

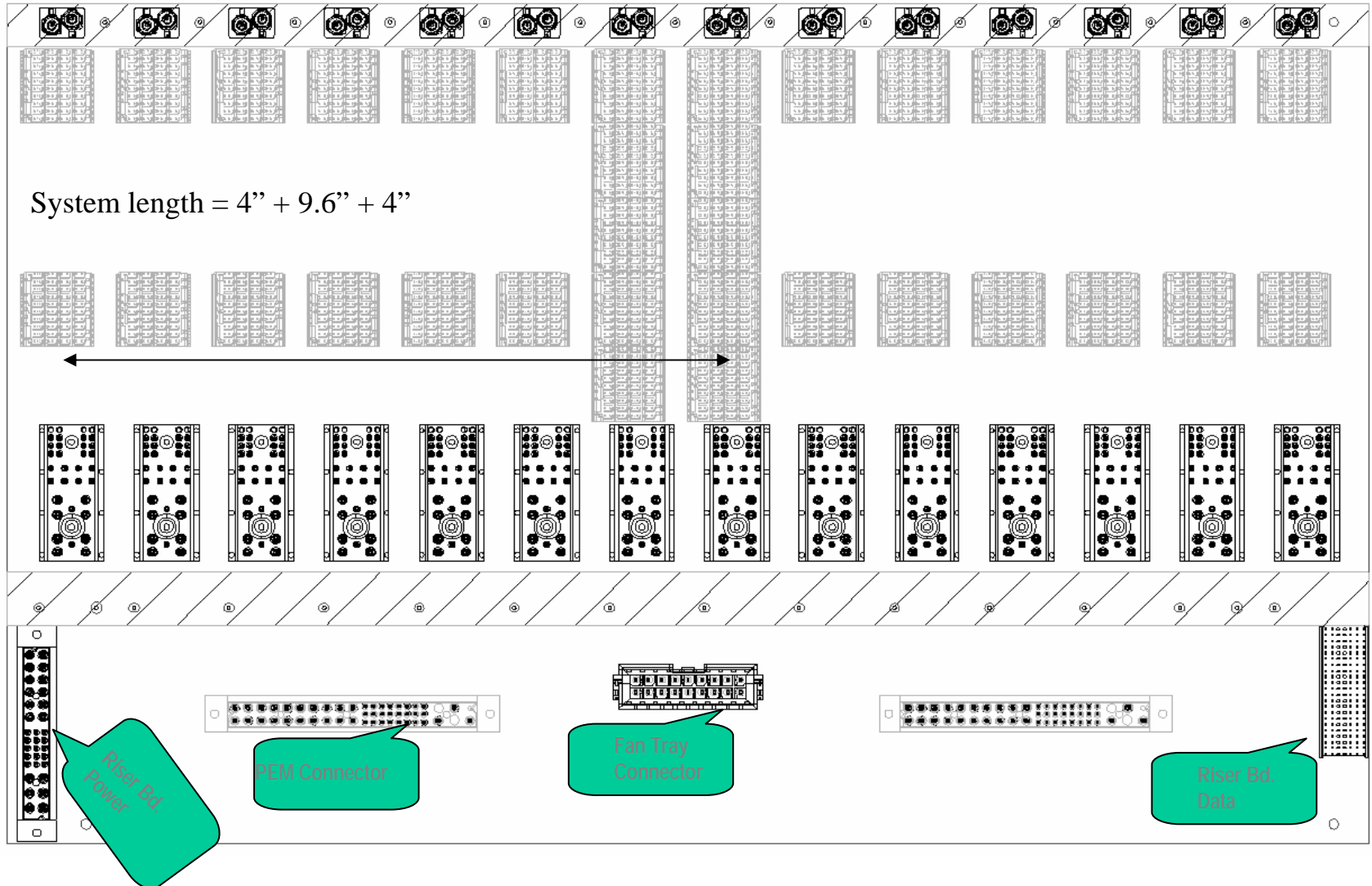
AdvancedTCA Channel Data and Comparisons to Proposed Channel Model

