1000Base-T1, EMC ad hoc

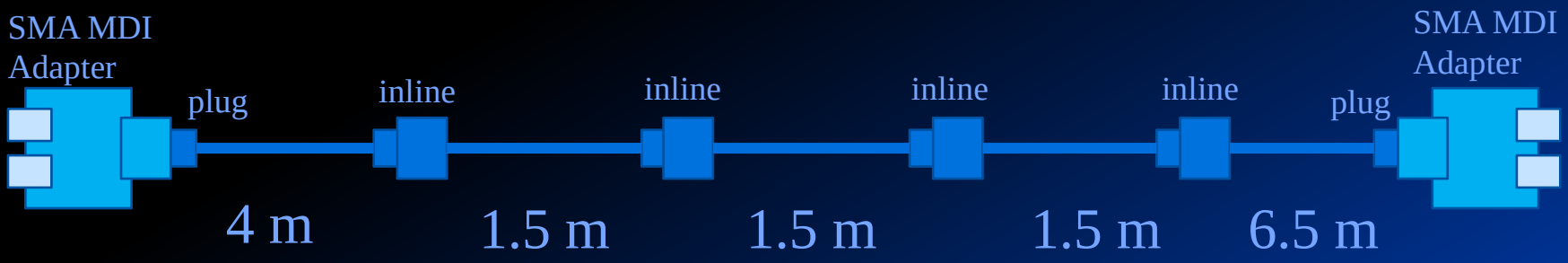
15m / 4 inlines link segment testing

Can standard automotive cables&connectors meet CMC baselines?

