Abstracts

An Ultra-Low Noise Microwave Synthesizer (Dec. 1979 [T-MTT])

G.D. Alley and H.-C. Wang. "An Ultra-Low Noise Microwave Synthesizer (Dec. 1979 [T-MTT])." 1979 Transactions on Microwave Theory and Techniques 27.12 (Dec. 1979 [T-MTT] (1979 Symposium Issue)): 969-974.

A silicon bipolar transistor together with a barium titanate dielectric resonator were used to design a low noise microwave synthesizer. The oscillator was phase locked to a low-frequency (LF) reference with microwave frequency selection provided by a high-speed digital programmable divider within the phase-locked loop. The resulting FM noise Delta f/sub rms/ was 0.0003 Hz in a 1-Hz band greater than 1000 Hz from the 1-GHz carrier.

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