P802.3cd Draft 1.0 Incomplete Specifications

P802.3cd Editorial Team

P802.3cd ad hoc meeting

October 18, 2016

Introduction

- This presentation lists items in P802.3cd Draft 1.0 identified by the editorial team as needing input for completion.

- The task force is requested to provide contributions to complete these open areas.

Common: Miscellaneous

- Need BER and FLR targets for 50G and 100G PMD and complete PHY
  - 136.1: 50G/100GBASE-CR* PMDs
  - 137.1: 50G/100GBASE-KR* PMDs
  - 138.1.1: 50G/100GBASE-SR* PMDs
  - 139.1.1: 50GBASE-FR/LR PMD
  - 140.1.1: 100GBASE-DR PMD
- Incomplete PICS (to be completed by editors; no comments req'd)
  - Clauses 133, 134, 136, 137
  - Annexes 135B to 135G

Common: Delay and Skew

- Need sublayer Delay, Skew, and Skew Variation values
  - 131.4, 131.5: all 50G sublayers
  - 133.3, 133.2.3: 50G PCS
  - 134.4, 134.5.2.2, 134.5.3.1: 50G FEC
  - 135.5.4, 135.5.3: 50G/100G PMA
  - 136.5, 136.6: 50G/100G/200G CR* PMDs
  - 137.5, 137.6: 50G/100G/200G KR* PMDs
  - 138.3: 50G/100G/200G SR* PMDs
  - 139.3: 50GBASE-FR/LR PMD
  - 140.3: 100GBASE-DR PMD

Clause 136/137 (Adee Ran)

- The following have values TBD/magenta:
  - Transmitter equalization coefficient ranges and step sizes, presets
  - Transmitter SNDR and jitter
  - Transmitter and receiver return loss
- Not included in baseline (TBD/magenta):
  - PMD control function timers: max_wait_timer, wait_timer
  - Receiver tolerance: translation of jitter measurement to COM
- Open questions:
  - backplane channel RL: normative/informative
  - cable assemblies: different or same specs for CR/CR2/CR4
  - PMD loopback: optional/required
  - receiver frame lock indication: reflect internal variable
  - SER in RX interference tol. test: OK to average across lanes?
- Incomplete MDIO function mapping

Clause 136 MDI/Medium and Annexes (Chris Diminico)

- 136.11 Cable assembly characteristics Three cable assembly types are specified, with separate COM requirements:
- 136.11.3 Cable assembly differential return loss
- 136.11.4 Differential to common-mode return loss
- Table 136–15—COM parameter values TBD/Magenta
- 136.11.7.1.1 Channel signal path
  - using zp = 151 mm in length, representing an insertion loss of 6.26 dB at 13.28 GHz on each PCB.
- 136A.2 Transmitter characteristics at TP0 **-** the value of linear fit pulse peak (min.) is 0.75 × vf.
- 136B.1.1.2 Mated test fixtures differential return loss
- 136B.1.1.6 Mated test fixtures integrated crosstalk noise

Clause 138 (Jonathan King)

- Transmit, Receive, TDECQ, SECQ, values are TBC
  - SECQ filter bandwidth is 19.34 GHz TBC
  - Applied sinusoidal jitter values are TBC
- Link
  - Illustrative link power budget (Power budget, Allocation for penalties, reach on OM3)
- Hazard level is TBD
  - Could be different for 50, 100, 200 Gb/s Ethernet
- MDI specifications
  - for 50GBASE-SR – LC plug/receptacle ?
  - for 100GBASE-SR2 – MPO plug/receptacle ?
    - Tx Rx optical lane assignment ?
  - for 200GBASE-SR4 – MPO plug/receptacle ?
    - Tx Rx optical lane assignment ?

Clause 139 (Peter Stassar)

- 139.6 PMD to MDI optical specifications for 50GBASE-FR and 50GBASE-LR: TBD and magenta values for several parameters (transmitter, receiver and illustrative power budget) not addressed in the adopted baseline:

- Transmitter average launch power min, ORL tolerance (also in relation to RIN reference levels); also in relation to clause 139.7.7 for RIN.
  - Several receiver power levels
  - MPI penalty allocation to finalize value for total penalties

- Table 139–12: ORL values in Magenta

- 139.10.1 Optical fiber cable: magenta value for loss at 1304.5 nm.

- Table 139–14—Maximum value of each discrete reflectance: magenta reflection values.

Clause 140 (Peter Stassar)

- 140.6 PMD to MDI optical specifications: TBD and magenta values for several parameters (transmitter, receiver and illustrative power budget):
    - Key is the allocation of a number for maximum MPI penalty (higher than the value for 400GBASE-DR4) and a choice how to distribute the higher penalty over transmitter and receiver power level values.
    - ORL tolerance (also in relation to RIN reference levels); also in relation to clause 140.7.7 for RIN.
    - MPI penalty allocation to finalize value for total penalties
- Table 140–11: ORL value in magenta
- Table 140–13—Maximum value of each discrete reflectance: magenta reflection values.

Thanks!