P802.3cy D1.2 Open Points Updated with volunteers

Natalie Wienckowski

General Motors

Update to latest template

- FM, P1: update list of amendments to IEEE Std 802.3-2022
- FM, P11&12: update Amendments to match published list and ensure descriptions match the drafts

- Commenter: **Steve Carlson**

Abstract & Keywords

- FM, P2: Abstract is needed

- FM, P2: List of Keywords is needed

- FM, P12: Description of 802.3cy amendment needed

- Commenter: **Steve Carlson**

Empty subclauses

- The following subclauses either need content or need to be deleted:
    - 1.3 Normative references
    - 1.5 Abbreviations

- Commenter: **Steve Carlson**

Removal of 50G & 100G

- Comments are required to remove all 50GBASE-T2 and 100GBASE-T4 assuming a new CFI for a PHY bonding project
  - 30.3.2.1.2 aPhyType
  - 30.3.2.1.3 aPhyTypeList
  - 30.5.1.1.2 aMAUType
  - 30.6.1.1.5 aAutoNegLocalTechnologyAbility
  - 45.2.1.16 BASE-T1 PMA/PMD extended ability register (1.18)
  - 45.2.1.214 BASE-T1 PMA/PMD control register (Register 1.2100)
  - 78.1.4 PHY types optionally supporting EEE
  - 78.2 LPI mode timing parameters description
  - 78.3 Capabilities Negotiation
  - 78.5 Communication link access latency

Removal of 50G & 100G (cont'd)

- Comments are required to remove all 50GBASE-T2 and 100GBASE-T4 assuming a new CFI for a PHY bonding project
  - 80. Introduction to 40 Gb/s and 100 Gb/s networks
  - 98.5.1 State diagram variables
  - 131 Introduction to 50 Gb/s networks
  - 165.5.2 Test Points: Figure 165-35 title
  - 98B.3 Technology Ability Field bit assignments
  - 98B.4 Priority Resolution

- Commenter: **Natalie Wienckowski**

PCS registers

- Review 45.2.3 and see if any changes are needed. If it can be used "as-is", delete it. This is copied from 802.3ch and currently has no changes.

- Commenter: **Ragnar Jonsson**

EEE

- 78.2 LPI mode timing parameters description
  - Parameter values are needed
- 78.5 Communication link access latency
  - LPI parameter values are needed
- 165.3.2.2.22 EEE capability
- 165.3.6 LPI signaling
- 165.4.4.2 Timers: lpi_refresh_rx_timer has a TBD value

- Commenter: **Ragnar Jonsson**

Delay constraints

- 105.5 needed for 25GBASE-T1
- 165.10 Delay constraints: same values as 105.5

- Commenter: **Hossein Sedarat**

165.2 <<.3cy PHY>> service primitives and interfaces

- This Subclause needs a volunteer to review it and create comments for any changes needed.

- This text has been copied from ch with minor modifications for 25G. Where possible, refer to Clause 149 if no changes needed and it makes sense.

- Commenter: **George Zimmerman**

PCS functions and state diagrams

- 165.3.7 Detailed functions and state diagrams
  - This still needs to be reviewed for completeness and accuracy
  - 165.3.7.2.3 Timers: Need to remove "S" in rfer_timer

- Commenter: **Mike Tu**

165.3.8 PCS management

- This needs to be reviewed to see if it is okay or needs any changes.

- Commenter: **Ragnar Jonsson**

165.4 Physical Medium Attachment (PMA) sublayer

- We haven't done much in this subclause. I have separated out the parts as different people may want to do different pieces.

- 165.4.2.2 PMA Transmit function: Does this need to be modified to add a 5th symbol, zero? – **George Zimmerman**

- 165.4.2.4 PHY Control function: Do any "hooks" need to be added to support future 50G and 100G? – Per GZ nothing is needed.

