

Rebuttal to Proposals to Shift 802.3dj TX/RX OMA Requirements

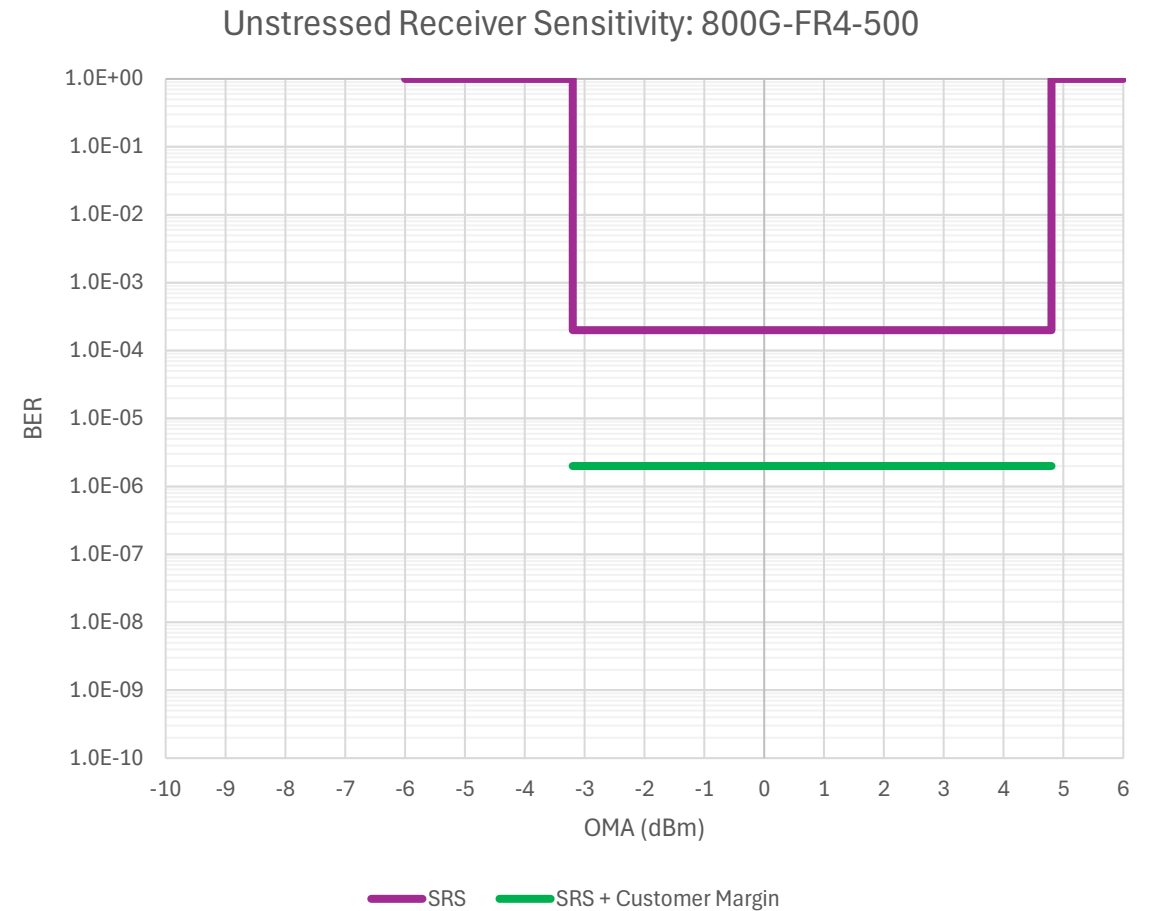
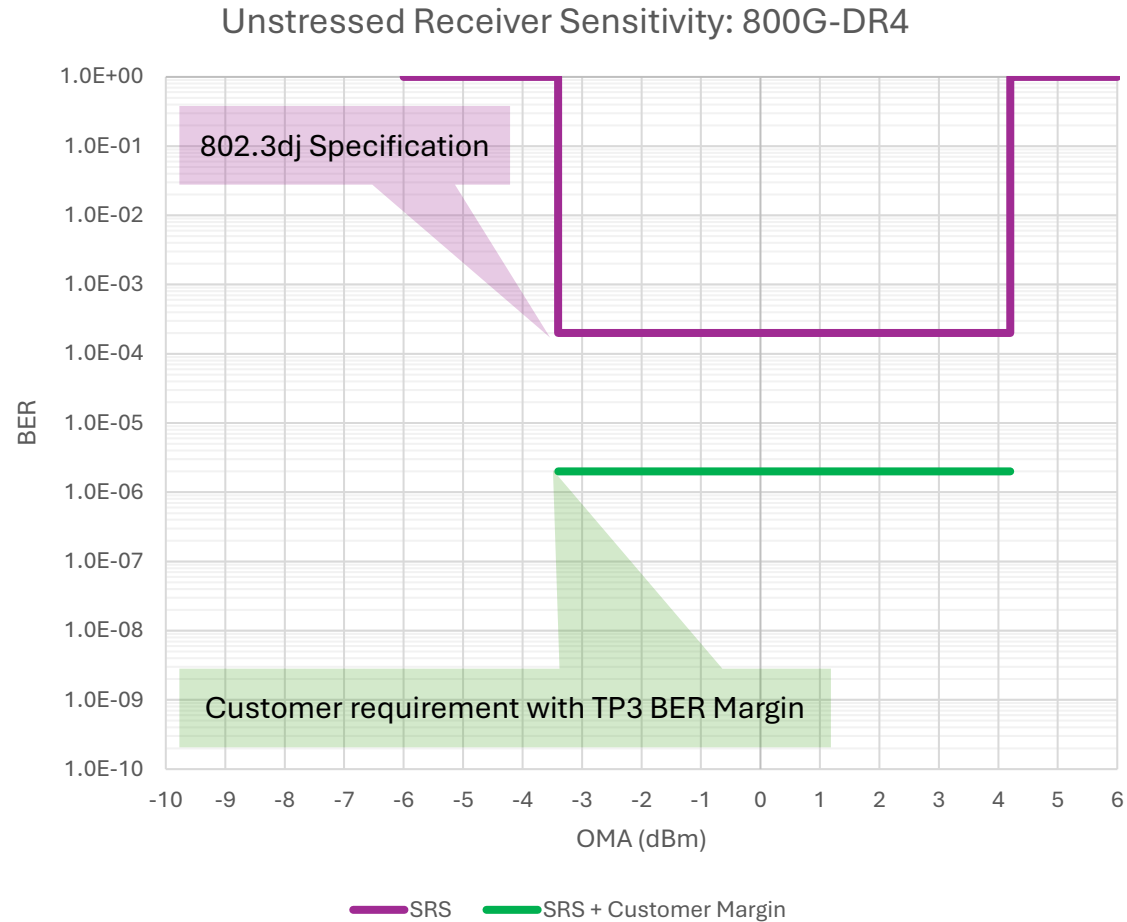
