P802.3bv interoperability

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Introduction

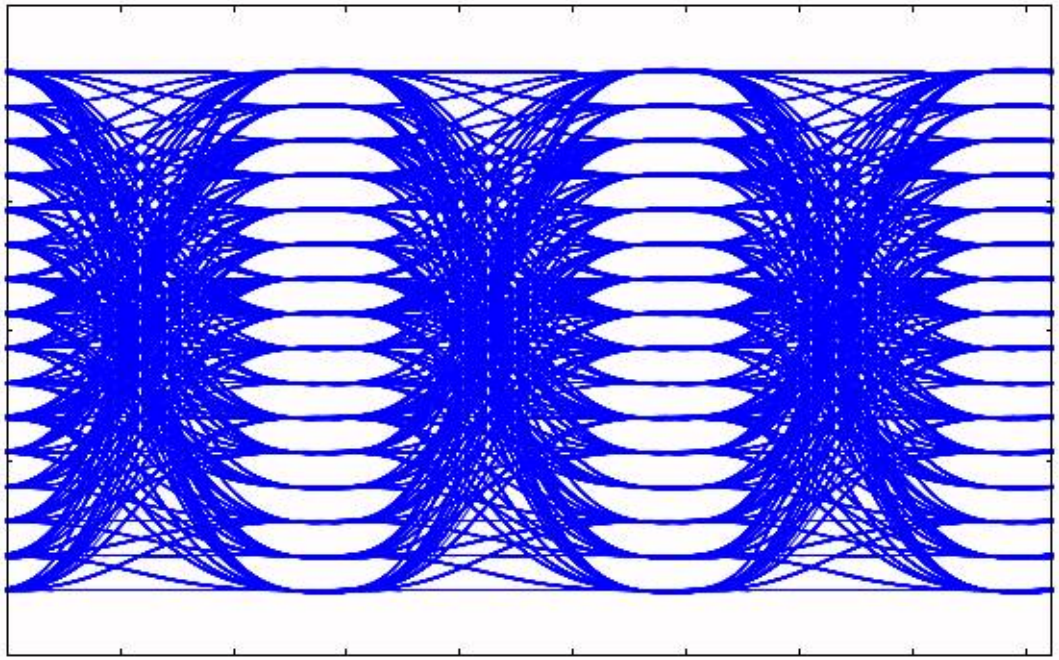
The quality of the transmitted eye in P802.3bv D1.2 is only controlled via:

- Rise time
- Fall time
- Jitter
- 2nd harmonic
- 3rd harmonic

This is not adequate to ensure that the transmitted eye is recoverable by the receiver. The following slides show a simulated transmitter which meets the requirements of Table 115-3 but has no eye opening at all.

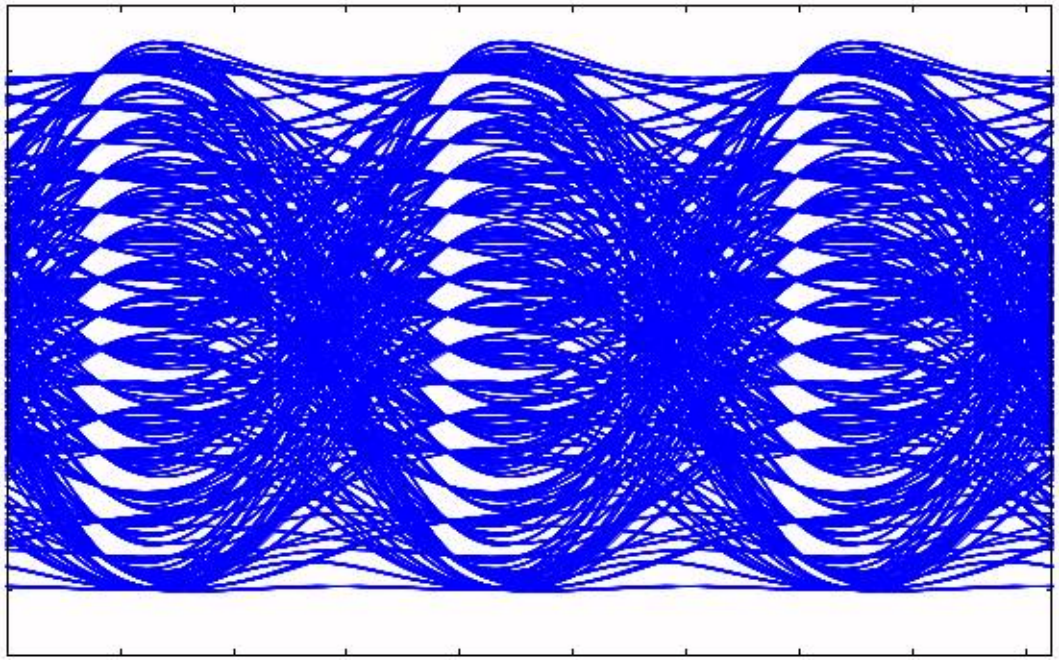
“Ideal” PAM16 transmitted eye

The transmitted eye from an “ideal” transmitter might look something like that below:



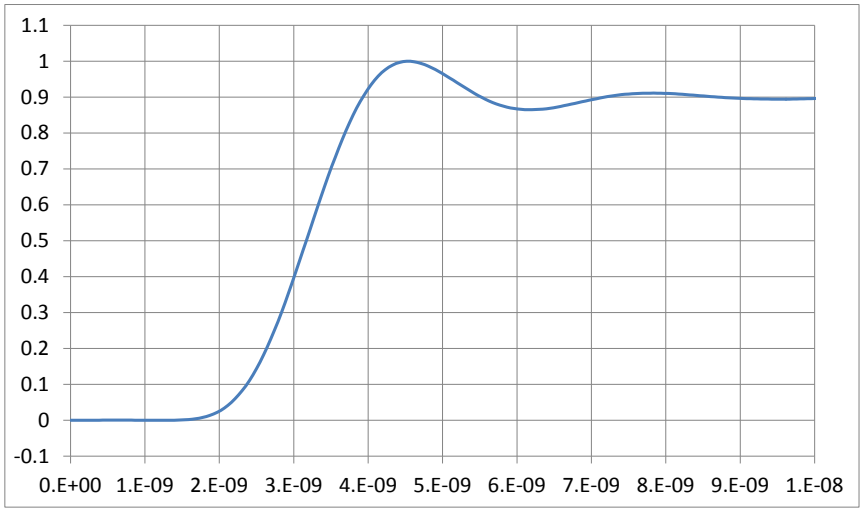
Spec compliant transmitted eye

However, a transmitter that is compliant with the spec in Table 115-3 might also look like this:

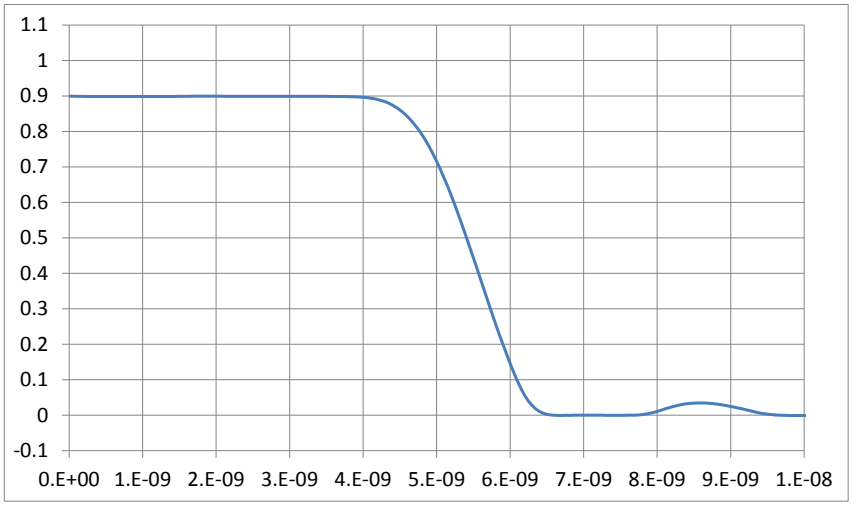


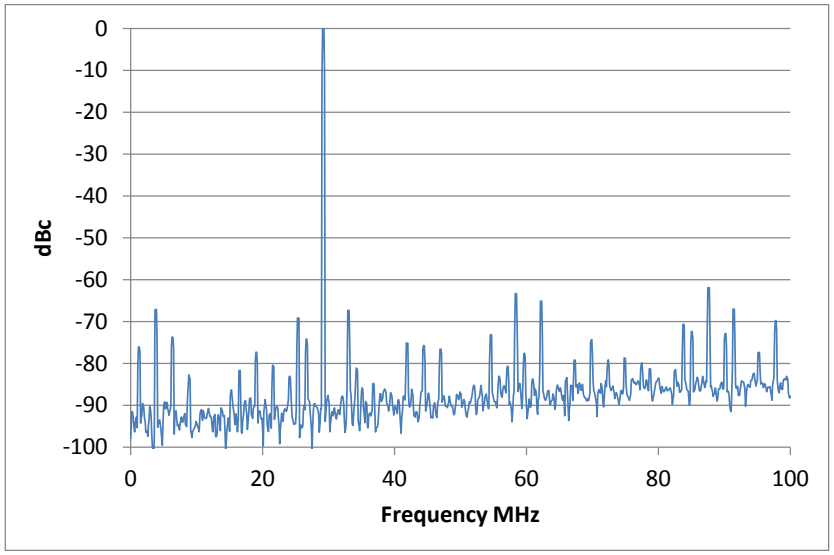
Tx parameter compliance

Rise time < 3 ns (test mode 3)



Fall time < 3 ns (test mode 3)





2nd harmonic < -21 dBc
3rd harmonic < -29 dBc

(test mode 4)

Thanks!