



IEEE 802.3bp Sample Channel Characteristics

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InterOperability Laboratory

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What data is the IOL collecting

1. Assemblies remain anonymous except for the following
 - Length
 - Gauge
 - Conductor (solid or stranded)
 - Topology (inline connectors)
 - Number of pairs

2. S-Parameters
 - Differential
 - Balance
 - Crosstalk

Test Setup

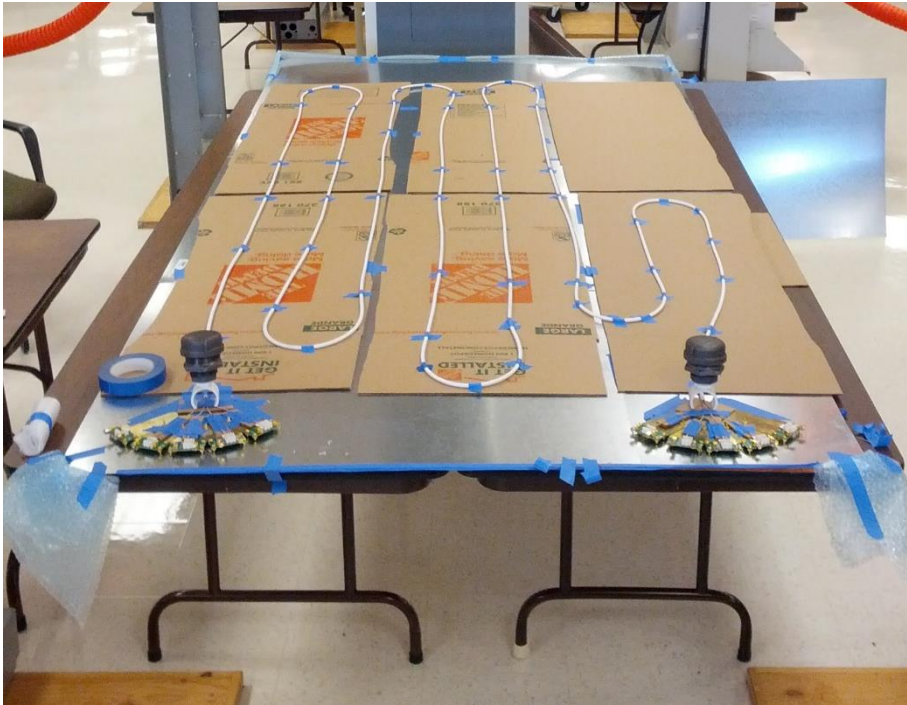


- 4' x 8' ground reference plane
- 4cm Styrofoam spacers
- Weights used to fasten test head to reference plane for good electrical contact

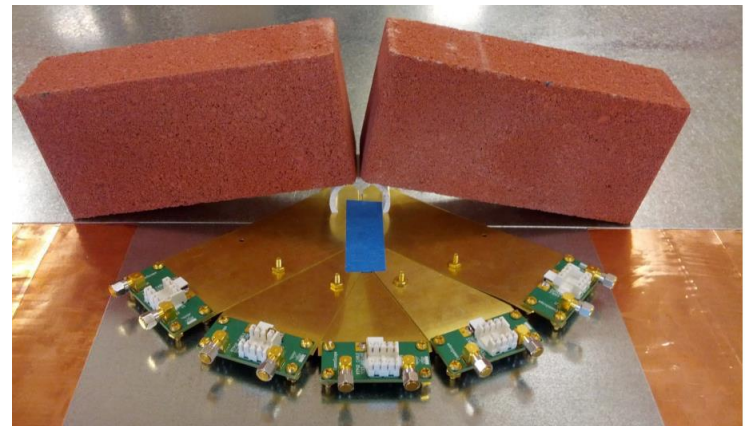
Issues

- Wiring Between panels act as antennae and cause resonance
- 2' by 4' panel edges were not covered with overlapping material
- Flexibility of Styrofoam can cause variations in cable to ground plane height

Test Setup Latest setup



- Instead of 4x 2' by 4' panels, now using several overlapping steel sheets
- 4mm cardboard spacers
- Commscope multi-head fixture

