



PCI EXPRESS TOOL

FOR THE SIA-3000 WITH GIGAVIEW SOFTWARE

Introduction

This paper describes the setup and results of the PCI Express Measurement tool. The first section focuses on the setup; the second section, making the measurement and understanding the results.

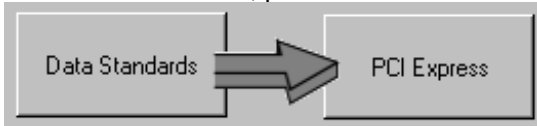
Tool Setup

This tool requires the SIA-3000 to have the Clock Recovery option installed. A pattern marker is necessary and is possibly derived from the data pattern generator. But, in many cases, this signal is not externally available and it is useful to have the SIA-3000 Pattern Marker (PM50) option. The data pattern is a repeating 40 bit pattern as specified. { 0011111010 1010101010 1100000101 0101010101 }

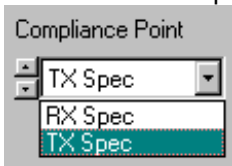
Connect the SIA-3000 as shown below. The Data pattern is input to the Clock Recovery input. The Clock Recovery Data output is looped back to IN1 with the PM50 option.



From the Main Menu, press "Data Standards" and PCI Express to open the tool.



Choose the "Compliance Point": either TX spec or RX spec.



The software settings default to the setup as described above, and should not need to be changed.

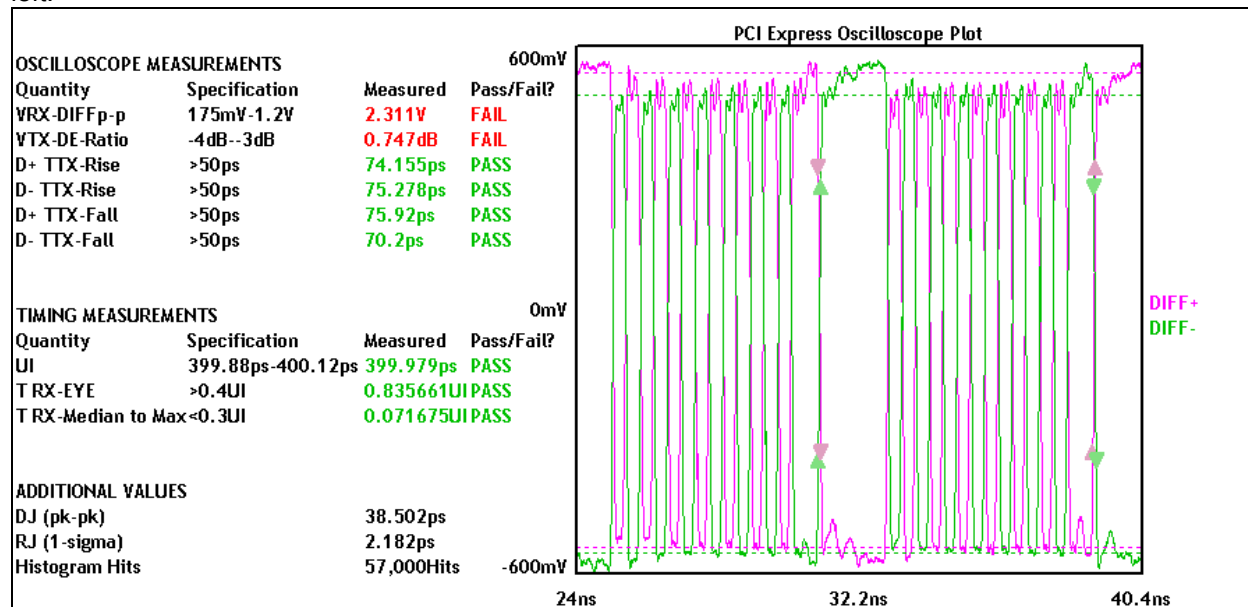
If there is not a PM50 installed, or you wish to change the pattern you can choose "Acquire Options" or "Pattern Options" to change the settings.

Making the Measurement and Understanding Results

To perform the measurement press "Single/Acquire". Several views are available once the measurement is complete. All views are displayed with the results summarized to the left of the plot. The specification value, the measured value and Pass or Fail is displayed. Additional values are displayed below. These values are not directly required for the Specification, but are useful for diagnostic purposes in the event that a test fails or only passes by a small margin. The Summary view shows the rev of the specification that the tool will measure. Many specifications continue to evolve and may change. Check to see that this is the current specification release.

