

**IEEE P802.3ap Channel Model Ad Hoc
Meeting Notes, November 4, 2004**

- Purpose of this meeting is to look at new concepts that may be introduced at the upcoming Plenary meeting.
- Reminder to submit request for Plenary Meeting presentation time by November 10, 2004. (next Wednesday) Remember to include enough time for questions and answers.

Charles Moore: Specifying Channels

http://www.ieee802.org/3/ap/public/channel_adhoc/moore_c1_1104.pdf

- There was discussion as to whether and what kind of feedback this method would provide about how to make a compliant channel.
- There was discussion as to whether this method was time domain or frequency domain and whether there is any benefit to including more of one or the other.
- There was a question of whether the method would tell how to design a channel without first having to build it? The presenters believed that the answer is yes. Several commenters believed that simulation could be used. Rich Mellitz said that he uses a similar technique.
- One questioner asked whether the presenters had compared these results against other analyses/simulations. Answer was yes, they were compared to Joe Abler's analyses. This was not a formal comparison. The presenters can only say that the tendencies agreed with Joe's analysis. The presenters want to look at this in more detail before presenting a comparison. The questioner asked that the results be compared to analyses other than just Joe Abler's.
- Rich Mellitz commented that this method might determine a worst-case data pattern.
- George Tang expressed a belief that this can only work if the channel is reflection dominated. If it is loss-dominated, then a small change in characteristics of material can have a big effect.
- Improvement suggested -- add a graph for page 8 to show what is meant.
- Question -- Can this have a graphical user interface? Charles didn't know, but will consider.
- Question on how to set tap weights -- Charles: by bringing pulse response up to the AC response.
- Question is transmit equalization being used -- Charles: yes.

Rich Mellitz: Heads-up on Work to Broaden the General Market Presence.

http://www.ieee802.org/3/ap/public/channel_adhoc/mellitz_c1_1104.pdf

- The general idea of the presentation seems to be that there are certain parts or aspects of the templates that could be allowed to change with perhaps no impact on performance. For example, it may be that notches at higher frequencies have no effect. Rich proposed that the work be done to determine these "don't care" situations, if any.
- There was a suggestion that maybe the measurements could just be truncated above some upper frequency. There was disagreement over what this would do.
- The purpose of the proposed work was re-stated as "Is everything above the SDD21 line OK and are some things below the line OK?".
- There was a discussion that peaking at high frequencies would cause crosstalk problems. The situations under which this might occur were discussed.
- Discussion of how high a frequency before there is no effect. The 5th harmonic was suggested. Presenter disagreed -- says it's more like the Nyquist freq. Others cite signals down in the noise by 5th harmonic.
- There was a comment that at least some of these questions raised by presenter can be resolved by requiring SDD21 to be monotonic in the region from DC to Nyquist. But this seemed to the group to be too strict a requirement.

- Presenter said that he would work on getting data for the Plenary meeting. There was a question of how many cases should be simulated. Presenter thought 200. Further question on what % of these would be backed up by measurements. There was no answer except that some boards would or could be built to mimic these behaviors.

Objectives were for the upcoming Plenary meeting

Do as much as we can toward completing draft 1.0 of 802.3ap. Example issues are programmable Tx, line coding, channel compliance.

End call.

Attendance:

First	Last	Nov. 4
Joe	Abler	
Michael	Altmann	
Stephen	Anderson	x
Majid	Barazande-Pour	
Brian	Brunn	
Joe	Caroselli	
John	D'Ambrosia	
Justin	Gaither	
Adam	Healey	
Mike	Lerer	
Cathy	Liu	
Mary	Mandich	
David	McCallum	
Richard	Mellitz	
Charles	Moore	
Tom	Palkert	
Pravin	Patel	
Petre	Popescu	
Shannon	Sawyer	
Brian	Seemann	
John	Stonick	
George	Tang	
Brian	von Herzen	
Nirmal	Warke	

X = Meeting notes volunteer.