

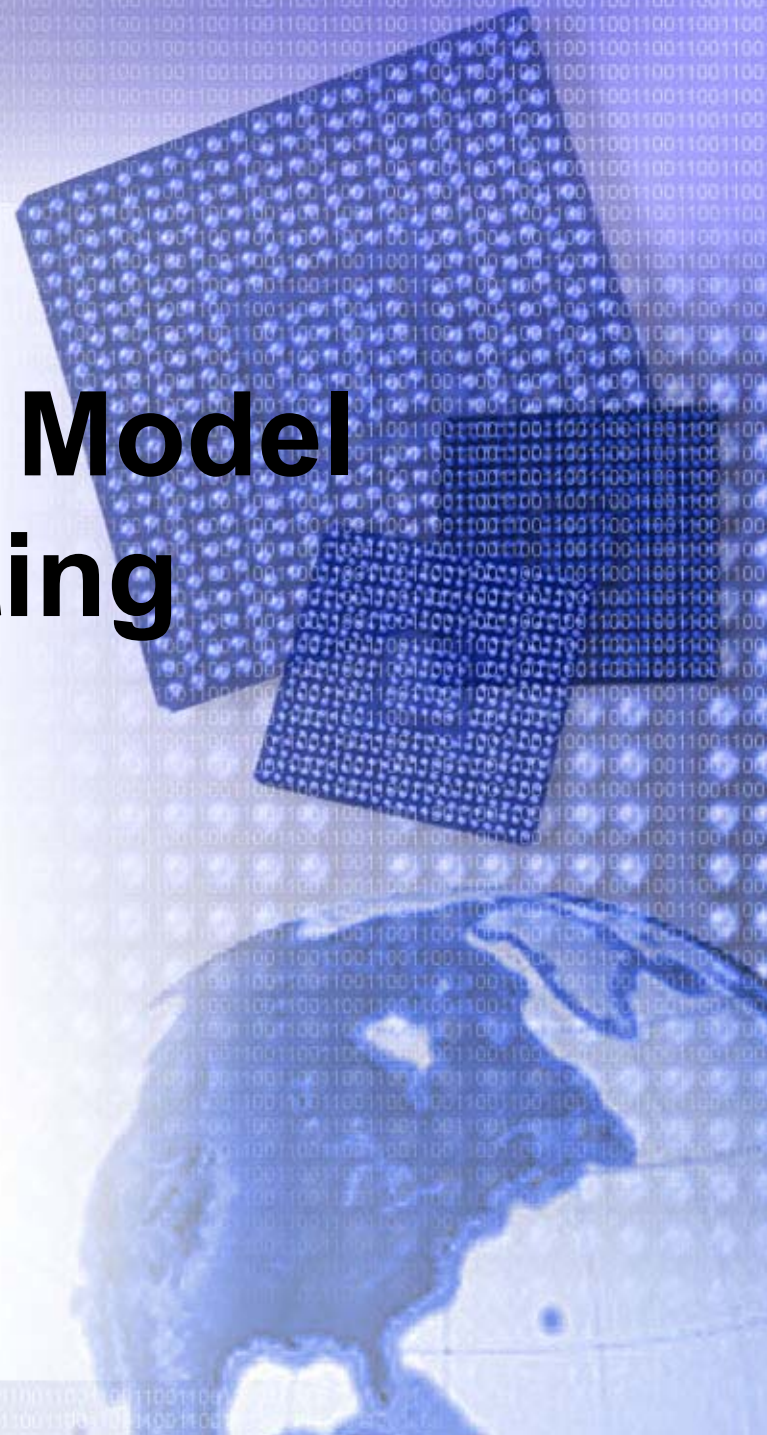


# IEEE BPE Channel Model Update on Supporting Evidence

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Xilinx, Inc.

