

07Sept04 SDD21 Comparisons

- Review scope of work from July04
- Review proposed Channel Description as of July04
- Proposed changes Submitted for Discussion
- Graph SDD21 Proposals
- Graph Magnitude Gain from ad-hoc proposed Channel Equation values
- Comparison and Discussion

Straw Poll Scope of Work

- From July04 Meeting

- SDD21 changes bounded to 50Mhz-6000Mhz max arc depth adjustment of 6db, the equation in goergen_03-0704 staying intact with changes only to constants, the 6000Mhz-15000Mhz magnitude staying intact within 1dB.

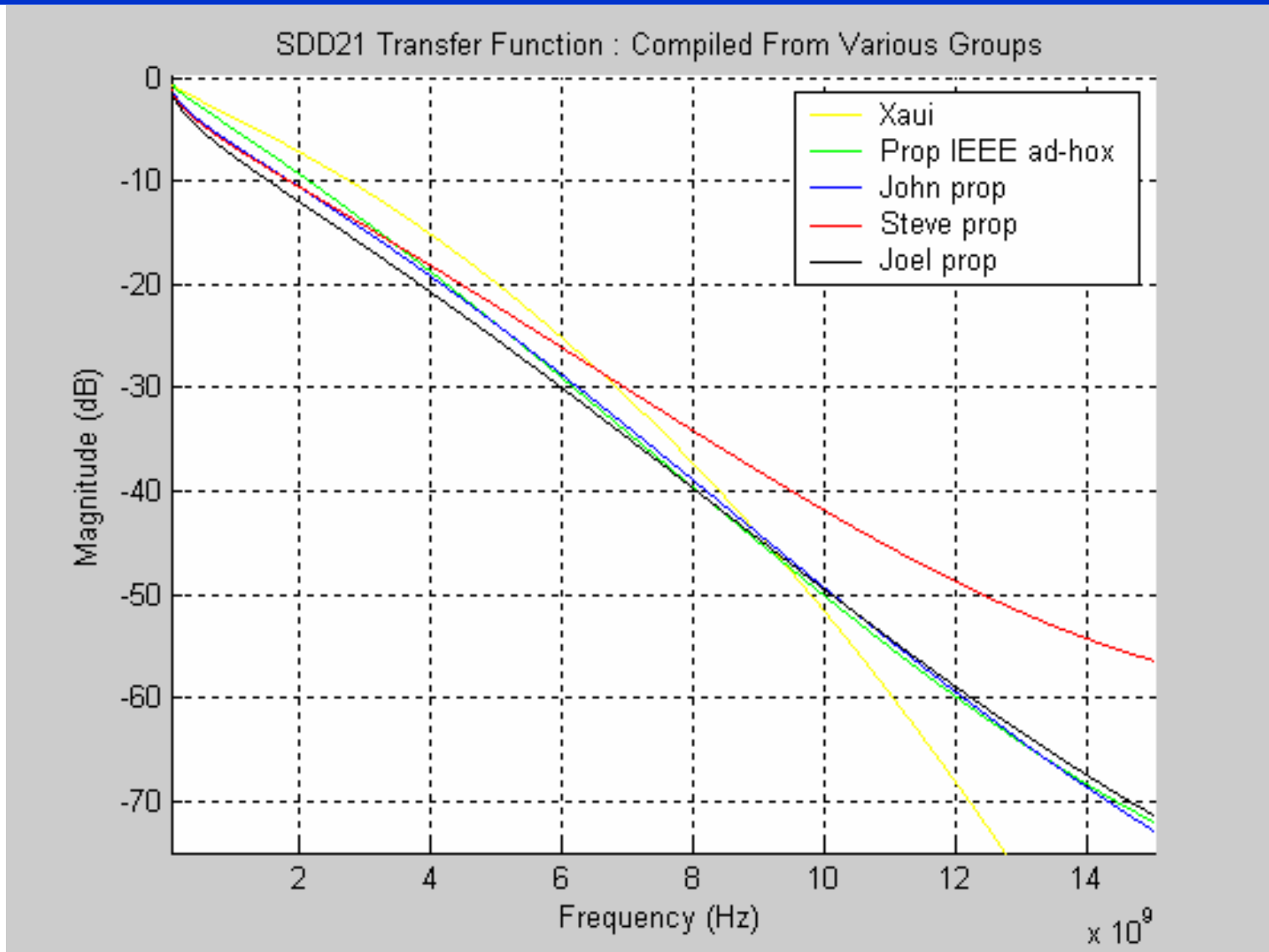
Proposed Ad-Hoc Channel Description - as of July04

- $b1 = 6.5E-06$
- $b2 = 3.3E-10$
- $b3 = 3.2E-20$
- $b4 = 1.38E-30$
- $SDD21 = -20 \cdot \log_{10}(e) \cdot (b1 \cdot \sqrt{f}) + b2 \cdot f + b3 \cdot f^2 - b4 \cdot f^3$
- $f = 50\text{Mhz to } 15000\text{Mhz}$

