

# Channel Ad-Hoc Meeting 28Sept04

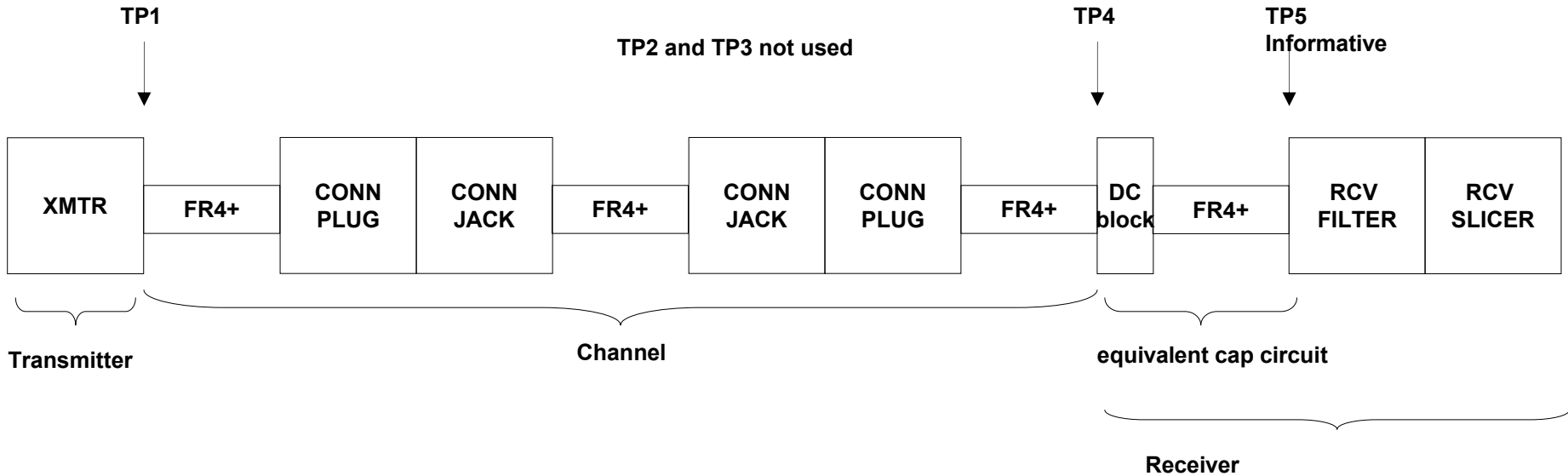
# Agenda

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- simulation Model
- SDD21
- SDD11
- SDD22
- NEXT/FEXT if time.

