Proposed TDP Test modification. Modified and added text is shown in yellow highlight.

86.7.5.4 Transmitter and dispersion penalty (TDP)

Transmitter and dispersion penalty (TDP) is as defined in 52.9.10 with the following exceptions:

a) Each optical lane is tested individually with all other lanes in operation;
b) The test pattern is as defined in Table 86–16. As Pattern 3 is more demanding than Pattern 5 (which itself is the same or more demanding than other 40GBASE-R or 100GBASE-R bit streams) an item which is compliant using Pattern 5 is considered compliant even if it does not meet the required limit using Pattern 3;
c) The transmitter is tested using an optical channel that meets the requirements of 86.7.5.4.1. This channel inserts a chromatic dispersion element in the form of a fiber with specific properties;
d) The reference receiver sensitivity S is measured with the sampling instant displaced from the eye center by ± 0.15 UI and the lower S value used;
e) The effect of the transversal filter is realised by a reference receiver / filter combination having a fourth order Bessel-Thomson filter response with a bandwidth of 6.63 GHz;
f) P_DUT is measured with the sampling instant displaced from the eye center by ± 0.15 UI and the larger TDP value is used.

86.7.5.4.1 Channel requirements

The transmitter is tested using an optical channel that meets the requirements of Table 86–X. The channel is realised with a fiber of length chosen to meet the dispersion requirement.

To verify that the fiber has the correct amount of dispersion, the measurement method defined in IEC 60793-1-42 may be used. The measurement is made in the linear power regime of the fiber.

Table 86-X – Transmitter compliance channel specifications

PMD type	Dispersion[a] at 840 nm (max)	Effective modal bandwidth[b] at 850 nm (min)	Insertion loss[c]	Optical return loss[d] (max)
40GBASE-SR4	-10.8 ps/nm	10,000 MHz·km	Minimum	12 dB
100GBASE-SR10				

[a] The dispersion is calculated for the distance at the upper extreme of the operating range.
[b] Fiber meeting the requirements of 86.10.2 with differential mode delay ≤ 0.066 ps/m from R_{INNER} = 0 µm to R_{OUTER} = 23 µm measured per IEC 60793-1-49.
[c] There is no intent to stress the sensitivity of the BERT's optical receiver.
[d] The optical return loss is applied at TP2.