Cl **91**   *SC* **91.5.3.3**   *P* **143**   *L* **37**   # 1

Ran, Adee   Intel

Comment Type   **T**   *Comment Status* **A**

The error monitoring calculations are based on the 100GBASE-CR4/KR4 RS-FEC. Bypassing error indication is also possible in 100GBASE-KP4, but in that case a higher SER is tolerable (for the same MTTFPA and frame error rate).

To achieve MTTFPA of 15e9 years in KP4, the SER should be below 1.31e-3; with that SER, the _expected_ number of errors in a window of 8196 codewords is 5820 - much higher than the K=417 suggested for CR4/KR4.

For technical completeness, in order to prevent frequent disconnections of perfectly safe links, the threshold for 100GBASE-KP4 should be higher. The value in the suggested remedy was selected to have a mean-time-to-disconnect of just over a century.

SuggestedRemedy

Change "If the number of symbol errors in a 1 ms interval exceeds 870" to "If the number of symbol errors in a block of 8192 codewords exceeds a threshold K".

Insert a new paragraph after this one, reading
"When used to form a 100GBASE-CR4 or 100GBASE-KR4 PHY, the threshold K=417 will be used. When used to form a 100GBASE-KP4, the threshold K=6380 will be used".

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #2.

Cl **91**   *SC* **91.5.3.3**   *P* **143**   *L* **37**   # 2

Ran, Adee   Intel

Comment Type   **TR**   *Comment Status* **A**

The text in this paragraph results from resolution of comment #18 on D1.3, but the response wasn't implemented correcly.

According to ran_3bj_01a_0113 slide 11, symbol errors should be counted in blocks of 2^13 codewords, and the threshold should be 417 errors (instead of a period of 1 ms and a threshold of 870 used in D1.4; these values were taken from an earlier version of the presenation).

The behavior of the error monitoring function is very sensitive to the number of symbols in the observation window. Specifying a period instead of an exact number of symbols might cause confusion or implementations with varying behavior (e.g. false alarm rates, "guaranteed" MTTFPA).

Using a symbol count instead is unambiguous and easy to implement.

The thershold was calculated so as to trigger at a SER of 6.6e-5, which translates to a UCR of 4.95e-17 and an MTTFPA of 1.5e9 years.

Suggested remedy includes definition of the threshold as a parameter K, to facilitate using a different value for KP4 (subject of another comment).

SuggestedRemedy

Change "in consecutive non-overlapping 1 ms intervals" to "in consecutive non-overlapping blocks of 8192 codewords".

Change "If the number of symbol errors in a 1 ms interval exceeds 870" to "If the number of symbol errors in a block of 8192 codewords exceeds the threshold K=417".

In PICS item RF8 (91.7.4.2), change "When the number of symbols errors in a 1 ms interval exceeds 870" to "When the number of symbols errors in a block of 8192 codewords exceeds the threshold K".

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Correct the measurement interval and define K values dependent on PHY type per comment #1. Update PICS accordingly.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **2**   Page 1 of 2
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn   3/19/2013 10:31:5
SORT ORDER: Comment ID

Cl **91**　　　*SC* **91.5.3.3**　　　　　*P* **143**　　　*L* **39**　　　　# 3
Cideciyan, Roy　　　　　　　　　IBM

Comment Type　**ER**　　　*Comment Status*　**A**
　　Notation in rx_coded<0:1> is not consistent with notation that has been used.

SuggestedRemedy
　　Replace rx_coded<0:1> by rx_coded<1:0>

Response　　　　　　　*Response Status*　**C**
　　ACCEPT.

Cl **93A**　　　*SC* **93A.1.2.3**　　　　*P* **318**　　　*L* **30**　　　　# 4
Healey, Adam　　　　　　　　　LSI Corporation

Comment Type　**T**　　　*Comment Status*　**A**
　　Draft 1.3 comment #36 was not correctly implemented. In Table 93A-2, the imaginary part of
　　rho_2 should be -0.04093 and the imaginary part of gamma_2 should be -0.03914.

SuggestedRemedy
　　Correct the typos.

Response　　　　　　　*Response Status*　**C**
　　ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Comment ID

Comment ID **4**

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3/19/2013 10:32:0