# NEW Proposed Model for Simulation

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# Model for Simulation

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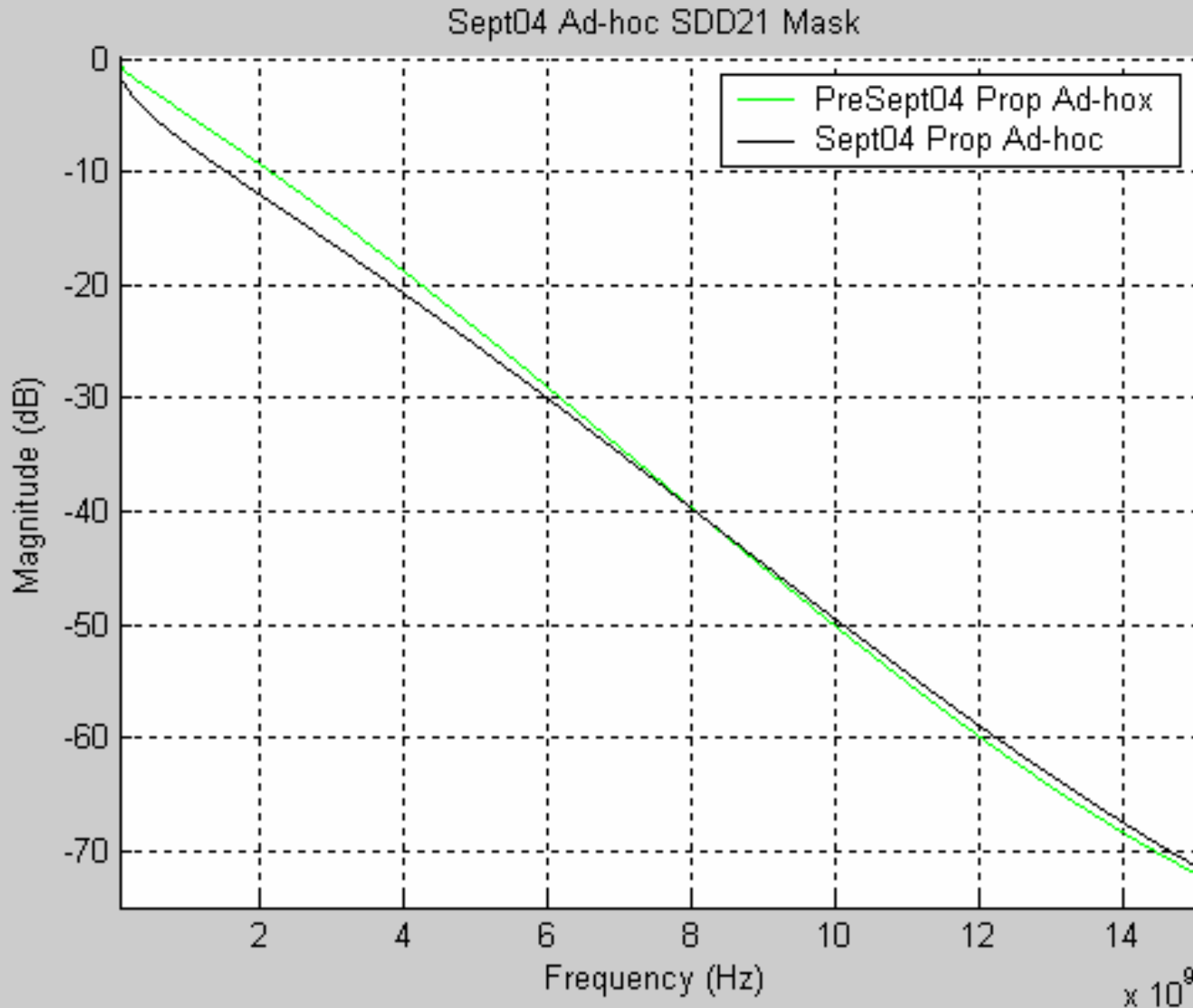
- Poll
  - ◆ Do you think the Model for Simulation is ready to bring to a vote?
  - ◆ Y
  - ◆ N
  - ◆ A

# NEW Proposed Informative SDD21 Channel Variables to Existing Equation

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- $b1 = 2.25e-5$
- $b2 = 1.20e-10$
- $b3 = 3.50e-20$
- $b4 = 1.25e-30$
- $SDD21 = -20 \cdot \log_{10}(e) \cdot (b1 \cdot \sqrt{f}) + b2 \cdot f + b3 \cdot f^2 - b4 \cdot f^3$
- $f = 50\text{Mhz to } 15000\text{Mhz}$

# Recommended SDD21 Mask



# SDD21

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- Poll
  - ◆ Do you think the Ad-Hoc recommended model is ready to bring to a vote?
  - ◆ Y
  - ◆ N
  - ◆ A

