

# **TIDA-00309 DisplayPort Video Aggregation Test Report**

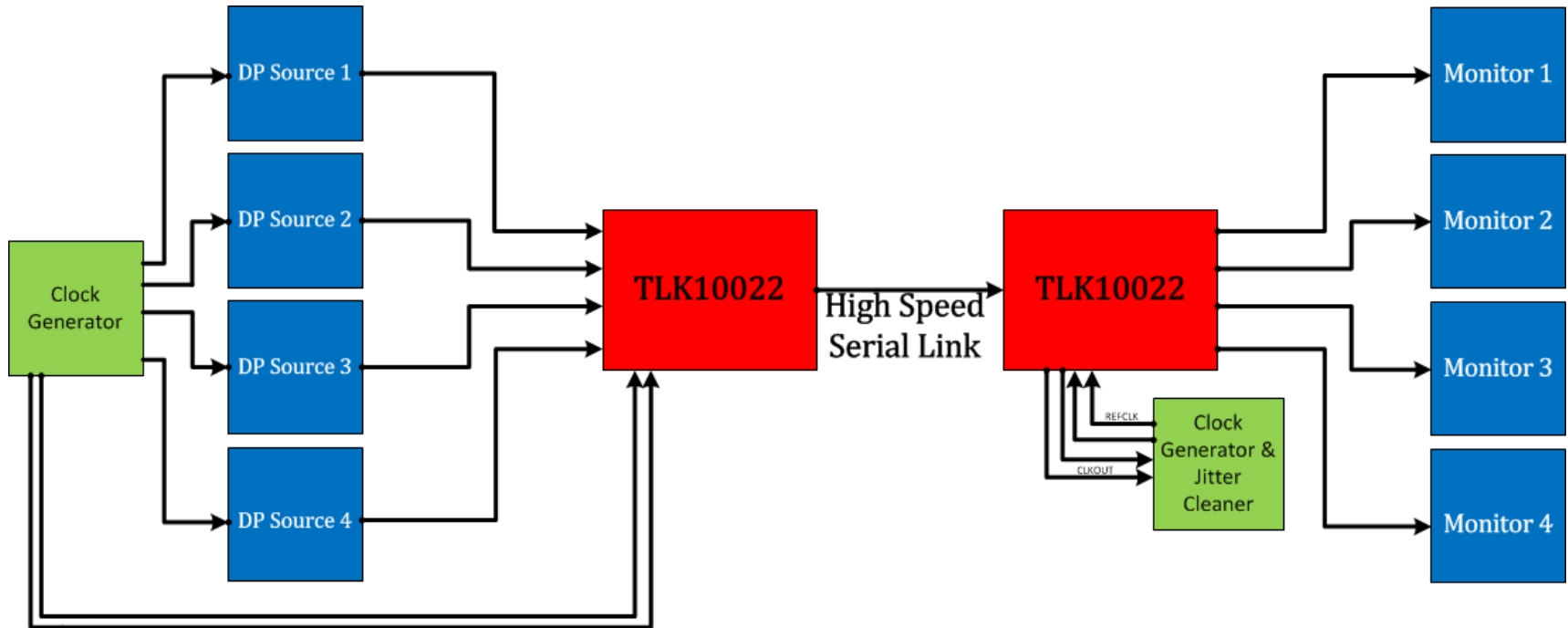
**Communication Interface – CIF**

**October 2014**

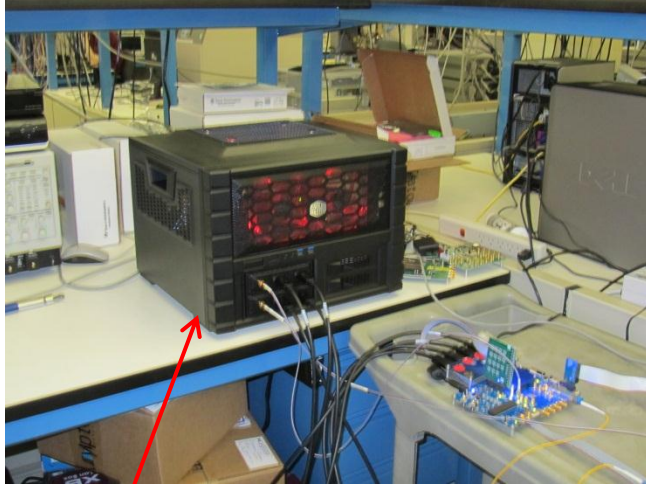
# DisplayPort Test Setup

- 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.