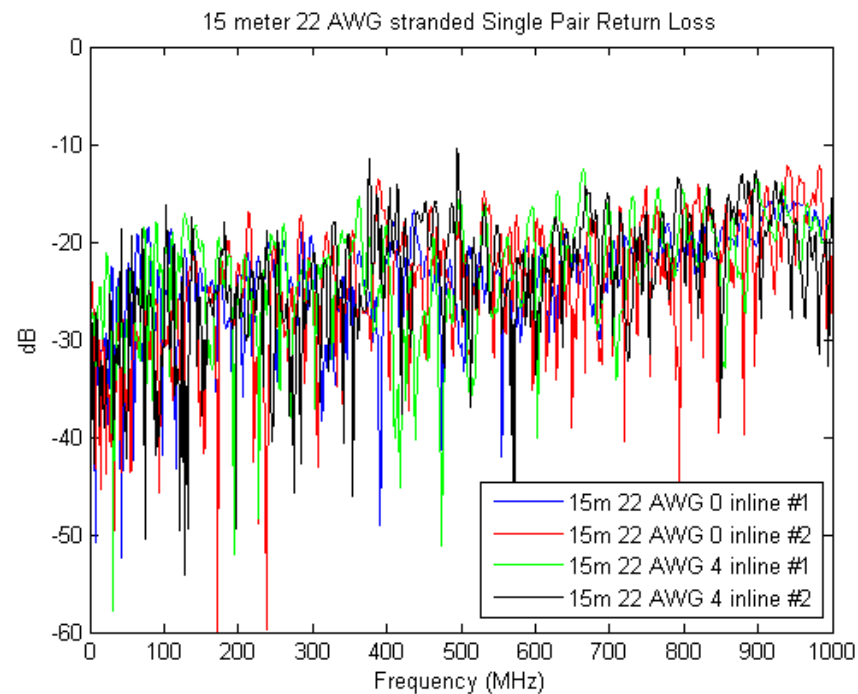
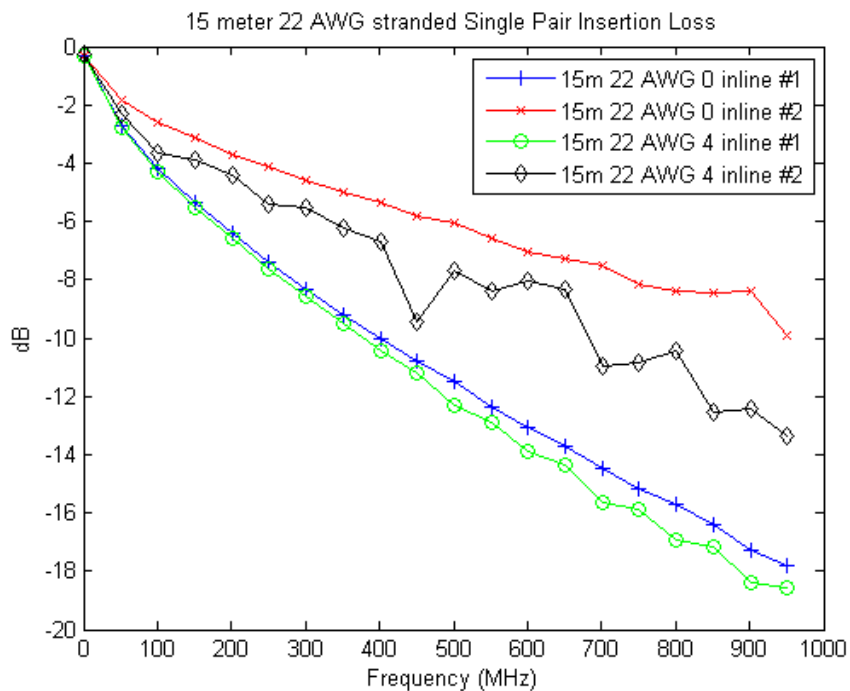