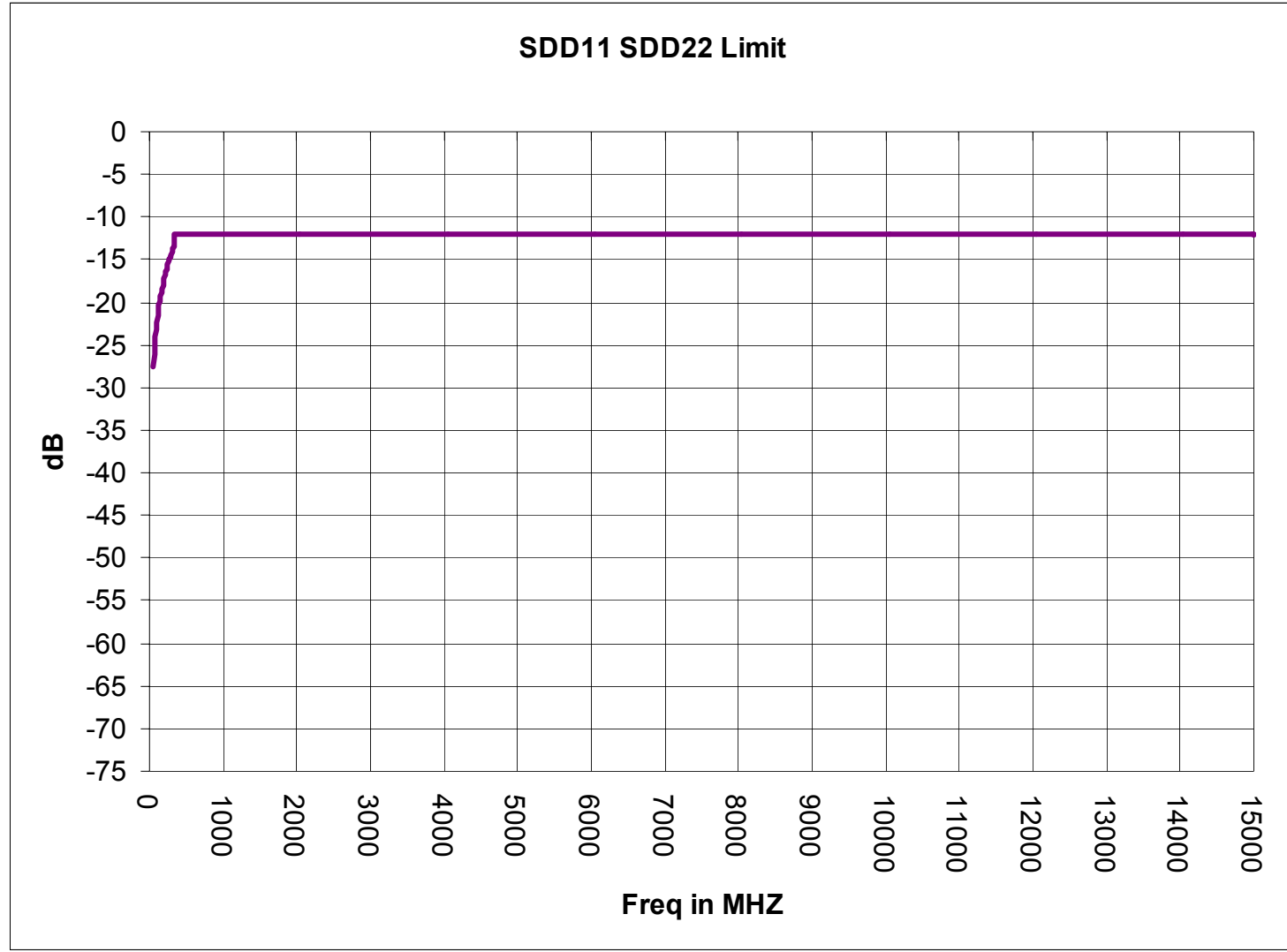
# Proposed Informative SDD11 and SDD22 Channel Equations

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- $\text{ReturnLoss}(f) \geq 22.35 - 17.19 \times \log(f/100)$ ,  $f$  in Mhz
  - ◆ For  $50\text{Mhz} \leq f < 400\text{Mhz}$
- $\text{ReturnLoss}(f) \geq 12$ 
  - ◆ For  $400\text{Mhz} \leq f \leq 15000\text{Mhz}$



