

FC-PI-6 Ad Hoc Group Status February 2013

- Met on Wednesday, February 6th from 9:00 to 4:00
- Presentations
 - **Receiver BER target for 32GFC, Adam Healey, LSI, 13-058v0**
 1. The probability for transmission errors was reviewed for 16GFC and 32GFC.
 2. The probability for codeword errors was reviewed and a graph of the probability of a codeword error versus a bit error was reviewed.
 3. Adam proposed to use the same effective probability of a transmission word error for 32GFC that is used for 16GFC.
 4. A non FEC target of 1×10^{-6} BER can be applied to every FC use case with varying degrees of margin.
 - **32GFC over backplane proposal, Adam Healey, LSI, 13-059v0**
 1. Alpha points will be specified instead of Epsilon points.
 2. Test fixtures are defined for access points.
 3. Work of IEEE 802.3bj is being leveraged.
 4. The transmit parameters were reviewed.
 5. The channel operating margin (COM) input requirements were reviewed.
 6. The receive signal tolerance requirements were reviewed.
 7. This presentation represents the first cut for 32GFC over electrical backplanes.
 8. The group unanimous voted to use this presentation as the starting point for the FC-PI-6 EA variant.

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➤ **32GFC chip to chip simulations, Ali Ghiasi, Broadcom, 13-056v0**

1. IEEE 802.3bm is investigating a chip to chip interface that has 15dB loss. This work is applicable to the 32GFC chip to module requirements.
2. Several different transmitters were simulated.
 1. Higher amplitude driver with standard jitter
 2. Lower amplitude driver with lower jitter and faster rise/fall time.
3. The eye diagrams over multiple different channels were reviewed.
4. Results suggest that a receiver sensitivity better than 100mV will be required for a 15dB channel.

➤ **Response to FCIA for 128GFC MRD, Richard Johnson, Finisar, David Cunningham, Avago, 13-067v0**

1. A QSFP will not share the same optimal parameter space as a SFP solution.
2. Further study needs to be done to determine optimal parameters and reach for a four lane QSFP based solution.
3. Recommendation is to do this in a subsequent document as the work on this new variant will slow up the single lane variant of FC-PI-6.

Response to FCIA 128GFC MRD from FC-PI-6 ad hoc group

The initial investigation of a four lane 128GFC solution shows that the existing single 32GFC will not support 128GFC without significant technical work. The existing 32GFC variant has had extensive technical work to reach 100 meters. The additional impairments of the multi-lane variant would cause the 32GFC parameters to have to be modified and this would take a significant amount of work and disrupt the 32GFC standard release. Because of this T11.2 is recommending that FC-PI-6 be released with the 32GFC single lane variant and another project, FC-PI-x be started to address 128GFC. Until the work starts on FC-PI-x the reach for 128GFC will not be known.

T11.2 also recommends that the 128GFC four lane variant work be included in FC-FS-4 so that when FC-PI-x becomes available the single lane and multilane variants will both be addressed.

The FC-PI-x ad hoc is going to examine the feasibility of the following variants:

Four lane MM

Four lane SM

Four lane passive electrical

Duplex SM fibre

A project proposal will be put together for FC-PI-x and will be presented at the April 2013 meetings.

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➤ **FC-PI-6 comment resolution, Dean Wallace, QLogic, 13-002v1**

1. Informal comment resolution has started on the 0.02 version of FC-PI-6
2. All 77 technical comments have been resolved.
3. We are going to request that the editor generate another document that includes all of the latest acceptable technical contributions and the accepted comments.
4. Another round of information comment resolution will then happen on this document.
5. Current best guess for a T11.2 letter ballot is at the conclusion of the June plenary meetings.

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- **Future meeting schedule for FC-PI-6 ad hoc**
 - Future meeting schedule
 - Wednesday 04/10/13 from 9:00 to 5:30 in Albuquerque, NM
 - Request two conference calls