Abstracts

A 9 GHz Oscillator Stabilized with a STW Delay Line

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This paper presents a STW-stabilized X-band oscillator. The main feedback oscillator circuit consists of a third harmonic STW delay line at 2.25 GHz, a two stage amplifier and a diplexing network. The second stage of the amplifier in the oscillator loop doubles the frequency from 2.25 GHz to 4.5 GHz. An additional 4.5 GHz to 9 GHz MESFET doubler is integrated on the same substrate. The oscillator delivers 5 mW of output power. Phase noise is at least -90 dBc/Hz down at 20 kHz from the carrier.

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