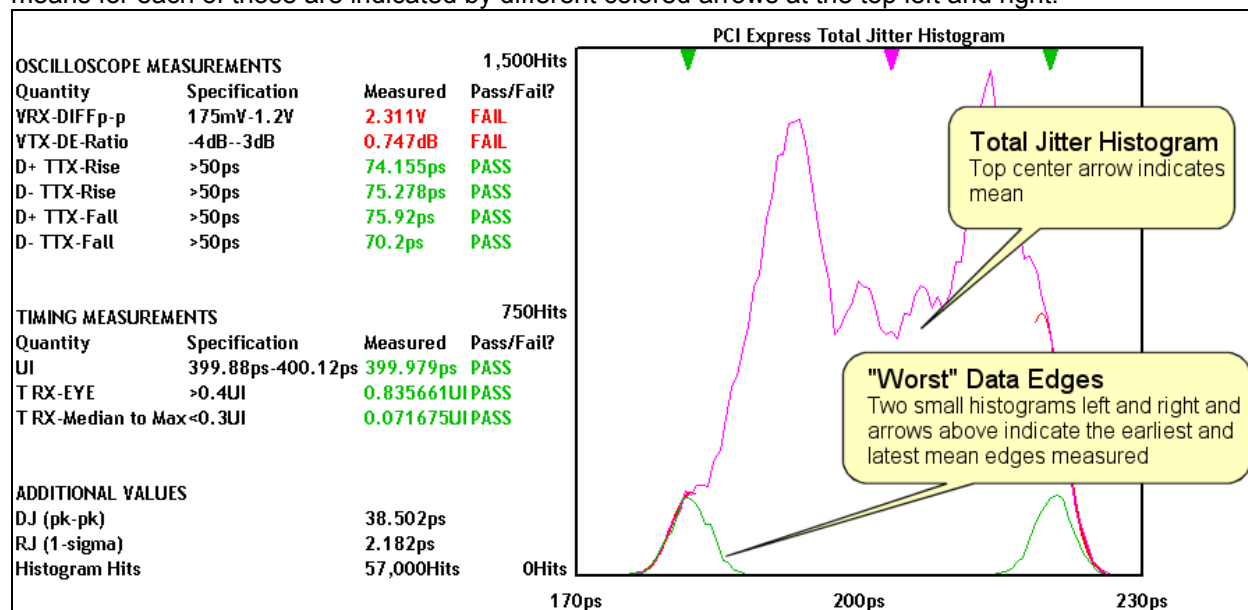
Oscilloscope View

This view shows the voltage vs time for a portion of the pattern. Measurements are summarized on the left.



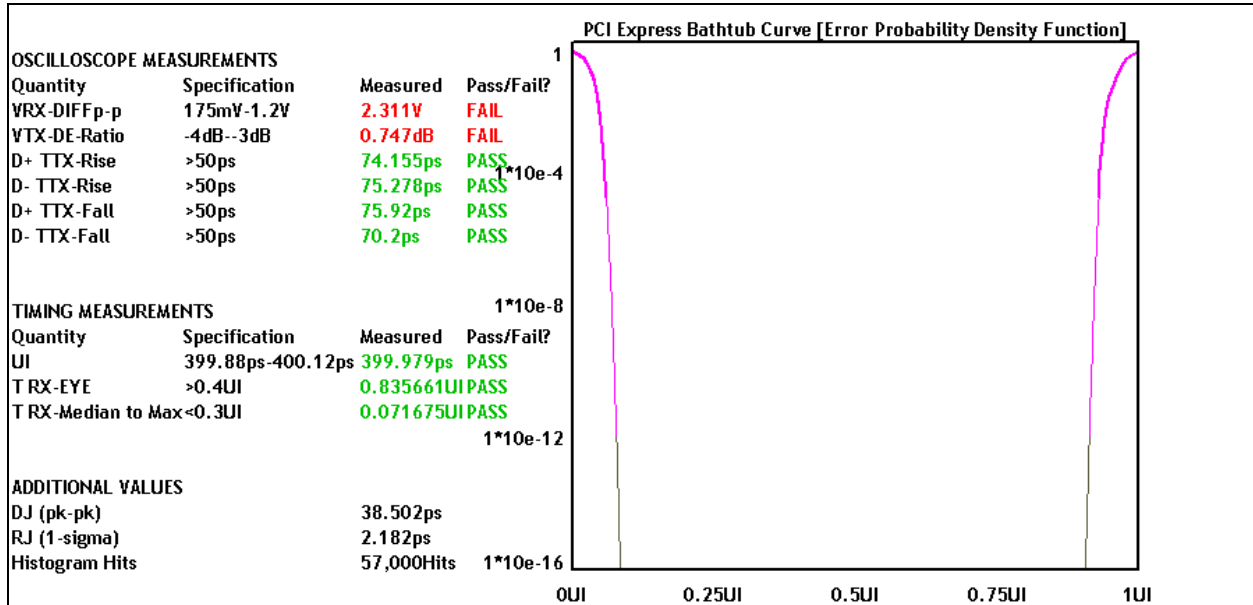
Total Jitter Histogram View

The Total Jitter Histogram view shows the Clock to Data measurements. The mean of the Total Jitter Histogram is indicated by an arrow at the center top of the plot. Two other histograms to the left and right are the histograms of edge measurements from the earliest and latest measured mean edge times. The means for each of those are indicated by different colored arrows at the top left and right.



Bathtub Curve View

The Bathtub curve shows the predicted Total jitter at a specific Bit Error Rate. Bit Error Rate is displayed on the vertical axis and one UI is displayed on the horizontal. As jitter increases, the two lines will move closer to each other.



FEEL FREE TO CONTACT US:

WAVECREST CORPORATION
 7626 GOLDEN TRIANGLE DR
 EDEN PRAIRIE MN 55344
WWW.WAVECREST.COM

1(952)-646-0111