ITU-T G.9806 10G PMD Values

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Background

- The ITU-T G.9806 Recommendation shares many similarities with the IEEE802.3cp standard. There have been ongoing efforts to align the two standards.
- The content of this contribution was proposed to the Q2/15 group in the 17 Dec 2019 conference call (D19). It is presented here as information for the IEEE 802.3cp group.

Loss Budget Class specification in G.9806

- The G.9806 Recommendation specifies four loss budget classes. However, the group only intends to specify PMD values for Classes S-, S, and B- in order to simplify the inventory

	Class S -	Class S	Class A	Class B-
Minimum loss	0 dB	0 dB	5 dB	10 dB
Maximum loss	9 dB	15 dB	20 dB	23 dB
IEEE 802.3cp class		10GBASE-BR20		10GBASE-BR40+

Proposals for 10G PMD Values

- The table below shows the values presented to the Q2/15 group in the 17 Dec 2019 conference call. The values are largely aligned with the IEEE 802.3cp D1.1 draft. As a comparison, the .3cp specs are shown in green

Budget Class	Class S- (0-9dB)	Class S (0-15dB)	Class B- (10-23dB)
Wavelength plan **US/DS**	1260-1280nm/ 1320-1340nm	1260-1280nm/ 1320-1340nm	1260-1280nm/ 1320-1340nm
BER	1.00E-12	1.00E-12	1.00E-12
Tx Avg Power, max (dBm)	+0.6	+5.6 (+5.4)	+4.0 (+4.6)
Tx Avg Power, min (dBm)	-5.4	+0.6 (+0.4)	-1.0 (-1.4)
Min overload (dBm)	+0.6	+1.0	-6.0
Rx Avg Power, min (dBm)	-14.4 (-14.4)	-14.4 (-14.4)	-24.0 (-24.4)
Power Budget (dB)	12	18	26
ER (dB)	>3.2	>3.0	>3.0
Rx Damage Threshold (dBm)	+5.0 (+4.0)	+5.6 (+4.0)	+3.0 (+4.0)
Power penalty (dB)	<3.0 (2.7)	<3.0 (2.7)	<3.0 (2.7)

Summary

- We request the IEEE 802.3cp members to review the proposed values and provide comments to further align the two standards

Thank you