Abstracts

A Wide Range Analog MMIC Attenuator with Integral 180° Phase Shifter (Short Papers)

M.E. Goldfarb and A. Platzker. "A Wide Range Analog MMIC Attenuator with Integral 180° Phase Shifter (Short Papers)." 1994 Transactions on Microwave Theory and Techniques 42.1 (Jan. 1994 [T-MTT]): 156-158.

A circuit topology is discussed for achieving a wide-range analog attenuator in MMIC form using enhancement mode FET's by combining it with a 90° phase shift network. By switching the phase shift network between a 90° phase lead high-pass structure and a 90° phase lag low-pass structure, a dual-purpose circuit is formed comprising both a variable attenuation and 180° phase shift function. The approach requires only a single control voltage for the attenuator and achieves an attenuation range of over 30 dB in L-band with less than 10° of phase imbalance over the range. In the low-loss state, the phase shifter achieves a 10° phase balance over a 250 MHz bandwidth with less than 0.3 dB of amplitude imbalance.

❑ Return to main document.