Optical PMD Sub Task Force Report

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IEEE P802.3ah
January 2003, Vancouver
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Key Issues

Relatively smaller volume of comments this time (158 total), but they address several key issues:

- 58: Burst mode timing parameters; signal detect; system implications.
- 59: Refining rise time and jitter tradeoffs.
- 60: Alignment between current specs and legacy components; spectral width harmonization with TTC specs.
- 64A: Scope and the need to specify temperature range.
- Other: Test methodologies and cable plant specs – ensuring consistency across clauses; informative jitter value equivalents from TDP.

Report Jan 9, 2003, Table of Contents

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- Optical PMD STF comments resolution motion
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  - Summary of the issue
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What we did

- Resolved all comments except two TR comments related to extended temperature.
- 58: Agreed on values for burst mode timing parameters. Signal detect remains the same as CW in downstream mode; in upstream mode, there will be a SD, and it will be stated that the response time of the SD is not compatible with Clause 36 PCS sync machine.
- Joint session with P2MP: W. Diab's presentation was reviewed. PMA CDR lock time chosen at 400 nsec. Reset line dropped. Defined the granularity of the burst times for Rx and PMA response times. Tx on/off value was fixed at 600 nsec.
- 59: Refined rise time value for LX10. Made Tx OFF power –45 dBm.
- 60: Agreed to study interoperability issue for 100M legacy devices. Harmonized spectral width with TTC specs.
- 64A: Motion to be brought to 802.3ah for consideration.

Motion

- The Optical PMD STF directs the editors to use their discretion to resolve the remaining editorial comments. The STF further directs the editors to prepare the next draft based on all the resolved comments as recorded in the comments database.
- Moved: Jerry Radcliffe
- Seconded: Meir Bartur
- Y: 17 N: 0 A: 0

Motion for task force

- Accept the comment resolutions as produced by the Optical PMD STF.
- Moved by Vipul Bhatt on behalf of the Optical PMD STF

Passed by acclamation

Motion for PON PMA Timing

- Choose maximum PMA lock time of 400 ns for 1000BASE-PX OLT receiver
- Moved: Wael Diab
- Seconded: Shawn Rogers
- All present: Y: 20 N: 6 A:19
- Motion passes

Motion for PON PMA timing

- Choose maximum PMA lock time of 400 ns for 1000BASE-PX OLT receiver
- Moved by Vipul Bhatt on behalf of the Optical PMD STF

Passes by acclamation

Temperature issue

- Motions (recorded in minutes_01_2002.pdf) passed in January 2002 defined temperature ranges for some PMD types. Interestingly, the baseline proposals called only for “informative” temperature range, and that too on LX only (joiner_1_0302.pdf).
- We struggled with how to convert that decision into specifications. Absence of a compliance point (PMD “case” is implementation dependent) was one issue. Finally, among three options – normative, normative optional, and informative – we chose normative optional through informal straw polls, and then floated a motion. It passed.

Current and additional PMD types

Current Set	Additional Set	Temp. range degrees C
1000BASE-PX10-U	1000BASE-PX(E)10-U	-40 TO +85 for all –U types and for 1000BASE-LX10, 100BASE-LX10. TBD for all –D types.
1000BASE-PX10-D	1000BASE-PX (E) 10-D	
1000BASE-PX20-U	1000BASE-PX (E) 20-U	
1000BASE-PX20-D	1000BASE-PX (E) 20-D	
1000BASE-LX10	1000BASE-LX (E) 10	
1000BASE-BX10-U	1000BASE-BX (E) 10-U	
1000BASE-BX10-D	1000BASE-BX (E) 10-D	
100BASE-LX10	100BASE-LX (E) 10	
100BASE-BX10-U	100BASE-BX (E) 10-U	
100BASE-BX10-D	100BASE-BX (E) 10-D	

Motion

To normatively specify additional optional PMD's addressing extended temperature (referenced to PMD case). These PMD's will have identical optical parameters as specified in the current EFM PMD's. Additional specifications are required in order to define test procedures for the extended temperature range.

- 1000BASE-LX(E)10 -40C to 85C
- 1000BASE-BX(E)-U -40 to 85C
- 100BASE-BX(E)-U -40 to 85C
- 100BASE-LX(E) -40 to 85C
- 1000BASE-PX(E)-U -40 to 85C
- 1000BASE-BX(E)-D (TBD)
- 100BASE-BX(E)-D (TBD)
- 1000BASE-PX(E)-D (TBD)

Note added by Vipul Bhatt on Jan 10, 2003:

This motion was presented to the Task Force on Jan 9, 2003, for ratification, but it failed. For details, see minutes of the January 2003 meeting.

M: Y: 21 N: 4 A:4

Mover: Chris DiMinico

Second: Bruce Tolley

Two comments need to be resolved

- #678, J. Thatcher: “Extended temperature support for [100,1000]BASE-[LX10,BX10-U,BX10D] is mandatory…”
- Y: N: A:
- #296, P. Dawe: “802.3 doesn't do temperature specs. They are out of scope.”
- Y: N: A:

Note added by Vipul Bhatt on Jan 10, 2003:

During the closing session of the Task Force on Jan 9, 2003, it was decided that these two comments will go unresolved and will be carried over to the next meeting.