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ISO/IEC JTC 1/SC 25/WG 3
Customer Premises Cabling
Secretariat: Germany (DIN)

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Liaison report from ISO/IEC JTC 1/SC 25/WG 3 to IEEE 802.3 regarding optical return loss requirement for high data rate (1G and above) Ethernet

To: **IEEE 802.3**
Chairman 802.3
(David Law, david_law@ieee.org)

Copy **Liaison between ISO/IEC JTC 1/SC 25 WG 3 and IEEE 802.3**
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From: **ISO/IEC JTC 1/SC 25/WG 3**
Approved at the 48th meeting Buenos Aires, Argentina.
Date: 2010-02-22/26

Request to IEEE 802.3 regarding optical return loss requirement for high data rate (1G and above) Ethernet

At the Buenos Aires meeting ISO/IEC JTC 1/SC 25/WG 3 held a discussion on optical return loss values, definitions and test methods for installed fibre optic cabling links and channels.

Currently in ISO/IEC premises cabling standard there is a requirement for multimode connecting hardware return loss to be ≥ 20 dB, however these standards have no requirement for the optical return loss of the ISO/IEC 11801 channel. SC 25/WG 3 is considering whether it is desirable to introduce a requirement and if so what that requirement should be.

SC 25/WG 3 notes that in all IEEE 802.3 applications on multimode fibre operating at 1 Gbit/s data rates and above there is a requirement for the transmitter to tolerate 12 dB of Optical Return Loss. SC 25/WG 3 is writing to seek some clarification on this requirement. Specifically:

- 1. Do we understand correctly that this 12 dB requirement includes the optical return loss from the connectors that are plugged into the equipment at each end of the channel?**
- 2. Is it expected that these equipment interface connectors will consist of an open fibre end, i.e. the launch is via free space and not a fibre pigtail, and the receive is open ended to the detector?**
- 3. Does this requirement also include an allowance for reflections back from the receiver at the far end of the link?**
- 4. Do we understand correctly that the Rayleigh scattering from the installed fibre itself is included in this requirement?**

Please note; the ISO/IEC 11801 channel does not include the performance of the connecting hardware at the equipment interface.

SC 25/WG 3 would appreciate answers to these questions and any other supplementary information in time for the next meeting of ISO/IEC SC 25/WG 3 scheduled in Seattle on 18-22 October 2010.