

TIDA-00309 DisplayPort Video Aggregation Test Report

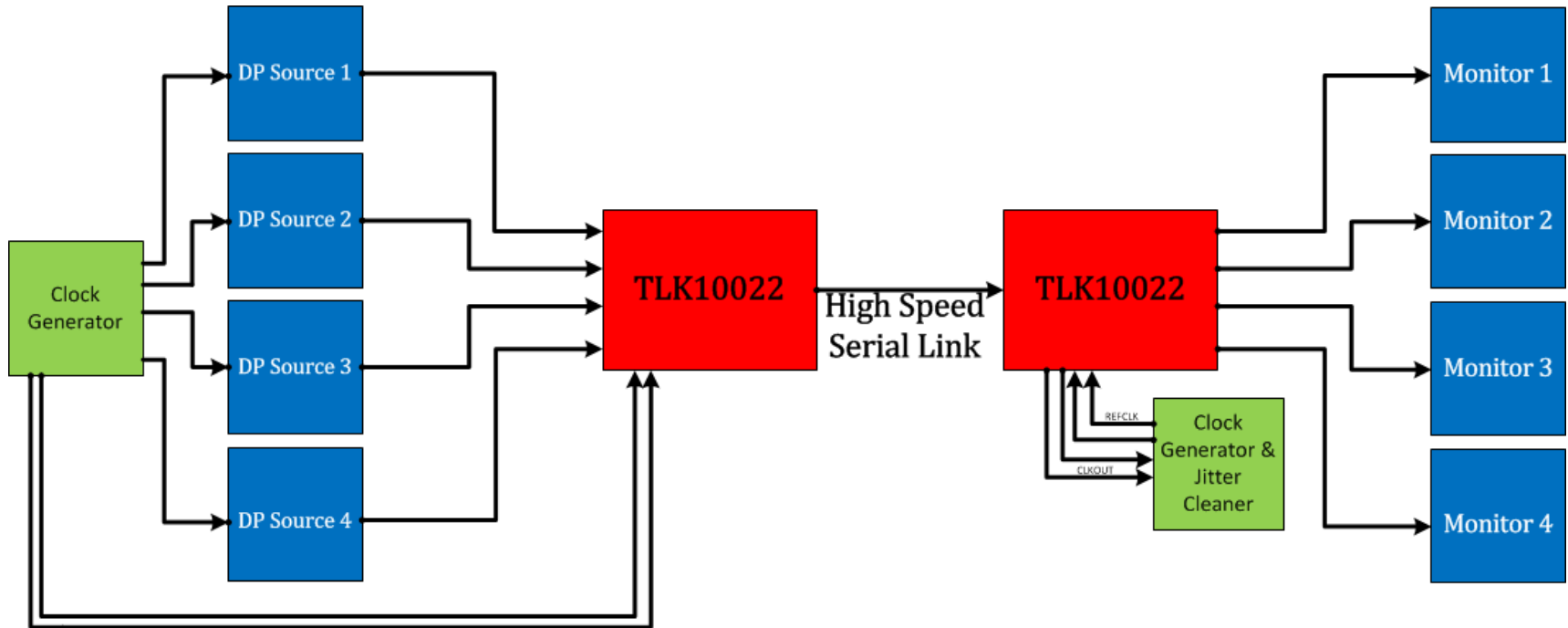
Communication Interface – CIF

October 2014

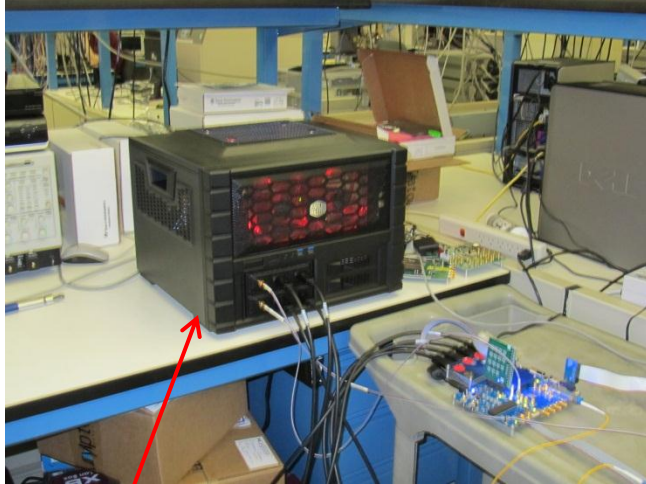
DisplayPort Test Setup

- The TLK10022 is used to aggregate four synchronous DisplayPort (DP) sources together into one high speed serial link.
- The high speed serial link is then de-aggregated by an additional TLK10022 and the original DP source signals are displayed via four monitors.
- The DP data sources used during testing put out a max resolution of 720p and have an individual line rate of 2.7Gbps.
- The data is in an 8b/10b format and will make up the four low speed inputs and outputs of the two TLK10022s.
- The high speed differential link from the aggregating TLK10022 puts out the combined DP sources at a rate of 10.8Gbps which is transmitted via an optical fiber to the de-aggregating TLK10022.
- The AUX channels are routed from the DP sources to the four monitors via a ribbon cable to allow the side band signaling to pass unimpeded.

