



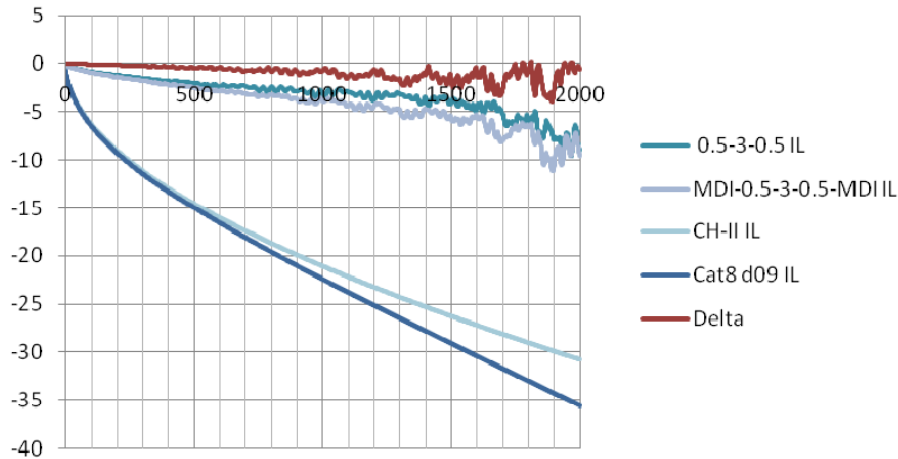
# Comparative Channel Measurements with and without MDIs, Short Channels

Martin Rossbach, Jonathan Nevett  
Nexans Cabling Solutions

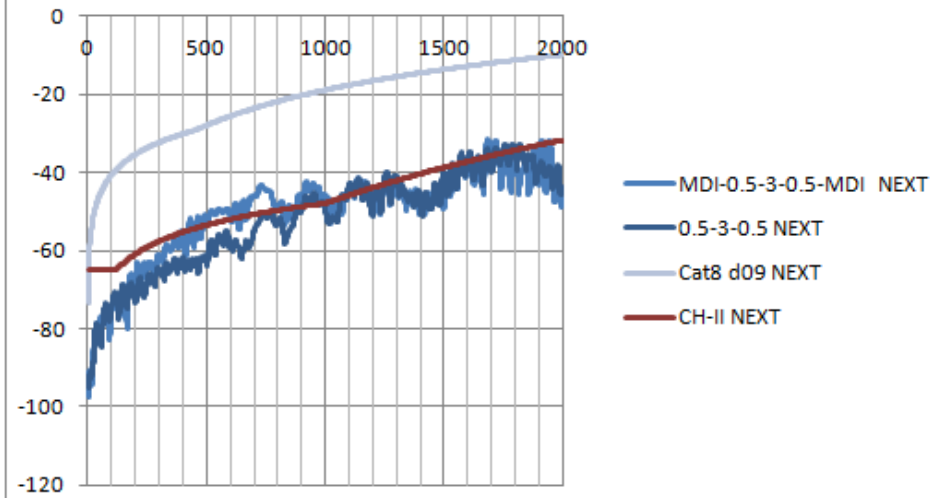
IEEE P802.3bq 40GBASE-T Task Force  
Dec 18, 2013

- New Channel testdata : what's different to data already submitted ?
  - ◆ Different channel configuration
    - 0.5m-3m-0.5m
    - 3m Patchcord for Direct Attach
  - ◆ See November contribution for description of testsetup, cable and connector, MDI etc.

