

Comments On Proposal To Shift Link Budget Of 25GBASE-ER By +2.8 dBm To Accommodate PIN Receivers

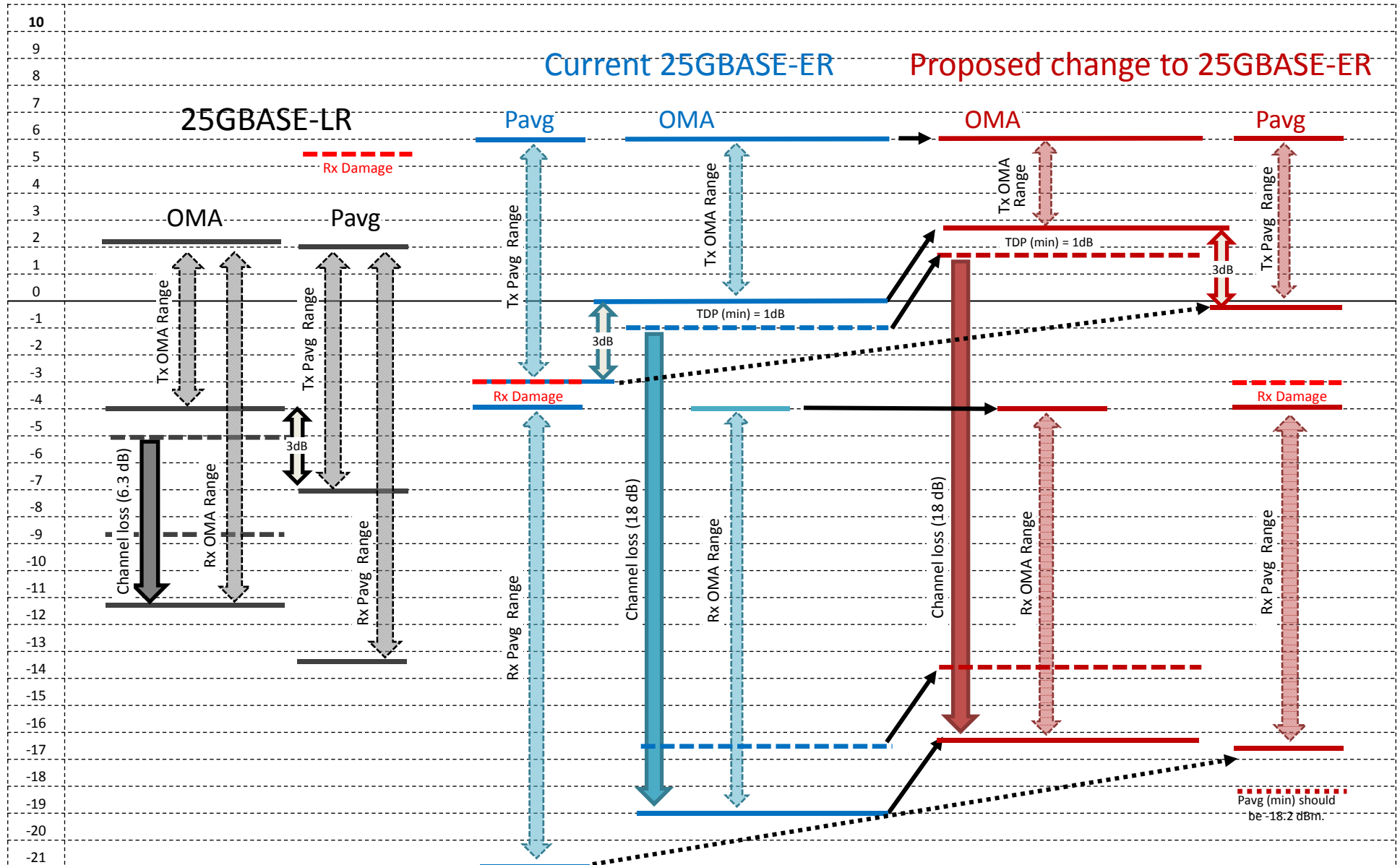
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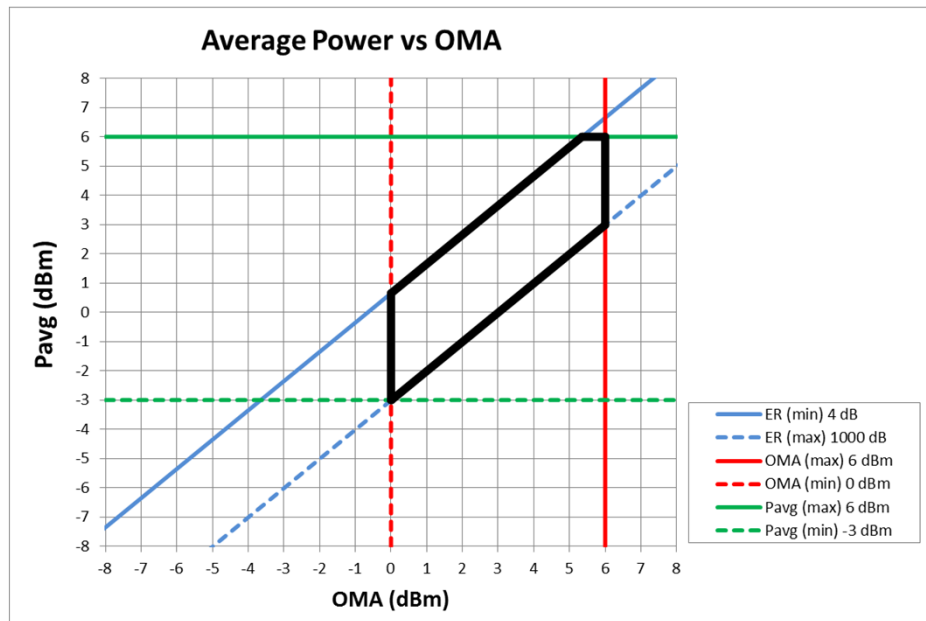
Outline