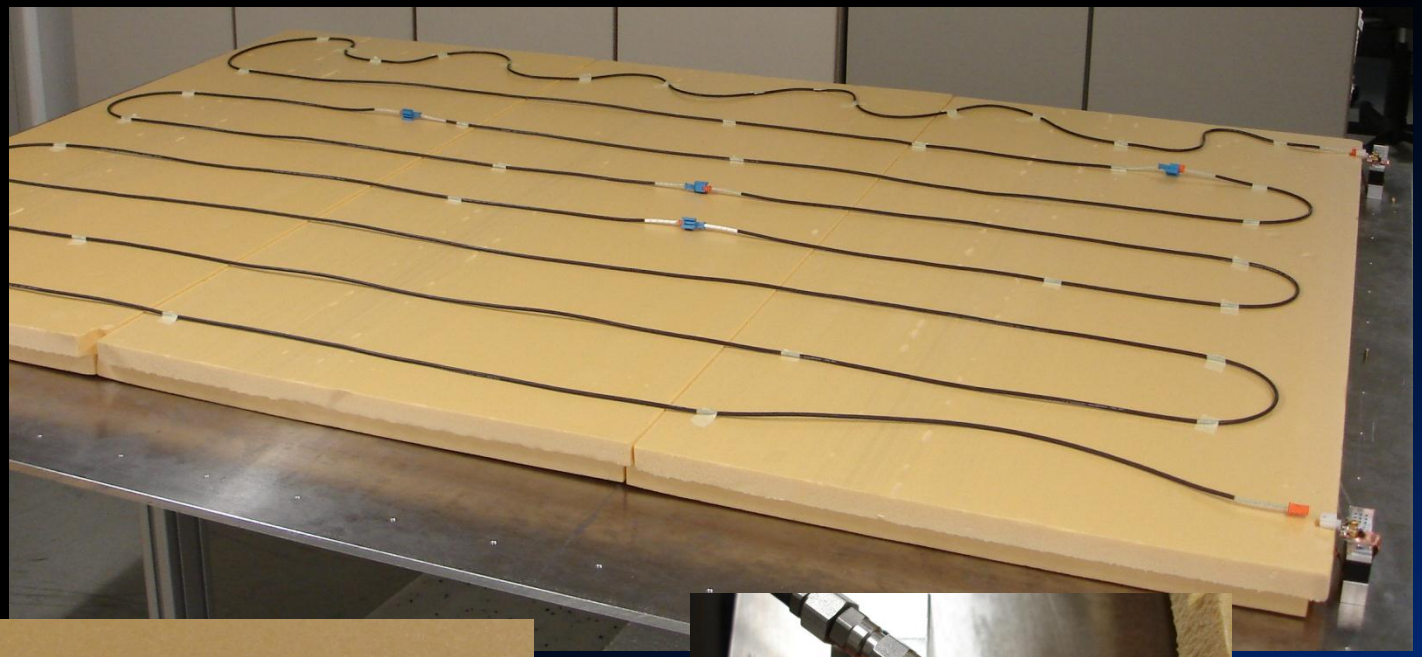
February 26, 2014

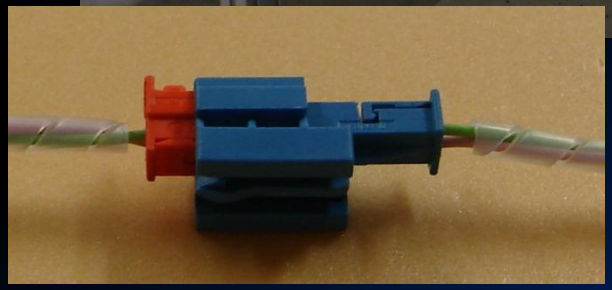
Samples

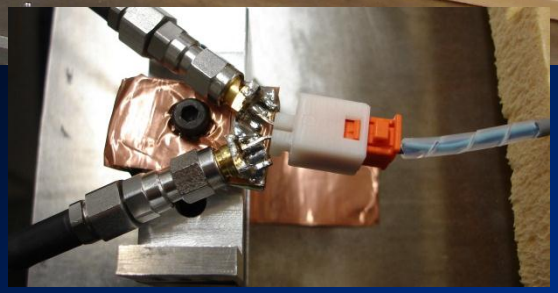
- Cable: T1 2x 0.35mm² w/sheath
  (4.0mm outer diameter, FlexRay cable)
  T2 2x 0.35mm² w/sheath
  (3.2mm outer diameter, Broad-Rreach cable)
  T3 2x 0.14mm² w/sheath
  (2.8mm outer diameter)
- Connector: 2way 0.64 type connection system (Delphi)
- Link segment (total 15m)



