Abstracts

Temperature Stable, Low-Phase Noise 2 GHz Dielectric Resonator Oscillator

M. Mizan, R.C. McGowan, T. Lukaszek and A. Ballato. "Temperature Stable, Low-Phase Noise 2 GHz Dielectric Resonator Oscillator." 1991 MTT-S International Microwave Symposium Digest 91.3 (1991 Vol. III [MWSYM]): 1183-1186.

The results of a rigorous analysis of a state-of-the-art 2 GHz dielectric resonator oscillator (DRO) are presented in this paper. The performance of the DRO was determined by measuring the phase noise, loaded quality factor and frequency versus temperature response of the oscillator. These test results represent the lowest reported phase noise for a 2 GHz DRO, with the oscillator exhibiting single sideband phase noise levels of -100 dBc/Hz and -126 dBc/Hz at carrier offset frequencies of 100 Hz and 1 kHz respectively. A superb frequency vs. temperature response is also shown. The DRO exhibits a frequency stability of 1.31 ppm/K over the temperature range +55°C to -45°C.

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