

# Channel Ad Hoc Meeting Notes

January 11, 2005

- 1) Agenda presented by Adam Healey (from posted presentation at [http://iee802.org/3/ap/public/channel\\_adhoc/agenda\\_c1\\_0105.pdf](http://iee802.org/3/ap/public/channel_adhoc/agenda_c1_0105.pdf)) – from the schedule of events, especially note the following:
  - a) deadline for the comments on draft 0.7 (1/18)
  - b) deadline for presentation request on 1/19
- 2) Status Update - SDD21 & SDD11/22 Model Development presented by John D'Ambrosia (presentation posted at [http://iee802.org/3/ap/public/channel\\_adhoc/dambrosia\\_c1\\_0105.pdf](http://iee802.org/3/ap/public/channel_adhoc/dambrosia_c1_0105.pdf))
- 3) Adam solicited concerns with frequency domain methodology or suggestions for further actions
  - a) Mike Lerer – It seems we are doing all of this work in the frequency domain and then determining whether we like it from the pulse response viewpoint. Should we simply move to a pulse-response methodology?
  - b) Mary Mandich – Regarding the recommendation on slide 13 (Eliminate proposed TP1/TP4 Informative SDD11 / 22 mask): concerned that limited data being used to make this conclusion. As we learn more through simulation we may decide using SDD11 & SDD22 would be useful.
  - c) Charles Moore – How hard is the channel going to be to equalize (how much loss will you have to equalize out)? And how bad will the left-over “stuff” be?
  - d) Matt Hendrick – Has more simulations to run for future presentations, including different connector models and more reflections.
  - e) Mike Altman – If the data we’re trying to get to is a classification of how difficult the channel is to equalize, the comparison becomes more difficult. There is definitely an added level of complexity.
  - f) Graeme Boyd – Does SDD11 & 22 comment imply that packaging effects will become specifications? Packaging effects should not become part of the normative.
  - g) Adam Healey – More work needed on receiver return loss specification methodology – (1) spec. at TP5, (2) spec. at TP4 with an allowance for the TP4-TP5 segment, (3) mandate DC coupled channel (TP4-TP5 irrelevant).
- 4) “S-Parameter Cascading for Channel Model” presented by Shannon Sawyer (posted at [http://iee802.org/3/ap/public/channel\\_adhoc/sawyer\\_c1\\_0105.pdf](http://iee802.org/3/ap/public/channel_adhoc/sawyer_c1_0105.pdf)).
- 5) John D'Ambrosia presented response to lower frequency limit concern raised previously.
  - a) Channel 5 has been remeasured in several different configurations

- b) Details will be compiled over the next week and put into a presentation which will be posted on the web, however, the files will be very large due to the step size.
- 6) Adam returned the discussion to the concerns with frequency-domain methodology. We need to talk about these items now so they are not raised at the January interim.
  - a) Charles Moore – we have been working about 1 year on the line version and we know that that will not work for a normative spec. At the San Antonio meeting we came up with the improved guideline. A lot of work will be necessary to turn that into a normative spec. Concerned that we may need more time to make this work. When the simulations from the signaling ad hoc are available, there will be a lot of data on the merits of different channels and we will then have the best guidelines for what the normative spec should be. Doesn't want to make any decisions on methods until we can compare them with the signaling ad hoc results.
  - b) Brian Seemann – re: the attractiveness of using the frequency domain method for backplane makers. There is utility in being able to give customers the ability to trade things off. Whichever method we move forward with, we need to determine a straightforward method to do this. What happened with ACR? We don't want to get too complicated – the more algorithmic we get, the less interest people will have in using it.
  - c) Graeme Boyd – Concerned with how much ripple you allow.
  - d) Brian Seemann – Maybe the key is in the informative nature of what we're trying to do.
  - e) Mary Mandich – It would get simpler if we decide whether we're going to define the channel in frequency or time domain and then we can refine whichever method we choose.
  - f) Charles Moore – agreed, and feels that most would like to define the frequency domain, however, we are not ready to do so as we have not proven whether the frequency domain can successfully define the channel. We need to wait on the signaling ad hoc results before we make a decision.
  - g) Mike Altman – there is a key piece of information missing. We now have a number of examples of measured channels to run simulations on, however, we do not have the data to indicate which of these channels is likely to be compliant.
  - h) Many – we seem to be in a chicken and egg cycle. Do we define the channel first or the signaling first? It will probably be an iterative process.

Attendance:

<b>First</b>	<b>Last</b>	<b>Jan. 11</b>
Joe	Abler	
Michael	Altmann	
Nitish	Amin	
Stephen	Anderson	
Majid	Barazande-Pour	
Graeme	Boyd	
Brian	Brunn	
John	D'Ambrosia	
Justin	Gaither	
Adam	Healey	
Matt	Hendrick	
Steven	Krooswyk	
Aniruddha	Kundu	
Mike	Lerer	
Cathy	Liu	
Mary	Mandich	
Charles	Moore	
Steve	Novak	
Tom	Palkert	
Pravin	Patel	
Petre	Popescu	
Shannon	Sawyer	
Brian	Seemann	
Jimmy	Sheffield	<b>X</b>
Jeff	Sinsky	
Brian	von Herzen	

X = Meeting notes volunteer.