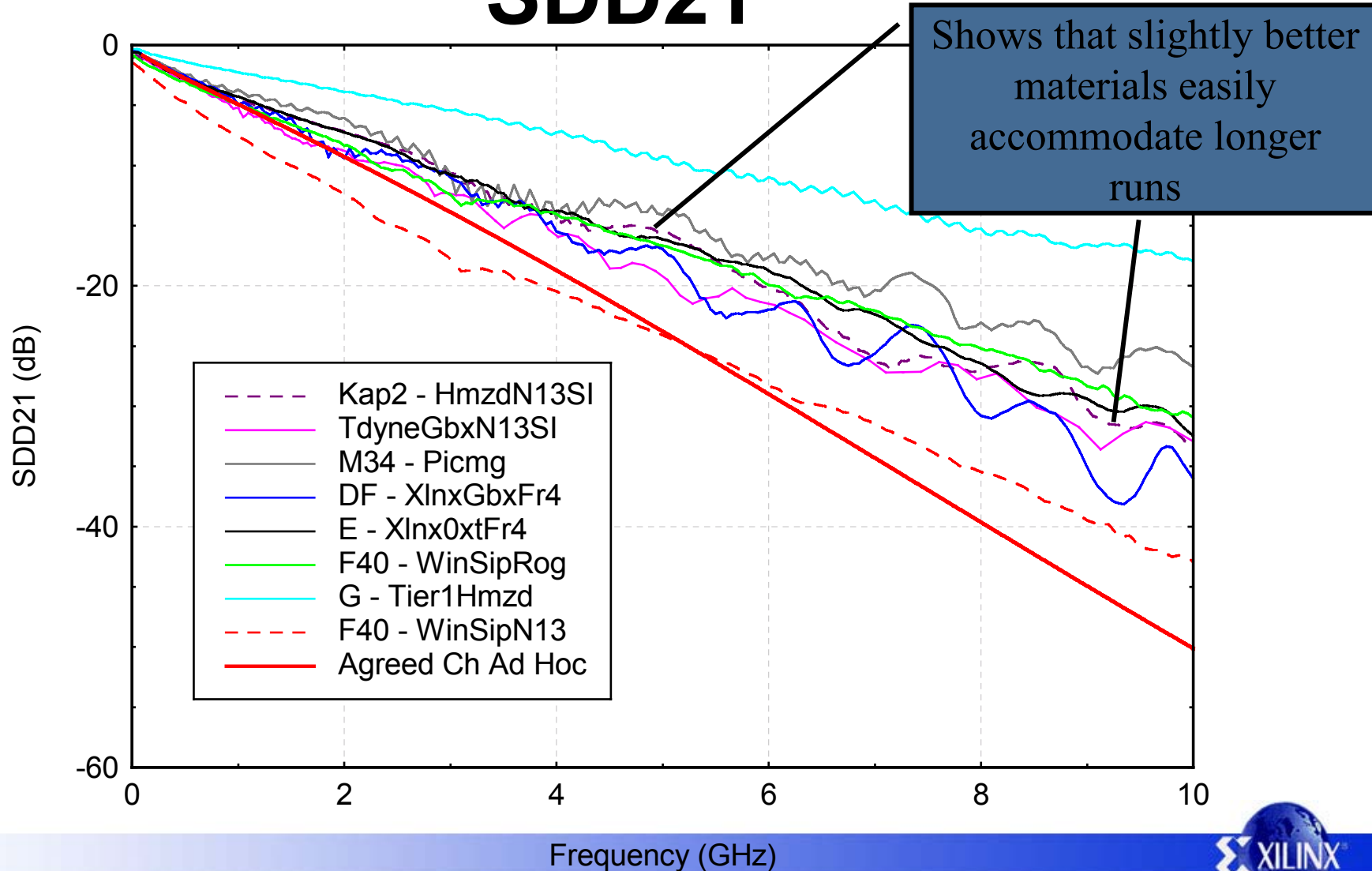
13 July 2004



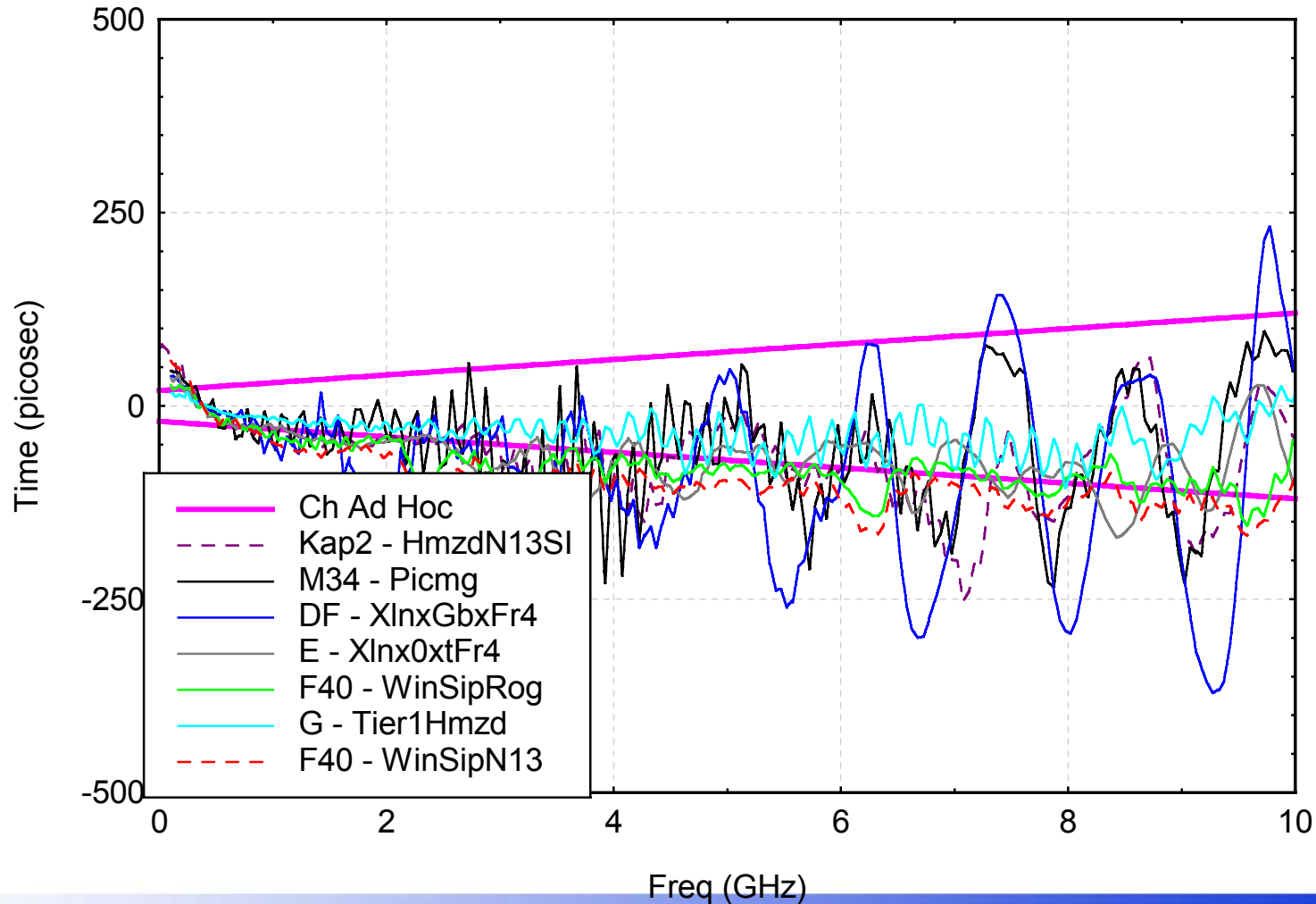
# Objectives

- Promised update from presentation given at May Long Beach Meeting
  - ATCA Backplane signaling, now with crosstalk

