MMF Ad Hoc meeting minutes

25th April 2013

Approved minutes

recorded by Jonathan King,

with help from Mike Dudek and John Petrilla

MMF ad hoc meeting minutes, 25th April 2013 … 1

- **Meeting started** at 9 am Pacific, chaired by Jonathan King.
- **Attendee list** was taken from the Webex attendee list, ~25 attendees were noted.
- **Presentations** shared in the MMF ad hoc can be found at the MMF ad hoc web page.
  - http://www.ieee802.org/3/bm/public/mmfadhoc/meetings/index.html
- **IEEE patent policy:** Attendees were reminded of the IEEE patent policy
  - http://www.ieee802.org/3/patent.html
- **Agenda slides agreed**.
- **Meeting minutes for 14th March, 11th April**: When asked, no objections were made to approving the minutes for the MMF ad hoc meetings of 14th March & 11th April, so they are approved by the MMF ad hoc.
- **Presentations:** No presentations were submitted.
- **Discussion**: Jonathan listed items which need further contributions to complete the 100m PMD spec: Confirmation of TDP, equivalent reach on OM3, TDP test and SR test. There was some discussion on TDP and SRS specs and testing.
- Mike Dudek summarized how he thought TDP should be calculated: Basically it involves doing the TDP test in the spreadsheet.

  1) Set up the spreadsheet for the reference Rx, reference Tx, and short link with no modal noise as used in the TDP calibration, and note the margin value.

  2) Then degrade the Tx parameters in the spreadsheet to worst case values and adjust the fiber link (or Rx bandwidth depending on what the TDP test tells you to do). The change in margin after accounting for any difference in fiber loss is the TDP.

  If the ref. Rx has a timing offset, then both ref Tx and worst case Tx are 'measured' with that (assuming this is how it is defined in the TDP test).

  The link budget needs to allow margin above the TDP max value for any degradation that aren't included in the TDP measurement (for example if TDP is measured with a low bandwidth test Rx rather than a fiber we need to allow margin for modal noise, mode partition noise and chromatic dispersion.

MMF ad hoc meeting minutes, 25th April 2013 … 2

- **Discussion, continued**:
- John Petrilla recommended that we document the difference between TDP penalty (which is allocated to the Tx), and the VECP which applies to the test source for the SRS test, noting that the difference between TDP and VECP has often had to be explained to people who had not been part of the standards development. Part of the difference is that VECP is measured at the eye centre, whereas TDP is measured with a timing offset. This makes TDP and SRS spec alignment complex. John favours using the same timing offset requirement at the output for the Ref Rx for TDP and SRS specs (eg +/- 0.1 UI). The +/-0.15 UI used in clause 86 came from reasoning that the Tx should be tested with the same jitter value expected for the timing window requirement for a real Rx.

- **Actions and issues requiring resolution:**
  - Contributions addressing the 100m MMF reach objective FFS and TBC items
  - Contributions were invited addressing options for the 20m MMF reach objective, showing significant cost density or power improvements.

- **Next meeting:** 2nd May, contingent on there being material to present.

Attendees

Pete Anslow, Ciena
Dave Brown, Semtech Canada
Matt Brown, Applied Micro
Piers Dawe, iptronics
Stephen Docking, PMC-Sierra
Dan Dove, Applied Micro
Mike Dudek, Qlogic
Galen Fromm, Cray
Jack Jewel, independent
Jonathan King, Finisar
Miles Kimmitt,
Nenad Lalic, TE
Sharon Lutz, US Conec
Dale Murray, LightCounting
Peter Pepeljugoski, IBM
John Petrilla, Avago Technologies
Rick Pimpinella, Panduit
Rick Rabinovich, Alcatel-Lucent
Olaf Sahlen, TE Connectivity
Matt St Peter,
Jeff Slavick, Avago Technologies
Oded Wertheim,
CK Wong, FCI