

Automotive Link Segment Analysis for NGAuto

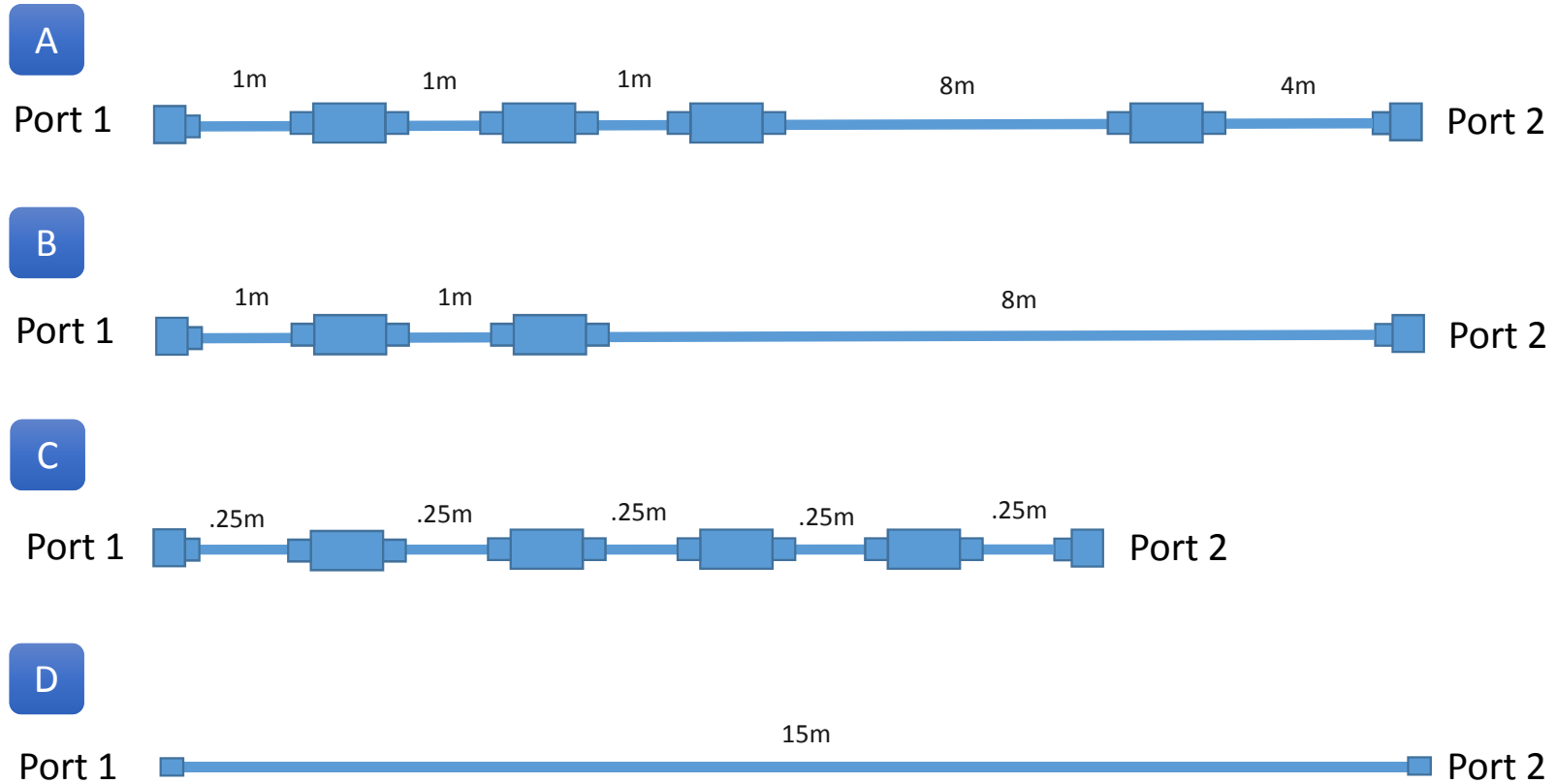
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TE Connectivity

