100G Basekp4 Interference tolerance ad hoc

Introduction

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Mike Dudek Qlogic
Charles Moore Avago

Our task is to complete this table:

Table 94–7—Receiver interference tolerance parameters

Parameter	Test 1 values	Test 2 values	Units
Maximum BER without FEC	3×10^{-4}	3×10^{-4}	
Maximum BER with FEC	10^{-12}	10^{-12}	
Channel insertion loss at 6.875 GHz Real part of a_0, min.[a] Real part of a_1, min. Real part of a_2, min. Real part of a_4, min.	TBD TBD TBD TBD TBD	TBD TBD TBD TBD TBD	dB $Hz^{-1/2}$ Hz^{-1} Hz^{-2}
Channel noise excluding TX-RX re-reflection noise	0	0	mV
Applied peak-to-peak Sinusoidal Jitter[b]	TBD	TBD	UI
Applied peak-to-peak Random Jitter[c]	TBD	TBD	UI
Applied even-odd jitter	TBD	TBD	UI
Applied RMS broadband noise	TBD	TBD	mV

[a]For each test channel, a_0 is limited to a maximum value of 1.5 and a_1, a_2, and a_4 are limited to a maximum value of 0.

Some Options are, easiest to most difficult (our opinion):

1. Simply use the values in:
   http://www.ieee802.org/3/bj/public/mar12/moore_02a_0312.pdf
   Page 31 tests 3 and 4.
   Most likely not viable, the task force already chose not to use this solution at the September Interim.
2. Keep the format for the table intact but come up with fresh values.
   This is probably not a good solution: The table assumes qikSN channel specification method which is not being used.
3. Modify the table but keep the basic intent the same.
4. Change the receiver test to something different and more appropriate to PAM4 with heavy FEC.
   Is there an advantage in doing this. Having the test being based around a worst case transmitter with a worst case channel helps to close the budget.

Some thoughts on modifications to the table. (item 3 on previous slide)

1. The channel is now being specified with COM. Should we replace the “a” coefficients with a COM value and a Nyquist attenuation?
    - If we use a COM value how would we change it during calibration?
    - Do we need to control individual effects for this test or are we OK that a target COM value is OK however it is achieved?
2. The transmitter specifications have now being replaced by parameters defined in ran_3bj_01_0912. Should we replace the jitter parameters in the table with -
    a) CRJrms (labeled RJrms in the presentation)
    b) CDJ (labeled DCJ in the presentation) including EOJ
    c) EOJ
    d) SNDRtx
    - If we do this how would we change them during calibration?
    - Do we need all these parameters to be target values or could we just bound some eg EOJ and SNDRtx?