



IEEE802.3bt 4-Pair Power over Ethernet Task Force
Power Over 10GBase-T Ethernet

End Span and Midspan

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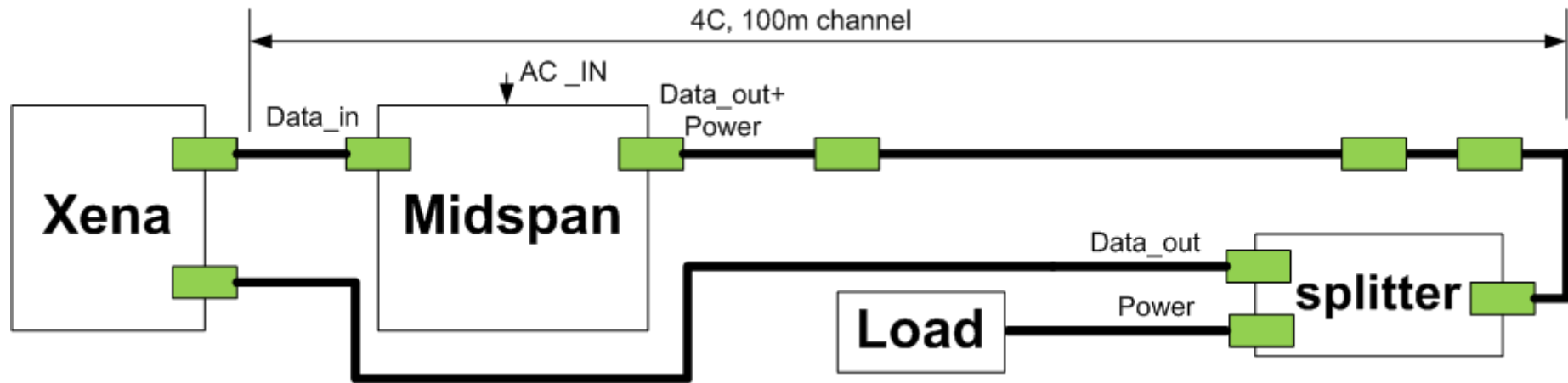
Supporters

- George Zimmerman, CME Consulting / Aquantia & Commscope
- Ron Nordin / Panduit
- Wayne Larsen / Commscope
- Rick Frosch / Phihong
- Yseboodt Lennart / Philips / Philips
- Yan Zhuang / Huawei
- Fred Schindler / Seen Simply
- Christian Beia / ST
- Rimboim Pavlic / Microsemi