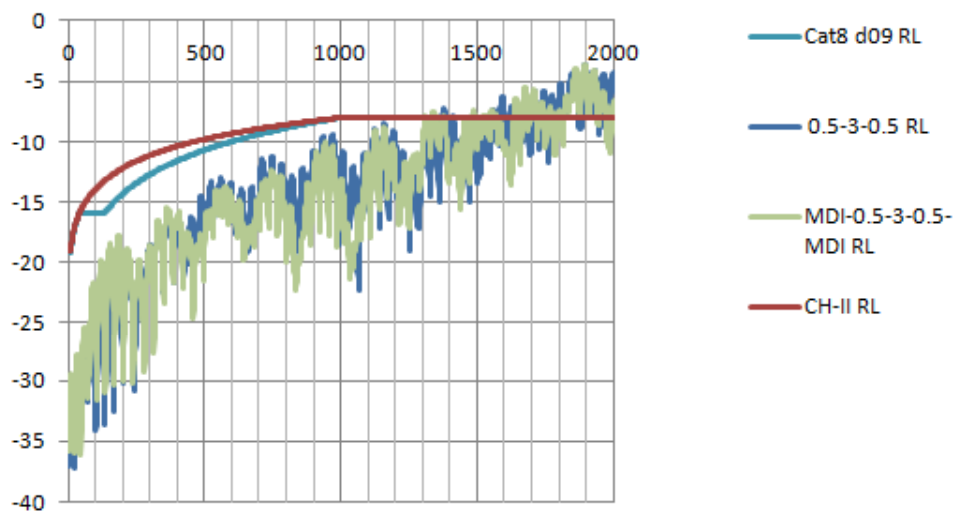
**Insertion Loss Worst Case of all pairs (NE&FE)**



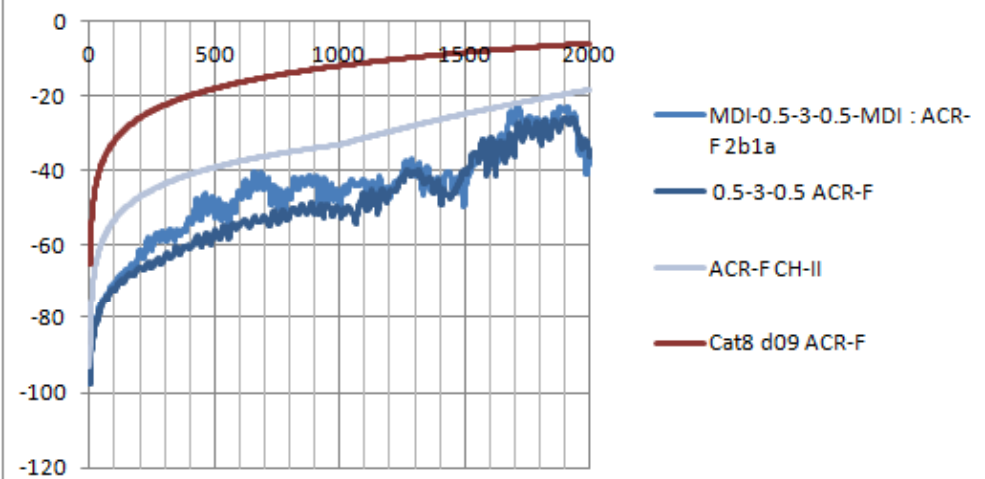
**Next Worst Case of all pair comb. (NE&FE)**



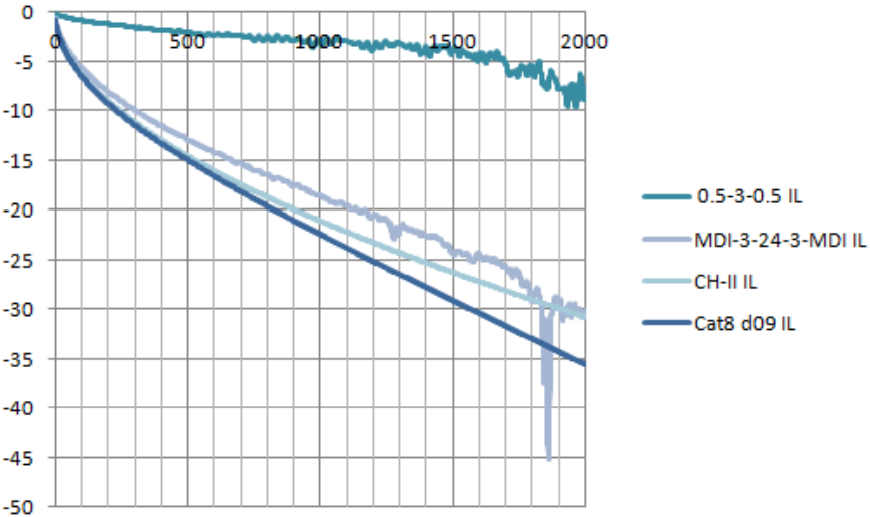
**Return Loss Worst Case of all pairs (NE&FE)**