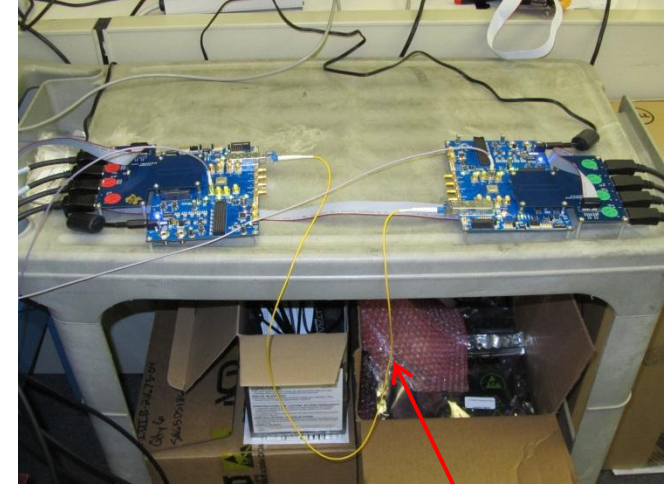
DisplayPort Aggregation Block Diagram



DisplayPort Aggregation Test Results



DP Source



10.8Gbps High Speed Serial Link - Optical Fiber



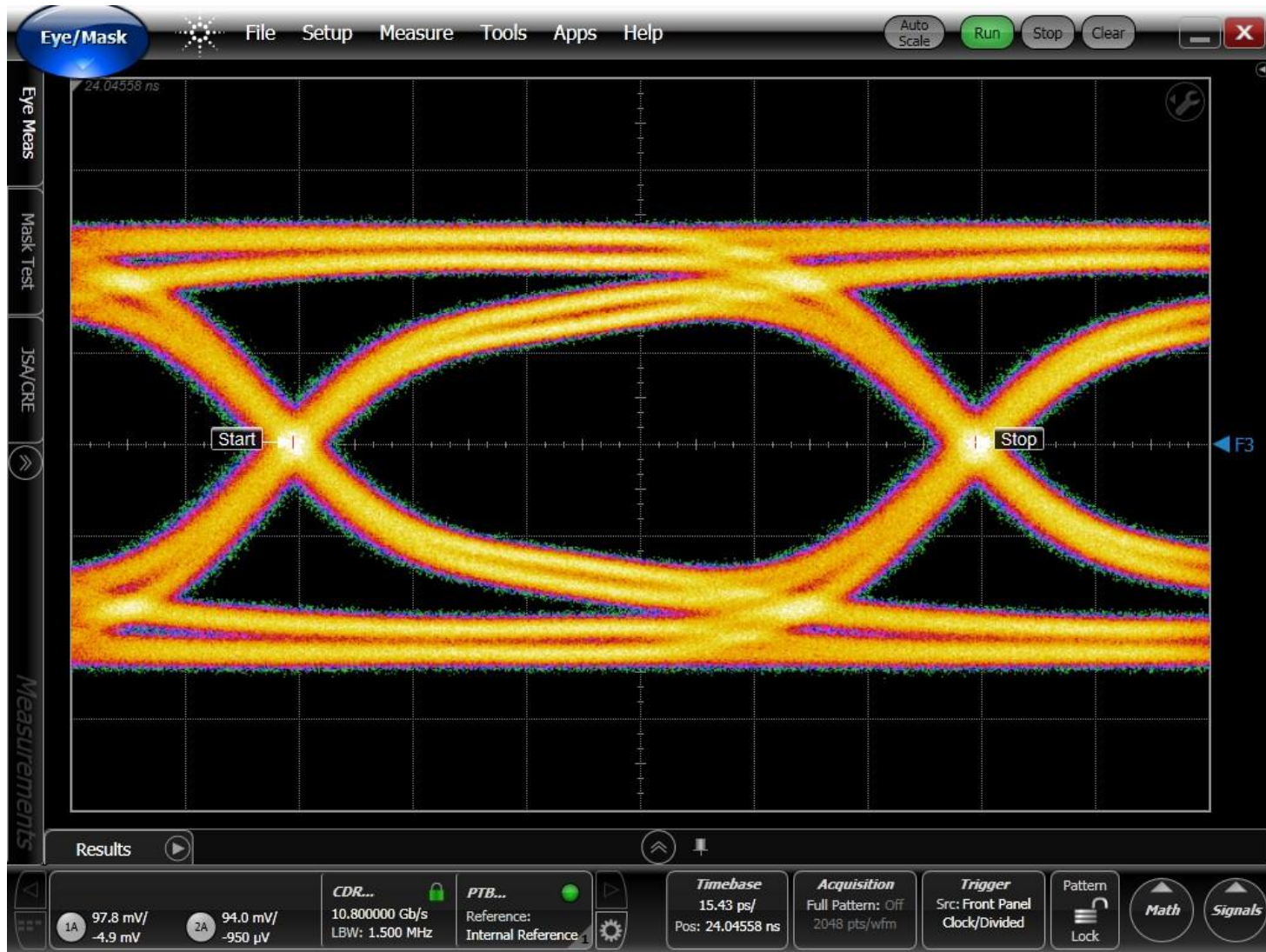
4-DisplayPort Sinks
720p Resolution
Driven by the TLK10022