September 11, 2017

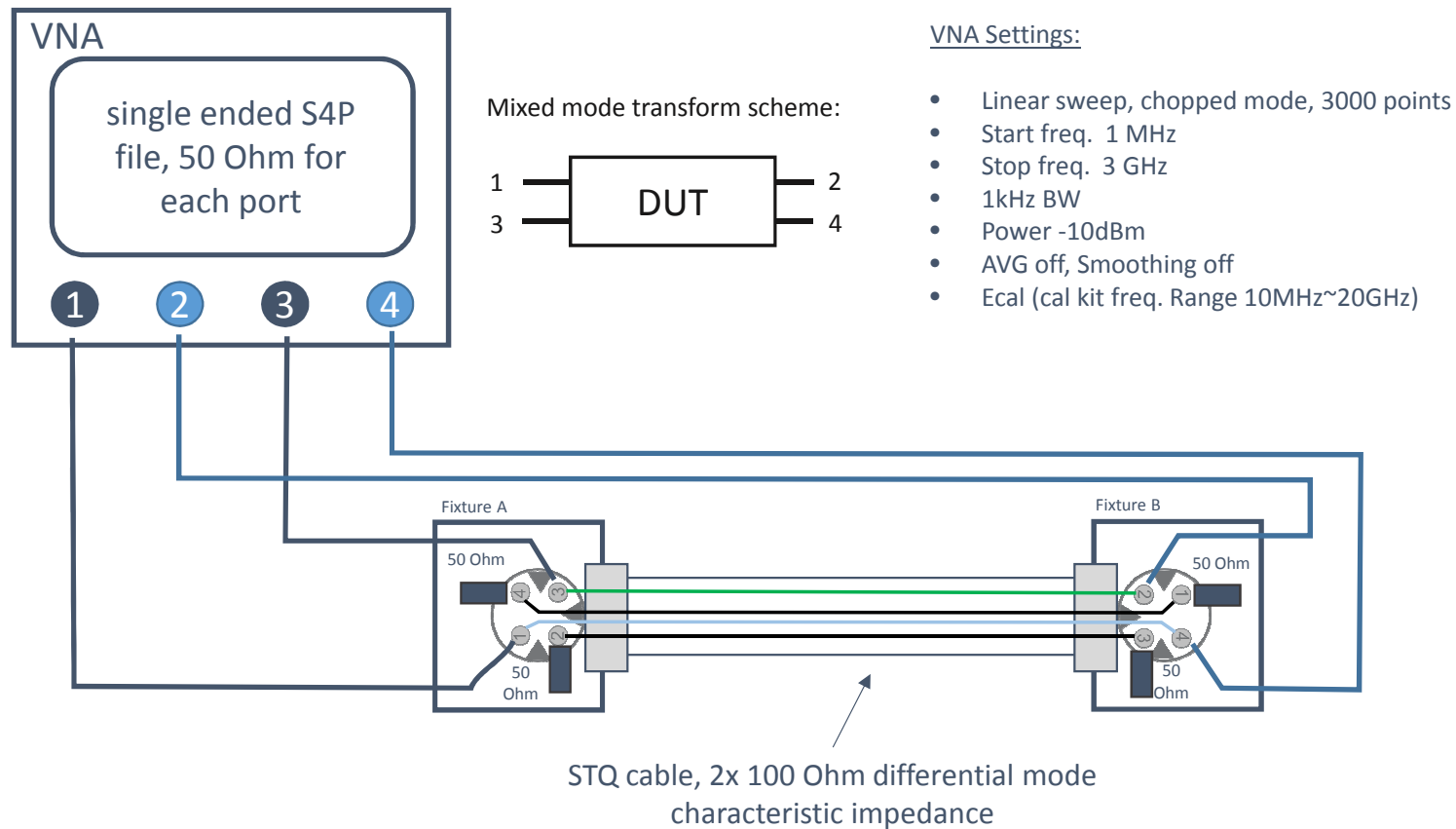
Motivation

- Demonstrate performance of various link segments using shielded differential pair (SDP) components that currently exist in mass production for automotive applications
- Goal of this testing is to set a baseline for performance
- Frequency maximum set to 3GHz
- Newer cable and connector technologies currently under development are **not** part of this study