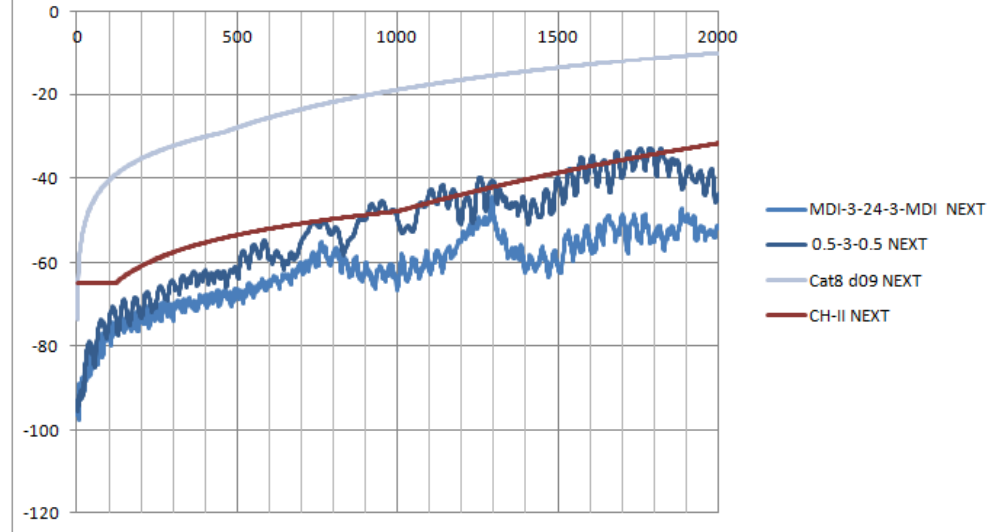
**ACR-F Worst Case of all pair comb. (NE&FE)**



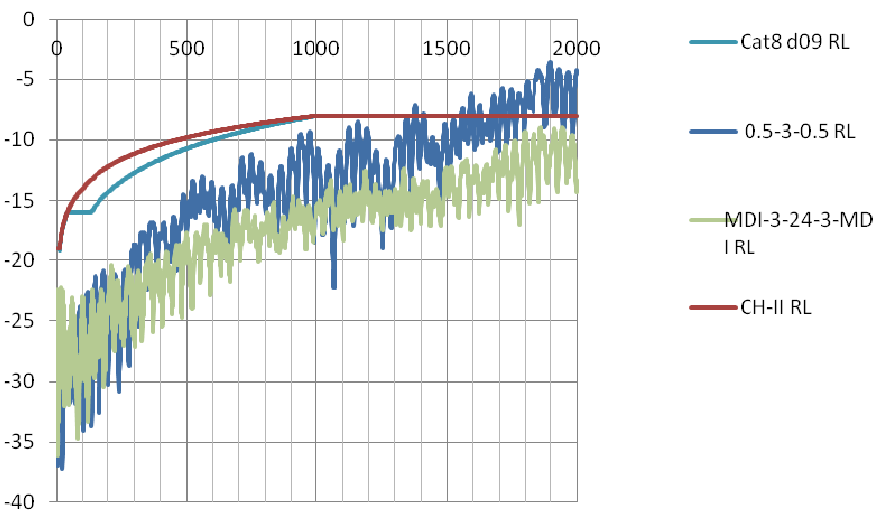
**InsertionLoss Worst Case of all pairs (NE&FE)**