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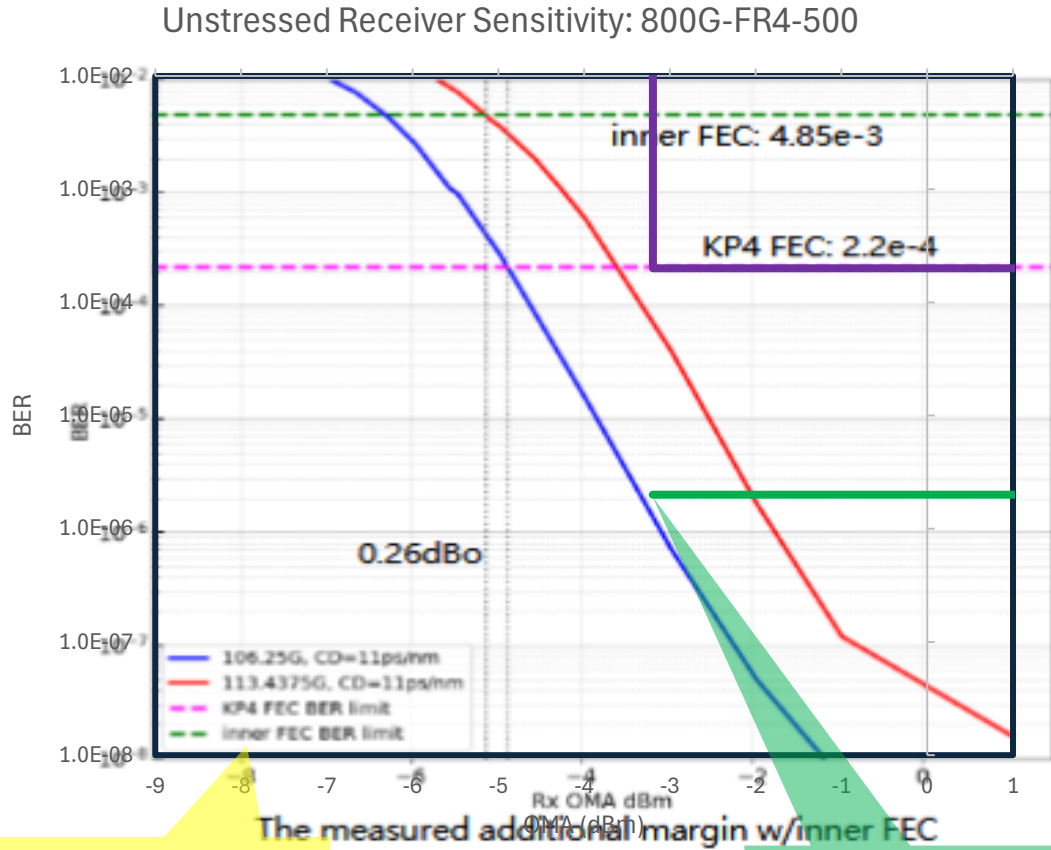
Customer TP3 Requirements