Setup



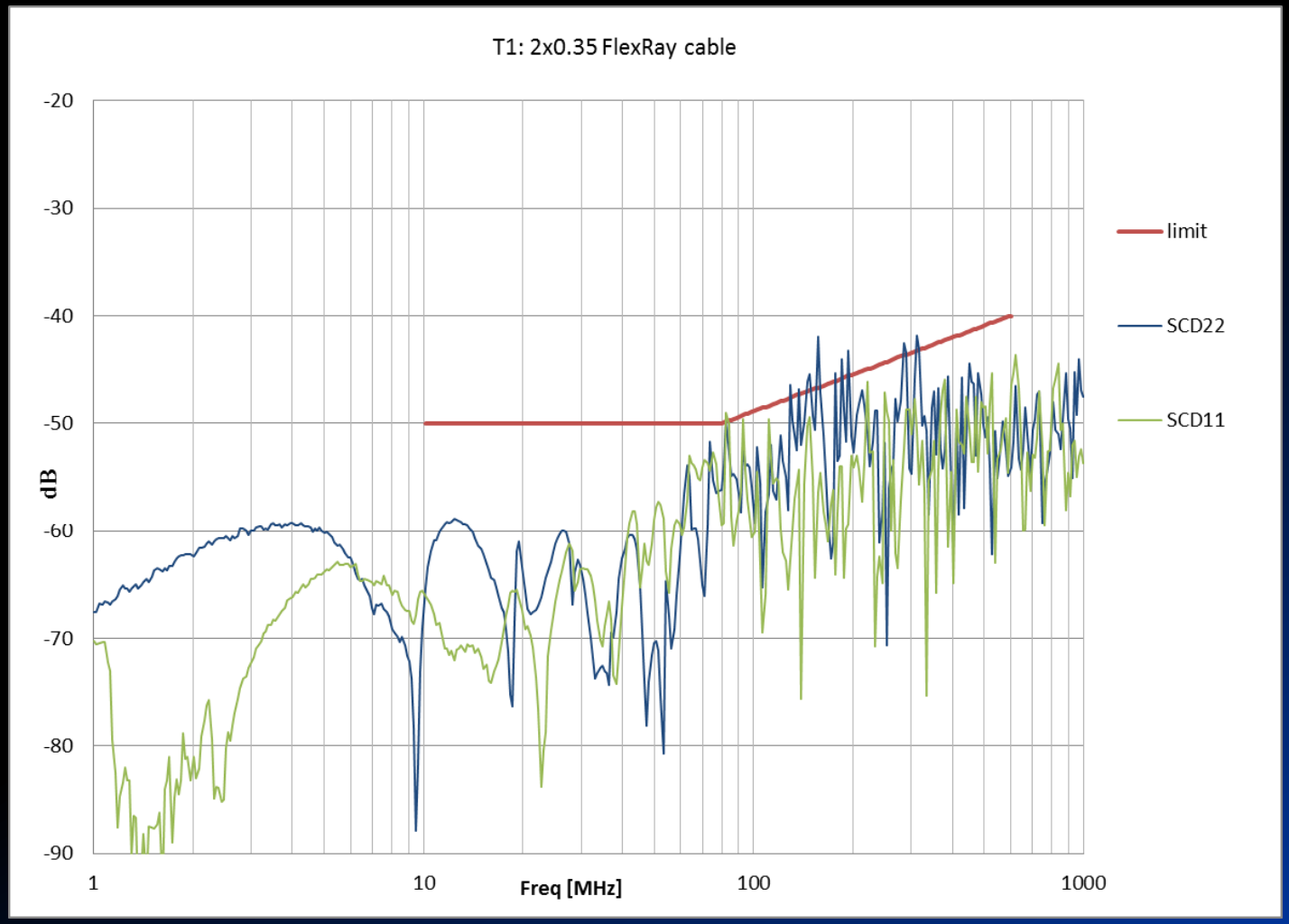




DELPHI

Calibration check (open adapter)

Test result T1: Scd11, Scd22



