4x100G PAM4 Big Ticket Item: Dispersion Penalty Worst Case

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Dispersion Penalty: Worst Case for 2km 4x100G PAM4

- **Baseline proposal: Lewis_3bs_01a_0115**

Lane wavelengths (range)	1264.5 to 1277.5 1284.5 to 1297.5 1304.5 to 1317.5 1324.5 to 1337.5	nm	* Aligned to 40GBASE-LR4 CWDM wavelength grid

-11.87 ps/nm (2km)

+6.69 ps/nm (2km)

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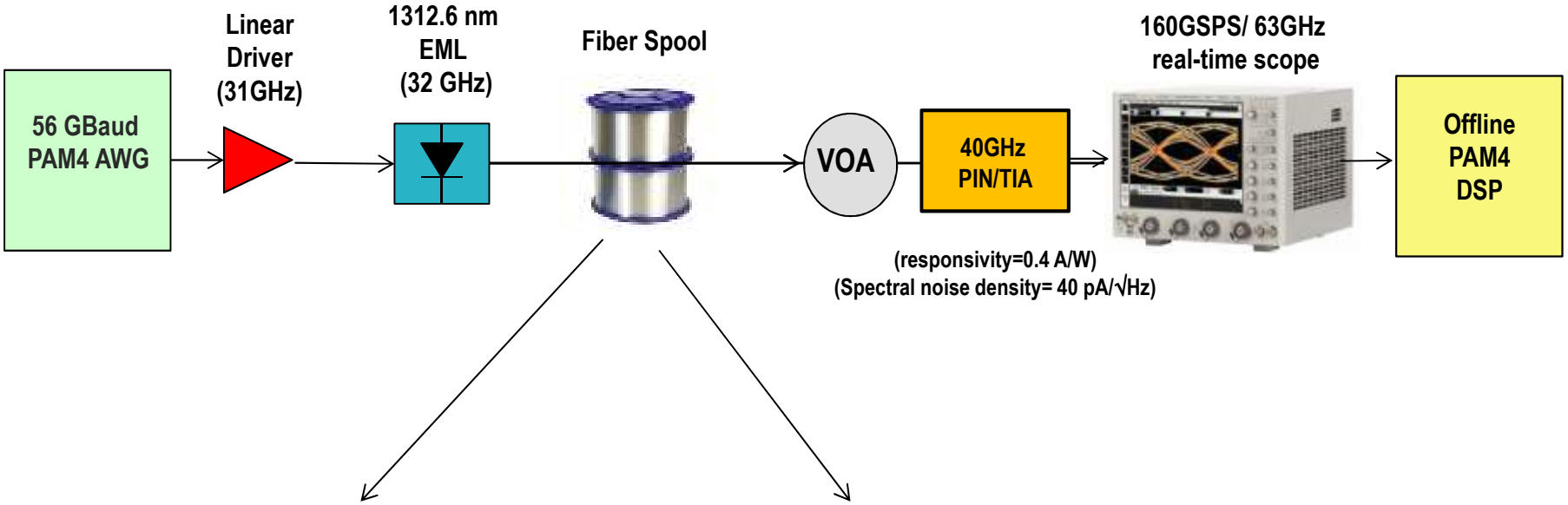
Experimental Setup



5.25km OFS TrueWave-Reach:
-12 ps/nm
(measured @ 1312.6nm)

4km Corning SMF28(TM):
+ 6.9 ps/nm
(measured @ 1312.6nm)

Special thanks to Benyuan Zhu at OFS for making this special fiber spool

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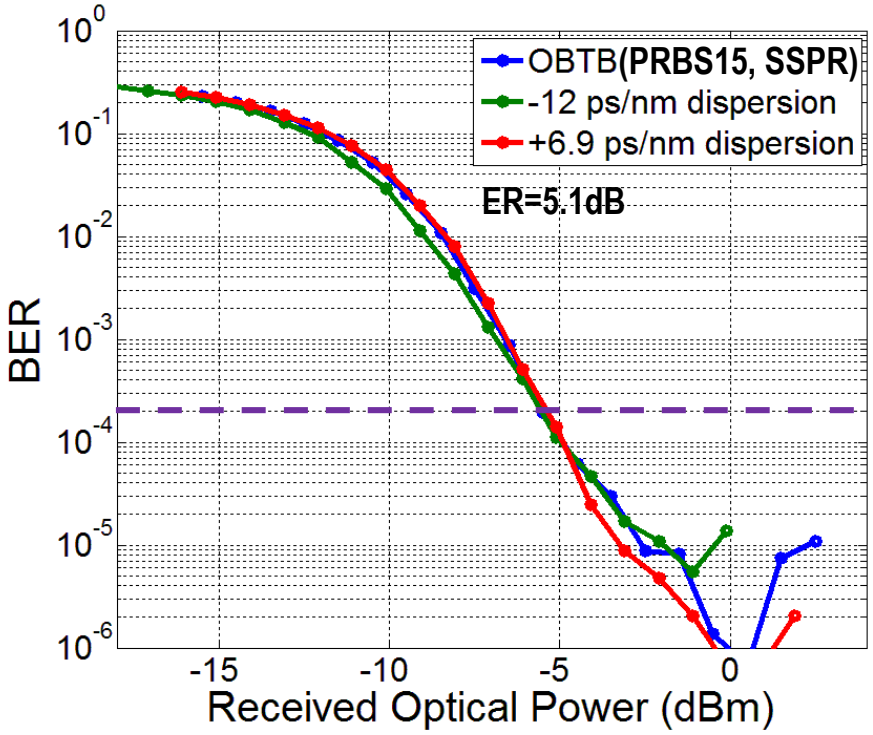
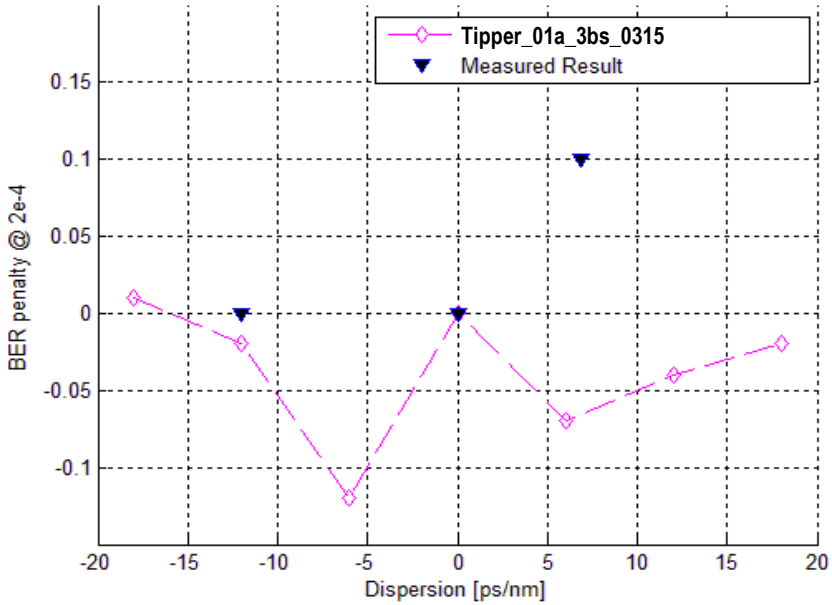
Test Results





Fiber dispersion worst case for 4x112Gb/s PAM4 over 2km link is ≤ 0.1dB @ BER=2e-4

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Summary

- By using an EML, the worst case fiber dispersion penalties of 112Gb/s PAM4 at 1.3μm CWDM wavelength range over 2km were measured to be less than 0.1dB at a BER=2e-4.