Abstracts

A Low-Loss Downconverting Analog Fiber-Optic Link

G.K. Gopalakrishnan, R.P. Moeller, M.M. Howerton, W.K. Burns, K.J. Williams and R.D. Esman. "A Low-Loss Downconverting Analog Fiber-Optic Link." 1995 Transactions on Microwave Theory and Techniques 43.9 (Sep. 1995, Part II [T-MTT] (Special Issue on Microwave and Millimeter Wave Photonics)): 2318-2323.

An analog fiber-optic link for concurrent detection and downconversion of microwave signals is reported. Optical amplification is employed in conjunction with electrical power combining of photodetectors to demonstrate link losses of 19.6 and 22.9 dB at RF carrier frequencies of 9 and 16 GHz, respectively. Analytic expressions validating the experimental observations are also developed. The link may be employed to detect phase sensitive or phase-modulated microwave signals and shows excellent potential for application in sensor systems involving remoting of an antenna element.

❑ Return to main document.