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

March 4th, 2015
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

4) New business for the March 4th ad hoc meeting as follows:
   a) Discussion of Proposed Text for Clause 113.5.4.3 (Pete Cibula, Intel Corporation)

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

The 7th meeting of the P802.3bq Receiver Common-Mode Noise Rejection (Rx CMNR) Ad Hoc was called to order at 9:35 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) Housekeeping & general updates:

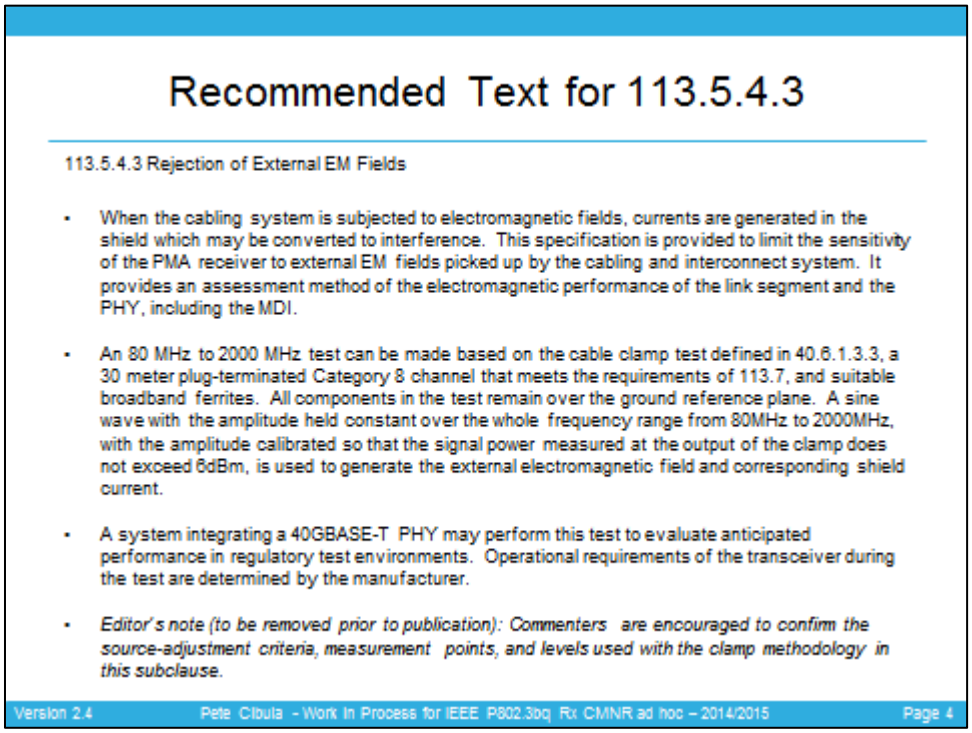
   a) The agenda was reviewed with those in attendance and the agenda was accepted without opposition.

4) New business:

   a) Participants discussed a contribution from the ad hoc Chair that summarized comments received on proposed text for Clause 113.5.4.3, as presented at the February 18th Rx CMNR ad hoc meeting (see page 7). The comments and related discussions were reviewed by participants, who shared observations and ideas on several implementation details as summarized below.
      - The proposed EM-type clamp is both inductive and capacitive, and any alternate clamps (for example, tubular wave couplers) should provide similar coupling behaviors.
      - Ferrites need to be clearly defined in terms of quantity, location and electrical specifications over the frequency range of interest.
      - Positioning of the cable with respect to the GND plane needs to be refined and specified. For example, the original proposed text suggests that the cable be in direct contact with the

ground plane, which is impractical for the short cable distances between the clamp and the MDI of the device under test.

After this review and discussion, the ad hoc developed updated text and agreed to submit the proposed text in support of D1.2, Comment #237. The text (as presented in the Berlin meeting) is included here for reference.



Recommended Text for 113.5.4.3

113.5.4.3 Rejection of External EM Fields

- When the cabling system is subjected to electromagnetic fields, currents are generated in the shield which may be converted to interference. This specification is provided to limit the sensitivity of the PMA receiver to external EM fields picked up by the cabling and interconnect system. It provides an assessment method of the electromagnetic performance of the link segment and the PHY, including the MDI.
- An 80 MHz to 2000 MHz test can be made based on the cable clamp test defined in 40.6.1.3.3, a 30 meter plug-terminated Category 8 channel that meets the requirements of 113.7, and suitable broadband ferrites. All components in the test remain over the ground reference plane. A sine wave with the amplitude held constant over the whole frequency range from 80MHz to 2000MHz, with the amplitude calibrated so that the signal power measured at the output of the clamp does not exceed 6dBm, is used to generate the external electromagnetic field and corresponding shield current.
- A system integrating a 40GBASE-T PHY may perform this test to evaluate anticipated performance in regulatory test environments. Operational requirements of the transceiver during the test are determined by the manufacturer.
- *Editor's note (to be removed prior to publication): Commenters are encouraged to confirm the source-adjustment criteria, measurement points, and levels used with the clamp methodology in this subclause.*

The discussion concluded with a high-level summary of next steps for the ad hoc, which is to continue technical work needed to refine informative details of implementation (similar to those summarized above) and submit updates as comments in upcoming Working Group ballot(s).

5) Meeting wrap-up - The next meeting was tentatively scheduled for March 18th, 2015 at 9:30 AM Pacific Standard Time.

ad hoc Chair's note – A new Rx CMNR ad hoc meeting series was announced on March 22nd. Meetings will be held at 9:30AM PDT on alternate Wednesdays beginning April 1st.

The P802.3bq Rx CMNR Ad Hoc meeting was adjourned at 10:55 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 Stewart Connector	
Derek Cassidy	?	
Dave Chalupsky	Intel	
Pete Cibula	Intel	
German Feyh	Broadcom	
Mike Good	Berk-Tek	
Tuan Khuu	Belfuse	
Brett McClellan	Marvell	
Bryan Moffitt	CommScope	
Neven Pischl	Broadcom	
Victor Renteria	Bel	
Steve Sedio	Foxconn	
Tom Souvignier	Broadcom	
Paul Vanderlaan	Berk-Tek	
Peter Wu	Marvell	
George Zimmerman	CME Consulting	Aquantia, Commscope