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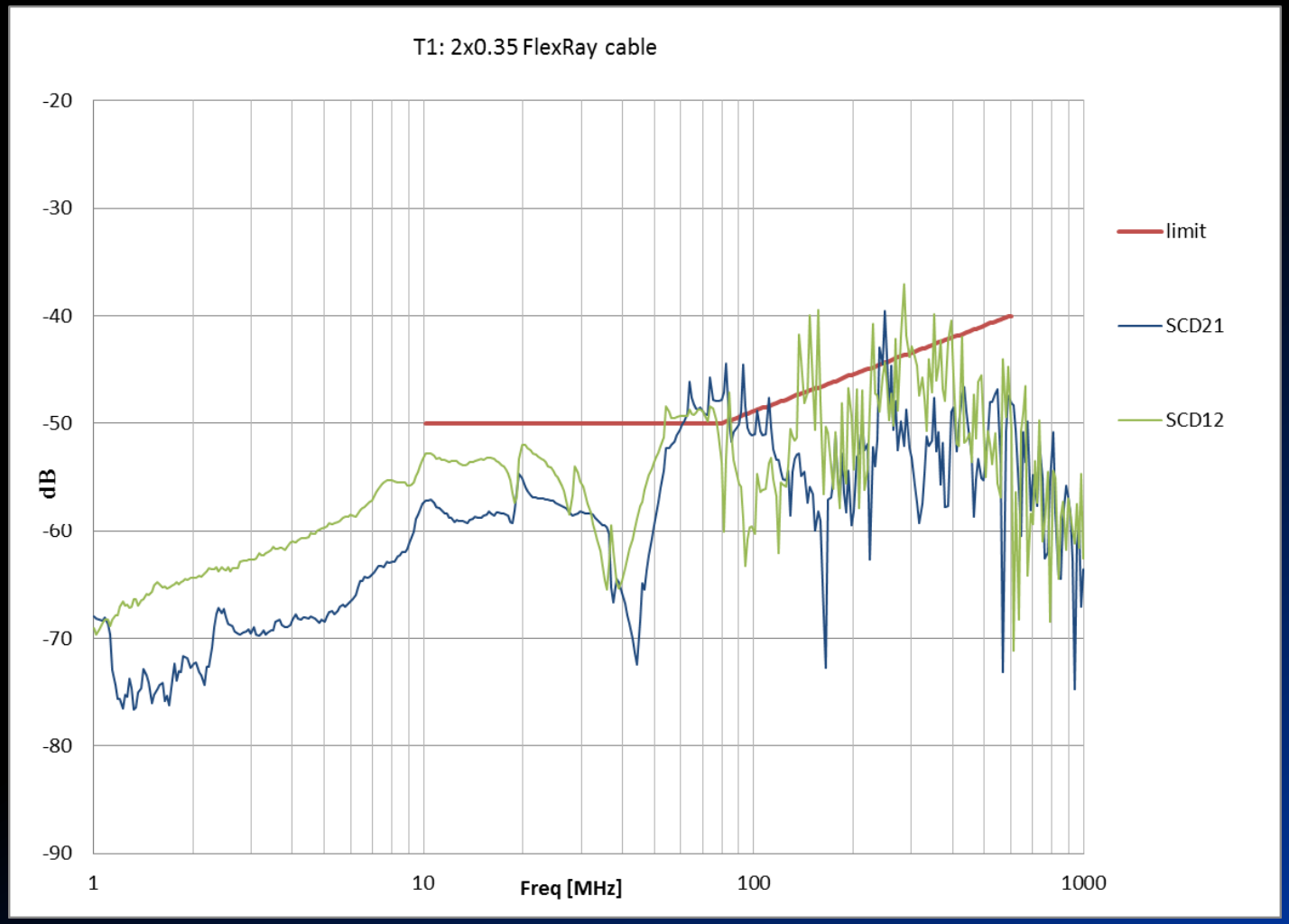
Test result T1: Scd21, Scd12