- Some points to consider when raising Tx OMA (min) to 2.8 dBm to accommodate PIN Rx.
 1. Narrowing of Tx power range without corresponding increase in Tx OMA (max).
 2. SBS limitation on maximum power.
 3. Practical limits on TOSA power (especially at high T).
- This presentations examines 1 and 2.

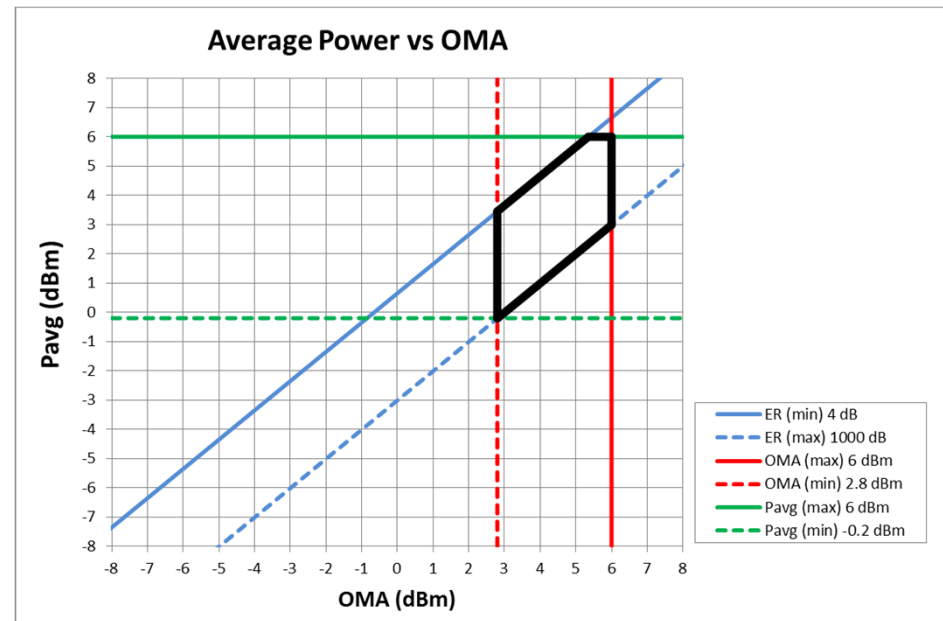
Comparison Of Link Budgets For 25GBASE-ER – Current And Newly Proposed (25GBASE-LR also shown for reference)



