

IEEE 802.3 Ethernet Working Group Liaison Communication

Source: IEEE 802.3 Working Group¹

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Subject: Liaison letter to ISO/IEC JTC1/SC25 WG3 and reply to informal communication

Approval: Agreed to at IEEE 802.3 Plenary meeting, Beijing, China, March 20, 2014

Dear Dr Oehler,

The IEEE P802.3bt task force would like to thank you for your response to our original letter on impact of higher level of Power over Ethernet on balanced cabling channels.

At the recent IEEE P802.3bt task force meeting held at Beijing, 18th March 2014, our liaison officer-Alan Flatman reported on the directions given out by ISO/IEC JTC1/SC25 WG3 in this regard. He also reported to us the questions with respect to this project. Please find our answers below.

1. What is the expectation for pair to pair resistance unbalance?

We have done some analysis that showed that 5% is achievable for the cable (http://www.ieee802.org/3/4PPOE/public/nov13/darshan_01_1113.pdf). Additionally, we have some laboratory measurements that show that 5% is feasible for the cable. Based on the above, our expectations for channel pair to pair resistance unbalance is 6%. Please provide specifications for pair to pair resistance unbalance for the channel.

¹ This document solely represents the views of the IEEE 802.3 Working Group, and does not necessarily represent a position of the IEEE, the IEEE Standards Association, or IEEE 802.

2. Are you satisfied with the existing resistance unbalance within a pair?

Yes we are satisfied for legacy cabling. We understand that within the pair, the cable resistance unbalance is 2% and the channel resistance unbalance is 3%. We would like to hear from ISO/IEC JTC1/SC25 WG3 if these numbers can improve.

3. It will be useful to have your project plan

It is our hope to be ratified in December 2016. To support this schedule we would require the official cable numbers by June 2015. We will keep you informed of progress and relevant decisions as they occur.

In addition to the above considerations for cable imbalance, we understand that ISO/IEC JTC1/SC25 WG3 is doing work on measuring and predicting cable temperature rise as a function of DC current, cable bundle size, and ambient temperature. We believe that in addition to these variables, barometric pressure may also affect the cable temperature rise and request that you include this in your study. Please consider barometric pressures encountered in installations as high as 10,000 ft. altitude.

Sincerely,

David Law

Chair, IEEE 802.3 Ethernet Working Group