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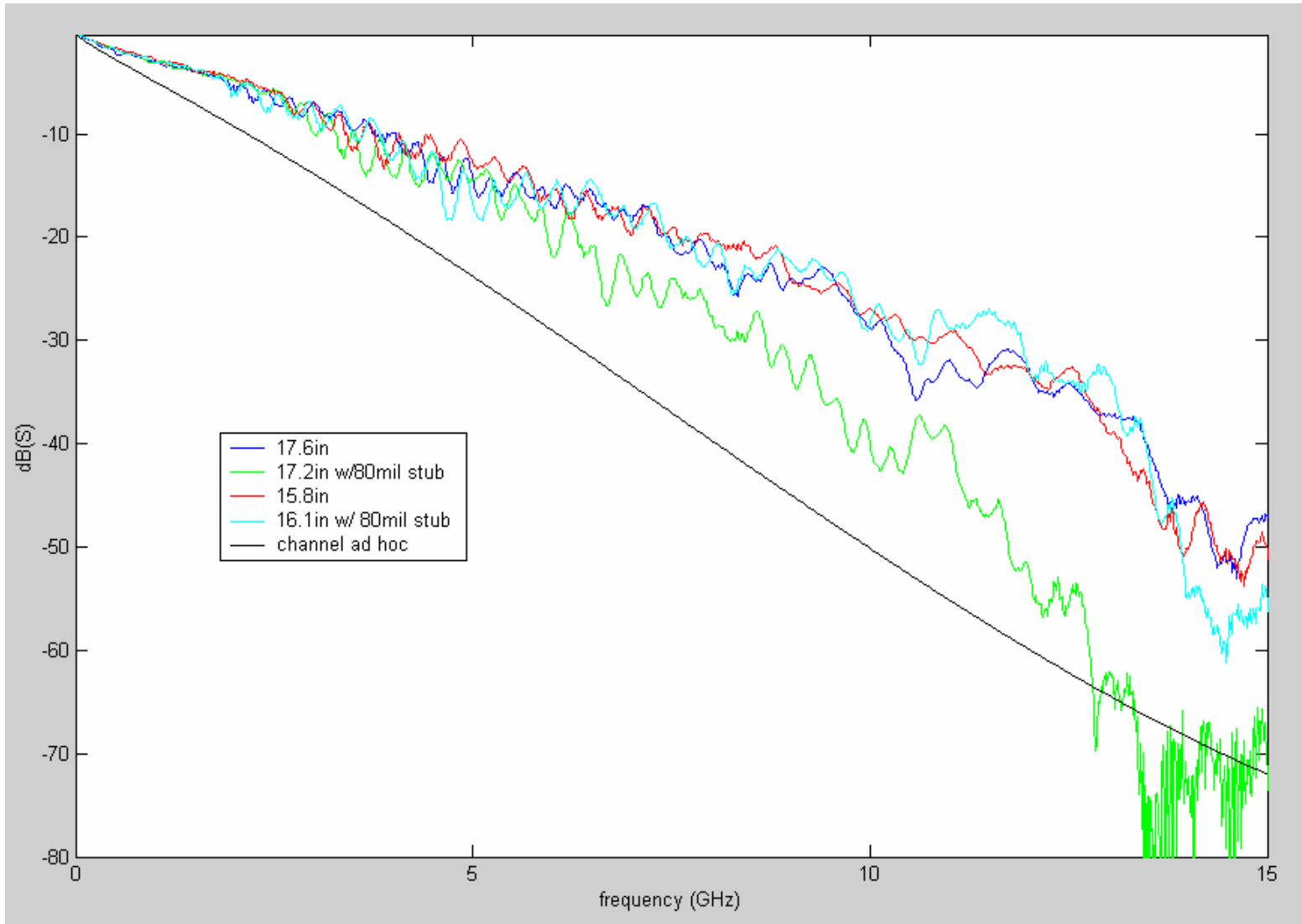
ATCA backplane top view