Collected Data

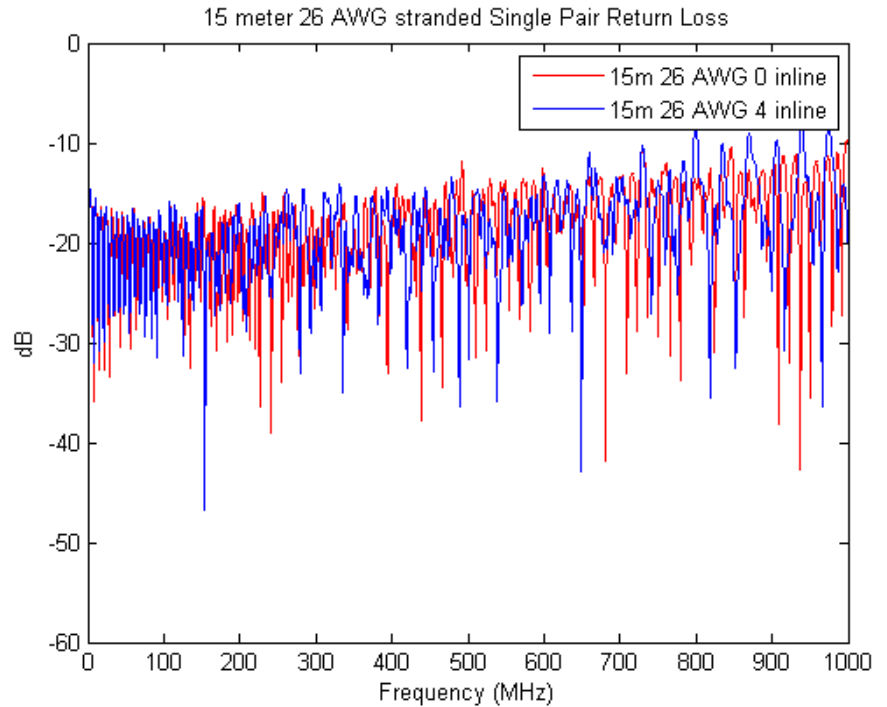
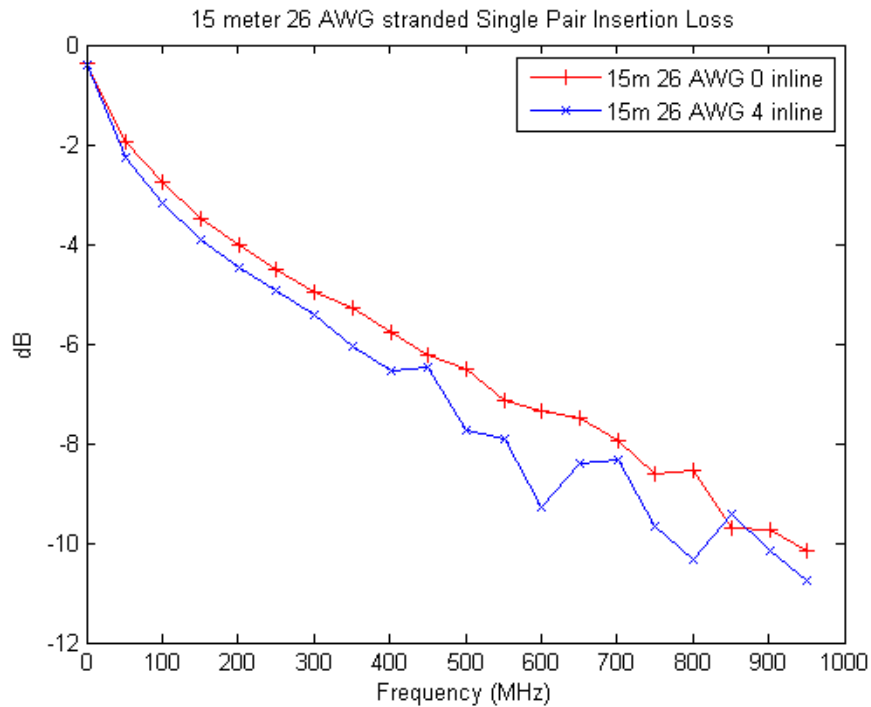
All tested assemblies have the following in common:

- Performed at room temperature
- Tested with common test fixture
 - Test head is **not** de-embedded from results
- 15 meters in length
- 1-pair UTP

Collected Data Set 1: 22 AWG samples

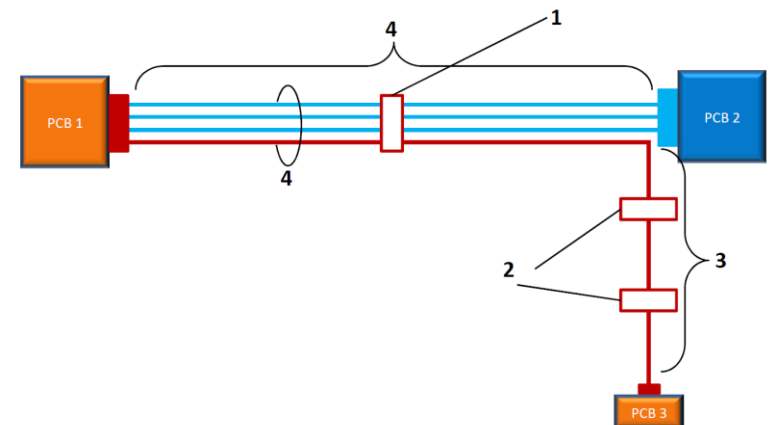
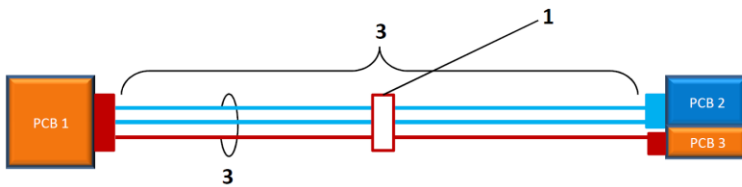
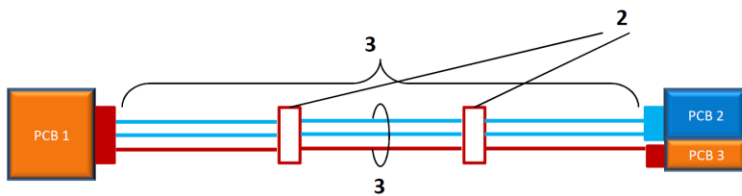


Collected Data Set 2: Believed to be 26 AWG



Alien Crosstalk

See Moffitt_01_0716_RTPGE



How to submit assembly samples

Contact us:

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- Assemblies with MDI should be delivered with respective test fixtures
- Provide identifying qualities (length, gauge, etc.)
- NDAs can be signed if requested

Thanks to

Chris DiMinico, MC Communications

Mehmet Tazebay, Broadcom

Richard Mei, Commscope

Todd Herman, Commscope

Bryan Moffitt, Commscope

And everyone that provided sample assemblies