

Test plan for Big Ticket Items for PAM-4 400Gb/s SMF PMD

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SMF Ad Hoc, 24 February 2015

Introduction

- ❑ During the last SMF Ad Hoc meeting, 2 February 2015, participants were requested to provide an estimation for providing test results on the big ticket items identified at the BS meeting in Atlanta last January.
- ❑ Big Ticket Items for 50G PAM4 10km:
 - ❑ Dispersion penalty worst case, TDP
 - ❑ RX sensitivity / technical feasibility
 - ❑ MPI
 - ❑ More test results
 - ❑ Evaluate Coupling between electrical and optical interfaces

Focus investigations

- First focus is to address BTIs for 50G PAM4 over 10km SMF
- Aiming to confirm a closed power budget for 10km SMF using the baseline proposed in cole_3bs_02_0115 as a reference
- In the case that developing a closed power budget for 50G PAM4 over 10km SMF by the May 2015 IEEE 802.3 interim meeting is not feasible, then an alternative proposal will be developed.
- Currently (on the basis of today's information) the preferred alternative to 50G PAM4 is 50G NRZ as a solution to address the 10km SMF objective.

Dispersion requirements for 8x50G PAM4 over 10km SMF

- Presented in stassar_01_0215_smf at 2 February 2015 SMF Ad Hoc
- Proposed λ range in Cole_3bs_02_0115: 1272.55 – 1310.19nm
- Worst case positive dispersion (1310.19nm): +0.94 ps/nm.km
 - **Worst case positive dispersion 10km (1310.19nm) nm: +9.4 ps/nm**
- Worst case negative dispersion (1272.55nm): -5.08 ps/nm.km
 - **Worst case negative dispersion 10km (1272.55nm): -50.8 ps/nm**
- Aiming to establish an appropriate value for TDP

Timeline Testing

- ❑ Gating item is the testing of worst case chromatic dispersion
- ❑ Taking Chinese New Year vacation into account it will be difficult to complete this testing before 2 March 2015.
- ❑ It is the current plan to present results at an SMF Ad Hoc between the March and May 2015 meetings.
- ❑ In the case that developing a closed power budget for 50G PAM4 over 10km SMF by the May 2015 IEEE 802.3 interim meeting is not successful, an alternative proposal will be developed for the May meeting.
- ❑ Currently (on the basis of today's information) the preferred alternative to 50G PAM4 is 50G NRZ to satisfy the 10km SMF objective in BS.

Q & A

Thank you