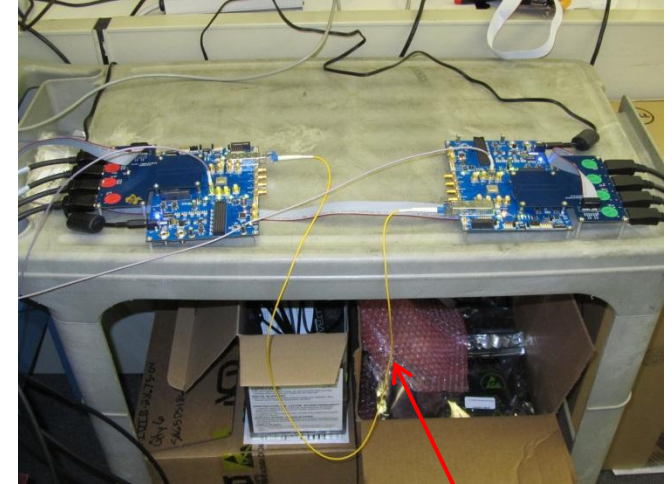
# DisplayPort Aggregation Block Diagram



# DisplayPort Aggregation Test Results



DP Source



10.8Gbps High Speed Serial Link – Optical Fiber



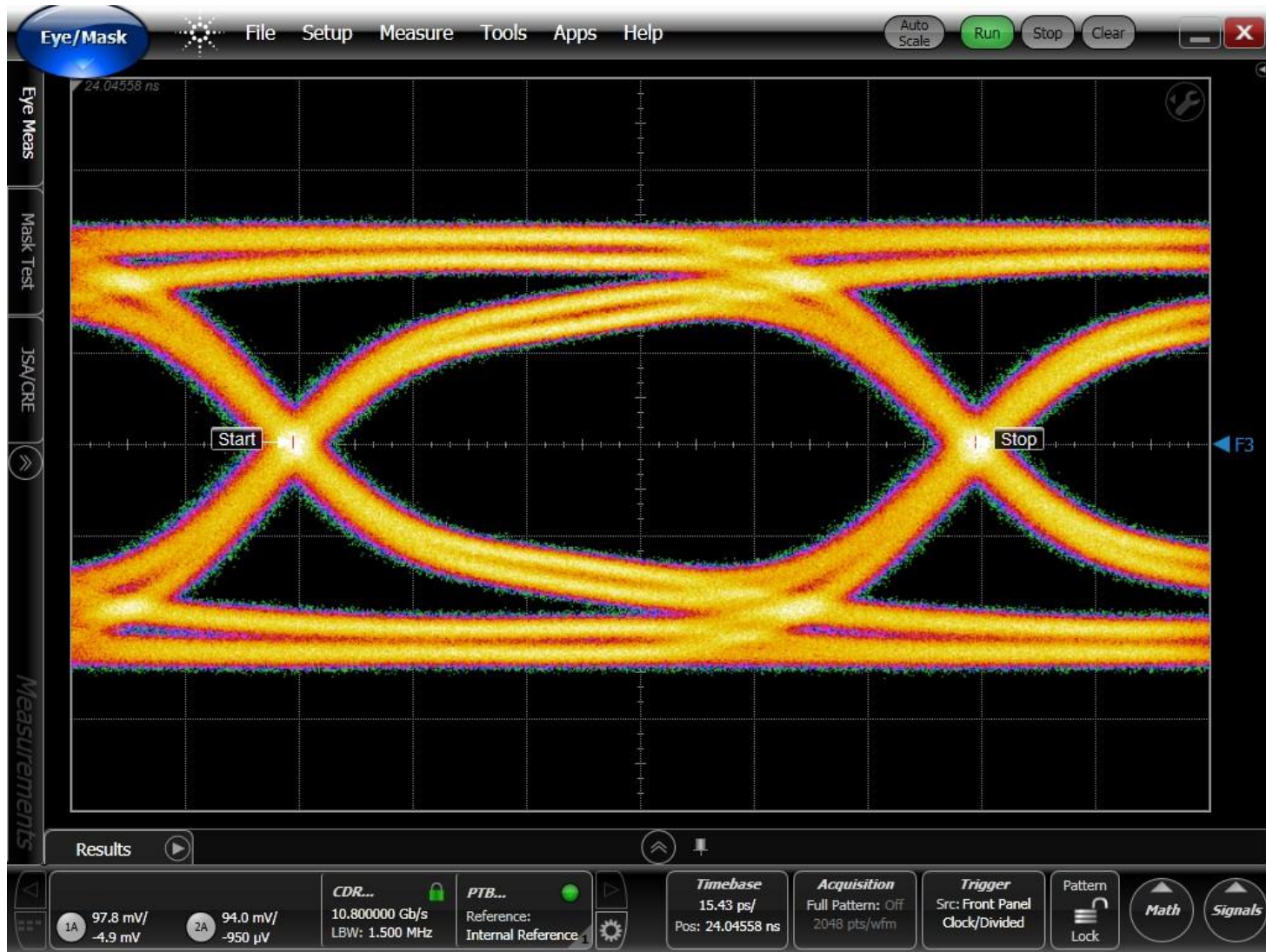
4-DisplayPort Sinks  
720p Resolution  
Driven by the TLK10022

