



Comparing newer versus older backplanes

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Background



- At the last study group meeting, we presented a summary of backplane channel characteristics from a database that we have collected over the past few years
- We were given an action item to answer the question:

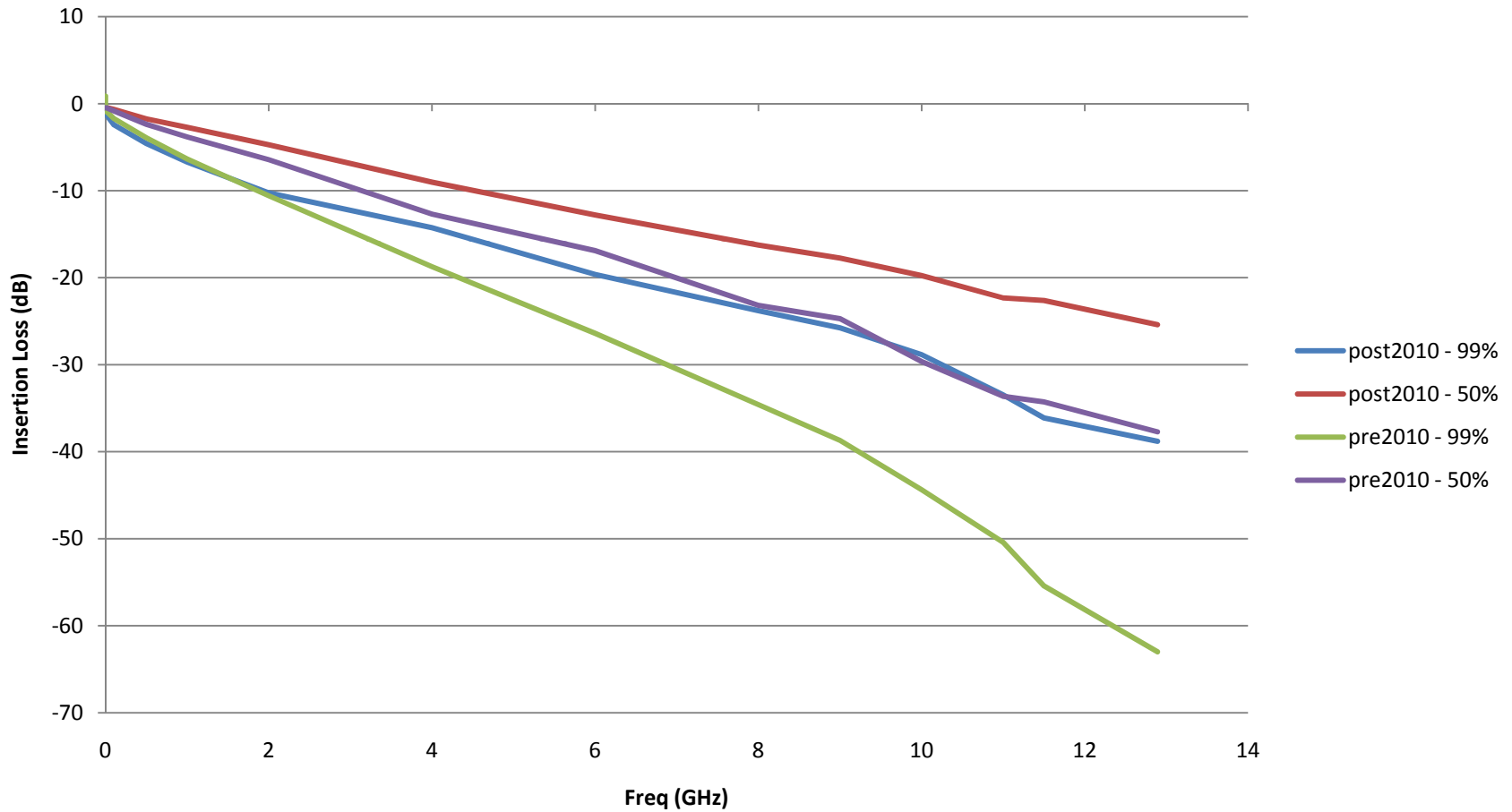
Has channel quality improved over time?

Backplane channel database



- Broadcom has collected a significant amount of backplane data over many years
- Backplane traces are from various customers all over the industry
- Backplane traces include FR4, Nelco and Megtron material
- S-parameters of traces provided by customers or in other cases measured at BRCM
- Total number of KR compliant backplane traces is 295 (from a database of 832 channels)
- Only the traces which meet the KR specifications are considered in this study

Insertion loss of KR compliant backplanes pre and post 1/1/2010



Comments ...

- Improvements in backplane channel characteristics are observed in newer traces
 - Perhaps they were constructed with newer materials (but this information is not available)
- The 99th percentile has improved a lot since 1/1/2010
- The 50th percentile has also improved, but not by as much
 - Perhaps because they were pretty good to begin with