- Customer specifications usually require generous BER margin to receiver sensitivity, to protect against FEC bin extension in large scale deployments.
 - Margin is also required for over temperature, process and aging
- Industry generally aligned to two decades of margin at/near sensitivity limit, with an operating BER requirement of $\leq 2e-6$ (across the operating OMA power range).
 - **OMA (dBm) margin is not a reliable indicator of BER margin.**
- These limits also apply to LRO (Linear Receiver) implementations of 802.3dj compliant optics.
 - for 500m applications that permit LRO due to use of FECo

Customer TP3 Requirements



Customer TP3 Requirements: Overlay



- He_3dj_01_2603 and Fan_3dj_01a_2603 both proposed shifting TX and RX OMA specifications, making RX OMA specifications more stringent.
- He_3dj_01_2603 only showed OMA (dBm) margin, BER margin not reported.
- Fan_3dj_01a_2603 showed OMA vs. BER, with BER margin just (barely) meeting customer requirements/expectations.

From fan_3dj_01a_2603

— SRS — SRS + Customer Margin

No margin to customer requirements

Summary

- Premature to adopt changes to OMA specs without further consideration on impact to receiver performance and yield.
 - BER margin and FEC bin performance needed to be thoroughly considered.
- Data presented so far showed no margin to the end user requirements
 - Degradation to transceiver yield likely if receiver specification requirement made more stringent.
 - Receivers also need margin to allow for interoperability across temperature, process and aging.
- Suggested benefit to TP2 has not be quantified. He_3dj_01_2603 claims it will “*lower power dissipation and lowest cost*”, but no figures provided to support.
- **With 200GPL optics already being deployed, high risk that customers may not allow reduced TP2 OMA for fear of breaking interop with parts already in the field.**