# Proposed Informative SDD11 and SDD22 Channel Magnitude Mask



# SDD11

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- Prop Ad-Hoc 1
  - ◆  $\text{ReturnLoss}(f) \geq 22.35 - 17.19 \times \log(f/100)$ ,  $f$  in Mhz; For  $50\text{Mhz} \leq f < 400\text{Mhz}$
  - ◆  $\text{ReturnLoss}(f) \geq 12$ ; For  $400\text{Mhz} \leq f \leq 15000\text{Mhz}$
- Prop 2
  - ◆  $\text{SDD}(f)$ :  $50\text{Mhz} < f \leq 3000\text{Mhz}$ ;  $\text{SDD11 dB} = 2.7\text{E-}09 * f - 13$
  - ◆  $\text{SDD}(f)$ :  $3000\text{Mhz} < f \leq 15000\text{Mhz}$ ;  $\text{SDD11 dB} = -5$
- Prop 3
  - ◆  $\text{SDD11}(f)$ :  $10\text{Mhz} < f < 1\text{Ghz}$ ;  $\text{SDD11 dB} = -15 + (10/1\text{GHZ}) * f$
  - ◆  $\text{SDD11}(f)$ :  $1\text{Ghz} \leq f < 15\text{Ghz}$ ;  $\text{SDD11 dB} = -5$
- Prop 4
  - ◆  $\text{SDD11}(f)$ :  $10\text{Mhz} < f < 1\text{Ghz}$ ;  $\text{SDD11 dB} = -15 + (11.5/1\text{GHZ}) * f$
  - ◆  $\text{SDD11}(f)$ :  $1\text{Ghz} \leq f < 15\text{Ghz}$ ;  $\text{SDD11 dB} = -3.5$
- Prop 5
  - ◆  $\text{SDD11}(f)$ :  $10\text{Mhz} < f < 1\text{Ghz}$ ;  $\text{SDD11 dB} = -15 + (12.5/1\text{GHZ}) * f$
  - ◆  $\text{SDD11}(f)$ :  $1\text{Ghz} \leq f < 15\text{Ghz}$ ;  $\text{SDD11 dB} = -2.5$