Overview

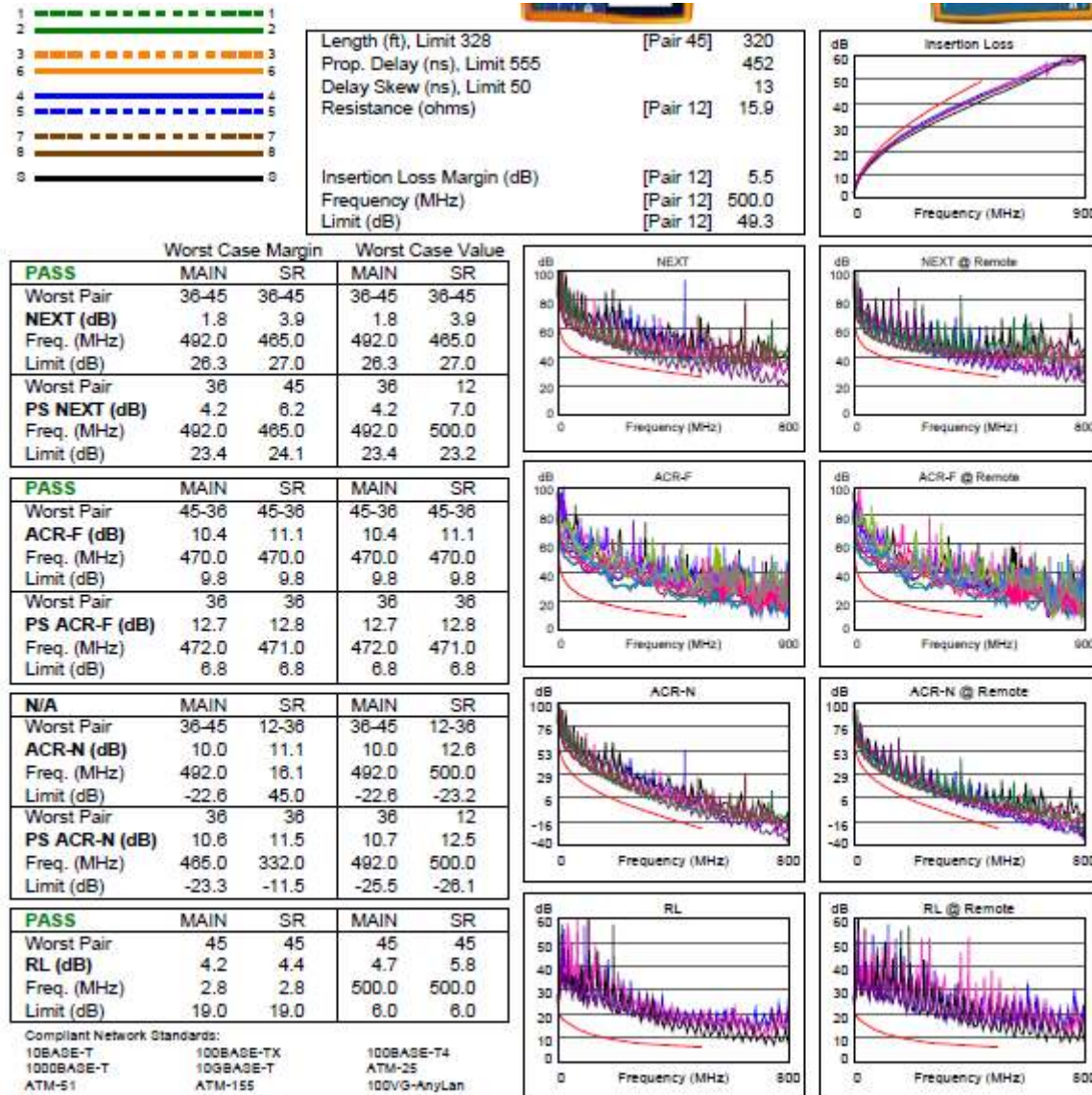
- 10GBaseT with PoE technical Feasibility shown on July 2013 at Geneva, Switzerland IEEE meeting.
http://www.ieee802.org/3/4PPOE/public/jul13/langner_1_0713.pdf
- Market need for power over 10G is growing
 - See e.g. CFI presentation slide 13,
http://www.ieee802.org/3/4PPOE/public/mar13/CFI_02_0313.pdf
- Demonstration of existing 802.3at standard PoE over 10GBase-T compliant links exists today for End span and Midspan PSEs.
- Specifications beyond implementations in 10GBase-T PHYs or 802.3at are not required for Endspan.
- Specifications beyond implementations per 802.3at clause 33.4.9 with the additional requirements specified for operating 10GBaseT, are not required.

