Abstracts

Monolithic Single FET Mixers with Coplanar Technology to Convert Between V and C Band

M. Joao Rosario, J. Bernardino, F. Fortes, R. Kulke, T. Sporkman and J. Costa Freire. "Monolithic Single FET Mixers with Coplanar Technology to Convert Between V and C Band." 1996 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 98. (1996 [MCS]): 93-96.

In this paper the design of single FET coplanar mixers to convert signals between V and C band is presented. A step by step design technique was used, based on harmonic balance simulation. The mixer non-linear device is a PMHFET with a 0.15µm T-gate. Two different topologies were designed, fabricated and tested: cold mixer and drain mixer. The mixers were optimised for minimum conversion losses on the widest possible bandwidth in order to be used on a large number of applications. The experiments show: for the cold mixer, a conversion loss on a 8GHz band in the range of 8 to 10dB both as up and downconverter; and 2.5dB on a 4GHz band for the drain mixer as down converter.

❑ Return to main document.