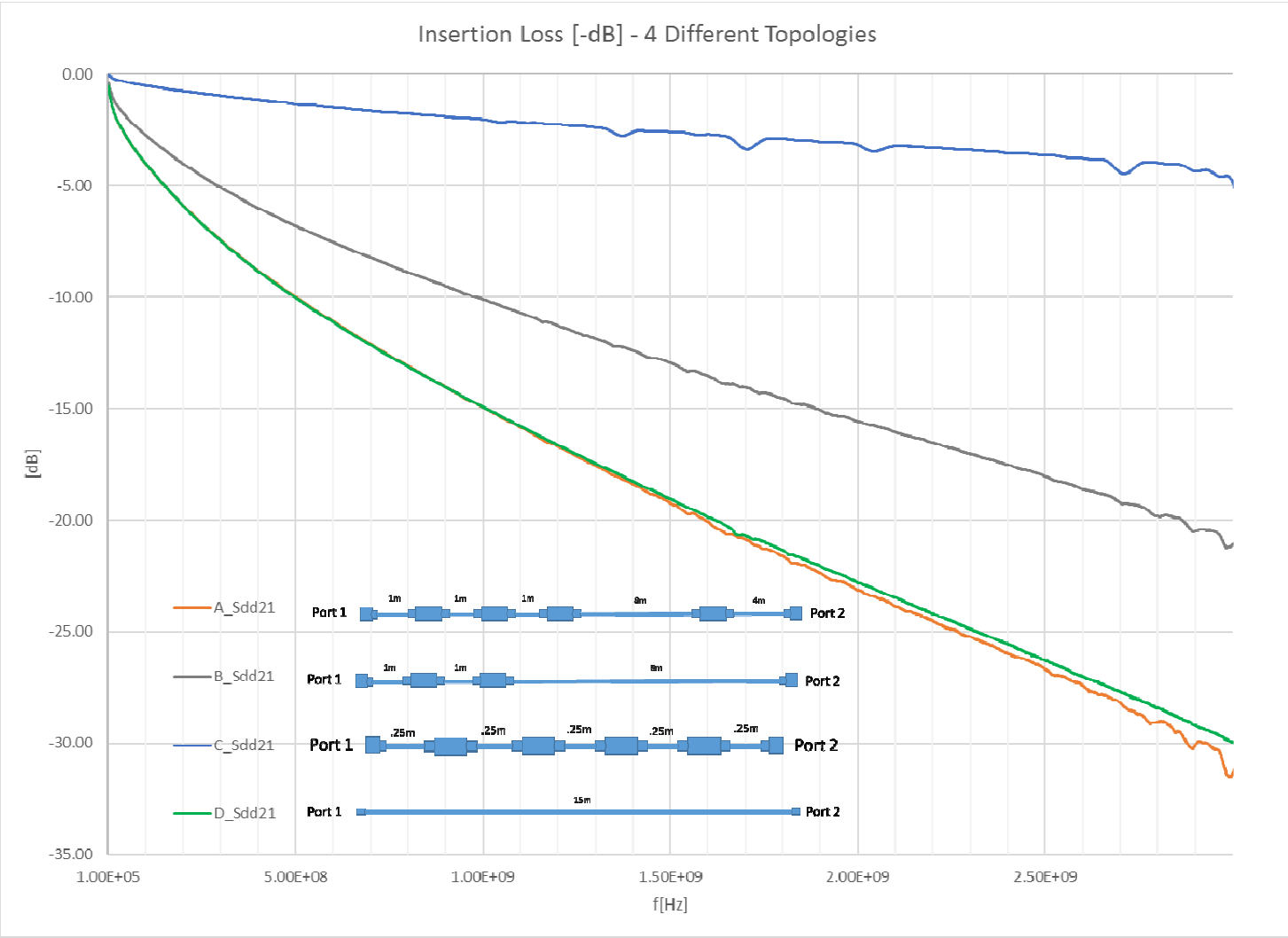
Different Topologies



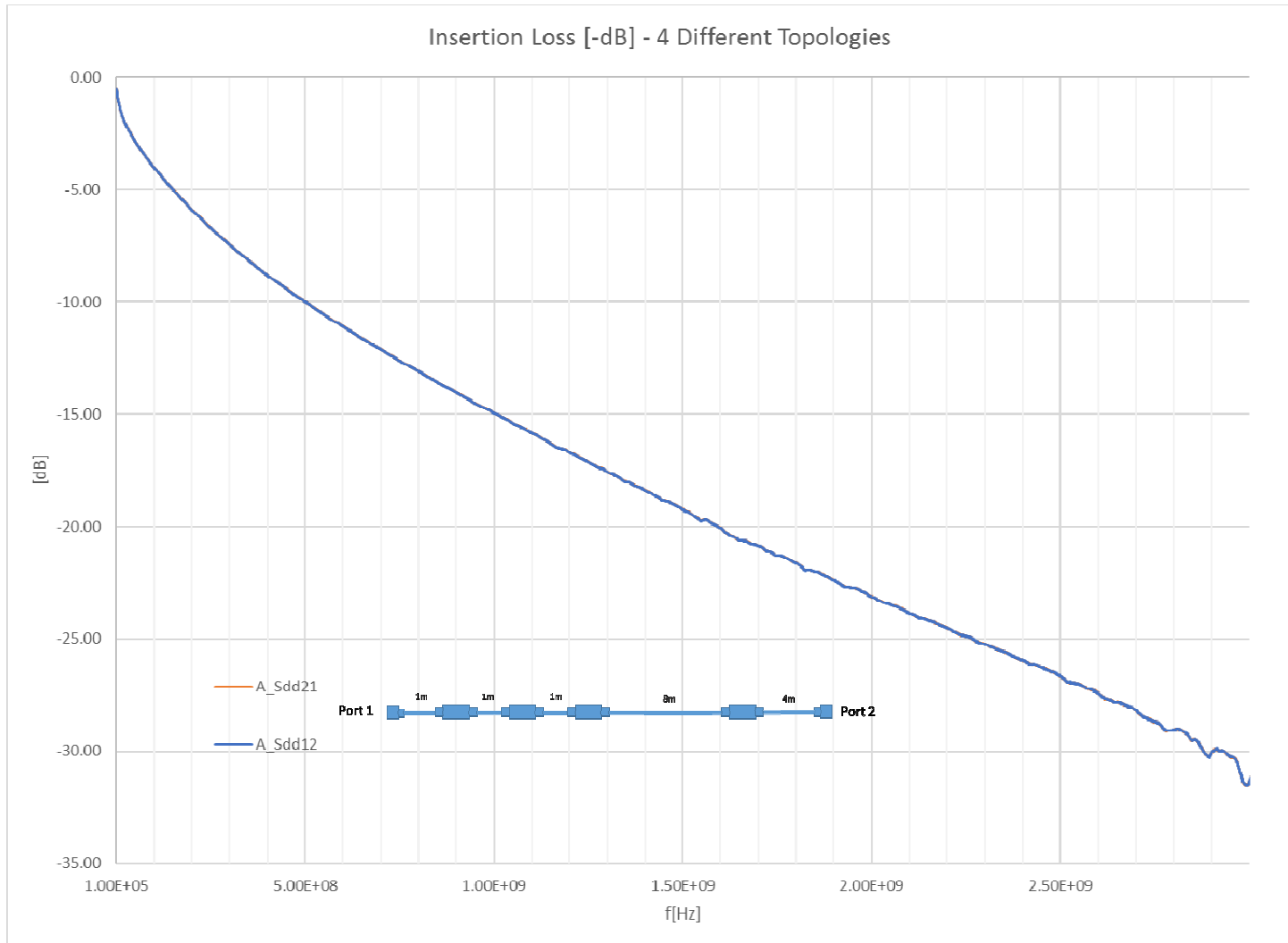
