

SNDR AND COM RELATED PROPOSAL FOR CDAUI-8



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- SNR-TX is derived from the TX SNDR specification.
- PAM4 transmitters have a richer variety of transitions and more mechanisms to generate distortion compared to NRZ
- It is a function of TX de-emphasis as well. Higher de-emphasis lowers SNDR.
- Relaxed SNDR/SNR-TX budget allows for ease of implementation leading to area and power savings.
- Investigate a relaxed SNDR/SNR-TX assumption

- Option 1: Use lower SNDR/SNR-TX value. We proposed lowering it to 29dB
- Option 2: Make SNDR/SNR-TX a function of de-emphasis
 - Use 29 dB when de-emphasis (pre + post) ≥ 0.2
 - Use 30dB for lower de-emphasis levels.

Test Case	1	2	3	4	5	6	7	8	9	10
Insertion Loss (dB)	19.4	14.5	7.1	19.0	17.3	11.1	9.2	18.6	18.9	17.6
802.3bs D1.1 Rd=40	2.65	3.36	3.37	2.43	1.92	3.32	3.18	4.46	1.37	2.53
Rd = 55 Ohm, New Av values	2.54	3.14	2.83	2.37	1.7	2.99	2.77	4.2	1.09	2.23
SNR_TX = 29dB, DER0 = 1e-5	2.71	3.22	2.95	2.55	1.95	3.08	2.89	4.11	1.45	2.45
SNR_TX = 29/30dB, DER0 = 1e-5	2.71	3.67	3.38	2.55	1.95	3.52	3.31	4.64	1.45	2.45