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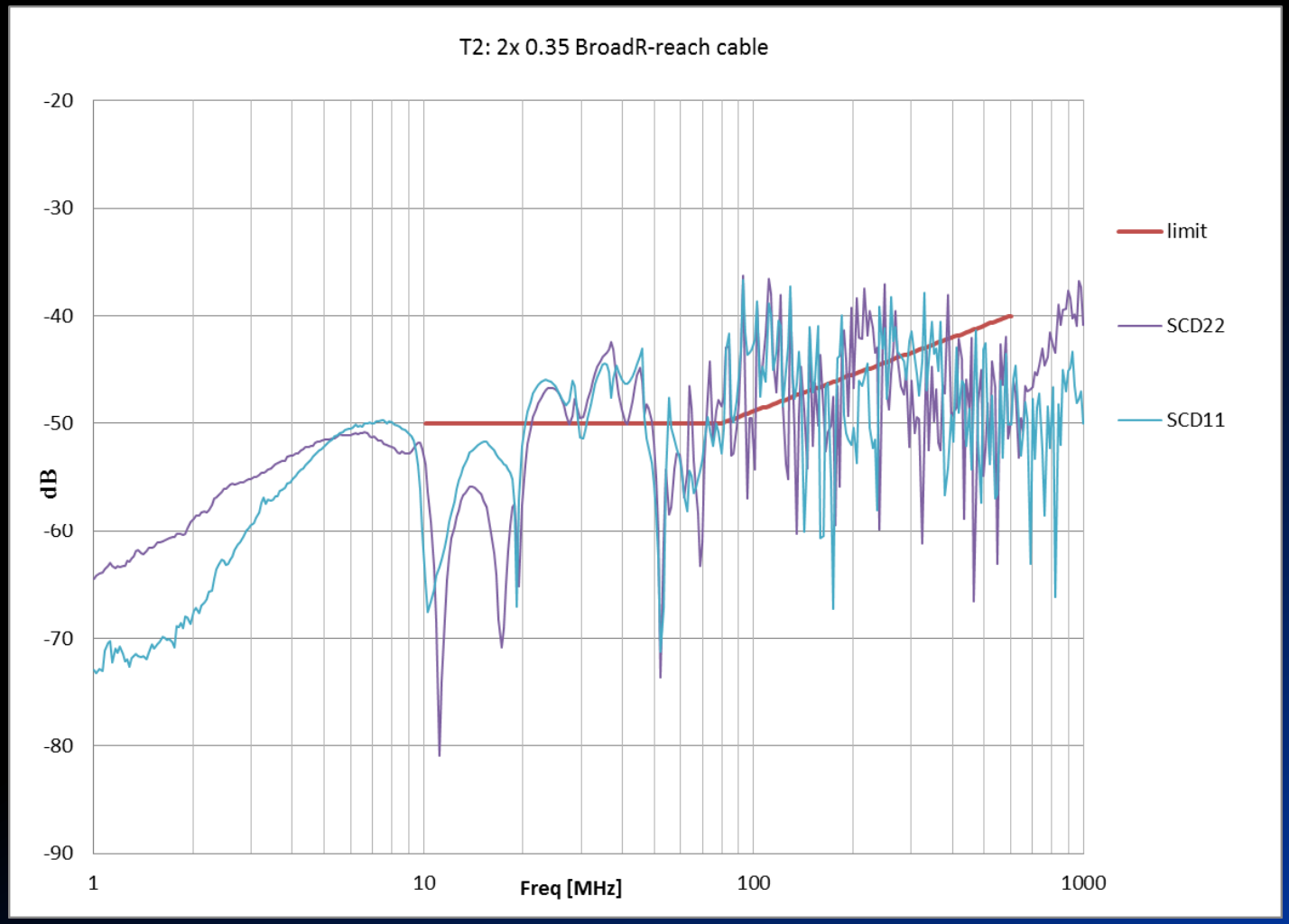
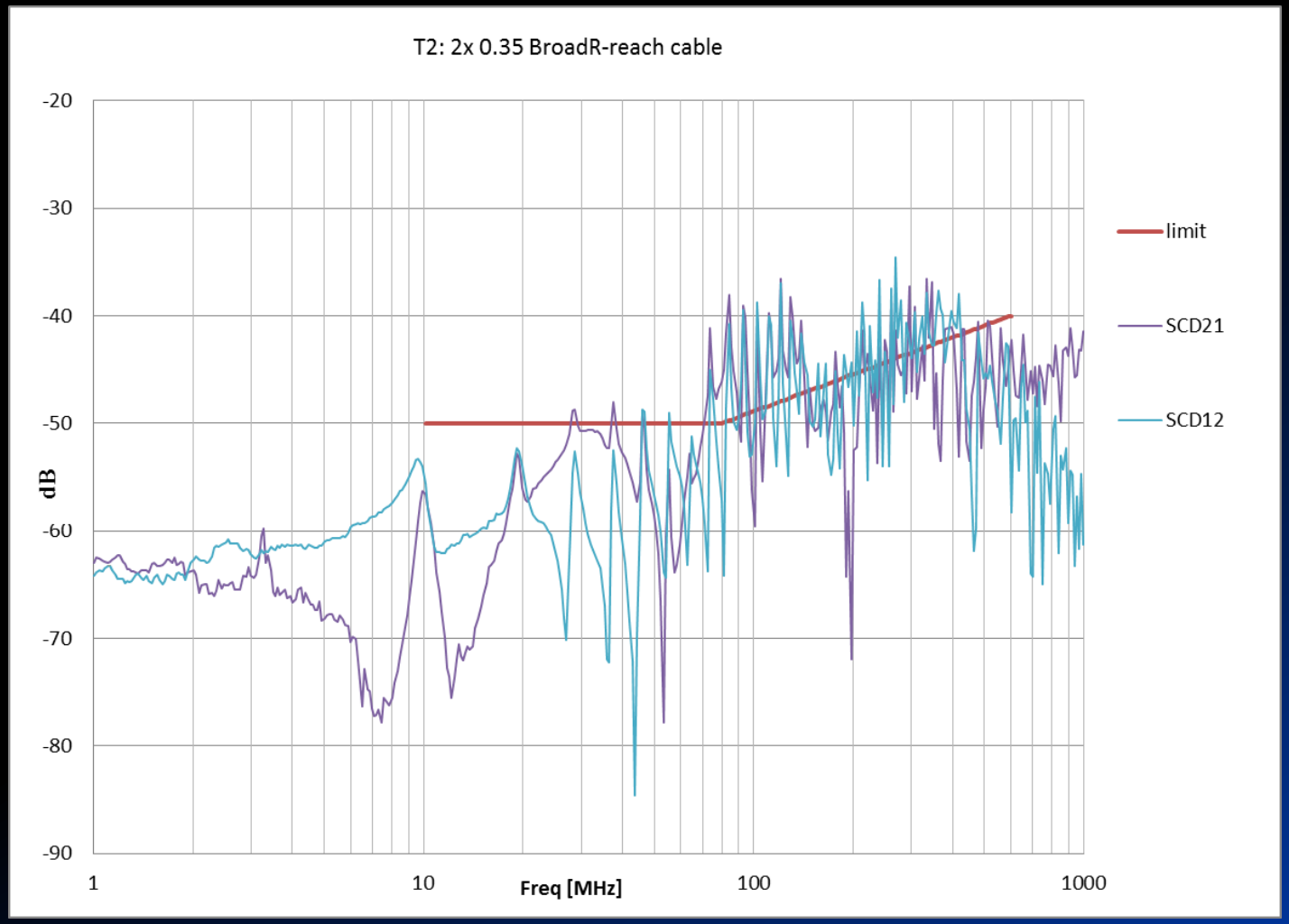
Test result T2: Scd11, Scd22