Transmitter Performance Report

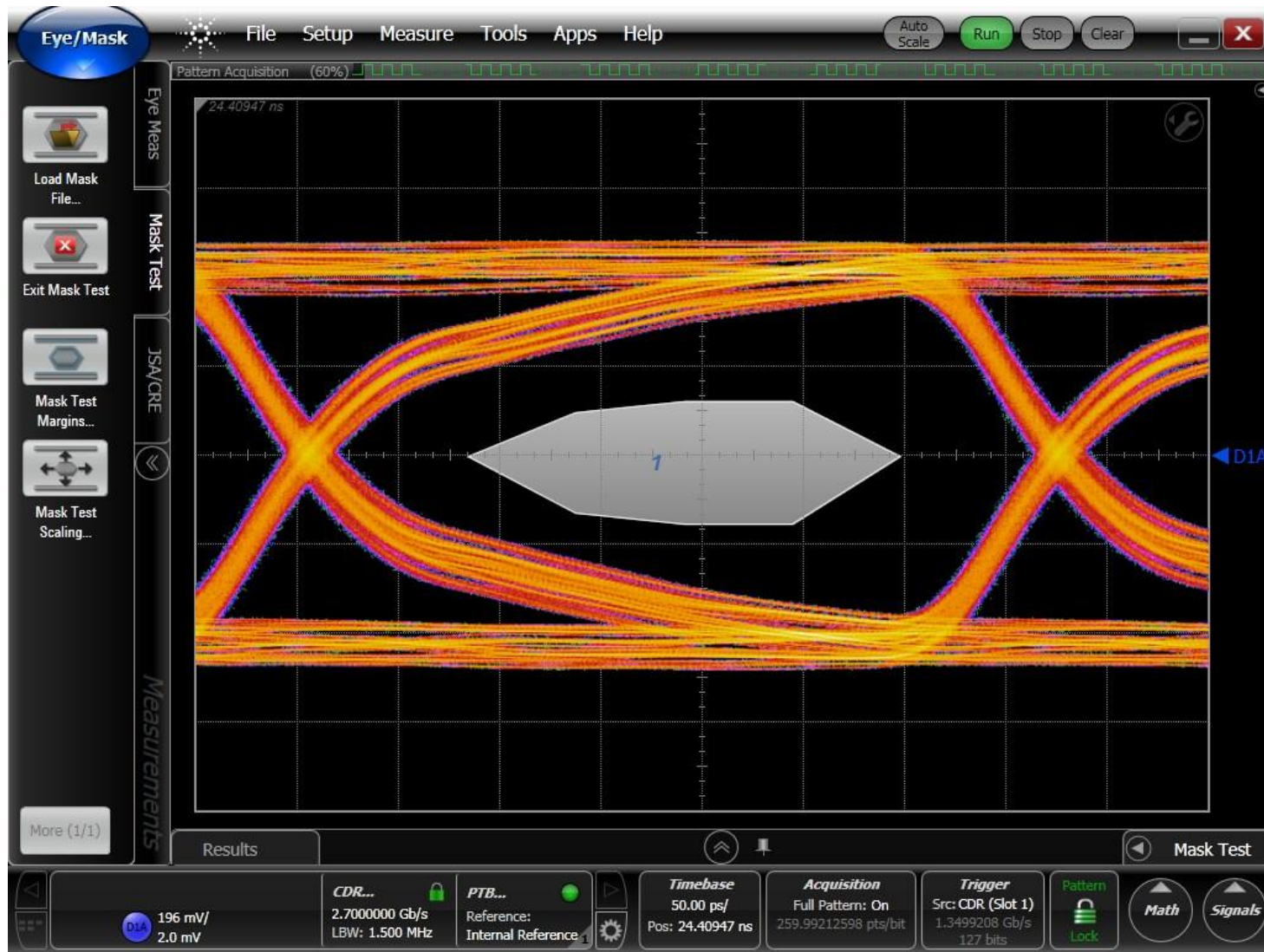
Test Setup

- TLK10022 is configured to aggregate 4 lanes of DP data:
 - Low Speed Data Rate: 2.7Gbps
 - High Speed Data Rate: 10.8Gbps
 - Output Swing: 660mV
 - Data Type: Aggregated DP data scrambled together by the TLK10022

High Speed Transmitter Output Eye Diagram @ 25°C



Low Speed Transmitter Output Eye Diagram



For Further Information Contact:

Texas Instruments

CIF – Communication Interface

http://e2e.ti.com/support/interface/high_speed_interface/default.aspx

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