

Abstracts

Two-Octave Bandwidth Monolithic Analog Phase Shifter

S. Lucyszyn and I.D. Robertson. "Two-Octave Bandwidth Monolithic Analog Phase Shifter." 1992 Microwave and Guided Wave Letters 2.8 (Aug. 1992 [MGWL]): 343-345.

The cascaded-match reflection-type phase shifter (CMRTPS) was recently introduced to utilize the full bandwidth of its 3-dB quadrature directional couplers. A monolithic realization of the CMRTPS is presented that maintains a high level of performance over two octaves, while using experimental one octave bandwidth offset multilayer folded directional couplers. Standard GaAs foundry processing was used to fabricate the MMIC. At the 10-GHz center frequency, the measured relative phase shift varied from 0 to 98°, with a decreasing bias potential from 0 to -10 V. Here, a maximum rms phase error of $\pm 2.8^\circ$ is maintained across the 4.4 to 16.1 GHz frequency range, for all bias levels.

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