Test result T2: Scd21, Scd12



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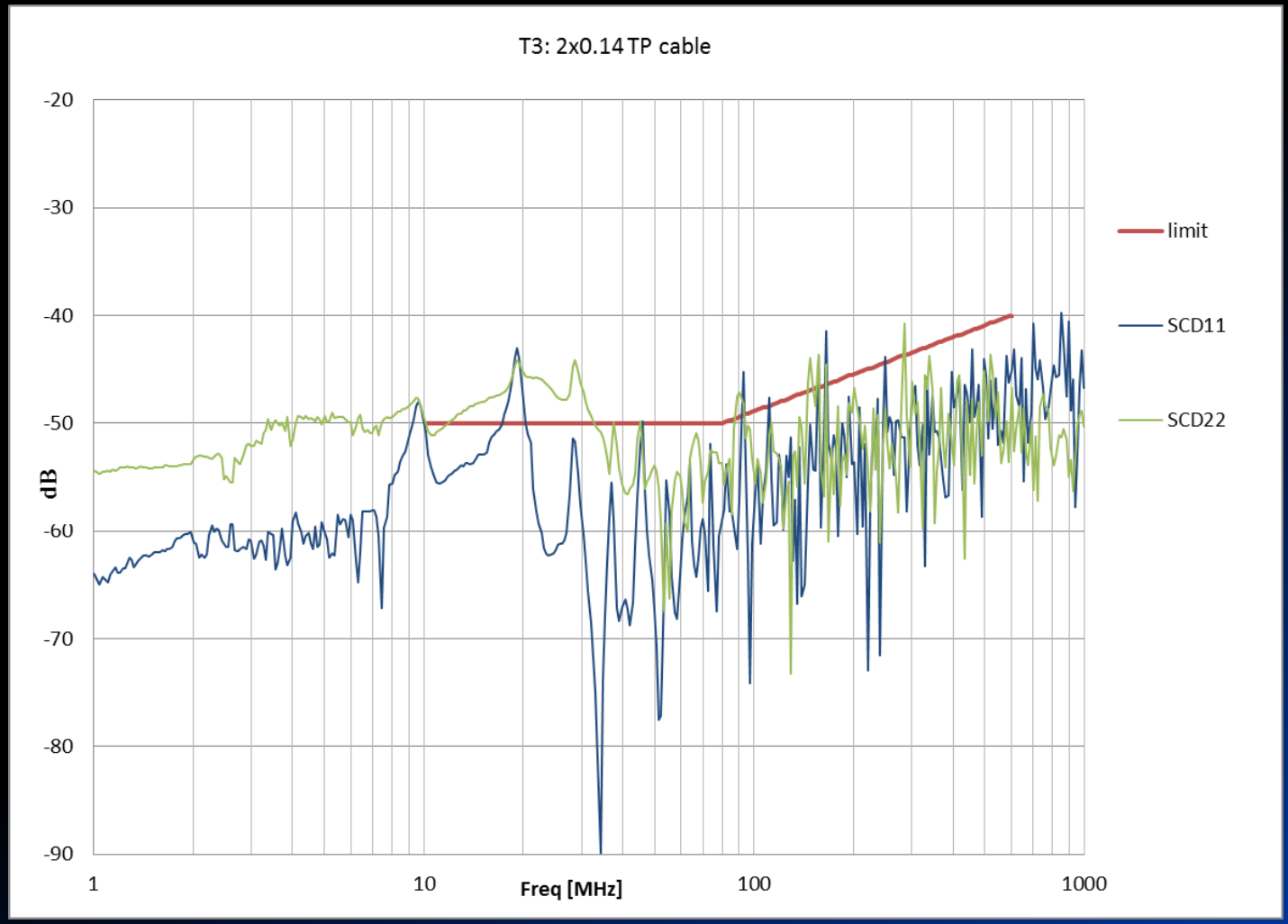
Test result T3: Scd11, Scd22



