

IEEE802.3 Channel Ad Hoc Conference Call Minutes

9/9/04

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Minutes Recorded by Jimmy Sheffield

- I. SDD21 presentation – John D’Ambrosia
http://ieee802.org/3/ap/public/channel_adhoc/dambrosia_01_0904.pdf
 - A. Tried to compare the results of 4 samples, but could not average – still working on it for the next meeting
 - B. Thanks to UNH for assistance
 - C. Note that all backplanes tested are QuadRoute backplanes
 - D. Questions & Comments
 1. Shannon – high-frequency behavior may be due to equipment setup
 2. Steve Anderson – How do conclusions change if you lower the line above 5 GHz? Considering lowering the magnitude of the line above 5 GHz since initial concerns weren’t aimed at 10GHz and higher effects. Originally focused on lower frequency skin-effect behavior.
 3. Joel – What area was Steve’s proposal specifically trying to cover? Reviewing public and non-public data, the degree of change from Steve’s proposal in the 1-2 GHz range only removed 1-2 dB, which is not enough to meet the channel cases seen with acceptable Dk/Df values. Initial proposal

suggested 3-4 dB reduction in lower frequency range, and assumed 1-2 dB in the 6-10 GHz range.

4. Charles – From the signaling committee slides, it appears that the measurement points are at or near the IC pins, is that correct? John’s resp: *no, they are from SMA line cards (TP1/TP4 measurements).*
5. Brian – Everyone seems to agree that the lower frequency effects are skin effect. From Joel’s suggestion, above 6 GHz, the lines are ~5dB above the ad hoc line. Joel’s resp: *test boards were aimed at performing near the ad hoc line, will try to get samples at, above, and below the lines so people can run tests.*
6. Brian – maybe none of the proposals are correct by themselves: at low frequencies, Joel’s presentation seems accurate, at the mid-range (4-6 G), Steve’s seems accurate, and many people seem to think that above 10 GHz, the response doesn’t matter. Joel’s resp: *from John’s data, it would appear that 40-50% of the cases would fail Steve’s line.*

E. Chicago Rules Straw Poll –

1. Topics

- a) Adopt the Anderson equation as the informative channel SDD21 magnitude limit
- b) Adopt the Goergen equation as the informative channel SDD21 magnitude limit
- c) Adopt a yet-to-be determined 2-part concatenation proposal as the informative channel SDD21 magnitude limit
- d) None of the above

2. Poll Results

	A	B	C	D
Brian Seaman	Y	N	Y	N
Mike A	N	Y	N	N
Jimmy	N	Y	N	N
Pravin	A	Y	N	N
Adam	N	Y	N	N
Chris	N	Y	N	N
William Peters	N	Y	N	N
Cathy	Y	Y	N	N
Graem	N	Y	N	N
Mike L.	Y	N	Y	N
John S	N	Y	N	N
John D	N	Y	N	N
Pete	N	Y	N	N
Steve A	Y	N	Y	N
Joel	N	Y	N	N
Shannon	N	Y	N	N
Brian V	Y	N	Y	N
Glenn	N	Y	N	N
Tom	Y	N	Y	N
Mary Mandich	N	Y	N	N

	Y=6	Y = 15	Y = 5	Y = 0
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F. Straw vote – Adopt the Goergen_01_0904 page 4, Joel’s variable changes to the ad hoc proposed equation as the informative channel SDD21 magnitude limit

1. Discussion

- a) Brian V – There is a power penalty at 5 GHz in the Goergen proposal that system vendors will not want to incur. Would prefer to only adjust the line in the 50M-3G range.
- b) Brian S – We endeavored to change the 0-3 G range, but impacted the 5 GHz frequency, which is a frequency of interest.

2. Vote

Brian Seaman	N
Mike A	Y
Jimmy	Y
Pravin	Y
Adam	Y
Chris	Y
William Peters	Y
Cathy	N
Graem	Y
Mike L.	N
John S	Y
John D	Y
Pete	Y
Steve A	N
Joel	Y
Shannon	Y
Brian V	N
Glenn	Y
Tom	N
Mary Mandich	Y
Y = 14 / N = 6	

Majority passed.

II. Test Points – reference Adam’s email 8/26/04 re: test point summary

A. Adam’s summary of his summary

- 1. Summarized points from discussion on reflector to bring agreement and move on
- 2. The biggest question seemed to be the location of the blocking cap
- 3. Suggestions:
 - a) Keep TP1 & TP4 locations from previous discussions
 - b) Locate the cap after TP4 near the receiver
- 4. Nothing terribly different from other work that’s been done, but it creates some problem in who is responsible (IC or PCB)
- 5. Suggestion was to create a TP5 to clarify – refer to Rich Melitz’s proposal

B. Discussion

1. Adam – If we enforce that the cap is part of the channel, then putting it into the die is not a possible. Consistency with previous efforts is an asset. The only con is the ownership issue.
2. Brian – We should define TP1-TP4 as the normative channel compliance zone and TP5 informative
3. Mike – from this point forward we would then adopt this model for the signaling ad hoc.

C. Chicago Rules Straw Poll

1. Options
 - a) The channel ad hoc will continue to define parameters as measured from TP1 to TP4
 - b) Define TP1-TP4 and an informative TP5 with a supercap equivalent circuit model defined in Melitz’s reflector message between TP4 and informative TP5
 - c) Define TP1-TP4 and an informative TP5 with an equivalent cap circuit model that will be defined as informative between TP4 and informative TP5
 - d) None of the above
2. Discussion
 - a) Glenn – How realistic is the supercap solution?
 - b) Brian – Am I voting that I have an option to not use the cap with options b & c?
3. Vote results

	A	B	C	D
Brian Seaman	Y	Y	Y	N
Mike A	Y	Y	Y	N
Jimmy	Y	Y	Y	N
Pravin	Y	Y	Y	N
Adam	Y	Y	Y	N
Chris	Y	Y	Y	N
William Peters	Y	Y	Y	N
Cathy	Y	Y	Y	N
Graem	Y	N	N	N
Mike L.	Y	Y	Y	Y
John S	Y	Y	Y	N
John D	Y	Y	Y	N
Pete	Y	A	Y	N
Steve A	Y	Y	Y	N
Joel	Y	Y	Y	N
Shannon	Y	Y	Y	N
Brian V	Y	Y	Y	Y
Glenn	Y	Y	Y	N
Tom	Y	N	Y	N
Mary Mandich				
	Y = 19	Y = 16	Y = 18	Y = 2

D. Straw Poll – Adopt Option C as the channel compliance model moving forward

Brian Seaman	Y
Mike A	Y
Jimmy	Y
Pravin	Y
Adam	Y
Chris	Y
William Peters	Y
Cathy	
Graem	N
Mike L.	Y
John S	Y
John D	Y
Pete	Y
Steve A	Y
Joel	Y
Shannon	Y
Brian V	
Glenn	Y
Tom	Y
Mary Mandich	
Y = 16 / N = 1	

Majority Passed

III. Next call – 2 hours 8:00 or 10:00 PDT 9/17 (Fri)