# Backplanes wrt Proposed SDD21

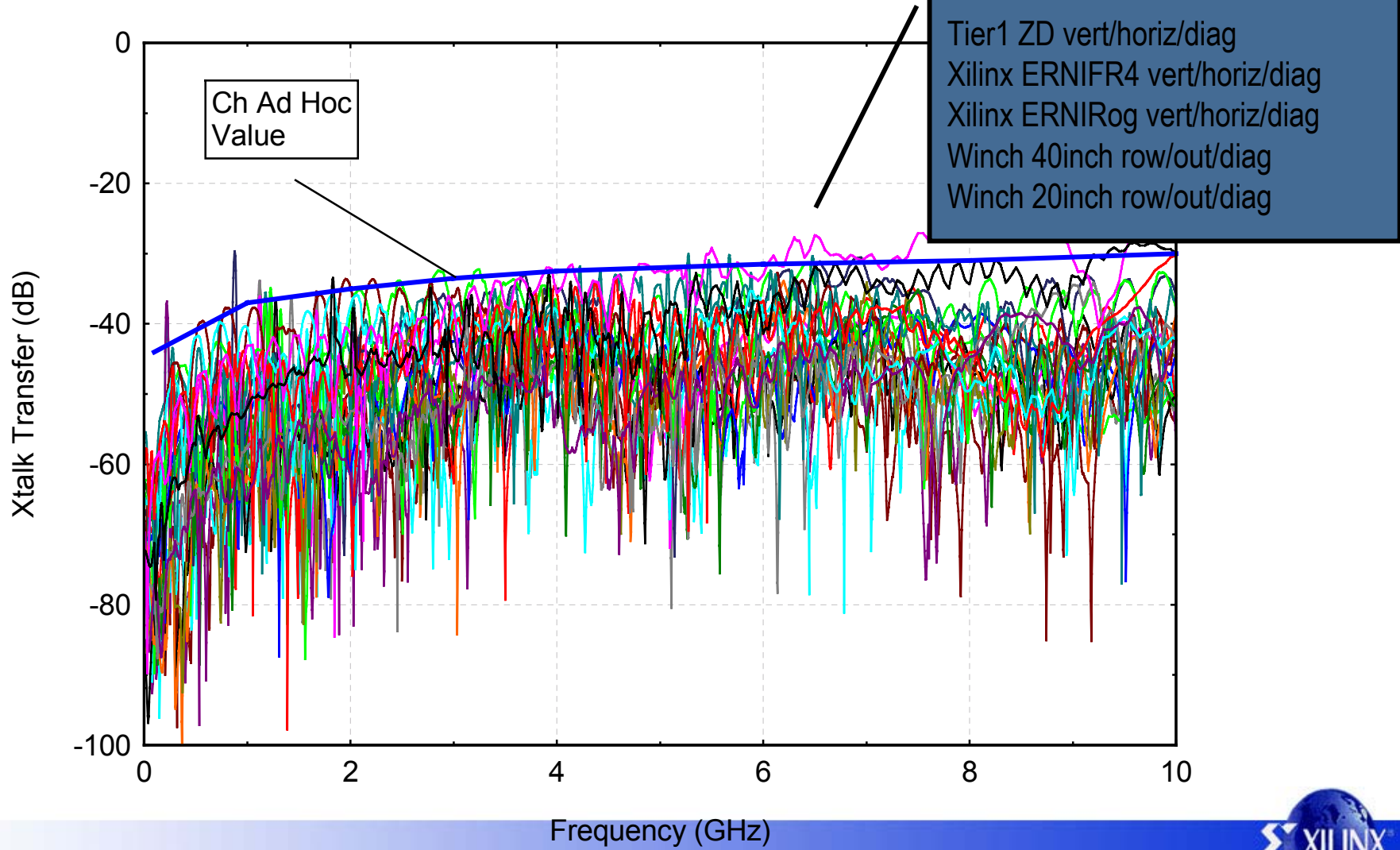


# Backplanes wrt Proposed SDD21 Phase

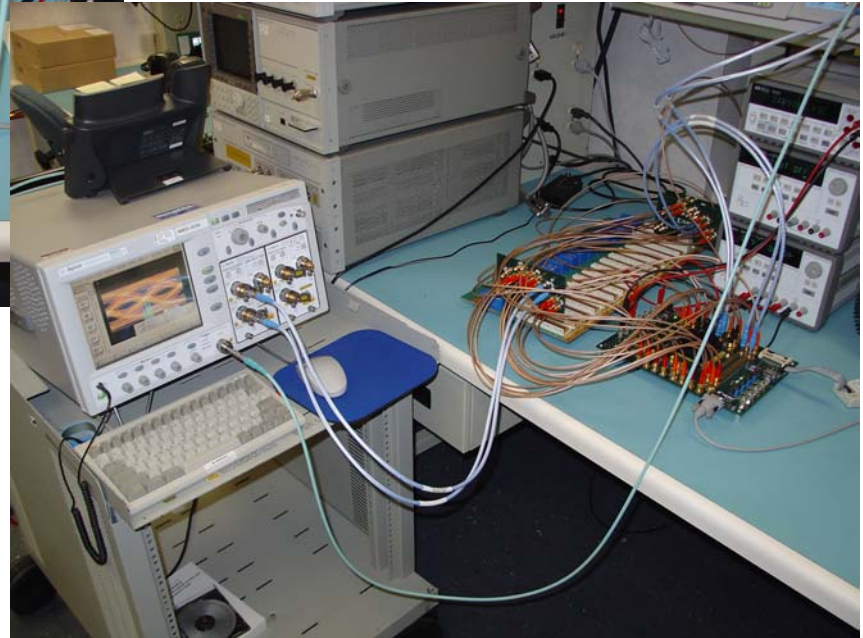
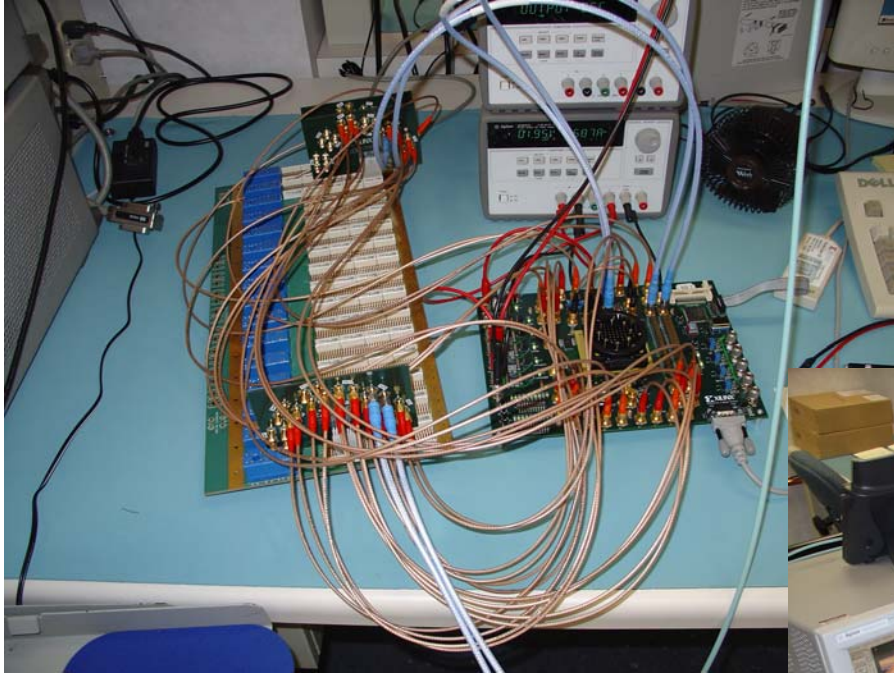


