

Video Aggregation – Display Port Interface Application Sheet

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Communications Interface - CIF

Application

- The TLK10022 is used as an aggregation device aggregating four independent Display Port (DP) sources into one high speed serial link.
- The low speed serial data rate being received by the TLK10022 is 2.7Gbps.
- The low speed serial lanes are aggregated into one 10.8 Gbps high speed serial link that is transmitted downstream either optically or electrically.
- The high speed serial link is de-aggregated by a second TLK10022 with the four original DP data sources intact.
- The original DP data is then presented on four independent monitors completing the aggregation process.

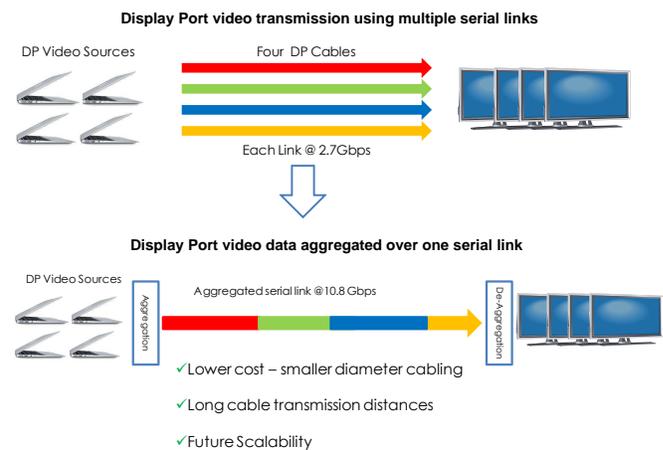
Key Requirements

- Voltage Supply:
 - Core Supply: 1 V
 - I/O Supply: 1.5 V / 1.8 V
- Clocking: The TLK10022 supports a large range of frequency allowing support for many different applications. Some of the typical frequencies that the TLK10022 supports are:
 - 122.88, 125, 156.25, 153.6, 312.5 MHz
 NOTE: Other frequencies are supported

Video Demo Description

- Resolution: 1280 x 720
- Four DP Sources: 2.7Gbps / Lane
- Data Format: 8b/10b Encoded DP Data

System Impact



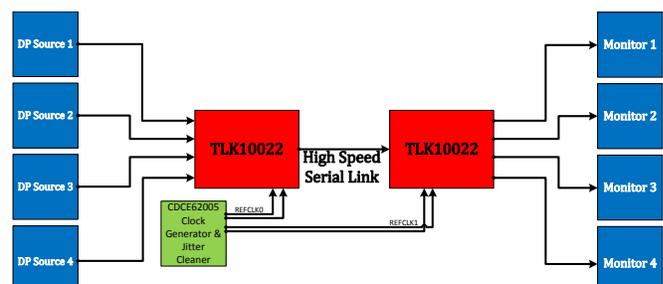
Provisioning

- TLK10022 is configured for 4:1 operation; Byte Interleave Mode; Link Training Disabled; and REF_CLK 1
 - Write 0x2 to register 0x01
- Lane Marker Function Enabled For Lane Alignment
 - Write 0xABC to register 0x17

Documentation References

- TLK10022 Tools Folders:
<http://www.ti.com/tool/tlk10022evm>
- TLK10022 EVM User's Guide ([SLLU187](#))
- TLK10022 EVM GUI Software ([SLLU188](#))
- TLK10022 IBIS-AMI Model ([SLLM231](#))

Block Diagram



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