Unapproved Meeting Minutes
IEEE P802.3bq Rx CMNR Ad Hoc

December 17th, 2014
Prepared by Pete Cibula

Meeting Agenda:

1) Roll call - Record attendance, attendees' names and affiliations

2) Reminder of IEEE patent policy: www.ieee802.org/3/patent.html

3) Housekeeping:
   a) Review & approve meeting agenda.
   b) Determine next ad hoc meeting date & time
   c) Reminder for comments on P802.3bq D1.1.1.

4) New business for the December 17th ad hoc meeting as follows:
   a) New contribution: Screening Issues (Dieter Schicketanz, Consultant, University of Reutlingen)
   b) Review relevant content from prior study group/task force work and/or new contributions with discussion.
   c) Discuss work in process and tentative schedule for bringing those efforts into the ad hoc.

5) General Discussion and meeting wrap-up
   a) Next steps/future meetings

The 4th meeting of the P802.3bq Receiver Common-Mode Noise Rejection (Rx CMNR) Ad Hoc was called to order at 9:37 AM Pacific Standard Time.

1) Participants were asked to register their attendance by email; responses are reproduced in the attendance record at the end of these minutes.

2) Participants were reminded of the IEEE's patent policy. All in attendance acknowledged the policy; as a reference, anyone not familiar with said policy is directed to the URL above.

3) Houskeeping & general updates:

   a) The agenda was reviewed with those in attendance. The updated was accepted without opposition.
   b) Given that the next scheduled meeting falls on December 31st, 2014, participants agreed to move the meeting to January 7th, 2015. Given the close timing with the January 2015 Interim session, the meeting may be cancelled if there are no new contributions.
   c) Participants were reminded that comments for P802.3bq D1.1.1 are due Saturday, December 20th.

4) New business:

a) A new contribution, Screening Issues (Dieter Schicketanz, Consultant, University of Reutlingen) was reviewed with ad hoc participants. The contribution identifies several characteristics of, and issues associated with, screened interconnects.

- ISO/IEC and TIA electrical specifications for coupling attenuation (CA), transfer impedance and transverse conversion loss (TCL) are summarized for cables and interconnects, further noting that some requirements are environment- or application-specific (as in proposed MICE E1/E2/E3 limits for CA and TCL).
- A concern regarding variability in the shield electromechanical interface is highlighted by several illustrations, including a representative CA measurement made before and after the shield contact is improved with additional mechanical pressure.
- Directly connecting the cable shield to the receiver under test is suggested as a possible solution to eliminate variability in a test environment.

Major points of the discussion are summarized below.

- Participants asked several clarifying questions regarding the proposed direct shield connection and its use in a test environment, which led to a more general discussion regarding the scope of the common-mode noise rejection test – is it a PHY-specific test, or a more general test of a system that incorporates a BASE-T PHY?
- It was noted that the standard is port-based, and includes the PHY, PCB, isolation components, MDI interconnects and a link segment.
- Existing standards define the requirement as a specification "… to limit the sensitivity of the PMA receiver to common-mode noise from the cabling system." This sensitivity has typically been evaluated using the PHY receiver BER/FER. While a convenient and easy-to-understand-and-implement metric, it also carries the risk that a PHY may be perceived as "good" or "bad" when in fact some other element of the system (PCB, isolation, MDI interconnects or cabling) is the source of an observed common-mode sensitivity.
- As a result, it was suggested that text for subclause 98.5.4.3 should clearly indicate that the receiver common-mode-noise rejection test evaluates not only the PHY, but also elements of the link segment and the MDI.

5) Meeting wrap-up - The next meeting was scheduled for January 7th, 2015 at 9:30 AM Pacific Standard Time.

The P802.3bq Rx CMNR Ad Hoc meeting was adjourned at 10:28 AM Pacific Standard Time.

Meeting Attendance (From e-mail acknowledgements and on-line participant list)

Name	Employer	Affiliation (if different)
Jim Bauer	Marvell	
Brian Buckmeier	Bel Fuse, Inc.	
Dave Chalupsky	Intel	
Pete Cibula	Intel	
Chris DiMinico	MC Communications	
Thuyen Dinh	Pulse	
German Feyh	Broadcom	
Brett McClellan	Marvell	
Victor Renteria	BelFuse/TRP	
Masood Shariff	Commscope	
Dieter Schicketanz	University of Science, Reutlingen	
Tom Souvignier	Broadcom	
Ron Tellas	Panduit	
Paul Vanderlaan	Nexans	
Peter Wu	Marvell	
George Zimmerman	CME Consulting	Commscope, Aquantia