# SDD11

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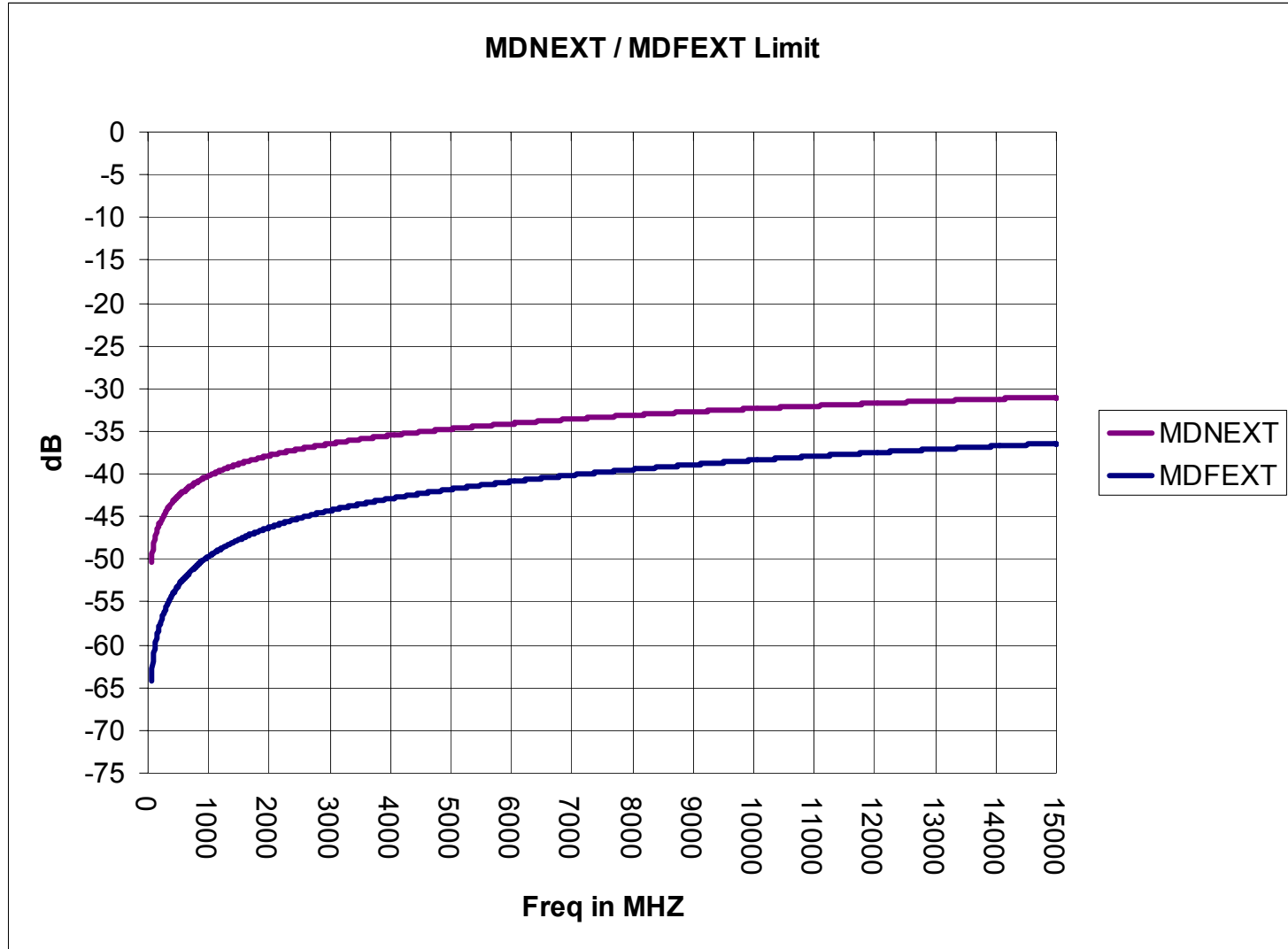
- Chicago rules straw poll
  - ◆ 1y / n
  - ◆ 2y / n
  - ◆ 3y / n
  - ◆ 4y / n
  - ◆ 5y / n
  - ◆ None of the Above y / n
- Would you adopt prop X as the SDD11 Model?
  - ◆ Y / N / A
- Would you adopt prop X as the SDD22 Model?
  - ◆ Y / N / A

# Proposed Informative NEXT/FEXT Channel Equations

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- $MDNEXT = 30 - 7.85 * \text{LOG}(f/20000)$ ; f in MHz
- $MDFEXT = 35 - 11.27 * \text{LOG}(f/20000)$ ; f in MHz
- f = 50Mhz to 15000Mhz