# Transmitter Performance Report

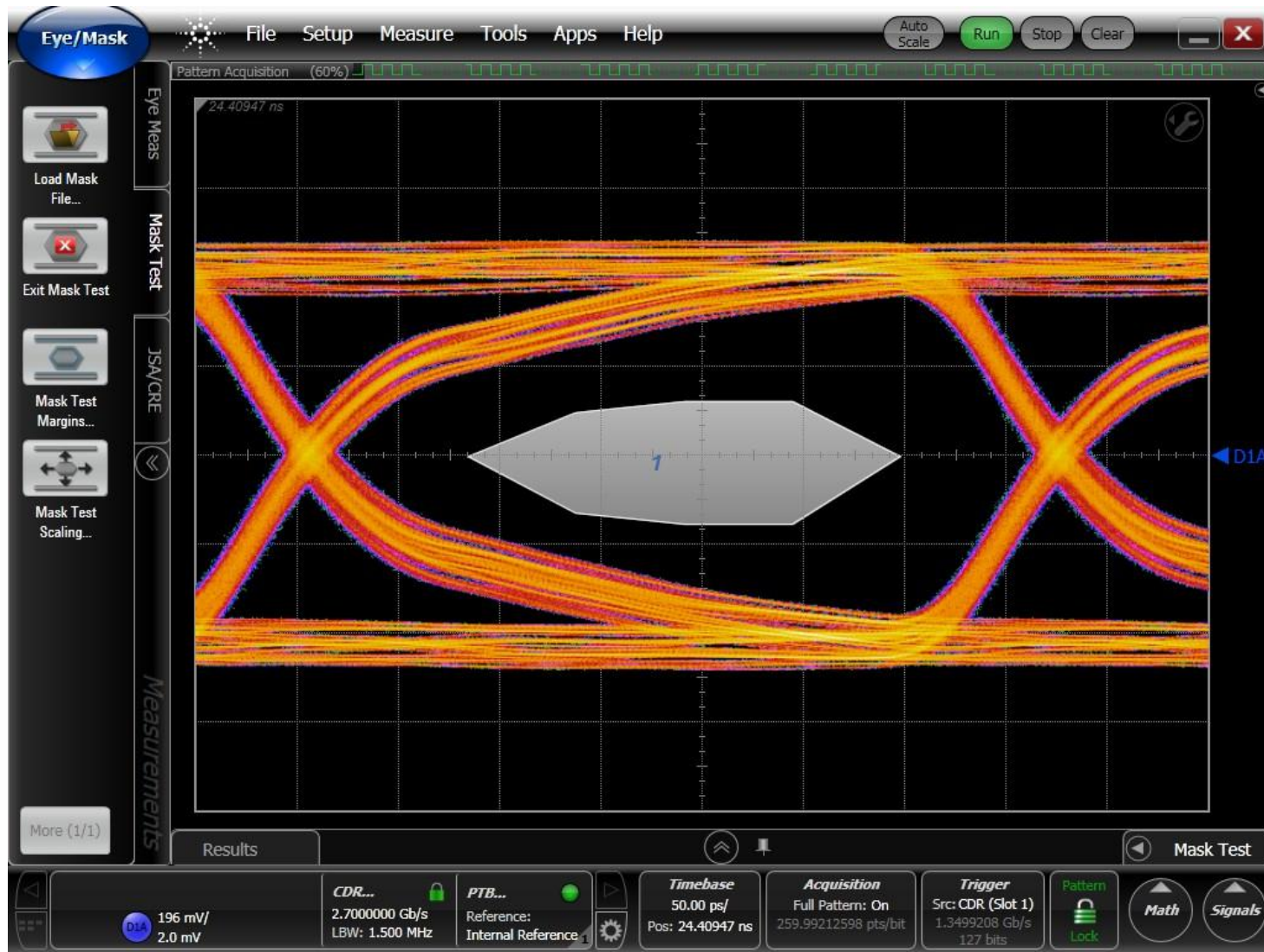
# Test Setup

- 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](http://e2e.ti.com/support/interface/high_speed_interface/default.aspx)**

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