
2666 Mb/s	OC-48 (FEC)	170		170
3125 Mb/s	10 GbE LX-4	180**		180**
4250 Mb/s	4x Fibre Channel	190**		190**
8500 Mb/s	8x Fibre Channel	197**		197**
5000 Mb/s		193**		193**
6250 Mb/s		195**		195**
9.953 Gb/s	OC-192		X	X
10.3125 Gb/s	10 GbE		X	X
10.51875 Gb/s	10 G Fibre Channel		X	X
10.664 Gb/s	OC-192 (FEC)		X	X
10.709 Gb/s	OC-192 (ITU-T G.709)		X	X
11.096 Gb/s	10 GbE FEC		X	X
11.317 Gb/s	10 G Fibre Channel		X	X

*Choose any 4 low-rate filters **Additional charges apply

Specifications

Bandwidth	9 GHz optical and 20 GHz electrical
Wavelength	750-1650 nm
Sensitivity (typical)	–21 to –16 dBm based on rate and wavelength
RMS noise (typical)	0.8 to 2.5 µW
Fibre input	62.5 µm accepts single mode or multi-mode

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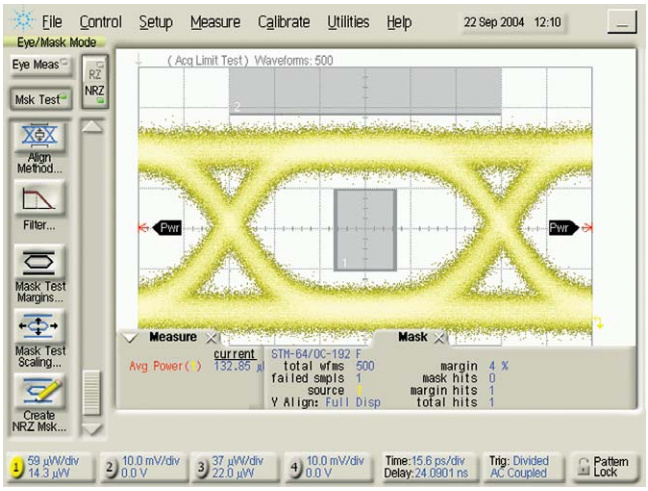
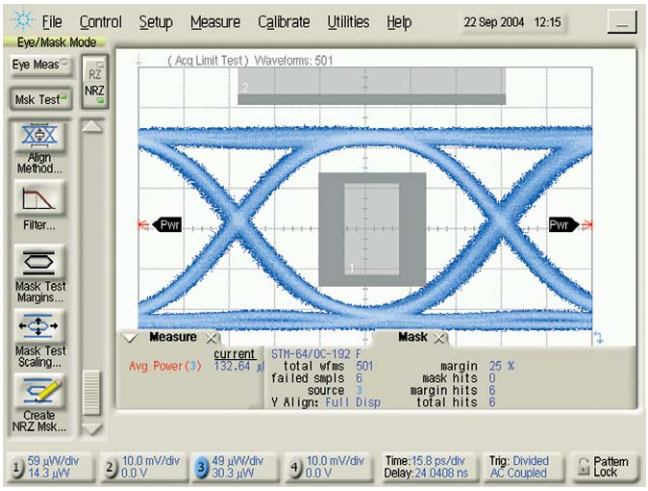
In the midst of proliferating data rates, the 86105C covers the datacom/enterprise standards such as 10 Gb Ethernet and 10 G Fibre Channel, which run at 10.3125 Gb/s and 10.51875 Gb/s respectively. Switching and routing systems are required to interface some of these technologies (specifically the IEEE 802.3 Ethernet standards and SONET) at varying rates. Therefore, the ability to test and characterize performance across a wide range of technologies and data-rates is essential in the R&D and manufacturing environments.

Multi-port and multi-rate system/component designers and manufacturers can take advantage of both the wide filter coverage and outstanding sensitivity of the 86105C. This module makes possible the characterization of optical transmission performance of all SONET, Ethernet, and Fibre Channel technologies, from 155 Mb/s through 11.3 Gb/s. In addition, new Infiniium DCA-J 86100C software now provides industry-leading jitter characterization.



Eye and mask for 10.709 Gb/s using typical optical module



Improved mask margin using 86105C

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