# Proposed Informative NEXT/FEXT Channel Magnitude Mask

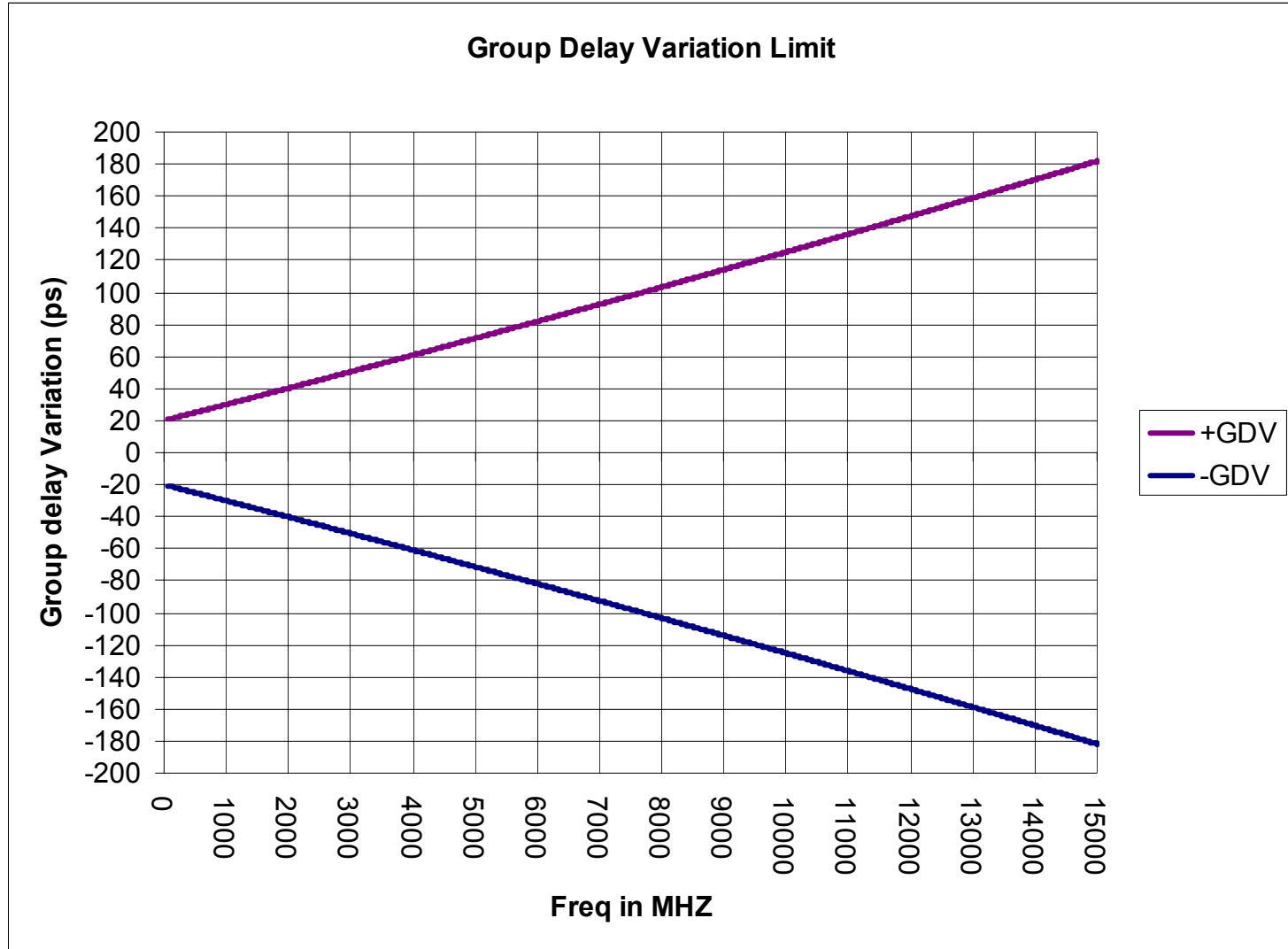


# Proposed Informative Group Delay Variation Equations

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- Top Slope =  $1000 * (\text{EXP}(f/100000) - 0.98)$ ; in ps
- Bottom Slope =  $-1000 * (\text{EXP}(-f/100000) - 0.98)$ ; in ps
  - ◆ Bottom Slope based on  $1000 * (\text{EXP}(-f/100000) - 1.02)$  and modified as above for symmetry.
- $f = 50\text{Mhz}$  to  $15000\text{Mhz}$

# Proposed Informative Group Delay Variation Mask



# Further Work

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- Identify during the Sept 04 Meeting.
- Consider adopting the informative masks as normative.