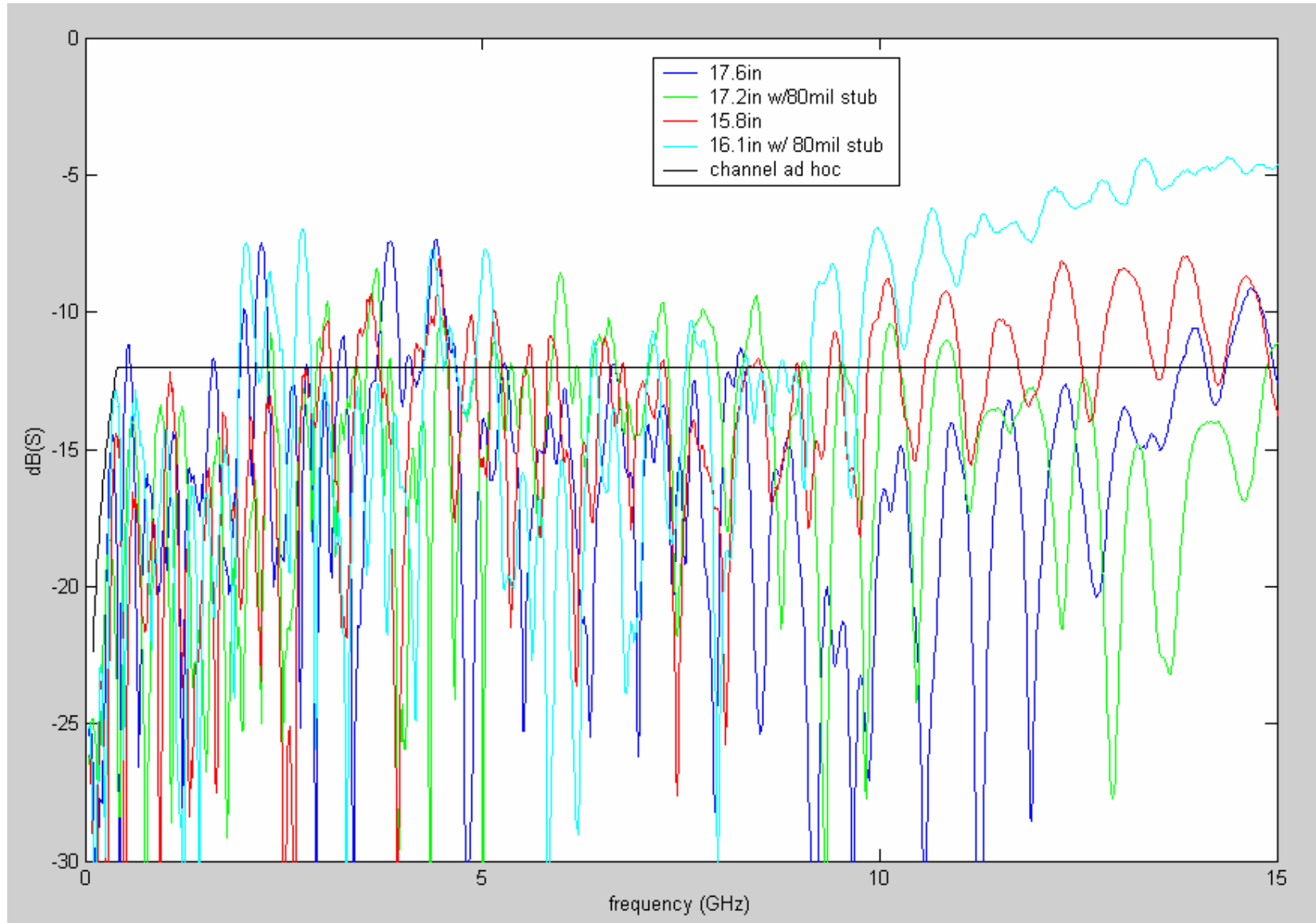
System Characteristics

- Backplane
 - Nelco4000-13, DK=3.8
 - Trace width = 8mils, Max length = 9.6in
 - 8 signal layers, 188mil thick board
 - No backdrilling
- Line cards
 - material: ‘standard’ high Tg FR-4
 - Trace width = 5mils, length = 4in
 - >45% of total length is on the line cards
 - SMA connectors to facilitate measurement (not de-embedded)
- For more detail, refer to the presentation by A. Kundu in the May Interim materials