- 165.4.2.6.1 State diagram variables: min_send_s_cnt & send_s_counter have TBDs – **Peter Wu**

- 165.4.2.7 Refresh monitor function: Needs a value for a TBD – **Jim Graba**

165.5 PMA electrical specifications

- 165.5.1 Test modes: No work has been done on this. Currently, this is identical to 149.5.1. Can we refer to this and say to use S = 2.5?
  - Test mode 6 still includes "S"
- Do we need a different frequency for TX_TCLK_175?
- 165.5.3 Transmitter electrical specifications
  - Is additional text similar to 149.5.2 needed?
  - Do we need any changes based on 165A content?
- 165.5.3.1 Maximum output droop
- 165.5.3.2 Transmitter linearity
- 165.5.3.3 Transmitter timing jitter: All times are still relative to "S".
- 165.5.3.3.1 Transmit MDI random jitter in MASTER mode & 165.5.3.3.2 Transmit MDI deterministic jitter in MASTER mode both still include "S".
- 165.5.3.3.2 Transmit MDI deterministic jitter in MASTER mode: All times are still relative to "S".
- 165.5.3.4 Transmitter power spectral density (PSD) and power level
- **Mike Tu and Ragnar Jonsson** all on this slide

165.5 PMA electrical specifications (cont'd)

- 165.5.4 Receiver electrical specifications
  - 165.5.4.1 Receiver differential input signals – **George Zimmerman**
  - 165.5.4.2 Alien crosstalk noise rejection – **Chris Diminico, Marty Gubow, Haysam Kadry, Thomas Mueller**
- 165.5.5.3 Mated Test Fixtures – TBDs **Chris Diminico & Haysam Kadry**
  - 165.5.5.3.1 Insertion loss
  - 165.5.5.3.2 Return loss
  - 165.5.5.3.3 Mode Conversion
  - 165.5.5.3.4 Crosstalk

165.7 Link segment characteristics

- 165.7.1.1 Insertion loss: There is still a note related to potentially changing the minimum frequency – **Ragnar Jonsson**

- 165.7.1.3.2 Echo Tail and Residual Echo Metrics: In Step 2b the equation number is xxx-3. – **Ragnar Jonsson**

- 165.7.1.3.4 Limit on Echo Tail Metric (ETM): There are still a number of TBDs – **Hossein Sedarat**

- 165.7.2 Coupling parameters between link segments: At a minimum, references to 165C have to be removed or changed to 165A – **Chris Diminico, Haysam Kadry, Thomas Mueller**

165.8 MDI specification

- This Subclause still includes equations with "S"

- The low frequency ranges were update with comments on D1.1, but the S scaling factor wasn't removed. The current D1.2 figure was created assuming S = 2.5 which makes Fmax 10 000 MHz

- Commenter: **Natalie Wienckowski**

Annex 165A

- 165A.5 Coupling between ports on multiport designs
  - Missing references
  - Missing component values

- Commenter: **Haysam Kadry**

Miscellaneous

- The following doesn't fit in any other topic
  - 105.1.3 Nomenclature: finalize description of 25GBASE-T1 in text and table – **Natalie Wienckowski**
- <<.3cy PHY>> needs to be replaced throughout the document:
  - Proposed: 25GBASE-T1 – **Natalie Wienckowski**
- Check references for internal (black with hyperlink) vs. external (green with no hyperlink). Some Clauses were added to the draft, so some external links are now internal. – **Marek Hajduczenia**
- PICS need to be updated throughout. See next slide
  - "S" is used in PCF21, PMAS2, TES8, TES9, TES10, TES11, TES14, TES15, TES18, TES19, TES23

PICS

- Clause 45 PICS – **Jon Lewis**

- Clause 78 PICS – **Jon Lewis**

- Clause 165.11.4.2 PCS – **Steve Carlson**

- Clause 165.11.4.3 PMA – **Jon Lewis**

- Clause 165.11.4.4 PMA Electrical – **Marek Hajduczenia**

- Clause 165.11.4.5, 165.11.4.6, & 165.11.4.7 – **Marek Hajduczenia**