VNA Setup and Port Assignment



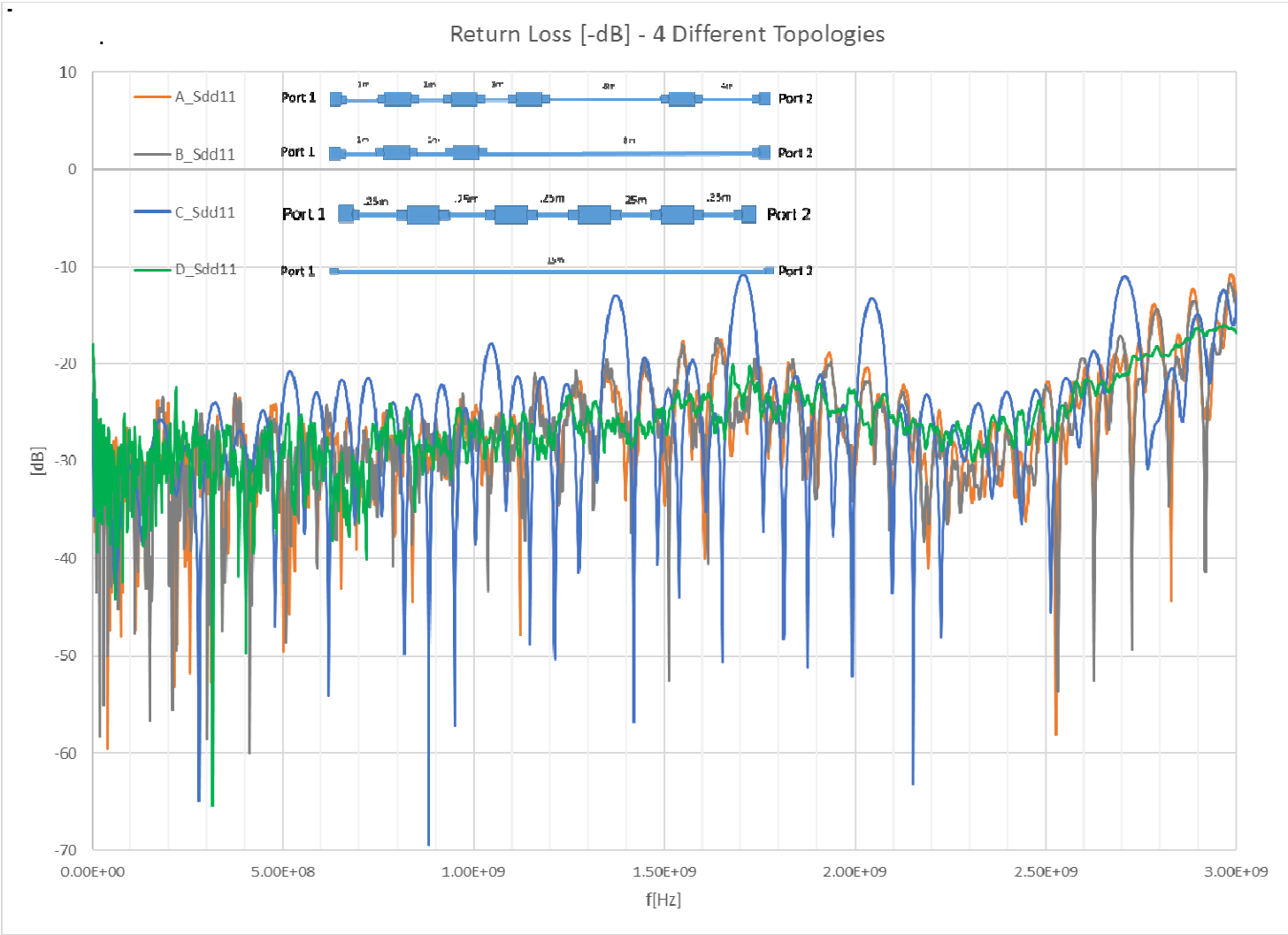
Insertion Loss



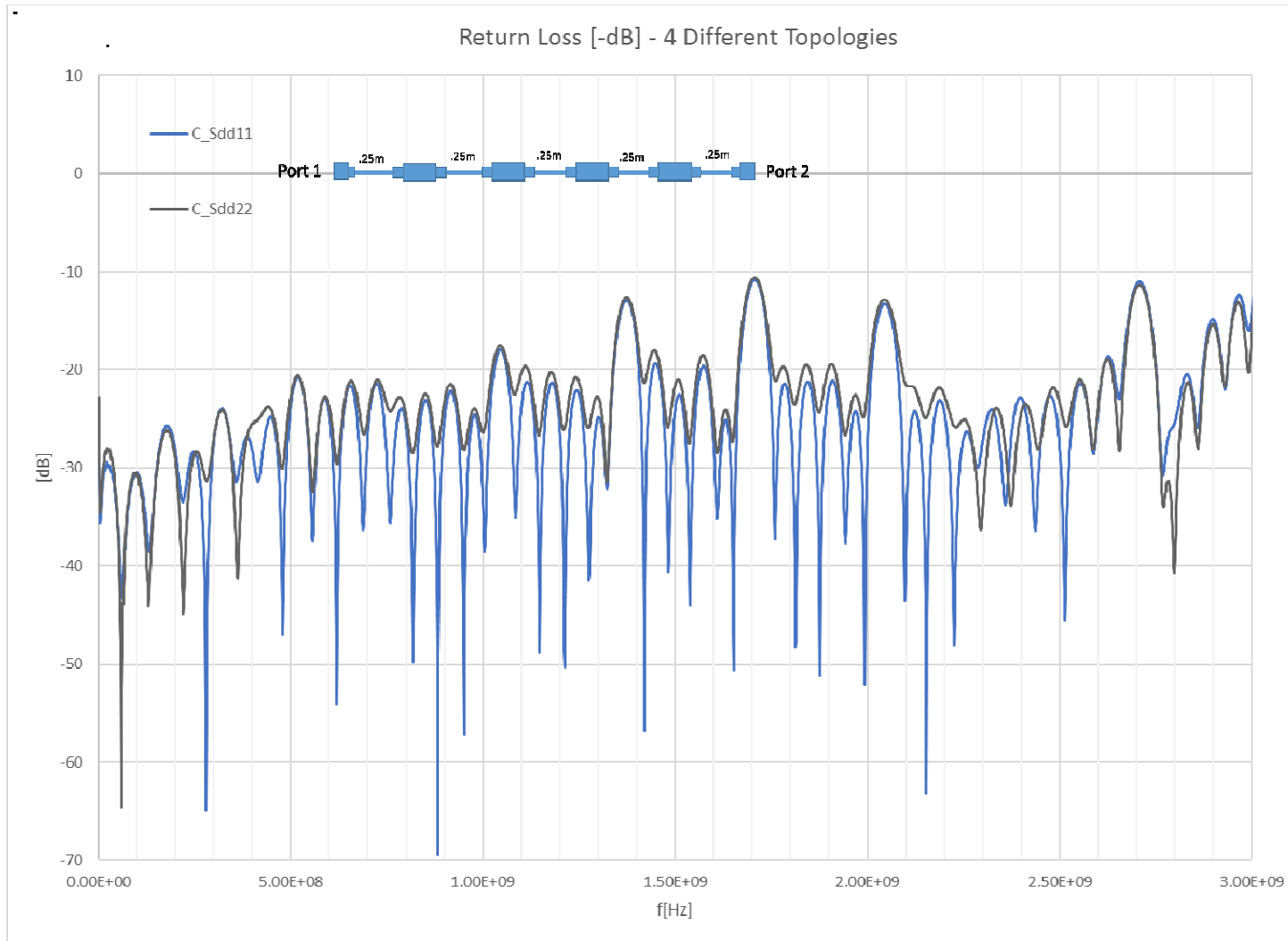