Technical Feasibility

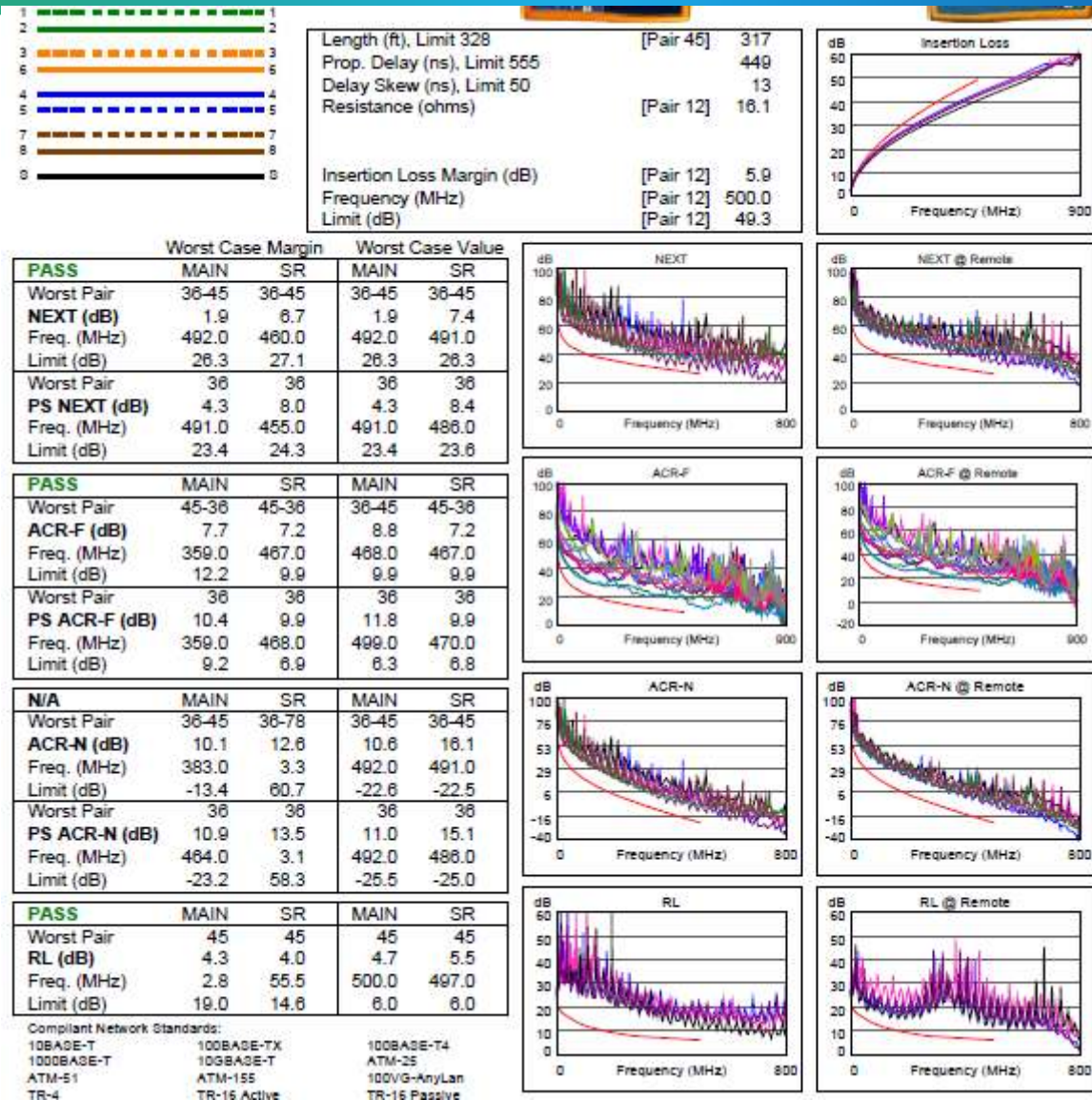


- Testing BER at variable load.
 - Pass long (100m) and short (0.2,1,2,3,4 and 10m) CAT6A channel
- Pass Channel tests with FLUKE DTX-1800.

Test Results – Channel Reference (100m)



Test Results – Channel +Midspan



Summary

- Meets 10GBase-T requirements with and w/o power
 - Meets also 10/100/1000BaseT as well.
 - PSE power supply noise level as in 802.3 Type 2 systems.
 - Variable load emulates PD Type 1, 2 and 51W (4P) tests.
 - Fix loads was used to emulate 95W,100W,105W
 - Meets IEEE802.3-2012 clause 33.4.9 with the requirements specified for 10G operation with components specified in TIA-568-C.2.

Next steps

- To update clause 33.4.9 parameters NEXT, IL, RL to reflect the requirements for to frequency up to 500MHz.

Thank You

References

- http://www.ieee802.org/3/4PPOE/public/jul13/langner_1_0713.pdf