Abstracts

A 2 GHz Surface Transverse Wave Oscillator with Low Phase Noise (1988 Vol. I [MWSYM])

L. Eichinger, B. Fleischmann, P. Russer and R. Weigel. "A 2 GHz Surface Transverse Wave Oscillator with Low Phase Noise (1988 Vol. I [MWSYM])." 1988 MTT-S International Microwave Symposium Digest 88.1 (1988 Vol. I [MWSYM]): 113-116.

A hybrid oscillator at 1.9805 GHz was developed using acoustic surface transverse wave (STW) delay lines as the frequency controlling element. The STW delay lines were fabricated on 37.5° rotated Y-cut quartz substrates with a photolithographic technique. A very thin metallization of 25 nm was used to obtain low insertion loss. A split--isolated electrode design was employed for the transducers. The Q value and the untuned insertion loss of the STW filter were 3400 and 21 dB respectively. The phase noise and temperature stability of the oscillator were characterized. At a high power output of 6.5 dBm a single side band phase noise to carrier ratio of -100 dBc/Hz at 1 kHz was attained.

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