# Crosstalk

Measured NEXT Crosstalk  
24 Paths



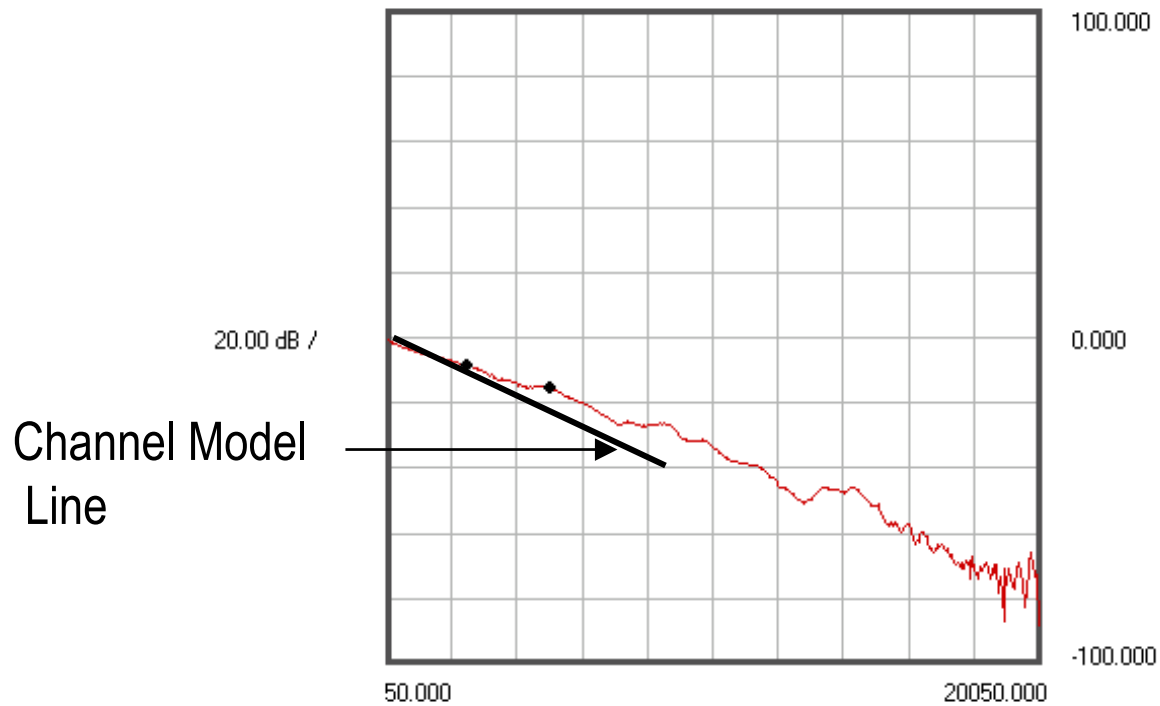
# ATCA Backplane



# SDD21 ATCA Example

J220-AB6 to J1623-CD2  
24.5" total,  
(20.5" on Layer 17 + 4" Line Cards)

