



Fig. 7. (a) Measured EVM of Dual-Drive MZ compared with Single MZ after different fiber transmission lengths (L). EVM improvement of the DD-MZ labeled for reference. (b) DCM OFDM-UWB constellations comparison.

6. Conclusion

This paper reports the results of the dual-drive modulator designed and evaluated for enhanced linearity and chirp management. A linear regime extension with SFDR > 25 dB over 1.4 V bias range is achieved compared with the 0.5 V range of a conventional MZ-EOM, which provides enhanced linearity for radio-over-fiber transmissions. UWB transmission over PON was successfully demonstrated over 44 km SSMF with EVM < -22 dB. Additionally, chirp and PAPR control improves the UWB EVM by 2.2 dB after 57 km transmission.

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