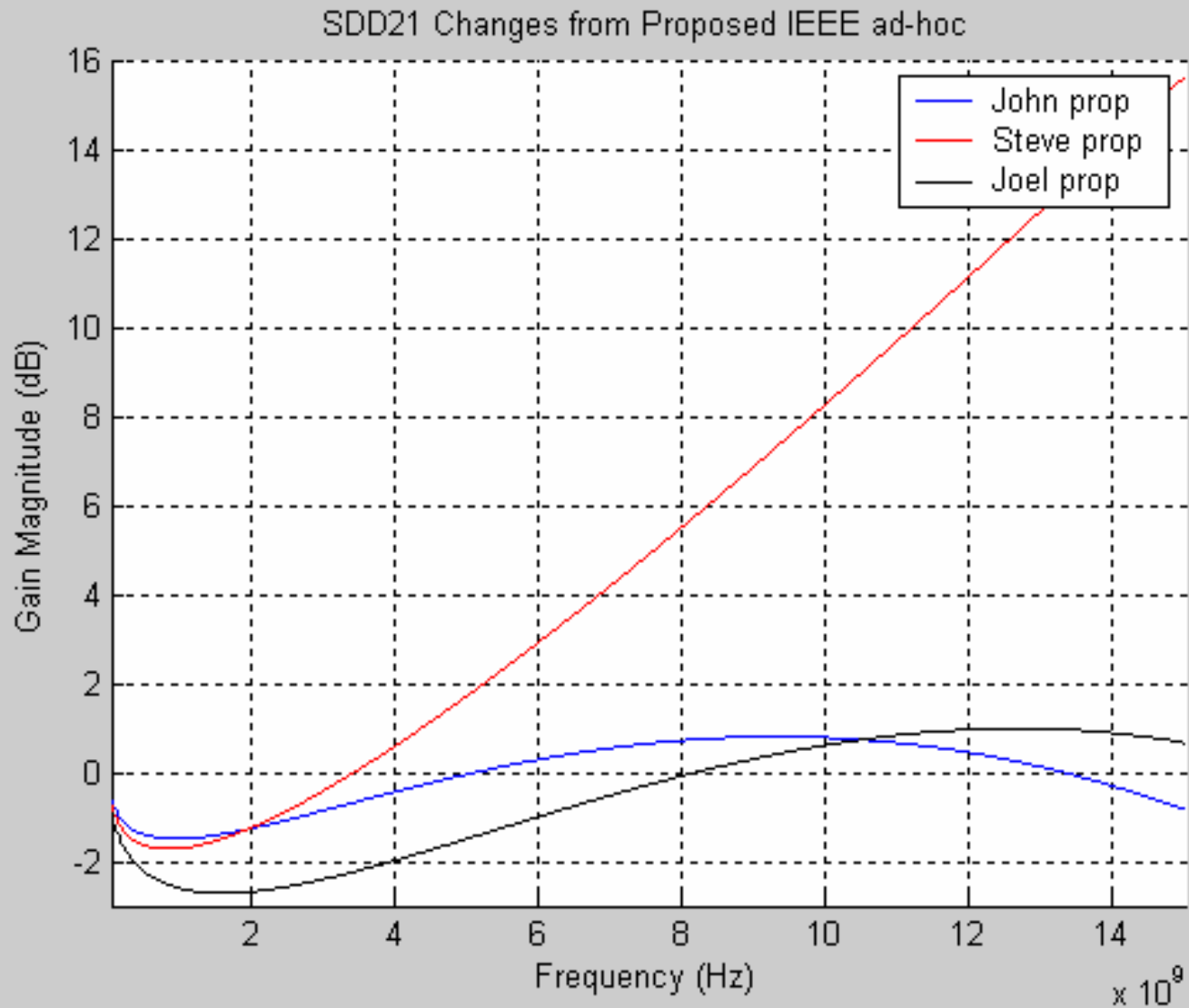
SDD21 Proposed Variable Changes

- John's (withdrawn on 07Sept04):
 - ◆ $b1 = 1.8e-5$
 - ◆ $b2 = 1.3e-10$
 - ◆ $b3 = 3.98e-20$
 - ◆ $b4 = 1.4e-30$
- Steve's:
 - ◆ $b1 = 2e-5$
 - ◆ $b2 = 1e-10$
 - ◆ $b3 = 3.2e-20$
 - ◆ $b4 = 1.38e-30$
- Joel's:
 - ◆ $b1 = 2.25e-5$
 - ◆ $b2 = 1.20e-10$
 - ◆ $b3 = 3.50e-20$
 - ◆ $b4 = 1.25e-30$

SDD21 Proposals



Graph Magnitude Gain from ad-hoc proposed Channel Equation values



Comparison and Discussion

- Joel's proposal falls within the straw poll criteria.
- We need 3dB more in the lower frequencies per the July04 meeting. John's proposal doesn't provide enough relief at the lower frequencies and has thus been withdrawn.
- From Joel's proposal, 6Ghz and higher, the change is within +/- 1dB. If this is enough to cause major panic to a particular signaling concept, one should question if that signaling concept is a good idea to begin with.
- Steve's proposal suggests a 15dB gain at 15Ghz and a 3dB gain at 6Ghz. This will effect the adopted Dk/Df values from July04. The overall material cost will increase because we eliminate the use of lower end improved fr-4 material groups, in particular for the 2 connector 40inch case and the 3 connector 33inch case. Much work will be required here.
- We have been okay with the July04 SDD21 equation with minor changes. What happened that people are changing their positions so dramatically now?
- Research presented shows Steve's proposal is too restrictive for many channel cases.
- We will throw out a lot of data, as well as many channels by adopting Steve's proposal.