Abstracts

A Novel Low-Noise Downconverter System Using a Microstrip Coupled Transmission-Mode Dielectric Resonator (Short Papers)

M.P. Mitchell and G.R. Branner. "A Novel Low-Noise Downconverter System Using a Microstrip Coupled Transmission-Mode Dielectric Resonator (Short Papers)." 1987 Transactions on Microwave Theory and Techniques 35.6 (Jun. 1987 [T-MTT]): 591-594.

A low-noise downconverter system for microwave downlink applications is presented. Although most downconverters with an internally generated local oscillator have been designed utilizing MESFET’s and DGFET's, the circuit described herein uses a silicon bipolar Darlington pair as its active device and a dielectric resonator for feedback. Downconverters of the latter type have been realized with noise figures as low as 4.57 dB and conversion gains of 7 dB over an intermediate frequency range from 0.6 to 1.8 GHz.

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