Abstracts

Tunable Magnetostatic Surface Wave Oscillator at 4 GHz

R.L. Carter, J.M. Owens, W.R. Brinlee, Y.W. Sam and C.V. Smith, Jr.. "Tunable Magnetostatic Surface Wave Oscillator at 4 GHz." 1981 MTT-S International Microwave Symposium Digest 81.1 (1981 [MWSYM]): 383-385.

An oscillator tunable from 1.8 GHz to 4.0 GHz has been fabricated using a Magnetostatic Surface Wave (MSSW) 2-port etched groove resonator as the frequency selective element, and a bipolar transistor amplifier for gain in the feedback loop. The theory for a resonator based oscillator is summarized, including the effect of loop gain, amplifier noise loop power, and resonator Q on oscillator noise. Noise and amplitude characteristics of the oscillator are reported over the tuning range. FM phase noise is comparable to YIG sphere oscillators and optimization should yield significant improvement.

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