SDD12

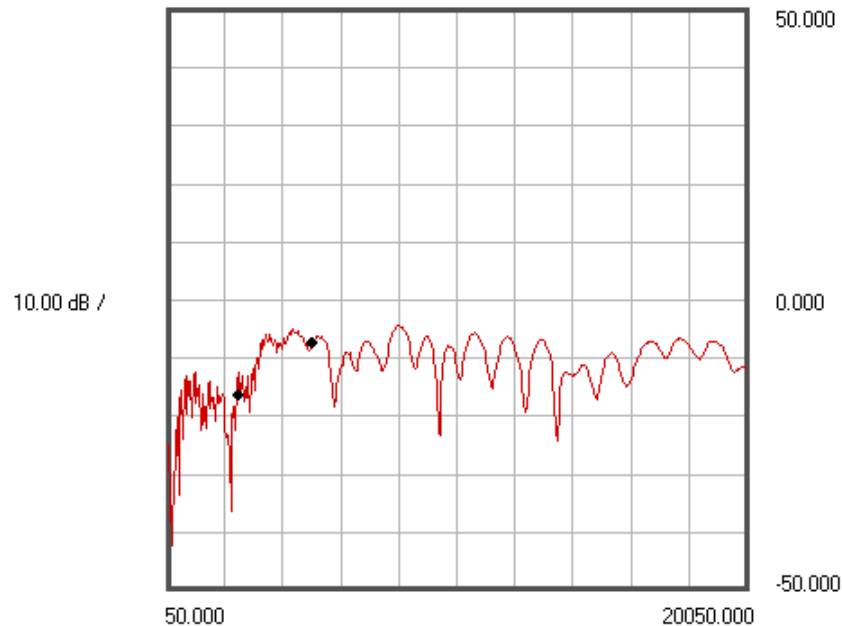


2500.000	-8.669 dB	<---
5000.000	-15.549 dB	

# SDD11 ATCA Example

J120-AB5 to J1623-CD3  
23.6" total,  
(19.6" on Layer 2 + 4" Line Cards)

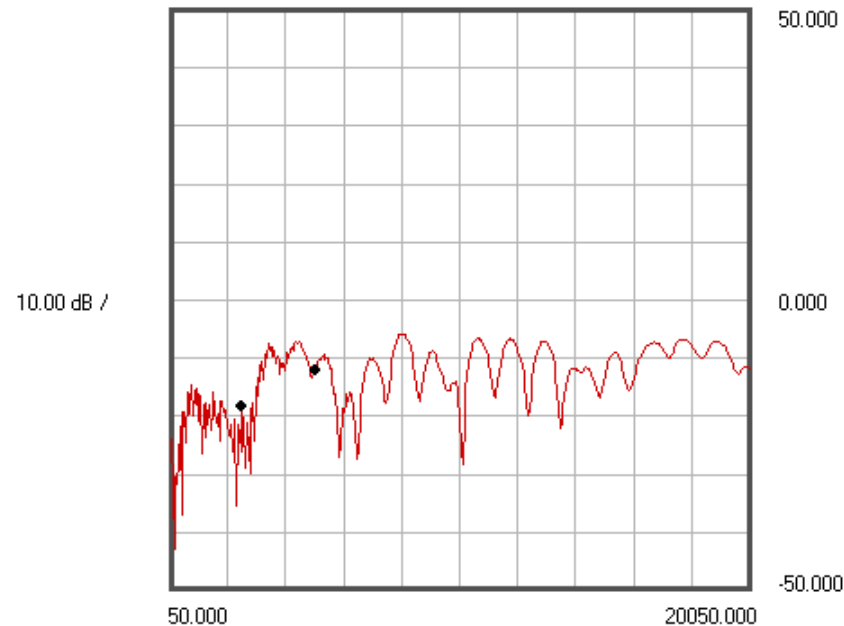
SDD11



2500.000	-16.533 dB <---
5000.000	-7.540 dB

J220-AB6 to J1623-CD2  
24.5" total,  
(20.5" on Layer 17 + 4" Line Cards)

