

# Unapproved minutes P802.3bs 400 Gb/s Ethernet Electrical Ad Hoc Teleconference 23<sup>rd</sup> January 2017

Minutes taken by Andre Szczepanek, Inphi

The meeting started at 8:05 am Pacific chaired by Andre Szczepanek, the attendee list was taken from the Webex attendee list, plus any e-mail notifications of attendance.

Documentation for the call can be found at the Ad Hoc web page:

<http://www.ieee802.org/3/bs/public/adhoc/elect/index.shtml>

Andre reminded everyone of the updated IEEE patent policy

(<http://www.ieee802.org/3/patent.html>) and asked if anyone was unfamiliar with it. No one responded.

Andre presented the IEEE participation Foil.

Andre asked if anyone had any objection or additions to the draft agenda. No one responded, so this agenda was approved by the Ad Hoc.

Andre asked if anyone had any objection or additions to the draft minutes from the 19<sup>th</sup> December 2016 call. No one responded, so the minutes were approved by the Ad Hoc.

## Presentation #1

Title: Electrical Interface Ad Hoc Opening/Agenda

Presenter: Andre Szczepanek, Inphi

[http://www.ieee802.org/3/bs/public/adhoc/elect/23Jan\\_17/szczepanek\\_01\\_012317\\_elect.pdf](http://www.ieee802.org/3/bs/public/adhoc/elect/23Jan_17/szczepanek_01_012317_elect.pdf)

## Presentation #2

Title: Issue with 50G PAM4 C2M Specification

Presenter: Ali Ghiasi, Independent

[http://www.ieee802.org/3/bs/public/adhoc/elect/23Jan\\_17/ghiasi\\_01\\_012317\\_elect.pdf](http://www.ieee802.org/3/bs/public/adhoc/elect/23Jan_17/ghiasi_01_012317_elect.pdf)

The presentation outlined an issue with QSFP crosstalk eroding C2M margin. A number of solutions were discussed including: reducing Receiver eye height, Tightening up transmitter parameters and specifying a better compliance board connector.

To this end Receiver vendors are encouraged to provide feedback on the impact of a reduced Receiver eye height specification (given they probably use AGC anyway). Also presentations on OSFP and QSFP56 connectors have been made to the OIF, and the contributors of those presentations are encouraged to present them to this ad hoc.

At the end of the discussion Mike Dudek pointed out that the average power of PAM4 is less than NRZ, so the NRZ crosstalk figures for connectors used in Ali's calculations need to

be adjusted for the ~2.5dB lower average power of PAM4. Ali agreed to do this and bring in an updated presentation at the next meeting.

Andre then presented a slide summarizing some issues brought up in D2.2 comment resolution.

Andre announced that Greg LeCheminant will be presenting at the next meeting on the fundamental capabilities/limitations of instrumentation relating to the jitter measurement methodology. This had been requested at previous ad hocs.

The meeting adjourned at 9:40am Pacific.

#### Attendee list (taken from Webex attendee list)

Andre Szczepanek	Inphi
Rajmohan Hegde	Broadcom
Pavel Zivny	Tektronix
Greg LeCheminant	Keysight
Rita Horner	Synopsys
James Fife	Etopus
Yasuo Hidaka	Fujitsu
Adam Healey	Broadcom
Martin white	Cavium
Gianpiero Maria Bognanni	Cisco
Robert Sleigh	Keysight
Stephane Dallaire	Inphi
Kumaran Krishnasamy	Broadcom
Ali Ghiasi	Independent
Richard Mellitz	Samtec
Phil Sun	Credo
Mike Dudek	Cavium
Piers Dawe	Mellanox