

IEEE 802.3bp Sample Channel Characteristics

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Test Setup Initial setup



- 4' x 8' ground reference plane
- 4cm Styrofoam spacers
- Weights used to press 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 4 separate 2' by 4' panels, now using several overlapping steel sheets
- 4mm cardboard spacers
- Commscope multi-head fixture

Test Setup Latest setup

4cm





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
- 1-pair UTP
- 0 inline connectors

Collected Data Cat6A

Measurements of off-the-shelf Cat6A assemblies were taken for informative comparisons



Collected Data Cat6A

Balance Parameters

- Transverse conversion loss (TCL) SCD11
- Longitudinal conversion loss (LCL) SDC11
- Transverse conversion transmission loss (TCTL) SCD12
- Longitudinal conversion transmission loss (LCTL) SDC12



Red line is max profile

The following data is presented as a single profile instead of several overlaid measurements for each assembly

Collected Data Return Loss



*Limit line shown can be found in herman_3bp_01_0713_RTPGE

Collected Data Balance



Summary

- Test setup has been modified to use a 4mm reference height instead of 4cm. Demonstrated that performance had almost no changes
- Informative Cat6A measurements are presented
- Return loss measurements of 2 2-meter and 2 15-meter assemblies are shown and plotted against the limit presented in herman_3bp_01_0715_RTPGE
- Balance terms of 2 2-meter and 1 15-meter assemblies are presented

How to submit assembly samples

Contact us:

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- Assemblies with MDI connectors 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