SERIAL ATA TOOL

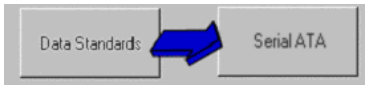
For the SIA

This paper describes the setup and results of the Serial ATA (SATA) Measurement tool. The first section focuses on the setup; the second section, making the measurement and understanding the results.

Tool Setup

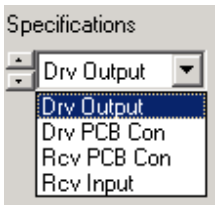
This tool is able to measure SATA compliance on any data stream. Any data (random data or repeating pattern) can be used. If a repeating pattern is used, the Known Pattern with Pattern Marker tool can be used for more detailed diagnostics.

From the Main Menu, press “Data Standards” and “Serial ATA” to Open the tool.



The Data Channel defaults to Channel 1 and does not need to be changed if your data in entering Channel 1.

The “Specifications” pull down menu enables you to select the compliance point you are measuring.



Making the Measurement and Understanding Results

To perform the measurement press “Run”  . 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.

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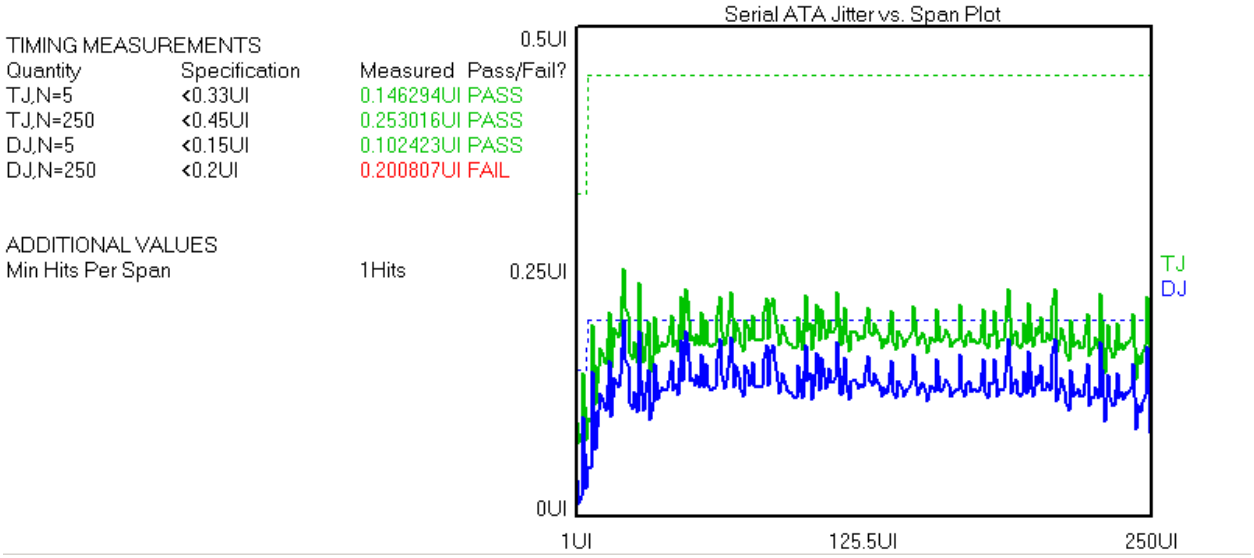
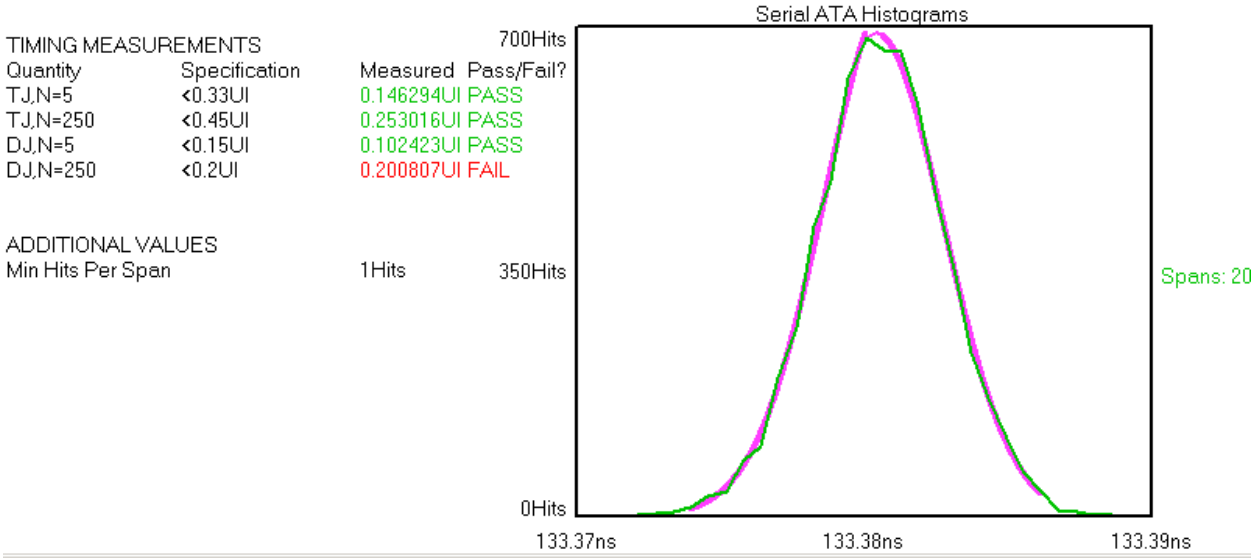
Jitter vs. Span View

This view shows the SATA compliance regions or 1 to 5 UI and 6 to 250UI. It shows both the DJ and TJ compliance levels from the SATA spec (dotted lines). It then displays the actual data (solid lines) and on the left if you pass or fail at each UI span.



Histograms View

This view shows a sampling of the individual histograms that make up each UI span. The Histograms for spans 1,2,3,4,5,10,20,50,100,200, and 250 are available.



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Summary View

Shows the results displayed on the left on the other views in a table that can be cut and pasted into another document.

Serial ATA Summary NOT CONNECTED

TIMING MEASUREMENTS

Quantity	Specification	Measured	Pass/Fail?
TJ,N=5	<0.33UI	0.146294UI	PASS
TJ,N=250	<0.45UI	0.253016UI	PASS
DJ,N=5	<0.15UI	0.102423UI	PASS
DJ,N=250	<0.2UI	0.200807UI	FAIL

ADDITIONAL VALUES

Min Hits Per Span	1Hits

*SATA Specification Version 1.0

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