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Find the *Agilent / PXIT PX2000-333-OEF* at our website: *Click HERE*

Agilent

7 GHz Digital Communication Analyzer

N2100A (PXIT Model PX2000-333-OEF)

Data Sheet

The N2100A implements a coherent patented vector under-sampling which combines the benefits and measurement capabilities of a real time scope with the bandwidth of a sampling scope. This PXI instrument uniquely combines the functionality of several traditional instruments in a single PXI module. The N2100A performs accurate eye diagram analysis to characterize the quality of transmitters from 50 Mb/s to 4.25 Gb/s.

Features

- Eye diagram, mask and jitter testing in a single instrument
- Cost effective architecture
- High throughput measurement engine
- Small form-factor 3 slot PXI card allowing multiple instruments to be deployed in a single chassis
- Ideal for manufacturing environments
- Wide optical bandwidth coverage from 780 nm to 1620 nm
- Single ended electrical input
- Bessel Thomson filters (In software and/or hardware)
- Integral clock recovery for measurements up to 3.0 Gb/s
- External reference clock input (SMA)



PXIT Measuring Technologies

Agilent Technologies

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Applications

The N2100A is primarily targeted at production automated test applications. The wideband optical input is ideally suited to electro-optical transceivers, short reach parallel optics modules and transmitter optical sub-assemblies (TOSAs). The electrical input is suited to high-speed serial data interconnects and receiver optical sub-assemblies (ROSAs).

Typical applications include:

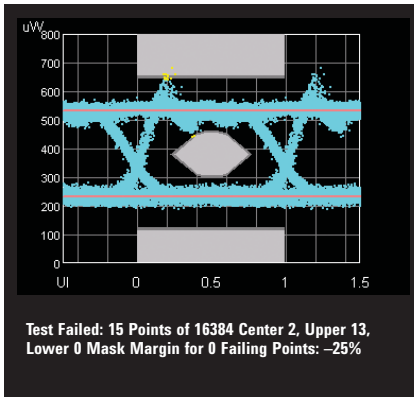
- Transceiver test
- Telecomms Equipment Test
- Fibre Channel, Ethernet, etc*
- Multi-port system testing
- High port count burn-in test

(* Compliance filters for other rates available on request)

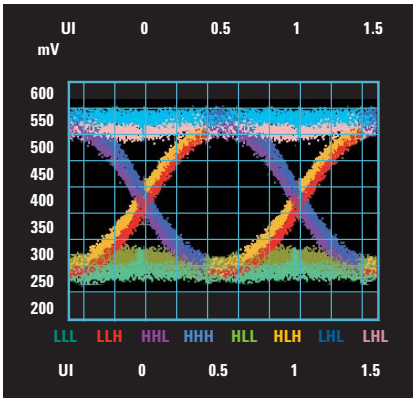
Measurements

Digital Communication Analysis

- Mask comparison & margin
- The mask can be easily defined
- Mask margin can apply Agilent or Tektronix rules.
- The mask margin (positive or negative) can be extracted for a defined number of points that fail, thus allowing for DUT quality assessment, control & binning.
- The number of failed points for a region can be returned as well as the actual points that failed along with the 3 bit history of that failed point (as a result of vector sampling).
- Extinction Ratio / OMA measurements
- Q-factor measurements
- Eye opening
- Eye height
- Eye width
- P-P and RMS noise measurements
- Duty-cycle distortion
- Rise and fall time
- RMS jitter histogram
- Automatic inter-symbol interference measurements
- Deterministic jitter
- Random jitter

