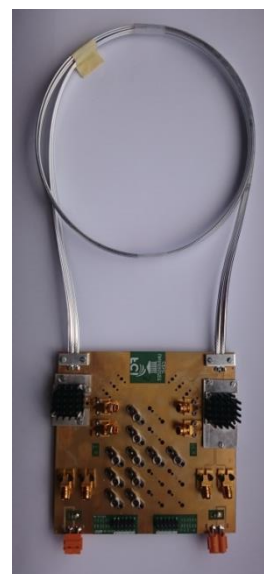


BF-AN001

100 Gb/s serial duobinary (4:1) across twinax cable channel

Setup

- Transmitter (BFDC-100Tx-ES1)
 - A 4-way serializer converts four 25 Gb/s NRZ streams at the CEI-25G compatible inputs into a single 100 Gb/s NRZ stream
 - The 100 Gb/s NRZ stream is fed into a 6-tap FFE which, together with the twinax cable channel, creates a 100 Gb/s duobinary stream
- Receiver (BFDC-100TRx-ES1)
 - A low-noise frontend is used to amplify and split the incoming 100 Gb/s duobinary stream
 - Thresholds within the two duobinary eyes are determined and set
 - CDR provides clock for sampling of the signal and de-serializing to four 25 Gb/s NRZ streams at the CEI-25G compatible outputs



Overview

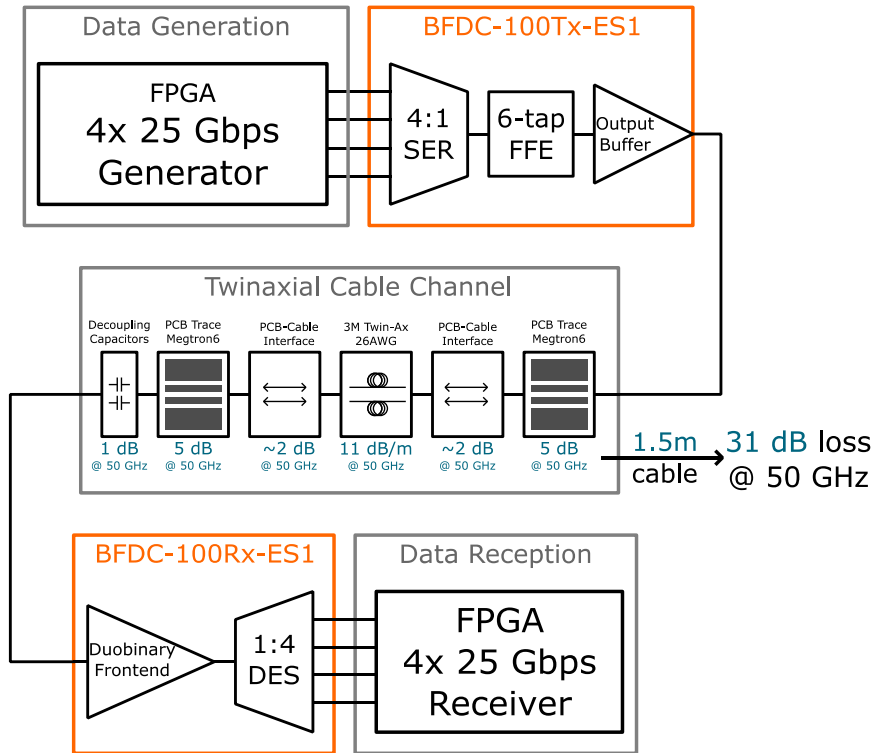
The BFDC-100Tx-ES1 & BFDC-100TRx-ES1 is a **flexible chipset** which can be used for providing **serial data links** with data rates of **40 Gb/s up to 100 Gb/s** across a variety of channels (backplane, cable, fiber). In this application the BFDC-100Tx-ES1 & BFDC-100TRx-ES1 are used in conjunction with a **twinax cable channel** to realize a **100 Gb/s** serial data link. At the in- and output four **CEI-25G compatible** 25 Gb/s NRZ streams are present which makes integration of this chipset in a **QSFP28 connector** possible for future active cable applications.

More Information

The BiFAST duobinary 4:1 SERDES chipset and its application for 100 Gb/s across a twinax cable channel are available for private demonstration upon request.

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Block diagram of 100 Gbps Twinax Cable Demonstrator



S-Parameter Plot of Hand-soldered 1.5m Twinax Cable Channel