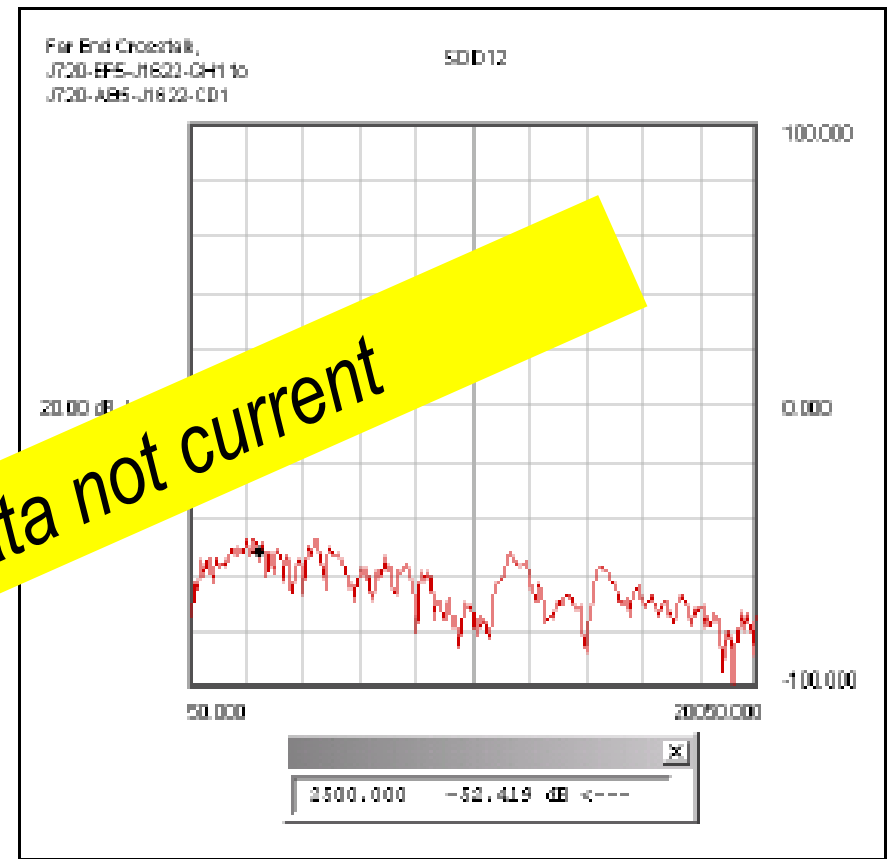
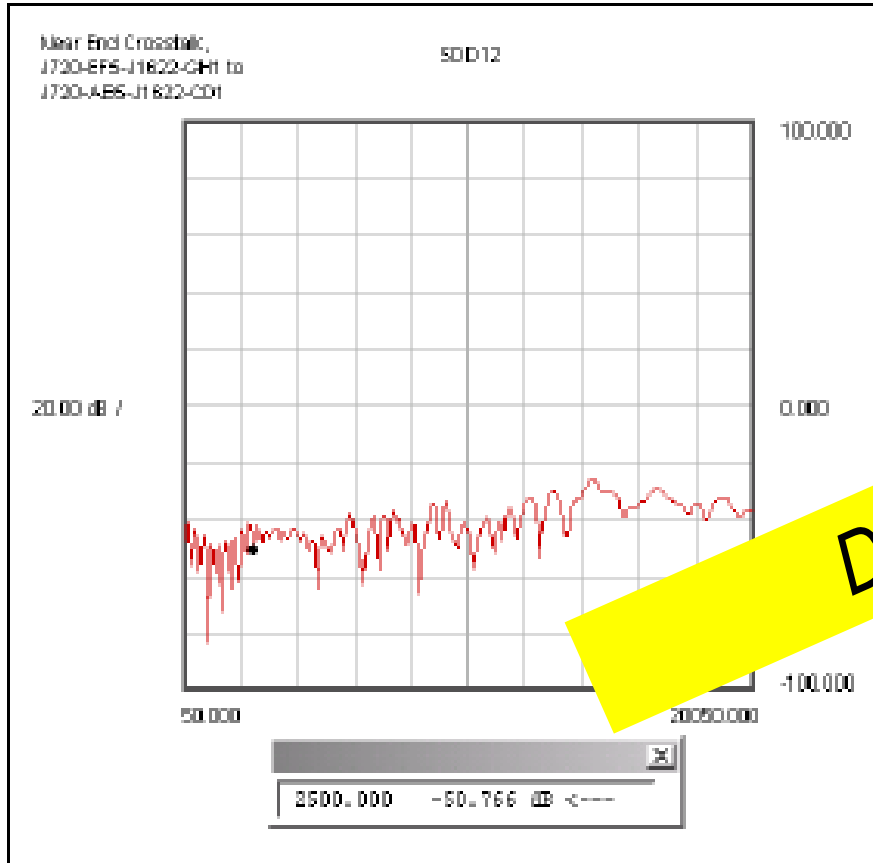
SDD11



