Abstracts

Low Noise Microwave Signal Generation: Resonator/Oscillator Comparisons

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This paper will compare existing and projected microwave signal spectral performance obtainable using various types of acoustic and non-acoustic high Q resonators. Included will be a discussion of recent progress in resonator technology such as recent improvements in conventional dielectric resonator and quartz crystal resonator performance, development of composite, UHF resonators such as the high overtone bulk acoustic resonator (HBAR) exhibiting tenfold increase in Q and decrease in vibration and sensitivity (compared to quartz), and superconducting cavity type resonators exhibiting ultrahigh Q directly at microwave frequency.

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