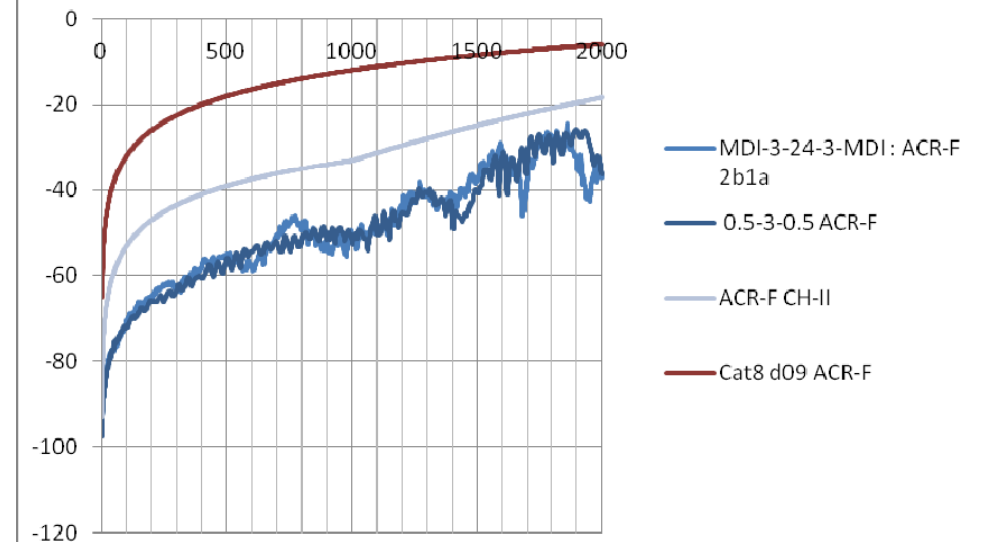
**Next Worst Case of all pair comb. (NE&FE)**



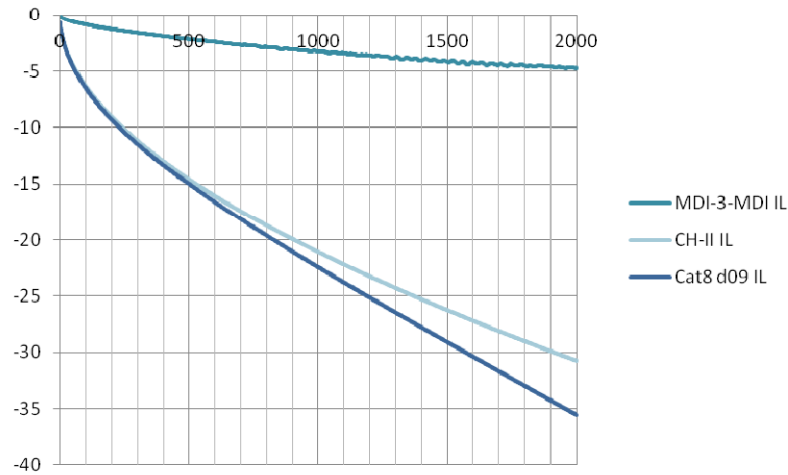
**Return Loss Worst Case of all pairs (NE&FE)**



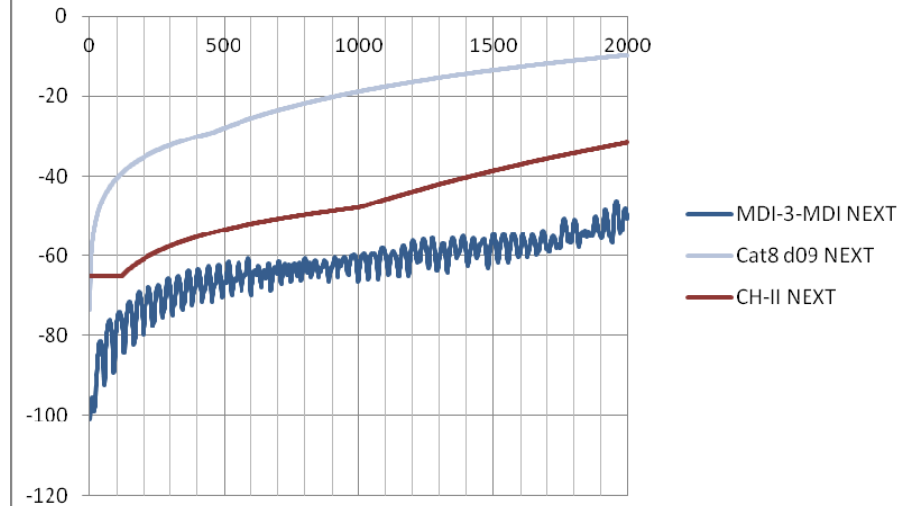
**ACR-F Worst Case of all pair comb. (NE&FE)**