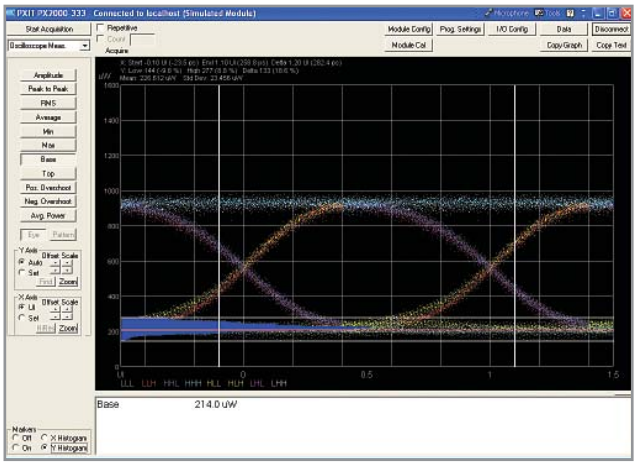


Automatic Mask Test Measurement

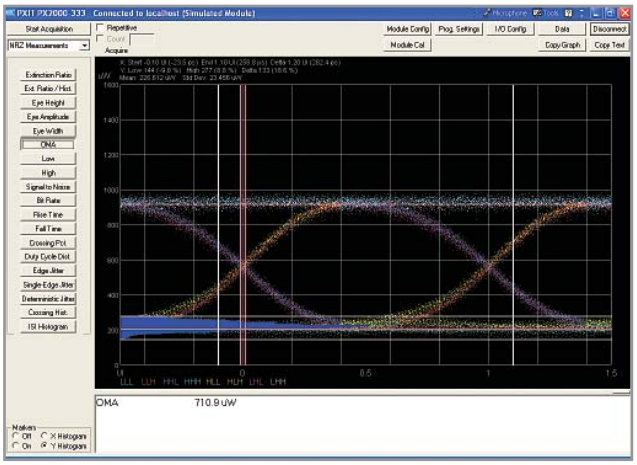


Measurement with 4th order Bessel Thomson filter - colors signify the transition history

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Base Measurement (with Y histogram shown)



OMA Measurement

Specifications

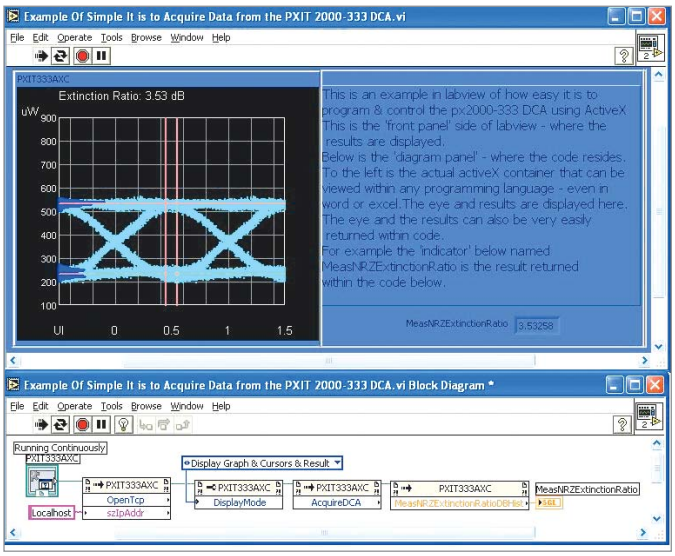
Electrical specifications [1]		Units
Bandwidth of electrical input	0.1 to 7000	MHz (characteristic)
Internal clock recovery	155 to 3000	MHz
Clock recovery lock range	250	ppm
External clock reference	5 to 300	MHz
External clock input range (CML)	200 to 3000	mV
External clock lock range (±)	150	ppm
Transition time (20% to 80%)	35	pS
Maximum input range (p-p)	1500	mV
Input noise (rms)	0.75	mV

Optical specifications [1]		Units
Standard switchable filters	1.25, 2.125, 4.25 Gb/s compliance filters*	
Unfltered optical BW	7.0	GHz
Optical responsivity	780-1600	nm
Optical noise equivalent power	–28	dBm
Mask sensitivity at 850nm	–10	dBm
Mask sensitivity at 1310/1550nm	–12	dBm
Overload optical input	2	dBm
Average optical power monitor	–15 to 2	dBm
Fiber input	9, 50, 62.5	µm

* Consult factory for alternative options

1. The N2100A is not recommended for use at 3.125 Gb/s with a PRBS-7 pattern.

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- National Instrument's Test Stand
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- C++

Ordering

N2100A-H10	7GHz optical bandwidth DCA equipped with compliance filters suitable for 1GbE, 2x and 4x Fibre Channel. 9 GHz single ended electrical input. 3 slot PX card, requires PXI mainframe and controller, sold separately.

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