
Reduced Twisted Pair Gigabit Ethernet SG Channel Definitions Ad Hoc Report

**Geneva, Switzerland
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**Ad hoc – co-chairs
Chris DiMinico –
MC Communications/Panduit
Mehmet Tazebay –
Broadcom**

Channel Definitions Ad Hoc

- **Ad Hoc chartered to develop channel definitions**
- **Initial meeting IEEE Interim May 2012**
- **Communications via RTPGE reflector**
- **Follow-on conference calls since last report;**
 - **June 20, June 27**

Minutes - Channel definitions ad hoc minutes

Minutes Thursday June 20

- Reviewed patent policy
- Discussed link segment balance characteristics
 - Volunteers to perform balance testing including round robin
 - Sterling Vaden – OCC (test fixtures UTP/shielded)
 - Sasha Babenko - Molex
 - Michael – delphi
- UNH-IOL –UTP and shielded Testing – test fixtures for shielded link segments
 - Chris D. test plan for June 27
- Link segment return loss
 - Using automotive link segment topology and configurations generate RL results utilize 6A...volunteers
 - Sterling Vaden – modeling results (June 27)
- (Automotive and industrial cabling environments Link segment temperature dependencies for cables and connectors to 125 deg C

Brief review:

http://www.ieee802.org/3/bp/public/may13/Babenko_3bp_01_0513.pdf

Minutes - Channel definitions ad hoc minutes

Minutes Thursday June 27

- Reviewed patent policy
- Reviewed presentation RTPGE EMC Limit Lines; Mehmet Tazebay & Ahmad Chini, Broadcom Corporation
 - Basis for link segment mode conversion limit line presented.
 - The limit line shown correlates with the levels suggested for TX PSD and RX BCI immunity levels.
 - The same limit can be considered for MDI and inline connectors, CMC and PHY.
 - Mode conversion for 1-pair UTP measurement compared against the limit line.
- Link segment return loss – Sterling Vaden OCC
 - Modeling results reviewed in Vaden_02-06-13_Channel models.pdf
 - Using compliant 6A connector and cable RL models a 15 m link segment topology of 1m, 2m, 9m, 2m, 1m was modeled and presented.
 - Summary: The modeled link segment (15 m) RL yielded ILD that will need to be considered in characterizing the link segment insertion loss beyond current estimates for category cabling.

Minutes - Channel definitions ad hoc minutes

Minutes Thursday June 27 (cont)

- Curtis Donahue (UNH-IOL) presented an IEEE 802.3bp Channel Test Setup Update
 - Update to the UNH-IOL test setup to further reduce effects on measurement results i.e.,
 - flexibility of styrofoam can cause variations in cable to ground plane height
 - Wiring between panels and could cause resonance in measurements
 - 2' by 4' panel edges were not covered with overlapping material

Summary

- **Channel definitions ad hoc to continue efforts in characterizing link segment specifications.**