Topology A - Worst Case Insertion Loss



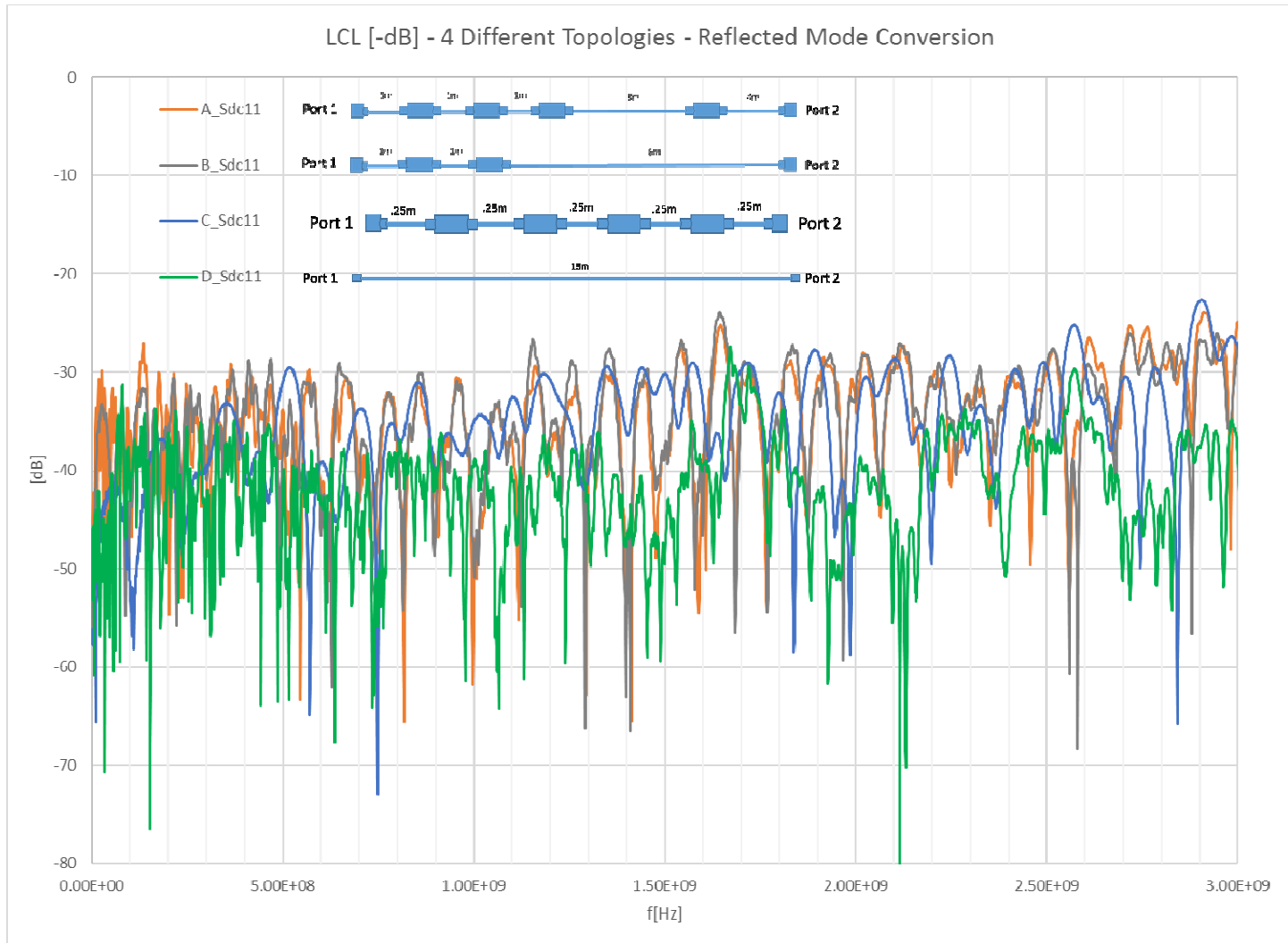
Return Loss



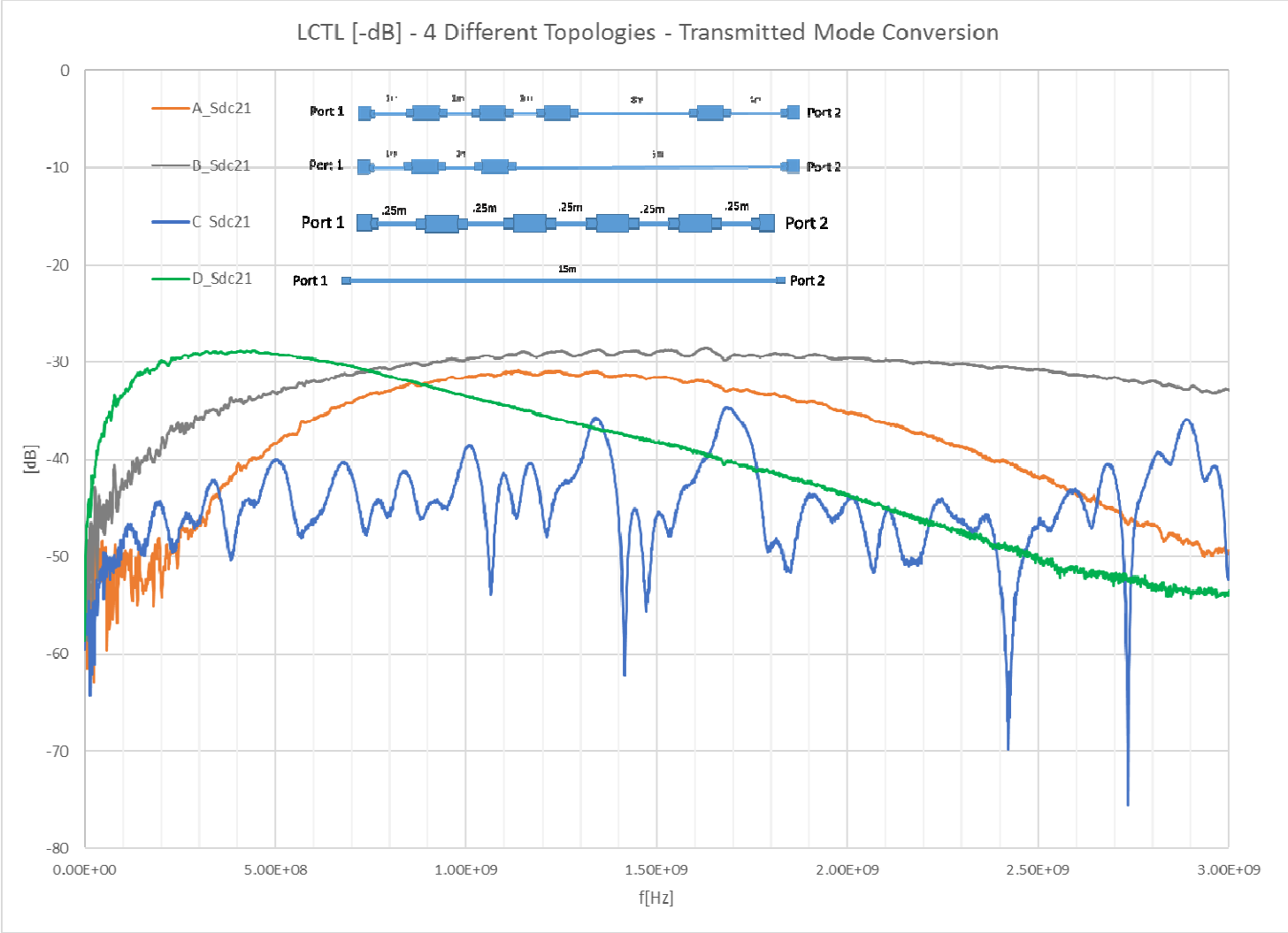
Topology C - Worst Case Return Loss



Reflected Mode Conversion



Transmitted Mode Conversion



Conclusions

- Based on these test results, proposed baseline performance limits can be made based on current automotive production hardware.
- If these limits are not acceptable, newer cable and/or connectors need to be investigated

Thank You!!