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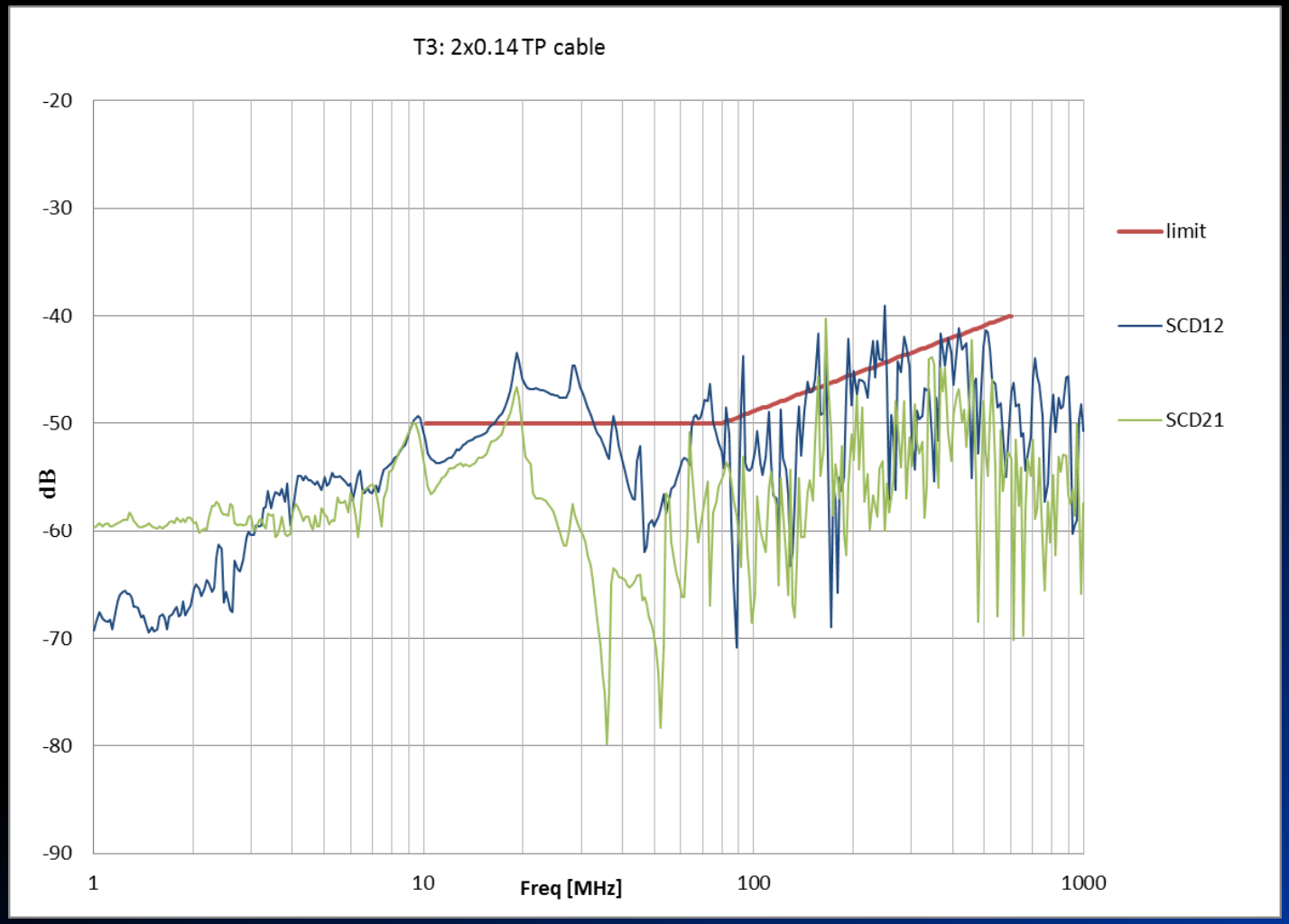
Test result T3: Scd21, Scd12



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Summary

- Standard data cables assembled with standard 0.64 type connection system are not meeting 1000Base-T1 baseline regarding CMC.
- Chosen cable has significant influence on the result.
- Connector influence to investigate