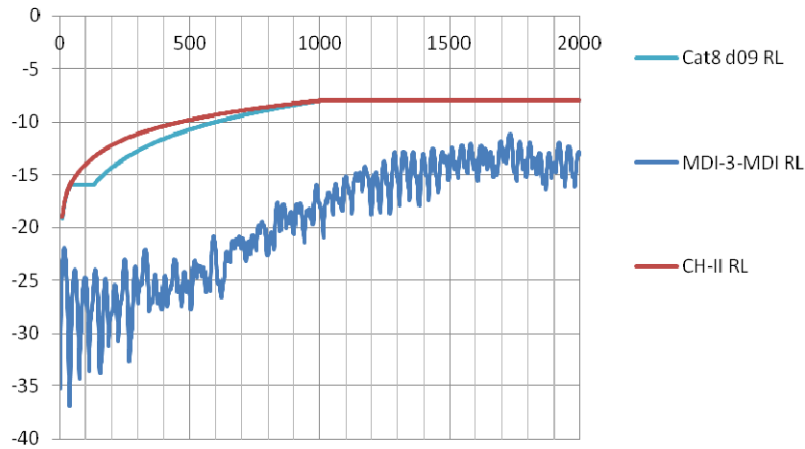
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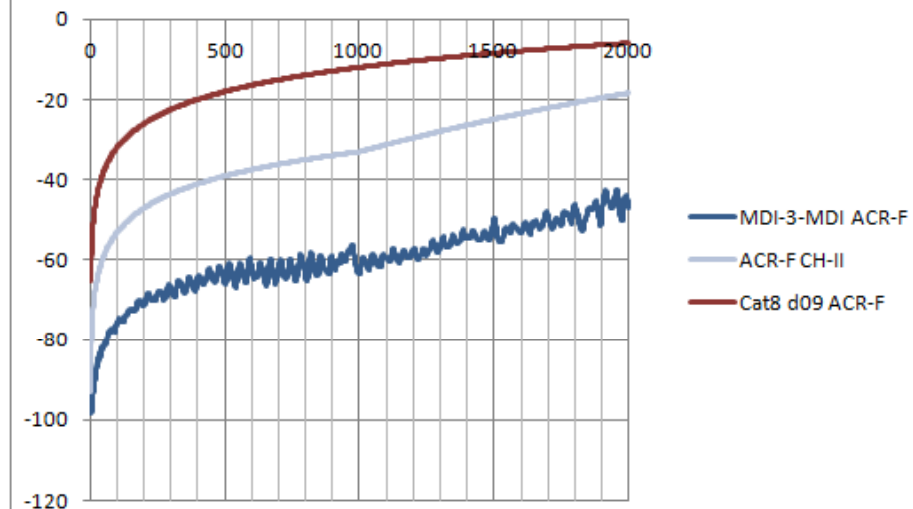
**Next Worst Case of all pair comb. (NE&FE)**



**Return Loss Worst Case of all pairs (NE&FE)**



**ACR-F Worst Case of all pair comb. (NE&FE)**



- 3 new S16P files available for study
  - ◆ Impact of MDI in short channels more visible (IL & NEXT & FEXT)
  - ◆ NEXT falls slightly under CH-II limits , passing CH-I specs
  - ◆ Short Channel configuration challenges RL spec
  
- Be aware about configuration dependancy of IL, RL and Next
  - ◆ ACR-F not effected
  
- 3m Cord data for Direct attach Mode
  - ◆ including MDI IEC61076-3-110 (no isolation)
  - ◆ other length needed ?