Comparison of 25GBASE-ER Tx OMA vs P_{avg} for ER (max) = INF



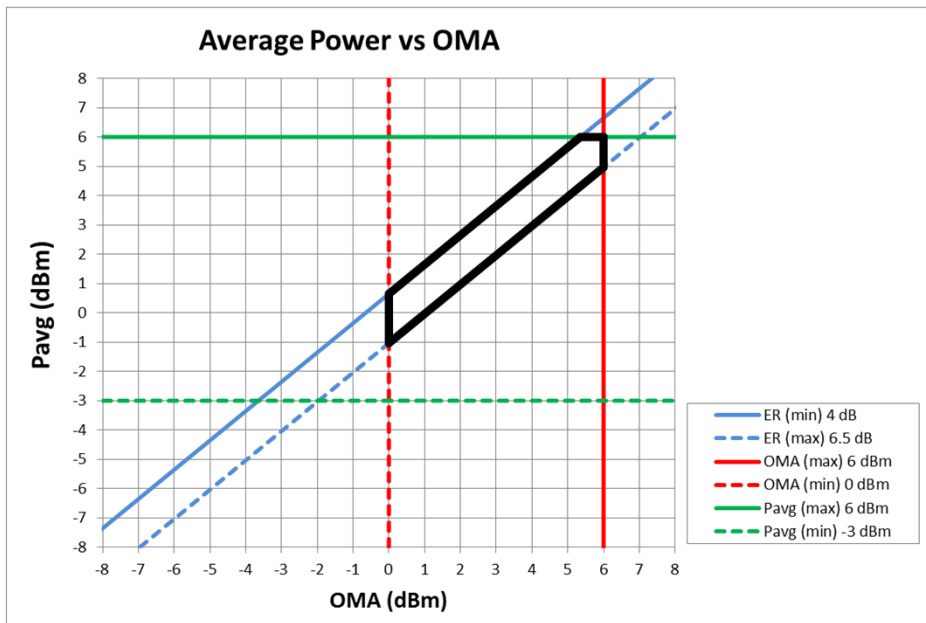
Current



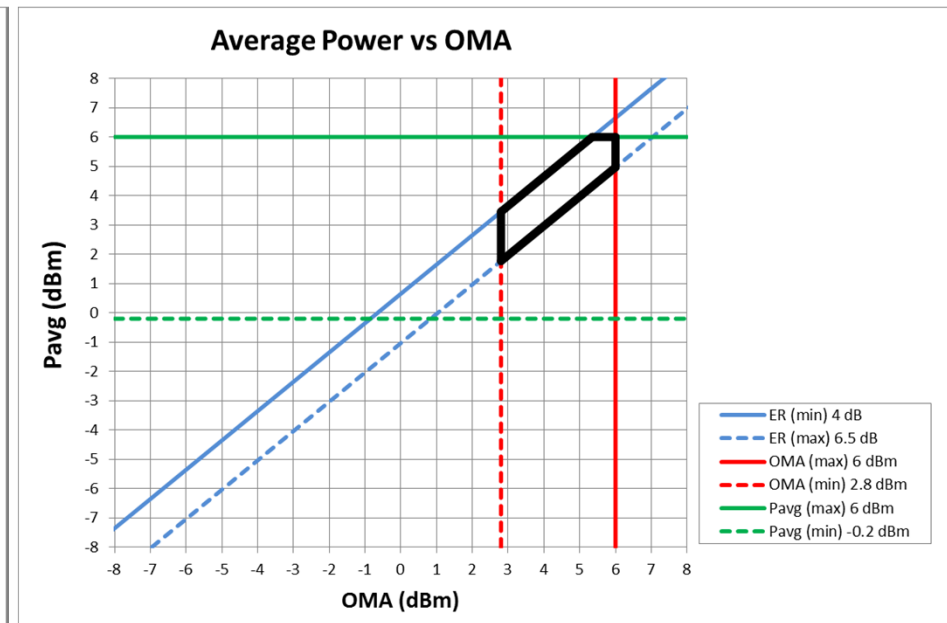
Proposed

Note: "Infinite" ER (max) can not be realized in practice.

Comparison of 25GBASE-ER Tx OMA vs P_{avg} for ER (max) = 6.5 dB



Current



Proposed

Note: ER (max) of 6.5 dB is realistic for DML transmitters.

Summary

1. If Tx OMA (min) is increased to 2.8 dBm, need to consider also raising Tx OMA (max) and corresponding average power to keep sufficient operating power range on Tx.
2. Tx OMA (max) and P_{avg} (max) will be limited by SBS (see [kimber_3cc_01a_1116.pdf](#)). Current specification of +6 dBm may be limit.
3. Practical power levels from TOSAs also need to be considered, especially at high T (not addressed here).