IEEE P802.3dm D0.a Editor Preview Report

Natalie Wienckowski

P802.3dm Chair / Chief Editor

IVN Solutions LLC / Ethernovia

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Val Maguire [COPPEROPOLIS / CME CONSULTING, MICROCHIP, AND NXP]

Alireza Razavi [Infineon]

Scott Muma [Microchip]

P802.3dm Editors and Technical Leads

Chief Editor – Natalie Wienckowski

- Clauses 1, 30, 45, 46, 98B, 200, 201

Clause Editor – Val Maguire

- Clause 202

Technical leads were selected for each duplexing method

- ACT Technical Lead – Alireza Razavi
- TDD Technical Lead – Scott Muma

P802.3dm draft structure

Legacy Clauses

- Clause 1, Clause 30, Clause 45, Clause 46

New Clauses

- Clause 200 – TF approved baseline text
  - Updated when new baselines are approved by the TF
- Clause 201 – ACT supporters supplied text
  - Updated to include new baselines
  - Updated when ACT technical lead agrees content should be added
  - Updated based on comments when ACT Editor and technical lead agree
- Clause 202 – TDD supporters supplied text
  - Updated to include new baselines
  - Updated when TDD technical lead agrees content should be added
  - Updated based on comments when TDD Editor and technical lead agree

D0.a Published December 3

D0.a includes

- Updated content in Clause 200 based on approved baseline at November Plenary
- Update Clause 201 based on ACT submissions
- Update Clause 202 based on TDD submissions

Review schedule

- 3 December: start comment review period
- 4 January: end comment review period
- 8 January: comment proposed responses published
- 14, 15 January: out-of-cycle Interims for comment resolution
- January Interim: comment resolution

General Open Items

Do we need to modify Clause 44 for 10G?

Do we need to modify Clause 125 for 2.5G/5G?

Do we need Auto-Negotiation? Add Annex 98B?

Do we just need speed negotiation? Add to Clauses 201 & 202?

Clause 201 updates from D0.7 to D0.a

- Adopted the terminology on Lo_3dm_02a_111025.pdf based on Motion #5 from September meeting
- Merged subclauses 201.2 and 201.3 into a single subclause covering service primitives and interfaces for both high and low data rate path
- Populated the previous TBD items, primarily by adapting similar content from 802.3ch
- Removed references to EEE and LPI
- Updated test modes for high data rate direction
- Added test modes for low data rate direction
- Added screening attenuation limit for coaxal cable
- Added the maximum link delay requirement of 160 ns to the text

Clause 201 “Big Ticket” Items

- Determine if PMD sections need to be added
- Consensus on pre-coding in high data rate path
- Coupling parameters between link segments (201.12.2)
- Delay constrain (201.16)
- Transition time test should be added

Clause 202 updates from D0.7 to D0.a

- Major subclause updates:
  - Incorporated PCS and PMA sublayer operation text
  - Added PCS descriptions, RS_FEC frame coding, scrambler, and training-related specifications
  - Updated descriptions and equations for various encoding blocks, data streams, and generated bits
  - Updated PHY Control state diagram (e.g., SILENT1, TRAINING2, and COUNTDOWN2 have been removed)
  - Added linearity test requirements and verification script
  - Removed PAM4 training
  - Replaced MASTER/SLAVE with LEADER/FOLLOWER (incorporated clause 149 source text as needed)
- Added Editor's Notes and TBDs to indicate areas where refinement is needed
  - The TDD consensus building group is committed to resolving TBDs as quickly as possible – the draft should look very different coming out of the January, 2026 interim meeting
  - Many TBDs are simply parameters (e.g., voltage or time) that need to be specified
- Low Speed / High Speed (e.g., LS/HS, PHY_D, PHY_S, etc.) terminology adopted

Clause 202 “Big Ticket” Items

- Consensus on support for autonegotiation, or further removal of AN-driven items that remain from adopting Clause 149 template text.
- PMA Sublayer
  - Determine if TDD monitor function requires definition or removal.
- PMA Electrical Specifications
  - Add Transmit MDI jitter and complete Test Mode 2 based on https://www.ieee802.org/3/dm/public/0925/Chini_3dm_01_09152025.pdf
  - Receiver Alien Crosstalk Noise Rejection
- -T1 Link Segment
  - Insertion loss, return loss, coupling parameters, PSANEXT, PSAACRF to be added
- -V1 Link Segment
  - Coupling Attenuation, screening attenuation, coupling parameters, PSANEXT, PSAACRF to be added
- -V1 MDI Connectors and MDI Return Loss
- MDI Fault Tolerance
- PICS not started
- There are a number of parameters that need a final specification or confirmation and removal of “TBD”. Comments welcome.

Questions?

Thanks!