Meeting Minutes
IEEE P802.3bq Channel Model Ad Hoc
Face to Face Meeting held at the IEEE Interim Meeting
January 23-24, 2014, Indian Wells, CA, USA

January 23rd, 2014
Prepared by Pete Cibula and Brad Booth

Meeting Agenda:

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

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

3) Houskeeping:

   a) Review & approve meeting agenda.

4) New business for the January 23rd ad hoc meeting as follows:
   a) Review the incoming request/action item from the PHY Baseline Proposal ad hoc
   b) Starting point - New contribution with discussion
      i) "An Initial Assessment of System Background Noise in 10GBASE-T Systems" (P. Cibula, Intel Corporation)
   c) Discussion and future work for the February 4th channel modeling ad hoc meeting

5) General Discussion and meeting wrap-up
   a) Review action items from this meeting
   b) Next steps/future meetings

The 13th meeting of the P802.3bq Channel Modeling Ad Hoc was called to order at 2:05 PM Pacific Standard Time.

1) Participants were asked to sign an attendance sign-in sheet (reproduced in the attendance record at the bottom of these minutes).

2) Participants were reminded of the IEEE's patent policy. Those not familiar with it were directed to the URL above.

3) Houskeeping & general updates:

   a) The agenda was reviewed with those in attendance. Attendees were asked to note any corrections or additions. None were noted and the agenda stands approved.

4) The meeting was then opened to hear new business for the January 23rd ad hoc meeting as follows:

   a) Review the incoming request/action item from the PHY Baseline Proposal ad hoc

i) Attendees were informed of the following request from the PHY Baseline Proposal ad hoc as noted in the closing discussion and meeting minutes of the January 6th, 2014 PHY Baseline Proposal ad hoc:

"Action item (to be forwarded to 802.3bq Channel Modelling ad hoc chairs):
Please solicit contributions on:
Measurement methodology for background noise in systems
Measurement results of background noise in systems, including broadband, stationary, and nonstationary narrowband sources"

ii) Insert discussion notes here…

b) New contribution with discussion – a starting point to provide some context for beginning work on the ad hoc's new action item.

i) "An Initial Assessment of System Background Noise in 10GBASE-T Systems" (P. Cibula, Intel Corporation). The contribution describes noise measurement results from 1MHz-400MHz obtained using an *in situ* technique based on a vendor-specific PHY debug diagnostic. The purpose of the contribution is to provide early but hopefully representative background noise levels to PHY developers and to stimulate discussions on measurement methodologies and ideas for further work in this area. Results show that
   (1) Measured *in situ* background noise for this system (a 10GBASE-T network adapter) is around -141dBm/Hz
   (2) System noise sources can increase both peak and average background noise levels
   (3) Background noise sources may not couple equally across all MDI pairs

ii) Discussion of the contribution included an observation that the reported levels seemed somewhat higher than expected for background noise. This point was accepted and explained by noting that the reported noise measurement includes internal PHY noise and, as such, is not a "pure" system background noise measurement.

c) Discussion of the action item and future work for the February 4th channel modeling ad hoc meeting

i) Meeting participants reviewed and discussed considerations for measuring background noise presented the P802.3bq task force (see zimmerman_3bq_02_0114.pdf, "Measurements Environment").
   (1) Topics for discussion included the measurement location, measurement conditions (with/without the PHY), MDI filtering (both passive "cell phone" and intrinsic ICM characteristics) and measurement considerations (required capability and bandwidth). Further details are available in discussion notes appended to the meeting agenda.
   (2) Acknowledging that accurately characterizing host channel PCB noise requires contributions from multiple disciplines and sources, the co-chairs took an action item to post a call for help and contributions from others to the project reflector.

d) Closing discussion – Action item review and future meetings
   i) One action item (noted above) was identified: *Channel modeling ad hoc co-chairs will author and post a call for help and contributions from others related to measuring host channel background noise to the project reflector.*

ii) Participants were reminded that channel modeling ad hoc meetings in 2014 will be held on Tuesdays at 8:00AM PST in an effort to reduce conflicts with other industry meetings.

5) Meeting wrap-up - The next meeting was scheduled for Tuesday, February 4th, 2014 at 8:00AM PST.

The P802.3bq Channel Modeling Ad Hoc meeting was adjourned at 2:59 PM Pacific Standard Time.

Meeting Attendance

Name	**Employer**	**Affiliation (if different)**
Anna An	FIT (Foxconn)	
Will Bliss	Broadcom	
Brad Booth	Microsoft	
Theo Brillhart	Fluke Corporation	
Dave Chalupsky	Intel	
Pete Cibula	Intel	
Chris DiMinico	MC Communications	
Curtis Donahue	UNH-IOL	
Yvan Engels	Leoni	
Alan Flatman	Independent	
Alexander Franck	Leoni	
Ron Nordin	Panduit	
Victor Renteria	BelFuse/TRP	
Vineet Salunke	Cisco	
Paul Vanderlaan	Berk-Tek LLC	
Bob Wagner	Panduit	
Peter Wu	Marvell	
George Zimmerman	CME Consulting	Aquantia, Commscope