product line

SIA 3100
Signal Integrity Analysis Solution

Critical Signal Integrity Testing

To achieve tighter tolerances in circuits and systems utilizing clock, oscillator or PLL signals, it is essential to clearly understand any timing issues of the signals, and to determine the root cause of jitter. A robust tool is needed - one that can accurately measure and quantify the individual components of jitter, and provide a comprehensive set of tools to measure a wide range of parameters in the time domain. The Wavecrest SIA 3100 enables you to fully characterize the performance of clock, oscillator and PLL applications with speeds up to 1.3 GHz, and serial data applications with data rates up to 1.3 Gb/s.

The Wavecrest SIA 3100 includes easy-to-use GigaView™ software; a comprehensive suite of signal integrity diagnostic tools that provide graphical plots and characterization results generating extreme detail about the performance of the device; even those exhibiting complex jitter behaviors.

SIA 3100C

The SIA 3100C comes complete with a dedicated clock analysis module enabling you to measure period, pulse width, cycle-to-cycle jitter, duty cycle distortion, propagation delay, rise/fall time and amplitude. Separate random (RJ) and deterministic (DJ) jitter, and quantify the magnitude and frequencies of periodic modulation.

With the PLL analysis tool, determine PLL parameters such as damping factor, natural frequency, lock range, lock-in time, pull-in time, pullout range, noise bandwidth and power spectral density of the noise. Generate graphs showing the PLL transfer function, poles and zeros and Bode plots.

The SIA speed of analysis coupled with its direct testing methodology involving multiple samples, mean you can test more devices in less time, accelerating time-to-market for your latest innovations.

SIA 3100D

With the SIA 3100D, you have all the clock and PLL analysis tools of the 3100C, with additional diagnostic capabilities for 1.3 Gb/s serial data applications such as Gigabit Ethernet, 1X Fibre Channel, automotive and wireless.

Streamlined Transition from Lab to Production

The SIA 3100 is a powerful signal integrity analysis instrument designed for the lab and for the most demanding production test environment. Tests can be automated on the bench with National Instruments LabVIEW™ drivers. By using the same family of SIA solutions, easily migrate from lab to characterization parametric testing, to high-speed, high-volume production testing, ensuring a streamlined transition process and faster time-to-market.

Benefits of SIA 3100

Analyze 1.3 GHz Clock, Oscillator and PLL Applications and 1.3 Gb/s Serial Data Applications with Optimized Solution

Pinpoint Root Cause of Problems Even on those Exhibiting Complex Jitter Behaviors

Test More Devices in Less Time with Fast and Direct Test Methodology

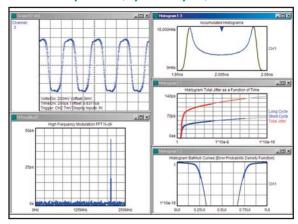**Ensure Design Goals are Achieved by Sufficient Margin through Detailed Performance Results**

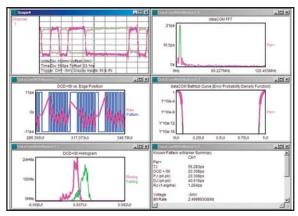**Streamline Transition from Lab to Production by using Same Family of Instruments**

Upgrade with Minimum Reinvestment Costs
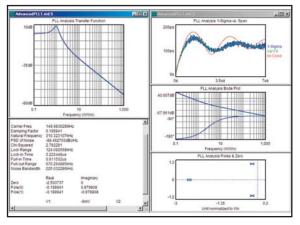
WAVECREST

Detailed Diagnostics and Compliance Testing

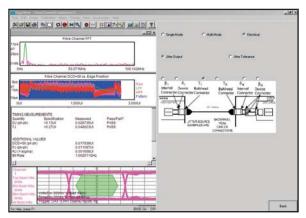**Analyze clock waveform, RJ, DJ, TJ, jitter spectrum, cycle-to-cycle, etc.**

Measure 2nd order PLL transfer function, damping factor, bode plot, etc

Diagnose serial data RJ, DJ, TJ, jitter spectrum, etc.

Perform compliance and mask testing, pass/fail for 1X Fibre Channel and other applications

GigaView is a trademark of Wavecrest Corp.
LabVIEW is a trademark of National Instruments

Product Specifications

SIA Model	Application	Clock Signal Timing Measurement Frequency	Data Signal Timing Measurement Frequency	Oscilloscope Bandwidth	Number of Channels	Pattern Marker Option	Clock Recovery Option
3100C	Clocks, PLL, Oscillators	1.3 GHz	–	13 GHz	2,5 or 10	–	–
3100D	Gigabit Ethernet, 1X Fibre Channel, Automotive, Wireless	1.3 GHz	1.3 Gb/s	13 GHz	2,4 or 5	YES	YES

WAVECREST

Be certain of the signal you send.