

Proposed subclause 999.3 for 100G BiDi

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Clauses 140 and 160

- 140.3 defines definitions of delay and skew of 100GBASE-DR/FR1/LR1
- 160.3 from 802.3cp is another reference of this specification, which is for 50G BiDi
- It is proposed to reuse these subclauses for 100G BiDi
- Following slides show content reuse and suggested minor changes
 - Black text: reused content from 140/160
 - Blue text: difference between 140 and 160
 - Red text: notes and discussion point

Proposed subclause 999.3 (references: subclause 140.3 and 160.3)

999.3 Delay constraints

Additional contents from subclause 160.3



999.3.1 Delay constraints

An upper bound to the delay through the PMA and PMD is required for predictable operation of the MAC Control PAUSE operation. The sum of the transmit and receive delays at one end of the link contributed by the 100GBASE-BRx PMDs including 2 m of fiber in one direction shall be no more than 2048 bit times (4 pause_quanta or 20.48 ns). A description of overall system delay constraints and the definitions for bit times and pause_quantum can be found in 80.4 and its references.

999.3.2 Skew constraints (Exact copy of subclause 160.3.2)

The Skew (relative delay) between the FEC lanes must be kept within limits so that the information on the lanes can be reassembled by the FEC. The Skew Variation must also be limited to ensure that a given FEC lane always traverses the same physical lane. Skew and Skew Variation are defined in 80.5 and specified at the points SP0 to SP7 shown in Figure 80-9.

If the PMD service interface is physically instantiated so that the Skew at SP2 can be measured, then the Skew at SP2 is limited to 43 ns as defined by 83.5.3.4. Since the signal at the PMD service interface represents a serial bit stream, there is no Skew Variation at this point.

The Skew at SP3 (the transmitter MDI) shall be less than 54 ns. Since the signal at the MDI represents a serial bit stream, there is no Skew Variation at this point.

The Skew at SP4 (the receiver MDI) shall be less than 134 ns. Since the signal at the MDI represents a serial bit stream, there is no Skew Variation at this point.

If the PMD service interface is physically instantiated so that the Skew at SP5 can be measured, then the Skew at SP5 shall be less than 145 ns. Since the signal at the PMD service interface represents a serial bit stream, there is no Skew Variation at this point.

For more information on Skew and Skew Variation, see 80.5. The measurements of Skew and Skew Variation are defined in 89.7.2 with the exception that the measurement clock and data recovery unit high-frequency corner bandwidth is 4 MHz.

Thank you

Any questions?