2500.000	-18.277 dB <---
5000.000	-12.011 dB

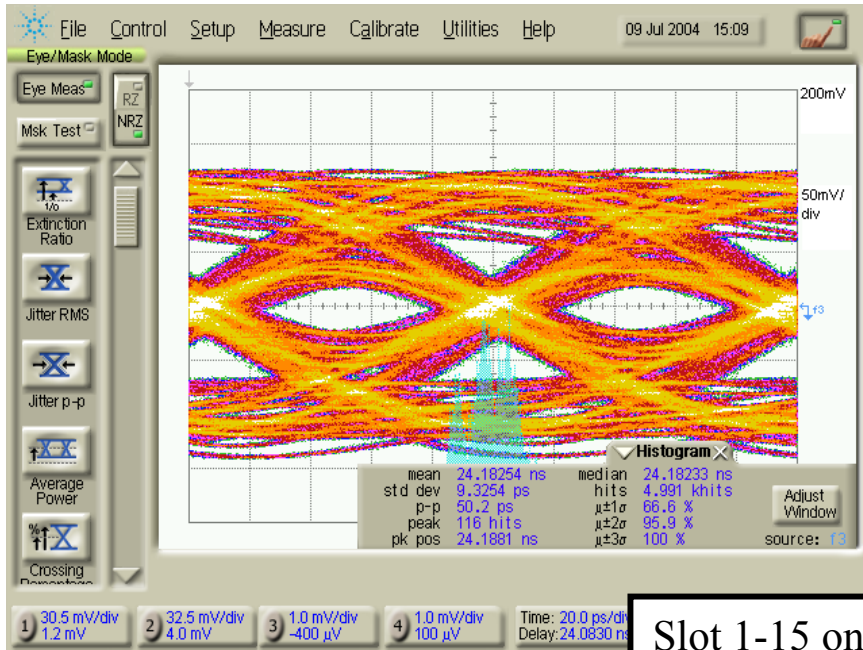


# Crosstalk ATCA Example

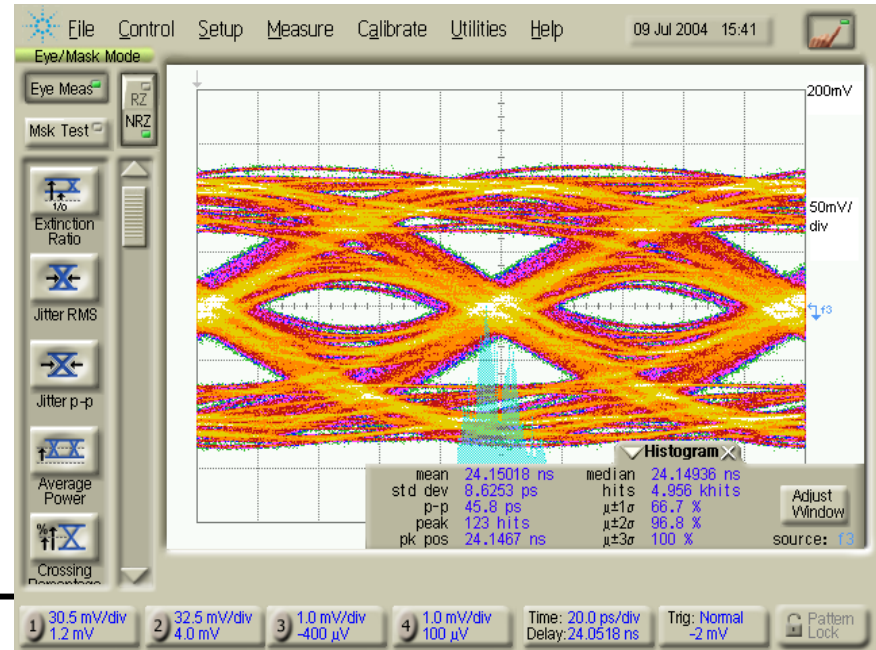


Data not current

# 10Gbps Silicon over ATCA



Crosstalk driven  
as NEXT



Crosstalk driven  
as FEXT

Slot 1-15 on  
Full Mesh ATCA  
20.5" BP  
+2x2" Probe Card  
+2x3" Si Board  
=30.5 inches  
Non-optimal Probe card  
BER <math>10^{-12}</math>  
Crosstalk now shown

# 10Gbps Silicon over ATCA

Show the ATCA Spectrum

# Summary

- ATCA Backplane was presented consistent with
  - Channel Model
  - High volume application (economic justification)
- Data was presented showing
  - Electrical characterizations relative to the channel model
  - Signaling over the channel with full Crosstalk
- Conclusion:
  - High volume application can be built and can be signaled across