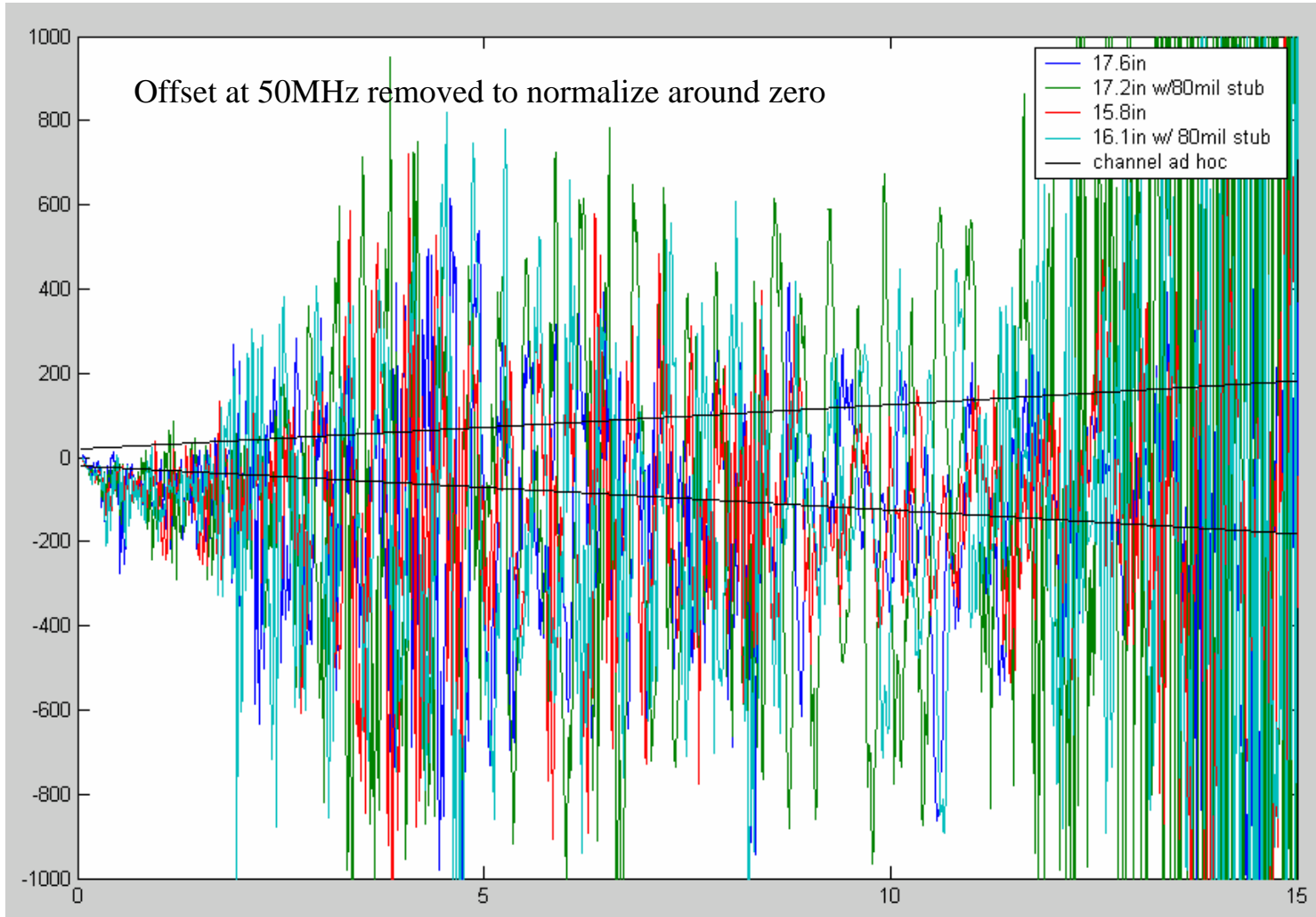
Insertion Loss SDD21



Return Loss SDD11



Group Delay SDD21



Conclusions

- Most legacy systems do not meet the definition of ‘improved’ FR-4.
- Channel model targets the ‘best’ case of what is possible for a one meter channel over ‘improved FR-4.
- Even shorter length ATCA channels do not meet the proposed channel specification.
 - What is our strategy to take advantage of the installed base of legacy backplanes?